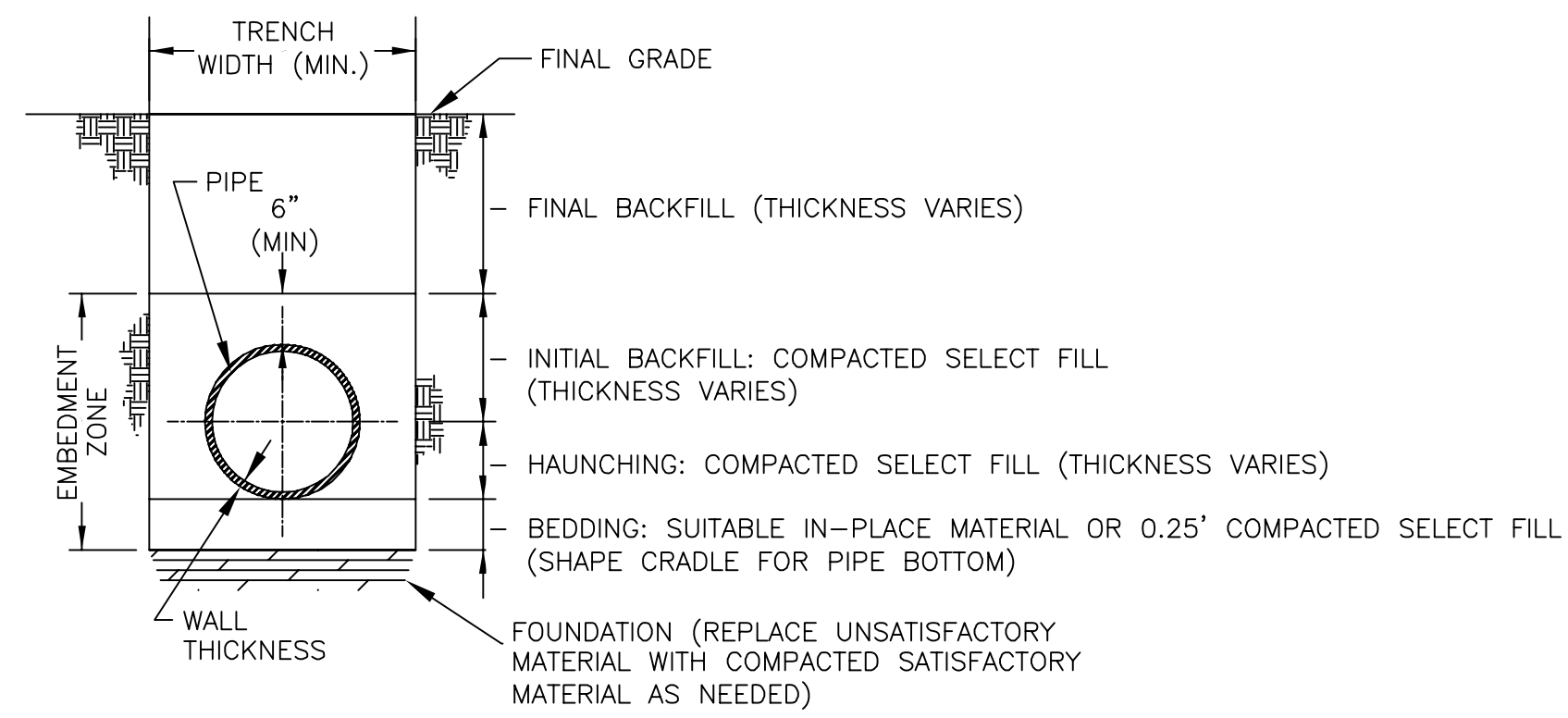
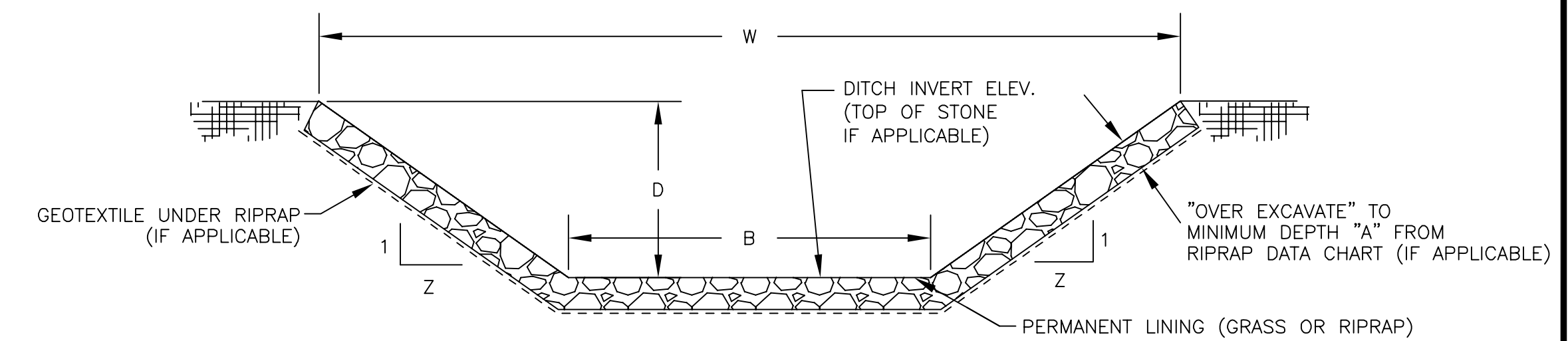


