STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

November 5, 2008

US Army Corps of Engineers
Raleigh Field Office
3331 Heritage Trade Dr., Suite 105
Wake Forest, NC 27587

ATTENTION: Eric Alsmeyer
NCDOT Coordinator

Dear Sir:

Subject: **Application for Section 404 Nationwide Permits 23 and 33 and Section 401 Water Quality Certification** for the replacement of Bridge No. 4 over Shocco Creek on US 401, Warren County. Federal Aid Project Number BRSTP-0401(145), WBS No. 33644.1.1, State Project No. 8.1411001, Division 5, T.I.P No. B-4307.

Debit $240.00 from WBS 33644.1.1

The North Carolina Department of Transportation (NCDOT) proposes to replace the 71-foot, Bridge No. 4 over Shocco Creek. The project involves replacing the current bridge in its existing location, while using an off-site detour to maintain traffic during construction.

The proposed structure will be a single span bridge approximately 135 feet long on 54-inch steel plate girders with pile end bents. The bridge will provide two 12-foot lanes with 5-foot offsets. The existing roadway will be widened to a 24-foot paved road with two 12-foot lanes, with 8-foot shoulders on each side. The shoulders will be grass except where there is guardrail which will be paved to the face of guardrail.

The proposed bridge will span Shocco Creek; no bents will be located within the channel. Please see the enclosed pre-construction notification, Notification of Jurisdictional Determination, U.S. Fish and Wildlife (USFWS) Biological Opinion (BO), Ecosystem Enhancement Program (EEP) acceptance letter, permit drawings, and design plans for the subject project. A Categorical Exclusion (CE) was completed for this project in February 2008 and distributed shortly thereafter. Additional copies are available upon request.

IMPACTS TO WATERS OF THE UNITED STATES

The project is located in the Tar-Pamlico River Basin (sub-basin 03-03-04). This area is part of Hydrologic Cataloging Unit 03020102 of the South Atlantic-Gulf Coast Region. The section of Shocco Creek crossed by the subject bridge has been assigned Stream Index Number 28-79-22 by the N.C Division of Water Quality (NCDWQ). Shocco Creek has a best usage classification of C NSW.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
NATURAL ENVIRONMENT UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-715-1334 or
919-715-1335

FAX: 919-715-5501

WEBSITE: WWW.NCDOT.ORG

LOCATION:
2728 CAPITAL BLVD. SUITE 240
RALEIGH NC 27604

No designated Outstanding Resource Waters (ORW), High Quality Waters (HQW), Water Supply I (WS-I), or Water Supply (WS-II), waters occur within 1.0 mile of the study corridor. Shocco Creek is not listed on the Final 2006 303(d) list of impaired waters for the Tar-Pamlico River Basin, nor does it drain into any 303(d) waters within 1-mile of the project area.

The North Carolina Natural Heritage Program (NCNHP) recognizes Shocco Creek as a Significant Natural Heritage Area of National Significance. Nationally significant aquatic natural areas contain examples of rare aquatic plant or animal populations that are among the highest quality or best of their kind in the nation or clusters of such elements that are among the best in the nation.

US Army Corp of Engineers (USACE) representative Eric Alsmeyer reviewed the project area and determined that, due to the impoundment as a result of beaver activity in the project area, Shocco Creek no longer functions as a stream and is now characterized as a wetland. This wetland system is the only jurisdictional feature within the project area.

A Notification of Jurisdictional Determination (JD) was issued for these features on August 21, 2003. The JD expired on August 21, 2008, however site conditions for this project have not changed considerably since the original JD, therefore, NCDOT does not request the Corps to evaluate the site using the Rapanos guidance. Instead, NCDOT is satisfied with the delineation as reviewed and approved prior to June 5, 2007, and ask that you evaluate this permit verification based on that review.

Permanent Impacts

There will be 0.31 acre of permanent fill in riparian wetlands resulting from the construction of the abutments and approaches.

Temporary Impacts

There will be 0.21 acre of temporary fill in riparian wetlands associated with the installation of erosion control devices. However, standing water in the project area may preclude the installation of erosion control devices and therefore, permitting 0.21 acre of temporary fill would address potential temporary fill resulting from material washed off slope into the area between toe and easement where water is standing. Any project related material deposited in this area will be reclaimed prior to project completion. If erosion control devices cannot be installed, measures will be taken to minimize slope material washing into the wetland.

Utility Impacts

There will be no impacts to jurisdictional resources resulting from the removal or relocation of utilities within the project area.

Bridge Demolition

The existing Bridge No. 4 was built in 1934 and is 71feet in length. It is a four span structure that consists of a concrete floor on timber joists with an asphalt wearing surface. The end bents and interior bents consist of timber caps on timber piles. There are three bents located in the water.

During the removal of the old bridge, the existing bents will be cut at substrate level to minimize disturbance to the substrate.

All components of the bridge will be removed without dropping any of their components into Waters of the United States. Best Management Practices for Bridge Demolition and Removal and Protection of Surface Waters will be followed.

IMPACTS TO TAR-PAMLICO RIPARIAN BUFFER

Shocco Creek is subject to the Tar-Pamlico Buffer Rules. However, due to beaver activity at this location, Shocco Creek has lost all stream function. US Army Corp of Engineers (USACE) representative Eric Alsmeyer reviewed the project area and determined that, due to the impoundment as a result of beaver activity in the project area, Shocco Creek no longer functions as a stream and is now characterized as a wetland. This wetland system is the only jurisdictional feature within the project area. NCDWQ representative Rob Ridings reviewed the project area on June 10, 2008 and concurred that jurisdictional features within the project area function as wetlands, therefore, the Tar-Pamlico Buffer Rules do not apply.

MITIGATION OPTIONS

Avoidance and Minimization and Compensatory Mitigation

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional impacts. Avoidance measures were taken during the planning and NEPA compliance stages; minimization measures were incorporated as part of the project design.

According to the Clean Water Act (CWA) §404(b)(1) guidelines, NCDOT must avoid, minimize, and mitigate, in sequential order, impacts to waters of the US. The following is a list of the project's jurisdictional stream and the Tar-Pamlico Buffer avoidance/minimization activities proposed or completed by NCDOT:

Avoidance/Minimization

- Temporary construction impacts due to erosion and sedimentation will be minimized through implementation of stringent erosion control methods and use of Best Management Practices (BMPs).
- Design Standards in Sensitive Watersheds will be implemented.
- The proposed bridge will span Shocco Creek with no bents located in the channel.
- The proposed bridge will be 64 feet longer increasing the floodplain under the bridge.
- The bridge will be replaced in its existing location minimizing impacts to wetlands and buffers.
- Traffic will be detoured offsite during construction.

U.S Fish and Wildlife Service has also requested the following measures be taken to minimize the affect of the proposed project on the federally protected dwarf wedgemussel (*Alasmidonta heterodon*).

- Existing bents within the stream channel will be cut at substrate level to minimize disturbance to the substrate.
- Existing abutments will be removed in stepwise fashion to reduce the potential for sedimentation.
- Deck drains will not be allowed to discharge directly into the stream.
- ""Environmentally Sensitive Areas"", defined as a 50-foot buffer zone on both sides of the stream measured from top of the stream bank, will be identified on the Sedimentation and Erosion Control Plans for this project.
- In areas identified as "Environmentally Sensitive Areas", the Contractor may perform clearing operations, but not grubbing operations until immediately prior to beginning grading operations.
- Once grading operations begin in identified "Environmentally Sensitive Areas", work shall progress in a continuous manner until complete.

- In areas identified as "Environmentally Sensitive Areas", erosion control devices shall be installed immediately following the clearing operation.
- In areas identified as "Environmentally Sensitive Areas", seeding and mulching shall be performed on the areas disturbed by construction immediately following final grade establishment.
- In areas identified as "Environmentally Sensitive Areas", seeding and mulching shall be done in stages on cut and fill slopes that are greater than 20 feet in height measured along the slope, or greater than 2 acres in area, whichever is less.
- NCDOT will ensure that the contractor understands and follows the measures listed in the "Conservation Measures" section of the BO.
- NCDOT will ensure that a Division Environmental Officer maintains a level of oversight to ensure that all appropriate erosion control measures are fully implemented to avoid/minimize sedimentation of the stream.

Compensatory Mitigation:

NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent possible as described above. Unavoidable, impacts to 0.31 acre of riparian wetlands will be offset by compensatory mitigation provided by the EEP program. The EEP acceptance letter is attached.

FEDERALLY PROTECTED SPECIES

Plants and animals with federal classifications 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 United States Fish and Wildlife Service (USFWS) website (updated May 10, 2007) lists three species for Warren County. Table 2 lists the species and their federal status.

Table 2. Federally Protected Species in Warren County, NC

Common Name	Scientific Name	Federal Status*	Biological Conclusion	Habitat Present
Tar spinymussel	*Elliptio steinstansana*	E	May affect, not likely to adversely affect	Yes
Dwarf wedgemussel	*Alasmidonta heterodon*	E	May affect, likely to adversely affect	Yes

*E= endangered

Surveys for the Tar spinymussel and the dwarf wedgemussel were conducted in July 2005 and April 2007. No specimens of Tar spinymussel were observed during surveys. Habitat within the project area is marginal for the Tar spinymussel. North Carolina Natural Heritage Program (NCNHP) records (updated August 27, 2008) indicate that no known populations of the Tar spinymussel occur within 1 mile of the project area. Based on the presence of potential habitat, a biological conclusion of "May affect, not likely to adversely affect" has been issued. Concurrence was issued by the USFWS BO on November 14, 2007.

Dwarf wedgemussel was observed within the project area during the 2005 and 2007 surveys. Well documented populations of dwarf wedgemussel exist in Shocco Creek upstream and downstream of the project area NCNHP records indicate that three known populations of dwarf wedgemussel occur within 1 mile of the existing bridge. Therefore, based on the presence dwarf wedgemussels in the project area and known populations of dwarf wedgemussel within 1 mile of the project area, a biological conclusion of "May affect, likely to adversely affect" has been issued. NCDOT submitted a Biological Assessment (BA) on September 27, 2007. The USFWS issued the BO on November 14, 2007. Unanticipated wetland impacts were addressed in an addendum to the BA dated October 3, 2008. In a letter dated October 27, 2008, USFWS indicated that

the conclusions in the BA and BO remained valid despite the additional wetland impacts. No further surveys are required.

SCHEDULE

The project calls for a letting of June 16, 2009 (review date of June 2, 2009) with a date of availability of July 21, 2009. It is expected that contractor will choose to start construction in July 2009.

REGULATORY APPROVALS

Section 404 Permit: The project has been processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The NCDOT requests that permanent riparian wetland impacts by authorized by NWP 23 and temporary riparian wetland impacts by NWP 33 (72 FR 11092-11198; March 12, 2007).

Section 401 Permit: We anticipate 401 General Certification numbers 3701 and 3688 will apply to this project. Written concurrence from the NCDWQ is required. In accordance with 15A NCAC 2H, Section .0500 (a) and 15A NCAC 2B, Section .0200, we are providing five copies of this notice to the North Carolina Department of Environment and Natural Resources (NCDENR), NCDWQ for their review.

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 Erica McLamb at 715-1521.

Sincerely,

E. L. Lusk

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

w/attachment
Mr. Brian Wrenn, NCDWQ (5 Copies)
Mr. J. Wally Bowman, PE., Division Engineer
Mr. Chris Murray, DEO
w/o attachment (see website for attachments)
Dr. David Chang, P.E., Hydraulics
Mr. Mark Staley, Roadside Environmental
Ms. Laura Sutton, P.E., Structure Design
Mr. Victor Barbour, P.E., Project Services Unit
Ms. Tatia White, 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. Gary Jordan, USFWS
Mr. Travis Wilson, NCWRC
Mr. Tracy Walter, 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
   - ☐ Section 10 Permit
   - ☒ 401 Water Quality Certification
   - ☐ Riparian or Watershed Buffer Rules
   - ☐ Isolated Wetland Permit from DWQ
   - ☐ Express 401 Water Quality Certification

2. Nationwide, Regional or General Permit Number(s) Requested: NW23 and 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 Director
   Mailing Address: 1598 Mail Service Center
   Raleigh, NC 27699-1548
   Telephone Number: (919) 733-3141 Fax Number: (919) 733-9794
   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. 4 over Shocco Creek on US 401

2. T.I.P. Project Number or State Project Number (NCDOT Only): B-4307

3. Property Identification Number (Tax PIN): _____

4. Location
   County: Warren Nearest Town: Elberon
   Subdivision name (include phase/lot number): _____
   Directions to site (include road numbers/names, landmarks, etc.): US 401 to Bridge No. 4

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): 36.2918 °N 78.2266°W

6. Property size (acres): N/A

7. Name of nearest receiving body of water: Shocco Creek

8. River Basin: Tar Pamlico River
   (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: This project is located in an rural area that consists mainly of forested areas, agriculture, and some residential development.

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

Bridge No. 4 will be replaced on existing location with an offsite detour. Heavy duty excavation equipment will be used such as trucks, dozers, cranes and other various equipment necessary for roadway construction.

11. Explain the purpose of the proposed work: To replace a deteriorating bridge.

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. N/A

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.
N/A

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: Please refer to the attached cover letter

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)
Site 1	Permanent Fill	Riparian	Yes	1 ft	0.31
Site 1	Temporary Fill	Riparian	Yes	1 ft	0.21
Total Wetland Impact (acres)					0.52

3. List the total acreage (estimated) of all existing wetlands on the property: 0.52 acre

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)
Total Stream Impact (by length and acreage)						

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
Wetland Impact (acres):	0.52
Open Water Impact (acres):	0
Total Impact to Waters of the U.S. (acres)	0.52
Total Stream Impact (linear feet):	0

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.

_____

_____

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. Please refer to the attached cover letter

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 will be provided by EEP (see enclosed confirmation letter).

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): 0
Amount of buffer mitigation requested (square feet): 0
Amount of Riparian wetland mitigation requested (acres): 0.31
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. NA

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. NA

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.
NA

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:_____

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).
None.

E. L. Luck 11.5.08

Applicant/Agent's Signature **Date**

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

Ecosystem Enhancement PROGRAM

September 4, 2008

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

Dear Mr. Alsmeyer:

Subject: EEP Mitigation Acceptance Letter:

B-4307, Replace Bridge Number 4 over Shocco Creek on US 401, Warren County; Tar-Pamlico River Basin (Cataloging Unit 03020102); Central Piedmont (CP) Eco-Region

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory riparian wetland mitigation for the unavoidable impact associated with the above referenced project. As indicated in the NCDOT's mitigation request dated August 27, 2008, riparian wetland mitigation from EEP is required for approximately 0.31 acre of riparian wetland impacts.

Riparian wetland 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 riparian wetland mitigation up to 0.62 riparian wetland 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

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-4307

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

November 14, 2007

John F. Sullivan III, PE
Federal Highway Administration
310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601

Dear Mr. Sullivan:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion (BO) based on our review of the proposed replacement of Bridge No. 4 over Shocco Creek on US 401 located in Warren County, North Carolina (TIP No. B-4307), and its effects on the federally endangered dwarf wedgemussel (*Alasmidonta heterodon*, DWM) in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543). Your November 7, 2007 request for formal consultation was received on November 9, 2007.

This BO is based on information provided in the September 27, 2007 Biological Assessment (BA) prepared by the North Carolina Department of Transportation (NCDOT), telephone conversations, emails, field investigations and other sources of information. A complete administrative record of this consultation is on file at this office.

The BA also addressed the effects of the project on the federally endangered Tar River spinymussel (*Elliptio steinstansana*). The NCDOT has determined that the project may effect, but is not likely to adversely affect the Tar River spinymussel. Based on available information, the Service concurs with the determination that the project may affect, but is not likely to adversely affect the Tar River spinymussel. This species will not be addressed in the following BO.

CONSULTATION HISTORY

July 16, 2003 – The Service provides comments in response to a scoping request, that we have concerns that federally listed mussels may be affected by the project.

March 29, 2006 – Service staff field inspected project site.

April 12, 2006 – NCDOT holds hydraulic design meeting where project design and conservation measures to avoid/minimize effects to the DWM are discussed with the Service and the North Carolina Wildlife Resources Commission. A decision is made that the project would require formal section 7 consultation.

April 26, 2006 – Service staff and NCDOT Natural Environment Unit (NEU) staff have discussions regarding development of BA and further avoidance and minimization measures.

July 10, 2006 – Service staff and NCDOT NEU have additional discussions regarding need for updated survey work.

April 4, 2007 – NCDOT biologists perform mussel survey and observe one DWM near the project site.

April 9, 2007 – Service staff and NCDOT NEU staff continue discussions regarding conservation measures.

April 23, 2007 – Service staff and NCDOT biologists conduct another mussel survey at project site, without observing DWM.

July 3, 2007 – NCDOT biologists perform another mussel survey and observe a single DWM at the same location as the April 4, 2007 occurrence.

July 11, 2007 – Service staff and NCDOT NEU staff continue discussions regarding conservation measures.

November 9, 2007 – The Service received a letter from the Federal Highway Administration (FHWA), dated November 7, 2007, with the attached final BA, requesting formal consultation on the proposed Bridge No. 4 replacement over Shocco Creek.

BIOLOGICAL OPINION

I. DESCRIPTION OF THE PROPOSED ACTION

The B-4307 project is located at the US 401 crossing of Shocco Creek in Warren County, North Carolina, approximately 2.5 miles north of the Franklin/Warren County line. The existing four-span, 71 feet long bridge will be replaced with a single-span, 135 feet long steel-plate girder bridge. The new bridge will be placed in the same horizontal alignment, but the elevation of the structure will be raised. The new bridge will completely span the channel of Shocco Creek and some existing causeway will be removed from the flood plain. Approach road work will consist of raising the grade by placing fill, resurfacing and tying into existing alignment for approximately 480 feet on the north and 610 feet on the south approach. Traffic will be detoured onto other roads during construction. The project is currently scheduled to be let on February 17, 2009.

Action Area

The action area is defined as the US 401 project right-of-way (ROW) of B-4307, beginning approximately 480 feet north of the bridge to approximately 610 feet south of the bridge, plus

Shocco Creek for a distance 400 meters downstream and 100 meters upstream of the bridge. The action area consists mainly of a maintained/disturbed roadside vegetative community, the US 401 pavement and bridge structure, the Shocco Creek channel and a portion of its beaver-impounded flood plain. The action area occurs in Tar River Sub-basin 03-03-04, as assigned by the North Carolina Department of Environment and Natural Resources, Division of Water Quality Section. Within the action area, Shocco Creek is impounded by at least two beaver dams approximately 200 meters and 300 meters downstream of the bridge crossing. During high water events, flow has been diverted onto the flood plain of the right descending bank. This diversion has created a network of braided channels that are eroding the soil of the flood plain. Much of the eroded material has been deposited in the stream channel and most of the habitat is covered by a thick layer of unconsolidated detritus. Most of the habitat within the action area is not suitable for DWM. However, one small area approximately 30-40 meters downstream of the bridge, consisting of approximately 40 square meters of clean sand and woody debris provides suitable habitat for DWM.

