PROJECT REFERENCE NO.	SHEET NO.
R-2237B	10
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 20677 GREGORY A. KEMPF 11-17-04

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 14160 DOUGLAS B. SHOVERS 11/16/04

HDR Engineering, Inc. of the Carolinas, 3733 National Drive, Suite 207, Raleigh, N.C. 27612

TRANSITE CONSULTING ENGINEERS, INCORPORATED, 1300 Paddock Drive, Suite G-10, Raleigh, N.C. 27609

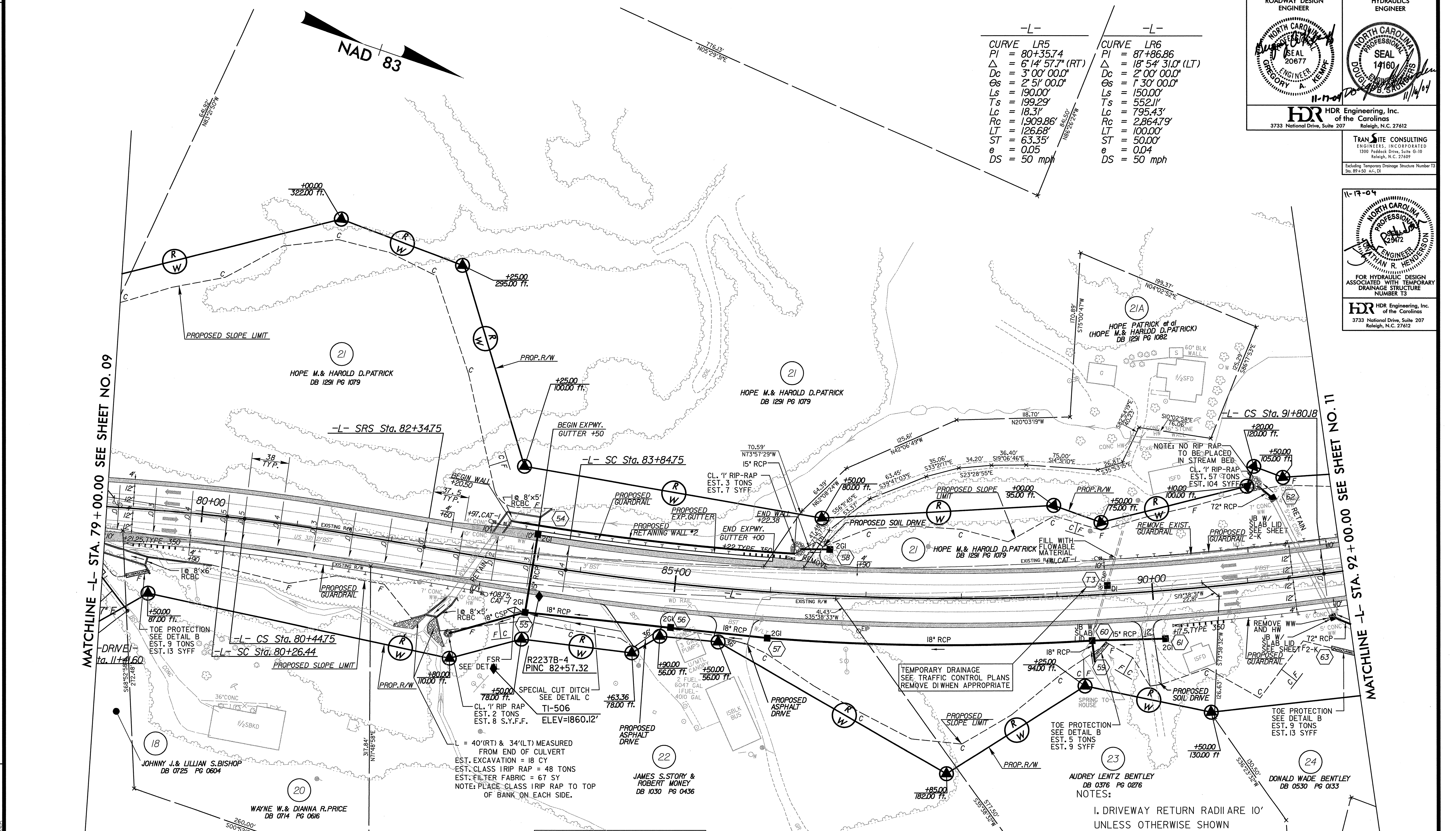
Excluding Temporary Drainage Structure Number T3 Sta. 89+50 +/-, DI

