



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

December 6, 2004

U. S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1000
Washington, NC 27889-1000

Attn: Mr. Michael Bell
NCDOT Coordinator

Dear Sir:

Subject: **Individual Section 404 and 401 Permit Application** for the proposed replacement of Bridge Nos. 40 and 45 on SR 1003 (Thirteen Bridges Road) over Beech Swamp, Halifax County. Federal Aid Project No. BRSTP-1003(23), State Project No. 8.2301201, TIP Project No. B-3467.

At the request of the US Army Corps of Engineers (Action ID Nos. 200411358 and 200411359), NCDOT is applying for an Individual Permit for the subject project. The project involves the removal and replacement of Bridge Nos. 40 and 45 located approximately 850 feet apart on SR 1003 over Beech Swamp (DWQ Index # 28-79-30, Class "C Sw NSW") in Halifax County. The project involves replacing Bridge No. 40 on a new alignment while replacing Bridge No. 45 on the existing alignment. Traffic during the project will be maintained with an approximate 11-mile offsite detour along SR 1100, SR 1102, SR 1103, SR 1105, and SR 1108.

Bridge No. 40, a 180-foot long structure, will include four 45-foot spans with 36-inch prestressed girders as superstructure. Bridge No. 45, at 130-feet long, will consist of three 43-foot spans with a 36-inch prestressed girder superstructure. The substructure on both bridges will consist of H-pile end bents and 18-inch pipe pile bents. Construction of the bridge will require temporary dewatering due to the placement of temporary work bridges in the stream channel to allow access to the site. These work bridges are described below.

Water Resources

Permanent Impacts: The project falls within the Tar-Pamlico River Basin, with a subbasin designation of TAR4 (03-03-04) and a federal hydrologic unit designation of Tar-Pamlico 03020102. The area surrounding SR 1003 and bridge Nos. 40 and 45 is primarily comprised of wetlands and/or surface waters. A cypress-gum swamp community dominates the main wetland complex, through which the existing roadway and bridge are located. Construction of the proposed project will result in total of 1.75 acres of permanent impacts to jurisdictional wetland. This includes 1.04 acres of permanent fill, 0.04 acre of excavation, and 0.67 acre of mechanized clearing.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Temporary Work Bridges: There will be 0.001 acres of temporary impacts in Beech Swamp from the construction of temporary bridges for the construction of Bridge Nos. 40 and 45. These work bridges will be required to provide access to the site for construction equipment. Temporary work bridge lengths, pile types, and driving methods will be determined during construction by the contractor. Work bridges will be constructed at the elevation and location as shown in the permit drawings. Hand clearing will occur prior to construction of each temporary work bridge

No permanent fill will result from the construction of temporary work bridges. The materials used, as temporary fill in the construction of the work bridges will be removed. The temporary fill areas will be graded back to their original contours. Elevations and contours in the vicinity of the proposed work bridges are available from the field survey notes.

It is assumed that the contractor will begin construction of the proposed work bridges shortly after the date of availability for the project. The current let date is March 15, 2005.

Avoidance and Minimization

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. All wetland areas not affected by the project will be protected from unnecessary encroachment. No staging of construction equipment or storage of construction supplies will be allowed in wetlands or near surface waters.

Of the five alternatives presented in the approved Categorical Exclusion, the alternative selected had the least impact upon jurisdictional waters of the U.S. The preferred alternative avoided impacts to streams, had the lowest degree of impact to wetlands, and utilizes an offsite detour.

NCDOT's guidelines for Best Management Practices for the Protection of Surface Waters will be enforced throughout the duration of the project construction. In addition, fill slopes in wetlands are at a 3:1 ratio and the NCDOT has made it policy to eliminate lateral ditching in wetlands as much as possible, thus preserving the hydrology of adjacent wetlands.

Bridge Demolition

Bridge No. 40 is currently 151-feet long and located on SR 1003 over Beech Swamp in Halifax County. The superstructure is composed of prestressed concrete channels with an asphalt-wearing surface. The substructure is an abutment type, consisting of timber end bents with reinforced concrete caps. The interior bents consist of reinforced concrete caps on timber piles.

Bridge No. 45 is currently 121-feet long and is also located on SR 1003 over Beech Swamp in Halifax County. Bridge No. 45 is a three span structure with the maximum span at 40-feet and a clear roadway width of 28-feet. The superstructure consists of steel plank flooring on steel I-beams with an asphalt-wearing surface. The substructure is composed of timber abutments on timber caps with interior bents consisting of timber caps on timber piles.

There is potential for components of the deck and concrete caps of Bridge No. 40 to be dropped into Waters of the United States. The resulting temporary fill is calculated to be approximately 103 cubic yards. Bridge No. 45 is constructed of timber and steel, it can be removed without dropping components into Waters of the United States.

The NCDOT will adhere to appropriate guidelines for bridge demolition and removal including those presented in “Pre-Construction Guidelines for Bridge Demolition and Removal”, “Policy: Bridge Demolition and Removal in Waters of the United States”, “Best Management Practices for Bridge Demolition and Removal”, and “Best Management Practices for the Protection of Surface Waters”.

In addition, under the guidelines presented in the documents noted in the previous paragraph, work done in the water for this project would fall under Case 2, which states that no work shall be performed in the water during moratorium periods (March 1 to June 30) associated with fish migration, spawning, and larval recruitment into nursery areas.

Utilities

Currently, electrical lines run parallel along the east side of SR 1003 north of Bridge No. 40 where they then cross over the road and run parallel along the west side of SR 1003 past Bridge No. 45. Aerial telephone lines run parallel to SR 1003 on the East side over the swamp.

Prior to construction, Halifax County Electric Membership Corporation plans to remove two existing power poles and install three new power poles on the north side of Bridge No. 45. These poles will be placed along the existing pole line along the proposed construction limits. Impacts to jurisdictional waters will be limited to the addition of one utility power pole and the reconfiguration of the existing two power poles within the existing utility easement. No additional clearing, digging, or filling will be required to complete this project.

According to the Buffer Rules, overhead electric utility line perpendicular crossings of streams and other surface waters that disturb equal to or less than 150 linear feet of riparian buffer are EXEMPT. Uses designated as EXEMPT are allowed within the riparian buffer. EXEMPT uses shall be designed, constructed, and maintained to minimize soil disturbance and to provide the maximum water quality protection practicable. This project meets this threshold and is therefore EXEMPT from the buffer Rules. Consequently, a Buffer Certification from the Division of Water Quality for utility work is not required.

Independent Utility

The subject project is in compliance with 23 CFR Part 771.111(f) which lists the Federal Highway Administration (FHWA) characteristics of independent utility of a project:

- (1) The project connects logical termini and is of sufficient length to address environmental matters on a broad scope,
- (2) The project is usable and a reasonable expenditure, even if no additional transportation improvements are made in the area;
- (3) The project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Indirect and Cumulative Impact Analysis

Existing rules for the 401 Water Quality Certification Program (15A NCAC 2H .0506(b)(4)) require that the DWQ determine that a project “does not result in cumulative impacts, based on past or reasonably anticipated future impacts, that cause or will cause a violation of downstream water quality standards.”

This project consists of replacing a deficient structure. Capacity, traffic patterns and access improvements are not a part of the project's scope of work. Thus, changes in the patterns of development and/or land uses in the vicinity of the bridge project would not be anticipated as stemming from the bridge's replacement. This type of project is not anticipated to alter the existing land uses or increase accessibility to adjacent parcels. Thus, a detailed cumulative impacts study is not necessary.

There are no impaired (303d) streams listed in the project area.

Cultural Resources

Historical Structures: A field survey of the Area of Potential Effects (APE) was conducted on June 20, 1998. All structures within the APE were photographed, and later reviewed by the North Carolina State Historic Preservation Office (HPO). In a concurrence form dated September 3, 1999, the State Historic Preservation Officer (SHPO) concurred that there were no historic architectural resources either listed in or eligible for listing on the National Register of Historic Places within the APE. A copy of the concurrence form is included in the Appendix of the Categorical Exclusion.

Archaeology: The SHPO, in a memorandum dated August 15, 2000, had no comment on the project as was currently proposed. There is little likelihood of any National Register archaeological sites occurring in the project area because of the disturbed landforms, the SHPO recommends no further action. A copy of the SHPO memorandum is included in the Appendix of the Categorical Exclusion.

Wild and Scenic River System: The project will not impact any designated Wild and Scenic Rivers or any rivers included in the list of study rivers (Public Law 90-542, as amended).

Tar-Pamlico Basin Buffer Rules

This project is located in the Tar-Pamlico River Basin (subbasin 03-03-04, TAR4 03020102), therefore the regulations pertaining to the Tar-Pamlico River Buffer Rules (15A NCAC 2B.0259) apply. Buffer impacts associated with this project total 3023.0 sq. ft (0.07 acre) for Zone 1 and 3659.0 sq. ft (0.08 acre) for Zone 2. All practicable measures to minimize impacts within buffer zones were followed. Measures used to minimize impacts to the buffer zone include using the current alignment. According to the buffer rules, bridges are ALLOWABLE. Uses designated as allowable may proceed within the riparian buffer provided that there are no practical alternatives to the requested use pursuant to Item (8) of this Rule. These uses require written authorization from the Division or the delegated local authority. NCDOT received this certification on September 3, 2004.

Federally-Protected Species

Plants and animals with federal classifications of Endangered, Threatened, Proposed Endangered, and Proposed Threatened are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of February 18, 2003, the Fish and Wildlife Service (FWS) lists four federally protected species (Table 1) for Halifax County. Biological conclusions of "No Effect" were rendered for each of these species due to lack of suitable habitat within the project area.

Table 1. Federally-protected species of Halifax County.

Scientific Name	Common Name	Federal Status	Biological Conclusion
<i>Haliaeetus leucocephalus</i>	Bald eagle	T(Proposed for delisting)	No Effect
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	No Effect
<i>Alasmidonta heterodon</i>	Dward wedgemussel	E	No Effect
<i>Elliptio steinstansana</i>	Tar River spinymussel	E	No Effect

Endangered (E) – is defined as a taxon that is threatened with extinction throughout all or a significant portion of its range.

Threatened (T) – A taxon “likely to become endangered within the foreseeable future throughout all or a significant portion of it’s range.”

FHWA Step Down Compliance

All compensatory mitigation must be in compliance with 23 CFR Part 777.9, “Mitigation of Impacts” that describes the actions that should be followed to qualify for Federal-aid highway funding. This process is known as the FHWA “Step Down” procedures:

1. Consideration must be given to mitigation within the right-of-way and should include the enhancement of existing wetlands and the creation of new wetlands in the highway median, borrow pit areas, interchange areas and along the roadside.
2. Where mitigation within the right-of-way does not fully offset wetland losses, compensatory mitigation may be conducted outside the right-of-way including enhancement, creation, and preservation.

Mitigation

Based upon the agreements stipulated in the “Memorandum of Agreement Among the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U.S. Army Corps of Engineers, Wilmington District” (MOA), it is understood that the North Carolina Department of Environment and Natural Resources Ecosystem Enhancement Program (EEP), will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for NCDOT projects that are listed in Exhibit 1 of the subject MOA during the EEP transition period which ends on June 30, 2005.

Since the subject project is listed in Exhibit 1, the necessary compensatory mitigation to offset unavoidable impacts to waters that are jurisdictional under the federal Clean Water Act will be provided by the EEP. The offsetting mitigation will derive from an inventory of assets already in existence within the same 8-digit cataloguing unit. The Department has avoided and minimized impacts to jurisdictional resources to the greatest extent possible as described above. The remaining, unavoidable impacts to 1.75 acres of jurisdictional resources will be offset by compensatory mitigation provided by the EEP program. A letter dated April 19, 2004 notifying NCDOT that the Ecosystem Enhancement Program will be providing compensation for the subject project has been attached to this application.

Regulatory Approvals

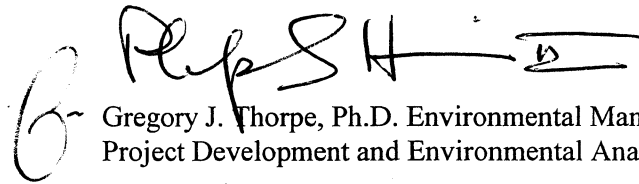
Attached for your information are an ENG form 4345, CE, roadway design plans, and permit drawings for the subject project. Application is hereby made for a Department of the Army Section 404 Individual Permit. We are providing seven copies of this application to the North Carolina Department of Environment and Natural Resources, Division of Water Quality.

Regulatory Approvals

The NCDOT requests that the U. S. Army Corps of Engineers authorize this project. NC Division of Water Quality issued a 401 Certification and Tar-Pamlico Buffer Certification on September 3, 2004. A copy of each is attached.

A copy of this permit application will be posted on the DOT website at:
<http://www.ncdot.org/planning/pe/naturalunit/Permit.html>. If you have any questions or need additional information, please Tyler Stanton at tstanton@dot.state.nc.us or (919) 715-1439.

Sincerely,

A handwritten signature in black ink, appearing to read "Greg J. Thorpe", with a stylized flourish at the end.

Gregory J. Thorpe, Ph.D. Environmental Management Director,
Project Development and Environmental Analysis Branch

cc:

W/attachment:

Mr. David Franklin, USACE, Wilmington (Cover Letter Only)
Mr. John Hennessy, NCDWQ (7 copies)
Mr. Travis Wilson, NCWRC
Ms. Becky Fox, USEPA – Whittier, NC
Mr. Ronald Mikulak, USEPA – Atlanta, GA
Mr. Gary Jordan, USFWS
Mr. Ron Sechler, NMFS
Mr. Michael Street, NCDMF
Mr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Jim Trogdon, PE, Division Engineer
Mr. Jamie Shern, DEO

W/o attachment:

Mr. Jay Bennett, P.E., Roadway Design
Mr. Omar Sultan, Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Mark Staley, Roadside Environmental
Ms. Beth Harmon, EEP
Mr. Joseph Qubain, PDEA

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
(33 CFR 325)

OMB APPROVAL NO. 0710-003
Expires December 31, 2004

Public reporting burden for this collection of information is estimated to average 10 hours per response, although the majority of applications should require 5 hours or less. This includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003), Washington, DC 20503. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authority: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research and Sanctuaries Act, 33 USC 1413, Section 103. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME North Carolina Department of Transportation Project Development & Environmental Analysis	8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required)
6. APPLICANT'S ADDRESS 1548 Mail Service Center Raleigh, NC 27699	9. AGENT'S ADDRESS
7. APPLICANT'S PHONE NOS. W/AREA CODE a. Residence b. Business 919-733-7844	10. AGENT'S PHONE NOS. W/AREA CODE a. Residence b. Business

11. STATEMENT OF AUTHORIZATION

I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE

DATE

NAME, LOCATION, AND DESCRIPTION OR PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

Proposed Replacement of Bridge Nos. 40 and 45 on SR 1003 (Thirteen Bridges Road) over Beech Swamp in Halifax County

13. NAME OF WATERBODY, IF KNOWN (if applicable)
Beech Swamp

14. PROJECT STREET ADDRESS (if applicable)

15. LOCATION OF PROJECT

Halifax COUNTY NC STATE

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) Section, Township, Range, Lat/Lon, and/or Accessors's Parcel Number, for example.

17. DIRECTIONS TO THE SITE

US301 North to Enfield; Right on SR 1003 approximately 8 miles East of Enfield.

18. Nature of Activity (Description of project, include all features)

The project involves replacing Bridge No. 40 on a new alignment while replacing Bridge No. 45 on the existing alignment.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The replacement of inadequate structures will result in safer and more efficient traffic operations. These bridges are considered functionally obsolete and structurally deficient.

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

Widening of approaches associated with bridge construction.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards

See attached permit drawings.

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

1.75 acres of wetland. This includes 1.04 acres of permanent fill, 0.04 acre of excavation, and 0.67 acre if mechanized clearing

23. Is Any Portion of the Work Already Complete? Yes ___ No X IF YES, DESCRIBE THE COMPLETED WORK

24. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (If more than can be entered here, please attach a supplemental list).

See Attached List

25. List of Other Certifications or Approvals/Denials Received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
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N/A

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.


SIGNATURE OF APPLICANT

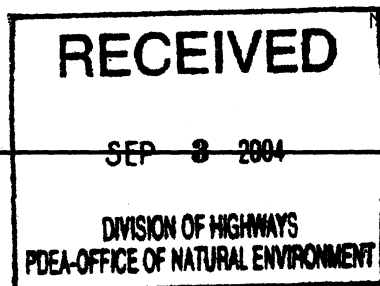
12/6/04
DATE

SIGNATURE OF AGENT

DATE

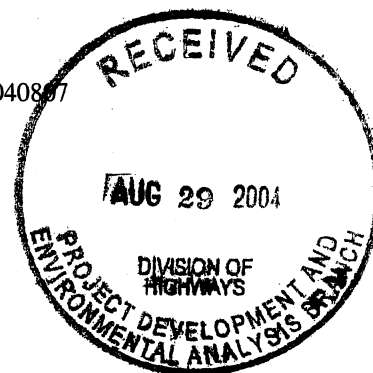
The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.



Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources
Alan W. Klimek, P.E. Director
Division of Water Quality

August 27, 2004
Halifax County
DWQ Project No. 040807
TIP No. B-3467



APPROVAL of 401 Water Quality Certification

Dr. Gregory J. Thorpe, PhD, Manager
Planning and Environmental Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina, 27699-1548

Dear Dr. Thorpe:

You have our approval, in accordance with the conditions listed below, for the following impacts for the purpose of replacing Bridge No. 40 and Bridge No. 45 over Beech Swamp on SR 1003 (Thirteen Bridges Road) in Halifax County.

Impact Locations	Stream Impacts (Linear Feet)	Riparian Buffer Impacts (Square Feet)	Wetland Impacts (acres)
STA 19 + 75 to STA 21 + 45	0	6,682 (3,023 Zone 1 + 3,659 Zone 2)	NONE
STA 15 + 50 to STA 35 + 50	0	0	1.04 (Fill)
STA 15 + 50 to STA 35 + 50	0	0	0.04 (Excavation)
STA 15 + 50 to STA 35 + 50	0	0	0.67 (Mechanized Clearing)
Total	0	6,682	1.75

The project shall be constructed in accordance with your revised application dated received July 14, 2004. After reviewing your application, we have decided that these impacts are covered by General Water Quality Certification Number 3374, 3403 and 3366. This certification corresponds to the Nationwide Permit 12, Nationwide Permit 23 and Nationwide Permit 33 issued by the Corps of Engineers. This approval is also valid for the Tar-Pamlico River Buffer Rules (15A NCAC 2B .0259). In addition, you should acquire any other federal, state or local permits before you proceed with your project including (but not limited to) Sediment and Erosion Control, Non-Discharge and Water Supply Watershed regulations. This approval will expire with the accompanying 404 permit, unless otherwise specified in the Water Quality Certification.

This approval is valid solely for the purpose and design described in your application (unless modified below). Should your project change, you must notify the DWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If total wetland fills for this project (now or in the future) exceed one acre, or of total impacts to streams (now or in the future) exceed 150 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you must adhere to the conditions listed in the attached certification.

RECEIVED

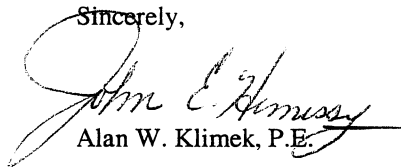
- 1.) Upon completion of the project, the NCDOT shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed. The responsible party shall complete the attached form and return it to the 401/Wetlands Unit of the Division of Water Quality upon completion of the project.
- 2.) The NCDOT will need to adhere to all appropriate in-water work moratoriums (including the use of pile driving or vibration techniques) prescribed by the NC Wildlife Resources Commission, the US Fish and Wildlife Service, and National Marine Fisheries Service.
- 3.) No in-water work is permitted between March 1 to June 30 of any year, without prior approval from the NC Division of Water Quality and the NC Wildlife Resources Commission. In addition, NCDOT shall conform with the NCDOT policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage (May 12, 1997) at all times
- 4.) All stormwater runoff shall be directed to sheetflow through stream buffers at nonerosive velocities, unless approved otherwise by this certification.
- 5.) During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.
- 6.) Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
- 7.) The dimension, pattern and profile of the stream above and below the crossing should not be modified by widening the stream channel or reducing the depth of the stream. Disturbed floodplains and streams should be restored to natural geomorphic conditions.
- 8.) Any riprap used must not interfere with thalweg performance and aquatic life passage during low flow conditions.
- 9.) All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
- 10.) Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
- 11.) The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by orange fabric fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.
- 12.) There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit. Should waste or borrow sites be located in wetlands or stream, compensatory mitigation will be required since it is a direct impact from road construction activities.
- 13.) The NCDOT shall strictly adhere to sediment and erosion control Best Management Practices as described for High Quality Waters entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0024) throughout design and construction of the project.
- 14.) Pursuant to NCAC15A 2B.0259(6), sediment and erosion control devices shall not be placed in Zone 1 of any Tar-Pamlico Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1 outside the identified impacts presented in your application. Sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.

- 15.) The post-construction removal of any temporary bridge structures will need to return the project site to its preconstruction contours and elevations. The revegetation of the impacted areas with appropriate native species may also be necessary.
- 16.) When the old bridge is removed, no discharge of bridge material into surface waters is preferred. Strict adherence to the Corps of Engineers guidelines for bridge demolition will be a condition of the 401 Water Quality Certification.
- 17.) No live or fresh concrete shall come into contact with waters of the state until the concrete has hardened.
- 18.) Heavy equipment must be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into the stream.
- 19.) The presence of equipment in the channels must be minimized. Under no circumstances must rock, sand or other materials be dredged from the wetted stream channel under authorization of this permit, except in the immediate vicinity of the culverts.
- 20.) All work shall be performed during low or normal flow conditions.
- 21.) A copy of this Water Quality Certification shall be posted on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.
- 22.) We understand that you have chosen to perform compensatory mitigation for impacts to protected wetlands through the North Carolina Ecosystem Enhancement Program (NCEEP), and that the EEP has agreed to implement the mitigation for the project. The letter from EEP agrees to provide compensation for the 1.75 acres of unavoidable impacts to the wetlands located in CU 03020102 of the Tar-Pamlico River Basin in the Northern Inner Coastal Plain Eco-Region.
- 23.) No changes to the horizontal or vertical placement of the stormwater outfall locations, the horizontal or vertical placement of the culverts, the horizontal or vertical placement of bridges, the horizontal or vertical placement of grassed swales, or the horizontal or vertical placement of open ditches is permitted without written approval from the NC Division of Water Quality 401 Wetlands Unit. In addition, no changes to the flow spreader locations or designs, preformed scour hole locations or designs are permitted without written approval from the NC Division of Water Quality 401 Wetlands Unit. Any request for changes to the referenced items above will require submittal of a modification request, with seven copies, and corresponding fees will need to be submitted to the North Carolina Division of Water Quality.
- 24.) All protected riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated with native woody species upon completion of the project construction. A post-construction as-built with the restoration activities included shall be submitted to the DWQ no later than 60 days after the project is closed out by the Department of Transportation.

If you do not accept any of the conditions of this certification, you may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. To ask for a hearing, send a written petition that conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, P.O. Box 27447, Raleigh, N.C. 27611-7447. This certification and its conditions are final and binding unless you ask for a hearing.

This letter completes the review of the Division of Water Quality under Section 401 of the Clean Water Act. If you have any questions, please contact Nicole Thomson at 919-715-3415.

Sincerely,



Alan W. Klimek, P.E.

Attachment

cc: Wilmington District US Army Corps of Engineers
John Thomas, US Army Corps of Engineers, Raleigh Field Office
Mr. Jim Trogdon, PE, Division 4 Engineer, PO Box 3165, Wilson, NC 27895
Mr. Jamie Shern, Division 4 Environmental Officer, PO Box 3165, Wilson, NC 27895
NCDWQ Raleigh Regional Office
File Copy
Central Files

DWQ Project No.: _____

County: _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401/Wetlands Unit, North Carolina Division of Water Quality, 1621 Mail Service Center, Raleigh, NC, 27699-1621. This form may be returned to DWQ by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Engineer's Certification

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project, for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____

Date _____

**NORTH CAROLINA – DIVISION OF WATER QUALITY
401 WATER QUALITY CERTIFICATION
SUMMARY OF PERMITTED IMPACTS AND MITIGATION REQUIREMENTS**

In accordance with 15A NCAC 2H.0500, NCDOT, DWQ Project No. 040807 is authorized to impact the surface waters of the State of North Carolina as indicated below for the purpose of replacement of Bridge No. 40 and Bridge No. 45 over Beech Swamp on SR 1003 (Thirteen Bridges Road) in Halifax County. All activities associated with these authorized impacts must be conducted in accordance with the conditions listed in the attached Certification transmittal letter. **THIS CERTIFICATION IS NOT VALID WITHOUT THE ATTACHMENTS.**

Summary of Impacts

COMPENSATORY MITIGATION REQUIREMENTS:

LOCATION: Replacement of Bridge No. 40 and Bridge No. 45 over Beech Swamp on SR 1003 (Thirteen Bridges Road)

COUNTY: Halifax County

BASIN/SUBBASIN: Tar-Pamlico, Hydrologic Unit 03020102

As required by 15A NCAC 2B .0250 and 15A NCAC 2H .0506(h), and the conditions of this Certification, you are required to compensate for the above impacts through the restoration, creation, enhancement or preservation of wetlands, buffers, and surface waters as outlined below *prior* to conducting any activities that impact or degrade waters of the state. Mitigation to be performed by NC Ecological Enhancement Program in Hydrologic Unit 030201002

- 1.75 acres of riverine wetlands.

One of the options you have available to satisfy the compensatory mitigation requirements is through payment of a fee to the Ecosystem Enhancement Program per 15A NCAC 2R .0503. If you choose this option, please sign this form and mail it to the address listed below. An invoice for the appropriate amount of payment will be sent to you upon receipt of this form. **PLEASE NOTE, THE ABOVE IMPACTS ARE NOT AUTHORIZED UNTIL YOU RECEIVE NOTIFICATION THAT YOUR PAYMENT HAS BEEN PROCESSED BY THE ECOSYSTEM ENHANCEMENT PROGRAM.**

Signature

Date

ECOSYSTEM ENHANCEMENT PROGRAM
1652 Mail Service Center
RALEIGH, NC, 27699-1652

WQC #3374

UTILITY LINE BACKFILL AND BEDDING CERTIFICATION

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBER 12 OR REGIONAL PERMIT 198100049 (UTILITY LINE BACKFILL AND BEDDING) AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)

This General Certification is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (DWQ) Regulations in 15A NCAC 2H, Section .0500 and 15A NCAC 2B .0200 for the discharge of fill material to waters and wetland areas as described in 33 CFR 330 Appendix A (B) (12) and General Permit No. 198100049 of the Corps of Engineers regulations (i.e., including any fill activity for utility line backfill and bedding) and for the Riparian Area Protection Rules (Buffer Rules) in 15A NCAC 2B .0200. This certification replaces Water Quality Certification (WQC) Number 2664 issued on January 21, 1992, Water Quality Certification Number 3022 issued on September 6, 1995, Water Quality Certification (WQC) Number 3101 issued on February 11, 1997 and Water Quality Certification Number 3288 issued on June 1, 2000. This WQC is rescinded when the Corps of Engineers reauthorize Nationwide 12 or Regional Permit 198100049 or when deemed appropriate by the Director of the Division of Water Quality.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Conditions of Certification:

1. Activities covered by this General Certification do not require written concurrence from the Division of Water Quality as long as they comply with all conditions of this General Certification and the conditions of Nationwide 12 or Regional Permit 198100049 as appropriate. If any condition in this Certification cannot be met, application to and written concurrence from DWQ are required. Also, Condition No. 6 is applicable to all streams in basins with riparian area protection rules;
2. In accordance with North Carolina General Statute Section 143-215.3D(e), any request for written concurrence for a 401 Water Quality Certification must include the appropriate fee. If a project also requires a CAMA Permit, one payment to both agencies shall be submitted and will be the higher of the two fees;
3. In accordance with 15A NCAC 2H .0506 (h) compensatory mitigation may be required for stream and/or wetland impacts. Streamside buffer mitigation may be required for any project with Buffer Rules in effect at the time of application for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A determination of buffer, wetland and stream mitigation requirements shall be made by DWQ for any Certification involving written concurrences including those for relevant Buffer Rules;
4. The edge of the construction corridor shall not be installed parallel to and closer than 10 feet (3 meters) to a stream and 25 feet in waters classified as HQW. Utility lines shall not cross a stream channel at other than a near-perpendicular direction (i.e., stream channel crossings shall not be at an angle of less than 75 degrees or more than 105 degrees to the stream bank);

WQC #3374

5. Any wastewater line that crosses any stream shown on the most recent version of the 1:24,000 USGS topographic map or NRCS (SCS) County Soil Survey as permanent or intermittent shall be installed with no joints connected within the footprint of a stream channel or within 2 feet of the stream banks. Otherwise, written concurrence from DWQ is required;
6. Impacts to any stream length in the Neuse, Tar-Pamlico, Randleman and Catawba River Basins (or any other river basins with Buffer Rules in effect at the time of application) requires written concurrence from DWQ in accordance with 15A NCAC 2B.0233, .0259, .0250 and .0243. Activities listed as "exempt" from these rules do not need to apply for written concurrence under this Certification. New development activities located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse, Tar-Pamlico and Randleman River Basins shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0233, .0259, .0250 and .0243. All new development shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices;
7. Measures shall be taken to prevent live or fresh concrete from coming into contact with waters of the state until the concrete has hardened;
8. Herbicides can be applied in wetlands or other waters only when applied by a certified applicator, and in strict accordance with product labeling;
9. Placement of rip rap is restricted to the stream bottom and banks directly impacted by the placement of the utility line. Rip rap may only be used below the normal high water level. The stream cross section must be restored to its original grade and elevation. Placement of rip rap or other materials shall not result in de-stabilization of the stream bed or banks upstream of downstream of the crossing;
10. That appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" or the "North Carolina Surface Mining Manual" whichever is more appropriate (available from the Division of Land Resources (DLR) in the DENR Regional or Central Offices) shall be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standard;
11. All sediment and erosion control measures placed in wetlands or waters shall be removed and the original grade restored within two months after the Division of Land Resources has released the project;
12. Annual native species suitable for wet locations shall be planted and established within jurisdictional wetlands for soil and erosion control. Perennials such as fescue are prohibited;
13. No fertilizer shall be applied within 10 feet (3 meters) of streams. Any fertilizer application must comply with all other Federal, State and Local regulations;
14. The construction corridor (including access roads and stockpiling of materials) is limited to 40 feet (12.2 meters) in width in wetlands and across stream channels and must be minimized to the maximum extent practicable;

WQC #3374

15. Permanent, maintained access corridors shall be restricted to the minimum width practicable and shall not exceed 10 feet (3 meters) in width except at manhole locations. A 10 feet (3 meters) by 10 feet (3 meters) perpendicular vehicle turnaround must be spaced at least 500 feet (152.4 meters) apart. Written concurrence is required if the maintenance corridor is greater than 10 feet (3 meters) wide except that a maintenance corridor larger than ten feet is acceptable for gas pipelines as long as mitigation is provided for additional wetland fills to the maintenance corridor beyond those widths specified in this General Certification;
16. An anti-seep collar shall be placed at the downstream (utility line gradient) wetland boundary and every 150 feet (45.7 meters) up the gradient until the utility exits the wetland for buried utility lines. Anti-seep collars may be constructed with class B concrete, compacted clay, PVC pipe, or metal collars. Wetland crossings that are directionally drilled, and perpendicular wetland crossings that are open cut and less than 150 feet (45.7 meters) long do not require anti-seep collars. The compacted clay shall have a specific discharge of 1 X 10⁻⁵ cm/sec or less. A section and plan view diagram is attached for the anti-seep collars;

The following specifications shall apply to class B concrete:

- a) Minimum cement content, sacks per cubic yard with rounded course aggregate 5.0
 - b) Minimum cement content, sacks per cubic yard with angular course aggregate 5.5
 - c) Maximum water-cement ratio gallons per sack 6.8
 - d) Slump range 2" to 4"
 - e) Minimum strength - 28 day psi 2,500
17. This General Certification does not authorize any permanent changes in pre-construction elevation contours in waters or wetlands or stream dimension, pattern or profile. The permittee will have a specific plan for restoring wetland contours. Any excess material will be removed to a high ground disposal area;
 18. If an environmental document is required, this Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse;
 19. Stormwater management will not be required for this Certification as long as all other Conditions are met. However, in the twenty coastal counties, the appropriate DWQ Regional Office must be contacted to determine if Coastal Stormwater Regulations still apply;
 20. Compensatory mitigation (i.e., restoration, creation or preservation) for wetland losses will not be required for this Certification if written concurrence is not needed;
 21. Payment of a dollar per acre figure into the Wetland Restoration Program for these impacts is acceptable when compensatory mitigation is required as long as the Wetlands Restoration Program agrees in writing to accept this payment. Other mitigation plans must receive written DWQ concurrence;
 22. This Certification does not relieve the applicant of the responsibility to obtain all other required Federal, State or local approvals;
 23. Additional site-specific conditions may be added to projects for which written concurrence is required or requested under this Certification in order to ensure compliance with all applicable water quality and effluent standards;

WQC #3374

24. Concurrence from DWQ that this Certification applies to an individual project shall expire three years from the date of the cover letter from DWQ or on the same day as the expiration date of the corresponding Nationwide Permit 12 or Regional Permit 198100049 whichever is sooner;
25. When written concurrence is required, the applicant is required to use the most recent version of the Certification of Completion form to notify DWQ when all work included in the 401 Certification has been completed.

