

WBS: 37645 & 37857

CONTRACT: C201667

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**McDOWELL COUNTY**

**EROSION CONTROL PLANS**

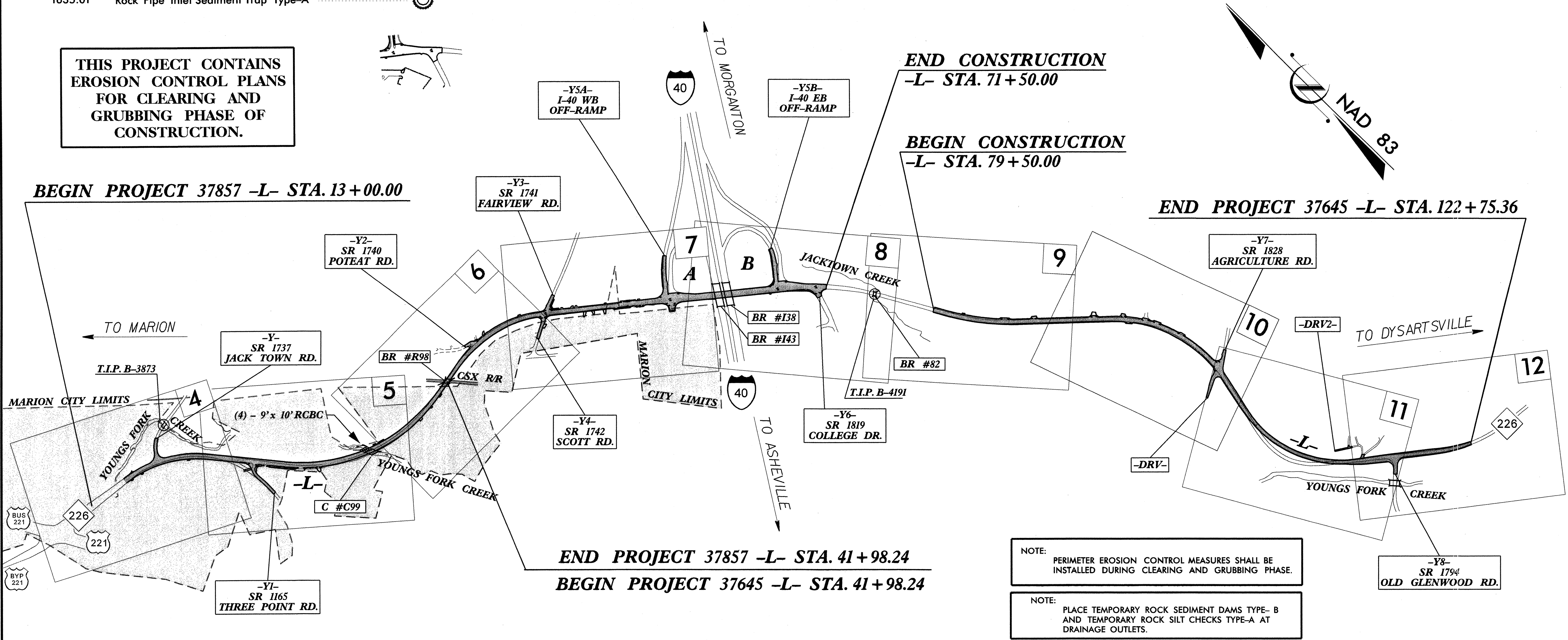
LOCATION: 37857 - NC 226 FROM EAST OF US 221 TO CSX RAILROAD  
37645 - NC 226 FROM CSX RAILROAD TO EAST OF SR 1794

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	37645 & 37857	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
37857		PE, RW, UTIL	
37645		PE, RW, UTIL	

EROSION AND SEDIMENT CONTROL MEASURES

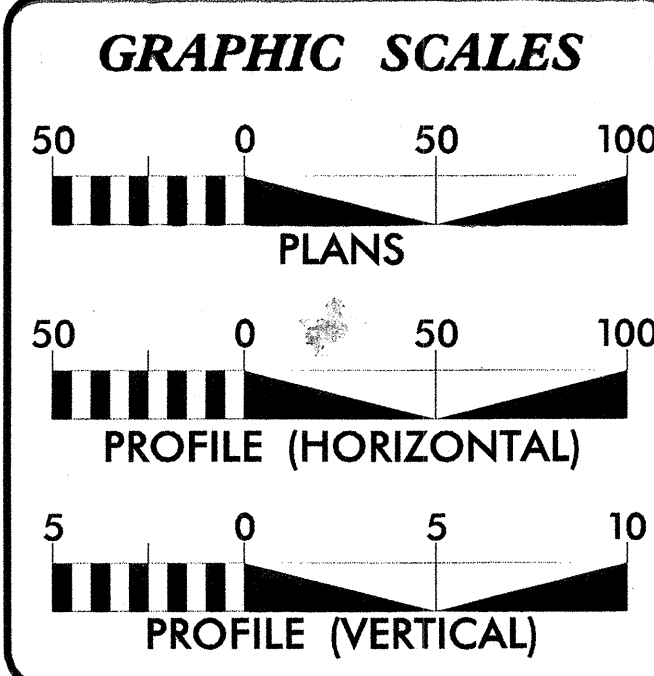
Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1630.02	Silt Basin, Type-B	
1632.01	Rock Inlet Sediment Trap, Type-A	
1632.03	Rock Inlet Sediment Trap, Type-C	
1633.01	Temporary Rock Silt Check Type-A	
1633.02	Temporary Rock Silt Check Type-B	
1634.02	Temporary Rock Sediment Dam, Type B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	

THIS PROJECT CONTAINS  
EROSION CONTROL PLANS  
FOR CLEARING AND  
GRUBBING PHASE OF  
CONSTRUCTION.



NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE- B AND TEMPORARY ROCK SILT CHECKS TYPE-A AT DRAINAGE OUTLETS.



**DESIGN DATA**

ADT 2005 = 8,500 - 14,000  
V = 50 MPH  
TTST 9% DUAL 5%

**PROJECT LENGTH**

LENGTH ROADWAY PROJECT 37857	0.538 MILES
LENGTH STRUCTURE PROJECT 37857	0.011 MILES
TOTAL LENGTH PROJECT 37857	0.549 MILES
LENGTH ROADWAY PROJECT 37645	1.378 MILES
LENGTH STRUCTURE PROJECT 37645	0.000 MILES
TOTAL LENGTH PROJECT 37645	1.378 MILES
TOTAL LENGTHS PROJECTS 37645 & 37857	1.927 MILES

**PLANS PREPARED BY :**  
RUMMEL, KLEPPER & KAHL, LLP  
consulting engineers  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609  
FOR

**DIVISION OF HIGHWAYS**

2002 STANDARD SPECIFICATIONS  
RIGHT OF WAY DATE: JULY 25, 2005  
LETTING DATE: DECEMBER 19, 2006

**B. Keith Skinner, P.E.**  
PROJECT ENGINEER

**Stephen E. Roberts, P.E.**  
PROJECT DESIGN ENGINEER

**Greg Shuler**  
Project Manager - Division 13

NCDOT CONTACT: Division Project Manager - Division 13

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January, 2002 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans. July 2006

1607.01 Gravel Construction Entrance

1605.01 Temporary Silt Fence  
1630.02 Silt Basin, Type B  
1632.01 Rock Inlet Sediment Trap, Type A  
1632.03 Rock Inlet Sediment Trap, Type C  
1633.01 Temporary Rock Silt Check Type A  
1633.02 Temporary Rock Silt Check Type B  
1634.02 Temporary Rock Sediment Dam, Type B  
1635.01 Rock Pipe Inlet Sediment Trap Type A & B

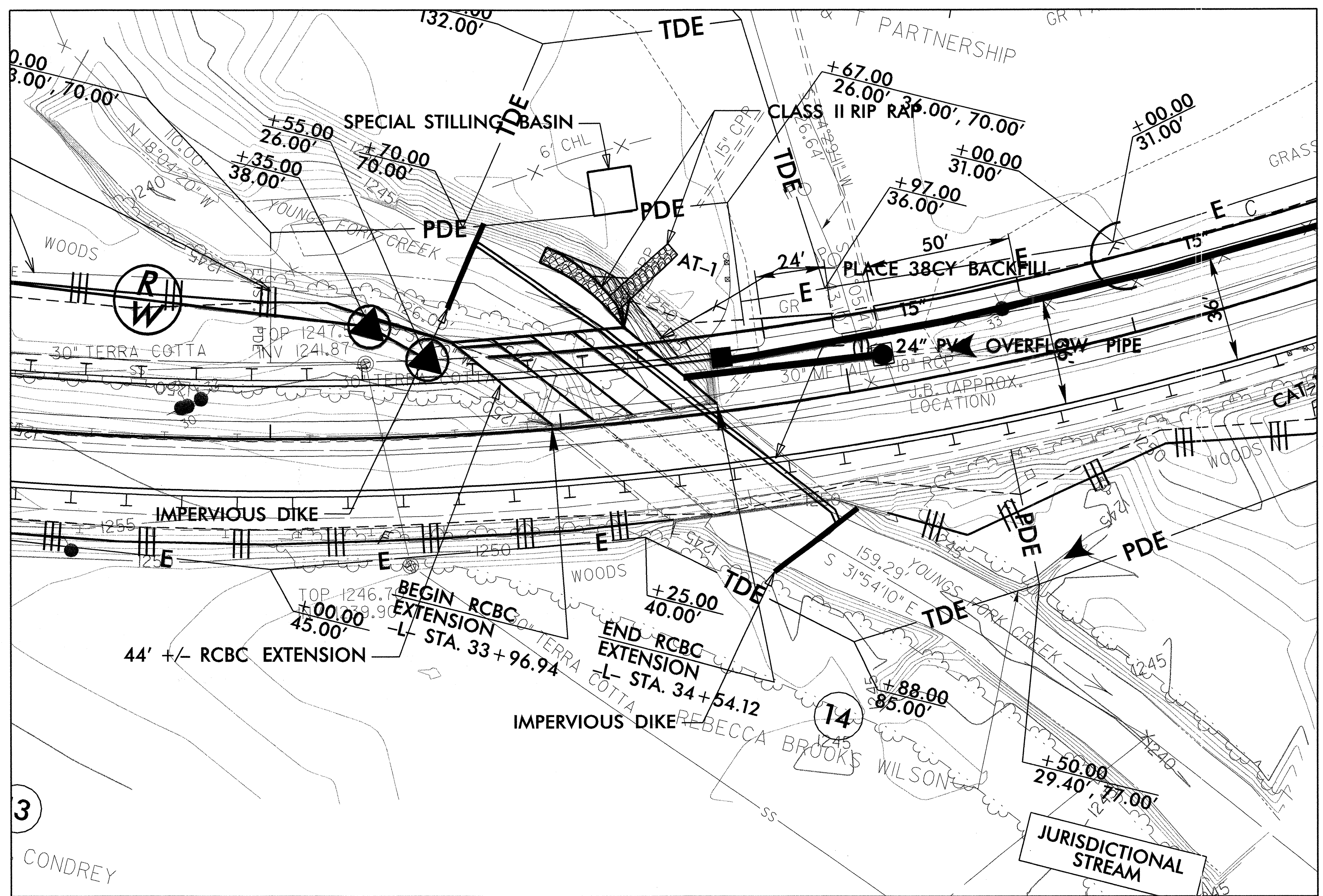
11/8/2006 Center of Mass 258.EC.L13.H.dgn



PROJECT REFERENCE NO. 37645 & 37857	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# CULVERT CONSTRUCTION SEQUENCE - STA. 34+00 -L-

1. INSTALL SPECIAL STILLING BASIN, 10FT. x 15FT. PERMEABLE FABRIC BAG. PLACE ON STONE OR FABRIC ON LEVEL GROUND.
2. CONSTRUCT IMPERVIOUS DIKES (I.E. SAND BAGS) WITH 1-24" PVC OVERFLOW PIPE UPSTREAM AND DOWNSTREAM FROM THE PROPOSED CULVERT WORK AREA. UTILIZE DIRT BAG FOR CULVERT DEWATERING.
3. CONSTRUCT PROPOSED (4) 44 FT. LONG - 9 FT. x 10 FT. RCBC.
4. CONSTRUCT PROPOSED INLET CHANNEL. RETAIN ALL EROSION CONTROL MEASURES UNTIL ALL CONSTRUCTION IS COMPLETE.
5. REMOVE THE IMPERVIOUS DIKES AND OVERFLOW PIPES.
6. CONSTRUCT EMBANKMENTS AND PERMANENT PAVEMENT.



