

**TIP PROJECT: B-4851**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

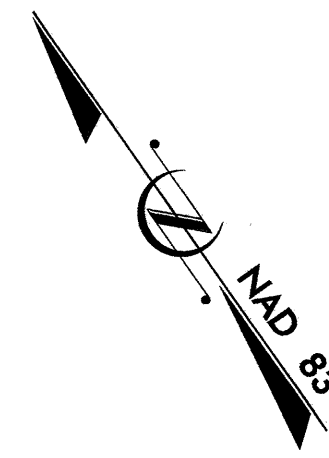
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PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL

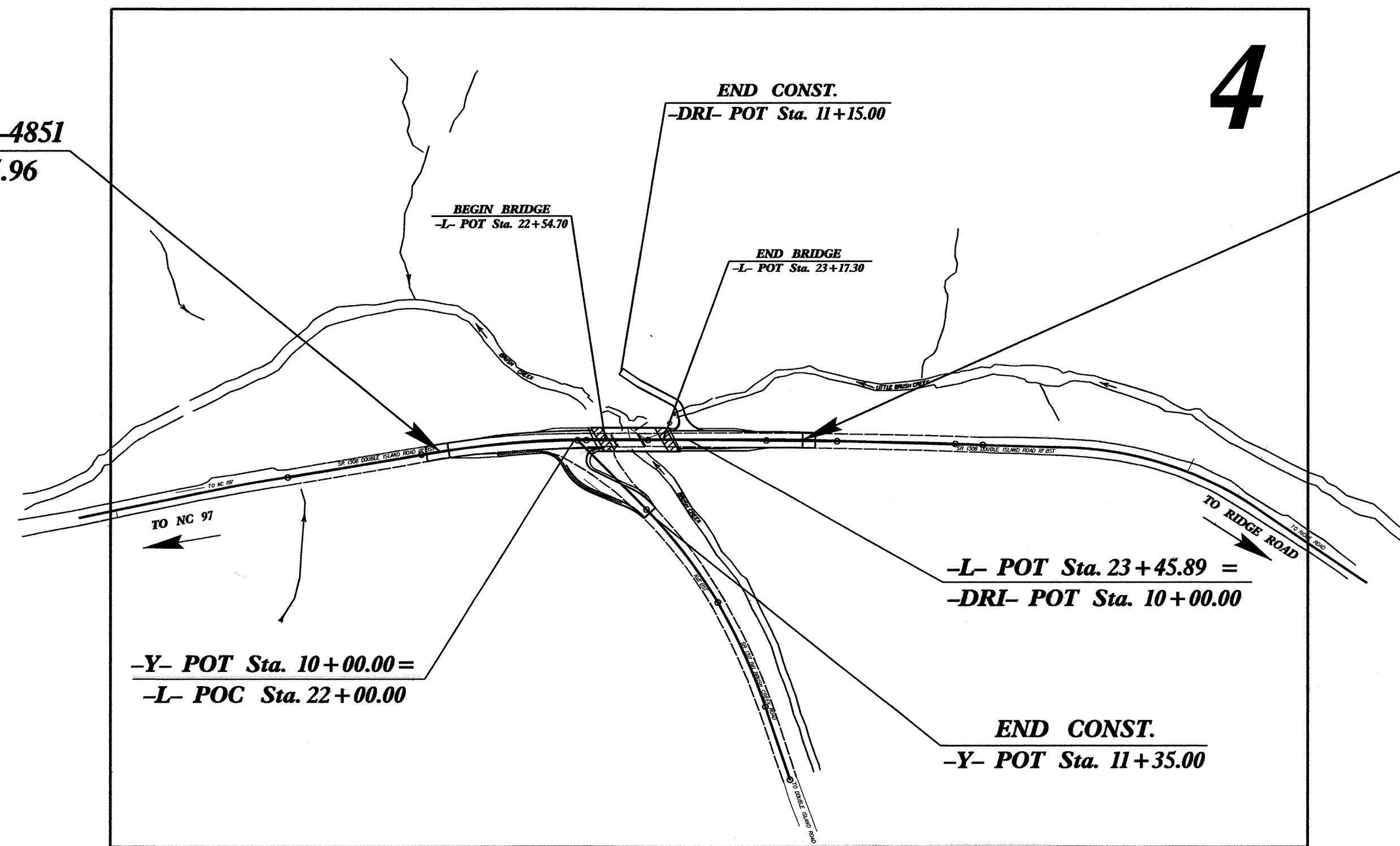
**YANCEY COUNTY**

**LOCATION: REPLACE BRIDGE No. 31 OVER BRUSH CREEK  
ON SR 1308 (DOUBLE ISLAND ROAD).**

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



**BEGIN PROJECT B-4851**  
-L- PC Sta. 20+65.96



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4851	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

