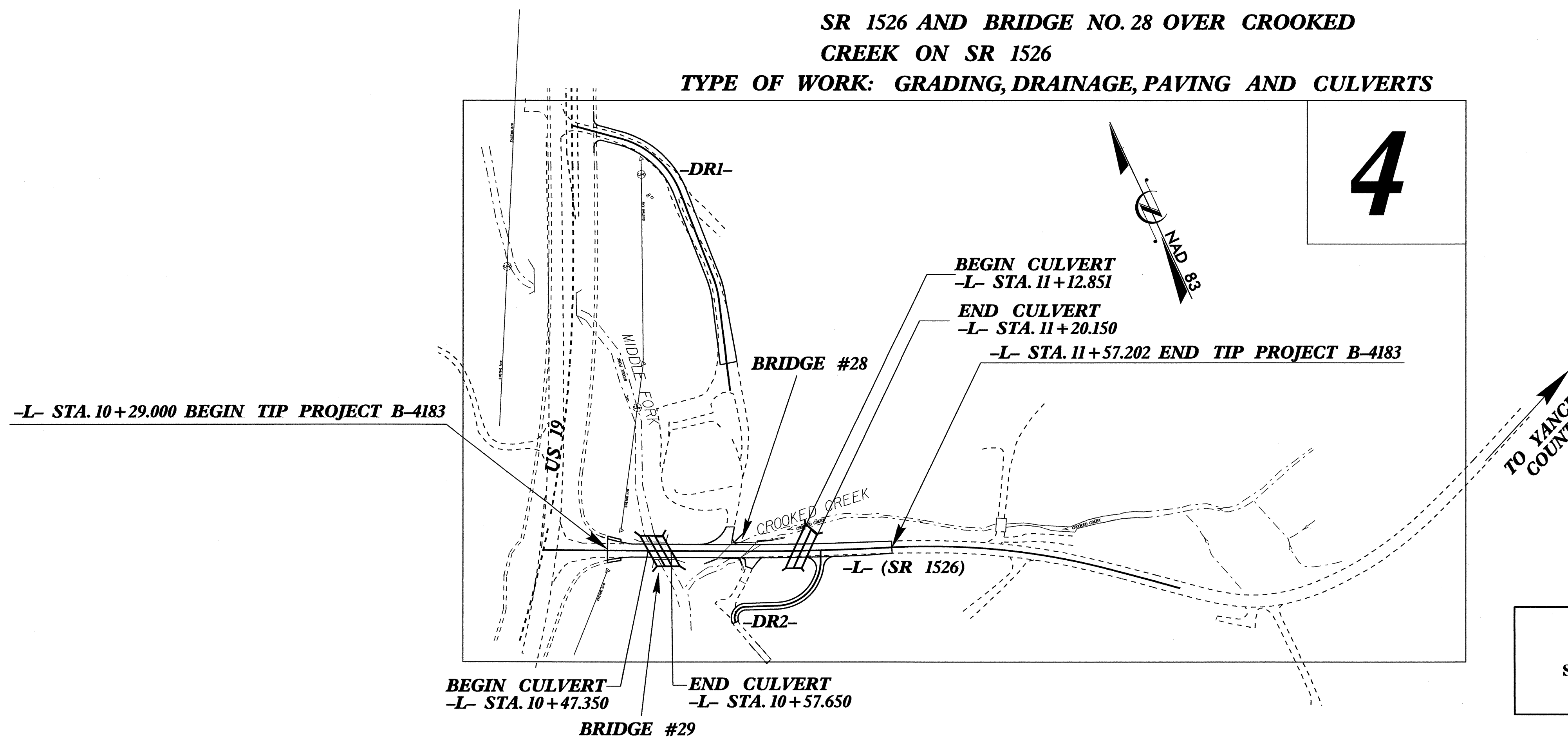


TIP PROJECT: B-4183

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

LOCATION: BRIDGE NO. 29 OVER MIDDLE FORK CREEK ON  
SR 1526 AND BRIDGE NO. 28 OVER CROOKED  
CREEK ON SR 1526

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND CULVERTS



METRIC  
ALL DIMENSIONS IN THESE  
PLANS ARE IN METERS  
UNLESS OTHERWISE SHOWN

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4183	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

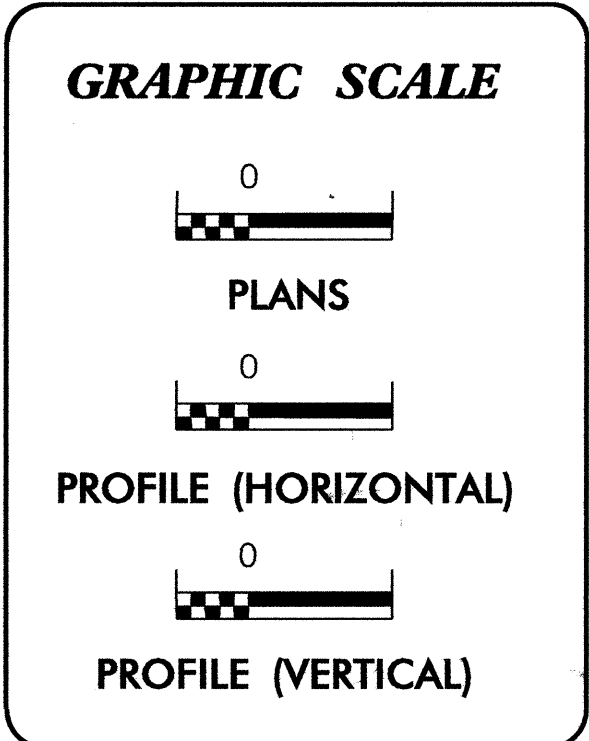
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
	Temporary Silt Fence	
	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	--- ---
	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting 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	U
1635.02	Rock Pipe Inlet Sediment Trap Type-B	U
	Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

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

HIGH QUALITY WATER(S) EXIST ON THIS PROJECT  
High Quality Water Zone(s) Exist  
From Sta. \_\_\_\_\_  
to Sta. \_\_\_\_\_  
Begin \_\_\_\_\_  
End \_\_\_\_\_  
Refer To E. C. Special Provisions for Special Considerations.

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 metric standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.  
1622.01 Temporary Berms and Slope Drains  
1630.03 Temporary Silt Ditch  
1630.05 Temporary Diversion  
1633.01 Temporary Rock Silt Check Type A  
1633.02 Temporary Rock Silt Check Type B  
1635.02 Rock Pipe Inlet Sediment Trap Type B

05-AUG-2011 13:55  
R:\envr\envr\REV\2011\B-4183-EC-1.dgn  
m-pjg

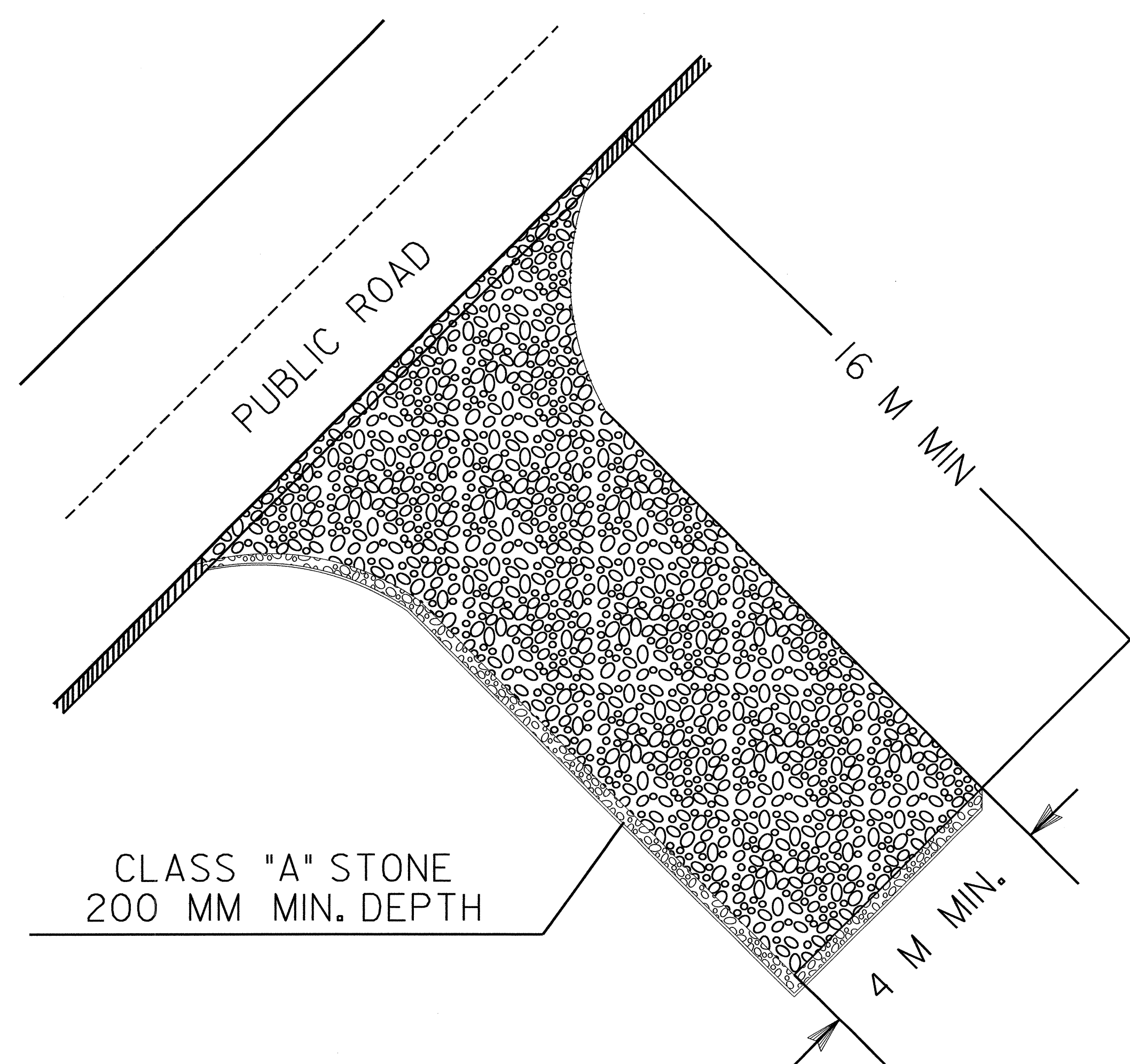


PROJECT REFERENCE NO. B-4183	SHEET NO. EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

## TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

### NOTES:

1. TURNING RADIUS SUFFICIENT TO ACCOMODATE LARGE TRUCKS SHALL BE PROVIDED.
2. ENTRANCE(S) SHOULD BE LOCATED TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. GRAVEL CONSTRUCTION ENTRANCE SHALL BE LOCATED AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE MUST BE PROVIDED.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER

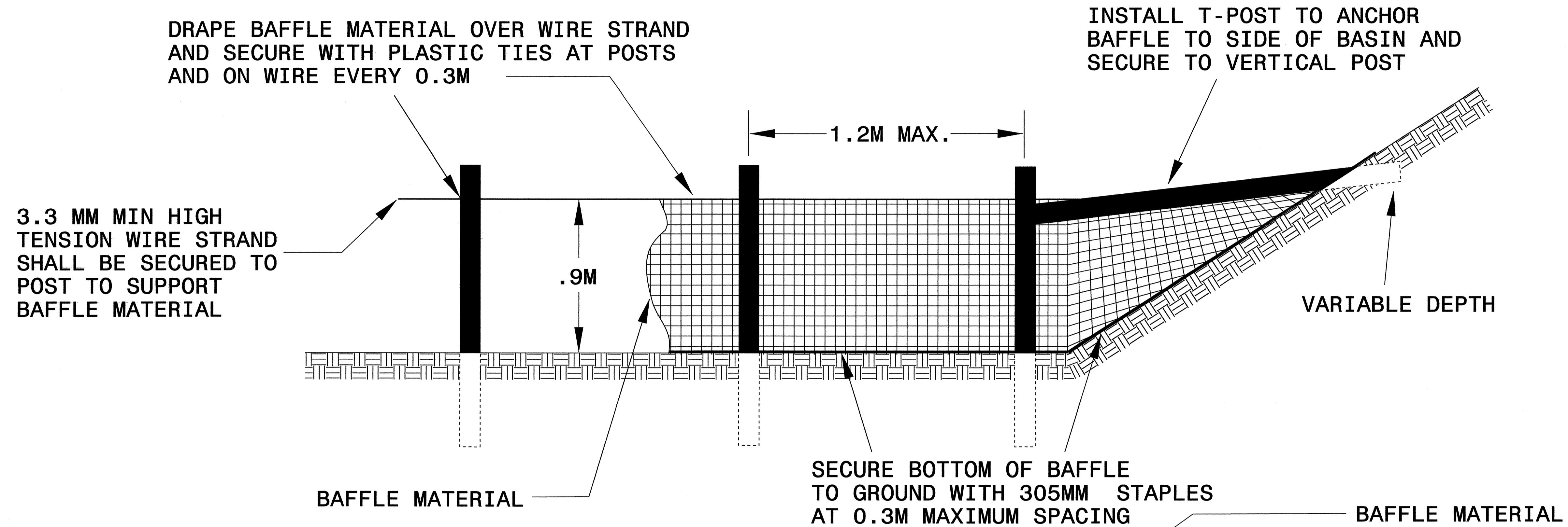


NOTE: FILTER FABRIC TO BE PLACED BENEATH STONE



PROJECT REFERENCE NO. B-4183	SHEET NO. EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

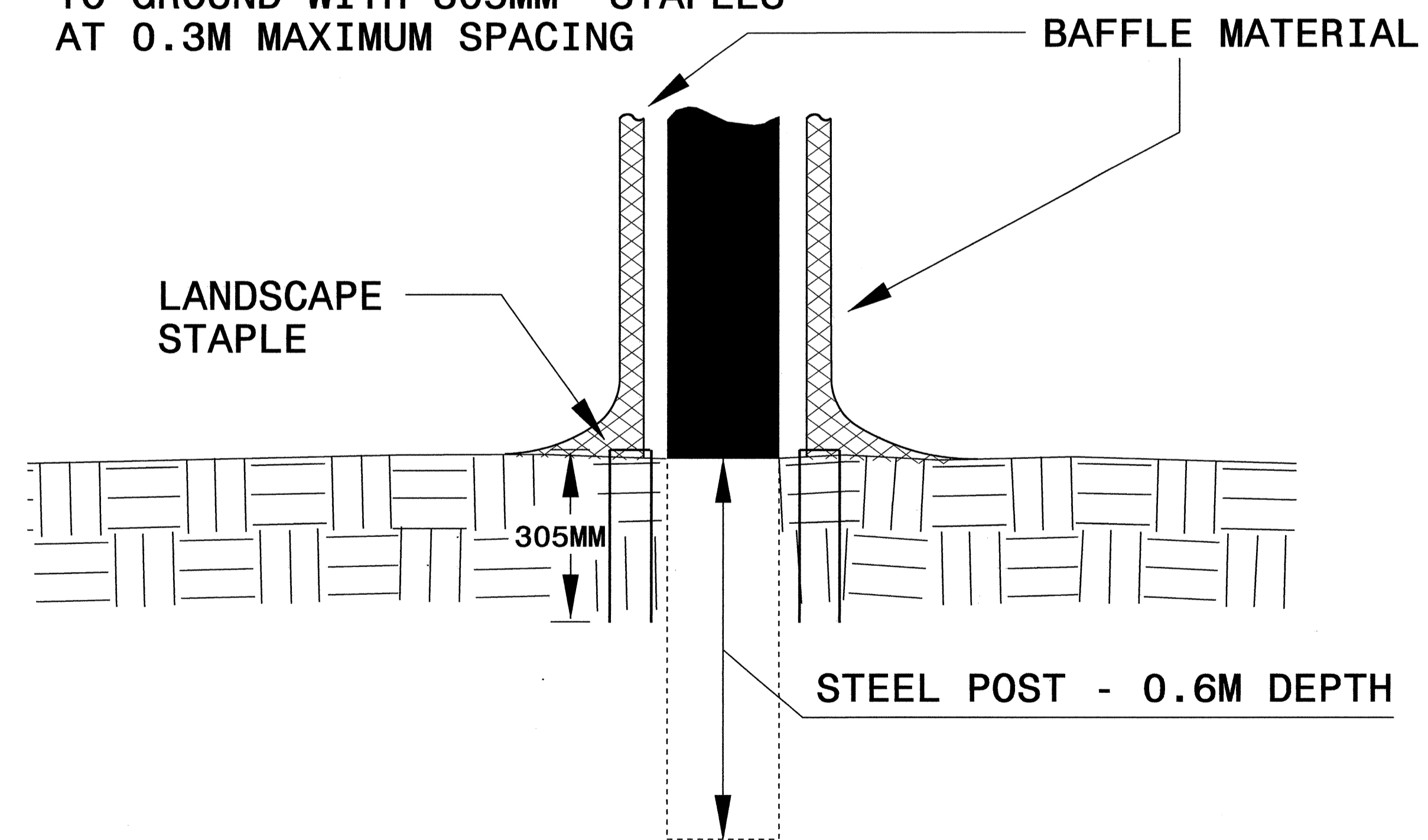
# COIR FIBER BAFFLE DETAIL



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 6 M 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.

