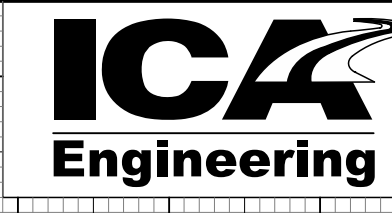
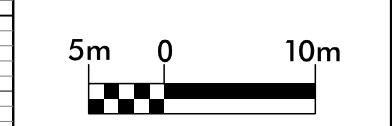


6/29/2015



5121 Kingdom Way,  
Suite 100  
Raleigh, NC 27607  
NC License No: P-0258



CONST. REV.

R / W REV.

PROJECT REFERENCE NO. R-2413CA	SHEET NO. 14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
4/8/2015	4/8/2015

**-L REV-**

**BEGIN CONSTRUCTION (SB LANES)**  
**-LREV- STA 84+00.000**

SEE SHEET 6 FOR -L REV- PLAN

PI = 84+90.000  
EL = 265.818 m  
VC = 206 m  
K = 55  
DS = 110 KMH

BM \*22 RR SPIKE IN BASE OF POWER POLE  
20 M RT OF -L- STA 81+64  
EL = 274.22

PIPE HYDRAULIC DATA		DRAINAGE STRUCTURE NO. 306	
DRAINAGE AREA	= 2.5	HA	
DESIGN FREQUENCY	= 50	YRS	
DESIGN DISCHARGE	= 0.50	CMS	
DESIGN HW ELEVATION	= 268.69	M	
100 YEAR DISCHARGE	= 0.52	CMS	
100 YEAR HW ELEVATION	= 268.72	M	
OVERTOPPING FREQUENCY	= 50+/-	YRS	
OVERTOPPING DISCHARGE	= 0.50	CMS	
OVERTOPPING ELEVATION	= 268.64	M	

PIPE HYDRAULIC DATA		DRAINAGE STRUCTURE NO. 311	
DRAINAGE AREA	= 54	HA	
DESIGN FREQUENCY	= 50	YRS	
DESIGN DISCHARGE	= 7.86	CMS	
DESIGN HW ELEVATION	= 258.80	M	
100 YEAR DISCHARGE	= 9.14	CMS	
100 YEAR HW ELEVATION	= 259.74	M	
OVERTOPPING FREQUENCY	= 500+	YRS	
OVERTOPPING DISCHARGE	= 15.56+	CMS	
OVERTOPPING ELEVATION	= 266.78	M	

600mm

STA 84+20 LT  
EL=257.20  
BEGIN LAT. BASE  
DITCH LT

STA 84+60 LT  
EL=259.40

(+) 5.5%

(+) 6.83%

3@1200mm

+60 +80 82 +20 +40 +60 +80 83 +20 +40 +60 +80 84 +20 +40 +60 +80 85

**-L REV-**

**-LREV- 86+18.605 L.B. =**  
**-LREV\_NB- 86+18.605 7.2 RT. L.A. =**  
**-LREV\_SB- 86+18.605 10.6 LT. L.A. =**  
**EL 268.224**

#18705%

STA 85+20 LT  
EL=268.50  
END LAT. BASE  
DITCH LT

LEFT DITCH - - - - -  
RIGHT DITCH - - - - -

SEE SHEET 7 FOR -L REV- PLAN

85 +20 +40 +60 +80 86 +20

4/7/2015  
P:\REVIEWS\PROJECTS\13CA\dj\_psh\1.dgn  
CA. COOPER ENGINEERING, INC.