

R-3329/R-2559

US 74 Monroe Bypass

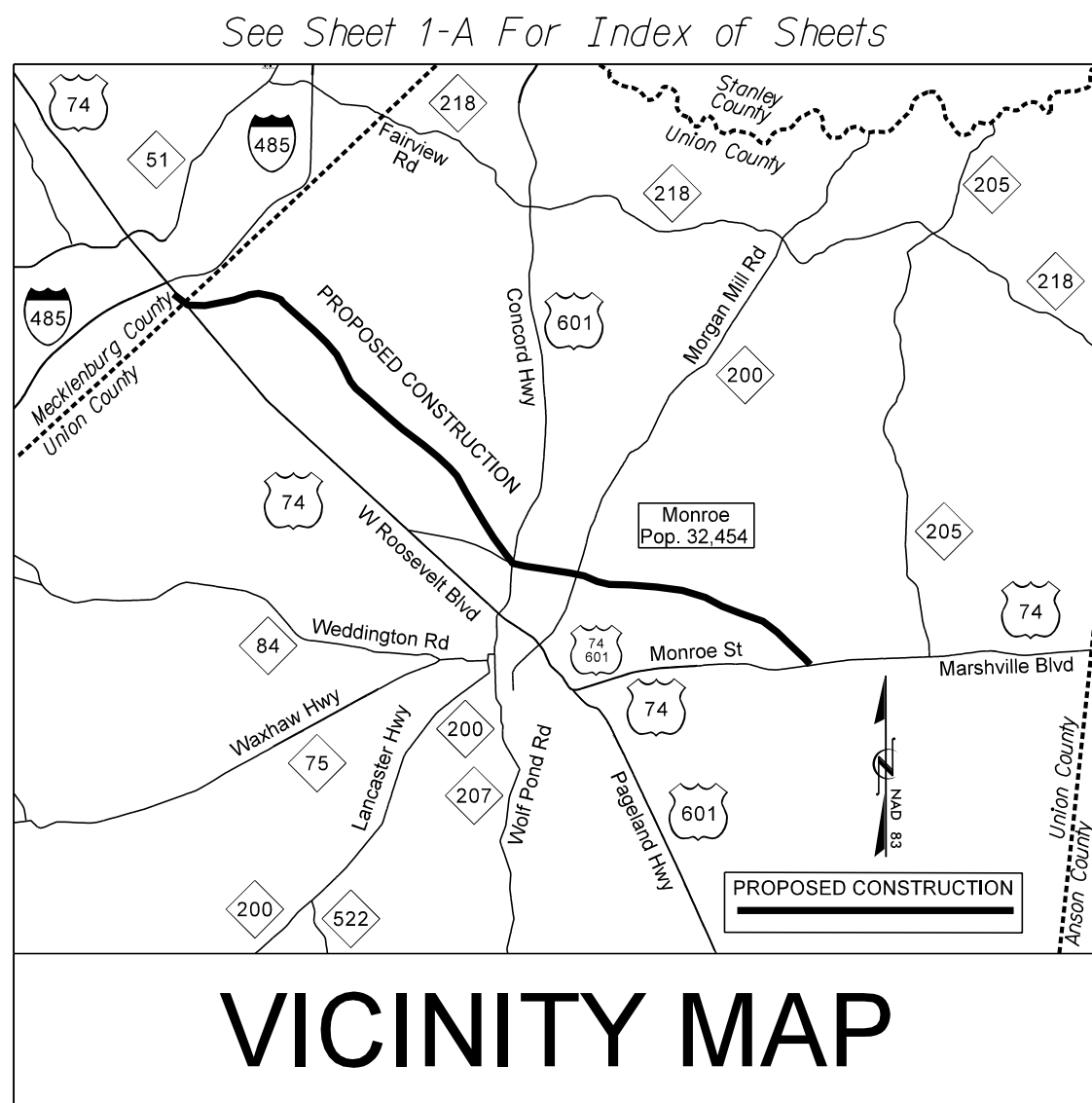
Roadway Plans



9/30/2014  
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TIP PROJECT: R-3329 / R-2559

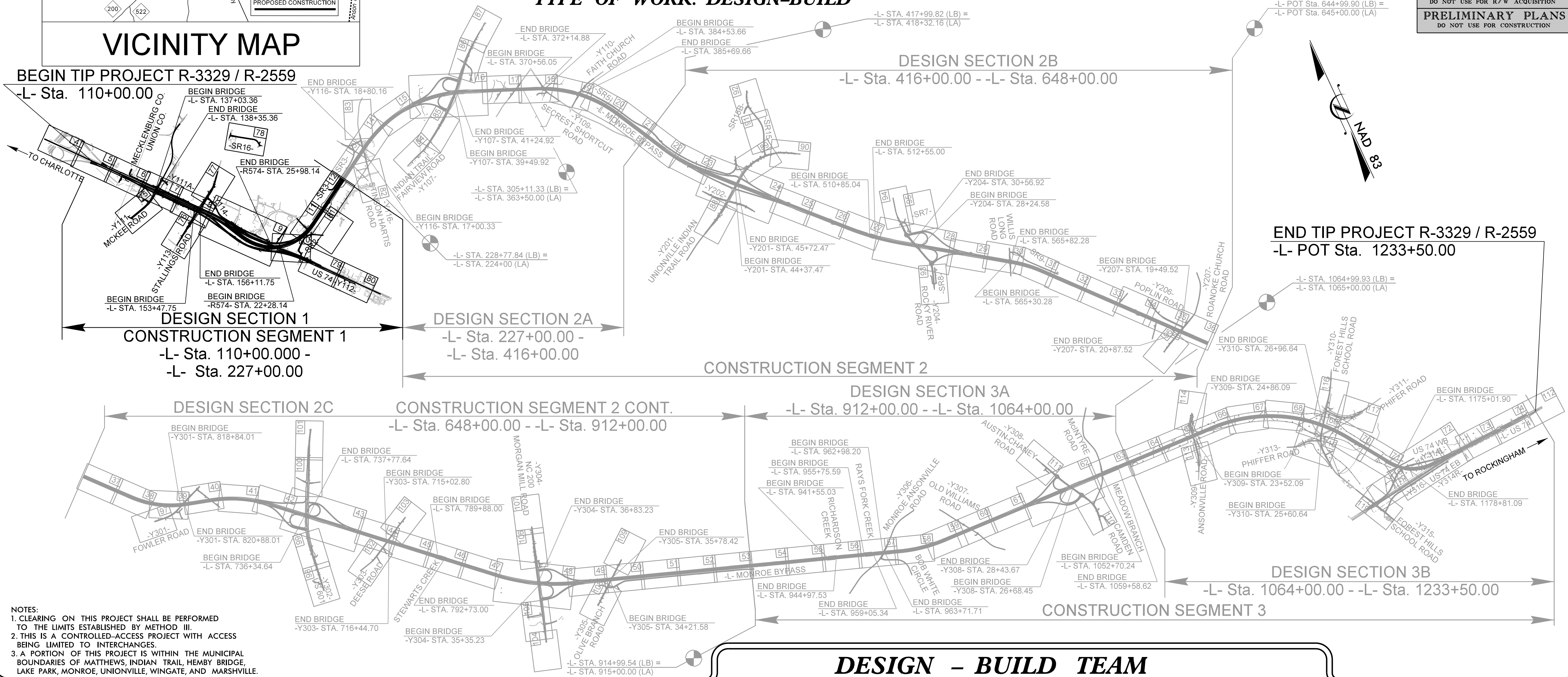
CONTRACT: C202587



VICINITY MAP

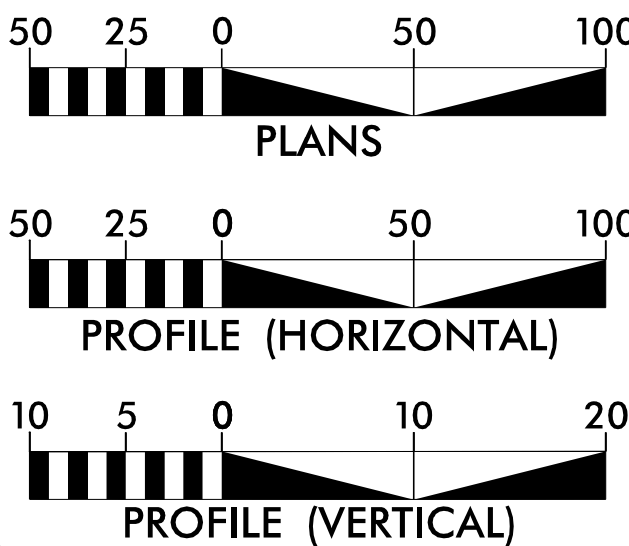
BEGIN TIP PROJECT R-3329 / R-2559

-L- Sta. 110+00.00



NOTES:  
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.  
2. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.  
3. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF MATTHEWS, INDIAN TRAIL, HEMBY BRIDGE, LAKE PARK, MONROE, UNIONVILLE, WINGATE, AND MARSHVILLE.

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 64,100  
ADT 2035 = 95,600  
DHV = 8%  
D = 55%  
T = 18%\*  
V = 70 mph

\*TTST 11% DUAL 7%  
FUNCTIONAL CLASS.: FREEWAY

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3329 / R-2559..... 18.1 mi  
LENGTH STRUCTURE TIP PROJECT R-3329 / R-2559..... \*1.6 mi  
TOTAL LENGTH TIP PROJECT R-3329 / R-2559..... 19.7 mi

\* LENGTH OF STRUCTURES BASED ON WB LANES

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

MECKLENBURG & UNION COUNTY

LOCATION: US 74 BYPASS FROM US 74 JUST EAST OF  
I-485 NEAR MATTHEWS AND STALLINGS TO  
US 74 JUST EAST OF WINGATE AND WEST OF MARSHVILLE  
TYPE OF WORK: DESIGN-BUILD

| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C.            | R-3329 / R-2559             | 1           |              |
| STATE PROJ. NO. | F.A. PROJ. NO.              | DESCRIPTION |              |
| 34533.5.TA1     |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |

PERMIT APPLICATION  
SUBMITTAL NO. S-099  
DATE: 10-01-2014

INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION  
PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

DESIGN - BUILD TEAM

PLANS PREPARED BY :

**RK&K**

RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE, SUITE 350  
RALEIGH, NORTH CAROLINA 27609  
NC LICENSE NO. F-0112

2012 STANDARD SPECIFICATIONS

LETTING DATE:

OCTOBER 28, 2010

J.T. Peacock, Jr., P.E.  
PROJECT ENGINEER

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

CONTRACTOR :



HYDRAULICS ENGINEER

SIGNATURE: P.E.  
ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.



8/28/2014  
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R2559\_rdy\_Sec1.tup.dgn  
Elevs

6/2/99

| PAVEMENT SCHEDULE |                                                                                                                                                                                                       |     |                                                                                                                                                                                            |    |                                                                                                  |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------------|
| C1                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E1  | PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                      | J2 | PROPOSED 8" AGGREGATE BASE COURSE                                                                |
| C2                | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD. IN EACH OF TWO LAYERS.                                                                         | E2  | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                      | J3 | PROPOSED 9" AGGREGATE BASE COURSE                                                                |
| C3                | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E3  | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.                                                                                      | J4 | PROPOSED 10" AGGREGATE BASE COURSE                                                               |
| C4                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E4  | PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | J5 | PROPOSED VARIABLE DEPTH AGGREGATE BASE COURSE                                                    |
| 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" OR GREATER THAN 5.5" IN DEPTH. | K1 | BASE TO BE TREATED WITH LIME TO A DEPTH OF 8" OR BASE TO BE TREATED WITH CEMENT TO A DEPTH OF 7" |
| 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 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E6  | PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                      | P  | PRIME COAT AT THE RATE OF 0.35 GAL PER SQ YD                                                     |
| C7                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E7  | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                      | R1 | 2'-6" CONCRETE CURB & GUTTER                                                                     |
| C8                | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                        | E8  | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.                                                                                      | R2 | 1'-6" CONCRETE CURB & GUTTER                                                                     |
| C9                | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E9  | PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.                                                                                    | R3 | SHOULDER BERM GUTTER                                                                             |
| C10               | PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS.PER SQ. YD.                                                                                          | E10 | PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | R4 | CONCRETE EXPRESSWAY GUTTER                                                                       |
| D1                | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.                                                                                       | E11 | PROP. APPROX. 6.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 370.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                           | R5 | 5" MONOLITHIC CONCRETE ISLAND (KEYED IN)                                                         |
| D2                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E12 | PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | R6 | SINGLE FACED CONCRETE BARRIER                                                                    |
| D3                | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | E13 | PROP. APPROX. 9" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | R7 | DOUBLE FACED CONCRETE BARRIER (TYPE T, T1, T2)                                                   |
| D4                | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.    | E14 | PROP. APPROX. 10.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 598.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                          | R8 | RUMBLE STRIPS                                                                                    |
| D5                | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | E15 | PROP. APPROX. 11" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                              | R9 | 8" X 18" CURB & GUTTER                                                                           |
| D6                | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.                                                                                       | E16 | PROP. APPROX. 3.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 199 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                             | S  | 4" CONCRETE SIDEWALK                                                                             |
| D7                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E17 | PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                             | T  | EARTH MATERIAL                                                                                   |
| D8                | 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 2.5" OR GREATER THAN 4" IN DEPTH.    | E18 | PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH. | U  | EXISTING PAVEMENT                                                                                |
| D9                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0D, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E19 | PROP. APPROX. 12.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 712.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                          | V  | SPLIT SEAL                                                                                       |
| D10               | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0D, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | G1  | 8" CEMENT TREATED AGGREGATE BASE COURSE                                                                                                                                                    | W  | WEDGING                                                                                          |
| D11               | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.    | J1  | PROPOSED 6" AGGREGATE BASE COURSE                                                                                                                                                          | Z  | NON WOVEN FIBERGLASS/POLYESTER INTERLAYER PAVING MAT                                             |

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

| PROJECT REFERENCE NO.                                                                                                       |                             | SHEET NO. |
|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------|
| R-3329 / R-2559                                                                                                             |                             | 1-2       |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | PAVEMENT DESIGN<br>ENGINEER |           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                             |           |

PLANS PREPARED BY :



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

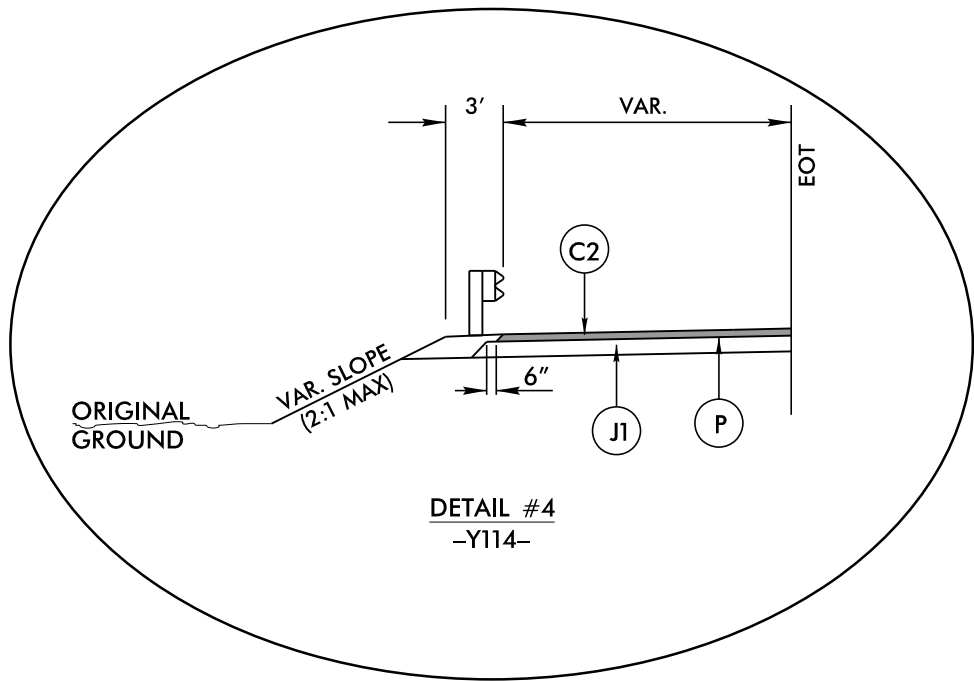
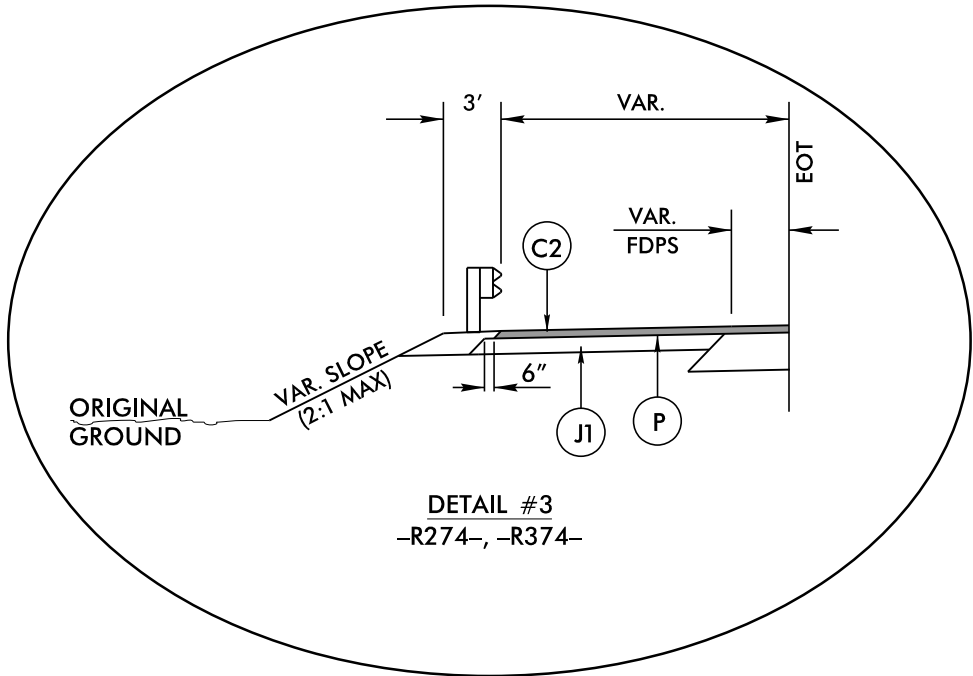
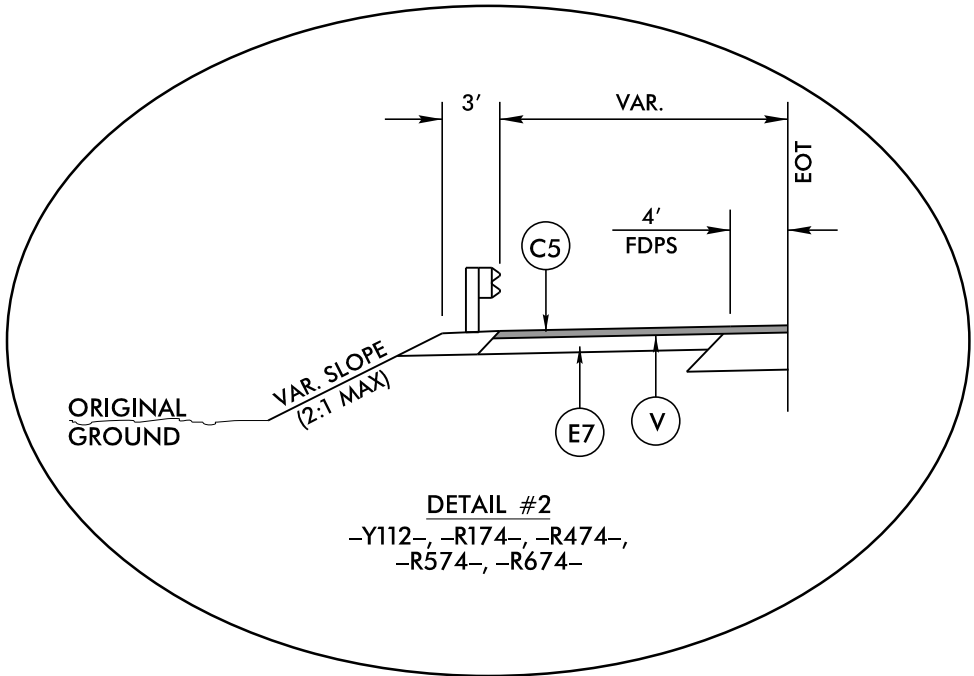
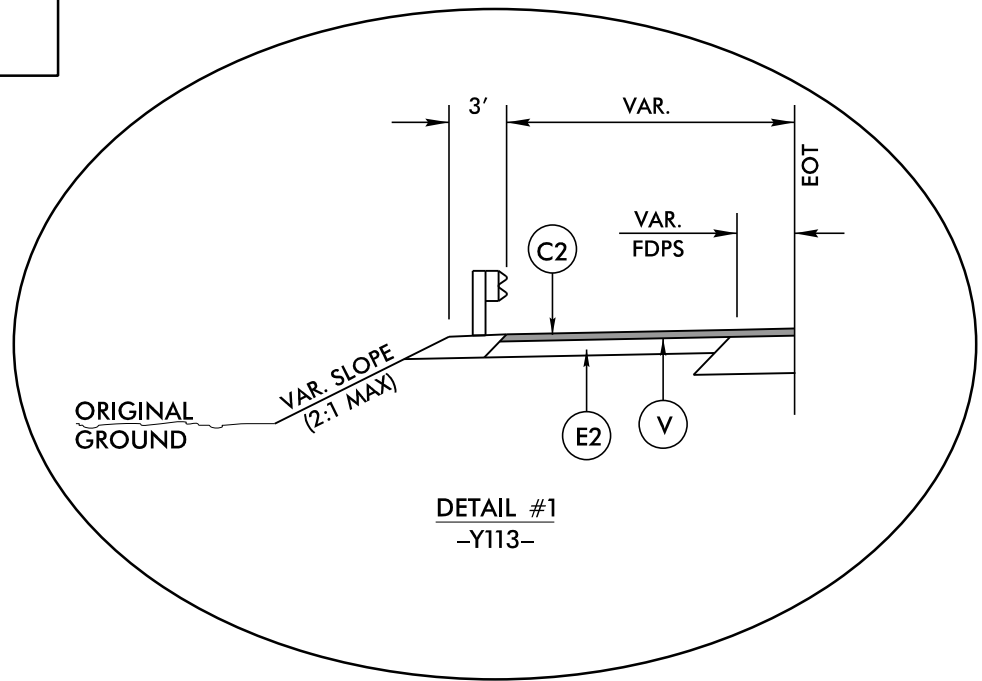
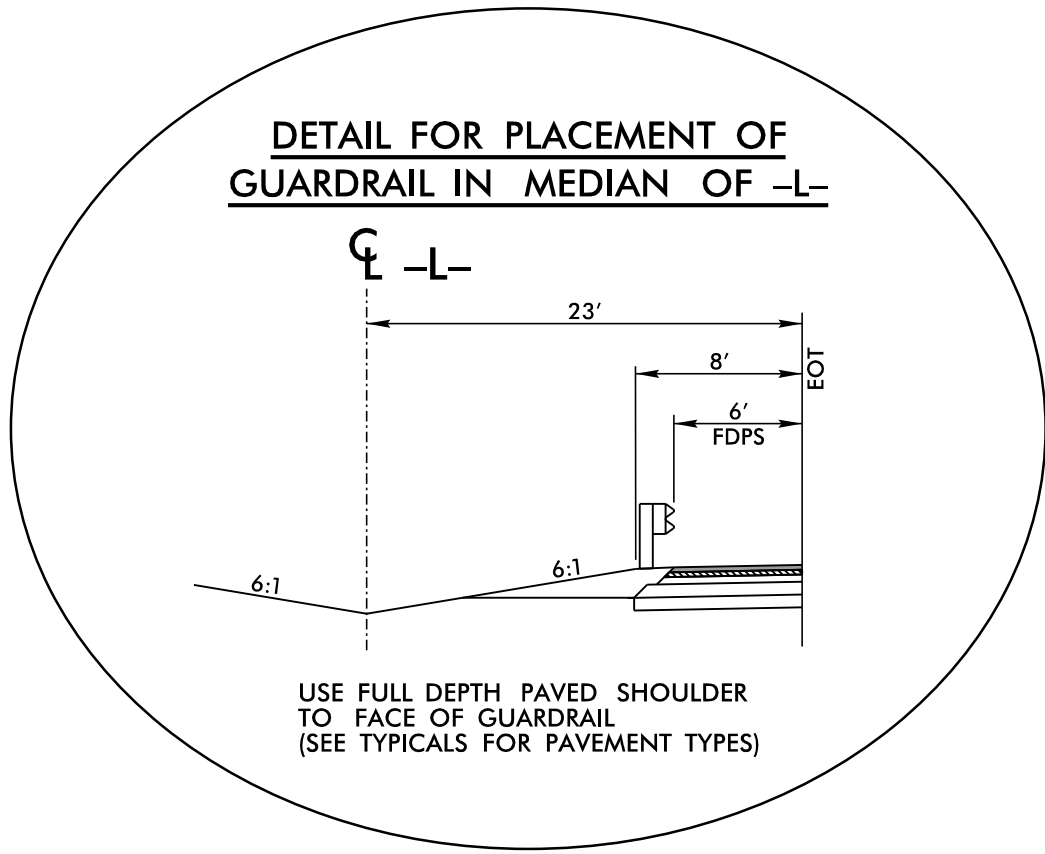
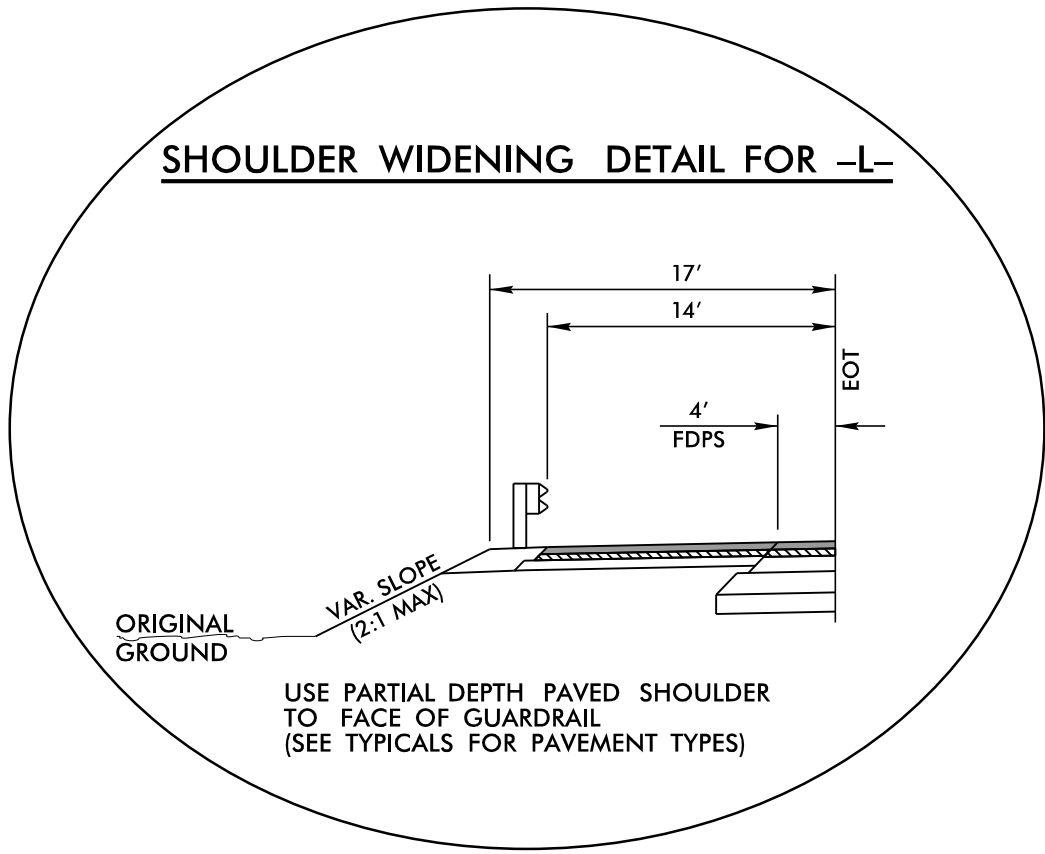
FOR

THE NORTH CAROLINA  
TURNPIKE AUTHORITY

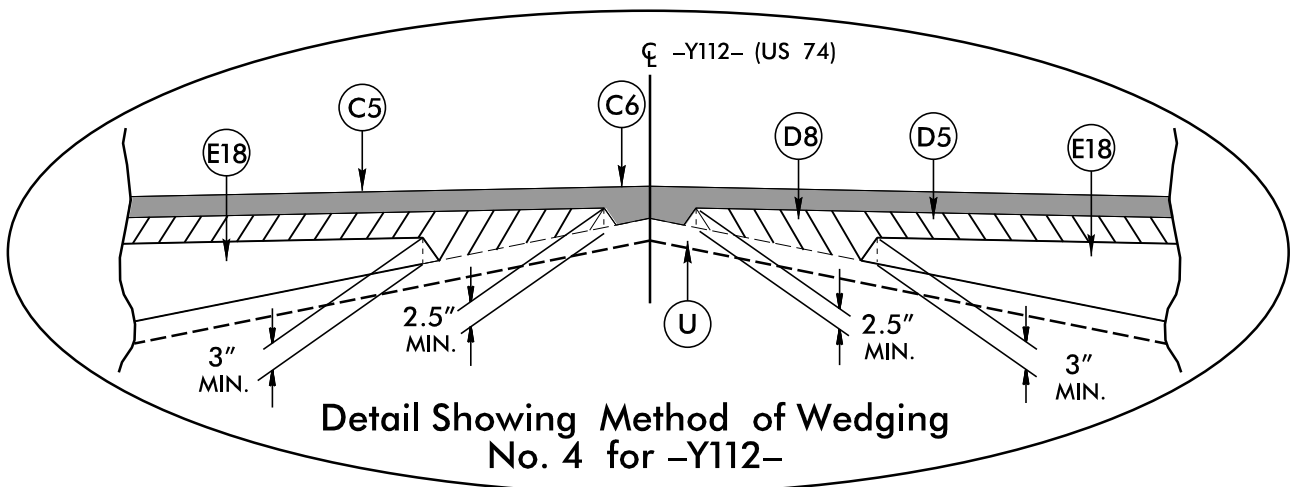
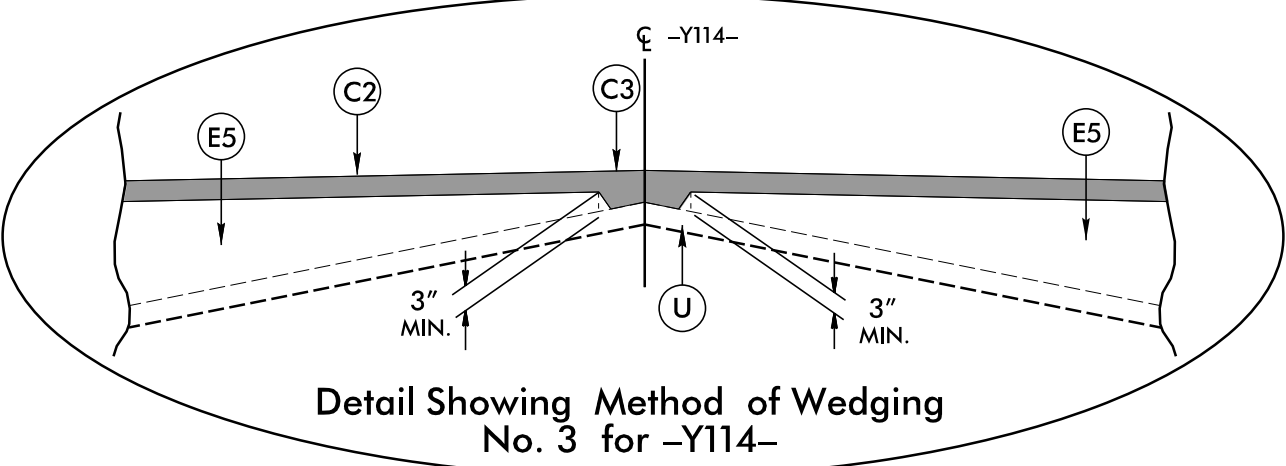
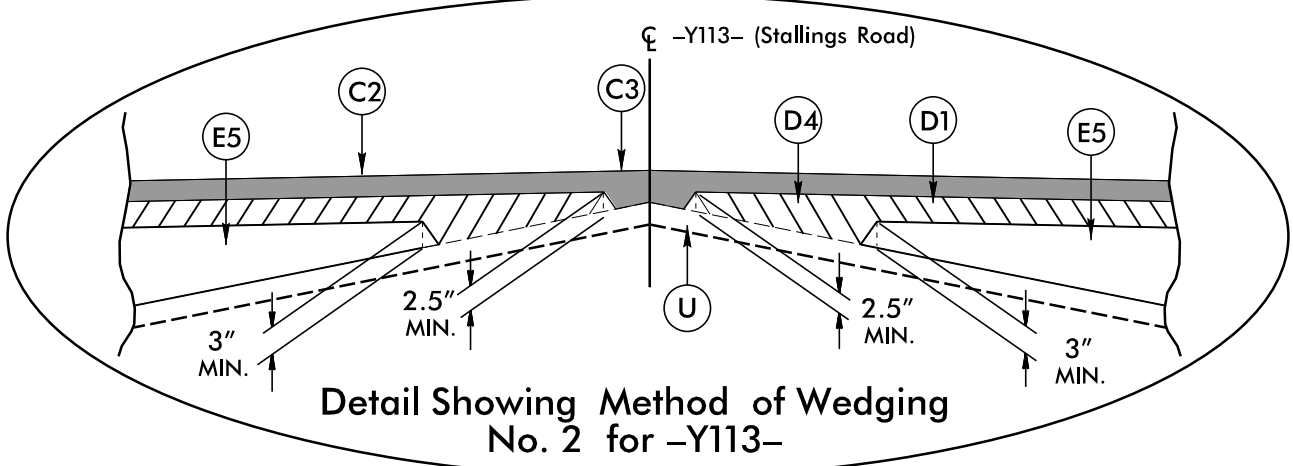
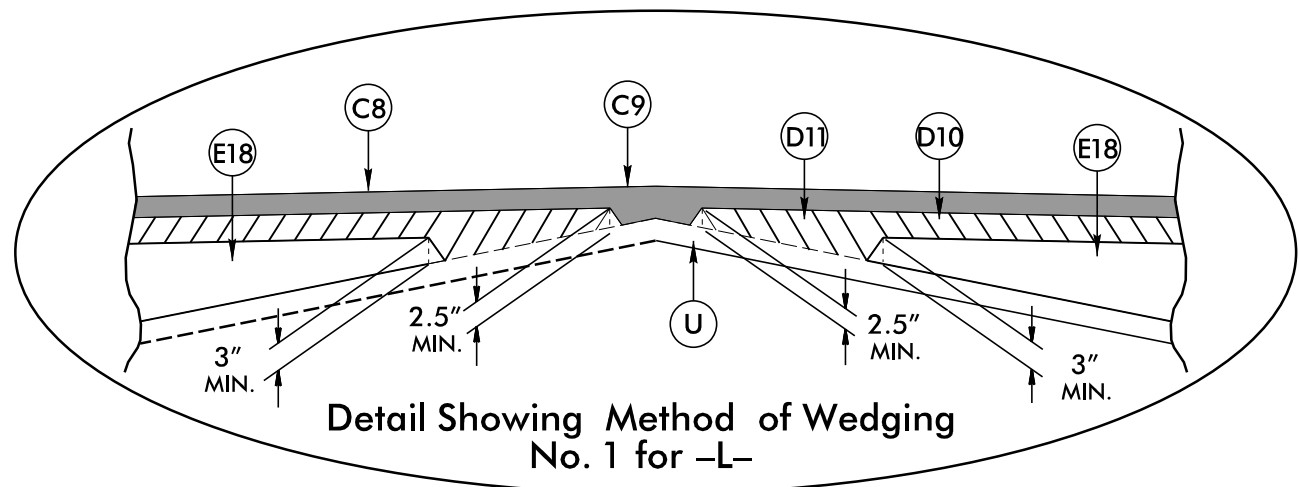


8/29/2014  
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Elevs

| PAVEMENT SCHEDULE |                   |     |                   |
|-------------------|-------------------|-----|-------------------|
| C2                | 3" S9.5B          | E19 | 12.5" B25.0C      |
| C3                | VAR. DEPTH S9.5B  | G1  | 8" CTABC          |
| C5                | 3" S9.5C          | J1  | 6" ABC            |
| C6                | VAR. DEPTH S9.5C  | J2  | 8" ABC            |
| C8                | 3" S9.5D          | J3  | 9" ABC            |
| C9                | VAR. DEPTH S9.5D  | J4  | 10" ABC           |
| D1                | 2.5" I19.0B       | J5  | VAR. DEPTH ABC    |
| D2                | 3" I19.0B         | K1  | SUBGRADE STAB.    |
| D4                | VAR. DEPTH I19.0B | P   | PRIME COAT        |
| D5                | 4" I19.0C         | R1  | 2'-6" C&G         |
| D6                | 2.5" I19.0C       | R3  | SBG               |
| D7                | 3" I19.0C         | R4  | EXP. GUTTER       |
| D8                | VAR. DEPTH I19.0C | R5  | 5" CONC. ISLAND   |
| D10               | 4" I19.0D         | R6  | CONC. BAR.        |
| D11               | VAR. DEPTH I19.0D | R7  | TYPE T CONC. BAR. |
| E2                | 4" B20.0B         | R8  | RUMBLE STRIPS     |
| E3                | 5" B25.0B         | R9  | 8"x18" C&G        |
| E5                | VAR. DEPTH B25.0B | S   | 4" CONC. SIDEWALK |
| E6                | 3" B25.0C         | T   | EARTH MATERIAL    |
| E7                | 4" B25.0C         | U   | EXIST. PAVEMENT   |
| E10               | 6" B25.0C         | V   | SPLIT SEAL        |
| E15               | 11" B25.0C        | W   | WEDGING           |
| E18               | VAR. DEPTH B25.0C |     |                   |



**WEDGING DETAILS**



|                                                 |                          |
|-------------------------------------------------|--------------------------|
| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i> | SHEET NO.<br><i>1-2A</i> |
| ROADWAY DESIGN ENGINEER                         | PAVEMENT DESIGN ENGINEER |

**INCOMPLETE PLANS**  
DO NOT USE FOR R/W ACQUISITION

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

**PLANS PREPARED BY :**

**RK&K**

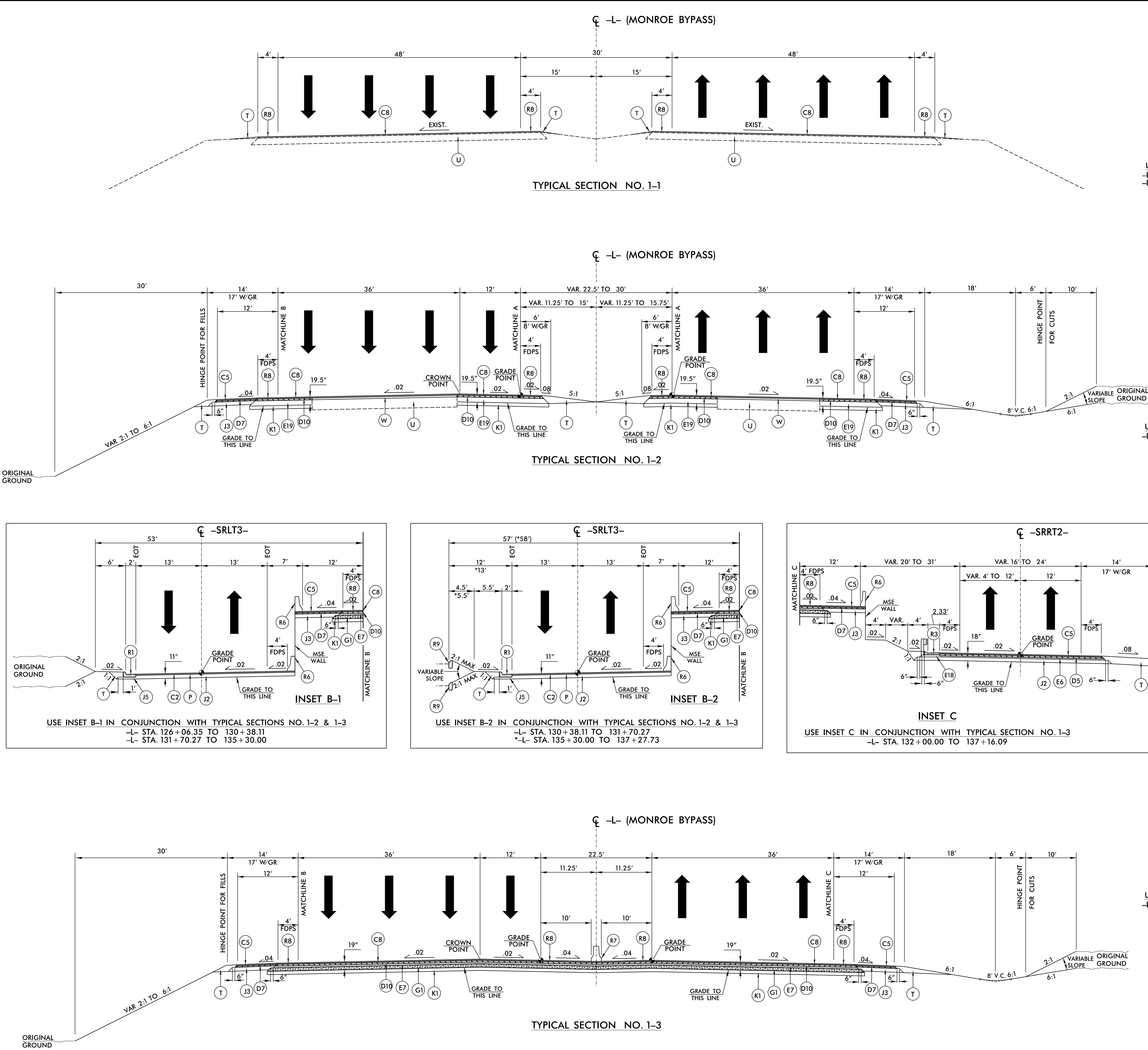
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. F-0112 • (919) 878-9560

**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



6/2/99  
8/29/2014  
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Elevs

| PAVEMENT SCHEDULE |                   |
|-------------------|-------------------|
| C2                | 3" S9.5B          |
| C3                | VAR. DEPTH S9.5B  |
| C5                | 3" S9.5C          |
| C6                | VAR. DEPTH S9.5C  |
| C8                | 3" S9.5D          |
| C9                | VAR. DEPTH S9.5D  |
| D1                | 2.5" I19.0B       |
| D2                | 3" I19.0B         |
| D4                | VAR. DEPTH I19.0B |
| D5                | 4" I19.0C         |
| D6                | 2.5" I19.0C       |
| D7                | 3" I19.0C         |
| D8                | VAR. DEPTH I19.0C |
| D10               | 4" I19.0D         |
| D11               | VAR. DEPTH I19.0D |
| E2                | 4" B25.0B         |
| E3                | 5" B25.0B         |
| E5                | VAR. DEPTH B25.0B |
| E6                | 3" B25.0C         |
| E7                | 4" B25.0C         |
| E10               | 6" B25.0C         |
| E15               | 11" B25.0C        |
| E18               | VAR. DEPTH B25.0C |
| E19               | 12.5" B25.0C      |
| G1                | 8" CTABC          |
| J1                | 6" ABC            |
| J2                | 8" ABC            |
| J3                | 9" ABC            |
| J4                | 10" ABC           |
| J5                | VAR. DEPTH ABC    |
| K1                | SUBGRADE STAB.    |
| P                 | PRIME COAT        |
| R1                | 2'-6" C&G         |
| R3                | SBG               |
| R4                | EXP. GUTTER       |
| R5                | 5" CONC. ISLAND   |
| R6                | CONC. BAR.        |
| R7                | TYPE T CONC. BAR. |
| R8                | RUMBLE STRIPS     |
| R9                | 8"x18" C&G        |
| S                 | 4" CONC. SIDEWALK |
| T                 | EARTH MATERIAL    |
| U                 | EXIST. PAVEMENT   |
| V                 | SPLIT SEAL        |
| W                 | WEDGING           |



PROJECT REFERENCE NO.  
R-3329 / R-2559

SHEET NO.  
1-2B

ROADWAY DESIGN  
ENGINEER

PAVEMENT DESIGN  
ENGINEER

INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

USE TYPICAL SECTION NO. 1-1  
-L- STA. 110+00.00 TO 122+00.00 RT  
-L- STA. 114+00.00 TO 122+00.00 LT

USE TYPICAL SECTION NO. 1-2  
-L- STA. 122+00.00 TO 131+00.00

USE TYPICAL SECTION NO. 1-2  
-L- STA. 131+00.00 TO 137+03.36 (BEG. BRIDGE)

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

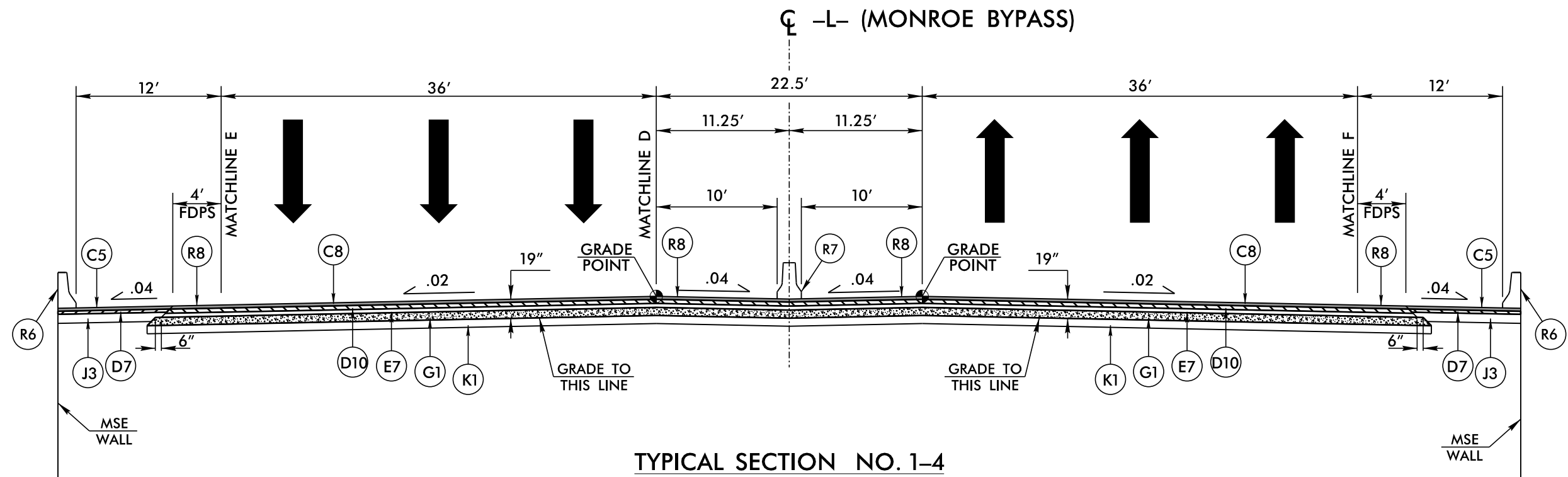
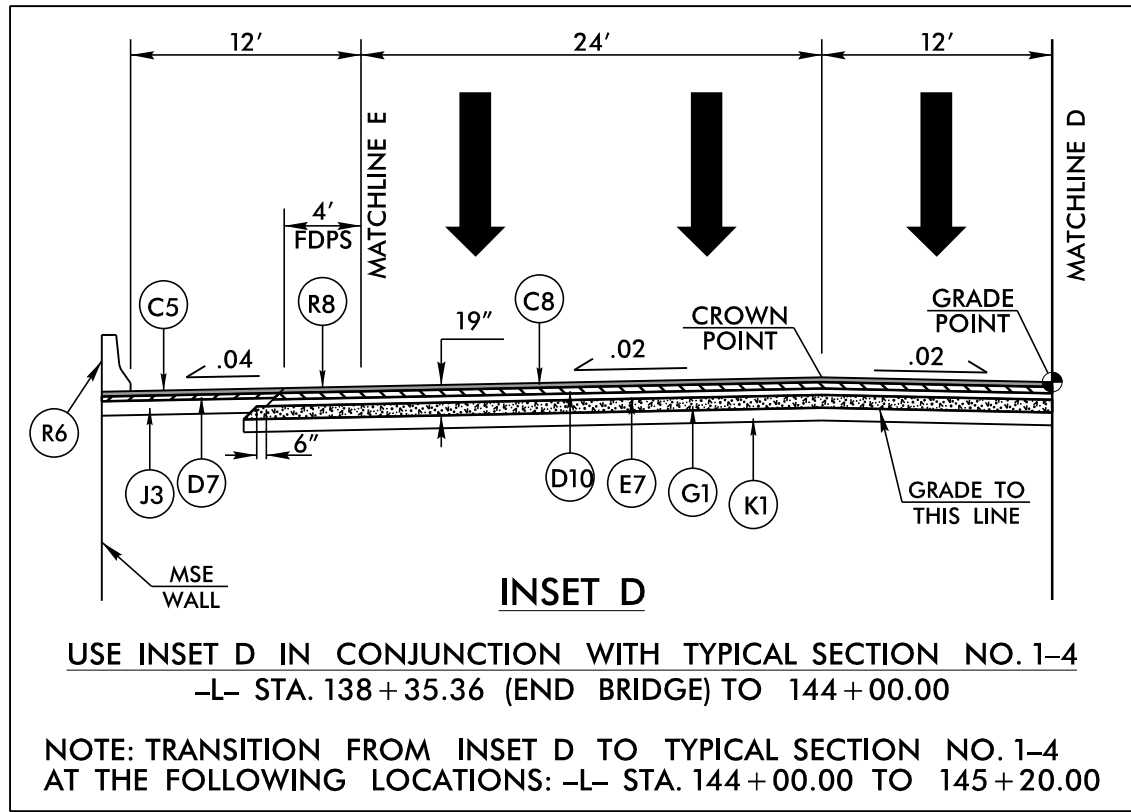
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



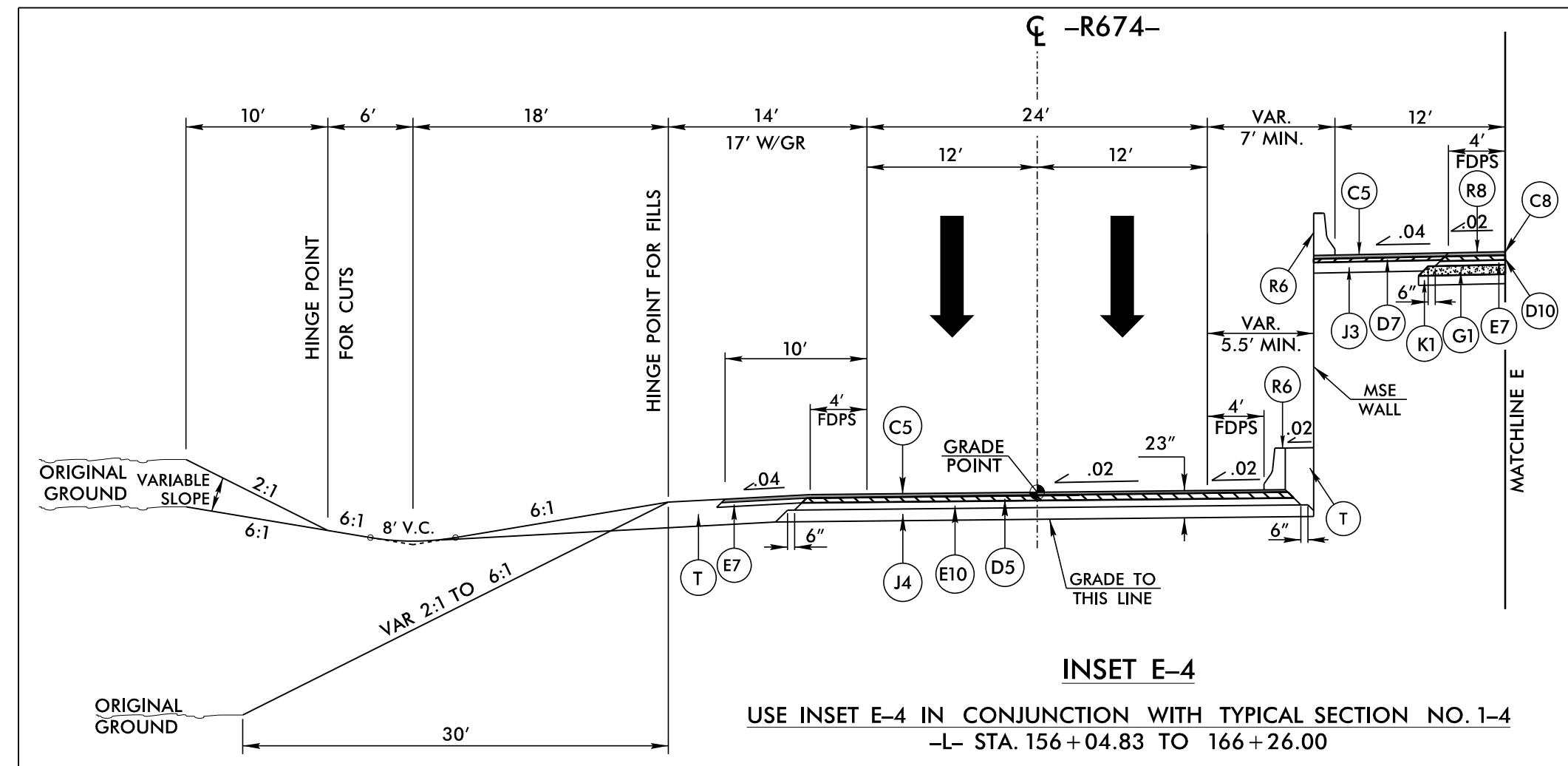
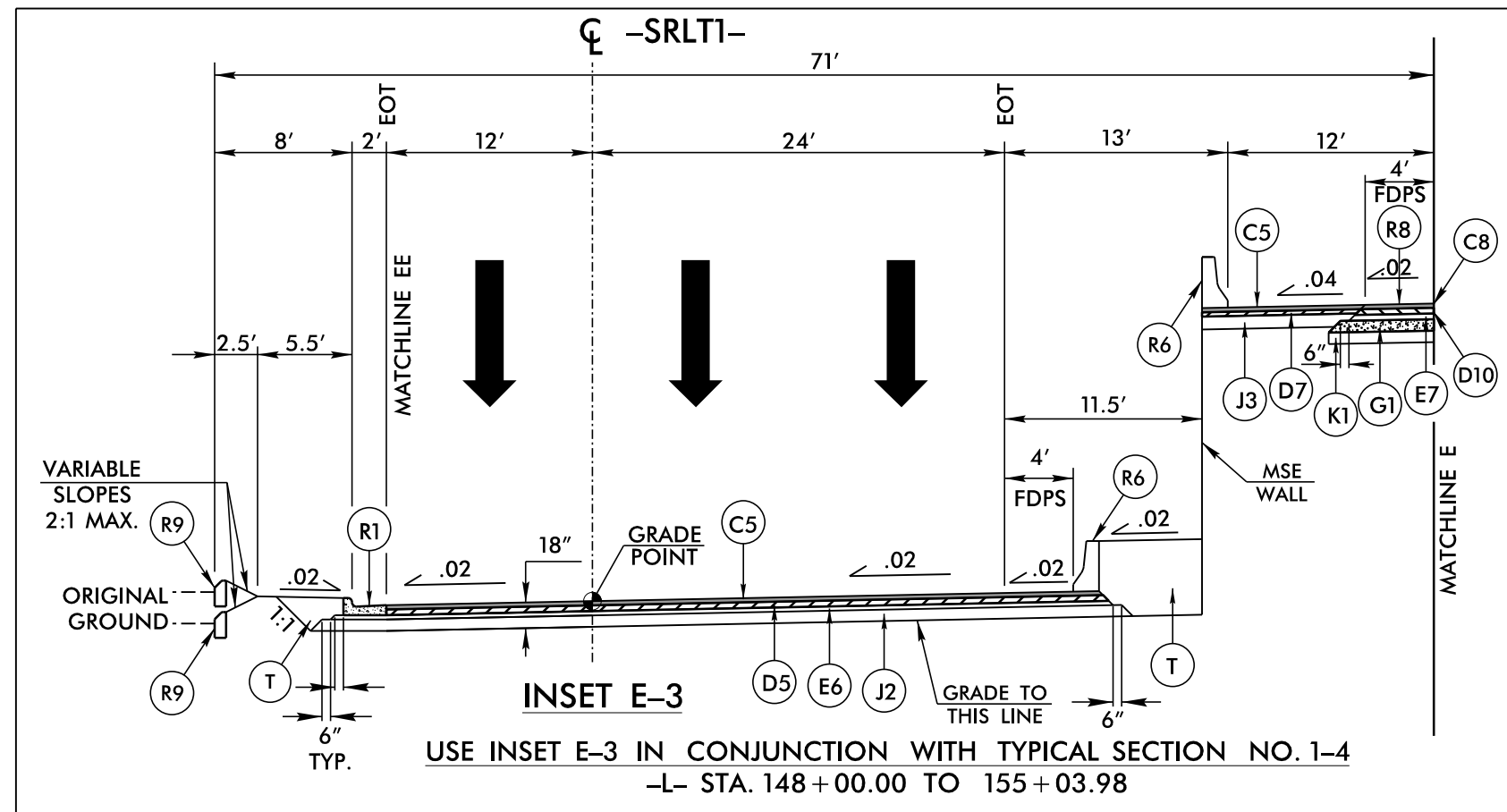
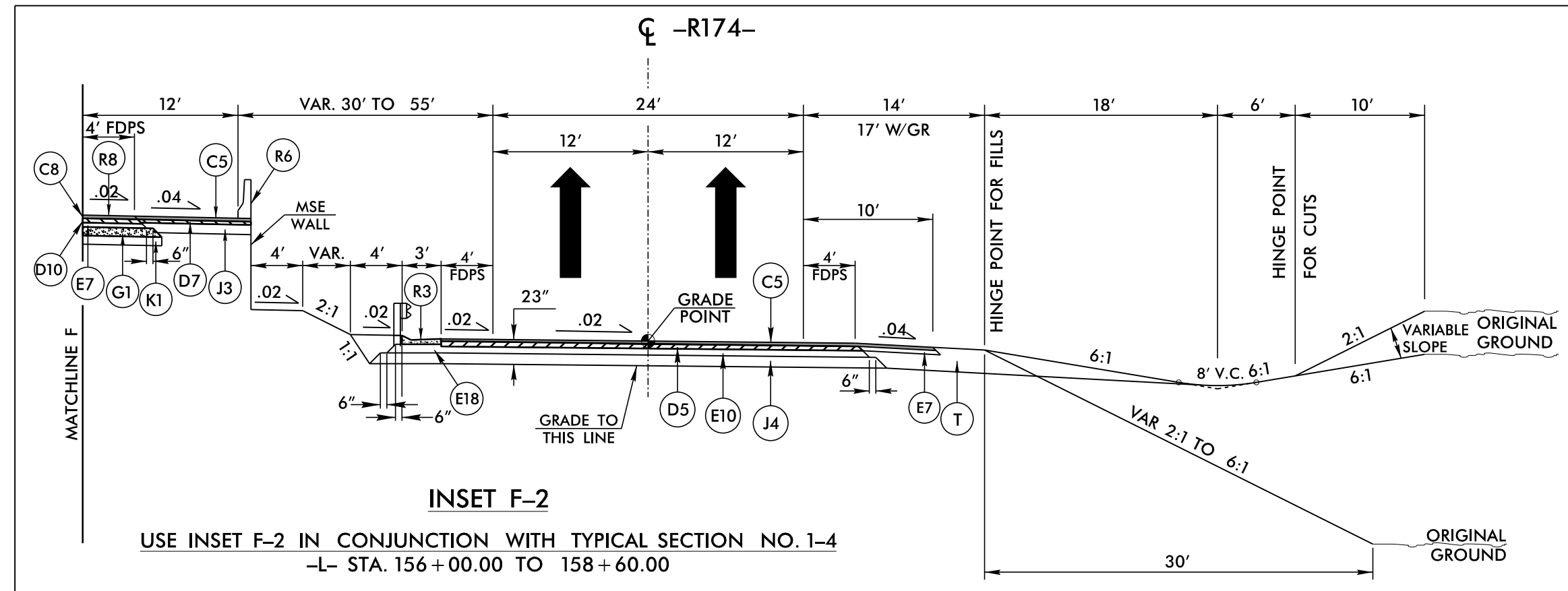
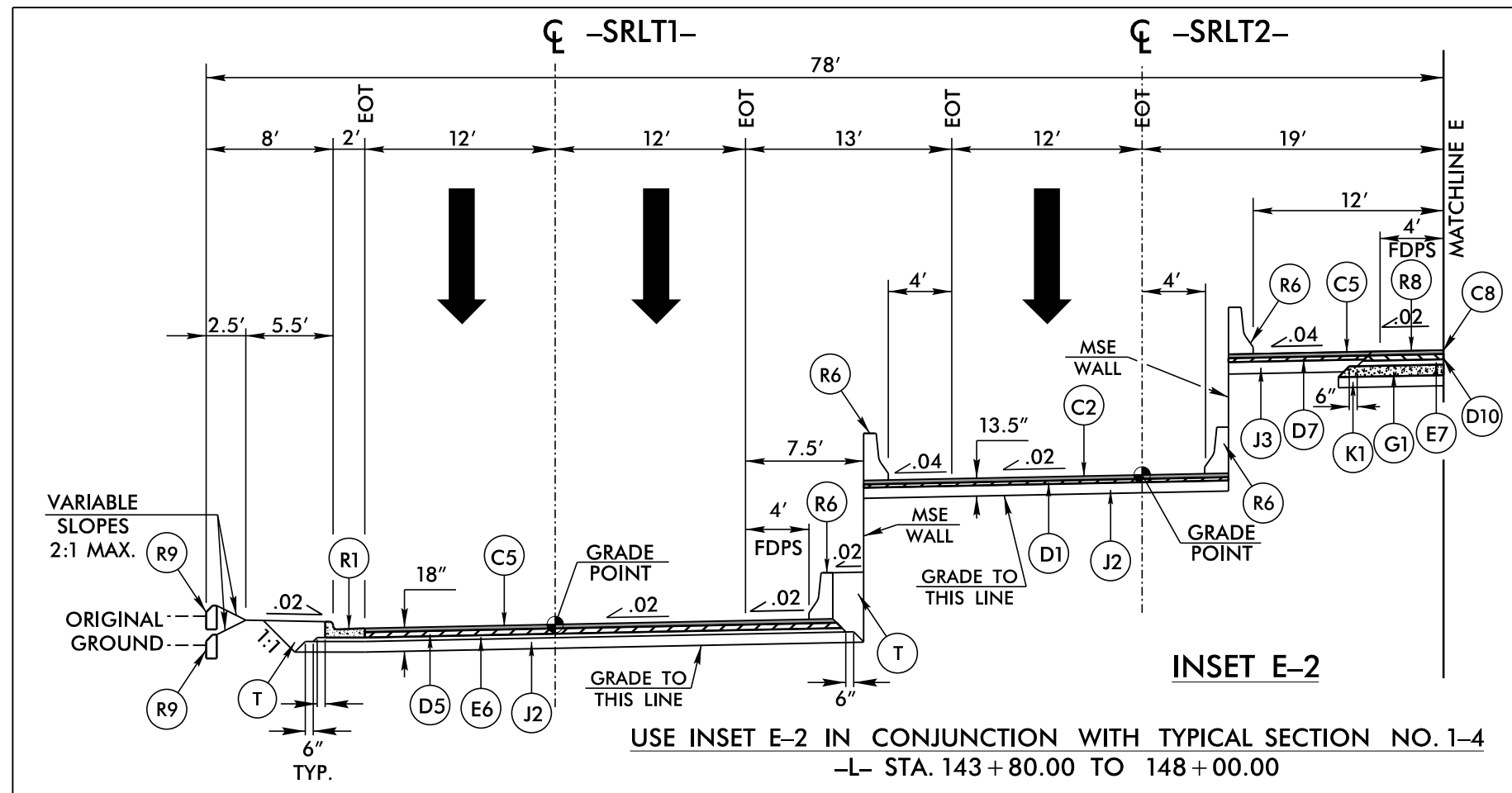
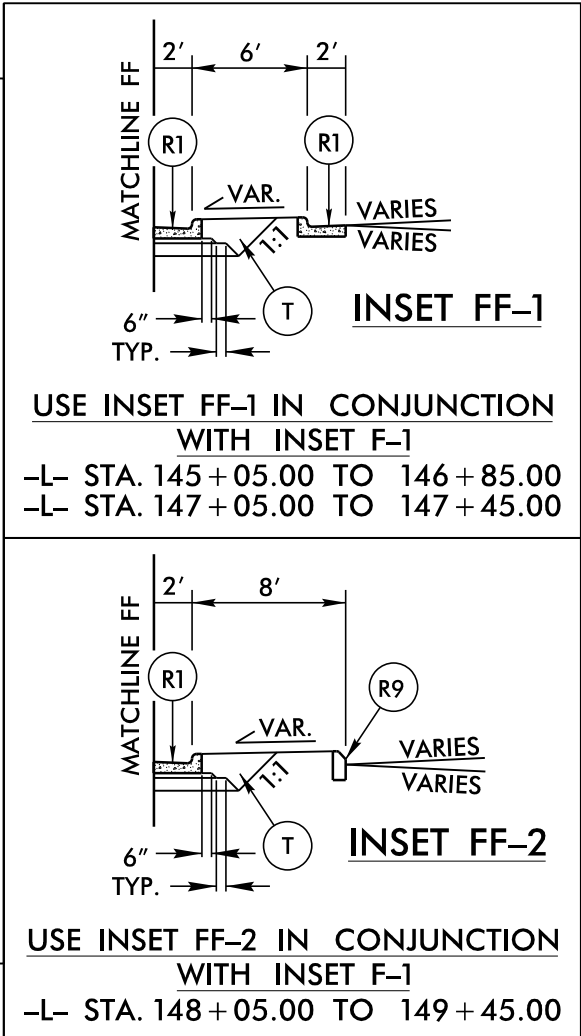
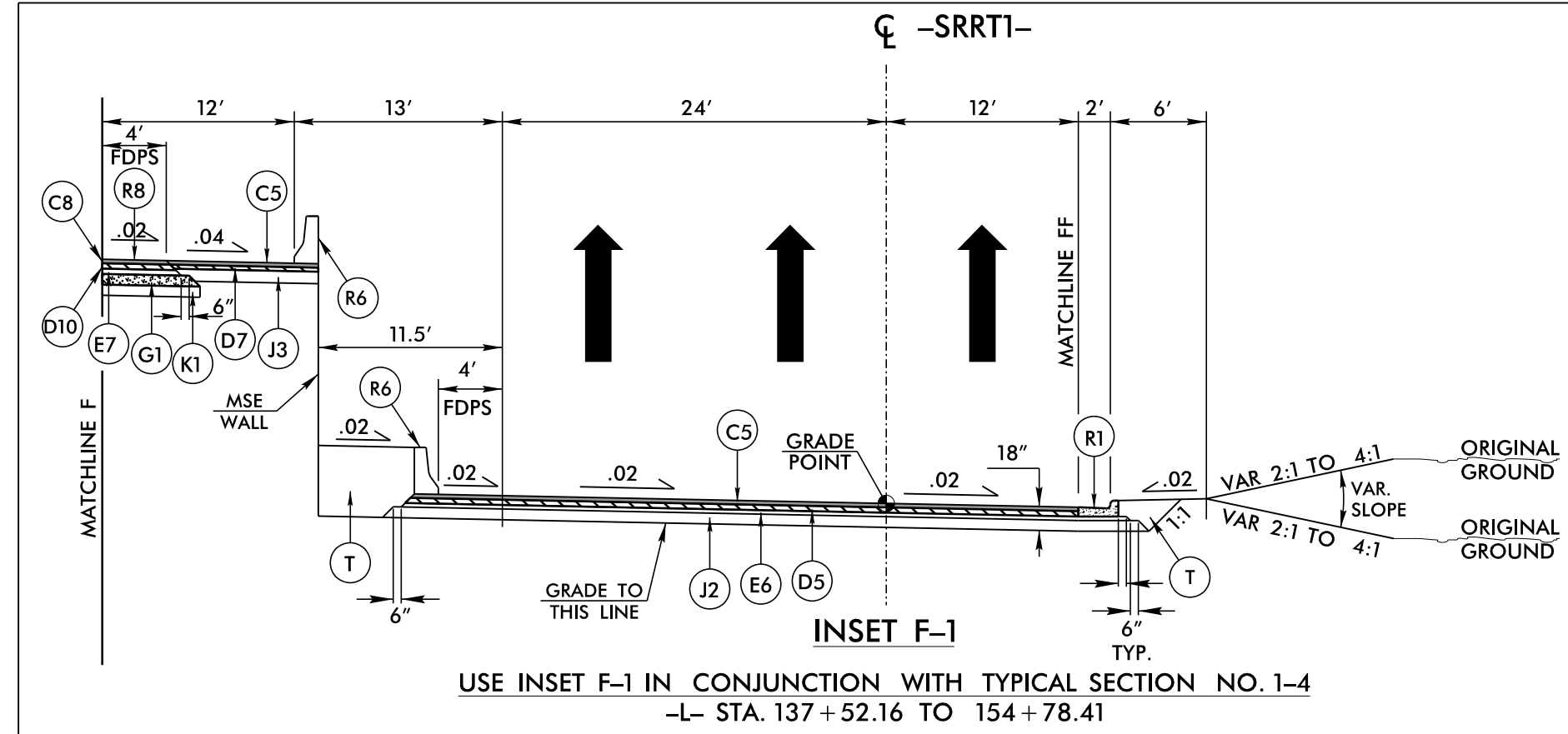
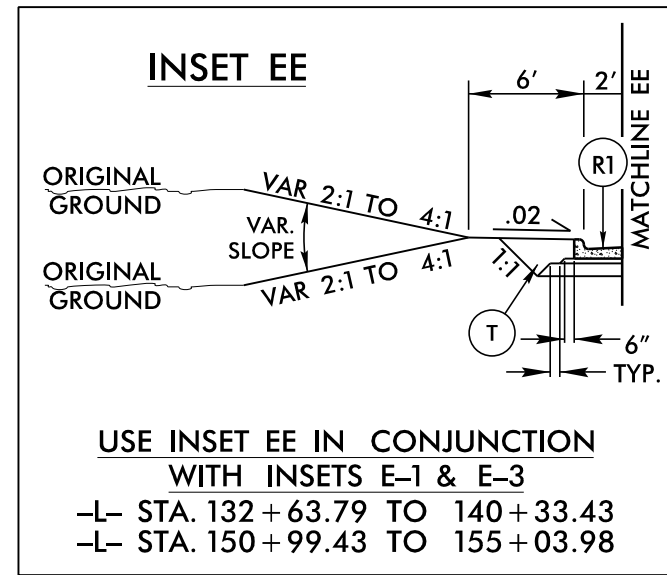
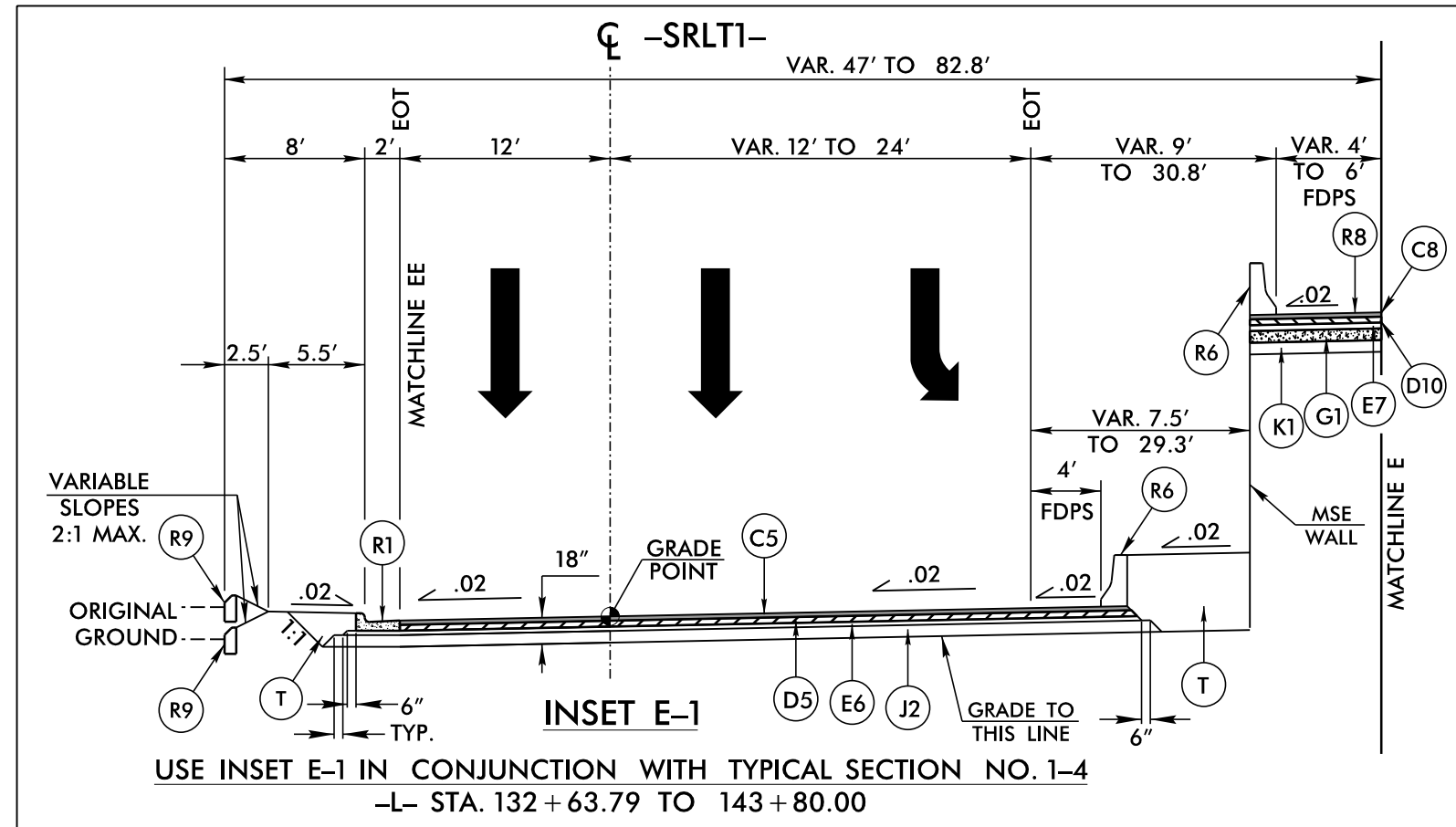
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Elements

| PAVEMENT SCHEDULE |                   |
|-------------------|-------------------|
| C2                | 3" S9.5B          |
| C3                | VAR. DEPTH S9.5B  |
| C5                | 3" S9.5C          |
| C6                | VAR. DEPTH S9.5C  |
| C8                | 3" S9.5D          |
| C9                | VAR. DEPTH S9.5D  |
| D1                | 2.5" I19.0B       |
| D2                | 3" I19.0B         |
| D4                | VAR. DEPTH I19.0B |
| D5                | 4" I19.0C         |
| D6                | 2.5" I19.0C       |
| D7                | 3" I19.0C         |
| D8                | VAR. DEPTH I19.0C |
| D10               | 4" I19.0D         |
| D11               | VAR. DEPTH I19.0D |
| E2                | 4" B25.0B         |
| E3                | 5" B25.0B         |
| E5                | VAR. DEPTH B25.0B |
| E6                | 3" B25.0C         |
| E7                | 4" B25.0C         |
| E10               | 6" B25.0C         |
| E15               | 11" B25.0C        |
| E18               | VAR. DEPTH B25.0C |
| E19               | 12.5" B25.0C      |
| G1                | 8" CTABC          |
| J1                | 6" ABC            |
| J2                | 8" ABC            |
| J3                | 9" ABC            |
| J4                | 10" ABC           |
| J5                | VAR. DEPTH ABC    |
| K1                | SUBGRADE STAB.    |
| P                 | PRIME COAT        |
| R1                | 2'-6" C&G         |
| R3                | SBG               |
| R4                | EXP. GUTTER       |
| R5                | 5" CONC. ISLAND   |
| R6                | CONC. BAR.        |
| R7                | TYPE T CONC. BAR. |
| R8                | RUMBLE STRIPS     |
| R9                | 8"x18" C&G        |
| S                 | 4" CONC. SIDEWALK |
| T                 | EARTH MATERIAL    |
| U                 | EXIST. PAVEMENT   |
| V                 | SPLIT SEAL        |
| W                 | WEDGING           |



USE TYPICAL SECTION NO. 1-4  
-L- STA. 138+35.36 (END BRIDGE) TO 153+47.75 (BEG. BRIDGE)  
-L- STA. 156+11.75 (END BRIDGE) TO 163+00.00

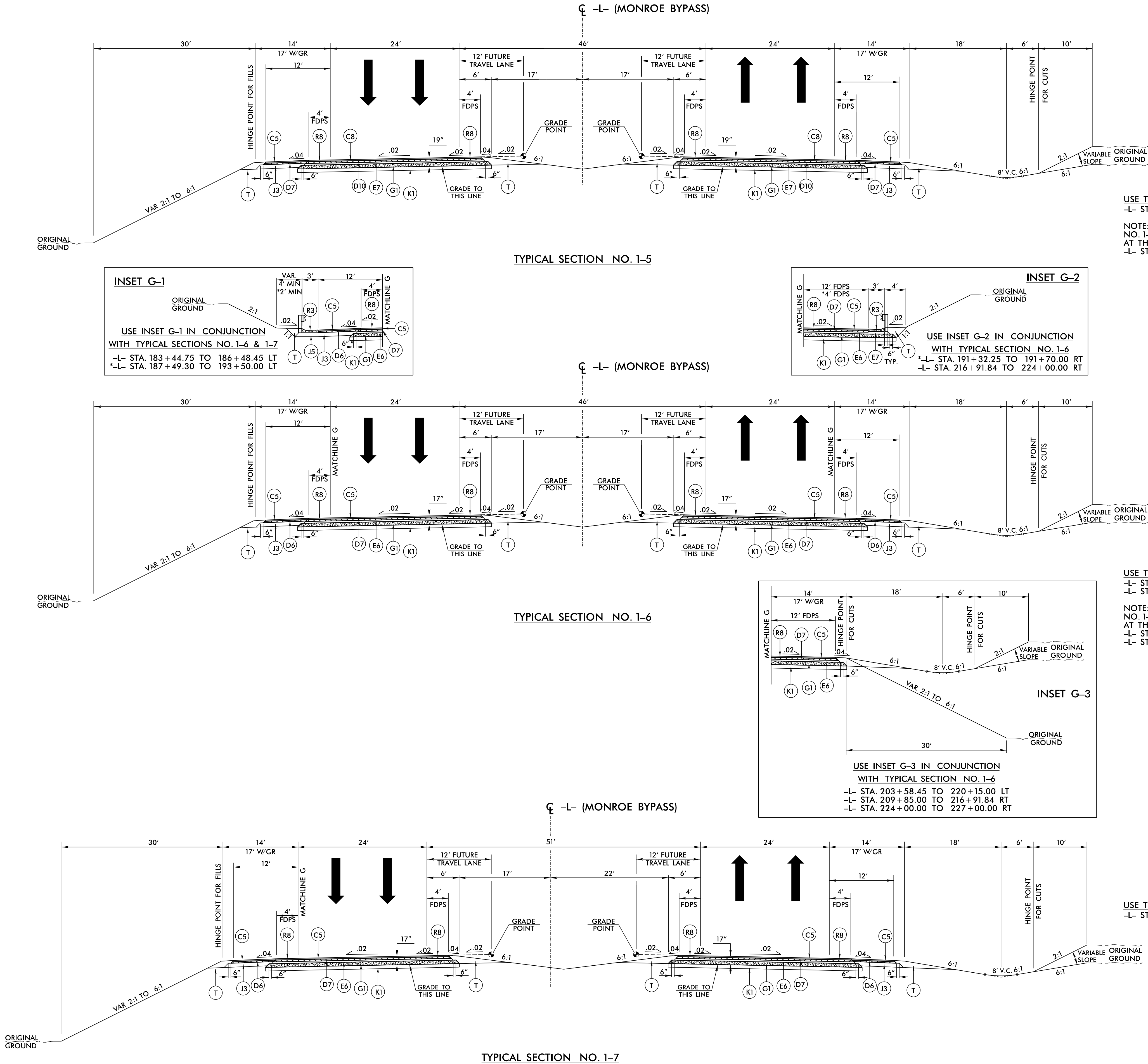


PLANS PREPARED BY :  
**RK&K**  
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900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. F-0112 • (919) 878-9560  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



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8/28/2014  
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Elements

| PAVEMENT SCHEDULE |                   |
|-------------------|-------------------|
| C2                | 3" S9.5B          |
| C3                | VAR. DEPTH S9.5B  |
| C5                | 3" S9.5C          |
| C6                | VAR. DEPTH S9.5C  |
| C8                | 3" S9.5D          |
| C9                | VAR. DEPTH S9.5D  |
| D1                | 2.5" I19.0B       |
| D2                | 3" I19.0B         |
| D4                | VAR. DEPTH I19.0B |
| D5                | 4" I19.0C         |
| D6                | 2.5" I19.0C       |
| D7                | 3" I19.0C         |
| D8                | VAR. DEPTH I19.0C |
| D10               | 4" I19.0D         |
| D11               | VAR. DEPTH I19.0D |
| E2                | 4" B25.0B         |
| E3                | 5" B25.0B         |
| E5                | VAR. DEPTH B25.0B |
| E6                | 3" B25.0C         |
| E7                | 4" B25.0C         |
| E10               | 6" B25.0C         |
| E15               | 11" B25.0C        |
| E18               | VAR. DEPTH B25.0C |
| E19               | 12.5" B25.0C      |
| G1                | 8" CTABC          |
| J1                | 6" ABC            |
| J2                | 8" ABC            |
| J3                | 9" ABC            |
| J4                | 10" ABC           |
| J5                | VAR. DEPTH ABC    |
| K1                | SUBGRADE STAB.    |
| P                 | PRIME COAT        |
| R1                | 2'-6" C&G         |
| R3                | SBG               |
| R4                | EXP. GUTTER       |
| R5                | 5" CONC. ISLAND   |
| R6                | CONC. BAR.        |
| R7                | TYPE T CONC. BAR. |
| R8                | RUMBLE STRIPS     |
| R9                | 8"x18" C&G        |
| S                 | 4" CONC. SIDEWALK |
| T                 | EARTH MATERIAL    |
| U                 | EXIST. PAVEMENT   |
| V                 | SPLIT SEAL        |
| W                 | WEDGING           |



USE TYPICAL SECTION NO. 1-5  
-L- STA. 171+00.00 TO 180+00.00  
NOTE: TRANSITION FROM TYPICAL SECTION NO. 1-4 TO TYPICAL SECTION NO. 1-5 AT THE FOLLOWING LOCATIONS:  
-L- STA. 163+00.00 TO 171+00.00

USE TYPICAL SECTION NO. 1-6  
-L- STA. 180+00.00 TO 184+00.00  
-L- STA. 193+50.00 TO 227+00.00  
NOTE: TRANSITION FROM TYPICAL SECTION NO. 1-6 TO TYPICAL SECTION NO. 1-7 AT THE FOLLOWING LOCATIONS:  
-L- STA. 184+00.00 TO 188+00.00  
-L- STA. 189+50.00 TO 193+50.00

USE TYPICAL SECTION NO. 1-7  
-L- STA. 184+00.00 TO 193+50.00

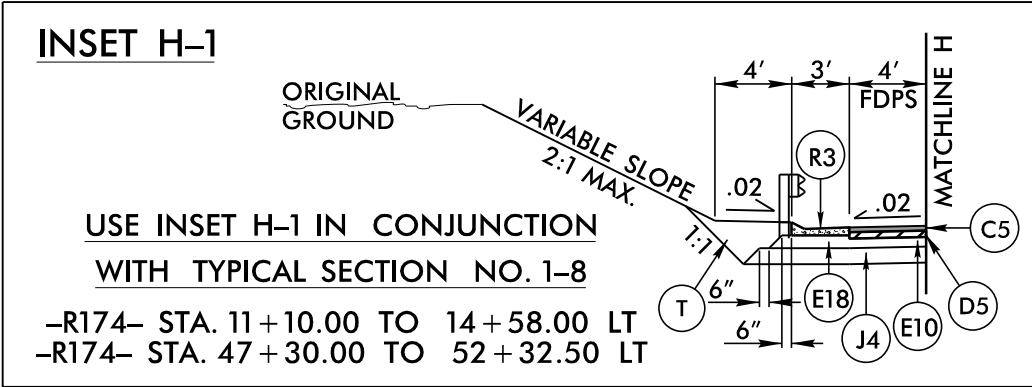
| PROJECT REFERENCE NO.                              |  |
|----------------------------------------------------|--|
| R-3329 / R-2559                                    |  |
| SHEET NO.                                          |  |
| 1-2D                                               |  |
| ROADWAY DESIGN ENGINEER                            |  |
| PAVEMENT DESIGN ENGINEER                           |  |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |  |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |  |

PLANS PREPARED BY :  
**RK&K**  
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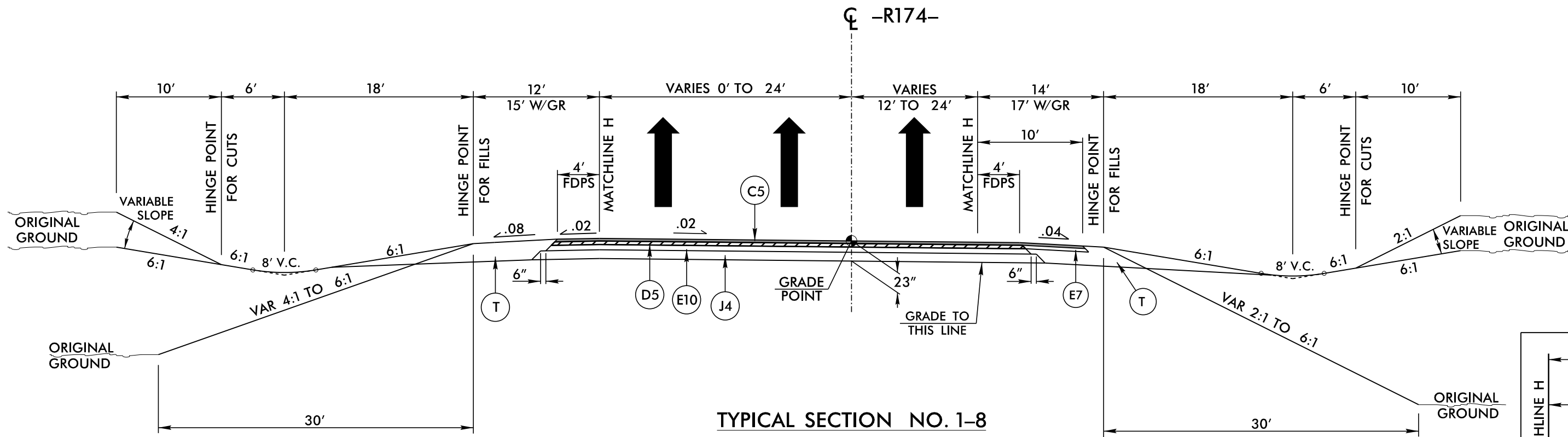
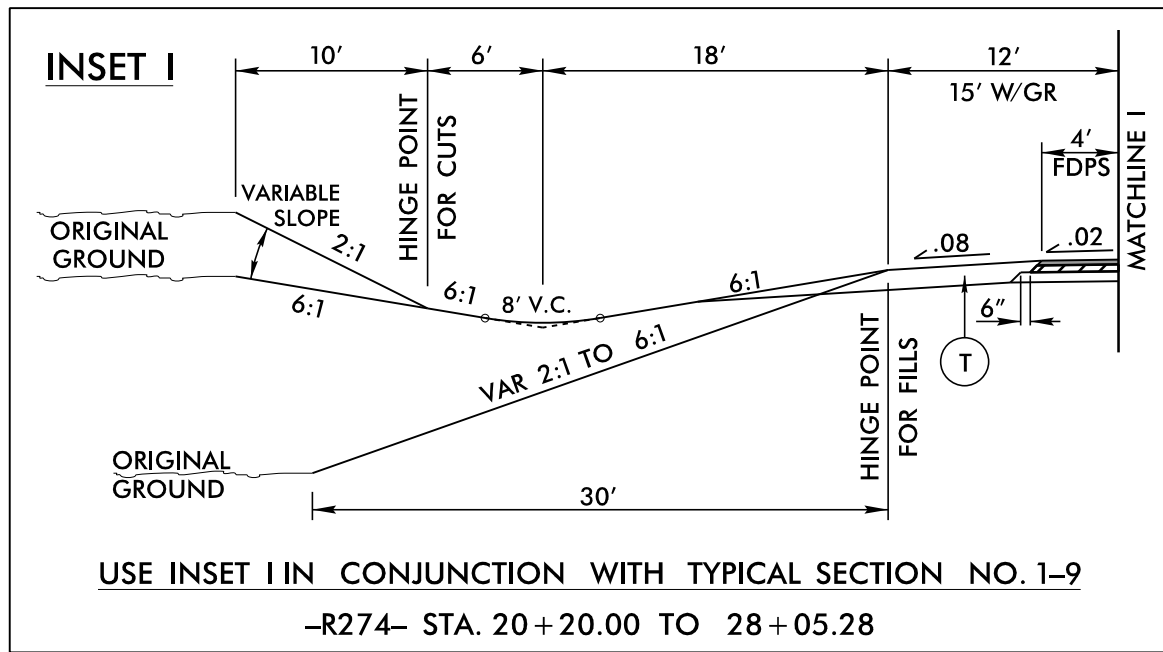
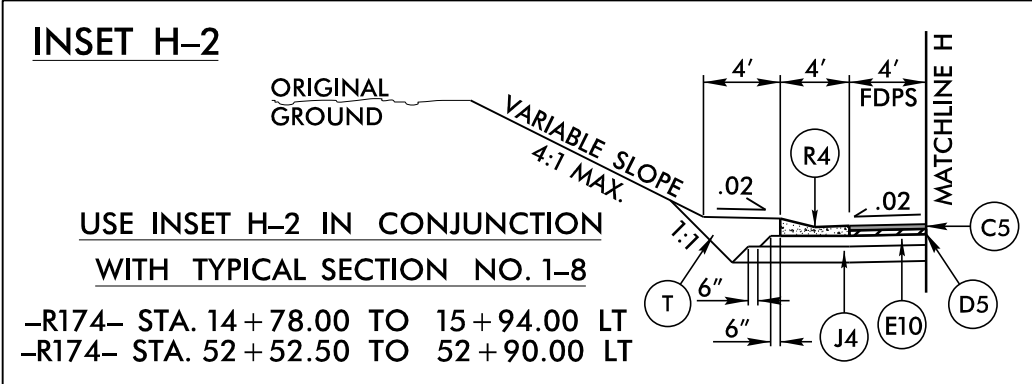


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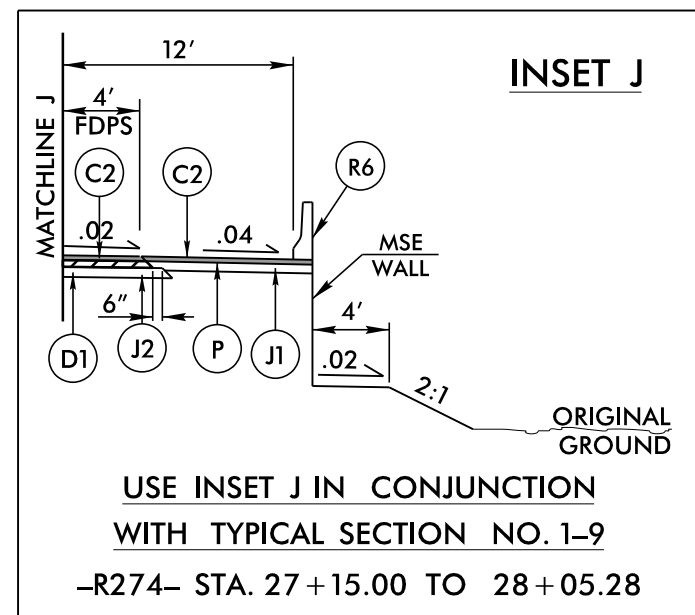
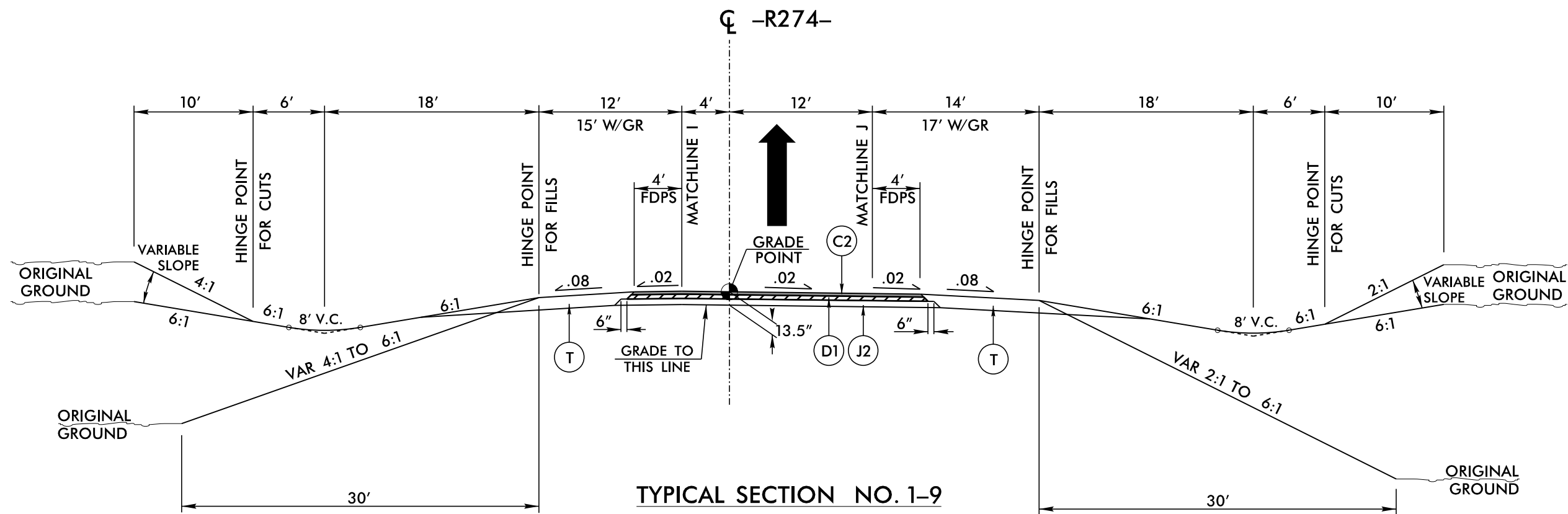
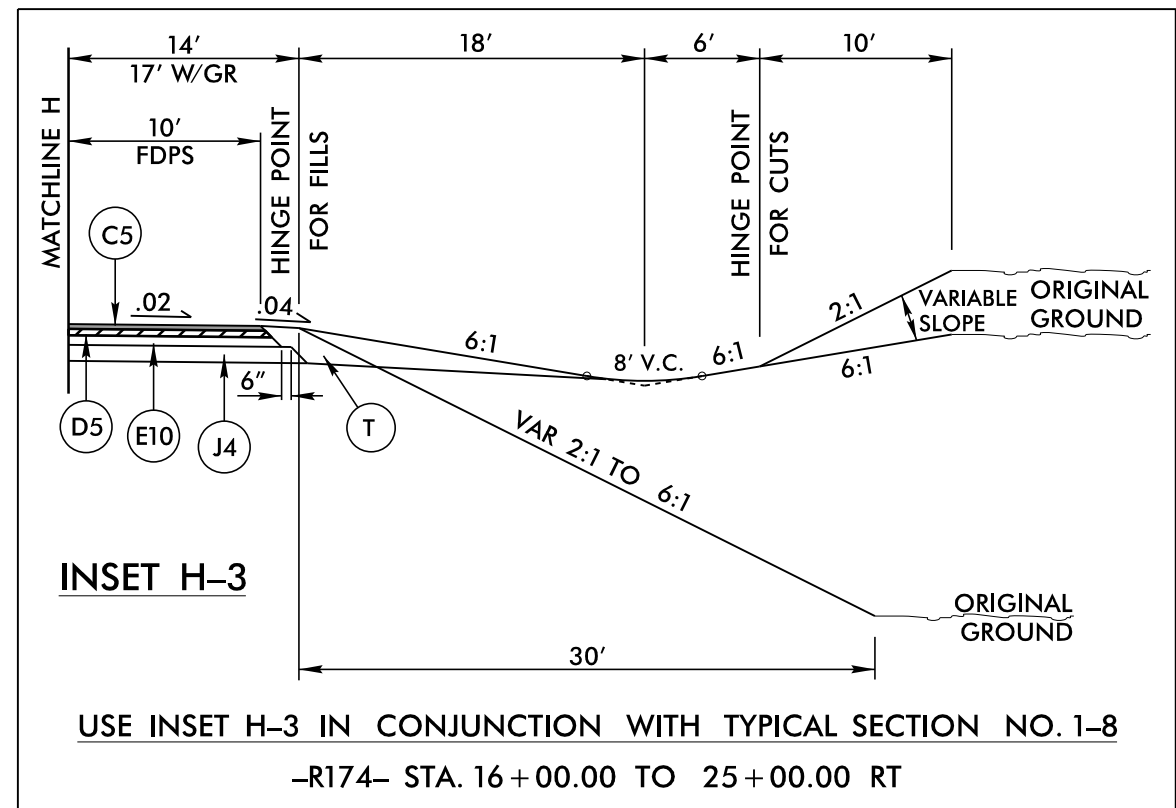
| PAVEMENT SCHEDULE |                   |
|-------------------|-------------------|
| C2                | 3" S9.5B          |
| C3                | VAR. DEPTH S9.5B  |
| C5                | 3" S9.5C          |
| C6                | VAR. DEPTH S9.5C  |
| C8                | 3" S9.5D          |
| C9                | VAR. DEPTH S9.5D  |
| D1                | 2.5" I19.0B       |
| D2                | 3" I19.0B         |
| D4                | VAR. DEPTH I19.0B |
| D5                | 4" I19.0C         |
| D6                | 2.5" I19.0C       |
| D7                | 3" I19.0C         |
| D8                | VAR. DEPTH I19.0C |
| D10               | 4" I19.0D         |
| D11               | VAR. DEPTH I19.0D |
| E2                | 4" B20.0B         |
| E3                | 5" B25.0B         |
| E5                | VAR. DEPTH B25.0B |
| E6                | 3" B25.0C         |
| E7                | 4" B25.0C         |
| E10               | 6" B25.0C         |
| E15               | 11" B25.0C        |
| E18               | VAR. DEPTH B25.0C |
| E19               | 12.5" B25.0C      |
| G1                | 8" CTABC          |
| J1                | 6" ABC            |
| J2                | 8" ABC            |
| J3                | 9" ABC            |
| J4                | 10" ABC           |
| J5                | VAR. DEPTH ABC    |
| K1                | SUBGRADE STAB.    |
| P                 | PRIME COAT        |
| R1                | 2'-6" C&G         |
| R3                | SBG               |
| R4                | EXP. GUTTER       |
| R5                | 5" CONC. ISLAND   |
| R6                | CONC. BAR.        |
| R7                | TYPE T CONC. BAR. |
| R8                | RUMBLE STRIPS     |
| R9                | 8"x18" C&G        |
| S                 | 4" CONC. SIDEWALK |
| T                 | EARTH MATERIAL    |
| U                 | EXIST. PAVEMENT   |
| V                 | SPLIT SEAL        |
| W                 | WEDGING           |



