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8/17/99

REVISIONS

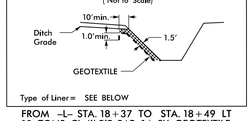
PROJECT REFERENCE NO.	SHEET NO.
BR-0160	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEAL 040478 NORTH CAROLINA PROFESSIONAL ENGINEER — Digitally signed by Matthew M. Fornaciari 3/14/2023	SEAL 18442 NORTH CAROLINA PROFESSIONAL ENGINEER — Digitally signed by Richard Leon Bowman 3/14/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

NAD 83/NA 2011

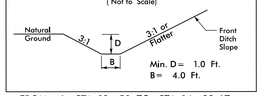
DETAIL A
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= SEE BELOW

FROM –L– STA. 18+37 TO STA. 18+49 LT
10 TONS CL 'I' RIP-RAP; 14 SY GEOTEXTILE

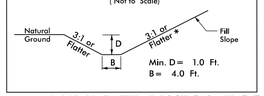
DETAIL B
SPECIAL CUT BASE DITCH
(Not to Scale)



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

FROM –L– STA. 12+50 TO STA. 14+00 LT
FROM –L– STA. 12+75 TO STA. 13+94 RT

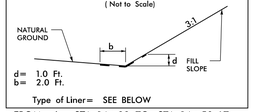
DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



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

*1.5:1 FILL SLOPE OR FLATTER IF ROCK EMBANKMENT OR IF TRANSITIONING TO ROCK EMBANKMENT
FROM –L– STA. 15+00 TO STA. 18+63 RT
FROM –L– STA. 17+15 TO STA. 18+37 LT

DETAIL F
TOE PROTECTION
(Not to Scale)

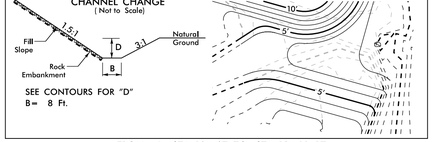


d= 1.0 Ft.
b= 2.0 Ft.

