STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

March 5, 2008

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

ATTN.:Mr. David Baker
NCDOT Coordinator

Subject: **Revised Information to Amended Application for Individual Section 404 and Request for Modification to Individual 401 Certification for Section R-2518B**
For US 19/US 19E Improvements
SR 1421 (Windy Gap Road) to SR 1336 (Jack's Creek Road).
Yancey County, NCDOT Division 13
State Project Numbers 6.869005T and 6.909001T
T.I.P. Project Number R-2518B

References: Application for Individual Section 404 and 401 permits for TIP R-2518A, R-2518B, and R-2519A, submitted June 26, 2007.

Revisions to the permit application, October 1, 2007.

Individual 401 Water Quality Certification No. 3706 issued October 16, 2007.

Amended Application for Individual Section 404 and Request for Modification to Individual 401 Certification for Section R-2518B submitted January 24, 2008.

Dear Mr. Baker:

The North Carolina Department of Transportation (NCDOT) submitted an Amended Application for Individual Section 404 and Request for Modification to Individual 401 Certification for Section R-2518B to the respective agencies on January 24, 2008. Subsequent to submittal, NCDOT discovered that the temporary causeways proposed for the Cane River bridge crossing (Sites 28 on Sheet 34 of the permit drawings) were inadequate. An additional causeway has been added on the southwest side of the proposed bridge that will increase temporary impacts at Site 28 from 0.04 acre to 0.05 acre. No new permanent impacts to surface waters will result from this action.

In addition to the revisions stated above, the North Carolina Division of Water Quality (NCDWQ) has requested the following changes which have been implemented.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
NATURAL ENVIRONMENT UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-715-1334 or
919-715-1335

FAX: 919-715-5501

WEBSITE: WWW.NCDOT.ORG

LOCATION:
PARKER LINCOLN BUILDING
2728 CAPITAL BLVD. SUITE 240
RALEIGH NC 27604

- Natural bed material to prevent head cutting has been added to the inlet end of pipe extensions at Permit Site 3 and Permit Site 12 on permit drawings sheet 5 and sheet 12, respectively.
- The lateral ditch depicted at station 200+80 to 201+90 at Permit Site 25 on permit drawing sheet 28 has been changed to the correct flow direction.
- Outfall protection has been added to the 600 mm reinforced concrete pipe that ends in a headwall at station 207+70 at Permit Site 27 on permit drawing sheet 30.

No new permanent impacts have resulted from these revisions.

The revised page 7 from the permit modification application; revised impact summary sheets; revised permit drawing sheets 5, 12, 28, 30, 34; and the corresponding roadway plan sheets from the above referenced application are attached for your review.

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Mr. Jeffrey Hemphill (919) 715-1458.

Sincerely,

for Gregory J. Thorpe, Ph.D., Environmental Management Director
Project Development and Environmental Analysis Branch

W/attachment

Mr. John Hennessy, NCDWQ (5 Copies)
Ms. Marella Buncick, USFWS
Ms. Marla Chambers, NCWRC
Ms. Kathy Matthews, USEPA – Whittier, NC
Mr. Ronald Mikulak, USEPA – Atlanta, GA
Mr. Clarence W. Coleman, P.E., FHWA
Mr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Barry Moose, P.E., Division Engineer
Mr. Larry Thompson, DEO

W/o attachment

Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P.E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Ms. Beth Harmon, EEP
Mr. Todd Jones, NCDOT External Audit Branch
Mr. Carl Goode, PE
Mr. Wayne A. Jacas, PDEA
Ms. Leilani Paugh, PDEA
Mr. Randy Griffin, PE., PDEA

wetlands are considered Non-Riverine and will be impacted by roadway fill and excavation. The Cowardin classifications for these wetlands are PFO1B.
Permanent Impacts, Riverine Wetland: 0.07 ac
Permanent Impacts, Non-Riverine Wetland: 0.05 ac

Permit Site 23: Price Creek will be impacted by energy dissipators from two tailditches and temporary impacts from a temporary causeway used in the construction of a new bridge.
Permanent Impacts, Stream: 36 lf
Temporary Impacts, Stream: 0.02 ac

Permit Site 24: UT PC is a perennial tributary to Price Creek and will be impacted by riprap for bank stabilization.
Permanent Impacts, Stream: 16 lf
Temporary Impacts, Stream: <0.01 ac

Permit Site 25: UT CR1 is a perennial tributary to the Cane River and will be impacted by the extension of an existing 1700 mm pipe.
Permanent Impacts, Stream: 135 lf
Temporary Impacts, Stream: <0.01 ac

Permit Site 26: UT CR3 is a perennial tributary to the Cane River and will be impacted by the extension of an existing 1400 mm pipe.
Permanent Impacts, Stream: 39 lf
Temporary Impacts, Stream: <0.01 ac

Permit Site 27: UT CR2 (Phipps Branch) is a perennial tributary to the Cane River and will be impacted by the extension of an existing twin barrel 2250 mm pipe with a twin barrel 2300 mm pipe.
Permanent Impacts, Stream: 302 lf
Temporary Impacts, Stream: 0.01 ac

Permit Site 28: The Cane River and will be impacted by temporary impacts from a temporary causeway used in the construction of a new bridge.
Permanent Impacts, Stream: 0 lf
Temporary Impacts, Stream: 0.05 ac

TROUT WATERS AND MORATORIUMS

In a correspondence dated September 5, 2007, Marla Chambers of the North Carolina Wildlife Resources Commission (NCWRC) indicated Bald Creek, Price Creek and their tributaries have trout moratoriums from Jan 1 to Apr. 15.

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ha)	Temp. Fill In Wetlands (ha)	Excavation in Wetlands (ha)	Mechanized Clearing in Wetlands (ha)	Hand Clearing in Wetlands (ha)	Permanent SW impacts (ha)	Temp. SW impacts (ha)	Existing Channel Impacts Permanent (m)	Existing Channel Impacts Temp. (m)	Natural Stream Design (m)
1	115+25	750 RCP						0.001		13	3	
2	115+72	900 RCP						0.002		31	6	
2A	117+46	900 CSP						0.002		40	6	
3	119+69	2-1700 CSP						0.002		15	3	
4	120+35	600 CSP						0.003	0.003	17	15	
5	122+60	750 RCP						0.003		23	6	
6	124+25	1400 CSP						0.002	0.001	24	9	
7	133+40	1.5m TB to TB						0.016		151	6	135
8	134+72	3-3.1m x 2.4m RCBC						0.020		36	4	
9	138+05	4-3.4m x 2.7m RCBC						0.049		62	5	
10	140+11	1780x1360 CSPA						0.006		21	3	
11	143+60	900 RCP						0.004		11		
12	146+10	2500x1830 CSPA						0.008		23	3	
13	150+63	2410x1700 CSPA						0.003		29	5	
14	156+63	3-2.1x2.1 RCBC						0.010	0.002	41	11	
14A	159+42	TAIL DITCH						0.002		3		
15	162+45	2410x1700 CSPA						0.003		25	3	
16	164+88	2-2080x1530 CSPA						0.006		34	3	
17	167+90	1830x1120 CSPA						0.004		20	3	
18	171+37	1425x950 CSPA						0.002		20	3	
19	174+19	1200 CSP										
20	175+60	Bridge (Bald Creek)						0.002	0.034	5	71	96
20A	-Y14- 10+51	1200 RCP						0.001		11	3	
21	179+58	600 RCP						0.001		10		
22	185+32	1200 CSP						0.003		47	3	
22A	185+50	1200 CSP; 600 RCP	0.046		0.005							
23	192+18	Bridge (Price Creek)	(Temp. Causeway)					0.010	0.007	11	17	
24	196+80	1000 CSP						0.001		5	3	
25	200+64	1700 CSP						0.012		41	6	
26	205+81	1400 CSP						0.002		12	3	
27	206+76	2-2300 CSP						0.016	0.003	92	17	
28	223+60	Bridge (Cane River)	(Temp. Causeway)						0.022		36	
1A	161+60		0.027			0.0155						
TOTALS:			0.073		0.005	0.016		0.193	0.072	873	256	231

