



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

October 18, 2007

U. S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1890
Wilmington, NC 28402-1890

ATTN: Mr. William Wescott
NCDOT Coordinator

Dear Sir:

Subject: **Application for Nationwide Permits 23, Water Quality Certification, and Neuse Riparian Buffer Authorization** for the Replacement of Bridge No. 13 over Mussel Shell Creek on NC 41, Jones County; State Project No. 8.1190301; WBS 33516.1.1; TIP No. B-4168. Debit \$240 from WBS 33516.1.1.

Please find enclosed permit drawings, roadway plans, and a Pre-construction Notice (PCN) for the above referenced project proposed by the North Carolina Department of Transportation (NCDOT). A Programmatic Categorical Exclusion (CE) was completed for this project on April 20, 2004, and distributed shortly thereafter. Additional copies are available upon request.

The North Carolina Department of Transportation proposes to replace existing Bridge No. 13 over Mussel Shell Creek on NC 41 in Jones County. The project involves replacing the old 60-foot bridge on the existing location, and using top down construction, with a new three span bridge approximately 85 feet long and 40 feet wide. Traffic will be detoured off-site during construction. Proposed permanent impacts to wetlands will be 0.10 acre. Impacts to riparian buffer total 6,046 square feet.

Impacts to Waters of the United States

General Description: Mussel Shell Creek is the only water resource within the study area and is located in the Neuse River Drainage Basin, Subbasin 03-04-11. Mussel Shell Creek [Index No. 27-101-17] has been assigned a Best Usage Classification of C Sw NSW by the North Carolina Department of Environmental and Natural Resources (NCDENR) and is in Hydrologic Unit 03020204. Mussel Shell Creek is not designated as a North Carolina Natural or Scenic River, or as a National Wild and Scenic River. No designated High Quality Waters (HQW), Water

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

TELEPHONE: 919-733-3141
FAX: 919-715-1501

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

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Supply I (WS-I), or Water Supply II (WS-II) waters occur within 1.0 mile of the project study area. Finally, Mussel Shell Creek is not listed on the Final 2006 303(d) list of impaired waters due to sedimentation for the Neuse River Basin, nor does it drain into any Section 303(d) waters within 1.0 mile of the project study area.

Permanent Impacts: NCDOT anticipates permanent impacts for this project. There will be 0.10 acre of permanent fill in riverine wetlands due to widening the road at the bridge approach. There will be no permanent impacts to surface waters.

Temporary Impacts: There are no anticipated temporary impacts to surface waters for this project.

Hand Clearing: There will be 0.26 acre of hand clearing in wetlands for this project.

Utility Impacts: There will be no impacts due to utilities for this project. Existing utility lines, including Embark telephone and Jones County Water, are in conflict with the proposed project. Wetland impacts due to the relocation of the Embark facility will be avoided by using directional bore techniques. The Jones County Water line will be relocated to run along the side of the new bridge.

Bridge Demolition: The existing superstructure consists of two 30-foot spans of pre-stressed, pre-cast concrete channels with an asphalt overlay. The existing substructure consists of concrete caps on timber piles with two mid-span supports of steel piles with steel pile caps. It is likely that all components can be removed without any appreciable debris falling into the water.

Neuse Riparian Buffer Rules

This project lies within the Neuse River Basin; therefore, the regulations pertaining to the Neuse River Buffer Rules will apply. There will be a total of 6,046 ft² of impacts to riparian buffers. This includes 3,891 ft² (3,068 ft² in Zone 1 and 823 ft² in Zone 2) due to the bridge crossing. According to the buffer rules, bridges are allowable. In addition, 2,155 ft² (330 ft² in Zone 2 and 1,825 ft² in Zone 2) of impacts will occur from approach fill and mechanized clearing activities due to road crossings. This Road Crossing activity is allowable because impacts are less than the 150-foot/0.3 acre threshold, for which mitigation would be required. 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.

Avoidance and Minimization

NCDOT has minimized impacts to the fullest extent possible. Minimization efforts include:

- Reducing the number of bents in the water from one for the existing bridge to none for the new bridge
- In compliance with 15A NCAC 02B.0104(m) we have incorporated the use of BMP's for the Protection of Surface Water in the design of the project
- Traffic will be detoured off-site during construction

- All measures will be taken to avoid any temporary fill from entering Waters of the United States. Best Management Practices (BMP's) for Bridge Demolition and Removal will be implemented
- Directional boring will be used to relocate conflicting utility lines.

An in-stream moratorium from February 15 to June 30 to protect anadromous fish that may use the river as a spawning area was requested by the NC Division of Marine Fisheries. Mussel Shell Creek is, however, listed as inland waters and therefore under the jurisdiction of NC Wildlife Resources Commission (WRC). WRC has made no recommendations for a moratorium, therefore NCDOT will not implement an in-water work moratorium.

Mitigation

The proposed project will have permanent impacts to 0.10 acre of riverine wetland due to fill and excavation. As mitigation, NCDOT proposes 0.10 acre riverine wetland from the Crescent Road Mitigation Site. While the site is not located in the same hydrologic unit as the project, it is found in an adjacent one within the same river basin. Also, this site is in its fifth year of hydrology and vegetation monitoring with plans to be closed out this year. See the attached summary and debit ledger for further information.

Federally Protected Species

As of May 10, 2007, the U.S. Fish and Wildlife Service (FWS) lists two protected species for Jones County (Table 2). The permitted area of the project does contain a small (50-100 foot wide strip), isolated patch of red-cockaded woodpecker (RCW) habitat. This habitat was surveyed for RCW and no individuals or cavity trees were observed. It was determined that the area was not contiguous or large enough to support RCW. Therefore, the conclusion of No Effect for RCW remains valid.

Table 2. Federally Protected Species for Jones County

Common Name	Scientific Name	Status	Habitat	Biological conclusion
American alligator	<i>Alligator mississippiensis</i>	Threatened (S/A)	N/A	N/A
Red-cockaded woodpecker	<i>Picooides borealis</i>	Endangered	Yes	No Effect

Project Schedule

The project schedule calls for February 19, 2008 let with a review date of January 1, 2008.

Regulatory Approvals

Section 404 Permit: All aspects of this project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The NCDOT requests that these activities be authorized by a Nationwide Permit 23 (72 CFR; 11092-11198, March 12, 2007).

Section 401 Water Quality Certification: We anticipate 401 General Certification numbers 3632 will apply to this project. The NCDOT is requesting written concurrence from the North Carolina Department of Environmental and Natural Resources, Division of Water Quality. Therefore, in accordance with 15A NCAC 2H, Section .0500(a), we are providing five copies of this application to the NCDWQ for their review and approval. Authorization to debit the \$240 Permit Application Fee from WBS Element 33516.1.1 is hereby given.

Neuse River Basin Buffer Authorization: NCDOT requests that the NC Division of Water Quality review this application and issue a written approval for a Neuse River Riparian Buffer Authorization.

If there are any questions, please contact Ms. Veronica Barnes of my staff at vabarnes@dot.state.nc.us or (919) 715-7232.

A copy of this permit application will be posted on the DOT website at: <http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html>.

Sincerely,



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

Cc:

W/attachment

Mr. John Hennessy, NCDWQ
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Mr. Ron Sechler, NMFS
Mr. Michael Street, NCDMF
Mr. Steve Sollod, NCDCM
Dr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Mark Staley, Roadside Environmental
Mr. C. E. Lassiter, P.E., Div. 2 Engineer
Mr. Jay Johnson, Div. 2 Environmental Officer

w/o attachment

Mr. Scott McLendon, USACE, Wilmington
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. John Williams, P.E., PDEA
Ms. LeiLani Paugh, NEU
Mr. Randy Griffin, NEU

USACE Action ID No. _____ DWQ No. _____

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

I. Processing

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

<input checked="" type="checkbox"/> Section 404 Permit	<input checked="" type="checkbox"/> Riparian or Watershed Buffer Rules
<input type="checkbox"/> Section 10 Permit	<input type="checkbox"/> Isolated Wetland Permit from DWQ
<input checked="" type="checkbox"/> 401 Water Quality Certification	<input type="checkbox"/> Express 401 Water Quality Certification
- 2. Nationwide, Regional or General Permit Number(s) Requested: NW 23
- 3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here: N/A
- 4. If payment into the North Carolina Ecosystem Enhancement Program (NCEEP) is proposed for mitigation of impacts, attach the acceptance letter from NCEEP, complete section VIII, and check here:
- 5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here: N/A

II. Applicant Information

- 1. Owner/Applicant Information

Name: Gregory J. Thorpe, Ph.D., Environmental Management Director

Mailing Address: 1598 Mail Service Center

Telephone Number: (919) 733-3141 Fax Number: (919) 733-9794

E-mail Address: vabarnes@dot.state.nc.us
- 2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)

Name: _____

Company Affiliation: _____

Mailing Address: _____

Telephone Number: _____ Fax Number: _____

E-mail Address: _____

III. Project Information

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

1. Name of project: Replacement of Bridge No. 13 on NC 41 over Mussel Shell Creek
2. T.I.P. Project Number or State Project Number (NCDOT Only): B-4168
3. Property Identification Number (Tax PIN): N/A
4. Location
County: Jones Nearest Town: Trenton
Subdivision name (include phase/lot number): N/A
Directions to site (include road numbers/names, landmarks, etc.): From US 70 take NC 41 east. Travel 5.0 miles and arrive at Bridge No. 13. No. 13 is the second bridge after turning onto NC 41 east.
5. Site coordinates (For linear projects, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
Decimal Degrees (6 digits minimum): 35.082823 °N -77.346797 °W
6. Property size (acres): N/A
7. Name of nearest receiving body of water: Trent River
8. River Basin: Neuse River Basin
(Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)
9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: The site is mostly forested. The surrounding area is dedicated mostly to agriculture and low density housing.

10. Describe the overall project in detail, including the type of equipment to be used: _____
The existing superstructure consists of two 30 foot spans of pre-stressed pre-cast concrete channels with an asphalt overlay. The existing substructure consists of concrete caps on timber piles with two mid-span supports of steel piles with steel pile caps. The project involves replacing the old bridge on the existing location, and using top down construction, with a new three span bridge approximately 85 feet long and 40 feet wide. The south approach will be 375 feet long and the north approach will be 207 feet long. Traffic will be detoured off-site during construction. Standard NCDOT construction equipment will be used.
11. Explain the purpose of the proposed work: The curent bridge has a sufficiency rating of 14.2 out of 100 and a structure appraisal of 2 out of 9. It is therefore considered structurally deficient by the Federal Highway Administration standards and rehabilitation is not feasible due to the bridge's age and condition. _____

IV. Prior Project History

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules. A jurisdictional determination was issued by the USACE for this project on August 15, 2005 under Action Id. 200511692.

V. Future Project Plans

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.
No future permit requests are anticipated for this project.

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

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

1. Provide a written description of the proposed impacts: Proposed permanent impacts to wetlands will be 0.10 acre. Proposed temporary impacts to surface waters will be 0.04 acre and 96 linear feet. Impacts to riparian buffer total 6,046 square feet.

