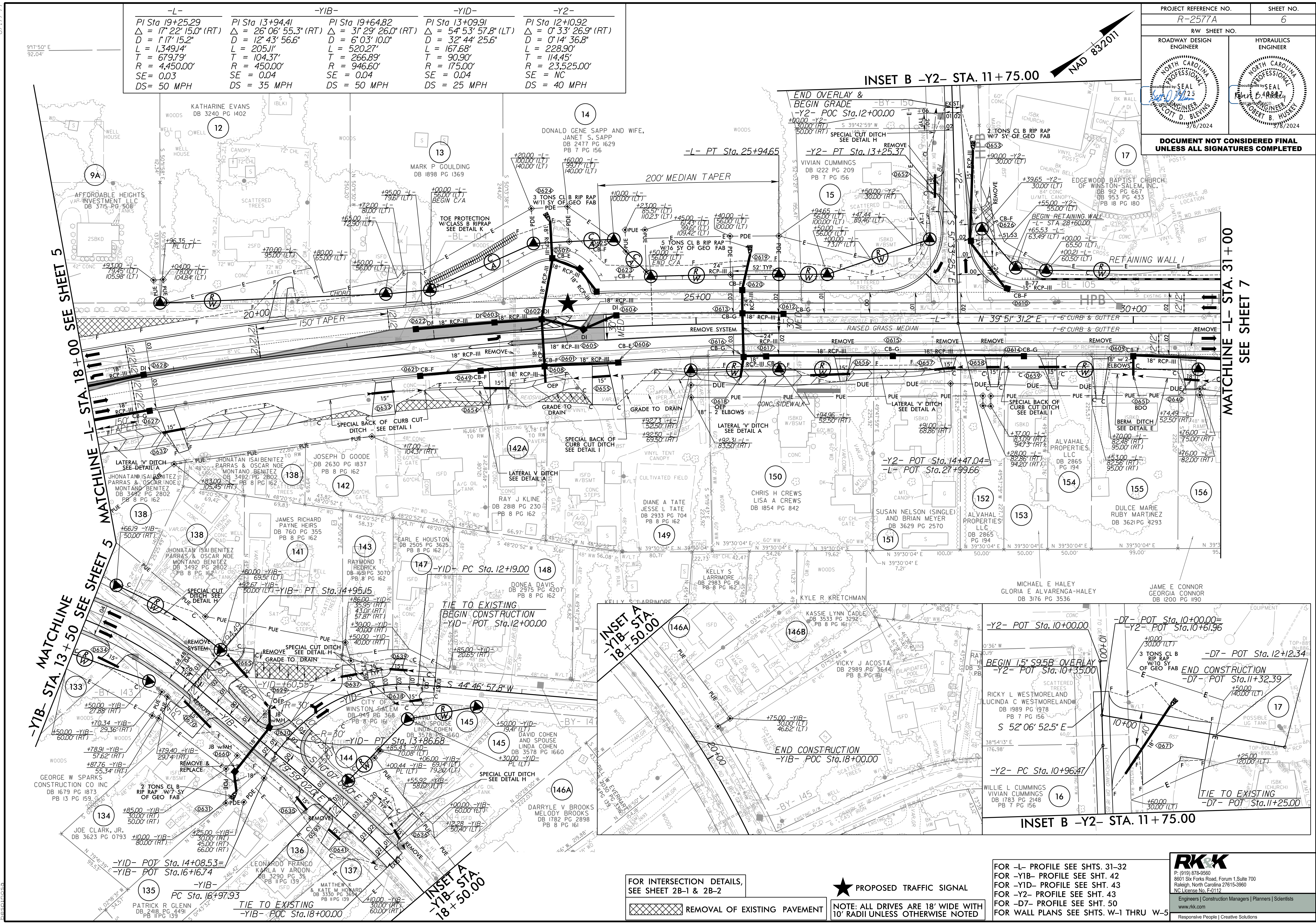


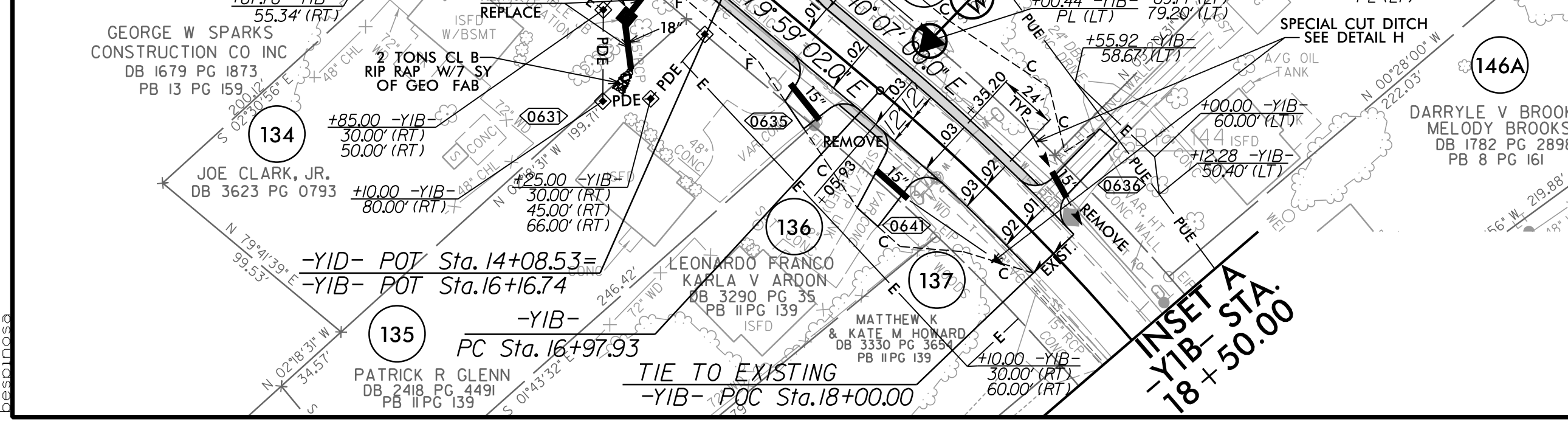
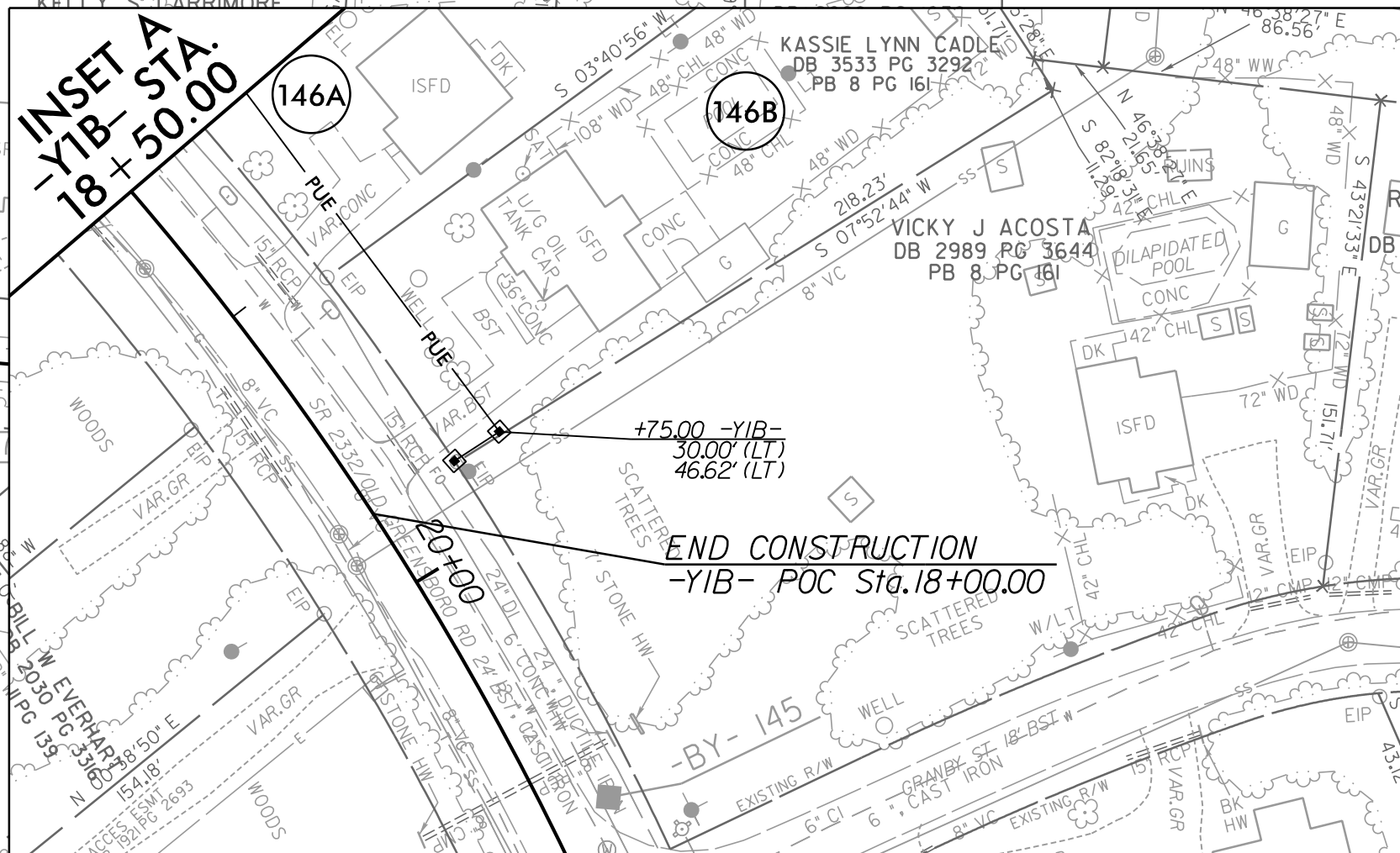
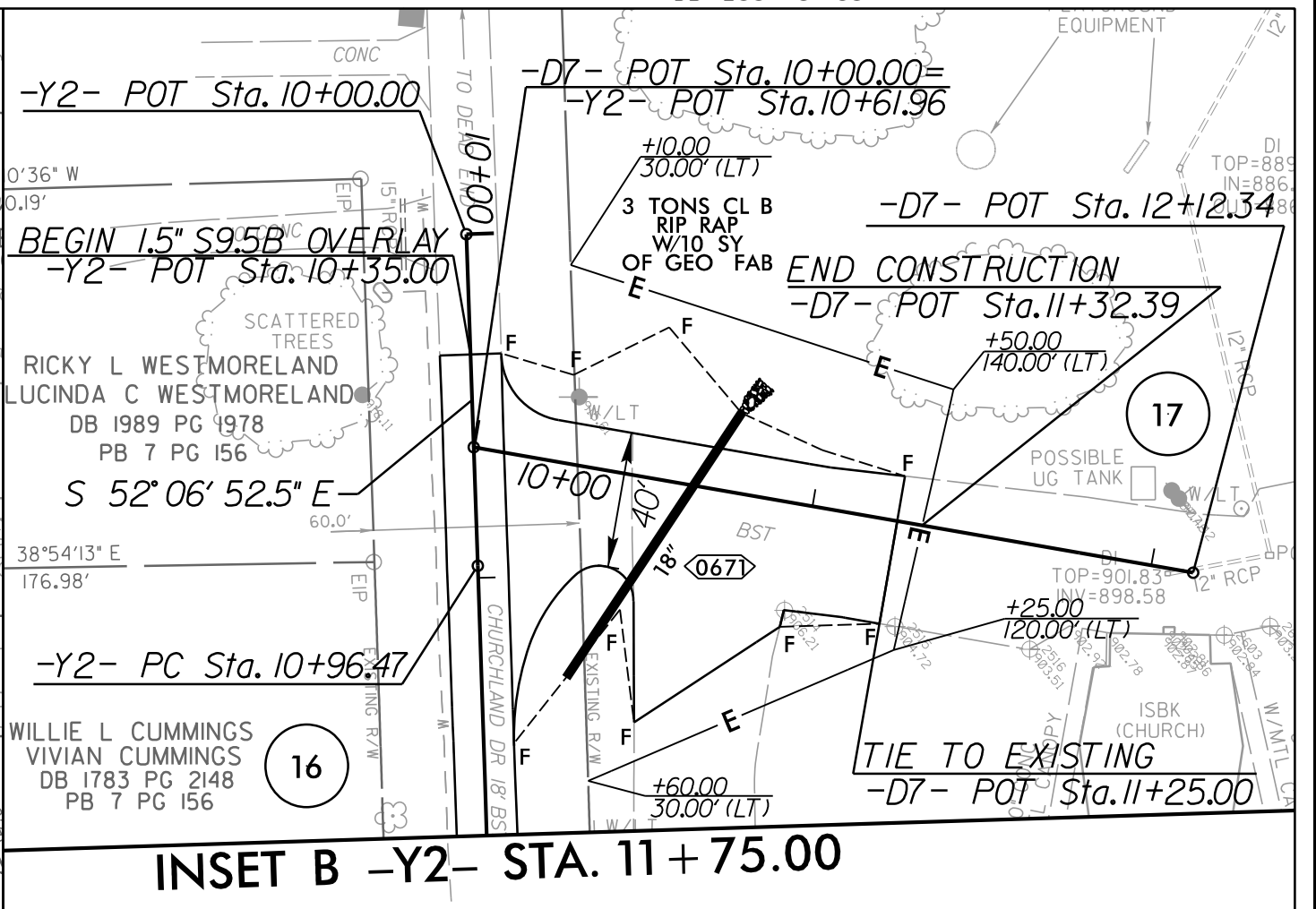
-L-	-Y1B-	-Y1D-	-Y2-
PI Sta 19+25.29	PI Sta 13+94.41	PI Sta 19+64.82	PI Sta 13+09.91
$\Delta = 17' 22" 15.0" (RT)$	$\Delta = 26' 06" 55.3" (RT)$	$\Delta = 31' 29" 26.0" (RT)$	$\Delta = 54' 53" 57.8" (LT)$
$D = 1' 17" 15.2"$	$D = 12' 43' 56.6"$	$D = 6' 03' 10.0"$	$D = 32' 44' 25.6"$
$L = 1,349.14'$	$L = 205.11'$	$L = 520.27'$	$L = 167.68'$
$T = 679.79'$	$T = 104.37'$	$T = 266.89'$	$T = 90.90'$
$R = 4,450.00'$	$R = 104.37'$	$R = 266.89'$	$R = 90.90'$
$SE = 0.03$	$SE = 0.04$	$SE = 0.04$	$SE = 0.04$
$DS = 50 MPH$	$DS = 35 MPH$	$DS = 50 MPH$	$DS = 25 MPH$

PROJECT REFERENCE NO. R-2577A	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



INSET B -Y2- STA. 11+75.00



FOR INTERSECTION DETAILS,  
SEE SHEET 2B-1 & 2B-2

REMOVAL OF EXISTING PAVEMENT

★ PROPOSED TRAFFIC SIGNAL

NOTE: ALL DRIVES ARE 18' WIDE WITH  
10' RADII UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHTS. 31-32  
FOR -Y1B- PROFILE SEE SHT. 42  
FOR -Y1D- PROFILE SEE SHT. 43  
FOR -Y2- PROFILE SEE SHT. 43  
FOR -D7- PROFILE SEE SHT. 50  
FOR WALL PLANS SEE SHTS. W-1 THRU W-5

**RKK**  
P: (919) 878-9560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
www.rkk.com  
Engineers | Construction Managers | Planners | Scientists  
Responsive People | Creative Solutions

8.17.2023  
 R:\Roadway\Projects\R-2577A\_r.dwg\_psf06.dgn  
 917°50' E  
 92.04°

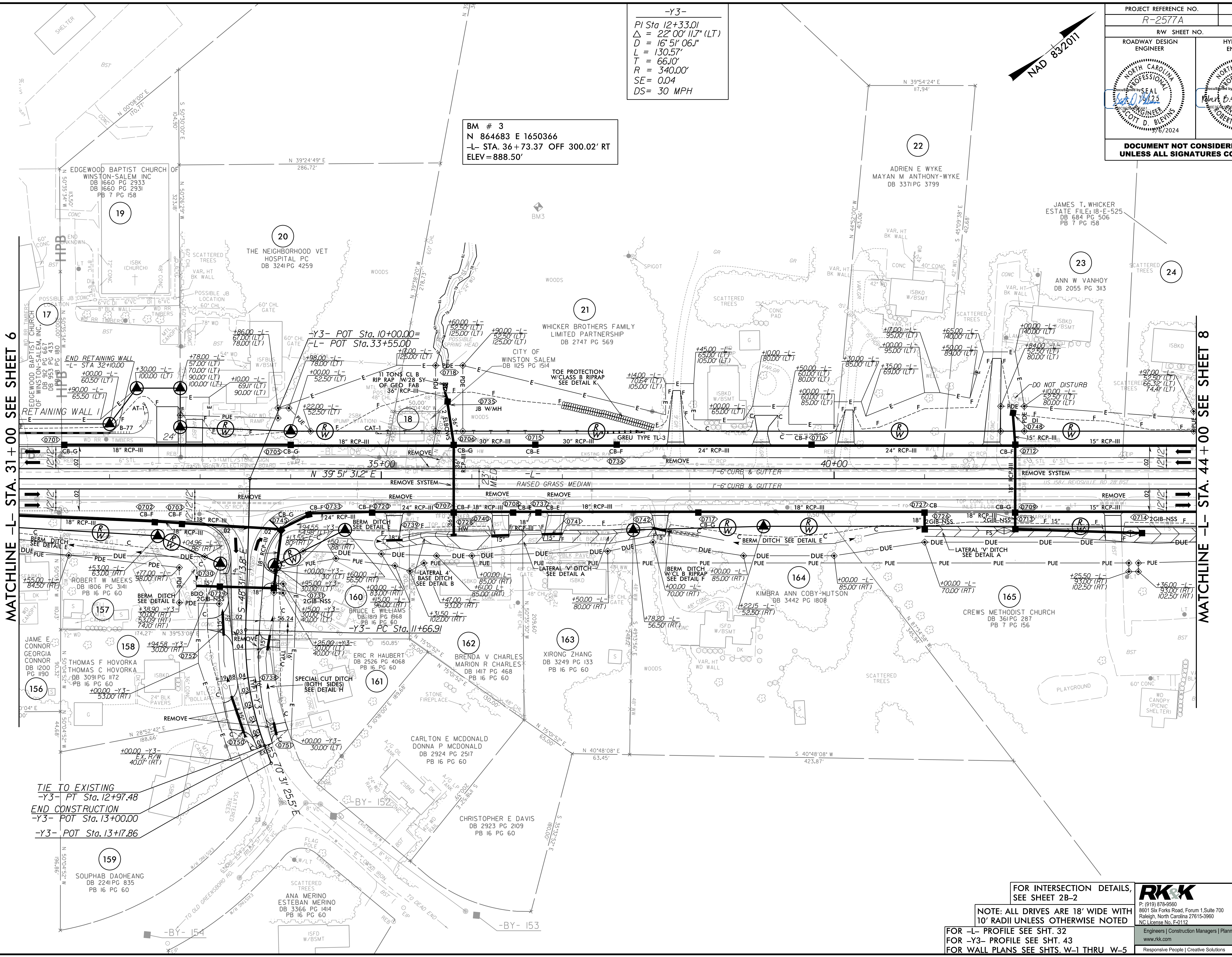
MATCHLINE -L- STA. 18+00 SEE SHEET 5  
 MATCHLINE -L- STA. 13+50 SEE SHEET 5  
 MATCHLINE -L- STA. 31+00 SEE SHEET 7

PROJECT REFERENCE NO. R-2577A	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

-Y3-

PI Sta 12+33.01  
 $\Delta = 22^{\circ}00'11.7" (LT)$   
 $D = 16^{\circ}51'06.1"$   
 $L = 130.57'$   
 $T = 66.10'$   
 $R = 340.00'$   
 $SE = 0.04$   
 $DS = 30 \text{ MPH}$

BM # 3  
 N 864683 E 1650366  
 -L- STA. 36+73.37 OFF 300.02' RT  
 ELEV = 888.50'



MATCHLINE -L- STA. 31+00 SEE SHEET 6

MATCHLINE -L- STA. 44+00 SEE SHEET 8

TIE TO EXISTING  
 -Y3- PT Sta. 12+97.48  
 END CONSTRUCTION  
 -Y3- POT Sta. 13+00.00  
 -Y3- POT Sta. 13+17.86

FOR INTERSECTION DETAILS,  
 SEE SHEET 2B-2

NOTE: ALL DRIVES ARE 18' WIDE WITH  
 10' RADII UNLESS OTHERWISE NOTED

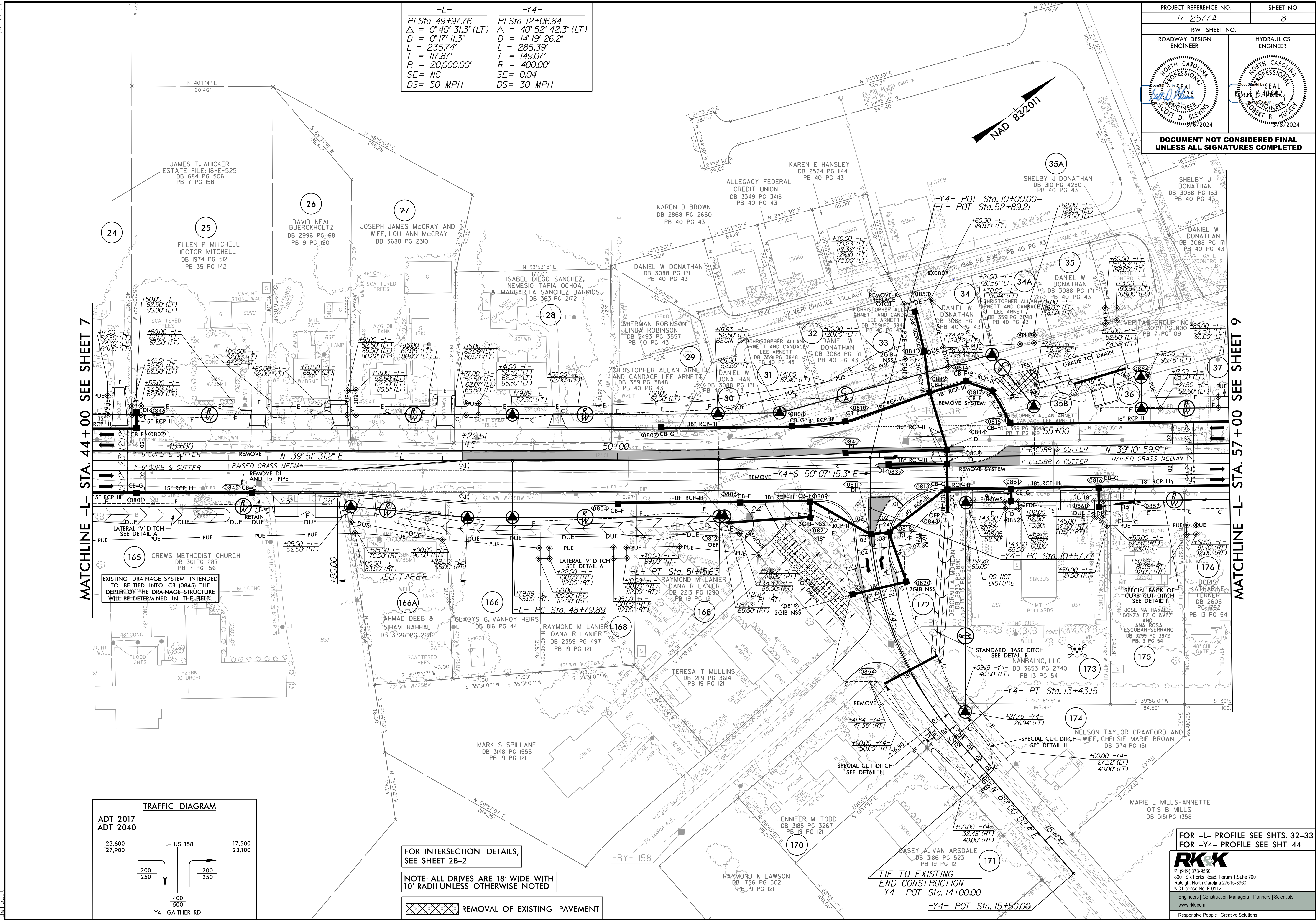
FOR -L- PROFILE SEE SHT. 32  
 FOR -Y3- PROFILE SEE SHT. 43  
 FOR WALL PLANS SEE SHTS. W-1 THRU W-5

**RKK**  
 P: (919) 878-9560  
 8601 Six Forks Road, Forum 1, Suite 700  
 Raleigh, North Carolina 27615-3960  
 NC License No. F-0112

Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com  
 Responsive People | Creative Solutions

8.17.19.99  
 R:\25777A\Pro\N\25777A\_r.dwg\_psh07.dgn  
 2/26/2024

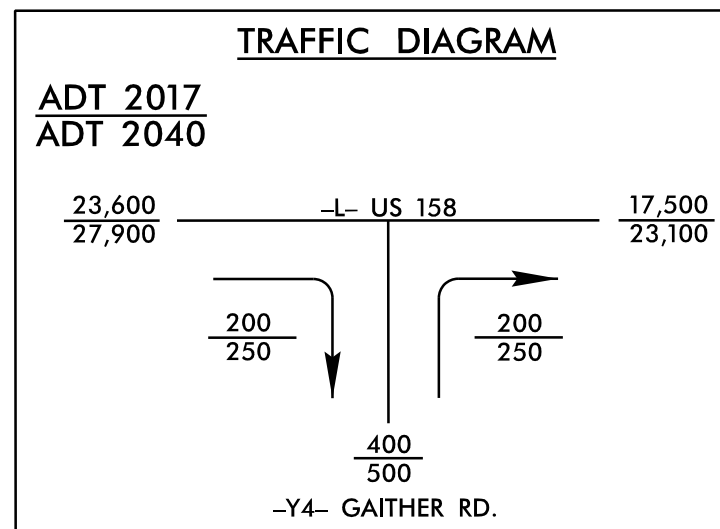
-L-	-Y4-
PI Sta 49+97.76	PI Sta 12+06.84
$\Delta = 0^\circ 40' 31.3" (LT)$	$\Delta = 40^\circ 52' 42.3" (LT)$
$D = 0' 17' 11.3"$	$D = 14' 19' 26.2"$
$L = 235.74'$	$L = 285.39'$
$T = 117.87'$	$T = 149.07'$
$R = 20,000.00'$	$R = 400.00'$
SE= NC	SE= 0.04
DS= 50 MPH	DS= 30 MPH



MATCHLINE -L- STA. 44 + 00 SEE SHEET 7

MATCHLINE -L- STA. 57 + 00 SEE SHEET 9

EXISTING DRAINAGE SYSTEM INTENDED TO BE TIED INTO CB (0845). THE DEPTH OF THE DRAINAGE STRUCTURE WILL BE DETERMINED IN THE FIELD.



FOR INTERSECTION DETAILS, SEE SHEET 2B-2

NOTE: ALL DRIVES ARE 18' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

REMOVAL OF EXISTING PAVEMENT

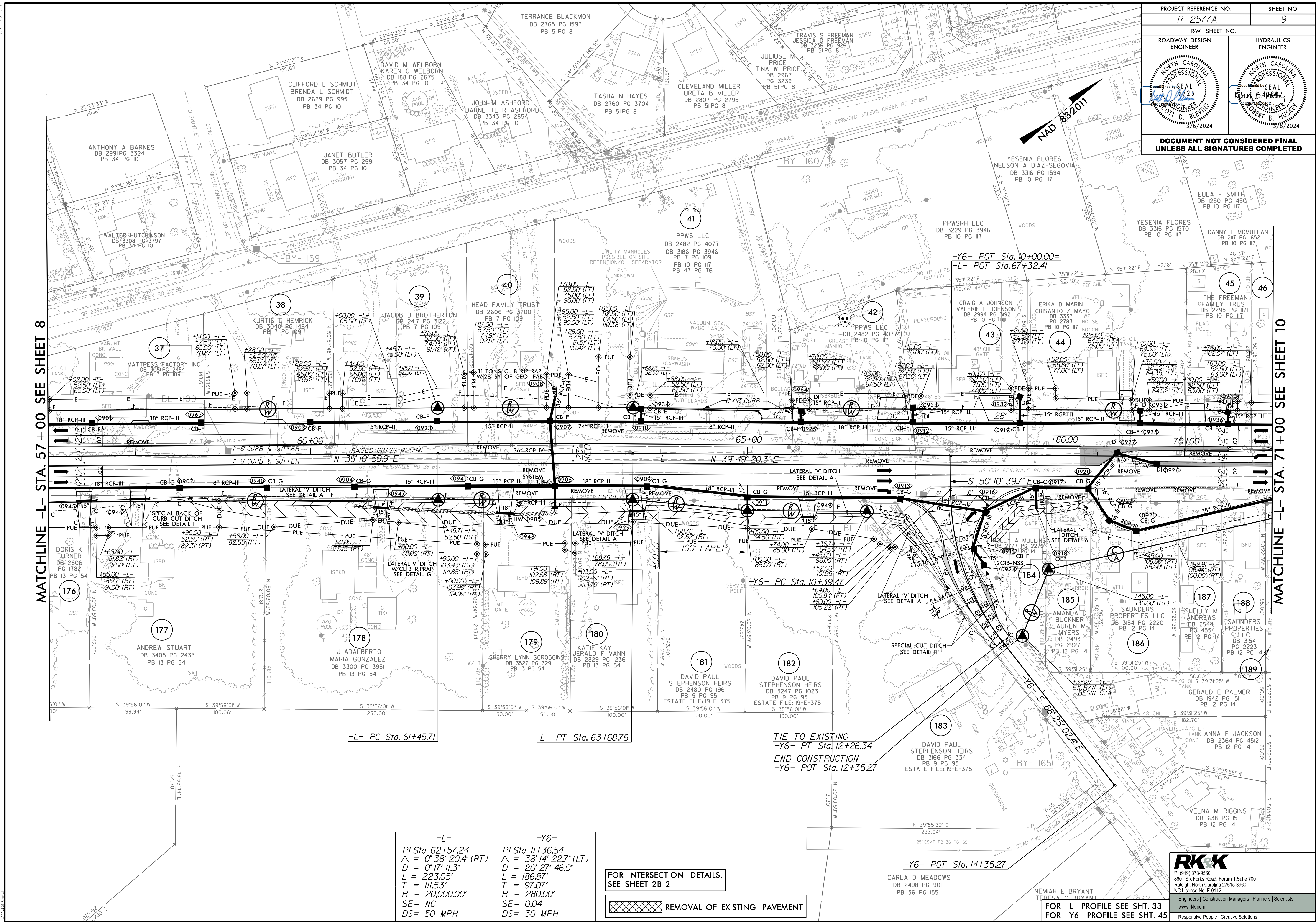
FOR -L- PROFILE SEE SHTS. 32-33  
FOR -Y4- PROFILE SEE SHT. 44

**RKK**

P: (919) 878-9560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112

Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

2/27/2024 R:\Roadway\Proj\R-2577A\_r.dwg\_psh08.dgn



MATCHLINE -L- STA. 57+00 SEE SHEET 8

MATCHLINE -L- STA. 71+00 SEE SHEET 10

-L-	-Y6-
PI Sta 62+57.24	PI Sta 11+36.54
$\Delta = 0^\circ 38' 20.4" (RT)$	$\Delta = 38^\circ 14' 22.7" (LT)$
$D = 0' 17" 11.3"$	$D = 20' 27" 46.0"$
$L = 223.05'$	$L = 186.87'$
$T = 111.53'$	$T = 97.07'$
$R = 20,000.00'$	$R = 280.00'$
SE = NC	SE = 0.04
DS = 50 MPH	DS = 30 MPH

FOR INTERSECTION DETAILS, SEE SHEET 2B-2

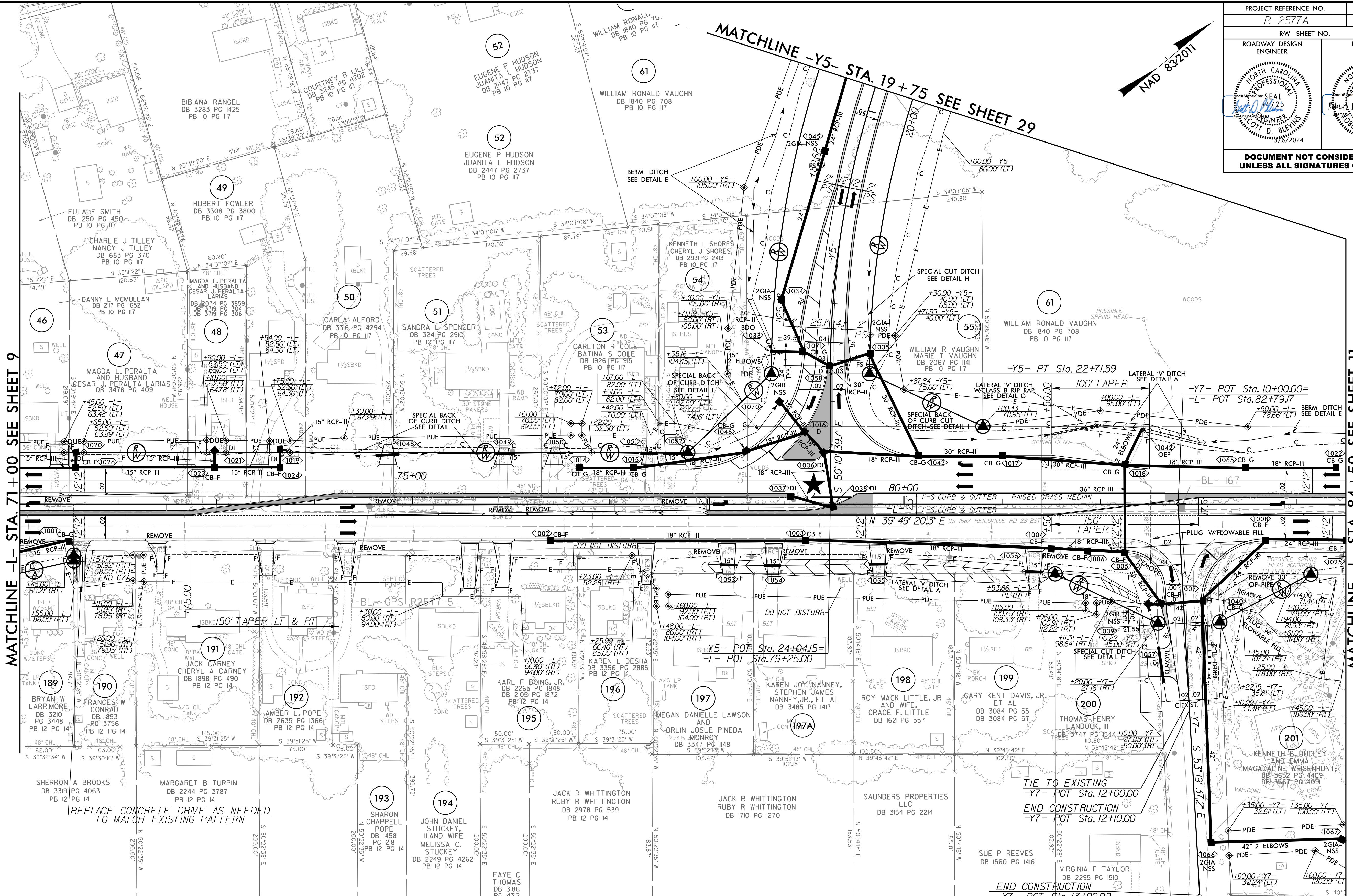


TIE TO EXISTING  
-Y6- PT Sta. 12+26.34  
END CONSTRUCTION  
-Y6- POT Sta. 12+35.27

FOR -L- PROFILE SEE SHT. 33  
FOR -Y6- PROFILE SEE SHT. 45

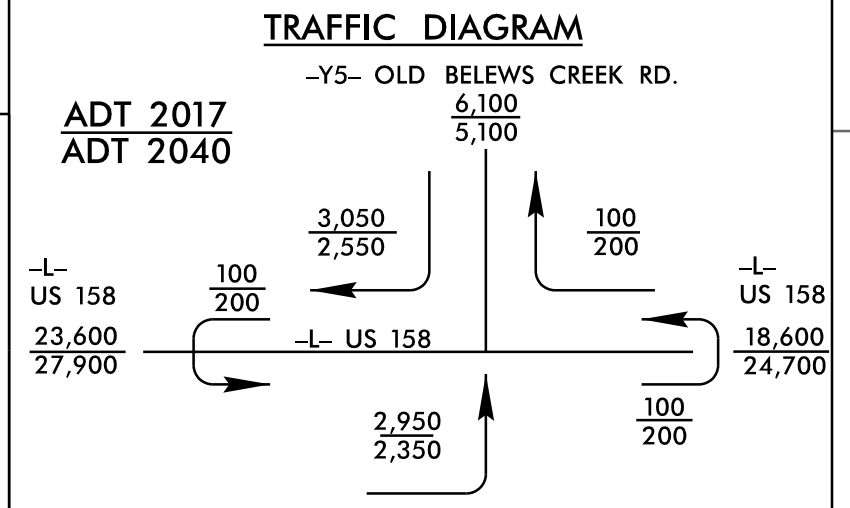
**RKK**  
 P: (919) 878-9560  
 8601 Six Forks Road, Forum 1, Suite 700  
 Raleigh, North Carolina 27615-3960  
 NC License No. F-0112  
 Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com  
 Responsive People | Creative Solutions

8/17/2024  
 R:\Projects\2024\Projects\NCR-2577A\_r.dwg\_psh09.dgn  
 2577A.dwg



MATCHLINE -L- STA. 71+00 SEE SHEET 9

MATCHLINE -L- STA. 84+50 SEE SHEET 11



-Y5-  
 PI Sta 18+25.56  
 $\Delta = 59' 56" 31.1" (LT)$   
 $D = 6' 01" 52.1"$   
 $L = 993.88'$   
 $T = 547.84'$   
 $R = 950.00'$   
 $SE = 0.04$   
 $DS = 35 MPH$

FOR INTERSECTION DETAILS,  
SEE SHEET 2B-2

NOTE: ALL DRIVEWAYS ARE 18"  
UNLESS OTHERWISE NOTED

★ PROPOSED TRAFFIC SIGNAL

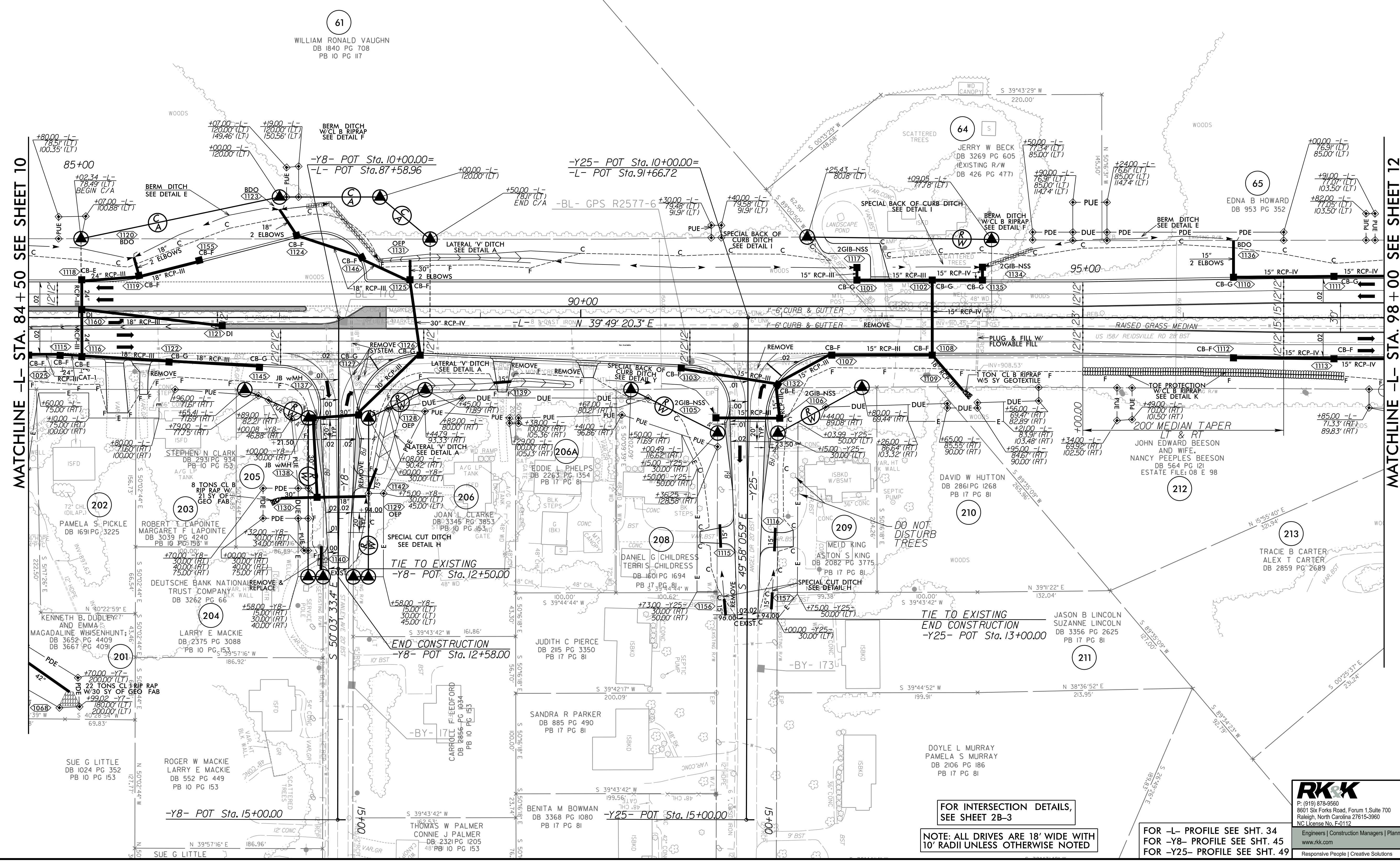
BM # 5  
 N 867531 E 1653703  
 -L- STA. 79+98.04 OFF 416.92' RT  
 ELEV = 916.16'

