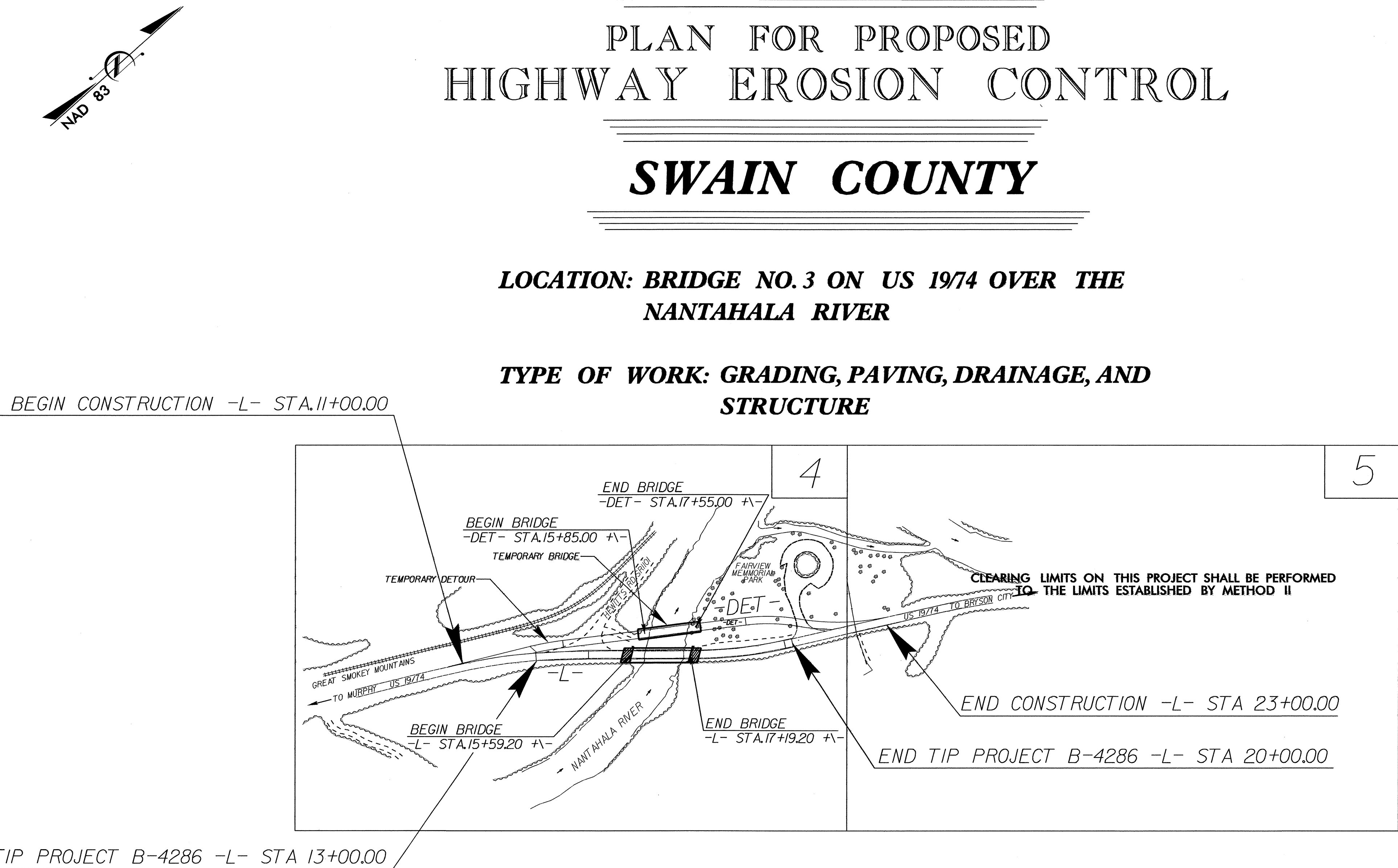


TIP PROJECT: B-4286

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

**LOCATION: BRIDGE NO. 3 ON US 1974 OVER THE
 NANTAHALA RIVER**

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



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4286	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

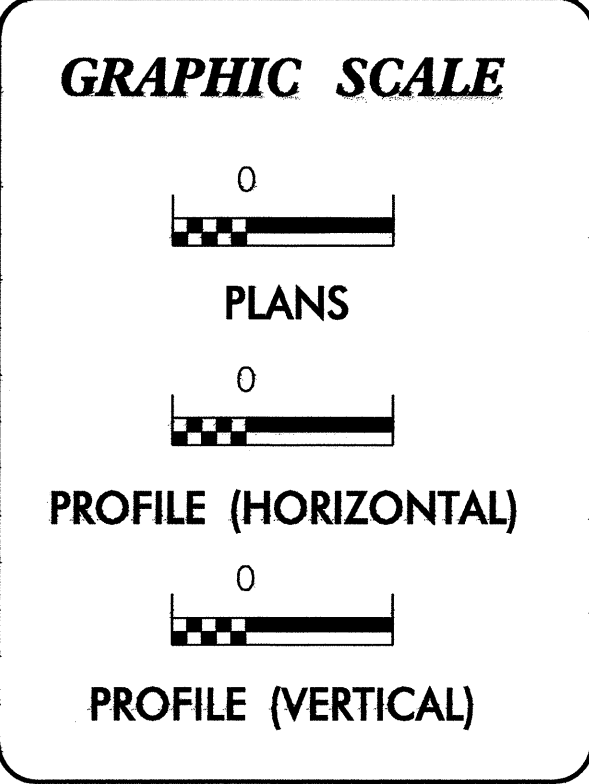
EROSION AND SEDIMENT CONTROL MEASURES

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	X X X X X
1622.01	Temporary Berms and Slope Drains	T
	Silt Basin Type B	S
1653.01	Temporary Rock Silt Check Type-A	R
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	R
	Temporary Rock Silt Check Type-B	R
	Wattle / Coir Fiber Wattle	W
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	W
1654.01	Temporary Rock Sediment Dam Type-A	SD
1654.02	Temporary Rock Sediment Dam Type-B	SD
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RT
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RT
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SB
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	SK
	Tiered Skimmer Basin	SK
	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.*



ROADSIDE ENVIRONMENTAL UNIT
 DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

Prepared In the Office of:
ROADSIDE ENVIRONMENTAL UNIT
 1 South Wilmington St.
 Raleigh, NC 27611
2006 STANDARD SPECIFICATIONS

Roadway Standard Drawings

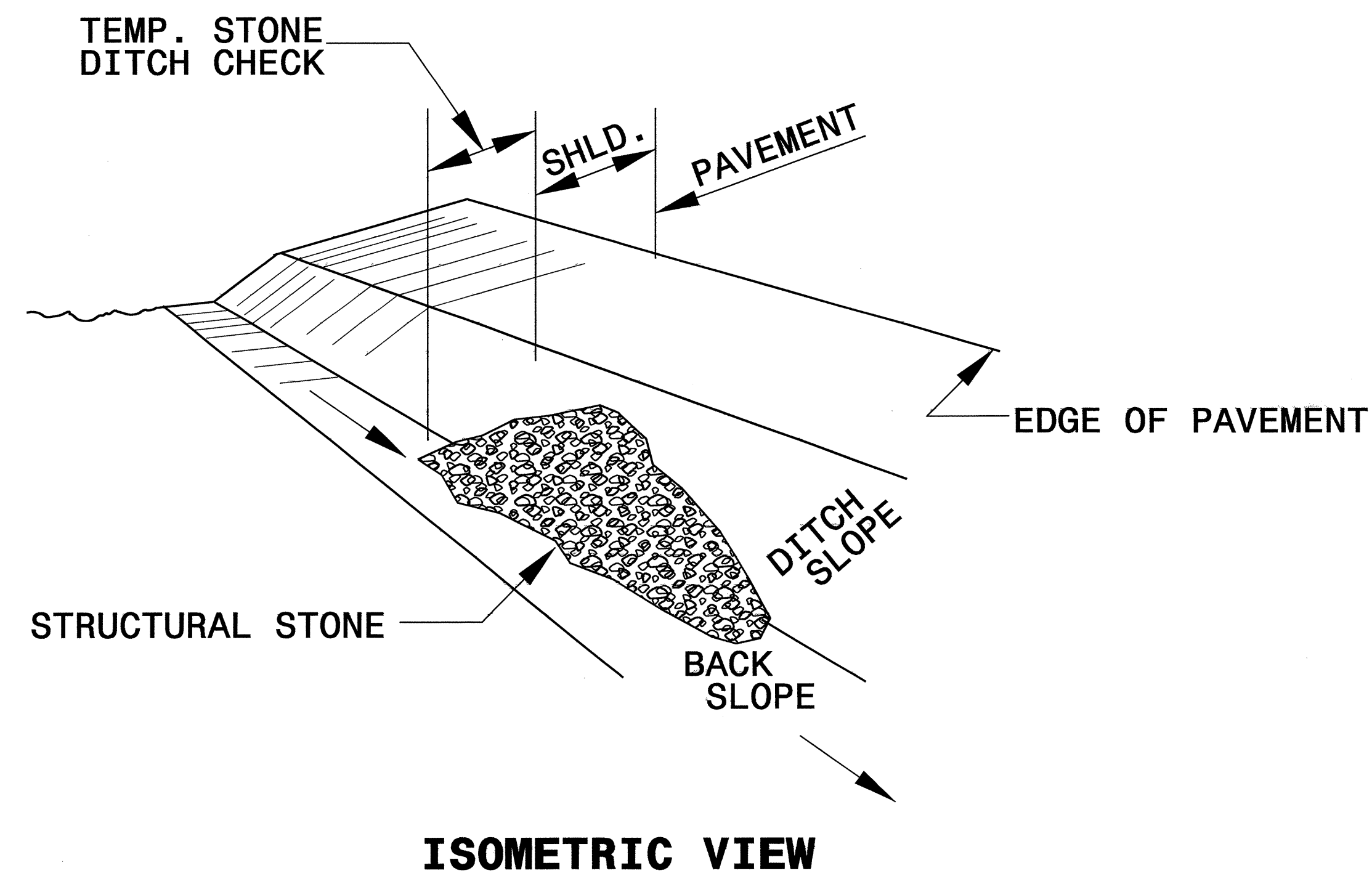
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 18, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence	1630.06 Special Stilling Basin
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	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	

07-MAY-2010 11:29 AM P:\PROJECTS\B-4286\EC-1.dgn

PROJECT REFERENCE NO. B-4286	SHEET NO. EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

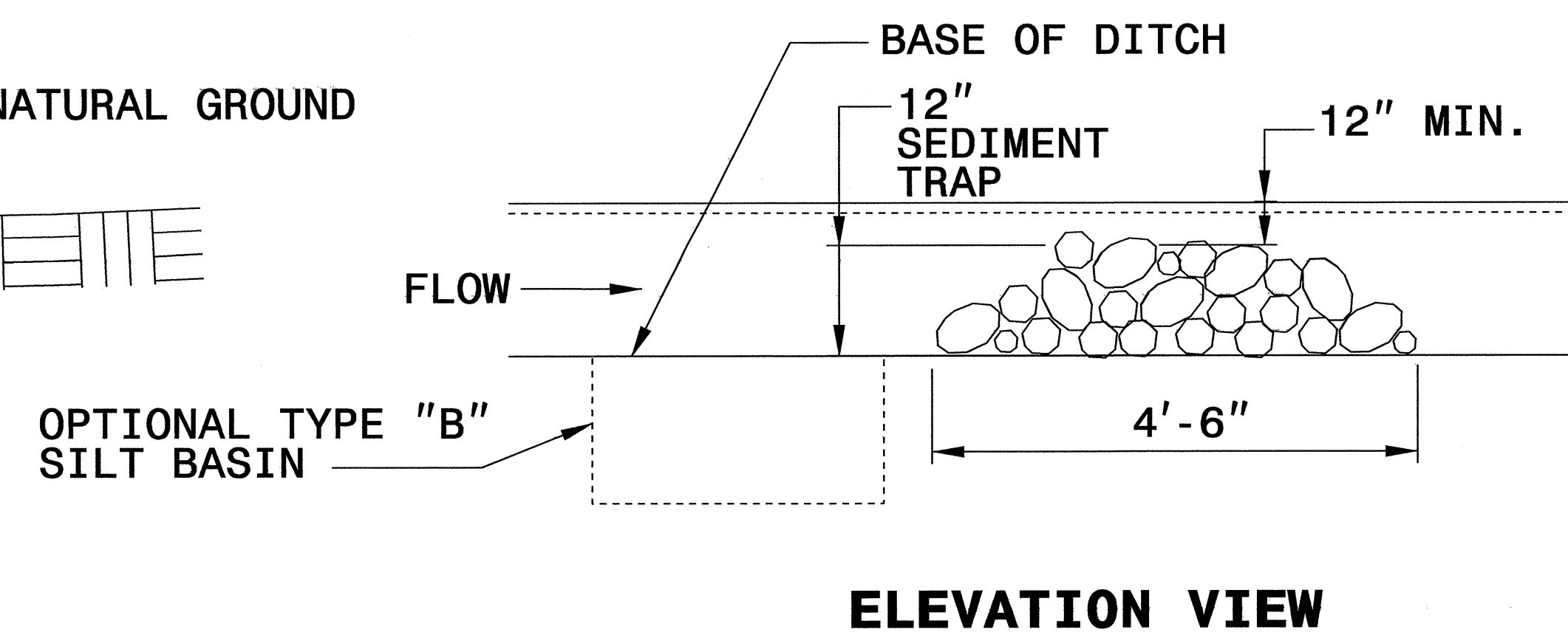
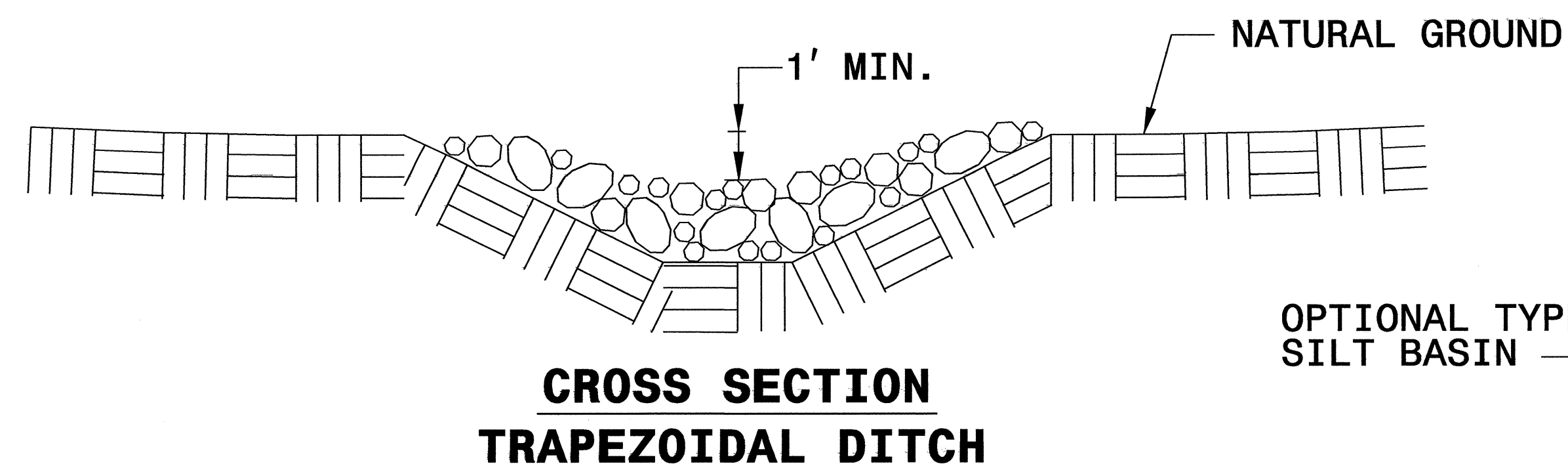
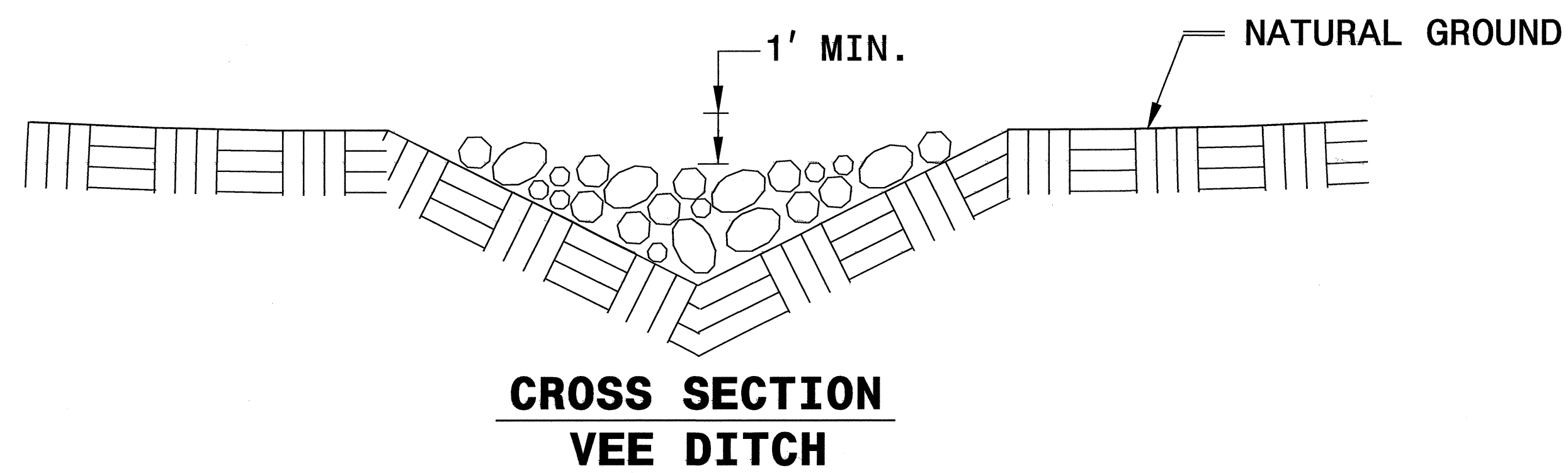
TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL



NOTES:

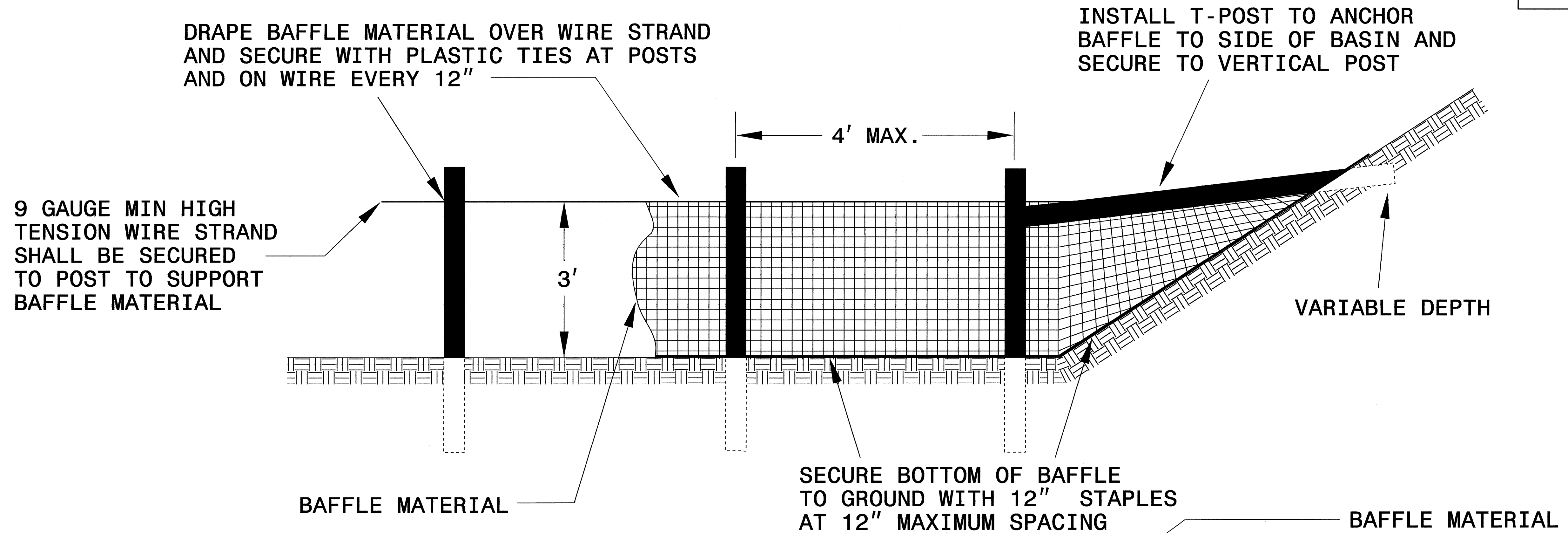
USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.

THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



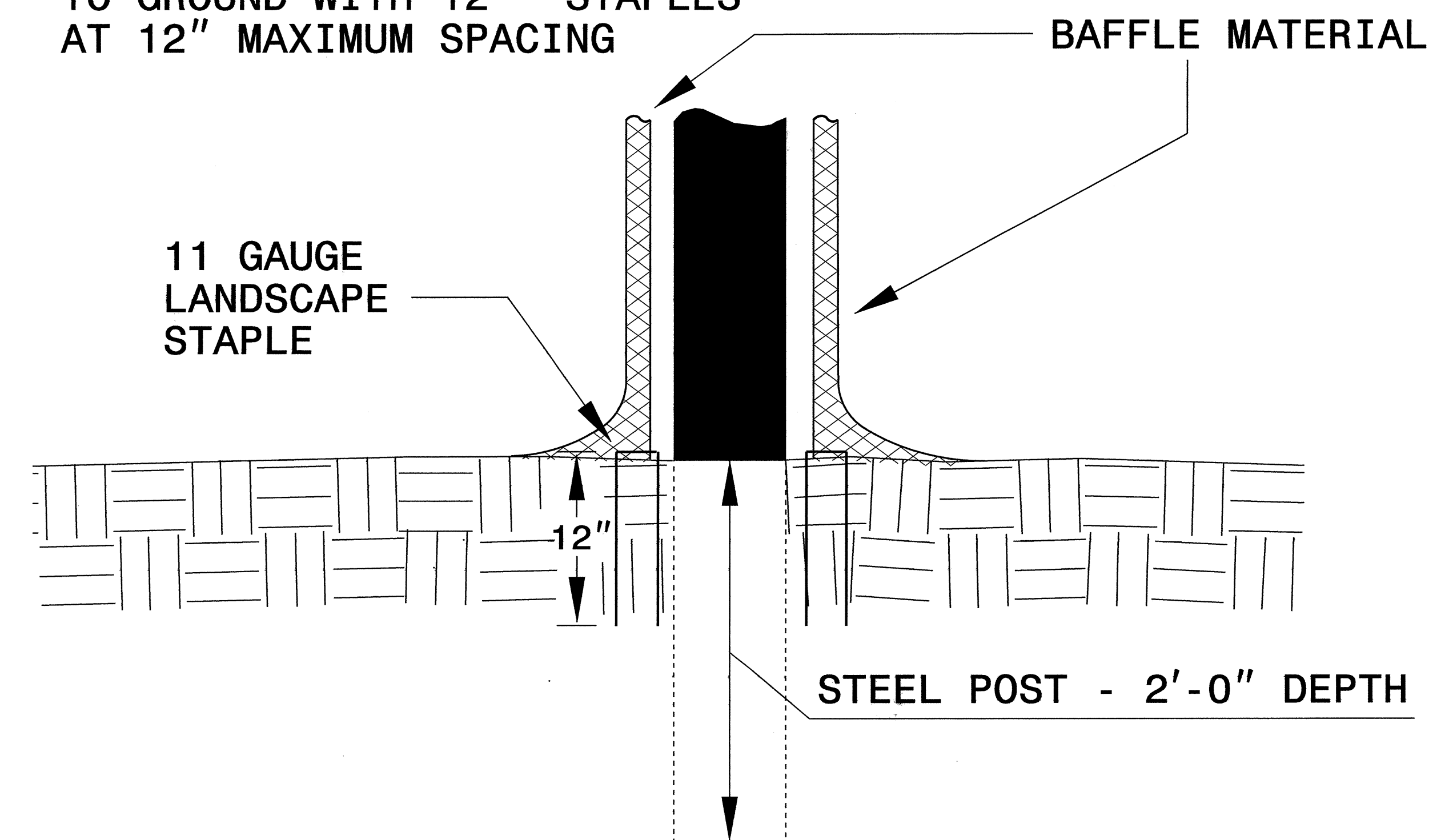
PROJECT REFERENCE NO. B-4286	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL



NOTES:

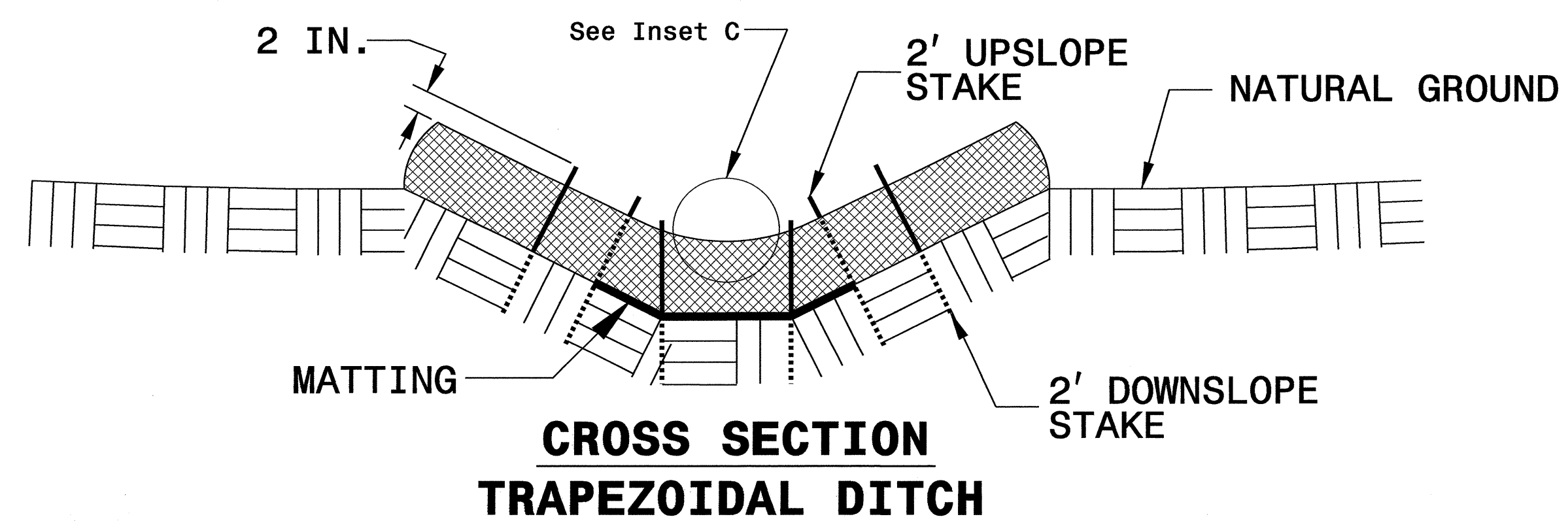
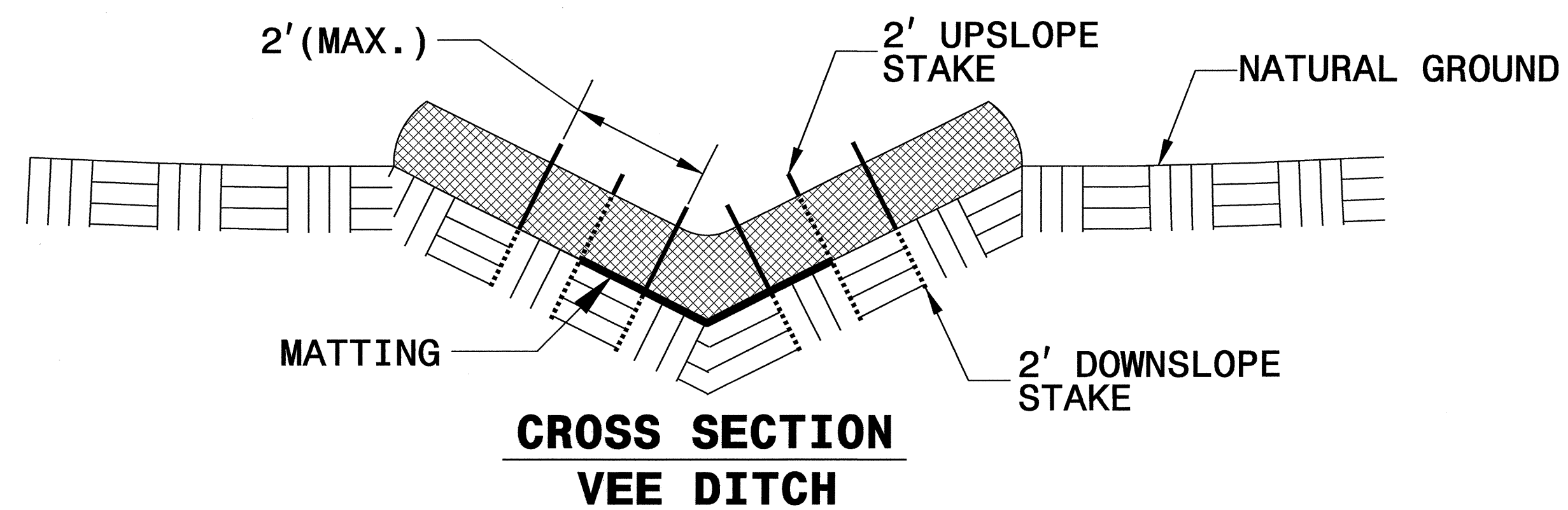
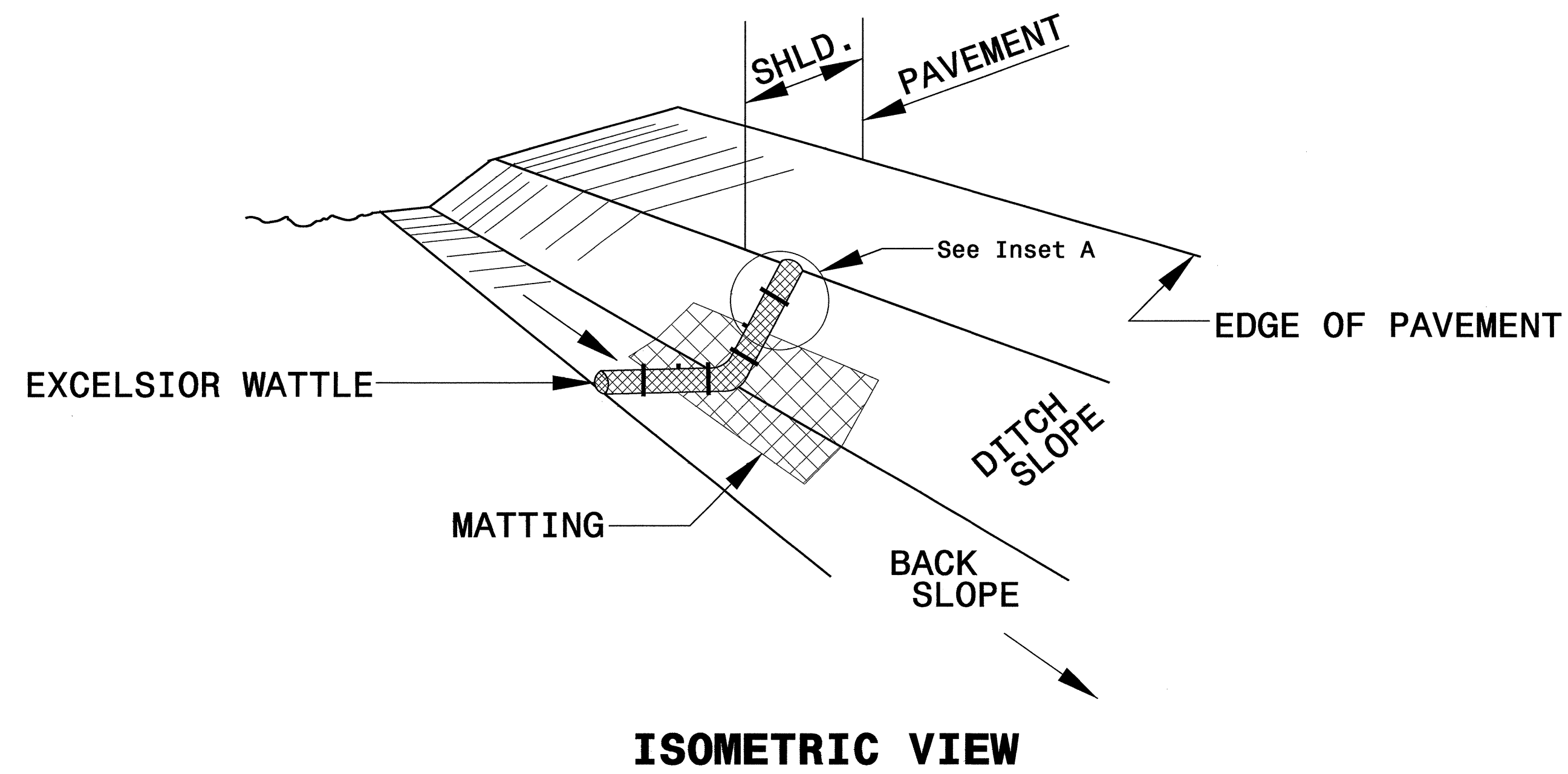
1. INSTALL THREE (3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF $\frac{1}{4}$ THE BASIN LENGTH.
2. TWO (2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF $\frac{1}{3}$ THE BASIN LENGTH.
3. TOP HEIGHT OF COIR FIBER BAFFLES SHALL NOT BE BELOW BASE OF EMERGENCY SPILLWAY ELEVATION.



BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12" LANDSCAPE STAPLES

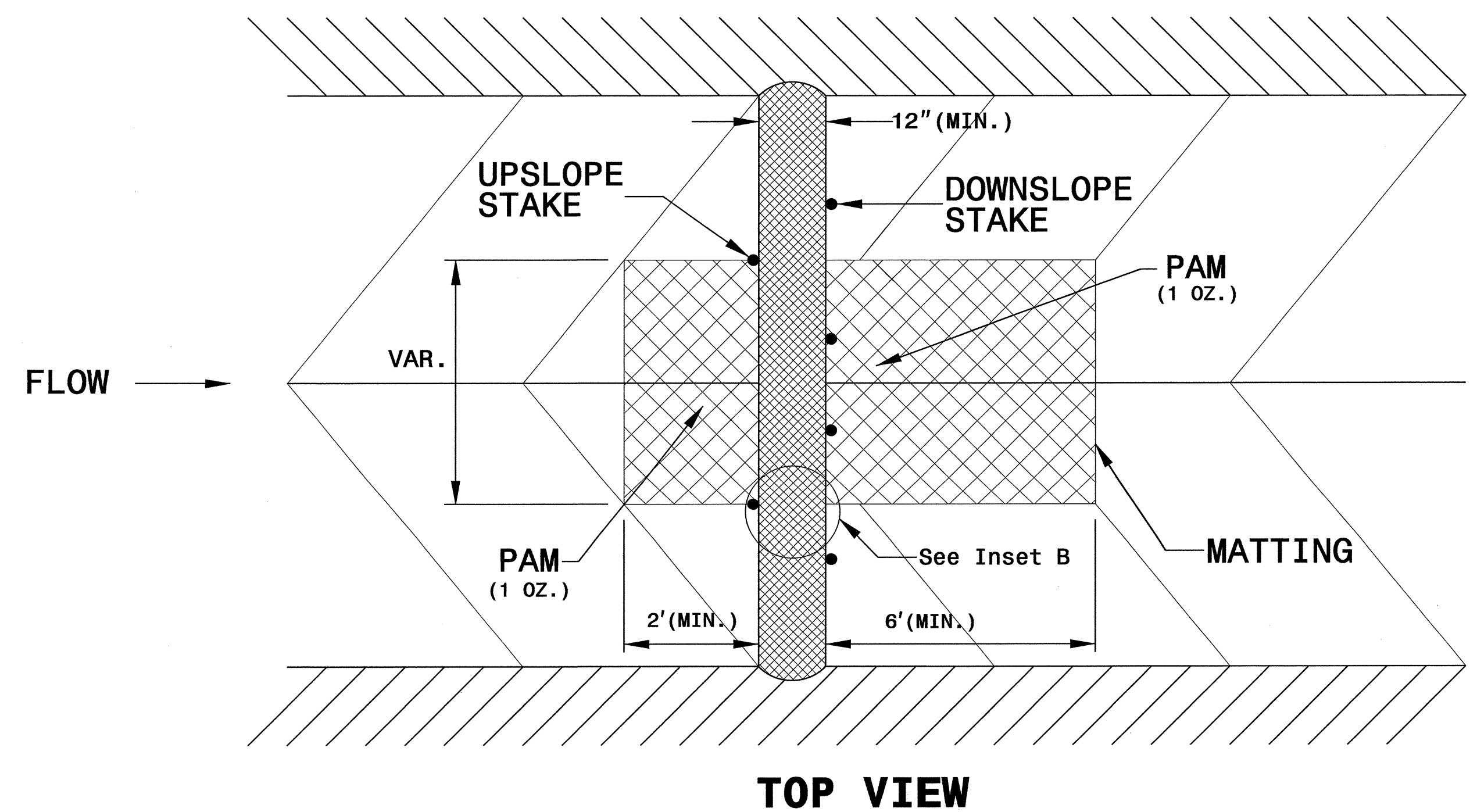
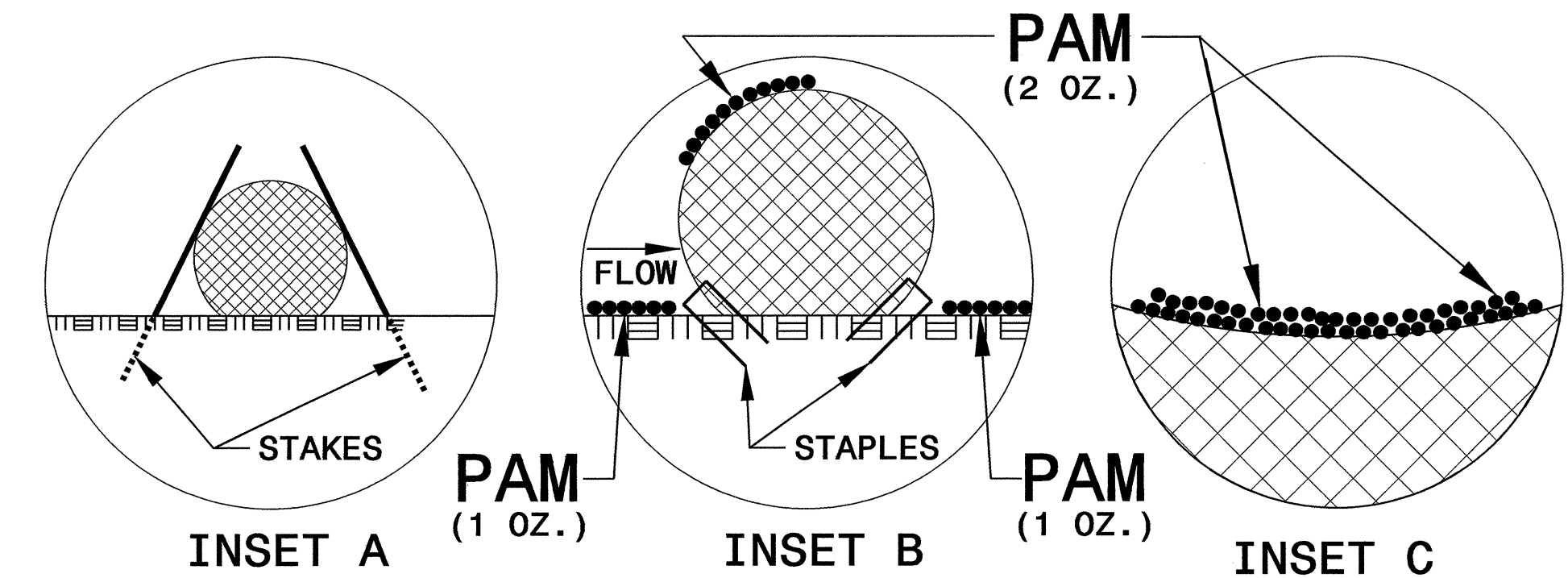
PROJECT REFERENCE NO. B-4286	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



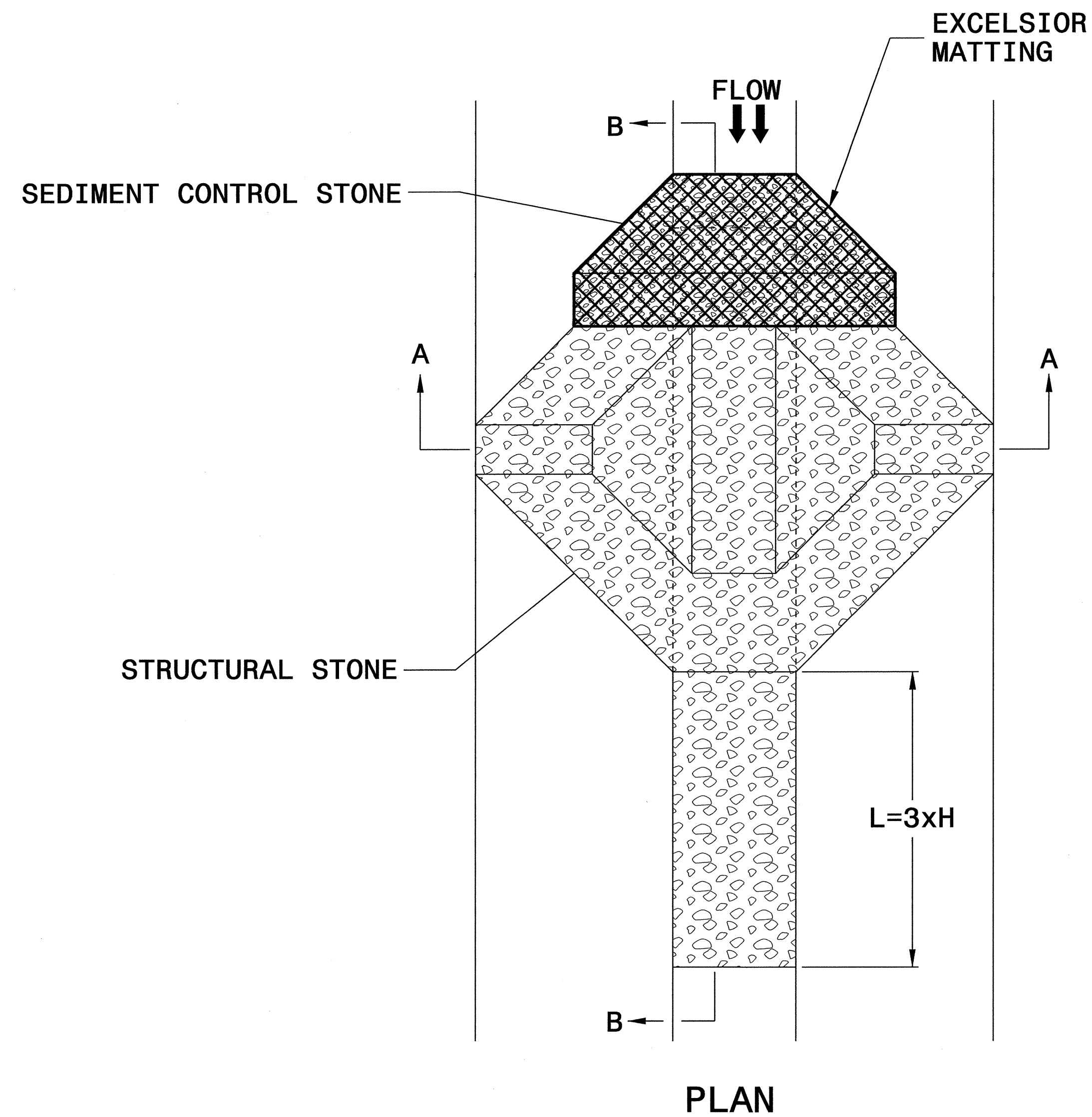
NOTES:

- 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-4286	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

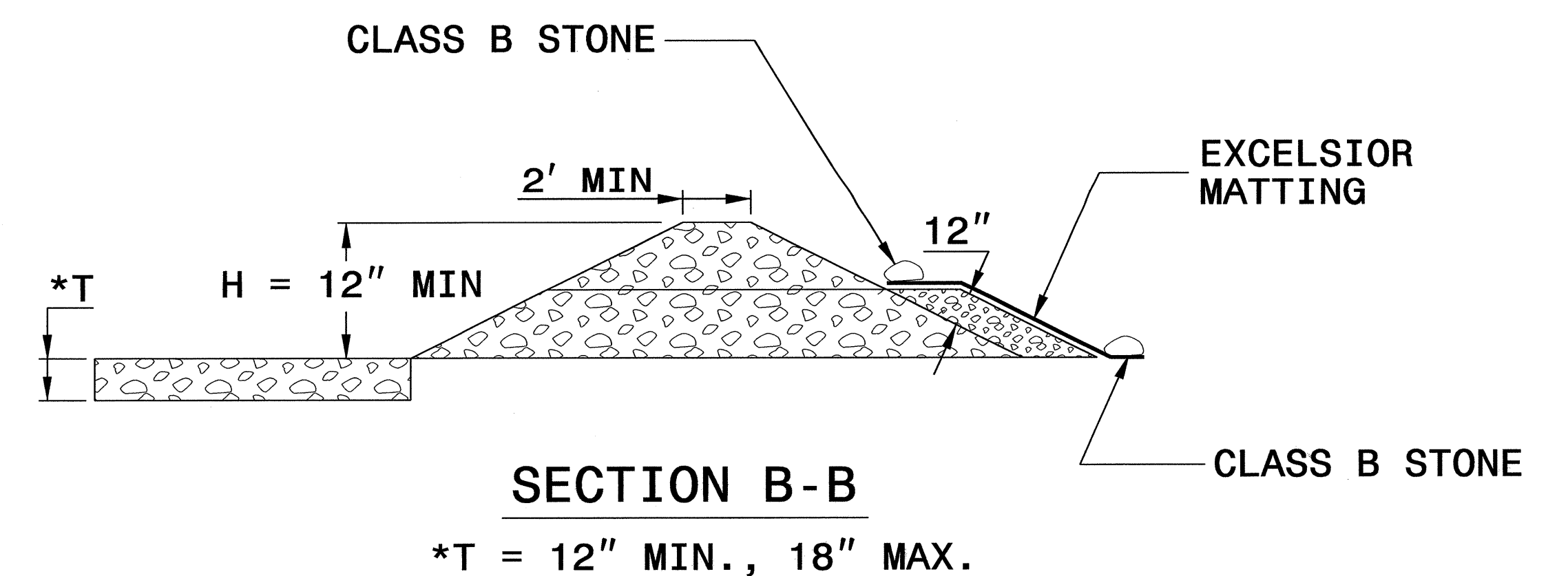
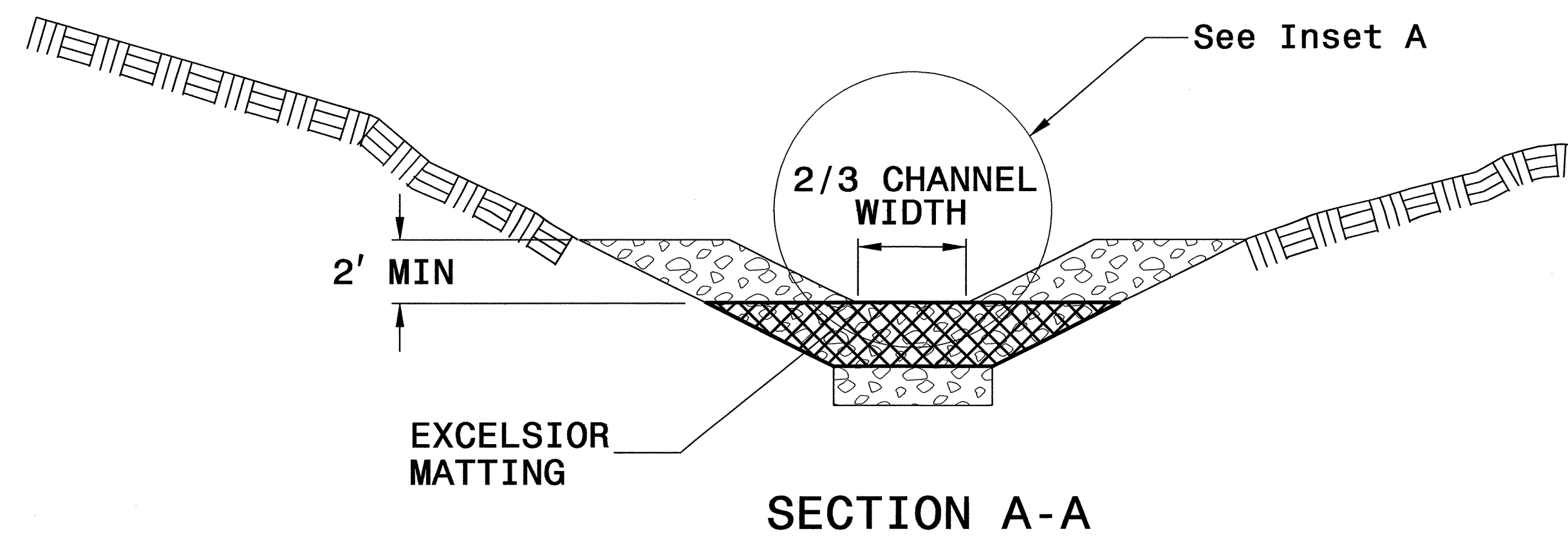
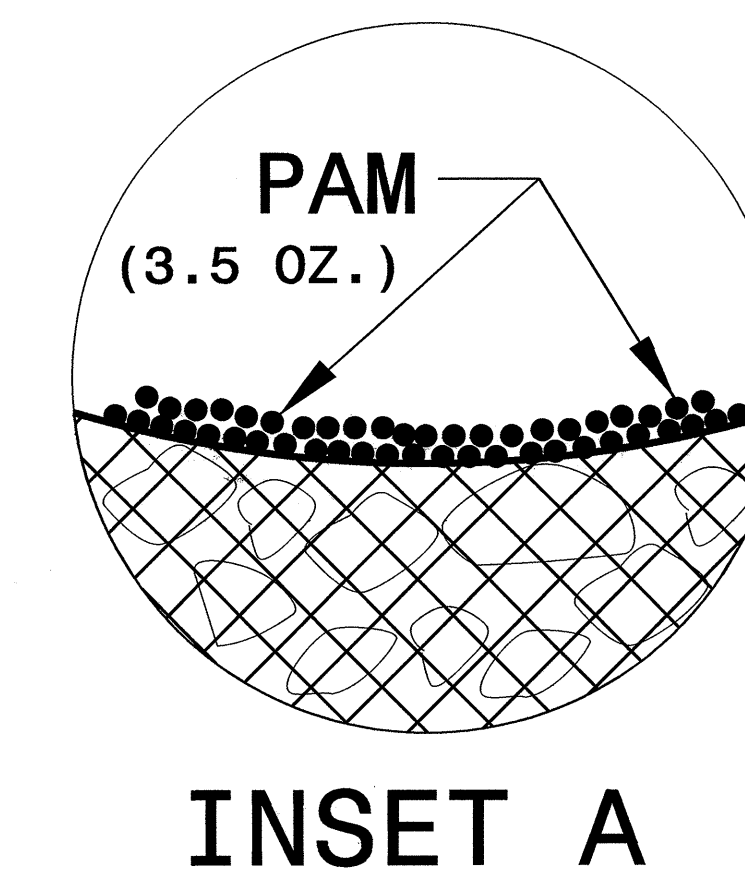


NOTES

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.

