



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

July 19, 2007

MEMORANDUM TO: Mr. Jon G. Nance, PE
Division Five Engineer

FROM: Philip S. Harris, III, P.E., Unit Head
Natural Environment Unit
Project Development and Environmental Analysis Branch

SUBJECT: Durham County, Replace Bridge No.158 over an Unnamed
Tributary to the Eno River; T.I.P. Number B-3169; State
Project 8.2353701; WBS No. 32906.1.1

A handwritten signature in black ink, appearing to read "P. S. Harris" with a stylized flourish.

Attached is the Neuse Buffer Authorization for the above referenced project.

PSH/gyb

Attachment

Cc:

Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Jay Bennett, P.E., Roadway Design
Dr. David Chang, P.E., Hydraulics
Mr. Randy Garris, P.E. State Contract Officer
Mr. Art McMillan, P.E., Highway Design
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. John F. Sullivan, FHWA
Mr. Eric Midkiff, P.E., PDEA Central Region Unit Head
Mr. Chris Murray, Division Environmental Officer

PROJECT COMMITMENTS

Durham County
Replacement of Bridge No. 158 over an Unnamed Tributary to the Eno River
State Project 8.2353701
WBS No. 32906.1.1
TIP No. B-3169

In addition to the standard Neuse Buffer Authorization Conditions, NCDOT's Guidelines for Best Management Practices for the Protection of Surface Waters, and NCDOT's Guidelines for Best Management Practices for Bridge Demolition and Removal, the following special commitments have been agreed to by NCDOT:

Commitments Developed Through Project Development and Design

Division 5

Bridge No. 158 is constructed entirely of timber and steel. While there is potential for some components of the bridge to be dropped in Waters of the US, demolition should result in no appreciable fill for the purposes of a permit.

No further action is required

NEU-Endangered Species

Surveys for Michaux's sumac and smooth coneflower were most recently conducted by NCDOT biologists Cheryl Knepp and Brett Feulner. A biological conclusion of "No Effect" was found for the bald eagle due to lack of suitable habitat. There is habitat for Michaux's sumac and smooth coneflower, a "May affect, not likely to adversely affect" conclusion has been issued. The USFWS has concurred with these findings. The Natural Environment Unit will evaluate if follow up surveys will be required prior to construction.

Additional surveys were conducted on June 28, 2006 by NCDOT biologists. No specimens of Michaux's sumac were observed. Due to a change in terminology, the biological conclusion has been changed to "No Effect."

Roadway Design Unit-6(f)

The project as proposed does not require additional park property. If this changes, coordination with PDEA and DENR Parks and Recreation will be required.

No further action is required.

PROJECT COMMITMENTS

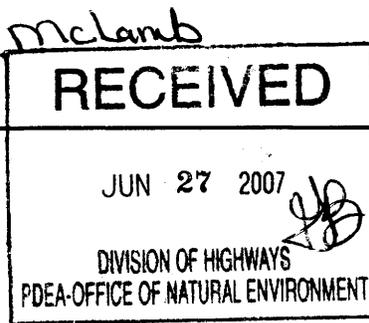
Roadway Design Unit- National Register of Eligible Property

There is a National Register eligible property near the project but not affected by the project as currently proposed. If the design changes, coordination with the Human Environment Unit will be required.

No further action is required.

Commitments Developed Through the Permitting Process

Streams within the project area are subject to the Neuse Buffer Regulations, therefore, NCDOT's Design Standards in Sensitive Watersheds will be implemented.



June 19, 2007
 Durham County
 DWQ Project No. 20071017
 Bridge No. 158 on SR 1402
 TIP No. B-3169

APPROVAL of NEUSE BUFFER AUTHORIZATION with ADDITIONAL CONDITIONS

Dr. Gregory J. Thorpe, Ph.D., Environmental Management Director
 NCDOT PDEA
 1598 Mail Service Center
 Raleigh, NC 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 158 in Durham County:

Neuse Riparian Buffer Impacts

| Site | Zone 1 Impact (sq ft) | minus Wetlands in Zone 1 (sq ft) | = Zone 1 Buffers (not wetlands) (sq ft) | Zone 1 Buffer Mitigation Required (using 3:1 ratio) | Zone 2 Impact (sq ft) | minus Wetlands in Zone 2 (sq ft) | = Zone 2 Buffers (not wetlands) (sq ft) | Zone 2 Buffer Mitigation Required (using 1.5:1 ratio) |
|---------------|-----------------------|----------------------------------|---|---|-----------------------|----------------------------------|---|---|
| 1 | 2,344 | 0 | 2,344 | N/A | 1,013 | 0 | 1,013 | N/A |
| Totals | 2,344 | 0 | 2,344 | 0 | 1,013 | 0 | 1,013 | 0 |

* n/a = Total for Site is less than 1/3 acre and 150 linear feet of impact, no mitigation required

Total Buffer Impact for Project: 3,357 square feet.

