

**This electronic collection of documents is provided
for the convenience of the user
and is Not a Certified Document –**

**The documents contained herein were originally issued
and sealed by the individuals whose names and license
numbers appear on each page, on the dates appearing
with their signature on that page.**

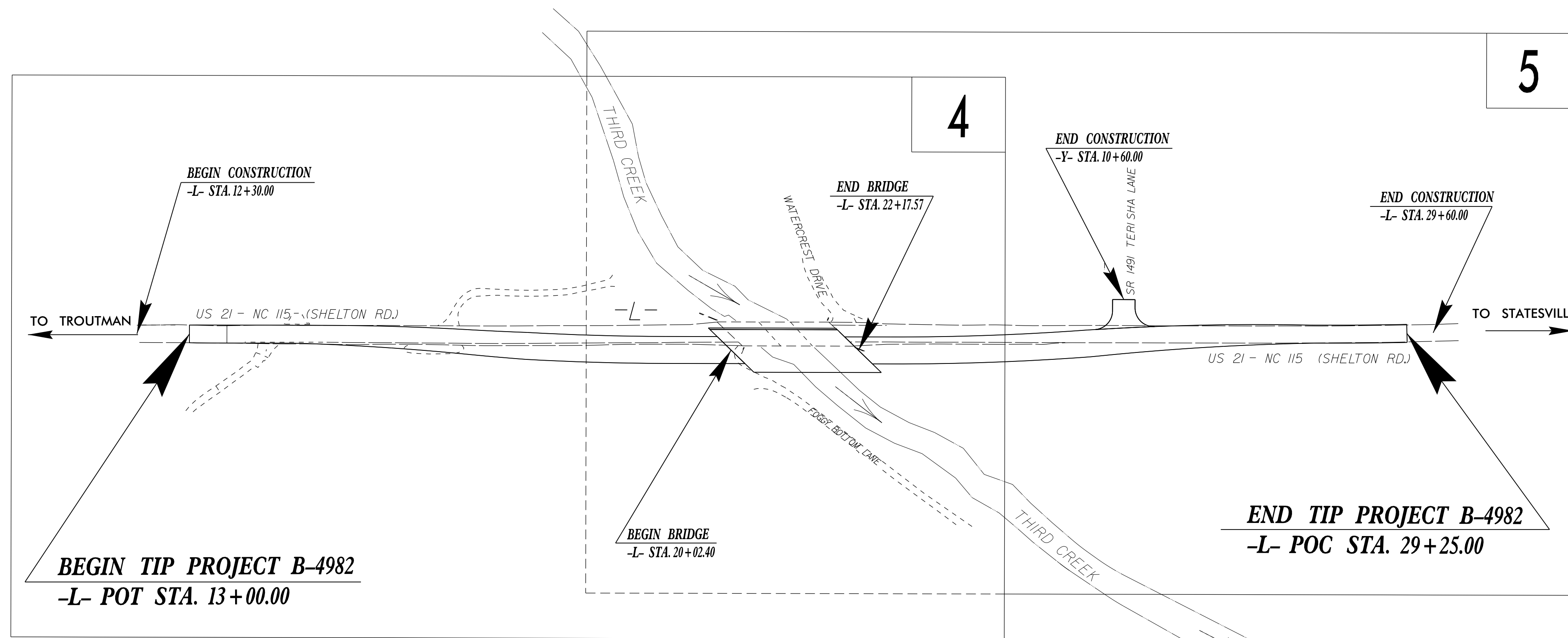
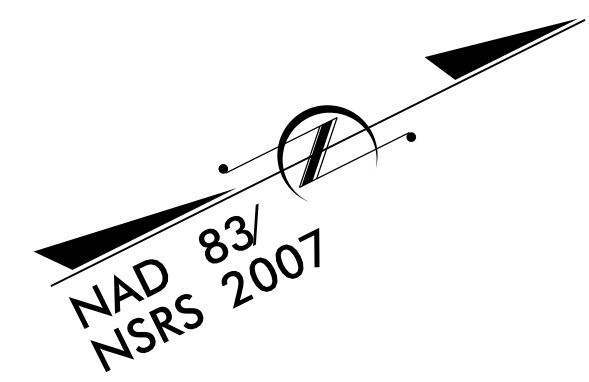
**This file or an individual page
shall not be considered a certified document.**

TIP PROJECT: B-4982

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 PLAN FOR PROPOSED
 HIGHWAY EROSION CONTROL
IREDELL COUNTY

**LOCATION: REPLACE BRIDGE NO. 38 OVER THIRD CREEK
 ON US 21 - NC 115**

TYPE OF WORK: GRADING, DRAINAGE, PAVING, & STRUCTURE

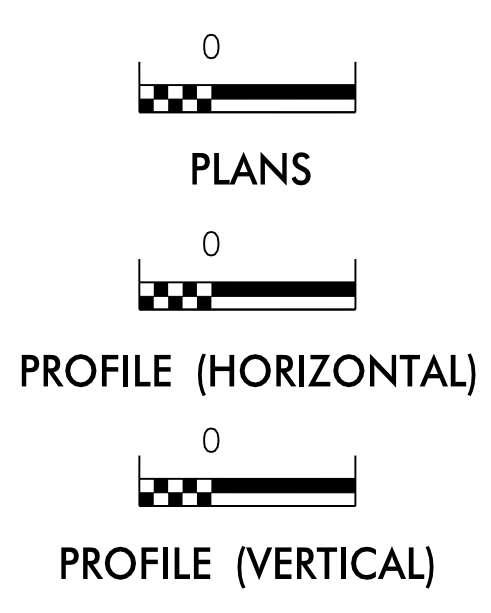


EROSION AND SEDIMENT CONTROL MEASURES

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	XXX XXX XXX
1622.01	Temporary Berms and Slope Drains	— — — — —
1650.02	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▨
1633.02	Temporary Rock Silt Check Type-B	▨
	Wattle / Coir Fiber Wattle	— — — — —
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	— — — — —
1634.01	Temporary Rock Sediment Dam Type-A	▨
1634.02	Temporary Rock Sediment Dam Type-B	▨
1635.01	Rock Pipe Inlet Sediment Trap Type-A	⊓
1635.02	Rock Pipe Inlet Sediment Trap Type-B	⊓
1630.04	Stilling Basin	▭
1630.06	Special Stilling Basin	▭
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭

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

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 1, 2016 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

Prepared In the Office of:
ROADSIDE ENVIRONMENTAL UNIT
 1 South Wilmington St.
 Raleigh, NC 27611
2018 STANDARD SPECIFICATIONS
 Designed by:
Noelle Ring **3456**
 NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

