STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

November 14, 2007

US Army Corps of Engineers
Raleigh Field Office
6508 Falls of Neuse Road, Suite 120
Raleigh, NC 27615-6814

ATTENTION: Eric Alsmeyer
NCDOT Coordinator

Dear Sir:

Subject: **Application for Section 404 Nationwide Permits 23 and 33, Section 401 Water Quality Certification, and Tar-Pamlico Riparian Buffer Authorization** for the replacement of Bridge No. 42 over Shocco Creek on SR 1613 (Shocco Springs Road), Warren County. Federal Aid Project Number BRZ-1613(2), WBS No. 33649.1.1, State Project No. 8.2411001, Division 5, T.I.P No. B-4312

The North Carolina Department of Transportation (NCDOT) proposes to replace the 54-foot, Bridge No. 42 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 existing bridge is currently in poor condition and in need of replacement. The new bridge is intended to provide a safer bridge structure consistent with federal and state bridge standards.

The proposed structure will be a single span 39-inch box beam bridge approximately 100-feet in length. The proposed bridge has 33-feet of clear roadway and will provide two travel lanes. The travel lanes will be 11-feet wide with a 3-foot offset left and 8-foot offset right. The existing approach roadway will be widened to a 22-foot pavement width to provide two 11-foot lanes. 6-foot shoulders will be provided on each side. The proposed bridge will span Shocco Creek; no bents will be located within the channel. Please see the enclosed pre-construction notification, Approved Jurisdictional Determination Forms, U.S. Fish and Wildlife (USFWS) concurrence letter, permit drawings, and design plans for the subject project. A Categorical Exclusion (CE) was completed for this project in May 2007 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. Two wetlands and two jurisdictional streams, Shocco Creek and a perennial unnamed tributary to Shocco Creek (UT1), will be impacted by the proposed project. A Notification of Jurisdictional Determination (JD) was issued for these features on

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

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. Shocco Creek has a best usage classification of C NSW. UT1 does not have separate best usage classification and therefore share that of its receiving waters, Shocco Creek.

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.

Permanent Impacts

There will be 0.04 acre of permanent riverine wetland impacts resulting from mechanized clearing in the wetlands located southwest (Site 1) and northwest (Site 2) of the existing bridge. Mechanized clearing is necessary to provide access for equipment, installation of erosion control devices and for construction of the bridge and the new fill slopes.

There will be 0.01 acre of permanent fill in riverine wetlands (Site 2) resulting from the construction of a rip rap abutment and fill slopes.

There will be 15 linear feet of impacts to the UT1 resulting from the placement of fill on the channel bank for bank stabilization (Site 3). The fill is necessary to stabilize the banks following the removal of the existing wing wall.

Temporary Impacts

There will be no temporary impacts to wetlands or streams resulting from construction of the proposed bridge.

Utility Impacts

The proposed project will impact aerial telephone and power lines. One pole is located within wetlands and will be extracted by a truck located on the bridge. Hand clearing will be performed, if necessary, to aid in the removal of the existing pole. The aerial telephone lines will be relocated underground via directional bore and resulting in no impacts to jurisdictional areas. Power lines will be relocated east of the bridge, requiring a 15-foot permanently maintained utility easement, resulting no impacts to jurisdictional areas. The permanent utility easement (PUE) will begin at station 18+30, it will be 15 ft wide and will parallel the proposed right of way to station 24+90, resulting in no impacts to jurisdictional areas.

Bridge Demolition

The existing Bridge No. 42 was built in 1953 and is 54-feet in length. It is a three span structure that consists of timber floor on timber joists with an asphalt wearing surface. The end bents and interior bents consist of timber caps on timber piles. There are two bents located in the water.

During the removal of the old bridge, the Contractor will be required to pull out the existing timber piles. In the event that the piles break off in this process, the contractor will cut off the piles flush with natural ground or natural stream bed level.

There is a small potential for components of Bridges No. 42 to be dropped into Waters of the United States during bridge removal. The maximum potential temporary fill is 25 cubic yards that will be immediately removed. 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. UT1 is not depicted on USGS topographic map or NRCS soil survey mapping for Warren County and is therefore not subject to the Tar-Pamlico Buffer Rules. Construction of the new bridge and approaches will result in impacts to the buffers of Shocco Creek. Buffer impacts are described in Table 1 below.

Table 1. Tar-Pamlico River Buffer Impacts

	Bridge	Road Crossing	Overhead Electric Utility Line Perpendicular Crossings of Stream
Zone 1 Impact (sq. ft)	4423	186	900
Zone 2 Impact (sq. ft)	680	1857	600
Mitigation requirements (exempt, allowable or allowable with mitigation)	Allowable	Allowable (impacts less than 150 linear feet or one-third of an acre).*	Exempt (impacts less than 150 linear feet).**

* Approximately 90 linear feet of road crossing impacts; **Approximately 15 linear feet of overhead electric utility crossing.

Under the Tar-Pamlico Buffer Rules, impacts to buffers resulting from the construction of bridges are allowable. Impacts resulting from construction of the approaches are allowable because the impacts do not exceed 150 linear feet or one-third of an acre.

Utility Impacts to Riparian Buffers

The proposed project will impact aerial telephone and power lines. Poles currently located within the buffers will be extracted by a truck located on the bridge. The aerial telephone lines will be relocated underground via directional bore and resulting in no impacts to the buffer areas. Power lines will be relocated east of the bridge, requiring a 15-foot permanently maintained utility easement, resulting in impacts to buffers. The permanent utility easement (PUE) will begin at station 18+30, it will be 15 ft wide and will parallel the proposed right of way to station 24+90. Under the Tar-Pamlico Buffer Rules, impacts to buffers resulting from the perpendicular crossings of streams of overhead utility lines that disturb equal to or less than 150 linear feet of riparian buffer are exempt.

No Practical Alternative Analysis

The project area has been evaluated and there are no practical alternatives to replacing the bridge. This bridge has been determined to be structurally deficient and functionally obsolete. The replacement of this inadequate structure will result in safer and more efficient traffic operations. Because this bridge needs to be replaced, impacts to the riparian buffers are unavoidable.

All non-maintained riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the pre-construction contours and revegetated with native woody species.

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 Neuse 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.
- Preformed scour holes located southeast and northeast of the proposed bridge will be utilized to reduce stormwater impacts.
- The proposed bridge will span Shocco Creek with no bents located in the channel.
- The proposed bridge will be 46-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.
- All non-maintained riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the pre-construction contours and revegetated with native woody species.

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*).

- "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.
- All sedimentation and erosion control measures, throughout the project limits, must be cleaned out when ½ full with sediment, to ensure proper function of the measures.

Compensatory Mitigation:

The total impacts to jurisdictional resources are minimal with less than 0.1 acre of impacts to jurisdictional wetlands and less than 150 linear feet of impacts to the UT of Shocco Creek, therefore, no mitigation is proposed.

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
Bald eagle	*Haliaeetus leucocephalus*	Delisted	Not required	No
Tar spinymussel	*Elliptio steinstansana*	E	May affect, not likely to adversely affect	Yes
Dwarf wedgemussel	*Alasmidonta heterodon*	E	May affect, not likely to adversely affect	Yes

*E= endangered, T=threatened

The bald eagle, though still listed on the USFWS website, was officially delisted on August 8, 2007. However, bald eagle still receives protection under the Bald and Golden Eagle Protection Act. The stream at this location is not large enough to provide suitable foraging habitat for the bald eagle and there are no large streams or lakes within 1-mile of the project area, therefore, no surveys are required (G. Jordan, personal communication, April 3, 2006).

Surveys for the Tar spinymussel and the dwarf wedgemussel were conducted in November 2004. During the 2.9 man-hour survey 3 live eastern elliptio were observed. No specimens of dwarf wedgemussel or Tar spinymussel were observed. Habitat within the project area is marginal for the Tar spinymussel. North Carolina Natural Heritage Program (NCNHP) records (updated October 8, 2007) 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. USFWS originally provided written concurrence on October 2, 2006. Subsequently, additional discussions clarified NCDOT's environmental commitments, and a revised concurrence letter was issued on May 2, 2007 (attached).

Habitat within the project area appears suitable for the dwarf wedgemussel. Well documented populations of dwarf wedgemussel are existing in Shocco Creek upstream and downstream of the project area, NCNHP records indicate that three know populations of dwarf wedgemussel occur within 1-mile of the existing bridge. However, the low numbers of the eastern elliptio, which are usually common in streams with little human influence, indicate that some unknown impact, possibly historic, has influenced the site (B-4312 Biological Evaluation, August 2006).

Due to the cryptic nature of freshwater mussels it is often difficult to determine the presence with a single survey effort, therefore, NCDOT will conduct another survey just prior to construction in June 2008. In the event that the dwarf wedgemussel is found in the project area, NCDOT will request a consultation with USFWS. Therefore, based on the presence of suitable habitat and known populations of dwarf wedgemussel

Due to the cryptic nature of freshwater mussels it is often difficult to determine the presence with a single survey effort, therefore, NCDOT will conduct another survey just prior to construction in June 2008. In the event that the dwarf wedgemussel is found in the project area, NCDOT will request a consultation with USFWS. Therefore, based on the presence of suitable habitat and known populations of dwarf wedgemussel within 1-mile of the project area, a biological conclusion of "May affect, not likely to adversely affect" has been issued. USFWS originally provided written concurrence on October 2, 2006. Subsequently, additional discussions clarified NCDOT's environmental commitments, and a revised concurrence letter was issued on May 2, 2007 (attached).

SCHEDULE

The project calls for a letting of July 17, 2008 (review date of May 27, 2008) with a date of availability of August 28, 2008. It is expected that the contractor will choose to start construction in August.

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 these activities be authorized by a Nationwide Permit 23 and 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. This project will impact Tar-Pamlico Riparian Buffers and written concurrence will be required. In accordance with 15A NCAC 2H, Section .0500(a) and 15A NCAC 2B.0200 we are providing five copies of this application to the North Carolina Department of Environment and Natural Resources, Division of Water Quality, for their review.

Buffer Certification: This project has been designed to comply with the Tar-Pamlico Riparian Buffer Regulations (15A NCAC 2B.0259). NCDOT requests a Tar-Pamlico Riparian Buffer Authorization from the Division of Water Quality. This project has been reviewed for jurisdiction under the Federal Clean Water Act (CWA).

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,

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

w/attachment
Mr. John Hennessy, NCDWQ (5 Copies)
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Dr. David Chang, P.E., Hydraulics
Mr. Mark Staley, Roadside Environmental
Mr. Greg Perfetti, P.E., Structure Design
Mr. Victor Barbour, P.E., Project Services Unit
Mr. J. Wally Bowman, PE., Division Engineer
Mr. Chris Murray, DEO

w/o attachment
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Mr. Tracy Walter, PDEA

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

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 42 on SR 1613 over Shocco Creek

2. T.I.P. Project Number or State Project Number (NCDOT Only): B-4312

3. Property Identification Number (Tax PIN): _____

4. Location
   County: Warren Nearest Town: Warrenton
   Subdivision name (include phase/lot number): _____
   Directions to site (include road numbers/names, landmarks, etc.): US 401 to Pritchard, left onto Shocco Springs Road.

5. Site coordinates (For linear projects, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
   Decimal Degrees (6 digits minimum): 36.2939 °N 78.2178°W

6. Property size (acres): N/A

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

8. River Basin: Tar-Pamlico
   (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 a rural area that consists mainly of forested land with some agriculutre and residential development.

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

Bridge No. 42 will be replaced on existing location with a 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 detiorating 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	Mechanized clearing	Riverine	Yes	50	0.01
Site 2	Mechanized clearing	Riverine	Yes	50	0.03
Site 2	Roadway fill	Riverine	Yes	50	0.01
Total Wetland Impact (acres)					0.05

3. List the total acreage (estimated) of all existing wetlands on the property: 0.9 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)
Site 3	UT to Shocco Creek	Bank Stabilization	Perennial	8 feet	15	0.01
Total Stream Impact (by length and acreage)					15	0.01

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):	0.01
Wetland Impact (acres):	0.05
Open Water Impact (acres):	0
Total Impact to Waters of the U.S. (acres)	0.06
Total Stream Impact (linear feet):	15

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 is not proposed for this project.

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
   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	5103	3 (2 for Catawba)	0
2	2043	1.5	0
Total	7146		0

* 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. Lusk 11-15-07

Applicant/Agent's Signature **Date**
(Agent's signature is valid only if an authorization letter from the applicant is provided.)

cc: L. Williams mcLamb

United States Department of the Interior

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

May 2, 2007

Gregory J. Thorpe, Ph.D.
North Carolina Department of Transportation
Project Development and Environmental Analysis
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Dr. Thorpe:

This letter is in response to your letter of April 27, 2007 and attached biological evaluation which provided the U.S. Fish and Wildlife Service (Service) with the biological determination of the North Carolina Department of Transportation (NCDOT) that the replacement of Bridge No. 42 on SR 1613 over Shocco Creek in Warren County (TIP No. B-4312) may affect, but is not likely to adversely affect the federally endangered dwarf wedgemussel (*Alasmidonta heterodon*) and Tar spinymussel (*Elliptio steinstansana*). Also, NCDOT has determined that the project will have no effect on the federally threatened bald eagle (*Haliaeetus leucocephalus*). These comments are provided in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

The Service previously provided concurrence via a letter dated October 2, 2006. Subsequently, additional discussions further clarified NCDOT's environmental commitments. Our previous concurrence with your determination that the project may affect, but is not likely to adversely affect the dwarf wedgemussel and Tar spinymussel, and that the project will have no effect on the bald eagle is still valid. That concurrence is based, in part, on the following revised commitments:

- "Environmentally Sensitive Areas", defined as a 50-foot buffer zone on both sides of the stream measured from the 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 Environmental Sensitive Areas, work shall progress in a continuous manner until complete.
- In areas identified Environmentally Sensitive Areas, erosion control devices shall be installed immediately following the clearing operation.

- In areas identified 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.
- All sedimentation and erosion control measures, throughout the project limits, must be cleaned out when ½ full with sediment, to ensure proper function of the measures.
- Sedimentation and erosion control measures shall adhere to the Design Standards in Sensitive Watersheds [15A NCAC 04B.0124 (b)-(e)].
- The proposed bridge will span Shocco Creek.
- A preconstruction survey for dwarf wedgemussel and Tar spinymussel will be conducted prior to project letting.

We believe that the requirements of section 7(a)(2) of the ESA have been satisfied. We remind you that obligations under section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered in this review; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action.

The Service appreciates the opportunity to review this project. If you have any questions regarding our response, 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
Rob Ridings, NCDWQ, Raleigh, NC
Travis Wilson, NCWRC, Creedmoor, NC
Chris Militscher, USEPA, Raleigh, NC
John Sullivan, FHWA, Raleigh, NC
David Harris, NCDOT, Raleigh, NC

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State:North Carolina County/parish/borough: Warren City: Elberton
Center coordinates of site (lat/long in degree decimal format): Lat. 36.2876° N, Long. 78.1857° W.
Universal Transverse Mercator:
Name of nearest waterbody: Shocco Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Shocco Creek
Name of watershed or Hydrologic Unit Code (HUC): 03020102
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☐ Office (Desk) Determination. Date:
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: Historically used to float tobacco down to the tar river, also some recreational fishing is known to occur along some reaches.

