



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

October 24, 2008

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

ATTN: Mr. John Thomas  
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permits 13, 23, 33, and Section 401 Water Quality Certification** for the proposed replacement of Bridge No. 78 over UT to Fourth Creek on SR 1949 (Wetmore Road) in Davidson County, Federal Aid Project No. BRZ-1949(1); Division 9; TIP No. B-3234

\$240.00 debit WBS 32950.1.1

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 78 over UT to Fourth Creek on SR 1949. There will be 51 feet of temporary surface water impacts, 75 feet of permanent surface water impacts, and 80 feet of bank stabilization. The 75 feet of permanent surface water impacts will be mitigated through the Ecosystem Enhancement Program (EEP).

Please see enclosed copies of the Pre-Construction Notification (PCN), permit drawings, design plans, and EEP acceptance letter for the above-referenced project. The Categorical Exclusion (CE) was completed in May 2007 and the Right-of-Way Consultation was completed in May 2008. Documents were distributed shortly thereafter. Additional copies are available upon request.

This project calls for a letting date of July 21, 2009 and a review date of June 2, 2009.



A copy of this permit application will be posted on the NCDOT Website at:  
<http://www.ncdot.org/doh/preconstruct/pe/>. If you have any questions or need additional information, please call James Pflaum at (919) 715-7217.

Sincerely,



for  
Gregory J. Thorpe, Ph.D.  
Environmental Management Director, PDEA

w/attachment

Mr. Brian Wrenn, NCDWQ (5 copies)  
Ms. Marla Chambers, NCWRC  
Ms. Marella Buncick, USFWS

w/o attachment (see permit website for attachments)

Dr. David Chang, P.E., Hydraulics  
Mr. Mark Staley, Roadside Environmental  
Mr. Victor Barbour, P.E., Project Services Unit  
Mr. Greg Perfetti, P.E., Structure Design  
Mr. S. P. Ivey, P.E., Division Engineer  
Mr. Kent Boyer, DEO  
Mr. Jay Bennett, P.E., Roadway Design  
Mr. Majed Alghandour, P. E., Programming and TIP  
Mr. Art McMillan, P.E., Highway Design  
Mr. Scott McLendon, USACE, Wilmington  
Mr. Pam Williams, PDEA  
Ms. Beth Harmon, EEP  
Mr. Todd Jones, NCDOT External Audit Branch



**Office Use Only:**

Form Version March 05

USACE Action ID No. \_\_\_\_\_

DWQ No. \_\_\_\_\_

(If any particular item is not applicable to this project, please enter "Not Applicable" or "N/A".)

**I. Processing**

1. Check all of the approval(s) requested for this project:

☒ Section 404 Permit☐ Riparian or Watershed Buffer Rules☐ Section 10 Permit☐ Isolated Wetland Permit from DWQ☒ 401 Water Quality Certification☐ Express 401 Water Quality Certification

2. Nationwide, Regional or General Permit Number(s) Requested: 13, 23, 33
3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here: ☐
4. If payment into the North Carolina Ecosystem Enhancement Program (NCEEP) is proposed for mitigation of impacts, attach the acceptance letter from NCEEP, complete section VIII, and check here: ☒
5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here: ☐

**II. Applicant Information**

1. Owner/Applicant Information

Name: Gregory J. Thorpe, Ph.D., Environmental Management DirectorMailing Address: North Carolina Department of Transportation1598 Mail Service Center, Raleigh, NC 27699Telephone Number: 919-733-3141Fax Number: 919-715-5501

E-mail Address: \_\_\_\_\_

2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)

Name: \_\_\_\_\_

Company Affiliation: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

E-mail Address: \_\_\_\_\_



### III. Project Information

Attach a **vicinity map** clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed **site plan** showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1. Name of project: replacement of Bridge No.78 over UT to Fourth Creek on SR 1949
2. T.I.P. Project Number or State Project Number (NCDOT Only): B-3234
3. Property Identification Number (Tax PIN): \_\_\_\_\_
4. Location  
County: Rowan Nearest Town: Woodleaf  
Subdivision name (include phase/lot number): \_\_\_\_\_  
Directions to site (include road numbers/names, landmarks, etc.): 70 West out of Salisbury, North on 801, through Woodleaf, right on SR 1949 (Wetmore Road).  
\_\_\_\_\_  
\_\_\_\_\_
5. Site coordinates (For linear projects, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)  
Decimal Degrees (6 digits minimum): \_\_\_\_\_ °N \_\_\_\_\_ °W
6. Property size (acres): Project Study Area is approximately 20 acres.
7. Name of nearest receiving body of water: Third Creek (tributary of the Yadkin River)
8. River Basin: Yadkin (HUC 03040102)  
(Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)
9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: rural, residential housing  
\_\_\_\_\_



10. Describe the overall project in detail, including the type of equipment to be used:

A 50-foot long 7-foot by 7-foot reinforced concrete box culvert is proposed to replace the 48-foot long single span timber deck bridge on I-beams. The culvert will be located approximately 25 feet south of the existing bridge at approximately the same roadway elevation. An off-site detour will be used to route traffic during construction. Heavy duty excavation equipment will be used such as trucks, dozers, cranes and other equipment necessary for roadway construction.

11. Explain the purpose of the proposed work: Improve safety and efficiency of overall traffic operations.

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#### **IV. Prior Project History**

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules.

#### **V. Future Project Plans**

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.

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#### **VI. Proposed Impacts to Waters of the United States/Waters of the State**

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. Each impact must be listed separately in the tables below (e.g., culvert installation should be listed separately from riprap dissipater pads). Be sure to indicate if an impact is temporary. All proposed impacts, permanent and temporary, must be listed, and must be labeled and clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) should be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

1. Provide a written description of the proposed impacts:



Permanent Impacts: There will be 75 feet (0.01 acres) of surface water impacts due to the placement of fill for the culvert. There will be 80 feet (0.01) of surface water impacts due to bank stabilization at the inlet and outlet of the culvert to prevent erosion.

Temporary Impacts: There will be 51 feet (0.01 acres) of temporary channel impacts to UT to Fourth Creek due to the placement of a temporary rock causeway.

Utility Impacts: There will be no impacts to surface waters or wetlands from sewer, water, electric or other utilities associated with this bridge replacement project.

2. Individually list wetland impacts. Types of impacts include, but are not limited to mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.

Wetland Impact Site Number (indicate on map)	Type of Impact	Type of Wetland (e.g., forested, marsh, herbaceous, bog, etc.)	Located within 100-year Floodplain (yes/no)	Distance to Nearest Stream (linear feet)	Area of Impact (acres)

3. List the total acreage (estimated) of all existing wetlands on the property: 0.0 acres
4. Individually list all intermittent and perennial stream impacts. Be sure to identify temporary impacts. Stream impacts include, but are not limited to placement of fill or culverts, dam construction, flooding, relocation, stabilization activities (e.g., cement walls, rip-rap, crib walls, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included. To calculate acreage, multiply length X width, then divide by 43,560.

Stream Impact Number (indicate on map)	Stream Name	Type of Impact	Perennial or Intermittent?	Average Stream Width Before Impact	Impact Length (linear feet)	Area of Impact (acres)
Site 1	UT to Fourth Creek	Permanent Fill	Perennial	5 feet	75	0.01
Site 1	UT to Fourth Creek	Temporary Fill	Perennial	5 feet	51	0.02
Site 1	UT to Fourth Creek	Bank Stabilization	Perennial	5 feet	80	0.01



Total Stream Impact (by length and acreage)					206	0.04

5. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.). Open water impacts include, but are not limited to fill, excavation, dredging, flooding, drainage, bulkheads, etc.

Open Water Impact Site Number (indicate on map)	Name of Waterbody (if applicable)	Type of Impact	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)	Area of Impact (acres)
Total Open Water Impact (acres)				

6. List the cumulative impact to all Waters of the U.S. resulting from the project:

Stream Impact (acres):	0.04
Wetland Impact (acres):	0
Open Water Impact (acres):	0
Total Impact to Waters of the U.S. (acres)	0.04
Total Stream Impact (linear feet):	206

7. Isolated Waters

Do any isolated waters exist on the property? ☐ Yes ☒ No

Describe all impacts to isolated waters, and include the type of water (wetland or stream) and the size of the proposed impact (acres or linear feet). Please note that this section only applies to waters that have specifically been determined to be isolated by the USACE.

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8. Pond Creation

If construction of a pond is proposed, associated wetland and stream impacts should be included above in the wetland and stream impact sections. Also, the proposed pond should be described here and illustrated on any maps included with this application.

Pond to be created in (check all that apply): ☐ uplands ☐ stream ☐ wetlands

Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.):

Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.):

Current land use in the vicinity of the pond:

Size of watershed draining to pond: Expected pond surface area:

## VII. Impact Justification (Avoidance and Minimization)



Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts.

A culvert is the preferred structure type for this location for the following reasons. Culverts are usually less expensive and easier to construct than a bridge; culverts typically have a longer life expectancy with less maintenance compared to a bridge; and with a smaller drainage area of approximately 1.05 square miles, a culvert will function hydraulically as efficiently as a bridge.

A low flow sill design is proposed to maintain adequate stream velocity and flow during drier periods. The south sill is partially blocked to prevent water from entering during low flow events. This prevents water from spreading out, reducing velocity, and flow below the culvert. The partial blockage allows water during high flow events so that velocity is not restricted during periods of increased precipitation.

NCDOT will implement Best Management Practices for Bridge Demolition and Removal. NCDOT BMP's for the protection of surface waters will be strictly enforced during the construction of this project.

## **VIII. Mitigation**

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams.

USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on January 15, 2002, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application



lacking a required mitigation plan or NCEEP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina (see DWQ website for most current version.).

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.

Mitigation for the 75 feet of permanent stream impacts will be provided by the EEP.

Acceptance letter is enclosed. Mitigation is not proposed for the 80 feet of bank stabilization. Bank stabilization provides remediation for eroding banks and will prevent further bank erosion. The bank stabilization will not be placed across the stream bed, nor will it reduce stream function or result in loss of Waters of the US.

2. Mitigation may also be made by payment into the North Carolina Ecosystem Enhancement Program (NCEEP). Please note it is the applicant's responsibility to contact the NCEEP at (919) 715-0476 to determine availability, and written approval from the NCEEP indicating that they are will to accept payment for the mitigation must be attached to this form. For additional information regarding the application process for the NCEEP, check the NCEEP website at <http://www.nceep.net/pages/inlieureplace.htm>. If use of the NCEEP is proposed, please check the appropriate box on page five and provide the following information:

Amount of stream mitigation requested (linear feet): 75

Amount of buffer mitigation requested (square feet): 0

Amount of Riparian wetland mitigation requested (acres): 0

Amount of Non-riparian wetland mitigation requested (acres): 0

Amount of Coastal wetland mitigation requested (acres): 0

## **IX. Environmental Documentation (required by DWQ)**

1. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? Yes ☒ No ☐
2. If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)?  
Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation.  
Yes ☒ No ☐



3. If yes, has the document review been finalized by the State Clearinghouse? If so, please attach a copy of the NEPA or SEPA final approval letter. Yes ☒ No ☐

**X. Proposed Impacts on Riparian and Watershed Buffers (required by DWQ)**

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to required state and local buffers associated with the project. The applicant must also provide justification for these impacts in Section VII above. All proposed impacts must be listed herein, and must be clearly identifiable on the accompanying site plan. All buffers must be shown on a map, whether or not impacts are proposed to the buffers. Correspondence from the DWQ Regional Office may be included as appropriate. Photographs may also be included at the applicant's discretion.

1. Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 02B .0243 (Catawba) 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify \_\_\_\_\_)? Yes ☐ No ☒
2. If "yes", identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
1		3 (2 for Catawba)	
2		1.5	
Total			

\* Zone 1 extends out 30 feet perpendicular from the top of the near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

3. If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Riparian Buffer Restoration / Enhancement, or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0244, or .0260. \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**XI. Stormwater (required by DWQ)**

Describe impervious acreage (existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property. If percent impervious surface exceeds 20%, please provide calculations demonstrating total proposed impervious level. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**XII. Sewage Disposal (required by DWQ)**



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.

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**XIII. Violations (required by DWQ)**

Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules?

Yes ☐

No ☒

Is this an after-the-fact permit application? Yes ☐ No ☒

**XIV. Cumulative Impacts (required by DWQ)**

Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? Yes ☐ No ☒

If yes, please submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent North Carolina Division of Water Quality policy posted on our website at <http://h2o.enr.state.nc.us/ncwetlands>. If no, please provide a short narrative description: \_\_\_\_\_

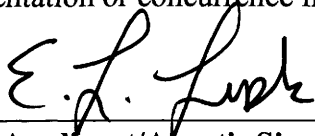
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**XV. Other Circumstances (Optional):**

It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control).

As of January 31, 2008 the United States Fish and Wildlife Service lists one federally protected species for Rowan County, Schweinitz's sunflower. Surveys for Schweinitz's sunflower were performed for the above mentioned project on September 16, 2008. Habitat in the form of maintained roadsides was present but no individuals were located. Biological conclusion of no effect in the CE remains valid. No further documentation or concurrence from the USFWS is required.



10.24.08

**Applicant/Agent's Signature**

**Date**

(Agent's signature is valid only if an authorization letter from the applicant is provided.)





