



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE  
GOVERNOR

EUGENE A. CONTI, JR.  
SECRETARY

October 14, 2011

U. S. Army Corps of Engineers  
Wilmington Regulatory Field Office  
69 Darlington Ave.  
Wilmington, NC 28402-1890

Attn: Mr. Ronnie Smith  
NCDOT Coordinator

Subject: **Application for Permit Modifications for Section 404 Individual Permit and Section 401 Water Quality Certification** for the US 421/NC 87 (Sanford Bypass) from west of SR 1400 to west of US 1/15/501 in Lee County, Division 8. Federal Aid Project No. STPNHF-421(2), State Project No. 8.T540402, WBS Element No. 34431.1.1, TIP No. R-2417AA.

Debit \$570.00 from WBS 34431.1.1

Reference: Section 404 Individual Permit, issued May 28, 2002, USACE Action ID 2002-20899  
Section 404 Individual Permit Modification for R-2417C, issued March 25, 2009, USACE Action ID 2002-20899  
Section 401 Individual Water Quality Certification, issued April 10, 2002, NCDENR-DWQ Water Quality Certification Project No. 001432.  
Section 401 Individual Water Quality Certification Modification for Section R-2417C, issued January 21, 2009, NCDENR-DWQ Water Quality Certification Project No. 001432.  
Section 404 Individual Permit Modification for R-2417AA, issued March 18, 2010, USACE Action ID 2002-20899  
Section 401 Individual Water Quality Certification, issued September 15, 2009. NCDENR\_DWQ Water Quality Certification Project No. 001432.

NCDOT has made some modifications to the permit based on some incidents during construction. Below is a description of the changes to three permit sites. Drawings of the changes are attached.

### **Site 5 Station 87+90(LT/RT)**

The nylon net matting has been removed from the channel. Although the pipe was initially installed properly at the correct invert of 1 foot below stream bed level, subsequent work for grading and stabilization along the bank and in the channel by the subcontractor caused the pipe to become perched. Additional grading work by the subcontractor has also impacted the stream from the permitted areas at both ends of the pipe, out to the right of way limits (both ends). NCDOT has tentatively proposed that a series of log cross veins be installed to restore the proper invert of one foot below bed level by using the logs as grade control devices to raise the stream bed, and then to gradually lower it back to the natural level as the cross veins progress downstream, by lowering each subsequent vein by 8 inches. It is possible that the depth to rock at this location may make this repair impractical. As was discussed during a phone conversation between Art King, Division 8 DEO and Mason Herndon, DWQ, we may need to revisit this site at a future date after we have had a chance to observe the effects of flow through the site. As you are aware this channel has intermittent flow limited primarily to rainfall events

The actions above will cause an additional 50 feet of temporary stream impacts at Site 5 (30 feet upstream, and 20 feet downstream) to cover the areas impacted between the temporarily impacted area denoted in the plans on both ends of the pipe, out to the right of way limits.

### **Site 6 Station 120+20(LT) and 120+57(LT/RT)**

An approved temporary stream crossing plan drawing was included in the construction plans (Sheet EC-2D). This plan is suitable for a crossing that does not require that flow be maintained by simply removing the pipe. This plan was not followed by the contractor at this location. Instead, an earthen dike without a fabric liner was placed in the dewatered stream channel between the diversion device and the upstream end of the newly constructed culvert by the contractor. This area was used as a crossing point to move equipment around the culvert during construction. We acknowledge that the crossing was improperly installed and has impacted the existing stream channel.

The actions above will be an additional 30 feet of temporary stream impacts. The earthen dike will be removed and the channel will be restored to its original contours, re-vegetated, and allowed to stabilize before the stream is turned into the new culvert.

### **Site 9 Station 178+82(RT)**

Approximately 10 feet of the original stream channel was filled with an earthen dike by the contractor as a means to move his equipment around the culvert structure.

The actions above will be an additional 10 feet of temporary stream impacts. The earthen dike will be removed and the channel will be restored to its original contours, re-vegetated, and allowed to stabilize before the stream is turned into the new culvert.


There will be a total of 90 additional feet of temporary stream impacts from this permit modification.