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** *"waters of the U.S."* within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☒ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Pick List**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: .

---

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW: **Shocco Creek.**

   Summarize rationale supporting determination: see explanation in Section II A.

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent": Wetlands are located with the floodplain of Shocco Creek.

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) General Area Conditions:
   Watershed size: **Pick List**
   Drainage area: **Pick List**
   Average annual rainfall: inches
   Average annual snowfall: inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through **Pick List** tributaries before entering TNW.

   Project waters are **Pick List** river miles from TNW.
   Project waters are **Pick List** river miles from RPW.
   Project waters are **Pick List** aerial (straight) miles from TNW.
   Project waters are **Pick List** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: .

   Identify flow route to TNW[5]: .
   Tributary stream order, if known: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

---

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   - ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   - ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   - ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

---

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:USGS Afton, 1993.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☐ Photographs: ☐ Aerial (Name & Date): .
or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

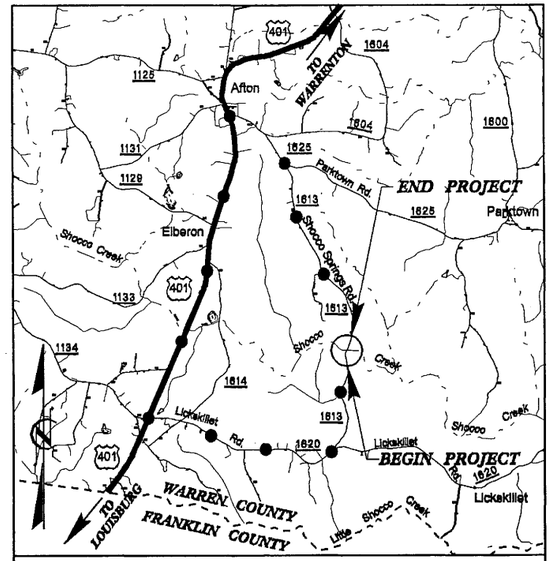
B. ADDITIONAL COMMENTS TO SUPPORT JD: Shocco Creek and the associated wetlands depicted on the provided plan sheets were verified by USACE representative Eric Alsmeyer on January 2, 2002. Soil mapping were provided to USACE in the previous request for a jurisdictional determination.

09/06/99

TIP PROJECT: B-4312

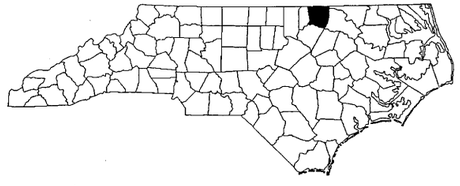
CONTRACT:

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-4312	1	

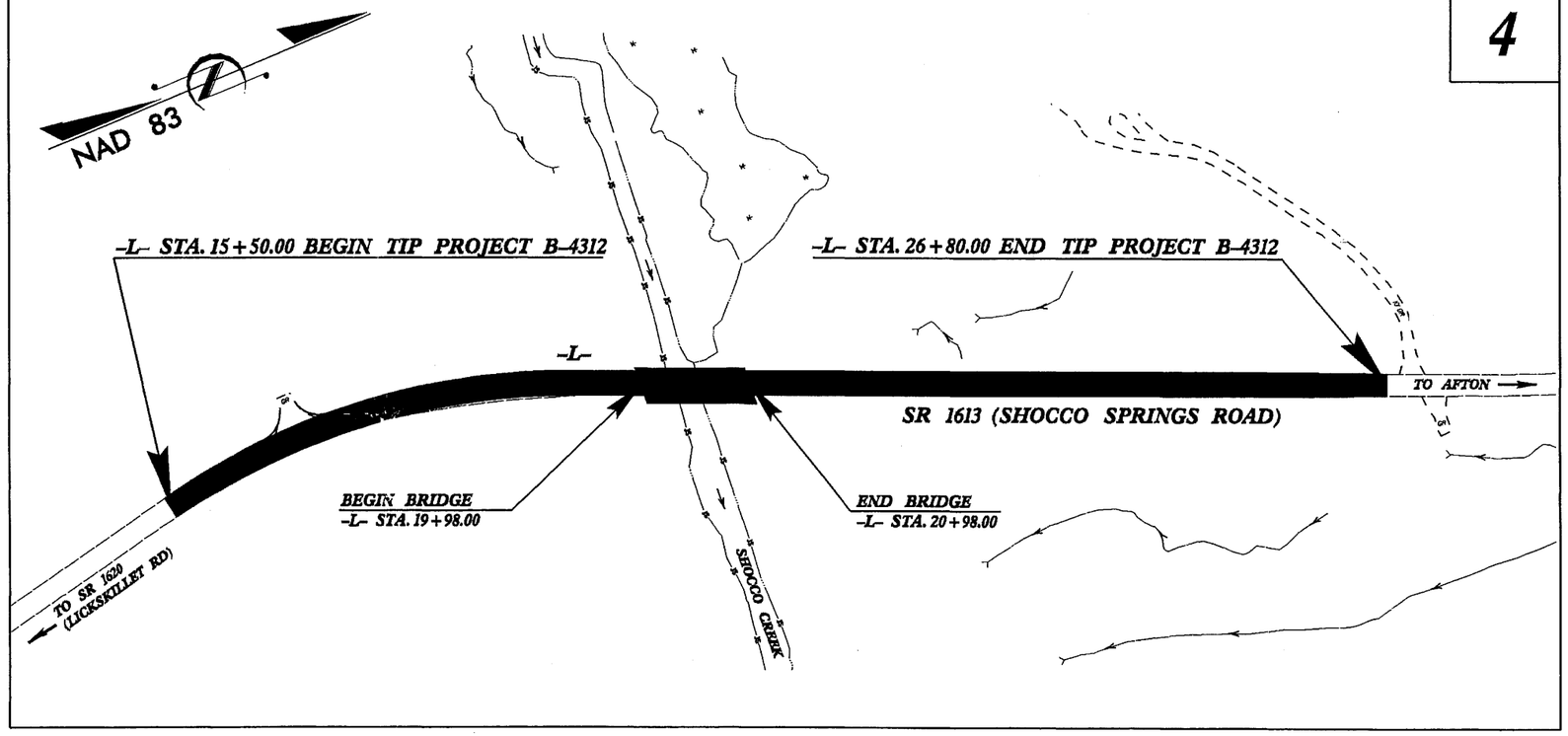
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33649.1.1	BRZ-1613(2)	P.E.
33649.2.1	BRZ-1613(2)	R/W, UTIL.

LOCATION: BRIDGE NO. 42 OVER SHOCCO CREEK AND APPROACHES ON SR 1613 (SHOCCO SPRINGS ROAD)

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

Permit Drawing Sheet 1 of 4

4



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

** *DESIGN EXCEPTIONS FOR HORIZONTAL ALIGNMENT, HORIZONTAL STOPPING SIGHT DISTANCE, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.*

WETLAND PERMIT

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 = 400
ADT 2030 = 700
DHV = 14 %
D = 60 %
*T = 3 %
**V = 60 MPH
* (TTST 1 %+DUAL 2 %)
FUNC. CLASS. = RURAL LOCAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4312 = 0.195 MILE
LENGTH STRUCTURE TIP PROJECT B-4312 = 0.019 MILE
TOTAL LENGTH TIP PROJECT B-4312 = 0.214 MILE

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: June 27, 2007

LETTING DATE: July 15, 2008

GLENN W. MUMFORD, P.E.
PROJECT ENGINEER

JEFFREY L. TEAGUE, 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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r:\roadway\proj\b4312_rdy_tsh.dgn
pfisher AT H1233584

10/25/05

PROJECT REFERENCE NO.	SHEET NO.
B-4312	1-B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Permit Drawing Sheet 2 of 7

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- 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 — PI
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- 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
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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 — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
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- 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
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GAS:

- Gas Valve
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- Recorded U/G Gas Line — G
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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:

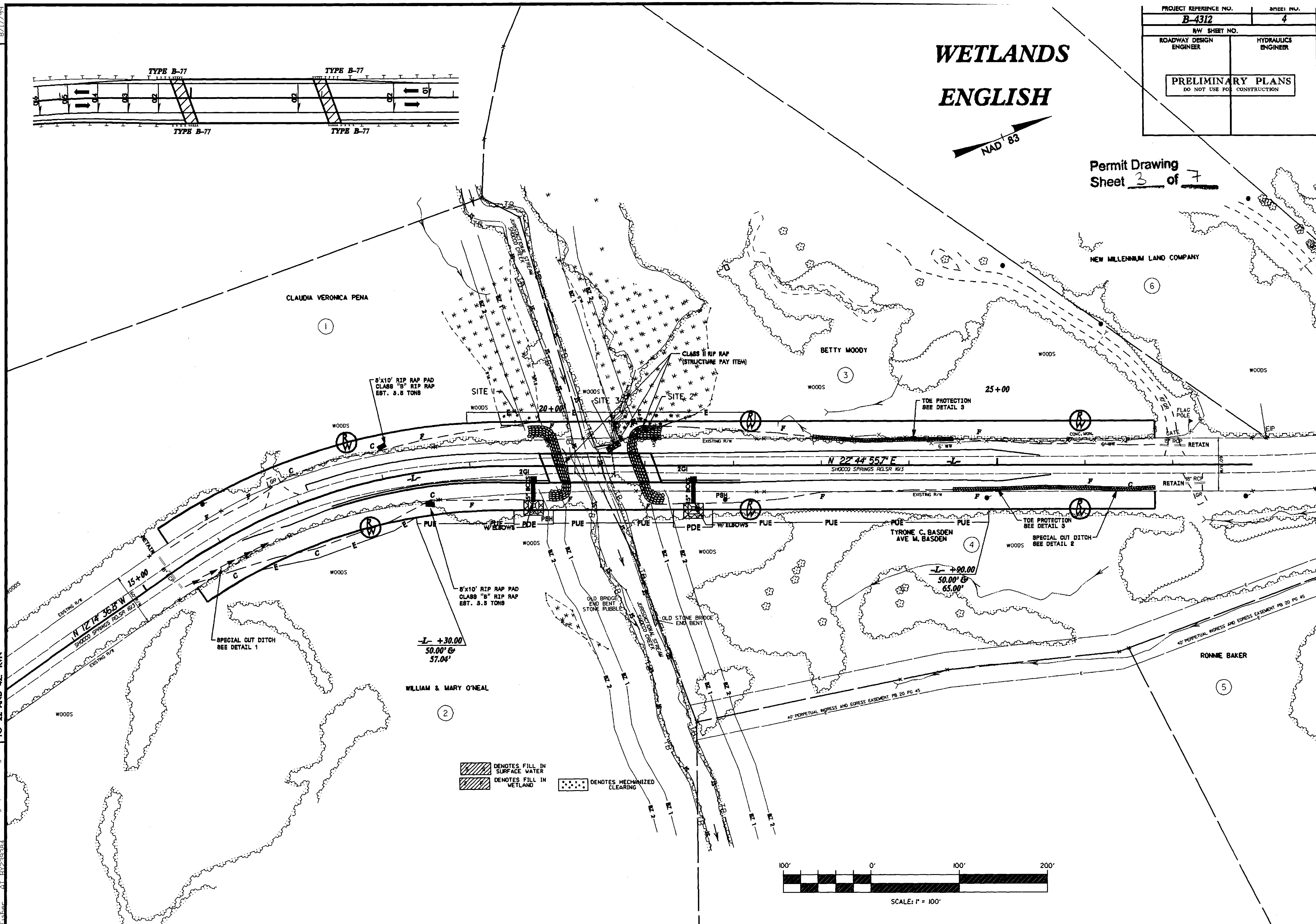
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

8/17/99

REVISIONS

10-04-07 RIGHT OF WAY REVISION: PROPERTY OWNER NAME HAS BEEN CHANGED ON PARCEL 1. RCB

11-06-07 RIGHT OF WAY REVISIONS: TEMPORARY CONSTRUCTION EASEMENTS HAVE BEEN DELETED BETWEEN STA. 19+00 AND 19+50 RT. OF -L- ON PARCEL 2 AND BETWEEN STA. 21+76 AND 22+30 RT. OF -L- ON PARCEL 4. PERMANENT UTILITY EASEMENTS HAVE BEEN ADDED TO PARCELS 2 AND 4. PARCEL NUMBERS 2 AND 4 HAVE BEEN CHANGED TO 2Z AND 4Z. KVN



PROJECT REFERENCE NO. B-4312
SHEET NO. 4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
WETLANDS
ENGLISH
NAD 83
Permit Drawing Sheet 3 of 7
TYPE B-77
CLAUDIA VERONICA PENA
NEW MILLENNIUM LAND COMPANY
BETTY MOODY
WILLIAM & MARY O'NEAL
TYRONE C. BASDEN
AVE M. BASDEN
RONNIE BAKER
SITE 1
SITE 2
SITE 3
8'x10' RIP RAP PAD
CLASS "B" RIP RAP
EST. 5.5 TONS
CLASS II RIP RAP
(STRUCTURE PAY ITEM)
TOE PROTECTION
SEE DETAIL 3
SPECIAL CUT DITCH
SEE DETAIL 1
SPECIAL CUT DITCH
SEE DETAIL 2
N 22° 44' 55.7" E
N 12° 14' 36.5" W
SHOCCO SPRINGS RD. SR 1613
EXISTING R/W
20+00
25+00
15+00
-L- +30.00
50.00' & 57.04'
-L- +90.00
50.00' & 65.00'
OLD BRIDGE END BENT STONE RUBBLE
OLD STONE BRIDGE END BENT
JURISDICTIONAL STREAM
SHOCCO CREEK
40' PERPETUAL INGRESS AND EGRESS EASEMENT PB 20 PG 45
RETAIN
18" RCP
FLAG POLE
GATE
WOODS
DENOTES FILL IN SURFACE WATER
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
SCALE: 1" = 100'

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PROJECT REFERENCE NO.	SHEET NO.
B-4312	4

