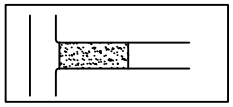
APPENDIX H

BMP DETAILS

Primary VTC: Vehicle cleaning and street sweeping
Alternates: Rock pad, rumble strip, composite mats.



VTC

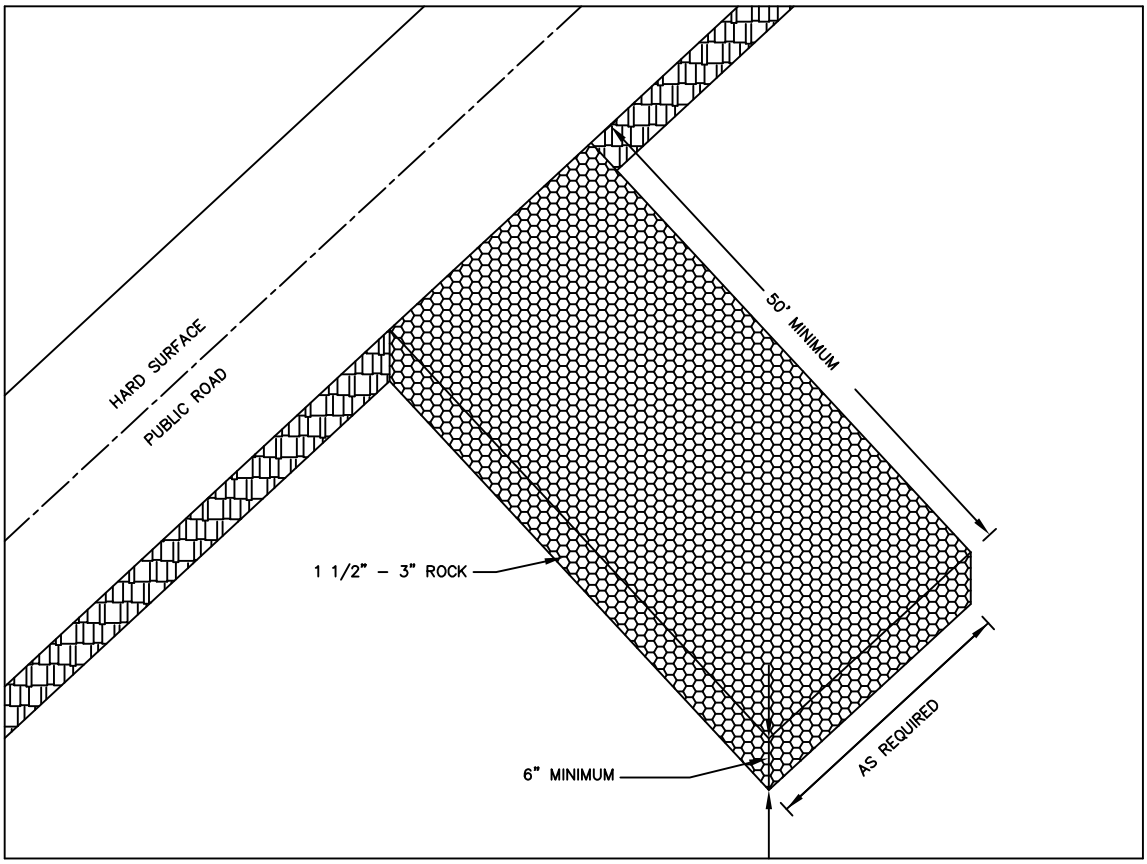
VEHICLE TRACKING CONTROL

DEFINITION:

A STONE STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE.

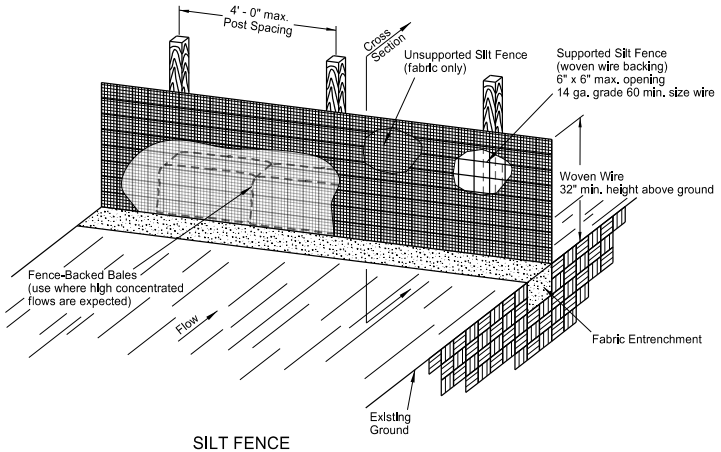
PURPOSES:

TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF.