NOTE: TRANSITION FROM INSET H-1 TO INSET H-2 AT THE FOLLOWING LOCATIONS:  
-R174- STA. 14+58.00 TO 14+78.00  
-R174- STA. 52+32.50 TO 52+52.50

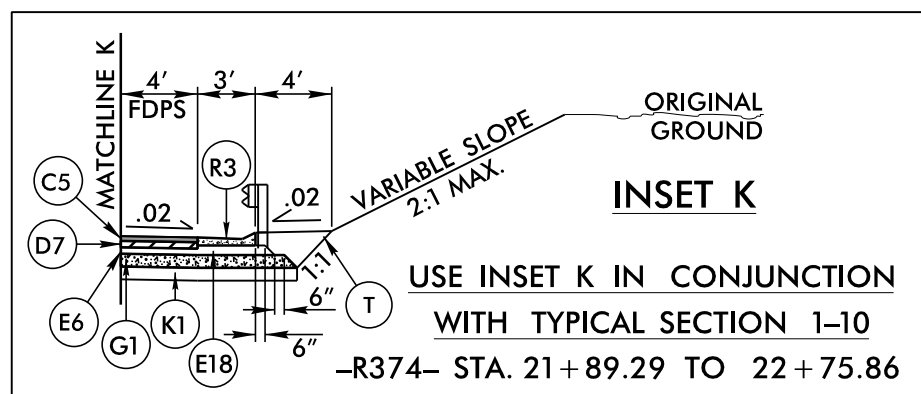
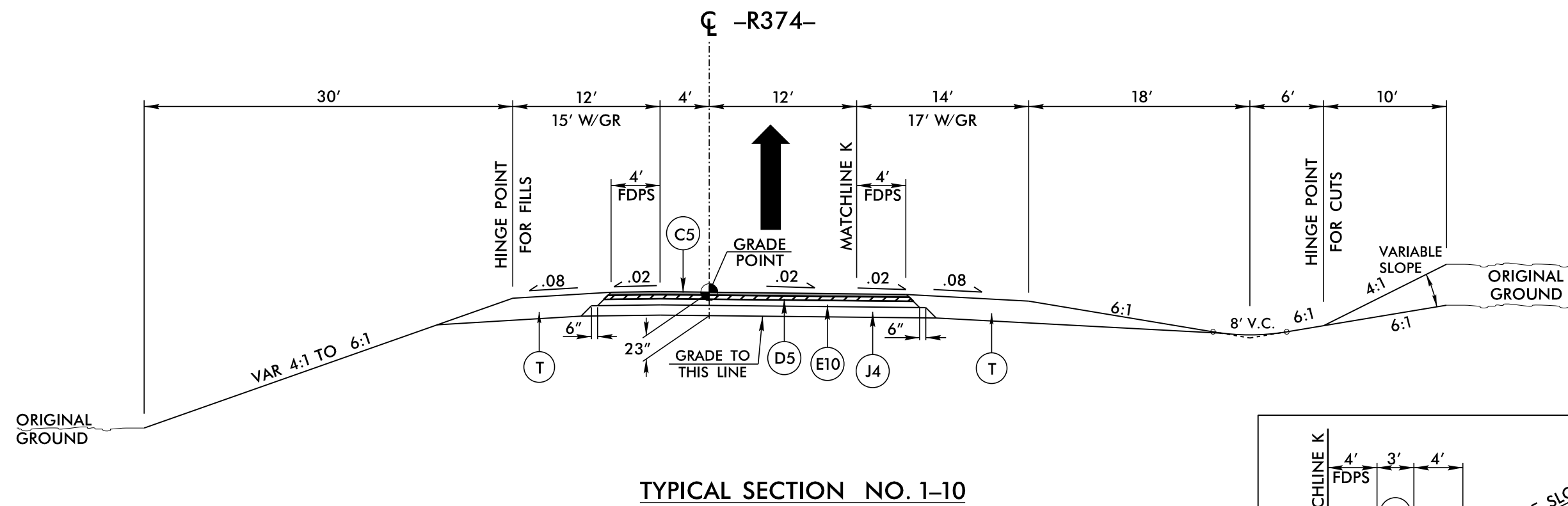


USE TYPICAL SECTION NO. 1-8  
-R174- STA. 10+50.14 TO 59+30.77



USE TYPICAL SECTION NO. 1-9  
-R274- STA. 10+00.00 TO 31+46.63

NOTE: USE -L- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:  
-R274- STA. 10+00.00 TO 17+85.07



USE TYPICAL SECTION NO. 1-10  
-R374- STA. 10+00.00 TO 22+75.86

NOTE: USE -L- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:  
-R374- STA. 17+41.11 TO 22+75.86

PLANS PREPARED BY :

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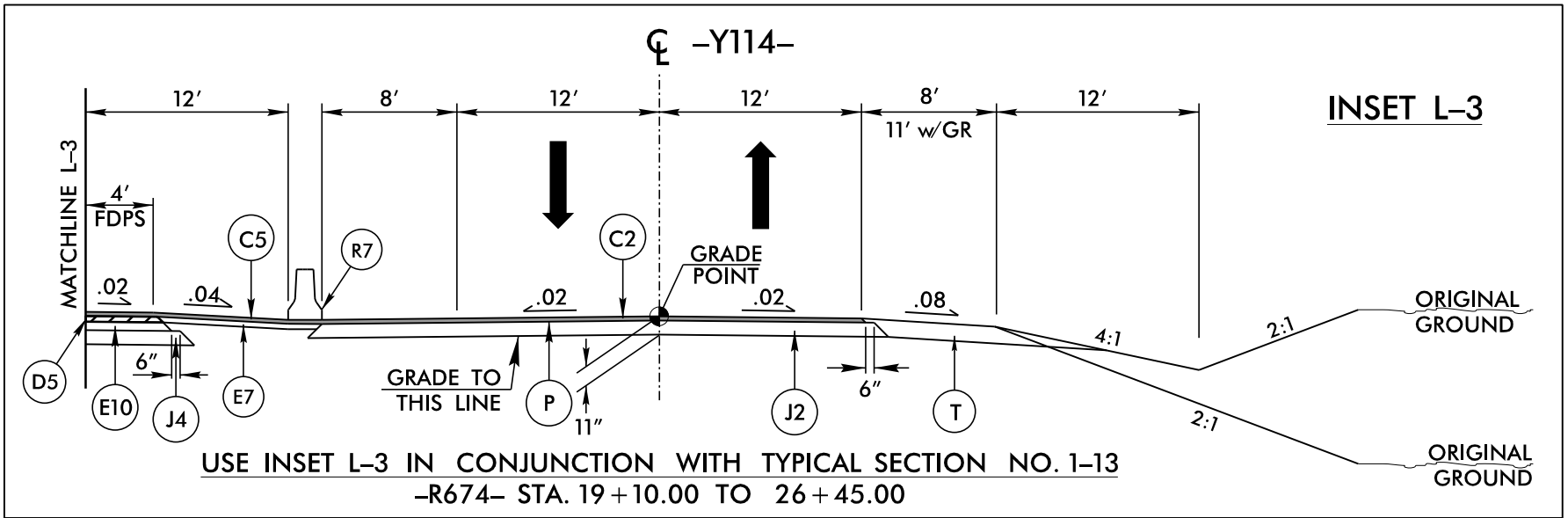
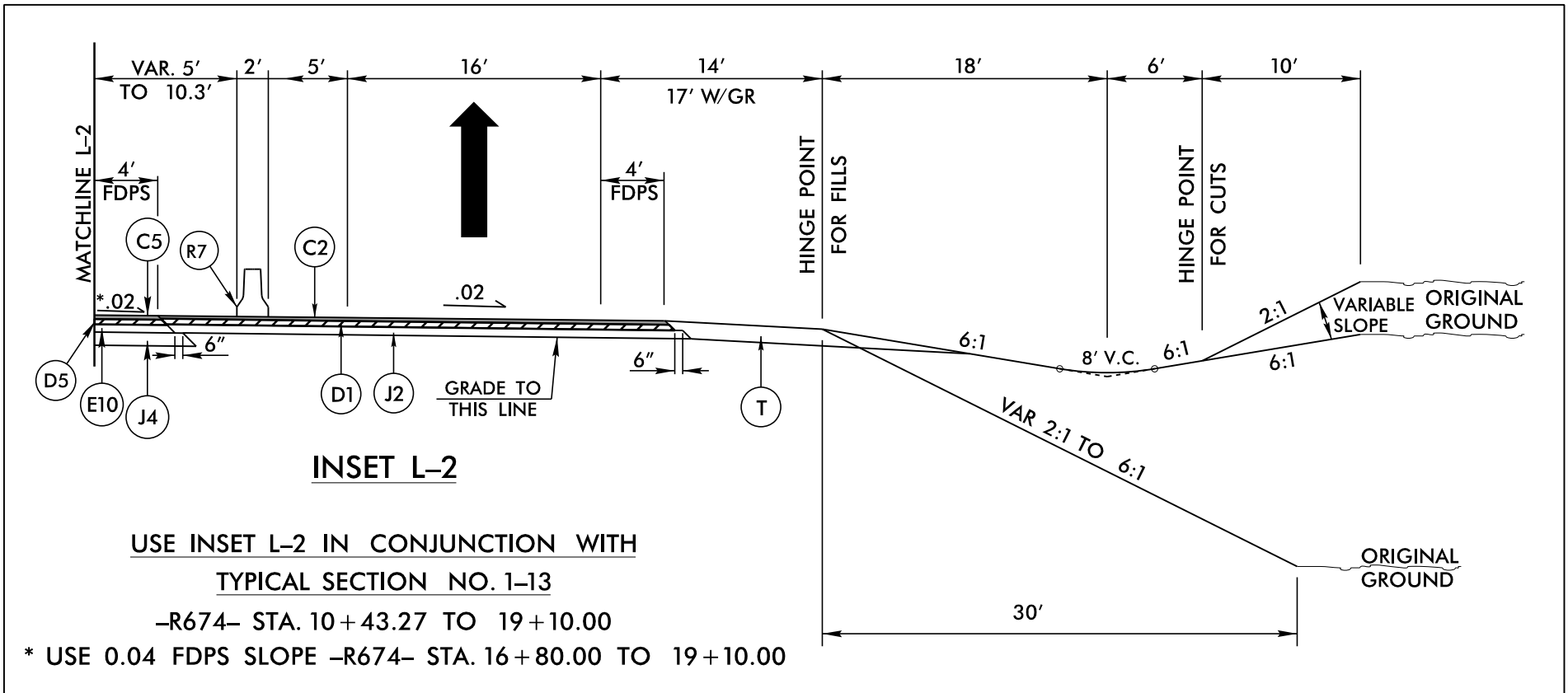
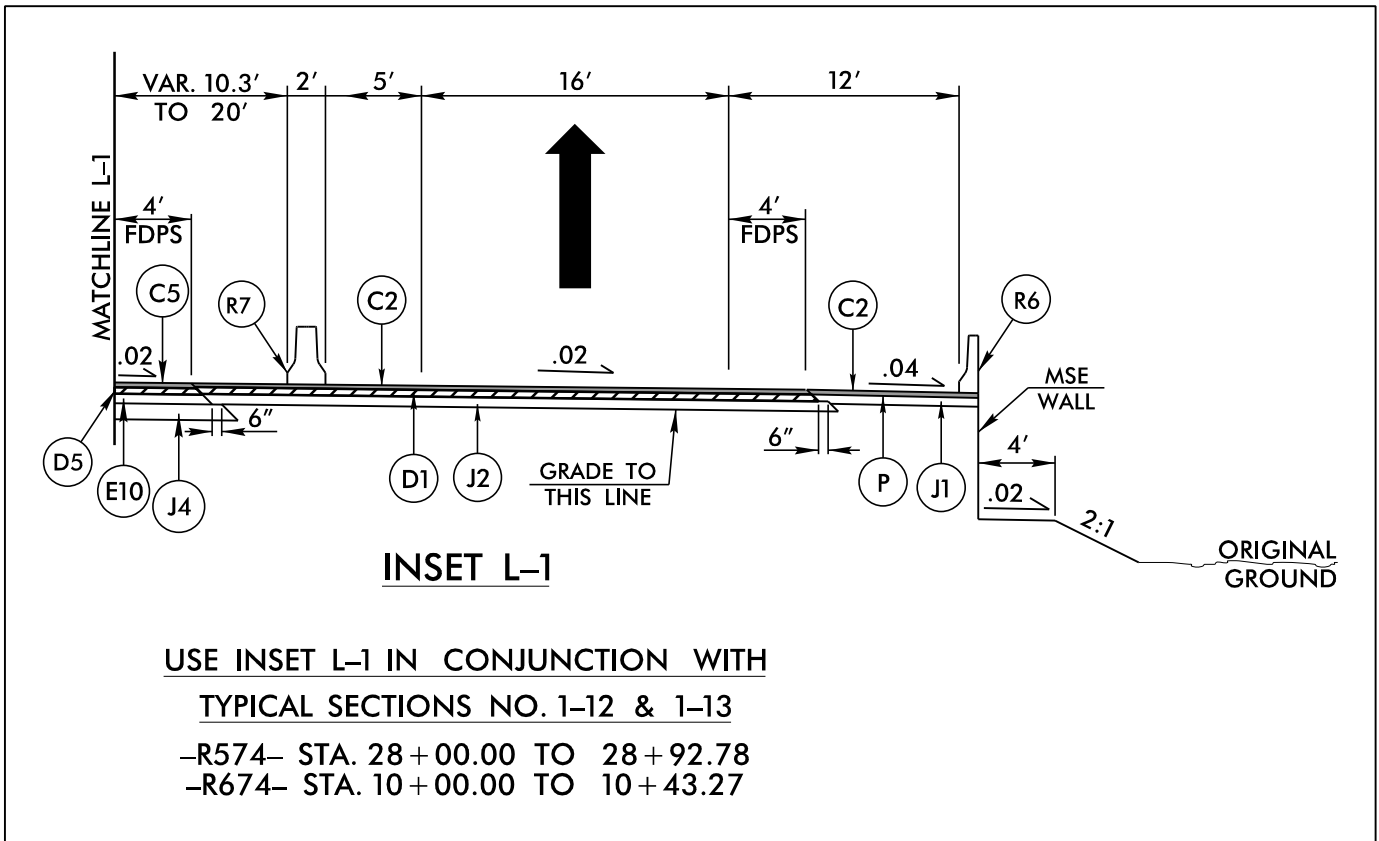
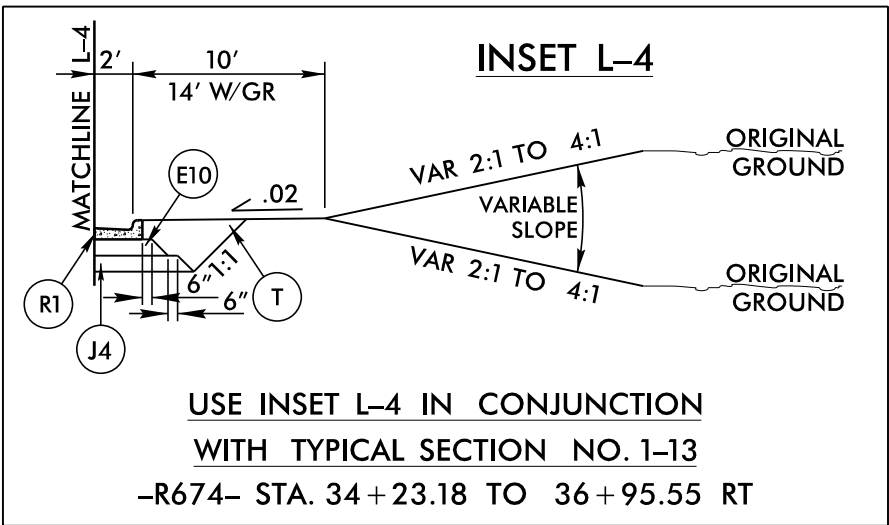
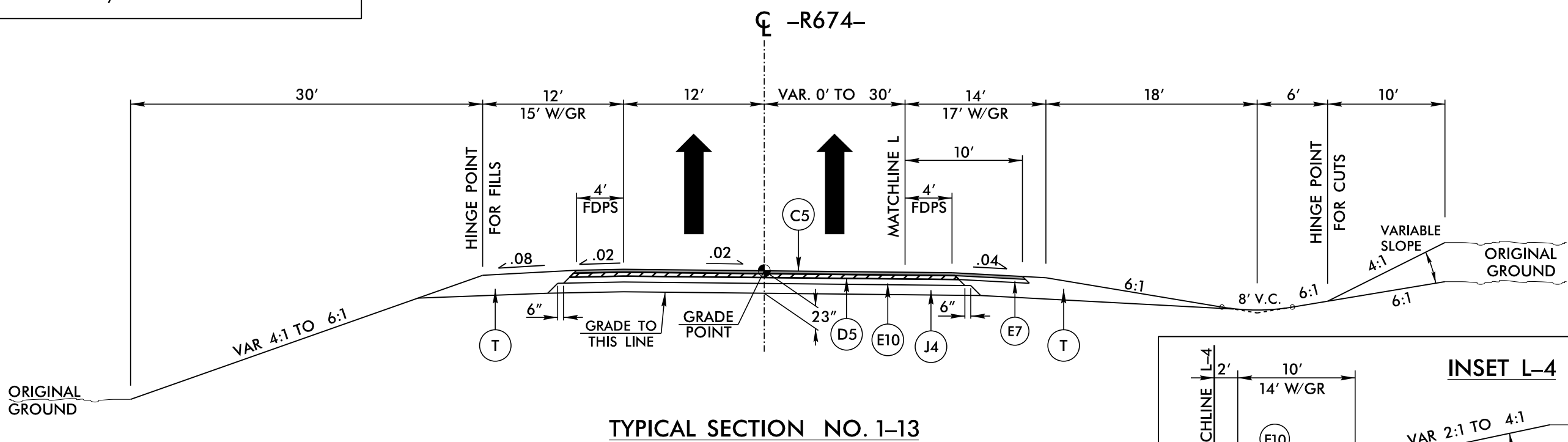
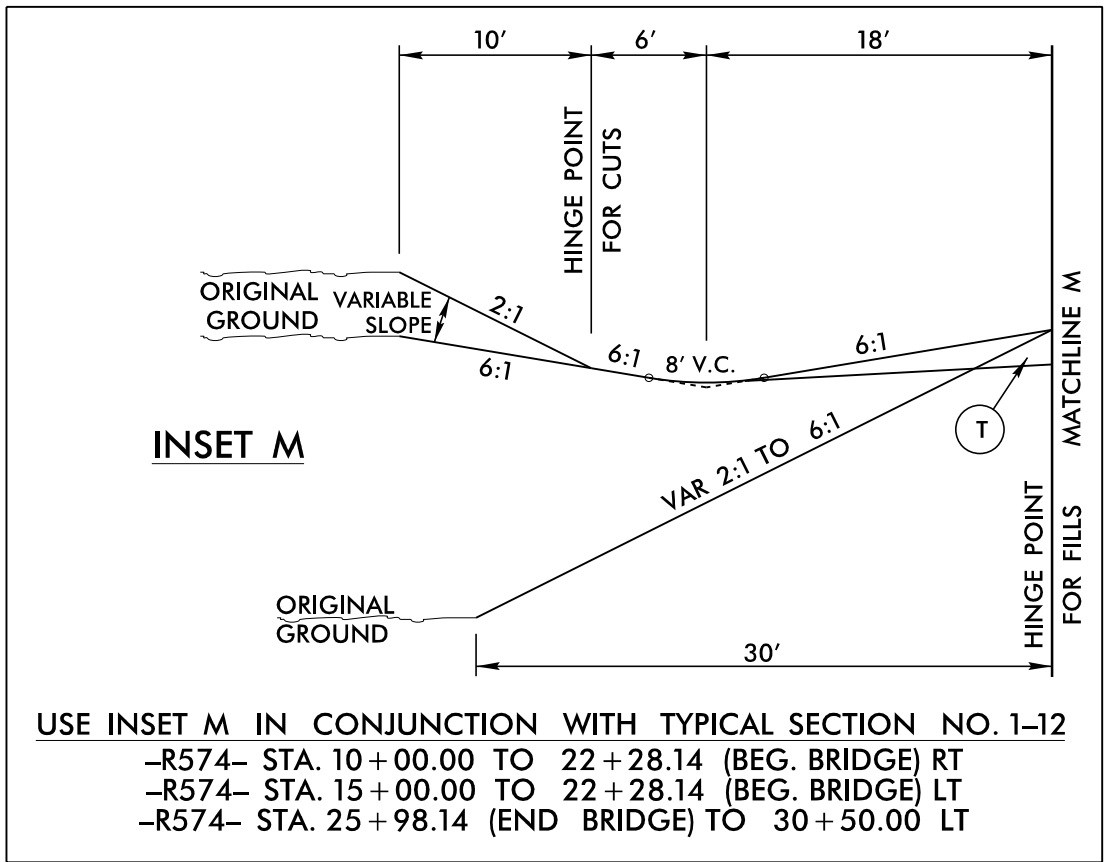
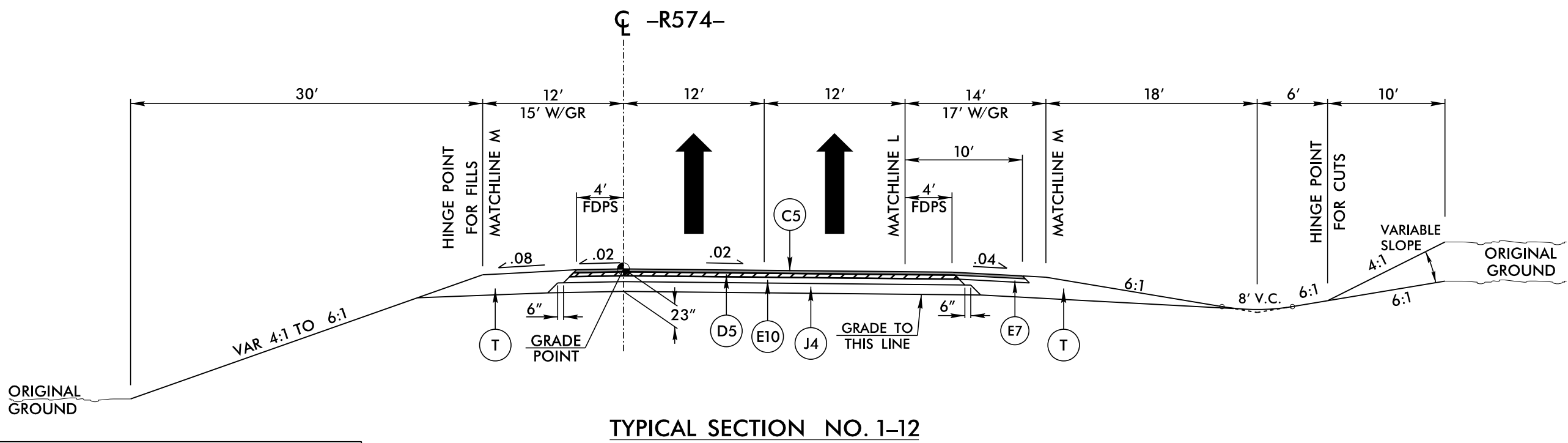
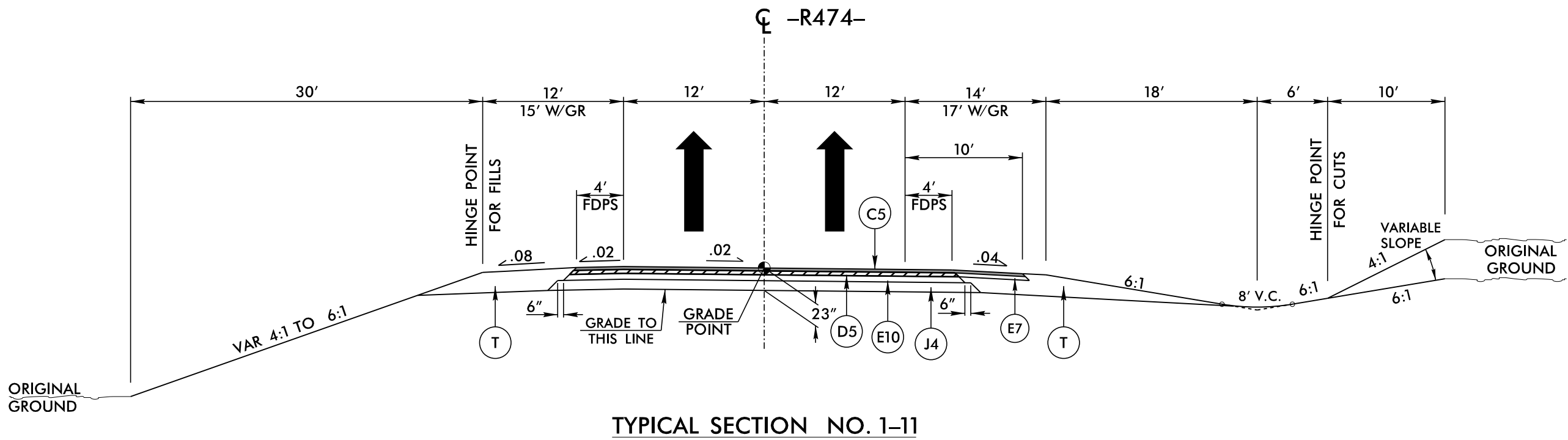
RUMMEL, KLEPPER & KAHL, LLP  
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6/2/99  
Elevs

| PAVEMENT SCHEDULE |                   |
|-------------------|-------------------|
| C2                | 3" S9.5B          |
| C3                | VAR. DEPTH S9.5B  |
| C5                | 3" S9.5C          |
| C6                | VAR. DEPTH S9.5C  |
| C8                | 3" S9.5D          |
| C9                | VAR. DEPTH S9.5D  |
| D1                | 2.5" I19.0B       |
| D2                | 3" I19.0B         |
| D4                | VAR. DEPTH I19.0B |
| D5                | 4" I19.0C         |
| D6                | 2.5" I19.0C       |
| D7                | 3" I19.0C         |
| D8                | VAR. DEPTH I19.0C |
| D10               | 4" I19.0D         |
| D11               | VAR. DEPTH I19.0D |
| E2                | 4" B25.0B         |
| E3                | 5" B25.0B         |
| E5                | VAR. DEPTH B25.0B |
| E6                | 3" B25.0C         |
| E7                | 4" B25.0C         |
| E10               | 6" B25.0C         |
| E15               | 11" B25.0C        |
| E18               | VAR. DEPTH B25.0C |
| E19               | 12.5" B25.0C      |
| G1                | 8" CTABC          |
| J1                | 6" ABC            |
| J2                | 8" ABC            |
| J3                | 9" ABC            |
| J4                | 10" ABC           |
| J5                | VAR. DEPTH ABC    |
| K1                | SUBGRADE STAB.    |
| P                 | PRIME COAT        |
| R1                | 2'-6" C&G         |
| R3                | SBG               |
| R4                | EXP. GUTTER       |
| R5                | 5" CONC. ISLAND   |
| R6                | CONC. BAR.        |
| R7                | TYPE T CONC. BAR. |
| R8                | RUMBLE STRIPS     |
| R9                | 8"x18" C&G        |
| S                 | 4" CONC. SIDEWALK |
| T                 | EARTH MATERIAL    |
| U                 | EXIST. PAVEMENT   |
| V                 | SPLIT SEAL        |
| W                 | WEDGING           |



USE TYPICAL SECTION NO. 1-13

-R674- STA. 10+00.00 TO 36+95.55

USE TYPICAL SECTION NO. 1-11

-R474- STA. 10+00.00 TO 24+86.71

NOTE: USE -L- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:

-R474- STA. 15+36.17 TO 24+86.71

USE TYPICAL SECTION NO. 1-12

-R574- STA. 10+00.00 TO 22+28.14 (BEG. BRIDGE)

-R574- STA. 25+98.14 (END BRIDGE) TO 45+37.07

NOTE: USE -L- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:

-R574- STA. 39+80.13 TO 45+37.07

|                                                    |                             |           |
|----------------------------------------------------|-----------------------------|-----------|
| PROJECT REFERENCE NO.                              |                             | SHEET NO. |
| R-3329 / R-2559                                    |                             | 1-2F      |
| ROADWAY DESIGN<br>ENGINEER                         | PAVEMENT DESIGN<br>ENGINEER |           |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                             |           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                             |           |

PLANS PREPARED BY :

**RK&K**

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900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
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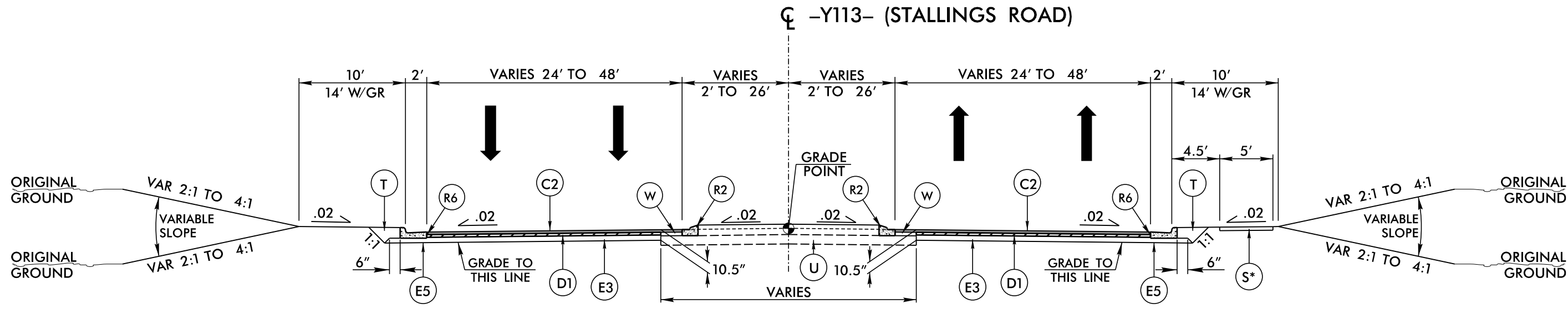




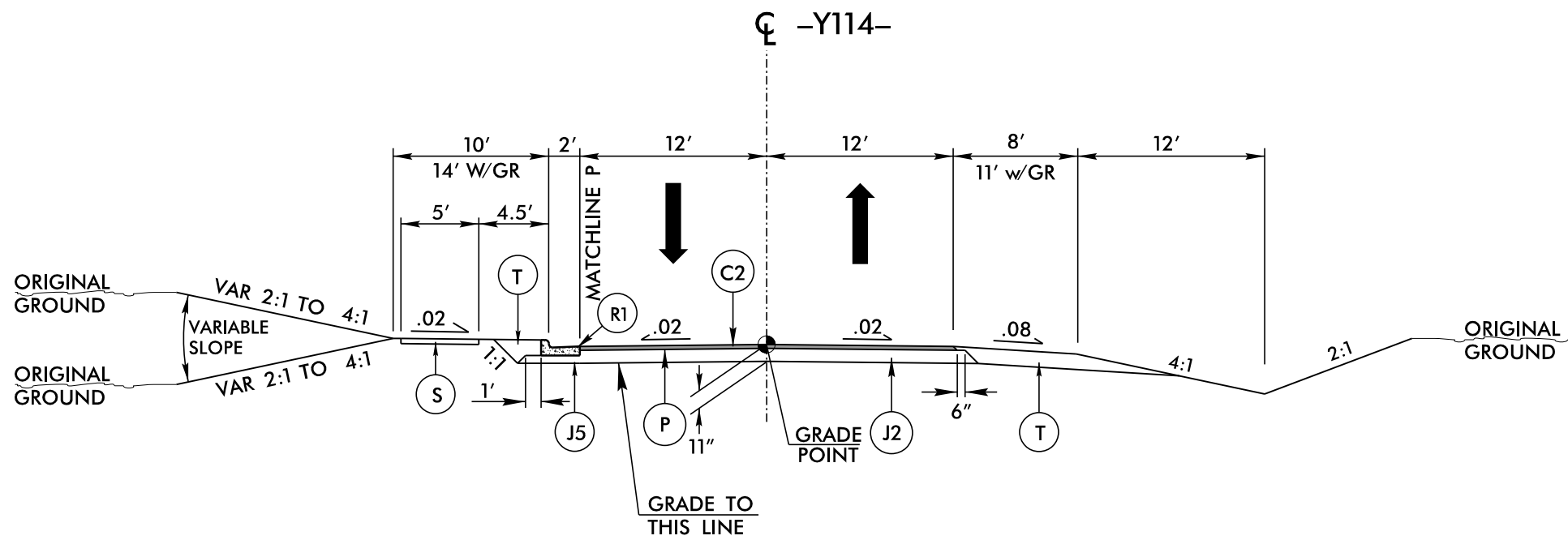


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Elevs

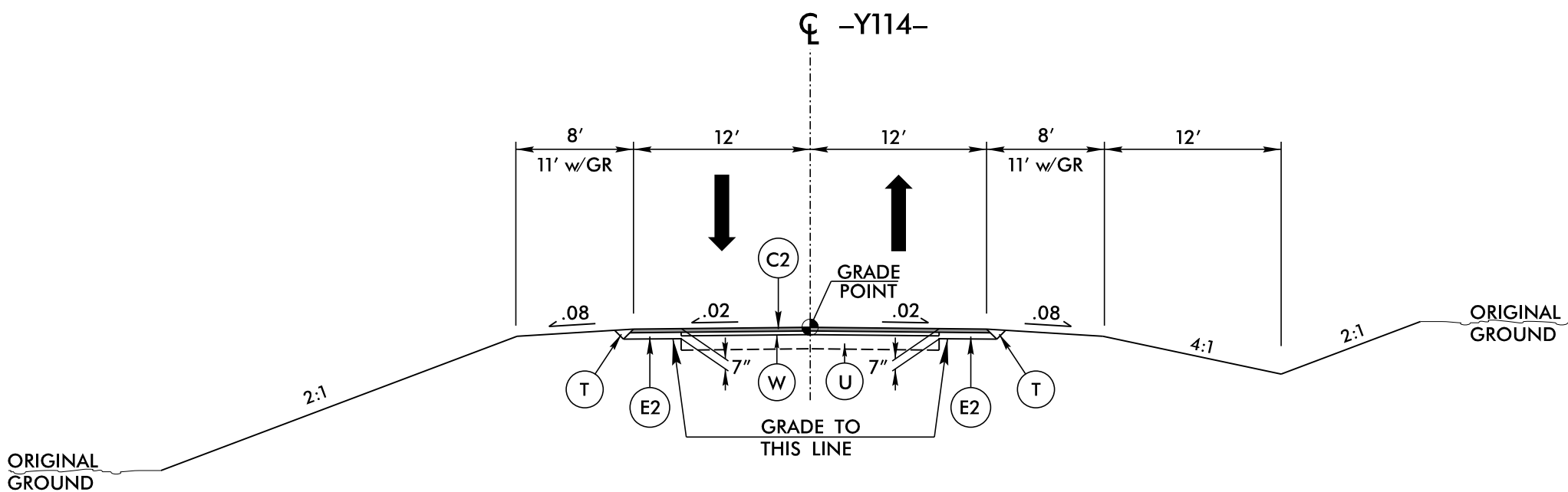
| PAVEMENT SCHEDULE |                   |
|-------------------|-------------------|
| C2                | 3" S9.5B          |
| C3                | VAR. DEPTH S9.5B  |
| C5                | 3" S9.5C          |
| C6                | VAR. DEPTH S9.5C  |
| C8                | 3" S9.5D          |
| C9                | VAR. DEPTH S9.5D  |
| D1                | 2.5" I19.0B       |
| D2                | 3" I19.0B         |
| D4                | VAR. DEPTH I19.0B |
| D5                | 4" I19.0C         |
| D6                | 2.5" I19.0C       |
| D7                | 3" I19.0C         |
| D8                | VAR. DEPTH I19.0C |
| D10               | 4" I19.0D         |
| D11               | VAR. DEPTH I19.0D |
| E2                | 4" B20.0B         |
| E3                | 5" B25.0B         |
| E5                | VAR. DEPTH B25.0B |
| E6                | 3" B25.0C         |
| E7                | 4" B25.0C         |
| E10               | 6" B25.0C         |
| E15               | 11" B25.0C        |
| E18               | VAR. DEPTH B25.0C |
| E19               | 12.5" B25.0C      |
| G1                | 8" CTABC          |
| J1                | 6" ABC            |
| J2                | 8" ABC            |
| J3                | 9" ABC            |
| J4                | 10" ABC           |
| J5                | VAR. DEPTH ABC    |
| K1                | SUBGRADE STAB.    |
| P                 | PRIME COAT        |
| R1                | 2'-6" C&G         |
| R2                | 1'-6" C&G         |
| R3                | SBG               |
| R4                | EXP. GUTTER       |
| R5                | 5" CONC. ISLAND   |
| R6                | CONC. BAR.        |
| R7                | TYPE T CONC. BAR. |
| R8                | RUMBLE STRIPS     |
| R9                | 8"x18" C&G        |
| S                 | 4" CONC. SIDEWALK |
| T                 | EARTH MATERIAL    |
| U                 | EXIST. PAVEMENT   |
| V                 | SPLIT SEAL        |
| W                 | WEDGING           |



TYPICAL SECTION NO. 1-17



TYPICAL SECTION NO. 1-18



TYPICAL SECTION NO. 1-19

| PROJECT REFERENCE NO.                              |  | SHEET NO.                                        |  |
|----------------------------------------------------|--|--------------------------------------------------|--|
| R-3329 / R-2559                                    |  | 1-2H                                             |  |
| ROADWAY DESIGN ENGINEER                            |  | PAVEMENT DESIGN ENGINEER                         |  |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |  | PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |  |

USE TYPICAL SECTION NO. 1-17  
-Y113- STA. 16+65.00 TO 33+20.00

\*NOTE: USE SIDEWALK:  
-Y113- STA. 23+00.00 TO 33+20.00 RT

USE TYPICAL SECTION NO. 1-18  
-Y114- STA. 10+34.95 TO 26+73.52

USE TYPICAL SECTION NO. 1-19  
-Y114- STA. 26+73.52 TO 30+65.00

PLANS PREPARED BY :

**RK&K**

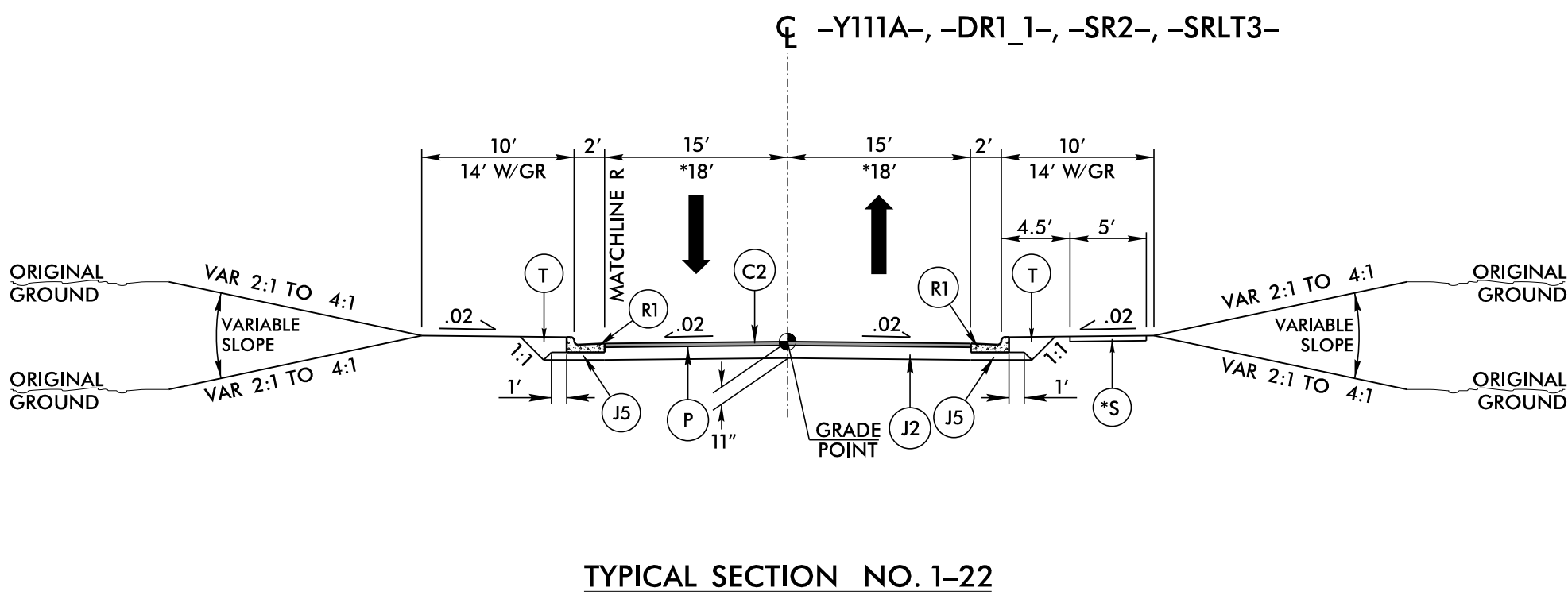
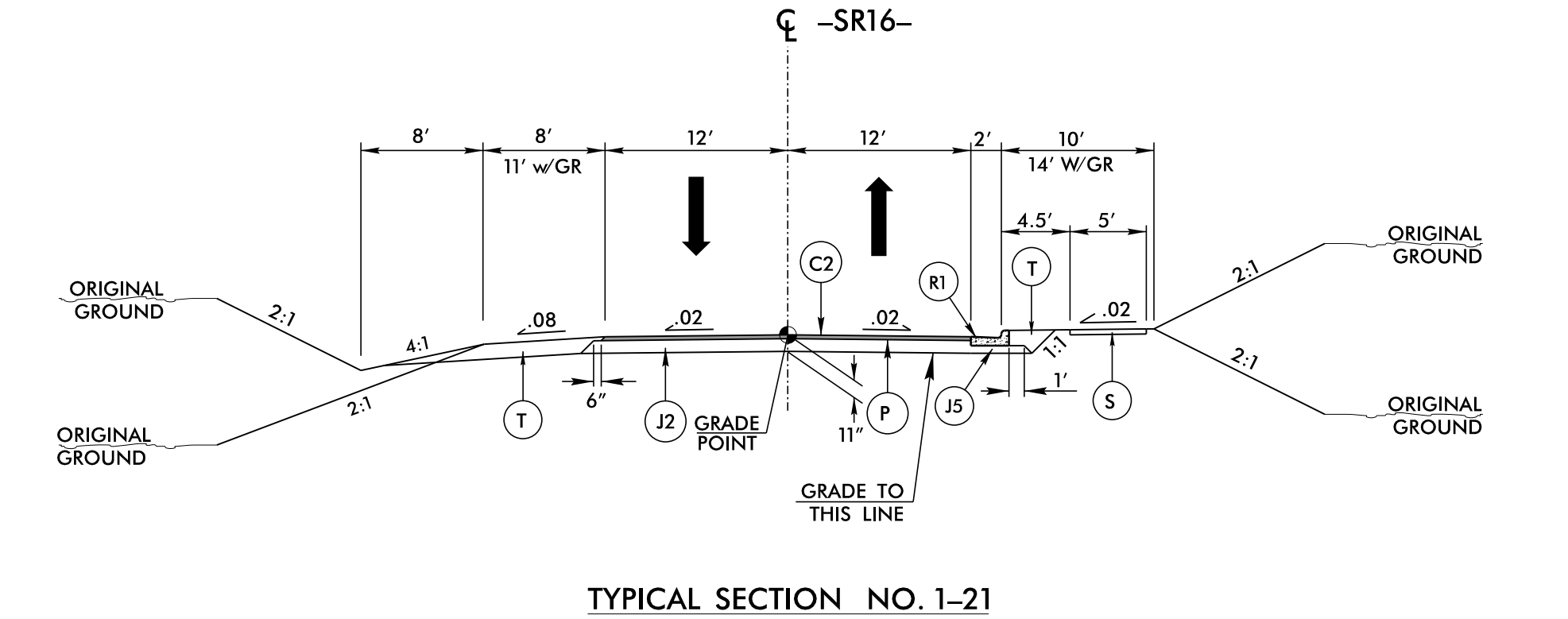
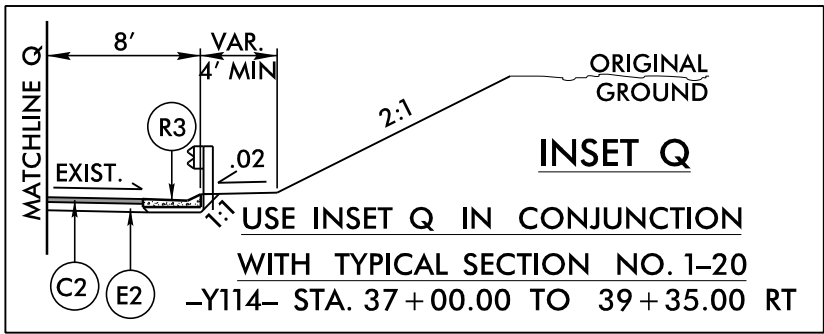
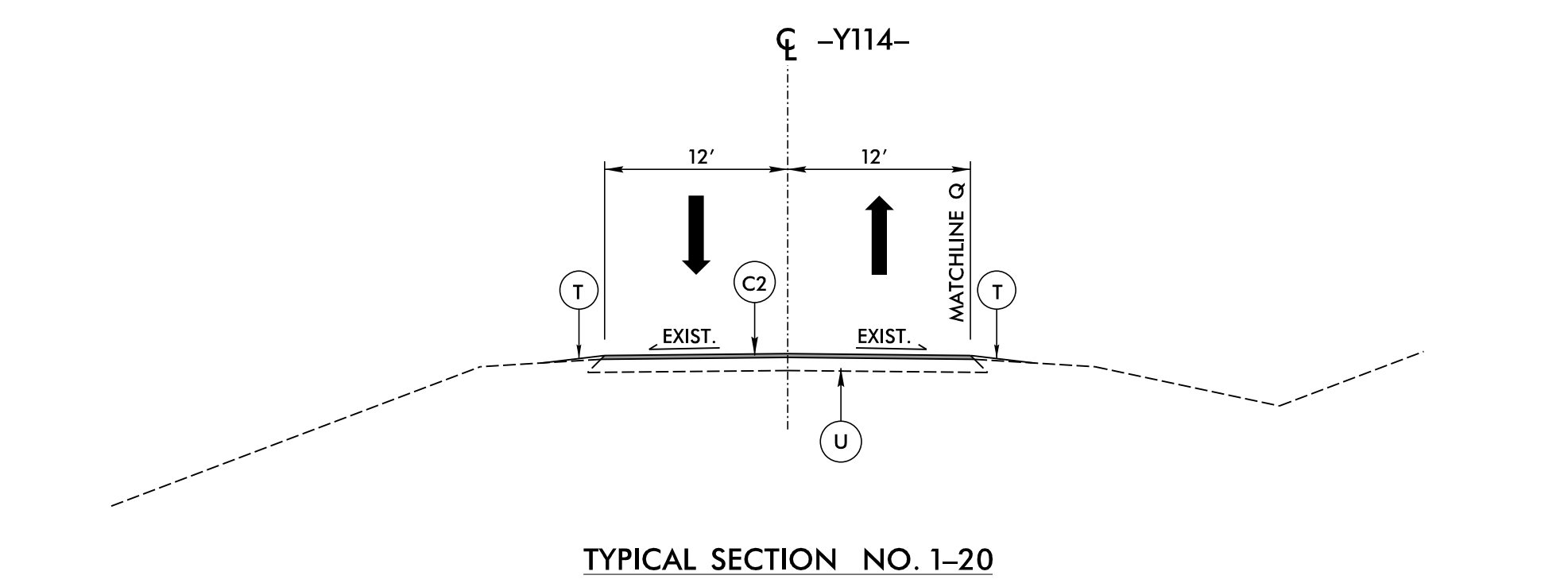
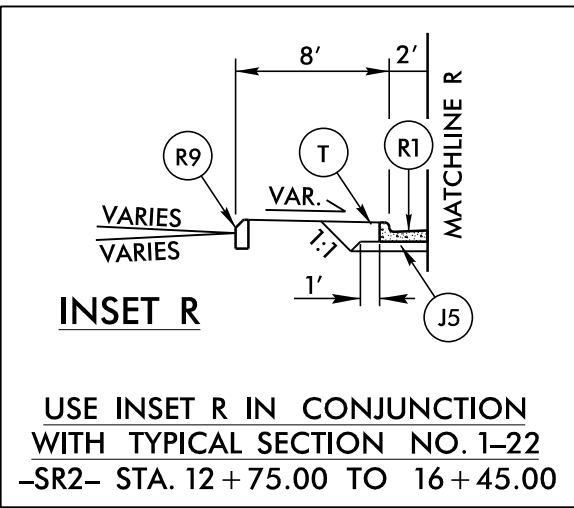
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
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FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



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| PAVEMENT SCHEDULE |                   |
|-------------------|-------------------|
| C2                | 3" S9.5B          |
| C3                | VAR. DEPTH S9.5B  |
| C5                | 3" S9.5C          |
| C6                | VAR. DEPTH S9.5C  |
| C8                | 3" S9.5D          |
| C9                | VAR. DEPTH S9.5D  |
| D1                | 2.5" I19.0B       |
| D2                | 3" I19.0B         |
| D4                | VAR. DEPTH I19.0B |
| D5                | 4" I19.0C         |
| D6                | 2.5" I19.0C       |
| D7                | 3" I19.0C         |
| D8                | VAR. DEPTH I19.0C |
| D10               | 4" I19.0D         |
| D11               | VAR. DEPTH I19.0D |
| E2                | 4" B20.0B         |
| E3                | 5" B25.0B         |
| E5                | VAR. DEPTH B25.0B |
| E6                | 3" B25.0C         |
| E7                | 4" B25.0C         |
| E10               | 6" B25.0C         |
| E15               | 11" B25.0C        |
| E18               | VAR. DEPTH B25.0C |
| E19               | 12.5" B25.0C      |
| G1                | 8" CTABC          |
| J1                | 6" ABC            |
| J2                | 8" ABC            |
| J3                | 9" ABC            |
| J4                | 10" ABC           |
| J5                | VAR. DEPTH ABC    |
| K1                | SUBGRADE STAB.    |
| P                 | PRIME COAT        |
| R1                | 2'-6" C&G         |
| R3                | SBG               |
| R4                | EXP. GUTTER       |
| R5                | 5" CONC. ISLAND   |
| R6                | CONC. BAR.        |
| R7                | TYPE T CONC. BAR. |
| R8                | RUMBLE STRIPS     |
| R9                | 8"x18" C&G        |
| S                 | 4" CONC. SIDEWALK |
| T                 | EARTH MATERIAL    |
| U                 | EXIST. PAVEMENT   |
| V                 | SPLIT SEAL        |
| W                 | WEDGING           |



USE TYPICAL SECTION NO. 1-20  
-Y114- STA. 30+65.00 TO 39+35.00

USE TYPICAL SECTION NO. 1-21  
-SR16- STA. 10+10.59 TO 22+85.38

USE TYPICAL SECTION NO. 1-22  
-Y111A- STA. 10+18.02 TO 12+40.00  
-DR1\_1- STA. 10+35.50 TO 12+29.59  
-SR2- STA. 10+41.88 TO 22+55.00  
\*-SRLT3- STA. 10+30.00 TO 12+93.02

| PROJECT REFERENCE NO.                                                                                  | SHEET NO.                |
|--------------------------------------------------------------------------------------------------------|--------------------------|
| R-3329 / R-2559                                                                                        | 1-21                     |
| ROADWAY DESIGN ENGINEER                                                                                | PAVEMENT DESIGN ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION<br>PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                          |

PLANS PREPARED BY :

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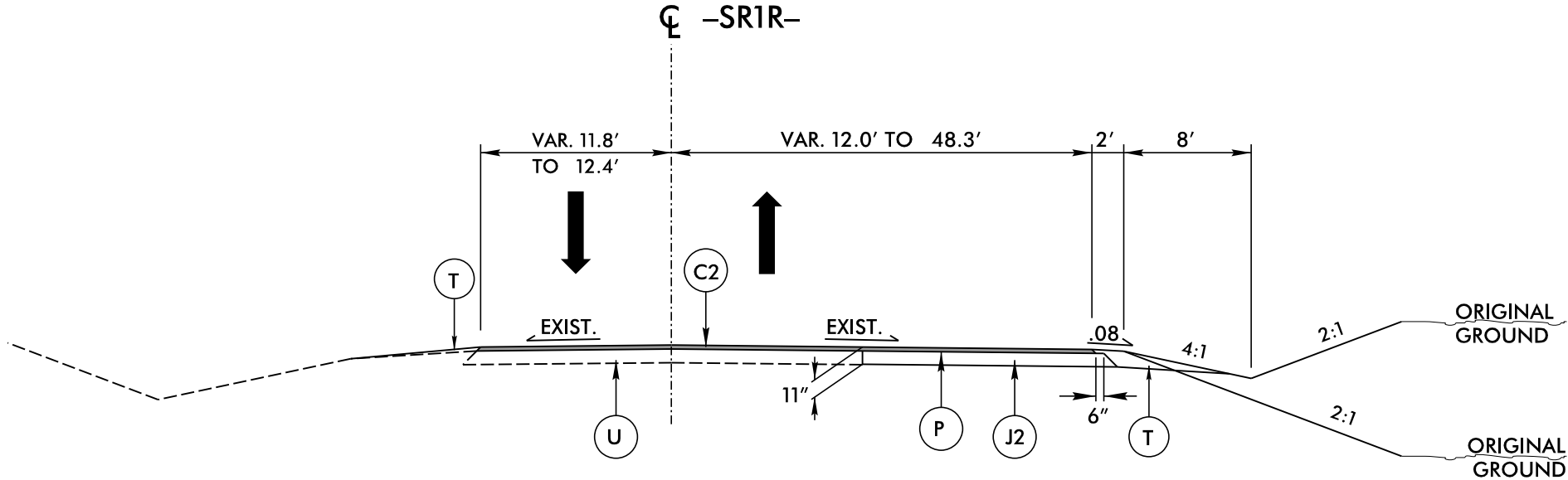




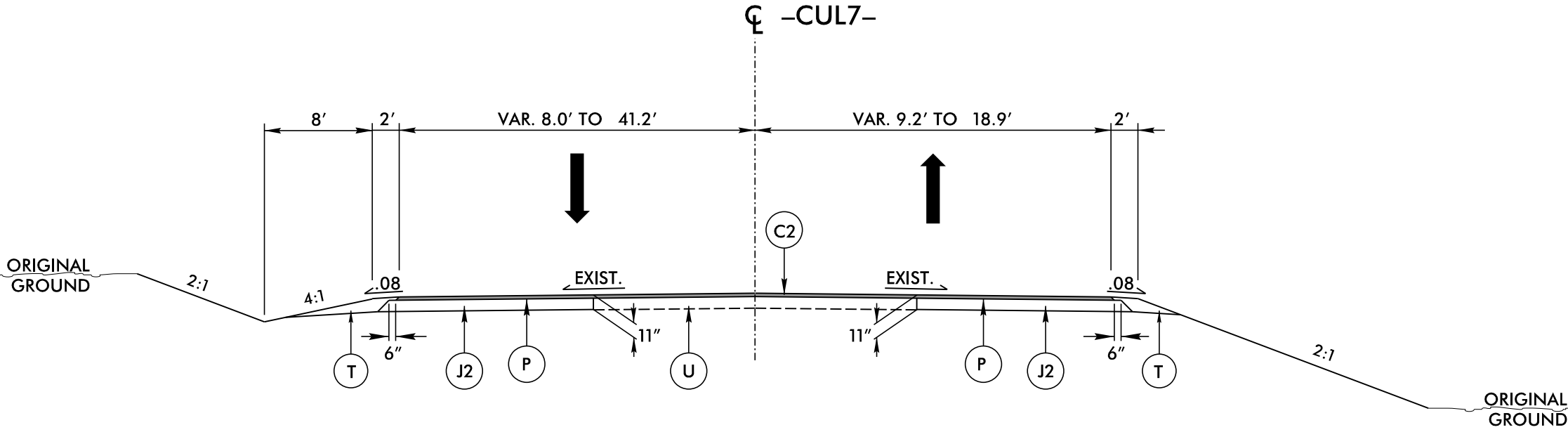


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Elevs

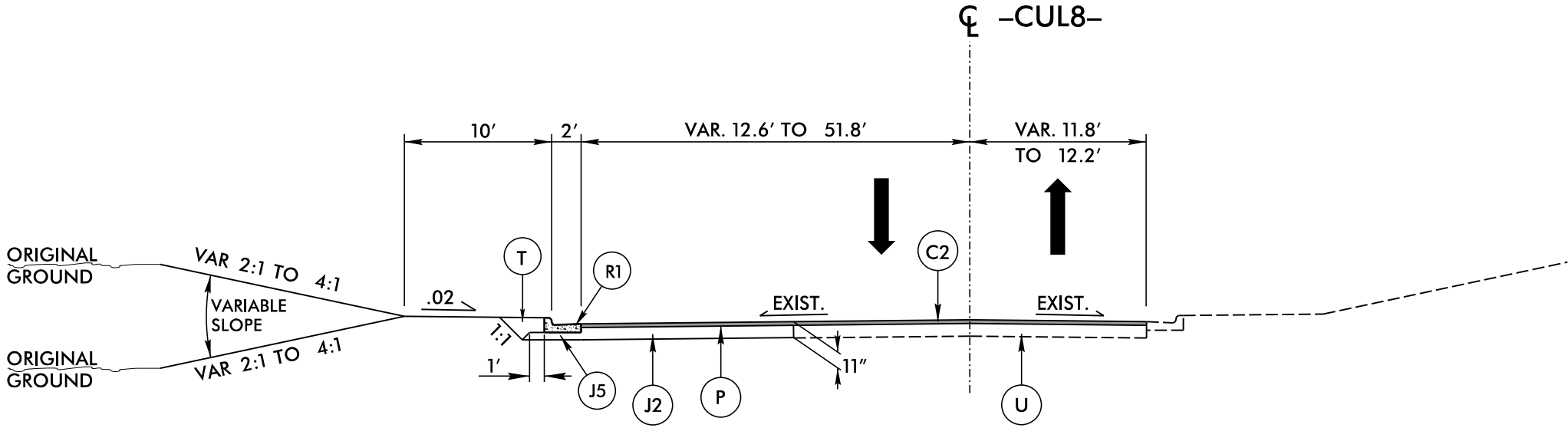
| PAVEMENT SCHEDULE |                   |
|-------------------|-------------------|
| C2                | 3" S9.5B          |
| C3                | VAR. DEPTH S9.5B  |
| C5                | 3" S9.5C          |
| C6                | VAR. DEPTH S9.5C  |
| C8                | 3" S9.5D          |
| C9                | VAR. DEPTH S9.5D  |
| D1                | 2.5" I19.0B       |
| D2                | 3" I19.0B         |
| D4                | VAR. DEPTH I19.0B |
| D5                | 4" I19.0C         |
| D6                | 2.5" I19.0C       |
| D7                | 3" I19.0C         |
| D8                | VAR. DEPTH I19.0C |
| D10               | 4" I19.0D         |
| D11               | VAR. DEPTH I19.0D |
| E2                | 4" B20.0B         |
| E3                | 5" B25.0B         |
| E5                | VAR. DEPTH B25.0B |
| E6                | 3" B25.0C         |
| E7                | 4" B25.0C         |
| E10               | 6" B25.0C         |
| E15               | 11" B25.0C        |
| E18               | VAR. DEPTH B25.0C |
| E19               | 12.5" B25.0C      |
| G1                | 8" CTABC          |
| J1                | 6" ABC            |
| J2                | 8" ABC            |
| J3                | 9" ABC            |
| J4                | 10" ABC           |
| J5                | VAR. DEPTH ABC    |
| K1                | SUBGRADE STAB.    |
| P                 | PRIME COAT        |
| R1                | 2'-6" C&G         |
| R3                | SBG               |
| R4                | EXP. GUTTER       |
| R5                | 5" CONC. ISLAND   |
| R6                | CONC. BAR.        |
| R7                | TYPE T CONC. BAR. |
| R8                | RUMBLE STRIPS     |
| R9                | 8"x18" C&G        |
| S                 | 4" CONC. SIDEWALK |
| T                 | EARTH MATERIAL    |
| U                 | EXIST. PAVEMENT   |
| V                 | SPLIT SEAL        |
| W                 | WEDGING           |



TYPICAL SECTION NO. 1-26



TYPICAL SECTION NO. 1-27



TYPICAL SECTION NO. 1-28

| PROJECT REFERENCE NO.                                                                                                       |  | SHEET NO.                |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|--------------------------|--|
| R-3329 / R-2559                                                                                                             |  | 1-2K                     |  |
| ROADWAY DESIGN ENGINEER                                                                                                     |  | PAVEMENT DESIGN ENGINEER |  |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |  |                          |  |
|                                                                                                                             |  |                          |  |

USE TYPICAL SECTION NO. 1-26  
-SR1R- STA. 10+75.00 TO 11+90.00

USE TYPICAL SECTION NO. 1-27  
-CUL7- STA. 11+62.32 TO 12+84.31

USE TYPICAL SECTION NO. 1-28  
-CUL8- STA. 13+65.02 TO 15+12.04

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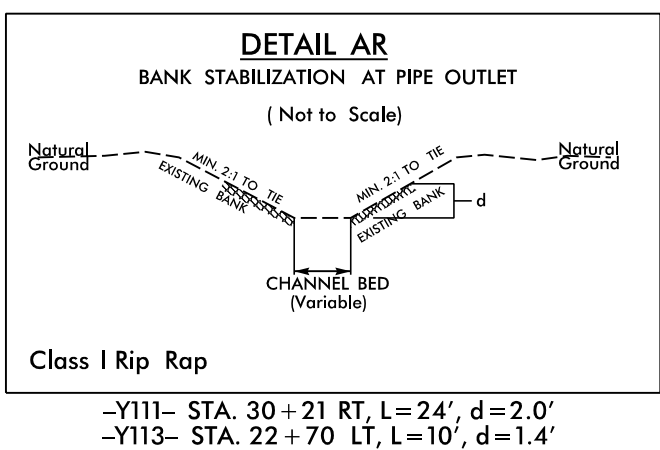
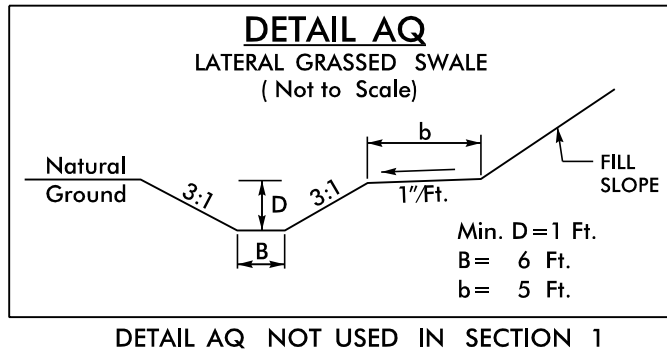
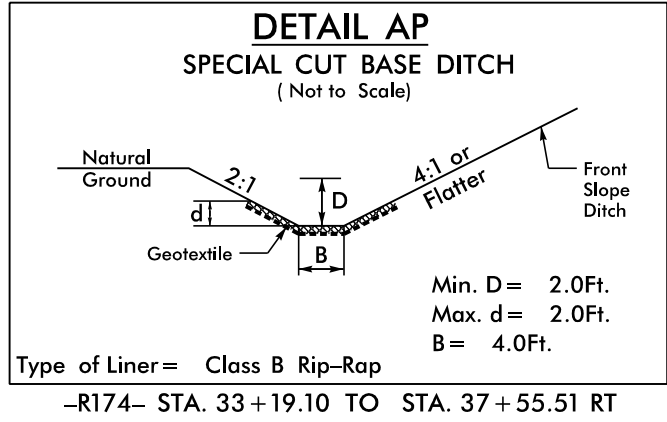
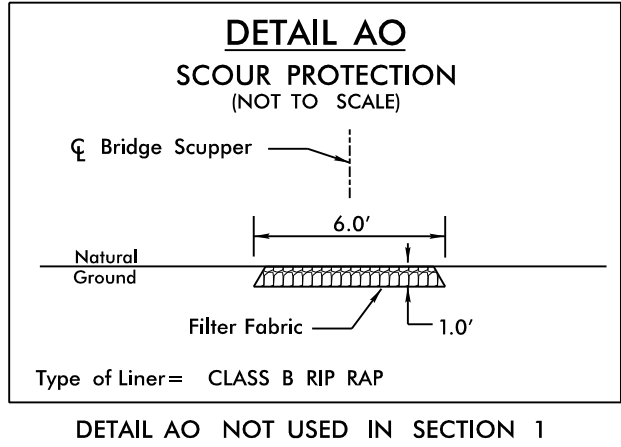
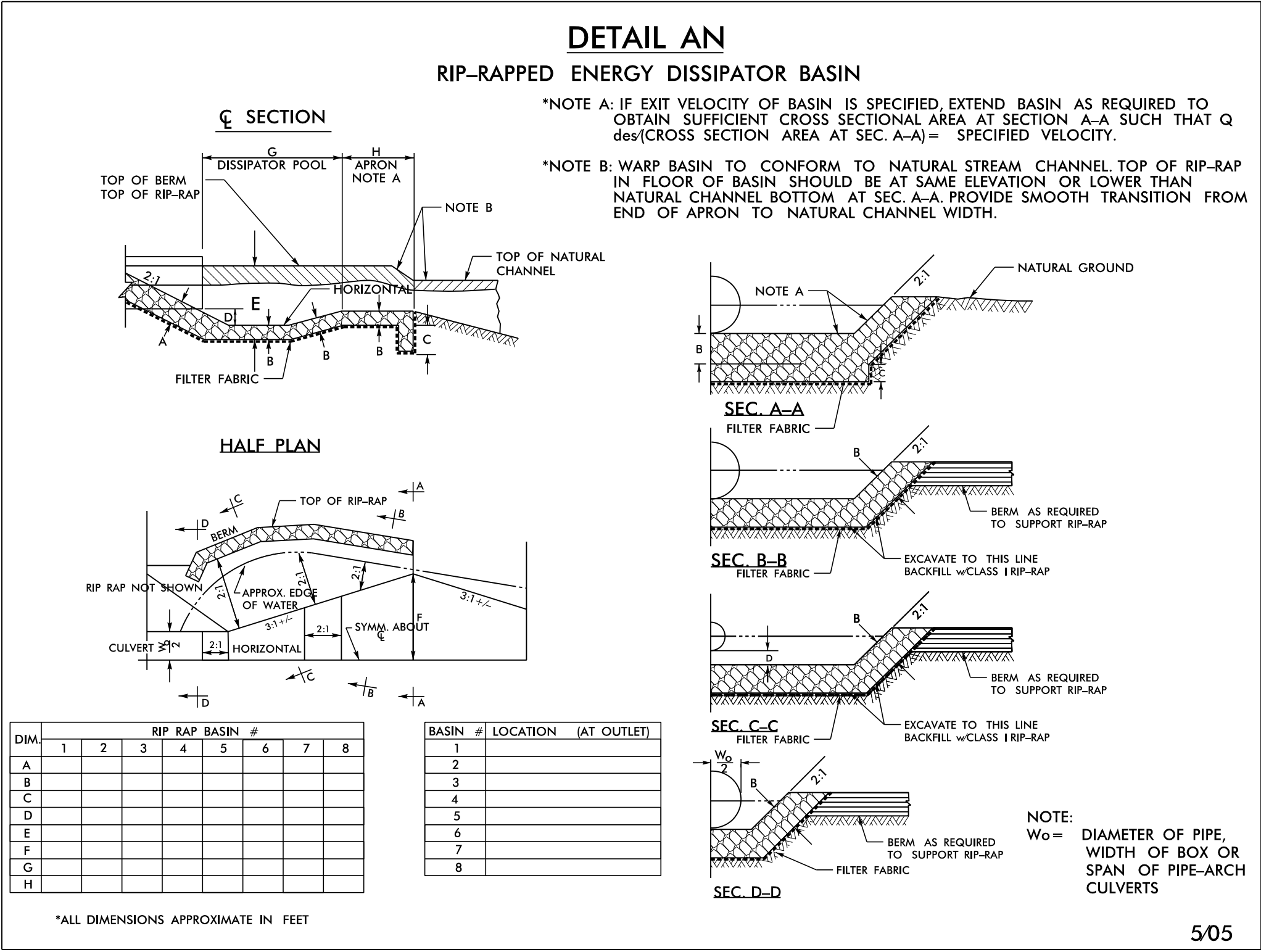
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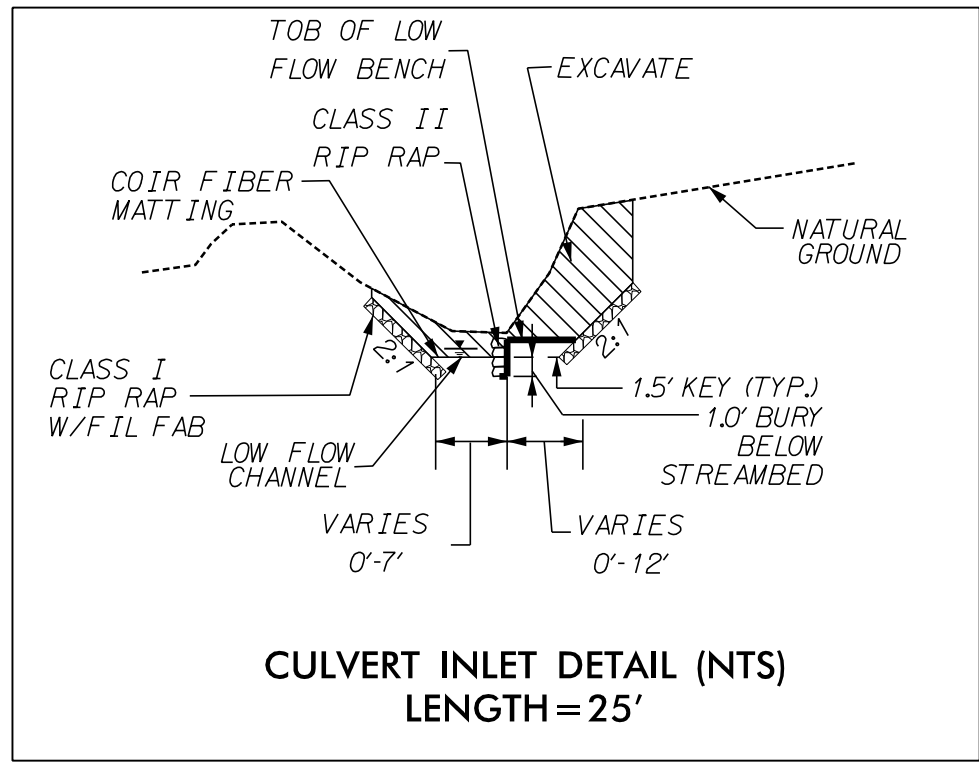


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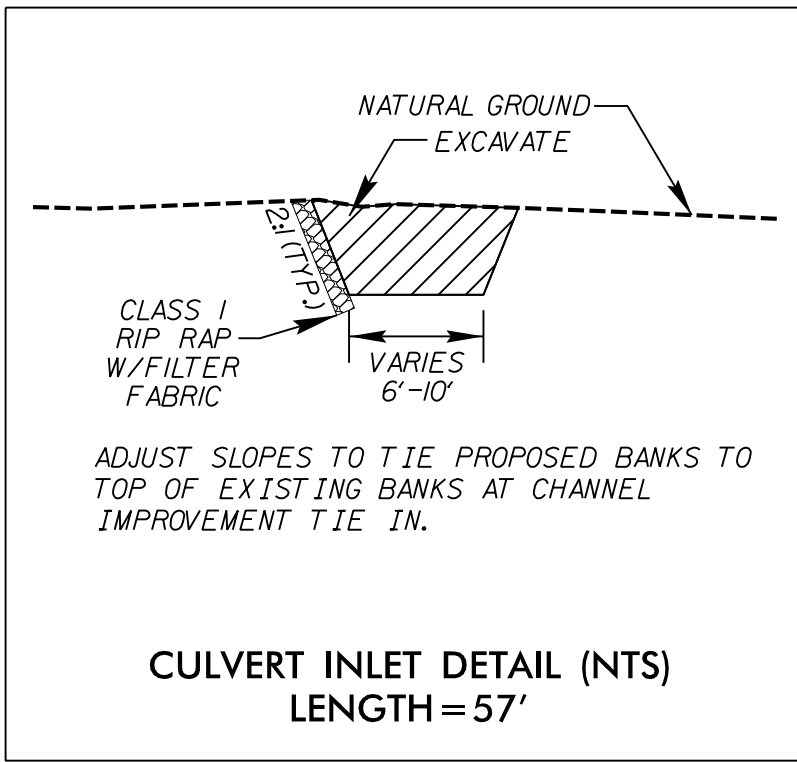
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|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 / R-2559                                    | 1-20                |
| RW SHEET NO.                                       |                     |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR E/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



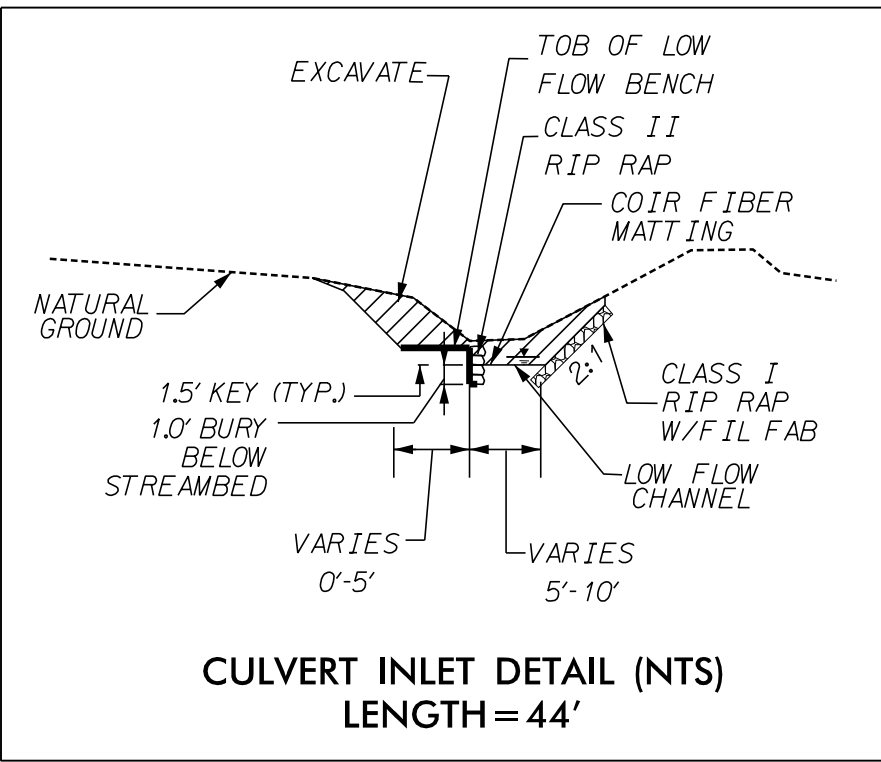
NORTH FORK  
CROOKED CREEK TRIB. 5  
-DR\_1- STA. 11+55



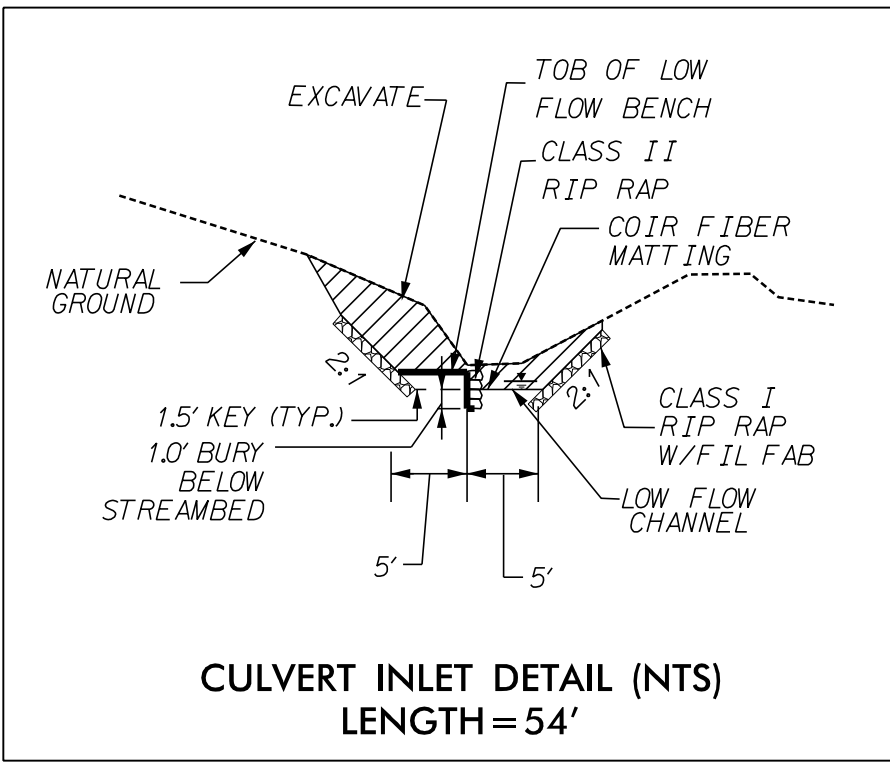
NORTH FORK  
CROOKED CREEK TRIB. 5  
-Y111- STA. 21+41



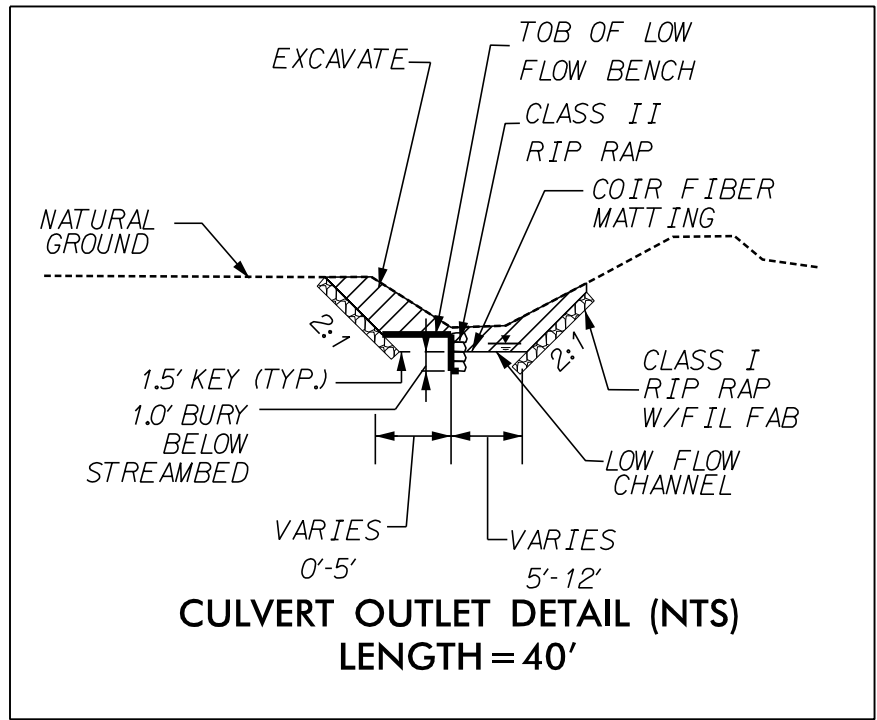
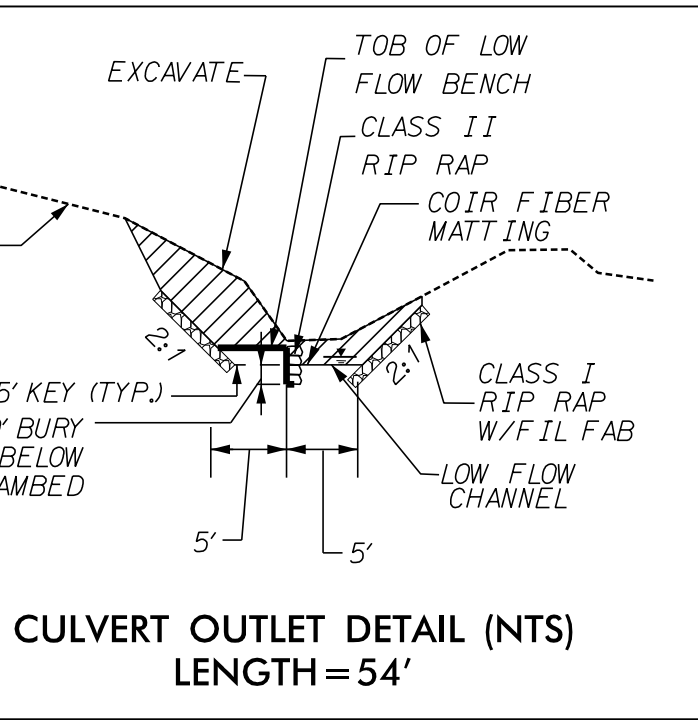
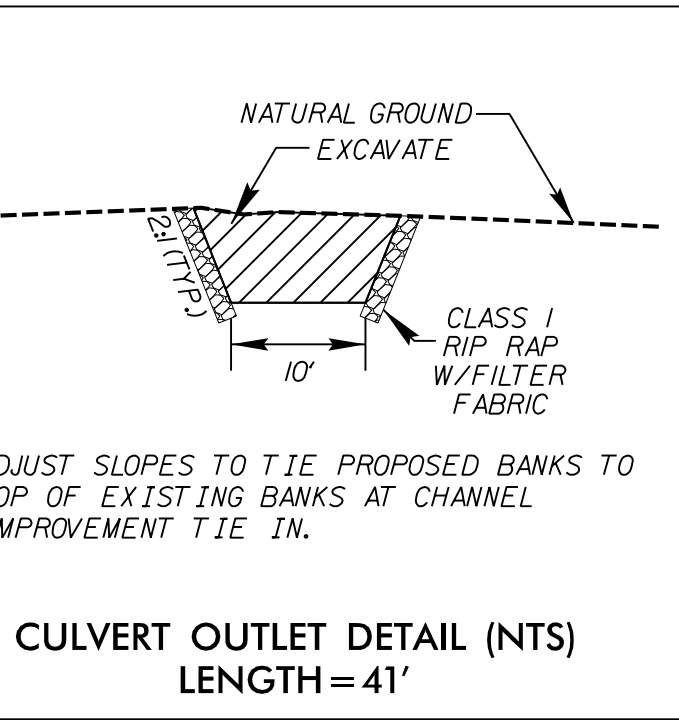
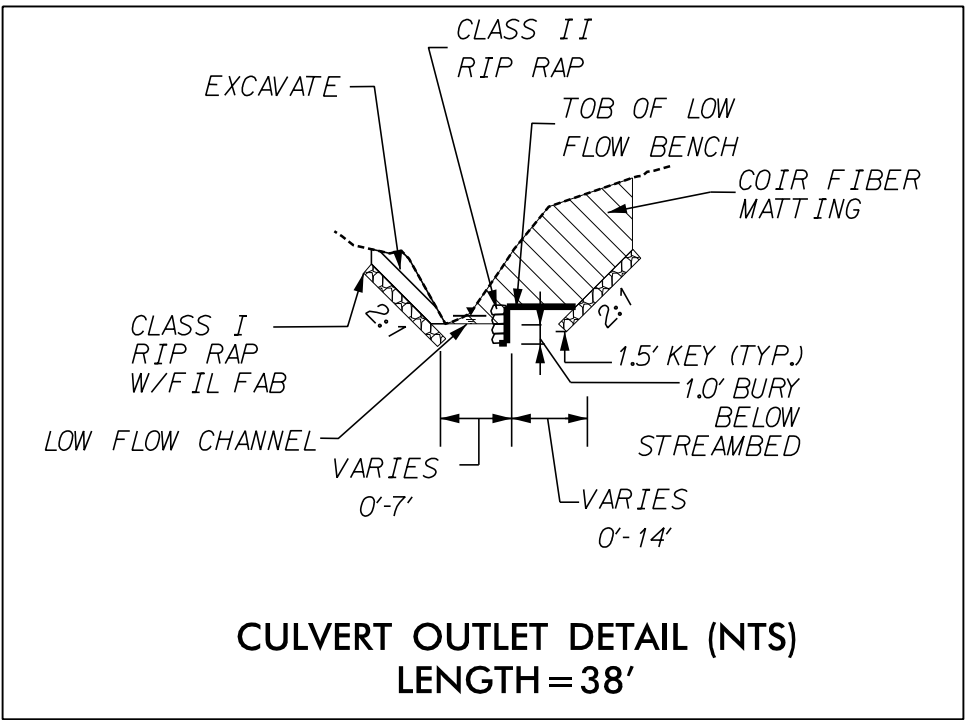
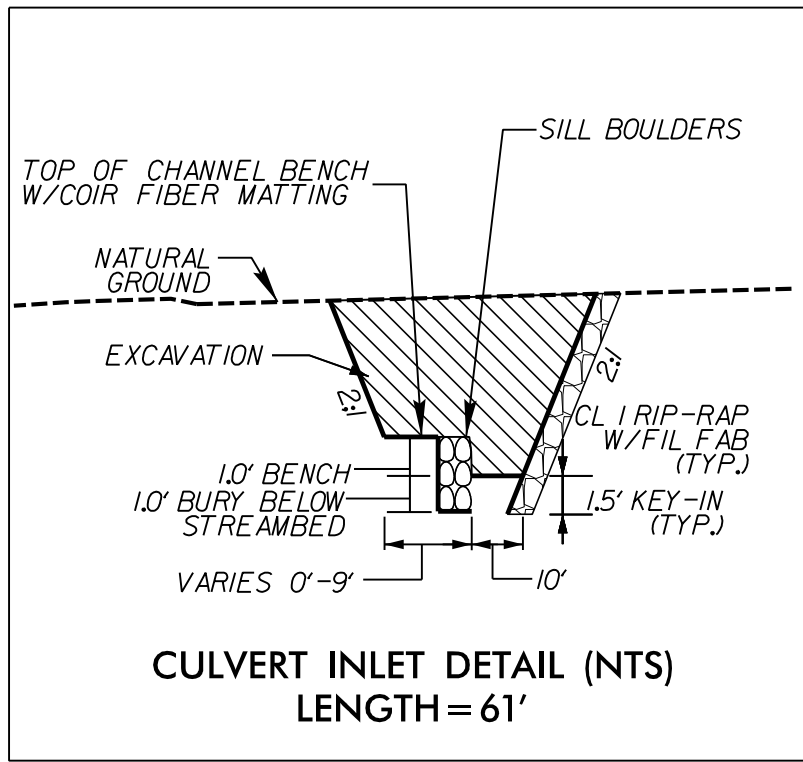
NORTH FORK  
CROOKED CREEK TRIB. 4  
-R174- STA. 29+69



NORTH FORK  
CROOKED CREEK TRIB. 4  
-L- STA. 175+72

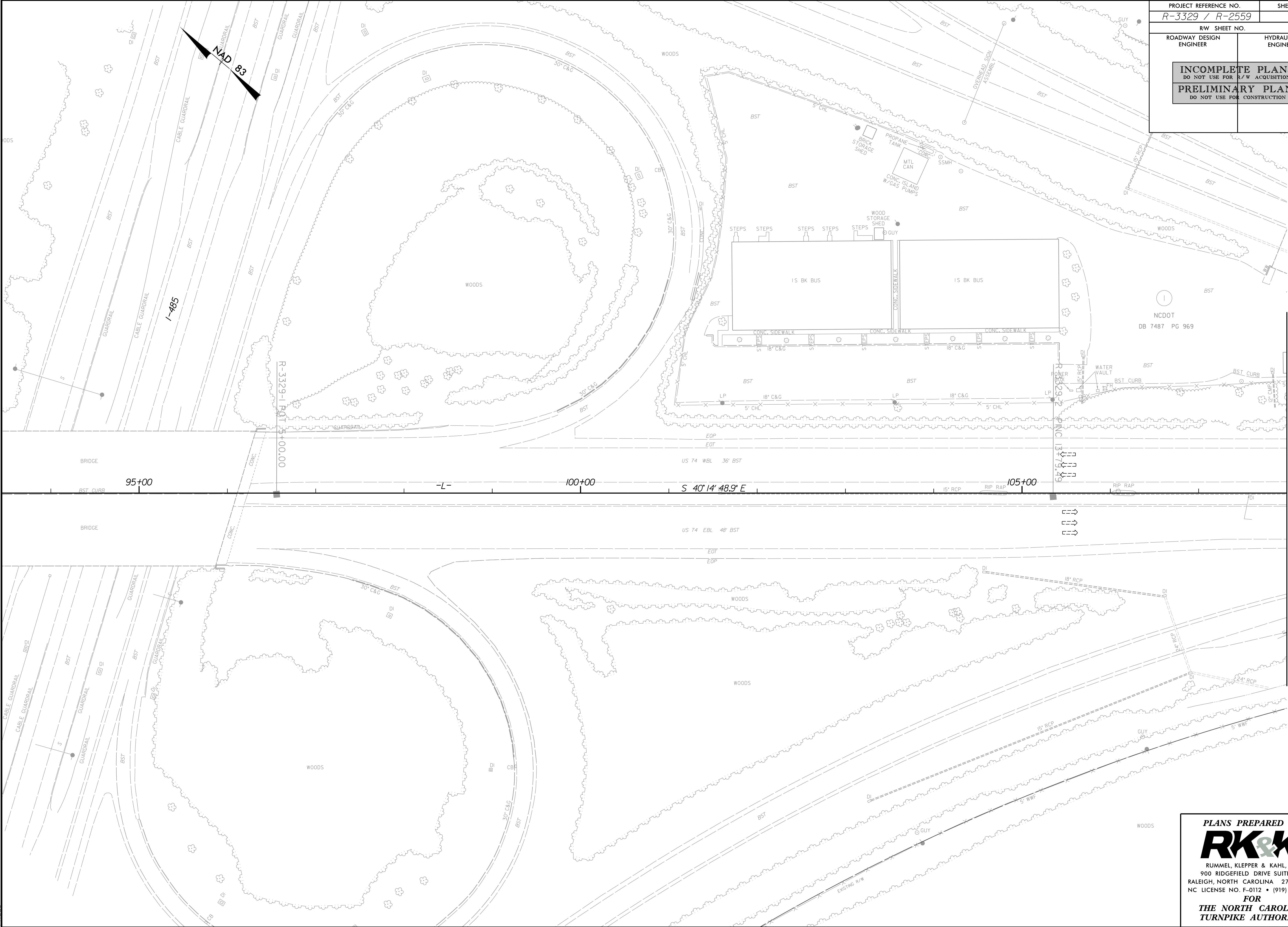


NORTH FORK  
CROOKED CREEK TRIB. 5  
-L- STA. 140+01





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|                                                                                                                             |  |                        |
|-----------------------------------------------------------------------------------------------------------------------------|--|------------------------|
| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i>                                                                             |  | SHEET NO.<br><i>4</i>  |
| RW SHEET NO.                                                                                                                |  |                        |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  |  | HYDRAULICS<br>ENGINEER |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |  |                        |

MATCHLINE -L- STA. 108 + 00 SEE SHEET 5

PLANS PREPARED BY :