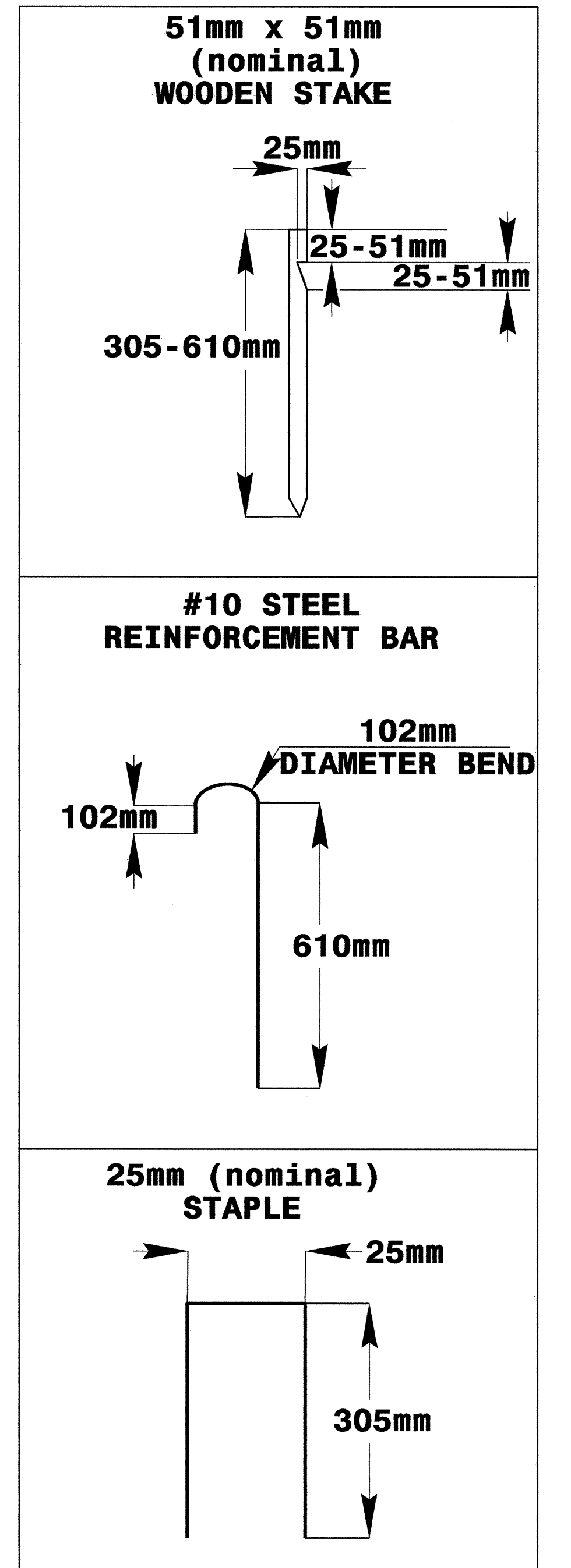
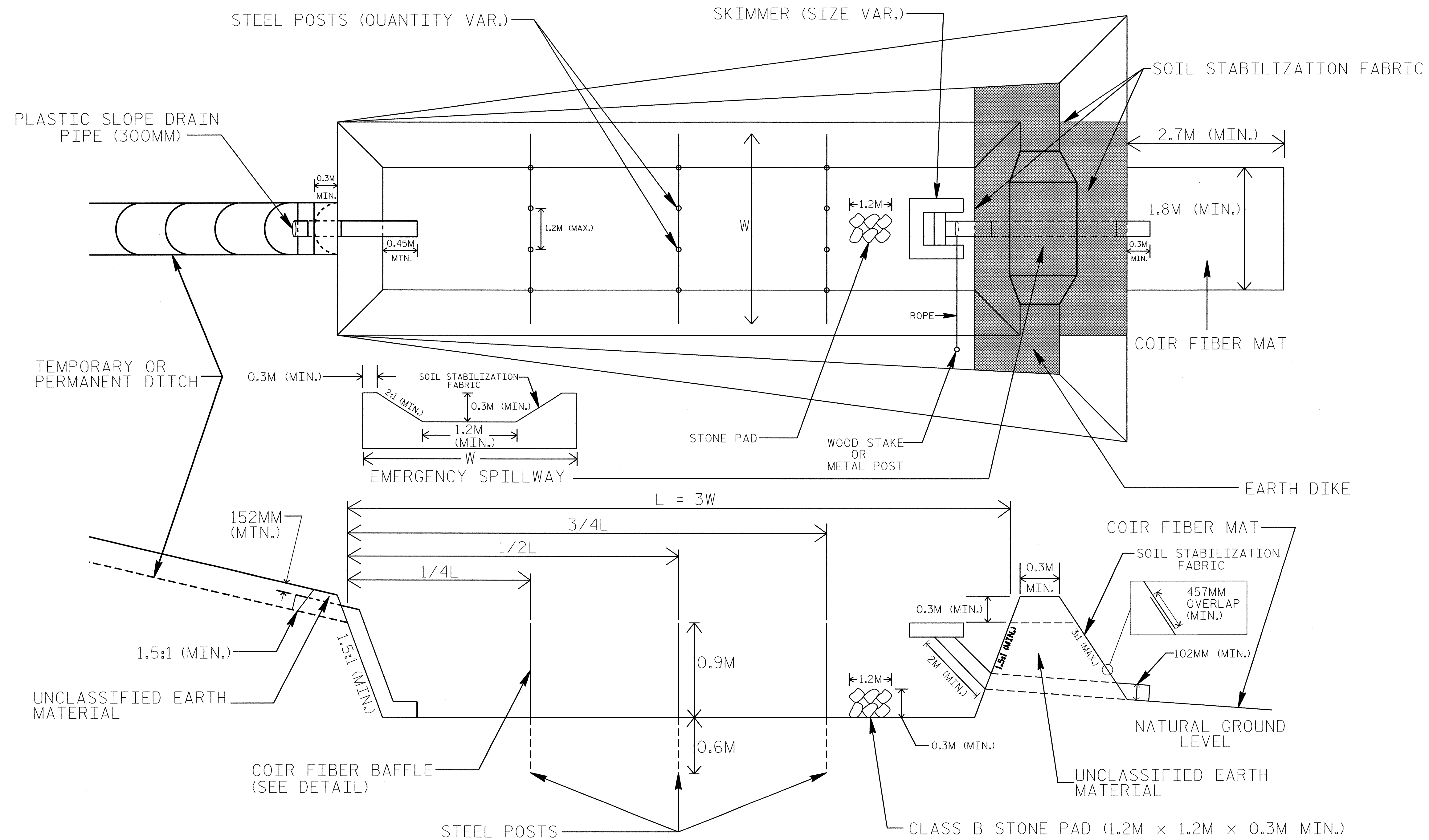


BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 305MM LANDSCAPE STAPLES



PROJECT REFERENCE NO. B-4183	SHEET NO. EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# SKIMMER BASIN WITH BAFFLES DETAIL



## NOTES

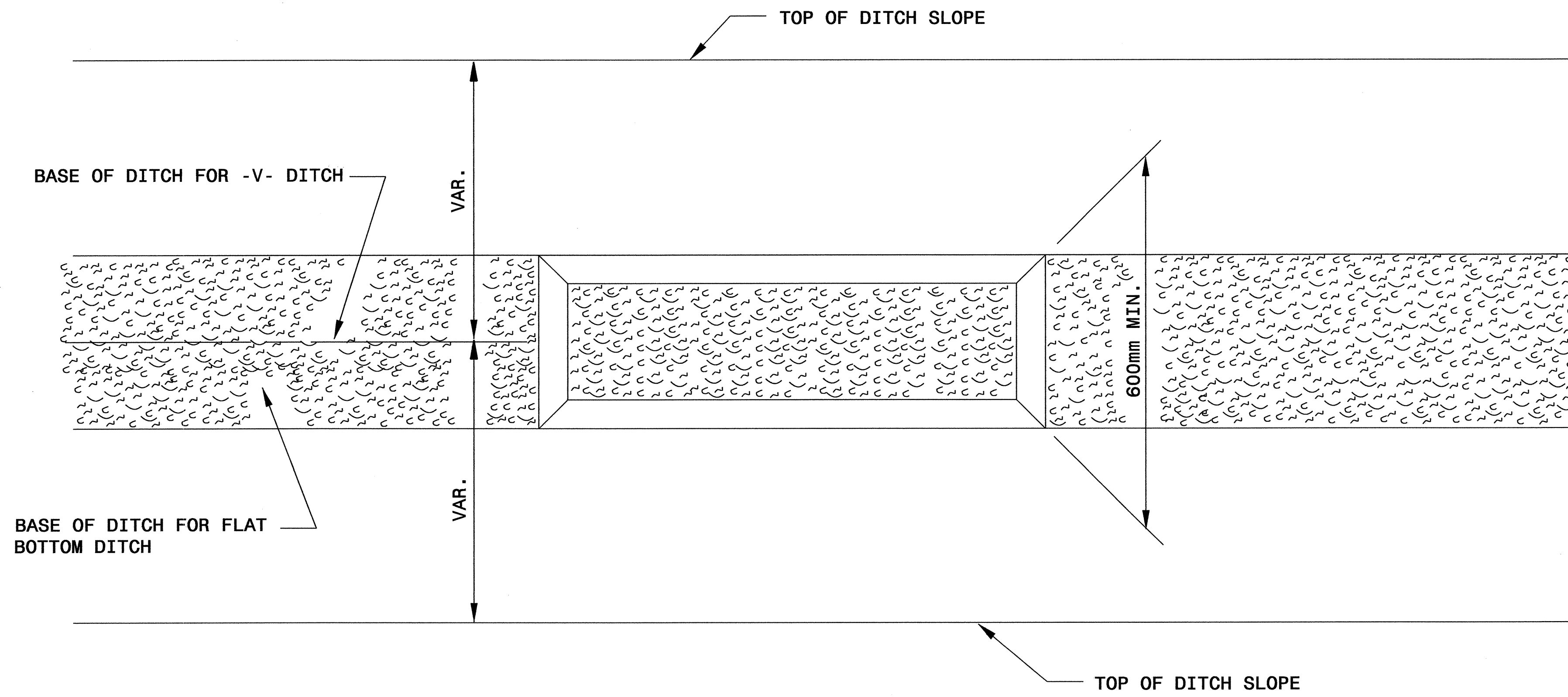
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 1.5M.
3. FOR BASIN DEPTH OF 1M, MINIMUM BASIN WIDTH SHALL BE 3M.
4. DETERMINE EMERGENCY SPILLWAY LENGTH (M) USING  $Q/0.074$ , WHERE Q IS FLOW RATE (CMS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTER FABRIC AS DIRECTED.
6. SOIL STABILIZATION FABRIC FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 457MM (MIN.).

NOT TO SCALE

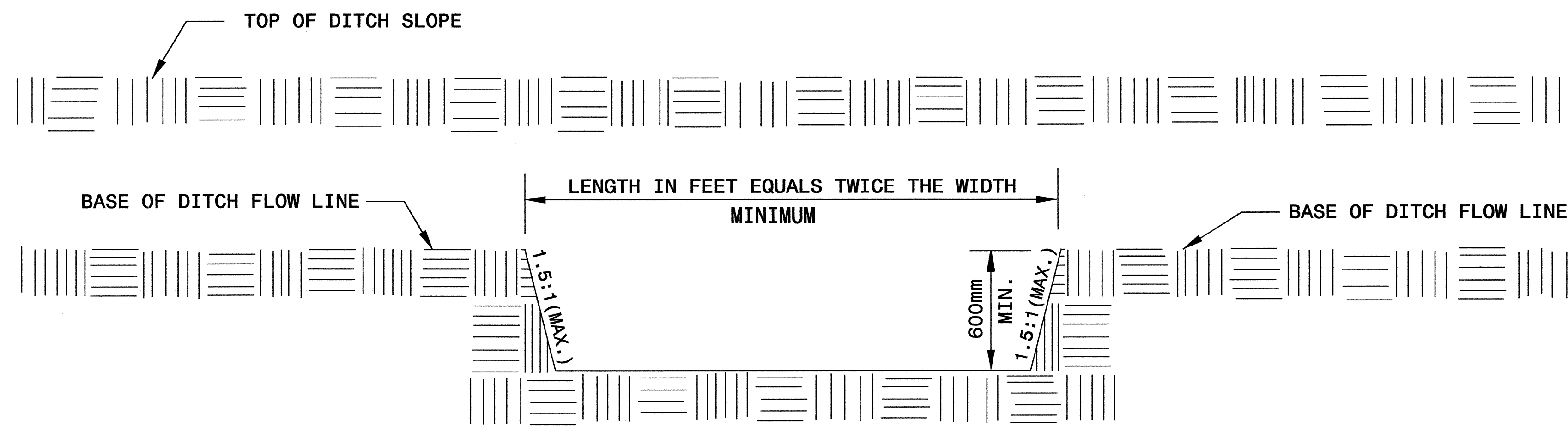


PROJECT REFERENCE NO. B-4183	SHEET NO. EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# SILT BASIN 'B' DETAIL



PLAN

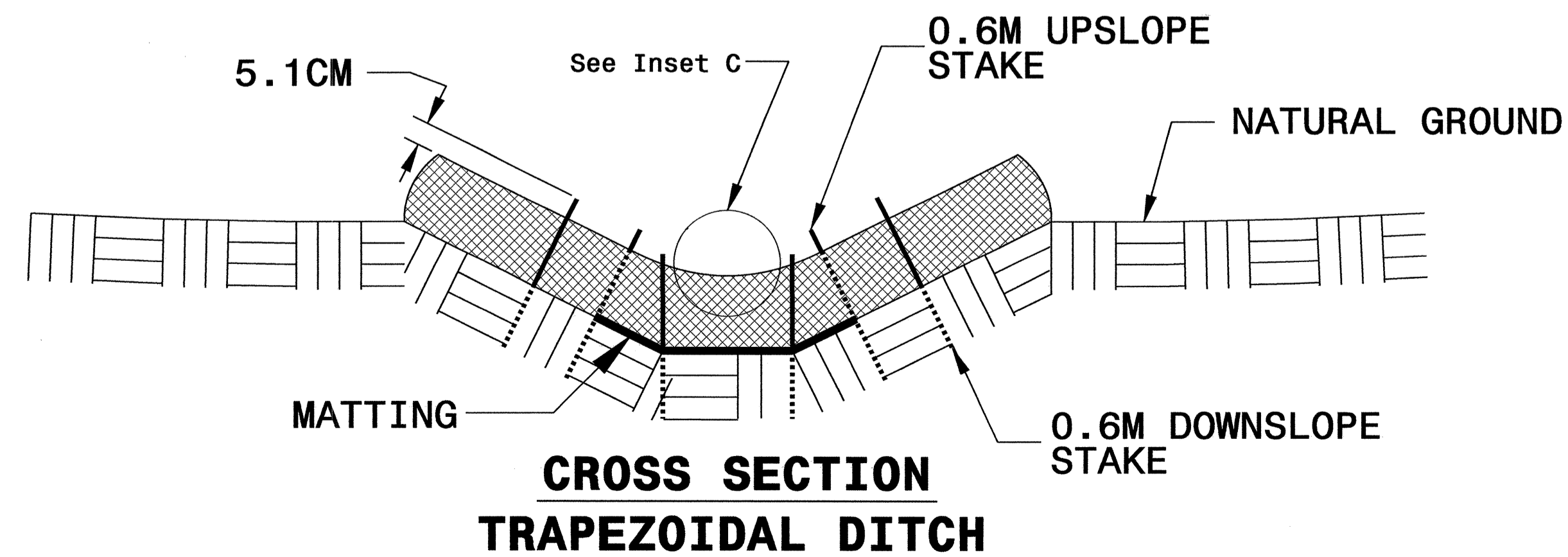
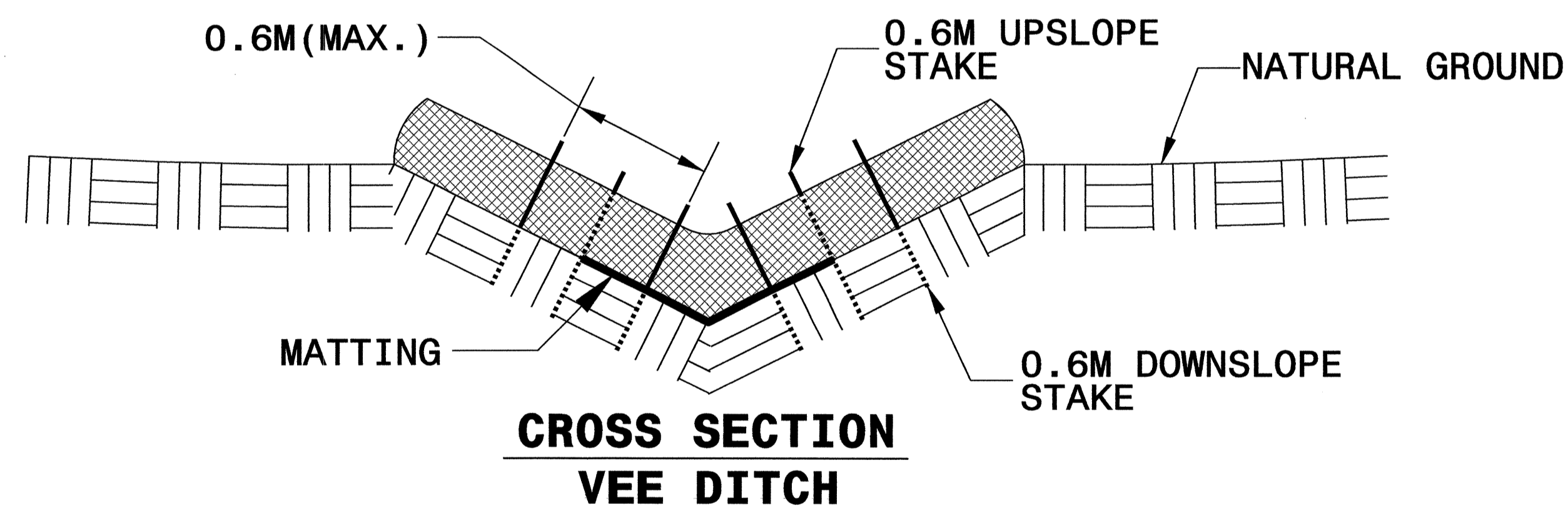
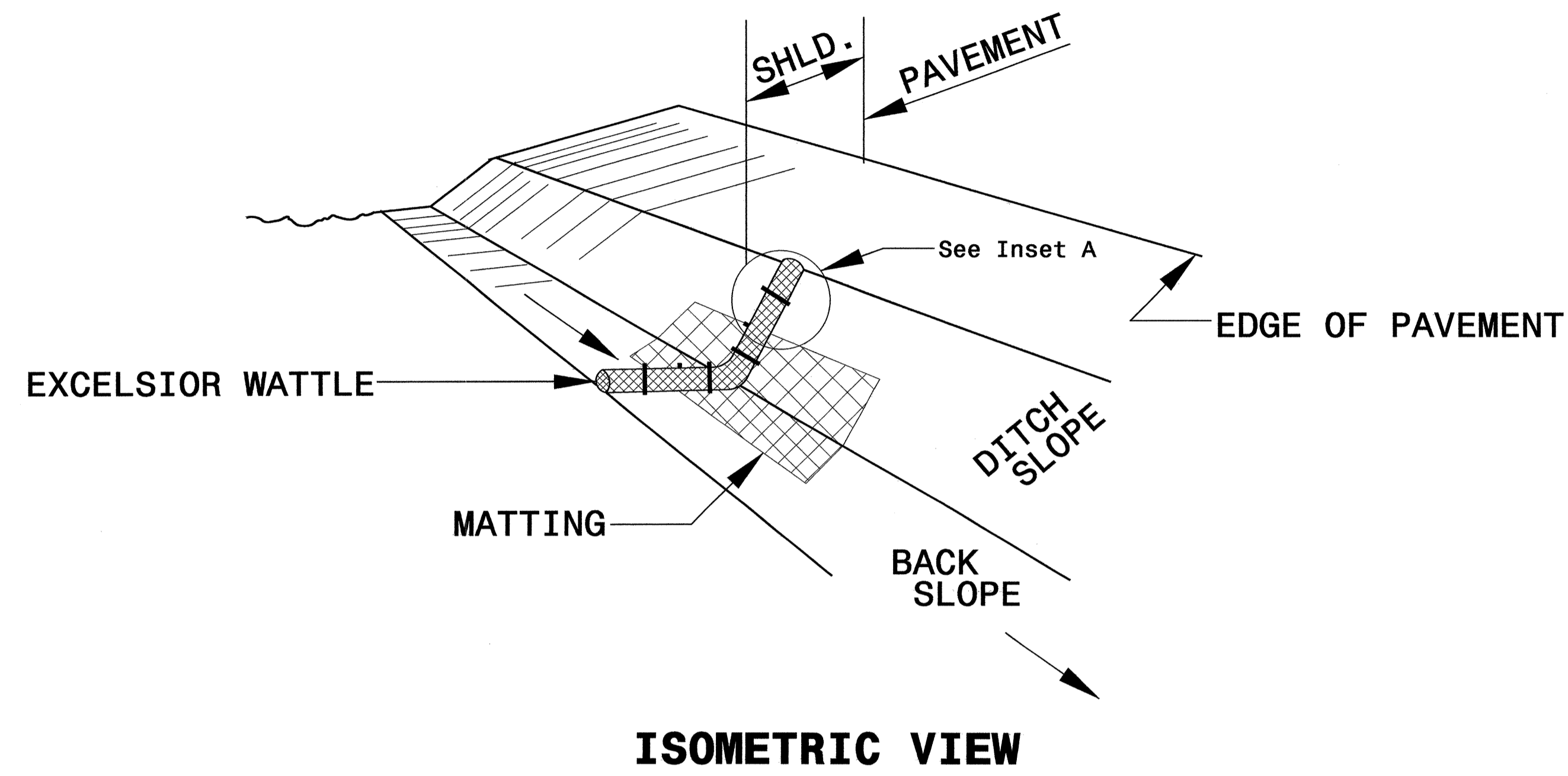