11 CULVERT #1 & LEVEL SPREADER DETAIL
NTS



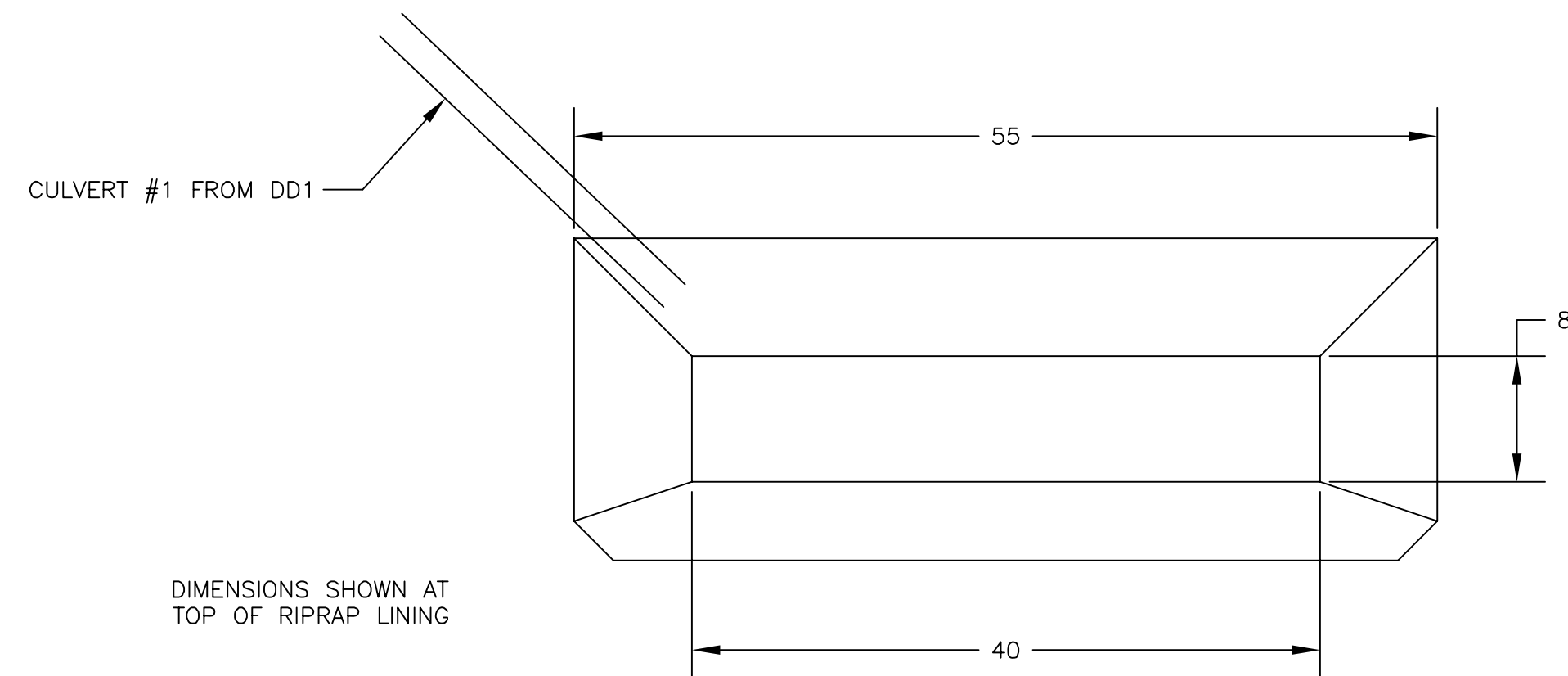
PIPE INSTALLATION TABLE								
PIPE	DESCRIPTION	TYPE	NOM. PIPE SIZE (IN.)	WALL THICKNESS (FT)	OD. (FT)	HAUNCHING (FT)	INITIAL BACKFILL (FT)	TRENCH WIDTH (FT)
ALD	ALD OUTLET PIPE	SCH 40 PVC	6	0.02	0.55	0.28	0.78	1.9
VFP	VFP OUTLET PIPES	SCH 40 PVC	4	0.02	0.37	0.19	0.69	5.8
PIPE #1	POND D TO VFP	N-12 WT PE	15	0.15	1.48	0.74	1.24	3.0
CULVERT #1	DD1 TO LEVEL SPREADER	N-12 ST PE	24	0.16	2.30	1.16	1.66	4.0

