TIP PROJECT: X-0002BB

MAINTAIN EXISTING EROSION CONTROL DEVICES FROM U-2591E/X-0002B PROJECTS WITHIN LIMITS OF X-0002BB UNTIL PROJECT COMPLETION. INSTALL ADDITIONAL EROSION CONTROL DEVICES AS DIRECTED.

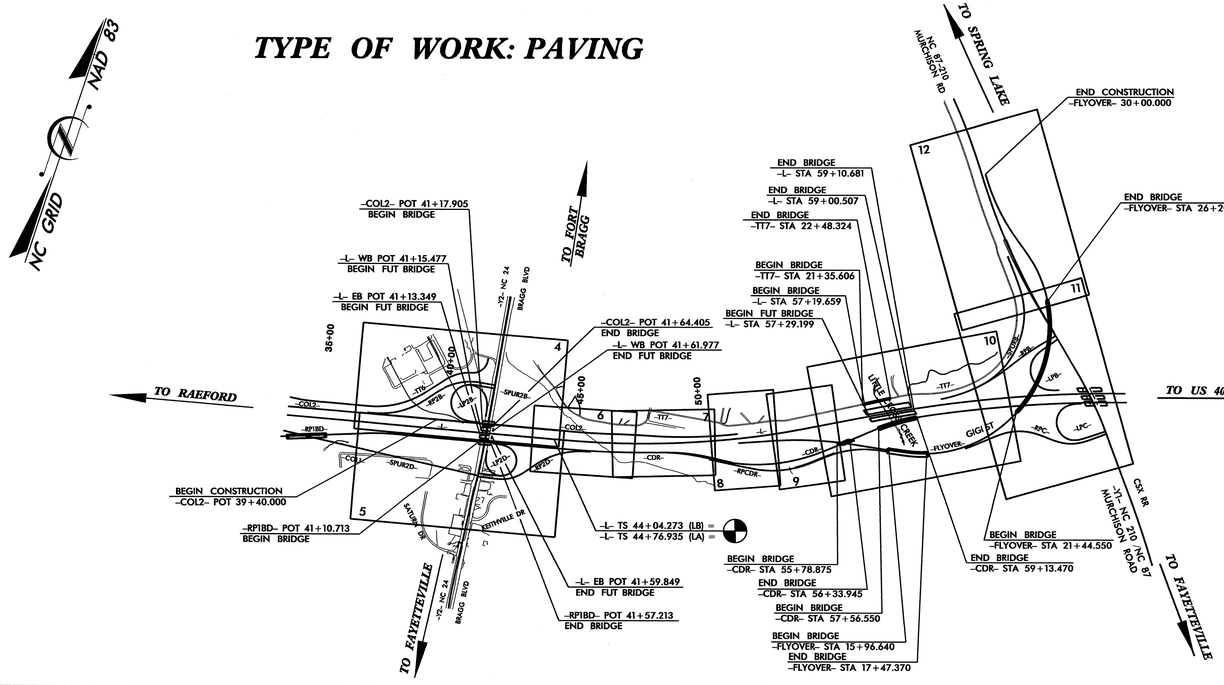
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

CUMBERLAND COUNTY

LOCATION: FAYETTEVILLE OUTER LOOP FROM WEST OF NC 24 (BRAGG BLVD.) TO NC 87 /NC 210 (MURCHISON RD.)

TYPE OF WORK: PAVING



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
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	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
	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 HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS

ALL DIMENSIONS IN THESE PLANS ARE IN METERS UNLESS OTHERWISE SHOWN

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	X-0002BB	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