September 29, 2008

Mr. John Thomas  
U. S. Army Corps of Engineers  
Raleigh Regulatory Field Office  
3331 Heritage Trade Drive, Suite 105  
Wake Forest, North Carolina 27587

Dear Mr. Thomas:

Subject: EEP Mitigation Acceptance Letter:

B-3234, Replace Bridge Number 78 over UT to Fourth Creek on  
SR 1949 (Wetmore Road), Rowan County; Yadkin River Basin  
(Cataloging Unit 03040102); Central Piedmont (CP) Eco-Region

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation for the unavoidable impact associated with the above referenced project. As indicated in the NCDOT's mitigation request dated September 17, 2008, stream mitigation from EEP is required for approximately 75 feet of warm stream impacts.

Stream mitigation associated with this project will be provided in accordance with Section X of the Amendment No. 2 to the Memorandum of Agreement between the N. C. Department of Environment and Natural Resources, the N. C. Department of Transportation, and the U. S. Army Corps of Engineers fully executed on March 8, 2007 (Tri-Party MOA). EEP commits to implement sufficient stream mitigation up to 150 warm stream credits to offset the impacts associated with this project by the end of the MOA year in which this project is permitted. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

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

Sincerely,

William D. Gilmore, P.E.  
EEP Director

cc: Mr. Gregory J. Thorpe, Ph.D., NCDOT-PDEA  
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit  
File: B-3234

*Restoring... Enhancing... Protecting Our State*

North Carolina Ecosystem Enhancement Program, 1652 Mail Service Center, Raleigh, NC 27699-1652 / 919-715-0476 / [www.nceep.net](http://www.nceep.net)







September 29, 2008

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

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

**B-3234, Replace Bridge Number 78 over UT to Fourth Creek on  
SR 1949 (Wetmore Road), Rowan County**

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the stream mitigation for the subject project. Based on the information supplied by you on September 17, 2008, the impacts are located in CU 03040102 of the Yadkin River Basin in the Central Piedmont (CP) Eco-Region, and are as follows:

Warm Stream: 75 feet

EEP commits to implementing sufficient compensatory stream mitigation credits to offset the impacts associated with this project by the end of the MOA Year in which this project is permitted, in accordance with Section X of the Amendment No. 2 to the Memorandum of Agreement between the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U. S. Army Corps of Engineers, fully executed on March 8, 2007. If the above referenced stream impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

*Restoring... Enhancing... Protecting Our State*

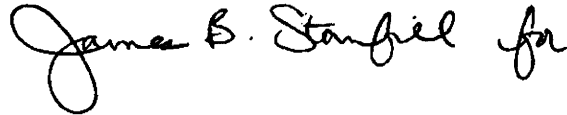


North Carolina Ecosystem Enhancement Program, 1652 Mail Service Center, Raleigh, NC 27699-1652 / 919-715-0476 / [www.nceep.net](http://www.nceep.net)



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

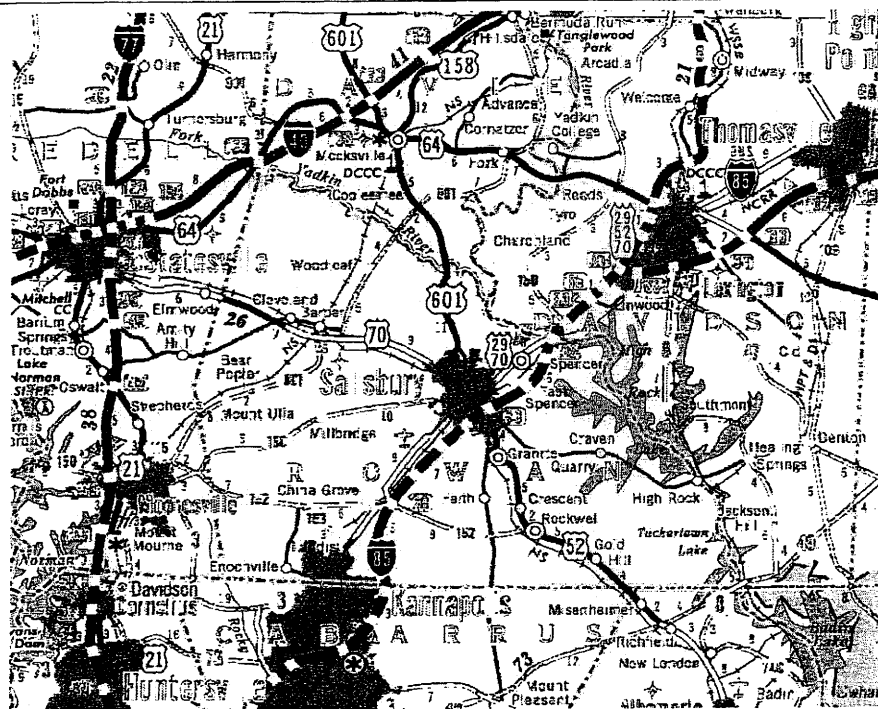
Sincerely,

A handwritten signature in black ink that reads "James B. Stanfield" followed by a small flourish.

William D. Gilmore, P.E.  
EEP Director

cc: Mr. John Thomas, USACE – Raleigh Regulatory Field Office  
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit  
File: B-3234

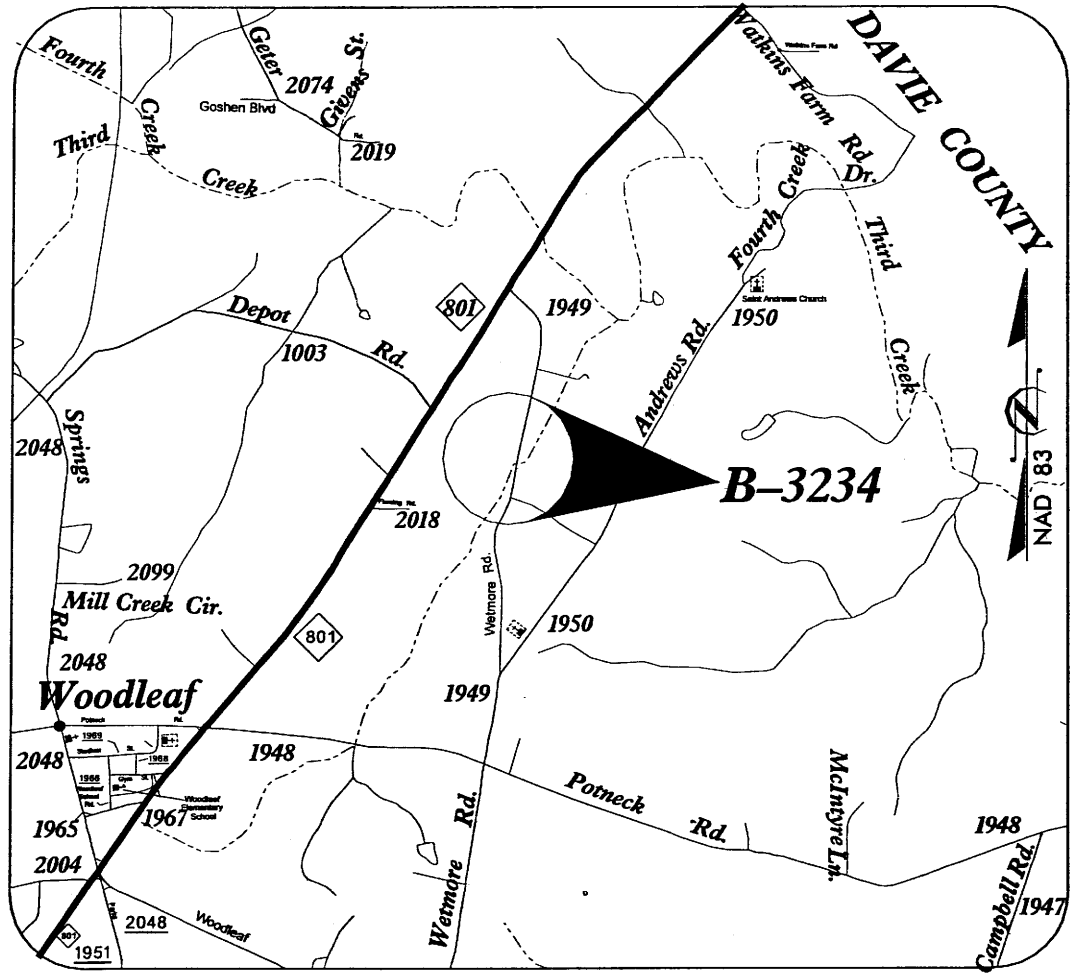




SHEET 1 OF 9 7/25/08



# SITE MAP



**NCDOT**

**DIVISION OF HIGHWAYS**

**ROWAN COUNTY**

**PROJECT: 32950.1.1 (B-3234)**

**BRIDGE NO. 78 OVER**

**UT TO FOURTH CREEK**

**ON SR 1949**

**SHEET**

**2**

**OF**

**9**

**7 / 25 / 08**



## SUMMARY OF AFFECTED PROPERTY OWNERS

[illegible]

# NCDOT

## DIVISION OF HIGHWAYS

ROWAN COUNTY

**PROJECT: 32950.1.1 (B-3234)**

BRIDGE NO.78 OVER

UT TO FOURTH CREEK

ON SR 1949

SHEET 3 OF 9 7/25/08



# WETLAND LEGEND

	WETLAND BOUNDARY		PROPOSED BRIDGE
	WETLAND		PROPOSED BOX CULVERT
	DENOTES FILL IN WETLAND		PROPOSED PIPE CULVERT 12'-48' PIPES 54' PIPES & ABOVE
	DENOTES PERMANENT SURFACE WATER IMPACTS	(DASHED LINES DENOTE EXISTING STRUCTURES)	
	DENOTES PERMANENT SURFACE WATER IMPACTS (POND)		SINGLE TREE
	DENOTES TEMPORARY FILL IN WETLAND		WOODS LINE
	DENOTES EXCAVATION IN WETLAND		DRAINAGE INLET
	DENOTES TEMPORARY SURFACE WATER IMPACTS		ROOTWAD
	DENOTES MECHANIZED CLEARING		RIP RAP
	FLOW DIRECTION		ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE
	TOP OF BANK		PREFORMED SCOUR HOLE
	EDGE OF WATER		LEVEL SPREADER (LS)
	PROP. LIMIT OF CUT		DITCH / GRASS SWALE
	PROP. LIMIT OF FILL		
	PROP. RIGHT OF WAY		
	NATURAL GROUND		
	PROPERTY LINE		
	TEMP. DRAINAGE EASEMENT		
	PERMANENT DRAINAGE EASEMENT		
	EXIST. ENDANGERED ANIMAL BOUNDARY		
	EXIST. ENDANGERED PLANT BOUNDARY		
	WATER SURFACE		
	LIVE STAKES		
	BOULDER		
	COIR FIBER ROLLS		

**NCDOT**  
**DIVISION OF HIGHWAYS**  
**ROWAN COUNTY**  
**PROJECT: 32950.1.1 (B-3234)**  
**BRIDGE NO. 78 OVER**  
**UT TO FOURTH CREEK**  
**ON SR 1949**



## WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS				SURFACE WATER IMPACTS					
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	12+66 -L-	2 @ 7' x 7' RCBC W/SILL						0.01	0.01	75	51	
1	12+37 to 12+85 -L-	Stream Bank Stabilization						0.01		80		
TOTALS:			0.00	0.00	0.00	0.00	0.00	0.02	0.01	155	51	0

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

ROWAN COUNTY  
PROJECT - 32950.1.1 (B-3234)

SHEET 5 of 9 9/8/2008

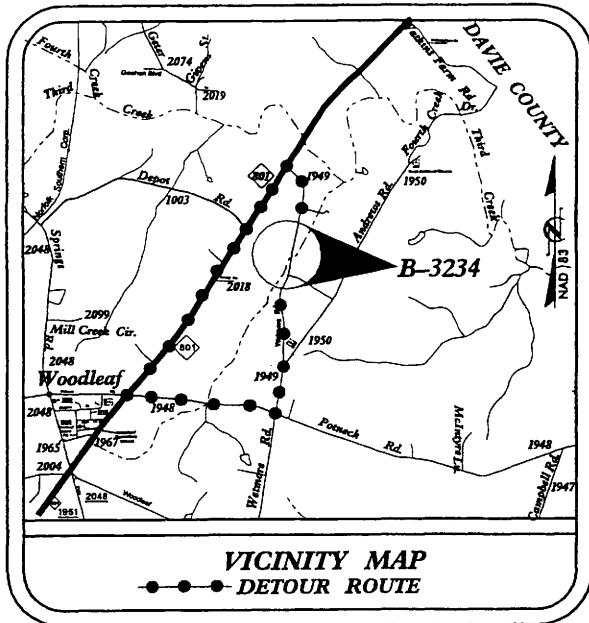


09/08/99

TIP PROJECT: B-3234

CONTRACT:

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

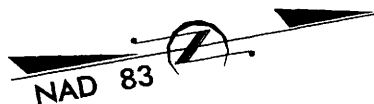


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

ROWAN COUNTY

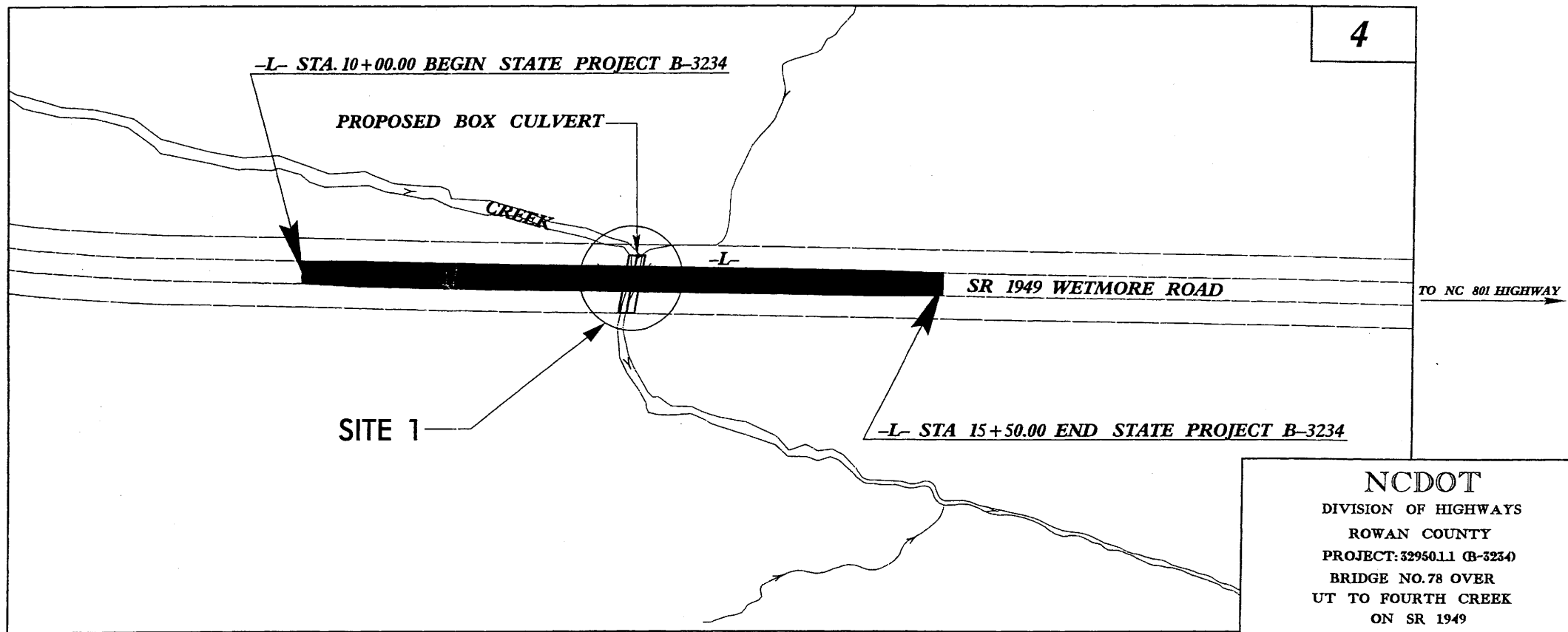
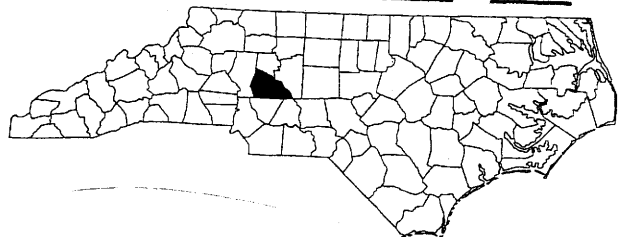
LOCATION: BRIDGE 78 OVER A CREEK ON SR 1949 (WETMORE ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND CULVERT.



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3234	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
32950.1.1	BRZ-1949(1)	P.E.	
32950.2.1	BRZ-1949(1)	RW & UTIL	

Permit Drawing  
Sheet 6 of 9



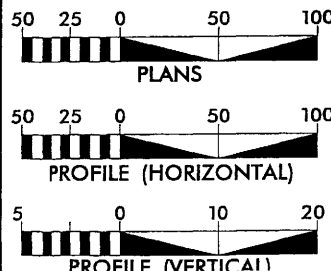
THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.  
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

NCDOT  
DIVISION OF HIGHWAYS  
ROWAN COUNTY  
PROJECT: 32950.1.1 (B-3234)  
BRIDGE NO. 78 OVER  
UT TO FOURTH CREEK  
ON SR 1949

SHEET OF 7 / 25 / 08

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2008 = 1624  
ADT 2030 = 2600  
DHV = 11 %  
D = 40 %  
T = 4 % \*  
V = 40 MPH  
FUNC. CLASS = LOCAL RURAL  
\* TTST 2 DUAL 2

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3234 = .104 mi.  
TOTAL LENGTH OF TIP PROJECT B-3234 = .104 mi.

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
JULY 18, 2008

LETTING DATE:  
JULY 21, 2009

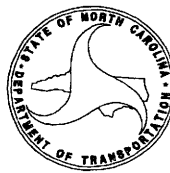
JIMMY GOODNIGHT, PE  
PROJECT ENGINEER

MARK HUSSEY  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.  
ROADWAY DESIGN  
ENGINEER

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

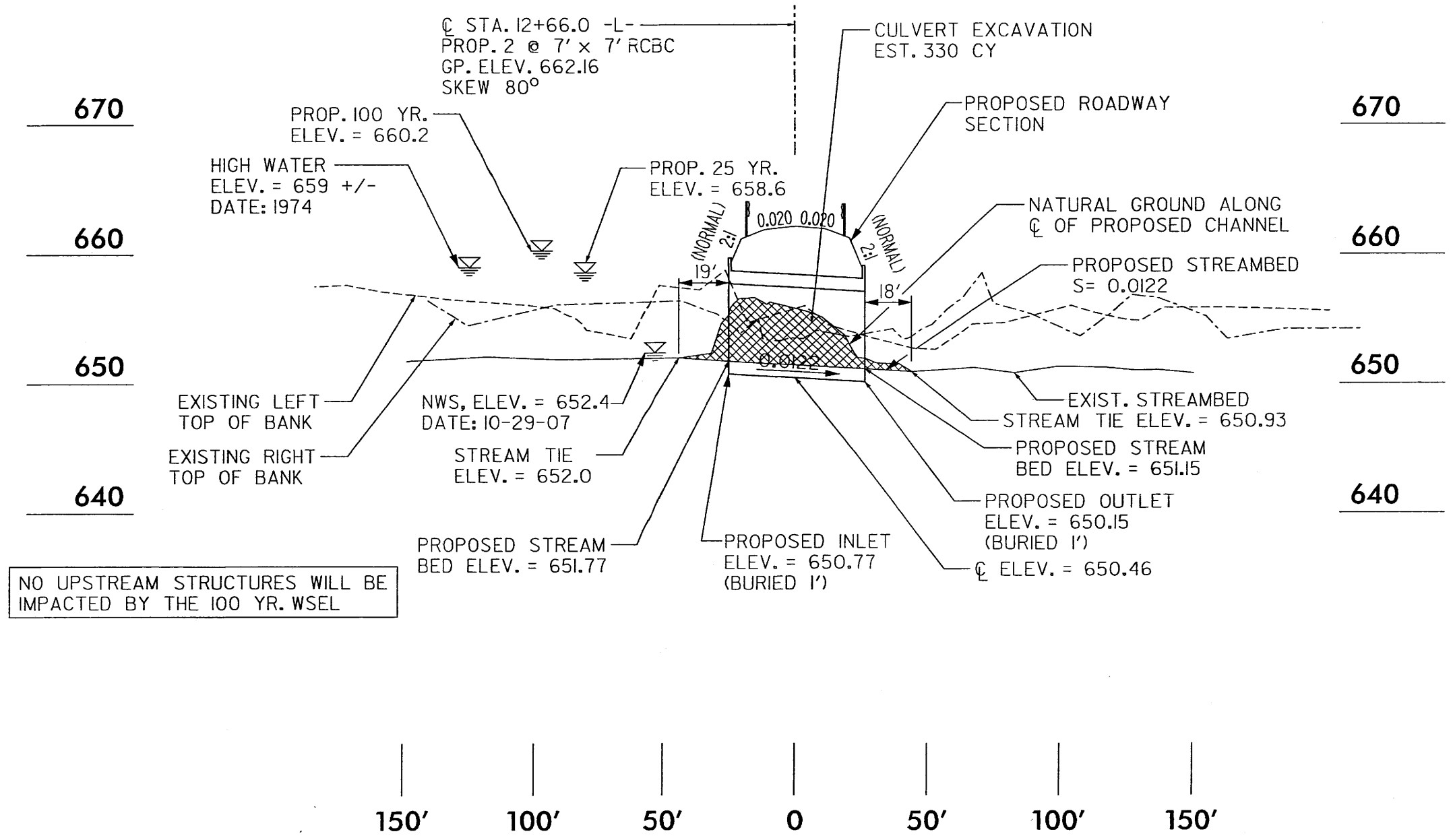


30/2008  
\\hydronics\dgn\Permits\3234\_hyd.fsh.dgn  
& Associates, P.C.



5/14/99

SCALE:  
1" = 50' HORIZONTAL  
1" = 10' VERTICAL



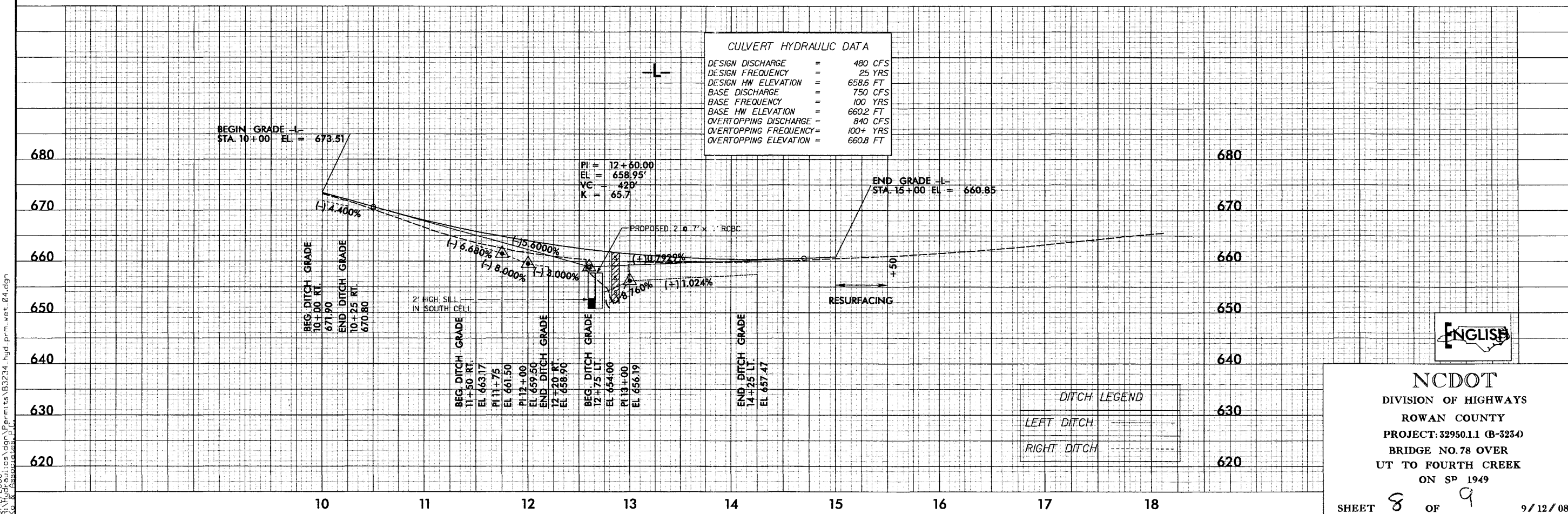
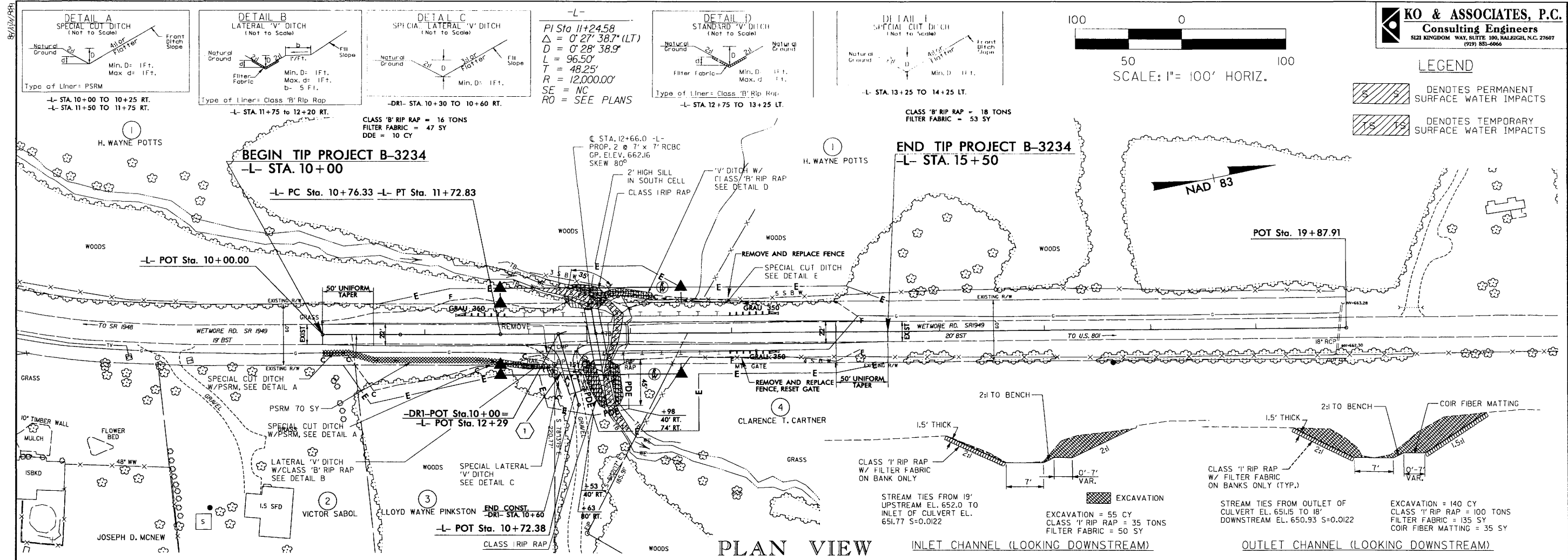
NO UPSTREAM STRUCTURES WILL BE IMPACTED BY THE 100 YR. WSEL

PROFILE ALONG STRUCTURE





7/30/2008  
ulics\den\permits\3234\_hyd-prm-wet-profile.dgn  
KO & Associates, P.C.