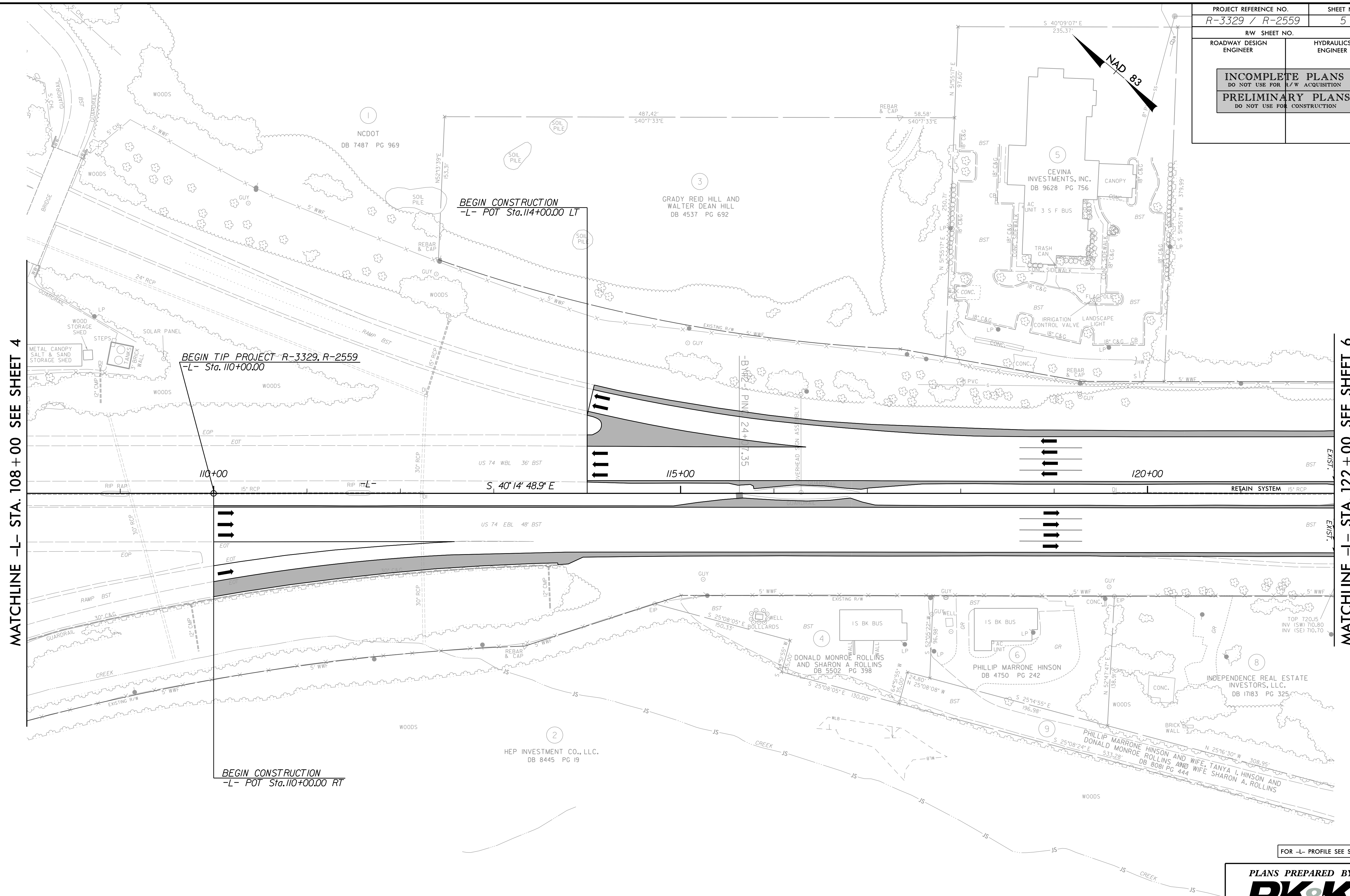
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 900 RIDGEFIELD DRIVE SUITE 350  
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FOR

**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**





DR -L- PROFILE SEE SHT. 120

**PLANS PREPARED BY :**

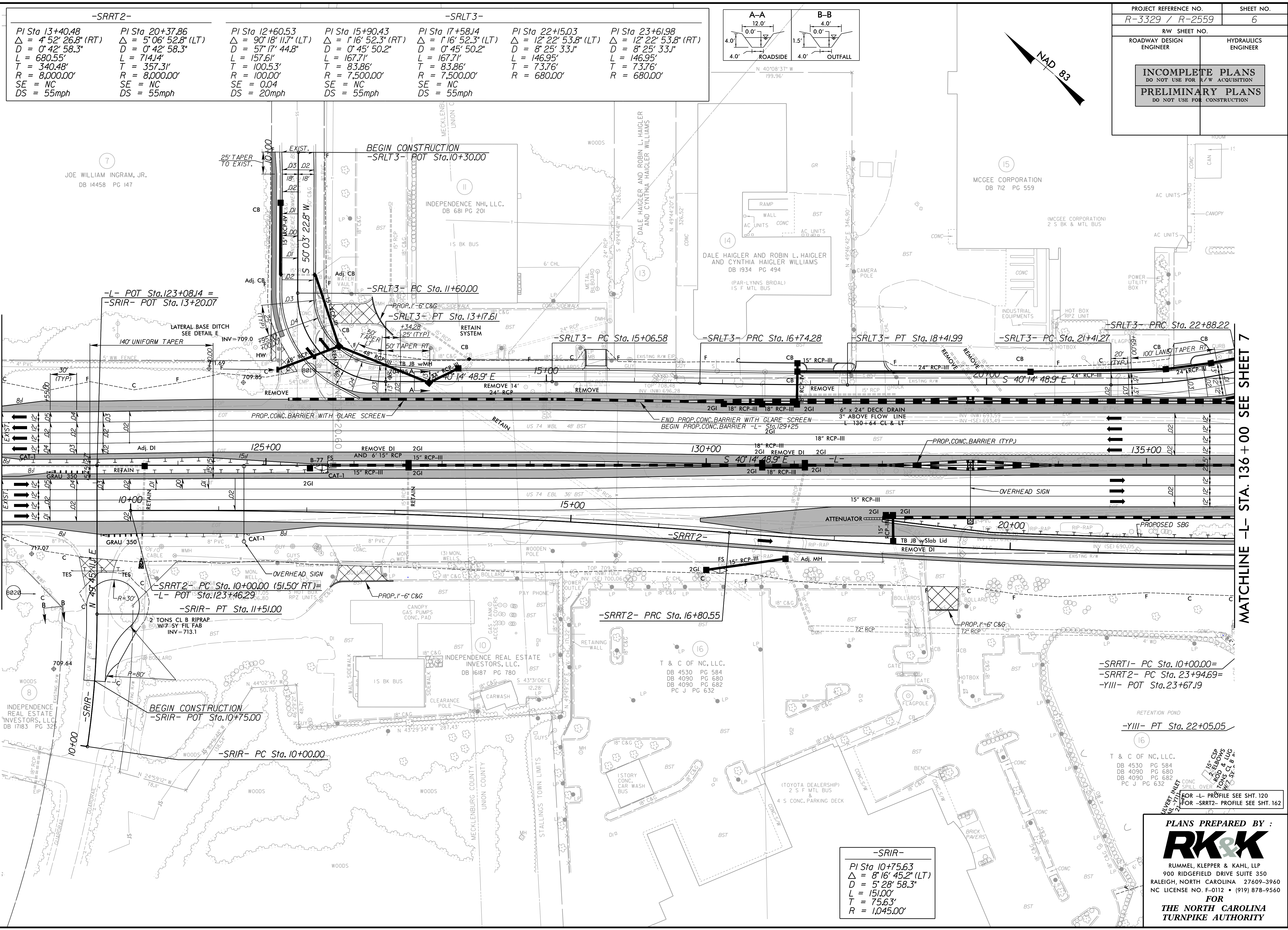


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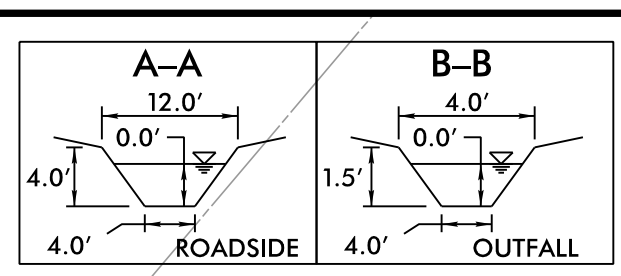
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TURNPIKE AUTHORITY**



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| -SRRT2-                                                                                                                                                            |                                                                                                                                                                    | -SRRT3-                                                                                                                                                              |                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PI Sta 13+40.48<br>$\Delta = 4' 52'' 26.8''$ (RT)<br>$D = 0' 42'' 58.3''$<br>$L = 680.55'$<br>$T = 340.48'$<br>$R = 8,000.00'$<br>$SE = NC$<br>$DS = 55\text{mph}$ | PI Sta 20+37.86<br>$\Delta = 5' 06'' 52.8''$ (LT)<br>$D = 0' 42'' 58.3''$<br>$L = 714.14'$<br>$T = 357.31'$<br>$R = 8,000.00'$<br>$SE = NC$<br>$DS = 55\text{mph}$ | PI Sta 12+60.53<br>$\Delta = 90' 18'' 11.7''$ (LT)<br>$D = 57' 17'' 44.8''$<br>$L = 157.61'$<br>$T = 100.53'$<br>$R = 100.00'$<br>$SE = 0.04$<br>$DS = 20\text{mph}$ | PI Sta 15+90.43<br>$\Delta = 1' 16'' 52.3''$ (RT)<br>$D = 0' 45'' 50.2''$<br>$L = 167.71'$<br>$T = 83.86'$<br>$R = 7,500.00'$<br>$SE = NC$<br>$DS = 55\text{mph}$ |



|                                                |  |                                                  |  |
|------------------------------------------------|--|--------------------------------------------------|--|
| PROJECT REFERENCE NO.<br>R-3329 / R-2559       |  | SHEET NO.<br>6                                   |  |
| RW SHEET NO.                                   |  | HYDRAULICS ENGINEER                              |  |
| ROADWAY DESIGN ENGINEER                        |  | DO NOT USE FOR CONSTRUCTION                      |  |
| INCOMPLETE PLANS<br>DO NOT USE FOR ACQUISITION |  | PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |  |

MATCHLINE -L- STA. 122+00 SEE SHEET 5

MATCHLINE -L- STA. 136+00 SEE SHEET 7

| -SRIR-                                                                                                                        |  |
|-------------------------------------------------------------------------------------------------------------------------------|--|
| PI Sta 10+75.63<br>$\Delta = 8' 16'' 45.2''$ (LT)<br>$D = 5' 28'' 58.3''$<br>$L = 151.00'$<br>$T = 75.63'$<br>$R = 1,045.00'$ |  |

-SRRT1- PC Sta. 10+00.00=  
-SRRT2- PC Sta. 23+94.69=  
-YIII- POT Sta. 23+67.19

-YIII- PT Sta. 22+05.05

T & C OF NC, LLC.  
DB 4530 PG 584  
DB 4090 PG 680  
DB 4090 PG 682  
PC J PG 632

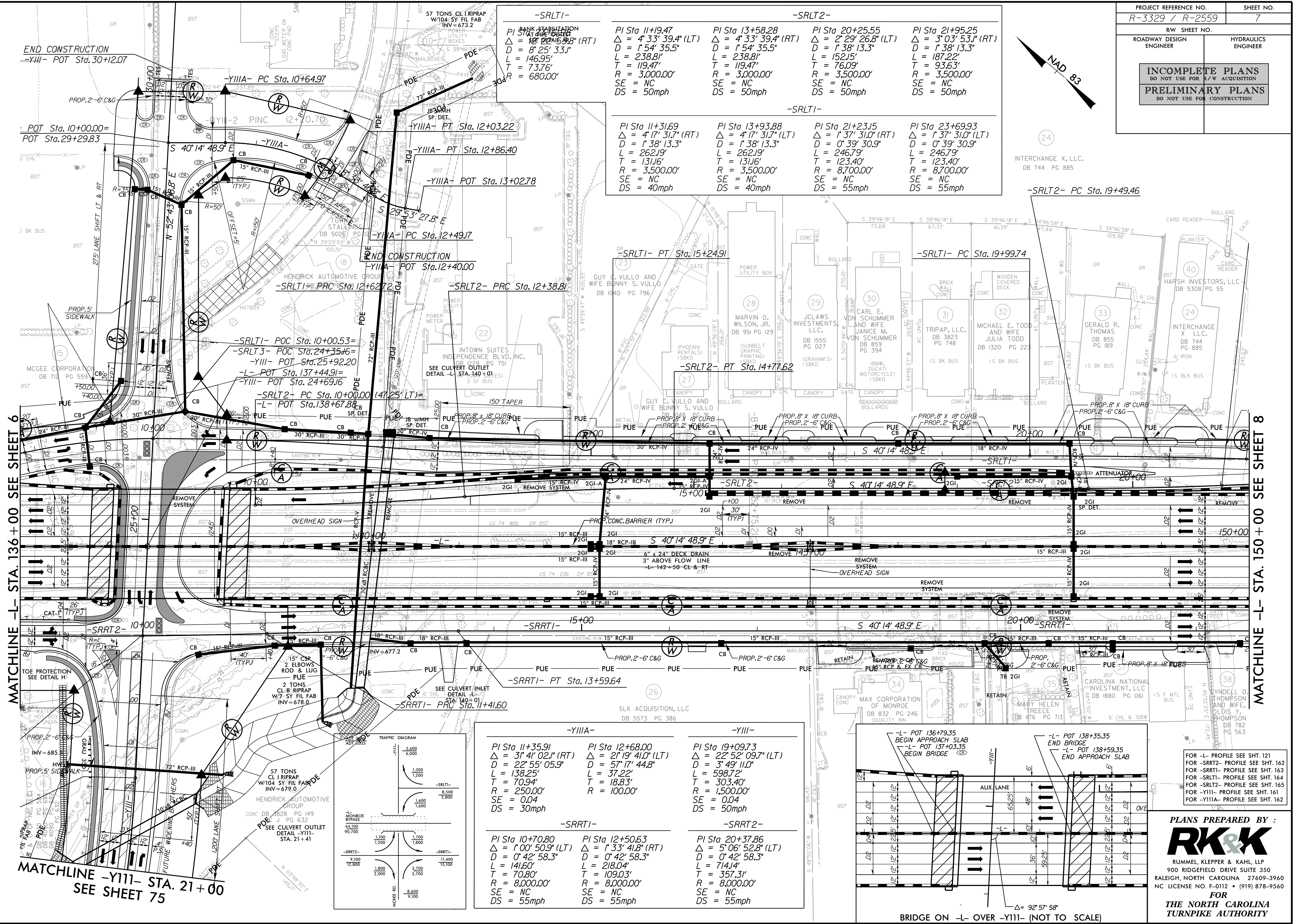
PLANS PREPARED BY :

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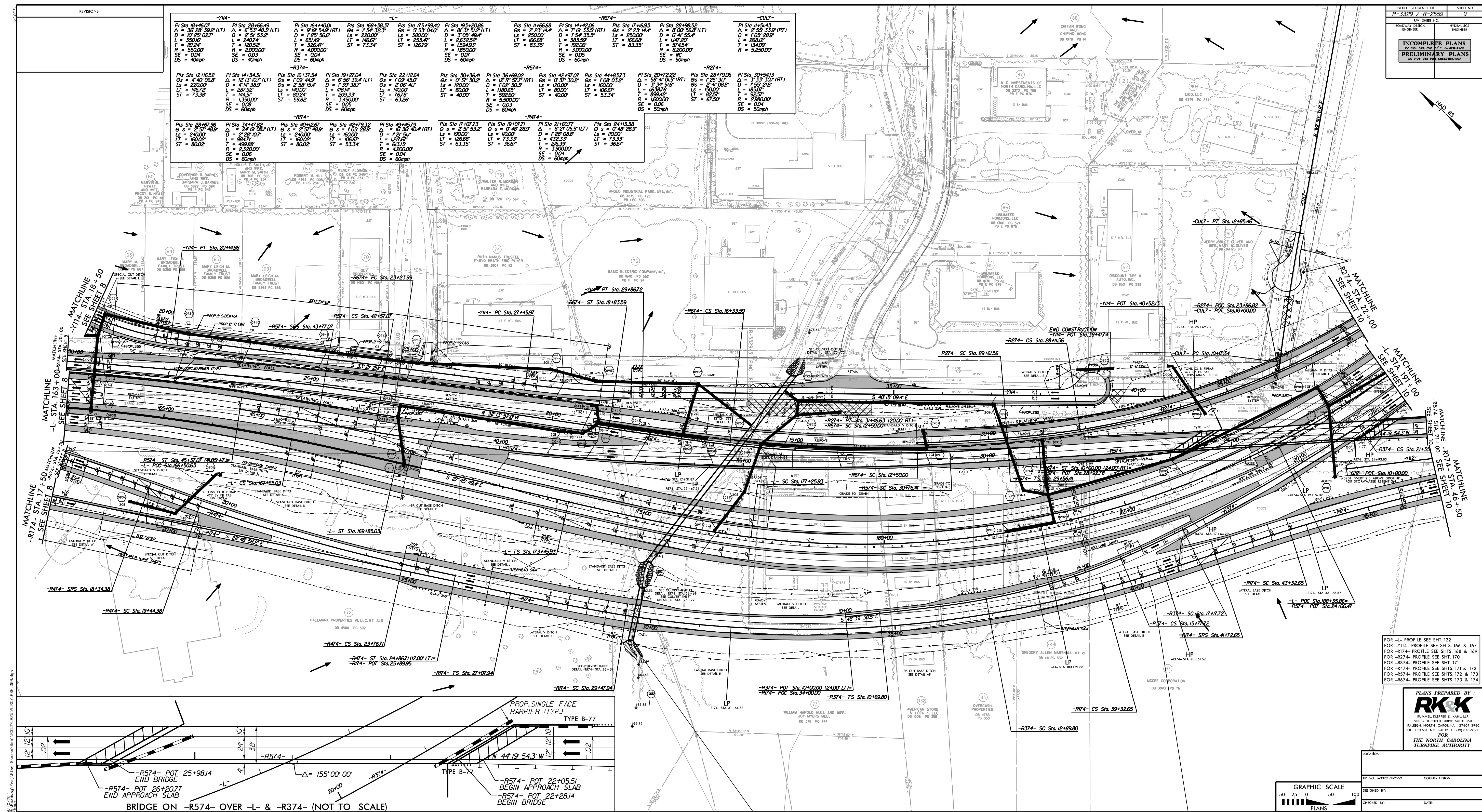




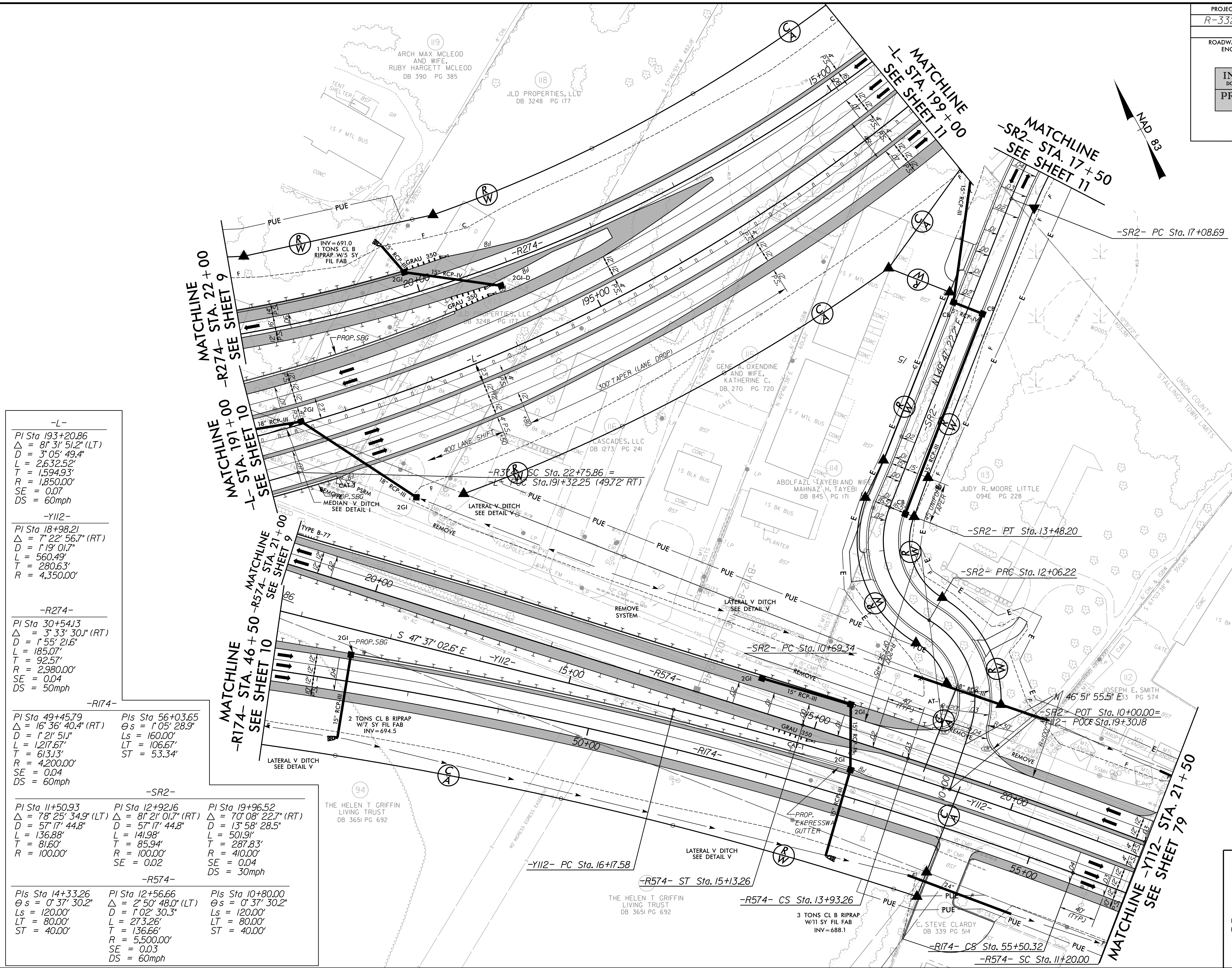












FOR -L- PROFILE SEE SHT. 123  
FOR -Y112- PROFILE SEE SHT. 174  
FOR -R174- PROFILE SEE SHT. 169  
FOR -R274- PROFILE SEE SHT. 170  
FOR -R574- PROFILE SEE SHT. 172  
FOR -SR2- PROFILE SEE SHT. 176

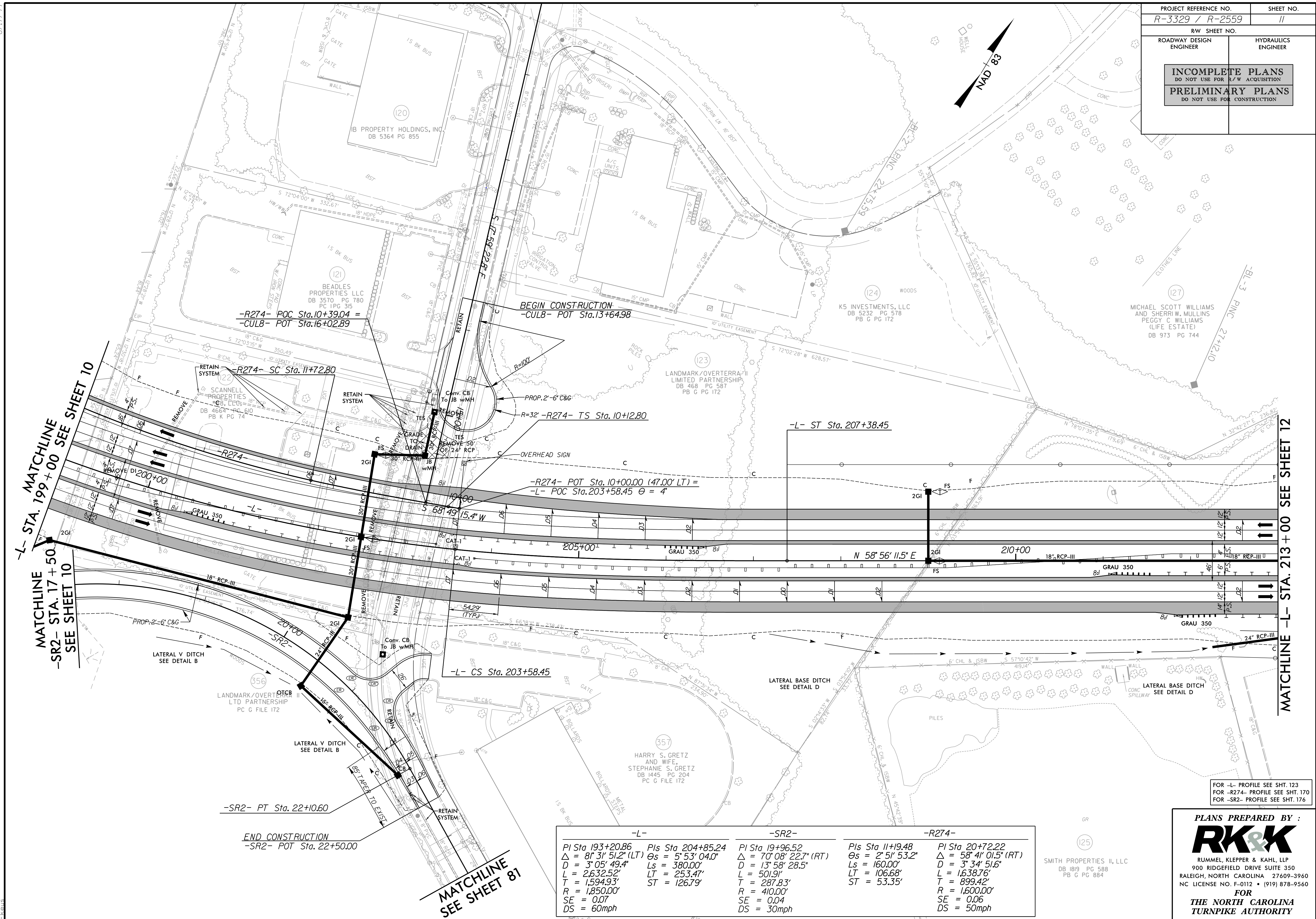
**PLANS PREPARED BY :**  
**RK&K**  
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|                                                           |  |                        |  |
|-----------------------------------------------------------|--|------------------------|--|
| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i>           |  | SHEET NO.<br><i>11</i> |  |
| RW SHEET NO.                                              |  |                        |  |
| ROADWAY DESIGN<br>ENGINEER                                |  | HYDRAULICS<br>ENGINEER |  |
| <b>INCOMPLETE PLANS</b><br>DO NOT USE FOR A/W ACQUISITION |  |                        |  |
| <b>PRELIMINARY PLANS</b><br>DO NOT USE FOR CONSTRUCTION   |  |                        |  |



FOR -L- PROFILE SEE SHT. 123  
FOR -R274- PROFILE SEE SHT. 170  
FOR -SR2- PROFILE SEE SHT. 176

| -L-                    |                   | -SR2-                  |                   | -R274-                 |  |
|------------------------|-------------------|------------------------|-------------------|------------------------|--|
| PI Sta 193+20.86       | PIs Sta 204+85.24 | PI Sta 19+96.52        | PIs Sta 11+9.48   | PI Sta 20+72.22        |  |
| Δ = 81° 31' 51.2" (LT) | Δs = 5° 53' 04.0" | Δ = 70° 08' 22.7" (RT) | Δs = 2° 51' 53.2" | Δ = 58° 41' 01.5" (RT) |  |
| D = 3° 05' 49.4"       | Ls = 380.00'      | D = 13° 58' 28.5"      | D = 160.00'       | D = 3° 34' 51.6"       |  |
| L = 2,632.52'          | LT = 253.47'      | L = 501.91'            | LT = 106.68'      | L = 1,638.76'          |  |
| T = 1,594.93'          | ST = 126.79'      | T = 287.83'            | ST = 53.35'       | T = 899.42'            |  |
| R = 1,850.00'          |                   | R = 410.00'            |                   | R = 1,600.00'          |  |
| SE = 0.07              |                   | SE = 0.04              |                   | SE = 0.06              |  |
| DS = 60mph             |                   | DS = 30mph             |                   | DS = 50mph             |  |

(125)  
SMITH PROPERTIES II, LLC  
DB 1819 PG 588  
PB G PG 884

PLANS PREPARED BY :

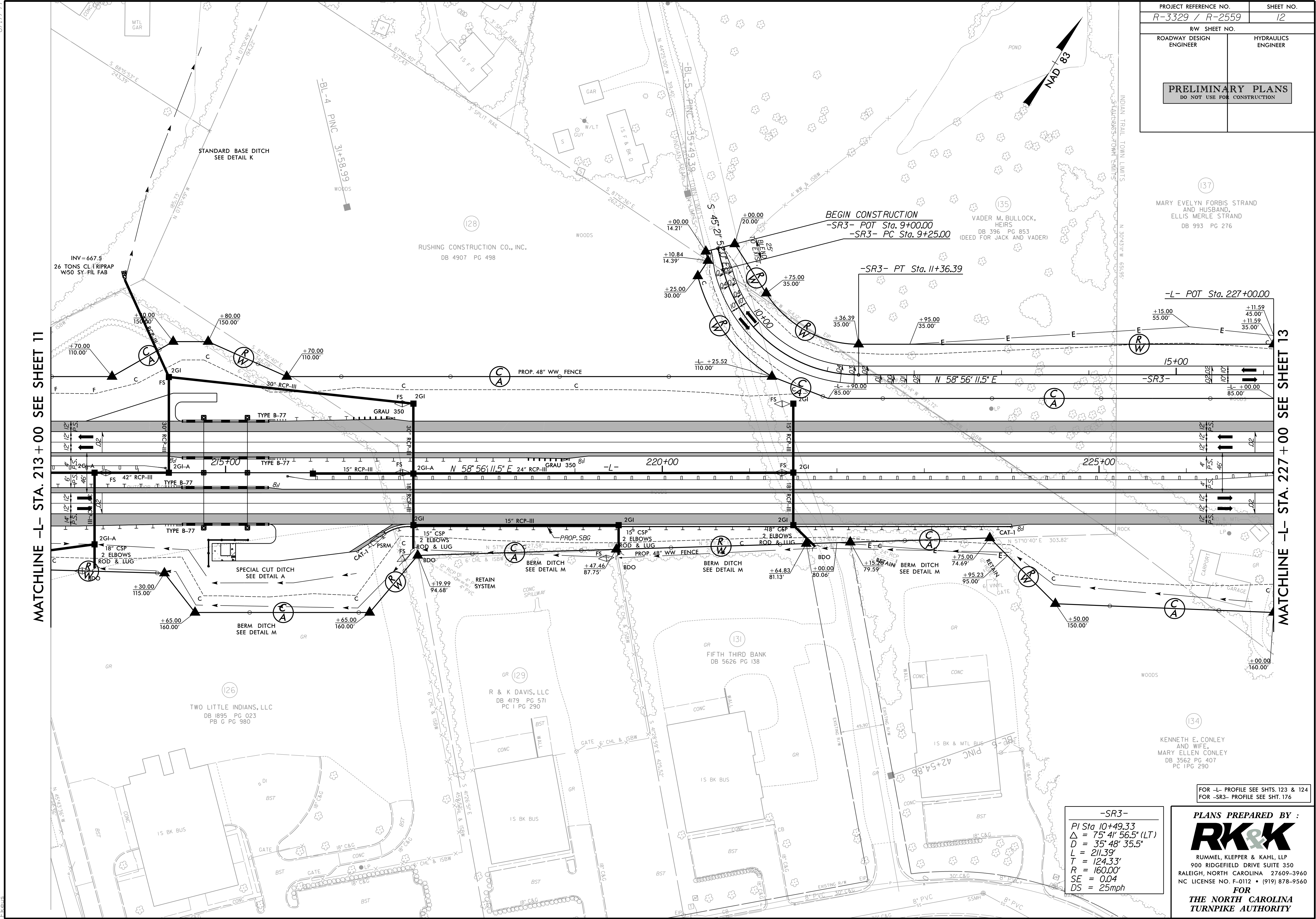
**RK&K**

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|                                                                     |  |                        |  |
|---------------------------------------------------------------------|--|------------------------|--|
| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i>                     |  | SHEET NO.<br><i>12</i> |  |
| RW SHEET NO.                                                        |  |                        |  |
| ROADWAY DESIGN<br>ENGINEER                                          |  | HYDRAULICS<br>ENGINEER |  |
| <div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div> |  |                        |  |



MATCHLINE -L- STA. 213+00 SEE SHEET 11

MATCHLINE -L- STA. 227+00 SEE SHEET 13

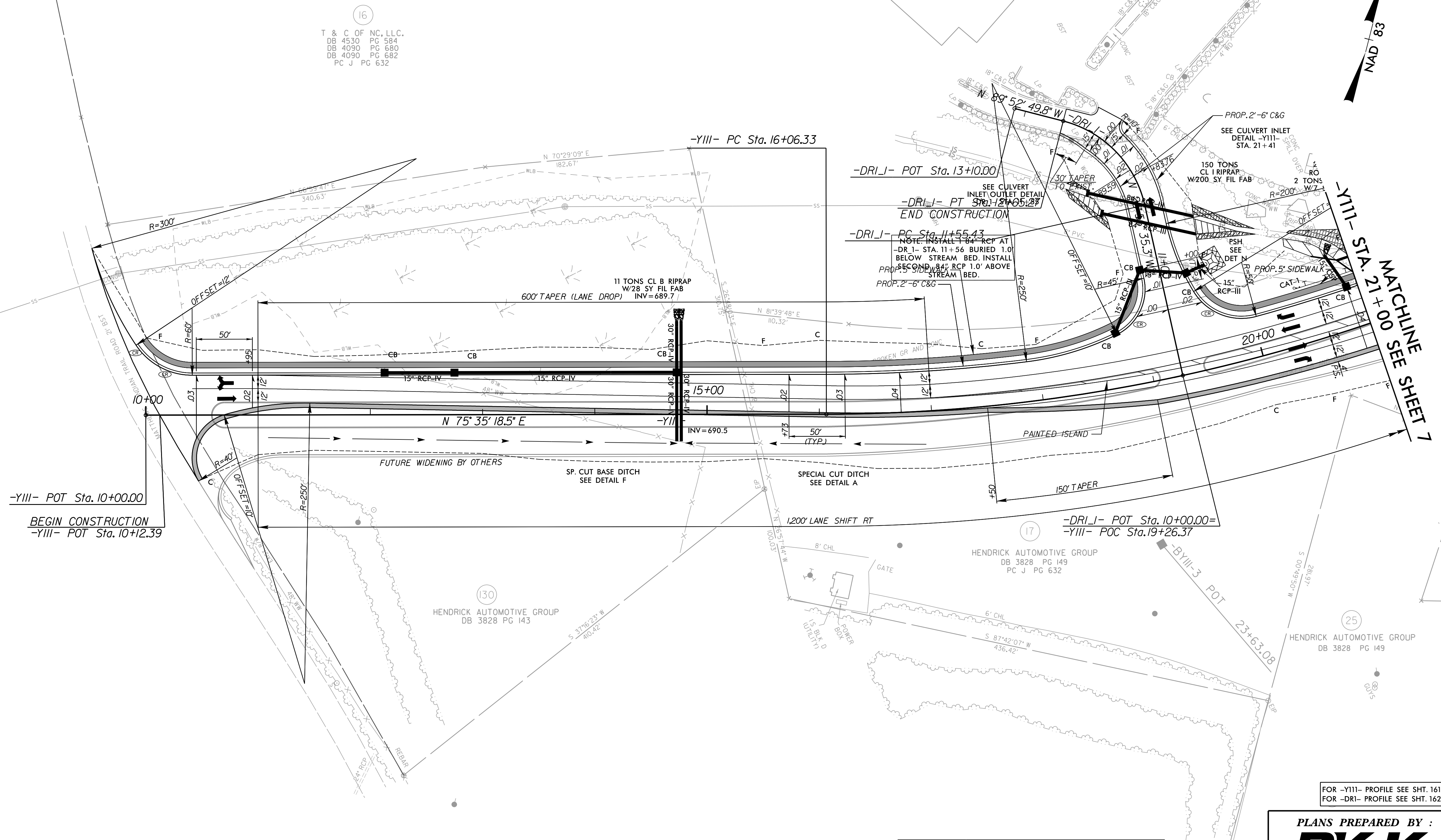
**-SR3-**  
PI Sta 10+49.33  
 $\Delta = 75' 41'' 56.5''$  (LT)  
 $D = 35' 48'' 35.5''$   
 $L = 211.39'$   
 $T = 124.33'$   
 $R = 160.00'$   
 $SE = 0.04$   
 $DS = 25\text{mph}$

FOR -L- PROFILE SEE SHTS. 123 & 124  
FOR -SR3- PROFILE SEE SHT. 176

**PLANS PREPARED BY :**  
**RK&K**  
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900 RIDGEFIELD DRIVE SUITE 350  
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**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**

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8/29/2014  
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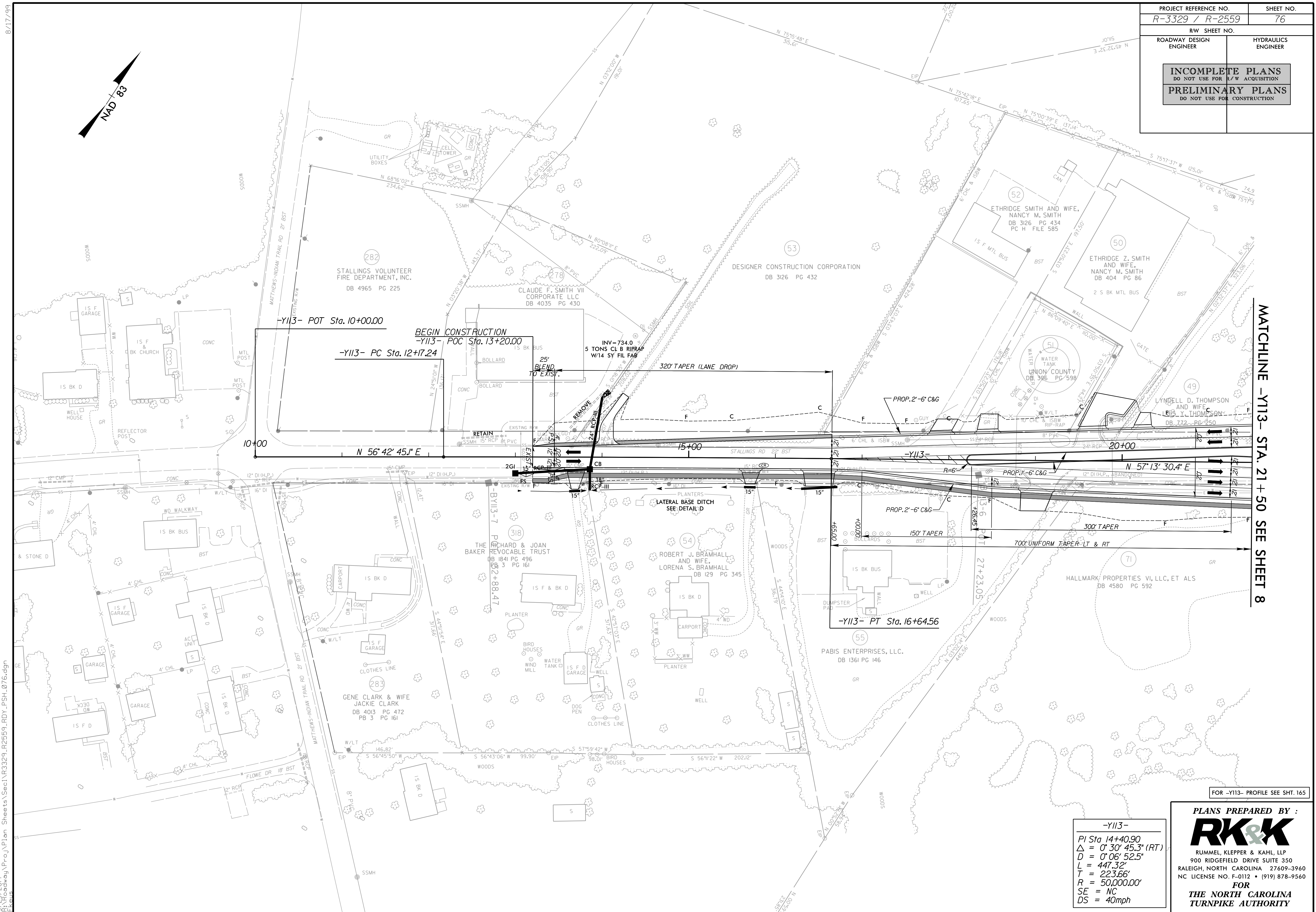




| $-DR1J-$                            | $-YIII-$                            |
|-------------------------------------|-------------------------------------|
| $\Delta$ <i>Sta</i> 12+16.63        | $\Delta$ <i>Sta</i> 19+09.73        |
| $\Delta = 62^\circ 56' 14.5''$ (LT) | $\Delta = 22^\circ 52' 09.7''$ (LT) |
| $D = 57^\circ 17' 44.8''$           | $D = 3^\circ 49' 11.0''$            |
| $L = 109.85^\circ$                  | $L = 598.72^\circ$                  |
| $T = 61.20^\circ$                   | $T = 303.40^\circ$                  |
| $R = 100.00^\circ$                  | $R = 1,500.00^\circ$                |
|                                     | $SE = 0.04$                         |
|                                     | $DS = 50mph$                        |

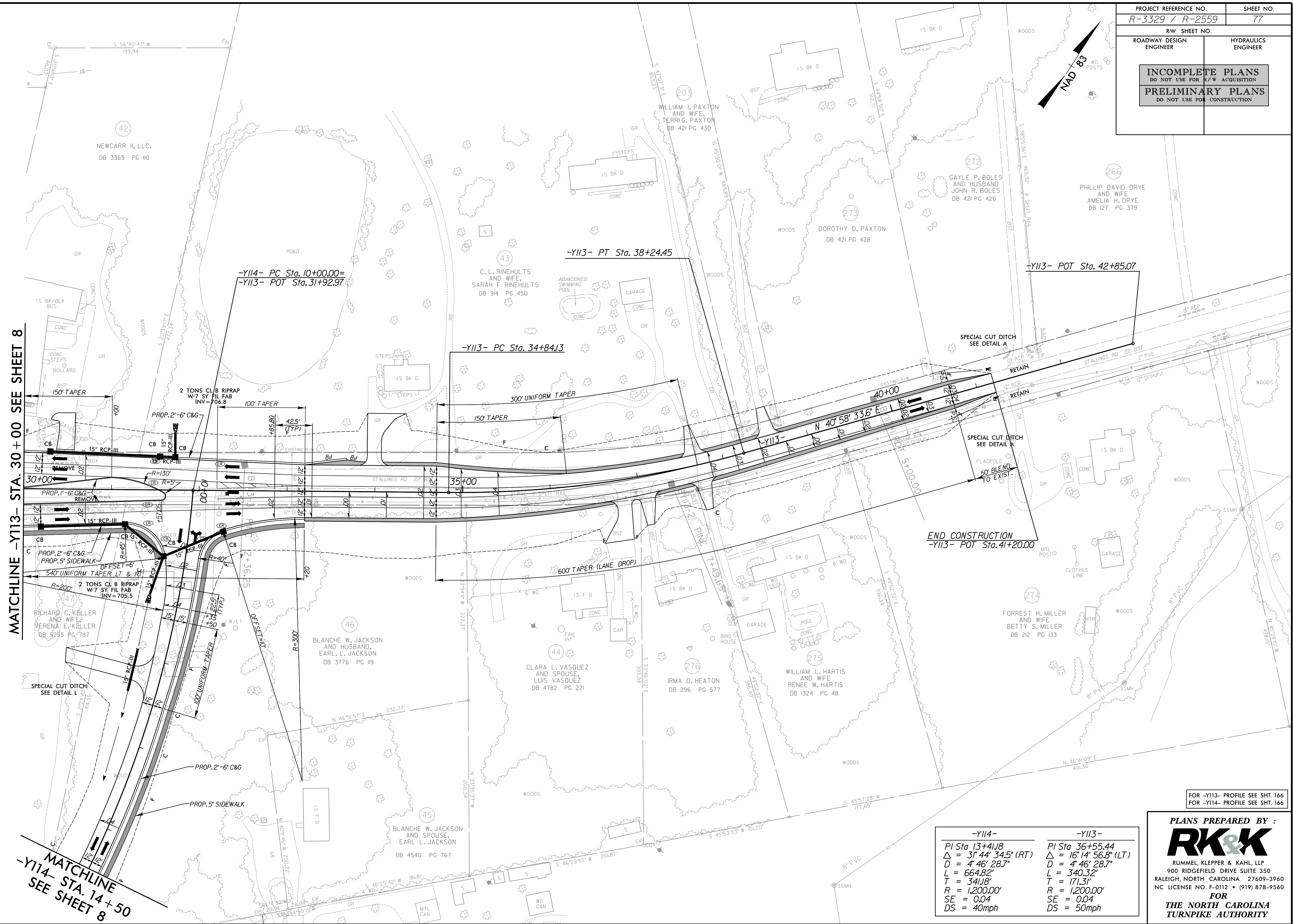
**PLANS PREPARED BY :**  
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900 RIDGEFIELD DRIVE SUITE 350  
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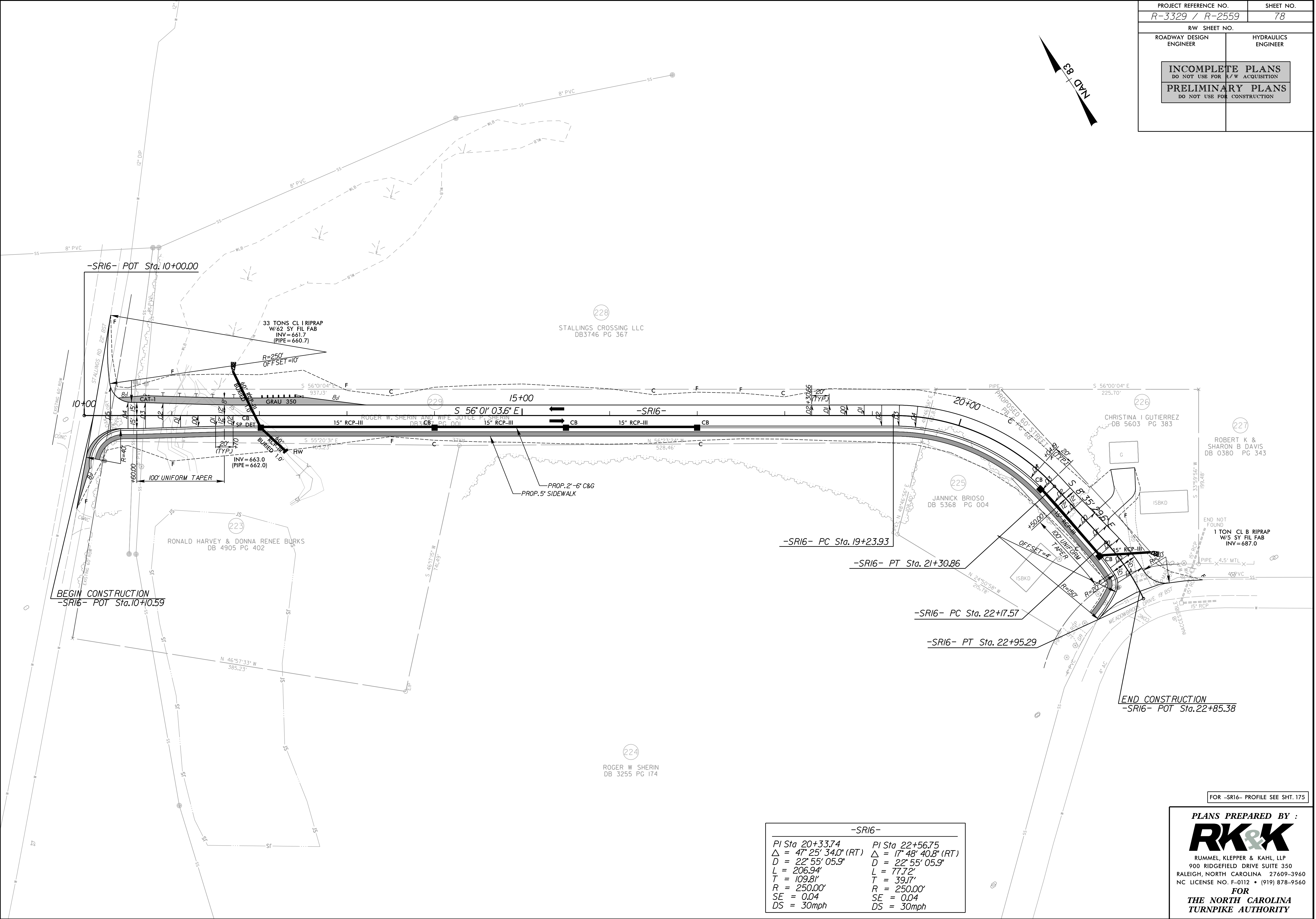
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8/29/2014  
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Elevs



|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 / R-2559                                    | 78                  |
| RW SHEET NO.                                       |                     |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

| -SR16-                              |                                     |
|-------------------------------------|-------------------------------------|
| PI Sta 20+33.74                     | PI Sta 22+56.75                     |
| $\Delta = 47^{\circ}25'34.0''$ (RT) | $\Delta = 17^{\circ}48'40.8''$ (RT) |
| $D = 22^{\circ}55'05.9''$           | $D = 22^{\circ}55'05.9''$           |
| $L = 206.94'$                       | $L = 77.72'$                        |
| $T = 109.81'$                       | $T = 39.17'$                        |
| $R = 250.00'$                       | $R = 250.00'$                       |
| $SE = 0.04$                         | $SE = 0.04$                         |
| $DS = 30\text{mph}$                 | $DS = 30\text{mph}$                 |

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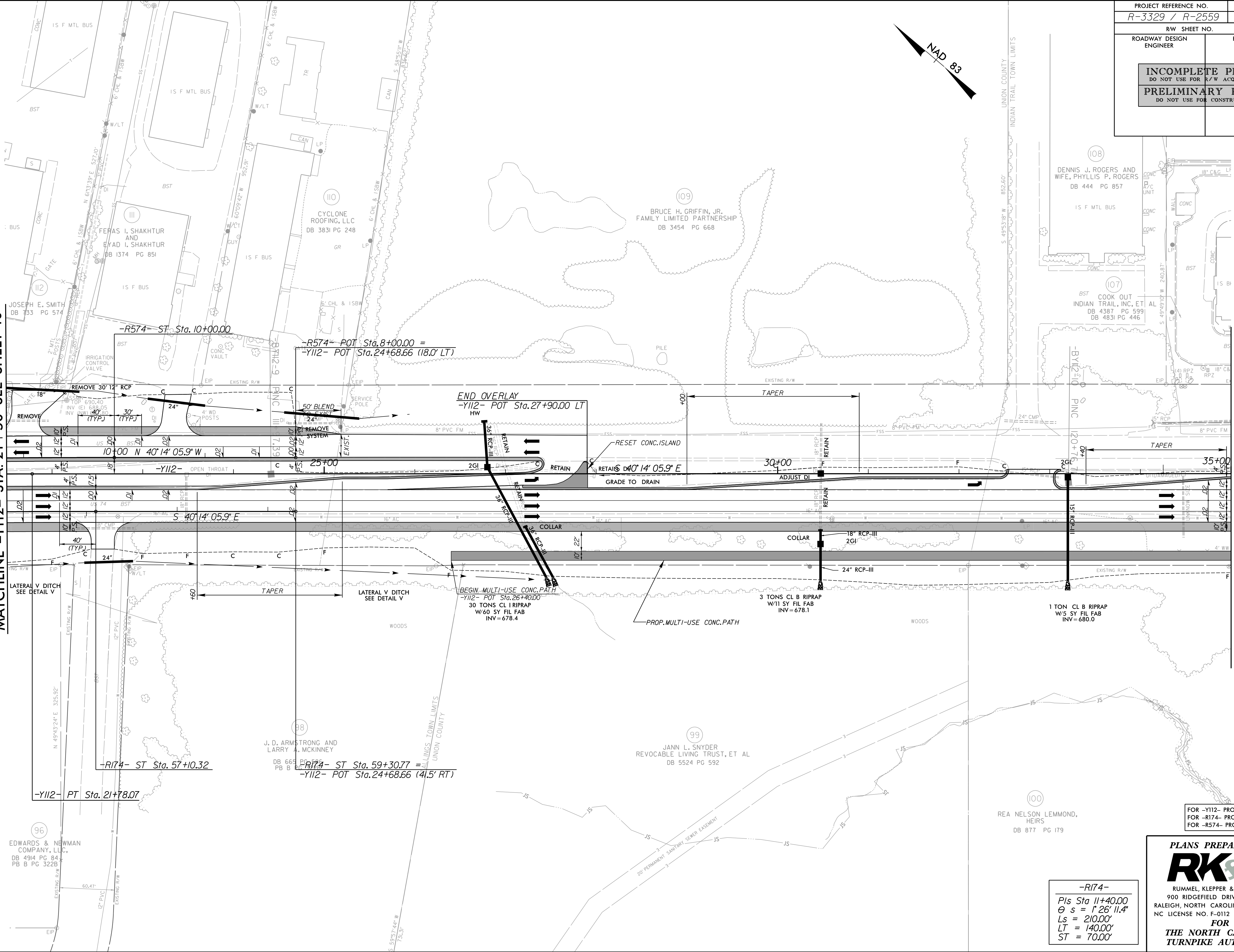
FOR -SR16- PROFILE SEE SHT. 175



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MATCHLINE -Y112- STA. 21+50 SEE SHEET 10



MATCHLINE -Y112- STA. 35+00 SEE SHEET 80

|                                                                       |                        |           |
|-----------------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                                 |                        | SHEET NO. |
| R-3329 / R-2559                                                       |                        | 79        |
| RW SHEET NO.                                                          |                        |           |
| ROADWAY DESIGN<br>ENGINEER                                            | HYDRAULICS<br>ENGINEER |           |
| <div>INCOMPLETE PLANS</div> <div>DO NOT USE FOR R/W ACQUISITION</div> |                        |           |
| <div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div>   |                        |           |

-R174-  
Pls Sta 11+40.00  
θ s = 1' 26' 11.4"  
Ls = 210.00'  
LT = 140.00'  
ST = 70.00'

FOR -Y112- PROFILE SEE SHT. 174  
FOR -R174- PROFILE SEE SHT. 169  
FOR -R574- PROFILE SEE SHT. 172

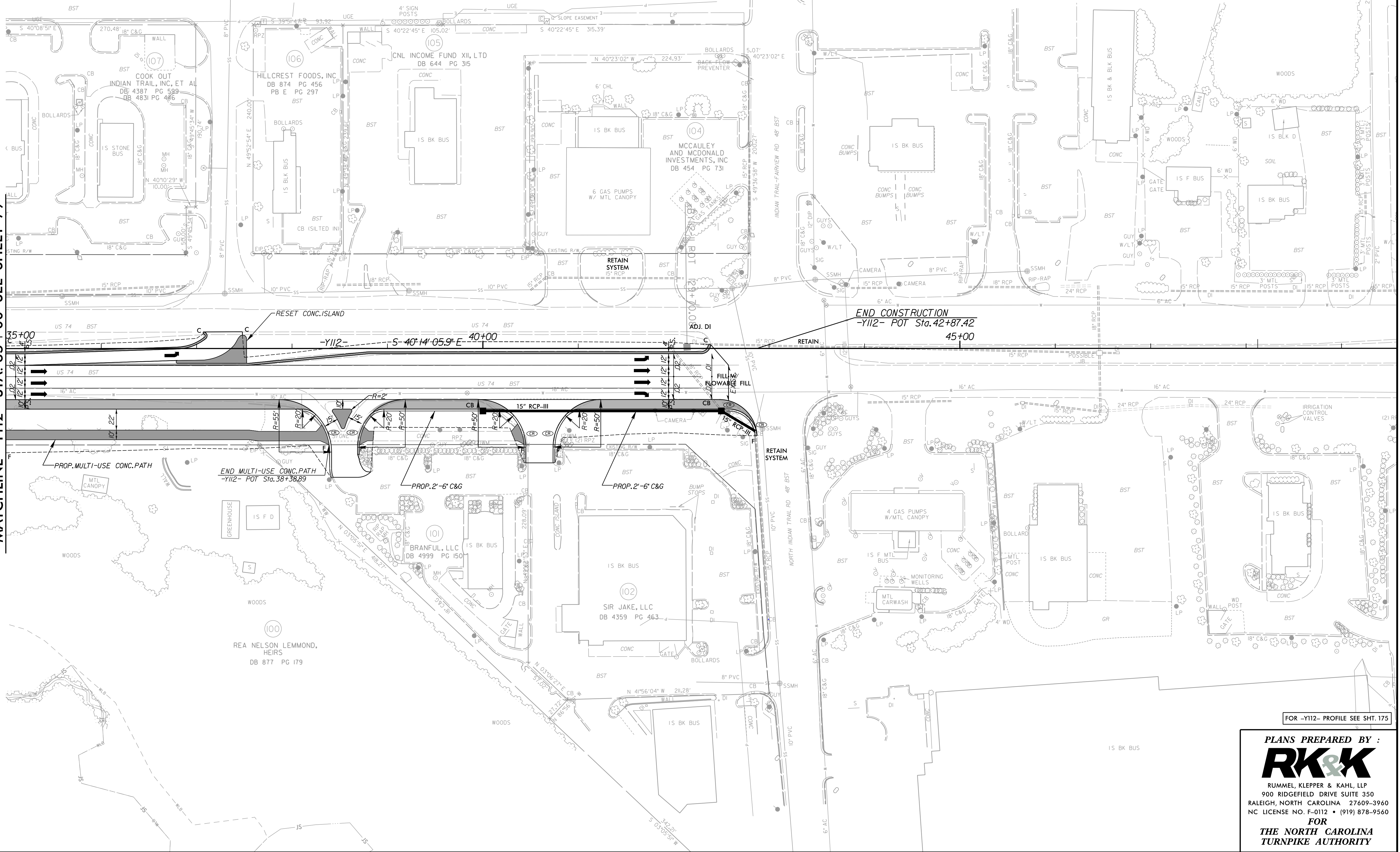
PLANS PREPARED BY :  
**RK&K**  
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MATCHLINE -Y112- STA. 35+00 SEE SHEET 79



|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 / R-2559                                    | 80                  |
| RW SHEET NO.                                       |                     |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

NAD 83

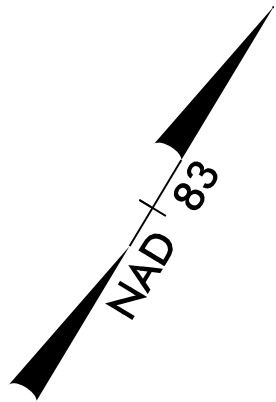
FOR -Y112- PROFILE SEE SHT. 175

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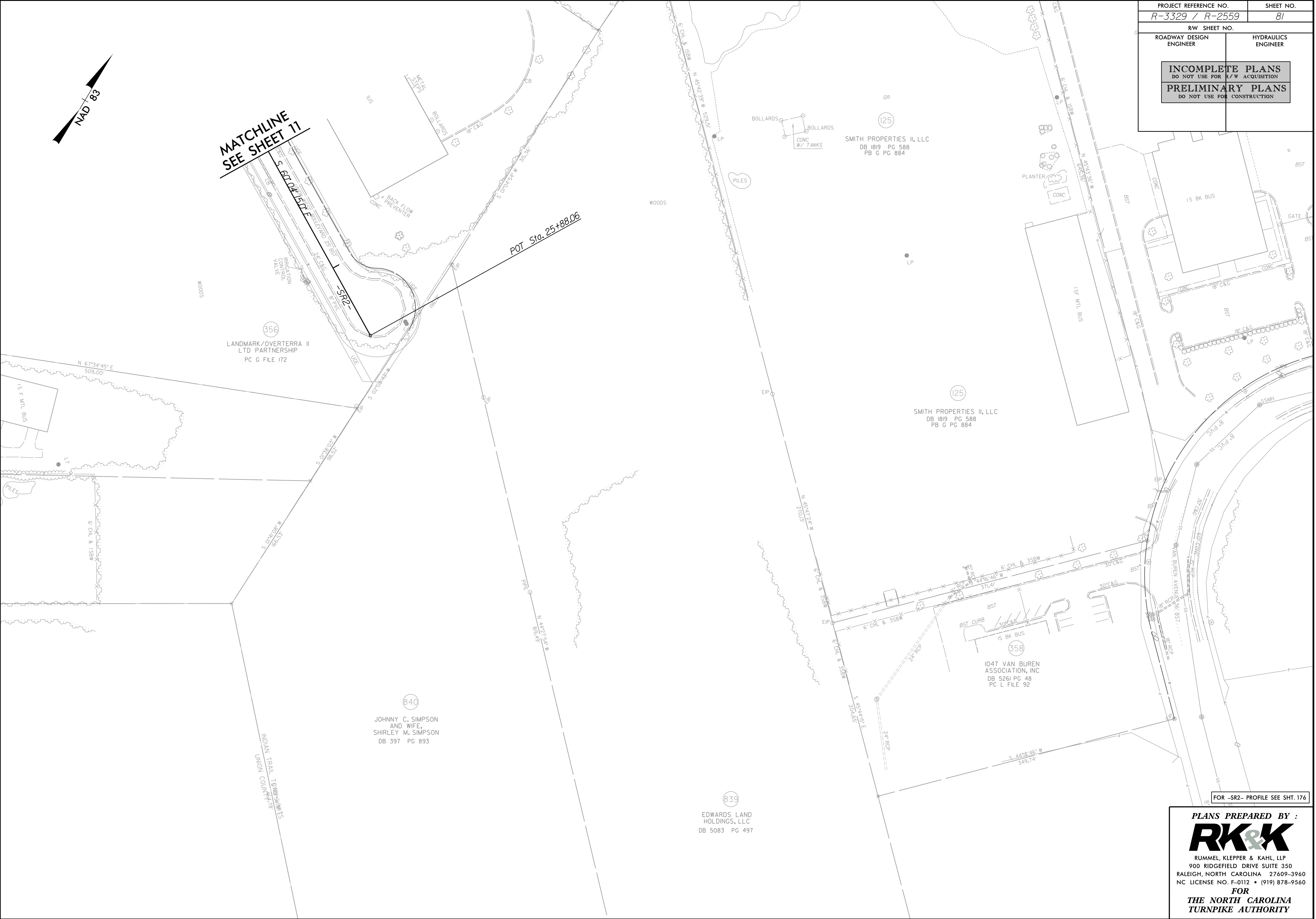
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MATCHLINE  
SEE SHEET 11

POT Sta. 25+88.06

|                                                    |                        |                 |
|----------------------------------------------------|------------------------|-----------------|
| PROJECT REFERENCE NO.<br>R-3329 / R-2559           |                        | SHEET NO.<br>81 |
| R/W SHEET NO.                                      |                        |                 |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |                 |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |                 |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |                 |



FOR -SR2- PROFILE SEE SHT. 176

PLANS PREPARED BY :

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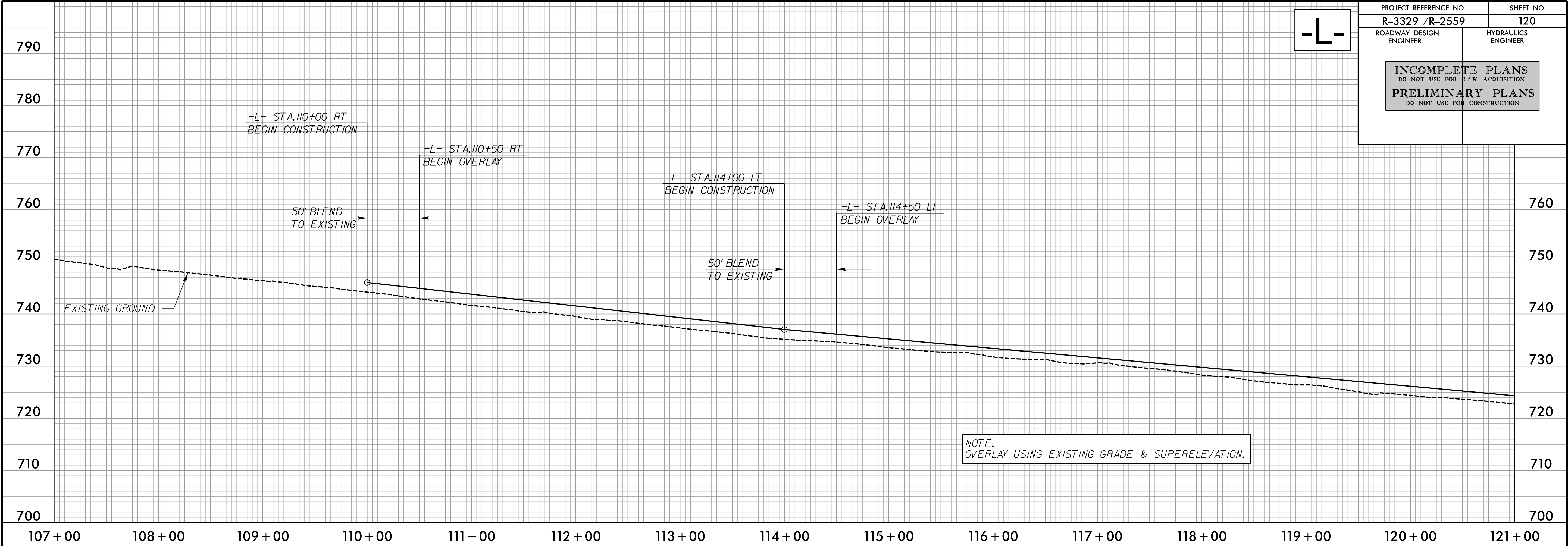
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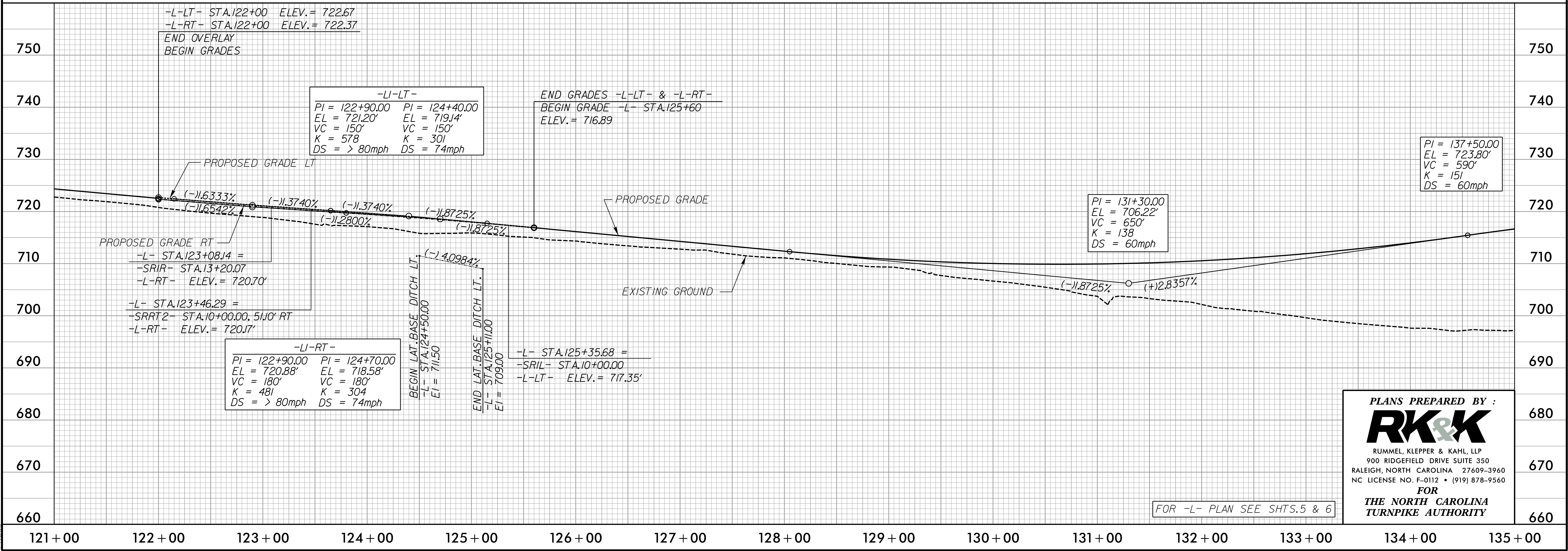
5/28/99

-L-

|                                                                |                        |           |
|----------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                          |                        | SHEET NO. |
| R-3329 /R-2559                                                 |                        | 120       |
| ROADWAY DESIGN<br>ENGINEER                                     | HYDRAULICS<br>ENGINEER |           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> |                        |           |
| <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div>   |                        |           |



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FOR -L- PLAN SEE SHTS. 5 & 6



5/28/99

-L-

| PROJECT REFERENCE NO.                                                                                                       |                        | SHEET NO. |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------|-----------|
| R-3329 /R-2559                                                                                                              |                        | 121       |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | HYDRAULICS<br>ENGINEER |           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                        |           |

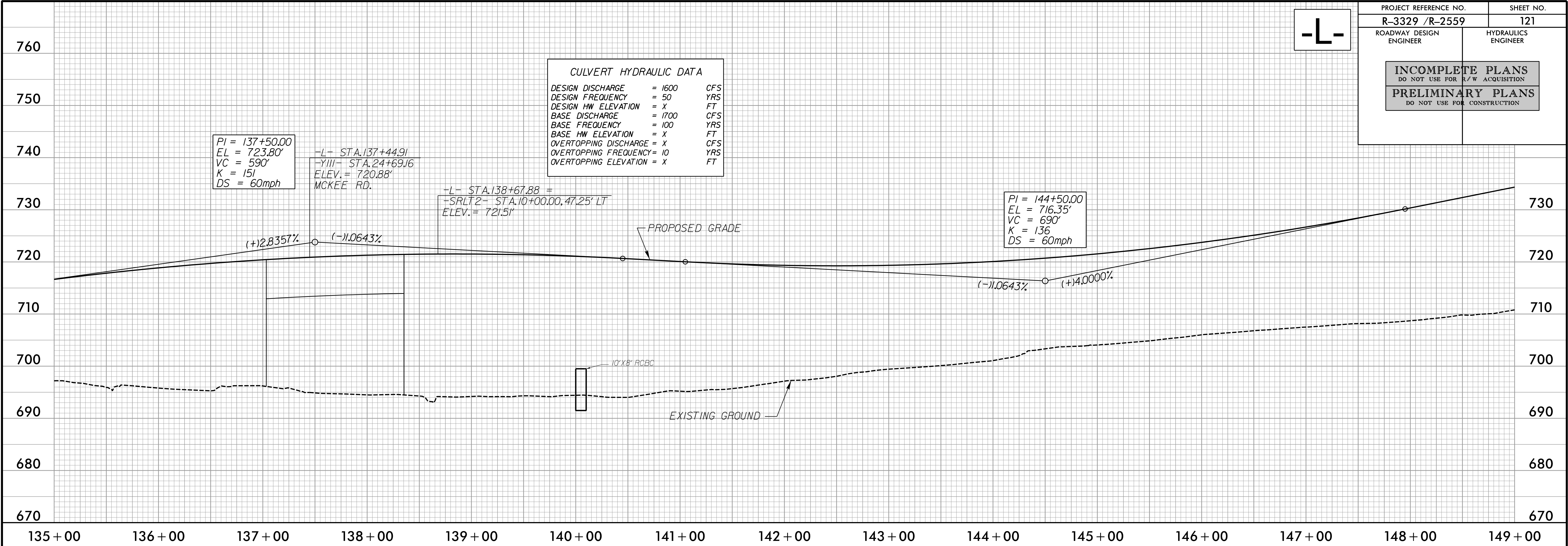
| CULVERT HYDRAULIC DATA |        |     |
|------------------------|--------|-----|
| DESIGN DISCHARGE       | = 1600 | CFS |
| DESIGN FREQUENCY       | = 50   | YRS |
| DESIGN HW ELEVATION    | = X    | FT  |
| BASE DISCHARGE         | = 1700 | CFS |
| BASE FREQUENCY         | = 100  | YRS |
| BASE HW ELEVATION      | = X    | FT  |
| OVERTOPPING DISCHARGE  | = X    | CFS |
| OVERTOPPING FREQUENCY  | = 10   | YRS |
| OVERTOPPING ELEVATION  | = X    | FT  |

PI = 137+50.00  
EL = 723.80'  
VC = 590'  
K = 151  
DS = 60mph

-L- STA.137+44.91  
-Y1111- STA.24+69J6  
ELEV. = 720.88'  
MCKEE RD.

-L- STA.138+67.88 =  
-SRLT 2- STA.10+00.00, 47.25' LT  
ELEV. = 721.51'

PI = 144+50.00  
EL = 716.35'  
VC = 690'  
K = 136  
DS = 60mph

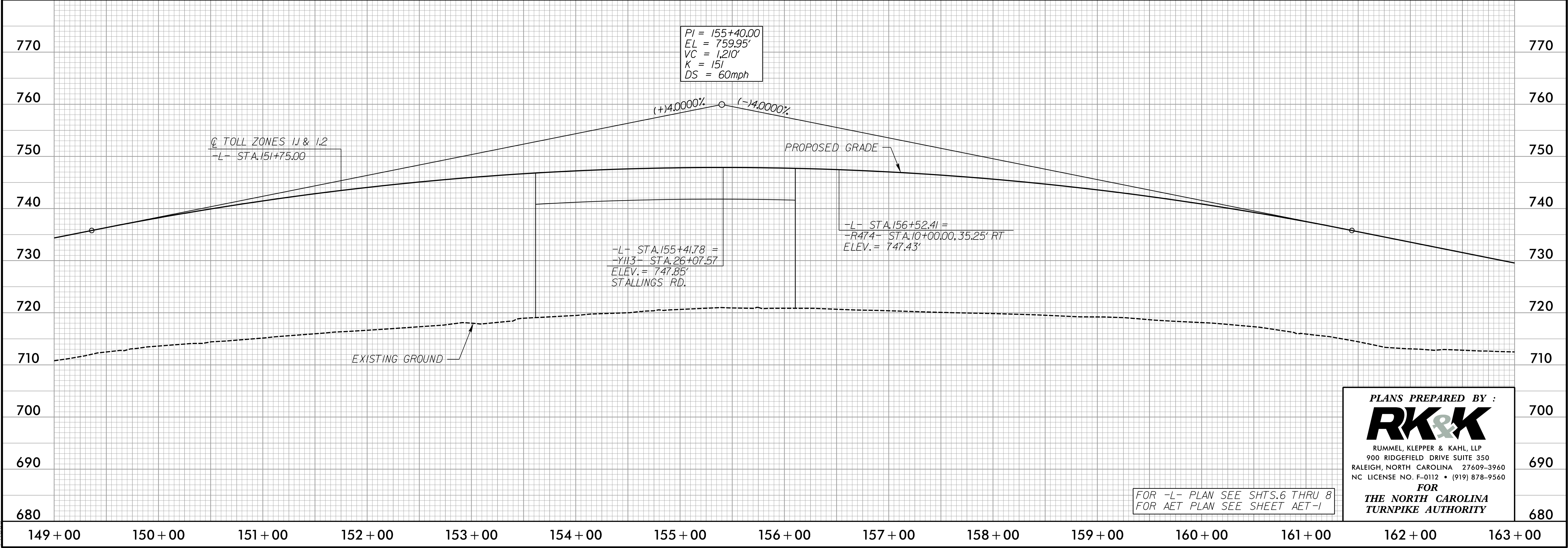


PI = 155+40.00  
EL = 759.95'  
VC = 1,210'  
K = 151  
DS = 60mph

@ TOLL ZONES 1,1 & 1,2  
-L- STA.151+75.00

-L- STA.155+41.78 =  
-Y1113- STA.26+07.57  
ELEV. = 747.85'  
STALLINGS RD.

-L- STA.156+52.41 =  
-R474- STA.10+00.00, 35.25' RT  
ELEV. = 747.43'



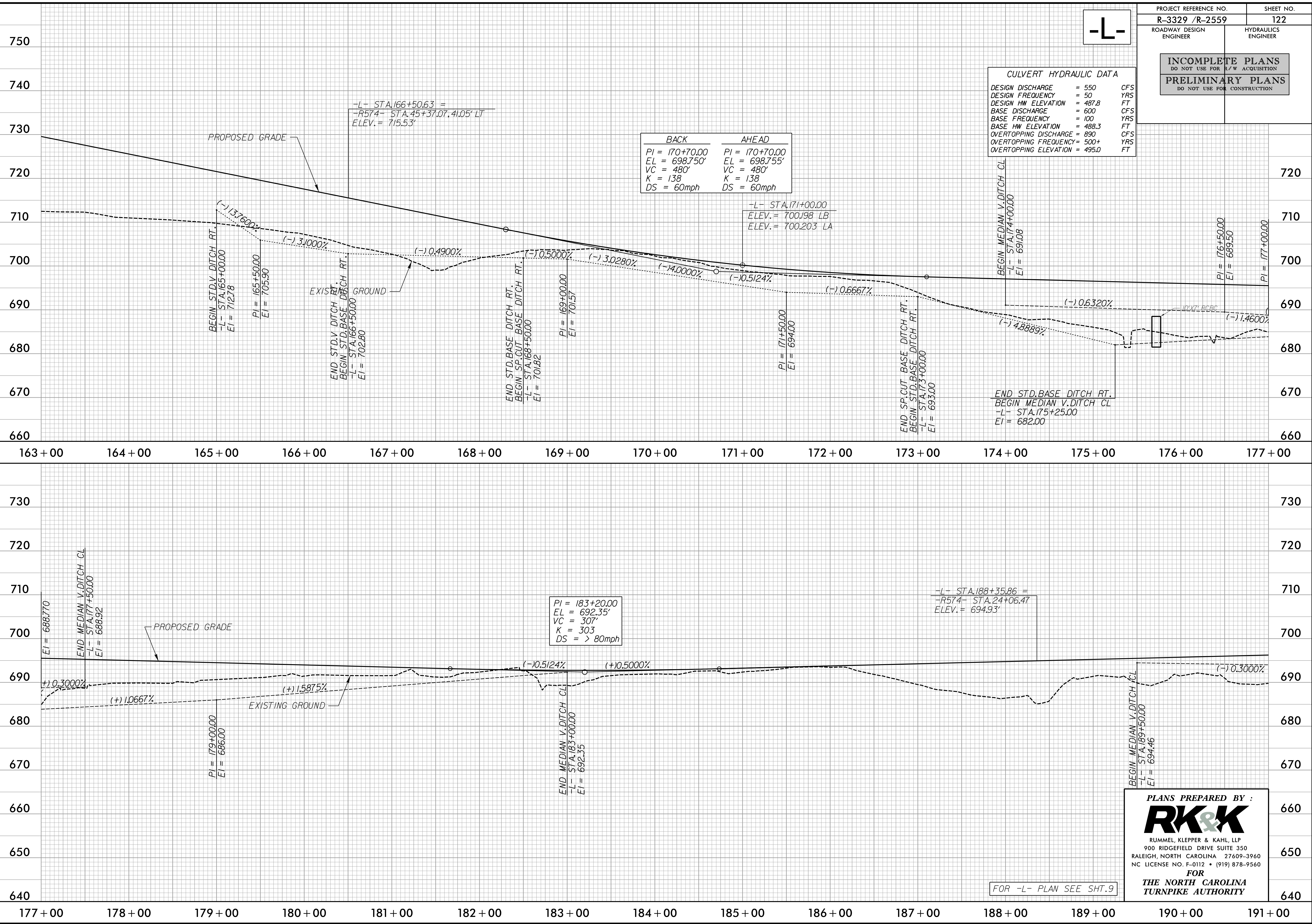
PLANS PREPARED BY :  
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FOR -L- PLAN SEE SHTS.6 THRU 8  
FOR AET PLAN SEE SHEET AET-1

8/29/2014  
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Elevs



5/28/99  
8/30/2014  
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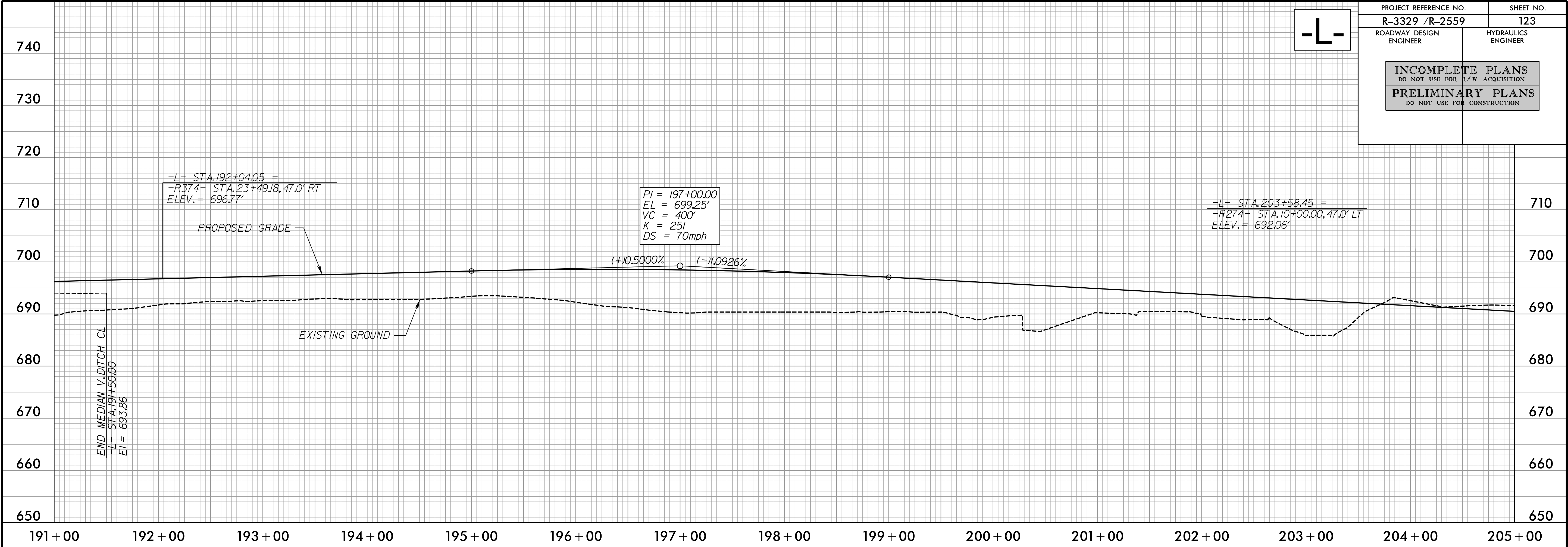




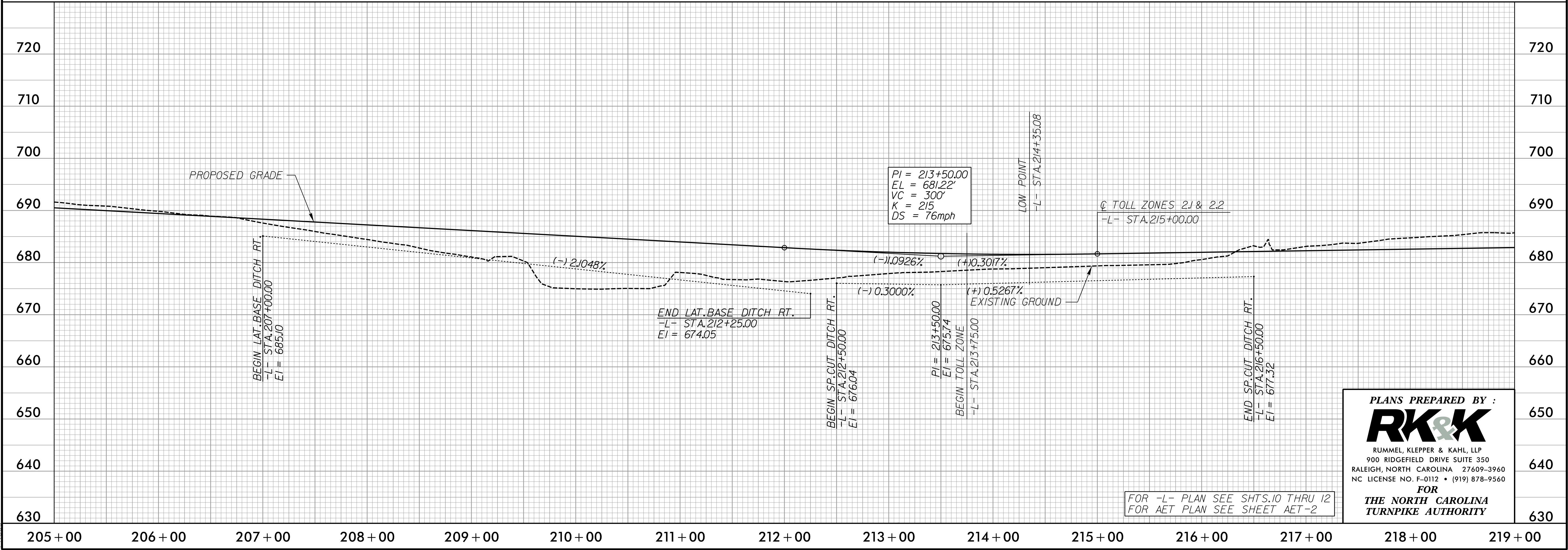
5/28/99

-L-

|                                                                                                                             |                        |           |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                                                                                       |                        | SHEET NO. |
| R-3329 /R-2559                                                                                                              |                        | 123       |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | HYDRAULICS<br>ENGINEER |           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                        |           |



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Elevs



FOR -L- PLAN SEE SHTS.10 THRU 12  
FOR AET PLAN SEE SHEET AET-2

PLANS PREPARED BY :

**RK&K**

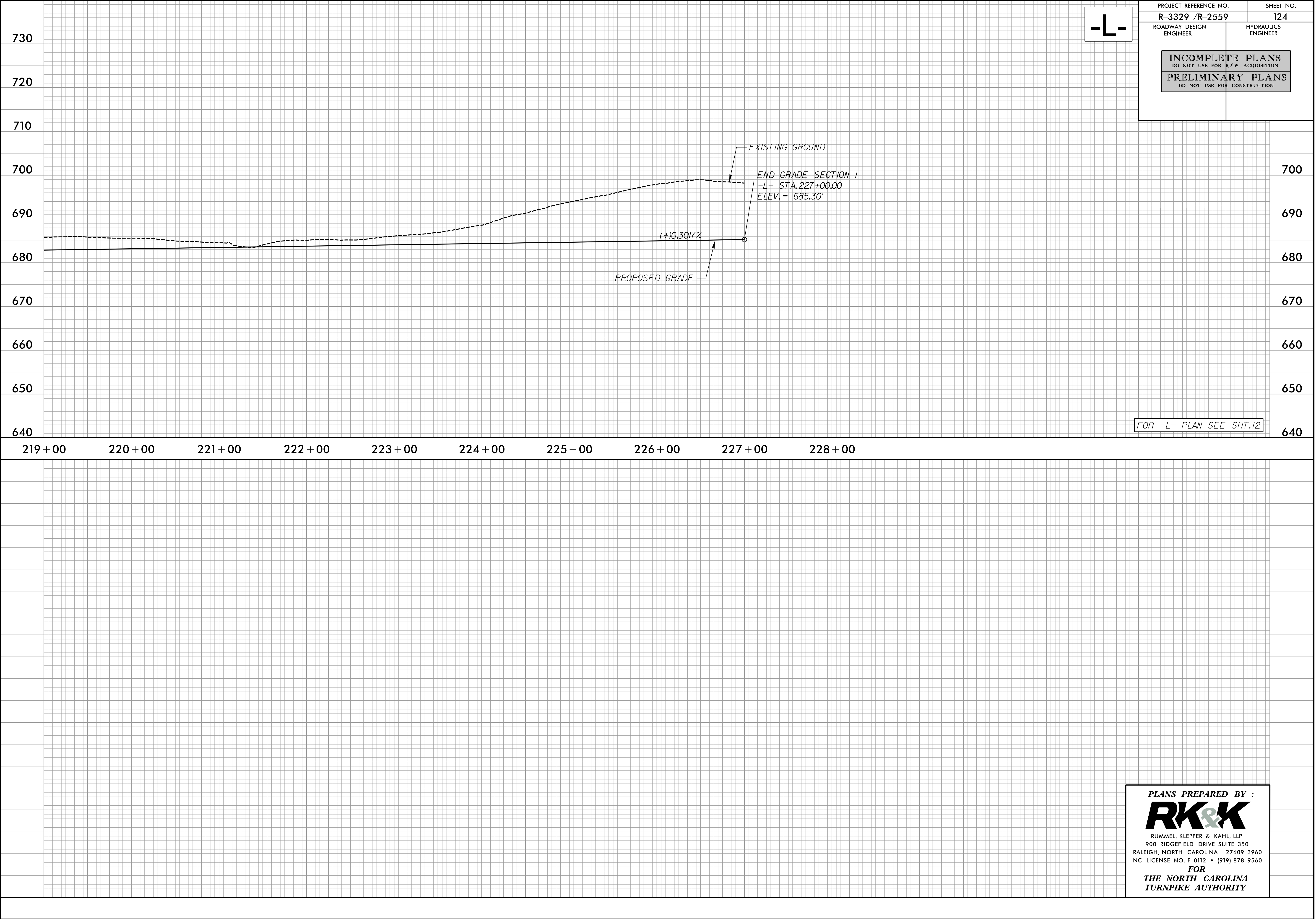
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Elevs



-L-

|                                                                       |                        |           |
|-----------------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                                 |                        | SHEET NO. |
| R-3329 /R-2559                                                        |                        | 124       |
| ROADWAY DESIGN<br>ENGINEER                                            | HYDRAULICS<br>ENGINEER |           |
| <div>INCOMPLETE PLANS</div> <div>DO NOT USE FOR R/W ACQUISITION</div> |                        |           |
| <div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div>   |                        |           |

PLANS PREPARED BY :

**RK&K**

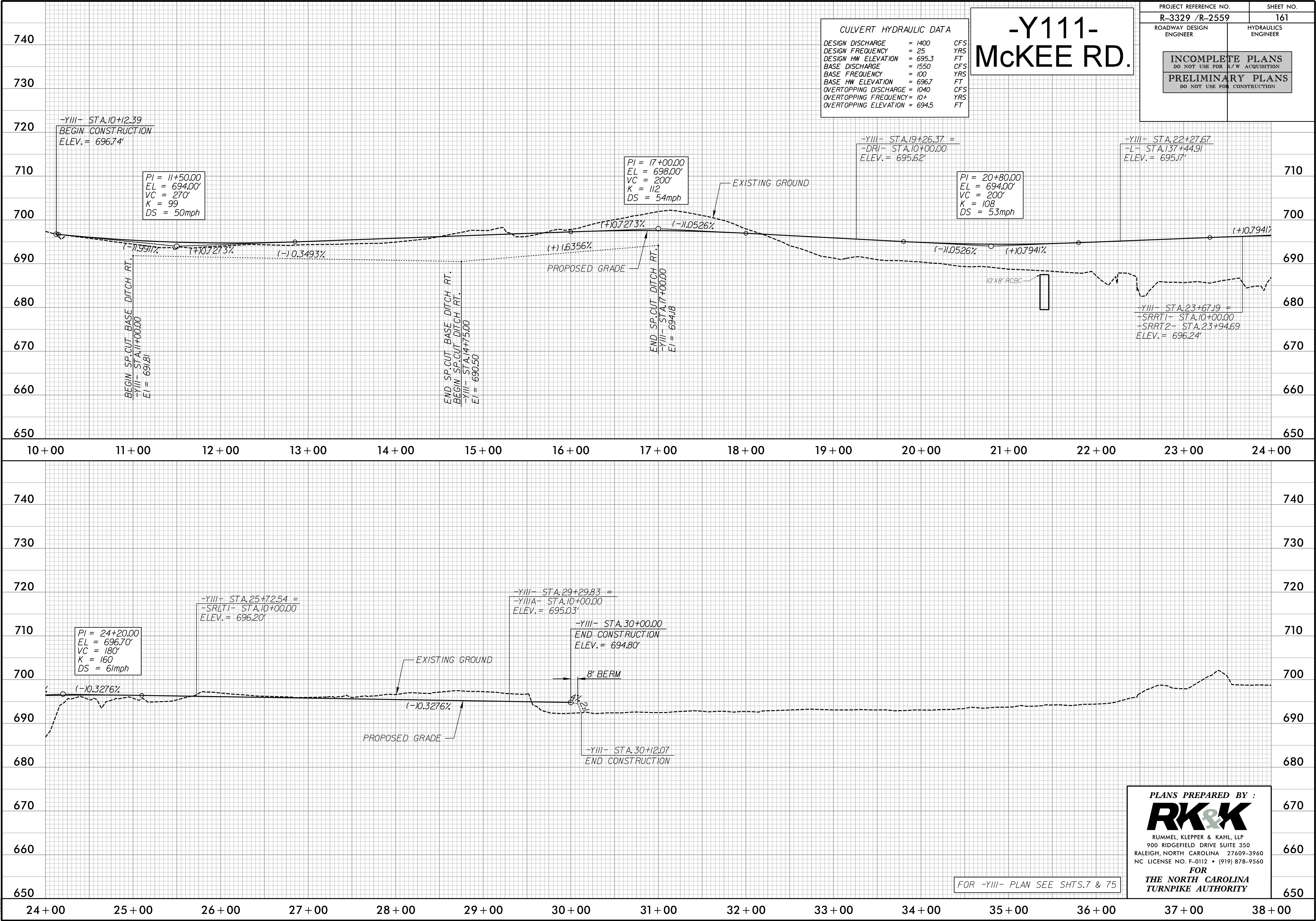
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Elevs