GRAPHIC SCALE

0
PLANS
0
PROFILE (HORIZONTAL)
0
PROFILE (VERTICAL)

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

2006 STANDARD SPECIFICATIONS

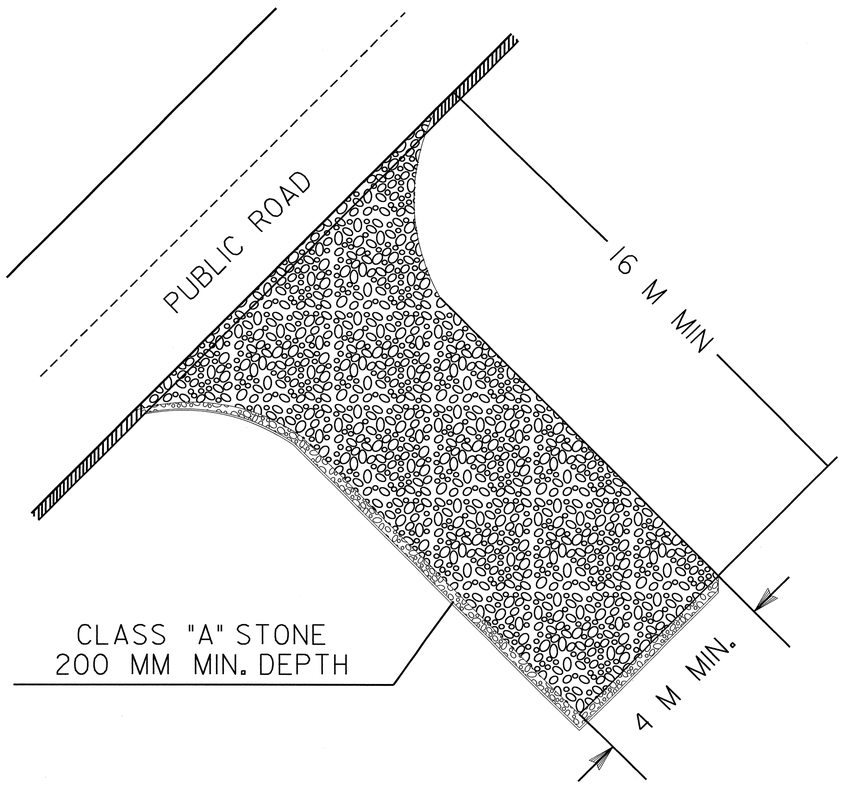
Roadway Standard Drawings

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 revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01	Temporary Silt Fence	1632.01	Rock Inlet Sediment Trap Type A
1606.01	Special Sediment Control Fence	1632.02	Rock Inlet Sediment Trap Type B
1622.01	Temporary Berms and Slope Drains	1632.03	Rock Inlet Sediment Trap Type C
1630.01	Riser Basin	1633.01	Temporary Rock Silt Cheek Type A
1630.02	Silt Basin Type B	1633.02	Temporary Rock Silt Cheek Type B
1630.03	Temporary Silt Ditch	1634.01	Temporary Rock Sediment Dam Type A
1630.04	Stilling Basin	1634.02	Temporary Rock Sediment Dam Type B
1630.05	Temporary Diversion	1635.01	Rock Pipe Inlet Sediment Trap Type A
		1635.02	Rock Pipe Inlet Sediment Trap Type B
		1636.01	Rock Silt Screen

METRIC	PROJECT REFERENCE NO.	SHEET NO.
	X-0002BB	EC-02
	R /W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE



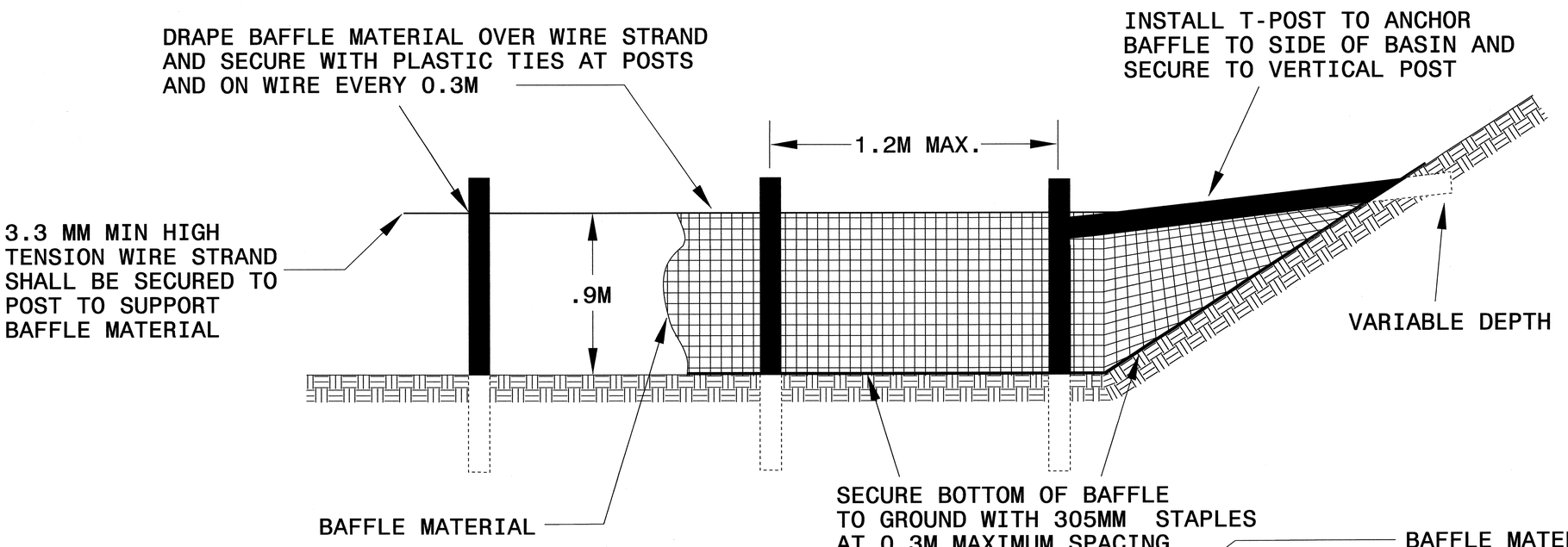
NOTES:

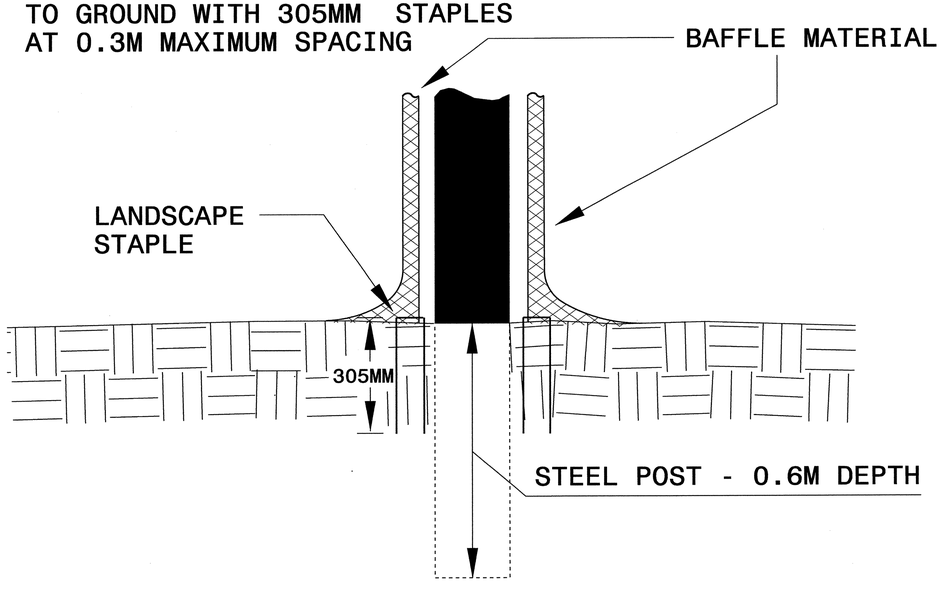
1. TURNING RADIUS SUFFICIENT TO ACCOMODATE LARGE TRUCKS SHALL BE PROVIDED.
2. ENTRANCE(S) SHOULD BE LOCATED TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL 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