Mitigation Site	Mitigation Type	Length
Site 1	Enhancement	533 m
Site 3	Enhancement	301 m
Site 4	Enhancement	248 m
Site 8	Enhancement	304 m
Site 11	Restoration	85 m
Site 12	Enhancement/Restoration	178 m

Bridge Pier impacts

Bridge at Price Creek = 2.79 sq. m

Bridge at Cane River = 3.72 sq. m

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

YANCEY COUNTY
WBS - 34445.1.1 (R-2518B)

SHEET OF ############

JMD Revised 2/03/05

REVISED FEB 2008

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	115+25	30" RCP						0.00		43	10	
2	115+72	36" RCP						0.01		102	20	
2A	117+46	36" CSP						0.01		131	20	
3	119+69	2-66" CSP						0.01		49	10	
4	120+35	24" CSP						0.01	0.01	56	49	
5	122+60	30" RCP						0.01		76	20	
6	124+25	54" CSP						0.00	0.00	79	30	
7	133+40	4.5' TB to TB						0.04		496	20	443
8	134+72	3-10'x8' RCBC						0.05		118	13	
9	138+05	4-11'x9' RCBC						0.12		204	16	
10	140+11	73"x55"CSPA						0.01		69	10	
11	143+60	42" RCP						0.01		36		
12	146+10	103"x71" CSPA						0.02		76	10	
13	150+63	95"x67" CSPA						0.01		95	16	
14	156+63	3-7'x7' RCBC						0.02	0.00	135	36	
14A	159+42	TAIL DITCH						0.00		10		
15	162+45	95"x67" CSPA						0.01		82	10	
16	164+88	2-81"x59" CSPA						0.01		112	10	
17	167+90	72"x44" CSPA						0.01		66	10	
18	171+37	58"x36" CSPA						0.01		66	10	
19	174+19	48" CSP										
20	175+60	Bridge (Bald Creek)						0.01	0.08	16	233	315
20A	-Y14- 10+51	48" RCP						0.00		36	10	
21	179+58	24" RCP						0.00		33		
22	185+32	48" CSP						0.01		154	10	
22A	185+50	48" CSP; 24" RCP	0.11		0.01							
23	192+18	Bridge (Price Creek)		(Temp. Causeway)				0.03	0.02	36	56	
24	196+80	42" CSP						0.00		16	10	
25	200+64	66" CSP						0.03		135	20	
26	205+81	54" CSP						0.00		39	10	
27	206+76	2-90" CSP						0.04	0.01	302	56	
28	223+60	Bridge (Cane River)		(Temp. Causeway)					0.05		118	
1A	161+60		0.07			0.04						
TOTALS:			0.18		0.01	0.04		0.48	0.17	2866	840	758

Mitigation Site	Mitigation Type	Length
Site 1	Enhancement	1748 ft
Site 3	Enhancement	987 ft
Site 4	Enhancement	813 ft
Site 8	Enhancement	997 ft
Site 11	Restoration	279 ft
Site 12	Enhancement/Restoration	584 ft

Bridge Pier impacts
Bridge at Price Creek = 30 sq. ft.
Bridge at Cane River = 40 sq. ft.

NOTE: All Area Qauntities of 0.00 are less than 0.01 acres

JMD Revised 2/03/05

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

YANCEY COUNTY
WBS - 34445.1.1 (R-2518B)

SHEET OF ############

REVISED FEB 2005

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

METRIC

PROJECT REFERENCE NO.	SHEET NO.
R-2518B	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST.REV.

R/W REV.

REVISIONS

NAD 83

-Y1-
PI Sta 10+30.933
Δ = 29° 31' 52.7" (RT)
L = 30.925
T = 15.814
R = 60.000
SE = 0.02

BM #2
-BY- STA 5+29.095
6.890m LEFT
ELEV. 860.195

-Y1- POT Sta. 10+00.000

-Y1- PCSta. 10+15.718

-Y1- PT Sta. 10+46.043

RONALD W. LUYCKX and, GARY L. LUYCKX
D.B. 3411 PG. 473

ADT 2008 / 2028
-L- (US 19) 8,092 / 12,008
100/100, 50/50, 50/50, 8,092/12,008 -L- (US 19)

DENOTES IMPACTS TO SURFACE WATER

DENOTES TEMPORARY IMPACTS TO SURFACE WATERS

SITE 3
SHEPARD BRANCH

NELLEEN T. ROBINSON
D.B. 162 PG. 489

JACK BUCKNER, JR. & CHRISTOPHER D. BUCKNER
D.B. 212 PG. 058

SITE 4
UT TO BALD CREEK

-Y1- POT Sta. 11+03.178
-L- POC Sta. 119+35.000

SEE ON-SITE STREAM MITIGATION PLANS OSM-1 THRU OSM-12

-L-
PI Sta 119+28.274
Δ = 66° 42' 34.6" (RT)
L = 512.293
T = 289.629
R = 440.000
SE = 0.08

JACK BUCKNER, JR. & CHRISTOPHER D. BUCKNER
D.B. 197 PG. 604

JACK BUCKNER, JR. & CHRISTOPHER D. BUCKNER
D.B. 212 PG. 058

-L- CSSta. 121+50.939

JESSE and wife, PEARL BUCKNER
D.B. 94 PG. 191

SEE STREAM MITIGATION PLANS

SEE SHEET 37 FOR -L- PROFILE
SEE SHEET 53 FOR -Y1- PROFILE

PERMIT DRAWING SHEET

W:\rmd\R2518b_Site03&4.dgn 2/19/2008 1:54:13 PM TGS

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

METRIC

PROJECT REFERENCE NO.	SHEET NO.
R-2518B	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

5 0 10

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST.REV.

R/W REV.

