



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

August 9, 2004

MEMORANDUM TO: Mr. J. M. Mills, P.E.  
Division 7 Engineer

FROM: Philip S. Harris, III, P.E., Manager *M Alexander*  
*for* Office of the Natural Environment  
Project Development and  
Environmental Analysis Branch

SUBJECT: Rockingham County; Replace No. 34 on SR 2331 (Barham  
Road) over an Unnamed Tributary of Jacobs Creek; T.I.P.  
Number B-3695; State Project No. 8.2510901; F. A. Project No.  
BRZ-2331(1)

Attached is the U. S. Army Corps of Engineers Nationwide Permit Number 23 and 33 and the general conditions for the Division of Water Quality 401 for the construction of the above referenced project. All environmental permits have been received for the construction of this project.

PSH/ma

Attachment

cc: Mr. Art McMillan, P.E.  
Mr. Omar Sultan  
Mr. Jay Bennett, P.E.  
Mr. David Chang, P.E.  
Mr. Randy Garris, P.E.  
Mr. Greg Perfetti, P.E.  
Mr. Mark Staley  
Mr. John F. Sullivan, III, FHWA  
Mr. Jerry Parker, Division 7 DEO

**U.S. ARMY CORPS OF ENGINEERS  
WILMINGTON DISTRICT**

**COPY**

Action ID. 200421316 & 200421317

County Rockingham

**GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION**

Property Owner/Agent: NCDOT/Bridge No. 34/SR 2331/ TIP No. B-3695

Address: Attn: Mr. Gregory J. Thorpe, Ph.D., Manager, Planning & Environmental Branch  
1548 Mail Service Center, Raleigh, North Carolina 27699-1548

Telephone No.: (919) 733-3141

Size and Location of project (waterway, road name/number, town, etc.): Bridge No. 34, on SR 2331 (Barham Road), east of the intersection with SR 2327, northwest of Bethany, Rockingham County, North Carolina. The project is located adjacent to Jacobs Creek.

**Description of Activity**

Mechanized landclearing, excavation and the discharge of fill material associated with the replacement of Bridge No. 34 with a three-barrel (8 feet by 8 feet) reinforced concrete box culvert at approximately the same location. The project will permanently impact 175 linear feet of previously unimpacted stream channel, temporarily impact 30 linear feet of stream channel during cofferdam construction and dewatering and 20 linear feet of stream bank through the placement of rip rap for bank stabilization and energy dissipation. Traffic will be detoured off-site along existing secondary roads during construction. Note: This verification does not include impacts to waters of the United States, including wetlands, from any spoil disposal or borrow sites. These impacts would have to be permitted separately if they become necessary. NCDOT shall follow the current version of the Best Management Practices for Bridge Demolition and Removal for the existing bridge.

Section 404 (Clean Water Act, 33 USC 1344) only.

Section 10 (River and Harbor Act of 1899) only.

Section 404 and Section 10.

23 & 33 Nationwide General Permits.

Any violation of the conditions of the Regional General or Nationwide Permit referenced above may subject the permittee to a stop work order, a restoration order, and/or appropriate legal action.

This Department of the Army Regional General/Nationwide Permit verification does not relieve the undersigned permittee of the responsibility to obtain any other required Federal, State, or local approvals/permits. The permittee may need to contact appropriate State and local agencies before beginning work.

Regulatory Project Manager Signature

Date July 26, 2004

Expiration Date July 26, 2006

SURVEY PLATS, FIELD SKETCH, WETLAND DELINEATION FORM, ETC., MUST BE ATTACHED TO THE FILE COPY OF THIS FORM, IF REQUIRED OR AVAILABLE

SPECIAL CONDITION (Action ID. 200421316 & 200421317; NCDOT/TIP B-3695)

The permittee shall mitigate for 175 linear feet of permanent stream channel impact by making payment to the North Carolina Ecosystem Enhancement Program (NCEEP) in the amount determined by the NCEEP, sufficient to perform the restoration of 350 linear feet of stream channel in forested wetlands in the Roanoke River Basin, Cataloging Unit 03010104. Construction within the jurisdictional wetlands on the property shall begin only after the permittee has made full payment to the NCEEP and provided a copy of the payment documentation to the Corps, and the NCEEP has provided written confirmation to the Corps that it agrees to accept responsibility for the mitigation work required, in compliance with the MOU between the North Carolina Department of Environment and Natural Resources and the United States Army Corps of Engineers, Wilmington District, dated November 4, 1998.