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

Wetland Impact Site Number (indicate on map)	Type of Impact	Type of Wetland (e.g., forested, marsh, herbaceous, bog, etc.)	Located within 100-year Floodplain (yes/no)	Distance to Nearest Stream (linear feet)	Area of Impact (acres)
1	Permanent fill	Riverine			0.10
Total Wetland Impact (acres)					0.10

3. List the total acreage (estimated) of all existing wetlands on the property: 4.36 acres

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

Stream Impact Number (indicate on map)	Stream Name	Type of Impact	Perennial or Intermittent?	Average Stream Width Before Impact	Impact Length (linear feet)	Area of Impact (acres)
N/A					0	0.00
Total Stream Impact (by length and acreage)					0	0.00

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

Open Water Impact Site Number (indicate on map)	Name of Waterbody (if applicable)	Type of Impact	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)	Area of Impact (acres)
N/A				0
Total Open Water Impact (acres)				0

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

Stream Impact (acres):	0.00
Wetland Impact (acres):	0.10
Open Water Impact (acres):	0.0
Total Impact to Waters of the U.S. (acres)	0.10
Total Stream Impact (linear feet):	0

7. Isolated Waters

Do any isolated waters exist on the property? Yes No

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

N/A

8. Pond Creation

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

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

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

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

Current land use in the vicinity of the pond: N/A

Size of watershed draining to pond: N/A Expected pond surface area: N/A

VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts. NCDOT has minimized impacts to the fullest extent possible. The number of bents in the water is being reduced from one for the existing bridge to none for the new bridge. In compliance with 15A NCAC 02B.0104(m) we have incorporated the use of BMP's in the design of the project. Traffic will be detoured off-site during construction.

VIII. Mitigation

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

USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on January 15, 2002, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland

and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCEEP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina, available at <http://h2o.enr.state.nc.us/ncwetlands/strmgide.html>.

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

The proposed project will have permanent impacts to 0.10 acre of riverine wetland due to fill and excavation. As mitigation, NCDOT proposes 0.10 acre riverine wetland from the Crescent Road Mitigation Site. While the site is not located in the same hydrologic unit as the project, it is found in an adjacent one within the same river basin. Also, this site is in its fifth year of hydrology and vegetation monitoring with plans to be closed out this year. See the attached summary and debit ledger for further information.

2. Mitigation may also be made by payment into the North Carolina Ecosystem Enhancement Program (NCEEP). Please note it is the applicant's responsibility to contact the NCEEP at (919) 715-0476 to determine availability, and written approval from the NCEEP indicating that they are will to accept payment for the mitigation must be attached to this form. For additional information regarding the application process for the NCEEP, check the NCEEP website at <http://h2o.enr.state.nc.us/wrp/index.htm>. If use of the NCEEP is proposed, please check the appropriate box on page five and provide the following information:

Amount of stream mitigation requested (linear feet): 0.0
Amount of buffer mitigation requested (square feet): 0.0
Amount of Riparian wetland mitigation requested (acres): 0.0
Amount of Non-riparian wetland mitigation requested (acres): 0.0
Amount of Coastal wetland mitigation requested (acres): 0.0

IX. Environmental Documentation (required by DWQ)

1. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? Yes No
2. If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)?

Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation.
 Yes No

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

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

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

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

Zone*	Impact (square feet)	Multiplier	Required Mitigation
1	3,398	3 (2 for Catawba)	0.0
2	2,648	1.5	0.0
Total	6,046		0.0

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

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

XI. Stormwater (required by DWQ)

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

XII. Sewage Disposal (required by DWQ)

Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility.

N/A

XIII. Violations (required by DWQ)

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

Yes No

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

XIV. Cumulative Impacts (required by DWQ)

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

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

The project is a relatively small bridge in a residential area. There will be no new road created and no additional lanes added, therefore it is unlikely to attract development.

XV. Other Circumstances (Optional):

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

N/A.

