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STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5717	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45673.1.2		PE	

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

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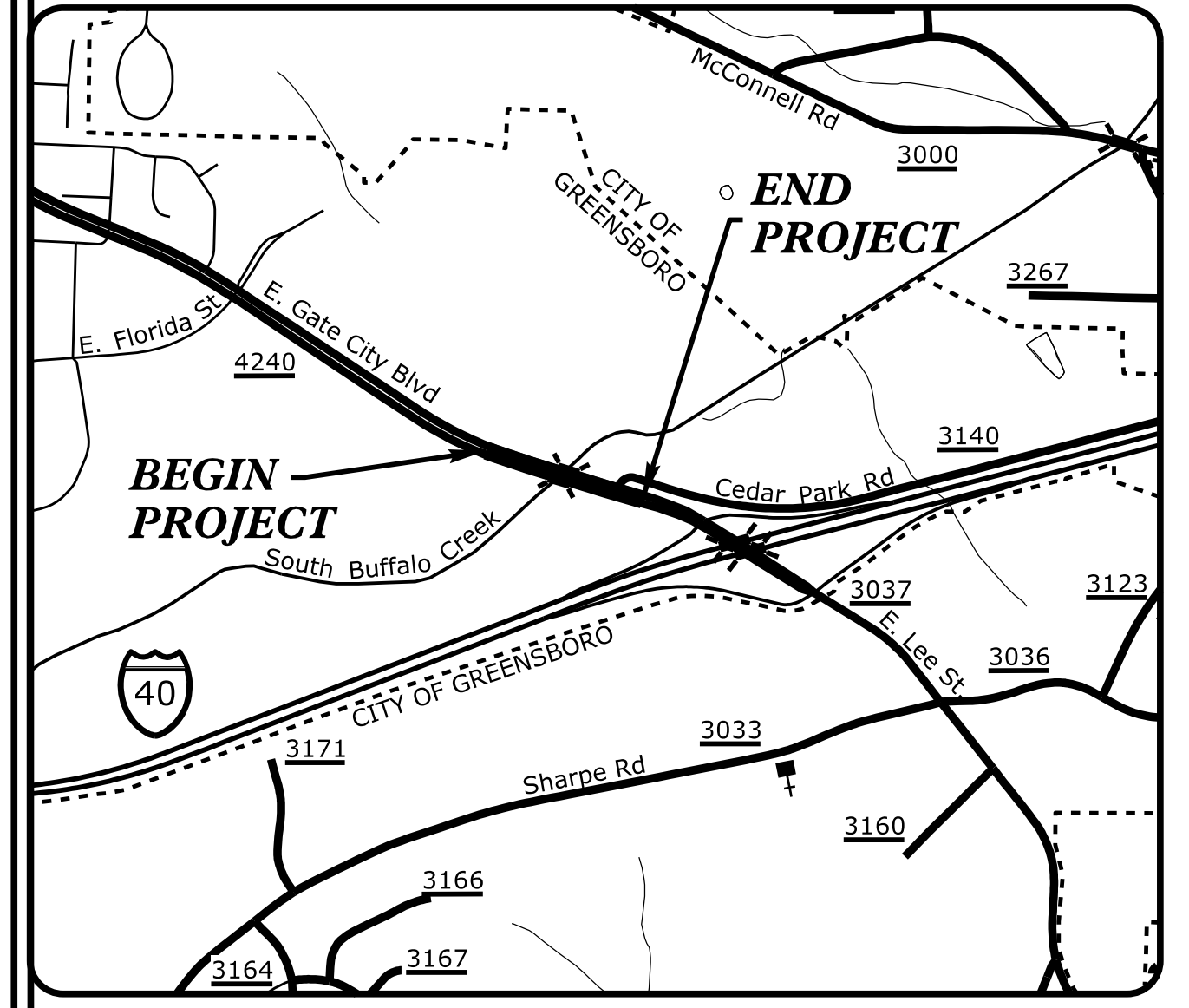
PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL

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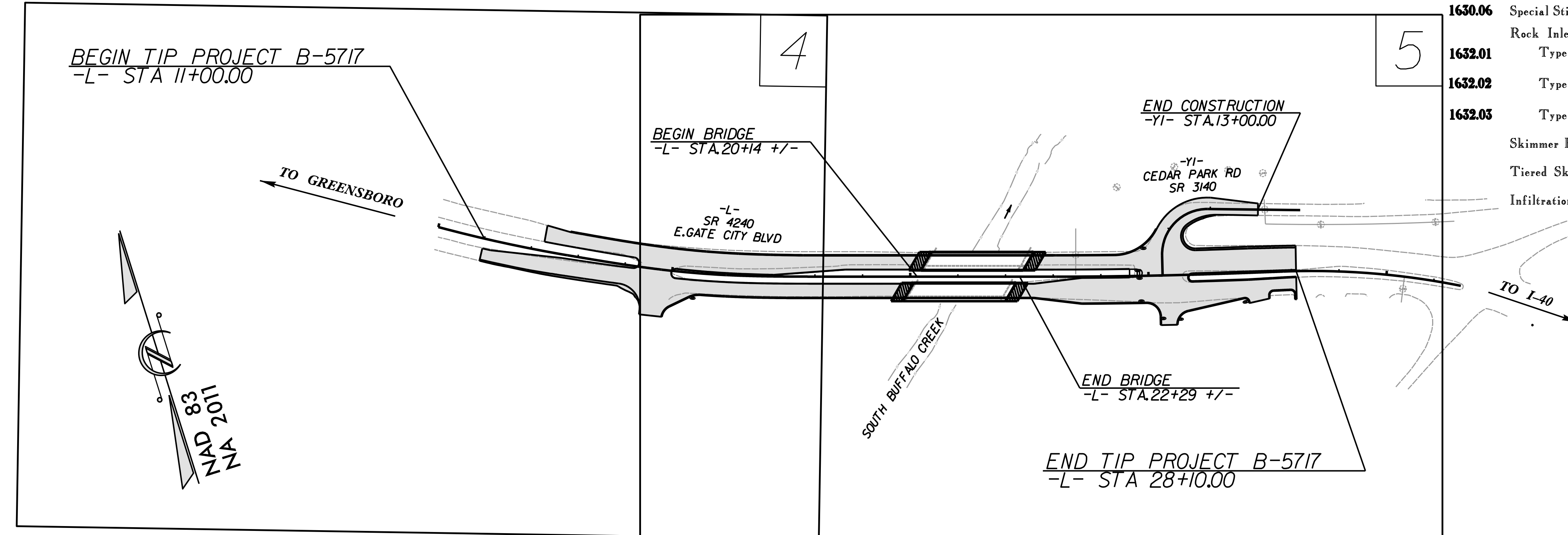
# GUILFORD COUNTY

**LOCATION: BRIDGES 109 AND 121 ON SR 4240 (E. GATE CITY BLVD)  
OVER SOUTH BUFFALO CREEK**

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



**VICINITY MAP**  
NOT TO SCALE



**EROSION AND SEDIMENT CONTROL MEASURES**

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	— T —
1630.05	Temporary Diversion	— D —
1605.01	Temporary Silt Fence	— S —
1606.01	Special Sediment Control Fence	— SF —
1622.01	Temporary Berms and Slope Drains	— B —
1630.02	Silt Basin Type B	— SB —
1633.01	Temporary Rock Silt Check Type-A	— RSC —
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	— RSC-PAM —
1633.02	Temporary Rock Silt Check Type-B	— RSC-B —
	Wattle / Coir Fiber Wattle	— W —
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	— W-PAM —
1634.01	Temporary Rock Sediment Dam Type-A	— RSD-A —
1634.02	Temporary Rock Sediment Dam Type-B	— RSD-B —
1635.01	Rock Pipe Inlet Sediment Trap Type-A	— RPIA —
1635.02	Rock Pipe Inlet Sediment Trap Type-B	— RPIB —
1630.04	Stilling Basin	— SBAS —
1630.06	Special Stilling Basin	— SSBAS —
	Rock Inlet Sediment Trap:	
1632.01	Type A	— RISA —
1632.02	Type B	— RISB —
1632.03	Type C	— RISC —
	Skimmer Basin	— SKBAS —
	Tiered Skimmer Basin	— TSKBAS —
	Infiltration Basin	— IBAS —

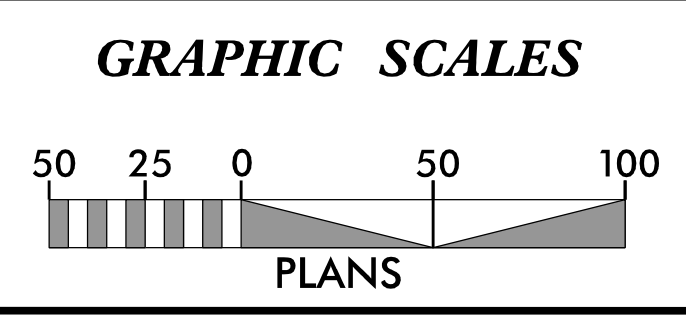
THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

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.

**TIP PROJECT: B-5717**

**CONTRACT:**



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.



Prepared in the Office of:  
**AECOM**  
Firm License No. F-0342  
5438 Wade Park Boulevard, Suite 200  
Raleigh, NC 27607  
+1-919-461-1100