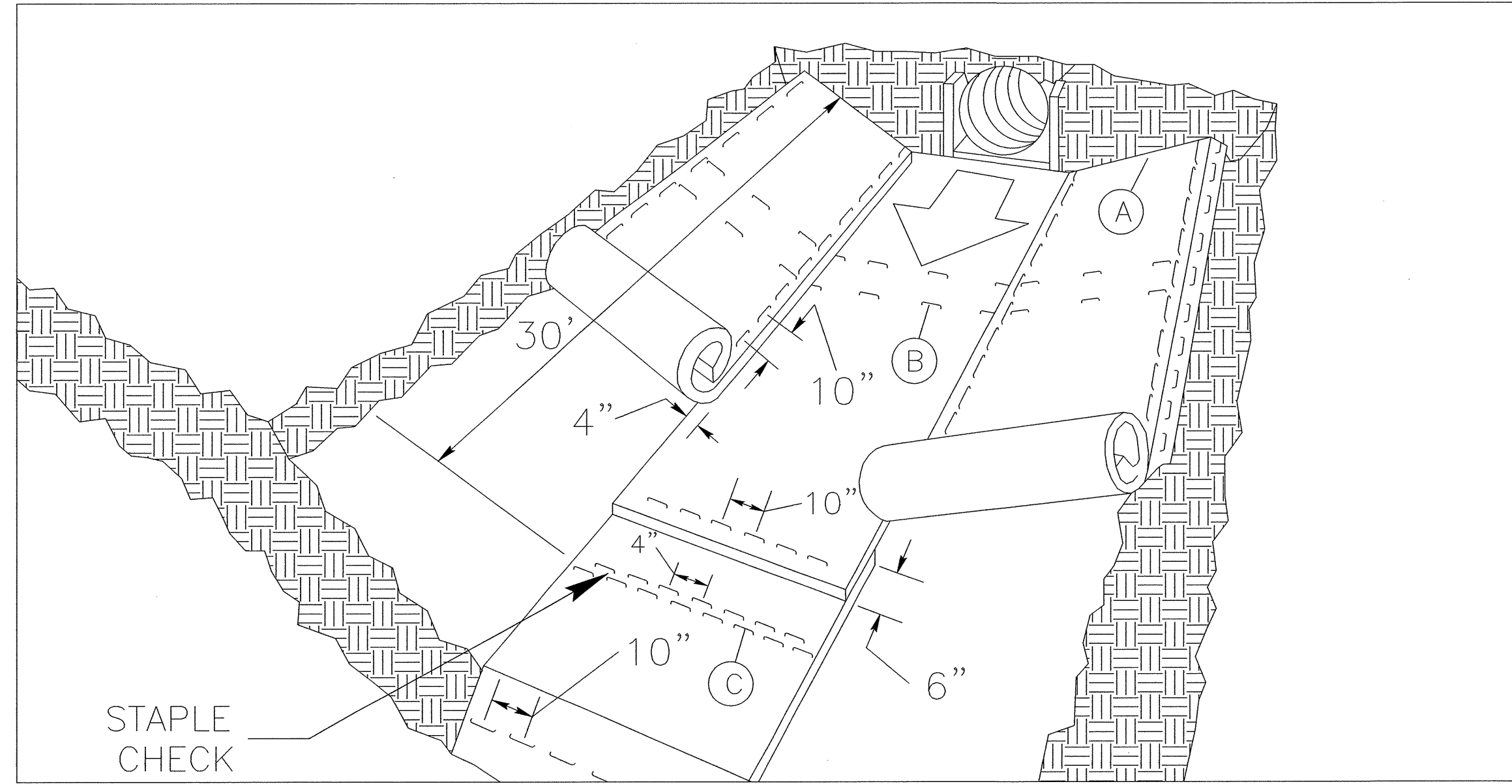
INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



NOT TO SCALE

PROJECT REFERENCE NO. B-4286	SHEET NO. EC-2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATTING INSTALLATION DETAIL



MATTING IN DITCHES

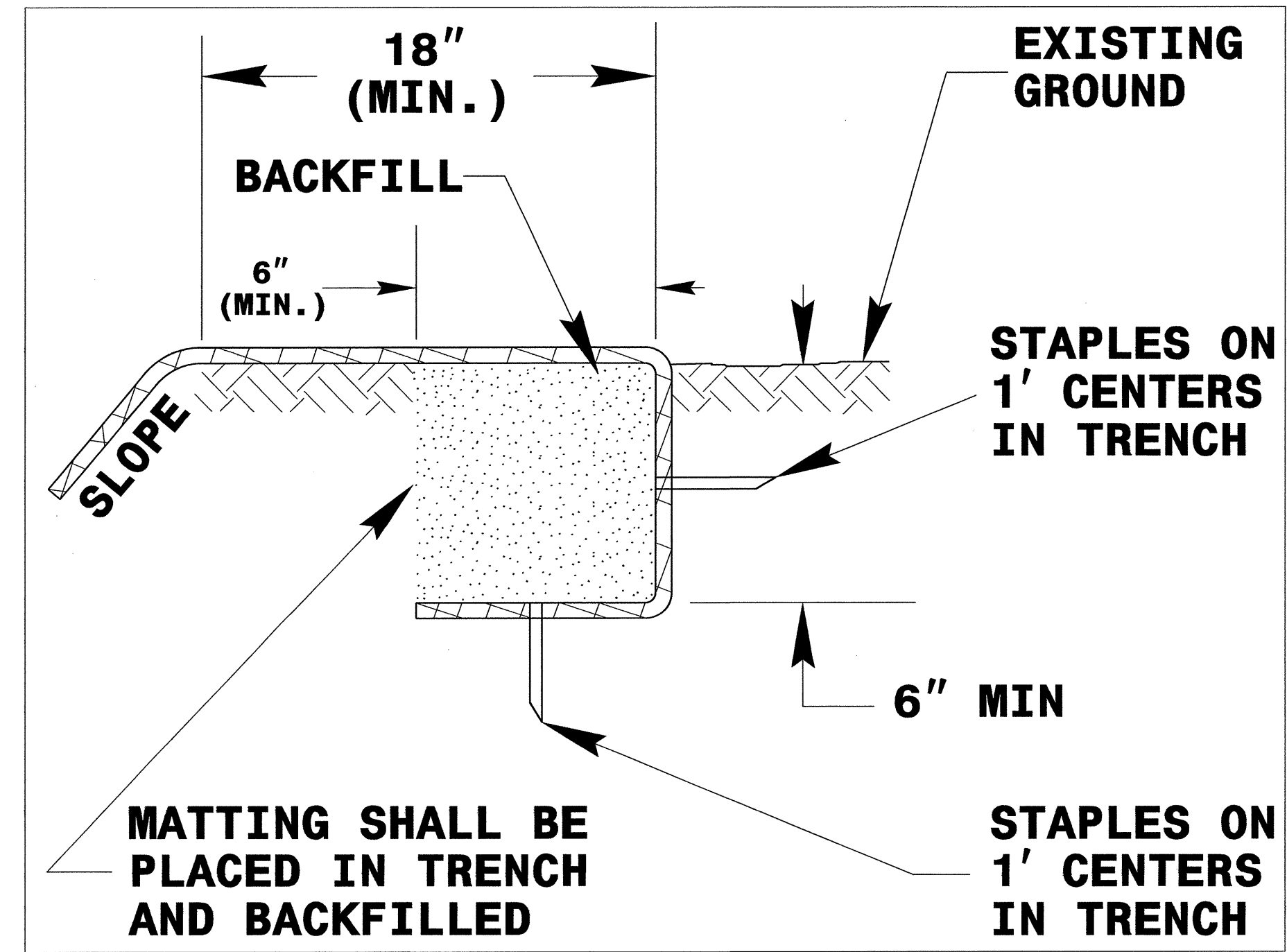
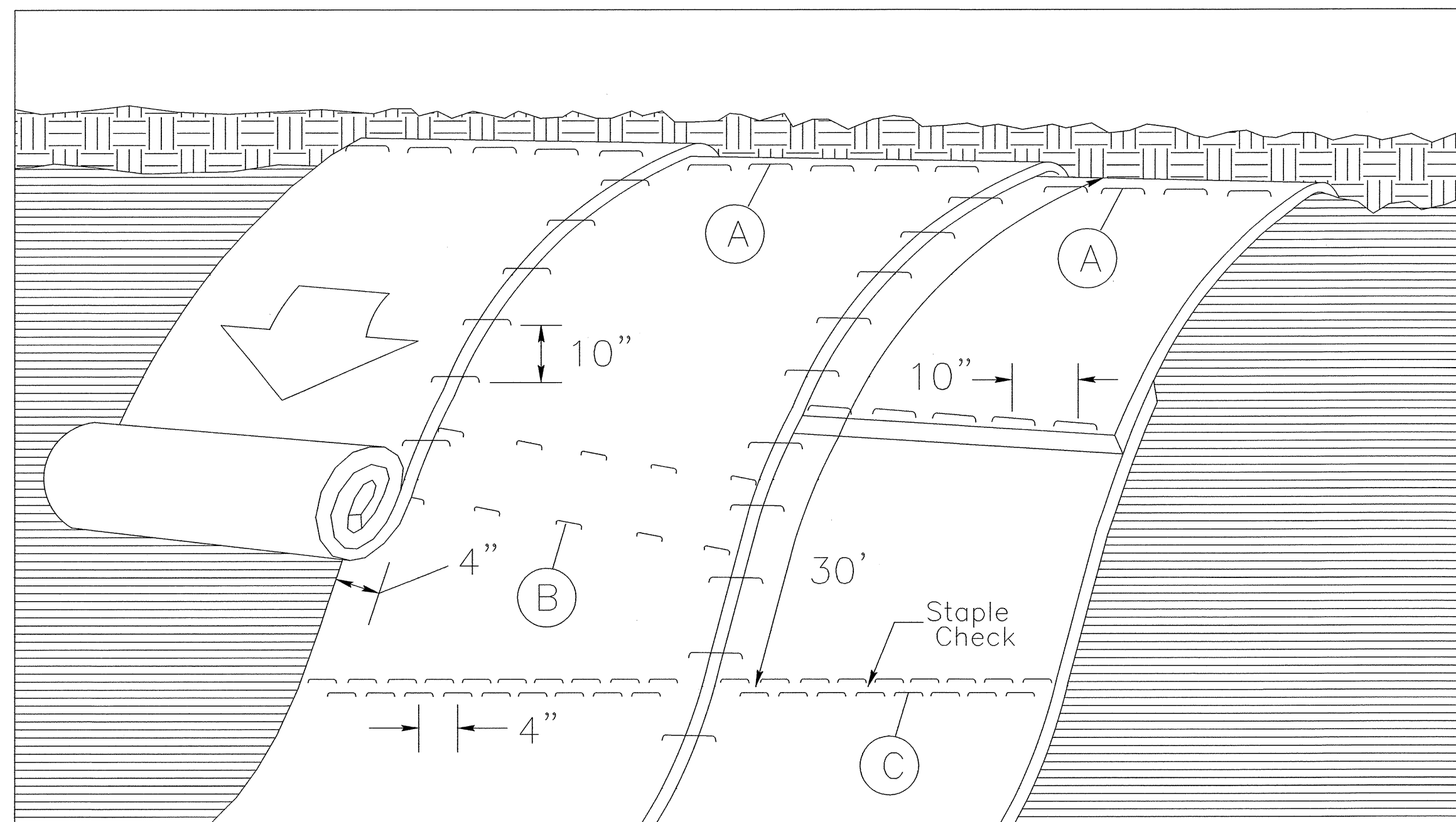


DIAGRAM (A)



MATTING ON SLOPES

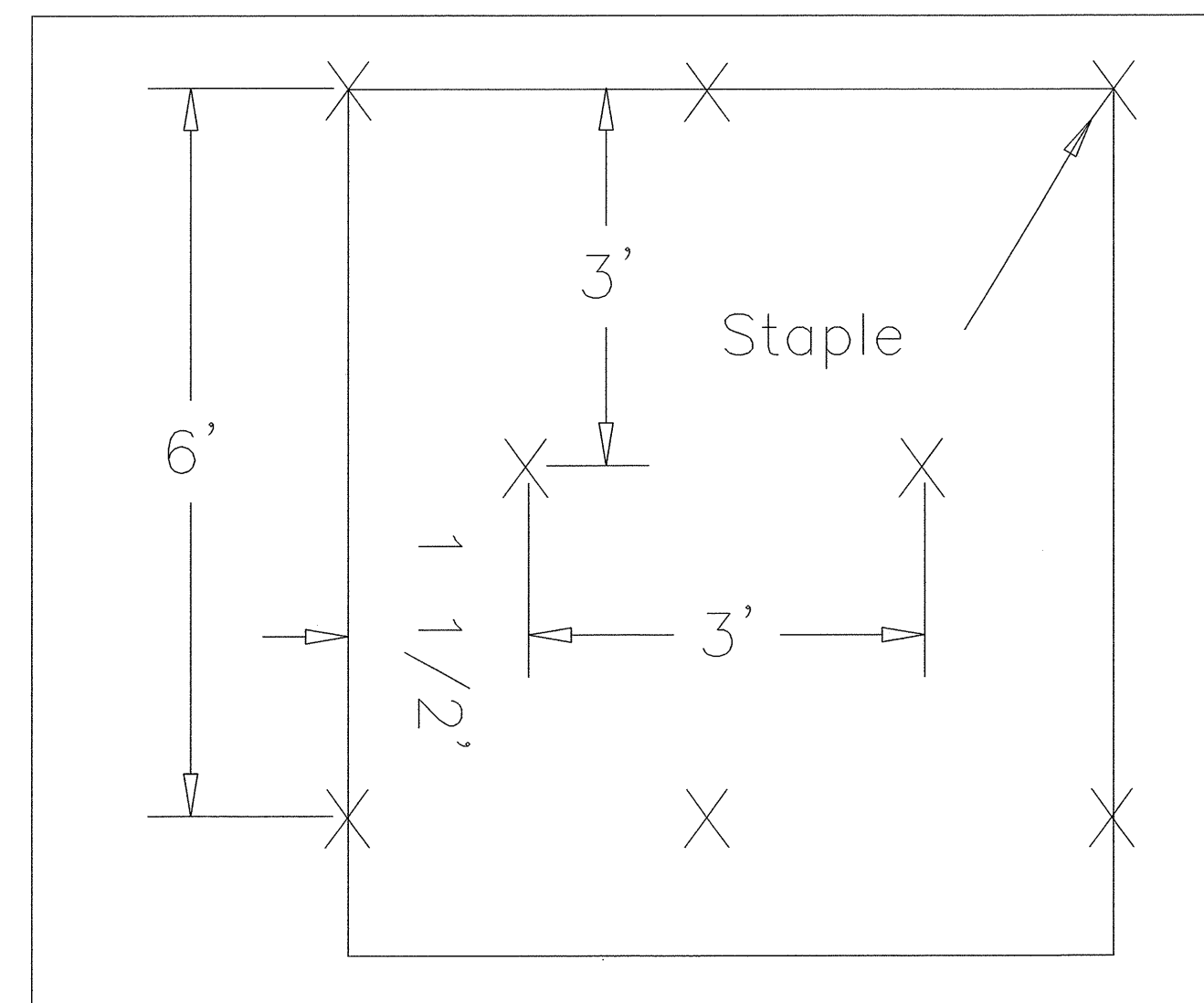


DIAGRAM (B)

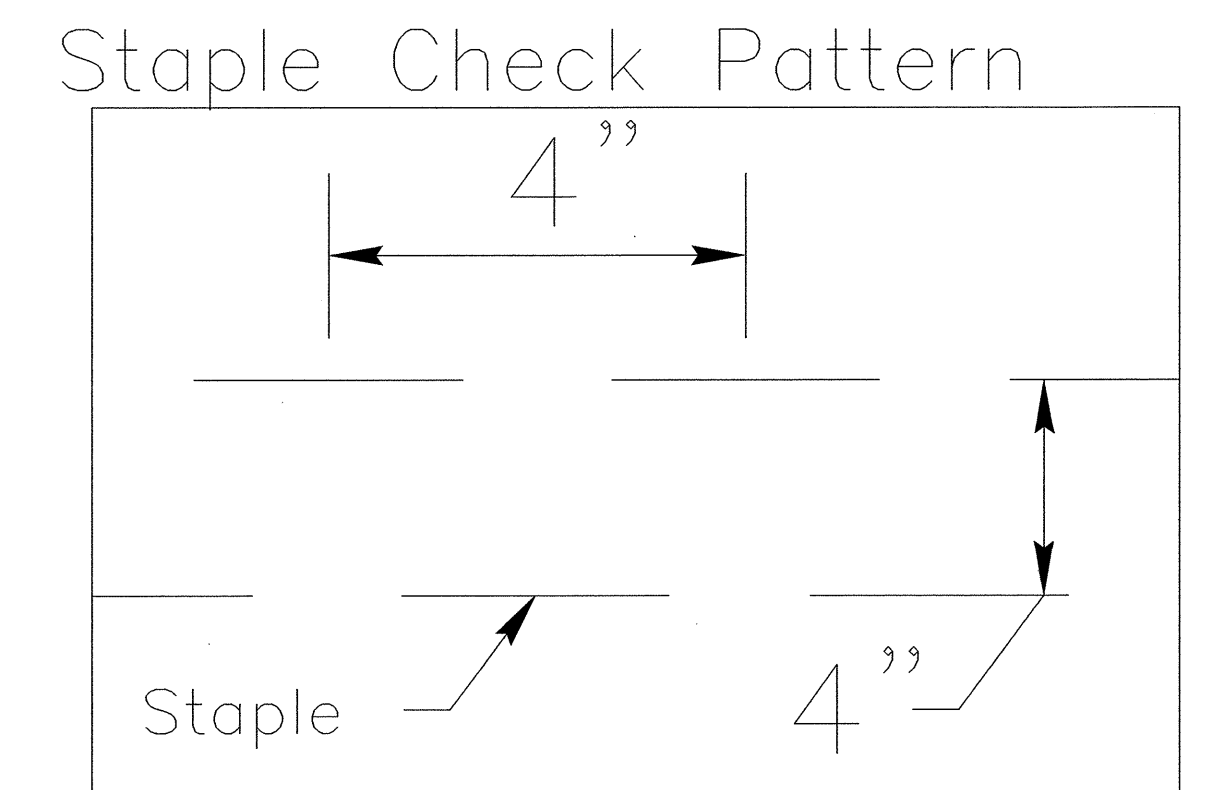


DIAGRAM (C)

NOTES:

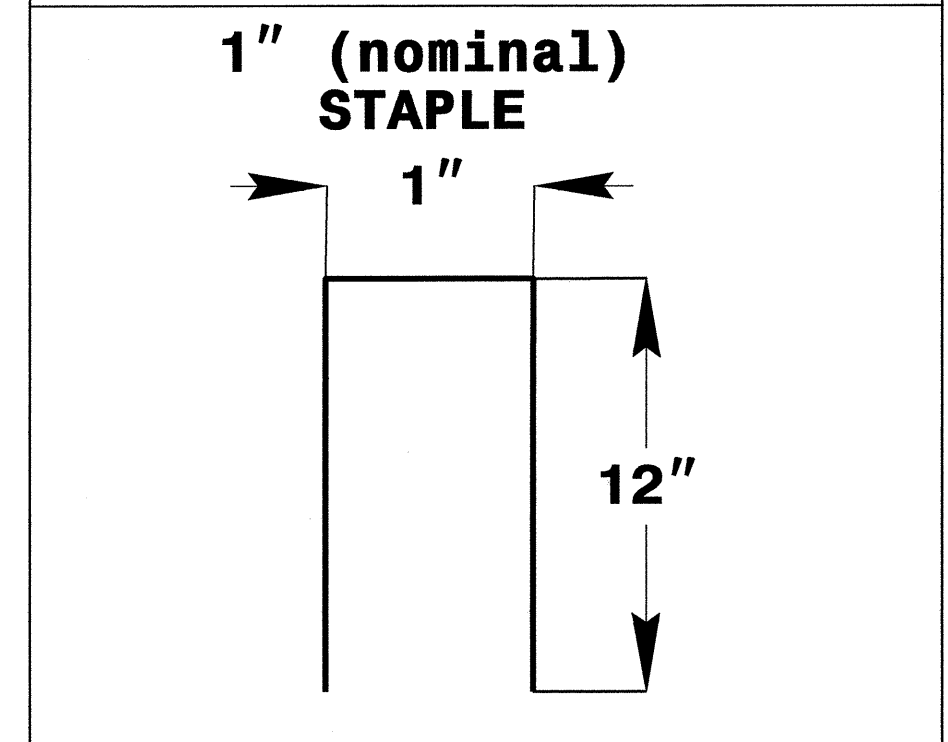
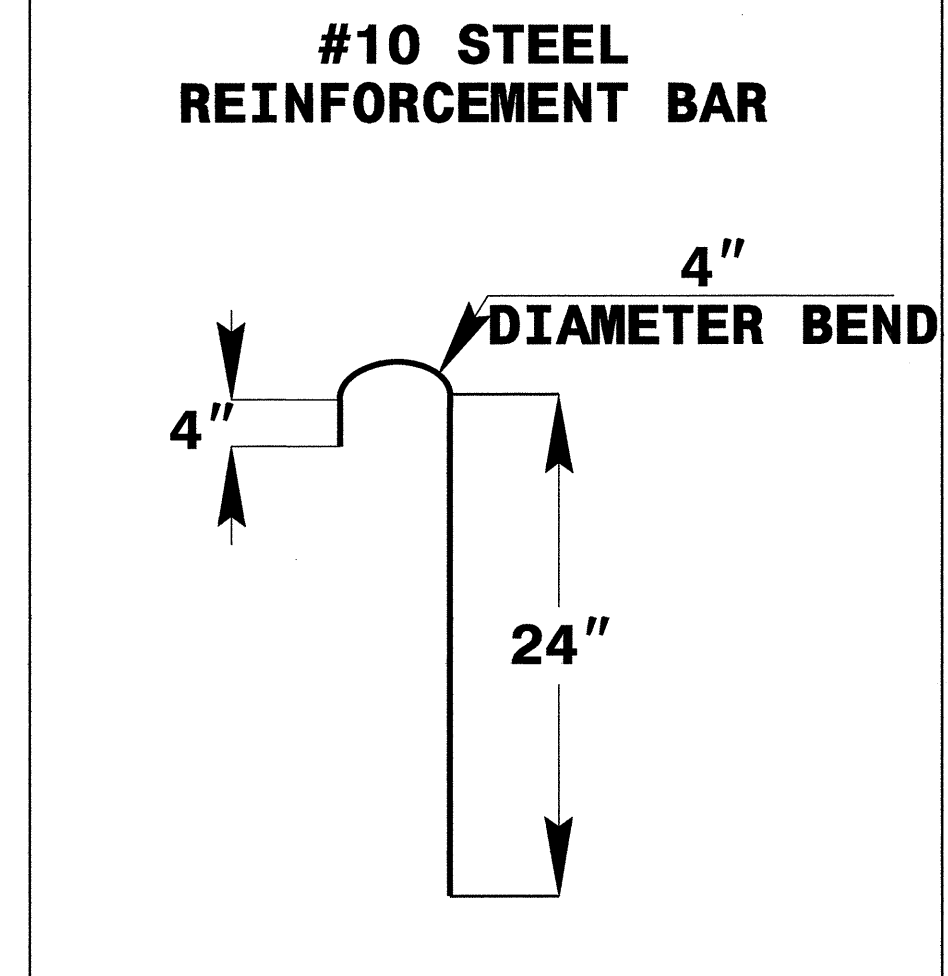
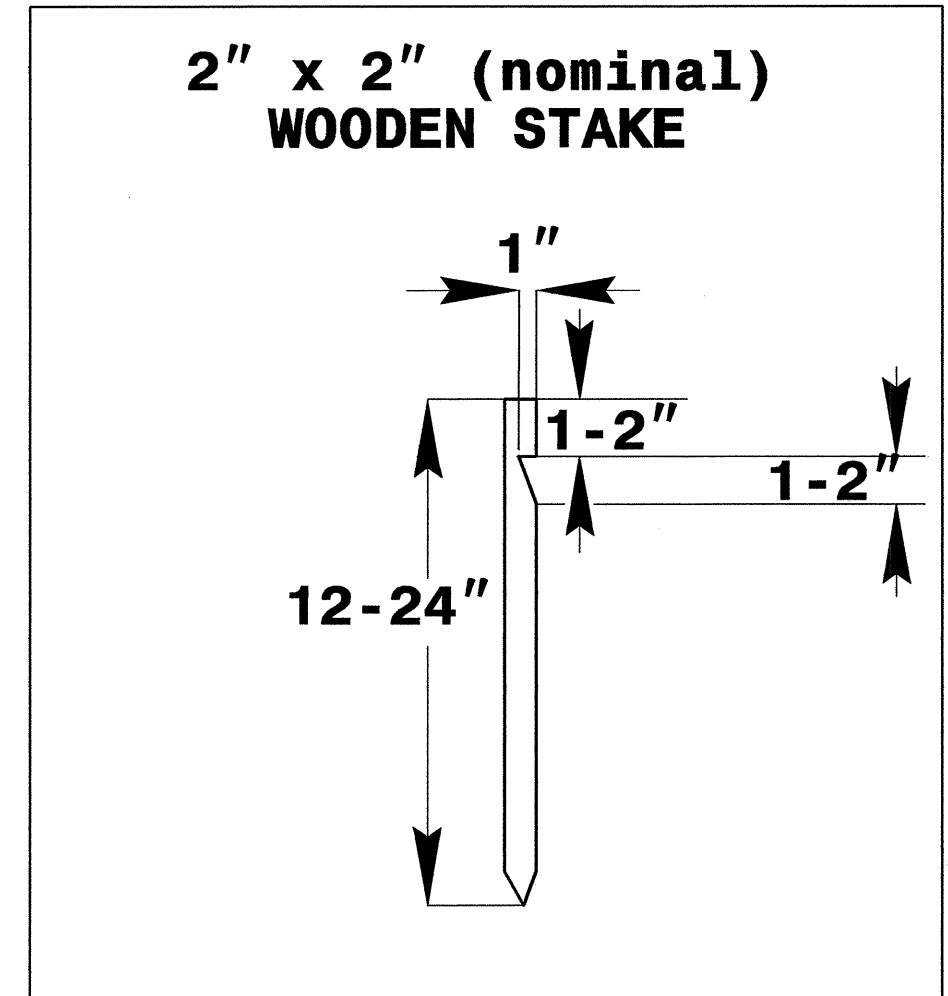
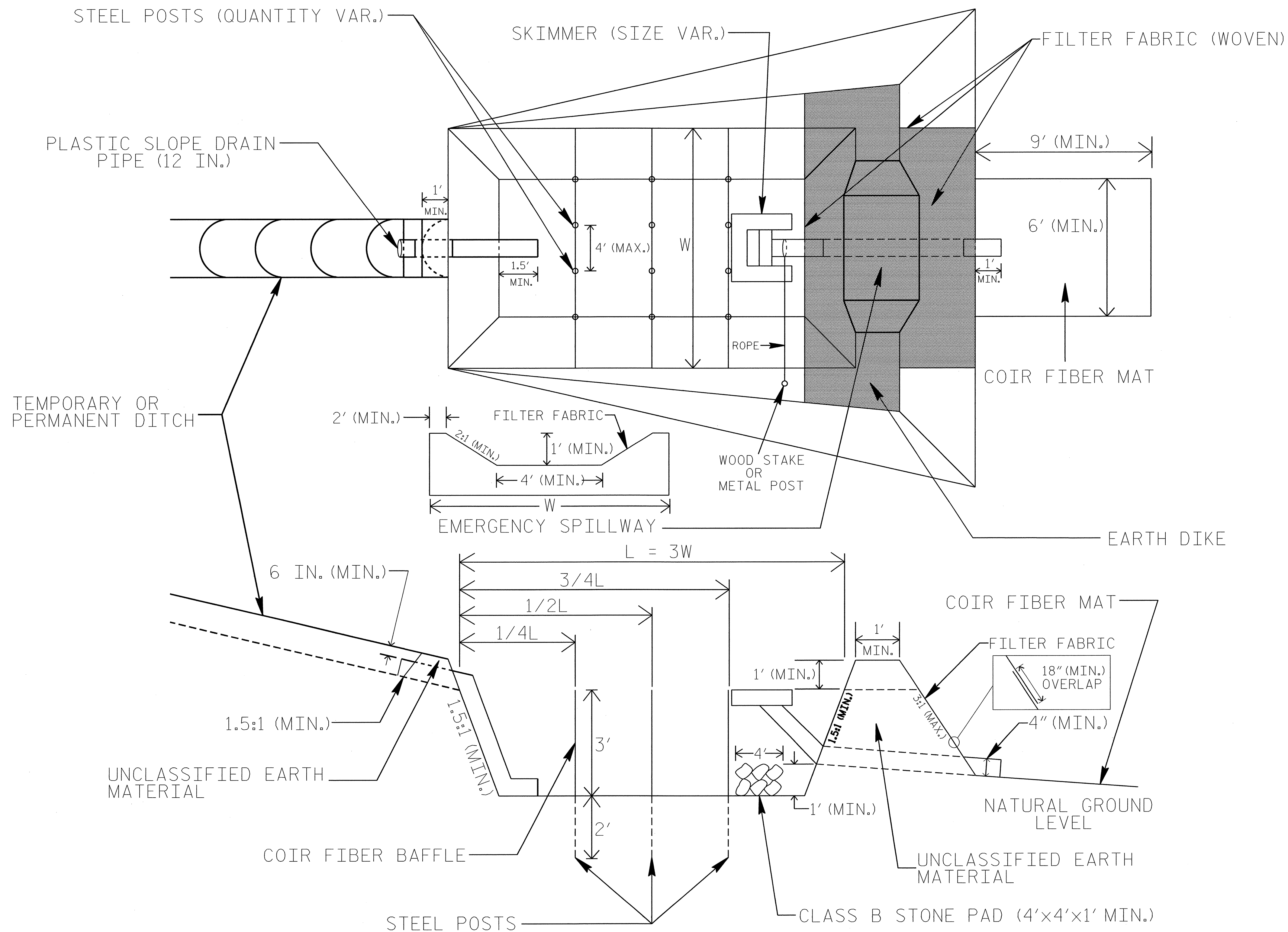
THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

SKIMMER BASIN WITH BAFFLES DETAIL

PROJECT REFERENCE NO. B-4286	SHEET NO. EC-2E
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



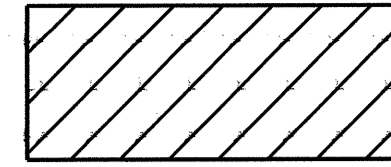
COIR FIBER MAT ANCHOR OPTIONS

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 EMERGENCY SPILLWAY 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 FILTER FABRIC AS DIRECTED.
6. FILTER FABRIC (WOVEN) FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18" AS SHOWN.

NOT TO SCALE

8/17/99



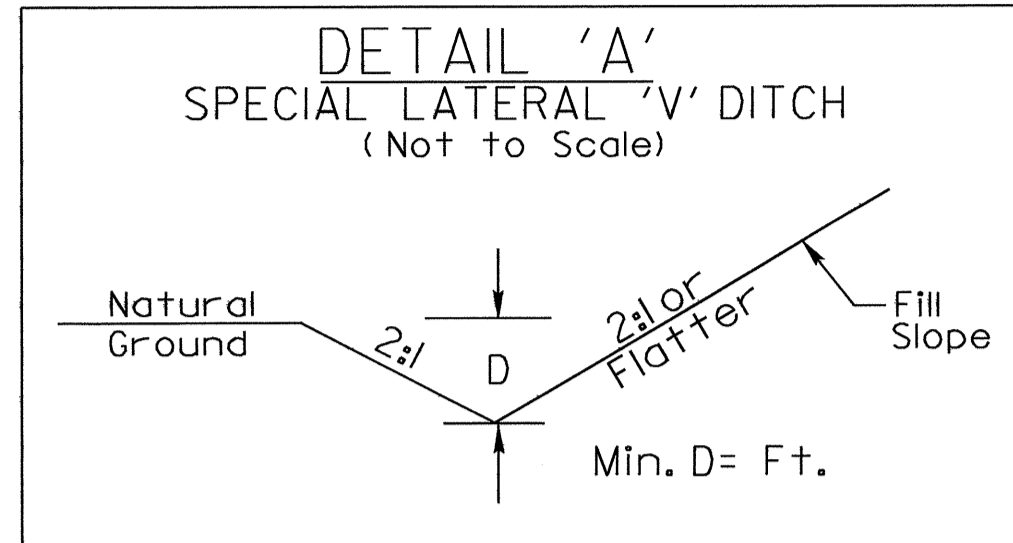
ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

DETOUR

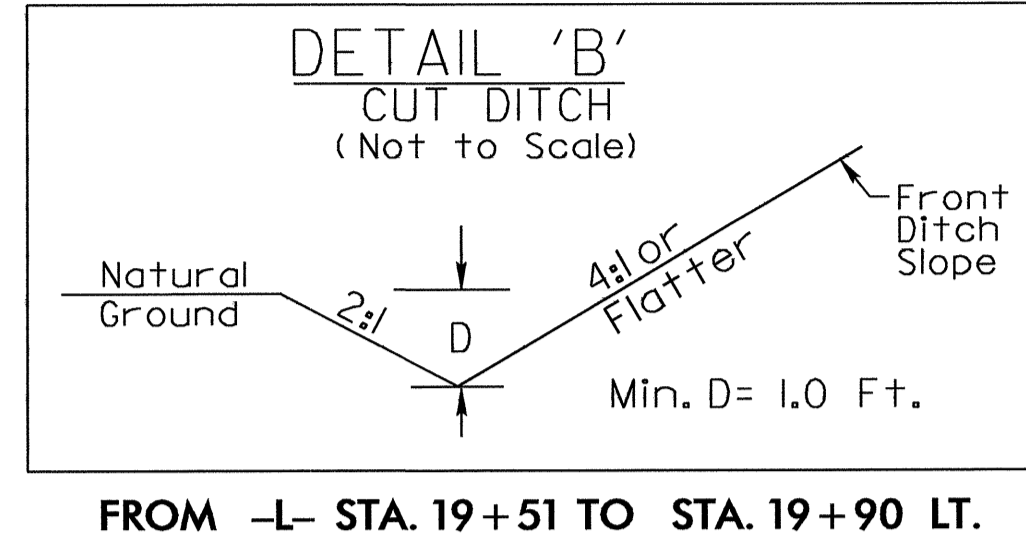
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

PROJECT REFERENCE NO. B-4286	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

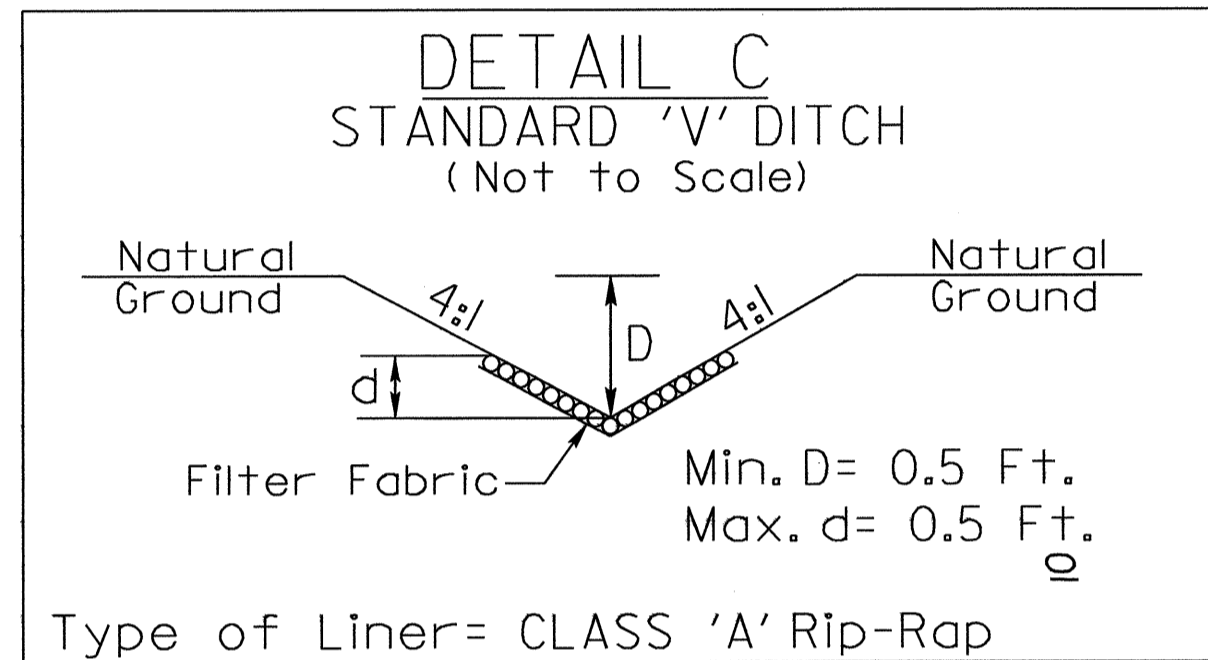
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.