FOR -L- PROFILE SEE SHTS. 33-34  
 FOR -Y5- PROFILE SEE SHT. 44  
 FOR -Y7- PROFILE SEE SHT. 45

**RKK**  
 P: (919) 878-9560  
 8601 Six Forks Road, Forum 1, Suite 700  
 Raleigh, North Carolina 27615-3960  
 NC License No. F-0112  
 Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com  
 Responsive People | Creative Solutions

8.17.2023 R:\Roadway\Proj\NCR-2577A\_r.dwg\_psh10.dgn

PROJECT REFERENCE NO. R-2577A	SHEET NO. 11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



MATCHLINE -L- STA. 84 + 50 SEE SHEET 10

MATCHLINE -L- STA. 98 + 00 SEE SHEET 12

61  
WILLIAM RONALD VAUGHN  
DB 1840 PG 708  
PB 10 PG 117

FOR INTERSECTION DETAILS,  
SEE SHEET 2B-3

NOTE: ALL DRIVES ARE 18' WIDE WITH  
10' RADII UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT. 34  
FOR -Y8- PROFILE SEE SHT. 45  
FOR -Y25- PROFILE SEE SHT. 49

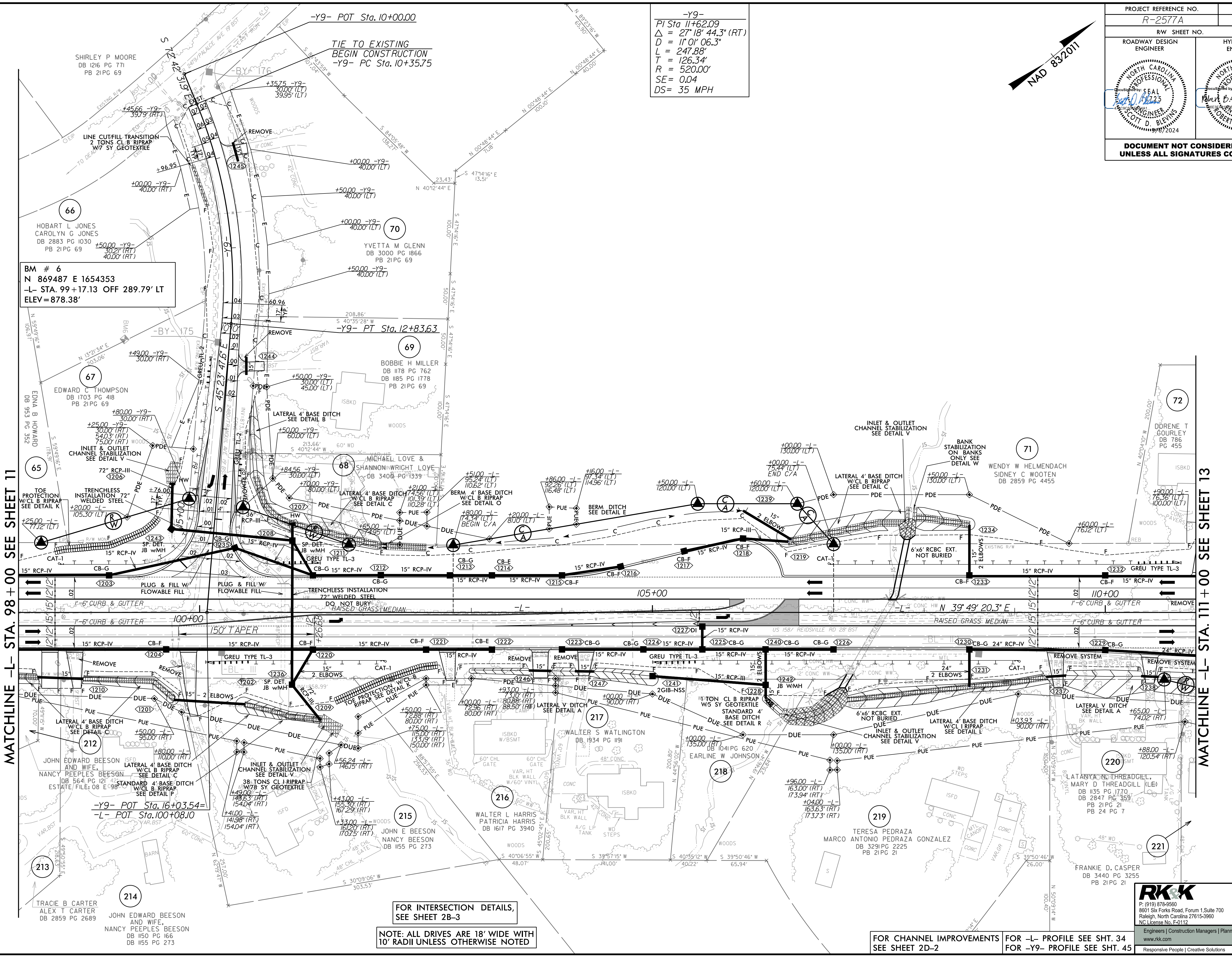
**RKK**  
P: (919) 878-9560  
8601 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

8/17/2023 R:\Roadway\Proj\R-2577A\_r.dwg\_psh11.dgn

PROJECT REFERENCE NO.		SHEET NO.	
R-2577A		12	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



-Y9-  
PI Sta 11+62.09  
 $\Delta = 27' 18" 44.3" (RT)$   
 $D = 1' 01" 06.3"$   
 $L = 247.88'$   
 $T = 126.34'$   
 $R = 520.00'$   
 $SE = 0.04$   
 $DS = 35 MPH$



MATCHLINE -L- STA. 98+00 SEE SHEET 11

MATCHLINE -L- STA. 111+00 SEE SHEET 13

-Y9- POT Sta. 10+00.00  
TIE TO EXISTING  
BEGIN CONSTRUCTION  
-Y9- PC Sta. 10+35.75

BM # 6  
N 869487 E 1654353  
-L- STA. 99+17.13 OFF 289.79' LT  
ELEV = 878.38'

FOR INTERSECTION DETAILS,  
SEE SHEET 2B-3

NOTE: ALL DRIVES ARE 18' WIDE WITH  
10' RADII UNLESS OTHERWISE NOTED

FOR CHANNEL IMPROVEMENTS  
SEE SHEET 2D-2

FOR -L- PROFILE SEE SHT. 34  
FOR -Y9- PROFILE SEE SHT. 45

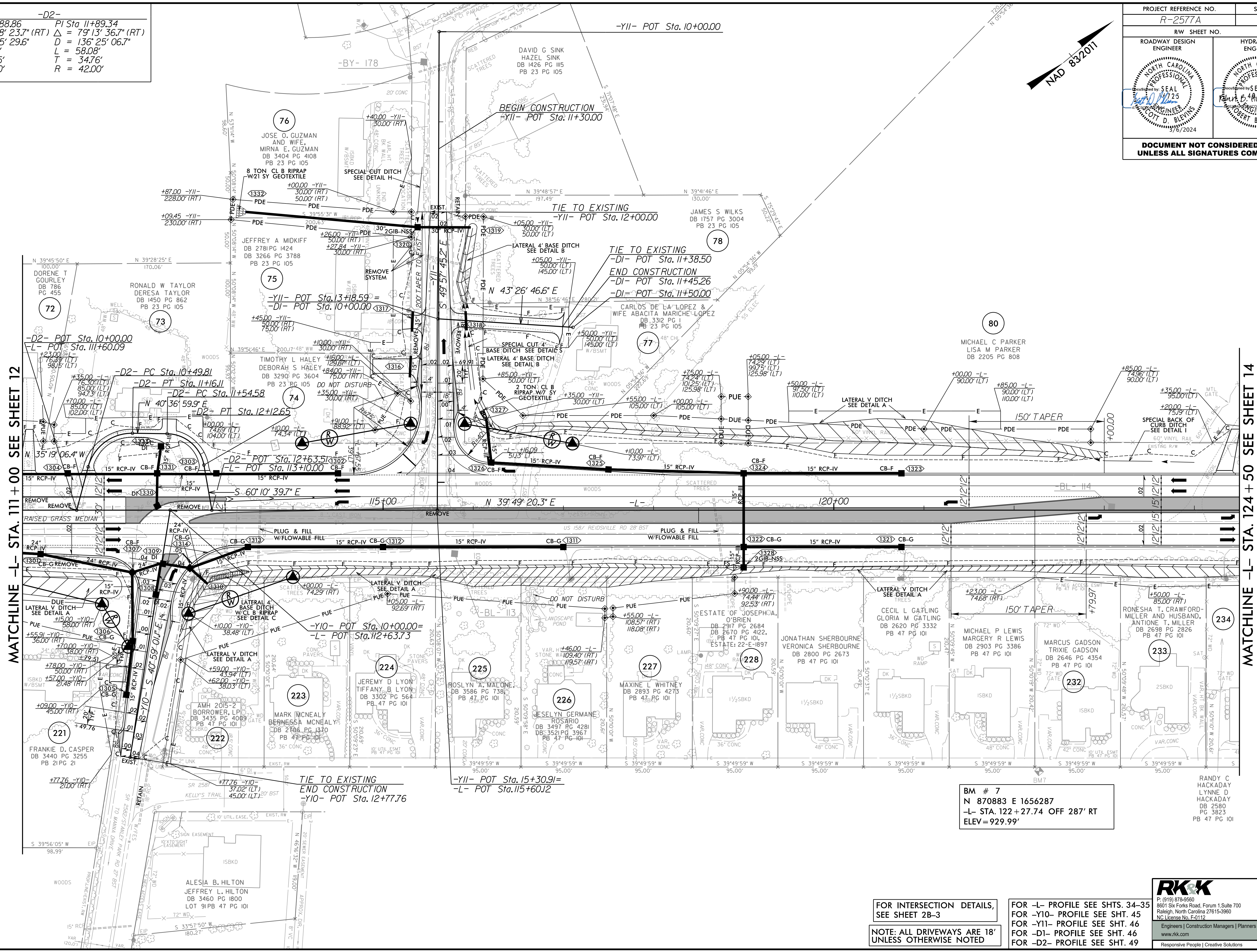
**RKK**  
P: (919) 878-9560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

8/17/2023 R:\Projects\2577A\2577A\_r.dwg\_psh12.dgn

8/17/99  
R:\Projects\2024\N\Proj\N-2577A\_r.dwg\_psh13.dgn  
8/17/2024

-D2-	
PI Sta 10+88.86	PI Sta 11+89.34
$\Delta = 75^\circ 58' 23.7" (RT)$	$\Delta = 79^\circ 13' 36.7" (RT)$
$D = 114' 35" 29.6'$	$D = 136' 25" 06.7'$
$L = 66.30'$	$L = 58.08'$
$T = 39.05'$	$T = 34.76'$
$R = 50.00'$	$R = 42.00'$

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- STA. 111+00 SEE SHEET 12

MATCHLINE -L- STA. 124+50 SEE SHEET 14

BM # 7  
N 870883 E 1656287  
-L- STA. 122 + 27.74 OFF 287' RT  
ELEV = 929.99'

FOR INTERSECTION DETAILS,  
SEE SHEET 2B-3

NOTE: ALL DRIVEWAYS ARE 18'  
UNLESS OTHERWISE NOTED

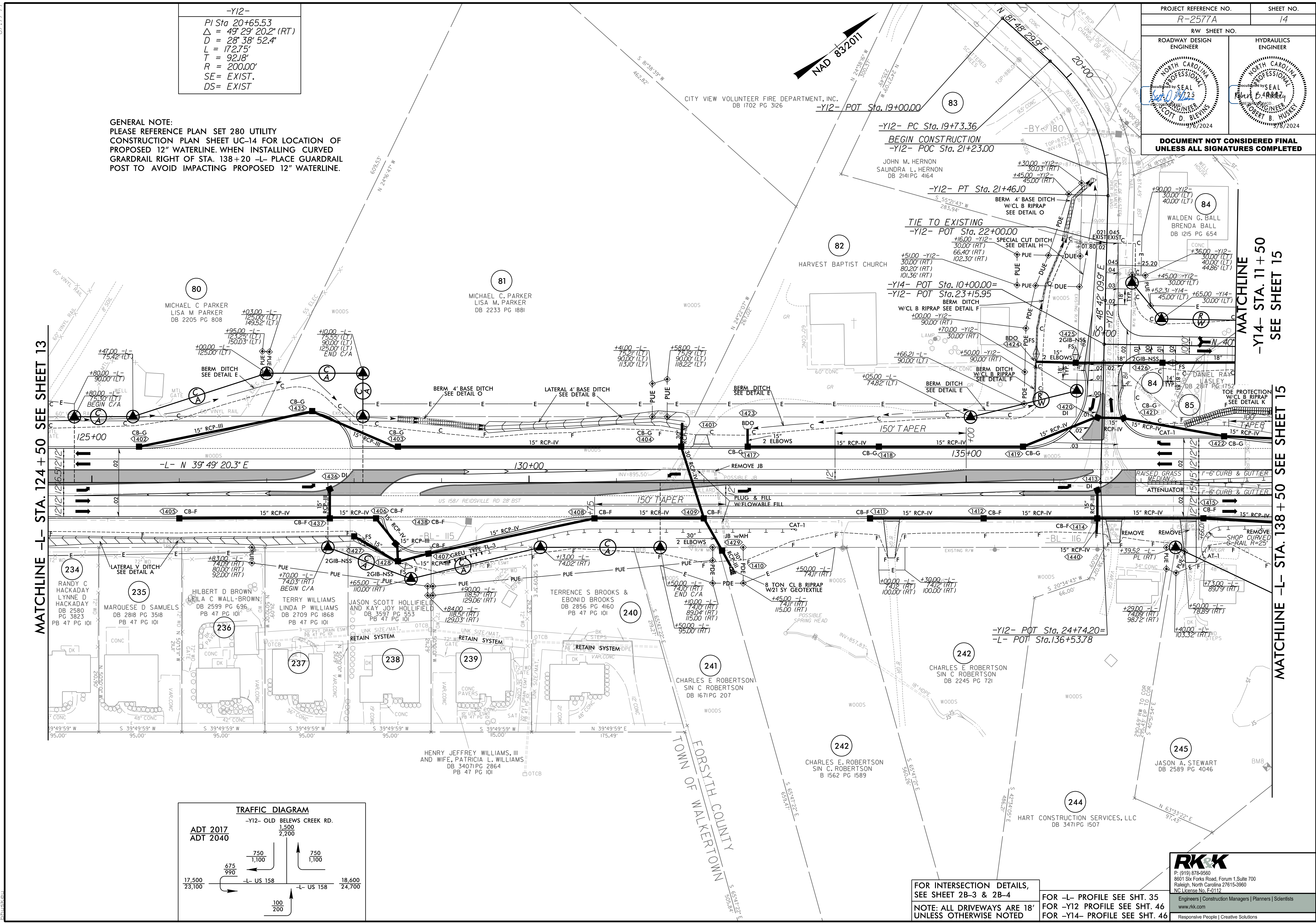
FOR -L- PROFILE SEE SHTS. 34-35  
FOR -Y10- PROFILE SEE SHT. 45  
FOR -Y11- PROFILE SEE SHT. 46  
FOR -D1- PROFILE SEE SHT. 46  
FOR -D2- PROFILE SEE SHT. 49

**RKK**  
P: (919) 878-9560  
8601 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions



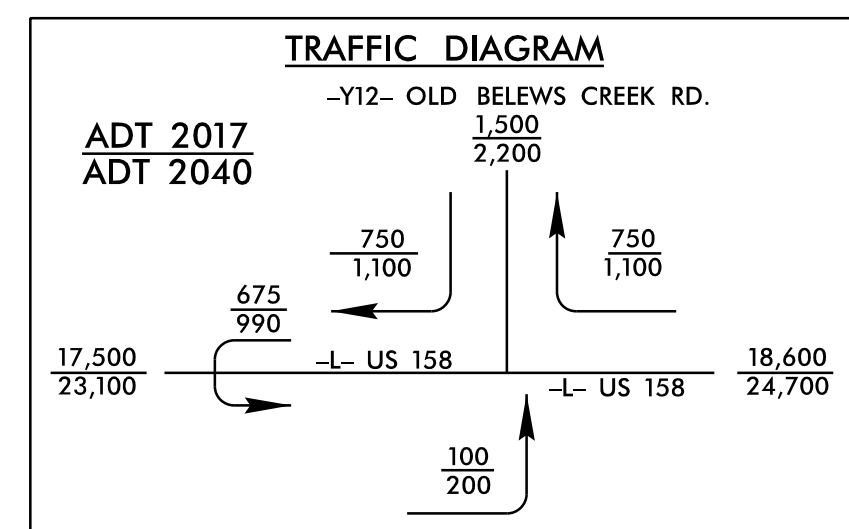
-Y12-  
 PI Sta 20+65.53  
 $\Delta = 49^{\circ} 29' 20.2''$  (RT)  
 $D = 28^{\circ} 38' 52.4''$   
 $L = 172.75'$   
 $T = 92.18'$   
 $R = 200.00'$   
 $SE = EXIST.$   
 $DS = EXIST.$

GENERAL NOTE:  
 PLEASE REFERENCE PLAN SET 280 UTILITY  
 CONSTRUCTION PLAN SHEET UC-14 FOR LOCATION OF  
 PROPOSED 12" WATERLINE. WHEN INSTALLING CURVED  
 GRADRAIL RIGHT OF STA. 138+20 -L- PLACE GUARDRAIL  
 POST TO AVOID IMPACTING PROPOSED 12" WATERLINE.



MATCHLINE -L- STA. 124+50 SEE SHEET 13

MATCHLINE -Y14- STA. 11+50 SEE SHEET 15



FOR INTERSECTION DETAILS,  
 SEE SHEET 2B-3 & 2B-4  
 NOTE: ALL DRIVEWAYS ARE 18'  
 UNLESS OTHERWISE NOTED

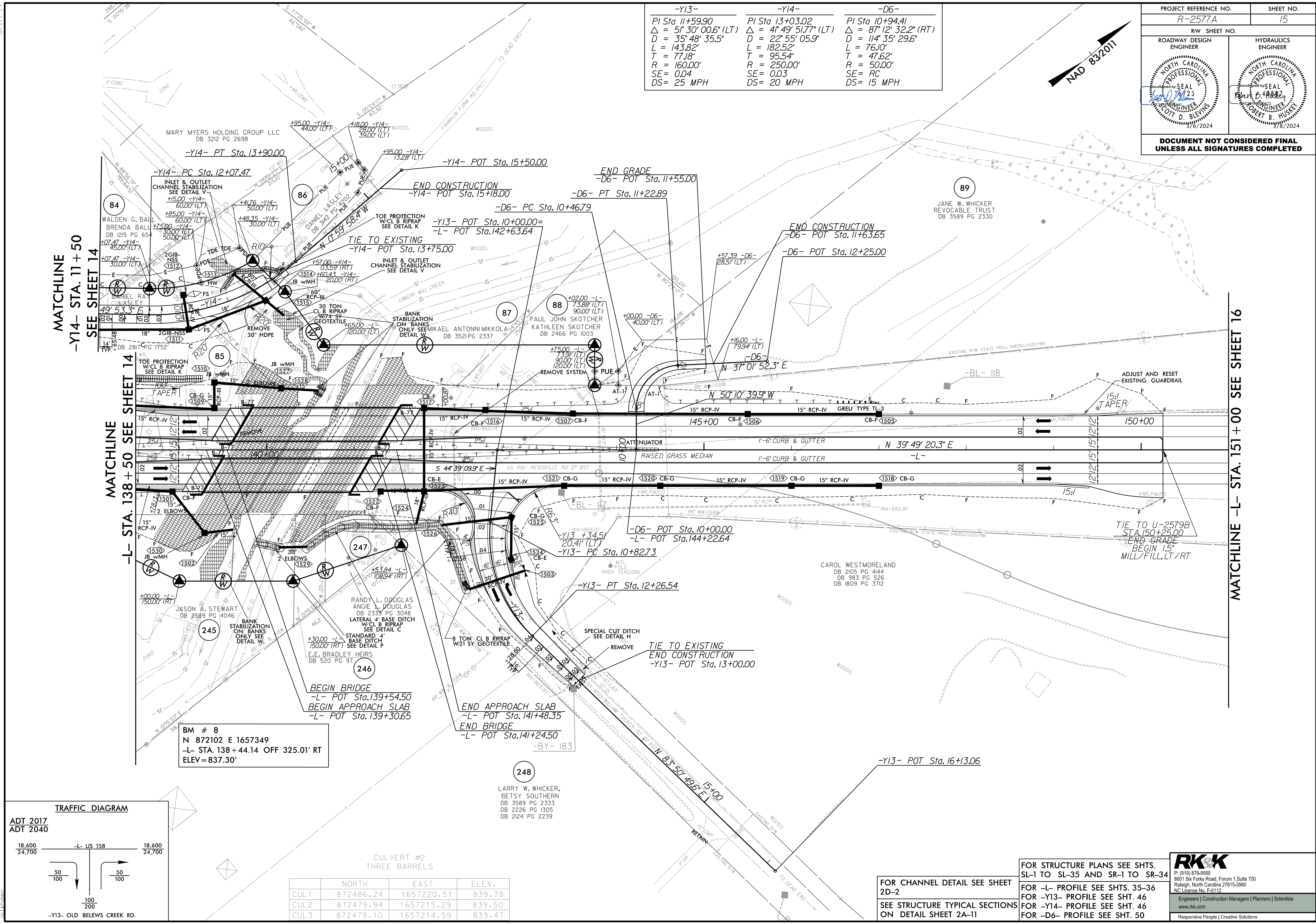
FOR -L- PROFILE SEE SHT. 35  
 FOR -Y12 PROFILE SEE SHT. 46  
 FOR -Y14- PROFILE SEE SHT. 46

**RKK**  
 P: (919) 878-9560  
 8601 Six Forks Road, Forum 1, Suite 700  
 Raleigh, North Carolina 27615-3960  
 NC License No. F-0112  
 Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com  
 Responsive People | Creative Solutions

R:\2024\Projects\N\2577A\_r.dwg, psh14.dgn  
 8/17/2024

-Y13-	-Y14-	-D6-
PI Sta 11+59.90	PI Sta 13+03.02	PI Sta 10+94.41
$\Delta = 51^\circ 30' 00.6''$ (LT)	$\Delta = 41^\circ 49' 51.77''$ (LT)	$\Delta = 87^\circ 12' 32.2''$ (RT)
D = 35' 48' 35.5"	D = 22' 55' 05.9"	D = 114' 35' 29.6"
L = 143.82'	L = 182.52'	L = 76.10'
T = 77.18'	T = 95.54'	T = 47.62'
R = 160.00'	R = 250.00'	R = 50.00'
SE = 0.04	SE = 0.03	SE = RC
DS = 25 MPH	DS = 20 MPH	DS = 15 MPH

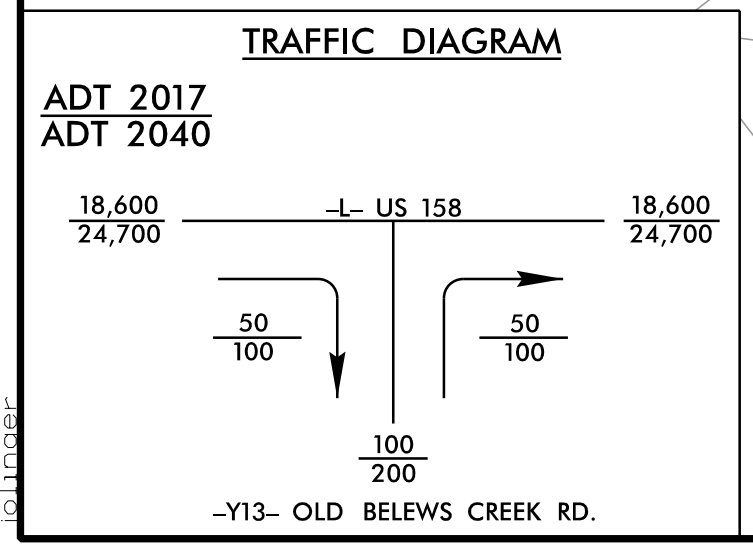
PROJECT REFERENCE NO. R-2577A	SHEET NO. 15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE  
-Y14- STA. 11+50  
SEE SHEET 14

MATCHLINE  
-L- STA. 138+50 SEE SHEET 14

MATCHLINE -L- STA. 151+00 SEE SHEET 16



	NORTH	EAST	ELEV.
CUL1	872486.24	1657220.51	839.78
CUL2	872479.94	1657215.29	839.50
CUL3	872479.10	1657214.59	839.47

FOR CHANNEL DETAIL SEE SHEET 2D-2  
SEE STRUCTURE TYPICAL SECTIONS ON DETAIL SHEET 2A-11

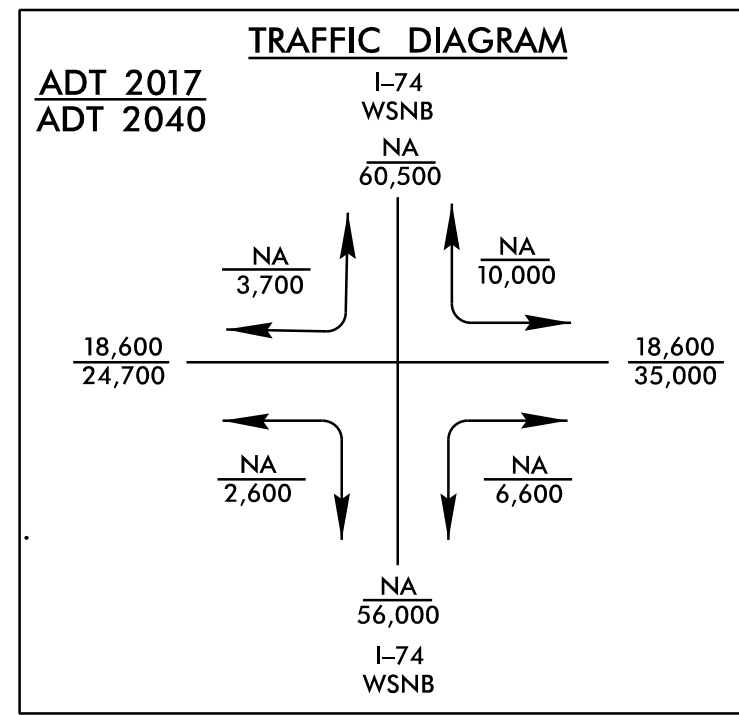
FOR STRUCTURE PLANS SEE SHTS. SL-1 TO SL-35 AND SR-1 TO SR-34  
FOR -L- PROFILE SEE SHTS. 35-36  
FOR -Y13- PROFILE SEE SHT. 46  
FOR -Y14- PROFILE SEE SHT. 46  
FOR -D6- PROFILE SEE SHT. 50

**RKK**  
P: (919) 878-9560  
8601 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

8/17/2023 R:\Roadway\Pro\N\2577A\_r.dwg\_psh15.dgn

8/17/99

PROJECT REFERENCE NO. R-2577A		SHEET NO. 16	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			



**NO DRAINAGE ON THIS PLANSHEET  
THIS IS THE U-2579B PROJECT**

BM # 9  
N 873960 E 1658408  
-L- STA. 159 + 49.40 OFF 51.58' LT  
ELEV = 909.53'

89

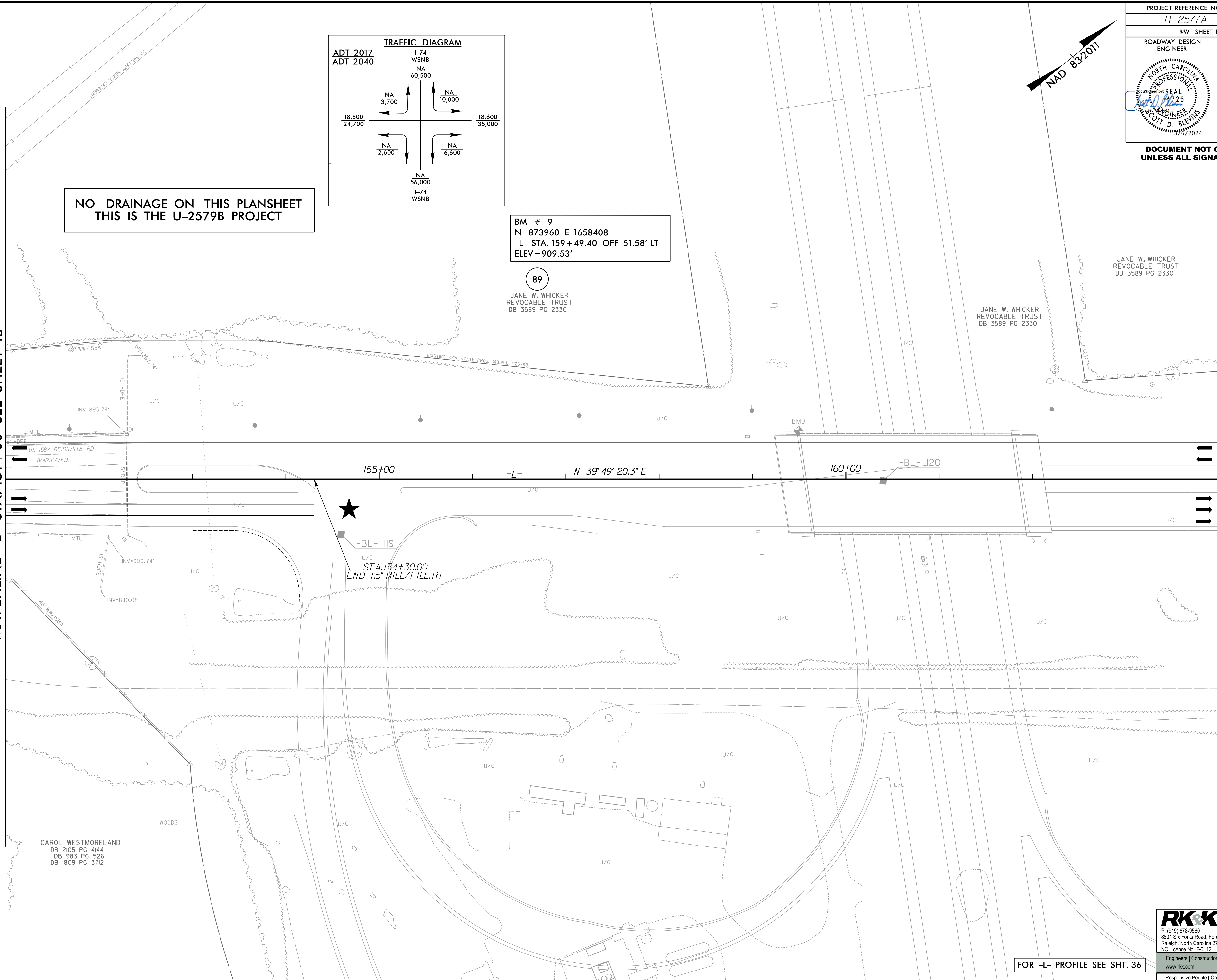
JANE W. WHICKER  
REVOCABLE TRUST  
DB 3589 PG 2330

JANE W. WHICKER  
REVOCABLE TRUST  
DB 3589 PG 2330

JANE W. WHICKER  
REVOCABLE TRUST  
DB 3589 PG 2330

MATCHLINE -L- STA. 151 + 00 SEE SHEET 15

MATCHLINE -L- STA. 164 + 00 SEE SHEET 17



CAROL WESTMORELAND  
DB 2105 PG 4144  
DB 983 PG 526  
DB 1809 PG 3712

**RKK**  
P: (919) 878-9560  
8601 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112

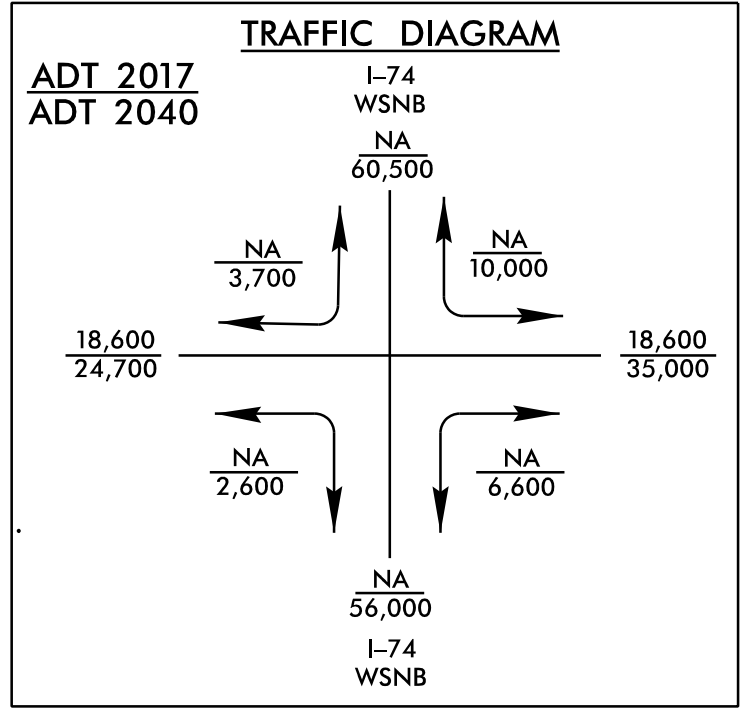
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

FOR -L- PROFILE SEE SHT. 36

8/17/2023  
R:\Roads\Proj\N-2577A\_r.dwg\_psh16.dgn  
IC:hp

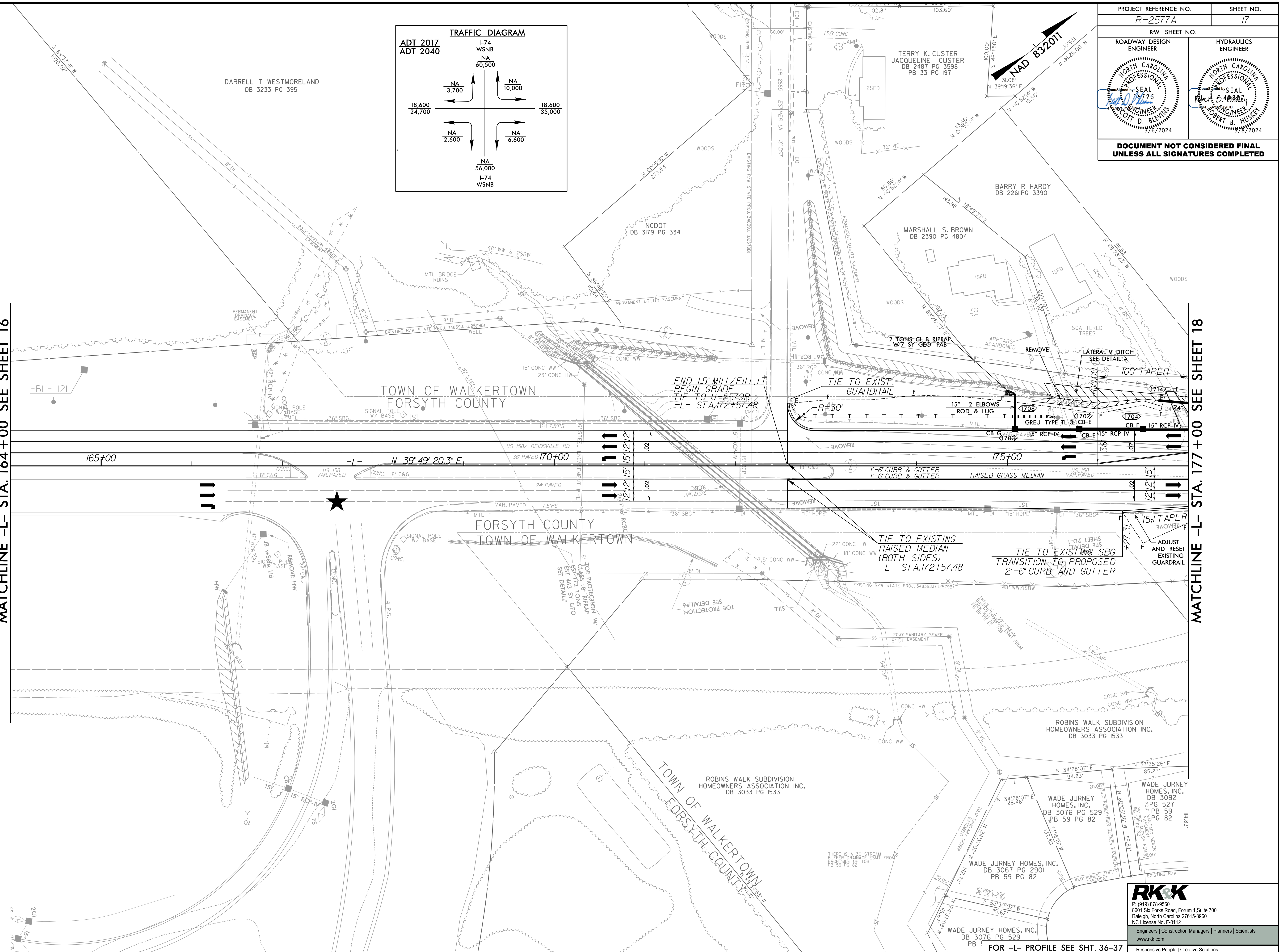
8/17/99  
R:\Projects\2024\Roadway\Proj\N-2577A\_r.dwg\_psh17.dgn  
blank

PROJECT REFERENCE NO. R-2577A	SHEET NO. 17
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- STA. 164 + 00 SEE SHEET 16

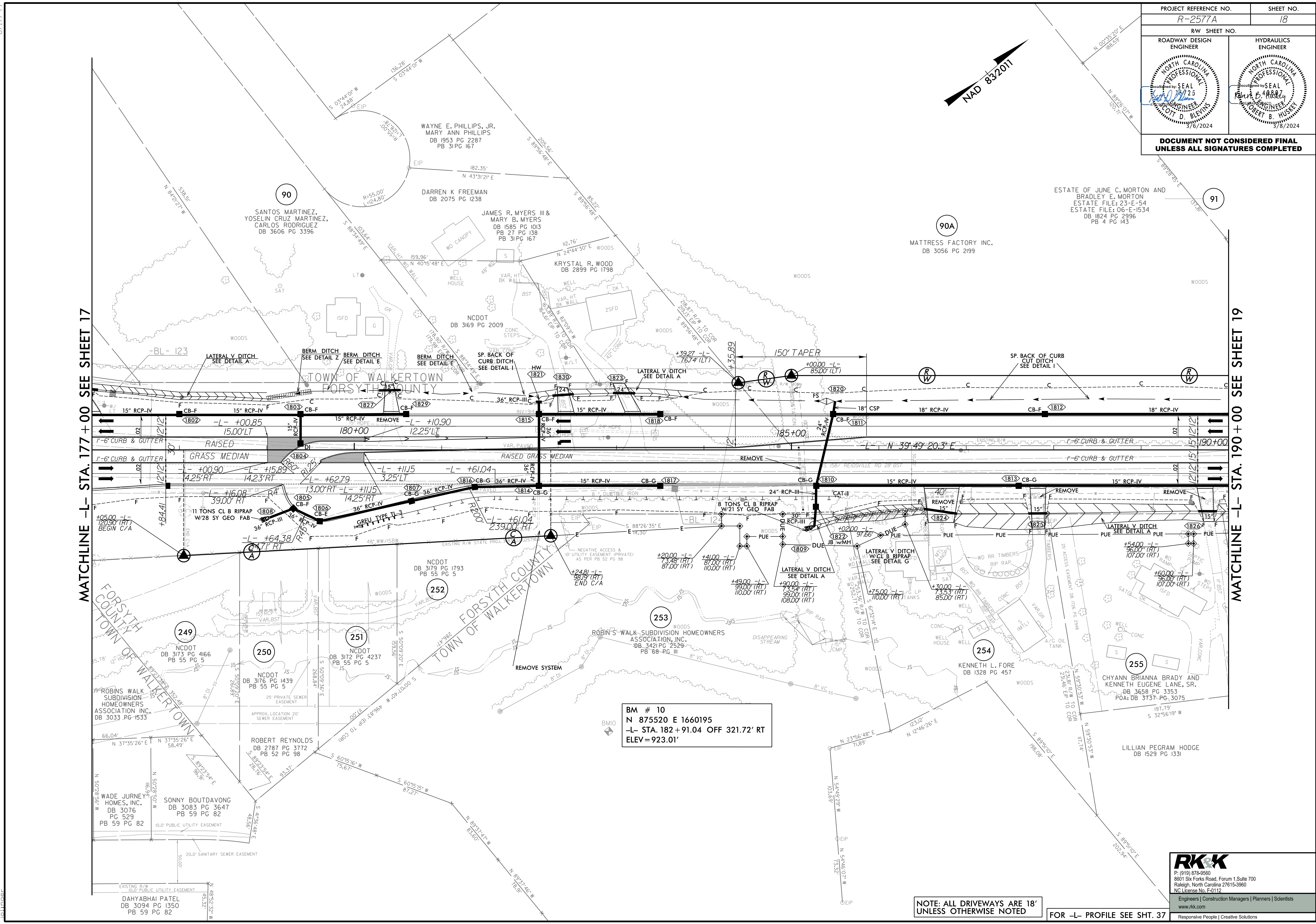
MATCHLINE -L- STA. 177 + 00 SEE SHEET 18



P: (919) 878-9560  
8601 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

FOR -L- PROFILE SEE SHT. 36-37

PROJECT REFERENCE NO. R-2577A		SHEET NO. 18	
RW SHEET NO. ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			



MATCHLINE -L- STA. 177 + 00 SEE SHEET 17

MATCHLINE -L- STA. 190 + 00 SEE SHEET 19

BM # 10  
N 875520 E 1660195  
-L- STA. 182 + 91.04 OFF 321.72' RT  
ELEV = 923.01'