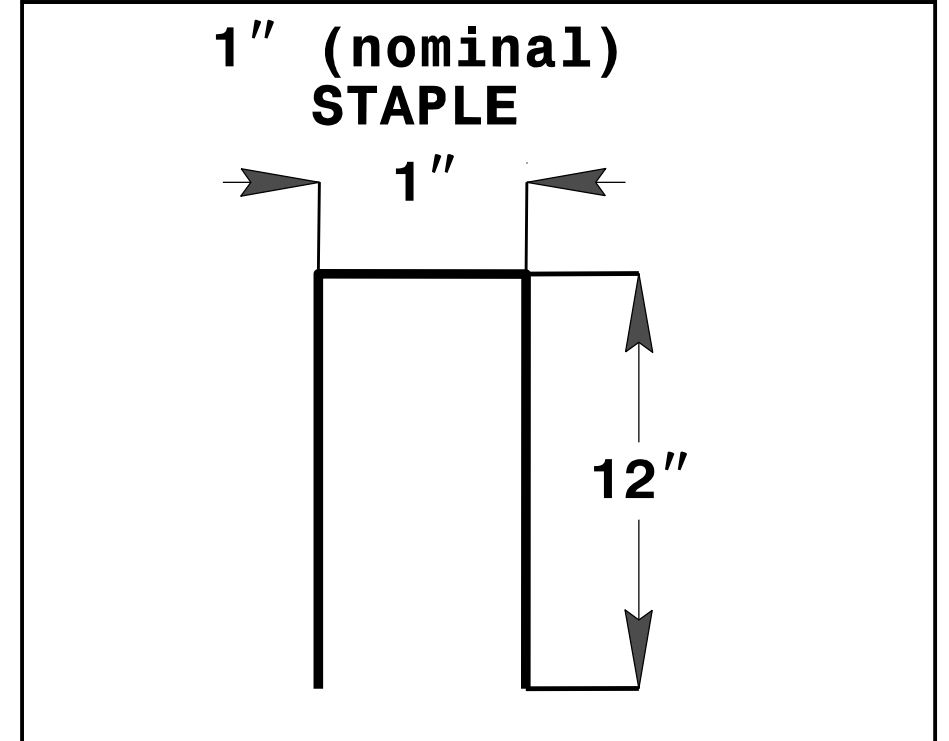
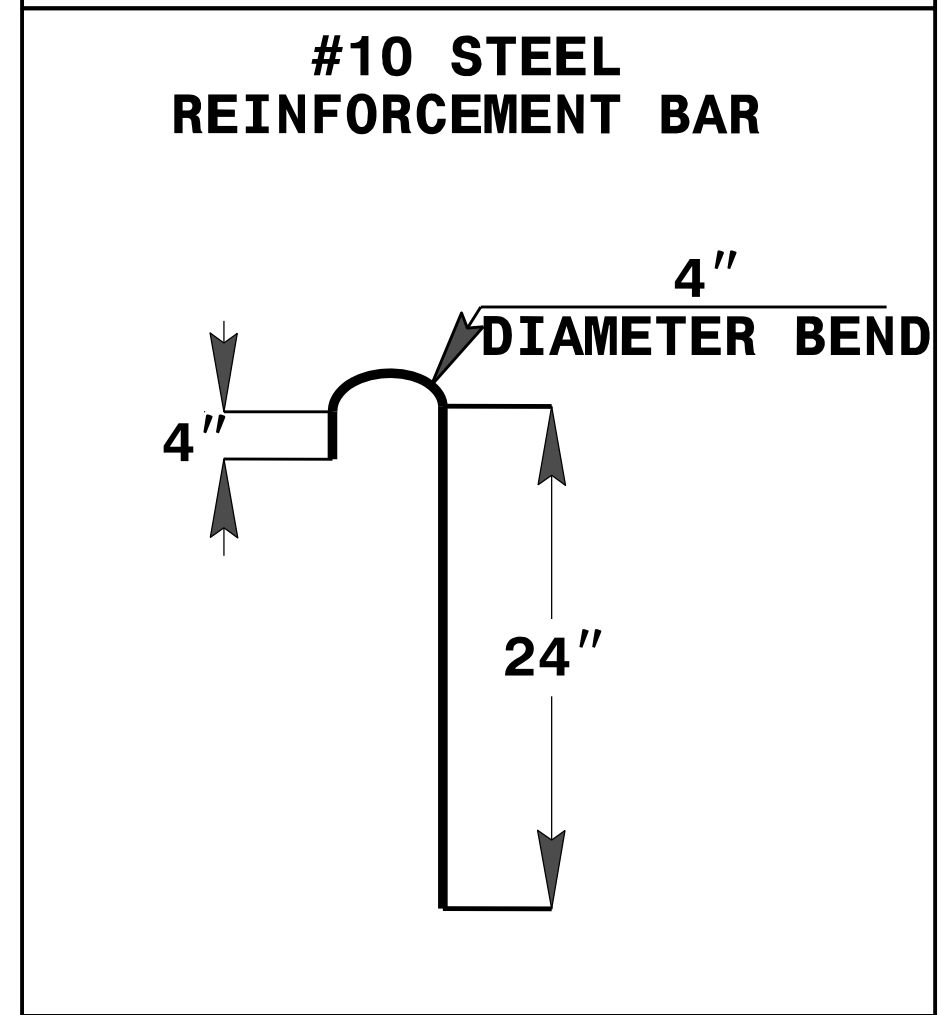
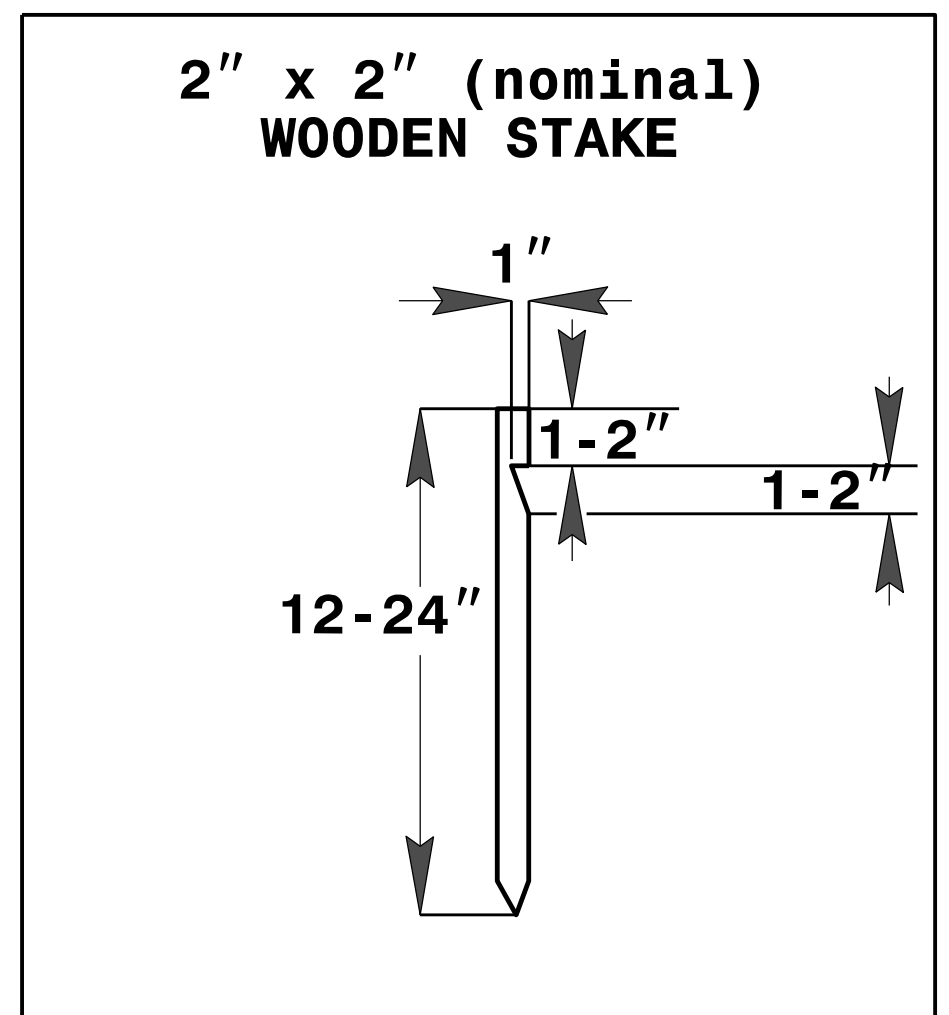
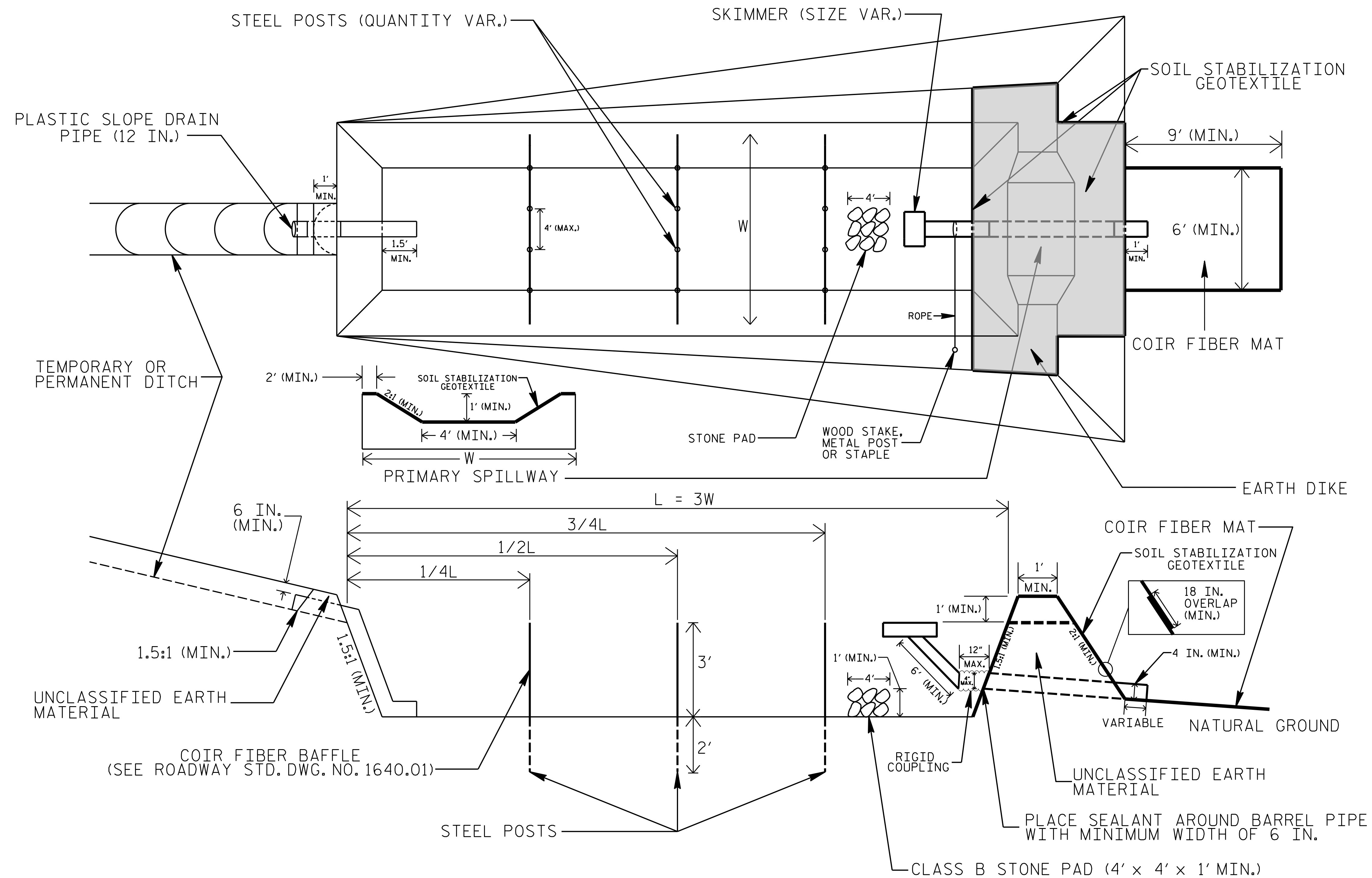
Designed by:  
**RENE REMY, CPESC, CPSWQ** 3125  
NAME LEVEL III CERTIFICATION NO.