## Regulatory Approvals

Application is hereby made for the modification of the Section 404 Permit from USACE and Section 401 Water Quality Certification from DWQ. In compliance with Section 143-215.3D(e) of the NCAC we have provided a method of debiting \$570, 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 DWQ, for their use.

A copy of this permit modification will be posted on the NCDOT website at: <http://www.ncdot.org/doh/preconstruct/pe/>. If you have any questions or need additional information, please call Rachelle Beauregard at (919) 707-6105 or Art King at (901) 944-2344.

Sincerely,

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

Cc: NCDOT Standard Permit Application Distribution List  
File R-2417AA



# Site # 5

-L-  
 PI Sta 85+33.81  
 $\Delta = 22' 25" 40.9" (RT)$   
 $D = 0' 30" 00.0"$   
 $L = 4,485.60$   
 $T = 2,271.89$   
 $R = 11,459.16'$   
 $SE = 0.02$   
 $V = 70 MPH$

PROJECT REFERENCE NO. R-2417AA	SHEET NO. EC-9/CONST.9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
R/W SHEET NO. 9	

25 x 12 x 3  
 1.5 inch Skimmer  
 with 0.375 inch  
 Orifice Diameter  
 4 ft. weir  
 ID 9.4 F

24 x 12 x 3  
 1.5 inch Skimmer  
 with 0.375 inch  
 Orifice Diameter  
 4 ft. weir  
 ID 9.5 F

SITES  
 -IMPACT + TEMP. IMPACT  
 IN SURFACE WATER

D.C. HOLLER JR.  
 JOSEPHINE H. WOMACK  
 DB 425 PG 26

BERM DITCH  
 W/CL & RIP RAP  
 EST 43 TONS  
 EST 130 SY FF  
 SEE DETAIL 'M'

BERM DITCH  
 W/CL & RIP RAP  
 EST 19 TONS  
 EST 58 SY FF  
 SEE DETAIL 'M'

HELENA EDWARDS, et al  
 DB 324 PG 943  
 PLAT SLIDE 4-12

20' LE @ 2.0%  
 4" BASE CHANNEL  
 EST 30' CY DOE  
 SEE DETAIL 'N'

TOE PROTECTION  
 W/CL & RIP RAP  
 EST 3 TONS  
 EST 16 SY FF  
 SEE DETAIL 'O'

MATCHLINE- STA. 90+00.00 SEE SHEET NO. 10

30'

20'

SITES

-IMPACT + TEMP.  
 IMPACT IN SURFACE  
 WATER  
 (Bank Stabilization)

56 x 14 x 3  
 1.5 inch Skimmer  
 with 0.875 inch  
 Orifice Diameter  
 6 ft. weir  
 (See Tiered Skimmer  
 Basin Detail)  
 ID 01 F

