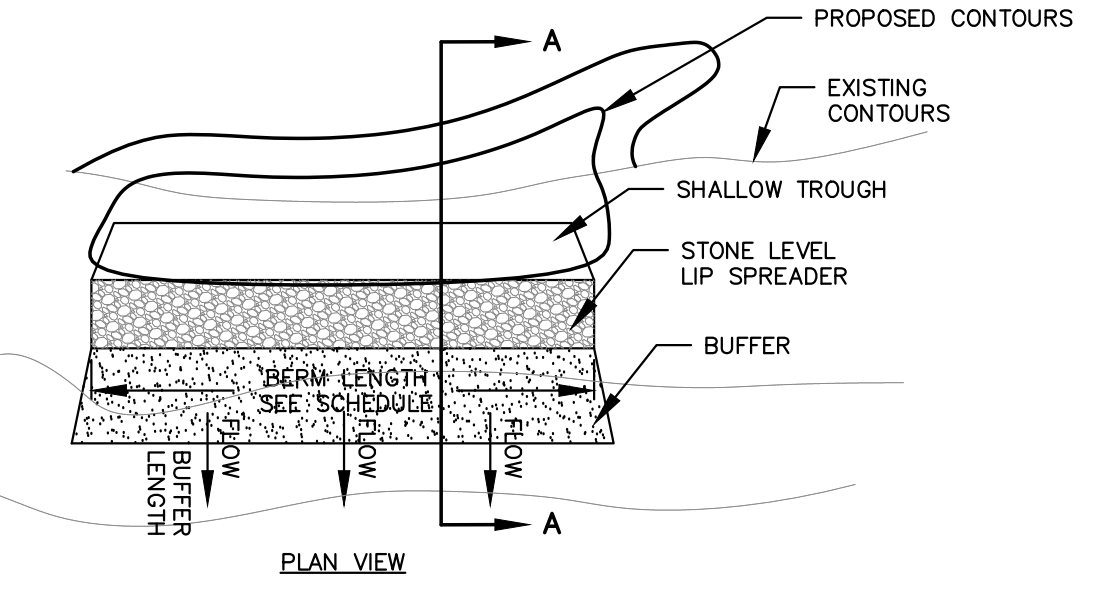
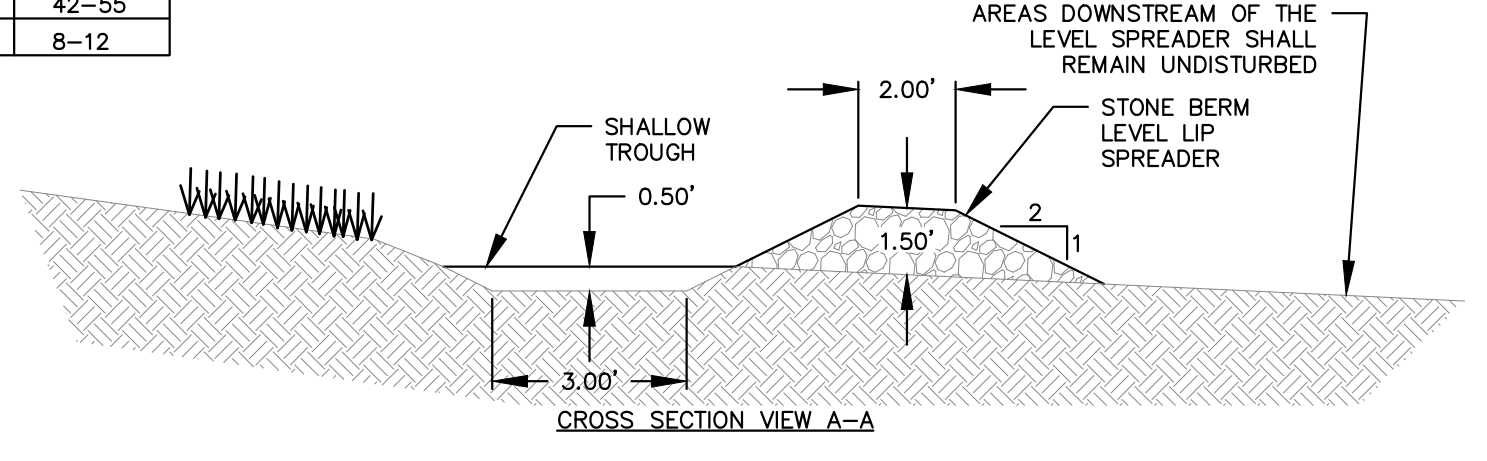


