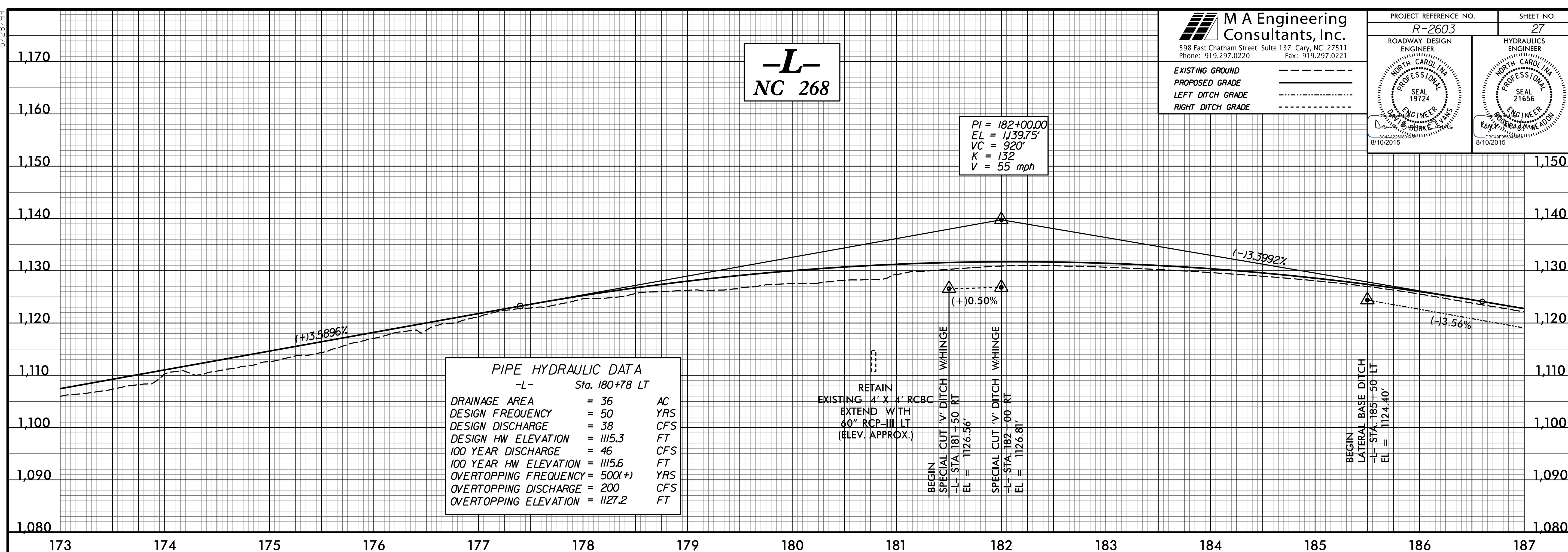


5/28/99

**M A Engineering Consultants, Inc.**  
 598 East Chatham Street Suite 137 Cary, NC 27511  
 Phone: 919.297.0220 Fax: 919.297.0221

EXISTING GROUND - - - - -  
 PROPOSED GRADE - - - - -  
 LEFT DITCH GRADE - - - - -  
 RIGHT DITCH GRADE - - - - -

PROJECT REFERENCE NO. <i>R-2603</i>	SHEET NO. <i>27</i>
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 19724 8/10/2015	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 21656 8/10/2015



**PIPE HYDRAULIC DATA**  
 -L- Sta. 180+78 LT

DRAINAGE AREA	= 36	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 38	CFS
DESIGN HW ELEVATION	= 1115.3	FT
100 YEAR DISCHARGE	= 46	CFS
100 YEAR HW ELEVATION	= 1115.6	FT
OVERTOPPING FREQUENCY	= 500(+)	YRS
OVERTOPPING DISCHARGE	= 200	CFS
OVERTOPPING ELEVATION	= 1127.2	FT

**-L- NC 268**

PI = 182+00.00  
 EL = 1139.75'  
 VC = 920'  
 K = 132  
 V = 55 mph

BM \* 9  
 -L- STA. 193+25.61  
 231.92' LT.  
 8" SPIKE IN ROOT OF 10" SUMACK TREE  
 ELEV. 1111.70'

**-L- NC 268**

END GRADE  
 -L- STA. 195+00.00  
 EL. 1095.56'

INCIDENTAL MILLING FROM -L- STA. 192+75 TO STA. 195+00 AS DIRECTED BY THE ENGINEER

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