REVISIONS

-Y1 PI Sta 101+30.933
Δ = 29° 31' 52.7" (RT)
L = 30.925
T = 15.814
R = 60.000
SE = 0.02

-Y1- POT Sta. 10+00.000

-Y1- PCS Sta. 10+15.118

-Y1- PT Sta. 10+46.043

-L- PI Sta 119+28.274
Δ = 66° 42' 34.6" (RT)
L = 512.293
T = 289.629
R = 440.000
SE = 0.08

-Y1- POT Sta. 11+03.178 =
-L- POC Sta. 119+35.000

-L- CS Sta. 121+50.939

ADT 2008 100/100
2028 50/50 50/50
(US 19) 8,092/12,008 8,092/12,008 (US 19)

RONALD W. LUYCKX and, GARY L. LUYCKX
D.B. 341 PG. 473 ③

NELLEEN T. ROBINSON
D.B. 162 PG. 489 ④

JACK BUCKNER, JR. & CHRISTOPHER D. BUCKNER
D.B. 212 PG. 058

JACK BUCKNER, JR. & CHRISTOPHER D. BUCKNER
D.B. 197 PG. 604

JACK BUCKNER, JR. & CHRISTOPHER D. BUCKNER
D.B. 212 PG. 058 ⑤

JESSE and wife, PEARL BUCKNER
D.B. 94 PG. 191

SITE 3
SHEPARD BRANCH

SITE 4
UT TO BALD CREEK

DENOTES IMPACTS TO SURFACE WATER

DENOTES TEMPORARY IMPACTS TO SURFACE WATERS

SEE ON-SITE STREAM MITIGATION PLANS OSM-1 THRU OSM-12

SEE STREAM MITIGATION PLANS

SEE SHEET 37 FOR -L- PROFILE
SEE SHEET 53 FOR -Y1- PROFILE

PERMIT DRAWING SHEET 5

\Permit\R2518b_Site03&4.dgn 2/19/2008 1:54:36 PM TGS

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

METRIC
5 0 10

PROJECT REFERENCE NO.	SHEET NO.
R-2518B	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST. REV.
R/W REV.

REVISIONS

Pls Sta 142+90.125
Os = 0° 31' 42.8"
Ls = 36.900
LT = 24.600
ST = 12.300

Pl Sta 143+36.625
Δ = 7° 57' 33.4" (LT)
L = 68.392
T = 34.199
R = 2,000.000
SE = 0.03

Pls Sta 143+83.117
Os = 0° 31' 42.8"
Ls = 36.900
LT = 24.600
ST = 12.300

DENOTES IMPACT TO SURFACE WATER

DENOTES TEMPORARY IMPACTS TO SURFACE WATERS

-Y7- (SR 1394)
ADT 2008 208 292
2028 100 100 108 192
8,416 12,584 -L- (US 19)

NAD 83

EDNA P. JARVIS
D.B. 255 PG. 396

GARY D. PATE, one-half undivided interest;
DENNIS G. PATE and wife, LUANNE B. PATE, one-half undivided interest
D.B. 242 PG. 511

HENRY CLAY TURNER III, and wife, ELIZABETH M. TURNER
D.B. 311 PG. 218

DOUGLAS P. and wife, RACHEL SWANN
D.B. 259 PG. 355

RITA FOXX BRIGGS, BRENDA FOXX EDWARDS, JANET FOXX KIGER, and WILLIAM RANDY FOXX
D.B. 240 PG. 187

BRUCE and wife, LISA A. HARTNELL
D.B. 226 PG. 172

DAVID R. and wife, NANCY B. RUTKOWSKI
D.B. 340 PG. 92

HENRY CLAY TURNER III, and wife, ELIZABETH M. TURNER
D.B. 311 PG. 218

RITA FOXX BRIGGS, BRENDA FOXX EDWARDS, JANET FOXX KIGER, and WILLIAM RANDY FOXX
D.B. 240 PG. 187

SITE 11
UT TO BALD CREEK

SITE 12
UT TO BALD CREEK

-L- CSSta.143+70.817
-L- SCSta.143+02.425
-L- STSta.144+07.717
-Y7- POTSta.10+00.000
-Y7- POTSta.10+48.007
-L- POTSta.145+93.603

BERM DITCH
-L- 143+80+/- TO 145+40+/-, LT

BERM DITCH
-L- 145+40+/- TO 145+90+/-, LT
CL B RIP RAP: EST. 49 TONS
FILTER FABRIC: EST. 107 SM
SEE DETAIL 'B' SHEET 2-G

HEADDITCH
-L- 146+05+/-, LT
CL I RIP RAP: EST. 42 TONS
FILTER FABRIC: EST. 90 SM
SEE DETAIL 'I' SHEET 2-H

FALSE SUMP
SEE DETAIL 'J' SHEET 2-G

CL B RIP RAP
EST. 40 TONS

CL B RIP RAP:
EST. 1.8 TONS
FILTER FABRIC:
EST. 5.9 SM

CL B RIP RAP:
EST. 0.9 TONS
FILTER FABRIC:
EST. 4.2 SM

LAT. BASE DITCH
-L- 142+16 TO 143+00, RT
DDE: EST. 68 CuM
SEE DETAIL 'C' SHEET 2-G

400 CSP
16ga. (1.63mm)
W/2 ELBOWS

2500x1830 (103"x71")
CSP ARCH
129A. (2.77mm)
75X 25 Corr.

BACKFILL PIPE EXTENSION W/NAT. BED MATERIAL

REMOVE EXISTING FENCE

TIE FENCE TO WW

TIE TO EXIST. FENCE

END FENCE

BEGIN FENCE

18.288m (60')
EXISTING ACCESS POINT

BALD CREEK

SOIL

RETAIN

RETAIN EXTEND

REMOVE

REM. HW

CONC

GRAU

BST

RCP

CMP

WW & ISBW

SEE SHEET 41 FOR -L- PROFILE
SEE SHEET 54 FOR -Y7- PROFILE

PERMIT DRAWING SHEET 12

PIs Sta 142+90.125
GS = 0°31'42.8"
Ls = 36.900
LT = 24.600
ST = 12.300

PI Sta 143+36.625
Δ = 1°57'33.4" (LT)
L = 68.392
T = 34.199
R = 2,000.000
SE = 0.03

PIs Sta 143+83.117
GS = 0°31'42.8"
Ls = 36.900
LT = 24.600
ST = 12.300

DENOTES IMPACT TO SURFACE WATER

DENOTES TEMPORARY IMPACTS TO SURFACE WATERS

ADT 2008
2028

-Y7- (SR 1394)
208
232

100
100

108
132

8,416
12,584
-L- (US 19)

408
492

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

METRIC
5 0 10

CONST. REV.
R/W REV.

PROJECT REFERENCE NO.: R-2518B
SHEET NO.: 12
R/W SHEET NO.:
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

GARY D. PATE, one-half undivided interest; DENNIS G. PATE and wife, LUANNE B. PATE, one-half undivided interest
D.B. 242 PG. 511

HENRY CLAY TURNER III, and wife, ELIZABETH M. TURNER
D.B. 311 PG. 218

DOUGLAS P. and wife, RACHEL SWANN
D.B. 259 PG. 355

RITA FOXX BRIGGS, BRENDA FOXX EDWARDS, JANET FOXX KIGER, and WILLIAM RANDY FOXX
D.B. 240 PG. 187

EDNA P. JARVIS
D.B. 255 PG. 396

CEMETERY

POND

-L- CSSta.143+70.817

-L- SCSta.143+02.425

-L- STSta.144+07.717

-Y7- POTSta.10+00.000

SITE 11
UT TO BALD CREEK

SITE 12
UT TO BALD CREEK

-Y7- POTSta.10+48.007
-L- POTSta.145+93.603

BERM DITCH
-L- 143+80+/- TO 145+40+/-,LT

BERM DITCH
-L- 145+40+/- TO 145+90+/-,LT
CL B RIP RAP: EST. 49 TONS
FILTER FABRIC: EST. 107 SM
SEE DETAIL 'B' SHEET 2-G

CL B RIP RAP
EST. 40 TONS

FALSE SUMP
SEE DETAIL I SHEET 2-G

RETAIN

HEADDITCH
-L- 146+05+/-,LT
CL 1 RIP RAP: EST. 42 TONS
FILTER FABRIC: EST. 90 SM
SEE DETAIL 'I' SHEET 2-H

HEADWALL

2500x1830 (103"x71") CSP ARCH
12GA. (2.77mm)
75X 25 Corr.

