

5/28/99

-L- NC 115

*** DESIGN EXCEPTION REQUIRED FOR VERTICAL CURVE K-VALUES AND ASSOCIATED SSD.**

PROJECT REFERENCE NO. B-4766	SHEET NO. 5
ROADWAY DESIGN ENGINEER NORTH CAROLINA SEAL 020111 NINA K. BOYALUK ENGINEER 13/2016	HYDRAULICS ENGINEER NORTH CAROLINA SEAL 039168 ERNEST J. HUBBEN ENGINEER 1/13/2016
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

BEGIN GRADE
-L- STA 13+32.00
ELEV. = 1,020.48'

PI = 14+42.00
EL = 1,016.18'
VC = 220'
K = 65 *
V = 40 MPH

PI = 18+03.00
EL = 1,014.37'
VC = 190'
K = 66 *
V = 40 MPH

END GRADE
-L- STA 19+00.00
ELEV. = 1,016.69'

BEGIN BRIDGE
-L- STA. 15+53.00

END BRIDGE
-L- STA. 17+03.00

END RESURF.
-L- STA 21+00.00

BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 5,360 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 1,002.8 FT
BASE DISCHARGE	= 6,409 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 1,004.12 FT
OVERTOPPING DISCHARGE	= 18,000 CFS
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING ELEVATION	= 1,014.4 FT
DATE OF SURVEY	= MAY 19, 2015
W.S. ELEVATION AT DATE OF SURVEY	= 989.6 FT
*OVERTOPPING ELEVATION EQUALS NORMAL CROWN AT SAG LOCATION, STATION 17+41 -L-	

ABUTMENT EXCAVATION 400 CY TO ELEVATION 1,003.0

BM#2 ELEV. = 1008.63'
(SEE SURVEY CONTROL SHEET 1C-1)

NORMAL WSE = 990.0
OBSERVED WSE = 989.6
MAY 19, 2015

ABUTMENT EXCAVATION 400 CY TO ELEVATION 1,000.0
CLASS II RIP RAP (STRUCTURE-PAY ITEM)

BM#1 ELEV. = 1055.47'
(SEE SURVEY CONTROL SHEET 1C-1)

PIPE HYDRAULIC DATA	
30" RCP CL. IV Sta. 20+56.15 -L-	
DRAINAGE AREA	= 19.7 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 28 CFS
DESIGN HW ELEVATION	= 1023.71 FT
100 YEAR DISCHARGE	= 34 CFS
100 YEAR HW ELEVATION	= 1024.16 FT
OVERTOPPING FREQUENCY	= 100+/- YRS
OVERTOPPING DISCHARGE	= 33 CFS
OVERTOPPING ELEVATION	= 1024.00 FT

NOTE : SEE SHEET 4 FOR PLAN VIEW

10+00 11 12 13 14 15+00 16 17 18 19 20+00 21 22

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