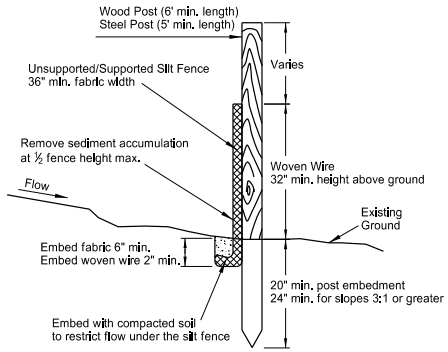


REVISED: MAY 2003

SPECIFICATION REFERENCE NO. 734	CITY OF SIOUX FALLS ENGINEERING DIVISION TEMPORARY VEHICLE TRACKING CONTROL	PLATE NUMBER 734.02



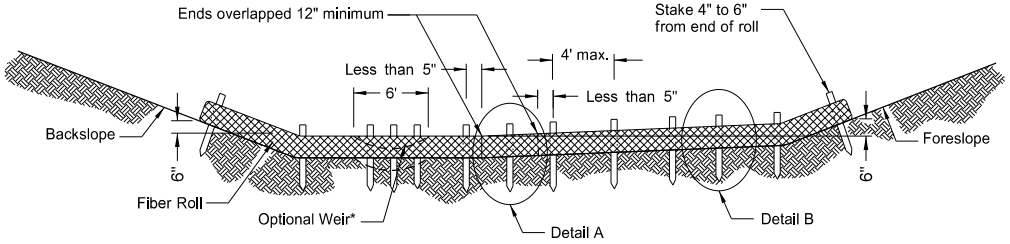
SILT FENCE
SUPPORTED AND UNSUPPORTED



SILT FENCE
CROSS SECTION

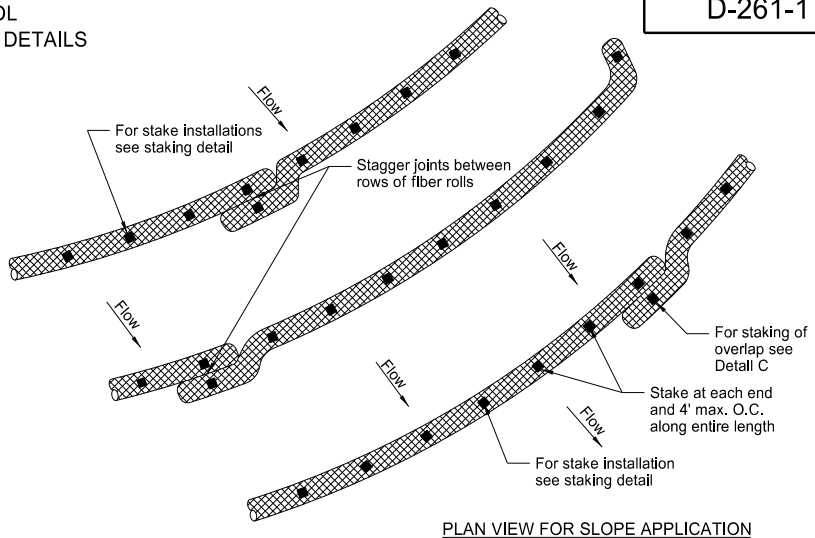
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
10-03-13	
REVISIONS	
DATE	CHANGE
06-26-14	Standard drawing resulted from splitting standard D-708-2.

EROSION CONTROL
FIBER ROLL PLACEMENT DETAILS

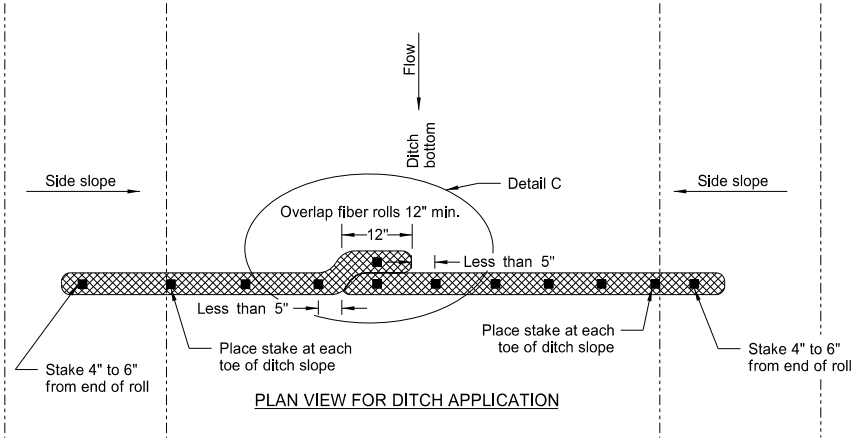


*Optional Weir. Use in flat areas, such as the Red River Valley, where there is potential for water to back up on adjacent property. Lower fiber roll enough to prevent water from backing up on adjacent property. Do not use 20-inch fiber rolls in flat areas where there is potential for water to back up on adjacent property.