Non-compliance with or violation of the conditions herein set forth by a specific fill project may result in revocation of this Certification for the project and may also result in criminal and/or civil penalties.

The Director of the North Carolina Division of Water Quality may require submission of a formal application for individual certification for any project in this category of activity that requires written concurrence under this certification, if it is determined that the project is likely to have a significant adverse effect upon water quality or degrade the waters so that existing uses of the wetland or downstream waters are precluded.

Public hearings may be held for specific applications or group of applications prior to a certification decision if deemed in the public's best interest by the Director of the North Carolina Division of Water Quality.

Effective date: 18 March 2002

DIVISION OF WATER QUALITY

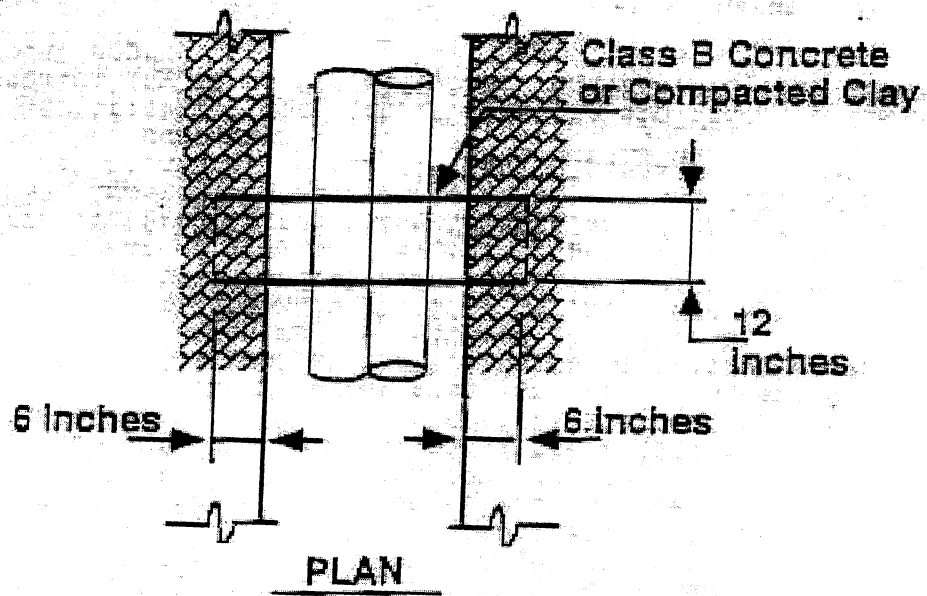
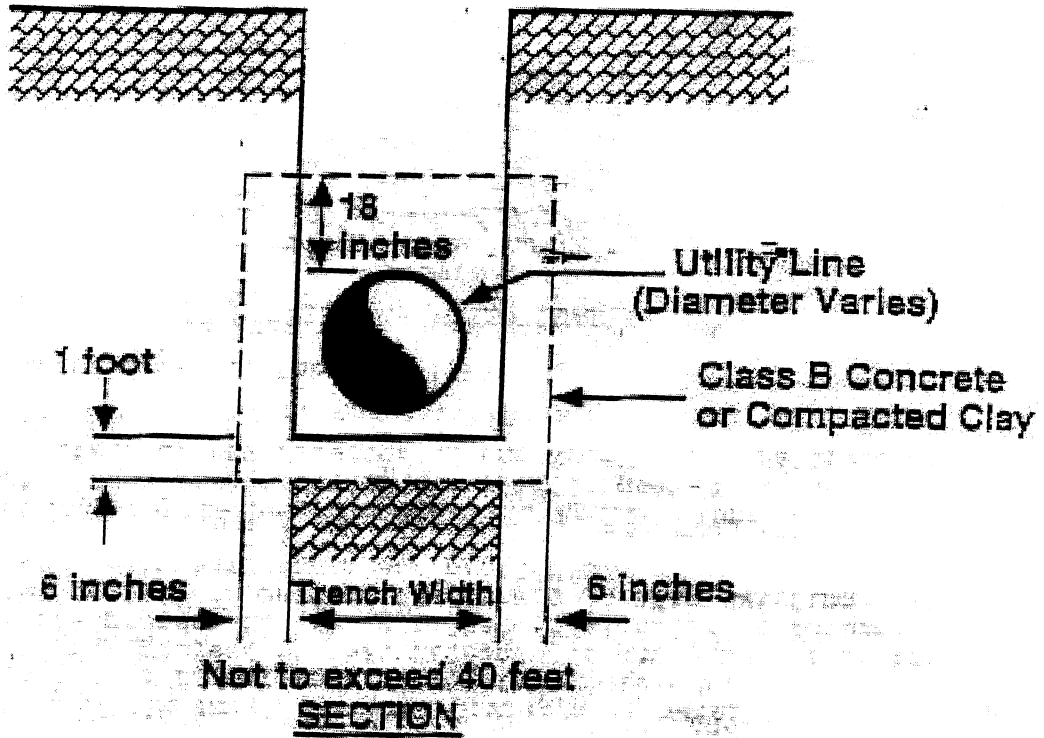
By

Gregory J. Thorpe, Ph.D.

Acting Director

WQC # 3374

ANTI-SEEP COLLAR



WQC #3403

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBER 23 (APPROVED CATEGORICAL EXCLUSIONS) AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)

This General Certification is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality Regulations in 15A NCAC 2H, Section .0500 and 15A NCAC 2B .0200 for the discharge of fill material to waters and wetland areas as described in 33 CFR 330 Appendix A (B) (23) and for the Riparian Area Protection Rules (Buffer Rules) in 15A NCAC 2B .0200. This Certification replaces Water Quality Certification Number 2670 issued on January 21, 1992, Certification Number 2734 issued on May 1 1993, Certification Number 3107 issued on February 11, 1997 and Water Quality Certification Number 3361 issued March 18, 2002. This WQC is rescinded when the Corps of Engineers re-authorizes Nationwide Permit 23 or when deemed appropriate by the Director of the DWQ.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Conditions of Certification:

1. Proposed fill or substantial modification of wetlands or waters (including streams) under this General Certification requires notification to the Division of Water Quality. Two copies shall be submitted to DWQ at the time of notification in accordance with 15A NCAC 2H .0501(a). Written concurrence from DWQ is not required unless any standard conditions of this Certification cannot be met;
2. Appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" or the "North Carolina Surface Mining Manual" whichever is more appropriate (available from the Division of Land Resources (DLR) in the DENR Regional or Central Offices) shall be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standard;
3. In accordance with 15A NCAC 2H .0506 (h) compensatory mitigation may be required for impacts to 150 linear feet or more of streams and/or one acre or more of wetlands. In addition, buffer mitigation may be required for any project with Buffer Rules in effect at the time of application for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A determination of buffer, wetland and stream mitigation requirements shall be made for any Certification for this Nationwide Permit. The most current design and monitoring protocols from DWQ shall be followed and written plans submitted for DWQ approval as required in those protocols. When compensatory mitigation is required for a project, the mitigation plans must be approved by DWQ in writing before the impacts approved by the Certification occur. The mitigation plan must be implemented and/or constructed before any permanent building or structure on

WQC #3403

site is occupied. In the case of public road projects, the mitigation plan must be implemented before the road is opened to the travelling public;

4. Compensatory stream mitigation shall be required at a 1:1 ratio for not only perennial but also intermittent stream impacts equal to or exceeding 150 feet and that require application to DWQ in watersheds classified as ORW, HQW, Tr, WS-I and WS-II unless the project is a linear, publicly-funded transportation project, which has a 150-foot per-stream impact allowance;
5. All sediment and erosion control measures placed in wetlands or waters shall be removed and the original grade restored within two months after the Division of Land Resources has released the project;
6. Measures shall be taken to prevent live or fresh concrete from coming into contact with freshwaters of the state until the concrete has hardened;
7. In accordance with North Carolina General Statute Section 143-215.3D(e), any request for written concurrence for a 401 Water Quality Certification must include the appropriate fee. If a project also requires a CAMA Permit, one payment to both agencies shall be submitted and will be the higher of the two fees;
8. Impacts to any stream length in the Neuse, Tar-Pamlico, Randleman and Catawba River Basins (or any other river basins with Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) requires written concurrence from DWQ in accordance with 15A NCAC 2B.0200. Activities listed as "exempt" from these rules do not need to apply for written concurrence under this Certification. New development activities located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse, Tar-Pamlico, Randleman and Catawba River Basins shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0200. All new development shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices;
9. Additional site-specific conditions may be added to projects for which written concurrence is required or requested under this Certification in order to ensure compliance with all applicable water quality and effluent standards;
10. Concurrence from DWQ that this Certification applies to an individual project shall expire three years from the date of the cover letter from DWQ or on the same day as the expiration date of the corresponding Nationwide and Regional General Permits, whichever is sooner;
11. When written concurrence is required, the applicant is required to use the most recent version of the Certification of Completion form to notify DWQ when all work included in the 401 Certification has been completed.

Non-compliance with or violation of the conditions herein set forth by a specific fill project shall result in revocation of this Certification for the project and may result in criminal and/or civil penalties.

WQC #3403

The Director of the North Carolina Division of Water Quality may require submission of a formal application for individual certification for any project in this category of activity that requires written concurrence under this certification, if it is determined that the project is likely to have a significant adverse effect upon water quality or degrade the waters so that existing uses of the wetland, stream or downstream waters are precluded.

Public hearings may be held for specific applications or group of applications prior to a Certification decision if deemed in the public's best interest by the Director of the North Carolina Division of Water Quality.

Effective date: March 2003

DIVISION OF WATER QUALITY

By

Alan W. Klimek, P.E.

Director

WQC # 3403

WQC #3366

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBER 33 (TEMPORARY CONSTRUCTION, ACCESS AND DEWATERING) AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)

This General Certification is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality Regulations in 15A NCAC 2H, Section .0500 and 15A NCAC 2B .0200 for the discharge of fill material to waters and wetland areas as described in 33 CFR 330 Appendix A (B) (33) of the Corps of Engineers regulations (i.e., Nationwide Permit No. 33) and for the Riparian Area Protection Rules (Buffer Rules) in 15A NCAC 2B .0200. The category of activities shall include any fill activity for temporary construction, access and de-watering. This Certification replaces Water Quality Certification Number 2727 issued on May 1, 1992 and Certification Number 3114 issued on February 11, 1997. This WQC is rescinded when the Corps of Engineers reauthorize Nationwide Permit 33 or when deemed appropriate by the Director of the DWQ.

The State of North Carolina certifies that the specified category of activity will not violate appropriate portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Conditions of Certification:

1. These activities do not require written concurrence from the Division of Water Quality as long as they comply with all conditions of this General Certification. If any condition in this Certification cannot be met, application to and written concurrence from DWQ are required. Also, Condition No. 2 is applicable to all streams in basins with riparian area protection rules;
2. Impacts to any stream length in the Neuse, Tar-Pamlico and Randleman River Basins (or any other major river basins with Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) requires written concurrence from DWQ in accordance with 15A NCAC 2B.0200. Activities listed as "exempt" from these rules do not need to apply for written concurrence under this Certification. New development activities located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse, Tar-Pamlico, Randleman and Catawba River Basins shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0200. All new development shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices;
3. Appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" or the "North Carolina Surface Mining Manual" whichever is more appropriate (available from the Division of Land Resources (DLR) in the DENR Regional or Central Offices) shall be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standard;

WQC #3366

4. All sediment and erosion control measures placed in wetlands or waters shall be removed and the original grade restored within two months after the Division of Land Resources has released the project;
5. If an environmental document is required, this Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse;
6. Placement of culverts and other structures in waters, streams, and wetlands must be placed below the elevation of the streambed to allow low flow passage of water and aquatic life unless it can be shown to DWQ that providing passage would be impractical. Design and placement of culverts including open bottom or bottomless arch culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in aggradation, degradation or significant changes in hydrology of wetlands or stream beds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium shall be maintained if requested in writing by DWQ. Additionally, when roadways, causeways or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges must be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in aggradation, degradation or significant changes in hydrology of streams or wetlands;
7. Measures shall be taken to prevent live or fresh concrete from coming into contact with waters of the state until the concrete has hardened;
8. All temporary fill shall be removed to the original grade after construction is complete and the site shall be stabilized to prevent erosion;
9. Pipes shall be installed under the road or causeway in all streams to carry at least the 25 year storm event as outlined in the most recent edition of the "North Carolina Sediment and Erosion Control Planning and Design Manual" or the "North Carolina Surface Mining Manual" so as not to restrict stream flow during use of this Certification;
10. In accordance with North Carolina General Statute Section 143-215.3D(e), any request for written concurrence for a 401 Water Quality Certification must include the appropriate fee. If a project also requires a CAMA Permit, one payment to both agencies shall be submitted and will be the higher of the two fees;
11. Additional site-specific conditions may be added to projects for which written concurrence is required or requested under this Certification in order to ensure compliance with all applicable water quality and effluent standards;
12. Concurrence from DWQ that this Certification applies to an individual project shall expire three years from the date of the cover letter from DWQ or on the same day as the expiration date of these corresponding Nationwide and Regional General Permits, whichever is sooner;

WQC #3366

13. When written concurrence is required, the applicant is required to use the most recent version of the Certification of Completion form to notify DWQ when all work included in the 401 Certification has been completed.

Non-compliance with or violation of the conditions herein set forth by a specific fill project shall result in revocation of this Certification for the project and may result in criminal and/or civil penalties.

The Director of the North Carolina Division of Water Quality may require submission of a formal application for individual certification for any project in this category of activity that requires written concurrence under this certification, if it is determined that the project is likely to have a significant adverse effect upon water quality or degrade the waters so that existing uses of the wetland, stream or downstream waters are precluded.

Public hearings may be held for specific applications or group of applications prior to a Certification decision if deemed in the public's best interest by the Director of the North Carolina Division of Water Quality.

Effective date: 18 March 2002

DIVISION OF WATER QUALITY

By

Gregory J. Thorpe, Ph.D.

Acting Director

WQC # 3366

Halifax County

SR 1003

Bridge No. 40 and Bridge No. 45 over Beech Swamp

Federal-Aid Project No. BRSTP-1003(23)

State Project No. 8.2301201

T.I.P. No. B-3467

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

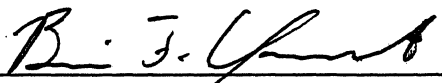
AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

APPROVED:

9/4/01
DATE


for William D. Gilmore, P.E., Manager
Project Development and Environmental
Analysis Branch, NCDOT

9-14-01
DATE


for Nicholas L. Graf, P.E.
Division Administrator, FHWA

Halifax County

SR 1003

Bridge No. 40 and Bridge No. 45 over Beech Swamp

Federal-Aid Project No. BRSTP-1003(23)

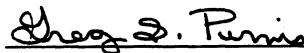
State Project No. 8.2301201

T.I.P. No. B-3467

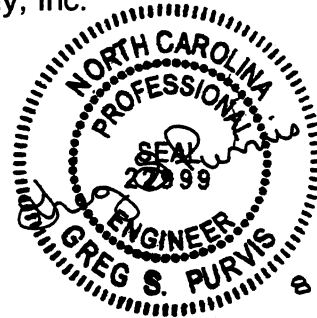
CATEGORICAL EXCLUSION

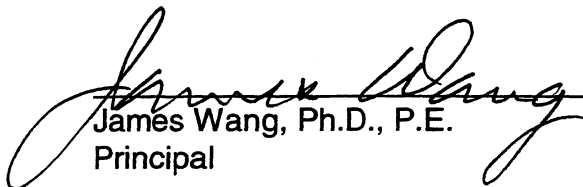
August 2001

Document Prepared by:
Wang Engineering Company, Inc.



Greg S. Purvis, P.E.
Project Manager





James Wang, Ph.D., P.E.
Principal

For the North Carolina Department of Transportation



Stacy B. Harris, P.E.
Project Manager
Consultant Engineering Unit

PROJECT COMMITMENTS

Halifax County

SR 1003

Bridge No. 40 and Bridge No. 45 Over Beech Swamp

Federal-Aid Project No. BRSTP-1003(23)

State Project No. 8.2301201

T.I.P. No. B-3467

In addition to the standard Nationwide Permit No. 23 Conditions, the General Nationwide Permit Conditions, Section 404 Only Conditions, Regional Conditions, State Consistency Conditions, NCDOT's Guidelines for Best Management Practices for Bridge Demolition and Removal, NCDOT's Guidelines for Best Management Practices for the Protection of Surface Waters, General Certification Conditions, and Section 401 Conditions of Certification, the following special commitments have been agreed to by NCDOT:

Construction Contract Officer, Division Engineer

A construction moratorium for no in-stream work or discharges into the swamp will be in effect from March 1 to June 30, to protect anadromous fish during spawning.

Division Engineer

The Stream Crossing Guidelines for Anadromous Fish Passage will be implemented, as applicable.

Roadway Design, Hydraulic Unit, and Division Engineer

The Tar-Pamlico River Buffer Rules will be implemented during the design, construction and maintenance of this project.

**Halifax County
SR 1003
Bridge No. 40 and Bridge No. 45 Over Beech Swamp
Federal-Aid Project No. BRSTP-1003(23)
State Project No. 8.2301201
T.I.P. No. B-3467**

INTRODUCTION: The replacement of Bridge No. 40 and Bridge No. 45 are included in the 2002-2008 North Carolina Department of Transportation (NCDOT) Transportation Improvement Program (TIP) and 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

Bridge Maintenance Unit records indicated Bridge No. 40 has a sufficiency rating of 32.1 out of a possible 100 for a new structure and Bridge No. 45 has a sufficiency rating of 28.6 out of 100. The bridges are considered functionally obsolete and structurally deficient. The replacement of inadequate structures will result in safer and more efficient traffic operations.

II. EXISTING CONDITIONS

SR 1003 (Thirteen Bridges Road) is classified as a rural major collector. Land use in the project area is predominantly undeveloped wood and swampland.

Bridge No. 40 was constructed in 1968. The south approach of Bridge No. 40 has a 5.5-degree (322.5 meter radius) curve from the south and has a 6.75-degree (261.3 meter radius) curve from the north. The existing structure is 151-feet (45.3-meters) in length, which consists of five spans with the maximum span at 30.5-feet (9.2-meters). The clear roadway width is 29-feet (8.7-meters), providing two 10.5-feet (3.2-meters) travel lanes with four feet (1.2-meters) shoulders. The superstructure is prestressed concrete channels with an asphalt wearing surface. The substructure is an abutment type, consisting of timber end bents with reinforced concrete caps. The interior bents consist of reinforced concrete caps on timber piles. The bed to crown height is 13 feet (3.9 meters). The posted weight limit is 21 tons (19.1 megagrams [Mg]) for single vehicles (SV) and 24 tons (21.8 Mg) for truck-tractors semi-trailers (TTST).

Bridge No. 45 was constructed in 1974. The existing structure is 121-feet (36.3-meters) in length, which consist of three spans with the maximum span at 40-feet (12.0-meters). The clear roadway width is 28-feet (8.4-meters), providing two nine feet (2.7-meters) travel lanes with five foot (1.5-meters) shoulders. The superstructure consists of steel plank flooring on steel I-Beams with an asphalt-wearing surface. Bridge No. 45 consists of timber abutments on timber caps with interior bents consisting of timber caps on timber piles. The bed to crown height is 13 feet (3.9 meters). The posted weight limit is 22 tons (20.0 Mg) for all vehicles. The bridge and approaches are tangent.

The posted speed limit for both bridges is 55 mph (90 kilometers per hour).

The 2001 estimated average daily traffic volume is 850 vehicles per day (vpd) for the bridges. The projected traffic volume is expected to increase to 1,500 vpd by the design year 2025 for

the bridges. The volumes include one (1) percent truck-tractor semi-trailer (TTST) and two (2) percent dual-tired vehicles (DT).

There are electrical lines in the project vicinity. The electrical lines run parallel along the east side of SR 1003 north of Bridge No. 40 where they then cross over the road and run parallel along the west side of SR 1003 past Bridge No. 45. Telephone lines are located on the east side of SR 1003 and run parallel to the roadway. They are aerial over the swamp. There are no utilities attached to the bridges. Utility impacts are anticipated to be low.

Two accidents were reported in the vicinity of the bridge during the period from January 1, 1995 to December 31, 1997.

Three school busses cross these bridges twice daily.

III. ALTERNATIVES

A. Project Description

The proposed structure to replace Bridge No. 40, will provide 34-feet (10.2-meters) of clear roadway width consisting of two 11-foot (3.3-meter) travel lanes including three feet (0.9-meter) of shoulder on the west side, and nine feet (2.7-meters) of shoulder on the east side (Figure 4). Since Bridge No. 40 is in a 4.25 degree (417.5 meter radius) curve, there is six feet (1.8 meters) of extra shoulder on the east side to provide adequate stopping sight distance. The proposed structure to replace Bridge No. 45 will provide 28-feet (8.4-meters) of clear roadway width consisting of two 11-foot (3.3-meter) travel lanes including three foot (one meter) shoulders. The design speed will be 60 mph (100 km/h). The approach work will be approximately 2310 feet (693 meters) in length. The proposed right-of-width is 80 feet (24 meters).

The typical roadway for Bridge No. 45 will consist of two 11-foot (3.3-meter) travel lanes and six foot (1.8-meter) grass shoulders. The typical roadway for Bridge No. 40 will consist of two 12-foot (3.6 meter) travel lanes and six foot (1.8-meter) grassed shoulders.

Based on a preliminary hydraulic analysis, Bridge No. 40 will have a length of approximately 175-feet (52.5-meters). Bridge No. 45 will be approximately 135-feet (40.5-meters) in length. The length and opening size of the proposed bridges may increase or decrease as necessary to accommodate peak flows as determined from a more detailed hydraulic analysis, to be performed during the final design phase of the project.

B. Reasonable and Feasible Alternatives

Three (3) reasonable and feasible alternatives studied for replacing the existing bridge are described below.

Alternate B replaces Bridge No. 45 on existing alignment and replaces Bridge No. 40 on new alignment east of the existing bridge. During construction, traffic will be maintained by an onsite detour east of Bridge No. 45 and traffic will be maintained on the existing Bridge No. 40. Alternate B was not selected because of comparatively higher environmental and construction costs.

Alternate C replaces both bridges on a new alignment just east of the existing bridges. During construction, traffic will be maintained on the existing structures. Alternate C was not selected because of comparatively higher environmental and construction costs.

Alternate D (Preferred) replaces Bridge No. 40 on a new alignment, and replaces Bridge No. 45 at the existing location. During construction, traffic will be maintained with an off-site detour along SR 1100, SR 1102, SR 1103, SR 1105, and SR 1108 (Figure 1) that is approximately 11 miles (17.7 km) in length.

C. Alternatives Eliminated From Further Study

Alternate A replaces the bridges at the existing location. During construction, traffic will be maintained by an off-site detour that is approximately 11 miles (17.7 km) in length. A design exception will be required for the existing north 6.75-degree (261.3 meter radius) and south 5.50-degree (322.5 meter radius) approach curve to Bridge No. 40. This alternate was eliminated from consideration because it will require a design exception for the horizontal alignment between the two bridges.

The "do-nothing" Alternative will eventually necessitate removal of the bridge. This is not desirable due to the traffic service provided by SR 1003.

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

D. Preferred Alternative

Alternate D, replacing Bridge No. 40 on new alignment while replacing Bridge No. 45 on the existing alignment, was selected as the preferred alternate. Alternate D was selected because of comparatively lower environmental impacts and construction cost.

The Division Engineer concurs with Alternate D as the preferred alternate.

Halifax County concurs with Alternate D as the preferred alternate

E. Anticipated Design Exceptions

A design exception for the stopping sight distance will be required due to the proposed bridge width. The recommended alternate provides a stopping sight distance at Bridge No. 40 of 50 mph (80 km/h) and includes minimum approach work with traffic maintained by an off-site detour. To improve the stopping sight distance, the bridge would require the east shoulder to be widened, and this is not recommended.

IV. ESTIMATED COST

The estimated costs, based on current 2001 prices, are as follows:

	Alternate B	Alternate C	Alternate D (Preferred)
Structure Removal (existing)	\$ 59,000	\$ 59,000	\$ 59,000
Structure (proposed)	767,800	767,800	713,800
Detour Structure and Approaches	182,800	0	0
Roadway Approaches	483,700	700,700	298,100
Temporary Work Bridge	72,000	72,000	72,000
Miscellaneous and Mobilization	549,700	535,500	407,100
Engineering and Contingencies	335,000	315,000	250,000
ROW/Const. Easements/Utilities:	31,300	31,800	55,800
Total	\$2,481,300	\$2,481,800	\$1,855,800

The estimated cost of replacing Bridge No. 40 and Bridge No. 45, as shown in the 2002-2008 Transportation Improvement Program, is \$1,220,000 including \$20,000 for right-of-way and \$1,200,000 for construction.

V. NATURAL RESOURCES

The project study area is located approximately six miles (9.7 kilometers) east of Enfield, NC. Bridge No. 45 is located about 1000-feet (300-meters) north of Bridge No. 40. All quadrants of the study area for both bridges are undeveloped at this time.

A. Methodology

Informational sources used to prepare this report include but are not limited to: USGS Dawson Crossroads, NC 7.5 minute series topographic map (1960); Halifax County Soil Survey Field Sheet G-11; United States Fish and Wildlife Service (USFWS) National Wetlands Inventory map (Dawson Crossroads, NC, 1994); USFWS Endangered, Threatened, and Candidate Species and Federal Species of Concern in North Carolina (March 22, 2001); North Carolina Natural Heritage Program (NCNHP) (January 2001) computer database, via the Internet, of rare species and unique habitats; and NCDOT aerial photography of the study area. Research using these resources was conducted prior to the field investigation.

A general field survey was conducted along the proposed project corridor on November 10, 1999. Plant communities and associated wildlife were identified using a variety of observation techniques including active searching, and identifying characteristic signs of wildlife such as sounds, tracks, scats, and burrows.

Quantitative impact calculations were based on the worst-case scenario using the full right-of-way limits, the width and length of the replacement structures over water, and the length of the project approaches. Right-of-way limits are 80.0-feet (24.0-meters) for all alternates. The actual construction impacts should be less.

B. Physiography And Soils

The proposed project lies within the Coastal Plain Physiographic Province, which includes all parts of North Carolina east of the Fall Line. This province typically consists of unconsolidated sands, silts, clays, and peats. The topography of the project vicinity can be characterized as nearly level to gently rolling. The flood plain of the Beech Swamp at the site is approximately 3,700 feet (1110 meters) wide. Elevations in the project vicinity range from approximately 65 to 125-feet (19.5 to 37.5-meters) above mean sea level (msl). Elevations in the project area vary from approximately 65 to 95-feet (19.5 to 28.5-meters) above msl. Land use in the project vicinity is a mixture of rural residential, agricultural, and undeveloped properties.

Halifax County currently has no published soil survey. Soil survey field sheets and soil interpretation records were utilized to research the soils in the study area. Soil series within the project area are described below.

Site indices provided within soil series descriptions are a designation of the quality of a forest site. The indices are based on the average height attained by dominant and co-dominant trees in a fully stocked stand at an arbitrarily chosen age.

Chastain and Bibb soils, zero to one percent slopes, frequently flooded, cover the majority of the project area. Bibb soils are poorly drained and have a seasonal high water table of 0.5 to one foot (0.2 to 0.3 meter). Shrink-swell potential is low and the pH ranges from 3.6 to 5.5. Site indices for this soil include 100 for loblolly pine (*Pinus taeda*), 90 for sweetgum (*Liquidambar styraciflua*), and 90 for water oak (*Quercus phellos*).

Chastain soils are very deep and slowly permeable. The seasonal high water table ranges from zero to one foot (zero to 0.3-meter) and shrink-swell potential is moderate. Soil reaction ranges from 4.5 to six. Sweetgum, which has a site index of 95 for Chastain soils, is the only species listed under potential productivity for this soil series. Bibb and Chastain soils are listed as hydric.

Seabrook loamy sand, one to two percent slopes, may be found in small amounts near the northeastern project boundary. The Seabrook series consists of moderately well drained, nearly level, sandy soils. Shrink-swell potential is low and the seasonal high water table is at a depth of two to four feet (0.6 to 1.2-meters). Soil reaction ranges from 4.5 to 6.5. Loblolly pine, which has a site index of 81 for Seabrook loamy sand, is the only species listed for this series under potential productivity.

Construction of a temporary detour along either side of SR 1003 is feasible. No substantial settlement problems due to consolidation of underlying soil would be expected along the detour. However, placement of soil stabilization fabric may be required along the majority of the approaches in order to reestablish the natural ground elevation when the detour embankment is removed. Possible UST sites or other areas of other contamination were not observed at or near the proposed project.

C. Water Resources

1. Surface Waters

The proposed project falls within the Tar-Pamlico River Basin, with a subbasin designation of TAR4 (03-03-04) and a federal hydrologic unit designation of Tar-Pamlico 03020102. The drainage area at the project site is approximately 125 square miles (325 square kilometers). The water depth at Bridge No. 40 was approximately two to three feet (0.6 to 0.9-meters) at the time of the investigation. The water depth at Bridge No. 45 was about three to four feet (0.9 to 1.2-meters). In other areas of the swamp water levels varied to as low as one foot (0.3-meter). Beech Swamp spans the length of both bridges. The flow direction is east at a very slow rate, perceptible only near the center of the channels at both bridges.

2. Stream Characteristics

Classifications are assigned to waters of the State of North Carolina based on the existing or contemplated best usage of various streams or segments of streams in the basin. Beech Swamp is a tributary of Fishing Creek. The section of Beech Swamp within the project area and vicinity is classified as "C Sw NSW" by the North Carolina Department of Environment and Natural Resources (NCDENR). Class "C" indicates fresh waters protected for secondary recreation, fishing, aquatic life including propagation and survival, and wildlife. "Sw" is defined as swamp waters, which have low velocities and other natural characteristics that are different from adjacent streams. "NSW" is indicative of Nutrient Sensitive Waters, which require limitations on nutrient inputs. The Classification Index number and date for the above data is 28-79-30 and January 1, 1990.

Point-source discharges located throughout North Carolina are permitted through the National Pollutant Discharge Elimination System (NPDES) program. A search within one mile (1.6 kilometers) of the project was conducted for the NPDES permitted discharges and no discharges were listed within this distance.

Non-point source refers to runoff that enters surface waters through storm water flow or no defined point of discharge. In the project study area, storm water runoff from SR 1003 may cause water quality degradation. Since all quadrants of the project area are undeveloped, there are no other important non-point sources of runoff within the project area.

