

1. SET POSTS AND EXCAVATE A 4"x4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.

2. STAPLE WIRE FENCING TO THE POSTS.

3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.

4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

EXTENSION OF FABRIC AND WIRE INTO THE TRENCH.

Labels in diagram 4: FILTER FABRIC, WIRE.

Label in diagram 1: FLOW

Label in diagram 2: FLOW

Label in diagram 3: FLOW

Label in diagram 4: FLOW

Label in diagram 5: SF

SOURCE: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control  
Sherwood & Wynn

PLATE 3.05-1

The image contains three cross-sectional diagrams of diversion structures, each showing a concrete structure with a hatched pattern on the left and a sloped embankment on the right. The water level is indicated by a horizontal line.

- TYPICAL PARABOLIC DIVERSION:** The structure has a parabolic profile. Labels include "10% SETTLEMENT" with a downward arrow, "0.3' FREE BOARD" with a vertical dimension line, and "DESIGN FLOW DEPTH" with a vertical arrow pointing to the water surface.
- TYPICAL TRAPEZOIDAL DIVERSION:** The structure has a trapezoidal profile. Labels include "10% SETTLEMENT" with a downward arrow, "0.3' FREE BOARD" with a vertical dimension line, and "DESIGN FLOW DEPTH" with a vertical arrow pointing to the water surface.
- TYPICAL VEE-SHAPED DIVERSION:** The structure has a V-shaped profile. Labels include "10% SETTLEMENT" with a downward arrow, "0.3' FREE BOARD" with a vertical dimension line, and "DESIGN FLOW DEPTH" with a vertical arrow pointing to the water surface.

Source: Va. DSWC

Plate 3.12-1

The image contains several technical drawings of waterway cross-sections and details:

- TYPICAL COMPACTED SOIL:** A cross-section of a ditch with compacted soil walls.
- TYPICAL CONCRETE LINED DITCH:** A cross-section of a ditch with a concrete lining.
- TYPICAL VEE CROSS-SECTIONS:** Two cross-sections of a V-shaped ditch, one with compacted soil walls and one with a concrete lining.
- PARABOLIC WATERWAY CROSS-SECTION:** A cross-section of a parabolic waterway with a width  $T$  and depth  $D$ .
- TYPICAL RURRAP CHANNEL:** A cross-section of a channel with a Rurrap lining, showing a width  $W$  and depth  $D$ . A note indicates a 1' DIA. W. HOLE, 8" o.c. for the Rurrap lining.
- TYPICAL CONCRETE CHANNEL:** A cross-section of a concrete channel with a width  $W$  and depth  $D$ . A note indicates a 1' DIA. W. HOLE, 8" o.c. for the concrete channel.
- EXPANSION JOINT (90° SPACING):** A detail of an expansion joint in a concrete channel, showing a 90° spacing and a 15" depth.
- NOT TO SCALE:** A note indicating that the expansion joint detail is not to scale.
- SECTION A-A:** A cross-section of a trapezoidal waterway with a width  $W$  and depth  $D$ . A note indicates a 1' DIA. W. HOLE, 8" o.c. for the concrete channel.
- TRAPEZOIDAL WATERWAY CROSS-SECTIONS:** A cross-section of a trapezoidal waterway with a width  $W$  and depth  $D$ .

SOURCE: VA. DSWC

PLATE 3.17-1

2 ACRES OR LESS OF DRAINAGE AREA:

6'

3'

FILTER CLOTH (OPTIONAL)

(DOWNSTREAM VIEW)

VDOT #1  
COARSE AGGREGATE

FLOW

2-1

3'

2-10 ACRES OF DRAINAGE AREA:

6'

3'

FILTER CLOTH (OPTIONAL)

(DOWNSTREAM VIEW)

VDOT #1  
COARSE AGGREGATE

FLOW

2-1

3'

CLASS 1 RIPRAP

SOURCE: VA, DSWC

PLATE. 3.20-1

The diagram illustrates the specific application of inlet protection. The top part shows a plan view of a structure with a concrete block wall, gravel filter, and wire screen. The bottom part shows a cross-section of the structure with labels for runoff water with sediment, overflow, wire screen, filtered water, sediment, and drop inlet with gate.

\* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

SOURCE: VA. DSWC

PLATE 3 07-3

The diagram illustrates the construction and storage requirements for a wet storage area. The top portion is a perspective view of a trapezoidal structure. The top surface is covered with 'CLASS I RIP RAP'. The side slopes are covered with 'VDOT #3, #357 or #5 COARSE AGGREGATE'. A 'RIPRAP HEADWALL' is located at the top right. A 'PIPE INVERT' is shown as a circle with an arrow indicating 'FLOW' direction. The bottom of the structure is labeled 'SEDIMENT STORAGE AREA'. Arrows indicate the 'FLOW' direction into and out of the structure. The bottom portion is a cross-section view. It shows a trapezoidal structure with a top width of 1' and a bottom width of 2'. The height is 3'. The side slope is labeled '2:1'. The top surface is 'CLASS I RIPRAP'. The bottom is 'VDOT #3, #357, or #5 COARSE AGGREGATE'. A 'PIPE INVERT' is shown at the bottom. A 'RIPRAP HEADWALL' is shown on the right. The 'NATURAL GROUND' is shown as a dashed line. The 'FLOW' direction is indicated by an arrow. A note indicates 'AREAS TO BE DISTURBED (OUT, FILLED, ETC.)' on the left. A note at the bottom indicates 'MAX SEDIMENT DEPTH (CLEAN OUT POINT) AT 1/2 VOLUME OF WET STORAGE AREA'.