The project shall be constructed in accordance with your application dated received June 11, 2007. This approval is valid for the Neuse Riparian Buffer Rules (15A NCAC 2B.0233). 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 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 below.

Conditions of Certification:

1. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species.



2. Strict adherence to the most recent version of NCDOT's Best Management Practices For Bridge Demolition and Removal approved by the US Army Corps of Engineers is a condition of this approval.
3. Bridge deck drains should not discharge directly into the stream. Stormwater should be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of *Stormwater Best Management Practices*.
4. All riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated. Maintained buffers shall be permanently revegetated with non-woody species by the end of the growing season following completion of construction. For the purpose of this condition, maintained buffer areas are defined as areas within the transportation corridor that will be subject to regular DOT maintenance activities including mowing. The area with non-maintained buffers shall be permanently revegetated, with native woody species before the next growing season following completion of construction.
5. Pursuant to NCAC15A 2B.0233(6), sediment and erosion control devices shall not be placed in Zone 1 of any Neuse Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, 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.
6. All stormwater runoff shall be directed as sheetflow through stream buffers at nonerosive velocities, unless otherwise approved by this certification.
7. If concrete is used during construction, a dry work area should be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete should not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
8. 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.
9. The dimension, pattern and profile of the stream above and below the crossing should not be modified. Disturbed floodplains and streams should be restored to natural geomorphic conditions.
10. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
11. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream.
12. 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.
13. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification.
14. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.



Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Coleen Sullins, Director
Division of Water Quality

15. A copy of this Neuse Buffer Approval shall be posted on the construction site at all times. In addition, the Neuse Buffer Approval and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.
16. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.
17. Upon completion of the project, the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the approval has been completed.
18. Native riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
19. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities.
20. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards:
 - a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
 - b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
 - c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
 - d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.
21. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, they shall be removed and the natural grade restored upon completion of the project.



Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Coleen Sullins, Director
Division of Water Quality

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, 6714 Mail Service Center, Raleigh, N.C. 27699. 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 Rob Ridings at (919) 733-9817.