Benthic macroinvertebrates, or benthos are organisms that live in and on the bottom substrates of rivers and streams. The North Carolina Department of Environment and Natural Resources Division of Water Quality (DWQ) uses benthos data as a tool to monitor water quality since benthic macroinvertebrates are sensitive to subtle changes in water quality. Formerly, the DWQ used the Benthic Macroinvertebrate Ambient Network (BMAN) as a primary tool for water quality assessment but phased this method out several years ago and converted to a basinwide assessment sampling protocol. Each river basin in the state is sampled once every five years and the number of sampling stations has been increased within each basin. Each basin is sampled for biological, chemical, and physical data.

The DWQ includes the North Carolina Index of Biotic Integrity (NCIBI) as another method to determine general water quality in the basinwide sampling. The NCIBI is a modification of the Index of Biotic Integrity (IBI) initially proposed by Karr (1981) and Karr, et al. (1986). The IBI method was developed for assessing a stream's biological integrity by examining the structure and health of its fish community. The Index incorporates information about species richness and composition, trophic composition, fish abundance, and fish condition. The NCIBI summarizes the effects of all classes of factors influencing aquatic faunal communities (water quality, energy source, habitat quality, flow regime, and biotic interactions).

The DWQ does not have any sampling information relevant to the project area. DWQ noted that the waters are probably too slow-flowing for sampling.

3. Anticipated Impacts

a) General Impacts

Neither High Quality Waters (HQW), Water Supplies (WS-I: undeveloped watershed, or WS-II: predominately undeveloped watersheds), nor Outstanding Resource Waters (ORW) occur within one mile (1.6 km) of the project study area. Construction of the bridges and approach work may increase sediment loads, which can reduce flow and result in a decrease in oxygen levels in the water. Removal of trees that provide shade along stream banks could result in an increase in water temperature, which can cause oxygen levels in the water to decrease as well. The NCDOT, in cooperation with the DWQ, has developed a sedimentation control program for highway projects that adopts formal best management practices (BMPs) for the protection of surface waters. The following are methods to reduce sedimentation and water quality impacts:

- strict adherence to BMPs for the protection of surface waters during the life of the project;
- reduction and elimination of direct and non-point discharge into the water bodies and minimization of activities conducted in the stream;
- placement of temporary ground cover or re-seeding of disturbed sites to reduce runoff and decrease sediment loadings;
- reduction of clearing and grubbing along the stream.

b) Impacts Related to Bridge Demolition and Removal

In order to protect the water quality and aquatic life in the area affected by this project, the NCDOT and all potential contractors will follow appropriate guidelines for bridge demolition and removal. These guidelines are presented in three NCDOT documents entitled "Pre-Construction Guidelines for Bridge Demolition and Removal", "Policy: Bridge Demolition and Removal in Waters of the United States", and "Best Management Practices for Bridge Demolition and Removal" (all documents final as of 9/20/99). Guidelines followed for bridge demolition and

removal are in addition to those implemented for Best Management Practices for the Protection of Surface Waters.

Dropping any portion of the structure into waters of the United States should be avoided unless there is no other practical method of removal. In the event that no other practical method is feasible, a worst case scenario is assumed for calculations of fill entering waters of the United States. The deck and curbs of the superstructure of Bridge No. 40 are prestressed concrete channels. The end bents are reinforced concrete caps on timber piles. There is potential for components of the deck and concrete caps of Bridge No. 40 to be dropped into waters of the United States. The resulting temporary fill is calculated to be approximately 103 cubic yards (78.6 cubic meters). Bridge No. 45 is constructed of timber and steel and has an asphalt-wearing surface. Since Bridge No. 45 is constructed of timber and steel, it can be removed without dropping components into waters of the United States.

The stream substrate in the project area consists of a clayey layer overlain by sand. Because of the nature of the substrate, increased sedimentation would occur if bridge components were dropped into the water during the demolition and removal process. Due to the potential sedimentation concerns resulting from demolition of the bridge, where it is possible to do so, use of a turbidity curtain will be considered during design to contain and minimize sedimentation in the stream.

Aquatic life that is not very mobile could be harmed when components of the bridge enter the water. Species that filter feed, as well as those species that feed upon them, could be negatively impacted by increased sedimentation. Although submerged aquatic vegetation is not prevalent in the project area, continued sedimentation could negatively impact such species if present by obstructing or reducing the amount of sunlight entering the water.

Under the guidelines presented in the documents noted in the first paragraph of this section, work done in the water for this project would fall under Case 2, which states that no work shall be performed in the water during moratorium periods associated with fish migration, spawning, and larval recruitment into nursery areas.

D. Biotic Resources

1. Plant Communities

Classification of plant communities is based on the system used by the NCNHP (Schafale and Weakley 1990). If a community is disturbed or otherwise modified such that it does not fit into the NCNHP classification system, a name is given to the community that best describes current characteristics. Scientific nomenclature and common names (when applicable) are used for the plant species described. Subsequent references to the same species include the common name only. Vascular plant names follow nomenclature found in Radford et al. (1968) unless more current information is available. The dominant terrestrial communities found at this site are Cypress-Gum Swamp (Brownwater Subtype), Coastal Plain Bottomland Hardwoods (Brownwater Subtype), Scrub-Shrub Wetland, and Man-Dominated Community. Descriptions are given below.

Wetland Rating Worksheets were used to evaluate some wetland communities within the project area and were utilized to compare values among the communities. Although methods from the Corps of Engineers Wetlands Delineation Manual were used to determine the presence of wetlands, since a delineation was not performed at this stage of the project, data forms are only included for selected communities.

a) Cypress-Gum Swamp (Brownwater Subtype)

This is the largest community within the project area. It spans the distance between both bridges east and west of the road and extends north and south of the bridges as well. Although this community classification would be more commonly associated with large river flood plains, Schafale and Weakley (1990) note that featureless, very wet flood plains dominated by cypress and gum should be included in this classification, even though they may not be associated with large rivers. The Brownwater Subtype was chosen since the headwaters of Beech Swamp are just west of I-95, and the soil type in this community fits into the NCNHP classification. However, this community exhibits a mixing of Brownwater and Blackwater Subtype characteristics.

Water tupelo (*Nyssa aquatica*) and baldcypress (*Taxodium distichum*) are the dominant trees in this community. Additional scattered specimens include overcup oak (*Quercus lyrata*), willow oak (*Quercus phellos*), sweetgum (*Liquidambar styraciflua*), netted chain fern (*Woodwardia areolata*), and royal fern (*Osmunda regalis*). Depending upon location, surface water in the Cypress-Gum Swamp community ranged from approximately one to four feet (0.3 to 1.2-meters), with the deepest areas adjacent to the bridges.

A Wetland Rating Worksheet (Appendix) was utilized to assess wetland values for this community. A total score of 60 was calculated, with the highest weighted scores in the categories of water storage and aquatic life value. These categories rated high due to location of the wetland, canopy cover, and size. Pollutant removal rated the lowest because of the small amount of impervious surfaces in proximity to the project area, and because the permanent body of water was considered to be less than 100-feet (30.5 meters) in width.

b) Coastal Plain Bottomland Hardwoods (Brownwater Subtype)

The Cypress-Gum Swamp grades into Coastal Plain Bottomland Hardwoods north of Bridge No. 45 and south of Bridge No. 40. This community type would more commonly be associated with larger flood plain systems. However soils and vegetation fit well into the classification and this community type is often associated with Cypress-Gum Swamps. Most of the Coastal Plain Bottomland Hardwoods community is estimated to be wetland, with the exception of a small upland area. A Routine Wetland Determination Data Form for the Coastal Plain Bottomland Hardwoods is located in Appendix.

Species in this community consist of swamp chestnut oak (*Quercus michauxii*), willow oak, water oak (*Quercus nigra*), yellow-poplar (*Liriodendron tulipifera*), red maple (*Acer rubrum*), sweetgum, baldcypress, giant cane (*Arundinaria gigantea*), loblolly pine (*Pinus taeda*), and button bush (*Cephalanthus occidentalis*). Pockets of surface water were present in this community on the day of the field investigation.

A Wetland Rating Worksheet utilized to assess wetland values for this community resulted in a score of 37. The highest weighted scores were in the categories of aquatic life value and water storage. For the purposes of water storage, this wetland was considered to be greater than two acres (0.8 hectares) and 100-feet (30.5-meters) in width, but not contiguous to surface water. The aquatic life value rating may be somewhat high because this community is borderline in meeting the requirements of size and vegetation cover. The wildlife habitat score was low due to community size, even though food and cover was adequate.

c) Scrub-Shrub Wetland

This community is located near the southeastern edge of the project area. It is estimated that this area was cutover approximately four to five years ago. Species regenerating include baldcypress, red maple, sweetgum, loblolly pine, giant cane, yellow-poplar, honeysuckle (*Lonicera japonica*), and greenbriar (*Smilax rotundifolia*). The Scrub-Shrub Wetland was probably part of the Coastal Plain Bottomland Hardwoods community prior to harvest.

d) Man-Dominated Community

The Man-Dominated Community within the project area includes road shoulders and embankments. Often, power line rights-of-way are also included within this community due to the location of the power lines, they are considered a part of the adjacent wetland community.

Road shoulders within the project area average up to five feet (1.5-meters) in width and in some cases are adjacent to embankments that descend approximately three to four feet (0.9 to 1.2-meters). Shoulder areas and embankments are mostly maintained grass, with an occasional mixture of herbaceous weedy species.

2. Wildlife

The presence of wildlife within the project area was determined by sight, sound or tracks. Field guides were also utilized to ascertain what species might be found within the various habitats in the project area.

Species observed in the wetland communities within the project area included raccoon (*Procyon lotor*), white-tailed deer (*Odocoileus virginianus*), cardinal (*Cardinalis cardinalis*), and Virginia opossum (*Didelphis virginiana*). Either a downy woodpecker (*Picoides pubescens*) or a hairy woodpecker (*Picoides villosus*) was also observed, however the view was not adequate to positively identify the species.

Other species that may utilize wetland habitats within the project area include the blue-gray gnatcatcher (*Polioptila caerulea*), ringneck snake (*Diadophis punctatus*), prothonotary warbler (*Protonotaria citrea*), cottonmouth (*Agkistrodon piscivorus*), and painted turtle (*Clemmys guttata*).

Wildlife observed in upland portions of the project area included a common crow (*Corvus brachyrhynchos*), and the carcass of a red fox (*Vulpes vulpes*) along the roadside.

Upland portions within the project area are limited and would not provide significant habitat for wildlife.

3. Aquatic Communities

The aquatic community in the project area exists within Beech Swamp. It is difficult to estimate how much the water fluctuates over the course of a year. However it is expected that levels during the summer months would be quite a bit lower than those observed during the site investigation. The water depth at Bridge No. 40 was approximately two to three feet (0.6 to 0.9 -meter) at the time of the investigation. The water depth at Bridge No. 45 was about three to four feet (0.9 to 1.2- meter). As previously noted, in other areas of the swamp water levels varied to as low as one foot (0.3-meter). Beech Swamp spans the length of both bridges. The flow direction is east at a very slow rate, perceptible only near the center of the channels at both bridges.

A search of the shoreline was conducted for evidence of mussel and clam species. No evidence of such species was observed during the investigation, however a dead crayfish (species undetermined) was observed under Bridge No. 45.

The NCWRC was contacted for their knowledge of common aquatic species in the project area and comments or requests regarding project construction (Appendix). NCWRC requested a total moratorium on in-water work between the time periods of March 1 to June 30. This is due to spawning of anadromous species of American shad (*Alosa sapidissima*), hickory shad (*Alosa mediocris*), alewife (*Alosa pseudoharengus*), and blueback herring (*Alosa aestivalis*). NCWRC also noted that only spanning type structures should be used for the bridge replacements, since culverts have been shown to prevent upstream migration of spawning fish.

4. Anticipated Impacts to Biotic Communities

Biotic community impacts resulting from project construction are addressed separately as terrestrial impacts and aquatic impacts. Impacts to terrestrial communities, particularly in locations exhibiting slopes, can result in the aquatic community receiving sediment loads as a consequence of erosion. Efforts will be made to ensure that no sediment leaves the construction site by following NCDOT's Guidelines for Best Management Practices for the Protection of Surface Waters. Anticipated impacts to terrestrial and aquatic communities for each study alternate are presented in Table 1.

TABLE 1 ANTICIPATED IMPACTS TO TERRESTRIAL AND AQUATIC COMMUNITIES						
Bridges No. 40 & 45 Replacement Alternatives	Cypress-Gum Swamp Acre (ha)	Coastal Plain Bottomland Hardwoods Acre (ha)	Scrub-Shrub Wetland Acre (ha)	Total Wetland Community Impacts Acre (ha)	Aquatic Community Acre (ha)	Combined Total Acre (ha)
Alternate B	1.42 (0.58)	0.09 (0.04)	0.13 (0.05)	1.64 (0.67)	0.15 (0.06)	1.79 (0.72)
Detour B	0.69 (0.28)	0.00 (0.00)	0.07 (0.03)	0.76 (0.31)	0.03 (0.01)	0.79 (0.32)
Total B	2.11 (0.86)	0.09 (0.04)	0.20 (0.08)	2.40 (0.98)	0.18 (0.07)	2.58 (1.04)
Alternate C	2.30 (0.93)	0.39 (0.16)	0.23 (0.09)	2.81 (1.14)	0.15 (0.06)	2.96 (1.20)
Alternate D	1.34 (0.54)	0.11 (0.045)	0.35 (0.14)	1.80 (0.73)	0.12 (0.05)	1.92 (0.78)

Notes:

- Permanent impacts are based on 80-feet (24.4-meters) of right-of-way for all alternates.
- Actual construction impacts may be less than those indicated above, calculations were based on the worst-case scenario.
- Values given are in acres (hectares).
- Approximately 0.11 acres (0.04 ha) of Alternate C impacts listed above for the Coastal Plain Bottomland Hardwoods is within the estimated upland area. This amount is not included in the total wetland community impacts for that alternate.

a) Terrestrial Communities

The Man-Dominated Community is the only upland community within the project study area. This community will be most affected by Alternate C (1.50 acre [0.61 hectare]). Plant species in this community are not diverse and very little habitat is available for wildlife. Since these types of disturbed areas are not uncommon, impacts are not considered significant in terms of loss of diversity or potential habitat.

b) Wetland Communities

The Cypress-Gum Swamp is the largest wetland community within the project area, and it will be the most highly impacted by any alternate. Alternate C has the greatest impacts (2.30 acre [0.93 hectare]) due to the new alignment. Although this community scored fairly well in several categories on the Wetland Rating Worksheet, it is already fragmented by the existing road and bridges.

The Coastal Plain Bottomland Hardwoods and Scrub-Shrub Wetland communities will be impacted the most from Alternate C (0.39 acre [0.16 hectare] and 0.23 acre [0.09 hectare] respectively) as well. Impacts to both of these areas from Alternate B (0.09 acre [0.04 hectare] and 0.20 acre [0.08 hectare] respectively) and Alternate D (0.16 acre [0.065 hectare] and 0.15 acre [0.061 hectare] respectively) are minimal. The Coastal Plain Bottomland Hardwoods community would have rated higher in wetland values if it had been larger in size. Impacts related to losses in this community would possibly result in decreased wetland values because of further reduction in size.

c) Aquatic Communities

The replacement of Bridge Nos. 40 and 45 over Beech Swamp will result in 0.21 acre (0.09 hectare) of aquatic impacts for Alternates C and D and 0.34 acre (0.14 hectare) for Alternate B. This figure is obtained by measuring the width of the bridges over water times the length of the bridges over water. BMPs for the protection of surface waters will be strictly enforced to minimize potential adverse impacts due to this project.

There are no known rare aquatic species or habitats within the project study area. Aquatic community impacts will not be substantial.

E. Special Topics

1. "Waters of the United States": Jurisdictional Issues

Wetlands and surface waters fall under the broad category of "waters of the United States" as defined in 33 CFR §328.3 and in accordance with provisions of Section 404 of the Clean Water Act (33 U.S.C. 1344). Waters of the United States are regulated by the United States Army Corps of Engineers (USACE).

Project construction cannot be accomplished without infringing upon jurisdictional surface waters. Up to 56 linear feet (17.1 linear meters) of jurisdictional surface waters may be impacted by this project.

Investigation into wetland occurrence in the project study area was conducted using methods of the 1987 Corps of Engineers Wetlands Delineation Manual. Wetlands were found within the project study area. A wetland delineation will be undertaken to determine jurisdictional boundaries, and concurrence will be obtained from the USACE.

2. Permits

In accordance with provisions of Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344), a permit is required from the USACE for the discharge of dredged or fill material into "waters of the United States". Since no significant impacts are expected from this project, a Categorical Exclusion (CE) level study has been initiated.

Categorical Exclusions are subject to the provisions of Nationwide Permit 23. This permit authorizes any activities, work and discharges undertaken, assisted, authorized, regulated, funded or financed, in whole or in part, by another federal agency. It states that the activity is "categorically excluded" from environmental documentation because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the environment. The CE is submitted to the USACE to document that the terms and conditions of the Nationwide Permit 23 are met. However, final permit decisions are left to the discretionary authority of the USACE.

If wetlands or waters will be impacted by filling from a proposed project, and the USACE determines that a Section 404 Permit is required, then a Section 401 Water Quality Certification would also be required from the North Carolina Division of Water Quality. North Carolina has developed General Certifications that will satisfy Section 401 of the CWA and correspond to the USACE's Nationwide Permits. It is anticipated that a Section 401 Water Quality Certification will be required for this project.

If no practical alternative exists to remove the current bridges other than to drop them into the water, prior to removal of debris off-site, fill related to demolition procedures will need to be considered during the permitting process. A worst-case scenario should be assumed with the understanding that if there is any other practical method available, the bridges will not be dropped into the water. Permitting will be coordinated such that any permit needed for bridge construction will also address issues related to bridge demolition. There is potential for components of Bridge No. 40 to be dropped into waters of the United States, however Bridge No. 45 can be removed without dropping components into the water.

The Coast Guard Authorization Act of 1982 exempts bridge projects from Coast Guard bridge permits when the bridge project crosses nontidal waters which are not used, susceptible to use in their natural condition, or susceptible to use by reasonable improvement as a means to transport interstate commerce. Due to this, this bridge project is exempt, and will not require a Coast Guard Bridge Permit (Appendix).

Geotechnical work is approved under General 401 Certification No. 3027/Nationwide Permit 6 for Survey Activities. A determination if foundation test borings are necessary will be determined during the final design phase of this project.

3. Riparian Buffer Protection Rules for the Tar-Pamlico River Basin

Since this project is within the Tar-Pamlico River Basin, it is subject to NCDENR riparian buffer rules (15A NCAC 2B.0259). These rules were developed to protect and preserve existing riparian buffers and are part of larger nutrient reduction strategies for the basin.

The buffer rules require that up to 50 feet (15 meters) in width of riparian area be protected and maintained on the banks of waterways in the basin. The rules do not apply to portions of the riparian buffer where a use is existing and ongoing as of January 1, 2000. Existing uses include transportation facilities. It should be noted that only the portion of the buffer that contains the footprint of the existing use is exempt.

Activities in the buffer area beyond the footprint of the existing use are classified as either "exempt", "allowable", "allowable with mitigation", or "prohibited". The following list of activities that may be subject to buffer rules within the study area are provided along with their classifications. Depending upon project alternatives, not all of the uses listed may apply, and other uses not listed here, such as utility crossings and roadside drainage ditches, among others, may be regulated under the buffer rules. Guidelines will be consulted in entirety to review all project related uses subject to the buffer rules.

Activities deemed "exempt" will be designed, constructed, and maintained to minimize soil disturbance and to provide the maximum water quality protection practicable. "Allowable" activities may proceed within the riparian buffer provided that there are no practical alternatives to the requested use. Written authorization from the DWQ or delegated local authority is required. Activities deemed "allowable with mitigation" may proceed within the riparian buffer if there are no practical alternatives to the requested use and an appropriate mitigation strategy has been approved. Written authorization from the DWQ or delegated local authority is required. "Prohibited" activities, none of which are listed above, may not proceed within the riparian buffer unless a variance is granted from the DWQ or delegated local authority.

RIPARIAN BUFFER PROTECTION RULES

USE	Exempt	Allowable	Allowable With Mitigation	Prohibited
Bridges		X		
Road crossings that impact less than or equal to 40 linear ft. (12 linear meters)	X			
Road crossings that impact greater than 40 linear ft. (12 linear meters) but less than or equal to 150 linear ft. (46 linear meters) or 0.33 acres (0.13 hectares) of riparian area		X		
Road crossings that impact greater than 150 linear ft. (46 linear meters) or greater than 0.33 acres (0.13 hectares) of riparian buffer			X	
Temporary roads used for bridge construction or replacement provided that restoration activities such as soil stabilization and revegetation occur immediately after construction		X		

4. Mitigation

The USACE has adopted through the Council on Environmental Quality (CEQ) a wetland mitigation policy that embraces the concept of "no net loss of wetlands." The purpose of this policy is to restore and maintain the chemical, biological, and physical integrity of "waters of the United States," specifically wetlands. Mitigation of wetland impacts has been defined by the CEQ to include: avoiding impacts to wetlands, minimizing impacts, and rectifying impacts (40 CFR 1508.20). Each of these three aspects (avoidance, minimization, and compensatory mitigation) must be considered sequentially. According to impact estimates in Table 1, and from the perspective of impacted area alone, Alternate D would minimize impacts to wetlands.

The USACE may require compensatory mitigation for activities authorized under Section 404 of the Clean Water Act if there are unavoidable impacts to waters of the United States.

The DWQ may require compensatory mitigation for activities authorized under Section 401 of the Clean Water Act if there are unavoidable impacts to waters of the United States.

A final determination regarding mitigation requirements rests with the USACE and DWQ.

Mitigation related to riparian buffer rules may be required depending upon specific activities within the study area. Refer to guidelines under 15A NCAC 2B .0259 and 15A

NCAC 2B .0260 for applicability. Mitigation requirements may be met by payment of a compensatory mitigation fee to the Riparian Buffer Restoration Fund, donation of real property or of an interest in real property, or restoration or enhancement of a non-forested riparian area.

F. Rare And Protected Species

Some populations of plants and animals are in the process of decline due either to natural forces or human-related disturbances such as destruction of habitat. Rare and protected species listed for Halifax County and any likely impacts to these species as a result of the proposed project construction are discussed in the following sections.

1. Federally Protected Species

Plants and animals with federal classification of Endangered (E), Threatened (T), Proposed Endangered (PE), and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. The USFWS lists three federally protected species for Halifax County as of the March 22, 2001 listing (Table 2).

TABLE 2 FEDERALLY-PROTECTED SPECIES FOR HALIFAX COUNTY		
Common Name	Scientific Name	Federal Status
Dwarf wedgemussel	<i>Alasmidonta heterodon</i>	Endangered
Tar spinymussel	<i>Elliptio steinstansana</i>	Endangered
Red-cockaded woodpecker	<i>Picoides borealis*</i>	Endangered

NOTES:

- E Denotes Endangered (a species that is in danger of extinction throughout all or a significant portion of its range)
- Listed as a historic record by NCNHP, listed as current by USFWS.

Species: Dwarf wedgemussel
Family: Unionidae
Date Listed: 3/14/90

The dwarf wedgemussel rarely exceeds 1.5 inches (3.8 centimeters) in length. The outer shell is brown or yellowish brown with faint green rays, and the nacre is bluish or silvery white. The shells of females are somewhat wider than those of males.

This species lives in sand, muddy sand, and gravel substrate in large rivers and small creeks where the current is slow to moderate and fairly silt free. It is generally found in association with other mussels but it is never very numerous. As with other mussel species, the dwarf wedgemussel has suffered from excess siltation in streams and rivers and from the toxic effects of various pollutants entering waterways.

BIOLOGICAL CONCLUSION: NO EFFECT

The swamp waters within the project area are not suitable for this species. NCNHP records do not indicate occurrence of this species in the project area or vicinity. This project will not affect the dwarf wedgemussel.

Species: Tar spiny mussel
Family: Unionidae
Date Listed: 7/29/85

The Tar spiny mussel measures approximately 2.5 inches (6.4 cm) in length. The outer shell surface of young specimens is orange-brown with greenish rays. Adults are darker colored with inconspicuous rays. The inner shell color is yellow or pinkish at one end and bluish-white at the other. Juveniles may have up to 12 spines, which they tend to lose as they mature.

This species lives in relatively silt-free uncompacted gravel or coarse sand in fast-flowing, well oxygenated stream reaches. It feeds by syphoning and filtering small food particles that are suspended in the water. The Tar spiny mussel is found in association with other mussels but it is never very numerous. The known population of this species is estimated to contain 100 to 500 individuals. The Tar spiny mussel is often located in the central channel of the river.

BIOLOGICAL CONCLUSION: NO EFFECT

The habitat within the project area consists of swamp waters, which are too slow-flowing for this species. There are no records of occurrence at the NCNHP for the Tar spiny mussel within the project area or vicinity. This project will not affect the Tar Spiny mussel.

Species: Red-cockaded woodpecker
Family: Picidae
Date Listed: 10/13/70

The red-cockaded woodpecker is a small 7 to 8 inches (18 to 20 cm) long bird with black and white horizontal stripes on its back, a black cap and a large white cheek patch. The male has a small red spot or "cockade" behind the eye.

The preferred nesting habitat of the red-cockaded woodpecker is open stands of pines with a minimum age of 60 to 120 years. Longleaf pines (*Pinus palustris*) are preferred for nesting, however other mature pines such as loblolly (*Pinus taeda*) may be utilized. Typical nesting areas, or territories, are pine stands of approximately 200 acres (81 hectares), however, nesting has been reported in stands as small as 60 acres (24 hectares). Preferred foraging habitat is pine and pine-hardwood stands of 80 to 125 acres (32 to 50 hectares) with a minimum age of 30 years and a minimum diameter of 10 inches (25 cm). The red-cockaded woodpecker utilizes these areas to forage for insects such as ants, beetles, wood-boring insects, and caterpillars, as well as seasonal wild fruit.

BIOLOGICAL CONCLUSION: NO EFFECT

Habitat does not exist in the project area for this species. There are no pine stands of suitable age and size within the project area. NCNHP records report no occurrence of this species within the project area or vicinity. The red-cockaded woodpecker will not be affected by this project.

2. Federal Species of Concern

Federal Species of Concern (FSC) are not legally protected under the Endangered Species Act and are not subject to any of its provisions, including Section 7, until they are formally proposed or listed as Threatened or Endangered. Species designated as FSC are defined as taxa, which may or may not be listed in the future. These species were formerly Candidate 2 (C2) species or species under consideration for listing for which there is insufficient information to support listing. Some of these species are listed as Endangered, Threatened, or Special Concern by the NCNHP list of Rare Plant and Animal Species and are afforded state protection under the State Endangered Species Act and the North Carolina Plant Protection and Conservation Act of 1979. Table 3 provides the Federal Species of Concern in Halifax County and their state classifications (March 22, 2001, <http://www.ncsparks.net/nhp/element.html>).

The NCNHP database shows no recorded occurrences of FSCs within the project vicinity.

TABLE 3 Federal Species of Concern listed for Halifax County			
Common Name	Scientific Name	Potential Habitat	State Status
Bachman's sparrow	<i>Aimophila aestivalis</i>	No	SC
Cerulean warbler	<i>Dendroica cerulea</i>	No	SR
Yellow lance	<i>Elliptio lanceolata</i>	No	T
Atlantic pigtoe	<i>Fusconaia masoni</i>	No	T
Bog St. John's-wort	<i>Hypericum adpressum</i>	No	C
Yellow lampmussel	<i>Lampsilis cariosa</i>	No	T
Chowanoke crayfish	<i>Orconectes virginienensis</i>	No	SR
Albemarle crayfish	<i>Procambarus medialis</i> ♦	Yes	NL
Carolina least trillium	<i>Trillium pusillum</i> var. <i>pusillumno</i>	No	E

NOTES:

- C Denotes Candidate (species for which population monitoring and conservation action is recommended).
- E Denotes Endangered (species which are afforded protection by state laws).
- NL Not Listed
- PE Denotes Proposed Endangered (species which are proposed for official listing as endangered).
- SC Denotes Special Concern (species which are afforded protection by state laws).

- SR Denotes Significantly Rare (species for which population monitoring and conservation action is recommended).
- T Denotes Threatened (species which are afforded protection by state laws).
- * Historic record, the species was last observed in the county more than 50 years ago (NCNHP).
- ♦ Listed by USFWS but not by NCNHP.

3. Summary of Anticipated Impacts

This project is not expected to affect any federally protected species. There are no known rare species or unique habitats within the project study area and no species surveys are recommended.

VI. CULTURAL RESOURCES

A. Compliance Guidelines

This project is subject to compliance with Section 106 of the National Historical Preservation Act of 1966, as amended, implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800. Section 106 requires that for federally funded, licensed, or permitted projects having an effect on properties listed in or eligible for the National Register of Historic Places, the Advisory Council on Historic Preservation be given the opportunity to comment.

B. Historic Architecture

A field survey of the Area of Potential Effects (APE) was conducted on January 20, 1998. All structures within the APE were photographed, and later reviewed by the North Carolina State Historic Preservation Office (HPO). In a concurrence form dated September 3, 1999, the SHPO concurred that there are no historic architectural resources either listed in or eligible for listing on the National Register of Historic Places within the APE. A copy of the concurrence form is included in the Appendix.

C. Archaeology

The State Historic Preservation Officer (SHPO), in a memorandum dated August 15, 2000, had no comment on the project as was currently proposed. There is little likelihood of any National Register archaeological sites occurring in the project area because of the disturbed landforms, therefore no further action is recommended. A copy of the SHPO memorandum is included in the Appendix.

VII. ENVIRONMENTAL EFFECTS

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

The project is a Federal "Categorical Exclusion" due to its limited scope and lack of significant environmental consequences.

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

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

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

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

There are no publicly owned recreational facilities, or wildlife and waterfowl refuges of national, state, or local significance in the vicinity of the project.

No North Carolina Geodetic Survey control monuments will be impacted during construction of this project.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impacts to prime and important farmland soils by all land acquisition and construction projects. Prime and important farmland soils are defined by the Natural Resources Conservation Service (NRCS). Since there are no prime or important farmlands in the immediate vicinity of the proposed bridge the Farmland Protection Policy does not apply.

This project is an air quality "neutral" project, so it is not required to be included the regional emission analysis (if applicable) and a project level CO analysis is not required.

This project is located in Halifax County, which has been determined to be in compliance with the National Ambient Air Quality Standards. 40 CFR Part 51 is not applicable, because the proposed project is located in an attainment area. This project is not anticipated to create any adverse effects on the air quality of this attainment area.

The traffic volumes will not increase or decrease because of this project. There are no receptors located in the immediate project area. The project's impact on noise and air quality will not be significant.

Noise levels could increase during construction but will be temporary. If vegetation is disposed of by burning, all burning shall be done in accordance with applicable local laws and regulations of the North Carolina SIP for air quality in compliance with 15 NCAC 2D.0520. This evaluation completes the assessment requirements for highway traffic noise (23 CFR Part 772) and for air quality (1990 CAAA and NEPA) and no additional reports are required.

An examination of records at the North Carolina Department of Environment and Natural Resources, Division of Water Quality, Groundwater Section and the North Carolina Department of Human Resources, Solid Waste Management Section revealed no hazardous waste sites, no regulated or unregulated landfills or dumpsites within the project area. No facility with underground storage tanks (UST), no regulated or unregulated landfills, or dumpsites was identified in the project vicinity.

Halifax County is a participant in the National Flood Insurance Regular Program. This site on the Beech Swamp is included in an approximate F.E.M.A. study. Attached is a copy of the

Flood Insurance Rate Map, on which are shown the approximate limits of the 100-year flood plain in the vicinity of the project (Figure 5).

On the basis of the above discussion, it is concluded that no significant adverse environmental effects will result from implementation of the project.

VIII. PUBLIC INVOLVEMENT

Efforts were undertaken early in the planning process to contact local officials to involve them in the project development with scoping letters and newsletters. A Citizens Informational Workshop was held at the Enfield City Hall on May 29, 2001, where preliminary alternatives were reviewed and discussed with concerned citizens and local officials.

Two local citizens attended the Citizens Informational Workshop. The citizens did not oppose any of the proposed alternates nor did they have a preferred alternate.