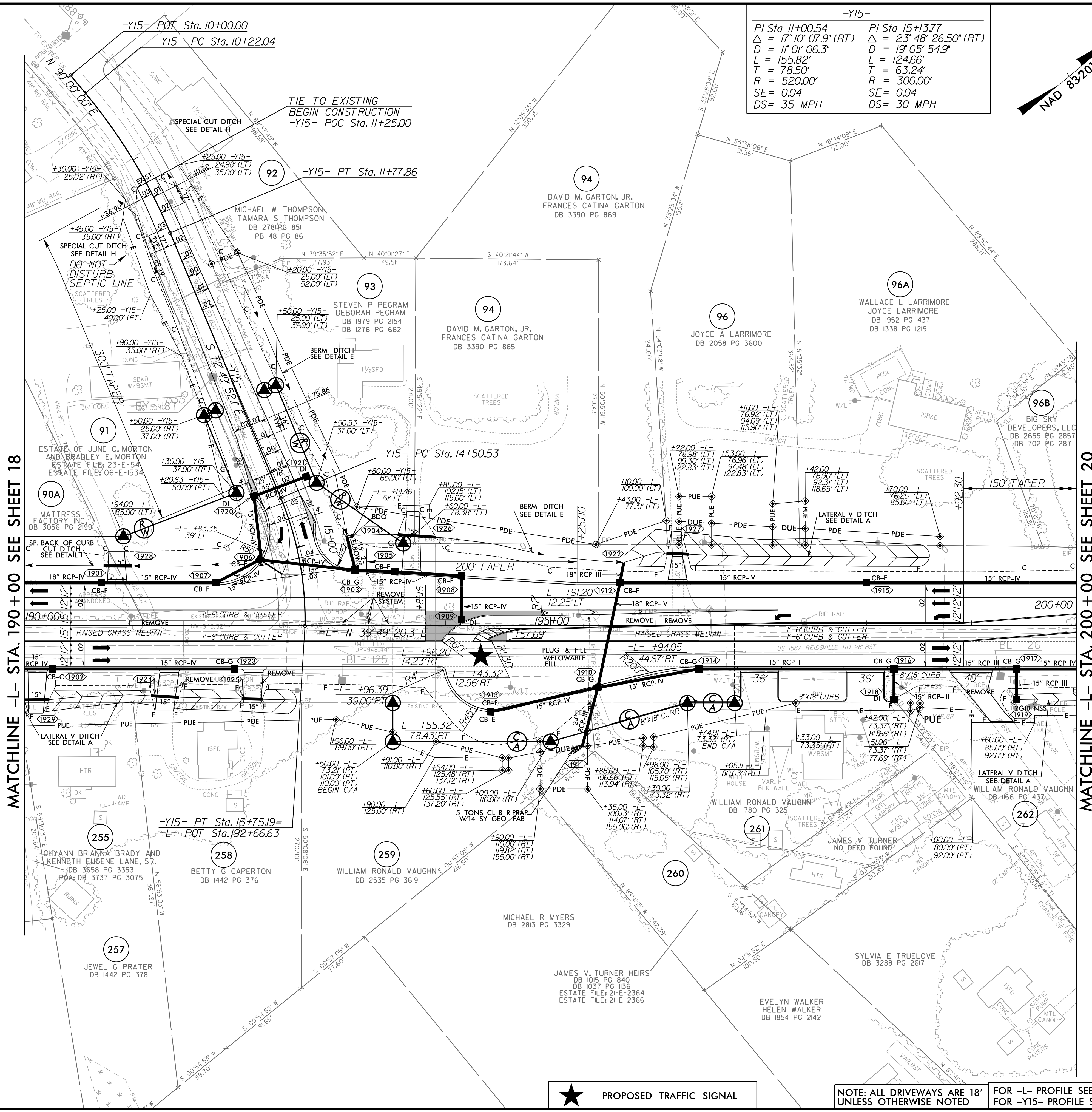
NOTE: ALL DRIVEWAYS ARE 18'  
UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT. 37

**RKK**  
P: (919) 878-9560  
8601 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

8/17/2023 R:\Projects\2023\Proj\R-2577A\_r.dwg\_psh18.dgn

8.17.19  
R:\Roadway\Pro\N-2577A\_r.dwg\_psh19.dgn



-Y15-	
PI Sta 11+00.54	PI Sta 15+13.77
$\Delta = 17' 10'' 07.9''$ (RT)	$\Delta = 23' 48'' 26.50''$ (RT)
$D = 11' 01'' 06.3''$	$D = 19' 05'' 54.9''$
$L = 155.82'$	$L = 124.66'$
$T = 78.50'$	$T = 63.24'$
$R = 520.00'$	$R = 300.00'$
$SE = 0.04$	$SE = 0.04$
$DS = 35$ MPH	$DS = 30$ MPH

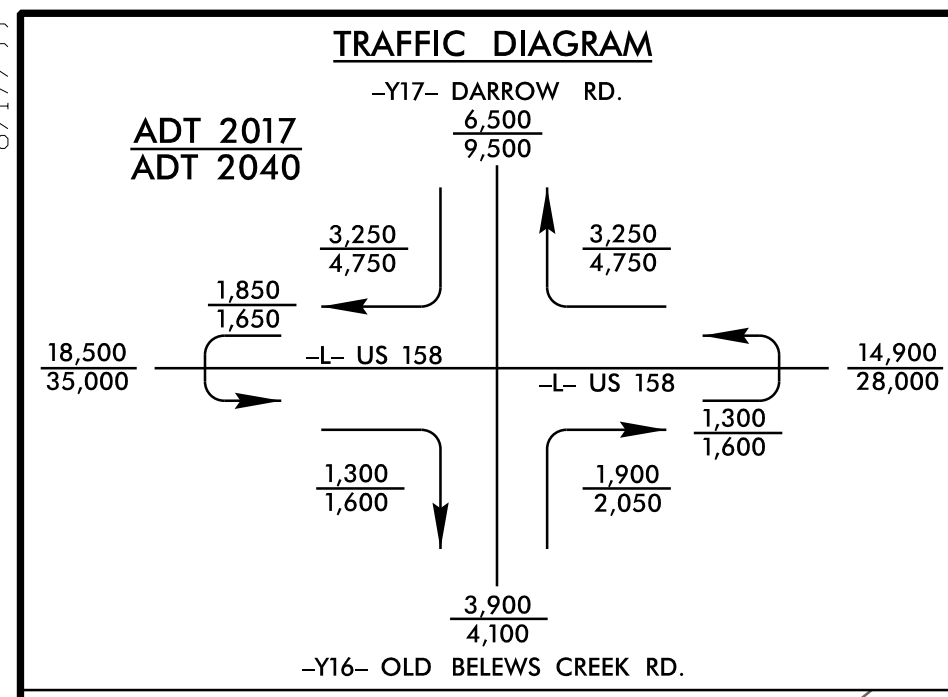


PROJECT REFERENCE NO. R-2577A	SHEET NO. 19
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

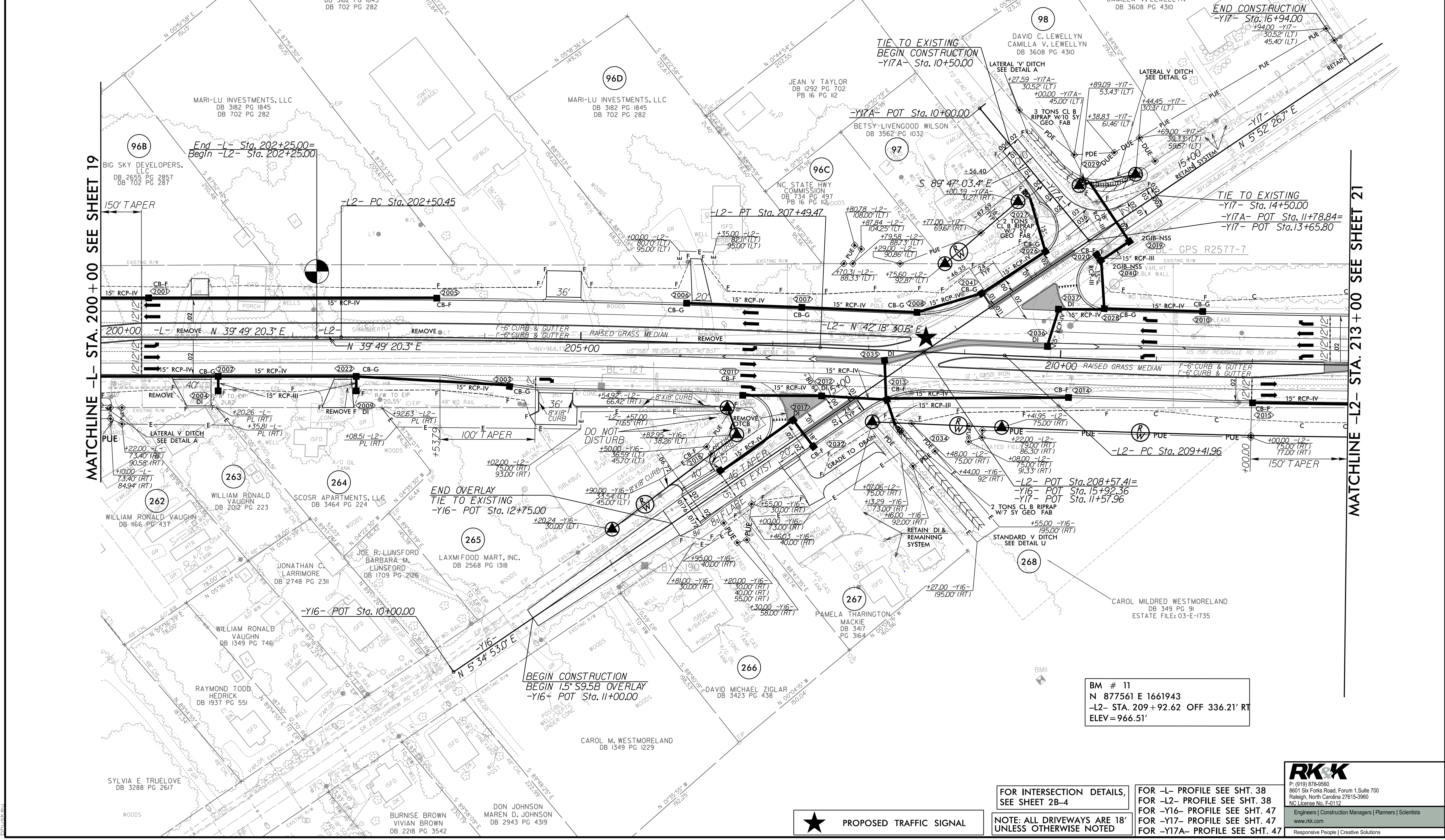
★ PROPOSED TRAFFIC SIGNAL

NOTE: ALL DRIVEWAYS ARE 18' UNLESS OTHERWISE NOTED  
FOR -L- PROFILE SEE SHTS. 37-38  
FOR -Y15- PROFILE SEE SHT. 47

**RKK**  
P: (919) 878-9560  
8601 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
www.rkk.com  
Engineers | Construction Managers | Planners | Scientists  
Responsive People | Creative Solutions



-L2-	-L2-
PI Sta 205+00.00	PI Sta 211+91.50
$\Delta = 2^\circ 29' 10.3''$ (RT)	$\Delta = 2^\circ 29' 10.3''$ (LT)
$D = 0^\circ 29' 53.6''$	$D = 0^\circ 29' 53.6''$
$L = 499.0'$	$L = 499.0'$
$T = 249.55'$	$T = 249.55'$
$R = 11,500.00'$	$R = 11,500.00'$
SE = NC	SE = NC
DS = 50 MPH	DS = 50 MPH



MATCHLINE -L- STA. 200+00 SEE SHEET 19

MATCHLINE -L2- STA. 213+00 SEE SHEET 21

BM # 11  
N 877561 E 1661943  
-L2- STA. 209+92.62 OFF 336.21' RT  
ELEV = 966.51'

PROPOSED TRAFFIC SIGNAL

FOR INTERSECTION DETAILS,  
SEE SHEET 2B-4

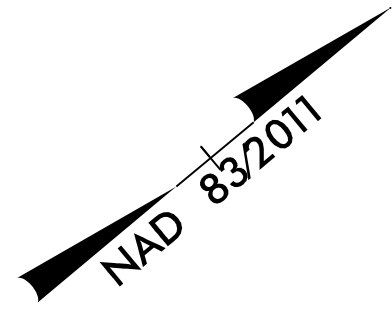
FOR -L- PROFILE SEE SHT. 38  
FOR -L2- PROFILE SEE SHT. 38  
FOR -Y16- PROFILE SEE SHT. 47  
FOR -Y17- PROFILE SEE SHT. 47  
FOR -Y17A- PROFILE SEE SHT. 47

**RKK**  
P: (919) 878-9560  
8601 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

8.17.19.99  
R:\25777A\Proj\NCR-25777A\_r.dwg\_psh20.dgn  
2/26/2024

PROJECT REFERENCE NO. R-2577A	SHEET NO. 21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

-L2-	-D3-
PI Sta 211+91.50	PI Sta 10+41.53
$\Delta = 2^{\circ} 29' 10.3" (LT)$	$\Delta = 38^{\circ} 27' 10.1" (LT)$
$D = 0^{\circ} 29' 53.6"$	$D = 143^{\circ} 14' 22.0"$
$L = 499.01'$	$L = 26.85'$
$T = 249.55'$	$T = 13.95'$
$R = 11,500.00'$	$R = 40.00'$
SE= NC	
DS= 50 MPH	

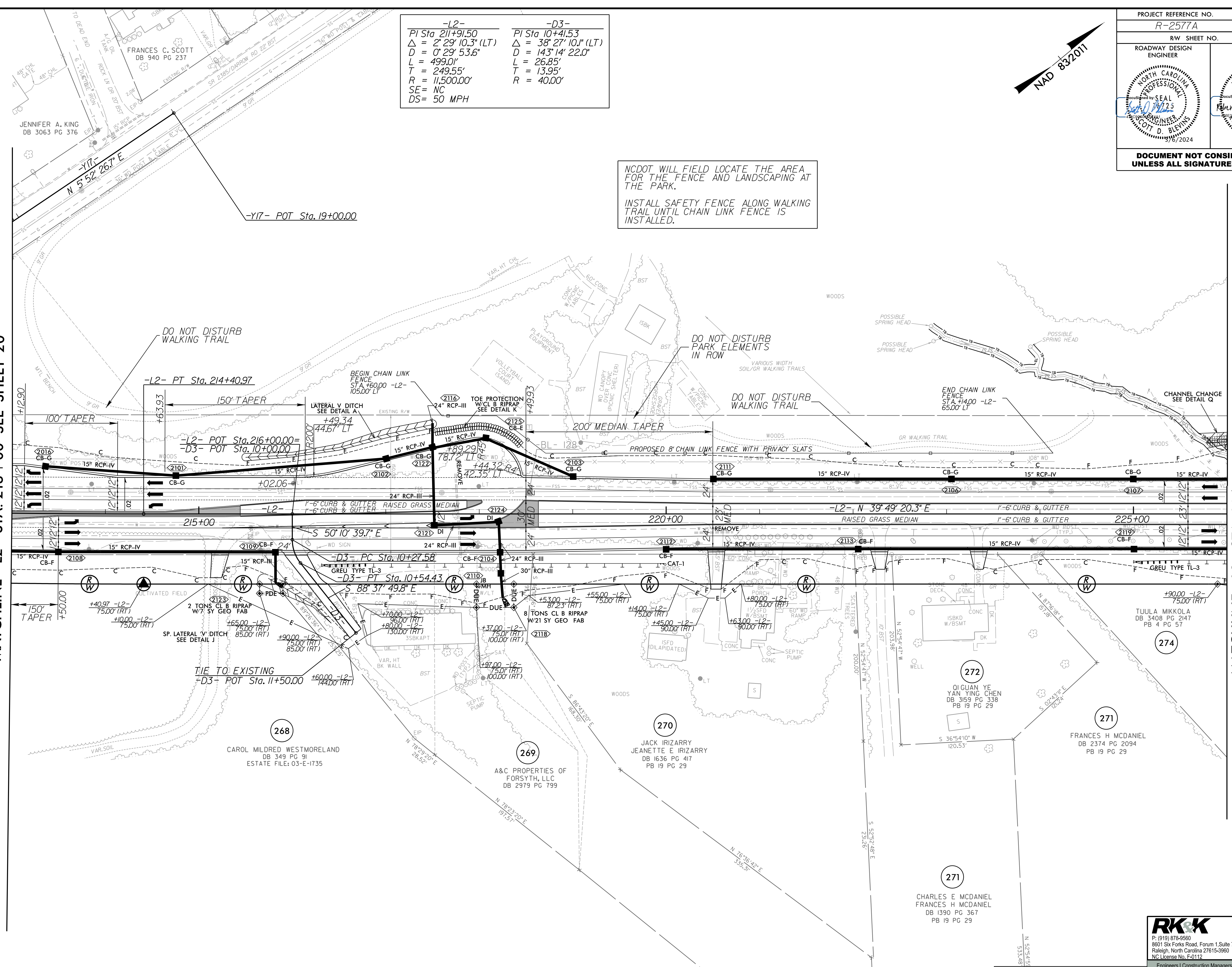


NCDOT WILL FIELD LOCATE THE AREA FOR THE FENCE AND LANDSCAPING AT THE PARK.

INSTALL SAFETY FENCE ALONG WALKING TRAIL UNTIL CHAIN LINK FENCE IS INSTALLED.

MATCHLINE -L2- STA. 213+00 SEE SHEET 20

MATCHLINE -L2- STA. 226+00 SEE SHEET 22



NOTE: FOR WALKERTOWN COMMUNITY PARK SCREENING PLANS SEE SHT. 2B-5

NOTE: ALL DRIVEWAYS ARE 18' UNLESS OTHERWISE NOTED

FOR -L2- PROFILE SEE SHTS. 38-39

FOR -D3- PROFILE SEE SHT. 50

**RKK**

P: (919) 878-9560  
8601 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112

Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

8/17/2023 R:\Projects\2577A\2577A\_r.dwg\_psh21.dgn

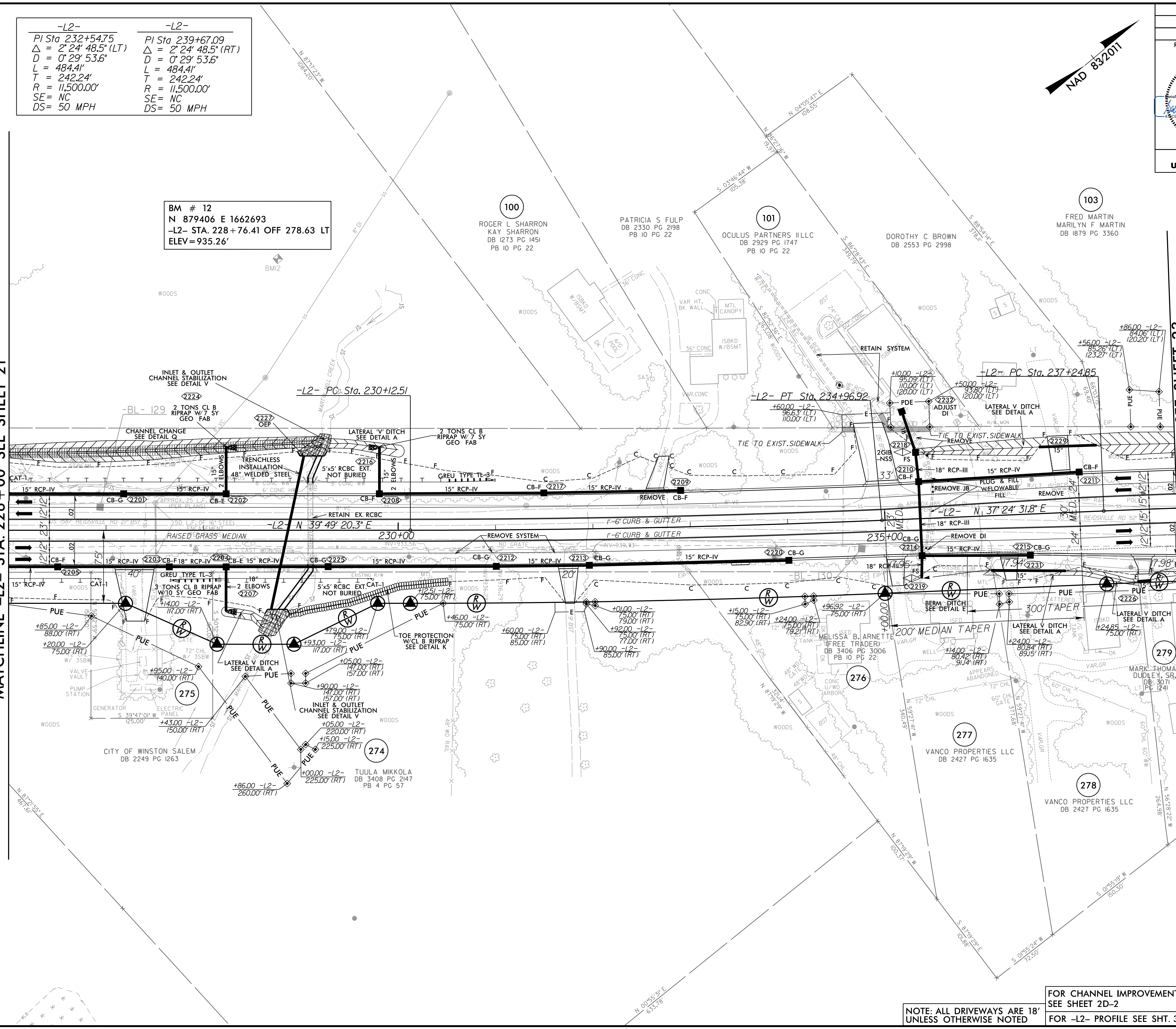


-L2-	-L2-
PI Sta. 232+54.75	PI Sta. 239+67.09
$\Delta = 2' 24" 48.5" (LT)$	$\Delta = 2' 24" 48.5" (RT)$
$D = 0' 29' 53.6"$	$D = 0' 29' 53.6"$
$L = 484.4'$	$L = 484.4'$
$T = 242.24'$	$T = 242.24'$
$R = 11,500.00'$	$R = 11,500.00'$
SE = NC	SE = NC
DS = 50 MPH	DS = 50 MPH

BM # 12  
N 879406 E 1662693  
-L2- STA. 228+76.41 OFF 278.63 LT  
ELEV = 935.26'

MATCHLINE -L2- STA. 226+00 SEE SHEET 21

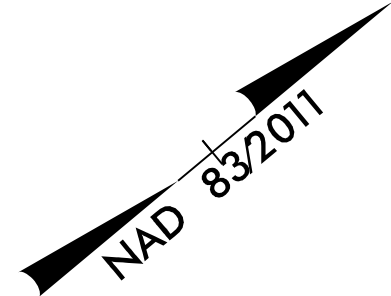
MATCHLINE -L2- STA. 238+00 SEE SHEET 23



NOTE: ALL DRIVEWAYS ARE 18' UNLESS OTHERWISE NOTED  
FOR CHANNEL IMPROVEMENTS SEE SHEET 2D-2  
FOR -L2- PROFILE SEE SHT. 39

**RKK**  
P: (919) 878-9560  
8601 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
www.rkk.com  
Responsive People | Creative Solutions

R:\Roadway\Proje\N-2577A\_r.dwg\_psh22.dgn  
2/27/2024  
8:17/99

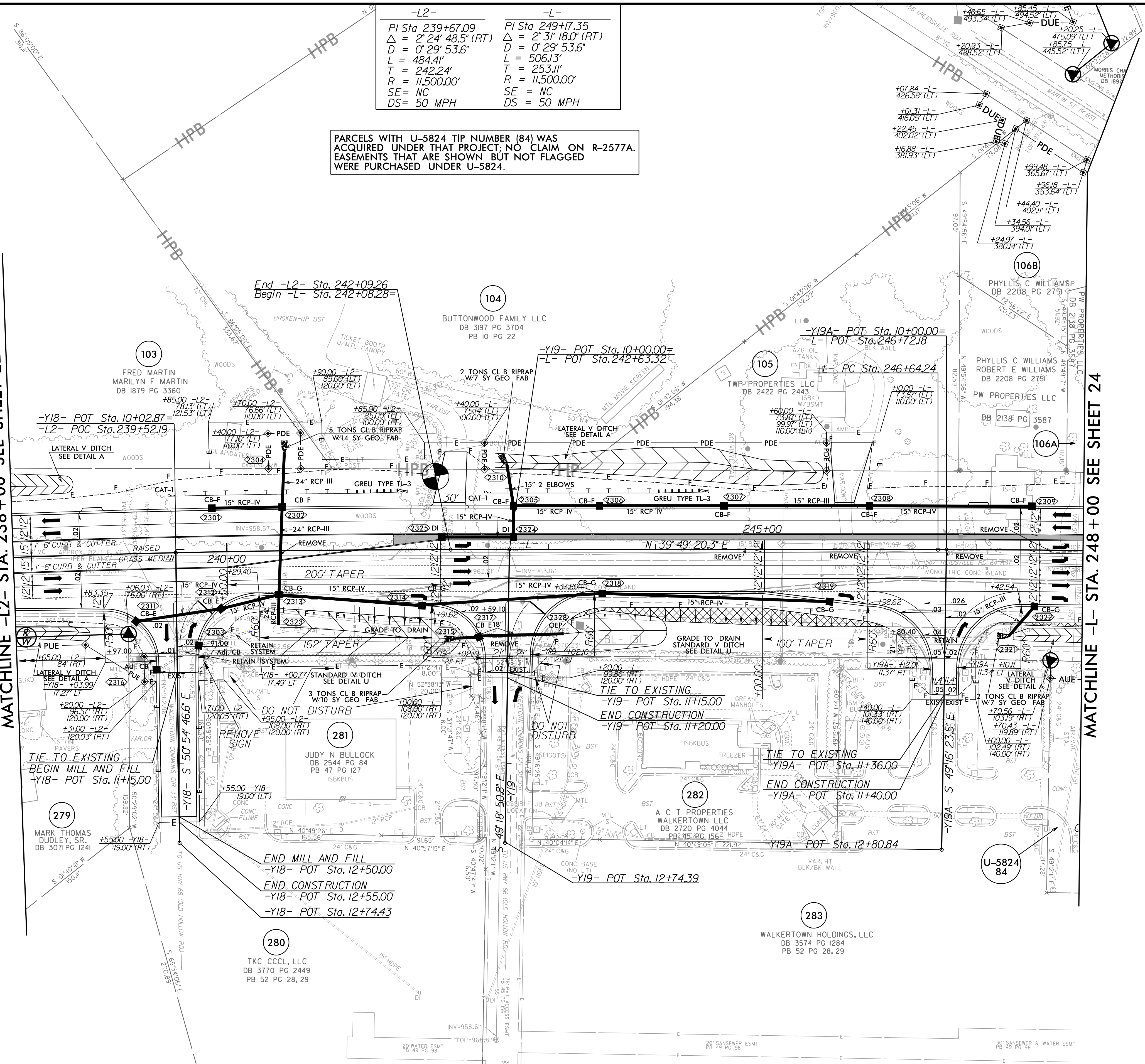


-L2-	-L-
PI Sta 239+67.09	PI Sta 249+17.35
$\Delta = 2' 24" 48.5" (RT)$	$\Delta = 2' 31" 18.0" (RT)$
$D = 0' 29" 53.6"$	$D = 0' 29" 53.6"$
$L = 484.4'$	$L = 506.13'$
$T = 242.24'$	$T = 253.11'$
$R = 11,500.00'$	$R = 11,500.00'$
SE = NC	SE = NC
DS = 50 MPH	DS = 50 MPH

PARCELS WITH U-5824 TIP NUMBER (84) WAS ACQUIRED UNDER THAT PROJECT; NO CLAIM ON R-2577A. EASEMENTS THAT ARE SHOWN BUT NOT FLAGGED WERE PURCHASED UNDER U-5824.

MATCHLINE -L2- STA. 238 + 00 SEE SHEET 22

MATCHLINE -L- STA. 248 + 00 SEE SHEET 24



NOTE: ALL DRIVEWAYS ARE 18' UNLESS OTHERWISE NOTED

REMOVAL OF EXISTING PAVEMENT

FOR -L- PROFILE SEE SHT. 39  
 FOR -L2- PROFILE SEE SHT. 39  
 FOR -Y18- PROFILE SEE SHT. 47  
 FOR -Y19- PROFILE SEE SHT. 47  
 FOR -Y19A- PROFILE SEE SHT. 48

**RKK**  
 P: (919) 878-9560  
 8601 Six Forks Road, Forum 1, Suite 700  
 Raleigh, North Carolina 27615-3960  
 NC License No. F-0112  
 Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com  
 Responsive People | Creative Solutions

8.17.19  
 12/29/2023  
 R:\Projects\2577A\2577A\_r.dwg\_psh23.dgn

8.17.2023  
R:\Roadway\Proj\R-2577A\_r.dwg  
10/1/2023

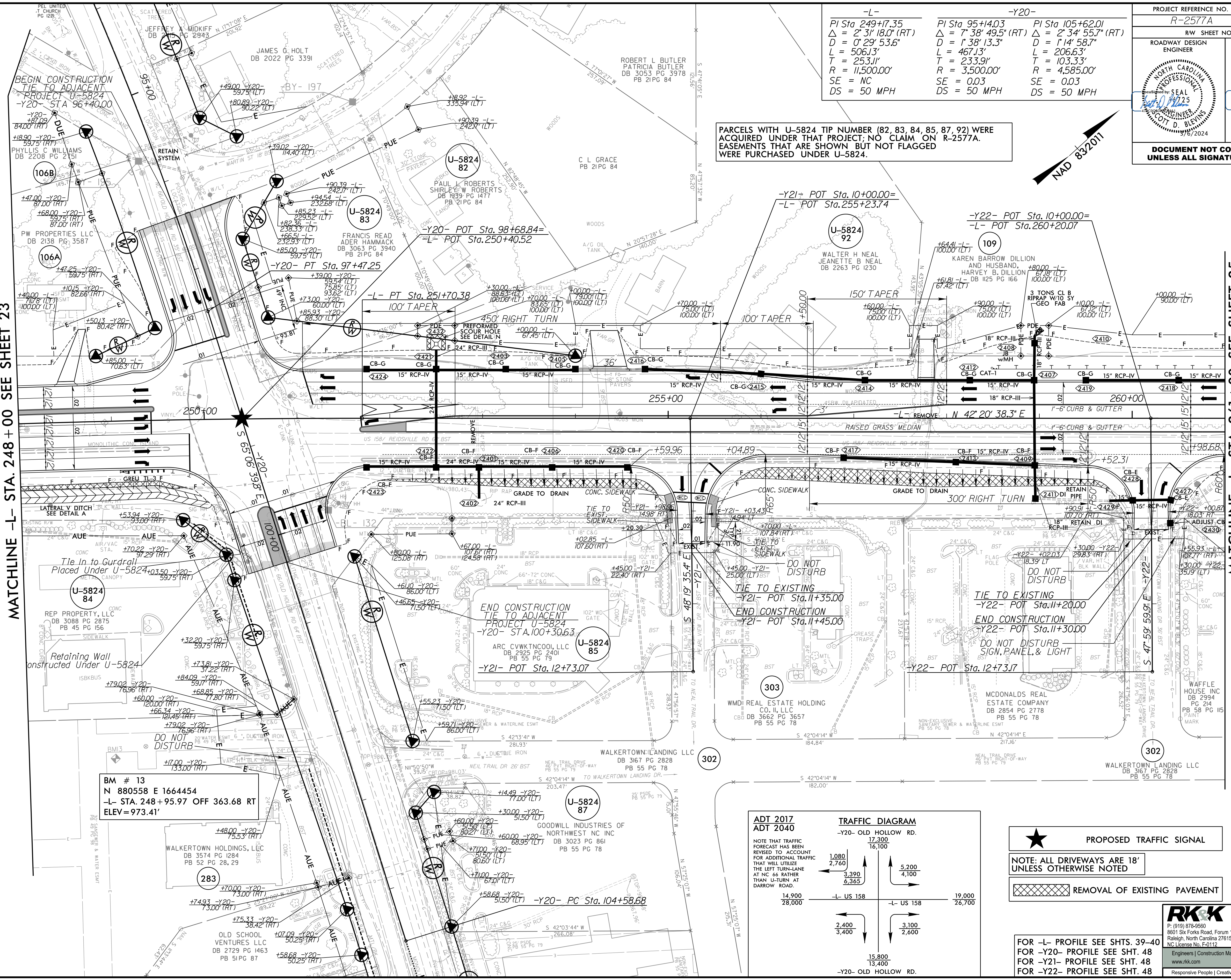
MATCHLINE -L- STA. 248 + 00 SEE SHEET 23

MATCHLINE -L- STA. 261 + 00 SEE SHEET 25

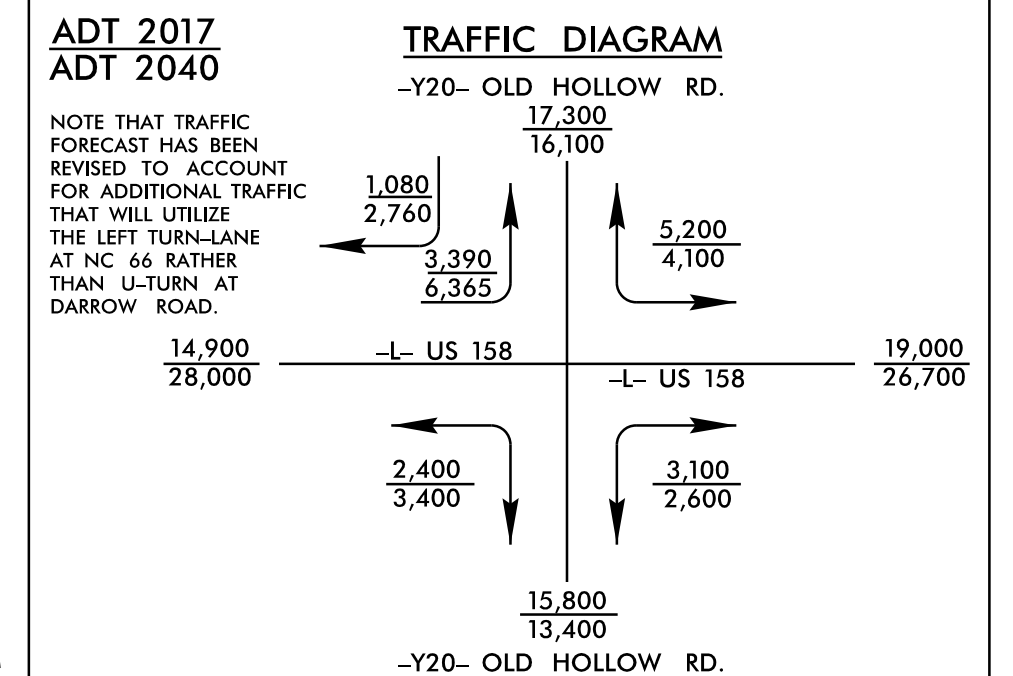
-L-	-Y20-	-Y21-
PI Sta 249+17.35	PI Sta 95+14.03	PI Sta 105+62.01
$\Delta = 2' 31" 18.0" (RT)$	$\Delta = 7' 38" 49.5" (RT)$	$\Delta = 2' 34" 55.7" (RT)$
$D = 0' 29" 53.3"$	$D = 1' 38" 13.3"$	$D = 1' 14" 58.7"$
$L = 506.13'$	$L = 467.13'$	$L = 206.63'$
$T = 253.11'$	$T = 233.91'$	$T = 103.33'$
$R = 11,500.00'$	$R = 3,500.00'$	$R = 4,585.00'$
$SE = NC$	$SE = 0.03$	$SE = 0.03$
$DS = 50 MPH$	$DS = 50 MPH$	$DS = 50 MPH$

PROJECT REFERENCE NO. R-2577A	SHEET NO. 24
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

PARCELS WITH U-5824 TIP NUMBER (82, 83, 84, 85, 87, 92) WERE ACQUIRED UNDER THAT PROJECT; NO CLAIM ON R-2577A. EASEMENTS THAT ARE SHOWN BUT NOT FLAGGED WERE PURCHASED UNDER U-5824.