Conservation Measures

Conservation measures represent actions, pledged in the project description, that the action agency will implement to minimize the effects of the proposed action and further the recovery of the species under review. Such measures should be closely related to the action and should be achievable within the authority of the action agency. Since conservation measures are part of the proposed action, their implementation is required under the terms of the consultation. The FHWA and NCDOT have proposed the following conservation measures.

- Design of a single span structure will eliminate bents in the stream and provide a larger hydraulic cross section to reduce scouring downstream of the bridge. This design also allows for the removal of some of the existing causeway, providing additional floodplain to the stream. A single span structure will eliminate the need for a temporary work bridge.
- Deck drains will not be allowed to discharge directly into stream.
- Traffic will be maintained on an offsite detour.
- "Design Standards in Sensitive Watersheds" [15A NCAC 04B.0124 (b)-(e)] will apply.
- Best Management Practices for Bridge Demolition and Removal will be implemented during the removal of the existing bridge.
- Existing bents will be cut at substrate level to minimize disturbance to the substrate.
- Existing abutments will be removed in stepwise fashion to reduce the potential for sedimentation.
- The areas adjacent to Shocco Creek will be identified as "Environmentally Sensitive Areas" on the Sedimentation and Erosion Control Plans for this project. By definition, the Environmentally Sensitive Areas will be identified as a 50-foot buffer zone on both sides of the stream measured from top of stream bank. Within the identified 50-foot Environmentally Sensitive Areas, the following shall apply:
    - In areas identified as Environmentally Sensitive Areas, the Contractor may perform clearing operations, but not grubbing operations until immediately prior to beginning grading operations.

- Once grading operations begin in identified Environmentally Sensitive Areas, work shall progress in a continuous manner until complete.
- In areas identified as Environmentally Sensitive Areas, erosion control devices shall be installed immediately following the clearing operation.
- In areas identified as Environmentally Sensitive Areas, "Seeding and Mulching" shall be performed on the areas disturbed by construction immediately following final grade establishment.
- In areas identified as Environmentally Sensitive Areas, seeding and mulching shall be done in stages on cut and fill slopes that are greater than 20 feet in height measured along the slope, or greater than 2 acres in area, whichever is less.

II. STATUS OF THE SPECIES

The DWM was federally listed as endangered on March 14, 1990. The DWM is found solely in Atlantic Coast drainage streams and rivers of various sizes and moderate current. It ranges from New Hampshire to North Carolina, in small creeks to deep rivers in stable habitat with substrates ranging from mixed sand, pebble and gravel, to clay and silty sand. In the southern portion of its range, it is often found buried under logs or root mats in shallow water (USFWS 1993); whereas in the northern portion of its range, it may be found in firm substrates of mixed sand, gravel or cobble, or embedded in clay banks in water depths of a few inches to greater than 20 feet (Fichtel and Smith 1995; Gabriel 1995; Gabriel 1996; Nedeau and Werle 2003; Nedeau 2004a, 2004b, 2006a).

The DWM's reproductive cycle is typical of other freshwater mussels, requiring a host fish on which its larvae (glochidia) parasitize and metamorphose into juvenile mussels. The DWM is not a long-lived species as compared to other freshwater mussels; life expectancy is estimated at 10 to 12 years (Michaelson and Neves 1995).

Human activity has significantly degraded DWM habitat causing a general decline in populations and a reduction in distribution of the species. Primary factors responsible for the decline of the DWM include: 1) impoundment of river systems, 2) pollution, 3) alteration of riverbanks, and 4) siltation (USFWS 1993).

Damming and channelization of rivers throughout the DWM's range have resulted in the elimination or alteration of much of its formerly occupied habitat (Watters 2001). Domestic and industrial pollution was the primary cause for mussel extirpation at many historic sites. Mussels are known to be sensitive to a wide variety of heavy metals and pesticides, and to excessive nutrients and chlorine (Havlik and Marking 1987). Mussel die-offs have been attributed to chemical spills, agricultural waste run-off and low dissolved oxygen levels.

Because freshwater mussels are relatively sedentary and cannot move quickly or for long distances, they cannot easily escape when silt is deposited over their habitat. Siltation has been documented to be extremely detrimental to mussel populations by degrading substrate and water quality, increasing exposure to other pollutants and by direct smothering of mussels (Ellis 1936,

Markings and Bills 1979). In Massachusetts, a bridge construction project decimated a population of DWM by accelerated sedimentation and erosion (Smith 1981).

Most DWM populations are small and geographically isolated from each. This isolation restricts exchange of genetic material among populations and reduces genetic variability within populations (USFWS 1993).

At one time, DWM was recorded from 70 localities in 15 major drainages ranging from North Carolina to New Brunswick, Canada. Since the 1993 Recovery Plan, a number of new locations have been discovered and a number of known locations are possibly no longer extant. Based on preliminary information, the dwarf wedgemussel is currently found in 15 major drainages (Table 1), comprising approximately 70 "sites" (one site may have multiple occurrences). At least 45 of these sites are based on less than five individuals or solely on spent shells (USFWS 2007).

Table 1. Dwarf wedgemussel major drainages.

State	Major Drainage	County
NH	Upper Connecticut River	Coos, Grafton, Sullivan, Cheshire
VT	Upper Connecticut River	Essex, Orange, Windsor, Windham
MA	Middle Connecticut River	Hampshire, Hampden
CT	Lower Connecticut River	Hartford
NY	Middle Delaware	Orange, Sullivan, Delaware
NJ	Middle Delaware	Warren, Sussex
PA	Upper Delaware River	Wayne
MD	Choptank River	Queen Anne's, Caroline
MD	Lower Potomac River	St. Mary's, Charles
MD	Upper Chesapeake Bay	Queen Anne's
VA	Middle Potomac River	Stafford
VA	York River	Louisa, Spotsylvania
VA	Chowan River	Sussex, Nottoway, Lunenburg
NC	Upper Tar River	Granville, Vance, Franklin, Nash
NC	Fishing Creek	Warren, Franklin, Halifax
NC	Contentnea	Wilson, Nash
NC	Upper Neuse	Johnson, Wake, Orange

* The 15 major drainages identified in Table 1 do not necessarily correspond to the original drainages identified in the 1993 Recovery Plan although there is considerable overlap.

The main stem of the Connecticut River in New Hampshire and Vermont is considered to have the largest remaining DWM population, consisting of three distinct stretches of sporadically occupied habitat segmented by hydroelectric dams. It is estimated that there are hundreds of thousands of DWM scattered within an approximate 75-mile stretch of the Connecticut River. The Ashuelot River in New Hampshire, the Farmington River in Connecticut, and the Neversink River in New York harbor large populations, but these number in the thousands only. The

remaining populations from New Jersey south to North Carolina are estimated at a few individuals to a few hundred individuals (USFWS 2007).

In summary, it appears that the populations in North Carolina, Virginia, and Maryland are declining as evidenced by low densities, lack of reproduction, or inability to relocate any DWM in follow-up surveys. Populations in New Hampshire, Massachusetts, and Connecticut appear to be stable, while the status of populations in the Delaware River watershed affected by the recent floods of 2005 is uncertain at this time (USFWS 2007).

III. ENVIRONMENTAL BASELINE

Under section 7(a)(2) of the Act, when considering the "effects of the action" on federally listed species, the Service is required to take into consideration the environmental baseline. The environmental baseline includes past and ongoing natural factors and the past and present impacts of all federal, state, or private actions and other activities in the action area (50 CFR 402.02), including federal actions in the area that have already undergone section 7 consultation, and the impacts of state or private actions which are contemporaneous with the consultation in process.

Status of the Species Within the Action Area

Records maintained by the North Carolina Natural Heritage Program (NCNHP) show DWM to be present in Shocco Creek at several locations along most of its length, and with recent observations. Surveys conducted within the action area on July 28, 2005; April 4, 2007 and July 3, 2007 each revealed a single DWM. Most of the habitat within the action area can be defined as unsuitable for DWM due to the presence of at least two beaver dams approximately 200 meters and 300 meters downstream. Most of the substrate is covered in a thick layer of unconsolidated detritus. However, one small area approximately 30-40 meters downstream of the bridge, consisting of approximately 40 square meters of clean sand and woody debris provides suitable habitat for DWM. This is the location where DWM was observed in the April 4, 2007 and July 3, 2007 surveys. It appears that the species is still present within the action area, but in very small numbers. It is unclear how long DWM can persist within the action area due to downstream beaver activity.

Factors Affecting the Species Environment Within the Action Area

The existing bridge has associated causeways for the approach roads which encroach upon the flood plain. This bottlenecking of the flood plain appears to have scoured the channel bottom underneath and immediately downstream of the bridge down to a clay layer, thus eliminating all habitat for DWM for approximately 30-40 meters.

The most prevalent current factor affecting the species in and near the action area is the effect of the two downstream beaver dams previously described. As long as the beaver dams are present, additional sediment and debris will continue to settle out on the substrate, thus further degrading the minimal amount of suitable habitat remaining within the action area.

IV. EFFECTS OF THE ACTION

Under section 7(a)(2) of the Act, "effects of the action" refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action. The federal agency is responsible for analyzing these effects. The effects of the proposed action are added to the environmental baseline to determine the future baseline, which serves as the basis for the determination in this BO. Should the effects of the federal action result in a situation that would jeopardize the continued existence of the species, we may propose reasonable and prudent alternatives that the federal agency can take to avoid a violation of section 7(a)(2). The discussion that follows is our evaluation of the anticipated direct and indirect effects of the proposed project. Indirect effects are those caused by the proposed action that occur later in time but are still reasonably certain to occur (50 CFR 402.02).

Factors to be Considered

The little remaining DWM habitat (approximately 40 square meters) within the action area is degrading due to downstream beaver activity. This small area of suitable habitat is located approximately 30-40 meters downstream of the bridge. As of July 3, 2007, at least one DWM was still present within remaining suitable habitat. It is uncertain whether the species will still be present by the time of project construction. If the species does occur within the action area, the minimal amount of work within the channel is expected to have negative effects for only a short duration.

Analysis for Effects of the Action

Beneficial Effects: The removal of the existing bridge bents in the channel and the commitment to completely span the channel will have beneficial effects. Given that in-channel bents can trap debris during high flows and can change stream hydraulics in the immediate vicinity of the structure (causing scour and deposition), the elimination of the in-channel bents are expected to reduce the bridge's effects on stream-flow patterns. Also, given that large debris piles must often be removed from in-channel bents (creating additional channel disturbance and downstream sedimentation), the elimination of the in-channel bent will thus preclude future disturbance for debris removal. With the lengthening of the bridge from 71 feet to 135 feet, the stream will be able to access more of its floodplain, thus potentially reducing downstream bank scouring and sedimentation. Removal of some causeway fill will increase the waterway opening from 525 square feet to approximately 1010 square feet.`

Direct Effects: The stream channel will be completely spanned, thus greatly minimizing the potential for direct effects. Due to the lack of suitable habitat directly beneath the bridge, it is unlikely that any DWM would be directly killed by bridge demolition. The existing bents within the channel, which consist of wooden piles driven directly into the substrate without buried footing, will be cut off flush with the substrate. Since these occur within the scoured clay bottom, it is unlikely that any direct DWM mortality would occur from this activity. A small amount of sediment could enter the water column and redeposit downstream, but the amount would likely be sub-lethal to any DWM.

Sedimentation from construction activities along the stream bank and approach road appears to have the greatest potential to directly affect DWM. A major storm event could erode soil from within the disturbed construction area and wash it into the stream, thus smothering mussels, interfering with respiration and feeding, and degrading habitat. To avoid or minimize the potential for this effect, NCDOT has developed stringent erosion control measures and other conservation measures (see "Conservation Measures" section of this BO) which greatly reduce the likelihood of sediment entering the stream.

Indirect Effects: Since the project involves replacing an existing two-lane bridge with a new two-lane bridge, it is unlikely that the project will promote any secondary development or land-use changes. Also, since no new bents will be placed in the channel, no negative indirect effects to stream flow are anticipated. Overall, the project is not likely to have any measurable indirect effect on DWM or its habitat.

Interrelated and Interdependent Actions: None known.

V. CUMMULATIVE EFFECTS

Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the action area considered in this BO. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. At this time there are no known future local, state or private actions, not requiring federal actions that are reasonably certain to occur within the action area.

VI. CONCLUSION

After reviewing the current status of the DWM, the environmental baseline for the action area, all effects of the proposed project, and the conservation measures identified in the BA, it is the Service's biological opinion that the proposed replacement of Bridge No. 4 over Shocco Creek on US 401 (TIP No. B-4307), as proposed, is not likely to jeopardize the continued existence of this species. No critical habitat has been designated for this species; therefore, none will be affected.

This non-jeopardy opinion is based, in part, on the following facts: Due to degrading conditions of suitable habitat from the effects of downstream beaver dams, and due to the small amount of suitable habitat within the action area, it is uncertain that DWM will still exist within the action area by the time of project construction. The project has significant long-term beneficial effects. In-channel work will be minimal, thus limiting the potential for negative effects. Direct mortality of DWM is unlikely. Several conservation measures will reduce the potential for negative effects of construction activities along the stream bank.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and federal regulations pursuant to Section 4(d) of the ESA prohibit the taking of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns such as breeding, feeding or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the FHWA so that they may become binding conditions of any grant or permit issued to the NCDOT, as appropriate, for the exemption in section 7(o)(2) to apply. The FHWA has a continuing duty to regulate the activity covered by this Incidental Take Statement. If the FHWA (1) fails to assume and implement the terms and conditions or (2) fails to require the NCDOT to adhere to the terms and conditions of the Incidental Take Statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the FHWA or the NCDOT must report the progress of the action and its impact on the species to the Service as specified in the Incidental Take Statement [50 CFR §402.14(I)(3)].

Amount or Extent of Take Anticipated

The Service anticipates that incidental take of the DWM may occur as a result of the bridge replacement. During demolition of the existing bridge and construction of the new bridge, DWM may be harmed by siltation or other water quality degradation. The effects are likely to be sub-lethal.

Because there are no reliable data on the number of DWM buried in the substrate compared to those on the surface (and even those on the surface are difficult to detect), it is not possible to base the amount of incidental take on numbers of individual mussels. Additionally, incidental take will likely be difficult to detect and monitor. Although spent shells may be collected, attributing the cause of mortality may be difficult. Glochidia and juvenile mussels are also extremely difficult to sample, therefore it is difficult to document take of either of these life stages.

The level of incidental take of the DWM can be defined as all DWM that may be harmed, harassed, or killed within the action area (400 meters downstream and 100 meters upstream of the existing bridge). The number of individuals is expected to be very small. If incidental take is exceeded, all work should stop, and the Service should be contacted immediately.

Effect of the Take

In the accompanying BO, the Service has determined that the level of anticipated take is not likely to result in jeopardy to the DWM. Since critical habitat has not been designated for this species, the proposed project will not result in the destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of the DWM. These nondiscretionary measures include, but are not limited to, the terms and conditions outlined in this BO.

1. All Conservation Measures previously described in this BO must be implemented.

2. NCDOT will ensure that the contractor understands and follows the measures listed in the "Conservation Measures" section of this BO.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the NCDOT must comply with the following terms and conditions, which implement the reasonable and prudent measures described previously and outline required reporting requirements. These terms and conditions are nondiscretionary.

1. A Service biologist will be invited to the preconstruction meeting to discuss any questions the contractor has regarding implementation of these projects.

2. NCDOT will ensure that a Division Environmental Officer maintains a level of oversight to insure that all appropriate erosion control measures are fully implemented to avoid/minimize sedimentation of the stream.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. The following conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. Acquire riparian conservation buffers in the Tar-Pamlico Subbasin 03-03-04 to benefit DWM either individually or in concert with other conservation programs.

2. Conduct periodic DWM status surveys in the Upper Tar Basin and submit results to the Service.

3. Contribute funding and/or staff to any future DWM reintroduction or population augmentation efforts conducted by others.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, we request notification of the implementation of any conservation recommendations.

REINITIATION/CLOSING STATEMENT

This concludes formal consultation on the action outlined in your November 7, 2007 request for formal consultation. As provided in 50 CFR section 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (3) a new species is listed or critical habitat designated that may be affected by the action.

If you have any questions concerning this biological opinion, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,

Pete Benjamin
Field Supervisor

cc: Ken Graham, USFWS, Atlanta, GA
Susi von Oettingen, USFWS, Concord, NH
Eric Alsmeyer, USACE, Raleigh, NC
Greg Thorpe, NCDOT, Raleigh, NC
Logan Williams, NCDOT, Raleigh, NC
Chris Murray, NCDOT, Durham, NC
David Harris, NCDOT, Raleigh, NC
Chris Militscher, USEPA, Raleigh, NC
Travis Wilson, NCWRC, Creedmoor, NC
Rob Ridings, NCDWQ, Raleigh, NC

Literature Cited

Ellis, M. M. 1936. Erosion silt as a factor in aquatic environments. Ecology 17:29-42.

Fichtel, C. and D. G. Smith. 1995. The Freshwater Mussels of Vermont. Nongame and Natural Heritage Program, Vermont Fish and Wildlife Department. Technical Report 18. 53 pp.

Gabriel, M. 1995. Freshwater mussel distribution in the rivers and streams of Cheshire, Hillsborough, Merrimack and Rockingham Counties, New Hampshire. Report submitted to U.S. Fish and Wildlife Service, New England Field Office and New Hampshire Fish and Game Department. 60 pp.

Gabriel, M. 1996. 1996 Monitoring of the dwarf wedgemussel (*Alasmidonta heterodon*) in the Ashuelot and Connecticut Rivers, New Hampshire. Report submitted to The Nature Conservancy, Eastern Regional Office, Boston, Massachusetts. 27 pp.

Havlik, M. E. and L.L. Marking. 1987. Effects of contaminants on Naiad Mollusks (Unionidae): A Review. U.S. Department of the Interior, Fish and Wildlife Service, Resource Publication 164. Washington, D.C. 20 pp.

Marking, L.L. and T.D. Bills. 1979. Acute effects of silt and sand sedimentation on freshwater mussels. Pages 204-211 in: J.R. Rasmussen, ed. Proceedings of the UMRCC symposium on Upper Mississippi River bivalve mollusks. Upper Mississippi River Conservation Committee, Rock Island, Illinois.

Michaelson, D. L. and R. J. Neves. 1995. Life History and habitat of the endangered dwarf wedgemussel *Alasmidonta heterodon* (Bivalvia:Unionidae). Jour. N. Am. Benthol. Soc. 14:324-340.

Nedeau, E. J. and S. Werle. 2003. Freshwater Mussels of the Ashuelot River: Keene to Hinsdale. Unpublished report submitted to the U.S. Fish and Wildlife Service, Concord, New Hampshire. 50 pp.