- NOTE:**
- STONE LEVEL LIP SPREADER MUST CONSIST OF DURABLE ROCK THAT WILL NOT DISINTEGRATE BY EXPOSURE TO WATER OR WEATHER.
  - ROCK MUST BE WELL GRADED WITHIN THE LIMITS OF THE TABLE BELOW.
  - VEGETATED BUFFER FOLLOWING THE STONE BERM LEVEL LIP SPREADER THAT IS LOCATED ON A FILL SLOPE OR ON A RESHAPED SLOPE MUST BE ISOLATED FROM STORMWATER RUNOFF UNTIL DENSE VEGETATION IS ESTABLISHED OR THE BUFFER AREA MUST BE PROTECTED BY 3-IN LAYER OF EROSION CONTROL MIX OR OTHER APPROPRIATE WOODWASTE MATERIALS.
  - INSPECTION OF THE TURN-OUT STONE BERM LEVEL LIP SPREADERS BY A PROFESSIONAL ENGINEER, FROM THE INITIAL GROUND DISTURBANCE TO FINAL STABILIZATION THE TURN OUTS MUST BE INSPECTED FOR BERM ORIENTATION, BERM MATERIAL AND PLACEMENT. WITHIN 30 DAYS OF PROJECT COMPLETION, THE APPLICANT MUST SUBMIT INSPECTION LOGS ALONG WITH THE SUPPORTING DOCUMENTS TO THE BUREAU OF LAND RESOURCES FOR REVIEW.



Sieve Size	% by Weight
12 in	100
6 in	84-100
3 in	68-83
1 in	42-55
#4	8-12



**STONED BERMED LEVEL LIP SPREADER DETAIL**  
NOT TO SCALE

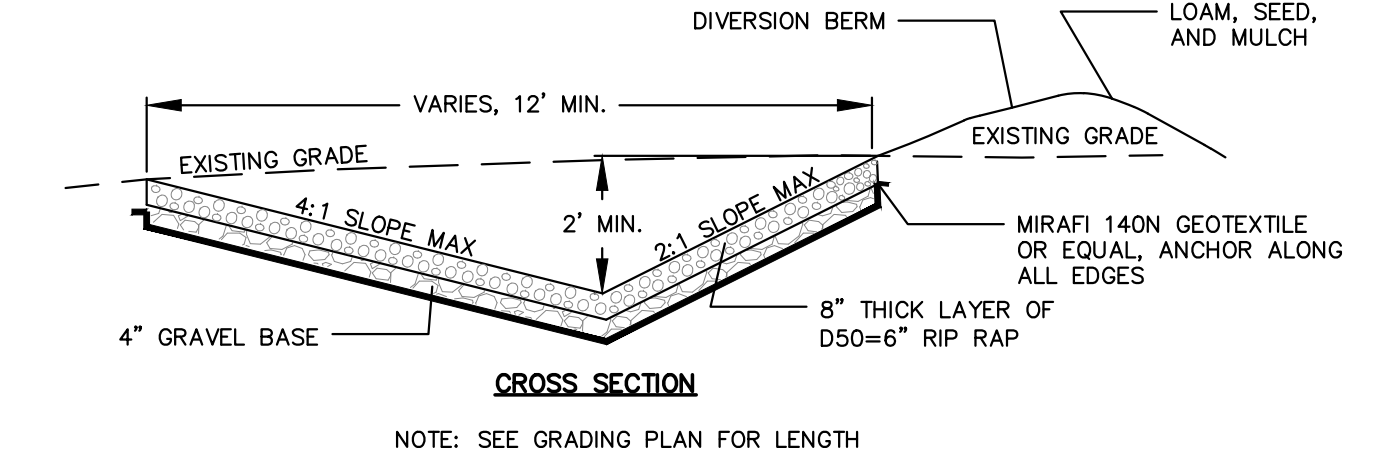
**Stone Berm Level Lip Spreader Sizes with Buffers**