ELEVATION

# WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



PROJECT REFERENCE NO. B-4183	SHEET NO. EC-2D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



**NOTES:**

USE MINIMUM 305 MM DIAMETER EXCELSIOR WATTLE.

USE 0.6 M WOODEN STAKES WITH A 5.1 CM BY 5.1 CM 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.

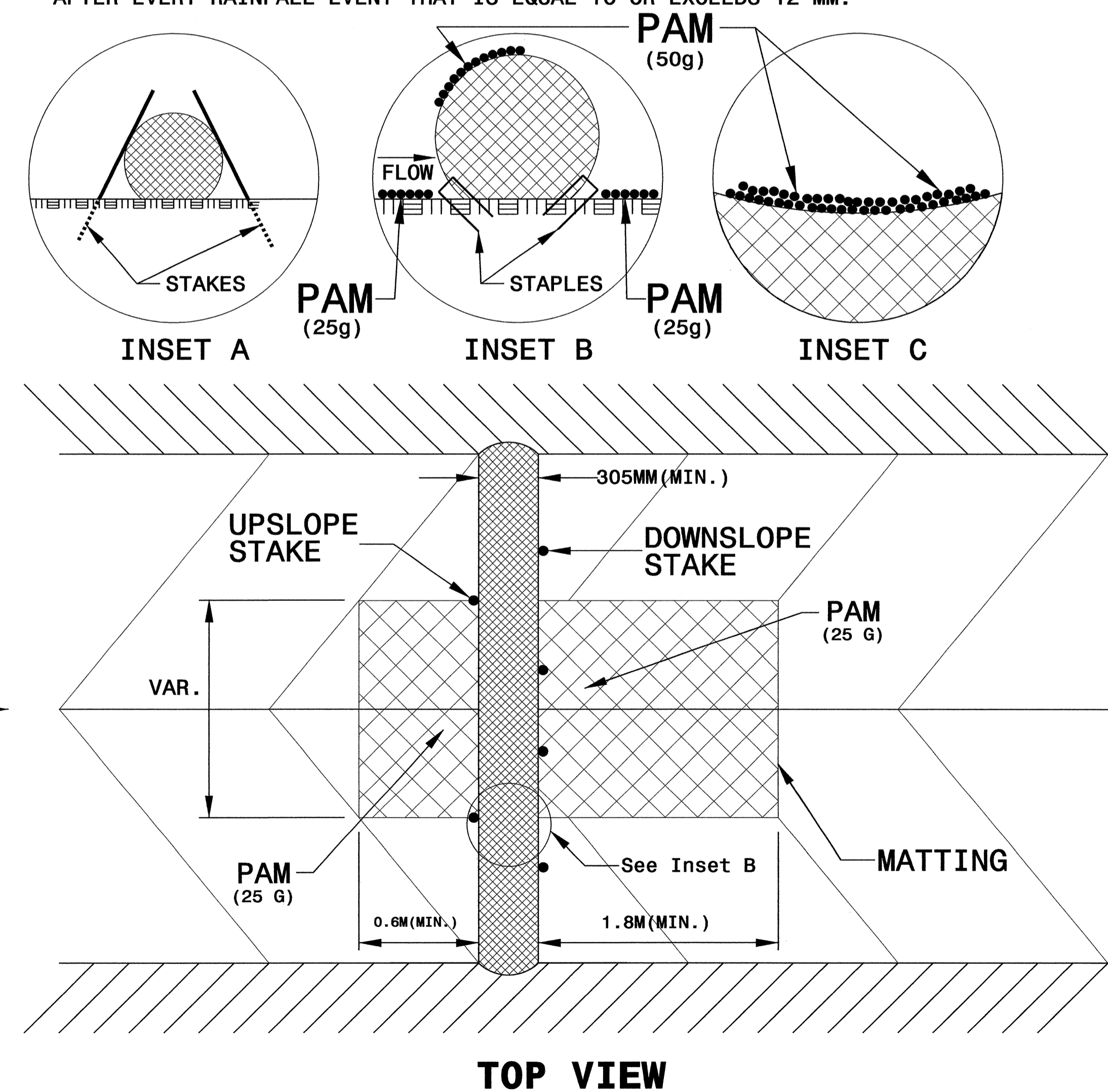
PROVIDE STAPLES MADE OF 3 MM DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 305 MM IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 0.3 LINEAR METER 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.

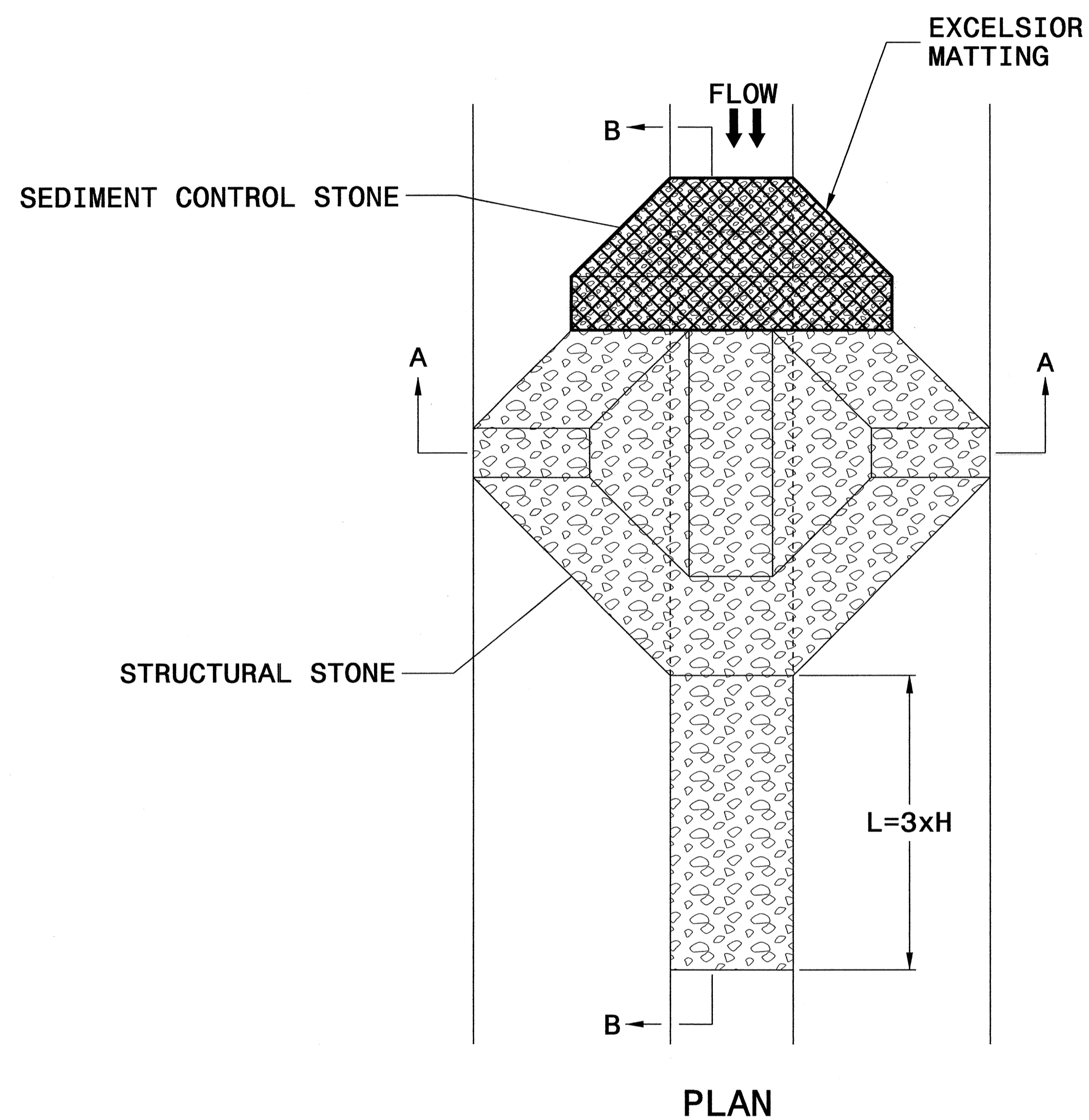
INITIALLY APPLY 50 GRAMS OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 25 GRAMS ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 12 MM.





PROJECT REFERENCE NO. B-4183	SHEET NO. EC-2E
R / W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

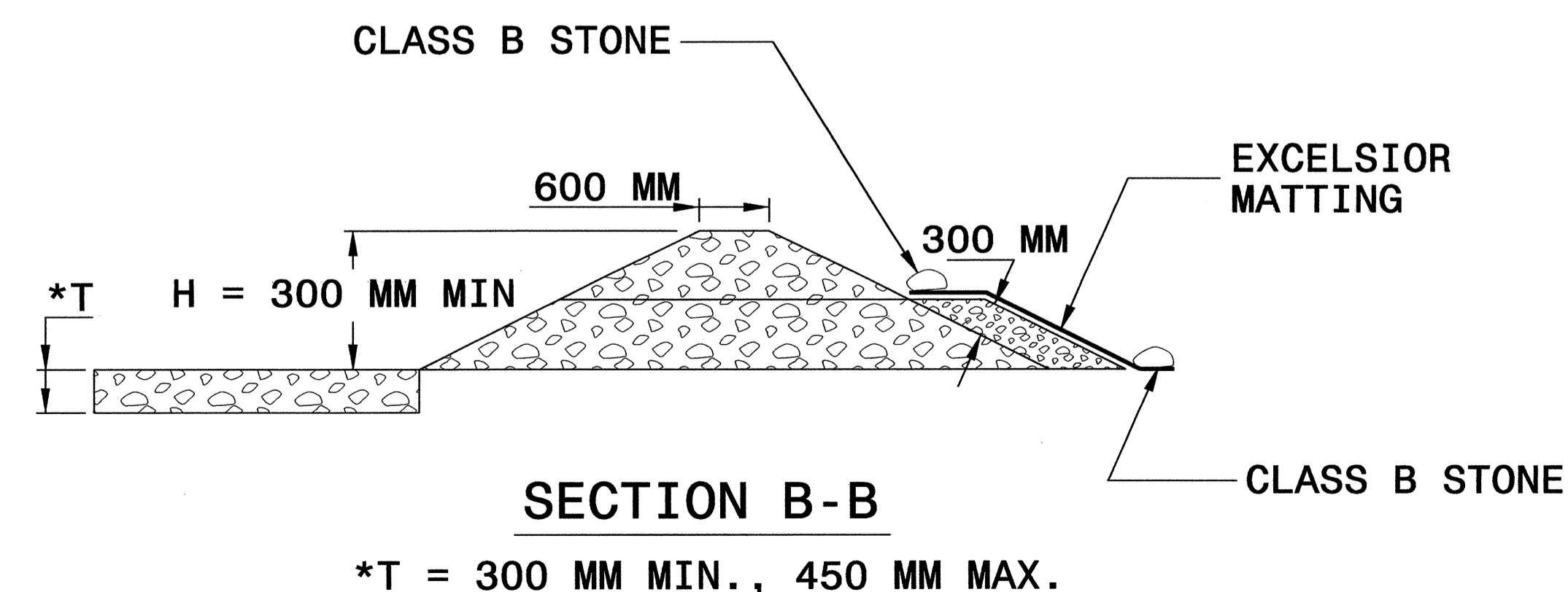
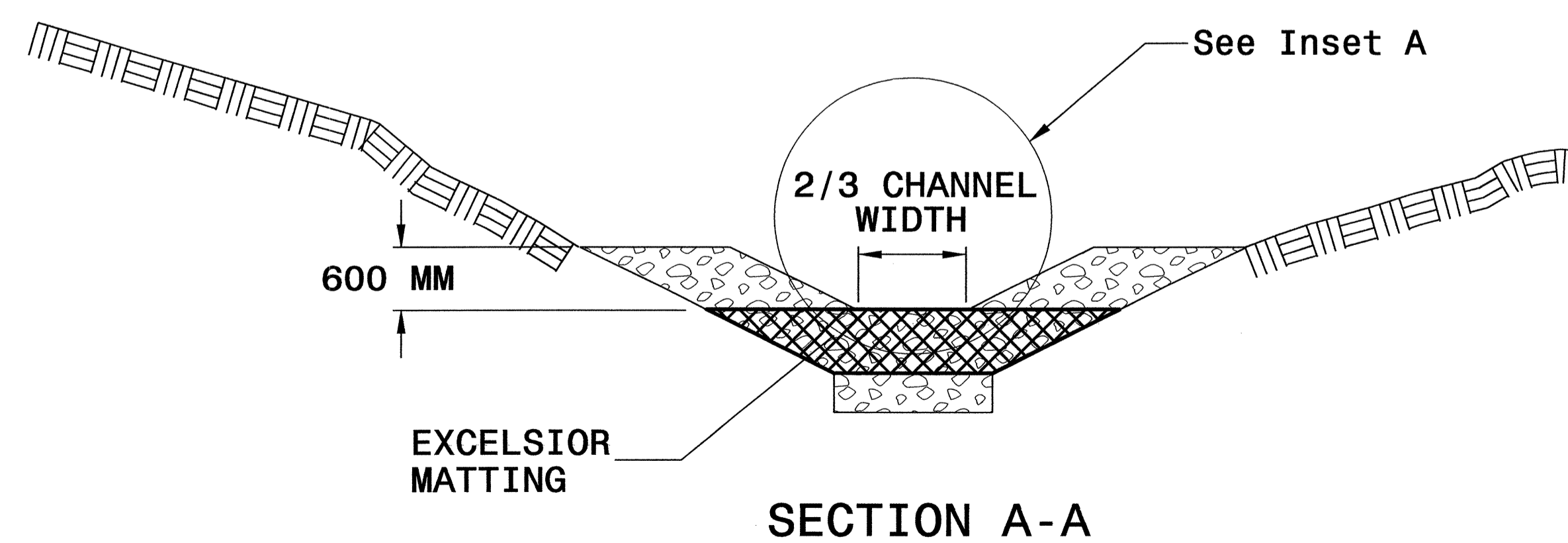
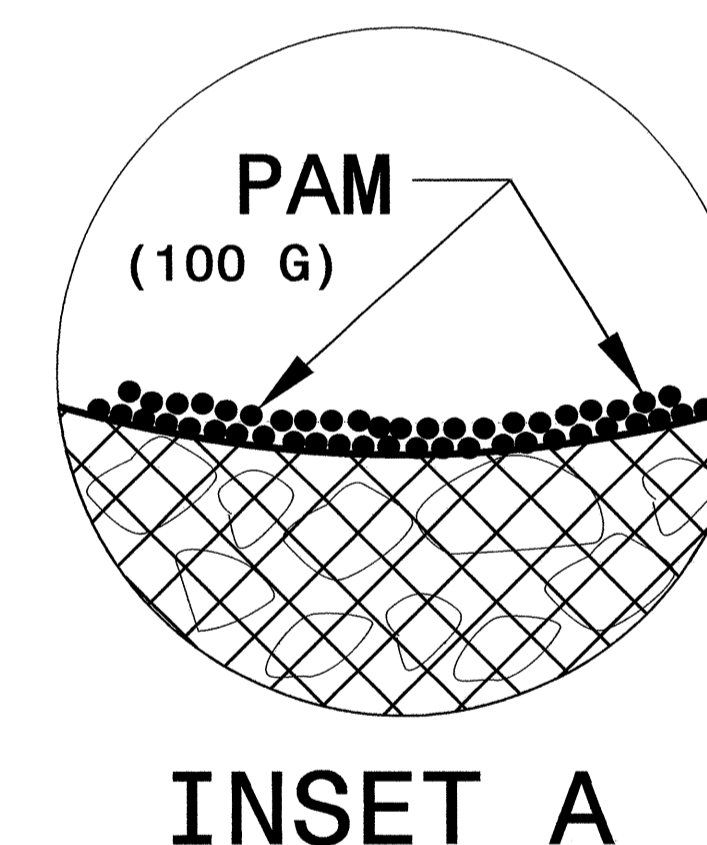


## NOTES

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 100 GRAMS OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 12 MM.