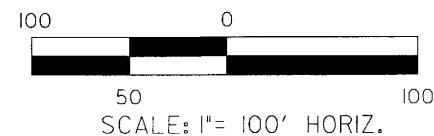






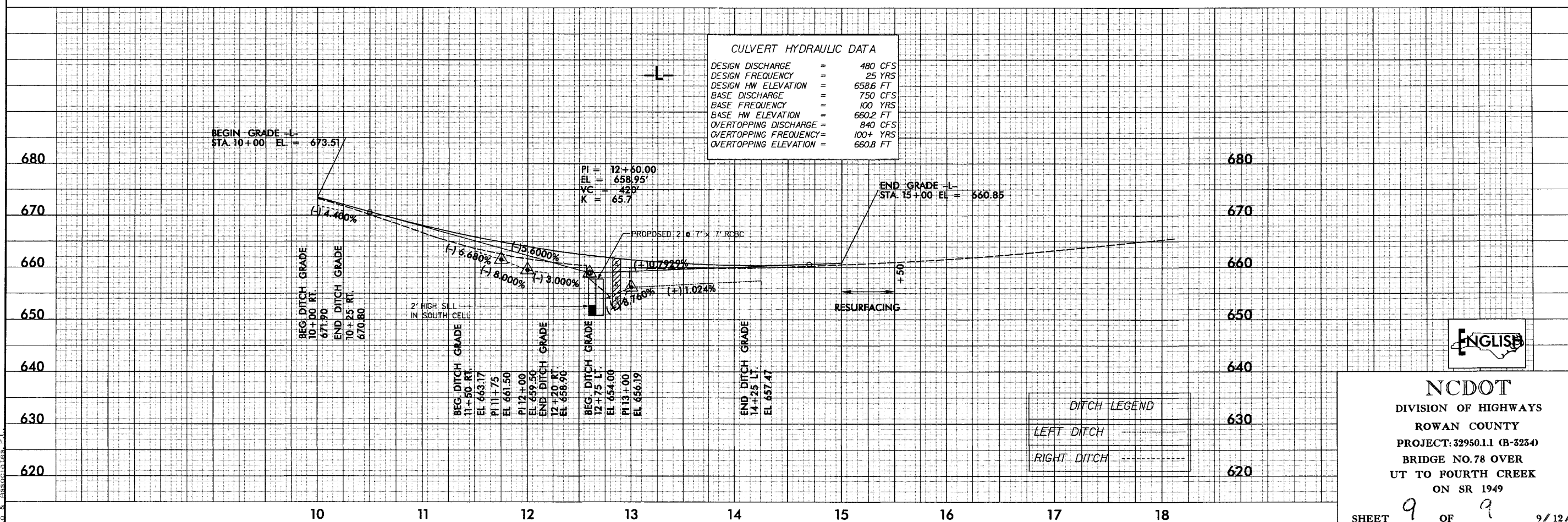
 DENOTES PERMANENT SURFACE WATER IMPACTS

 DENOTES TEMPORARY SURFACE WATER IMPACTS



INLET CHANNEL (LOOKING DOWNSTREAM)

OUTLET CHANNEL (LOOKING DOWNSTREAM)



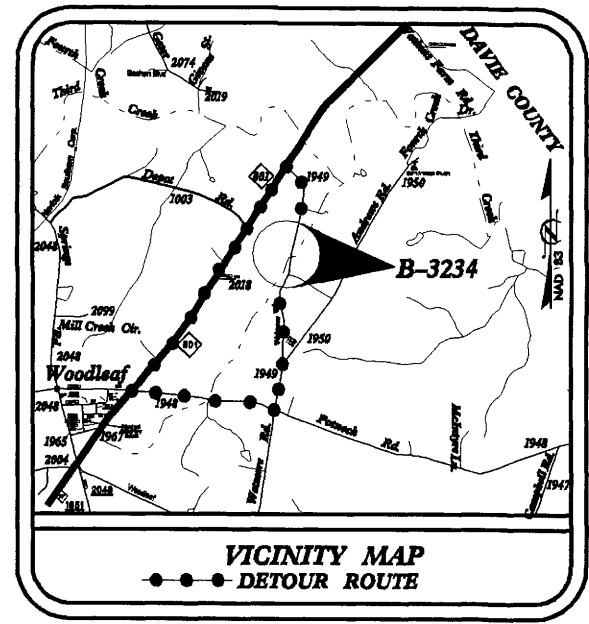
NCDOT  
DIVISION OF HIGHWAYS  
ROWAN COUNTY  
PROJECT: 32950.11 (B-3234)  
BRIDGE NO. 78 OVER  
UT TO FOURTH CREEK  
ON SR 1949

SHEET 9 OF 9 9/12/08



09/08/99

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

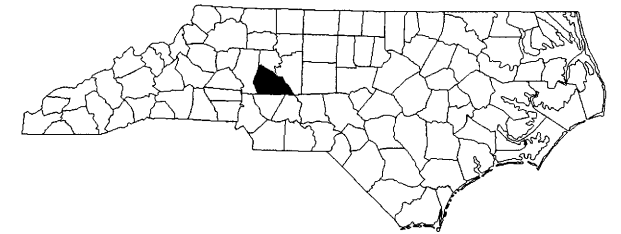


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

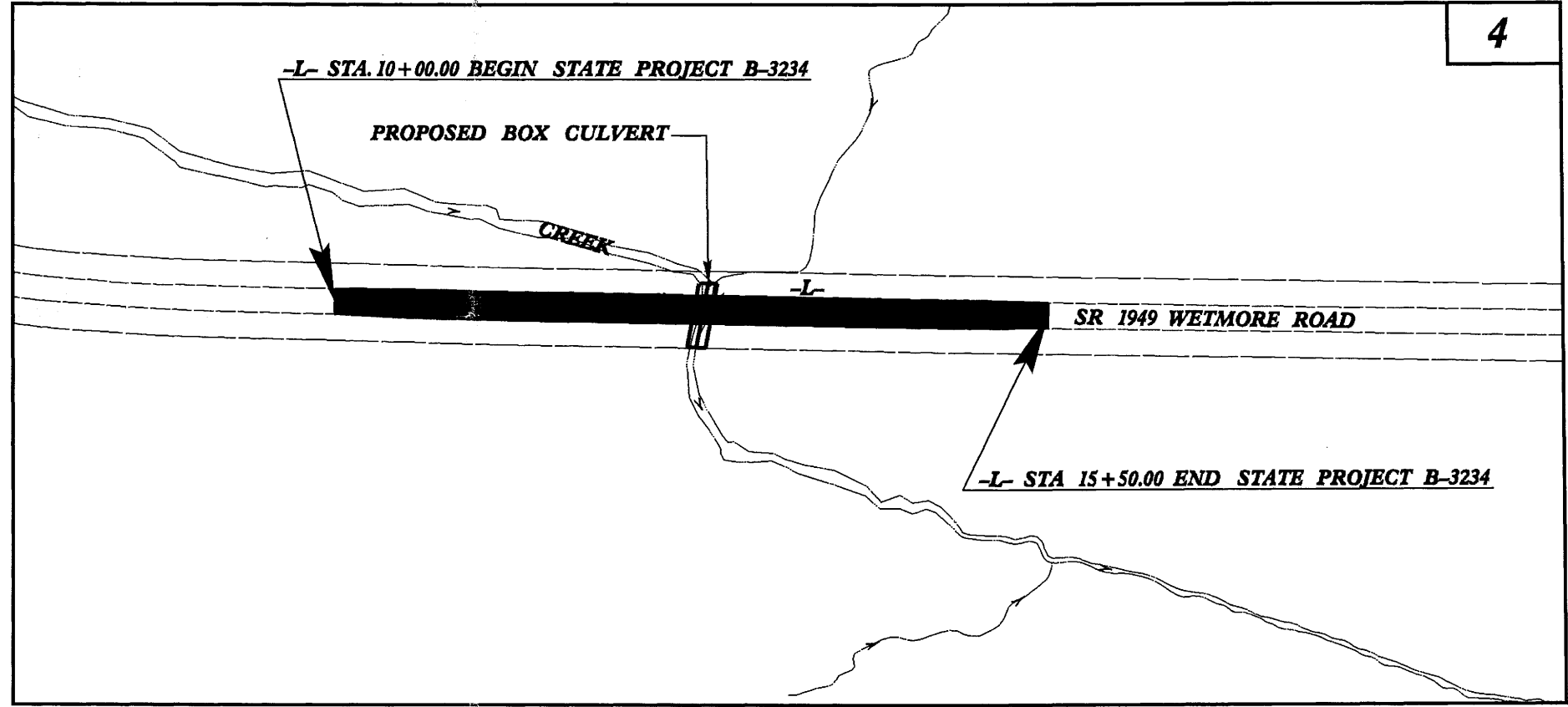
ROWAN COUNTY

LOCATION: BRIDGE 78 OVER A CREEK ON SR 1949 (WETMORE ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND CULVERT.



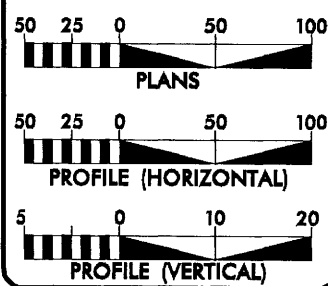
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3234	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
32950.1.1	BRZ-1949(1)	P.E.	
32950.2.1	BRZ-1949(1)	R/W & UTIL	



THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.  
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 2008 = 1624  
ADT 2030 = 2600  
DHV = 11 %  
D = 40 %  
T = 4 % \*  
V = 40 MPH  
FUNC. CLASS = LOCAL RURAL  
\* TTST 2 DUAL 2

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3234 = .104 mi.  
TOTAL LENGTH OF TIP PROJECT B-3234 = .104 mi.

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
JULY 18, 2008

LETTING DATE:  
JULY 21, 2009

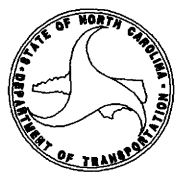
JIMMY GOODNIGHT, PE  
PROJECT ENGINEER

MARK HUSSEY  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA



STATE HIGHWAY DESIGN ENGINEER

23-JUL-2008 09:02  
r:\roadway\proj\B3234\_rdy\_tsh.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$

TIP PROJECT: B-3234

CONTRACT:



3/15/06

Note: Not to Scale

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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	-----
Property Monument	□
Parcel/Sequence Number	②③
Existing Fence Line	-----
Proposed Woven Wire Fence	-----
Proposed Chain Link Fence	-----
Proposed Barbed Wire Fence	-----
Existing Wetland Boundary	-----
Proposed Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	-----
Switch	-----
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	-----
Proposed Control of Access	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Wheel Chair Ramp	-----
Proposed Wheel Chair Ramp Curb Cut	-----
Curb Cut for Future Wheel Chair Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	-----
Pavement Removal	-----

VEGETATION:

Single Tree	-----
Single Shrub	-----
Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

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

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

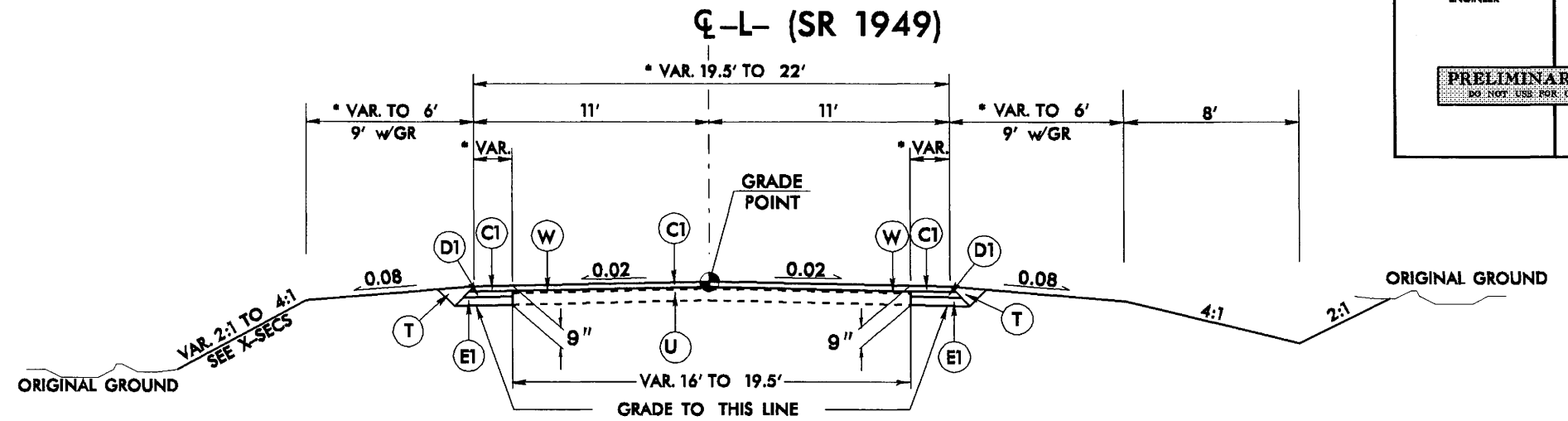
Utility Pole	-----
Utility Pole with Base	-----
Utility Located Object	-----
Utility Traffic Signal Box	-----
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	-----
A/G Tank; Water, Gas, Oil	-----
U/G Test Hole (S.U.E.*)	-----
Abandoned According to Utility Records	-----
End of Information	-----



PROJECT REFERENCE NO.	SHEET NO.
B-3234	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
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 1 1/2" IN DEPTH.
D1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 286 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 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 488 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0, 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 6 1/2" IN DEPTH.
J	PROP. 8" AGGREGATE BASE COURSE.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).