REVISIONS

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PLANS PREPARED BY :

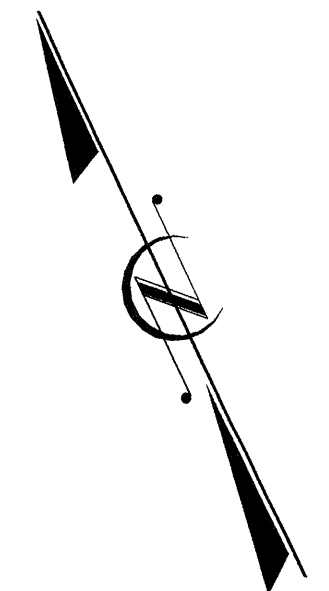
**RK & K**  
**RUMMEL • KLEPPER & KAHL, LLP**  
*consulting engineers*  
 900 RIDGEFIELD DRIVE SUITE 350  
 RALEIGH, NORTH CAROLINA 27609-3960  
 (919) 878-9560

FOR  
**DIVISION OF HIGHWAYS**

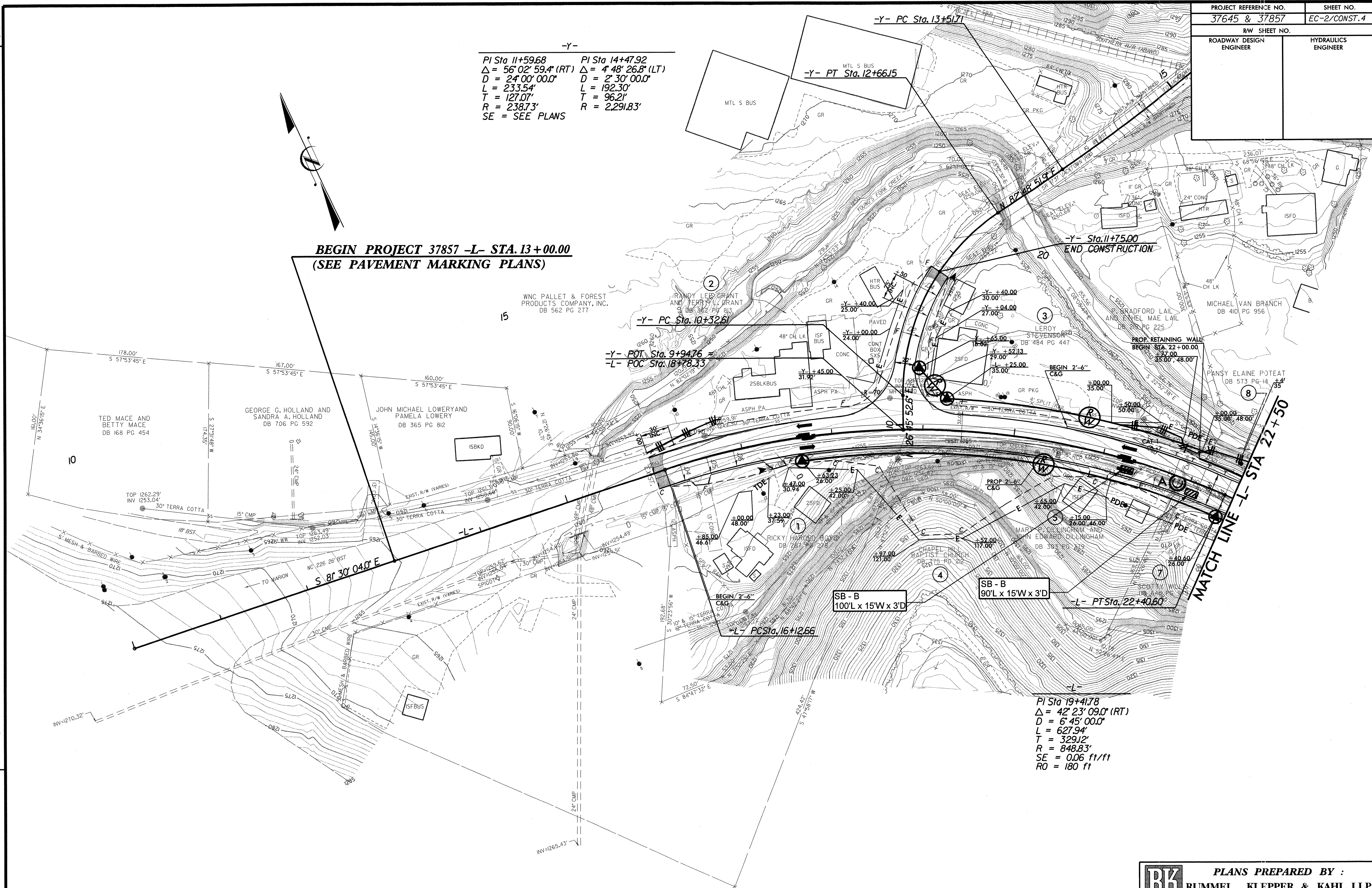
PROJECT REFERENCE NO.	SHEET NO.
37645 & 37857	EC-2/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-Y-

PI Sta 11+59.68	PI Sta 14+47.92
$\Delta = 56^{\circ}02'59.4"$ (RT)	$\Delta = 4^{\circ}48'26.8"$ (LT)
D = 24'00.00'	D = 2'30.00'
L = 233.54'	L = 192.30'
T = 127.07'	T = 96.21'
R = 238.73'	R = 2291.83'
SE = SEE PLANS	



**BEGIN PROJECT 37857 -L- STA. 13+00.00**  
**(SEE PAVEMENT MARKING PLANS)**



PI Sta 19+41.78  
 $\Delta = 42^{\circ}23'09.0"$  (RT)  
D = 6'45.00'  
L = 627.94'  
T = 329.12'  
R = 848.83'  
SE = 0.06 ft/ft  
RO = 180 ft

REVISIONS

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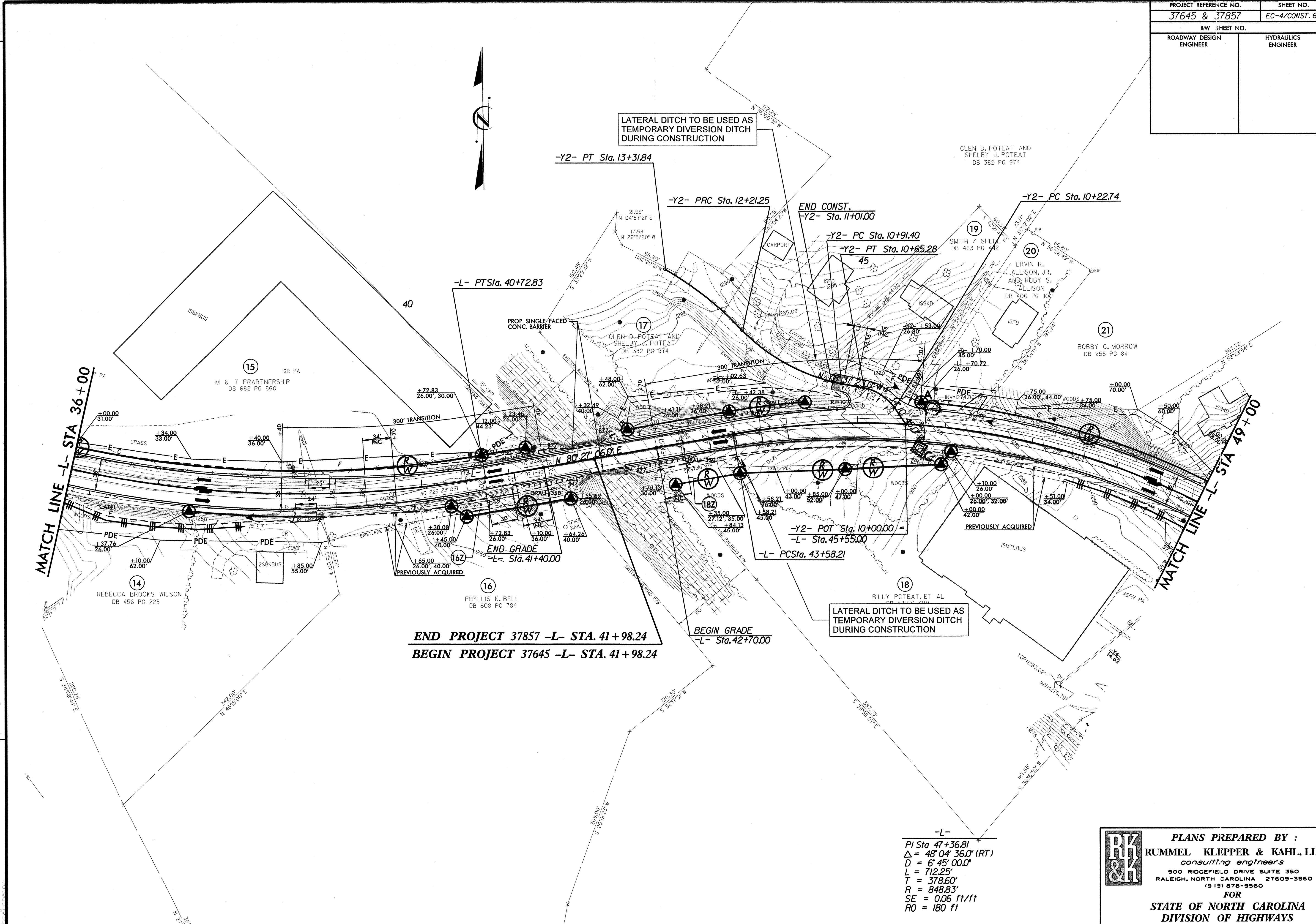
**PLANS PREPARED BY :**  
**RUMMEL KLEPPER & KAHL, LLP**  
*consulting engineers*  
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RALEIGH, NORTH CAROLINA 27609-3960  
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**FOR**  
**STATE OF NORTH CAROLINA**  
**DIVISION OF HIGHWAYS**



PROJECT REFERENCE NO. 37645 & 37857	SHEET NO. EC-4/CONST. 6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