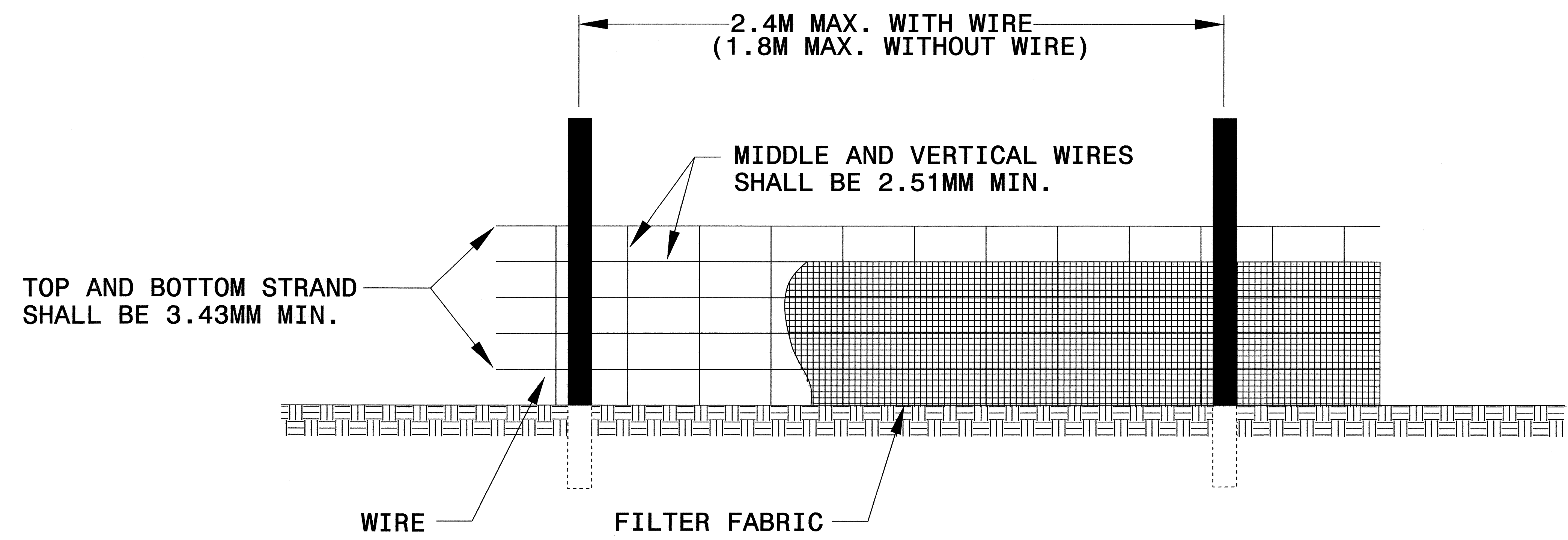


NOT TO SCALE



PROJECT REFERENCE NO. B-4183	SHEET NO. EC-2F
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# TEMPORARY SILT FENCE DETAIL

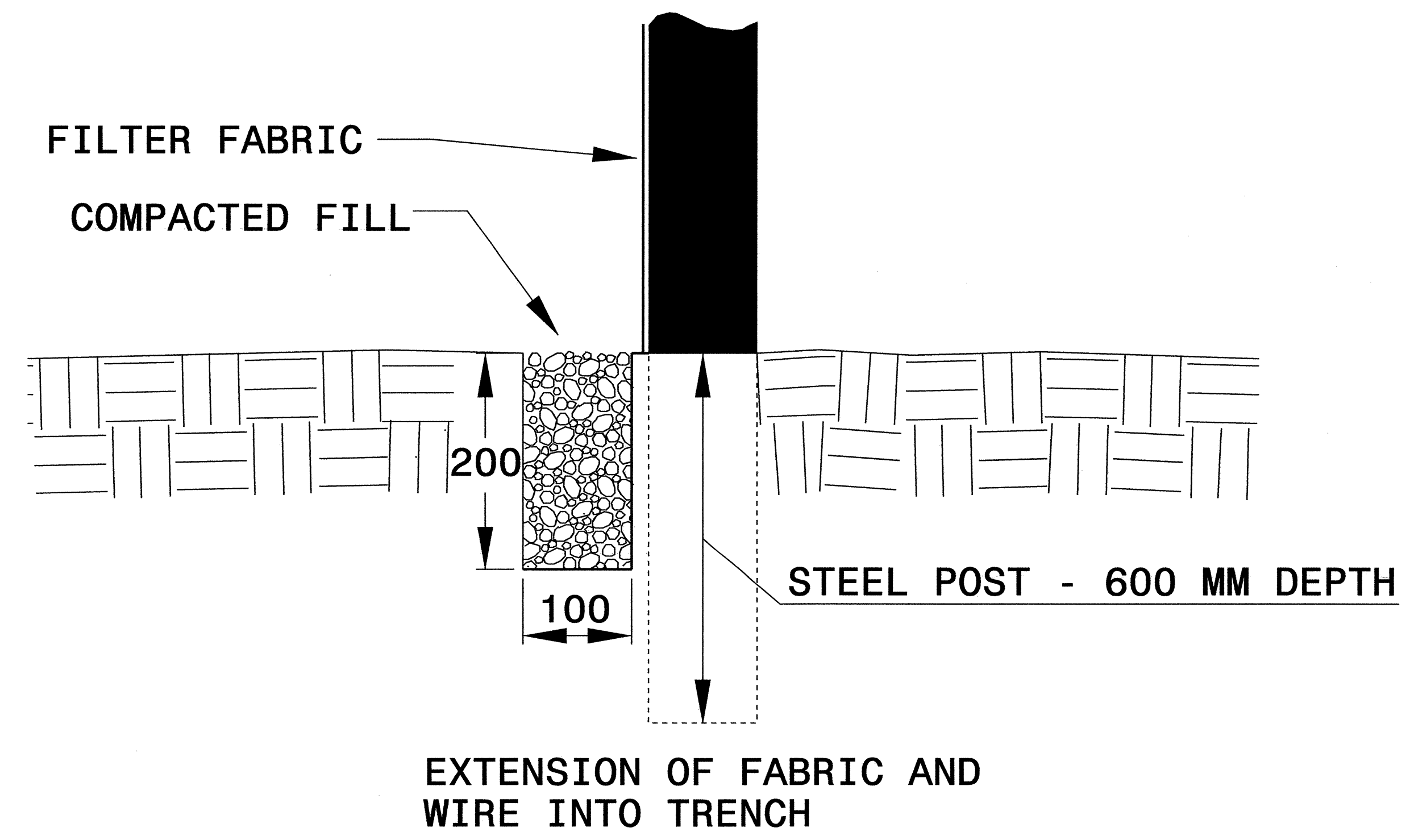


NOTES

USE WIRE A MINIMUM OF 800MM IN WIDTH AND WITH A MINIMUM OF 6 LINE WIRES WITH 300MM STAY SPACING.

USE FILTER FABRIC A MINIMUM OF 900MM IN WIDTH AND FASTEN ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.

PROVIDE 1.5M STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE.







PROJECT REFERENCE NO. B-4183	SHEET NO. EC-26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# SPECIAL SEDIMENT CONTROL FENCE DETAIL

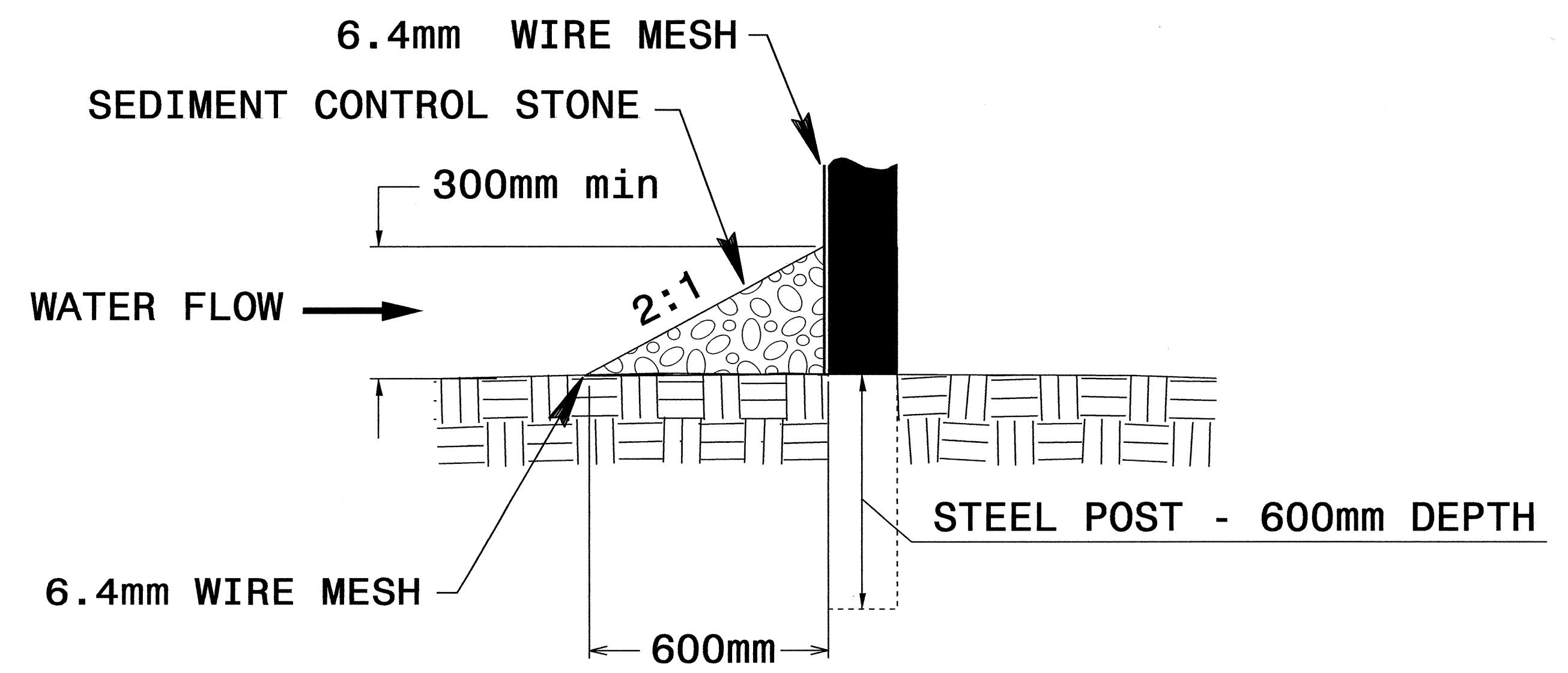
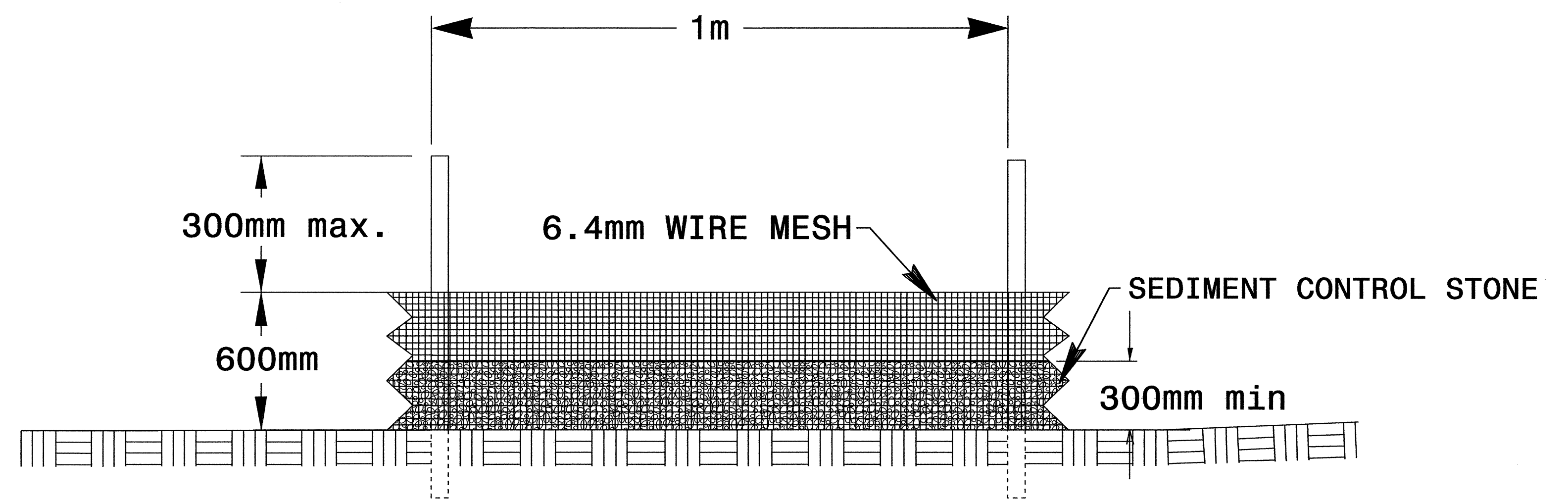
## GENERAL NOTES:

USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL.

USE 0.65mm HARDWARE CLOTH WIRE MESH WITH 6.4 mm MESH OPENINGS.

INSTALL 1.5m SELF FASTENER ANGLE STEEL POST 600mm DEEP MINIMUM.

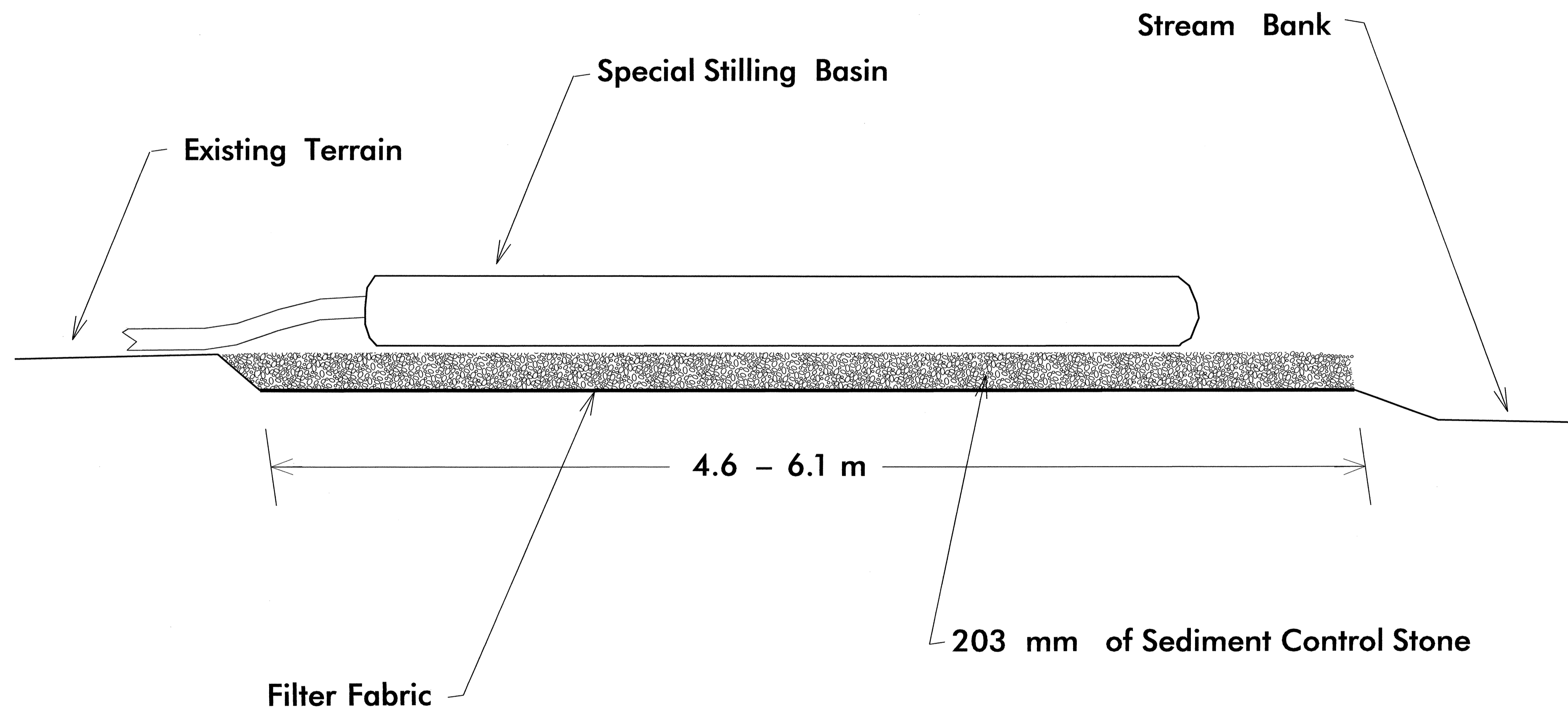
SPACE POST A MAXIMUM OF 1m.