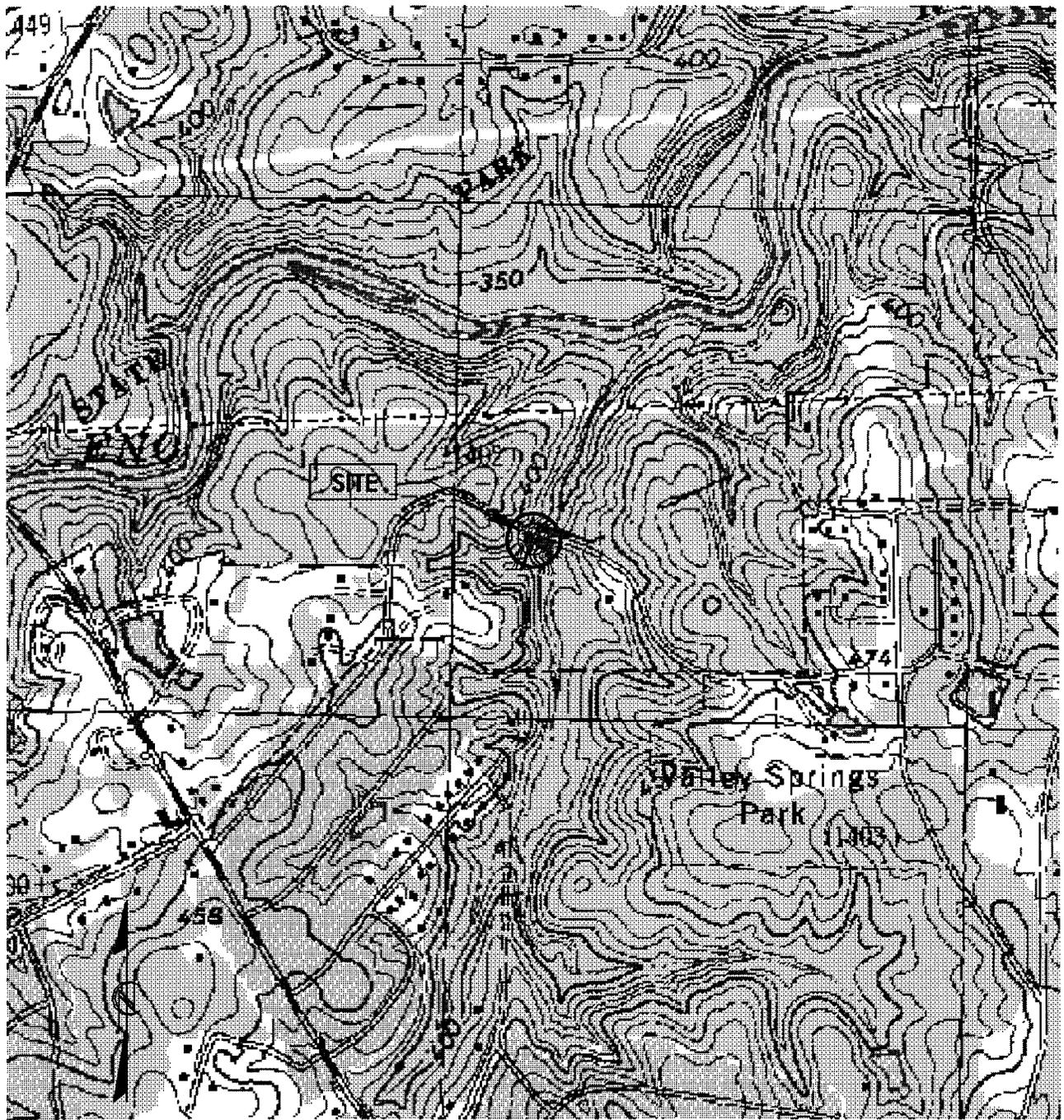
Sincerely,

A handwritten signature in black ink, appearing to read "Coleen Sullins", with a long horizontal flourish extending to the right.

Coleen Sullins
Director

Attachment (Certificate of Completion form)

cc: Chris Murray, Division 5 Environmental Officer