IX. AGENCY COMMENTS

1. North Carolina Wildlife Resource Commission (NCWRC)

Comment: *"Total moratoriums should be in place on bridge no's 40 and 45 due to anadromous fish spawning from March 1 to June 30."*

Response: Construction work will be restricted as noted in the Project Commitments.

2. North Carolina Division of Water Quality (NCDWQ)

Comment: *"When practical, the DWQ requests that bridges be replaced on the existing location with road closure."*

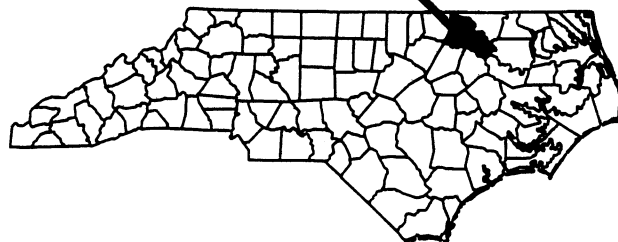
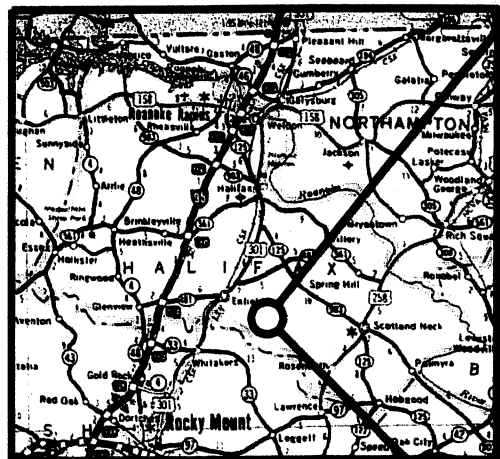
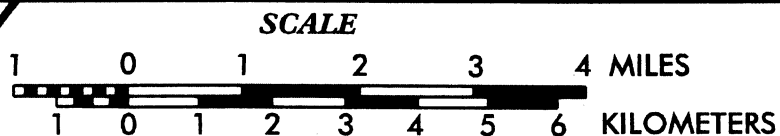
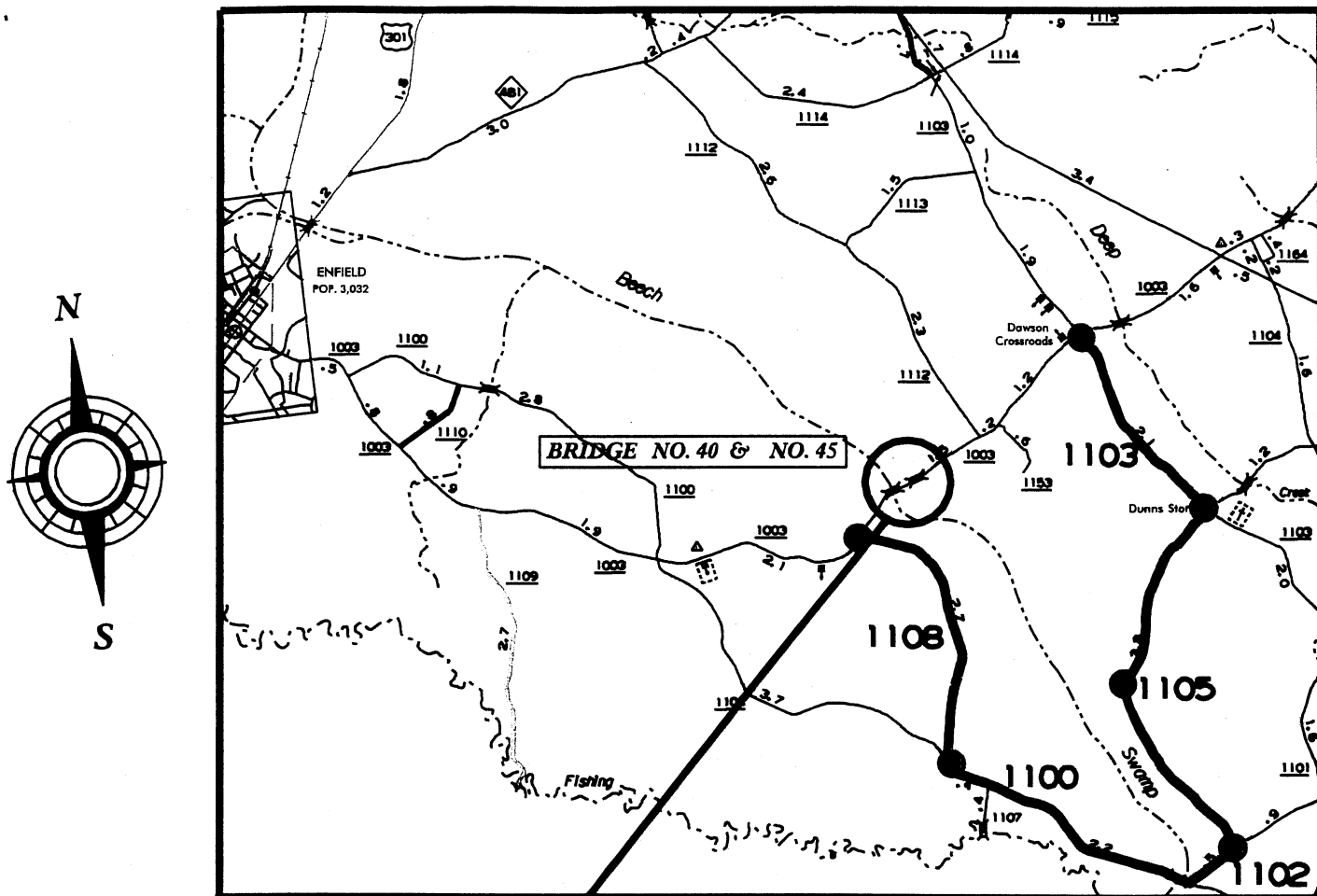
Response: The preferred alternative replaces the bridges on existing location with an offsite detour to maintain traffic during construction.

3. Halifax County Schools

Comment: *"Closing of this bridge will cause a major increase in route time for buses if closed during the school year. Students will most likely have to be reassigned to different buses due to the length of the nearest detour. Please notify my office as early as possible if the replacement is to be conducted during the months of August thru May."*

Response: An offsite detour will be used for this project due to comparatively higher environmental impacts and construction costs for this alternate. Halifax County Schools will be notified by letter of the decision to use an off-site detour.

FIGURES



	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION HYDRAULICS UNIT
	HALIFAX COUNTY
	BRIDGE NO. 40 AND NO. 45 ON SR 1003 OVER BEECH SWAMP
	TIP NO. B-3467
VICINITY MAP FIGURE 1	

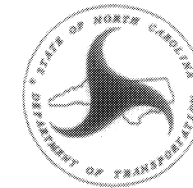
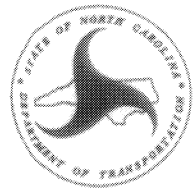


FIGURE 2B
ALTERNATE D (PREFERRED)
PROJECT 8.2301201 (B-3467)
F. A. PROJECT BRSTP-1003(23)
HALIFAX COUNTY
REPLACE BRIDGE NO. 40 AND
NO. 45 ON SR 1003
OVER BEECH SWAMP

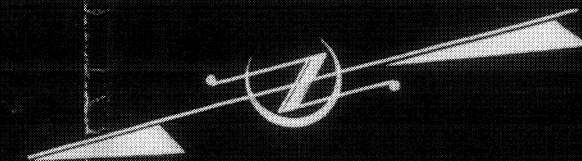


BEGIN ALTERNATE D
(PREFERRED)

BEECH SWAMP

SR 1003

BRIDGE NO. 45



END ALTERNATE D
(PREFERRED)

BRIDGE NO. 40

BEECH SWAMP

SR 1003

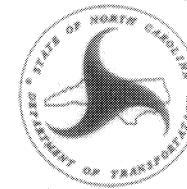
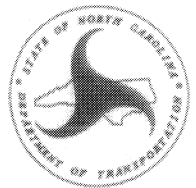


FIGURE 2
ALTERNATE B

PROJECT 8.2301201 (B-3467)
F. A. PROJECT BRSTP-1003(23)
HALIFAX COUNTY

REPLACE BRIDGE NO. 40 AND
NO. 45 ON SR 1003
OVER BEECH SWAMP



BEECH SWAMP

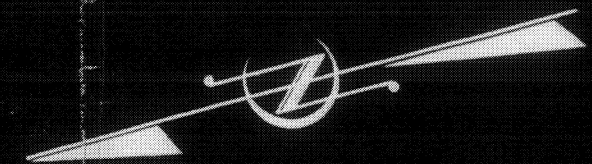
SR 1003

BRIDGE NO. 45

BRIDGE NO. 40

BEECH SWAMP

SR 1003



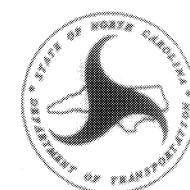
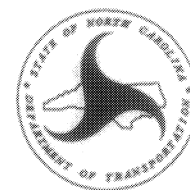


FIGURE 2A

ALTERNATE C

PROJECT 8.2301201 (B-3467)

F. A. PROJECT BRSTP-1003(23)

HALIFAX COUNTY

**REPLACE BRIDGE NO. 40 AND
NO. 45 ON SR 1003
OVER BEECH SWAMP**

BEECH SWAMP

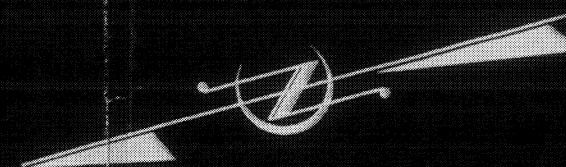
SR 1003

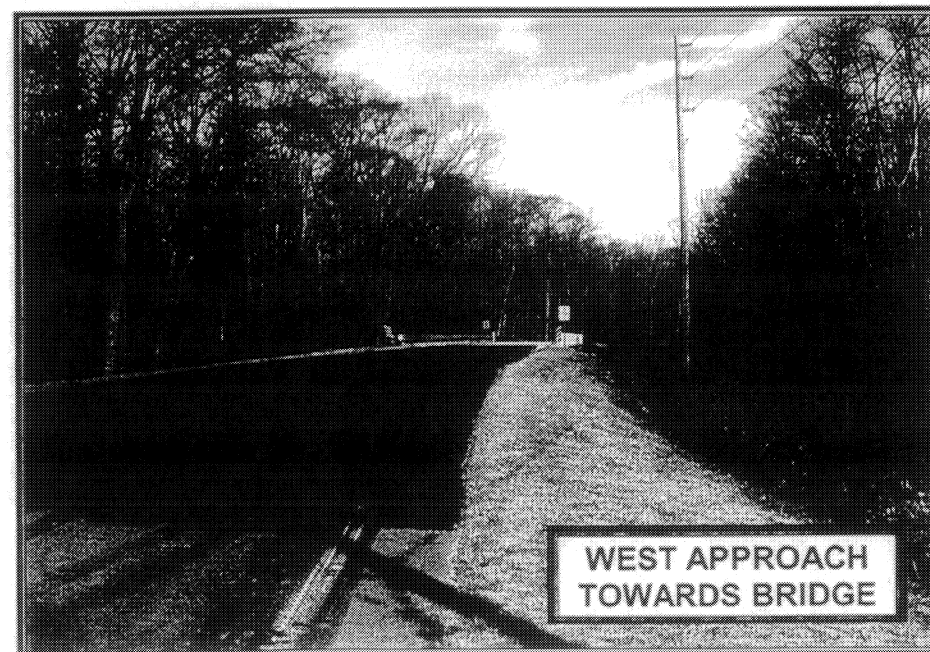
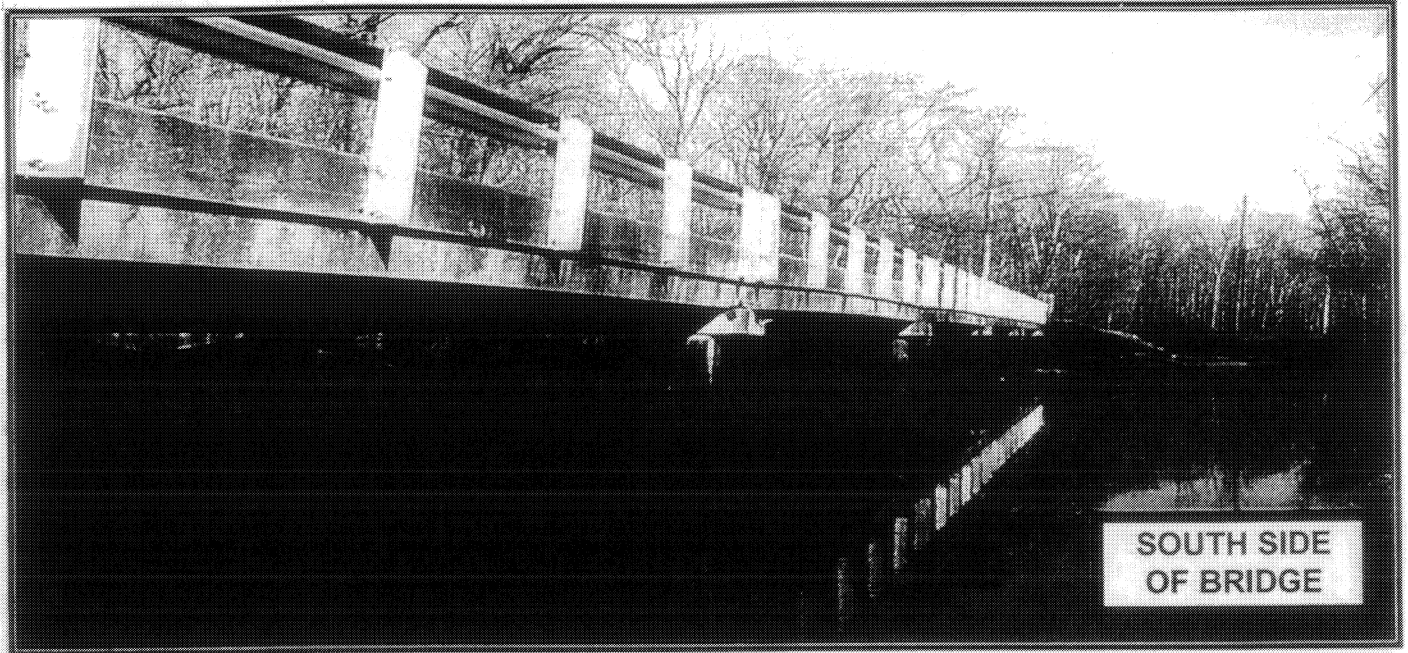
BRIDGE NO. 45

BRIDGE NO. 40

BEECH SWAMP

SR 1003





**B-3467
Replacement of Bridge
No. 40 on SR 1003
Over Beech Swamp
Halifax County**

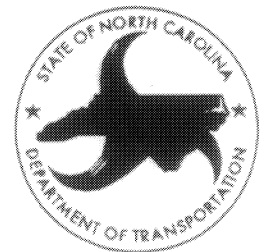
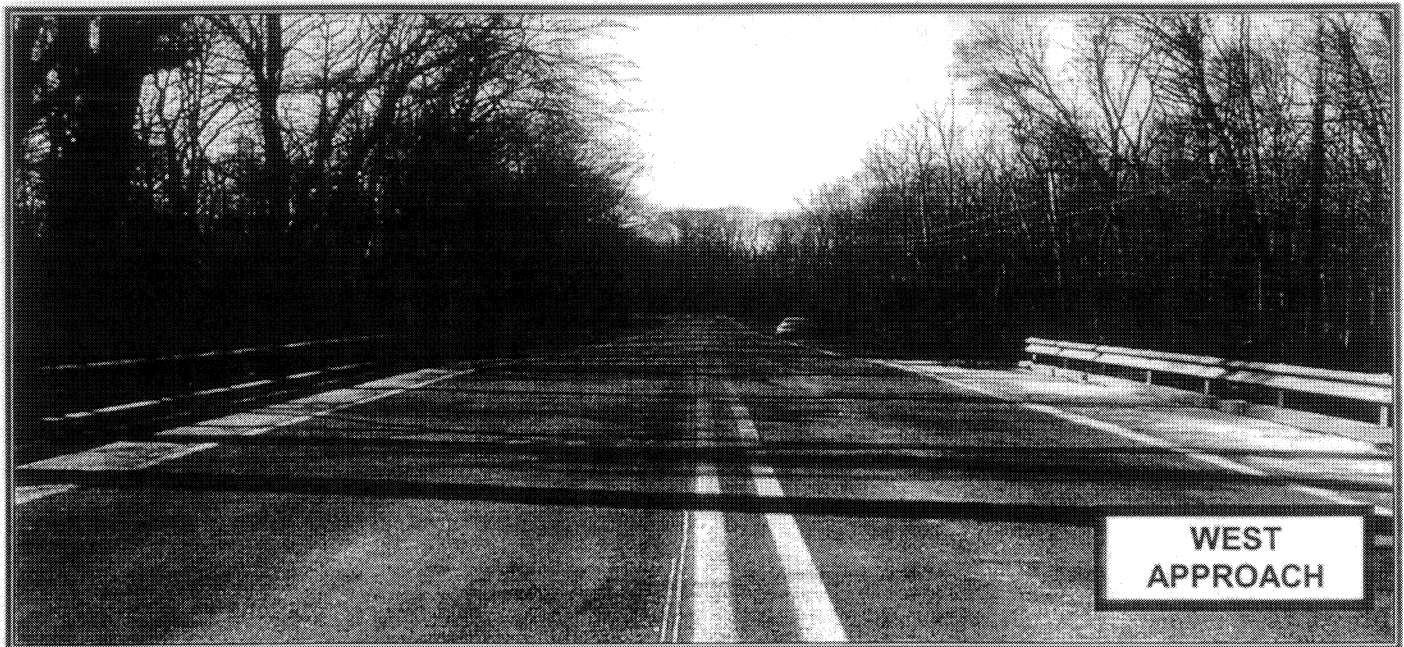
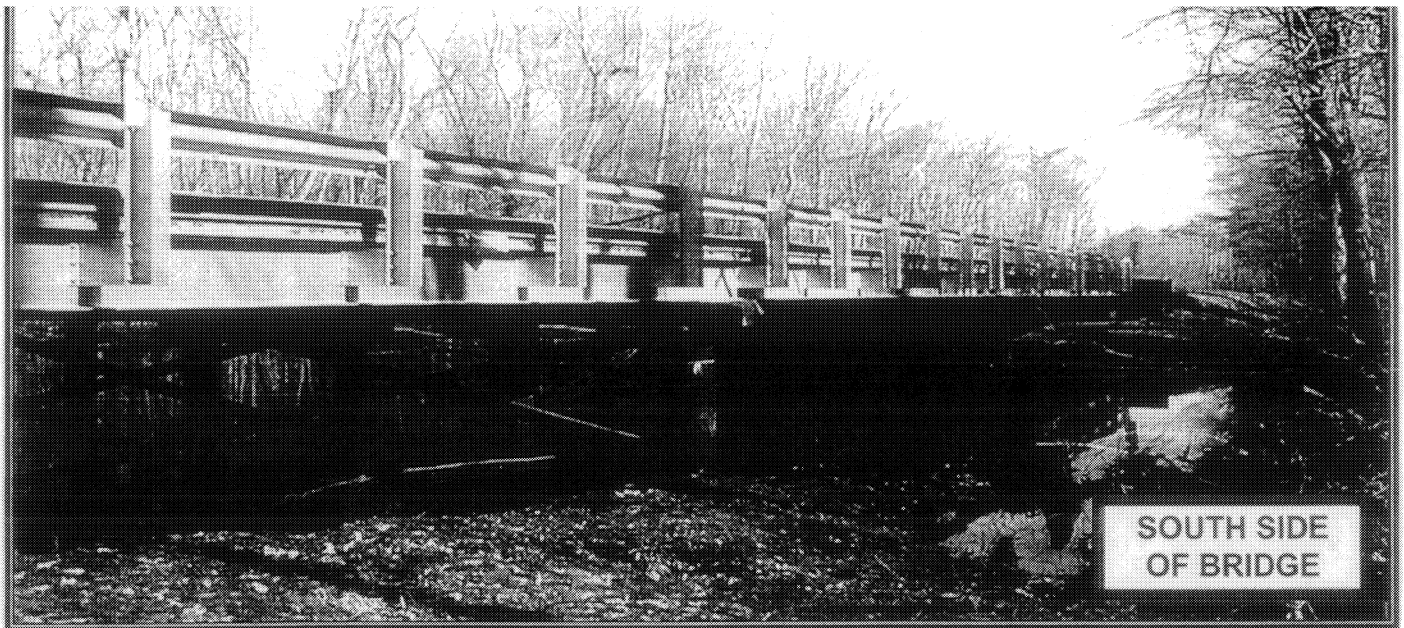


FIGURE 3



**B-3467
Replacement of Bridge
No. 45 on SR 1003
Over Beech Swamp
Halifax County**

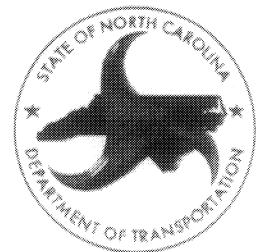
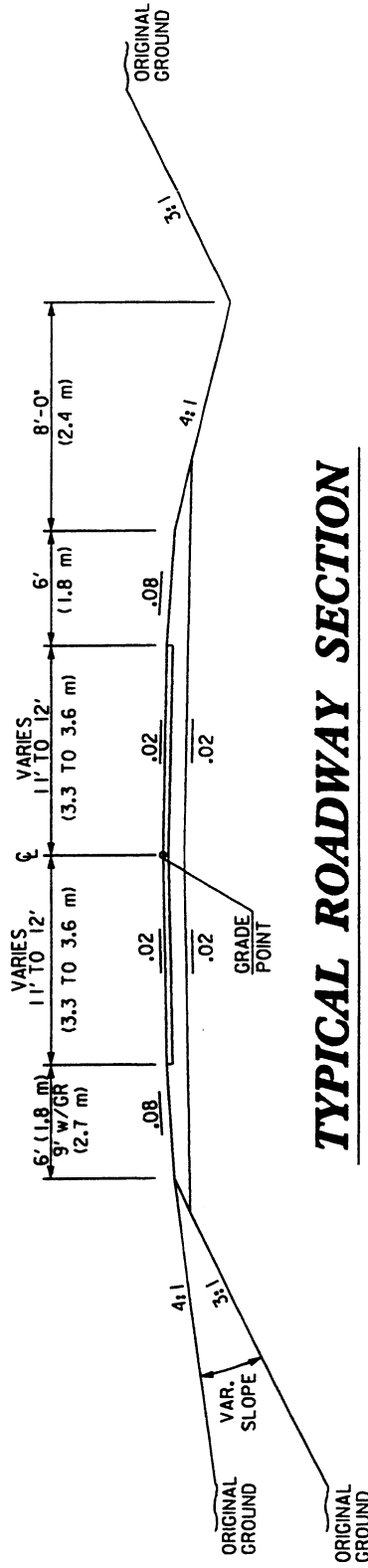
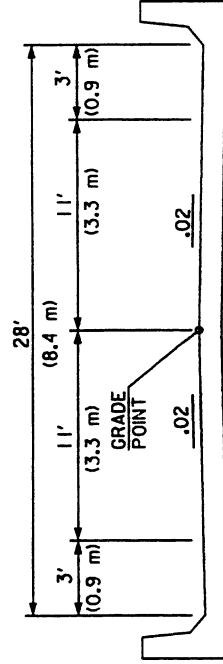
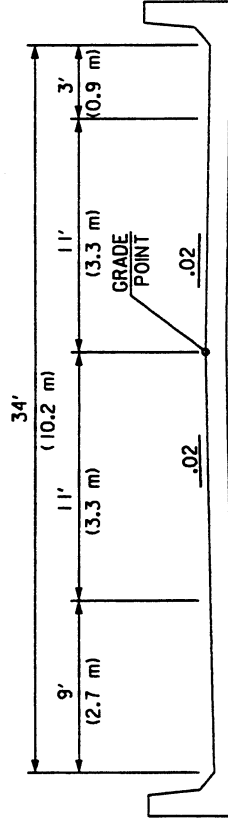


FIGURE 3A

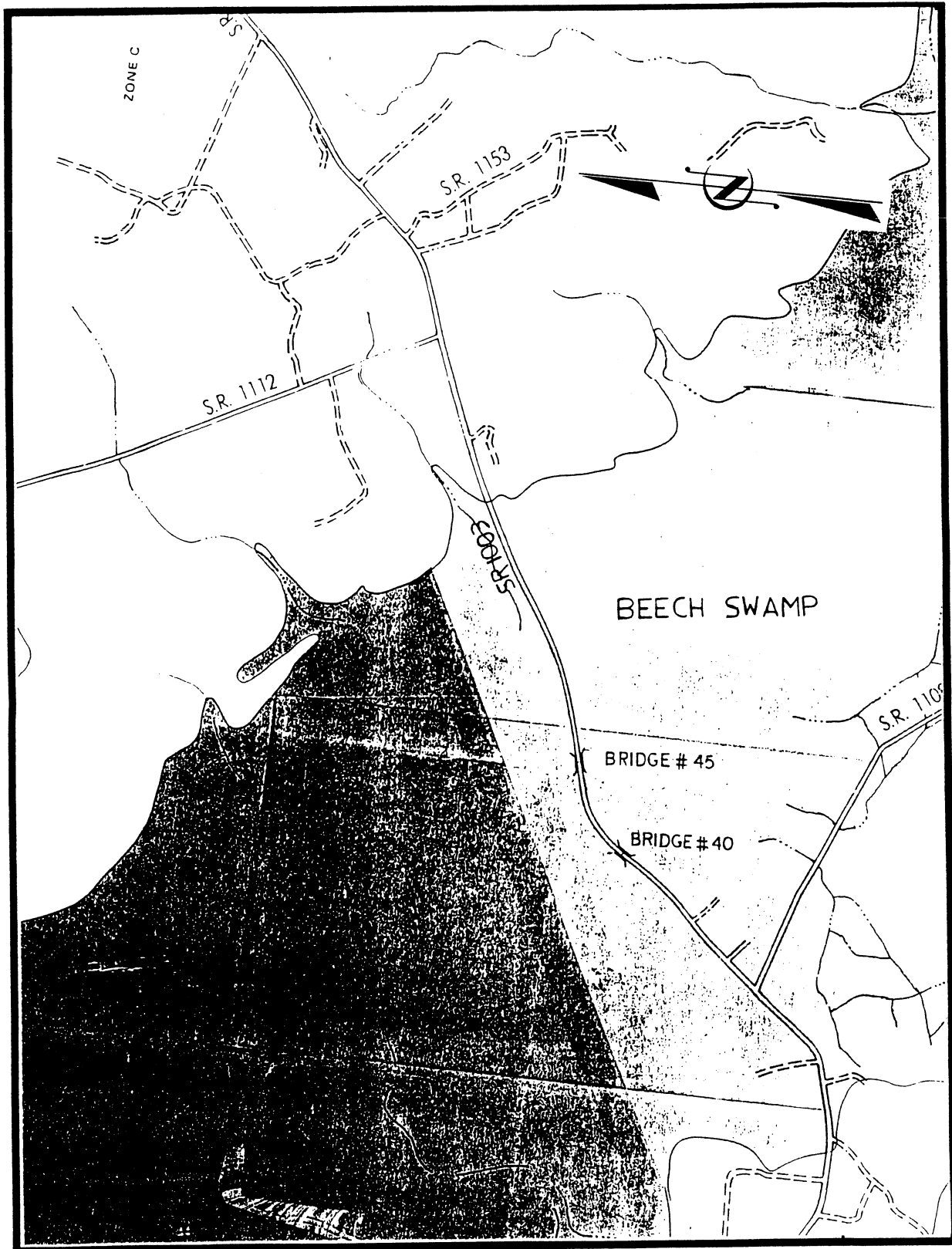


TRAFFIC DATA

**FUNCTIONAL CLASSIFICATION:
RURAL MAJOR COLLECTOR**



 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH	HALIFAX COUNTY BRIDGE NO. 40 & BRIDGE NO. 45 ON SR 1003 OVER BEECH SWAMP B-3467	FIGURE 4
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FEMA FLOOD STUDY 100 YEAR FLOOD PLAIN

Panel No. 370327 0190B
Date: May 5, 1981
Street Name SR 1003
Halifax County, North Carolina

1000 ft 0 1000 ft
305 m Approximate Scale 305 m

FIGURE 5

APPENDIX



DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS

P.O. BOX 1890
WILMINGTON, NORTH CAROLINA 28402-1890

IN REPLY REFER TO

January 20, 2000

Regulatory Division

Action ID Nos. 200020359-200020362

Mr. William D. Gilmore, P.E., Manager
North Carolina Department of Transportation
Project Development and Environmental
Analysis Branch
Post Office Box 25201
Raleigh, North Carolina 27611-5201

Dear Mr. Gilmore:

Reference is made to your request for comments dated November 8, 1999, regarding the proposed Group XXVI Bridge Replacement Projects in Edgecombe and Halifax Counties, North Carolina. The projects involve the replacement of 6 bridges at 4 separate locations. The replacement of Bridge Numbers 17 and 23 is located on US Highway 301 over Fishing Creek and its overflow, southwest of Enfield, in Halifax and Edgecombe Counties, TIP No. 3453 (Action ID 200020359). Bridge Number 128 is located on SR 1002, over a branch of Jacket Swamp, west of Enfield, Halifax County, TIP No. 3466 (Action ID 200020360). Bridge Numbers 40 & 45 are located on SR 1003, over Beech Swamp, southeast of Enfield, Halifax County, TIP No. B-3467 (Action ID 200020361). Finally, Bridge No. 85 on SR 1426 over Chockoyotte Creek, west of Roanoke Rapids, Halifax County, TIP No. B-3468 (Action ID 200020362).

We have reviewed the subject document and have determined that based upon a review of the information provided and available maps, it appears that the projects may impact jurisdictional waters of the United States and their associated wetlands subject to our regulatory authority pursuant to Section 404 of the Clean Water Act. Any discharge of excavated or fill material into waters of the United States and/or any adjacent wetlands that may be present will require Department of the Army (DA) permit authorization. Department of the Army authorization will be determined based upon the extent of jurisdictional area impacted by the project, project design and construction limits. Furthermore, with respect to the replacement of Bridge Numbers 17 and 23 over Fishing Creek and its overflow, you should coordinate the project with the United States Fish and Wildlife Service to ensure that the project will not impact the federally listed Tar spiny mussel, which is known to be present in Little Fishing Creek, a tributary to Fishing Creek. Finally, all bridge demolitions should adhere to the latest NCDOT Policy: Bridge Demolition and Removal in Waters of the United States (BDR Policy), including the Best Management Practices for Bridge Demolition and Removal.



16590
08 Feb 00

William D. Grimes, P.E.
North Carolina Dept. of Transportation
P.O. Box 25201
Raleigh, North Carolina 27611-5201

Dear Mr. Grimes:

This is in response to your letter dated November 8, 1999, requesting if a Coast Guard permit would be required for a project to replace five bridges (# 3453, 3461, 3466, 3467, and 3468) in Greene and Halifax Counties, North Carolina.

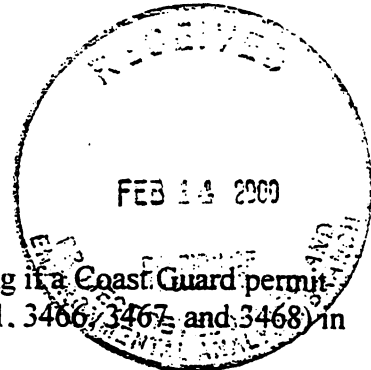
The Coast Guard Authorization Act of 1982 exempts bridge projects from Coast Guard bridge permits when the bridge project crosses nontidal waters which are not used, susceptible to use in their natural condition, or susceptible to use by reasonable improvement as a means to transport interstate commerce. Ms. Pam Williams confirmed such conditions in a telephone conversation on February 4, 2000. Due to this, these bridge projects are exempt, and will not require a Coast Guard Bridge Permit.

The fact that a Coast Guard permit is not required does not relieve you of the responsibility for compliance with the requirements of any other Federal, State, or local agency who may have jurisdiction over any aspect of the project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ann B. Deaton".