PROJECT REFERENCE NO.	SHEET NO.
B-4183	EC-2H
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# SPECIAL STILLING BASIN WITH ROCK PAD



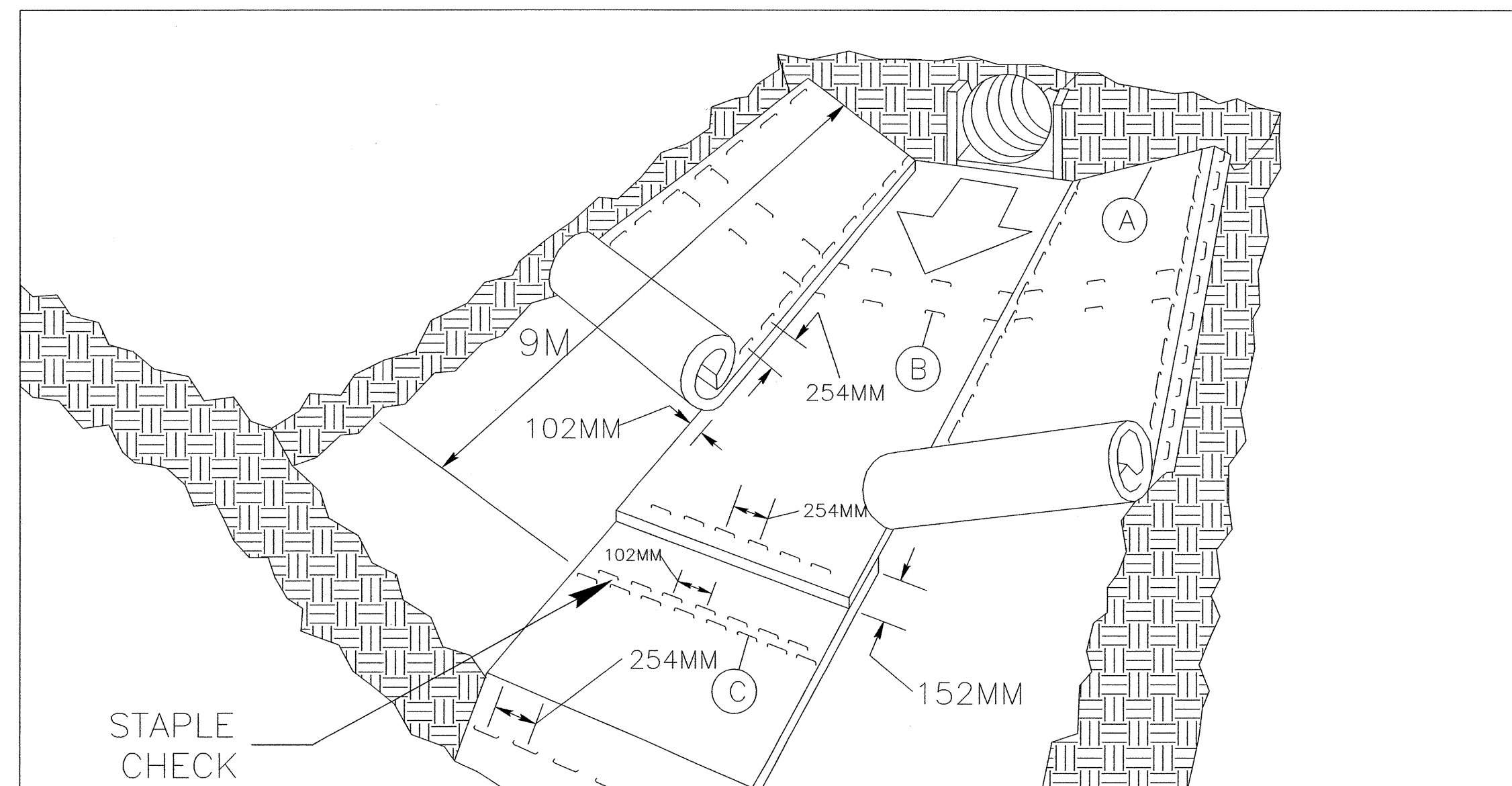
Not To Scale

Note: Provide Stabilized Outlet to Streambank



PROJECT REFERENCE NO. B-4183	SHEET NO. EC-21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# MATTING INSTALLATION DETAIL



**MATTING IN DITCHES**

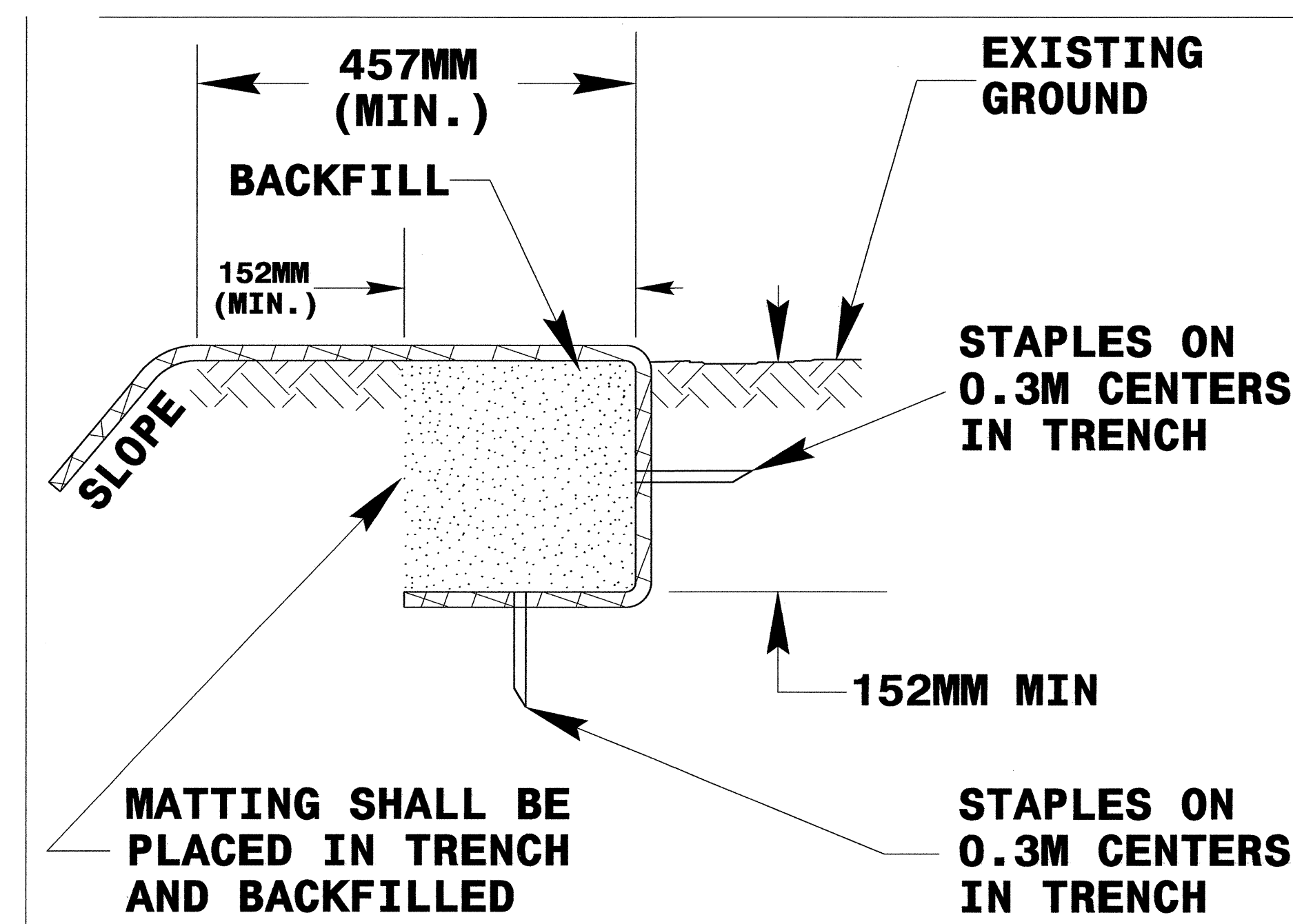
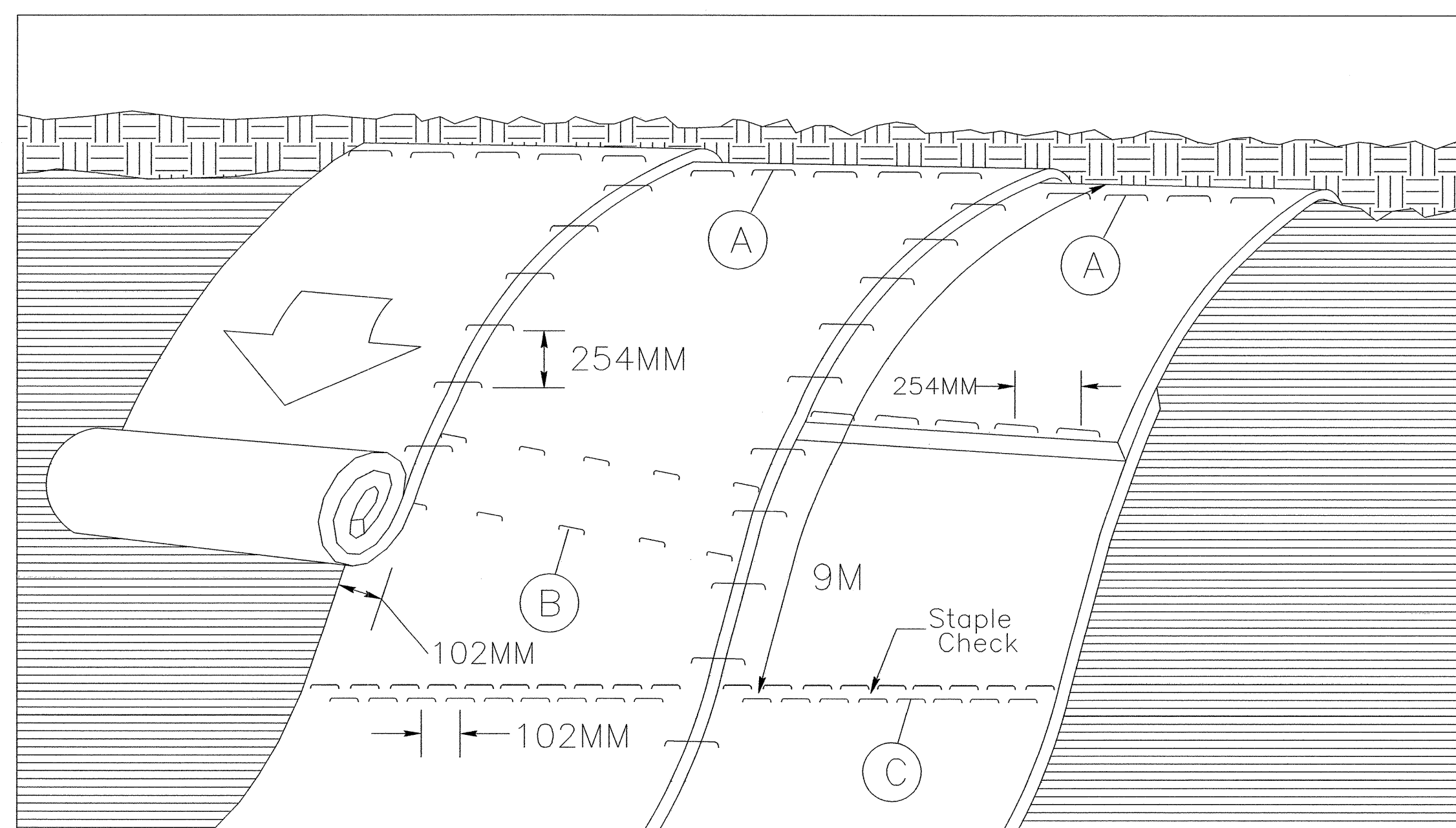


DIAGRAM (A)



**MATTING ON SLOPES**

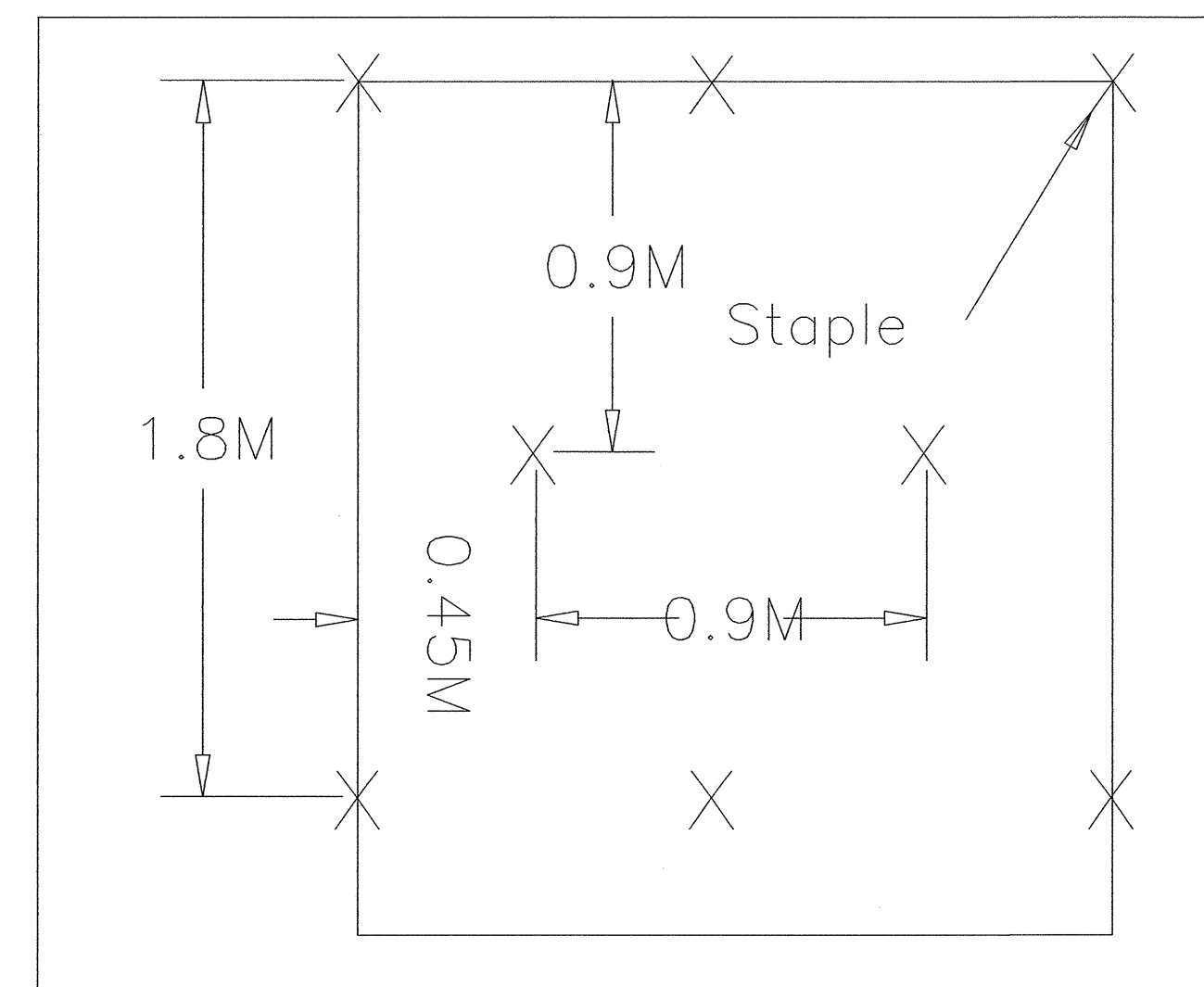


DIAGRAM (B)

Staple Check Pattern

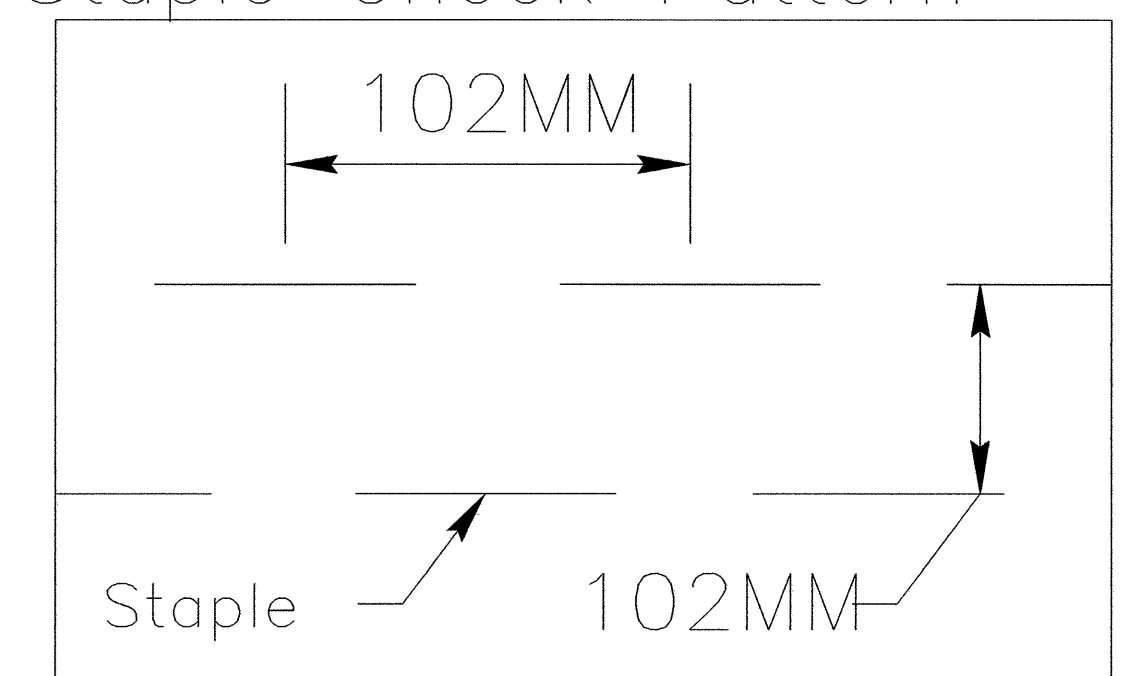


DIAGRAM (C)