Nedeau, E. J. 2004a. A Fourth Investigation of the Survival of Dwarf Wedgemussels (*Alasmidonta heterodon*) for the Relocation Project on the Connecticut River, Route 2 Stabilization Project, Lunenburg, Vermont. Unpublished report submitted to the U.S. Fish and Wildlife Service, Concord, New Hampshire. 7 pp.

Nedeau, E. J. 2004b. Quantitative survey of dwarf wedgemussel (*Alasmidonta heterodon*) populations downstream of the Surry Mountain Flood Control Dam on the Ashuelot River. Unpublished report submitted to the U.S. Fish and Wildlife Service, Concord, New Hampshire. 12 pp.

Nedeau, E. 2006. Characterizing the Range and Habitat of Dwarf Wedgemussels in the "Middle Macrosite" of the Upper Connecticut River. Unpublished report submitted to the U.S. Fish and Wildlife Service, Concord, New Hampshire. 6 pp.

Smith, D. G. 1981. Selected freshwater invertebrates proposed for special concern status in Massachusetts. Massachusetts Department of Environmental Quality Engineering. Division of Water Pollution Control. Westborough, MA.

U.S. Fish and Wildlife Service. 1993. Dwarf Wedge Mussel *Alasmidonta heterodon* Recovery Plan. Hadley, Massachusetts. 52 pp.

U.S. Fish and Wildlife Service. 2007. Dwarf Wedgemussel *Alasmidonta heterodon* 5-Year Review: Summary and Evaluation. Concord, New Hampshire. 19 pp.

Watters, T. 2001. Freshwater mussels and water quality: A review of the effects of hydrologic and instream habitat alterations. Proceedings of the First Freshwater Mollusk Conservation Society Symposium, 1999. Ohio Biological Survey, Columbus, Ohio. pages 261-274.

CC: L. Williams 10-29-08 CR

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

October 27, 2008

mc lamb

RECEIVED
OCT 29 2008
DIVISION OF HIGHWAYS
PDEA-OFFICE OF NATURAL ENVIRONMENT

John F. Sullivan III, PE
Federal Highway Administration
310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601

Dear Mr. Sullivan:

The U.S. Fish and Wildlife Service (Service) has received your request to reinitiate formal consultation, in accordance with section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543), for the proposed replacement of Bridge No. 4 over Shocco Creek on US 401 located in Warren County, North Carolina (TIP No. B-4307). This request for reinitiating formal consultation presents revised information regarding potential effects to the federally endangered dwarf wedgemussel (*Alasmidonta heterodon*, DWM). Your October 22, 2008 request was received on October 27, 2008.

The Service previously issued a non-jeopardy biological opinion for this project on November 14, 2007. Your request for reinitiating formal consultation includes information for revised impacts to areas immediately upstream of habitat for the DWM. Specifically, the previously stated amounts of permanent and temporary wetland fill upstream of occupied DWM habitat have increased, while the amounts of permanent surface water impacts have decreased. Also, the fill type within wetlands and open water was changed from unconsolidated material to rock fill to reduce downstream sediment input.

After reviewing the revised information, the Service has determined that no additional adverse effects beyond those previously addressed will occur. Therefore, the conclusions from our November 14, 2007 biological opinion remain valid. No additional take is anticipated, and no additional reasonable and prudent measures or terms and conditions are necessary.

This concludes the reinitation of formal consultation on the action outlined in your October 22, 2008 request. As provided in 50 CFR section 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (3) a new species is listed or critical habitat designated that may be affected by the action.

If you have any questions concerning this biological opinion, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,

Gary Jordan

for Pete Benjamin
Field Supervisor

cc: Eric Alsmeyer, USACE, Raleigh, NC
Greg Thorpe, NCDOT, Raleigh, NC
Chris Murray, NCDOT, Durham, NC
David Harris, NCDOT, Raleigh, NC
Chris Militscher, USEPA, Raleigh, NC
Travis Wilson, NCWRC, Creedmoor, NC

COPY

U.S. ARMY CORPS OF ENGINEERS
Wilmington District

Action ID: 200321039; TIP B-4307 **County:** Warren

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Project Proponent:	NCDOT	**Consultant:**	
Address:	ATTN: Gregory J. Thorpe, Ph.D. Environmental Management Director, PDEA 1548 Mail Service Center Raleigh, NC 27699-1548		HSMM ATTN: Ms. Wendee Smith 1305 Navaho Drive, Ste. 303 Raleigh, North Carolina 276
Telephone No.:	(919) 733-7844, x237 (B. Goodwin)		(919) 878-5250

Location of Site (waterbody, Highway name/number, town, etc.): Study area for replacement of Bridge No. 4 (TIP B-4307) on US 401 over Shocco Creek, southwest of Elberon, North Carolina.

Basis for Determination: The site contains stream channels of Shocco Creek, a tributary of the Tar River, with indicators of ordinary high water marks, and wetlands adjacent to Shocco Creek.

Indicate Which of the Following Apply:

____ There are waters of the U.S., to include wetlands, on the above described property which we strongly suggest should be delineated and surveyed. The surveyed wetland lines must be verified by our staff before the Corps will make a final jurisdictional determination on your property.

____ Because of the size of your property and our present workload, our identification and delineation of your wetlands cannot be accomplished in a timely manner. You may wish to obtain a consultant to obtain a more timely delineation of the wetlands. Once the consultant has flagged a wetland line on the property, Corps staff will review it, and, if it is accurate, we strongly recommend that you have the line surveyed for final approval by the Corps. The Corps will not make a final jurisdictional determination on your property without an approved survey.

__X__ The waters of the U.S., to include wetlands, within the study area limits, have been delineated by your consultant, the delineation has been reviewed in the office by the Corps, and the delineation as shown on the attached drawings has been determined by the Corps to be accurate, based on the information available at this time. 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.

Placement of dredged or fill material in wetlands on this property without a Department of the Army Permit is in most cases a violation of Section 301 of the Clean Water Act (33 USC 1311). A permit is not required for work on the property restricted entirely to existing high ground. If you have any questions regarding the Corps of Engineers regulatory program, please contact Eric Alsmeyer **at telephone number** (919) 876 - 8441 extension 23.

Project Manager Signature Eric Alsmeyer

Date August 21, 2003 **Expiration Date** August 21, 2008

SURVEY PLAT OR FIELD SKETCH OF THE DESCRIBED PROPERTY AND THE WETLAND DELINEATION FORM MUST BE ATTACHED TO THE FILE COPY OF THIS FORM.

CF: HSMM

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: NCDOT, Division of Highways	File Number: 200321039/B-4307	Date: August 21, 2003
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

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

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

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

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

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

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

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

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

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

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

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

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

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

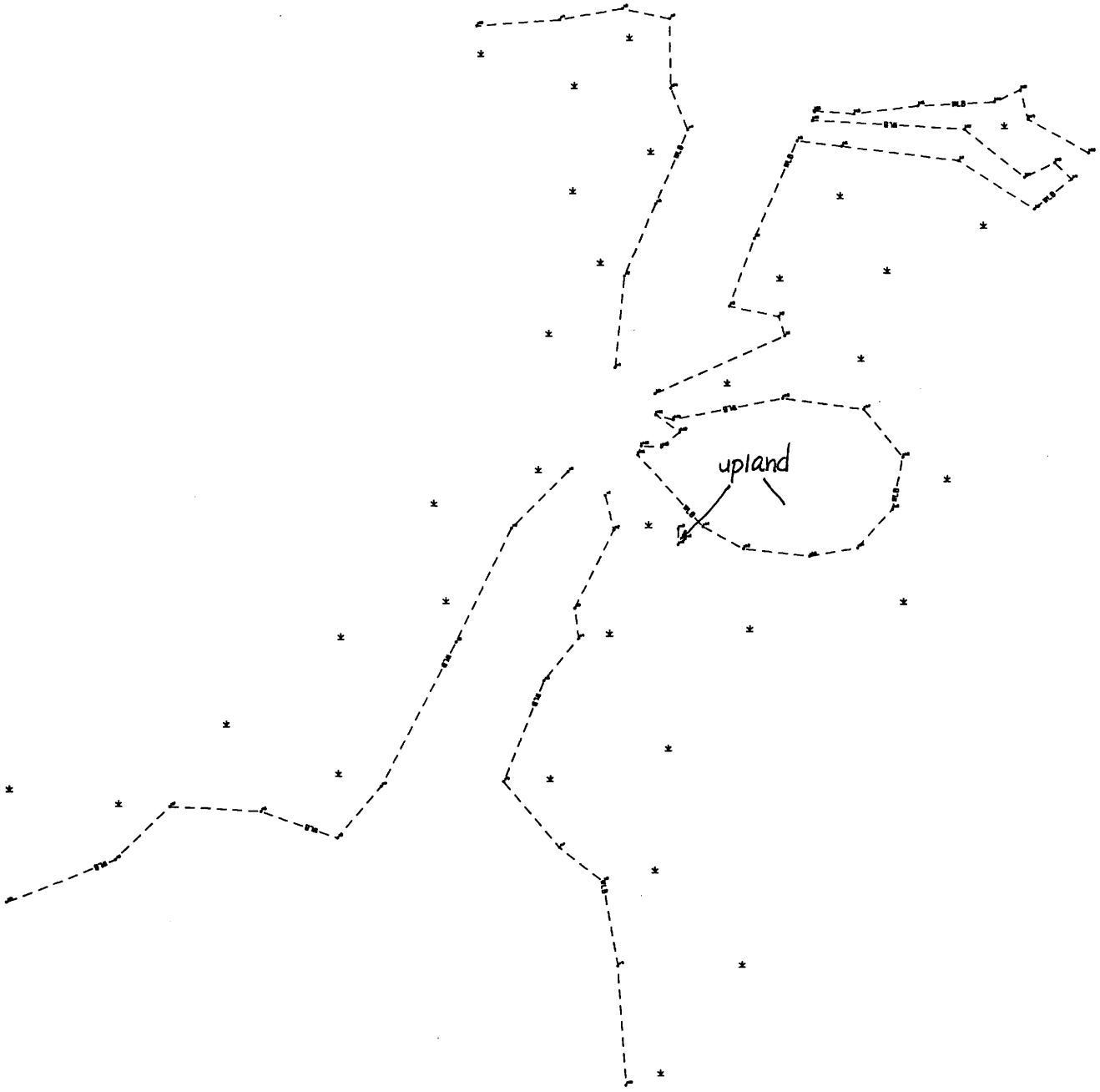
If you have questions regarding this decision and/or the appeal process you may contact: Mr. Eric C. Alsmeyer, Regulatory Project Manager U.S. Army Corps of Engineers, Wilmington District Raleigh Regulatory Field Office 6508 Falls of Neuse Road, Suite 120 Raleigh, North Carolina 27615-6814	If you only have questions regarding the appeal process you may also contact: Mr. Arthur Middleton, Administrative Appeal Review Officer CESAD-ET-CO-R U.S. Army Corps of Engineers, South Atlantic Division 60 Forsyth Street, Room 9M15 Atlanta, Georgia 30303-8801

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

_____ Signature of appellant or agent.	Date:	Telephone number:

DIVISION ENGINEER:
Commander
U.S. Army Engineer Division, South Atlantic
60 Forsyth Street, Room 9M15
Atlanta, Georgia 30303-3490

B-4501



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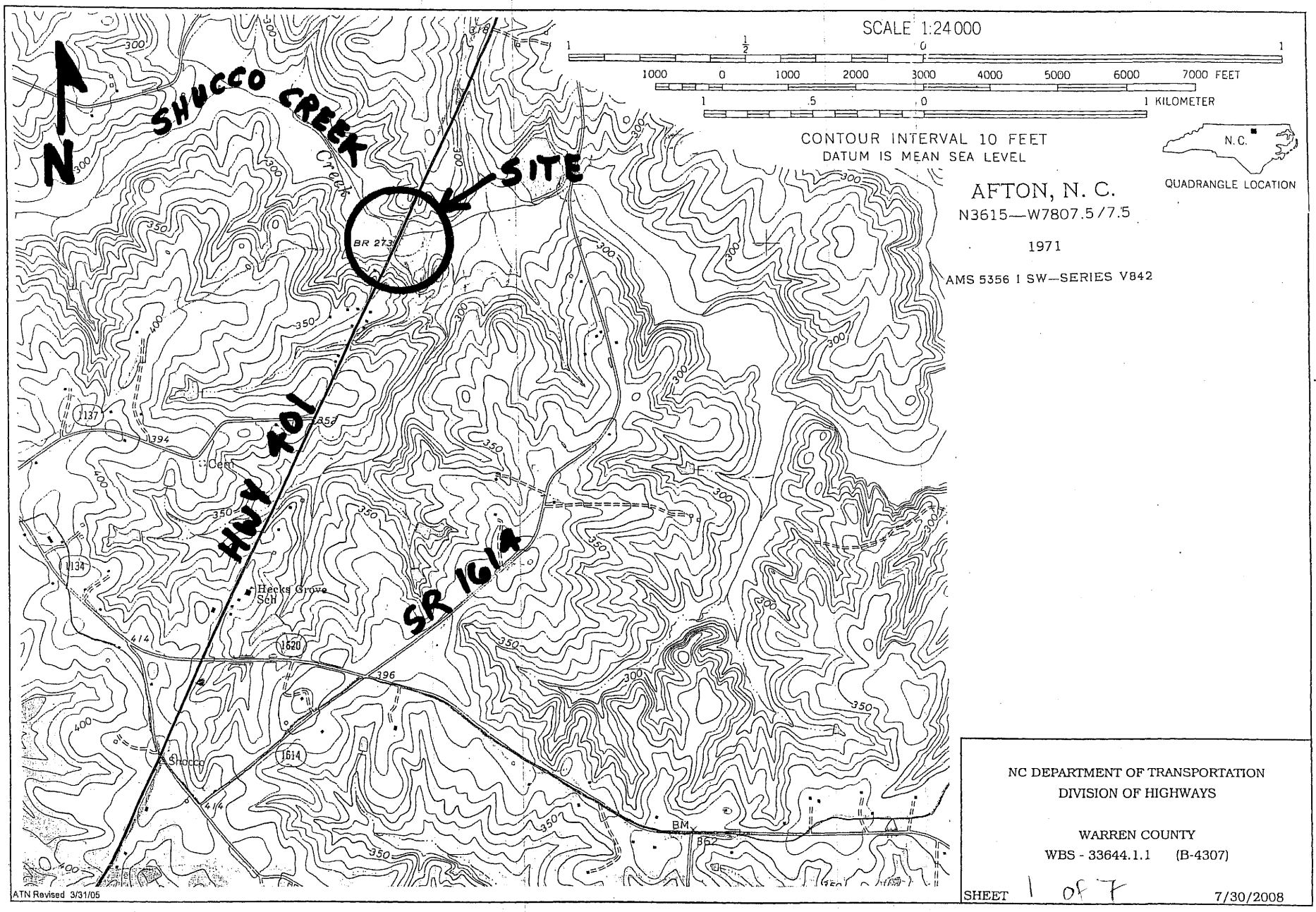
B-4307
WARREN CO.



ATN Revised 3/31/05

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

WARREN COUNTY
WBS - 33644.1.1 (B-4307)

SHEET 1 OF 7 7/30/2008

Property Owner Contact Report

TIP # *B4307*

Owner Last Name/ Business	*Owner First Name*	*Address*	*City/Town*	*State*	*Zip Code*	*Contact/ Relationship*	*Home Phone*	*Contacted By*	*Contact Date*	*How Contacted*	*Comments*
(2) Davis	Margaret	280 Daniel Boone Trail	Henderson	NC	27537			Watts B. Fearrington, JR., PLS	8/23/04	Certified Letter	
Fields, Heirs	Nathan	123 Nathan Fields Road	Warrenton	NC	27589			Watts B. Fearrington, JR., PLS	8/23/04	Certified Letter	
(1) McCaffity, Heirs	Sadie	P.O. Box 1046	Durham	NC	27702			Watts B. Fearrington, JR., PLS	8/23/04	Certified Letter	
(3) Spruill; c/o BB&T Co.	W.E.	3605 Glenwood Ave.	Raleigh	NC	27612			Watts B. Fearrington, Jr., PLS	8/23/04	Certified Letter	
(4) Thompson	T.M. & W. G.	132 Thompson Dr.	Norilina	NC	27563			Watts B. Fearrington, JR., PLS	8/23/04	Certified Letter	
Townes	Jimmy L.	2794 U.S. Highway 401S	Warrenton	NC	27589			Watts B. Fearrington, JR., PLS	8/23/04	Certified Letter	

Permit Drawing Sheet 2 of 7

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	13+70 to 19+12 -L-	Bridge	0.31	0.21								
TOTALS:			0.31	0.21								

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

WARREN COUNTY
WBS - 33644.1.1 (B-4307)

SHEET 3 OF 7 8/12/2008

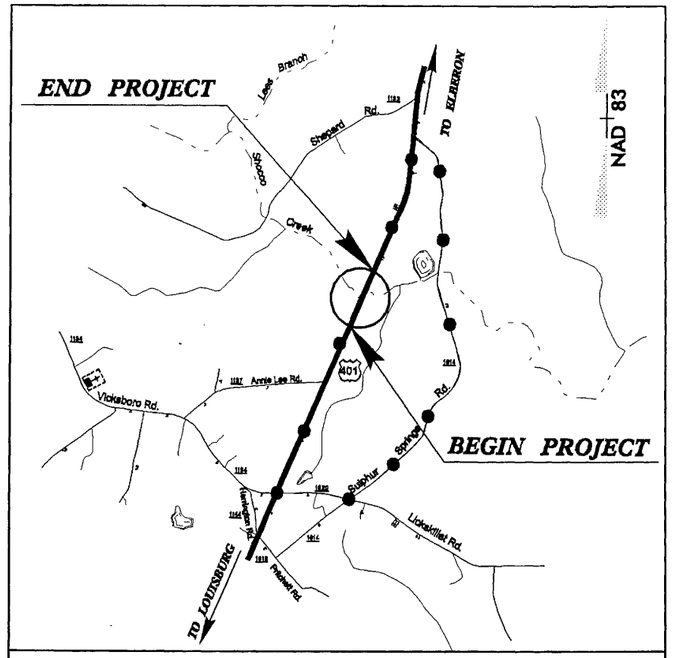
ATN Revised 3/31/05

09/08/99

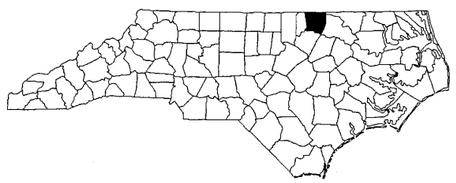
TIP PROJECT: B-4307

CONTRACT:

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



VICINITY MAP
OFF-SITE DETOUR



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WARREN COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4307	1	

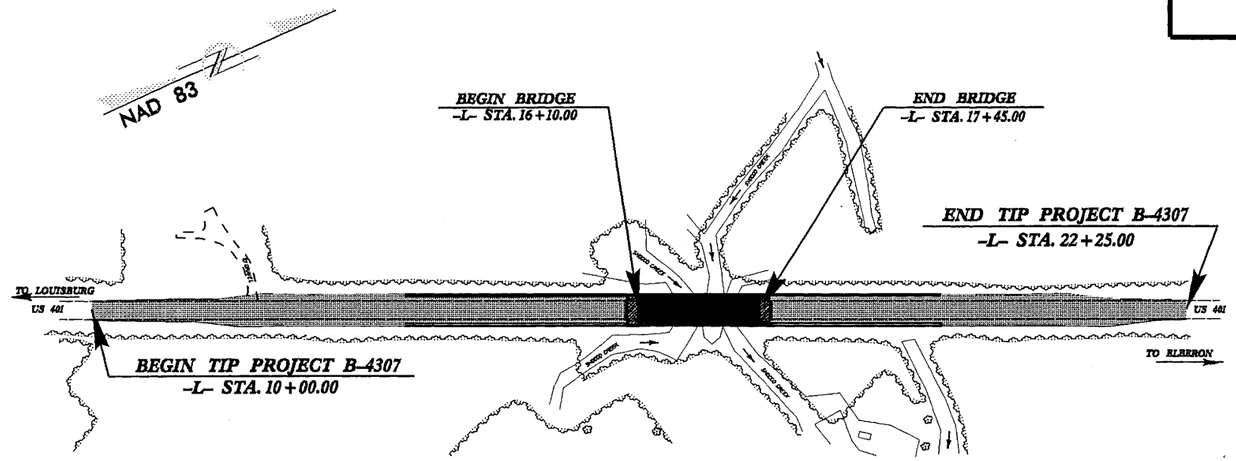
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33644.1.1	BRSTP-401 (145)	P.E.
33644.2.1	BRSTP-401 (145)	R/W & UTIL.