**EROSION AND SEDIMENT CONTROL MEASURES**

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	△△△△△
1622.01	Temporary Berms and Slope Drains	TBD
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	RS
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	RS-PAM
1633.02	Temporary Rock Silt Check Type-B	RS
	Wattle/Coir Fiber Wattle	W
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	W-PAM
1634.01	Temporary Rock Sediment Dam Type-A	SDA
1634.02	Temporary Rock Sediment Dam Type-B	SDA
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPISTA
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPISTA
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SSB
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	SKB
	Tiered Skimmer Basin	TSKB
	Infiltration Basin	IB

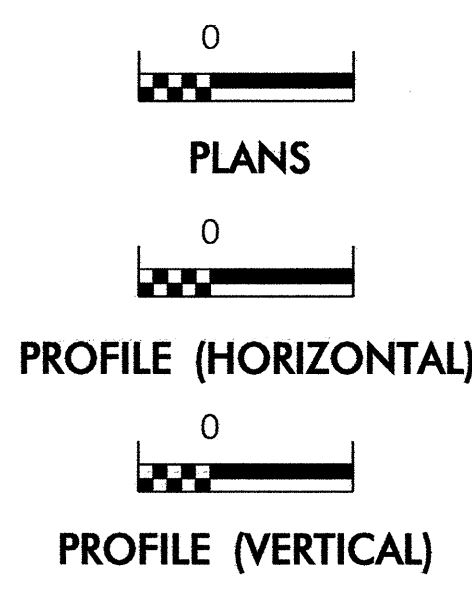
**THIS PROJECT CONTAINS  
EROSION CONTROL PLANS  
FOR CLEARING AND  
GRUBBING PHASE OF  
CONSTRUCTION.**

**THIS PROJECT HAS  
BEEN DESIGNED TO  
SENSITIVE WATERSHED  
STANDARDS.**

**ENVIRONMENTALLY  
SENSITIVE AREA(S) EXIST  
ON THIS PROJECT**

*Refer To E. C. Special Provisions  
for Special Considerations.*

**GRAPHIC SCALE**



ROADSIDE ENVIRONMENTAL UNIT  
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY  
WITH THE REGULATIONS SET FORTH BY THE  
NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011  
ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND  
NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
1 South Wilmington St.  
Raleigh, NC 27611