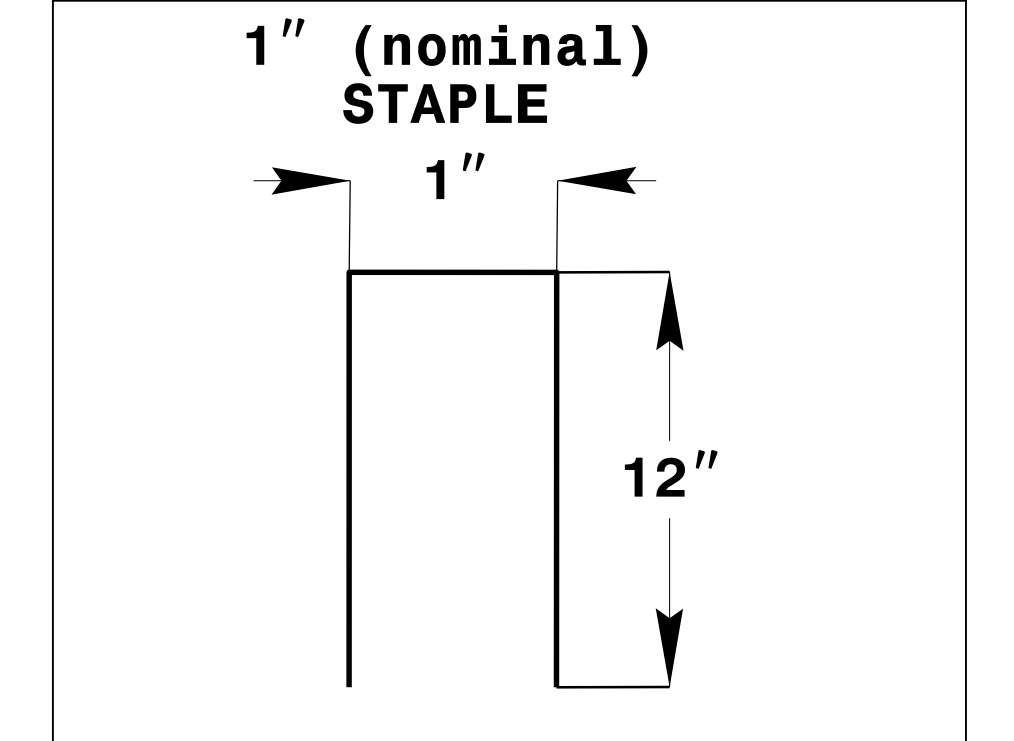
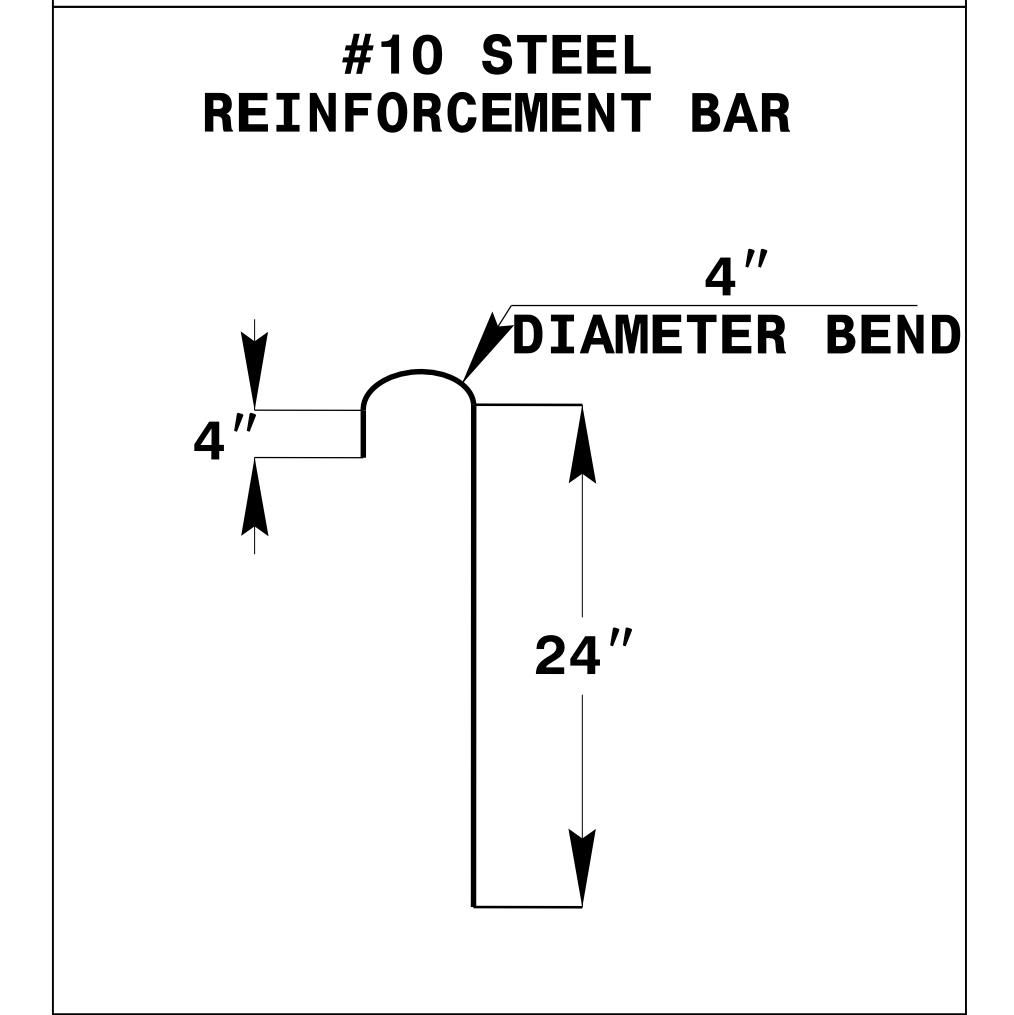
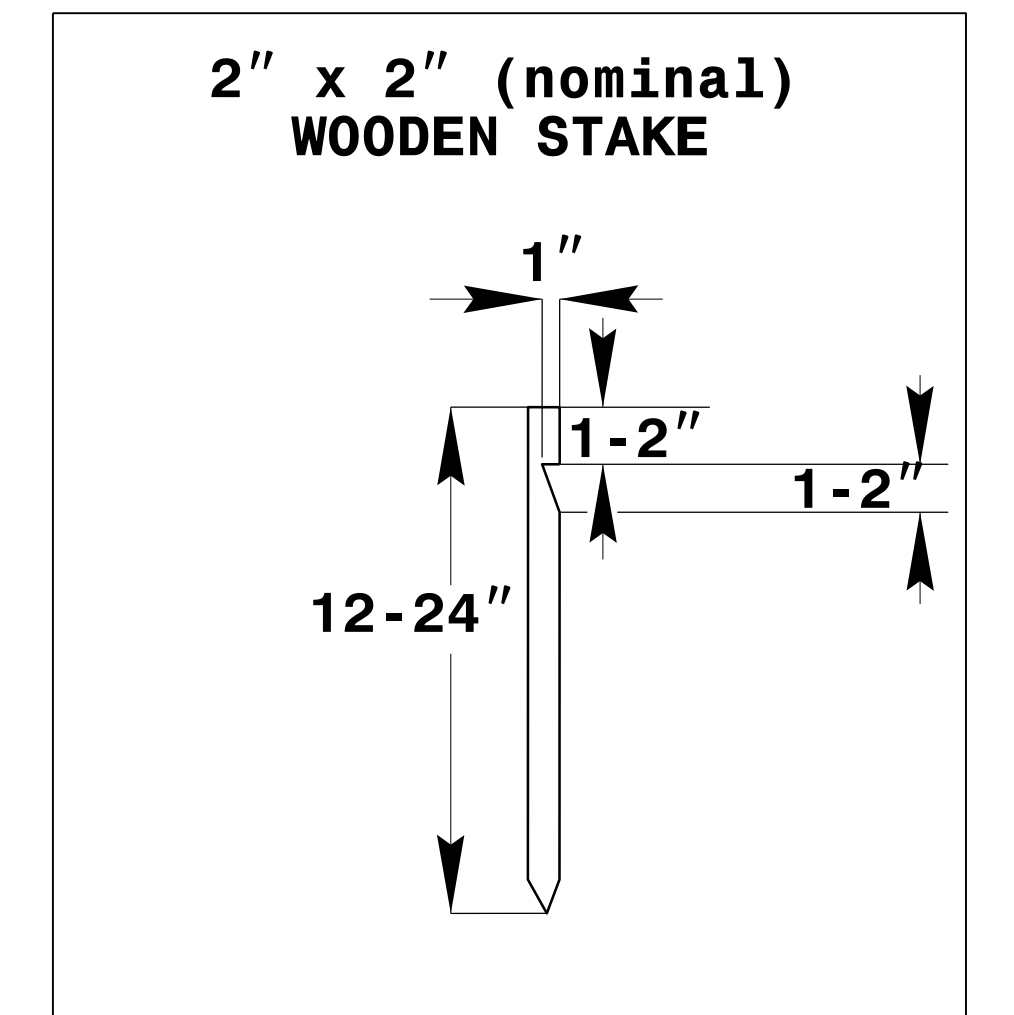
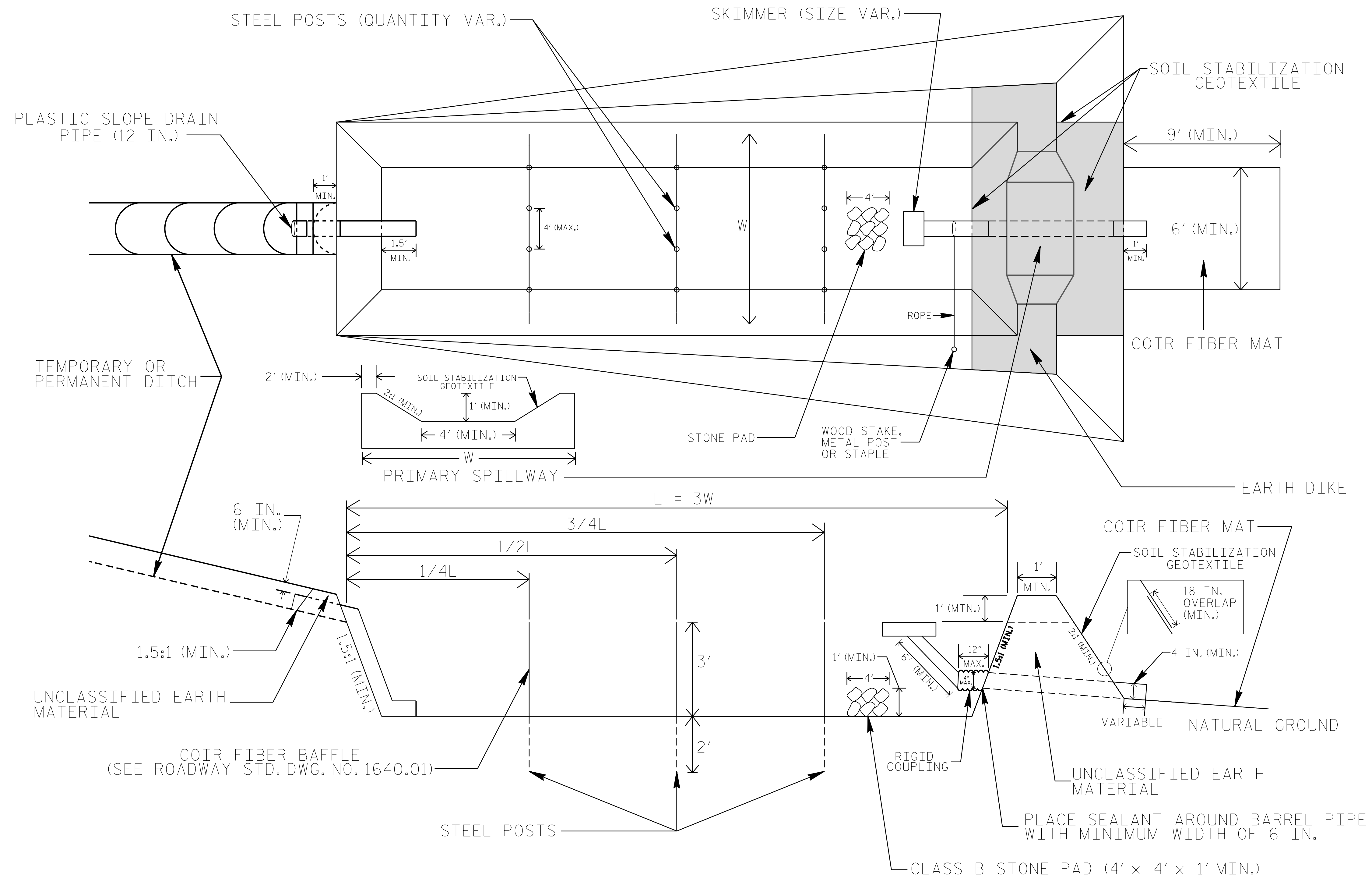
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	1633.03 Temporary Rock Silt Check Type C
1630.02 Silt Basin Type A	1634.01 Temporary Rock Sediment Dam Type A
1630.03 Temporary Silt Ditch	1634.02 Temporary Rock Sediment Dam Type B
1630.04 Stilling Basin	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.05 Temporary Diversion	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.06 Special Stilling Basin	1640.01 Coir Fiber Jaffle
1631.01 Matting Installation	1645.01 Temporary Stream Crossing

30-JAN-2018 17:01 R:\ENVI\PROJECTS\B-4982-EC-tsh.dgn

PROJECT REFERENCE NO. B-4982	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL



COIR FIBER MAT ANCHOR OPTIONS

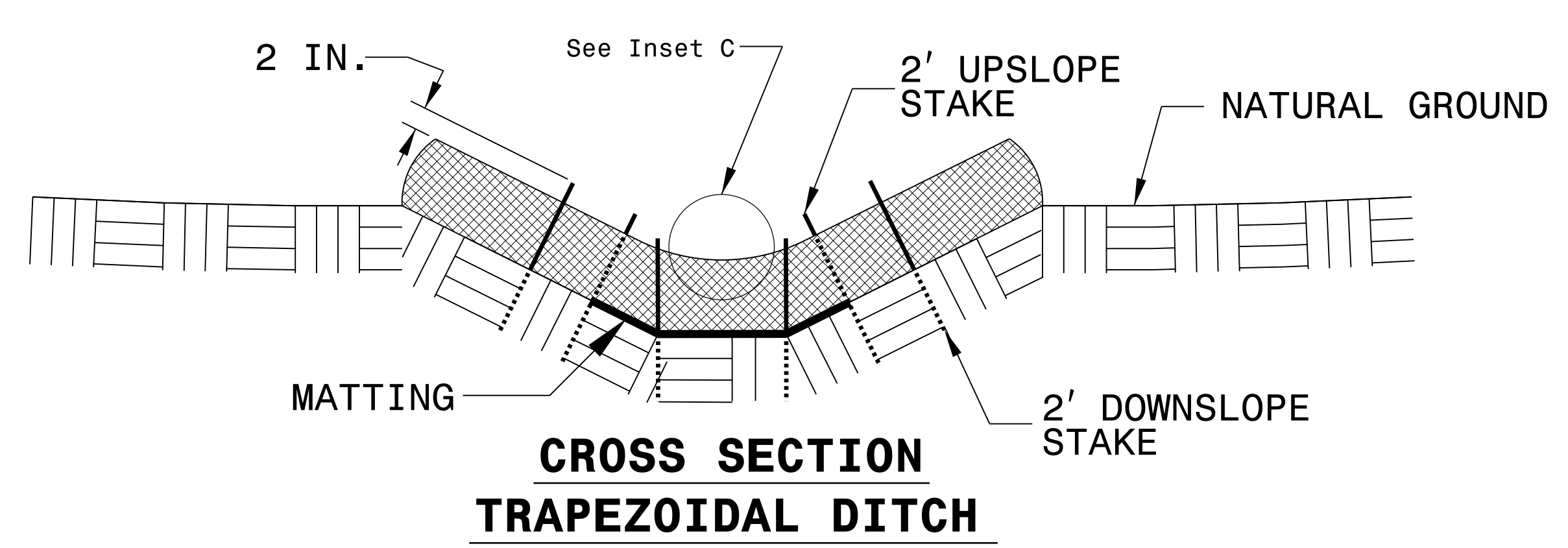
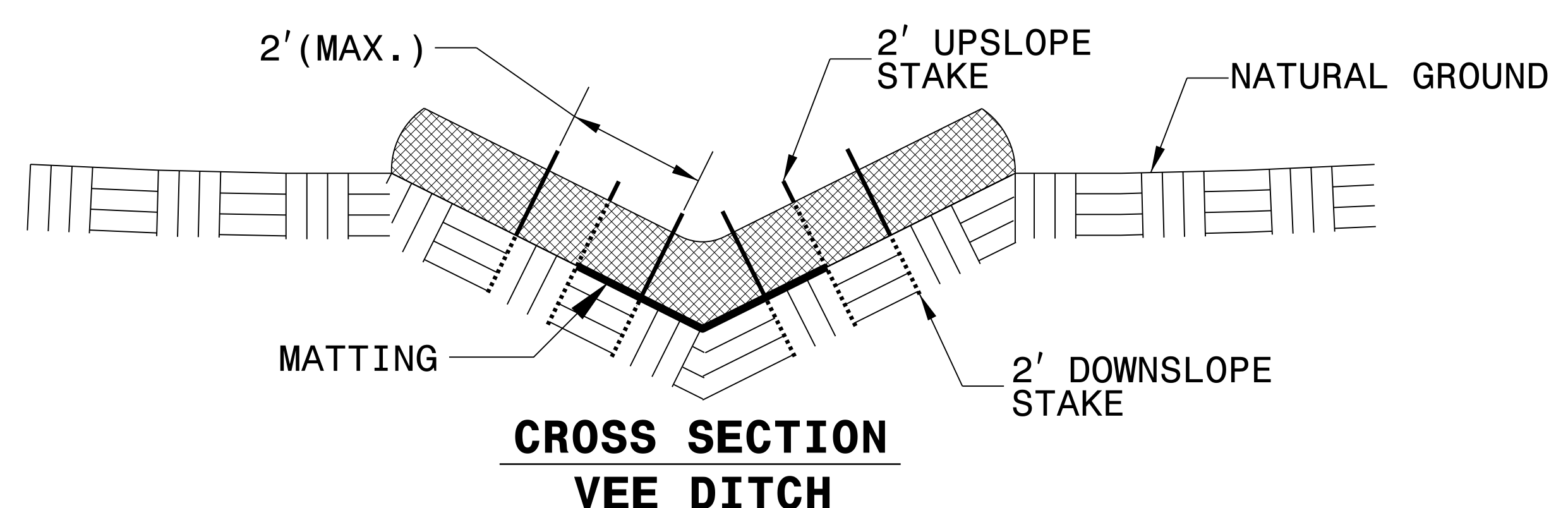
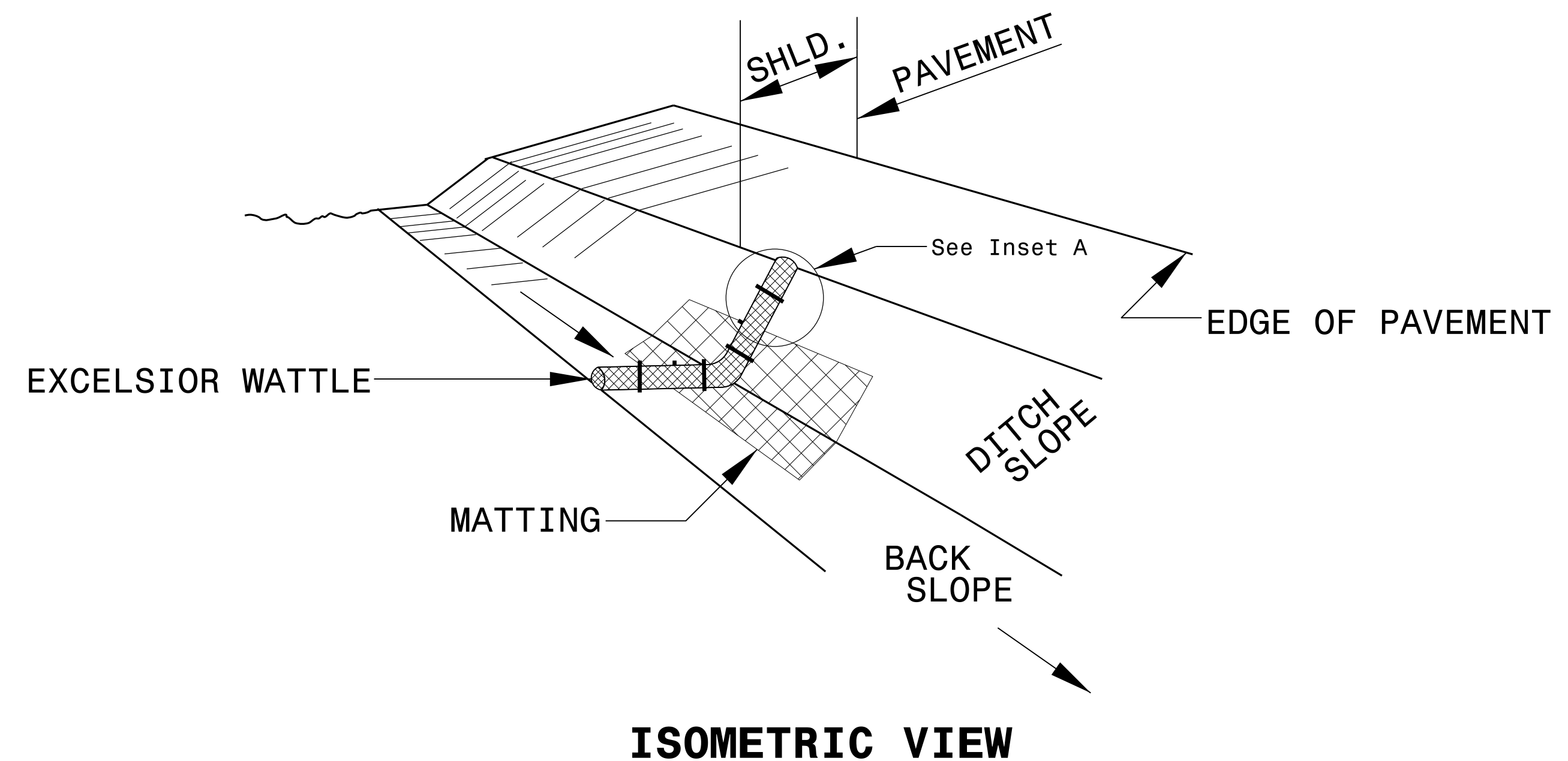
NOTES

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

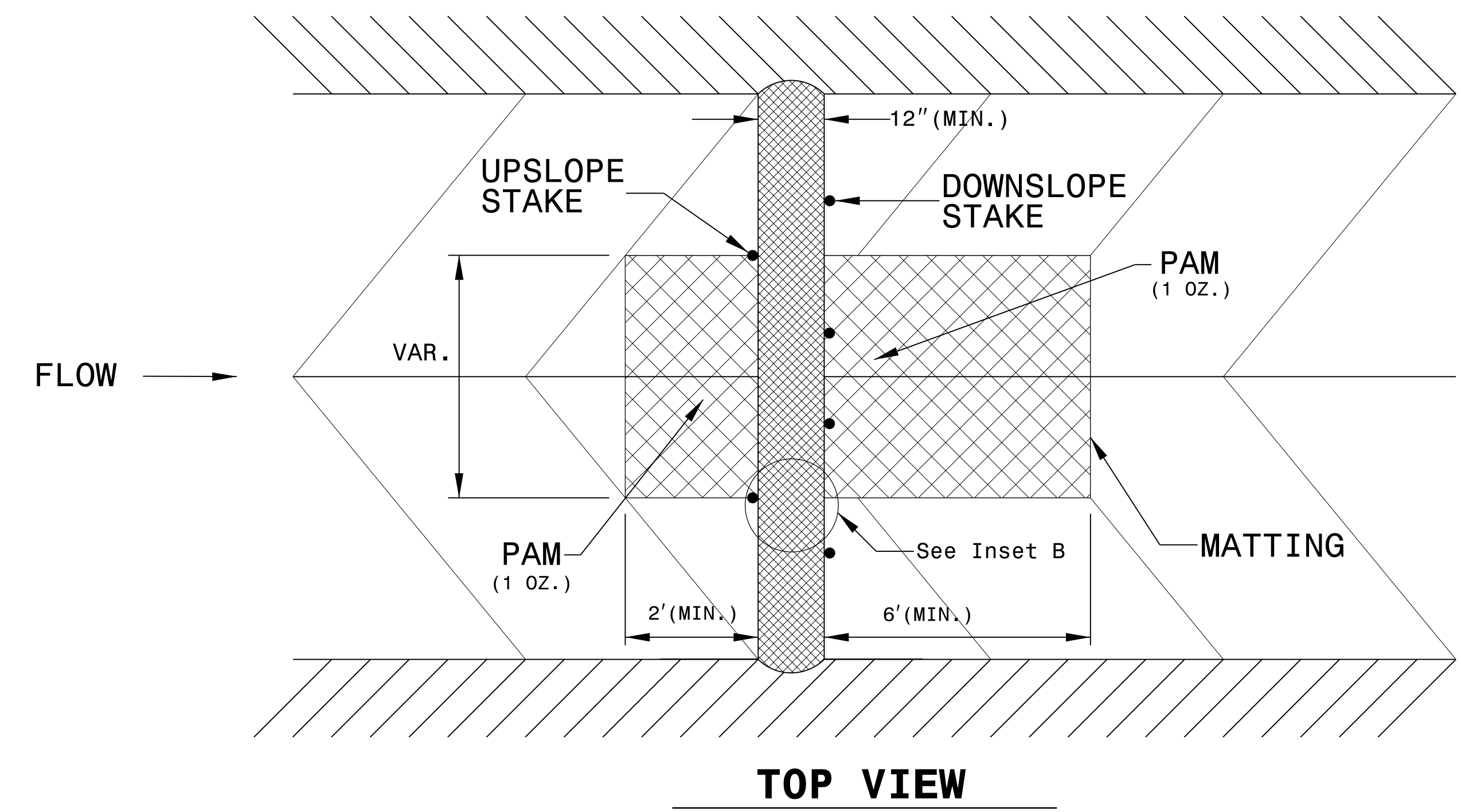
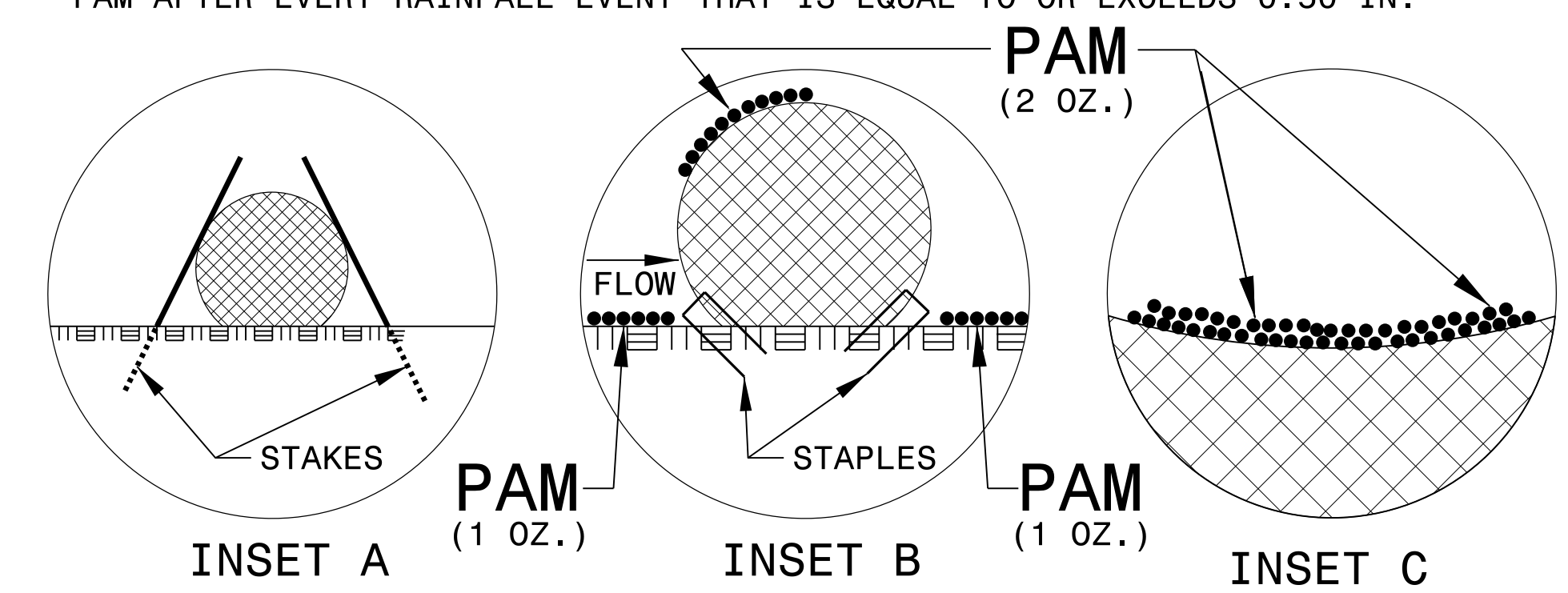
PROJECT REFERENCE NO. B-4982	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