NOTES:
VFP PIPE SHALL HAVE 4 4" SCH 40 PVC PIPES PLACED 12" APART IN SINGLE 5.8' WIDE TRENCH WITH APPX. 8" (MIN.) SPACE FROM TRENCH WALL TO OUTSIDE OF OUTSIDE PIPES - SEE ALSO DETAILS #2, #3 & #5.

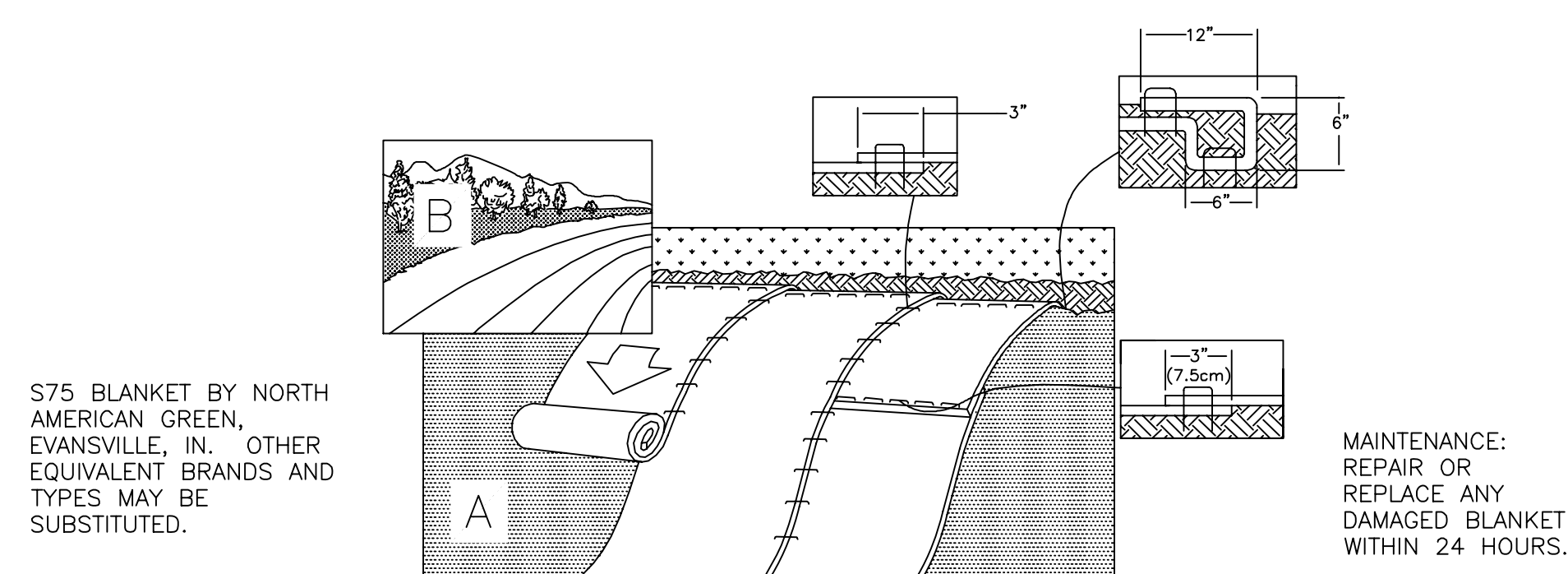


SPILLWAY/DITCH/CHANNEL DATA TABLE												
DITCH/SPILLWAY	SEGMENT	STATIONS	BEGIN ELEV (DITCH INVERT)	END ELEV (DITCH INVERT)	SLOPE (%)	Z (FT)	D (FT)	B (FT)	W (FT)	TEMP. LINING	PERM. LINING	
DD1	-	0+00 TO 4+95	933.0	952.0	3.8	≥2	≥1.7	2.0	≥8.8	MULCH BLANKET	GRASS	
CHANNEL 1	-	0+00 TO 2+80	933.0	942.0	3.2	2.5	2.0	5.0	15.0	NA	R-3	
CHANNEL 2	A	0+00 TO 1+16	930.0	930.0	0	2	6.0	10.0	34.0	NA	GRASS/WATER	
CHANNEL 2	B	1+16 TO 1+33	930.0	936.0	35	2	2.0	10.0	18.0	NA	R-4	
CHANNEL 2	C	1+33 TO 1+43	936.0	936.0	0	2	2.0	10.0	18.0	NA	R-4	
POND D	A	0+00 TO 0+28	923.5	934.0	38	2	1.0	10.0	14.0	NA	R-4	
POND D	B	0+28 TO 0+46	934.0	934.0	0	5	2.0	10.0	30.0	NA	GRASS	
VFP	A	0+00 TO 0+28	923.5	934.0	38	2	1	6.0	10.0	NA	R-4	
VFP	B	0+28 TO 0+43	934.0	934.0	0	4	1	10.0	18.0	NA	GRASS	
WL	-	0+00 TO 1+20	923.5**	912.0	9.6	4	1*	10.0	18.0*	NA	R-4	

*DEPTH TO TOP OF RIPRAP-LINED PORTION OF SPILLWAY, CHANNEL EXTENDS TO TOP OF BERM AT SIDE SLOPES SHOWN, CHANNEL ABOVE RIPRAP LINED PORTION TO BE GRASS LINED; TOP WIDTH SHOWN BASED ON 1.0' RIPRAP LINED CHANNEL DEPTH - ACTUAL TOP WIDTH OF GRASS-LINED PORTION VARIES.
**HAND STACK APPX. 1' HIGH X 2' WIDE RIPRAP "CHECK DAM" AT INLET OF WETLAND SPILLWAY TO ACHIEVE APPX. DESIGN WATER LEVEL OF 924.5