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 2018 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	

# SKIMMER BASIN WITH BAFFLES DETAIL



## COIR FIBER MAT ANCHOR OPTIONS

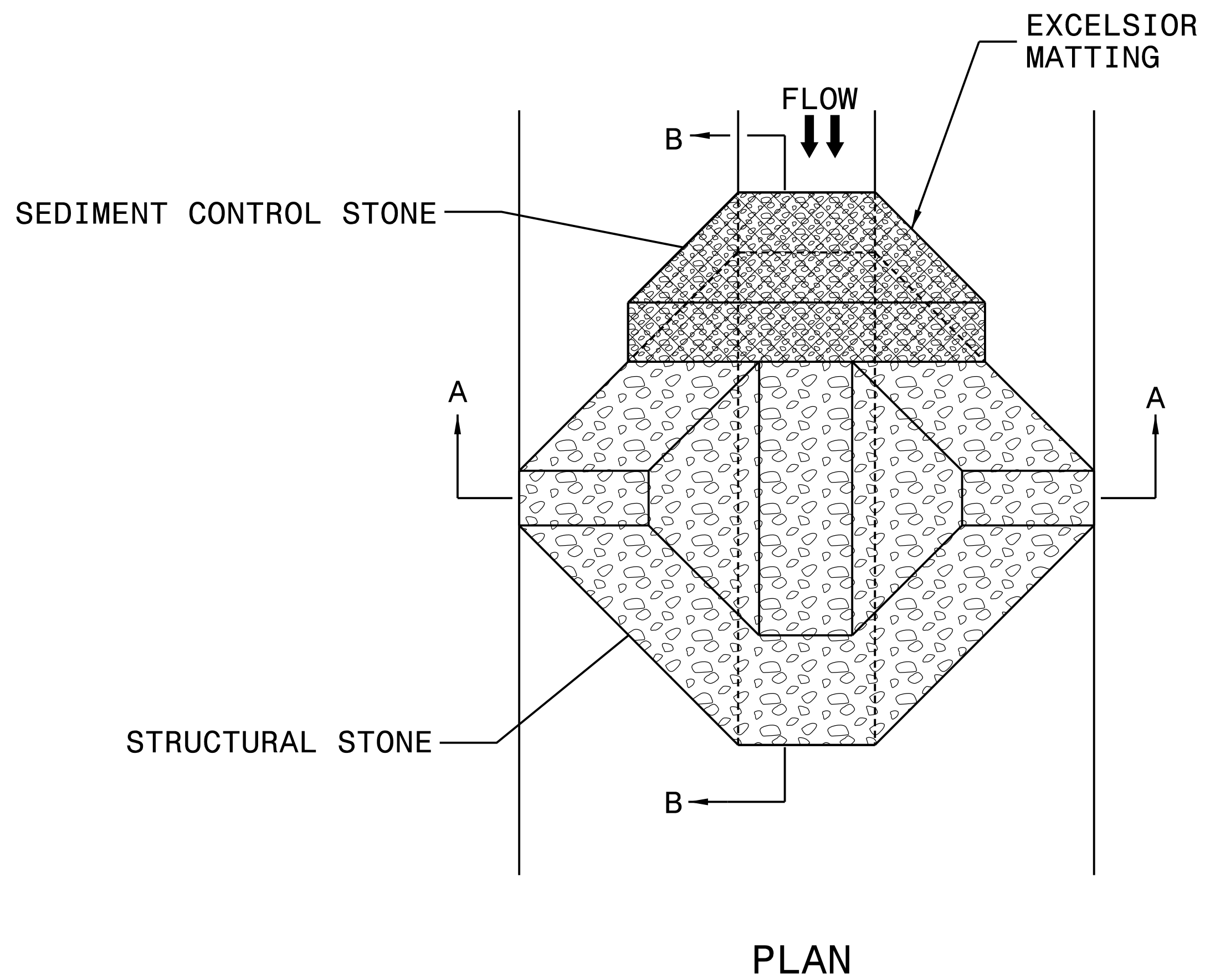
### NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING  $Q/0.8$ , WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

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NCDOT\_SMU\_153777\_7\_900-CAD GIS 910\_CAD\70\_CAD\70\_NCDOT\_TIP\Erosion Control\Design\230-B5717\_EC-02\_Skimmer-Basin\_Detail.dgn

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



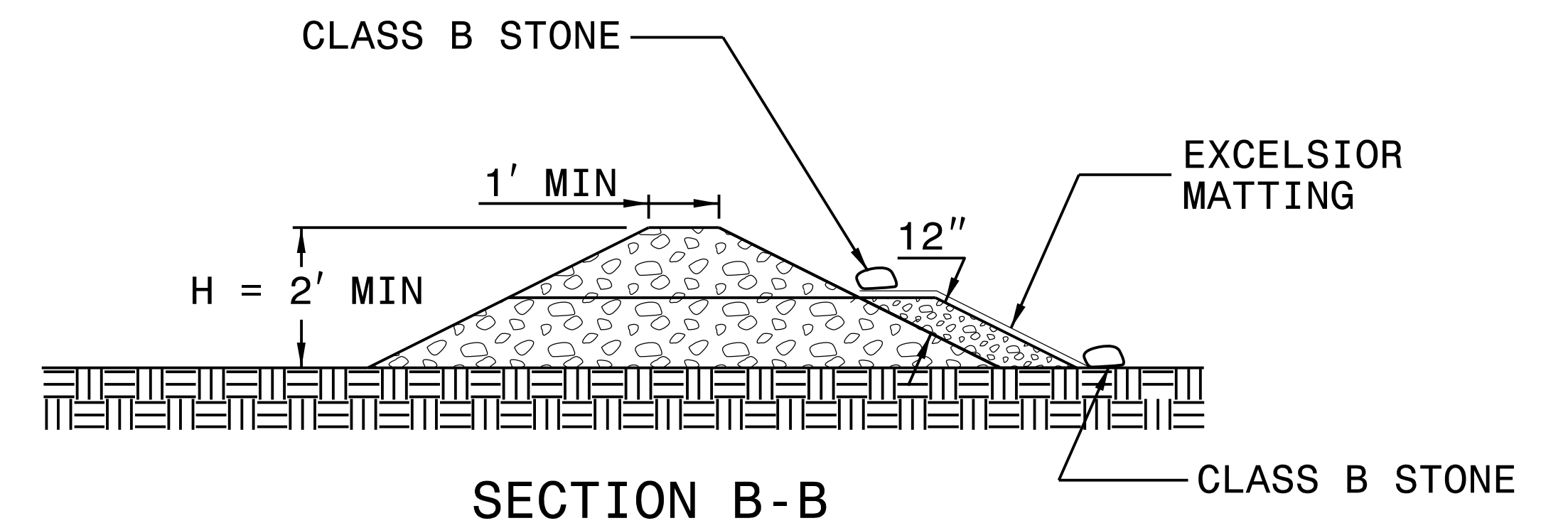
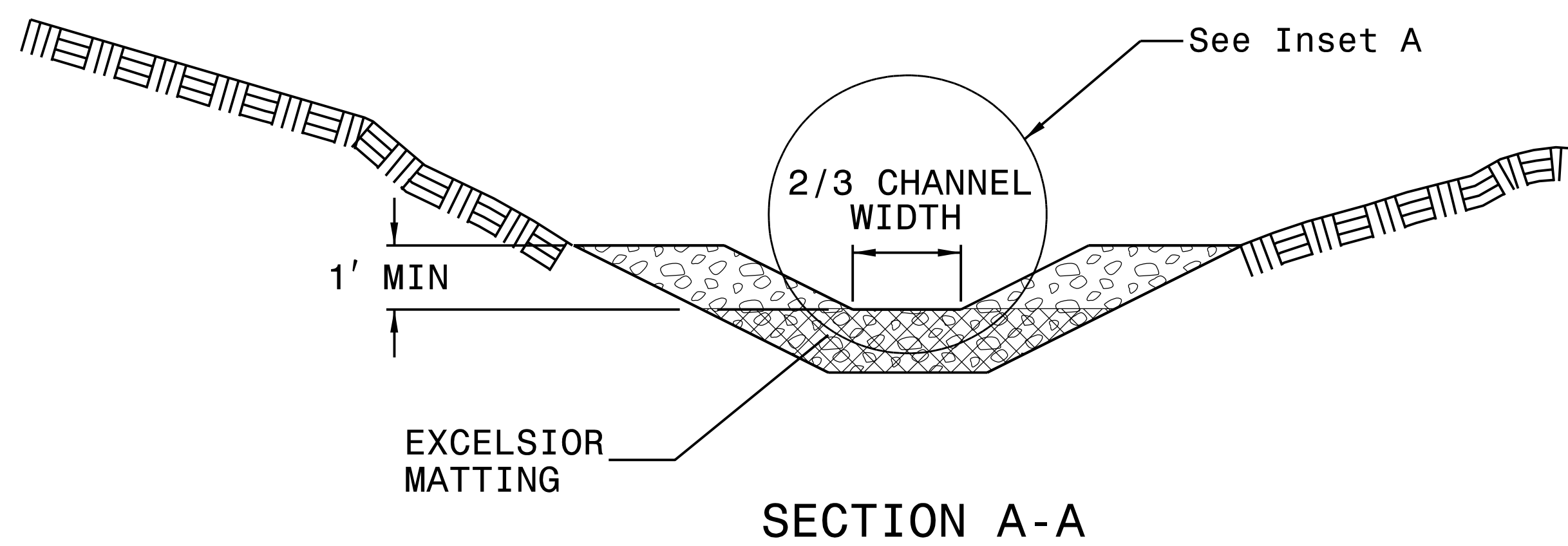
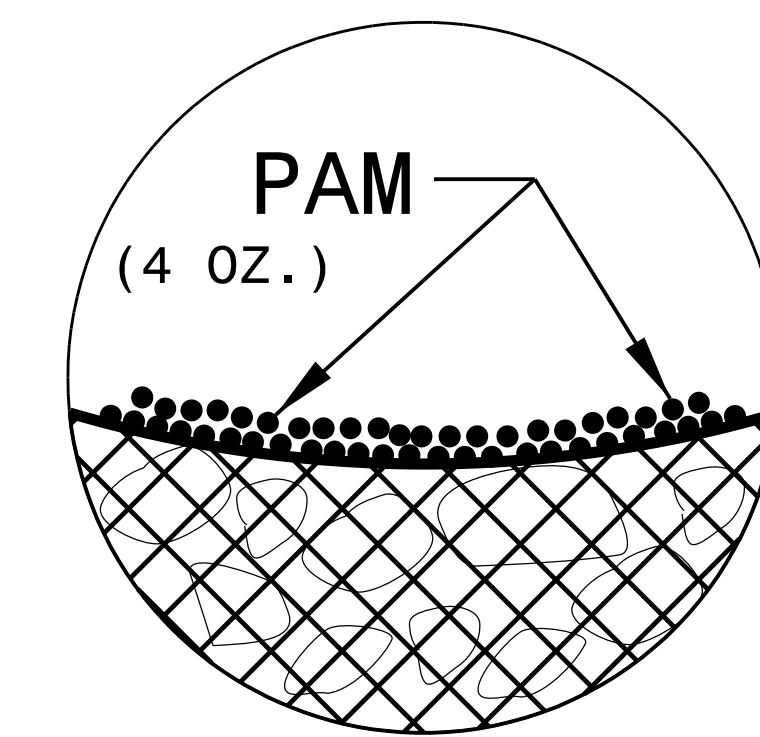
## NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

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.