Eric Alsmeyer, US Army Corps of Engineers, Raleigh Field Office
Travis Wilson, NC Wildlife Resources Commission
Erica McLamb, NCDOT NEU
DWQ Raleigh Regional Office copy
File Copy



NOT TO SCALE

NEUSE RIVER BUFFER LOCATION MAPS

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

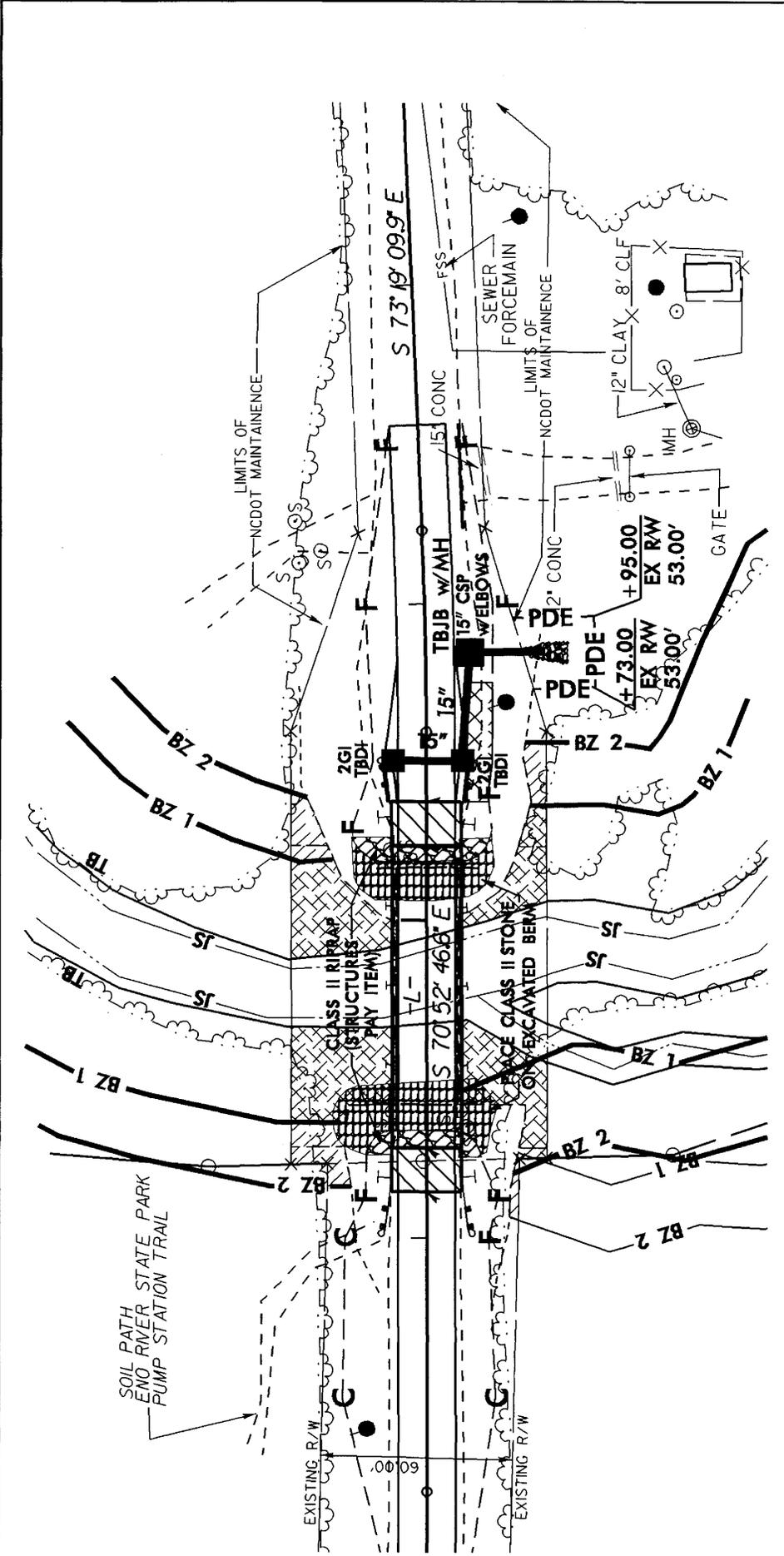
PROJECT: 32906.L1 (B-3169)