COPY

## **PROJECT COMMITMENTS:**

**Rockingham County  
Bridge No. 34 on SR 2331 (Barham Road)  
Over an Unnamed Tributary of Jacobs Creek  
Federal Project No. BRZ-2331 (1)  
State Project No. 8.2510901  
T.I.P. No. B-3695.**

All standard procedures and measures, including NCDOT's Best Management Practices for Protection of Surface Waters, Guidelines for Best Management Practices for Bridge Demolition and Removal, will be implemented, as applicable, to avoid or minimize environmental impacts. In addition to the standard Section 404 Nationwide Permit Nos. 23 and 33 General Conditions, Section 401 Water Quality Certification Conditions, the following special commitments have been agreed to by NCDOT:

### **COMMITMENTS DEVELOPED THROUGH PROJECT DEVELOPMENT AND DESIGN**

#### ***Hydraulics Unit, Roadside Environmental Unit, division Seven Construction Office, Structure Unit***

NCDOT will adhere to the Best Management Practices (BMPs) for "Bridge Demolition and Removal" during the removal of Bridge No. 34.

#### ***Roadway Design Unit, Hydraulics unit, Structure Design Unit, Division Seven Construction***

NCDOT will adhere to the following commitments in regard to culvert design and construction as recommended by the North Carolina Wildlife Resources Commission:

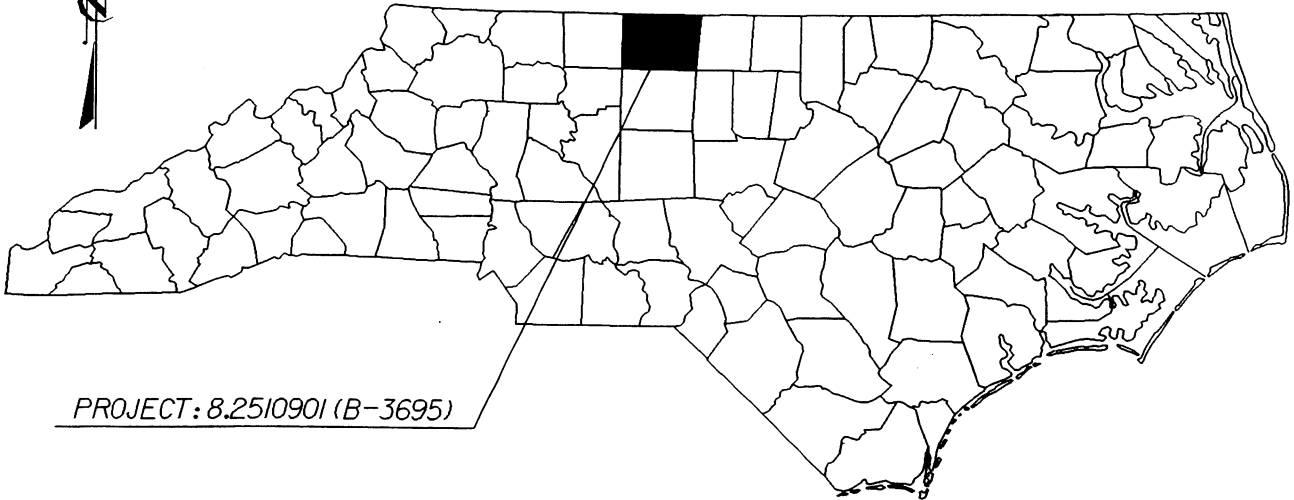
- 1) The culvert must be designed to allow for fish passage. Generally this means that the culvert is buried at least 1 foot below the natural streambed. The second and third cells should be placed so that their bottoms are at stream bankful stage (similar to Lyonsfield design). This will allow sufficient water depth in the culvert during normal flows to accommodate fish movements. If the culvert is long, a baffle system is required to trap gravel and provide a resting area for fish and other aquatic organisms.
- 2) At least one box should be designed to remain dry during normal flows to allow for wildlife passage.
- 3) The culvert should be situated so that no channel realignment or widening is required. Widening of the stream channel at the inlet or outlet of structures usually causes a decrease in water velocity causing sediment deposition that will require regular maintenance.
- 4) Riprap should not be placed on the streambed.