METRIC	PROJECT REFERENCE NO.	SHEET NO.
	X-0002BB	EC-2A
	R /W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL



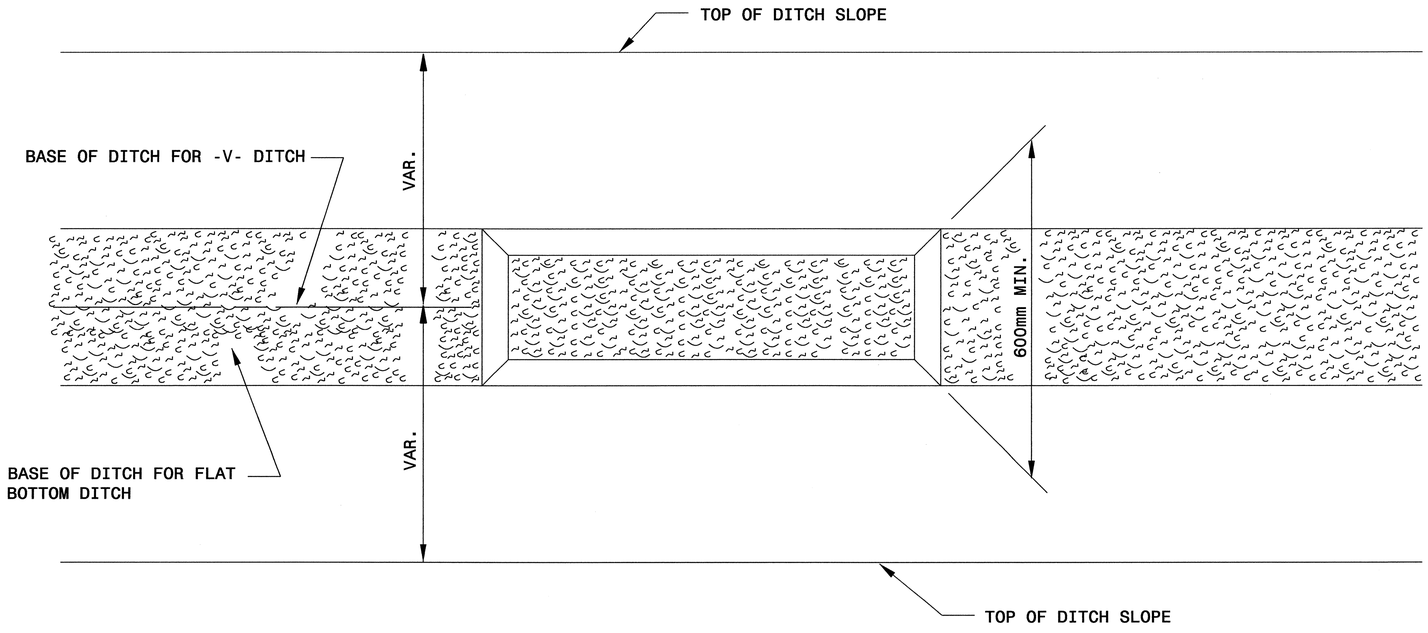


BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 305MM LANDSCAPE STAPLES

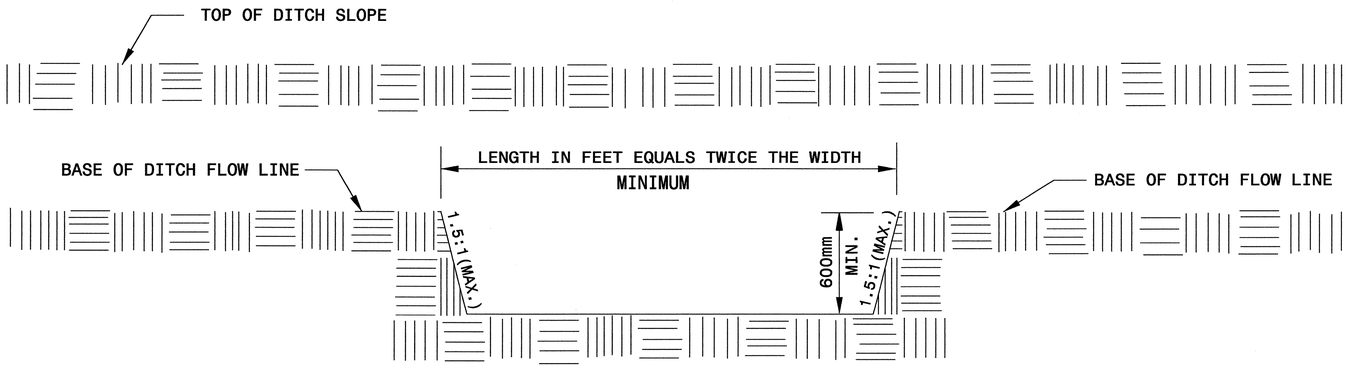
NOTE: INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF ¼ THE BASIN LENGTH. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 6 M IN LENGTH WITH A SPACING OF 1/3 THE BASIN LENGTH.

