
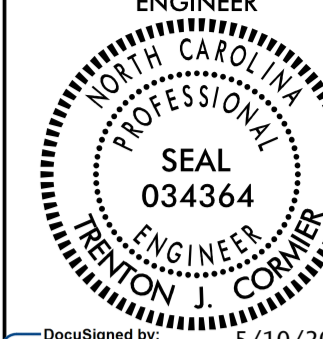


5/28/19

**ICA**  
Engineering  
5121 Kingdom Way,  
Suite 100  
Raleigh, NC 27607  
NC License No: F-0258

PROJECT REFERENCE NO. <i>R-5311A</i>	SHEET NO. <i>19</i>
ROADWAY DESIGN ENGINEER <i>Dena C. Sneed</i>	HYDRAULICS ENGINEER <i>Leon C. Colwell</i>
	
DocuSigned by: <i>Dena C. Sneed</i> 5/10/2017	DocuSigned by: <i>Leon C. Colwell</i> 5/10/2017

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

# -DR1-

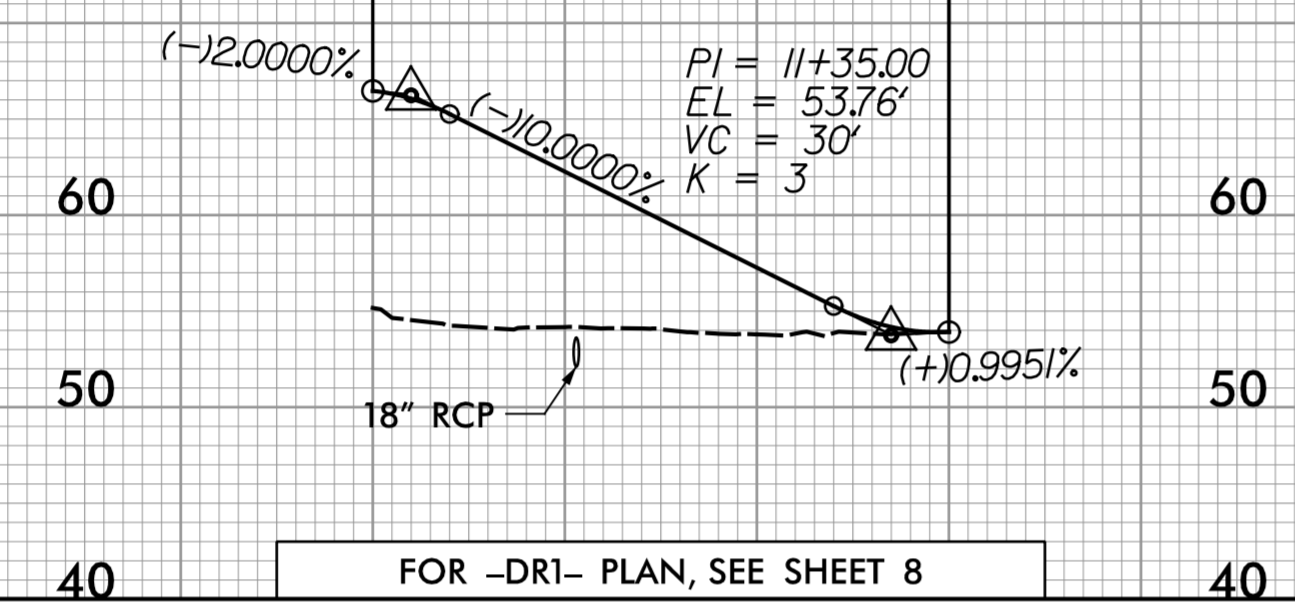
BEGIN GRADE  
-DR1- STA 10+00.00=  
EOT -Y1- STA 18+33.96, 12' LT  
EL 66.46'

END GRADE  
-DR1- STA 11+50.00=  
EL 53.91'

PI = 10+10.00  
EL = 66.26'  
VC = 20'  
K = 3

PI = 11+35.00  
EL = 53.76'  
VC = 30'  
K = 3

PIPE HYDRAULIC DATA		
18" RCP STA 10+53 -DR1-		
DRAINAGE AREA	= 1	AC
DESIGN FREQUENCY	= 10	YRS
DESIGN DISCHARGE	= 4	CFS
DESIGN HW ELEVATION	= 53.4	FT
100 YEAR DISCHARGE	= 5	CFS
100 YEAR HW ELEVATION	= 53.8	FT
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING DISCHARGE	= 6	CFS
OVERTOPPING ELEVATION	= 53.9	FT
INV IN	= 52.18	
INV OUT	= 52.03	