LOCATION: *BRIDGE NO. 4 OVER SHOCCO CREEK AND AND APPROACHES ON US 401*

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

Permit Drawing
Sheet 4 of 7

4



*** DESIGN EXCEPTION FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.*

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

GRAPHIC SCALES

PLANS: 50 25 0 50 100
PROFILE (HORIZONTAL): 50 25 0 50 100
PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2008 = 2200
ADT 2030 = 3800
DHV = 10 %
D = 60 %
T = 5 % *
**V = 60 MPH
* (TTST 2% + DUAL 3%)
FUNC. CLASS. = RURAL COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4307 = 0.206 MILE
LENGTH STRUCTURE TIP PROJECT B-4307 = 0.026 MILE
TOTAL LENGTH TIP PROJECT B-4307 = 0.232 MILE

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 26, 2008

LETTING DATE: JUNE 16, 2009

GLENN W. MUMFORD, P.E.
PROJECT ENGINEER

TATIA L. WHITE, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

P.E.
STATE HIGHWAY DESIGN ENGINEER

12-AUG-2008 11:24
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wshunt
XFER HY244728

10/25/05

PROJECT REFERENCE NO.	SHEET NO.
B-4307	T-A

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Permit Drawing
Sheet 5 of 7

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — IP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Swamp Marsh
- Proposed Lateral, Tail, Head Ditch — FDH
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line
- 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 — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE

ROADS AND RELATED FEATURES:

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

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

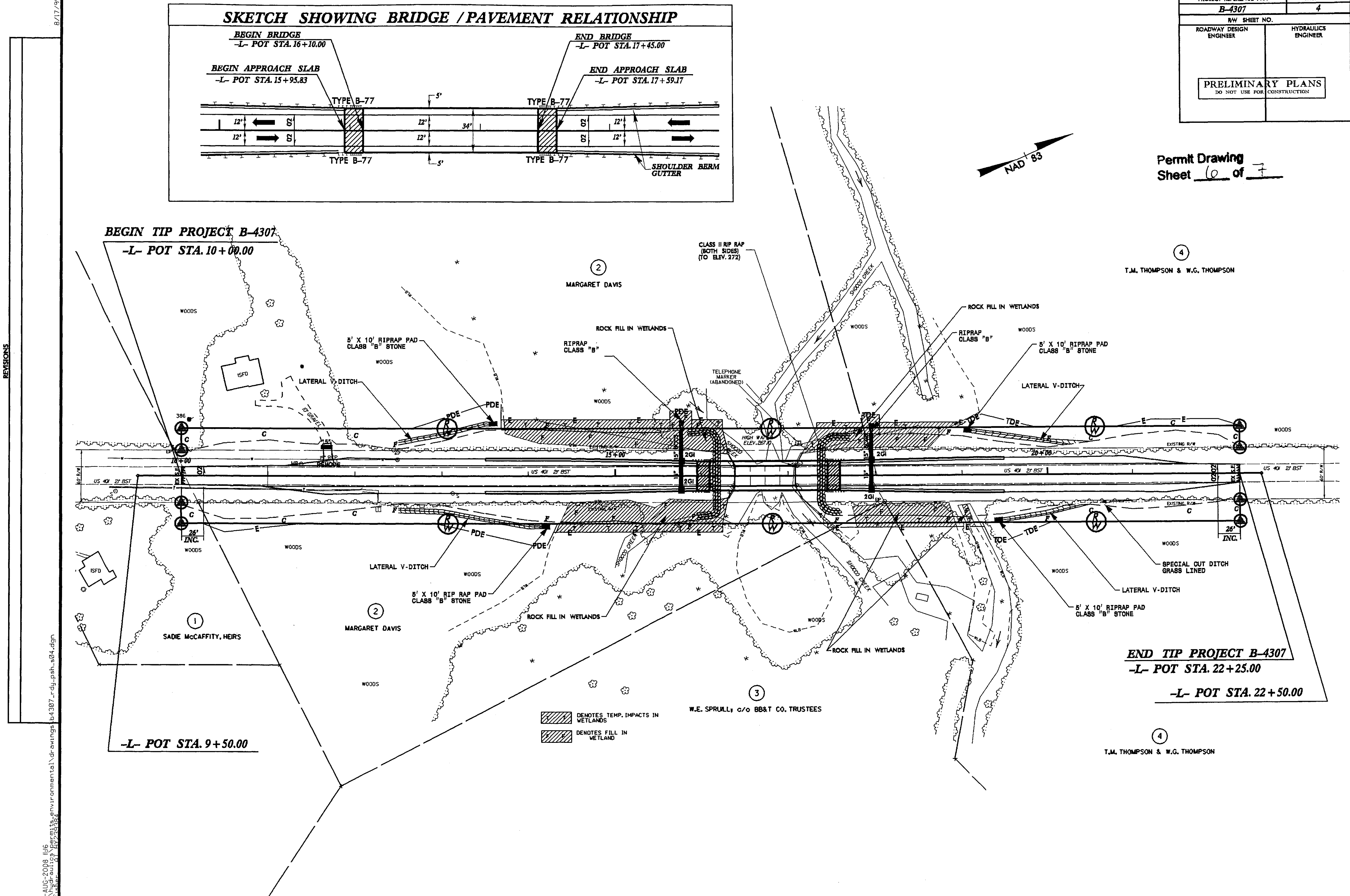
MISCELLANEOUS:

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

PROJECT REFERENCE NO.	SHEET NO.
B-4307	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 6 of 7



SKETCH SHOWING BRIDGE / PAVEMENT RELATIONSHIP
BEGIN BRIDGE -L- POT STA. 16+10.00
BEGIN APPROACH SLAB -L- POT STA. 15+95.83
END BRIDGE -L- POT STA. 17+45.00
END APPROACH SLAB -L- POT STA. 17+59.17
TYPE B-77
SHOULDER BERM GUTTER
NAD 83
BEGIN TIP PROJECT B-4307
-L- POT STA. 10+00.00
-L- POT STA. 9+50.00
END TIP PROJECT B-4307
-L- POT STA. 22+25.00
-L- POT STA. 22+50.00
MARGARET DAVIS
T.M. THOMPSON & W.G. THOMPSON
SADIE McCAFFITY, HEIRS
W.E. SPRUILL; c/o BB&T CO. TRUSTEES
WOODS
CLASS II RIP RAP (BOTH SIDES) (TO ELEV. 272)
ROCK FILL IN WETLANDS
RIPRAP CLASS "B"
5' X 10' RIPRAP PAD CLASS "B" STONE
LATERAL V-DITCH
TELEPHONE MARKER (ABANDONED)
SPECIAL CUT DITCH GRASS LINED
US 401
SHOCCO CREEK
DENOTES TEMP. IMPACTS IN WETLANDS
DENOTES FILL IN WETLAND
REVISIONS

8/17/99

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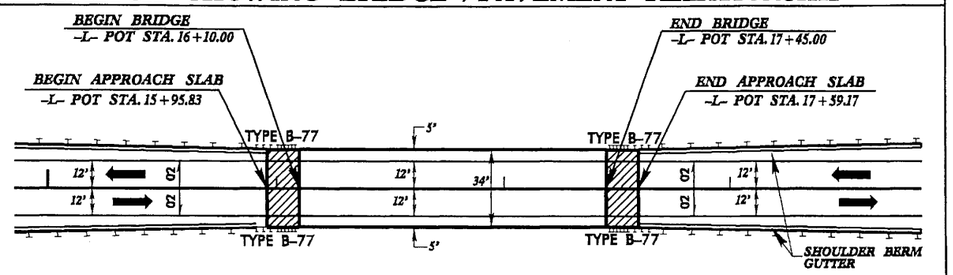
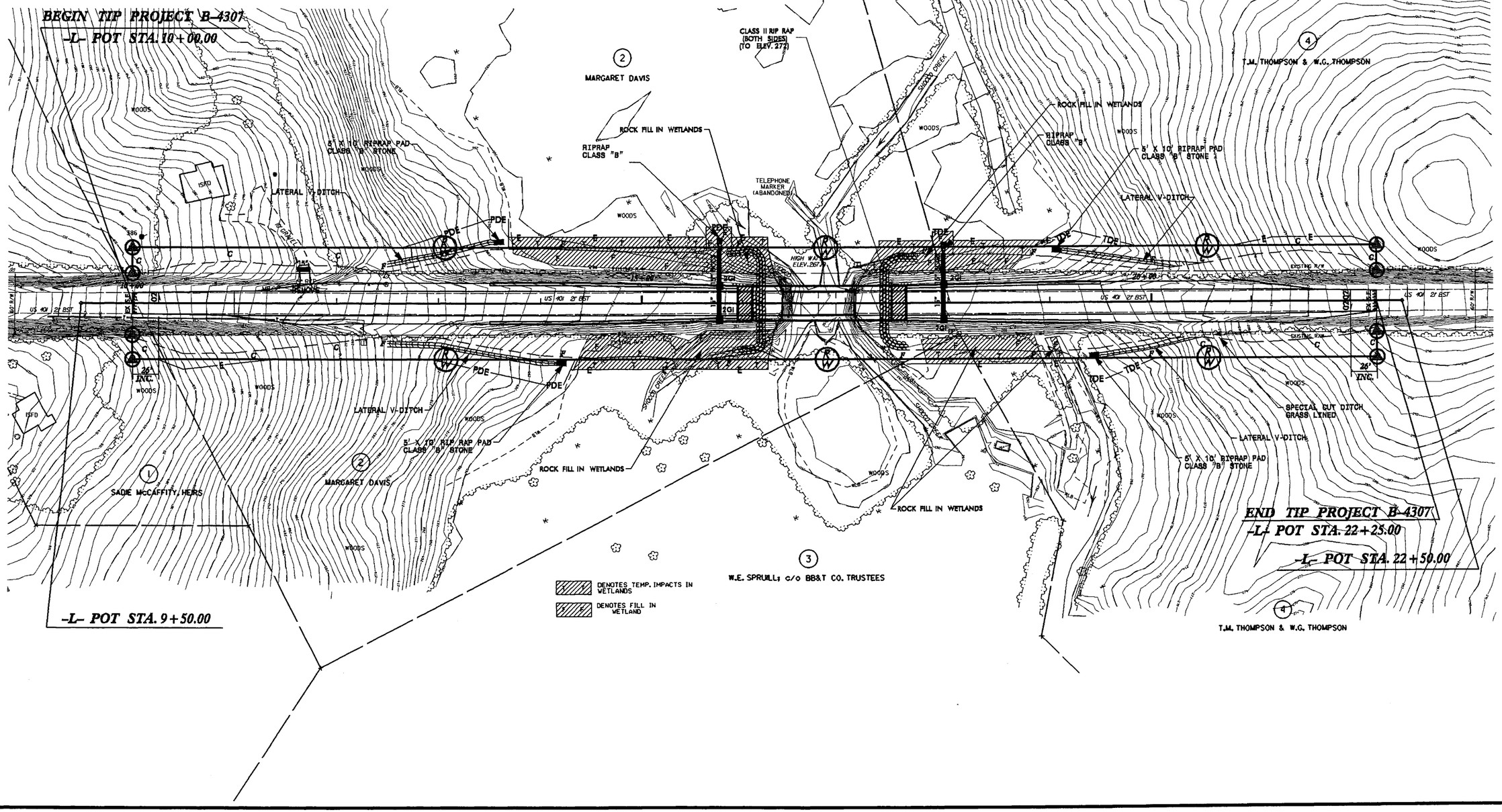
PROJECT REFERENCE NO.	SHEET NO.
B-4307	4
NW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 7 of 7

SKETCH SHOWING BRIDGE / PAVEMENT RELATIONSHIP





REVISIONS

8/17/99

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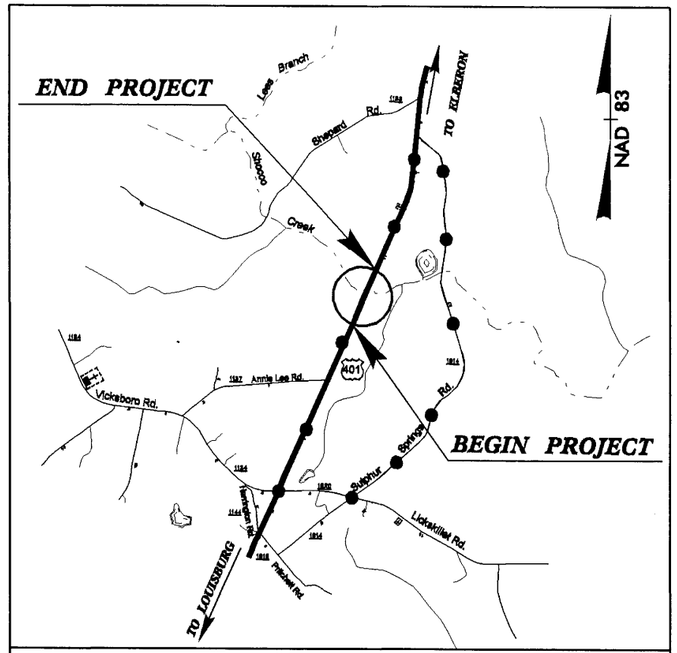
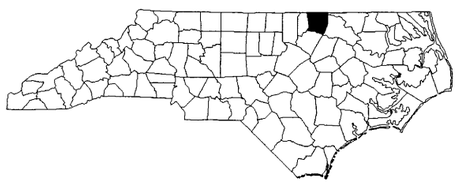
TIP PROJECT: B-4307

CONTRACT:

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



VICINITY MAP
OFF-SITE DETOUR



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WARREN COUNTY

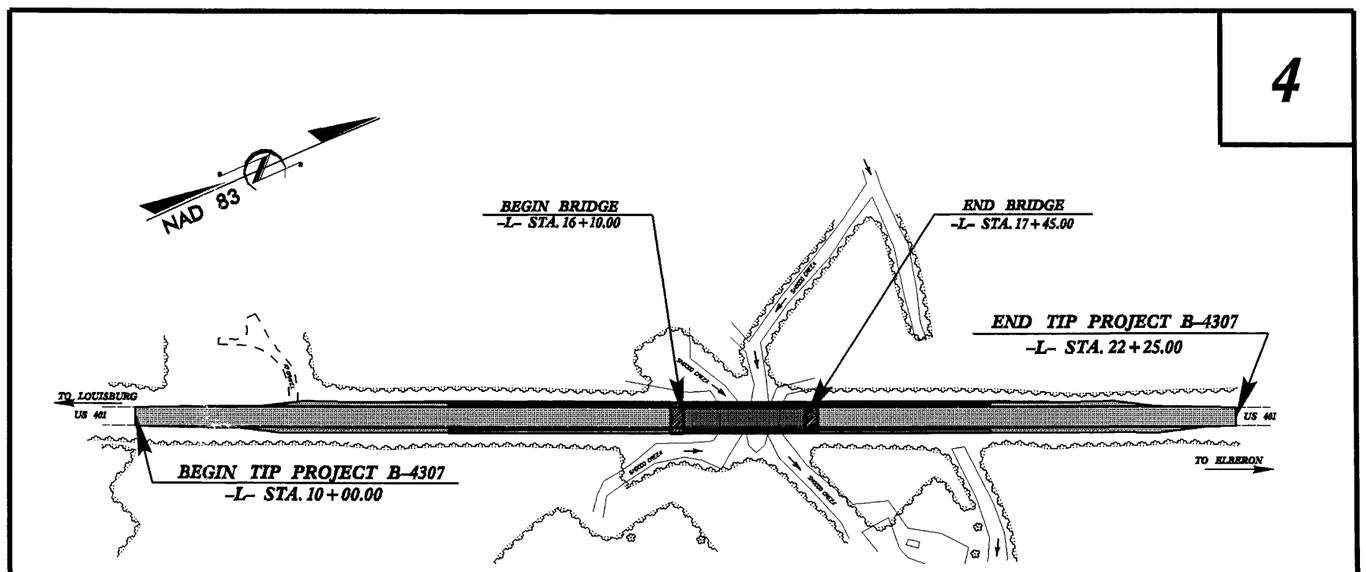
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4307	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33644.1.1	BRSTP-401 (145)	P.E.
33644.2.1	BRSTP-401 (145)	R/W & UTIL.