METRIC	PROJECT REFERENCE NO.	SHEET NO.
	X-0002BB	EC-2B
	R /W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT BASIN 'B' DETAIL



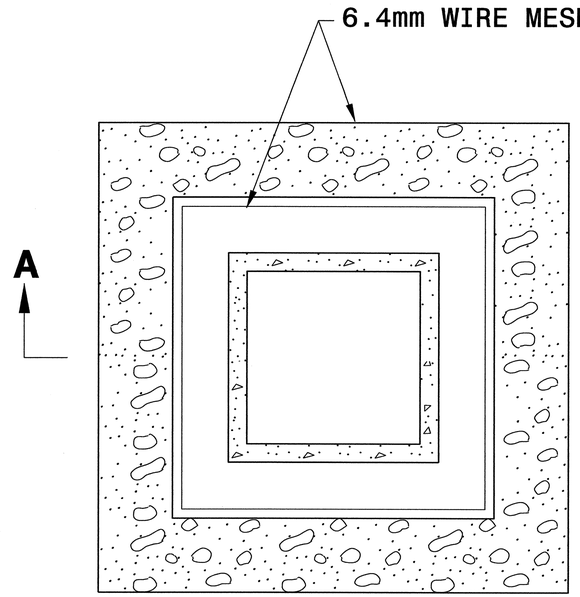
PLAN

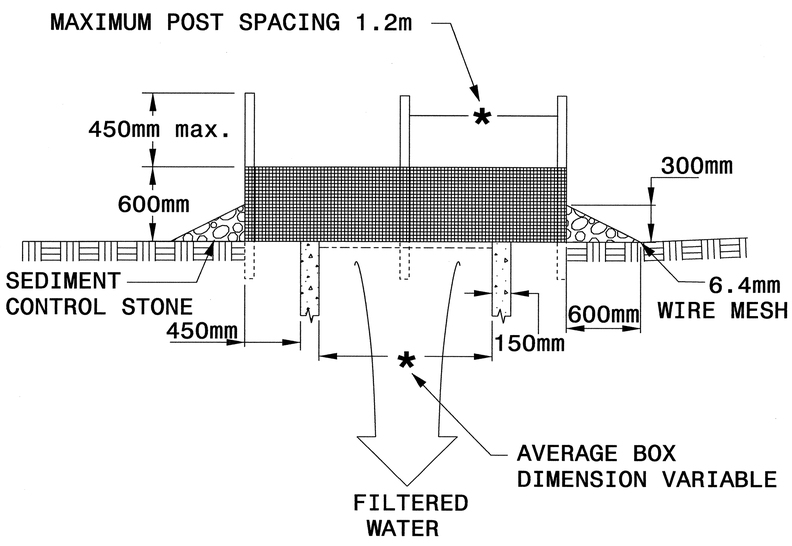


ELEVATION

ROCK INLET SEDIMENT TRAP TYPE 'C' DETAIL

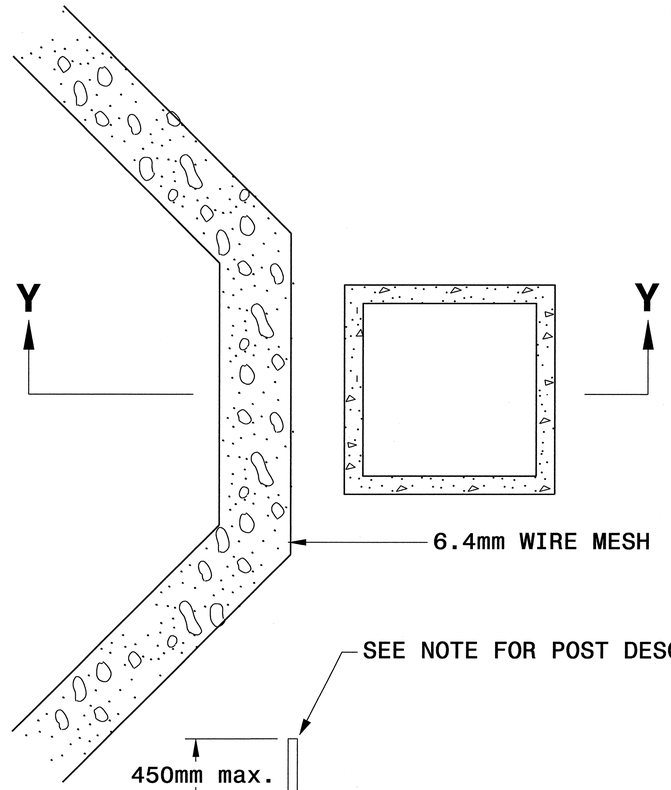
METRIC	PROJECT REFERENCE NO.	SHEET NO.
	X-0002BB	EC-2c
	R /W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