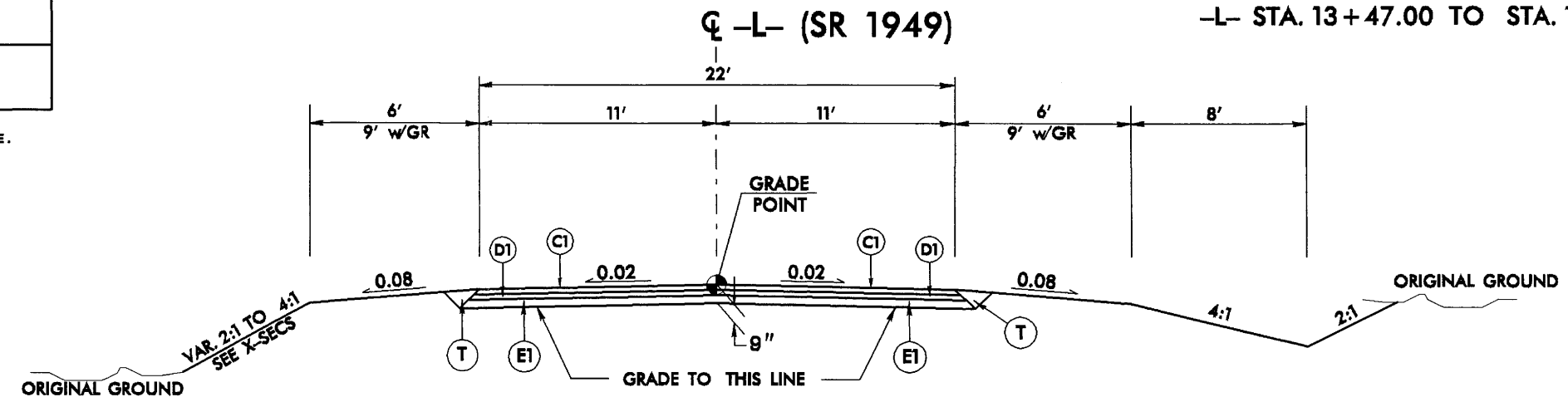
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



**TYPICAL SECTION NO. 1**

**USE TYPICAL SECTION NO. 1 AS FOLLOWS**

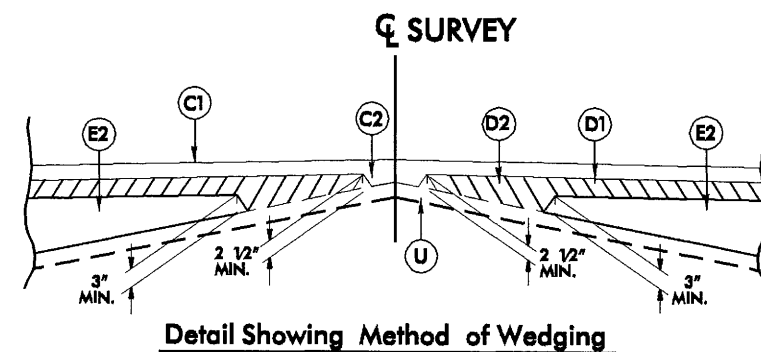
- \* -L- STA. 10+00.00 TO STA. 10+50.00
- \* -L- STA. 15+00.00 TO STA. 15+50.00
- L- STA. 10+50.00 TO STA. 11+00.00
- L- STA. 13+47.00 TO STA. 15+00.00



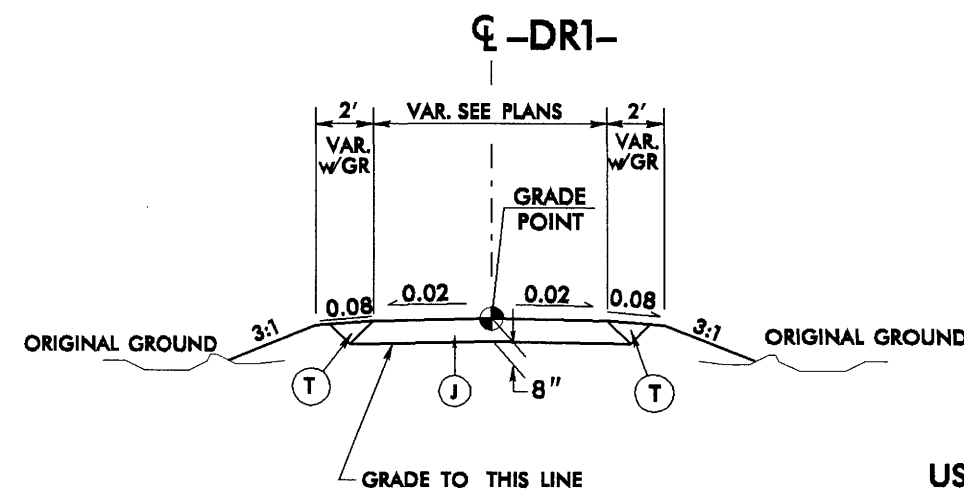
**TYPICAL SECTION NO. 2**

**USE TYPICAL SECTION NO. 2 AS FOLLOWS**

- L- STA. 11+00.00 TO STA. 13+47.00



**Detail Showing Method of Wedging**



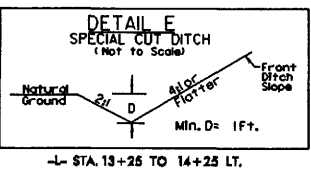
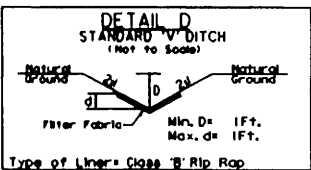
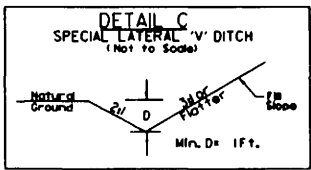
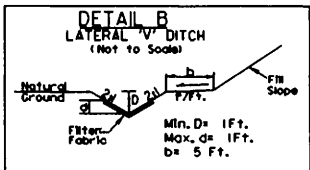
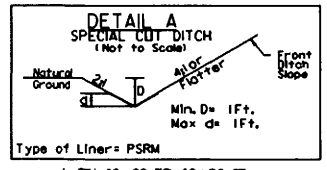
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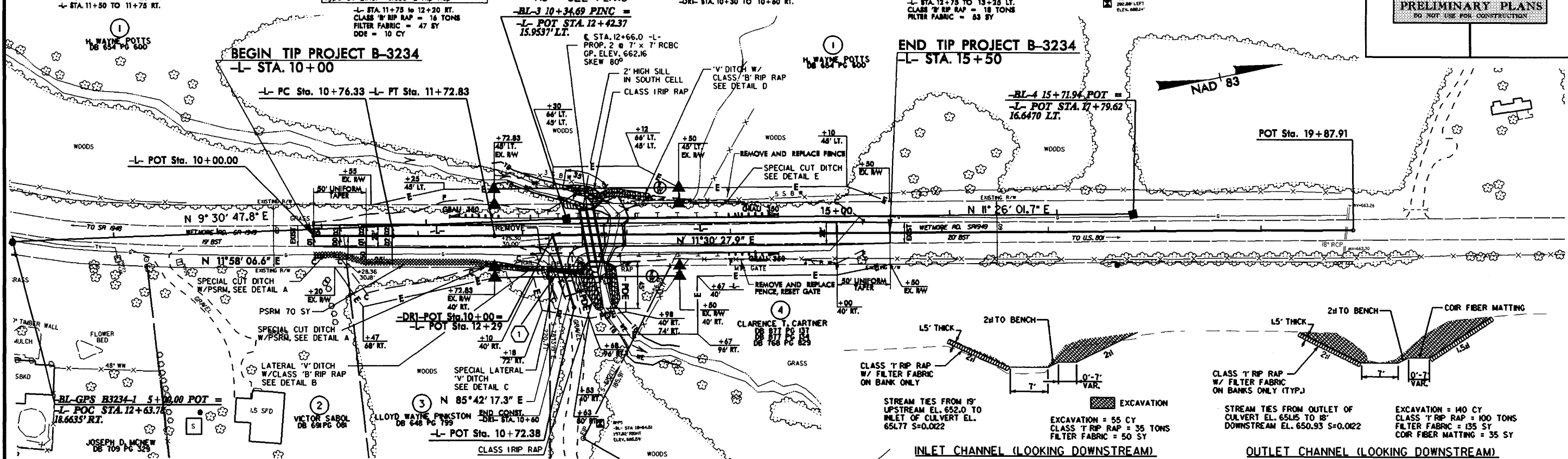
- DR1- STA. 10+11.35 TO STA. 10+60.00



8/17/99

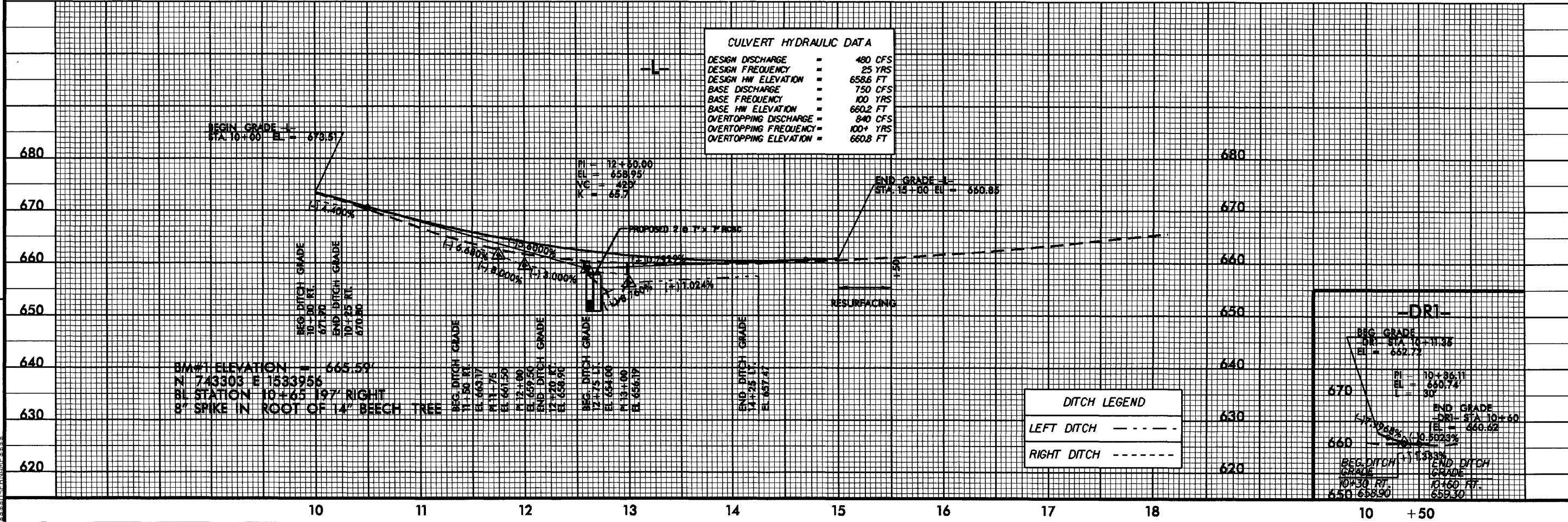


PROJECT REFERENCE NO.	SHEET NO.
B-3234	4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