REM. HW

3.8 CONC HW

BACKFILL PIPE EXTENSION W/NAT. BED MATERIAL

400 CSP
16ga. (1.63mm)
W/2-ELBOWS

CL B RIP RAP:
EST. 0.9 TONS
FILTER FABRIC:
EST. 4.2 SM

REMOVE EXISTING FENCE

TIE FENCE TO WW

LAT. BASE DITCH
-L- 142+18 TO 143+00, RT
DDE: EST. 68 CuM
SEE DETAIL 'C' SHEET 2-G

BALD CREEK

END FENCE
BEGIN FENCE
18.288m (60')
EXISTING ACCESS POINT

BRUCE and wife, LISA A. HARTNELL
D.B. 226 PG. 172

DAVID R. and wife, NANCY B. RUTKOWSKI
D.B. 340 PG. 92

RETAIN EXTEND

SEE SHEET 41 FOR -L- PROFILE
SEE SHEET 54 FOR -Y7- PROFILE

PERMIT DRAWING SHEET

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

METRIC

5 0 10

PROJECT REFERENCE NO.	SHEET NO.
R-2518B	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST. REV.

R/W REV.

REVISIONS

3/17/08

GUY PHILLIPS, ARVIL KING, and G.B. MANEY, TRUSTEES FOR CAN RIVER BAPTIST CHURCH
D.B. 225 PG. 180

CAN RIVER BAPTIST CHURCH

JOHN S. LEDFORD
D.B. 109 PG. 462

MARY ROSE SILVERS
D.B. 113 PG. 148

JACK McINTOSH and wife, IRENE HILL McINTOSH
D.B.176 PG.487

KENNETH P. HUNTER and wife, MILDRED W. HUNTER
D.B. 134 PG. 71

BURGIN SILVERS and wife, MARY ROSE SILVERS
D.B. 113 PG. 146

RALPH T. PROFFITT and wife, JUANITA W. PROFFITT
D.B. 138 PG. 621

NAD 83

-Y16- POT Sta.10+00.000
-Y16- PCSta.10+22.715
-L- POT Sta. 202+03.980
-Y16- POC Sta. 11+02.891
-Y16- PCSta.10+74.020
-Y16- PTSta.10+54.363
-Y16- PTSta.11+28.362
-Y16- POTSta.11+67.421

BM #16
-BYI8- STA 6+40.907
12.370 LEFT
-Y16- 10+59.335
16.399m LT
ELEV. 793.839

-Y16-
PI Sta 10+38.733
Δ = 21° 50' 48.3" (RT)
L = 31.648
T = 16.018
R = 83.000
SE = EXISTING

PI Sta 11+01.351
Δ = 15° 11' 16.8" (RT)
L = 54.342
T = 27.331
R = 205.000
SE = 0.02

S 25° 54' 49.4" E
S 10° 31' 40.0" E
S 4° 01' 01.6" E
S 11° 10' 15.7" W
S 12° 39' 29.0" W
S 89° 37' 53.9" E
N 89° 57' 25.1" E
S 88° 57' 42.7" E

1700 CSP 10ga.(3.51mm) (75x25 Corr.)
400 CSP 16ga.(1.63mm) W/2 ELBOWS ROD & LUG CONNECTORS W/SLEEVES
600 RCP INLET STUB
375 RCP
2GI FLAT GRATE
GRAU 350
CONV. DI TO JB/W MHC
REMOVE EXISTING GUARDRAIL
TIE WW FENCE TO EXIST.WW
REMOVE 450mm CMP
REM. 2GI
REM. HW
1.5*+/- VERT. ELBOW
HEADWALL
GRADE TO DRAIN
RETAIN 450mm CMP
RETAIN AND EXTEND 1100mm CMP
1800mm CONC RETAIN
1200mm WW & ISBW
EXISTING R/W
R/W MON.
GR
ISBLD
W/LT

LAT. BASE DITCH
-L- 200+32 TO 200+75, RT
PSRM: EST. 110 SM
DDE: EST. 320 CUM
SEE DETAIL 'A' SHEET 2-H

LAT. BASE DITCH
-L- 200+80 TO 201+90, RT
PSRM: EST. 290 SM
DDE: EST. 400 CUM
SEE DETAIL 'N' SHEET 2-H

CL I RIP RAP:
EST. 72.7 TONS
FILTER FABRIC:
EST. 43.5 SM

CL B RIP RAP:
EST. 1.8 TONS
FILTER FABRIC:
EST. 5.9 SM

CL B RIP RAP:
EST. 0.9 TONS
FILTER FABRIC:
EST. 4.2 SM

RIP RAP BANKS ONLY

SITE 25
UT TO CANE RIVER

S = DENOTES IMPACTS TO SURFACE WATER

TS = DENOTES TEMPORARY IMPACTS TO SURFACE WATERS

-Y16- (SR 1137)

825 / 1,075			
8 / 92	817 / 983	10,684 / 15,516	-L- (US 19)
9,658 / 14,242	100 / 100	317 / 483	
	417 / 583		

ADT 2008 / 2028

-Y16- (SR 1137)

SEE SHEET 49 FOR -L- PROFILE
SEE SHEET 56 FOR -Y16- PROFILE

PERMIT DRAWING SHEET 28

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TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

METRIC

PROJECT REFERENCE NO.	SHEET NO.
R-2518B	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

5 0 10

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST.REV.

R/W REV.

REVISIONS

8/27/25

GUY PHILLIPS, ARVIL KING, and G.B. MANLY, TRUSTEES FOR CAN RIVER BAPTIST CHURCH D.B. 22?, PG. 180

JOHN S. LEDFORD D.B. 109 PG. 462

MARY ROSE SILVERS D.B. 113 PG. 146

JACK McINTOSH and wife, IRENE HILL McINTOSH D.B.176 PG.487

KENNETH P. HUNTER and wife, MILDRED W. HUNTER D.B. 134 PG. 71

BURGIN SILVERS and wife, MARY ROSE SILVERS D.B. 113, PG. 146

KENNETH P. HUNTER and wife, MILDRED W. HUNTER D.B. 134 PG. 71

RALPH T. PROFFITT and wife, JUANITA W. PROFFITT D.B. 138 PG. 62!