REVISIONS

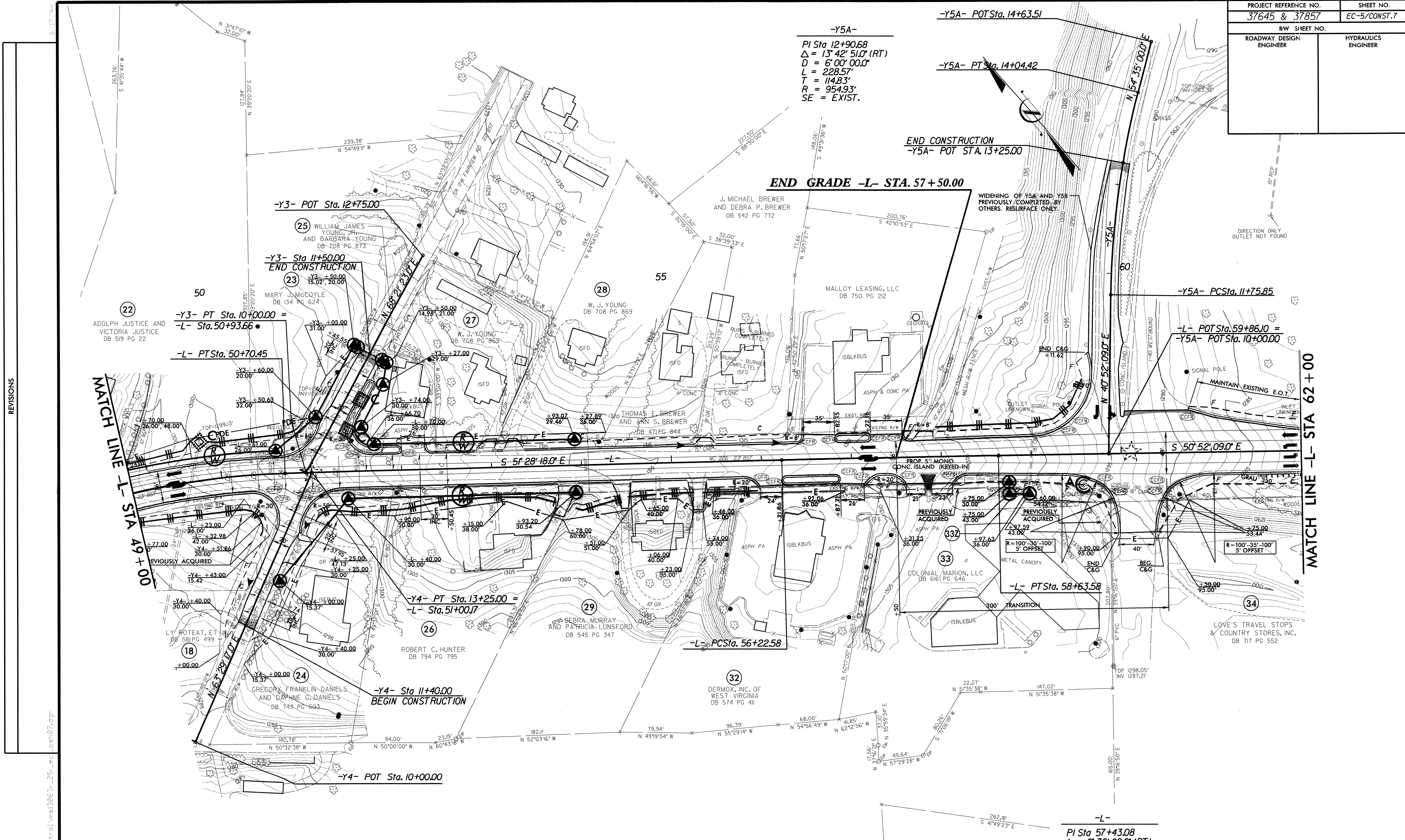


-L-  
 PI Sta 47+36.81  
 $\Delta = 48' 04" 36.0" (RT)$   
 $D = 6' 45" 00.0"$   
 $L = 712.25'$   
 $T = 378.60'$   
 $R = 848.83'$   
 $SE = 0.06 \text{ ft/ft}$   
 $RO = 180 \text{ ft}$

**PLANS PREPARED BY :**  
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**DIVISION OF HIGHWAYS**

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PROJECT REFERENCE NO. 37645 & 37857	SHEET NO. EC-5/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER




REVISIONS

MATCH LINE -L- STA 49+00

MATCH LINE -L- STA 62+00

-Y5A-  
PI Sta 12+90.68  
 $\Delta = 13^{\circ} 42' 51.0''$  (RT)  
D = 6'00' 00.0"  
L = 228.57'  
T = 114.83'  
R = 954.93'  
SE = EXIST.

-L-  
PI Sta 57+43.08  
 $\Delta = 0^{\circ} 36' 09.0''$  (RT)  
D = 0'15' 00.0"  
L = 241.00'  
T = 120.50'  
R = 22,918.31'  
SE = NC

**PLANS PREPARED BY :**  

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*consulting engineers*  
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PROJECT REFERENCE NO. 37645 & 37857	SHEET NO. EC-6/CONST.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-Y5B-  
 PIs Sta 12+46.01    PI Sta 14+04.65  
 $\Delta s = 21^{\circ} 37' 15.8''$      $\Delta = 38' 40" 03.3''$  (LT)  
 $Ls = 200.00'$      $D = 21^{\circ} 37' 15.8''$   
 $LT = 134.34'$      $L = 178.84'$   
 $ST = 67.58'$      $T = 92.98'$   
 $R = 265.00'$   
 $SE = EXIST.$

END CONSTRUCTION  
 -Y5B- POT STA. 13+00.00

-Y5B- PT Sta. 14+90.51

-Y5B- SC Sta. 13+11.67

WIDENING OF Y5A AND Y5B  
 PREVIOUSLY COMPLETED BY  
 OTHERS. RESURFACE ONLY.

END CONSTRUCTION -L- STA. 71+50.00

-Y6- POT Sta. 13+44.97 =  
 -L- Sta. 70+62.00

-Y5B- TSS Sta. 11+11.67

-Y5B- POT Sta. 10+00.00 =  
 -L- POT Sta. 67+98.00

TIE TO EXIST.  
 L- 72+05 LT.

BEG. C&G -L- STA 64+57 +/-  
 TIE TO EXIST S.F. CONC. BARRIER

END C&G -L- STA 63+34 +/-  
 TIE TO EXIST S.F. CONC. BARRIER

MATCH LINE -L- STA 62+00

BEG. C&G -L- STA 64+62 +/-  
 TIE TO EXIST S.F. CONC. BARRIER

END C&G -L- STA 63+39 +/-  
 TIE TO EXIST S.F. CONC. BARRIER

-L- PC Sta. 68+81.53

-L- PT Sta. 75+36.27

-Y6- PT Sta. 11+11.70

-Y6- PC Sta. 10+00.00

-L-  
 PI Sta 72+12.71  
 $\Delta = 21^{\circ} 16' 45.0''$  (RT)  
 $D = 3^{\circ} 15' 00.0''$   
 $L = 654.74'$   
 $T = 331.19'$   
 $R = 1,762.95'$   
 $SE = 0.05$  ft/ft  
 $RO = 140$  ft

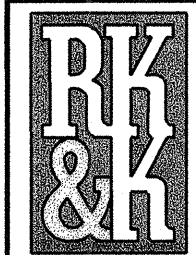
-Y6-  
 PI Sta 10+55.88  
 $\Delta = 4^{\circ} 59' 59.2''$  (LT)  
 $D = 4^{\circ} 28' 34.4''$   
 $L = 111.70'$   
 $T = 55.88'$   
 $R = 1,280.00'$

(34)  
 LOVE'S TRAVEL STOPS  
 & COUNTRY STORES, INC.  
 DB 717 PG 552

(35)  
 TRUSTEES OF MCDOWELL  
 TECHNICAL INSTITUTE  
 DB 559 PG 442

(36)  
 TRUSTEES OF MCDOWELL  
 TECHNICAL COLLEGE  
 DB 350 PG 819

MATCH LINE -L- STA 76+00



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 FOR  
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**DIVISION OF HIGHWAYS**

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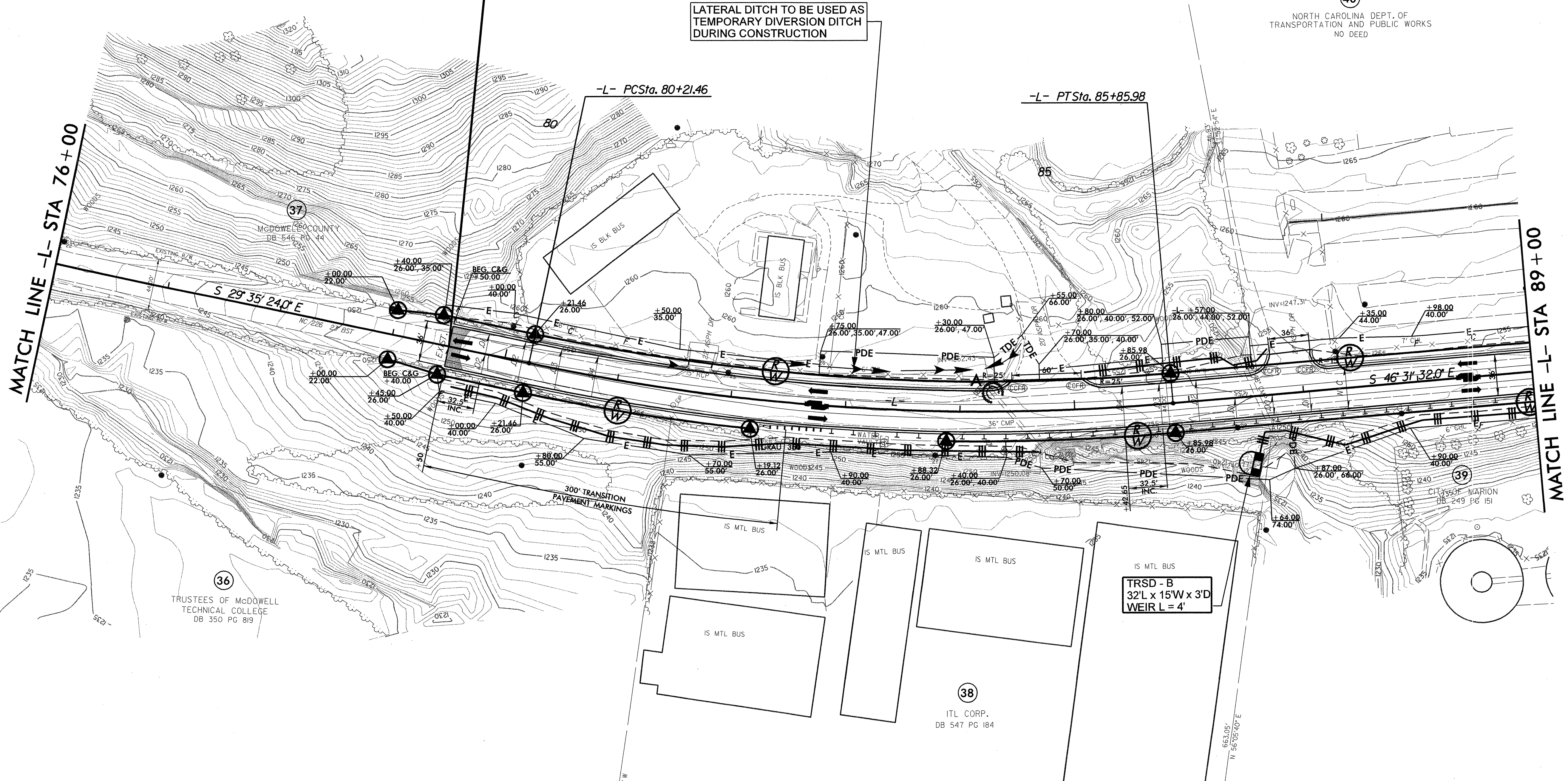