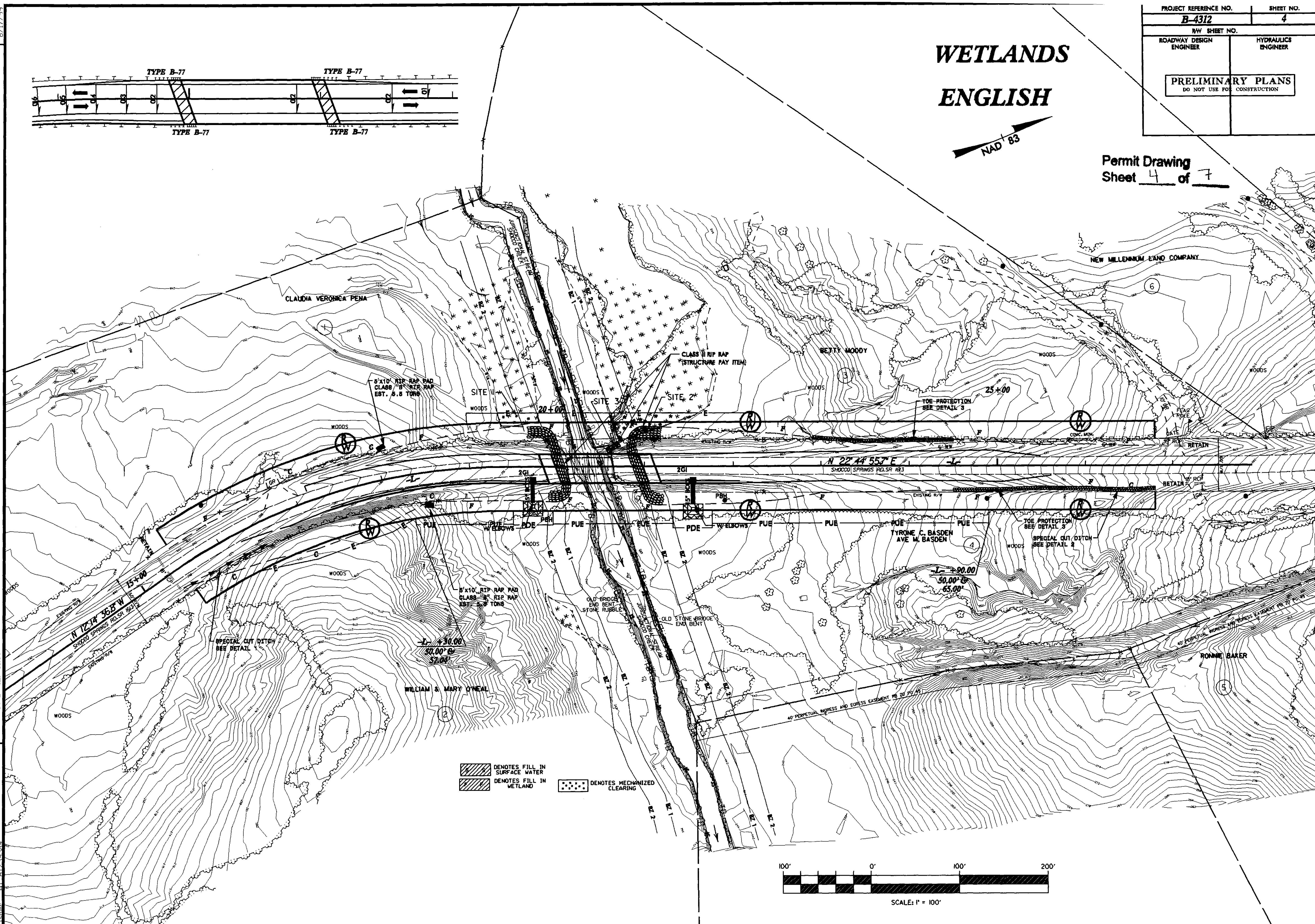
R/W SHEET NO.

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

WETLANDS
ENGLISH

Permit Drawing
Sheet 4 of 7



TYPE B-77
NAD 83
NEW MILLENNIUM LAND COMPANY
CLAUDIA VERONICA PENA
BETTY MOODY
CLASS II RIP RAP
(STRUCTURE PAY ITEM)
5'x10' RIP RAP PAD
CLASS "B" RIP RAP
EST. 5.5 TONS
SITE 1
SITE 3
SITE 2
TOE PROTECTION
SEE DETAIL 3
25+00
20+00
15+00
N 22°44'55.2" E
N 12°14'36.8" W
SHOCCO SPRINGS RD.SR 1613
WOODS
TYRONE C. BASDEN
AVE M. BASDEN
SPECIAL CUT DITCH
SEE DETAIL 2
OLD BRIDGE
END BENT
STONE RUBBLE
OLD STONE BRIDGE
END BENT
JURISDICTIONAL STREAM
SHOCCO CREEK
WILLIAM & MARY O'NEAL
RONNIE BAKER
40' PERPETUAL INGRESS AND EGRESS EASEMENT
DENOTES FILL IN SURFACE WATER
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
SCALE: 1" = 100'

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8/17/99

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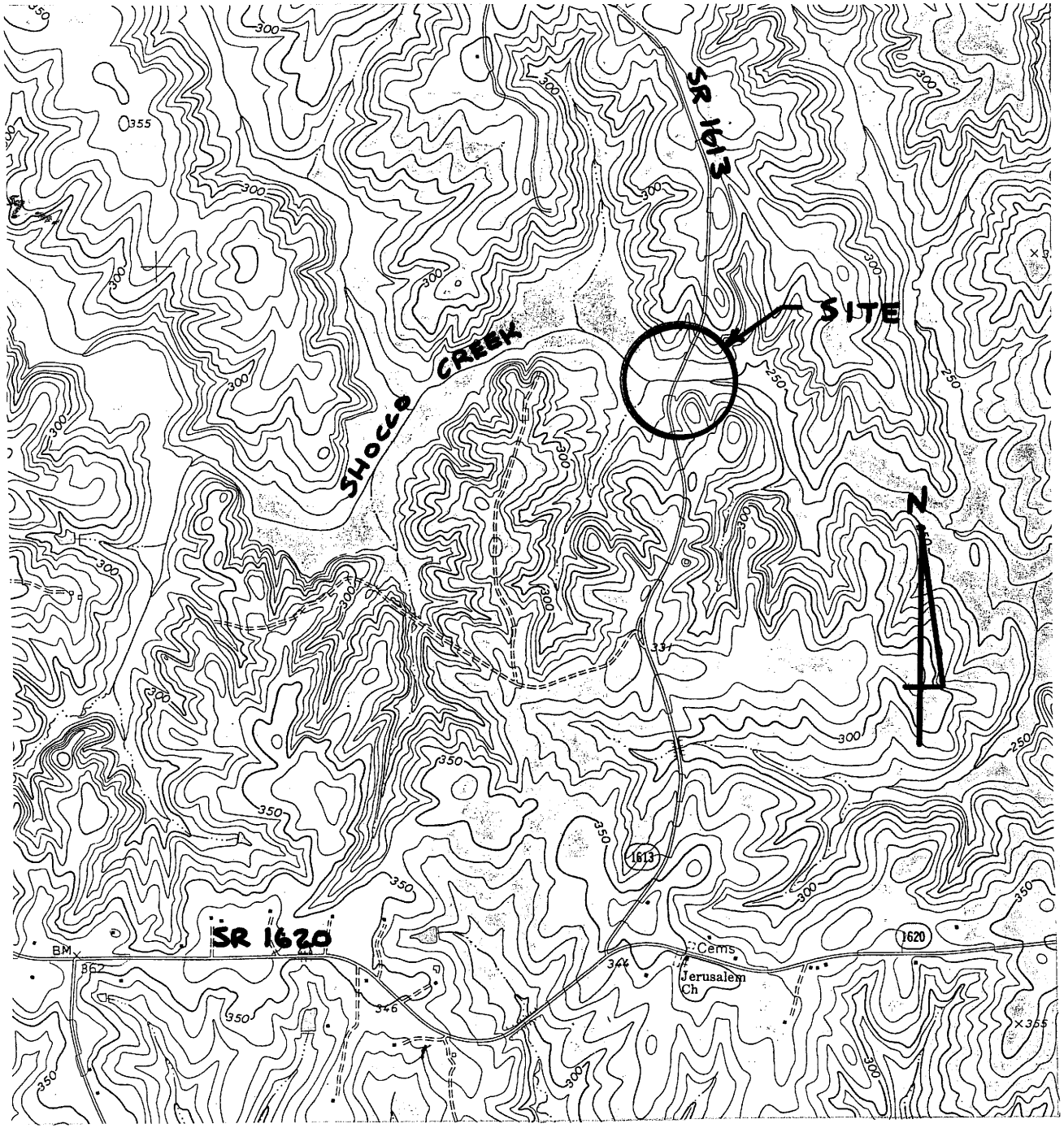


USGS QUAD MAP
SCALE: 1" = 2000'

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

WARREN COUNTY
WBS - 33649.1.1 (B-4312)

SHEET 5 of 7 9/12/2007

ATN Revised 3/31/05

Property Owner Contact Report

TIP # *B-4312*

Owner Last Name/ Business	Owner First Name	Address	City/Town	State	Zip Code	Contact/ Relationship	Home Phone	Contacted By	Contact Date	How Contacted	Comments
Baker	Ronnie	214 Lily Street - Apt. No. 1	Paterson	NJ	07522			C. King	7/18/2005	Letter	
Baker	Wardell	966 Madison Avenue	Paterson	NJ	07501			C. King	7/18/2005	Letter	
Baker	Wardell	966 Madison Avenue	Paterson	NJ	07501			C. King	7/18/2005	Letter	
Basden	Tyrone	5413 Walton Hill	Knightdale	NC	27545			C. King	7/18/2005	Letter	
Boyd	Jenny	792 Shocco Springs Road	Warrenton	NC	27589			C. King	7/18/2005	Letter	
Moody	Betty	814 Shocco Springs Road	Warrenton	NC	27589		(252) 257-4537	C. King	7/18/2005	Letter	
New Millenium Land Company		102 Court Street	Oxford	NC	27565			C. King	7/18/2005	Letter	
New Millennium Land Company		102 Court Street	Oxford	NC	27565			C. King	7/18/2005	Letter	
O'Neal	William	P.O. Box 461	Louisburg	NC	27549			C. King	7/18/2005	Letter	
Pena	Manuel	156 Liberty Lane	Clayton	NC	27520			C. King	7/18/2005	Letter	
Walden	Annie	767 Shocco Springs Road	Warrenton	NC	27589			C. King	7/18/2005	Letter	
Williams	Susan	745 Shocco Springs Road	Warrenton	NC	27589			C. King	7/18/2005	Letter	Permit Drawing Sheet 6 of 7
Williams	Susan	745 Shocco Springs Road	Warrenton	NC	27589			C. King	7/18/2005	Letter	

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	19+35 to 19+80 (Lt.)	Bridge	0.00			0.01		0.00		0		
2	20+60 to 21+60 (Lt.)	Bridge	0.01			0.03		0.00		0		
3	20+10 to 20+65	Bridge	0.00			0.00		0.01		15		
TOTALS:			0.01			0.04		0.01		15		

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

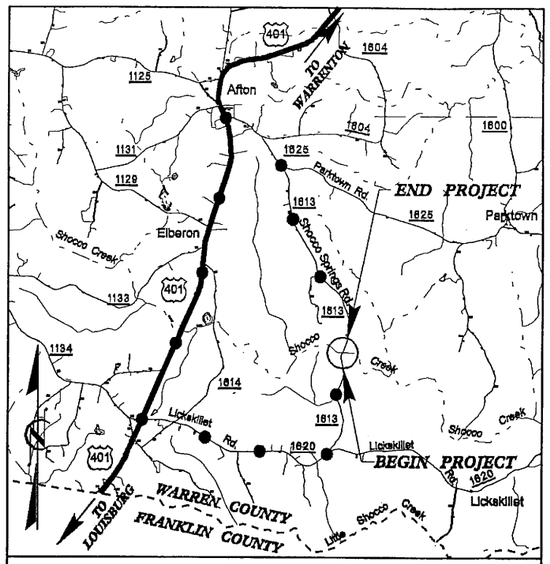
WARREN COUNTY
WBS - 33649.1.1 (B-4312)

SHEET 4 of 7 9/12/2007

ATN Revised 3/31/05

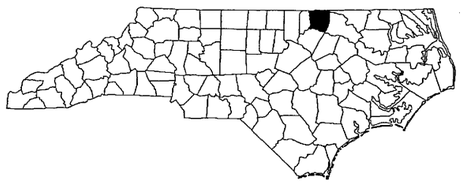
TIP PROJECT: B-4312

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-4312	1	

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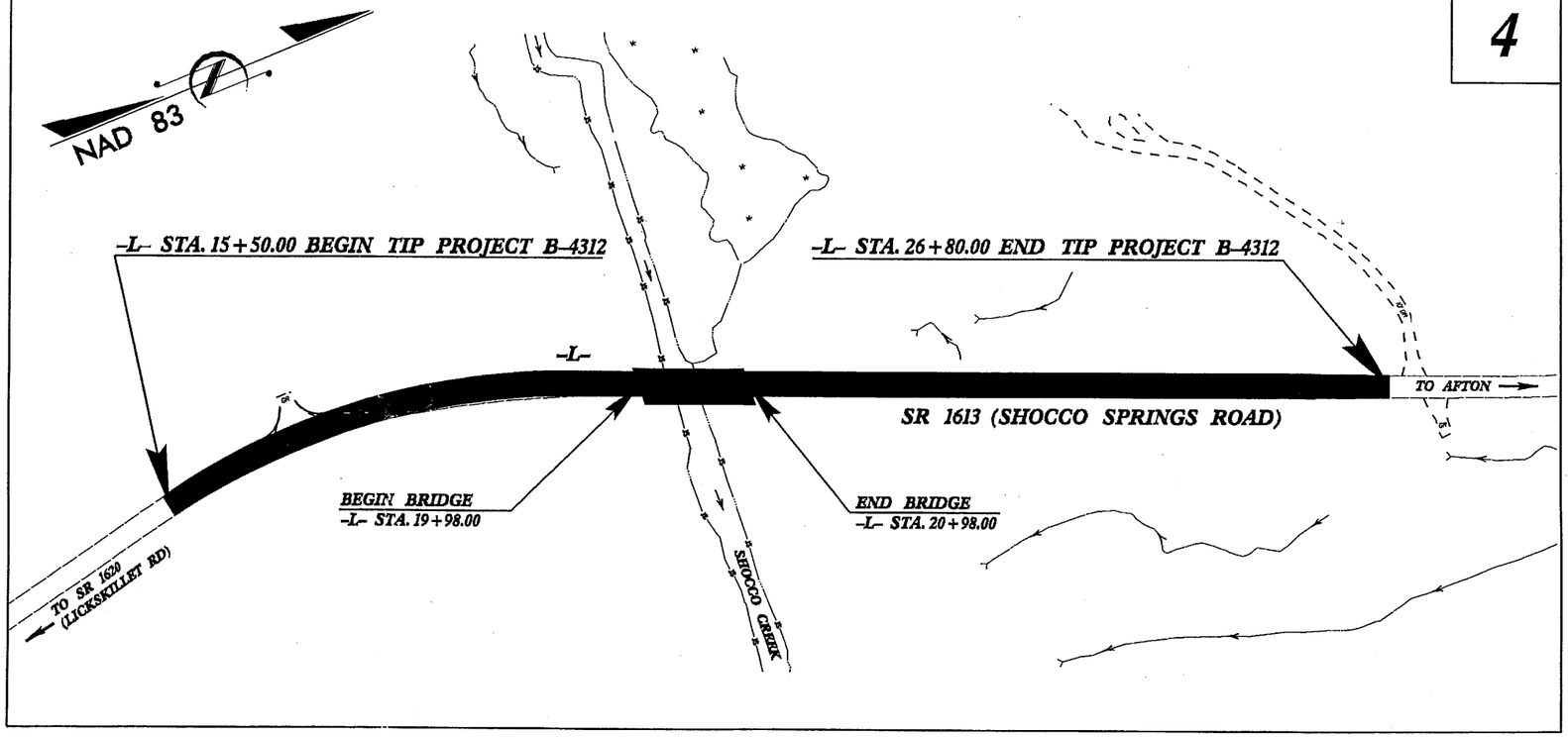
33649.1.1	BRZ-1613(2)	P.E.
33649.2.1	BRZ-1613(2)	R/W, UTIL.