BM # 13  
N 880558 E 1664454  
-L- STA. 248 + 95.97 OFF 363.68 RT  
ELEV = 973.41'



★ PROPOSED TRAFFIC SIGNAL

NOTE: ALL DRIVEWAYS ARE 18' UNLESS OTHERWISE NOTED

REMOVAL OF EXISTING PAVEMENT

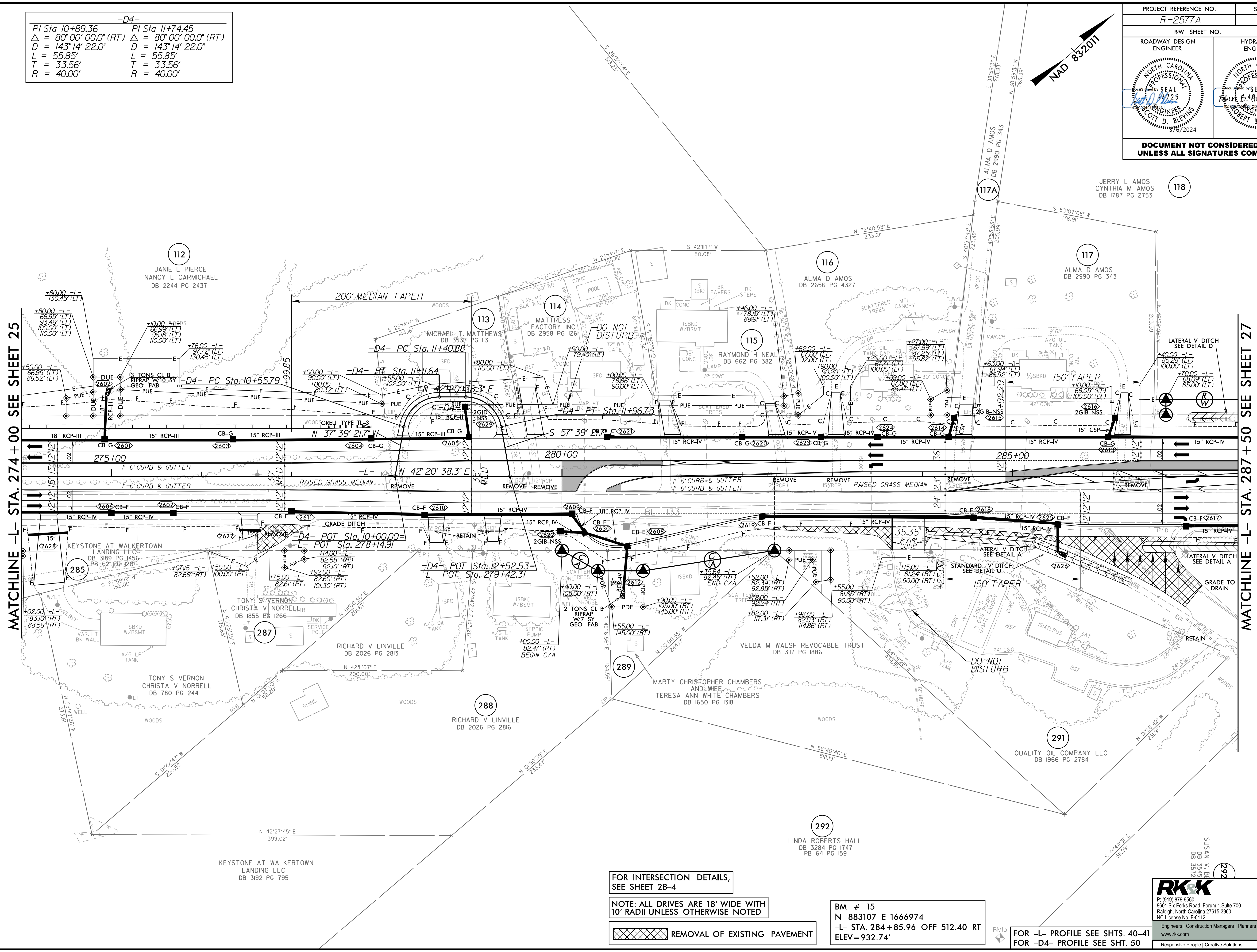
**RKK**  
P: (919) 878-9560  
8601 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
www.rkk.com  
Engineers | Construction Managers | Planners | Scientists  
Responsive People | Creative Solutions

FOR -L- PROFILE SEE SHTS. 39-48  
FOR -Y20- PROFILE SEE SHT. 48  
FOR -Y21- PROFILE SEE SHT. 48  
FOR -Y22- PROFILE SEE SHT. 48



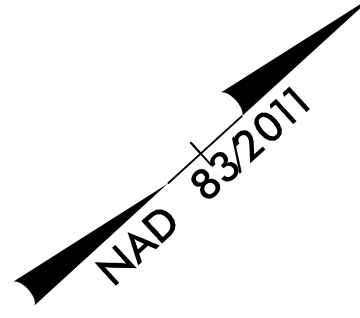
-D4-	
PI Sta 10+89.36	PI Sta 11+74.45
$\Delta = 80^{\circ}00'00.0''$ (RT)	$\Delta = 80^{\circ}00'00.0''$ (RT)
D = 143'14" 22.0"	D = 143'14" 22.0"
L = 55.85'	L = 55.85'
T = 33.56'	T = 33.56'
R = 40.00'	R = 40.00'

PROJECT REFERENCE NO. R-2577A	SHEET NO. 26
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



MATCHLINE -L- STA. 274+00 SEE SHEET 25

MATCHLINE -L- STA. 287+50 SEE SHEET 27



FOR INTERSECTION DETAILS,  
SEE SHEET 2B-4

NOTE: ALL DRIVES ARE 18' WIDE WITH  
10' RADII UNLESS OTHERWISE NOTED

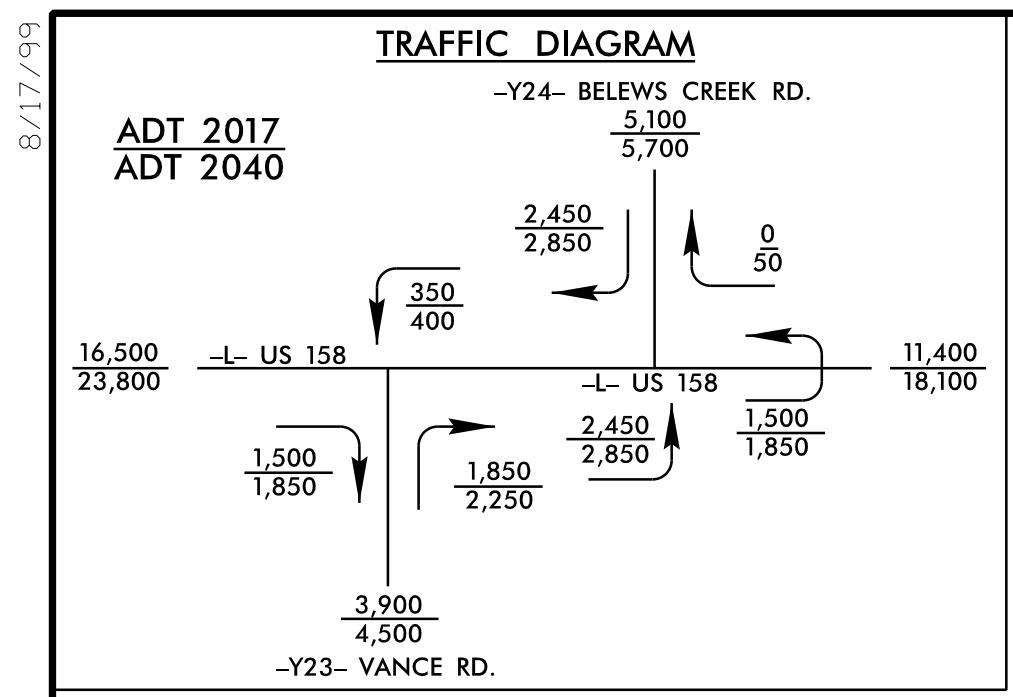
REMOVAL OF EXISTING PAVEMENT

BM # 15  
N 883107 E 1666974  
-L- STA. 284+85.96 OFF 512.40 RT  
ELEV = 932.74'

FOR -L- PROFILE SEE SHTS. 40-41  
FOR -D4- PROFILE SEE SHT. 50

**RKK**  
P: (919) 878-9560  
8601 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

8/17/2023 R:\Roadway\Proj\R-2577A\_r.dwg\_psh26.dgn



-Y23-	-Y24-	-D5-			
PI Sta 14+77.82 $\Delta = 42^{\circ}08'08.4"$ (LT) $D = 11^{\circ}27'33.0"$ $L = 367.70'$ $T = 192.61'$ $R = 500.00'$ $SE = 0.04$ $DS = 35$ MPH	PI Sta 13+04.32 $\Delta = 0^{\circ}17'21.9"$ (RT) $D = 0^{\circ}02'51.2"$ $L = 608.65'$ $T = 304.32'$ $R = 120,490.00'$ $SE = NC$ $DS = 55$ MPH	PI Sta 18+12.85 $\Delta = 28^{\circ}38'20.09"$ (RT) $D = 7^{\circ}09'43.1"$ $L = 399.87'$ $T = 204.21'$ $R = 800.00'$ $SE = 0.06$ $DS = 45$ MPH	PI Sta 22+29.54 $\Delta = 72^{\circ}45'32.8"$ (LT) $D = 19^{\circ}05'54.9"$ $L = 380.97'$ $T = 221.01'$ $R = 300.00'$ $SE = 0.06$ $DS = 30$ MPH	PI Sta 11+10.20 $\Delta = 90^{\circ}00'00.0"$ (LT) $D = 136^{\circ}25'06.7"$ $L = 65.97'$ $T = 42.00'$ $R = 42.00'$ $SE = 0.02$ $DS = 15$ MPH	PI Sta 13+79.63 $\Delta = 89^{\circ}37'55.7"$ (RT) $D = 136^{\circ}25'06.7"$ $L = 65.70'$ $T = 41.73'$ $R = 42.00'$ $SE = 0.02$ $DS = 15$ MPH

PROJECT REFERENCE NO. R-2577A SHEET NO. 27

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 140125, COIT D. BLEANS, 9/8/2024

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 140125, ROBERT B. HUSKEY, 9/8/2024

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

ANGELES RANGEL SANDOVAL & JULIO SANDOVAL GARCIA DB 3475 PG 3436 PB 50 PG I16

JULIO SANDOVAL GARCIA & ANGELES PAULINA SANDOVAL DB 3603 PG 4291 PB 50 PG I16

MAURICE TRIPP AND WIFE, BRIDGETTE TRIPP DB 3406 PG 3289

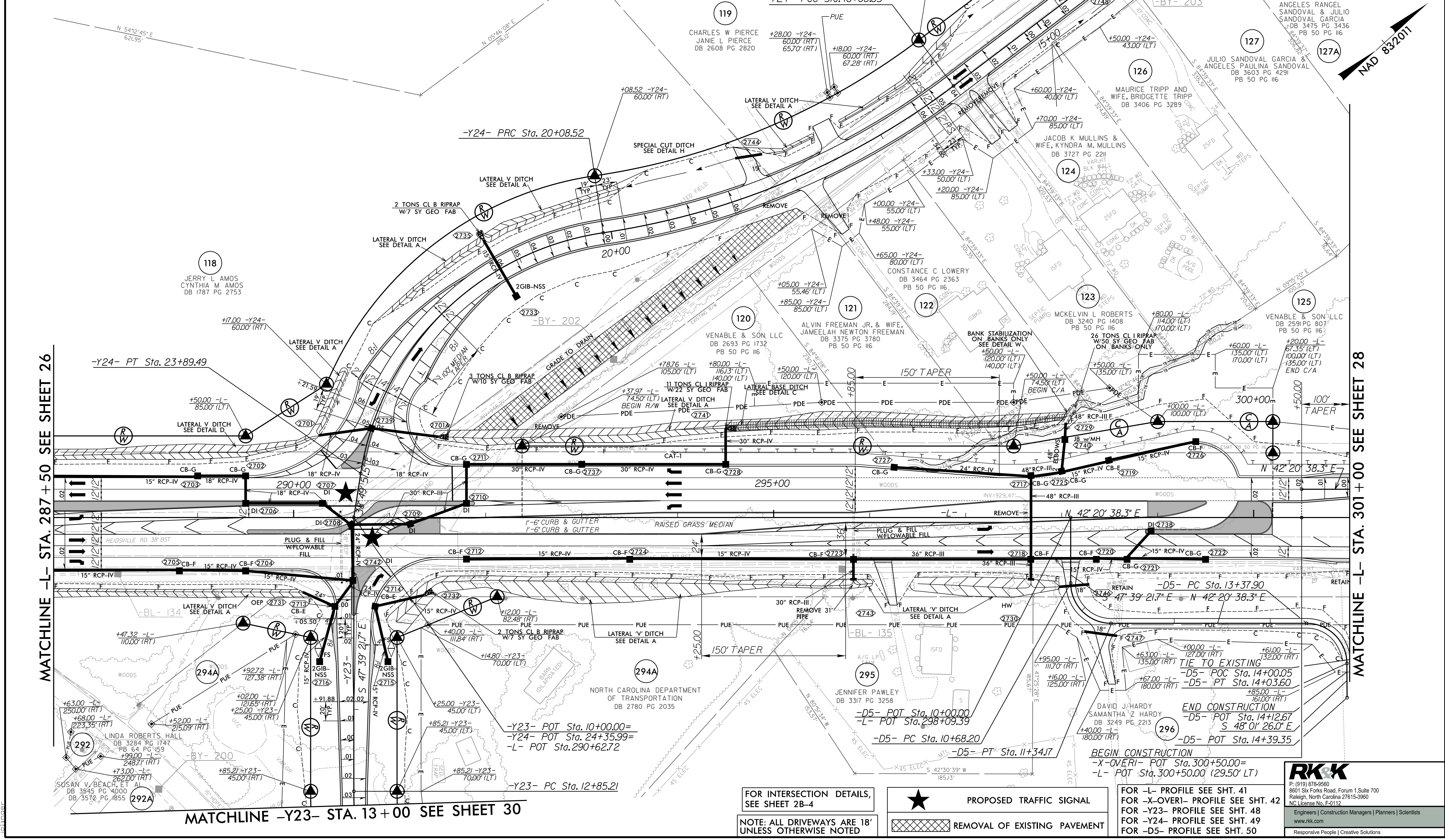
JACOB K MULLINS & WIFE, KYNDRA M. MULLINS DB 3727 PG 2211

MCKELVIN L ROBERTS DB 3240 PG 1408 PB 50 PG I16

VENABLE & SON LLC DB 2591 PG 807 PB 50 PG I16

VENABLE & SON LLC DB 2591 PG 807 PB 50 PG I16

VENABLE & SON LLC DB 2591 PG 807 PB 50 PG I16



MATCHLINE -L- STA. 287 + 50 SEE SHEET 26

MATCHLINE -L- STA. 301 + 00 SEE SHEET 28

MATCHLINE -Y23- STA. 13 + 00 SEE SHEET 30

FOR INTERSECTION DETAILS, SEE SHEET 2B-4

★ PROPOSED TRAFFIC SIGNAL

NOTE: ALL DRIVEWAYS ARE 18' UNLESS OTHERWISE NOTED

REMOVAL OF EXISTING PAVEMENT

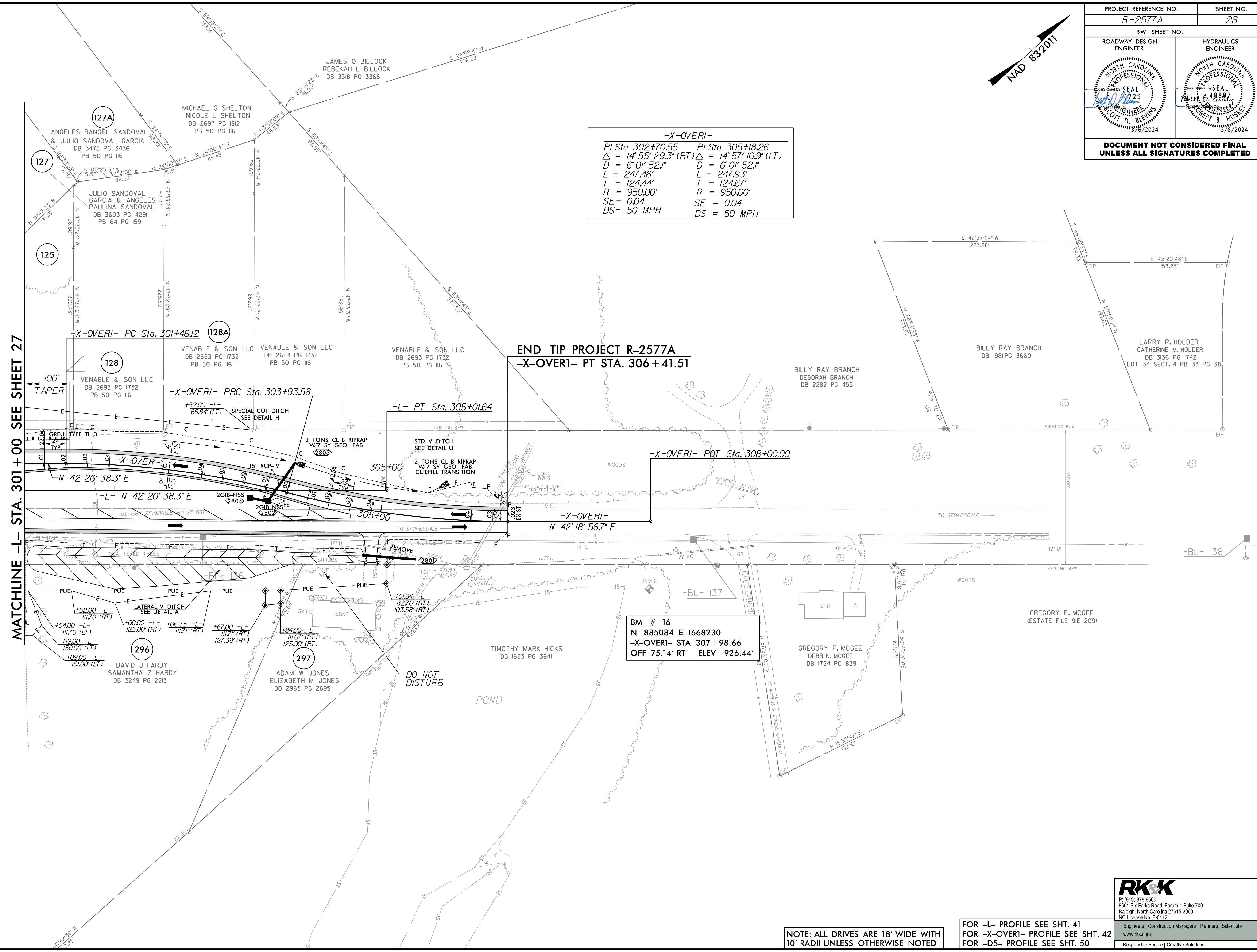
FOR -L- PROFILE SEE SHT. 41  
FOR -X-OVERI- PROFILE SEE SHT. 42  
FOR -Y23- PROFILE SEE SHT. 48  
FOR -Y24- PROFILE SEE SHT. 49  
FOR -D5- PROFILE SEE SHT. 50

**RKK**  
P: (919) 878-9560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112

Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions



-X-OVERI-	
PI Sta 302+70.55	PI Sta 305+18.26
$\Delta = 14^{\circ} 55' 29.3''$ (RT)	$\Delta = 14^{\circ} 57' 10.9''$ (LT)
D = 6' 01' 52.1"	D = 6' 01' 52.1"
L = 247.46'	L = 247.93'
T = 124.44'	T = 124.67'
R = 950.00'	R = 950.00'
SE = 0.04	SE = 0.04
DS = 50 MPH	DS = 50 MPH



BM # 16  
N 885084 E 1668230  
-X-OVERI- STA. 307+98.66  
OFF 75.14' RT ELEV=926.44'

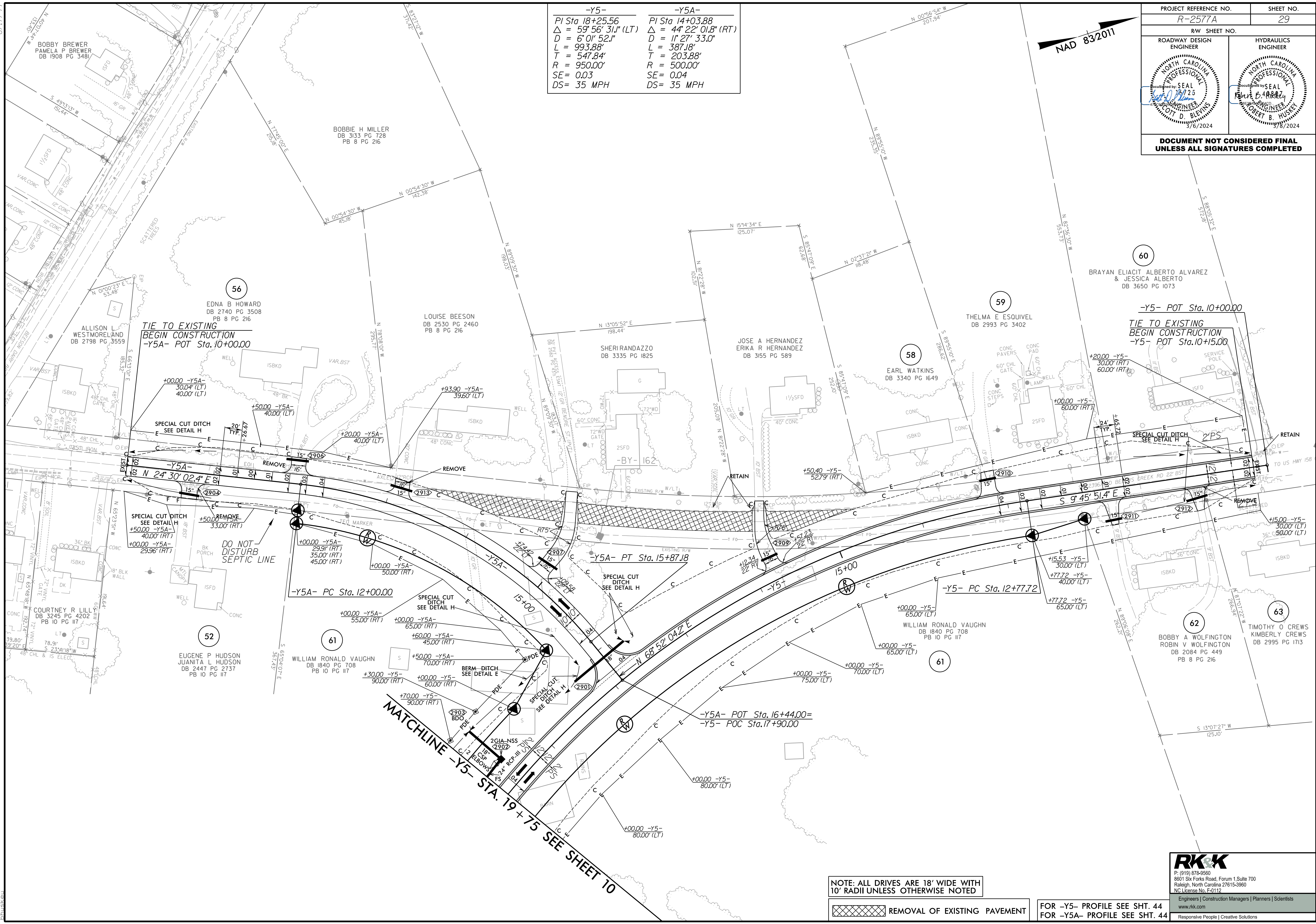
NOTE: ALL DRIVES ARE 18' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT. 41  
FOR -X-OVERI- PROFILE SEE SHT. 42  
FOR -D5- PROFILE SEE SHT. 50

8/17/2024 R:\Projects\2577A\Proj\R-2577A\_r.dwg\_psh28.dgn

-Y5-	-Y5A-
PI Sta 18+25.56	PI Sta 14+03.88
$\Delta = 59^{\circ}56'31.1''$ (LT)	$\Delta = 44^{\circ}22'01.8''$ (RT)
D = 6'01'52.1"	D = 1'27'33.0"
L = 993.88'	L = 387.18'
T = 547.84'	T = 203.88'
R = 950.00'	R = 500.00'
SE = 0.03	SE = 0.04
DS = 35 MPH	DS = 35 MPH

NAD 83/2011



NOTE: ALL DRIVES ARE 18' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

REMOVAL OF EXISTING PAVEMENT

FOR -Y5- PROFILE SEE SHT. 44  
FOR -Y5A- PROFILE SEE SHT. 44

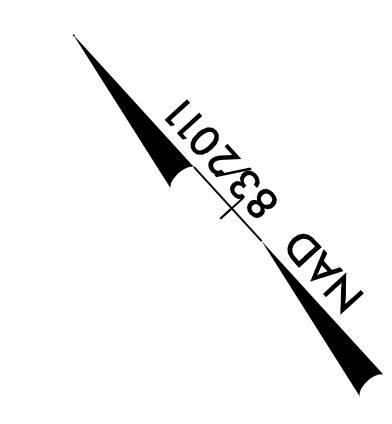
**RKK**  
 P: (919) 878-9560  
 8601 Six Forks Road, Forum 1, Suite 700  
 Raleigh, North Carolina 27615-3960  
 NC License No. F-0112  
 Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com  
 Responsive People | Creative Solutions

8/17/99  
 R:\Projects\2024\Proje\N-2577A\_r.dwg\_psh29.dgn  
 2/29/2024  
 blm

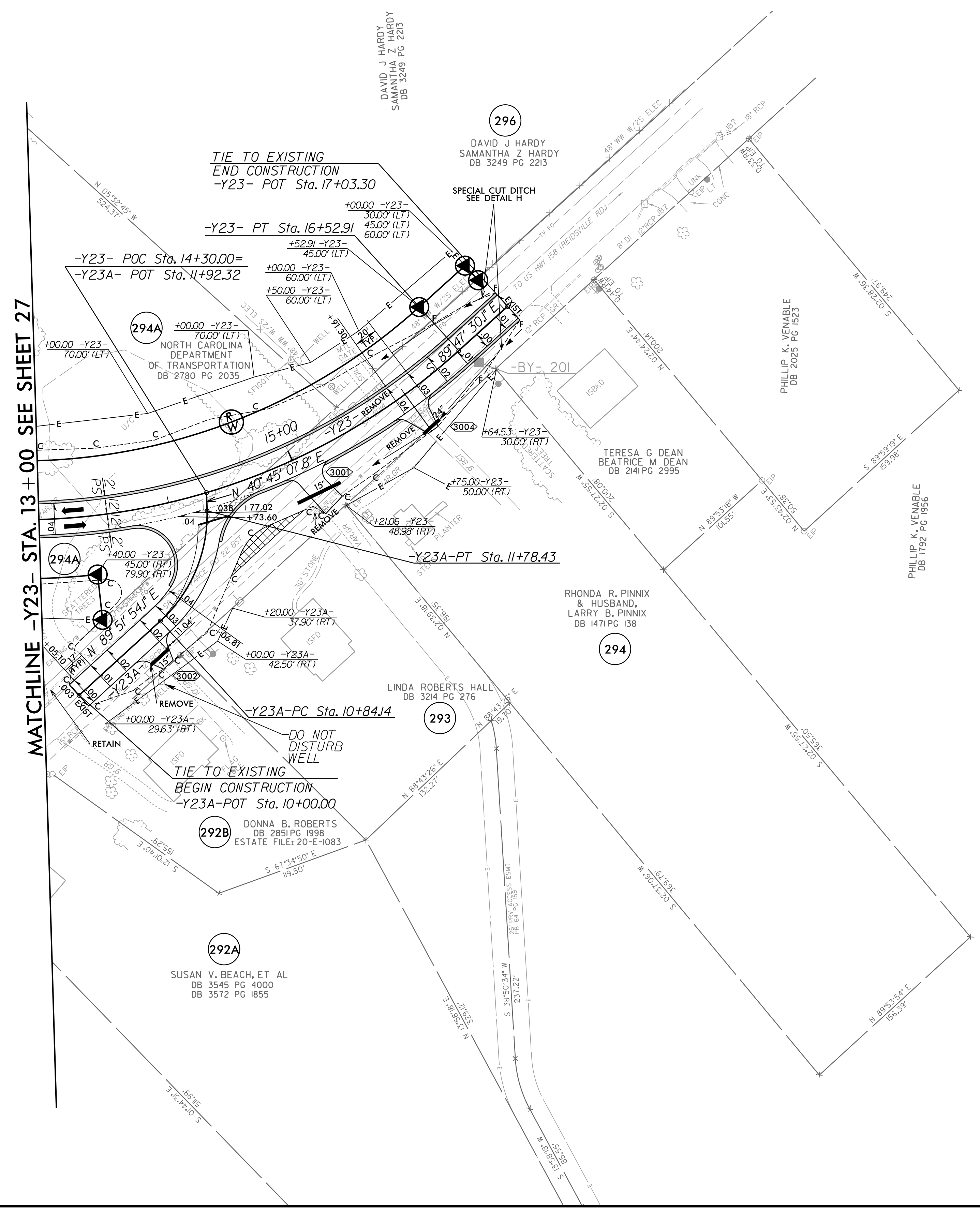


8/17/99  
R:\Projects\2023\2577A\2577A.rdw\_psh30.dgn  
10/1/2023

-Y23-	-Y23A-
PI Sta 14+77.82	PI Sta 11+34.41
$\Delta = 42^{\circ} 08' 08.4" (LT)$	$\Delta = 49^{\circ} 06' 46.3" (LT)$
$D = 1' 27' 33.0"$	$D = 52' 05' 13.5"$
$L = 367.70'$	$L = 94.29'$
$T = 192.6'$	$T = 50.26'$
$R = 500.00'$	$R = 110.00'$
$SE = 0.04$	$SE = 0.04$
$DS = 35 \text{ MPH}$	$DS = 20 \text{ MPH}$



PROJECT REFERENCE NO. R-2577A	SHEET NO. 30
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



REMOVAL OF EXISTING PAVEMENT

FOR -Y23- PROFILE SEE SHT. 48  
FOR -Y23A- PROFILE SEE SHT. 49

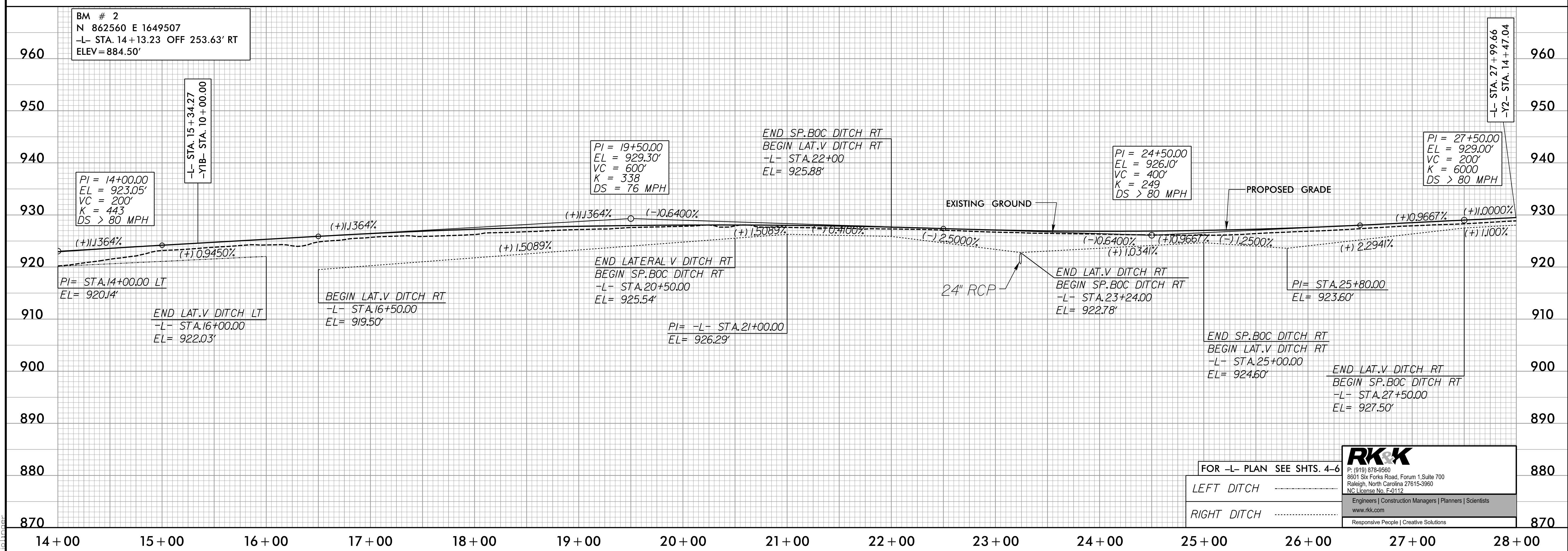
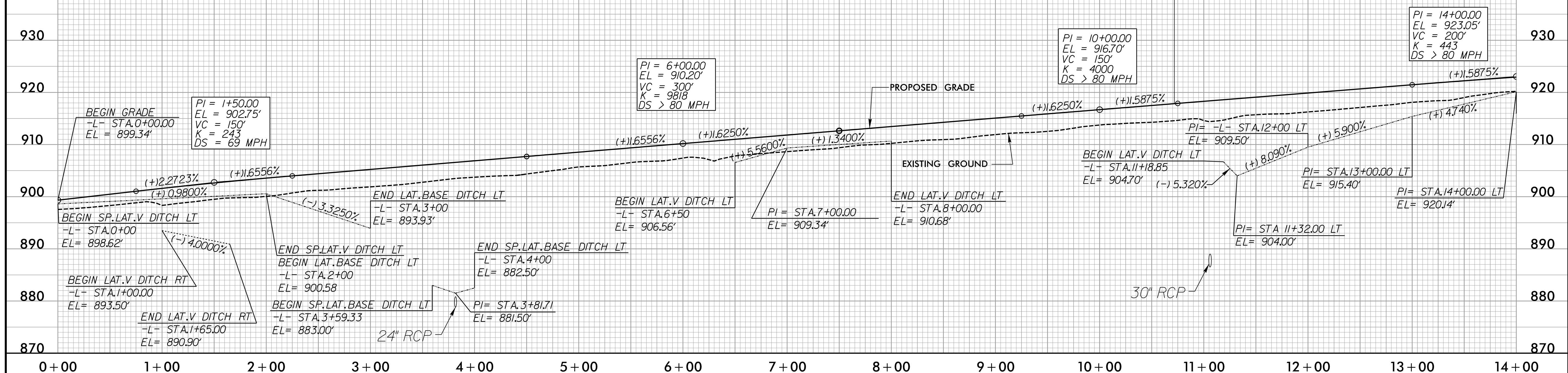
**RK&K**  
 P: (919) 878-9560  
 8601 Six Forks Road, Forum 1, Suite 700  
 Raleigh, North Carolina 27615-3960  
 NC License No. F-0112  
 Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com  
 Responsive People | Creative Solutions

5/28/24

-L-

PROJECT REFERENCE NO. R-2577A	SHEET NO. 31
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



FOR -L- PLAN SEE SHTS. 4-6

LEFT DITCH .....  
 RIGHT DITCH .....

**RK&K**  
 P: (919) 878-8560  
 8801 Six Forks Road, Forum 1, Suite 700  
 Raleigh, North Carolina 27615-3960  
 NC License No. F-0112  
 Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com  
 Responsive People | Creative Solutions

R:\Projects\2023\5/28/24\5/28/24\Proj\R-2577A\_Rdwy\_p131.dgn

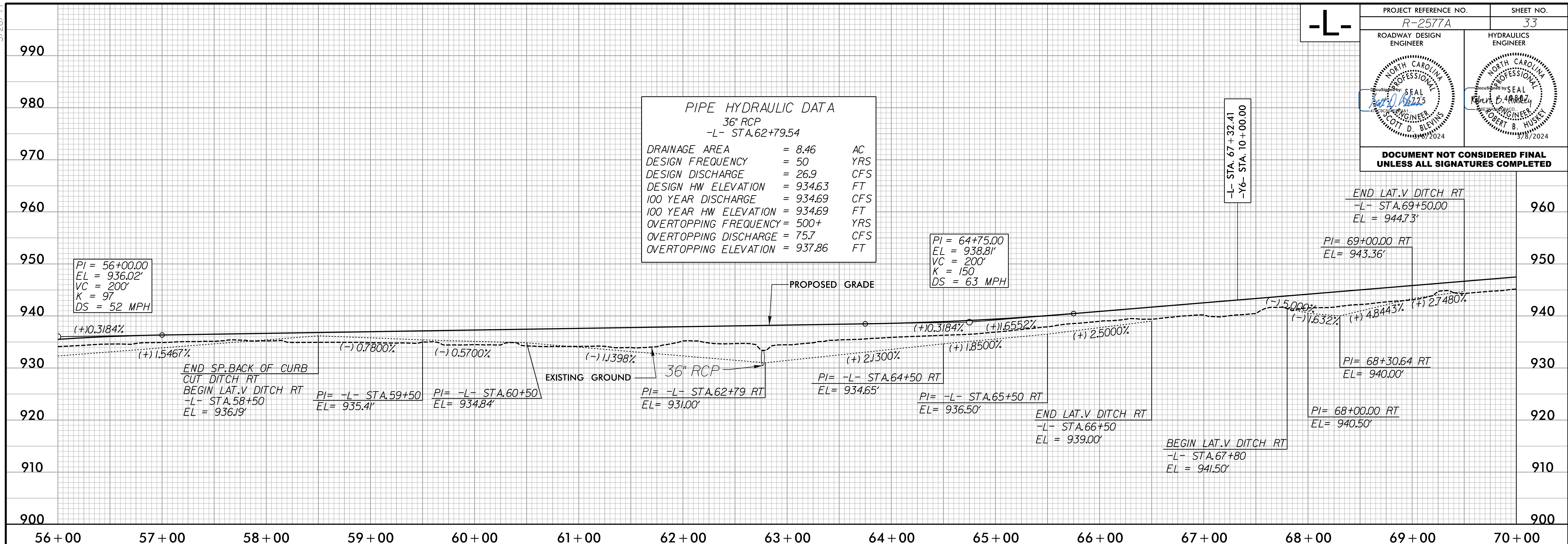


5/28/99

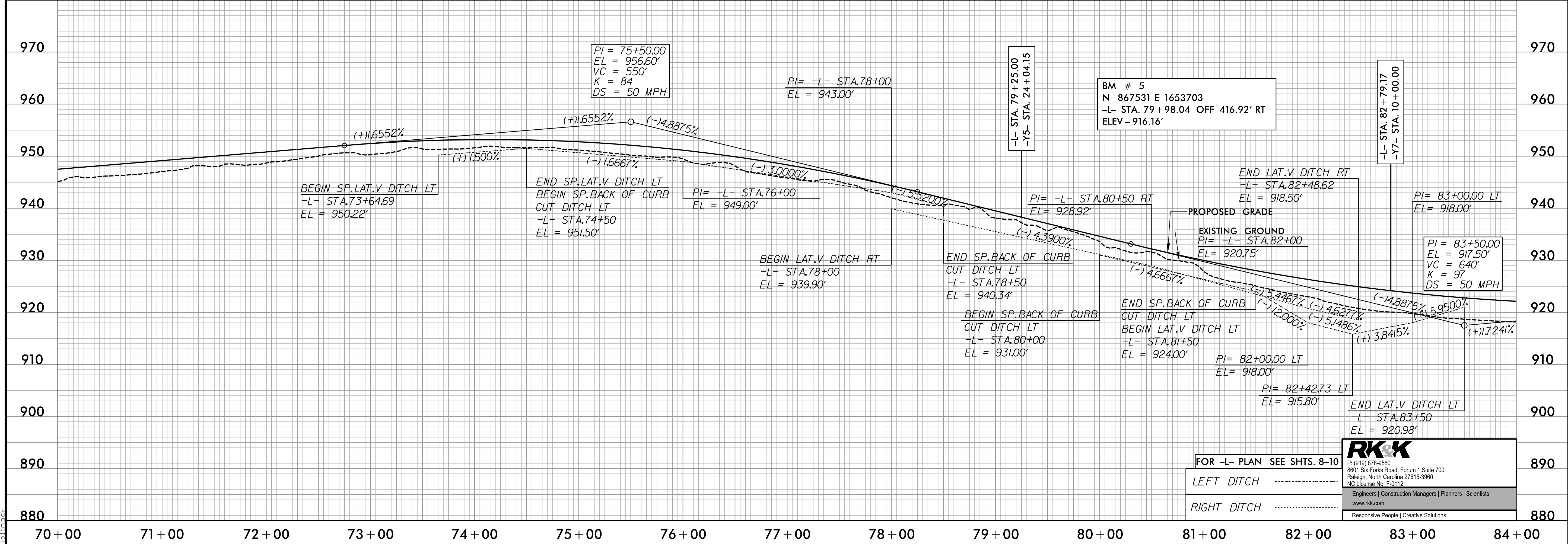
PROJECT REFERENCE NO. R-2577A	SHEET NO. 33
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**PIPE HYDRAULIC DATA**  
 36" RCP  
 -L- STA.62+79.54

DRAINAGE AREA = 8.46 AC  
 DESIGN FREQUENCY = 50 YRS  
 DESIGN DISCHARGE = 26.9 CFS  
 DESIGN HW ELEVATION = 934.63 FT  
 100 YEAR DISCHARGE = 934.69 CFS  
 100 YEAR HW ELEVATION = 934.69 FT  
 OVERTOPPING FREQUENCY = 500+ YRS  
 OVERTOPPING DISCHARGE = 75.7 CFS  
 OVERTOPPING ELEVATION = 937.86 FT



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



FOR -L- PLAN SEE SHTS. 8-10

LEFT DITCH

RIGHT DITCH

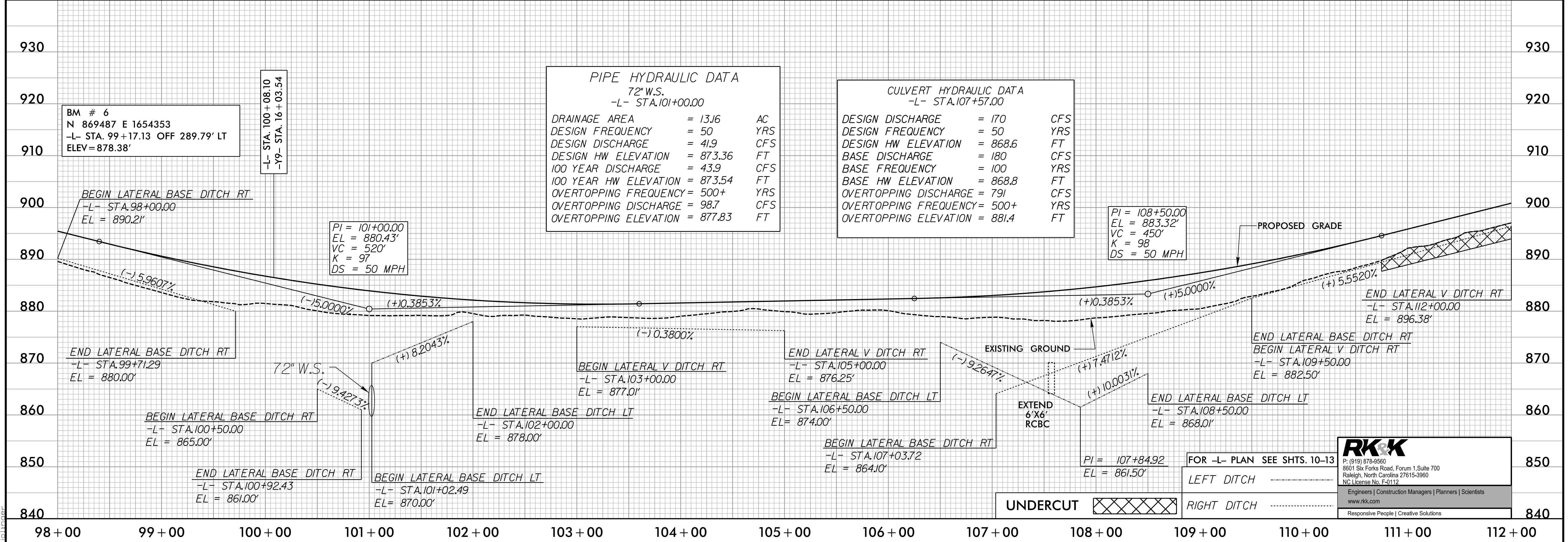
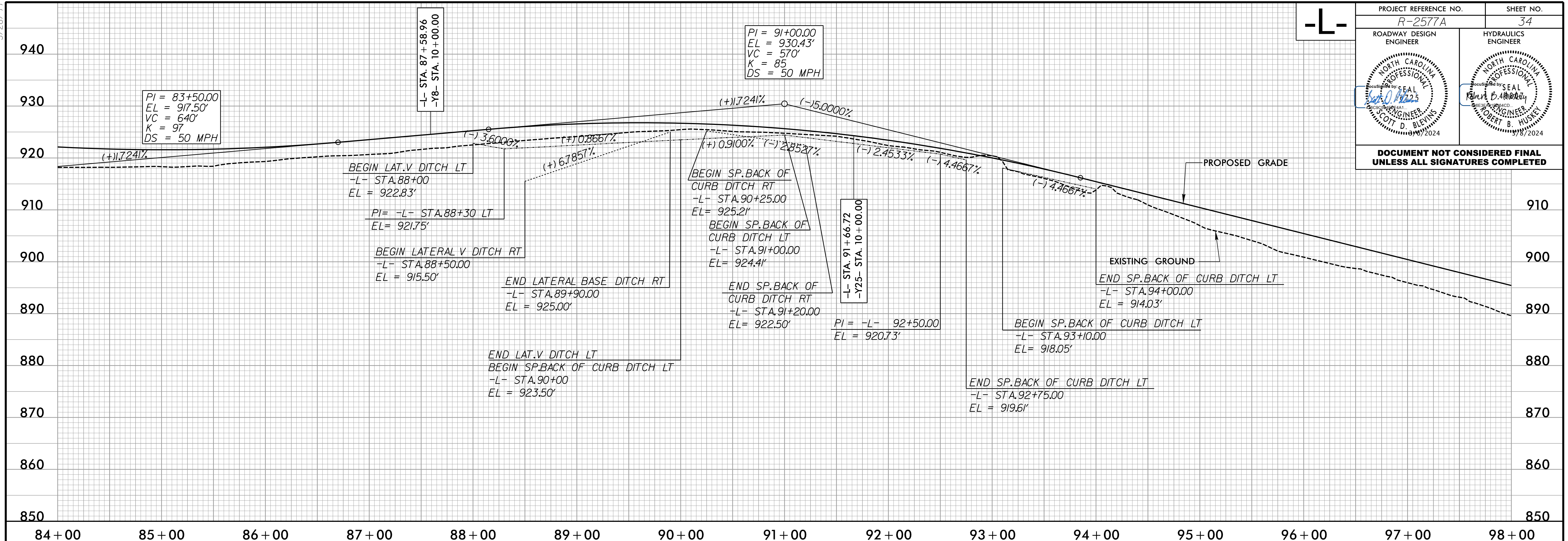
**RK&K**  
 P: (919) 878-8560  
 8801 Six Forks Road, Forum 1, Suite 700  
 Raleigh, North Carolina 27615-3960  
 NC License No. F-0112

Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com  
 Responsive People | Creative Solutions

R:\7/2003\Projects\Pro\N\2577A\_Rdy.p133.dgn

5/28/24

PROJECT REFERENCE NO. R-2577A	SHEET NO. 34
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 

