09/08/99

TIP PROJECT: R-2577A

See Sheet 1-B For Conventional Symbols

VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

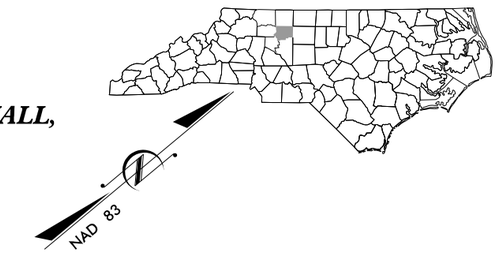
FORSYTH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2577A	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
37405.1.2	N/A	PE

LOCATION: US 158 (REIDSVILLE RD.) FROM NORTH OF US 421 /I-40 BUS. TO SR 1965 (BELEWS CREEK RD.)

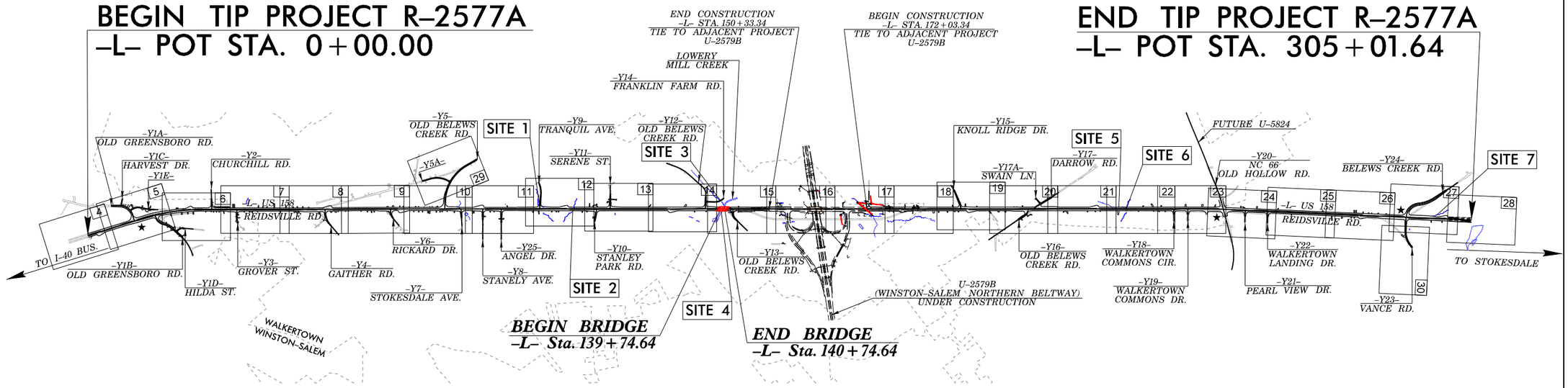
TYPE OF WORK: GRADING, PAVING, WIDENING, DRAINAGE, CULVERTS, SIGNING, STRUCTURES, RETAINING WALL, SIGNALS, & UTILITIES



4B INTERAGENCY CONCURRENCE POINT SET

BEGIN TIP PROJECT R-2577A
-L- POT STA. 0+00.00

END TIP PROJECT R-2577A
-L- POT STA. 305+01.64



NOTES:
1. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF WINSTON-SALEM AND WALKERTOWN.
2. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ____.
3. THIS PROJECT HAS PARTIAL CONTROL OF ACCESS WITH FULL CONTROL OF ACCESS AT POINTS AS SHOWN ON PLANS.

★ PROPOSED TRAFFIC SIGNAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT:

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA
ADT 2017 = 23,600
ADT 2040 = 35,000
V = 50 MPH
K = 8%
D = 60%
T = 14% *
* TTST = 8% DUAL = 6%

FUNC CLASS = ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2577A..... 5.758 miles
LENGTH STRUCTURE TIP PROJECT R-2577A..... 0.019 miles
TOTAL LENGTH OF PROJECT R-2577A..... 5.777 miles

PLANS PREPARED BY:
RK&K
RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE, SUITE 350
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO. F-0112
1-888-521-4455 OR 919-878-9560
FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: October 21, 2019
LETTING DATE: October 19, 2021

Anthony A. Houser, PE — PROJECT ENGINEER
Cathy S. Houser, PE — PROJECT DESIGN ENGINEER

NCDOT CONTACT: Connie James, PE — DIVISION 9

HYDRAULICS ENGINEER
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

5/29/2019
R:\Hydraulics\PERMITS_Environmental\Drawings\4B\R-2577A_HYD_tsh.dgn
default

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

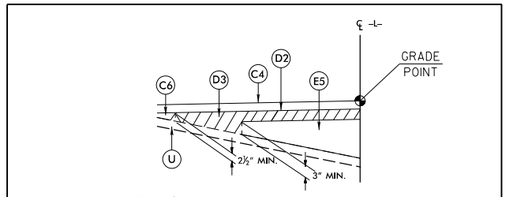
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAVEMENT SCHEDULE

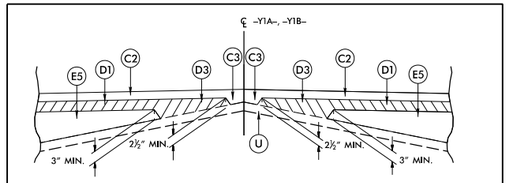
PRELIMINARY PAVEMENT DESIGN

C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 275 LBS. PER SQ. YD.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E2	PROP. APPROX. 5½". DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.	E3	PROP. APPROX. 6". DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C4	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	E4	PROP. APPROX. 6½". DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 370.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E5	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
C6	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.	R1	2'-6" CURB & GUTTER
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	R2	1'-6" CURB & GUTTER
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	T	EARTH MATERIAL
D3	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	U	EXISTING PAVEMENT
		W	WEDGING

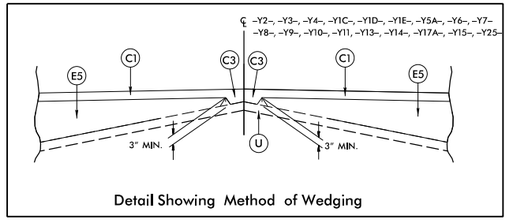
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE. SEE PLANS FOR LOCATION OF CONCRETE ISLANDS.



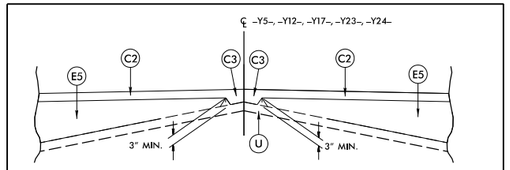
Detail Showing Method of Wedging



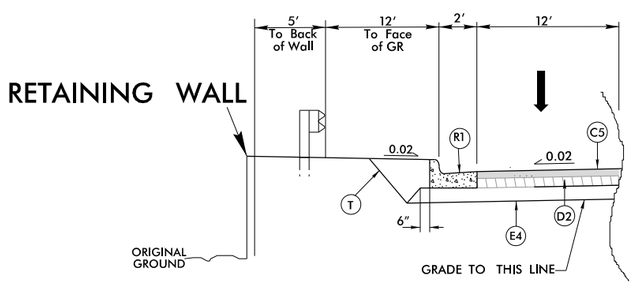
Detail Showing Method of Wedging



Detail Showing Method of Wedging



Detail Showing Method of Wedging



INSET A

-L- LT. STA. 23+43.46 TO STA. 32+00.00

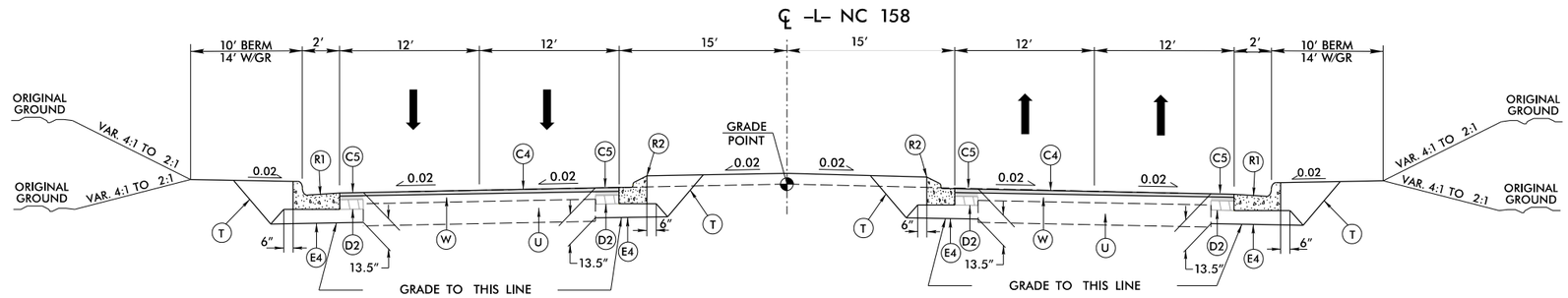
PLANS PREPARED BY :
RK&K
RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

PAVEMENT SCHEDULE PREL. PAVEMENT DESIGN	
C1	2½" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VAR. TYPE S9.5B
C4	1½" TYPE S9.5C
C5	3" TYPE S9.5C
C6	VAR. TYPE S9.5C
D1	2½" TYPE I19.0C
D2	4" TYPE I19.0C
D3	VAR. TYPE I19.0C
E1	4" TYPE B25.0C
E2	5½" TYPE B25.0C
E3	6" TYPE B25.0C
E4	6½" TYPE B25.0C
R1	2'-6" C & G
R2	1'-6" C & G
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	2A-2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

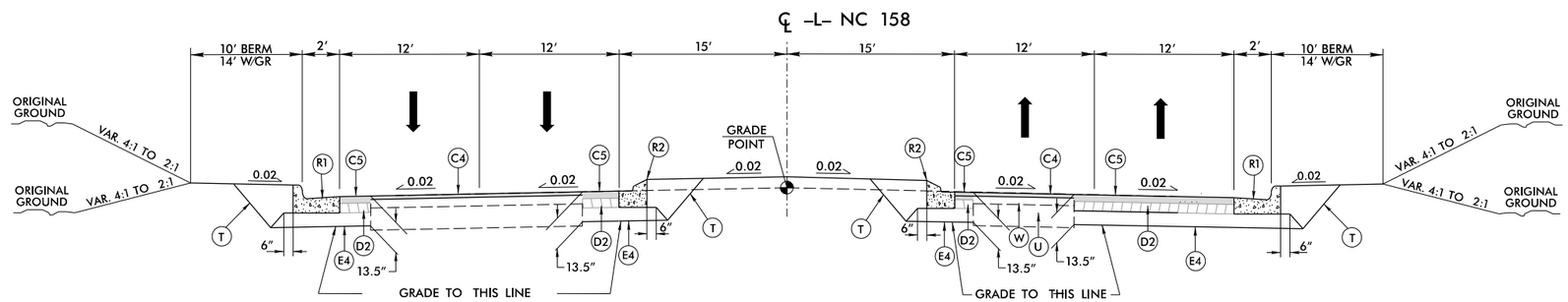
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

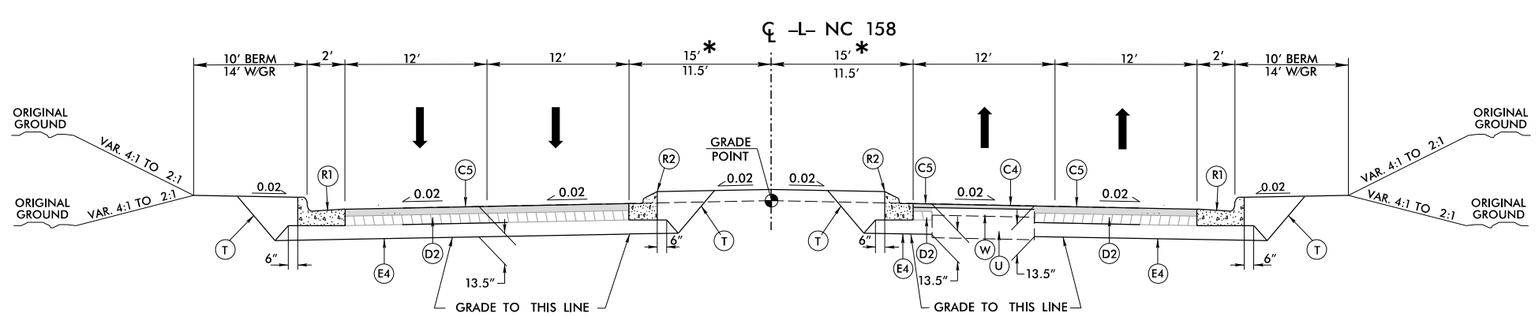
-L- STA. 0+00.00 TO STA. 9+30.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

-L- STA. 9+30.00 TO STA. 23+00.00



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

* -L- STA. 23+00.00 TO STA. 26+00.00
-L- STA. 26+00.00 TO STA. 34+50.00
-L- STA. 37+00.00 TO STA. 62+00.00

PLANS PREPARED BY :
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RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

PAVEMENT SCHEDULE PREL. PAVEMENT DESIGN	
C1	2½" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VAR. TYPE S9.5B
C4	1½" TYPE S9.5C
C5	3" TYPE S9.5C
C6	VAR. TYPE S9.5C
D1	2½" TYPE I19.0C
D2	4" TYPE I19.0C
D3	VAR. TYPE I19.0C
E1	4" TYPE B25.0C
E2	5½" TYPE B25.0C
E3	6" TYPE B25.0C
E4	6½" TYPE B25.0C
R1	2'-6" C & G
R2	1'-6" C & G
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	2A-3
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
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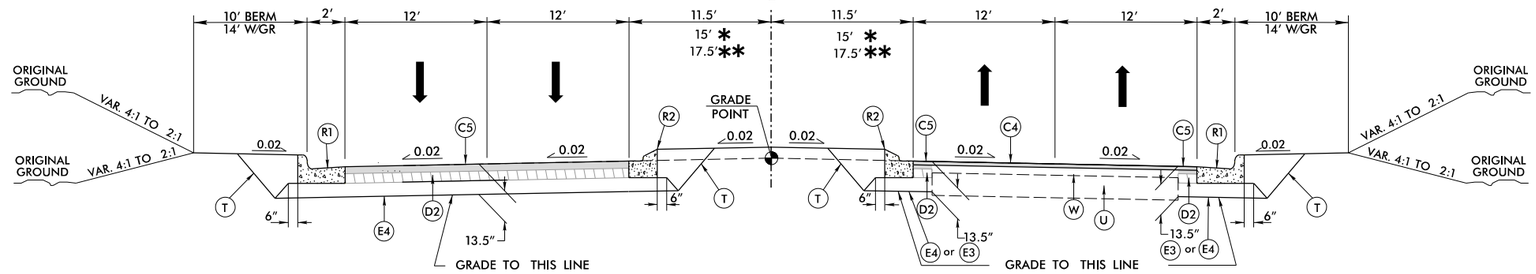
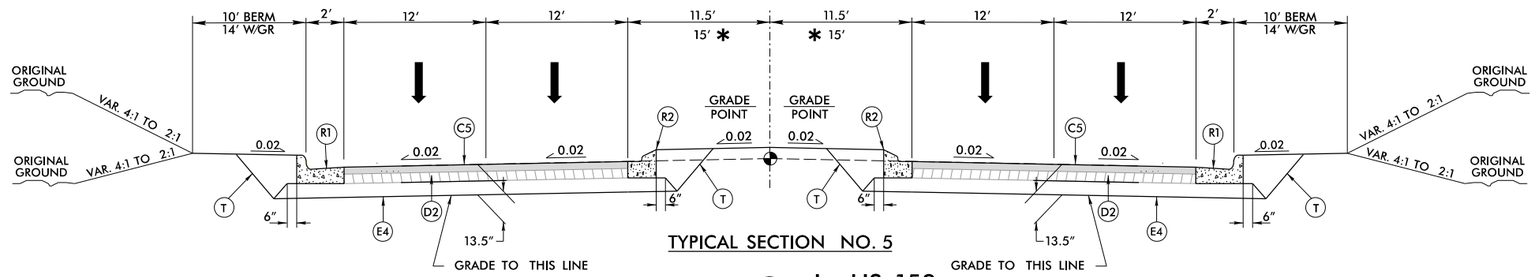
℄ -L- NC 158

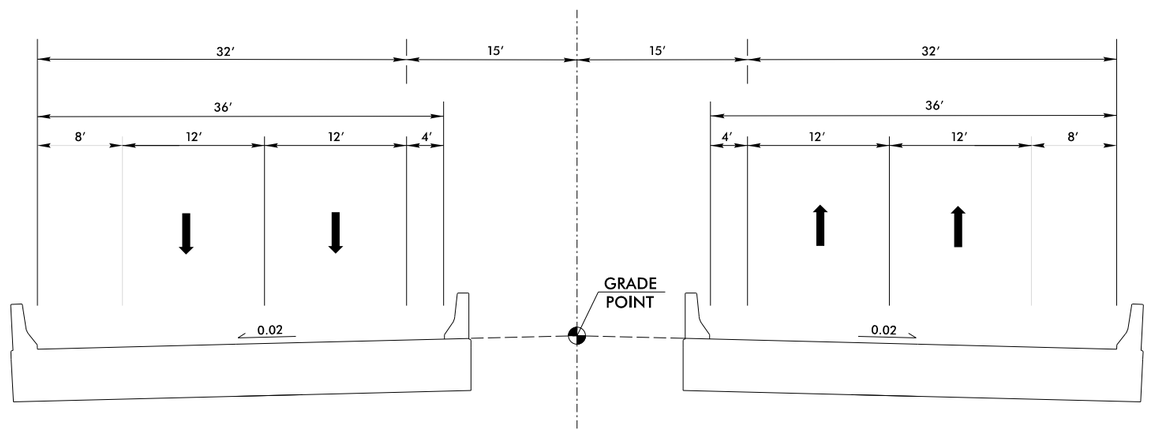


TYPICAL SECTION NO. 4



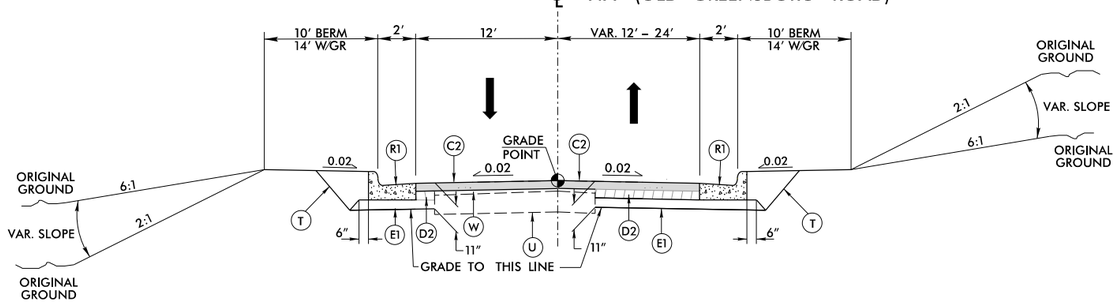
TYPICAL SECTION NO. 5

℄ -L- US 158



TYPICAL SECTION NO. 6

℄ -Y1A- (OLD GREENSBORO ROAD)



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 4

-L- STA. 62+00.00 TO STA. 82+00.00
-L- STA. 85+00.00 TO STA. 89+00.00
* -L- STA. 101+50.00 TO STA. 106+50.00
* -L- STA. 112+50.00 TO STA. 136+00.00
* -L- STA. 148+50.00 TO STA. 150+53.34 (TIE TO U-2579B)
* -L- STA. 172+03.34 (TIE TO U-2579B) TO STA. 180+50.00
* -L- STA. 181+50.00 TO STA. 226+00.00
* -L- STA. 229+50.00 TO STA. 279+00.00
** -L- STA. 279+00.00 TO STA. 305+01.64

Note: USE (E3) FROM -L- STA. 255+00.00 TO STA. 305+01.64

USE TYPICAL SECTION NO. 5

-L- STA. 34+50.00 TO STA. 37+00.00
-L- STA. 82+00.00 TO STA. 85+00.00
-L- STA. 89+00.00 TO STA. 97+00.00
* -L- STA. 97+00.00 TO STA. 101+50.00
* -L- STA. 106+50.00 TO STA. 112+50.00
* -L- STA. 136+00.00 TO STA. 139+74.64 (BEGIN BRIDGE)
* -L- STA. 140+74.64 (END BRIDGE) TO STA. 148+50.00
* -L- STA. 180+50.00 TO STA. 181+50.00
* -L- STA. 226+00.00 TO STA. 229+50.00

USE TYPICAL SECTION NO. 6

-L- STA. 139+74.64 (BEGIN BRIDGE) TO STA. 140+74.64 (END BRIDGE)

USE TYPICAL SECTION NO. 7

-Y1A- STA. 10+00.00 TO STA. 12+37.11

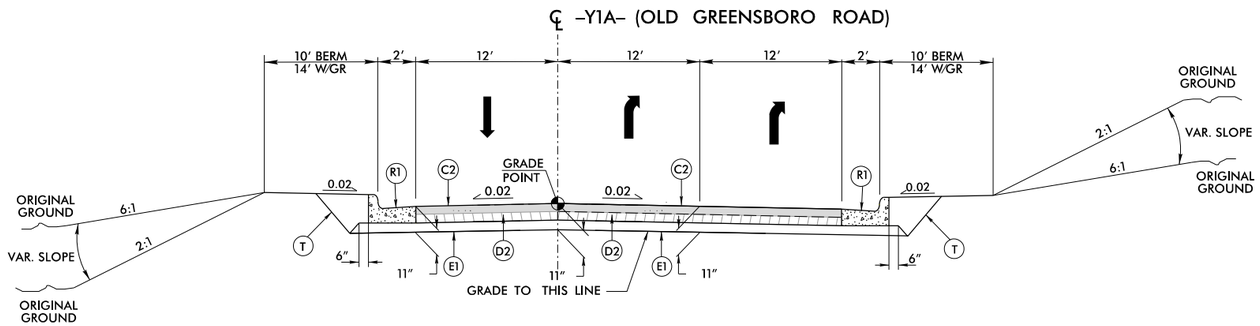
PLANS PREPARED BY :
RK&K
RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

PAVEMENT SCHEDULE PREL. PAVEMENT DESIGN	
C1	2½" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VAR. TYPE S9.5B
C4	1½" TYPE S9.5C
C5	3" TYPE S9.5C
C6	VAR. TYPE S9.5C
D1	2½" TYPE I19.0C
D2	4" TYPE I19.0C
D3	VAR. TYPE I19.0C
E1	4" TYPE B25.0C
E2	5½" TYPE B25.0C
E3	6" TYPE B25.0C
E4	6½" TYPE B25.0C
R1	2'-6" C & G
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	2A-4
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

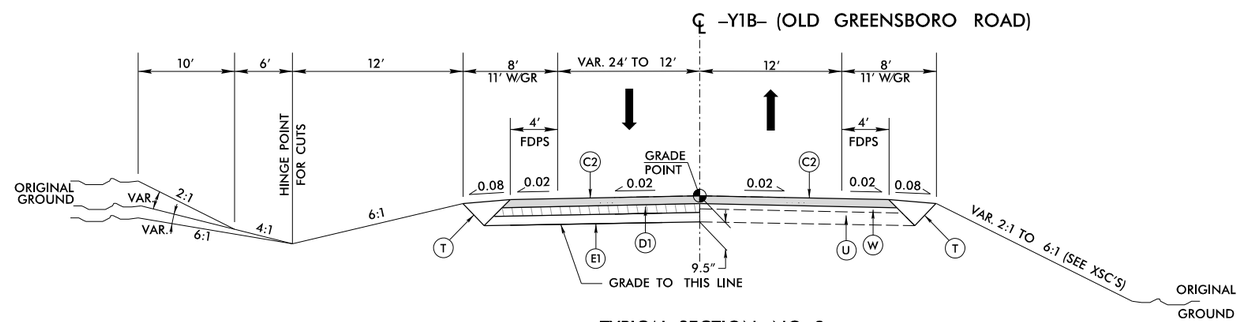
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8

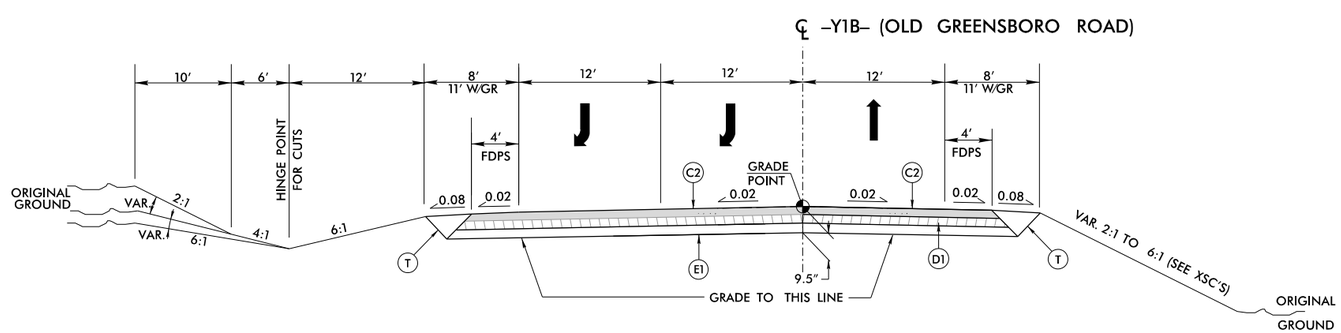
–Y1A– STA. 12+37.11 TO STA. 16+61.40



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9

–Y1B– STA. 13+00.00 TO STA. 18+00.00



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10

–Y1B– STA. 10+40.00 TO STA. 13+00.00

PLANS PREPARED BY :

RK&K

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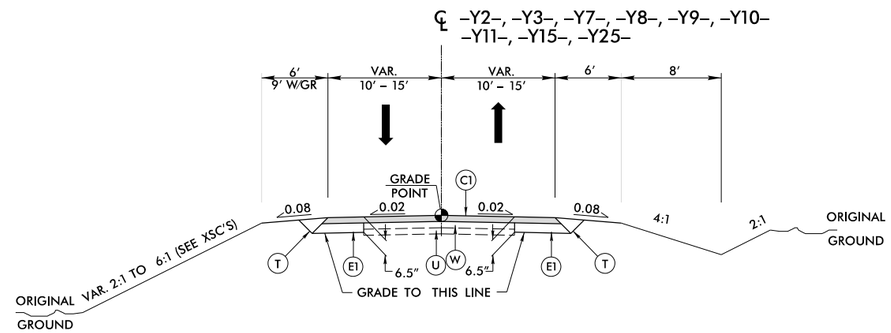
PAVEMENT SCHEDULE PREL. PAVEMENT DESIGN	
C1	2½" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VAR. TYPE S9.5B
C4	1½" TYPE S9.5C
C5	3" TYPE S9.5C
C6	VAR. TYPE S9.5C
D1	2½" TYPE I19.0C
D2	4" TYPE I19.0C
D3	VAR. TYPE I19.0C
E1	4" TYPE B25.0C
E2	5½" TYPE B25.0C
E3	6" TYPE B25.0C
E4	6½" TYPE B25.0C
R1	2'-6" C & G
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	2A-5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

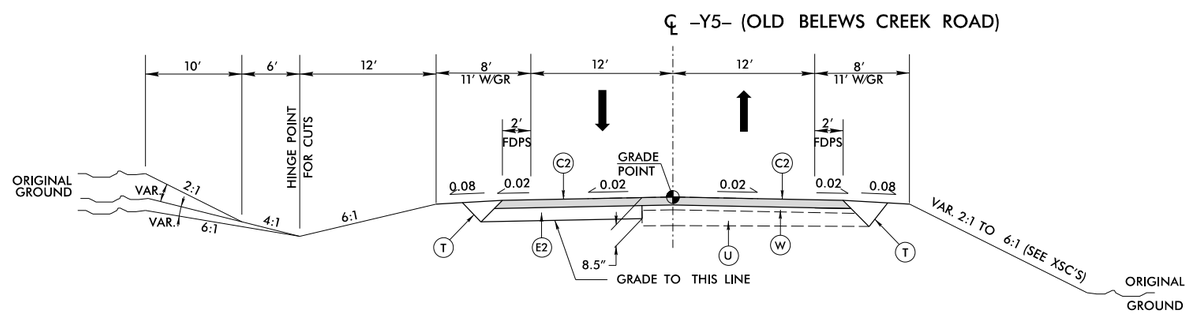
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11

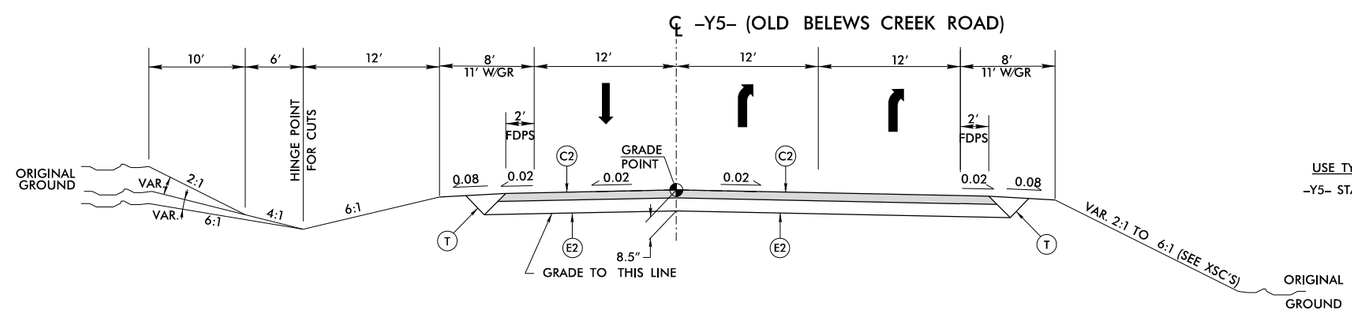
–Y2– STA. 12+00.00 TO STA. 14+11.53
–Y3– STA. 10+35.51 TO STA. 12+97.48
–Y7– STA. 10+35.55 TO STA. 12+00.03
–Y8– STA. 10+35.50 TO STA. 12+50.00
–Y9– STA. 10+35.75 TO STA. 15+64.40
–Y10– STA. 10+39.51 TO STA. 12+77.76
–Y11– STA. 12+00.00 TO STA. 14+91.91
–Y15– STA. 11+77.86 TO STA. 15+36.12
–Y25– STA. 10+35.50 TO STA. 13+00.00



TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12

–Y5– STA. 10+15.82 TO STA. 14+50.00



TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 13

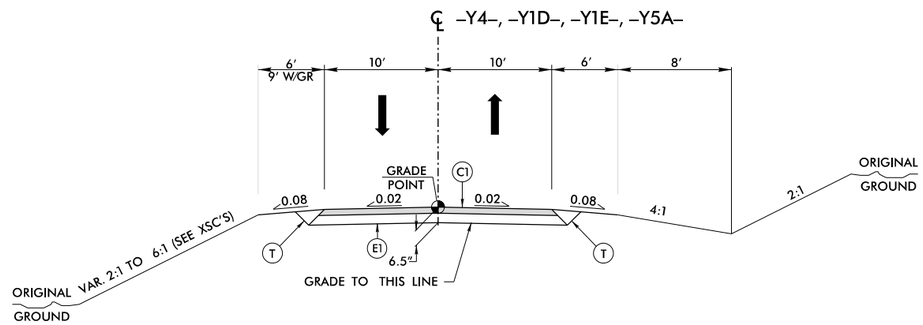
–Y5– STA. 14+50.00 TO STA. 23+68.65

PLANS PREPARED BY :

RK&K

RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609–3960
NC LICENSE NO. F–0112 • (919) 878–9560

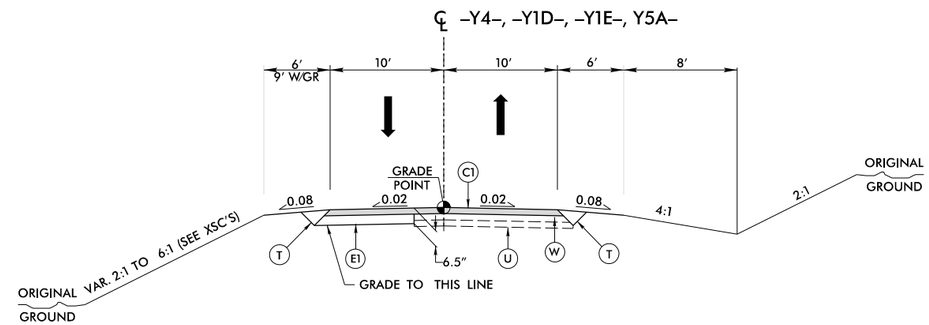
PAVEMENT SCHEDULE PREL. PAVEMENT DESIGN	
C1	2½" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VAR. TYPE S9.5B
C4	1½" TYPE S9.5C
C5	3" TYPE S9.5C
C6	VAR. TYPE S9.5C
D1	2½" TYPE I19.0C
D2	4" TYPE I19.0C
D3	VAR. TYPE I19.0C
E1	4" TYPE B25.0C
E2	5½" TYPE B25.0C
E3	6" TYPE B25.0C
E4	6½" TYPE B25.0C
R1	2'-6" C & G
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 14