LOCATION: *BRIDGE NO. 42 OVER SHOCCO CREEK AND APPROACHES ON SR 1613 (SHOCCO SPRINGS ROAD)*

Buffer Drawing
Sheet 1 of 1

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

4



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FUNC. CLASS. = RURAL LOCAL

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LENGTH ROADWAY TIP PROJECT B-4312	=	*0.195 MILE*
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Prepared in the Office of:
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SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

CONTRACT:

10/25/05

PROJECT REFERENCE NO.	SHEET NO.
B-4312	1-B

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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Buffer Drawing Sheet 2 of 6

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- 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-4312	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

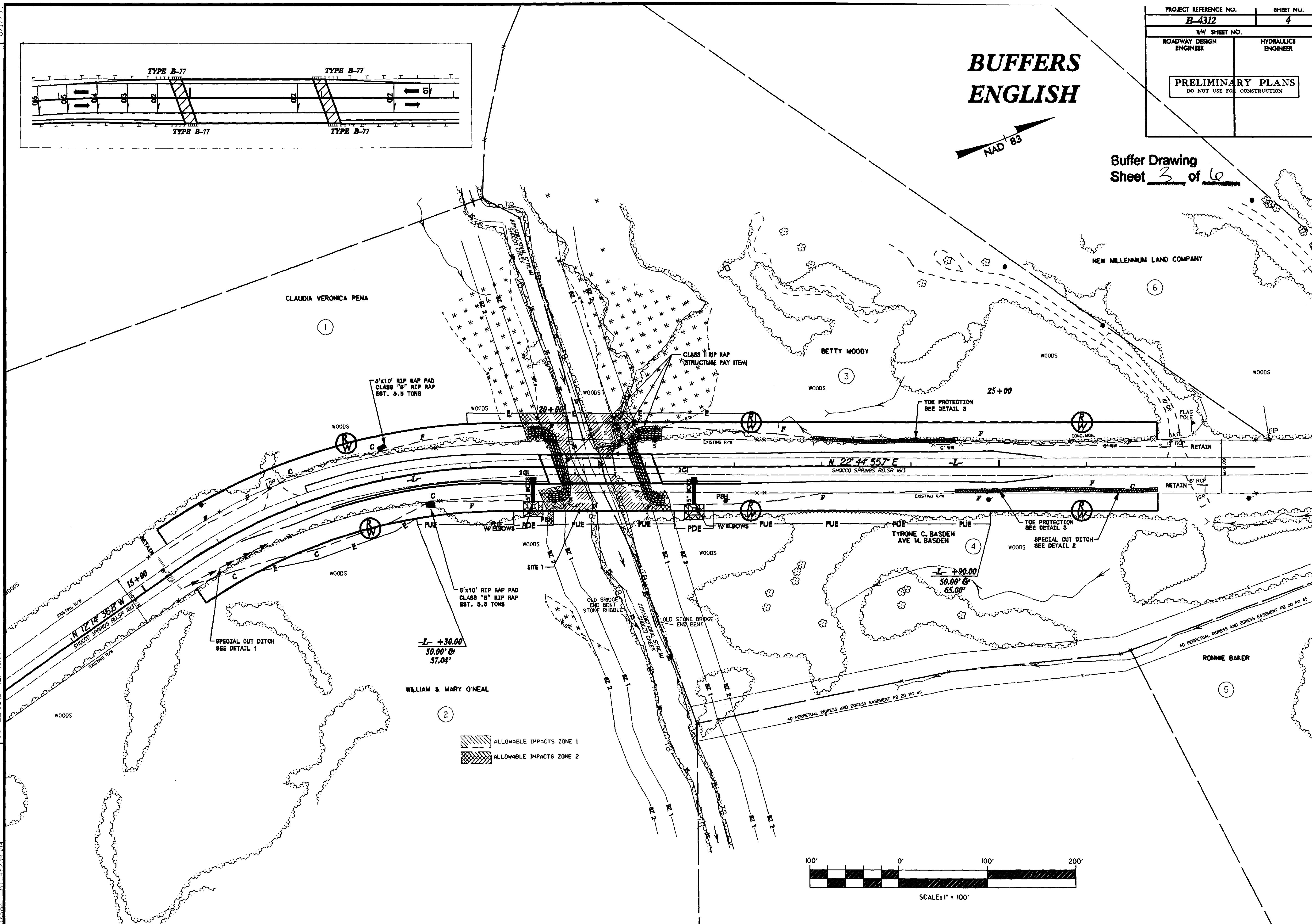
BUFFERS ENGLISH

Buffer Drawing
Sheet 3 of 6

REVISIONS

10-04-07 RIGHT OF WAY REVISION: PROPERTY OWNER NAME HAS BEEN CHANGED ON PARCEL 1. RCB

11-06-07 RIGHT OF WAY REVISIONS: TEMPORARY CONSTRUCTION EASEMENTS HAVE BEEN DELETED BETWEEN STA. 19+00 AND 19+50 RT. OF -L- ON PARCEL 2 AND BETWEEN STA. 21+76 AND 22+30 RT. OF -L- ON PARCEL 4. PERMANENT UTILITY EASEMENTS HAVE BEEN ADDED TO PARCELS 2 AND 4. PARCEL NUMBERS 2 AND 4 HAVE BEEN CHANGED TO 22 AND 4Z. KVN



TYPE B-77
NAD 83
CLAUDIA VERONICA PENA
BETTY MOODY
NEW MILLENNIUM LAND COMPANY
WILLIAM & MARY O'NEAL
TYRONE C. BASDEN
AVE M. BASDEN
RONNIE BAKER
WOODS
8'x10' RIP RAP PAD
CLASS "B" RIP RAP
EST. 5.5 TONS
CLASS II RIP RAP
(STRUCTURE PAY ITEM)
TOE PROTECTION
SEE DETAIL 3
SPECIAL CUT DITCH
SEE DETAIL 1
SPECIAL CUT DITCH
SEE DETAIL 2
N 22° 44' 55.7" E
N 12° 14' 36.8" W
SHOCCO SPRINGS RD. SR 1613
20+00
25+00
15+00
-L- +30.00
50.00' &
57.04'
-L- +90.00
50.00' &
65.00'
SITE 1
OLD BRIDGE
END BENT
STONE RUBBLE
OLD STONE BRIDGE
END BENT
JURISDICTIONAL STREAM
SHOCCO CREEK
40' PERPETUAL INGRESS AND EGRESS EASEMENT PB 20 PG 45
FLAG POLE
GATE
RETAIN
EXISTING R/W
PUE
PDE
W/ELBOWS
ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2
100'
0'
100'
200'
SCALE: 1" = 100'

8/17/99

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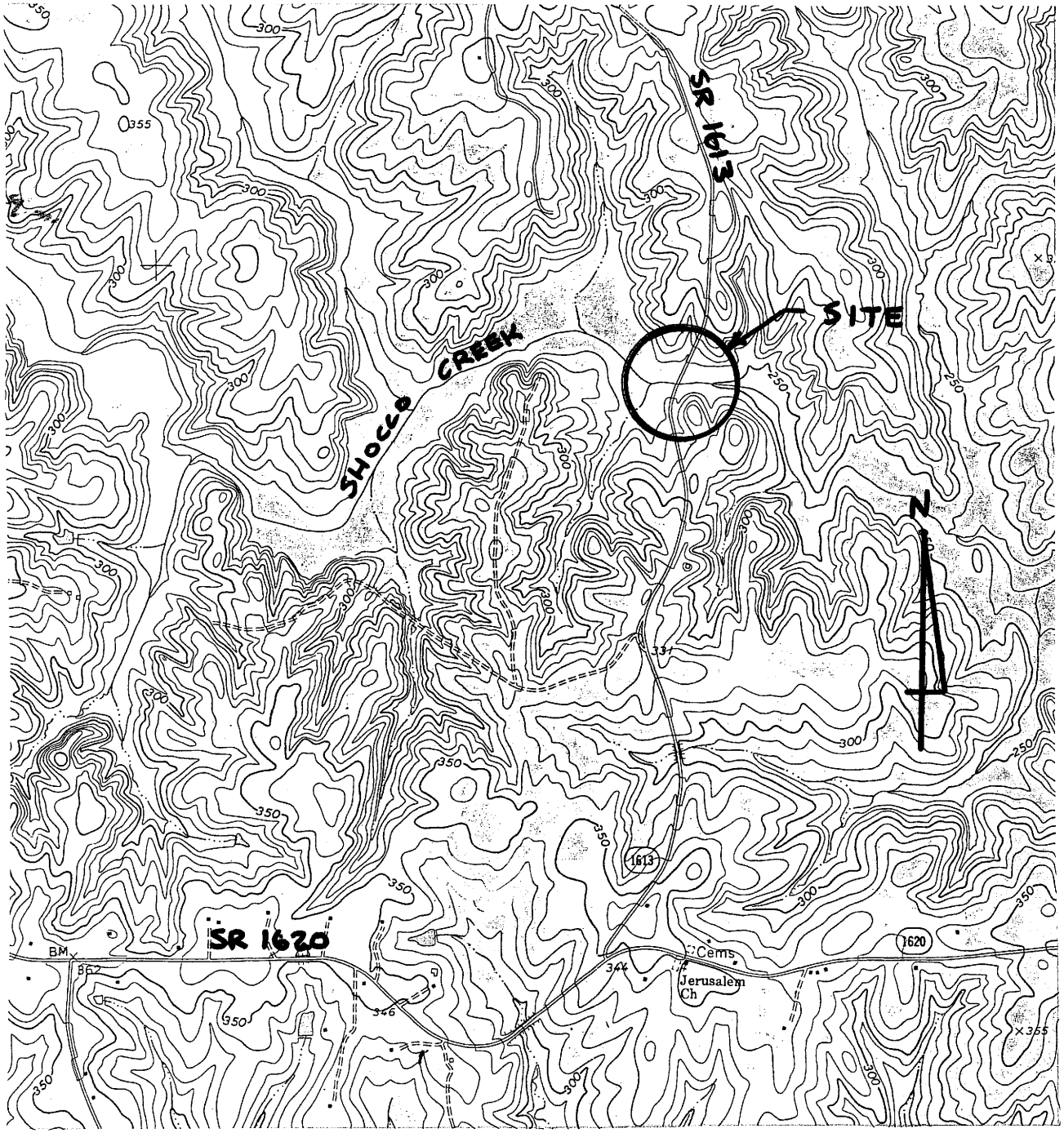


USGS QUAD MAP
SCALE: 1" = 2000'

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

WARREN COUNTY
WBS - 33649.1.1 (B-4312)

SHEET 4 of 6 9/12/2007

ATN Revised 3/31/05

Property Owner Contact Report

TIP # *B-4312*

	Owner Last Name/ Business	Owner First Name	Address	City/Town	State	Zip Code	Contact/ Relationship	Home Phone	Contacted By	Contact Date	How Contacted	Comments
5	Baker	Ronnie	214 Lily Street - Apt. No. 1	Paterson	NJ	07522			C. King	7/18/2005	Letter	
	Baker	Wardell	966 Madison Avenue	Paterson	NJ	07501			C. King	7/18/2005	Letter	
	Baker	Wardell	966 Madison Avenue	Paterson	NJ	07501			C. King	7/18/2005	Letter	
4	Basden	Tyrone	5413 Walton Hill	Knightdale	NC	27545			C. King	7/18/2005	Letter	
	Boyd	Jenny	792 Shocco Springs Road	Warrenton	NC	27589			C. King	7/18/2005	Letter	
3	Moody	Betty	814 Shocco Springs Road	Warrenton	NC	27589		(252) 257-4537	C. King	7/18/2005	Letter	
	New Millenium Land Company		102 Court Street	Oxford	NC	27565			C. King	7/18/2005	Letter	
	New Millennium Land Company		102 Court Street	Oxford	NC	27565			C. King	7/18/2005	Letter	
2	O'Neal	William	P.O. Box 461	Louisburg	NC	27549			C. King	7/18/2005	Letter	
1	Pena	Manuel	156 Liberty Lane	Clayton	NC	27520			C. King	7/18/2005	Letter	
	Walden	Annie	767 Shocco Springs Road	Warrenton	NC	27589			C. King	7/18/2005	Letter	
	Williams	Susan	745 Shocco Springs Road	Warrenton	NC	27589			C. King	7/18/2005	Letter	
	Williams	Susan	745 Shocco Springs Road	Warrenton	NC	27589			C. King	7/18/2005	Letter	

Buffer Drawing Sheet 5 of 6

BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1	Bridge	19+10 to 21+50	X			186	1857	2043					
1	Bridge	19+10 to 21+50		X		4423	680	5103					
TOTAL:						4609	2537	7146	0	0	0		

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

WARREN COUNTY
PROJECT: 33649.1.1 (B-4312)