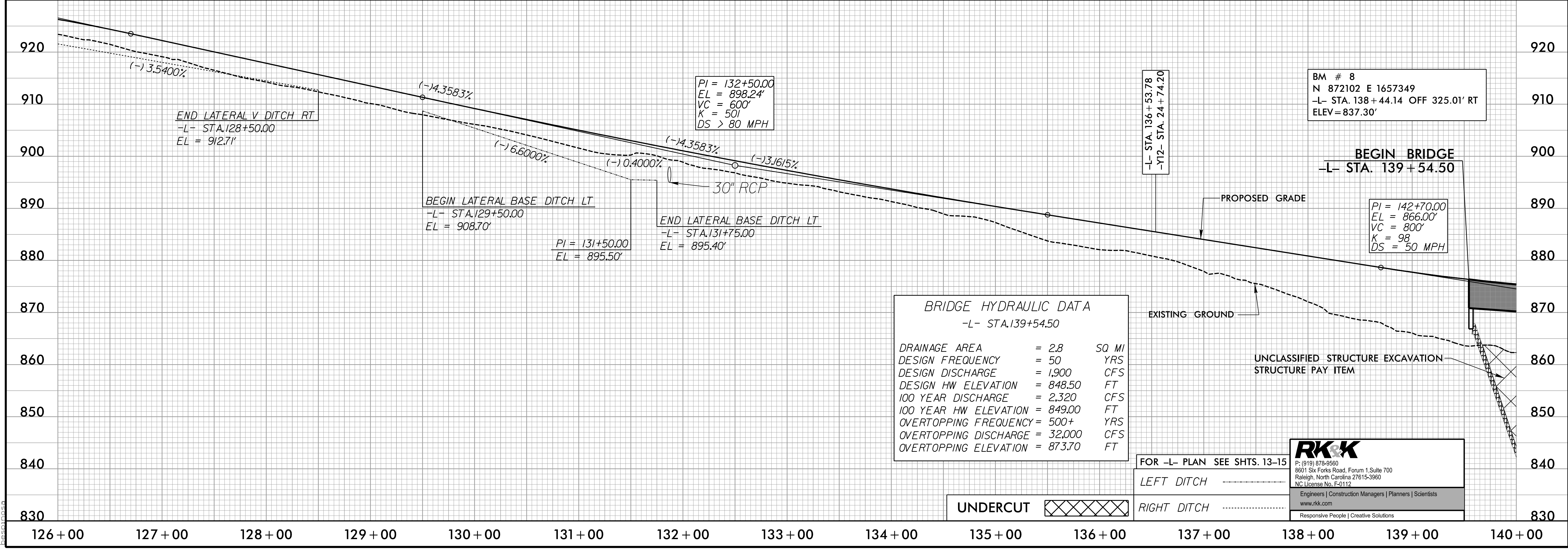
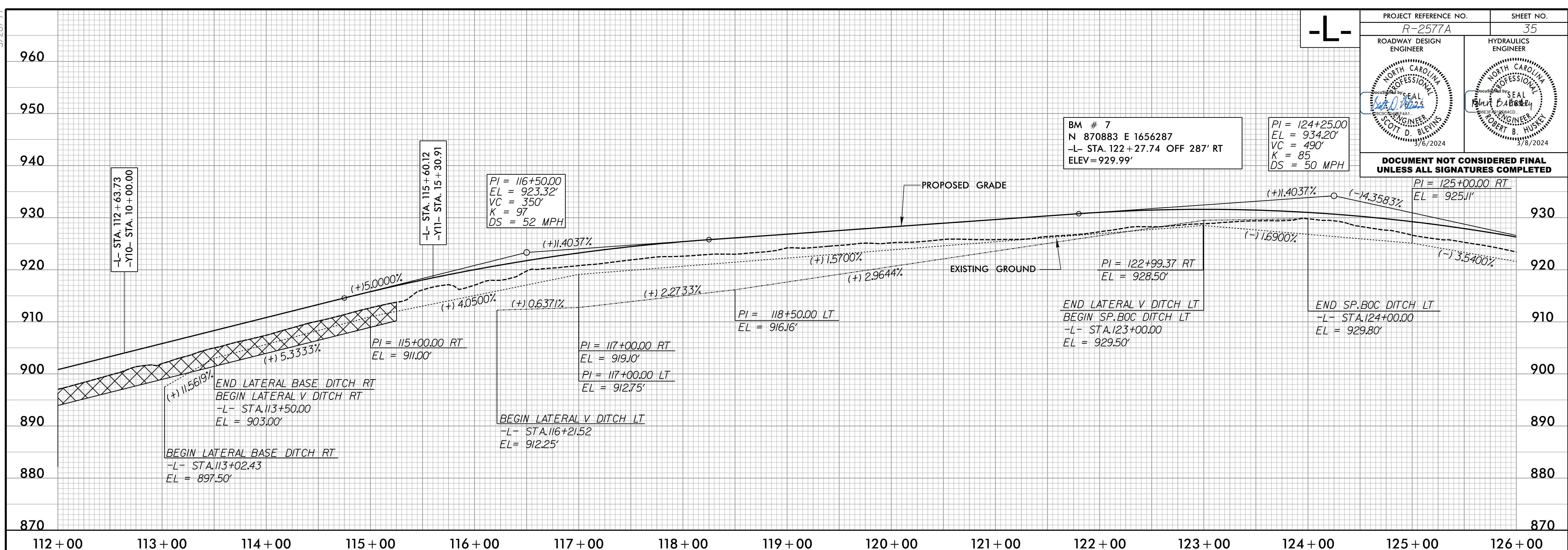


**RK&K**  
P: (919) 878-8560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

R:\Projects\2023\Projects\2577A\Roadway\Profile\134.dgn

5/28/24

PROJECT REFERENCE NO. R-2577A		SHEET NO. 35	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



P:\2024\Projects\2577A\Roadway\2577A\_Roadway.p135.dgn

FOR -L- PLAN SEE SHTS. 13-15

LEFT DITCH

RIGHT DITCH

**UNDERCUT**

**RKRK**  
 P: (919) 878-9560  
 8601 Six Forks Road, Forum 1, Suite 700  
 Raleigh, North Carolina 27615-3960  
 NC License No. F-0112  
 Engineers | Construction Managers | Planners | Scientists  
 www.rkrk.com  
 Responsive People | Creative Solutions

5/28/24

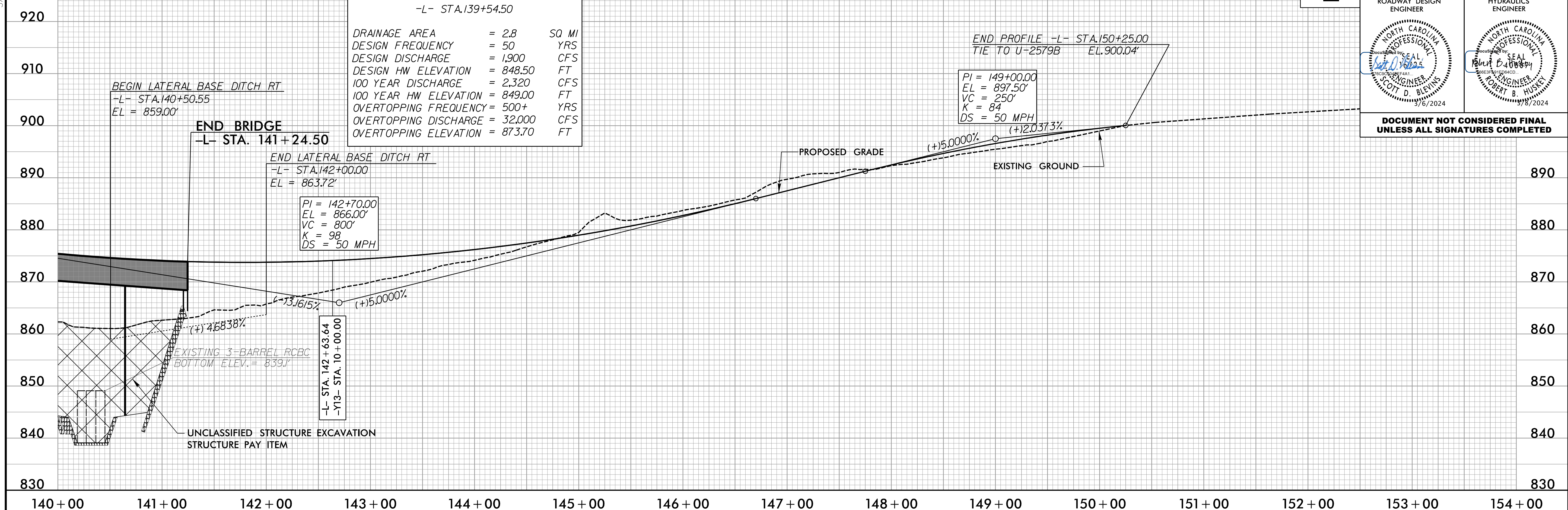
-L-

PROJECT REFERENCE NO. R-2577A	SHEET NO. 36
ROADWAY DESIGN ENGINEER <i>[Signature]</i>	HYDRAULICS ENGINEER <i>[Signature]</i>
SCOTT D. BLEVINS 7/6/2024	ROBERT B. HUSKEY 7/8/2024

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

**BRIDGE HYDRAULIC DATA**  
-L- STA.139+54.50

DRAINAGE AREA	= 2.8	SQ MI
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1,900	CFS
DESIGN HW ELEVATION	= 848.50	FT
100 YEAR DISCHARGE	= 2,320	CFS
100 YEAR HW ELEVATION	= 849.00	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 32,000	CFS
OVERTOPPING ELEVATION	= 873.70	FT



12/29/2023 12:42:03 PM R:\Projects\2577A\Roadway\p136.dgn

**RK&K**  
P: (919) 878-9560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
www.rkk.com

Engineers | Construction Managers | Planners | Scientists  
Responsive People | Creative Solutions

FOR -L- PLAN SEE SHTS. 15-17

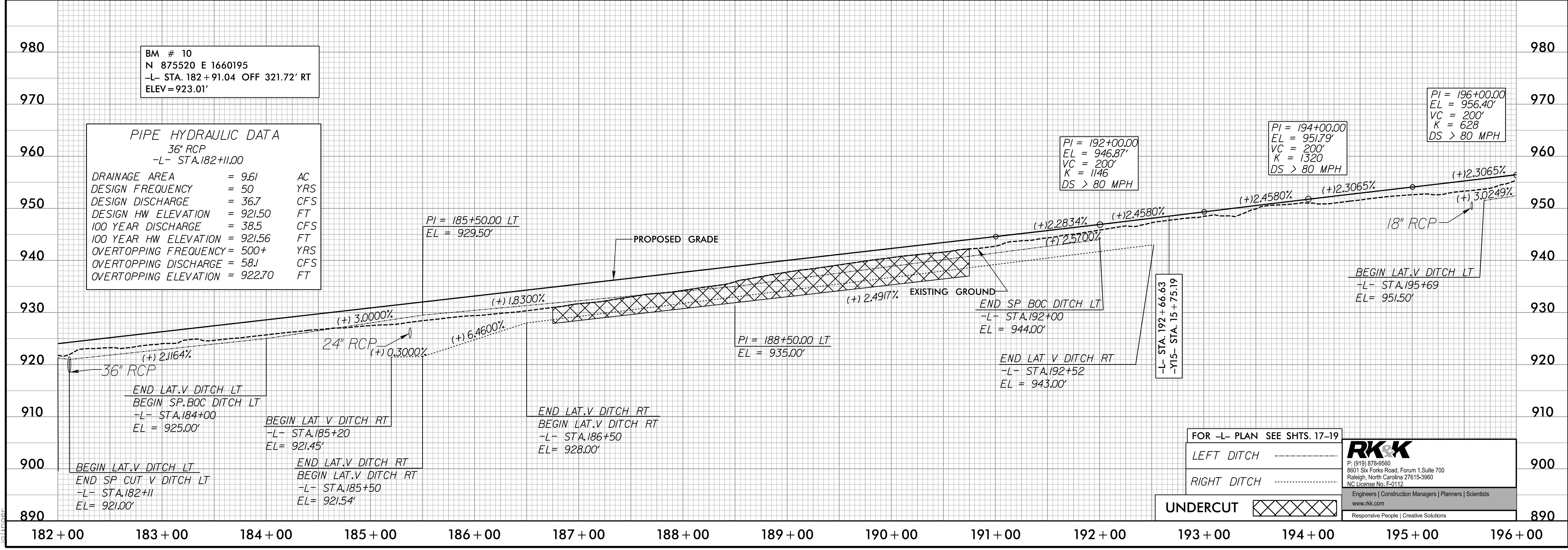
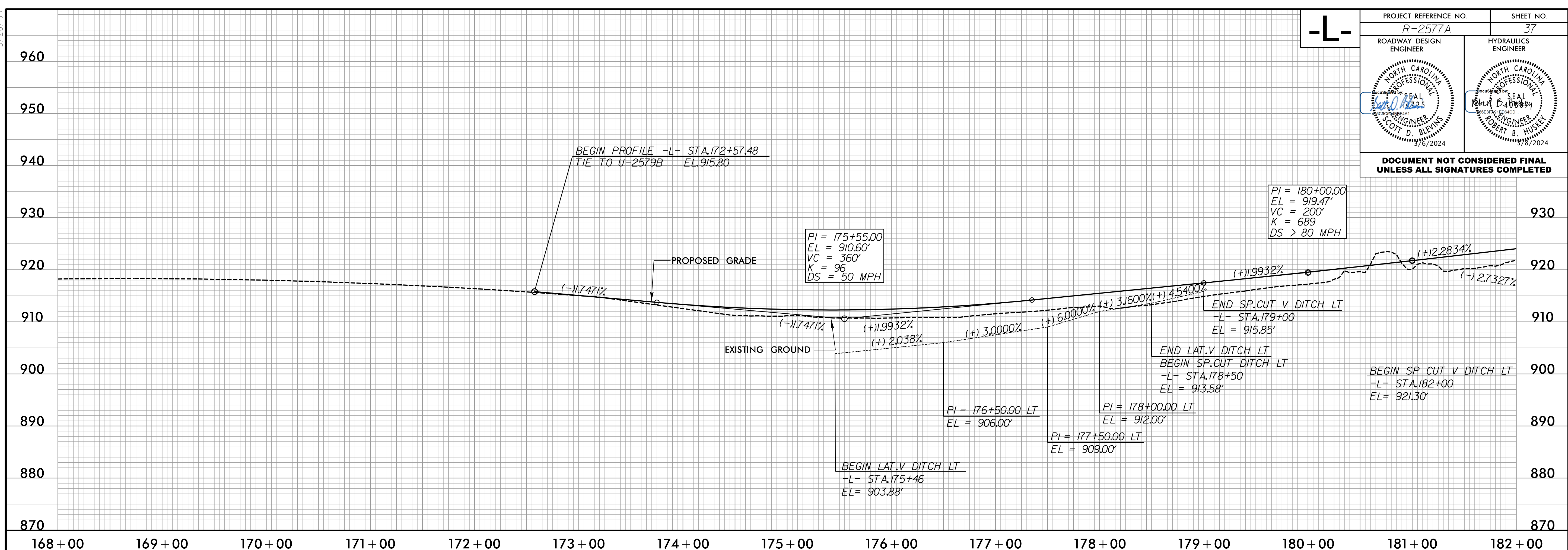
154+00 155+00 156+00 157+00 158+00 159+00 160+00 161+00 162+00 163+00 164+00 165+00 166+00 167+00 168+00

5/28/99

-L-

PROJECT REFERENCE NO. R-2577A	SHEET NO. 37
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



FOR -L- PLAN SEE SHTS. 17-19

LEFT DITCH .....  
RIGHT DITCH .....

**UNDERCUT**

**RK&K**  
P: (919) 878-9560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
www.rkk.com  
Responsive People | Creative Solutions

R:\Projects\2023\17-19\17-19-01\17-19-01-01\17-19-01-01.dgn

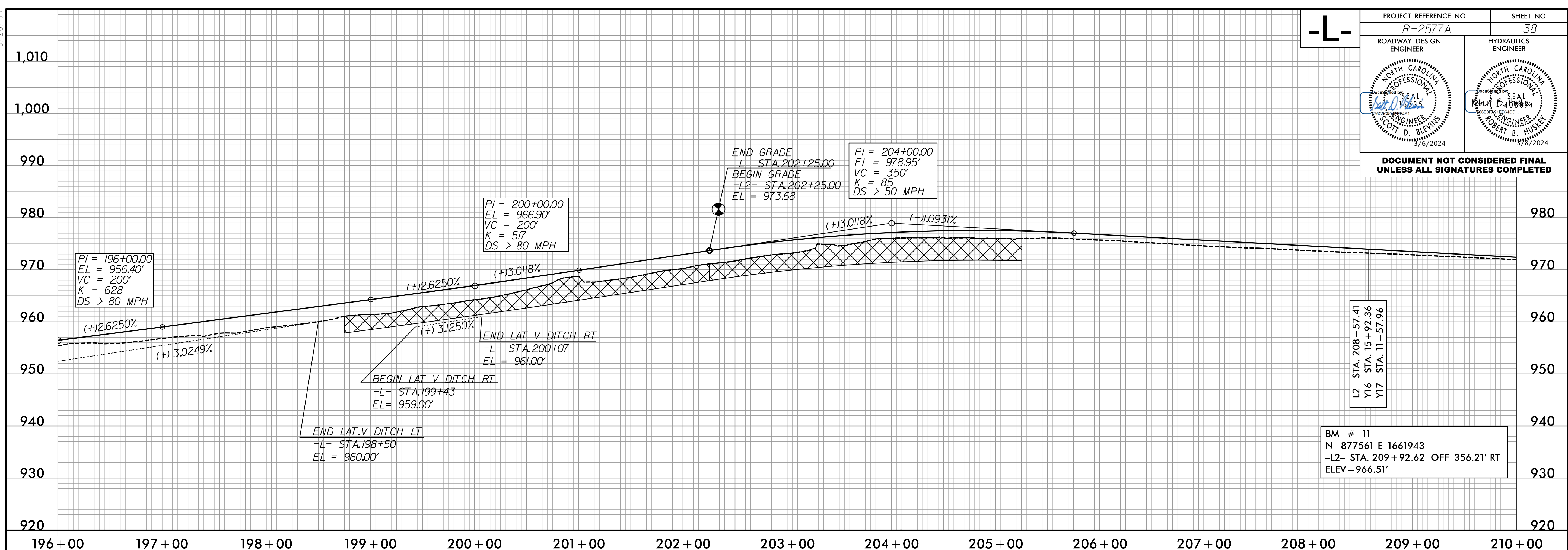


5/28/24

-L-

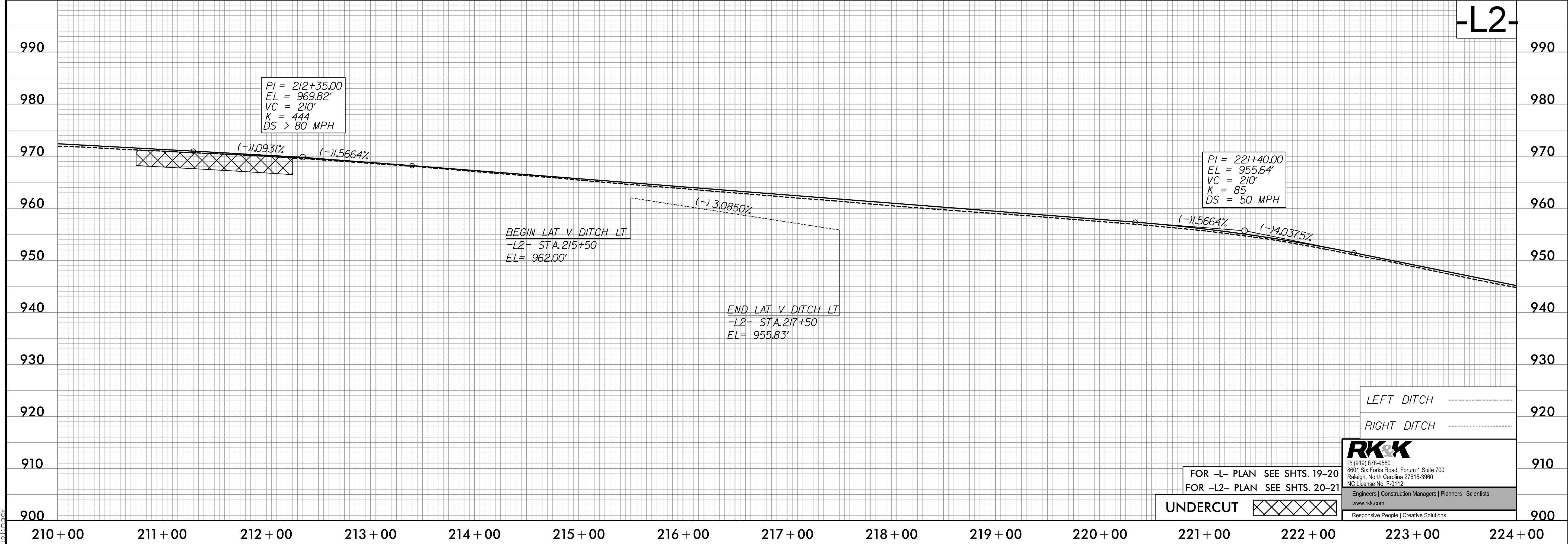
PROJECT REFERENCE NO. R-2577A	SHEET NO. 38
ROADWAY DESIGN ENGINEER <i>[Signature]</i>	HYDRAULICS ENGINEER <i>[Signature]</i>
SEAL COT D. BEVINS 7/6/2024	SEAL ROBERT B. HUSKEY 7/6/2024

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



R:\Projects\2023\5/28/24\Roadway\Proje\Roadway\2577A\_Roadway\p138.dgn

-L2-



FOR -L- PLAN SEE SHTS. 19-20  
FOR -L2- PLAN SEE SHTS. 20-21

UNDERCUT

**RKK**  
P: (919) 878-9560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

5/28/24  
R:\Projects\2023\12\139\139.dgn

**-L2-**

PROJECT REFERENCE NO. R-2577A	SHEET NO. 39
ROADWAY DESIGN ENGINEER COTT D. BLEVINS 3/6/2024	HYDRAULICS ENGINEER ROBERT B. HUSKEY 3/8/2024

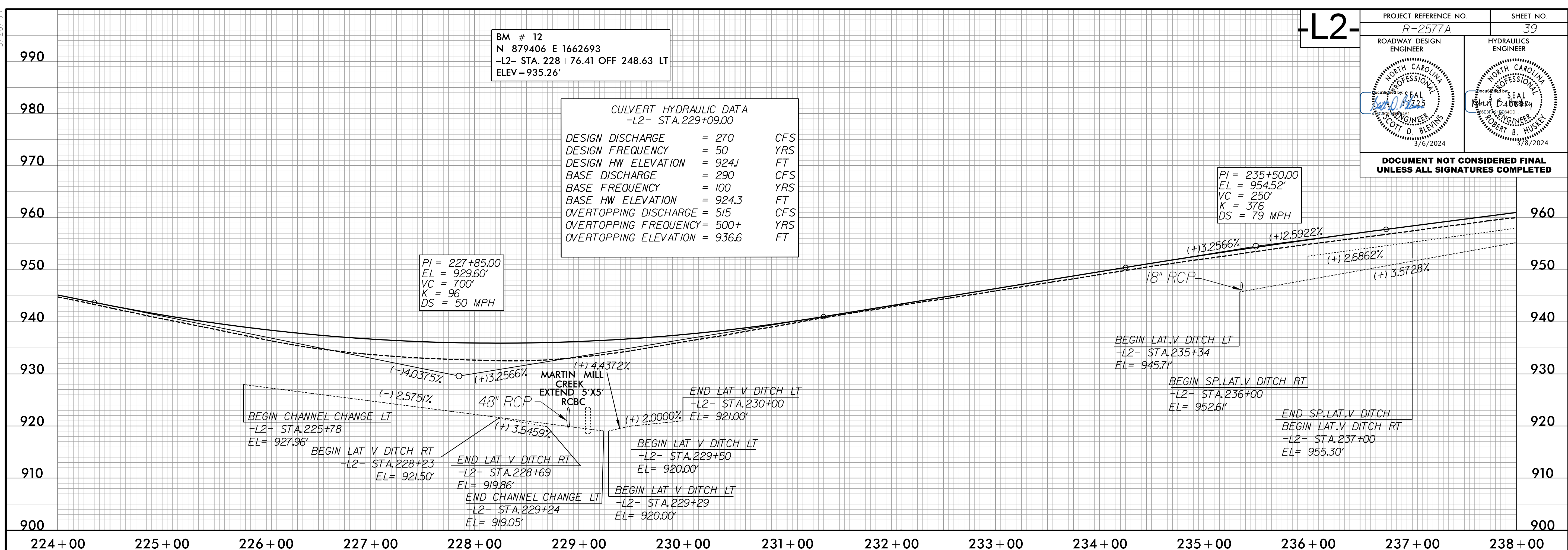
BM # 12  
N 879406 E 1662693  
-L2- STA. 228+76.41 OFF 248.63 LT  
ELEV=935.26'

**CULVERT HYDRAULIC DATA**  
-L2- STA.229+09.00

DESIGN DISCHARGE	= 270	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 924.1	FT
BASE DISCHARGE	= 290	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 924.3	FT
OVERTOPPING DISCHARGE	= 515	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 936.6	FT

PI = 235+50.00  
EL = 954.52'  
VC = 250'  
K = 376  
DS = 79 MPH

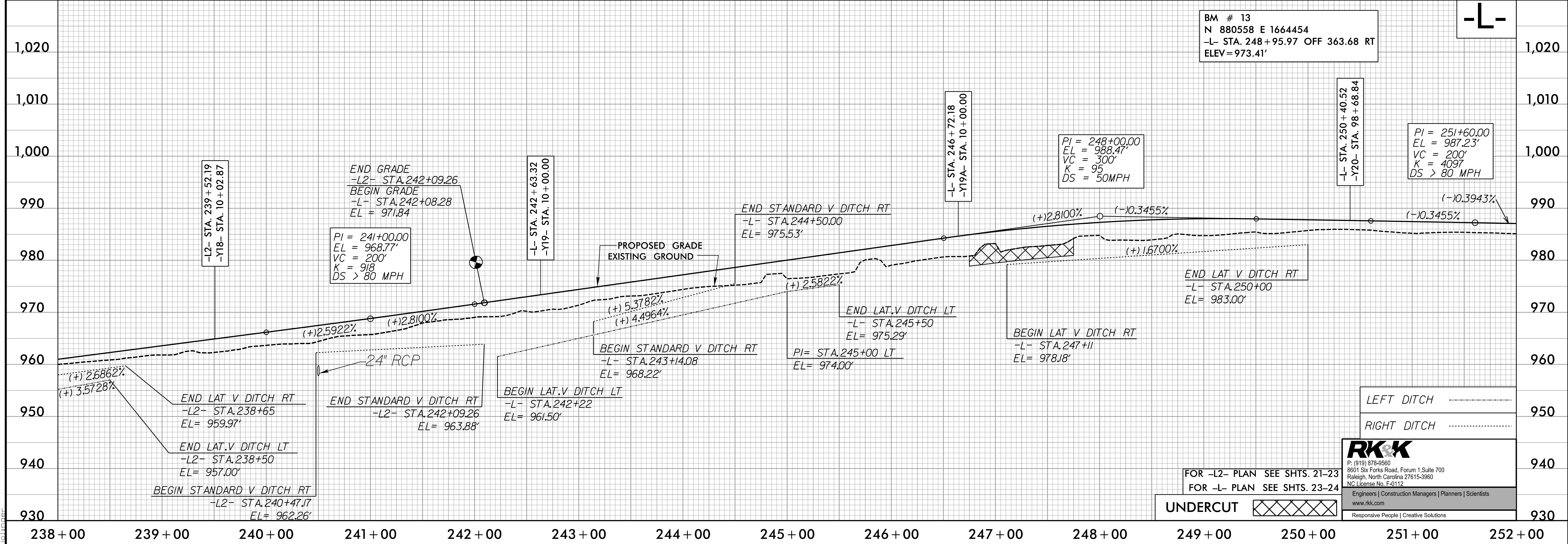
PI = 227+85.00  
EL = 929.60'  
VC = 700'  
K = 96  
DS = 50 MPH



BM # 13  
N 880558 E 1664454  
-L- STA. 248+95.97 OFF 363.68 RT  
ELEV=973.41'

PI = 251+60.00  
EL = 987.23'  
VC = 200'  
K = 4097  
DS > 80 MPH

PI = 248+00.00  
EL = 988.47'  
VC = 300'  
K = 95  
DS = 50 MPH



LEFT DITCH .....  
RIGHT DITCH .....

FOR -L2- PLAN SEE SHTS. 21-23  
FOR -L- PLAN SEE SHTS. 23-24

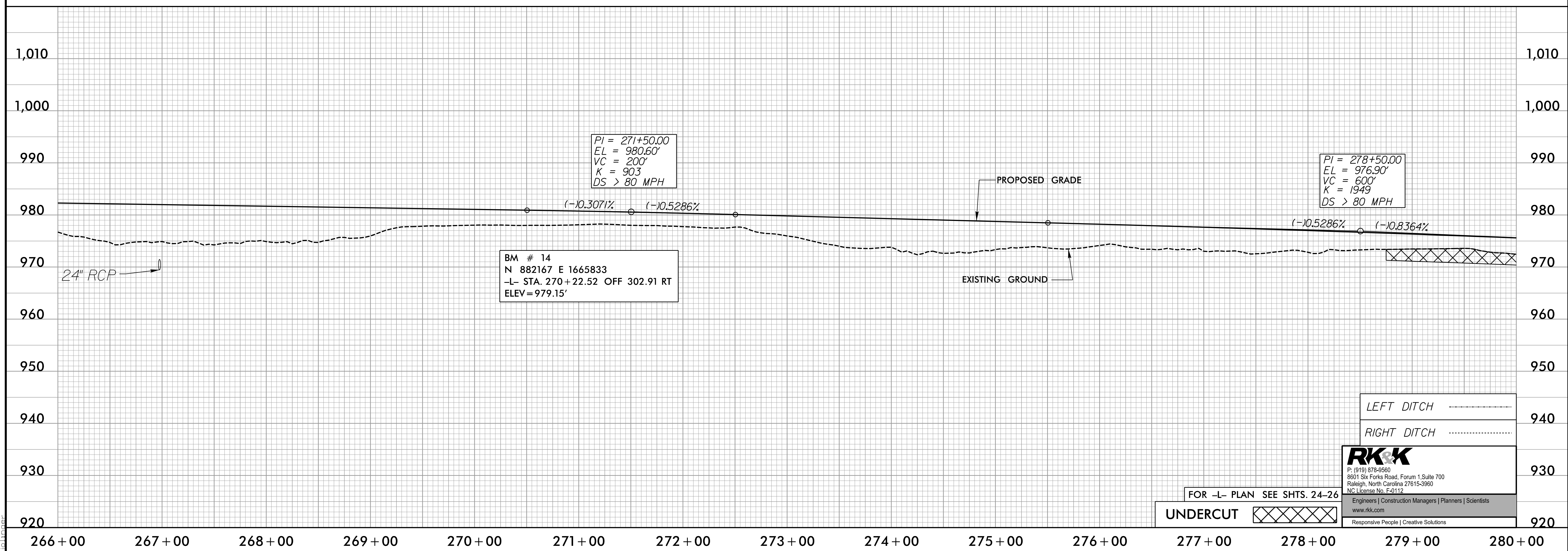
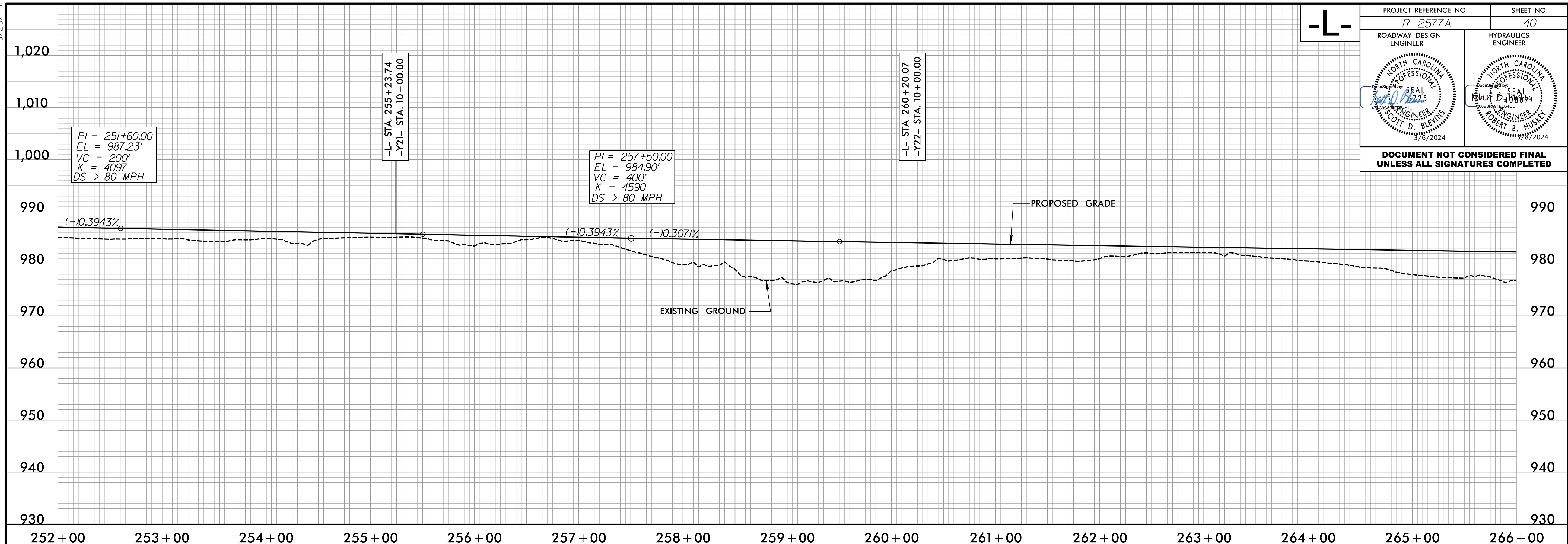
UNDERCUT

**RK&K**  
P: (919) 878-8560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

5/28/99

-L-

PROJECT REFERENCE NO. R-2577A	SHEET NO. 40
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



LEFT DITCH ..... 940

RIGHT DITCH ..... 940

**RK&K**  
 P: (919) 878-9560  
 8801 Six Forks Road, Forum 1, Suite 700  
 Raleigh, North Carolina 27615-3960  
 NC License No. F-0112

Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com  
 Responsive People | Creative Solutions

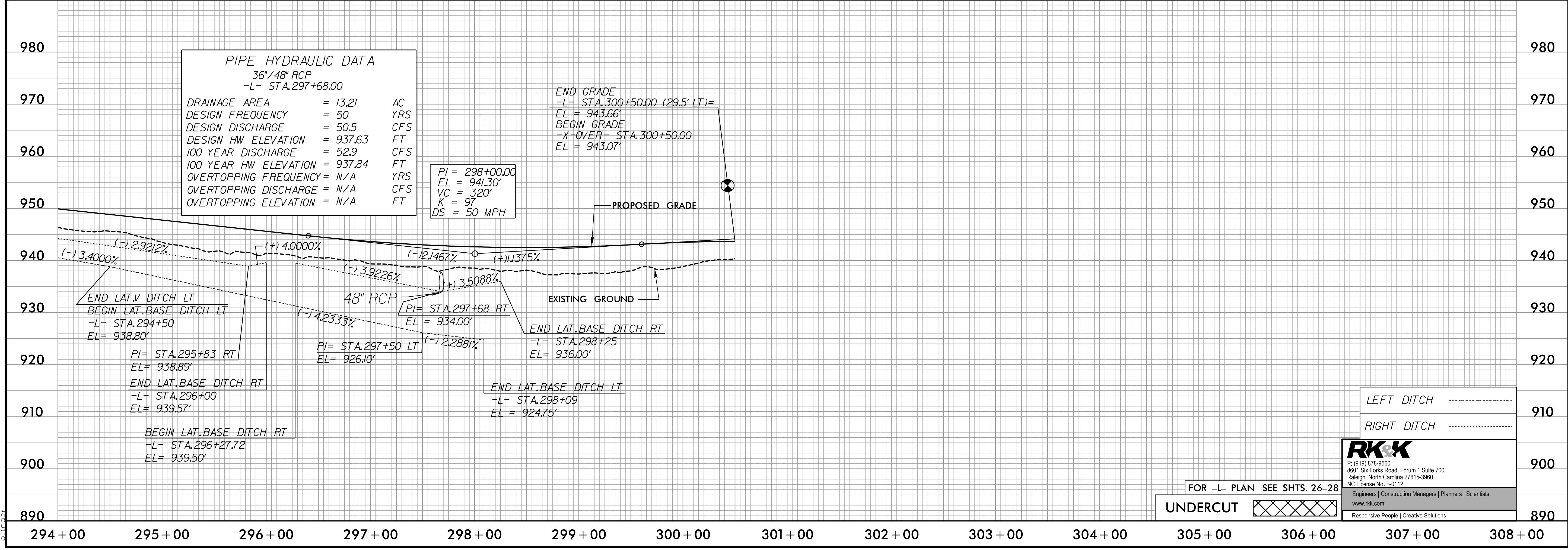
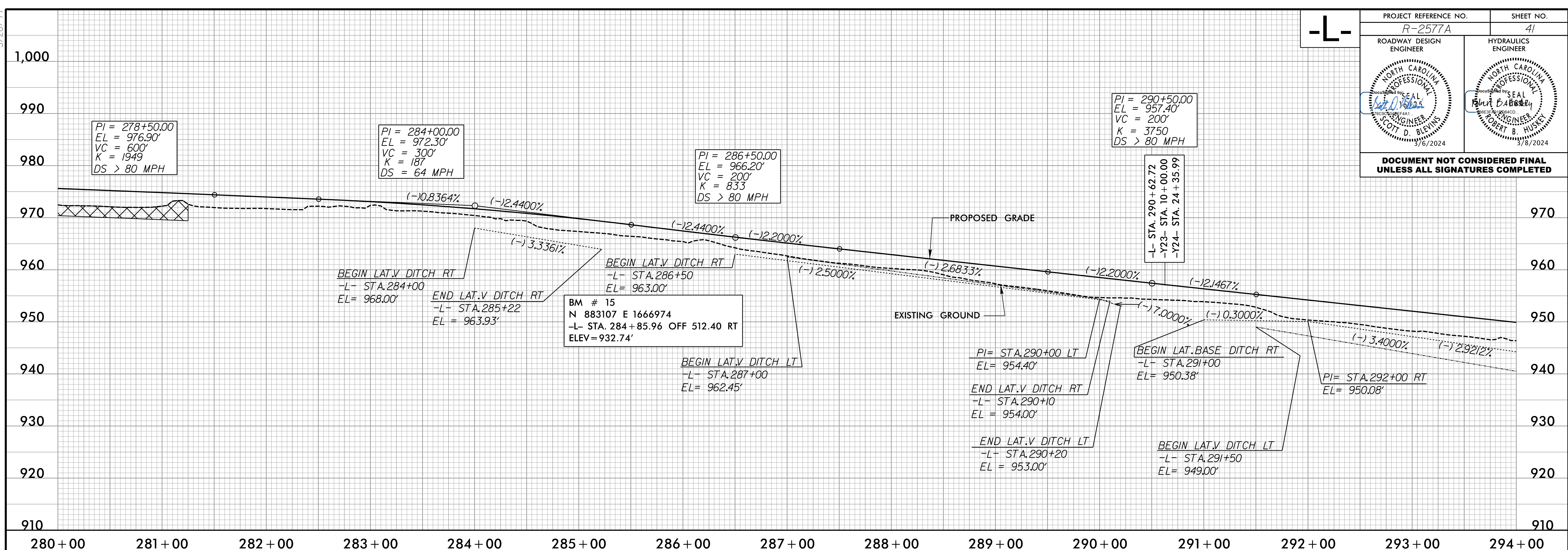
FOR -L- PLAN SEE SHTS. 24-26

UNDERCUT

R:\Projects\2577A\2577A-Roadway\2577A-Roadway-Profile.dgn

5/28/24

PROJECT REFERENCE NO. R-2577A		SHEET NO. 41	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



R:\Projects\2023\Projects\2577A\Roadway\Profile\41.dgn

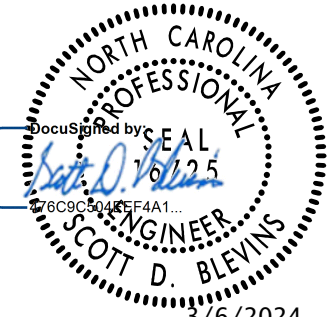
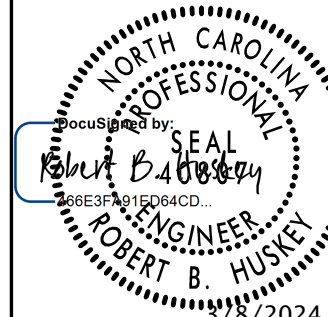
FOR -L- PLAN SEE SHTS. 26-28  
UNDERCUT