**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 25MM AND NOT LESS THAN 152MM IN LENGTH.

NOT TO SCALE



DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

---



---

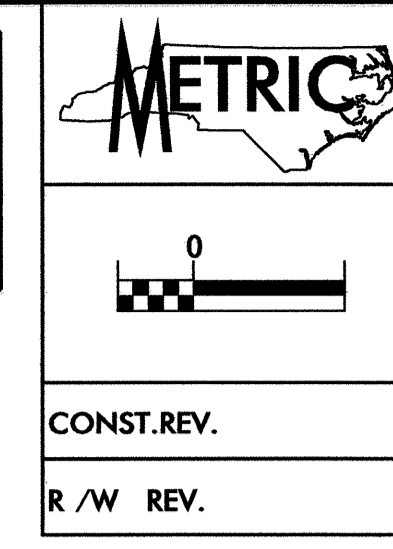


PROJECT REFERENCE NO. <i>B-4183</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

## ***SOIL STABILIZATION TIMEFRAMES***

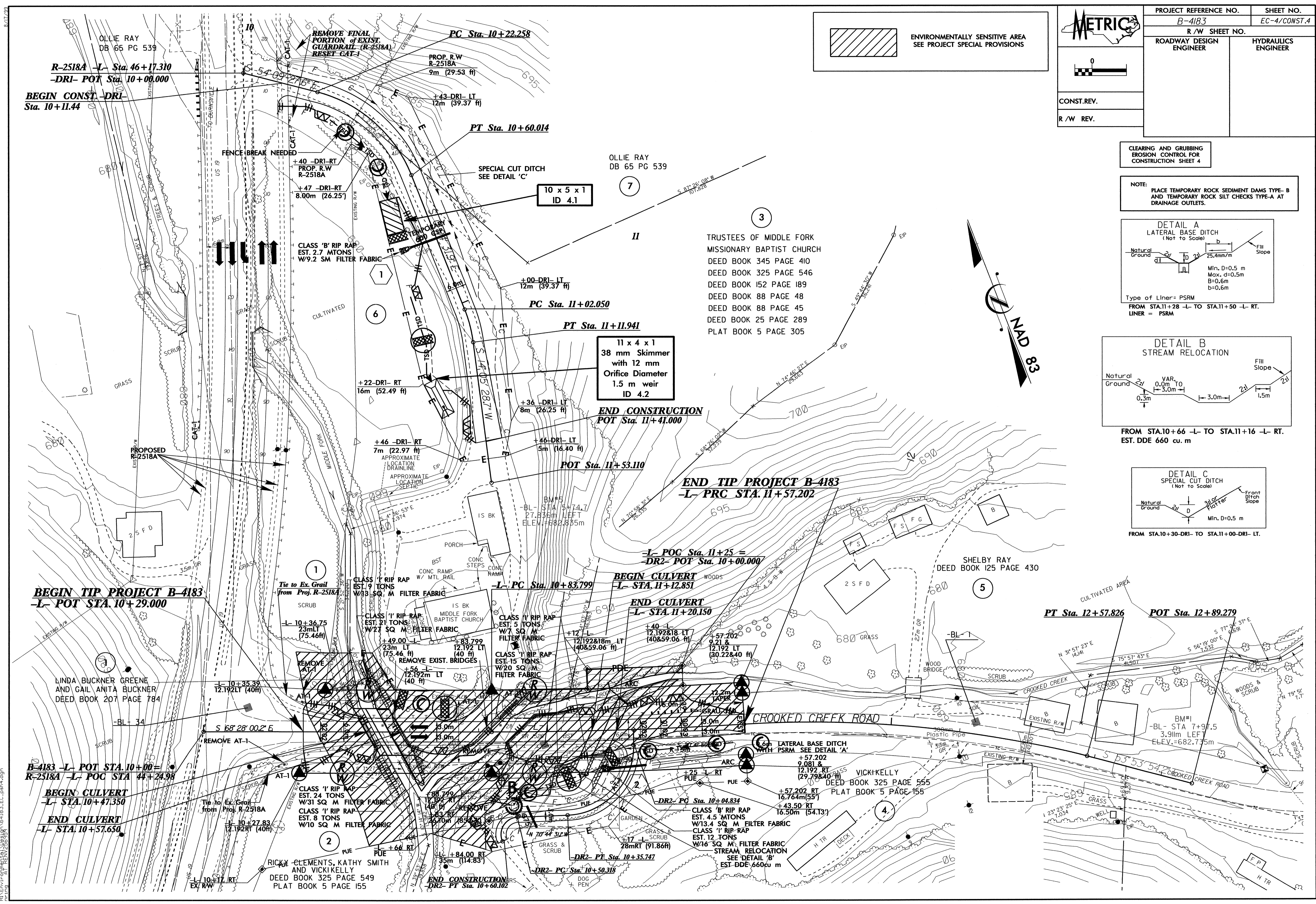
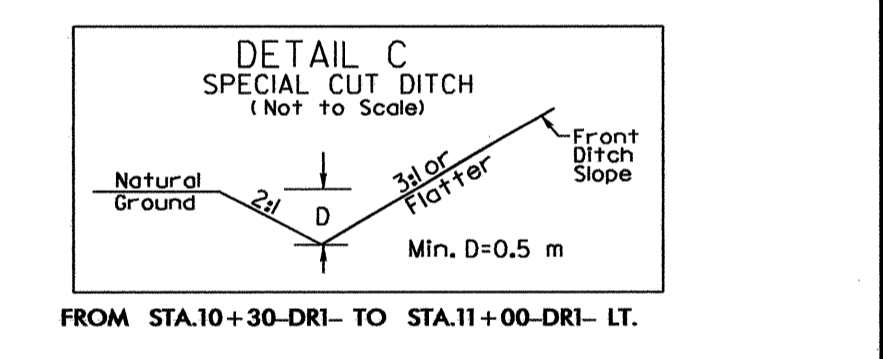
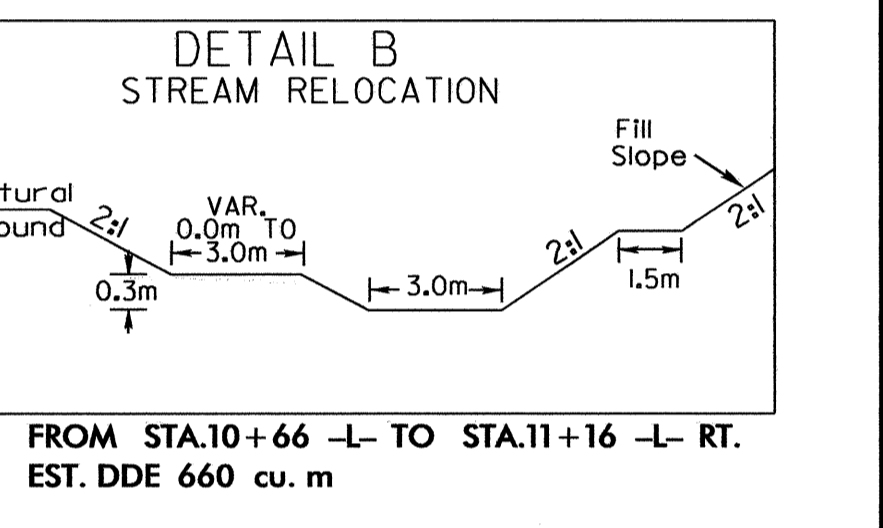
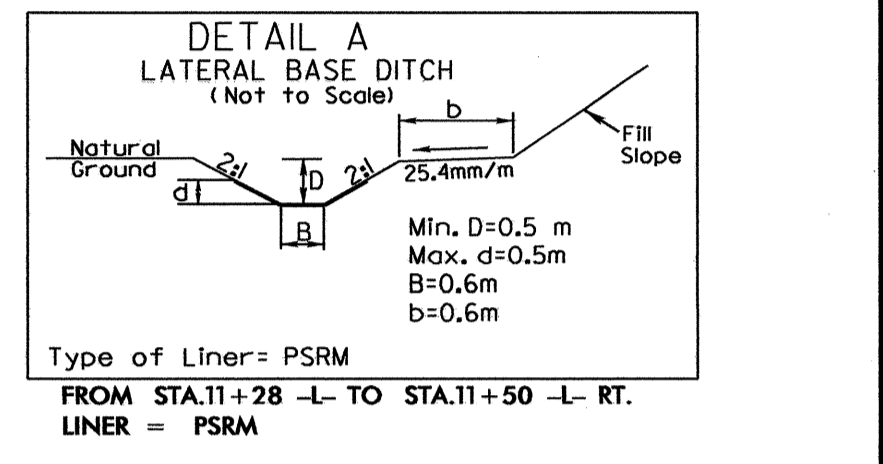
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 3 M OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 15 M IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS



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.



05-AUG-2011 09:46:16 R:\Projects\B-4183\EC-4\plan4.dgn P:\REV\B-4183

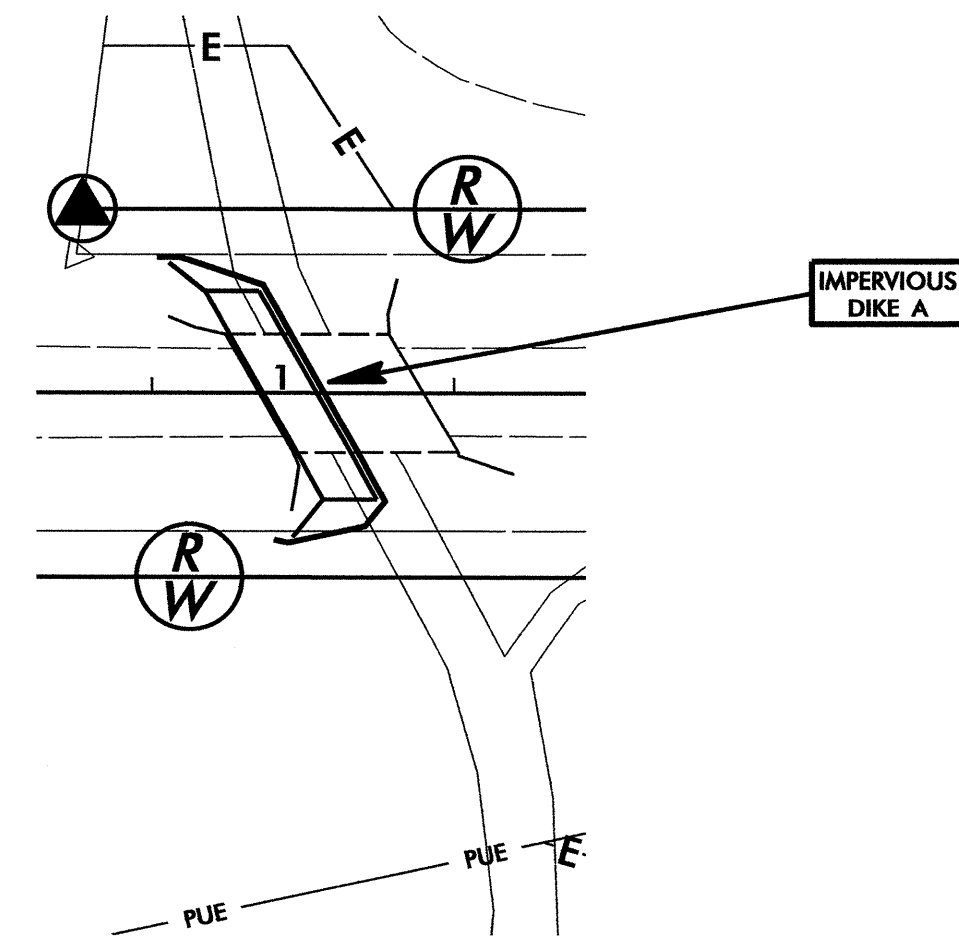


PROJECT REFERENCE NO. B-4183	SHEET NO. EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# CULVERT CONSTRUCTION SEQUENCE STA. 10+52.5 -L-

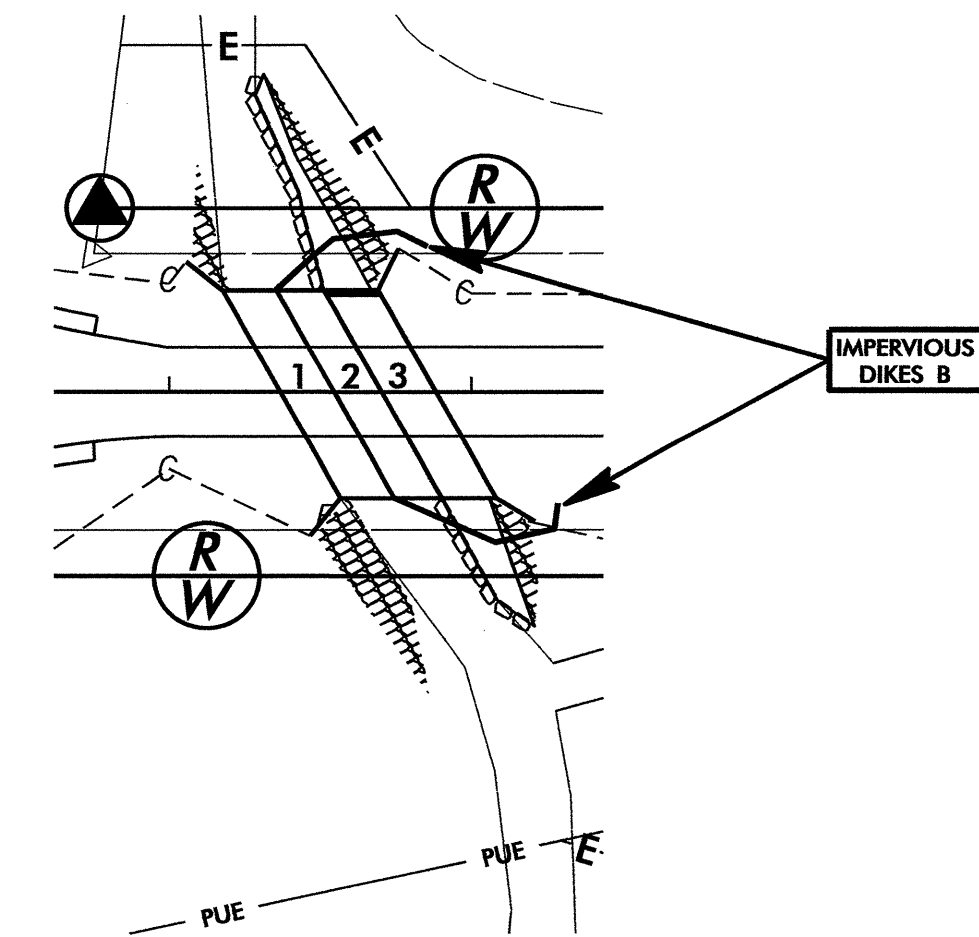
## PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
2. REMOVE EXISTING BRIDGE.
3. CONSTRUCT IMPERVIOUS DIKE A.
4. CONSTRUCT BARREL 1 OF THE PROPOSED CULVERT.
5. REMOVE IMPERVIOUS DIKE A.



## PHASE II

6. CONSTRUCT IMPERVIOUS DIKES B, DIVERTING FLOW THROUGH COMPLETED BARREL 1.
7. CONSTRUCT BARRELS 2 AND 3 OF THE PROPOSED CULVERT.
8. REMOVE IMPERVIOUS DIKES B.
9. COMPLETE NECESSARY UPSTREAM/DOWNSTREAM CHANNEL IMPROVEMENTS.
10. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S).
11. COMPLETE ROADWAY.