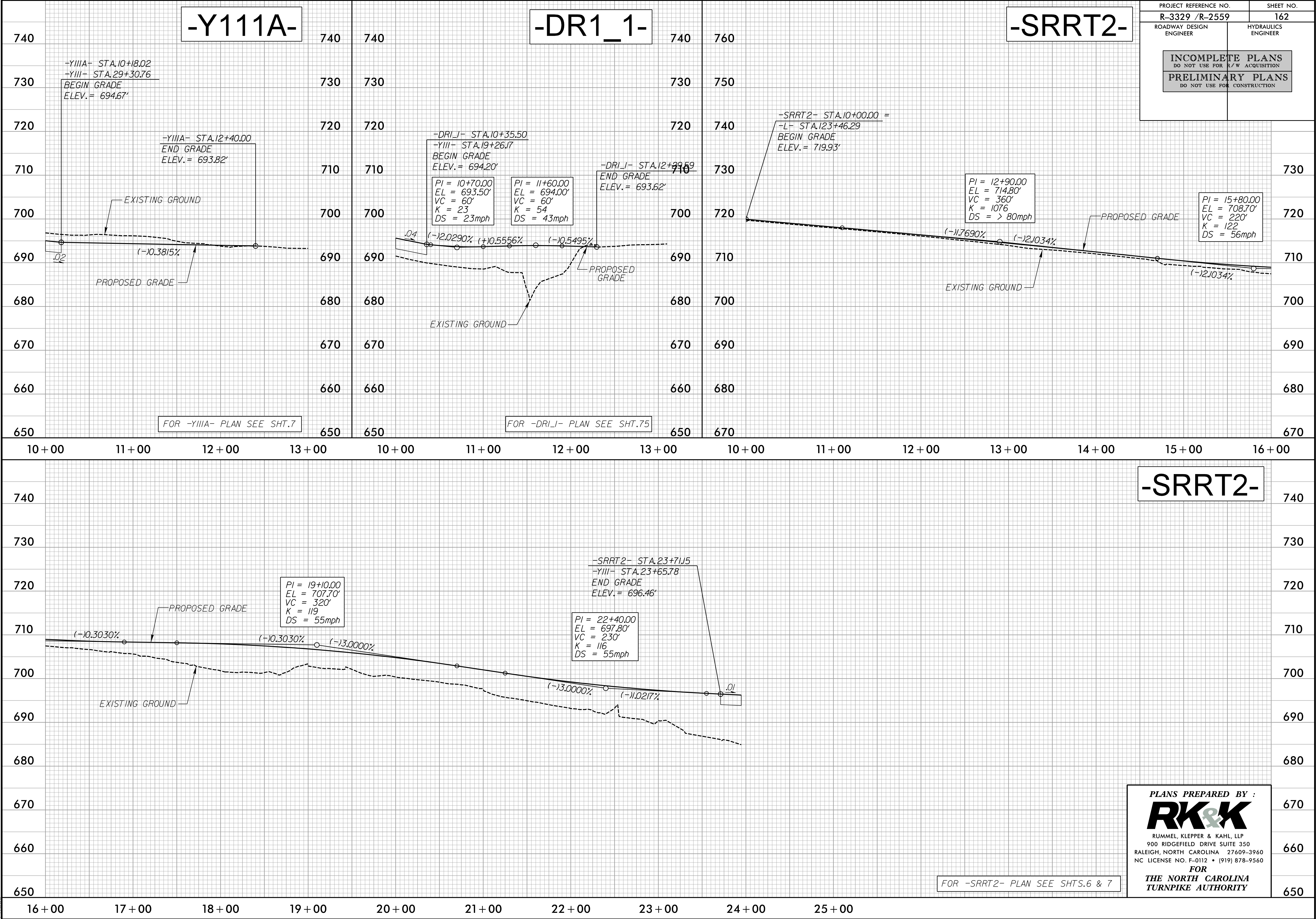
FOR -Y111- PLAN SEE SHTS.7 & 75

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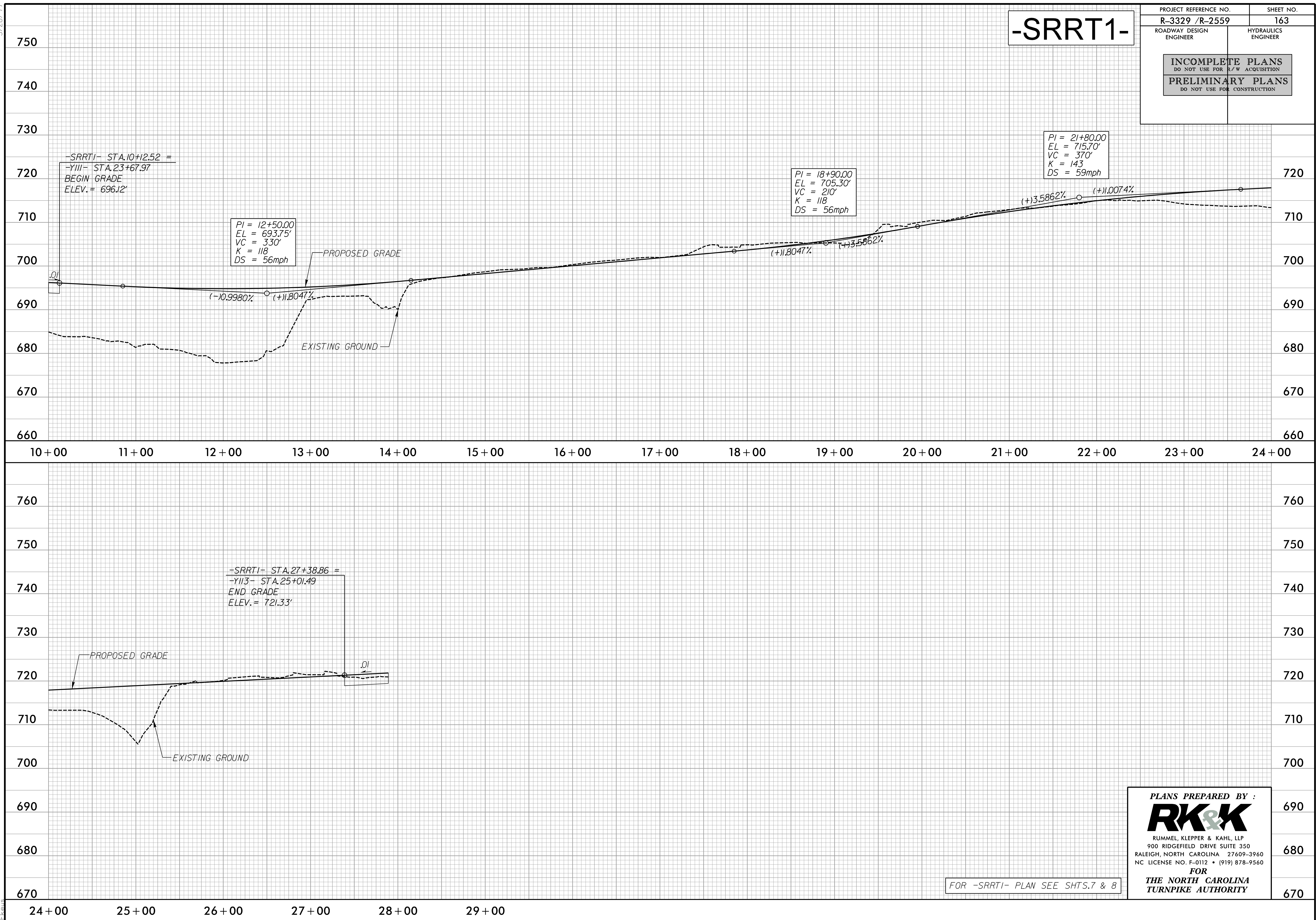
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Elevs



|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 162                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

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Elevs

-SRLT1-

PROJECT REFERENCE NO.  
R-3329 /R-2559

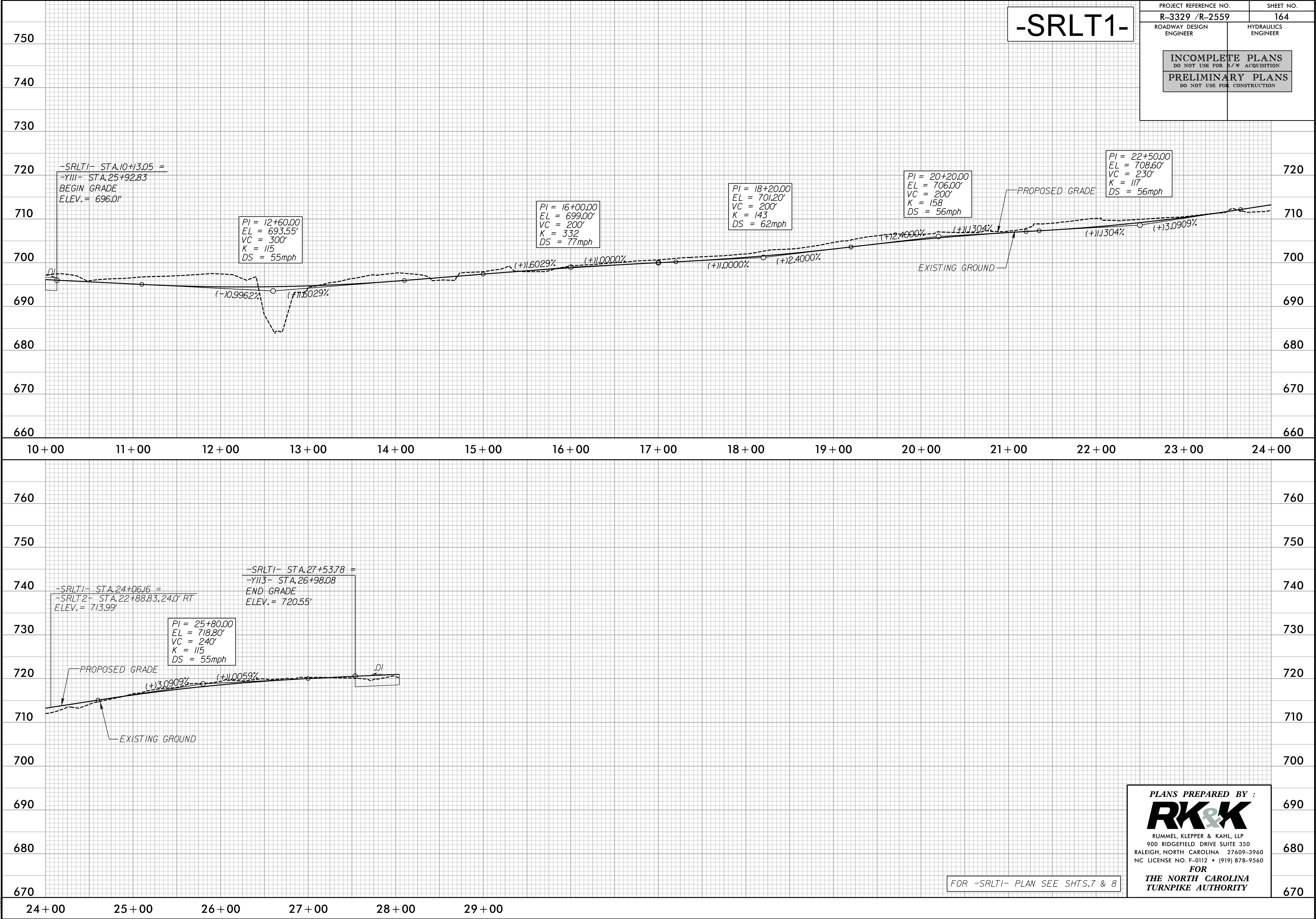
ROADWAY DESIGN  
ENGINEER

SHEET NO.  
164

HYDRAULICS  
ENGINEER

INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



PLANS PREPARED BY :

RK&K

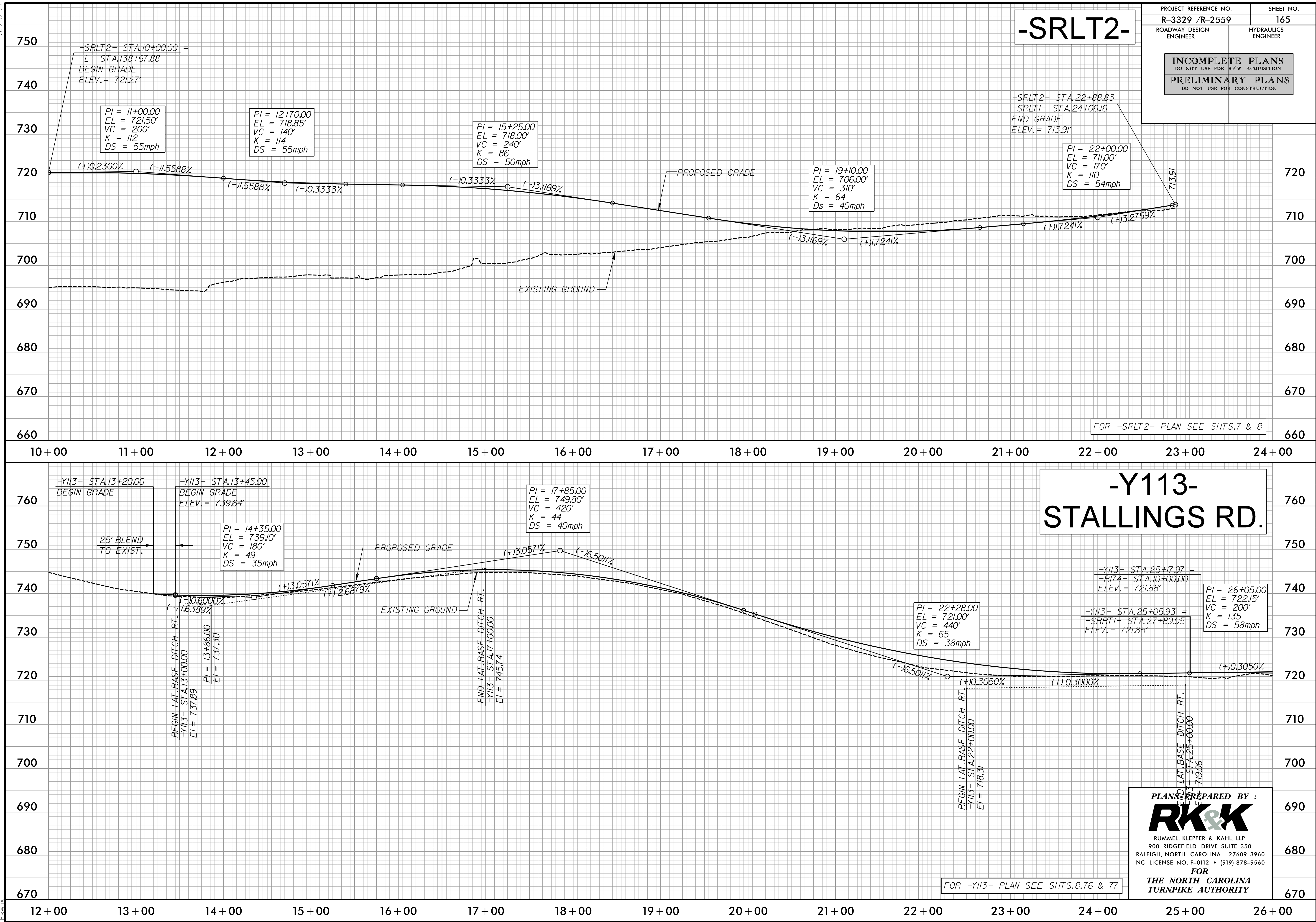
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FOR -SRLT1- PLAN SEE SHTS.7 & 8



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Elev



| PROJECT REFERENCE NO.                              |                        | SHEET NO. |
|----------------------------------------------------|------------------------|-----------|
| R-3329 /R-2559                                     |                        | 165       |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |           |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |           |

PLANS PREPARED BY :

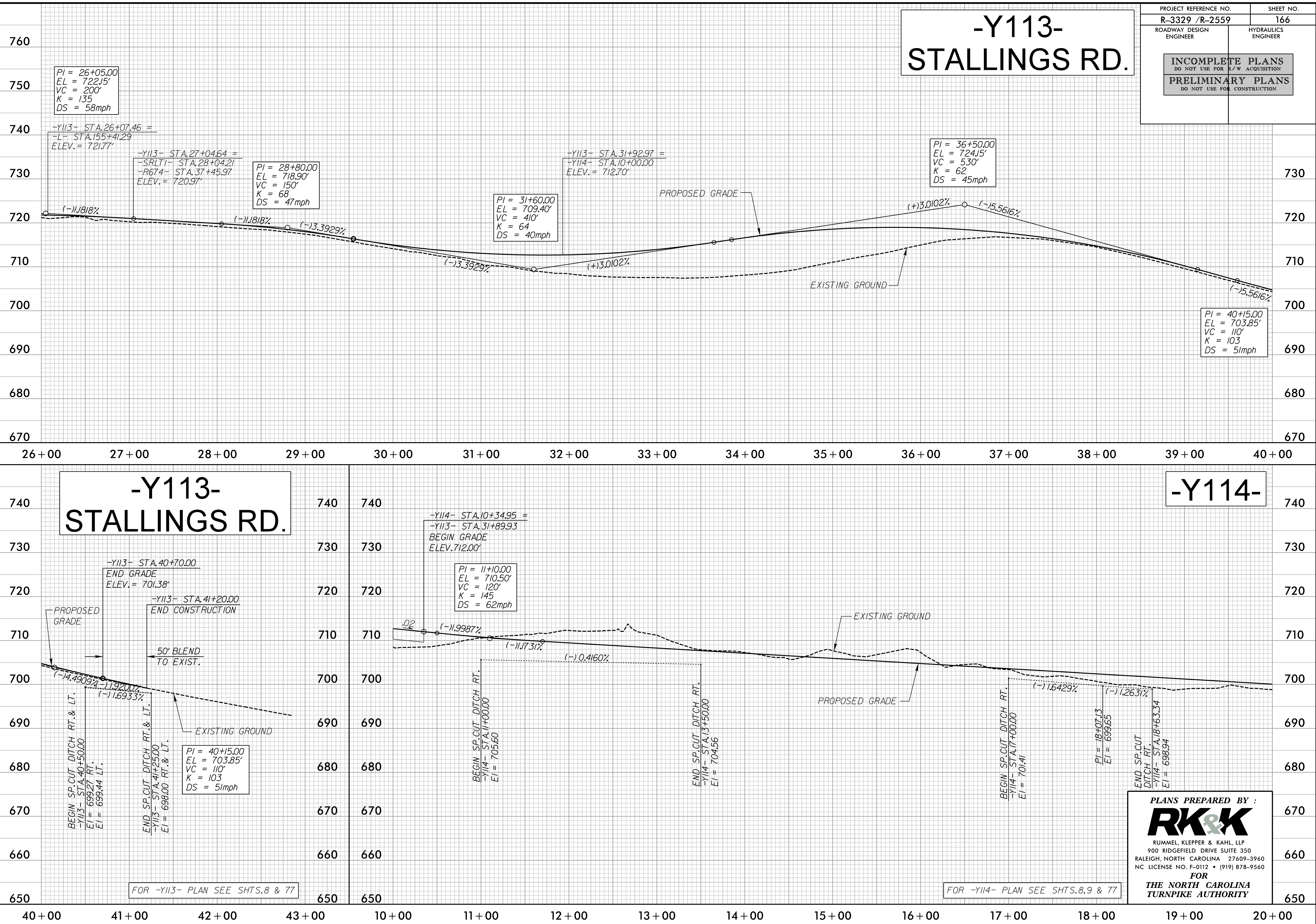
**RK&K**

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Elevations

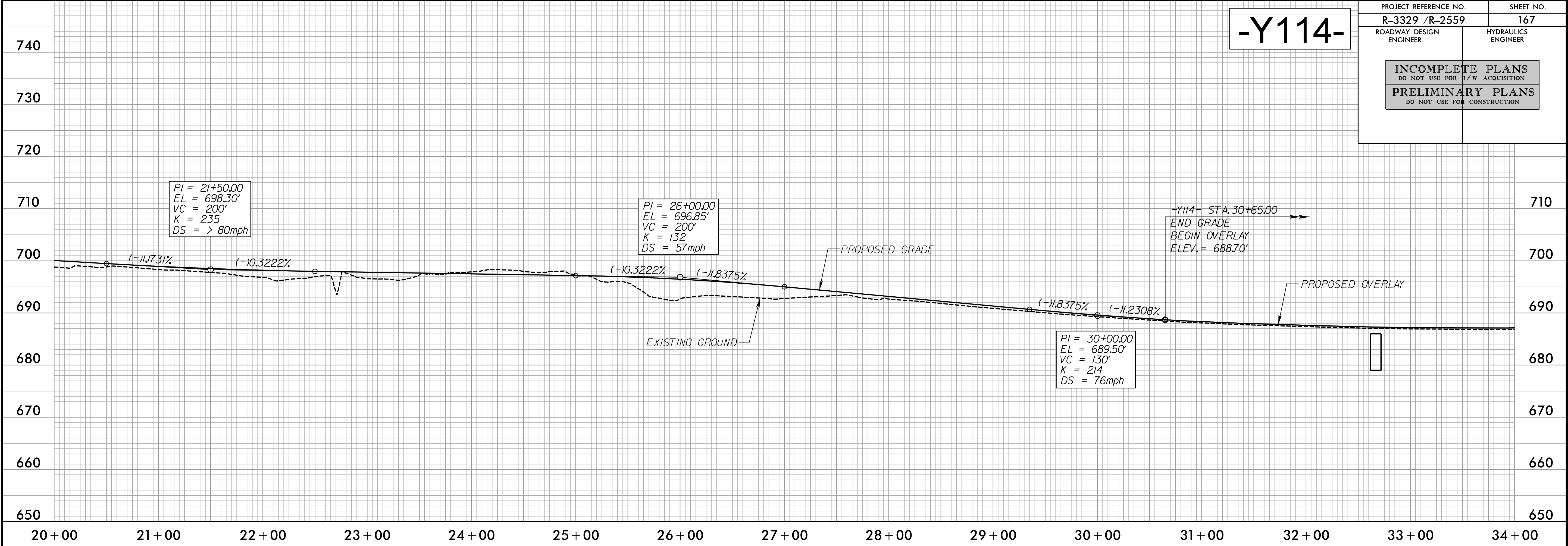




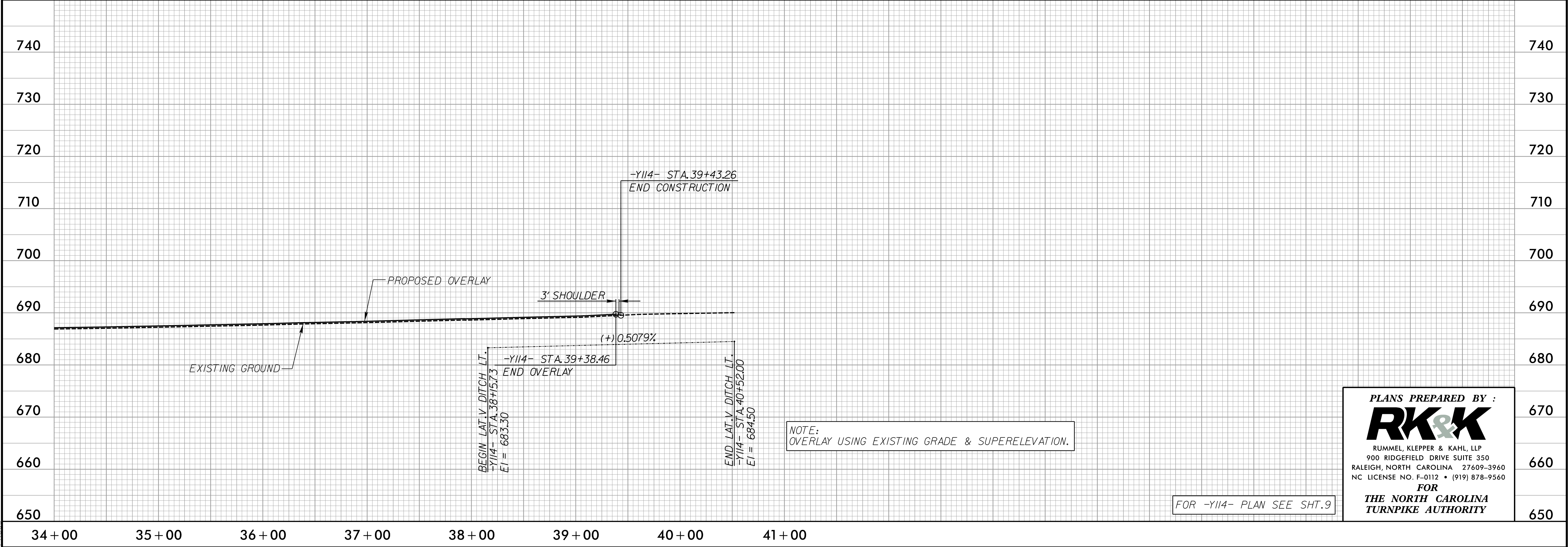
5/28/99

-Y114-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 167                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



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Elevs



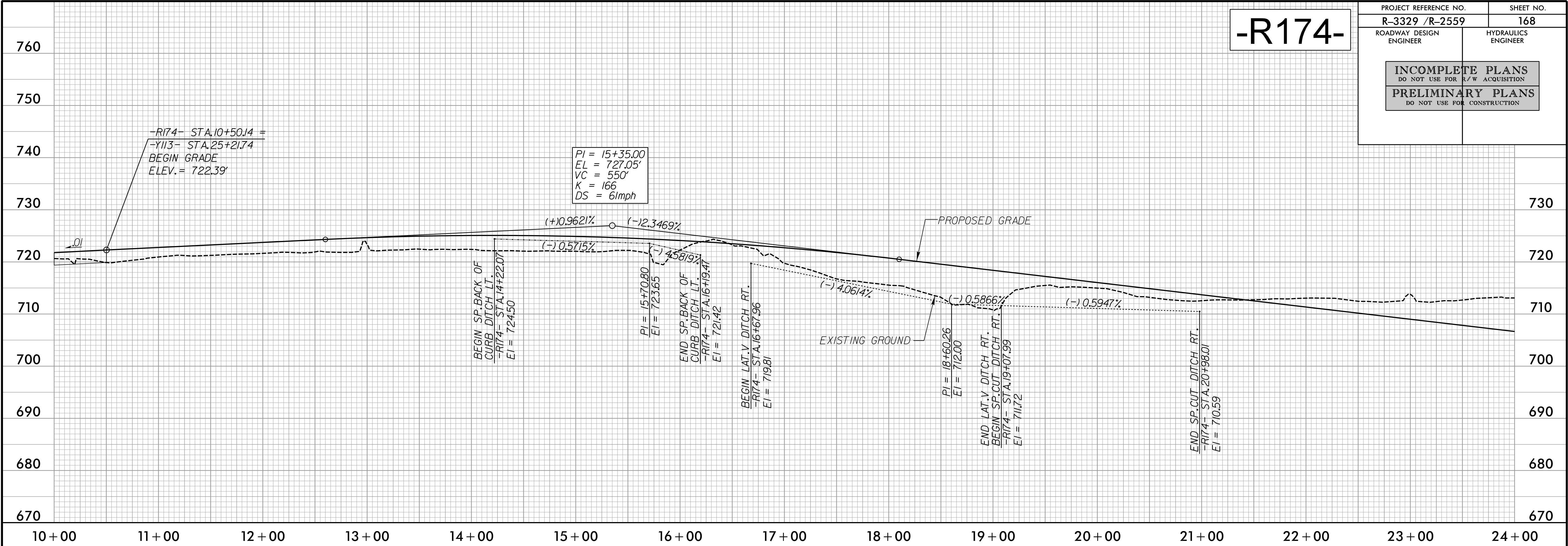
PLANS PREPARED BY :  
**RK&K**  
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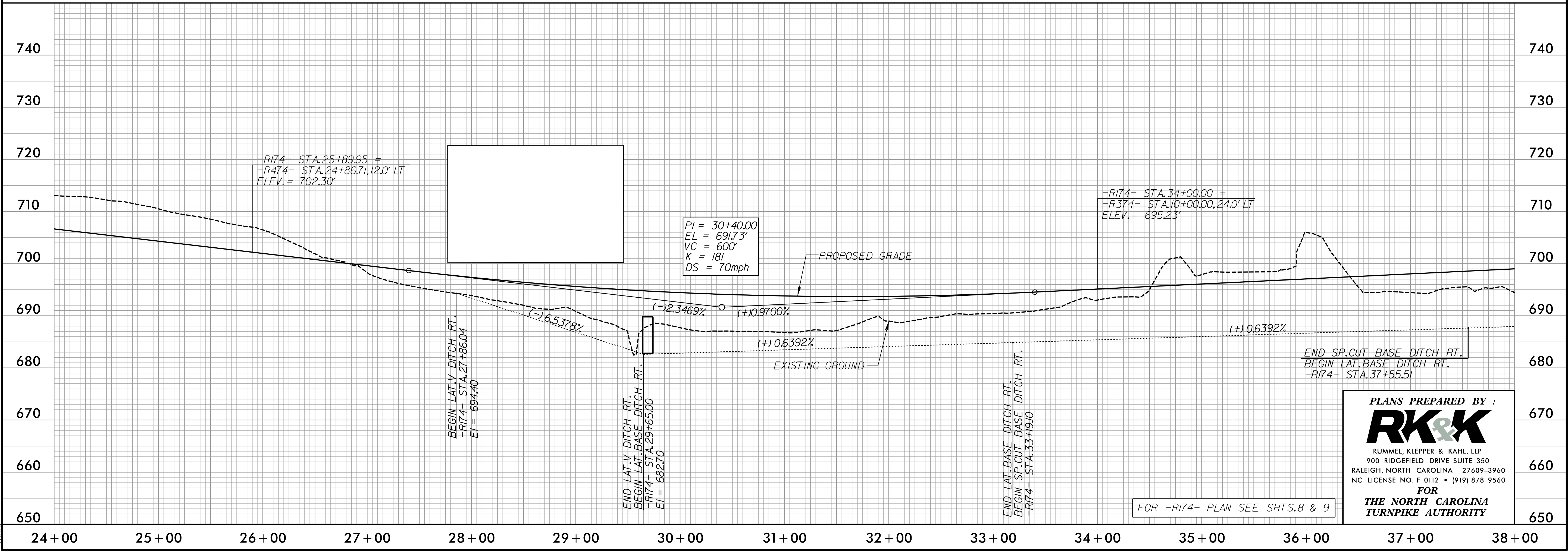
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-R174-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 168                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



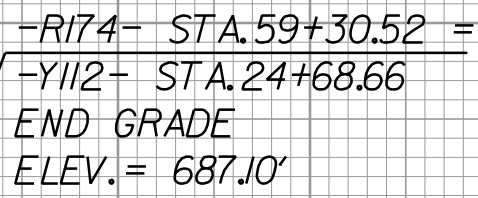
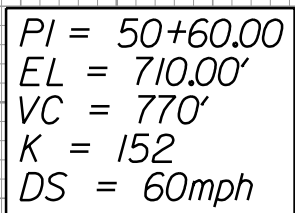
8/30/2014  
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RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. F-0112 • (919) 878-9560  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

FOR -R174- PLAN SEE SHTS. 8 & 9





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**RK&K**

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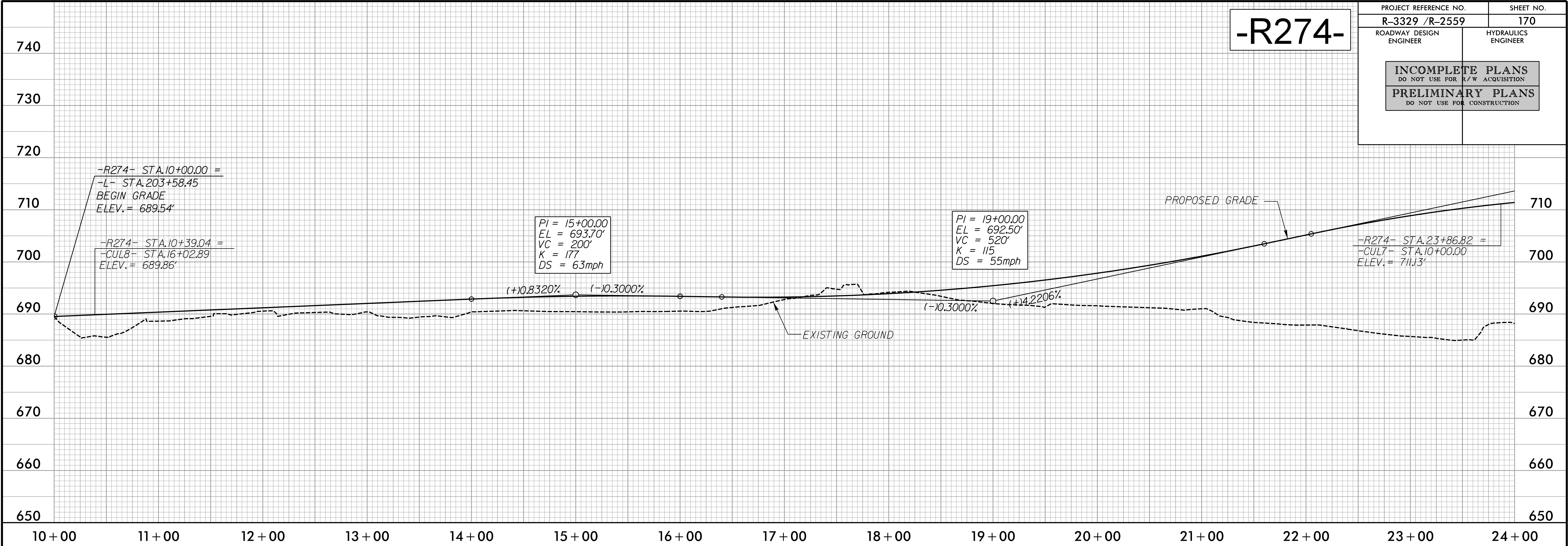
**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



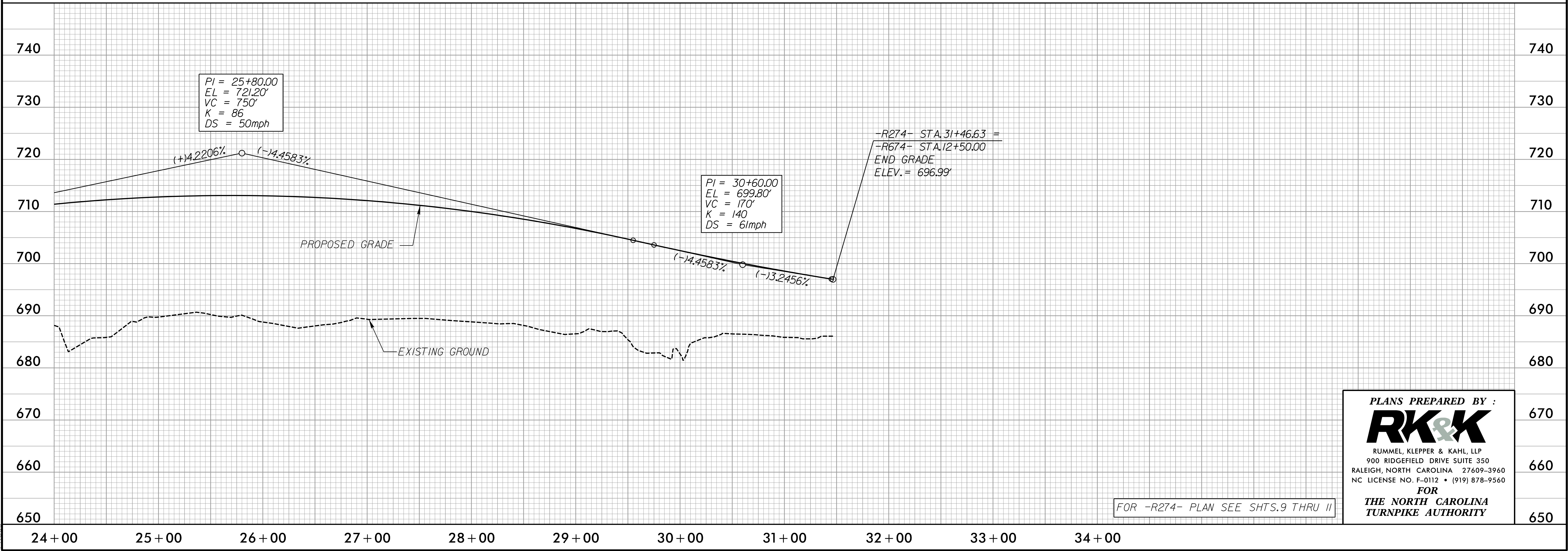
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-R274-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 170                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



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FOR -R274- PLAN SEE SHTS.9 THRU 11

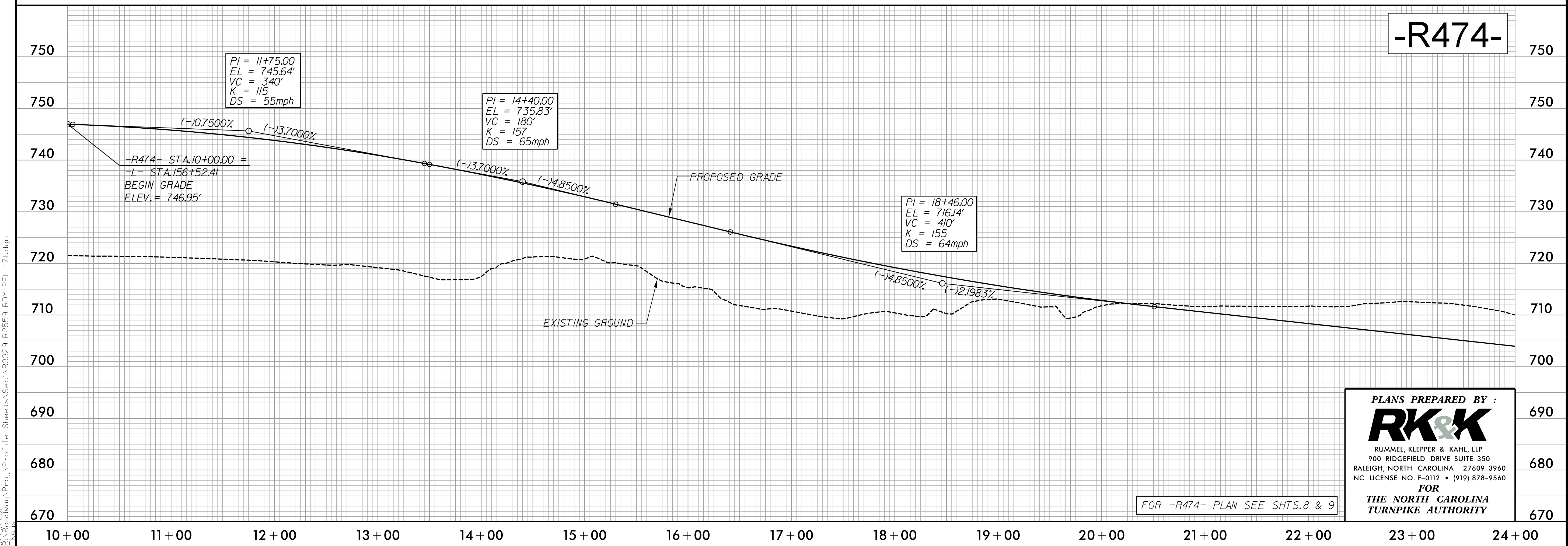
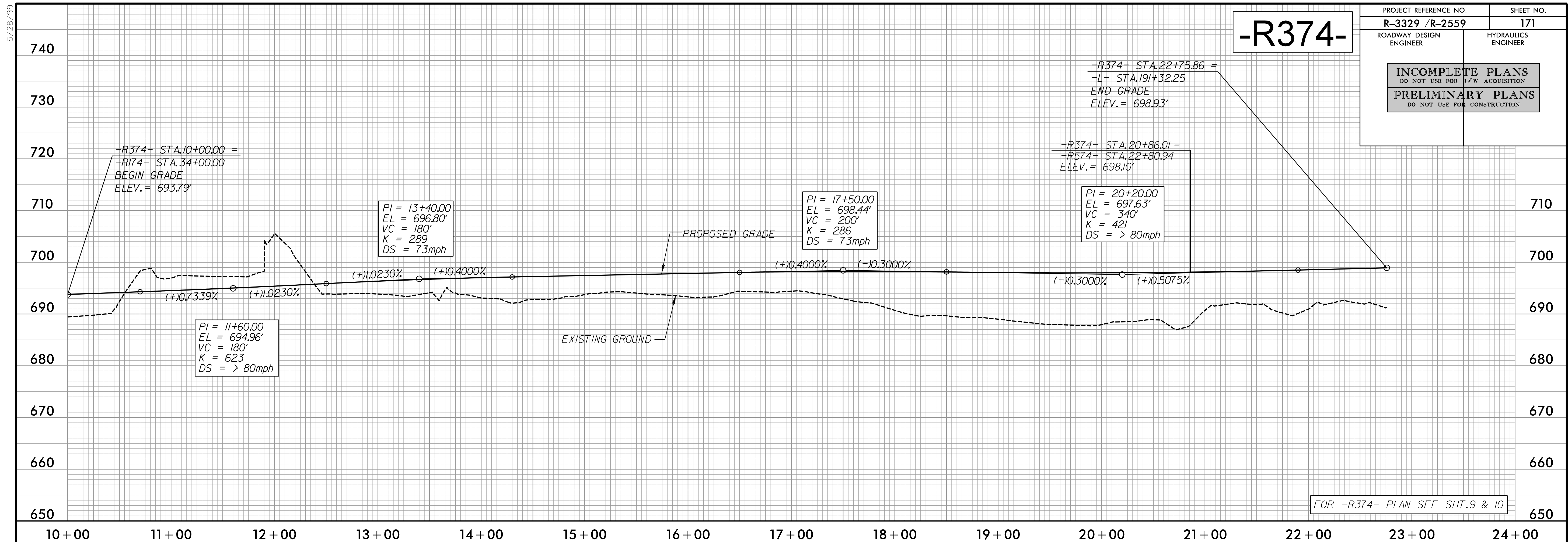
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THE NORTH CAROLINA  
TURNPIKE AUTHORITY

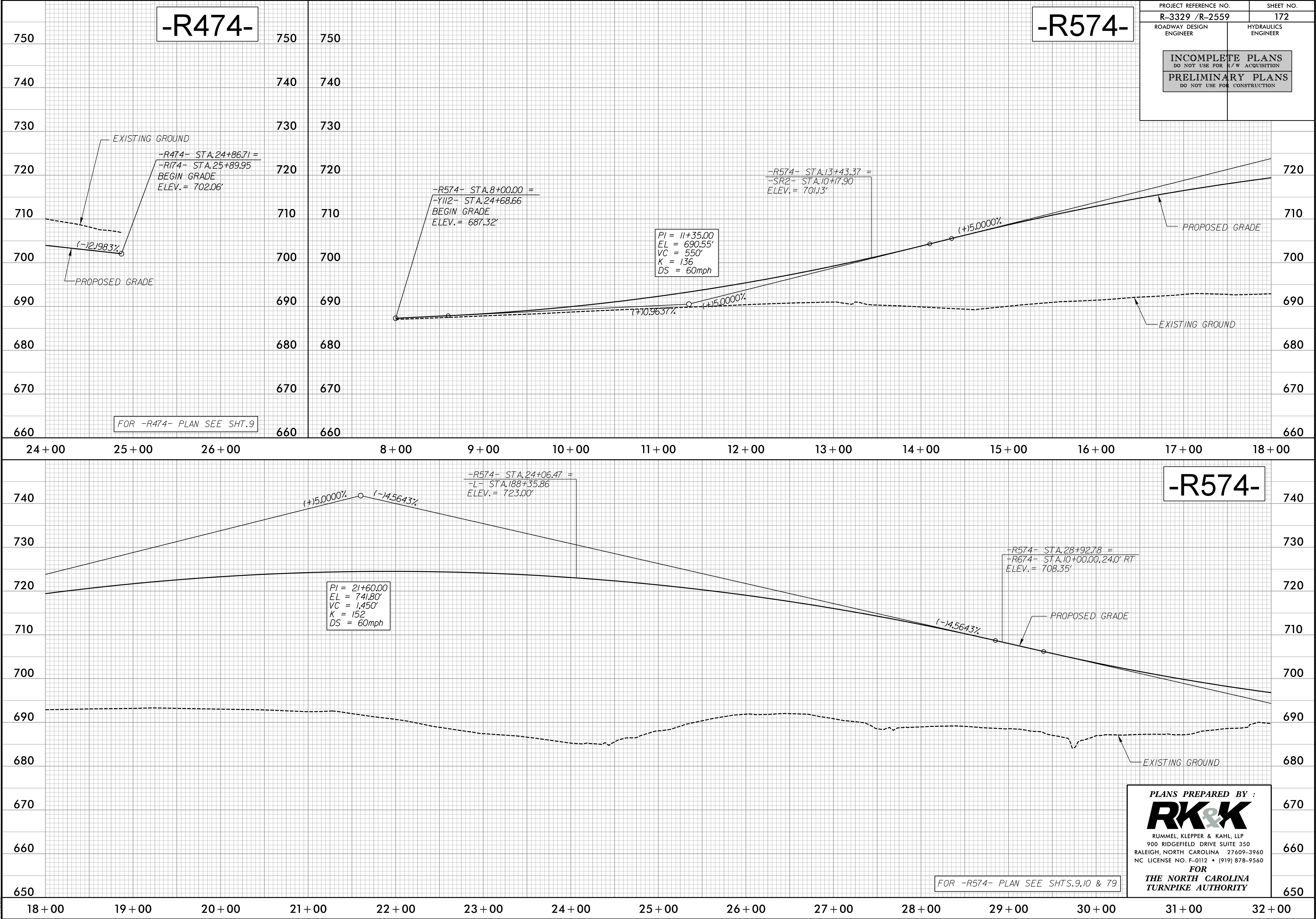






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|-----------------------------------------------------------------------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                                                                                       |                        | SHEET NO. |
| R-3329 /R-2559                                                                                                              |                        | 172       |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | HYDRAULICS<br>ENGINEER |           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                        |           |

PLANS PREPARED BY :

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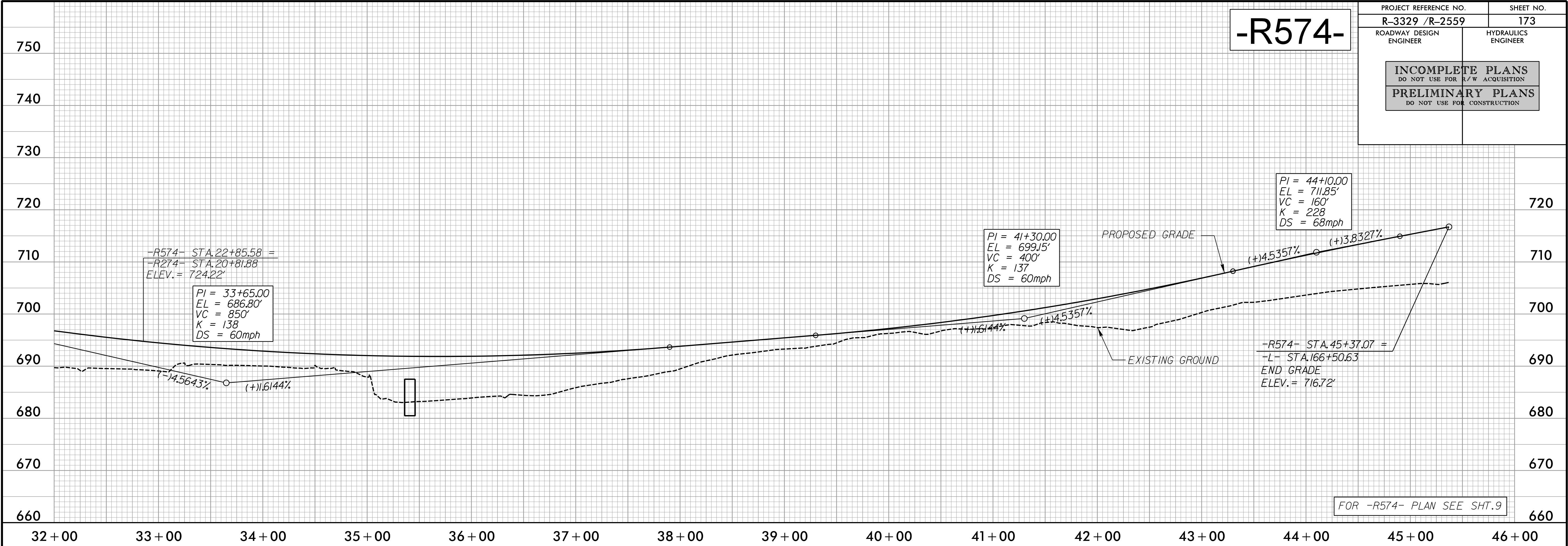
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TURNPIKE AUTHORITY



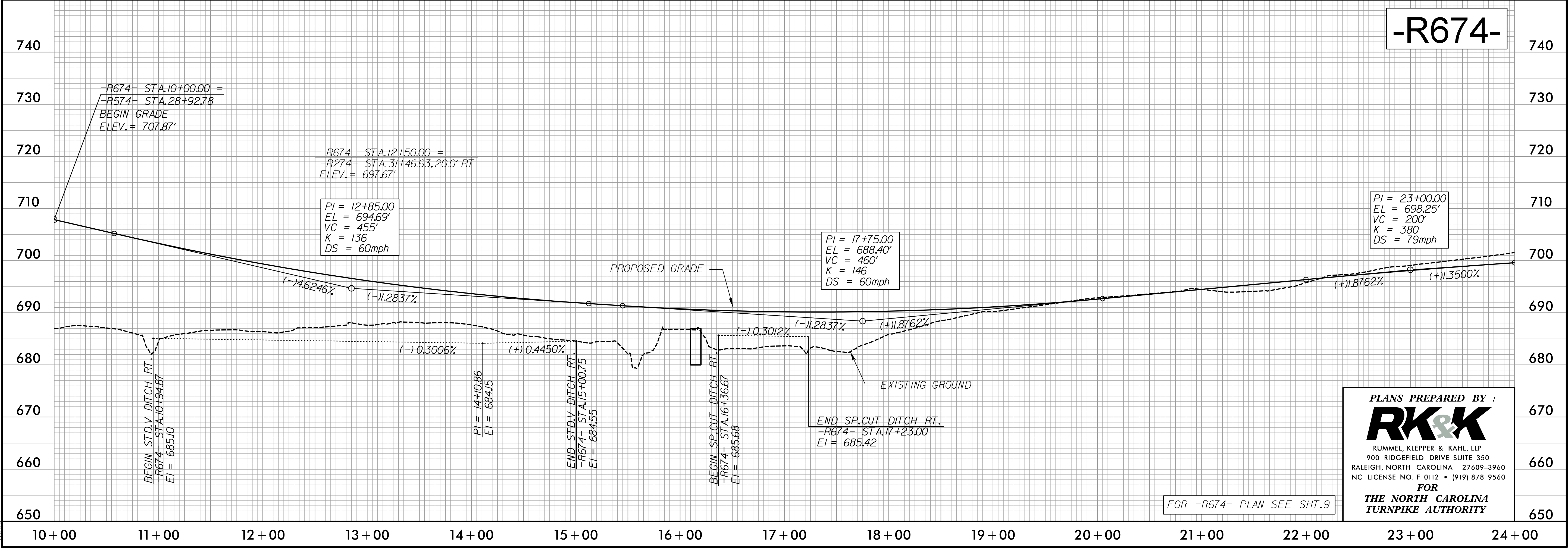
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-R574-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 173                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



-R674-



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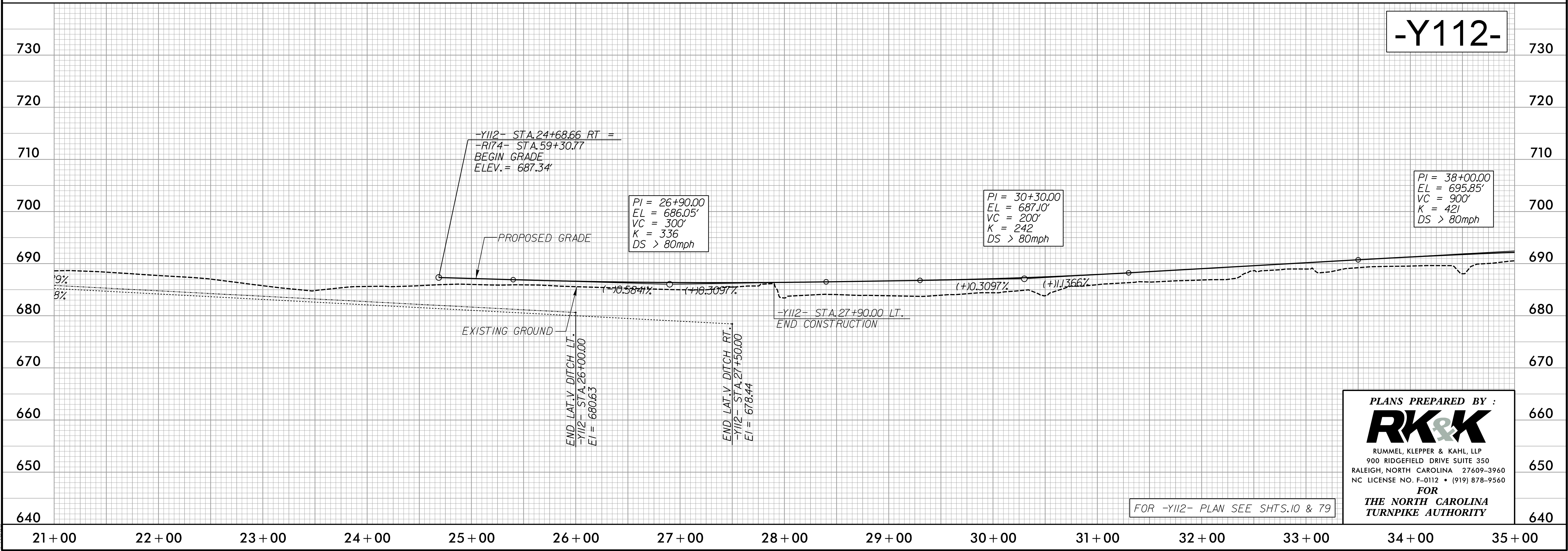
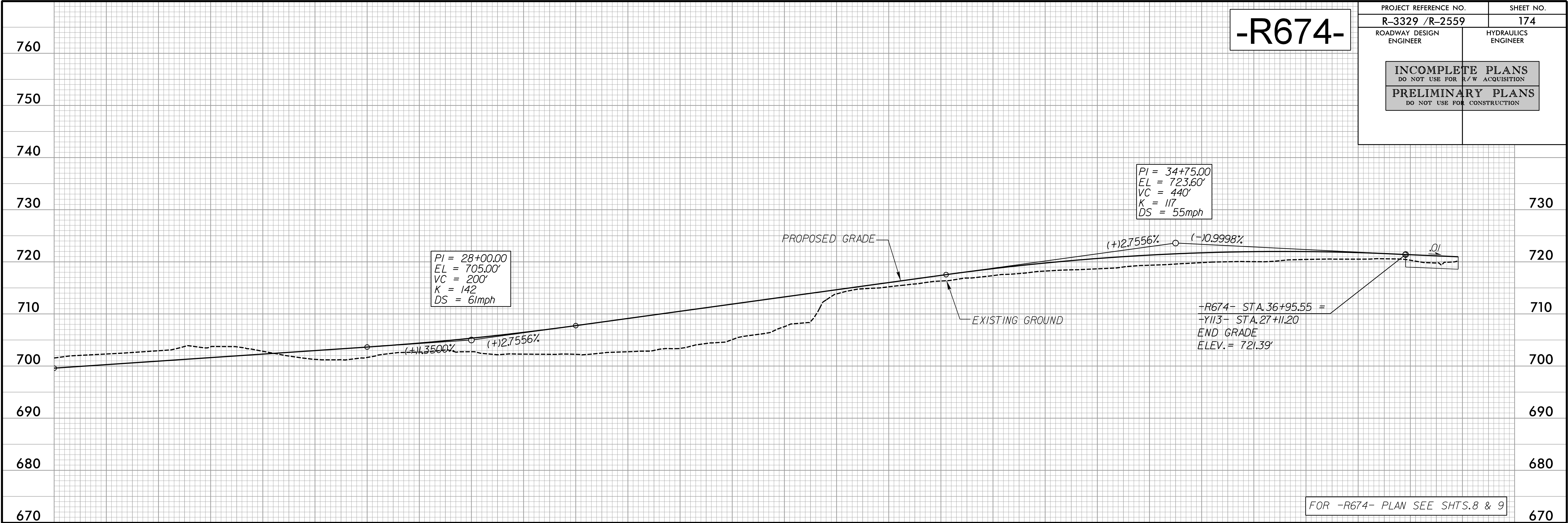
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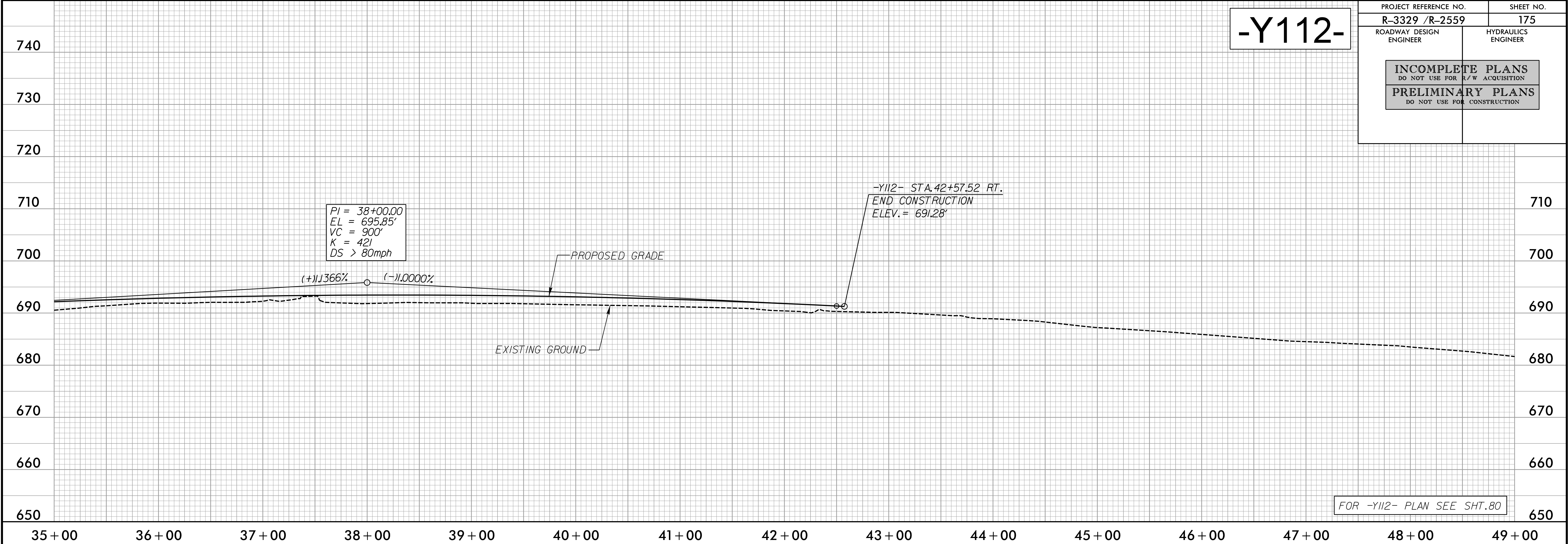




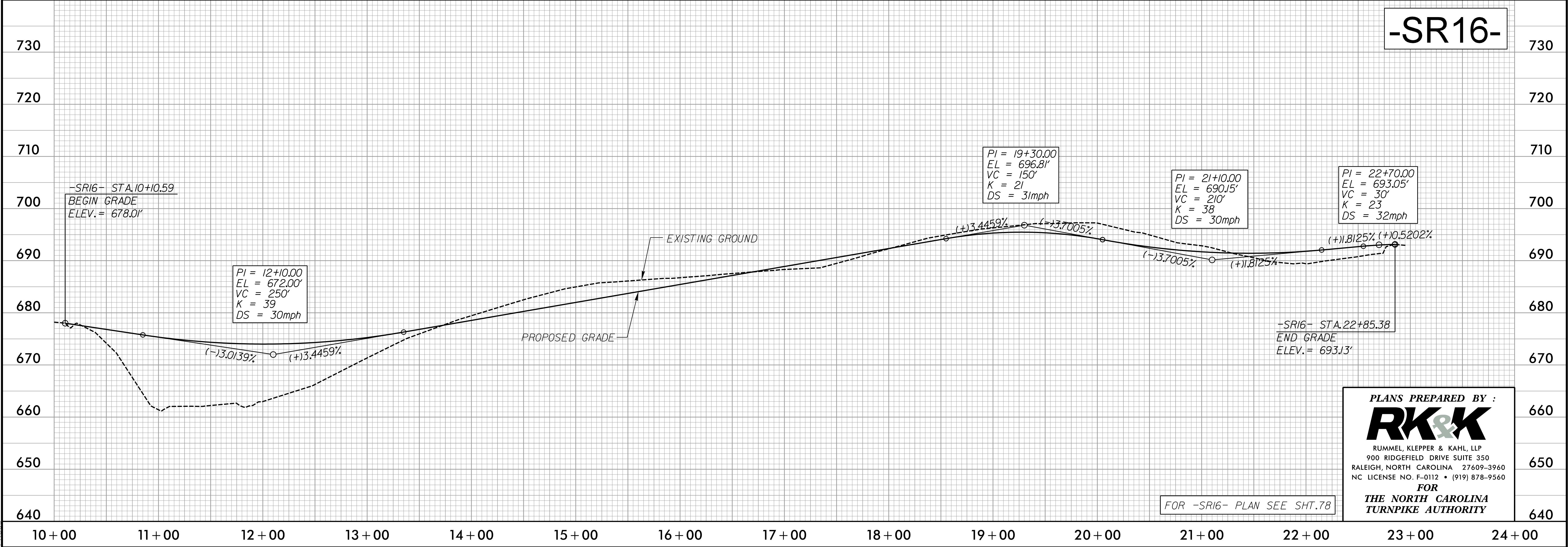
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-Y112-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 175                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



-SR16-



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PROJECT REFERENCE NO.

R-3329 /R-2559

SHEET NO.

176

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS

DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION

-SR2-

PROJECT REFERENCE NO.

R-3329 /R-2559

SHEET NO.

176

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS

DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION

-SR3-

PLANS PREPARED BY :

**RK&K**

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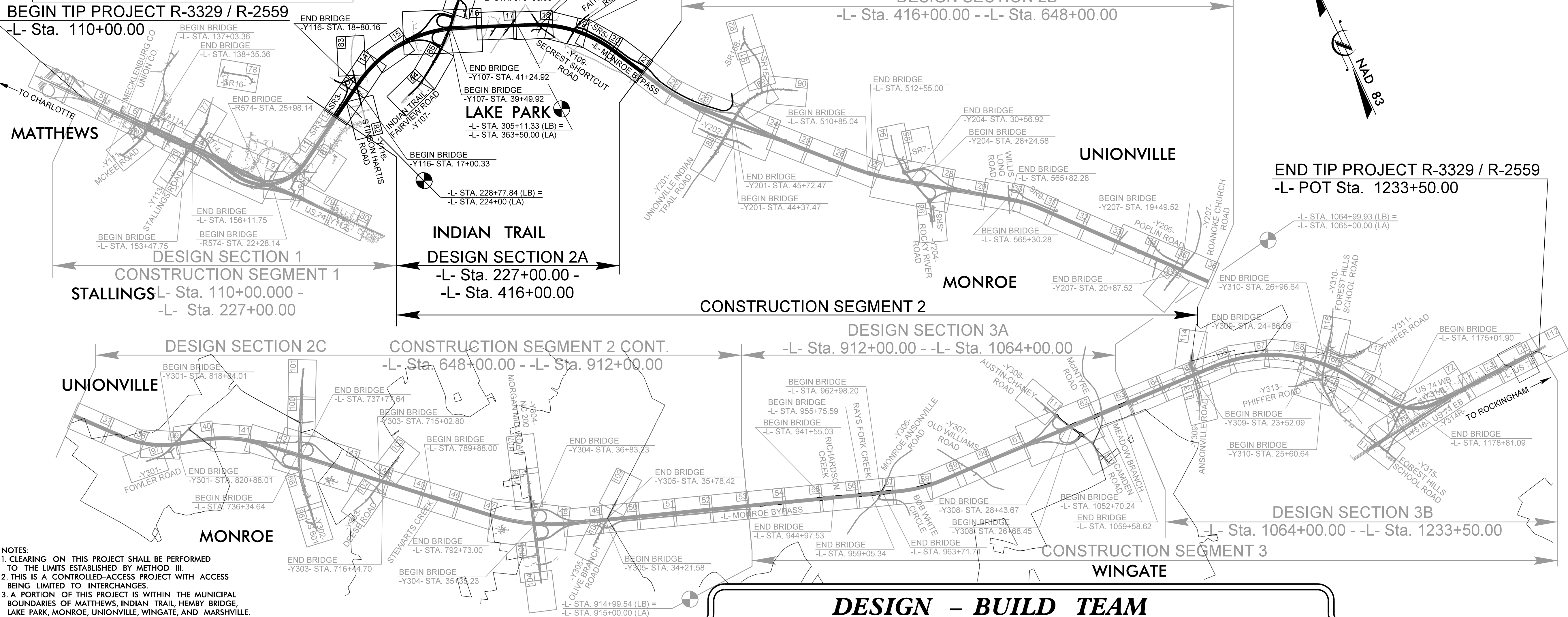
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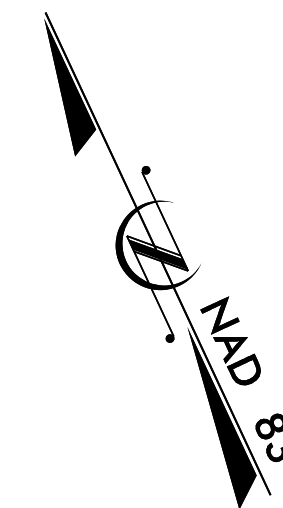


PERMIT APPLICATION  
SUBMITTAL NO. S-099  
DATE: 10-01-2014

**INCOMPLETE PLANS**  
DO NOT USE FOR R/W ACQUISITION

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**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

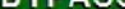


## ***PROJECT LENGTH***

|                                                  |         |
|--------------------------------------------------|---------|
| LENGTH ROADWAY TIP PROJECT R-3329 /R-2559.....   | 18.1 mi |
| LENGTH STRUCTURE TIP PROJECT R-3329 /R-2559..... | *1.6 mi |
| TOTAL LENGTH TIP PROJECT R-3329 /R-2559.....     | 19.7 mi |

\* LENGTH OF STRUCTURES BASED ON WB LANES

**PROJECT DESIGN ENGINEER**



**MONROE**  
BYPASS CONSTRUCTORS

P.E.  
SIGNATURE:  
ROADWAY DESIGN ENGINEER

SIGNATURE: \_\_\_\_\_ *P.E.*



*Note: Not to Scale*

*\*S.U.E. = Subsurface Utility Engineering*

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

| PROJECT REFERENCE NO. | SHEET NO. |
|-----------------------|-----------|
| R-3329 / R-2559       | I-B       |

CONVENTIONAL PLAN SHEET SYMBOLS

**BOUNDARIES AND PROPERTY:**

|                                     |             |
|-------------------------------------|-------------|
| State Line                          | -----       |
| County Line                         | -----       |
| Township Line                       | -----       |
| City Line                           | -----       |
| Reservation Line                    | -----       |
| Property Line                       | -----       |
| Existing Iron Pin                   | ○ EIP       |
| Property Corner                     | -----*      |
| Property Monument                   | □ EOM       |
| Parcel/Sequence Number              | (123)       |
| Existing Fence Line                 | -x-x-x-     |
| Proposed Woven Wire Fence           | ○           |
| Proposed Chain Link Fence           | □           |
| Proposed Barbed Wire Fence          | ◇           |
| Existing Wetland Boundary           | --- WLB --- |
| Proposed Wetland Boundary           | WLB         |
| Existing Endangered Animal Boundary | --- EAB --- |
| Existing Endangered Plant Boundary  | --- EPB --- |

**BUILDINGS AND OTHER CULTURE:**

|                               |     |
|-------------------------------|-----|
| Gas Pump Vent or U/G Tank Cap | ○   |
| Sign                          | ○ S |
| Well                          | ○ W |
| Small Mine                    | ✕   |
| Foundation                    | ▭   |
| Area Outline                  | ▭   |
| Cemetery                      | ▭ † |
| Building                      | ▭   |
| School                        | ▭   |
| Church                        | ▭   |
| Dam                           | ▭   |

**HYDROLOGY:**

|                                    |              |
|------------------------------------|--------------|
| Stream or Body of Water            | ~~~~~        |
| Hydro, Pool or Reservoir           | ▭            |
| Jurisdictional Stream              | --- JS ---   |
| Buffer Zone 1                      | --- BZ 1 --- |
| Buffer Zone 2                      | --- BZ 2 --- |
| Flow Arrow                         | ←            |
| Disappearing Stream                | ➤            |
| Spring                             | ○            |
| Wetland                            | ⬇            |
| Proposed Lateral, Tail, Head Ditch | ▭            |
| False Sump                         | ▭            |

**RAILROADS:**

|                    |               |
|--------------------|---------------|
| Standard Gauge     | +++++         |
| RR Signal Milepost | ○ MILEPOST 35 |
| Switch             | SWITCH        |
| RR Abandoned       | -----         |
| RR Dismantled      | -----         |

**RIGHT OF WAY:**

|                                                            |       |
|------------------------------------------------------------|-------|
| Baseline Control Point                                     | ◆     |
| Existing Right of Way Marker                               | △     |
| Existing Right of Way Line                                 | ----- |
| Proposed Right of Way Line                                 | ----- |
| Proposed Right of Way Line with Iron Pin and Cap Marker    | ----- |
| Proposed Right of Way Line with Concrete or Granite Marker | ----- |
| Existing Control of Access                                 | ----- |
| Proposed Control of Access                                 | ----- |
| Existing Easement Line                                     | ----- |
| Proposed Temporary Construction Easement                   | ----- |
| Proposed Temporary Drainage Easement                       | ----- |
| Proposed Permanent Drainage Easement                       | ----- |
| Proposed Permanent Drainage / Utility Easement             | ----- |
| Proposed Permanent Utility Easement                        | ----- |
| Proposed Temporary Utility Easement                        | ----- |
| Proposed Aerial Utility Easement                           | ----- |
| Proposed Permanent Easement with Iron Pin and Cap Marker   | ----- |

**ROADS AND RELATED FEATURES:**

|                            |           |
|----------------------------|-----------|
| Existing Edge of Pavement  | -----     |
| Existing Curb              | -----     |
| Proposed Slope Stakes Cut  | --- C --- |
| Proposed Slope Stakes Fill | --- F --- |
| Proposed Wheel Chair Ramp  | WCR       |
| Existing Metal Guardrail   | -----     |
| Proposed Guardrail         | -----     |
| Existing Cable Guiderail   | -----     |
| Proposed Cable Guiderail   | -----     |
| Equality Symbol            | ⊙         |
| Pavement Removal           | ▭         |

**VEGETATION:**

|              |         |
|--------------|---------|
| Single Tree  | ✻       |
| Single Shrub | ✻       |
| Hedge        | ~~~~~   |
| Woods Line   | ~~~~~   |
| Orchard      | ✻ ✻ ✻ ✻ |
| Vineyard     | ▭       |

**EXISTING STRUCTURES:**

|                                          |         |
|------------------------------------------|---------|
| MAJOR:                                   |         |
| Bridge, Tunnel or Box Culvert            | CONC    |
| Bridge Wing Wall, Head Wall and End Wall | CONC WW |
| MINOR:                                   |         |
| Head and End Wall                        | CONC HW |
| Pipe Culvert                             | -----   |
| Footbridge                               | -----   |
| Drainage Box: Catch Basin, DI or JB      | CB      |
| Paved Ditch Gutter                       | -----   |
| Storm Sewer Manhole                      | ⊙       |
| Storm Sewer                              | S       |

**UTILITIES:**

|                                     |    |
|-------------------------------------|----|
| POWER:                              |    |
| Existing Power Pole                 | ●  |
| Proposed Power Pole                 | ○  |
| Existing Joint Use Pole             | ●  |
| Proposed Joint Use Pole             | ○  |
| Power Manhole                       | ⊙  |
| Power Line Tower                    | ⊠  |
| Power Transformer                   | ⊠  |
| U/G Power Cable Hand Hole           | ⊠  |
| H-Frame Pole                        | ●● |
| Recorded U/G Power Line             | P  |
| Designated U/G Power Line (S.U.E.*) | P  |

**TELEPHONE:**

|                                             |      |
|---------------------------------------------|------|
| Existing Telephone Pole                     | ●    |
| Proposed Telephone Pole                     | ○    |
| Telephone Manhole                           | ⊙    |
| Telephone Booth                             | 3    |
| Telephone Pedestal                          | T    |
| Telephone Cell Tower                        | ⬇    |
| U/G Telephone Cable Hand Hole               | ⊠    |
| Recorded U/G Telephone Cable                | T    |
| Designated U/G Telephone Cable (S.U.E.*)    | T    |
| Recorded U/G Telephone Conduit              | TC   |
| Designated U/G Telephone Conduit (S.U.E.*)  | TC   |
| Recorded U/G Fiber Optics Cable             | T FO |
| Designated U/G Fiber Optics Cable (S.U.E.*) | T FO |

**WATER:**

|                                     |           |
|-------------------------------------|-----------|
| Water Manhole                       | ⊙         |
| Water Meter                         | ○         |
| Water Valve                         | ⊗         |
| Water Hydrant                       | ⊙         |
| Recorded U/G Water Line             | W         |
| Designated U/G Water Line (S.U.E.*) | W         |
| Above Ground Water Line             | A/G Water |

**TV:**

|                                            |       |
|--------------------------------------------|-------|
| TV Satellite Dish                          | ✕     |
| TV Pedestal                                | ⊠     |
| TV Tower                                   | ⊗     |
| U/G TV Cable Hand Hole                     | ⊠     |
| Recorded U/G TV Cable                      | TV    |
| Designated U/G TV Cable (S.U.E.*)          | TV    |
| Recorded U/G Fiber Optic Cable             | TV FO |
| Designated U/G Fiber Optic Cable (S.U.E.*) | TV FO |

**GAS:**

|                                   |         |
|-----------------------------------|---------|
| Gas Valve                         | ◇       |
| Gas Meter                         | ⊙       |
| Recorded U/G Gas Line             | G       |
| Designated U/G Gas Line (S.U.E.*) | G       |
| Above Ground Gas Line             | A/G Gas |

**SANITARY SEWER:**

|                                          |                    |
|------------------------------------------|--------------------|
| Sanitary Sewer Manhole                   | ⊙                  |
| Sanitary Sewer Cleanout                  | ⊕                  |
| U/G Sanitary Sewer Line                  | SS                 |
| Above Ground Sanitary Sewer              | A/G Sanitary Sewer |
| Recorded SS Forced Main Line             | FSS                |
| Designated SS Forced Main Line (S.U.E.*) | FSS                |

**MISCELLANEOUS:**

|                                        |        |
|----------------------------------------|--------|
| Utility Pole                           | ●      |
| Utility Pole with Base                 | □      |
| Utility Located Object                 | ○      |
| Utility Traffic Signal Box             | ⊠      |
| Utility Unknown U/G Line               | 2UTL   |
| U/G Tank; Water, Gas, Oil              | ▭      |
| A/G Tank; Water, Gas, Oil              | ▭      |
| U/G Test Hole (S.U.E.*)                | ⊙      |
| Abandoned According to Utility Records | AATUR  |
| End of Information                     | E.O.I. |



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| PAVEMENT SCHEDULE |                                                                                                                                                                                                       |     |                                                                                                                                                                                            |                                                            |                                                                                                  |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| C1                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E1  | PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                      | J2                                                         | PROPOSED 8" AGGREGATE BASE COURSE                                                                |
| C2                | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD. IN EACH OF TWO LAYERS.                                                                         | E2  | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                      | J3                                                         | PROPOSED 9" AGGREGATE BASE COURSE                                                                |
| C3                | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E3  | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.                                                                                      | J4                                                         | PROPOSED 10" AGGREGATE BASE COURSE                                                               |
| C4                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E4  | PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | J5                                                         | PROPOSED VARIABLE DEPTH AGGREGATE BASE COURSE                                                    |
| 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" OR GREATER THAN 5.5" IN DEPTH. | K1                                                         | BASE TO BE TREATED WITH LIME TO A DEPTH OF 8" OR BASE TO BE TREATED WITH CEMENT TO A DEPTH OF 7" |
| 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 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E6  | PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                      | P                                                          | PRIME COAT AT THE RATE OF 0.35 GAL PER SQ YD                                                     |
| C7                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E7  | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                      | R1                                                         | 2'-6" CONCRETE CURB & GUTTER                                                                     |
| C8                | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                        | E8  | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.                                                                                      | R2                                                         | 1'-6" CONCRETE CURB & GUTTER                                                                     |
| C9                | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E9  | PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.                                                                                    | R3                                                         | SHOULDER BERM GUTTER                                                                             |
| C10               | PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS.PER SQ. YD.                                                                                          | E10 | PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | R4                                                         | CONCRETE EXPRESSWAY GUTTER                                                                       |
| D1                | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.                                                                                       | E11 | PROP. APPROX. 6.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 370.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                           | R5                                                         | 5" MONOLITHIC CONCRETE ISLAND (KEYED IN)                                                         |
| D2                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E12 | PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | R6                                                         | SINGLE FACED CONCRETE BARRIER                                                                    |
| D3                | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | E13 | PROP. APPROX. 9" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | R7                                                         | DOUBLE FACED CONCRETE BARRIER (TYPE T, T1, T2)                                                   |
| D4                | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.    | E14 | PROP. APPROX. 10.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 598.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                          | R8                                                         | RUMBLE STRIPS                                                                                    |
| D5                | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | E15 | PROP. APPROX. 11" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                              | S                                                          | 4" CONCRETE SIDEWALK                                                                             |
| D6                | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.                                                                                       | E16 | PROP. APPROX. 3.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 199 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                             | T                                                          | EARTH MATERIAL                                                                                   |
| D7                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E17 | PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                             | U                                                          | EXISTING PAVEMENT                                                                                |
| D8                | 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 2.5" OR GREATER THAN 4" IN DEPTH.    | E18 | PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH. | V                                                          | SPLIT SEAL                                                                                       |
| D9                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0D, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E19 | PROP. APPROX. 12.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 712.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                          | W                                                          | WEDGING                                                                                          |
| D10               | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0D, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | G1  | 8" CEMENT TREATED AGGREGATE BASE COURSE                                                                                                                                                    | Z                                                          | NON WOVEN FIBERGLASS/POLYESTER INTERLAYER PAVING MAT                                             |
| D11               | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.    | J1  | PROPOSED 6" AGGREGATE BASE COURSE                                                                                                                                                          | NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE. |                                                                                                  |

|                                                                                                                             |                             |
|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| PROJECT REFERENCE NO.<br>R-3329 / R-2559                                                                                    | SHEET NO.<br>2A-2           |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | PAVEMENT DESIGN<br>ENGINEER |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                             |

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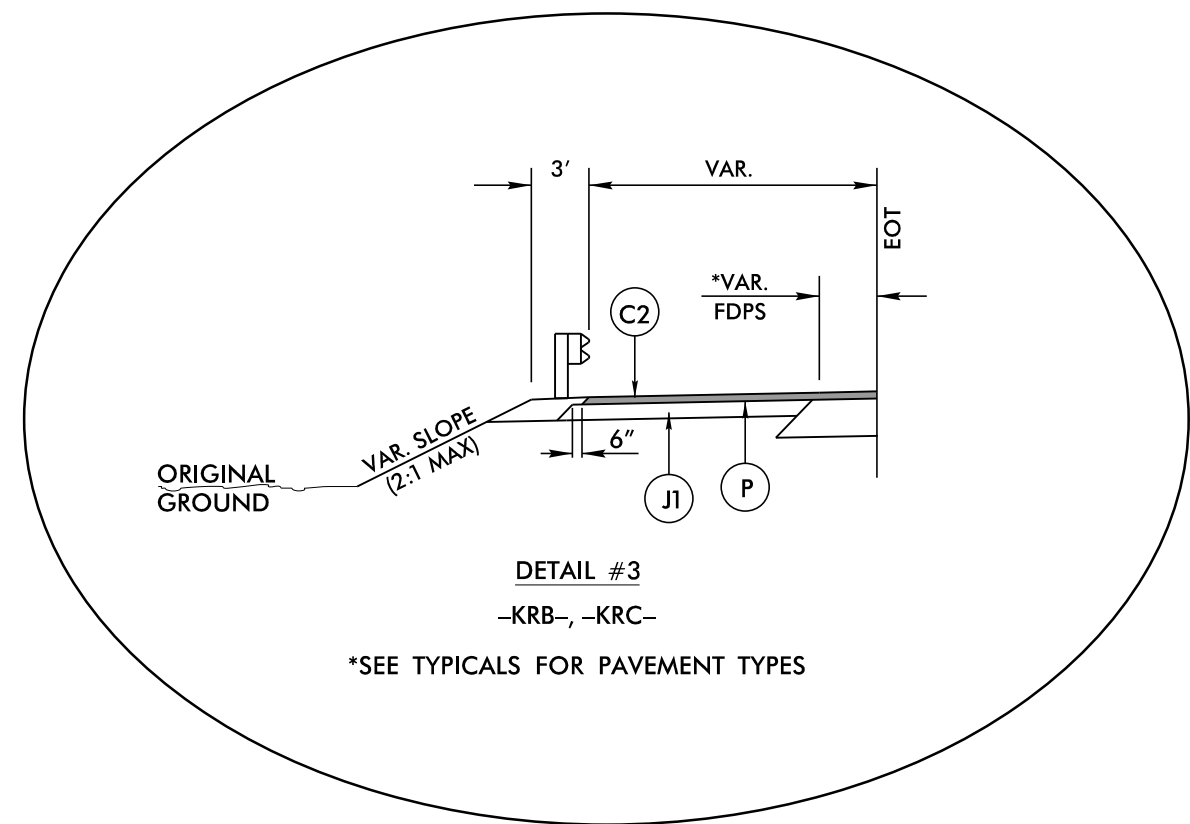
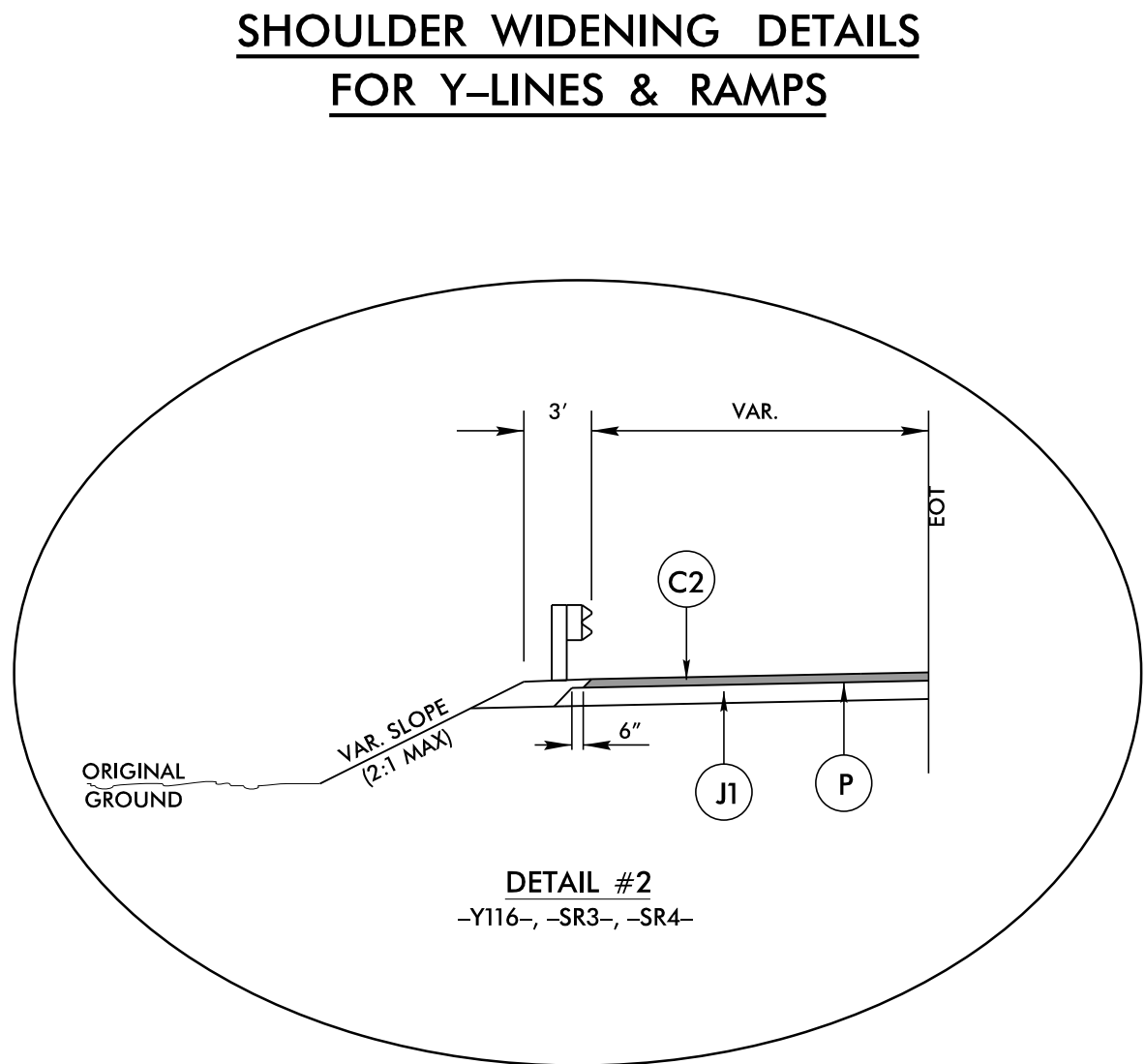
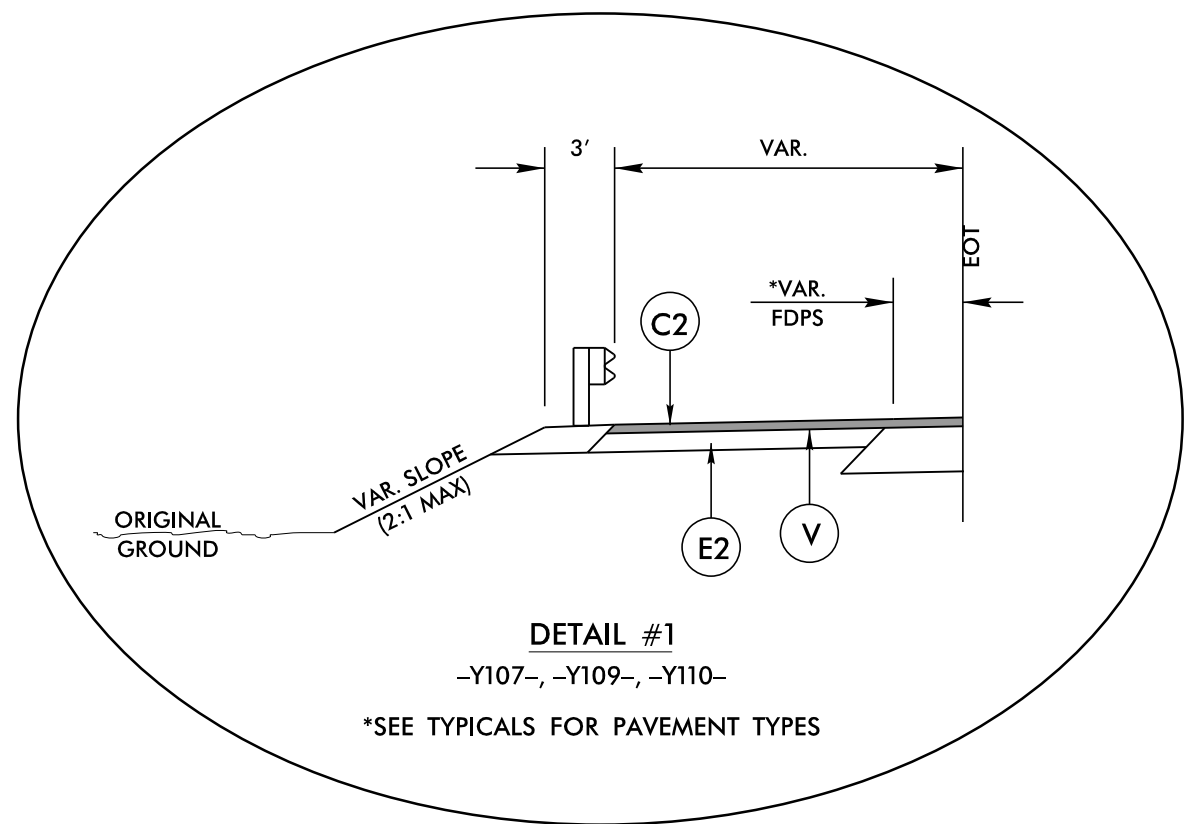
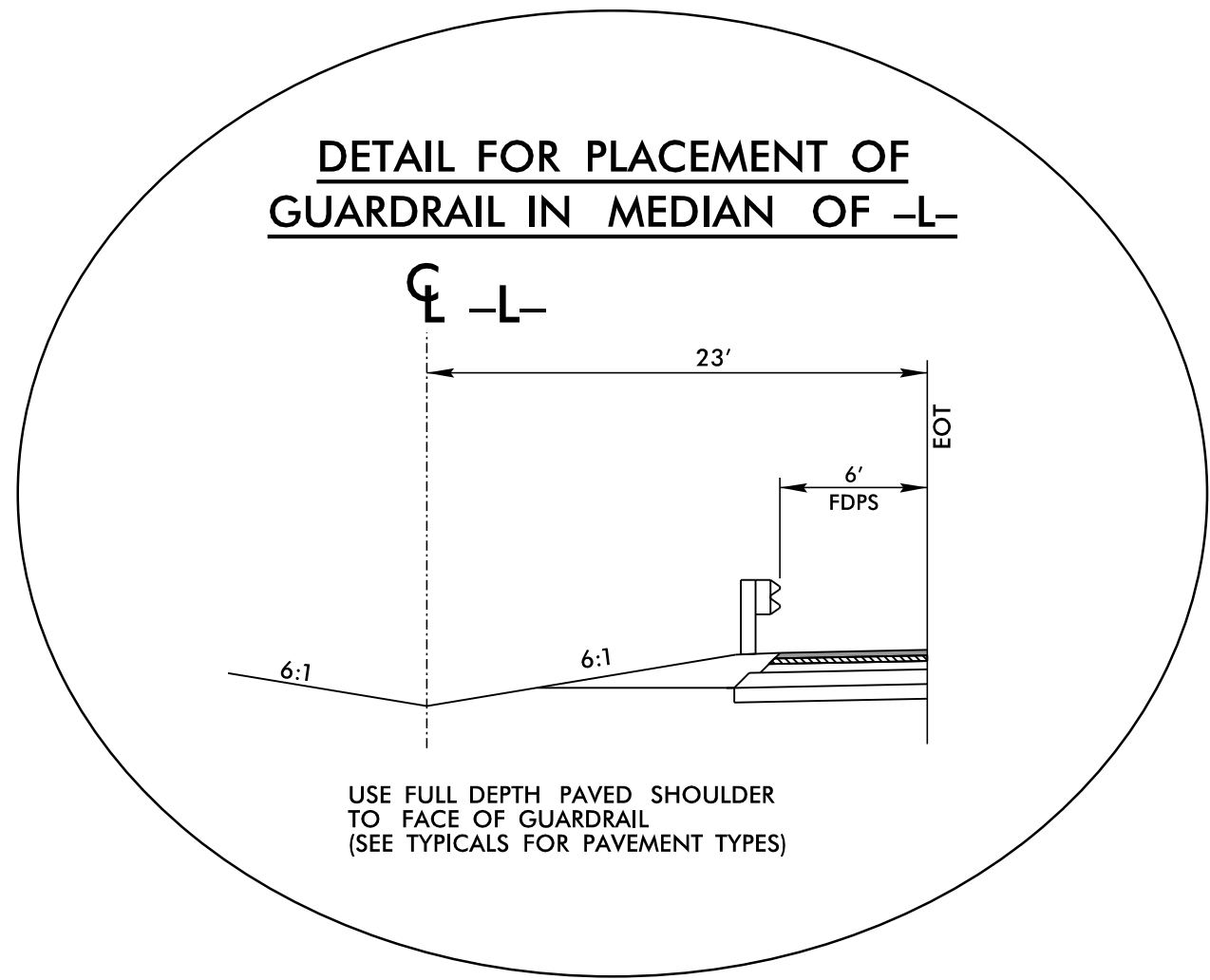
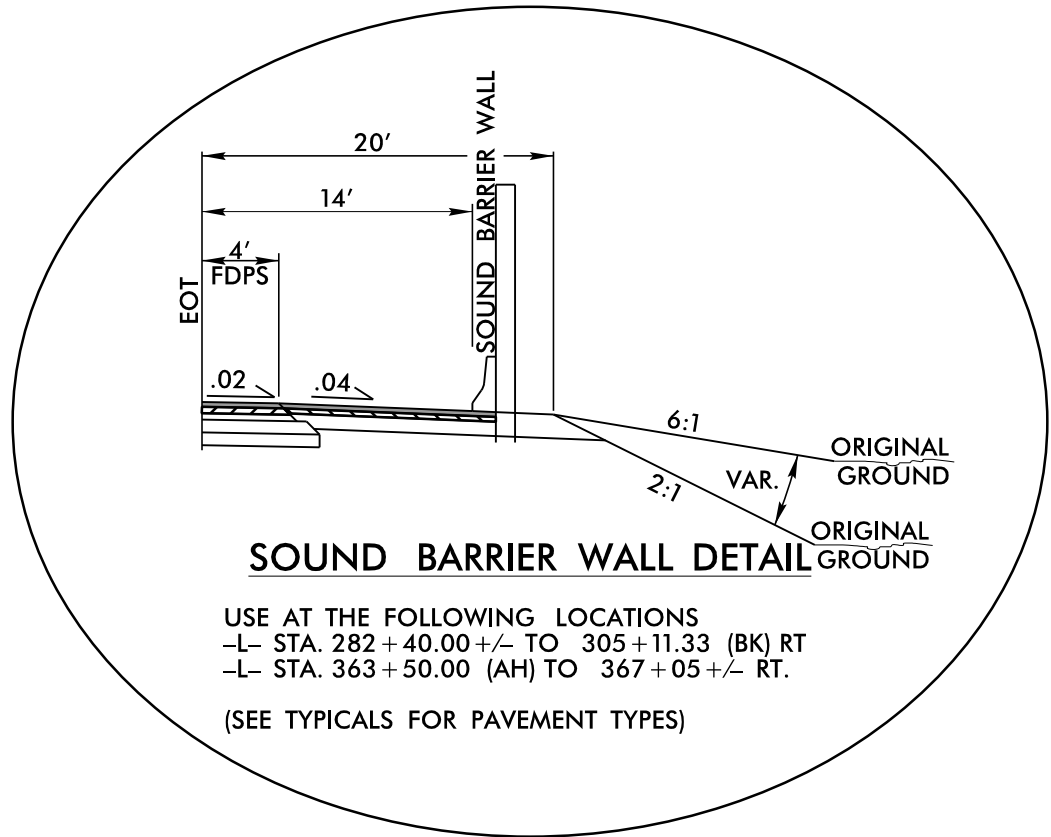
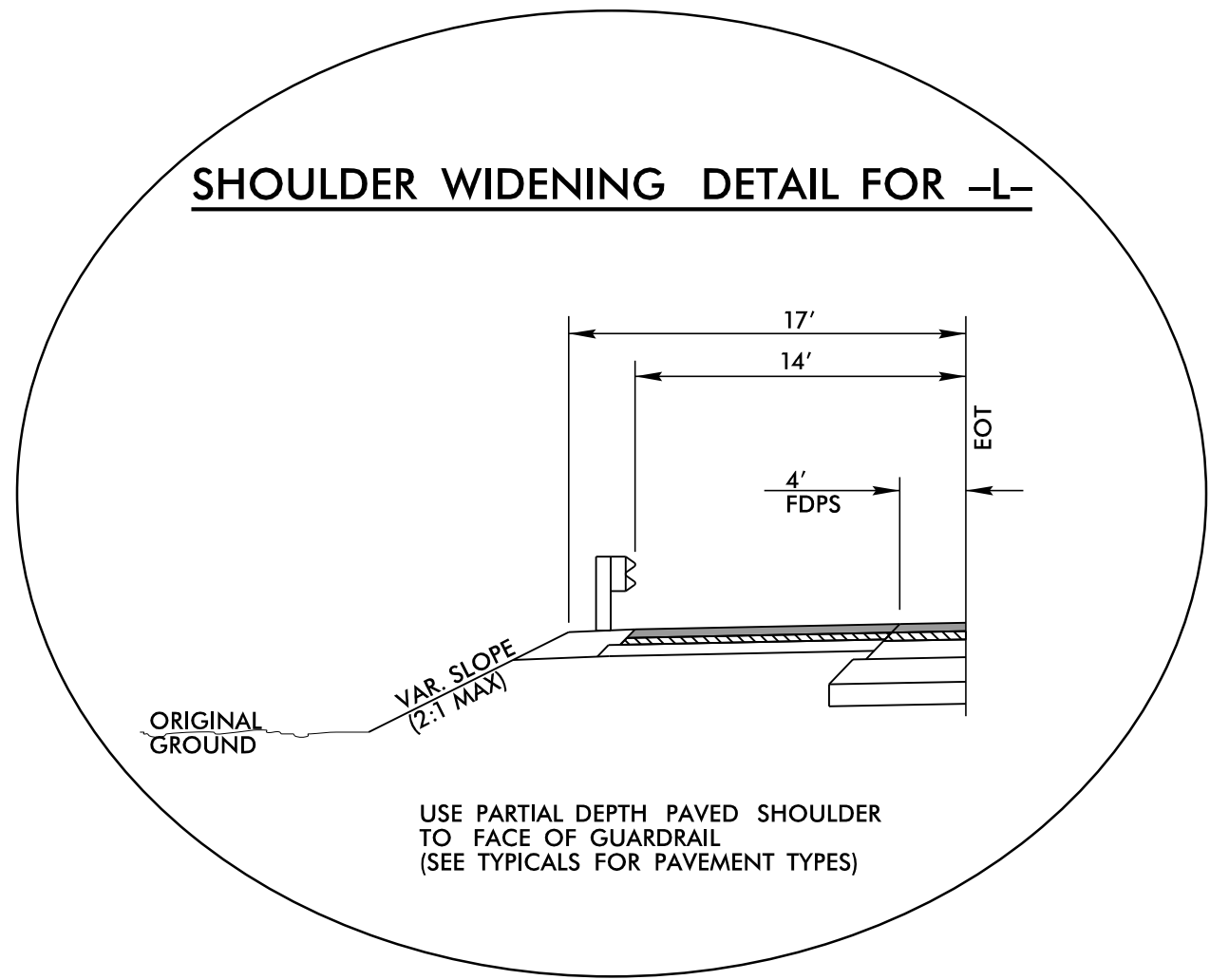
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Elevs

| PAVEMENT SCHEDULE |                 |                                |
|-------------------|-----------------|--------------------------------|
| C2                | 3"              | S9.5B                          |
| C5                | 3"              | S9.5C                          |
| D1                | 2.5"            | I19.0B                         |
| D2                | 3"              | I19.0B                         |
| D3                | 4"              | I19.0B                         |
| D6                | 2.5"            | I19.0C                         |
| D7                | 3"              | I19.0C                         |
| E1                | 3"              | B25.0B                         |
| E2                | 4"              | B25.0B                         |
| E6                | 3"              | B25.0C                         |
| G1                | 8"              | CTABC                          |
| J1                | 6"              | ABC                            |
| J2                | 8"              | ABC                            |
| J3                | 9"              | ABC                            |
| J5                | VAR.            | ABC                            |
| K1                | 8"              | LIME BASE OR<br>7" CEMENT BASE |
| P                 | PRIME COAT      |                                |
| R1                | 2'-6"           | C&G                            |
| R2                | 1'-6"           | C&G                            |
| R5                | 5"              | MCI                            |
| R8                | RUMBLE STRIPS   |                                |
| S                 | 4"              | SIDEWALK                       |
| T                 | EARTH MATERIAL  |                                |
| U                 | EXIST. PAVEMENT |                                |
| V                 | SPLIT SEAL      |                                |