LOCATION: *BRIDGE NO. 4 OVER SHOCCO CREEK AND AND APPROACHES ON US 401*

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

4



** *DESIGN EXCEPTION FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.*

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

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2008 = 2200
ADT 2030 = 3800
DHV = 10 %
D = 60 %
T = 5 % *
**V = 60 MPH
* (TTST 2% + DUAL 3%)
FUNC. CLASS. = RURAL COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4307 = 0.206 MILE
LENGTH STRUCTURE TIP PROJECT B-4307 = 0.026 MILE
TOTAL LENGTH TIP PROJECT B-4307 = 0.232 MILE

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 26, 2008

LETTING DATE: JUNE 16, 2009

GLENN W. MUMFORD, P.E.
PROJECT ENGINEER

TATIA L. WHITE, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

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$$$$USERNAME$$$$

10/25/05

PROJECT REFERENCE NO.	SHEET NO.
B-4307	1-B

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 — EP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Swamp Marsh
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line
- 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 — E
- Proposed Temporary Construction Easement — TCE
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE

ROADS AND RELATED FEATURES:

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

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

8/17/99

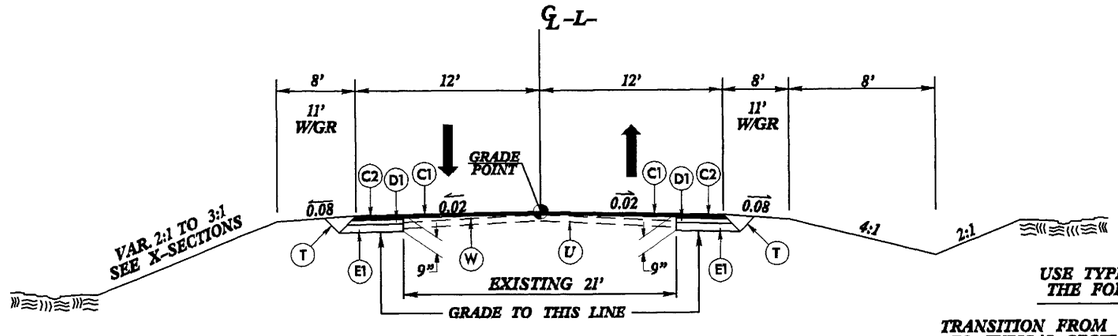
PROJECT REFERENCE NO.	SHEET NO.
B-4307	2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

FINAL PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 275 LBS. PER SQ. YD IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING)

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



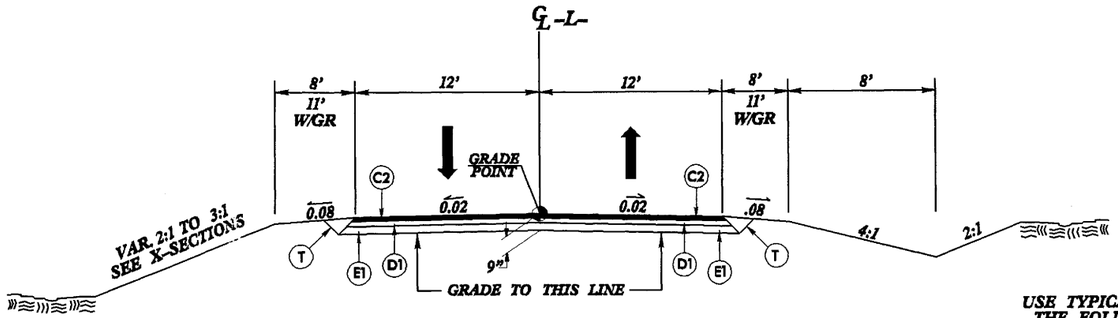
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO.1 AT THE FOLLOWING LOCATIONS:

TRANSITION FROM EXISTING @ -L- STA 10+00.00 TO TYPICAL SECTION NO. 1 @ -L- STA 11+00.00

-L- STA 21+00 TO 21+25.00

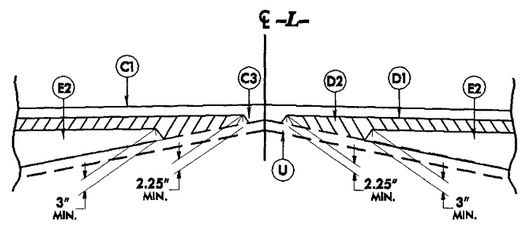
TRANSITION FROM TYPICAL SECTION NO.1 @ -L- STA 21+25.00 TO EXISTING @ -L- STA 22+25.00



TYPICAL SECTION NO. 2

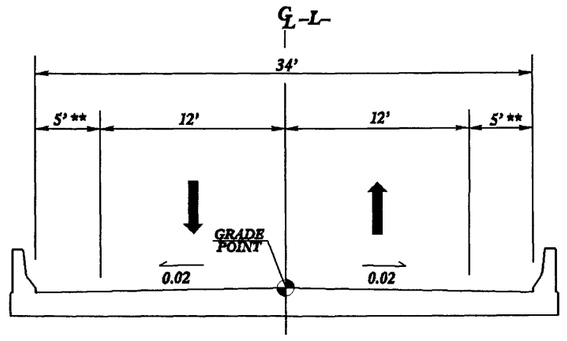
USE TYPICAL SECTION NO. 2 AT THE FOLLOWING LOCATIONS:

-L- STA 11+00.00 TO 16+10.00 (BEGIN BRIDGE)
-L- STA 17+45.00 (END BRIDGE) TO 21+00.00



DETAIL SHOWING METHOD OF WEDGING

USE IN CONJUNCTION WITH TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 AT THE FOLLOWING LOCATION:

-L- STA 16+10.00 (BEGIN BRIDGE) TO
-L- STA 17+45.00 (END BRIDGE)

** ADDITIONAL BRIDGE OFFSET WIDTH REQUIRED FOR HYDRAULIC DESIGN

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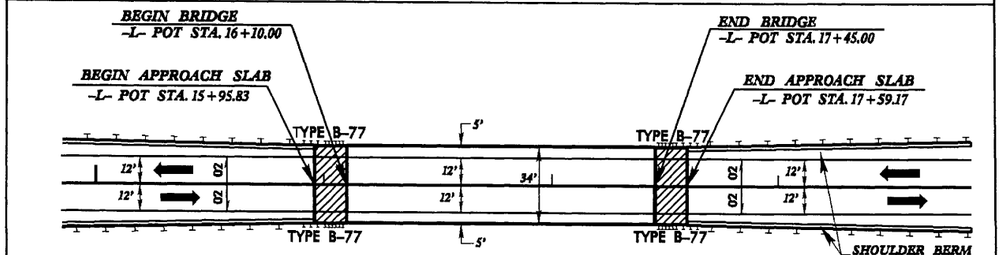
PROJECT REFERENCE NO.	SHEET NO.
B-4307	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

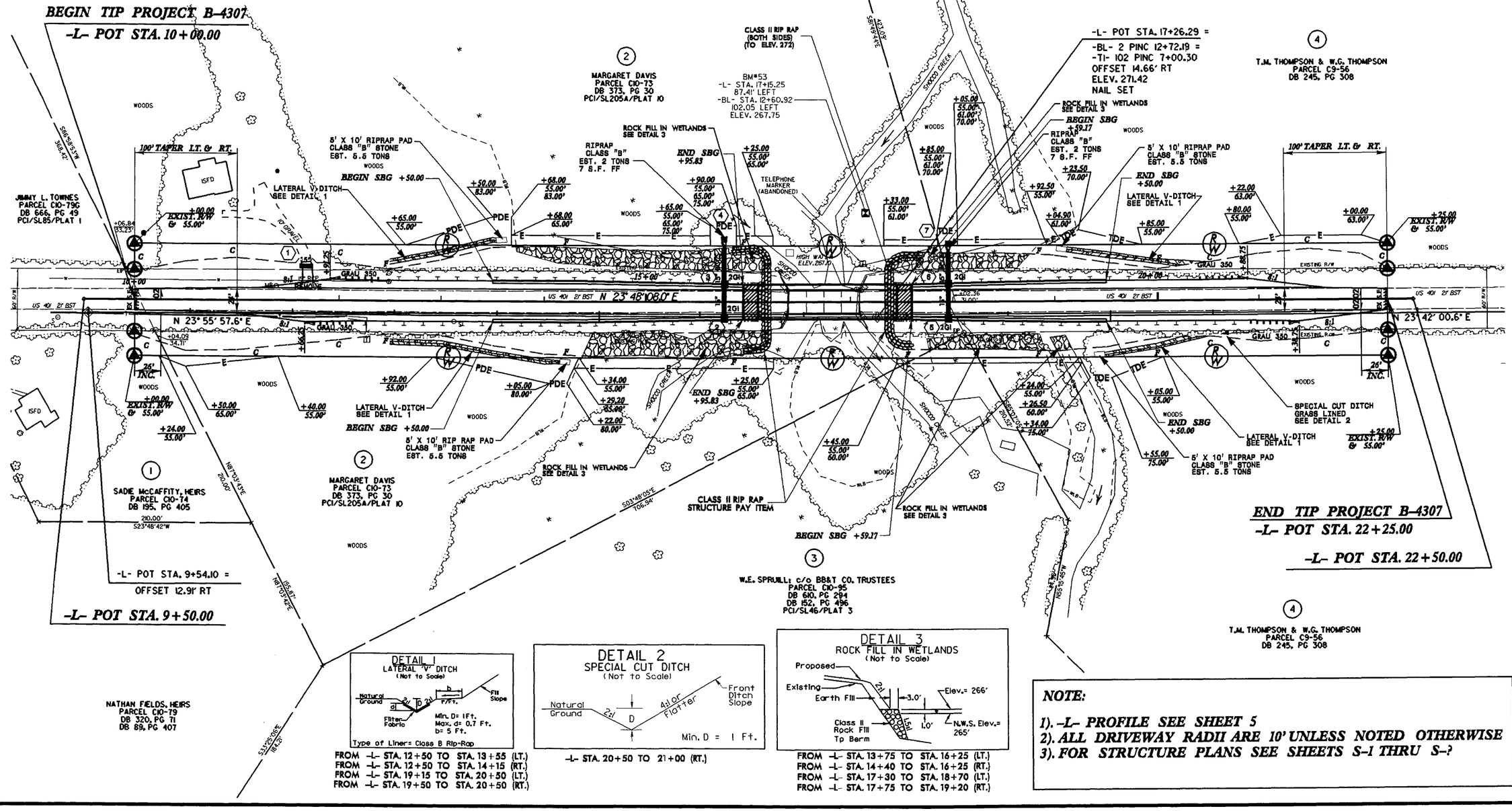
8/17/99

REVISIONS

SKETCH SHOWING BRIDGE / PAVEMENT RELATIONSHIP



* DESIGN EXCEPTION FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.



DETAIL 1
LATERAL V DITCH
(Not to Scale)

Type of Liner= Class B Rip-Rap

FROM -L- STA. 12+50 TO STA. 13+55 (LT.)
FROM -L- STA. 12+50 TO STA. 14+15 (RT.)
FROM -L- STA. 19+15 TO STA. 20+50 (LT.)
FROM -L- STA. 19+50 TO STA. 20+50 (RT.)

DETAIL 2
SPECIAL CUT DITCH
(Not to Scale)

-L- STA. 20+50 TO 21+00 (RT.)

DETAIL 3
ROCK FILL IN WETLANDS
(Not to Scale)

FROM -L- STA. 13+75 TO STA. 16+25 (LT.)
FROM -L- STA. 14+40 TO STA. 16+25 (RT.)
FROM -L- STA. 17+30 TO STA. 18+70 (LT.)
FROM -L- STA. 17+75 TO STA. 19+20 (RT.)

NOTE:

1). -L- PROFILE SEE SHEET 5
2). ALL DRIVEWAY RADII ARE 10' UNLESS NOTED OTHERWISE
3). FOR STRUCTURE PLANS SEE SHEETS S-1 THRU S-?

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PROJECT REFERENCE NO.	SHEET NO.
B-4307	5

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BM #53 R/R SPIKE IN A TWIN 18" MAPLE TREE 87.41' LT OF -L- STA 17+15.25
ELEV. = 267.75' N 926110 E 2227895

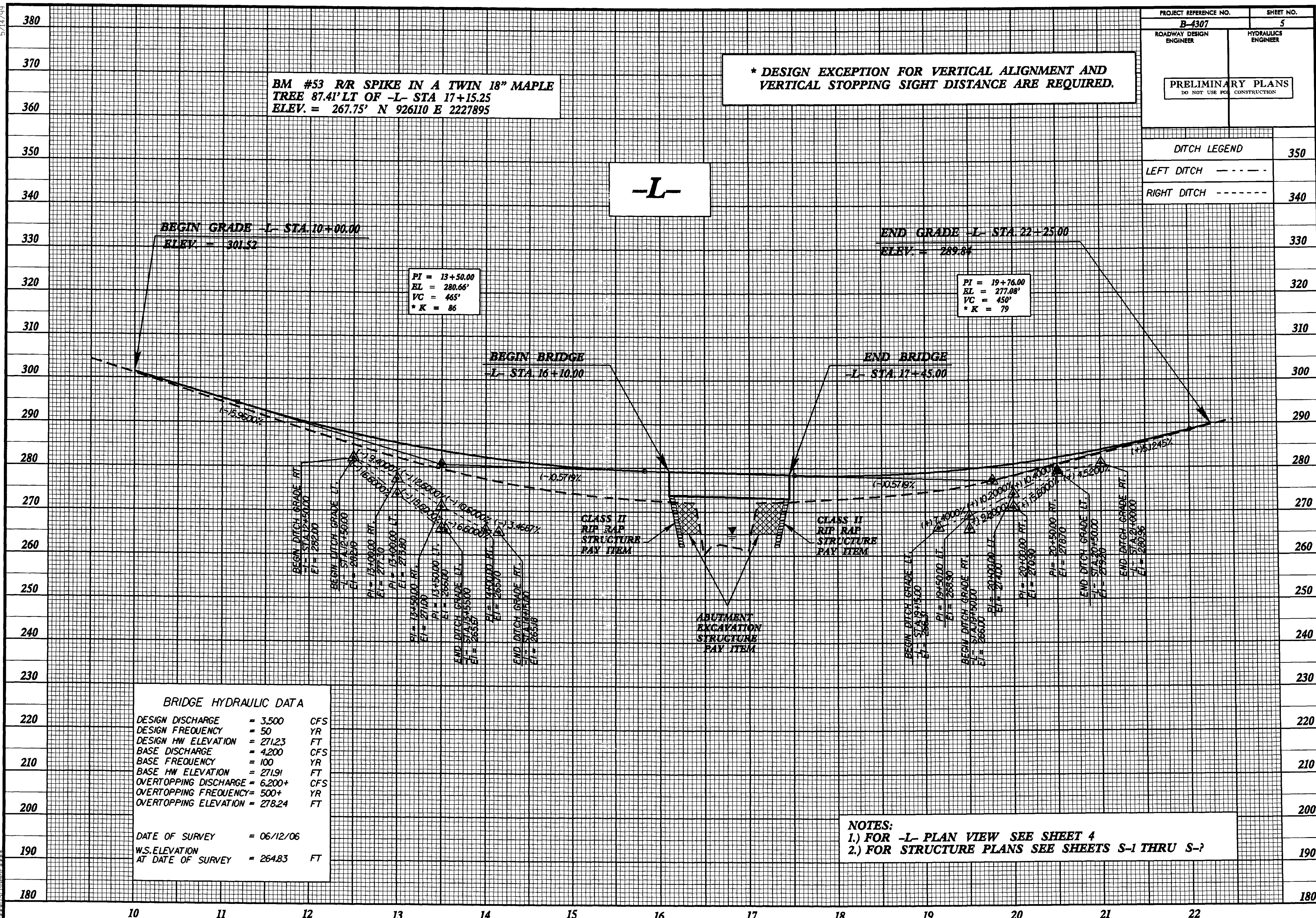
*** DESIGN EXCEPTION FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.**

-L-

DITCH LEGEND

LEFT DITCH — - - — -

RIGHT DITCH - - - - - -



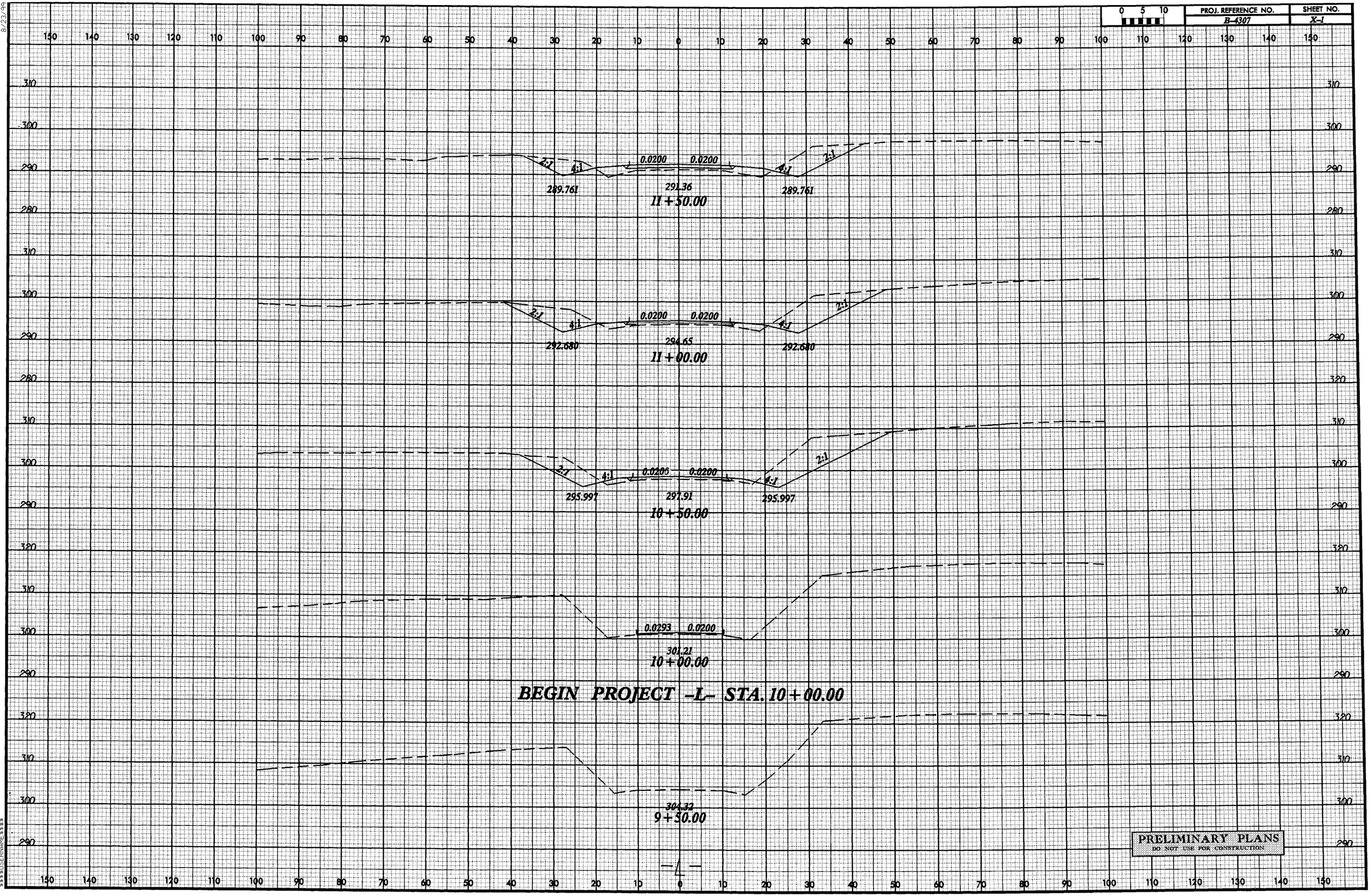
BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	3,500	CFS
DESIGN FREQUENCY	=	50	YR
DESIGN HW ELEVATION	=	271.23	FT
BASE DISCHARGE	=	4,200	CFS
BASE FREQUENCY	=	100	YR
BASE HW ELEVATION	=	271.91	FT
OVERTOPPING DISCHARGE	=	6,200+	CFS
OVERTOPPING FREQUENCY	=	500+	YR
OVERTOPPING ELEVATION	=	278.24	FT
DATE OF SURVEY	=	06/12/06	
W.S. ELEVATION AT DATE OF SURVEY	=	264.83	FT

NOTES:
1.) FOR -L- PLAN VIEW SEE SHEET 4
2.) FOR STRUCTURE PLANS SEE SHEETS S-1 THRU S-?