FROM -DET- STA. 17+57 TO STA. 19+92 RT.



FROM -L- STA. 19+51 TO STA. 19+90 LT.

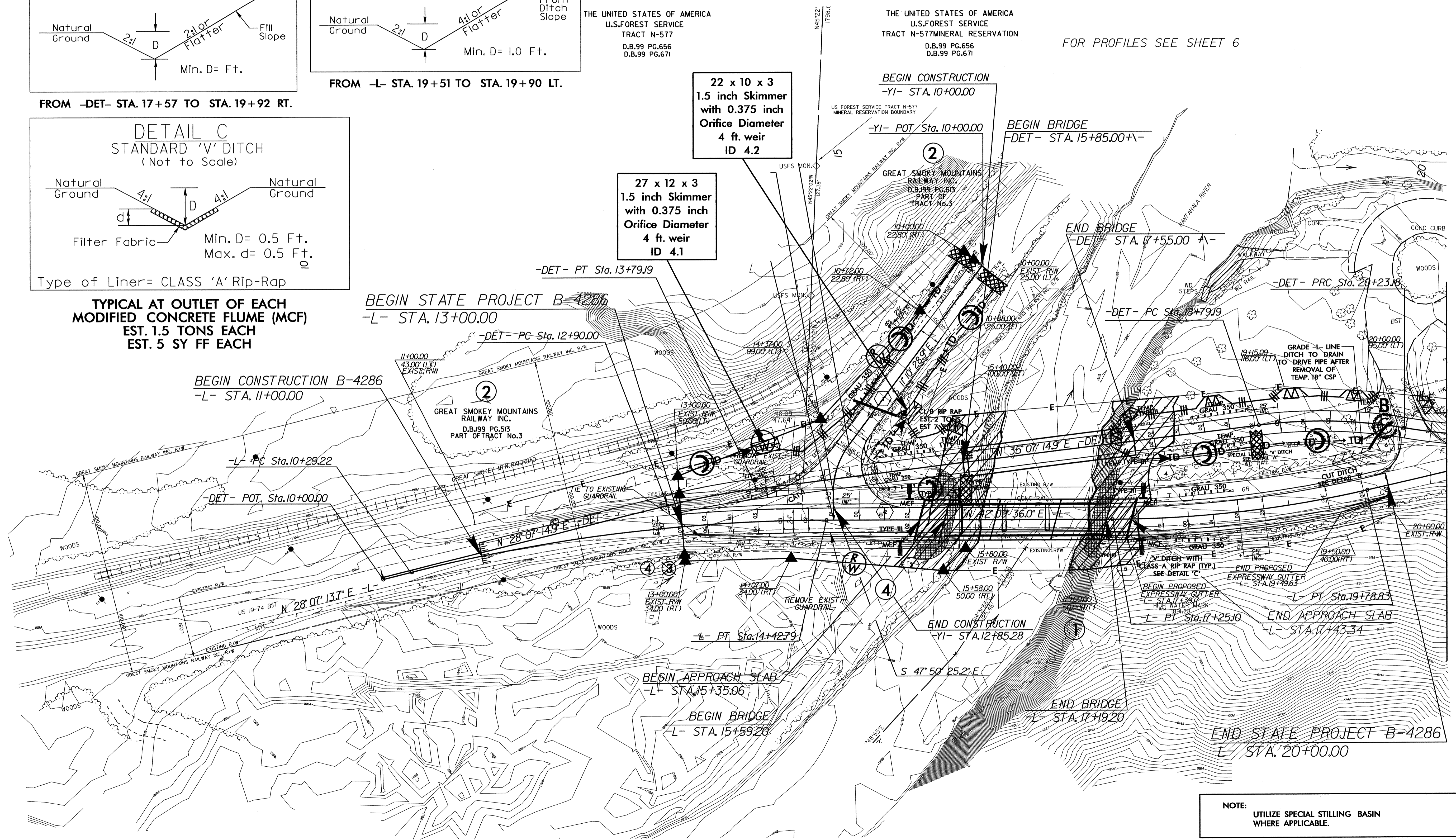


TYPICAL AT OUTLET OF EACH
MODIFIED CONCRETE FLUME (MCF)
EST. 1.5 TONS EACH
EST. 5 SY FF EACH

THE UNITED STATES OF AMERICA
U.S.FOREST SERVICE
TRACT N-577
D.B.99 PG.656
D.B.99 PG.671

THE UNITED STATES OF AMERICA
U.S.FOREST SERVICE
TRACT N-577 MINERAL RESERVATION
D.B.99 PG.656
D.B.99 PG.671

FOR PROFILES SEE SHEET 6



NOTE:
UTILIZE SPECIAL STILLING BASIN
WHERE APPLICABLE.

REVISIONS

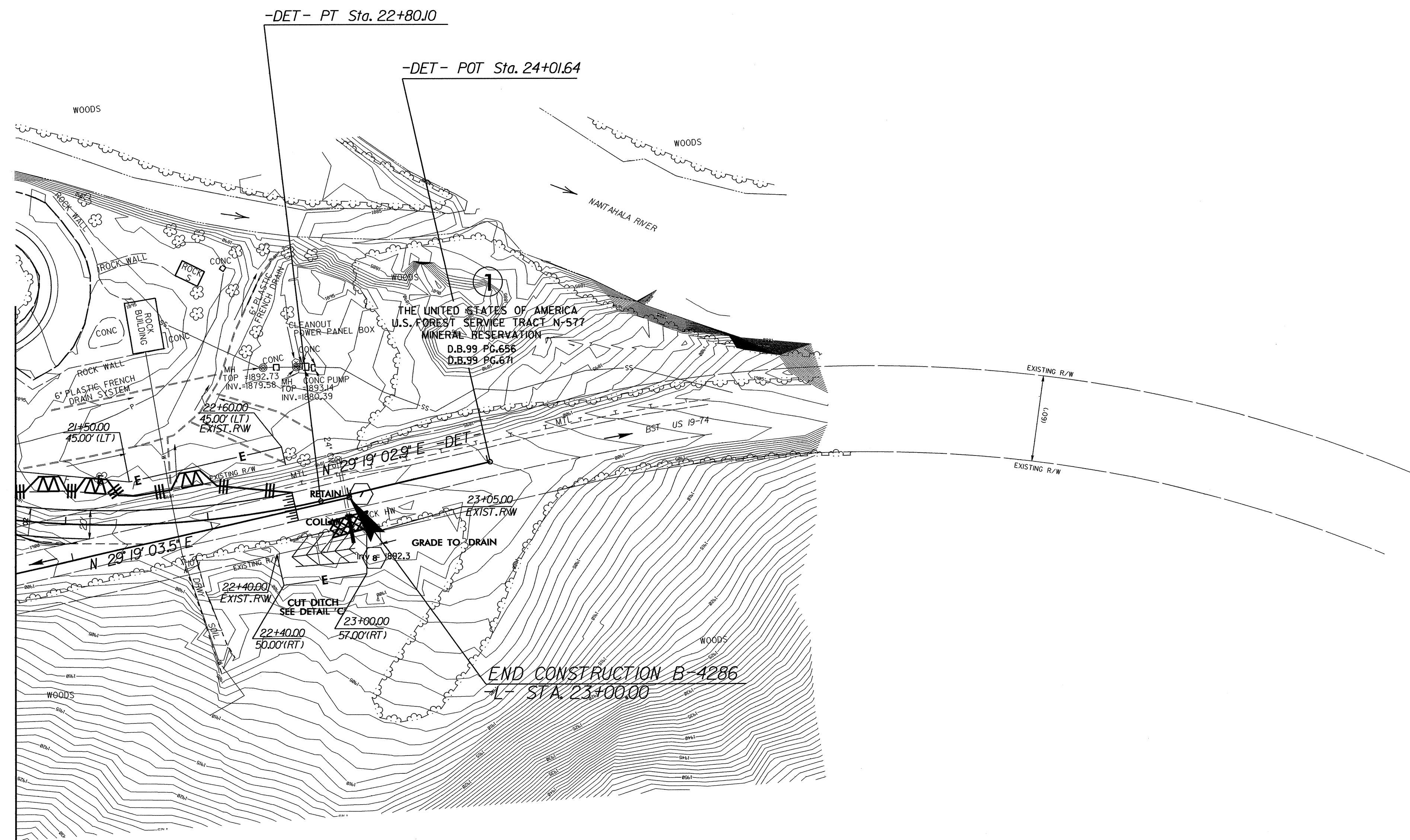
MATCH LINE -L- STA. 20+59.23 SEE SHEET NO. 5

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PROJECT REFERENCE NO.	SHEET NO.
B-4286	EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

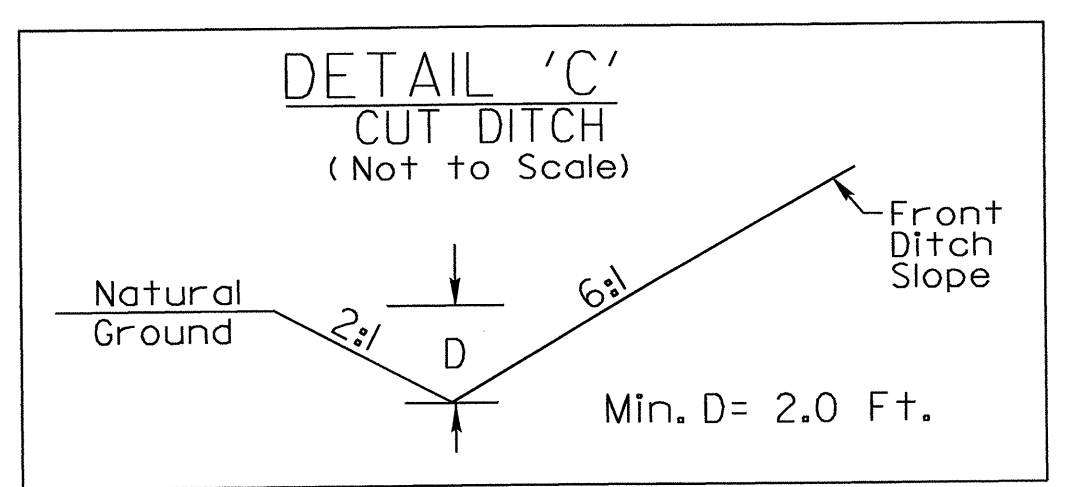
DETOUR

MATCH LINE -L- STA. 20+59.23 SEE SHEET NO. 4



REVISIONS

-DET-
 PI Sta 21+88.59
 $\Delta = 19^{\circ} 59' 24.3''$ (LT)
 $D = 7' 50' 55.5''$
 $L = 254.69'$
 $T = 128.65'$
 $R = 730.00'$



FROM -L- STA. 22+51.00 TO STA. 22+94.22 RT.

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 5

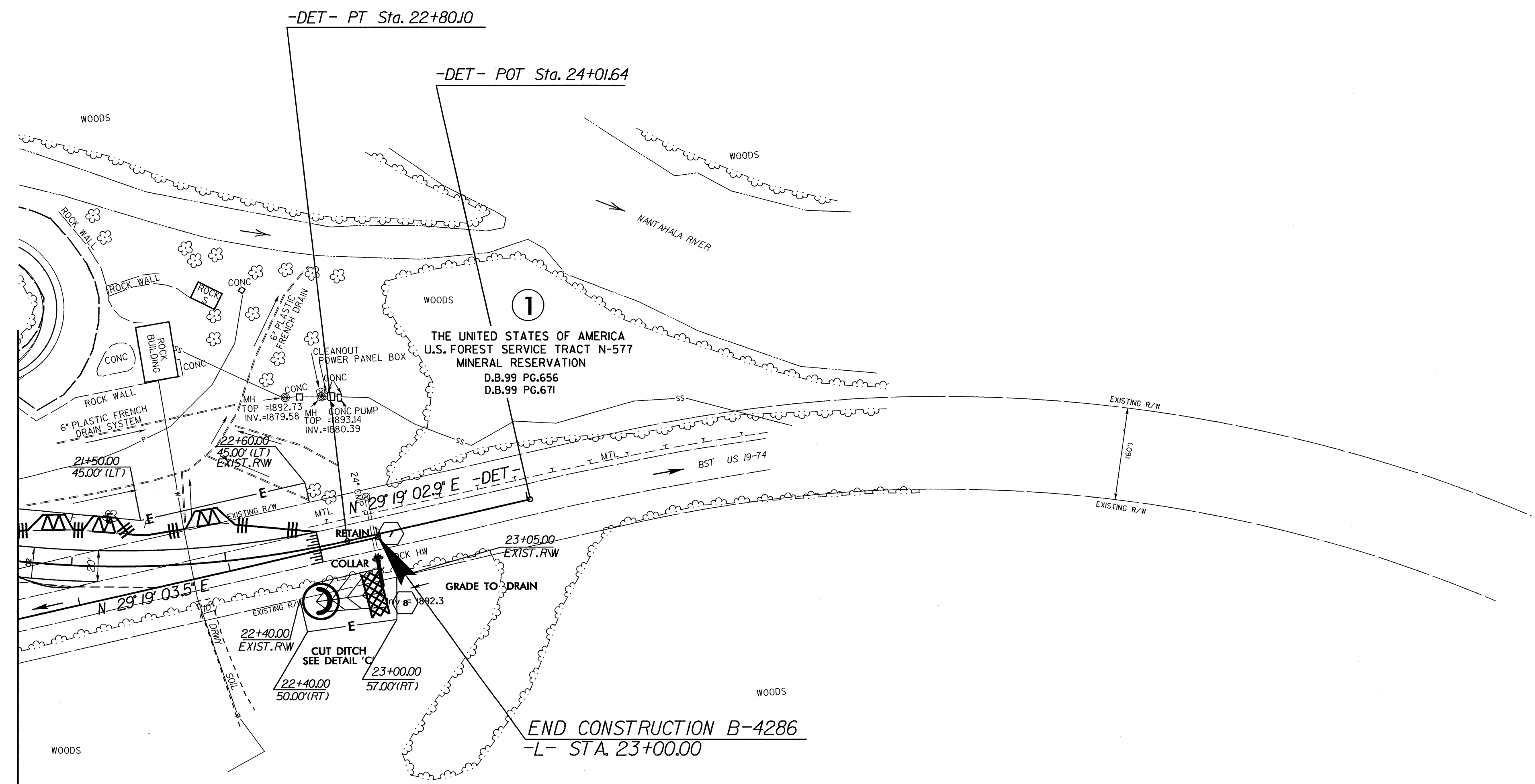
NOTE:
 PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
 AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
 DRAINAGE OUTLETS.

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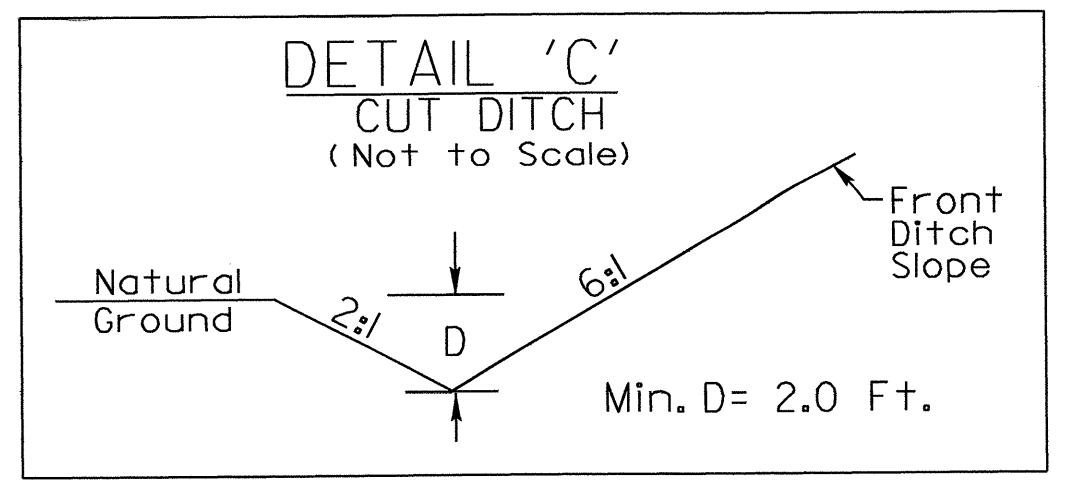
DETOUR

PROJECT REFERENCE NO. B-4286	SHEET NO. EC-7/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATCH LINE -L- STA. 20+59.23 SEE SHEET NO. 4



-DET-
 PI Sta 21+88.59
 $\Delta = 19^\circ 59' 24.3" (LT)$
 $D = 7' 50' 55.5"$
 $L = 254.69'$
 $T = 128.65'$
 $R = 730.00'$



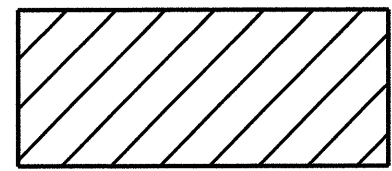
FROM -L- STA. 22+51.00 TO STA. 22+94.22 RT.