PROJECT REFERENCE NO. 37645 & 37857	SHEET NO. EC-7/CONST.9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**BEGIN CONSTRUCTION -L- STA. 79+50.00**

LATERAL DITCH TO BE USED AS  
TEMPORARY DIVERSION DITCH  
DURING CONSTRUCTION

40  
NORTH CAROLINA DEPT. OF  
TRANSPORTATION AND PUBLIC WORKS  
NO DEED



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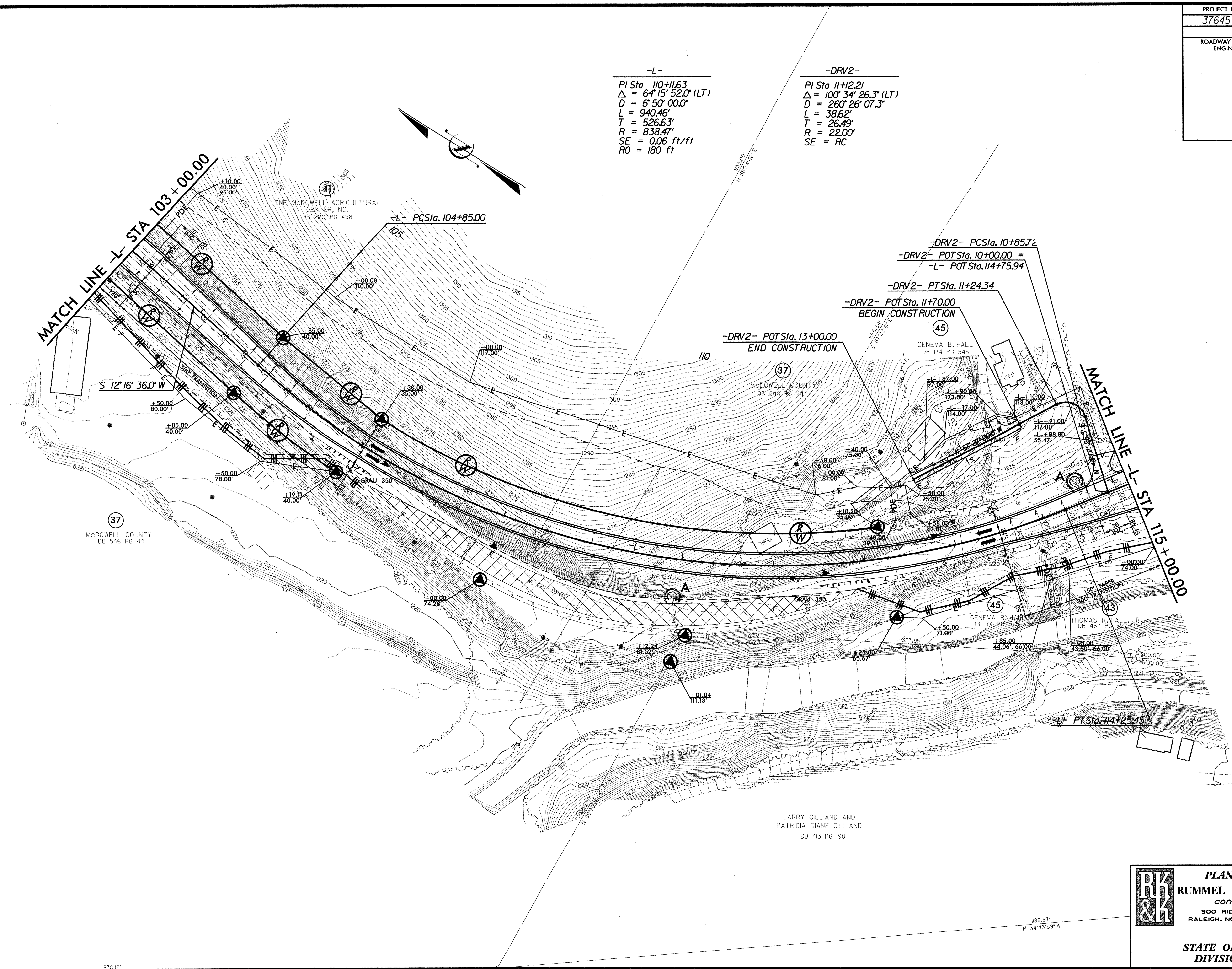
**PLANS PREPARED BY :**  
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 900 RIDGFIELD DRIVE SUITE 350  
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**DIVISION OF HIGHWAYS**



PROJECT REFERENCE NO. 37645 & 37857	SHEET NO. EC-9/CONST. II
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-  
 PI Sta 110+11.63  
 $\Delta = 64^{\circ}15'52.0"$  (LT)  
 $D = 6^{\circ}50'00.0"$   
 $L = 940.46'$   
 $T = 526.63'$   
 $R = 838.47'$   
 $SE = 0.06$  ft/ft  
 $RO = 180$  ft

-DRV2-  
 PI Sta 11+12.21  
 $\Delta = 100^{\circ}34'26.3"$  (LT)  
 $D = 260^{\circ}26'07.3"$   
 $L = 38.62'$   
 $T = 26.49'$   
 $R = 22.00'$   
 $SE = RC$



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11/7/2006  
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LARRY GILLIAND AND  
 PATRICIA DIANE GILLIAND  
 DB 413 PG 198

**RK & K**

**PLANS PREPARED BY :**  
**RUMMEL KLEPPER & KAHL, LLP**  
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 900 RIDGEFIELD DRIVE SUITE 350  
 RALEIGH, NORTH CAROLINA 27609-3960  
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**FOR**  
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**DIVISION OF HIGHWAYS**

PROJECT REFERENCE NO.	SHEET NO.
37645 & 37857	EC-10/CONST.12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-  
 PI Sta 122+60.43  
 $\Delta = 26^{\circ}02'16.8"$  (LT)  
 D = 6'00'00.0"  
 L = 433.97'  
 T = 220.80'  
 R = 954.93'  
 SE = 0.06 ft/ft  
 RO = 180 ft

12

MATCH LINE -L- STA 115 + 50.00

END PROJECT 37645 -L- STA. 122 + 75.36

LATERAL DITCH TO BE USED AS  
 TEMPORARY DIVERSION DITCH  
 DURING CONSTRUCTION

SB-B  
 130' L x 18' W x 3' D

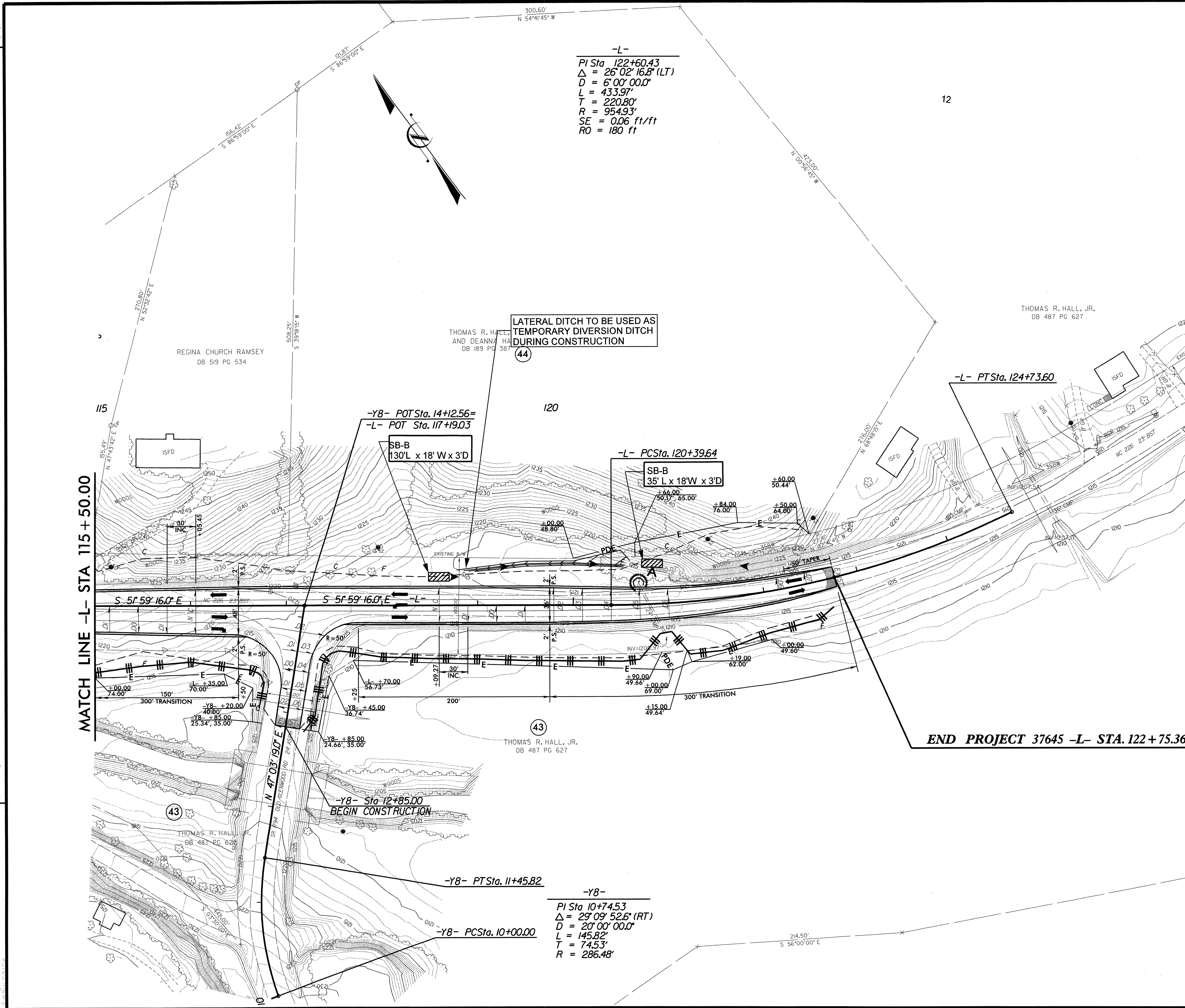
SB-B  
 35' L x 18' W x 3' D

-Y8- Sta 12+85.00  
 BEGIN CONSTRUCTION

-Y8-  
 PI Sta 10+74.53  
 $\Delta = 29^{\circ}09'52.6"$  (RT)  
 D = 20'00'00.0"  
 L = 145.82'  
 T = 74.53'  
 R = 286.48'

**PLANS PREPARED BY :**  
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*consulting engineers*  
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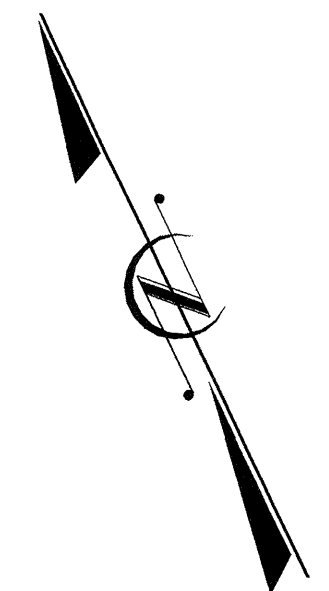
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PROJECT REFERENCE NO.	SHEET NO.
37645 & 37857	EC-II/ CONST. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