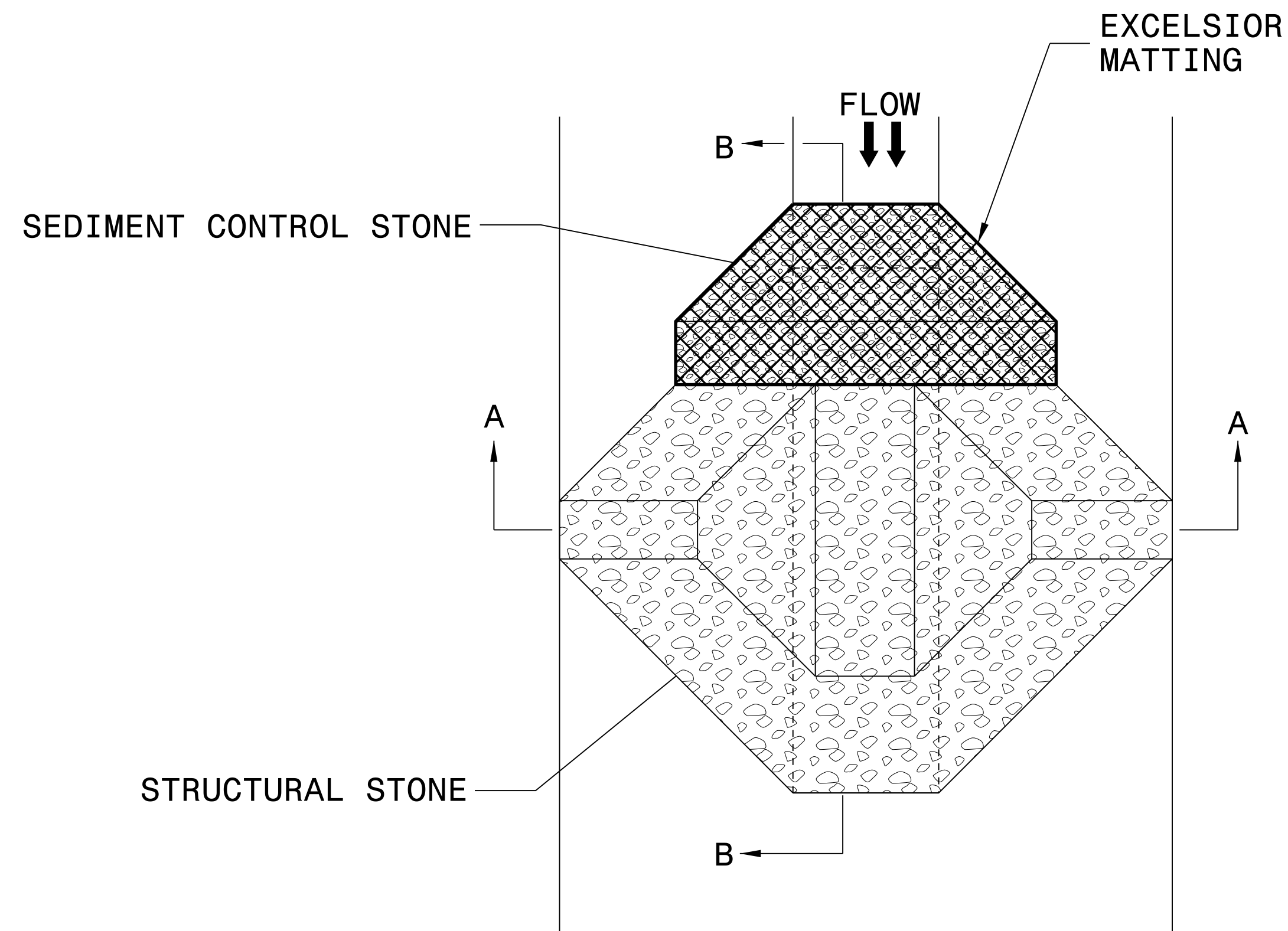
NOTES:

- 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.

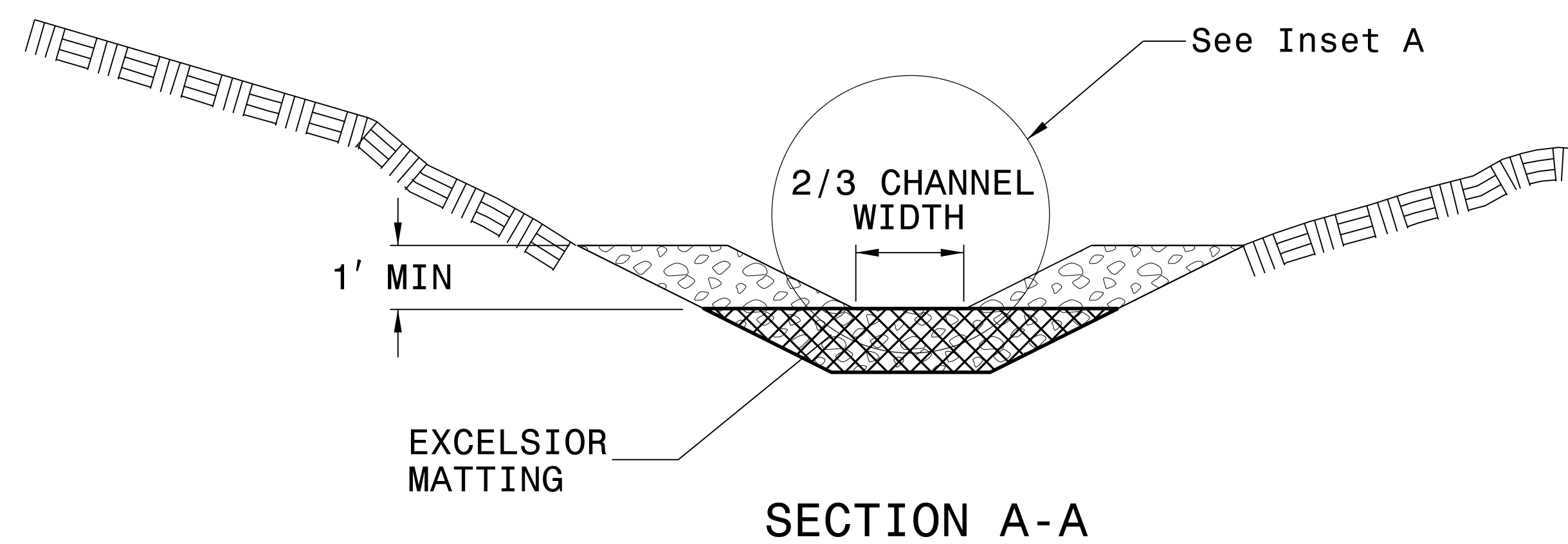


PROJECT REFERENCE NO. B-4982	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN



SECTION A-A

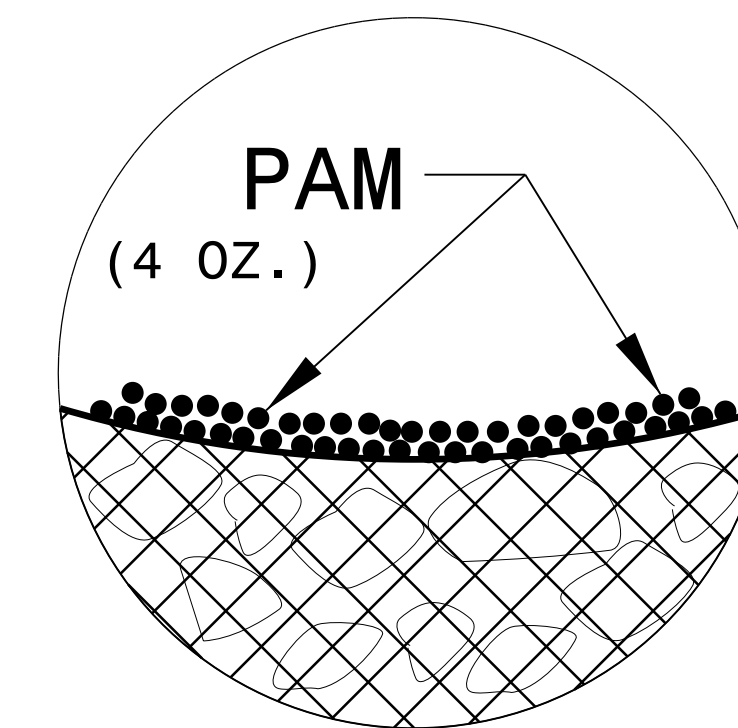
NOTES:

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

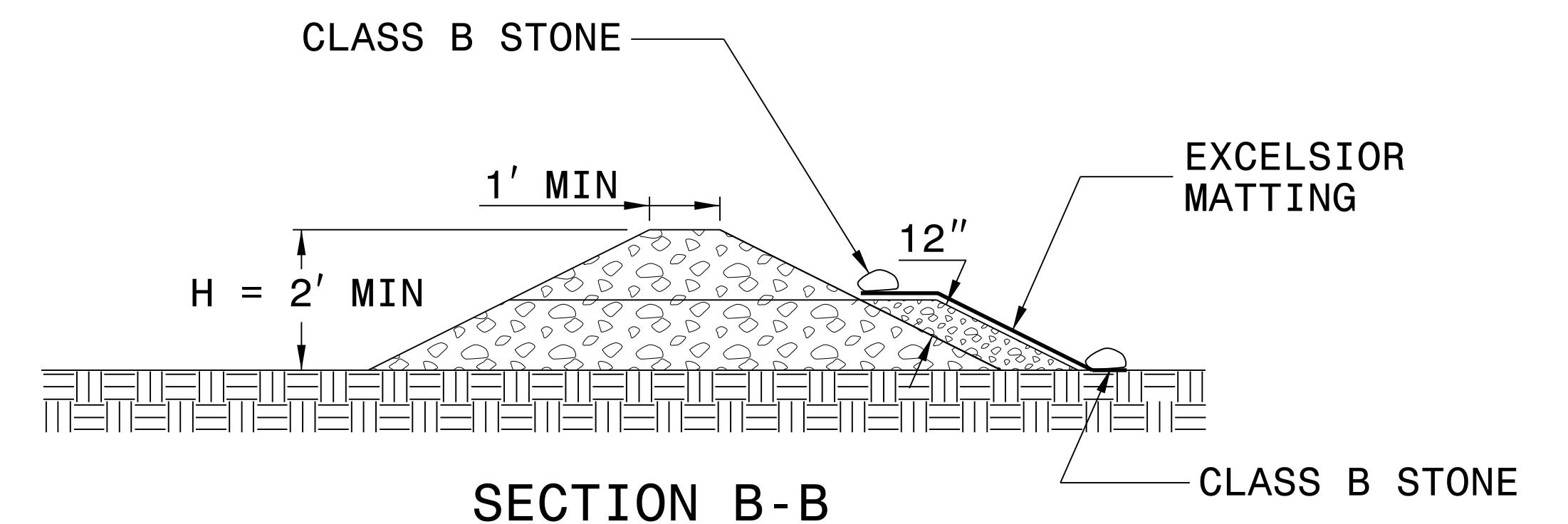
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.