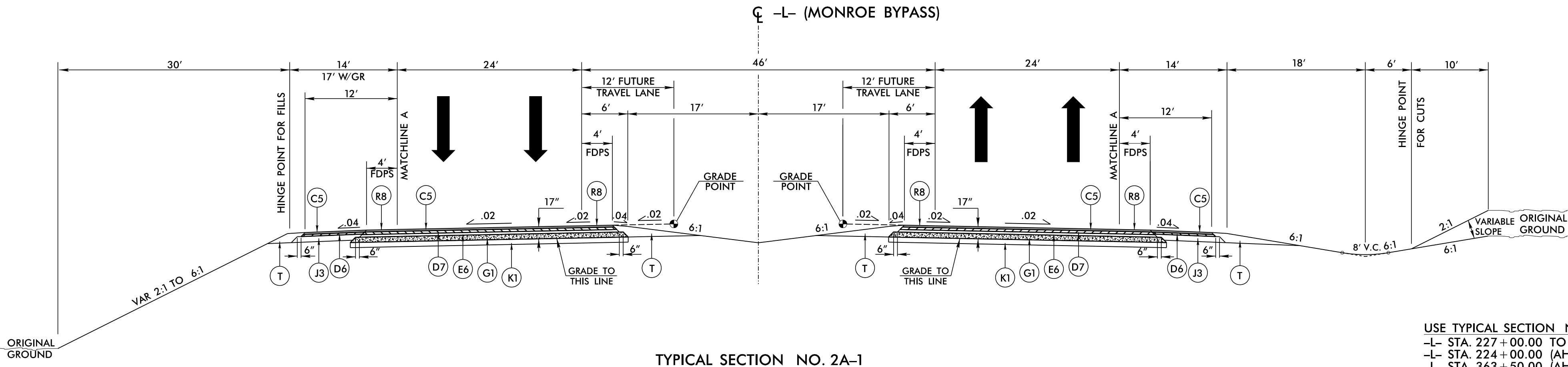
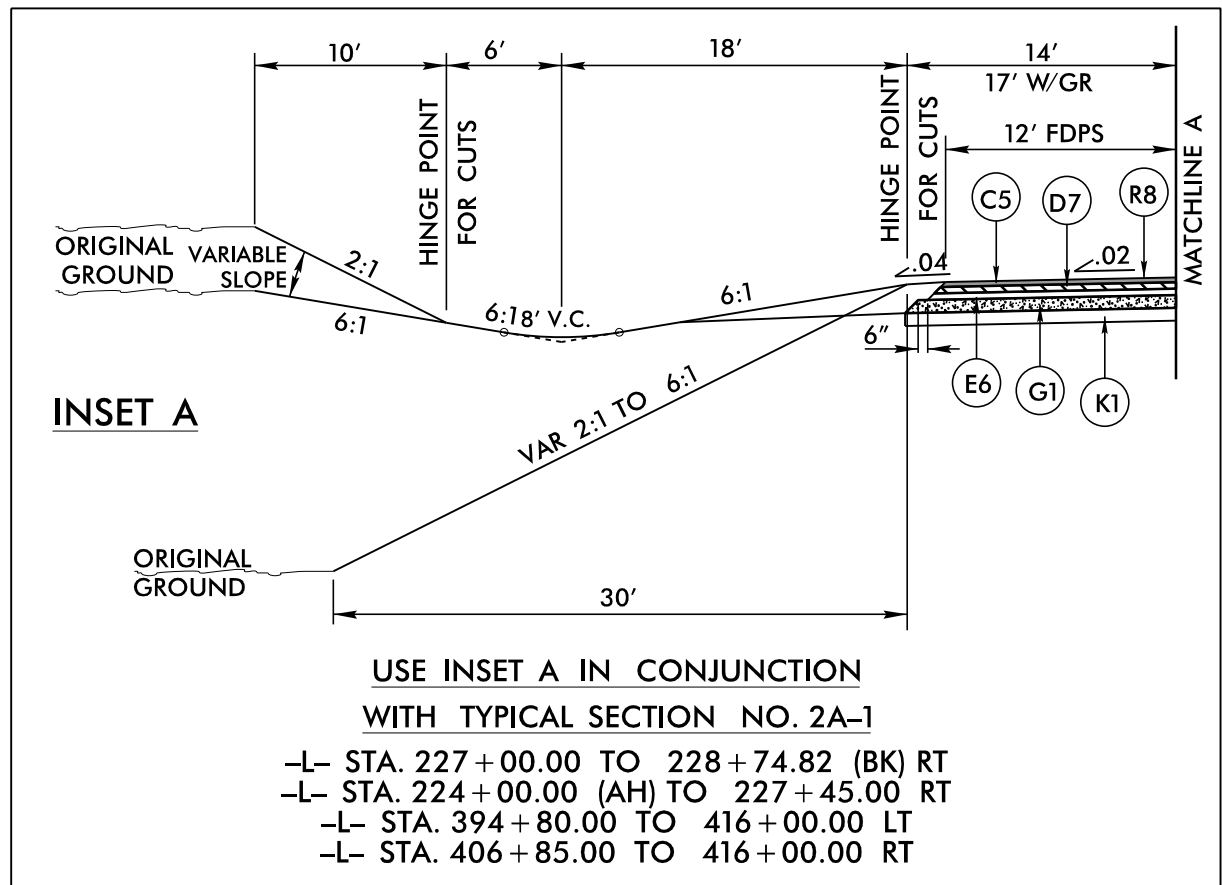
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| PROJECT REFERENCE NO.                                          |                             | SHEET NO. |
| R-3329 / R-2559                                                |                             | 2A-2A     |
| ROADWAY DESIGN<br>ENGINEER                                     | PAVEMENT DESIGN<br>ENGINEER |           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> |                             |           |
| <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div>   |                             |           |

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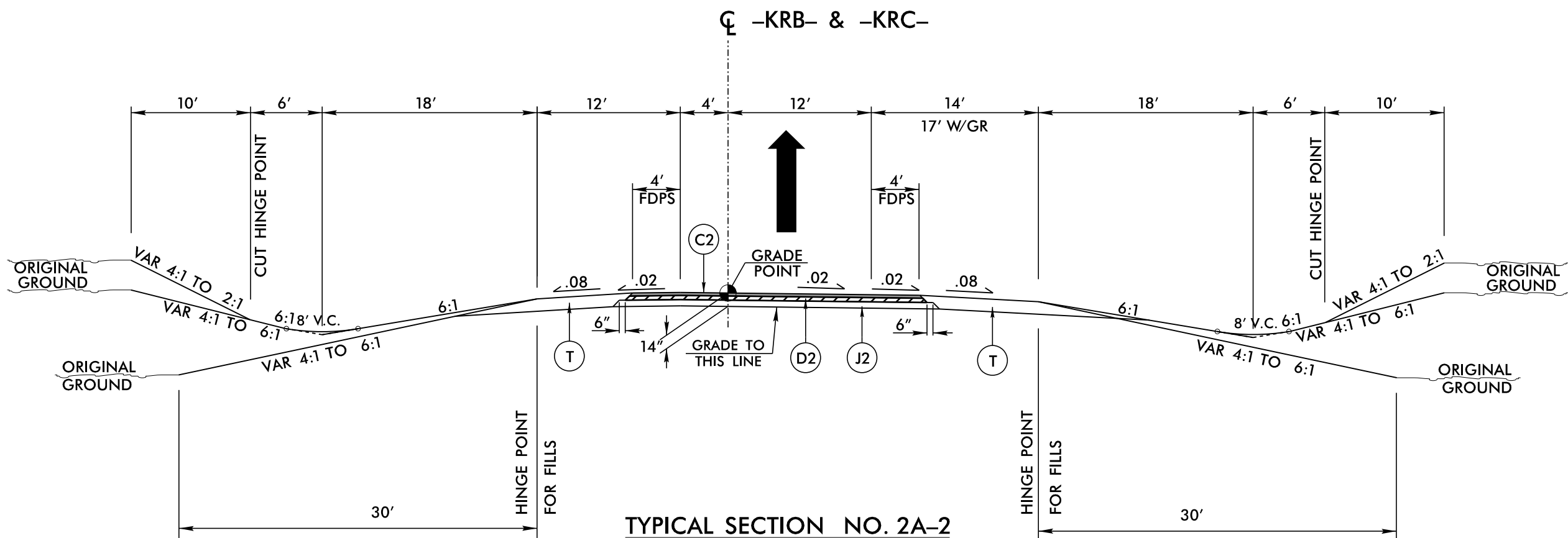


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Elevs

| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D2                | 3" I19.0B                         |
| D3                | 4" I19.0B                         |
| D6                | 2.5" I19.0C                       |
| D7                | 3" I19.0C                         |
| E1                | 3" B25.0B                         |
| E2                | 4" B25.0B                         |
| E6                | 3" B25.0C                         |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| J3                | 9" ABC                            |
| J5                | VAR. ABC                          |
| K1                | 8" LIME BASE OR<br>7" CEMENT BASE |
| P                 | PRIME COAT                        |
| R1                | 2'-6"C&G                          |
| R2                | 1'-6"C&G                          |
| R5                | 5" MCI                            |
| R8                | RUMBLE STRIPS                     |
| S                 | 4" SIDEWALK                       |
| T                 | EARTH MATERIAL                    |
| U                 | EXIST. PAVEMENT                   |
| V                 | SPLIT SEAL                        |

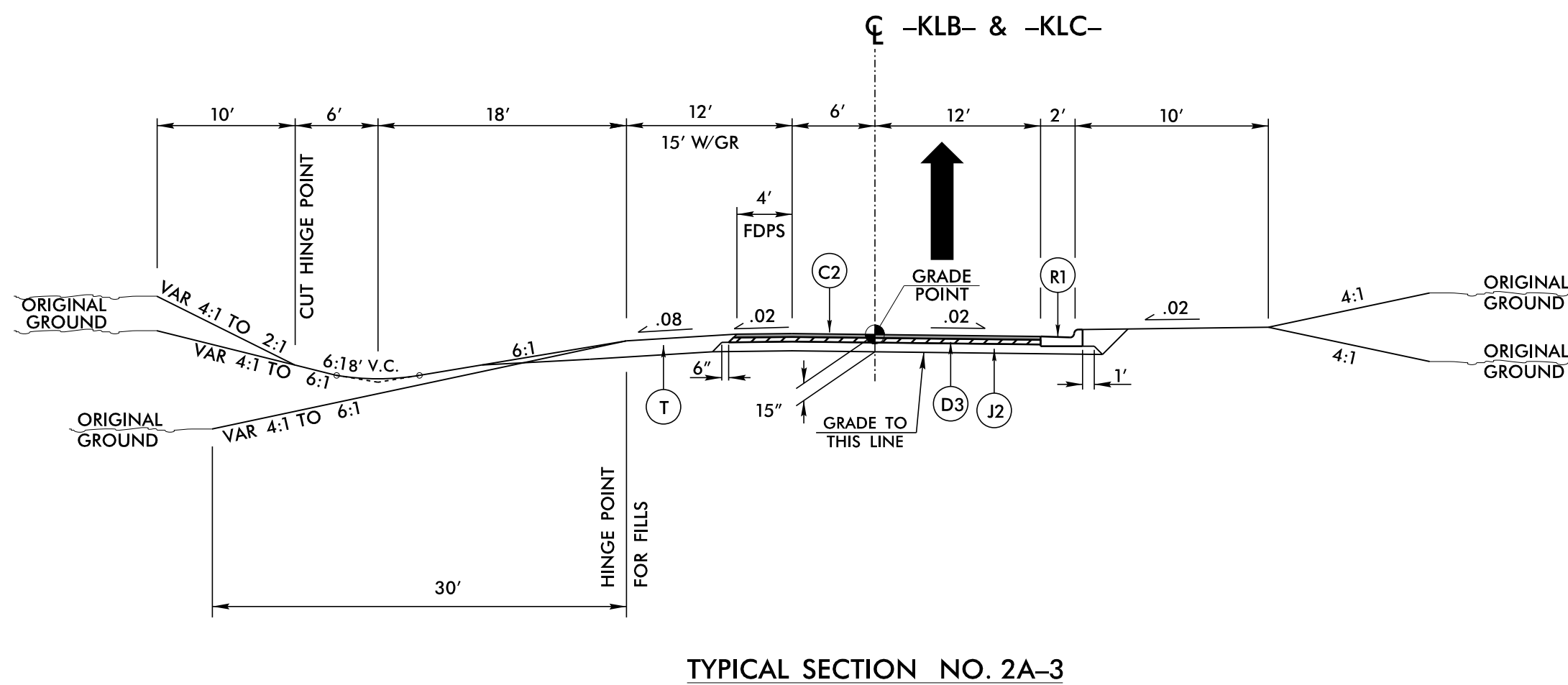


USE TYPICAL SECTION NO. 2A-1  
-L- STA. 227+00.00 TO 228+74.82 (BK)  
-L- STA. 224+00.00 (AH) TO 305+11.33 (BK)  
-L- STA. 363+50.00 (AH) TO 370+56.05 +/- (BEGIN BRIDGE)  
-L- STA. 372+14.88 +/- (END BRIDGE) TO 384+53.66 +/- (BEGIN BRIDGE)  
-L- STA. 385+69.66 +/- (END BRIDGE) TO 416+00.00



USE TYPICAL SECTION NO. 2A-2  
-KRB- STA 10+00.00 TO 31+70.49  
-KRC- STA 10+00.00 TO 26+41.86

NOTE: USE -L- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:  
-KRB- STA 10+00.00 TO 15+00.16  
-KRC- STA 10+00.00 TO 15+26.81



USE TYPICAL SECTION NO. 2A-3  
-KLB- STA 10+00.00 TO 28+14.20  
-KLC- STA 10+00.00 TO 18+90.67

NOTE: USE -L- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:  
-KLB- STA 10+00.00 TO 16+90.63  
-KLC- STA 10+00.00 TO 12+04.55

| PROJECT REFERENCE NO.                                     | SHEET NO.                |
|-----------------------------------------------------------|--------------------------|
| R-3329 / R-2559                                           | 2A-2B                    |
| ROADWAY DESIGN ENGINEER                                   | PAVEMENT DESIGN ENGINEER |
| <b>INCOMPLETE PLANS</b><br>DO NOT USE FOR R/W ACQUISITION |                          |
| <b>PRELIMINARY PLANS</b><br>DO NOT USE FOR CONSTRUCTION   |                          |

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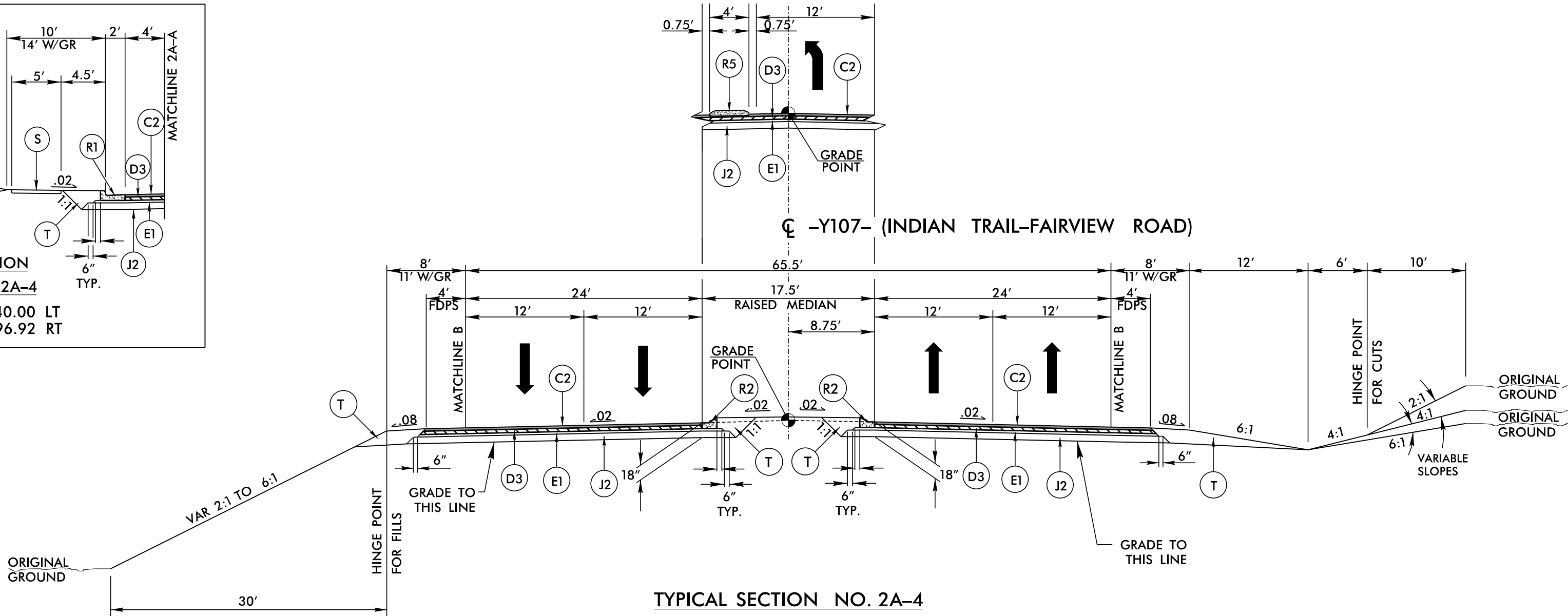
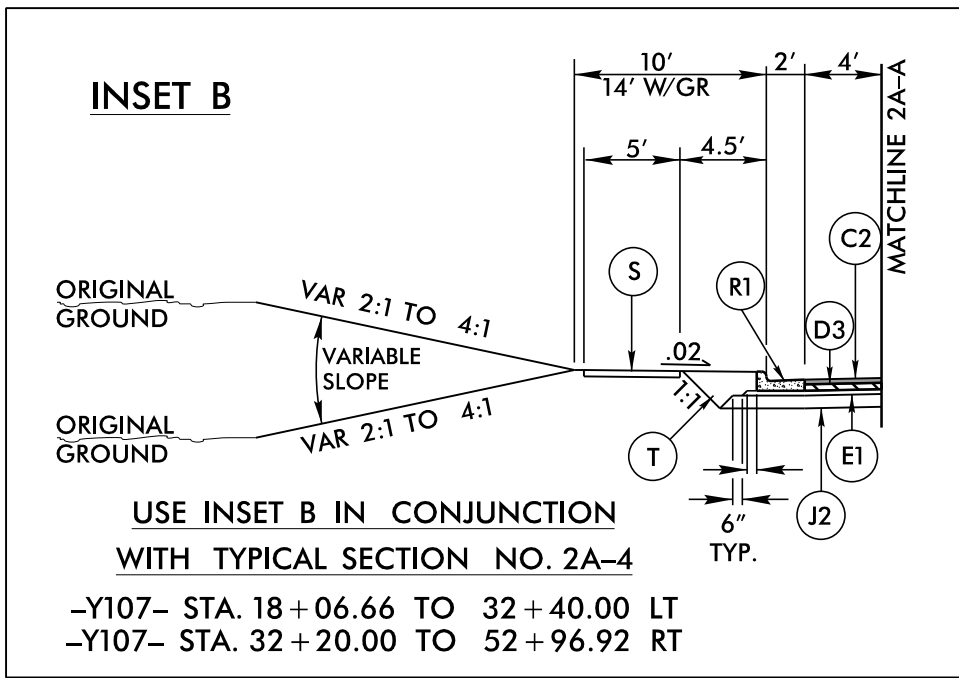
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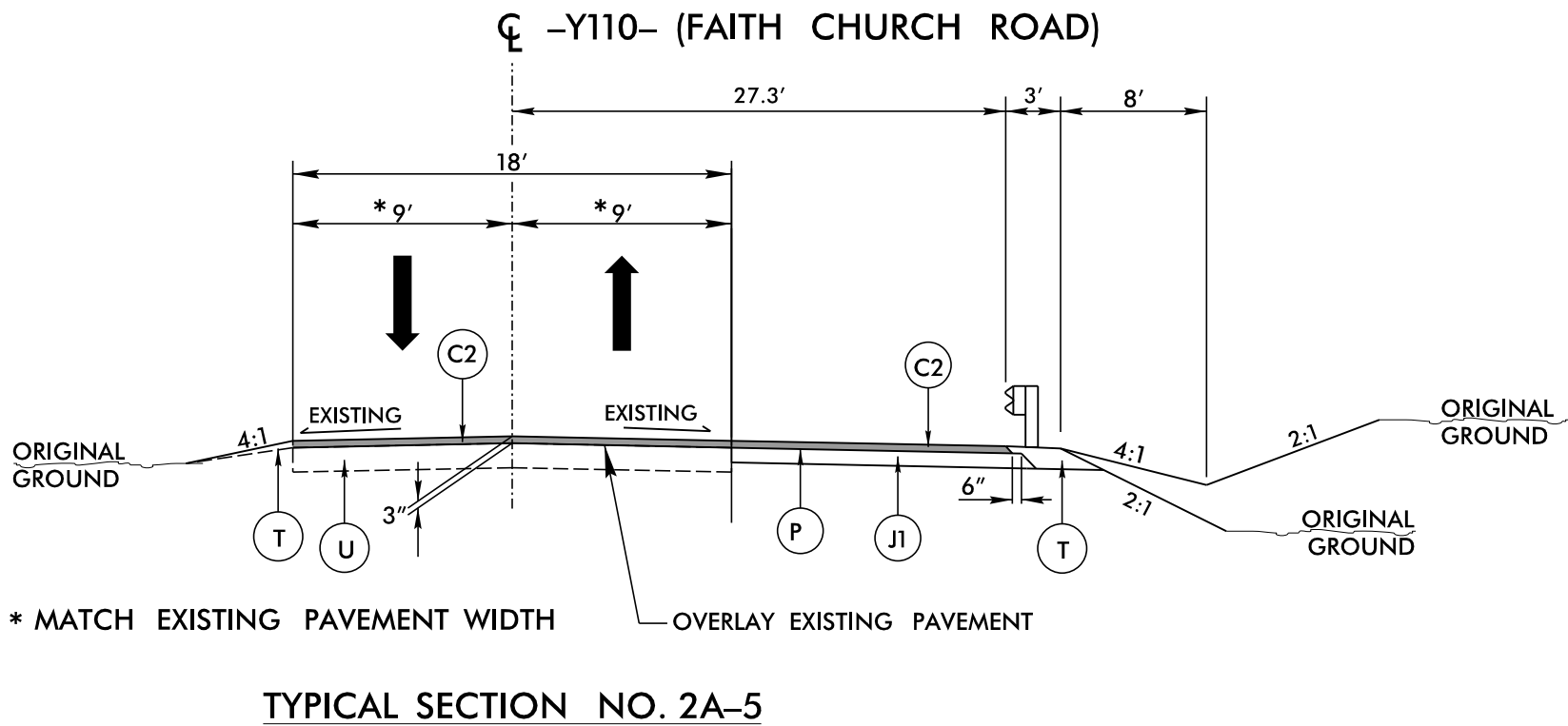
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Elevs

| PAVEMENT SCHEDULE |                 |                                |
|-------------------|-----------------|--------------------------------|
| C2                | 3"              | S9.5B                          |
| C5                | 3"              | S9.5C                          |
| D1                | 2.5"            | I19.0B                         |
| D2                | 3"              | I19.0B                         |
| D3                | 4"              | I19.0B                         |
| D6                | 2.5"            | I19.0C                         |
| D7                | 3"              | I19.0C                         |
| E1                | 3"              | B25.0B                         |
| E2                | 4"              | B25.0B                         |
| E6                | 3"              | B25.0C                         |
| G1                | 8"              | CTABC                          |
| J1                | 6"              | ABC                            |
| J2                | 8"              | ABC                            |
| J3                | 9"              | ABC                            |
| J5                | VAR.            | ABC                            |
| K1                | 8"              | LIME BASE OR<br>7" CEMENT BASE |
| P                 | PRIME COAT      |                                |
| R1                | 2'-6"           | C&G                            |
| R2                | 1'-6"           | C&G                            |
| R5                | 5"              | MCI                            |
| R8                | RUMBLE STRIPS   |                                |
| S                 | 4"              | SIDEWALK                       |
| T                 | EARTH MATERIAL  |                                |
| U                 | EXIST. PAVEMENT |                                |
| V                 | SPLIT SEAL      |                                |

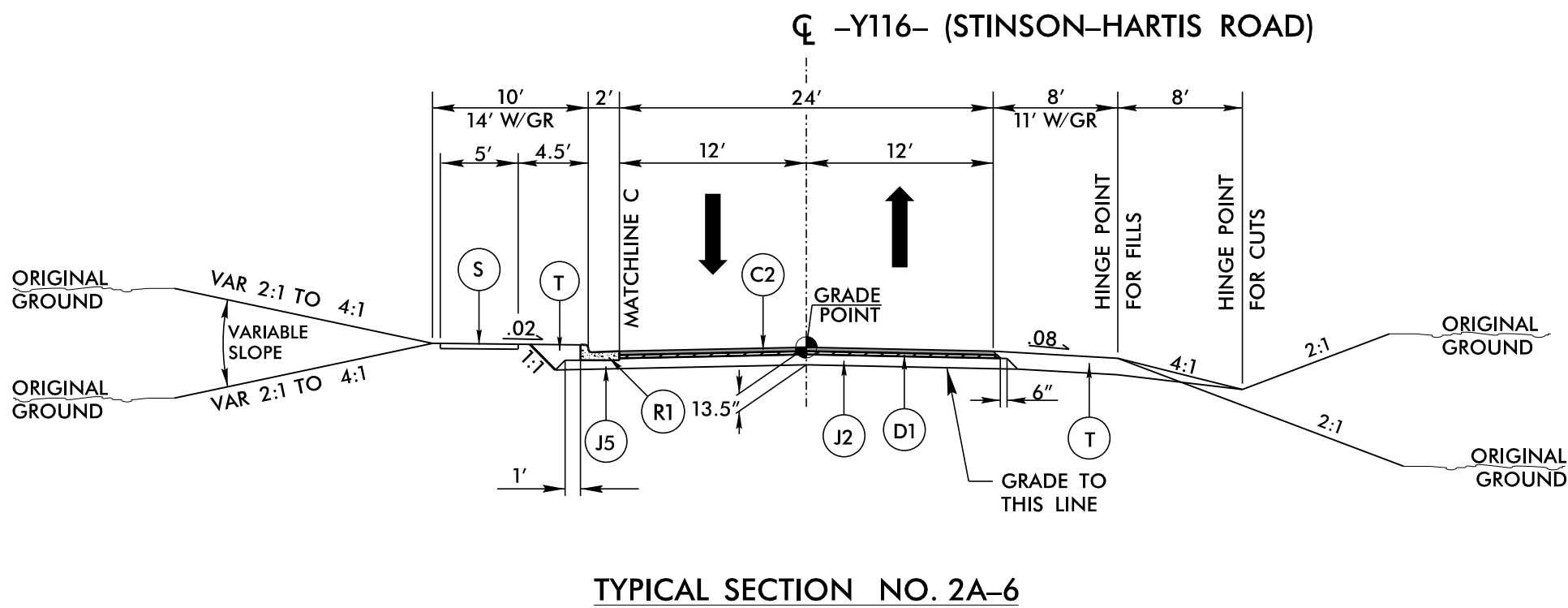
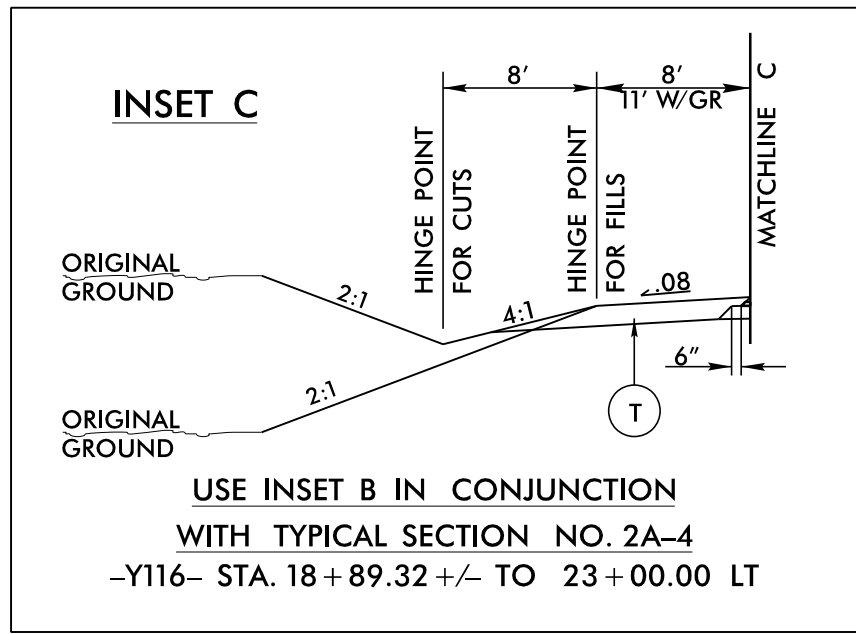


USE TYPICAL SECTION NO. 2A-4  
-Y107- STA. 15+70.67 TO 39+49.92 +/- (BEGIN BRIDGE)  
-Y107- STA. 41+24.92 +/- (END BRIDGE) TO 62+50.00

NOTE: TRNASITION FROM EXISTING TO TYPICAL SECTION NO. 2A-4 AT THE FOLLOWING LOCATIONS:  
-Y107- STA. 15+90.00 TO 16+40.00  
-Y107- STA. 62+50.00 TO 63+00.00



USE TYPICAL SECTION NO. 2A-5  
-Y110- STA. 12+40.00 TO 18+00.00



USE TYPICAL SECTION NO. 2A-6  
-Y116- STA. 11+50.00 TO 17+00.13 +/- (BEGIN BRIDGE)  
-Y116- STA. 18+80.16 +/- (END BRIDGE) TO 23+00.00

NOTE: TRNASITION FROM EXISTING TO TYPICAL SECTION NO. 2A-6 AT THE FOLLOWING LOCATIONS:  
-Y116- STA. 11+00.00 TO 11+50.00  
-Y116- STA. 23+00.00 TO 23+50.00

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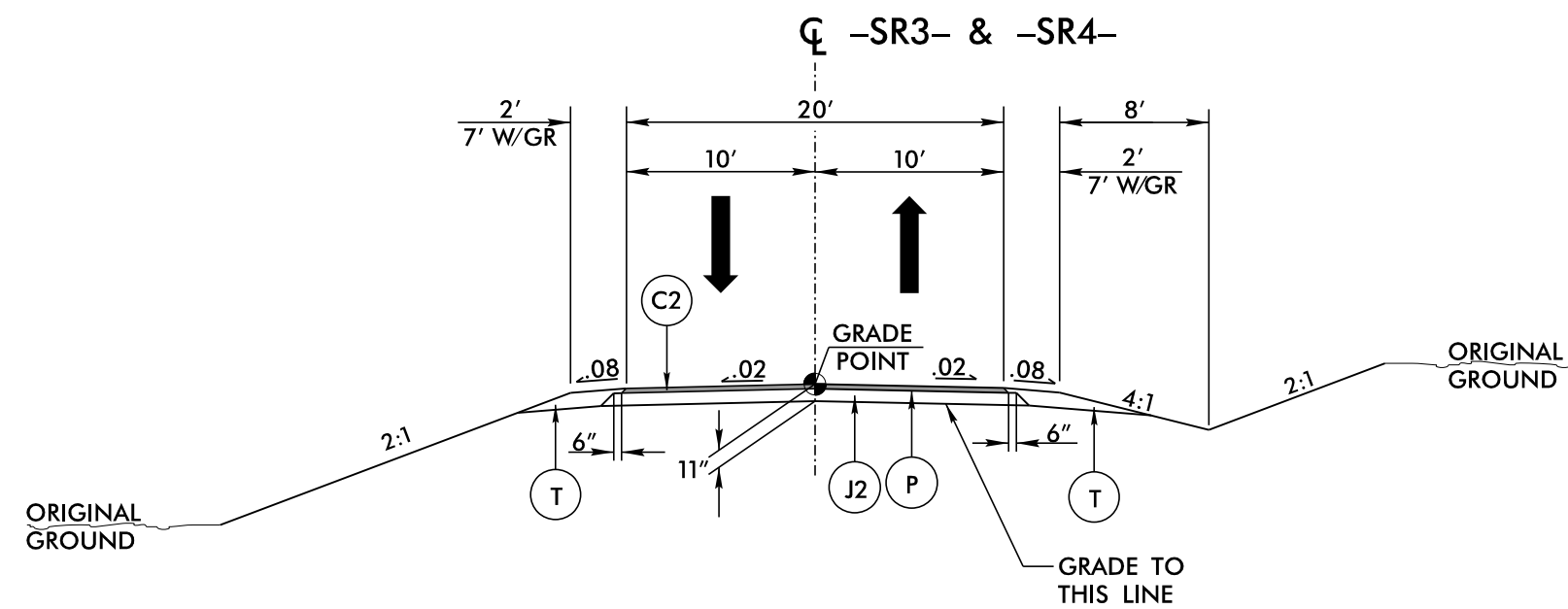
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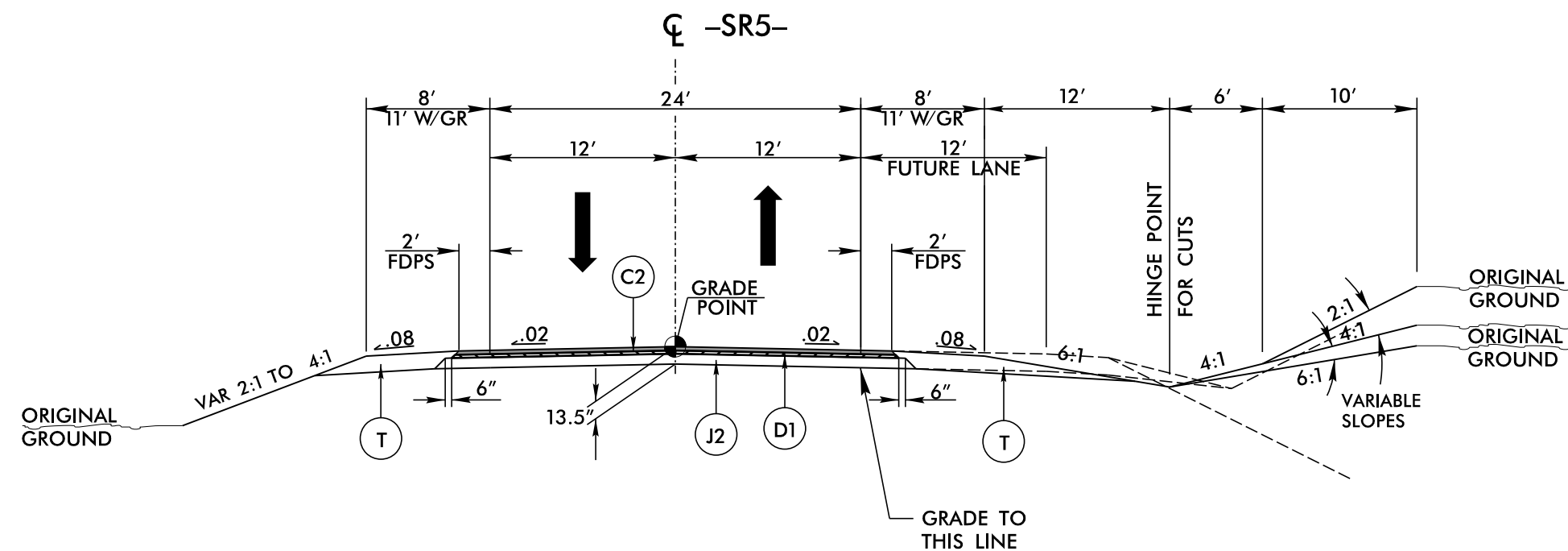
| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D2                | 3" I19.0B                         |
| D3                | 4" I19.0B                         |
| D6                | 2.5" I19.0C                       |
| D7                | 3" I19.0C                         |
| E1                | 3" B25.0B                         |
| E2                | 4" B25.0B                         |
| E6                | 3" B25.0C                         |
| G1                | 8" CTAB                           |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| J3                | 9" ABC                            |
| J5                | VAR. ABC                          |
| K1                | 8" LIME BASE OR<br>7" CEMENT BASE |
| P                 | PRIME COAT                        |
| R1                | 2'-6"C&G                          |
| R2                | 1'-6"C&G                          |
| R5                | 5" MCI                            |
| R8                | RUMBLE STRIPS                     |
| S                 | 4" SIDEWALK                       |
| T                 | EARTH MATERIAL                    |
| U                 | EXIST. PAVEMENT                   |
| V                 | SPLIT SEAL                        |



TYPICAL SECTION NO. 2A-7

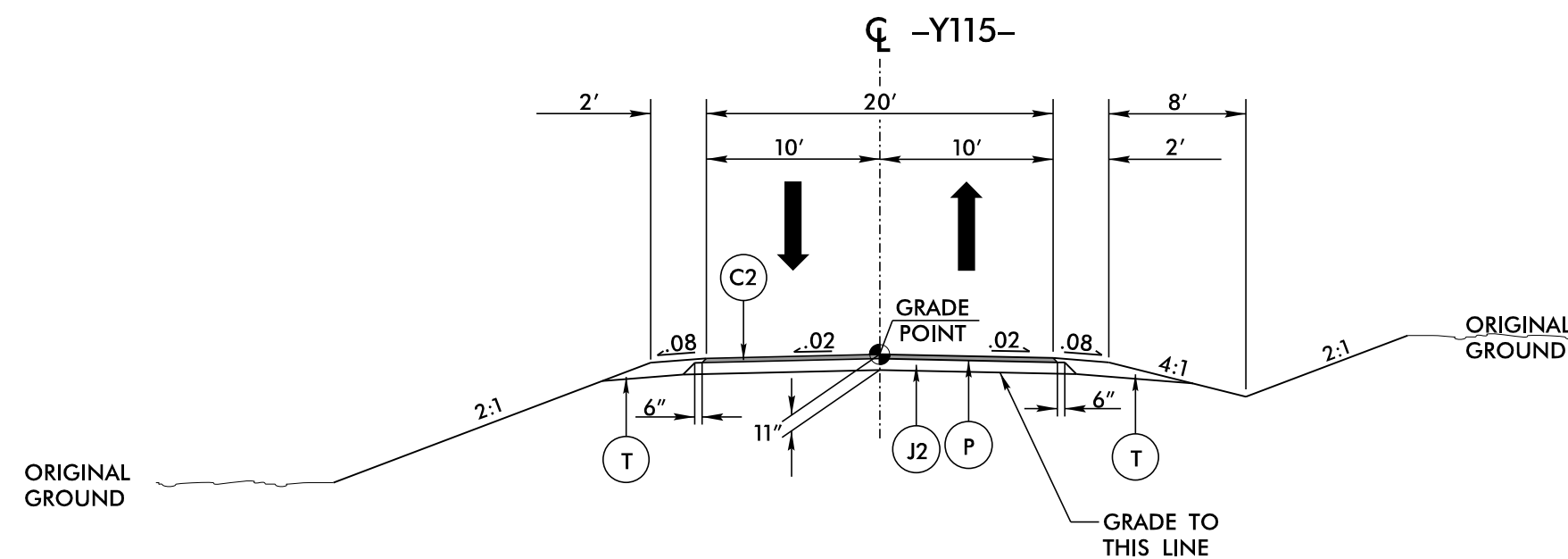
USE TYPICAL SECTION NO. 2A-7  
-SR3- STA. 16+11.59 TO 28+00.56  
-SR4- STA. 10+25.00 TO 14+27+76

NOTE: TRNASITION FROM EXISTING TO TYPICAL  
SECTION NO. 2A-8 AT THE FOLLOWING LOCATIONS:  
-SR4- STA. 10+00.00 TO 10+25.00



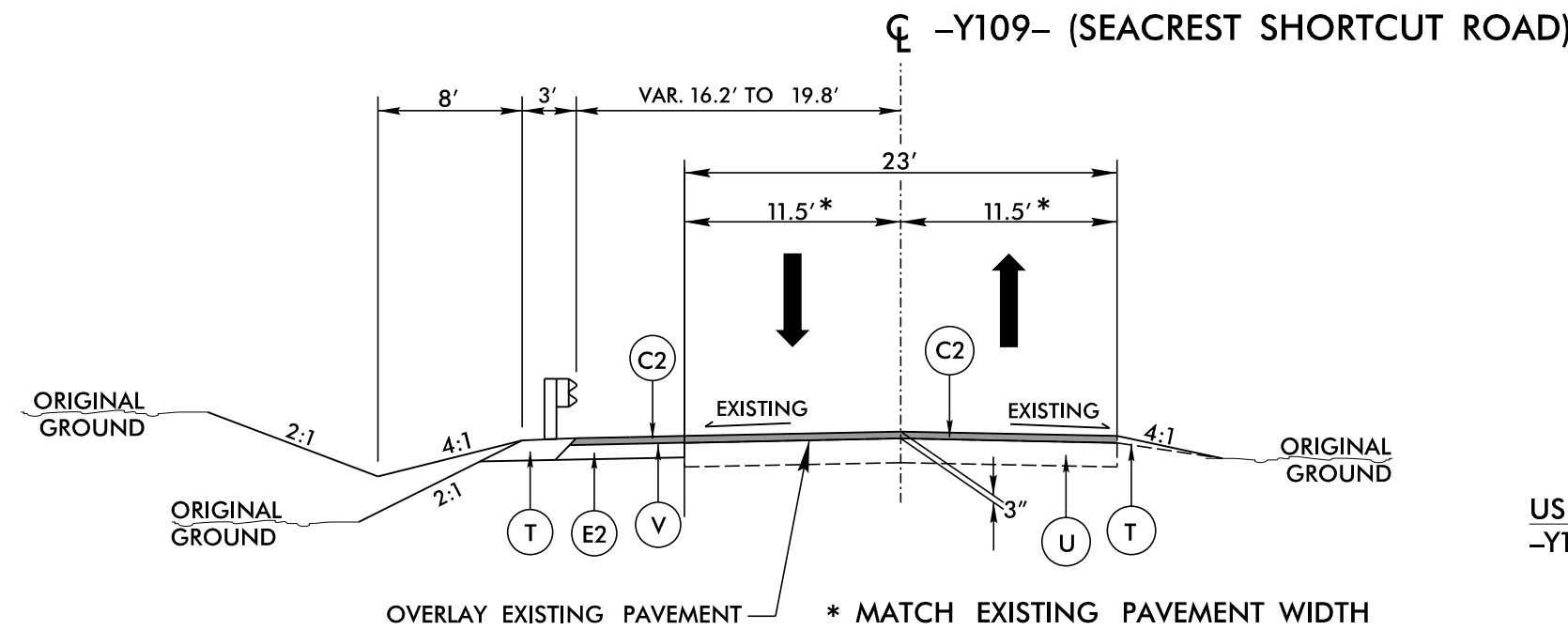
TYPICAL SECTION NO. 2A-8

USE TYPICAL SECTION NO. 2A-8  
-SR5- STA. 10+19.75 TO 41+00.00



TYPICAL SECTION NO. 2A-16

USE TYPICAL SECTION NO. 2A-16  
-Y115- STA. 10+00.00 TO 18+45.48



TYPICAL SECTION NO. 2A-9

USE TYPICAL SECTION NO. 2A-9  
-Y109- STA. 15+85.00 TO 21+35.00

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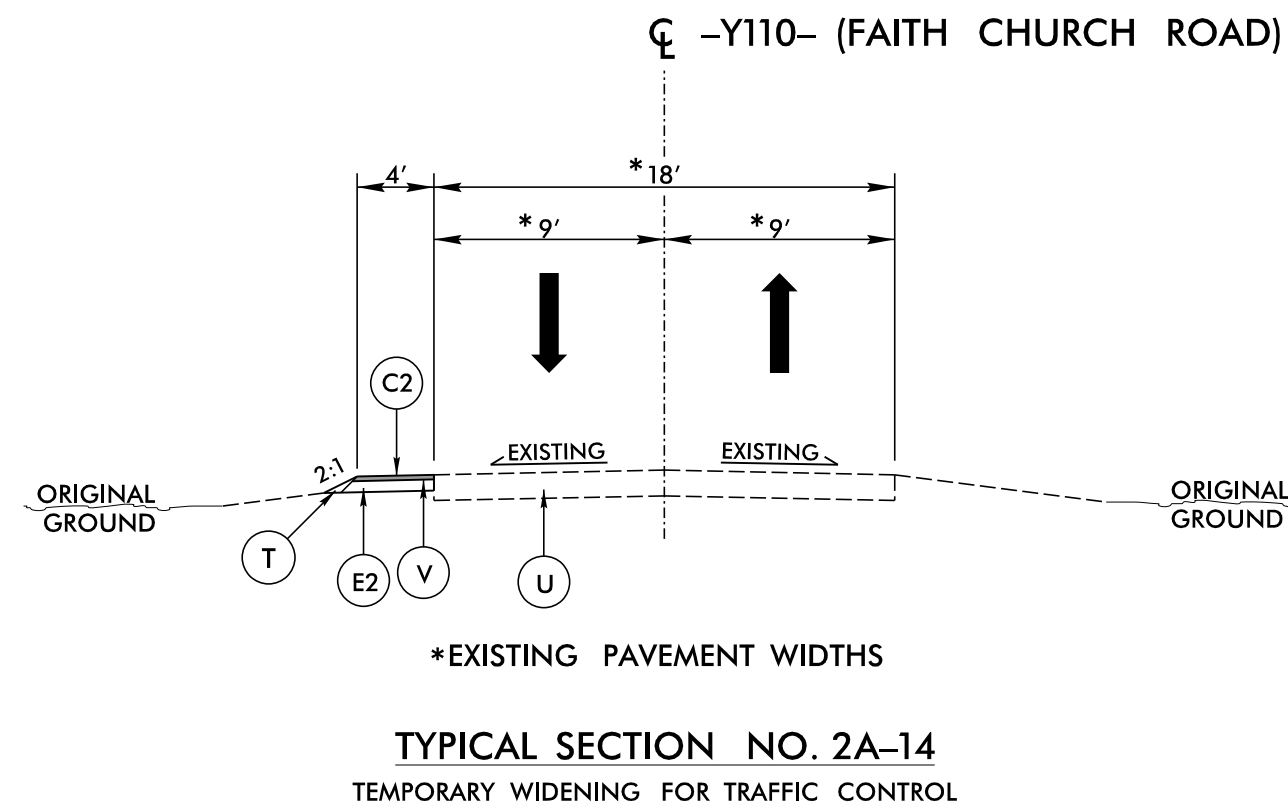
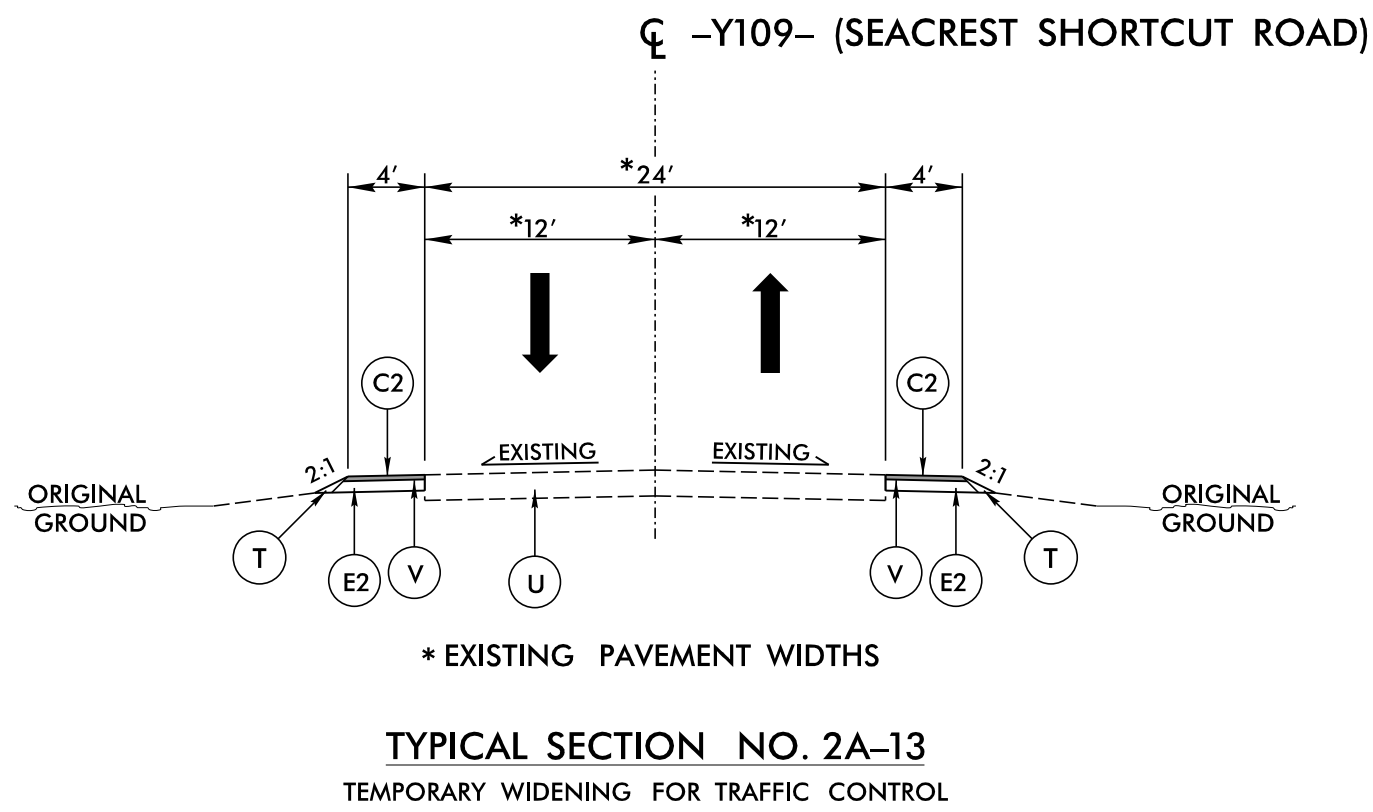
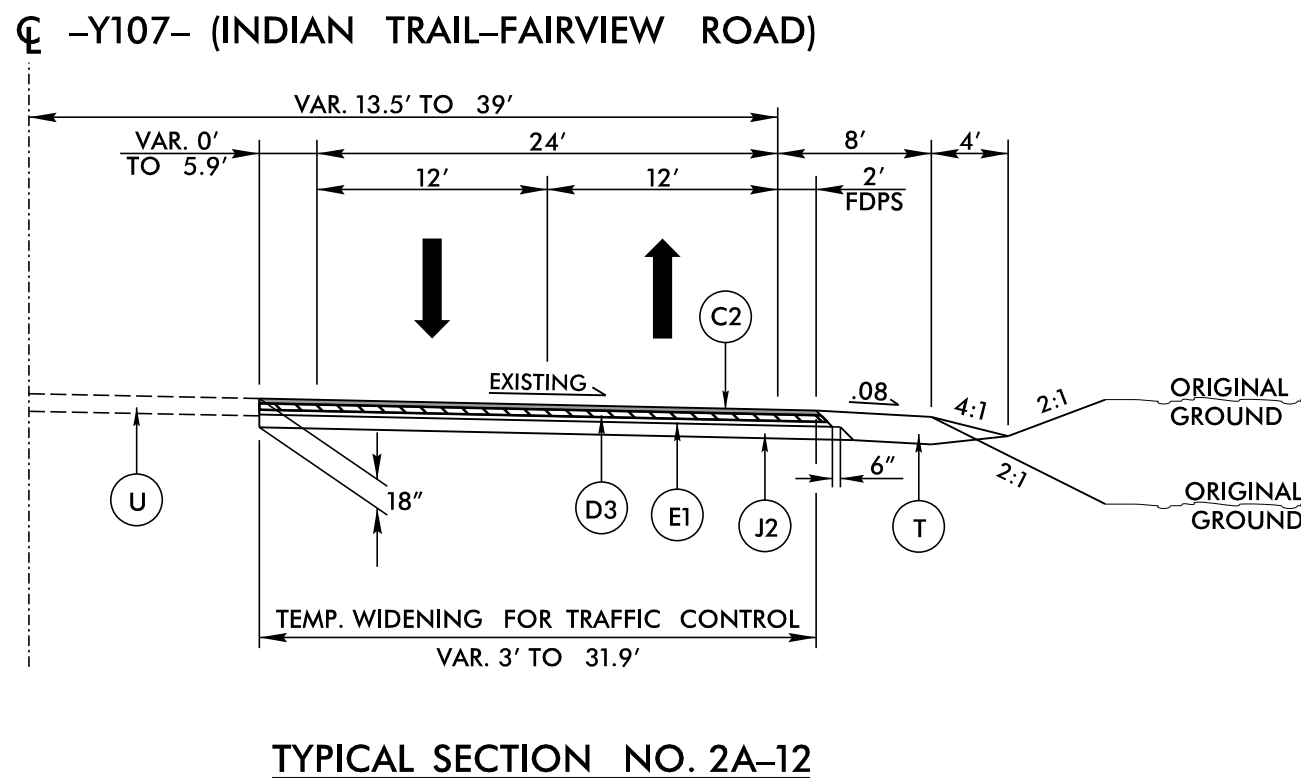
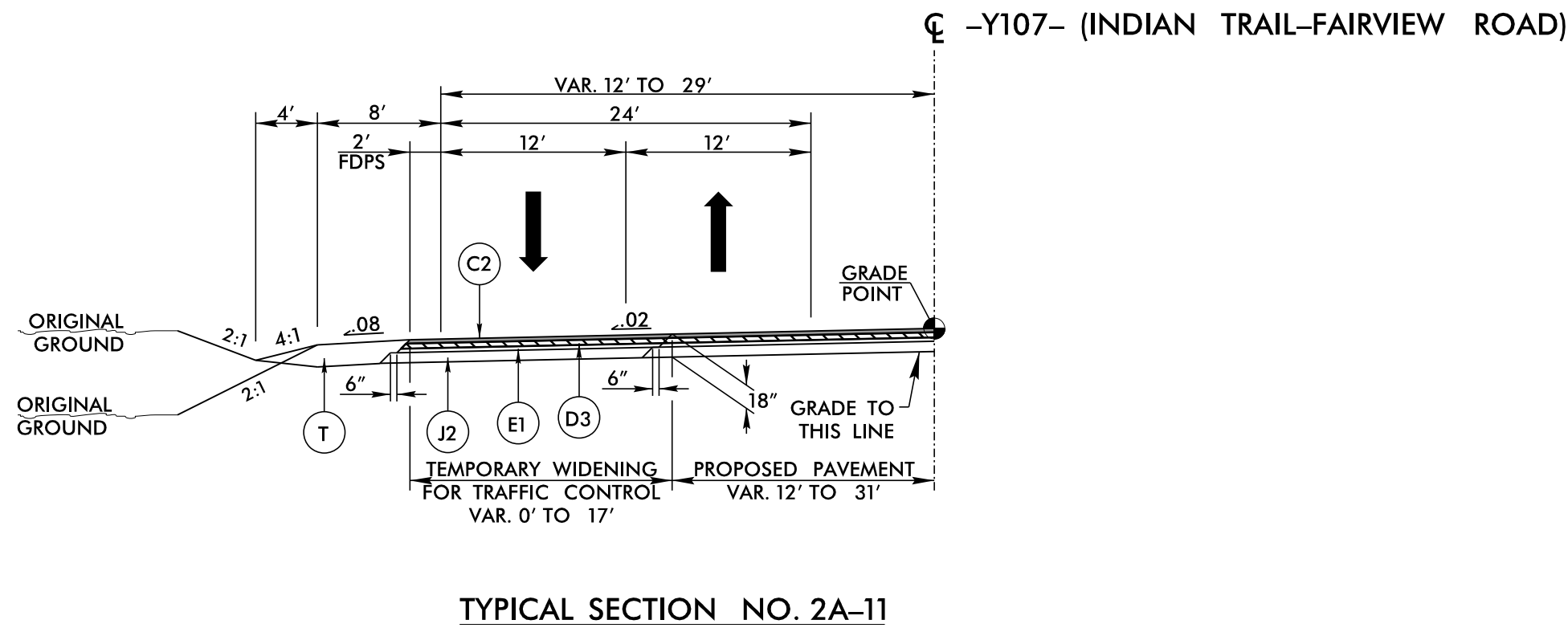
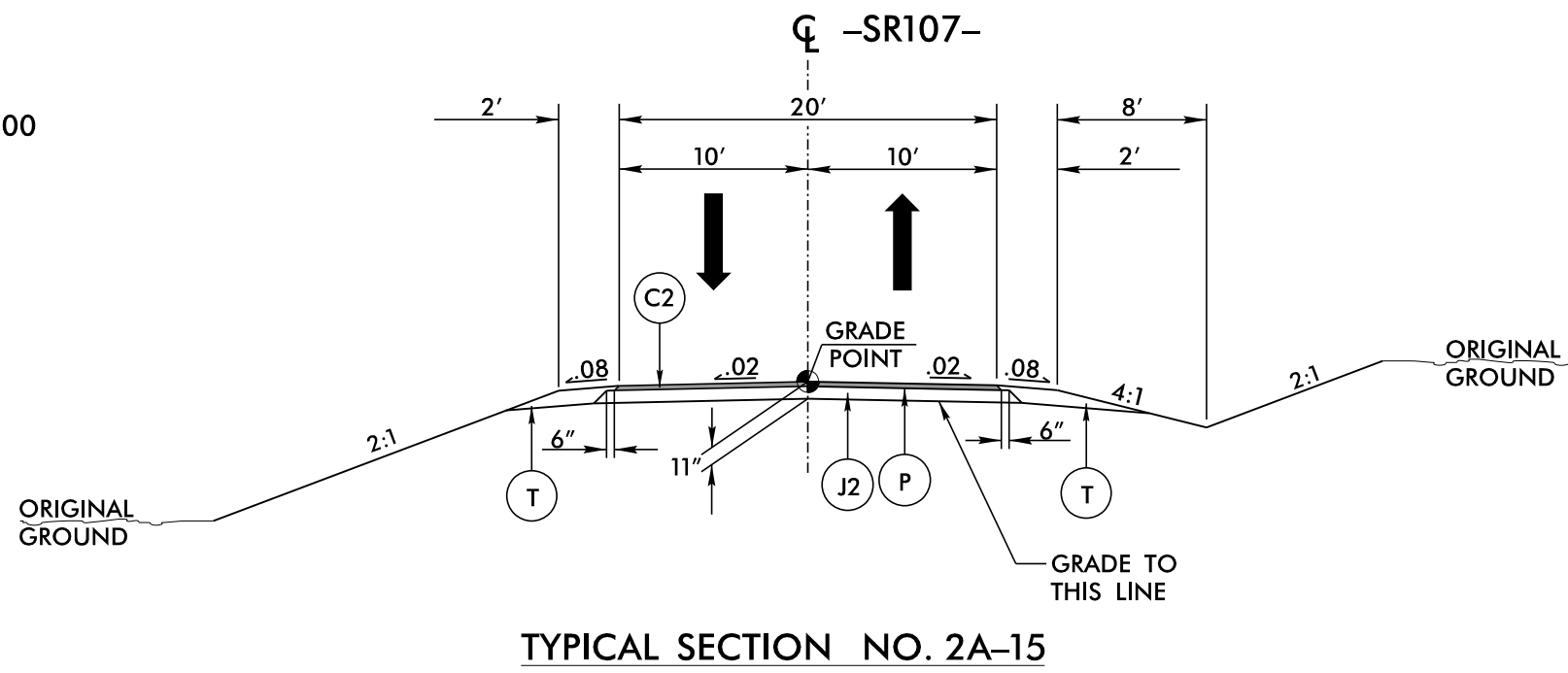
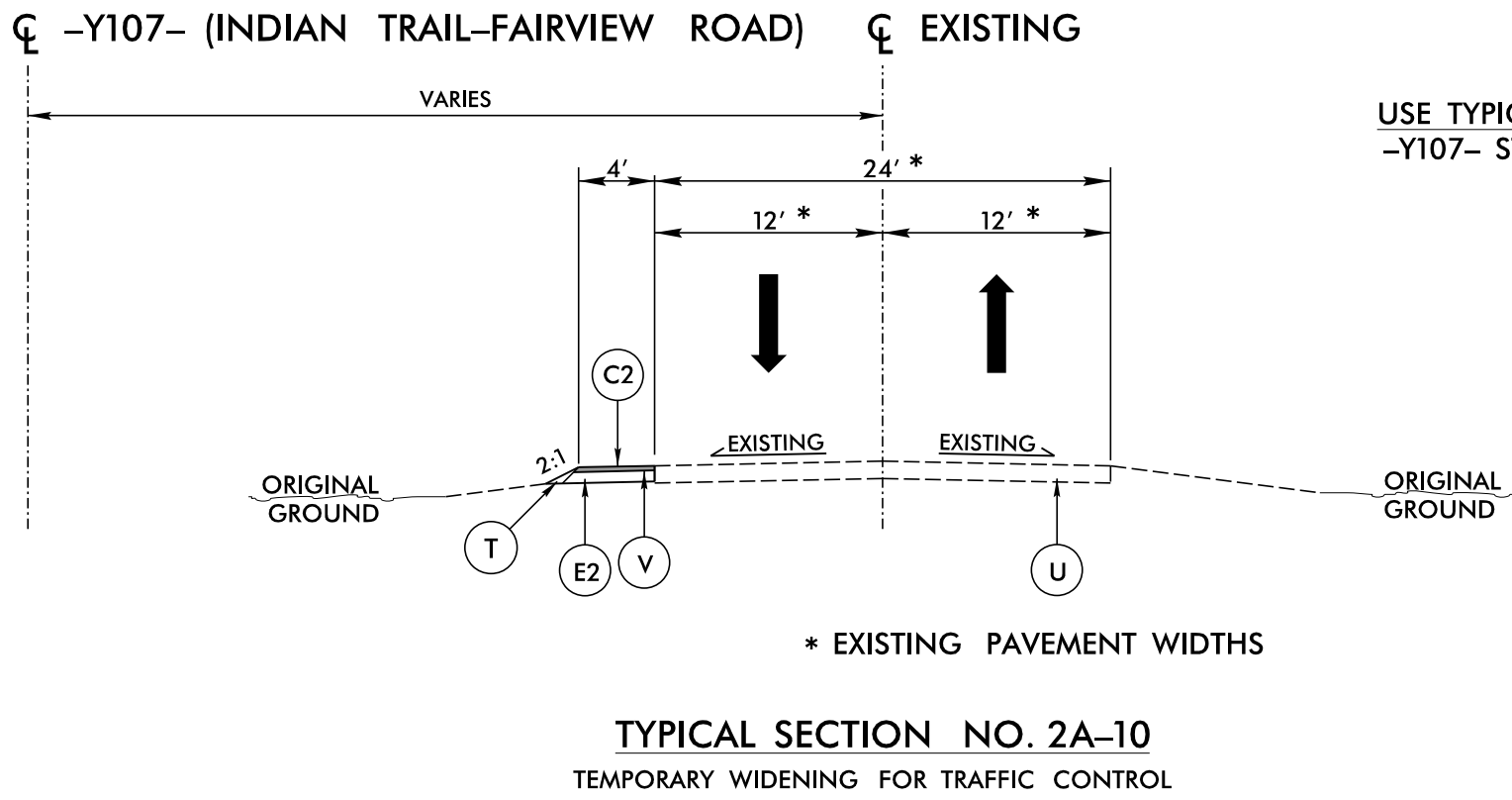
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Elevs



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| PAVEMENT SCHEDULE |       |                                |
|-------------------|-------|--------------------------------|
| C2                | 3"    | S9.5B                          |
| C5                | 3"    | S9.5C                          |
| D1                | 2.5"  | I19.0B                         |
| D2                | 3"    | I19.0B                         |
| D3                | 4"    | I19.0B                         |
| D6                | 2.5"  | I19.0C                         |
| D7                | 3"    | I19.0C                         |
| E1                | 3"    | B25.0B                         |
| E2                | 4"    | B25.0B                         |
| E6                | 3"    | B25.0C                         |
| G1                | 8"    | CTABC                          |
| J1                | 6"    | ABC                            |
| J2                | 8"    | ABC                            |
| J3                | 9"    | ABC                            |
| J5                | VAR.  | ABC                            |
| K1                | 8"    | LIME BASE OR<br>7" CEMENT BASE |
| P                 |       | PRIME COAT                     |
| R1                | 2'-6" | C&G                            |
| R2                | 1'-6" | C&G                            |
| R5                | 5"    | MCI                            |
| R8                |       | RUMBLE STRIPS                  |
| S                 | 4"    | SIDEWALK                       |
| T                 |       | EARTH MATERIAL                 |
| U                 |       | EXIST. PAVEMENT                |
| V                 |       | SPLIT SEAL                     |



| PROJECT REFERENCE NO.                              |                             | SHEET NO. |
|----------------------------------------------------|-----------------------------|-----------|
| R-3329 / R-2559                                    |                             | 2A-2E     |
| ROADWAY DESIGN<br>ENGINEER                         | PAVEMENT DESIGN<br>ENGINEER |           |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                             |           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                             |           |

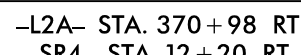
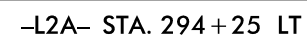
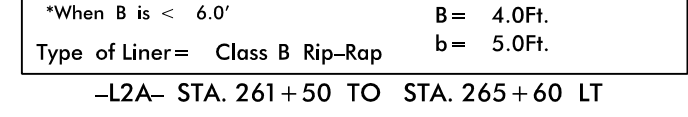
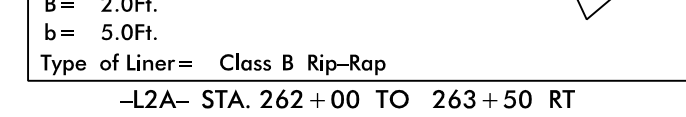
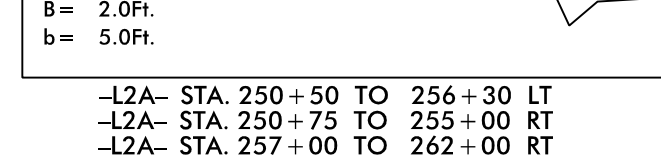
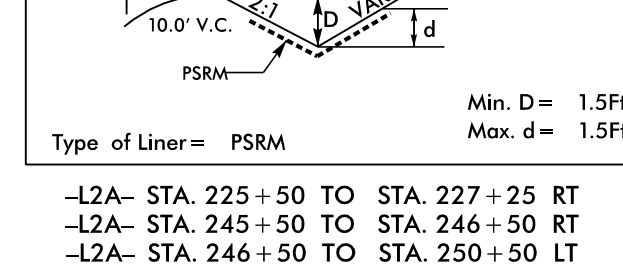
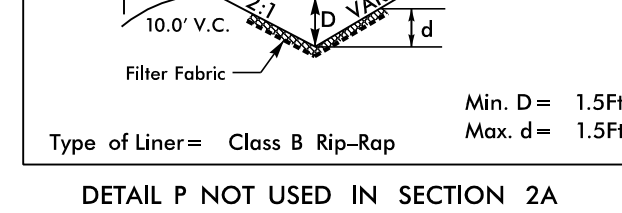
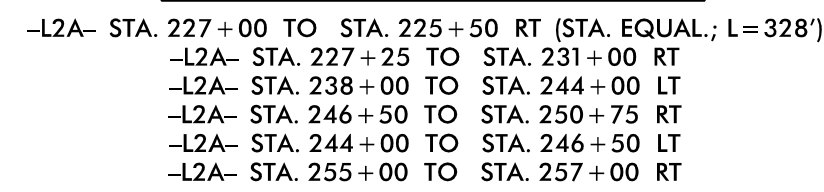
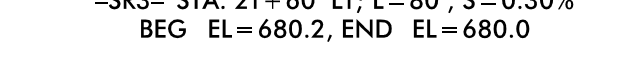
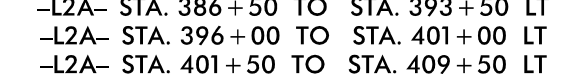
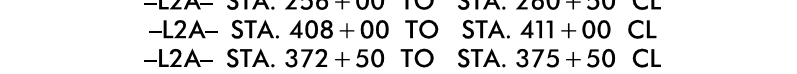
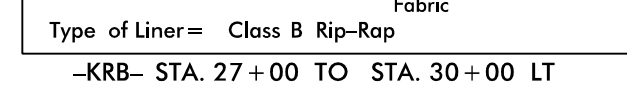
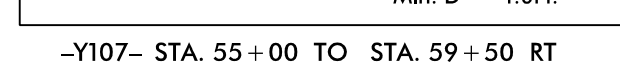
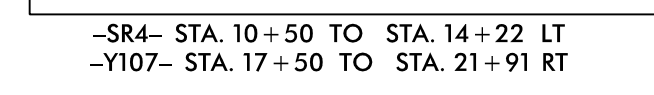
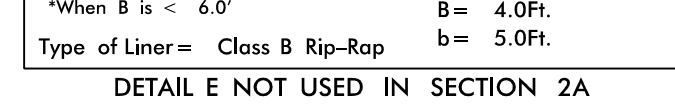
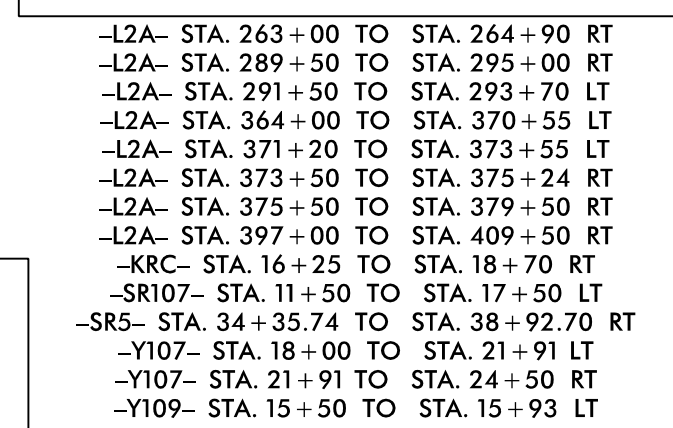
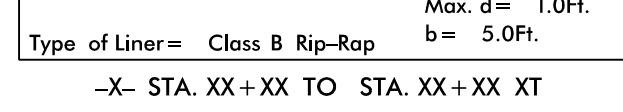
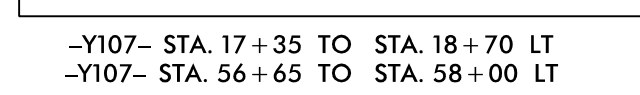
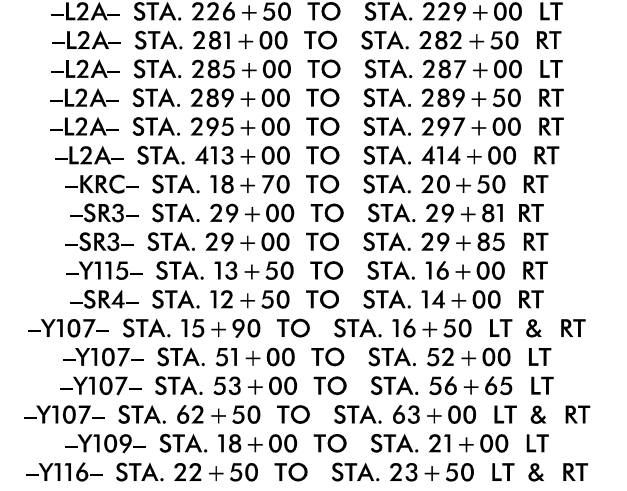
PLANS PREPARED BY :

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THE NORTH CAROLINA  
TURNPIKE AUTHORITY





**DETAIL V**  
**LATERAL 'V' DITCH**  
(Not to Scale)

Natural Ground

2:1

D

2:1

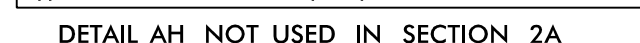
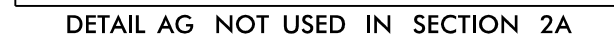
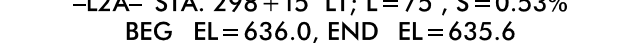
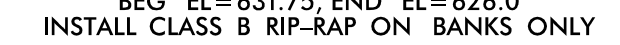
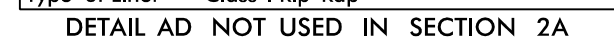
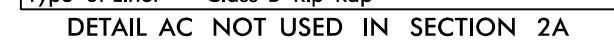
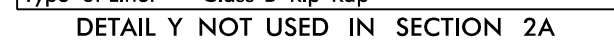
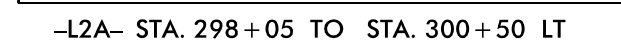
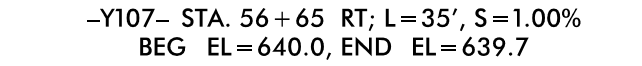
b

1' Ft.

Fill Slope

Min. D = 1.5Ft.  
b = 5.0Ft.

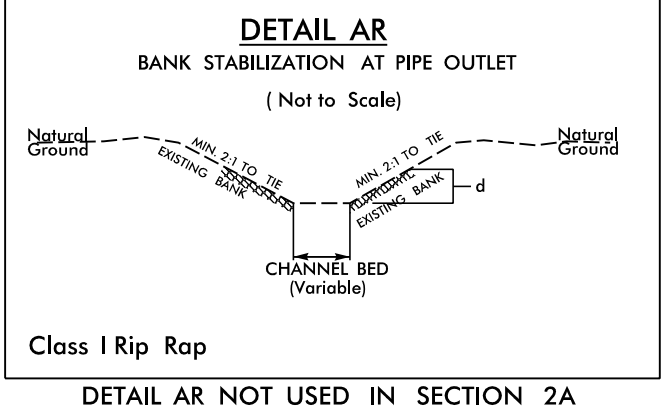
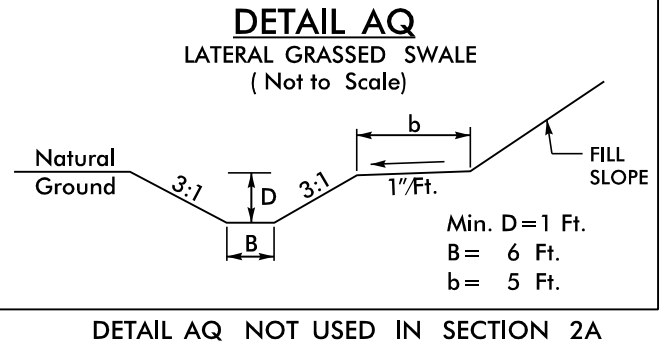
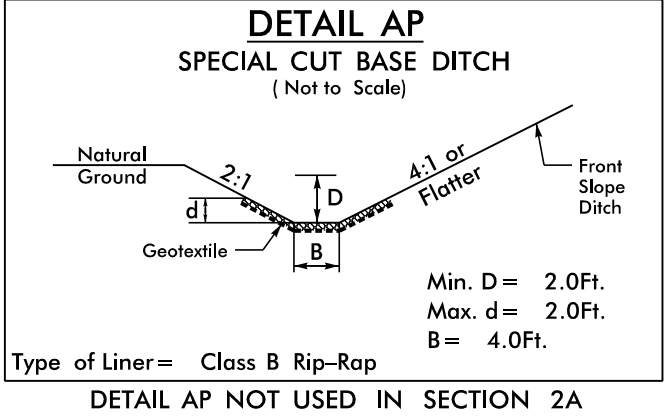
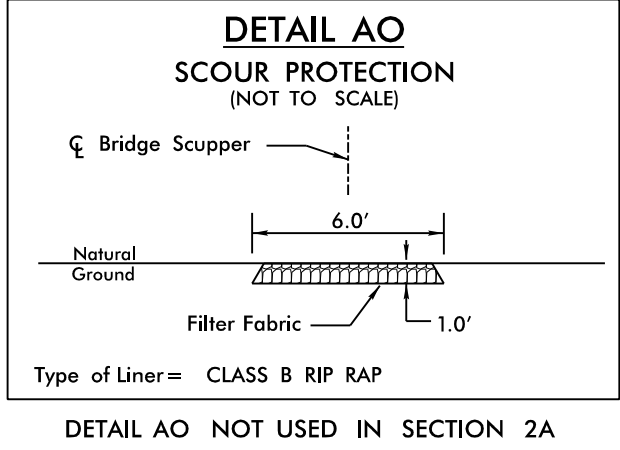
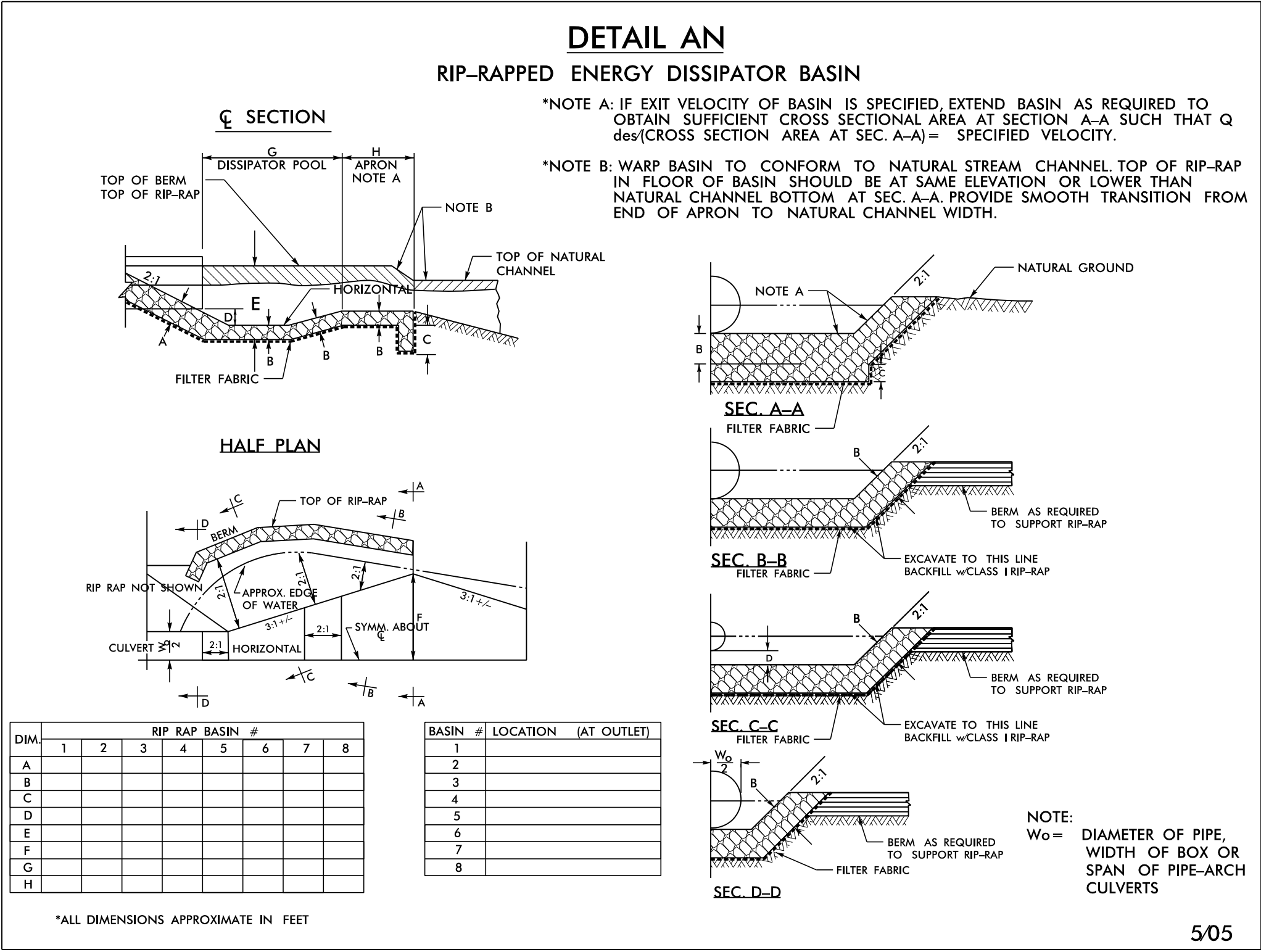
-L2A- STA. 298 + 84 TO STA. 300 + 50 RT



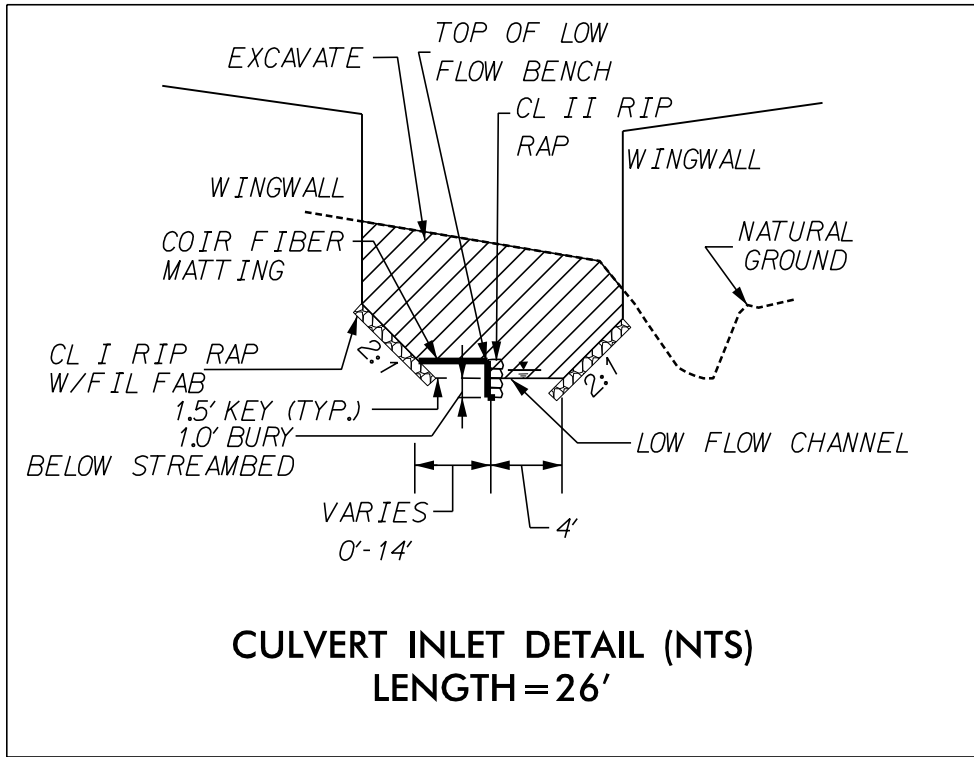


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Elev

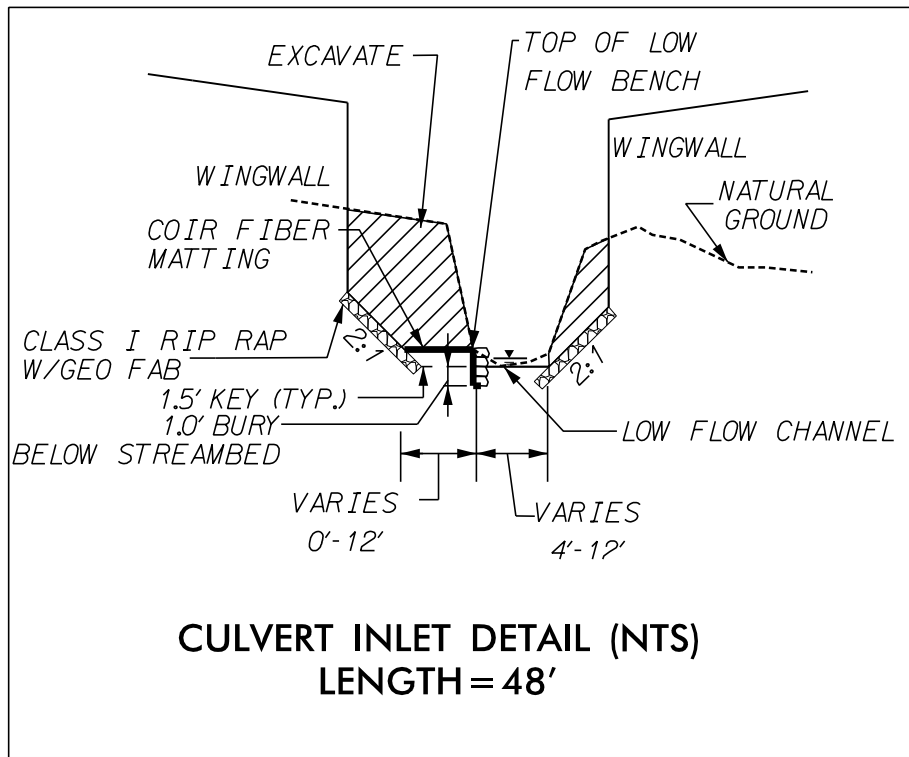
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| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 / R-2559                                    | 2A-26               |
| RW SHEET NO.                                       |                     |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR A/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



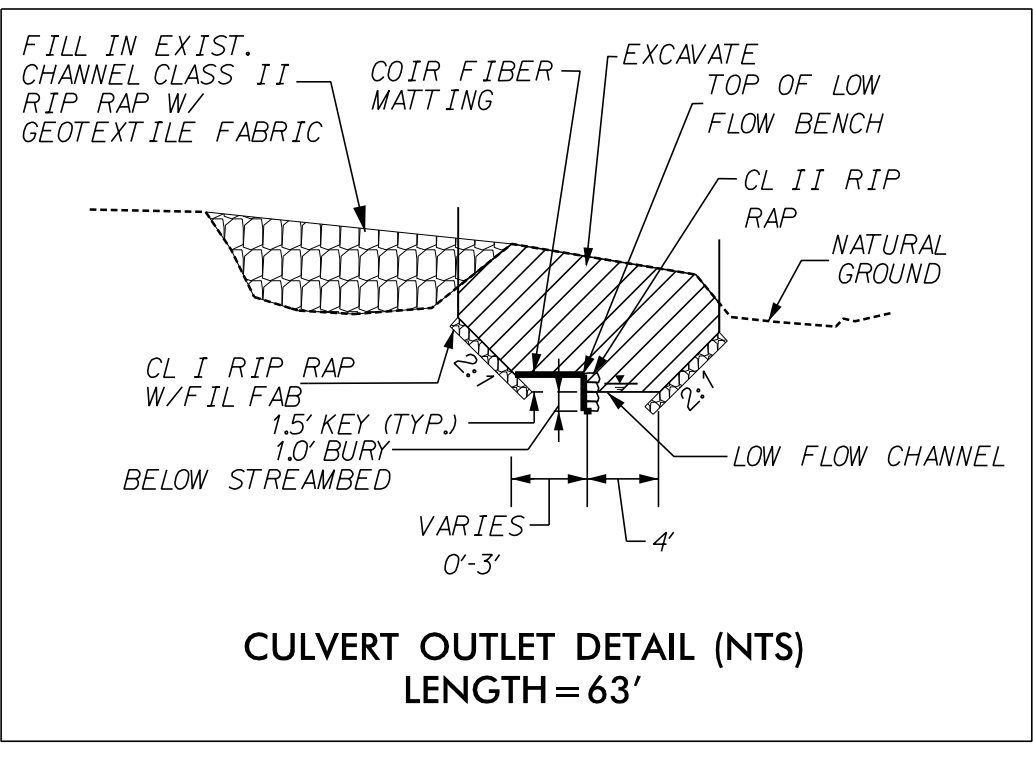
UT TO NORTH FORK  
CROOKED CREEK  
-L- STA. 265 + 40



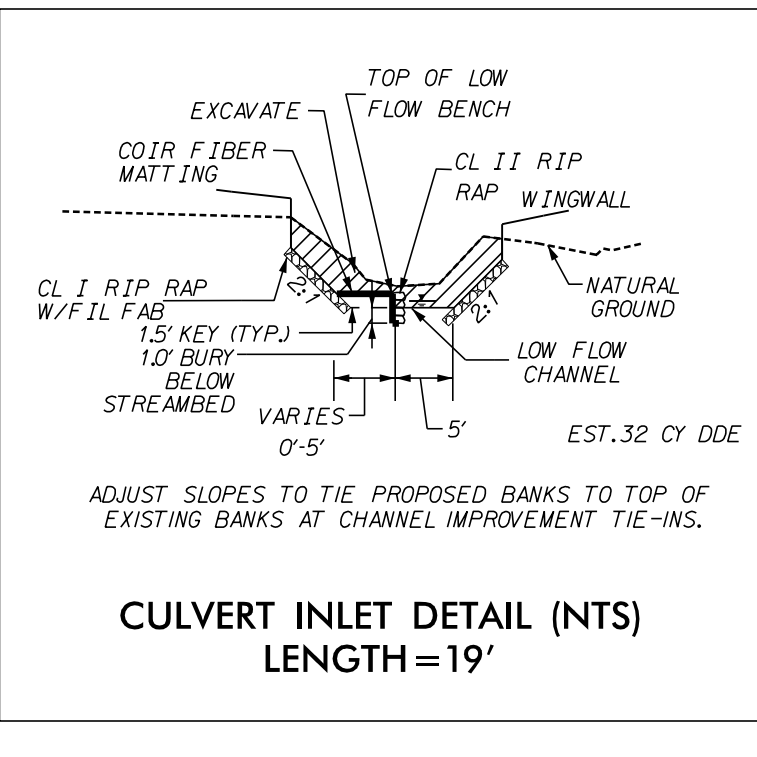
UT TO NORTH FORK  
CROOKED CREEK  
-L- STA. 293 + 48



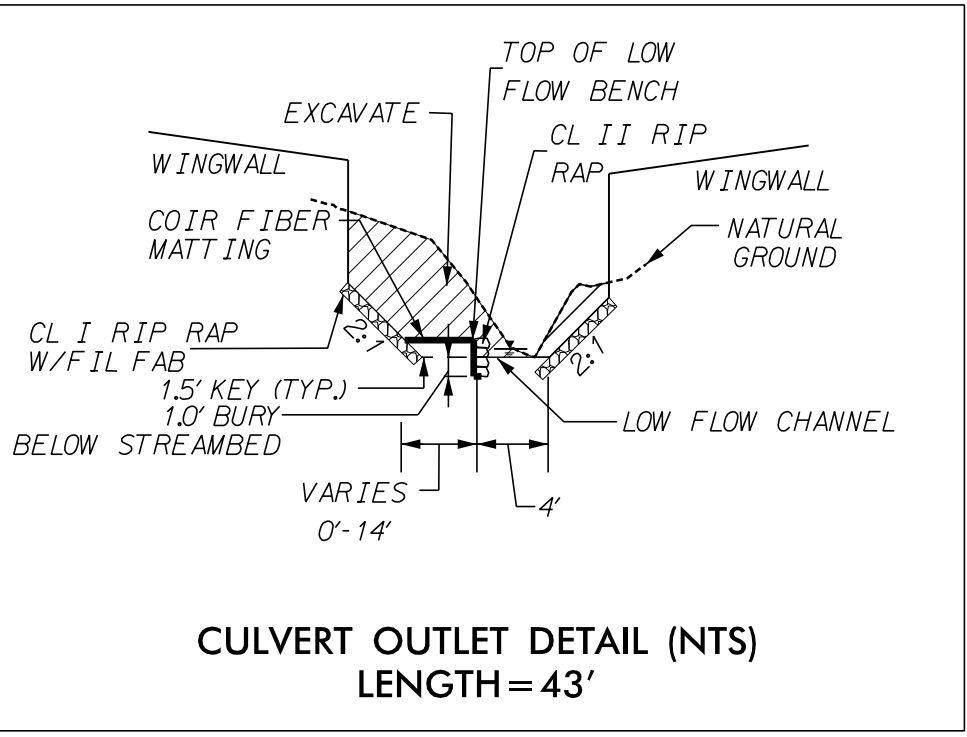
UT TO NORTH FORK  
CROOKED CREEK  
-L- STA. 373 + 54



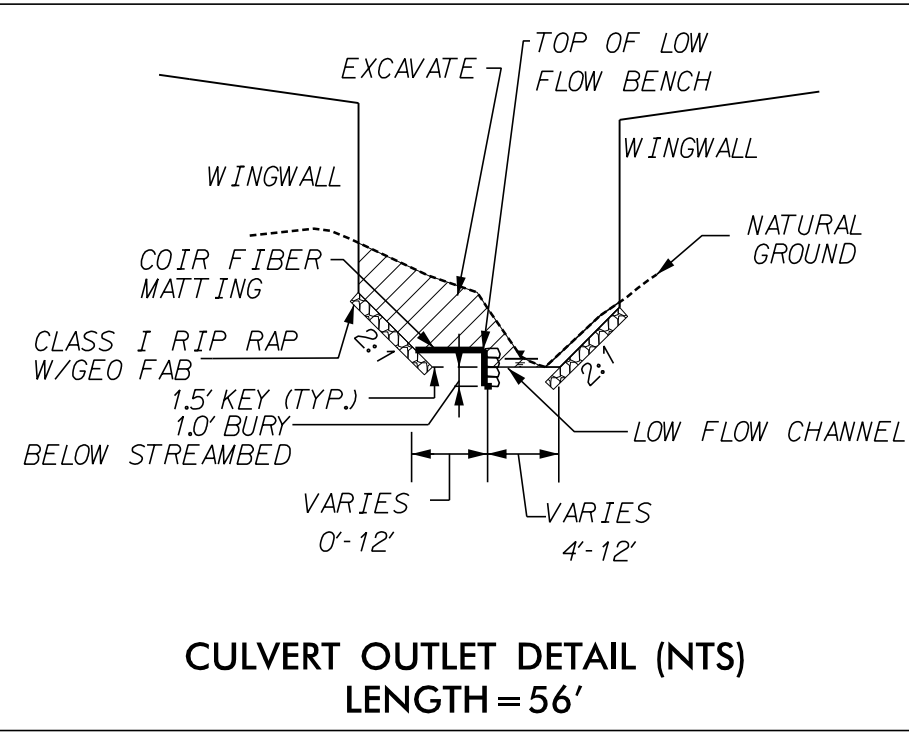
UT TO NORTH FORK  
CROOKED CREEK  
-L- STA. 396 + 14