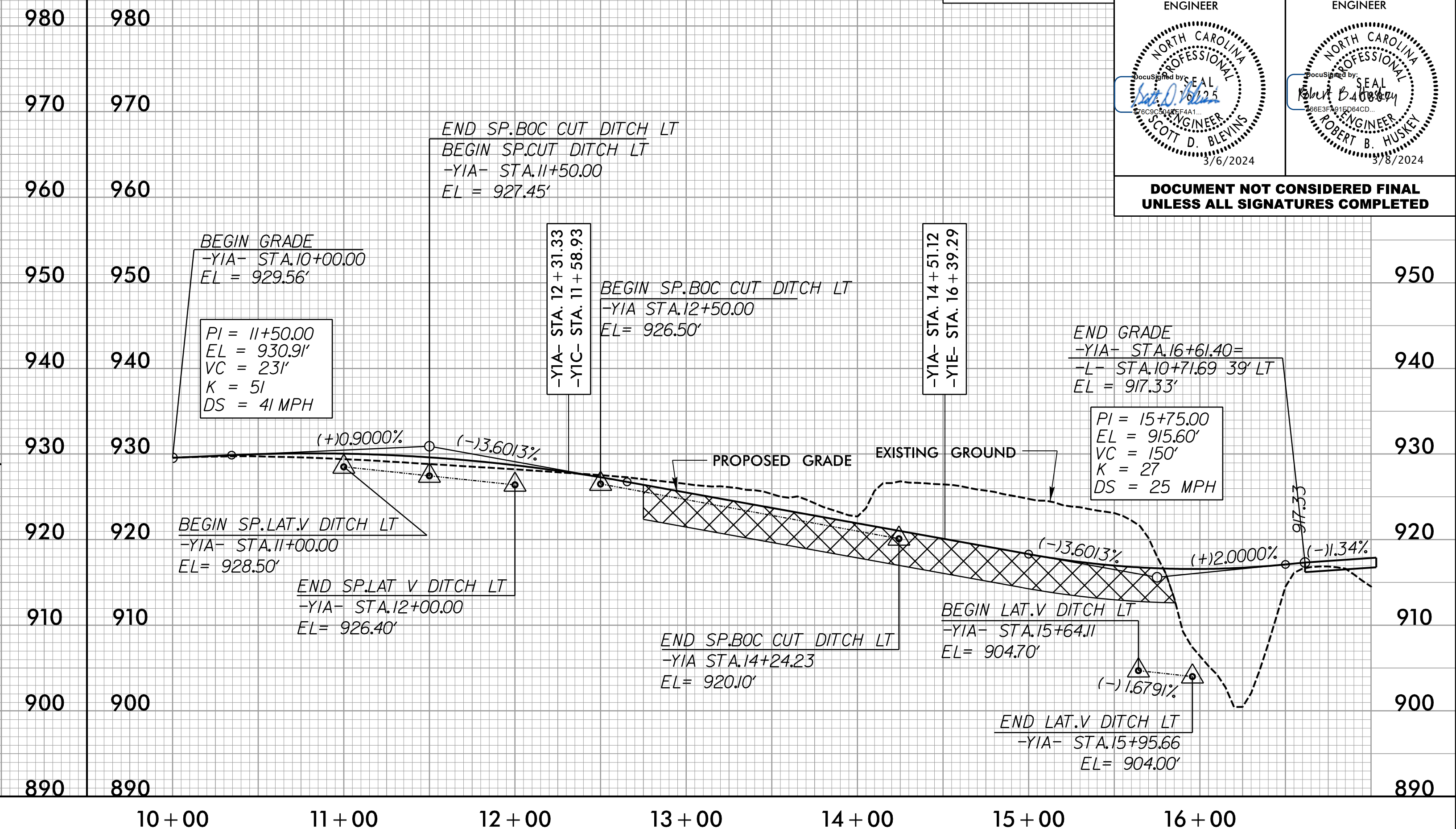
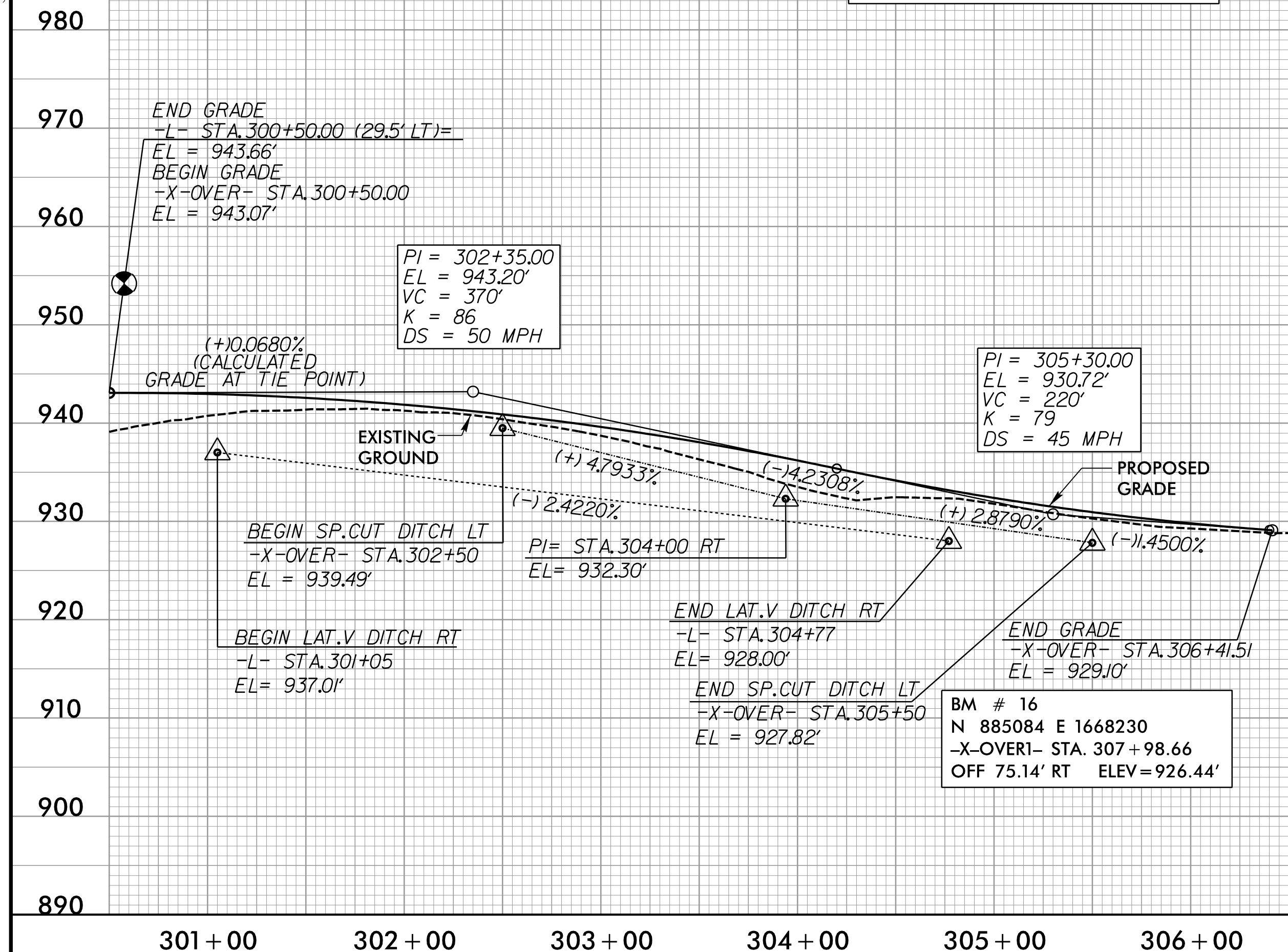
**RK&K**  
P: (919) 878-9560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112

Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

-X-OVER1-

-Y1A-

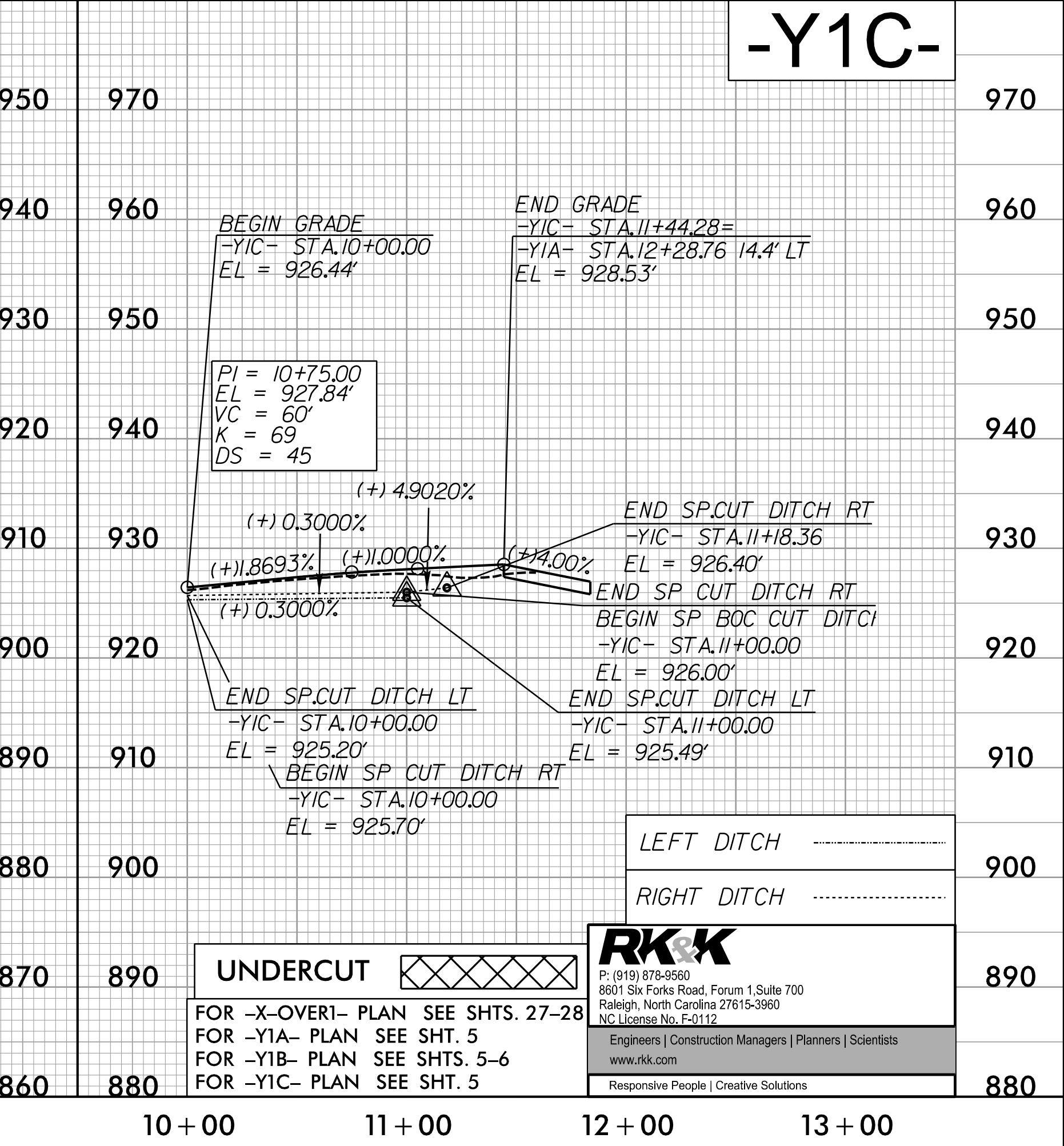
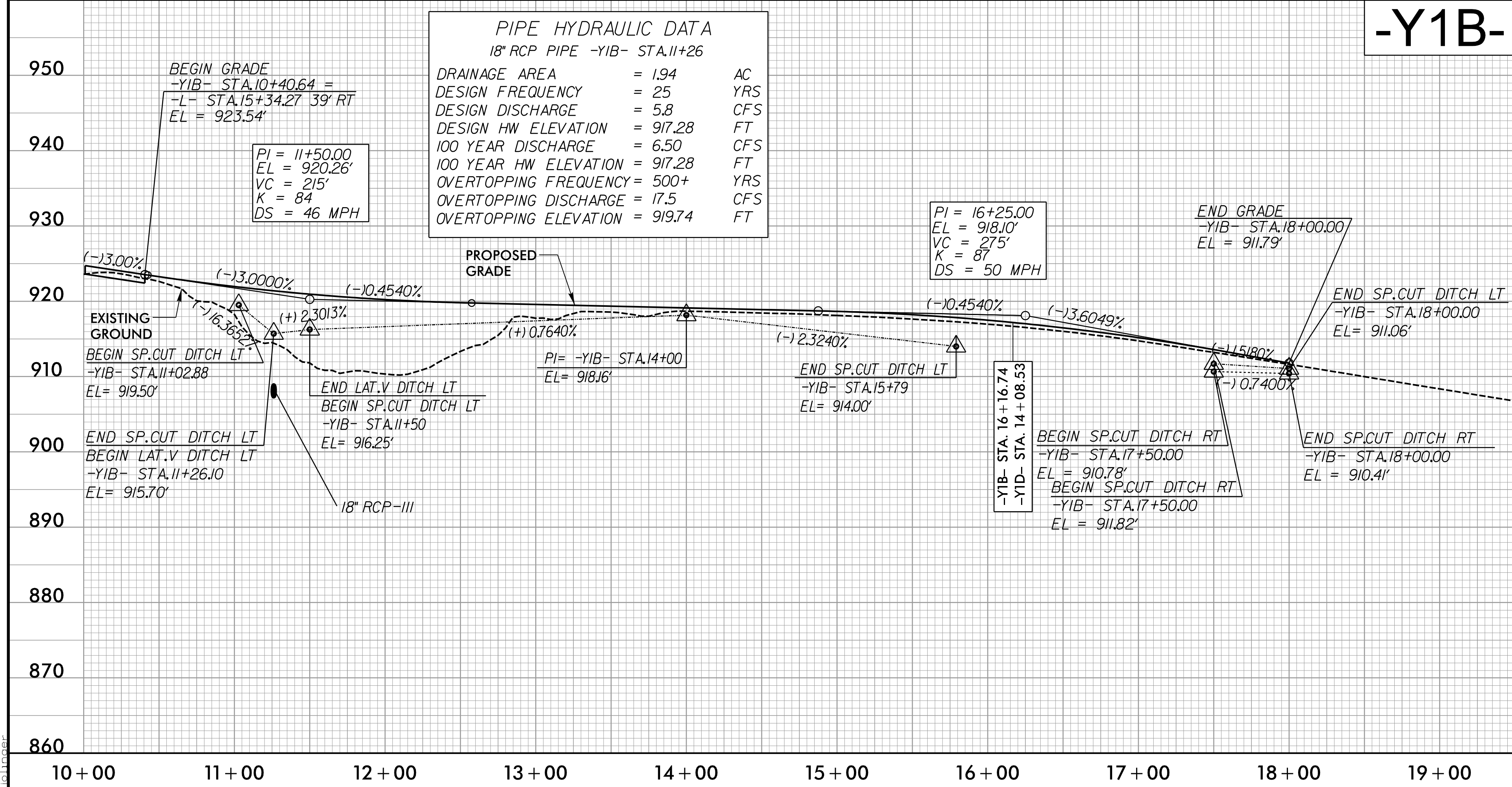
PROJECT REFERENCE NO. R-2577A	SHEET NO. 42
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

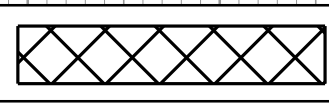


18" RCP PIPE -Y1B- STA. 11+26	
DRAINAGE AREA	= 1.94 AC
DESIGN FREQUENCY	= 25 YRS
DESIGN DISCHARGE	= 5.8 CFS
DESIGN HW ELEVATION	= 917.28 FT
100 YEAR DISCHARGE	= 6.50 CFS
100 YEAR HW ELEVATION	= 917.28 FT
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING DISCHARGE	= 17.5 CFS
OVERTOPPING ELEVATION	= 919.74 FT

-Y1B-

-Y1C-



**UNDERCUT** 

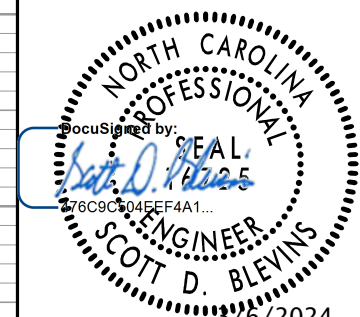

FOR -X-OVER1- PLAN SEE SHTS. 27-28  
FOR -Y1A- PLAN SEE SHT. 5  
FOR -Y1B- PLAN SEE SHTS. 5-6  
FOR -Y1C- PLAN SEE SHT. 5

**RK&K**

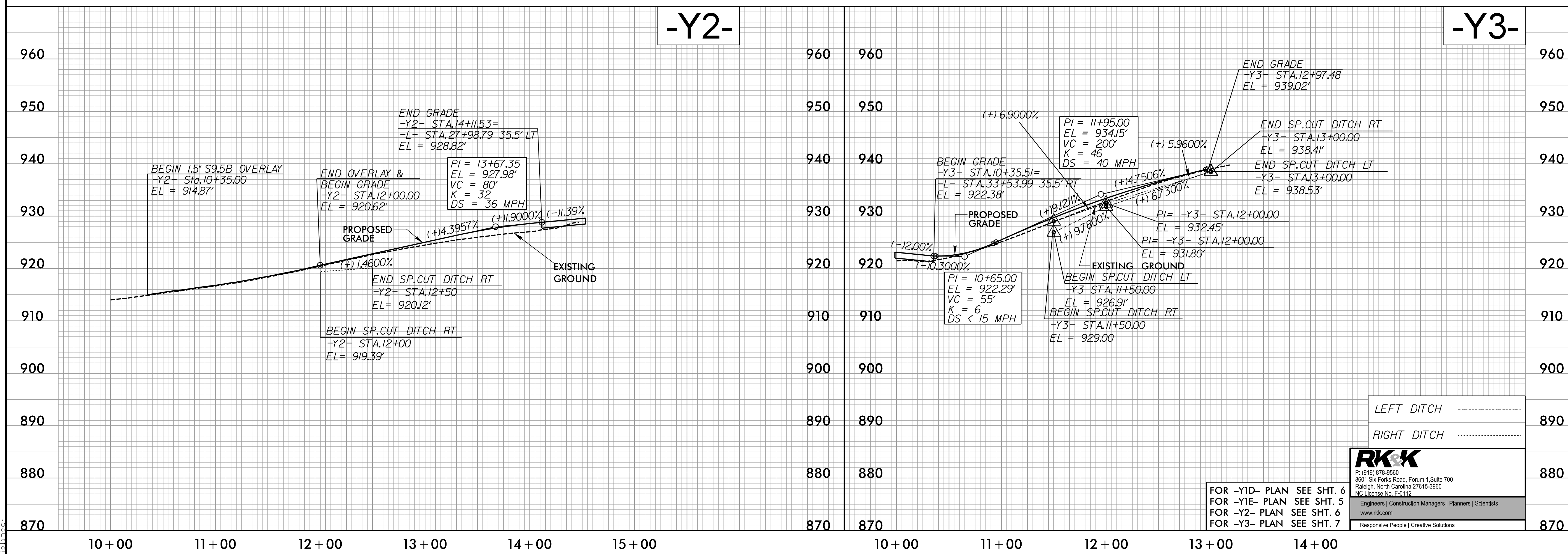
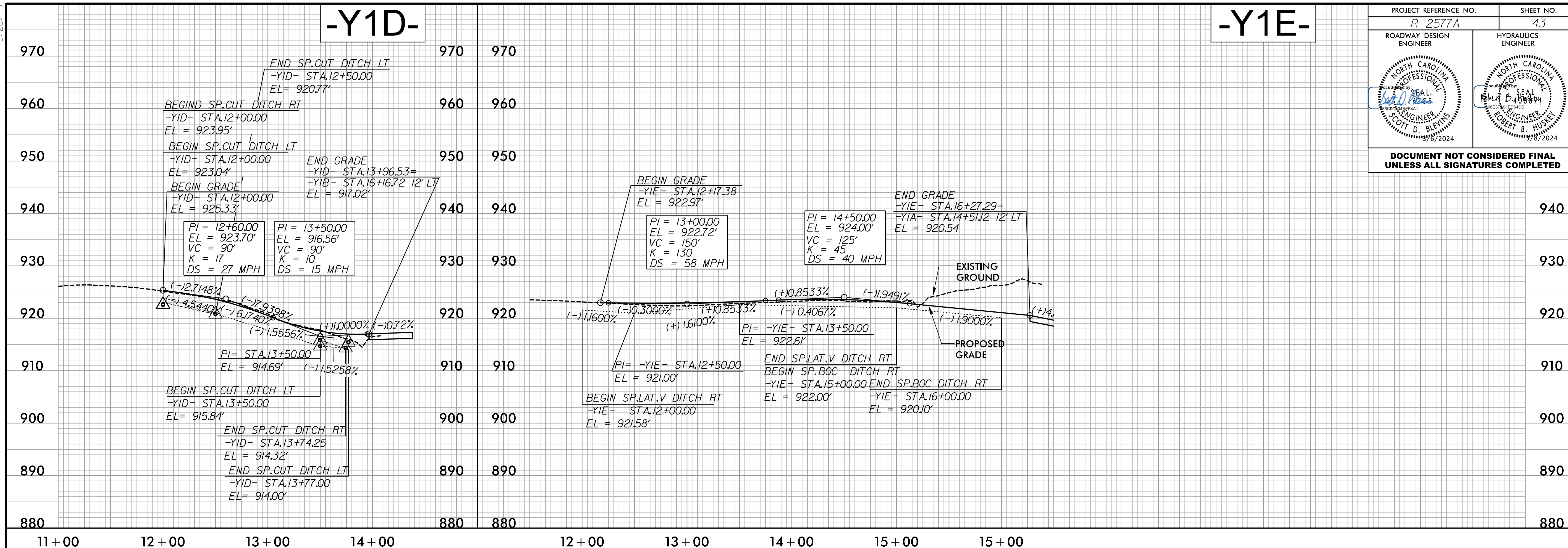
P. (919) 878-9560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112

Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

5/28/99

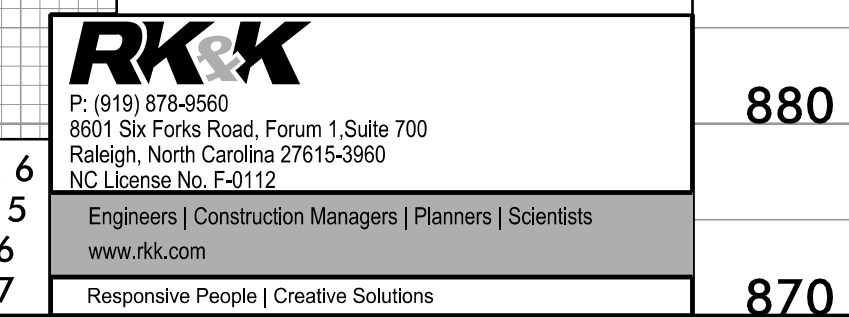
PROJECT REFERENCE NO. R-2577A	SHEET NO. 43
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



LEFT DITCH -----

RIGHT DITCH -----



FOR -Y1D- PLAN SEE SHT. 6  
 FOR -Y1E- PLAN SEE SHT. 5  
 FOR -Y2- PLAN SEE SHT. 6  
 FOR -Y3- PLAN SEE SHT. 7

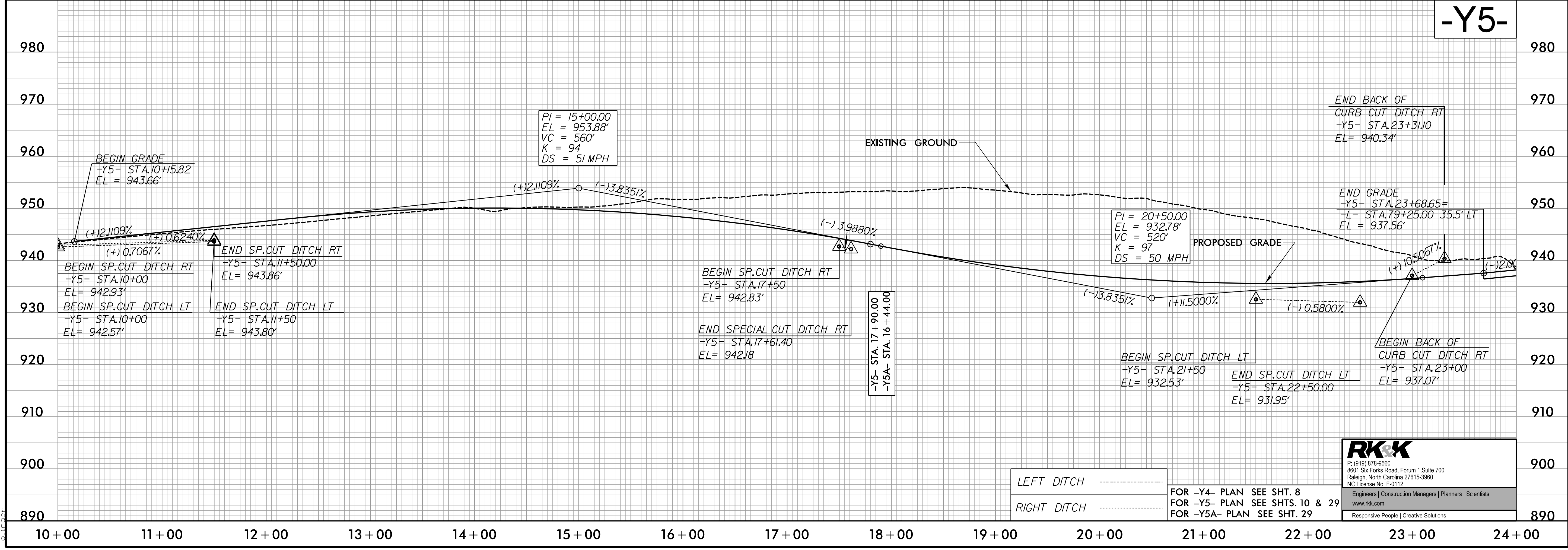
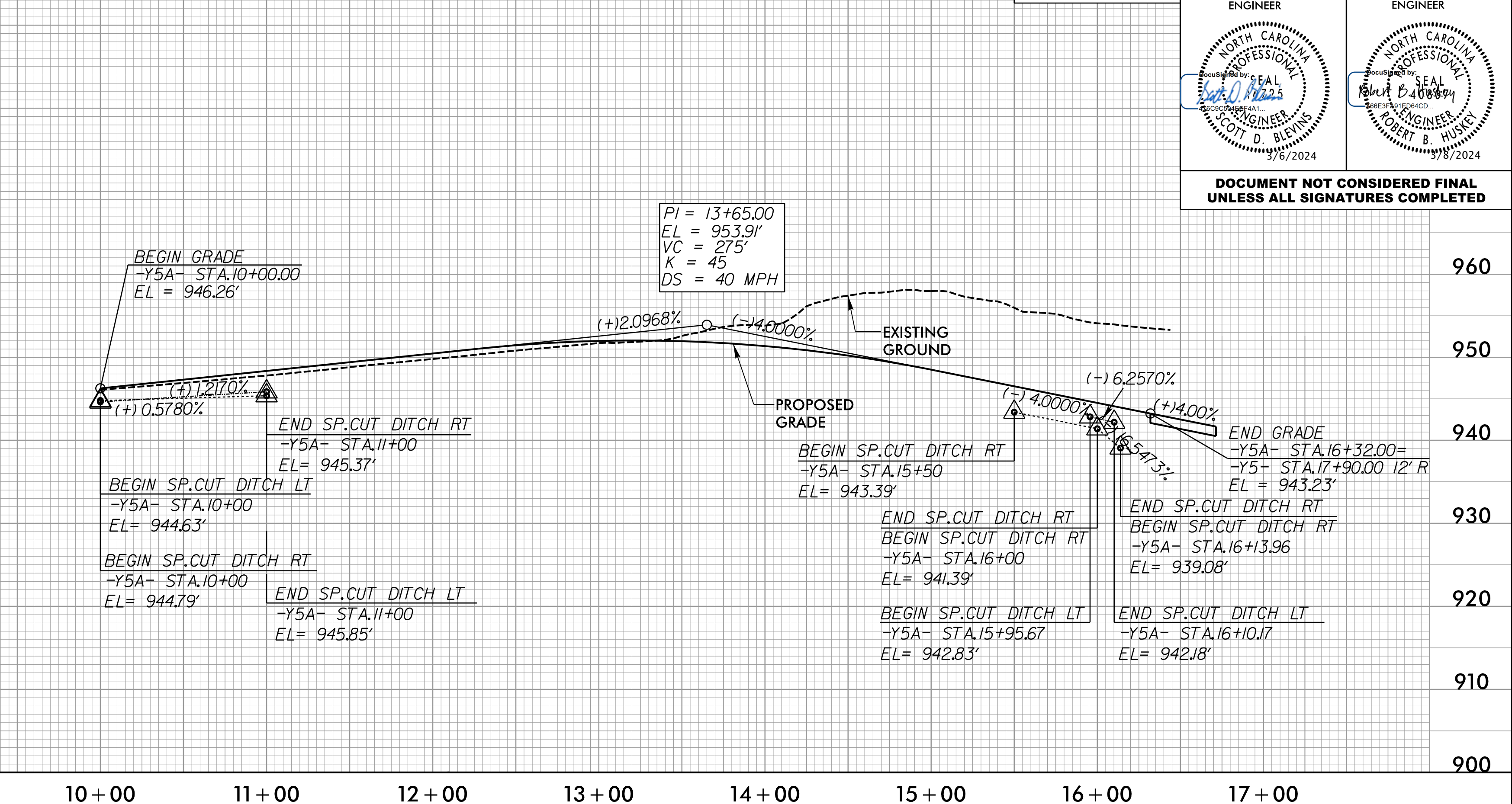
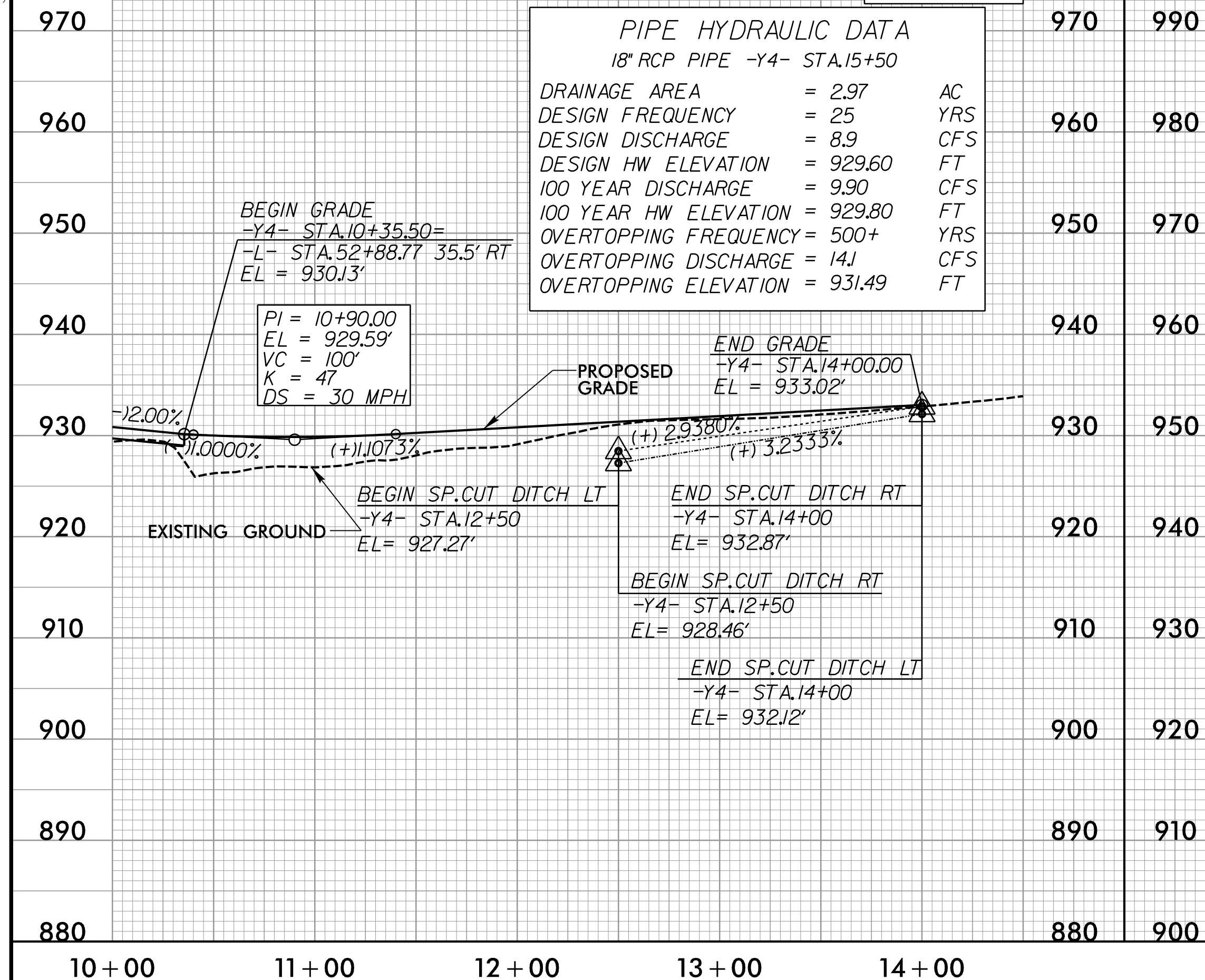
P:\Projects\99\9903\Roadway\RDY\2577A\_Rdy\_p143.dgn

# -Y5A-

PROJECT REFERENCE NO. R-2577A		SHEET NO. 44	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			

**PIPE HYDRAULIC DATA**  
 18" RCP PIPE -Y4- STA.15+50

DRAINAGE AREA	= 2.97	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 8.9	CFS
DESIGN HW ELEVATION	= 929.60	FT
100 YEAR DISCHARGE	= 9.90	CFS
100 YEAR HW ELEVATION	= 929.80	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 14J	CFS
OVERTOPPING ELEVATION	= 931.49	FT



**RK&K**  
 P: (919) 878-8560  
 8801 Six Forks Road, Forum 1, Suite 700  
 Raleigh, North Carolina 27615-3960  
 NC License No. F-0112  
 Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com  
 Responsive People | Creative Solutions

