



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

September 8, 2006

U.S. Army Corps of Engineers  
Raleigh Field Office  
6508 Falls of the Neuse Road, Suite 120  
Raleigh, NC 27615

Attention: Mr. Eric C. Alsmeyer  
NCDOT Coordinator, Division 5

Dear Sir:

Subject: **Application for Modification to Section 404 Individual Permit, Section 401 Water Quality Certification and Tar-Pamlico Riparian Buffer Certification:**  
Western Outer Loop from SR 1128 (Ruin Creek Road) to SR 1101 (Old County Home Road) near Henderson (Vance County), Division 5.  
Federal Aid Project No: STP-0509 (2), State Project No: 8.2390201,  
TIP No: U-2527, \$475.00 Debit WBS Element 34822.1.1

Reference: USACE Action ID: 199708127  
NCDENR-DWQ Project No: 031494

The North Carolina Department of Transportation (NCDOT) is currently constructing the Western Outer Loop in Vance County, near Henderson, from SR 1128 (Ruin Creek Road) to SR 1101 (Old County Home Road). Construction has been affected by stability problems along an unnamed tributary (UT) of Red Bud Creek and along an outlet channel that flows into Red Bud Creek. Potential scouring concerns have also arisen in an area of floodplain adjacent to the relocated channel of another UT of Red Bud Creek. The United States Army Corps of Engineers (USACE) originally issued an Individual 404 Permit for the above-referenced project on March 25, 2004 (Action ID 199708127). The North Carolina Department of Natural Resources-Division of Water Quality (NCDENR-DWQ) issued a 401 Water Quality Certification and a Tar-Pamlico Riparian Buffer Certification for this project on February 19, 2004 (WQC Project No 031494). The Individual 404 Permit was modified on October 1, 2004, while the 401 Water Quality Certification and the Tar-Pamlico Riparian Buffer Certification were modified on September 2, 2004.

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

TELEPHONE: 919-715-1334  
FAX: 919-715-5501  
WEBSITE: [WWW.NCDOT.ORG](http://WWW.NCDOT.ORG)

**LOCATION:**  
2728 CAPITAL BLVD.  
SUITE 240  
RALEIGH NC 27604

The purpose of this submittal is to request a modification to the Section 404 Individual Permit issued by USACE and the Section 401 Water Quality and Tar-Pamlico Riparian Buffer Certifications issued by NCDENR-DWQ for changes to stream and buffer impacts. Revised permit drawings are attached. Please note that these revised drawings also depict changes to the project design such as the addition of rip rap in areas that will not impact streams, wetlands, or buffers.

The revised design does not compromise NCDOT's compliance with the existing permit conditions. The revision has been evaluated for compliance with the avoidance/minimization criteria and is in compliance with all previous issues, including the following:

- Non-Erosive Velocities in Buffers
- Protected Species
- Aquatic Life passage
- FEMA compliance
- Cultural Resources

## **IMPACTS**

### Permit Drawings 6 and 23 of 41/ Site 2 (Revised August 2006)

-The streambank at the outlet of the structure has become unstable within the Department right-of-way. This may be attributable to the angle of the structure at the outlet in relation to the stream.

-The Department proposes to add additional rip rap along the streambank from the outlet of the structure to the right-of-way limits, which will provide long-term stability to the system.

**\*\*This will result in the following additional impacts: 46 linear feet of surface water and 1,184 square feet of riparian buffer Zone 1.**

### Permit Drawing 7 of 41/ Site 3 (Revised August 2006)

-The Department proposes to install Class B rip rap in the outlet channel below the ditch weir.

-The rip rap is necessary to provide stability to the outlet channel as it discharges to Red Bud Creek.

-The installation of the rip rap in the outlet channel does not affect the treatment of stormwater runoff at the site (note: all treatment is achieved above the ditch weir).

**\*\*No additional impacts to streams, wetlands or riparian buffers will occur as a result of this action.**

### Stream Relocation Plan Sheet 14 (Revised August 2006)

-The Department proposes to install approximately 20 linear feet of rip rap along the cut section in the floodplain adjacent to the relocated channel.

-This will prevent scour in the floodplain and provide long-term stability to the system.

-The rip rap will not be installed within the bed of the relocated channel or along the banks of the relocated channel.

**\*\*No additional impacts to streams, wetlands or riparian buffers will occur as a result of this action.**

There will be a total of 46 linear feet of new stream impacts due to these revisions, resulting in a total of 2,440 linear feet of impacts for this project. Furthermore, there will be an additional 1,184 square feet of new riparian buffer impacts to Zone 1 due to this revision, increasing total impacts in that zone to 131,664 square feet. There is no change to the riparian buffer impacts in Zone 2.

## **MITIGATION**

NCDOT is currently providing compensatory mitigation for stream impacts resulting from this project in the form of an onsite stream relocation totaling 2,592 linear feet. The total revised amount of stream impacts for this project will be 2,440 linear feet; therefore, no additional mitigation is proposed for stream impacts.

Mitigation is proposed for the additional riparian buffer impacts of 1,184 square feet in Zone 1. NCDOT proposes to make payment to the Ecosystem Enhancement Program (EEP) for these additional buffer impacts.

## **REGULATORY APPROVALS**

Application is hereby made for modification of the Section 404 Individual Permit from the USACE and the Section 401 Water Quality and Tar-Pamlico Buffer Certifications from the NCDENR-DWQ. The proposed modifications of the permit site on this project (U-2527) have been designed to comply with the Tar-Pamlico River Basin Riparian Buffer Mitigation Rule (15A NCAC 2B .0260) and the Tar-Pamlico River Basin Riparian Buffer Protection Rule (15A NCAC 2B .0259). Therefore, as part of the Modification request, we respectfully request that the NCDENR-DWQ issue an Authorization Certificate pursuant to 15A NCAC 2B .0259 for the proposed use. In compliance with Section 143-215.3D(e) of the NCAC, we have provided a method of debiting \$475, as noted in the subject line of this application, as payment for processing the Section 401 Water Quality Certification modification application. We are providing five copies of this application to NCDENR-DWQ for their review.

If you have any questions or need additional information, please contact Jim Mason at (919) 715-5531 or Chris Murray at (919) 560-6081.

Sincerely,  
  
fen Gregory J. Thorpe, Ph.D.  
Environmental Management Director, PDEA

w/attachment

Mr. John Hennessy, NCDWQ (5 Copies)  
Mr. Travis Wilson, NCWRC  
Mr. Gary Jordan, USFWS  
Ms. Kathy Matthews, USEPA  
Mr. Ronald Mikulak, USEPA – Atlanta, GA  
Mr. Clarence W. Coleman, P.E., FHWA  
Dr. David Chang, P.E., Hydraulics  
Mr. Mark Staley, Roadside Environmental  
Mr. Greg Perfetti, P.E., Structure Design  
Mr. Jon Nance, P.E., Division Engineer  
Mr. Chris Murray, Division 5 Environmental Officer

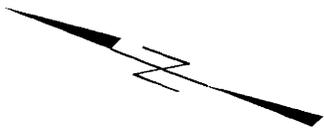
w/o attachment

Mr. Jay Bennett, P.E., Roadway Design  
Mr. Majed Alghandour, P. E., Programming and TIP  
Mr. Art McMillan, P.E., Highway Design  
Mr. Scott McLendon, USACE, Wilmington  
Mr. Todd Jones, NCDOT External Audit Branch  
Ms. Beth Harmon, EEP