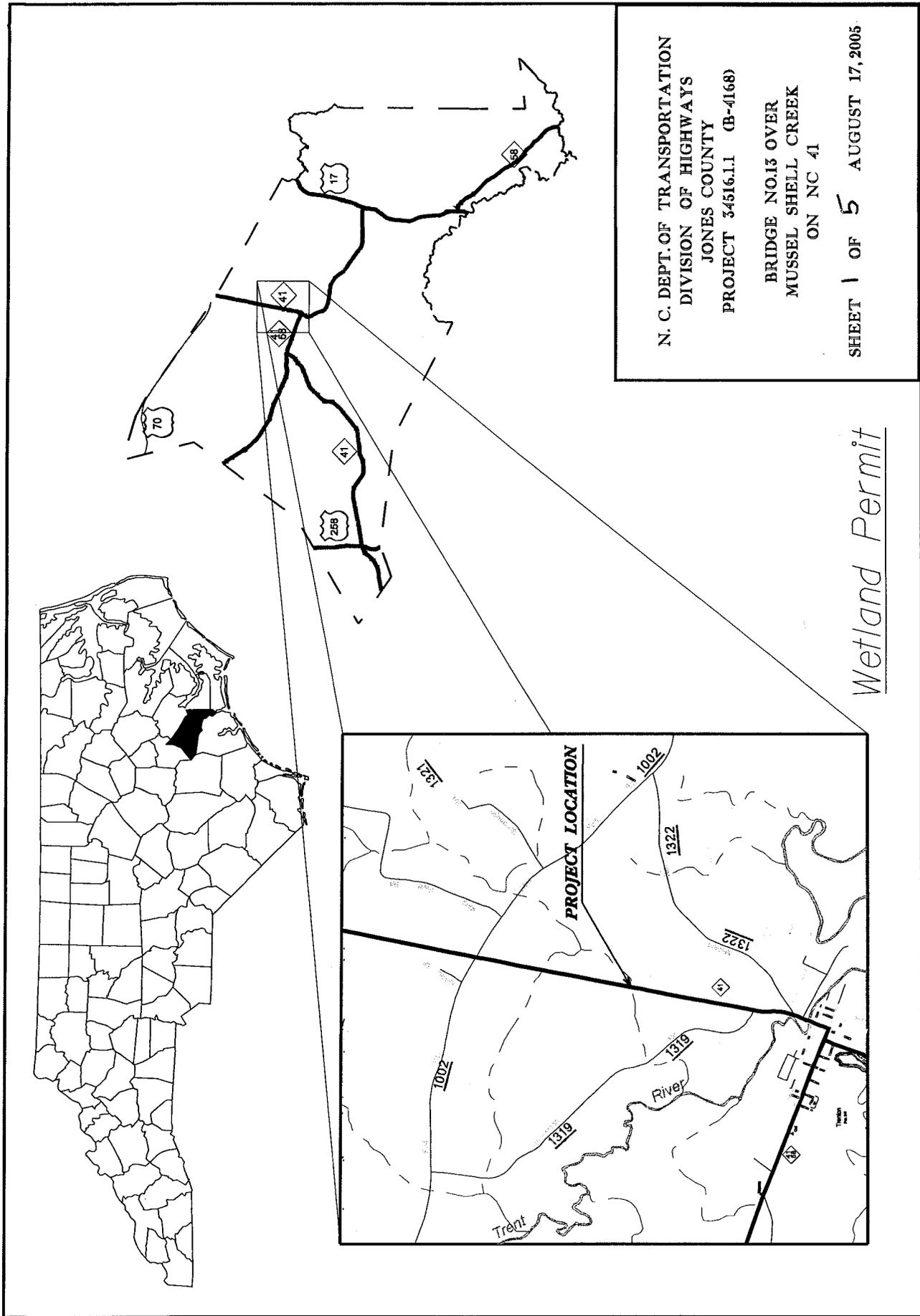
E. P. Luke

10.19.07

Applicant/Agent's Signature

Date

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

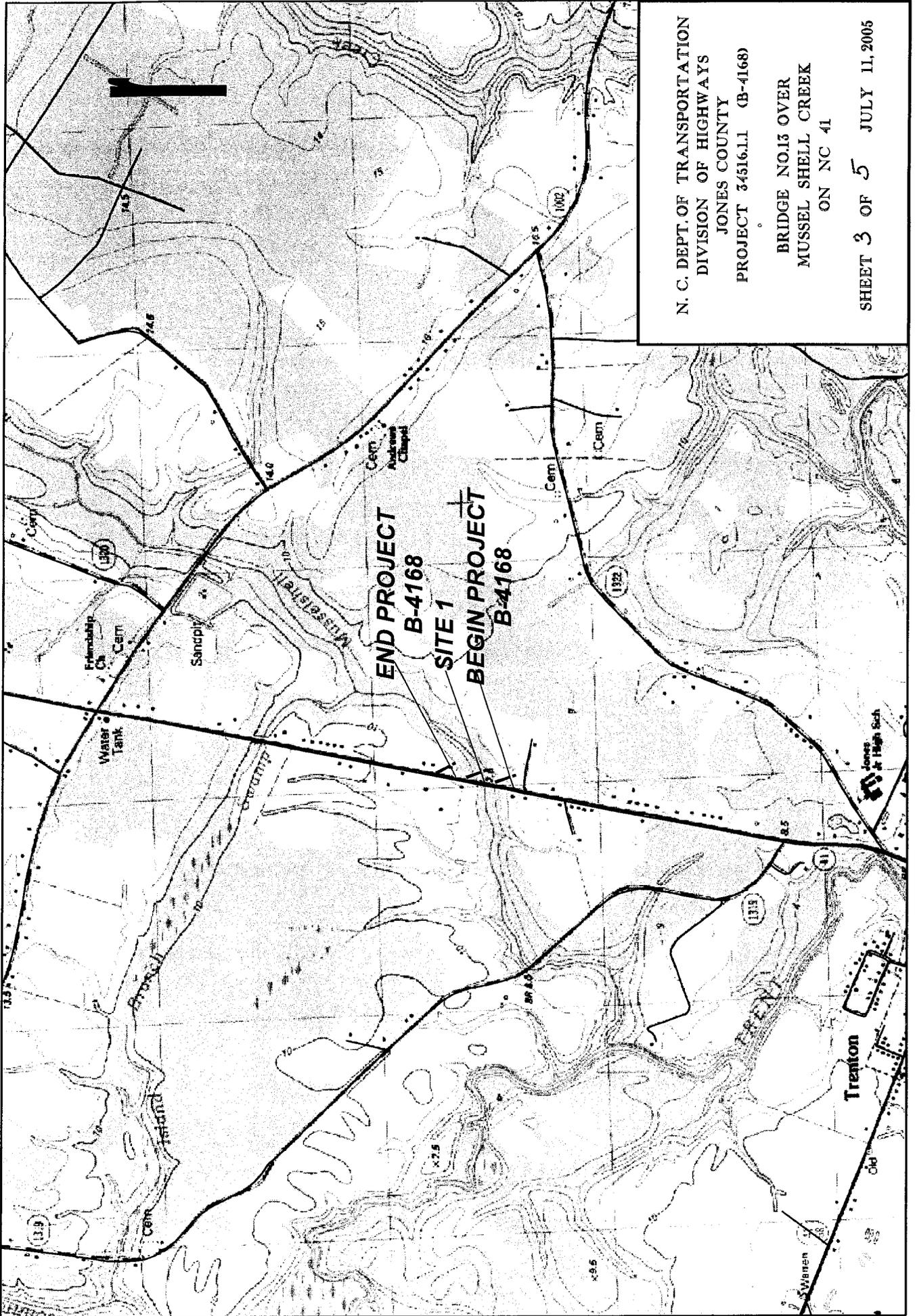


N. C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 JONES COUNTY
 PROJECT 34516.1.1 (B-4168)

BRIDGE NO.13 OVER
 MUSSEL SHELL CREEK
 ON NC 41

SHEET 1 OF 5 AUGUST 17, 2005

Wetland Permit



N. C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 JONES COUNTY
 PROJECT 34516.1.1 (B-4168)

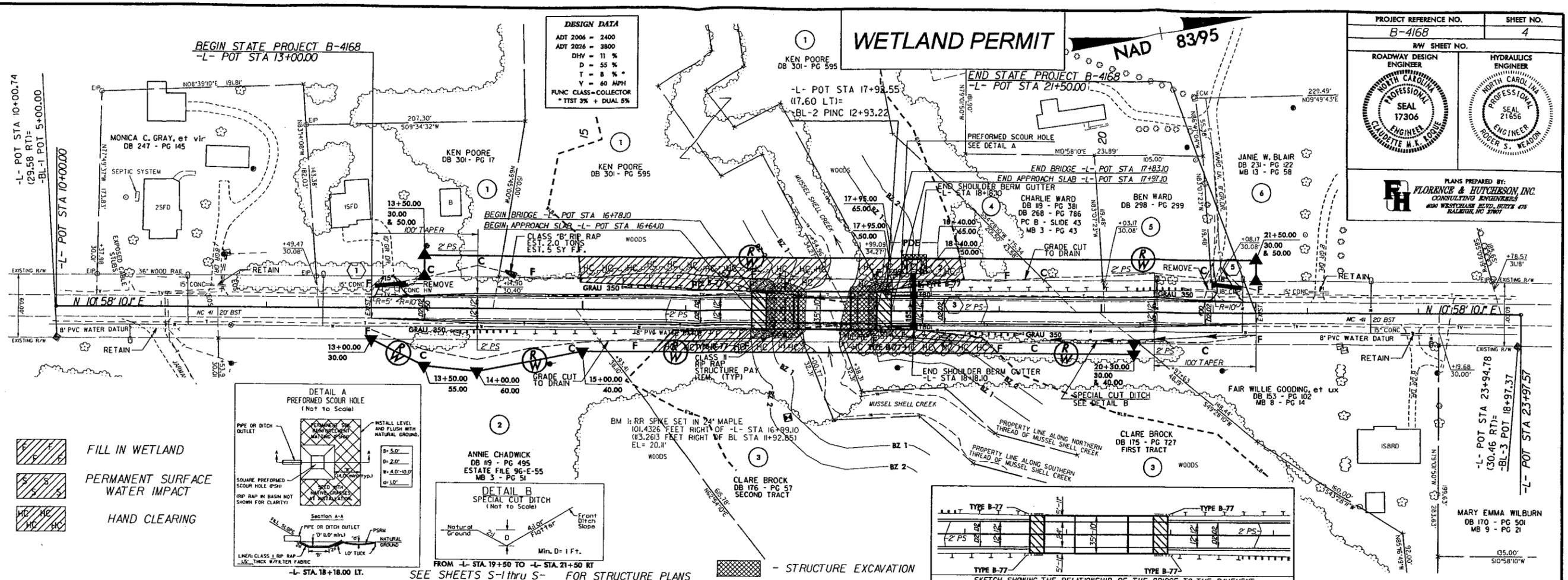
BRIDGE NO.13 OVER
 MUSSEL SHELL CREEK
 ON NC 41

SHEET 3 OF 5 JULY 11, 2005

8/17/99

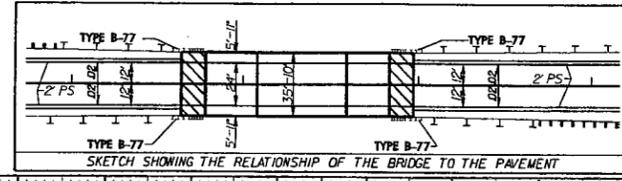
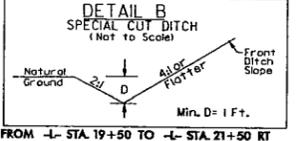
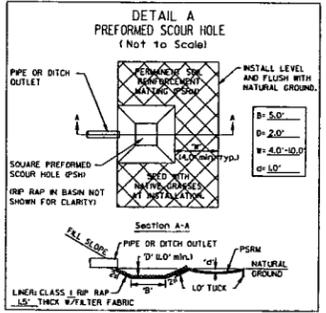
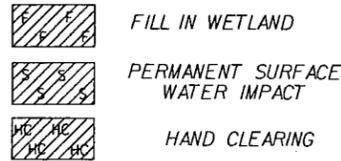
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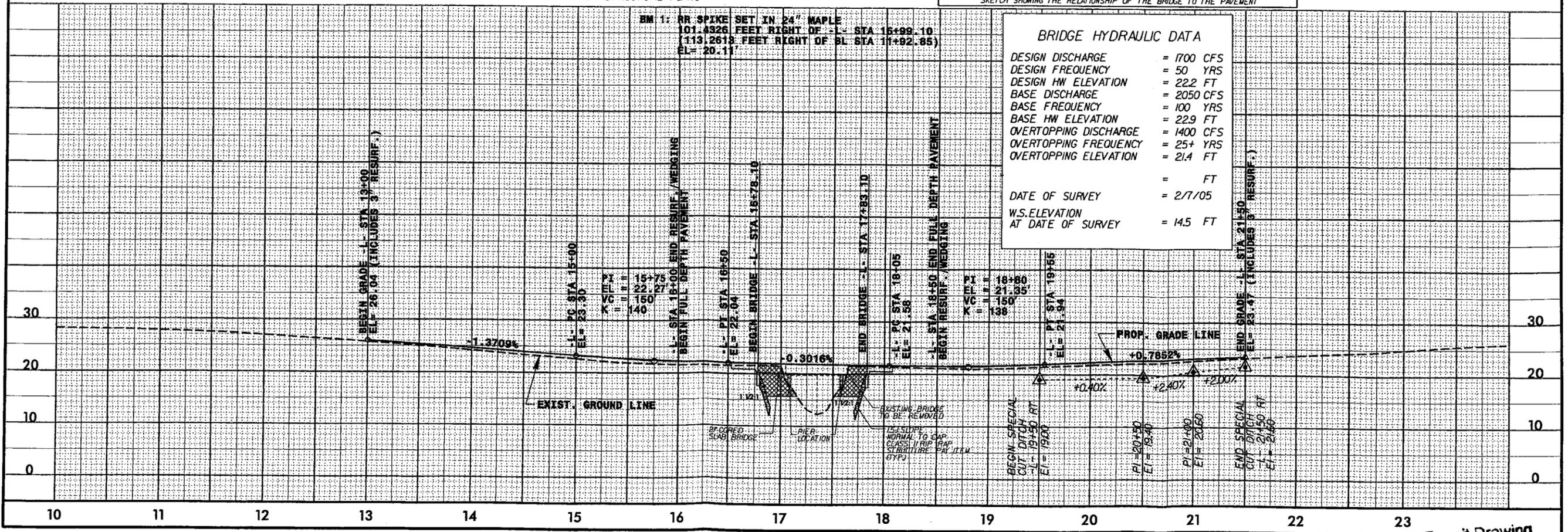


DESIGN DATA
 ADT 2004 = 2400
 ADT 2026 = 3800
 DHV = 11 %
 D = 55 %
 T = 8 %
 Y = 60 MPH
 FUNC CLASS = COLLECTOR
 * TTST 3% + DUAL 5%

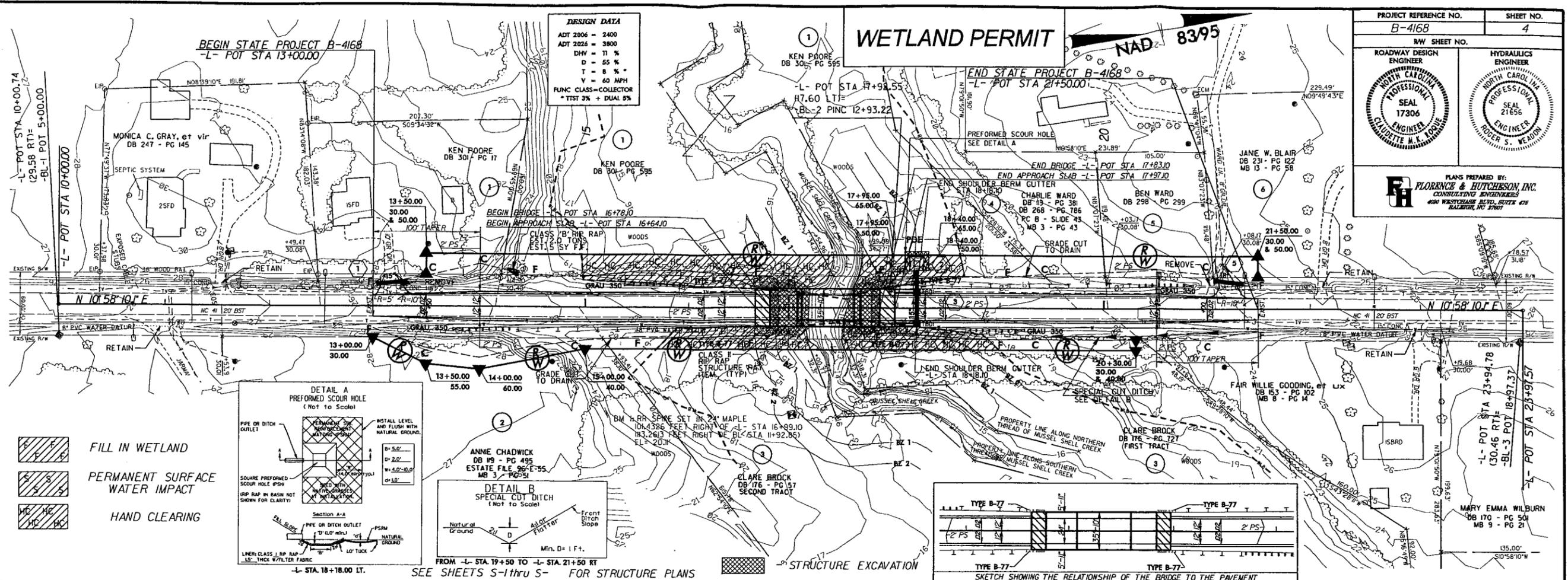
PROJECT REFERENCE NO. B-4168	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 17306 CLAUDETTE M. K. LOUPE	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 21656 ROGER S. WELDON
PLANS PREPARED BY: FLORENCE & HUTCHINSON, INC. CONSULTING ENGINEERS 4000 WESTCHASE BLVD., SUITE 415 RALEIGH, NC 27617	