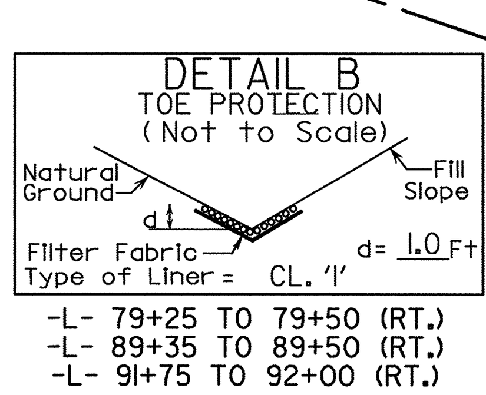
11-17-04 NORTH CAROLINA PROFESSIONAL ENGINEER 23472 JONATHAN R. HENDERSON

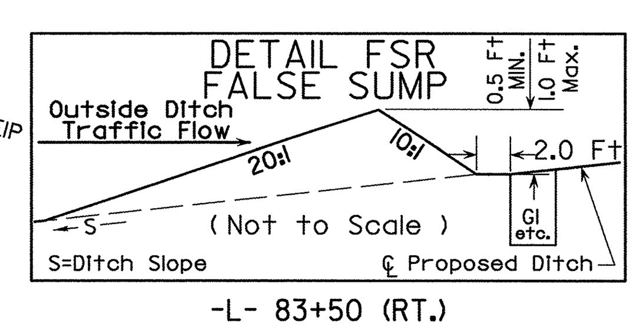
FOR HYDRAULIC DESIGN ASSOCIATED WITH TEMPORARY DRAINAGE STRUCTURE NUMBER T3

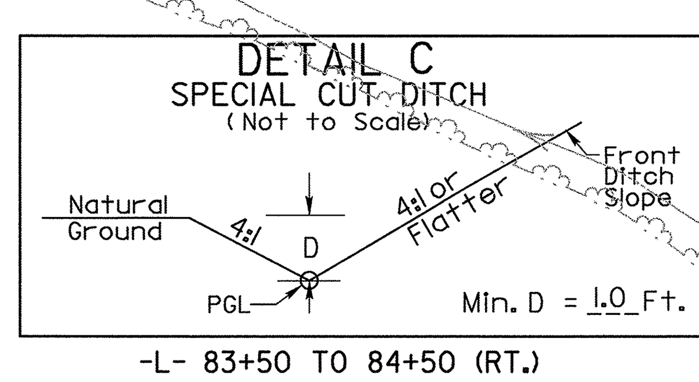
HDR Engineering, Inc. of the Carolinas, 3733 National Drive, Suite 207, Raleigh, N.C. 27612

-L- CURVE LR5	-L- CURVE LR6
PI = 80+35.74	PI = 87+86.86
Δ = 6° 14' 57.7" (RT)	Δ = 18° 54' 31.0" (LT)
Dc = 3° 00' 00.0"	Dc = 2° 00' 00.0"
Θs = 2° 51' 00.0"	Θs = 1° 30' 00.0"
Ls = 190.00'	Ls = 150.00'
Ts = 199.29'	Ts = 552.11'
Lc = 18.31'	Lc = 795.43'
Rc = 1,909.86'	Rc = 2,864.79'
LT = 126.68'	LT = 100.00'
ST = 63.35'	ST = 50.00'
e = 0.05	e = 0.04
DS = 50 mph	DS = 50 mph









NOTES:

1. DRIVEWAY RETURN RADII ARE 10' UNLESS OTHERWISE SHOWN
2. ALL CSP WILL BE ROD LUG AND GASKET CONNECTOR
3. NO RIP RAP TO BE PLACED IN STREAM BED/CREEK BOTTOM

REFERENCES:

1. FOR -L- PROFILE SEE SHEET 38
2. FOR CULVERT DETAILS SEE SHEET C-1 THRU C-19
3. FOR RETAINING WALL DETAILS SEE SHEET W-1 THRU W-20

REVISIONS

8/17/99

11/16/2004