KENNETH P. HUNTER and wife, MILDRED W. HUNTER D.B. 134 PG. 71

NAD 83

-Y16- POT Sta. 10+00.000

-Y16- PCSta. 10+22.715

-L- POT Sta. 202+03.980

-Y16- POC Sta. 11+02.891

-Y16- PCSta. 10+74.020

-Y16- PTSta. 10+54.363

-Y16- PTSta. 11+28.362

-Y16- POTSta. 11+67.421

BM #16
BYIR STA 6+40.907
12.370 LEFT
-Y16- 10+59.335
16.399m LT
ELEV. 793.839

-Y16-

PI Sta 10+38.733
Δ = 21° 50' 48.3" (RT)
L = 31.648
T = 16.018
R = 83.000
SE = EXISTING

PI Sta 11+01.351
Δ = 15° 11' 16.8" (RT)
L = 54.342
T = 27.331
R = 205.000
SE = 0.02

S 25° 54' 49.4" E

S 10° 31' 40.0" E

S 4° 01' 01.6" E

S 17° 10' 15.7" W

S 12° 39' 29.0" W

S 89° 37' 53.9" E

N 89° 57' 25.1" E

S 88° 57' 42.7" E

LAT. BASE DITCH
-L- 200+48 TO 201+16, LT
CL B RIP RAP: EST. 84 TONS
FILTER FABRIC: EST. 218 SM
DDE: EST. 160 CuM
SEE DETAIL 'K' SHEET 2 G

LAT. BASE DITCH
-L- 200+32 TO 200+75, RT
PSHM: EST. 135 SM
DDE: EST. 320 CuM
SEE DETAIL 'A' SHEET 2-H

LAT. BASE DITCH
-L- 200+80 TO 201+90, RT
PSHM: EST. 290 SM
DDE: EST. 400 CuM
SEE DETAIL 'N' SHEET 2-H

BERM DITCH
-L- 202+10+/- TO 205+05+/-, RT

CL I RIP RAP: EST. 72.7 TONS FILTER FABRIC: EST. 43.5 SM

CL B RIP RAP: EST. 1.8 TONS FILTER FABRIC: EST. 5.9 SM

CL B RIP RAP: EST. 0.9 TONS FILTER FABRIC: EST. 4.2 SM

CL B RIP RAP: EST. 0.9 TONS FILTER FABRIC: EST. 2.8 SM

RIP RAP BANKS ONLY

REMOVE EXISTING GUARDRAIL

TIE WW FENCE TO EXIST. WW

REMOVE 2GI FLAT GRATE

REM. HW
CONC HW

REMOVE 450mm CMP

REMOVE 600 RCP INLET STUB

GRADE TO DRAIN

SITE 25
UT TO CANE RIVER

DENOTES IMPACTS TO SURFACE WATER

DENOTES TEMPORARY IMPACTS TO SURFACE WATERS

-Y16- (SR 1137)

	825 / 1,075		
	8 / 92	817 / 983	10,684 / 15,516
-L- (US 19)	9,658 / 14,242	100 / 100	317 / 483
			417 / 583

-L- (US 19)

ADT 2008 / 2028

-Y16- (SR 1137)

SEE SHEET 49 FOR -L- PROFILE
SEE SHEET 56 FOR -Y16- PROFILE

PERMIT DRAWING SHEET 28

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

PROJECT REFERENCE NO.	SHEET NO.
R-2518B	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST.REV.

R/W REV.

REVISIONS

Pls Sta 207+48.543
Os = 7.49' 08.2"
Ls = 73.800
Lt = 49.206
St = 24.606

Pls Sta 208+38.740
Os = 1.45' 43.4"
Ls = 61.500
Lt = 41.002
St = 20.500

Pl Sta 210+99.626
Δ = 27° 02' 00.7" (Lt)
L = 471.824
T = 240.388
R = 1,000.000
SE = 0.05

PAULINE MANEY BANKS
D.B. 92 PG. 409

LEROY RIDDLE
D.B. 209 PG. 679

DIANE MURPHY
D.B. 332 PG. 594

DONALD A. BLANKENSHIP
and wife,
BARBARA H. BLANKENSHIP
D.B. 187 PG. 651

DONNY J. LAWS and
ZONA ALESA BRYANT
D.B. 207 PG. 125

DONNY J. LAWS and
ZONA ALESA BRYANT
D.B. 213 PG. 186

THOMAS PLATO RAY
D.B. 134 PG. 258

MYRA M. BALL
D.B. 262 PG. 563

MYRA BALL
and husband,
DANNY BALL
D.B. 286 PG. 58

LAT. BASE DITCH
-L- 207+66 TO 208+00, LT
PSRM: EST. 90 SM
DDE: EST. 150 CuM
SEE DETAIL 'R' SHEET 2-H

-L- SCSta.208+59.238

SITE 27
UT TO CANE RIVER

-L- SRSSta.207+97.738

-L- CSSta.207+23.938

SEE ON-SITE STREAM MITIGATION PLANS OSM-1 THRU OSM-12

SEE STREAM MITIGATION PLANS

DENOTES IMPACTS TO SURFACE WATER

DENOTES TEMPORARY IMPACTS TO SURFACE WATERS

SEE SHEET 50 FOR -L- PROFILE

PERMIT DRAWING SHEET 30

NAD 83

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

METRIC
5 0 10

PROJECT REFERENCE NO.	SHEET NO.
R-2518B	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST.REV.
R/W REV.

REVISIONS

-L-
PIs Sta 207+48.543
Δs = 2°49'08.2"
Ls = 73.800
LT = 49.206
ST = 24.606

PIs Sta 208+38.140
Δs = 1°45'42.6"
Ls = 61.500
LT = 41.002
ST = 20.502

PI Sta 210+99.626
Δ = 27°02'00.7" (LT)
I = 471.824
l = 240.388
R = 1,000.000
SI = 0.05

NAD 83

PAULINE MANEY BANKS
D.B. 92 PG. 409

(30) LEROY RIDDLE
D.B. 209 PG. 679

(31) DIANE MURPHY
D.B. 332 PG. 594

(32) DONALD A. BLANKENSHIP and wife, BARBARA H. BLANKENSHIP
D.B. 187 PG. 651

DONNY J. LAWS and ZONA ALESA BRYANT
D.B. 207 PG. 125

DONNY J. LAWS and ZONA ALESA BRYANT
D.B. 213 PG. 186

MYRA BALL and husband, DANNY BALL
D.B. 286 PG. 58

MYRA M. BALL
D.B. 262 PG. 563

THOMAS PLATO RAY
D.B. 134 PG. 258

LAT. BASE DITCH
-L- 207+66 TO 208+00, LT
PSRM: EST. 50 SM
DDE: EST. 150 CuM
SEE DETAIL 'R' SHEET 2-H

SITE 27
UT TO CANE RIVER
-L- SCSta. 208+59.238

-L- SRSSta. 207+97.738

-L- CSSta. 207+23.938

SEE STREAM MITIGATION PLANS

SEE ON-SITE STREAM MITIGATION PLANS OSM-1 THRU OSM-12

DENOTES IMPACTS TO SURFACE WATER

DENOTES TEMPORARY IMPACTS TO SURFACE WATERS

SEE SHEET 50 FOR -L- PROFILE

PERMIT DRAWING SHEET 3

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TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

METRIC

PROJECT REFERENCE NO.	SHEET NO.
R-2518B	34
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST. REV.

R/W REV.