ANN B. DEATON
Chief, Bridge Administration Section
By direction of the Commander
Fifth Coast Guard District





DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS

P.O. BOX 1890
WILMINGTON, NORTH CAROLINA 28402-1890

April 17, 2000

IN REPLY REFER TO

Planning Services Section

Mr. William D. Gilmore, P.E.
Project Development and
Environmental Analysis Branch
North Carolina Department of Transportation
Post Office Box 25201
Raleigh, North Carolina 27611-5201

Dear Mr. Gilmore:

This is in response to a letter from Ms. Pamela Williams of Wang Engineering dated February 7, 2000, forwarding your letters of November 5 and 8, 1999, requesting comments on five proposed bridge replacement projects in three eastern North Carolina counties. These counties and TIP Nos. are Greene - B-3461, Edgecombe and Halifax - B-3453, and Halifax - B-3466, B-3467, and B-3468, (Regulatory Division Action ID Nos. 200010326, 200020359, 200020360, 200020361, and 200020362, respectively).

Our comments involve impacts to flood plains and jurisdictional resources that include waters, wetlands, and U.S. Army Corps of Engineers projects. Enclosed are our comments on these issues. Regulatory comments are provided for the Greene County project only, since comments on the others have already been sent to you.

We appreciate the opportunity to comment on these projects. If we can be of further assistance, please contact us.

Sincerely,

W. Coleman Long
Chief, Planning and
Environmental Branch

Enclosure

U.S. ARMY CORPS OF ENGINEERS, WILMINGTON DISTRICT, COMMENTS ON:

Five Bridge Replacement Projects in Three Eastern North Carolina Counties

1. FLOOD PLAINS: POC - Bobby L. Willis, Planning Services Section, at (910) 251-4728

All three counties are participants in the National Flood Insurance Program (NFIP). The crossing of Chockoyotte Creek in Halifax County is located partially within the jurisdictional limits of the city of Roanoke Rapids, which is also a participant in the NFIP. This and other crossings involve detailed study streams with 100-year flood elevations determined and floodways defined. The other detailed stream crossings include Contentnea Creek in Greene County and Fishing Creek /Fishing Creek Overflow in Halifax County. The Edgecombe County portion of Fishing Creek and the other stream crossings are mapped approximately without 100-year flood elevations shown. A summary of flood plain information that we have pertaining to the bridges is contained in the following table. This information was taken from the pertinent Flood Insurance Rate Map (FIRM).

<u>Bridge No.</u>	<u>Route No.</u>	<u>County</u>	<u>Study Stream</u>	<u>BFE*</u>	<u>Date Of FIRM</u>
90	SR 1222	Greene	Contentnea Cr.	52	1/83
23	US 301	Edgecombe	Fishing Cr.	Approx.**	8/81
23	US 301	Halifax**	Fishing Cr.	97**	5/81
17	US 301	Halifax	Fishing Cr. Overflow	97	5/81
128	SR 1002	Halifax	Br. Of Jacket Swp	Approx.	5/81
40/45	SR 1003	Halifax	Beech Swamp	Approx.	5/81
85	SR 1426	Halifax***	Chockoyotte Cr.	164***	9/92
85	SR 1426	Halifax***	Chockoyotte Cr.	Approx***	5/81

* Base (100-year) Flood Elevation in feet N.G.V.D.

** Stream mapped approximately in Edgecombe Co. and detailed in Halifax County

*** Stream mapped approximately in Halifax County and detailed in Roanoke Rapids

1. FLOOD PLAINS: (Continued)

For the detail study stream crossings, reference is made to the Federal Emergency Management Agency's (FEMA's) "Procedures for 'No Rise' Certification for Proposed Developments in Regulatory Floodways", copies of which have been furnished previously to your office. Improvements to the bridges should be designed to meet the requirements of the NFIP, administered by FEMA, and be in compliance with all local ordinances. Specific questions pertaining to community flood plain regulations or developments should be referred to the local building official.

2. WATERS AND WETLANDS: POC, Greene County- Mike Bell, Project Manager, Washington Field Office, Regulatory Division, at (252)975-1616, Extension 26

All work restricted to existing high ground will not require prior Federal permit authorization. However, U.S. Department of the Army (DA) permit authorization pursuant to Section 404 of the Clean Water Act of 1977, as amended, will be required for the discharge of excavated or fill material in waters of the United States or any adjacent and/or isolated wetlands in conjunction with your proposed bridge replacement, including disposal of construction debris. Specific permit requirements will depend on design of the project, extent of fill work within waters of the United States, including wetlands (dimensions, fill amounts, etc.), construction methods, and other factors.

Although these projects may qualify as a Categorical Exclusion, in order for the proposal to be considered for authorization under Nationwide Permit No.23, the project planning report should contain sufficient information to document that the proposed activity does not have more than a minimal individual or cumulative impact on the aquatic environment.

Our experience has shown that replacing bridges with culverts often results in sufficient adverse impacts to consider the work as having more than minimal impacts on the aquatic environment. Accordingly, the following items need to be addressed in the project planning report:

- a. The report should contain the amount of permanent and temporary impacts to waters and wetlands as well as a description of the type of habitat that will be affected.
- b. Offsite detours are always preferable to onsite (temporary) detours in wetlands. If an onsite detour is the recommended action, justification should be provided.
- c. Project commitments should include the removal of all temporary fills from waters and wetlands and "time-of-the-year" restrictions on in-stream work if recommended by the North Carolina Wildlife Resources Commission. In addition, if undercutting is necessary for temporary detours, the undercut material should be stockpiled to be used to restore the site.

2. WATERS AND WETLANDS: (Continued)

d. All restored areas should be planted with endemic vegetation, including trees, if appropriate.

e. The report should provide an estimate of the linear feet of new impacts to streams resulting from construction of the project.

f. If a bridge is proposed to be replaced with a culvert, NCDOT must demonstrate that the work will not result in more than minimal impacts on the aquatic environment, specifically addressing the passage of aquatic life, including anadromous fish. In addition, the report should address the impacts that the culvert would have on recreational navigation.

g. In addition, to be considered for authorization, discharge of demolition material into waters and wetlands and associated impacts must be disclosed and discussed in the project planning report.

At this time, construction plans are not available for review. When final plans are complete, including the extent and location of any work within waters of the United States and wetlands, our Regulatory Division would appreciate the opportunity to review those plans for a project-specific determination of DA permit requirements.

If you have questions or need further information, please contact Mr. Bell.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

April 27, 2000

Mr. William D. Gilmore, P.E., Manager
Project Development and Environmental Analysis Branch
N.C. Division of Highways
P.O. Box 25201
Raleigh, NC 27611-5201

Dear Mr. Gilmore:

Thank you for your letter of April 17, 2000 requesting information from the U.S. Fish and Wildlife Service (Service) for the purpose of evaluating the potential environmental impacts of five bridge replacement projects located in Halifax, Greene, and Edgecombe Counties, North Carolina. This report provides scoping information and is provided in accordance with provisions of the Fish and Wildlife Coordination Act (FWCA) (16 U.S.C. 661-667d) and Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543). This report also serves as initial scoping comments to federal and state resource agencies for use in their permitting and/or certification processes for this project.

The North Carolina Department of Transportation (NCDOT) proposes to replace the following bridges (Listed by TIP No.):

1. B-3453, Edgecombe/Halifax Counties, Replace Bridge No. 23 & Bridge No. 17 on US 301 over Fishing Creek and Fishing Creek Overflow;
2. B-3461, Greene County, Replace Bridge No. 90 on SR 1222 over Contentnea Creek;
3. B-3466, Halifax County, Replace Bridge No. 128 on SR 1002 over Spring Branch;
4. B-3467, Halifax County, Replace Bridge No. 40 & No. 45 on SR 1003 over Beech Swamp;
and,
5. B-3468, Halifax County, Replace Bridge No. 35 on SR 1426 over Chocomaqua Creek.

The following recommendations are provided to assist you in your planning process and to facilitate a thorough and timely review of the project.

Generally, the Service recommends that wetland impacts be avoided and minimized to the maximum extent practical as outlined in Section 404 (b)(1) of the Clean Water Act Amendments of 1977. In regard to avoidance and minimization of impacts, we recommend that proposed highway projects be aligned along or adjacent to existing roadways, utility corridors, or previously developed areas in order to minimize habitat fragmentation and encroachment. Areas exhibiting high biodiversity or ecological value important to the watershed and region should be avoided. Crossings of streams and associated wetland systems should use existing crossings and/or occur on a structure wherever feasible. Where bridging is not feasible, culvert structures that maintain natural water flows and hydraulic regimes without scouring, or impeding fish and wildlife passage, should be employed. Highway shoulder and median widths should be reduced through wetland areas. Roadway embankments and fill areas should be stabilized by using appropriate erosion control devices and techniques. Wherever appropriate, construction in sensitive areas should occur outside fish spawning and migratory bird nesting seasons.

The National Wetlands Inventory (NWI) maps of the Dawson Crossroads, Enfield, Roanoke Rapids, and Walstonburg 7.5 Minute Quadrangles show wetland resources in the specific work areas. However, while the NWI maps are useful for providing an overview of a given area, they should not be relied upon in lieu of a detailed wetland delineation by trained personnel using an acceptable wetland classification methodology.

We reserve the right to review any federal permits that may be required for this project, at the public notice stage. We may have no objection, provide recommendations for modification of the project, or recommend denial. Therefore, it is important that resource agency coordination occur early in the planning process in order to resolve any conflicts that may arise and minimize delays in project implementation.

In addition to the above guidance, we recommend that the environmental documentation for this project include the following in sufficient detail to facilitate a thorough review of the action:

1. A clearly defined and detailed purpose and need for the proposed project, supported by tabular data if available, and including a discussion of the project's independent utility;
2. A description of the proposed action with an analysis of all alternatives being considered, including the upgrading of existing roads and a "no action" alternative;
3. A description of the fish and wildlife resources, and their habitats, within the project impact area that may be directly or indirectly affected;
4. The extent and acreage of waters of the U.S., including wetlands, that are to be impacted by filling, dredging, clearing, ditching, or draining. Acres of wetland impact should be differentiated by habitat type based on the wetland classification scheme of the National Wetlands Inventory (NWI). Wetland boundaries should be determined by using the 1987 Corps of Engineers Wetlands Delineation Manual and verified by the U.S. Army Corps of Engineers (Corps);

5. The anticipated environmental impacts, both temporary and permanent, that would be likely to occur as a direct result of the proposed project. The assessment should also include the extent to which the proposed project would result in secondary impacts to natural resources, and how this and similar projects contribute to cumulative adverse effects;
6. Design features and construction techniques which would be employed to avoid or minimize the fragmentation or direct loss of wildlife habitat value;
7. Design features, construction techniques, or any other mitigation measures which would be employed at wetland crossings and stream channel relocations to avoid or minimize impacts to waters of the United States; and,
8. If unavoidable wetland impacts are proposed, we recommend that every effort be made to identify compensatory mitigation sites in advance. Project planning should include a detailed compensatory mitigation plan for offsetting unavoidable wetland impacts. Opportunities to protect mitigation areas in perpetuity, preferably via conservation easement, should be explored at the outset.

The enclosed pages identify the federally-listed endangered and threatened species, and Federal Species of Concern (FSC) that are known to occur in Edgecombe, Greene, and Halifax Counties. The Service recommends that habitat requirements for these federally-listed species be compared with the available habitat at the project site. If suitable habitat is present within the action area of the project, biological surveys for the listed species should be performed. Environmental documentation should include survey methodologies and results. In addition to this guidance, the following information should be included in the document regarding protected species:

1. A map and description of the specific area used in the analysis of direct, indirect, and cumulative impacts;
2. A description of the biology and status of the listed species and the habitat of the species that may be affected by the action, including the results of any on-site inspections;
3. An analysis of the "effects of the action" on the listed species and associated habitat which includes consideration of:
 - a. The environmental baseline which is an analysis of the effects of past and ongoing human and natural factors leading to the current status of the species and its habitat;
 - b. The impacts of past and present federal, state, and private activities in the project area and cumulative impacts area;
 - c. The direct and indirect impacts of the proposed action. Indirect effects are those that are caused by the proposed action and are later in time, but are still

reasonably certain to occur;

- d. The impacts of interrelated actions (those that are part of a larger action and depend on the larger action for their justification) and interdependent actions (those that have no independent utility apart from the action under consideration); and,
 - e. The cumulative impacts of future state and private activities (not requiring federal agency involvement) that will be considered as part of future Section 7 consultation;
- 4. A description of the manner in which the action may affect any listed species or associated habitat including project proposals to reduce/eliminate adverse effects. Direct mortality, injury, harassment, the loss of habitat, and/or the degradation of habitat are all ways in which listed species may be adversely affected;
 - 5. A summary of evaluation criteria to be used as a measure of potential effects. Criteria may include post-project population size, long-term population viability, habitat quality, and/or habitat quantity; and,
 - 6. Based on evaluation criteria, a determination of whether the project is not likely to adversely affect or may affect threatened and endangered species.

FSC's are those plant and animal species for which the Service remains concerned, but further biological research and field study are needed to resolve the conservation status of these taxa. Although FSC's receive no statutory protection under the ESA, we would encourage the NCDOT to be alert to their potential presence, and to make every reasonable effort to conserve them if found. The North Carolina Natural Heritage Program should be contacted for information on species under state protection.

The Service appreciates the opportunity to comment on this project. Please continue to advise us during the progression of the planning process, including your official determination of the impacts of this project. If you have any questions regarding these comments, please contact Tom McCartney at 919-856-4520, ext. 32.

Sincerely


Garland B. Pardue

Ecological Services Supervisor

Enclosures

cc:

COE, Raleigh, NC (Eric Alsmeyer)

COE, Washington, NC (Michael Bell)
NCDWQ, Raleigh, NC (John Hennessey)
NCDNR, Creedmoor, NC (David Cox)
FHWA, Raleigh, NC (Nicholas Graf)
EPA, Atlanta, GA (Ted Bisterfield)

FWS/R4:TMcCartney:TM:04/27/00:919/856-4520 extension 32:\5bridges.tip



North Carolina Department of Cultural Resources

State Historic Preservation Office

David L. S. Brook, Administrator

James B. Hunt Jr., Governor
Betty Ray McCain, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

August 15, 2000

MEMORANDUM

To: William D. Gilmore, P.E., Manager
Project Development & Environmental Analysis Branch

From: David Brook
Deputy State Historic Preservation Officer

Re: Replace Bridge Nos. 40 & 45, SR 1003 over Beech Swamp,
B-3467, Halifax County, ER 00-8094

Thank you for your memorandum of October 29, 1999, concerning the above project.

We have conducted a review of the project and are aware of no properties of architectural, historic, or archaeological significance which would be affected by the project. Therefore, we have no comment on the project as currently proposed.

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

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919/733-4763.

DB:kgc

cc: Mary Pope Farr, NC DOT
Tom Padgett, NC DOT

	Location	Mailing Address	Telephone/Fax
ADMINISTRATION	507 N. Blount St., Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919) 733-4763 • 733-8653
ARCHAEOLOGY	421 N. Blount St., Raleigh NC	4619 Mail Service Center, Raleigh NC 27699-4619	(919) 733-7342 • 715-2671
RESTORATION	515 N. Blount St., Raleigh NC	4613 Mail Service Center, Raleigh NC 27699-4613	(919) 733-6547 • 715-4801
SURVEY & PLANNING	515 N. Blount St., Raleigh NC	4618 Mail Service Center, Raleigh NC 27699-4618	(919) 733-6545 • 715-4801

CONCURRENCE FORM FOR PROPERTIES NOT ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES

Project Description: Replace Bridge No. 40 on SR 1003 over Beech Swamp

On August 19, 1999, representatives of the

- ☒ North Carolina Department of Transportation (NCDOT)
☐ Federal Highway Administration (FHWA)
☒ North Carolina State Historic Preservation Office (SHPO)

Reviewed the subject project at

- ☐ a scoping meeting
☒ photograph review session/consultation
☐ other

All parties present agreed

- ☒ there are no properties over fifty years old within the project's area of potential effect.
☒ there are no properties less than fifty years old which are considered to meet Criterion Consideration G within the project's area of potential effect.
☐ there are properties over fifty years old (list attached) within the project's area of potential effect but based on the historical information available and the photographs of each property, properties identified as _____ are considered not eligible for the National Register and no further evaluation of them is necessary.
☒ there are no National Register-listed properties located within the project's area of potential effect.

Signed:

[Signature]
Representative, NCDOT

8/19/99
Date

[Signature]
FHWA, for the Division Administrator, or other Federal Agency

8/23/99
Date

[Signature]
Representative, SHPO

8/19/99
Date

[Signature]
State Historic Preservation Officer

9/3/99
Date



North Carolina Wildlife Resources Commission

512 N. Salisbury Street, Raleigh, North Carolina 27611, 919-733-3391
Charles R. Fullwood, Executive Director

November 8, 1999

Ms Stacy Harris, P.E.
Project Manager, Consulting Engineering Unit
NCDOT Project Development and
Environmental Analysis Branch
P.O. Box 25201
Raleigh, NC, 27611

Comments on B-3453, B-3466, B-3467, and B-3468 Bridge Replacements

Dear Ms Harris:

B-3453 Total moratoriums should be in place on bridge no's 23 and 17 on US 301 over Fishing Creek and Fishing Creek Overflow in Edgecombe and Halifax counties, due to anadromous fish spawning from March 1 to June 30. Additionally, culverts should be avoided at these crossings and replaced only with spanning type structures.

B-3466 No restrictions or requirements for this bridge replacement.

B-3467 Total moratoriums should be in place on bridge no's 40 and 45 due to anadromous fish spawning from March 1 to June 30. Additionally, culverts should be avoided at these crossing and replaced only with spanning type structures.

B-3468 No restrictions or requirements for this structure.

If I can be of any further assistance please feel free to contact me.

Sincerely

T. Wayne Jones
D-3 Fisheries Biologist
N.C. Wildlife Resources Commission
5044 Sapony Creek Drive
Nashville, NC, 27856

State of North Carolina
Department of Environment
and Natural Resources
Division of Water Quality



James B. Hunt, Jr., Governor
Bill Holman, Secretary
Kerr T. Stevens, Director

February 3, 2000

MEMORANDUM

To: William D. Gilmore, P.E., Manager, NCDOT, Project Development & Environmental Analysis

From: John Hennessy, NC Division of Water Quality

Subject: Scoping comments on the proposed replacement of Bridge Nos. 40 and 45 on SR 1003 over Beech Swamp in Halifax County, T.I.P. B-3467.

This memo is in reference to your correspondence dated October 29, 1999, in which you requested scoping comments for the referenced project. Preliminary analysis of the project reveals that the proposed bridge will span the Beech Swamp in the Tar-Pamlico River Basin. The DWQ stream index number is 28-79-30 and the stream is classified as C Swamp Nutrient Sensitive Waters. The Division of Water Quality requests that NCDOT consider the following environmental issues for the proposed project:

- A. There should be a discussion on mitigation plans for unavoidable impacts. If mitigation is required, it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. While the NCDWQ realizes that this may not always be practical, it should be noted that for projects requiring mitigation, appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.
- B. When practical, the DWQ requests that bridges be replaced on the existing location with road closure. If a detour proves necessary, remediation measures in accordance with the NCDWQ requirements for General 401 Certification 2726/Nationwide Permit No. 33 (Temporary Construction, Access and Dewatering) must be followed.
- C. If applicable, DOT should not install the bridge bents in the creek, to the maximum extent practicable.
- D. Wetland and stream impacts should be avoided (including sediment and erosion control structures/measures) to the maximum extent practical. If this is not possible, alternatives that minimize wetland impacts should be chosen. Mitigation for unavoidable impacts will be required by DWQ for impacts to wetlands in excess of one acre and/or to streams in excess of 150 linear feet.
- E. Borrow/waste areas should not be located in wetlands. It is likely that compensatory mitigation will be required if wetlands are impacted by waste or borrow.
- F. DWQ prefers replacement of bridges with bridges. However, if the new structure is to be a culvert, it should be countersunk to allow unimpeded fish and other aquatic organisms passage through the crossing.
- G. If foundation test borings are necessary; it should be noted in the document. Geotechnical work is approved under General 401 Certification Number 3027/Nationwide Permit No. 6 for Survey Activities.

- H. In accordance with the NCDWQ Wetlands Rules { 15A NCAC 2H.0506(b)(6) }, mitigation will be required for impacts of greater than 150 linear feet to any single perennial stream. In the event that mitigation becomes required, the mitigation plan should be designed to replace appropriate lost functions and values. In accordance with the NCDWQ Wetlands Rules { 15A NCAC 2H.0506 (h)(3) }, the Wetland Restoration Program may be available for use as stream mitigation.
- I. Sediment and erosion control measures should not be placed in wetlands.
- J. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater should not be permitted to discharge directly into the creek. Instead, stormwater should be designed to drain to a properly designed stormwater detention facility/apparatus.
- K. While the use of National Wetland Inventory (NWI) maps and soil surveys is a useful office tool, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.

Thank you for requesting our input at this time. The DOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact John Hennessy at (919) 733.5694.

Pc: Eric Alsmeyer, Corps of Engineers
Mark Cantrell, USFWS
David Cox, NCWRC
File Copy
Central Files



November 9, 1999

Ms. Stacy Harris, PE
Project Development and
Environment Analysis Branch
Department of Transportation
PO Box 25201
Raleigh, NC 27611-5201

Ms. Harris,

I am writing in reference to your letter of October 29, 1999, concerning replacement of bridges in Halifax County. I have researched the information that you have provided and determined the following:

- | | | | |
|-----------|---|-------------------|-----------------|
| B-3453 | Bridge No. 23 & No. 17 | Total buses daily | 0 |
| Comments: | Closing of these two bridges will not affect our ability to transport students to and from school. | | |
| B-3466 | Bridge No. 128 | Total buses daily | 4 (twice daily) |
| Comments: | Closing of this bridge will cause an increase in route time for buses if closed during the school year. There is the possibility of detouring buses around on SR 1222. Please notify my office as early as possible if the replacement is to be conducted during the months of August thru May. | | |
| B-3467 | Bridge No. 40 | Total buses daily | 3 (twice daily) |
| Comments: | Closing of this bridge will cause a major increase in route time for buses if closed during the school year. Students will most likely have to be reassigned to different buses due to the length of the nearest detour. Please notify my office as early as possible if the replacement is to be conducted during the months of August thru May. | | |
| B-3468 | Bridge No. 85 | Total buses daily | 4 (twice daily) |
| Comments: | Closing of this bridge will cause an increase in route time for buses if closed during the school year. There is the possibility of detouring buses around on SR 1513. Please notify my office as early as possible if the replacement is to be conducted during the months of August thru May. | | |

PO Box 431 Halifax, North Carolina 27839 Fax No: (252) 583-2303

~~-Students Safety is Our First Priority-~~

Thank you for the opportunity to provide input on this analysis. I hope that it will be helpful in developing the best possible plan that will complete the necessary replacements, but not disrupt the flow of transportation for the school year. If I can be of any farther assistance please contact me.

Eric Locklear

A handwritten signature in black ink, appearing to read "Eric Locklear", written over the printed name.

Director of Transportation
Halifax County Schools

EL

PC: Charles Chambliss
File



Halifax County

Planning & Development Services

PO Box 69 - 26 North King Street, Halifax, NC 27839

(252) 583-1082 Planning & Zoning

(252) 583-4891 Building Inspections

(252) 583-2288 E911 Addressing

(252) 583-2735 Fax

November 18, 1999

Ms. Stacy Harris, P.E.

NC Department of Transportation

Project Development & Environmental Analysis Branch

P.O. Box 25201

Raleigh, NC 27611-5201

Dear Ms. Harris:

The purpose of this letter is to submit comments concerning four (4) bridge replacement projects in Halifax County as part of the 2000-2006 Transportation Improvement Program (TIP). The following are detailed comments for each replacement project:

- (1) Project B-3453 - Replace bridge No. 23 and No. 17 on US 301 over Fishing Creek and Fishing Creek Overflow. Halifax County's position on this project is replacement of the bridge with a new bridge on the existing alignment, maintaining traffic with an on-site temporary detour during construction. This section of US 301 has a traffic count of approximately 5000 vehicles per day. US 301 is a major transportation route for delivery trucks. The county feels that the proposed off-site detour of approximately 12 miles would be an inordinate burden on traffic.
- (2) Project B-3466 - Replace bridge No. 128 on S.R. 1002 over Branch Jacket Swamp. Halifax County's position on this project is replacement of the bridge with a new bridge on the existing alignment, maintaining traffic with an off-site detour (road closure) during construction. Although no traffic count data is available for that particular route, the proposed off-site detour of approximately 6 miles does not appear to cause any significant traffic delays.
- (3) Project B-3467 - Replace bridge No. 40 on S.R. 1003 over Beech Swamp. Halifax County's position on this project is replacement of the bridge with a new bridge on the existing alignment, maintaining traffic with an on-site temporary detour during construction. Although no traffic count data is available for that particular route the county feels that the proposed off-site detour of approximately 10 miles would cause a significant burden on traffic.

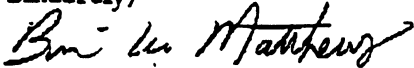
(4) Project B-3468 - Replace bridge No. 85 on S.R. 1426 over Chochoyotte Creek.

Halifax County's position on this project is replacement of the bridge with a new bridge on the existing alignment, maintaining traffic with an off-site detour (road closure) during construction. Although no traffic count data is available for that particular route, the proposed off-site detour of approximately 1.5 miles does not appear to cause any significant traffic delays.

The four listed projects are all beneficial to Halifax County. Considering the age of each bridge and the fact that all of the bridges were overflowed with floodwater from Hurricane Floyd, it is crucial to have the bridges replaced before they begin to show any structural weaknesses.

If you have any questions, please contact me at (252) 583-1082. Thank you for this opportunity to express our comments and concerns related to these projects.

Sincerely,

A handwritten signature in cursive script, reading "Brian W. Matthews".

Brian W. Matthews, Director
Planning & Development Services

cc: Charles Archer, County Manager

Project Name B-3467, Bridges 40/45, Beech Swamp Nearest Road SR 1003
 County Halifax Wetland Area _____ acres Wetland Width ≥ 100 feet
 Name of evaluator L. Warlick Date 11-10-99

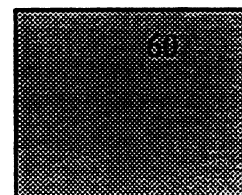
Wetland Location ☐ on pond or lake ☒ on perennial stream ☐ on intermittent stream ☐ within interstream divide ☐ other _____ Soil series <u>Chastain and Bibb</u> ☐ predominantly organic - humus, muck, or peat ☒ predominantly mineral - non-sandy ☐ predominantly sandy Hydraulic factors ☐ steep topography ☐ ditched or channelized ☒ total wetland width ≥ 100 feet	Adjacent land use (within 1/2 mile upstream, upslope, or radius) ☐ forested/natural vegetation <u>80</u> % ☐ agriculture, urban/suburban <u>18</u> % ☐ impervious surface <u>2</u> % Dominant vegetation (1) <u><i>Quercus phellos</i></u> (2) <u><i>Nyssa aquatica</i></u> (3) <u><i>Taxodium distichum</i></u> Flooding and wetness ☐ semipermanently to permanently flooded or inundated ☒ seasonally flooded or inundated ☐ intermittently flooded or temporary surface water ☐ no evidence of flooding or surface water
--	--

Wetland type (select one)*

- | | |
|--|---|
| ☐ Bottomland hardwood forest
☐ Headwater forest
☒ Swamp forest
☐ Wet flat
☐ Pocosin
☐ Bog forest | ☐ Pine savanna
☐ Freshwater marsh
☐ Bog/fen
☐ Ephemeral wetland
☐ Carolina Bay
☐ Other _____ |
|--|---|

			<i>weight</i>	
	Water Storage	<u>4</u>	x 4.00 =	<u>16</u>
R	Bank/Shoreline stabilization	<u>2</u>	x 4.00 =	<u>8</u>
A	Pollutant removal	<u>1</u>	x 5.00 =	<u>5</u>
T	Wildlife habitat	<u>4</u>	x 2.00 =	<u>8</u>
I	Aquatic life value	<u>5</u>	x 4.00 =	<u>20</u>
N	Recreation/Education	<u>3</u>	x 1.00 =	<u>3</u>
G	Economic value	_____	x .50 =	_____

Wetland Score



Project Name B-3467, Bridges 40/45, Beech Swamp Nearest Road SR 1003
 County Halifax Wetland Area _____ acres Wetland Width ≥ 100 feet
 Name of evaluator L. Warlick Date 11-10-99

Wetland Location ☐ on pond or lake ☒ on perennial stream ☐ on intermittent stream ☐ within interstream divide ☐ other _____ Soil series <u>Chastain and Bibb</u> ☐ predominantly organic - humus, muck, or peat ☒ predominantly mineral - non-sandy ☐ predominantly sandy Hydraulic factors ☐ steep topography ☐ ditched or channelized ☒ total wetland width ≥ 100 feet	Adjacent land use (within 1/2 mile upstream, upslope, or radius) ☐ forested/natural vegetation <u>80</u> % ☐ agriculture, urban/suburban <u>18</u> % ☐ impervious surface <u>2</u> % Dominant vegetation (1) <u><i>Quercus phellos</i></u> (2) <u><i>Quercus nigra</i></u> (3) <u><i>Pinus taeda</i></u> Flooding and wetness ☐ semipermanently to permanently flooded or inundated ☒ seasonally flooded or inundated ☐ intermittently flooded or temporary surface water ☐ no evidence of flooding or surface water
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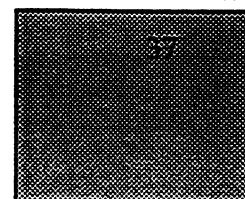
Wetland type (select one)*

☒ Bottomland hardwood forest
☐ Headwater forest
☐ Swamp forest
☐ Wet flat
☐ Pocosin
☐ Bog forest

☐ Pine savanna
☐ Freshwater marsh
☐ Bog/fen
☐ Ephemeral wetland
☐ Carolina Bay
☐ Other _____

		weight	
Water Storage	<u>3</u>	x 4.00 =	<u>12</u>
Bank/Shoreline stabilization	<u>0</u>	x 4.00 =	<u>0</u>
Pollutant removal	<u>1</u>	x 5.00 =	<u>5</u>
Wildlife habitat	<u>1</u>	x 2.00 =	<u>2</u>
Aquatic life value	<u>4</u>	x 4.00 =	<u>16</u>
Recreation/Education	<u>2</u>	x 1.00 =	<u>2</u>
Economic value	_____	x .50 =	_____

Wetland Score



R
A
T
I
N
G

(1987 COE Wetlands Delineation Manual)

Project/Site: B-3467	Project No:	Date: 10-Nov-1999
Applicant/Owner: NCDOT		County: Halifax
Investigators: L. Warlick/J. Brooks		State: North Carolina
		Plot ID: 1

Do Normal Circumstances exist on the site?	Yes ☐ No ☐	Community ID: CP Bottomland Hardwoods
Is the site significantly disturbed (Atypical Situation:)?	Yes ☐ No ☐	Transect ID:
Is the area a potential Problem Area?	Yes ☐ No ☐	Field Location:
(If needed, explain on the reverse side)		

VEGETATION

(USFWS Region No. 2)

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
<i>Quercus michauxii</i>	Tree	FACW-	<i>Acer rubrum</i>	Shrub	FAC
Oak, Swamp Chestnut			Maple, Red		
<i>Quercus phellos</i>	Tree	FACW-	<i>Taxodium distichum</i>	Tree	OBL
Oak, Willow			Cypress, Bald		
<i>Quercus nigra</i>	Tree	FAC	<i>Arundinaria gigantea</i>	Herb	FACW
Oak, Water			Cane, Giant		
<i>Liquidambar styraciflua</i>	Tree	FAC+	<i>Cephalanthus occidentalis</i>	Shrub	OBL
Gum, Sweet			Buttonbush, Common		
<i>Acer rubrum</i>	Tree	FAC	<i>Pinus taeda</i>	Tree	FAC
Maple, Red			Pine, Loblolly		

Percent of Dominant Species that are OBL, FACW or FAC:
(excluding FAC-) 10/10 = 100.00%

FAC Neutral: 5/5 = 100.00%
Numeric Index: 23/10 = 2.30

Remarks:

HYDROLOGY

<u>NO</u> Recorded Data(Describe in Remarks): <u>N/A</u> Stream, Lake or Tide Gauge <u>N/A</u> Aerial Photographs <u>N/A</u> Other <u>YES</u> No Recorded Data Field Observations Depth of Surface Water: N/A (in.) Depth to Free Water in Pit: N/A (in.) Depth to Saturated Soil: = 2 (in.)	Wetland Hydrology Indicators Primary Indicators <u>NO</u> Inundated <u>YES</u> Saturated in Upper 12 Inches <u>NO</u> Water Marks <u>NO</u> Drift Lines <u>NO</u> Sediment Deposits <u>YES</u> Drainage Patterns in Wetlands Secondary Indicators <u>NO</u> Oxidized Root Channels in Upper 12 Inches <u>YES</u> Water-Stained Leaves <u>NO</u> Local Soil Survey Data <u>YES</u> FAC-Neutral Test <u>NO</u> Other(Explain in Remarks)
--	---

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: B-3467 Applicant/Owner: NCDOT Investigators: L. Warlick/J. Brooks	Project No:	Date: 10-Nov-1999 County: Halifax State: North Carolina Plot ID: 1
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SOILS

Map Unit Name (Series and Phase): Chastain and Bibb Map Symbol: Cba Drainage Class: Poorly drained Taxonomy (Subgroup): Typic Fluvaquent Profile Description	Mapped Hydric Inclusion? Field Observations Confirm Mapped Type? Yes ☐ No ☒
--	---

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc
0-8	A	10YR4/1	7.5YR5/8	Few N/A	Loam
8-16	B	10YR7/1	10YR6/8	Common N/A	Sandy loam

Hydric Soil Indicators: NO Histosol NO Histic Epipedon NO Sulfidic Odor YES Aquic Moisture Regime NO Reducing Conditions YES Gleyed or Low Chroma Colors	NO Concretions NO High Organic Content in Surface Layer in Sandy Soils NO Organic Streaking in Sandy Soils YES Listed on Local Hydric Soils List YES Listed on National Hydric Soils List NO Other (Explain in Remarks)
---	--

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No Wetland Hydrology Present? ☒ Yes ☐ No Hydric Soils Present? ☒ Yes ☐ No	Is the Sampling Point within the Wetland? ☒ Yes ☐ No
---	--

Remarks:



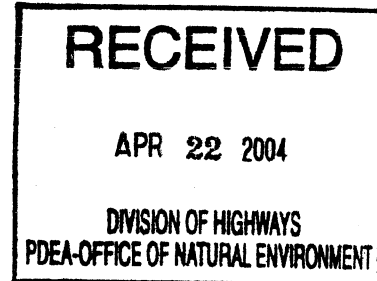
North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

April 19, 2004

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



Dear Dr. Thorpe:

Subject: Project: Bridges 40 and 45 over Beech Swamp, SR 1003
TIP Number: B-3467, Halifax County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide compensation for the subject project. Based on the information supplied by you in a letter dated March 16, 2004, the impacts are located in CU 03020102 of the Tar-Pamlico River Basin in the Northern Inner Coastal Plain Eco-Region, and are as follows:

Wetland Impacts: 1.75 acre

As stated in your letter, the subject project is listed in Exhibit 2 of the Memorandum of Agreement among the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U. S. Army Corps of Engineers, Wilmington District dated July 22, 2003. The ecosystem enhancement for the subject project will be provided in accordance with this agreement.