**Sebasticook River Watershed**

BMP Type & #	Roadway Align. or Turbine Site	Berm Length (ft)	Buffer Length (ft)
BL3	Main Road 0	41	150
BL4	Main Road 0	55	150
BL5	Main Road 0	23	150
BL6	Main Road 0	81	150
BL7	Main Road 0	10	150
BL8	Main Road 0	46	150
BL9	Main Road 0	45	150
BL10	Main Road 0	21	150
BL11	Inverter Pad 4	59	150
BL12	Inverter Pad 5	52	150
BL13	Main Road 0	58	150
BL14A	Main Road 0	13	150
BL14	Main Road 0	10	150
BL15	Main Road 0	36	150
BL16	Main Road 0	107	150
BL17	Main Road 0	37	150
BL17A	Main Road 0	16	150
BL18	Main Road 0	38	150
BL19	Main Road 0	59	150
BL20	150 Road	34	150
BL21	150 Road	14	150
BL22	150 Road	21	150
BL23	150 Road	21	150
BL24	150 Road	44	150
BL25	150 Road	26	150
BL26	150 Road	22	150
BL27	150 Road	22	150
BL28	150 Road	15	150
BL29	150 Road	20	150
BL30	150 Road	22	150
BL31	150 Road	53	150
BL32	150 Road	38	150
BL33	150 Road	23	150
BL34	Inverter Pad 21	6	150
BL36	Inverter Pad 23	71	150
BL38	150 Road	21	150
BL39	150 Road	18	150
BL40	400 Road	40	150
BL41	400 Road	28	150
BL42	400 Road	40	150
BL43	400 Road	25	150
BL43A	600 Road	56	150

**Culvert and Level Spreader Sizes without Buffers**

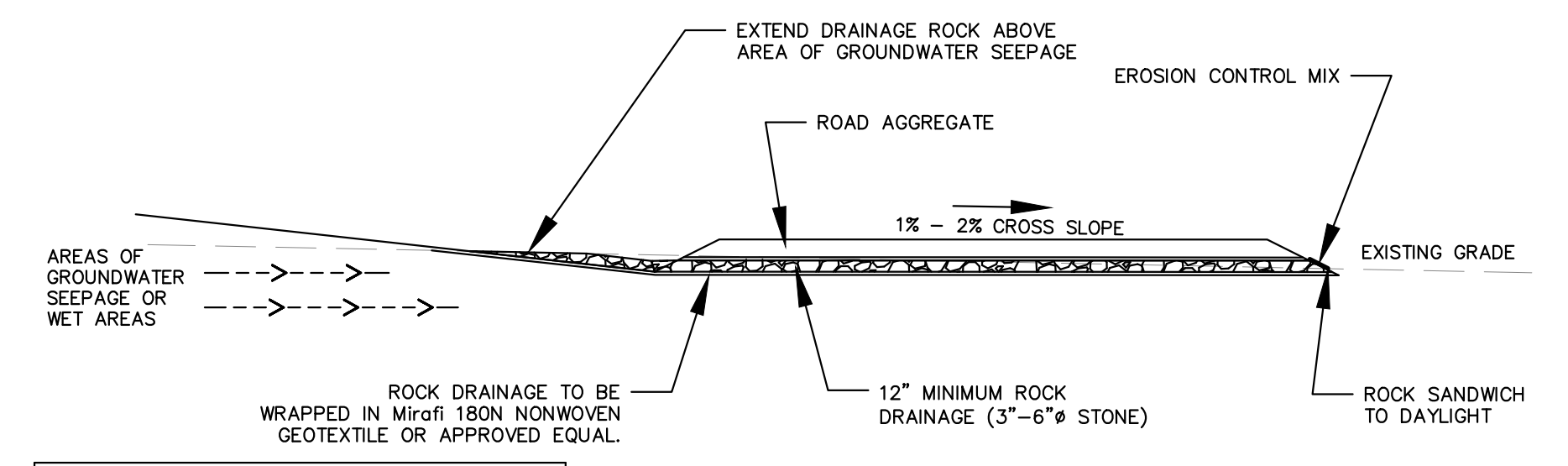
Road Name	Culvert ID	CL Station	Drainage Area (acres)	Culvert Diameter (in)	Level Spreader Length (ft)
500 Road		502+40 Left	0.1		5
500 Road	Culvert 1	502+95	4.2	18	21
500 Road	Culvert 2	507+65	4.6	18	23
500 Road	Culvert 3	518+25	1.8	15	10
500 Road		523+75 Left	0.1		5
500 Road	Culvert 4	525+15	2.9	15	16
Main Rd 0	Culvert 5	0+35	5.4	18	N/A
Main Rd 0	Culvert 6	2+00 Left	0.8	12	N/A
Main Rd 0	Culvert 7	6+15	2.0	12	See BL4
Main Rd 0	Culvert 8	6+50 Left	1.4	12	N/A
Main Rd 0	Culvert 9	15+05	0.4	12	10
Main Rd 0	Culvert 10	16+75	2.9	15	See BL6
Main Rd 0	Culvert 11	22+00 Left	1.7	12	N/A
Main Rd 0	Culvert 12	31+50	0.6	12	See BL5
Main Rd 0	Culvert 13	34+65	0.4	12	N/A
Main Rd 0	Culvert 14	37+90	3.6	18	21
Main Rd 0	Culvert 15	43+60	1.4	12	See BL8
Main Rd 0	Culvert 16	54+10	2.3	15	See BL9
Main Rd 0	Culvert 17	62+95	5.4	18	See BL11
Main Rd 0	Culvert 18	69+50	1.4	12	See BL12
Main Rd 0	Culvert 19	75+30	2.2	15	14
Main Rd 0	Culvert 20	78+45	2.5	15	See BL13
Main Rd 0	Culvert 21	88+25	1.3	12	See BL15
Main Rd 0	Culvert 22	98+10	9.1	24	See BL16
Main Rd 0	Culvert 23	103+60	3.6	15	See BL17
Main Rd 0		115+50 Left	0.1		5
Main Rd 0	Culvert 24	117+40	2.2	15	See BL17A
Main Rd 0	Culvert 25	123+00	6.0	24	See BL18
Main Rd 0		129+50 Left	0.3		5
300 Road		301+25 Right	0.3		5
300 Road	Culvert 26	306+85	3.0	15	17
300 Road	Culvert 27	311+05	2.3	15	13
300 Road	Culvert 28	313+30	6.6	2-18	2-19
300 Road	Culvert 29	316+75	2.6	15	16
300 Road	Culvert 30	319+75	3.6	18	20
300 Road	Culvert 31	322+00	3.8	18	20
300 Road		322+40 Right	0.1		5
300 Road	Culvert 32	324+55	3.7	18	20
300 Road	Culvert 33	327+50	3.1	18	17
300 Road	Culvert 34	330+00	4.8	18	25
300 Road	Culvert 35	333+65	2.7	15	14
300 Road	Culvert 36	339+00	3.0	18	21
300 Road	Culvert 37	339+40	4.2	18	22
300 Road	Culvert 38	342+25	7.3	2-18	2-19
300 Road	Culvert 39	346+20	1.6	12	10
300 Road	Culvert 40	350+00	3.3	15	21
300 Road	Culvert 41	352+50	2.5	12	14
150 Road	Culvert 42	150+30	0.4	12	See BL3
150 Road	Culvert 43	155+20	3.0	15	See BL20
150 Road		162+50 Left			5
150 Road		164+25 Left			5
150 Road	Culvert 44	163+10	4.6	3-12	20
150 Road	Culvert 45	172+90	0.6	12	See BL24
150 Road	Culvert 46	178+75	1.9	12	See BL25
150 Road	Culvert 47	182+00	3.2	15	See BL26
150 Road	Culvert 48	202+60	2.7	15	16
150 Road	Culvert 49	204+10	0.3	12	See BL29
150 Road	Culvert 50	209+00	0.1	12	See BL30
150 Road		211+00 Left	0.1		5
150 Road	Culvert 51	211+60	26.1	4-18	Rock Sandwich
150 Road	Culvert 52	213+60	4.3	18	See BL31
150 Road	Culvert 53	218+70	0.1	12	N/A
150 Road	Culvert 54	219+80	2.7	15	See BL32
150 Road	Culvert 55	229+35	2.7	15	See BL33
150 Road	Culvert 56	241+10	1.4	12	See BL34
150 Road	Culvert 57	246+45	4.8	18	22
150 Road	Culvert 58	249+85	1.7	12	10
150 Road	Culvert 59	253+90	8.1	24	See BL36
150 Road	Culvert 60	263+80	0.5	12	10
150 Road	Culvert 61	266+45	1.6	12	10
150 Road	Culvert 62	273+00	0.4	12	See BL38
150 Road	Culvert 63	282+50	11.5	3-15	Rock Sandwich
150 Road	Culvert 64	287+00	3.0	15	13
150 Road	Culvert 65	289+75	4.3	18	18
400 Road	Culvert 66	404+25	8.4	2-18	2-19
400 Road	Culvert 67	409+25	5.3	18	24
400 Road	Culvert 68	412+25	2.6	15	12
400 Road	Culvert 69	419+25	6.5	24	31
400 Road	Culvert 70	428+75	7.5	24	32
400 Road	Culvert 71	430+50	4.6	18	22
400 Road	Culvert 72	434+25	5.1	18	24
400 Road	Culvert 73	439+05	3.9	18	18
400 Road		441+94	2.1		15
600 Road	Culvert 74	607+60	1.3	12	See BL43A
600 Road	Culvert 75	615+00	4.0	18	See BL42
700 Road	Culvert 76	704+50	2.6	12	16
800 Road	Culvert 77	800+40	3.1	15	15
800 Road		807+69 Left	1.0		10
900 Road		906+28 Left	4.3		18