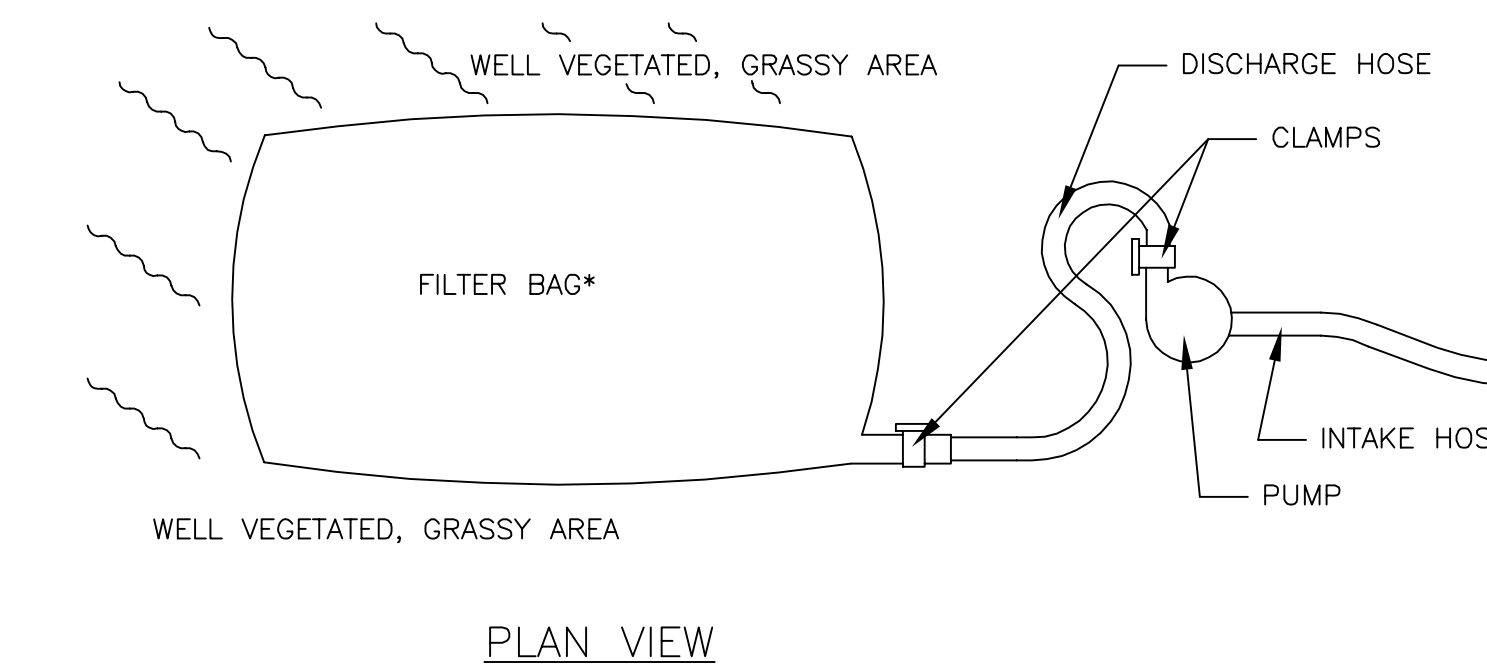
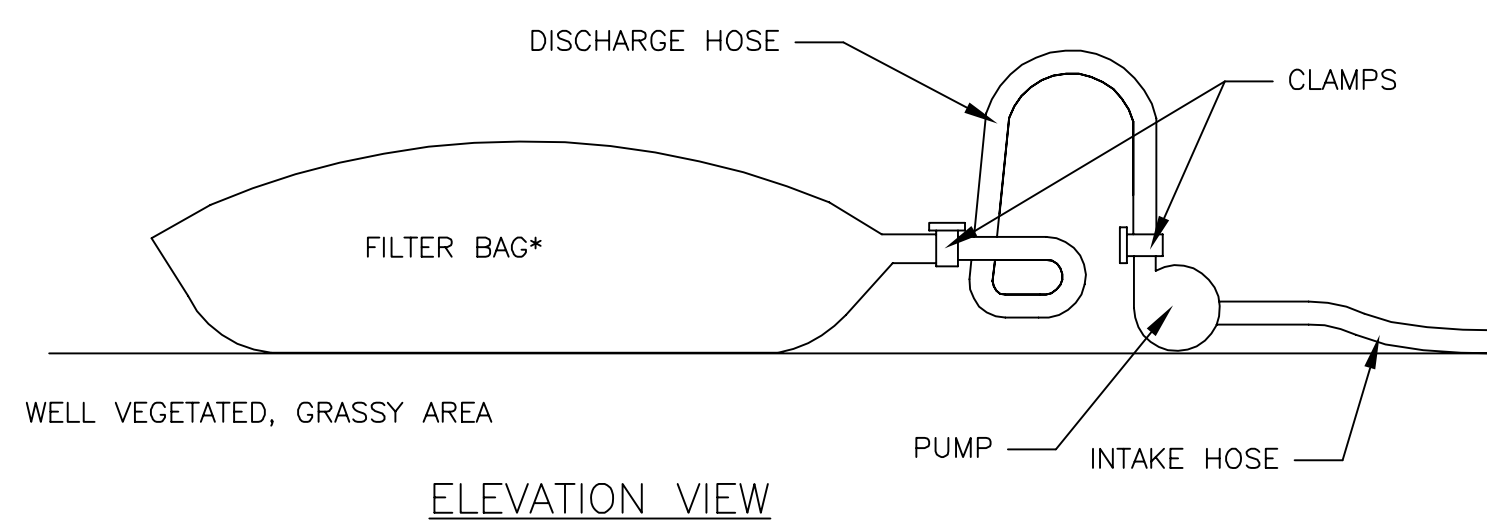
12 LEVEL SPREADER DETAIL
SCALE: 1" = 10'