USE TYPICAL SECTION NO. 14

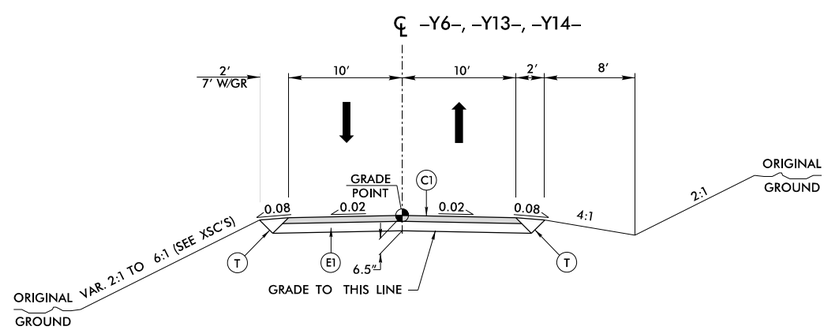
–Y4– STA. 10+35.50 TO STA. 12+08.78
–Y1D– STA. 12+93.24 TO STA. 13+96.53
–Y1E– STA. 14+87.83 TO STA. 16+27.29
–Y5A– STA. 12+00.00 TO STA. 16+32.00



TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15

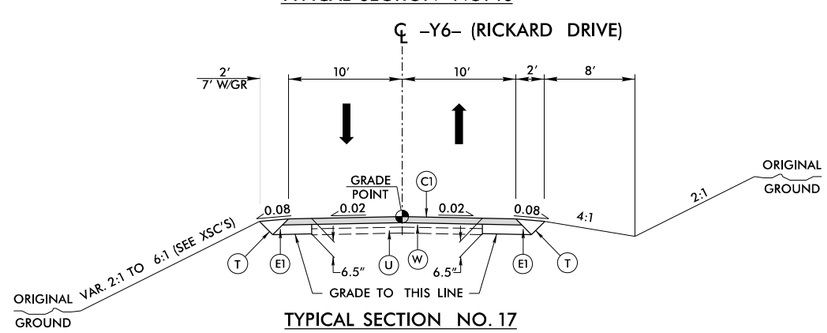
–Y4– STA. 12+08.78 TO STA. 14+00.00
–Y1D– STA. 12+00.00 TO STA. 12+65.00
–Y1E– STA. 13+96.91 TO STA. 14+87.83
–Y5A– STA. 12+10.98 TO STA. 13+48.81



TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16

–Y6– STA. 12+52.00 TO STA. 13+99.77
–Y13– STA. 10+39.18 TO STA. 13+00.00
–Y14– STA. 10+16.01 TO STA. 14+23.68



TYPICAL SECTION NO. 17

USE TYPICAL SECTION NO. 17

–Y6– STA. 12+08.00 TO STA. 12+52.00

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	2A-6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY :

RK&K

RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

PAVEMENT SCHEDULE PREL. PAVEMENT DESIGN	
C1	2½" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VAR. TYPE S9.5B
C4	1½" TYPE S9.5C
C5	3" TYPE S9.5C
C6	VAR. TYPE S9.5C
D1	2½" TYPE I19.0C
D2	4" TYPE I19.0C
D3	VAR. TYPE I19.0C
E1	4" TYPE B25.0C
E2	5½" TYPE B25.0C
E3	6" TYPE B25.0C
E4	6½" TYPE B25.0C
R1	2'-6" C & G
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	2A-7
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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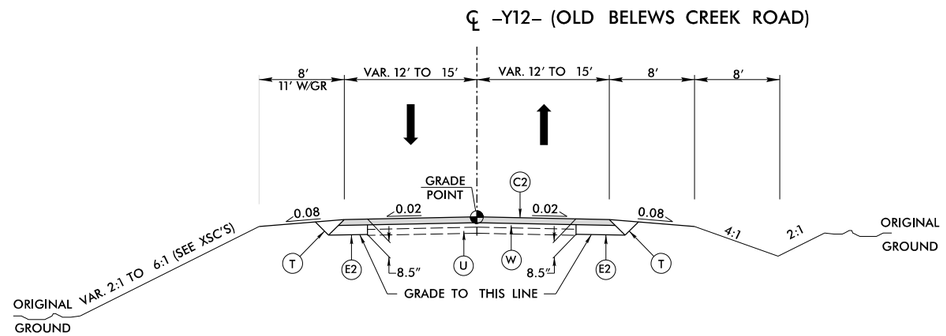
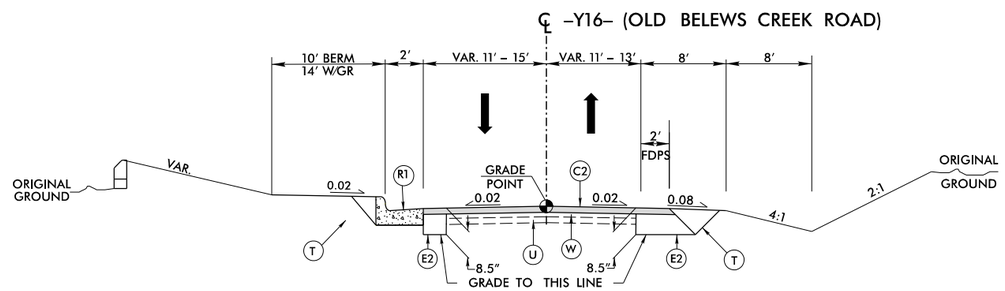


TYPICAL SECTION NO. 18

USE TYPICAL SECTION NO. 18

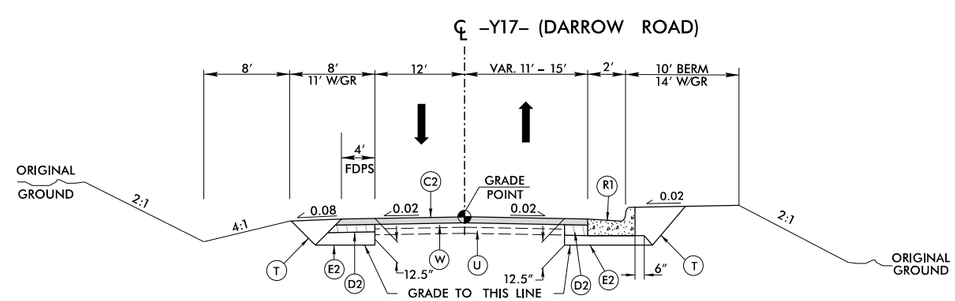
-Y12- STA. 22+00.00 TO STA. 24+35.19



TYPICAL SECTION NO. 19

USE TYPICAL SECTION NO. 19

-Y16- STA. 18+00.00 TO STA. 20+88.20



TYPICAL SECTION NO. 20

USE TYPICAL SECTION NO. 20

-Y17- STA. 18+00.00 TO STA. 20+88.20

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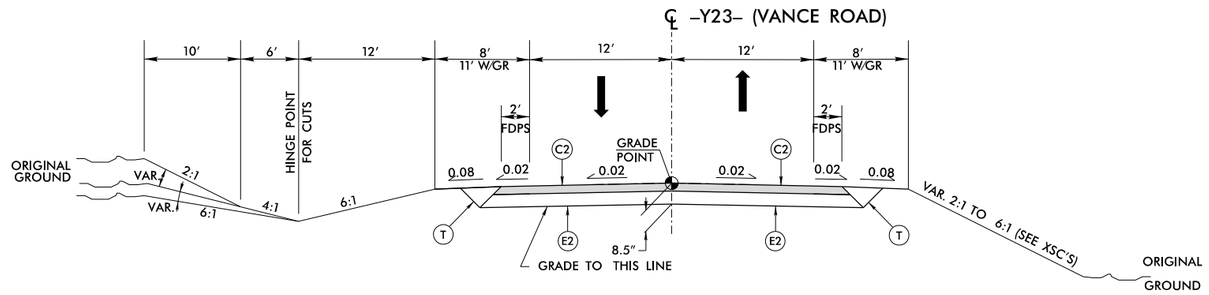
PAVEMENT SCHEDULE PREL. PAVEMENT DESIGN	
C1	2½" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VAR. TYPE S9.5B
C4	1½" TYPE S9.5C
C5	3" TYPE S9.5C
C6	VAR. TYPE S9.5C
D1	2½" TYPE I19.0C
D2	4" TYPE I19.0C
D3	VAR. TYPE I19.0C
E1	4" TYPE B25.0C
E2	5½" TYPE B25.0C
E3	6" TYPE B25.0C
E4	6½" TYPE B25.0C
R1	2'-6" C & G
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	2A-8
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

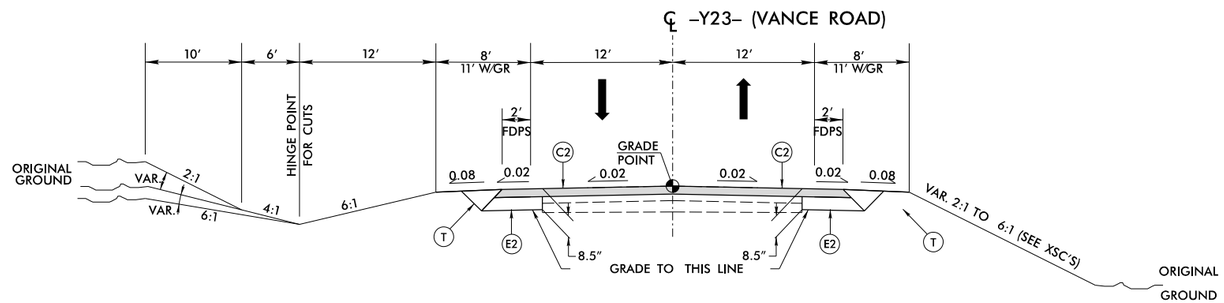
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 21

USE TYPICAL SECTION NO. 21

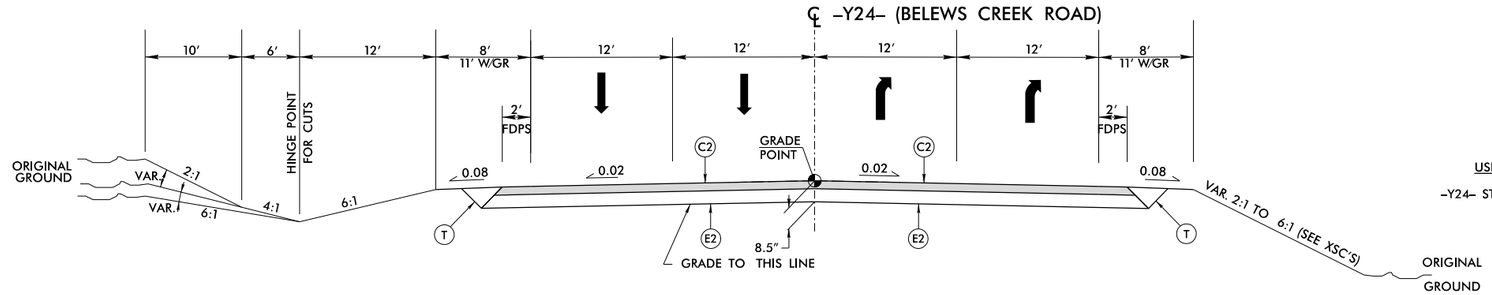
-Y23- STA. 10+41.50 TO STA. 15+00.00



TYPICAL SECTION NO. 22

USE TYPICAL SECTION NO. 22

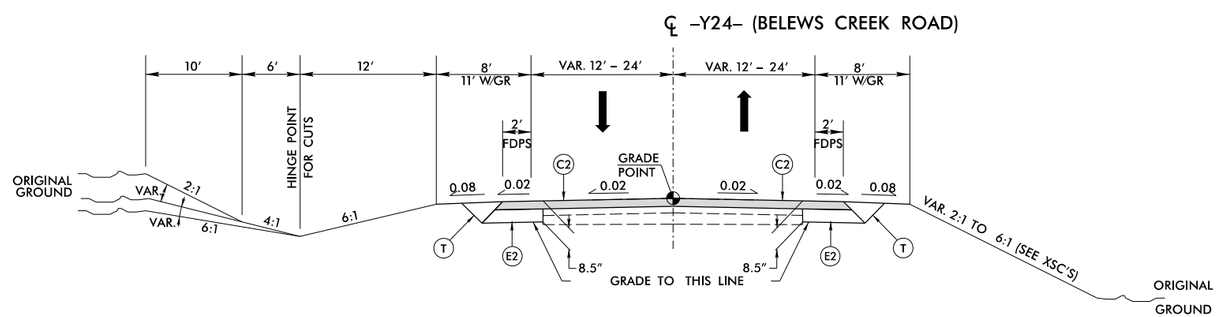
-Y23- STA. 15+00.00 TO STA. 17+03.30



TYPICAL SECTION NO. 23

USE TYPICAL SECTION NO. 23

-Y24- STA. 17+00.00 TO STA. 23+93.99



TYPICAL SECTION NO. 24

USE TYPICAL SECTION NO. 24

-Y24- STA. 13+08.65 TO STA. 17+00.00

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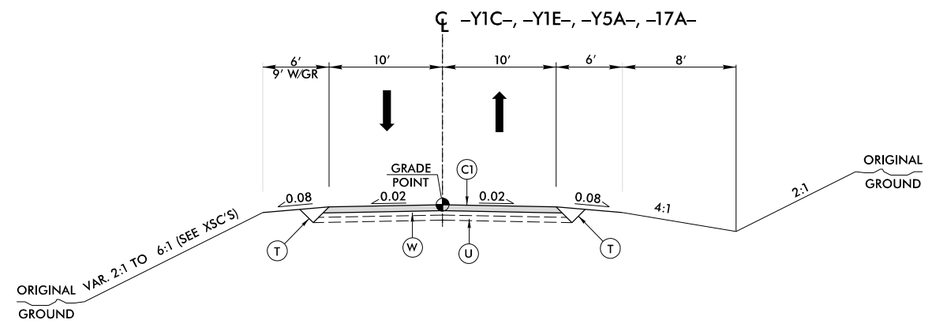
PAVEMENT SCHEDULE PREL. PAVEMENT DESIGN	
C1	2½" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VAR. TYPE S9.5B
C4	1½" TYPE S9.5C
C5	3" TYPE S9.5C
C6	VAR. TYPE S9.5C
D1	2½" TYPE I19.0C
D2	4" TYPE I19.0C
D3	VAR. TYPE I19.0C
E1	4" TYPE B25.0C
E2	5½" TYPE B25.0C
E3	6" TYPE B25.0C
E4	6½" TYPE B25.0C
R1	2'-6" C & G
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 25

USE TYPICAL SECTION NO. 25

–Y1C– STA. 10+00.00 TO STA. 11+44.28
–Y1E– STA. 12+17.38 TO STA. 13+96.91
–Y5A– STA. 10+00.00 TO STA. 12+10.98
–Y17A– STA. 10+00.00 TO STA. 11+54.85

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	2A-9
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
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STRUCTURE TYPICAL SECTIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	2A-10
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
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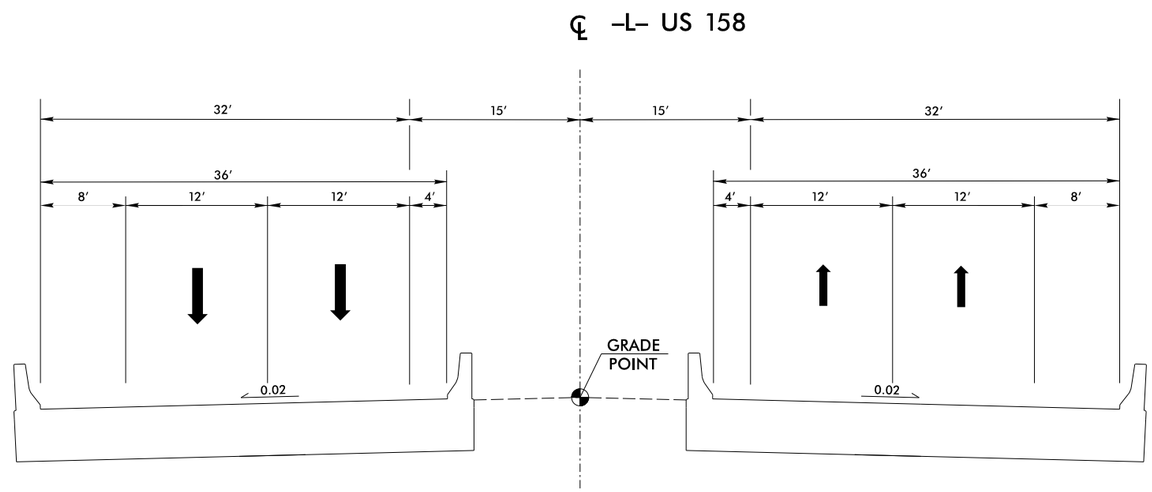
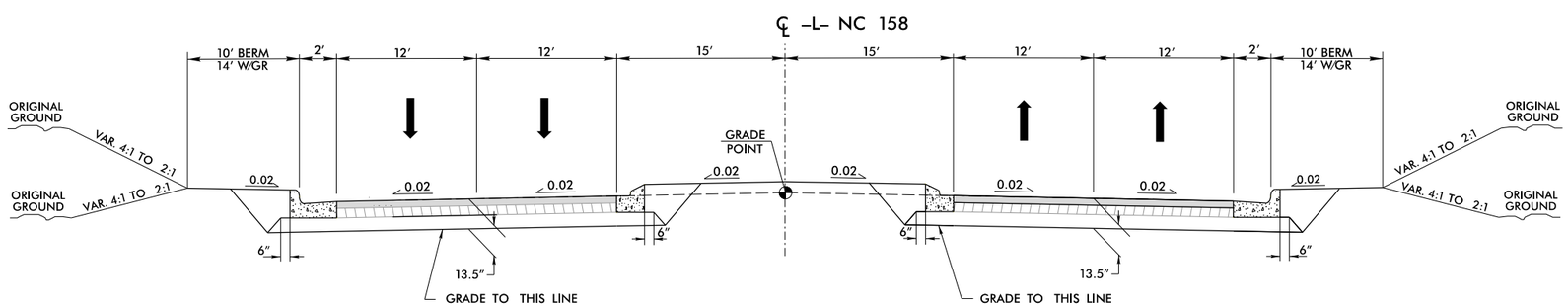


–L– (US 158)

FUNCTIONAL CLASS: Rural Arterial
2018 ADT = 23,600
2038 ADT = 35,000
K = 8%
D = 60%
TTST = 8% DUAL = 6%
V = 50 MPH
VERTICAL CLEARANCE = N/A

TYPICAL SECTION ON –L– (US 158) STRUCTURES OVER LOWERY MILL CREEK



TYPICAL SECTION ON –L– (US 158) APPROACHING STRUCTURE

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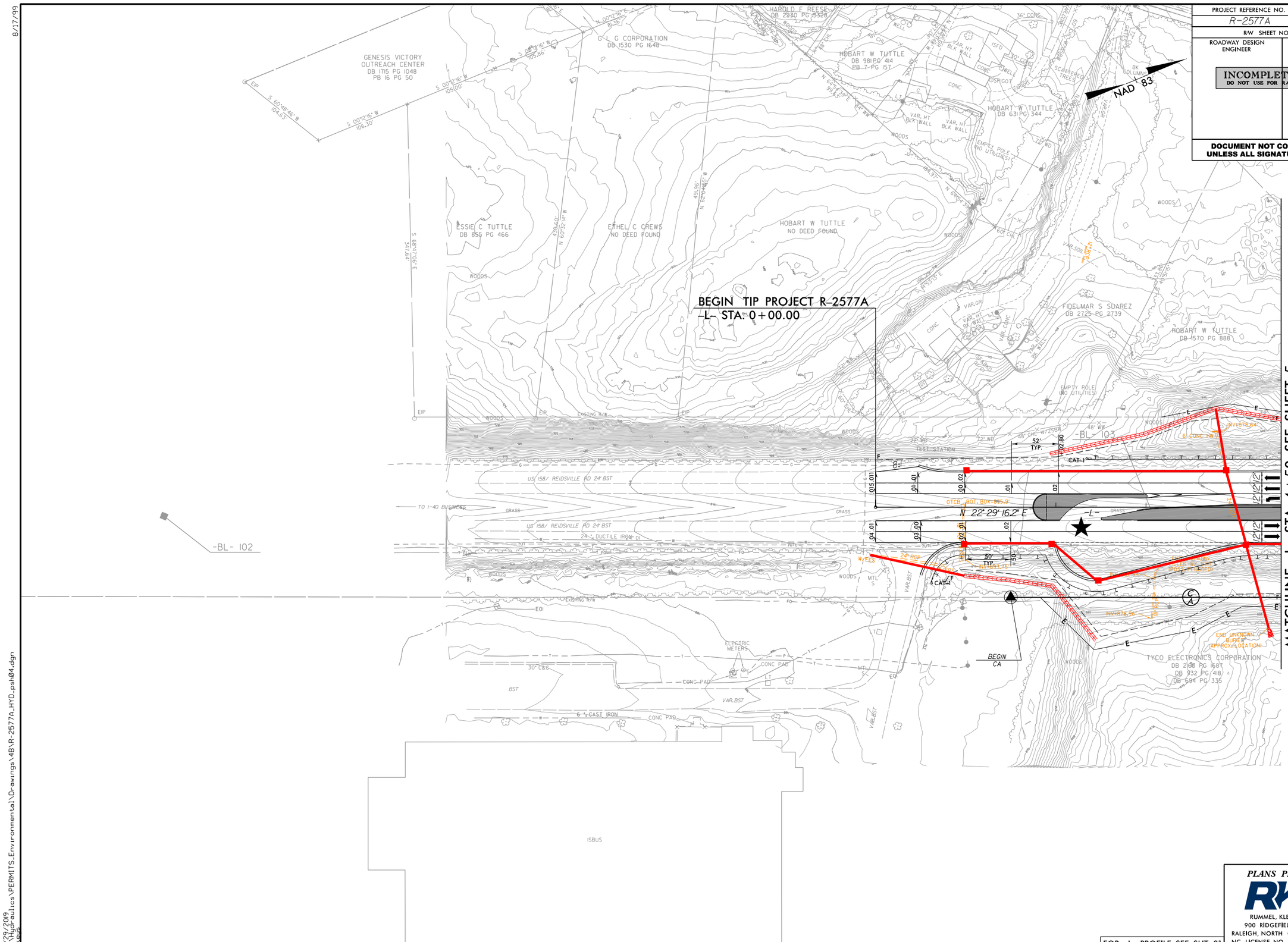
PROJECT REFERENCE NO.	SHEET NO.
R-2577A	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



FOR -L- PROFILE SEE SHT. 31

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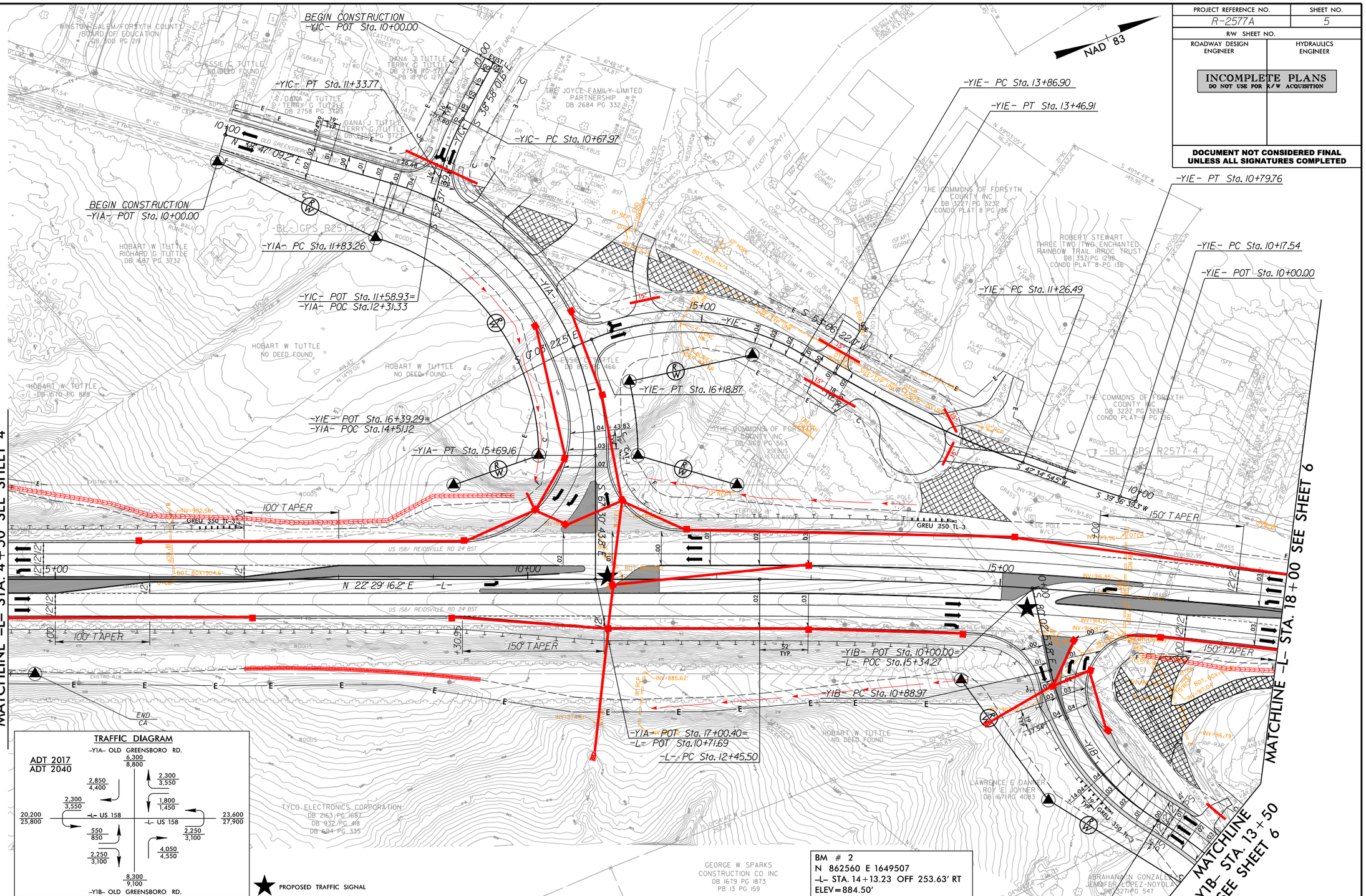
PROJECT REFERENCE NO.	SHEET NO.
R-2577A	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TRAFFIC DIAGRAM

ADT 2017
ADT 2040

★ PROPOSED TRAFFIC SIGNAL

BM # 2
N 862560 E 1649507
-L- STA. 14+13.23 OFF 253.63' RT
ELEV=884.50'

-L-	-Y1A-	-Y1B-		-Y1C-	-Y1E-			-Y1F-
PI Sta 19+25.29	PI Sta 14+08.11	PI Sta 11+95.30	PI Sta 13+94.41	PI Sta 11+01.02	PI Sta 10+48.66	PI Sta 12+37.01	PI Sta 15+11.99	PI Sta 11+70.85
Δ = 17° 22' 15.0" (RT)	Δ = 73° 42' 06.9" (RT)	Δ = 46° 04' 59.4" (LT)	Δ = 26° 06' 55.3" (RT)	Δ = 13° 39' 37.6" (LT)	Δ = 2° 58' 15.2" (RT)	Δ = 10° 31' 27.5" (RT)	Δ = 53° 09' 44.5" (LT)	Δ = 51° 29' 04.5" (RT)
D = 1° 17' 15.2"	D = 19° 05' 54.9"	D = 22° 55' 05.9"	D = 12° 43' 56.6"	D = 20° 45' 42.2"	D = 4° 46' 28.7"	D = 4° 46' 28.7"	D = 22° 55' 05.9"	D = 28° 38' 52.4"
L = 1,349.14'	L = 385.90'	L = 201.08'	L = 205.11'	L = 65.80'	L = 62.22'	L = 220.42'	L = 231.96'	L = 179.72'
T = 679.79'	T = 224.85'	T = 106.33'	T = 104.37'	T = 33.05'	T = 31.12'	T = 110.52'	T = 125.09'	T = 96.44'
R = 4,450.00'	R = 300.00'	R = 250.00'	R = 450.00'	R = 275.97'	R = 1,200.00'	R = 1,200.00'	R = 250.00'	R = 200.00'
SE = 0.03	SE = 0.04	SE = 0.04	SE = 0.04	SE = 0.04	SE = 0.04	SE = 0.04	SE = 0.04	SE = 0.04
DS = 50 MPH	DS = 30 MPH	DS = 30 MPH	DS = 35 MPH	DS = 30 MPH	DS = 40 MPH	DS = 40 MPH	DS = 30 MPH	DS = 25 MPH

FOR -L- PROFILE SEE SHT. 31
FOR -Y1A- PROFILE SEE SHT. 42
FOR -Y1B- PROFILE SEE SHT. 42
FOR -Y1C- PROFILE SEE SHT. 42
FOR -Y1E- PROFILE SEE SHT. 43

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5/29/2019
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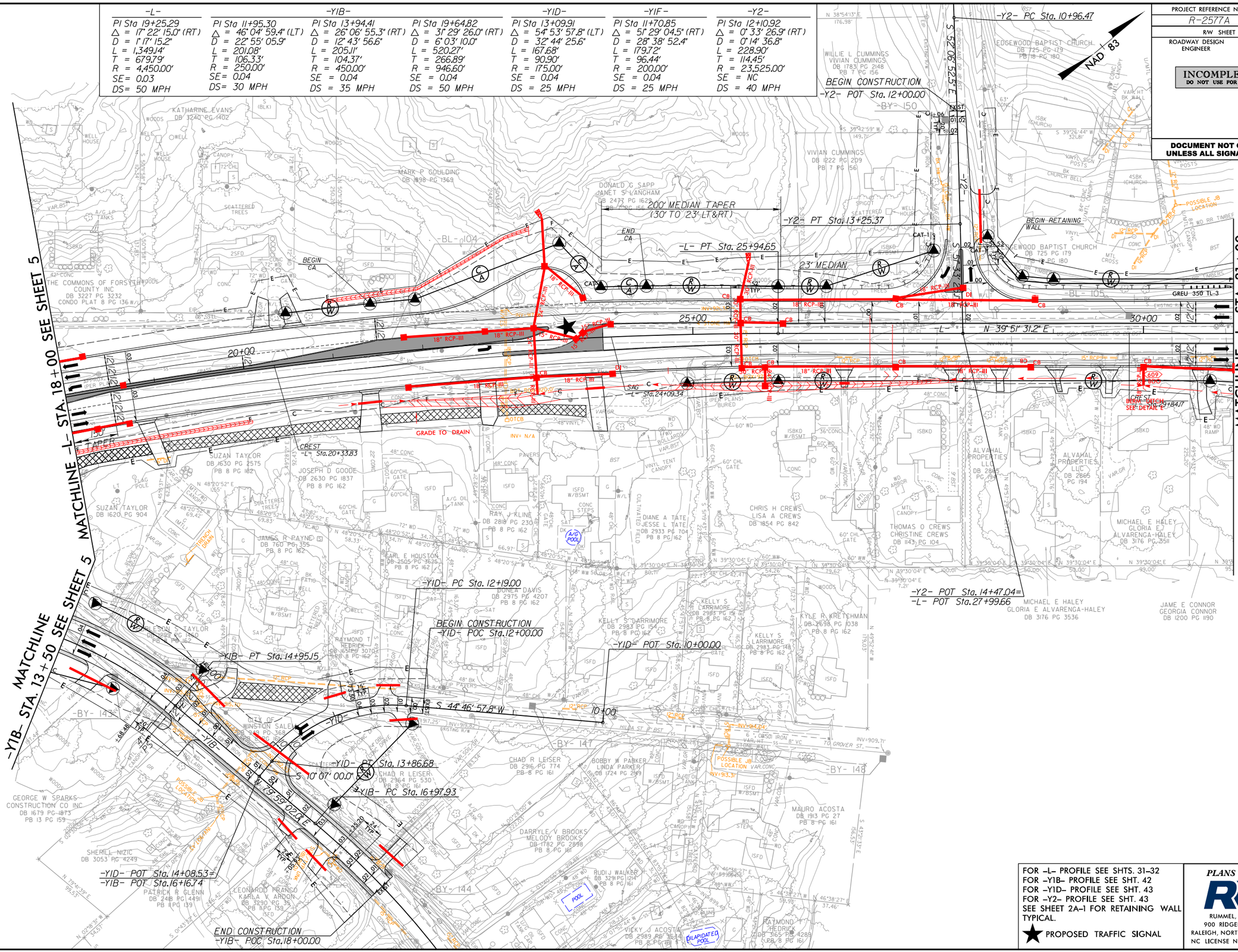
-L-	-Y1B-		-Y1D-	-Y1F-	-Y2-
PI Sta 19+25.29	PI Sta 11+95.30	PI Sta 13+94.41	PI Sta 19+64.82	PI Sta 13+09.91	PI Sta 11+70.85	PI Sta 12+10.92
△ = 17° 22' 15.0" (RT)	△ = 46° 04' 59.4" (LT)	△ = 26° 06' 55.3" (RT)	△ = 31° 29' 26.0" (RT)	△ = 54° 53' 57.8" (LT)	△ = 51° 29' 04.5" (RT)	△ = 0° 33' 26.9" (RT)
D = 1° 17' 15.2"	D = 22° 55' 05.9"	D = 12° 43' 56.6"	D = 6° 03' 10.0"	D = 32° 44' 25.6"	D = 28° 38' 52.4"	D = 0° 14' 36.8"
L = 1,349.14'	L = 201.08'	L = 205.11'	L = 520.27'	L = 167.68'	L = 179.72'	L = 228.90'
T = 679.79'	T = 106.33'	T = 104.37'	T = 266.89'	T = 90.90'	T = 96.44'	T = 114.45'
R = 4,450.00'	R = 250.00'	R = 450.00'	R = 946.60'	R = 175.00'	R = 200.00'	R = 23,525.00'
SE = 0.03	SE = 0.04	SE = 0.04	SE = 0.04	SE = 0.04	SE = 0.04	SE = NC
DS = 50 MPH	DS = 30 MPH	DS = 35 MPH	DS = 50 MPH	DS = 25 MPH	DS = 25 MPH	DS = 40 MPH

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

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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
SEE SHEET 2A-1 FOR RETAINING WALL TYPICAL.