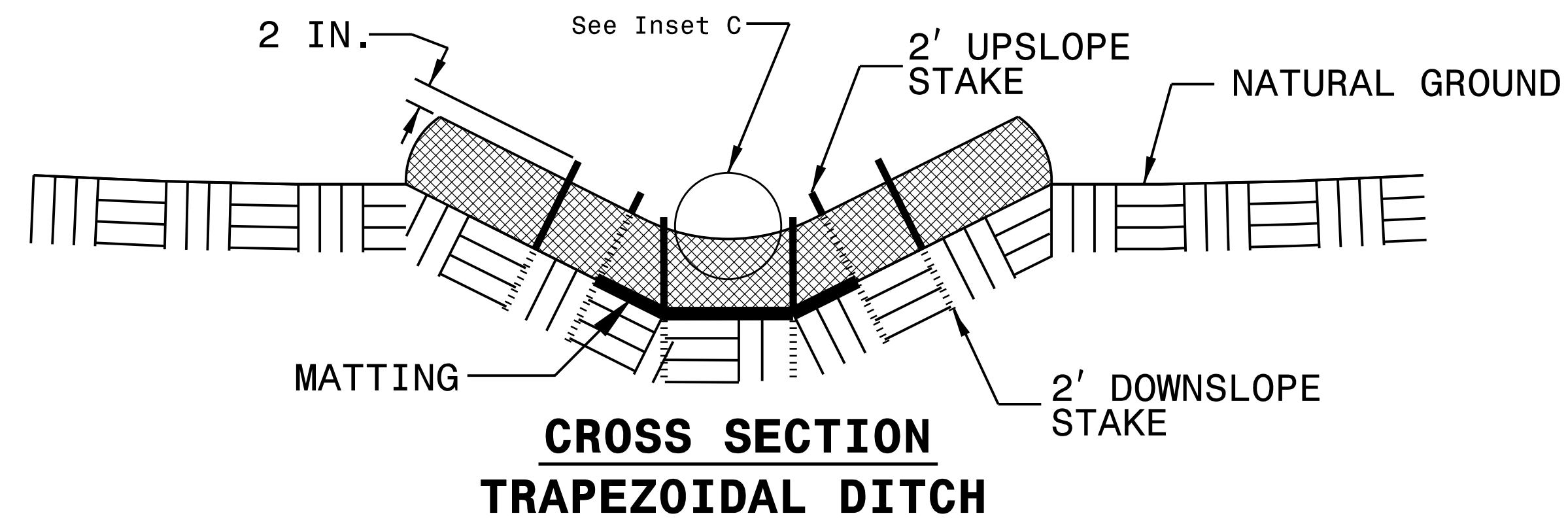
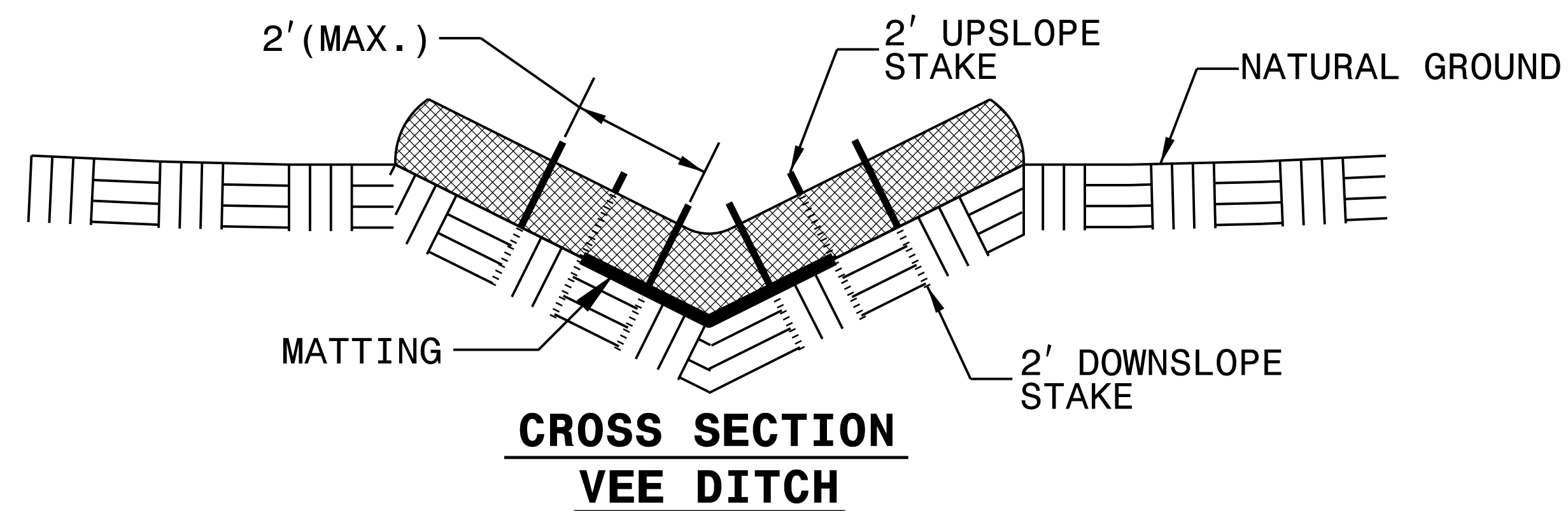
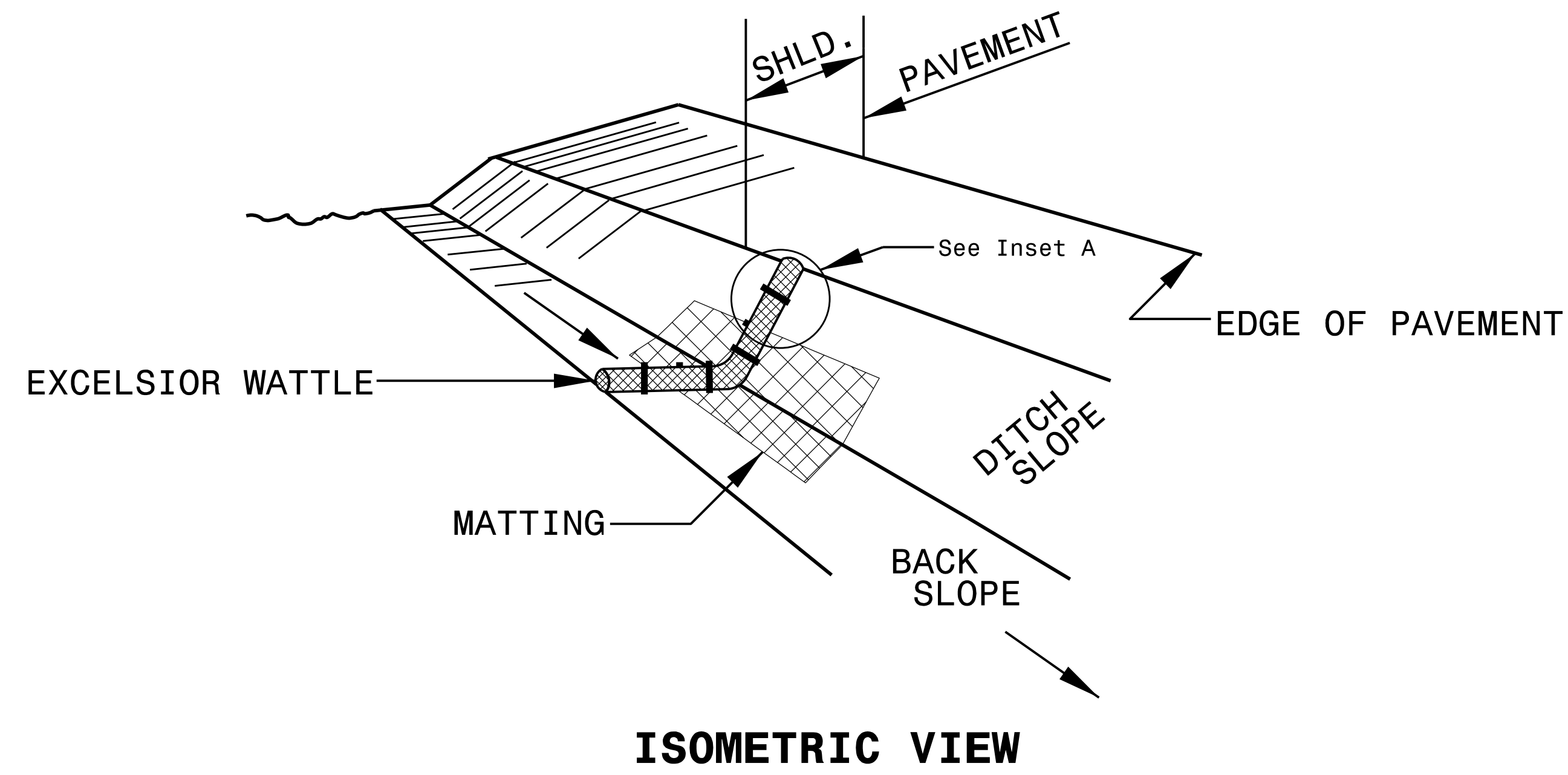
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



NOT TO SCALE

5/14/99  
CDDT SWU B5717-000-CAD GIS 910-CAD 70-NCDDOT-TIP-Erosion Control\Design\230-B5717-EC-02A-TRAC A with PAM Detail.dgn

# WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



**NOTES:**

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

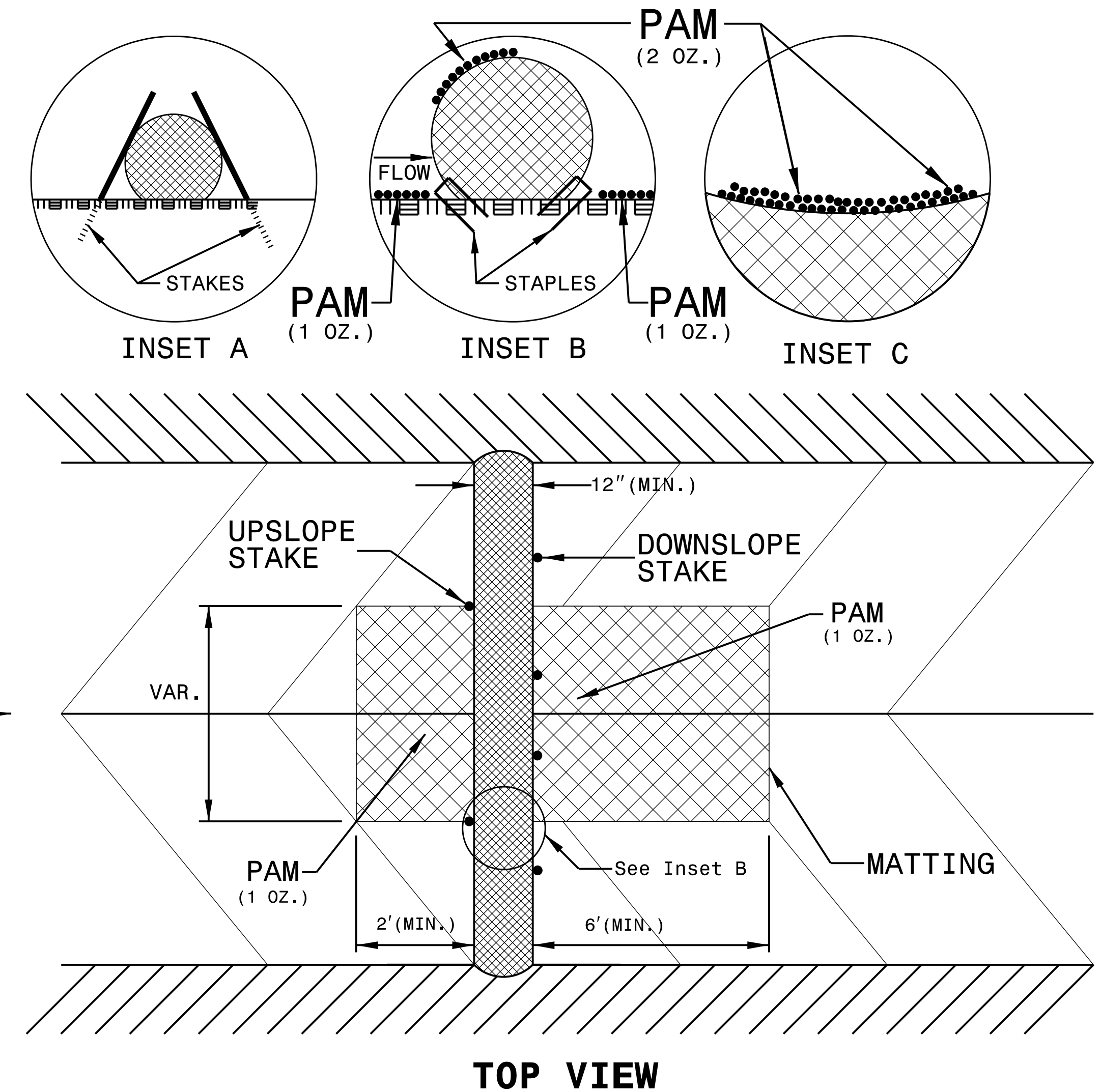
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