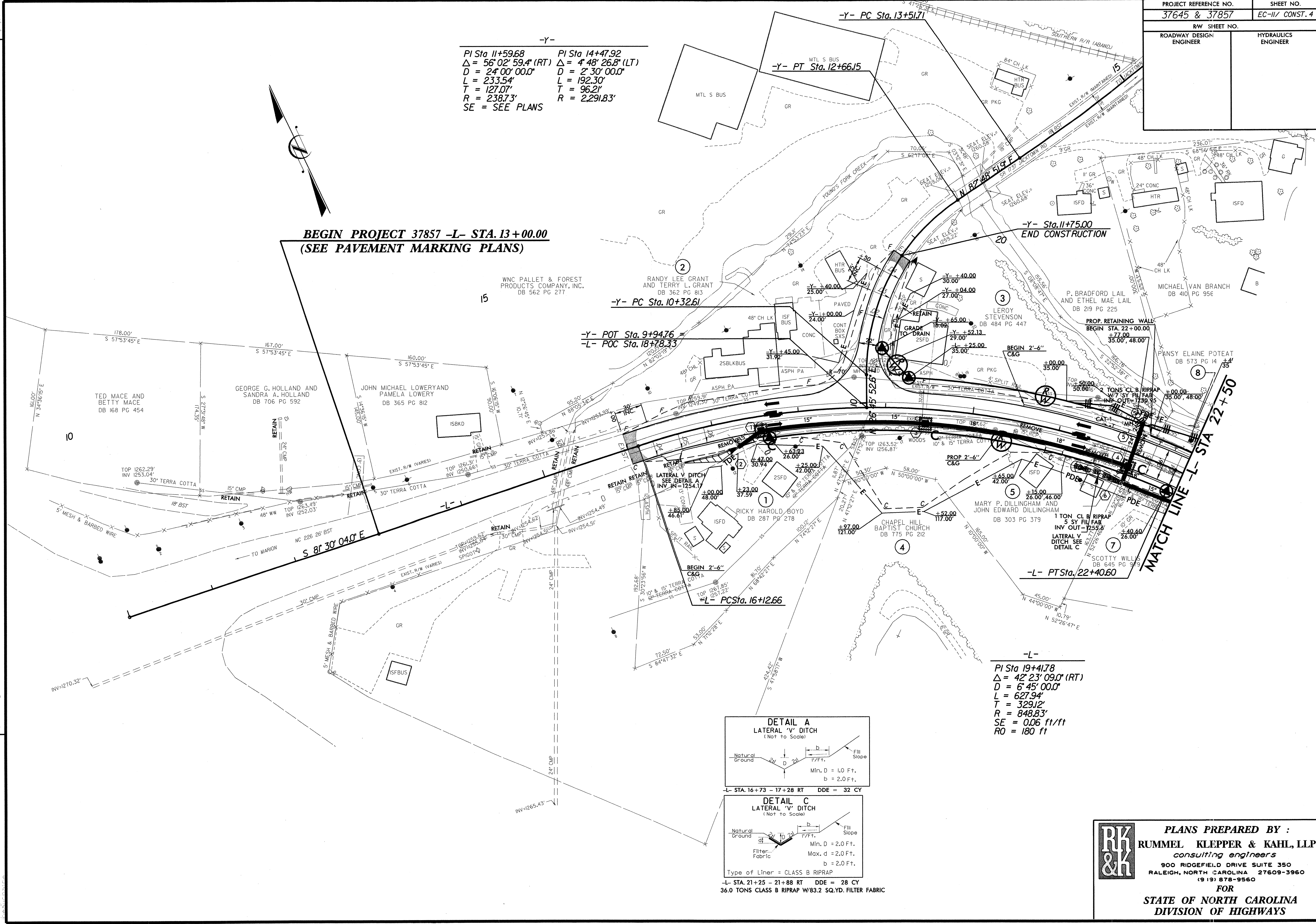
-Y-  
 PI Sta 11+59.68    PI Sta 14+47.92  
 $\Delta = 56^{\circ}02'59.4" (RT)$      $\Delta = 4^{\circ}48'26.8" (LT)$   
 $D = 24^{\circ}00'00.0"$      $D = 2^{\circ}30'00.0"$   
 $L = 233.54'$      $L = 192.30'$   
 $T = 127.07'$      $T = 96.21'$   
 $R = 238.73'$      $R = 2291.83'$   
 SE = SEE PLANS



**BEGIN PROJECT 37857 -L- STA. 13+00.00**  
**(SEE PAVEMENT MARKING PLANS)**

-Y- Sta. 11+75.00  
**END CONSTRUCTION**

**MATCH LINE -L- STA 22+50**



WNC PALLET & FOREST PRODUCTS COMPANY, INC. DB 562 PG 277

RANDY LEE GRANT AND TERRY L. GRANT DB 362 PG 813

TED MACE AND BETTY MACE DB 168 PG 454

GEORGE G. HOLLAND AND SANDRA A. HOLLAND DB 706 PG 592

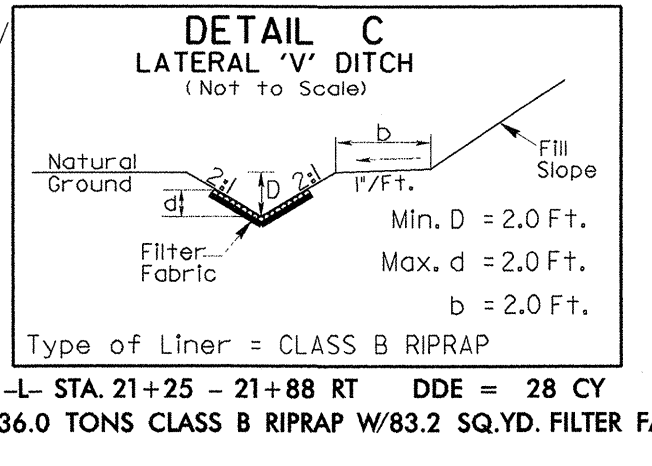
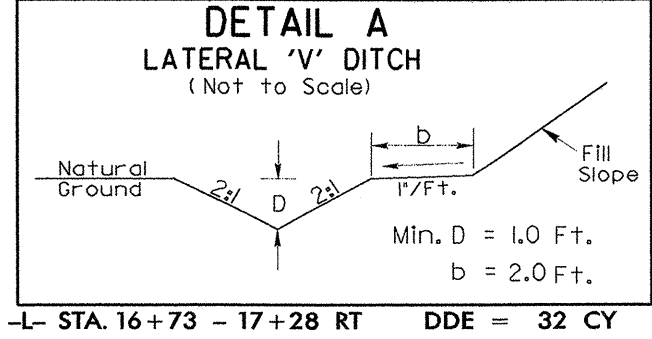
JOHN MICHAEL LOWERY AND PAMELA LOWERY DB 365 PG 812

RICKY HAROLD BOYD DB 287 PG 278

CHAPEL HILL BAPTIST CHURCH DB 775 PG 212

MARY P. DILLINGHAM AND JOHN EDWARD DILLINGHAM DB 303 PG 379

SCOTTY WILLS DB 645 PG 913



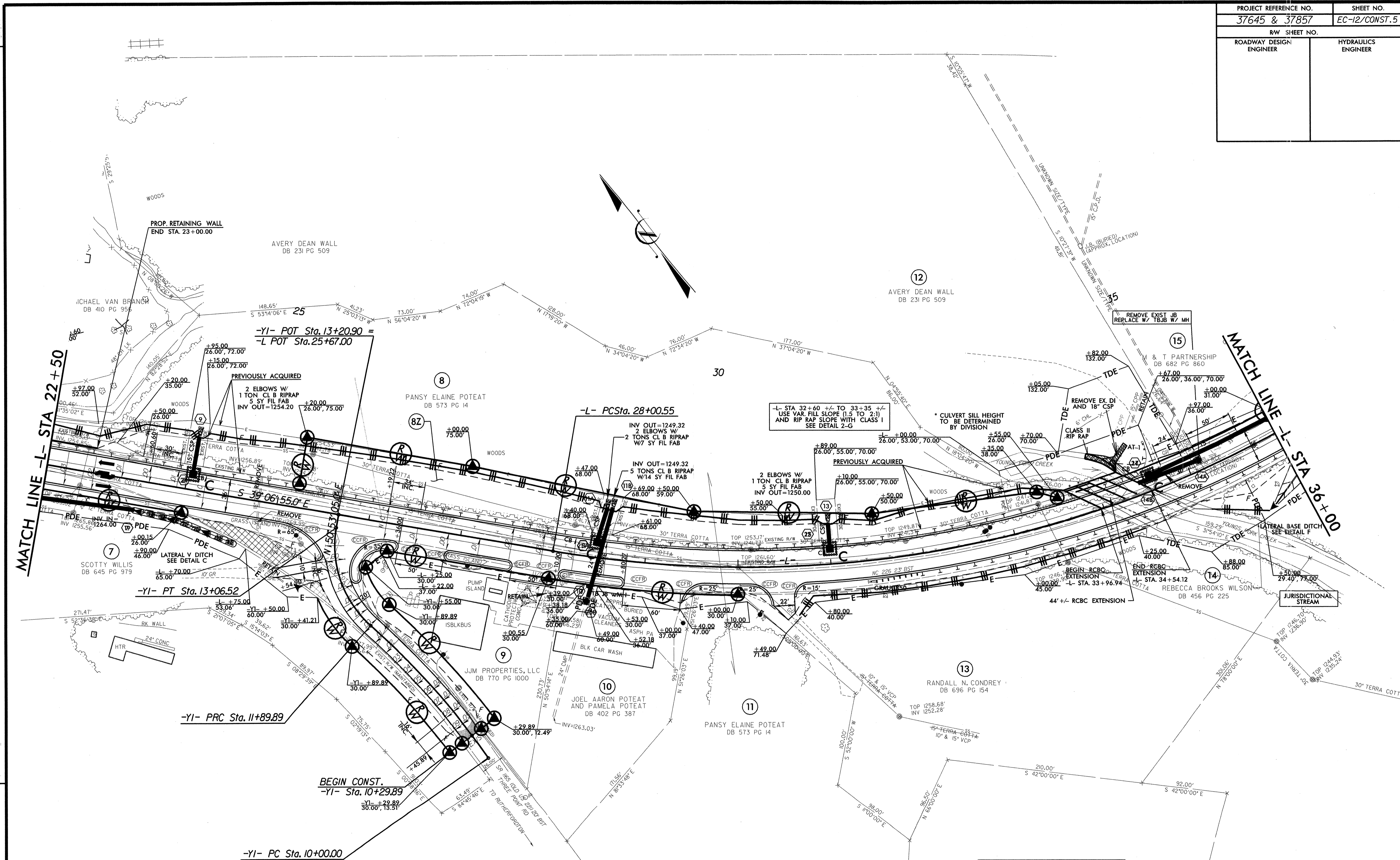
-L-  
 PI Sta 19+41.78  
 $\Delta = 42^{\circ}23'09.0" (RT)$   
 $D = 6^{\circ}45'00.0"$   
 $L = 627.94'$   
 $T = 329.12'$   
 $R = 848.83'$   
 SE = 0.06 ft/ft  
 RO = 180 ft