INSET A



SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>B-4982</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.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>B-4982</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	15+50	16+25	LT	55
4	-L-	17+00	19+50	LT	260
4	-DRV2-	11+10	11+20	RT	10
4-5	-L-	23+00	25+25	LT	360
5	-L-	24+50	25+50	RT	75
5	-L-	27+75	29+25	LT	230
SUBTOTAL					990
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					8180
TOTAL					9170
SAY					9200

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
5	-L-	25+75	27+50	LT	235
5	-L-	28+75	29+25	RT	90
SUBTOTAL					325
ADDITIONAL PRGM TO BE INSTALLED					55
TOTAL					380
SAY					400

PROJECT REFERENCE NO.	SHEET NO.
B-4982	EC-4/CONST.4
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

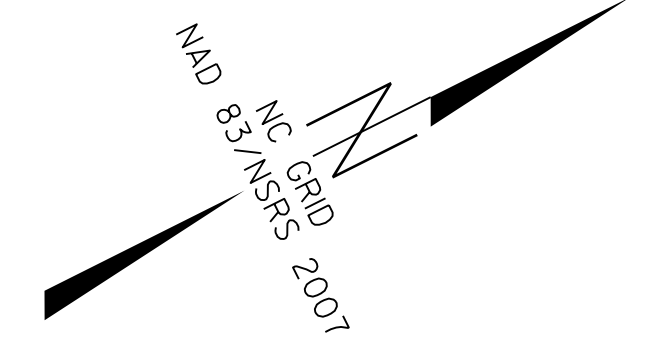
NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

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

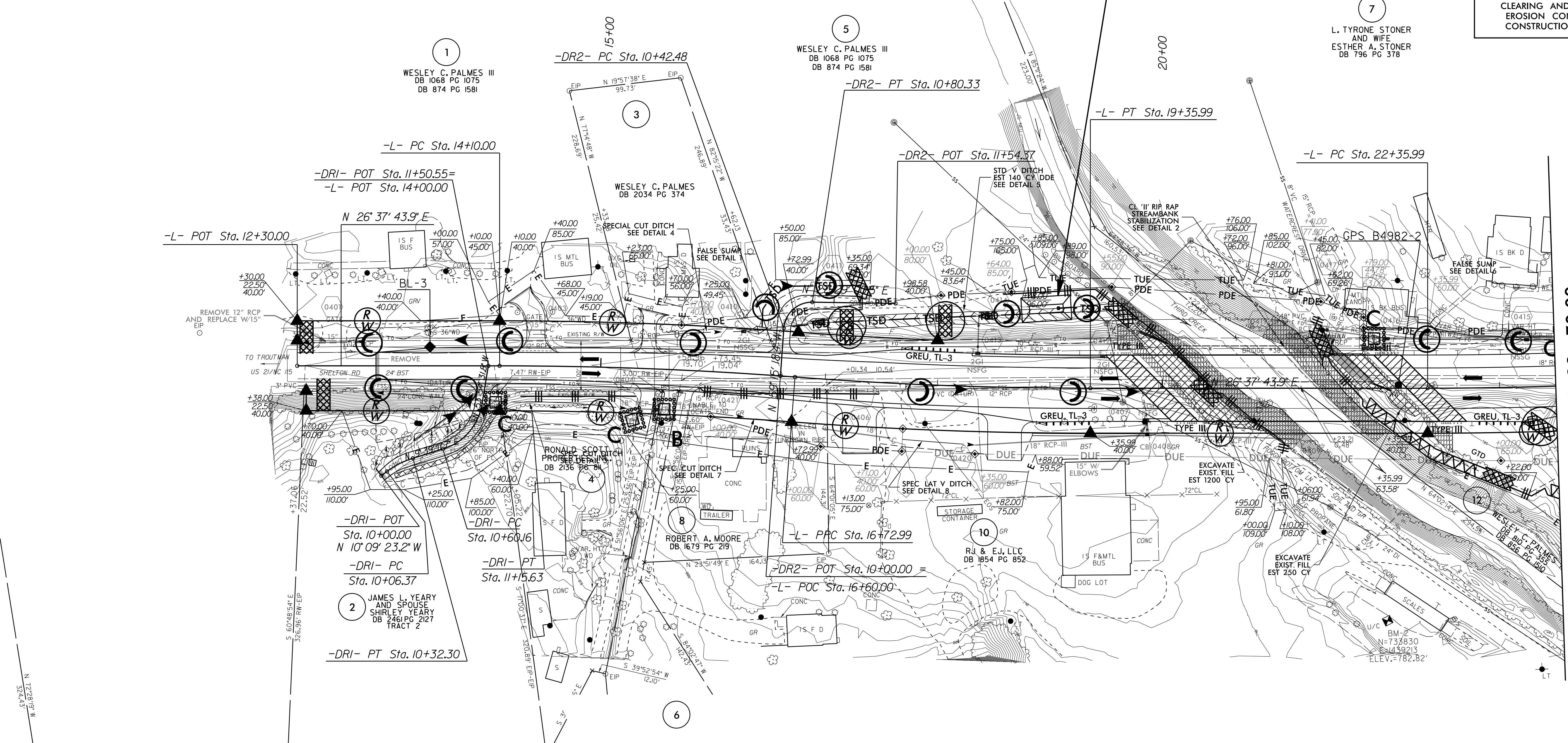
UTILIZE FABRIC INSERT PROTECTION DEVICE AS DIRECTED IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C TO AVOID IMPOUNDING RUNOFF ON ROADWAY OPEN TO PUBLIC

44 x 22 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 4.1

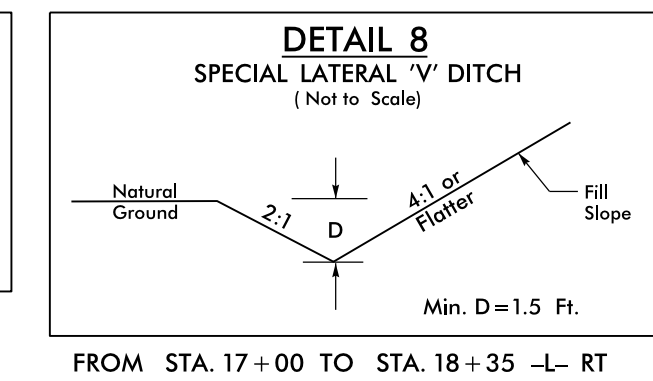
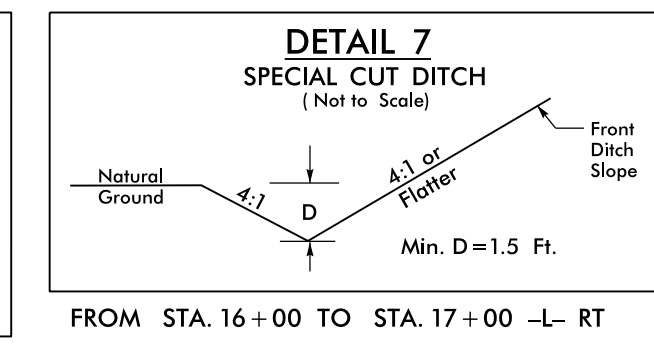
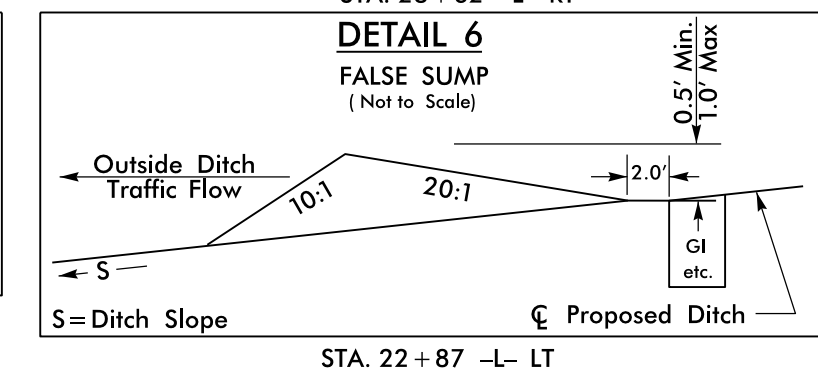
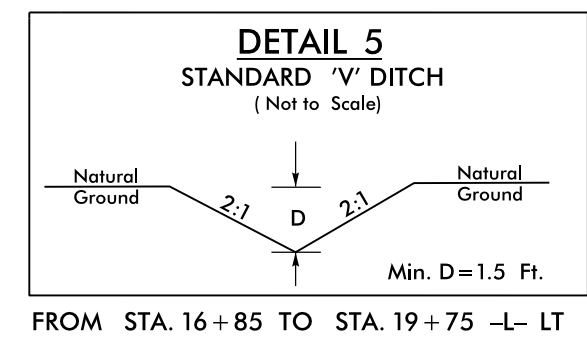
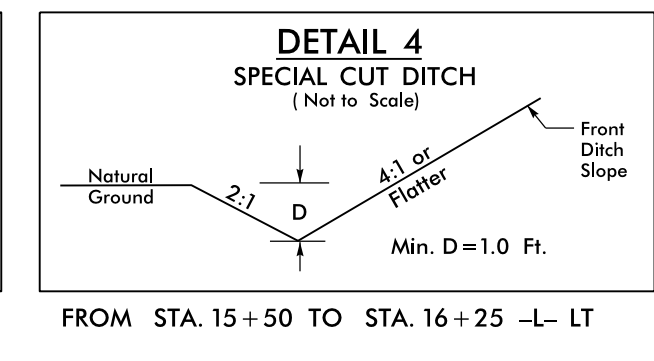
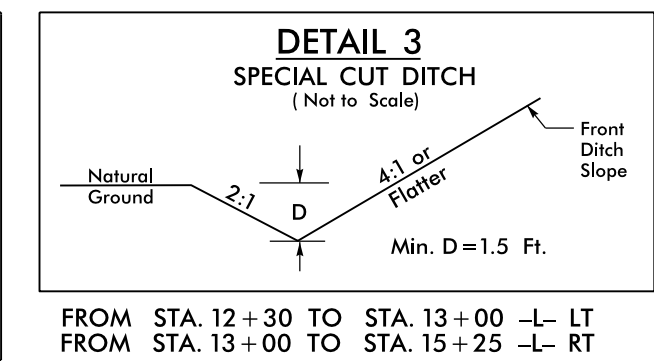
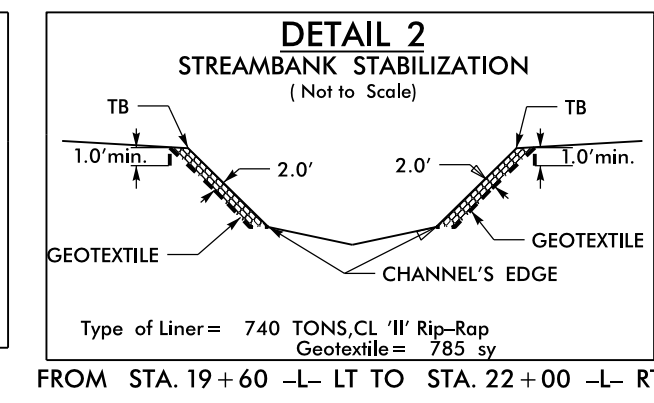
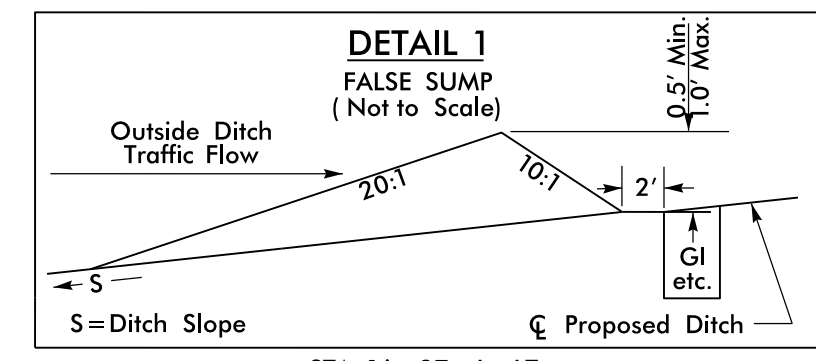
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4