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

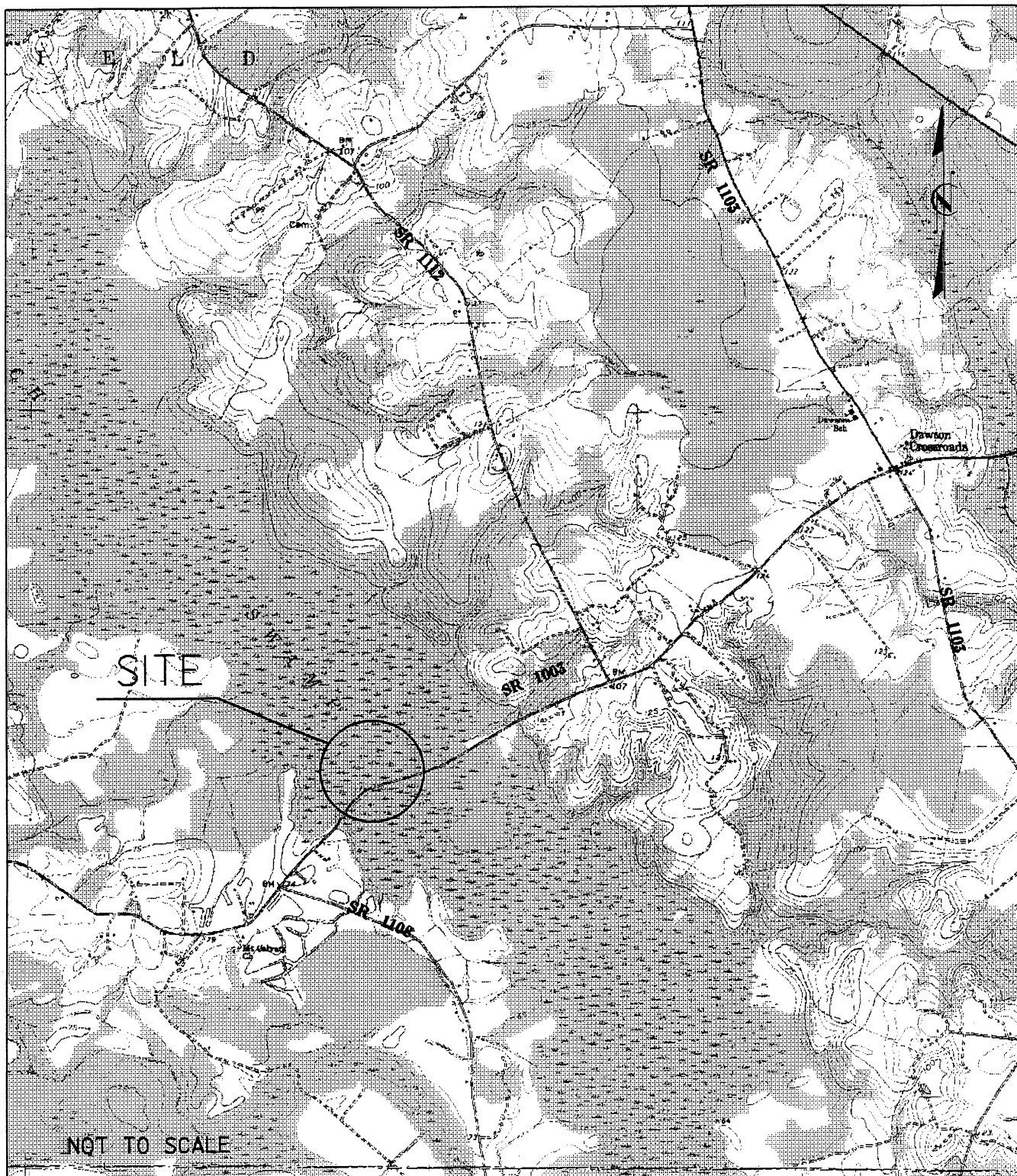
Sincerely,

William D. Gilmore, P.E.
Transition Manager

cc: Mike Bell, USACE-Raleigh
John Hennessy, Division of Water Quality, Wetlands/401 Unit
File: B-3467

NC DENR Ecosystem Enhancement Program
1652 Mail Service Center, Raleigh, North Carolina 27699-1652
Phone: 919-715-1413 \ FAX: 919-715-2219 \ Internet: h2o.enr.state.nc.us/wrp/

One
North Carolina
Naturally



LOCATION MAP

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
HALIFAX COUNTY
PROJECT: 8.2301201 (B-3467)

REPLACE BRG[#]40 AND BRG[#]45
OVER BEECH SWAMP ON SR 1003

WETLAND LEGEND

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

NCDOT
DIVISION OF HIGHWAYS
HALIFAX COUNTY
PROJECT: 8.2301201 (B-3467)

REPLACE BRG[#]40 AND BRG[#]45
OVER BEECH SWAMP ON SR 1003

NAD 83

20

JAMES R. LAWRENCE SR.

1

CURTIS R. TURNER

3

23

R/W

MATCHLINE 23+50 -L-

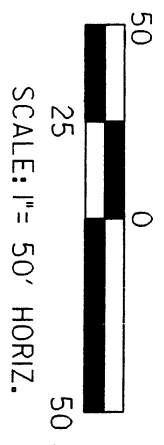
J. AUBREY GODWIN
VIVIAN B. GODWIN

2

JULIA B. ANDERSON &
ALTON W. ANDERSON

4

PLAN VIEW



TEMPORARY WORK BRIDGE

NCDOT

DIVISION OF HIGHWAYS
HALIFAX COUNTY
PROJECT 8.2301201 (B-3467)

REPLACE BRG#40 AND BRG#45
OVER BEECH SWAMP ON SR 1003

SHEET OF 01 / 22 / 04

3

CURTIS R. TURNER

30

TEMPORARY WORK BRIDGE

3

CURTIS R. TURNER

32

R
W

NAD 83

MATCHLINE 28+50 -L-

-L-

MATCHLINE 33+00 -L-

JULIA B. ANDERSON &
ALTON W. ANDERSON

4

JULIA B. ANDERSON &
ALTON W. ANDERSON

4

BEECH SWAMP

BEECH SWAMP

BRIDGE #45



SCALE: 1"= 50' HORIZ.



TEMPORARY WORK BRIDGE

PLAN VIEW

NC DOT

DIVISION OF HIGHWAYS

HALIFAX COUNTY

PROJECT 8.2301201 (B-3467)

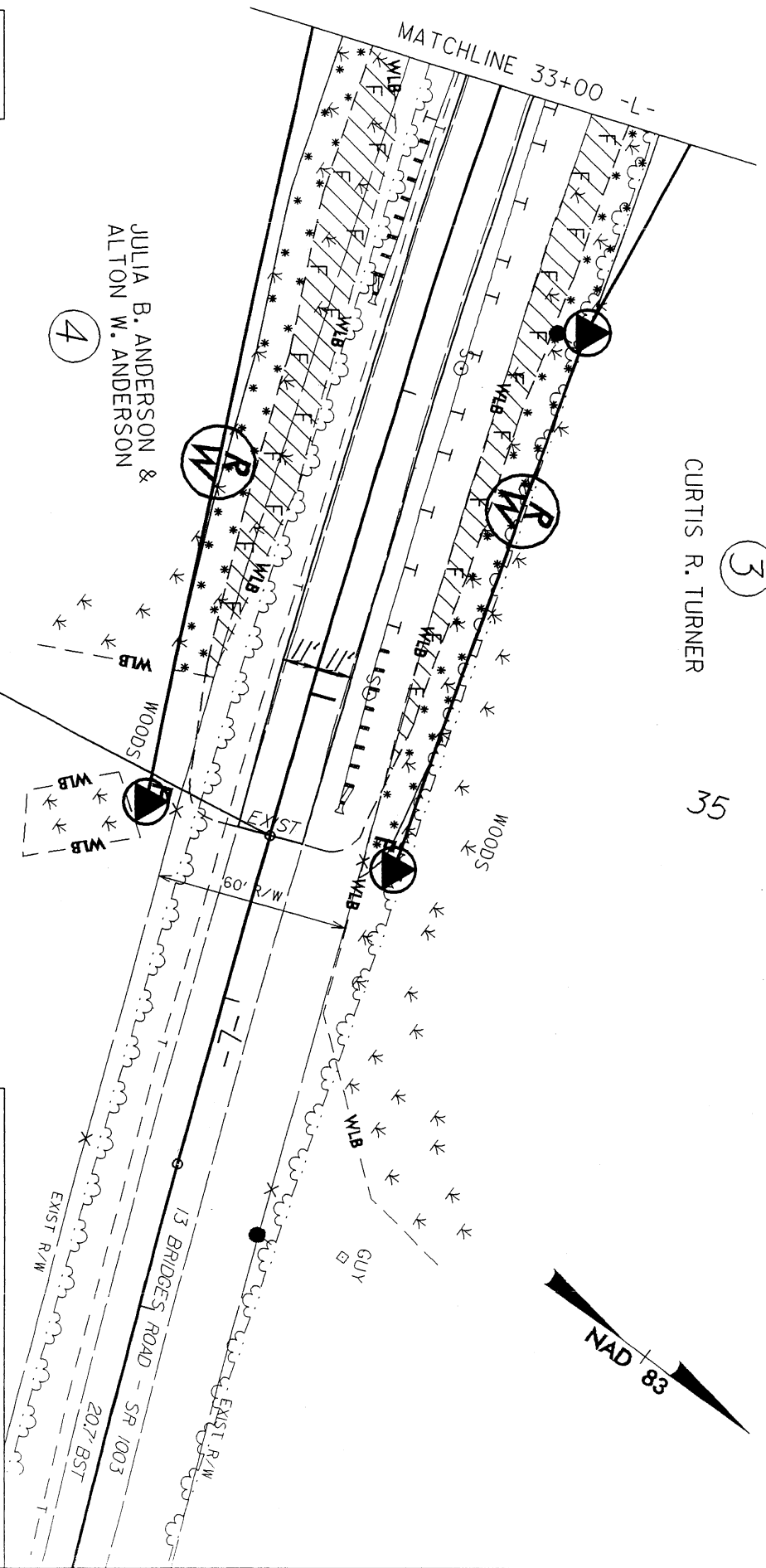
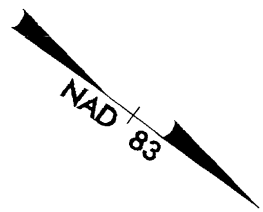
REPLACE BRG #40 AND BRG #45
OVER BEECH SWAMP ON SR 1003

SHEET OF 01 / 22 / 04

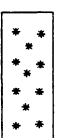
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CURTIS R. TURNER

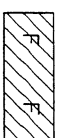
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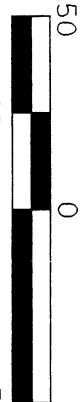
4



DENOTES MECHANIZED CLEARING



DENOTES FILL IN WETLAND



SCALE: 1" = 50' HORIZ.

PLAN VIEW

END CONSTRUCTION
-L- STA. 35+46.97

NCIDOT

DIVISION OF HIGHWAYS

HALIFAX COUNTY

PROJECT: 8.2301201 (B-3467)

REPLACE BRG#40 AND BRG#45
OVER BEECH SWAMP ON SR 1003

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Fill In SW (ac)	Existing Channel Impacted (ft)	Natural Stream Design (ft)
1	15+50-35+50-L-	#40- 4@45', 36" Prestressed O.A.L.- 180'	1.04	0	0.04	0.67	0	0	0.001	0	0
		#45- 3@43', 36" Prestressed O.A.L.- 129'									
TOTALS:			1.04	0	0.04	0.67	0	0	0.001	0	0

NCDOT
 DIVISION OF HIGHWAYS
 HALIFAX COUNTY
 PROJECT 8.2301201 (B-3467)
 BRIDGE#40 AND #45 OVER BEECH
 SWAMP ON SR 1003

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	JAMES R. LAWERENCE SR.	107 NELSON DR. ROANOKE RAPIDS, N.C. 27870
2	J. AUBREY GODWIN	3201 TILGHMAN RD. WILSON, N.C. 27893
3	C.R. TURNER JR.	6 LONG STREET RD. WELDON, N.C. 27890
4	JULIA B. ANDERSON	200 RAILROAD STREET ENFIELD, N.C. 27823

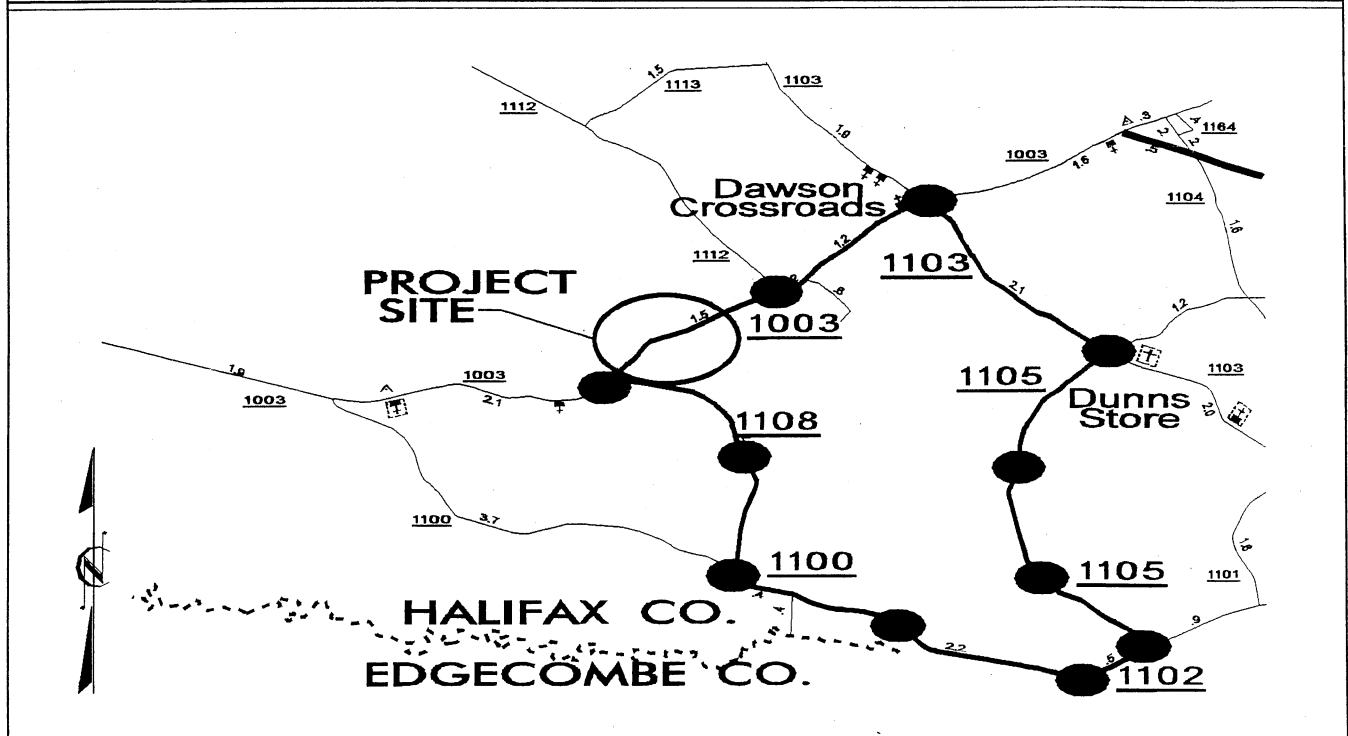
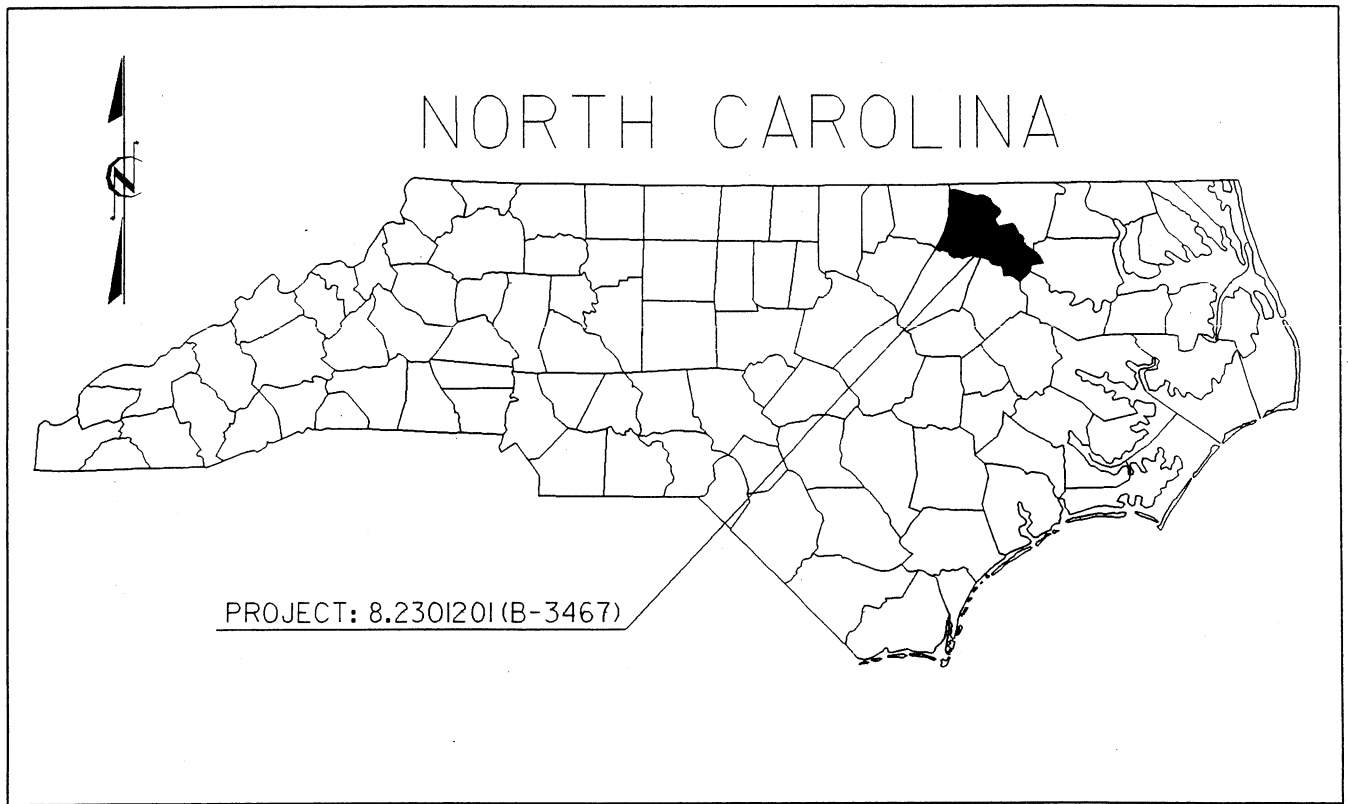
NCDOT

DIVISION OF HIGHWAYS

HALIFAX COUNTY

PROJECT: 8.2301201 (B-3467)

REPLACE BRG. #40 AND BRG. #45
OVER BEECH SWAMP ON SR 1003



VICINITY MAPS

NCDOT

DIVISION OF HIGHWAYS

HALIFAX COUNTY

PROJECT: 8.2301201 (B-3467)

REPLACE BRG[#]40 AND BRG[#]45
OVER BEECH SWAMP ON SR 1003

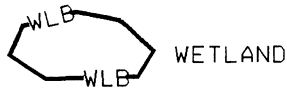
SHEET

OF

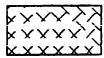
03 / 27 / 05

BUFFER LEGEND

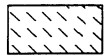
—WLB— WETLAND BOUNDARY



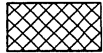
WETLAND



ALLOWABLE IMPACTS ZONE 1



ALLOWABLE IMPACTS ZONE 2



MITIGABLE IMPACTS ZONE 1



MITIGABLE IMPACTS ZONE 2

—BZ— RIPARIAN BUFFER ZONE

—BZ1— RIPARIAN BUFFER ZONE 1
30 ft (9.2m)

—BZ2— RIPARIAN BUFFER ZONE 2
20 ft (6.1m)

→ → FLOW DIRECTION

—TB— TOP OF BANK

—WE— EDGE OF WATER

—C— PROP. LIMIT OF CUT

—F— PROP. LIMIT OF FILL

▲ PROP. RIGHT OF WAY

—NG— NATURAL GROUND

—PL— PROPERTY LINE

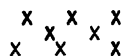
—TDE— TEMP. DRAINAGE
EASEMENT

—PDE— PERMANENT DRAINAGE
EASEMENT

—EAB— EXIST. ENDANGERED
ANIMAL BOUNDARY

—EPB— EXIST. ENDANGERED
PLANT BOUNDARY

—WS— WATER SURFACE

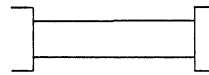


LIVE STAKES

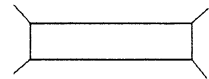


BOULDER

— — — CORE FIBER ROLLS



PROPOSED BRIDGE



PROPOSED BOX CULVERT



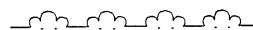
PROPOSED PIPE CULVERT

(DASHED LINES DENOTE
EXISTING STRUCTURES)

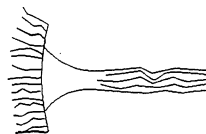
12"-48"
PIPES
54" PIPES
& ABOVE



SINGLE TREE



WOODS LINE



DRAINAGE INLET



ROOTWAD

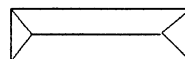
RIP RAP



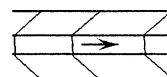
ADJACENT PROPERTY OWNER
OR PARCEL NUMBER
IF AVAILABLE



PREFORMED SCOUR HOLE (PSH)



LEVEL SPREADER (LS)

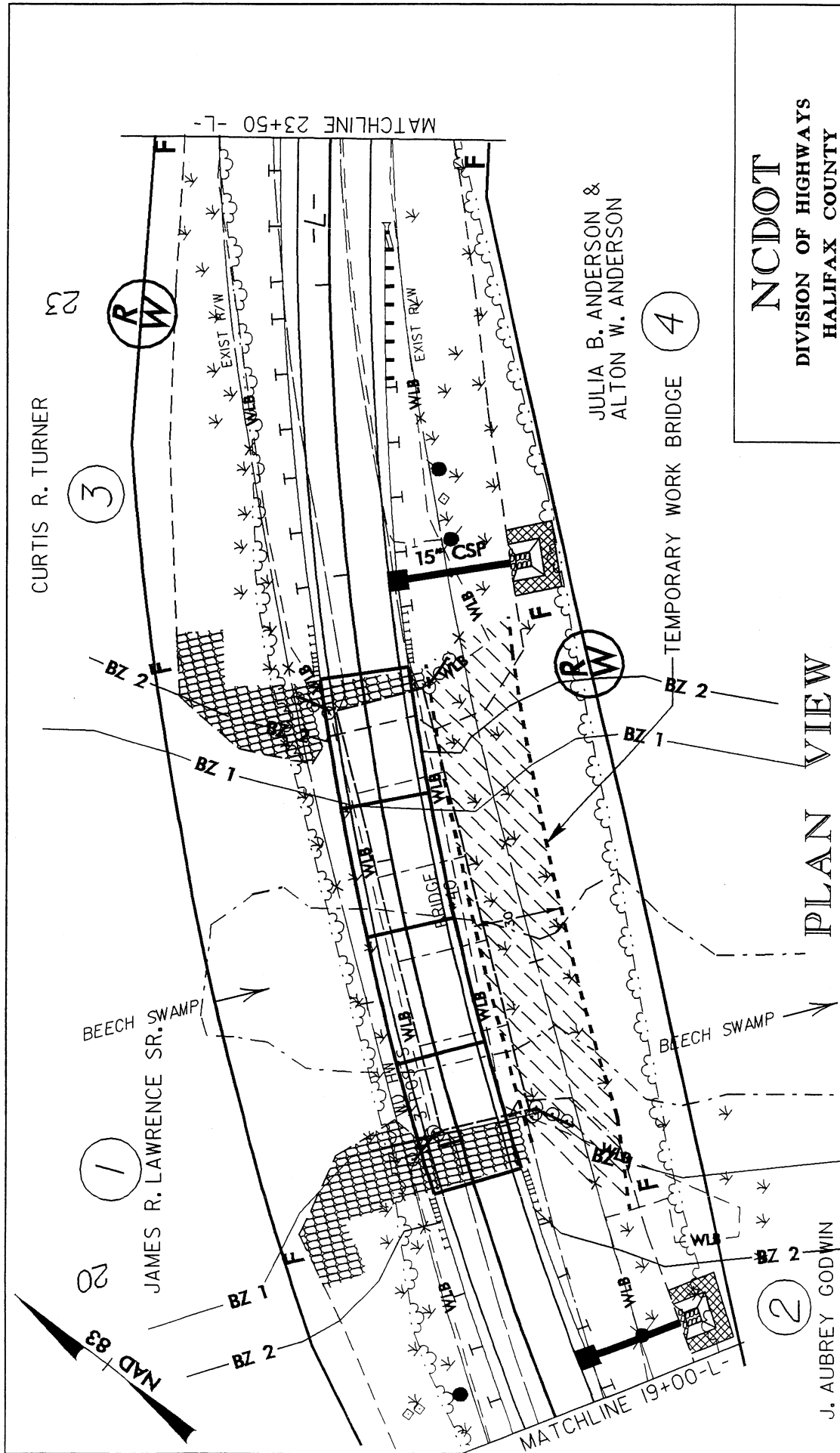


GRASS SWALE

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
HALIFAX COUNTY

PROJECT: 8.2301201 (B-3467)

REPLACE BRG[#]40 AND BRG[#]45
OVER BEECH SWAMP ON SR 1003



NCDOT

DIVISION OF HIGHWAYS

HALIFAX COUNTY

PROJECT: 8.2301201 (B-3467)

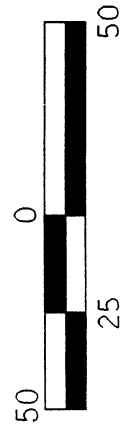
REPLACE BRG[#] 40 AND BRG[#] 45
OVER BEECH SWAMP ON SR 1003

SHEET

OF

01 / 22 / 04

TEMPORARY WORK BRIDGE



SCALE: 1" = 50' HORIZ.