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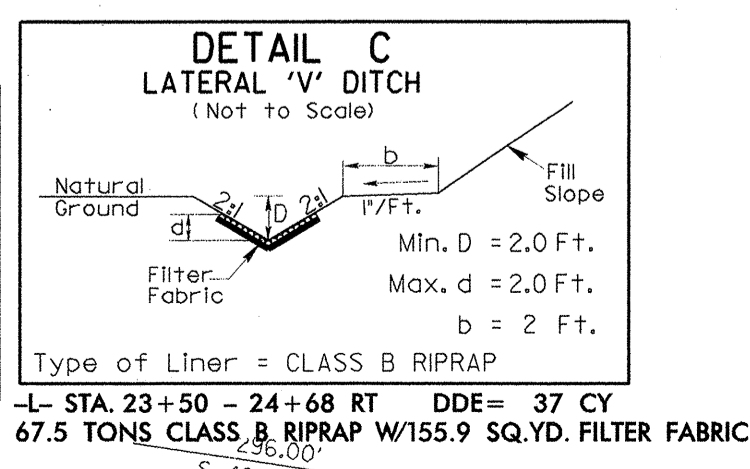
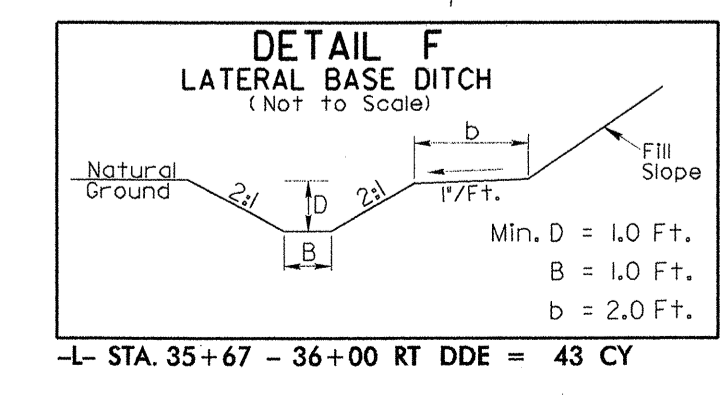
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PROJECT REFERENCE NO. 37645 & 37857	SHEET NO. EC-12/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



REVISIONS

-YI-	-L-
PI Sta 12+53.78	PI Sta 35+03.06
$\Delta = 58^{\circ} 06' 38.8''$ (RT)	$\Delta = 60^{\circ} 25' 59.0''$ (LT)
D = 49' 49" 20.7"	D = 4' 45" 00.0"
L = 116.64'	L = 127.22'
T = 63.89'	T = 702.51'
R = 115.00'	R = 1,206.23'
SE = SEE PLANS	SE = SEE PLANS
	RO = 170 ft

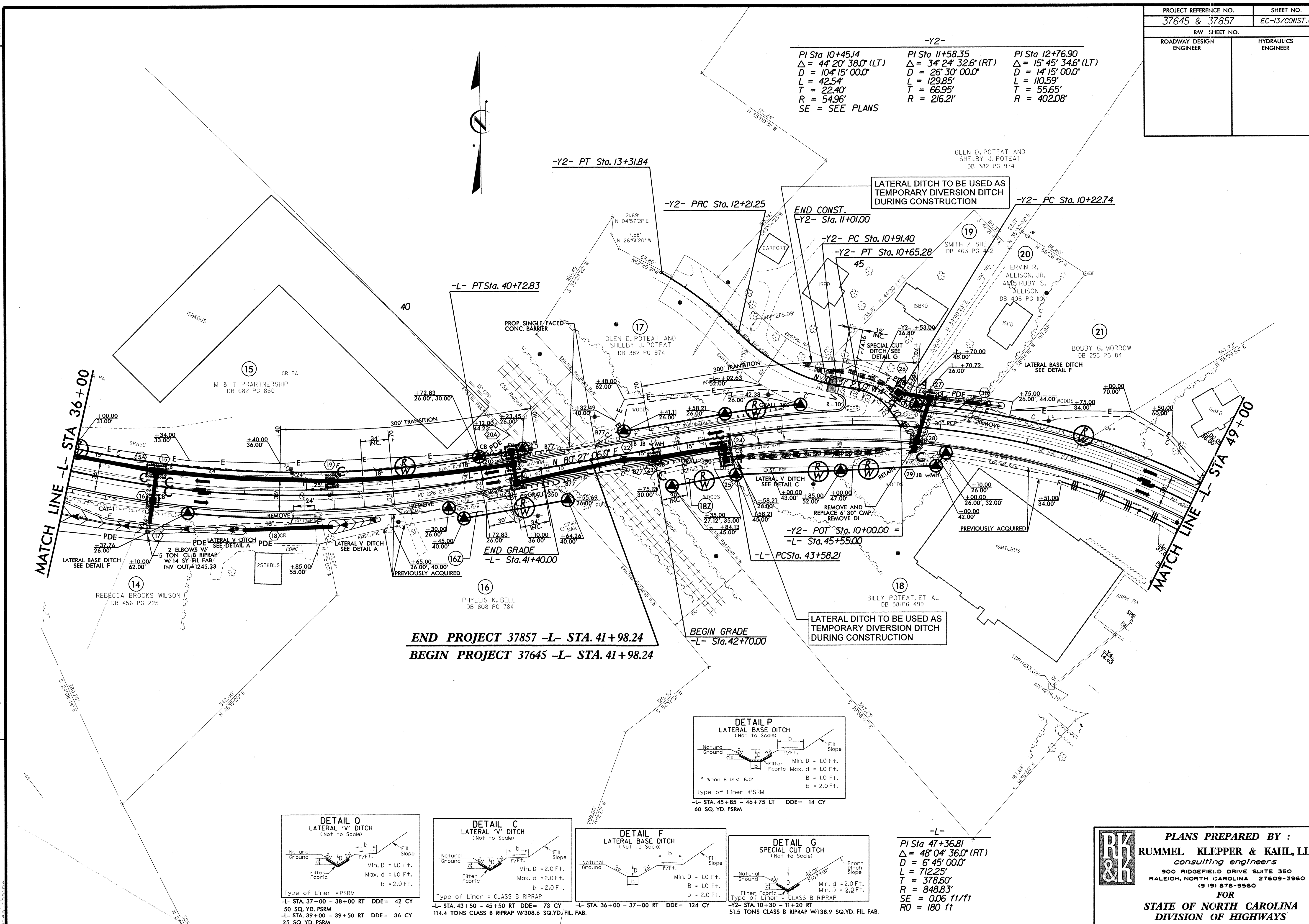


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consulting engineers  
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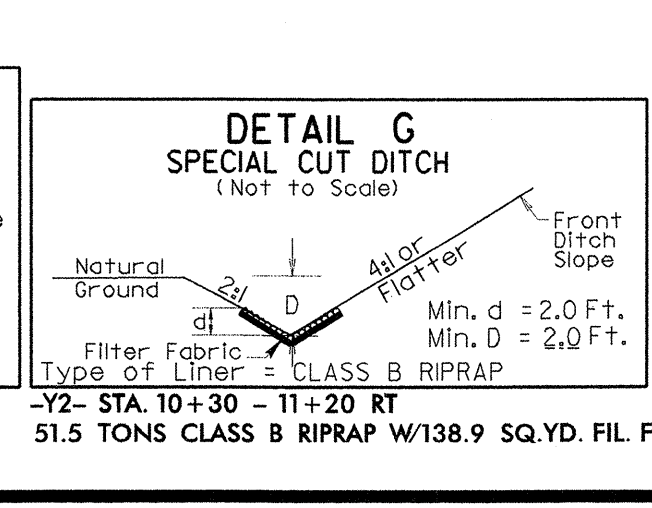
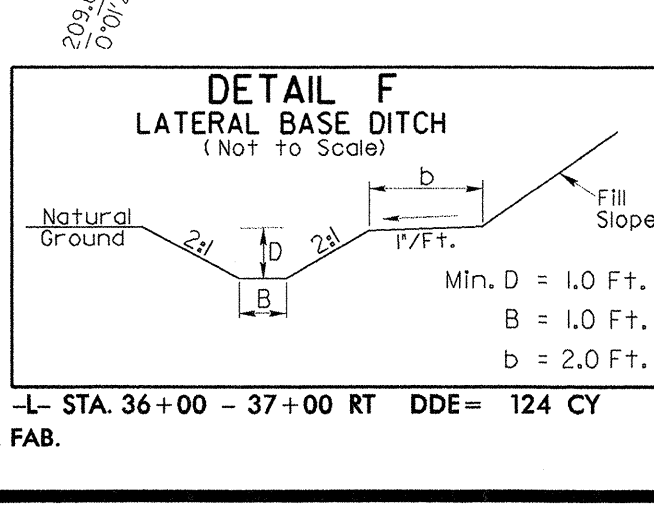
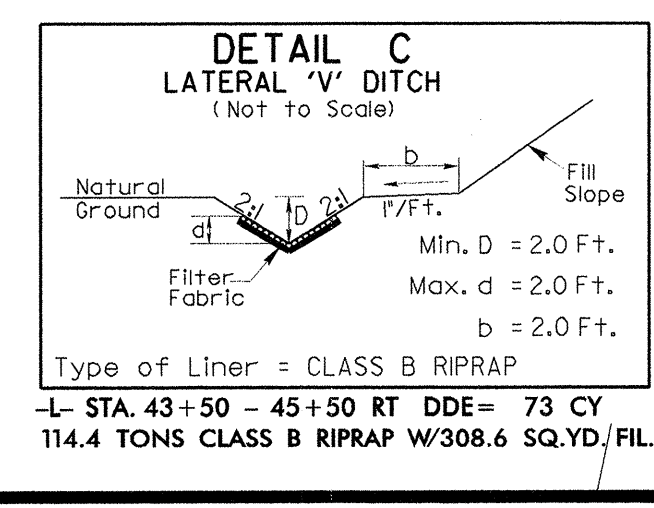
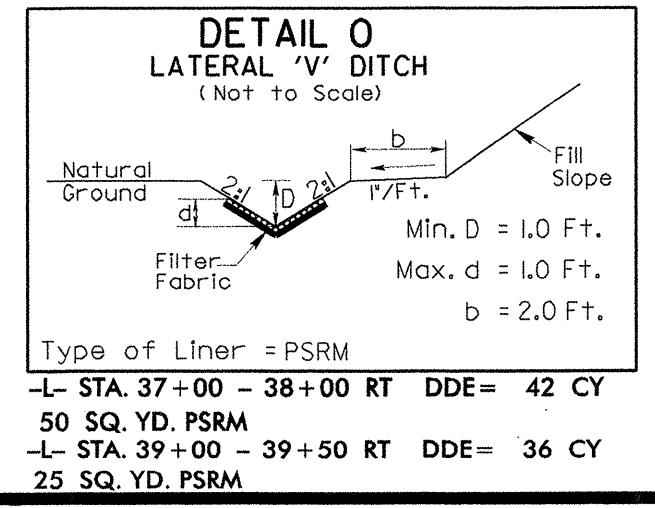
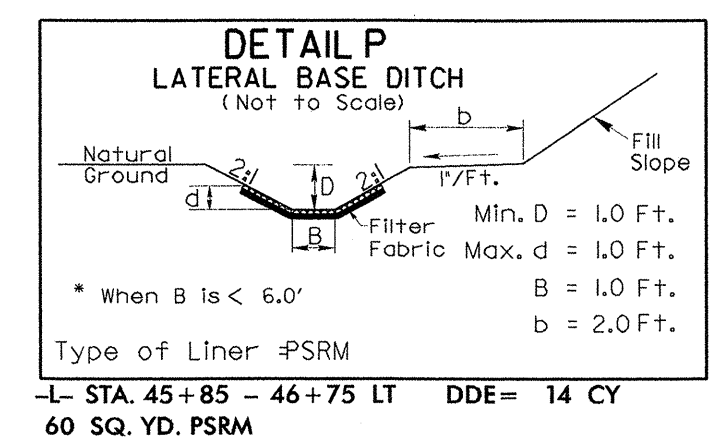
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PROJECT REFERENCE NO. 37645 & 37857	SHEET NO. EC-13/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