**2012 STANDARD SPECIFICATIONS**

Roadway Standard Drawings

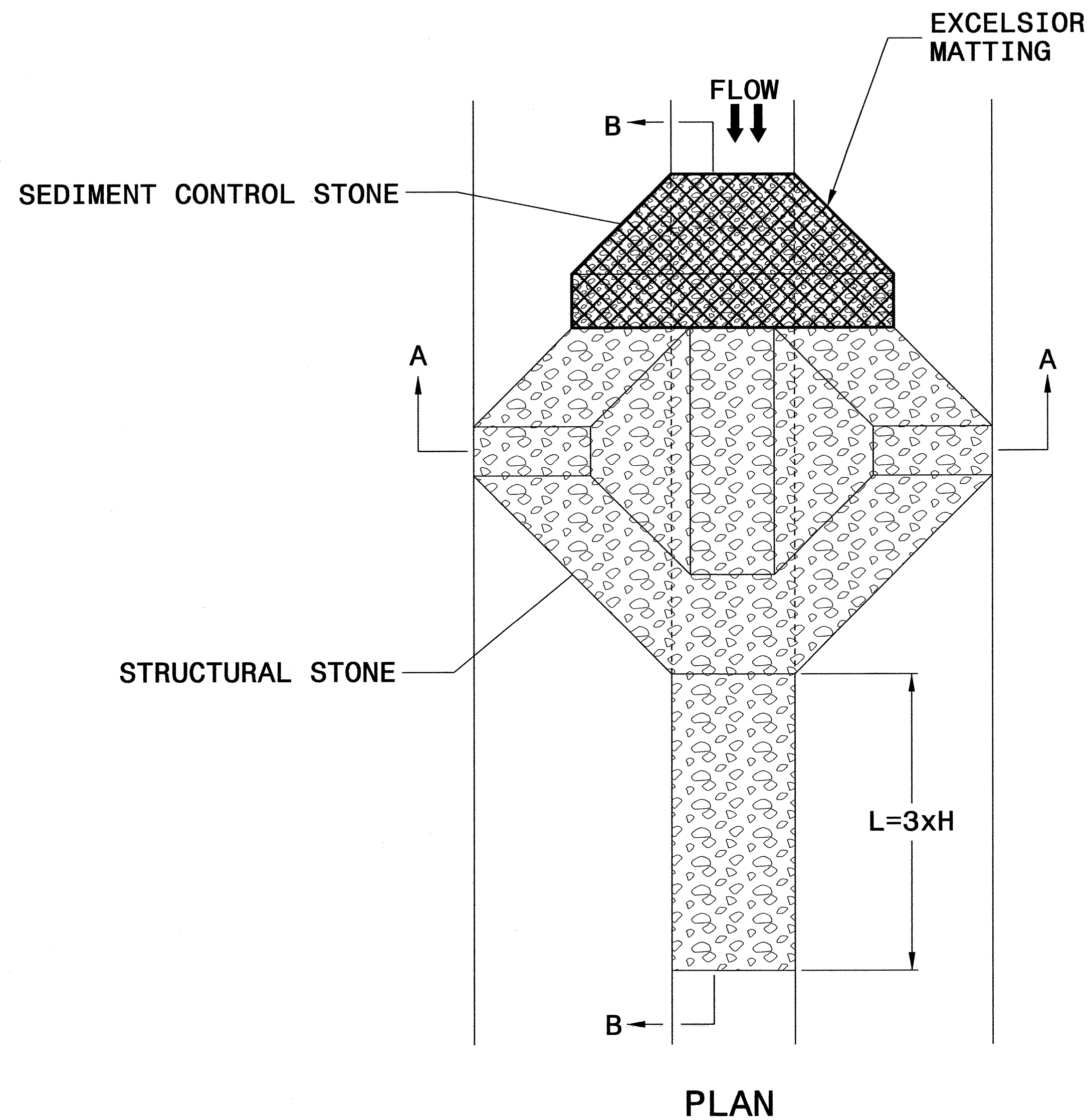
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

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PROJECT REFERENCE NO. B-4581	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)