**Conditions Developed through Permitting**

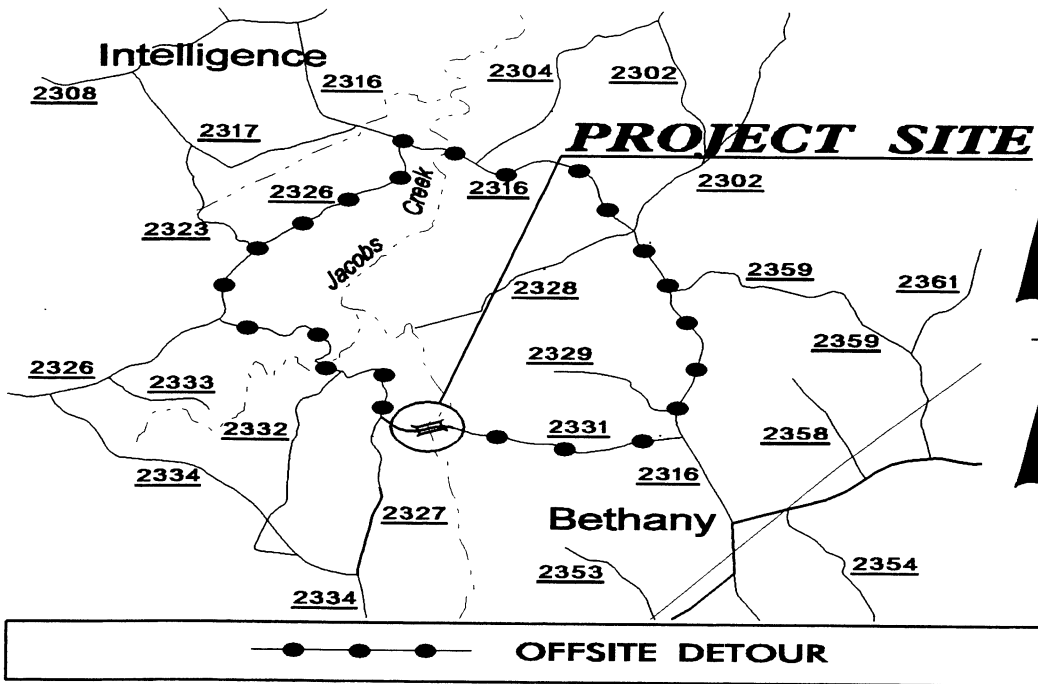
***Division 7 Construction, Roadside Environmental Unit, Project Development and Environmental Analysis***

The NCDOT shall mitigate for 175 linear feet of permanent stream channel impact by making payment to the North Carolina Ecosystem Enhancement Program (NCEEP) in the amount determined by the NCEEP, sufficient to perform restoration of 350 linear feet of stream channel in forested wetlands in the Roanoke River Basin, Cataloging Unit 03010104. Construction within the jurisdictional wetlands on the property shall begin only after the permittee has made full payment to the NCEEP and has provided a copy of the payment documentation the Corps, and the NCEEP has provided written conformation to the Corps that it agrees to accept responsibility for the mitigation work required, in compliance with the MOU between the North Carolina Department of Environment and Natural Resources and the United States Army Corps of Engineers, Wilmington District, dated November 4, 1998.

# NORTH CAROLINA



PROJECT: 8.2510901 (B-3695)