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4307	X-1



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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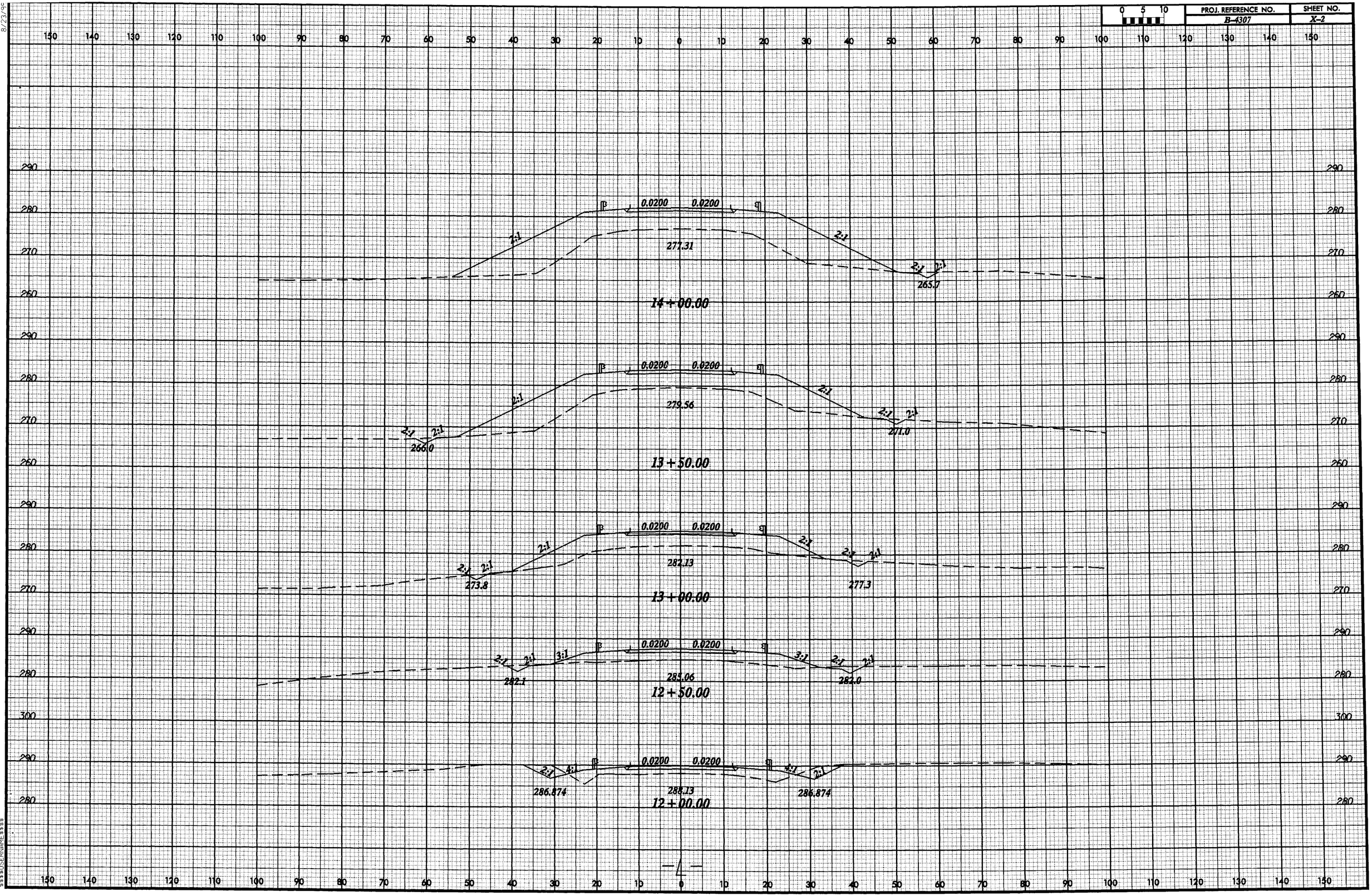
8/23/96

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4307	X-2



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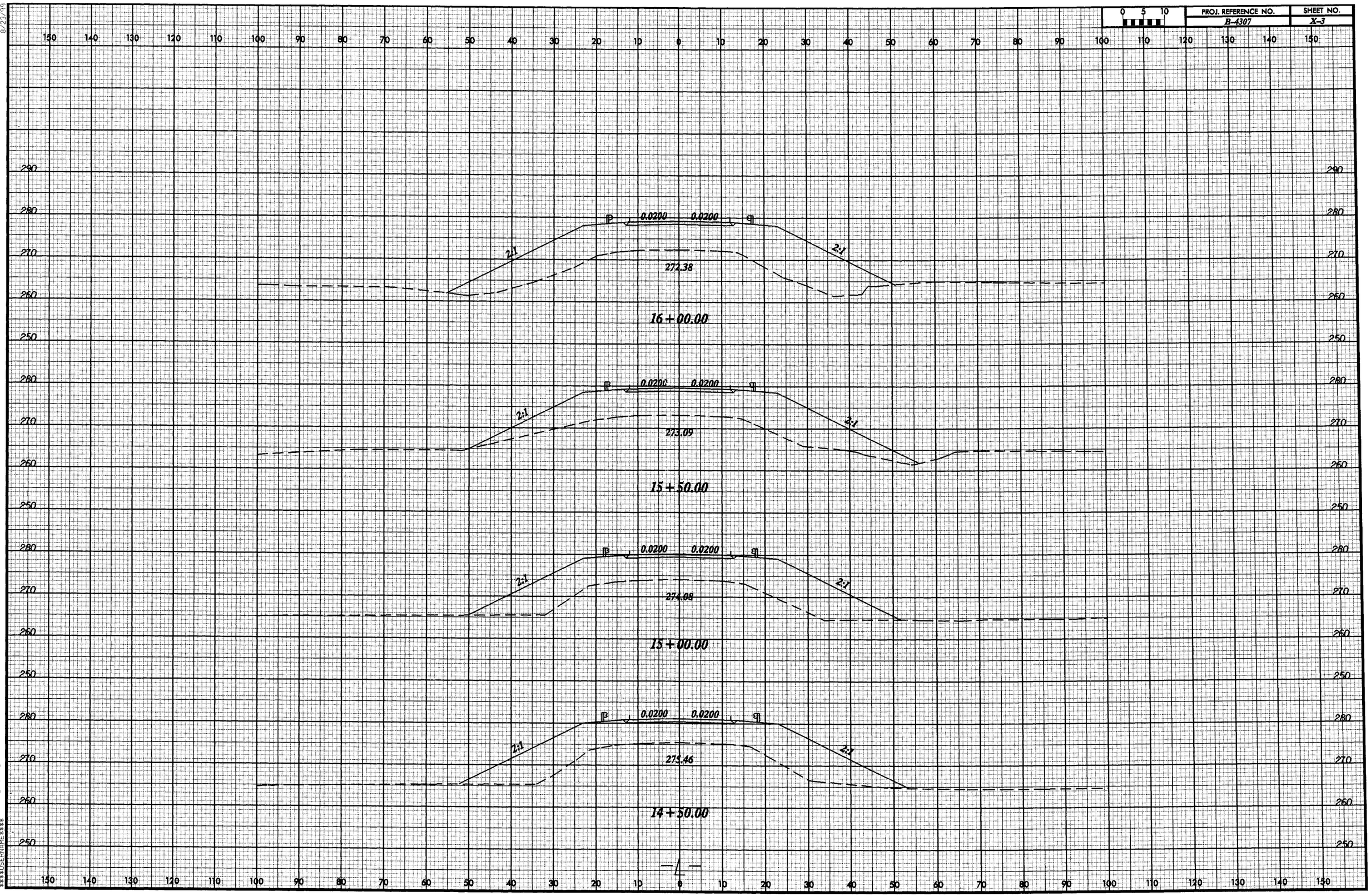
8/23/99

PROJ. REFERENCE NO.	SHEET NO.
B-4307	X-3

0 5 10



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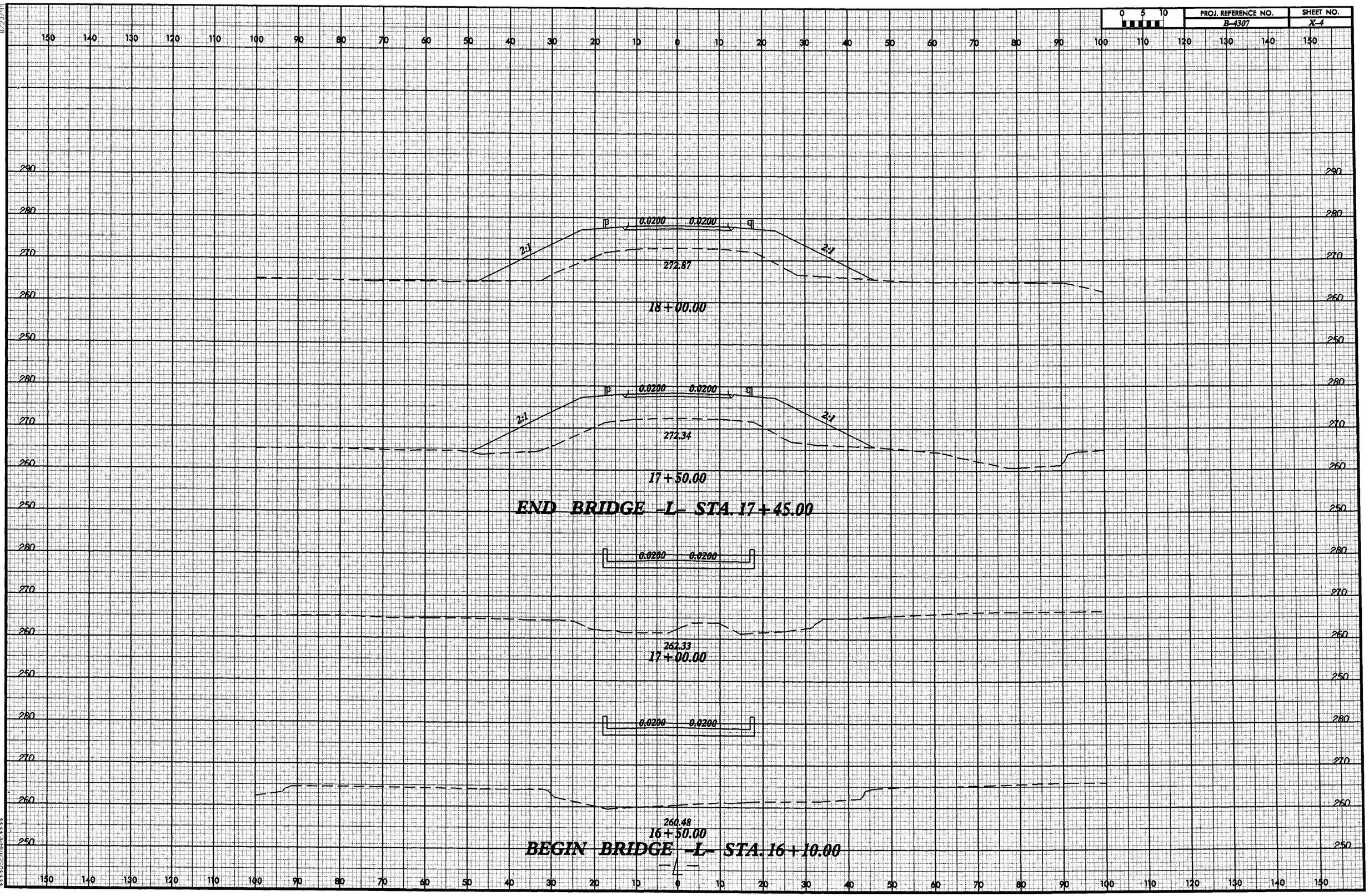
8/23/99

PROJ. REFERENCE NO.	SHEET NO.
B-4307	X-4

0 5 10



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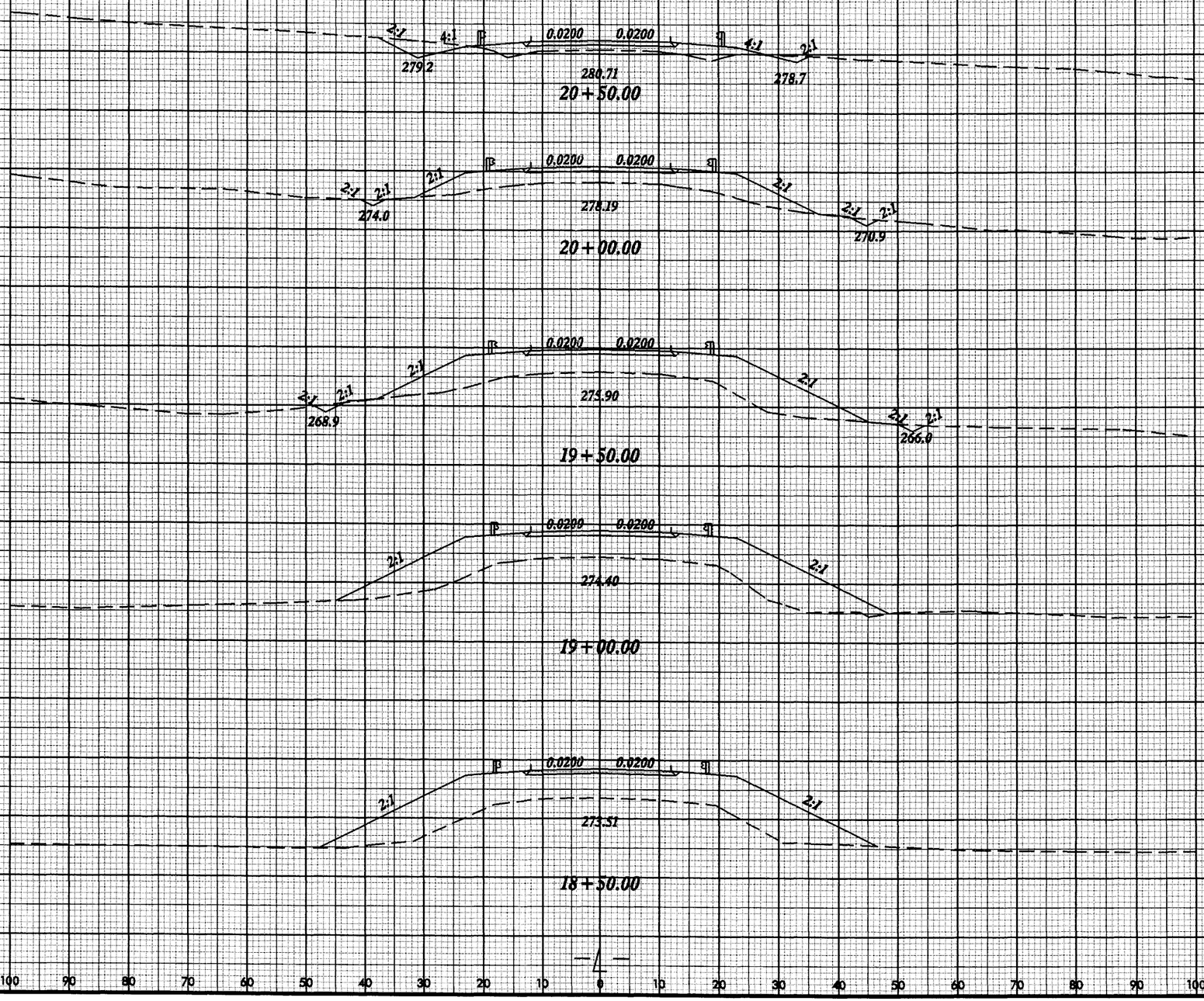
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4307	X-5

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

290 280 270 260 250



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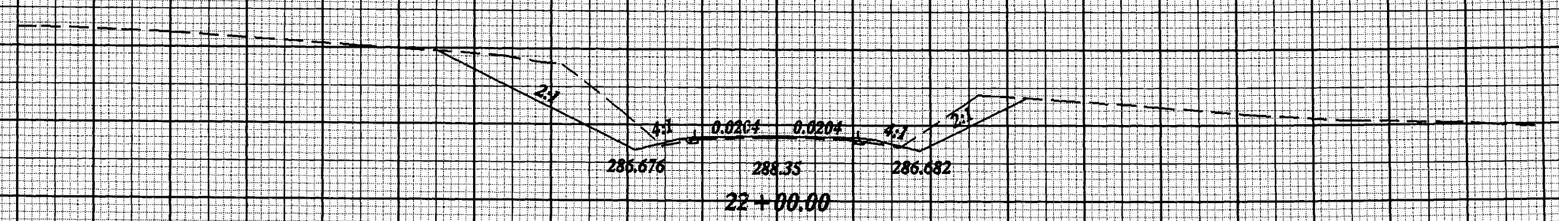
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4307	X-6

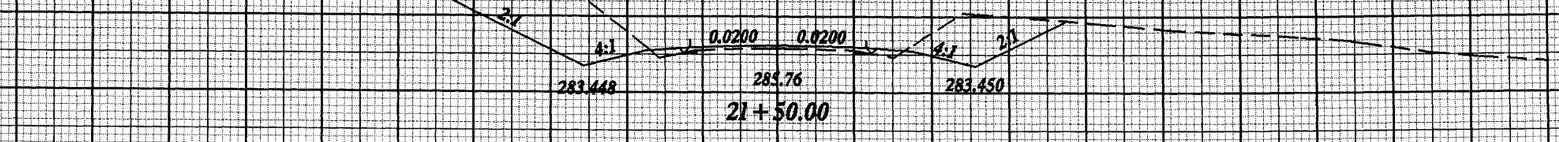
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

310 300 290 280 270

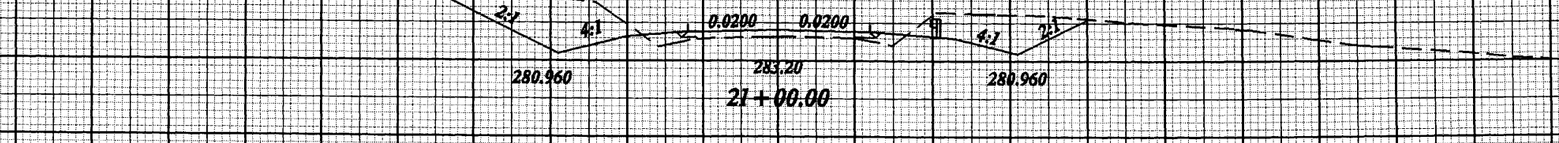
END PROJECT -L- STA. 22+25.00



22+00.00



21+50.00



21+00.00

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Warren County
Bridge No. 4 on US 401
over Shocco Creek
Federal Aid Project No. BRSTP-0401 (145)
W.B.S. No. 33644.1.1
State Project No. 8.1411001
T.I.P. No. B-4307

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

2/25/08
DATE

for Gregory J. Thorpe, PhD,
Environmental Management Director, PDEA

2/28/2008
DATE

for John F. Sullivan, III, Division Administrator
Federal Highway Administration

Warren County
Bridge No. 4 on US 401
over Shocco Creek
Federal Aid Project No. BRSTP-0401 (145)
W.B.S. No. 33644.1.1
State Project No. 8.1411001
T.I.P. No. B-4307

CATEGORICAL EXCLUSION

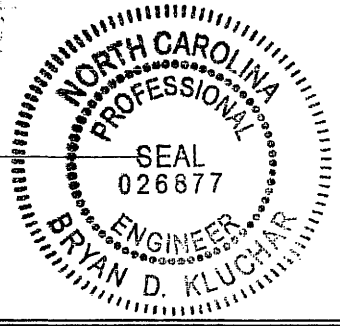
Documentation Prepared in
Project Development and Environmental Analysis Branch By:

2/20/08
DATE

Tracy A. Walter
Project Planning Engineer
Bridge Project Development Unit

2/22/08
DATE

Bryan D. Kluchar, PE
Project Engineer
Bridge Project Development Unit



PROJECT COMMITMENTS

Warren County
Bridge No. 4 on US 401
Over Shocco Creek
Federal Aid Project No. BRSTP-401 (145)
State Project No. 8.1411001
WBS No. 33644.1.1
T.I.P. No. B-4307

Division 5 Construction Engineer

Warren County Emergency Services requests at least one (1) month advanced notice prior to road closure and an estimated length of time the road will be closed.