19

CL. 'B' RIP RAP

BZ



NO RIP RAP  
IN STREAM BED



N 89°57'27" E  
113.917

TIE TO  
EXISTING SWALE

C



F

F

BZ



750

+27.518  
53.329

C

F

E

C

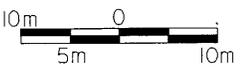
GRADE TO DRAIN



PDE

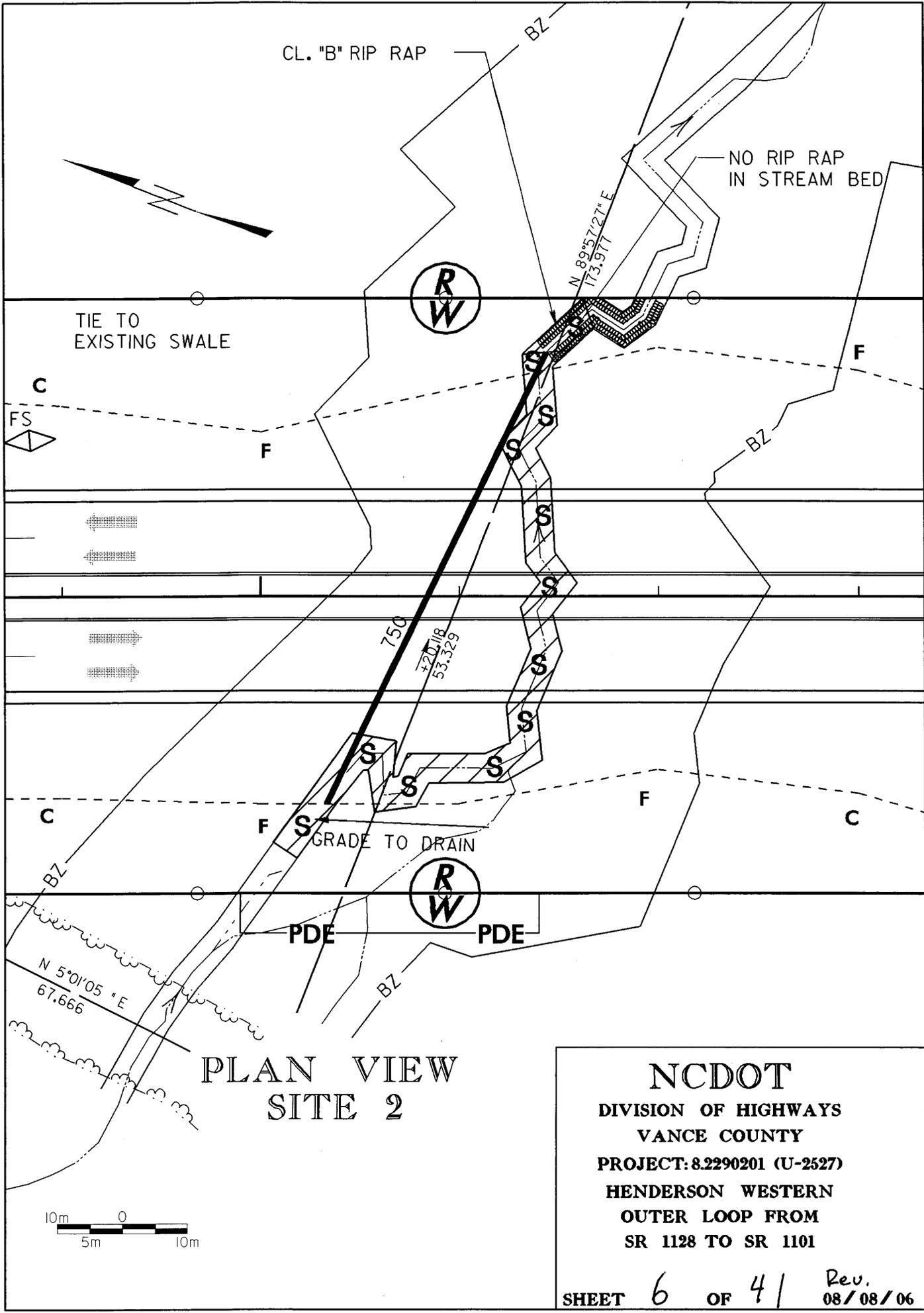
PDE

# PLAN VIEW SITE 2



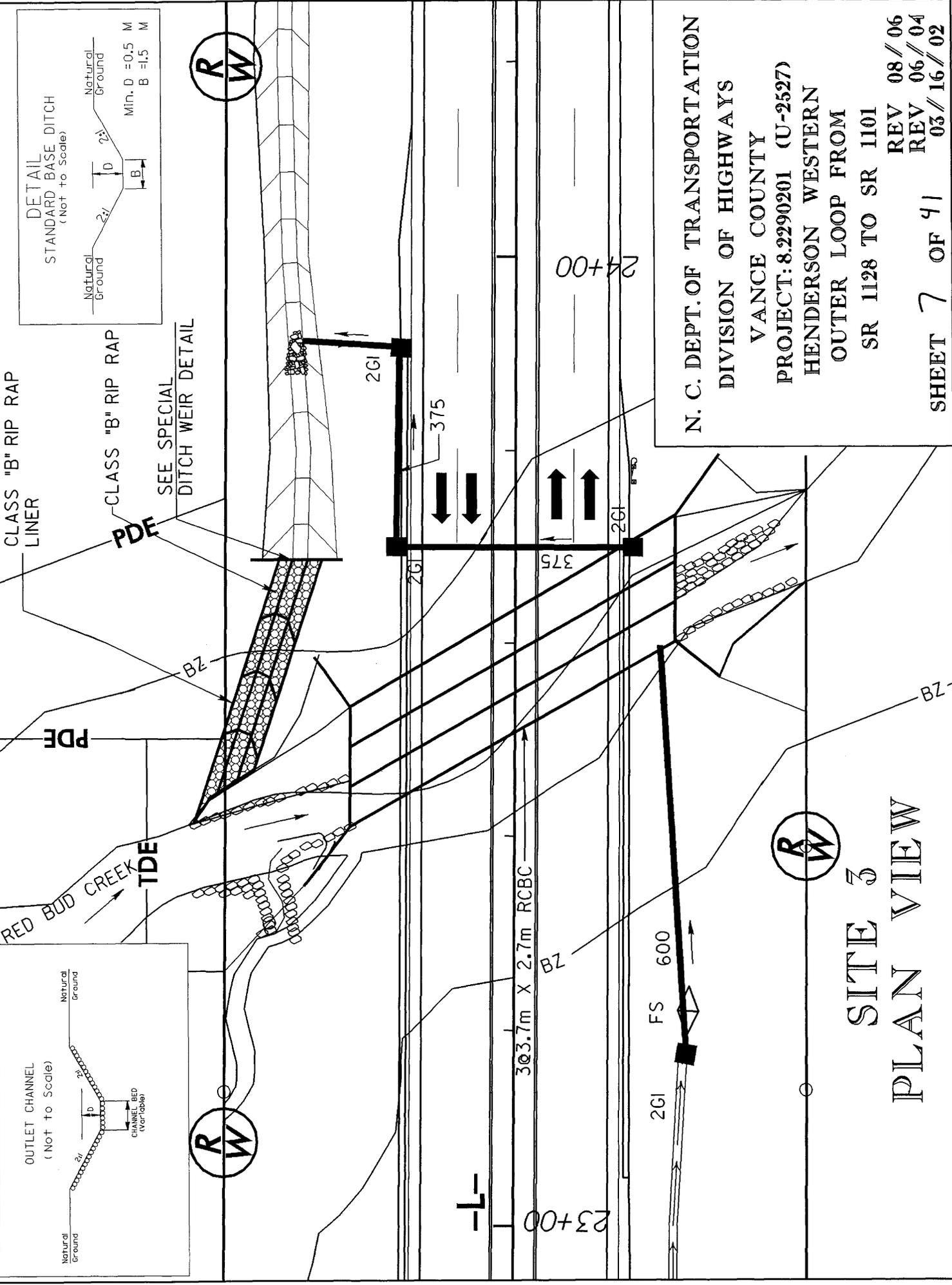
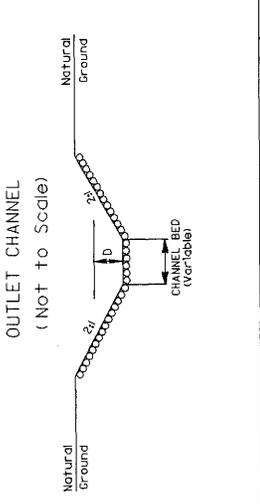
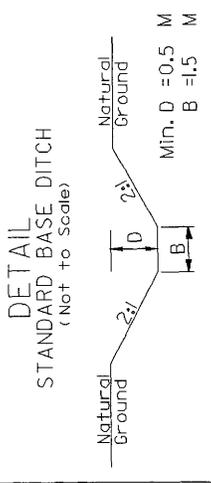
**NCDOT**  
 DIVISION OF HIGHWAYS  
 VANCE COUNTY  
 PROJECT: 8.2290201 (U-2527)  
 HENDERSON WESTERN  
 OUTER LOOP FROM  
 SR 1128 TO SR 1101

SHEET 23 OF 41 Rev. 08/08/06



**NCDOT**  
 DIVISION OF HIGHWAYS  
 VANCE COUNTY  
 PROJECT: 8.2290201 (U-2527)  
 HENDERSON WESTERN  
 OUTER LOOP FROM  
 SR 1128 TO SR 1101

SHEET 6 OF 41 Rev. 08/08/06



N. C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
VANCE COUNTY  
PROJECT: 8.2290201 (U-2527)  
HENDERSON WESTERN  
OUTER LOOP FROM  
SR 1128 TO SR 1101