## VICINITY MAPS

### NCDOT

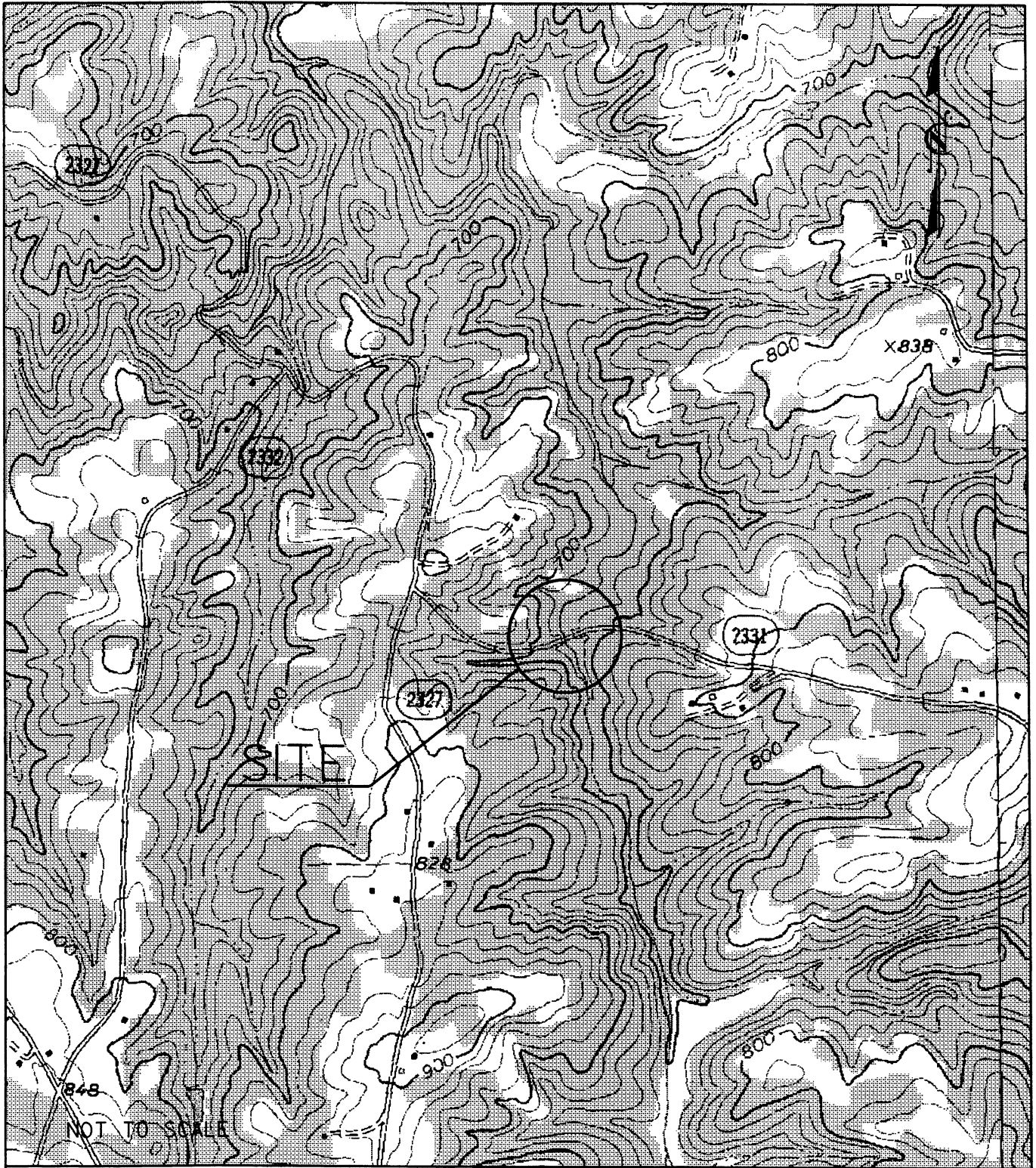
DIVISION OF HIGHWAYS  
ROCKINGHAM COUNTY  
PROJECT: 8.2510901 (B-3695)

REPLACE BRG<sup>#34</sup> OVER JACOBS  
CREEK ON SR 2331 (BARHAM RD.)

SHEET

OF


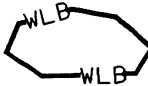




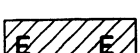
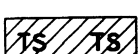
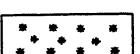
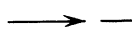
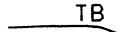



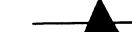
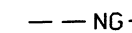
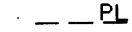


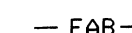

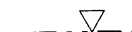
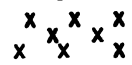


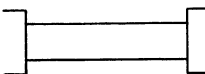
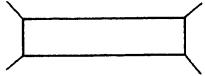


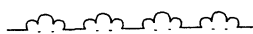

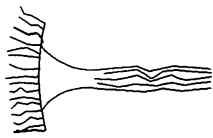



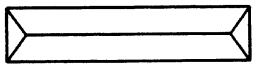
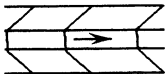
01/20/04



# LOCATION MAP

N. C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
ROCKINGHAM COUNTY  
PROJECT: 8.2510901 (B-3695)  
REPLACE BRG<sup>#</sup>34 OVER JACOBS  
CREEK ON SR 2331 (BARHAM RD.)