★ PROPOSED TRAFFIC SIGNAL

PLANS PREPARED BY :
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8/29/2019
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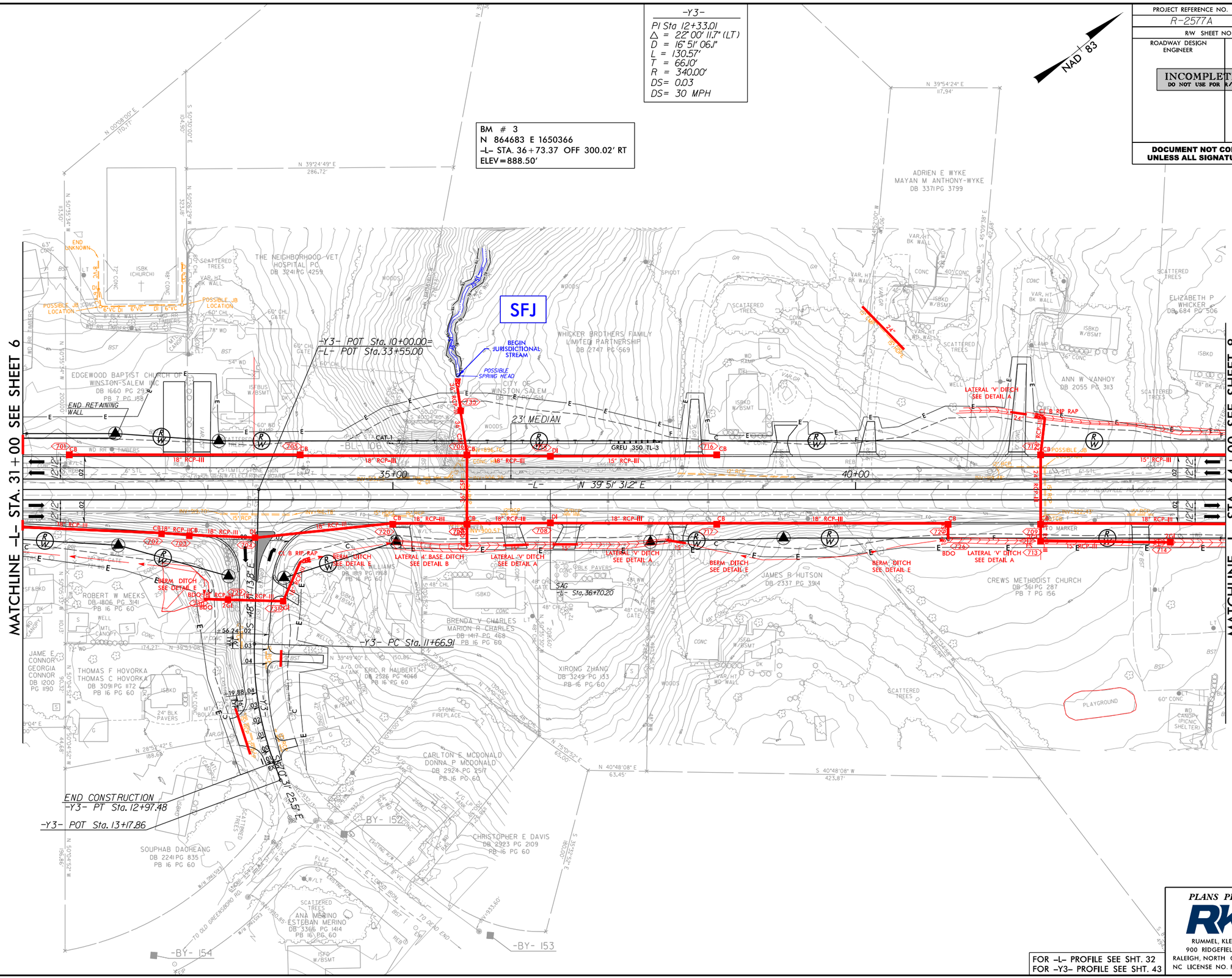
PROJECT REFERENCE NO.	SHEET NO.
R-2577A	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y3-
PI Sta 12+33.01
△ = 22° 00' 11.7" (LT)
D = 16° 51' 06.1"
L = 130.57'
T = 66.10'
R = 340.00'
DS= 0.03
DS= 30 MPH

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



FOR -L- PROFILE SEE SHT. 32
FOR -Y3- PROFILE SEE SHT. 43

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5/29/2019
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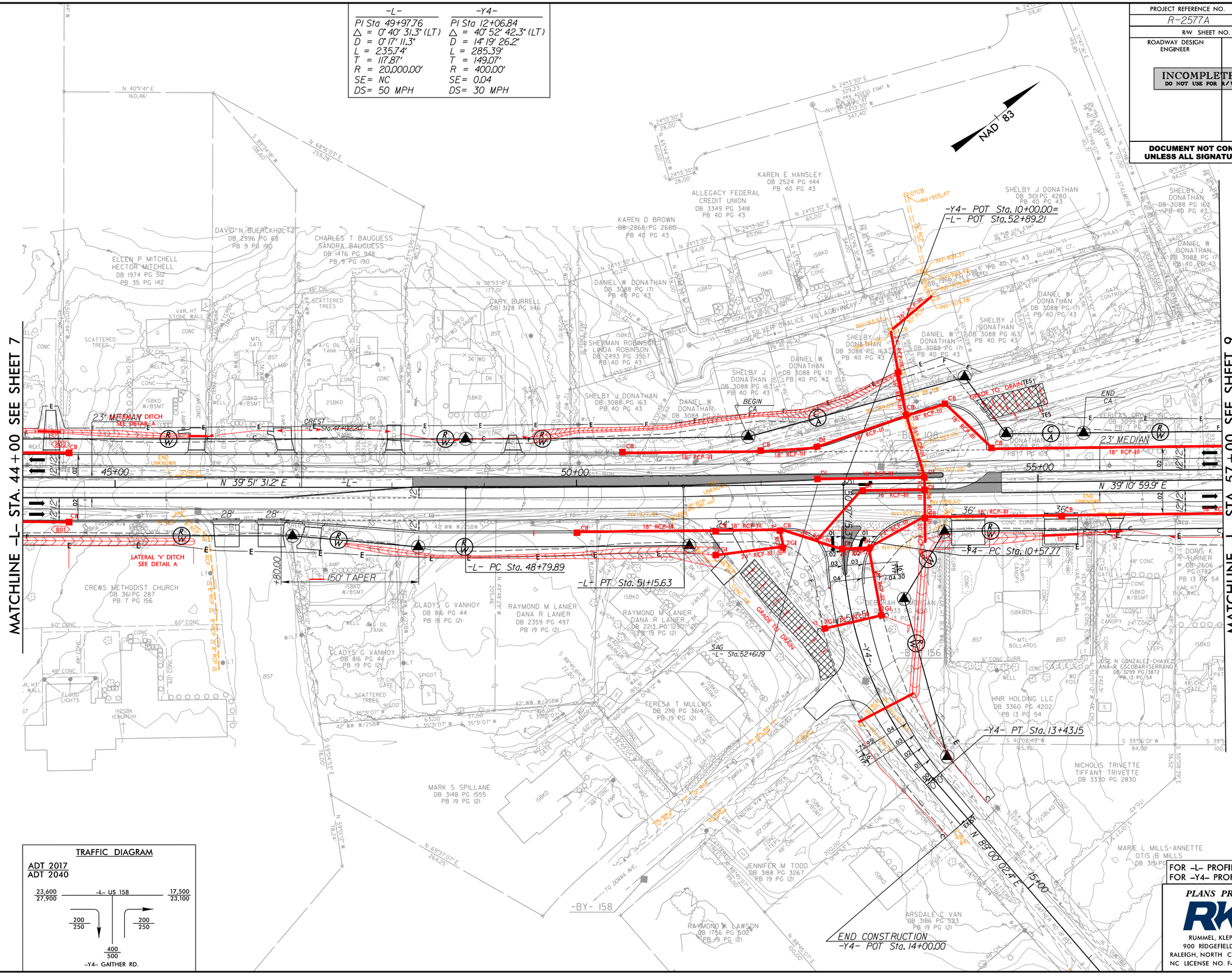
-L-	-Y4-
PI Sta 49+97.76	PI Sta 12+06.84
△ = 0° 40' 31.3" (LT)	△ = 40° 52' 42.3" (LT)
D = 0° 17' 11.3"	D = 14° 19' 26.2"
L = 235.74'	L = 285.39'
T = 117.87'	T = 149.07'
R = 20,000.00'	R = 400.00'
SE = NC	SE = 0.04
DS = 50 MPH	DS = 30 MPH

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TRAFFIC DIAGRAM

ADT 2017
ADT 2040

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

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5/29/2019
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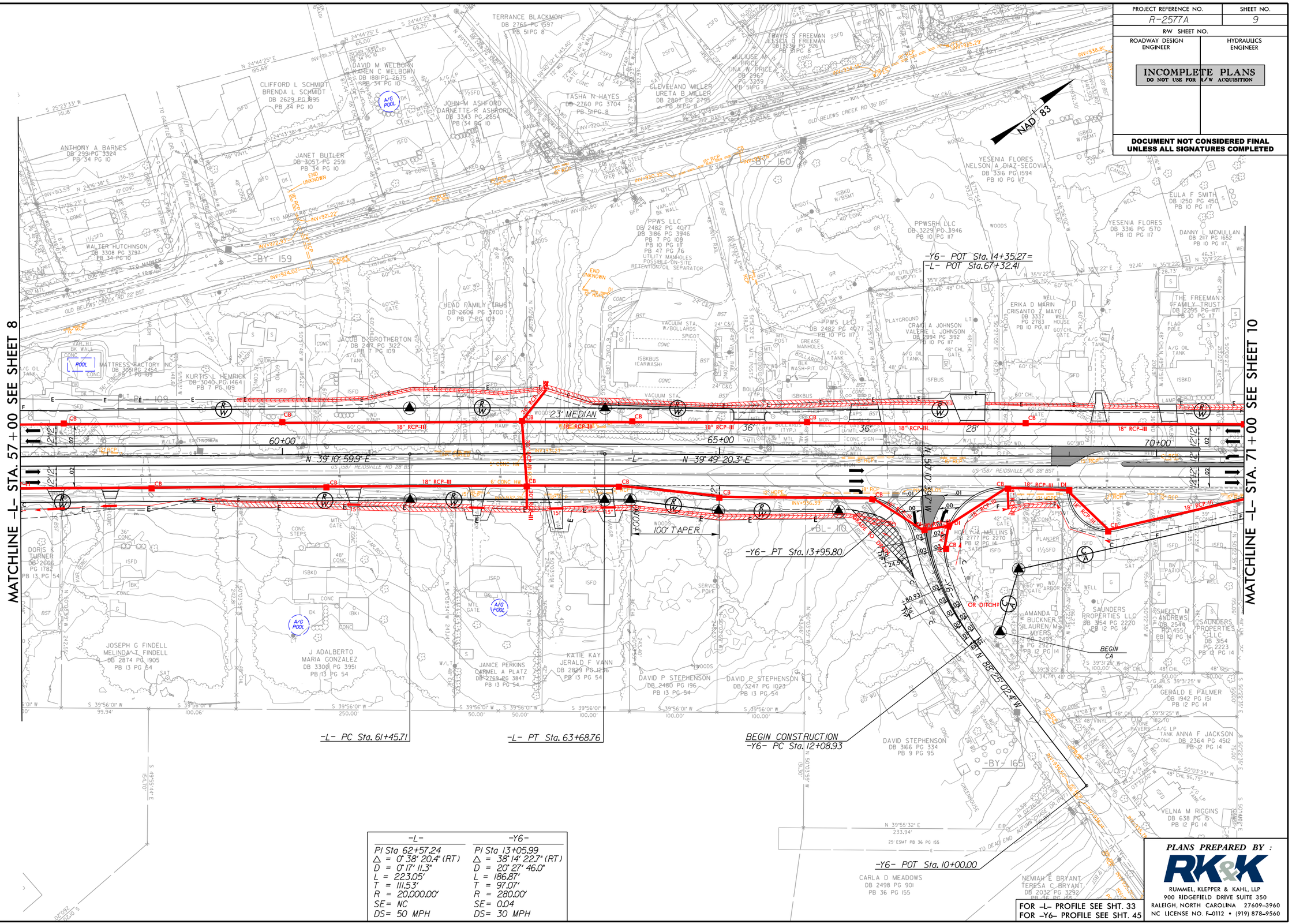
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L-	-Y6-
PI Sta 62+57.24	PI Sta 13+05.99
Δ = 0° 38' 20.4" (RT)	Δ = 38° 14' 22.7" (RT)
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 -L- PROFILE SEE SHT. 33
FOR -Y6- PROFILE SEE SHT. 45

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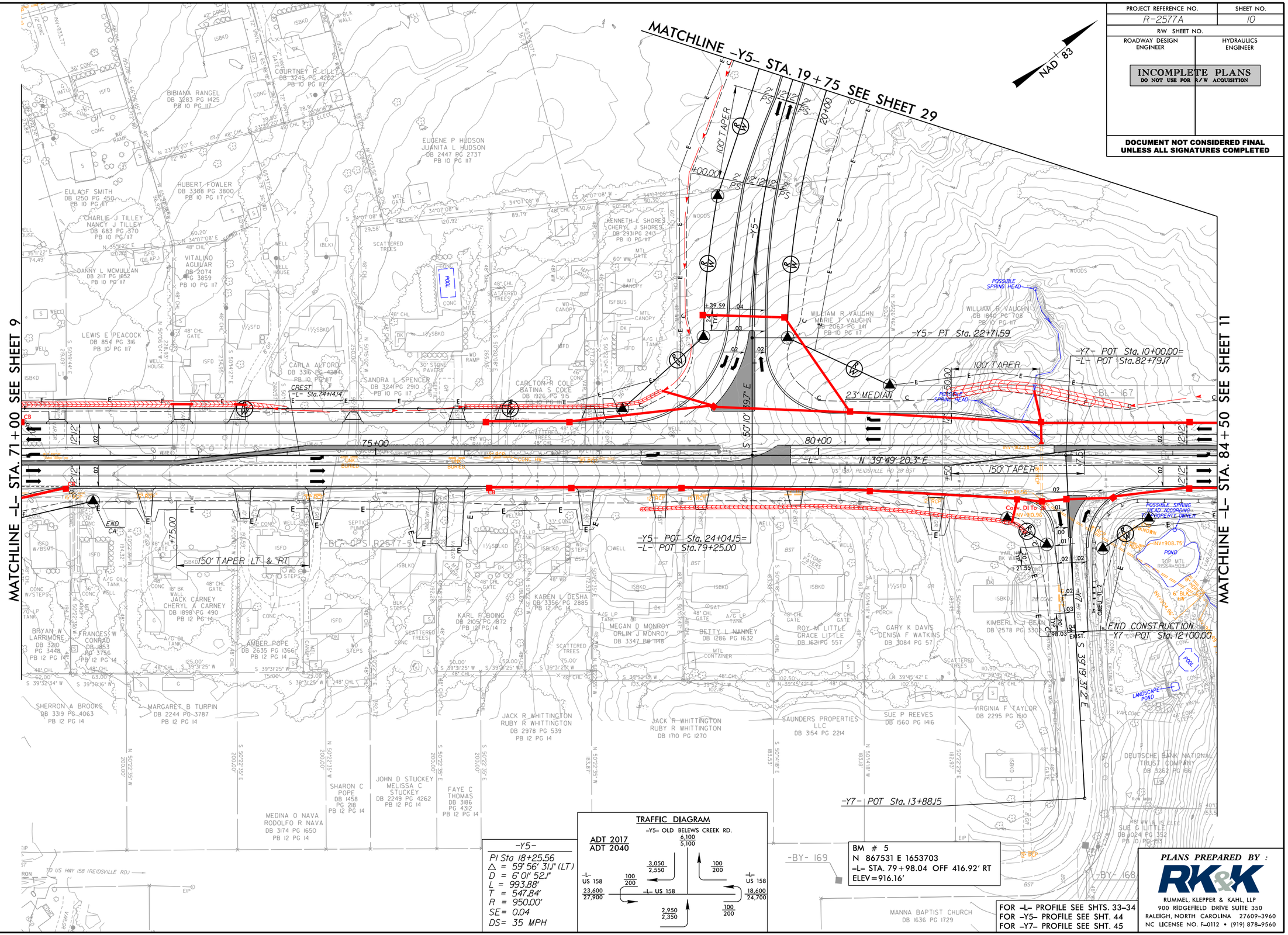
Ekeup

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-Y5-
PI Sta 18+25.56
Δ = 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

TRAFFIC DIAGRAM

	-Y5- OLD BELEWS CREEK RD.	
ADT 2017 / ADT 2040	6,100 / 5,100	
-L- US 158: 23,600 / 27,900	3,050 / 2,550	100 / 200
-L- US 158: 18,600 / 24,700	100 / 200	100 / 200
-L- US 158	2,950 / 2,350	100 / 200

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

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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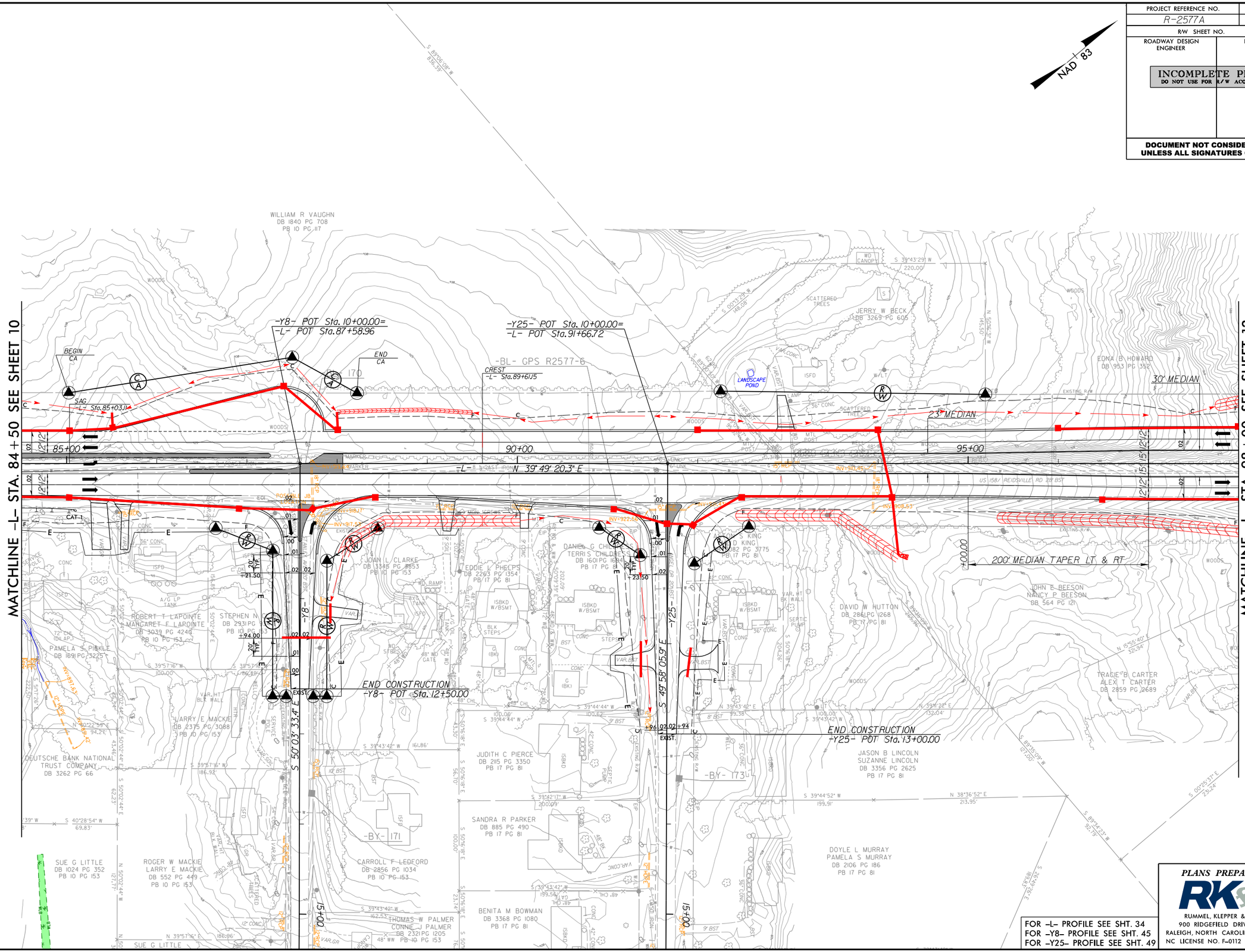

FOR -L- PROFILE SEE SHT. 34
FOR -Y8- PROFILE SEE SHT. 45
FOR -Y25- PROFILE SEE SHT. 49

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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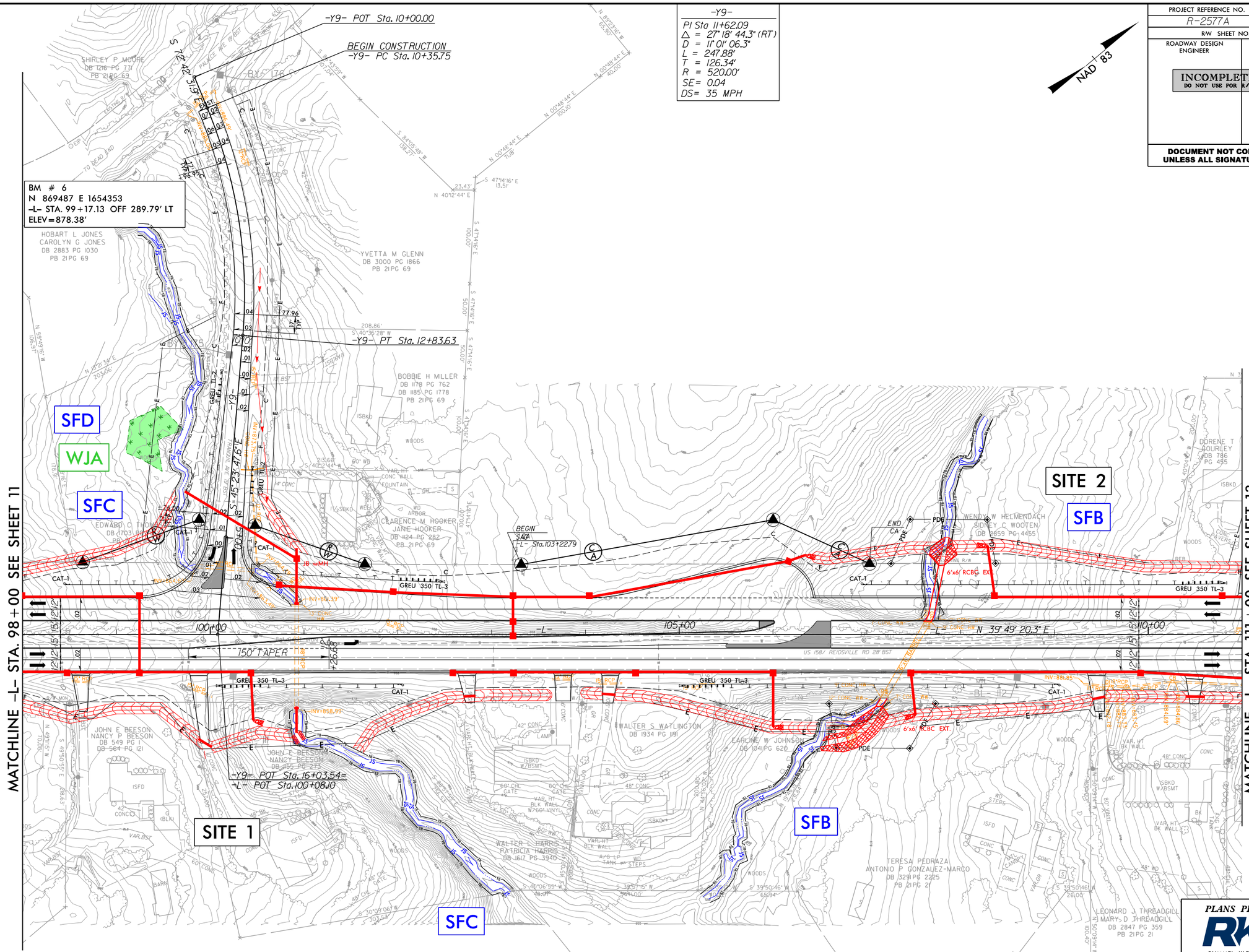
-Y9-
PI Sta 11+62.09
△ = 27° 18' 44.3" (RT)
D = 11° 01' 06.3"
L = 247.88'
T = 126.34'
R = 520.00'
SE = 0.04
DS = 35 MPH

NAD 83



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

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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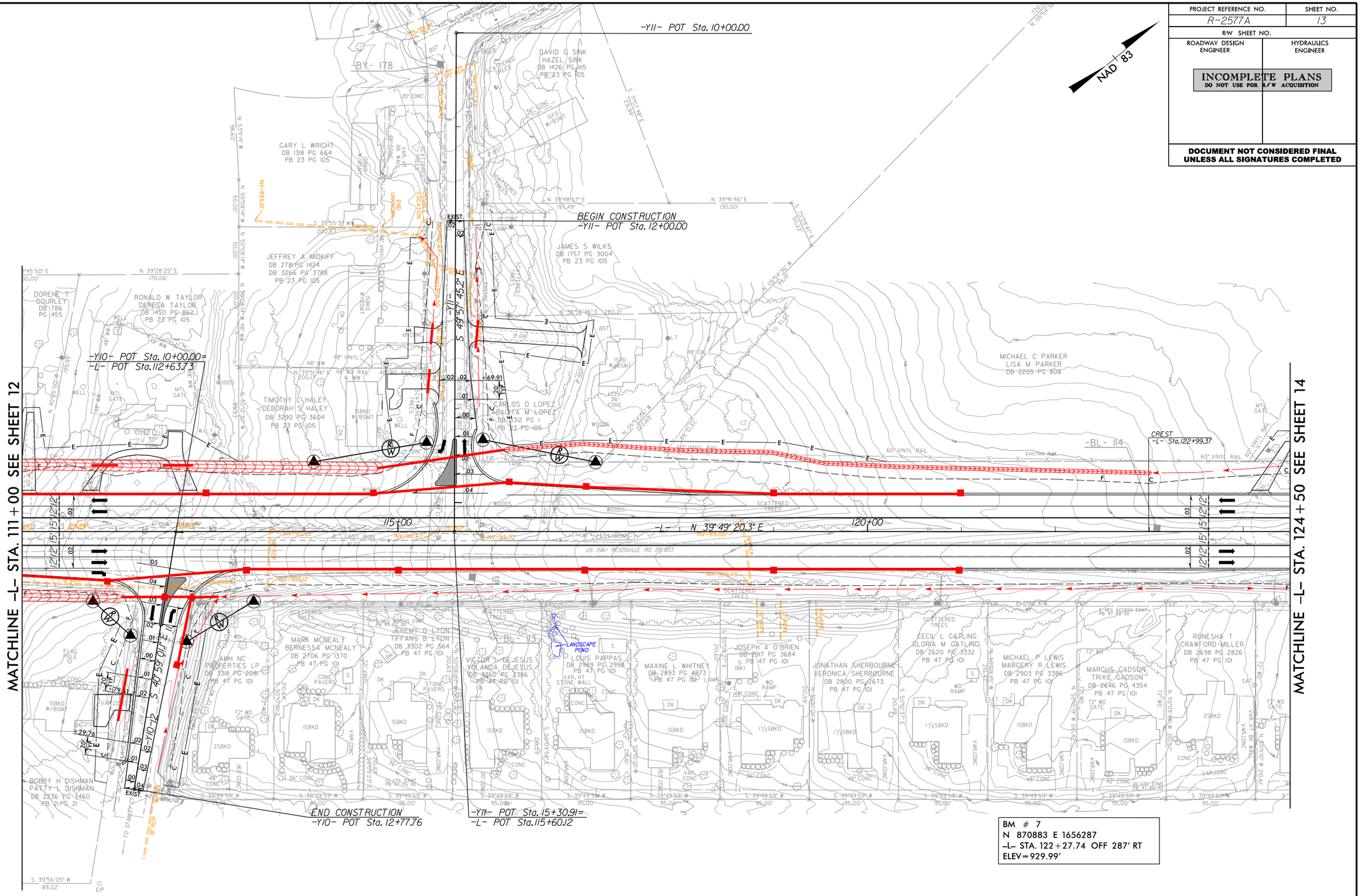

BM # 7
N 870883 E 1656287
-L- STA. 122+27.74 OFF 287' RT
ELEV=929.99'

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

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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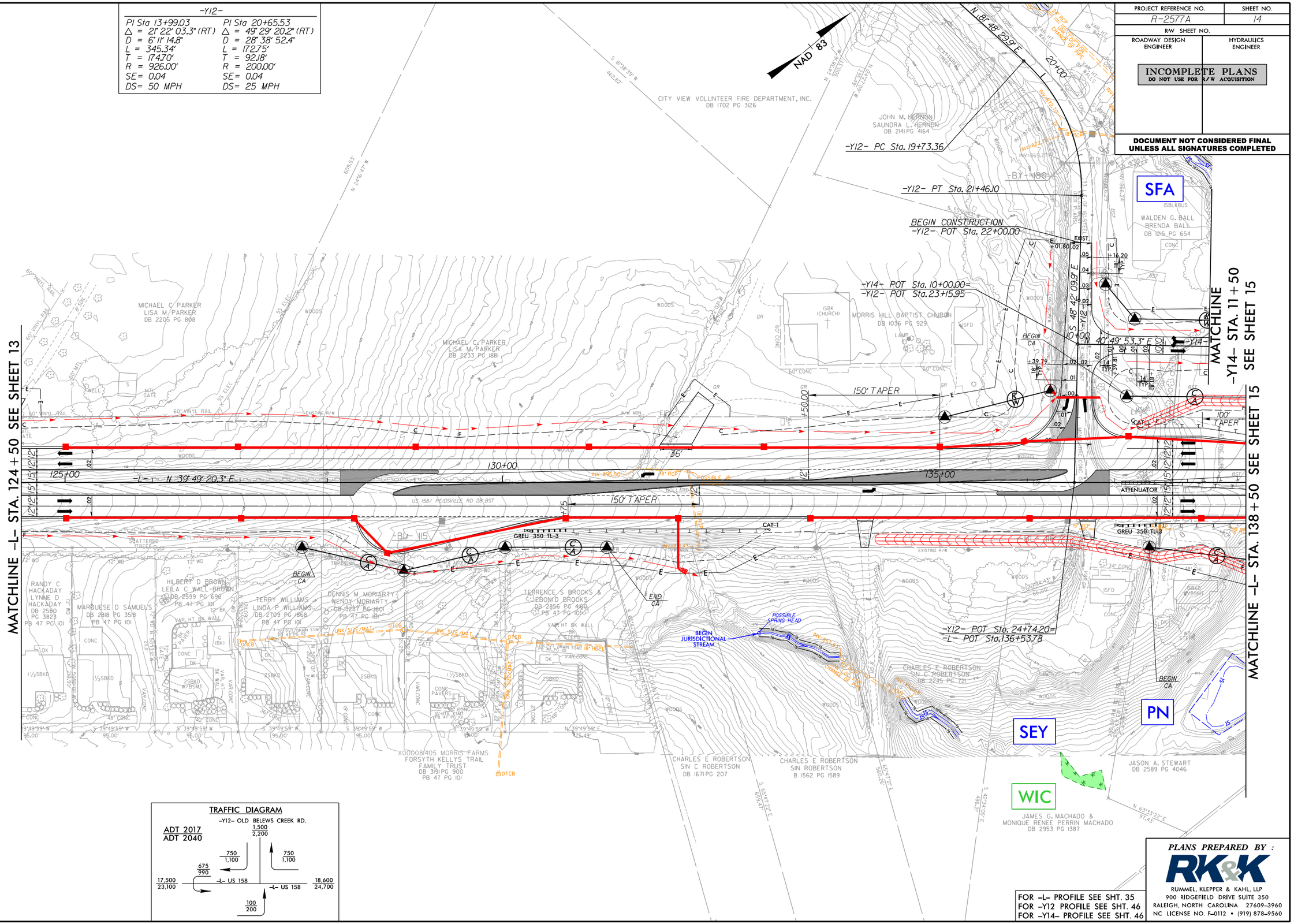
-Y12-