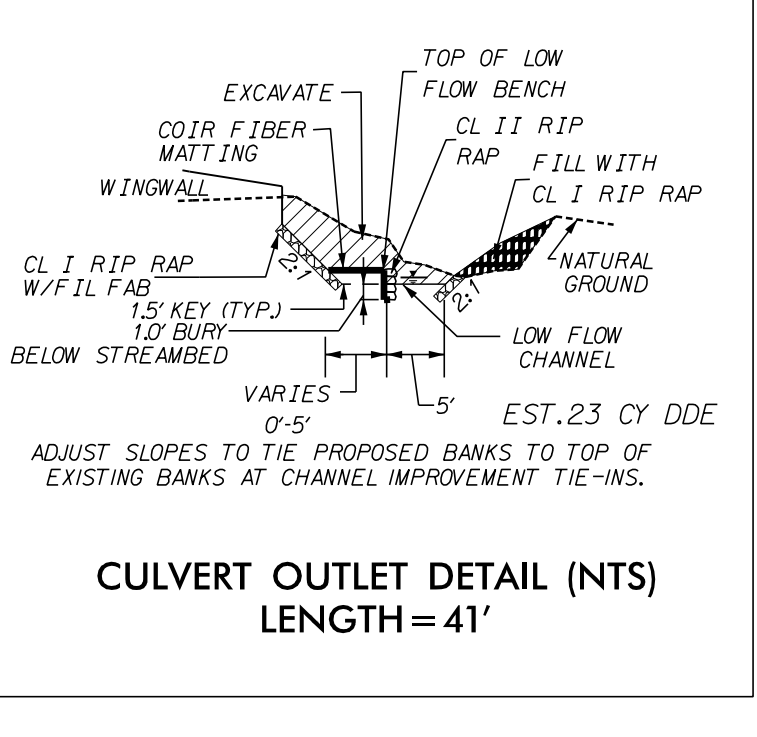
**CULVERT OUTLET DETAIL (NTS)**  
**LENGTH = 43'**



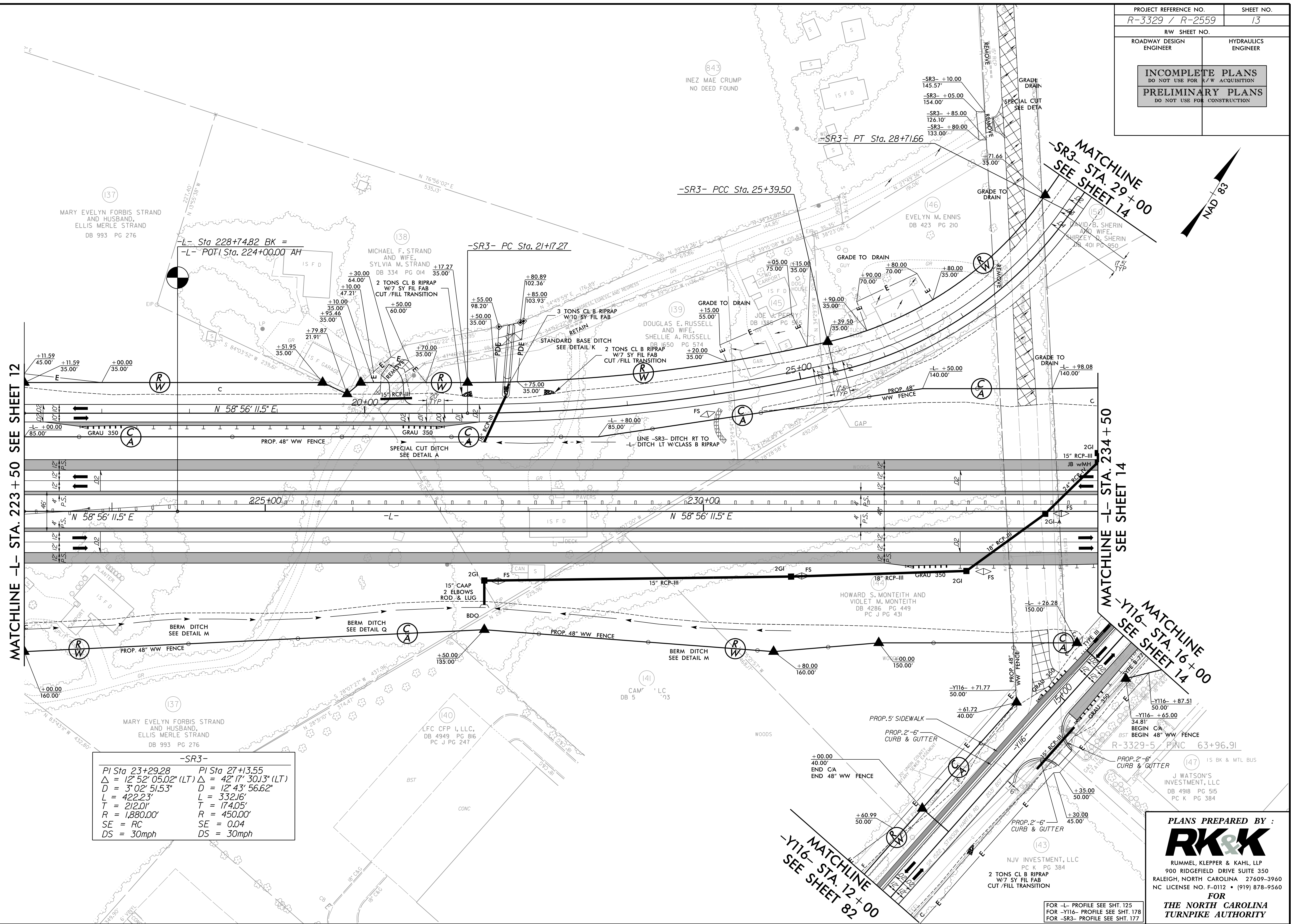
**CULVERT OUTLET DETAIL (NTS)**  
**LENGTH = 56'**



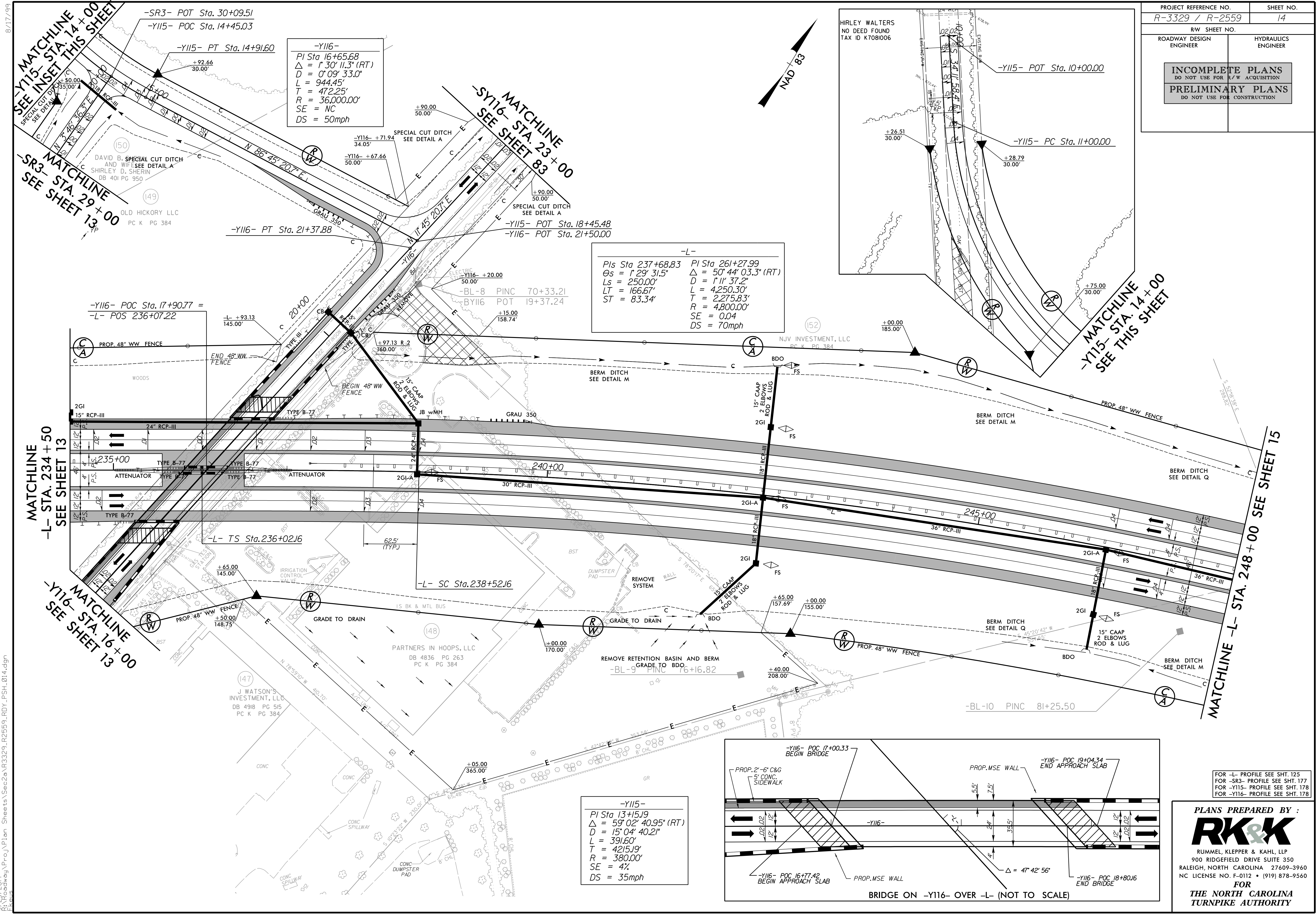
**CULVERT OUTLET DETAIL (NTS)**  
**LENGTH = 41'**







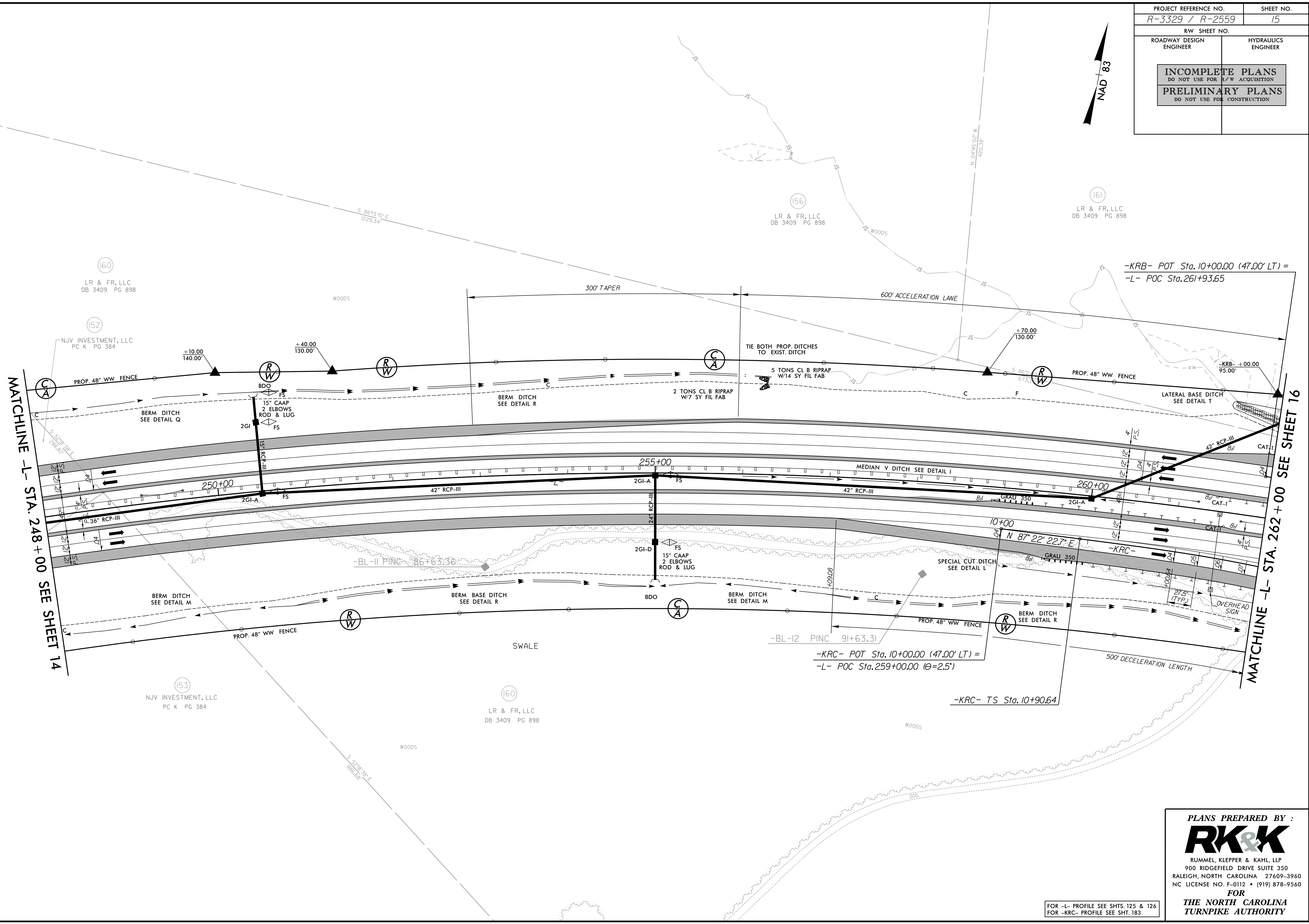






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8/29/2014  
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|                                                    |                        |           |
|----------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                              |                        | SHEET NO. |
| R-3329 / R-2559                                    |                        | 15        |
| RW SHEET NO.                                       |                        |           |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |           |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |           |



FOR -L- PROFILE SEE SHTS. 125 & 126  
FOR -KRC- PROFILE SEE SHT. 183

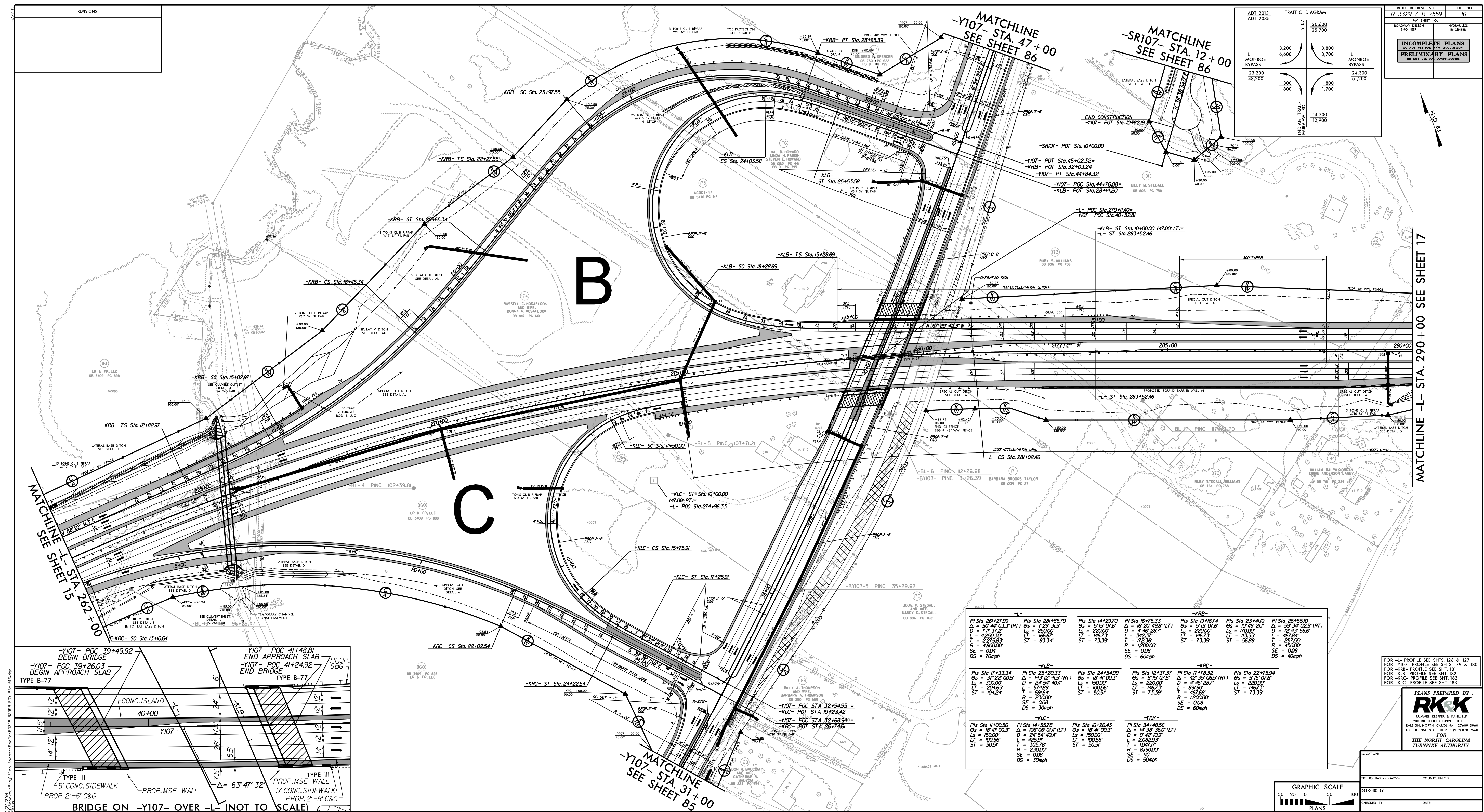
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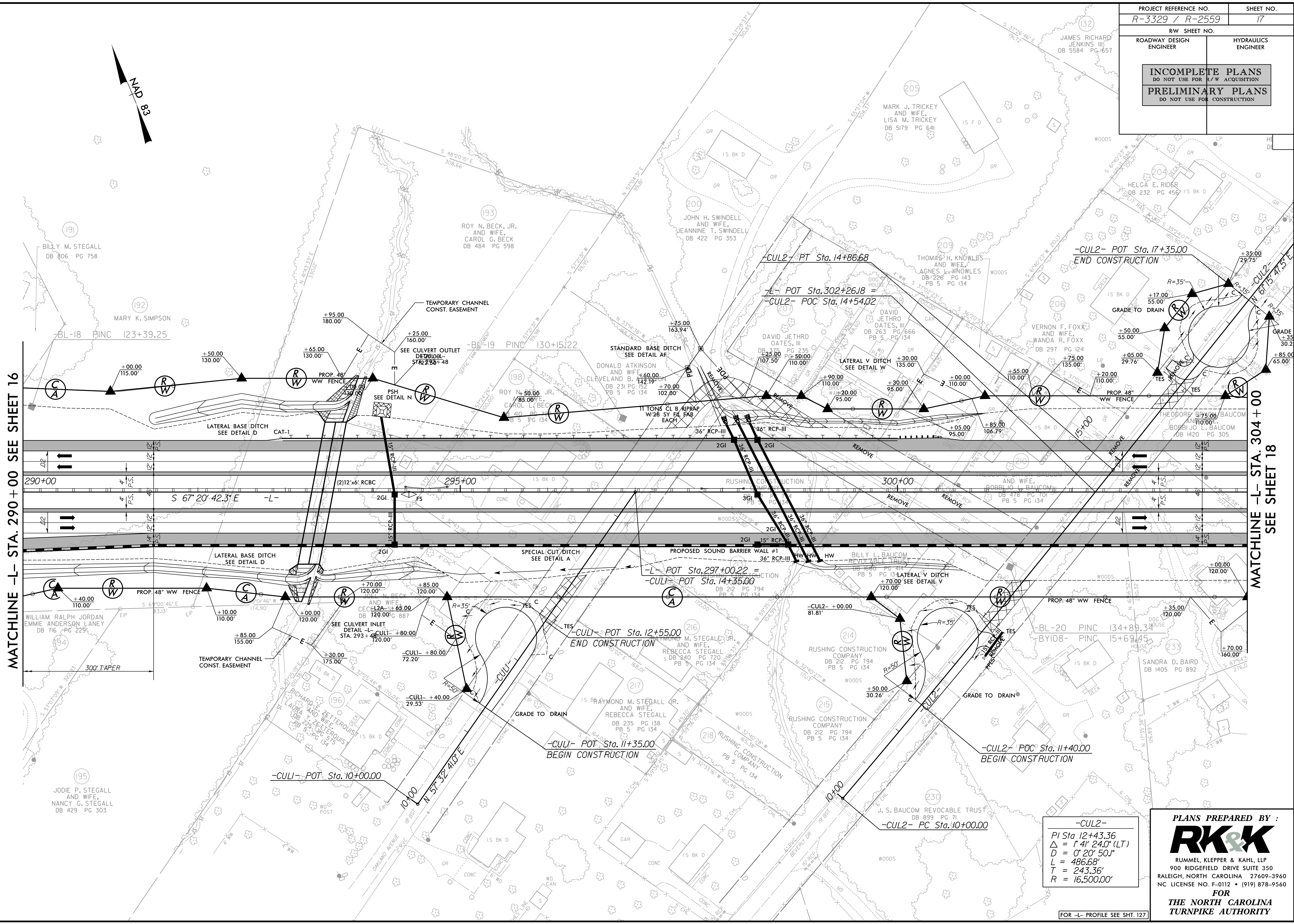






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8/29/2014

|                                                    |  |                        |  |
|----------------------------------------------------|--|------------------------|--|
| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i>    |  | SHEET NO.<br><i>17</i> |  |
| RW SHEET NO.                                       |  |                        |  |
| ROADWAY DESIGN<br>ENGINEER                         |  | HYDRAULICS<br>ENGINEER |  |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |  |                        |  |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |  |                        |  |

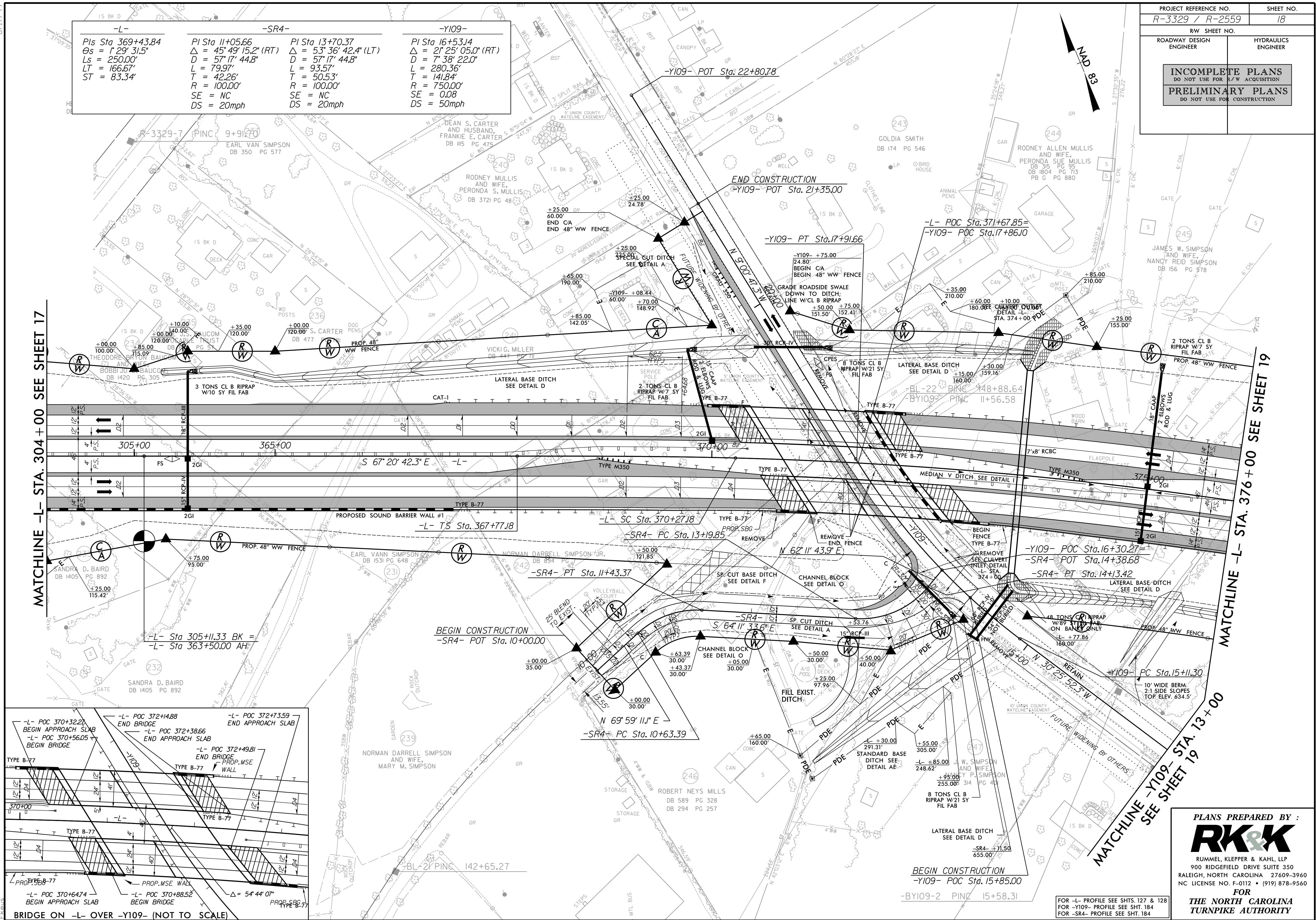


-CUL2-  
PI Sta. 12+43.36  
 $\Delta = 1' 41'' 24.0'' (LT)$   
 $D = 0' 20' 50.1''$   
 $L = 486.68'$   
 $T = 243.36'$   
 $R = 16,500.00'$

FOR -L- PROFILE SEE SHT. 127

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THE NORTH CAROLINA  
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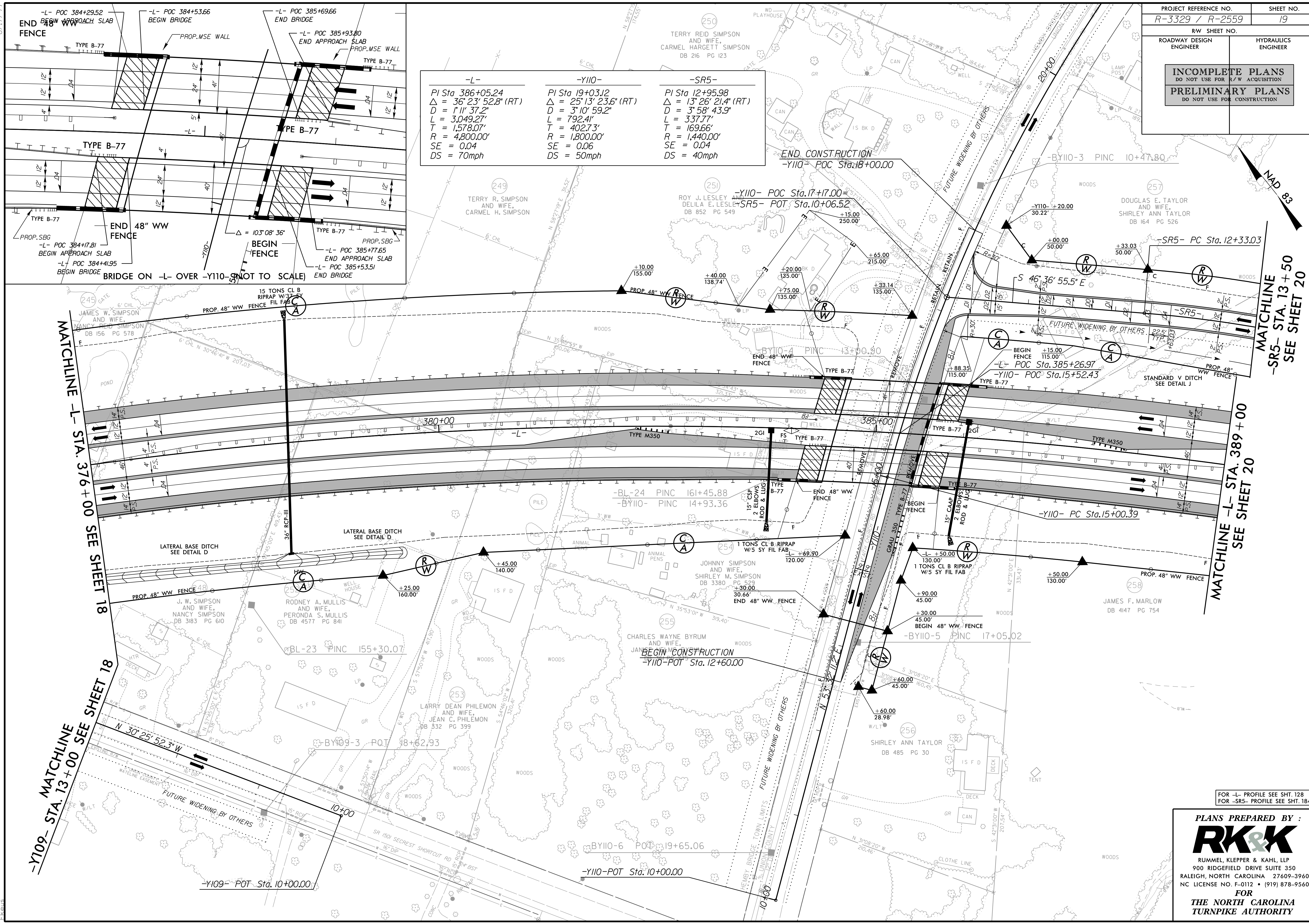


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8/17/99  
9/29/2014  
R:\Roadway\Proj\Plan Sheets\Sec2a\R3329\_R2559\_RDY\_PSH\_019.dgn



| -L-                                | -Y110-                             | -SR5-                              |
|------------------------------------|------------------------------------|------------------------------------|
| PI Sta 386+05.24                   | PI Sta 19+03.12                    | PI Sta 12+95.98                    |
| $\Delta = 36^{\circ}23'52.8"$ (RT) | $\Delta = 25^{\circ}13'23.6"$ (RT) | $\Delta = 13^{\circ}26'21.4"$ (RT) |
| D = 1'11'37.2"                     | D = 3'10'59.2"                     | D = 3'58'43.9"                     |
| L = 3,049.27'                      | L = 792.41'                        | L = 337.77'                        |
| T = 1,578.07'                      | T = 402.73'                        | T = 169.66'                        |
| R = 4,800.00'                      | R = 1,800.00'                      | R = 1,440.00'                      |
| SE = 0.04                          | SE = 0.06                          | SE = 0.04                          |
| DS = 70mph                         | DS = 50mph                         | DS = 40mph                         |

|                                                    |                        |                 |
|----------------------------------------------------|------------------------|-----------------|
| PROJECT REFERENCE NO.<br>R-3329 / R-2559           |                        | SHEET NO.<br>19 |
| RW SHEET NO.                                       |                        |                 |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |                 |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |                 |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |                 |

FOR -L- PROFILE SEE SHT. 128  
FOR -SR5- PROFILE SEE SHT. 184

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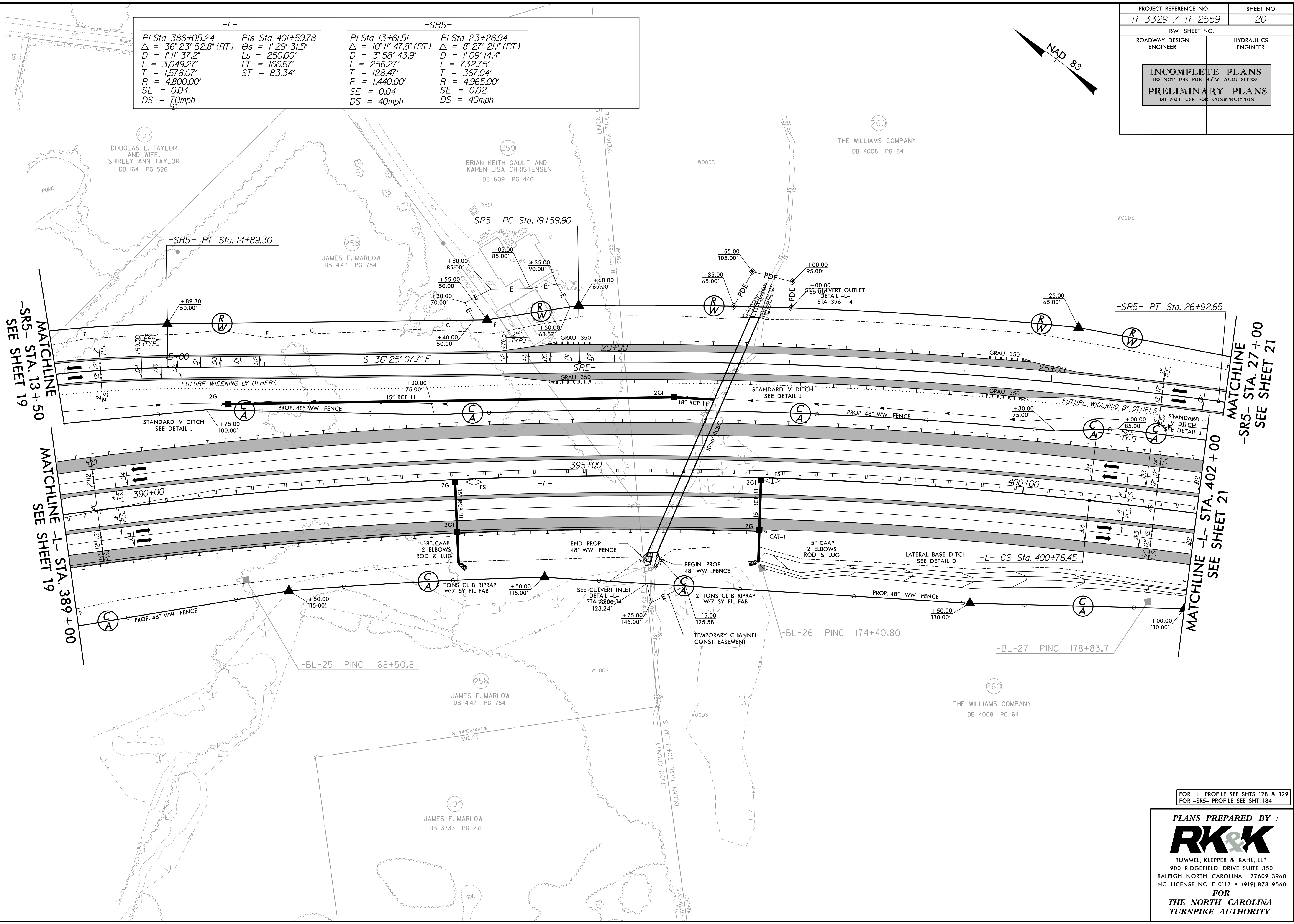
FOR  
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E:\Users\james.f.marlow\My Documents\Projects\2014\2559\2559.dgn

| -L-                                |                                | -SR5-                              |                                   |
|------------------------------------|--------------------------------|------------------------------------|-----------------------------------|
| PI Sta 386+05.24                   | PIs Sta 401+59.78              | PI Sta 13+61.51                    | PI Sta 23+26.94                   |
| $\Delta = 36^{\circ}23'52.8"$ (RT) | $\Theta_s = 1^{\circ}29'31.5"$ | $\Delta = 10^{\circ}11'47.8"$ (RT) | $\Delta = 8^{\circ}27'21.1"$ (RT) |
| $D = 1^{\circ}11'37.2"$            | $L_s = 250.00'$                | $D = 3^{\circ}58'43.9"$            | $D = 1^{\circ}09'14.4"$           |
| $L = 3,049.27'$                    | $LT = 166.67'$                 | $L = 256.27'$                      | $L = 732.75'$                     |
| $T = 1,578.07'$                    | $ST = 83.34'$                  | $T = 128.47'$                      | $T = 367.04'$                     |
| $R = 4,800.00'$                    |                                | $R = 1,440.00'$                    | $R = 4,965.00'$                   |
| $SE = 0.04$                        |                                | $SE = 0.04$                        | $SE = 0.02$                       |
| $DS = 70\text{mph}$                |                                | $DS = 40\text{mph}$                | $DS = 40\text{mph}$               |

| PROJECT REFERENCE NO.                              |                     | SHEET NO. |
|----------------------------------------------------|---------------------|-----------|
| R-3329 / R-2559                                    |                     | 20        |
| RW SHEET NO.                                       |                     |           |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |           |
| INCOMPLETE PLANS<br>DO NOT USE FOR E/W ACQUISITION |                     |           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |           |



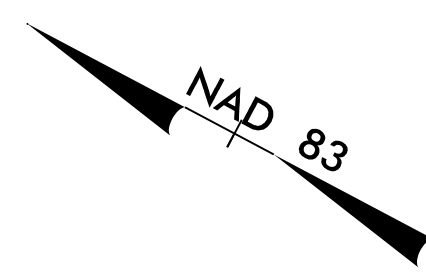
FOR -L- PROFILE SEE SHTS. 128 & 129  
FOR -SR5- PROFILE SEE SHT. 184

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TURNPIKE AUTHORITY

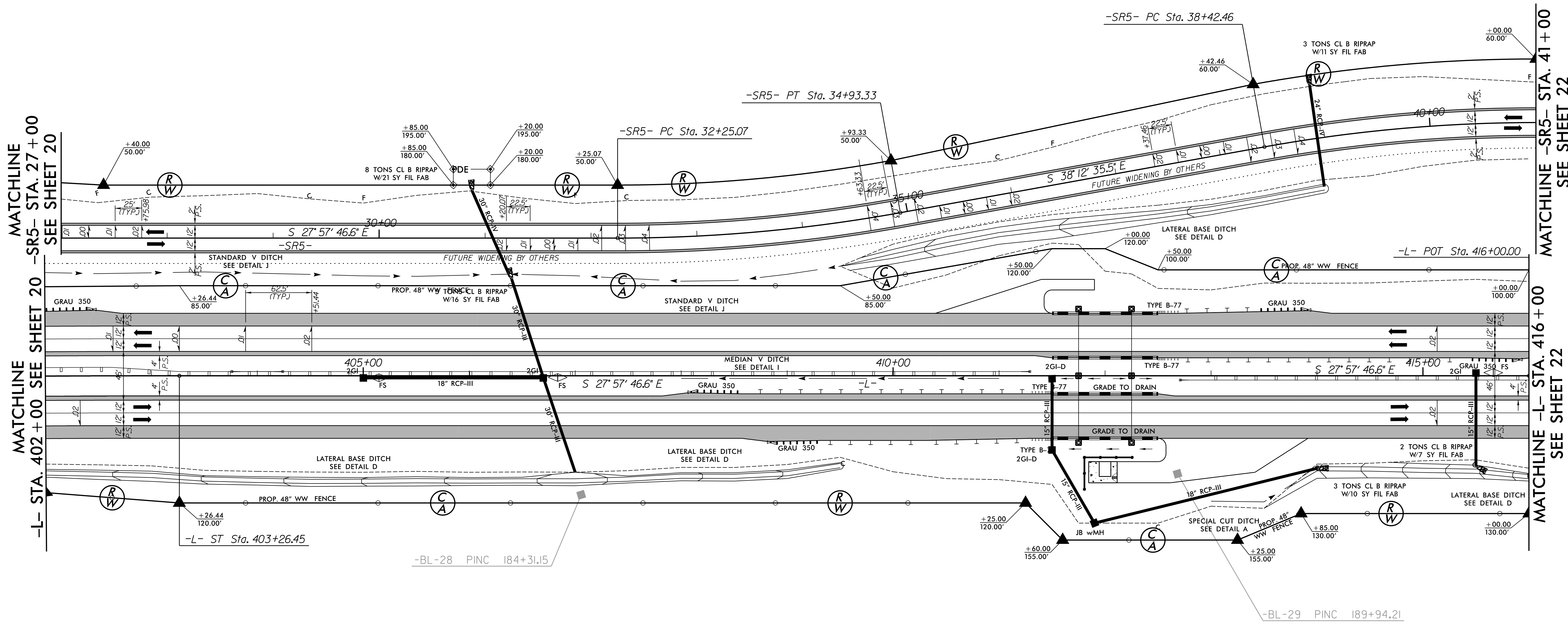


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| -L-                             | -SR5-                              |                                     |                                     |
|---------------------------------|------------------------------------|-------------------------------------|-------------------------------------|
| PIs Sta 401+59.78               | PI Sta 23+26.94                    | PI Sta 33+59.56                     | PI Sta 41+73.12                     |
| $\theta_s = 1^\circ 29' 31.5''$ | $\Delta = 8^\circ 27' 21.1''$ (RT) | $\Delta = 10^\circ 14' 48.9''$ (LT) | $\Delta = 25^\circ 51' 51.0''$ (RT) |
| $L_s = 250.00'$                 | $D = 1^\circ 09' 14.4''$           | $D = 3^\circ 49' 11.0''$            | $D = 3^\circ 58' 43.9''$            |
| $LT = 166.67'$                  | $L = 732.75'$                      | $L = 268.26'$                       | $L = 650.04'$                       |
| $ST = 83.34'$                   | $T = 367.04'$                      | $T = 134.49'$                       | $T = 330.65'$                       |
|                                 | $R = 4,965.00'$                    | $R = 1,500.00'$                     | $R = 1,440.00'$                     |
|                                 | $SE = 0.02$                        | $SE = 0.04$                         | $SE = 0.04$                         |
|                                 | $DS = 40\text{mph}$                | $DS = 40\text{mph}$                 | $DS = 40\text{mph}$                 |



|                                                    |  |                     |
|----------------------------------------------------|--|---------------------|
| PROJECT REFERENCE NO.<br>R-3329 / R-2559           |  | SHEET NO.<br>21     |
| RW SHEET NO.                                       |  | HYDRAULICS ENGINEER |
| ROADWAY DESIGN ENGINEER                            |  |                     |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |  |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |  |                     |



FOR -L- PROFILE SEE SHT. 129  
FOR -SR5- PROFILE SEE SHTS. 184 & 185

PLANS PREPARED BY :

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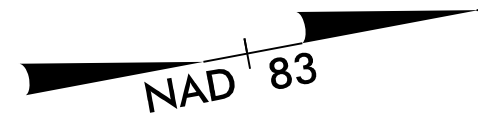
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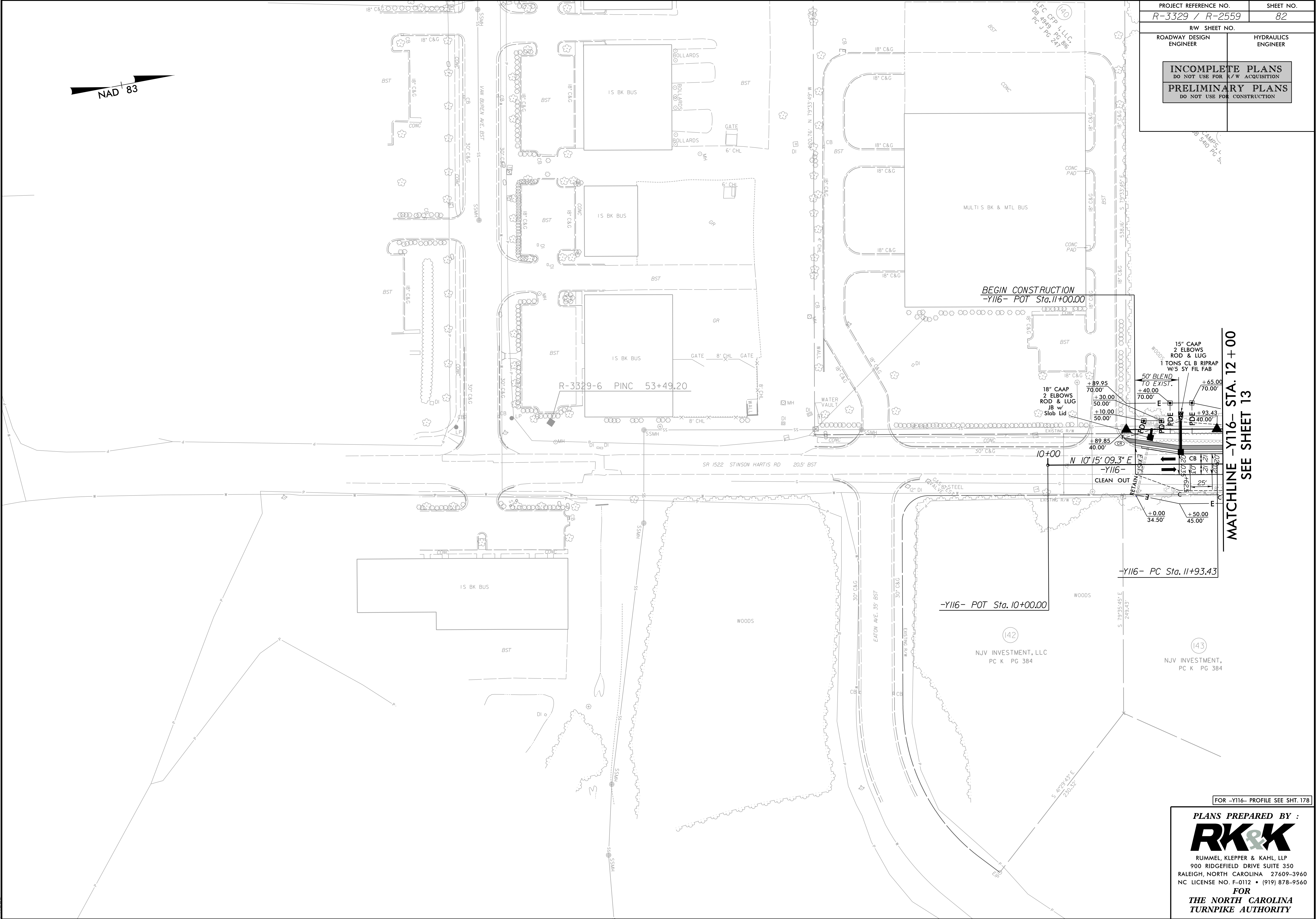


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|-----------------------------------------------------------------------------------------------------------------------------|--|------------------------|--|
| PROJECT REFERENCE NO.                                                                                                       |  | SHEET NO.              |  |
| R-3329 / R-2559                                                                                                             |  | 82                     |  |
| R/W SHEET NO.                                                                                                               |  |                        |  |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  |  | HYDRAULICS<br>ENGINEER |  |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |  |                        |  |



MATCHLINE -Y116- STA. 12 + 00  
SEE SHEET 13

FOR -Y116- PROFILE SEE SHT. 178

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  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



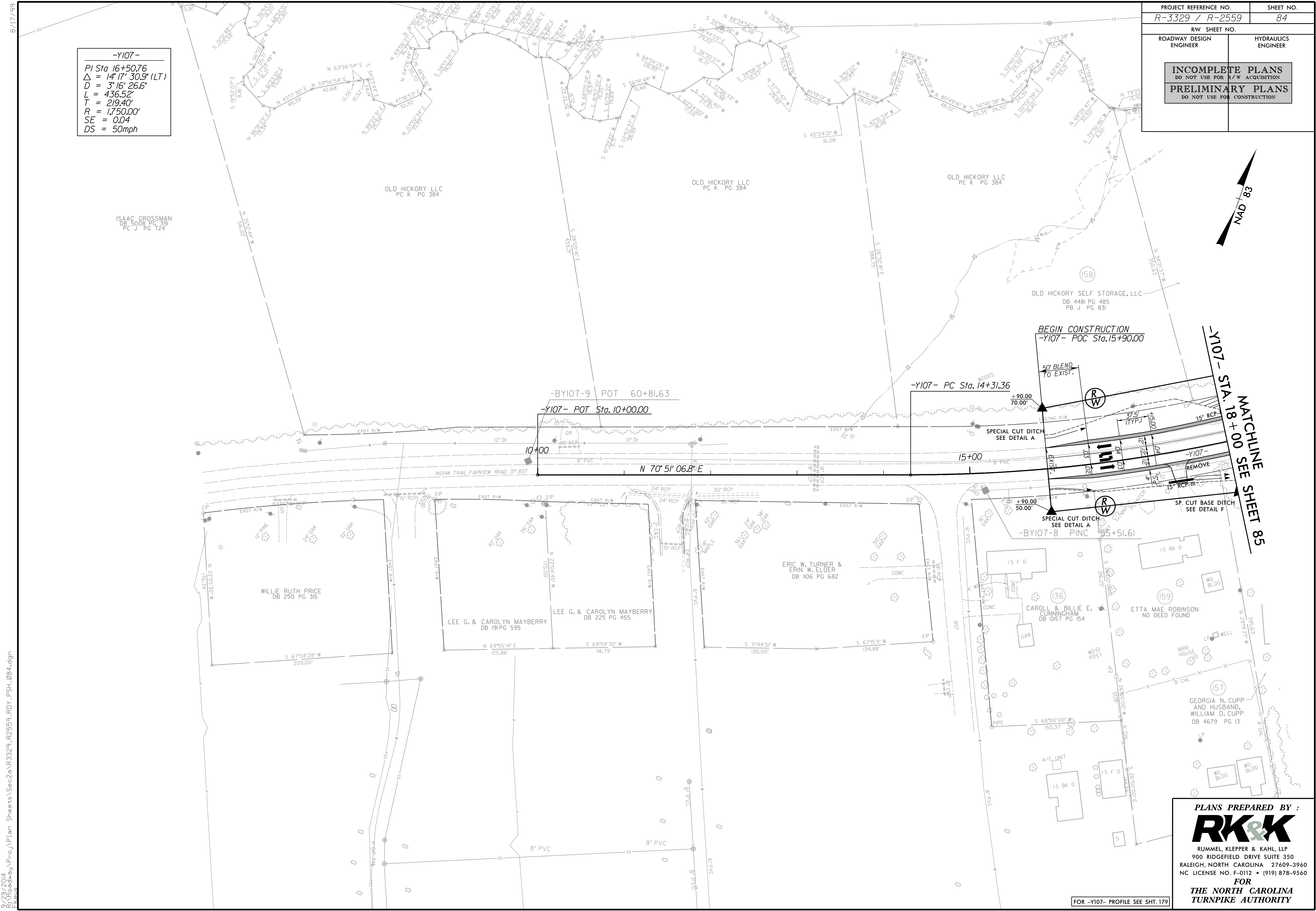




-Y107-

---

*PI Sta 16+50.76*  
 $\Delta = 14^{\circ}17'30.9''$  (LT)  
 $D = 3^{\circ}16'26.6''$   
 $L = 436.52'$   
 $T = 219.40'$   
 $R = 1,750.00'$   
 $SE = 0.04$   
 $DS = 50\text{mph}$



FOR -Y107- PROFILE SEE SHT. 179

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

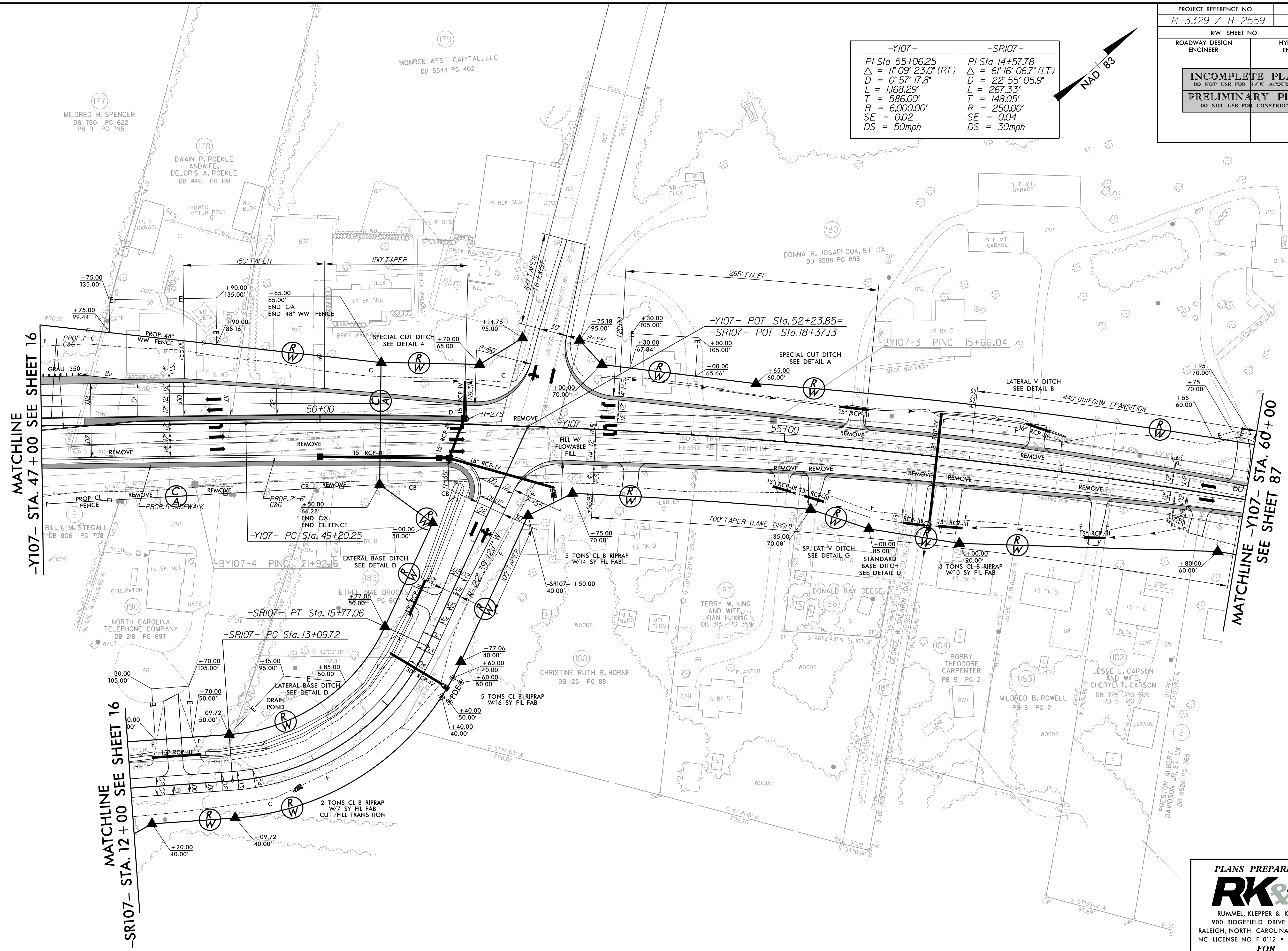




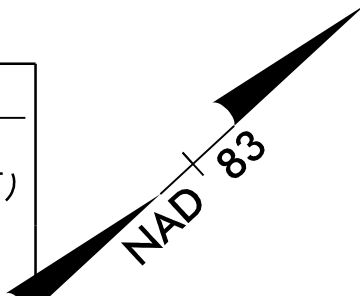
9/29/2014  
C:\Roadway\Pr-oj\Plan Sheets\Sec2a\R3329\_R2559\_RDY\_PSH\_085.dgn 8/17/99



8/17/99  
8/29/2014  
R:\Roadway\Proj\Plan Sheets\Sec2a\R3329\_R2559\_RDY\_PSH\_086.dgn



| -Y107-                              | -SR107-                             |
|-------------------------------------|-------------------------------------|
| PI Sta 55+06.25                     | PI Sta 14+57.78                     |
| $\Delta = 11^{\circ}09'23.0''$ (RT) | $\Delta = 61^{\circ}16'06.7''$ (LT) |
| $D = 0^{\circ}57'17.8''$            | $D = 22^{\circ}55'05.9''$           |
| $L = 1168.29'$                      | $L = 267.33'$                       |
| $T = 586.00'$                       | $T = 148.05'$                       |
| $R = 6000.00'$                      | $R = 250.00'$                       |
| $SE = 0.02$                         | $SE = 0.04$                         |
| $DS = 50\text{mph}$                 | $DS = 30\text{mph}$                 |



|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.<br>R-3329 / R-2559           | SHEET NO.<br>86     |
| RW SHEET NO.                                       |                     |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR A/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

PLANS PREPARED BY :

**RK&K**

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RALEIGH, NORTH CAROLINA 27609-3960  
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FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

FOR -Y107- PROFILE SEE SHT. 179



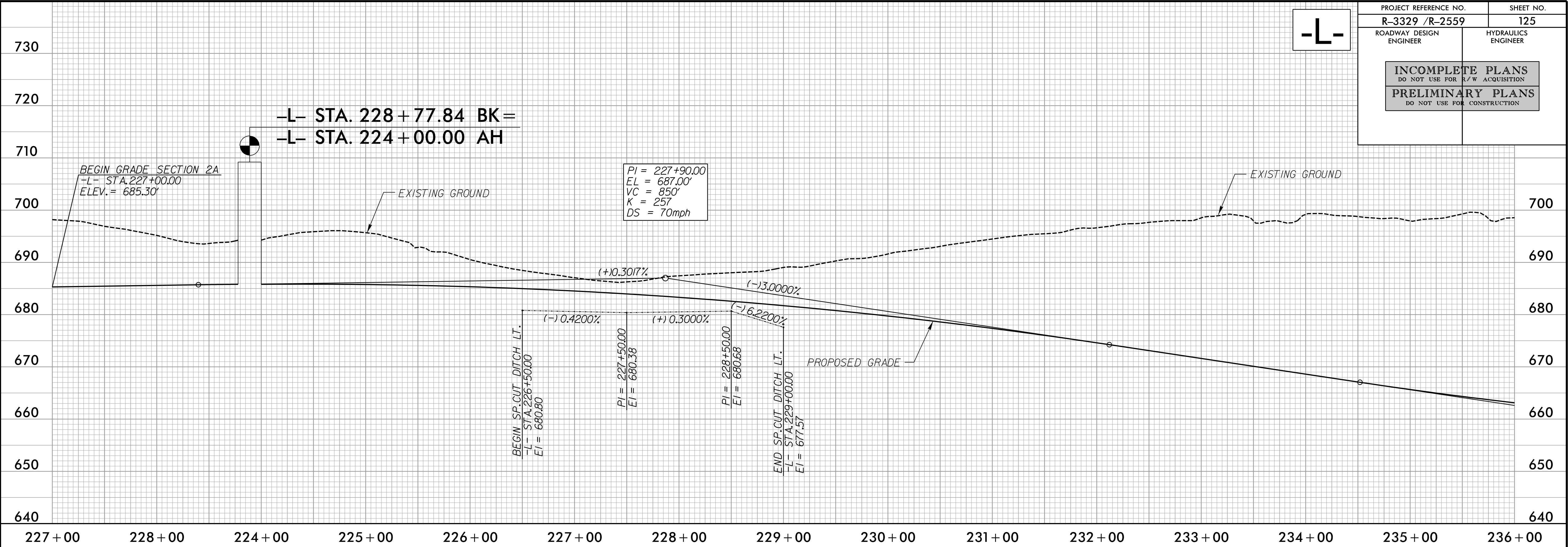




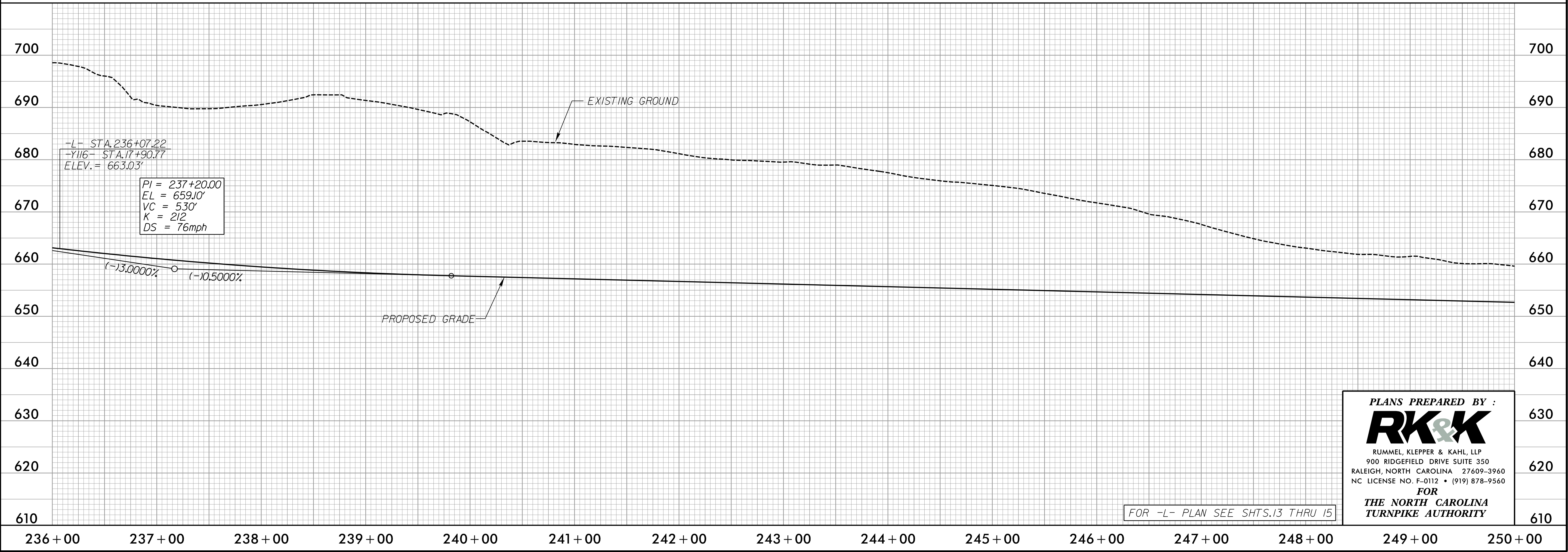
5/28/99

-L-

|                                                                                                                             |                        |           |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                                                                                       |                        | SHEET NO. |
| R-3329 /R-2559                                                                                                              |                        | 125       |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | HYDRAULICS<br>ENGINEER |           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                        |           |



8/29/2014  
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Elevs



FOR -L- PLAN SEE SHTS. 13 THRU 15

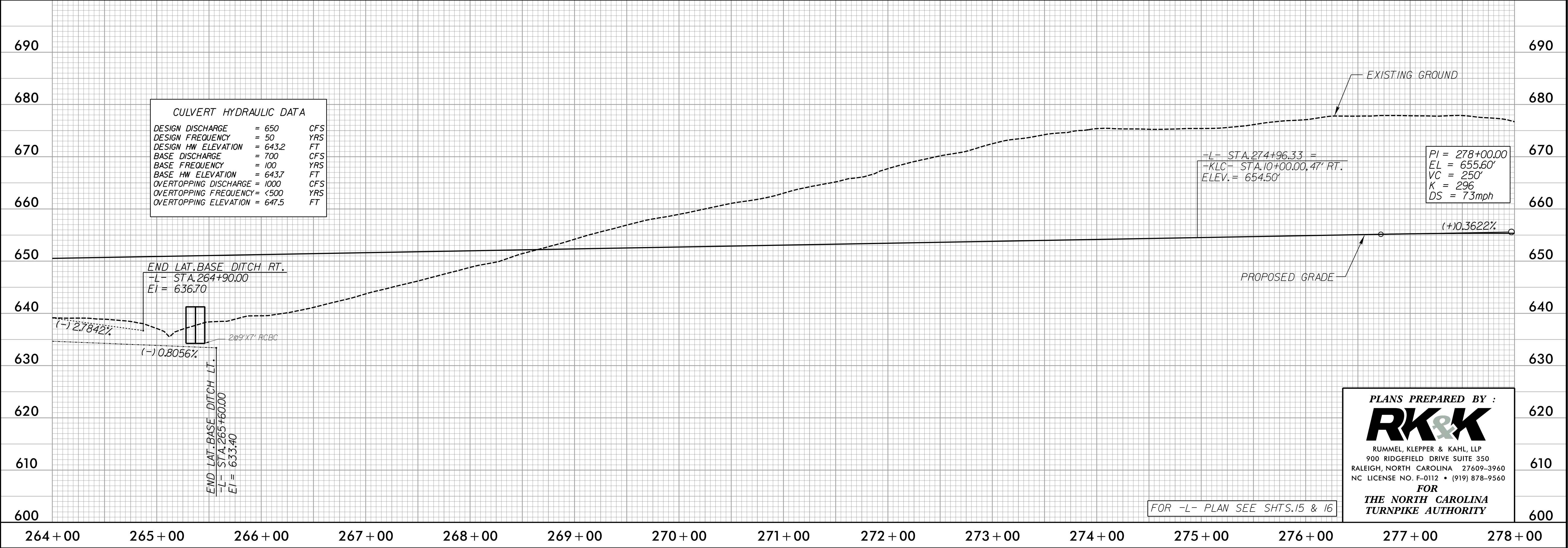
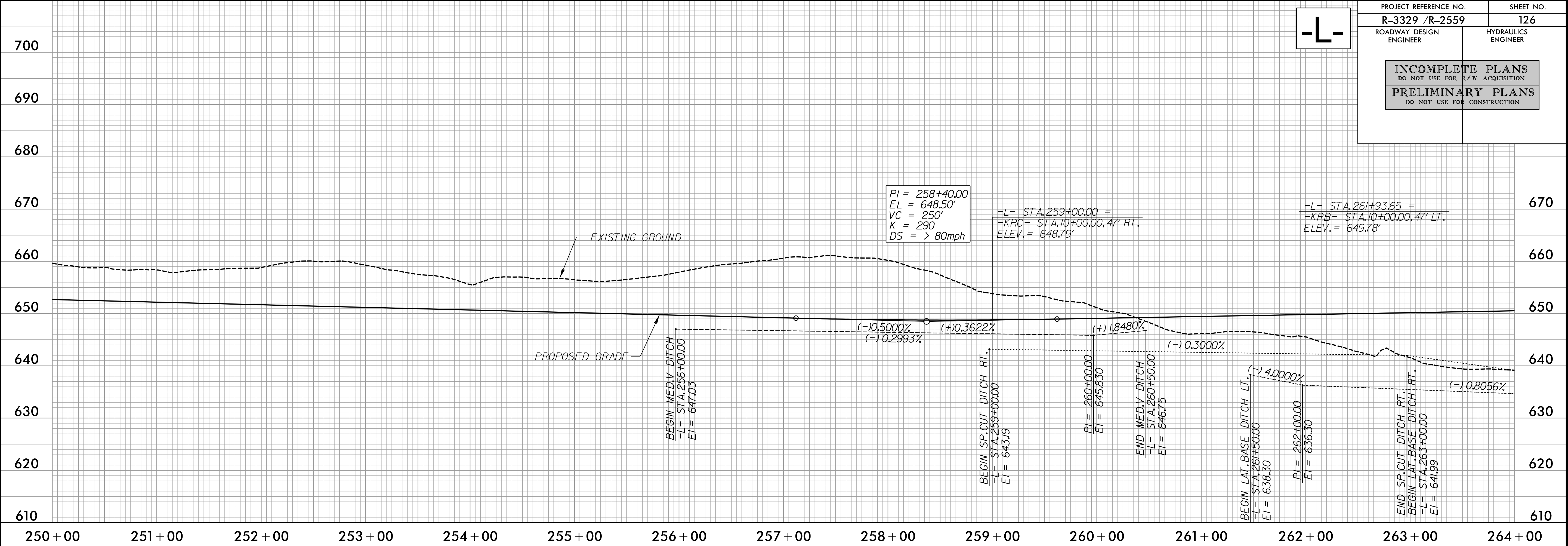
PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. F-0112 • (919) 878-9560  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



5/28/99

-L-

|                                                                                                                             |                        |           |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                                                                                       |                        | SHEET NO. |
| R-3329 /R-2559                                                                                                              |                        | 126       |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | HYDRAULICS<br>ENGINEER |           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                        |           |



| CULVERT HYDRAULIC DATA |         |     |
|------------------------|---------|-----|
| DESIGN DISCHARGE       | = 650   | CFS |
| DESIGN FREQUENCY       | = 50    | YRS |
| DESIGN HW ELEVATION    | = 643.2 | FT  |
| BASE DISCHARGE         | = 700   | CFS |
| BASE FREQUENCY         | = 100   | YRS |
| BASE HW ELEVATION      | = 643.7 | FT  |
| OVERTOPPING DISCHARGE  | = 1000  | CFS |
| OVERTOPPING FREQUENCY  | = <500  | YRS |
| OVERTOPPING ELEVATION  | = 647.5 | FT  |

PLANS PREPARED BY :  
**RK&K**  
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FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

FOR -L- PLAN SEE SHTS.15 & 16

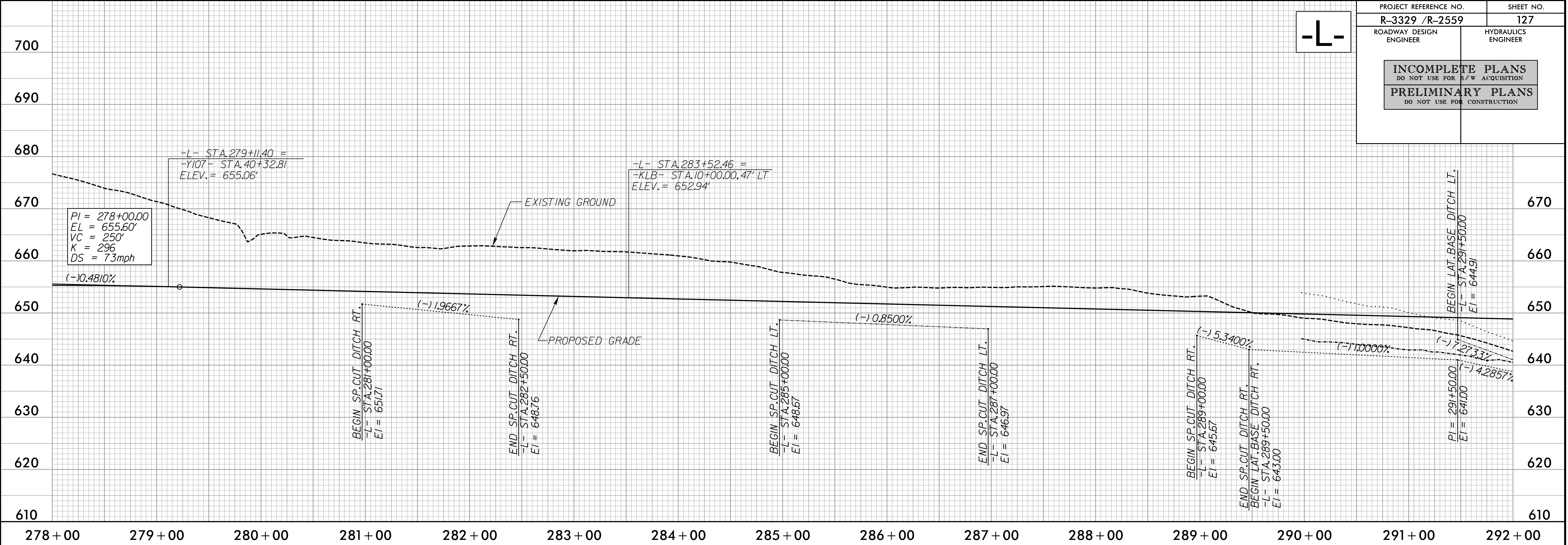
8/29/2014  
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Elevs



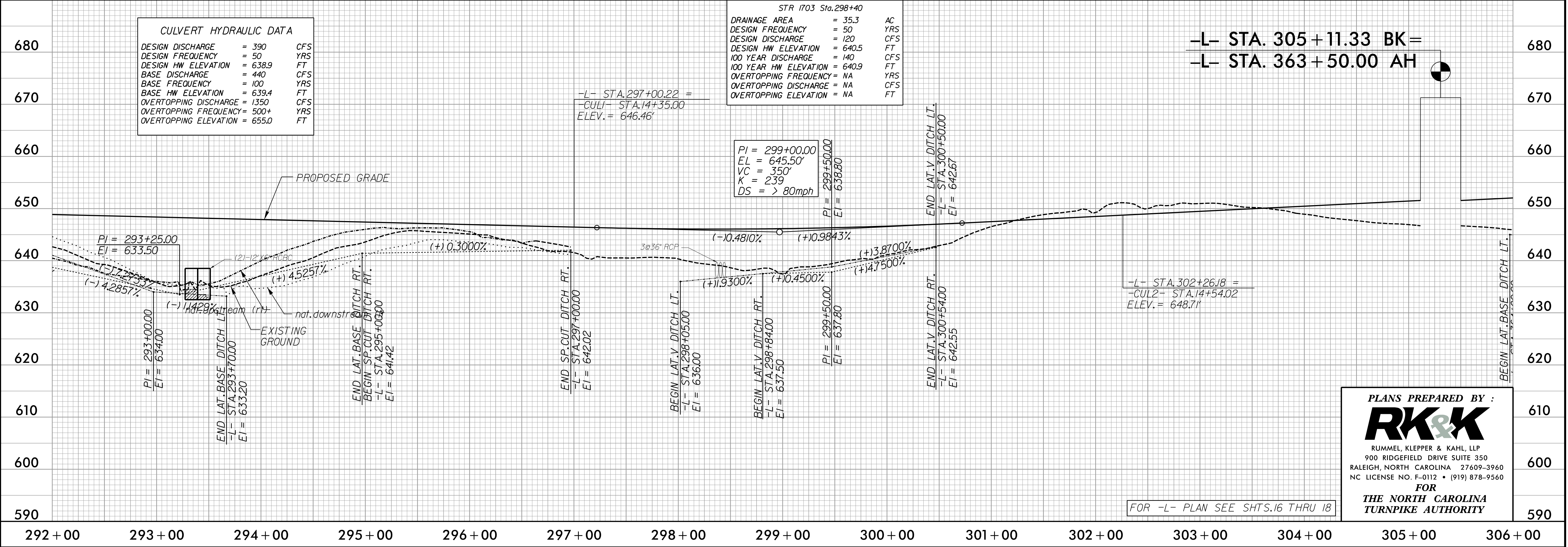
5/28/99

-L-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 127                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



8/29/2014  
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Elevs

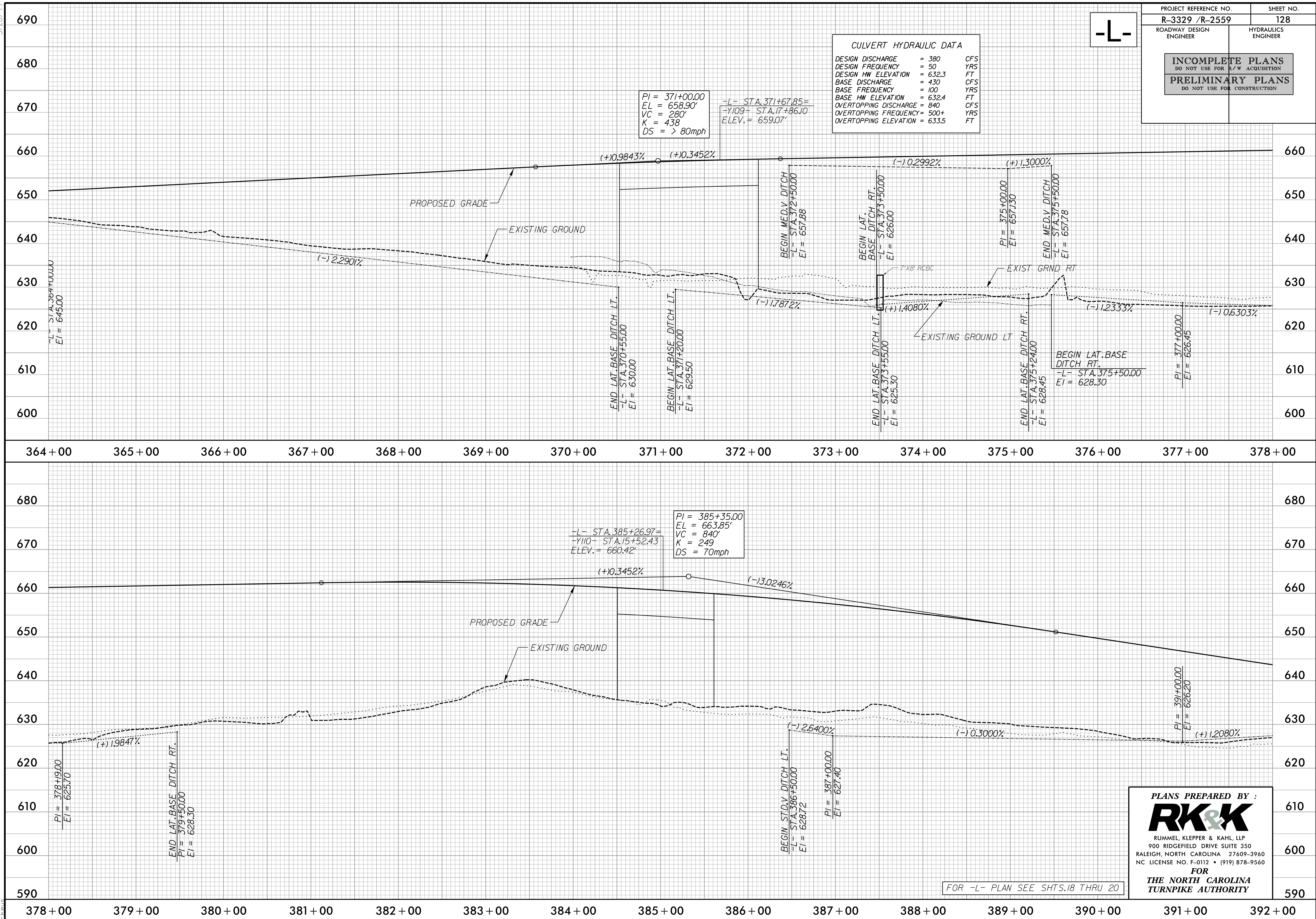


PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
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FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

FOR -L- PLAN SEE SHTS.16 THRU 18



5/28/99  
8/29/2014  
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Elevs



-L-

|                                                           |  |                         |
|-----------------------------------------------------------|--|-------------------------|
| PROJECT REFERENCE NO.<br><b>R-3329 /R-2559</b>            |  | SHEET NO.<br><b>128</b> |
| ROADWAY DESIGN ENGINEER                                   |  | HYDRAULICS ENGINEER     |
| <b>INCOMPLETE PLANS</b><br>DO NOT USE FOR R/W ACQUISITION |  |                         |
| <b>PRELIMINARY PLANS</b><br>DO NOT USE FOR CONSTRUCTION   |  |                         |

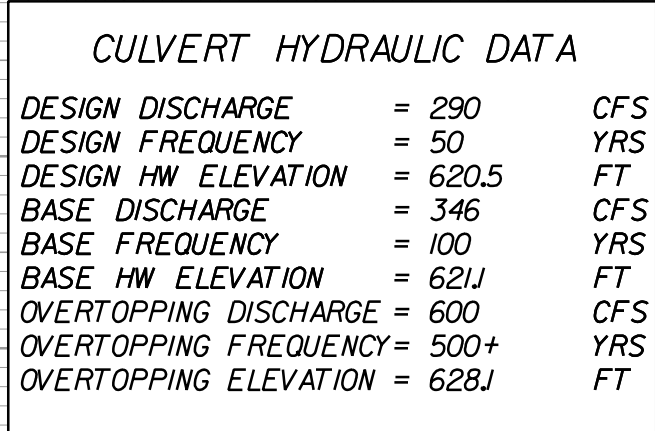
**PLANS PREPARED BY :**

**RK&K**

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

**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



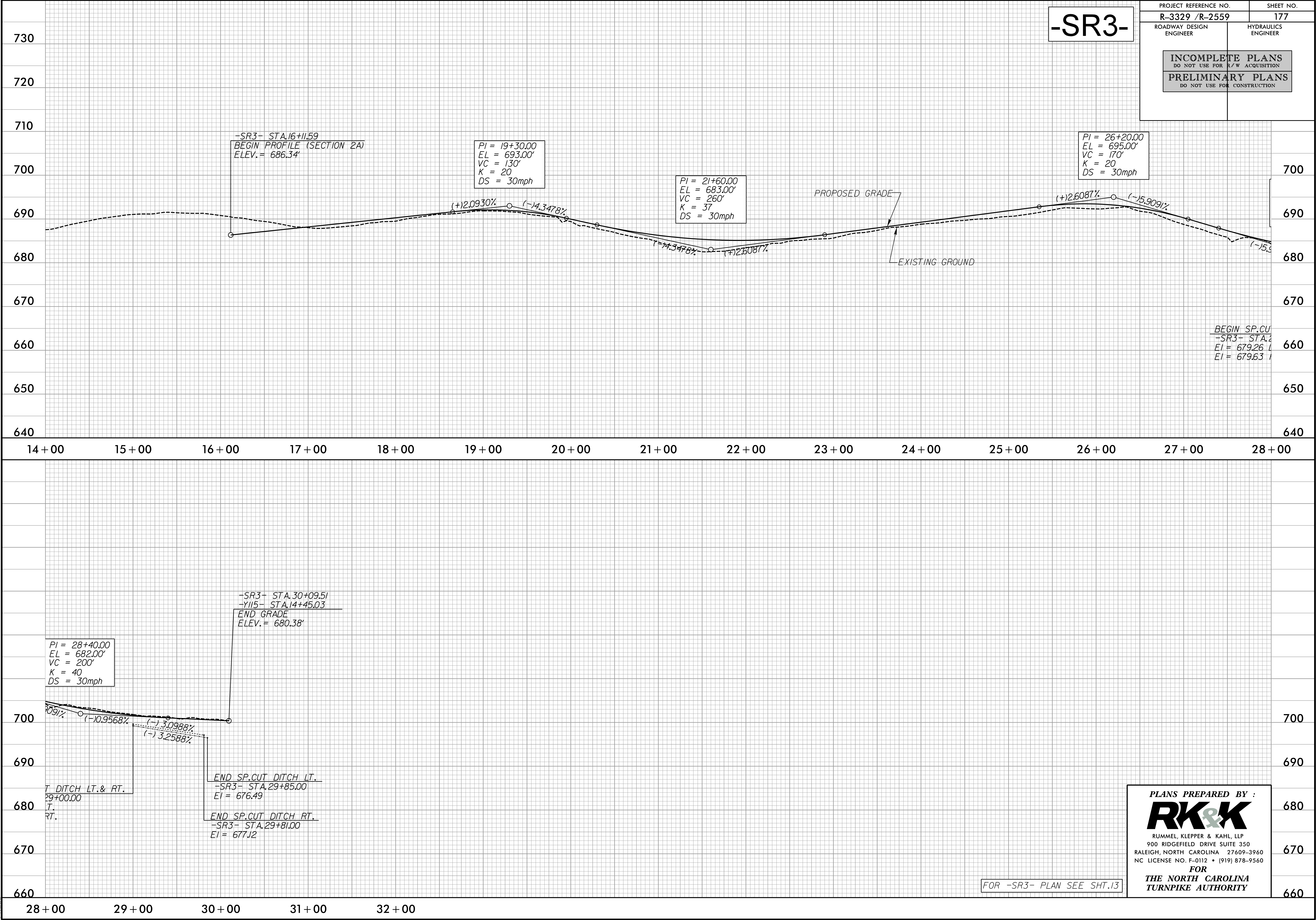




5/28/99

-SR3-

|                                                    |                        |           |
|----------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                              |                        | SHEET NO. |
| R-3329 /R-2559                                     |                        | 177       |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |           |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |           |



8/28/2014  
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PLANS PREPARED BY :  
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FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



5/28/99

-Y115-

OAK SPRING RD

PROJECT REFERENCE NO.  
R-3329 /R-2559

SHEET NO.  
178

ROADWAY DESIGN  
ENGINEER

HYDRAULICS  
ENGINEER

INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

8/28/2014  
B:\Roadway\Proj\Profile Sheets\Sec2a\R3329\_R2559\_RDY\_PFL\_178.dgn  
Elevs

-Y116-

STINSON-HARTIS RD

PLANS PREPARED BY :

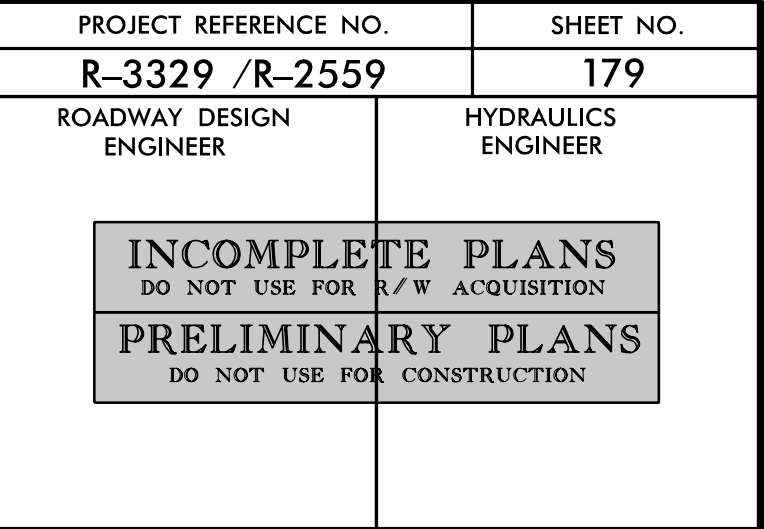
RK&K

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RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. F-0112 • (919) 878-9560

FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

FOR -Y116- PLAN SEE SHTS. 14, 82, & 83

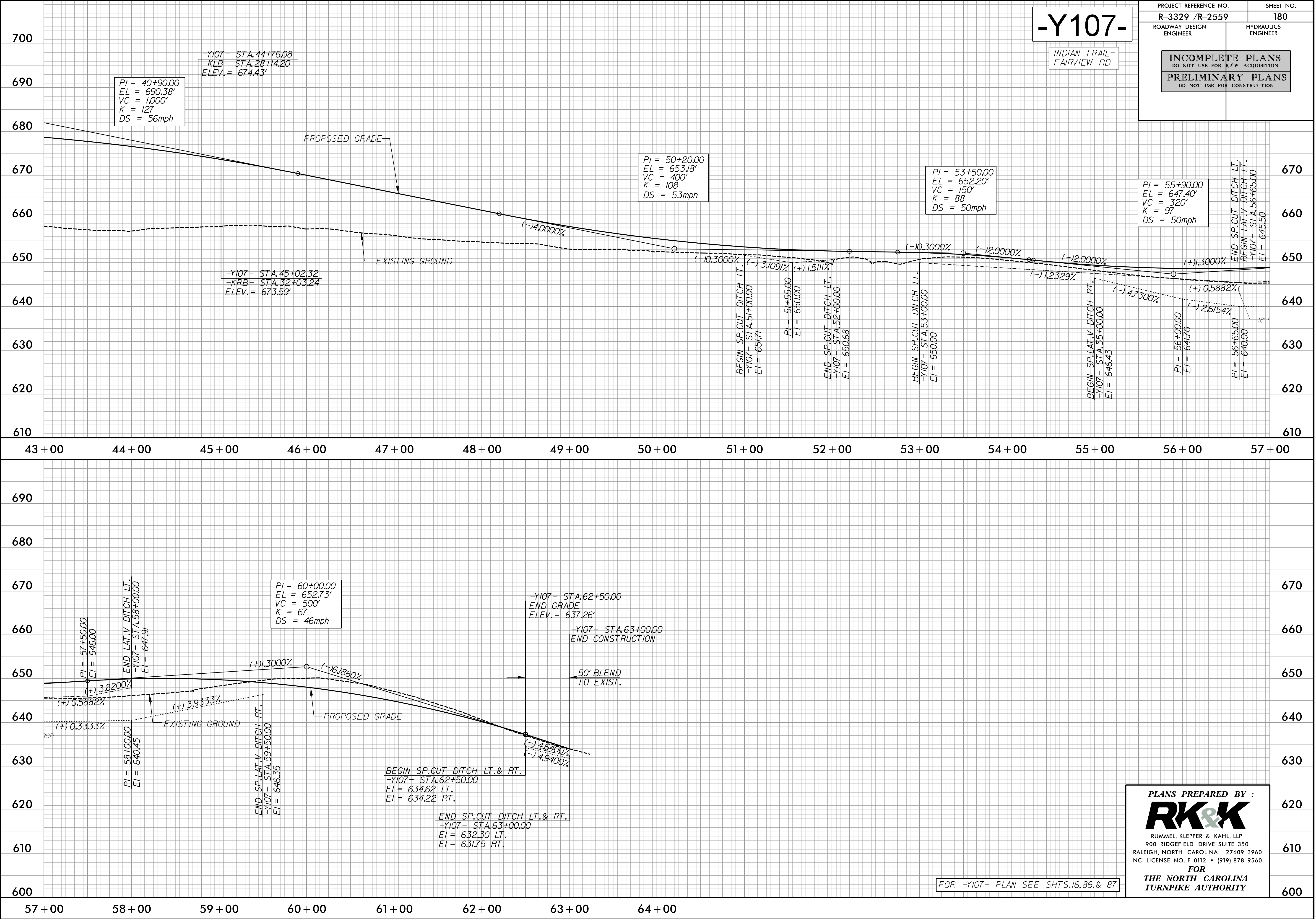


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Lkells



5/28/99

8/29/2014  
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Elevs

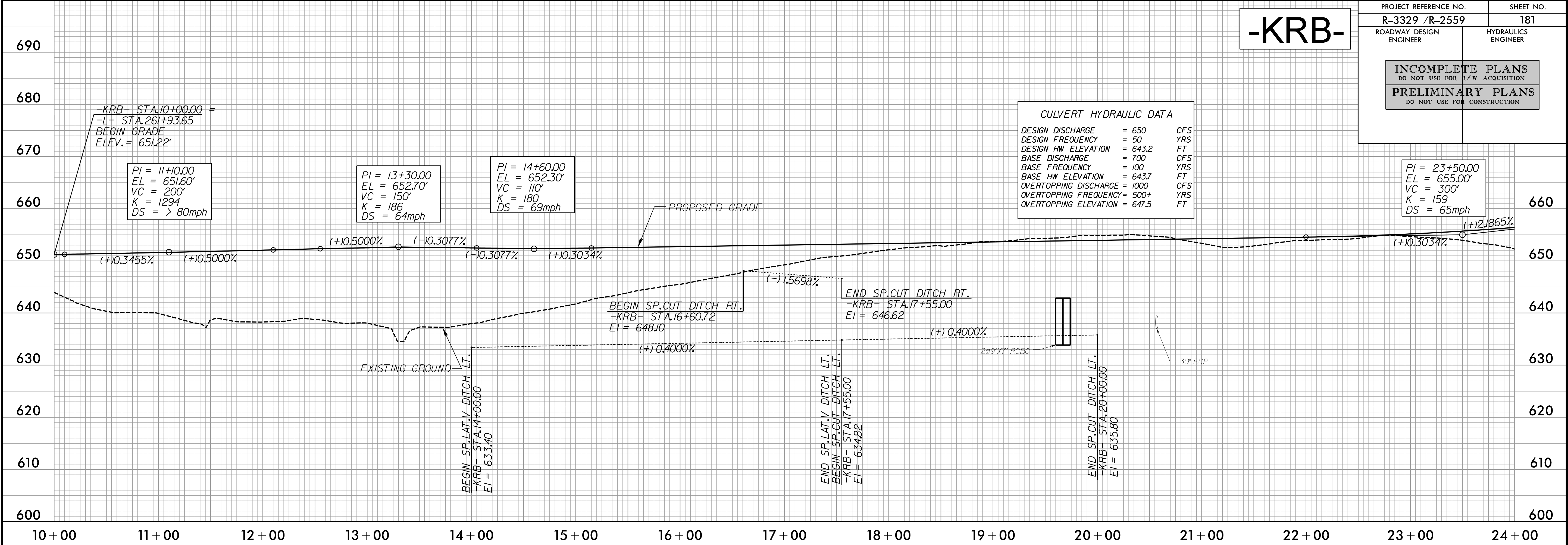




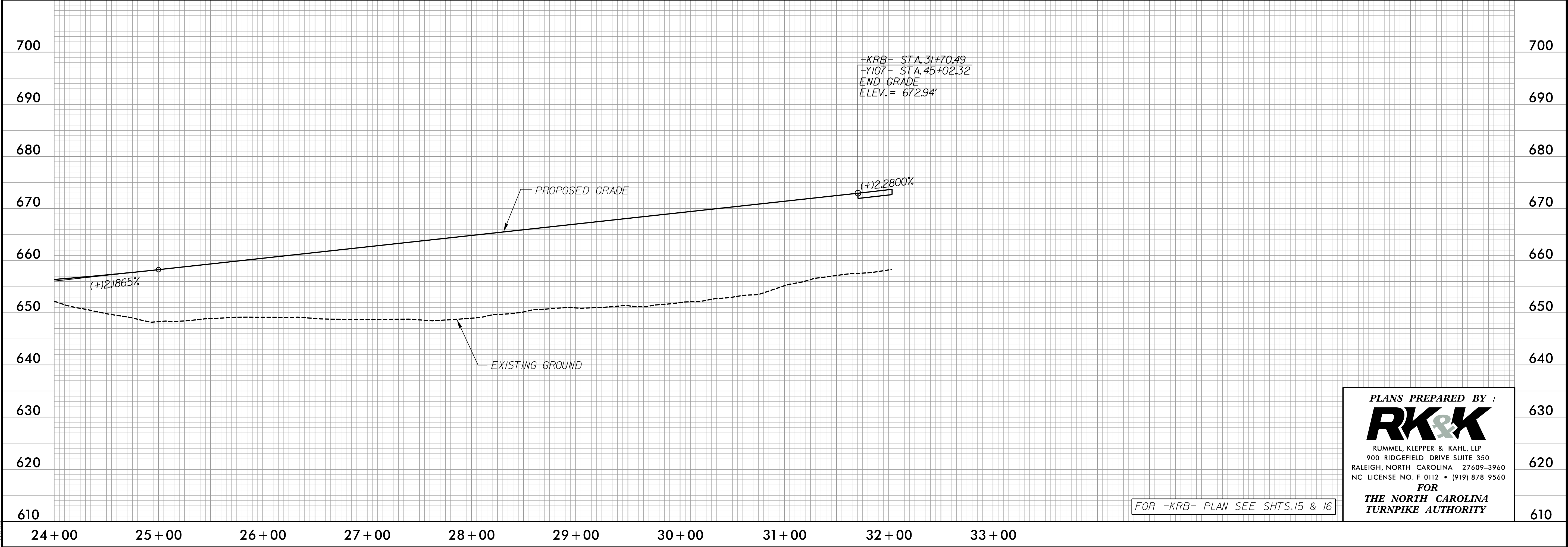
5/28/99

-KRB-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 181                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