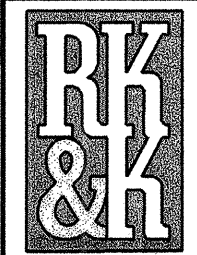
-Y2-		
PI Sta 10+45.14 Δ = 44° 20' 38.0" (LT) D = 104' 15' 00.0" L = 42.54' T = 22.40' R = 54.96'	PI Sta 11+58.35 Δ = 34° 24' 32.6" (RT) D = 26' 30' 00.0" L = 129.85' T = 66.95' R = 216.21'	PI Sta 12+76.90 Δ = 15° 45' 34.6" (LT) D = 14' 15' 00.0" L = 110.59' T = 55.65' R = 402.08'
SE = SEE PLANS		



REVISIONS



-L-	
PI Sta 47+36.81	Δ = 48° 04' 36.0" (RT)
D = 6' 45' 00.0"	L = 712.25'
T = 378.60'	R = 848.83'
SE = 0.06 ft/ft	RO = 180 ft

**PLANS PREPARED BY :**  

**RUMMEL KLEPPER & KAHL, LLP**  
*consulting engineers*  
 900 RIDGEFIELD DRIVE SUITE 350  
 RALEIGH, NORTH CAROLINA 27609-3960  
 (919) 878-9560  
**FOR**  
**STATE OF NORTH CAROLINA**  
**DIVISION OF HIGHWAYS**

11/7/2006  
 C:\p1\public\emission\_control\m12063-25r-ef-est106.dgn  
 200.28  
 S 24.00° 41' E  
 342.00  
 N 46° 15' 00" E  
 342.00  
 N 46° 15' 00" E  
 209.00  
 S 24.00° 41' E  
 170.30  
 S 24.00° 31' W  
 367.22  
 S 35° 58' 07" E  
 187.68  
 S 85° 38' 50" W  
 14.53  
 TOP = 1283.02'  
 INV = 1276.79'  
 14.53  
 ASPH PA  
 SFB  
 14.53

PROJECT REFERENCE NO. 37645 & 37857	SHEET NO. EC-14/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-Y5A- POT Sta. 14+63.51

-Y5A-  
PI Sta 12+90.68  
 $\Delta = 13^{\circ} 42' 51.0''$  (RT)  
 $D = 6' 00'' 00.0''$   
 $L = 228.57'$   
 $T = 114.83'$   
 $R = 954.93'$   
SE = EXIST.

-Y5A- PT Sta. 14+04.42

END CONSTRUCTION  
-Y5A- POT STA. 13+25.00

END GRADE -L- STA. 57+50.00

WIDENING OF Y5A AND Y5B PREVIOUSLY COMPLETED BY OTHERS. RESURFACE ONLY.

-Y5A- PCSta. 11+75.85

-L- POT Sta. 59+86.10 =  
-Y5A- POT Sta. 10+00.00

ADOLPH JUSTICE AND VICTORIA JUSTICE DB 519 PG 22  
-Y3- PT Sta. 10+00.00 =  
-L- Sta. 50+93.66

-L- PT Sta. 50+70.45

-Y3- Sta 11+50.00  
END CONSTRUCTION

-Y3- POT Sta. 12+75.00

-Y4- PT Sta. 13+25.00 =  
-L- Sta. 51+00.17

-Y4- Sta 11+40.00  
BEGIN CONSTRUCTION

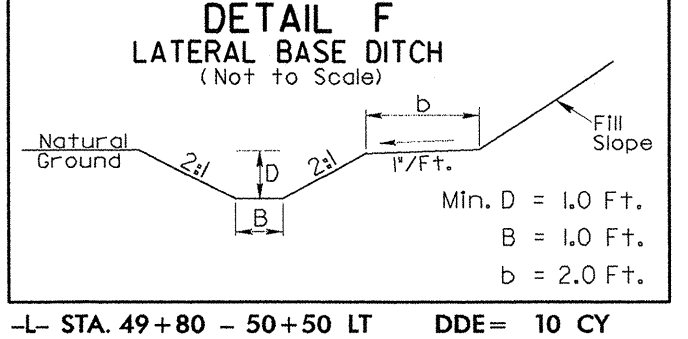
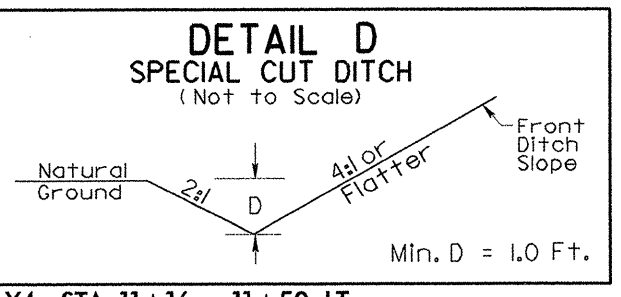
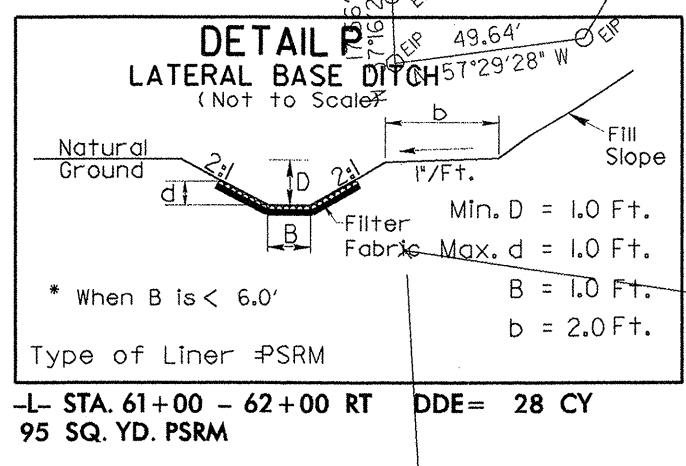
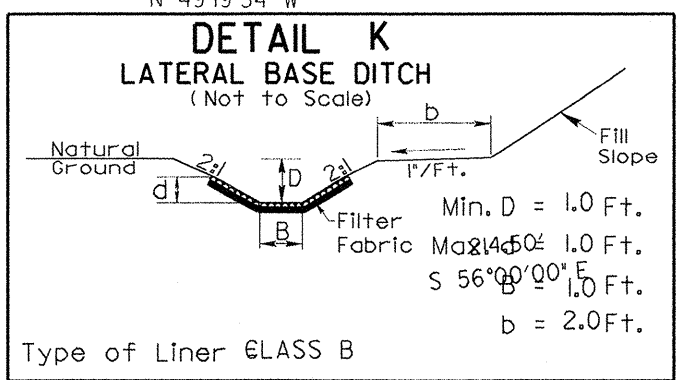
-Y4- POT Sta. 10+00.00

-L- PCSta. 56+22.58

-L- PT Sta. 58+63.58

MATCH LINE -L- STA 62+00

MATCH LINE -L- STA 49+00



-L-  
PI Sta. 57+43.08  
 $\Delta = 0^{\circ} 36' 09.0''$  (RT)  
 $D = 0' 15'' 00.0''$   
 $L = 241.00'$   
 $T = 120.50'$   
 $R = 22,918.31'$   
SE = NC

**RK & K**

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REVISIONS

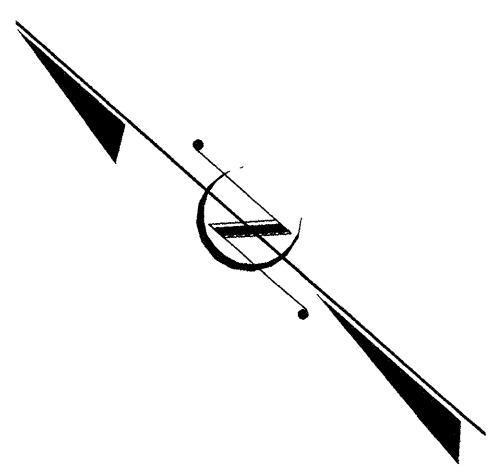
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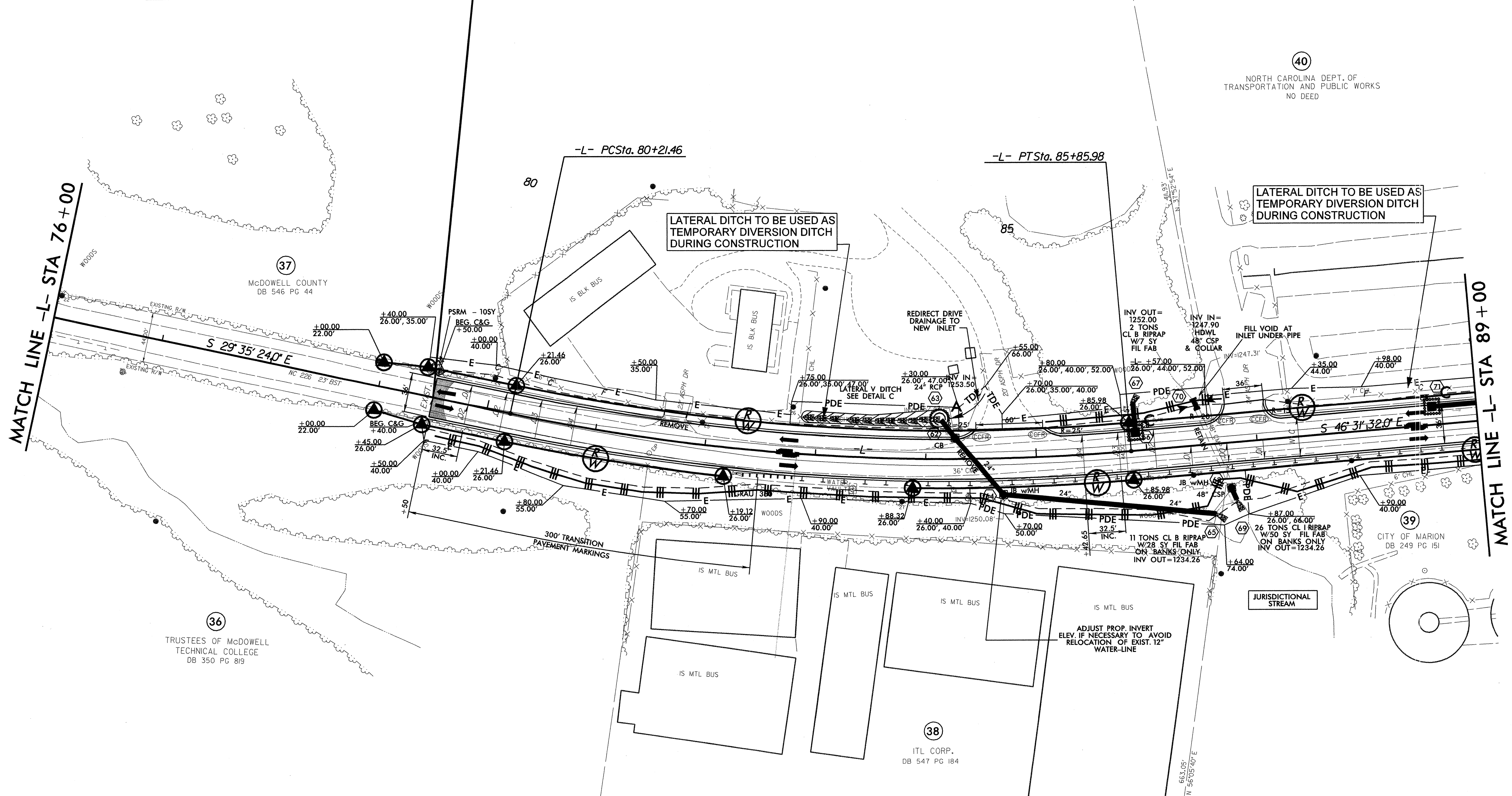
PROJECT REFERENCE NO. 37645 & 37857	SHEET NO. EC-16/CONST.9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BEGIN CONSTRUCTION -L- STA. 79+50.00