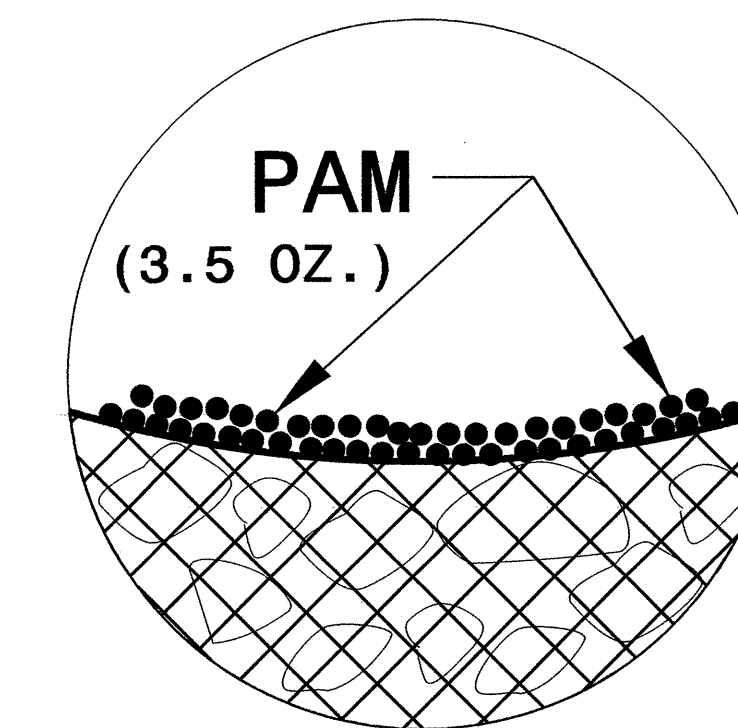


## NOTES

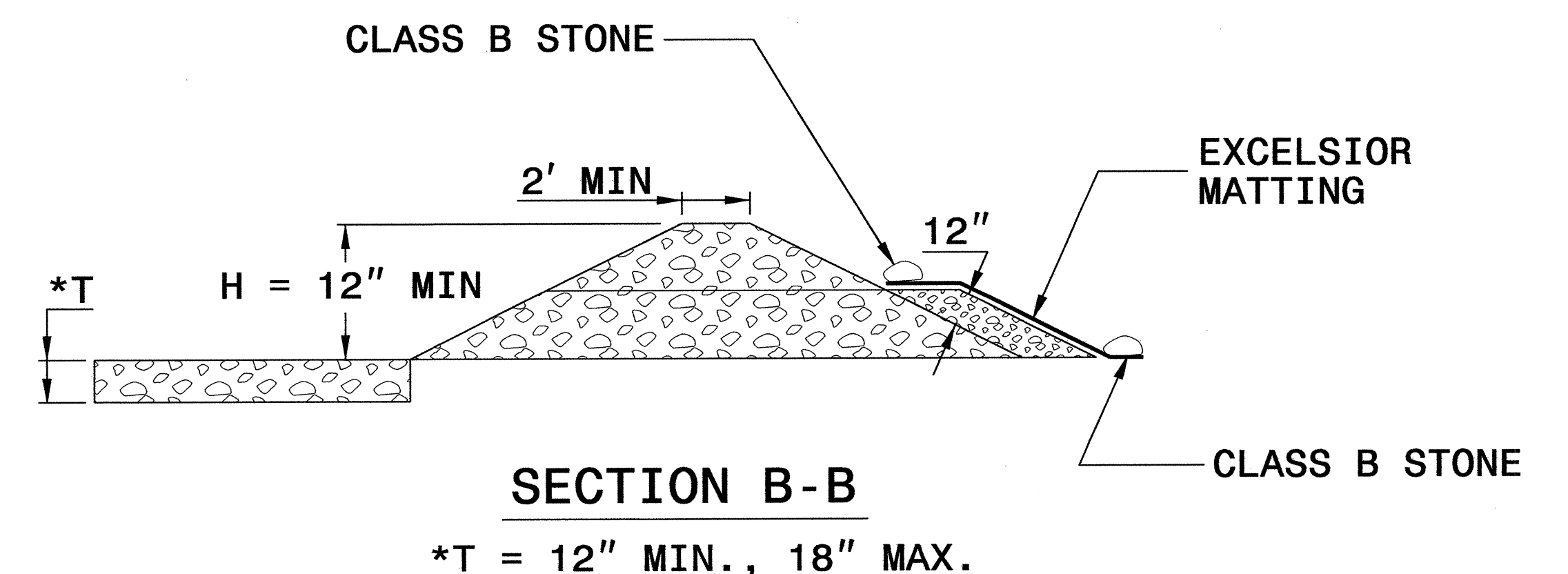
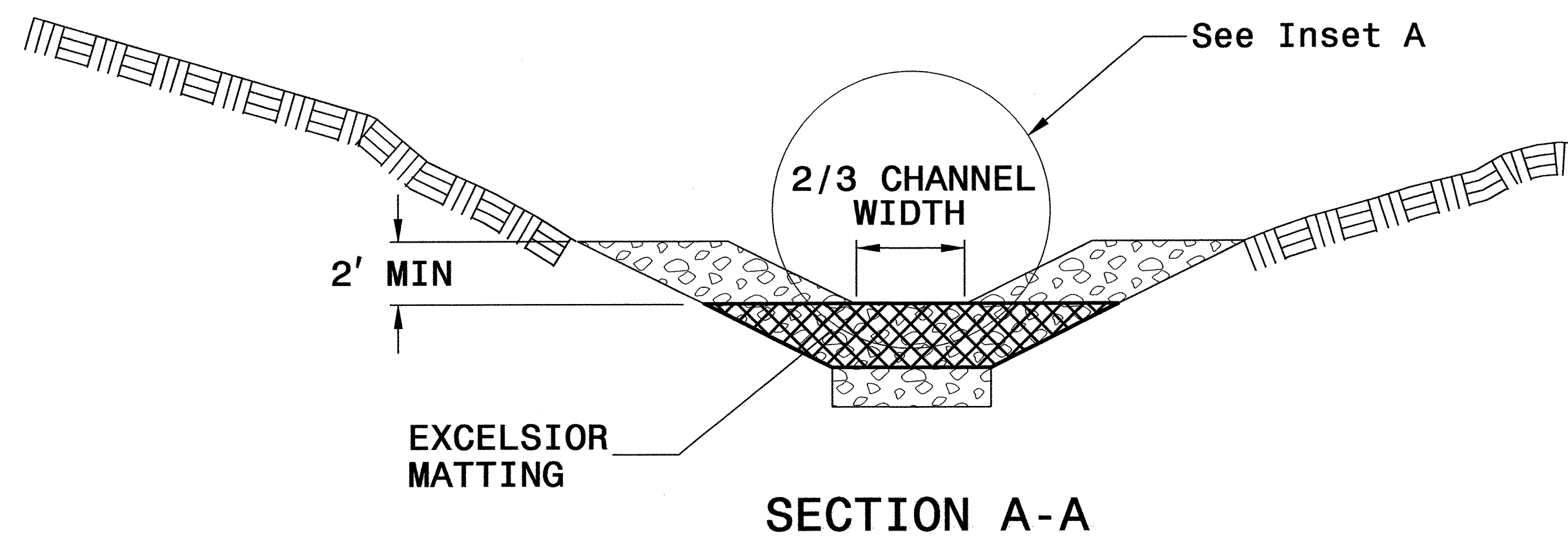
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