# WETLAND LEGEND

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

**NCDOT**  
**DIVISION OF HIGHWAYS**  
**ROCKINGHAM COUNTY**  
**PROJECT: 8.2510901 (B-3695)**

**REPLACE BRG<sup>#</sup>34 OVER JACOBS CREEK ON SR 2331 (BARHAM RD.)**

SHEET 3 OF 7

01/20/04



### WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To) (-L-)	Structure Size / Type	WETLAND IMPACTS				SURFACE WATER IMPACTS					
			Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Fill In SW (ac)	Existing Channel Impacted (ft)	Natural Stream Design (ft)	
1	20+78	3@ 8x8' RCBC W/SILLS	0	0	0	0	0.04	0	0	0.02	175	0
<b>TOTALS:</b>			0	0	0	0	0.04	0	0	0.02	175	0

N.C. DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
  
 ROCKINGHAM COUNTY  
  
 PROJECT: 8.2510901 ( B-3695 )  
  
 SHEET 6 OF 7 ( 01/20/04 )

**PROPERTY OWNERS**  
NAMES AND ADDRESSES

<b>PARCEL NO.</b>	<b>NAMES</b>	<b>ADDRESSES</b>
1	ERNEST TIMOTHY VICKERS	771 KALLAM MILL ROAD MADISON, N.C. 27025
2	DONALD RAY SHARPE	1319 NEW GARDEN ROAD GREENSBORO, N.C. 27410
3	JOSEPH RAY OVERMAN	643 BARHAM RD. REIDSVILLE, N.C. 27320
4	KARL D. BROWN	104 AZALEA DRIVE CAMDEN, N.C. 27921

**NCDOT**

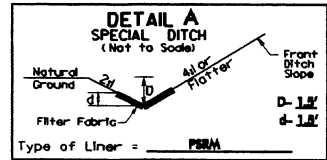
**DIVISION OF HIGHWAYS  
ROCKINGHAM COUNTY  
PROJECT: 8.2510901 (B-3695)**

**REPLACE BRG<sup>#</sup>34 OVER JACOBS  
CREEK ON SR 2331 (BARHAM RD.)**

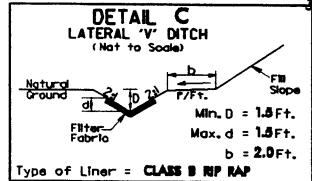
Notes:  
**DESIGN EXCEPTION REQUIRED  
 FOR DESIGN SPEED (40MPH)**

PROJECT REFERENCE NO. B-3695	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> <small>NO. 1027 USE FOR CONSTRUCTION</small>	
ENGLISH	

**STA 15+00.00 -L- BEGIN TIP PROJECT B-3695**

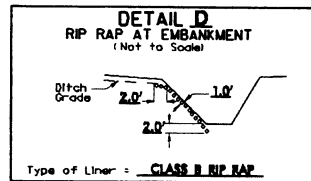


FROM STA. 15+00 -L- TO STA. 18+00 -L- LT.  
 FROM STA. 22+30 -L- TO STA. 24+00 -L- RT.

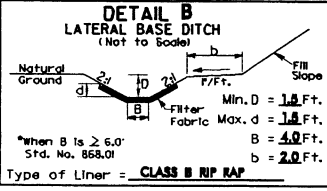


FROM STA. 18+00 -L- TO STA. 20+20 -L- LT.  
 FROM STA. 20+80 -L- TO STA. 22+00 -L- LT.