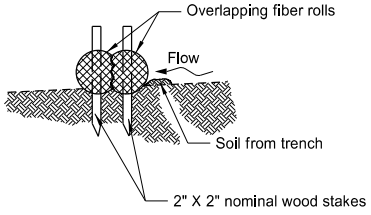
12 OR 20 INCH FIBER ROLL - DITCH BOTTOM



PLAN VIEW FOR SLOPE APPLICATION

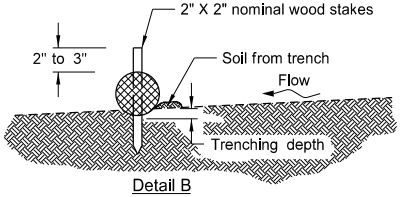


PLAN VIEW FOR DITCH APPLICATION



Detail A

Fiber Roll Overlapping Staking Detail



Detail B

Fiber Roll Staking Detail

FIBER ROLL DIAMETER	NOMINAL STAKE SIZE	MINIMUM STAKE LENGTH	MINIMUM TRENCH DEPTH	MAXIMUM TRENCH DEPTH
6"	2" x 2"	18"	2"	2"
12"	2" x 2"	24"	2"	3"
20"	2" x 2"	36"	3"	5"

Similar sediment control logs installed per manufacturer specifications. Compost and rock logs are self-weighted.

NOTE: Runoff must not be allowed to run under or around roll.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

11-18-10

REVISIONS

DATE	CHANGE
06-10-13	Added plan view for ditch and slope application. Added table with values for stake and trench dimensions.
10-04-13	Revised fiber roll overlap detail.
06-26-14	Changed standard drawing number from D-708-7 to D-261-1.

INLET PROTECTION

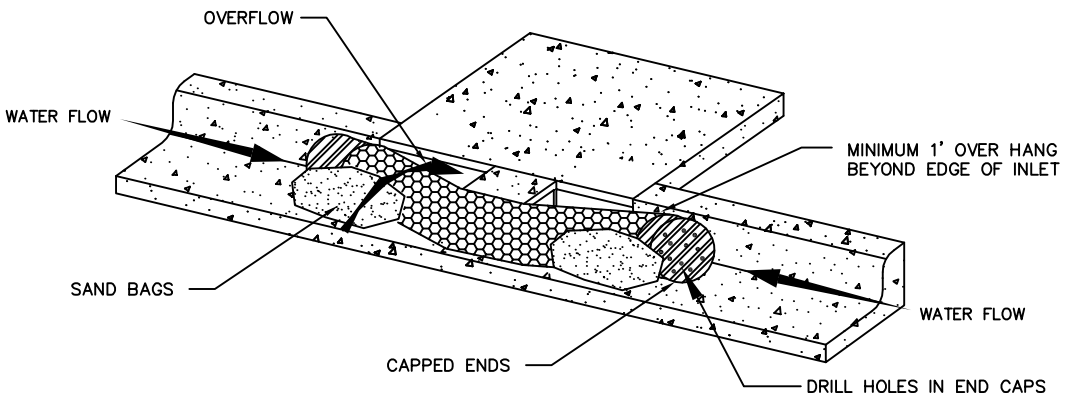
IP

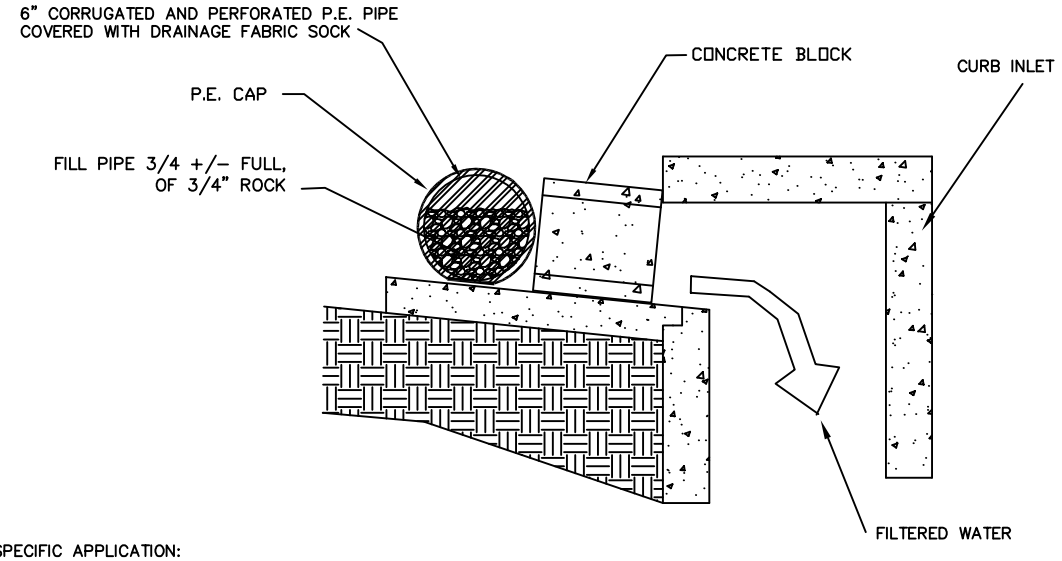
DEFINITION:

A SEDIMENT FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DROP INLET OR CURB INLET. TO BE USED AT SUMP CONDITIONS.

PURPOSES:

TO REDUCE SEDIMENT FROM ENTERING STORM DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF DISTURBED AREAS.





SPECIFIC APPLICATION:
THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE STRUCTURE IS NOT LIKELY TO CAUSE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS. CLEAN OUT AS NECESSARY TO PREVENT BLOCKAGE OF RUNOFF CONVEYANCE.

REVISED: NOVEMBER 2008

SPECIFICATION REFERENCE NO. 734	CITY OF SIOUX FALLS ENGINEERING DIVISION CORRUGATED PIPE AND FABRIC INLET PROTECTION - OVERFLOW	PLATE NUMBER 734.16

OP

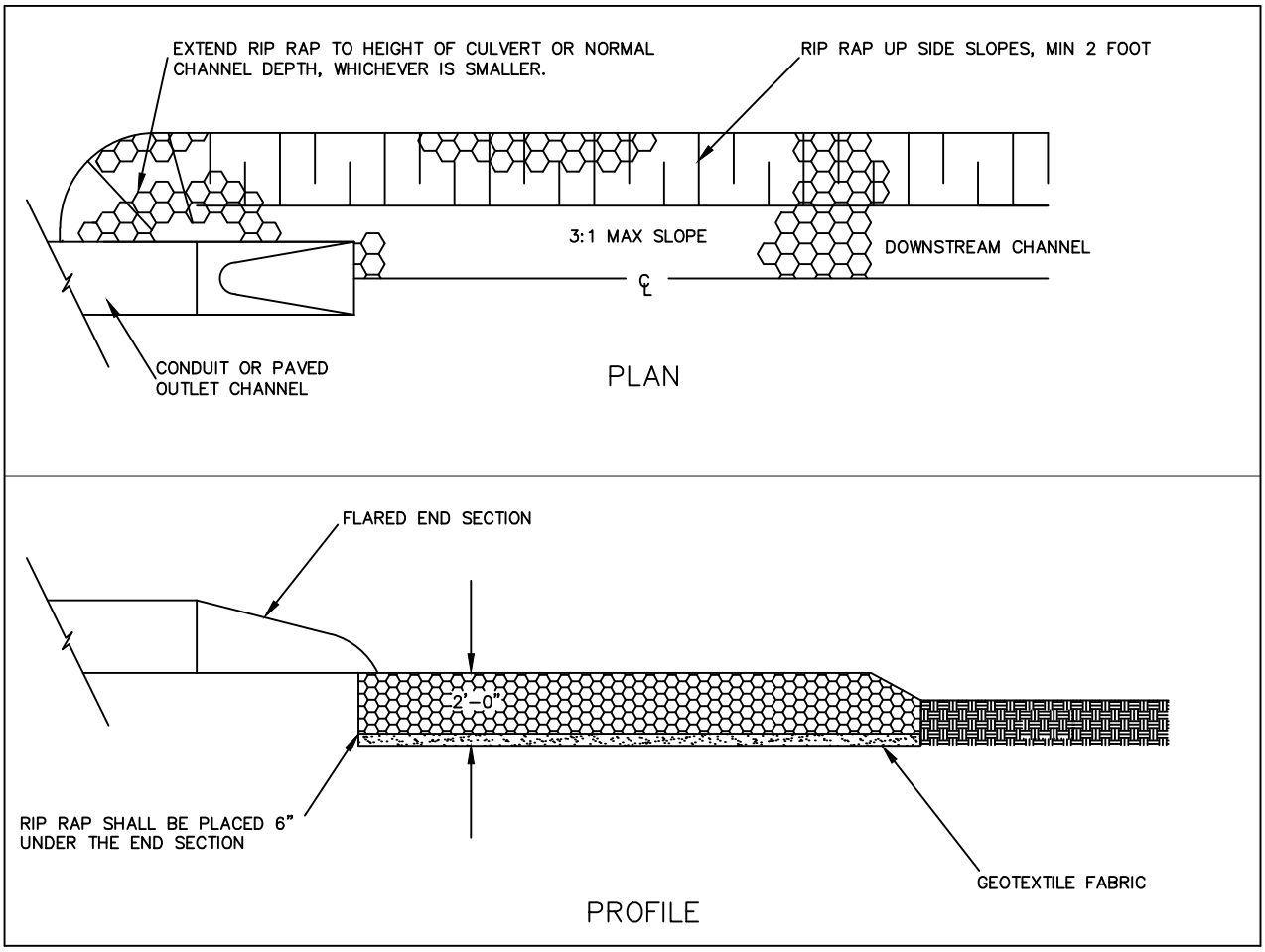
OUTLET PROTECTION

DEFINITION:

STRUCTURALLY LINED APRONS OR OTHER ACCEPTABLE ENERGY DISSIPATING DEVICES PLACED AT THE OUTLETS OF PIPES OR PAVED CHANNEL SECTIONS.

PURPOSES:

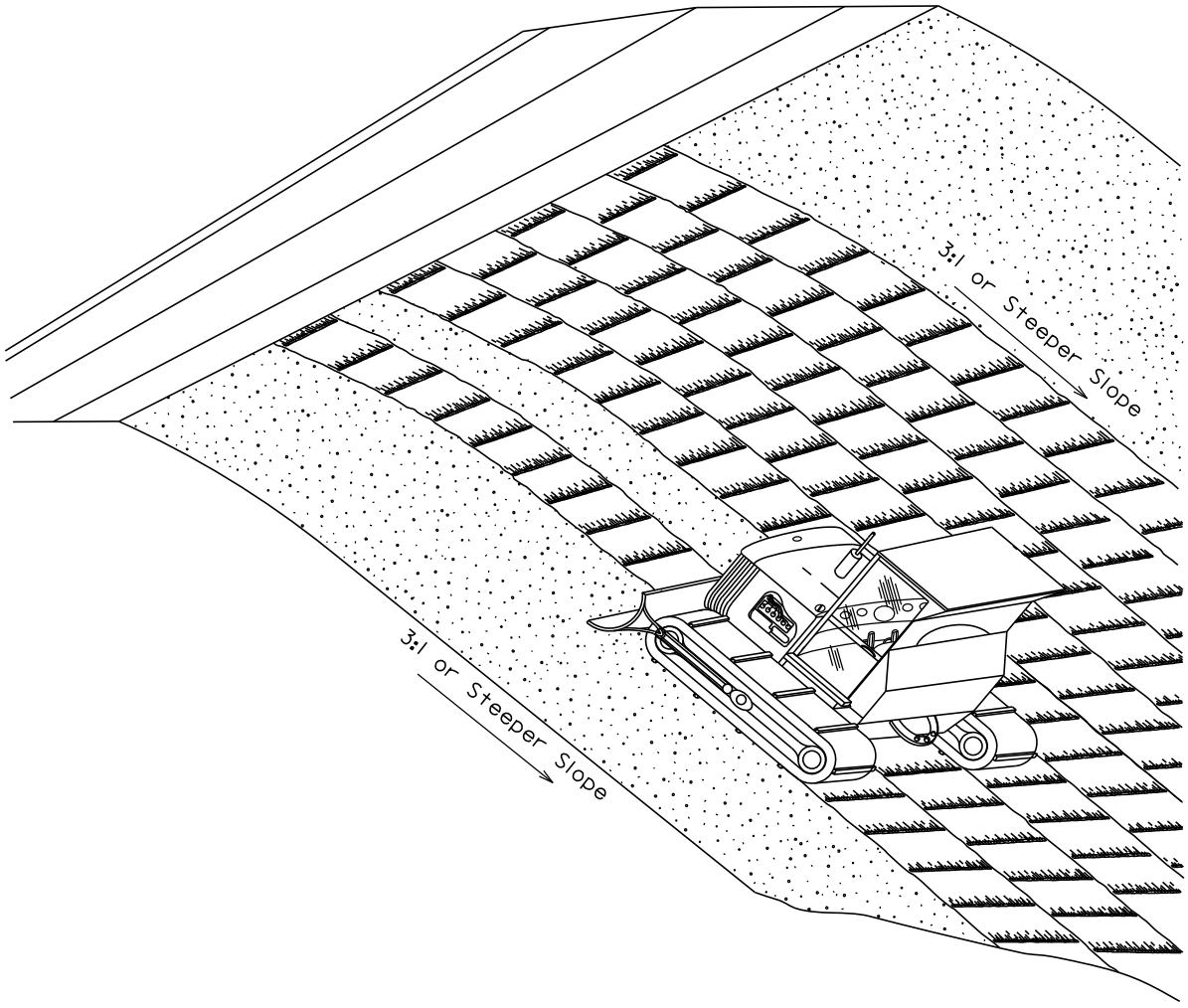
1. TO PREVENT SCOUR AT STORM WATER OUTLETS AND TO MINIMIZE THE POTENTIAL FOR DOWNSTREAM EROSION BY REDUCING THE VELOCITY OF CONCENTRATED STORM WATER FLOWS.