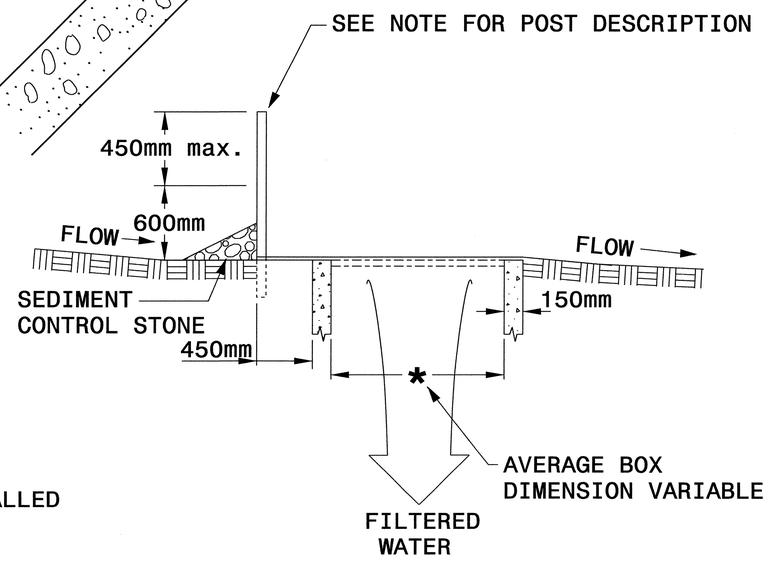




SECTION A-A

NOTE
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL.
USE HARDWARE CLOTH 0.65mm WIRE MESH WITH 6.4mm MESH OPENINGS.
PLACE TOP OF WIRE MESH A MINIMUM OF 300mm BELOW THE SHOULDER OR ANY DIVERSION POINT.
INSTALL WIRE MESH UNDER SEDIMENT CONTROL STONE.
USE 1.5m STEEL POST, INSTALLED 450mm DEEP MINIMUM, AND OF THE SELF-FASTENER ANGLE STEEL TYPE.
SPACE POST A MAXIMUM OF 1.2m.





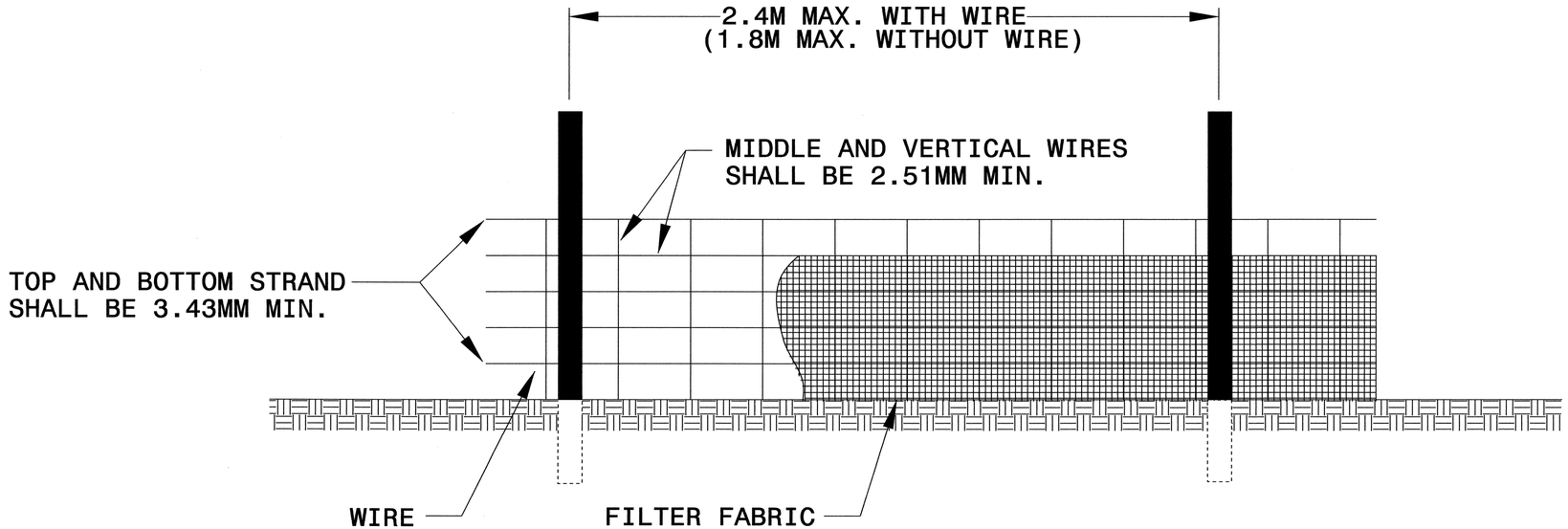
SECTION Y-Y

MULTI-DIRECTIONAL FLOW

SINGLE-DIRECTIONAL FLOW

METRIC	PROJECT REFERENCE NO.	SHEET NO.
	X-0002BB	EC-2D
	R /W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY SILT FENCE DETAIL