REVISIONS

SEE STREAM MITIGATION PLANS

PI Sta 10+62.629
Δ = 55° 51' 49.9" (RT)
L = 32.965
T = 17.819
R = 35.000
SE = 0.04

PI Sta 11+02.113
Δ = 15° 12' 15.2" (LT)
L = 16.759
T = 8.459
R = 50.000
SE = 0.02

SEE SHEET 36 FOR -Y21- TRAFFIC DIAGRAM

ADT 2008 2028
-L- (US 19) 13,558 19,142
-Y19- 3,925 4,175
1,150 1,650
1,775 2,525
14,183 20,017
(US 19)

NAD 83

-Y19- POT Sta.10+00.000

-Y19- PCSta.10+44.809

-Y19- PTSta.10+77.774

-Y19- PCSta.10+93.654

-L- POT Sta.222+61.890 =
-Y19- PTSta.11+10.413 =
-Y20- POT Sta.10+00.000

-Y20- PCSta.10+14.195

-Y20- PTSta.10+31.681

-Y20- PCSta.10+49.126

-Y20- POT Sta.11+38.714

-Y21- PCSta.11+59.693

-Y21- PTSta.11+36.385

-L- POT Sta.224+82.890 =
-Y21- POT Sta.12+72.674

-Y21-
PI Sta 11+00.210
Δ = 57° 03' 02.2" (LT)
L = 79.658
T = 43.482
R = 80.000
SE = 0.08

PI Sta 12+18.161
Δ = 72° 19' 20.0" (RT)
L = 100.981
T = 58.468
R = 80.000
SE = 0.08

PI Sta 10+23.313
Δ = 40° 04' 28.6" (LT)
L = 17.486
T = 9.118
R = 25.000
SE = 0.02

-DR7- PTSta. 10+61.448

-DR7- POT Sta.10+87.514 =
-Y21- POT Sta.12+39.000

SITE 28

ROBERTS INSURANCE AGENCY, INC.
DB 235 PG 382

TIMOTHY PARKER
DB 308 PG 517

HAL W. COOPER
DB 122 PG 437

GARY ADKINS
DB 209 PG 755

CHRISTOPHER WARREN COOPER
DB 288 PG 695

JOHN RANSOM RIDDLE
DB 211 PG 251

SHANNON COOPER

J. D. SILVERS
DB 213 PG 39

DONALD H. RAY
DB 287 PG 121

BOYD WHEELER
DB 202 PG 672

JOHN A. COOPER
DB 137 PG 463

LATERAL BASE DITCH
-L- 223+80 TO 224+73+/-, LT
PSNK: EST. 180 SW
DDE: EST. 320 CuM
SEE DETAIL 'L' SHEET 2-G

TAIL BASE DITCH
-L- 223+34 TO 223+41+/-, RT
PSNK: EST. 32 SW
DDE: EST. 150 CuM
SEE DETAIL 'W' SHEET 2 H

SPECIAL DITCH
-Y21- 12+20 TO 12+42+/- RT
SEE DETAIL 'AA', SHT 2-H
HAZARDOUS SPILL RETENTION BASIN
SEE DETAIL, SHEET 2-K

FALSE SUMP
SEE DETAIL 1 SHEET 2-G

SLUICE GATE
INSTALL INVERT 0.3M ABOVE BOTTOM OF BASIN

HAZARDOUS SPILL RETENTION BASIN
SEE DETAIL, SHEET 2-K

CL B RIP RAP:
EST. 4.5 TONS
FILTER FABRIC:
EST. 11.7 SM

CL B RIP RAP:
EST. 1.8 TONS
FILTER FABRIC:
EST. 5.9 SM

CL II RIPRAP

REMOVE EXISTING GUARDRAIL

SEE STREAM MITIGATION PLANS

TS / TS DENOTES TEMPORARY IMPACTS TO SURFACE WATER

SEE STRUCTURES PLANS S-XX THROUGH S-XX

SEE SHEET 52 FOR -L- PROFILE
SEE SHEET 57 FOR -Y19- PROFILE
SEE SHEET 57 FOR -Y20- PROFILE
SEE SHEET 58 FOR -Y21- PROFILE
SEE SHEET 59 FOR -DR7- PROFILE

REVISED FEB 2008
PERMIT DRAWING SHEET 34

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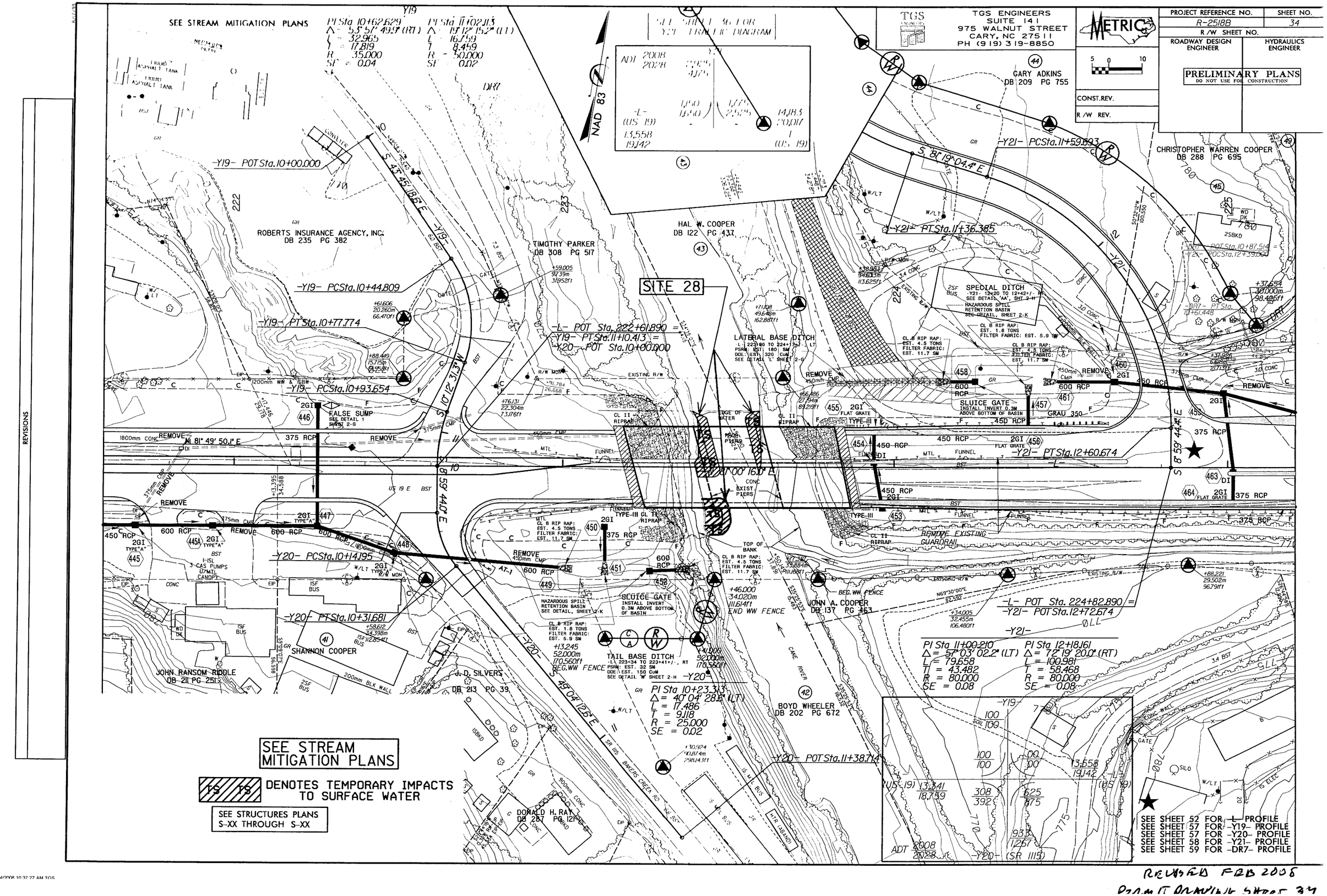

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

METRIC 5 0 10

PROJECT REFERENCE NO.	SHEET NO.
R-2518B	34
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST. REV.