REVISIONS

8/17/99

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8/17/99

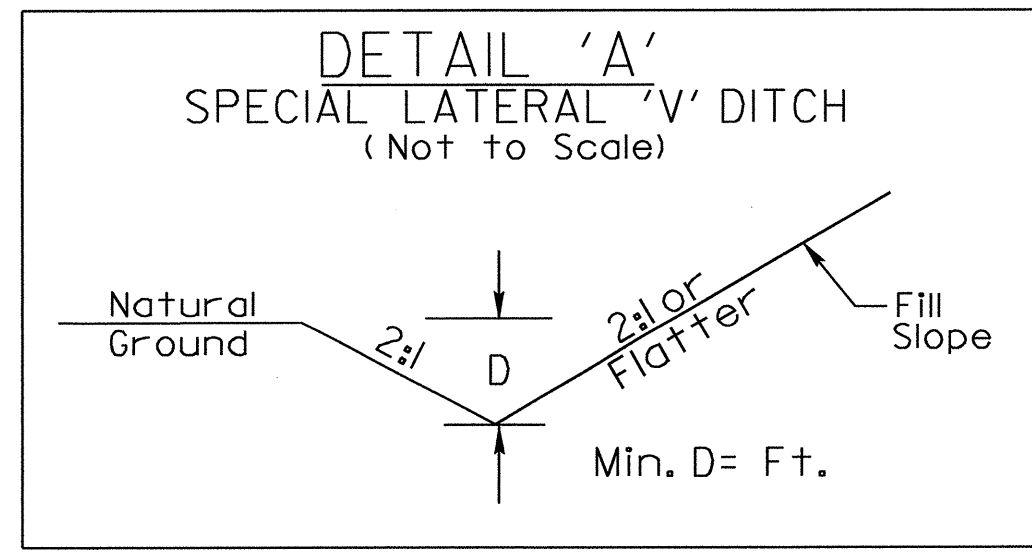


ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

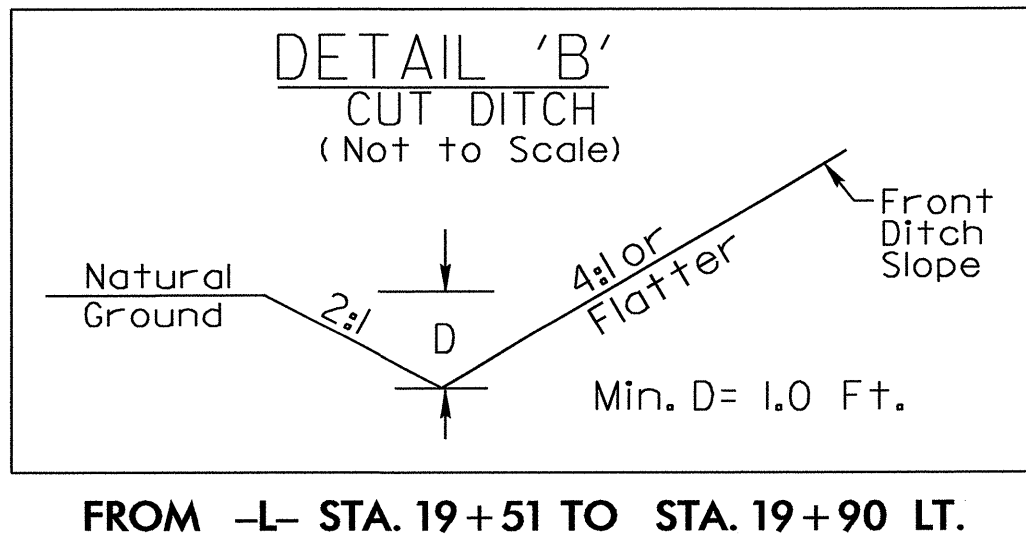
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

PROJECT REFERENCE NO. B-4286	SHEET NO. EC-8/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

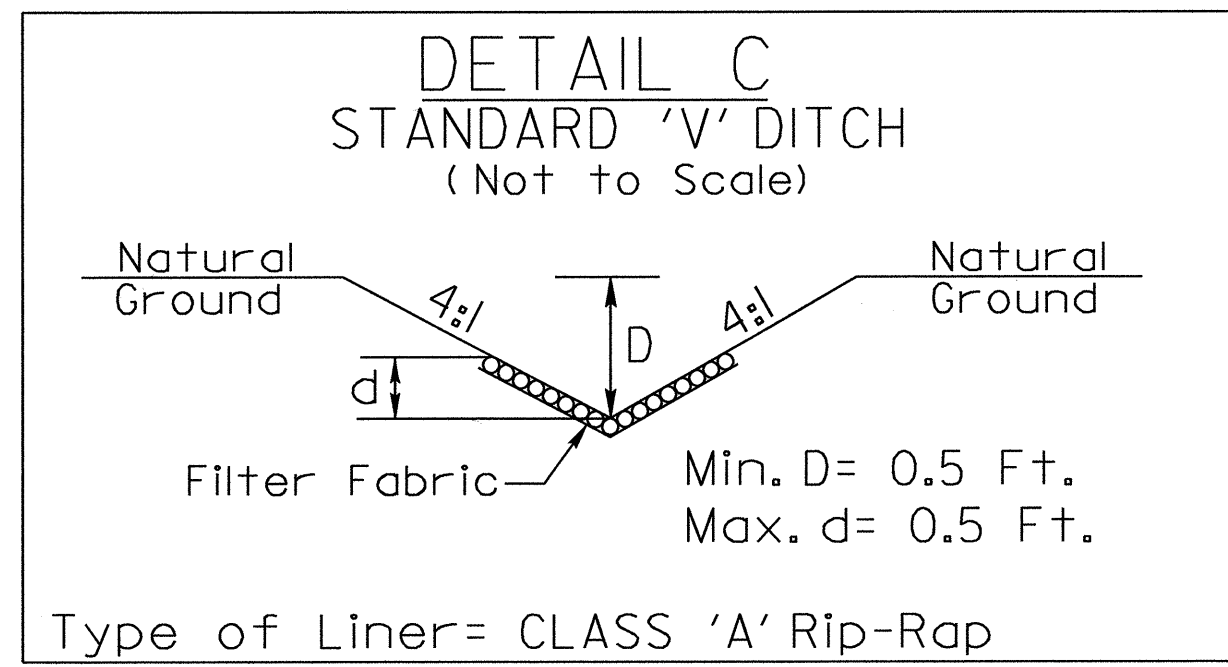
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.



FROM -DET- STA. 17+57 TO STA. 19+92 RT.



FROM -L- STA. 19+51 TO STA. 19+90 LT.

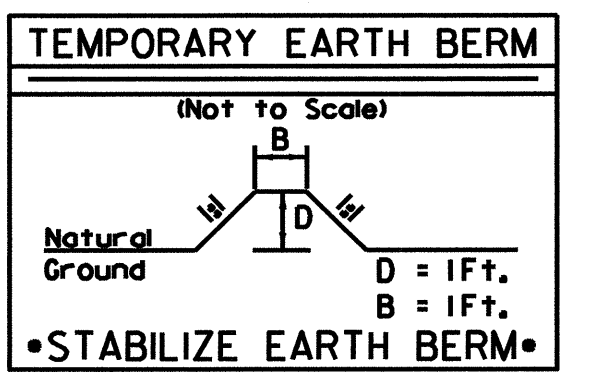


TYPICAL AT OUTLET OF EACH
MODIFIED CONCRETE FLUME (MCF)
EST. 1.5 TONS EACH
EST. 5 SY FF EACH

THE UNITED STATES OF AMERICA
U.S.FOREST SERVICE
TRACT N-577
D.B.99 PG.656
D.B.99 PG.671

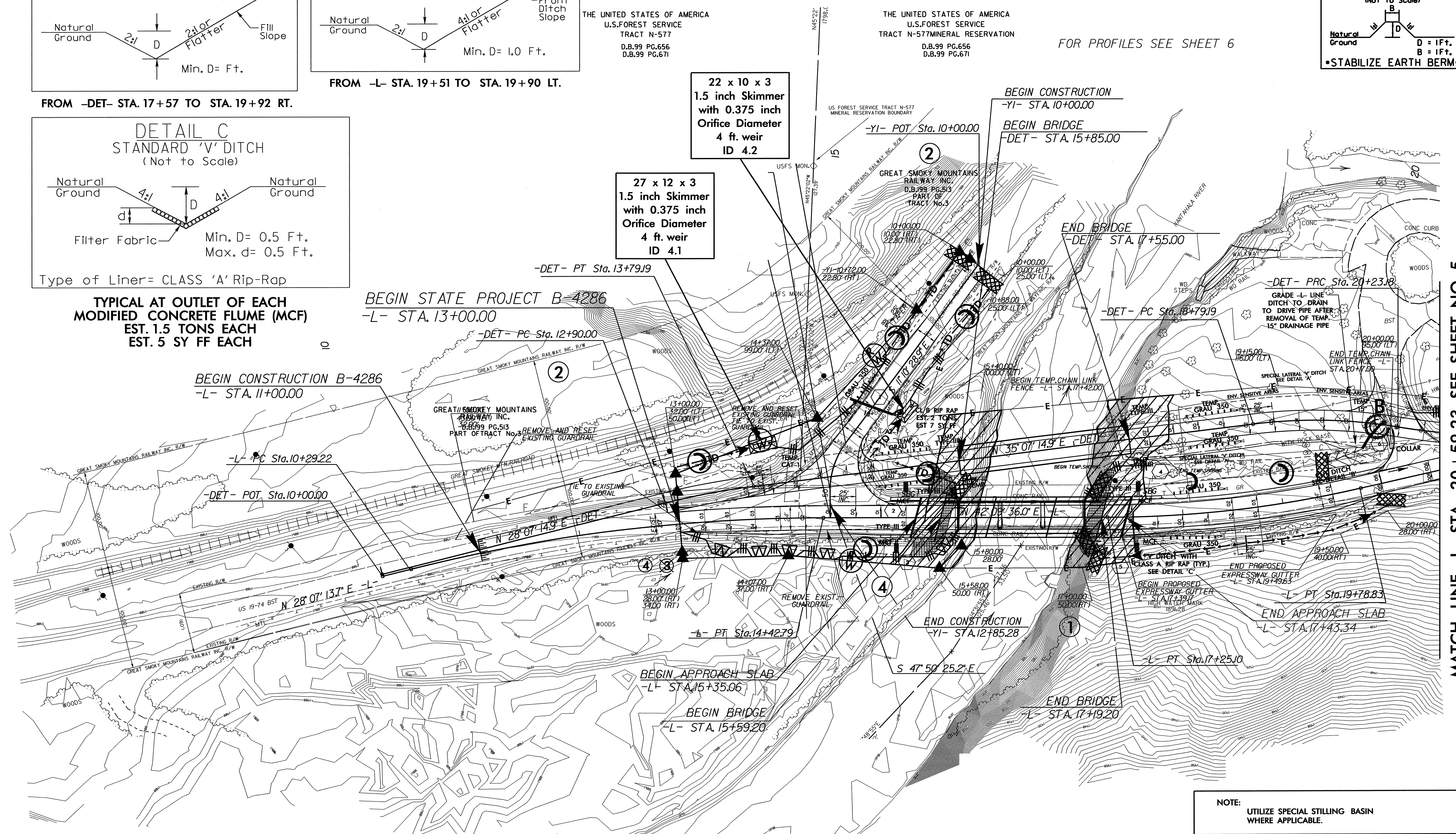
THE UNITED STATES OF AMERICA
U.S.FOREST SERVICE
TRACT N-577 MINERAL RESERVATION
D.B.99 PG.656
D.B.99 PG.671

FOR PROFILES SEE SHEET 6



22 x 10 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 4.2

27 x 12 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 4.1



NOTE:
UTILIZE SPECIAL STILLING BASIN
WHERE APPLICABLE.

REVISIONS

MATCH LINE -L- STA. 20+59.23 SEE SHEET NO. 5

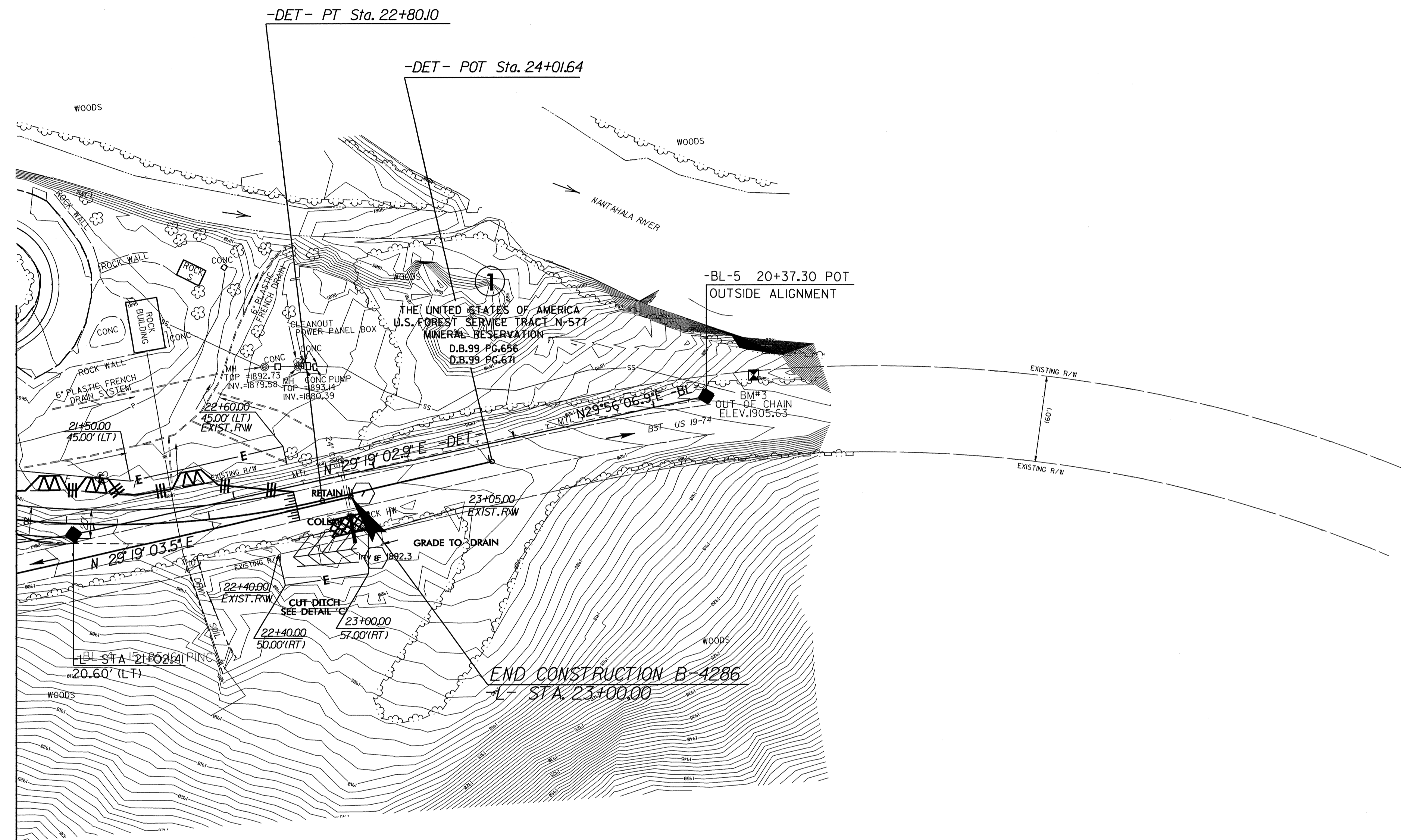
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bb\backburn

PROJECT REFERENCE NO.	SHEET NO.
B-4286	EC-9/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

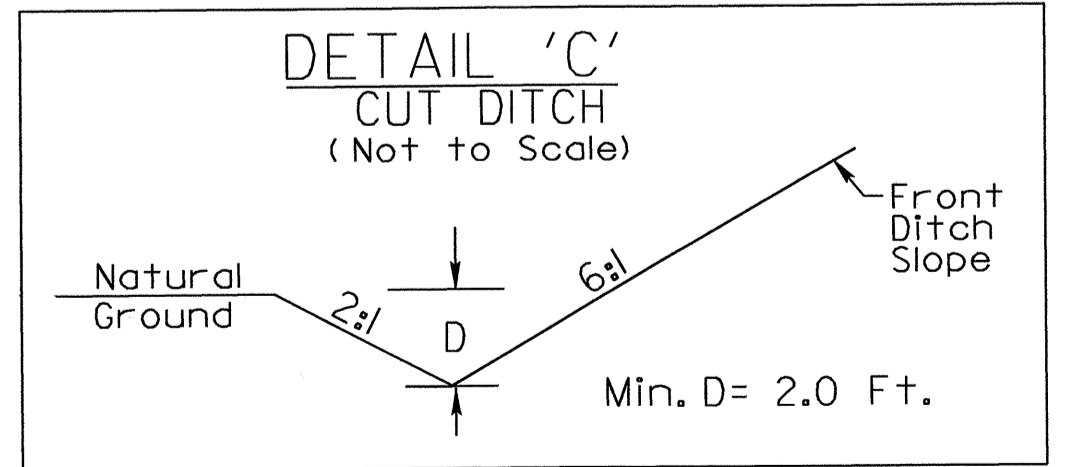
8/17/99

REVISIONS

MATCH LINE -L- STA. 20+59.23 SEE SHEET NO. 4



-DET-
 PI Sta 21+88.59
 $\Delta = 19^{\circ} 59' 24.3''$ (LT)
 $D = 7^{\circ} 50' 55.5''$
 $L = 254.69'$
 $T = 128.65'$
 $R = 730.00'$



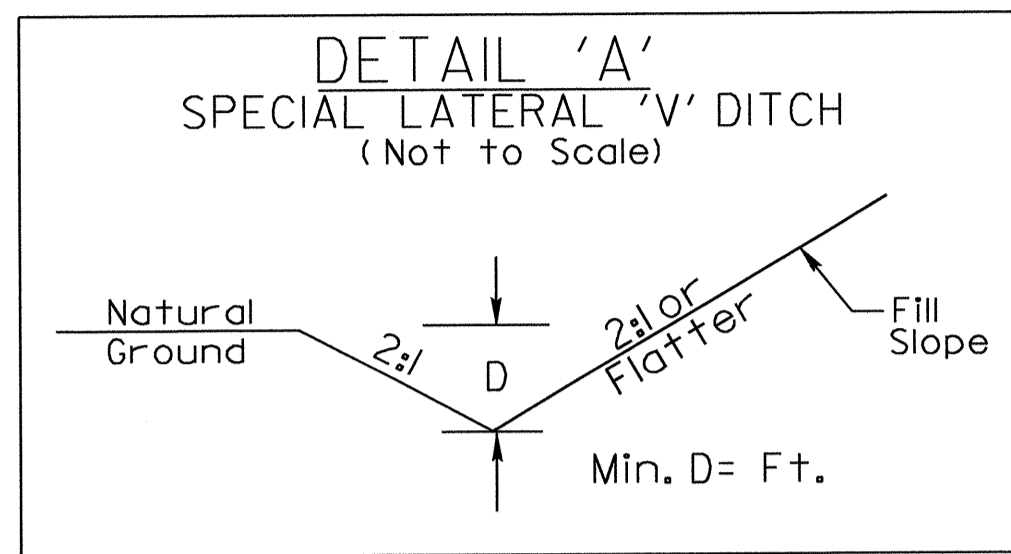
FROM -L- STA. 22+51.00 TO STA. 22+94.22 RT.