9/12/2007
SHEET 6 OF 6

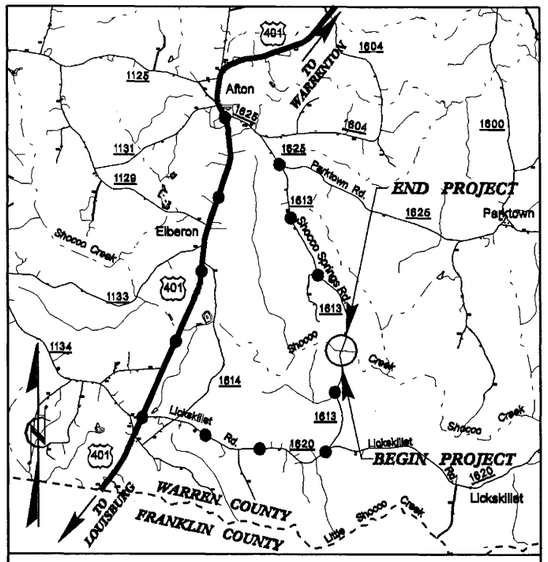
Rev. May 2006

09/08/99

TIP PROJECT: B-4312

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

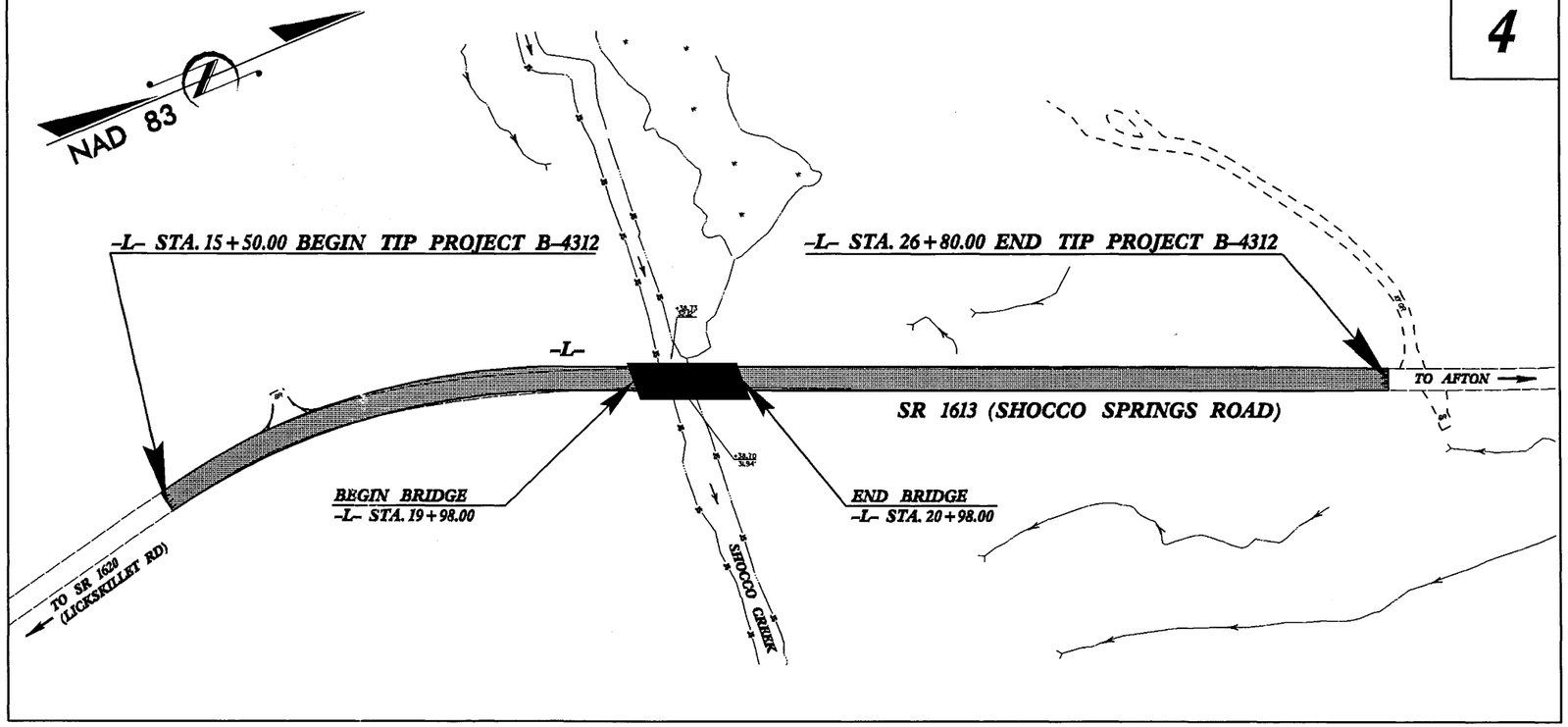
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4312	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33649.1.1	BRZ-1613(2)	P.E.
33649.2.1	BRZ-1613(2)	R/W, UTIL.

LOCATION: BRIDGE NO. 42 OVER SHOCCO CREEK AND APPROACHES ON SR 1613 (SHOCCO SPRINGS ROAD)

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

4



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

** *DESIGN EXCEPTIONS FOR HORIZONTAL ALIGNMENT, HORIZONTAL STOPPING SIGHT DISTANCE, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.*

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 = 400
ADT 2030 = 700
DHV = 14 %
D = 60 %
*T = 3 %
**V = 60 MPH
* (TTST 1 %+DUAL 2 %)
FUNC. CLASS. = RURAL LOCAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4312 = 0.195 MILE
LENGTH STRUCTURE TIP PROJECT B-4312 = 0.019 MILE
TOTAL LENGTH TIP PROJECT B-4312 = 0.214 MILE

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: *June 27, 2007*

LETTING DATE: *July 15, 2008*

GLENN W. MUMFORD, P.E.
PROJECT ENGINEER

JEFFREY L. TEAGUE, 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

10-OCT-2007 12:01
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$$$$USERNAME$$$$

10/25/05

PROJECT REFERENCE NO.	SHEET NO.
B-4312	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 — EIP
- 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 — (CA)
- Proposed Control of Access
- 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.

8/17/99

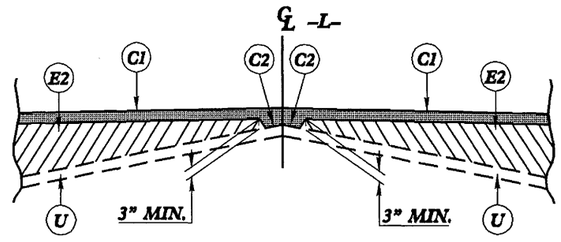
PROJECT REFERENCE NO.	SHEET NO.
B-4312	2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

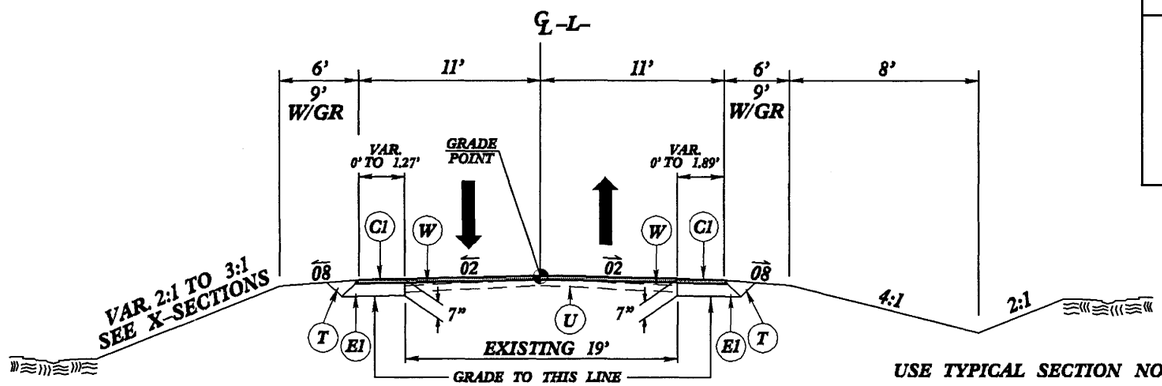
FINAL PAVEMENT SCHEDULE

C1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1 1/2" IN DEPTH.
E1	PROP. APPROX. 4 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B AT AN AVERAGE RATE OF 513 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 5 1/2" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).

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



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



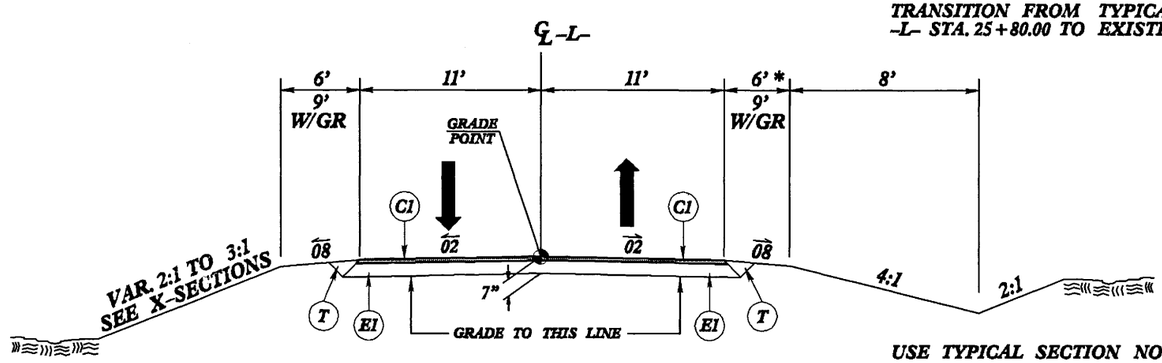
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AT THE FOLLOWING LOCATIONS:

TRANSITION FROM EXISTING @ -L- STA. 15+50.00 TO TYPICAL SECTION NO. 1 @ -L- STA. 16+50.00

-L- STA. 16+50.00 TO STA. 17+50.00

TRANSITION FROM TYPICAL SECTION NO. 1 @ -L- STA. 25+80.00 TO EXISTING @ -L- STA. 26+80.00



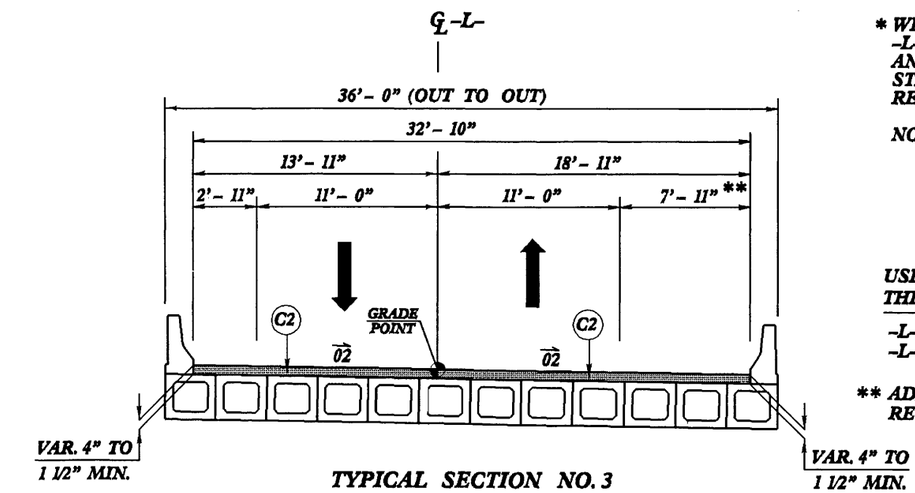
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AT THE FOLLOWING LOCATIONS:

-L- STA. 17+50.00 TO STA. 19+98.00 (BEGIN BRIDGE)
-L- STA. 20+98.00 (END BRIDGE) TO STA. 25+80.00

* WIDEN SHOULDER TO 11' FROM RIGHT OF -L- STA. 19+75.00 TO STA. 19+98.00 (BEGIN BRIDGE) AND FROM -L- STA. 20+98.00 (END BRIDGE) TO STA. 22+10.00 DUE TO ADDITIONAL BRIDGE OFFSET REQUIRED FOR HYDRAULIC DESIGN

NOTE: USE 50:1 SHOULDER TRANSITION AT BRIDGE



TYPICAL SECTION NO. 3
BOX BEAM BRIDGE
SEE STRUCTURE PLANS

USE TYPICAL SECTION NO. 3 AT THE FOLLOWING LOCATION:

-L- STA. 19+98.00 (BEGIN BRIDGE) TO -L- STA. 20+98.00 (END BRIDGE)

** ADDITIONAL BRIDGE OFFSET WIDTH REQUIRED FOR HYDRAULIC DESIGN

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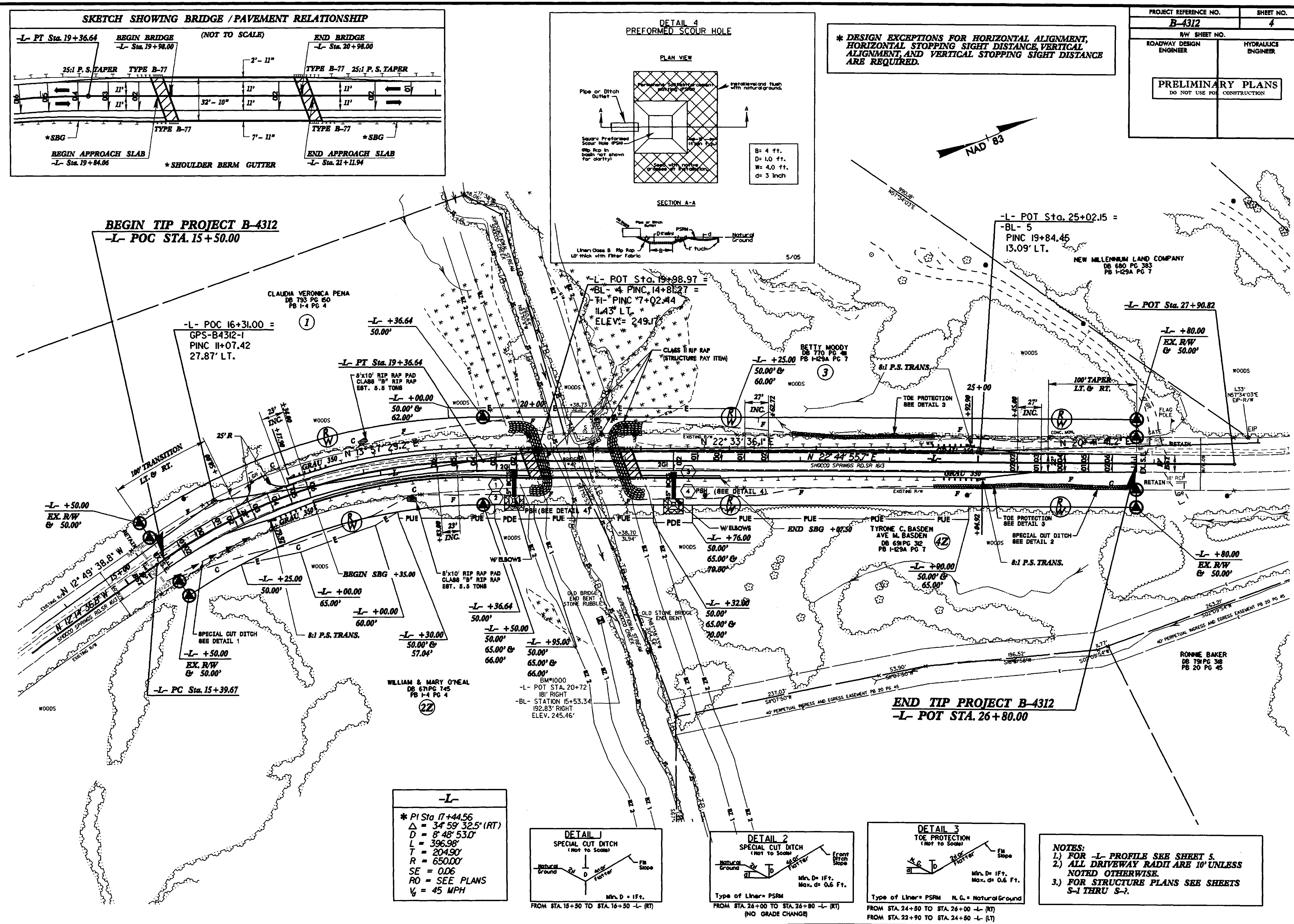
PROJECT REFERENCE NO.	SHEET NO.
B-4312	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

* DESIGN EXCEPTIONS FOR HORIZONTAL ALIGNMENT, HORIZONTAL STOPPING SIGHT DISTANCE, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.