BRIDGE NO. 156 ON SR 1402

OVER UT TO ENO RIVER

Buffer Drawing

Sheet 1 of 6



NCDOT
DIVISION OF HIGHWAYS
DURHAM COUNTY
PROJECT: WBS 32906.L1 (B-5169)
BRIDGE NO. 158
OVER UT TO ENO RIVER

Buffer Drawing
 Sheet 2 of 6

REVISED 08/16/07 87 1/06

- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2

PLAN VIEW

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

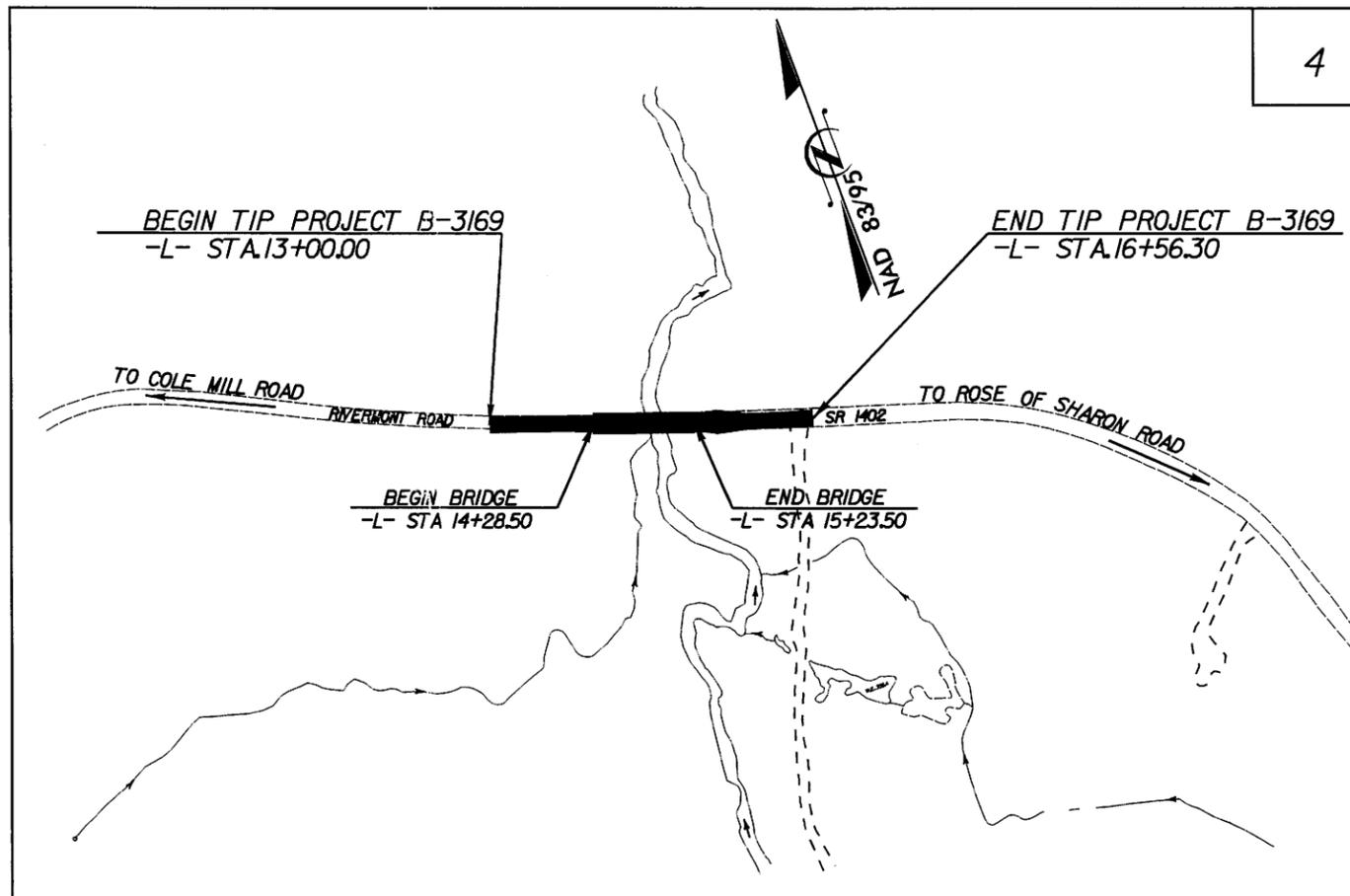
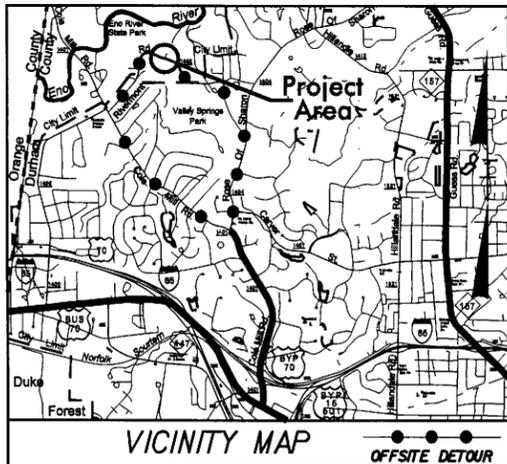
DURHAM COUNTY