NOT TO SCALE

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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PROJECT REFERENCE NO. <i>B-4851</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# ***SOIL STABILIZATION TIMEFRAMES***

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 4

NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

PI Sta 18+45.60  
Δ = 2° 11' 13.0" (RT)  
D = 3' 49' 11.0"  
L = 57.25'  
T = 28.63'  
R = 1,500.00'

PI Sta 21+52.33  
Δ = 9° 19' 00.0" (RT)  
D = 5' 24' 18.9"  
L = 172.36'  
T = 86.37'  
R = 1,060.00'

PI Sta 24+64.08  
Δ = 1° 41' 02.5" (RT)  
D = 3' 22' 13.2"  
L = 49.97'  
T = 24.98'  
R = 1,700.00'

PI Sta 28+90.20  
Δ = 32° 15' 22.9" (RT)  
D = 14' 19' 26.2"  
L = 225.19'  
T = 115.67'  
R = 400.00'

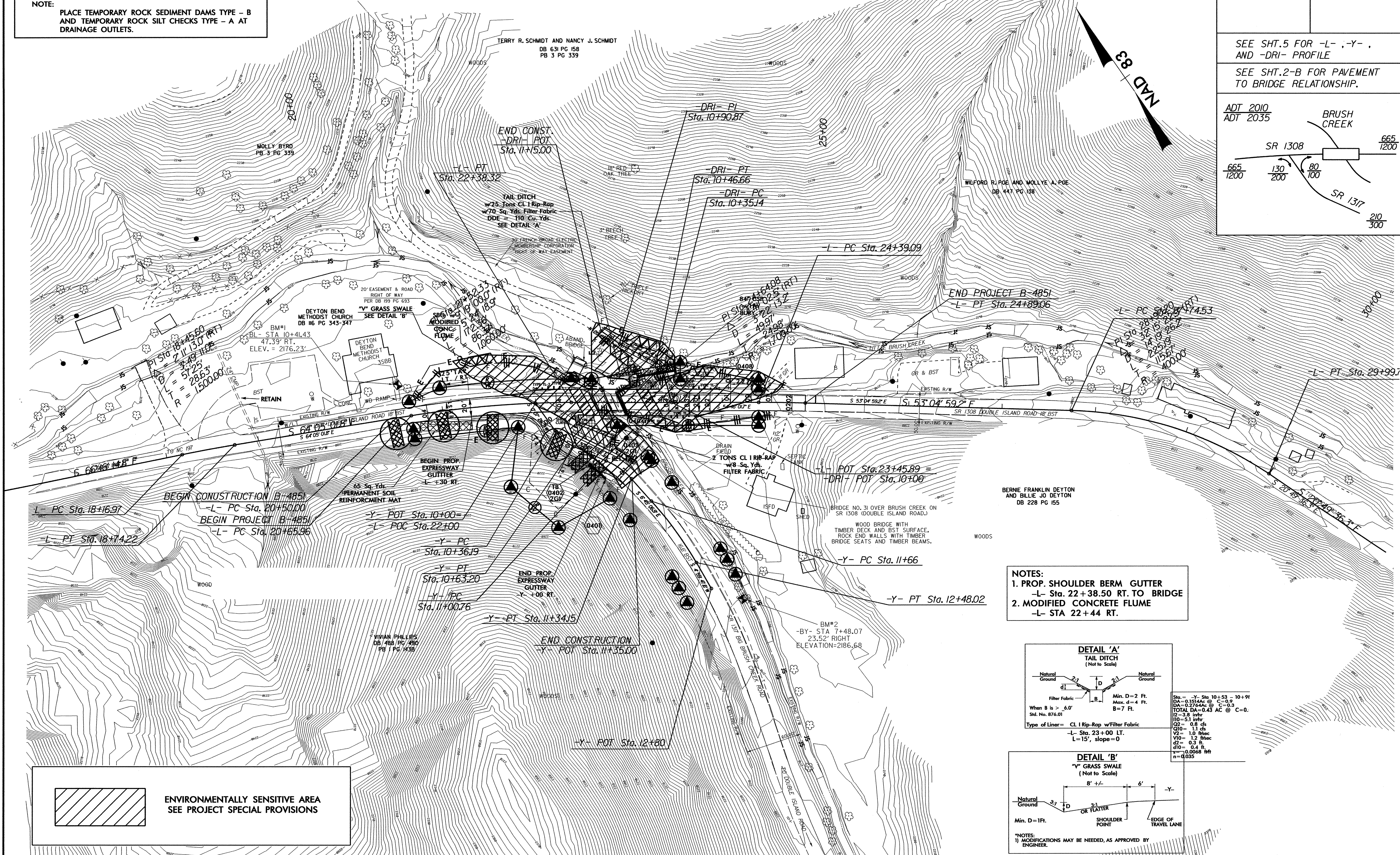
PI Sta 12+07.16  
Δ = 11° 44' 54.5" (RT)  
D = 14' 19' 26.2"  
L = 82.02'  
T = 41.15'  
R = 400.00'