-L-
* PI Sta 17+44.56
Δ = 34° 59' 32.5" (RT)
D = 8° 48' 53.0"
L = 396.96'
T = 204.90'
R = 650.00'
SE = 0.06
RO = SEE PLANS
V_d = 45 MPH

DETAIL 1
SPECIAL CUT DITCH (Not to Scale)
Min. D = 1 Ft.
FROM STA. 15+50 TO STA. 16+50 -L- (RT)

DETAIL 2
SPECIAL CUT DITCH (Not to Scale)
Min. D= 1Ft.
Max. d= 0.6 Ft.
Type of Liner= PSRM
FROM STA. 26+00 TO STA. 26+80 -L- (RT)
(NO GRADE CHANGE)

DETAIL 3
TOE PROTECTION (Not to Scale)
Min. D= 1Ft.
Max. d= 0.6 Ft.
Type of Liner= PSRM N.G. = Natural Ground
FROM STA. 24+50 TO STA. 26+00 -L- (RT)
FROM STA. 22+90 TO STA. 24+50 -L- (LT)

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

REVISIONS

10-04-07 RIGHT OF WAY REVISION: PROPERTY OWNER NAME HAS BEEN CHANGED ON PARCEL 1. RCB

11-06-07 RIGHT OF WAY REVISIONS: TEMPORARY CONSTRUCTION EASEMENTS HAVE BEEN DELETED BETWEEN STA. 19+00 AND 19+50 RT. OF -L- ON PARCEL 2 AND BETWEEN STA. 21+76 AND 22+30 RT. OF -L- ON PARCEL 4. PERMANENT UTILITY EASEMENTS HAVE BEEN ADDED TO PARCELS 2 AND 4. PARCEL NUMBERS 2 AND 4 HAVE BEEN CHANGED TO 2Z AND 4Z. KVN

8/17/99

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4312	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DITCH LEGEND
LEFT DITCH
RIGHT DITCH

-L-

BM #1000 RAILROAD SPIKE SET IN 12" OAK TREE
181' RT. OF -L- STA. 20+72 ELEV.= 245.46'
N 924577 E 2240305

36" BOX BEAM BRIDGE
SPAN 1 @ 100'
℄ -L- STA. 20+48.00
℄ ELEV. = 254.62'
SKEW = 70°

* DESIGN EXCEPTIONS FOR HORIZONTAL ALIGNMENT, HORIZONTAL STOPPING SIGHT DISTANCE, VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.

BEGIN GRADE -L- STA. 15+50.00
ELEV. = 261.04'

BEGIN BRIDGE
-L- STA. 19+98.00

END BRIDGE
-L- STA. 20+98.00

PI = 16+78.00
EL = 260.07'
VC = 140'
*K = 109
Vt = 50 mph

PI = 18+00.00
EL = 255.52'
VC = 140'
*K = 97
Vt = 50 mph

PI = 22+35.00
EL = 253.48'
VC = 245'
*K = 70
Vt = 40 mph

PI = 25+10.00
EL = 261.56'
VC = 305'
*K = 70
Vt = 40 mph

(-)0.7531%
(-) 0.532%
(-)2.051%
(-)0.6072%
(+)2.9160%
(+)1.350%

CLASS II RIP RAP
(STRUCTURE PAY ITEM)

BEGIN DITCH GRADE RIGHT
-L- STA. 15+50.00
EL = 257.59'

END DITCH GRADE RIGHT
-L- STA. 16+50.00
EL = 257.46'

END GRADE -L- STA. 26+50.00
ELEV. = 273.85'

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	3800	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	249.8	FT
BASE DISCHARGE	=	5537	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	251.8	FT
OVERTOPPING DISCHARGE	=	8200+	CFS
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING ELEVATION	=	254.3	FT
ESTIMATED NORMAL WATER SURFACE ELEVATION	=	241 +/-	FT
DATE OF SURVEY	=	3-01-06	
W.S. ELEVATION AT DATE OF SURVEY	=	241 +/-	FT

END BENT EXCAVATION
(STRUCTURE PAY ITEM)

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

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4312	X-1

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

280 270 260 250

EL 255

4266.6512
3963.3514

S.S. 260.472

2% 4:1

257.876

0.045 0.045

258.87

17+00.00

256.212

4:1 2:1

S.S. 268.650

4299.2576
4013.4028

EL 254

4237.7477
3946.6278

S.S. 267.667

4:1

0.023 0.023

259.84

16+50.00

257.462

4:1 2:1

4246.7009
3955.4047

EL 254

4209.5917
3943.3757

S.S. 257.139

3:1

0.002 0.020

260.37

16+00.00

257.688

4:1 2:1

S.S. 263.192

4274.6972
3988.9165

EL 254

4225.5422
3961.4326

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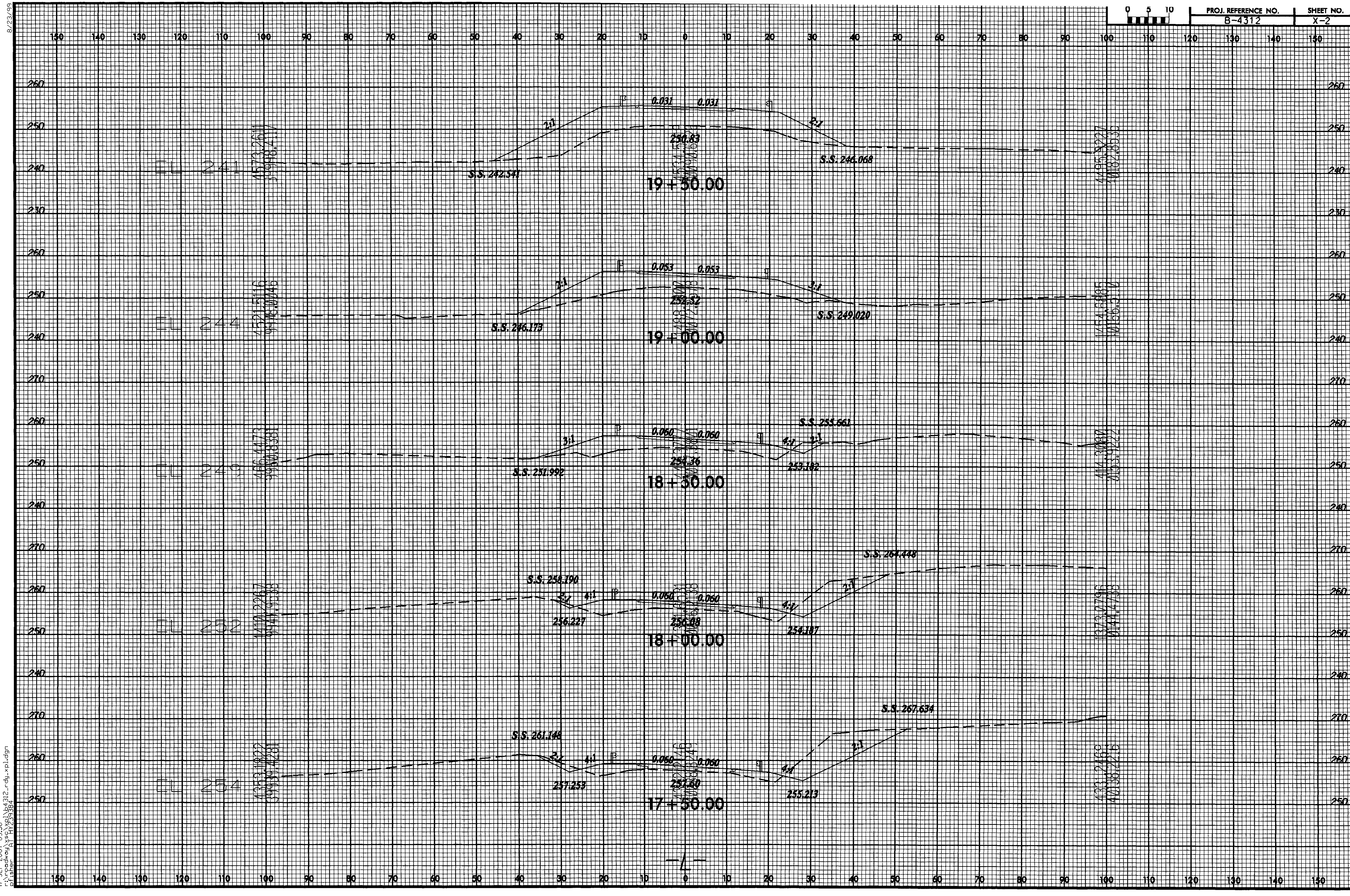

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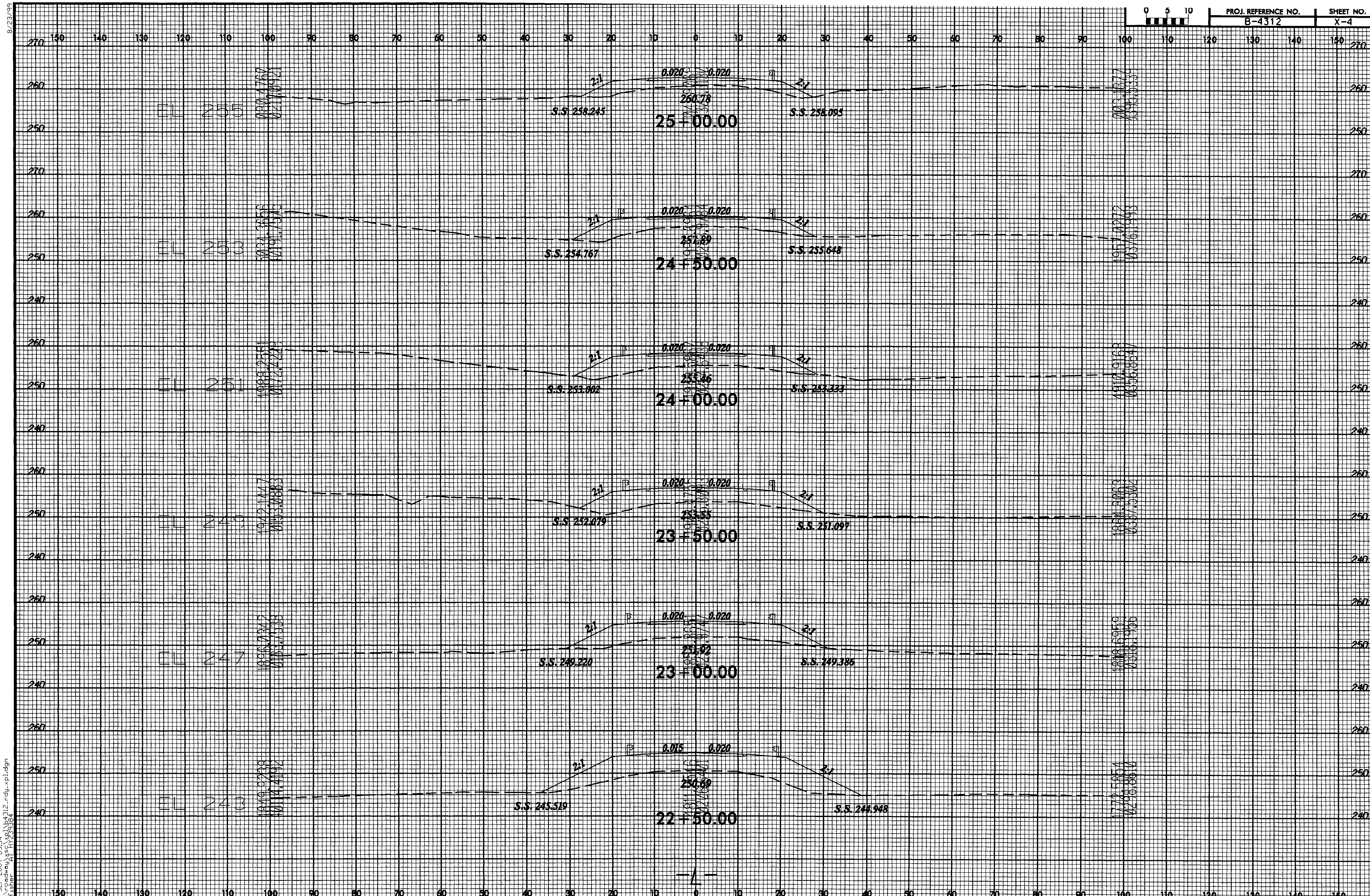

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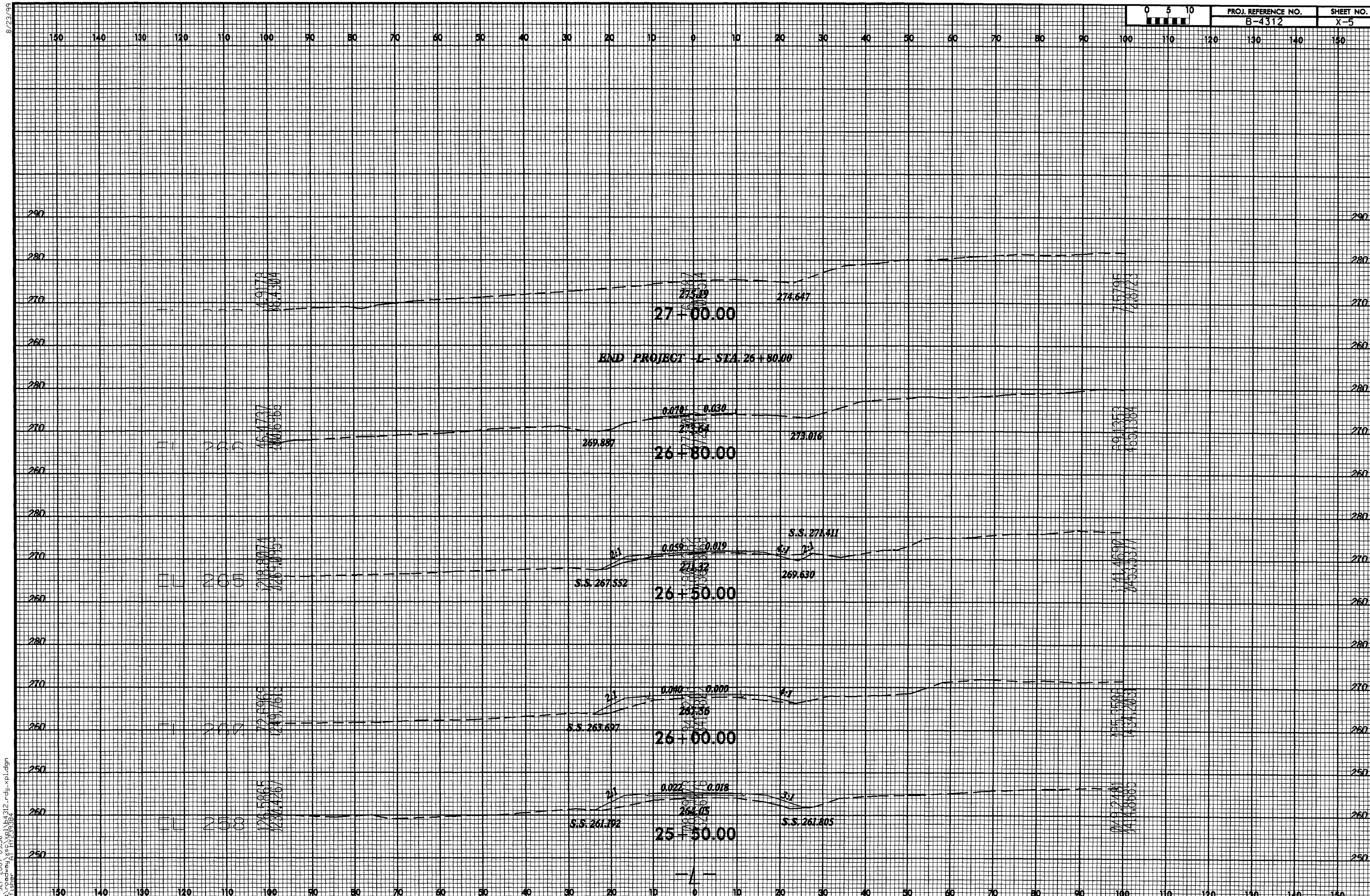