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 5

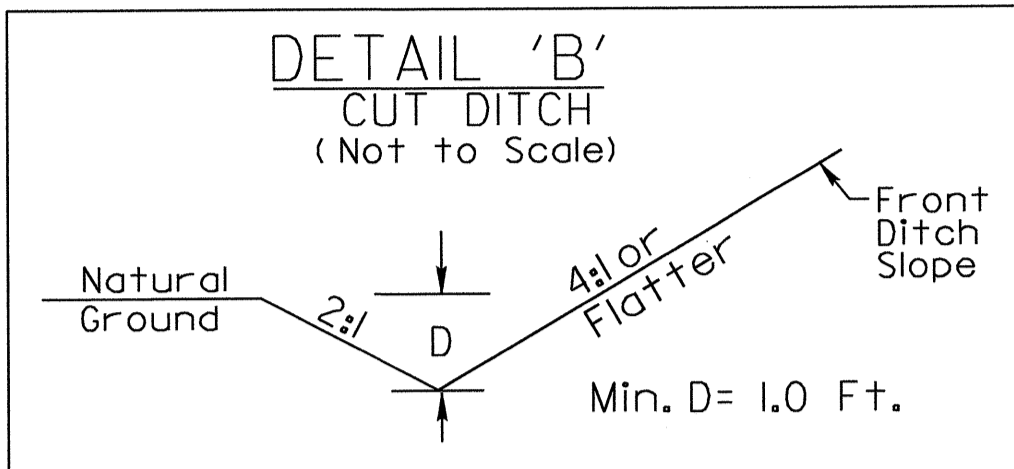
NOTE:
 PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
 AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
 DRAINAGE OUTLETS.

06-MAY-2010 16:48
 R:\Environmental\Design\B4286.EC_psh5.dgn
 41 REVISED

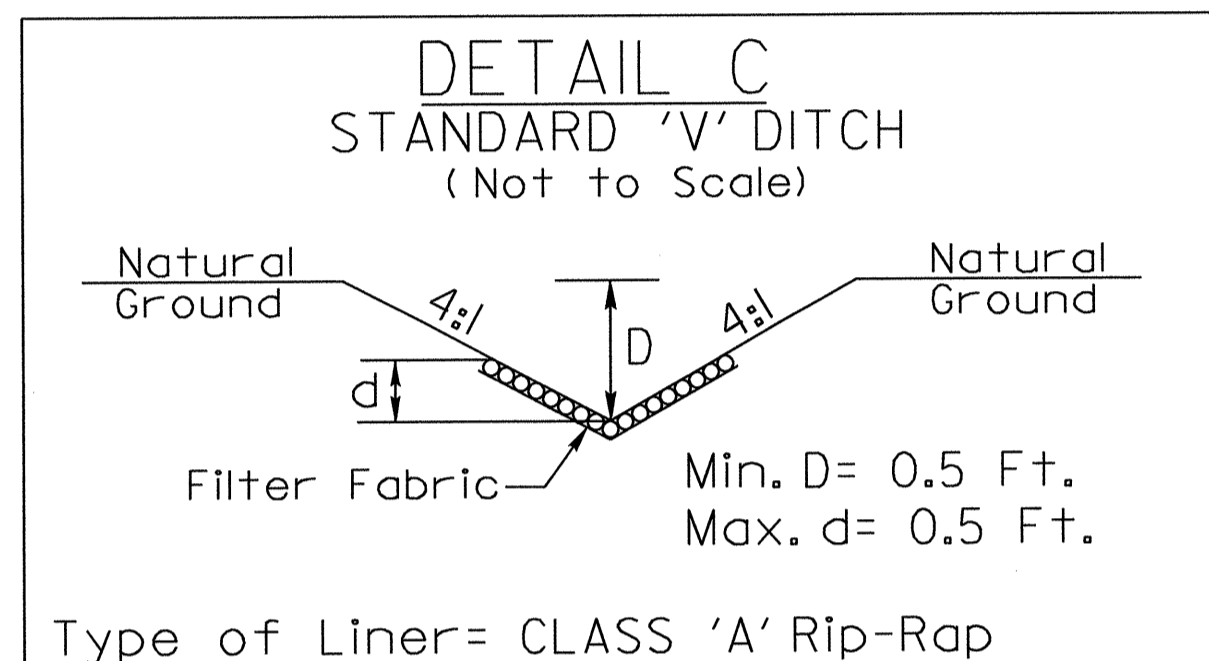
PROJECT REFERENCE NO. B-4286	SHEET NO. EC-10/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



FROM -DET- STA. 17+57 TO STA. 19+92 RT.

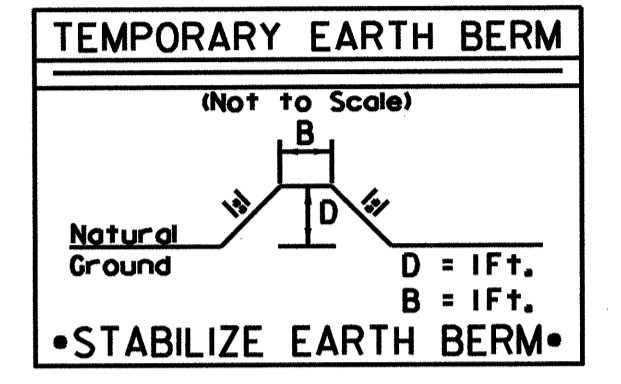


FROM -L- STA. 19+51 TO STA. 19+90 LT.



Type of Liner = CLASS 'A' Rip-Rap

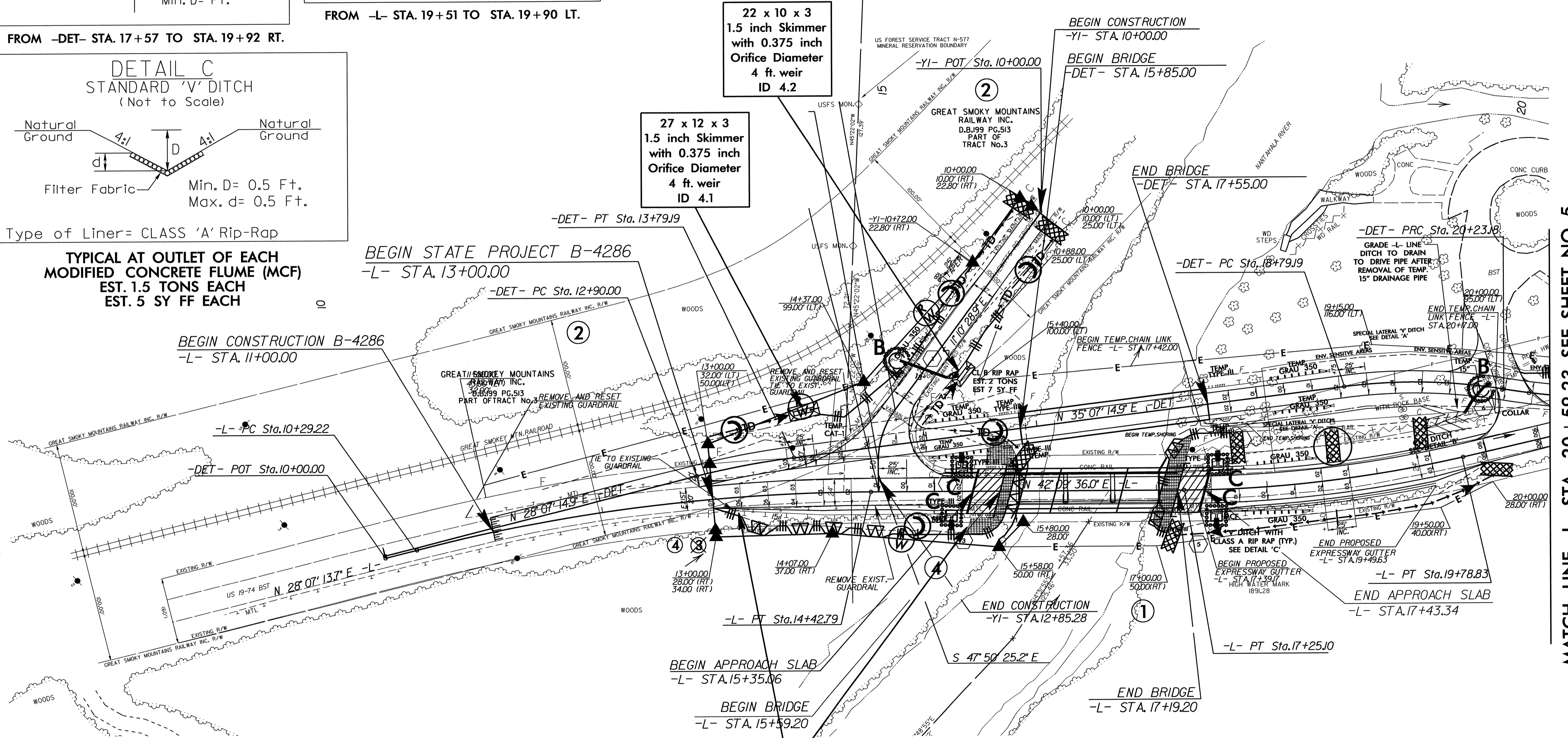
TYPICAL AT OUTLET OF EACH MODIFIED CONCRETE FLUME (MCF) EST. 1.5 TONS EACH EST. 5 SY FF EACH



THE UNITED STATES OF AMERICA
U.S. FOREST SERVICE
TRACT N-577
D.B.99 PG.656
D.B.99 PG.671

THE UNITED STATES OF AMERICA
U.S. FOREST SERVICE
TRACT N-577 MINERAL RESERVATION
D.B.99 PG.656
D.B.99 PG.671

FOR PROFILES SEE SHEET 6



Place Matting for Erosion Control on Slope as Work Allows.

NOTE: UTILIZE SPECIAL STILLING BASIN WHERE APPLICABLE.

MATCH LINE -L- STA. 20+59.23 SEE SHEET NO. 5

8/17/99

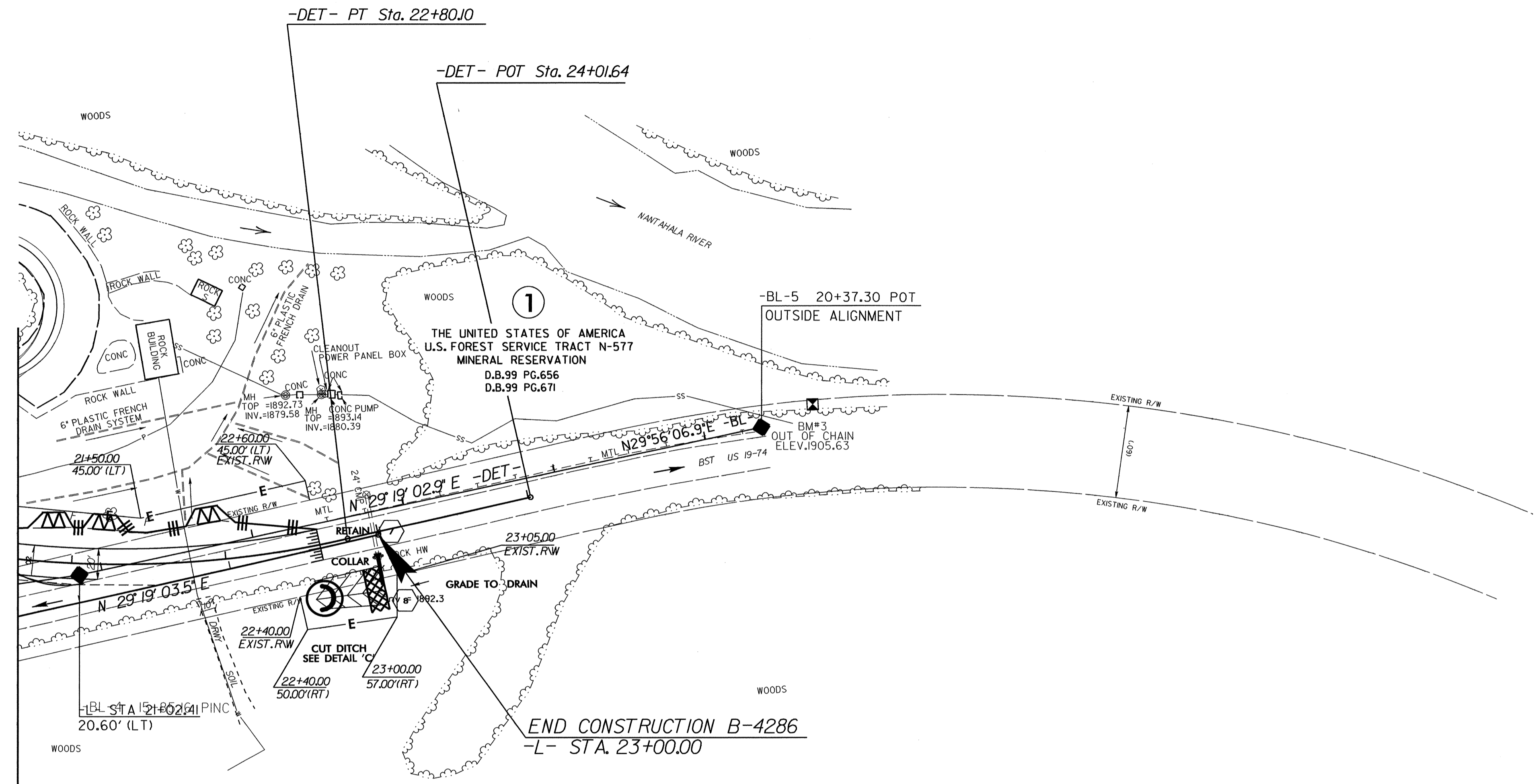
REVISIONS

04-NOV-2010 08:33
B:\enviro\mtd\266-EC-ps4.dgn
B:\enviro\mtd\266-EC-ps4.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-4286	EC-II/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

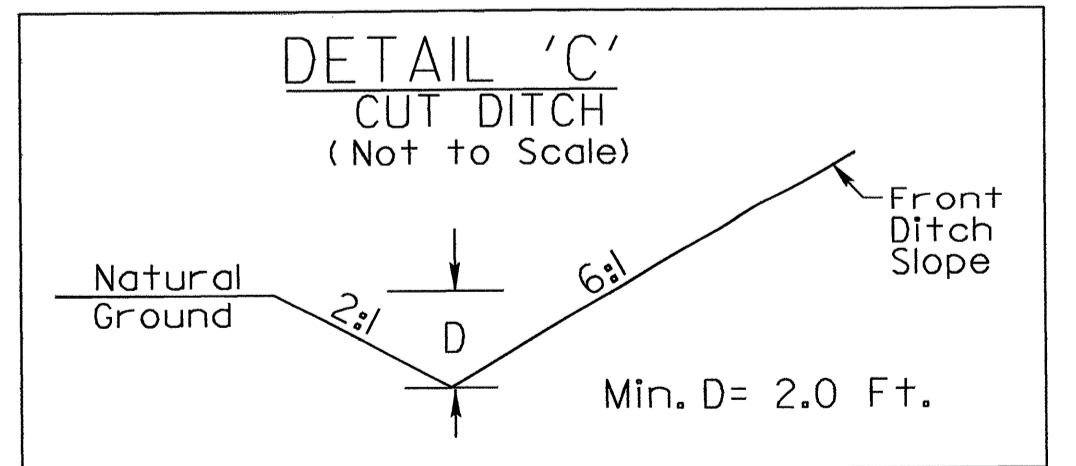
8/17/99

MATCH LINE -L- STA. 20+59.23 SEE SHEET NO. 4



REVISIONS

-DET-
 PI Sta 21+88.59
 $\Delta = 19^{\circ} 59' 24.3''$ (LT)
 $D = 7' 50'' 55.5''$
 $L = 254.69'$
 $T = 128.65'$
 $R = 730.00'$



FROM -L- STA. 22+51.00 TO STA. 22+94.22 RT.

06-MAY-2010 16:47
 R:\Environment\Design\B4286-EC.psh5.dgn
 AT RENY231813