**LEVEL SPREADER NOTES**

- ALL LEVEL SPREADERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION.
- ALL LEVEL SPREADERS SHALL BE CONSTRUCTED IN A CUT SECTION, I.E. THERE SHALL BE NO EARTH FILL ALONG DOWNSTREAM EDGE.
- ALL LEVEL SPREADERS SHALL BE ALIGNED PARALLEL TO THE EXISTING CONTOURS.
- THE ENTRANCE DITCH TO THE LEVEL SPREADER SHALL HAVE A MAXIMUM GRADE OF 1.0% FOR AT LEAST 50 FEET IMMEDIATELY PRIOR TO ENTERING THE SPREADER.
- THE LEVEL SPREADER SHALL HAVE A LONGITUDINAL GRADE OF 0.0%

**TYPICAL LEVEL SPREADER**  
NOT TO SCALE

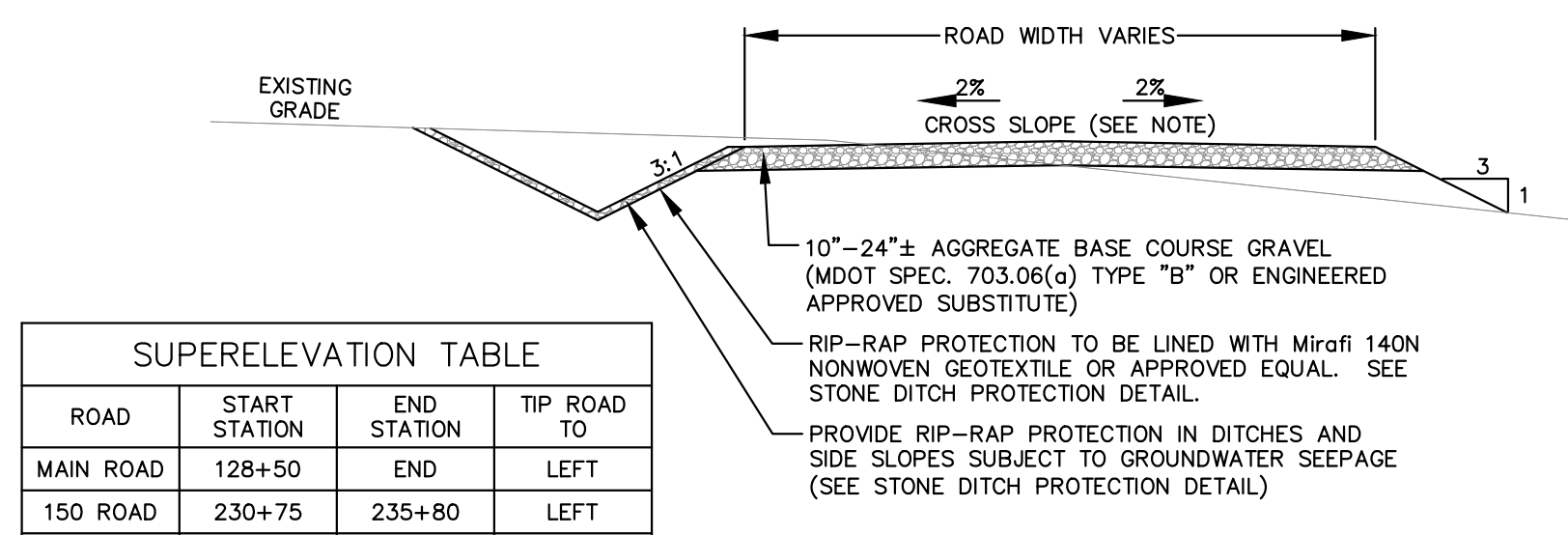


**ROCK SANDWICH LOCATIONS**

START STATION	END STATION
162+25.00	163+75.00
211+00.00	212+25.00
281+75.00	283+25.00

- NOTE:**
- ROCK SANDWICHES SHALL BE CONSTRUCTED WITH RELIEF CULVERTS INSTALLED PERIODICALLY (AS NEEDED). INVERT OF RELIEF CULVERT SHALL BE A MINIMUM OF 6" ABOVE THE ROCK DRAINAGE LAYER. ADJUST INLET INVERT AND ROCK SANDWICH ELEVATION AS REQUIRED TO MAINTAIN APPROPRIATE COVER OVER CULVERT.
  - ROCK SANDWICH TYPICALLY UTILIZED IN ROADWAYS TRaversing AREAS WITH SHALLOW GROUNDWATER OR AS SHOWN ON PLANS.