PROJECT REFERENCE NO. B-4183	SHEET NO. EC-6/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

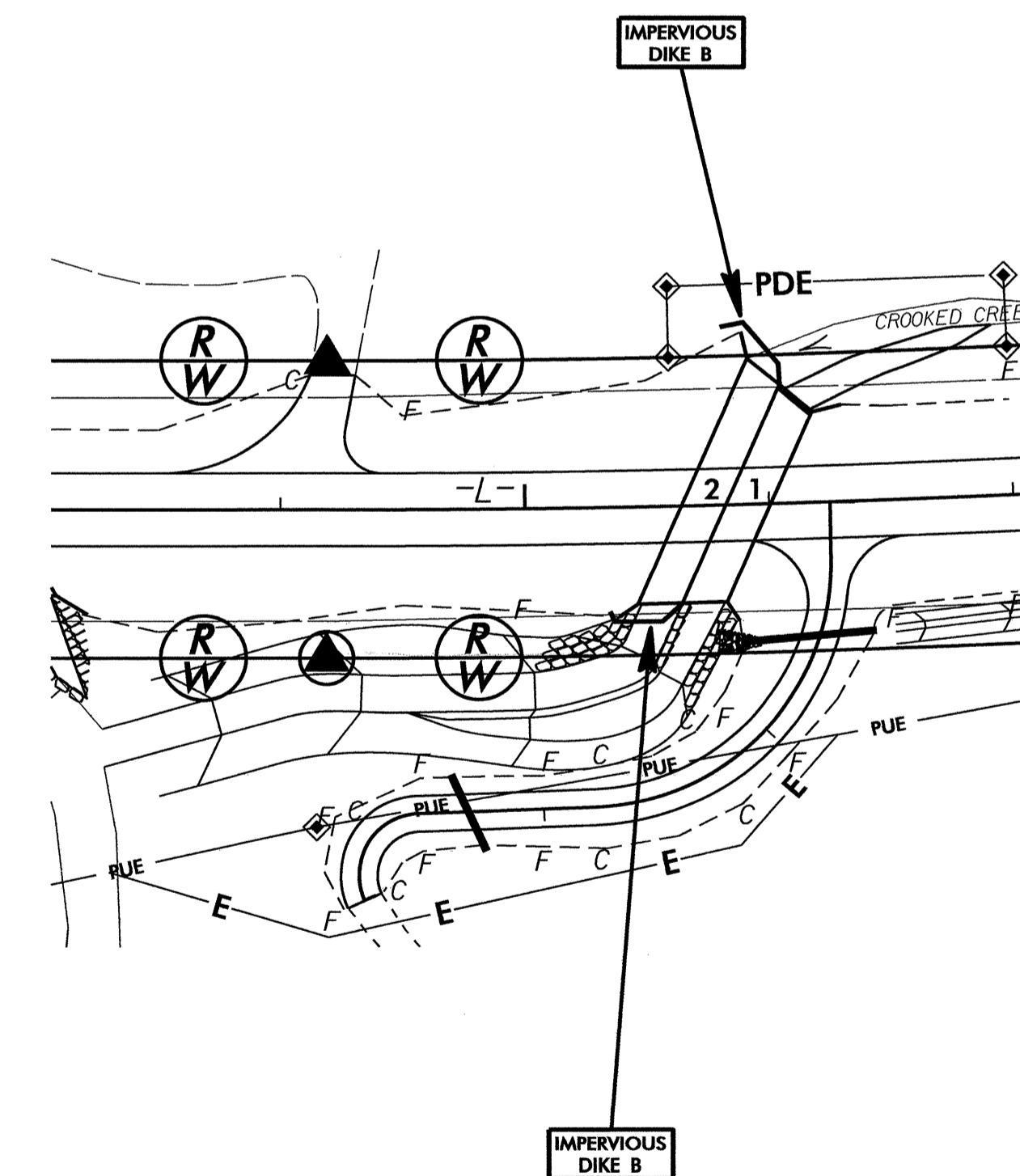
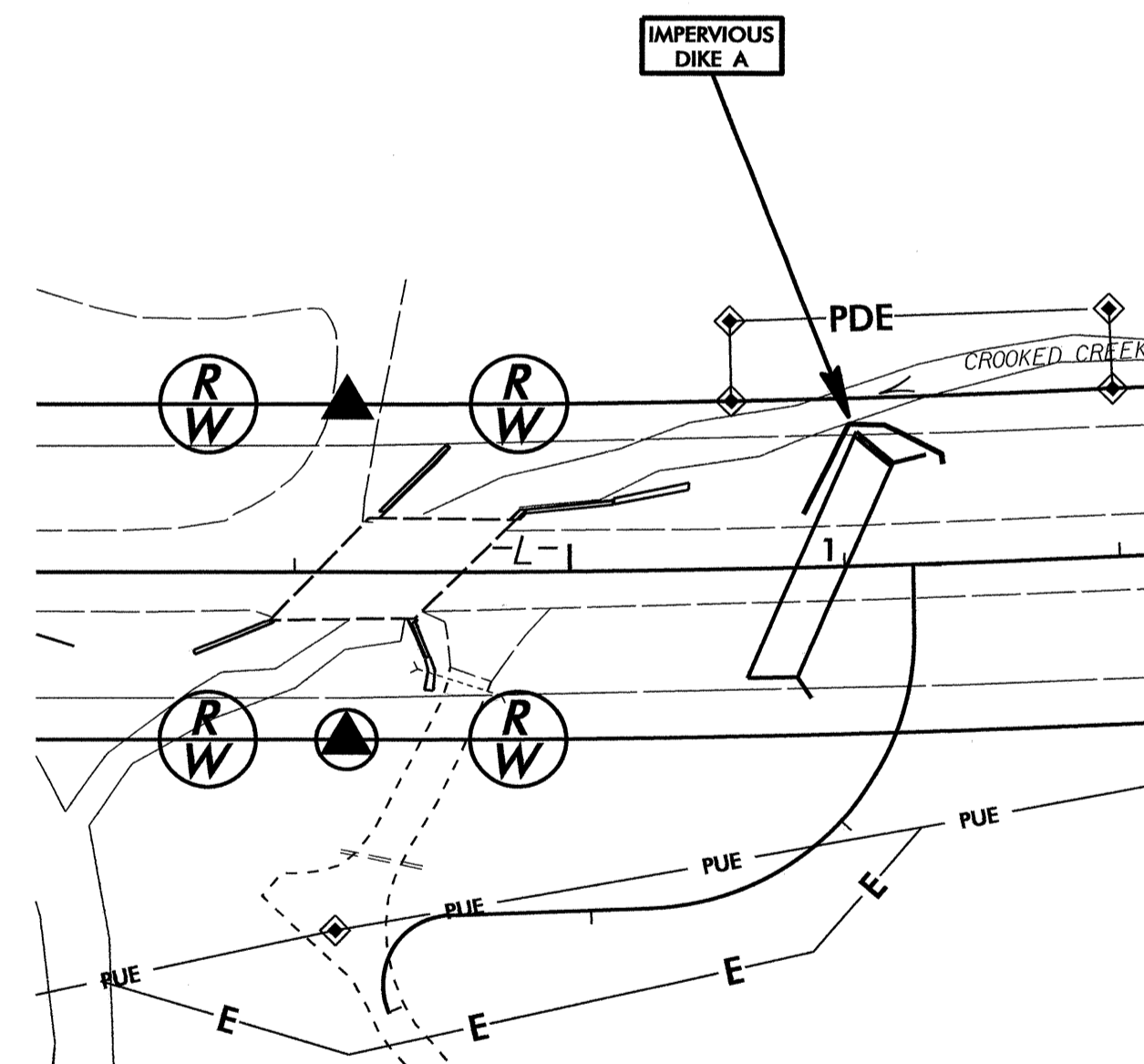
# CULVERT CONSTRUCTION SEQUENCE STA. 11+16.5 -L-

## PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
2. CONSTRUCT IMPERVIOUS DIKE A.
3. CONSTRUCT BARREL 1 OF THE PROPOSED CULVERT.
4. REMOVE IMPERVIOUS DIKE A.

## PHASE II

5. CONSTRUCT STREAM RELOCATION AT OUTLET OF PROPOSED CULVERT.
6. CONSTRUCT IMPERVIOUS DIKES B, DIVERTING FLOW THROUGH BARREL 1.
7. CONSTRUCT BARREL 2 OF THE PROPOSED CULVERT.
8. REMOVE IMPERVIOUS DIKES B.
9. COMPLETE NECESSARY UPSTREAM/DOWNSTREAM CHANNEL IMPROVEMENTS.
10. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S).
11. REMOVE EXISTING BRIDGE, AND COMPLETE ROADWAY.

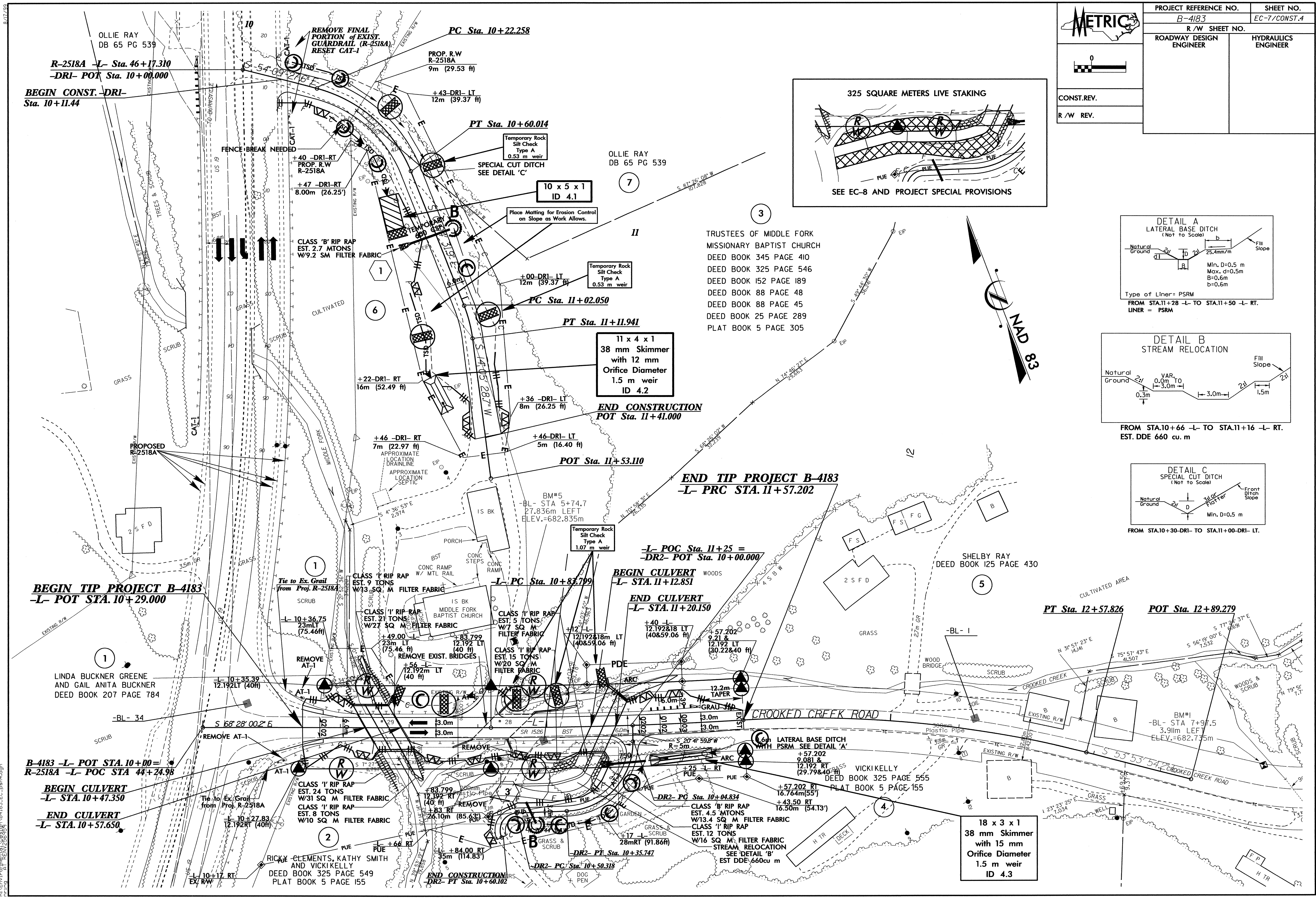
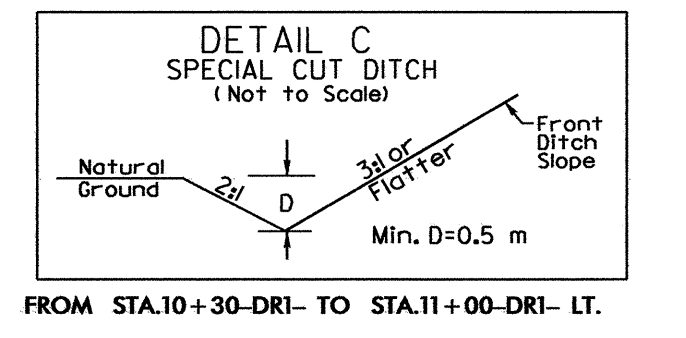
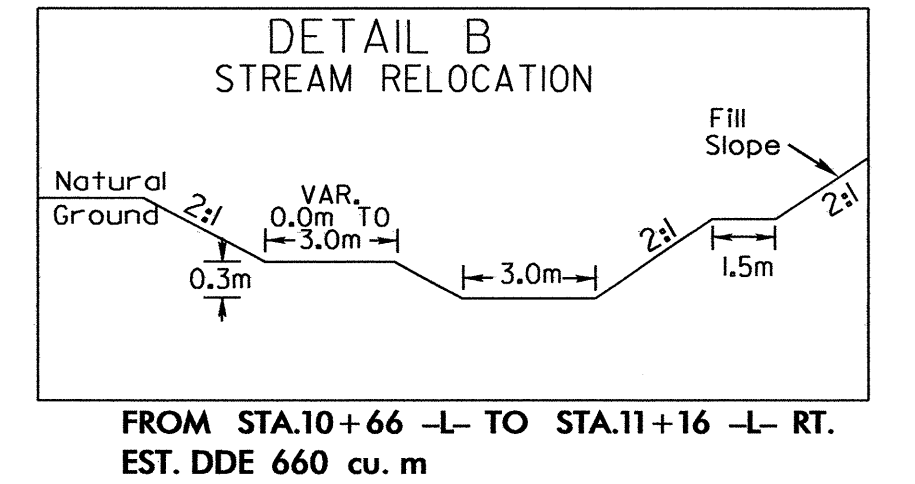
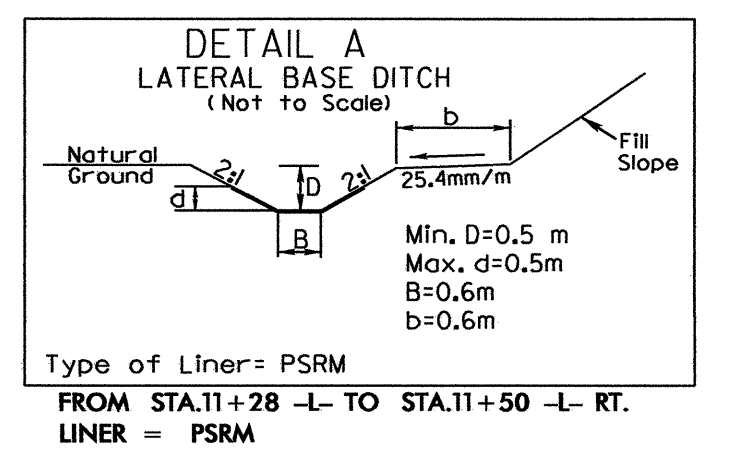
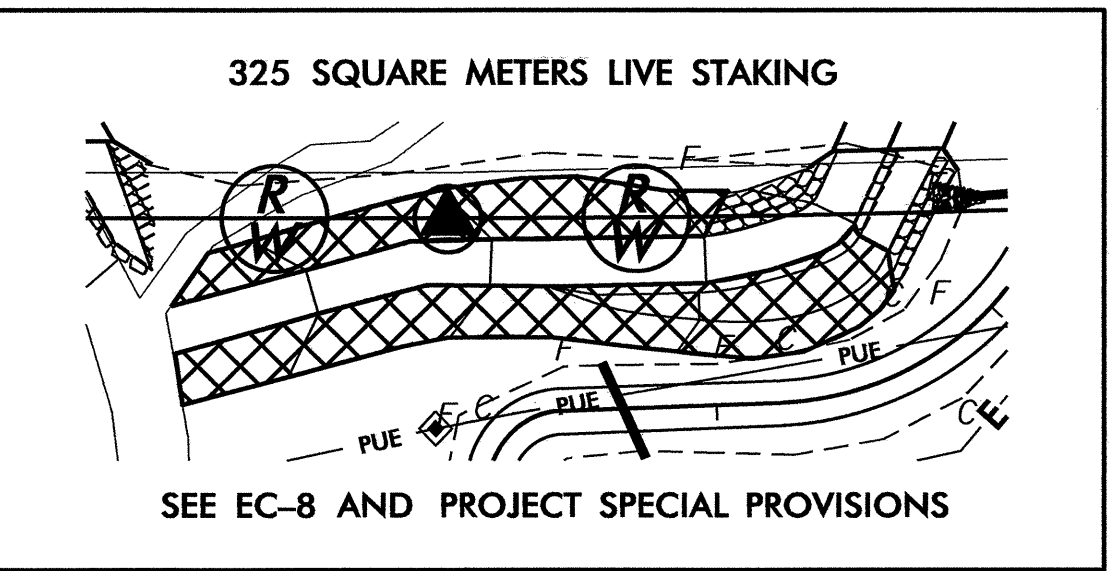