LEGEND  
 PAVED SHOULDER

FOR ALL PROFILES SEE SHEETS NOS. 28 & 29

CK/et of  
 74



# Site #6

AMS TYPE - B  
TYPE - A AT

NC GRID  
NAD 83

UT 7: BUFFALO CREEK

TEMP SURFACE WATERS

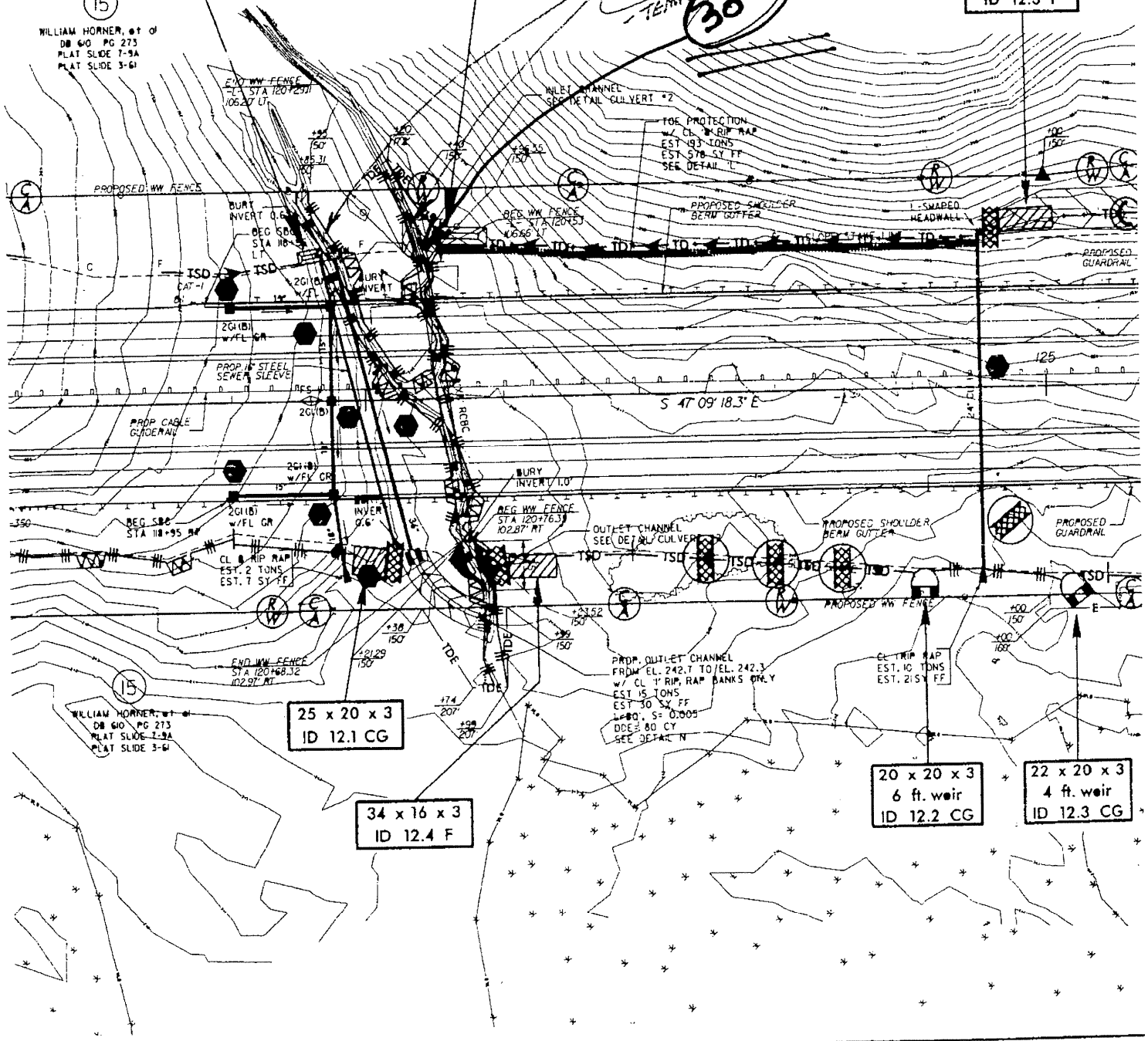
18 x 9 x 3  
1.5 inch Skimmer  
with 0.125 inch  
Orifice Diameter  
4 ft. weir  
ID 12.1 F

38 x 12 x 3  
1.5 inch Skimmer  
with 0.5 inch  
Orifice Diameter  
4 ft. weir  
ID 12.2 F

40 x 15 x 3  
ID 12.3 F

15

WILLIAM HORNER, et al  
DB 610, PG 273  
PLAT SLIDE 7-9A  
PLAT SLIDE 3-61



STEEL  
TEMP 30'

25 x 20 x 3  
ID 12.1 CG

34 x 16 x 3  
ID 12.4 F

20 x 20 x 3  
6 ft. weir  
ID 12.2 CG

22 x 20 x 3  
4 ft. weir  
ID 12.3 CG

PROP. OUTLET CHANNEL  
FROM EL. 242.7 TO EL. 242.1  
w/ CL 1" RIP RAP BANKS ONLY  
EST 15 TONS  
EST 30 SY FF  
L=80, S=0.005  
DDE= 80 CY  
SEE DETAIL N