Type of Liner= SEE BELOW

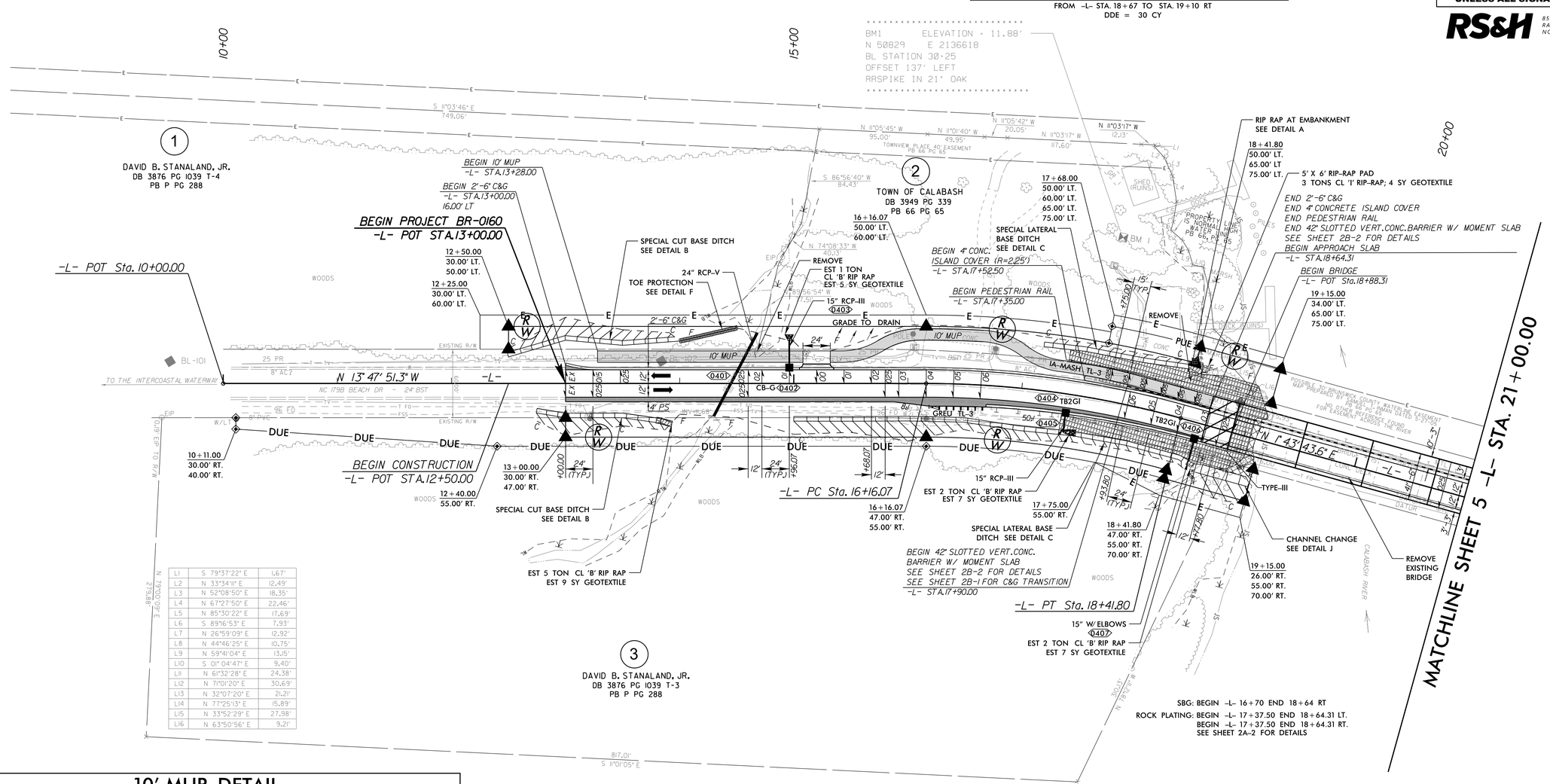
FROM –L– STA. 14+00 TO STA. 14+50 LT
18 TONS CL 'B' RIP-RAP; 40 SY GEOTEXTILE

DETAIL J
CHANNEL CHANGE
(Not to Scale)



SEE CONTOURS FOR "D"
B= 8 Ft.

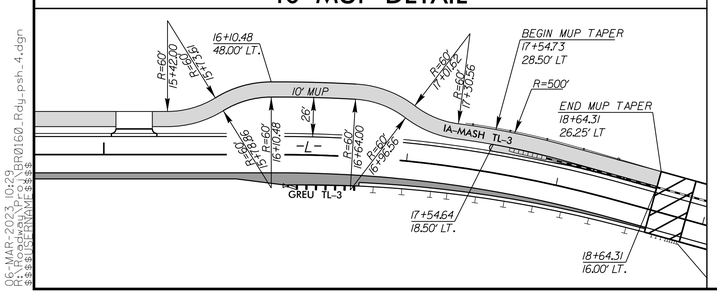
FROM –L– STA. 18+67 TO STA. 19+10 RT
DDE = 30 CY



L1	S 79°37'22" E	1.67'
L2	N 33°34'11" E	12.49'
L3	N 52°08'50" E	18.35'
L4	N 67°27'50" E	22.46'
L5	N 85°30'22" E	17.69'
L6	S 89°16'53" E	7.93'
L7	N 26°59'09" E	12.92'
L8	N 44°46'25" E	10.75'
L9	N 59°41'04" E	13.15'
L10	S 01° 04'47" E	9.40'
L11	N 61°32'28" E	24.38'
L12	N 71°01'20" E	30.69'
L13	N 32°07'20" E	21.21'
L14	N 77°25'13" E	15.89'
L15	N 33°52'29" E	27.98'
L16	N 63°50'56" E	9.21'

SBG: BEGIN –L– 16+70 END 18+64 RT
ROCK PLATING: BEGIN –L– 17+37.50 END 18+64.31 LT.
BEGIN –L– 17+37.50 END 18+64.31 RT.
SEE SHEET 2A-2 FOR DETAILS

10' MUP DETAIL



–L– CURVE DATA
PI Sta 17+29.63
Δ = 15° 31' 34.9" (RT)
D = 6° 52' 41.7"
L = 225.73'
T = 113.56'
R = 833.00'
SE = 06
RO = 144'

FOR –L– PROFILE, SEE SHEET NO. 6
FOR –L– STRUCTURE, SEE SHEET S-1

06-MAR-2023 10:29
R:\Roadway\Proj\BR0160_Rdy_psh_4.dgn
$$$$USERNAME$$$$