BUFFER IMPACTS SUMMARY													
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT				BUFFER REPLACEMENT						
			TYPE		ALLOWABLE		MITIGABLE		REPLACEMENT				
			ROAD CROSSING	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+75-21+45-L-	X		3023.0	3659.0	6682.0	0.0	0.0	0.0	0.0	0.0	0.0
	4@45', 36"												
	Prestressed												
	O.A.L.-180'												
TOTAL:					3023.0	3659.0	6682.0	0.0	0.0	0.0	0.0	0.0	0.0

N.C. DEPT. OF TRANSPORTATION

DIVISION OF HIGHWAYS

HALIFAX COUNTY

PROJECT: 8.2301201 (B-3467)

REPLACE BRG#40 AND #45 OVER

BEECH SWAMP ON SR 1003

SHEET 5 OF 6

03/26/03

SHEET 5 OF 6 03/26/03

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	JAMES R. LAWERENCE SR.	107 NELSON DR. ROANOKE RAPIDS, N.C. 27870
2	J. AUBREY GODWIN	3201 TILGHMAN RD. WILSON, N.C. 27893
3	C.R. TURNER JR.	6 LONG STREET RD. WELDON, N.C. 27890
4	JULIA B. ANDERSON	200 RAILROAD STREET ENFIELD, N.C. 27823

NCDOT

DIVISION OF HIGHWAYS

HALIFAX COUNTY

PROJECT: 8.2301201 (B-3467)

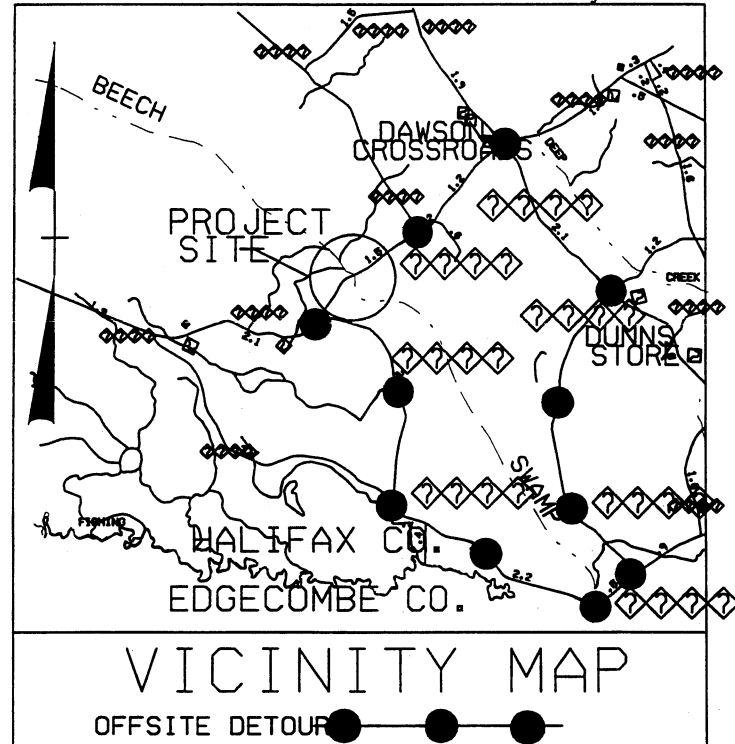
REPLACE BRG. #40 AND BRG. #45
OVER BEECH SWAMP ON SR 1003

09/08/99

\$\$\$USERNAME\$\$\$

CONTRACT TIP PROJECT B-3467

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



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

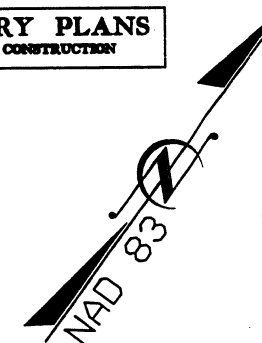
HALIFAX COUNTY

LOCATION: BRIDGE NOS. 40 AND 45 OVER BEECH SWAMP
ON SR 1003 (13 BRIDGES ROAD)

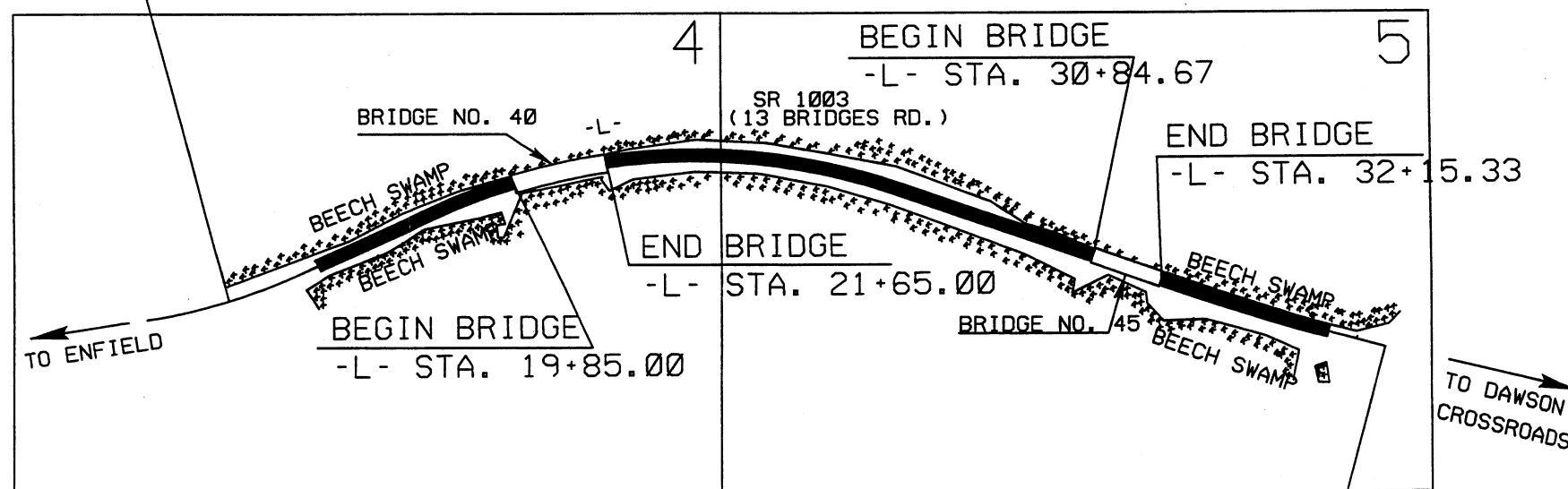
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

STATE	STATE PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
N.C.	B-3467	1	
DATE	DESCRIPTION	BY	CHKD.
33086.1.1	BRSTP-1003(23) PE		
33086.2.1	BRSTP-1003(23) W & UTILITIES		
33086.3.1	BRSTP-1003(23) CONST		

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



STA. 13+52.58 -L- BEGIN TIP PROJECT B-3467



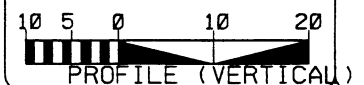
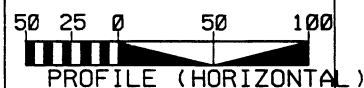
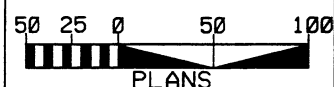
STA 36+54.28 -L- END TIP PROJECT B-3467

★DESIGN EXCEPTION FOR HORIZONTAL STOPPING
SIGHT DISTANCE REQUIRED

NOTES:

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

GRAPHIC SCALES



DESIGN DATA

ADT 2004= 956
ADT 2024= 1474
DHV = 10 %
D = 60 %
T = 3 % *
V = 55 MPH ★
* TTST 1% DUAL 2%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3467 0.377 MI
LENGTH STRUCTURE TIP PROJECT B-3467 0.059 MI
TOTAL LENGTH OF TIP PROJECT B-3467 0.436 MI

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 BIRCH RIDGE DR., NC. 27610

RIGHT OF WAY DATE: JANUARY 21, 2003
GARY LOVERING, PE
PROJECT ENGINEER

LETTING DATE: SEPTEMBER 21, 2004
ANTHONY C. WEST
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
ROADWAY DESIGN
ENGINEER

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR
DATE

*S.U.E - SUBSURFACE UTILITY ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

EDGE OF PAVEMENT	----
CURB	----
PROP. SLOPE STAKES CUT	-----C-----
PROP. SLOPE STAKES FILL	-----F-----
PROP. WOVEN WIRE FENCE	-----○-----
PROP. CHAIN LINK FENCE	-----□-----
PROP. BARBED WIRE FENCE	-----◇-----
PROP. WHEELCHAIR RAMP	-----WCR-----
CURB CUT FOR FUTURE WHEELCHAIR RAMP	-----WCR-----
EXIST. GUARDRAIL	----- -----
PROP. GUARDRAIL	----- -----
EQUALITY SYMBOL	-----⊙-----
PAVEMENT REMOVAL	-----XXXX-----

RIGHT OF WAY

BASELINE CONTROL POINT	-----◆-----
EXISTING RIGHT OF WAY MARKER	-----H-----
EXIST. RIGHT OF WAY LINE W/MARKER	----- -----
PROP. RIGHT OF WAY LINE WITH PROPOSED R/W MARKER (IRON PIN & CAP)	-----▲-----
PROP. RIGHT OF WAY LINE WITH PROPOSED (CONCRETE OR GRANITE) R/W MARKER	-----⬤-----
EXIST. CONTROL OF ACCESS LINE	-----P-----
PROP. CONTROL OF ACCESS LINE	-----⊙-----
EXIST. EASEMENT LINE	-----E-----
PROP. TEMP. CONSTRUCTION EASEMENT LINE	-----E-----
PROP. TEMP. DRAINAGE EASEMENT LINE	-----FDE-----
PROP. PERM. DRAINAGE EASEMENT LINE	-----FDE-----

HYDROLOGY

STREAM OR BODY OF WATER	-----
RIVER BASIN BUFFER	-----RBB-----
FLOW ARROW	-----→-----
DISAPPEARING STREAM	----->-----
SPRING	-----W-----
SWAMP MARSH	-----W-----
SHORELINE	----- -----
FALLS, RAPIDS	----- -----
PROP LATERAL, TAIL, HEAD DITCHES	-----FDE-----

STRUCTURES

MAJOR BRIDGE, TUNNEL, OR BOX CULVERT	-----[CONC]-----
BRIDGE WING WALL, HEAD WALL AND END WALL	-----)CONC WW(-----

MINOR HEAD & END WALL	-----CONC HW-----
PIPE CULVERT	=====
FOOTBRIDGE	----->-----
DRAINAGE BOXES	-----□CB-----
PAVED DITCH GUTTER	----- -----

UTILITIES

EXIST. POLE	-----OP-----
EXIST. POWER POLE	-----P-----
PROP. POWER POLE	-----Q-----
EXIST. TELEPHONE POLE	-----R-----
PROP. TELEPHONE POLE	-----R-----
EXIST. JOINT USE POLE	-----R-----
PROP. JOINT USE POLE	-----R-----
TELEPHONE PEDESTAL	-----P-----
U/G TELEPHONE CABLE HAND HOLD	-----H-----
CABLE TV PEDESTAL	-----H-----
U/G TV CABLE HAND HOLD	-----H-----
U/G POWER CABLE HAND HOLD	-----H-----
HYDRANT	-----H-----
SATELLITE DISH	-----S-----
EXIST. WATER VALVE	-----V-----
SEWER CLEAN OUT	-----C-----
POWER MANHOLE	-----P-----
TELEPHONE BOOTH	-----B-----
CELLULAR TELEPHONE TOWER	-----T-----
WATER MANHOLE	-----W-----
LIGHT POLE	-----L-----
H-FRAME POLE	-----H-----
POWER LINE TOWER	-----P-----
POLE WITH BASE	-----P-----
GAS VALVE	-----V-----
GAS METER	-----M-----
TELEPHONE MANHOLE	-----T-----
POWER TRANSFORMER	-----P-----
SANITARY SEWER MANHOLE	-----S-----
STORM SEWER MANHOLE	-----S-----
TANK; WATER, GAS, OIL	-----T-----
WATER TANK WITH LEGS	-----T-----
TRAFFIC SIGNAL JUNCTION BOX	-----T-----
FIBER OPTIC SPLICE BOX	-----F-----
TELEVISION OR RADIO TOWER	-----T-----
UTILITY POWER LINE CONNECTS TO TRAFFIC SIGNAL LINES CUT INTO THE PAVEMENT	-----TS-----

RECORDED WATER LINE	-----W-----
DESIGNATED WATER LINE (S.U.E. *)	-----W-----
SANITARY SEWER	-----SS-----
RECORDED SANITARY SEWER FORCE MAIN	-----FSS-----
DESIGNATED SANITARY SEWER FORCE MAIN (S.U.E. *)	-----FSS-----
RECORDED GAS LINE	-----G-----
DESIGNATED GAS LINE (S.U.E. *)	-----G-----
STORM SEWER	-----S-----
RECORDED POWER LINE	-----P-----
DESIGNATED POWER LINE (S.U.E. *)	-----P-----
RECORDED TELEPHONE CABLE	-----T-----
DESIGNATED TELEPHONE CABLE (S.U.E. *)	-----T-----
RECORDED U/G TELEPHONE CONDUIT	-----TC-----
DESIGNATED U/G TELEPHONE CONDUIT (S.U.E. *)	-----TC-----
UNKNOWN UTILITY (S.U.E. *)	-----?UTL-----
RECORDED TELEVISION CABLE	-----TV-----
DESIGNATED TELEVISION CABLE (S.U.E. *)	-----TV-----
RECORDED FIBER OPTICS CABLE	-----FO-----
DESIGNATED FIBER OPTICS CABLE (S.U.E. *)	-----FO-----
EXIST. WATER METER	-----W-----
U/G TEST HOLE (S.U.E. *)	-----T-----
ABANDONED ACCORDING TO U/G RECORD	-----ATTUR-----
END OF INFORMATION	-----E.O.I.-----

BOUNDARIES & PROPERTIES

STATE LINE	-----
COUNTY LINE	-----
TOWNSHIP LINE	-----
CITY LINE	-----
RESERVATION LINE	-----
PROPERTY LINE	-----
PROPERTY LINE SYMBOL	-----T-----
EXIST. IRON PIN	-----IP-----
PROPERTY CORNER	-----B-----
PROPERTY MONUMENT	-----M-----
PROPERTY NUMBER	-----123-----
PARCEL NUMBER	-----6-----
FENCE LINE	-----X-----
EXISTING WETLAND BOUNDARIES	-----WLB-----
HIGH QUALITY WETLAND BOUNDARY	-----HQ WLB-----
MEDIUM QUALITY WETLAND BOUNDARIES	-----MQ WLB-----
LOW QUALITY WETLAND BOUNDARIES	-----LQ WLB-----
PROPOSED WETLAND BOUNDARIES	-----WLB-----
EXISTING ENDANGERED ANIMAL BOUNDARIES	-----EAB-----
EXISTING ENDANGERED PLANT BOUNDARIES	-----EPB-----

BUILDINGS & OTHER CULTURE

BUILDINGS	-----
FOUNDATIONS	-----
AREA OUTLINE	-----
GATE	-----
GAS PUMP VENT OR U/G TANK CAP	-----
CHURCH	-----
SCHOOL	-----
PARK	-----
CEMETERY	-----
DAM	-----
SIGN	-----S-----
WELL	-----W-----
SMALL MINE	-----M-----
SWIMMING POOL	-----

TOPOGRAPHY

LOOSE SURFACE	-----
HARD SURFACE	-----
CHANGE IN ROAD SURFACE	-----
CURB	-----
RIGHT OF WAY SYMBOL	-----R/W-----
GUARD POST	-----GP-----
PAVED WALK	-----
BRIDGE	-----
BOX CULVERT OR TUNNEL	-----
FERRY	-----
CULVERT	-----
FOOTBRIDGE	-----
TRAIL, FOOTPATH	-----
LIGHT HOUSE	-----L-----

VEGETATION

SINGLE TREE	-----X-----
SINGLE SHRUB	-----Y-----
HEDGE	-----UUU-----
WOODS LINE	-----VVV-----
ORCHARD	-----XXXXXX-----
VINEYARD	-----VINEYARD-----

RAILROADS

STANDARD GAUGE	-----
RR SIGNAL MILEPOST	-----S-----
SWITCH	-----

*****SYNTHETIC*****
*****REINFORCED*****
*****CONCRETE*****
*****STEEL*****
*****WOOD*****
*****BRICK*****
*****MASONRY*****
*****GLASS*****
*****PAPER*****
*****FABRIC*****
*****LEATHER*****
*****METAL*****
*****PLASTIC*****
*****OTHER*****

FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B. AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B. AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
T	EARTH MATERIAL.

* 9' WITH GUARDRAIL



USE TYPICAL SECTION NO. 1

-L- STA. 15+50.00 TO 19+85.00 (BGN BRG)

-L- STA. 21+65.00 (END BRG) TO 30+84.67 (BGN BRG)

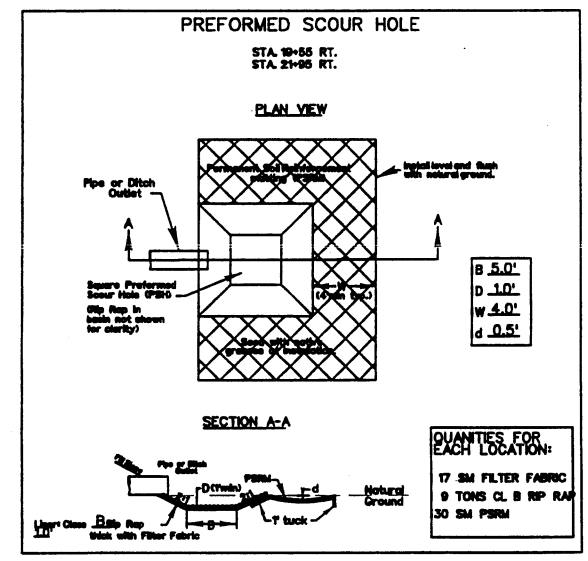
-L- STA. 32+15.33 (END BRG) TO 35+46.97

GUARDRAIL SUMMARY

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

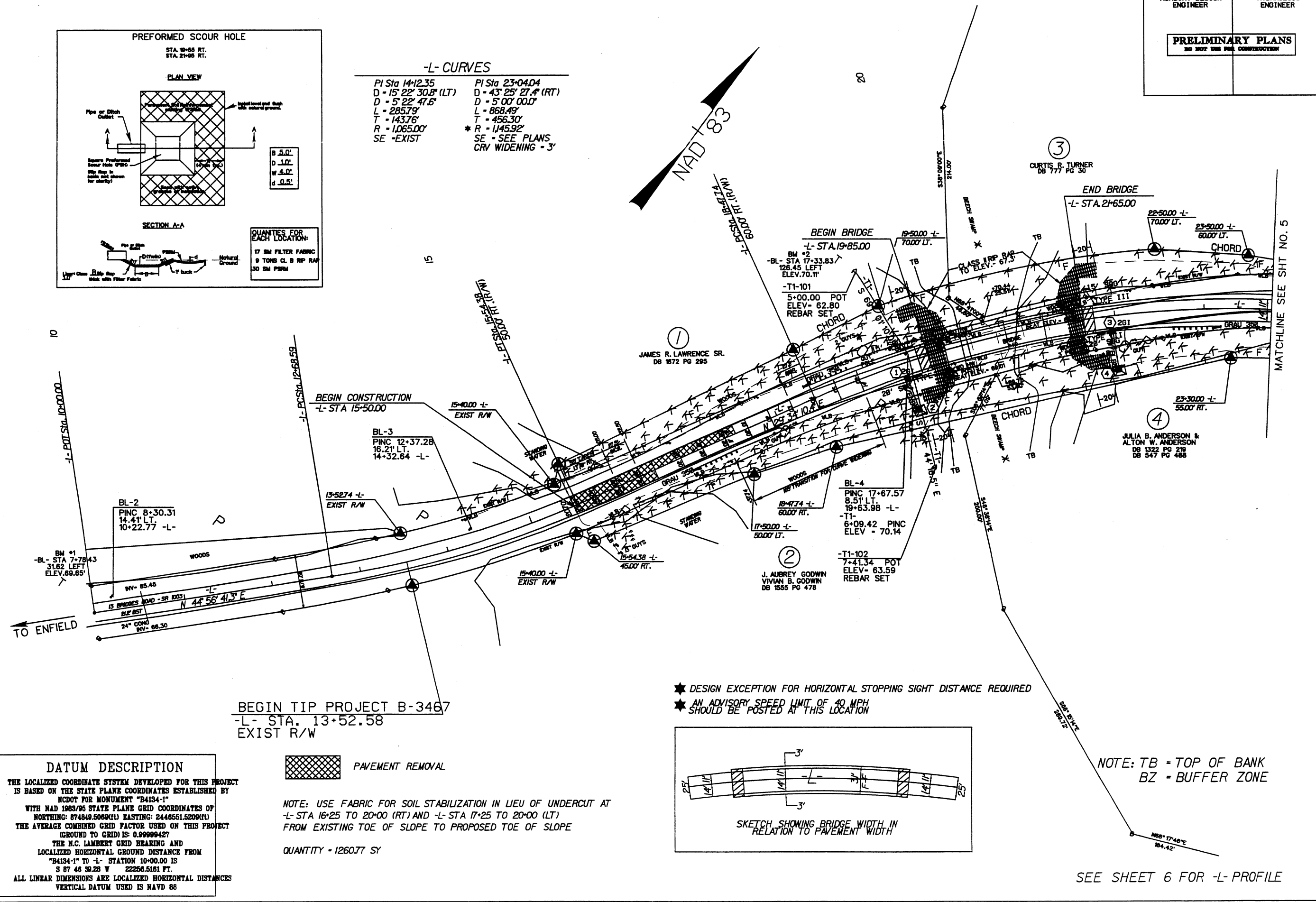
[illegible]

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*****DGN*****  
*****USERNAME*****
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-L- CURVES

PI Sta 14+12.35	PI Sta 23+04.04
D = 15' 22" 30.8' (LT)	D = 43' 25" 27.4' (RT)
D = 5' 22" 47.6'	D = 5' 00" 00.0'
L = 285.79'	L = 868.49'
T = 143.76'	T = 456.30'
R = 1,065.00'	* R = 1,455.92'
SE - EXIST	SE - SEE PLANS
	CRV WIDENING = 3'



DATUM DESCRIPTION

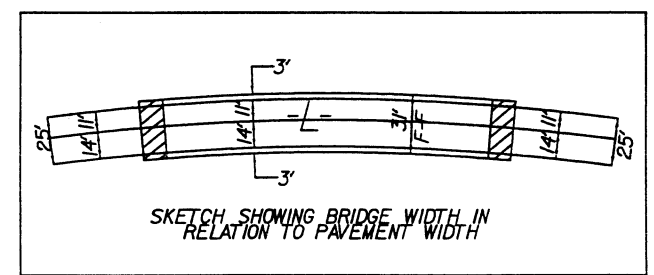
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4134-1" WITH NAD 1983/85 STATE PLANE GRID COORDINATES OF NORTHING: 874849.5089(1) EASTING: 2446551.5209(1) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99999427 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4134-1" TO -L- STATION 10+00.00 IS S 87° 48' 39.28" W 22256.5161 FT. ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88



NOTE: USE FABRIC FOR SOIL STABILIZATION IN LIEU OF UNDERCUT AT -L- STA 16+25 TO 20+00 (RT) AND -L- STA 17+25 TO 20+00 (LT) FROM EXISTING TOE OF SLOPE TO PROPOSED TOE OF SLOPE

QUANTITY = 1260.77 SY

- ★ DESIGN EXCEPTION FOR HORIZONTAL STOPPING SIGHT DISTANCE REQUIRED
- ★ AN ADVISORY SPEED LIMIT OF 40 MPH SHOULD BE POSTED AT THIS LOCATION

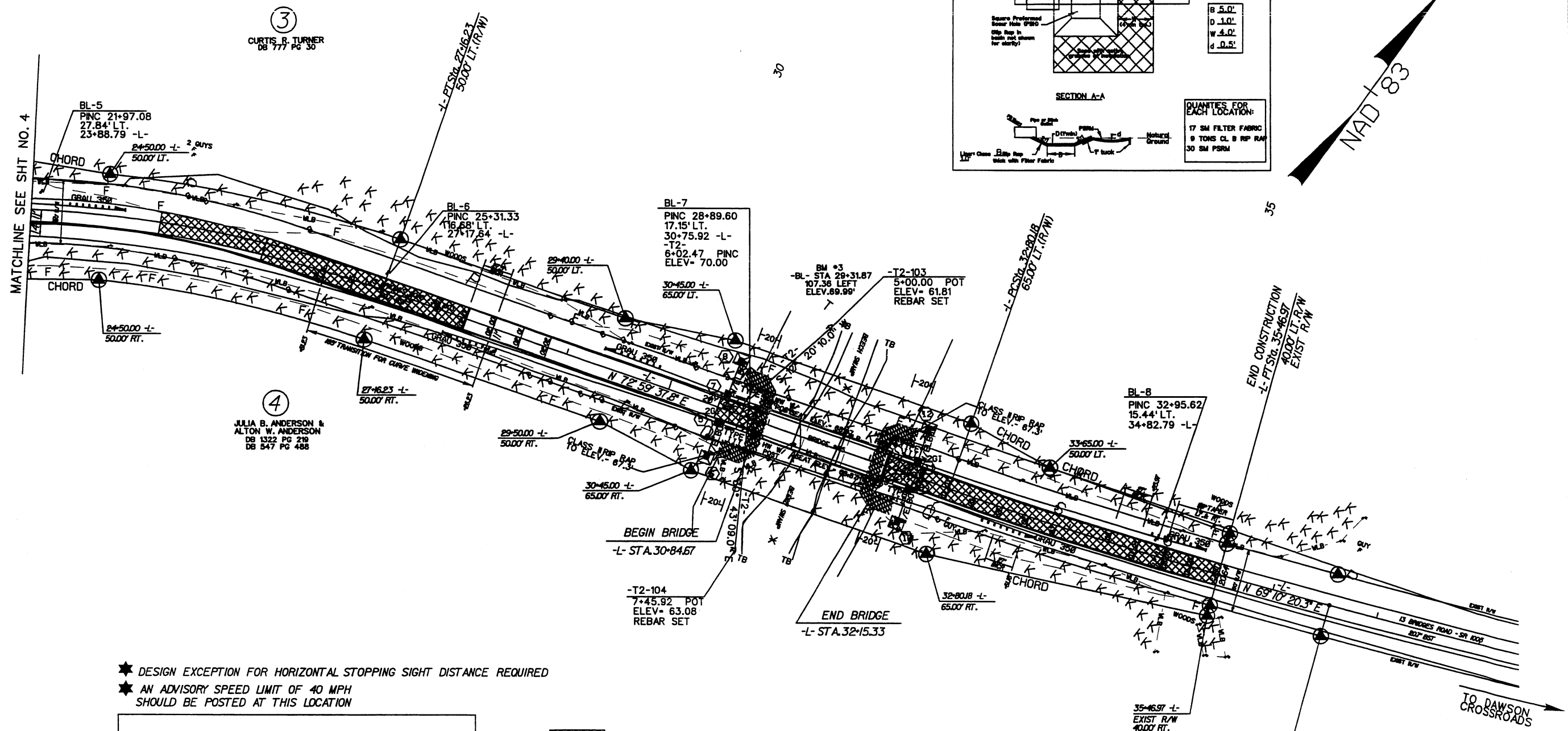
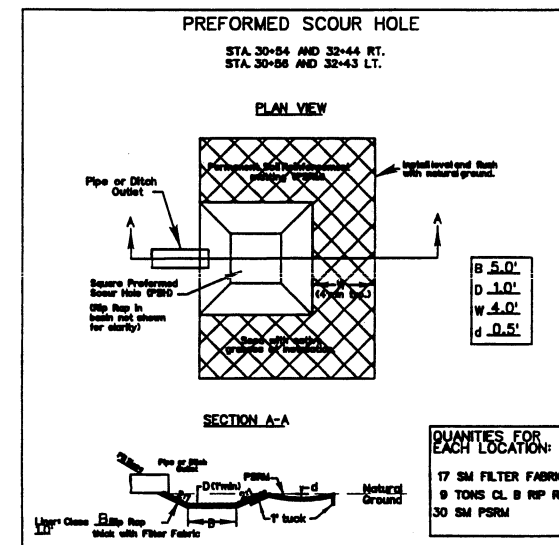


NOTE: TB = TOP OF BANK
BZ = BUFFER ZONE

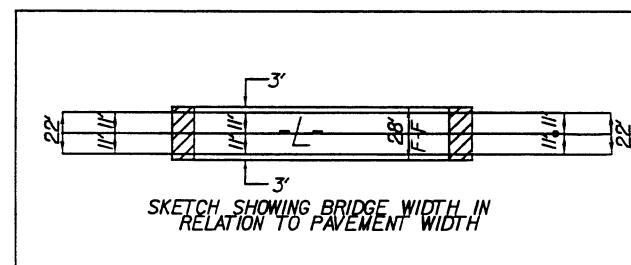
SEE SHEET 6 FOR -L- PROFILE

NAD 183

PI Sta 23+04.04	PI Sta 34+36.62	PI Sta 38+39.13
D = 43° 25' 27.4" (RT)	D = 3° 49' 17.5" (LT)	D = 4° 42' 16.4" (LT)
D = 5° 00' 00.0"	D = 1° 25' 56.6"	D = 1° 16' 23.7"
L = 868.49'	L = 266.79'	L = 369.50'
T = 456.30'	T = 133.45'	T = 184.85'
* R = 1145.92'	R = 4,000.00'	R = 4,500.00'
SE - SEE PLANS	SE - SEE PLANS	SE - EXIST
CRV WIDENING - 3'		



★ DESIGN EXCEPTION FOR HORIZONTAL STOPPING SIGHT DISTANCE REQUIRED
★ AN ADVISORY SPEED LIMIT OF 40 MPH
SHOULD BE POSTED AT THIS LOCATION

 PAVEMENT REMOVAL

NOTE: USE FABRIC FOR SOIL STABILIZATION IN LIEU OF UNDERCUT AT
-L- STA 21+60 TO 31+00 (RT), 21+60 TO 23+75 (LT), 26+50 TO 31+00 (LT),
32+10 TO 35+47 (RT) AND 32+10 TO 35+47 (LT)
FROM EXISTING TOE OF SLOPE TO PROPOSED TOE OF SLOPE

QUANTITY - 3671.71 SY

END TIP PROJECT B-3467
-L- PCSTA. 36+54.28
EXIST R/W LT. & RT.

NOTE: TB = TOP OF BANK
BZ = BUFFER ZONE

SEE SHEET 6 FOR -L- PROFILE

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
P-3467	6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE = 412 CFS
DESIGN FREQUENCY = 10 YRS
DESIGN HW ELEVATION = 55.34
BASE DISCHARGE = 272 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 52.41
OVER TOPPING DISCHARGE = 140 CFS
OVER TOPPING FREQUENCY = 100 YRS
OVER TOPPING HW ELEVATION = 52.41

BELOW BRIDGE
L STA 15+50.00
EL 55.34

P1 = 15+50.00
P2 = 15+50.00
VC = 220

BELOW BRIDGE
L STA 19+50.00
EL 55.34

P1 = 19+50.00
P2 = 19+50.00
VC = 220

END BRIDGE
L STA 21+50.00
EL 55.34

WATER IN CHANNEL

WATER IN CHANNEL FOR 100 YD
WATER IN CHANNEL FOR 100 YD
WATER IN CHANNEL FOR 100 YD

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE = 257 CFS
DESIGN FREQUENCY = 10 YRS
DESIGN HW ELEVATION = 55.34
BASE DISCHARGE = 257 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 52.41
OVER TOPPING DISCHARGE = 140 CFS
OVER TOPPING FREQUENCY = 100 YRS
OVER TOPPING HW ELEVATION = 52.41

WATER IN CHANNEL FOR 100 YD
WATER IN CHANNEL FOR 100 YD
WATER IN CHANNEL FOR 100 YD

BELOW BRIDGE
L STA 30+00.00
EL 55.34

P1 = 30+00.00
P2 = 30+00.00
VC = 220

END BRIDGE
L STA 32+00.00
EL 55.34

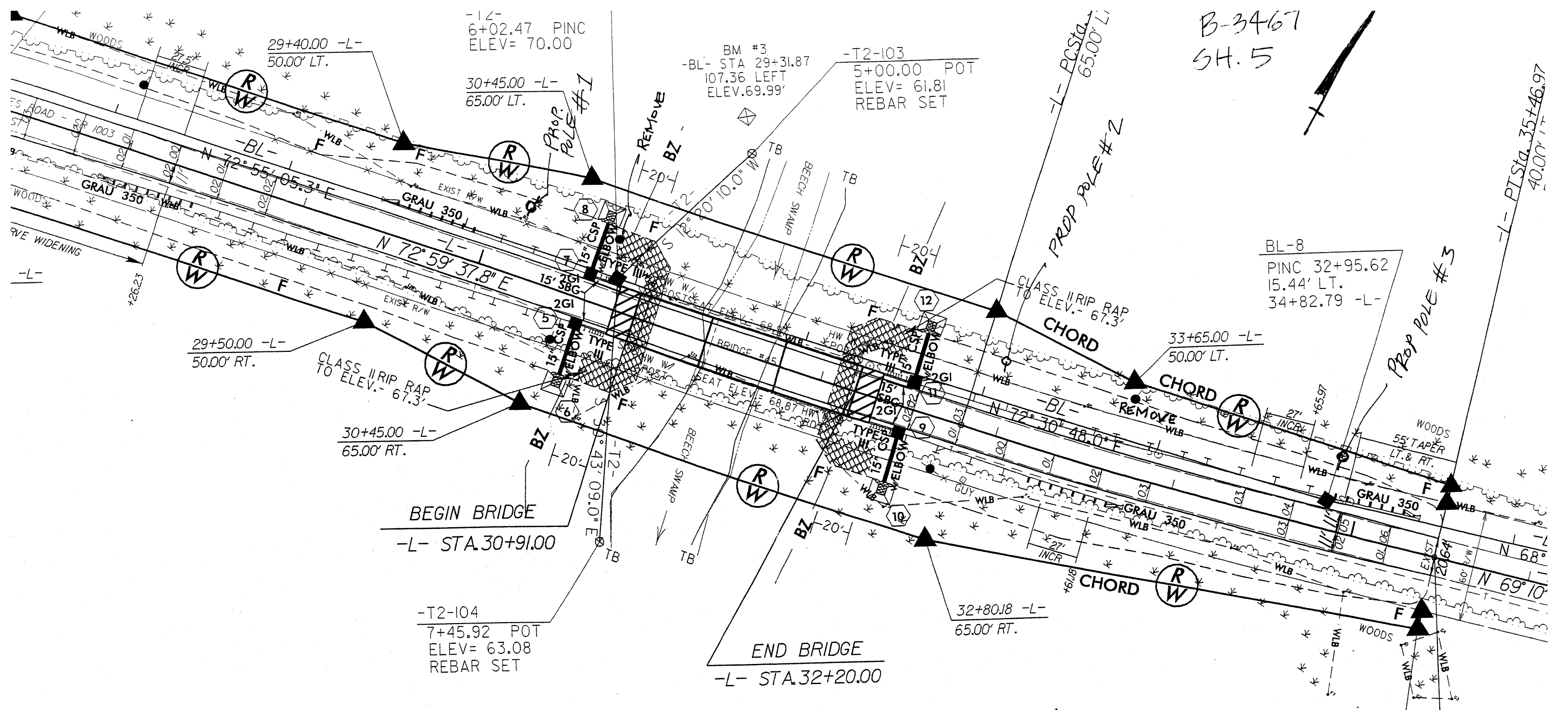
P1 = 32+00.00
P2 = 32+00.00
VC = 220

END BRIDGE
L STA 34+00.00
EL 55.34

P1 = 25+00.00
P2 = 25+00.00
VC = 220

P1 = 28+00.00
P2 = 28+00.00
VC = 220

*****SYTIME*****
*****USER NAME*****



B-3467
SH. 5

BL-8
PINC 32+95.62
15.44' LT.
34+82.79 -L-

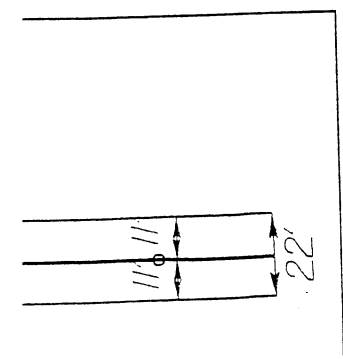
NOTE: USE 6" SCUPPERS ON 12' CENTERS
FROM STA. 30+91 TO STA. 31+03 AND STA.
32+08 TO 32+20 LT. AND RT.