8/17/99
77 MAR-2018 07:27
R:\Projects\2018\0727\Design\B-4982-EC-psh-4.dgn
C:\Users\jbr\OneDrive\Documents\B-4982-EC-PLAN-269782



-L- STA. 23+70.00
MATCHLINE SEE SHEET 5



STA. 16+37 -L- LT
STA. 28+62 -L- RT

FROM STA. 19+60 -L- LT TO STA. 22+00 -L- RT

FROM STA. 16+85 TO STA. 19+75 -L- LT

STA. 22+87 -L- LT

FROM STA. 16+00 TO STA. 17+00 -L- RT

FROM STA. 17+00 TO STA. 18+35 -L- RT

PROJECT REFERENCE NO.	SHEET NO.
B-4982	EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

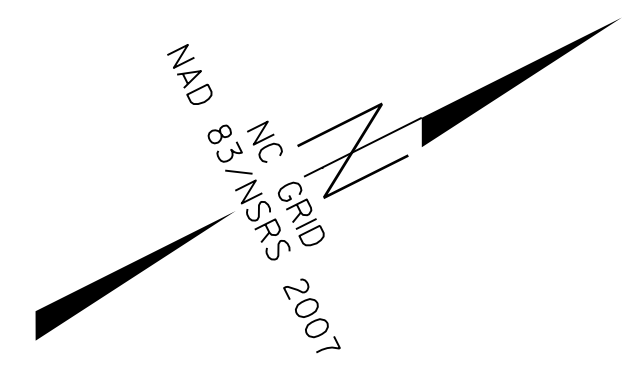
-DR3-
PI Sta 11+09.00
 $\Delta = 5^{\circ}00'00.0" (LT)$
 $D = 76^{\circ}23'39.7"$
 $L = 66.76'$
 $T = 35.77'$
 $R = 75.00'$

-L-
PI Sta 23+77.87
 $\Delta = 4^{\circ}40'09.9" (LT)$
 $D = 1^{\circ}38'47.1"$
 $L = 283.61'$
 $T = 141.88'$
 $R = 3,480.00'$
 $SE = 0.03$

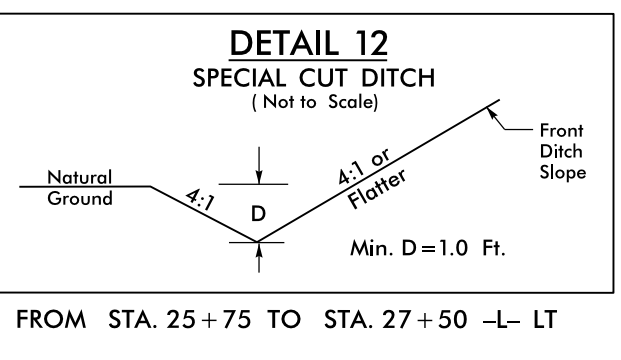
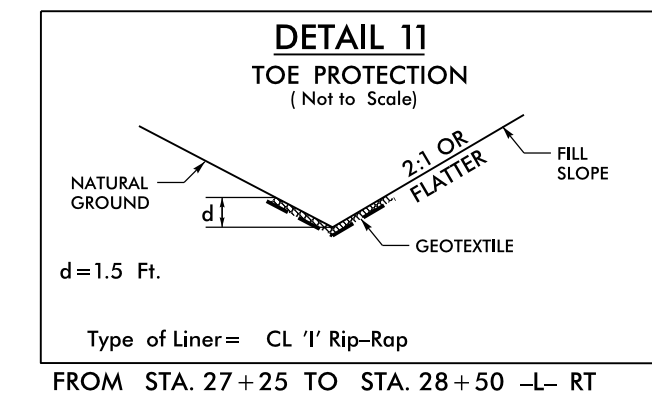
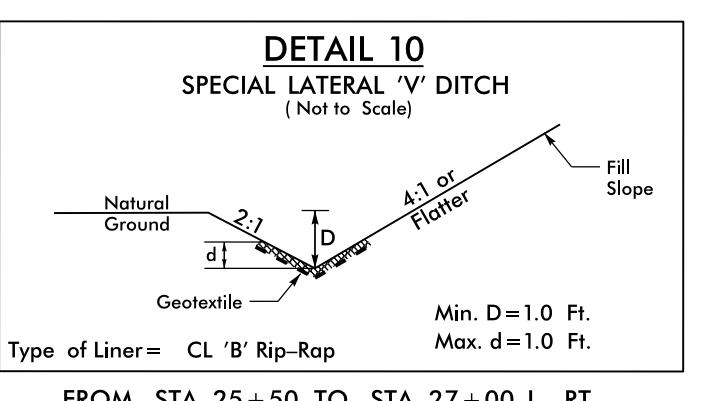
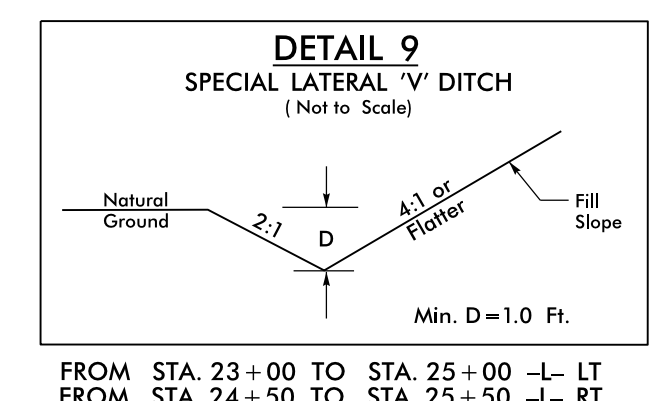
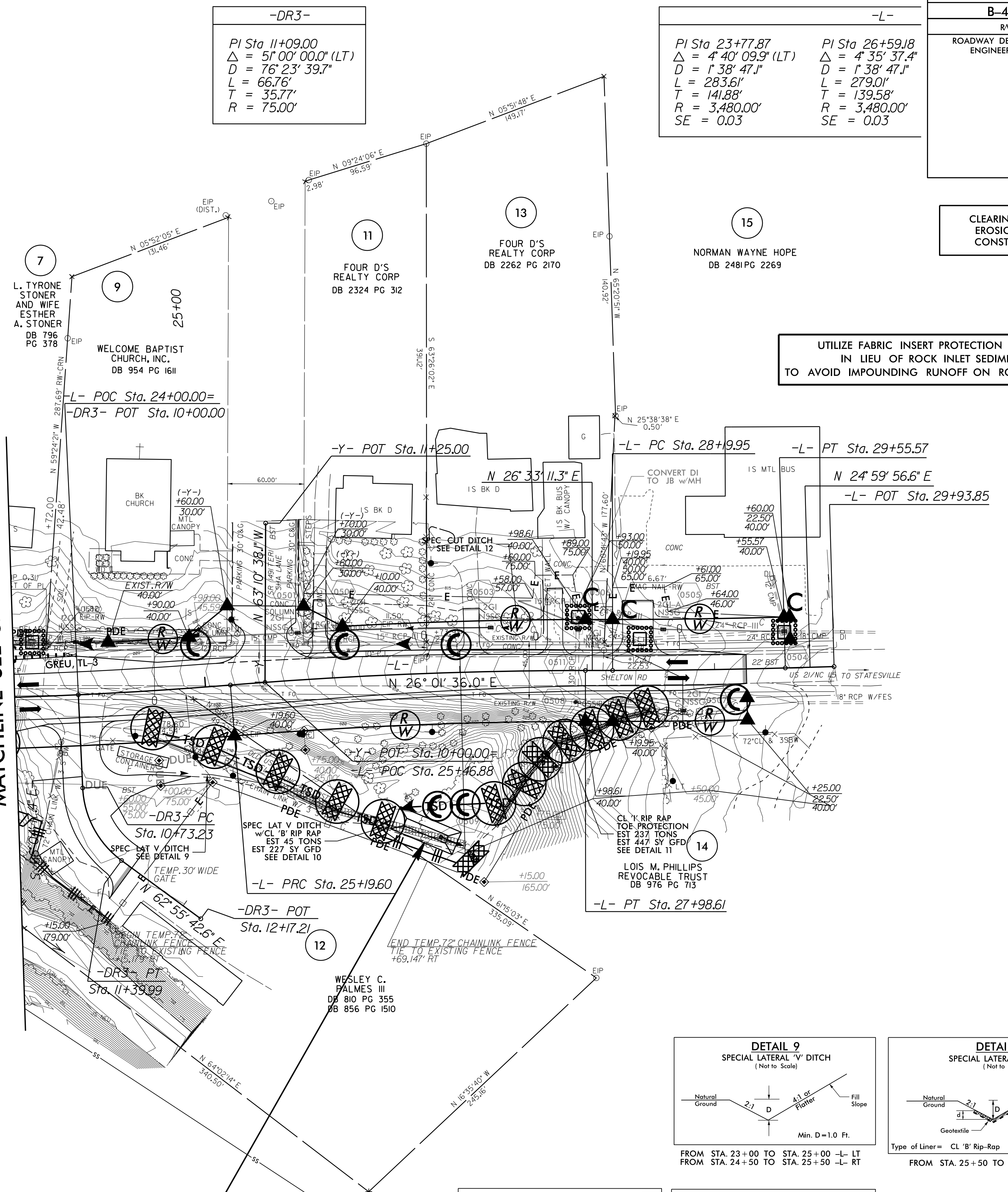
PI Sta 26+59.8
 $\Delta = 4^{\circ}35'37.4"$
 $D = 1^{\circ}38'47.1"$
 $L = 279.01'$
 $T = 139.58'$
 $R = 3,480.00'$
 $SE = 0.03$