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Warren County
Bridge No. 42 on SR 1613 (Shocco Springs Road) over Shocco Creek
Federal Aid Project No. BRZ-1613 (2)
W.B.S. No. 33649.1.1
State Project No. 8.2411001
T.I.P. No. B-4312

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

5/17/07
DATE

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

5/21/07
DATE

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

Warren County
Bridge No. 42 on SR 1613 (Shocco Springs Road) over Shocco Creek
Federal Aid Project No. BRZ-1613 (2)
W.B.S. No. 33649.1.1
State Project No. 8.2411001
T.I.P. No. B-4312

CATEGORICAL EXCLUSION

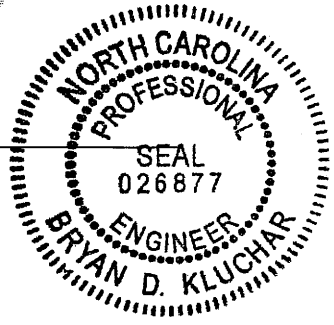
Documentation Prepared in
Project Development and Environmental Analysis Branch By:

5/17/07
DATE

Tracy A. Walter
Project Planning Engineer
Bridge Project Development Unit

5/17/07
DATE

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



PROJECT COMMITMENTS

Warren County
Bridge No. 42 on SR 1613 (Shocco Springs Road)
over Shocco Creek
Federal Aid Project No. BRZ-1613 (2)
W.B.S. No. 33649.1.1
State Project No. 8.2411001
T.I.P. No. B-4312

Division 5 Construction, Roadside Environment Unit

Due to the close proximity of two federally listed endangered species, the following erosion control measures will be adhered to:

- "Environmentally Sensitive Areas", defined as a 50-foot buffer zone on both sides of the stream measured from top of 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.
- All sedimentation and erosion control measures, throughout the project limits, must be cleaned out when ½ full with sediment, to ensure proper function of the measures.
- Sedimentation and erosion control measures shall adhere to the Design Standards in Sensitive Watersheds [15A NCAC 04B .0124 (b) - (e)].

Structure Design Unit, Hydraulics Unit

Deck drains will not be allowed to drain directly into Shocco Creek.

The proposed structure should be designed to completely span Shocco Creek.

Warren County
Bridge No. 42 on SR 1613 (Shocco Springs Road)
over Shocco Creek
Federal Aid Project No. BRZ-1613 (2)
W.B.S. No. 33649.1.1
State Project No. 8.2411001
T.I.P. No. B-4312

INTRODUCTION: Bridge No. 42 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. 42 has a sufficiency rating of 39.4 out of a possible 100 for a new structure. The bridge is considered functionally obsolete due to deck geometry of 3 out of 9 according to Federal Highway Administration (FHWA) standards and therefore eligible for FHWA's Bridge Replacement Program.

The superstructure and substructure of Bridge No. 42 have timber elements that are fifty-four year old. Timber components have 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 elements are damaged or prematurely deteriorated. However, past a certain degree of deterioration, most timber elements become impractical to maintain and upon eligibility are programmed for replacement. Timber components of bridge No. 42 are experiencing an increasing degree of deterioration that can no longer be addressed by reasonable maintenance activities, therefore the bridge is approaching the end of its useful life.

II. EXISTING CONDITIONS

The project is located between Elberon and Lickskillet (see Figure 1). Development in the area is rural residential in nature.

SR 1613 is classified as a rural local route in the Statewide Functional Classification System and it is not a National Highway System Route. This route is not a designated bicycle route and there is no indication that an unusual number of bicyclists use this roadway.
In the vicinity of the bridge, SR 1613 has a 19-foot pavement width with grass shoulders which vary from 1-foot to 10-foot (see Figures 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. 42 is a three-span structure that consists of timber 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 1953. The overall length of the structure is 54 feet. The clear roadway width is approximately 19.0 feet. The posted weight limit on this bridge is 11 tons for single vehicles and 20 tons for TTST's.

The current traffic volume of 400 vehicles per day (VPD) is expected to increase to 700 VPD by the year 2030. The projected volume includes one percent truck-tractor semi-trailer (TTST) and two percent dual-tired vehicles (DT). The speed limit is not posted in the project area. Three school buses cross the bridge daily on their morning and afternoon routes.

There were no accidents reported in the vicinity of Bridge No. 42 during a recent three-year period.

Utility impacts are anticipated to be low.

III. ALTERNATIVES

A. Project Description

The replacement structure will consist of a bridge approximately 100-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 11-foot, a 3-foot offset left and 8-foot offset right. The roadway grade of the new structure will be approximately five-feet above the existing structure.

The existing roadway will be widened to a 22-foot pavement width to provide two 11-foot lanes. 6-foot shoulders will be provided on each side. This roadway will be designed as a rural local route.

B. Reasonable and Feasible Alternatives

One alternative for replacing Bridge No. 42 was studied in detail are described below.

Alternate 1 (Preferred)

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 450 feet to the south and 580 feet to the north of the new structure. Design exceptions for horizontal alignment, vertical alignment, horizontal stopping sight distance, and vertical stopping sight distance 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 1620, SR 1614, US 401 and SR 1625. The majority of traffic on the road is through traffic. The detour for the average road user would result in 5 minutes additional travel time (2.7 miles additional travel). Up to a 8-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.

C. Alternatives Eliminated From Further Consideration

An alternative which would replace the existing structure along a new alignment to the east along with an alternative which would have replaced the existing structure in-place was considered, but due to the close proximity of a federally endangered species population and greater amounts of environmental impacts was eliminated from further study.

The "do-nothing" alternative will eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by SR 1613.

"Rehabilitation" of the existing structure is not feasible due to its age and deteriorated condition. Rehabilitation of a timber structure is generally practical only when a few members are damaged or prematurely deteriorated. Timber components have deteriorated to a point making rehabilitation impractical.

Staged Construction is not feasible for this bridge because the type and condition of the existing bridge.

D. Preferred Alternative

Bridge No. 42 will be replaced at the existing location as shown by Alternative 1 in Figure 2.

NCDOT Division 5 concurs with the selection of Alternative 1 as the preferred alternative.

IV. ESTIMATED COSTS

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

	Alternative 1 Preferred
Structure	$ 363,000
Roadway Approaches	$ 214,000
Detour Structure and Approaches	- 0 -
Structure Removal	$ 17,000
Misc. & Mob.	$ 153,000
Eng. & Contingencies	$ 128,000
Total Construction Cost	$ 875,000
Right-of-way Costs & Utility	$ 59,000
Total Project Cost	$ 934,000

V. NATURAL ENVIRONMENT

Physical Characteristics

Water Resources

The project study area is located within sub-basin 030304 of the Tar-Pamlico River Basin (DWQ 1998) and is part of USGS hydrologic unit 03020102 (USGS 1974). Shocco Creek is the only water resource likely to be impacted by the proposed bridge replacement project. This stream has been assigned Stream Index Number (SIN) 28-79-22 by the DWQ (DENR 2001a). Shocco Creek originates east of Henderson in Vance County and flows southeast to its confluence with the Fishing Creek southeast of the project study area.

Shocco Creek has been assigned a best usage classification of **C NSW** (DEM 1993, DENR 2001a). The **C** designation indicates waters designated for aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture. The **NSW** designation indicates a nutrient sensitive water which requires limitations on nutrient inputs.

No Outstanding Resource Waters (**ORW**), High Quality Waters (**HQW**), or watersheds (**WS I**, or **WS-II**). Waters occur within 3.0 miles (4.8 kilometers) upstream or downstream of the project study area. Shocco Creek is not designated as a North Carolina Natural and Scenic River, nor as a national Wild and Scenic River.

Portions of Shocco Creek 0.1 mile (0.16 kilometer) upstream of the project study area are Significant Natural Heritage Aquatic Habitat Areas. Portions of Shocco Creek 0.3 mi (0.48 km) downstream of the project study area are Registered Natural Heritage Aquatic Habitat Areas (NHP records).

Biotic Resources

Distribution and composition of plant communities throughout the project study area reflect landscape-level variations in topography, soils, hydrology, and past and present land use practices. Logging, farming, selective cutting, and natural succession after fires, farming, hurricanes, and other disturbances have resulted in the present vegetative patterns.

Piedmont/low mountain alluvial forest covers approximately 0.76 ac. of the project study area. This plant community is associated with floodplains of smaller streams and is seasonally or intermittently flooded. This plant community type borders both sides of Shocco Creek throughout the project study area.

Mesic mixed hardwood forest covers approximately 0.80 ac. of the project study area. Mesic mixed hardwood forests occur on lower slopes, ravines, and occasionally well-drained stream bottoms, on well drained acidic soils. This plant community type is located on the east side of SR 1613 north and south of Shocco Creek.

Mixed pine/hardwood forest covers approximately 0.05 ac. of the project study area. The mixed pine/hardwood forest is located in the northwest portion of the project study area.

Successional land covers approximately 0.24 ac. of the project study area. The successional areas are cutovers located south of Shocco Creek, east and west of SR 1613.

Maintained/disturbed land covers approximately 1.02 ac. of the study area. Maintained/disturbed areas can include roadways, roadsides, maintained residential yards, powerline right-of-way corridors, and areas where other human related activities dominate the landscape.

The project study area was visually surveyed for signs of terrestrial wildlife. Mammals directly observed or evidenced by tracks or scat include white-tailed, raccoon, and gray squirrel. Other mammals expected to occur in and around the project study area include such species as Virginia opossum, and rodents such as beavers, and golden mouse. Insectivores such as southeastern shrew and northern short-tailed shrew may also be present in the project study area.

The aquatic habitat located within the project study area associated with B-4312 includes Shocco Creek and portions of the adjacent floodplain where intermittent flooding is evident. No distinct areas containing significant amounts of aquatic vegetation were observed in the channel during the field investigation.

No fish species were documented in Shocco Creek during the field investigation. Species expected to occur in Shocco include eastern mosquitofish, redbreast sunfish, green sunfish, pirate perch, and redfin pickerel. Menhinick (1991) does not document any anadromous fish as occurring in Shocco Creek.

Jurisdictional Topics

Surface Waters and Wetlands

Water bodies such as rivers, lakes, and streams are subject to jurisdictional consideration under the Section 404 program of the Clean Water Act (CWA). Additionally, wetlands are also considered "waters of the United States" and are also subject to jurisdictional consideration.

Wetlands subject to review under Section 404 of the CWA (33 U.S.C. 1344) are defined by the presence of three primary criteria: hydric soils, hydrophytic vegetation, and evidence of hydrology at or near the surface for a portion (12.5 percent) of the growing season (DOA 1987).

One wetland type occurs within the project study area. The wetlands within the adjacent flood plain of Shocco Creek exhibit characteristics of palustrine forested, broad-leaved deciduous wetlands (PFO1) pursuant to Cowardin *et al.* (1979).

Shocco Creek is a perennial stream and the only jurisdictional stream located within the project area.

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.

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 - 16 March 2007)

Dwarf wedgemussel (E) May Affect – Not Likely to Adversely Affect

On November 28, 2004 biologists conducted a field survey of the proposed project area. The 2.9 man-hour survey identified that suitable habitat existed, however no specimens were observed.

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

On November 28, 2004 biologists conducted a field survey of the proposed project area. The 2.9 man-hour survey identified that suitable habitat existed, however no specimens were observed.

Bald Eagle (T) No Effect

The area surrounding the proposed project does not provide suitable foraging habitat for bald eagles, therefore, surveys are not required for this species.

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 no surveys are required (see letter dated January 22, 2001).

Archaeology

The Historic Preservation Office (HPO) reviewed the subject project and determined that no surveys are required (see letter dated January 22, 2001).

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.

U.S. Fish and Wildlife requested conservation measures be implemented due to the presence of endangered species habitat. Conservation measures were developed through consultation and are shown on the project commitment sheet.