8/28/2014  
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Elevs



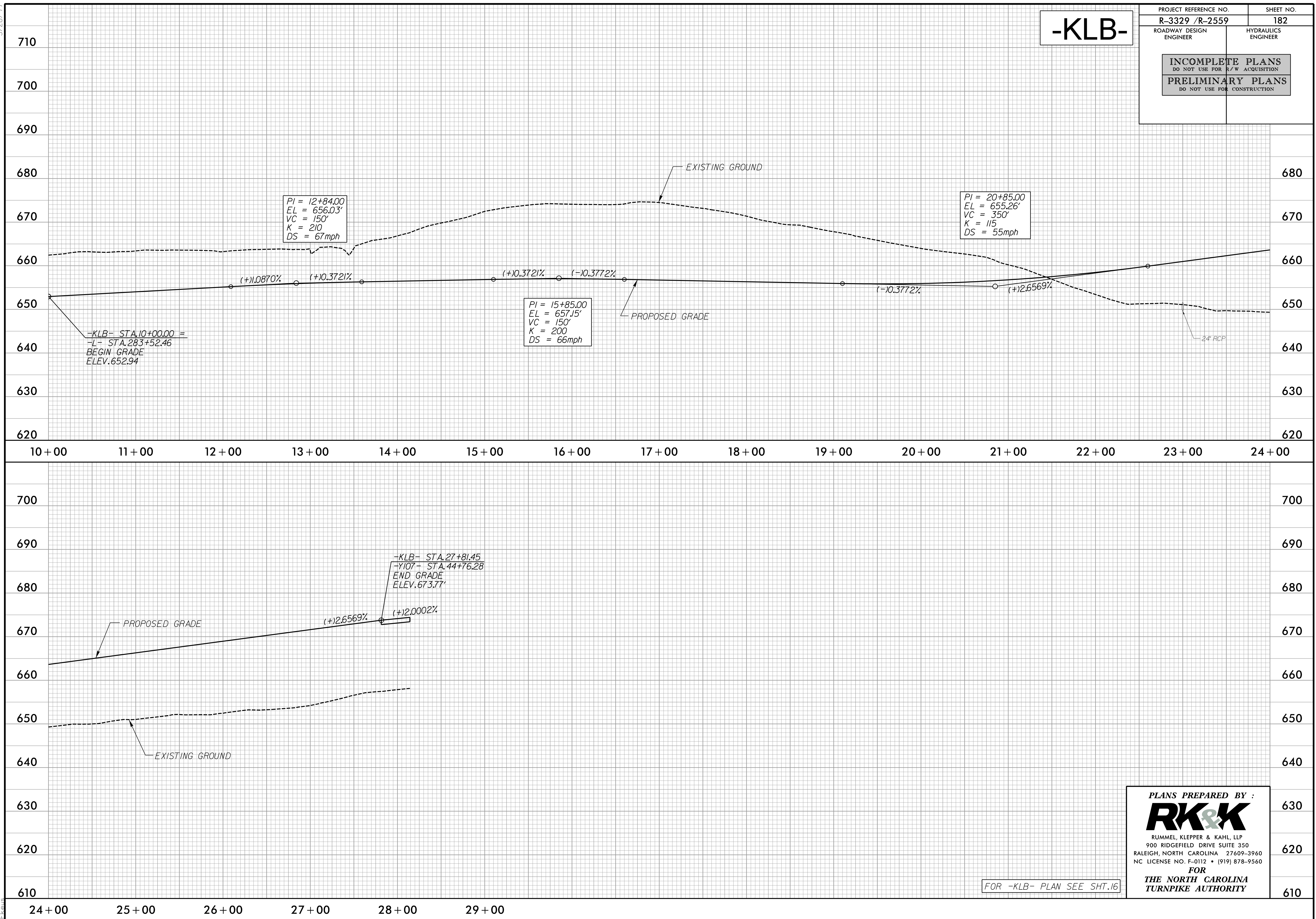
FOR -KRB- PLAN SEE SHTS.15 & 16

PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
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THE NORTH CAROLINA  
TURNPIKE AUTHORITY



|                                                                                                                                                                                                                                                           |  |                        |  |                  |  |                                |  |                   |  |                             |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------|--|------------------|--|--------------------------------|--|-------------------|--|-----------------------------|--|
| PROJECT REFERENCE NO.                                                                                                                                                                                                                                     |  | SHEET NO.              |  |                  |  |                                |  |                   |  |                             |  |
| R-3329 / R-2559                                                                                                                                                                                                                                           |  | 182                    |  |                  |  |                                |  |                   |  |                             |  |
| ROADWAY DESIGN<br>ENGINEER                                                                                                                                                                                                                                |  | HYDRAULICS<br>ENGINEER |  |                  |  |                                |  |                   |  |                             |  |
| <table border="1"> <tr> <td colspan="2">INCOMPLETE PLANS</td> </tr> <tr> <td colspan="2">DO NOT USE FOR R/W ACQUISITION</td> </tr> <tr> <td colspan="2">PRELIMINARY PLANS</td> </tr> <tr> <td colspan="2">DO NOT USE FOR CONSTRUCTION</td> </tr> </table> |  |                        |  | INCOMPLETE PLANS |  | DO NOT USE FOR R/W ACQUISITION |  | PRELIMINARY PLANS |  | DO NOT USE FOR CONSTRUCTION |  |
| INCOMPLETE PLANS                                                                                                                                                                                                                                          |  |                        |  |                  |  |                                |  |                   |  |                             |  |
| DO NOT USE FOR R/W ACQUISITION                                                                                                                                                                                                                            |  |                        |  |                  |  |                                |  |                   |  |                             |  |
| PRELIMINARY PLANS                                                                                                                                                                                                                                         |  |                        |  |                  |  |                                |  |                   |  |                             |  |
| DO NOT USE FOR CONSTRUCTION                                                                                                                                                                                                                               |  |                        |  |                  |  |                                |  |                   |  |                             |  |

**-KLB-**



**PLANS PREPARED BY :**

**RK&K**

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RALEIGH, NORTH CAROLINA 27609-3960  
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**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**

FOR -KLB- PLAN SEE SHT.16

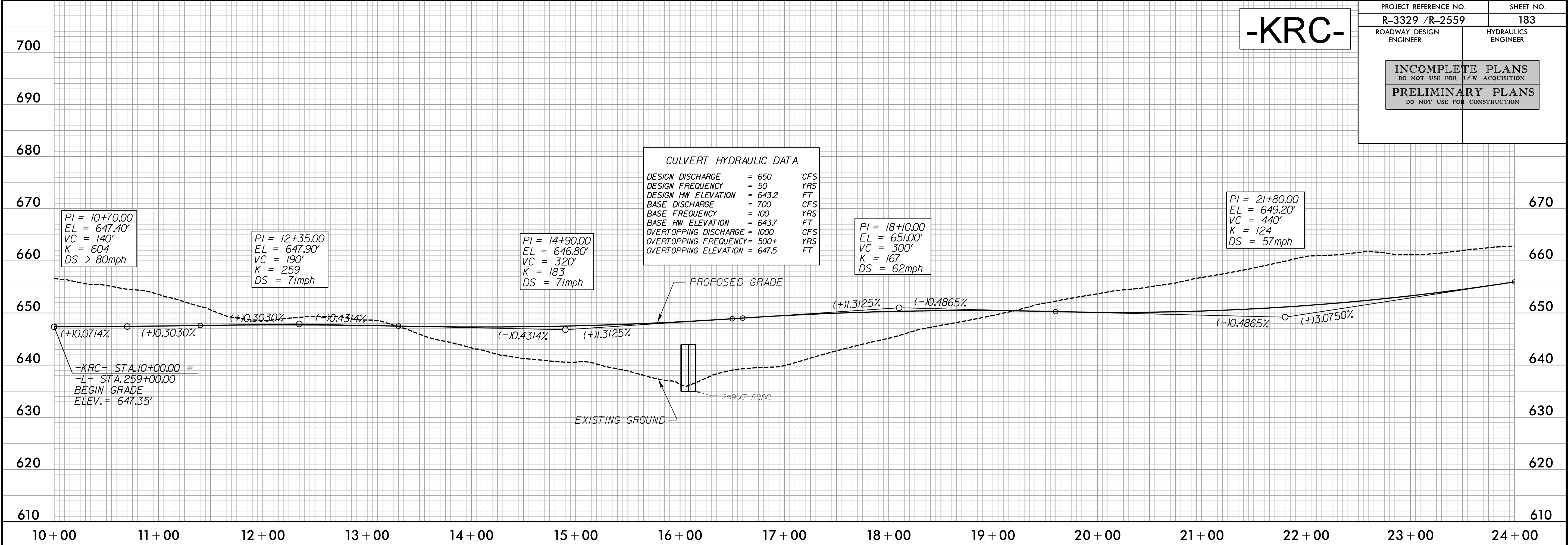
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5/28/99



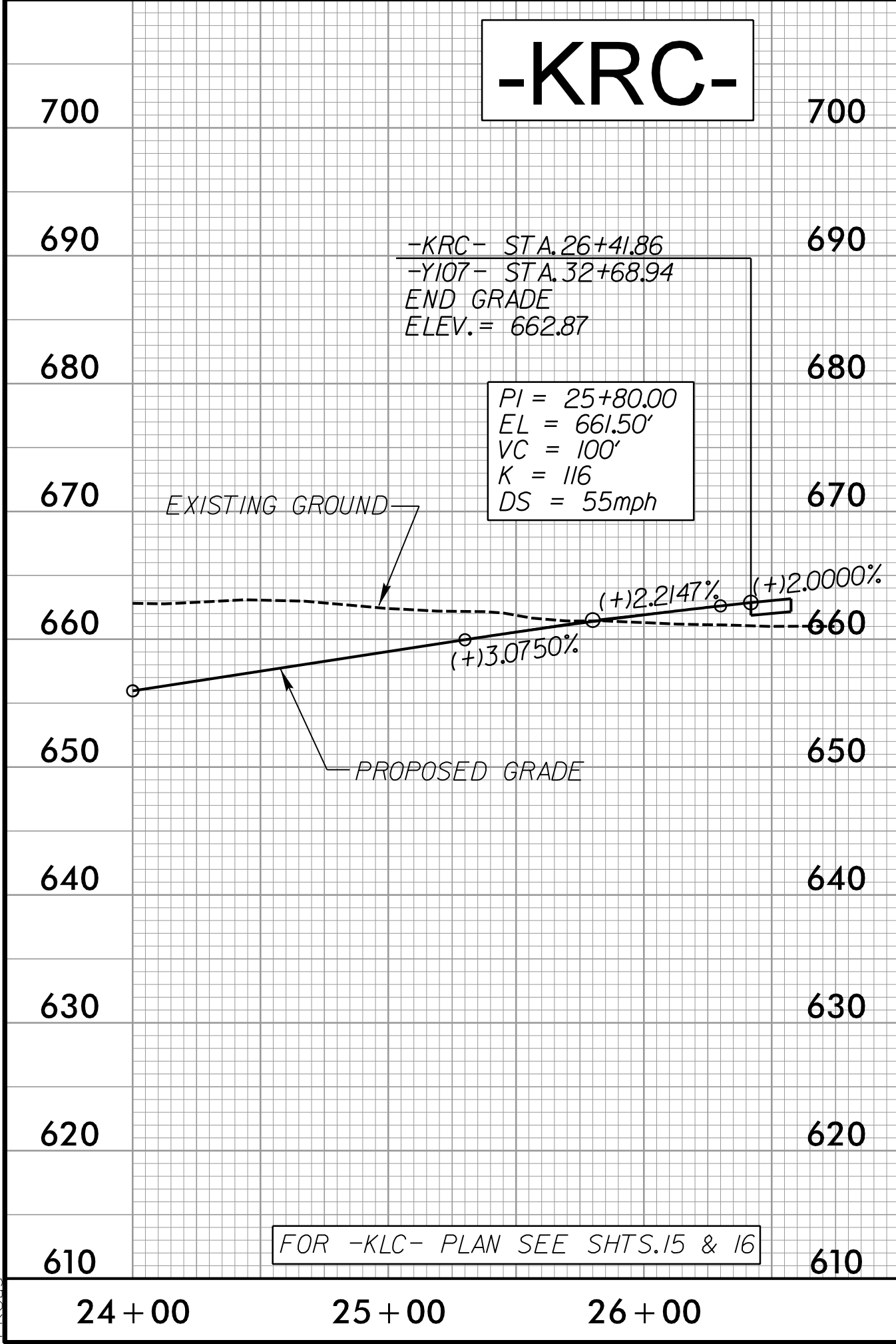
5/28/99

-KRC-

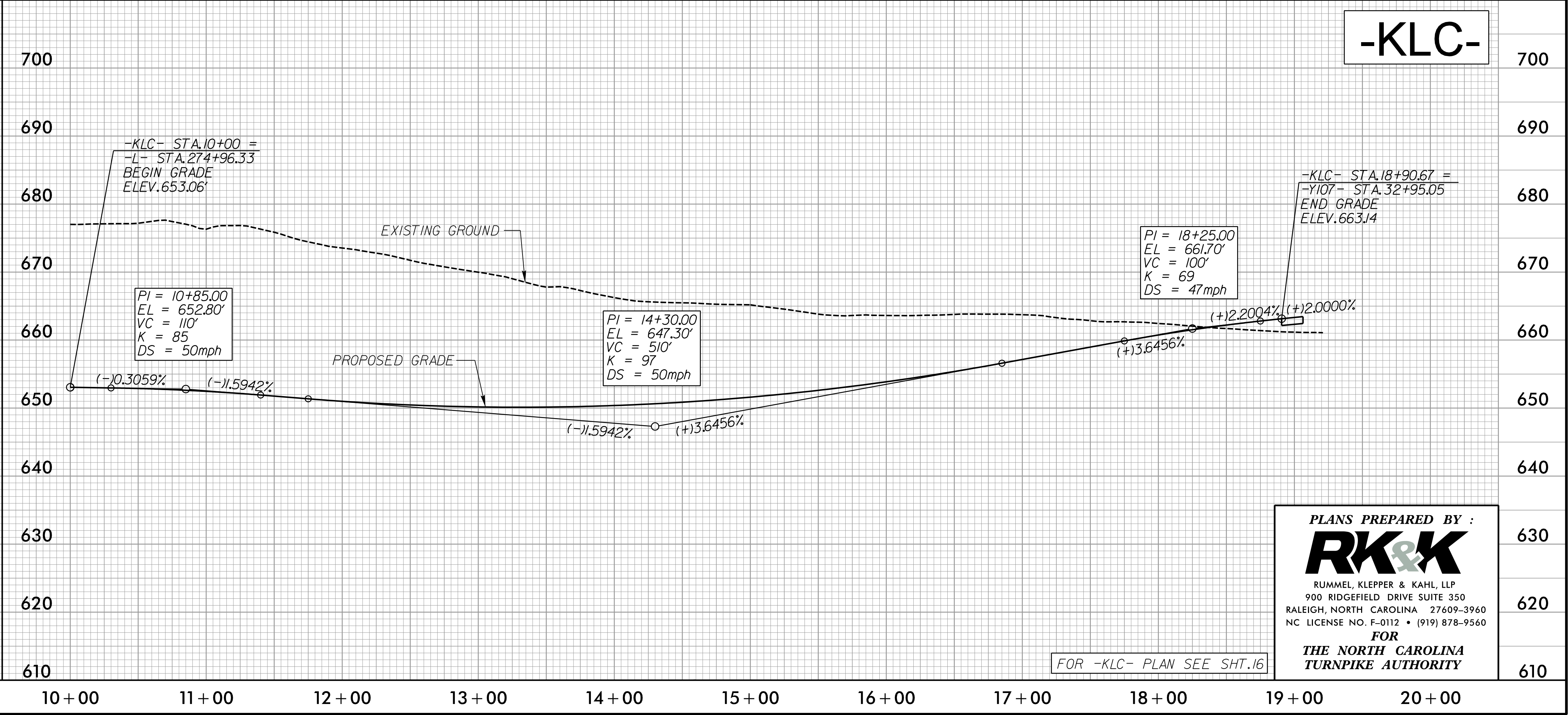
|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 183                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



-KRC-



-KLC-



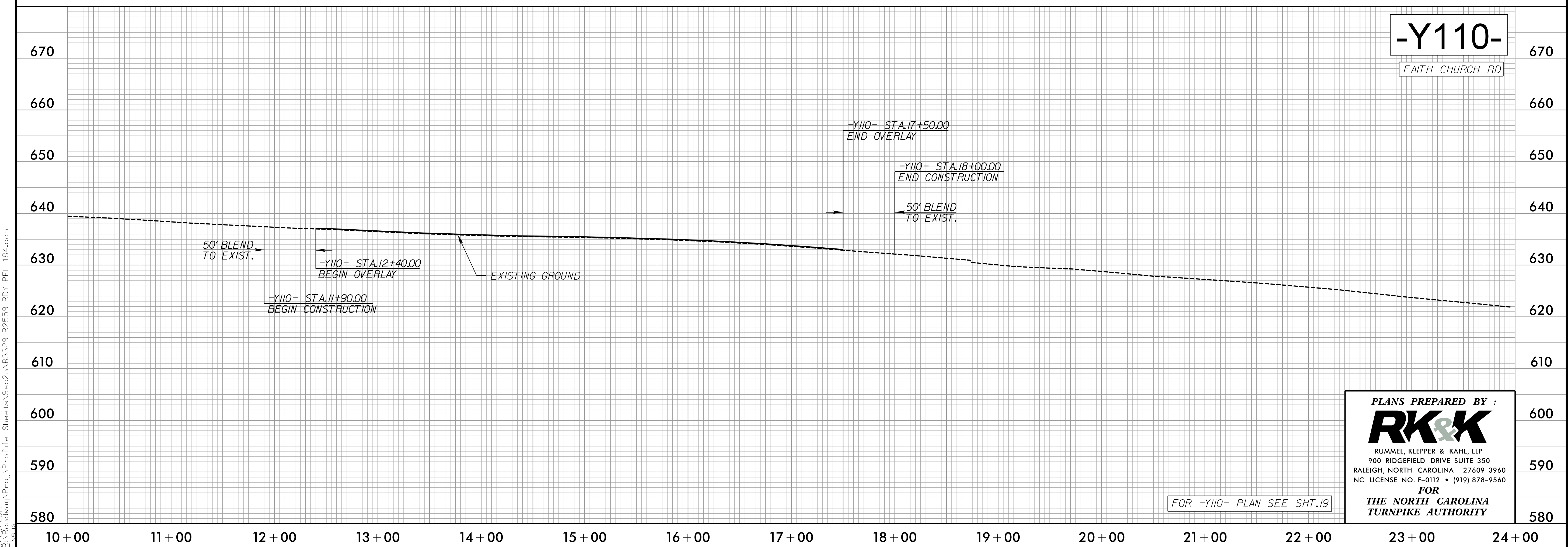
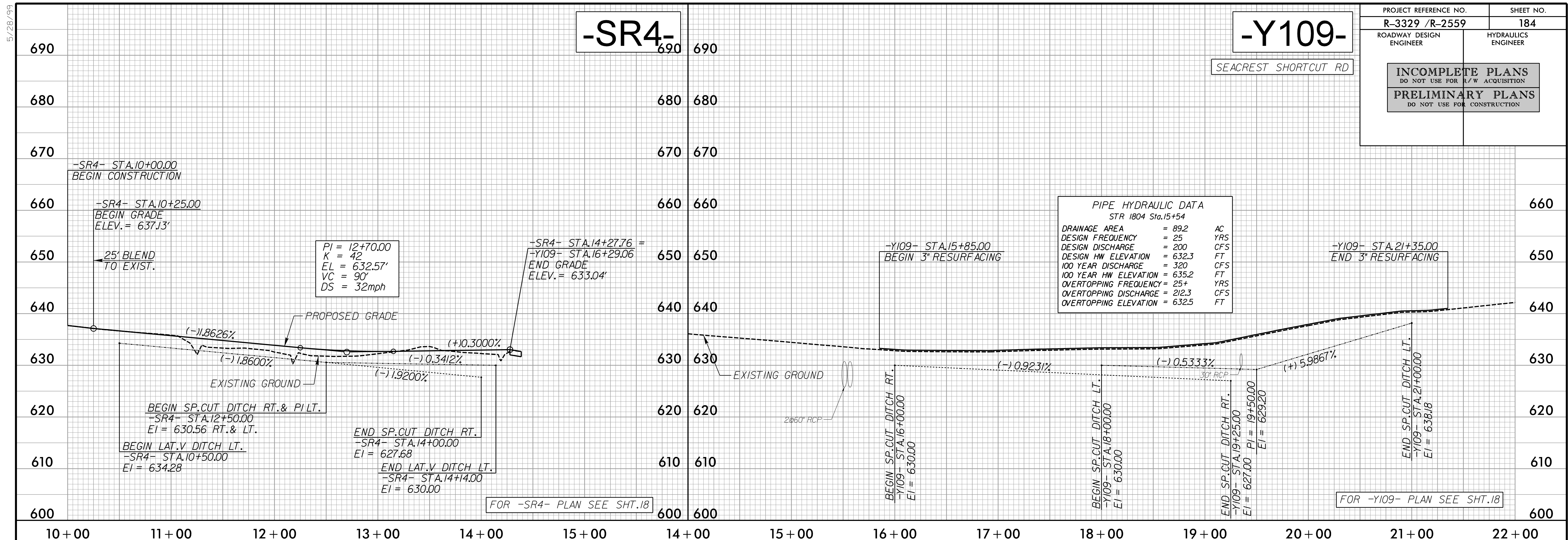
PLANS PREPARED BY :

**RK&K**

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RALEIGH, NORTH CAROLINA 27609-3960  
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**THE NORTH CAROLINA  
TURNPIKE AUTHORITY**

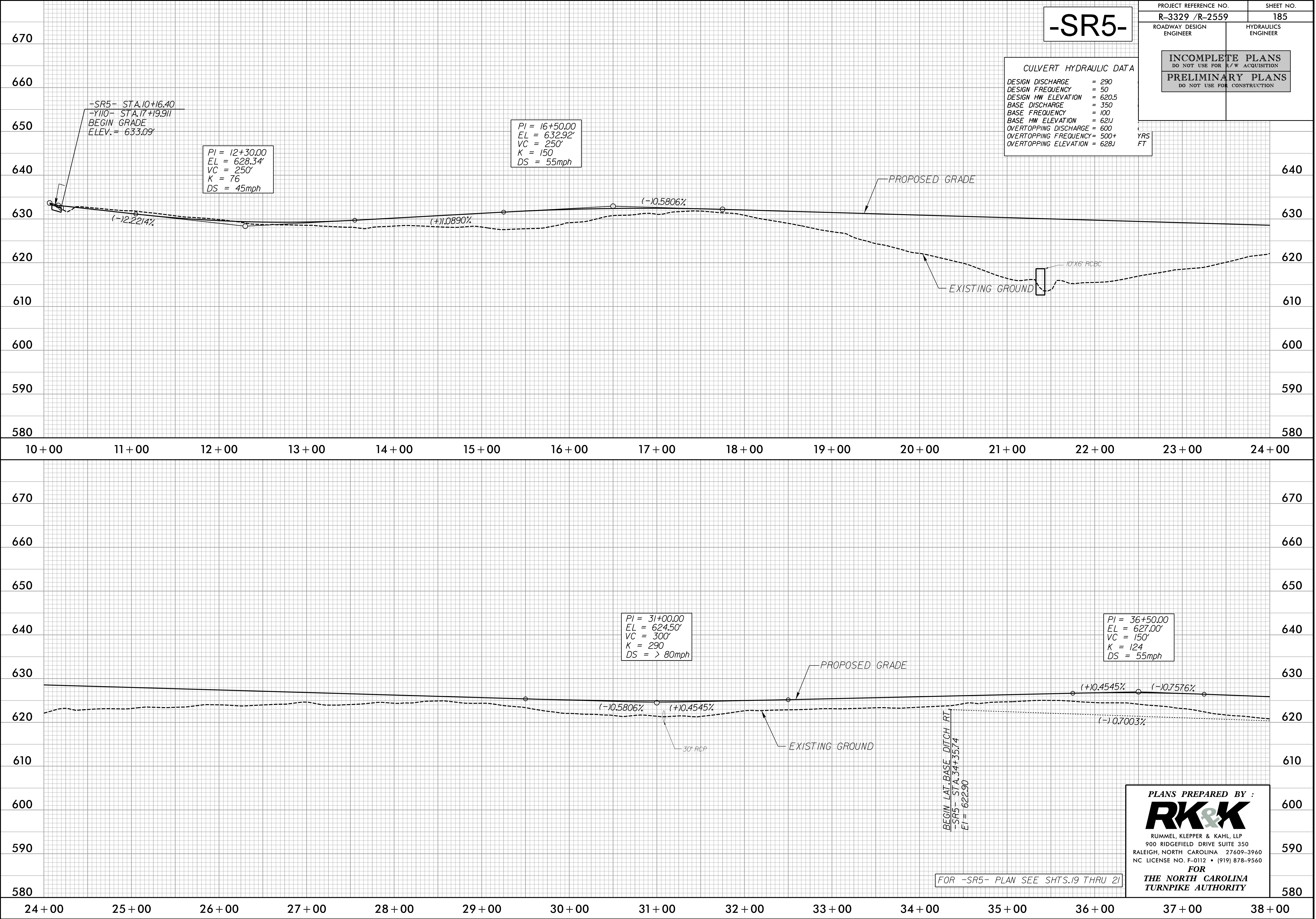






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8/29/2014  
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Elevs



-SR5-

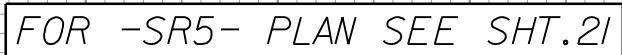
| CULVERT HYDRAULIC DATA |         |
|------------------------|---------|
| DESIGN DISCHARGE       | = 290   |
| DESIGN FREQUENCY       | = 50    |
| DESIGN HW ELEVATION    | = 620.5 |
| BASE DISCHARGE         | = 350   |
| BASE FREQUENCY         | = 100   |
| BASE HW ELEVATION      | = 621   |
| OVERTOPPING DISCHARGE  | = 600   |
| OVERTOPPING FREQUENCY  | = 500+  |
| OVERTOPPING ELEVATION  | = 628J  |

|                                                                       |                        |           |
|-----------------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                                 |                        | SHEET NO. |
| R-3329 /R-2559                                                        |                        | 185       |
| ROADWAY DESIGN<br>ENGINEER                                            | HYDRAULICS<br>ENGINEER |           |
| <div>INCOMPLETE PLANS</div> <div>DO NOT USE FOR R/W ACQUISITION</div> |                        |           |
| <div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div>   |                        |           |

|     |     |
|-----|-----|
| YRS | 640 |
| FT  | 630 |
|     | 620 |
|     | 610 |
|     | 600 |
|     | 590 |
|     | 580 |

|  |     |
|--|-----|
|  | 670 |
|  | 660 |
|  | 650 |
|  | 640 |
|  | 630 |
|  | 620 |
|  | 610 |
|  | 600 |
|  | 590 |
|  | 580 |





**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

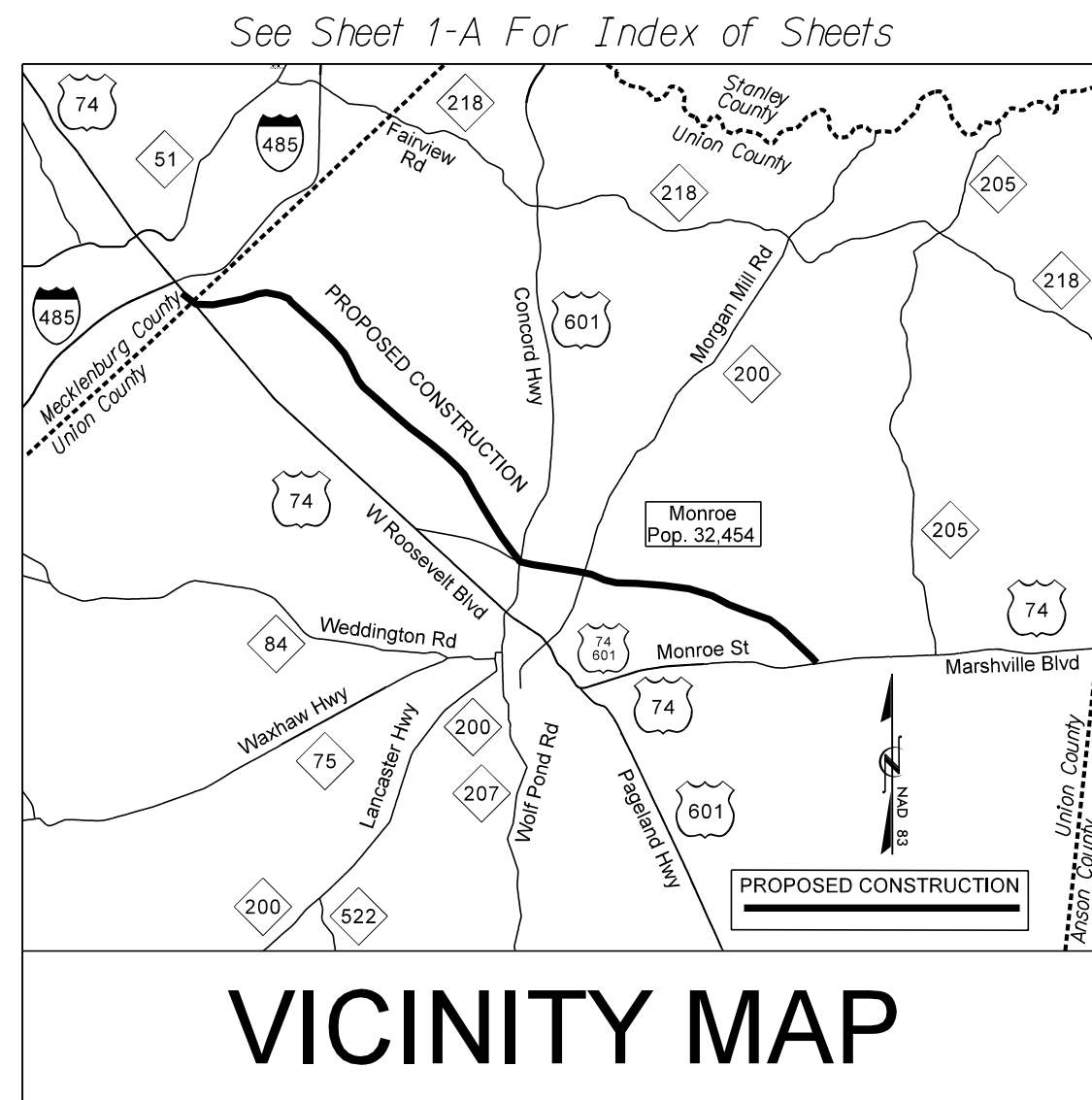
**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



09.08/2014  
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\$\$\$\$\$TIME\$\$\$\$\$  
9/30/2014  
default

TIP PROJECT: R-3329 / R-2559

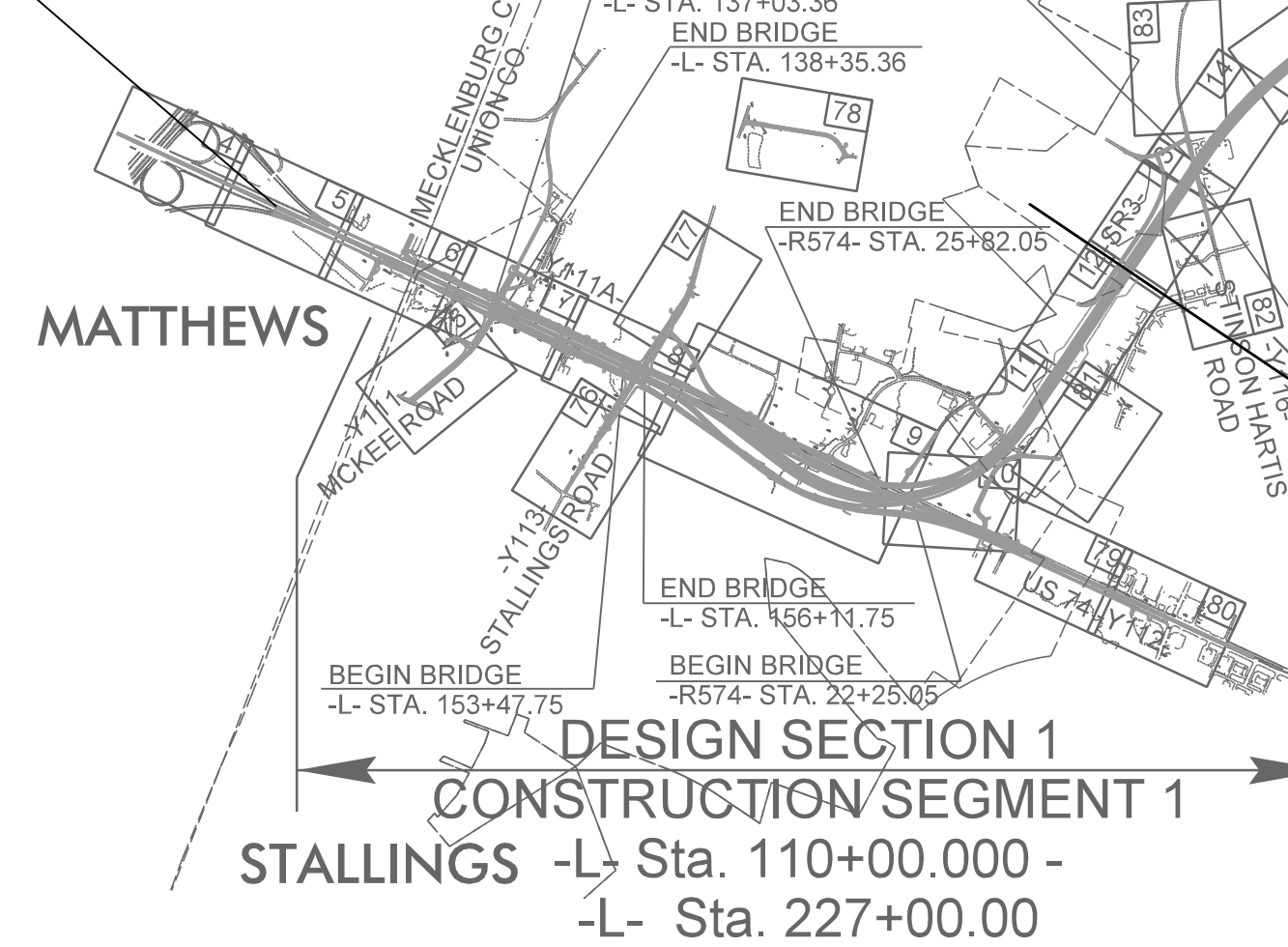
CONTRACT: C202587



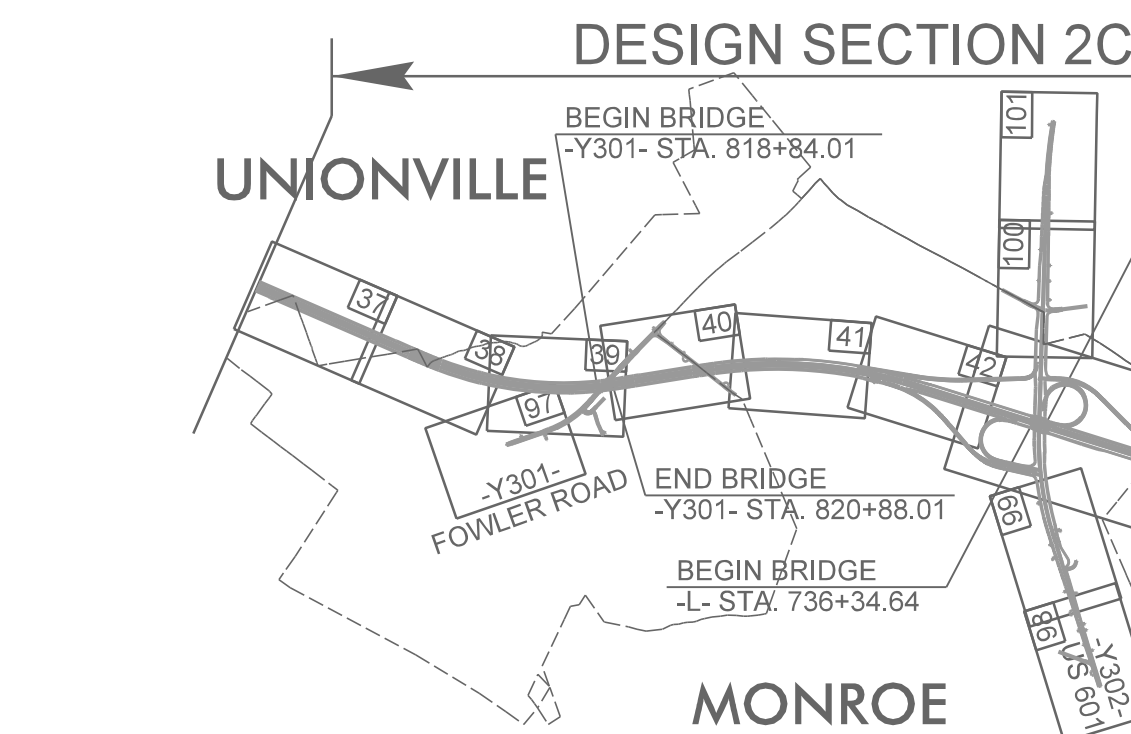
VICINITY MAP

BEGIN TIP PROJECT R-3329 / R-2559

-L- Sta. 110+00.00



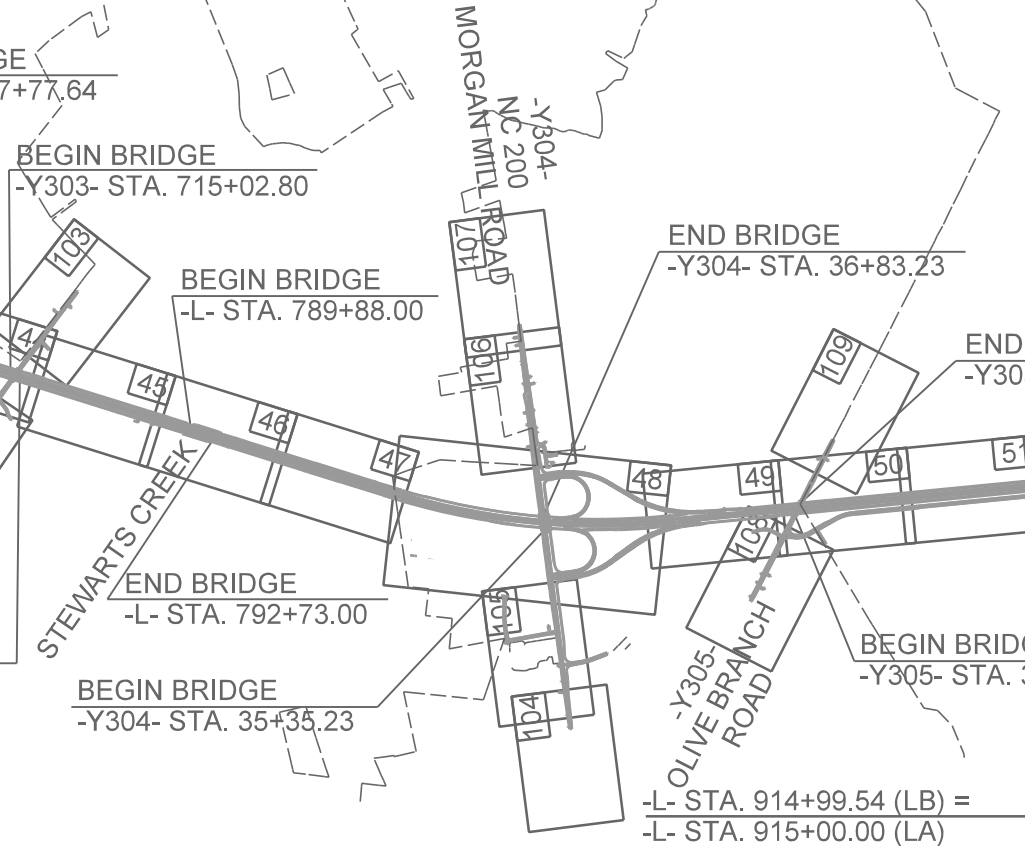
DESIGN SECTION 1  
CONSTRUCTION SEGMENT 1  
STALLINGS -L- Sta. 110+00.00 -  
-L- Sta. 227+00.00



UNIONVILLE

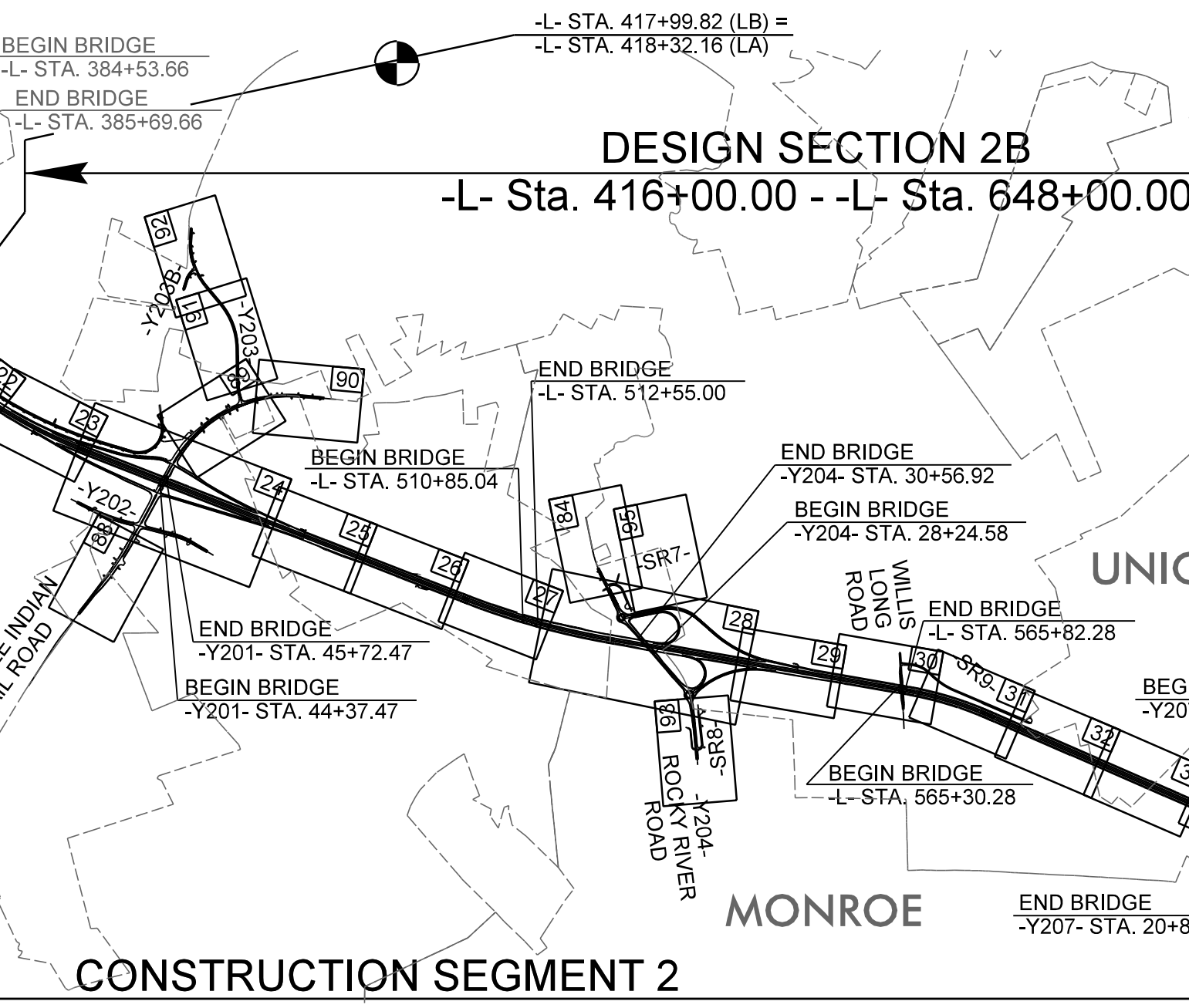
MONROE

DESIGN SECTION 2C  
CONSTRUCTION SEGMENT 2 CONT.  
-L- Sta. 648+00.00 - -L- Sta. 912+00.00



INDIAN TRAIL

DESIGN SECTION 2A  
-L- Sta. 227+00.00 -  
-L- Sta. 416+00.00

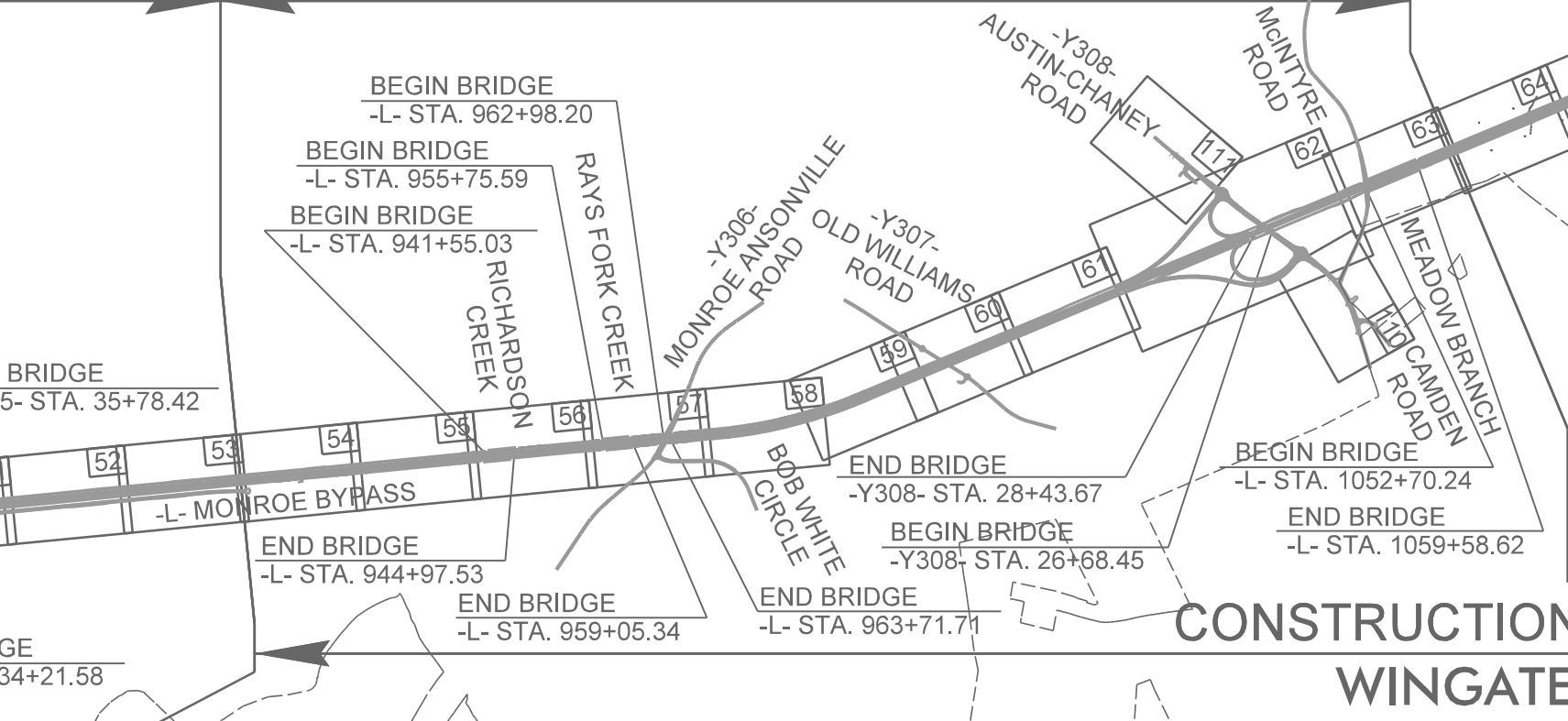


DESIGN SECTION 2B

-L- Sta. 416+00.00 - -L- Sta. 648+00.00

CONSTRUCTION SEGMENT 2

DESIGN SECTION 3A  
-L- Sta. 912+00.00 - -L- Sta. 1064+00.00



MONROE

UNIONVILLE

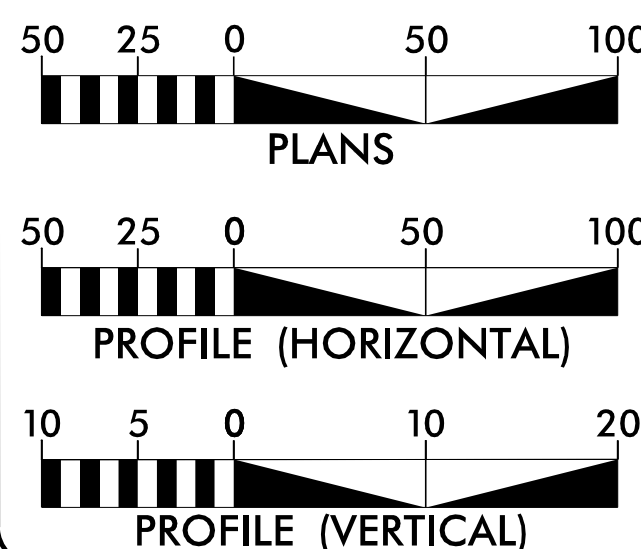
WINGATE

DESIGN SECTION 3B  
-L- Sta. 1064+00.00 - -L- Sta. 1233+50.00

CONSTRUCTION SEGMENT 3

- NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
  2. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
  3. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF MATTHEWS, INDIAN TRAIL, HEMBY BRIDGE, LAKE PARK, MONROE, UNIONVILLE, WINGATE, AND MARSHVILLE.

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 64,100  
ADT 2035 = 95,600  
DHV = 8%  
D = 55%  
T = 18%\*  
V = 70 mph

\*(TTST 11% + DUAL 7%)  
FUNCTIONAL CLASS.: FREEWAY

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3329 / R-2559..... 18.1 mi  
LENGTH STRUCTURE TIP PROJECT R-3329 / R-2559..... \*1.6 mi  
TOTAL LENGTH TIP PROJECT R-3329 / R-2559..... 19.7 mi

\* LENGTH OF STRUCTURES BASED ON WB LANES

NCDOT CONTACT: K. ZAK HAMIDI, PE

DESIGN - BUILD TEAM

PLANS PREPARED BY :

**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE, SUITE 350  
RALEIGH, NORTH CAROLINA 27609  
NC LICENSE NO. F-0112

2006 STANDARD SPECIFICATIONS

LETTING DATE:

OCTOBER 28, 2010

J.T. Peacock, Jr., P.E.  
PROJECT ENGINEER

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

CONTRACTOR :



HYDRAULICS ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.  
ROADWAY DESIGN ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C.            | R-3329 / R-2559             | 1           |              |
| STATE PROJ. NO. | F.A. PROJ. NO.              | DESCRIPTION |              |
| 34533.5.TA1     |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |

PERMIT APPLICATION  
SUBMITTAL NO. S-099  
DATE: 10-01-2014

INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION  
PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



*Note: Not to Scale*

*\*S.U.E. = Subsurface Utility Engineering*

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

| PROJECT REFERENCE NO. | SHEET NO. |
|-----------------------|-----------|
| R-3329 / R-2559       | 3A-1B     |

CONVENTIONAL PLAN SHEET SYMBOLS

**BOUNDARIES AND PROPERTY:**

|                                            |             |
|--------------------------------------------|-------------|
| State Line                                 | -----       |
| County Line                                | -----       |
| Township Line                              | -----       |
| City Line                                  | -----       |
| Reservation Line                           | -----       |
| Property Line                              | -----       |
| Existing Iron Pin                          | ○ EIP       |
| Property Corner                            | -----X      |
| Property Monument                          | □ ECM       |
| Parcel/Sequence Number                     | (23)        |
| Existing Fence Line                        | -X-X-X-     |
| Proposed Woven Wire Fence                  | ○           |
| Proposed Chain Link Fence                  | □           |
| Proposed Barbed Wire Fence                 | ◇           |
| Existing Wetland Boundary                  | --- WLB --- |
| Proposed Wetland Boundary                  | WLB         |
| Existing Endangered Animal Boundary        | --- EAB --- |
| Existing Endangered Plant Boundary         | --- EPB --- |
| Known Soil Contamination: Area or Site     | ☠ ☠         |
| Potential Soil Contamination: Area or Site | ☠ ? ☠       |

**BUILDINGS AND OTHER CULTURE:**

|                               |     |
|-------------------------------|-----|
| Gas Pump Vent or U/G Tank Cap | ○   |
| Sign                          | ○ S |
| Well                          | ○ W |
| Small Mine                    | ✕   |
| Foundation                    | ▭   |
| Area Outline                  | ▭   |
| Cemetery                      | ▭ + |
| Building                      | ▭   |
| School                        | ▭ + |
| Church                        | ▭ + |
| Dam                           | ▭   |

**HYDROLOGY:**

|                                    |              |
|------------------------------------|--------------|
| Stream or Body of Water            | ~~~~~        |
| Hydro, Pool or Reservoir           | ▭            |
| Jurisdictional Stream              | --- JS ---   |
| Buffer Zone 1                      | --- BZ 1 --- |
| Buffer Zone 2                      | --- BZ 2 --- |
| Flow Arrow                         | ←            |
| Disappearing Stream                | ➤            |
| Spring                             | ○            |
| Wetland                            | ⬇            |
| Proposed Lateral, Tail, Head Ditch | ➤ FLOW       |
| False Sump                         | ▽            |

**RAILROADS:**

|                    |               |
|--------------------|---------------|
| Standard Gauge     | +++++         |
| RR Signal Milepost | ○ MILEPOST 35 |
| Switch             | SWITCH        |
| RR Abandoned       | -----         |
| RR Dismantled      | -----         |

**RIGHT OF WAY:**

|                                                               |           |
|---------------------------------------------------------------|-----------|
| Baseline Control Point                                        | ◆         |
| Existing Right of Way Marker                                  | △         |
| Existing Right of Way Line                                    | -----     |
| Proposed Right of Way Line                                    | -----R/W  |
| Proposed Right of Way Line with Iron Pin and Cap Marker       | -----R/W▲ |
| Proposed Right of Way Line with Concrete or Granite RW Marker | -----R/W▲ |
| Proposed Control of Access Line with Concrete C/A Marker      | -----C/A  |
| Existing Control of Access                                    | -----C/A  |
| Proposed Control of Access                                    | -----C/A  |
| Existing Easement Line                                        | --- E --- |
| Proposed Temporary Construction Easement                      | E         |
| Proposed Temporary Drainage Easement                          | TDE       |
| Proposed Permanent Drainage Easement                          | PDE       |
| Proposed Permanent Drainage / Utility Easement                | DUE       |
| Proposed Permanent Utility Easement                           | PUE       |
| Proposed Temporary Utility Easement                           | TUE       |
| Proposed Aerial Utility Easement                              | AUE       |

Proposed Permanent Easement with Iron Pin and Cap Marker

**ROADS AND RELATED FEATURES:**

|                            |           |
|----------------------------|-----------|
| Existing Edge of Pavement  | -----     |
| Existing Curb              | -----     |
| Proposed Slope Stakes Cut  | --- C --- |
| Proposed Slope Stakes Fill | --- F --- |
| Proposed Curb Ramp         | CR        |
| Existing Metal Guardrail   | --- T --- |
| Proposed Guardrail         | --- T --- |
| Existing Cable Guiderail   | --- T --- |
| Proposed Cable Guiderail   | --- T --- |
| Equality Symbol            | ⊕         |
| Pavement Removal           | XXXXX     |
| <b>VEGETATION:</b>         |           |
| Single Tree                | ☼         |
| Single Shrub               | ☼         |
| Hedge                      | ~~~~~     |
| Woods Line                 | ~~~~~     |

|          |            |
|----------|------------|
| Orchard  | ☼ ☼ ☼ ☼    |
| Vineyard | ▭ Vineyard |

**EXISTING STRUCTURES:**

|                                          |         |
|------------------------------------------|---------|
| MAJOR:                                   |         |
| Bridge, Tunnel or Box Culvert            | CONC    |
| Bridge Wing Wall, Head Wall and End Wall | CONC WW |
| MINOR:                                   |         |
| Head and End Wall                        | CONC HW |
| Pipe Culvert                             | -----   |
| Footbridge                               | ----->  |
| Drainage Box: Catch Basin, DI or JB      | CB      |
| Paved Ditch Gutter                       | -----   |
| Storm Sewer Manhole                      | Ⓢ       |
| Storm Sewer                              | S       |

**UTILITIES:**

|                                     |           |
|-------------------------------------|-----------|
| POWER:                              |           |
| Existing Power Pole                 | ●         |
| Proposed Power Pole                 | ○         |
| Existing Joint Use Pole             | ●         |
| Proposed Joint Use Pole             | ○         |
| Power Manhole                       | Ⓟ         |
| Power Line Tower                    | ⊠         |
| Power Transformer                   | ⊠         |
| U/G Power Cable Hand Hole           | HH        |
| H-Frame Pole                        | ●●        |
| Recorded U/G Power Line             | --- P --- |
| Designated U/G Power Line (S.U.E.*) | --- P --- |

**TELEPHONE:**

|                                             |      |
|---------------------------------------------|------|
| Existing Telephone Pole                     | ●    |
| Proposed Telephone Pole                     | ○    |
| Telephone Manhole                           | Ⓣ    |
| Telephone Booth                             | 3    |
| Telephone Pedestal                          | T    |
| Telephone Cell Tower                        | Ⓣ    |
| U/G Telephone Cable Hand Hole               | HH   |
| Recorded U/G Telephone Cable                | T    |
| Designated U/G Telephone Cable (S.U.E.*)    | T    |
| Recorded U/G Telephone Conduit              | TC   |
| Designated U/G Telephone Conduit (S.U.E.*)  | TC   |
| Recorded U/G Fiber Optics Cable             | T FO |
| Designated U/G Fiber Optics Cable (S.U.E.*) | T FO |

**WATER:**

|                                     |           |
|-------------------------------------|-----------|
| Water Manhole                       | Ⓜ         |
| Water Meter                         | ○         |
| Water Valve                         | ⊗         |
| Water Hydrant                       | Ⓜ         |
| Recorded U/G Water Line             | W         |
| Designated U/G Water Line (S.U.E.*) | W         |
| Above Ground Water Line             | A/G Water |

**TV:**

|                                            |       |
|--------------------------------------------|-------|
| TV Satellite Dish                          | ☎     |
| TV Pedestal                                | Ⓣ     |
| TV Tower                                   | ⊗     |
| U/G TV Cable Hand Hole                     | HH    |
| Recorded U/G TV Cable                      | TV    |
| Designated U/G TV Cable (S.U.E.*)          | TV    |
| Recorded U/G Fiber Optic Cable             | TV FO |
| Designated U/G Fiber Optic Cable (S.U.E.*) | TV FO |

**GAS:**

|                                   |         |
|-----------------------------------|---------|
| Gas Valve                         | ◇       |
| Gas Meter                         | Ⓜ       |
| Recorded U/G Gas Line             | G       |
| Designated U/G Gas Line (S.U.E.*) | G       |
| Above Ground Gas Line             | A/G Gas |

**SANITARY SEWER:**

|                                          |                    |
|------------------------------------------|--------------------|
| Sanitary Sewer Manhole                   | Ⓢ                  |
| Sanitary Sewer Cleanout                  | Ⓢ                  |
| U/G Sanitary Sewer Line                  | SS                 |
| Above Ground Sanitary Sewer              | A/G Sanitary Sewer |
| Recorded SS Forced Main Line             | FSS                |
| Designated SS Forced Main Line (S.U.E.*) | FSS                |

**MISCELLANEOUS:**

|                                        |        |
|----------------------------------------|--------|
| Utility Pole                           | ●      |
| Utility Pole with Base                 | □      |
| Utility Located Object                 | ○      |
| Utility Traffic Signal Box             | Ⓢ      |
| Utility Unknown U/G Line               | UTL    |
| U/G Tank; Water, Gas, Oil              | ▭      |
| Underground Storage Tank, Approx. Loc. | UST    |
| A/G Tank; Water, Gas, Oil              | ▭      |
| Geoenvironmental Boring                | Ⓢ      |
| U/G Test Hole (S.U.E.*)                | Ⓢ      |
| Abandoned According to Utility Records | AATUR  |
| End of Information                     | E.O.I. |



6/2/99

\$\$\$\$\$TIME\$\$\$\$\$  
R:\Roadway\Proj\Plan Sheets\Sec2b\1-r3329\_r2559\_rdy\_tup-2B-2.DGN

| PAVEMENT SCHEDULE |                                                                                                                                                                                                       |     |                                                                                                                                                                                            |                                                            |                                                                                                  |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| C1                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E1  | PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                      | J2                                                         | PROPOSED 8" AGGREGATE BASE COURSE                                                                |
| C2                | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD. IN EACH OF TWO LAYERS.                                                                         | E2  | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                      | J3                                                         | PROPOSED 9" AGGREGATE BASE COURSE                                                                |
| C3                | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E3  | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.                                                                                      | J4                                                         | PROPOSED 10" AGGREGATE BASE COURSE                                                               |
| C4                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E4  | PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | J5                                                         | PROPOSED VARIABLE DEPTH AGGREGATE BASE COURSE                                                    |
| 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" OR GREATER THAN 5.5" IN DEPTH. | K1                                                         | BASE TO BE TREATED WITH LIME TO A DEPTH OF 8" OR BASE TO BE TREATED WITH CEMENT TO A DEPTH OF 7" |
| 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 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E6  | PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                      | P                                                          | PRIME COAT AT THE RATE OF 0.35 GAL PER SQ YD                                                     |
| C7                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E7  | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                      | R1                                                         | 2'-6" CONCRETE CURB & GUTTER                                                                     |
| C8                | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                        | E8  | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.                                                                                      | R2                                                         | 1'-6" CONCRETE CURB & GUTTER                                                                     |
| C9                | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E9  | PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.                                                                                    | R3                                                         | SHOULDER BERM GUTTER                                                                             |
| C10               | PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS.PER SQ. YD.                                                                                          | E10 | PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | R4                                                         | CONCRETE EXPRESSWAY GUTTER                                                                       |
| D1                | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.                                                                                       | E11 | PROP. APPROX. 6.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 370.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                           | R5                                                         | 5" MONOLITHIC CONCRETE ISLAND, KEYED IN                                                          |
| D2                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E12 | PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | R6                                                         | SINGLE FACED CONCRETE BARRIER                                                                    |
| D3                | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | E13 | PROP. APPROX. 9" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | R7                                                         | DOUBLE FACED CONCRETE BARRIER (TYPE T, T1, T2)                                                   |
| D4                | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.    | E14 | PROP. APPROX. 10.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 598.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                          | R8                                                         | RUMBLE STRIPS                                                                                    |
| D5                | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | E15 | PROP. APPROX. 11" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                              | S                                                          | 4" CONCRETE SIDEWALK                                                                             |
| D6                | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.                                                                                       | E16 | PROP. APPROX. 3.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 199 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                             | T                                                          | EARTH MATERIAL                                                                                   |
| D7                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E17 | PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                             | U                                                          | EXISTING PAVEMENT                                                                                |
| D8                | 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 2.5" OR GREATER THAN 4" IN DEPTH.    | E18 | PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH. | V                                                          | SPLIT SEAL                                                                                       |
| D9                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0D, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E19 | PROP. APPROX. 12.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 712.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                          | W                                                          | WEDGING                                                                                          |
| D10               | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0D, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | G1  | 8" CEMENT TREATED AGGREGATE BASE COURSE                                                                                                                                                    | Z                                                          | NON WOVEN FIBERGLASS/POLYESTER INTERLAYER PAVING MAT                                             |
| D11               | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.     | J1  | PROPOSED 6" AGGREGATE BASE COURSE                                                                                                                                                          | NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE. |                                                                                                  |

|                                                                                                                             |                          |
|-----------------------------------------------------------------------------------------------------------------------------|--------------------------|
| PROJECT REFERENCE NO.                                                                                                       | SHEET NO.                |
| R-3329 / R-2559                                                                                                             | 2B-2A                    |
| ROADWAY DESIGN ENGINEER                                                                                                     | PAVEMENT DESIGN ENGINEER |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                          |

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

FOR

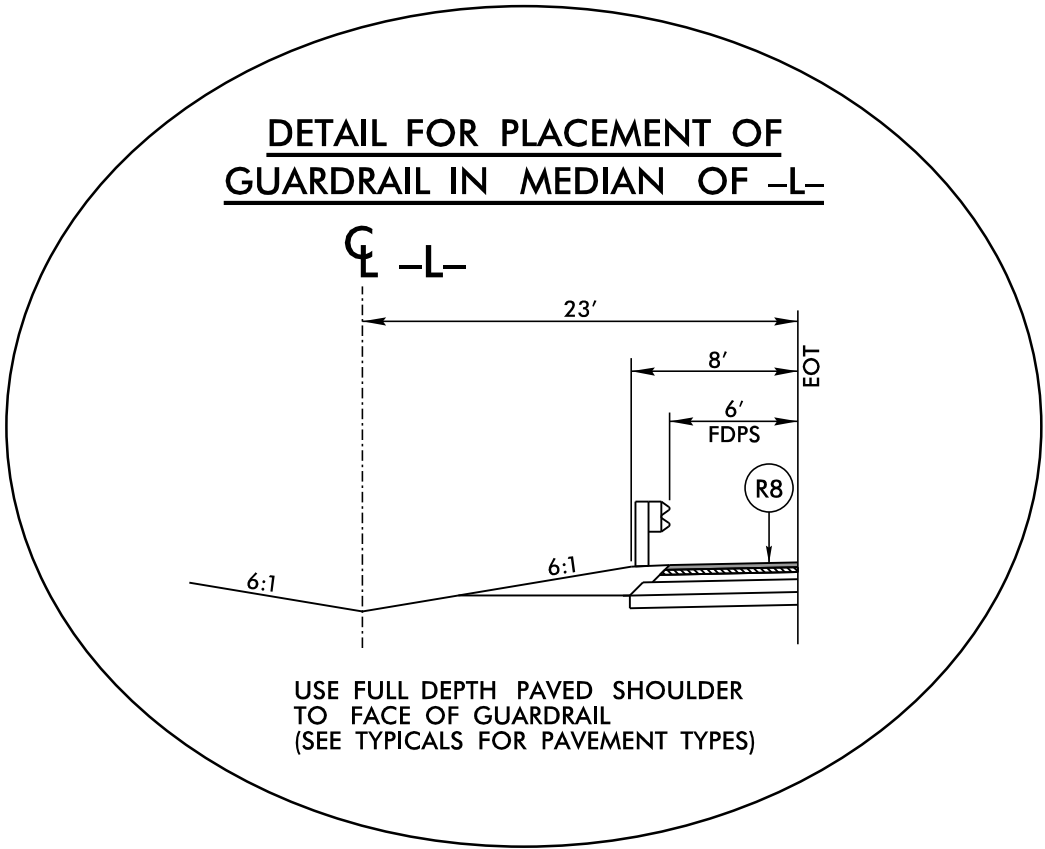
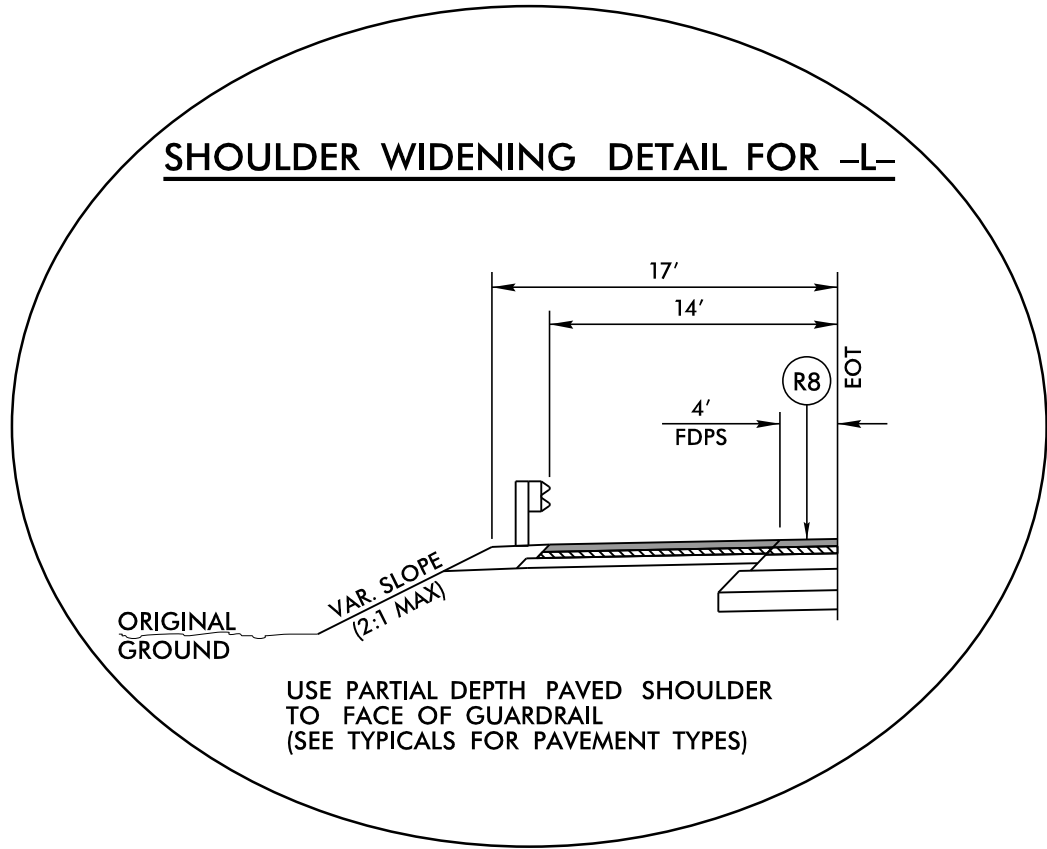
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TURNPIKE AUTHORITY



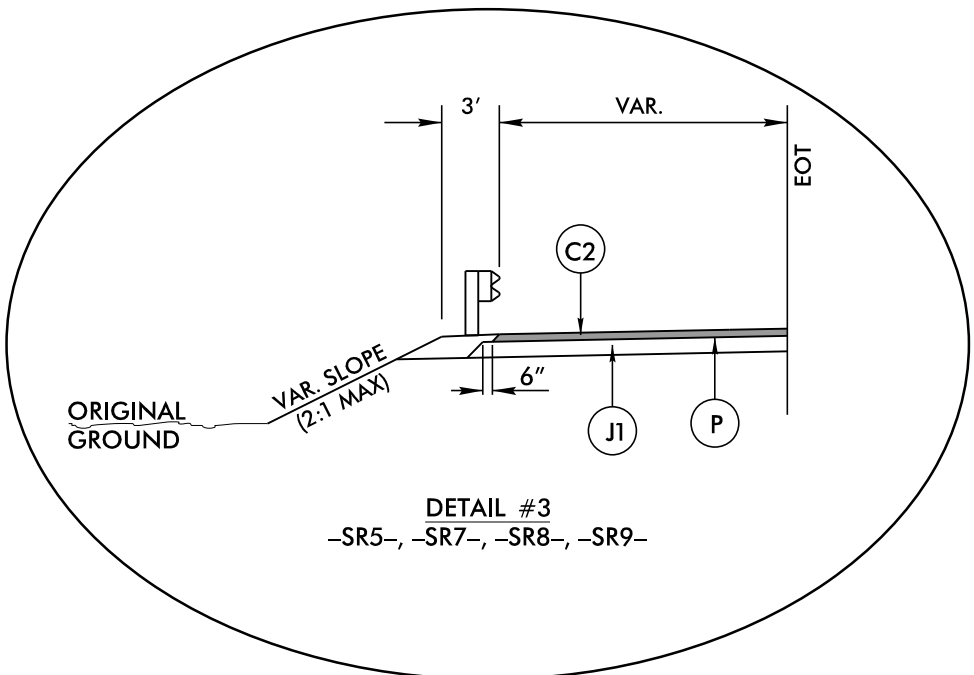
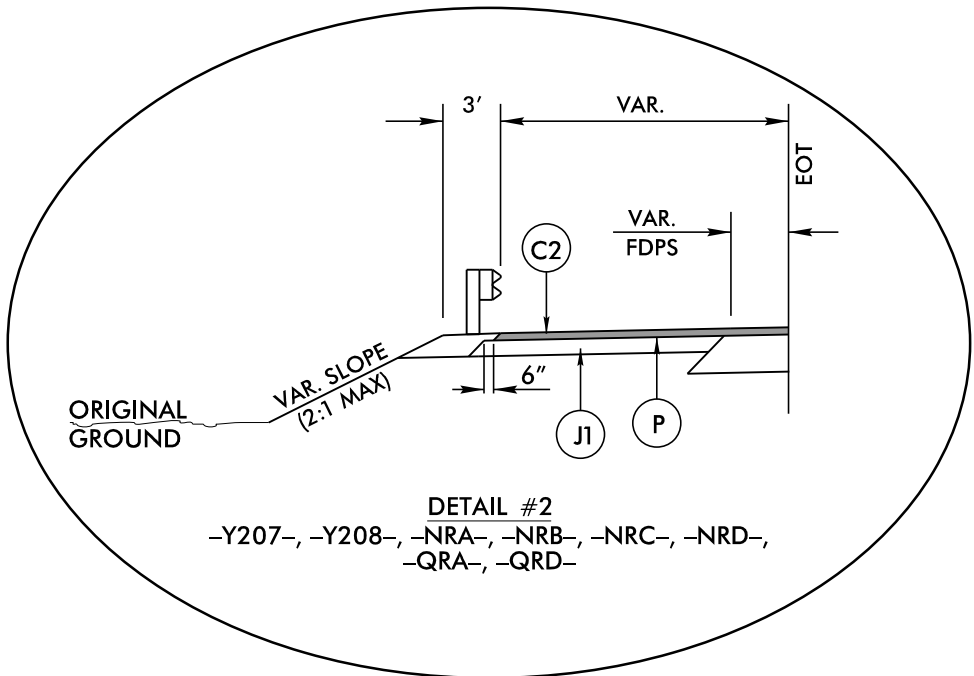
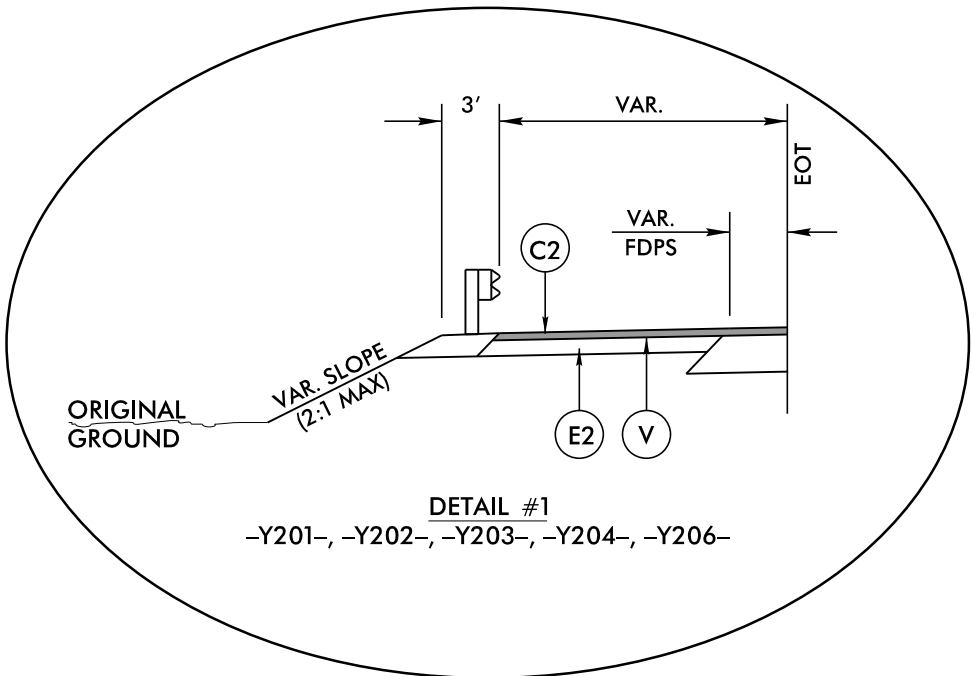
6/2/99  
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| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| C6                | VAR. DEPTH S9.5C                  |
| D1                | 2.5" I19.0B                       |
| D3                | 4" I19.0B                         |
| D5                | 4" I19.0C                         |
| D6                | 2.5" I19.0C                       |
| D7                | 3" I19.0C                         |
| D8                | VAR. DEPTH I19.0C                 |
| E2                | 4" B25.0B                         |
| E6                | 3" B25.0C                         |
| E7                | 4" B25.0C                         |
| E9                | 5.5" B25.0C                       |
| E18               | VAR. DEPTH B25.0C                 |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| J3                | 9" ABC                            |
| J4                | 10" ABC                           |
| K1                | 8" LIME BASE OR<br>7" CEMENT BASE |
| P                 | .35 PRIME COAT                    |
| R1                | 2'-6" C & G                       |
| R2                | 1'-6" C & G                       |
| R5                | 5" MCI                            |
| T                 | EARTH                             |
| U                 | EXISTING PAVEMENT                 |
| V                 | SPLIT SEAL                        |
| W                 | WEDGING                           |

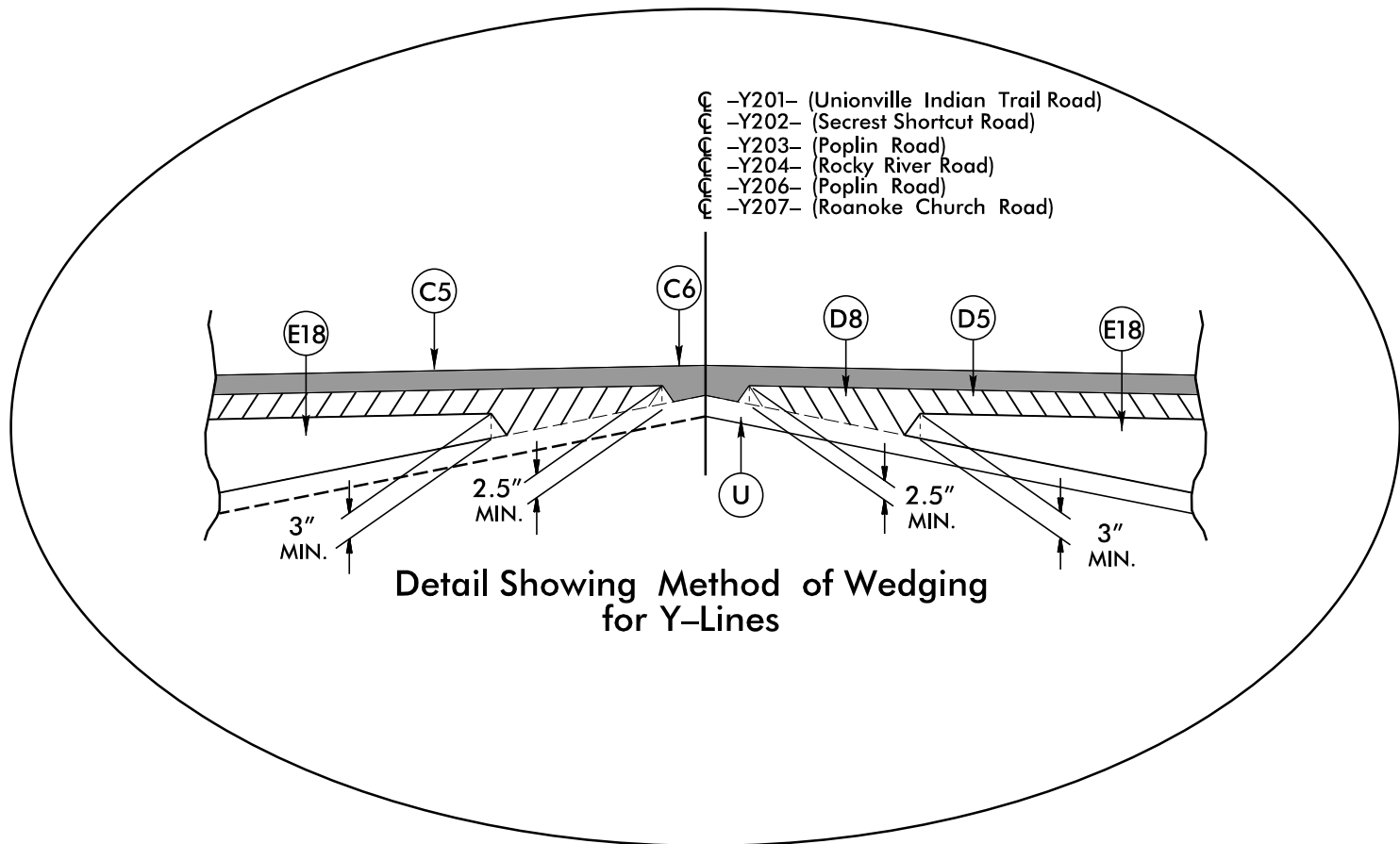
NOTE 1: SEE SHEET 2 FOR DETAILED DESCRIPTION OF PAVEMENT SCHEDULE



**SHOULDER WIDENING DETAILS FOR Y-LINES & RAMPS**



**WEDGING DETAILS**

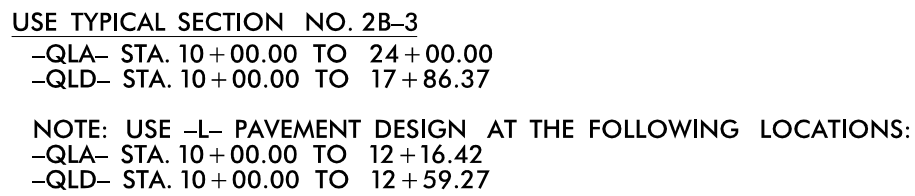
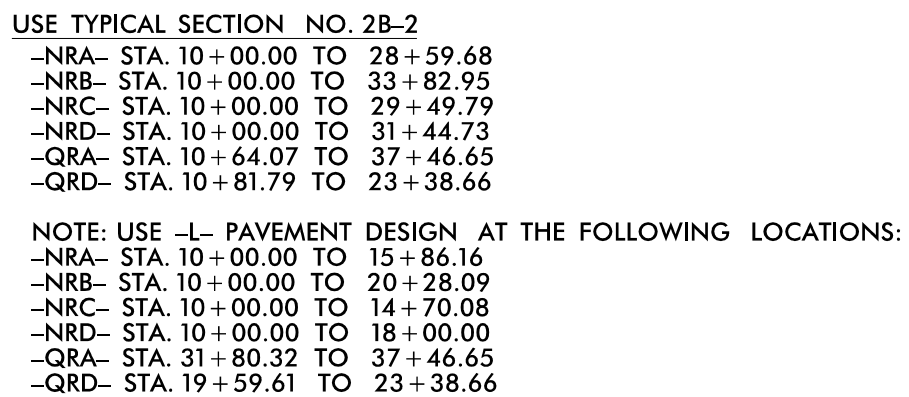
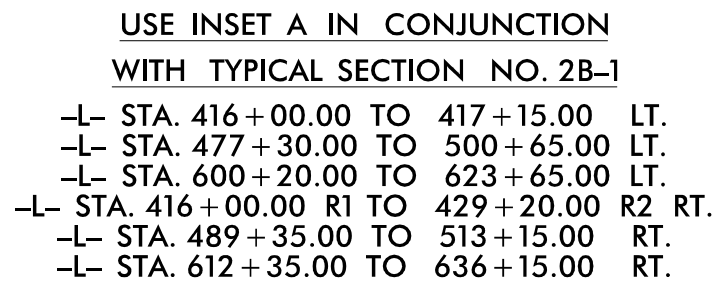
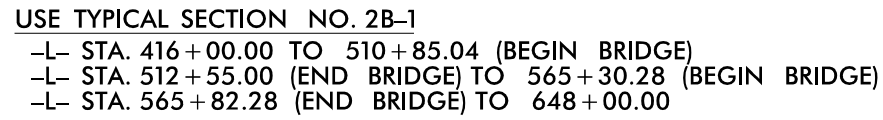


| PROJECT REFERENCE NO.                              | SHEET NO.                |
|----------------------------------------------------|--------------------------|
| R-3329 / R-2559                                    | 2B-2B                    |
| ROADWAY DESIGN ENGINEER                            | PAVEMENT DESIGN ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                          |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                          |

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  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



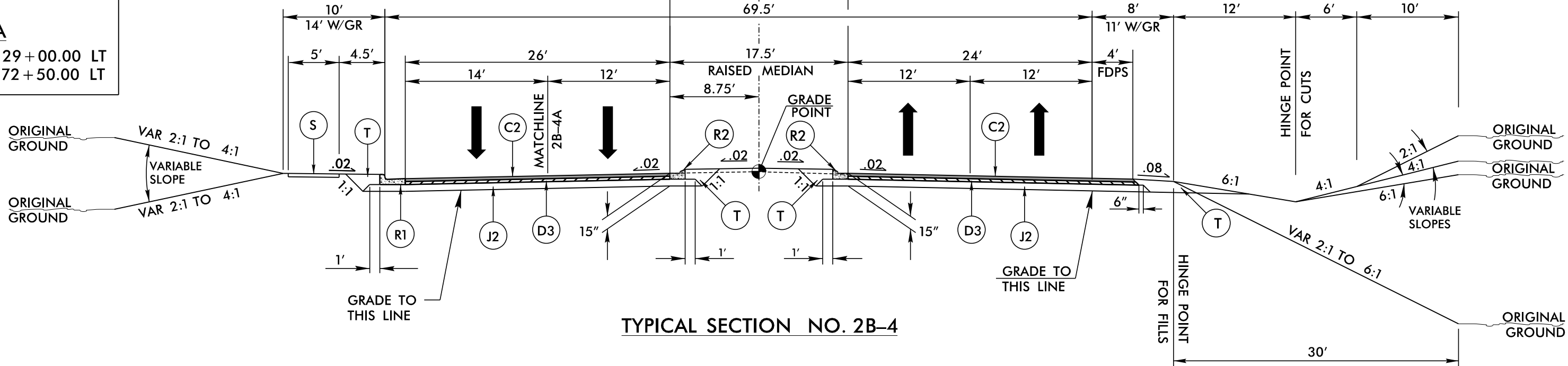
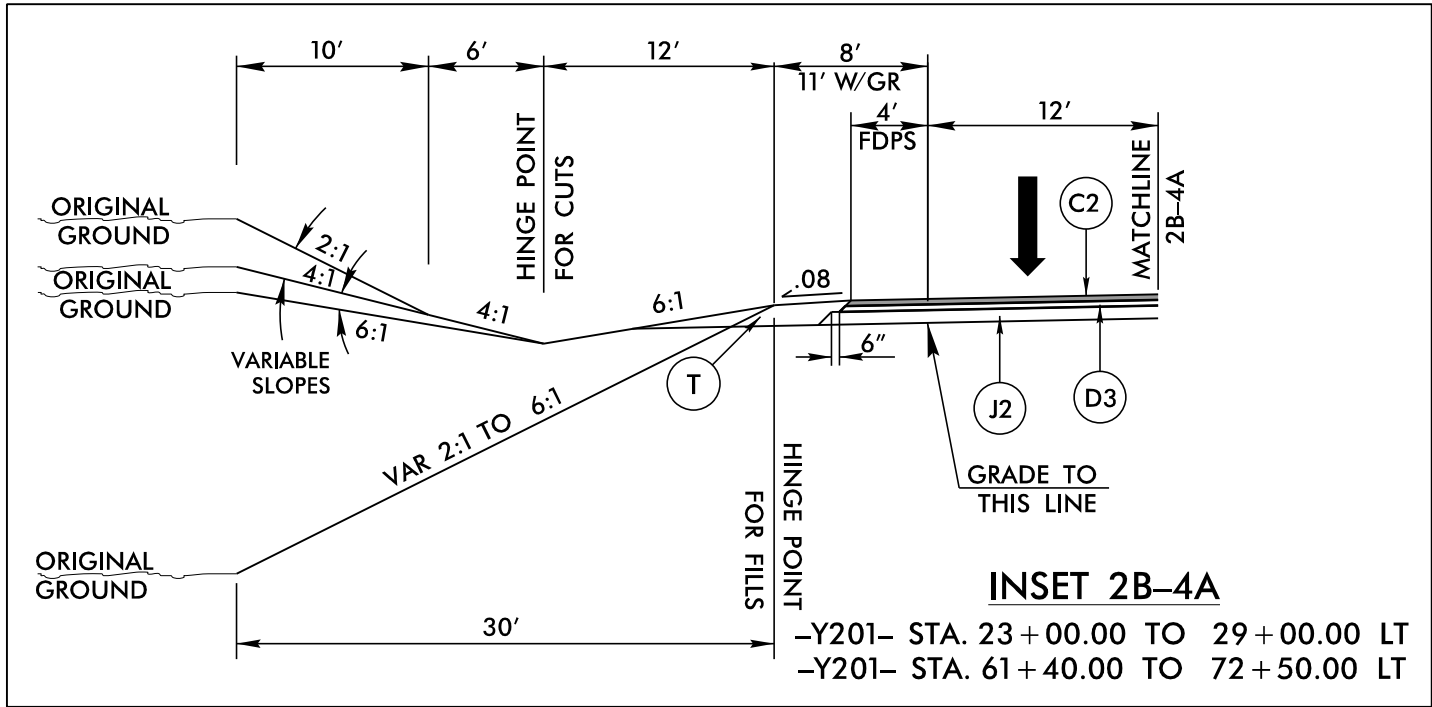
NOTE 1: SEE SHEET 2 FOR DETAILED  
DESCRIPTION OF PAVEMENT SCHEDULE





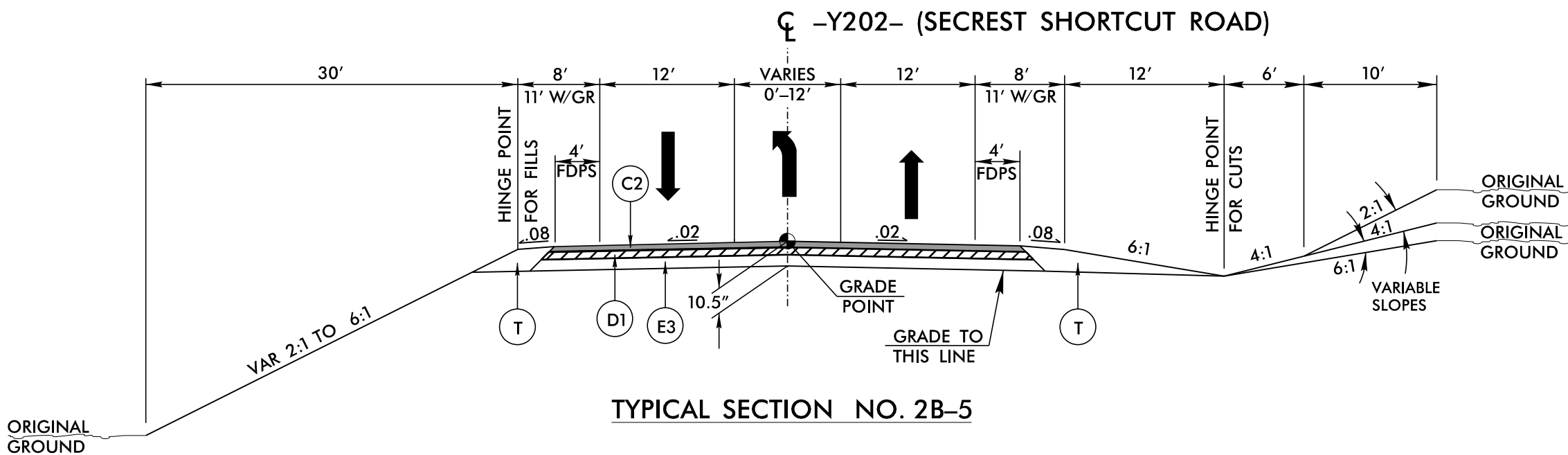
| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D3                | 4" I19.0B                         |
| D6                | 2.5" I19.0C                       |
| D7                | 3" I19.0C                         |
| E2                | 4" B25.0B                         |
| E3                | 5" B25.0B                         |
| E6                | 3" B25.0C                         |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| J3                | 9" ABC                            |
| J4                | 10" ABC                           |
| K1                | 8" LIME BASE OR<br>7" CEMENT BASE |
| P                 | .35 PRIME COAT                    |
| R1                | 2'-6" C & G                       |
| R2                | 1'-6" C & G                       |
| R5                | 5" MCI, KEYED IN                  |
| S                 | 4" CONCRETE<br>SIDEWALK           |
| T                 | EARTH MATERIAL                    |
| U                 | EXISTING PAVEMENT                 |

NOTE 1: SEE SHEET 2 FOR DETAILED  
DESCRIPTION OF PAVEMENT SCHEDULE



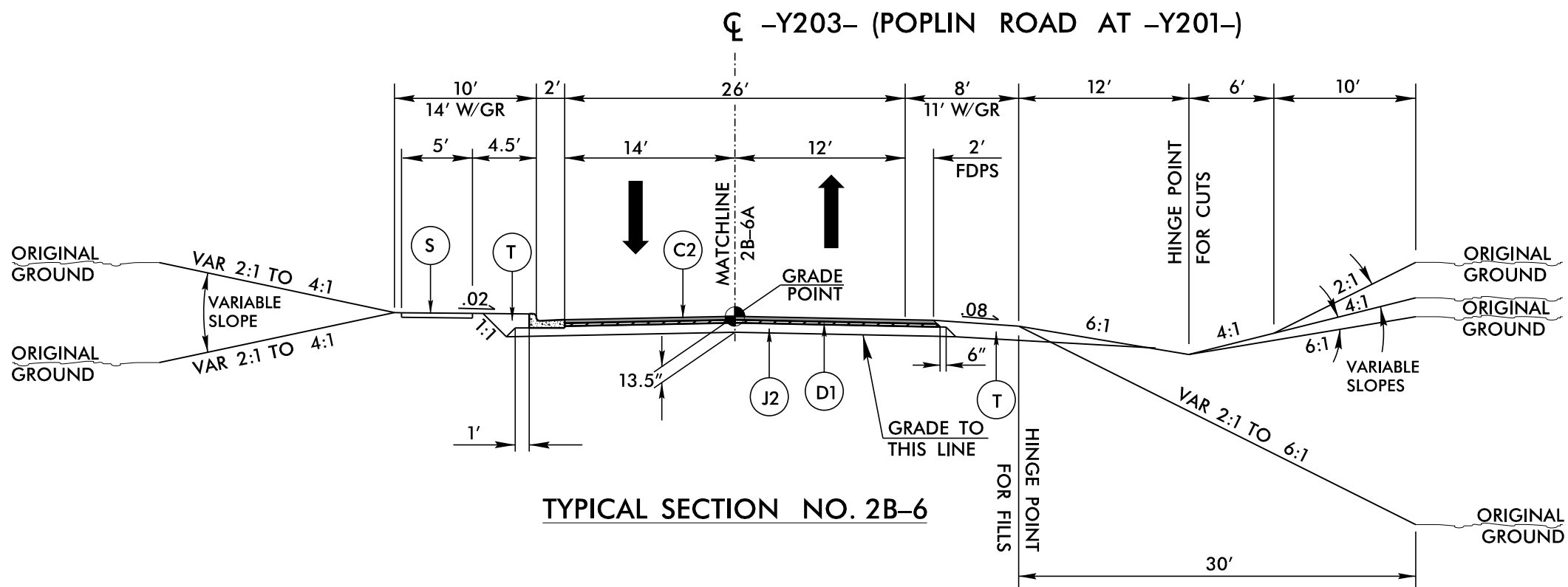
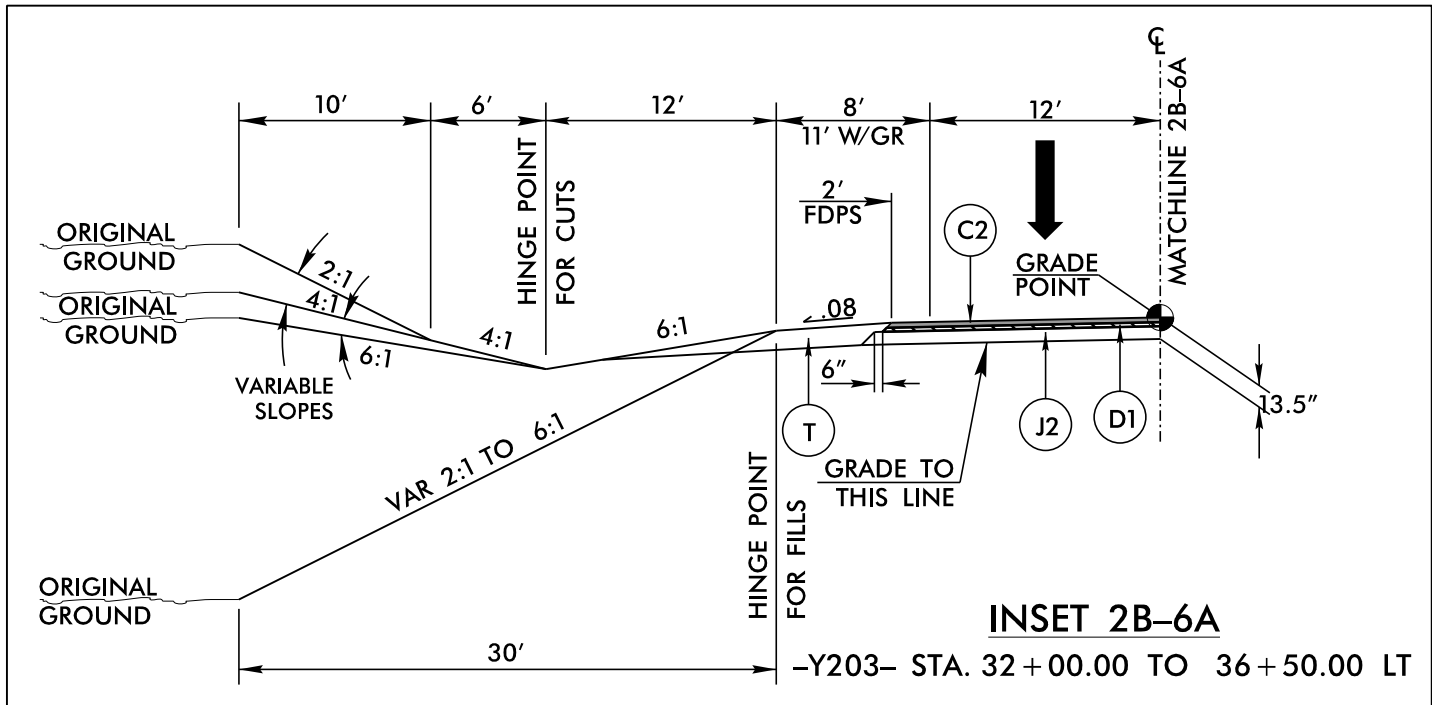
USE TYPICAL SECTION NO. 2B-4  
-Y201- STA. 23+00.00 TO 44+37.47 (BEGIN BRIDGE)  
-Y201- STA. 45+72.47 (END BRIDGE) TO 72+50.00