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

UTILIZE FABRIC INSERT PROTECTION DEVICE AS DIRECTED
IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C
TO AVOID IMPOUNDING RUNOFF ON ROADWAY OPEN TO PUBLIC



-L- STA. 23 + 70.00
MATCHLINE SEE SHEET 4



52 x 19 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 5.1

8/17/99

27-MAR-2018 07:36 D:\Projects\Design\B4982-EC-1.psh_5.dgn
R:\Users\jcarroll\My Documents\B4982-EC-1.dwg
JCARROLL

PROJECT REFERENCE NO.	SHEET NO.
B-4982	EC-6/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

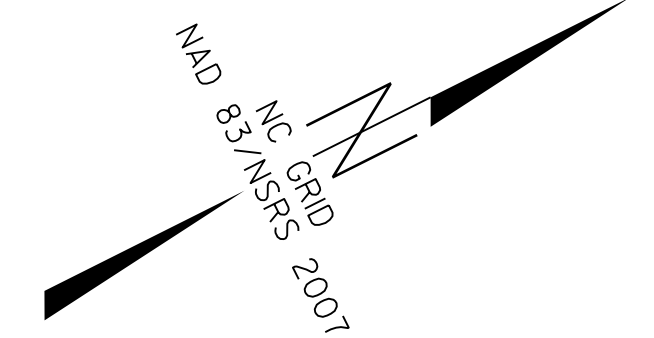
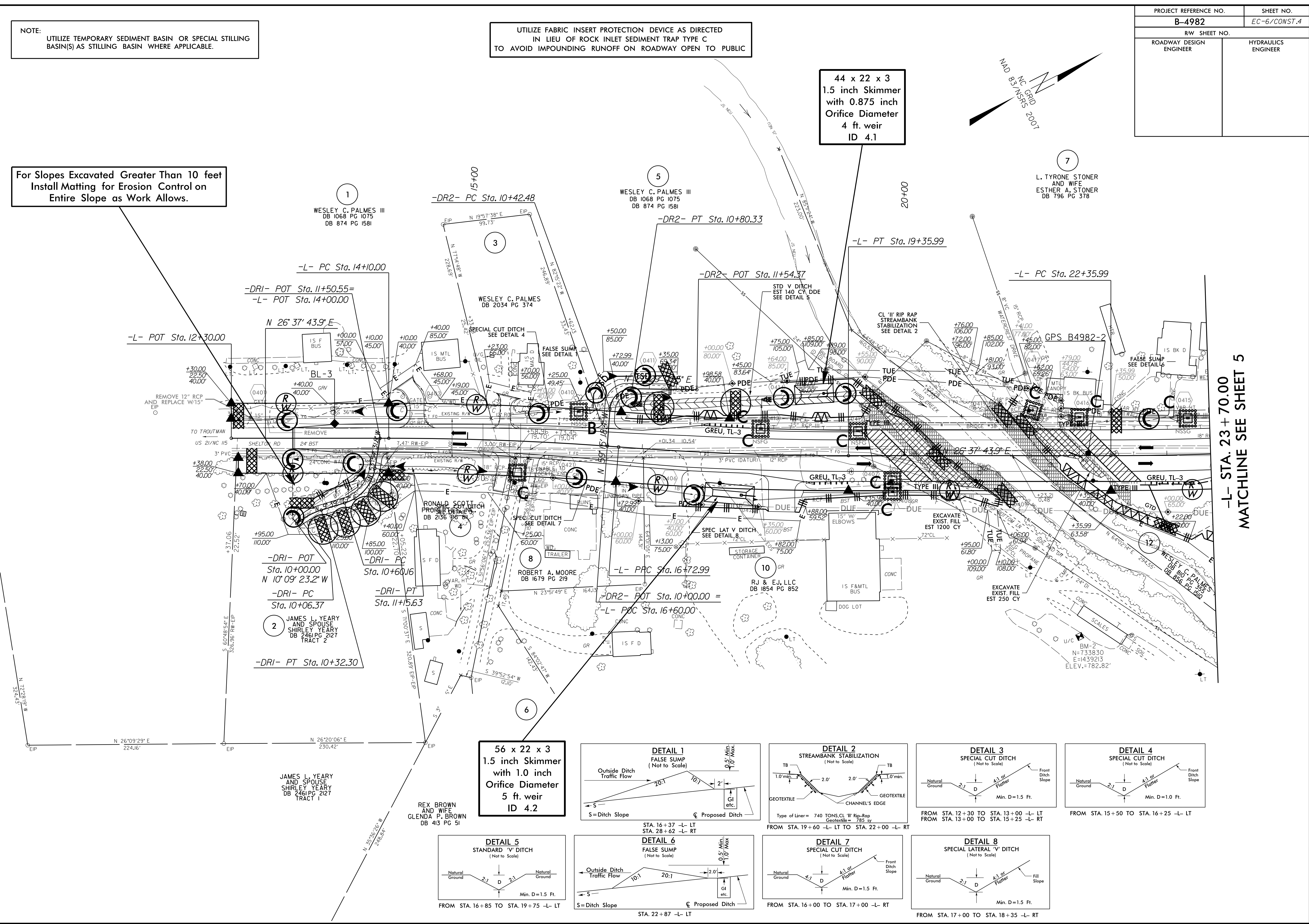
UTILIZE FABRIC INSERT PROTECTION DEVICE AS DIRECTED
IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C
TO AVOID IMPOUNDING RUNOFF ON ROADWAY OPEN TO PUBLIC

For Slopes Excavated Greater Than 10 feet
Install Matting for Erosion Control on
Entire Slope as Work Allows.

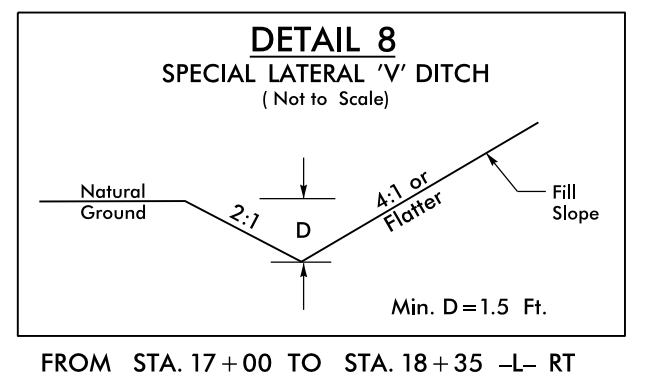
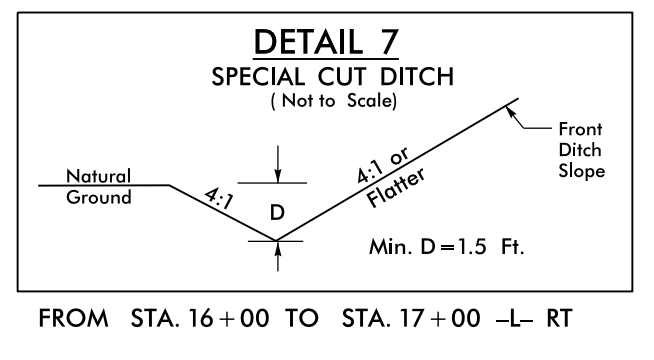
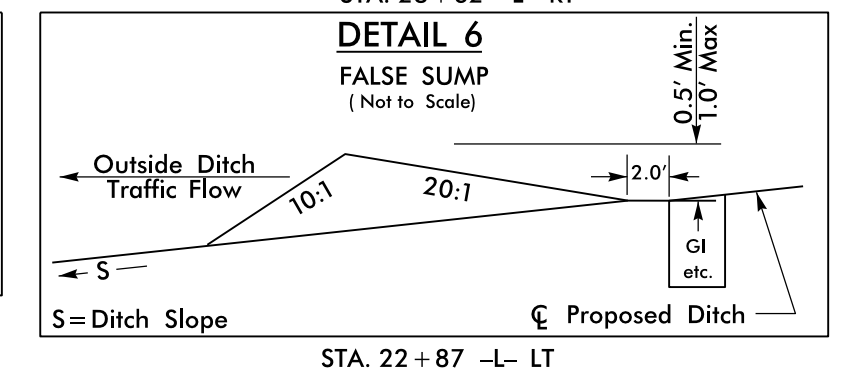
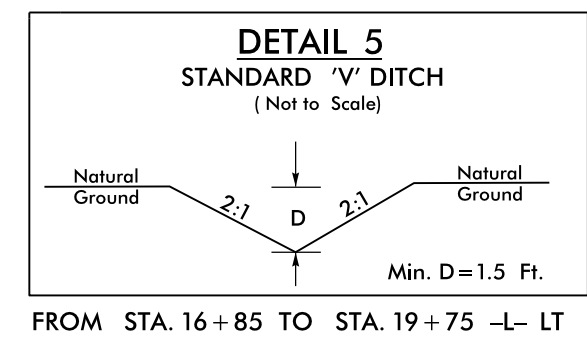
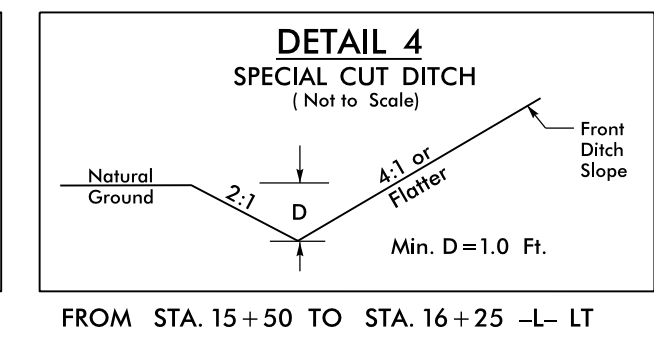
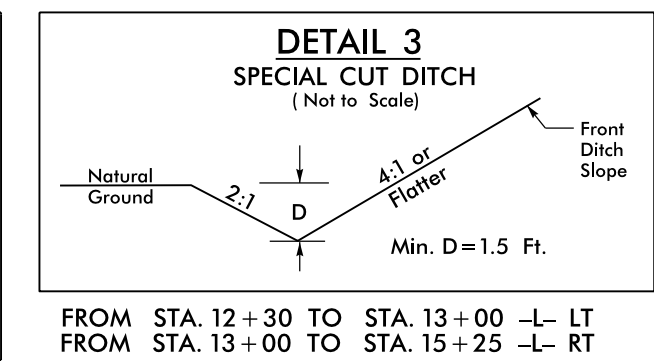
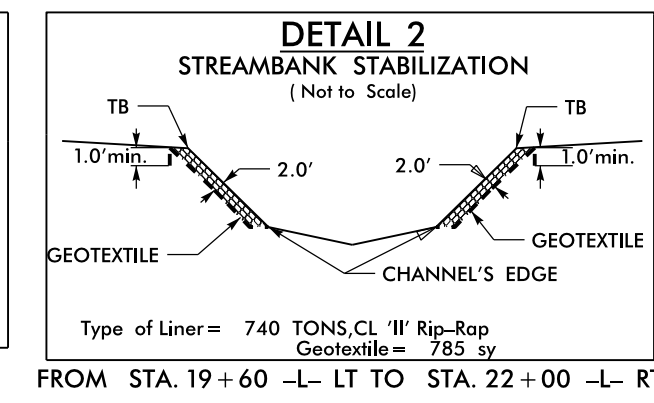
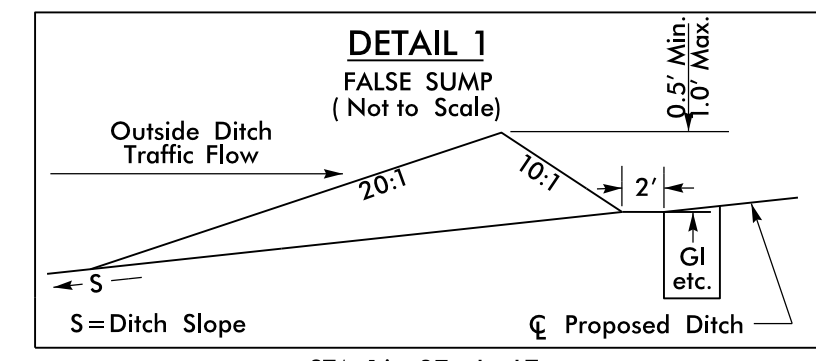
44 x 22 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 4.1