15

WILLIAM HORNER, et al  
DB 610, PG 273  
PLAT SLIDE 7-9A  
PLAT SLIDE 3-61

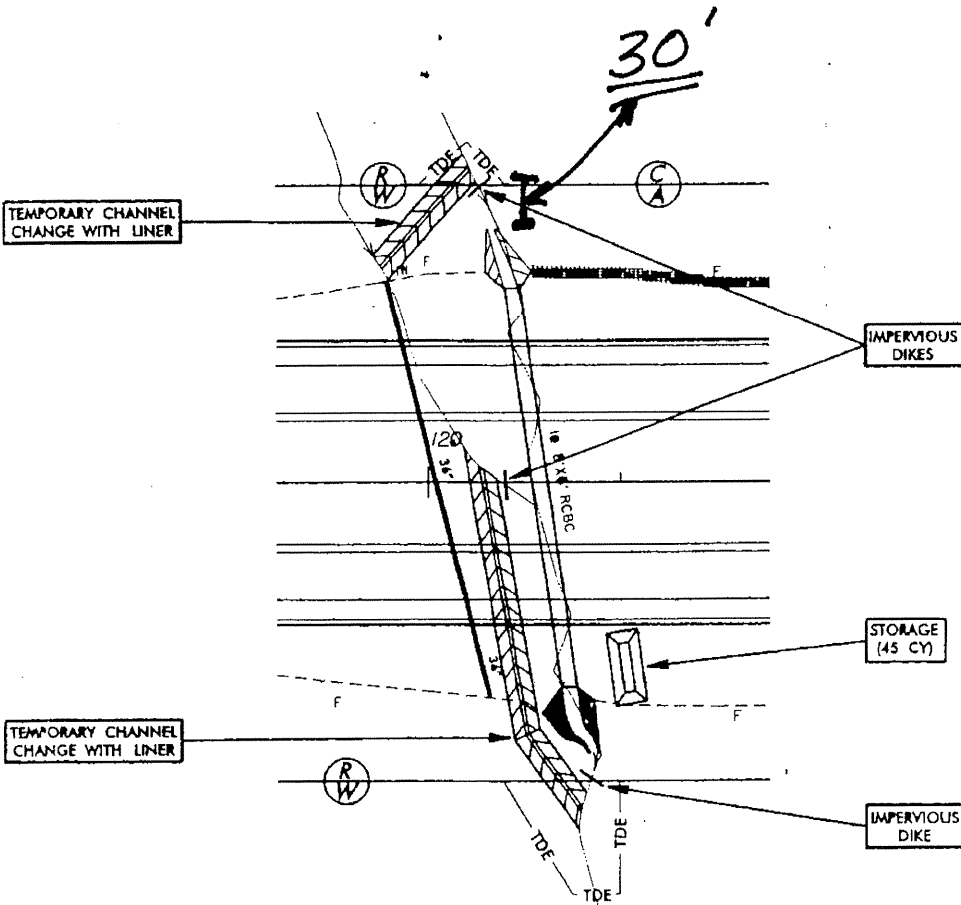




# CUTTING SEQUENCE STA. 120+57

WITH LINER (2 FT. BASE, 3 FT. DEEP, 2:1 SIDE SLOPES), DIVERTING FLOW.  
MENTS.  
WING FLOW THROUGH PROPOSED CULVERT.

