PROJECT REFERENCE NO.	SHEET NO.
R-2237B	25
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20677 ENGINEER GREGORY A. KEMPF

11-17-04

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14160 ENGINEER DOUGLAS R. HOLLOWELL

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

11-17-04

NORTH CAROLINA PROFESSIONAL SEAL 19456 ENGINEER JONATHAN R. HENDERSON

FOR HYDRAULIC DESIGN ASSOCIATED WITH RETAINING WALLS NO. 5 AND 10

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

REVISIONS

8/17/99

NAD 83

DETAIL FSR FALSE SUMP

Outside Ditch Traffic Flow — 20ft — 10ft — 2.0 Ft — 0.5 Ft Min. 1.0 Ft Max. — Gl min. — 5 — (Not to Scale) — S=Ditch Slope — ℄ Proposed Ditch

-L- 273+00 (RT.)
-L- 277+00 (RT.)
-L- 279+50 (RT.)

DETAIL B
TOE PROTECTION
(Not to Scale)

Natural Ground — d — Fill Slope — Filter Fabric Type of Liner = CL. 'I' — d= 1.0 Ft

-L- 271+00 TO 271+72 (LT.)
-L- 273+00 TO 277+00 (LT.)
-L- 279+50 TO 281+18 (LT.)
-L- 283+00 TO 284+00 (LT.)

+20.00 340.00 ft.

TOE PROTECTION SEE DETAIL B EST. 314 SYFF

CL. 'I' RIP-RAP EST. 4 TONS EST. 10 SYFF

85 ALAN BORMUTH DB 0784 PG 0347

PROP.SLOPE LIMIT

PROP.R/W

18" CSP W/ 1 ELBOW

BREMCO POWER EASEMENT

BL-32
PINC 273+49.15

-L- CS
Sta. 275+15.78

+25.00 90.00 ft.

PROPOSED SOIL DRIVE

JB W/ SLAB LID

TOE PROTECTION SEE DETAIL B EST. 51 TONS EST. 73 SYFF

PROP.GUARDRAIL

+75.TYPE 350

+19.CAT-I

FILL WITH FLOWABLE MATERIAL

REMOVE

REMOVE HW

15" RCP

BEGIN EXPWY. GUTTER +00

+50.00 130.00 ft.

PROP.SLOPE LIMIT

PROP.R/W

MATCHLINE -L- STA. 271+00.00 SEE SHEET NO. 24

GEORGE MOORE (RAPLH E.& FLORE WILLIAMS) DB 0706 PG 0750 PB 07 PG 78

JO M.ALEXANDER DB 0749 PG 0688 PB 07 PG 78

CONC V/SFD

+25.00 68.04 ft.

+88.99 63.84 ft.

BEG WALL +00
BEG CHAIN LINK FENCE
BEG SFB,TYPE B-77
END EX.GUT.

+40.00 65.08 ft.

88 HANNES M.& SYLVIA M.CHAREN DB 1192 PG 0892 PB 07 PG 78

89 BENJAMIN D.& JACKIE P.GRIFFIN DB 1259 PG 0412 PB 07 PG 78

-L- SRS
Sta. 277+95.78

PROP.RETAINING WALL #10

BEN GRIFFIN REALTY & AUCTION,INC. (HELEN C.& THOMAS L.SULLIVAN,JR.) DB 0941 PG 0848 PB 07 PG 78

90 BENJAMIN D.GRIFFIN,SR. (PAUL S.& REBECCA HEDRICK) DB 1129 PG 1803 PB 07 PG 78

91

92 MICHAEL E.& MARY C.McLEOD (BENJAMIN D.& JACKIE P.GRIFFIN) DB 1251 PG 0314 PB 07 PG 78

93 DEBORAH D.& BRADLEY D.INDICOTT DB 1254 PG 1241 PB 07 PG 78

94 PAUL T.& CINDY B.KEARNS DB 1245 PG 0051 PB 07 PG 78

+80.00 -Y2- 31.08 ft.

+50.00 80.00 ft.

+50.00 105.00 ft.

PROP.SFB

PROP.CHAIN LINK FENCE

+00.00 95.00 ft.

+00.00 -L- 97.59 ft.

FILL WITH FLOWABLE MATERIAL

END WALL CHL.SFB +07.89 TYPE B-77

BEG WALL CHL.SFB +81.32 TYPE B-77

+50.00 415.00 ft.

+00.00 435.00 ft.

TOE PROTECTION SEE DETAIL B EST. 53 TONS EST. 75 SYFF

CL. 'I' RIP-RAP EST. 4 TONS EST. 10 SYFF

TOE PROTECTION SEE DETAIL B EST. 128 TONS EST. 180 SYFF

18" CSP W/ 2 ELBOWS

JB W/ SLAB LID

+35.00 85.00 ft.

+50.00 105.00 ft.

PROPOSED SOIL DRIVE

18" CSP W/2 ELBOWS

-L- POS Sta. 282+24.31 =
-Y2- POT Sta. 10+00.00

-L- SC Sta. 280+75.78

-L- CS Sta. 280+77.31

N 30°18'01.1" W

-L- ST Sta. 283+57.31

PROP.EXP.GUTTER

PROP.EXP.GUTTER

BL-33
PINC 282+57.30

+17.50,CAT-I

BEGIN EXPWY. GUTTER +50

+81.50,TYPE 350

TAPER 200' BOTH SIDES

18" RCP

TAPER 12'

AT-I,+00 END

AT-I +49.5

MATCHLINE -L- STA. 284+00.00 SEE SHEET NO. 26

-Y2- PC Sta. 10+77.78

END CONSTRUCTION
-Y2- POC Sta. 10+80.00

-Y2- PT Sta. 11+24.70

-Y2- POT Sta. 12+19.48

SR 1422 FALCON RIDGE RD

N 72°39'41.9" E

-L-
CURVE LR21
PI = 271+86.65
Δ = 64°14'22.3" (RT)
Dc = 6°00'00.0"
Ds = 8°24'00.0"
Ls = 280.00'
Ts = 741.53'
Lc = 790.66'
Rc = 954.93'
LT = 186.88'
ST = 93.52'
e = 0.08
DS = 50 mph

-L-
CURVE LR22
PI = 280+78.50
Δ = 19°41'43.1" (LT)
Dc = 6°59'45.0"
Ds = 9°47'38.9"
Ls = 280.00'
Ts = 282.72'
Lc = 1.53'
Rc = 819.00'
LT = 186.95'
ST = 93.59'
e = 0.08
DS = 50 mph

-Y2-
PI Sta 11+01.31
Δ = 10°45'08.1" (RT)
Dc = 22°55'05.9"
L = 46.92'
T = 23.53'
R = 250.00'
DS = 30 mph

ADT 2004/2024

-L- 4450/6700

115/195 115/195

230/390

-Y2-

TRAFFIC VOLUMES

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 53
2. FOR -Y2- PROFILE SEE SHEET 61
3. FOR RETAINING WALL DETAILS SEE SHEET W-1 THRU W-20

11/16/2004
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