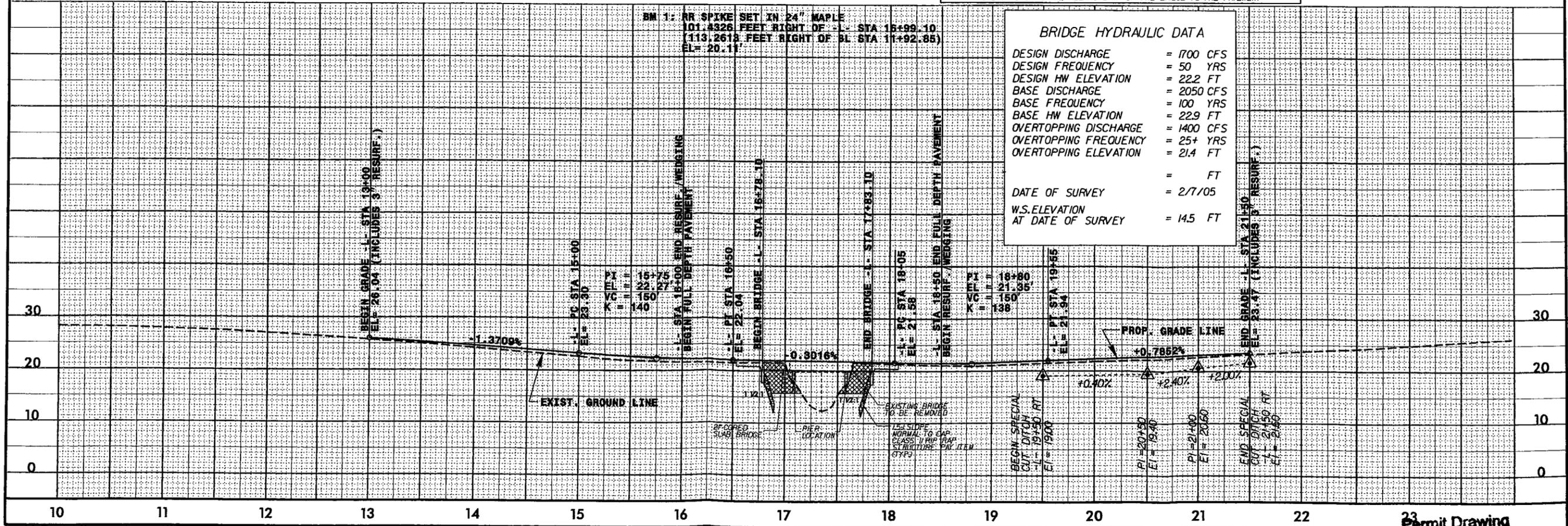
SEE SHEETS S-1 thru S- FOR STRUCTURE PLANS

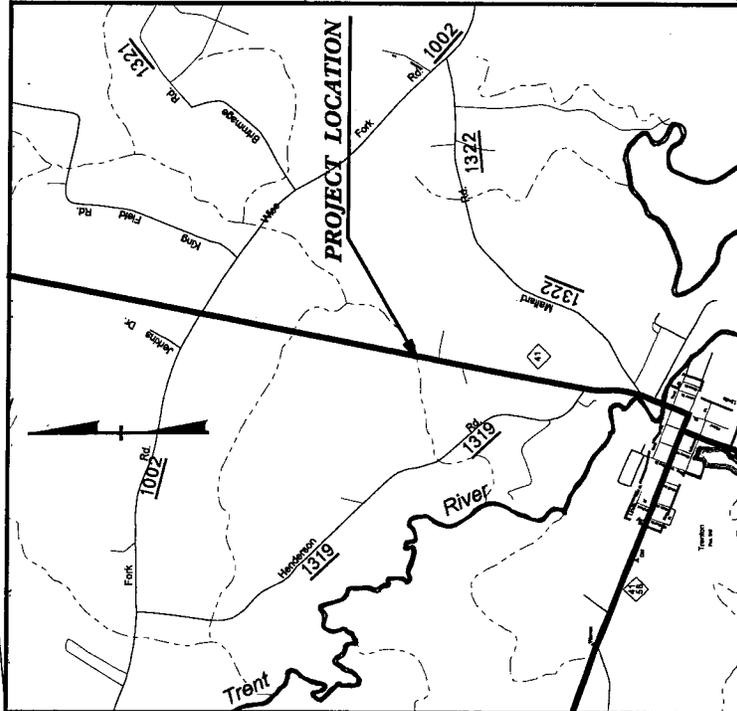
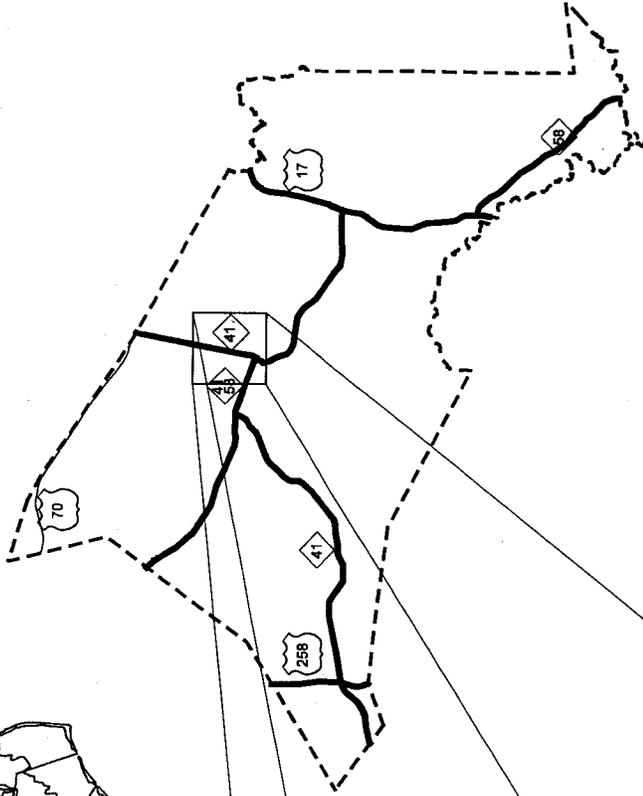
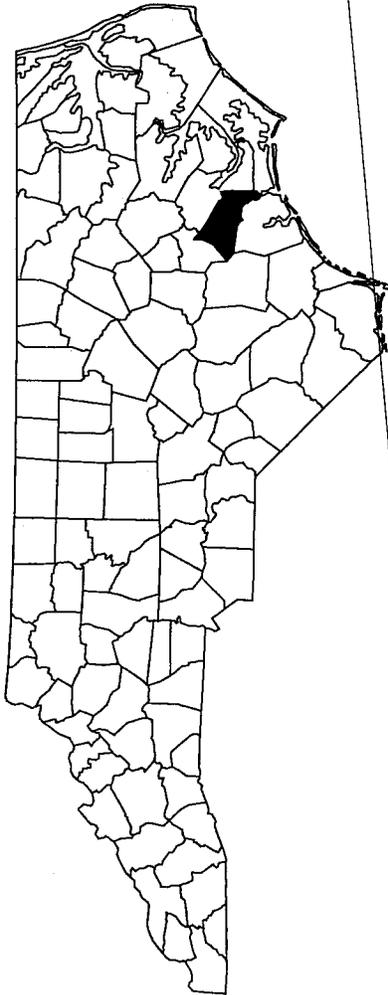


8/17/05



FILENAME: \$FILES\$
DATE: \$DATES\$





N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
JONES COUNTY
PROJECT 34516.1.1 (B-4168)

BRIDGE NO.13 OVER
MUSSEL SHELL CREEK
ON NC 41

SHEET 1 OF 4 AUGUST 17, 2005

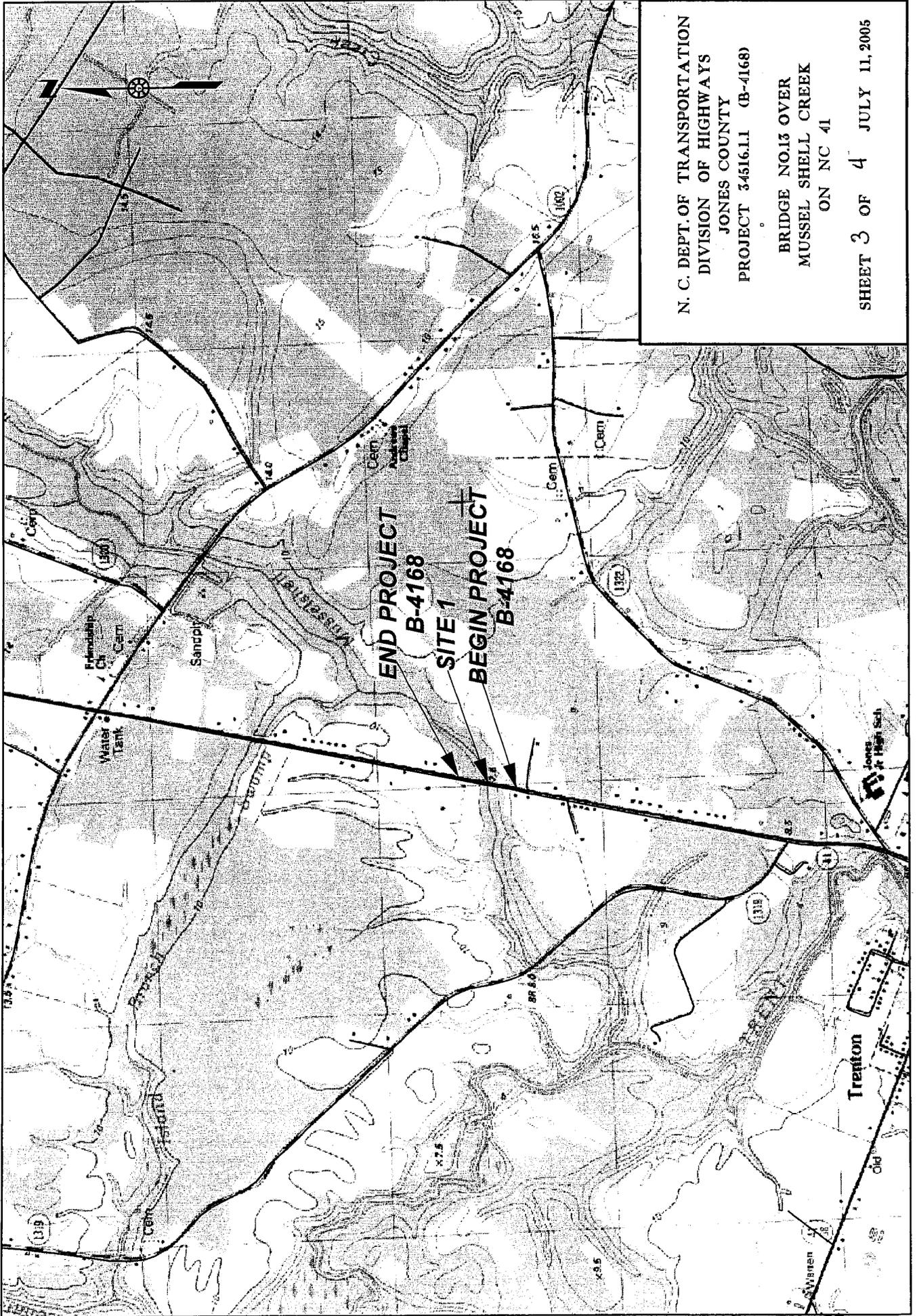
Buffer Permit

BUFFER IMPACTS SUMMARY

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT										BUFFER REPLACEMENT				
			TYPE		ALLOWABLE			MITIGABLE			TOTAL		ZONE 1 (ft ²)	ZONE 2 (ft ²)			
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)				
1	BRIDGE, 3SPAN 1@30', 1@50', 1@25' - 21" CORED SLAB	-L- STA 16+63 to STA 18+72		X		3068	823	3891									
			X			330	1825	2155									
TOTAL:						3398	2648	6046									