R/W REV.

REVISIONS

REVISED FEB 2008
PERMIT DRAWING SHEET 34

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TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

METRIC

PROJECT REFERENCE NO.	SHEET NO.
R-2518B	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST.REV.

R/W REV.

-Y1- (SR 1397)
ADT 2008 / 2028
100 / 100
50 / 50 | 50 / 50
-L- (US 19) 8,092 / 12,008 | 8,092 / 12,008 -L- (US 19)

-Y1-
PI Sta 10+30.933
Δ = 29° 31' 52.7" (RT)
L = 30.925
T = 15.814
R = 60.000
SE = 0.02

BM #2
-BY- STA 5+29.095
6.890m LEFT
ELEV. 860.195

-Y1- POT Sta. 10+00.000
BEGIN CONSTRUCTION

-Y1- PC Sta. 10+15.118

-Y1- PT Sta. 10+46.043

-BL- 95 10+75.996 PINC
-L- Sta. 119+38.284 (28.417m LT)
-BY- 6+10.147 POT
-Y1- Sta. 10+75.711 (6.675m LT)

-L-
PI Sta 119+28.274
Δ = 66° 42' 34.6" (RT)
L = 512.293
T = 289.629
R = 440.000
SE = 0.08

-Y1- POT Sta. 11+03.178 ±
-L- POC Sta. 119+35.000

-L- CS Sta. 121+50.939

RONALD W. LUYCKX and, GARY L. LUYCKX
D.B. 341 PG. 473

NELLEEN T. ROBINSON
D.B. 162 PG. 489

JACK BUCKNER, JR. & CHRISTOPHER D. BUCKNER
D.B. 212 PG. 058

JACK BUCKNER, JR. & CHRISTOPHER D. BUCKNER
D.B. 197 PG. 604

JESSE and wife, PEARL BUCKNER
D.B. 94 PG. 191

NAD 83

MATCHLINE -L- STA. 118+20.000 – SEE SHEET 4

MATCHLINE -L- STA. 121+60.000 – SEE SHEET 6

SEE ON-SITE STREAM MITIGATION PLANS OSM-1 THRU OSM-12

SEE SHEET 37 FOR -L- PROFILE
SEE SHEET 53 FOR -Y1- PROFILE

ROADWAY SHEET 5

20-FEB-2008 10:42
C:\Projects\2518b_roadway.prt
Scale: 1"=50'

PROJECT REFERENCE NO.	SHEET NO.
R-2518B	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST. REV.

R/W REV.

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

METRIC
5 0 10

-L-
PIs Sta 142+90.125
θs = 0° 31' 42.8"
Ls = 36.900
LT = 24.600
ST = 12.300

PI Sta 143+36.625
Δ = 1° 57' 33.4" (LT)
L = 68.392
T = 34.199
R = 2,000.000
SE = 0.03

PIs Sta 143+83.117
θs = 0° 31' 42.8"
Ls = 36.900
LT = 24.600
ST = 12.300

ADT 2008 / 2028

-Y7- (SR 1394)
208 / 292
100 / 100
108 / 192
8,416 / 12,584

-L- (US 19) 8,408 / 12,492 -L- (US 19)

N 28° 13' 52" E 47.854m
S 3° 38' 58" E 38.405m
S 7° 01' 59" W 41.148m
S 77° 01' 59" W 25.239m
S 71° 58' 10" E 38.494m

NAD 83

143
144
145
146

EDNA P. JARVIS
D.B. 255 PG. 396

GARY D. PATE, one-half undivided interest;
DENNIS G. PATE and wife, LUANNE B. PATE, one-half undivided interest
D.B. 242 PG. 511

HENRY CLAY TURNER III, and wife, ELIZABETH M. TURNER
D.B. 311 PG. 218
(HISTORIC PROPERTY)

DOUGLAS P. and wife, RACHEL SWANN
D.B. 259 PG. 355

RITA FOXX BRIGGS, BRENDA FOXX EDWARDS, JANET FOXX KIGER, and WILLIAM RANDY FOXX
D.B. 240 PG. 187

CEMETERY

-BY7- 110 5+84.324 PINC
-L- Sta. 10+05.310 (5.947m LT)

-L- CSSta.143+70.817
-L- SCSta.143+02.425
-L- STSta.144+07.717
-Y7- POTSta.10+00.000
-Y7- STA.10+20.000 BEGIN CONSTRUCTION

-L- 148+40+/- TO 148+80+/- LT
CL B RIP RAP; EST. 40 TONS
FILTER FABRIC; EST. 107 SM
SEE DETAIL 'B' SHEET 2-B

BERM DITCH
-L- 149+80+/- TO 148+40+/- LT

HEADDITCH
-L- 148+00+/- LT
CL 2 RIP RAP; EST. 42 TONS
FILTER FABRIC; EST. 90 SM
SEE DETAIL 'F' SHEET 2-H

HEADWALL

2500x1830 (103"x71") CSP ARCH
12GA.(2.77mm)
75X 25 Corr. 90m TAPER

RETAIN

FALSE SUMP
SEE DETAIL 1 SHEET 2-G

CL B RIP RAP
EST. 40 TONS

BACKFILL PIPE EXTENSION W/NAT. BED MATERIAL

-Y7- POTSta.10+48.007
-L- POT Sta.145+93.603

-BL- 22 37+33.063 PINC
-L- Sta.145+74.346 (12.619m RT)
6+57.726 POT

TIE FENCE TO WW

REMOVE EXISTING FENCE

LAT. BASE DITCH
-L- 142+10 TO 143+00, RT
CDE: EST. 68 CUM
SEE DETAIL 'D' SHEET 2-D

TIE TO EXIST. FENCE

END FENCE
BEGIN FENCE
18.288m (60')
EXISTING ACCESS POINT

BRUCE and wife, LISA A. HARTNELL
D.B. 226 PG. 172

DAVID R. and wife, NANCY B. RUTKOWSKI
D.B. 340 PG. 92

HENRY CLAY TURNER III, and wife, ELIZABETH M. TURNER
D.B. 311 PG. 218

RITA FOXX BRIGGS, BRENDA FOXX EDWARDS, JANET FOXX KIGER, and WILLIAM RANDY FOXX
D.B. 240 PG. 187

BALD CREEK

MATCHLINE -L- STA. 142+80.000 – SEE SHEET 11

MATCHLINE -L- STA. 146+40.000 – SEE SHEET 13

SEE SHEET 41 FOR -L- PROFILE
SEE SHEET 54 FOR -Y7- PROFILE

ROADWAY SHEET 12

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

METRIC

5 0 10

PROJECT REFERENCE NO.	SHEET NO.
R-2518B	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

CONST. REV.

R/W REV.