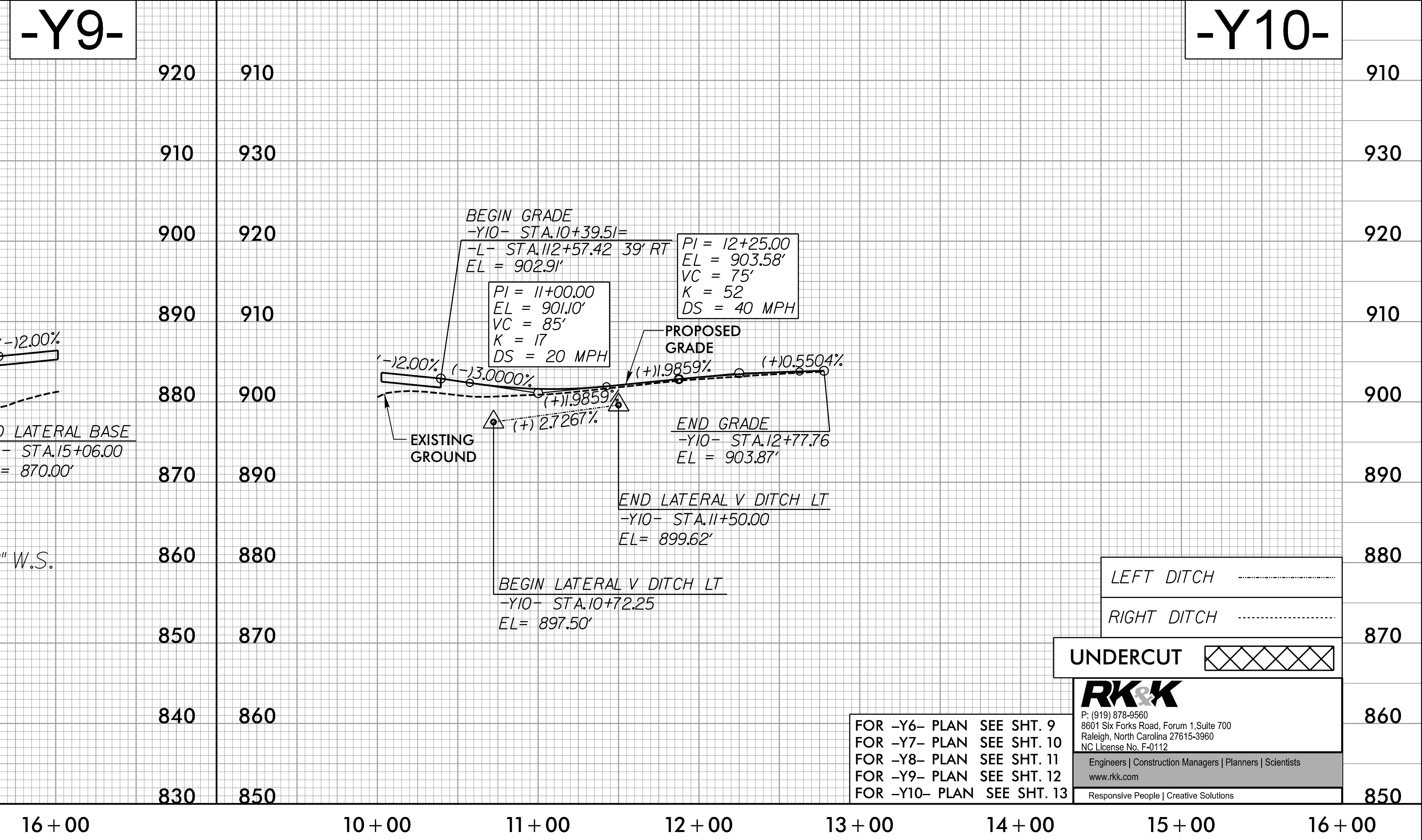
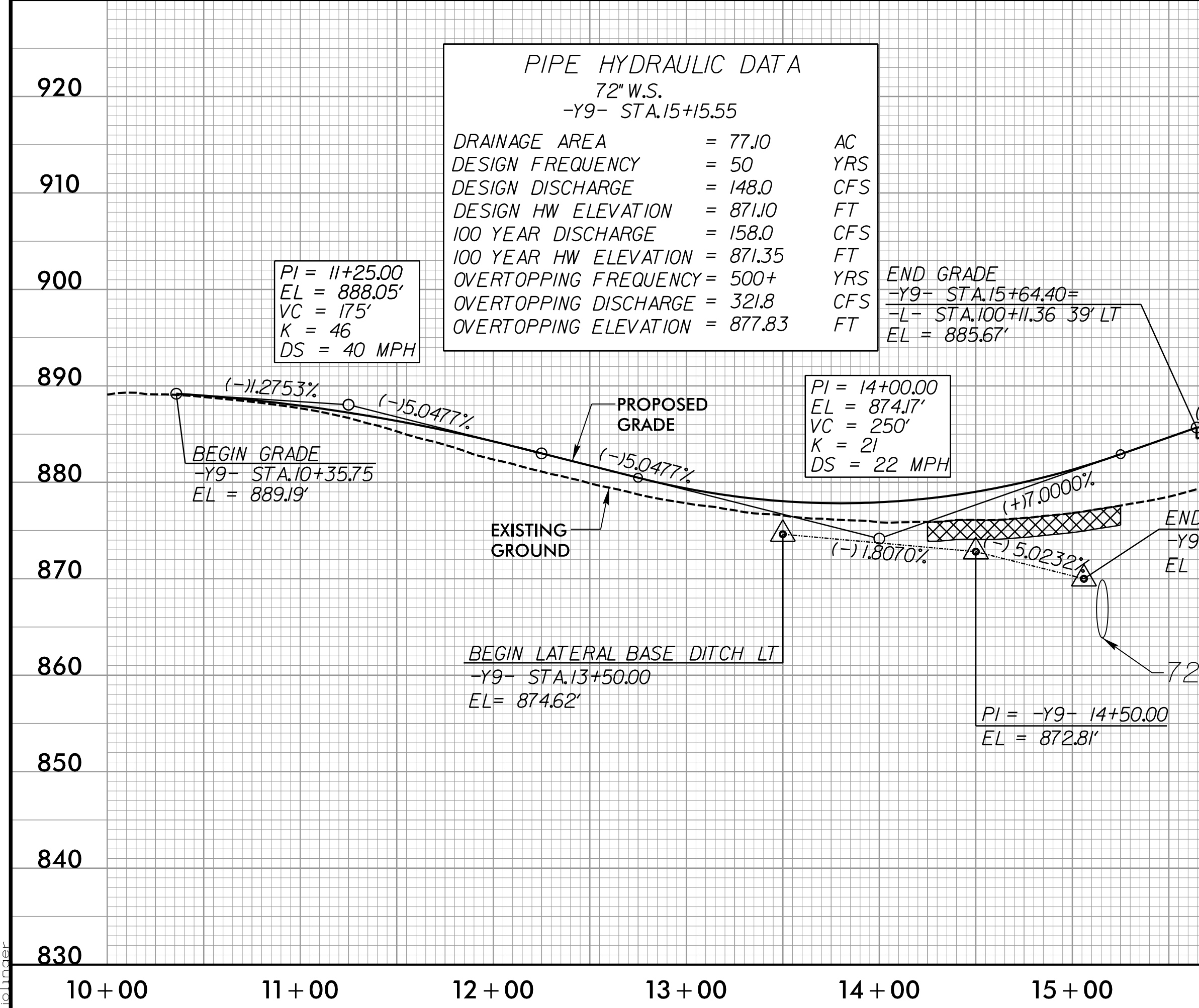
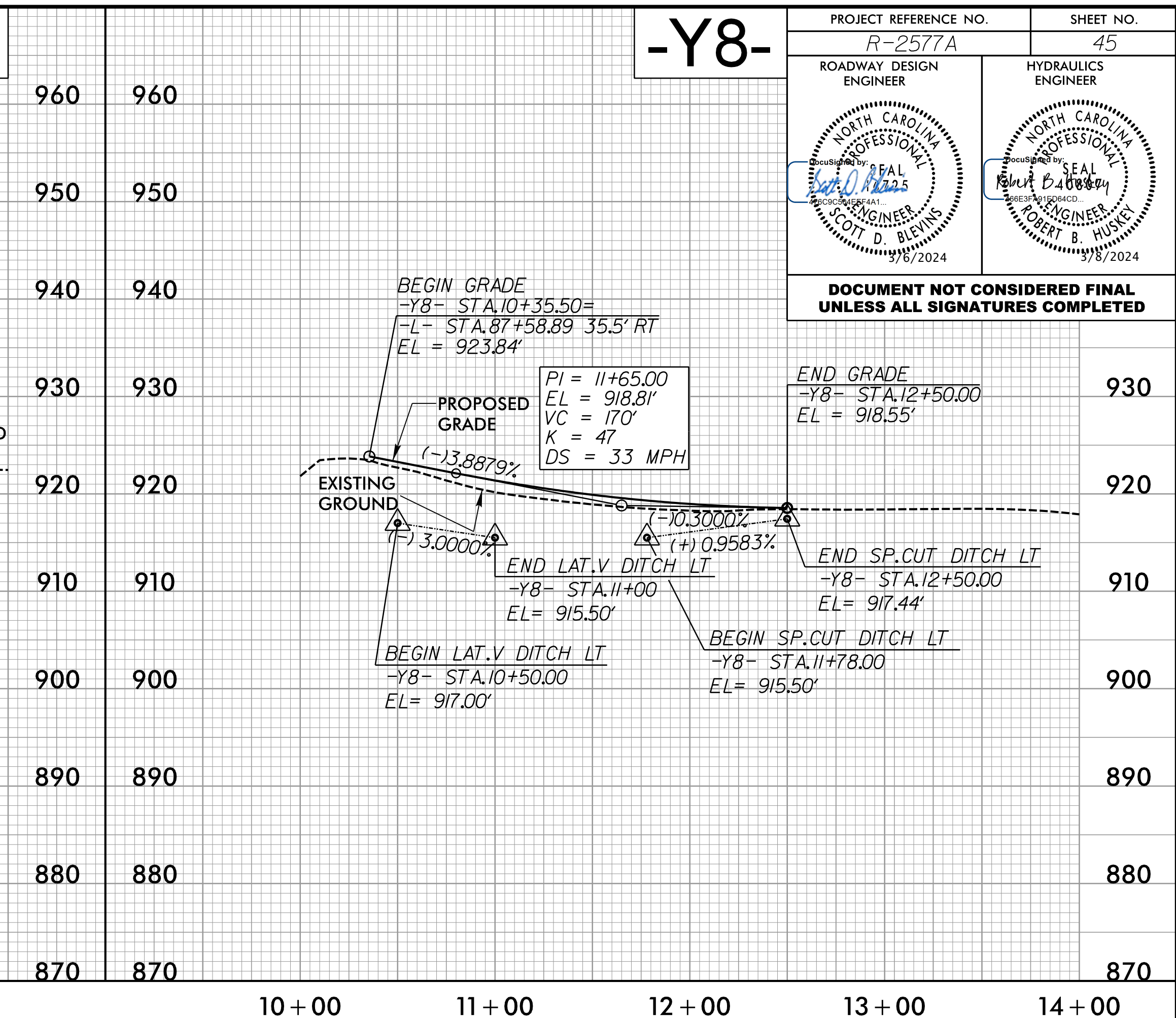
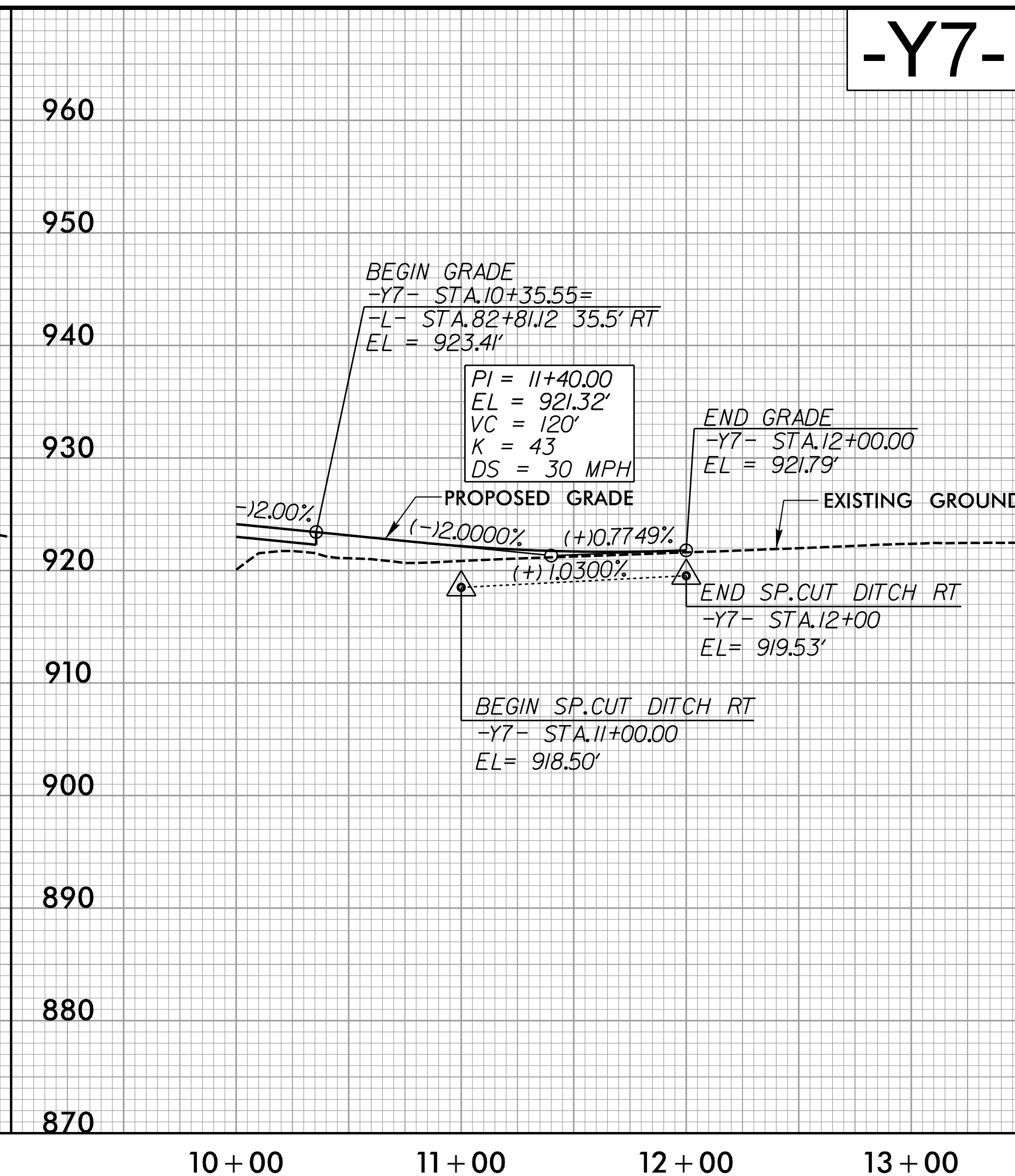
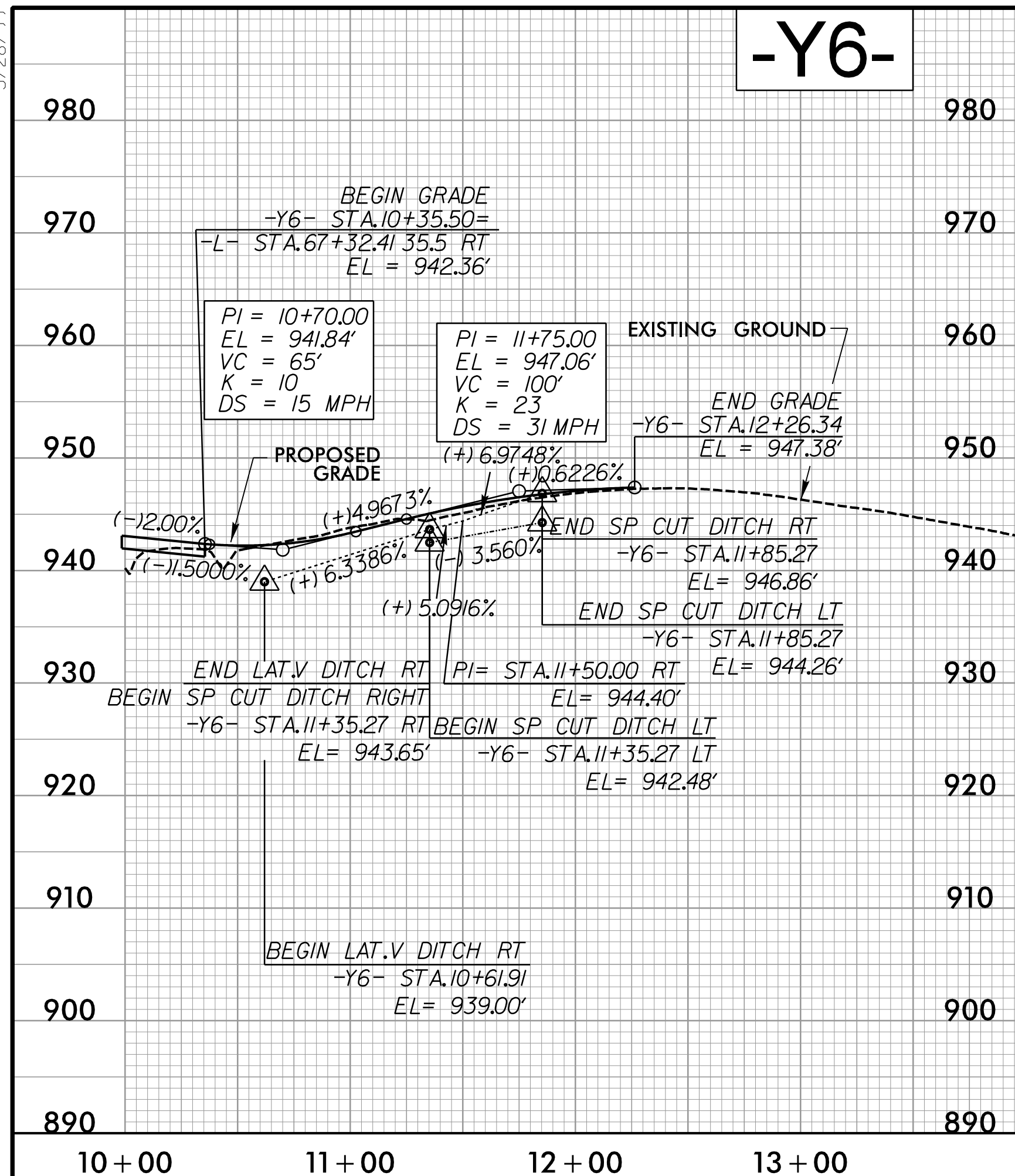
LEFT DITCH .....  
 RIGHT DITCH .....

FOR -Y4- PLAN SEE SHT. 8  
 FOR -Y5- PLAN SEE SHTS. 10 & 29  
 FOR -Y5A- PLAN SEE SHT. 29

5/28/24

PROJECT REFERENCE NO. R-2577A	SHEET NO. 45
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



LEFT DITCH .....  
RIGHT DITCH .....  
UNDERCUT

**RK&K**  
P: (919) 878-8560  
8601 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

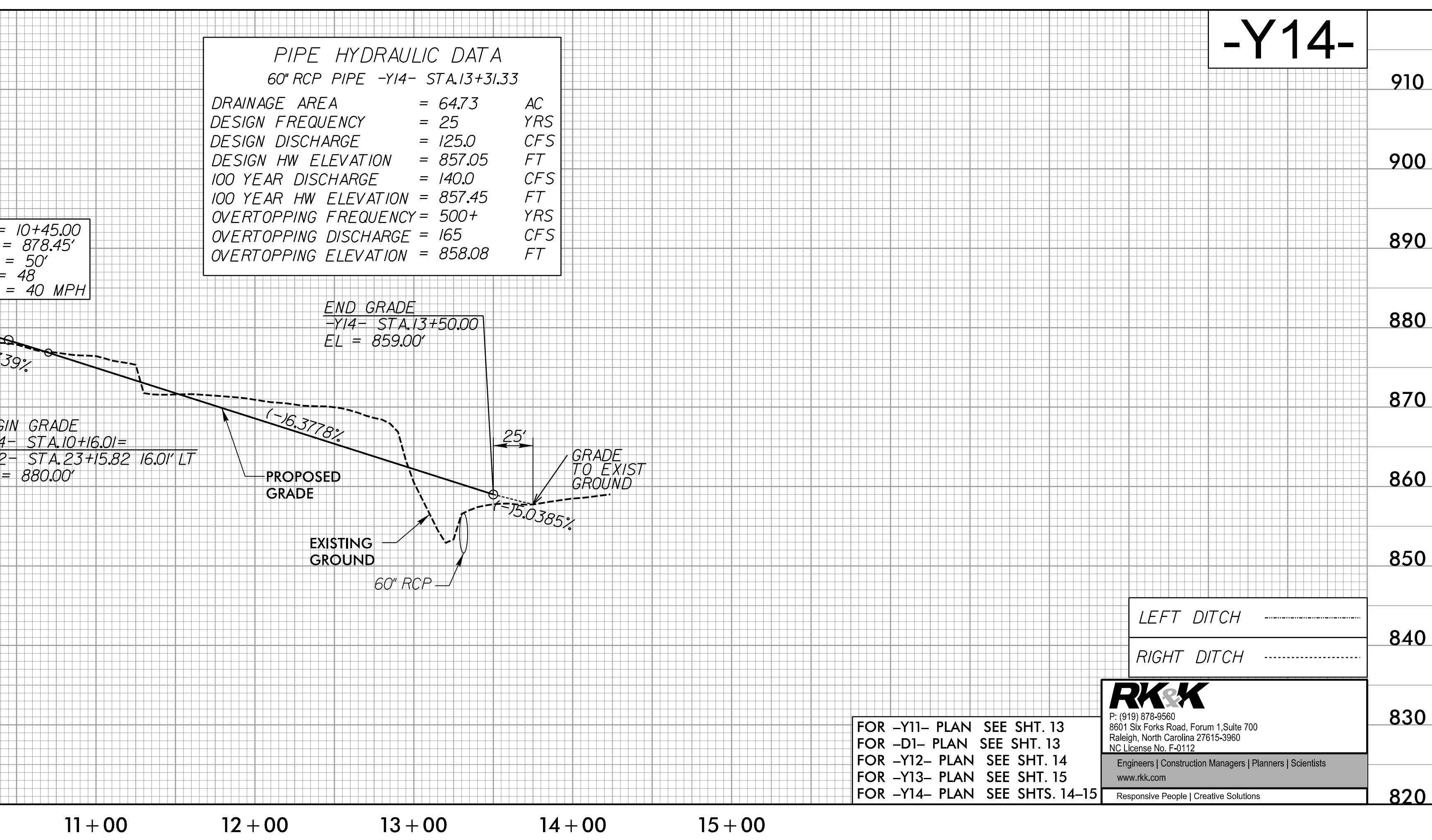
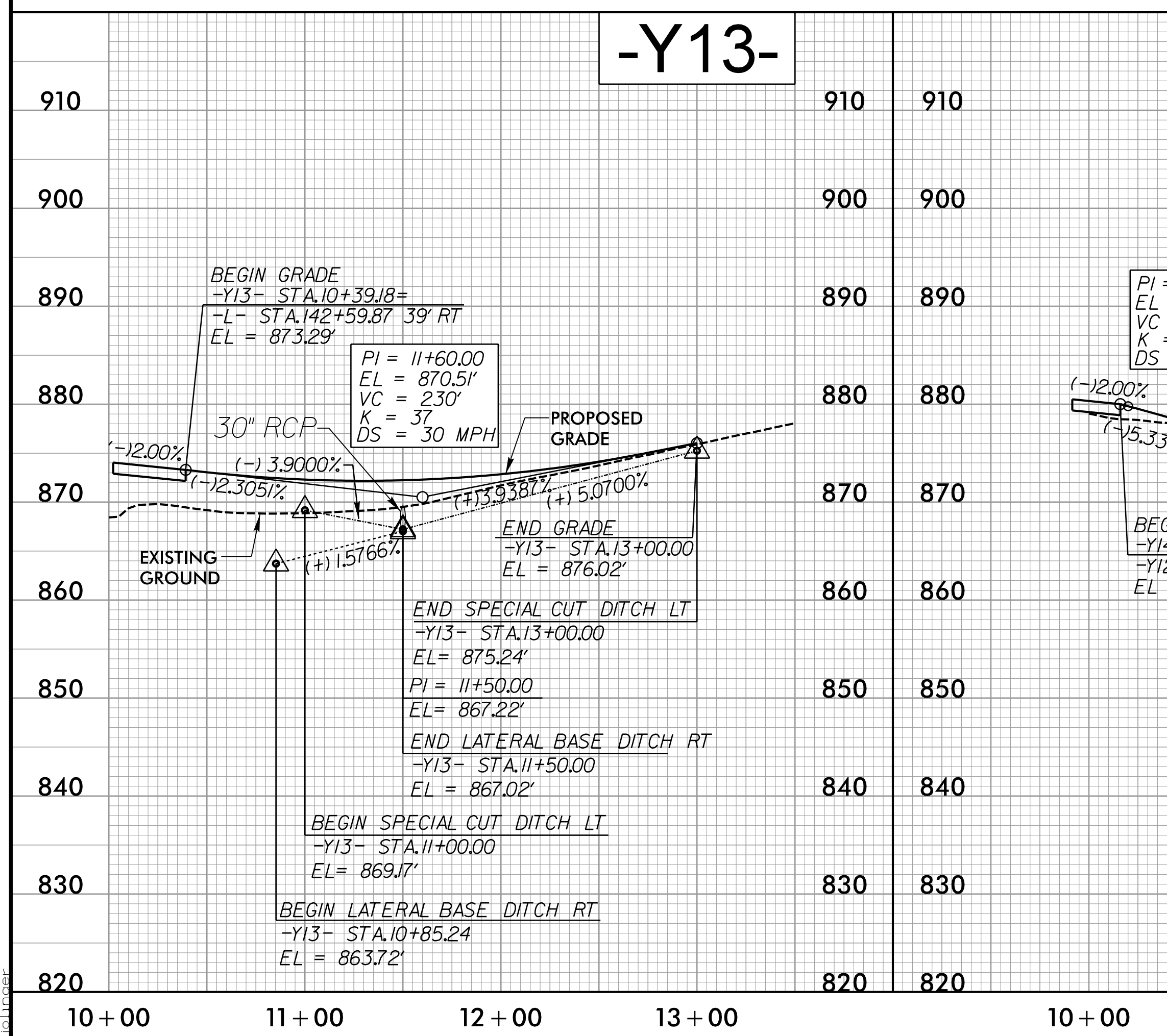
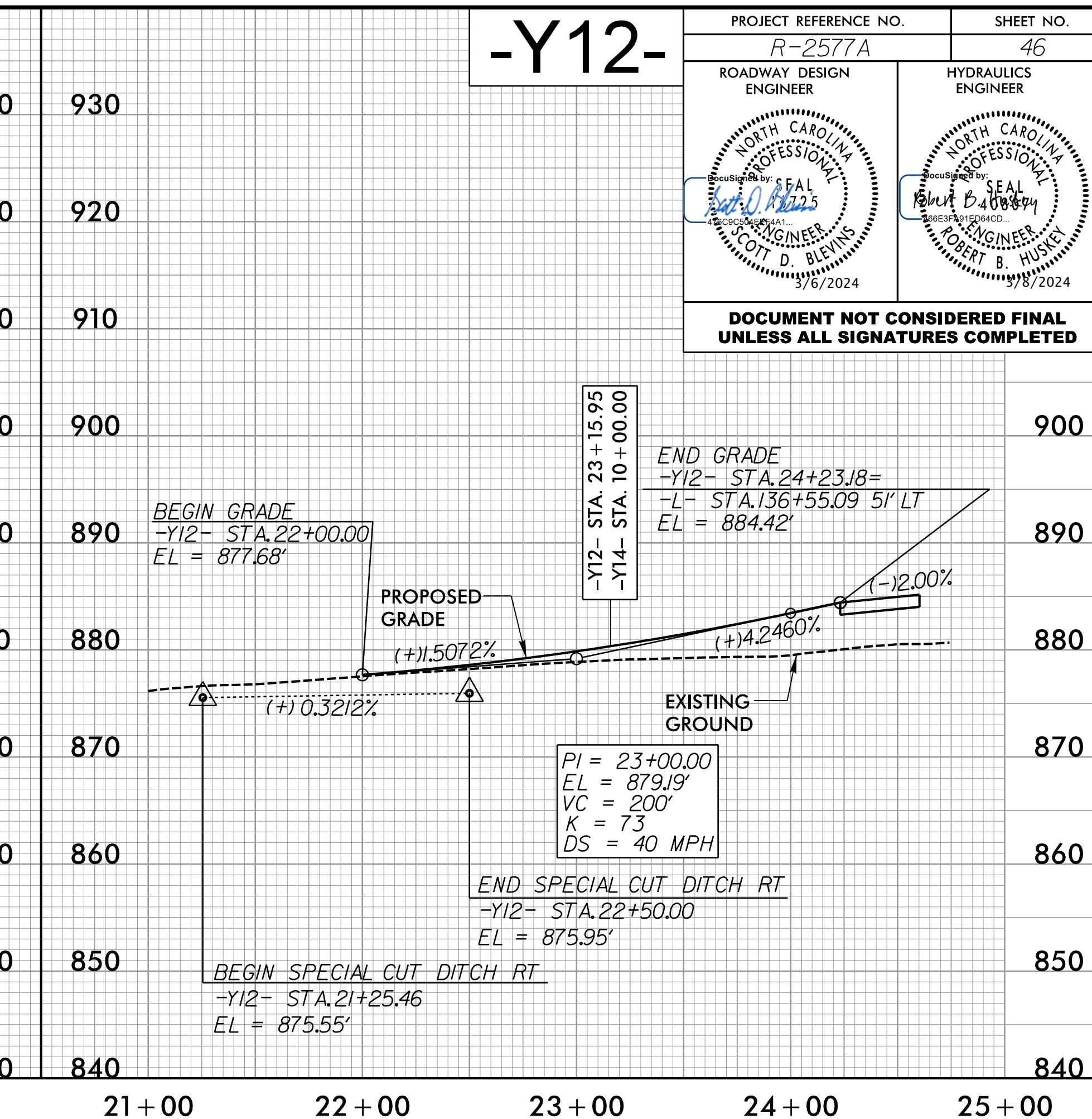
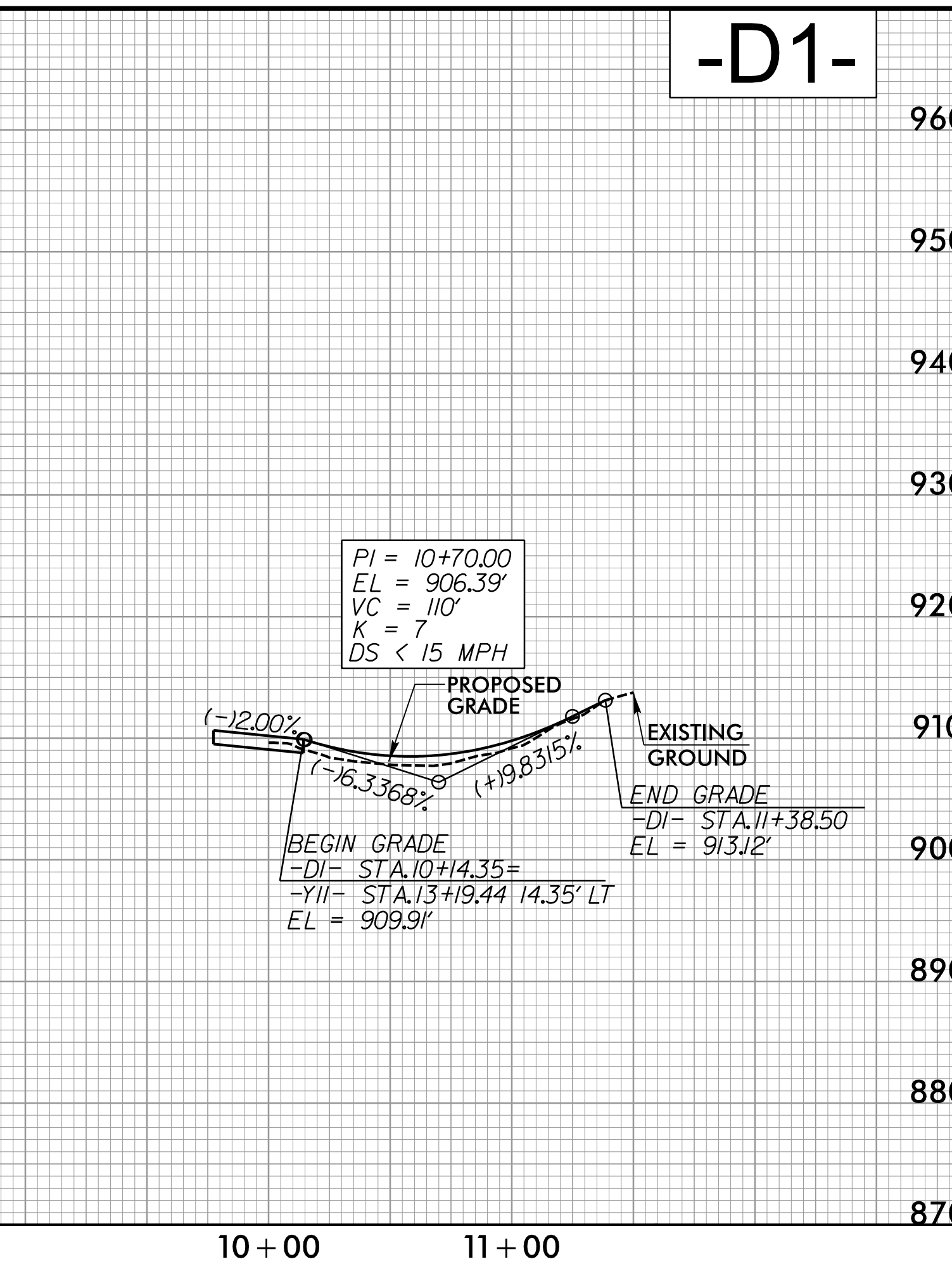
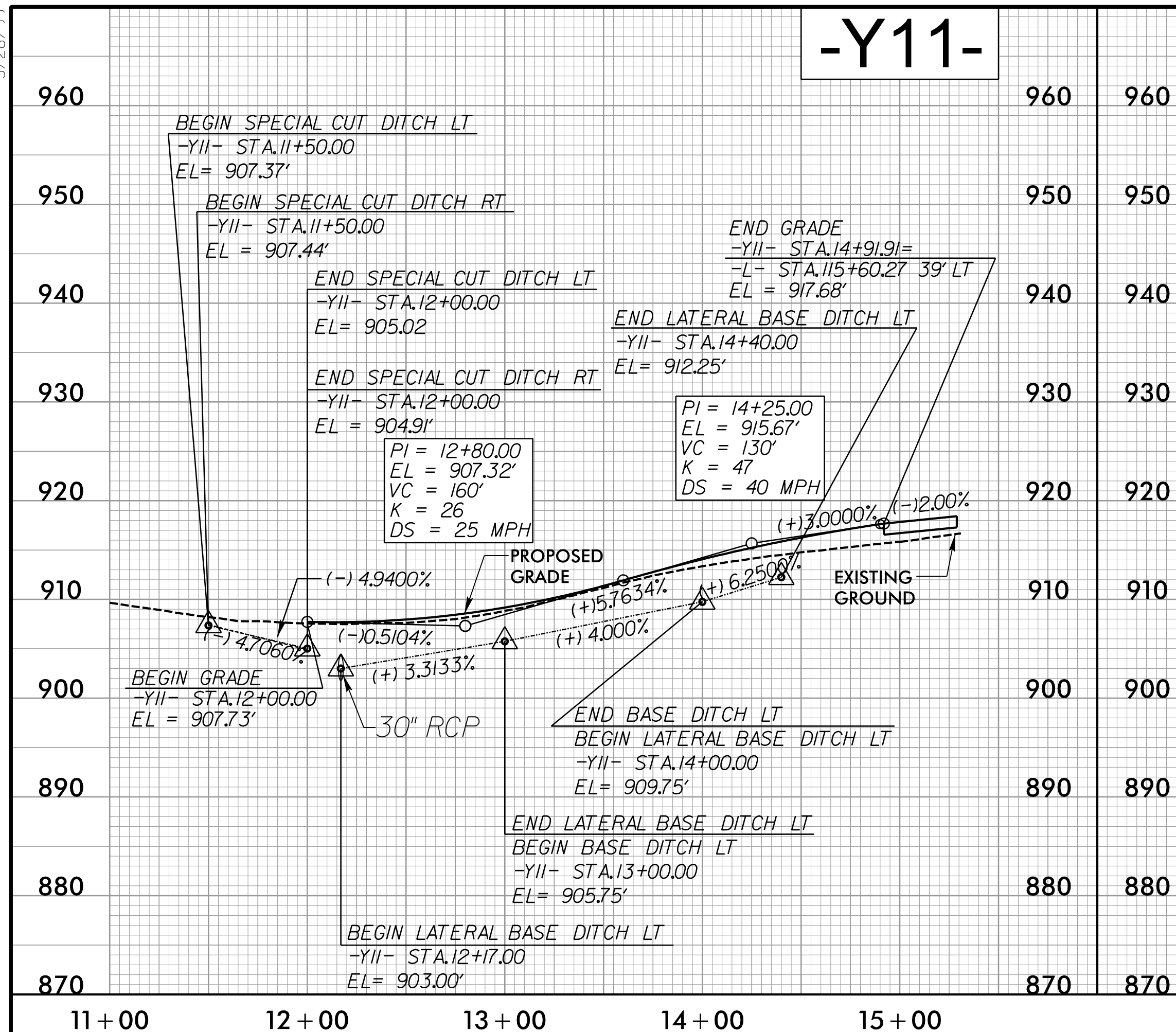
FOR -Y6- PLAN SEE SHT. 9  
FOR -Y7- PLAN SEE SHT. 10  
FOR -Y8- PLAN SEE SHT. 11  
FOR -Y9- PLAN SEE SHT. 12  
FOR -Y10- PLAN SEE SHT. 13

R:\Projects\2024\Projects\2577A\RDY\_p145.dgn



5/28/24

PROJECT REFERENCE NO. R-2577A	SHEET NO. 46
ROADWAY DESIGN ENGINEER COTT D. BLEVINS	HYDRAULICS ENGINEER ROBERT B. HUSKEY
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



PIPE HYDRAULIC DATA  
60" RCP PIPE -Y14- STA.13+31.33

DRAINAGE AREA	= 64.73	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 125.0	CFS
DESIGN HW ELEVATION	= 857.05	FT
100 YEAR DISCHARGE	= 140.0	CFS
100 YEAR HW ELEVATION	= 857.45	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 165	CFS
OVERTOPPING ELEVATION	= 858.08	FT

LEFT DITCH .....  
RIGHT DITCH .....

**RK&K**  
P: (919) 878-9560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

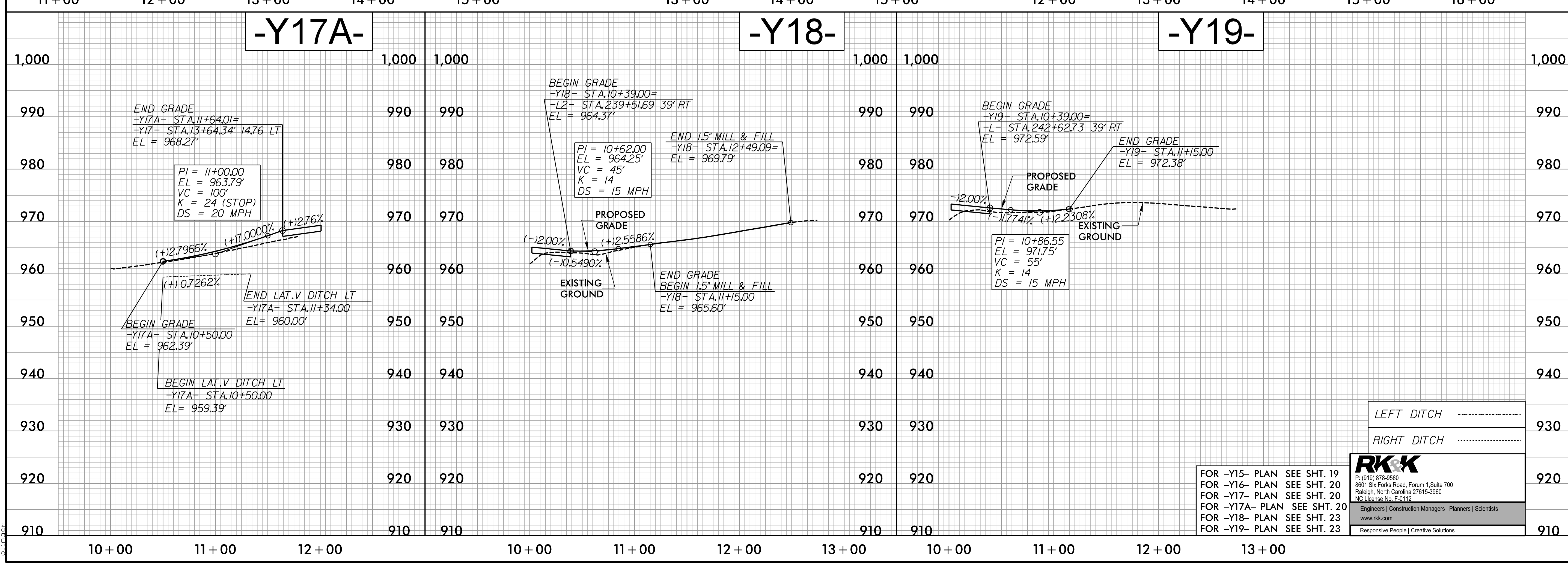
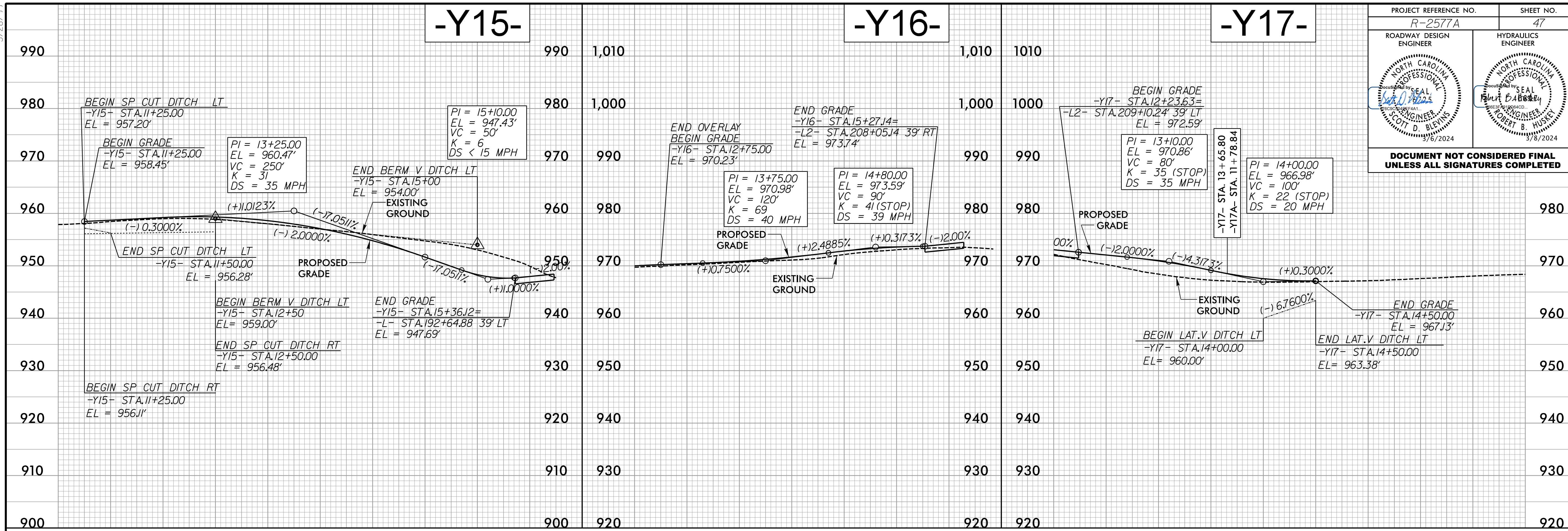
FOR -Y11- PLAN SEE SHT. 13  
FOR -D1- PLAN SEE SHT. 13  
FOR -Y12- PLAN SEE SHT. 14  
FOR -Y13- PLAN SEE SHT. 15  
FOR -Y14- PLAN SEE SHTS. 14-15

12/7/2023  
 R:\Projects\2023\Projects\2577A\RDY\p146.dgn  
 10:40:00

5/28/99

PROJECT REFERENCE NO. R-2577A	SHEET NO. 47
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



LEFT DITCH .....  
RIGHT DITCH .....