**METRIC**

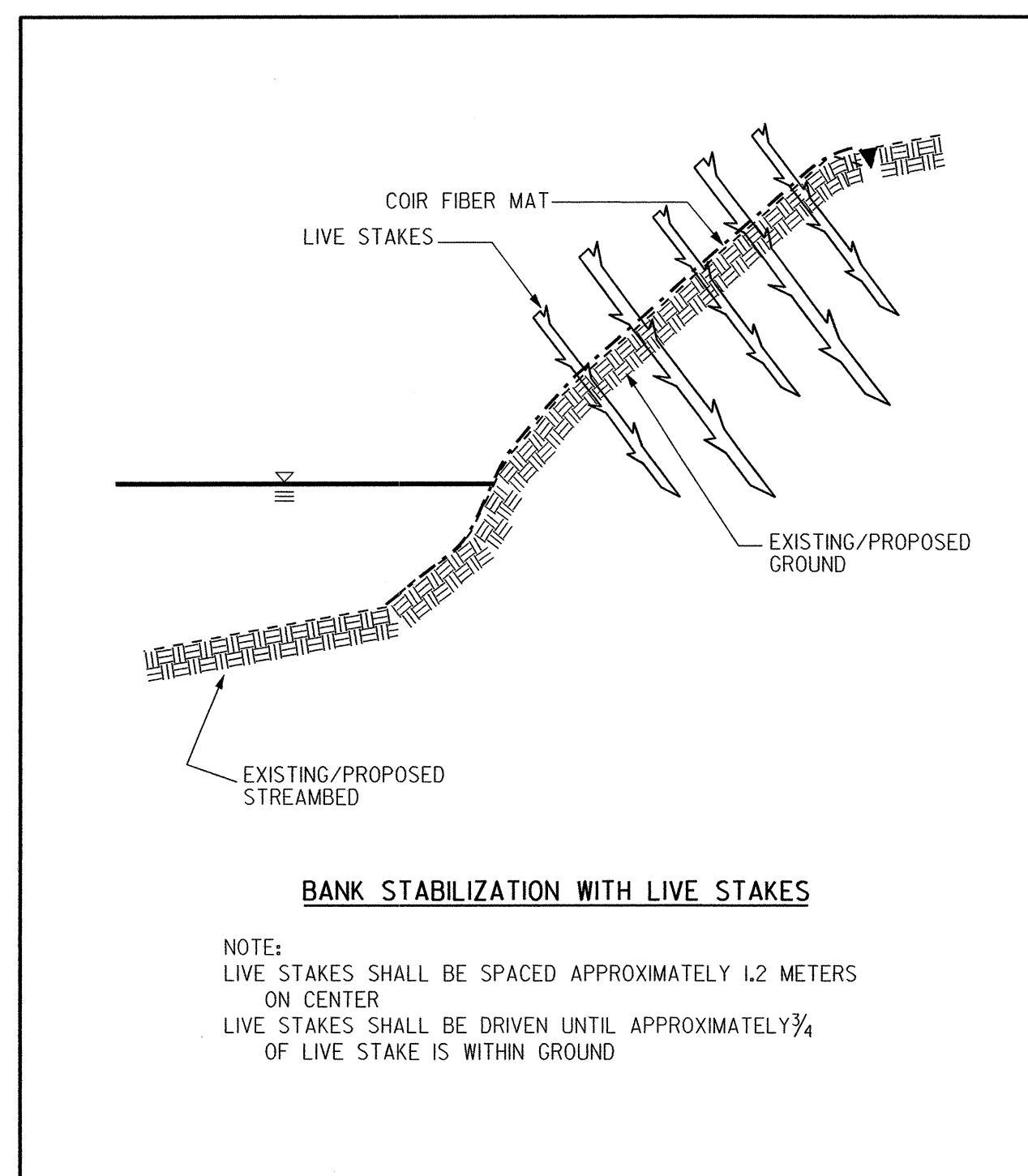
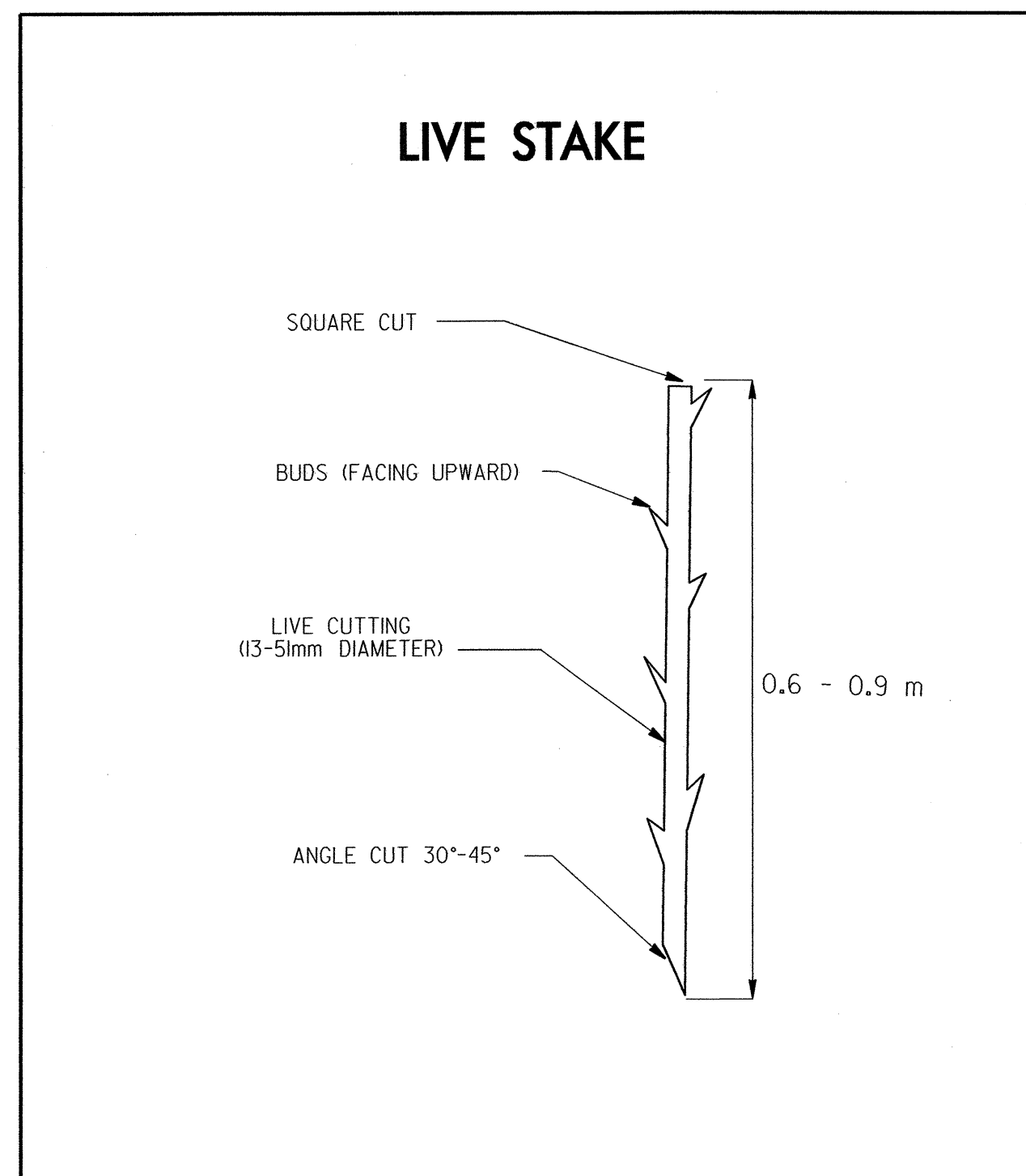
CONST. REV.  
R/W REV.

PROJECT REFERENCE NO. B-4183	SHEET NO. EC-7/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



05-AUG-2011 14:48  
R:\enviro\m\4183\4183\ec-pat4.dgn  
AT: METRIC\30397\4183\ec-pat4.dgn

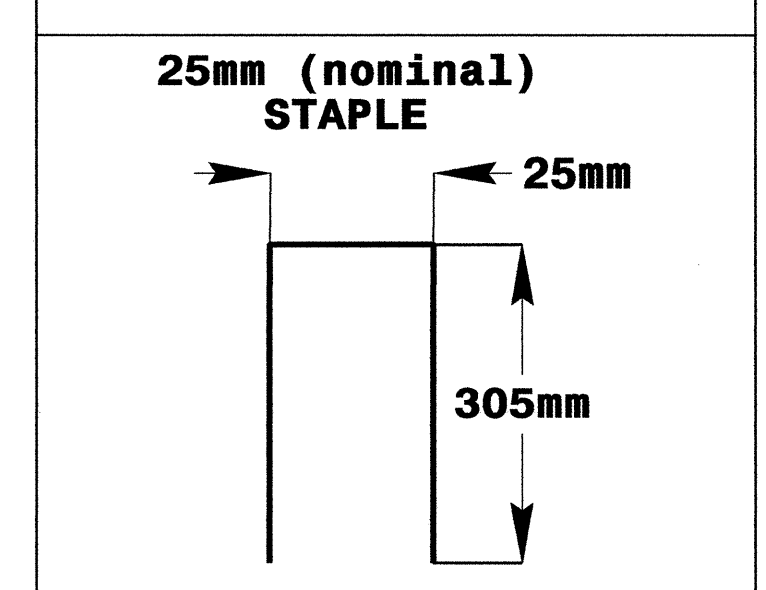
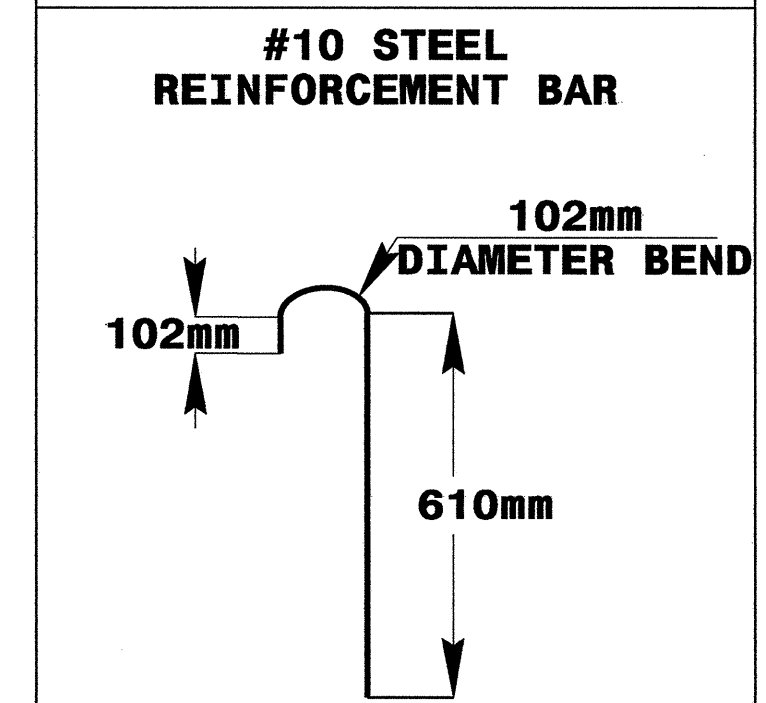
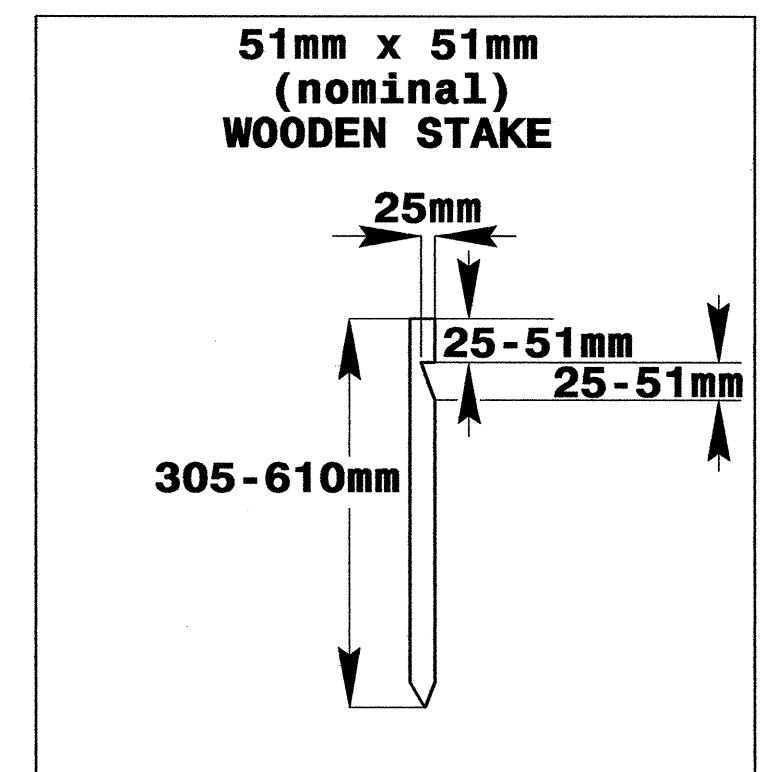
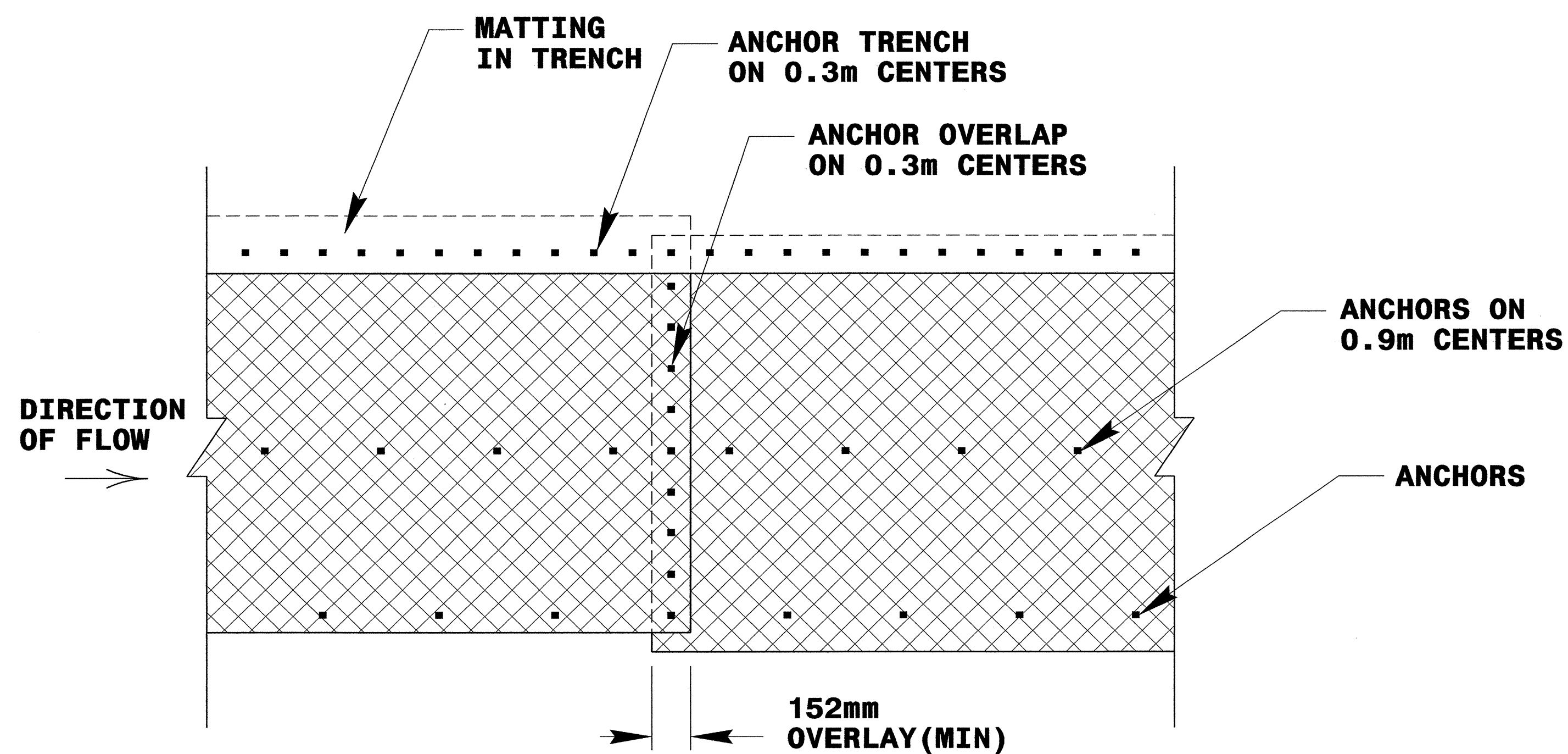
# LIVE STAKES PLANTING DETAILS



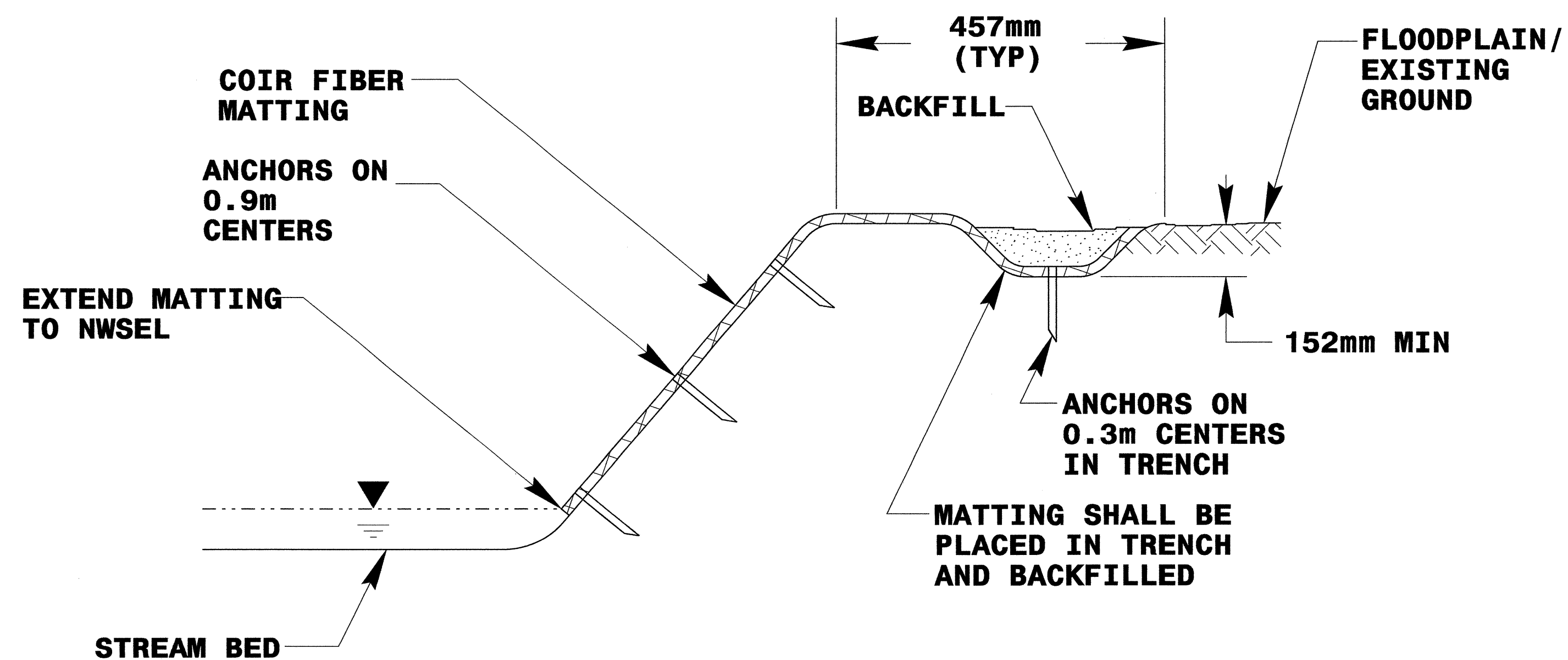
# COIR FIBER MATTING DETAIL



PROJECT REFERENCE NO. B-4183	SHEET NO. EC-8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



## ANCHOR OPTIONS



**LIVE STAKING  
DETAIL SHEET**  
N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT