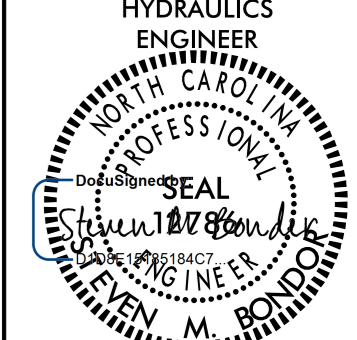


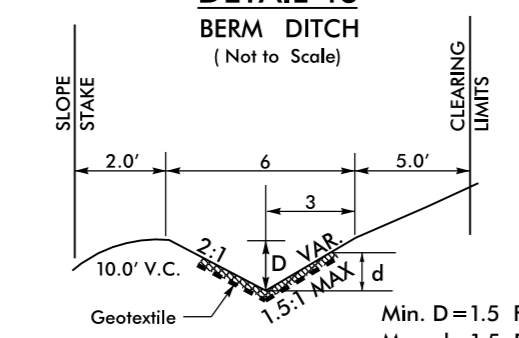
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.883.9329
NC CDA No. F-0029

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



6/14/2021

DETAIL 16
BERM DITCH
(Not to Scale)

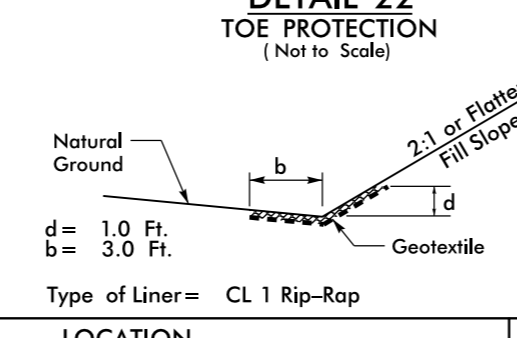


Min. D = 1.5 Ft.
Max. d = 1.5 Ft.

Type of Liner = CL B RIPRAP

LOCATION	SHEET	CL B RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 951+32 TO 954+15 RT	18, 19	132	373

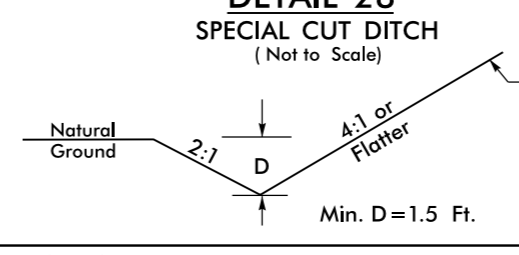
DETAIL 22
TOE PROTECTION
(Not to Scale)



Type of Liner = CL I Rip-Rap

LOCATION	SHEET	CL I RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 865+00 TO 866+51 LT	12	114	156
FROM L3 STA. 969+00 TO 971+00 LT	20	151	223

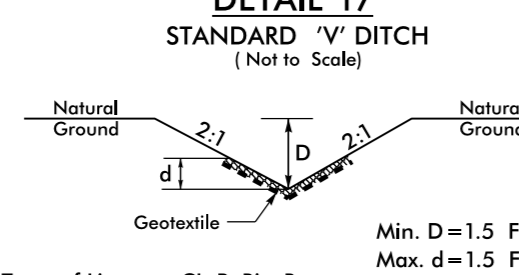
DETAIL 28
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1.5 Ft.

LOCATION	SHEET
FROM L3 STA. 779+47 TO 799+60 LT (-CUL16-)	6

DETAIL 17
STANDARD 'V' DITCH
(Not to Scale)

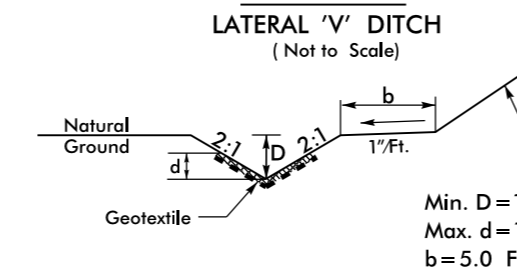


Min. D = 1.5 Ft.
Max. d = 1.5 Ft.

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	DDE	CL B RIP-RAP	GEOTEXTILE FABRIC
FROM Y3 STA. 31+05 TO 31+63 RT	11	30	28	80
FROM Y12 STA. 10+43 TO 11+25 RT	15	130	38	106
FROM Y12 STA. 10+89 TO 11+25 LT	15	50	17	47
FROM Y12 STA. 28+68 TO 29+15 LT	16	30	29	79
FROM Y11 STA. 19+85 TO 20+39 RT	32	40	17	47

DETAIL 23
LATERAL 'V' DITCH
(Not to Scale)

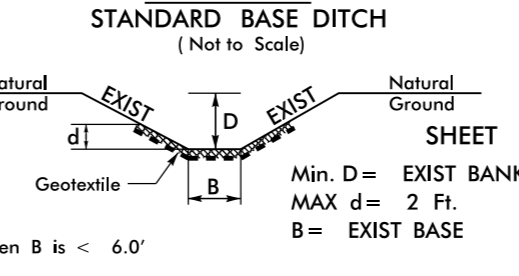


Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
b = 5.0 Ft.

Type of Liner = CL I Rip-Rap

LOCATION	SHEET	DDE	CL I RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 828+00 TO 831+80 RT	10	700	178	606
FROM Y10 STA. 18+75 TO 19+65 LT	31	200	36	122
FROM Y11 STA. 15+50 TO 22+03 LT	32	460	355	1212

DETAIL 29
STANDARD BASE DITCH
(Not to Scale)



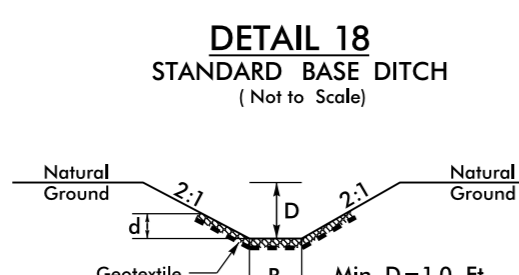
Min. D = EXIST BANKS
MAX d = 2 Ft.
B = EXIST BASE

*When B is < 6.0'

Type of RIPRAP = SEE BELOW

LOCATION	SHEET	CL B OR I RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 867+24 TO 867+25 RT (CL. I)	12	34	68
FROM Y8 STA. 17+26 TO 17+34 LT (CL. B)	31	51	46

DETAIL 18
STANDARD BASE DITCH
(Not to Scale)



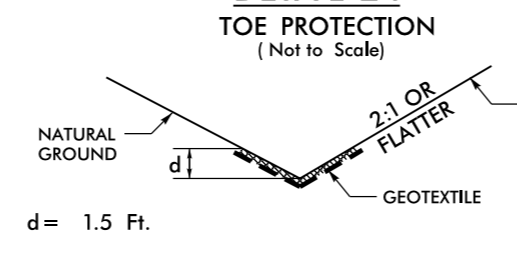
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 4.0 Ft.

*When B is < 6.0'

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	DDE	CL B RIP-RAP	GEOTEXTILE FABRIC
Y6 STA. 10+30 RT	29	20	11	75

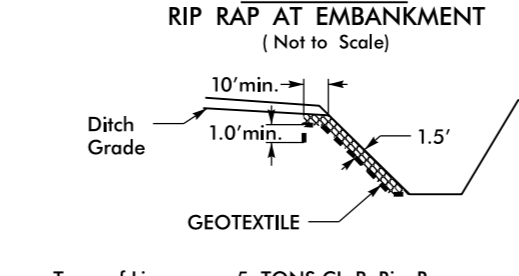
DETAIL 24
TOE PROTECTION
(Not to Scale)



Type of Liner = CL I Rip-Rap

LOCATION	SHEET	CL I RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 743+84 TO 745+00 LT	4	133	182
FROM L3 STA. 744+15 TO 747+50 RT	4,5	385	526
FROM DR2 STA. 11+50 TO 13+03 LT	6	176	240
FROM DR2 STA. 15+50 TO 16+03 LT	5	61	94
FROM DR3 STA. 12+00 TO 14+52 RT	11, 27	289	424

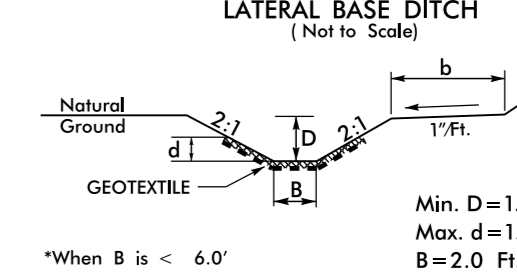
DETAIL 30
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = 5 TONS CL B Rip-Rap
Geotextile = 6 sy

LOCATION	SHEET	CL B RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 797+65 RT	8	43	6
FROM L3 STA. 864+95 LT	12	43	6
FROM L3 STA. 882+80 RT	13	43	6
FROM Y11 STA. 22+27 LT	32	43	6

DETAIL 35
LATERAL BASE DITCH
(Not to Scale)



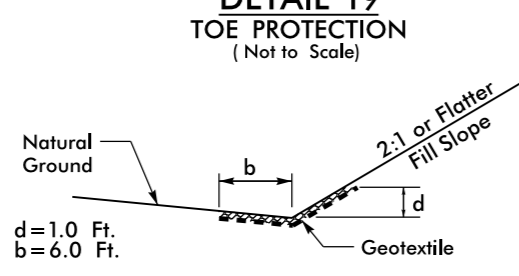
Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 2.0 Ft.
b = 5.0 Ft.

*When B is < 6.0'

Type of Liner = CL II Rip-Rap

LOCATION	SHEET	DDE	CL II RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 734+25 TO 737+85 LT	4	120	150	320

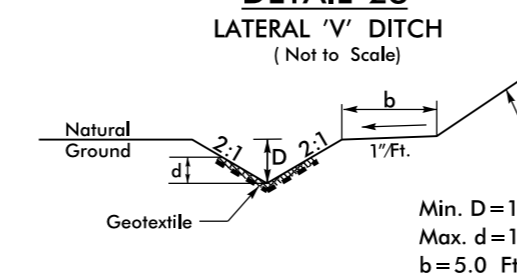
DETAIL 19
TOE PROTECTION
(Not to Scale)



Type of Liner = CLASS II Rip-Rap

LOCATION	SHEET	DDE	CL II RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 921+00 TO 922+50 RT	16	216	220	
FROM L3 STA. 995+97 TO 998+58 LT	22	376	438	
FROM L3 STA. 996+66 TO 998+51 RT	22	266	302	

DETAIL 25
LATERAL 'V' DITCH
(Not to Scale)

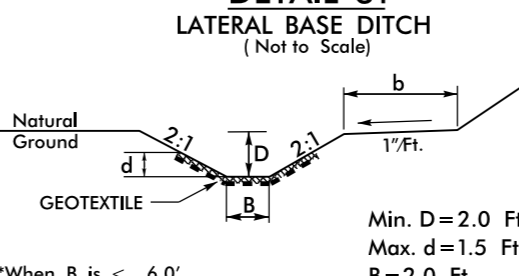


Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
b = 5.0 Ft.

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	DDE	CL B RIP-RAP	GEOTEXTILE FABRIC
FROM Y3 STA. 18+85 TO 20+44 RT	11, 27	40	78	219

DETAIL 31
LATERAL BASE DITCH
(Not to Scale)



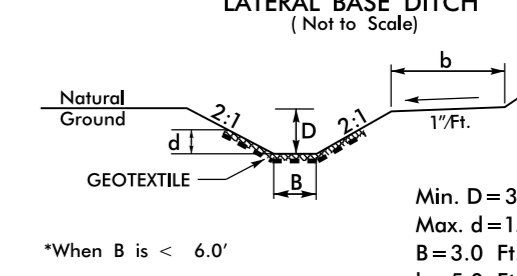
Min. D = 2.0 Ft.
Max. d = 1.5 Ft.
B = 2.0 Ft.
b = 5.0 Ft.

*When B is < 6.0'

Type of Liner = CL II Rip-Rap

LOCATION	SHEET	DDE	CL II RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 910+07 TO 910+50 RT	15	20	34	89
FROM Y10 STA. 26+76 TO 28+00 LT	15	60	87	269

DETAIL 36
LATERAL BASE DITCH
(Not to Scale)



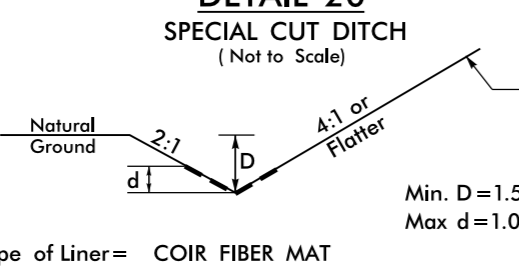
Min. D = 3.0 Ft.
Max. d = 1.5 Ft.
B = 3.0 Ft.
b = 5.0 Ft.

*When B is < 6.0'

Type of Liner = CL I Rip-Rap

LOCATION	SHEET	DDE	CL I RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 738+75 TO 739+25 LT	4	16	35	50
FROM L3 STA. 739+50 TO 742+50 LT	4	200	210	300

DETAIL 20
SPECIAL CUT DITCH
(Not to Scale)

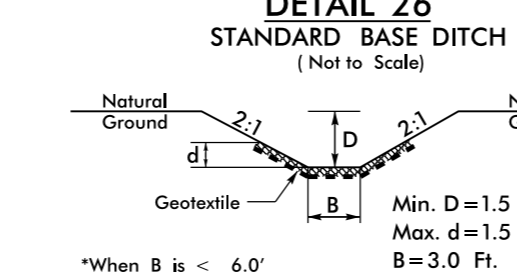


Min. D = 1.5 Ft.
Max. d = 1.0 Ft.

Type of Liner = COIR FIBER MAT

LOCATION	SHEET	CFM
FROM Y12 STA. 20+60 TO 22+50 RT	15	134
FROM Y12 STA. 24+00 TO 26+00 RT	15, 16	141
FROM Y12 STA. 28+50 TO 29+20 RT	16	49
FROM Y12 STA. 29+20 TO 31+00 RT	16	127
FROM Y11 STA. 26+00 TO 27+00 RT	32	71

DETAIL 26
STANDARD BASE DITCH
(Not to Scale)



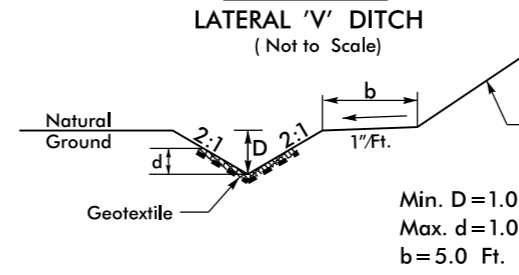
Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 3.0 Ft.

*When B is < 6.0'

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	DDE	CL B RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 767+26 TO 768+28 LT	6	500	70	187

DETAIL 32
LATERAL 'V' DITCH
(Not to Scale)

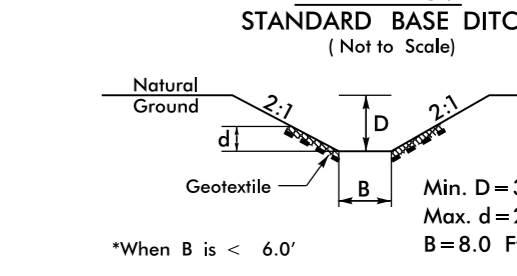


Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
b = 5.0 Ft.

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	DDE	CL B RIP-RAP	GEOTEXTILE FABRIC
FROM Y8 STA. 20+40 TO 21+90 LT	31	10	67	157

DETAIL 37
STANDARD BASE DITCH
(Not to Scale)



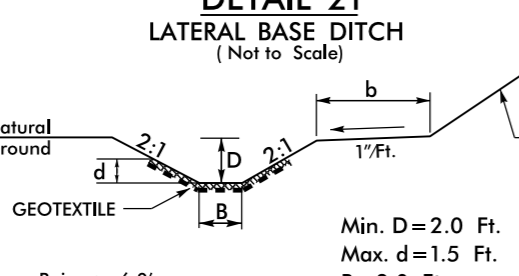
Min. D = 3.0 Ft.
Max. d = 2.0 Ft.
B = 8.0 Ft.

*When B is < 6.0'

Type of Liner = CL II Rip-Rap

LOCATION	SHEET	DDE	CL II RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 731+45 TO 733+45 LT	4	355	189	267

DETAIL 21
LATERAL BASE DITCH
(Not to Scale)



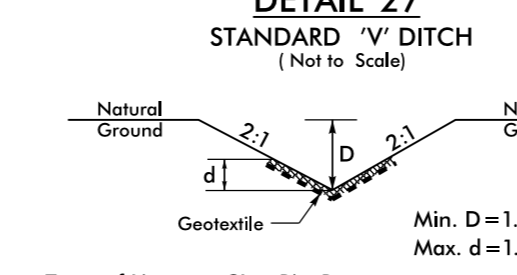
Min. D = 2.0 Ft.
Max. d = 1.5 Ft.
B = 3.0 Ft.
b = 5.0 Ft.

*When B is < 6.0'

Type of Liner = CL B Rip-Rap

LOCATION	SHEET	DDE	CL B RIP-RAP	GEOTEXTILE FABRIC
FROM Y8 STA. 21+90 TO 23+50 RT	31	100	111	260

DETAIL 27
STANDARD 'V' DITCH
(Not to Scale)

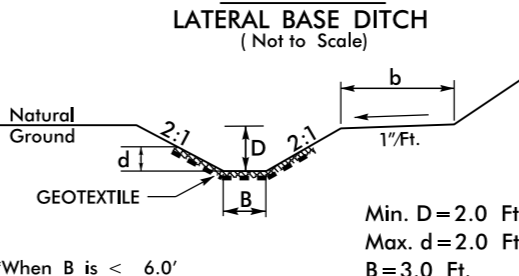


Min. D = 1.5 Ft.
Max. d = 1.5 Ft.

Type of Liner = CL II Rip-Rap

LOCATION	SHEET	DDE	CL II RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 797+67 TO 798+00 RT	8	20	22	85

DETAIL 33
LATERAL BASE DITCH
(Not to Scale)



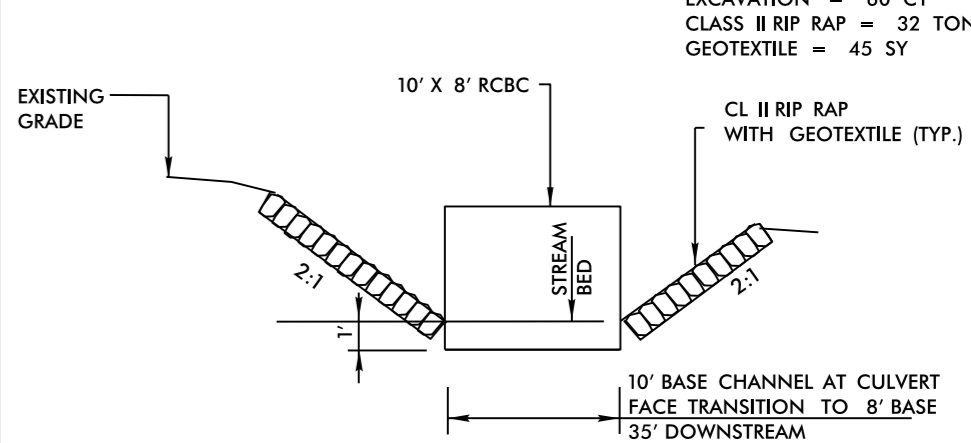
Min. D = 2.0 Ft.
Max. d = 2.0 Ft.
B = 3.0 Ft.
b = 5.0 Ft.

*When B is < 6.0'

Type of Liner = CL I Rip-Rap

LOCATION	SHEET	DDE	CL I RIP-RAP	GEOTEXTILE FABRIC
FROM L3 STA. 733+40 TO 734+65 RT	4	80	100	210

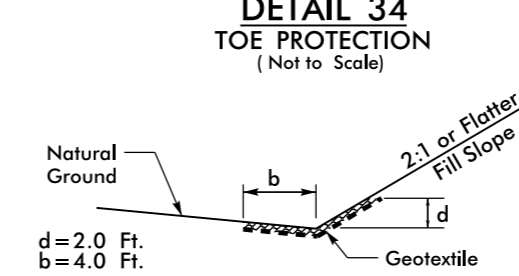
DETAIL 38
CHANNEL CHANGE DETAIL F



EXCAVATION = 60 CY
CLASS II RIP RAP = 32 TONS
GEOTEXTILE = 45 SY

LOCATION	SHEET	CY	TON	SY
FROM L3 STA. 733+45 TO 733+72 LT	4	60	32	45
FROM L3 STA. 736+91 TO 737+07 RT	4	55	30	40

DETAIL 34
TOE PROTECTION
(Not to Scale)



Type of Liner = CLASS I Rip-Rap

LOCATION	SHEET	TON	SY
FROM L3 STA. 734+65 TO 736+80 RT	4	139	190
FROM L3 STA. 737+85 TO 738+75 LT	4	58	80