FINAL GRADE PLAN

CH ENGINEERING
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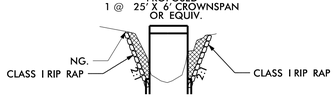
NC LICENSE #P-0189

PROJECT REFERENCE NO.	SHEET NO.
17BP.8.R.120	EC-5/CONST.04
RICHMOND COUNTY BRIDGE #68	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NA 2011

DETAIL C

CULVERT OUTLET
TYPICAL CHANNEL SECTION
(LT TO RT LOOKING DOWNSTREAM)
PROPOSED
1 @ 25' X 6' CROWNSPAN
OR EQUIV.



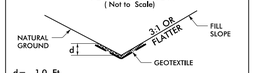
DETAIL B

CULVERT INLET
TYPICAL CHANNEL SECTION
(LT TO RT LOOKING DOWNSTREAM)
PROPOSED
1 @ 25' X 6' CROWNSPAN
OR EQUIV.

PI Sta 11+96.99
△ = 15° 54' 34.8" (RT)
D = 7° 17' 00.3"
L = 218.44'
T = 109.93'
R = 786.66'

DETAIL A

TOE PROTECTION
(Not to Scale)

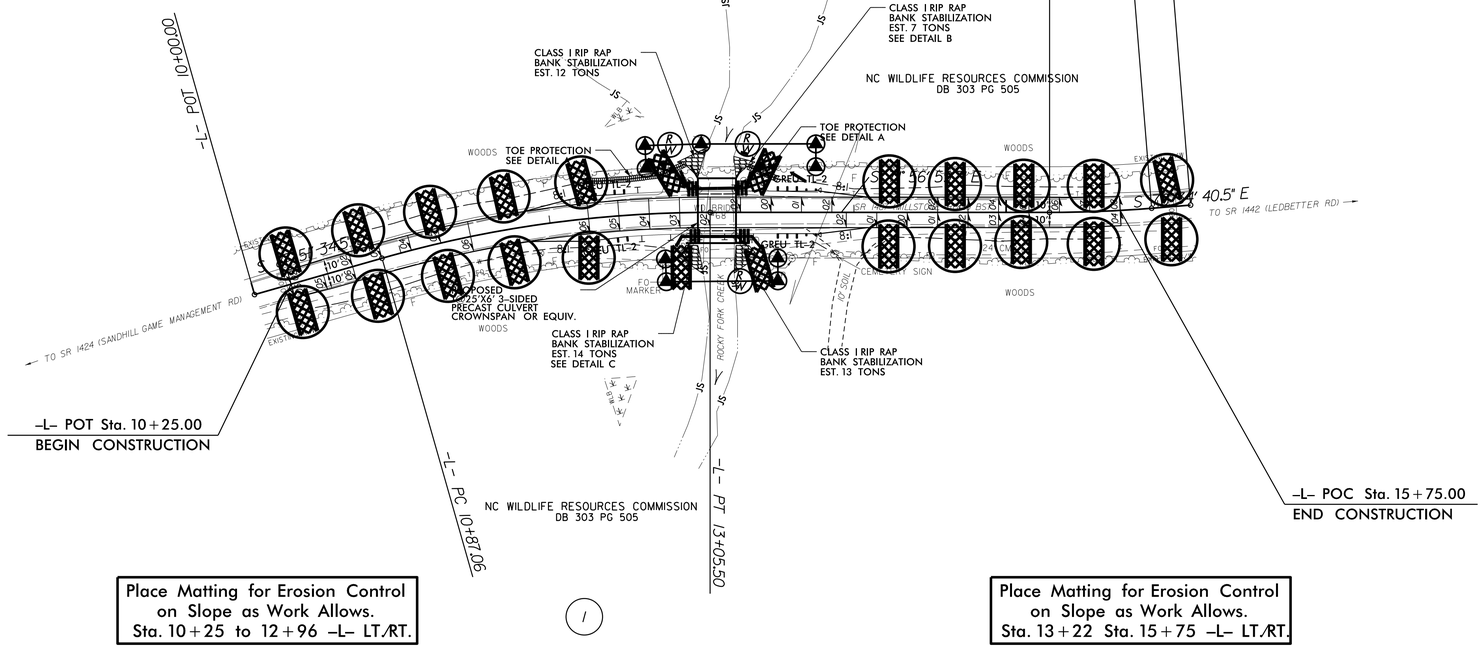


d= 1.0 Ft.

Type of Liner= CL. B Rip-Rap

FROM STA. 12+25 TO STA. 12+90 –L– LT
FROM STA. 13+30 TO STA. 13+50 –L– LT

PI Sta 15+62.15
△ = 4° 37' 40.8" (LT)
D = 6° 53' 23.4"
L = 67.17'
T = 33.60'
R = 831.60'



Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 10+25 to 12+96 –L– LT/RT.

Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 13+22 Sta. 15+75 –L– LT/RT.

FOR PROFILE, SEE SHEET 5

REVISIONS

8/17/99

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$FILENAME$$$$