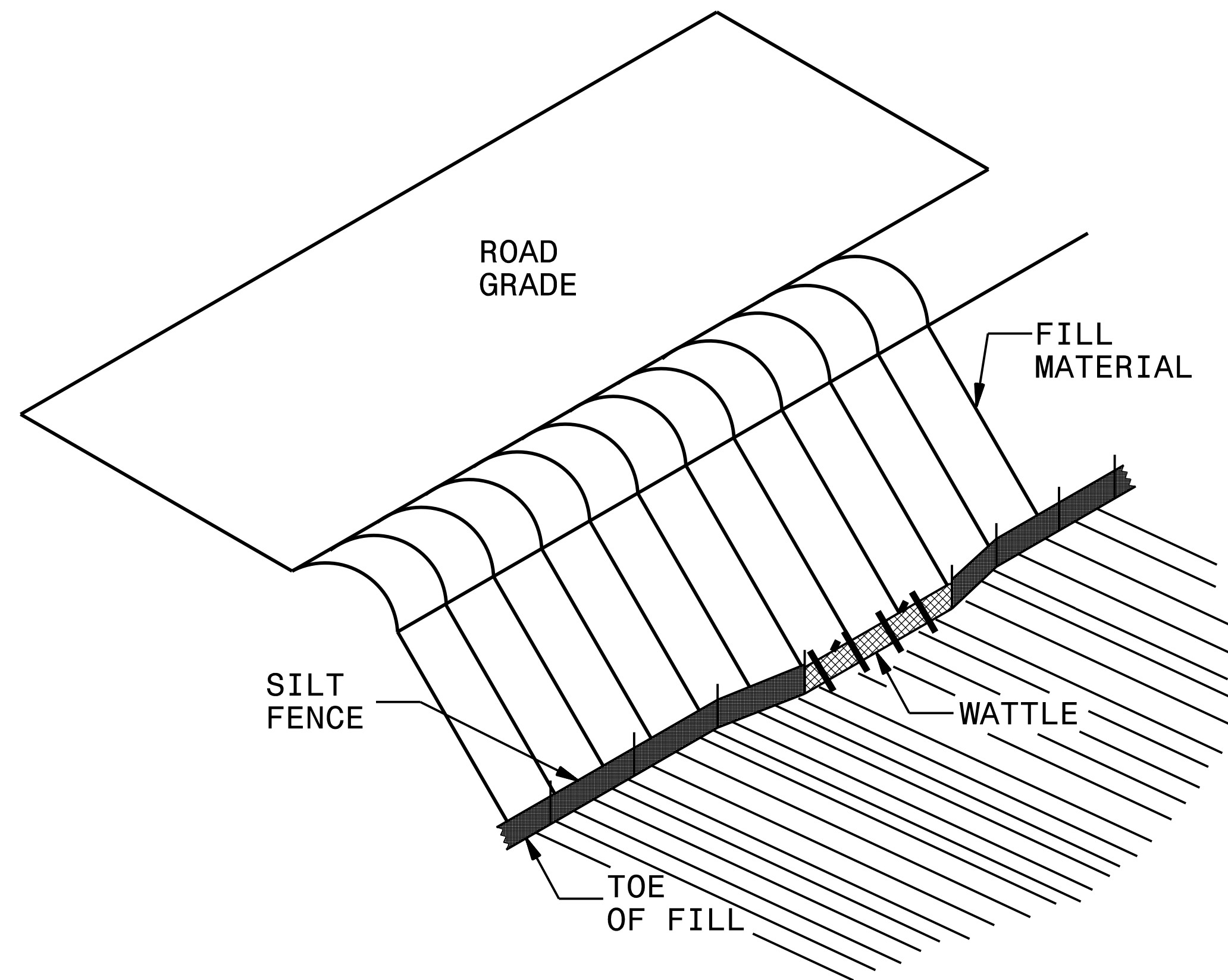
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

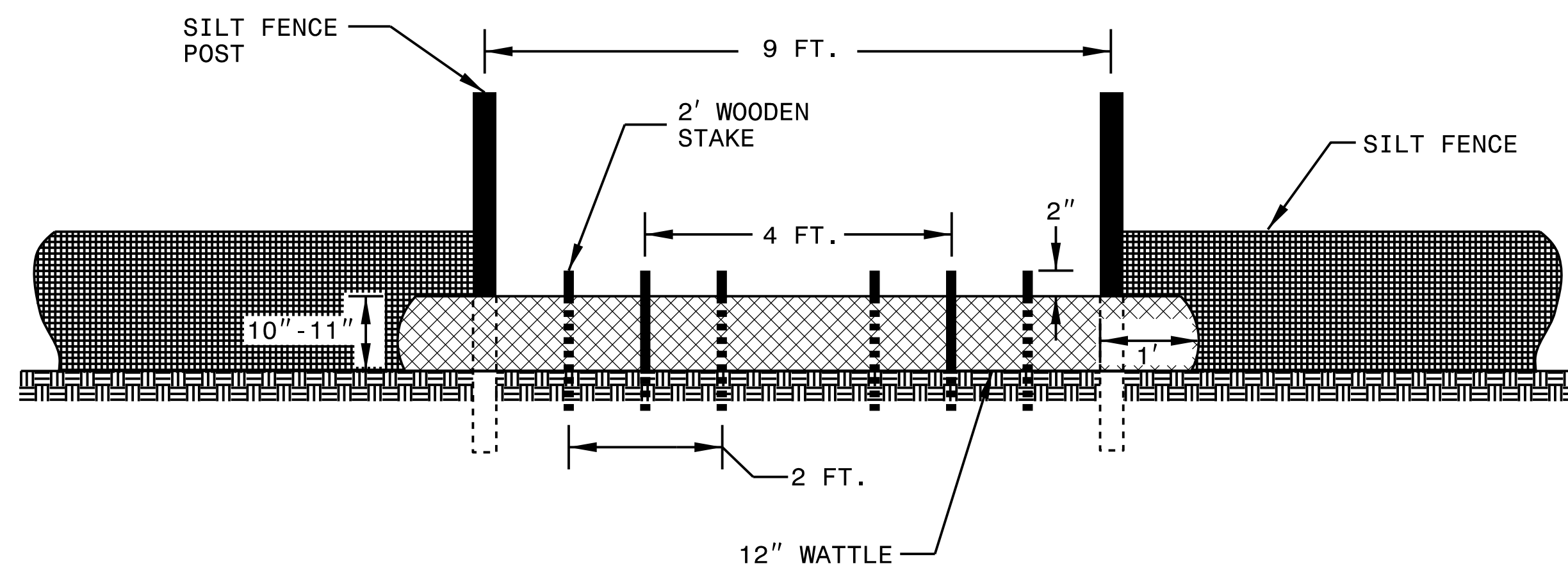


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 NCDDOT SMU

# SILT FENCE WATTLE BREAK DETAIL



**ISOMETRIC VIEW**

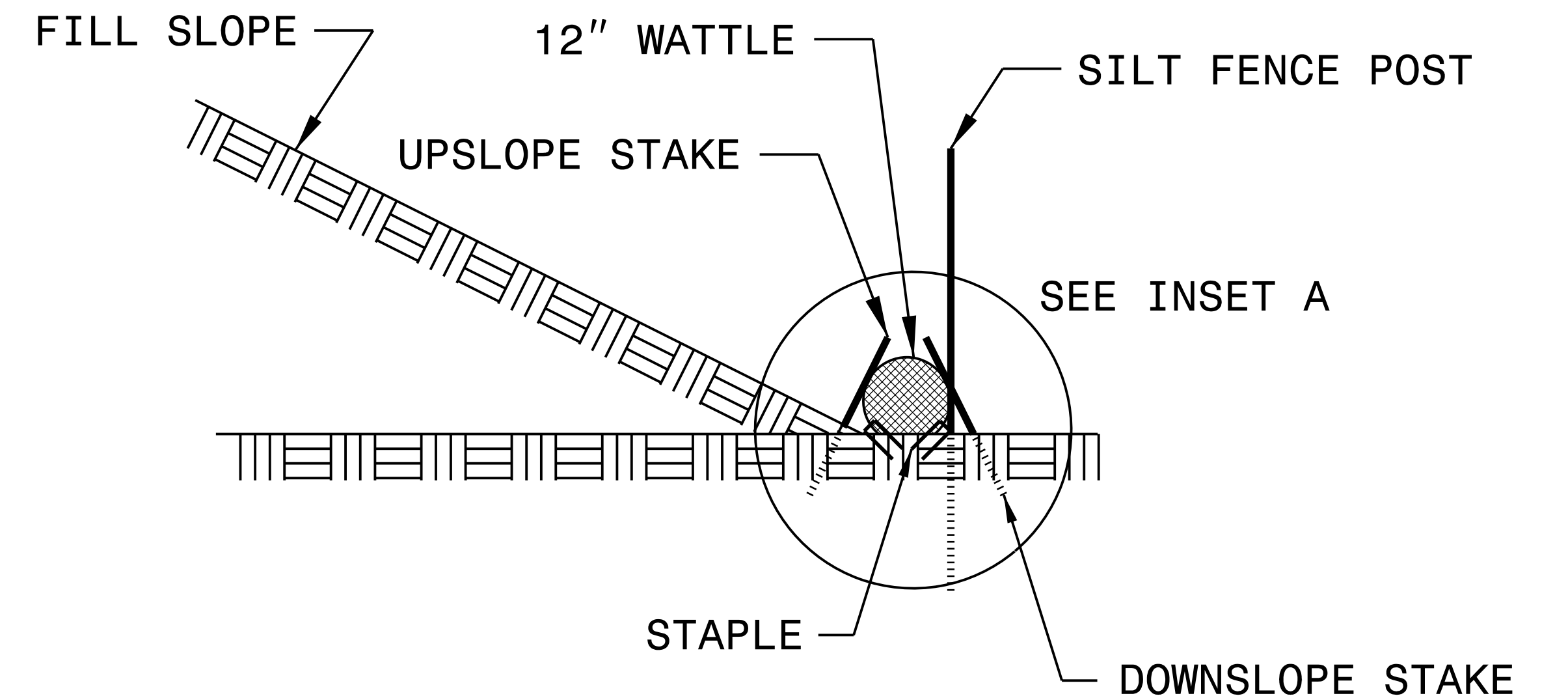
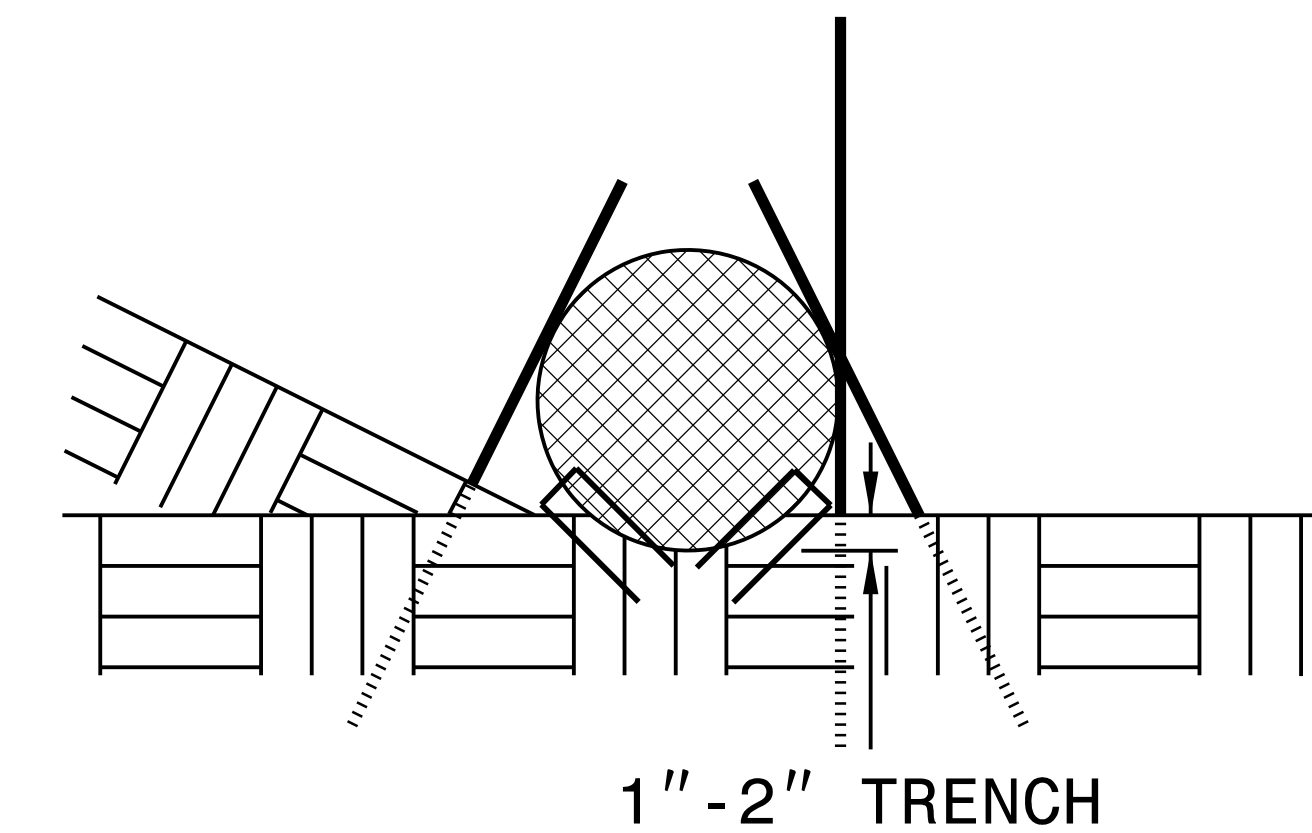