**CULVERT HYDRAULIC DATA**

DESIGN DISCHARGE	= 480 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 658.6 FT
BASE DISCHARGE	= 750 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 660.2 FT
OVERTOPPING DISCHARGE	= 840 CFS
OVERTOPPING FREQUENCY	= 100+ YRS
OVERTOPPING ELEVATION	= 660.8 FT



23-JUL-2008 09:45  
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Rowan County  
Bridge No. 78 on SR 1949  
over Unnamed Creek  
Federal-Aid Project No. BRZ-1949(1)  
State Project No. 8.2634301  
W.B.S. No. 32950.1.1  
T.I.P. Project No. B-3234

CATEGORICAL EXCLUSION  
UNITED STATES DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
AND  
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

APPROVED:

5-14-07  
DATE

For William T. Thorpe, PhD.  
Gregory J. Thorpe, PhD.  
Environmental Management Director  
Project Development & Environmental Analysis Branch,  
North Carolina Department of Transportation

5-16-07  
DATE

For Felix J. Sullivan III  
John F. Sullivan III, PE  
Division Administrator  
Federal Highway Administration

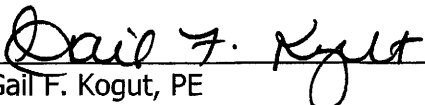


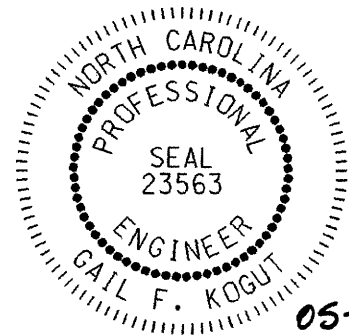
Rowan County  
Bridge No. 78 on SR 1949  
over Unnamed Creek  
Federal-Aid Project No. BRZ-1949(1)  
State Project No. 8.2634301  
W.B.S. No. 32950.1.1  
T.I.P. Project No. B-3234

## CATEGORICAL EXCLUSION

May 2007

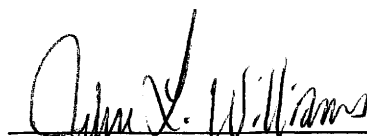
Document Prepared By:  
MA Engineering Consultants, Inc.  
598 East Chatham Street, Suite 137  
Cary, NC 27511

  
Gail F. Kogut, PE  
Project Manager



For the North Carolina Department of Transportation:

  
Pamela R. Williams  
Bridge Project Planning Engineer

  
John L. Williams, PE  
Bridge Project Engineer  
Project Development & Environmental Analysis Branch



## **PROJECT COMMITMENTS**

**Rowan County  
Bridge No. 78 on SR 1949  
Over Unnamed Creek  
Federal-Aid Project No. BRZ-1949(1)  
State Project No. 8.2634301  
W.B.S. No. 32950.1.1  
T.I.P. Project No. B-3234**

### **Bridge Demolition**

#### **Office of Natural Environment**

The entire superstructure is constructed of timber and steel while the abutments are concrete. Therefore, it is unlikely that there will be any temporary fill resulting from bridge demolition.

### **Offsite Detour**

#### **Division 9 Construction, Resident Engineer's Office**

In order to have time to adequately reroute school busses, Rowan-Salisbury School System Transportation Department will be contacted at (704) 639-3051 at least one month prior to road closure.

Rowan County Department of Emergency Services will be contacted at (704) 638-0911 at least one month prior to road closure to make the necessary temporary reassignments to primary response units.



**Rowan County  
Bridge No. 78 on SR 1949  
Over Unnamed Creek  
Federal-Aid Project No. BRZ-1949(1)  
State Project No. 8.2634301  
W.B.S. No. 32950.1.1  
T.I.P. Project No. B-3234**

**INTRODUCTION:** The replacement of Bridge No. 78 is included in the 2007-2013 North Carolina Department of Transportation (NCDOT) Transportation Improvement Program and in the Federal-Aid Bridge Replacement Program. The location is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion".

## **I. PURPOSE AND NEED STATEMENT**

The NCDOT Bridge Maintenance Unit records indicated the bridge has a sufficiency rating of 21.6 out of a possible 100 for a new structure. The bridge is considered structurally deficient due to the structural evaluation rating of 2 out of 9 according to Federal Highway Administration (FHWA) standards. Bridge No. 78 is therefore eligible for FHWA's Bridge Replacement Program.

In addition to the structural deficiency, the Bridge No. 78 is also functionally obsolete since the deck geometry is rated 2 out of 9 as well. This low appraisal is due to the narrow bridge width compared to the roadway width of SR 1949.

The posted weight limit on the bridge is down to 9 tons for single vehicles (SV) and 12 tons for truck-tractor semi-trailers (TTST). By comparison, a new bridge would be designed for 25 tons SV and 45 tons TTST.

Bridge No. 78 has a forty-nine year old timber deck with a typical life expectancy between 40 to 50 years due to the natural deterioration rate of wood. Rehabilitation of a timber structure is generally practical only when a few members are damaged or prematurely deteriorated. However, past a certain degree of deterioration, timber structures become impractical to maintain and upon eligibility are programmed for replacement. Bridge No. 78 is approaching the end of its useful life.

## **II. EXISTING CONDITIONS**

Bridge No. 78 is located on SR 1949, Wetmore Road, in Rowan County over an unnamed tributary (UT) to Fourth Creek. SR 1949 is classified as a Rural Local Route in the Statewide Functional Classification System.

Bridge No. 78 was constructed in 1957. The existing structure is one-span bridge with an overall length of 48.67 ft. Although the clear roadway width is 17.25 ft., the bridge is



currently signed as a one-lane bridge. The superstructure consists of steel stringers and timber deck with a bituminous wearing surface. The substructure consists of mass concrete abutments. Bridge No. 78 currently has posted weight limits of 9 tons for single vehicle (SV) and 12 tons for truck-tractor semi-trailer (TTST). According to Rowan County Emergency Services, the current weight limits of the bridge prevent fire apparatus from utilizing the bridge. There is no posted speed limit in the vicinity of this bridge; therefore the statutory speed of 55 mph applies. The approach roadway for Bridge No. 78 is a two-lane 18.0 ft. wide road with 4-foot unpaved shoulders. The approach tapers to approximately 16 feet at the bridge.

The creek bed to roadway crown point height is 8.0 ft. and the normal depth of the unnamed tributary is 1.0 ft.

Underground telephone, cable, and gas run along the east side of SR 1949. A gas marker is located in the northwest quadrant of the bridge. Aerial power transmission lines cross SR 1949 North of the bridge. Many residences in the area have above ground heating oil or propane storage tanks.

The 2007 estimated average daily traffic (ADT) volume is 1580 vehicles per day (vpd). The projected ADT is 2600 vpd by the design year 2030. The percentages of truck traffic are 2% dual-tired vehicles and 2% TTST. SR 1949 is a two-lane facility that serves as a "cut-through" for landfill and quarry trucks from SR 2048 to NC 801, northeast of Woodleaf.

SR 1949 is not a part of a designated bicycle route nor is it listed in the Transportation Improvement Program (TIP) as needing bicycle accommodations. There is no indication that an unusual number of bicyclists use this roadway.

No accidents were reported in the vicinity of the bridge during a recent three year period.

Four school buses cross Bridge No. 78 for a total of 8 trips per day.

Land use within the project area is primarily farmland and residential.

There are no U.S. Geological Survey (USGS) geodetic survey markers located in the project vicinity.

### **III. ALTERNATIVES**

#### **A. Project Description**

The proposed structure will provide a 40-foot clear roadway width to allow for two 12-foot travel lanes and 8-foot shoulders on each side. The approach roadway will consist of two 12-foot travel lanes with 8-foot shoulders. The design speed will be 60 mph.



The estimated structure requirements are based on the historic performances of the existing structure and field observations of the site. Based on field reconnaissance of the site and a preliminary hydraulic analysis, the existing structure could be replaced with a two-barrel 6'x7' reinforced concrete box culvert.

## **B. Reasonable and Feasible Alternatives**

### **Alternative 1**

Alternative 1a proposes to construct a reinforced concrete box culvert at the existing location using a road closure and an offsite detour for construction. The skew angle of the structure would be approximately 80°. The proposed structure is a two-barrel 6'x7' box culvert approximately 50 feet in length.

Alternative 1b proposes to construct a bridge at the existing location using a road closure and an offsite detour for construction. The skew angle of the structure would be approximately 80°. The proposed structure length is approximately 40 feet. Anticipated foundation types for a bridge are pile supported end bents and drilled shaft interior bents.

The off-site detour consists of SR 1948 (Potneck Rd.) to NC 801. This detour is approximately 2.1 miles. The detour for the average road user would result in 1.5 minutes additional travel time (0.9 miles additional travel). Assuming that the approach work could be completed before closing the bridge and that the detour would be in service for approximately six months, the detour delay would be in the "acceptable" range as defined in the *NCDOT Guidelines for Evaluation of Off-site Detours for Bridge Replacement Projects*. The detour route will not require any improvements before it is put into use. Emergency services and NCDOT Division 9 approves of the use of this off-site detour.

### **Alternative 2**

Alternative 2a proposes to construct the reinforced concrete box culvert at the existing location while maintaining traffic with phased construction. The skew angle of the structure would be approximately 80°. The proposed structure is a two-barrel 6'x7' box culvert approximately 50 feet in length. The phased construction will utilize a new alignment to the east of the bridge and the use of the western half of the existing bridge to maintain traffic. Upon completion of the eastern half of the box culvert, traffic will be routed to the east side of the alignment and construction of the western half of the culvert would be completed.

Alternative 2b proposes to construct the bridge at the existing location while maintaining traffic with phased construction. The approximate skew angle of the structure would be 80°. The proposed structure length is approximately 40 feet. Anticipated foundation types for a bridge are pile supported end bents and drilled shaft interior bents. The phased construction will utilize a new alignment to the east of the bridge and the use of the western half of the existing bridge to maintain traffic. Upon completion of the



eastern half of the replacement bridge, traffic will be routed to the east side of the alignment and construction of the western half of the bridge would be completed.

### **C. Alternatives Eliminated from Further Consideration**

The "do-nothing" alternative will eventually necessitate removal of the bridge effectively removing this section of SR 1949 from traffic service.

Investigation of the existing structure by the Bridge Maintenance Unit indicates that rehabilitation of the old bridge is not feasible due to its age and deteriorated condition.

### **D. Preferred Alternative**

Emergency services personnel stated that closing the bridge during construction would be a minor inconvenience since fire apparatus cannot currently use the bridge due to weight restrictions, the off-site detour alternatives are preferred. The off-site detour alternatives (Alternatives 1a and 2a) cost considerably less than their on-site detour bridge counterparts (Alternatives 1b and 2b).

No jurisdictional issues preclude the use of a culvert in this location.

A culvert is the preferred structure type for this location for the following reasons. Culverts are usually less expensive and easier to construct than a bridge; culverts typically have a longer life expectancy with less maintenance compared to a bridge; and with a small drainage area of approximately 1.05 square miles, a culvert will function hydraulically as efficiently as a bridge.

Therefore, the preferred alternative is Alternative 1a.

Stream impacts for Alternative 1a should be minimal since the construction does not require a significant amount of excavation. A detailed analysis will have to be performed to determine if raising the grade will have an adverse affect on floodway. With a hydraulic opening of approximately the same as the existing bridge, the proposed culvert should have a similar hydraulic efficiency.

The estimated hydraulic structure requirements are based on the historic performances of the existing structure and field observations of the site. There are no structures in the floodplain. The proposed replacement would not adversely affect the floodplain. Floodway modification is not required. The structure requirements may be adjusted during final hydrologic study and hydraulic design as determined appropriate to accommodate design flows. The proposed alternative would not modify flow characteristics and would have minimal impact on floodplains due to roadway encroachment. Existing drainage patterns and groundwater would not be affected. The project may require a 401 Water Quality Certification and a 404 Clean Water Act permit.

NCDOT Division 9 concurs with the selection of Alternative 1a as the preferred alternative.



## **E. Design Exceptions**

All alternatives would require a design exception for vertical alignment. The existing bridge is at the low point of the sag vertical curve. The design speed is 60mph. The vertical profile can not be raised sufficiently to attain this design speed without incurring considerable costs. Therefore, a design exception will be requested for the vertical alignment. The proposed vertical alignment has an operational design speed of 40 mph.

## **IV. ESTIMATED COSTS**

The estimated costs, based on 2006 prices, are shown in Table 1:

**Table 1: Estimated Costs**

	Alternative 1a	Alternative 1b	Alternative 2a	Alternative 2b
Structure Removal (existing)	12,000	12,000	12,000	12,000
Structure (proposed)	59,000	239,000	65,000	267,000
Roadway Approaches	333,000	373,000	524,000	550,000
Miscellaneous and Mobilization	161,000	206,000	248,000	290,000
Engineering and Contingencies	85,000	145,000	151,000	181,000
ROW/Const. Easements/Utilities	49,050	49,050	58,604	58,604
<b>TOTAL</b>	<b>\$ 699,050</b>	<b>\$ 1,024,050</b>	<b>\$ 1,058,604</b>	<b>\$ 1,358,604</b>

## **V. NATURAL ENVIRONMENT**

### **A. Physical Characteristics**

The Project Study Area (PSA) has been defined as a 500-foot wide corridor centered on the bridge and extending approximately 1,300 feet in each direction along SR 1949. This area encompasses approximately 30 acres. Not all of the PSA will be affected by the project. The project will permanently impact less than 2 acres of the PSA for any of the alternatives.