PI Sta 13+99.03	PI Sta 20+65.53
△ = 21° 22' 03.3" (RT)	△ = 49° 29' 20.2" (RT)
D = 6° 11' 14.8"	D = 28° 38' 52.4"
L = 345.34'	L = 172.75'
T = 174.70'	T = 92.18'
R = 926.00'	R = 200.00'
SE= 0.04	SE= 0.04
DS= 50 MPH	DS= 25 MPH



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

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-Y13-	-Y14-
PI Sta 11+59.90	PI Sta 13+03.02
Δ = 51° 30' 00.6" (LT)	Δ = 41° 49' 51.77" (LT)
D = 35° 48' 35.5"	D = 11° 01' 06.3"
L = 143.82'	L = 182.52'
T = 77.18'	T = 95.54'
R = 160.00'	R = 250.00'
SE = 0.04	SE = 0.03
DS = 25 MPH	DS = 20 MPH

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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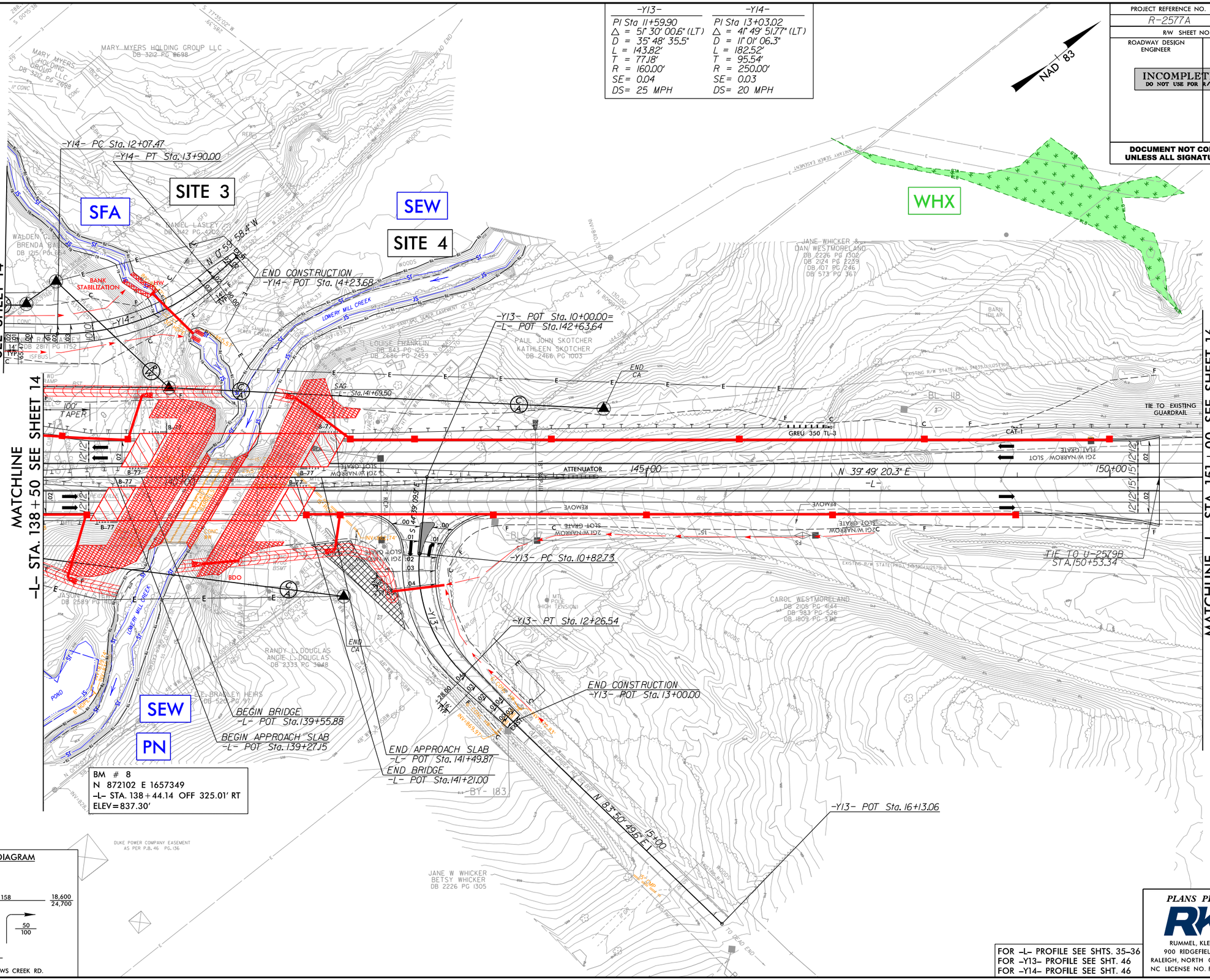
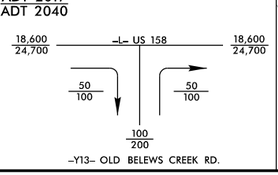


TRAFFIC DIAGRAM

ADT 2017
ADT 2040



FOR -L- PROFILE SEE SHTS. 35-36
FOR -Y13- PROFILE SEE SHT. 46
FOR -Y14- PROFILE SEE SHT. 46

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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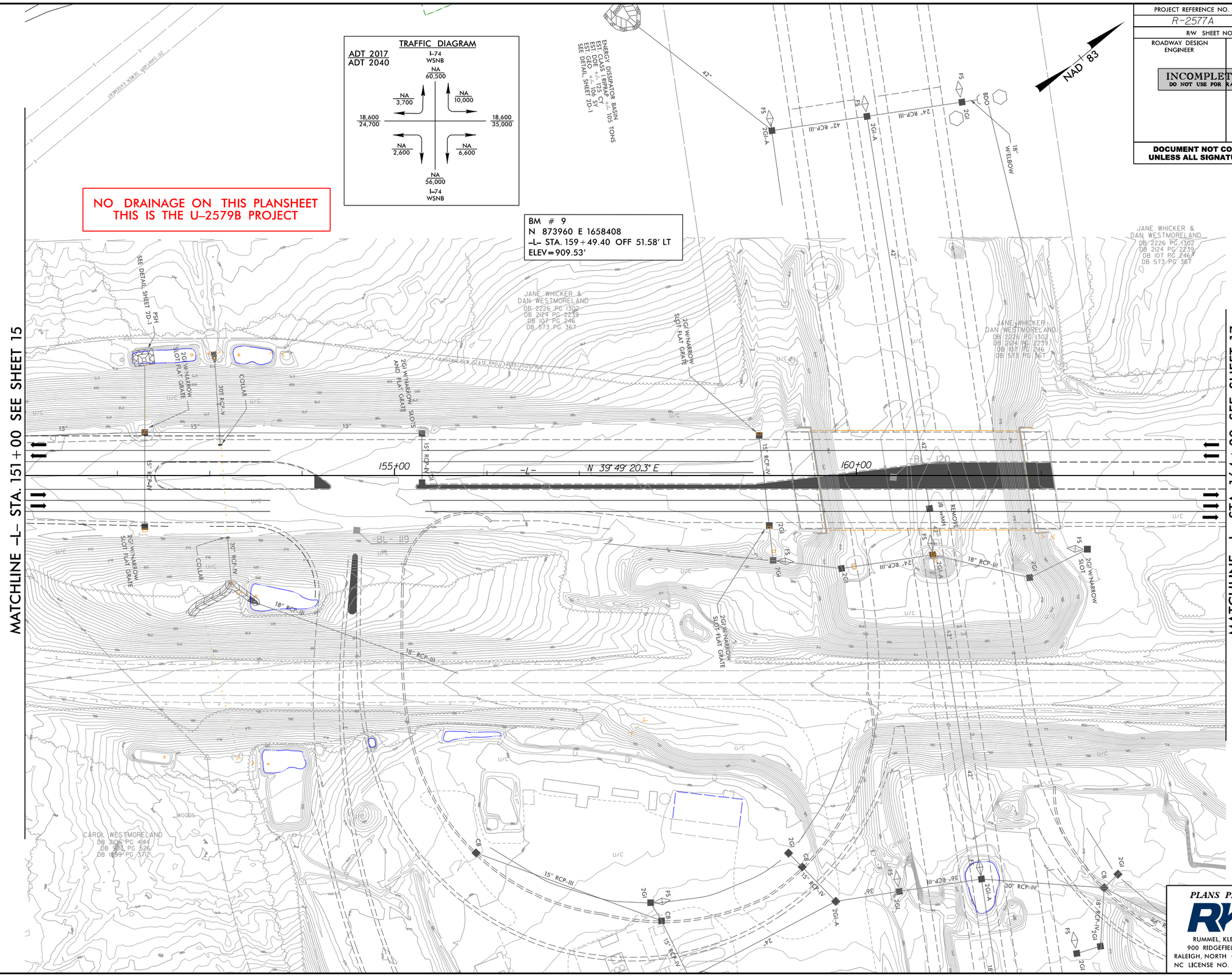

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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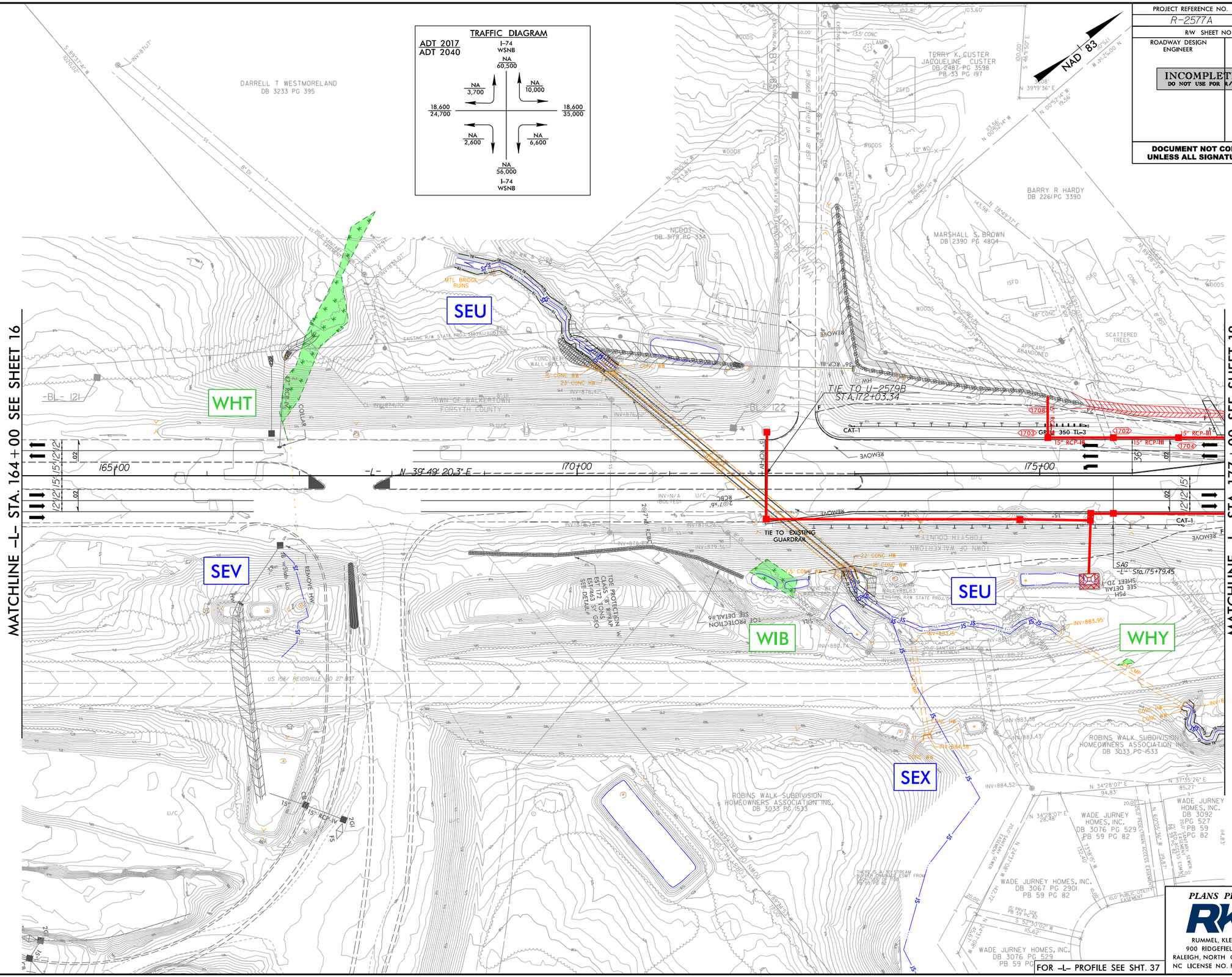

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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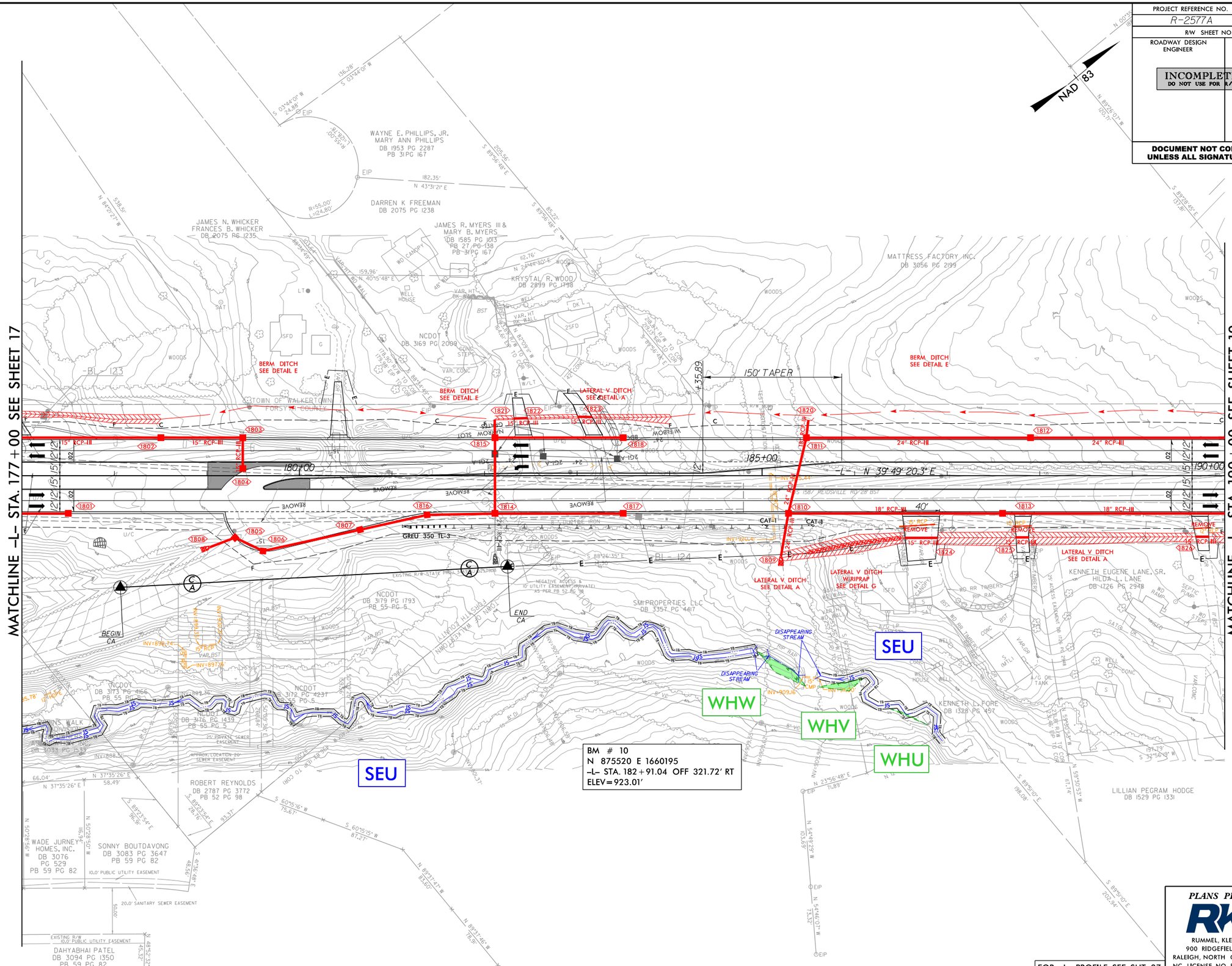

FOR -L- PROFILE SEE SHT. 37

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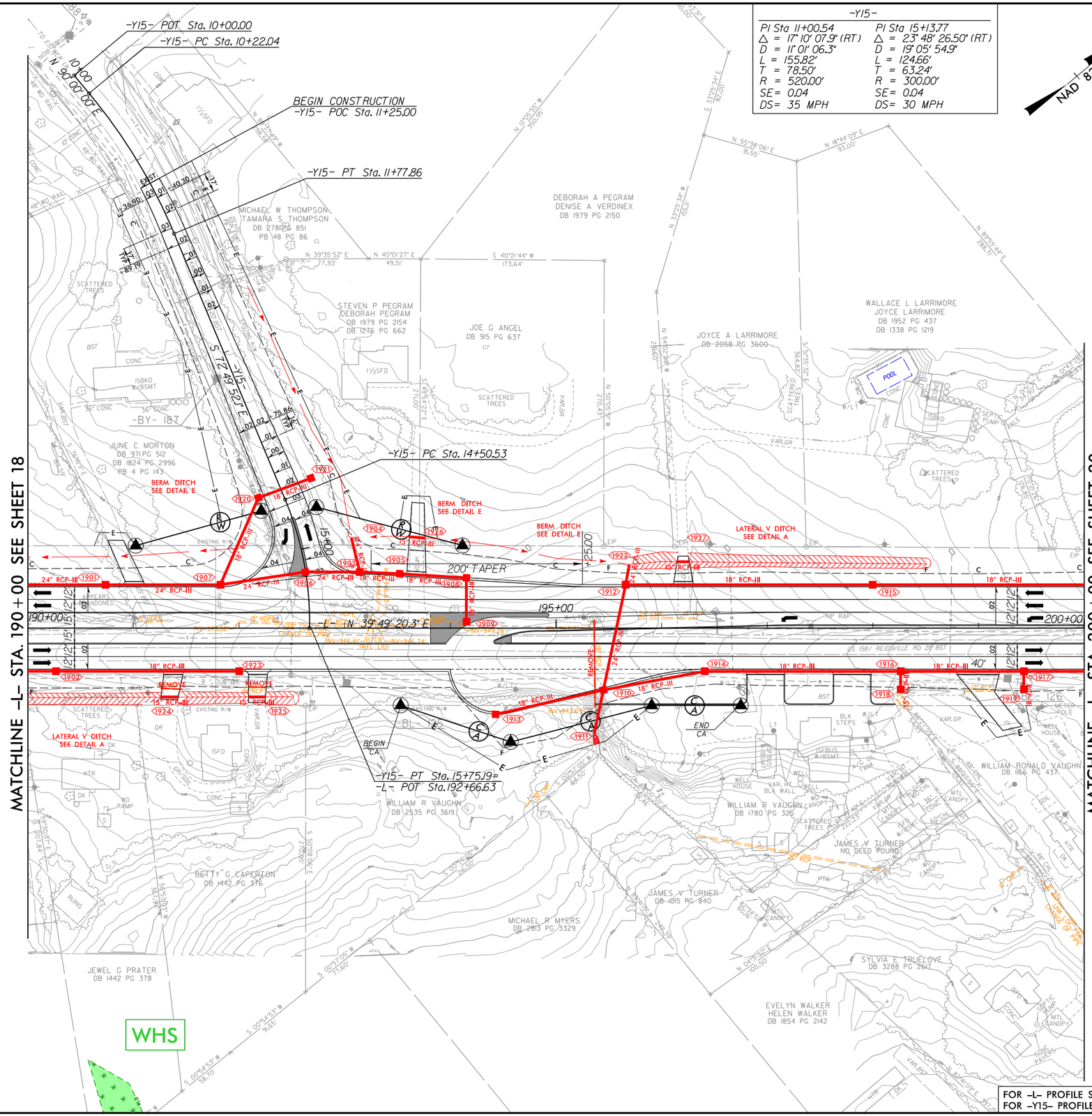

-Y15-

PI Sta 11+00.54	PI Sta 15+13.77
Δ = 17° 10' 07.9" (RT)	Δ = 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

NAD 83

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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FOR -L- PROFILE SEE SHTS. 37-38
FOR -Y15- PROFILE SEE SHT. 47

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FKeup

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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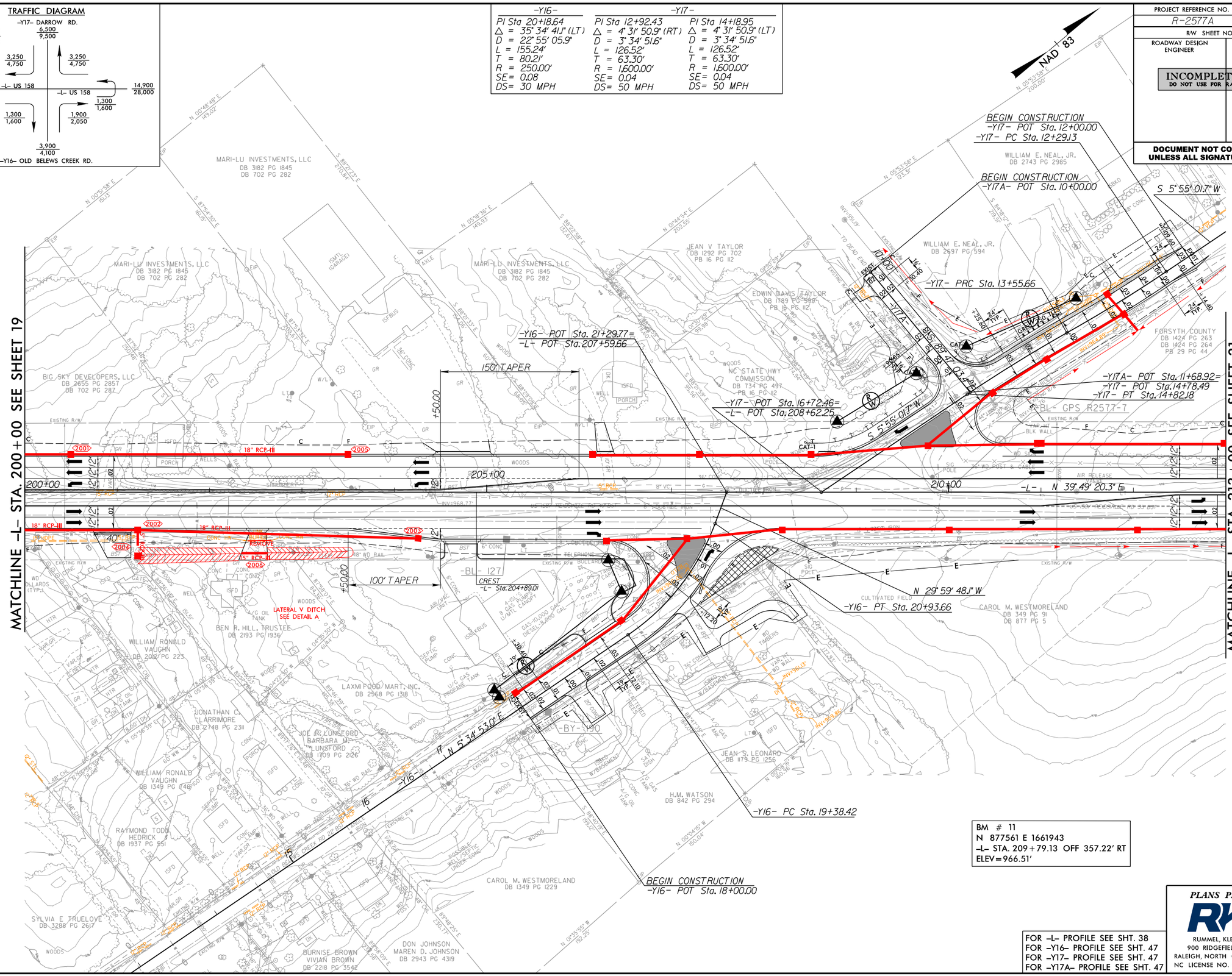
-Y16-	-Y17-	
PI Sta 20+18.64	PI Sta 12+92.43	PI Sta 14+18.95
Δ = 35° 34' 41.1" (LT)	Δ = 4° 31' 50.9" (RT)	Δ = 4° 31' 50.9" (LT)
D = 22° 55' 05.9"	D = 3° 34' 51.6"	D = 3° 34' 51.6"
L = 155.24'	L = 126.52'	L = 126.52'
T = 80.21'	T = 63.30'	T = 63.30'
R = 250.00'	R = 1,600.00'	R = 1,600.00'
SE = 0.08	SE = 0.04	SE = 0.04
DS = 30 MPH	DS = 50 MPH	DS = 50 MPH



BM # 11
N 877561 E 1661943
-L- STA. 209+79.13 OFF 357.22' RT
ELEV=966.51'

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

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R-2577A	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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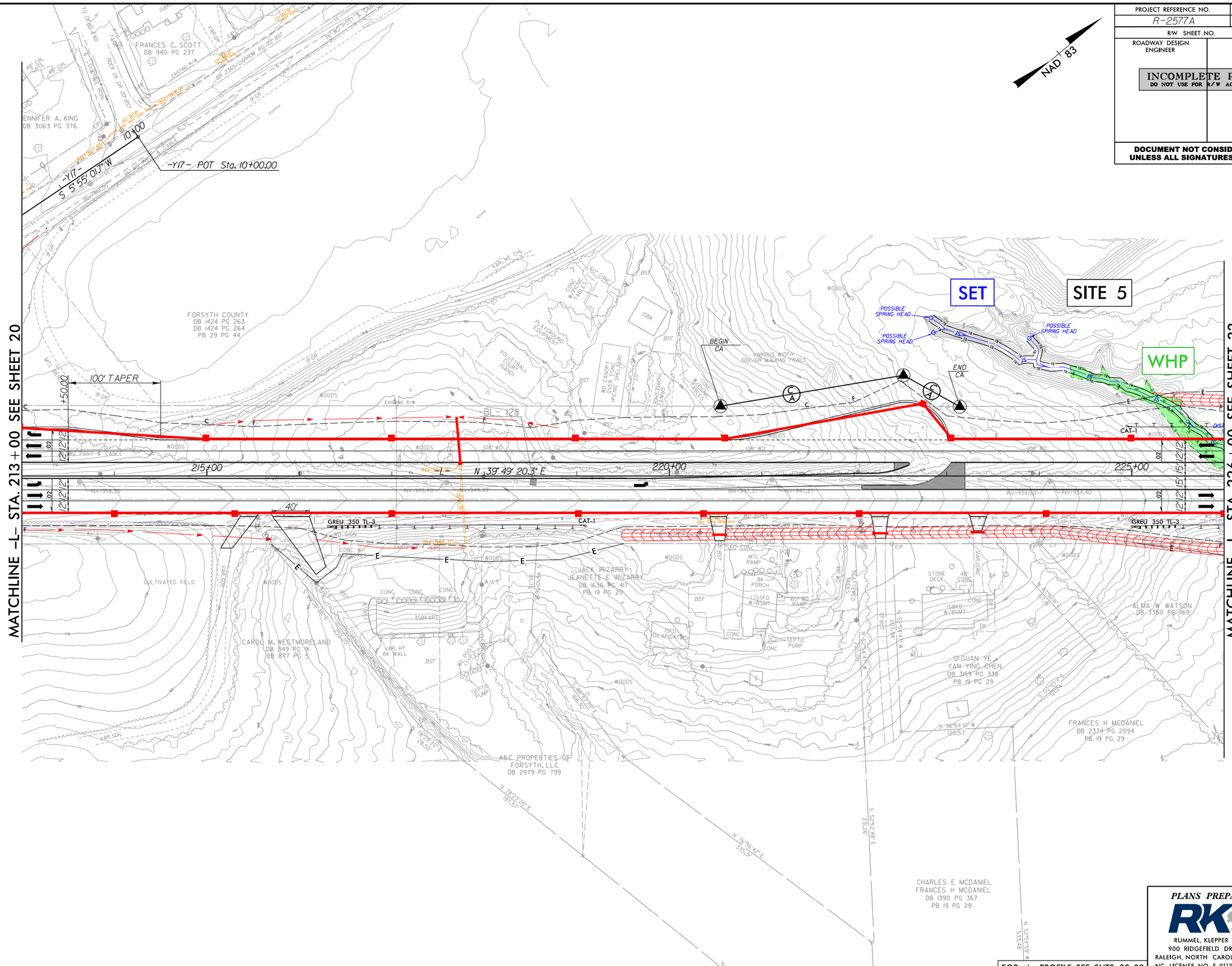

FOR -L- PROFILE SEE SHTS. 38-39

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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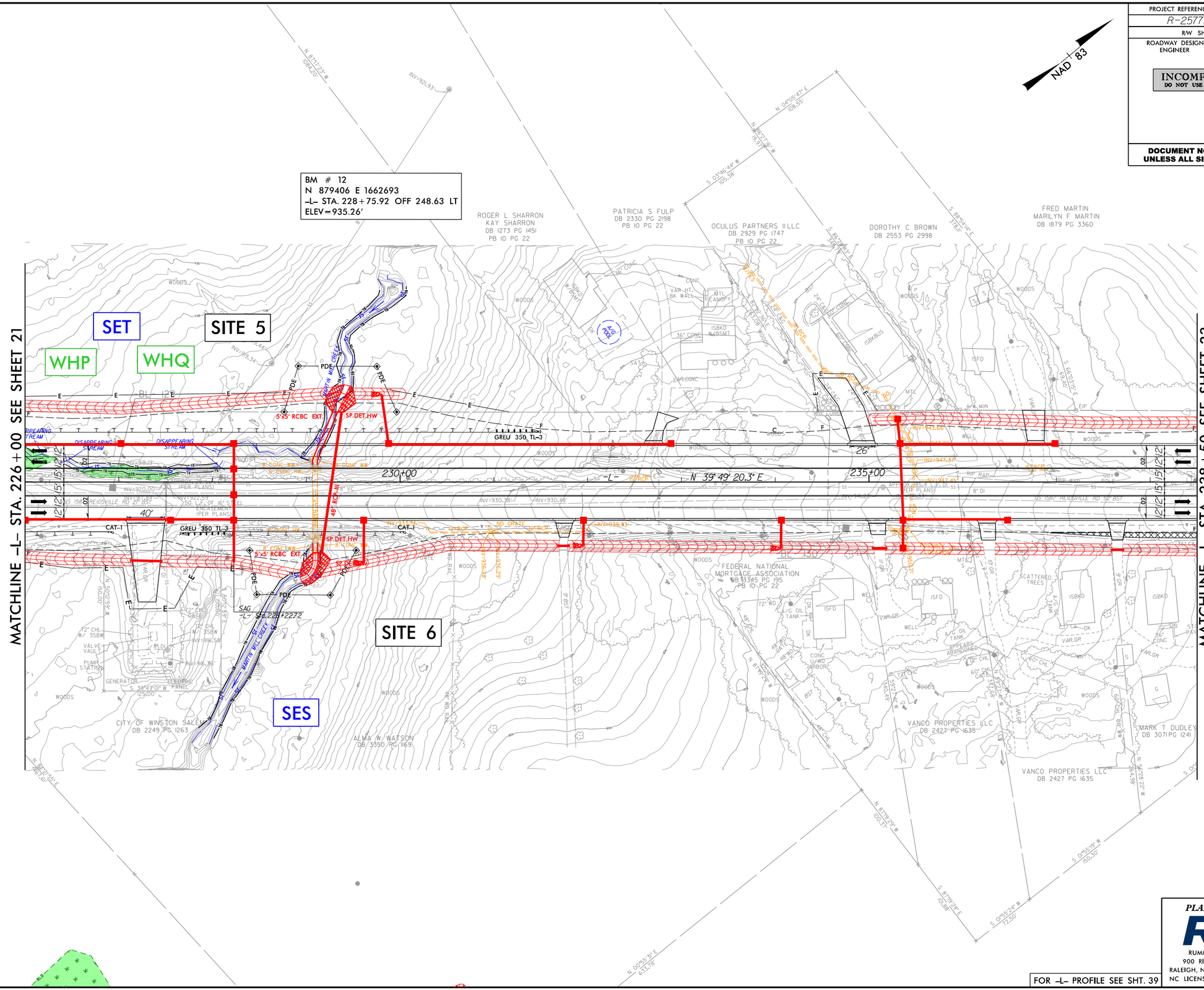