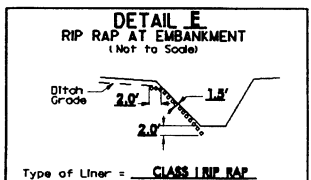
-L-  
 PI Sta 13+80.60  
 $\Delta = 48^\circ 30' 57.9''$  (LT)  
 $D = 10' 31' 03.2''$   
 $L = 461.29'$   
 $T = 245.49'$   
 $R = 544.76'$   
 $e = \text{SEE PLANS}$   
 DS = 41 MPH



-L-  
 PI Sta 18+26.64  
 $\Delta = 19^\circ 21' 53.3''$  (LT)  
 $D = 4' 14' 44.5''$   
 $L = 456.10'$   
 $T = 230.25'$   
 $R = 1,349.50'$   
 $e = \text{SEE PLANS}$   
 DS = 60 MPH



FROM STA. 18+00 -L- TO STA. 20+70 -L- RT.

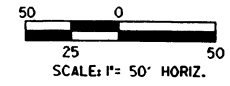


-L-  
 PI Sta 25+46.82  
 $\Delta = 46^\circ 59' 42.6''$  (RT)  
 $D = 8' 52' 59.0''$   
 $L = 529.04'$   
 $T = 280.42'$   
 $R = 645.00'$   
 $e = \text{SEE PLANS}$   
 DS = 44 MPH

**STA 24+50.00 -L- END TIP PROJECT B-3695**

DENOTES TEMPORARY FILL IN SURFACE WATER

DENOTES FILL IN SURFACE WATER



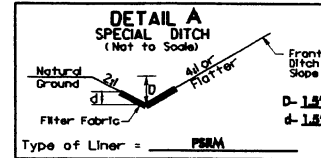
SEE SHEET 5 FOR -L- PROFILE  
 PAVED SHOULDER

20-1AN-2004-0818  
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 Classier AT HY196180

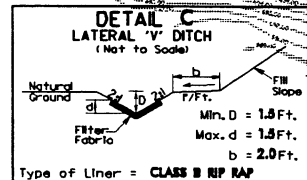
Note:  
DESIGN EXCEPTION REQUIRED  
FOR DESIGN SPEED (40MPH)

PROJECT REFERENCE NO. B-3695	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
ENGLISH	

STA 15+00.00 -L- BEGIN TIP PROJECT B-3695

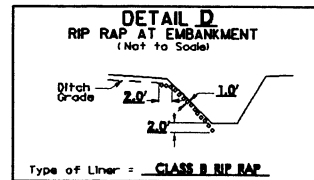


FROM STA. 18+00 -L- TO STA. 18+00 -L- LT.  
FROM STA. 22+50 -L- TO STA. 24+00 -L- RT.

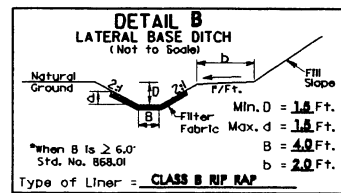


FROM STA. 18+00 -L- TO STA. 20+20 -L- LT.  
FROM STA. 20+80 -L- TO STA. 22+00 -L- LT.

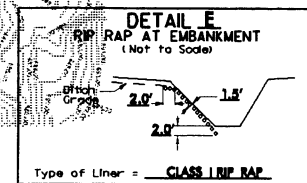
-L-  
PI Sta 13+80.60  
 $\Delta = 48^\circ 30' 57.9''$  (LT)  
D = 10' 31.032'  
L = 461.29'  
T = 245.49'  
R = 544.76'  
e = SEE PLANS  
DS = 41 MPH



PI Sta 18+26.64  
 $\Delta = 19^\circ 27' 53.3''$  (LT)  
D = 414.445'  
L = 456.10'  
T = 230.25'  
R = 1,349.50'  
e = SEE PLANS  
DS = 60 MPH



FROM STA. 18+00 -L- TO STA. 20+70 -L- RT.

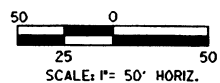


-L-  
PI Sta 25+46.82  
 $\Delta = 46^\circ 59' 42.6''$  (RT)  
D = 8' 52.590'  
L = 529.04'  
T = 280.42'  
R = 645.00'  
e = SEE PLANS  
DS = 44 MPH

STA 24+50.00 -L- END TIP PROJECT B-3695

DENOTES TEMPORARY FILL IN SURFACE WATER

DENOTES FILL IN SURFACE WATER



SEE SHEET 5 FOR -L- PROFILE  
 PAVED SHOULDER

20-JAN-2004 08:19 R:\Hydraulics\Load\B3695-HYD-DRN.DGN