QUANTITY AND SIZE OF RIP RAP TO BE DETERMINED BY DESIGN.
ALL RIP RAP SHALL BE UNDERLAID BY A SUITABLE FILTER FABRIC.

REVISED: DECEMBER 2009

SPECIFICATION REFERENCE NO. 734	CITY OF SIOUX FALLS ENGINEERING DIVISION	PLATE NUMBER 734.14
	OUTLET PROTECTION	



GENERAL NOTES:

Where practical, surface roughening shall be done on slopes 3:1 and steeper and on slopes deemed necessary by the Engineer.

The equipment used for surface roughening shall be equipped with tracks that are capable of creating ridges in the soil that are perpendicular to the slope. The final condition of the surface roughening shall be approved by the Engineer.

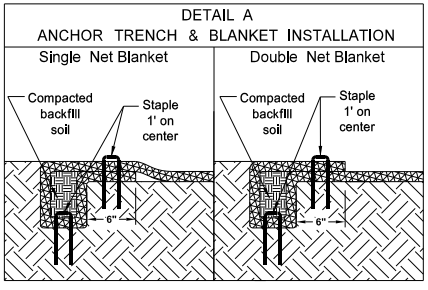
Measurement for surface roughening shall be to the nearest tenth of an acre.

All costs associated with surface roughening including labor, equipment, and materials shall be incidental to the contract unit price per acre for "Surface Roughening".

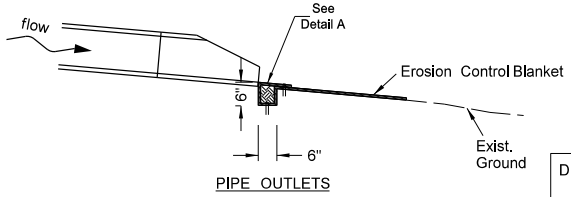
June 26, 2009

Published Date: 3rd Qtr. 2015	SDDOT	SURFACE ROUGHENING	PLATE NUMBER 734.25 Sheet 1 of 1

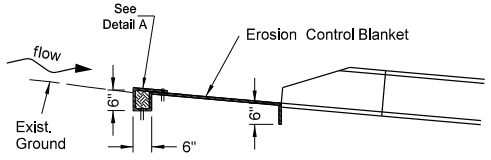
EROSION AND SILTATION CONTROL
EROSION CONTROL BLANKET INSTALLATION



NOTE:
If a Single Net Blanket is used the side with the netting should be on the top once the blanket is installed.