FOR -L- PROFILE SEE SHT. 39

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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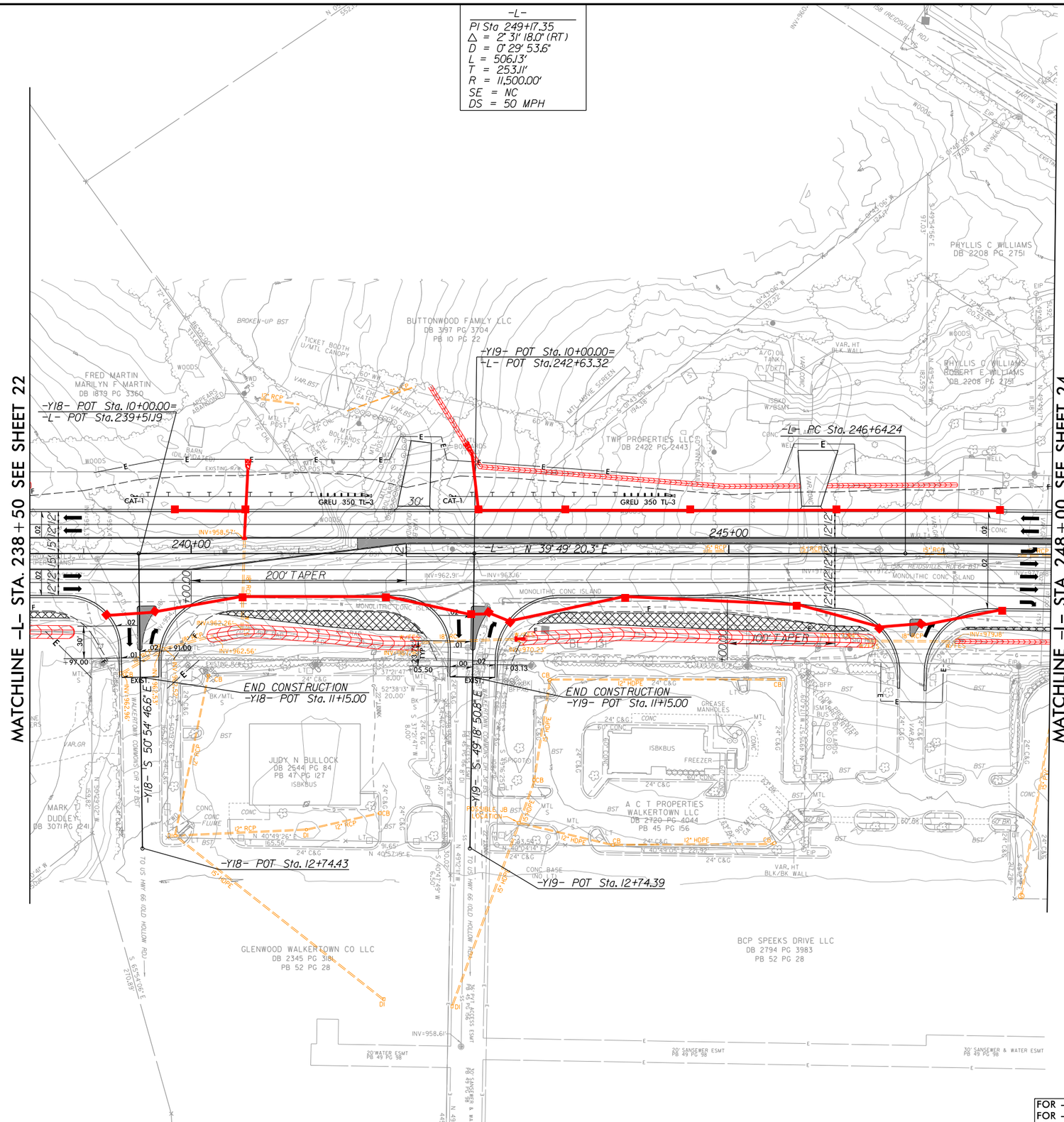
-L-
PI Sta 249+17.35
△ = 2° 31' 18.0" (RT)
D = 0° 29' 53.6"
L = 506.13'
T = 253.11'
R = 11,500.00'
SE = NC
DS = 50 MPH



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

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-L-	-Y20-	
PI Sta 249+17.35	PI Sta 95+14.03	PI Sta 105+62.01
△ = 2° 31' 18.0" (RT)	△ = 7° 38' 49.5" (RT)	△ = 2° 34' 55.7" (RT)
D = 0° 29' 53.6"	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.	SHEET NO.
R-2577A	24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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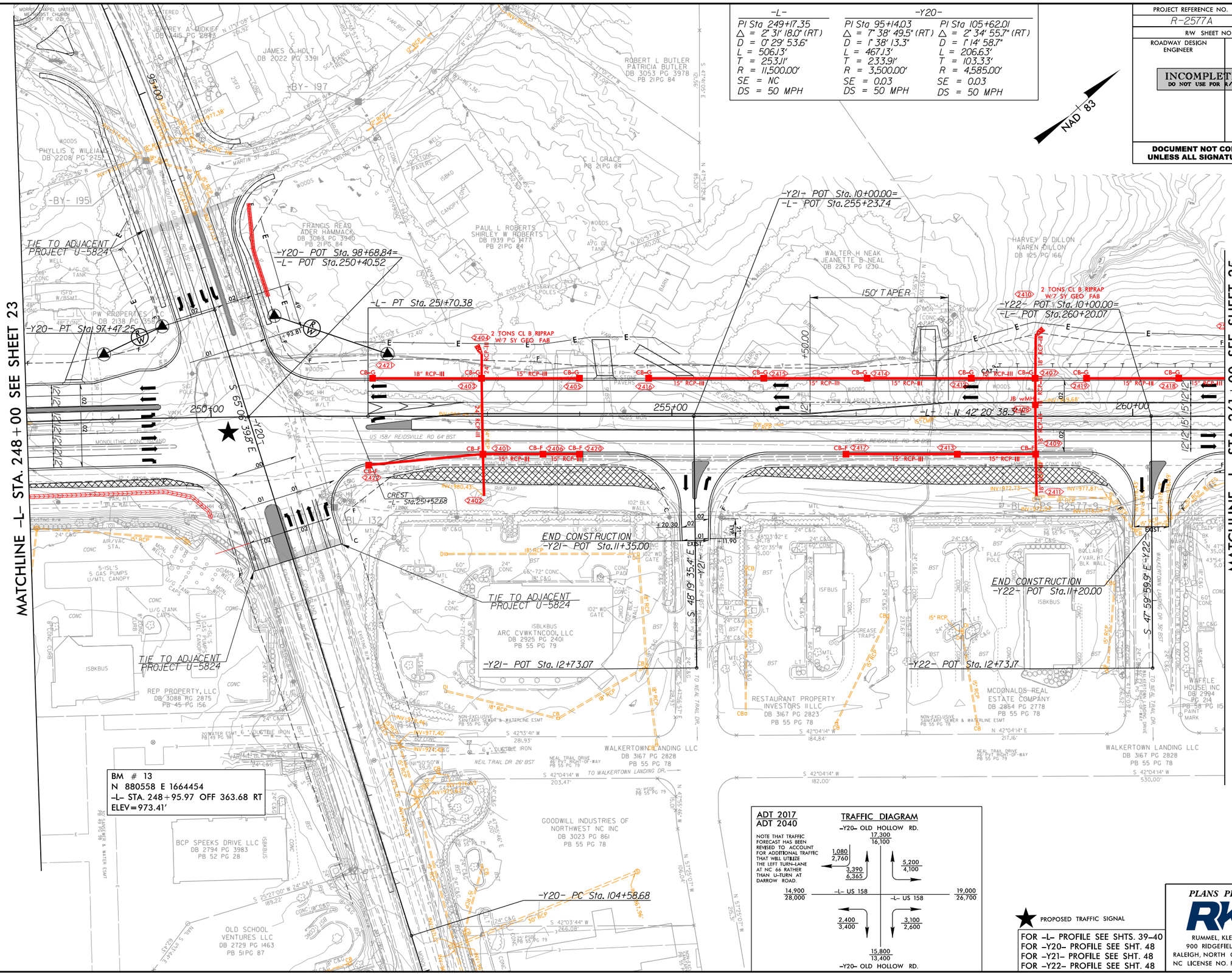

ADT 2017
ADT 2040

NOTE THAT TRAFFIC FORECAST HAS BEEN REVISED TO ACCOUNT FOR ADDITIONAL TRAFFIC THAT WILL UTILIZE THE LEFT TURN-LANE AT NC 66 RATHER THAN U-TURN AT DARROW ROAD.

TRAFFIC DIAGRAM

-Y20- OLD HOLLOW RD.

	17,300 / 16,100	
1,080 / 2,760		5,200 / 4,100
	3,390 / 6,365	
14,900 / 28,000	-L- US 158	19,000 / 26,700
	-L- US 158	
2,400 / 3,400		3,100 / 2,600
	15,800 / 13,400	

-Y20- OLD HOLLOW RD.

★ PROPOSED TRAFFIC SIGNAL

FOR -L- PROFILE SEE SHTS. 39-40
FOR -Y20- PROFILE SEE SHT. 48
FOR -Y21- PROFILE SEE SHT. 48
FOR -Y22- PROFILE SEE SHT. 48

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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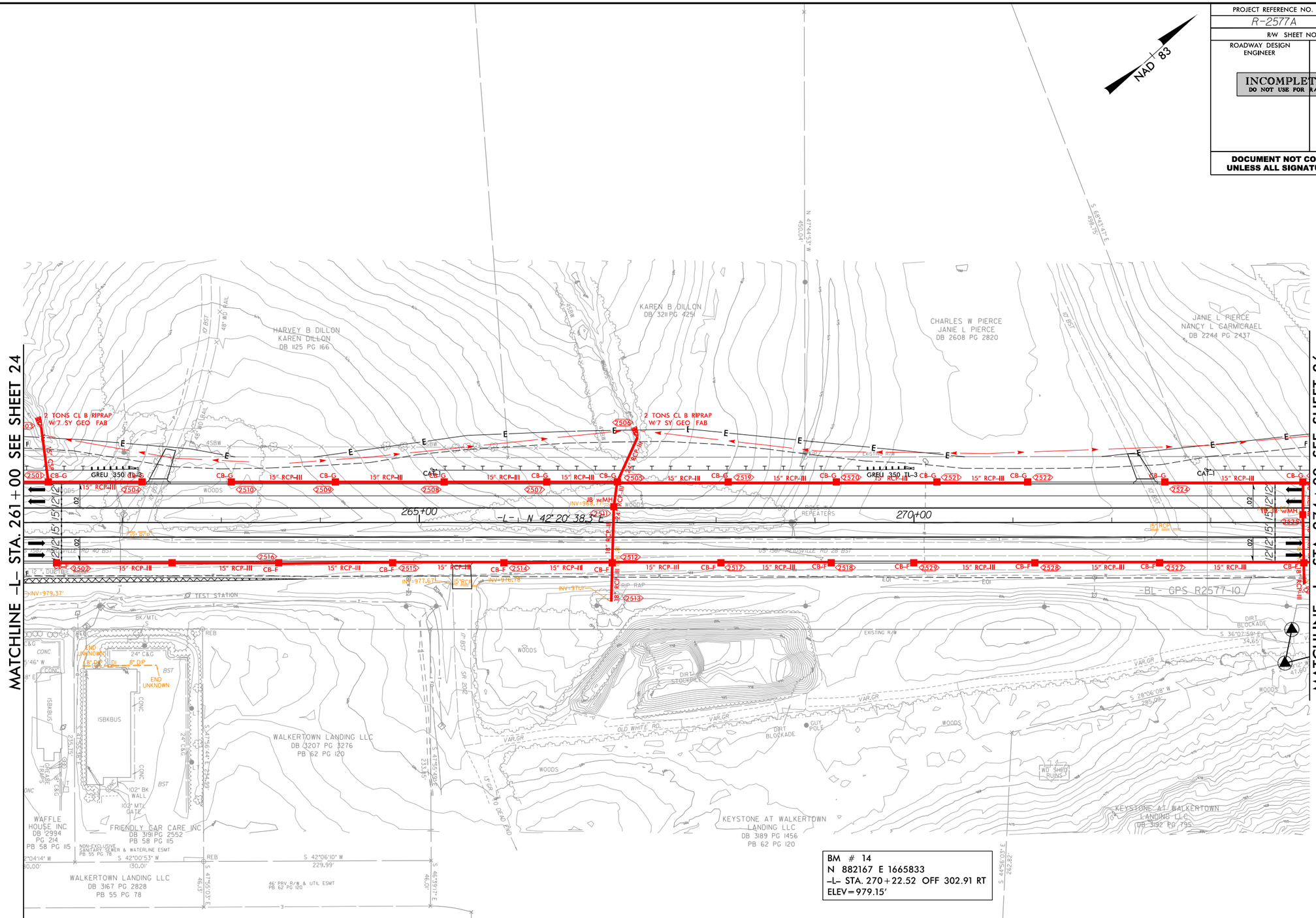

FOR -L- PROFILE SEE SHT. 40

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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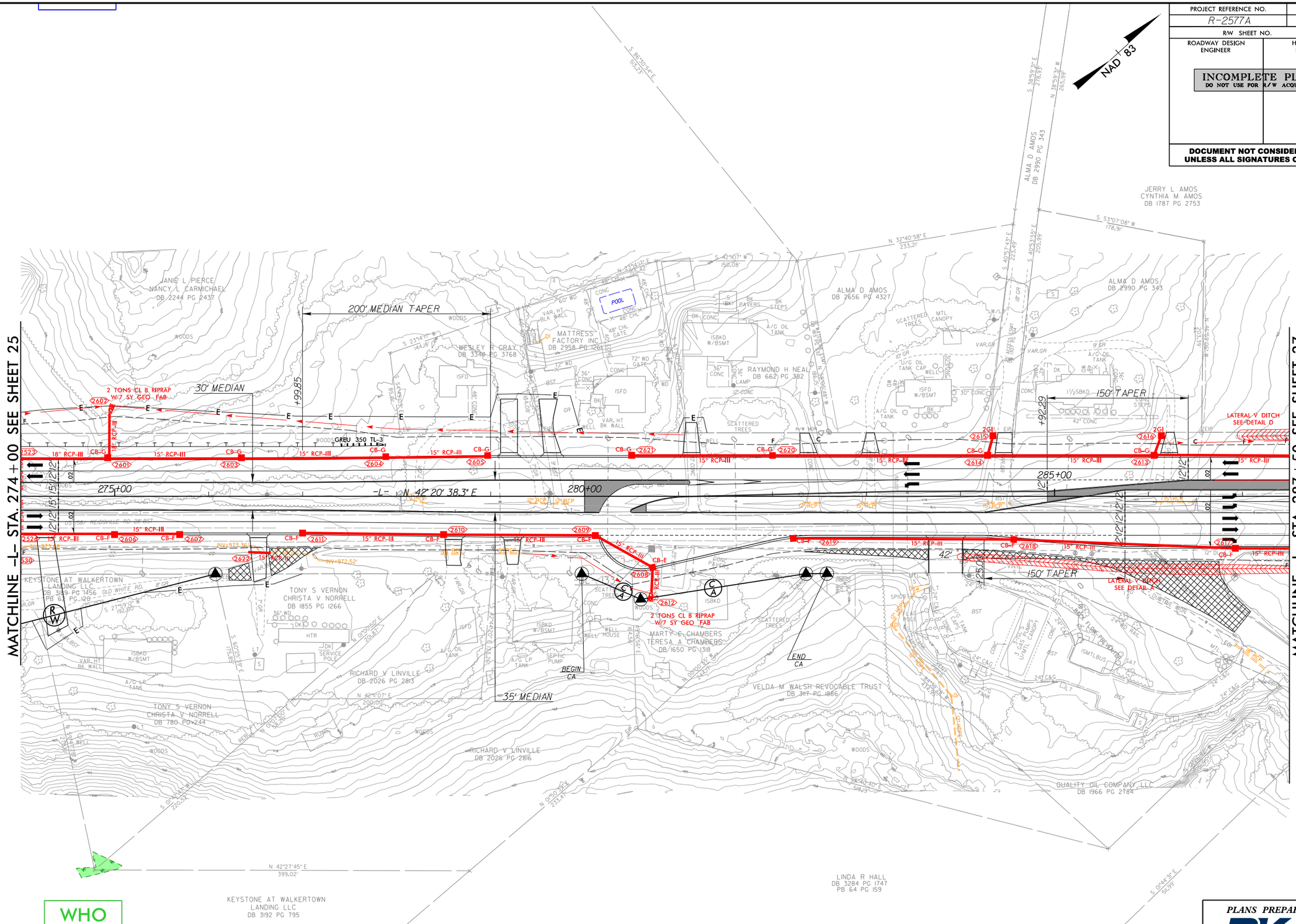

BM # 15
N 883107 E 1666974
-L- STA. 284+85.96 OFF 512.40 RT
ELEV=932.74'

FOR -L- PROFILE SEE SHTS. 40-41

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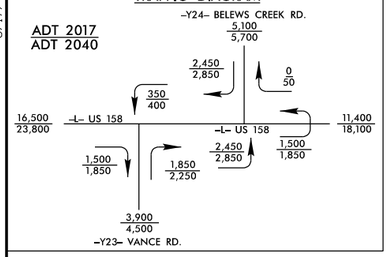
TRAFFIC DIAGRAM

ADT 2017
ADT 2040



-Y23-	-Y24-		
PI Sta 14+77.82	PI Sta 13+04.32	PI Sta 18+12.85	PI Sta 22+29.54
△ = 42° 08' 08.4" (LT)	△ = 0° 17' 21.9" (RT)	△ = 28° 38' 20.09" (RT)	△ = 72° 45' 32.8" (LT)
D = 11° 27' 33.0"	D = 0° 02' 51.2"	D = 7° 09' 43.1"	D = 19° 05' 54.9"
L = 367.70'	L = 608.65'	L = 399.87'	L = 380.97'
T = 192.61'	T = 304.32'	T = 204.21'	T = 221.01'
R = 500.00'	R = 120,490.00'	R = 800.00'	R = 300.00'
SE = 0.04	SE = NC	SE = 0.06	SE = 0.06
DS = 35 MPH	DS = 55 MPH	DS = 45 MPH	DS = 30 MPH

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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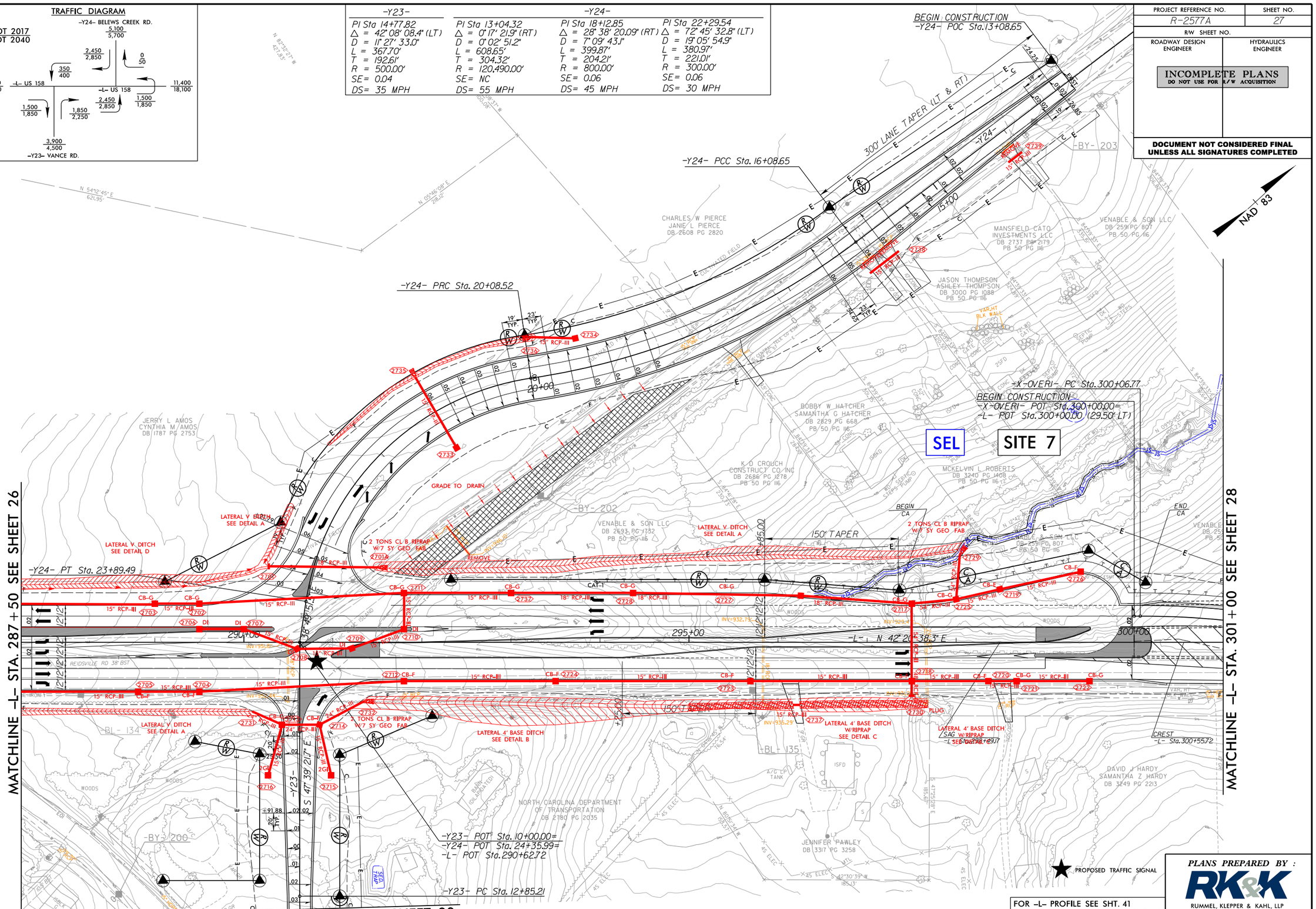

FOR -L- PROFILE SEE SHT. 41
FOR -X-OVER1- PROFILE SEE SHT. 49
FOR -Y23- PROFILE SEE SHT. 48
FOR -Y24- PROFILE SEE SHT. 49

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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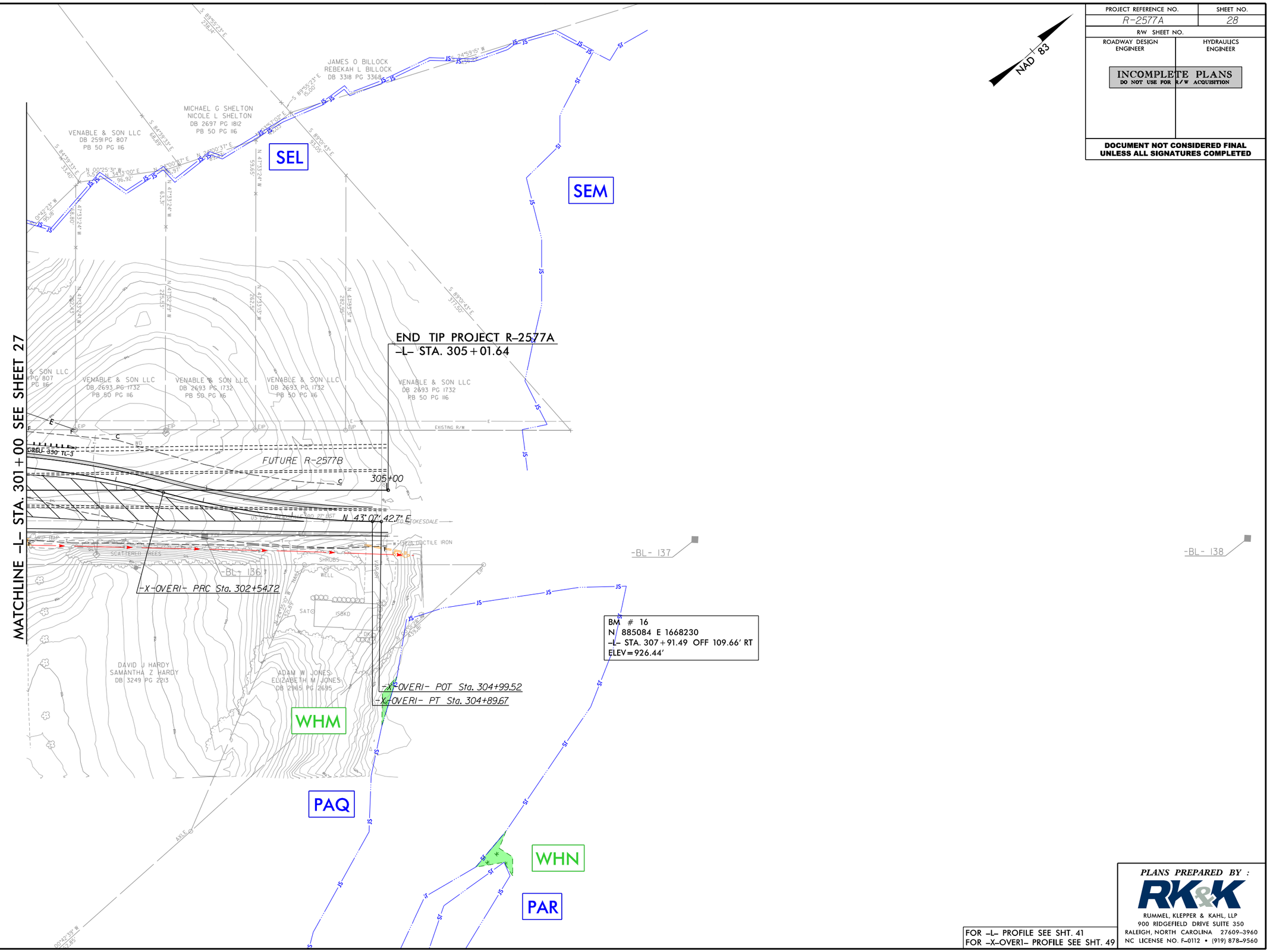
NAD 83



FOR -L- PROFILE SEE SHT. 41
FOR -X-OVER1- PROFILE SEE SHT. 49

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-Y5-	-Y5A-
PI Sta 18+25.56	PI Sta 14+03.88
△ = 59° 56' 31.1" (LT)	△ = 44° 22' 01.8" (RT)
D = 6° 01' 52.1"	D = 11° 27' 33.0"
L = 993.88'	L = 387.18'
T = 547.84'	T = 203.88'
R = 950.00'	R = 500.00'
SE=	SE=

PROJECT REFERENCE NO.	SHEET NO.
R-2577A	29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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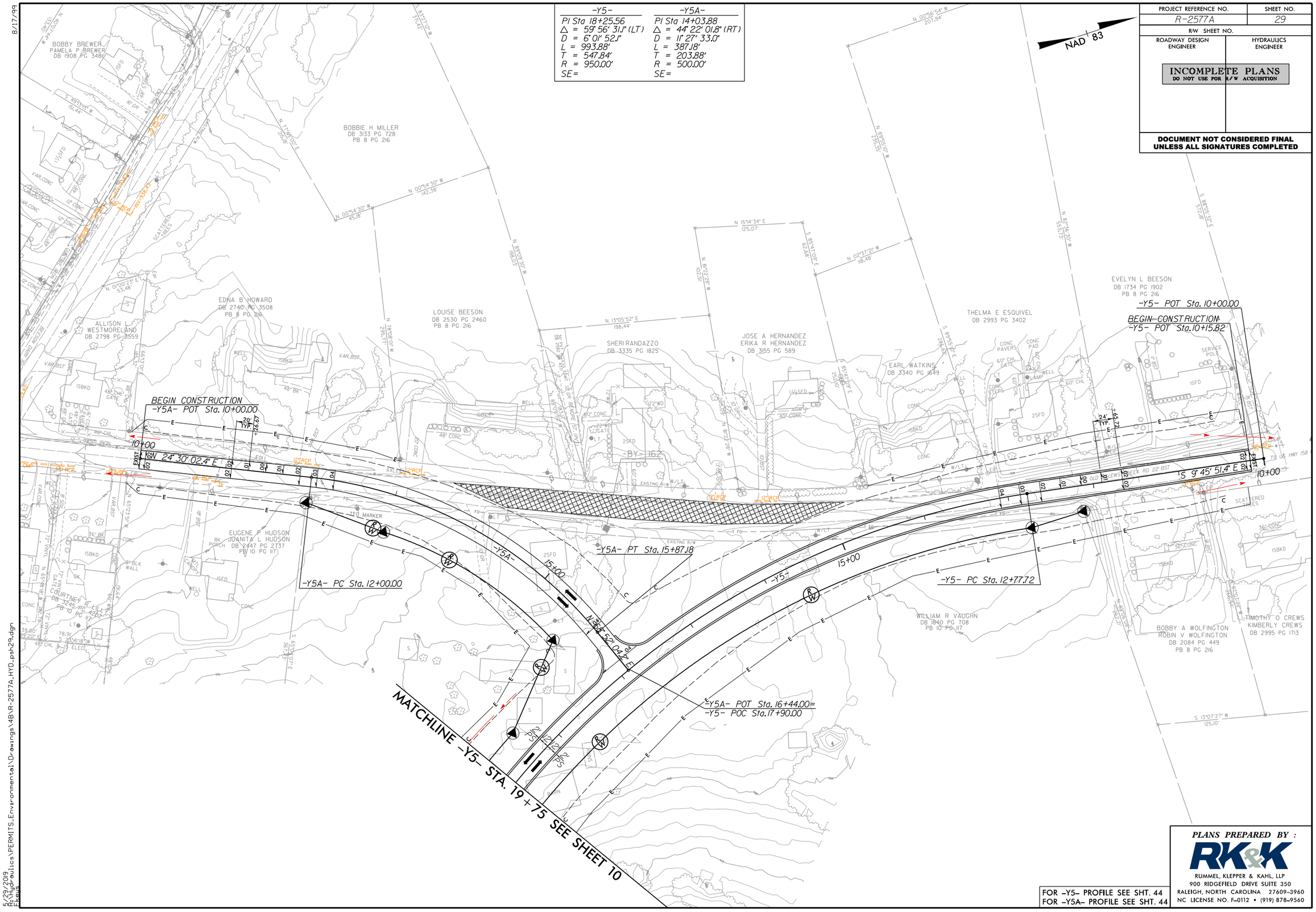
NAD 83



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

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R-2577A	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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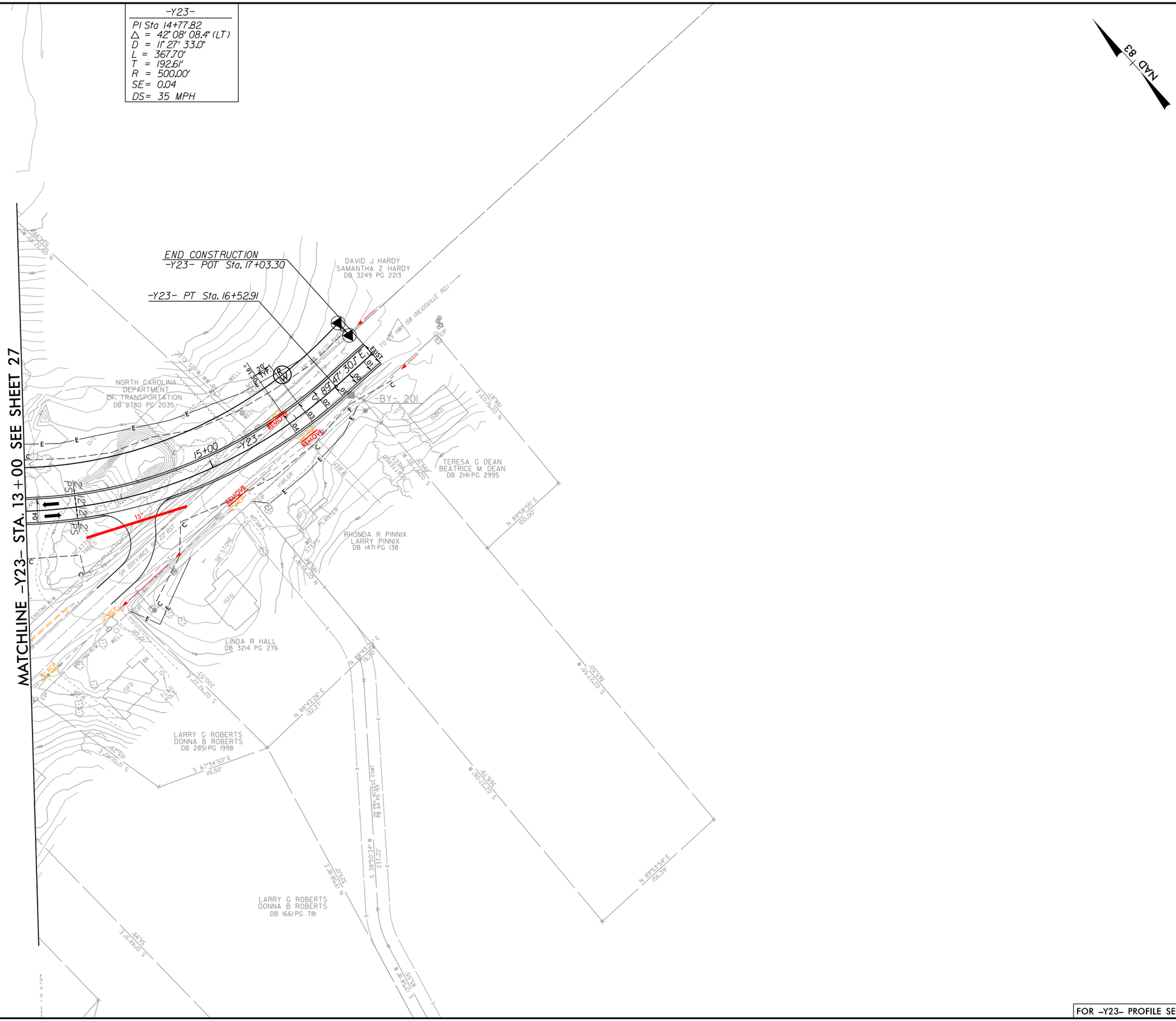