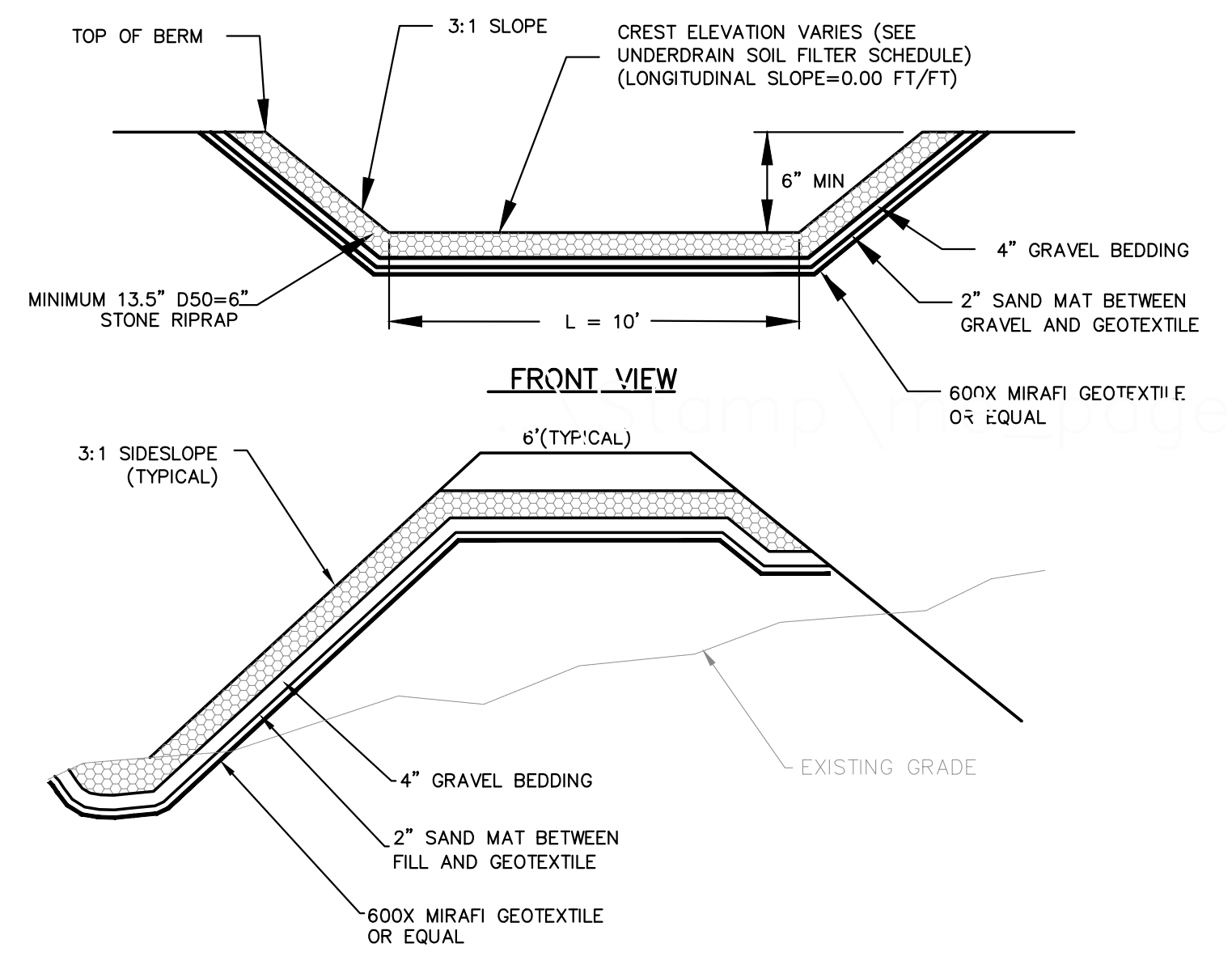
**TYPICAL ROCK SANDWICH DETAIL**  
NOT TO SCALE



**SUPERELEVATION TABLE**

ROAD	START STATION	END STATION	TIP ROAD TO
MAIN ROAD	128+50	END	LEFT
150 ROAD	230+75	235+80	LEFT
150 ROAD	238+00	252+30	RIGHT
150 ROAD	253+75	270+20	LEFT
300 ROAD	300+12	359+25	RIGHT
400 ROAD	400+00	441+82	LEFT
500 ROAD	500+12	529+30	LEFT
700 ROAD	700+10	708+20	RIGHT
800 ROAD	800+12	807+69	RIGHT
900 ROAD	902+00	906+28	LEFT