**VIEW FROM SLOPE**

**NOTES:**

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
- INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

**INSET A**



**SIDE VIEW**

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DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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# *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.

T:\SMU\B-5717\GIS\910\CAD\70\NCD01\_TIP\Erosion\_Control\Design\230-EC-03A\_Soil\_Stabilization\_Time\_Frames.dgn  
 5/14/99



**PI Sta 11+38.60**  
 $\Delta = 5' 20'' 27.8''$  (LT)  
 $D = 1' 55'' 41.5''$   
 $L = 277.00'$   
 $T = 138.60'$   
 $R = 2971.46'$

**PIs Sta 14+10.35**  
 $\Theta_s = 2' 51'' 53.2''$   
 $L_s = 200.00'$   
 $LT = 133.35'$   
 $ST = 66.68'$

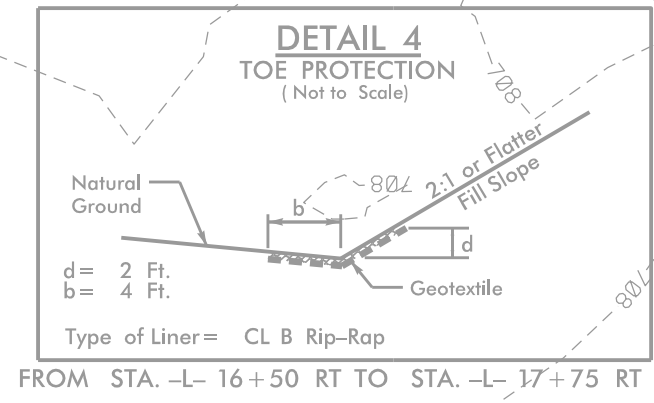
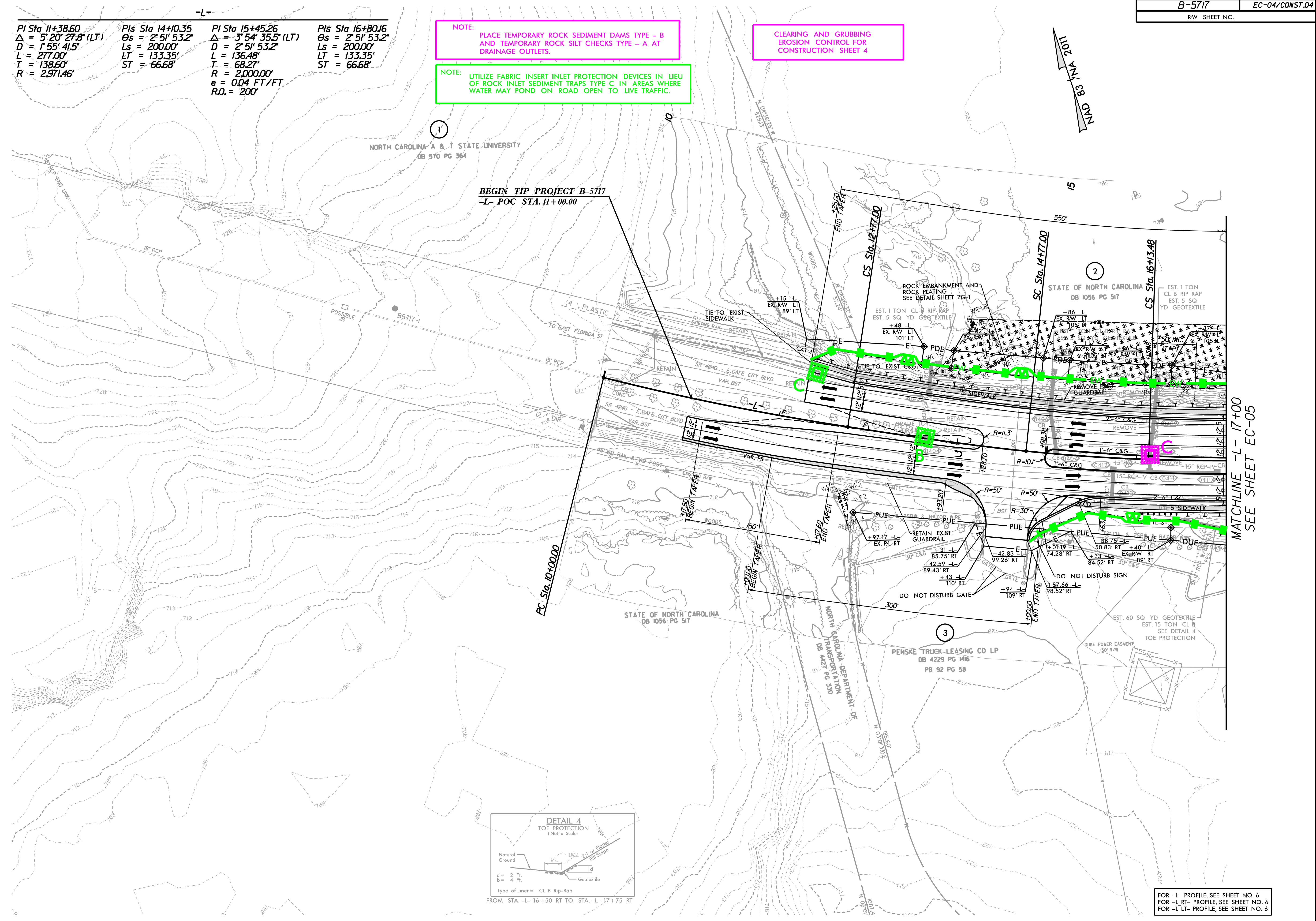
**PI Sta 15+45.26**  
 $\Delta = 3' 54'' 35.5''$  (LT)  
 $D = 2' 51'' 53.2''$   
 $L = 136.48'$   
 $T = 68.27'$   
 $R = 2000.00'$   
 $e = 0.04$  FT/FT  
 $R.O. = 200'$

**PIs Sta 16+80.16**  
 $\Theta_s = 2' 51'' 53.2''$   
 $L_s = 200.00'$   
 $LT = 133.35'$   
 $ST = 66.68'$

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

**NOTE:** UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS TYPE C IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.

**CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4**



FOR -L- PROFILE, SEE SHEET NO. 6  
 FOR -L-RT- PROFILE, SEE SHEET NO. 6  
 FOR -L-LT- PROFILE, SEE SHEET NO. 6

MATCHLINE -L- 17+00  
 SEE SHEET EC-05

5/14/99  
 3/5/10\_PV  
 9592827-NCDDOT-TIP-Erosion Control\Design\230-B5717-EC-PSH04.CG.dgn

Pls Sta 16+80.16  
 $\theta_s = 2^\circ 51' 53.2''$   
 $L_s = 200.00'$   
 $LT = 133.35'$   
 $ST = 66.68'$

Pls Sta 24+44.47  
 $\Delta = 1^\circ 35' 19.6''$  (LT)  
 $D = 0^\circ 34' 22.6''$   
 $L = 277.29'$   
 $T = 138.65'$   
 $R = 10,000.00'$   
 $e = NC$

Pls Sta 26+49.78  
 $\theta_s = 0^\circ 34' 22.6''$   
 $L_s = 200.00'$   
 $LT = 133.33'$   
 $ST = 66.67'$

Pls Sta 29+71.34  
 $\Delta = 1^\circ 32' 43.3''$  (RT)  
 $D = 3^\circ 36' 53.6''$   
 $L = 374.71'$   
 $T = 188.23'$   
 $R = 1,585.00'$

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 5

-YI-  
 Pls Sta 11+40.76  
 $\Delta = 9^\circ 57' 38.2''$  (RT)  
 $D = 60^\circ 18' 40.8''$   
 $L = 152.48'$   
 $T = 98.31'$   
 $R = 95.00'$   
 $e = 0.04$  FT/FT