FOR -Y23- PROFILE SEE SHT. 48

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

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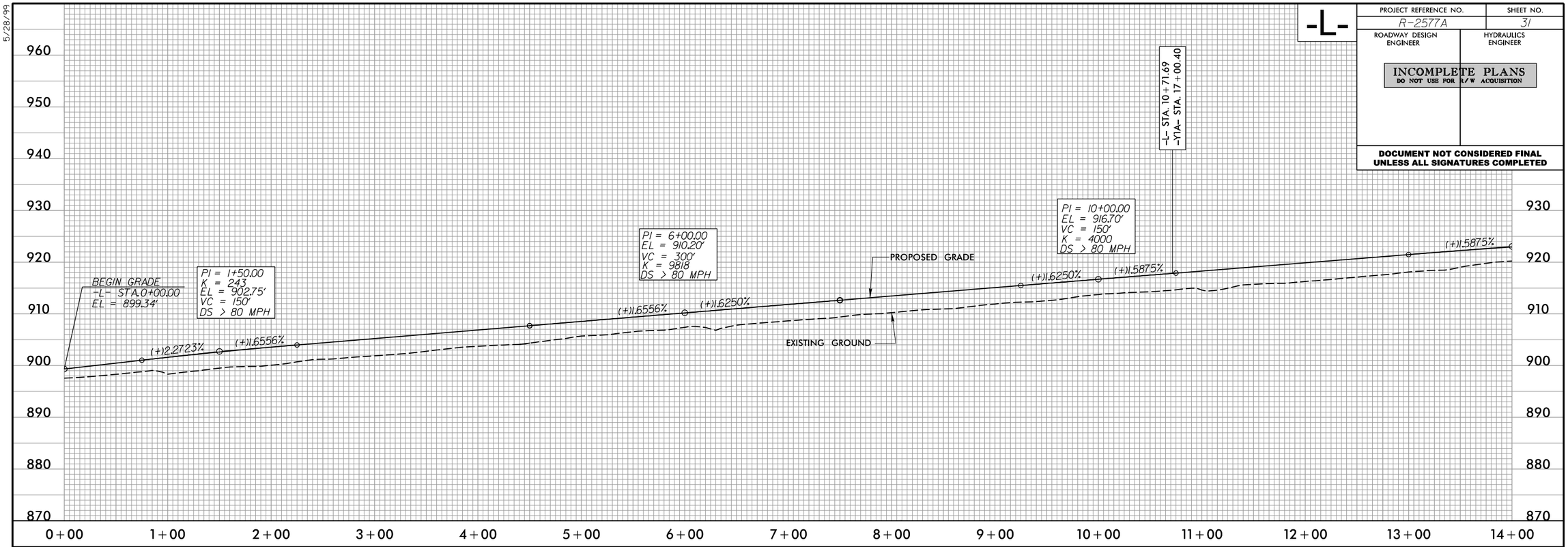

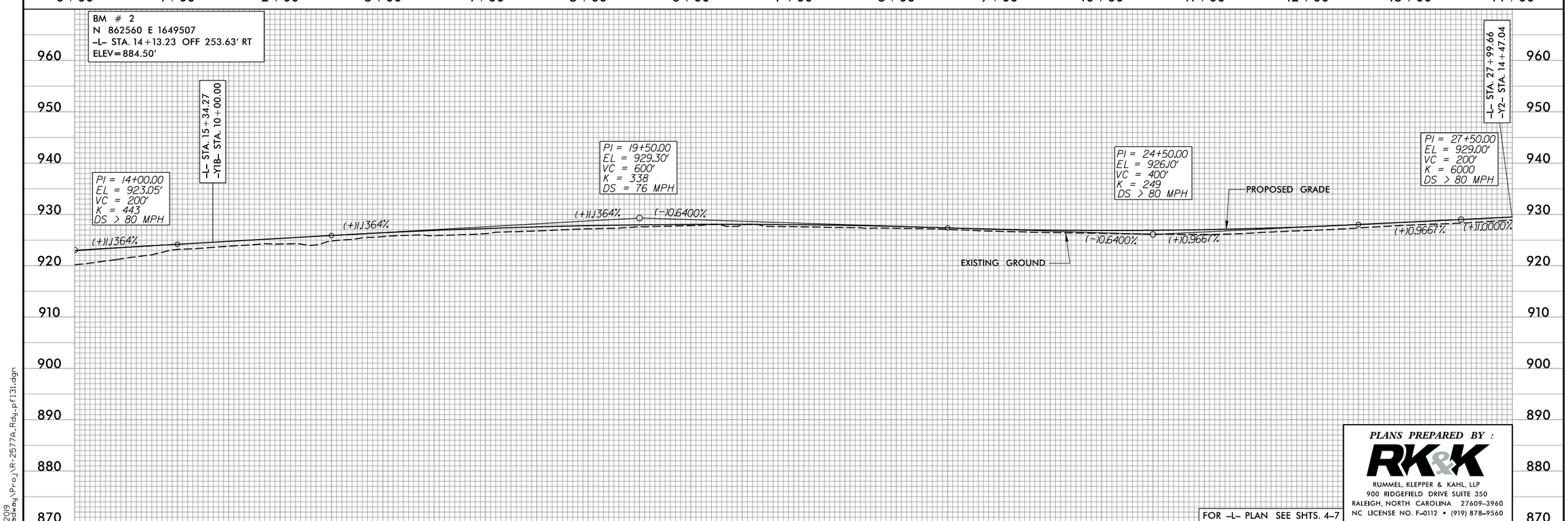

FOR -L- PLAN SEE SHTS. 4-7

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R-2577A	32
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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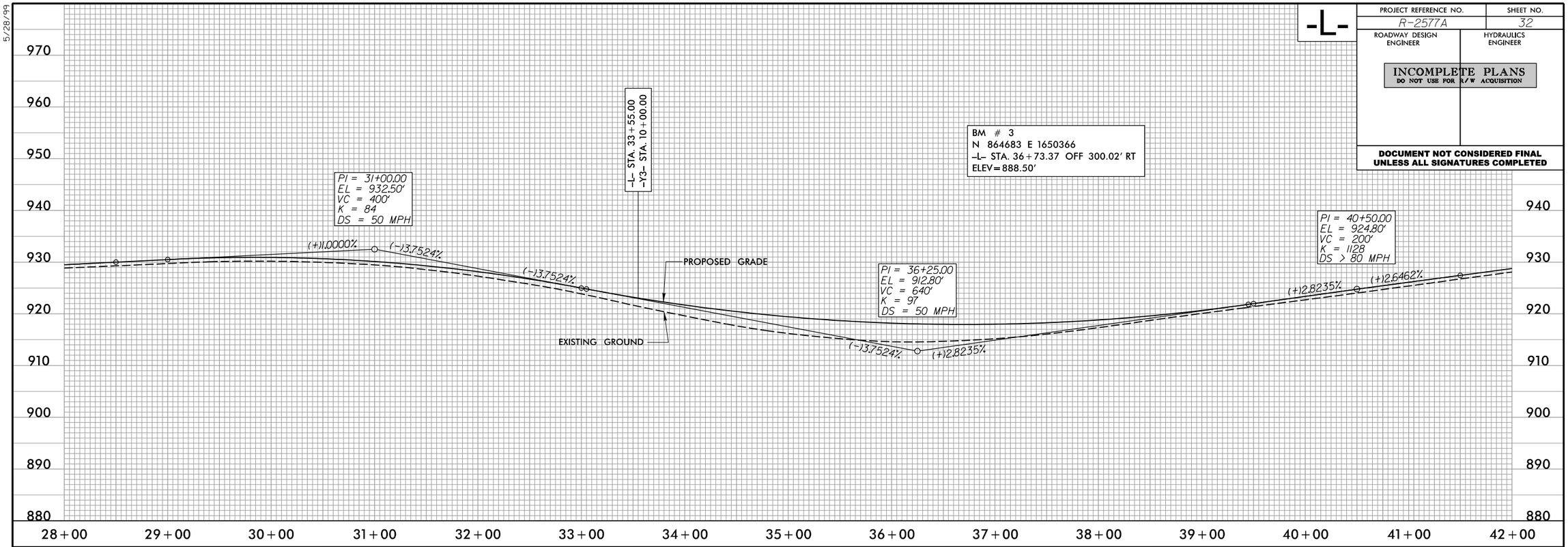

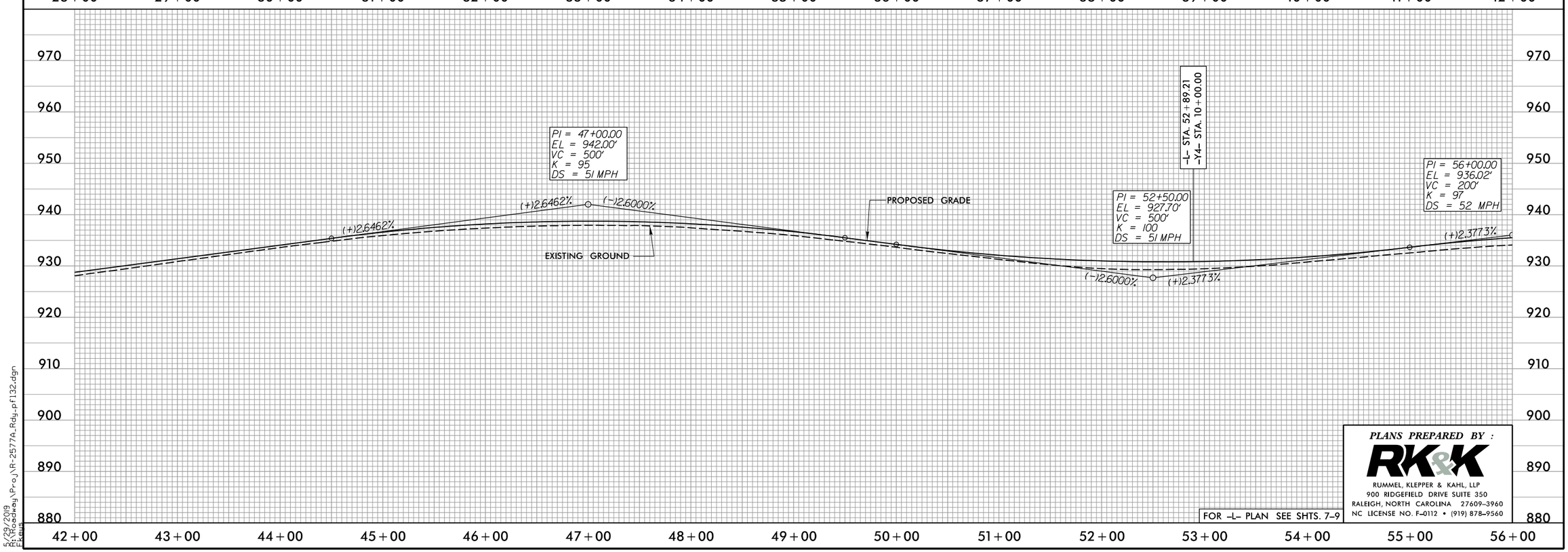

FOR -L- PLAN SEE SHTS. 7-9

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R-2577A	33
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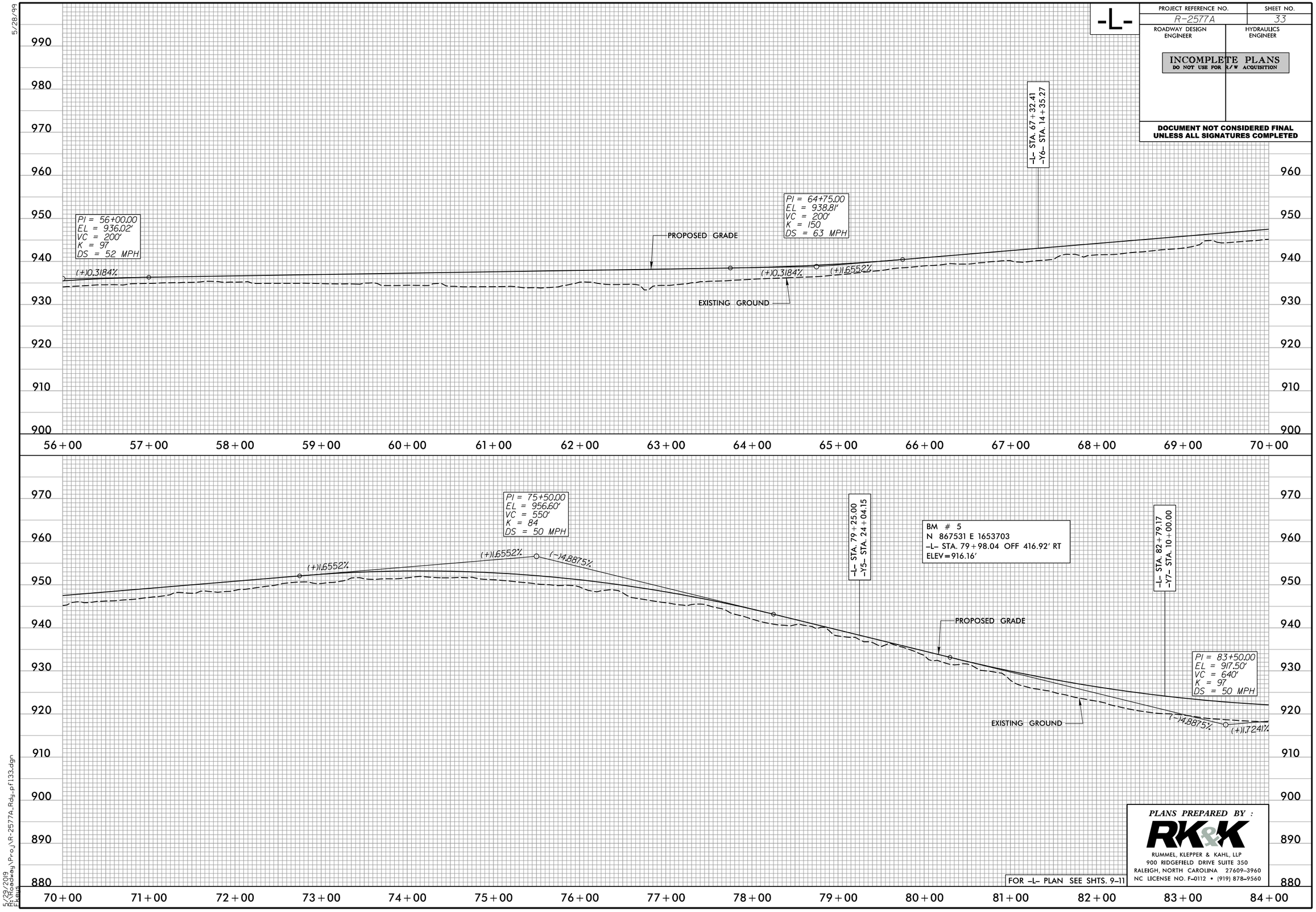

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R-2577A	34
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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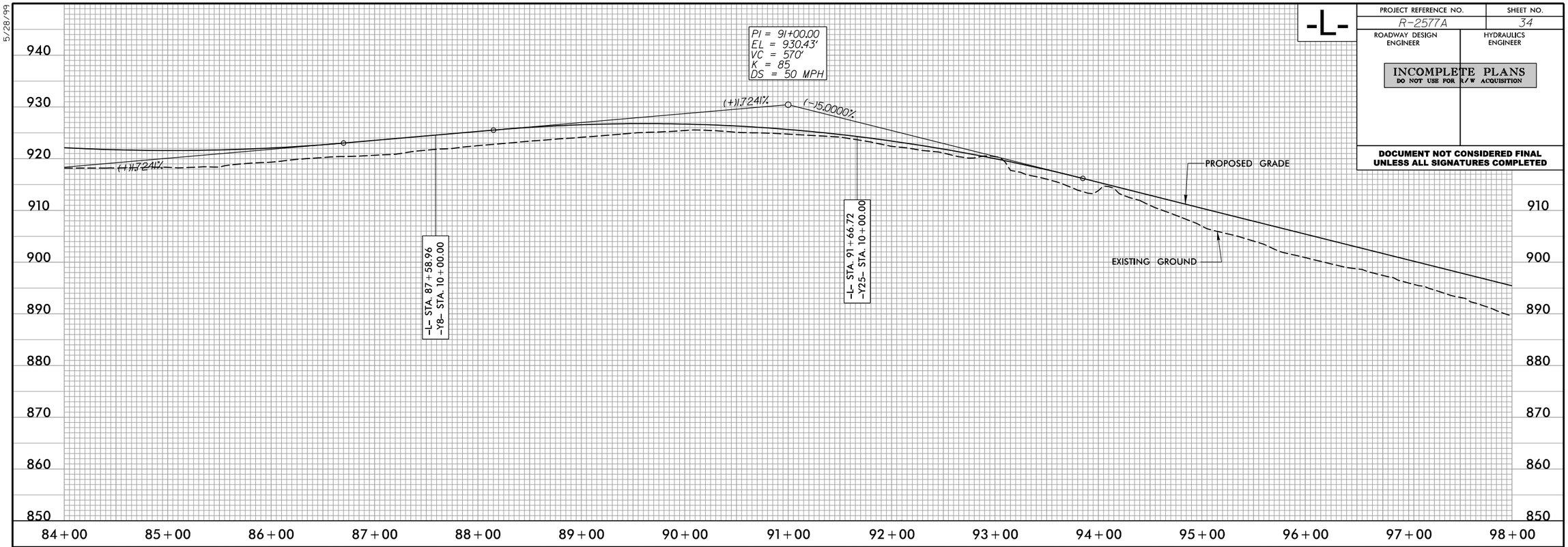

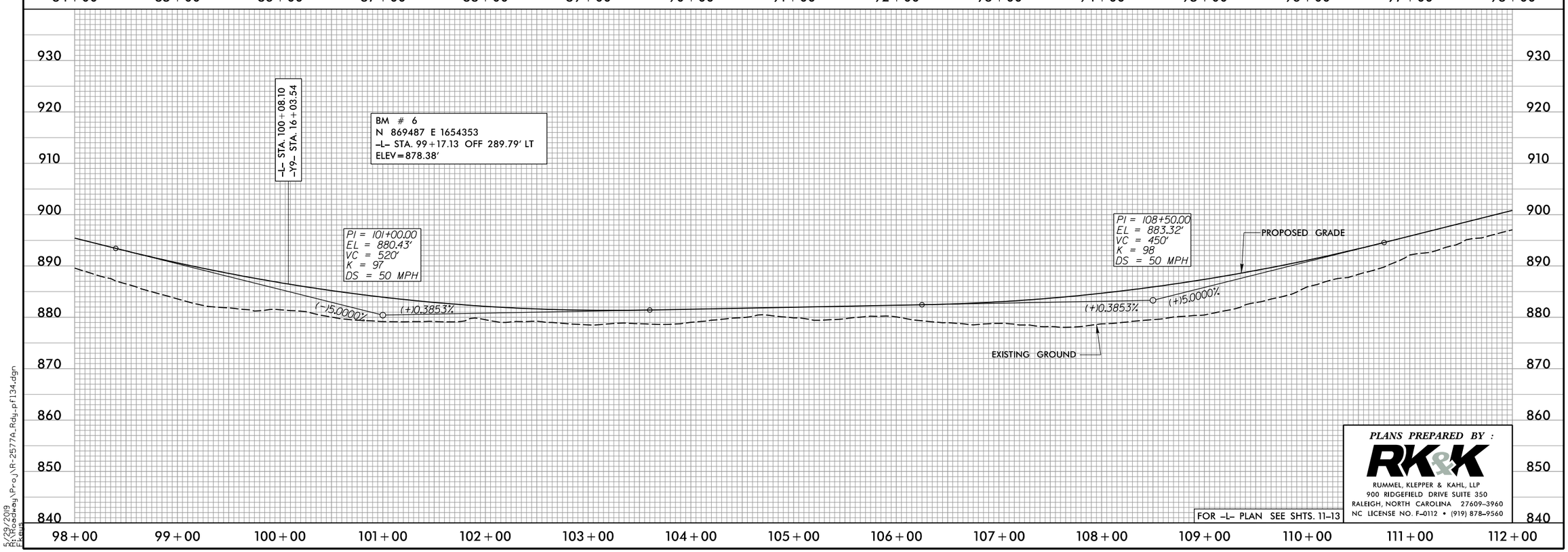

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R-2577A	35
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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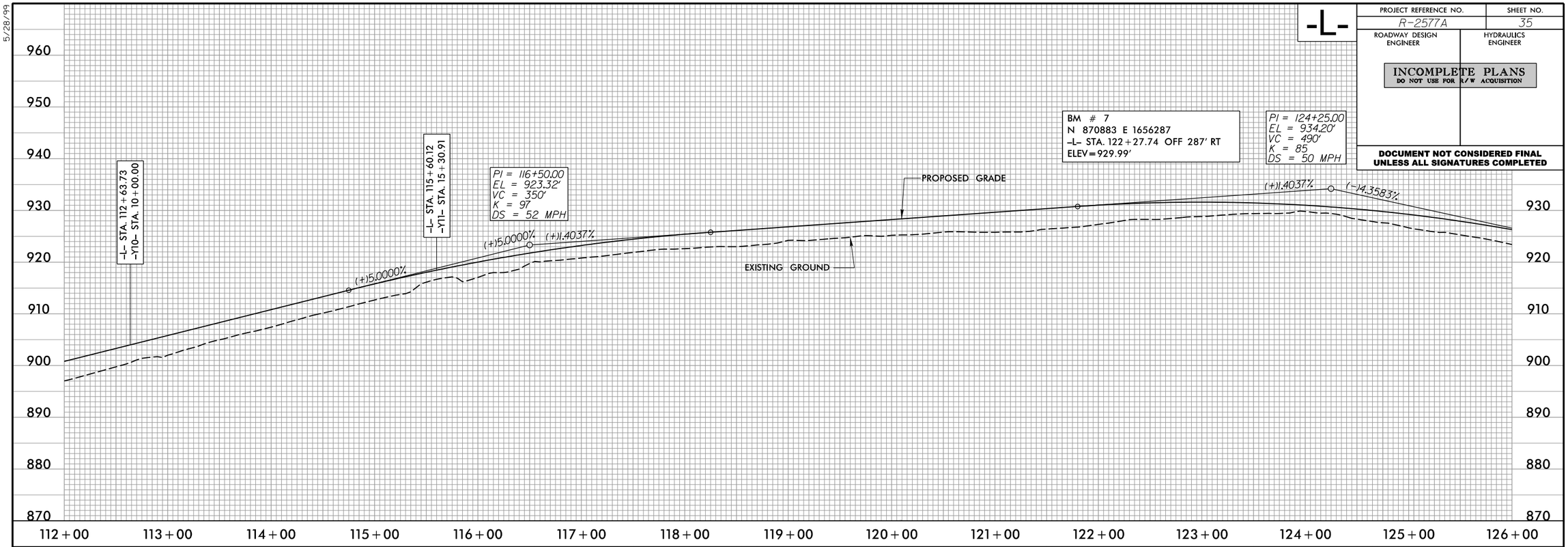

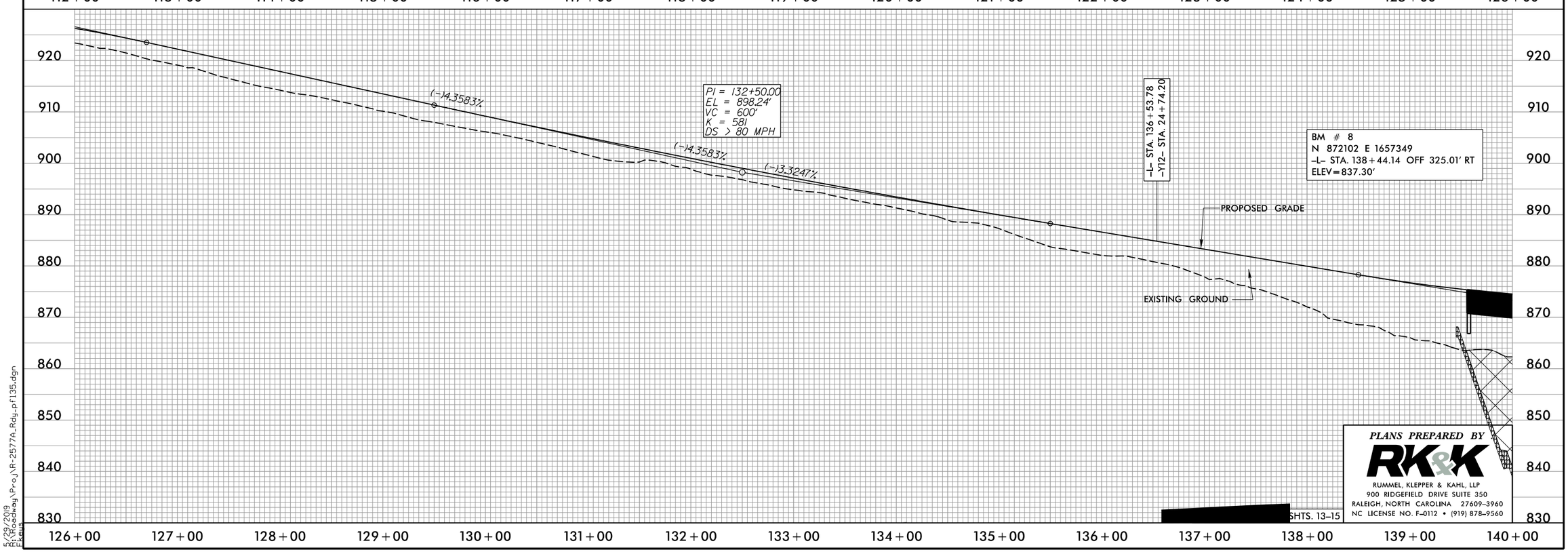

SHTS. 13–15

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R-2577A	36
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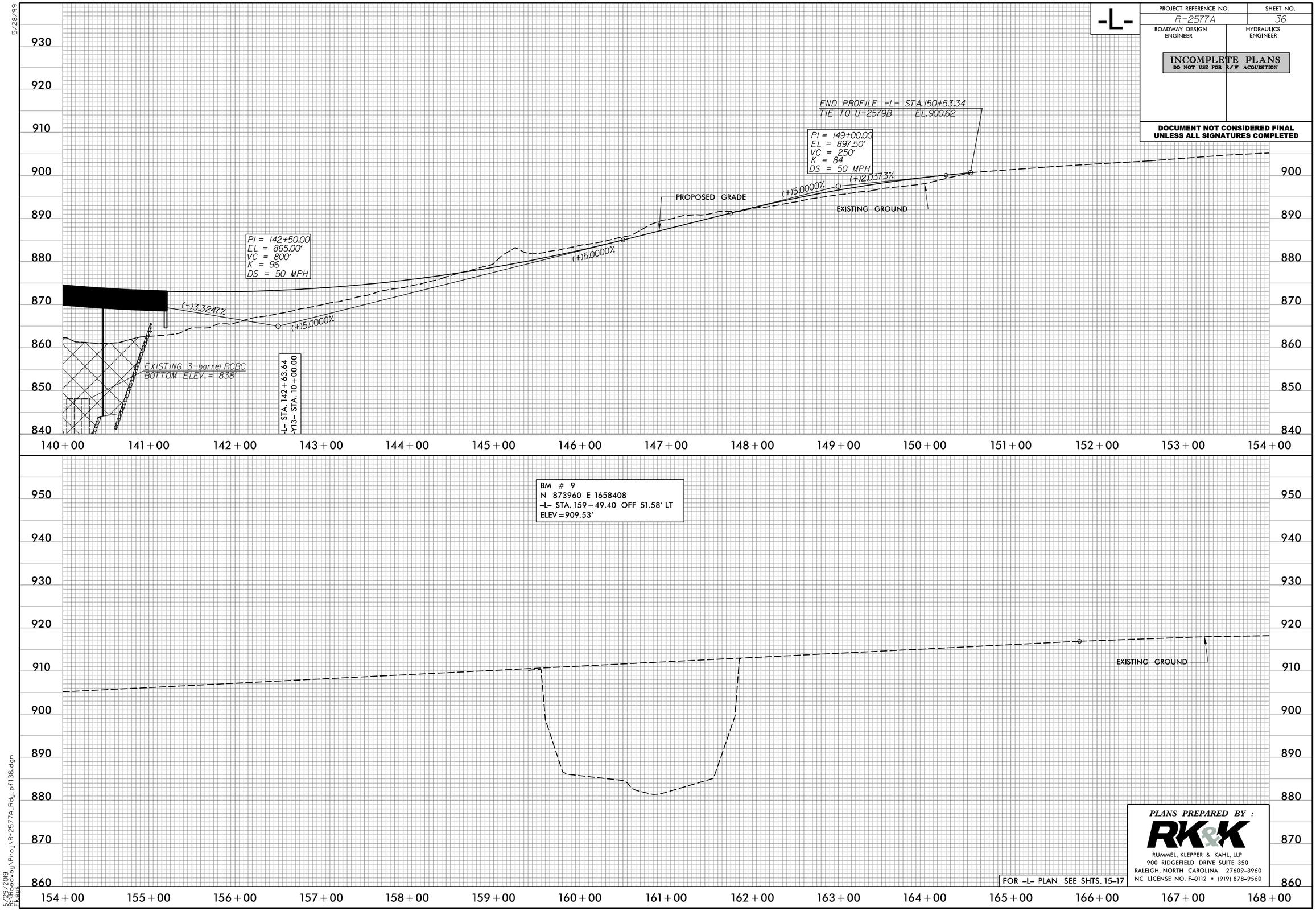

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	37
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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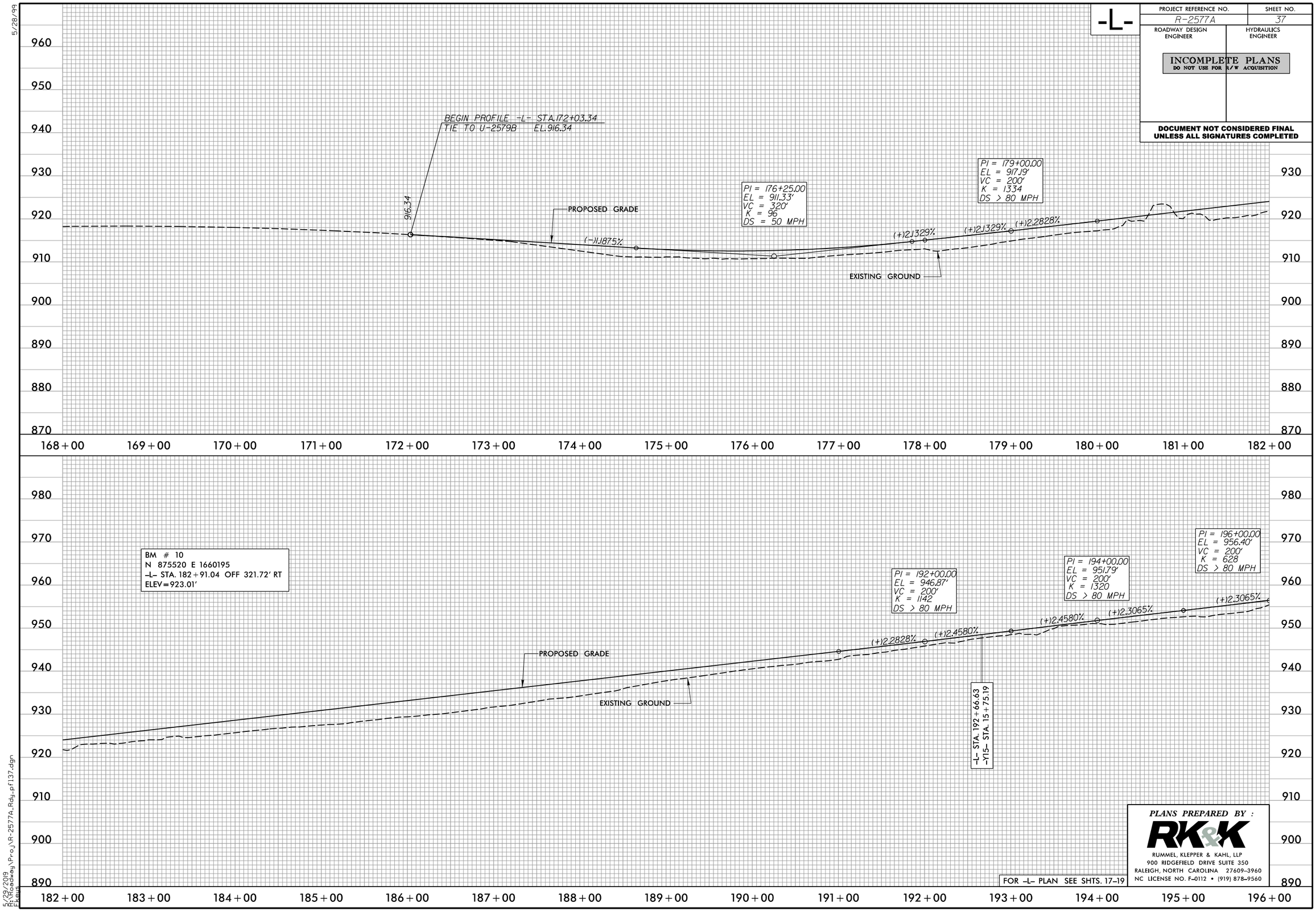