#### **1. Water Resources**

UT to Fourth Creek lies in the Yadkin-Pee Dee River Basin, within the NC Division of Water Quality (NCDWQ) subbasin designated 03-07-06 and the US Geological Survey 8-digit Hydrologic Cataloging Unit Code (HUC) 03040102. The only water within the project vicinity is the UT to Fourth Creek (Stream Index Number [12-108-20]). The UT is a perennial stream.



As defined by the NC Division of Water Quality, all undesignated tributaries inherit the classification of the stream downstream from the point of their convergence. The Best Usage Classification for Fourth Creek is "C". Although UT to Fourth Creek is not listed as an impaired water body under Section 303(d) of the Clean Water Act, Fourth Creek itself is listed as impaired. Fourth Creek meets UT to Fourth Creek approximately 0.5 miles downstream of Bridge No. 78. No waters classified as Water Supplies (WS-I: undeveloped watershed, or WS-II: predominantly undeveloped watersheds), High Quality Waters (HQW), or Outstanding Resource Waters (ORW) occur within 1.0 mile of the project study area (PSA). There are currently no riparian buffer regulations for the Yadkin-Pee Dee River Basin.

## 2. Biotic Resources

The predominant land use and land cover found in the PSA are Piedmont/Low Mountain Alluvial Forest, Cropland/Pasture, and Residential. Table 2 summarizes community types and acreages.

**Table 2: Natural Communities**

Natural Community Classification	Approximate Area in PSA (acres)	Percent of Total Area*
Dry-Mesic Oak-Hickory Forest	8.0	26.7
Piedmont/Low Mountain Alluvial Forest	5.5	18.3
Cropland and Pasture	5.0	16.7
Residential	7.5	25.0

\* Impervious surfaces and roadsides account for the remainder.

## B. Jurisdictional Topics

### 1. Surface Waters and Wetlands

There were no jurisdictional wetlands identified within the PSA during the site visit.

The NCDOT will ensure that preventative and control Best Management Practices (BMPs) are employed to prevent or reduce water pollution as described in the NCDOT handbook *Best Management Practices for the Protection of Surface Waters*. Rowan County is not a Mountain Trout County and does not support trout or smallmouth bass. Anadromous fish are not known to utilize Fourth Creek or its tributaries. Correspondence with the NC Wildlife Resources Commission (NCWRC) has indicated that there are no trout, smallmouth bass, or anadromous fish moratoriums applicable to Bridge No. 78.

**Table 3: Stream Impacts in Project Study Area**

Stream Identification	Approximate Length in PSA (feet)	Permanent Direct Impacts (feet)			
		Alternative 1		Alternative 2	
		A	B	A	B
UT to Fourth Creek	1600	52	41	51	41



## 2. Permits

A Nationwide Permit No. 23 (Approved Categorical Exclusion) is likely to be applicable for the proposed project. A Nationwide Permit No. 33 (Temporary Construction, Access and Dewatering) may be required if an on-site temporary detour or temporary construction platform is needed during construction of Bridge No. 78. Should the discharge of fill material become necessary, a 401 Water Quality Certification, administered through the NCDWQ, will be required. Applicable General Certifications (GC) may include GC 3403 and GC 3366, for the corresponding U.S. Army Corps of Engineers (USACE) Nationwide Permit 23 and Nationwide Permit 33, respectively.

## 3. Federally Protected Species

Plants and animals with federal classification of Endangered (E), Threatened (T), Proposed Endangered (PE), and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended.

The U.S. Fish and Wildlife Service have identified two threatened or endangered species in Rowan County: the bald eagle (*Haliaeetus leucocephalus*) and Schweinitz's sunflower (*Helianthus schweinitzii*).

**Table 4: Federally Protected Species in Rowan County**

Common Name	Scientific Name	Federal Status	State Status	Habitat Requirements	Habitat Present	Biological Conclusion
<b>Vertebrates</b>						
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	T	Mature forests near large bodies of water; lakes and sounds	No	No Effect
<b>Vascular Plants</b>						
Schweinitz's sunflower	<i>Helianthus schweinitzii</i>	E	E	Open woods and roadsides	Yes	No Effect

Notes: E - Endangered; T - Threatened.

### ***Haliaeetus leucocephalus*** (bald eagle)

**Threatened**

Animal Family: Accipitridae

Date Listed: March 11, 1967

**BIOLOGICAL CONCLUSION: NO EFFECT**

Roughly, one-third of the PSA has been disturbed by agriculture, or is residentially and commercially developed. It is unlikely that bald eagles would nest in the PSA, and no nests were observed. A search of the NCNHP database showed no recorded occurrences of this species within the project vicinity. There are no major lakes close to the PSA. Since no nesting sites were observed and suitable habitat is not present, it can be concluded that the construction of the proposed project will have no effect on the bald eagle.



***Helianthus schweinitzii*** (Schweinitz's sunflower)

**Endangered**

Plant Family: Aster (Asteraceae)

Date Listed: May 7, 1991

Flowers Present: Late August to October

**BIOLOGICAL CONCLUSION: NO EFFECT**

Suitable habitat for Schweinitz's sunflower is present in the PSA due to its partially-disturbed nature, the presence of open woods and roadsides, and mafic rock origins of the Southern Outer Piedmont. NCNHP has no records of any known populations of Schweinitz's sunflower within a one-mile radius of the PSA. A survey of the entire PSA for the presence of individuals was conducted by MA Engineering Consultants, Inc. biologists on September 14, 2004, and no individuals were observed. It can be concluded that the construction of the proposed project will have no effect on Schweinitz's sunflower.

***Rhus michauxii*** (Michaux's sumac)

**Endangered**

Plant Family: Anacardiaceae

Date Listed: September 28, 1989

**BIOLOGICAL CONCLUSION: NO EFFECT**

Michaux's sumac is not on the threatened and endangered list for Rowan County, however it is on the list for nearby Davie County. A survey was performed on September 14, 2006 by NCDOT biologists and no occurrence of this species exists at the project site. A search of the NCNHP website on the same date found no occurrence of this species within a one mile radius of the project site. Therefore, it can be concluded that the construction of the proposed project will have no effect on Michaux's sumac.

#### **4. Impacts**

Dropping any portion of the structure into the Waters of the United States will be avoided unless there is no practical method of removal. In the event that no practical method is feasible, a worst-case scenario is assumed for calculations of fill entering Waters of the United States. The existing superstructure consists of a timber deck on steel beams. The end bents consist of mass concrete abutments. The bridge will be removed without dropping components into Waters of the United States.

## **VI. HUMAN ENVIRONMENT**

### **A. Compliance Guidelines**

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800. Section 106 requires that Federal agencies to take into account the effect of their undertakings (federally funded, licensed, or permitted) on properties included in or eligible for inclusion in the National Register of Historic Places and afford the Advisory Council a reasonable opportunity to comment on such undertakings.



## **Historic Architecture**

In a memorandum dated October 24, 2005, the State Historic Preservation Office (HPO) conducted a search of their files and stated that they were "aware of no historic resources which would be affected by the project". Therefore, no further compliance with Section 106 is required. See memorandum dated October 24, 2005 included in the attachments.

## **Archaeology**

The State Historic Preservation Officer (SHPO), in a memorandum dated October 24, 2005, recommended that "no archaeological investigation be conducted in connection with this project." A copy of the HPO memorandum is included in the Appendix.

## **B. Community Impacts**

No adverse impact on families or communities is anticipated. Right of way acquisition will be limited. No relocatees are expected with implementation of the proposed alternative.

No adverse effect on public facilities or services is anticipated. The project is not expected to adversely affect social, economic, or religious opportunities in the area.

The studied route does not contain any bicycle accommodations nor is it a designated bicycle route; therefore no bicycle accommodations have been included as part of this project.

The project is not in conflict with any plan, existing land use or zoning regulation. No change in land use is expected to result from the construction of this project.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impacts to prime and important farmland soils by all land acquisition and construction projects. Prime and important farmland soils are defined by the Natural Resources Conservation Service (NRCS). There are no soils classified as prime, unique or having state or local importance in the vicinity of the proposed bridge.

The project will not have a disproportionately high and adverse human health and environmentally effect on any minority or low income population.

## **C. Noise and Air Quality**

This project is an air quality neutral project in accordance with 40 CFR 93.126. It is not required to be included in the regional emissions analysis (if applicable) and project level CO or PM2.5 analyses are not required. This project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in emissions impacts relative to the no-build alternative. Therefore, FHWA has determined that this project will generate minimal air



quality impacts for Clean Air Act criteria pollutants and has not been linked with any special MSAT concerns. Consequently, this effort is exempt from analysis for MSATs. Any burning of vegetation shall be performed in accordance with applicable local laws and regulations of the North Carolina State Implementation Plan (SIP) for air quality compliance with 15 NCAC 2D.0520.

Noise levels may increase during project construction; however, these impacts are not expected to be substantial considering the relatively short-term nature of construction noise and the limitation of construction to daytime hours. The transmission loss characteristics of nearby natural elements and man-made structures are believed to be sufficient to moderate the effects of intrusive construction noise.

## **VII. GENERAL ENVIRONMENTAL EFFECTS**

The project is expected to have an overall positive impact. Replacement of an inadequate bridge will result in safer traffic operations.

The bridge replacement will not have an adverse effect on the quality of the human or natural environment with the use of current NCDOT standards and specifications.

The proposed project will not require right-of-way acquisition or easement from any land protected under Section 4(f) of the Department of Transportation Act of 1966. There are no publicly owned recreational facilities, or wildlife and waterfowl refuges of national, state, or local significance in the vicinity of the project.

An examination of North Carolina Department of Environment and Natural Resources (DENR), Division of Water Quality (DWQ), Groundwater Section and the North Carolina Department of Human Resources, Solid Waste Management Section records by the NCDOT GeoEnvironmental Section revealed no hazardous waste sites nor groundwater contamination incidents in the project area.

A field investigation by the NCDOT GeoEnvironmental Section and an examination of records of DENR's Division of Waste Management, Underground Storage Tank Section, revealed that no regulated underground storage tanks exist in the project study area.

Rowan County is a participant in the National Flood Insurance Program. This UT to Fourth Creek is not included in a detailed FEMA flood study.

No geodetic monuments will be impacted during construction of this project.

## **VIII. COORDINATION AND AGENCY COMMENTS**

NCDOT has sought input from the following agencies as a part of the project development: U.S. Army Corps of Engineers, US Environmental Protection Agency, U.S. Fish & Wildlife Service, NC Department of Natural Resources, N.C Wildlife Resource



Commission, North Carolina State Historic Preservation Office, and the Cabarrus-Rowan Metropolitan Planning Organization (MPO).

The N.C. Wildlife Resource Commission and U.S. Fish & Wildlife Service in standardized letters provided a request that they prefer any replacement structure to be a spanning structure.

**Response:** At smaller stream crossings, it is more economical to replace bridges with box culverts. Culverts cost less than bridges, require less maintenance throughout their service life than bridges, and last longer than bridges. Therefore, where appropriate, NCDOT prefers to use box culverts to replace bridges. As there are no protected resources at this site, the proposed culvert will be designed according to current NCDOT design practices which include such measures as buried box bottoms to facilitate fish passage, dry cell(s) to allow wildlife passage, and placement to minimize channel widening and realignment.

In addition, the U.S. Fish & Wildlife Service requested a habitat assessment and survey of any suitable habitat for the federally endangered Schweinitz's sunflower (*Helianthus schweinitzii*) and Michaux's sumac (*Rhus michauxii*) as well as the federal species of concern, Georgia aster (*symphyotrichum georgianum*).

**Response:** The Georgia aster is not federally listed as an endangered or threatened species and therefore is not afforded the protection of Section 7 and Section 9 of the Endangered Species Act of 1973. Michaux's sumac is not on the threatened and endangered list for Rowan County, however a survey was performed on September 14, 2006 and no occurrence of this species exists at the project site.

A survey for Schweinitz's sunflower was performed on September 14, 2004, and no individuals were observed. In addition, a search of the North Carolina Natural Heritage Program (NCNHP) website revealed no occurrence of either species within a 1.0-mile radius of the project site. Based on this information, the construction of the proposed project will have no effect on Schweinitz's sunflower or Michaux's sumac.

The Rowan County Planning Department prefers to maintain traffic on-site during construction.

**Response:** Replacement in-place using an off-site detour has been determined to be the most economical solution for this project. The construction of a temporary bridge would result in over \$300,000 in additional construction costs and right-of-way costs due to the additional easements that must be obtained. Neither the Rowan County Emergency Services nor the schools have raised any objection to the temporary closing of this road.

U.S. Army Corps of Engineers, US Environmental Protection Agency, and the NC Department of Natural Resources have not responded.



## **IX. PUBLIC INVOLVEMENT**

Efforts were undertaken early in the planning process to contact local officials to involve them in the project development with scoping letters. A newsletter was sent to property owners in the project vicinity. To date, only one comment has been received inquiring whether the replacement structure would have two lanes or one lane. The commenter was assured that the new structure would have two lanes.

## **X. CONCLUSION**

On the basis of the above discussion, it is concluded that no significant adverse environmental effects will result from implementation of the project. The project is therefore considered to be a Federal "Categorical Exclusion" due to its limited scope and lack of substantial environmental consequences.