LOCATION: BRIDGE 158 OVER A CREEK ON SR 1402

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

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C. | B-3169 | 1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 32906.1.1 | BRZ-1402(7) | P. E. | |
| 32906.3.1 | BRZ-1402(7) | RW, UTIL | |
| | | | |
| | | | |
| | | | |

Buffer Drawing
Sheet 4 of 6



** DESIGNED USING 2001 AASHTO GUIDELINES FOR GEOMETRIC DESIGN OF VERY LOW-VOLUME LOCAL ROADS (ADT < 400).

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

RECEIVED
APR 23 2007
DIVISION OF HIGHWAYS
PDEA-OFFICE OF NATURAL ENVIRONMENT

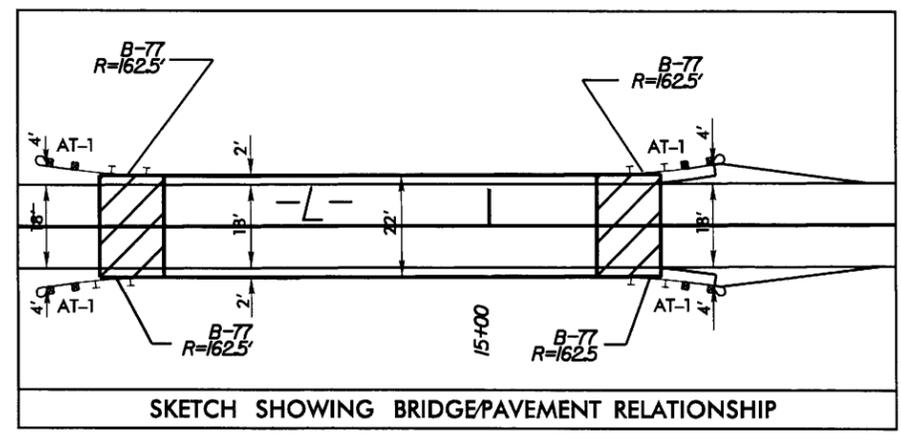
TIP PROJECT: B-3169

CONTRACT: C201788

| | | | | | |
|--|---|---|--|---|---|
| <p>GRAPHIC SCALES</p> <p>50 25 0 50 100 PLANS</p> <p>50 25 0 50 100 PROFILE (HORIZONTAL)</p> <p>10 5 0 10 20 PROFILE (VERTICAL)</p> | <p>DESIGN DATA</p> <p>ADT 2003 = 100 ADT 2030 = 200 DHV = 22 % D = 65 % T = 3 % * V = 25 MPH** FUNC. CLASS = LOCAL * TTST 1 DUAL 2</p> | <p>PROJECT LENGTH</p> <p>LENGTH ROADWAY TIP PROJECT B-3169 = 0.049 mile LENGTH STRUCTURE TIP PROJECT B-3169 = 0.018 mile TOTAL LENGTH OF TIP PROJECT B-3169 = 0.067 mile</p> | <p>Prepared in the Office of: DIVISION OF HIGHWAYS 1000 Birch Ridge Dr., Raleigh NC, 27610</p> <p>2006 STANDARD SPECIFICATIONS</p> <p>RIGHT OF WAY