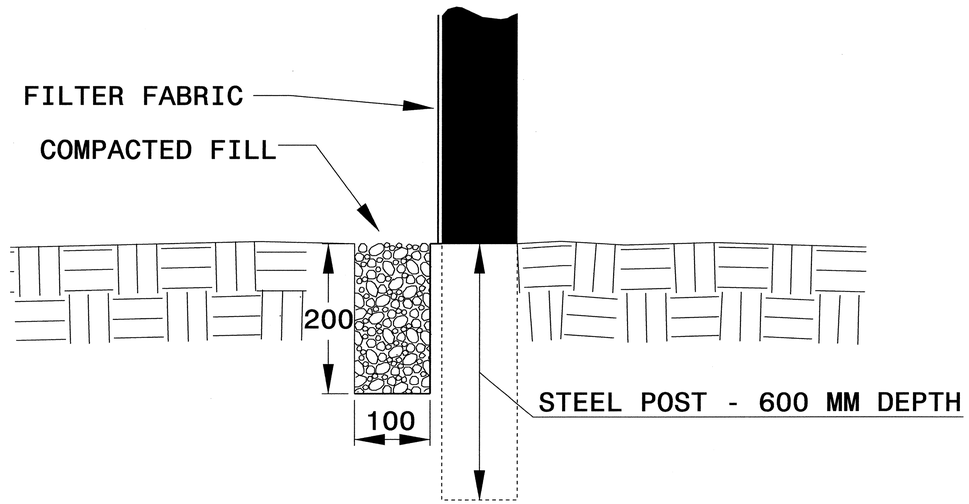


NOTES

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. ANGLE STEEL TYPE.



EXTENSION OF FABRIC AND WIRE INTO TRENCH

PROJECT REFERENCE NO.	SHEET NO.
X-0002BB	EC-2E
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SPECIAL SEDIMENT CONTROL FENCE DETAIL

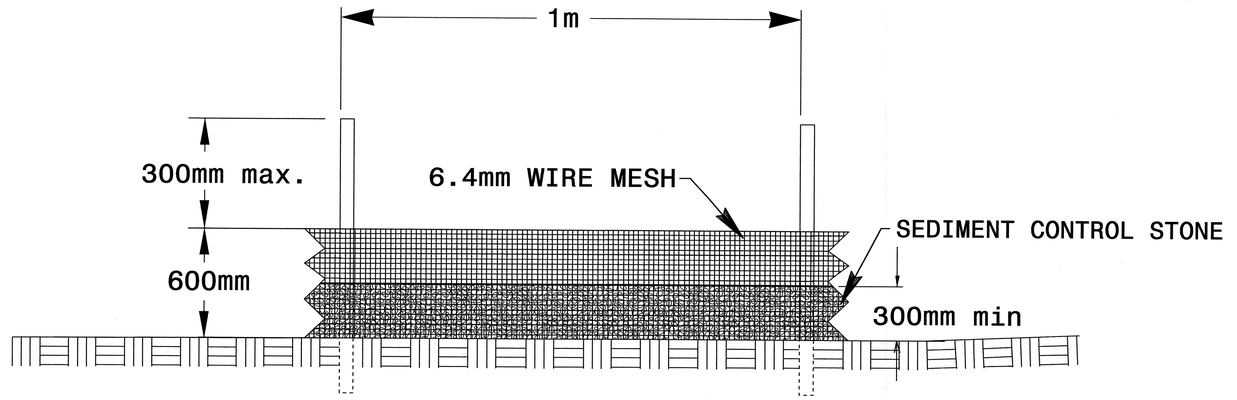
GENERAL NOTES:

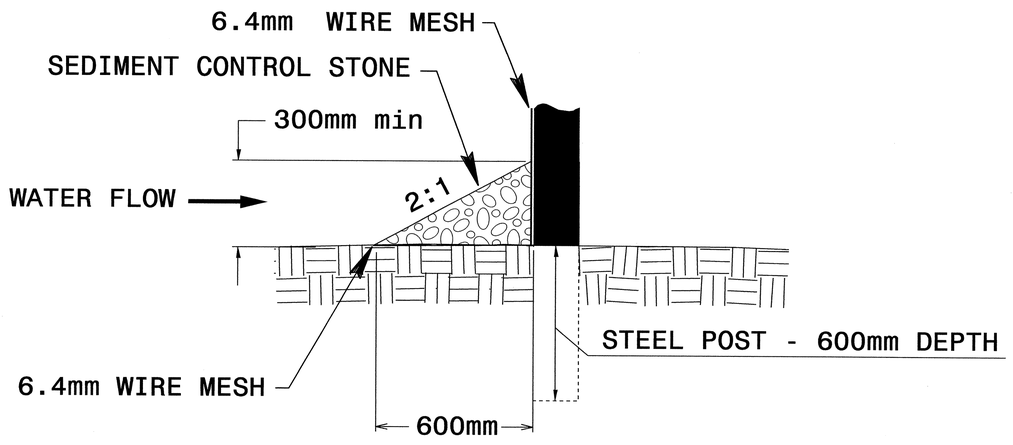
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL.

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

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

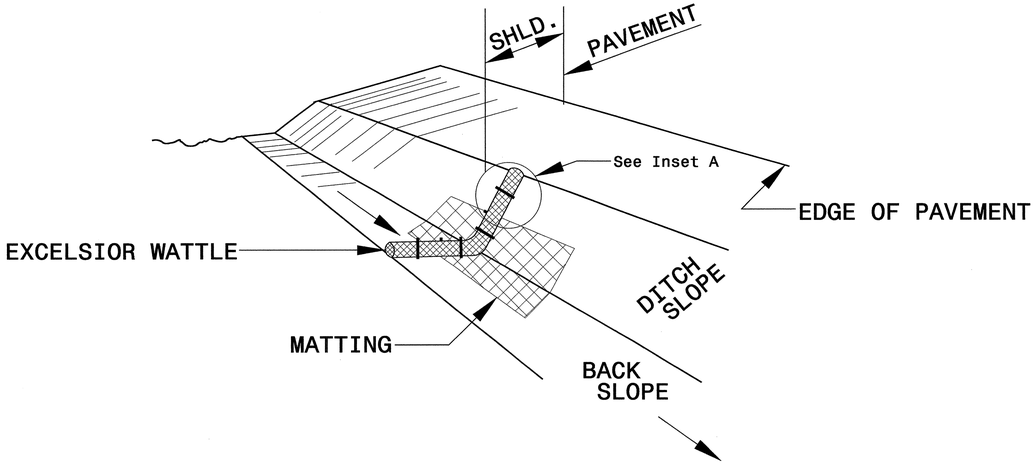
SPACE POST A MAXIMUM OF 1m.