REV 08//06  
REV 06//04  
03//16//02

SHEET 7 OF 41

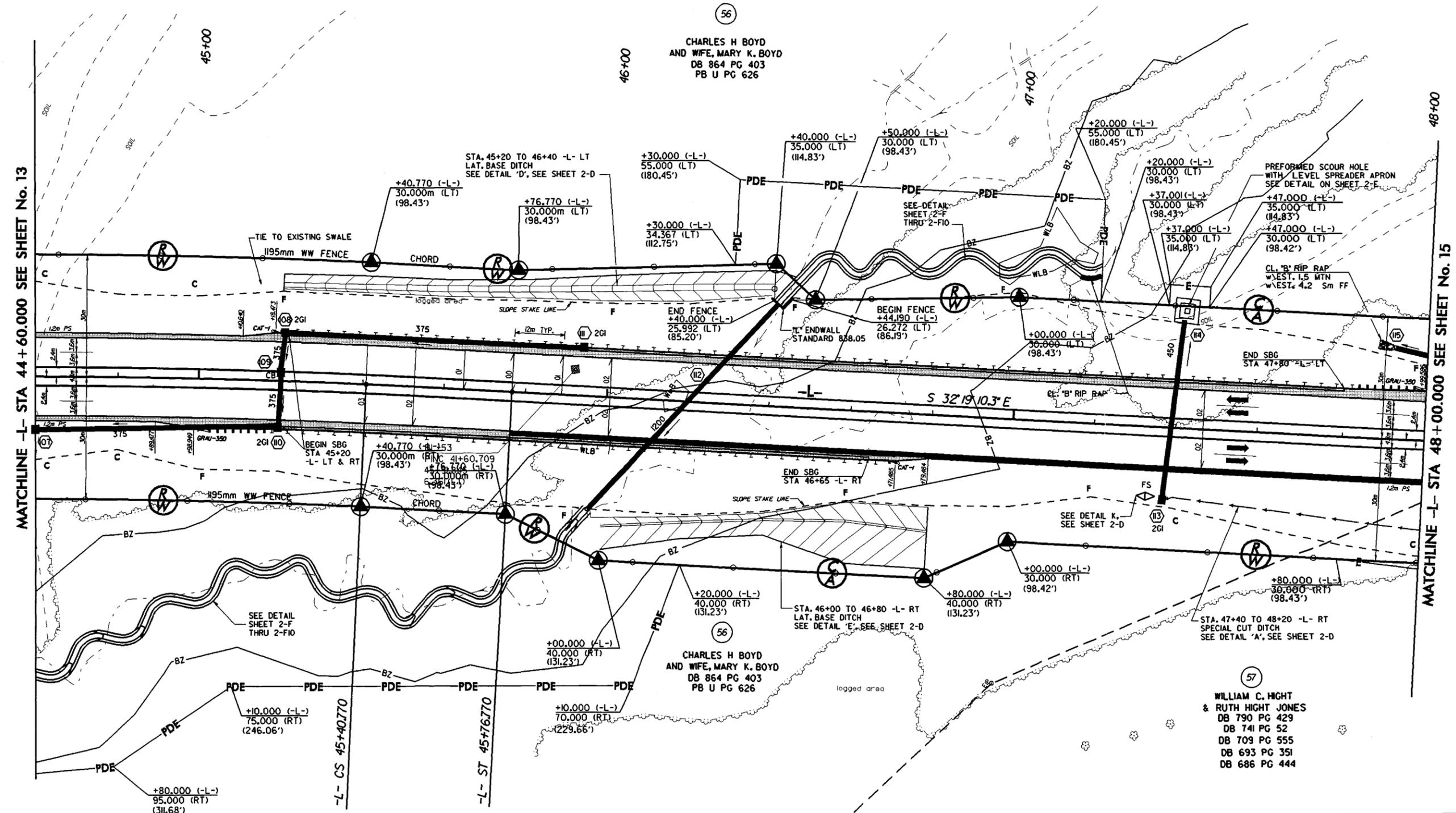
REV. 03//06

SITE 3  
PLAN VIEW

REVISIONS

	PROJECT REFERENCE NO. U-2527	SHEET NO. 14
	R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
		
CONST. REV.		
R/W REV.		

NC GRID NAD 83



MATCHLINE -L- STA 44+60.000 SEE SHEET No. 13

MATCHLINE -L- STA 48+00.000 SEE SHEET No. 15

SEE SHEETS 23 & 24 FOR -L- PROFILE

57  
WILLIAM C. HIGHT  
& RUTH HIGHT JONES  
DB 790 PG 429  
DB 741 PG 52  
DB 709 PG 555  
DB 693 PG 351  
DB 686 PG 444



**STEWART ENGINEERING**  
STRUCTURAL  
TRANSPORTATION  
CIVIL  
P.O. BOX 2054 RESEARCH TRIANGLE PARK, NC 27709  
TEL 919.380.8750 FAX 919.380.8752

09-115-5005.dwg  
2007/07/23/14:22:27  
2007/07/23/14:22:27  
2007/07/23/14:22:27