UTILITY:
HALIFAX ELECTRIC
MEMBERSHIP CORP.
208 W. WHITFIELD ST.
ENFIELD NC 27823-0667

END CONST
-L- STA. 3

CONTACT:
MR. SCANNY HANEY
V.P. OPERATIONS
(252) 445-5111

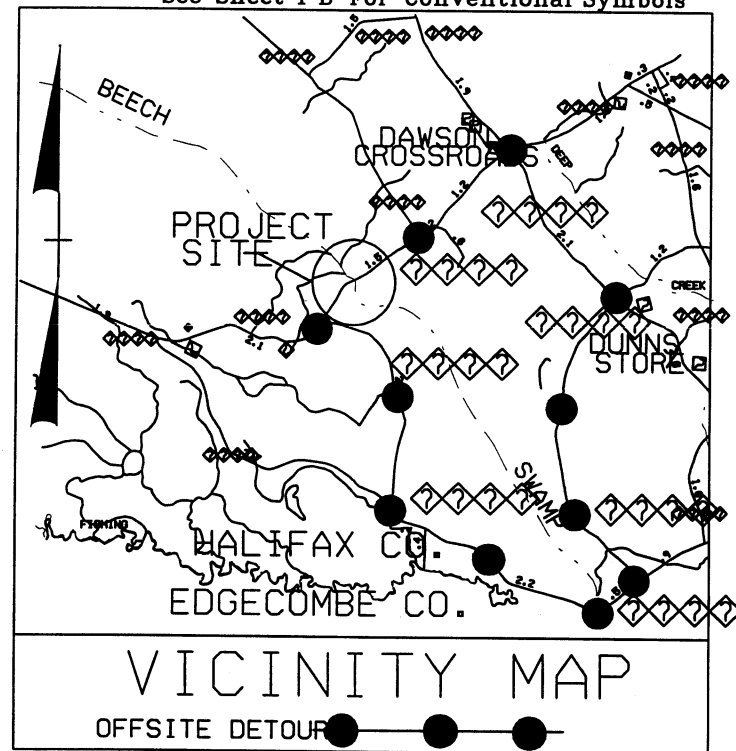
3 SIGHT DISTANCE REQUIRED



09/08/99

CONTRACT TIP PROJECT B-3467

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



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

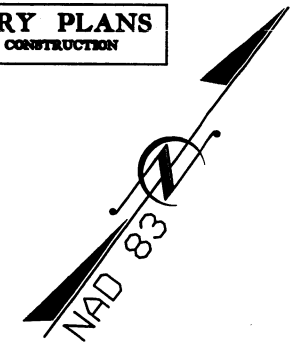
HALIFAX COUNTY

LOCATION: BRIDGE NOS. 40 AND 45 OVER BEECH SWAMP
ON SR 1003 (13 BRIDGES ROAD)

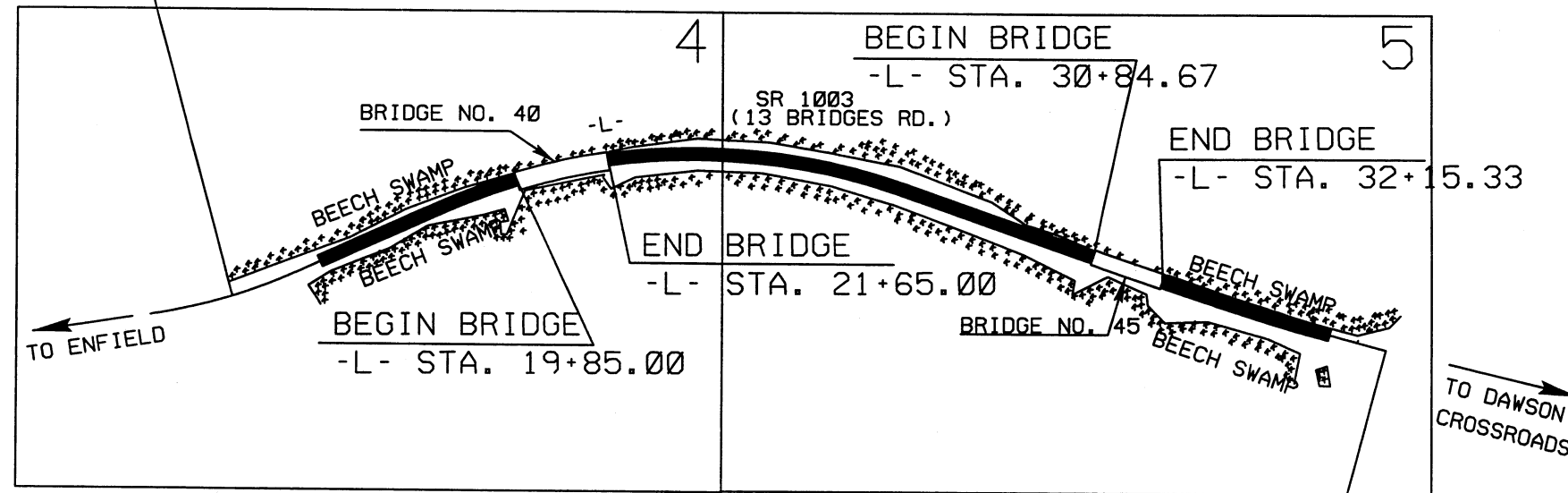
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3467	1	
STATE FUNDING	F.A. FUNDING	DESCRIPTION	
33086.1.1	BRSTP-1003(23)	PE	
33086.2.1	BRSTP-1003(23)	W & UTILITIES	
33086.3.1	BRSTP-1003(23)	CONST	

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



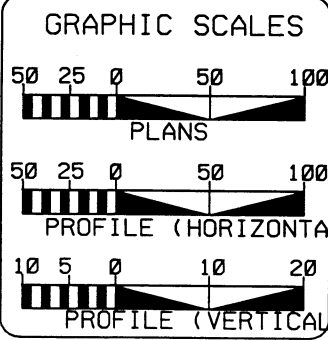
STA. 13+52.58 -L- BEGIN TIP PROJECT B-3467



STA 36+54.28 -L- END TIP PROJECT B-3467

★DESIGN EXCEPTION FOR HORIZONTAL STOPPING
SIGHT DISTANCE REQUIRED

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



DESIGN DATA	
ADT 2004-	956
ADT 2024-	1474
DHV	10 %
D	60 %
T	3 % *
V	55 MPH *
* TTST 1% DUAL 2%	

PROJECT LENGTH	
LENGTH ROADWAY TIP PROJECT B-3467	0.377 MI
LENGTH STRUCTURE TIP PROJECT B-3467	0.59 MI
TOTAL LENGTH OF TIP PROJECT B-3467	0.436 MI

Prepared in the Office of: DIVISION OF HIGHWAYS 1000 BIRCH RIDGE DR., NC, 27610	
2002 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: JANUARY 21, 2003	GARY LOVERING, PE PROJECT ENGINEER
LETTING DATE: SEPTEMBER 21, 2004	ANTHONY C. WEST PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER	
SIGNATURE:	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE:	P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA	
STATE DESIGN ENGINEER DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	
APPROVED DIVISION ADMINISTRATOR	DATE

*S.U.E * SUBSURFACE UTILITY ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

EDGE OF PAVEMENT	---
CURB	---
PROP. SLOPE STAKES CUT	C
PROP. SLOPE STAKES FILL	F
PROP. WOVEN WIRE FENCE	○—○
PROP. CHAIN LINK FENCE	□—□
PROP. BARBED WIRE FENCE	◇—◇
PROP. WHEELCHAIR RAMP	WCR
CURB CUT FOR FUTURE WHEELCHAIR RAMP	WCR
EXIST. GUARDRAIL	—+—+—+—
PROP. GUARDRAIL	—+—+—+—
EQUALITY SYMBOL	⊙
PAVEMENT REMOVAL	XXXXXX

RIGHT OF WAY

BASELINE CONTROL POINT	◆
EXISTING RIGHT OF WAY MARKER	H
EXIST. RIGHT OF WAY LINE W/MARKER	— —
PROP. RIGHT OF WAY LINE WITH PROPOSED R/W MARKER (IRON PIN & CAP)	—▲—
PROP. RIGHT OF WAY LINE WITH PROPOSED (CONCRETE OR GRANITE) R/W MARKER	—●—
EXIST. CONTROL OF ACCESS LINE	—B—
PROP. CONTROL OF ACCESS LINE	—(A)—
EXIST. EASEMENT LINE	—E—
PROP. TEMP. CONSTRUCTION EASEMENT LINE	—E—
PROP. TEMP. DRAINAGE EASEMENT LINE	—FDE—
PROP. PERM. DRAINAGE EASEMENT LINE	—PDE—

HYDROLOGY

STREAM OR BODY OF WATER	—
RIVER BASIN BUFFER	—RBB—
FLOW ARROW	→
DISAPPEARING STREAM	—>—
SPRING	W
SWAMP MARSH	W
SHORELINE	—
FALLS, RAPIDS	—
PROP LATERAL, TAIL, HEAD DITCHES	—

STRUCTURES

MAJOR BRIDGE, TUNNEL, OR BOX CULVERT	CONC
BRIDGE WING WALL, HEAD WALL AND END WALL	CONC WW

MINOR

HEAD & END WALL	CONC HW
PIPE CULVERT	==
FOOTBRIDGE	>—<
DRAINAGE BOXES	□ CB
PAVED DITCH GUTTER	---

UTILITIES

EXIST. POLE	OP
EXIST. POWER POLE	Q
PROP. POWER POLE	Q
EXIST. TELEPHONE POLE	R
PROP. TELEPHONE POLE	R
EXIST. JOINT USE POLE	⊙
PROP. JOINT USE POLE	⊙
TELEPHONE PEDESTAL	⊙
U/G TELEPHONE CABLE HAND HOLD	⊙
CABLE TV PEDESTAL	⊙
U/G TV CABLE HAND HOLD	⊙
U/G POWER CABLE HAND HOLD	⊙
HYDRANT	H
SATELLITE DISH	⊙
EXIST. WATER VALVE	⊙
SEWER CLEAN OUT	⊙
POWER MANHOLE	⊙
TELEPHONE BOOTH	⊙
CELLULAR TELEPHONE TOWER	⊙
WATER MANHOLE	⊙
LIGHT POLE	⊙
H-FRAME POLE	⊙
POWER LINE TOWER	⊙
POLE WITH BASE	⊙
GAS VALVE	⊙
GAS METER	⊙
TELEPHONE MANHOLE	⊙
POWER TRANSFORMER	⊙
SANITARY SEWER MANHOLE	⊙
STORM SEWER MANHOLE	⊙
TANK; WATER, GAS, OIL	⊙
WATER TANK WITH LEGS	⊙
TRAFFIC SIGNAL JUNCTION BOX	⊙
FIBER OPTIC SPLICE BOX	⊙
TELEVISION OR RADIO TOWER	⊙
UTILITY POWER LINE CONNECTS TO TRAFFIC SIGNAL LINES CUT INTO THE PAVEMENT	⊙

RECORDED WATER LINE	—W—
DESIGNATED WATER LINE (S.U.E. *)	—W—
SANITARY SEWER	—SS—
RECORDED SANITARY SEWER FORCE MAIN	—FSS—
DESIGNATED SANITARY SEWER FORCE MAIN (S.U.E. *)	—FSS—
RECORDED GAS LINE	—G—
DESIGNATED GAS LINE (S.U.E. *)	—G—
STORM SEWER	—S—
RECORDED POWER LINE	—P—
DESIGNATED POWER LINE (S.U.E. *)	—P—
RECORDED TELEPHONE CABLE	—T—
DESIGNATED TELEPHONE CABLE (S.U.E. *)	—T—
RECORDED U/G TELEPHONE CONDUIT	—TC—
DESIGNATED U/G TELEPHONE CONDUIT (S.U.E. *)	—TC—
UNKNOWN UTILITY (S.U.E. *)	—UTL—
RECORDED TELEVISION CABLE	—TV—
DESIGNATED TELEVISION CABLE (S.U.E. *)	—TV—
RECORDED FIBER OPTICS CABLE	—FO—
DESIGNATED FIBER OPTICS CABLE (S.U.E. *)	—FO—
EXIST. WATER METER	⊙
U/G TEST HOLE (S.U.E. *)	⊙
ABANDONED ACCORDING TO U/G RECORD	⊙
END OF INFORMATION	E.O.I.

BOUNDARIES & PROPERTIES

STATE LINE	---
COUNTY LINE	---
TOWNSHIP LINE	---
CITY LINE	---
RESERVATION LINE	---
PROPERTY LINE	---
PROPERTY LINE SYMBOL	T
EXIST. IRON PIN	G
PROPERTY CORNER	EP
PROPERTY MONUMENT	B
PROPERTY NUMBER	ECM
PARCEL NUMBER	123
FENCE LINE	6
EXISTING WETLAND BOUNDARIES	—X—
HIGH QUALITY WETLAND BOUNDARY	—WLB—
MEDIUM QUALITY WETLAND BOUNDARIES	—WLB—
LOW QUALITY WETLAND BOUNDARIES	—WLB—
PROPOSED WETLAND BOUNDARIES	—WLB—
EXISTING ENDANGERED ANIMAL BOUNDARIES	—EAB—
EXISTING ENDANGERED PLANT BOUNDARIES	—EPB—

BUILDINGS & OTHER CULTURE

BUILDINGS	—
FOUNDATIONS	—
AREA OUTLINE	—
GATE	—
GAS PUMP VENT OR U/G TANK CAP	—
CHURCH	—
SCHOOL	—
PARK	—
CEMETERY	—
DAM	—
SIGN	—
WELL	—
SMALL MINE	—
SWIMMING POOL	—

TOPOGRAPHY

LOOSE SURFACE	---
HARD SURFACE	---
CHANGE IN ROAD SURFACE	---
CURB	---
RIGHT OF WAY SYMBOL	R/W
GUARD POST	⊙ GP
PAVED WALK	---
BRIDGE	---
BOX CULVERT OR TUNNEL	---
FERRY	---
CULVERT	---
FOOTBRIDGE	---
TRAIL, FOOTPATH	---
LIGHT HOUSE	---

VEGETATION

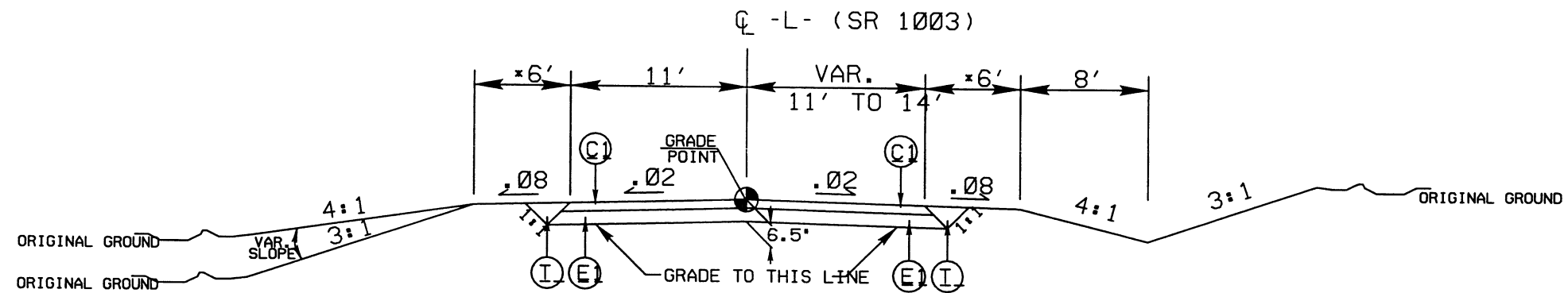
SINGLE TREE	X
SINGLE SHRUB	Y
HEDGE	UUUU
WOODS LINE	XXXXXX
ORCHARD	---
VINEYARD	---

RAILROADS

STANDARD GAUGE	---
RR SIGNAL MILEPOST	---
SWITCH	---

PROJECT REFERENCE NO.	SHEET NO.
<u>B-3467</u>	<u>2</u>
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

* 9' WITH GUARDRAIL



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

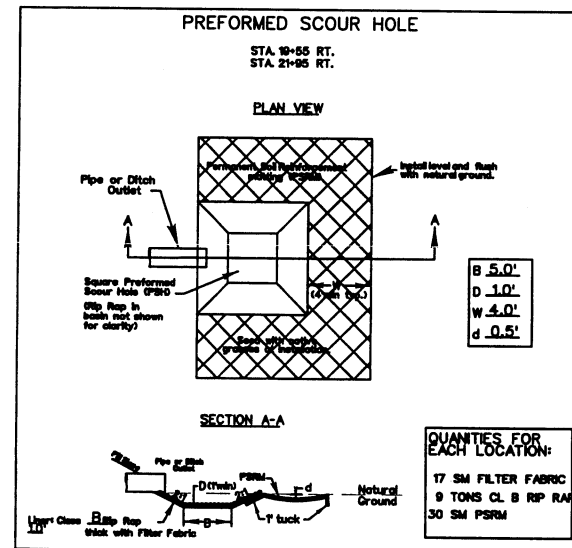
- L- STA. 15+50.00 TO 19+85.00 (BGN BRG)
-L- STA. 21+65.00 (END BRG) TO 30+84.67 (BGN BRG)
-L- STA. 32+15.33 (END BRG) TO 35+46.97

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*****DGN*****  
*****USERNAME*****
```

GUARDRAIL SUMMARY

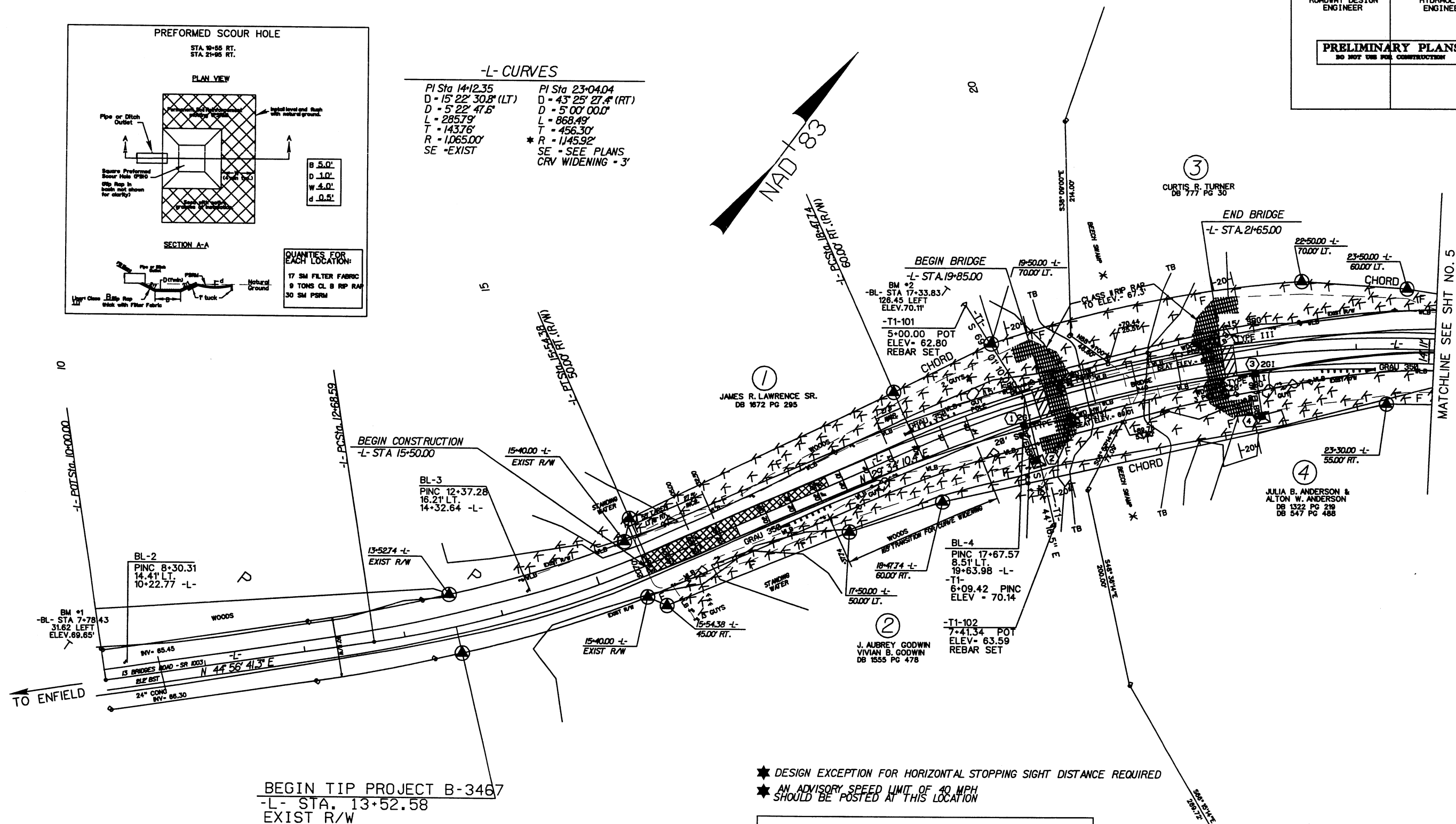
<u>B-3467</u>	<u>3-A</u>
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LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" UNDER)



-L- CURVES

PI Sta 14+12.35	PI Sta 23+04.04
D = 15' 22' 30.8" (LT)	D = 43' 25' 27.4" (RT)
D = 5' 22' 47.6"	D = 5' 00' 00.0"
L = 285.79'	L = 868.49'
T = 143.76'	T = 456.30'
R = 1,065.00'	* R = 1,145.92'
SE - EXIST	SE - SEE PLANS
	CRV WIDENING = 3'



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NC DOT FOR MONUMENT "B4134-1" WITH NAD 1983/86 STATE PLANE GRID COORDINATES OF NORTHING: 874849.5069(1) EASTING: 2448561.5209(1) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99999427

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4134-1" TO -L- STATION 10+00.00 IS S 87° 48' 39.28" W 22256.5161 FT.

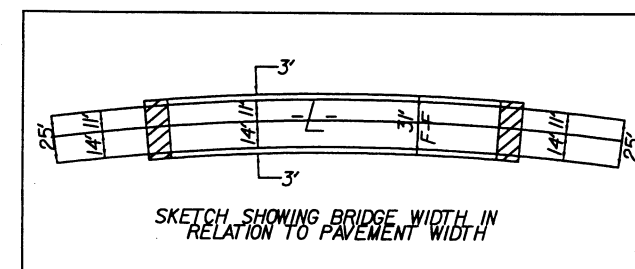
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 86



NOTE: USE FABRIC FOR SOIL STABILIZATION IN LIEU OF UNDERCUT AT -L- STA 16+25 TO 20+00 (RT) AND -L- STA 17+25 TO 20+00 (LT) FROM EXISTING TOE OF SLOPE TO PROPOSED TOE OF SLOPE

QUANTITY = 1260.77 SY

- ★ DESIGN EXCEPTION FOR HORIZONTAL STOPPING SIGHT DISTANCE REQUIRED
- ★ AN ADVISORY SPEED LIMIT OF 40 MPH SHOULD BE POSTED AT THIS LOCATION



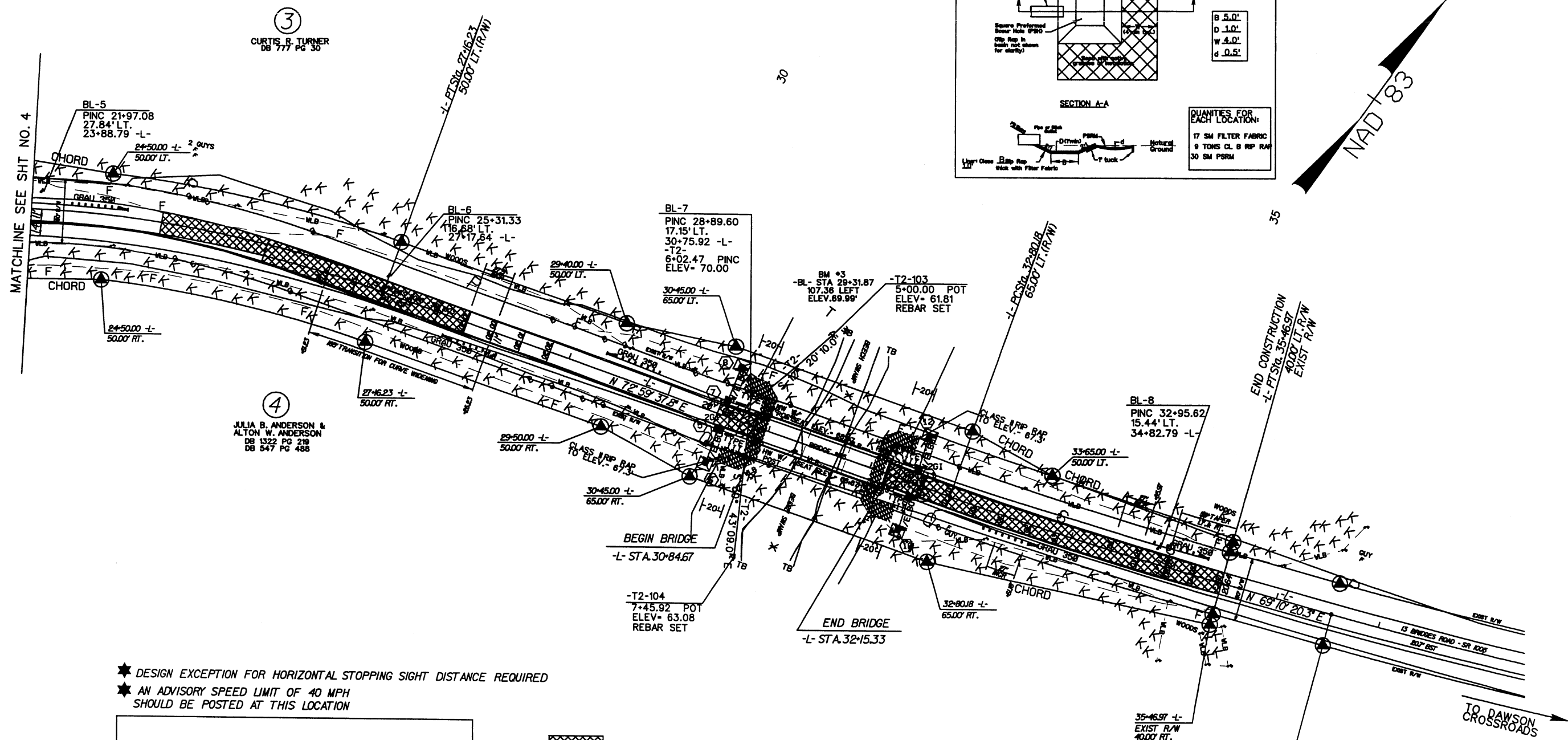
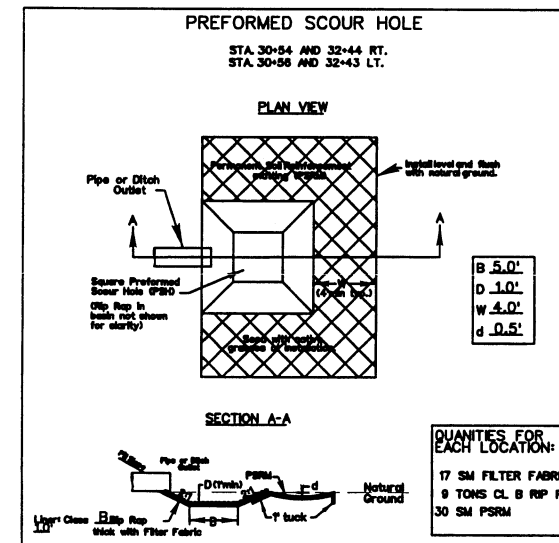
NOTE: TB = TOP OF BANK
BZ = BUFFER ZONE

SEE SHEET 6 FOR -L- PROFILE

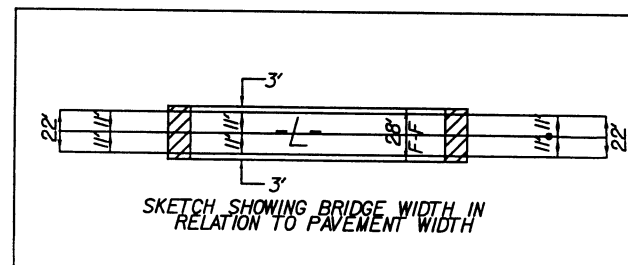
PROJECT REFERENCE NO.	SHEET NO.
B-3467	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-L- CURVES

PI Sta 23+04.04 D = 43' 25' 27.4" (RT) D = 5' 00' 00.0" L = 868.49' T = 456.30' * R = 1145.92' SE - SEE PLANS CRV WIDENING = 3'	PI Sta 34+13.62 D = 3' 49' 17.5" (LT) D = 1' 25' 56.6" L = 266.79' T = 133.45' R = 4000.00' SE - SEE PLANS	PI Sta 38+39.13 D = 4' 42' 16.4" (LT) D = 1' 16' 23.7" L = 369.50' T = 184.85' R = 4500.00' SE - EXIST
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- ★ DESIGN EXCEPTION FOR HORIZONTAL STOPPING SIGHT DISTANCE REQUIRED
- ★ AN ADVISORY SPEED LIMIT OF 40 MPH SHOULD BE POSTED AT THIS LOCATION



PAVEMENT REMOVAL

NOTE: USE FABRIC FOR SOIL STABILIZATION IN LIEU OF UNDERCUT AT
-L- STA 21+60 TO 31+00 (RT), 21+60 TO 23+75 (LT), 26+50 TO 31+00 (LT),
32+10 TO 35+47 (RT) AND 32+10 TO 35+47 (LT)
FROM EXISTING TOE OF SLOPE TO PROPOSED TOE OF SLOPE

QUANTITY = 367171 SY

END TIP PROJECT B-3467
-L- PCSTA. 36+54.28
EXIST R/W LT. & RT.

NOTE: TB = TOP OF BANK
BZ = BUFFER ZONE

SEE SHEET 6 FOR -L- PROFILE


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#####SYTIME#####
#####DGN#####
#####USERNAME#####

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