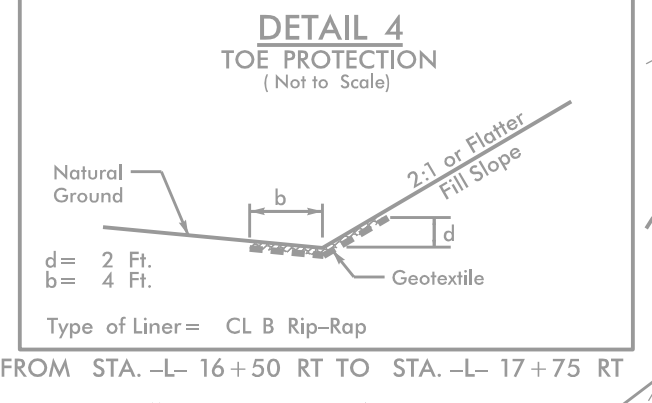
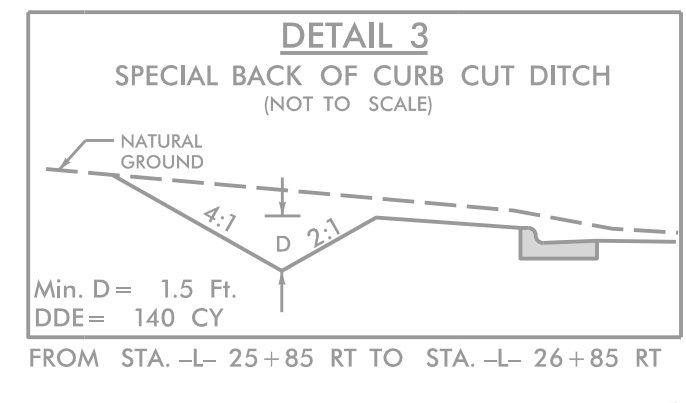
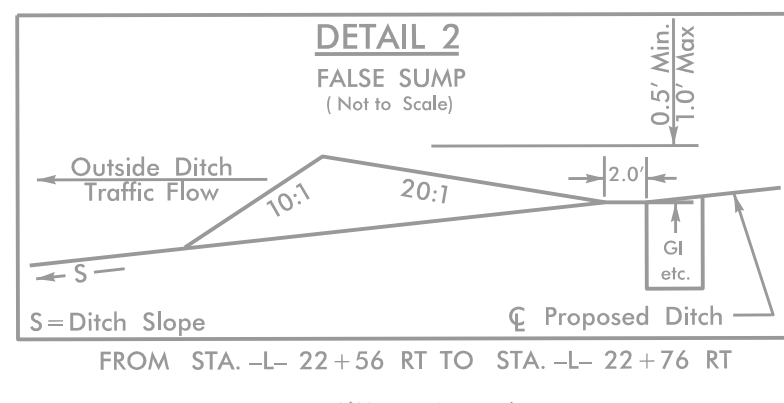
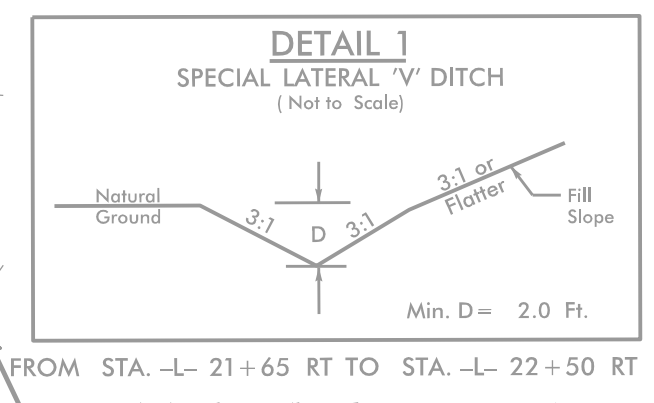
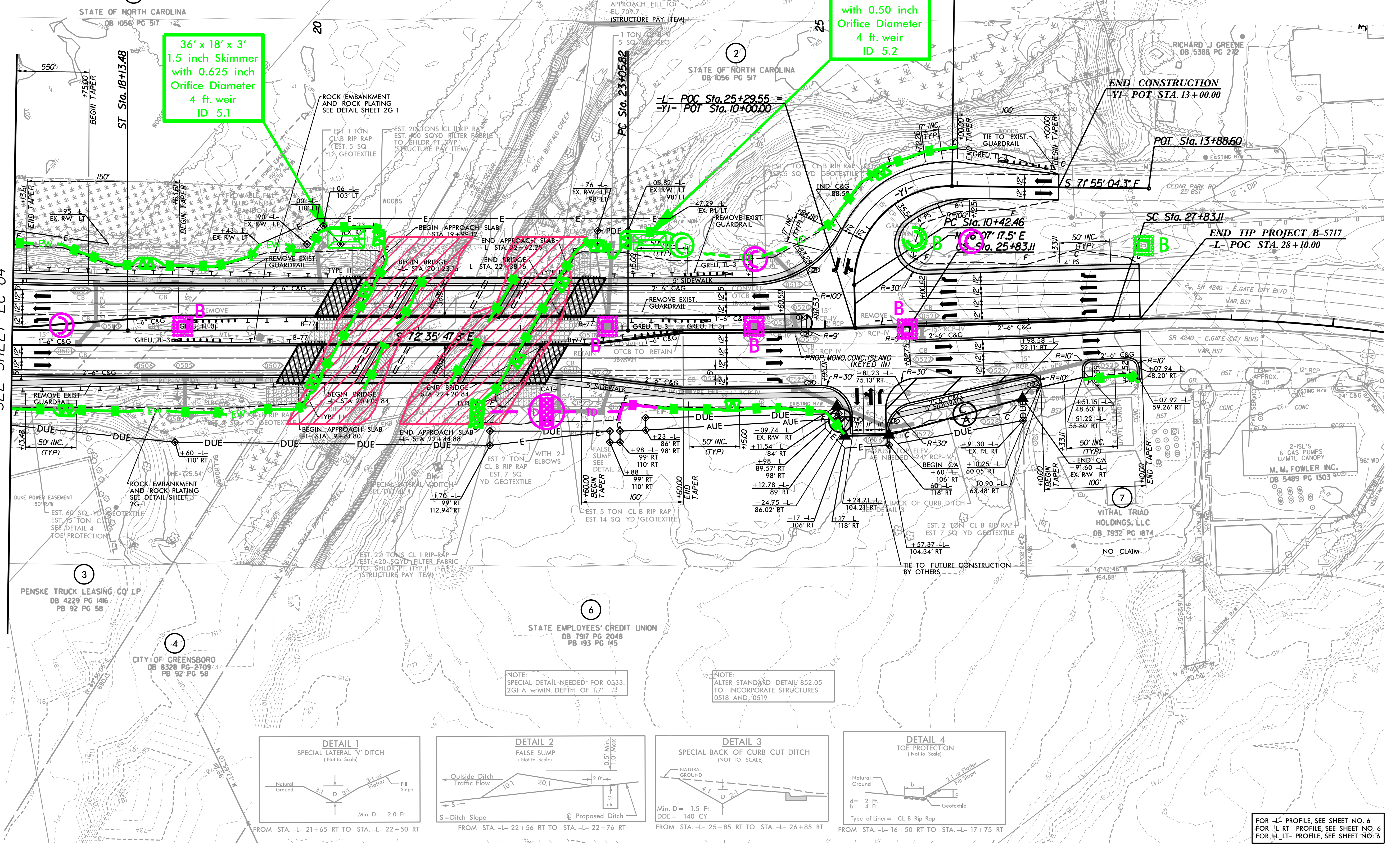
ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS

NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

32' x 16' x 3'  
1.5 inch Skimmer  
with 0.50 inch  
Orifice Diameter  
4 ft. weir  
ID 5.2

36' x 18' x 3'  
1.5 inch Skimmer  
with 0.625 inch  
Orifice Diameter  
4 ft. weir  
ID 5.1

MATCHLINE -L- 17+00  
SEE SHEET EC-04



FOR -L- PROFILE SEE SHEET NO. 6  
FOR -L- RT- PROFILE SEE SHEET NO. 6  
FOR -L- LT- PROFILE SEE SHEET NO. 6

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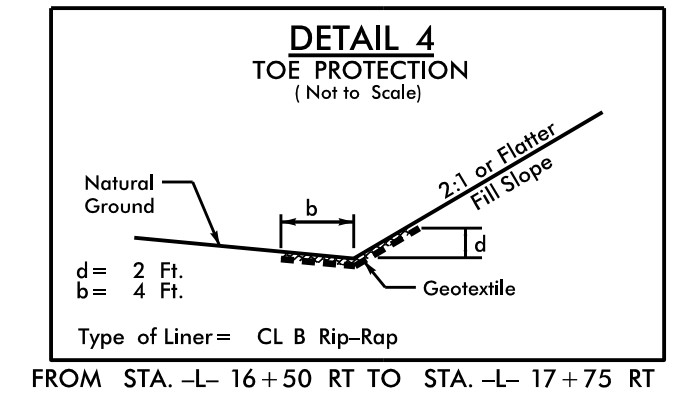
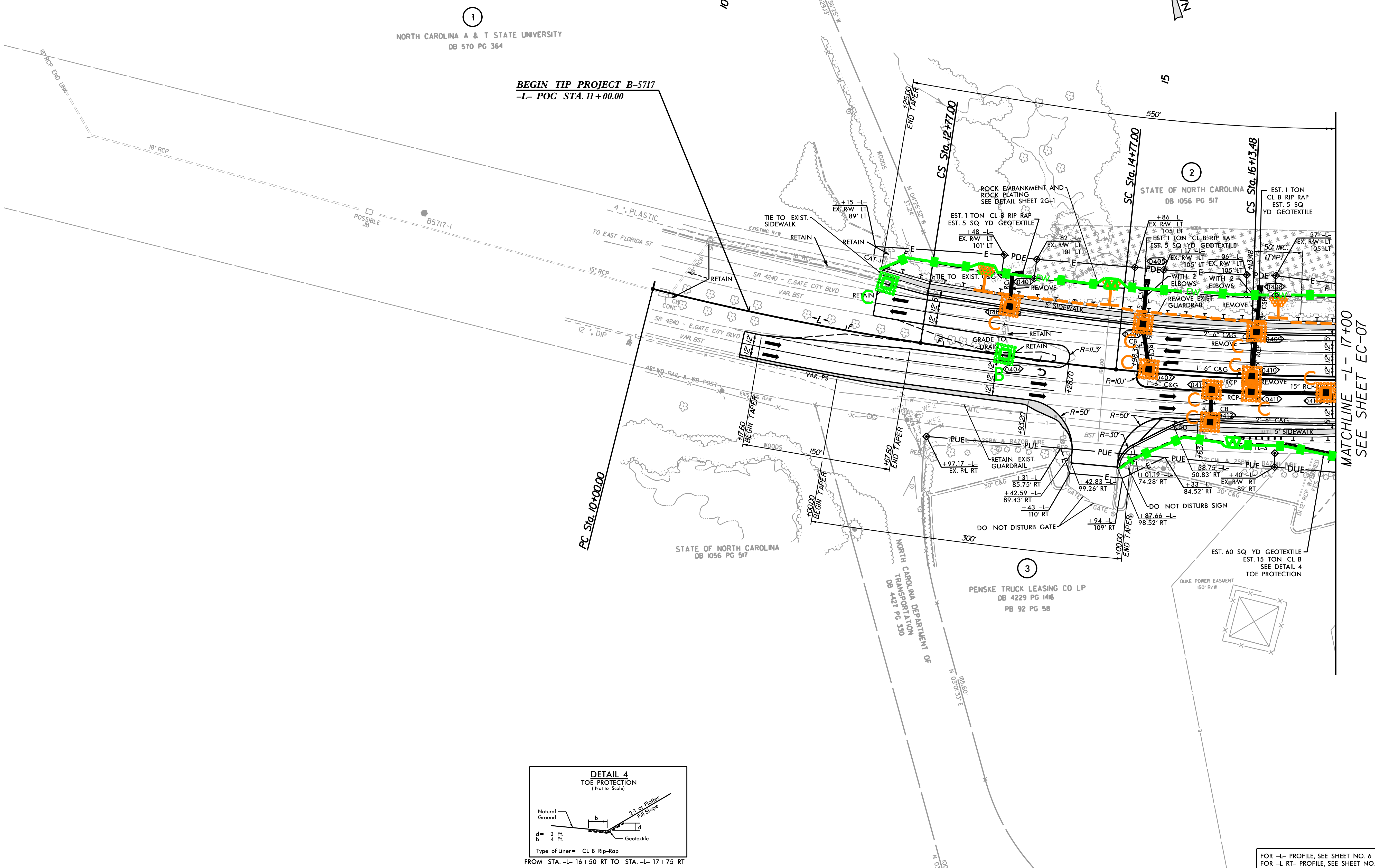
-L-

PI Sta 11+38.60 $\Delta = 5' 20'' 27.8''$ (LT) D = 155' 41.5" L = 277.00' T = 138.60' R = 2971.46'	PIs Sta 14+10.35 $\Theta_s = 2' 51'' 53.2''$ Ls = 200.00' LT = 133.35' ST = 66.68'	PI Sta 15+45.26 $\Delta = 3' 54'' 35.5''$ (LT) D = 2' 51'' 53.2" L = 136.48' T = 68.27' R = 2000.00' e = 0.04 FT/FT R.O. = 200'	PIs Sta 16+80.16 $\Theta_s = 2' 51'' 53.2''$ Ls = 200.00' LT = 133.35' ST = 66.68'
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**NOTE:** UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS TYPE C IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.