PI Sta 10+50.03  
Δ = 30° 57' 05.9" (LT)  
D = 11' 35' 29.6"  
L = 27.01'  
T = 13.84'  
R = 50.00'

PI Sta 11+77.3  
Δ = 25° 30' 28.7" (RT)  
D = 76' 23' 39.7"  
L = 33.39'  
T = 16.98'  
R = 75.00'

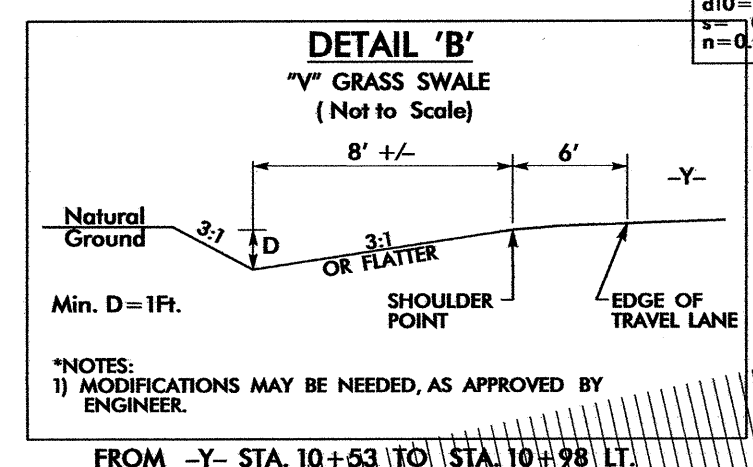
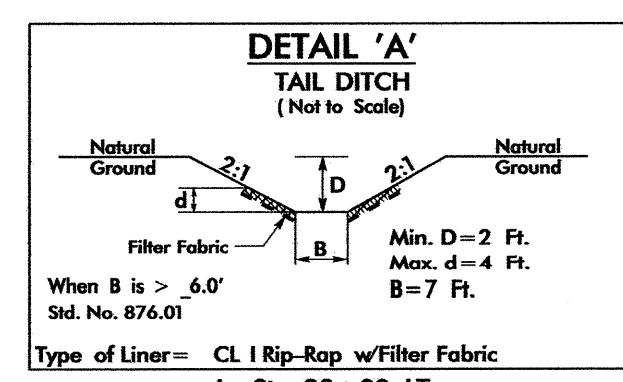
PI Sta 10+41.25  
Δ = 47° 07' 51.6" (LT)  
D = 409' 15' 20.0"  
L = 11.52'  
T = 6.11'  
R = 14.00'

PROJECT REFERENCE NO. B-4851	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHT.5 FOR -L-, -Y-, AND -DRI- PROFILE	
SEE SHT.2-B FOR PAVEMENT TO BRIDGE RELATIONSHIP.	



ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

NOTES:  
1. PROP. SHOULDER BERM GUTTER  
-L- Sta. 22+38.50 RT. TO BRIDGE  
2. MODIFIED CONCRETE FLUME  
-L- STA 22+44 RT.