Site #6





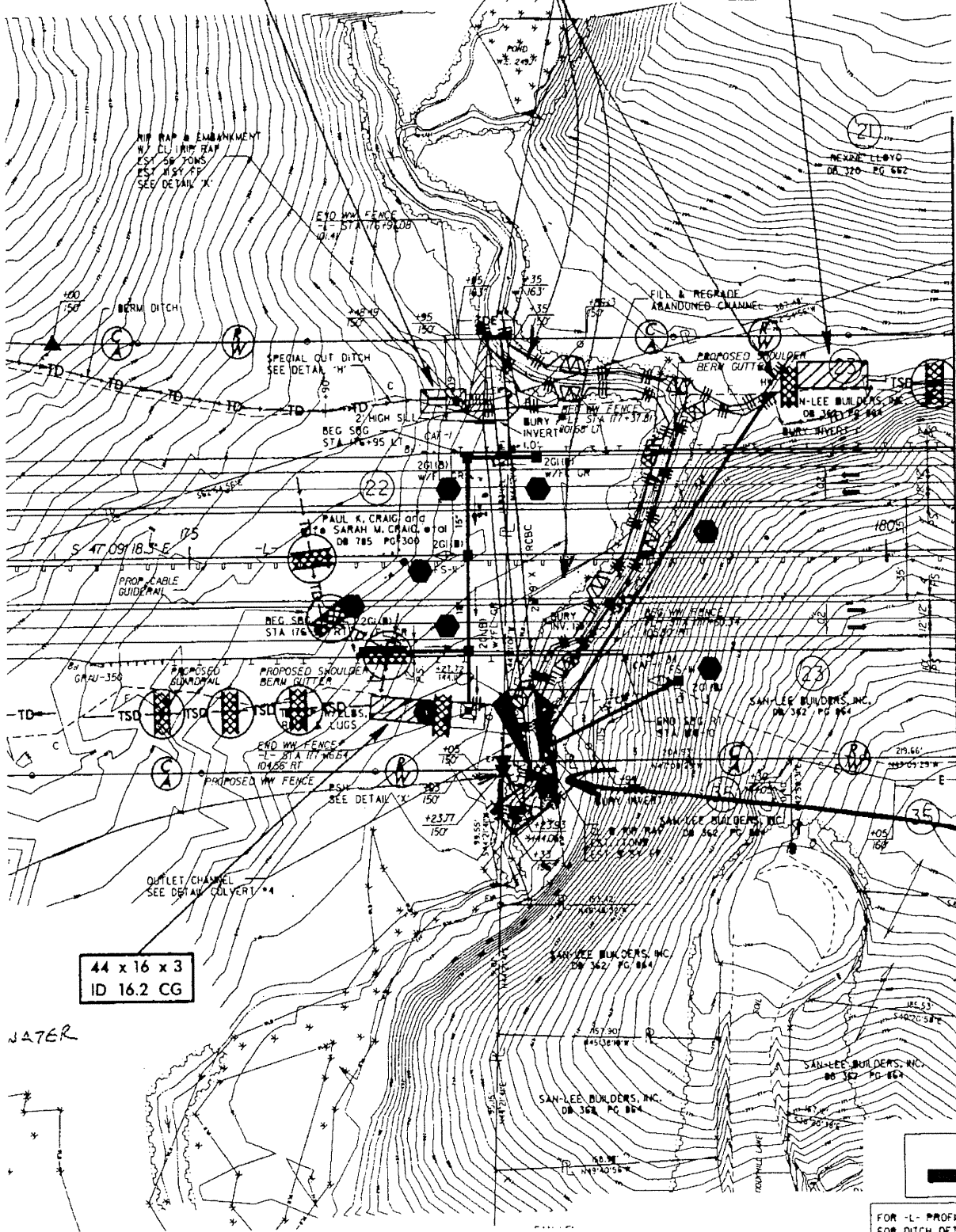
# Site #9

PROJECT REFERENCE NO. R-2417AA	SHEET NO. EC-19/CONST 16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
RW SHEET NO. 16	

**SITE 9** UT TO BIG BUFFALO CREEK  
 - IMPACT + TEMP. IMPACT IN SURFACE WATERS  
 - FILL IN WETLANDS

32 x 16 x 3  
 1.5 inch Skimmer  
 with 0.5 inch  
 Orifice Diameter  
 8 ft. weir  
 ID 16.2 F

52 x 18 x 3  
 ID 16.3 CG



-MATCHLINE- STA. 180 + 50.00 SEE SHEET NO. 17

10'