\* STORAGE REQUIREMENTS EQUIVALENT TO THAT OF TEMPORARY SEDIMENT TRAP, STD & SPEC 3.13

67 CY/ACRE WET STORAGE (BELOW BASE OF STONE)

67 CY/ACRE DRY STORAGE (BASE OF STONE TO TOP OF STONE BERM)

**PERSPECTIVE VIEW**

CLASS I RIP RAP

RIPRAP HEADWALL

PIPE INVERT

SEDIMENT STORAGE AREA

VDOT #3, #357 or #5 COARSE AGGREGATE

FLOW

AREAS TO BE DISTURBED (OUT, FILLED, ETC.)

FLOW

1'

2'

2:1

3'

CLASS I RIPRAP

VDOT #3, #357, or #5 COARSE AGGREGATE

RIPRAP HEADWALL

NATURAL GROUND

FLOW

MAX SEDIMENT DEPTH (CLEAN OUT POINT) AT 1/2 VOLUME OF WET STORAGE AREA

### PERSPECTIVE VIEW

### ELEVATION

0227016

**ANCHOR SLOT**

**NOTES**

APPROXIMATELY 200 STAPLES REQUIRED PER 100 SQ. YDS. OF MATERIAL ROLL.

ANCHOR SLOTS, JUNCTION SLOTS & CHECK SLOTS TO BE BURIED 6" TO 12".

12" MAX. 4:1 OR FLATTER  
6" MAX. STEEPER THAN 4:1

EDGE AND END JOINTS TO BE SNUGLY ABUTTED  
(JUTE MESH WILL HAVE STAPLED LAP JOINT IN LIEU OF EDGE JOINT)

JUNCTION SLOT

CHECK SLOT\*

TERMINAL FOLD

LAP JOINT 2" MIN. (JUTE MESH ONLY)

TAMP FIRMLY

ANCHOR SLOT

2"

6" TO 12"

5" MAX. 4:1 OR FLATTER  
3" MAX. STEEPER THAN 4:1

\*CHECK SLOT

1" TO 2"

6" TO 8" MIN.

VAR. VAR.

PLAN VIEW

STAPLING DIAGRAM

\*CHECK SLOTS AT MIN. 8" C-C INTERVALS.

8" STAPLE MIN. LENGTH FOR SANDY SOIL NOT REQ'D WITH ALL 6" STAPLE MIN. LENGTH FOR OTHER SOIL COMBINATIONS

JUNCTION SLOT

2"

12"

TAMP FIRMLY

6" TO 12"

TERMINAL FOLD

4"

TAMP FIRMLY

2"

0227014

PERSPECTIVE VIEW

NOTE: ALL TEMPORARY BERMS, SWALES AND LEVEL SPREADER DITCH MUST RECEIVE TEMPORARY SEEDING IMMEDIATELY AFTER INSTALLATION

0227012

DETAIL

	1
N.T.S.	D.3

				DESIGNED	H & S
				DRAWN	H & S
				CHECKED	
3	RECORD DRAWING	JAN 2006	RLT	PROJ. ENGR.	H & S
2	CONSTRUCTION	JAN 2004	RLT		
1	REGULATORY APPROVAL	NOV 2003	RLT		
NO.	ISSUED FOR	DATE	BY	APPROVED	

PLOT DATE	01/16/04 8:16am	FILE=	H:\30788\30788C\STD-DWGSS\d03	by	RBATCHLOR	XREF=	30788C\mlec\30788C\
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DESIGNED \_\_\_\_\_ H & S  
DRAWN \_\_\_\_\_ H & S  
CHECKED \_\_\_\_\_  
PROJ. ENGR. \_\_\_\_\_ H & S  
APPROVED \_\_\_\_\_

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CITY OF ROANOKE  
VIRGINIA

## REGIONAL WATER POLLUTION CONTROL PLANT PROCESS TRAIN IMPROVEMENTS

## MISCELLANEOUS STANDARD DETAILS

THE SCALE BAR	DATE JANUARY 2004
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THE SCALE BAR	DATE JANUARY 2004
SHOWN BELOW	H & S JOB
MEASURES ONE	NUMBER 30788C

INCH LONG ON THE ORIGINAL DRAWING.	CONTRACT NUMBER	DRAWING NUMBER
	C	D3