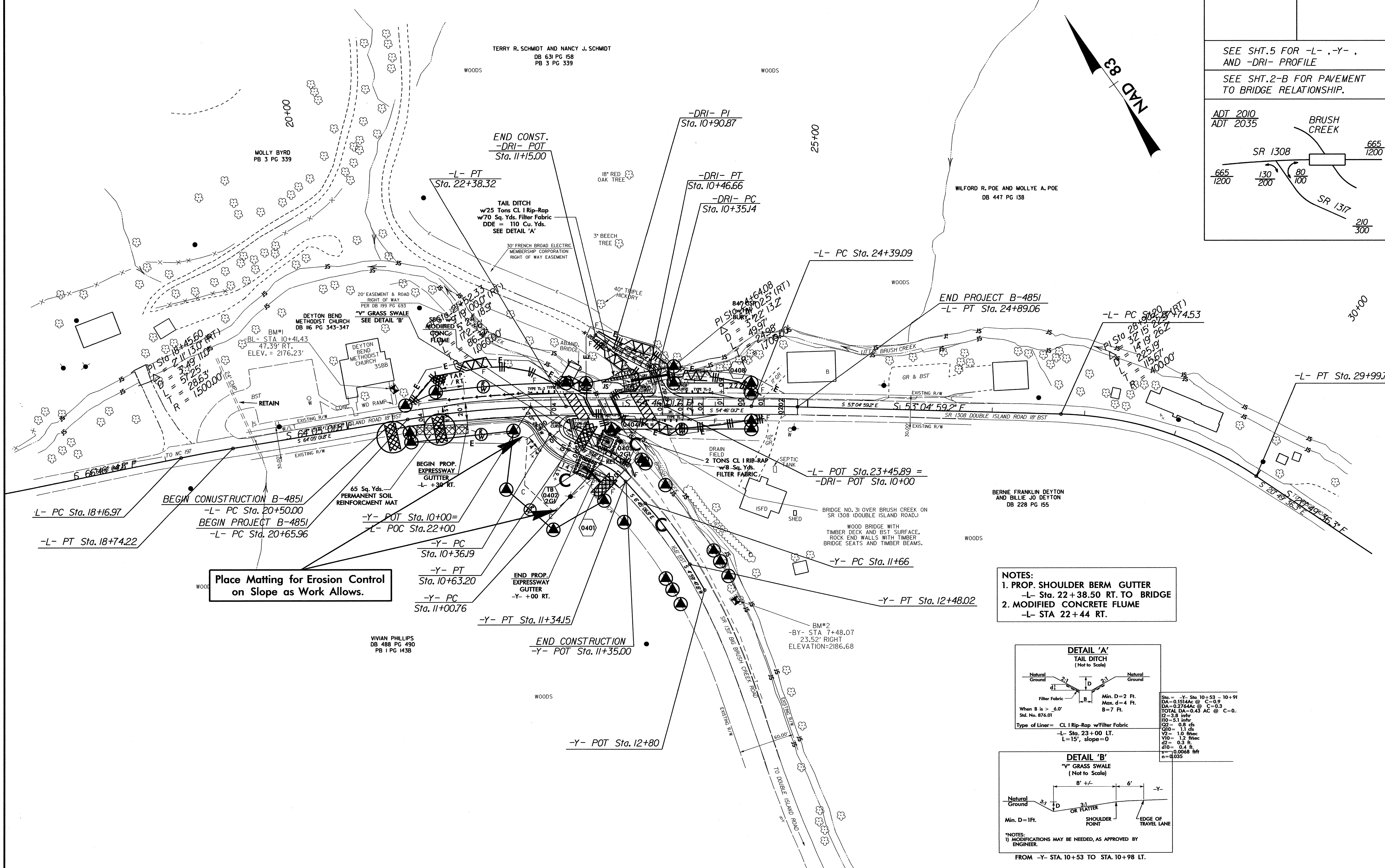
Sta. -Y- Sta 10+53 = 10+91  
DA=0.1514Ac @ C=0.9  
DA=0.2704Ac @ C=0.3  
TOTAL DA=0.43 AC @ C=0.  
I2=3.8 in/hr  
Q2=0.8 cfs  
Q10=1.1 cfs  
Y2=1.0 ft/sec  
V10=1.2 ft/sec  
d2=0.3 ft  
d10=0.4 ft  
n=0.068 ft/s  
n=0.055