MATCHLINE -L- STA. 200+20.000 – SEE SHEET 27

MATCHLINE -L- STA. 203+80.000 – SEE SHEET 29

JOHN S. LEDFORD
D.B. 109 PG. 462

MARY ROSE SILVERS
D.B. 113 PG. 146

GUY PHILLIPS, ARVIL KING, and G.B. MANEY, TRUSTEES FOR CAN RIVER BAPTIST CHURCH
D.B. 225 PG. 180

CANE RIVER BAPTIST CHURCH

JACK McINTOSH and wife, IRENE HILL McINTOSH
D.B. 176 PG. 487

KENNETH P. HUNTER and wife, MILDRED W. HUNTER
D.B. 134 PG. 71

BURGIN SILVERS and wife, MARY ROSE SILVERS
D.B. 113 PG. 146

KENNETH P. HUNTER and wife, MILDRED W. HUNTER
D.B. 134 PG. 71

RALPH T. PROFFITT and wife, JUANITA W. PROFFITT
D.B. 138 PG. 621

-Y16- POT Sta. 10+00.000

-Y16- PCSta. 10+22.715

-L- POT Sta. 202+03.980
-Y16- POC Sta. 11+02.891

BEGIN CONSTRUCTION
-Y16- STA. 10+70.000

-Y16- PCSta. 10+74.020

-Y16- PTSta. 10+54.363

PI Sta 10+38.733
Δ = 21° 50' 48.3" (RT)
L = 31.648
T = 16.018
R = 83.000
SE = EXISTING

PI Sta 11+01.351
Δ = 15° 11' 16.8" (RT)
L = 54.342
T = 27.331
R = 205.000
SE = 0.02

-L- 202+80
BEGIN SHOULDER BERM GUTTER

-L- 203+40
END SHOULDER BERM GUTTER

-Y16- PTSta. 11+28.362

END CONSTRUCTION
-Y16- STA. 11+35.000

-Y16- POTSta. 11+67.421

-L- 200+30
BEGIN SHOULDER BERM GUTTER

-L- 201+87
END SHOULDER BERM GUTTER

-BY18- 132 6+11.473 PINC
-Y16- Sta. 10+32.243 (3.836m LT)

BM #16
-BY18- STA 6+40.907
12.370 LEFT
-Y16- 10+59.335
16.399m LT
ELEV. 793.839

-BL- 58 93+98.679 PINC
-L- Sta. 202+33.923 (0.850m RT)
-BY17- 5+00.000 POT
-BY18- 6+85.059 POT
-Y16- Sta. 11+03.106 (11.288m LT)

-BY17- 131 6+16.460 POT

LAT. BASE DITCH
-L- 200+48 TO 201+10 LT
CL B RIP RAP: EST. 84 TONS
FILTER FABRIC: EST. 210 SM
DOE: EST. 190 CUM
SEE DETAIL 'R' SHEET 2-G

LAT. BASE DITCH
-L- 200+32 TO 200+78, RT
PERM: EST. 140 SM
DOE: EST. 960 CUM
SEE DETAIL 'N' SHEET 2-H

LAT. BASE DITCH
-L- 200+80 TO 201+80, RT
PERM: EST. 290 SM
DOE: EST. 400 CUM
SEE DETAIL 'N' SHEET 2-H

BERM DITCH
-L- 202+10+/- TO 203+05+/-, RT

1700 CSP
10gs. (3.81m)
(78x28 Corr.)

400 CSP
19gs. (1.69m) W/8 ELBOWS
ROD & LUG CONNECTORS W/SLEEVES

800 RCP INLET STUB

375 RCP

GRAU 350

CONV. DI TO JB/W MHC

REMOVE EXISTING GUARDRAIL

REMOVE

REM. 2GI

REM. HW
2.4 CONC HW

HEADWALL

1.8*+/- VERT. ELBOW

1.8*+/- HORIZ ELBOW W/ 3*+/- VERT. BEND

RETAIN

RETAIN AND EXTEND

TRANS. TO EXISTING

GRADE TO DRAIN

TRANSITION TO EXISTING

90m TAPER

PROP. RAISED GRASS MEDIAN

PROP. MONO. CONC. ISLAND

161.5m FULL LANE

S 89°37'53.9" E

S 25°51'49.4" E

S 21°10'15.7" W

NAD 83

SOIL

ISBD

ISBK

ISBW

1200mm WW & ISBW

1100mm CMP

450mm CMP

900mm CONC

CL B RIP RAP: EST. 1.8 TONS
FILTER FABRIC: EST. 8.9 SM

CL B RIP RAP: EST. 0.9 TONS
FILTER FABRIC: EST. 4.2 SM

CL B RIP RAP: EST. 0.9 TONS
FILTER FABRIC: EST. 4.6 SM

CL I RIP RAP: EST. 78.7 TONS
FILTER FABRIC: EST. 43.8 SM

RIP RAP BANKS ONLY

-Y16-

203

KENNETH P. HUNTER and wife, MILDRED W. HUNTER
D.B. 134 PG. 71

-Y16- (SR 1137)

	825 / 1,075	
8 / 92		817 / 983
-L- (US 19) 9,658 / 14,242		10,684 / 15,516 -L- (US 19)
100 / 100		317 / 483
	417 / 583	

ADT 2008 / 2028

-Y16- (SR 1137)

SEE SHEET 49 FOR -L- PROFILE
SEE SHEET 56 FOR -Y16- PROFILE

ROADWAY SHEET 25

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

METRIC
5 0 10

PROJECT REFERENCE NO.	SHEET NO.
R-2518B	30
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONST.REV.

R/W REV.

-L-
PIs Sta 207+48.543 Es = 2.49' 08.2" Ls = 73.800 LT = 49.206 ST = 24.606
PIs Sta 208+38.740 Es = 1.45' 42.6" Ls = 61.500 LT = 41.002 ST = 20.502
PI Sta 210+99.626 Δ = 27° 02' 00.7" (LT) L = 471.824 T = 240.388 R = 1,000.000 SE = 0.05

NAD 83

PAULINE MANEY BANKS
D.B. 92 PG. 409

LEROY RIDDLE
D.B. 209 PG. 679

DIANE MURPHY
D.B. 332 PG. 594

DONALD A. BLANKENSHIP and wife, BARBARA H. BLANKENSHIP
D.B. 187 PG. 651

DONNY J. LAWS and ZONA ALESA BRYANT
D.B. 207 PG. 125

DONNY J. LAWS and ZONA ALESA BRYANT
D.B. 213 PG. 186

MYRA BALL and husband, DANNY BALL
D.B. 286 PG. 58

MYRA M. BALL
D.B. 262 PG. 563

THOMAS PLATO RAY
D.B. 134 PG. 258

LAT. BASE DITCH
-L- 207+68 TO 208+00, LT
PERM: EST. 80 SM
DOE: EST. 190 CuM
SEE DETAIL 'R' SHEET 2-H

BERM DITCH
-L- 208+55+/- TO 209+55+/-, LT

BASE DITCH
-L- 208+50+/-, RT
CL B RIP RAP: EST. 97 TONS
FILTER FABRIC: EST. 134 SM
DOE: EST. 48 CuM
SEE DETAIL 'X' SHEET 2-H

-BL- 63 100+52.967 PINC
-L- Sta. 208+89.499 (1.394m RT)
-L- SCSta. 208+59.238
-L- SRSSta. 207+97.738
-L- CSSta. 207+23.938

SEE ON-SITE STREAM MITIGATION PLANS OSM-1 THRU OSM-12

SEE SHEET 29

MATCHLINE -L- STA. 207+20.000 - SEE SHEET 30

MATCHLINE -L- STA. 210+80.000 - SEE SHEET 31

SEE SHEET 50 FOR -L- PROFILE

ROADWAY SHEET 30