Total Linear Buffer Impact = 62 feet -- 26' upstream and 36' downstream

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
JONES COUNTY
PROJECT: 33516.1.1 (B-4168)



N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
JONES COUNTY
PROJECT 34516.1.1 (B-4168)

BRIDGE NO.13 OVER
MUSSEL SHELL CREEK
ON NC 41

SHEET 3 OF 4 JULY 11, 2005

8/17/99

BUFFER PERMIT

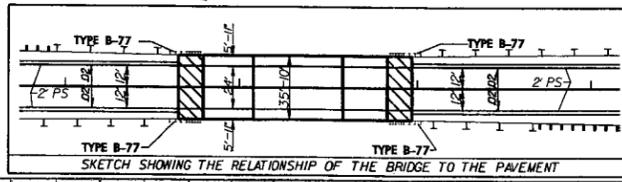
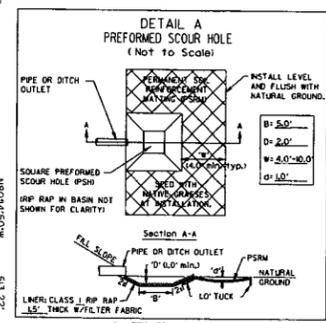
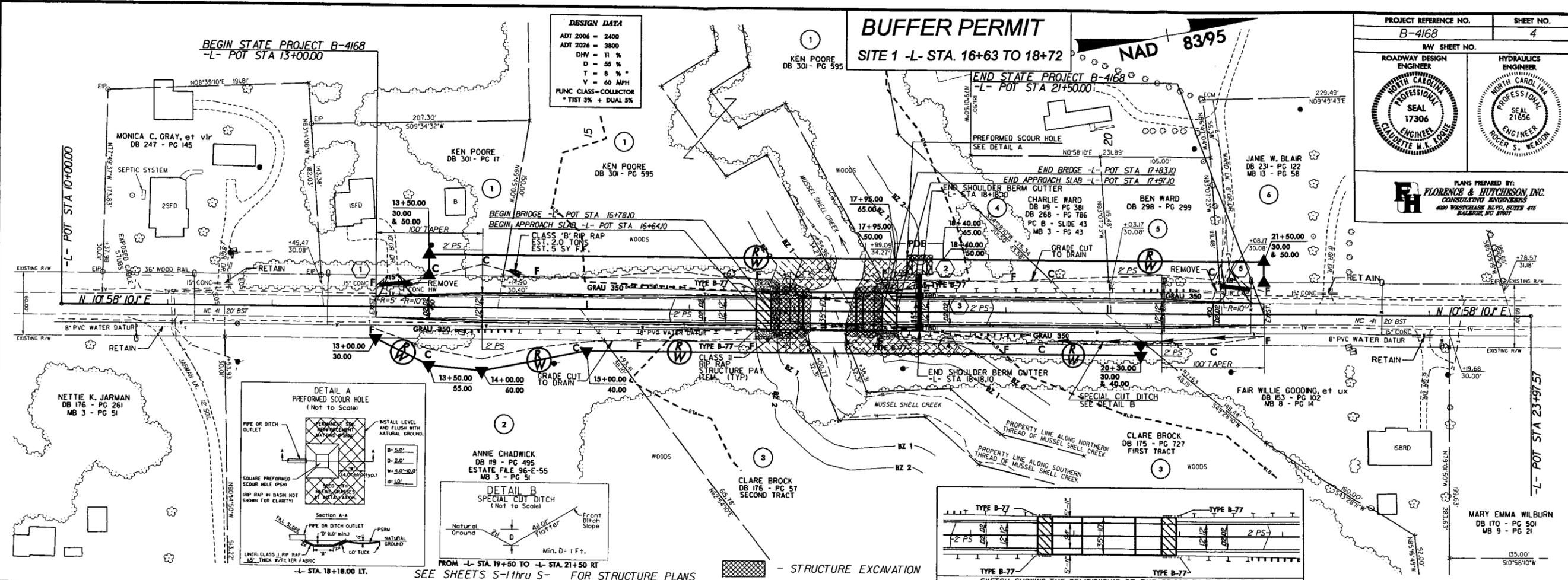
SITE 1 -L- STA. 16+63 TO 18+72

NAD 8395

PROJECT REFERENCE NO. B-4168	SHEET NO. 4
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 17306 CALDWELL M. L. LOUPE	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 21656 ROGER S. WADDY

PLANS PREPARED BY:
FLORENCE & HUTCHISON, INC.
CONSULTING ENGINEERS
400 WHITCHASE BLVD., SUITE 416
RALEIGH, NC 27601

DESIGN DATA
 ADT 2006 = 2400
 ADT 2026 = 3800
 DHV = 11 %
 D = 55 %
 T = 8 %
 V = 60 MPH
 FUNC CLASS-COLLECTOR
 *TIST 3% + DUAL 3%



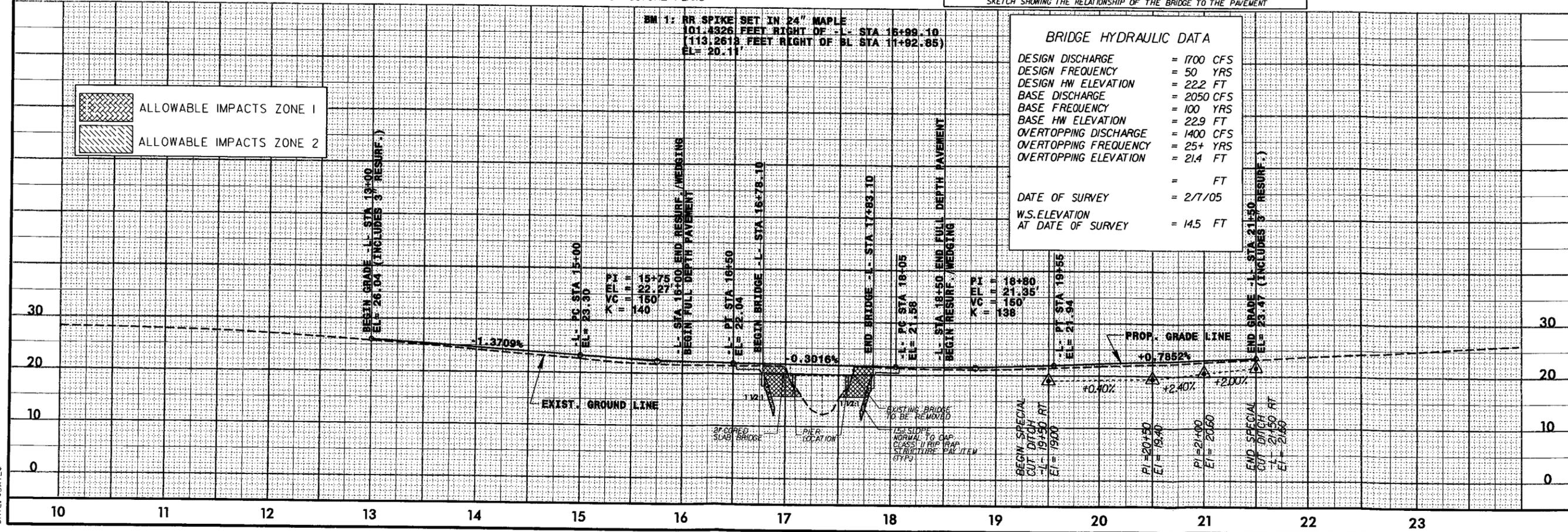
FROM -L- STA. 19+50 TO -L- STA. 21+50 RT
SEE SHEETS S-1 thru S-5 FOR STRUCTURE PLANS

ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2

BM 1: RR SPIKE SET IN 24" MAPLE
101.4326 FEET RIGHT OF -L- STA 16+99.10
(113.2612 FEET RIGHT OF BL STA 11+02.85)
EL= 20.11'

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1700 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 22.2 FT
BASE DISCHARGE	= 2050 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 22.9 FT
OVERTOPPING DISCHARGE	= 1400 CFS
OVERTOPPING FREQUENCY	= 25+ YRS
OVERTOPPING ELEVATION	= 21.4 FT
	= FT
DATE OF SURVEY	= 2/7/05
W.S. ELEVATION AT DATE OF SURVEY	= 14.5 FT



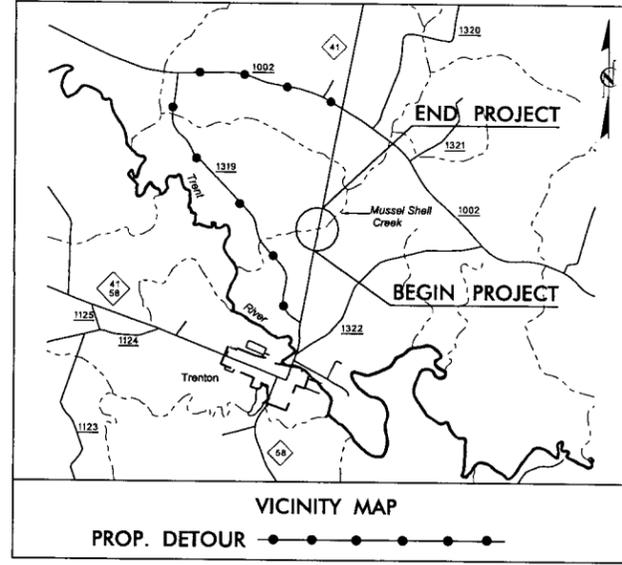
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DATE: \$DATE\$

09/08/99

TIP PROJECT: B-4168

CONTRACT:

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

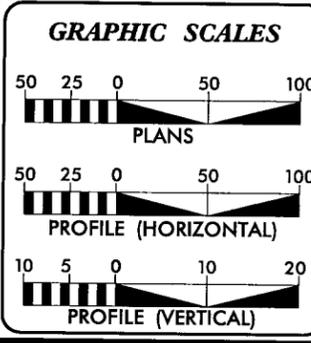
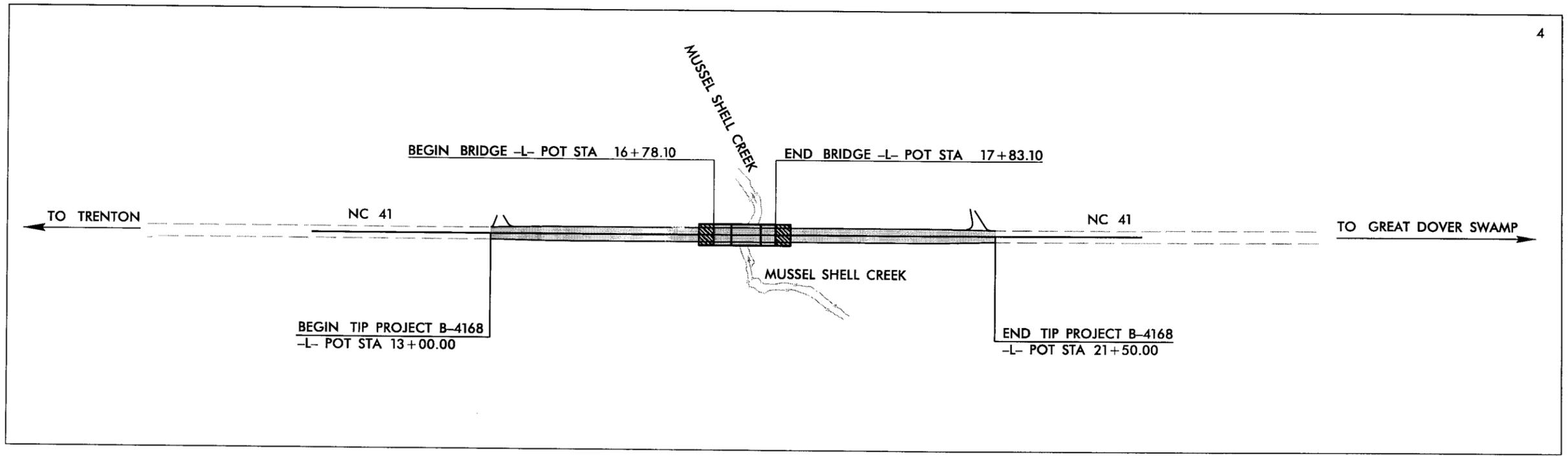


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
JONES COUNTY

**LOCATION: BRIDGE NO. 13 OVER MUSSEL SHELL CREEK
ON NC 41**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4168	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33516.1.1	BRSTP-41(23)	PE	
33516.2.1	BRSTP-41(23)	RW & UTIL	
33516.2.1	BRSTP-41(23)	CONST	



DESIGN DATA

ADT 2006 =	2400
ADT 2026 =	3800
DHV =	11 %
D =	55 %
T =	8 % *
V =	60 MPH
FUNC CLASS =	COLLECTOR
* TTST	3% + DUAL 5%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4168 =	0.141 MILES
LENGTH STRUCTURE TIP PROJECT B-4168 =	0.020 MILES
TOTAL LENGTH TIP PROJECT B-4168 =	0.161 MILES

NCDOT CONTACT: CATHY S. HOUSER, PE
PROJECT ENGINEER

Prepared in the Office of:
FLORENCE & HUTCHESON, INC.
CONSULTING ENGINEERS
400 WESTGLASS BLVD., SUITE 415
RALEIGH, NC 27601

FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION
2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 24, 2005

LETTING DATE: APRIL 17, 2007

CLAUDETTE M.K. ROQUE, PE
PROJECT ENGINEER

HENRY W. BARE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER _____ P.E.

**DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION**

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR

FILENAME: ... \Roadway\Proj\B4168_rdy_tsh.dgn
DATE: 03/07/2007

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

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

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Riparian Buffer	-----
Flow Arrow	-----
Disappearing Stream	-----
Spring	○
Swamp Marsh	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	-----

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

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

ROADS AND RELATED FEATURES:

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

VEGETATION:

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

EXISTING STRUCTURES:

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

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

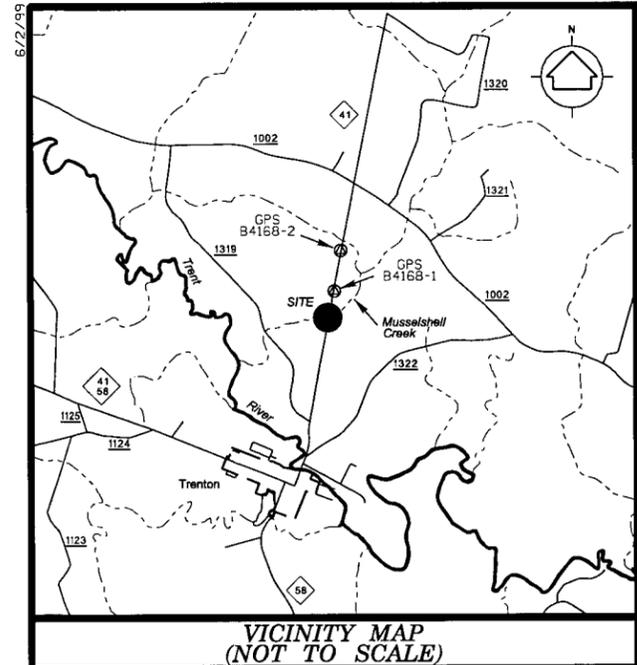
Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

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

MISCELLANEOUS:

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



VICINITY MAP
(NOT TO SCALE)

SURVEY CONTROL SHEET B-4168

PROJECT REFERENCE NO. B-4168	SHEET NO. 1-C
Location and Surveys	

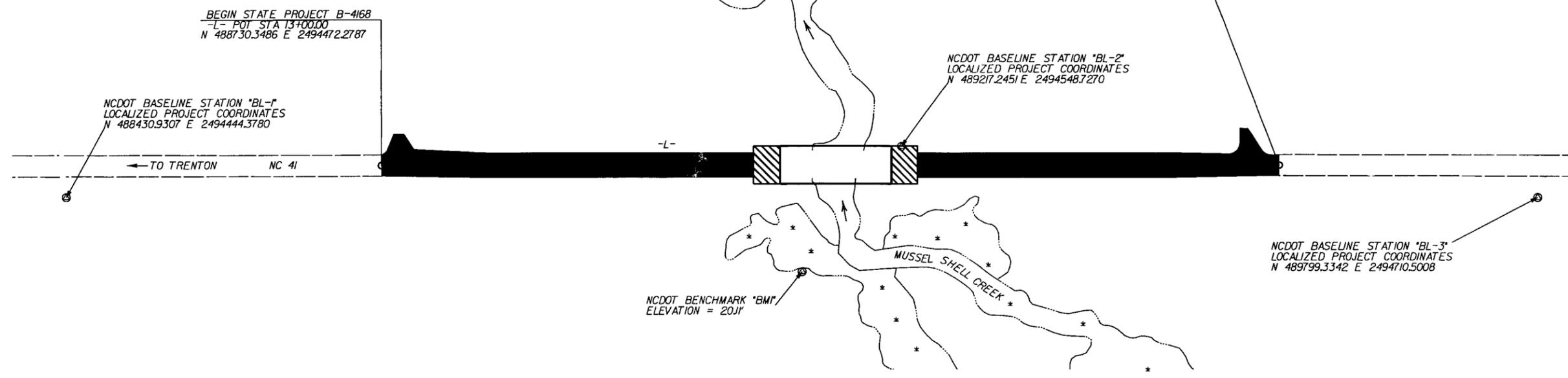
CONTROL DATA

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1		488430.9307	2494444.3780	27.09	10+00.74	29.58 RT
2	BL-2		489217.2451	2494548.7270	20.15	17+92.55	17.60 LT
3	BL-3		489799.3342	2494710.5008	26.96	23+94.78	30.46 RT

BENCHMARK DATA

.....
 BM1 ELEVATION = 20.11
 N 489103 E 2494648
 L STATION 16+99 101 RIGHT
 RR SPIKE SET IN 24' MAPLE

NAD 83/95



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4168-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 490258.406(1) EASTING: 2494796.605(1) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988125 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4168-1" TO L- STATION 13+00.00 IS S 11°58'59.0" W 1562.0969(1) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAD 88

NOTES:

THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/b4168_ls_control_050224.txt](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/b4168_ls_control_050224.txt)
 SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
 ⊙ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING USER SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

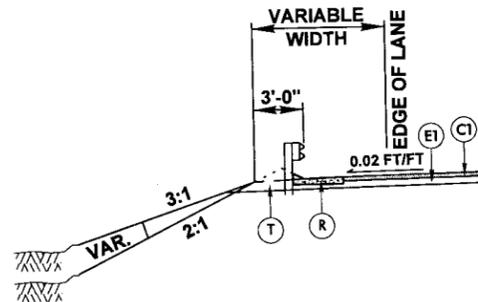
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 DATE: 03/27/2007

6/2/99

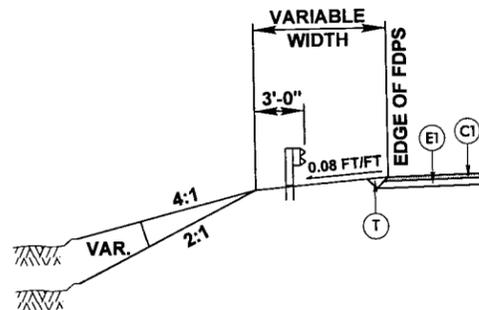
NAME: ... \Roadway\Proj\B4168.rdy - typ.dgn
 03/01/2007

PAVEMENT SCHEDULE	
A1	VARIABLE DEPTH PORTLAND CEMENT CONCRETE PAVEMENT.
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
E1	PROP. APPROX. 5 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
R	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL ON THIS SHEET)

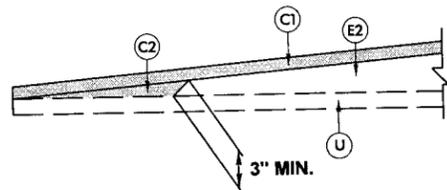
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



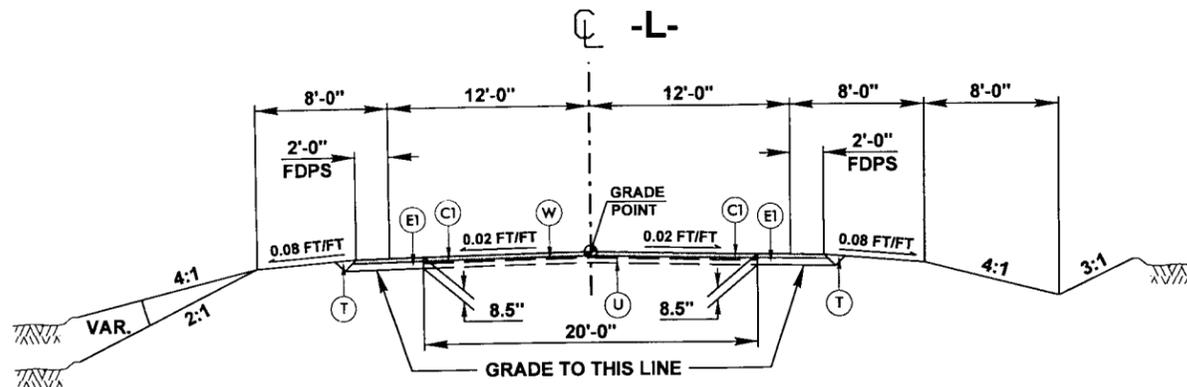
DETAIL FOR SHOULDER BERM GUTTER
 USE IN CONJUNCTION WITH TS NO. 2
 -L- STA 18+07.10 TO STA 18+18.10 (LT & RT)