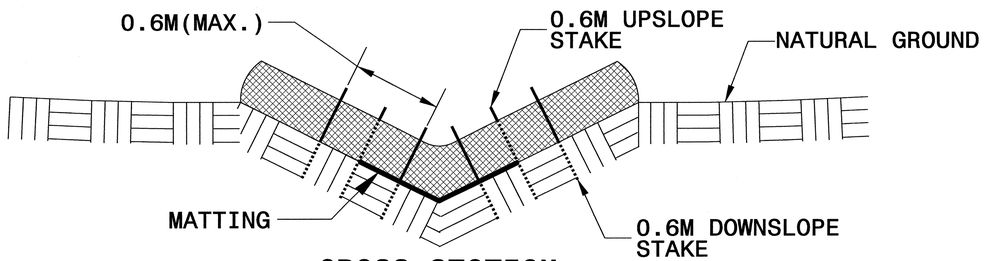


WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

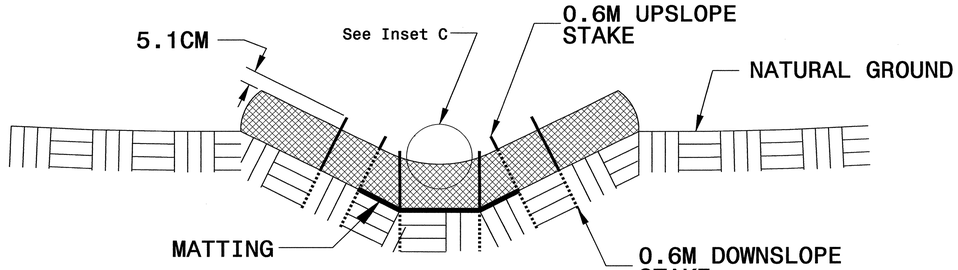
METRIC	PROJECT REFERENCE NO.	SHEET NO.
	X-0002BB	EC-2F
	R /W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

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.

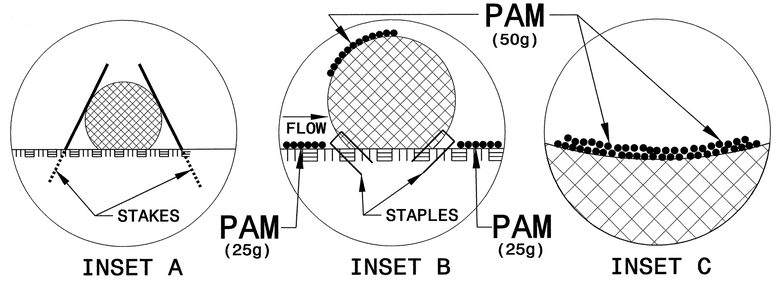
PROVIDE STAPLES MADE OF 3 MM DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 305 MM IN LENGTH.

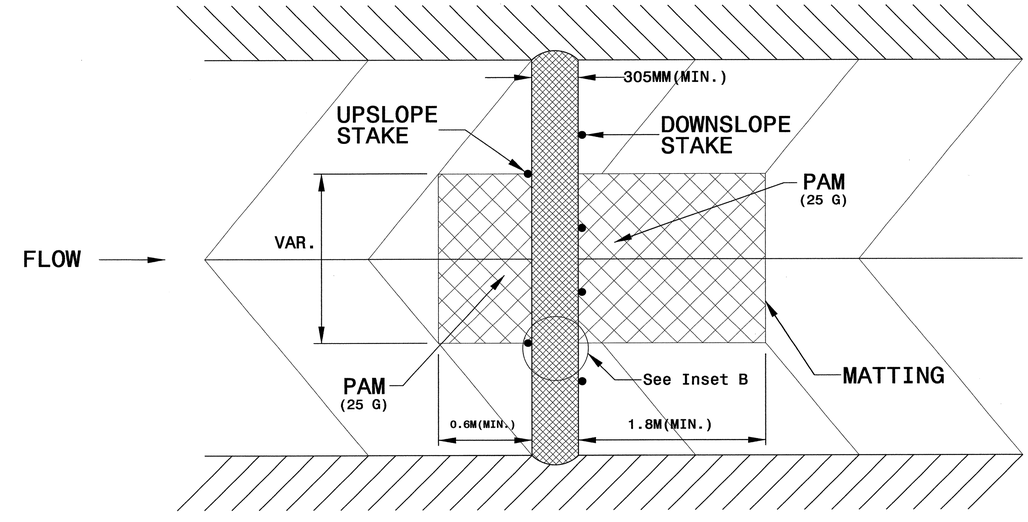
INSTALL STAPLES APPROXIMATELY EVERY 0.3 LINEAR METER ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.