Warren County School System had requested that safe school bus turn-a-round areas be provided and designated during construction.

The existing bents will be cut at substrate level to minimize disturbance to the substrate.

Existing abutments will be removed in a manner to reduce the potential for sedimentation.

Warren County
Bridge No. 4 on US 401
over Shocco Creek
Federal Aid Project No. BRSTP-0401 (145)
W.B.S. No. 33644.1.1
State Project No. 8.1411001
T.I.P. No. B-4307

INTRODUCTION: Bridge No. 4 is included in the latest approved North Carolina Department of Transportation (NCDOT) Transportation Improvement Program and is eligible for 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

NCDOT Bridge Maintenance Unit records indicate Bridge No. 4 has a sufficiency rating of 44.7 out of a possible 100 for a new structure. The bridge is considered structurally deficient due to deck appraisal of 4 out of 9 according to Federal Highway Administration (FHWA) standards and therefore eligible for FHWA's Bridge Replacement Program.

Bridge No. 4 has a seventy-two year old timber substructure 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.

Components of both the concrete & timber superstructure and timber substructure have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities. The posted weight limit on the bridge is down to 28 tons for single vehicles and 37 tons for truck-tractor semi-trailers. The bridge has approached the end of its useful life. Replacement of the bridge will result in safer traffic operations.

II. EXISTING CONDITIONS

The project is located south of Warrenton in Warren County (see Figure 1). Development in the area is rural and residential in nature.

US 401 is classified as a rural major collector in the Statewide Functional Classification System and it is a National Highway System Route. This route is not a designated bicycle route and there is no indication that an unusual number of bicyclists and/or pedestrians use this roadway. Therefore, bicycle and pedestrian accommodations have not been provided.

In the vicinity of the bridge, US 401 has approximately 21-foot pavement width with shoulders that vary from 6-foot to 8-foot (see Figure 3). The roadway grade is in a sag vertical curve through the project area. The existing bridge is on a tangent. The roadway is situated approximately 11.0 feet above the creek bed.

Bridge No. 4 is a four-span structure that consists of concrete floor on timber joists with an asphalt-wearing surface. The end bents and interior bents consist of timber caps on timber piles. The existing bridge (see Figure 3) was constructed in 1934. The overall length of the structure is 71 feet. The clear roadway width is approximately 21.0 feet. The posted weight limit on this bridge is 28 tons for single vehicles and 37 tons for TTST's.

There are no utilities attached to the existing structure. Utility impacts are anticipated to be low.

The current traffic volume of 2,000 vehicles per day (VPD) is expected to increase to 3,800 VPD by the year 2030. The projected volume includes two percent truck-tractor semi-trailer (TTST) and three percent dual-tired vehicles (DT). The speed limit is not posted in the project area but is assumed to be 55mph by statue. Five school buses cross the bridge daily on their morning and afternoon routes.

There were no accidents reported in the vicinity of Bridge No. 4 during a recent three-year period.

III. ALTERNATIVES

A. Project Description

The replacement structure will consist of a bridge approximately 135-foot long. The bridge length is based on preliminary design information and is set by hydraulic requirements. The bridge will be of sufficient width to provide for two 12-foot lanes with 5-foot offsets on each side. The roadway grade of the new structure will be approximately five feet above the existing grade.

The existing roadway will be widened to a 24-foot pavement width to provide two 12-foot lanes. Eight-foot shoulders will be provided on each side. This roadway will be designed as a rural major collector.

B. Reasonable and Feasible Alternatives

One alternative for replacing Bridge No. 4 was studied in detail and described below.

Alternate 1

Alternate 1 involves replacement of the structure along the existing roadway alignment. Improvements to the approach roadways will be required for a distance of approximately 600 feet to the south and 480 feet to the north of the new structure. This alternate will be designed

using a design speed of 60 miles per hour. A vertical alignment and vertical stopping sight distance design exception will be required. Traffic will be detoured offsite (see Figure 1) during the construction period.

NCDOT Guidelines for Evaluation of Offsite Detours for Bridge Replacement Projects considers multiple project variables beginning with the additional time traveled by the average road user resulting from the offsite detour. The offsite detour for this project would include SR 1614, and SR 1620. The majority of traffic on the road is through traffic. The detour for the average road user would result in one minute additional travel time. Up to a nine-month duration of construction is expected on this project.

Based on the Guidelines, the criteria above indicate that on the basis of delay alone the detour is acceptable. Warren County Emergency Services along with Warren County Schools Transportation have also indicated that the detour is acceptable. NCDOT Division 5 has indicated the condition of all roads, bridges and intersections on the offsite detour are acceptable without improvement and concurs with the use of the detour. No additional funds will be required for upgrading or improving an offsite detour.

C. Alternatives Eliminated From Further Consideration

The "do-nothing" alternative will eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by US 401.

"Rehabilitation" of the old bridge is not practical due to its age and deteriorated condition of the timber components.

Staged Construction is not practical due to the availability of an off-site detour.

A "New Location" alternative was evaluated and eliminated due to the presence of wetlands in all four quadrants of the project.

D. Preferred Alternative

Bridge No. 4 will be replaced at the existing location as shown in Figure 2.

NCDOT Division 5 concurs with the selection of this alternative.

IV. ESTIMATED COSTS

The estimated costs, based on 2006 prices, are as follows:

	Alternative 1 Preferred
Structure	$ 528,000
Roadway Approaches	$ 470,000
Detour Structure and Approaches	- 0 -
Structure Removal	$ 21,000
Misc. & Mob.	$ 231,000
Eng. & Contingencies	$ 200,000
Total Construction Cost	$ 1,450,000
Right-of-way & Utility Costs	$ 75,000
Total Project Cost	$ 1,525,000

V. NATURAL ENVIRONMENT

Physical Characteristics

Water Resources

Water resources located within the project study area lie in Subbasin 03-03-04 of the Tar-Pamlico drainage basin. One perennial stream, Shocco Creek, was identified in the project study area. The stream is located within the Hydrologic Unit (HU) 03020102 according to the federal system for cataloging drainage basins.

The best usage classification for Shocco creek (Index Number 28-79-22) is Class C NSW. No water resources classified as High Quality Waters, Water Supplies (WS-I or WS-II), or Outstanding Resource Waters are located within 1.0 mi. of the project study area.

Biotic Resources

There are four terrestrial communities located within the project study area. Community boundaries within the study area are generally well defined without a significant transition zone between them. The observed communities consist of the Piedmont/Low Mountain Alluvial Forest, Dry-Mesic Oak-Hickory Forest, successional community, and maintained/disturbed community.

Jurisdictional Topics

Surface Waters and Wetlands

This section of Shocco Creek has been significantly impacted by beaver activity downstream of the bridge. A beaver dam within this area has impounded this portion of Shocco Creek, and it therefore no longer functions as a stream in this area as per

USACE representative Eric Alsmeyer. It has determined that this section of Shocco Creek within the project area is now functioning as a wetland. If the beaver dam is removed prior to construction, further evaluation of jurisdictional resources will be necessary.

Permits

Impacts to jurisdictional wetlands are anticipated from the proposed project. As a result, construction activities will require permits and certifications from various regulatory agencies in charge of protecting the water quality of public water resources. Impacts to jurisdictional surface water are not anticipated from the proposed project. However, construction activities resulting in impacts will require permits and certifications. Surface water systems and wetland receive similar treatment and consideration with respect to most regulatory permits. These permits are authorized under the Clean Water Act and under separate state laws regarding significant water resources.

Buffers

Intermittent and perennial streams, lakes, ponds, and estuaries depicted as surface water on either the most current versions of either USGS topographic maps or NRCS soil survey maps may be subject to the Tar-Pamlico River Basin Buffer Rules. These buffer rules apply to 50-foot wide riparian buffers directly adjacent to surface waters in the Tar-Pamlico River Basin. Buffers are divided into two zones. Zone 1 includes the first 30 feet out from the top of bank or the rooted herbaceous vegetation. Zone 2 begins at the edge of Zone 1 and extends landward 20 feet.

The buffer rules do not apply to portions of the riparian buffer where a use is existing and ongoing. Any change in land use within the riparian buffer is characterized as an impact. The Nutrient Sensitive Waters Management Strategy and Protection and Maintenance of Existing Riparian Buffers (15 NCAC 02B.0259) provides a designation of exempt, allowable, allowable with mitigation, and prohibited for uses that cause impacts to riparian buffers within the Tar-Pamlico River Basin.

This section of Shocco Creek is functioning as a wetland as a result of beaver activity within the project area; however it is depicted on both the USGS topographic and NRCS soil survey maps and is, therefore, the defined channel is subject to the Tar-Pamlico Buffer River Basin Buffer Rules.

Federally Protected Species

Species with the federal classification of Endangered (E) or Threatened (T), or officially proposed (P) for such listing, are protected under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The following federal protected species are listed for Warren County (FWS website list - 18 June 2007)

Dwarf wedgemussel (E) May Affect – Likely to Adversely Affect

On July 28, 2005 biologists conducted a field survey of the proposed project area. The 1.5 man-hour survey identified that suitable habitat existed as well as locating a live specimen in the project area.

A Formal Consultation was conducted due to the presence of the federally listed endangered species. USFWS provided concurrence through the issuance of a Biological Opinion dated November 14, 2007.

Tar Spineymussel (T) May Affect – Not Likely to Adversely Affect

On July 28, 2005 biologists conducted a field survey of the proposed project area. No specimens or indication of presence were determined.

Bald Eagle Not Applicable

The bald eagle has been delisted and is not subject to Section 7 consultation and a biological conclusion is not required. However, the bald eagle remains protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act and subject to the USFWS National Bald Eagle Management Guidelines. Therefore, under the guidelines, a radius of 660 feet from the edge of the project boundary is imposed for road construction activities. No habitat or eagles were seen within 660 feet of the project boundary. The project study area does not contain suitable nesting, perching, or foraging habitat for bald eagle. There are no natural shorelines or large bodies of water for foraging within the project study area.

VI. HUMAN ENVIRONMENT

Section 106 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 Title 36 CFR Part 800. Section 106 requires 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

The Historic Preservation Office (HPO) reviewed the subject project and determined that Bridge No. 4 is eligible for the National Register under Criterion C as one of the earliest intact examples of a timber stringer bridge in North Carolina. See attached Memorandum of Agreement and corresponding compliance letter (see letter dated 9/19/2005).

Archaeology

The Historic Preservation Office (HPO) reviewed the subject project. There are no known archaeological sites within the proposed project area, and no archaeological investigation needed to be conducted (see letter dated June 25, 2003).

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 expected. The project is not expected to adversely affect social, economic, or religious opportunities in the area.

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 the project.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impact to prime farmland of all land acquisition and construction projects. All construction will take place along existing alignment. There are no soils classified as prime, unique, or having state or local importance in the vicinity of the project. Therefore, the project will not involve the direct conversion of farmland acreage within these classifications.

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

Noise & 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 the current North Carolina Department of Transportation 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.

An examination of records at the North Carolina Department of Environment and Natural Resources, Division of Environmental Management, Groundwater Section and the North Carolina Department of Human Resources, Solid Waste Management Section revealed no underground storage tanks or hazardous waste sites in the project area.

VIII. COORDINATION & AGENCY COMMENTS

NCDOT has sought input from the following agencies as a part of the project development: U.S. Army Corps of Engineers, NC Department of Natural Resources, U.S. Fish & Wildlife Service, N.C Wildlife Resource Commission, N.C. Division of Parks & Recreation, North Carolina State Historic Preservation Office, Warren County Planning Department.

Because of presence of wetlands and endangered species habitat located within the project area, concerns from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, N.C. Wildlife Resource Commission, and N.C. Department of Natural Resources were addressed during a consultation meeting.

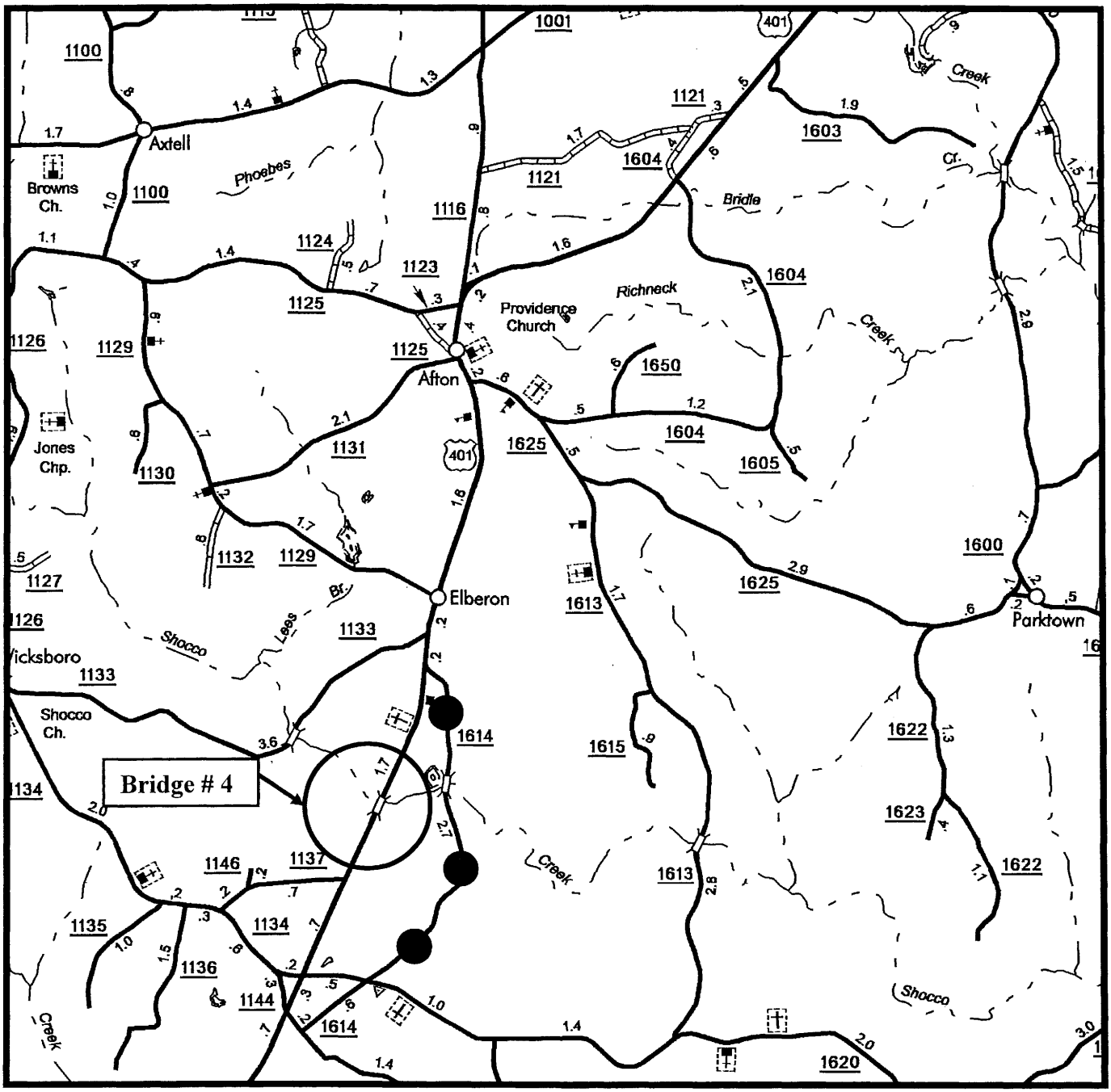
IX. PUBLIC INVOLVEMENT

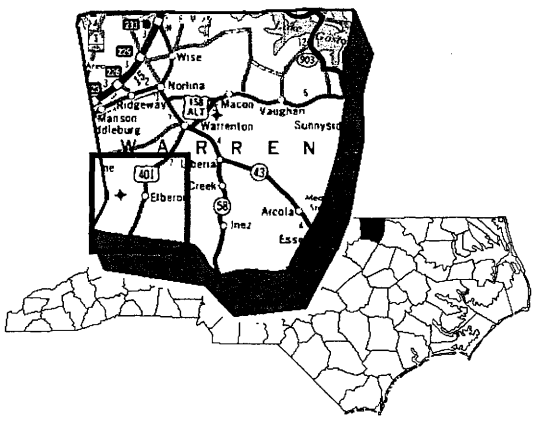
A letter was sent by the Location & Surveys Unit to all property owners affected directly by this project. Property owners were invited to comment. No comments have been received to date.

There is not substantial controversy on social, economic, or environmental grounds concerning the project.

X. CONCLUSION

On the basis of the above discussion, it is concluded that no substantial adverse environmental impacts 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.



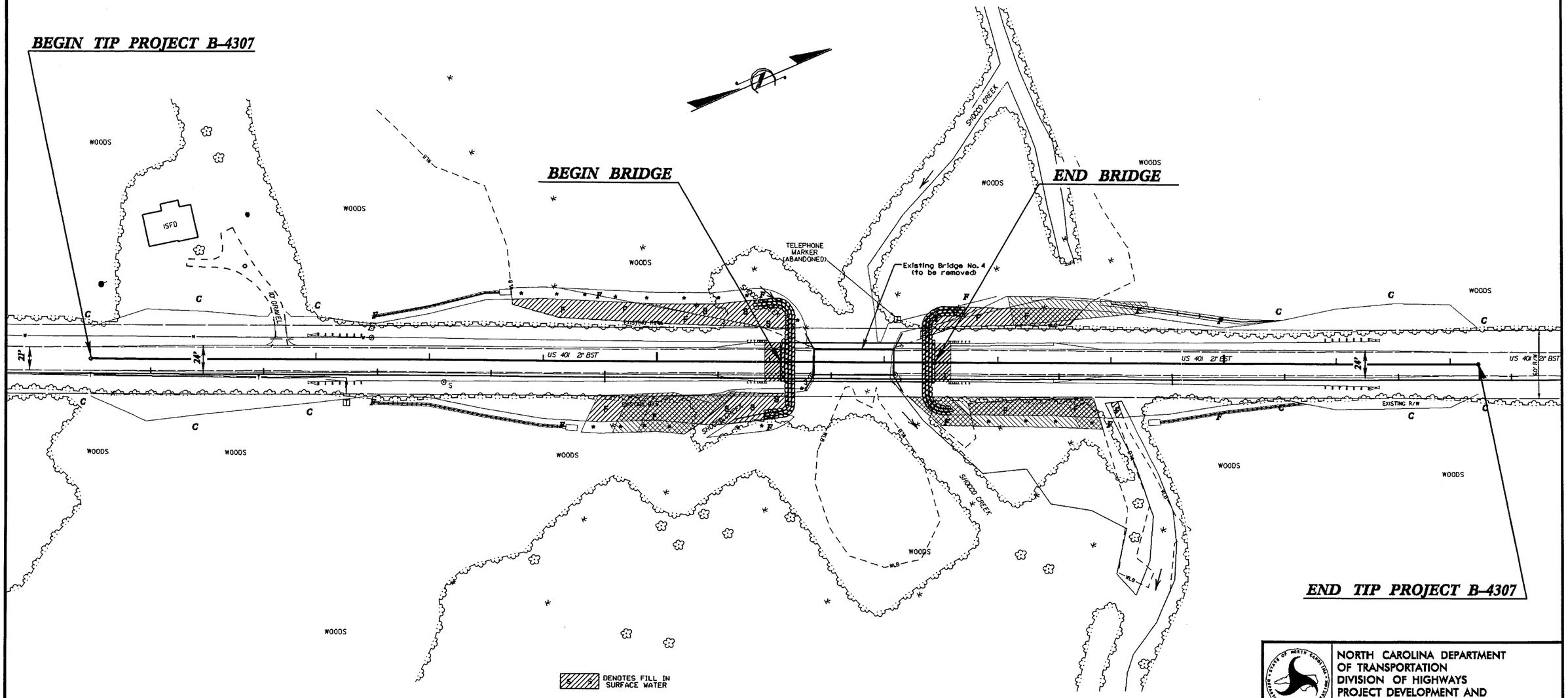


Studied detour route

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS BRANCH

WARREN COUNTY
REPLACE BRIDGE NO. 4 ON US 401
OVER SHOCCO CREEK
B-4307

Figure 1



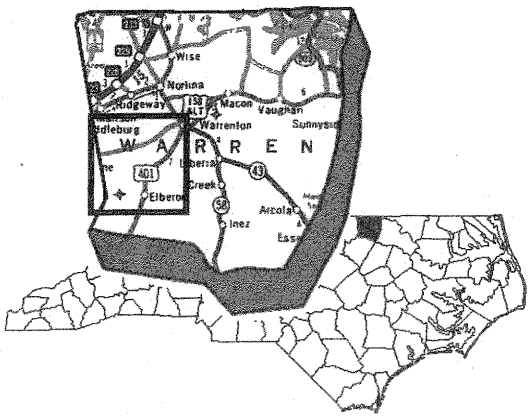
NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

WARREN COUNTY
REPLACE BRIDGE NO. 4 ON US 401
OVER SHOCCO CREEK
B-4307

FIGURE 2

Bridge Looking North

Bridge Looking South



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS BRANCH

WARREN COUNTY
REPLACE BRIDGE NO. 4 ON US 401
OVER SHOCCO CREEK
B-4307

Figure 3

NORTH CAROLINA DIVISION
FINAL NATIONWIDE SECTION 4(f) EVALUATION AND APPROVAL
FOR FEDERALLY-AIDED HIGHWAY PROJECTS
THAT NECESSITATE THE USE OF HISTORIC BRIDGES

TIP Project No.	B-4307
State Project No.	8.1411001
W.B.S. No.	33644.1.1
Federal Project No.	BRSTP – 401 (145)

Project Description:

This project proposes to replace Bridge No. 4 on US 401 over Shocco Creek in Warren County (See figure 1).

		Yes	No
1.	Is the bridge to be replaced or rehabilitated with Federal funds?	X	☐
2.	Does the project require the use of a historic bridge structure which is on or eligible for listing on the National Register of Historic Places?	X	☐
3.	Is the bridge a National Historic Landmark?	☐	X
4.	Has agreement been reached among the FHWA, the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP) through procedures pursuant to Section 106 of the National Historic Preservation Act (NHPA)?	X	☐

ALTERNATIVES CONSIDERED AND FOUND NOT TO BE FEASIBLE AND PRUDENT

The following alternatives were evaluated and found not to be feasible and prudent:

		Yes	No
1.	Do nothing	X	☐
	Does the "do nothing" alternative:		
	(a) correct the problem situation that caused the bridge to be considered deficient?	☐	X
	(b) pose serious and unacceptable safety hazards?	X	☐

	Yes	No
2. Build a new structure at a different location without affecting the historic integrity of the structure.	X	☐

(a) The following reasons were reviewed: (circle, as appropriate)

(i) The present bridge has already been located at the only feasible and prudent site

and/or (ii) Adverse social, environmental, or economic impacts were noted

and/or (iii) Cost and engineering difficulties reach extraordinary magnitude

and/or (iv) The existing bridge cannot be preserved due to the extent of rehabilitation, because no responsible party will maintain and preserve the historic bridge, or the permitting authority requires removal or demolition.

3. Rehabilitate the historic bridge without affecting the historic integrity of the structure.	X	☐

(a) The following reasons were reviewed: (circle, as appropriate)

(i) The bridge is so structurally deficient that it cannot be rehabilitated to meet the acceptable load requirements and meet National Register criteria

and/or (ii) The bridge is seriously deficient geometrically and cannot be widened to meet the required capacity and meet National Register criteria

MINIMIZATION_OF_HARM

	Yes	No
1. The project includes all possible planning to minimize harm.	X	☐

2. Measures to minimize harm include the following: (circle, as appropriate)

   a. For bridges that are to be rehabilitated, the historic integrity of the bridge is preserved to the greatest extent possible, consistent with unavoidable transportation needs, safety, and load requirements.

   (b.) For bridges that are to be rehabilitated to the point that the historic integrity is affected or that are to be removed or demolished, the FHWA ensures that, in accordance with the Historic American Engineering Record (HAER) standards, or other suitable means developed through consultation, fully adequate records are made of the bridge.

   c. For bridges that are to be replaced, the existing bridge is made available for an alternative use, provided a responsible party agrees to maintain and preserve the bridge.

   d. For bridges that are adversely affected, agreement among the SHPO, ACHP, and FHWA is reached through the Section 106 process of the NHPA on measures to minimize harm and those measures are incorporated into the project.

3. Specific measures to minimize harm are discussed below:

   A photo record of the existing bridge has been performed and submitted for official record.

Note: Any response in a box requires additional information prior to approval. Consult Nationwide 4(f) evaluation.

COORDINATION

The proposed project has been coordinated with the following (attach correspondence):

a. State Historic Preservation Officer	3/15/2005
b. Advisory Council on Historic Preservation	_____
c. Local/State/Federal Agencies	_____
d. US Coast Guard (for bridges requiring bridge permits)	N/A

SUMMARY AND APPROVAL

The project meets all criteria included in the programmatic 4(f) evaluation approved on July 5, 1983.

All required alternatives have been evaluated and the findings made are clearly applicable to this project.

Bridge #4 over Shocco Creek is eligible for the National Register as an example of a once common timber stringer bridge. Timber stringer bridge designs were standard in the late 1920's and 1930's and are characterized as an important example of a workhorse bridge type of the 20th century.

Bridge Maintenance records indicate regular maintenance and replacement of structural members, more specifically the timber substructure and concrete parapets. Deterioration of timber components associated with the substructure is requiring the need for the substructure to be replaced. Replacement of the timber substructure components will require the existing bridge to be completely rebuilt. Replacing a timber structure with a timber structure will not meet the rating requirements for bridge sufficiency. The concrete parapet maintenance is due to an inadequate bridge width, indicating a wider superstructure is required in the area.

Once the deficient components have been replaced, along with the widening of the roadway width, the structure will no longer qualify as historic.

There are no feasible and prudent alternatives to the use of the historic bridge. The project includes all possible planning to minimize harm, and there are assurances that the measures to minimize harm will be incorporated in the project.

All appropriate coordination has been successfully completed.

Approved:

2/28/08 _____
Date
Gregory J. Thorpe, PhD.
Environmental Manager Director, PDEA
NCDOT

2/28/2008 _____
Date
John F. Sullivan, III
for Division Administrator, FHWA

Karen Capps

K Capps

North Carolina Department of Cultural Resources

State Historic Preservation Office

David L. S. Brook, Administrator

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

Division of Historical Resources
David J. Olson, Director

RECEIVED
JUL 1 2003
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH

June 25, 2003

MEMORANDUM

TO: Greg Thorpe, Manager
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: David Brook RSB for David Brook

SUBJECT: Replace bridge No. 4 on US 401 over Shocco Creek, B-4307, Warren County, ER03-0976

Thank you for your letter of April 7, 2003, concerning the above project.

We have conducted a search of our maps and files and located the following structure of historical or architectural importance within the general area of this project:

Bridge No. 4 on US 401 over Shocco Creek

We recommend that a Department of Transportation architectural historian identify and evaluate any structures over fifty years of age within the project area, and report the findings to us.

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, 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.

U.S. Department
of Transportation
Federal Highway Administration

310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601

March 31, 2005

North Carolina Division

In Reply Refer To:
HDA-NC

Mr. Don Klima, Director
Eastern Office of Project Review
Advisory Council on Historic Preservation
The Old Post Office Building
1100 Pennsylvania Ave., N.W. # 809
Washington, D.C. 20004

Dear Mr. Klima:

Attached for your records is the Memorandum of Agreement for the project to Replace Bridge 4 on US 401 over Shocco Creek, Warren County, North Carolina, TIP No. B-4307, State Project No. 8.1411001, Federal Aid No. BRSTP-401(145), from the North Carolina Department of Transportation. If you have any questions, please call Jake Riggsbee at 919 856-5350, extension 102.

Sincerely,

/s/Thomas D. "Jake" Riggsbee

For John F. Sullivan, III, P.E.
Division Administrator

Attachment

File: BRSTP-401(145)
Reading File: 5c31op01.tdr
TDRiggsbee:dkr:03/31/05

BUCKLE UP AMERICA

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

FHWA - NC DIVISION
REC'D
MAR 25 2005
DIV ADMIN
ASST DIV ADMIN
SECRETARY
FIN MGR
FIN SPEC
COMP SPEC
PROJ ASST
BRIDGE
ASST BRIDGE
RLTY OFC
DIV PRJTS SPEC
LYNDO TIPPETT
SECRETARY
TO P&E
TO S & S - A
TO S & S - B
P & PD ENG
PROG ASST
ENV SPEC
PL - A
PL - B
PL - C
FACILITY SPEC
OPS ENG
ADMIN ASST
AAE / TR
A - 1
A - 2
A - 3
A - 4
ENG COORD
P & M ENG
FILE
TRASH

March 22, 2005

John F. Sullivan, III, P.E.
Division Administrator
Federal Highway Administration
Department of Transportation
310 New Bern Avenue
Raleigh, NC 27601

Dear Mr. Sullivan:

RE: **Memorandum of Agreement (MOA),** Replace Bridge No. 4 on US 401 over Shocco Creek, Warren County, North Carolina, TIP No. B-4307, WBS No. 33644.1.1, State Project No. 8.1411001, Federal Aid No. BRSTP-401(145).

The above-referenced 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 codified at 36 CFR Part 800. Enclosed is the Memorandum of Agreement (MOA) required for the resolution of adverse effects.

After consultation with the North Carolina State Historic Preservation Office, it was determined that the subject project would have an adverse effect on Bridge No. 4, determined eligible for listing in the National Register of Historic Places. Subsequently, a MOA has been drafted to mitigate the effects of the proposed undertaking on Bridge No. 4. Please review and sign the MOA and forward it to the Advisory Council for their files. This filing is the formal conclusion of the Section 106 process and must occur before the undertaking is approved.

If you have any questions concerning the accompanying information, please contact Mary Pope Furr, Historic Architecture Section, at (919) 715-1620.

Sincerely,

Carl B. Goode, P.E., Manager
Office of Human Environment

CBG/mpf
Attachments
cc: Teresa A. Hart, P.E., C.P.M., Project Development Manager

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
OFFICE OF HUMAN ENVIRONMENT
1583 MAIL SERVICE CENTER
RALEIGH NC 27699-1583

TELEPHONE: 919-715-1500
FAX: 919-715-1522

WEBSITE: WWW.NCDOT.ORG

LOCATION:
PARKER LINCOLN BUILDING
2728 CAPITAL BOULEVARD, SUITE 168
RALEIGH, NC 27604

MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL HIGHWAY ADMINISTRATION
AND
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER
FOR
TIP No. B-4307
REPLACE BRIDGE NO. 4 OVER SHOCCO CREEK
WARREN COUNTY, NC

WHEREAS, the Federal Highway Administration (FHWA) has determined that the replacement of Bridge No. 4 over Shocco Creek on US 401 in Warren County, North Carolina (the Undertaking) will have an effect upon Warren County Bridge No. 4, a property determined eligible for listing in the National Register of Historic Places, and has consulted with the North Carolina State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, the North Carolina Department of Transportation (NCDOT) participated in the consultation and has been invited to concur in this Memorandum of Agreement;

NOW, THEREFORE, FHWA and the North Carolina SHPO agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the Undertaking on the historic property.

STIPULATIONS

FHWA will ensure that the following measures are carried out:

I. Warren County Bridge No. 4

A. Recordation: Prior to the removal and relocation of Bridge No. 4, NCDOT shall record the existing condition of the bridge and its surroundings in accordance with the attached Historic Structures and Landscape Recordation Plan [Appendix A].

II. Dispute Resolution: Should the North Carolina SHPO object within (30) days to any plans or documentation provided for review pursuant to this agreement, FWHA shall consult with the North Carolina SHPO to resolve the objection. If FHWA or the North Carolina SHPO determines that the objection cannot be resolved, FHWA shall forward all documentation relevant to the dispute to the Advisory Council on Historic Preservation (Council). Within thirty (30) days after receipt of all pertinent documentation, the Council will either:

A. Provide FHWA with recommendations which FHWA will take into account in reaching a final decision regarding the dispute, or

B. Notify FHWA that it will comment pursuant to 36 CFR Section 800.7(c) and proceed to comment. Any Council comment provided in response to such a request will be taken into account by FHWA in accordance with 36 CFR Section 800.7 (c) (4) with reference to the subject of the dispute.

Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute; FHWA's responsibility to carry out all the actions under this agreement that are not the subject of the dispute will remain unchanged.

Execution of this Memorandum of Agreement by FHWA and the North Carolina SHPO, its subsequent filing with the Advisory Council on Historic Preservation, and implementation of its terms evidence that FHWA has afforded the Council an opportunity to comment on the Replacement of Bridge No. 4 over Shocco Creek, Warren County, North Carolina and its effects on Bridge No. 4, and that FHWA has taken into account the effects of the Undertaking on the historic bridge.

AGREE:

Thomas D. Rizzolo, P.E.

FEDERAL HIGHWAY ADMINISTRATION — DATE

Jeffrey J. Crow 3/15/05

NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER — DATE

CONCUR:

02/08/05

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION — DATE

FILED BY:

ADVISORY COUNCIL ON HISTORIC PRESERVATION — DATE

APPENDIX A

Historic Structures and Landscape Recordation Plan
For Bridge No. 4 over Shocco Creek
Warren County, North Carolina
TIP No. B-4307
State Project No. 8.1411001
Federal Aid No. BRSTP-401(145)

Photographic Requirements

- Overall views of the project area, showing the relationship of the bridge to setting
- Overall views of the bridge (elevations and oblique views)
- Selected photographic views of the bridge, including details of the timber piers and bridge plate (if present)
- Views under the bridge – as accessible

Photographic Format

- Color slides (all views)
- 35 mm or larger black and white negatives (all views)
- Two (2) sets of black and white contact sheets (all views)
- All processing to be done to archival standards
- All photographs and negatives to be labeled according to Division of Archives and History standards

Copies and Curation

One (1) set of all photographic documentation will be deposited with the North Carolina Division of Archives and History/State Historic Preservation Office to be made a permanent part of the statewide survey and iconographic collection. One contact sheet shall be deposited in the files of the Historic Architecture Section of NCDOT.

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

RECEIVED
SEP
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS BRANCH

September 19, 2005

MEMORANDUM

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

FROM: Peter Sandbeck pbk for Peter Sandbeck

SUBJECT: Historic Structures and Landscape Recordation Plan, Bridge 4 on US 401 over Shocco Creek, B-4307, Warren County, ER 03-0976

Thank you for the transmission of the photographic documentation for the above project.

This information is provided in accordance with the Memorandum of Agreement and will become a permanent part of the Division of Archives and History/State Historic Preservation Office's statewide survey and iconographic collection.

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, 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

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

RECEIVED

September 19, 2005

MEMORANDUM

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

FROM: Peter Sandbeck PBS for Peter Sandbeck

SUBJECT: Historic Structures and Landscape Recordation Plan, Bridge 4 on US 401 over Shocco Creek, B-4307, Warren County, ER 03-0976

Thank you for the transmission of the photographic documentation for the above project.

This information is provided in accordance with the Memorandum of Agreement and will become a permanent part of the Division of Archives and History/State Historic Preservation Office's statewide survey and iconographic collection.

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cc: Mary Pope Furr, NCDOT