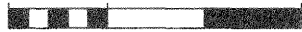


## **FIGURES**

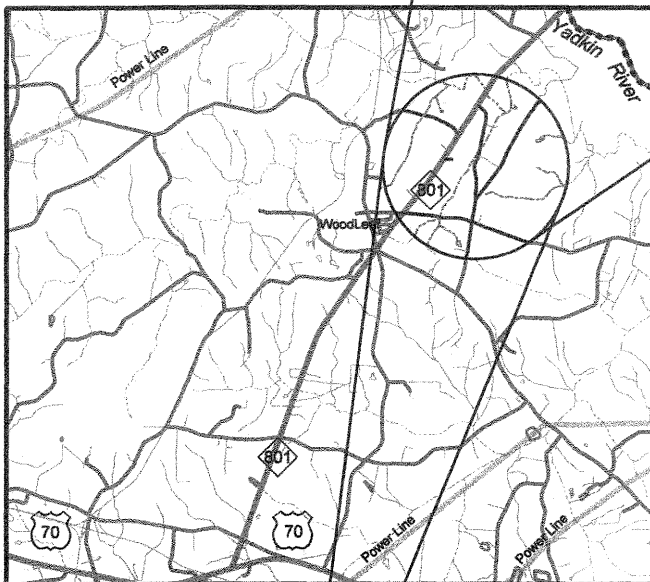
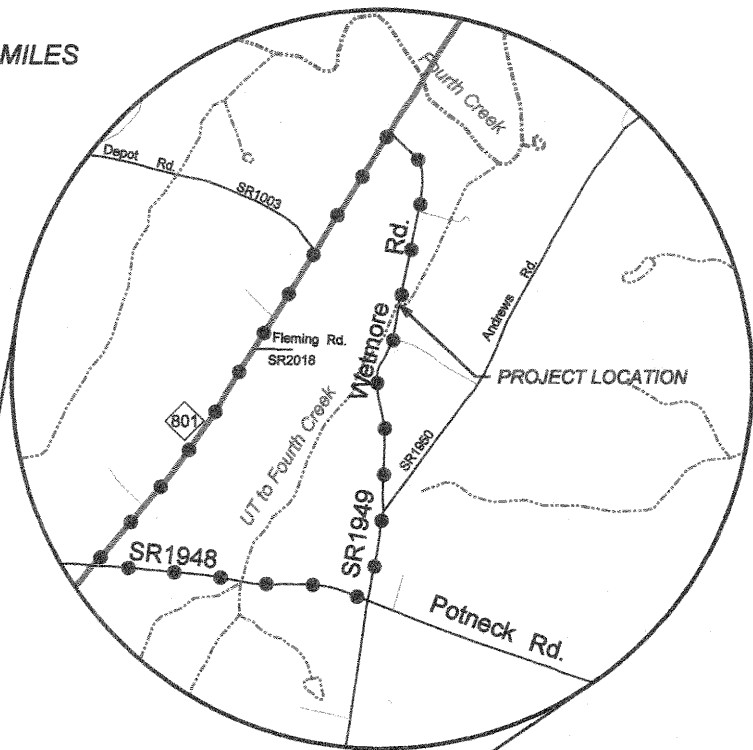
<i>Figure 1</i>	<i>Vicinity Map</i>
<i>Figure 2-1</i>	<i>Plan View Alternative 1</i>
<i>Figure 2-2</i>	<i>Plan View Alternative 2</i>
<i>Figure 3-1</i>	<i>Photographs</i>
<i>Figure 3-2</i>	<i>Photographs</i>



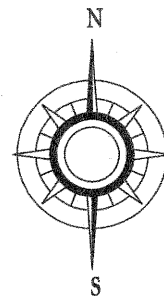
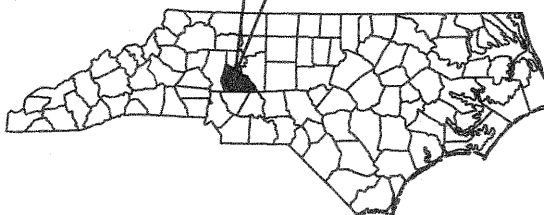
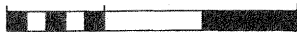
0.25 0 0.25 0.5 MILES



DETOUR ROUTE



1 0 1 2 MILES



NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT &  
ENVIRONMENTAL ANALYSIS BRANCH

ROWAN COUNTY TIP NO. B-3234

BRIDGE NO. 78 ON SR 1949 (Wetmore Road)  
OVER UT to FOURTH CREEK

VICINITY MAP

FIGURE 1





NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT &  
ENVIRONMENTAL ANALYSIS BRANCH

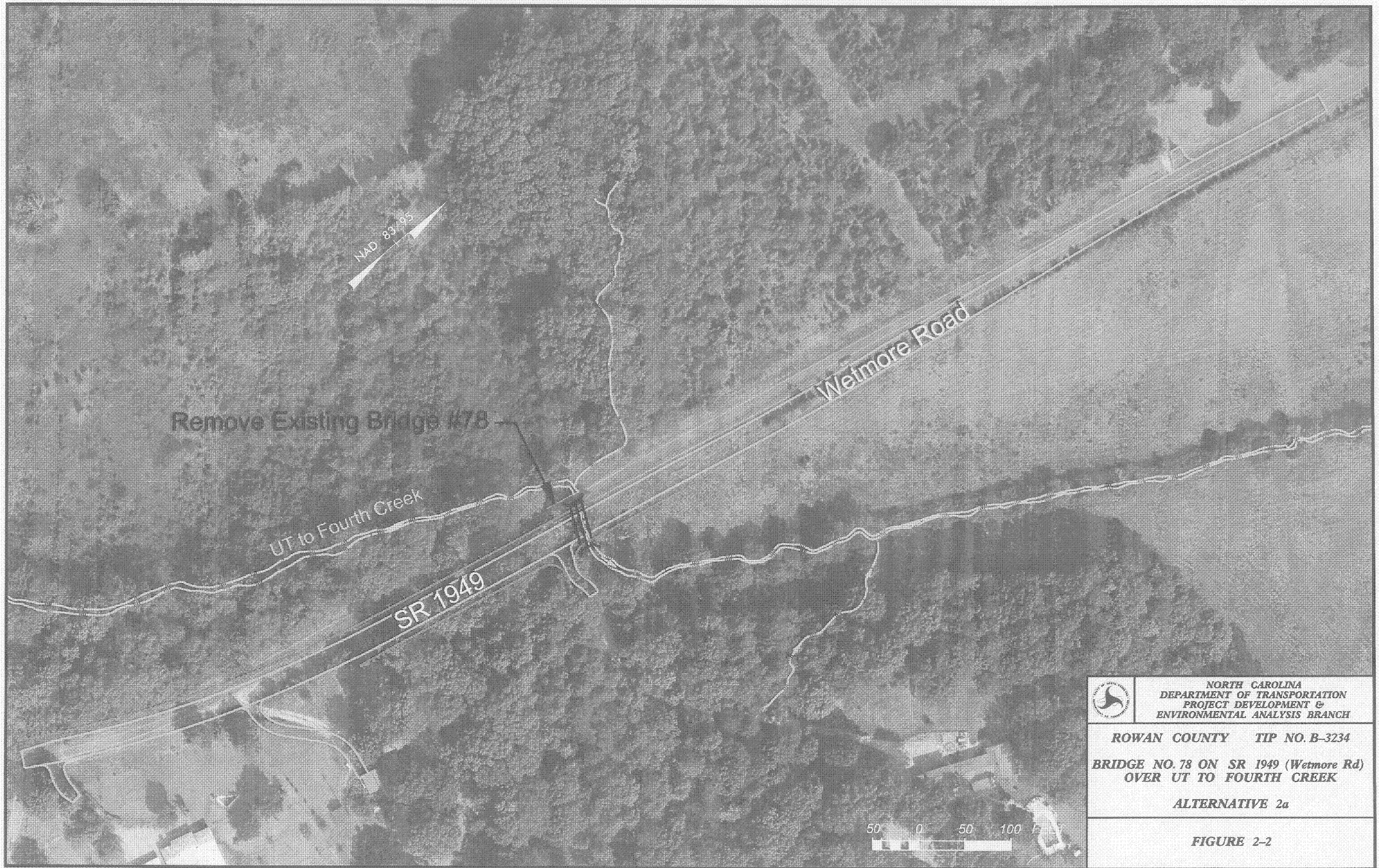
ROWAN COUNTY TIP NO. B-3234

BRIDGE NO. 78 ON SR 1949 (Wetmore Rd)  
OVER UT TO FOURTH CREEK

ALTERNATIVE 1a (PREFERRED)

FIGURE 2-1





NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT &  
ENVIRONMENTAL ANALYSIS BRANCH

ROWAN COUNTY TIP NO. B-3234  
BRIDGE NO. 78 ON SR 1949 (Wetmore Rd)  
OVER UT TO FOURTH CREEK

ALTERNATIVE 2a

FIGURE 2-2





VIEW LOOKING  
SOUTH



VIEW LOOKING  
NORTH



NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT &  
ENVIRONMENTAL ANALYSIS

ROWAN COUNTY TIP NO. B-3234

BRIDGE NO. 78 on SR 1949 (Wetmore Road)  
OVER UT to FOURTH CREEK

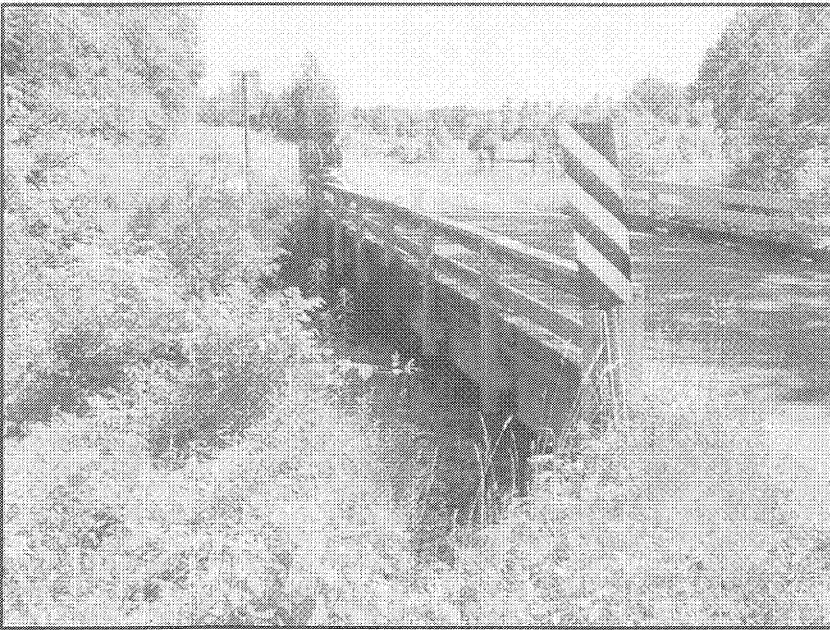
PHOTOGRAPHS

*Figure 3-1*





VIEW OF DOWN-  
STREAM FACE OF  
BRIDGE (LOOKING  
NORTHWEST)



VIEW OF UPSTREAM  
FACE (LOOKING  
NORTH EAST)



**NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT &  
ENVIRONMENTAL ANALYSIS**

**ROWAN COUNTY TIP NO. B-3234**

**BRIDGE NO. 78 on SR 1949 (Wetmore Road)  
OVER UT to FOURTH CREEK**

**PHOTOGRAPHS**

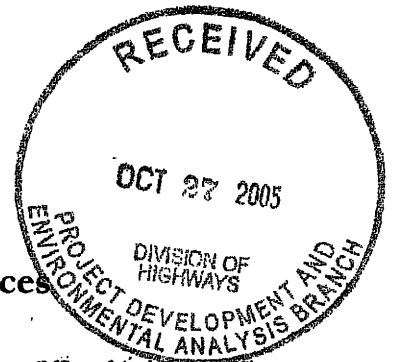
**Figure 3-2**





North Carolina Department of Cultural Resources  
State Historic Preservation Office  
Peter B. Sandbeck, Administrator

Michael F. Easley, Governor  
Lisbeth C. Evans, Secretary  
Jeffrey J. Crow, Deputy Secretary



Office of Archives and History  
Division of Historical Resources  
David Brook, Director

October 24, 2005

MEMORANDUM

TO: Greg Thorpe, Ph.D., Director  
Project Development and Environmental Analysis Branch  
NCDOT Division of Highways

FROM: Peter Sandbeck *RSB for Peter Sandbeck*

SUBJECT: Bridge No. 78 on SR 1949 over Unnamed Creek, B-3234, Rowan County, ER05-2347

Thank you for your letter of September 5, 2005, concerning the above project.

We have conducted a review of the proposed undertaking and are aware of no historic resources, which would be affected by the project. Therefore, we have no comment on the undertaking as proposed.

There are no known archaeological sites within the proposed project area. Based on our knowledge of the area, it is unlikely that any archaeological resources that may be eligible for conclusion in the National Register of Historic Places will be affected by the project. We, therefore, recommend that no archaeological investigation be conducted in connection with this project.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above-referenced tracking number.

cc: Mary Pope Furr, NCDOT  
Matt Wilkerson, NCDOT