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R-2577A	38
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R-2577A	39
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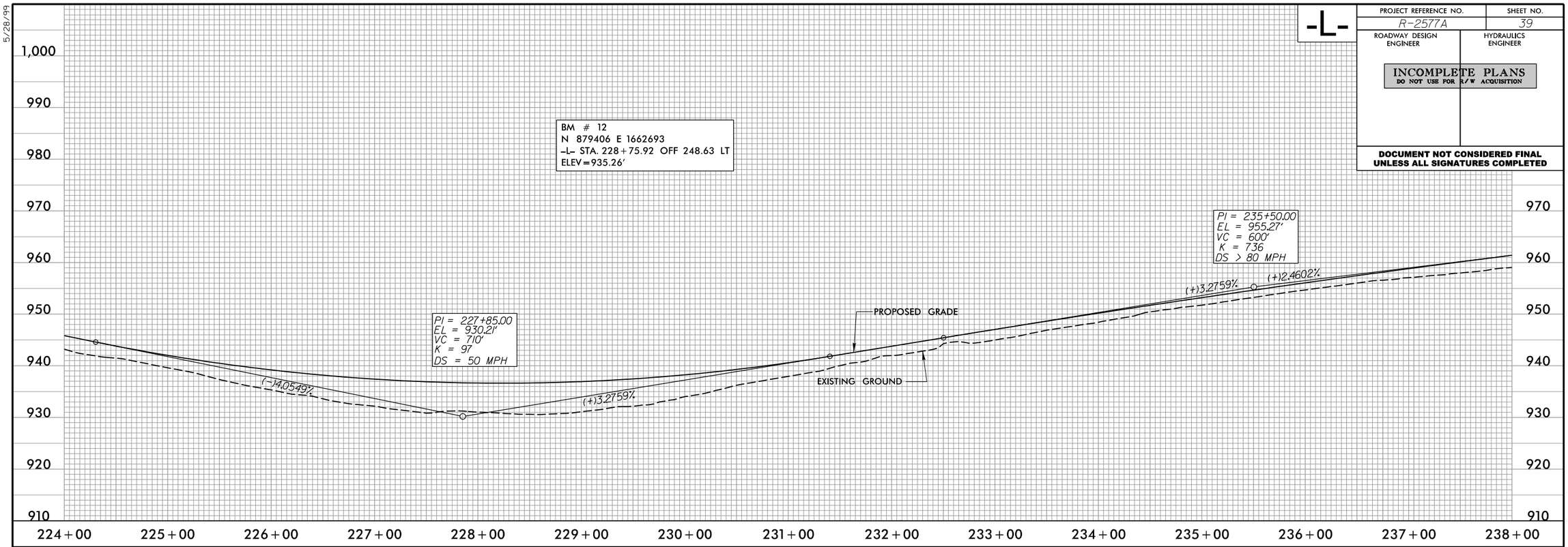

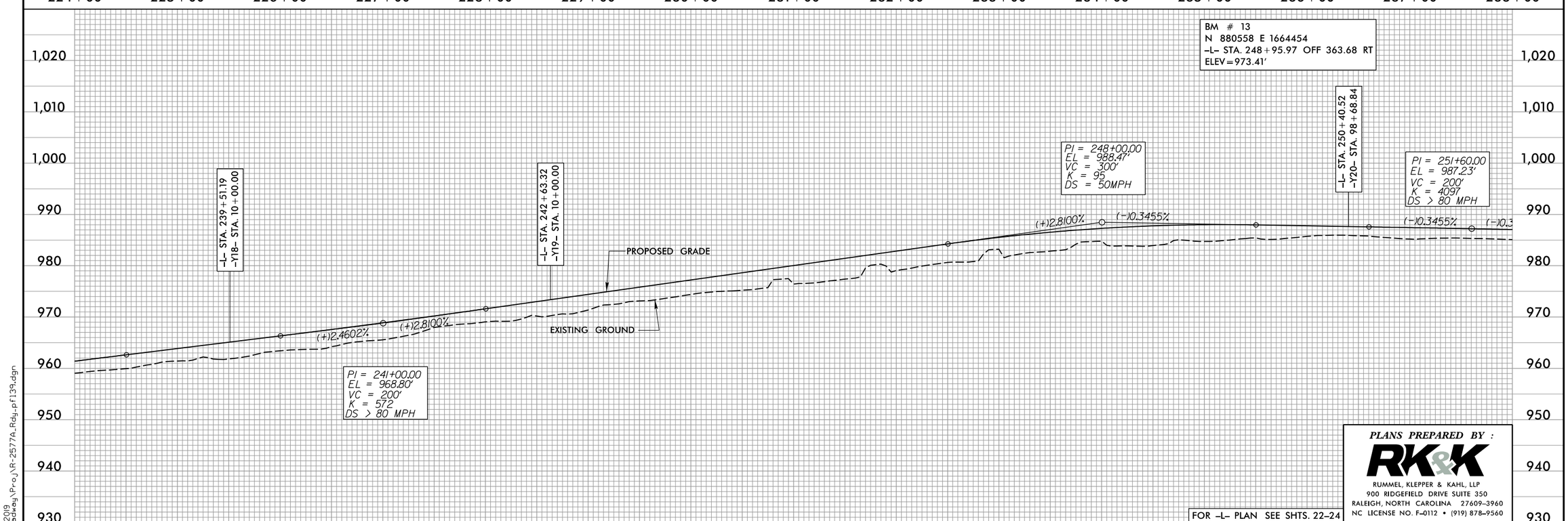

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	40
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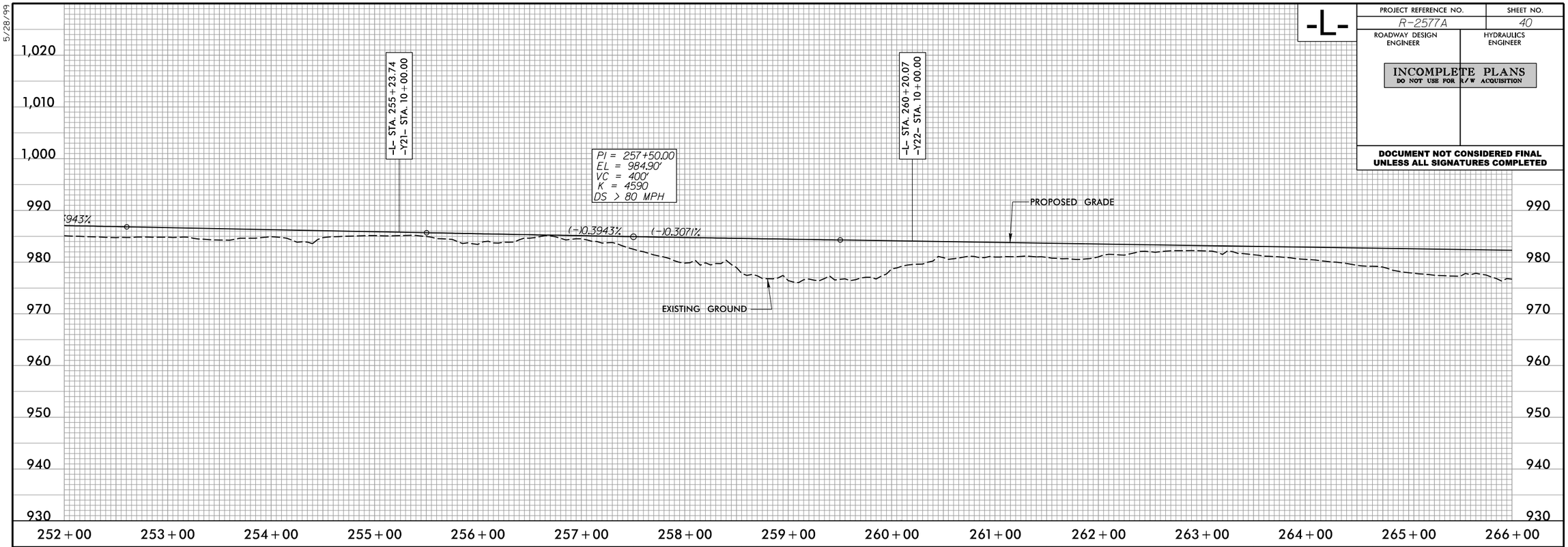

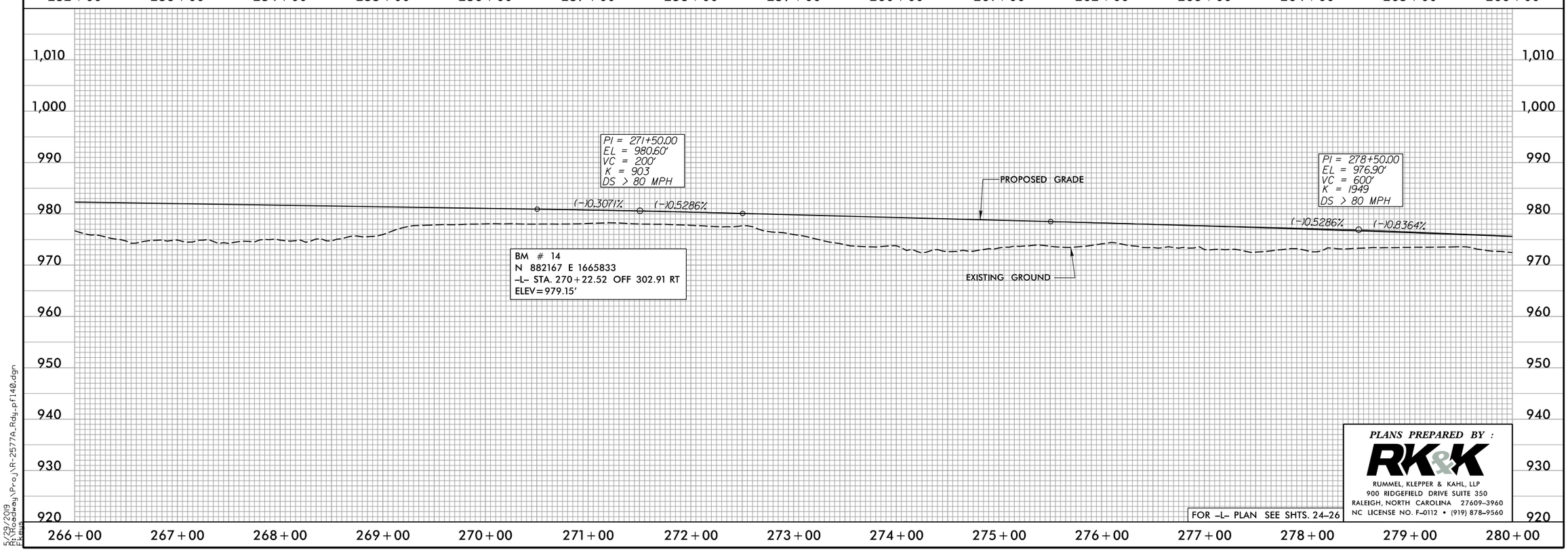

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PROJECT REFERENCE NO.	SHEET NO.
R-2577A	41
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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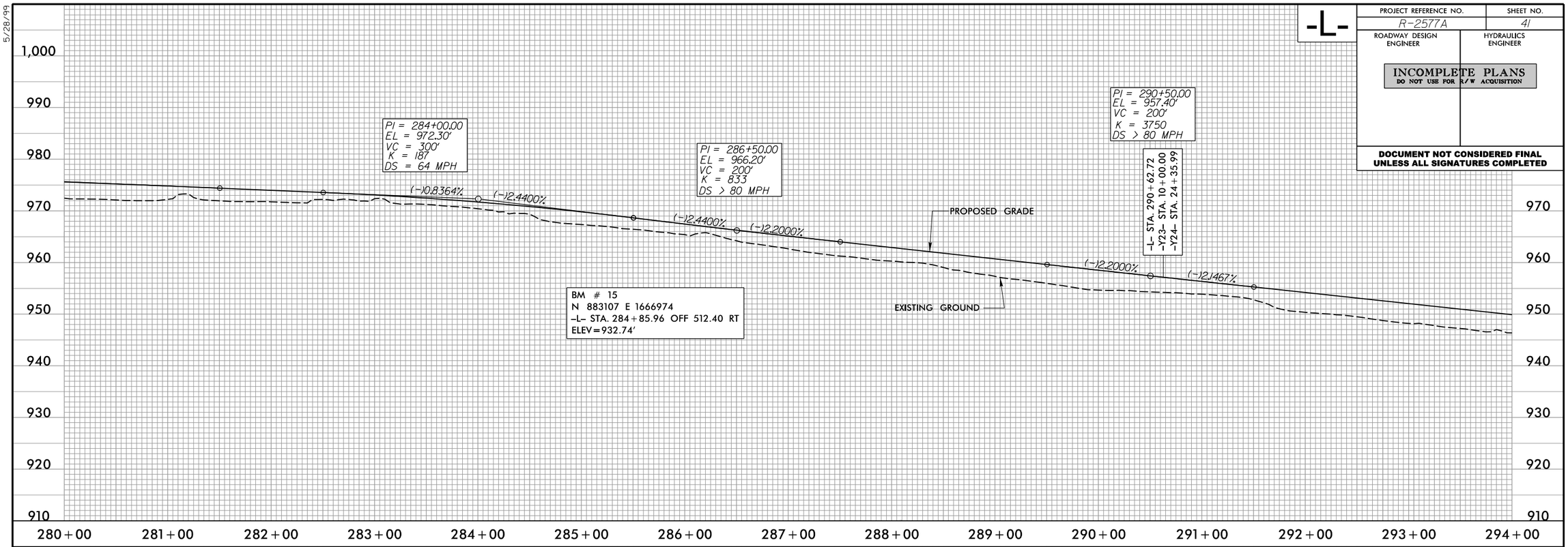

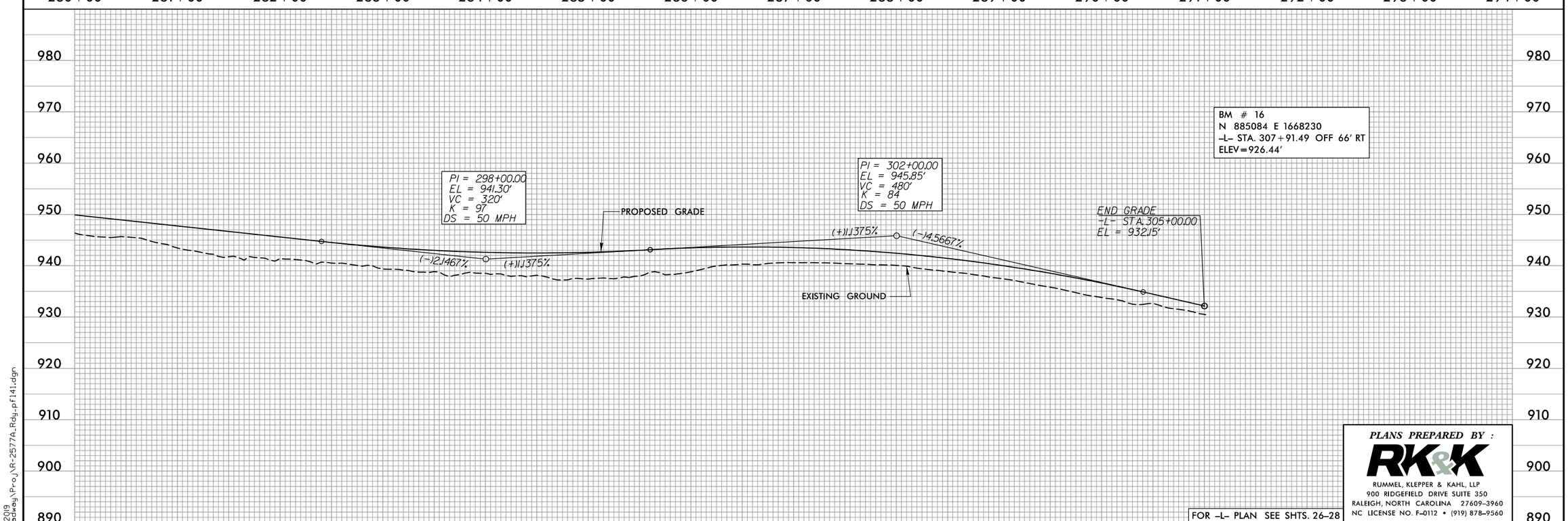

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R-2577A	42
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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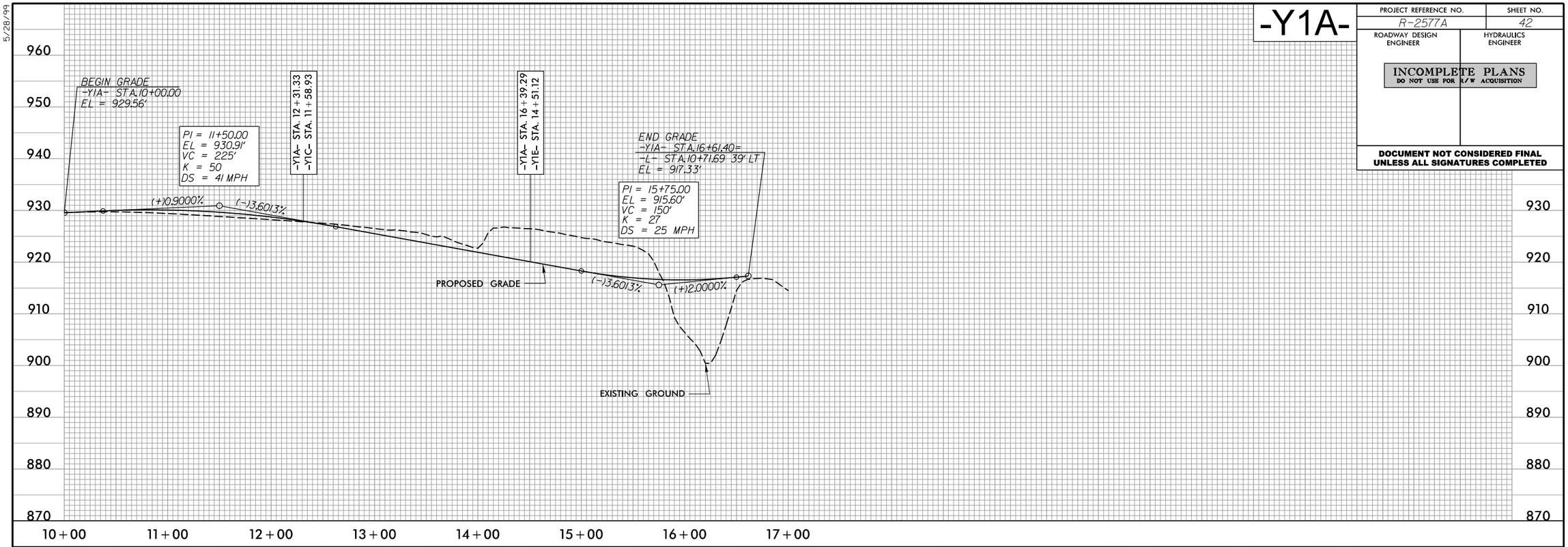

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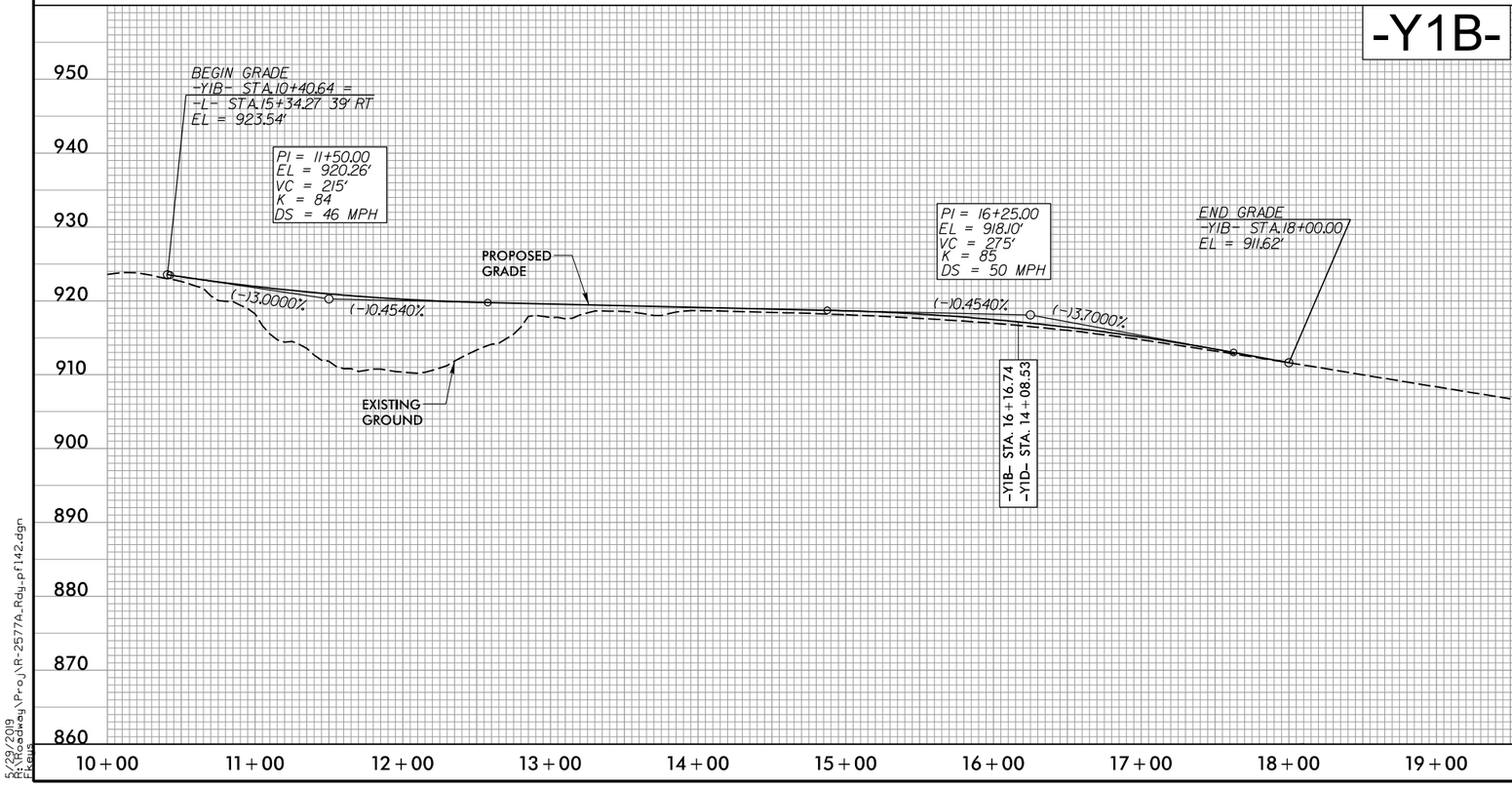

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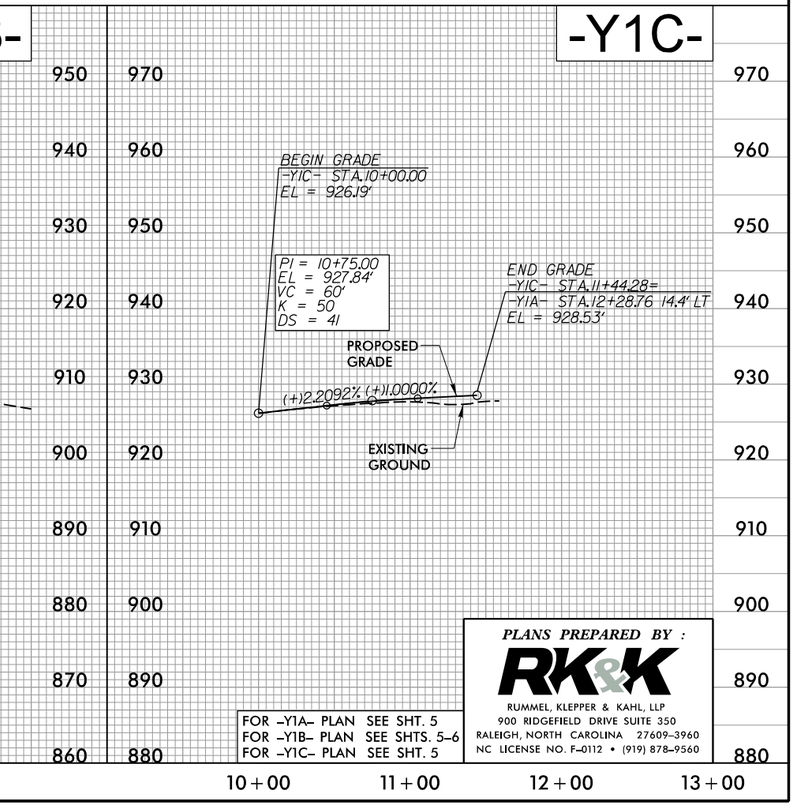

FOR -Y1A- PLAN SEE SHT. 5
FOR -Y1B- PLAN SEE SHTS. 5-6
FOR -Y1C- PLAN SEE SHT. 5

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

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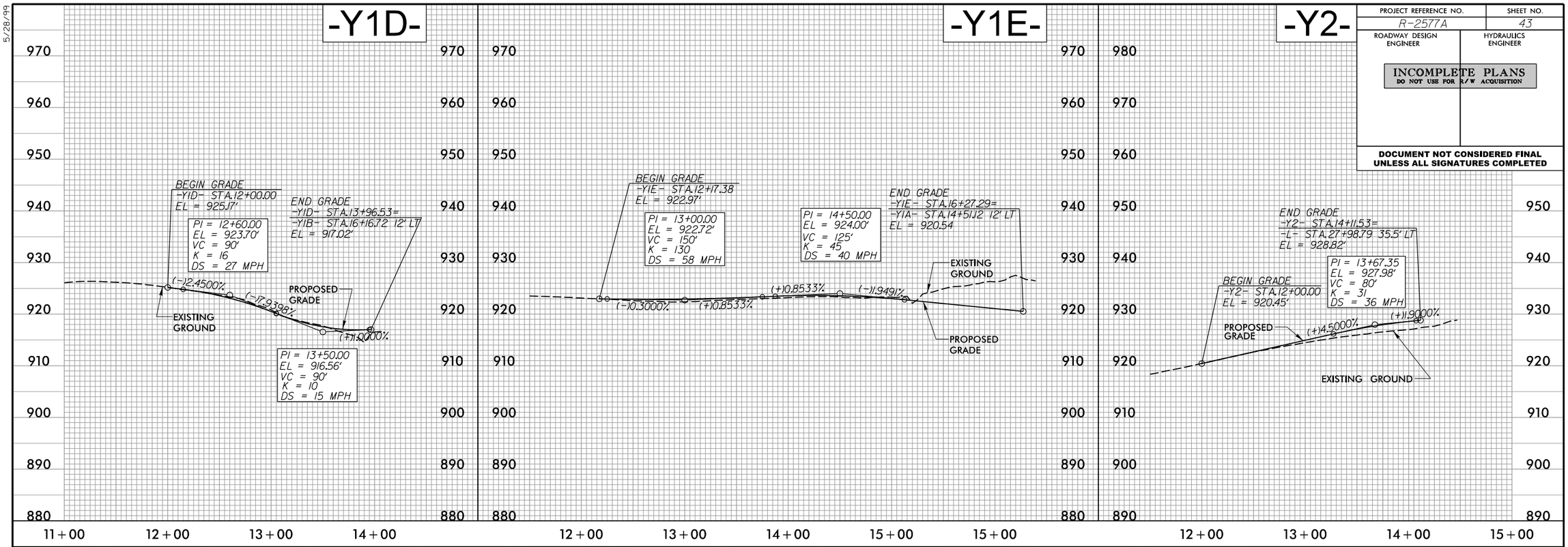

FOR -Y1D- PLAN SEE SHT. 6
FOR -Y1E- PLAN SEE SHT. 5
FOR -Y2- PLAN SEE SHT. 6
FOR -Y3- PLAN SEE SHT. 7

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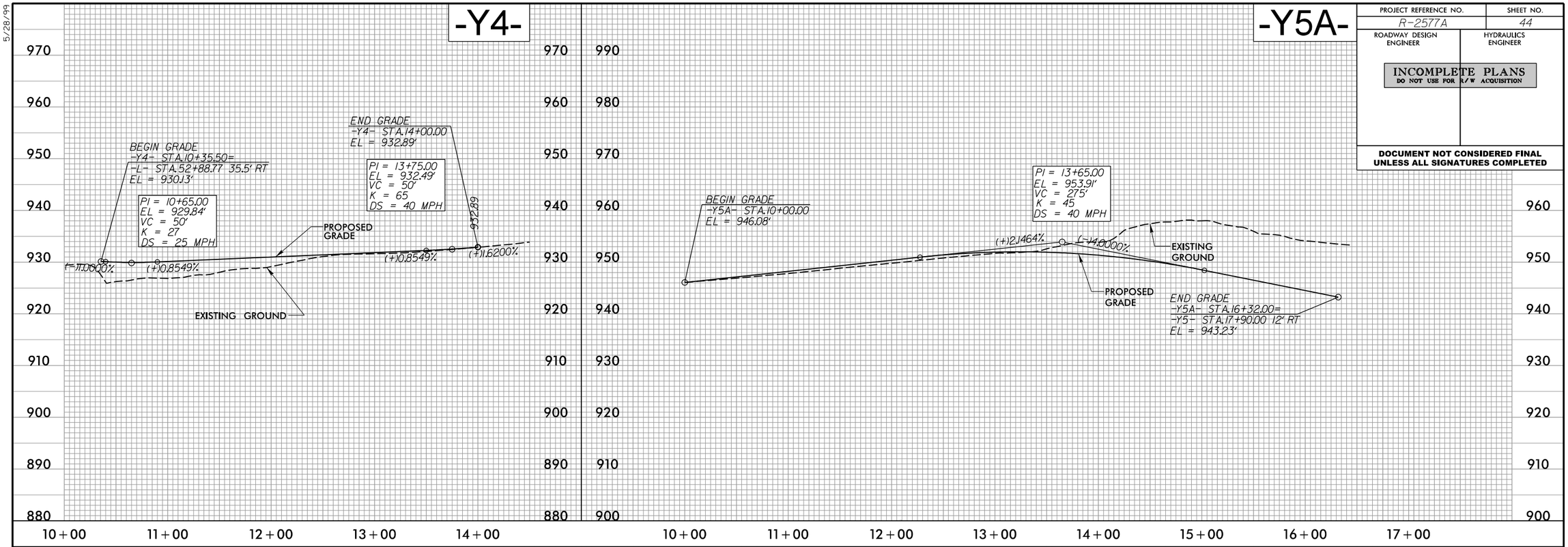