**TYPICAL ROAD DETAIL**  
NOT TO SCALE

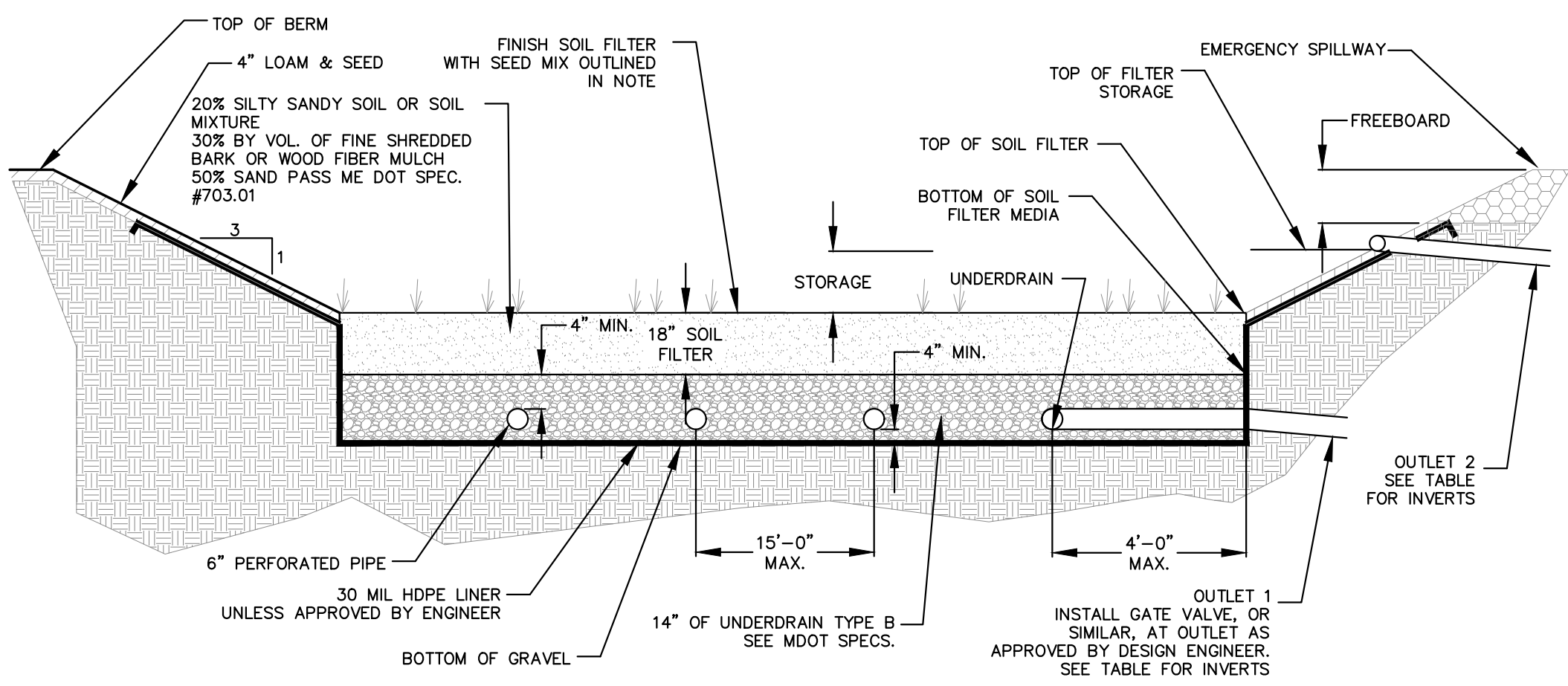


**EMERGENCY SPILLWAY DETAIL**  
NOT TO SCALE

**DRAFT NOT FOR CONSTRUCTION**

**GENERAL NOTES FOR UNDERDRAIN FILTER BASINS:**

- CONSTRUCTION SEQUENCE:**
- THE SOIL FILTER MEDIA AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING AREA IS DIVERTED AROUND THE FILTER INTO A TEMPORARY BASIN FOR SEDIMENT REMOVAL UNTIL STABILIZATION IS COMPLETED.
- COMPACTION OF SOIL FILTER:**
- FILTER SOIL MEDIA AND UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST TWO LIFTS OF 8 INCHES TO PREVENT POCKETS OF LOOSE MEDIA.
- CONSTRUCTION OVERSIGHT: INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:**
- AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED.
  - AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA.
  - AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED. BIO-RETENTION CELLS MUST BE STABILIZED PER THE PROVIDED PLANTING SCHEME AND DENSITY FOR THE CANOPY COVERAGE OF 30 AND 50%.
  - WITHIN 30 DAYS OF COMPLETION OF THE UNDERDRAINED FILTER BASIN, THE APPLICANT MUST SUBMIT A LOG OF INSPECTION REPORTS DETAILING THE ITEMS INSPECTED, PHOTOS TAKEN, AND THE DATES OF EACH INSPECTION TO THE BUREAU OF LAND RESOURCES FOR REVIEW.
  - AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS, AND ALL MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY TO SHOW THAT THEY HAVE PASSED DEP SPECIFICATIONS.
- TESTING AND SUBMITTALS:**
- THE CONTRACTOR SHALL IDENTIFY THE LOCATION AND SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:
    - SELECT SAMPLES FOR SAMPLING OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.
    - PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COURSE AGGREGATES 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL. THE RESULTING SOIL FILTER MEDIA MIXTURE MUST HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT OF ORGANIC MATTER.
    - PERFORM A PERMEABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90-92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698.
- OUTLET VALVE SETTINGS:**
- SET VALVE AT THE OUTLET TO THE CLOSED POSITION.
  - INSPECT SOIL FILTER AFTER RAIN EVENT. ONCE THE SOIL FILTER IS FULL OF WATER OPEN THE VALVE. NOTE THE TIME THAT THE VALVE WAS OPENED AND THE POSITION OF THE VALVE.