44 x 16 x 3  
 ID 16.2 CG

LEGEND	
	PAVED SHOULDER

FOR -L- PROFILE, SEE SHEET NO. 32  
 FOR DITCH DETAILS, SEE SHEET NOS. 2-F & 2-G



STATE	STATE PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		1	



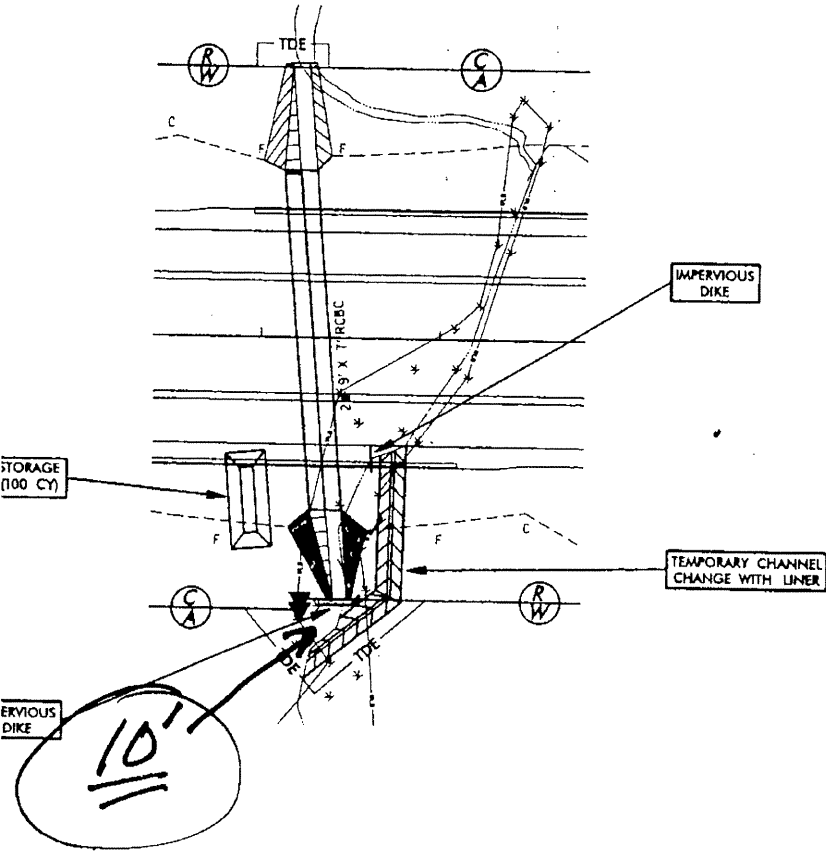
PROJECT REF: R-241  
 RW  
 ROADWAY DES ENGINEER

# ON SEQUENCE STA. 177+29 -L-

2 FT. BASE, 3 FT. DEEP, 2:1 SIDE SLOPES), DIVERTING FLOW THROUGH PROPOSED CULVERT.

Site #9

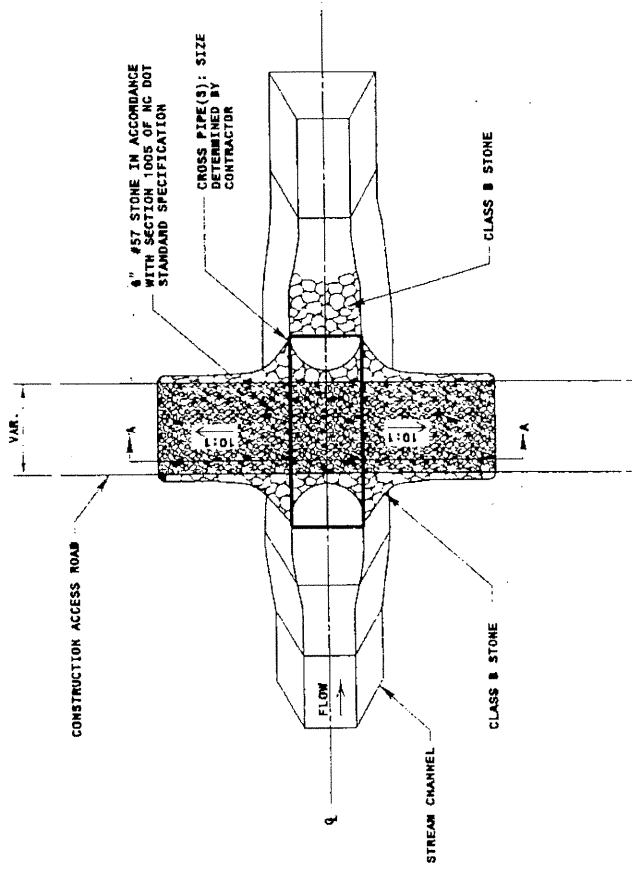
NC GRID NAD 83





# TEMPORARY STREAM CROSSING

PROJECT REFERENCE NO. R-2477AA	SHEET NO. EC-20
EDUCATION DESIGN ENGINEER	DATE 11/19/88



PLAN VIEW