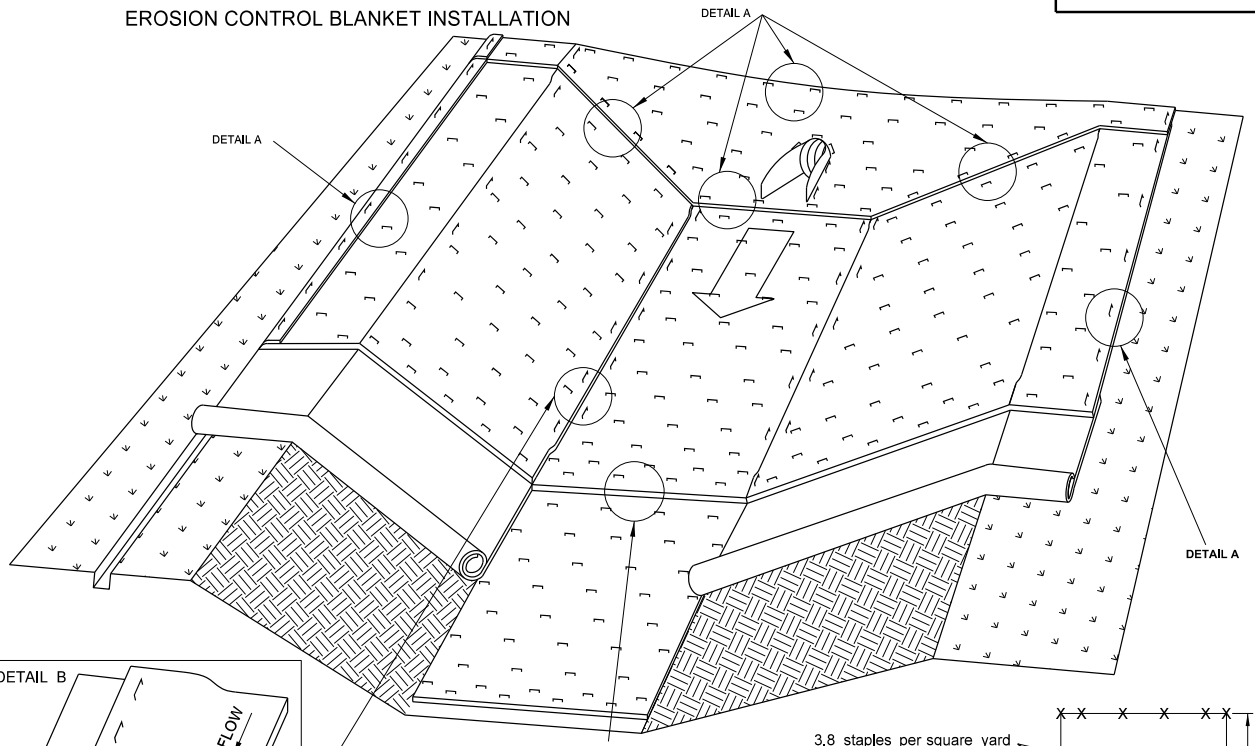


PIPE OUTLETS

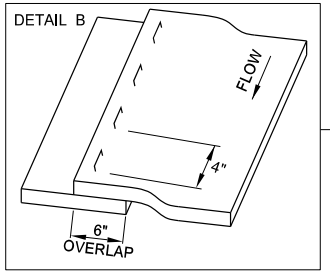


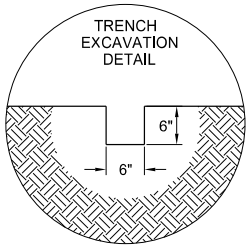
PIPE INLETS

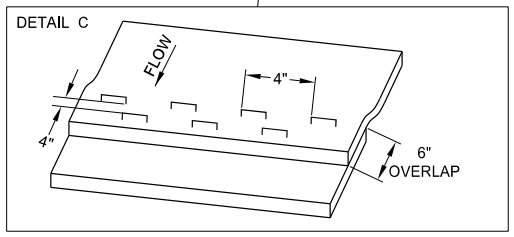
INSTALLATION AT PIPE ENDS



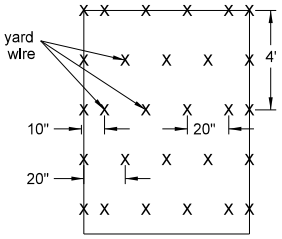
BLANKET LAYOUT
CHANNEL OR SLOPE INSTALLATION







3.8 staples per square yard using 8-Inch 11 gauge wire "u" staples.