56 x 22 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
5 ft. weir
ID 4.2

8/17/99
27 MAR 2018 07:30 Design\B-4982-EC-psh-4.dgn
R:\Projects\B-4982-EC\Drawings\EC-6\CONST.4



-L- STA. 23 + 70.00
MATCHLINE SEE SHEET 5



FROM STA. 12+30 TO STA. 13+00 -L- LT
FROM STA. 13+00 TO STA. 15+25 -L- RT

FROM STA. 16+85 TO STA. 19+75 -L- LT

STA. 22+87 -L- LT

FROM STA. 16+00 TO STA. 17+00 -L- RT

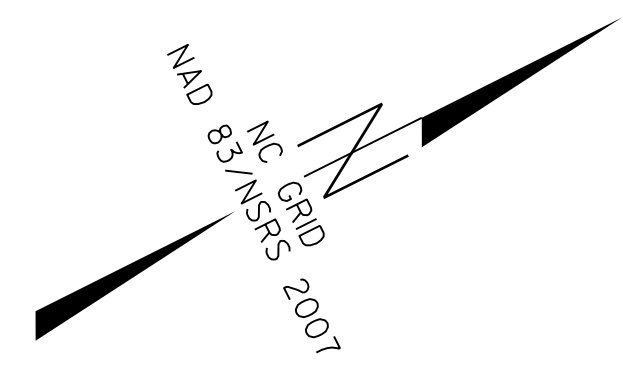
FROM STA. 17+00 TO STA. 18+35 -L- RT

PROJECT REFERENCE NO.	SHEET NO.
B-4982	EC-7/CONST.5
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

-DR3-
 PI Sta 11+09.00
 $\Delta = 51^{\circ}00'00.0" (LT)$
 $D = 76'23'39.7"$
 $L = 66.76'$
 $T = 35.77'$
 $R = 75.00'$

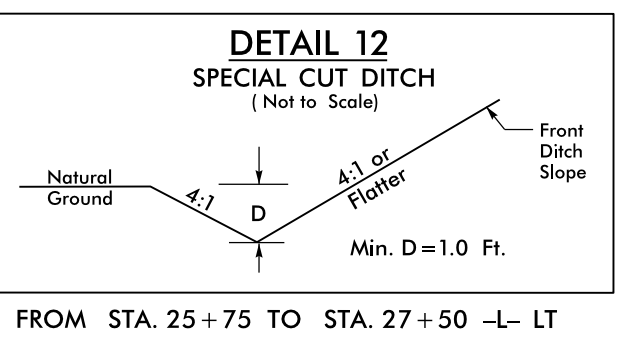
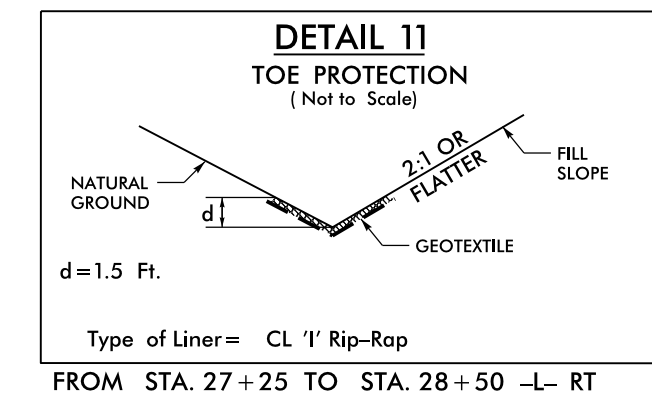
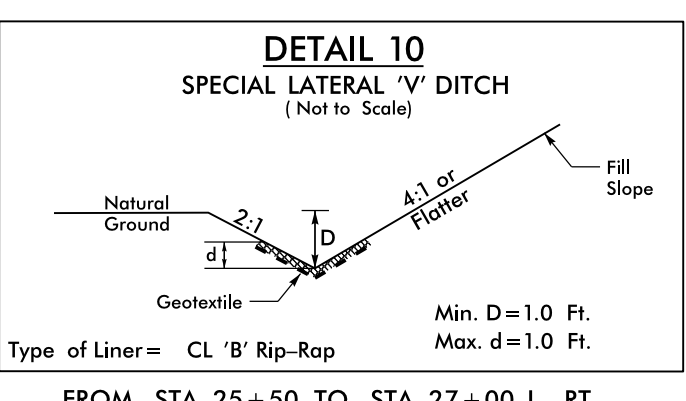
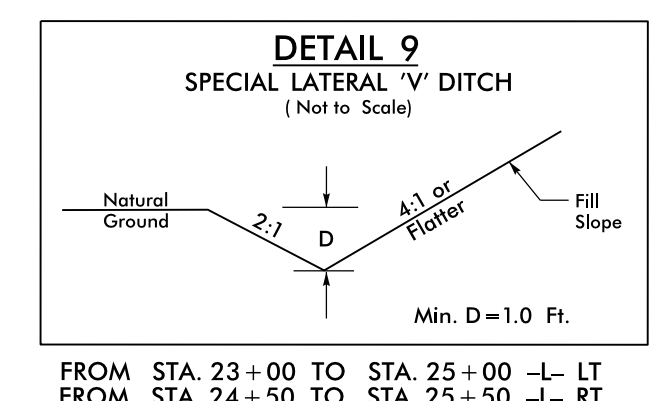
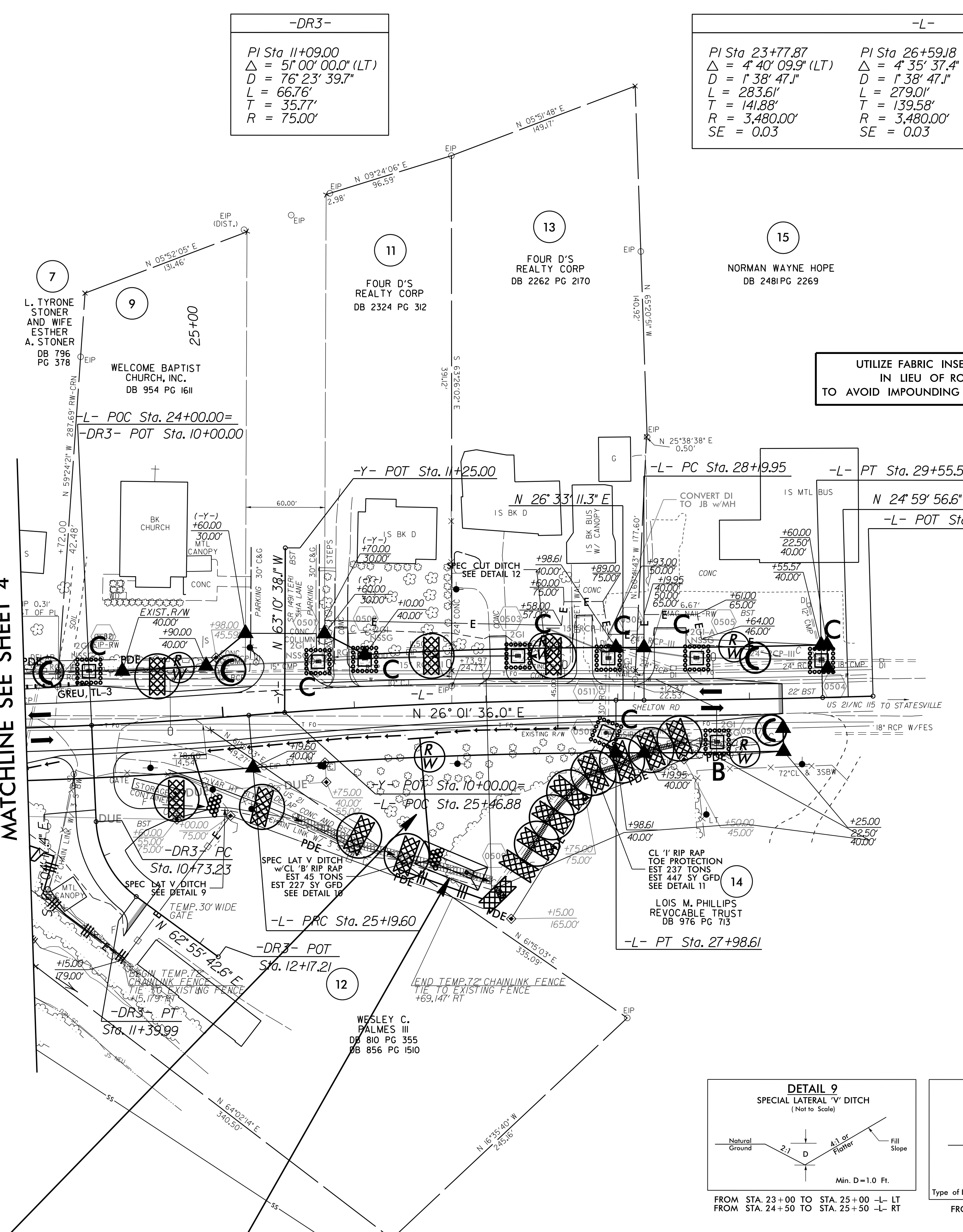
-L-
 PI Sta 23+77.87
 $\Delta = 4^{\circ}40'09.9" (LT)$
 $D = 1^{\circ}38'47.1"$
 $L = 283.61'$
 $T = 141.88'$
 $R = 3,480.00'$
 $SE = 0.03$

PI Sta 26+59.8
 $\Delta = 4^{\circ}35'37.4"$
 $D = 1^{\circ}38'47.1"$
 $L = 279.01'$
 $T = 139.58'$
 $R = 3,480.00'$
 $SE = 0.03$



UTILIZE FABRIC INSERT PROTECTION DEVICE AS DIRECTED
 IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C
 TO AVOID IMPOUNDING RUNOFF ON ROADWAY OPEN TO PUBLIC

-L- STA. 23+70.00
 MATCHLINE SEE SHEET 4



Place Matting for Erosion Control
 on Slope as Work Allows.
 Sta. 25+00 to Sta. 28+00

52 x 19 x 3
 1.5 inch Skimmer
 with 0.875 inch
 Orifice Diameter
 4 ft. weir
 ID 5.1

8/17/99
 27-MAR-2018 07:34
 R:\Projects\B4982-EC\psh_5.dgn
 269782