

PROJECT REFERENCE NO.	SHEET NO.
R-2233BB	2D-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
8/25/2021	

DETAIL 1 RIP-RAP ENERGY DISSIPATOR BASIN

DIM. (H)	RIP RAP BASIN TYPE				
	A	B	C	D	E
A	2.0	2.0	2.5	2.5	2.0
B	1.5	1.5	2.0	2.5	1.5
C	2.0	2.0	2.0	3.0	2.0
D	1.5	3.0	2.0	1.5	1.0
E	7.5	10	10	7.5	5.0
F	20	25	25	20	15
G	15	25	20	15	10
DDE (CY)	370	105	244	50	15
GEOTEXTILE (SY)	370	70	185	40	20
CL B RIP RAP (TONS)	125	45	55	45	N/A
CL I RIP RAP (TONS)	105	N/A	N/A	N/A	15
CL II RIP RAP (TONS)	25	50	115	N/A	N/A

ALL DIMENSIONS APPROXIMATE

PLAN

SECTION

BASIN #	LOCATION (AT OUTLET)	TYPE	SHEET
1	LPB STA. 17+10 RT (CL B)	B	6
2	L3 STA. 778+92 LT (CL II)	A	6
3	L3 STA. 786+61 LT (CL B)	A	7
4	L3 STA. 808+38 LT (CL I)	A	9
5	L3 STA. 824+15 LT (CL B)	A	10
6	RPD STA. 20+10 RT (CL B)	A	11
7	L3 STA. 866+75 RT (CL I)	E	12
8	L3 STA. 867+11 RT (CL I)	A	12
9	L3 STA. 947+50 RT (CL B)	A	18
10	Y11 STA. 13+52 RT (CL B)	A	18
11	L3 STA. 965+06 LT (CL II)	C	20
12	L3 STA. 990+57 LT (CL B)	C	22
13	Y3 STA. 41+55 RT (CL B)	D	28
14	Y8 STA. 17+60 LT (CL II)	B	31
15	Y10 STA. 18+27 RT (CL II)	C	31
16	Y11 STA. 22+00 LT (CL I)	A	32

DETAIL 7 TOE PROTECTION

(Not to Scale)

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	TON	SY
FROM Y25REV STA. 25+00 TO 25+85 LT	4A	50	97
FROM L3 STA. 888+00 TO 894+00 RT	14	381	725
FROM Y12 STA. 16+50 TO 18+03 LT	15	90	169
FROM Y11 STA. 12+37 TO 12+73 RT	18	21	44
FROM Y11 STA. 13+50 TO 14+51 LT	18, 32	59	115
FROM L3 STA. 980+74 TO 981+51 LT	21	45	114
FROM L3 STA. 981+56 TO 982+00 LT	21	26	60
FROM Y8 STA. 15+50 TO 16+53 RT	31	60	114

DETAIL 11 LATERAL 'V' DITCH

(Not to Scale)

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	CY	TON	SY
FROM Y25REV STA. 26+02 TO 27+94 RT	4,4A	220	88	249
FROM L3 STA. 765+00 TO 767+18 RT	6	2,390	100	282
FROM Y22A STA. 37+50 TO 40+00 RT	29	230	115	324
FROM Y5 STA. 17+50 TO 20+50 LT	13	140	138	388
FROM L3 STA. 885+50 TO 890+46 LT	13, 14	140	228	642

DETAIL 12 TOE PROTECTION

(Not to Scale)

Type of Liner = CL II Rip-Rap

LOCATION	SHEET	TON	SY
FROM L3 STA. 794+00 TO 796+00 RT	7, 8	225	241
FROM L3 STA. 796+02 TO 797+59 LT	8	177	197
FROM L3 STA. 798+00 TO 798+33 RT	8	37	51
FROM L3 STA. 799+00 TO 801+02 LT	8	227	248
FROM L3 STA. 800+00 TO 801+00 RT	8	112	115
FROM L3 STA. 828+71 TO 830+50 LT	10	201	215
FROM Y8 STA. 15+26 TO 15+76 LT	11	56	53
FROM L3 STA. 963+00 TO 963+54 RT	19	61	69
FROM L3 STA. 989+50 TO 990+50 LT	21	112	124
FROM Y6 STA. 26+25 TO 28+50 LT	30	253	260
FROM Y6 STA. 29+63 TO 30+45 RT	30	92	97

DETAIL 8 BERM DITCH

(Not to Scale)

Type of Liner = CL B RIPRAP

LOCATION	SHEET	TON	SY
FROM Y2 STA. 19+11 TO 21+00 LT	23	87	247
FROM Y2 STA. 31+00 TO 33+00 LT	6	92	277
FROM L3 STA. 782+00 TO 782+50 RT	7	23	83
FROM L3 STA. 811+45 TO 812+20 RT	9	35	97
FROM L3 STA. 815+87 TO 822+00 RT	9	282	794
FROM L3 STA. 822+00 TO 824+15 RT	10	99	278
FROM L3 STA. 824+15 TO 826+00 RT	10	85	240

DETAIL 13 LATERAL BASE DITCH

(Not to Scale)

Type of Liner = CL II Rip-Rap

LOCATION	SHEET	CY	TON	SY
FROM L3 STA. 833+00 TO 838+00 RT	10, 11	1954	504	1089

DETAIL 2 LATERAL BASE DITCH

(Not to Scale)

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	CY	TON	SY
FROM L3 STA. 745+00 TO STA. 747+80 LT	4,5	1430	157	425
FROM Y25REV STA. 26+30 TO STA. 28+25 LT	4,4A	320	109	296

DETAIL 5 RIRPAP PAD AT JURISDICTIONAL STREAM

(Not to Scale)

Type of Liner = CL II Rip-Rap

LOCATION	SHEET	TON	SY
FROM L3 STA. 814+83 LT	9	15	92
FROM RPD STA. 18+09 LT	11	29	92
FROM L3 STA. 968+80 LT	20	23	92
FROM L3 STA. 981+50 LT	21	27	92
FROM L3 STA. 995+71 LT	22	23	92
FROM Y6 STA. 10+25 RT	29	29	92
FROM Y6 STA. 32+05 LT	30	15	92
FROM Y11 STA. 22+33 LT	32	15	92

DETAIL 3 TOE PROTECTION

(Not to Scale)

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	TON	SY
FROM LPD STA. 16+22 TO 18+08 RT	11	66	241
FROM LPD STA. 18+70 TO 20+41 RT	11	61	221
FROM RPD STA. 16+71 TO 19+00 RT	11	81	296
FROM RPD STA. 19+92 TO 20+50 RT	11	21	75
FROM L3 STA. 814+50 TO 814+68 RT	9	6	23

DETAIL 6 LATERAL 'V' DITCH

(Not to Scale)

Type of Liner = CL II Rip-Rap

LOCATION	SHEET	CY	TON	SY
FROM L3 STA. 798+16 TO 799+03 LT	8	50	42	170
FROM L3 STA. 801+00 TO 802+01 LT	8	170	47	188
FROM L3 STA. 798+42 TO 800+02 RT	8	70	84	336
FROM L3 STA. 831+47 TO 838+02 LT	10, 11	1050	302	1212
FROM Y18 STA. 16+00 TO 17+51 LT	11	90	76	304
FROM RPD STA. 18+11 TO 26+22 LT	11	970	398	1595
FROM Y11 STA. 11+00 TO 13+50 LT	18	560	116	467
FROM L3 STA. 961+50 TO 965+05 LT	19, 20	320	171	686
FROM L3 STA. 963+56 TO 966+53 RT	19, 20	210	140	561
FROM L3 STA. 966+53 TO 968+52 RT	20	150	94	376
FROM L3 STA. 968+55 TO 971+50 RT	20	520	138	555
FROM L3 STA. 989+50 TO 989+87 RT	21	20	17	68
FROM L3 STA. 995+00 TO 996+69 RT	22	110	83	332
FROM Y6 STA. 20+68 TO 21+41 RT	30	20	31	125
FROM Y11 STA. 20+59 TO 24+13 RT	32	180	172	690

DETAIL 4 STANDARD BASE DITCH

(Not to Scale)

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	CY	TON	SY
FROM RPD STA. 19+02 TO 19+85 RT	11	225	60	142
FROM Y5 STA. 11+75 TO 11+78 RT	13	256	2	49

DETAIL 9 SPECIAL CUT DITCH

(Not to Scale)

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	TON	SY
FROM Y2 STA. 26+22 TO 27+68 RT	6	67	189
FROM Y19 STA. 22+20 TO 27+07 RT	9, 26	224	631
FROM L3 STA. 814+71 TO 816+50 RT	9	82	232
FROM LPD STA. 18+08 TO 18+70 RT	11	29	80
FROM Y22A STA. 35+60 TO 37+00 RT	11, 29	64	181
FROM L3 STA. 883+97 TO 885+50 LT	13	70	198
FROM L3 STA. 890+50 TO 892+00 LT	14	69	194
FROM Y6 STA. 10+00 TO 10+80 LT	29	37	104
FROM Y6 STA. 11+28 TO 13+55 LT	29	104	294
FROM Y10 STA. 19+65 TO 20+50 LT	31	39	110

DETAIL 14 SPECIAL CUT DITCH w/HINGE

(Not to Scale)

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	TON	SY
FROM Y2 STA. 33+50 TO 40+00 LT	6,24	299	698

DETAIL 10 SPECIAL CUT DITCH

(Not to Scale)

Type of Liner = COIR FIBER MAT

LOCATION	SHEET	SY
FROM L3 STA. 776+55 TO 779+50 RT	6	318
FROM L3 STA. 807+66 TO 809+50 RT	8, 9	197
FROM Y7 STA. 14+75 TO 17+75 LT	21	318

DETAIL 15 STANDARD V-DITCH LINING

(Not to Scale)

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	TON	SY
FROM RPD STA. 14+14 TO 16+71 RT	11	124	348
FROM RPD STA. 20+50 TO 23+40 RT	11	130	366
FROM L3 STA. 871+00 TO 871+72 LT	12	38	107
FROM L3 STA. 927+50 TO 927+56 LT	17	16	44
FROM L3 STA. 944+50 TO 944+53 LT	18	22	61