13 MULCH BLANKET DETAIL
NTS

- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPS), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPS IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECPS EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPS WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECPS BACK OVER SEED AND COMPACTED SOIL. SECURE RECPS OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECPS.
- ROLL THE RECPS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. (RECPS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE.) ALL RECPS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN ON THE STAPLE PATTERN GUIDE.
- THE EDGES OF PARALLEL RECPS MUST BE STAPLED WITH APPROXIMATELY 3" OVERLAP.
- CONSECUTIVE RECPS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 5" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECPS WIDTH.

* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECPS.



FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED 'J' TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.

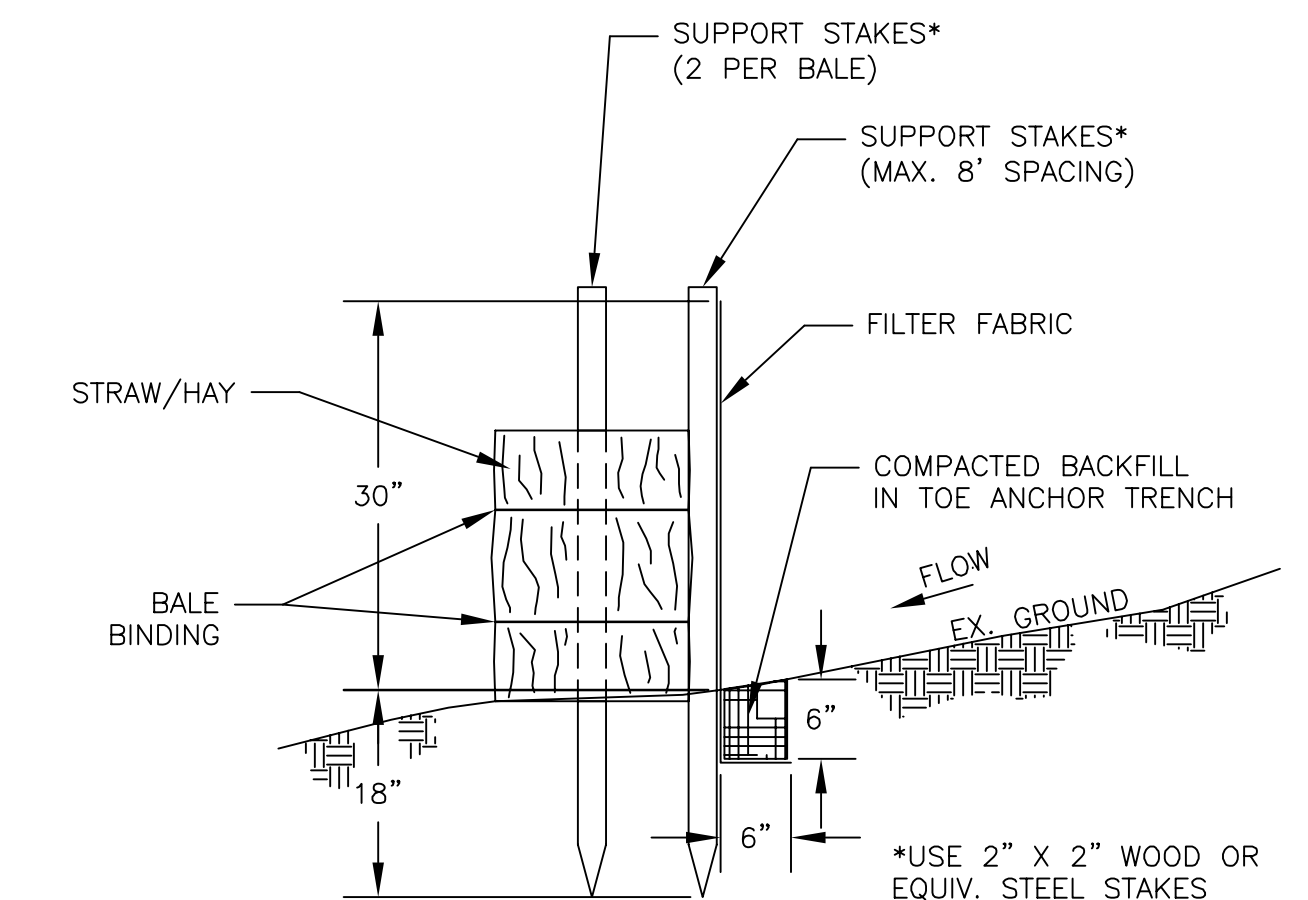
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHOULD BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

14 PUMPED WATER FILTER BAG TYPICAL
NTS

16 SPILLWAY/DITCH/CHANNEL DETAIL
NTS



FILTER FABRIC FENCE MUST BE INSTALLED AT EXISTING LEVEL GRADE. BOTH ENDS OF EACH FENCE SECTION MUST BE EXTENDED AT LEAST 8 FEET UPSLOPE AT 45° TO THE MAIN FENCE ALIGNMENT.

SEDIMENT MUST BE REMOVED WHERE ACCUMULATIONS REACH 1/2 ABOVE GROUND HEIGHT OF FENCE.

ANY FENCE SECTION THAT HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPAIRED.

17 STRAW BALE-REINFORCED SILT FENCE DETAIL
NTS

RIPRAP DATA CHART		
NCSA #	AVG STONE SIZE (d50)	MIN DEPTH "A"
R-2	1 1/2"	3"
R-3	3"	6"
R-4	6"	12"
R-5	9"	18"
R-6	12"	24"
R-7	18"	30"
R-8	24"	36"

SHEET 5 of 6

DETAILS

Details & Typical

PENNSYLVANIA DEPARTMENT of ENVIRONMENTAL PROTECTION

DUGAN #2 PASSIVE TREATMENT SYSTEM

SMP# 14663003

TROUT RUN SUBWATERSHED, MOSHANNON CREEK WATERSHED
RUSH TOWNSHIP, CENTRE COUNTY, PA
Scale: As Shown December 2008

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