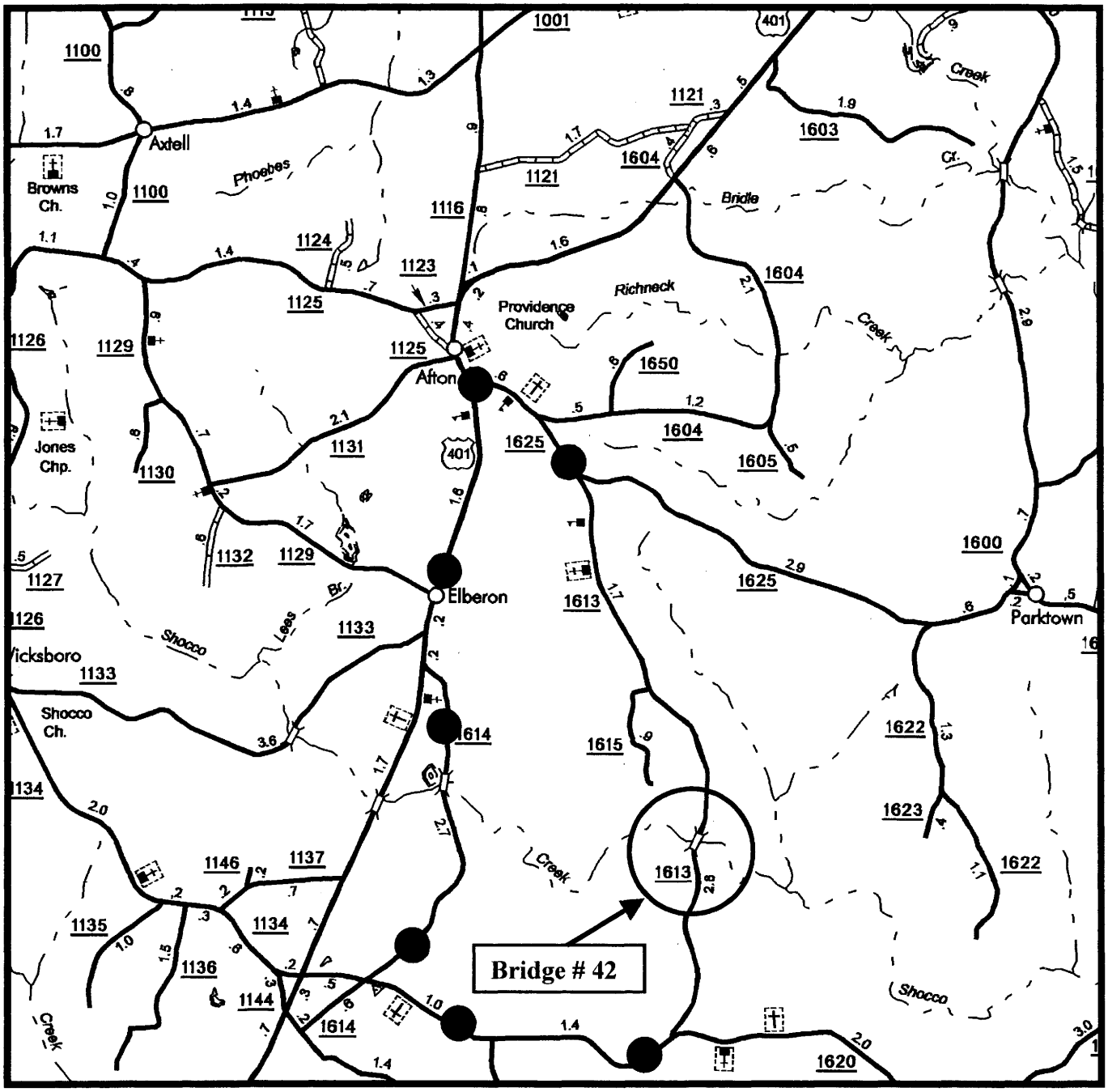
IX. PUBLIC INVOLVEMENT

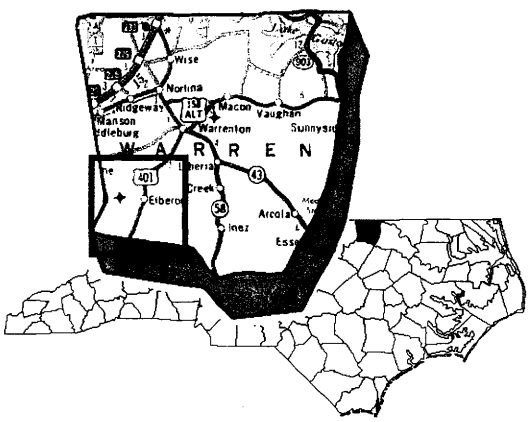
A letter was sent by the Location & Surveys Unit to all property owners affected directly by this project. Property owners were invited to comment. No comments have been received to date.

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.



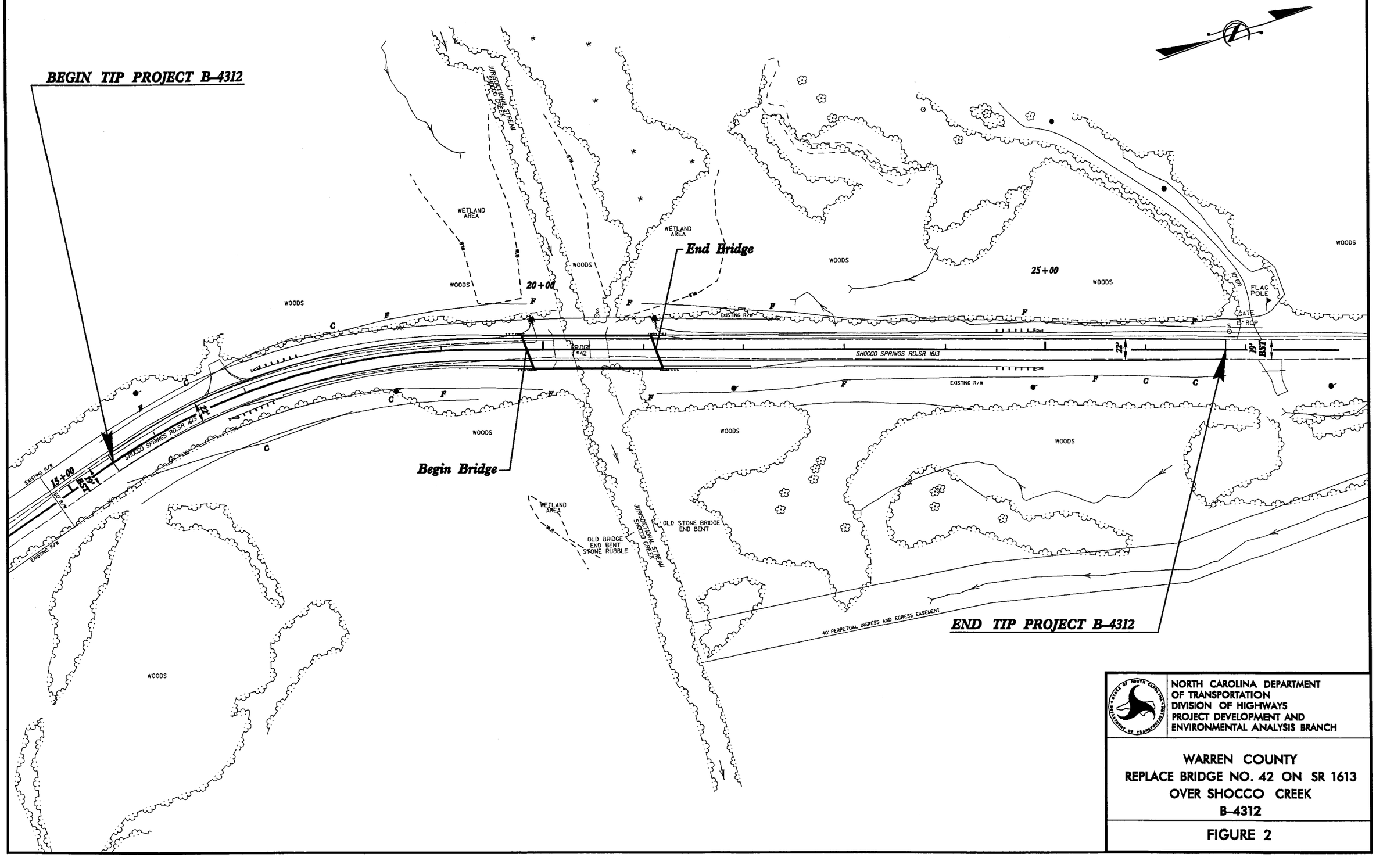


Studied detour route

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

WARREN COUNTY
REPLACE BRIDGE NO. 42 ON SR1613
OVER SHOCCO CREEK
B-4312

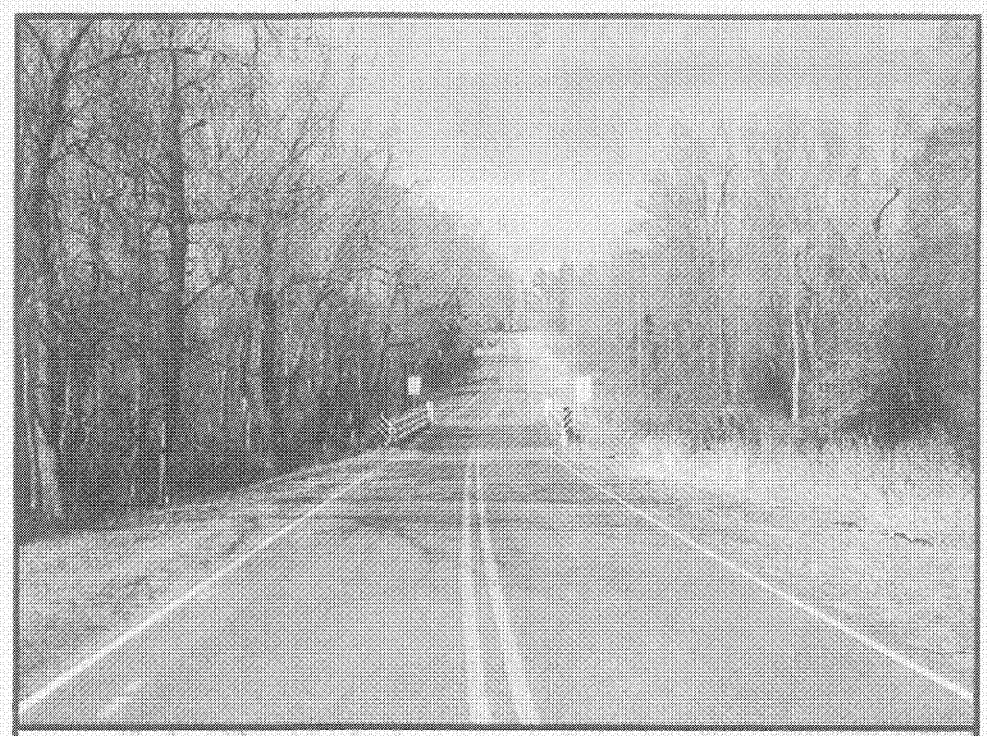
Figure 1



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

WARREN COUNTY
REPLACE BRIDGE NO. 42 ON SR 1613
OVER SHOCCO CREEK
B-4312

FIGURE 2

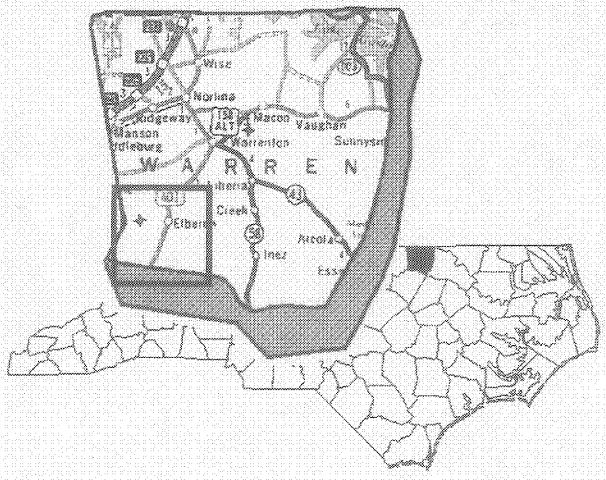


SR 1613 – Shocco Springs Road

Looking North

Bridge No. 42

Looking East



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

WARREN COUNTY
REPLACE BRIDGE NO. 42 ON SR1613 OVER SHOCCO CREEK
B-4312

Figure 3

R. Yarns

North Carolina Department of Cultural Resources

State Historic Preservation Office

David L. S. Brook, Administrator

Michael F. Easley, Governor
January 22, 2001

Division of Archives and History
Jeffrey J. Crow, Director

MEMORANDUM

To: William D. Gilmore, PE, Manager
Project Development and Environmental Analysis Branch

From: David Brook RHE for David Brook
Deputy State Historic Preservation Officer

Re: Replace Bridge No. 42 on SR 1613 over Shocco Creek,
TIP No. B-4312, Warren County, ER 01-7924

We regret that a member of or staff was unable to attend the December 7, 2000, meeting of the minds for the project. However, on December 15, 2000, April Montgomery of our staff met with Karen Orthner with the North Carolina Department of Transportation (NCDOT) concerning the project. She reported our available information on historic architectural and archaeological surveys and resources along with our recommendations. Ms. Orthner provided project area photographs and aerial photographs. Based upon our review of the photographs and the information discussed at the meeting, we offer our preliminary comments regarding this project.

In terms of historic architectural resources we are aware of no historic structures located within the area of potential effect. We recommend that no historic architectural survey be conducted for this project.

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

Having provided this information, we look forward to the receipt of either a Categorical Exclusion or Environmental Assessment, which indicates how NCDOT addressed our comments.

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 any questions concerning the above comment, contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919 733-4763.

	Location	Mailing Address	Telephone/Fax
Administration	507 N. Blount St, Raleigh	4617 Mail Service Center, Raleigh 27699-4617	(919) 733-4763 •715-8653
Restoration	515 N. Blount St, Raleigh	4613 Mail Service Center, Raleigh 27699-4613	(919) 733-6547 •715-4801
Survey & Planning	515 N. Blount St, Raleigh	4618 Mail Service Center, Raleigh 27699-4618	(919) 733-4763 •715-4801

United States Department of the Interior

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

October 2, 2006

Gregory J. Thorpe, Ph.D.
North Carolina Department of Transportation
Project Development and Environmental Analysis
1598 Mail Service Center
Raleigh. North Carolina 27699-1598

Dear Dr. Thorpe:

This letter is in response to your letter of September 15, 2006 and attached biological evaluation which provided the U.S. Fish and Wildlife Service (Service) with the biological determination of the North Carolina Department of Transportation (NCDOT) that the replacement of Bridge No. 42 on SR 1613 over Shocco Creek in Warren County (TIP No. B-4312) may affect, but is not likely to adversely affect the federally endangered dwarf wedgemussel (*Alasmidonta heterodon*) and Tar spinymussel (*Elliptio steinstansana*). Also, NCDOT has determined that the project will have no effect on the federally threatened bald eagle (*Haliaeetus leucocephalus*). These comments are provided in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to information provided, a mussel survey was conducted at the project site in November 2004. The survey extended 100 meters upstream and 400 meters downstream of SR 1613. Neither of the federally listed species was found, and only three individuals of *Elliptio complanata* (normally a common species) were observed in 2.9 person hours of surveying. This suggests some unknown impact has affected this reach of stream. However, the dwarf wedgemussel is known to occur farther upstream and downstream of the surveyed area.

During previous informal discussions, the Service and NCDOT have agreed to several conservation measures, including a bridge design that will completely span the channel of Shocco Creek. The agreed-to conservation measures are reflected in your letter and biological evaluation. Based on the mussel survey results, the agreement to implement several conservation measures, and all available information, the Service concurs that the project may affect, but is not likely to adversely affect the dwarf wedgemussel and Tar spinymussel. Also, based on the lack of habitat, the Service concurs that the project will have no effect on the bald eagle.

We believe that the requirements of section 7(a)(2) of the ESA have been satisfied. We remind you that obligations under section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a

manner not previously considered in this review; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action.

The Service appreciates the opportunity to review this project. If you have any questions regarding our response, 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
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