**RK&K**  
P: (919) 878-9560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112  
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com  
Responsive People | Creative Solutions

FOR -Y15- PLAN SEE SHT. 19  
FOR -Y16- PLAN SEE SHT. 20  
FOR -Y17- PLAN SEE SHT. 20  
FOR -Y17A- PLAN SEE SHT. 20  
FOR -Y18- PLAN SEE SHT. 23  
FOR -Y19- PLAN SEE SHT. 23

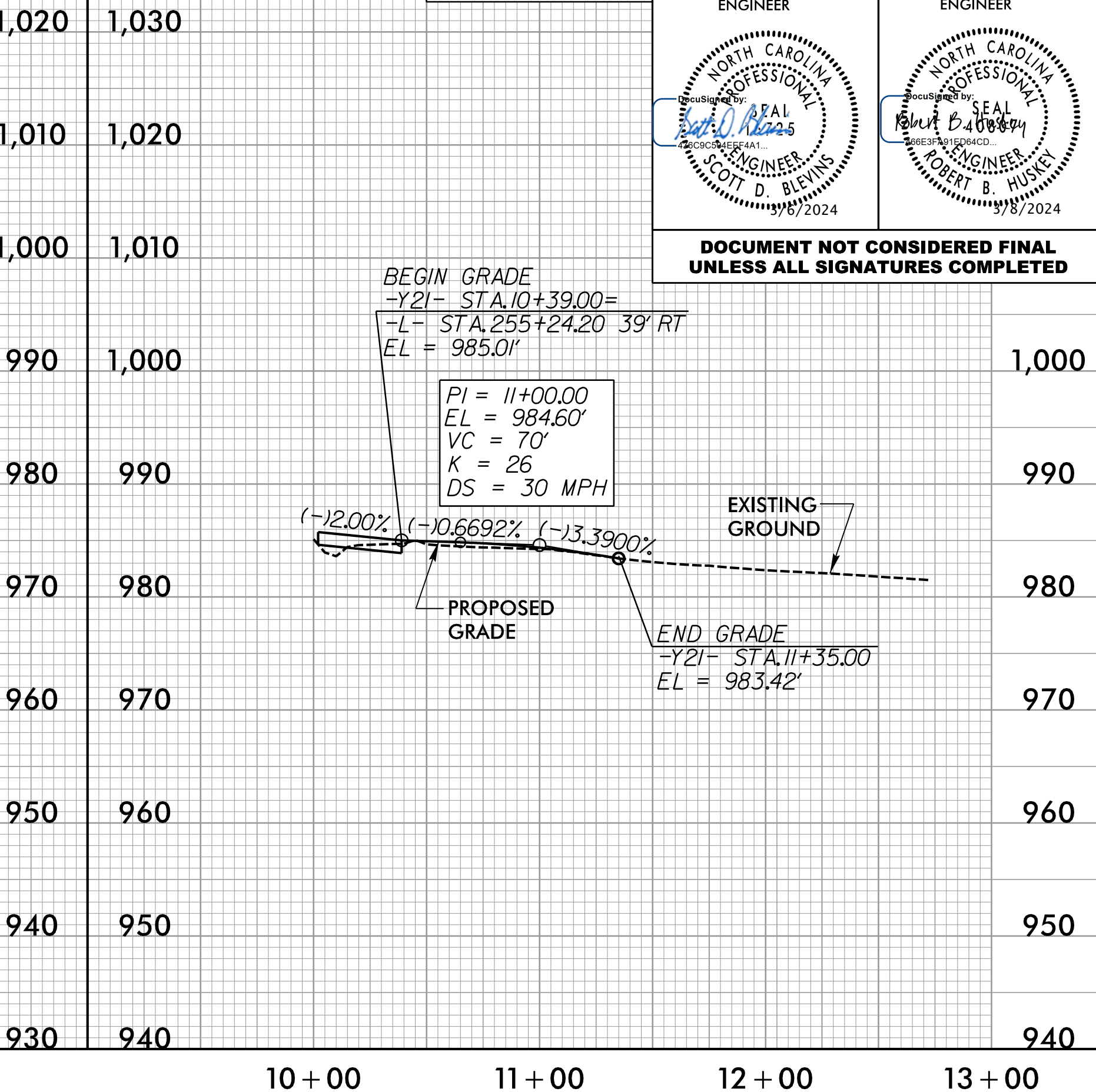
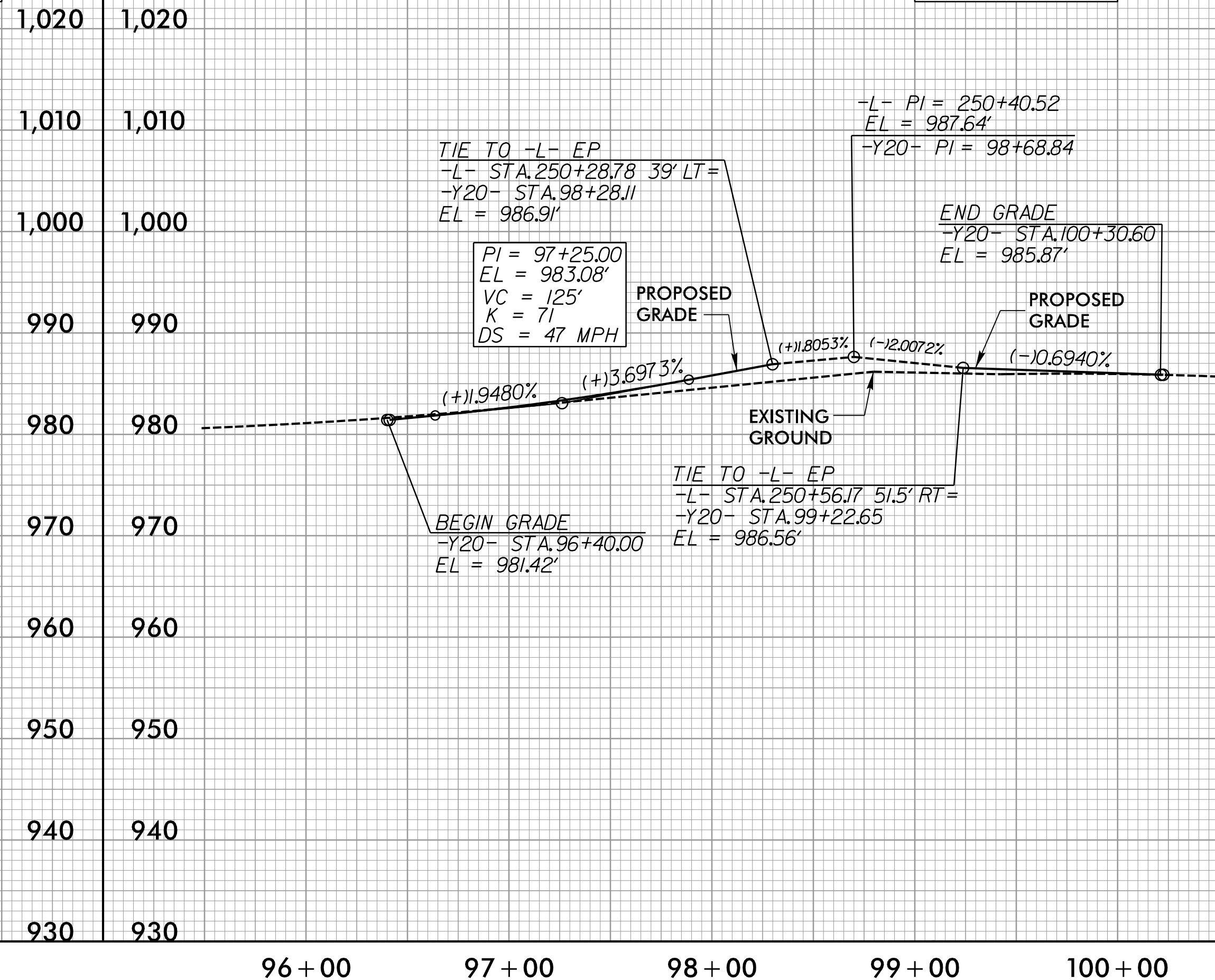
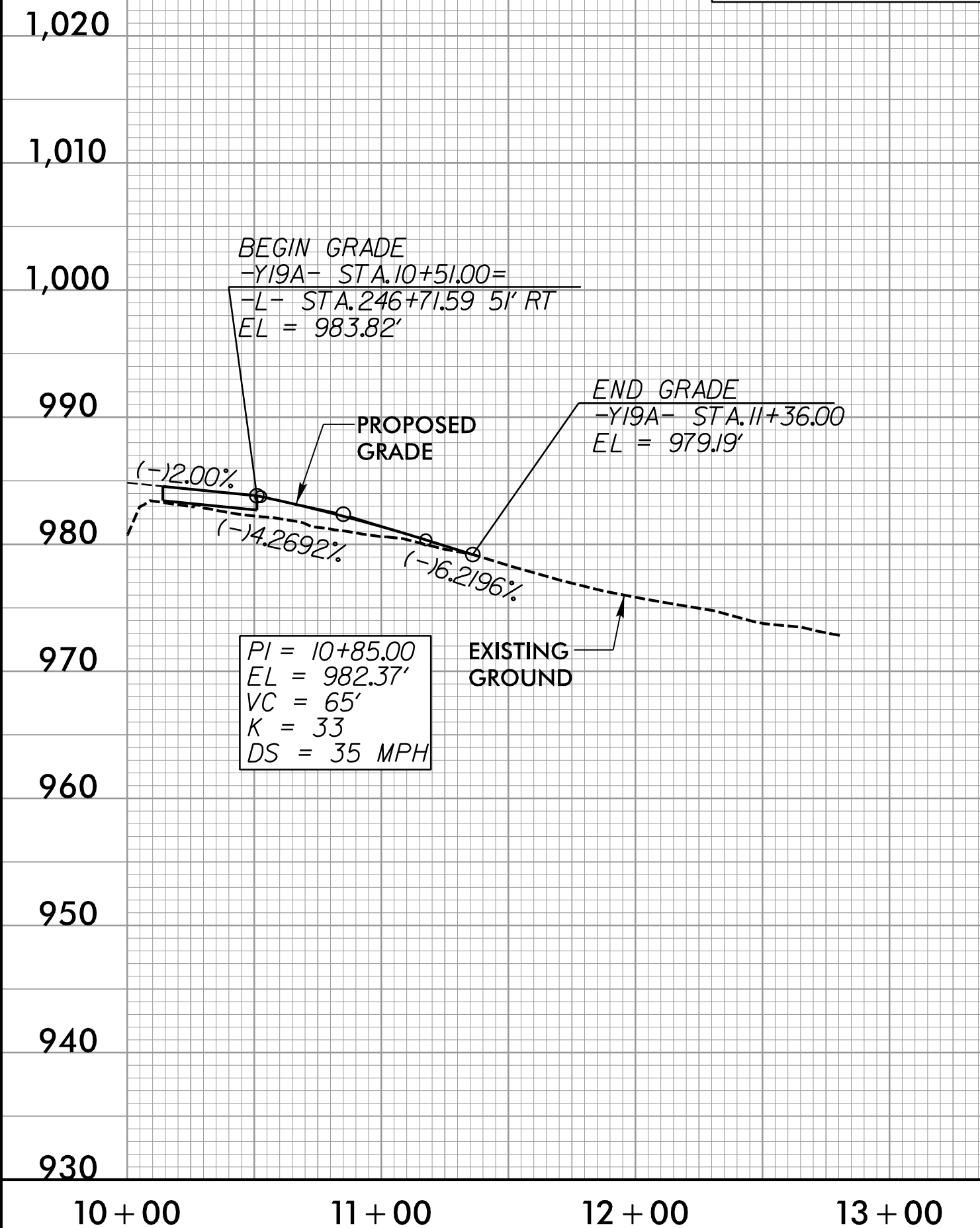
R:\7/2023\Projects\2577A\2577A\_Rdy.p147.dgn

5/28/24

# -Y19A-

# -Y20-

# -Y21-



PROJECT REFERENCE NO. R-2577A  
SHEET NO. 48

ROADWAY DESIGN ENGINEER  
HYDRAULICS ENGINEER

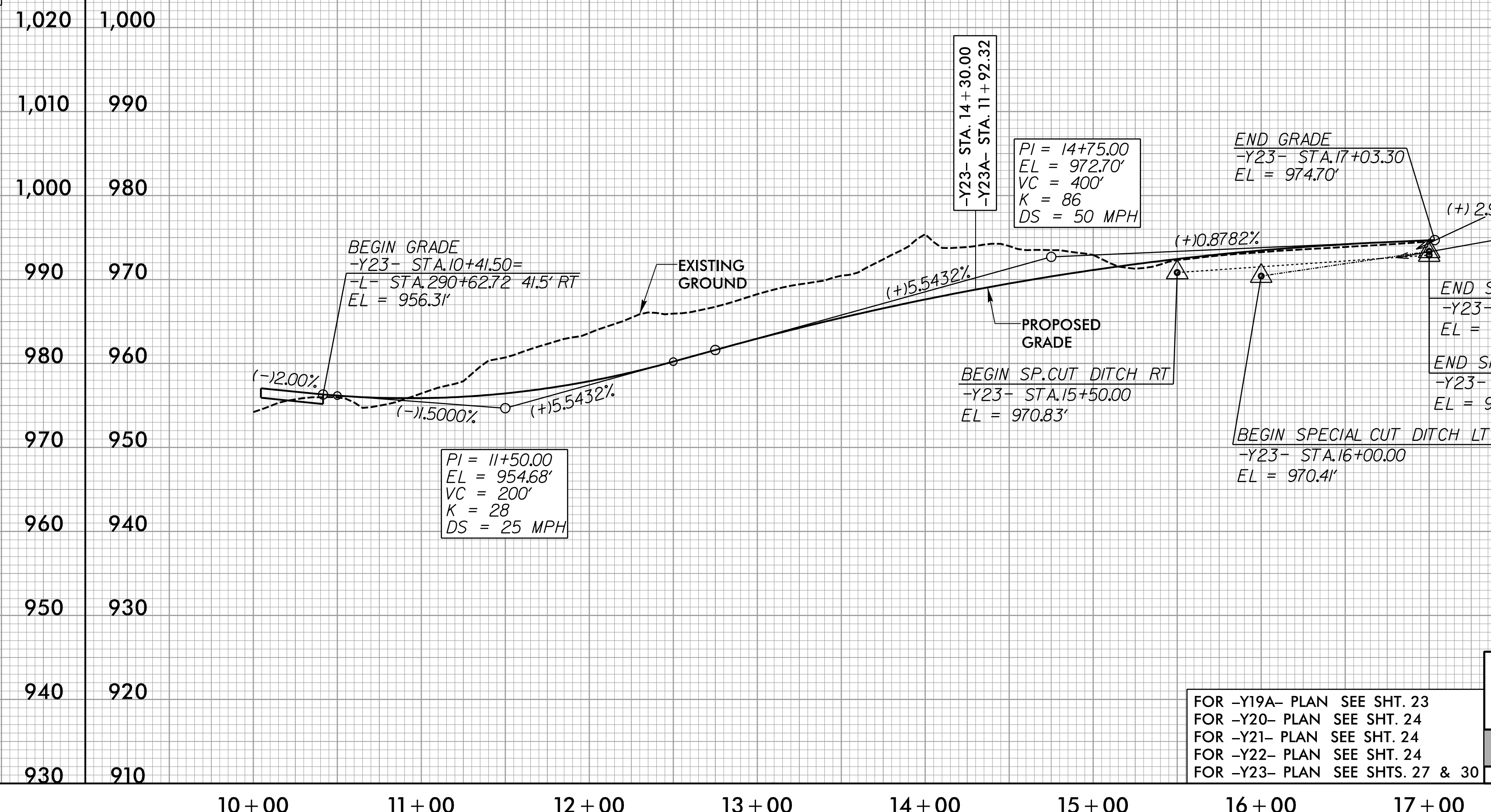
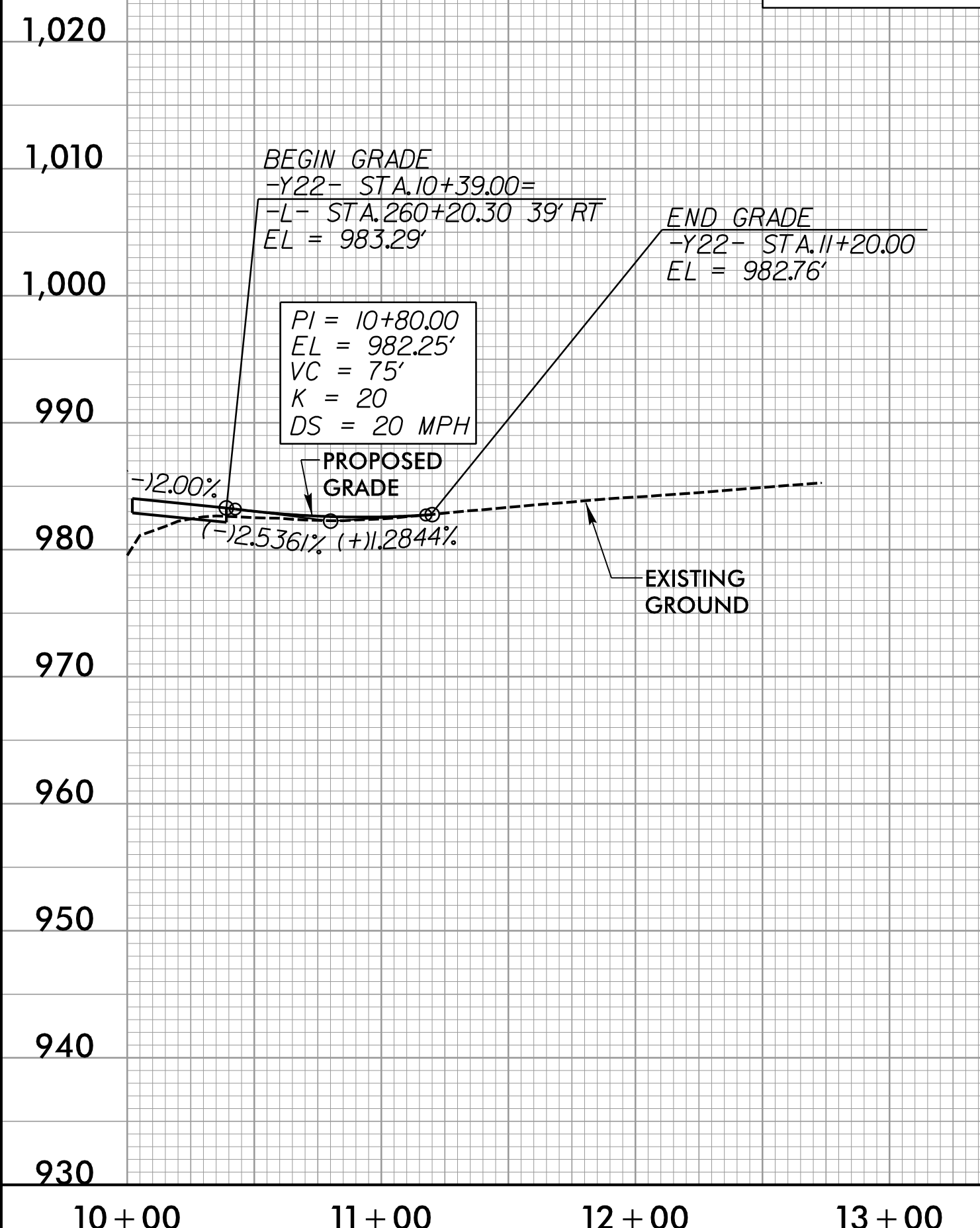
Professional Engineer Seal: NORTH CAROLINA PROFESSIONAL ENGINEER, REAL Seal No. 28889, Signature: Scott D. Blewins, Date: 5/28/2024

Professional Engineer Seal: NORTH CAROLINA PROFESSIONAL ENGINEER, REAL Seal No. 17884, Signature: Robert B. Huskey, Date: 5/28/2024

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

# -Y22-

# -Y23-



LEFT DITCH -----

RIGHT DITCH -----

**RK&K**  
P: (919) 878-8560  
8801 Six Forks Road, Forum 1, Suite 700  
Raleigh, North Carolina 27615-3960  
NC License No. F-0112

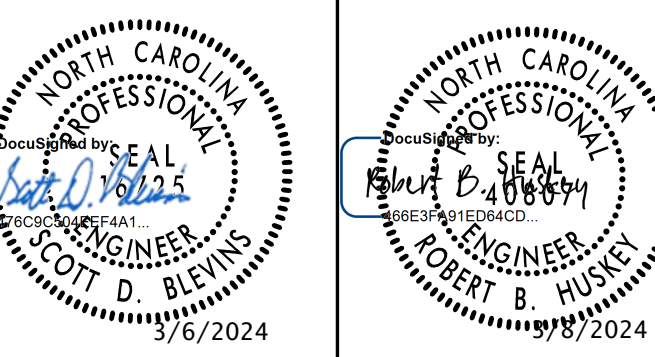
Engineers | Construction Managers | Planners | Scientists  
www.rkk.com

Responsive People | Creative Solutions

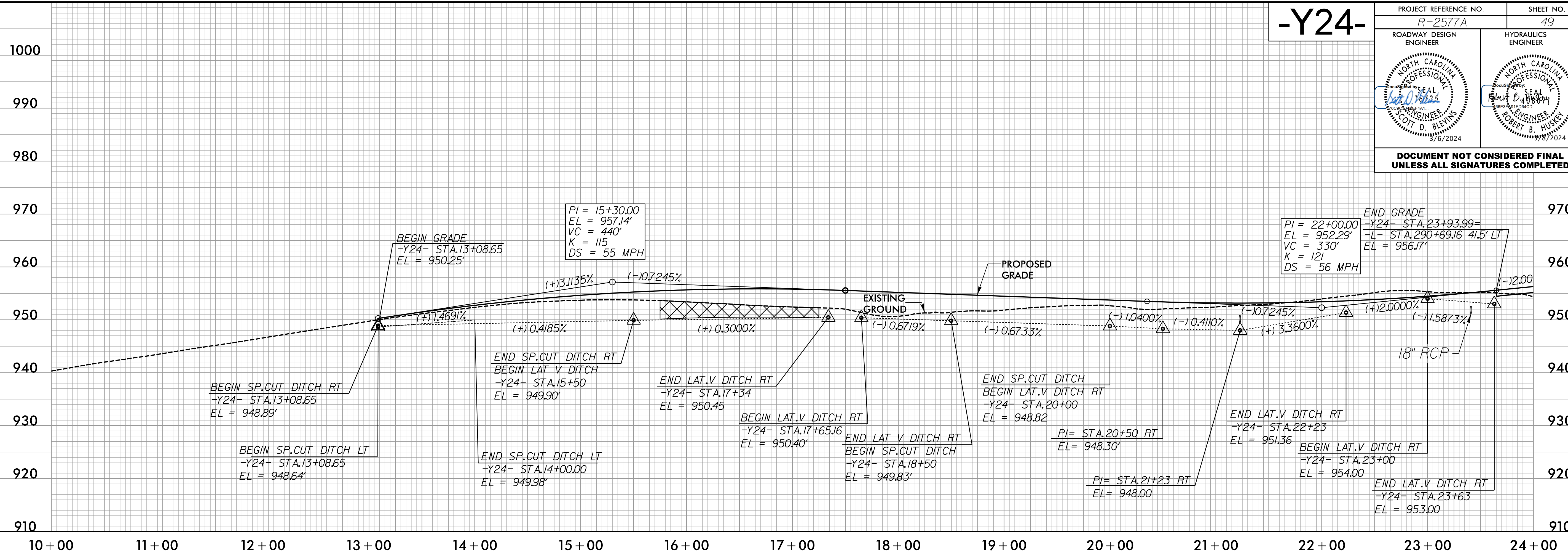
FOR -Y19A- PLAN SEE SHT. 23  
FOR -Y20- PLAN SEE SHT. 24  
FOR -Y21- PLAN SEE SHT. 24  
FOR -Y22- PLAN SEE SHT. 24  
FOR -Y23- PLAN SEE SHTS. 27 & 30

R:\Projects\2023\Projects\R-2577A\R-2577A-Rdy.pfl48.dgn

# -Y24-



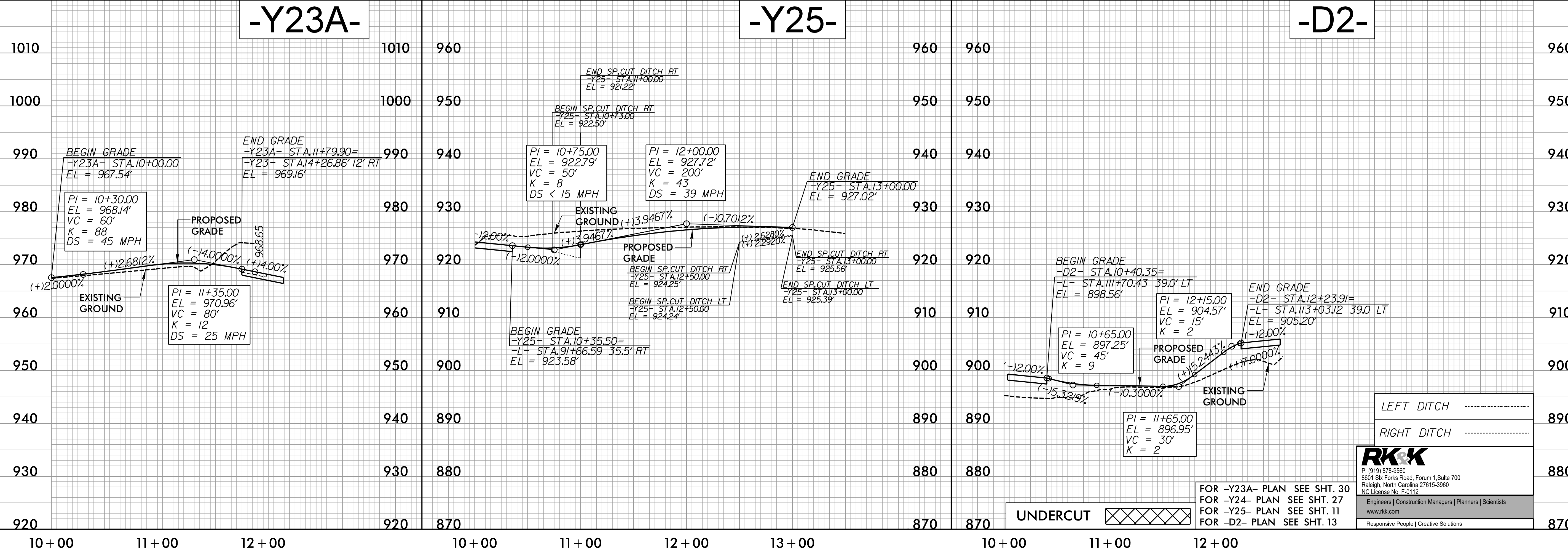
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



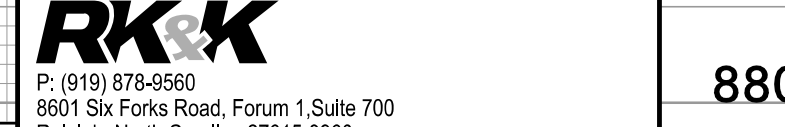
# -Y23A-

# -Y25-

# -D2-



LEFT DITCH  
RIGHT DITCH



FOR -Y23A- PLAN SEE SHT. 30  
FOR -Y24- PLAN SEE SHT. 27  
FOR -Y25- PLAN SEE SHT. 11  
FOR -D2- PLAN SEE SHT. 13

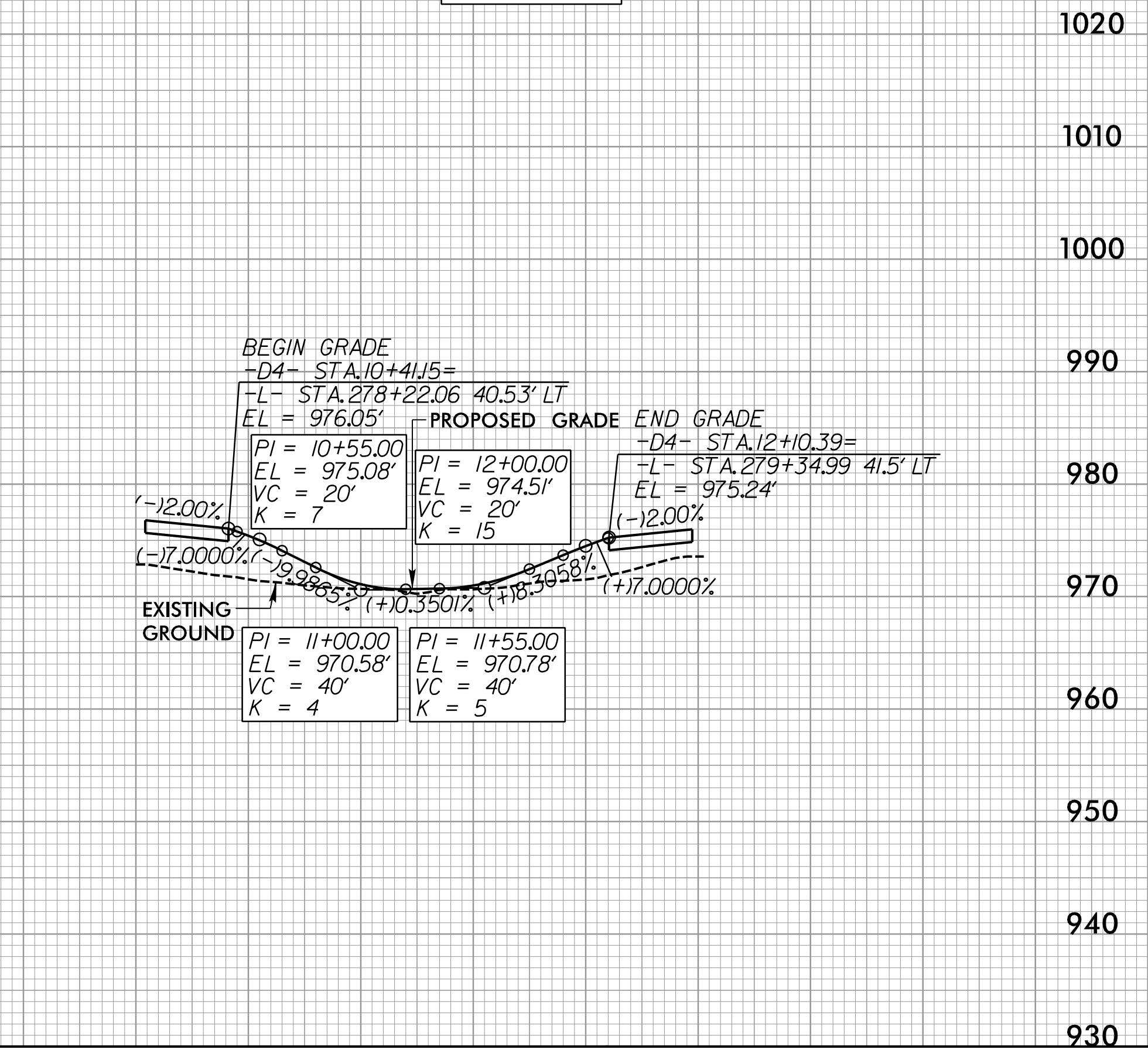
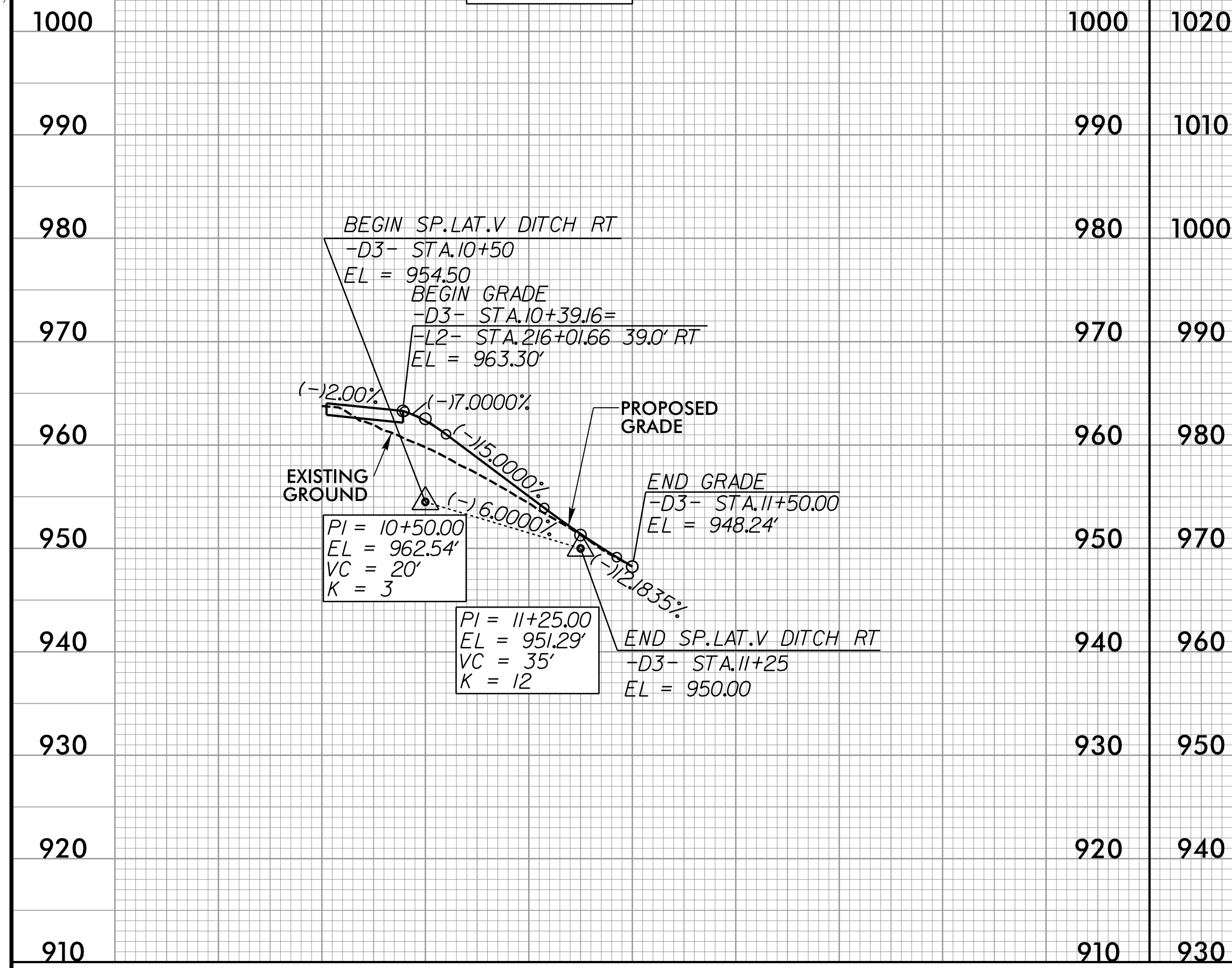
UNDERCUT

5/28/24 12/7/2023 C:\Users\p149\dgs\OneDrive\OneDrive\Projects\R-2577A\_Rdy\_p149.dgn

### -D3-

### -D4-

PROJECT REFERENCE NO. <b>R-2577A</b>	SHEET NO. <b>50</b>
ROADWAY DESIGN ENGINEER <i>[Signature]</i>	HYDRAULICS ENGINEER <i>[Signature]</i>
<b>PROFESSIONAL SEAL</b> COT D. BLEVINS 9/8/2024	<b>PROFESSIONAL SEAL</b> ROBERT B. HUSKEY 9/8/2024
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



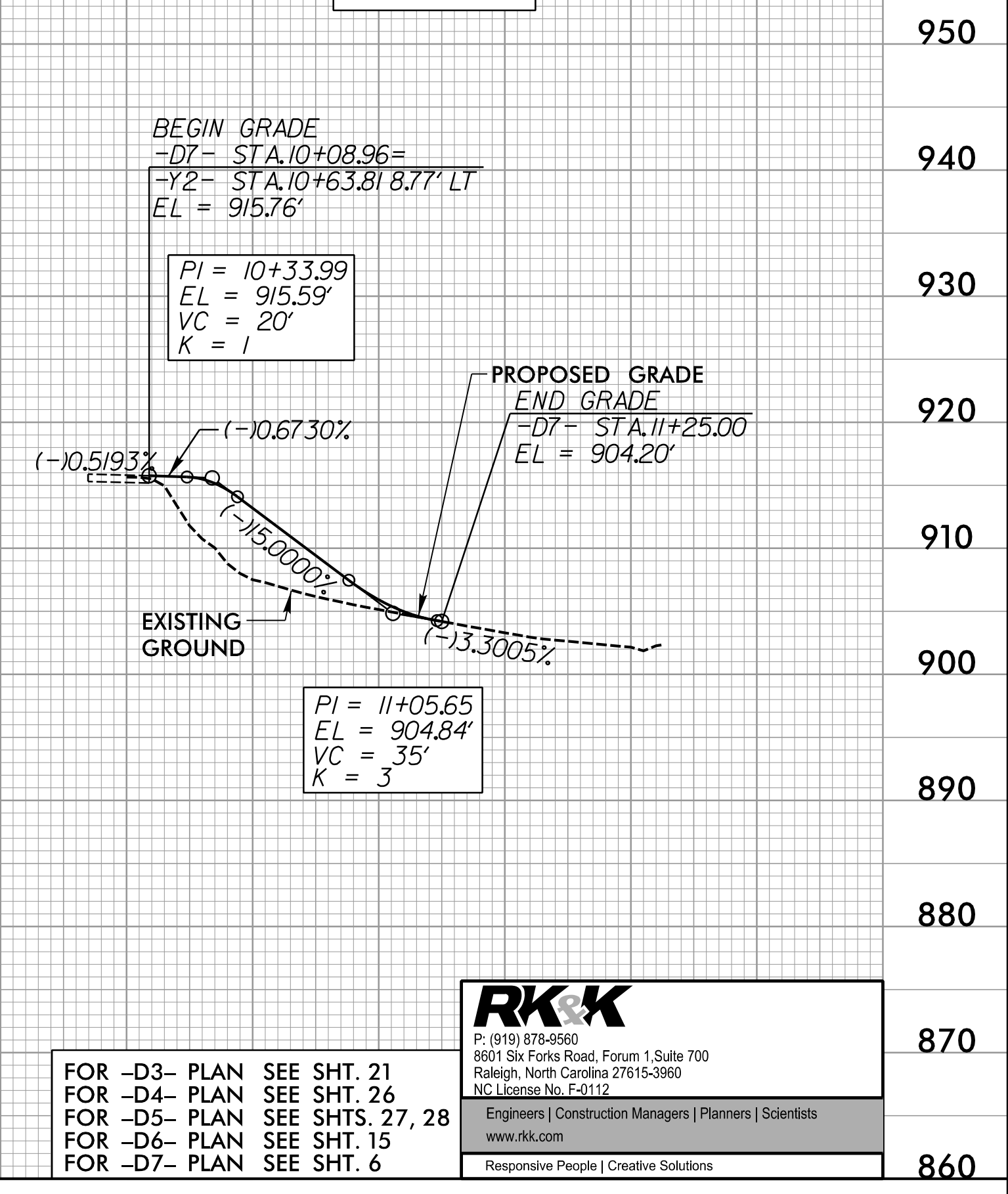
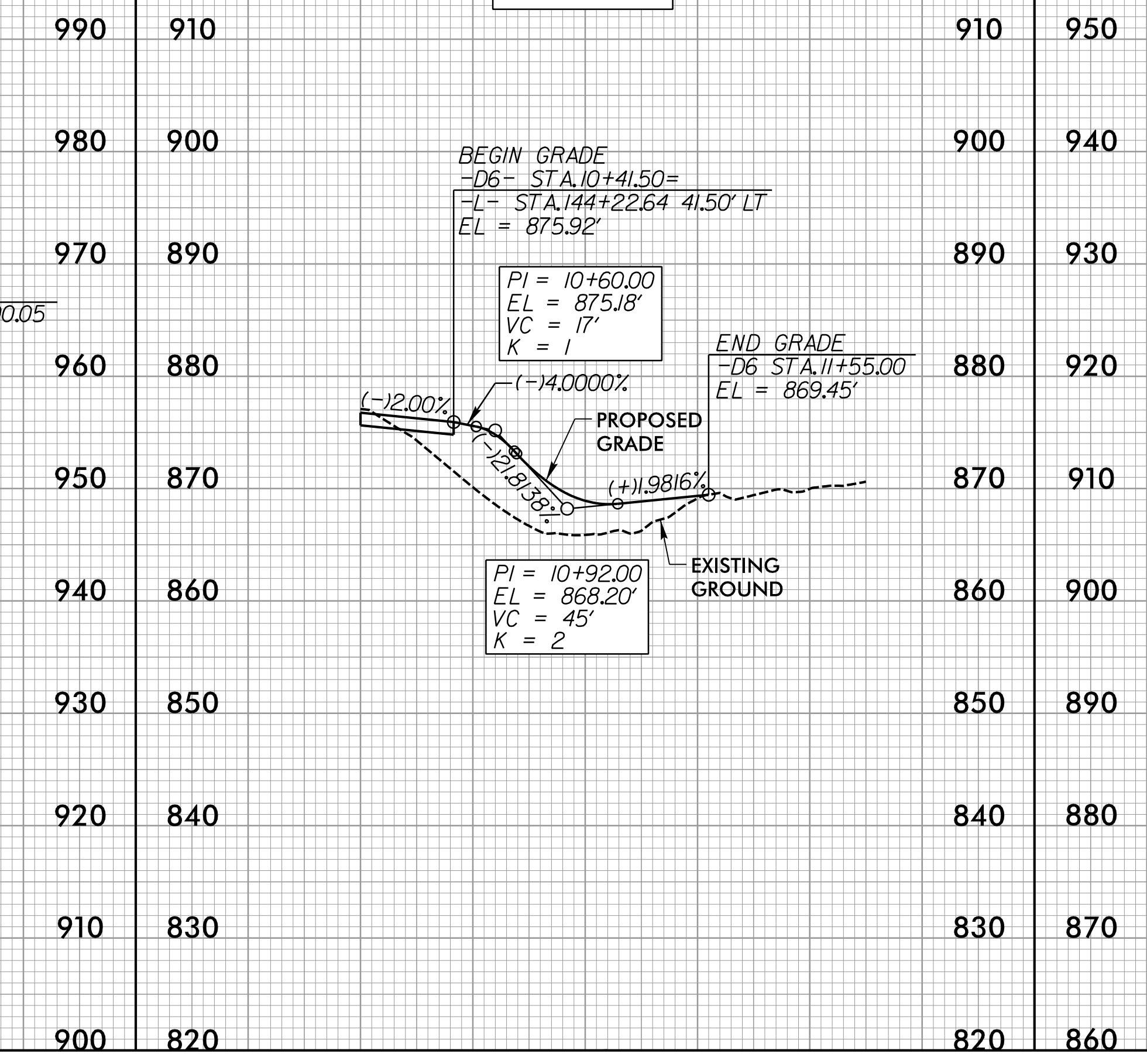
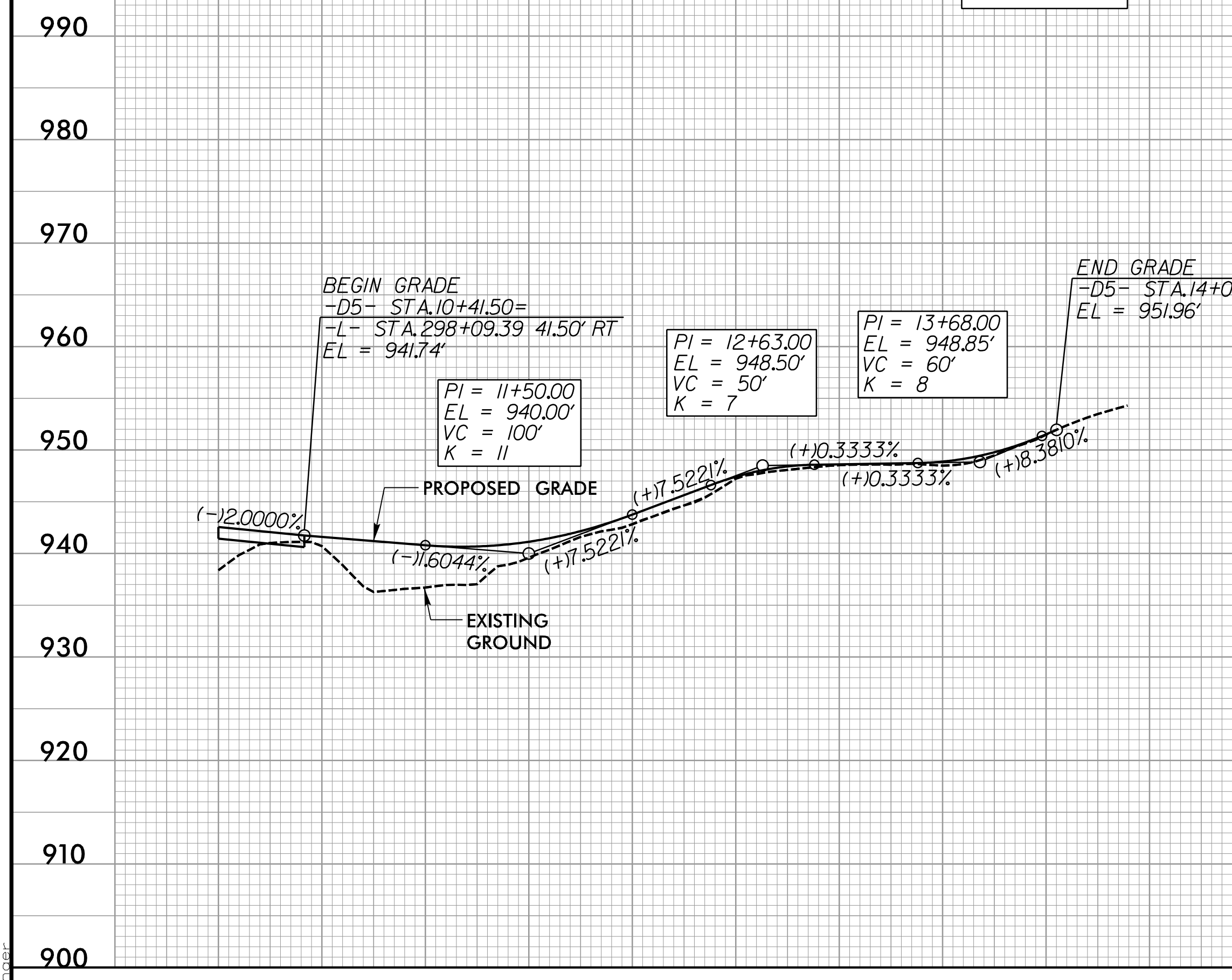
10+00 11+00 12+00

10+00 11+00 12+00

### -D5-

### -D6-

### -D7-



10+00 11+00 12+00 13+00 14+00 15+00

10+00 11+00 12+00

10+00 11+00 12+00

FOR -D3- PLAN SEE SHT. 21  
 FOR -D4- PLAN SEE SHT. 26  
 FOR -D5- PLAN SEE SHTS. 27, 28  
 FOR -D6- PLAN SEE SHT. 15  
 FOR -D7- PLAN SEE SHT. 6

**RK&K**  
 P: (919) 878-9560  
 8801 Six Forks Road, Forum 1, Suite 700  
 Raleigh, North Carolina 27615-3960  
 NC License No. F-0112  
 Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com  
 Responsive People | Creative Solutions