  - CHECK THE SOIL FILTER 24 HOURS AFTER THE VALVE WAS OPENED. AT THE 24 HOUR MARK WATER SHOULD STILL BE COMING OUT OF THE OUTLET.
  - CHECK THE FILTER AGAIN IN ANOTHER 24 HOURS (48 HOURS FROM THE VALVE BEING OPENED). AT THIS TIME THERE SHOULD BE NO MORE WATER COMING OUT OF THE OUTLET.
  - THIS PROCESS SHOULD BE REPEATED UNTIL THE VALVE IS AT THE CORRECT POSITION SUCH THAT THE WATER DOES NOT DRAIN FROM THE FILTER BEFORE 24 HOURS BUT IS DRAINED BY 48 HOURS.
  - MARK THE FINAL VALVE POSITION. CONTINUE THE REGULAR INSPECTIONS AND MAINTENANCE.



**ME DOT Specifications for Aggregate (MDOT #703.01)**

Sieve Size	% by Weight
3/4"	100
#4	95-100
#8	80-100
#16	50-85
#30	25-60
#60	10-30
#100	2-10
#200	0-5

**Sandy Loam to Fine Sandy Loam Specifications**

Sieve Size	% by Weight
#4	75-95
#10	60-90
#40	35-85
#200	20-70
200 (clay size)	<2.0

**ME DOT Specifications for Underdrain Type B**

Sieve Size	% by Weight
1"	90-100
1/2"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

	TOP OF BERM	TOP OF SPILLWAY ELEV./LENGTH	TOP OF SOIL FILTER	BOTTOM OF SOIL MEDIA	BOTTOM OF GRAVEL	OUTLET 1 (UD) DIA./LENGTH	OUTLET 1 (UD) ELEV. IN/OUT	OUTLET 2 (SD) DIA./LENGTH	OUTLET 2 (SD) ELEV. IN/OUT
USF 1	215.5	215.00/15 FT	214.00	212.50	211.33	6"/90 FT	211.67/210.77	N/A	N/A
USF 2	215.00	214.50/15 FT	213.50	212.00	210.83	6"/25 FT	211.17/210.92	N/A	N/A

**TYPICAL UNDERDRAIN SOIL FILTER**  
NOT TO SCALE

- NOTE: UNDERDRAIN PIPE DIAMETER SHALL BE 6" UNLESS OTHERWISE NOTED.**
- THE UNDERDRAINED SOIL FILTER MUST BE PLANTED WITH A SPECIES TOLERANT OF FREQUENT INUNDATION SUCH AS A NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AS AVAILABLE FROM NEW ENGLAND WETLAND PLANTS, INC., AMHERST, MA, CONTAINING THE FOLLOWING:
- |                        |                     |
|------------------------|---------------------|
| UPLAND BENTGRASS       | VIRGINIA WILD RYE   |
| CREeping BENTGRASS     | CREeping RED FESCUE |
| FOX SEDGE              | SWITCH GRASS        |
| SOFT RUSH              | LITTLE BLUESTEM     |
| GREEN BULRUSH          | BONESET             |
| WOOL GRASS             | SENSITIVE FERN      |
| GRASS-LEAVED GOLDENROD | BIG BLUESTEM        |
| BLUE VERNAIN           | NIAGRA              |
|                        | NEW ENGLAND ASTER   |
- APPLIED AT A RATE OF 35 LBS./ACRE. LIGHTLY MULCH WITH CLEAN WEED FREE STRAW TO CONSERVE MOISTURE.