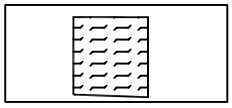


STAPLE PATTERN

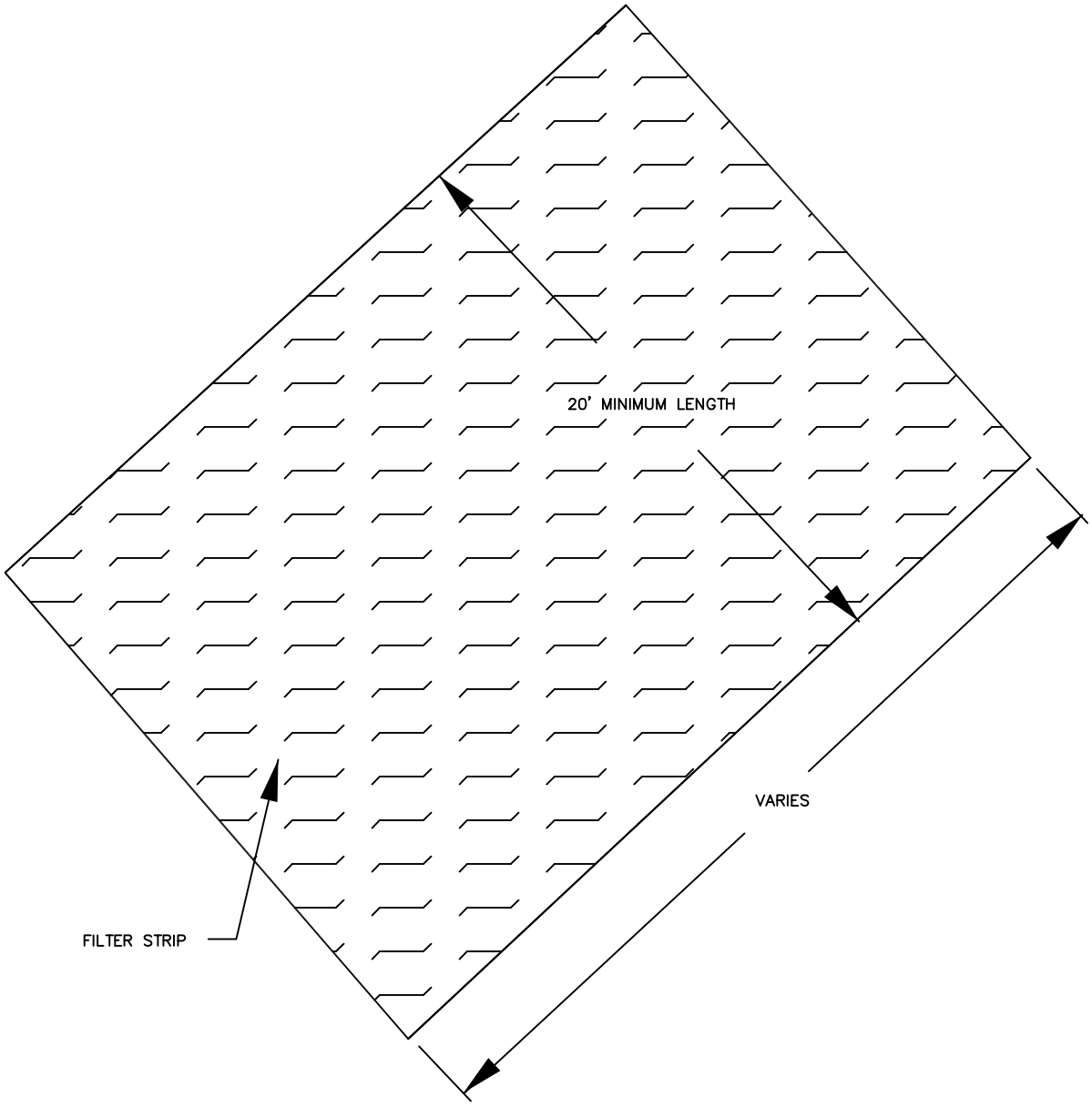
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
10-03-13	
REVISIONS	
DATE	CHANGE
06-26-14	Changed standard drawing number from D-708-5 to D-255-2.
07-27-15	Changed Installation details such as trench depth and overlap dimensions.

This document was originally issued and sealed by Roger Weigel Registration Number PE-2930, on 07/27/15 and the original document is stored at the North Dakota Department of Transportation

FILTER STRIP



FS



NOTE: FILTER STRIPS SHALL BE UNDISTURBED NATURAL VEGETATION OR SOD.

ISSUED: DECEMBER 2007

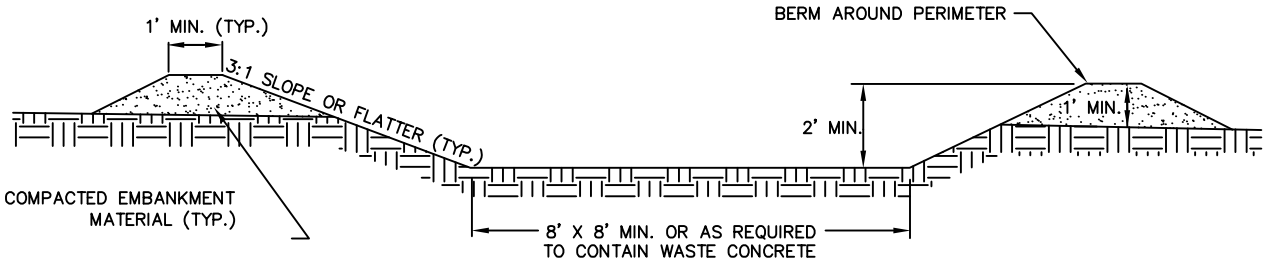
SPECIFICATION REFERENCE NO. 734	CITY OF SIOUX FALLS ENGINEERING DIVISION	PLATE NUMBER 734.31
	FILTER STRIP	

CONCRETE WASHOUT FACILITY

CWF

NOTES:

1. CONCRETE WASHOUT FACILITY SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. A SIGN SHALL BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE CWF.
3. THE CONCRETE WASHOUT FACILITY SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
4. WHEN CWF ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE AND MATERIALS USED TO CONSTRUCT THE CWF SHALL BE REMOVED AND DISPOSED OF.
5. WHEN THE CONCRETE WASHOUT FACILITY IS REMOVED, THE HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE SHALL BE BACKFILLED, REPAIRED AND STABILIZED.



CROSS SECTIONAL VIEW

REVISED: DECEMBER 2008

SPECIFICATION REFERENCE NO. 734	CITY OF SIOUX FALLS ENGINEERING DIVISION CONCRETE WASHOUT FACILITY	PLATE NUMBER 734.28