<b>-L-</b>	<b>-Y-</b>	<b>-DRI-</b>
PI Sta 18+45.60 Δ = 2' 11" 13.0" (RT) D = 3' 49' 11.0" L = 57.25' T = 286.3' R = 1,500.00'	PI Sta 21+52.33 Δ = 9' 19' 00.0" (RT) D = 5' 24' 18.9" L = 172.36' T = 86.37' R = 1,060.00'	PI Sta 24+64.08 Δ = 1' 41' 02.5" (RT) D = 3' 22' 13.2" L = 49.97' T = 24.98' R = 1,700.00'

<b>-L-</b>	<b>-Y-</b>	<b>-DRI-</b>
PI Sta 28+90.20 Δ = 32' 15' 22.9" (RT) D = 14' 19' 26.2" L = 225.19' T = 115.67' R = 400.00'	PI Sta 12+07.16 Δ = 1' 44' 54.5" (RT) D = 14' 19' 26.2" L = 82.02' T = 41.5' R = 400.00'	PI Sta 10+50.03 Δ = 30' 57' 05.9" (LT) D = 14' 35' 29.6" L = 27.01' T = 13.84' R = 50.00'

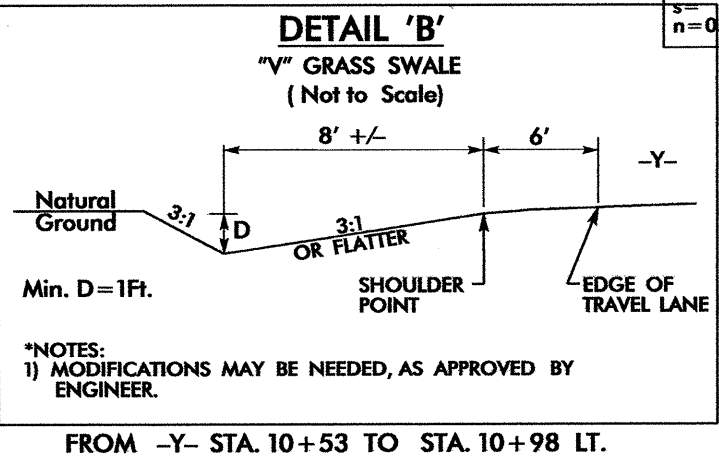
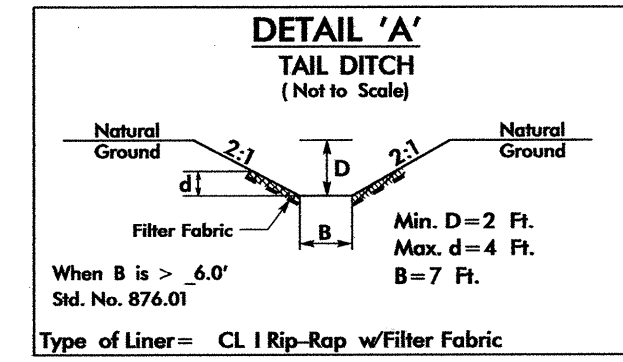
<b>-L-</b>	<b>-Y-</b>	<b>-DRI-</b>
PI Sta 11+17.73 Δ = 25' 30' 28.7" (RT) D = 76' 23' 39.7" L = 33.39' T = 16.98' R = 75.00'	PI Sta 10+41.25 Δ = 47' 07' 51.6" (LT) D = 40' 15' 20.0" L = 11.52' T = 6.11' R = 14.00'	

PROJECT REFERENCE NO. B-4851	SHEET NO. EC-5/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHT.5 FOR -L-, -Y-, AND -DRI- PROFILE	
SEE SHT.2-B FOR PAVEMENT TO BRIDGE RELATIONSHIP.	



Place Matting for Erosion Control on Slope as Work Allows.

- NOTES:
- PROP. SHOULDER BERM GUTTER -L- Sta. 22+38.50 RT. TO BRIDGE
  - MODIFIED CONCRETE FLUME -L- STA 22+44 RT.



Sta. = -Y- Sta. 10+53 - 10+98  
DA = 0.1514 AC @ C=0.9  
DA = 0.2744 AC @ C=0.3  
TOTAL DA = 0.43 AC @ C=0.  
I2 = 3.8 in/hr  
I0 = 5.1 in/hr  
Q2 = 0.8 cfs  
Q10 = 1.1 cfs  
V2 = 1.0 ft/sec  
V10 = 1.2 ft/sec  
d2 = 0.3 ft.  
d10 = 0.4 ft.  
s = 0.0068 ft  
n = 0.035