DATE: <u>JASON MOORE, PE</u> AUGUST 18, 2006 PROJECT ENGINEER</p> <p>LETTING DATE: <u>BRYAN KEY, PE</u> JANUARY 15, 2008 PROJECT DESIGN ENGINEER</p> | <p>HYDRAULICS ENGINEER</p> <p>SIGNATURE: _____ P.E.</p> <p>ROADWAY DESIGN ENGINEER</p> <p>SIGNATURE: _____ P.E.</p> | <p>DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA</p> <p>STATE DESIGN ENGINEER _____ P.E.</p> <p>DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION</p> <p>APPROVED _____ DIVISION ADMINISTRATOR DATE</p> |
|--|---|---|--|---|---|

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khjledge AT HY221538

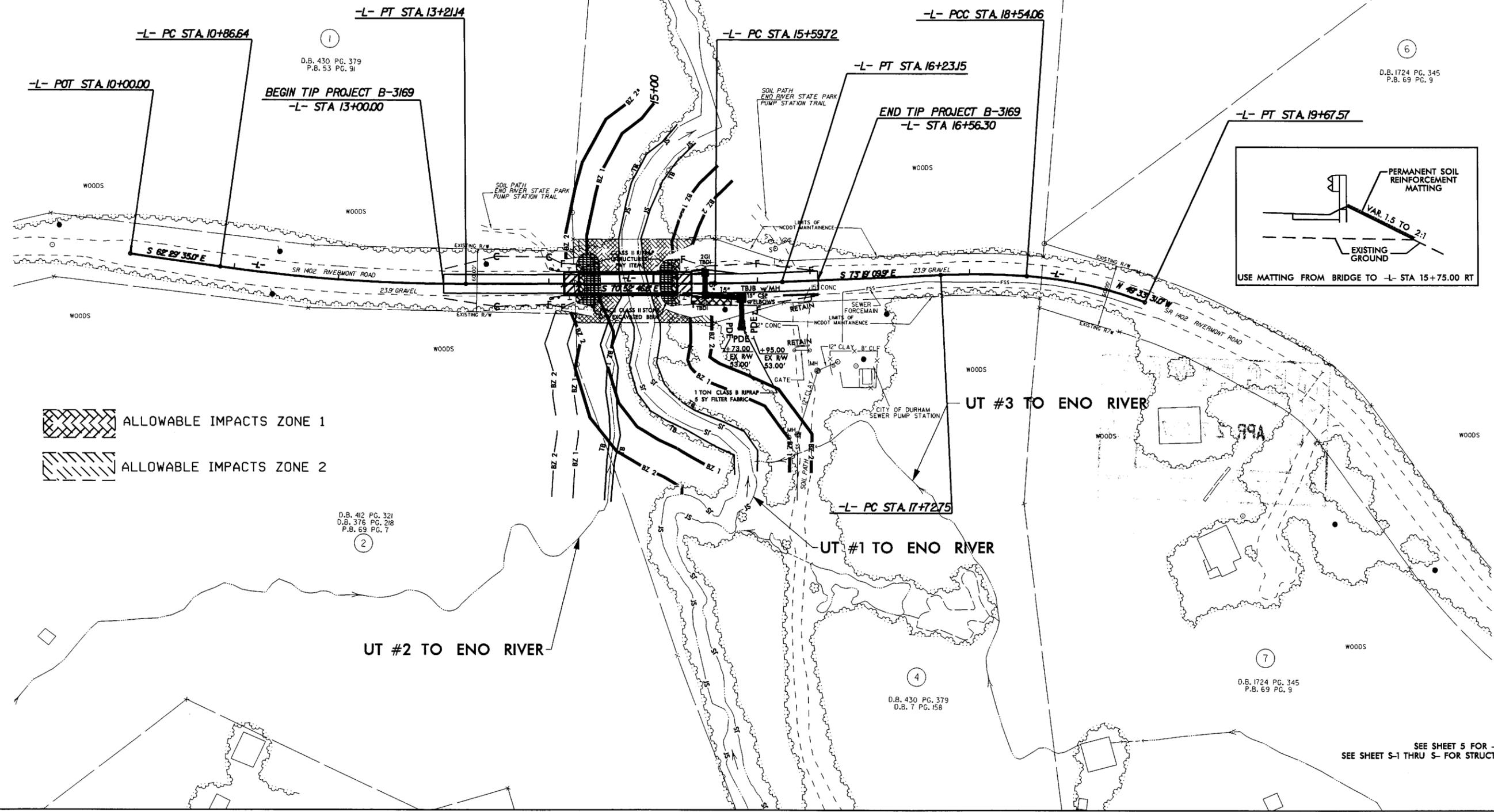
| -L- CURVE DATA | | | |
|------------------------------|------------------------------|------------------------------|-------------------------------|
| PI Sta 12+04.10 | PI Sta 15+91.44 | PI Sta 18+13.45 | PI Sta 19+11.23 |
| $\Delta = 8' 23' 11.6"$ (LT) | $\Delta = 2' 26' 23.3"$ (LT) | $\Delta = 6' 49' 45.2"$ (RT) | $\Delta = 16' 55' 54.4"$ (RT) |
| D = 3' 34' 35.1" | D = 3' 50' 46.2" | D = 8' 23' 57.3" | D = 14' 55' 00.1" |
| L = 234.50' | L = 63.43' | L = 81.31' | L = 113.51' |
| T = 117.46' | T = 31.72' | T = 40.70' | T = 57.17' |
| R = 1602.05' | R = 1,489.68' | R = 682.15' | R = 384.10' |
| SE = EXIST. | SE = EXIST. | SE = EXIST. | SE = EXIST. |
| V _D = EXIST. |