FOR -Y4- PLAN SEE SHT. 8
FOR -Y5- PLAN SEE SHTS. 10 & 29
FOR -Y5A- PLAN SEE SHT. 29

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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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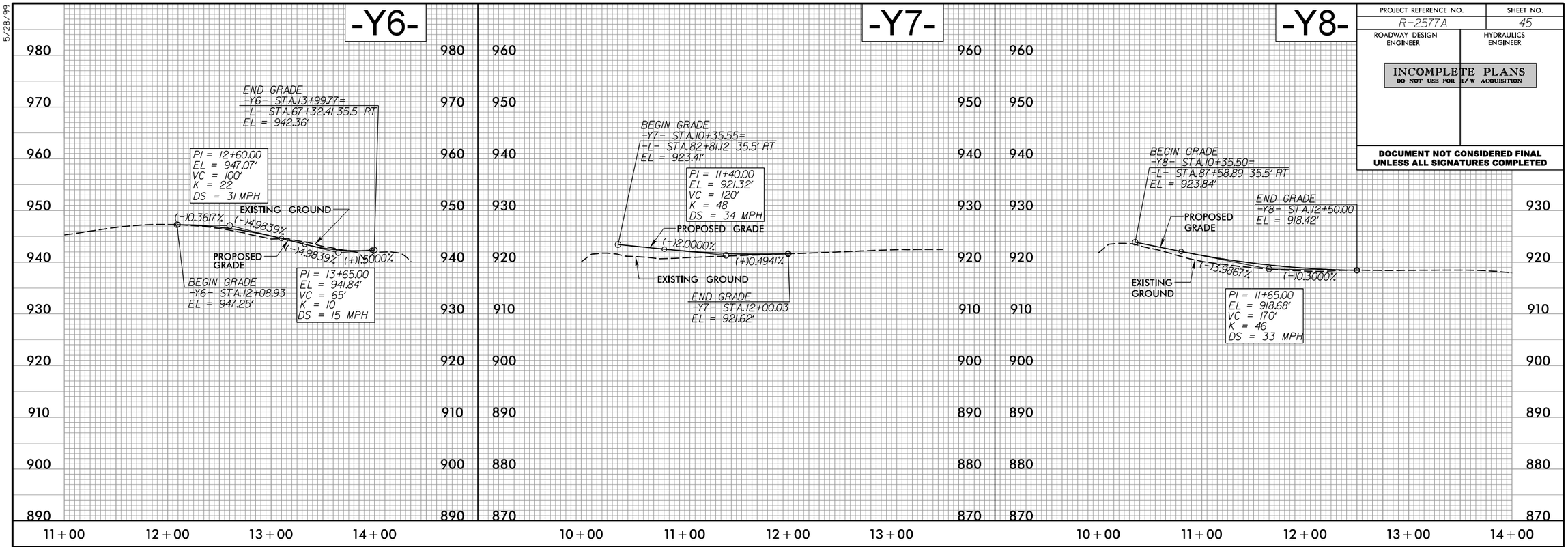

FOR –Y6– PLAN SEE SHT. 9
FOR –Y7– PLAN SEE SHT. 10
FOR –Y8– PLAN SEE SHT. 11
FOR –Y9– PLAN SEE SHT. 12
FOR –Y10– PLAN SEE SHT. 13

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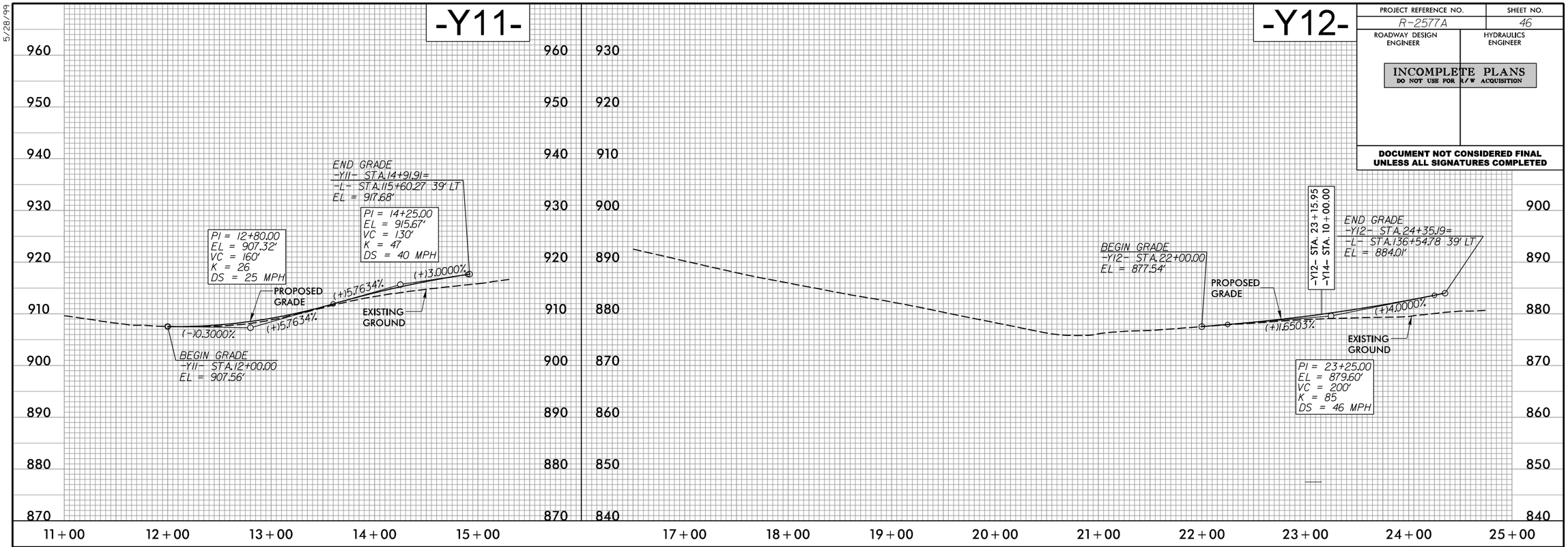

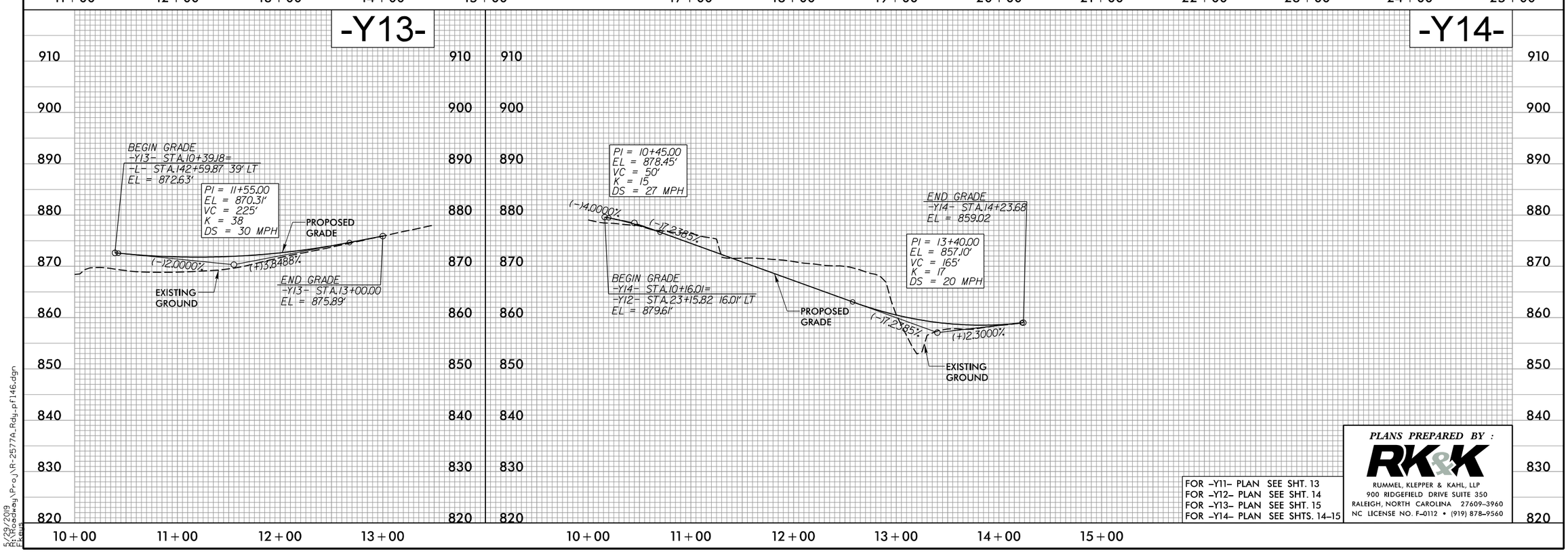

FOR -Y11- PLAN SEE SHT. 13
FOR -Y12- PLAN SEE SHT. 14
FOR -Y13- PLAN SEE SHT. 15
FOR -Y14- PLAN SEE SHTS. 14-15

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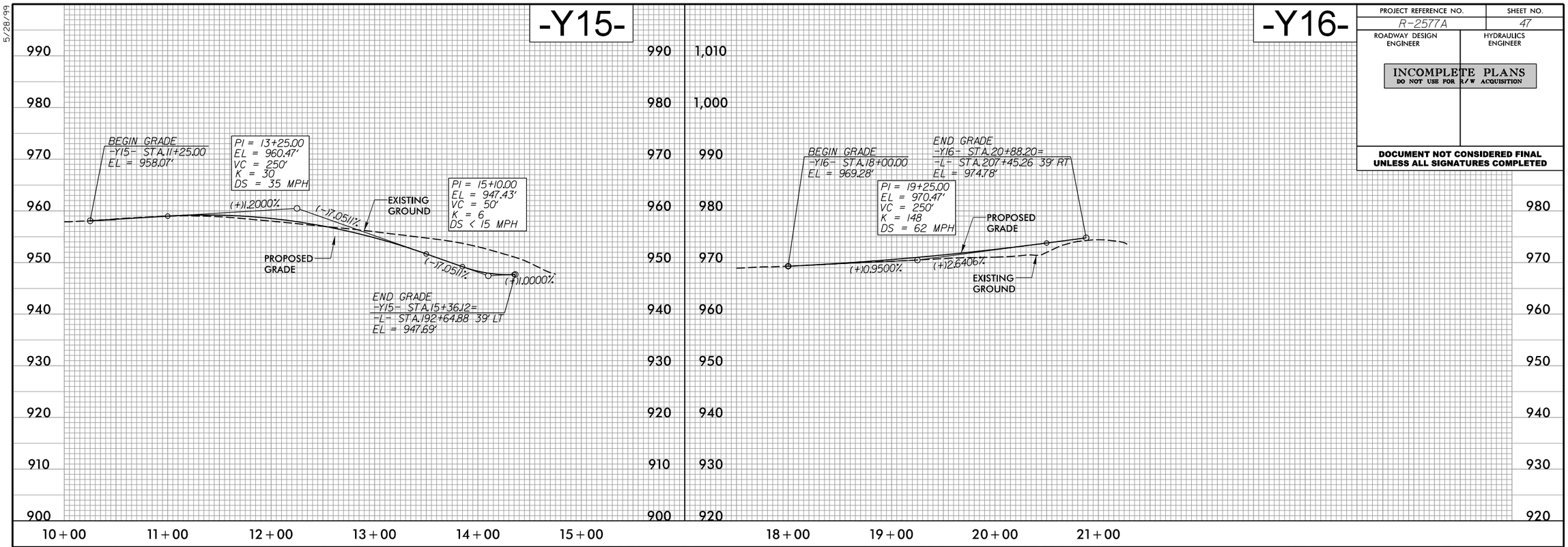

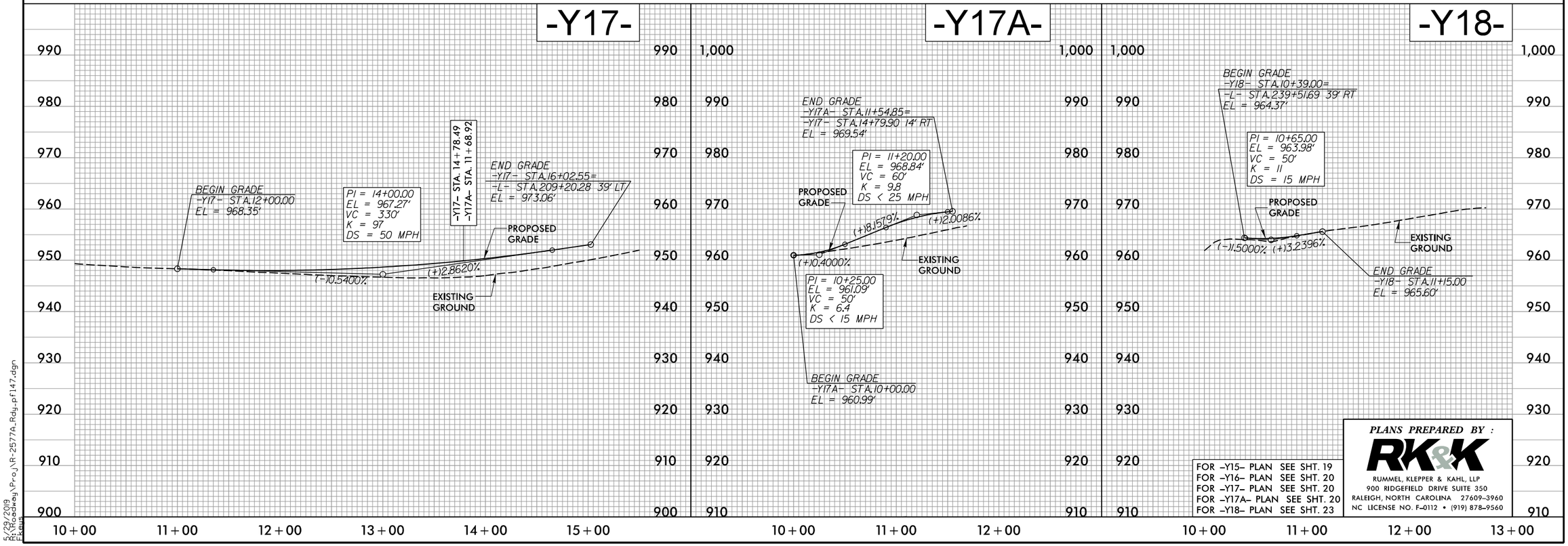

FOR -Y15- PLAN SEE SHT. 19
FOR -Y16- PLAN SEE SHT. 20
FOR -Y17- PLAN SEE SHT. 20
FOR -Y17A- PLAN SEE SHT. 20
FOR -Y18- PLAN SEE SHT. 23

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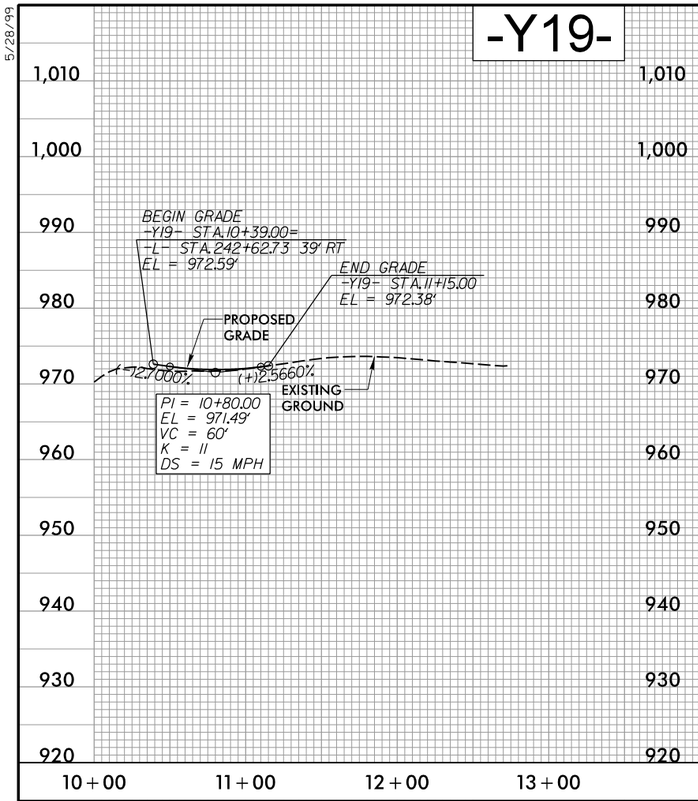

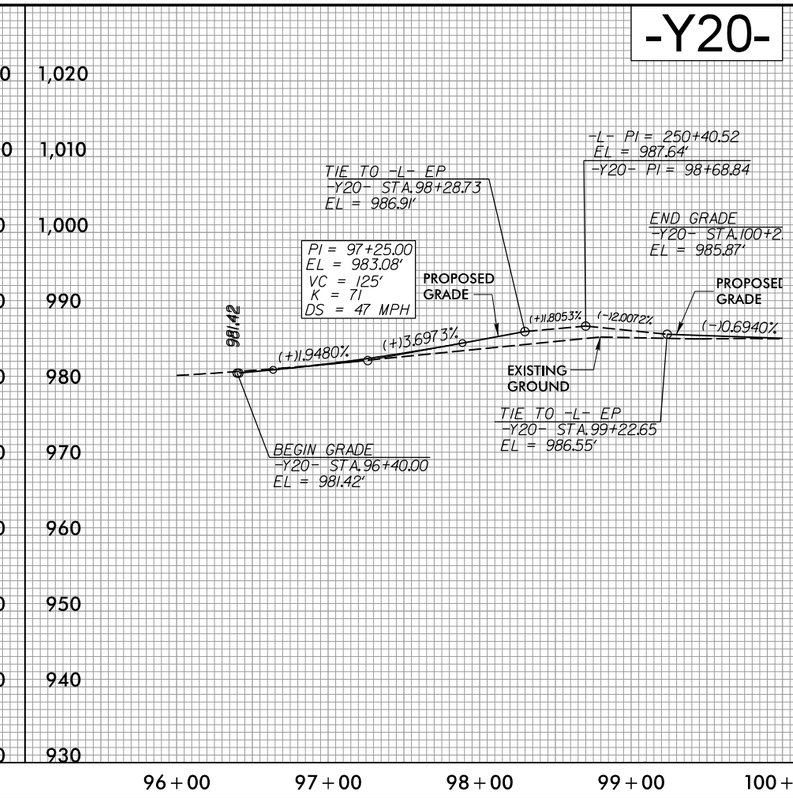

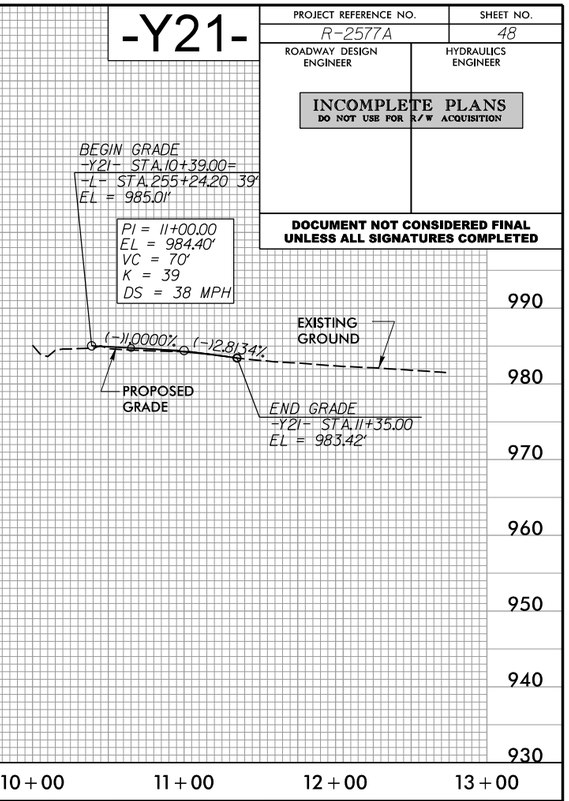

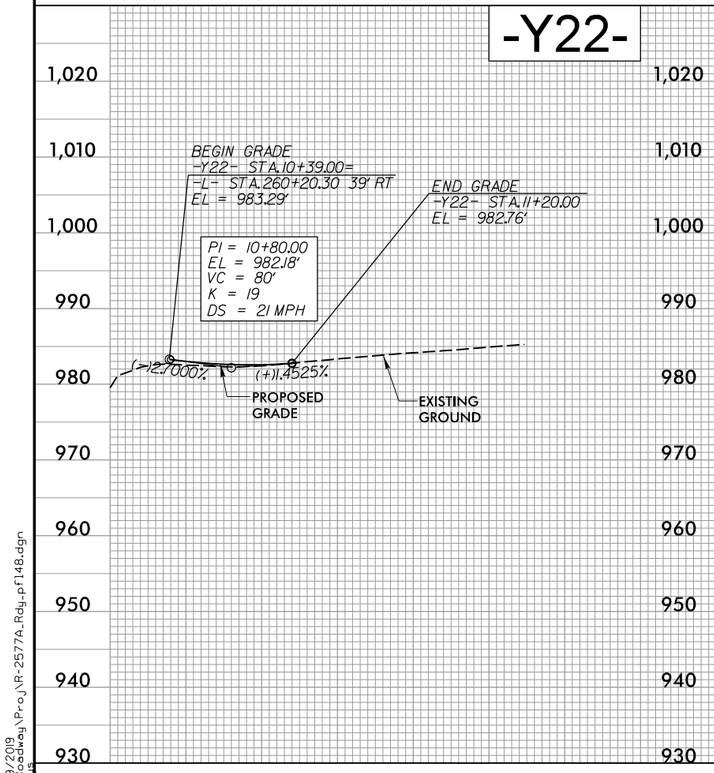

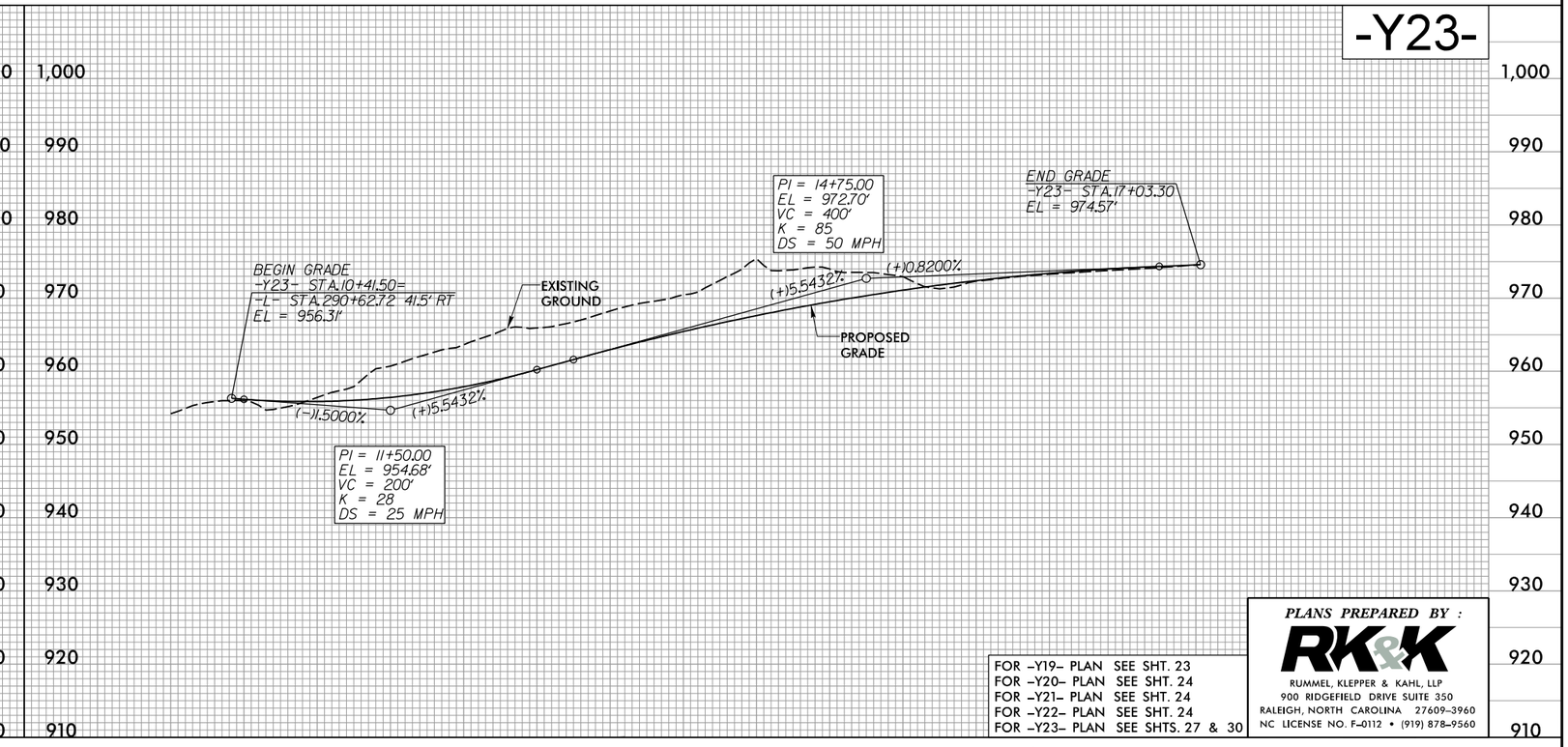

FOR -Y19- PLAN SEE SHT. 23
FOR -Y20- PLAN SEE SHT. 24
FOR -Y21- PLAN SEE SHT. 24
FOR -Y22- PLAN SEE SHT. 24
FOR -Y23- PLAN SEE SHTS. 27 & 30

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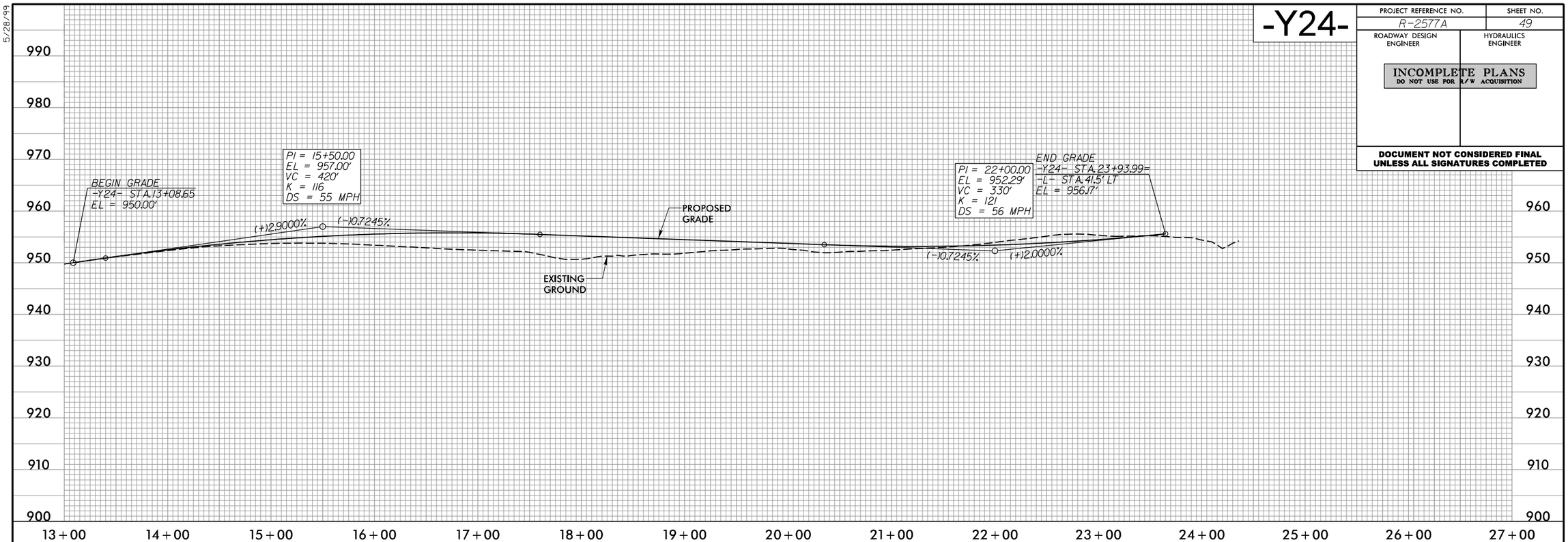
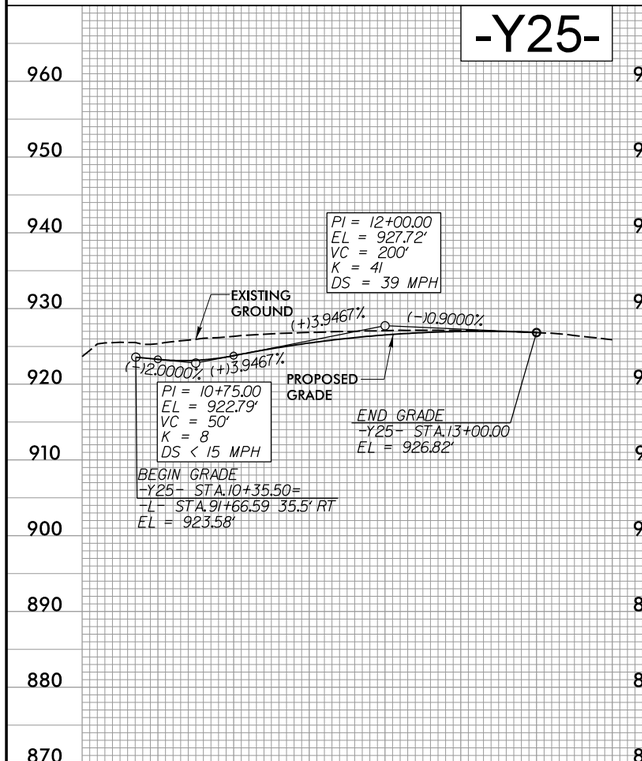
-Y24-



-Y25-



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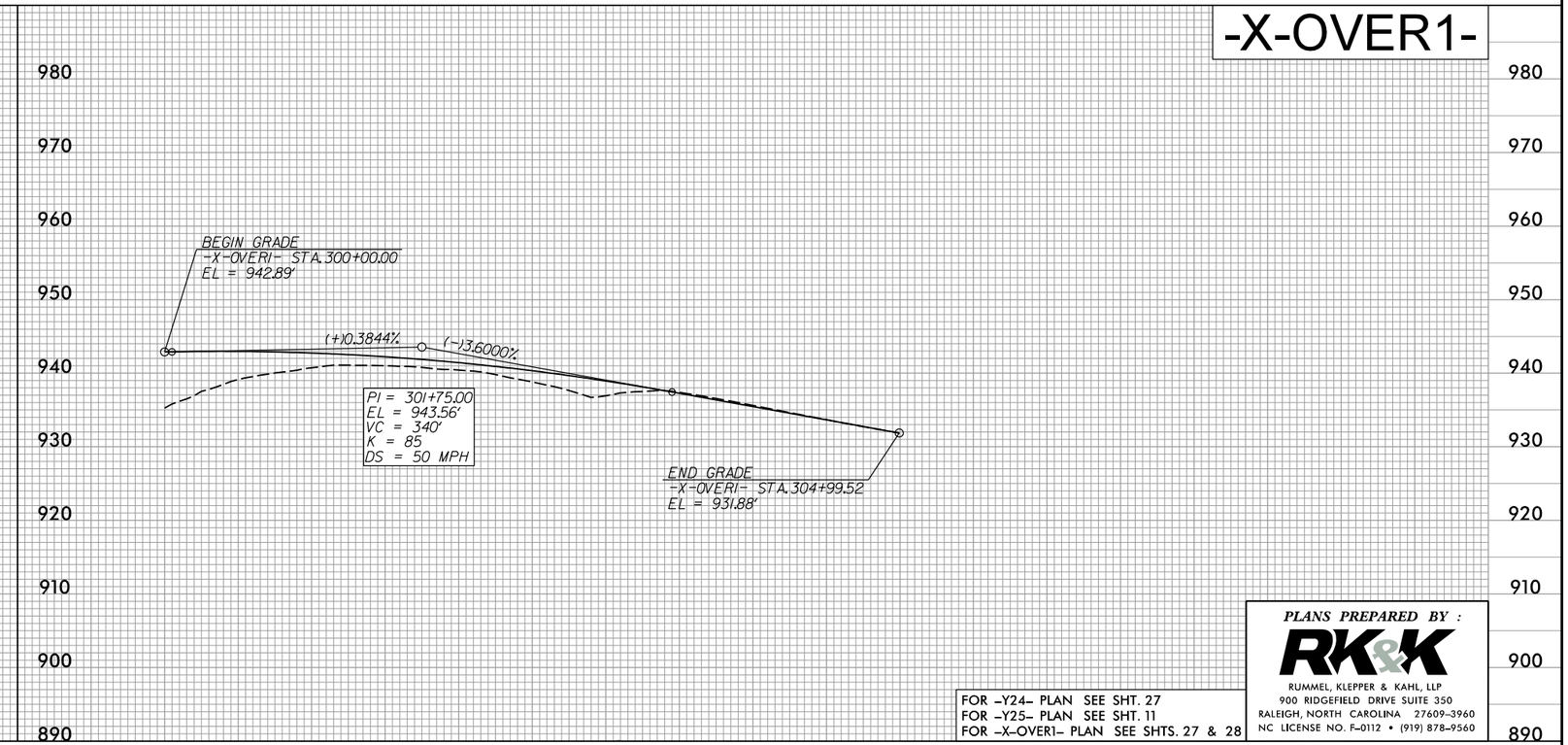

FOR -Y24- PLAN SEE SHT. 27
FOR -Y25- PLAN SEE SHT. 11
FOR -X-OVER1- PLAN SEE SHTS. 27 & 28

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