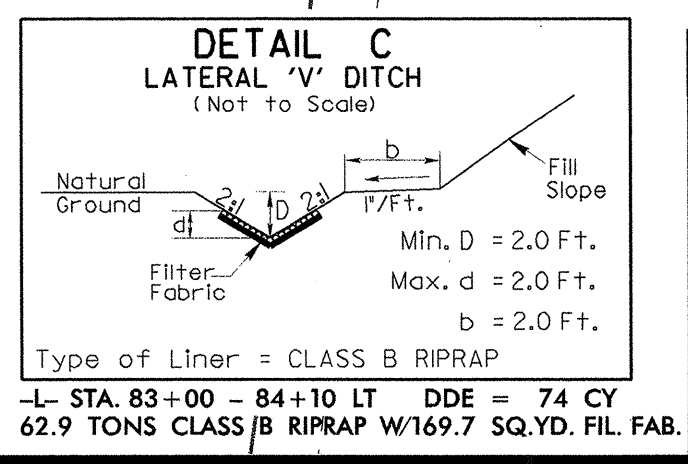


MATCH LINE -L- STA 76+00

MATCH LINE -L- STA 89+00



-L-  
 PI Sta 83+05.79  
 $\Delta = 16' 56" 08.0" (LT)$   
 $D = 3' 00" 00.0"$   
 $L = 564.52'$   
 $T = 284.33'$   
 $R = 1909.86'$   
 $SE = 0.04 \text{ ft/ft}$   
 $RO = 130 \text{ ft}$

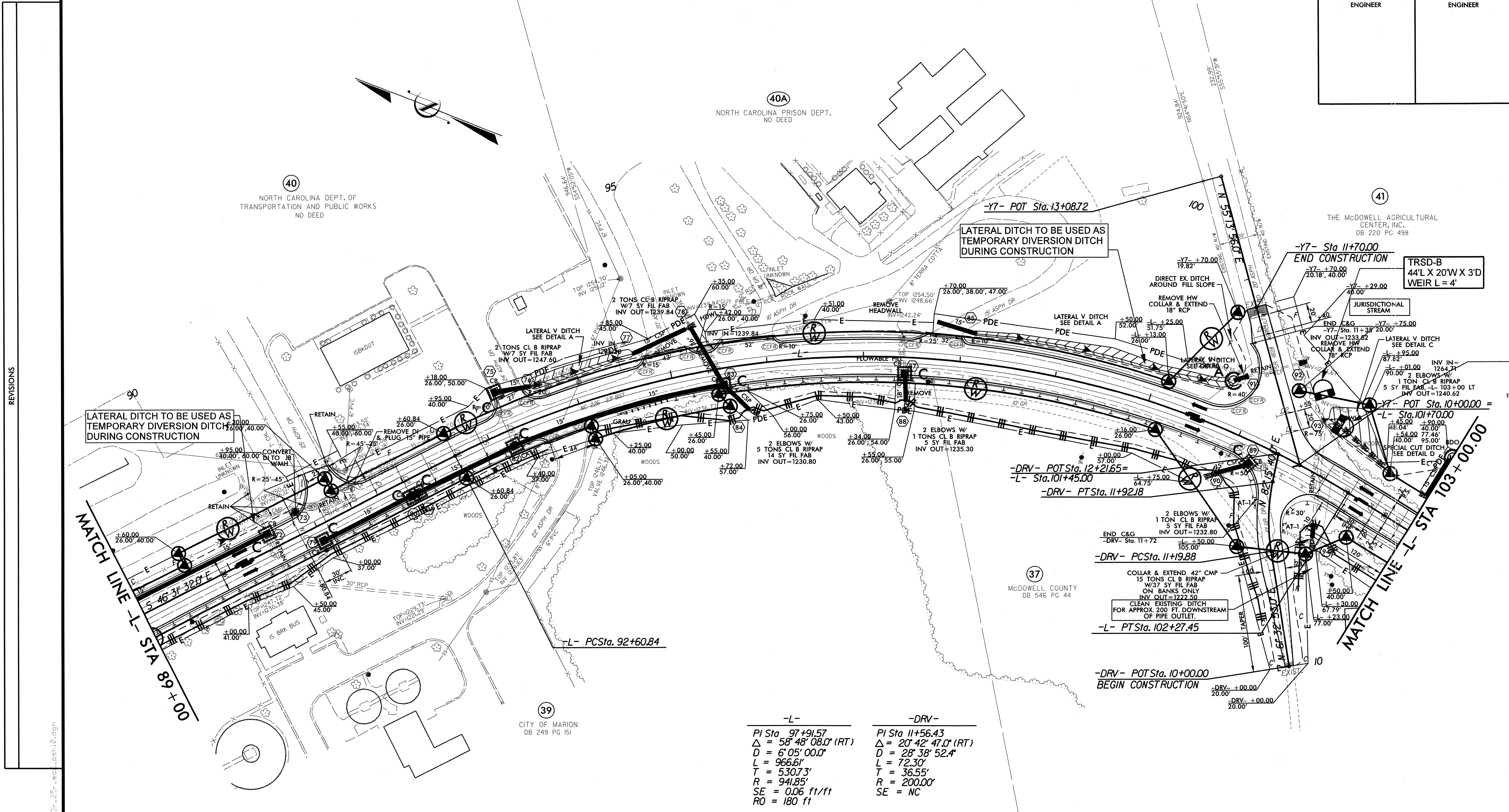


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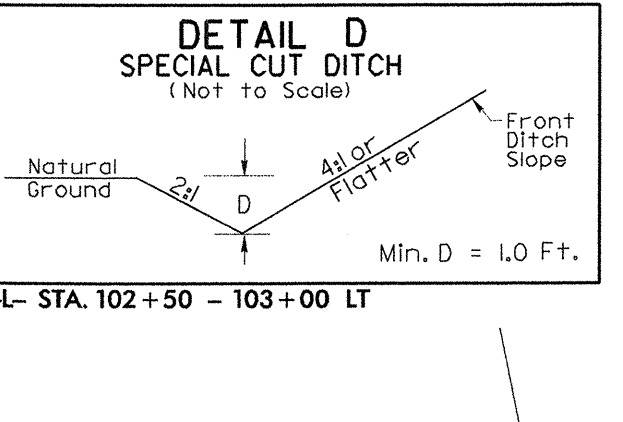
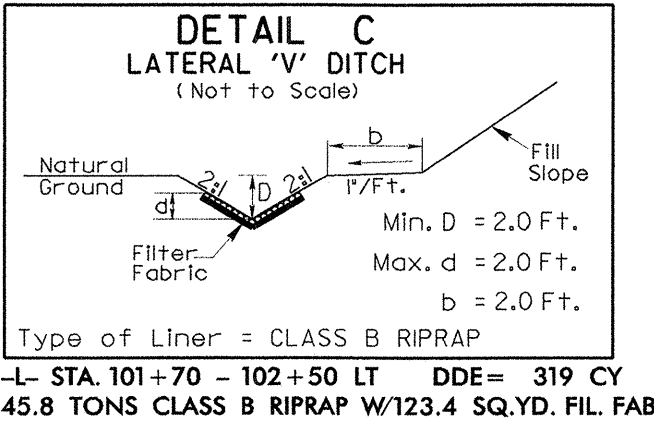
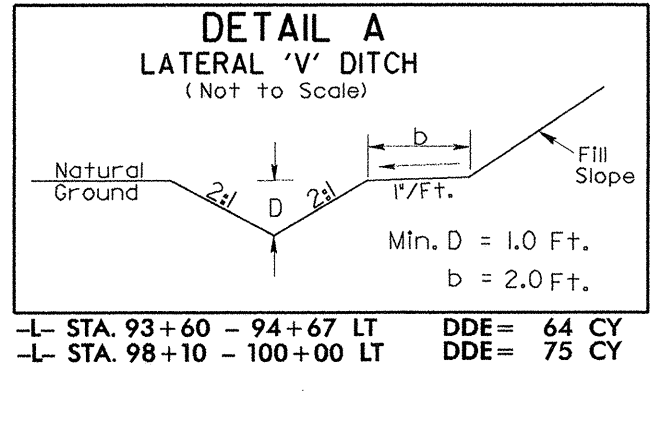
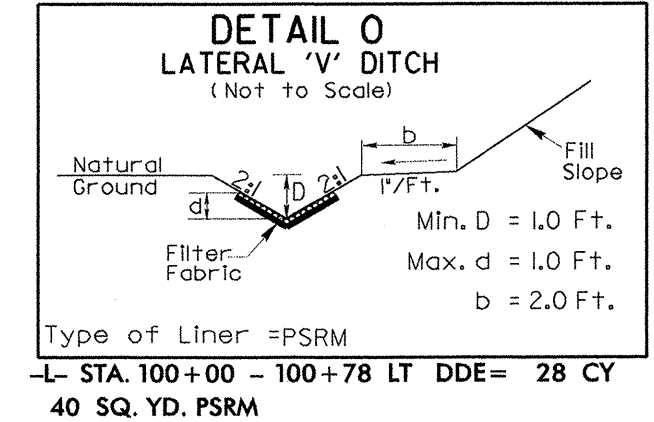
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PROJECT REFERENCE NO. 37645 & 37857	SHEET NO. EC-17/CONST.10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



REVISIONS

-L-	-DRV-
PI Sta 97+91.57	PI Sta 11+56.43
$\Delta = 58^{\circ} 48' 08.0''$ (RT)	$\Delta = 20^{\circ} 42' 47.0''$ (RT)
D = 6' 05' 00.0"	D = 28' 38' 52.4"
L = 966.61'	L = 72.30'
T = 530.73'	T = 36.55'
R = 941.85'	R = 200.00'
SE = 0.06 ft/ft	SE = NC
RO = 180 ft	



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