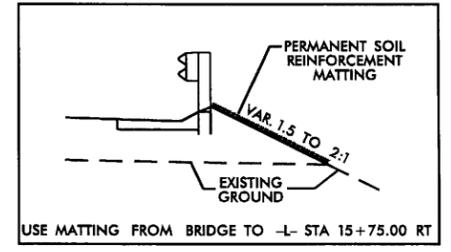
SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP



Buffer Drawing
Sheet 5 of 6



ALLOWABLE IMPACTS ZONE 1
 ALLOWABLE IMPACTS ZONE 2



REVISIONS

B.17/99

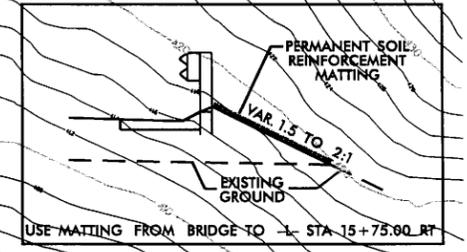
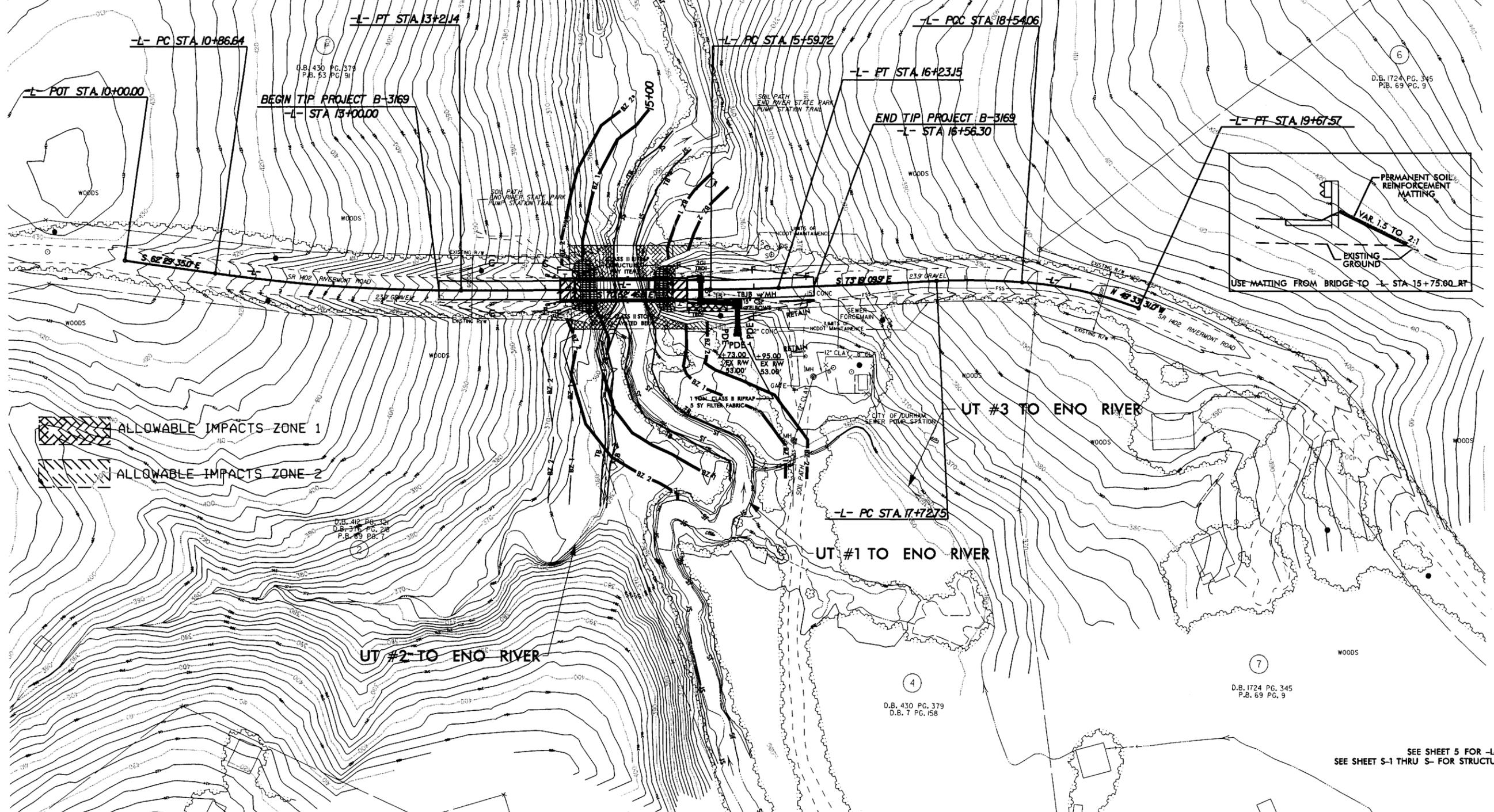
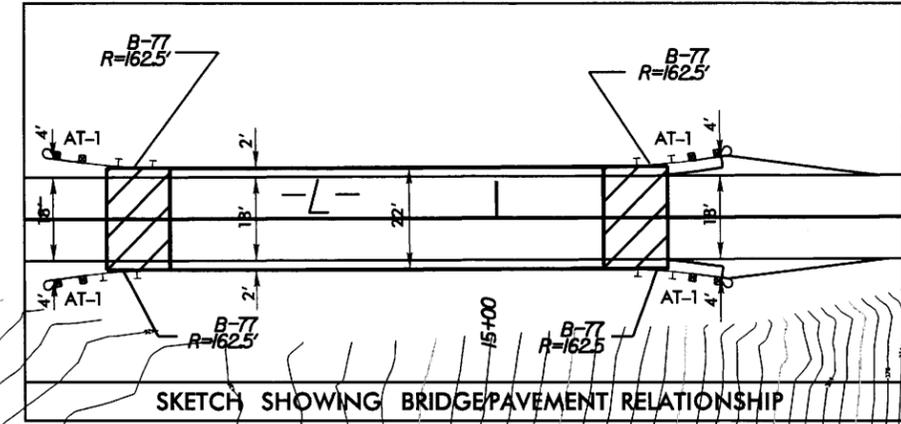
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SEE SHEET 5 FOR -L- PROFILE
 SEE SHEET S-1 THRU S- FOR STRUCTURE PLANS

| | |
|--|---------------------|
| PROJECT REFERENCE NO. | SHEET NO. |
| B-3169 | 4 |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION | |

Buffer Drawing Sheet 6 of 6

| -L- CURVE DATA | | | |
|------------------------------|------------------------------|------------------------------|-------------------------------|
| PI Sta 12+04.10 | PI Sta 15+91.44 | PI Sta 18+13.45 | PI Sta 19+11.23 |
| $\Delta = 8' 23' 11.6"$ (LT) | $\Delta = 2' 26' 23.3"$ (LT) | $\Delta = 6' 49' 45.2"$ (RT) | $\Delta = 16' 55' 54.4"$ (RT) |
| $D = 3' 34' 35.1"$ | $D = 3' 50' 46.2"$ | $D = 8' 23' 57.3"$ | $D = 14' 55' 00.1"$ |
| $L = 234.50'$ | $L = 63.43'$ | $L = 81.31'$ | $L = 113.51'$ |
| $T = 117.46'$ | $T = 31.72'$ | $T = 40.70'$ | $T = 57.17'$ |
| $R = 1,602.05'$ | $R = 1,489.68'$ | $R = 682.15'$ | $R = 384.10'$ |
| SE = EXIST. | SE = EXIST. | SE = EXIST. | SE = EXIST. |
| $V_D = \text{EXIST.}$ | $V_D = \text{EXIST.}$ | $V_D = \text{EXIST.}$ | $V_D = \text{EXIST.}$ |



D.B. 1724 PG. 345
P.B. 69 PG. 9

D.B. 430 PG. 379
D.B. 7 PG. 158

SEE SHEET 5 FOR -L- PROFILE
SEE SHEET S-1 THRU S- FOR STRUCTURE PLANS

REVISIONS

8/17/99

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