Place Matting for Erosion Control on Slope as Work Allows.  
Sta. 13+50 to Sta. 17+00 LT  
Sta. 15+00 to Sta. 17+00 RT

5/14/99  
5717.PLV  
B-5717\900-CAD GIS\910-CAD\70-NCDDT\_TIP\Erosion\_Contra\Design\230-B5717\_EC\_PSH06.FG.dgn



FOR -L- PROFILE, SEE SHEET NO. 6  
FOR -L RT- PROFILE, SEE SHEET NO. 6  
FOR -L LT- PROFILE, SEE SHEET NO. 6

MATCHLINE -L- 17+00  
SEE SHEET EC-07

**-L-**

PIs Sta 16+80.16 θs = 2° 51' 53.2" Ls = 200.00' LT = 133.35' ST = 66.68'	PIs Sta 24+44.47 Δ = 1° 35' 19.6" (LT) D = 0° 34' 22.6" L = 277.29' T = 138.65' R = 10,000.00' e = NC	PIs Sta 26+49.78 θs = 0° 34' 22.6" Ls = 200.00' LT = 133.33' ST = 66.67'	PIs Sta 29+71.34 Δ = 1° 32' 43.3" (RT) D = 3° 36' 53.6" L = 374.71' T = 188.23' R = 1,585.00'
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**-YI-**

PIs Sta 11+40.76 Δ = 9° 57' 38.2" (RT) D = 60° 18' 40.8" L = 152.48' T = 98.31' R = 95.00' e = 0.04 FT/FT
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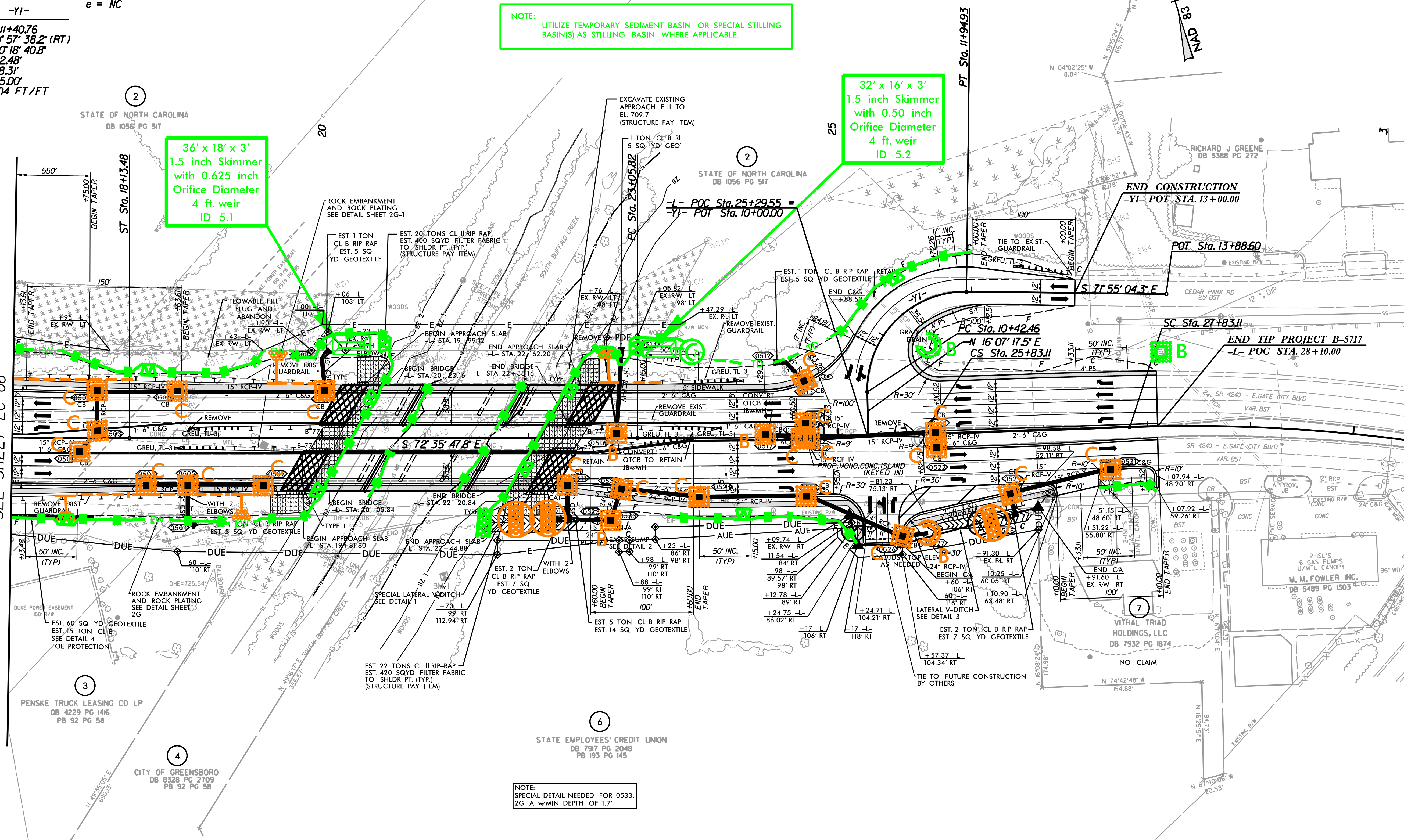
Place Matting for Erosion Control on Slope as Work Allows.  
 Sta. 17+00 to Sta. 20+30 LT  
 Sta. 22+75 to Sta. 25+00 LT  
 Sta. 17+00 to Sta. 19+50 RT

NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

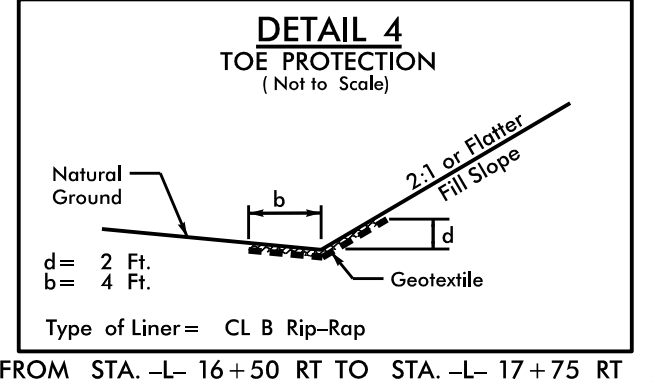
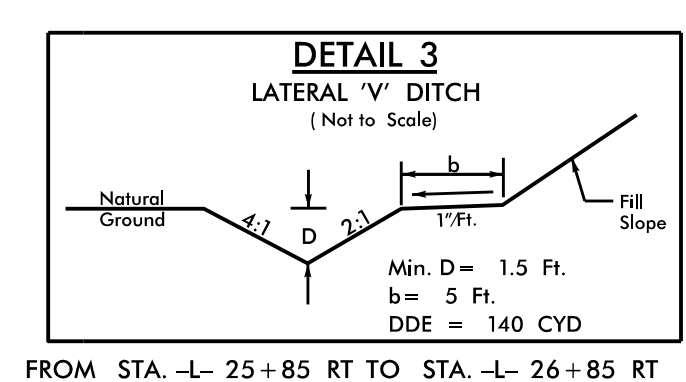
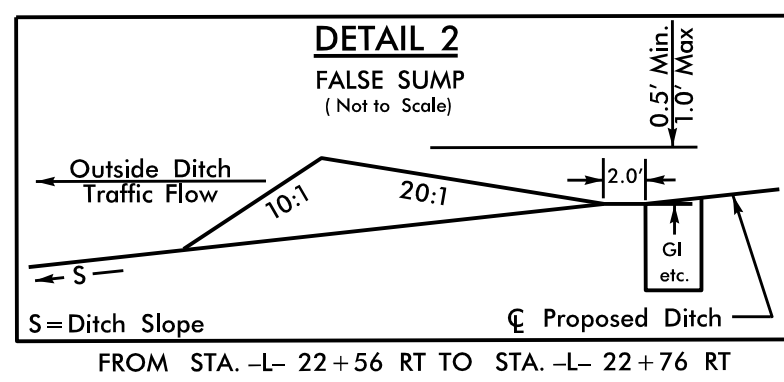
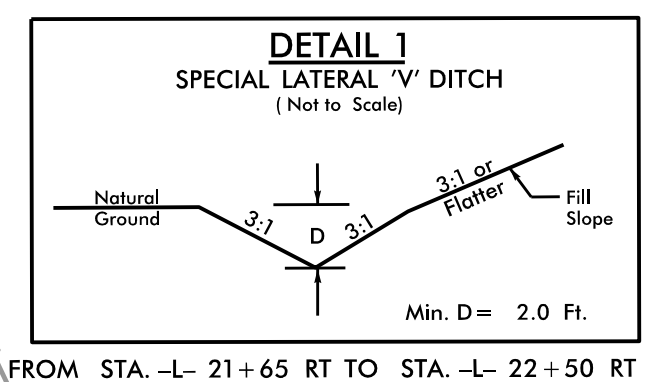
36' x 18' x 3'  
 1.5 inch Skimmer  
 with 0.625 inch Orifice Diameter  
 4 ft. weir  
 ID 5.1

32' x 16' x 3'  
 1.5 inch Skimmer  
 with 0.50 inch Orifice Diameter  
 4 ft. weir  
 ID 5.2

MATCHLINE -L- 17+00  
 SEE SHEET EC-06



NOTE: SPECIAL DETAIL NEEDED FOR 0533. 2GI-A w/MIN. DEPTH OF 1.7'



FOR -L- PROFILE, SEE SHEET NO. 6  
 FOR -L-RT- PROFILE, SEE SHEET NO. 6  
 FOR -L-LT- PROFILE, SEE SHEET NO. 6

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