FOR -DR1- PLAN, SEE SHEET 8

10 11

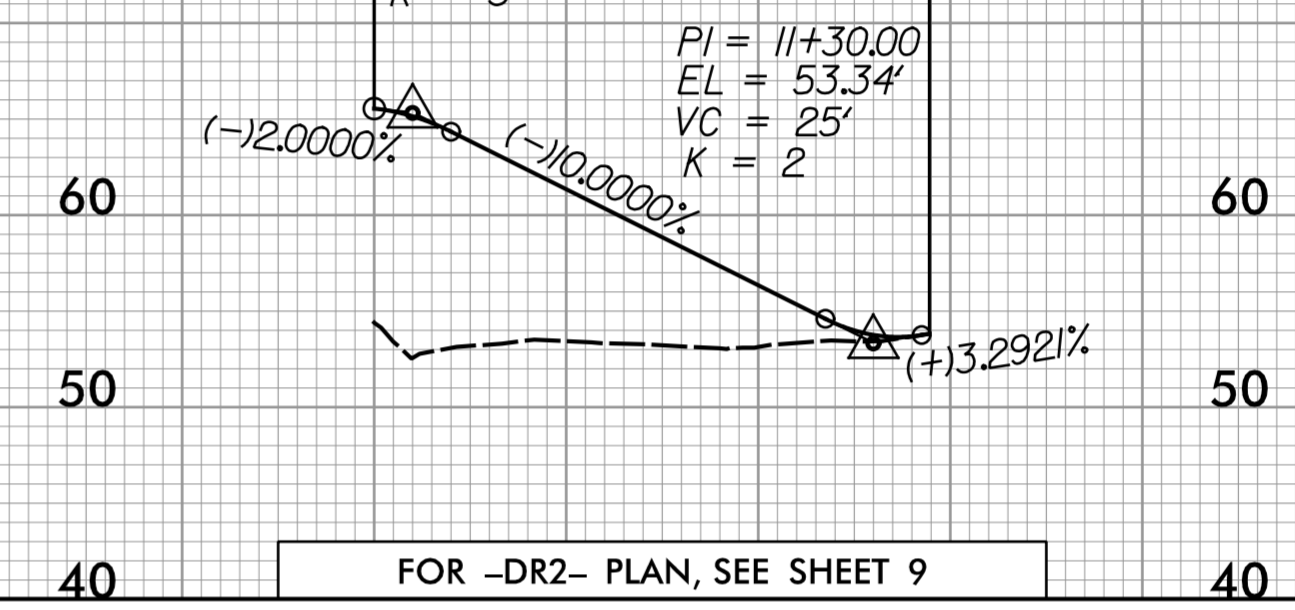
# -DR2-

BEGIN GRADE  
-DR2- STA 10+00.00=  
EOT -Y1- STA 31+50.00, 12' RT  
EL 65.54'

END GRADE  
-DR2- STA 11+44.56=  
EL 53.82'

PI = 10+10.00  
EL = 65.34'  
VC = 20'  
K = 3

PI = 11+30.00  
EL = 53.34'  
VC = 25'  
K = 2



FOR -DR2- PLAN, SEE SHEET 9

10 11

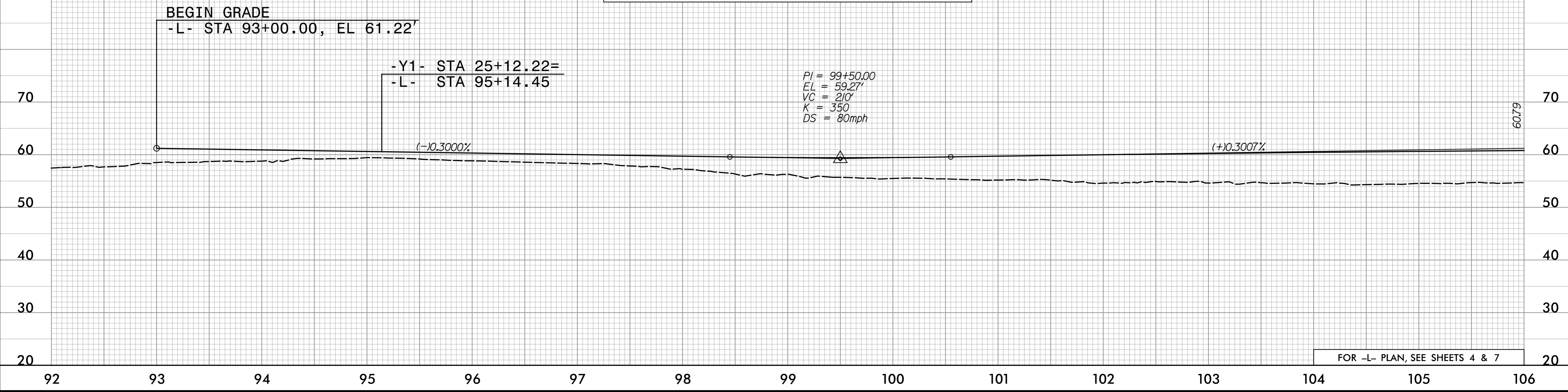
# -L-

## FUTURE CONSTRUCTION FOR REFERENCE ONLY

BEGIN GRADE  
-L- STA 93+00.00, EL 61.22'

-Y1- STA 25+12.22=  
-L- STA 95+14.45

PI = 99+50.00  
EL = 59.27'  
VC = 210'  
K = 350  
DS = 80mph



FOR -L- PLAN, SEE SHEETS 4 & 7

60.79

92 93 94 95 96 97 98 99 100 101 102 103 104 105 106

5/16/2017 10:10:10 AM P:\Projects\19\5311A-RDY\_PSH\_19.dgn