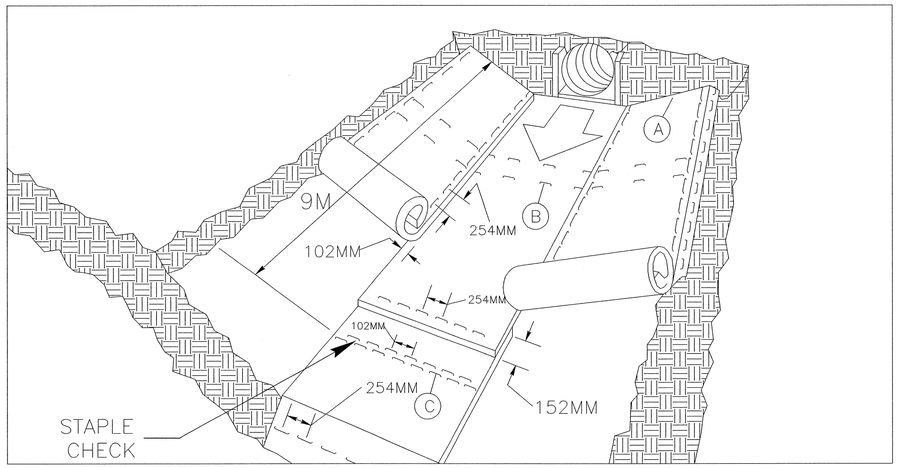




TOP VIEW

METRIC	PROJECT REFERENCE NO.	SHEET NO.
	X-0002BB	EC-26
	R /W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATTING INSTALLATION DETAIL



MATTING IN DITCHES

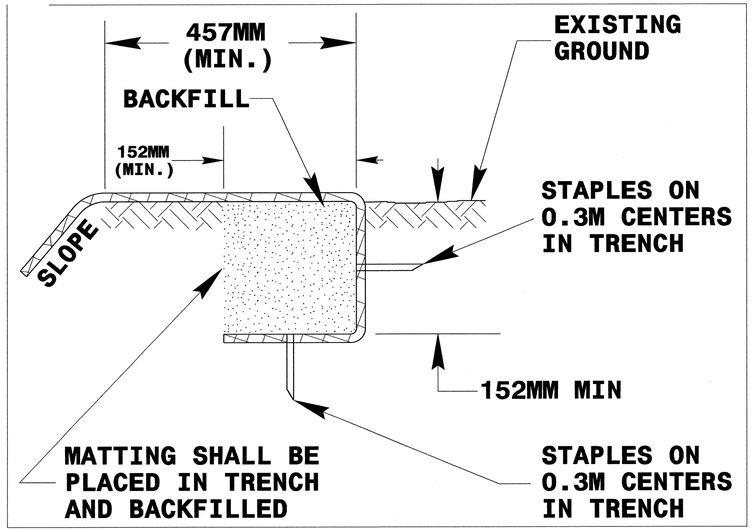
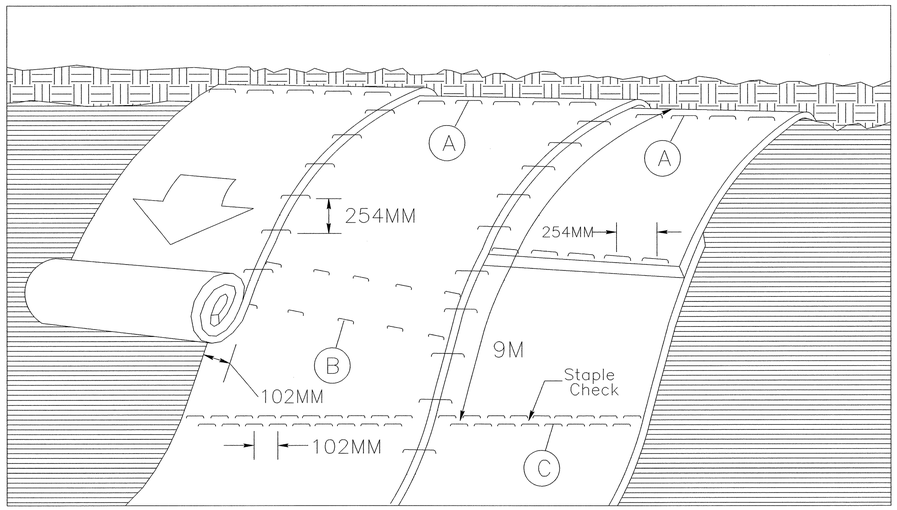


DIAGRAM (A)



MATTING ON SLOPES

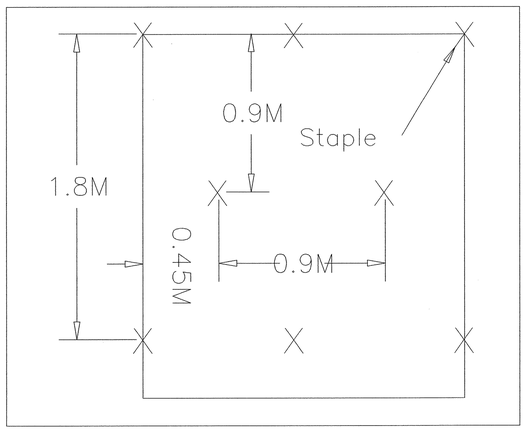


DIAGRAM (B)

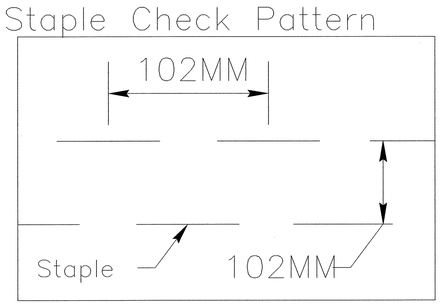


DIAGRAM (C)

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 25MM AND NOT LESS THAN 152MM IN LENGTH.

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
X-0002BB	EC-03
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
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.