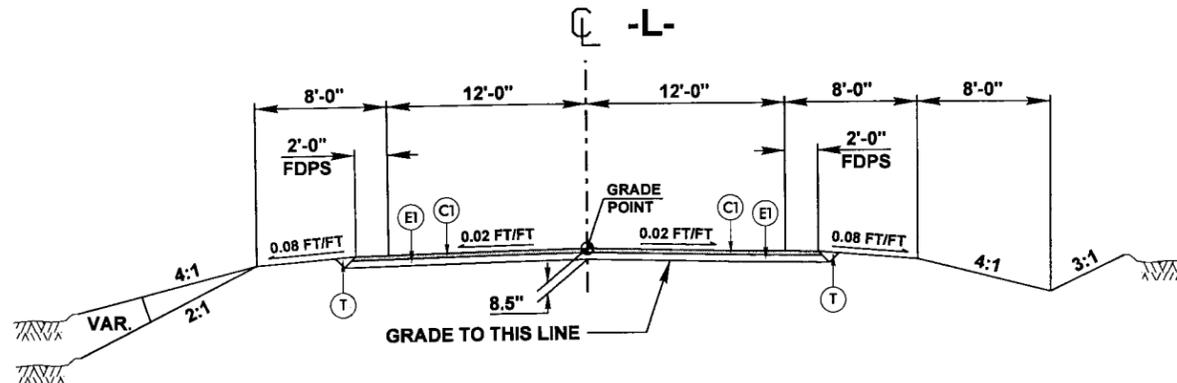
DETAIL FOR PLACEMENT OF GUARDRAIL
 USE IN CONJUNCTION WITH TS NOS. 1 & 2



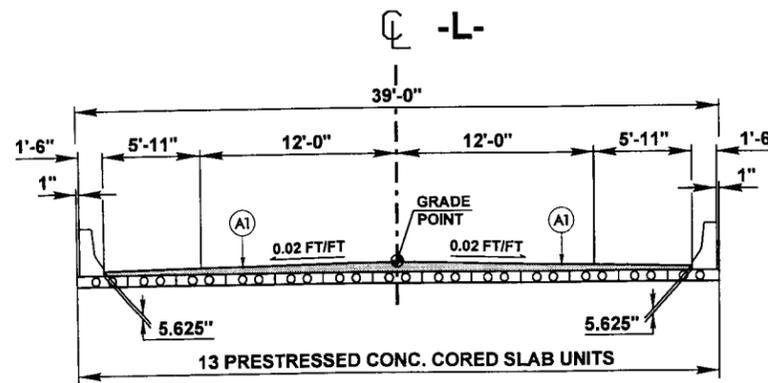
WEDGING DETAIL FOR RESURFACING
 USE IN CONJUNCTION WITH TS NO. 1



TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 2



BRIDGE TYPICAL
 FOR BRIDGE #13 OVER MUSSEL SHELL CREEK

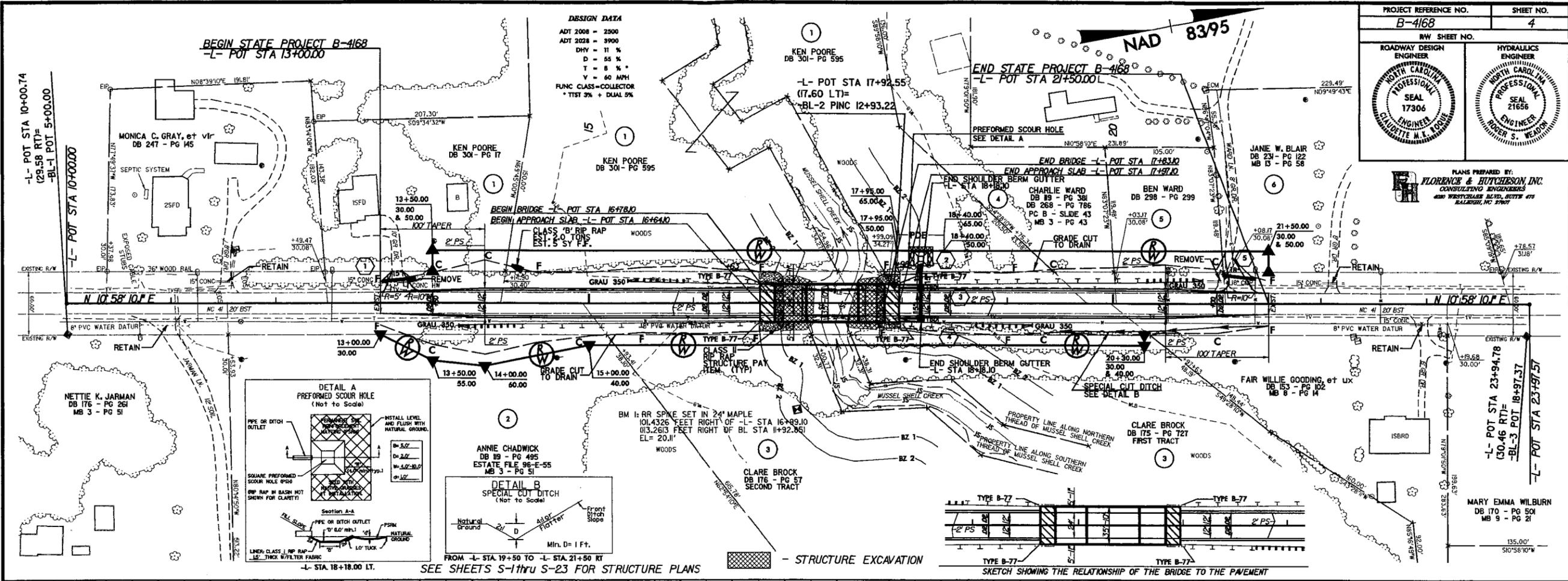
USE TYPICAL SECTION NO. 1 FOR:
 -L- STA 13+00 TO STA 16+00
 -L- STA 18+50 TO STA 21+50

USE TYPICAL SECTION NO. 2 FOR:
 -L- STA 16+00 TO STA 16+78.10 (BEGIN BRIDGE)
 -L- STA 17+83.10 (END BRIDGE) TO STA 18+50

USE BRIDGE TYPICAL FOR:
 -L- STA 16+78.10 TO STA 17+83.10
 NOTE: EXTRA BRIDGE WIDTH REQUIRED DUE TO SPREAD

PROJECT REFERENCE NO. B-4168	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PLANS PREPARED BY: FLORENCE & HUTCHESON, INC. CONSULTING ENGINEERS 4000 WESTCHASE BLVD., SUITE 415 RALEIGH, NC 27607	

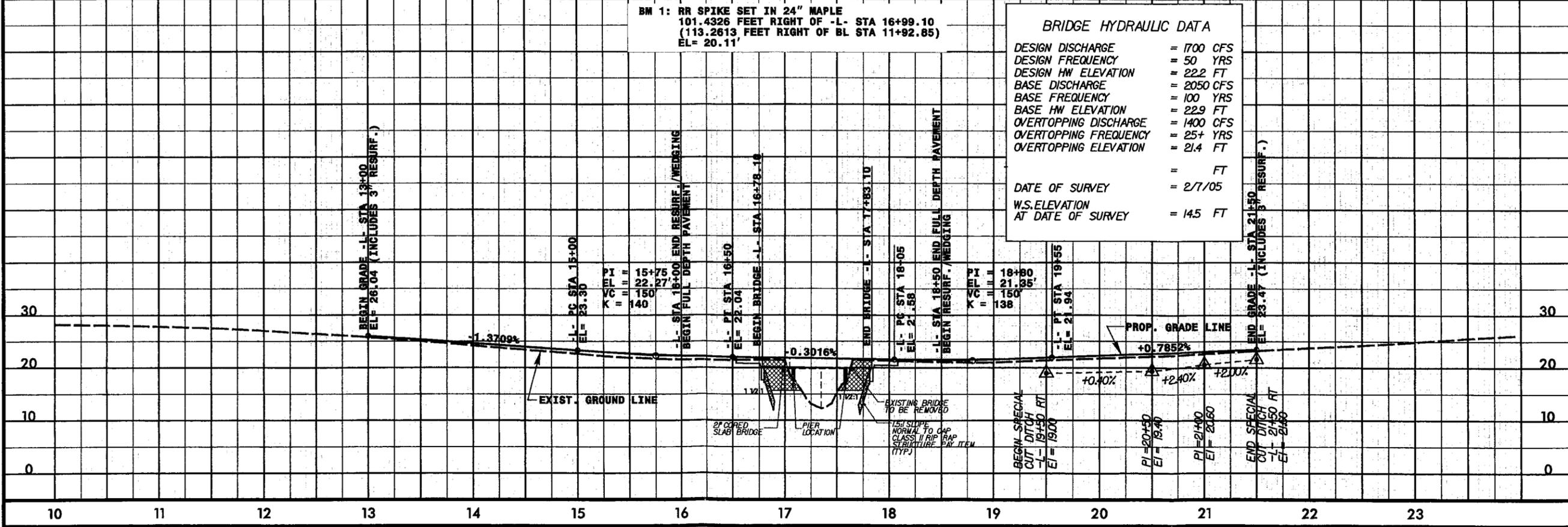
8.17.79



PROJECT REFERENCE NO.	B-4168	SHEET NO.	4
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

PLANS PREPARED BY:
FLORENCE & BUTCHERSON, INC.
CONSULTING ENGINEERS
400 WYOMING AVE., SUITE 475
RALEIGH, NC 27601

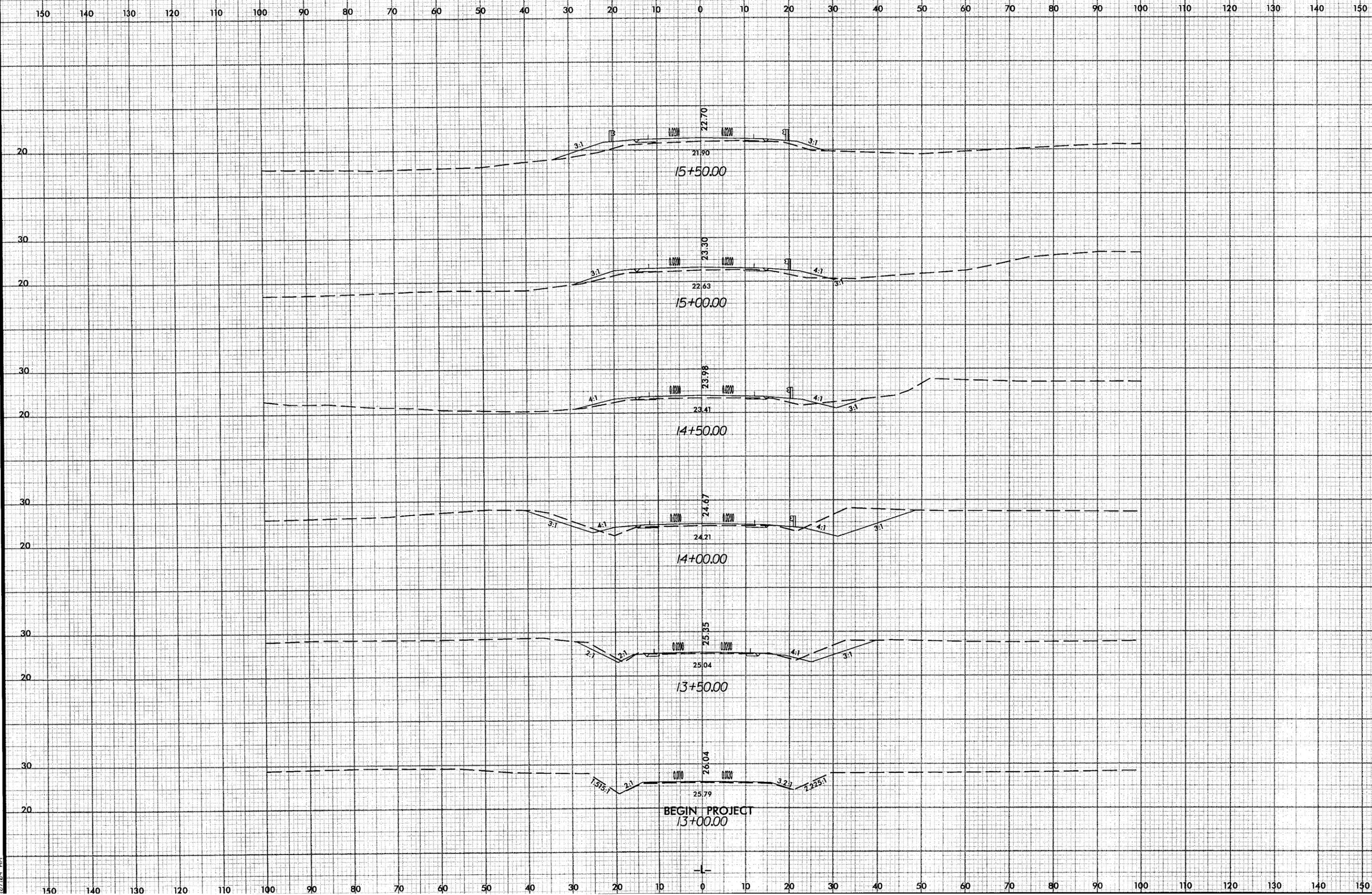
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DATE: 10/10/2007



8/23/99



PROJ. REFERENCE NO.	SHEET NO.
B-4168	X-1

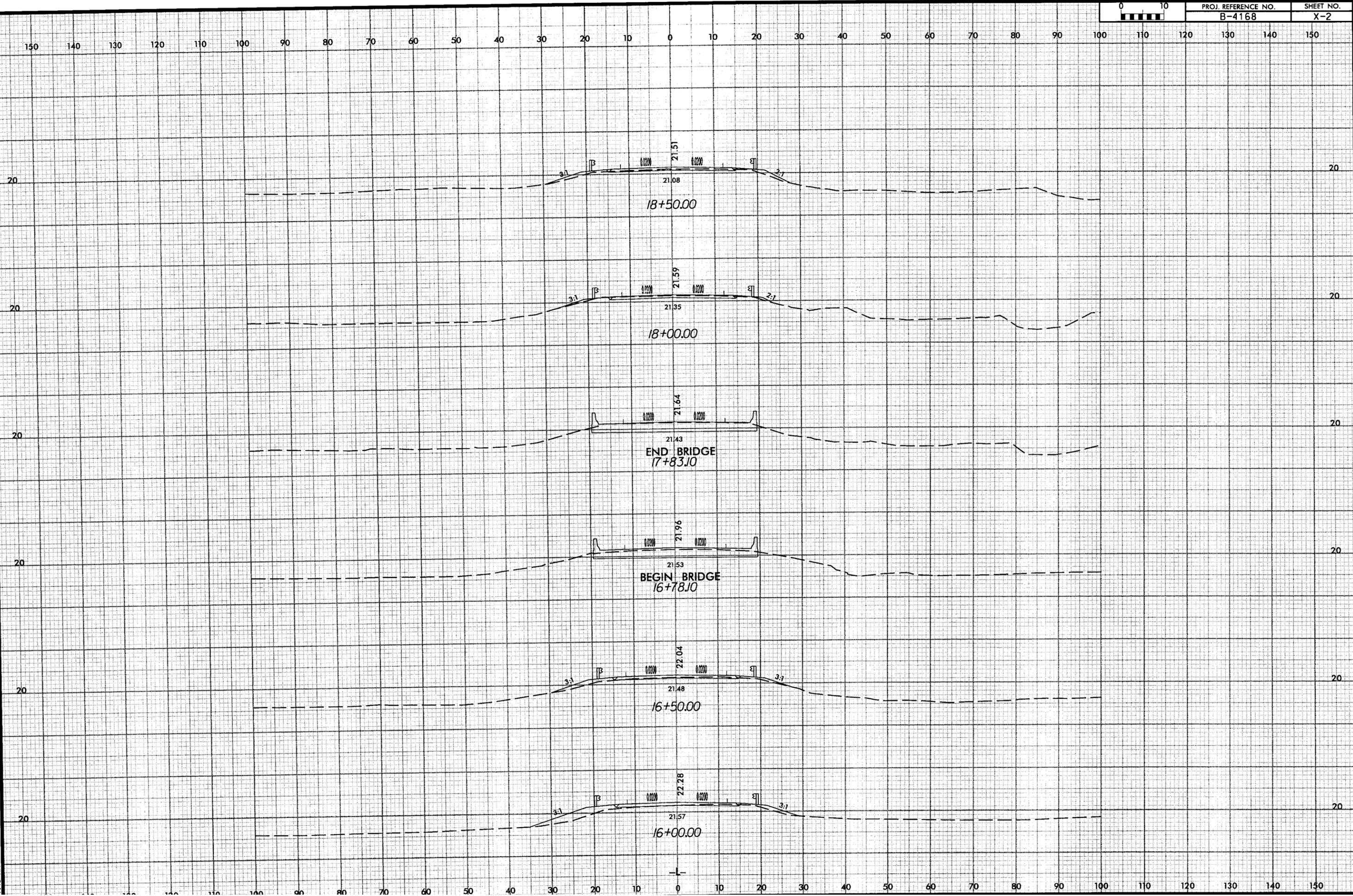


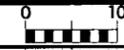
3/07/2007 9:51:06 AM \\p0edwaj\Xsc\4168_rdu_xp1.L.dgn

BEGIN PROJECT
13+00.00

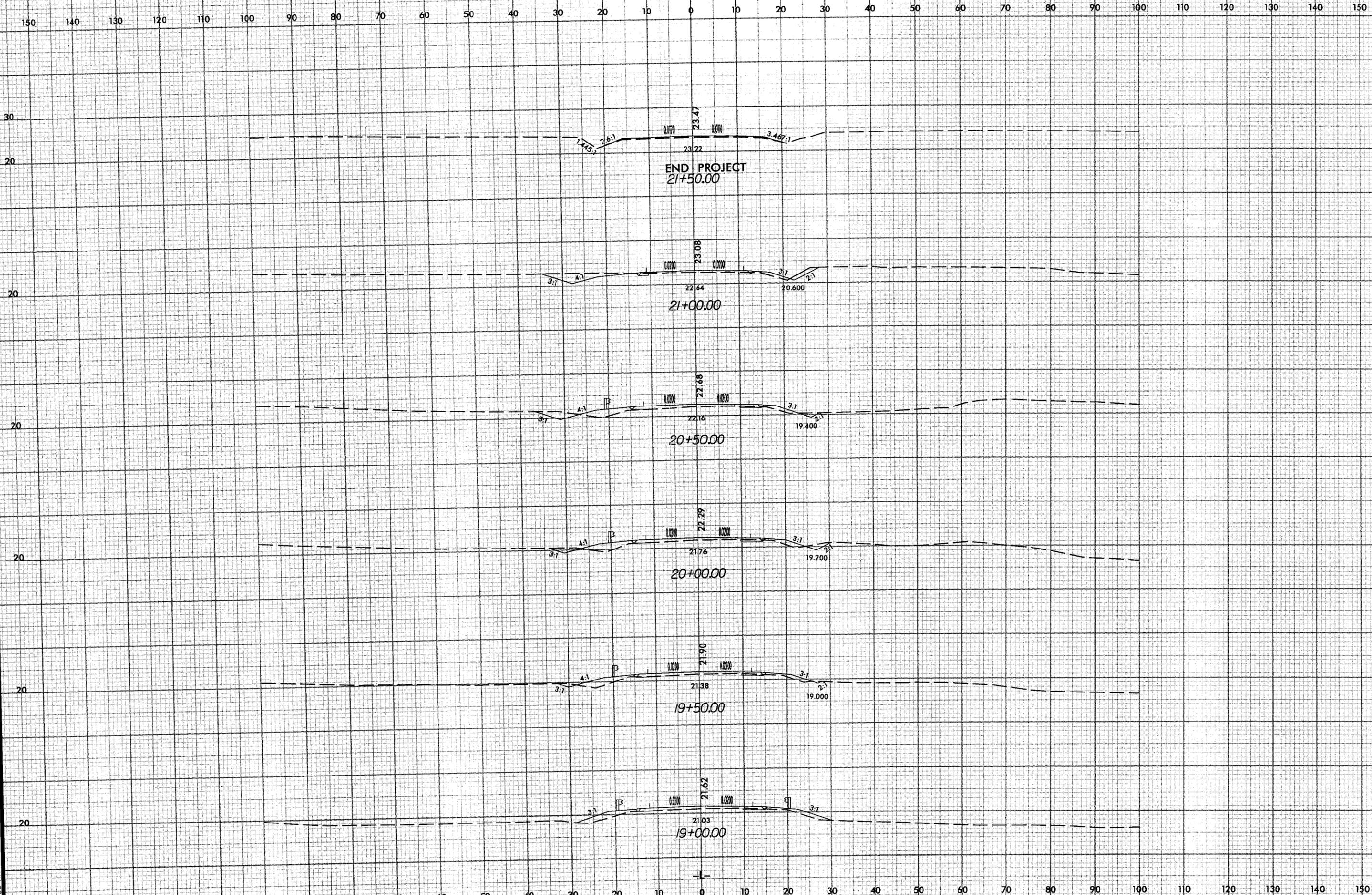


8/23/99
07/2007
34168\Roadway\Xsc\4168_rdy_xp1.dgn
7:45 AM





8/23/99
11/2007
4168\Roadkey\Xsc\4168_rdy_xpl.dgn
1:58 AM



Crescent Road Mitigation Site Debit Ledger

The Crescent Road Mitigation Site is situated adjacent to C.F. Harvey Road (Crescent Road) both to the north and south, in the western portion of Lenoir County. It is approximately 2 miles northwest of Kinston. According to the as-built drawings of the site, the site restored 3.71-acres of riverine wetlands, 2,291 linear feet of stream restoration, and 7.6 acres of Neuse River riparian buffer.

The 2006-year concluded the fourth year of hydrology and vegetation monitoring following construction of the site. The monitoring report (http://www.ncdot.org/doh/preconstruct/pe/neu/Monitoring/2006Monitoring/CrescentRoadReport2006_Final.pdf) shows the site continues to meet hydrologic and vegetative success criteria. Upon permit issuance, the debit ledger will be updated as shown below to debit the Crescent Road site at a 1:1 ratio for the 0.10 acre of unavoidable riverine impacts for TIP B-4168.

Crescent Road	HUC	Mitigation Type	Original	Available	R-2719	B-4168
	3020202	Riverine Wetland Restoration	3.71	3.03	0.58	0.1
		Stream Restoration	2,291	585	1,706	
		Buffer	7.6	7.6		

*Crescent Road
Mitigation*

Figure 1. Site Location Map