NOTE: TRANSITION FROM EXISTING TO TYPICAL  
SECTION NO. 2B-4 AT THE FOLLOWING LOCATIONS:  
-Y201- STA. 22+50.00 TO 23+00.00  
-Y201- STA. 72+50.00 TO 73+00.00



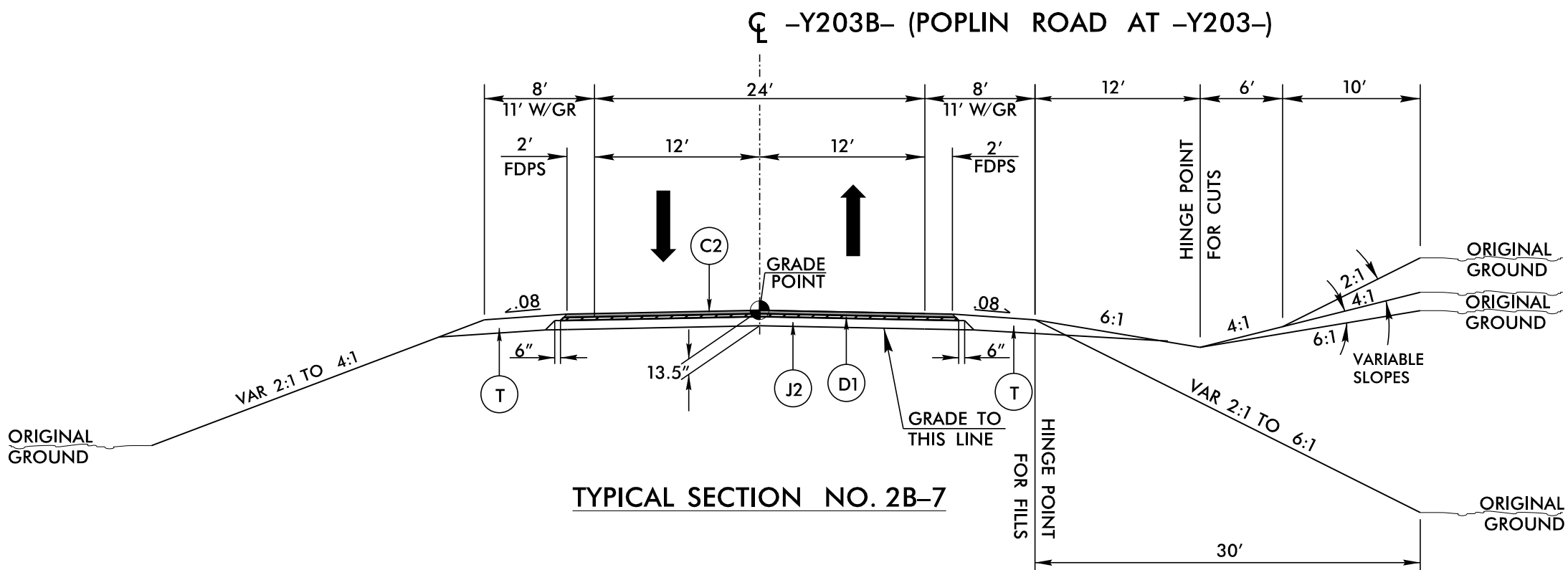
USE TYPICAL SECTION NO. 2B-5  
-Y202- STA. 9+50.00 TO 28+66.54

NOTE: TRANSITION FROM EXISTING TO TYPICAL  
SECTION NO. 2B-5 AT THE FOLLOWING LOCATIONS:  
-Y202- STA. 9+00.00 TO 9+50.00  
-Y202- STA. 29+15.64 TO 29+65.64



USE TYPICAL SECTION NO. 2B-6  
-Y203- STA. 10+18.92 TO 36+50.00

NOTE: TRANSITION FROM EXISTING TO TYPICAL  
SECTION NO. 2B-6 AT THE FOLLOWING LOCATIONS:  
-Y203- STA. 36+50.00 TO 37+00.00



USE TYPICAL SECTION NO. 2B-7  
-Y203B- STA. 10+14.08 TO 13+25

NOTE: TRANSITION FROM EXISTING TO TYPICAL  
SECTION NO. 2B-7 AT THE FOLLOWING LOCATIONS:  
-Y203B- STA. 13+25 TO 13+50.00

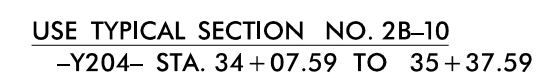
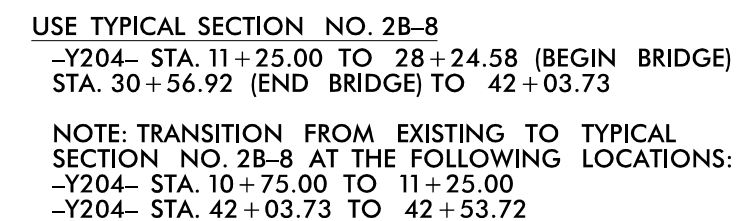
PLANS PREPARED BY :

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

FOR  
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NOTE 1: SEE SHEET 2 FOR DETAILED  
DESCRIPTION OF PAVEMENT SCHEDULE



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\$\$\$\$\$TIME\$\$\$\$\$  
9/29/2014  
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kens

NOTE 1: SEE SHEET 2 FOR DETAILED  
DESCRIPTION OF PAVEMENT SCHEDULE

NOTE 1: SEE SHEET 2 FOR DETAILED  
DESCRIPTION OF PAVEMENT SCHEDULE



NOTE: TRANSITION FROM EXISTING TO TYPICAL  
SECTION NO. 2B-9 AT THE FOLLOWING LOCATIONS:  
-Y206- STA. 26 + 50.00 TO 27 + 00.00

NOTE: TRANSITION FROM EXISTING TO TYPICAL  
SECTION NO. 2B-10 AT THE FOLLOWING LOCATIONS:  
-Y207- STA. 11+50.00 TO 12+00.00  
-Y207- STA. 27+46.27 TO 27.96.27

TRANSITION TO EXISTING  
STA. 12+75.00 TO 13.25.00  
STA 19+50.00 TO 20+20.00

|                                                    |  |
|----------------------------------------------------|--|
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |  |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |  |

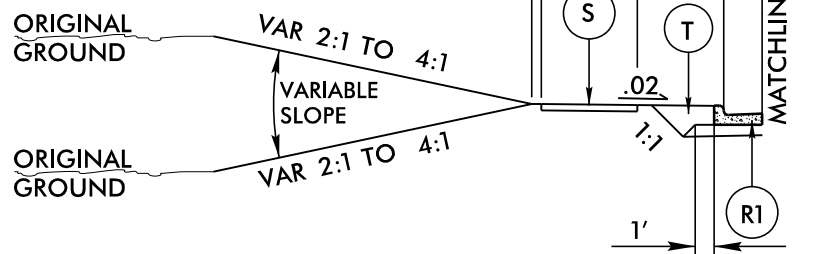


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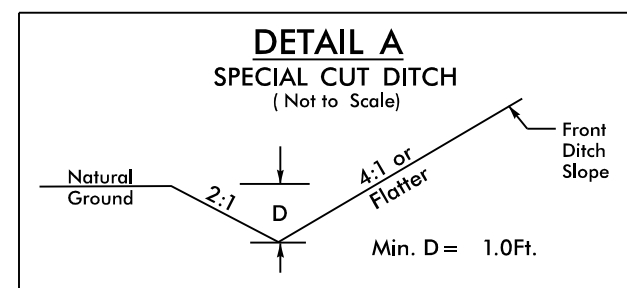
NOTE 1: SEE SHEET 2 FOR DETAILED  
DESCRIPTION OF PAVEMENT SCHEDULE



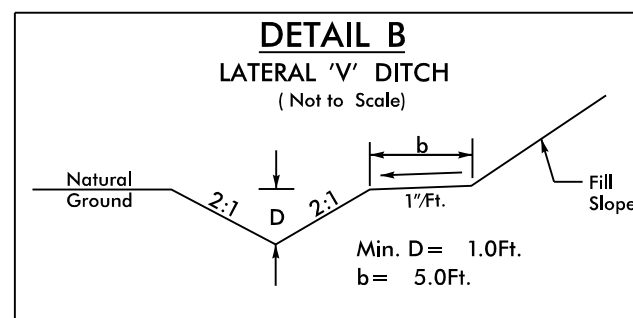
NOTE: TRANSITION FROM EXISTING TO TYPICAL  
SECTION NO. 2B-12 AT THE FOLLOWING LOCATION:  
-SR5- STA. 82+75.00 TO 83+00.00

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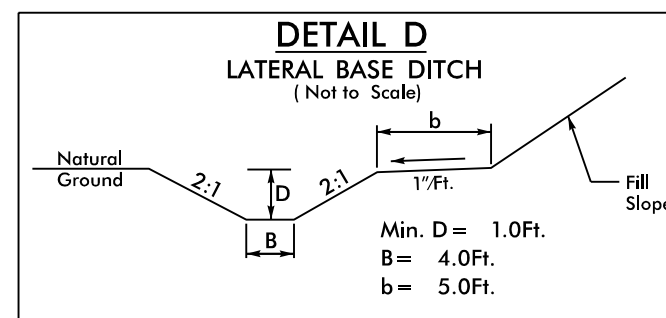
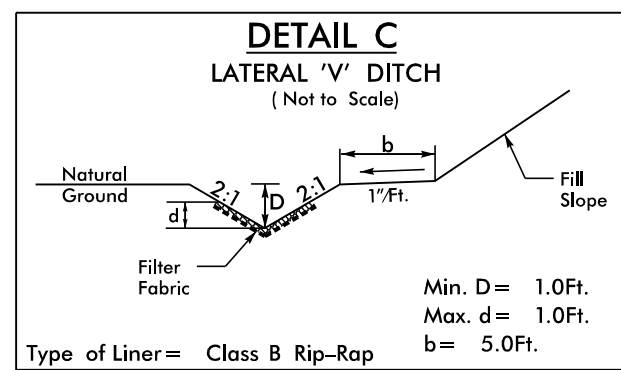




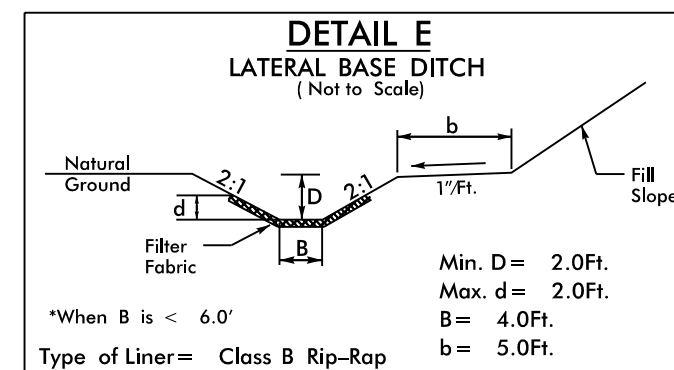
-L- STA. 424+50 TO STA. 426+00 LT  
-L- STA. 441+00 TO STA. 454+00 RT  
-L- STA. 442+50 TO STA. 444+50 LT  
-L-NRB- STA. 449+00 TO STA. 450+00 LT  
-L- STA. 463+50 TO STA. 469+50 RT  
-L- STA. 465+50 TO STA. 469+00 LT  
-L- STA. 494+75 TO STA. 496+00 LT  
-L- STA. 496+50 TO STA. 497+50 RT  
-L- STA. 531+00 TO STA. 534+00 RT  
-L- STA. 532+00 TO STA. 536+00 LT  
-L- STA. 539+00 TO STA. 543+00 LT  
-L- STA. 539+00 TO STA. 542+50 RT  
-L- STA. 545+50 TO STA. 549+00 LT  
-L- STA. 575+00 TO STA. 576+00 RT  
-L- STA. 583+00 TO STA. 585+00 LT  
-L- STA. 582+50 TO STA. 584+00 RT  
-L- STA. 588+00 TO STA. 590+50 RT  
-L- STA. 592+50 TO STA. 595+00 LT  
-L- STA. 593+00 TO STA. 595+50 RT  
-L- STA. 598+00 TO STA. 598+68 RT  
-L- STA. 599+50 TO STA. 600+00 RT  
-L- STA. 605+45 TO STA. 612+00 RT  
-L- STA. 606+20 TO STA. 612+00 LT  
-L- STA. 618+50 TO STA. 620+00 LT  
-L- STA. 618+50 TO STA. 619+50 RT  
-L- STA. 634+50 TO STA. 635+50 LT  
-L- STA. 634+50 TO STA. 635+50 RT  
-QRA- STA. 17+50 TO STA. 20+50 LT  
-QRA- STA. 19+50 TO STA. 20+00 RT  
-QRA- STA. 25+50 TO STA. 28+00 LT  
-QLD- STA. 10+10 TO STA. 12+12 RT  
-QLD- STA. 16+85 TO STA. 17+35 RT  
-QRD- STA. 15+00 TO STA. 19+00 RT  
-SR5- STA. 44+14 TO STA. 47+21 RT  
-SR5- STA. 79+00 TO STA. 83+25 RT  
-SR5- STA. 79+00 TO STA. 82+95 LT  
-SR7- STA. 13+23 TO STA. 15+50 RT  
-SR8- STA. 10+50 TO STA. 15+42 LT  
-Y201- STA. 22+11 TO STA. 26+50 RT  
-Y201- STA. 52+00 TO STA. 54+00 RT  
-Y201- STA. 66+50 TO STA. 73+26 LT  
-Y201- STA. 72+50 TO STA. 73+08 RT  
-Y202- STA. 8+83 TO STA. 9+50 RT  
-Y202- STA. 8+90 TO STA. 9+50 LT  
-Y202- STA. 13+50 TO STA. 15+00 LT  
-Y202- STA. 19+00 TO STA. 21+00 RT  
-Y202- STA. 19+50 TO STA. 21+00 LT  
-Y202- STA. 23+00 TO STA. 24+00 RT  
-Y202- STA. 28+00 TO STA. 29+70 RT  
-Y202- STA. 28+75 TO STA. 29+75 LT  
-Y203- STA. 18+00 TO STA. 19+50 RT  
-Y203- STA. 23+50 TO STA. 29+50 RT  
-Y203- STA. 35+00 TO STA. 36+92 RT  
-Y203- STA. 35+00 TO STA. 37+03 LT  
-Y203B- STA. 12+50 TO STA. 13+64 LT  
-Y203B- STA. 12+25 TO STA. 13+40 RT  
-Y204- STA. 11+00 TO STA. 13+40 RT  
-Y204- STA. 12+50 TO STA. 15+50 RT  
-Y204- STA. 15+50 TO STA. 18+00 LT  
-Y204- STA. 42+00 TO STA. 43+04 RT  
-Y204- STA. 42+00 TO STA. 42+84 LT  
-Y208- STA. 13+00 TO STA. 14+25 RT  
-Y208- STA. 17+00 TO STA. 18+00 RT  
-Y204\_DET- STA. 20+34.66 TO STA. 21+84.66 RT



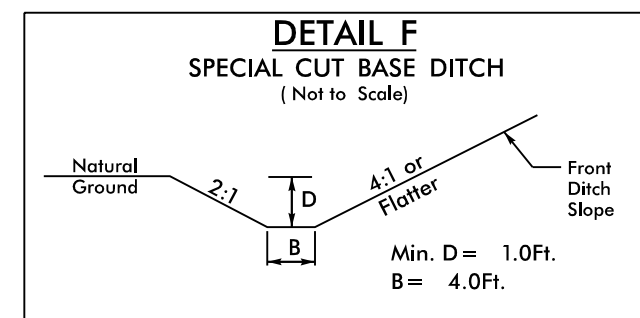
-L- STA. 431+50 TO STA. 433+62 RT  
-L- STA. 513+00 TO STA. 515+00 RT  
-L- STA. 558+00 TO STA. 559+10 RT  
-L- STA. 566+50 TO STA. 569+50 RT  
-L- STA. 566+50 TO STA. 572+00 LT  
-L- STA. 573+00 TO STA. 575+00 RT  
-L- STA. 584+50 TO STA. 586+00 RT  
-L- STA. 590+50 TO STA. 593+00 RT  
-L- STA. 591+18 TO STA. 591+70 LT  
-L- STA. 604+25 TO STA. 605+45 RT  
-L- STA. 605+00 TO STA. 606+20 LT  
-L- STA. 612+00 TO STA. 614+00 RT  
-L- STA. 614+03 TO STA. 615+00 LT  
-L- STA. 638+37 TO STA. 639+50 RT  
-QRA- STA. 20+50 TO STA. 25+50 LT  
-QRA- STA. 28+00 TO STA. 28+76 LT  
-QRD- STA. 19+00 TO STA. 19+71 LT  
-QRD- STA. 19+00 TO STA. 19+41 RT  
-SR5- STA. 78+25 TO STA. 79+00 LT  
-SR9- STA. 15+00 TO STA. 19+10 RT  
-SR9- STA. 15+66 TO STA. 18+59 LT  
-Y201- STA. 26+75 TO STA. 27+50 RT  
-Y201- STA. 48+50 TO STA. 48+87 LT  
-Y202- STA. 17+00 TO STA. 17+85 LT  
-Y203- STA. 15+67 TO STA. 18+00 RT  
-Y204- STA. 36+00 TO STA. 39+00 RT  
-Y207- STA. 14+00 TO STA. 15+00 LT



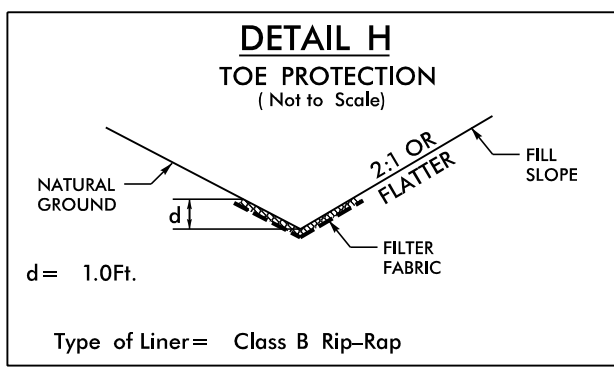
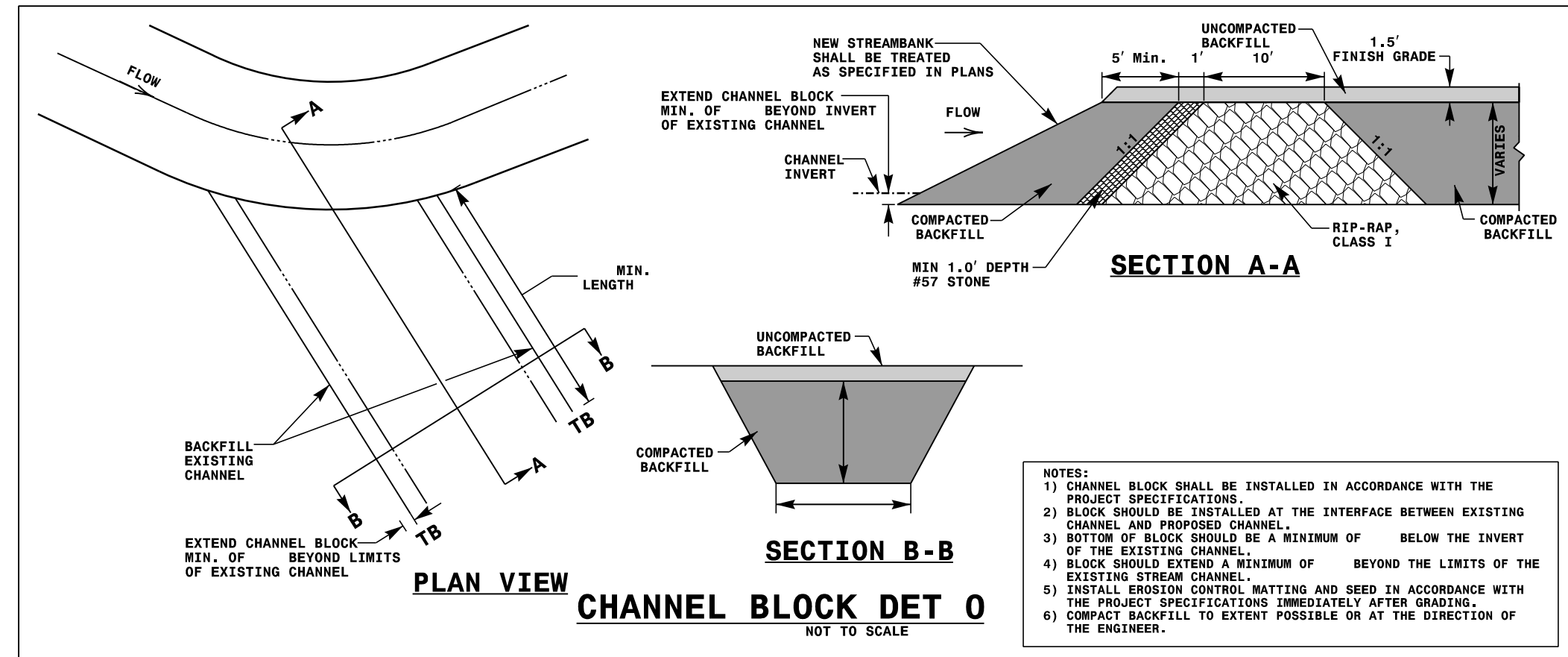
-L- STA. 414+00 TO STA. 431+50 RT  
-L- STA. 437+00 TO STA. 444+00 RT  
-L- STA. 473+50 TO STA. 474+62 LT  
-L- STA. 476+00 TO STA. 488+00 LT  
-L- STA. 515+00 TO STA. 516+12 RT  
-L- STA. 519+25 TO STA. 524+00 RT  
-L- STA. 524+50 TO STA. 525+00 LT  
-L- STA. 536+00 TO STA. 539+00 LT  
-L- STA. 537+86 TO STA. 539+00 RT  
-L- STA. 553+93 TO STA. 554+50 RT  
-L- STA. 554+50 TO STA. 556+00 LT  
-L- STA. 555+50 TO STA. 558+00 RT  
-L- STA. 559+10 TO STA. 562+32 RT  
-L- STA. 560+00 TO STA. 561+61 LT  
-L- STA. 584+00 TO STA. 586+00 RT  
-L- STA. 598+00 TO STA. 600+20 LT  
-L- STA. 613+05 TO STA. 614+03 LT  
-L- STA. 619+50 TO STA. 621+50 RT  
-L- STA. 620+50 TO STA. 624+50 LT  
-L- STA. 628+00 TO STA. 632+50 RT  
-L- STA. 631+50 TO STA. 633+50 LT  
-L- STA. 637+70 TO STA. 640+00 LT  
-NRD- STA. 29+50 TO STA. 30+90 RT  
-QLA- STA. 12+05 TO STA. 16+50 LT  
-QRA- STA. 20+00 TO STA. 24+46 RT  
-QRD- STA. 19+71 TO STA. 20+50 LT  
-SR5- STA. 76+85 TO STA. 78+50 RT  
-Y201- STA. 28+50 TO STA. 34+75 LT  
-Y201- STA. 48+50 TO STA. 52+00 RT  
-Y201- STA. 48+87 TO STA. 50+00 LT  
-Y203- STA. 10+70 TO STA. 18+00 LT  
-Y204- STA. 23+50 TO STA. 25+99 RT  
-Y206- STA. 15+50 TO STA. 17+50 LT  
-Y207- STA. 15+00 TO STA. 18+84 LT  
-Y207- STA. 17+00 TO STA. 19+50 RT



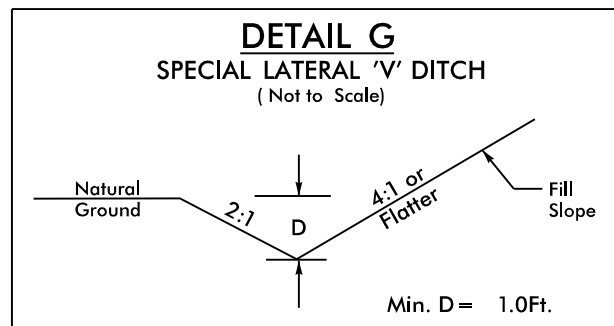
-L- STA. 433+62 TO STA. 435+50 RT  
-L- STA. 444+00 TO STA. 445+50 RT  
-L- STA. 474+62 TO STA. 476+00 LT  
-L- STA. 477+00 TO STA. 484+00 RT  
-L- STA. 524+00 TO STA. 525+50 RT  
-L- STA. 585+50 TO STA. 587+75 LT  
-L- STA. 637+00 TO STA. 638+37 RT  
-SR5- STA. 55+75 TO STA. 57+06 LT  
-Y206- STA. 24+67 TO STA. 25+50 LT



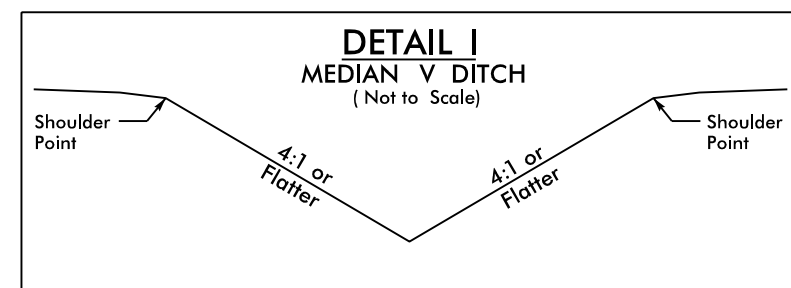
-L- STA. 435+50 TO STA. 437+00 RT  
-L- STA. 470+50 TO STA. 473+50 LT  
-L- STA. 472+50 TO STA. 477+00 RT  
-L- STA. 554+50 TO STA. 555+50 RT  
-SR5- STA. 78+50 TO STA. 79+00 RT  
-Y201- STA. 21+90 TO STA. 28+50 LT  
-Y203B- STA. 10+50 TO STA. 12+50 LT  
-Y206- STA. 25+50 TO STA. 27+16 LT



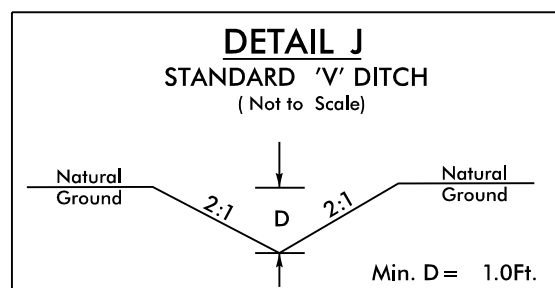
-Y202- STA. 8+90 TO STA. 9+50 RT



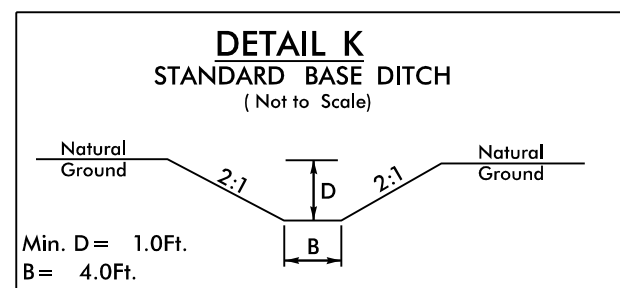
-Y208- STA. 18+00 TO STA. 19+00 RT



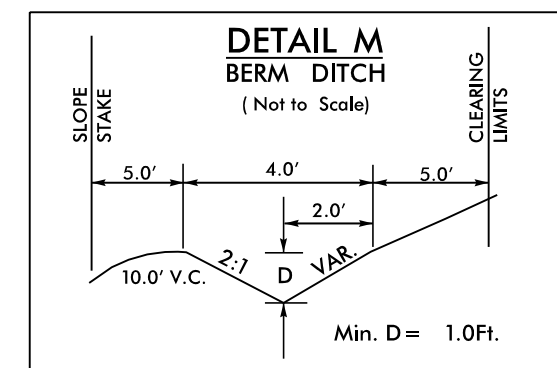
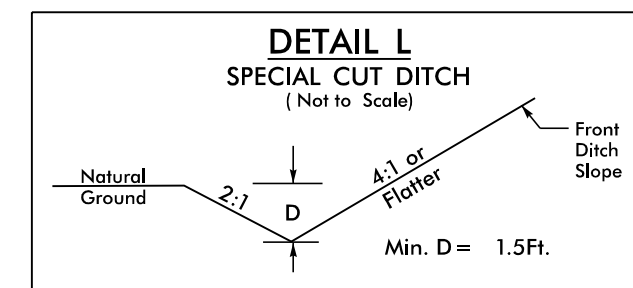
-L- STA. 453+50 TO STA. 455+00 MED  
-L- STA. 490+00 TO STA. 491+00 MED  
-L- STA. 530+00 TO STA. 532+50 MED  
-L- STA. 583+00 TO STA. 585+00 MED  
-L- STA. 588+00 TO STA. 592+50 MED  
-L- STA. 608+50 TO STA. 610+50 MED  
-L- STA. 618+50 TO STA. 622+50 MED  
-L- STA. 634+50 TO STA. 635+50 MED



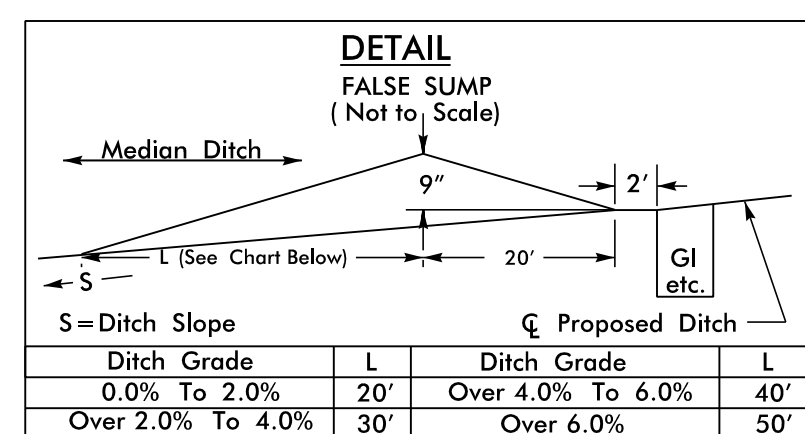
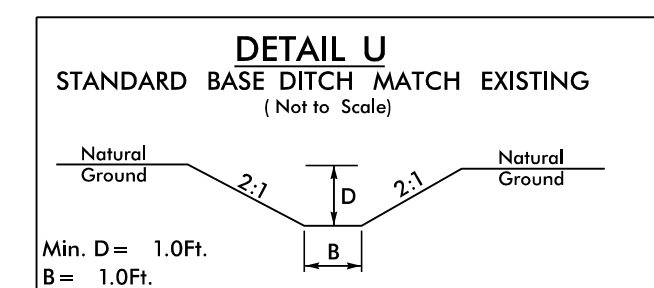
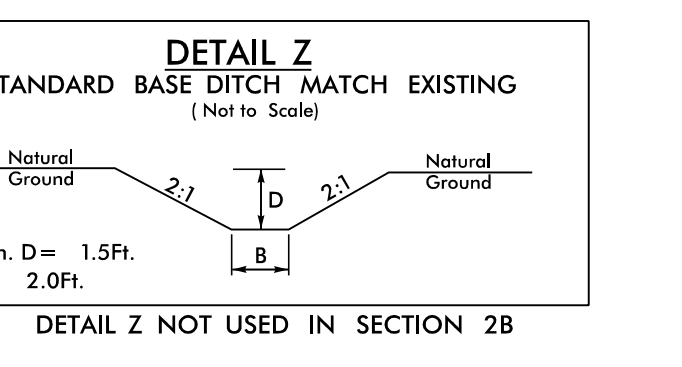
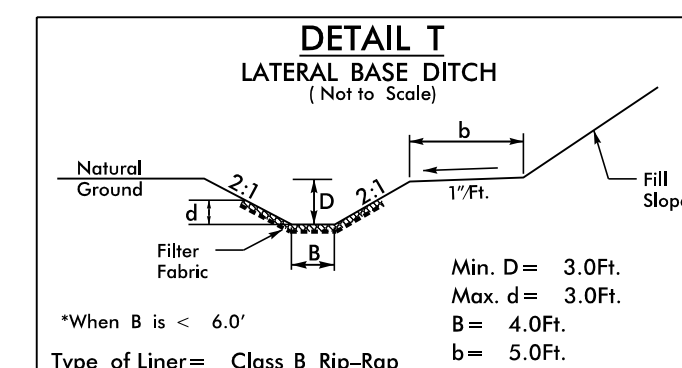
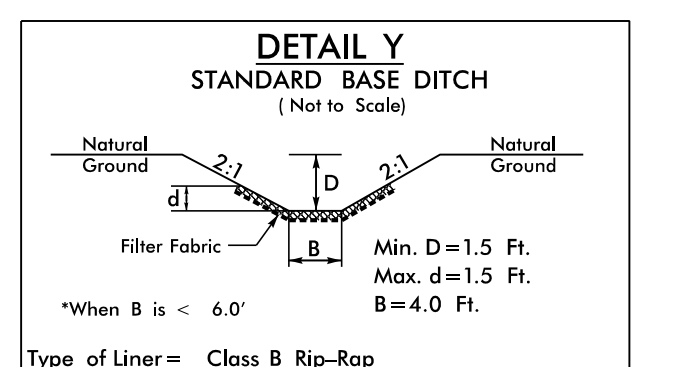
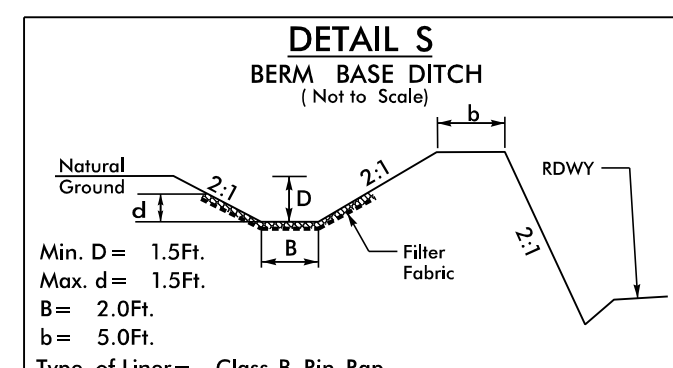
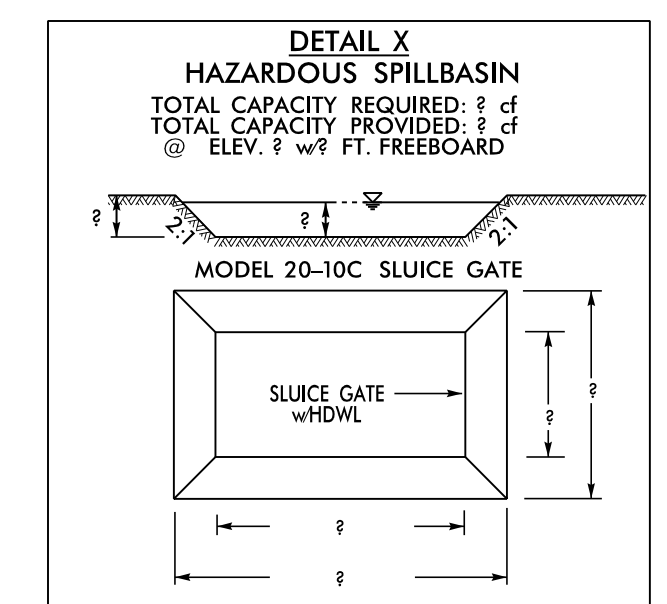
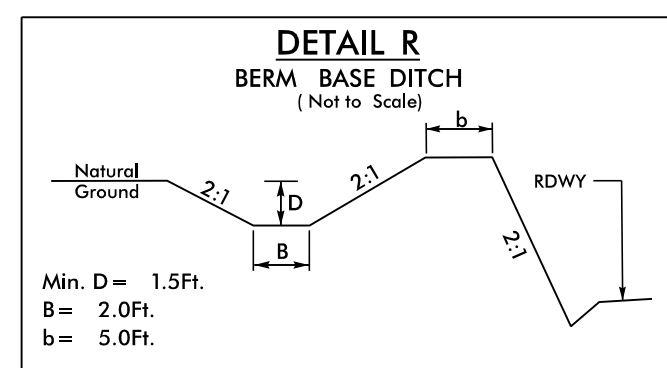
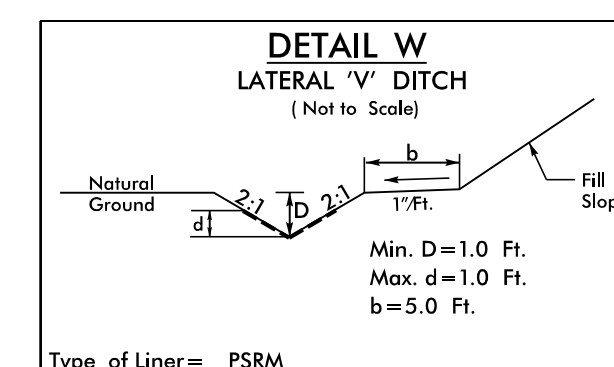
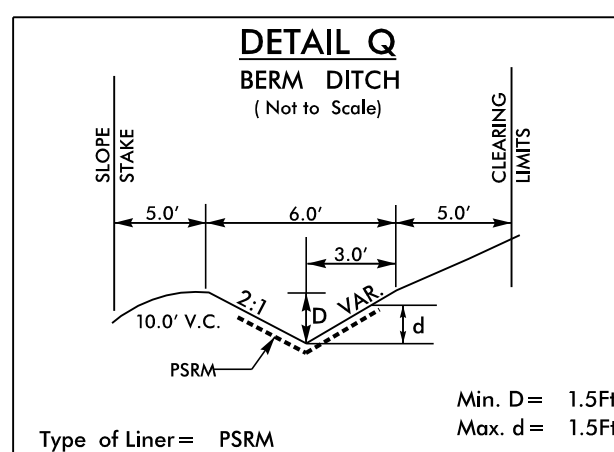
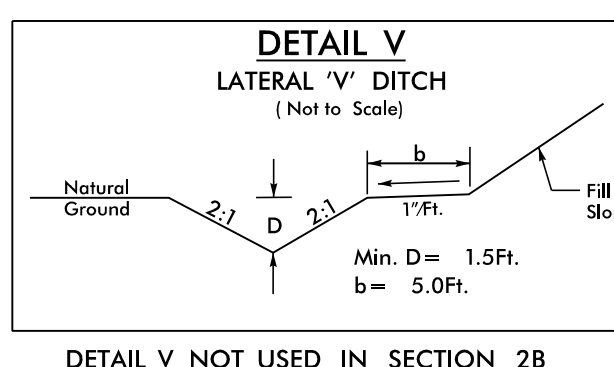
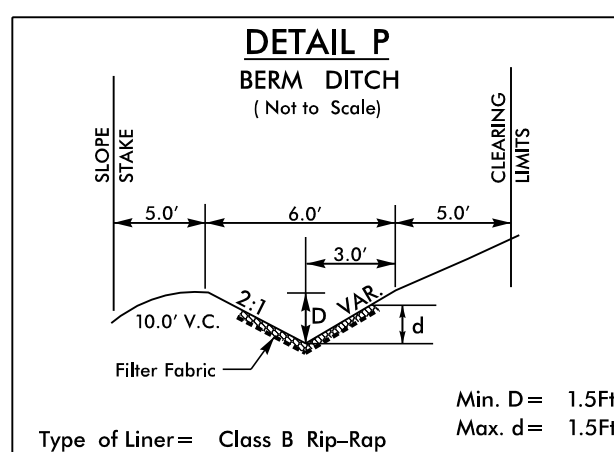
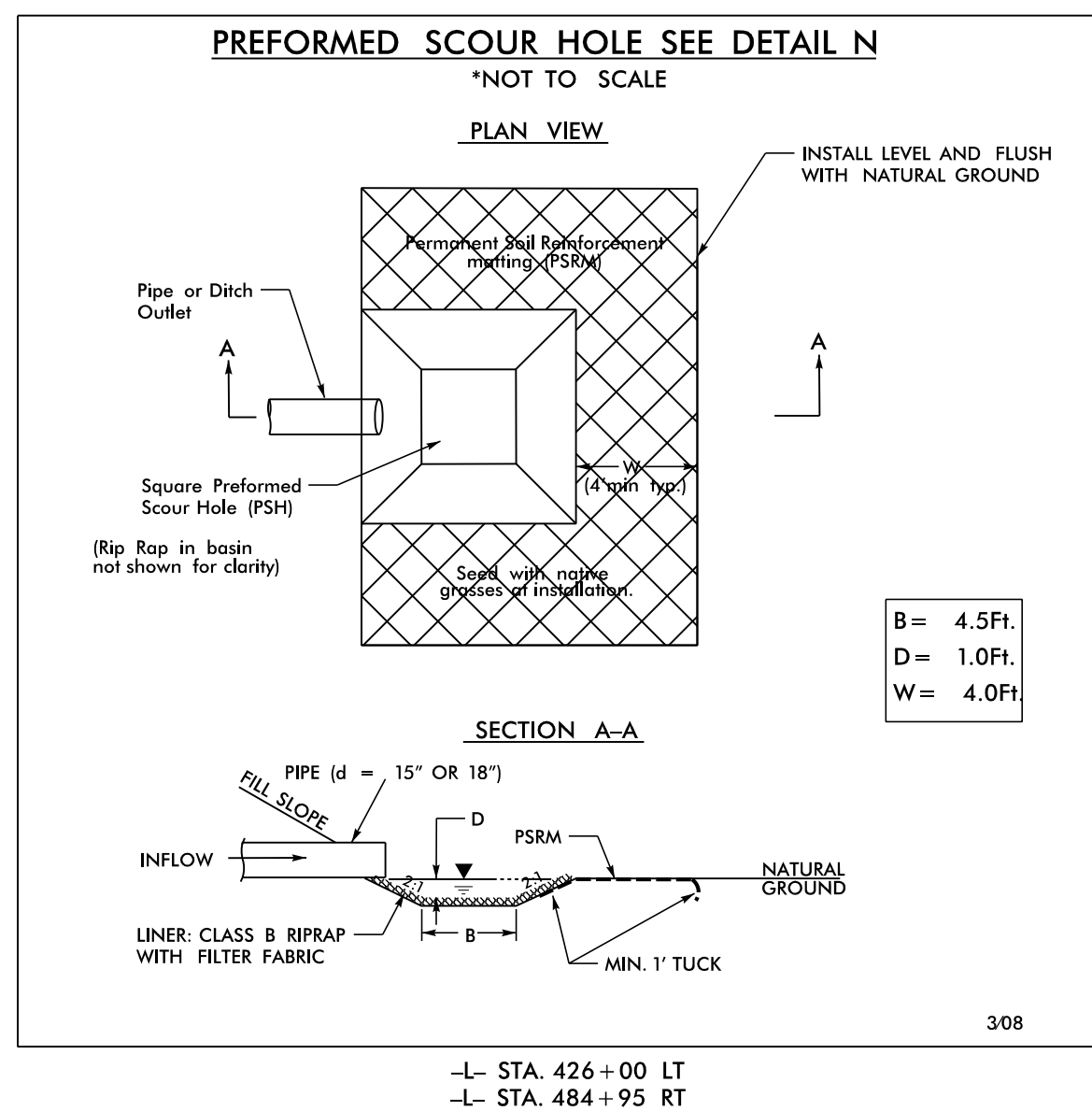
-Y204- STA. 13+50 RT; L=22'; S=4.5%  
BEG EL.=642.0, END EL.=641.0  
-Y204- STA. 17+00 TO STA. 17+24 RT  
L=38'; S=2.1%; BEG EL.=643.8, END EL.=643.0  
-SR5- STA. 64+88 LT; L=110'; S=0.8%  
BEG EL.=637.9, END EL.=637.0  
-SR8- STA. 16+28 TO STA. 16+57 RT  
L=54'; S=2.4%; BEG EL.=645.3, END EL.=644.0



-Y202- STA. 14+15 LT; L=100'; S=2.5%  
BEG EL.=646.9, END EL.=644.4  
-Y202- STA. 14+20 RT; L=273'; S=0.3%  
BEG EL.=644.0, END EL.=643.3  
-Y202- STA. 28+75 LT; L=100'; S=0.5%  
BEG EL.=651.7, END EL.=651.2  
-Y202- STA. 28+75 RT; L=100'; S=6.1%  
BEG EL.=658.1, END EL.=652.0  
-L- STA. 629+50 LT; L=80'; S=4.2%  
BEG EL.=592.4, END EL.=589.0  
-L- STA. 631+50 LT; L=55'; S=2.9%  
BEG EL.=590.8, END EL.=589.2  
-Y201- 26+75 RT; L=115'; S=0.3%  
BEG EL.=634.4, END EL.=634.1  
-L- STA. 556+00 LT; L=230'; S=0.4%  
BEG EL.=622.9, END EL.=622.0  
-L- STA. 569+25 LT TO -SR9- 15+75 RT;  
L=105'; S=1.7%; BEG EL.=616.5, END EL.=614.5  
-QRA- STA. 28+76 TO STA. 28+82 LT  
L=18'; S=0.6%; BEG EL.=621.0, END EL.=620.9  
-SR5- STA. 78+25 LT; L=198'; S=0.7%  
BEG EL.=639.3, END EL.=638.0  
-L- STA. 553+12 RT; L=112'; S=6.6%  
BEG EL.=631.7, END EL.=624.3

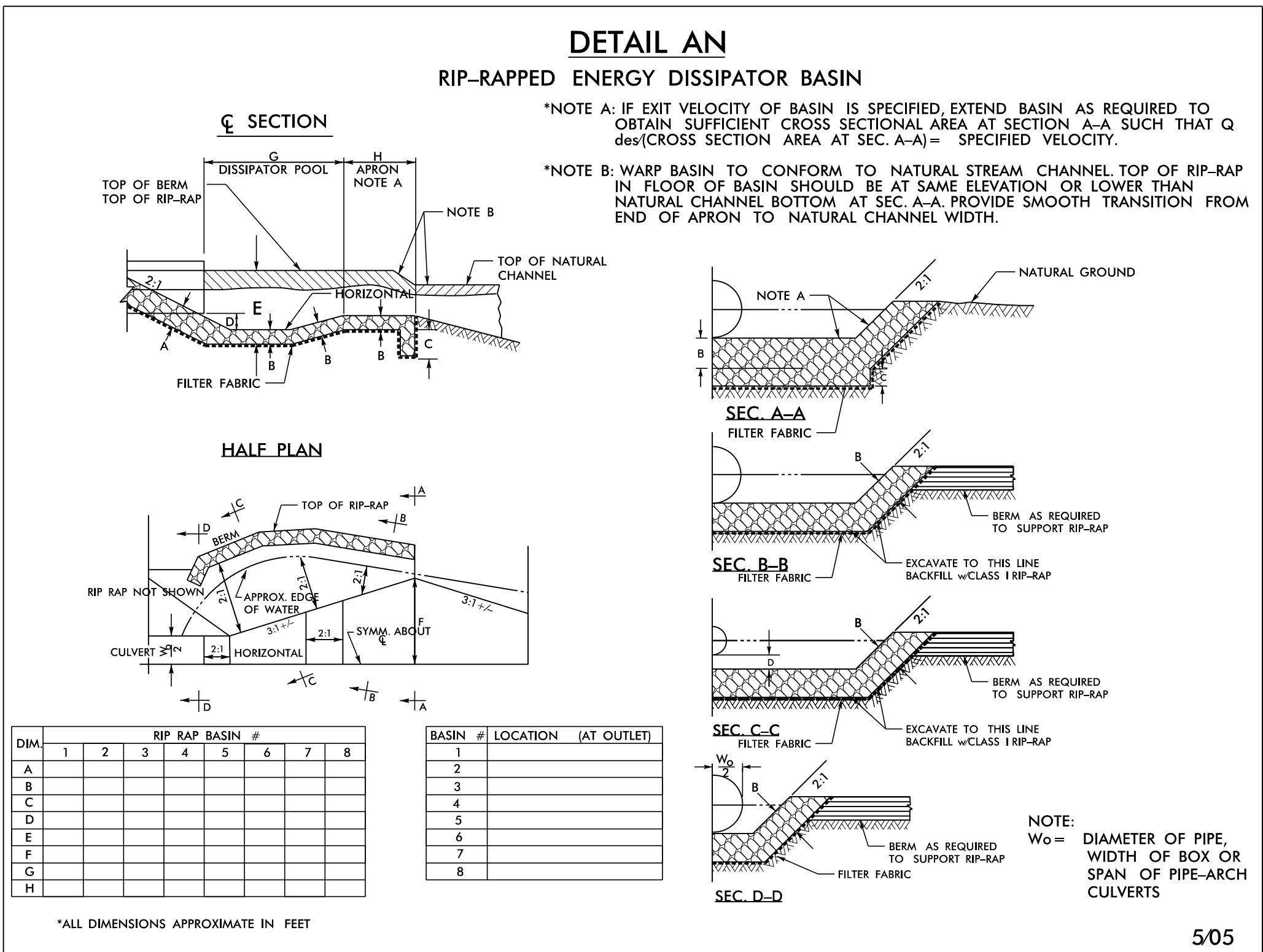
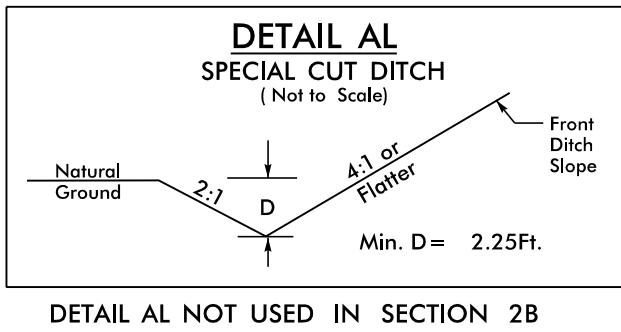
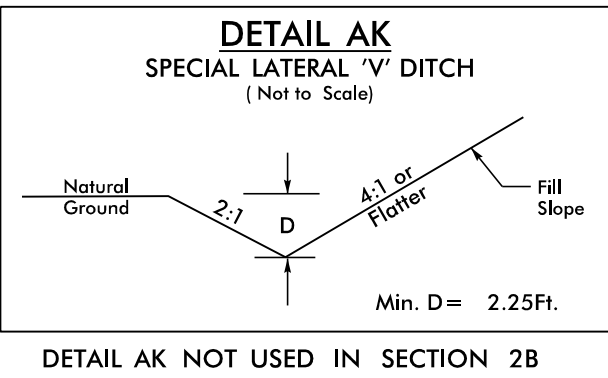
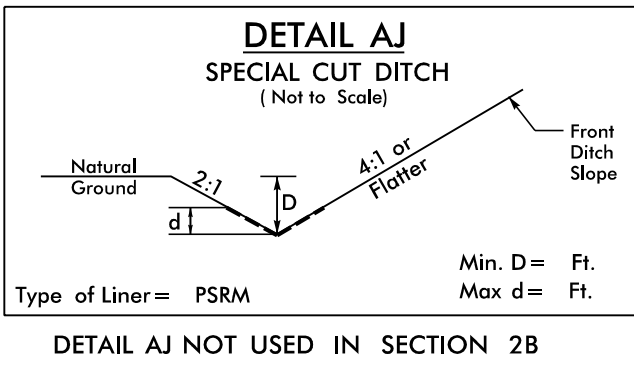
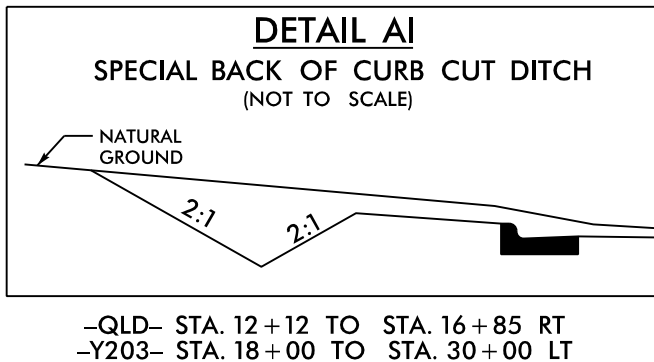
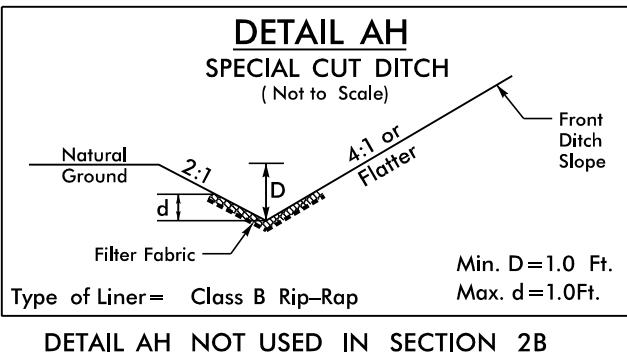
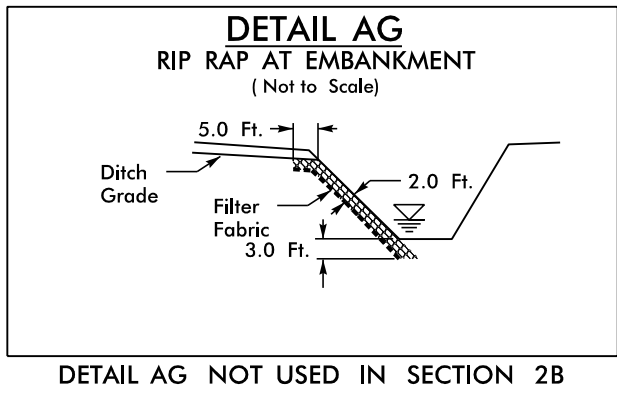
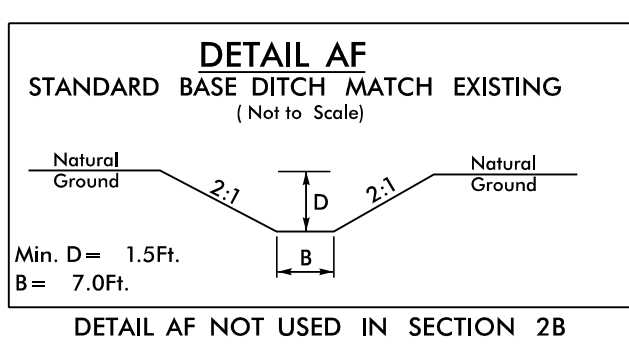
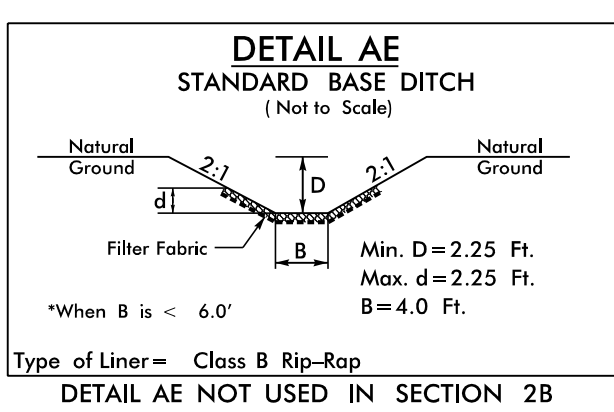
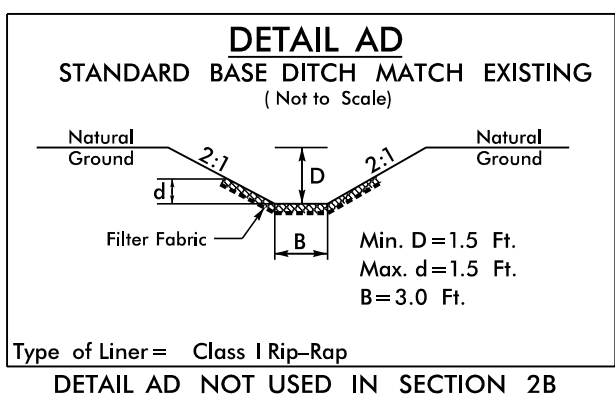
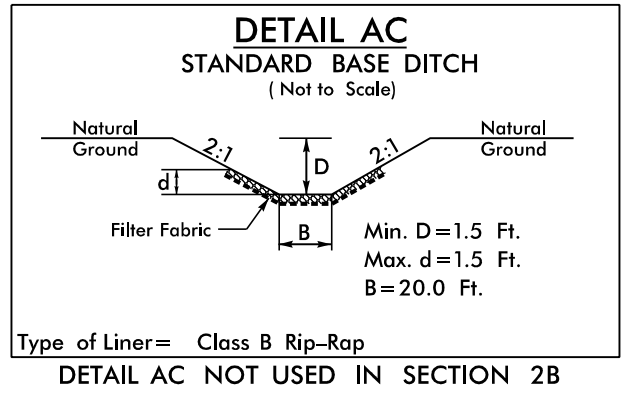
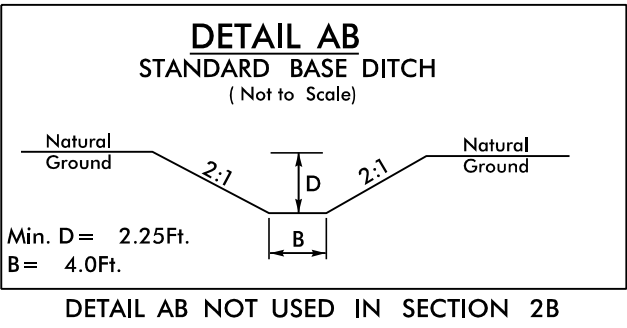
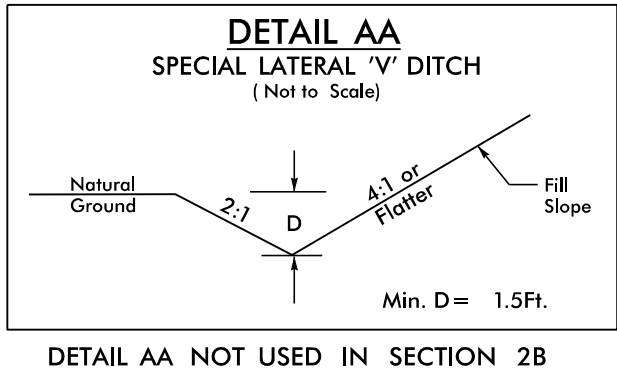


-L2B- STA. 477+43 RT  
-L- STA. 615+00 TO STA. 618+00 RT  
-L- STA. 532+00 TO STA. 534+40 RT

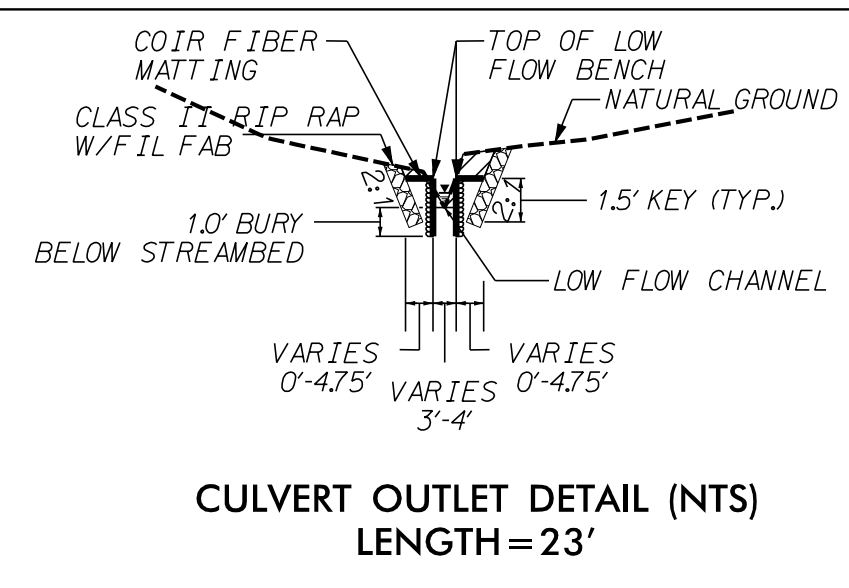
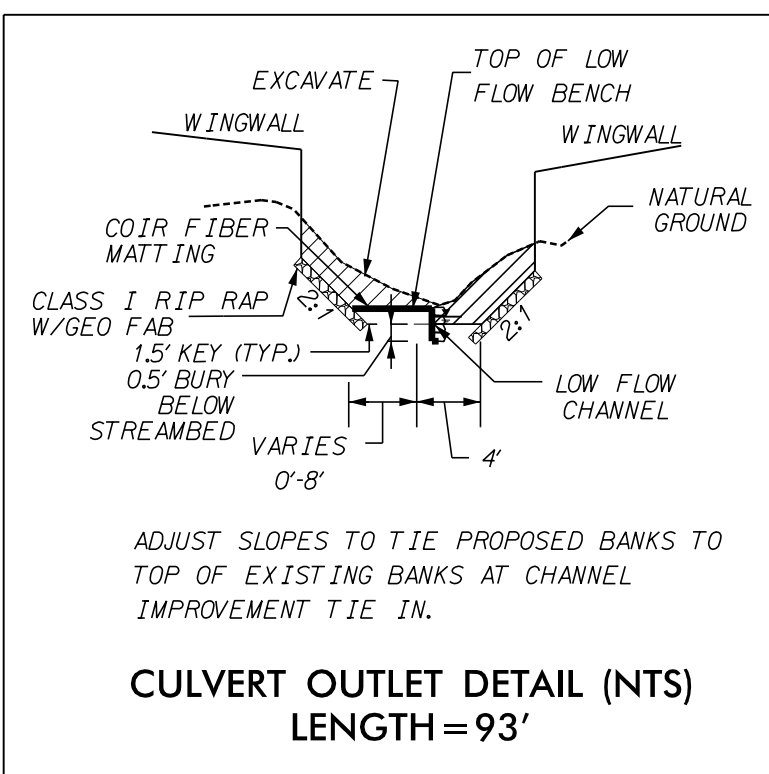
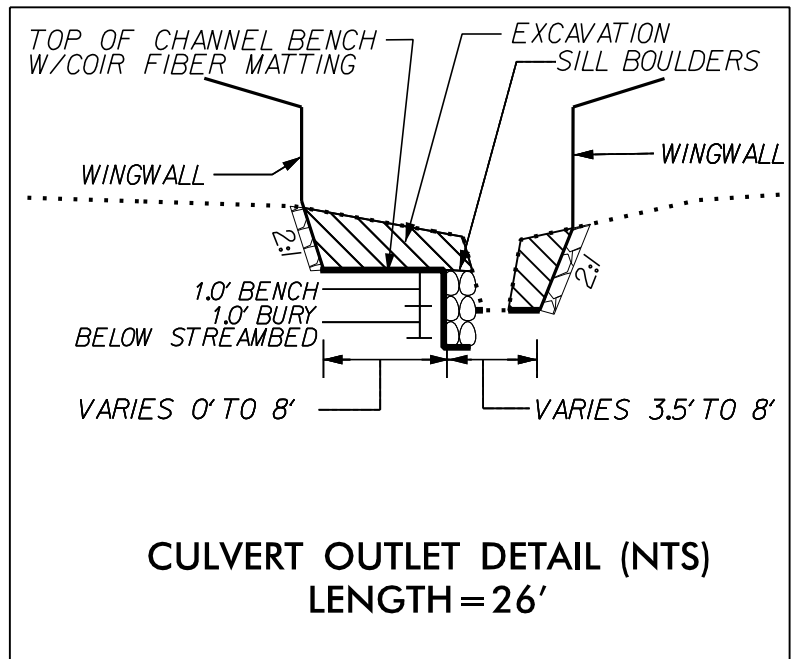
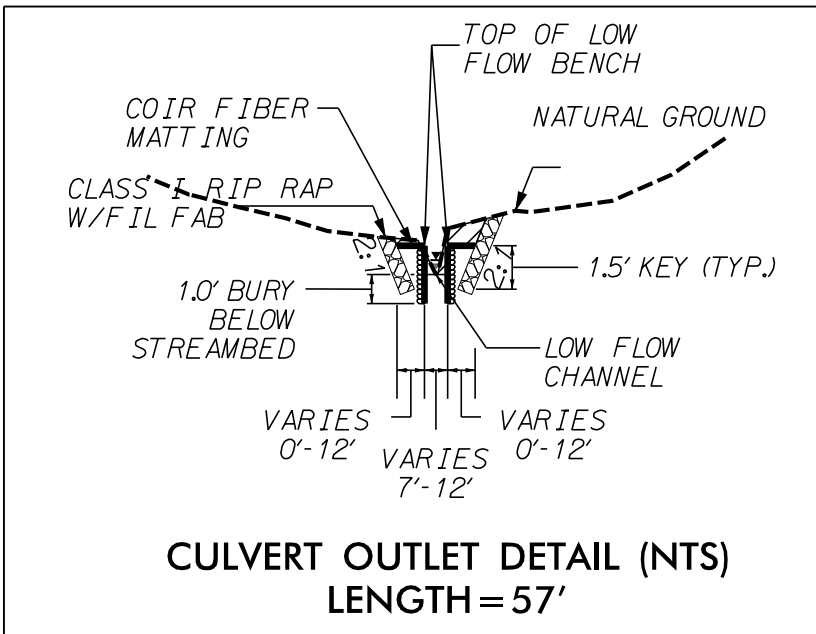
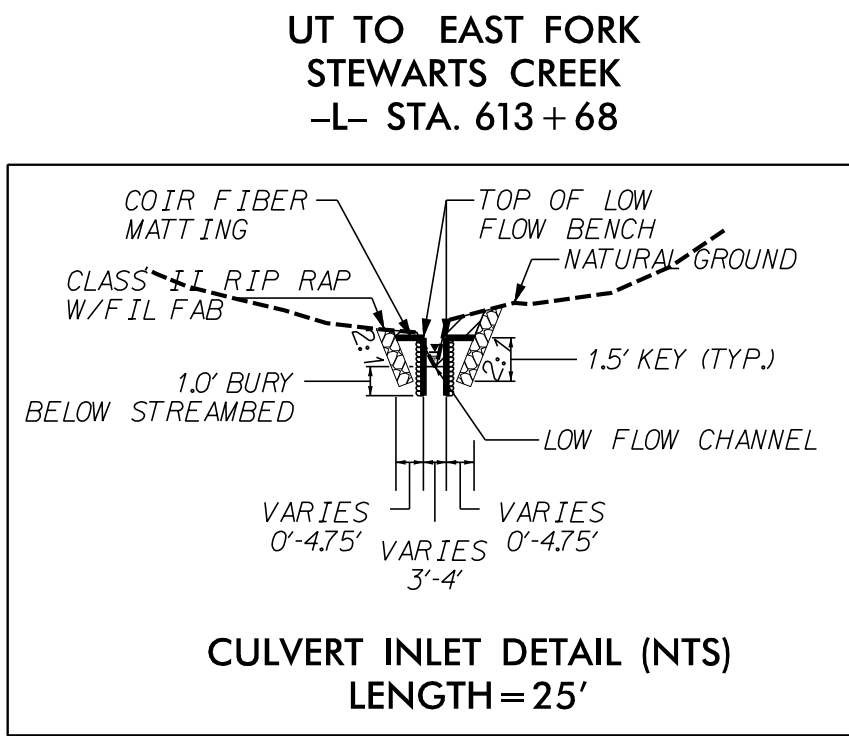
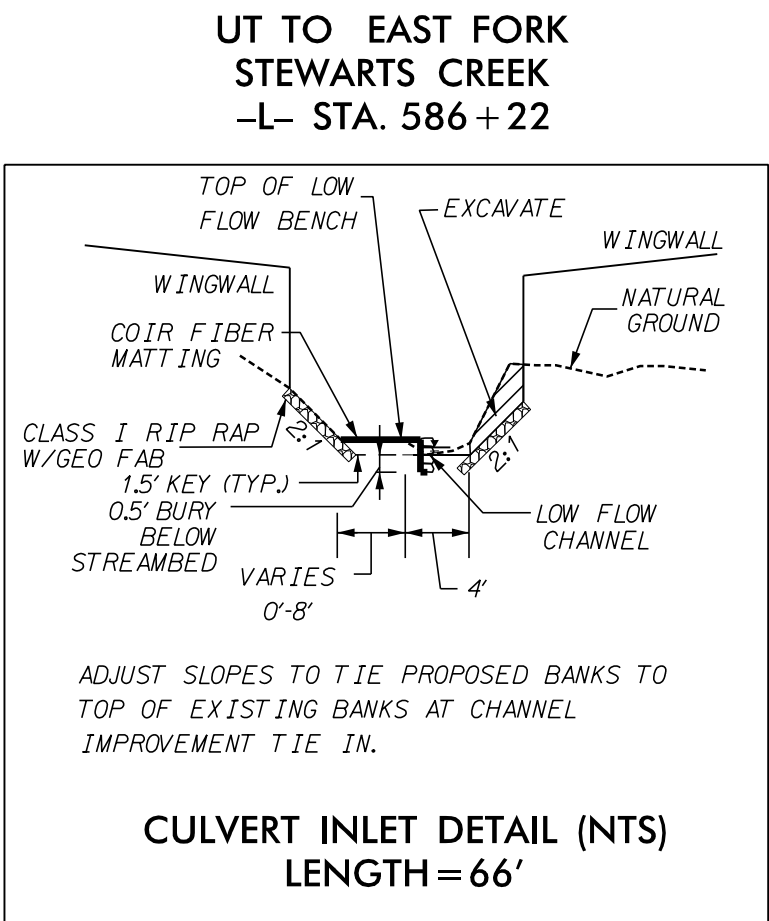
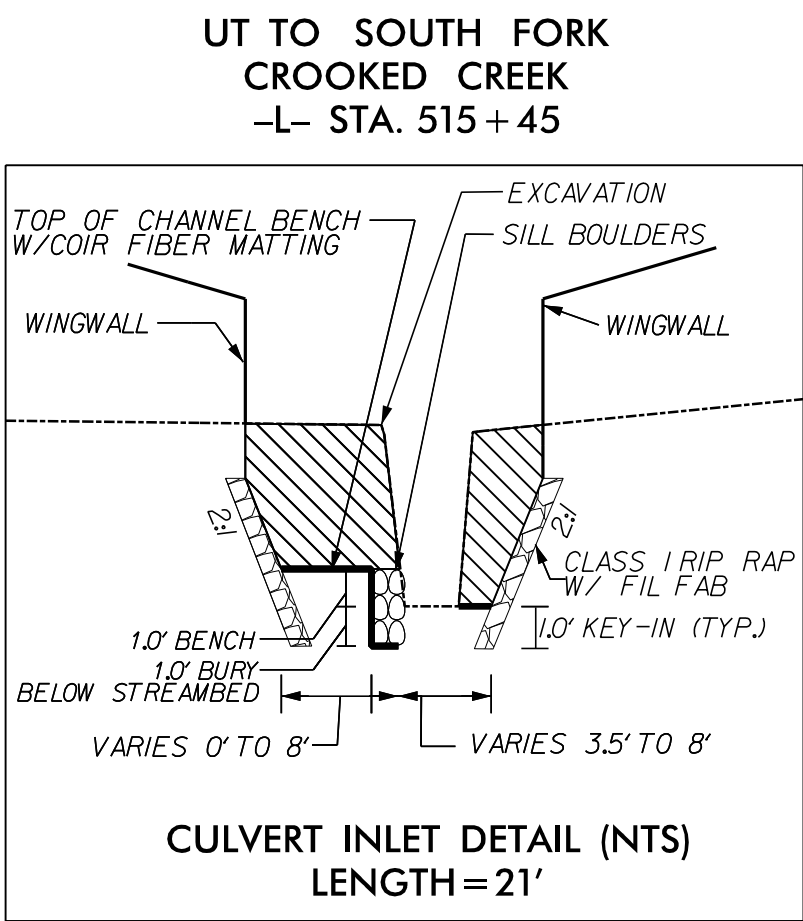
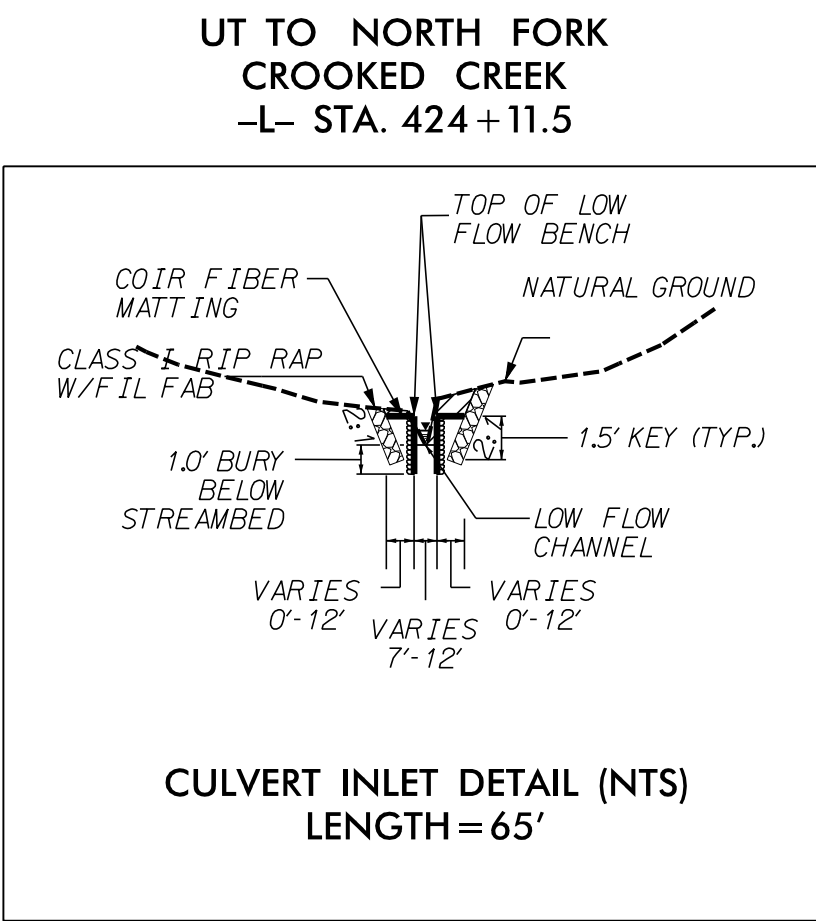
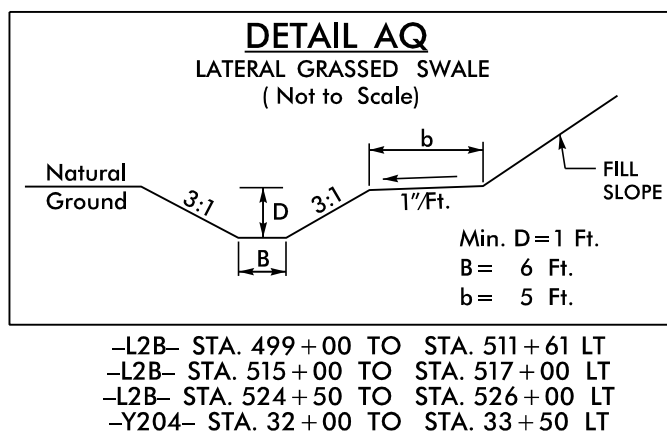
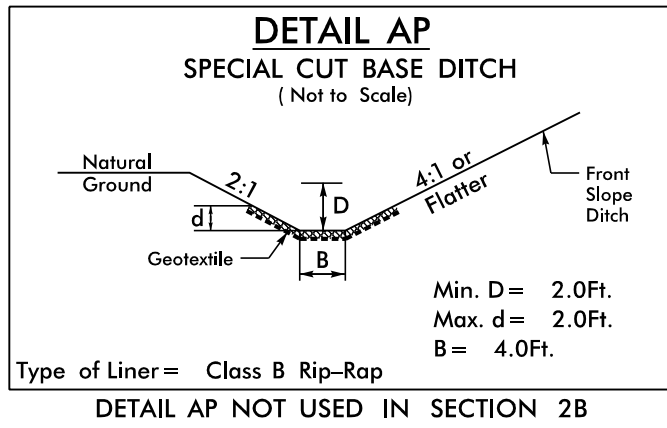
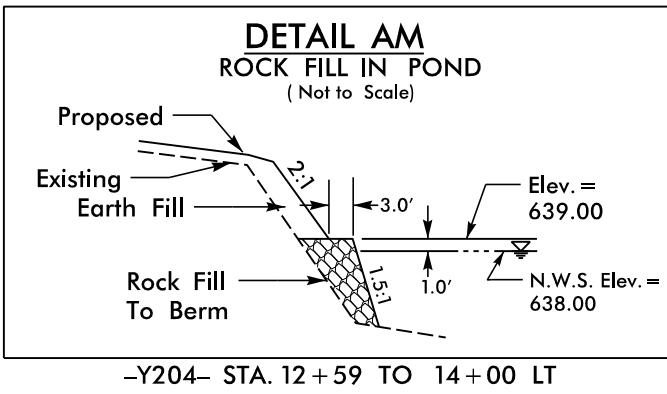
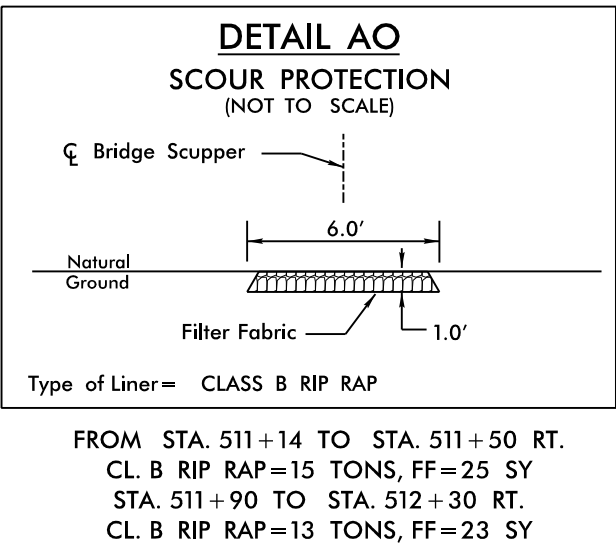
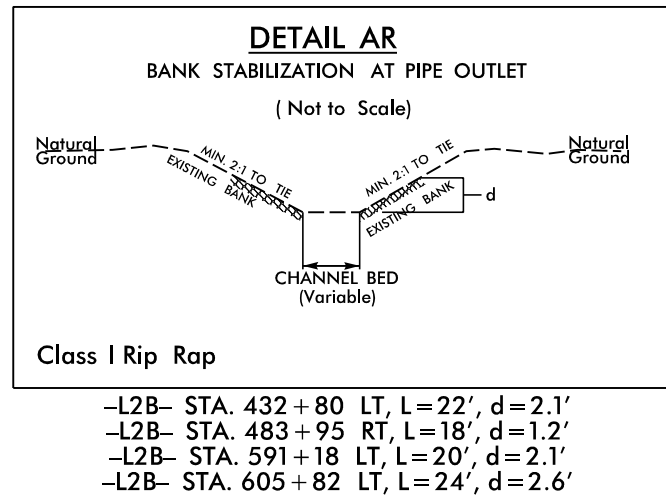




|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 / R-2559                                    | 2B-21               |
| RW SHEET NO.                                       |                     |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



DETAIL AN NOT USED IN SECTION 2B

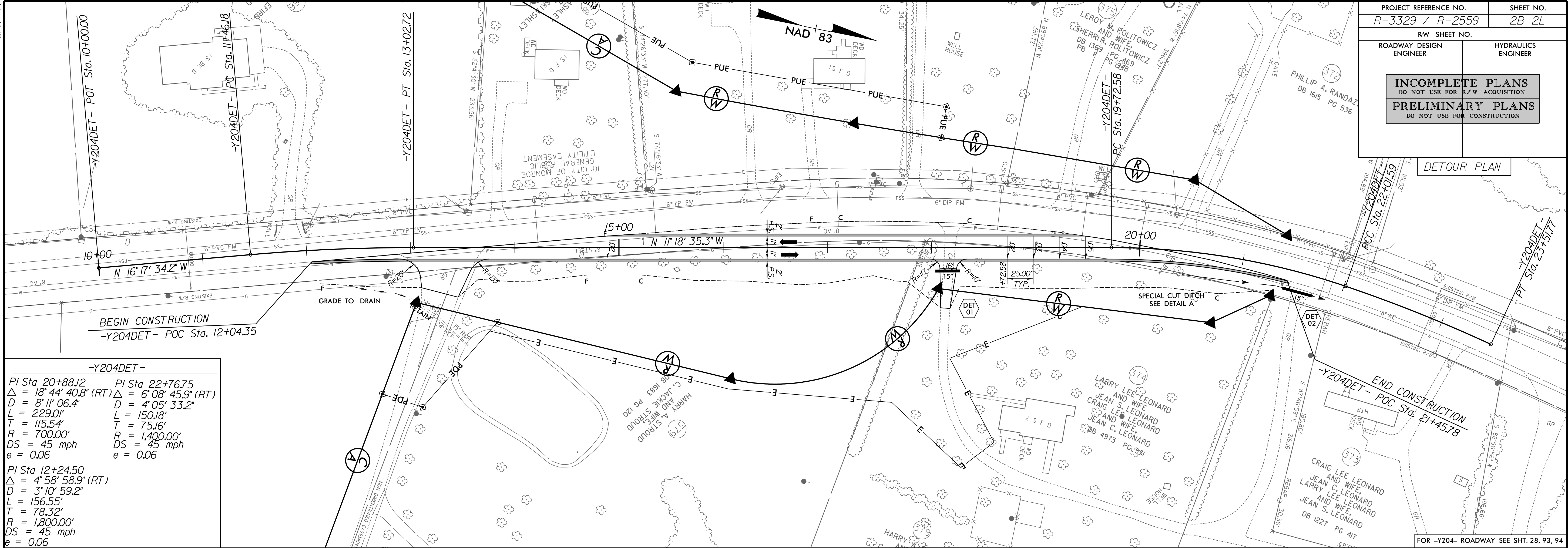




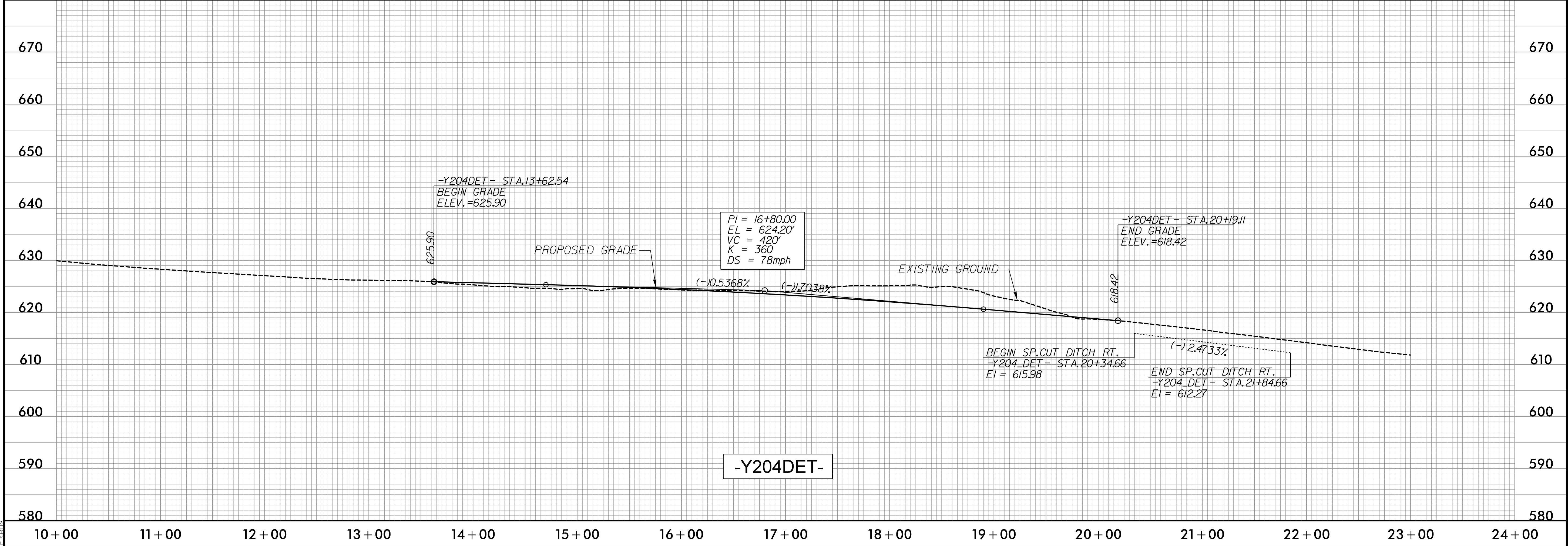
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| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i>    |  | SHEET NO.<br><i>2B-2L</i> |  |
| RW SHEET NO.                                       |  |                           |  |
| ROADWAY DESIGN<br>ENGINEER                         |  | HYDRAULICS<br>ENGINEER    |  |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |  |                           |  |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |  |                           |  |

DETOUR PLAN

FOR -Y204- ROADWAY SEE SHT. 28, 93, 94

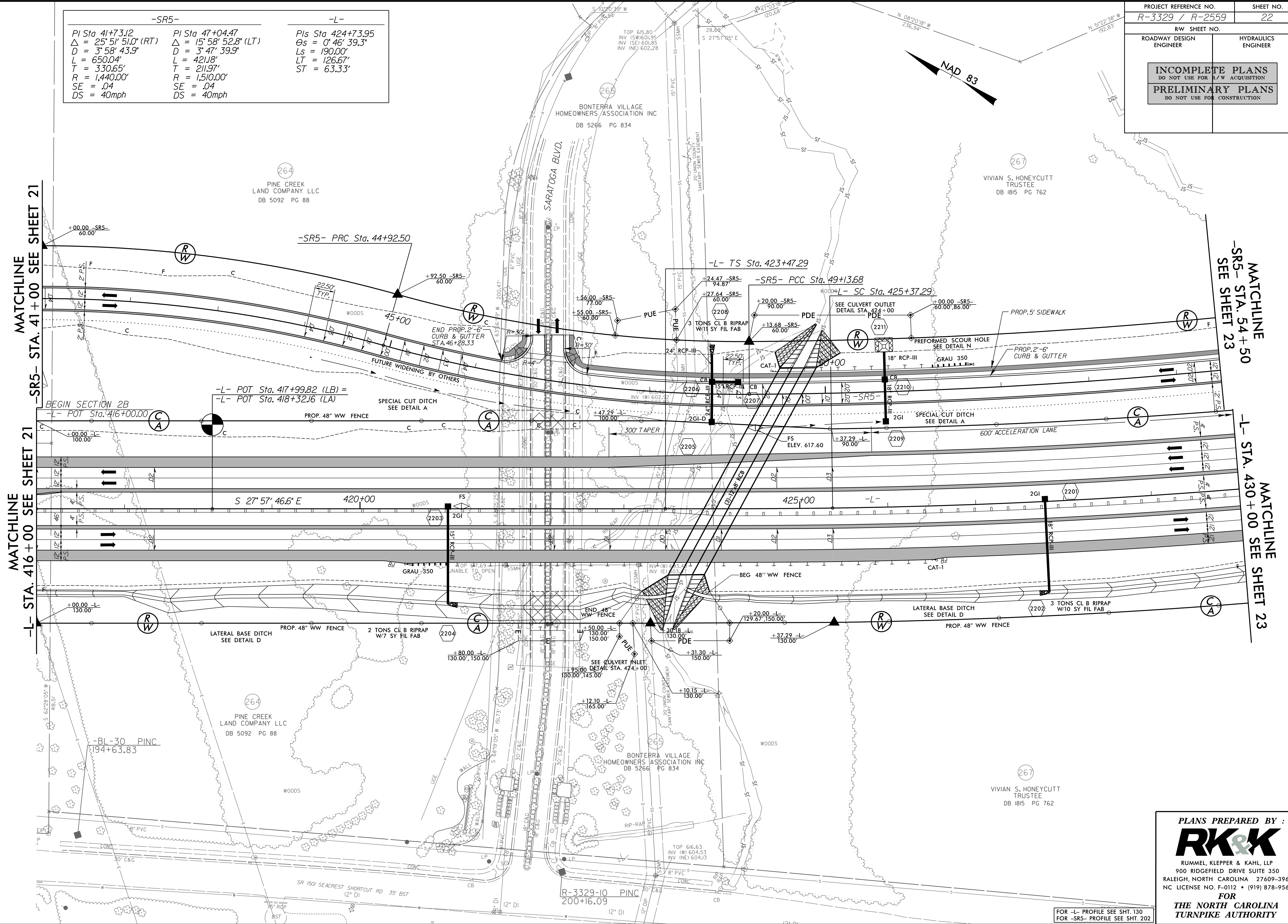


|                        |                       |
|------------------------|-----------------------|
| <b>-Y204DET-</b>       |                       |
| PI Sta 20+88.12        | PI Sta 22+76.75       |
| Δ = 18° 44' 40.8" (RT) | Δ = 6° 08' 45.9" (RT) |
| D = 8' 11" 06.4"       | D = 4' 05' 33.2"      |
| L = 229.01'            | L = 150.18'           |
| T = 115.54'            | T = 75.16'            |
| R = 700.00'            | R = 1,400.00'         |
| DS = 45 mph            | DS = 45 mph           |
| e = 0.06               | e = 0.06              |
| <b>-Y204DET-</b>       |                       |
| PI Sta 12+24.50        |                       |
| Δ = 4° 58' 58.9" (RT)  |                       |
| D = 3' 10' 59.2"       |                       |
| L = 156.55'            |                       |
| T = 78.32'             |                       |
| R = 1,800.00'          |                       |
| DS = 45 mph            |                       |
| e = 0.06               |                       |



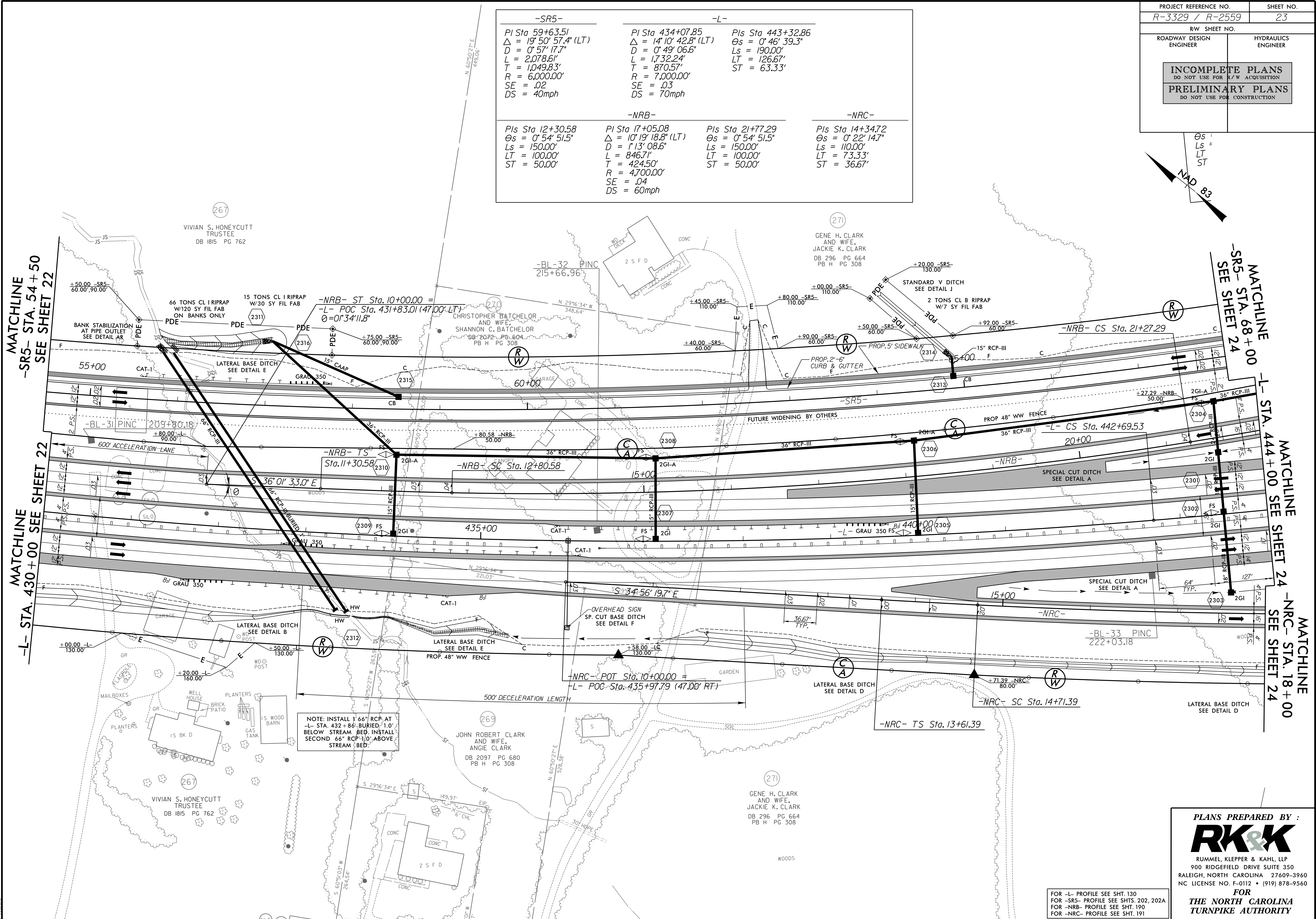
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\$\$\$\$\$TIME\$\$\$\$\$  
9/29/2014





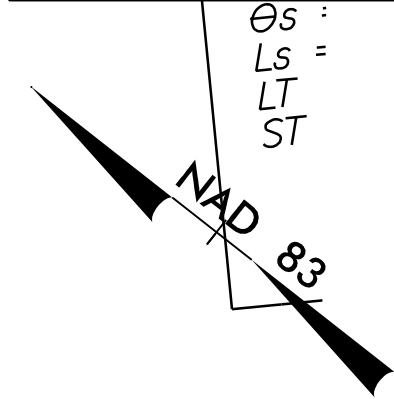


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\$\$\$\$\$DATE\$\$\$\$\$  
\$\$\$\$\$USER\$\$\$\$\$  
\$\$\$\$\$PROJECT\$\$\$\$\$  
\$\$\$\$\$SHEET\$\$\$\$\$



| -SR5-                                                                                                                                      | -L-                                                                                                                                       |                                                                                       |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| PI Sta 59+63.51<br>Δ = 19° 50' 57.4" (LT)<br>D = 0° 57' 17.7"<br>L = 2,078.61'<br>T = 1,049.83'<br>R = 6,000.00'<br>SE = .02<br>DS = 40mph | PI Sta 434+07.85<br>Δ = 14° 10' 42.8" (LT)<br>D = 0° 49' 06.6"<br>L = 1,732.24'<br>T = 870.57'<br>R = 7,000.00'<br>SE = .03<br>DS = 70mph | PIs Sta 443+32.86<br>Θs = 0° 46' 39.3"<br>Ls = 190.00'<br>LT = 126.67'<br>ST = 63.33' |                                                                                     |
| -NRB-                                                                                                                                      | -NRC-                                                                                                                                     |                                                                                       |                                                                                     |
| PIs Sta 12+30.58<br>Θs = 0° 54' 51.5"<br>Ls = 150.00'<br>LT = 100.00'<br>ST = 50.00'                                                       | PI Sta 17+05.08<br>Δ = 10° 19' 18.8" (LT)<br>D = 1° 13' 08.6"<br>L = 846.71'<br>T = 424.50'<br>R = 4,700.00'<br>SE = .04<br>DS = 60mph    | PIs Sta 21+77.29<br>Θs = 0° 54' 51.5"<br>Ls = 150.00'<br>LT = 100.00'<br>ST = 50.00'  | PIs Sta 14+34.72<br>Θs = 0° 22' 14.7"<br>Ls = 110.00'<br>LT = 73.33'<br>ST = 36.67' |

| PROJECT REFERENCE NO.                              | SHEET NO.           |
|----------------------------------------------------|---------------------|
| R-3329 / R-2559                                    | 23                  |
| R/W SHEET NO.                                      |                     |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



FOR -L- PROFILE SEE SHT. 130  
FOR -SR5- PROFILE SEE SHTS. 202, 202A  
FOR -NRB- PROFILE SEE SHT. 190  
FOR -NRC- PROFILE SEE SHT. 191

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  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

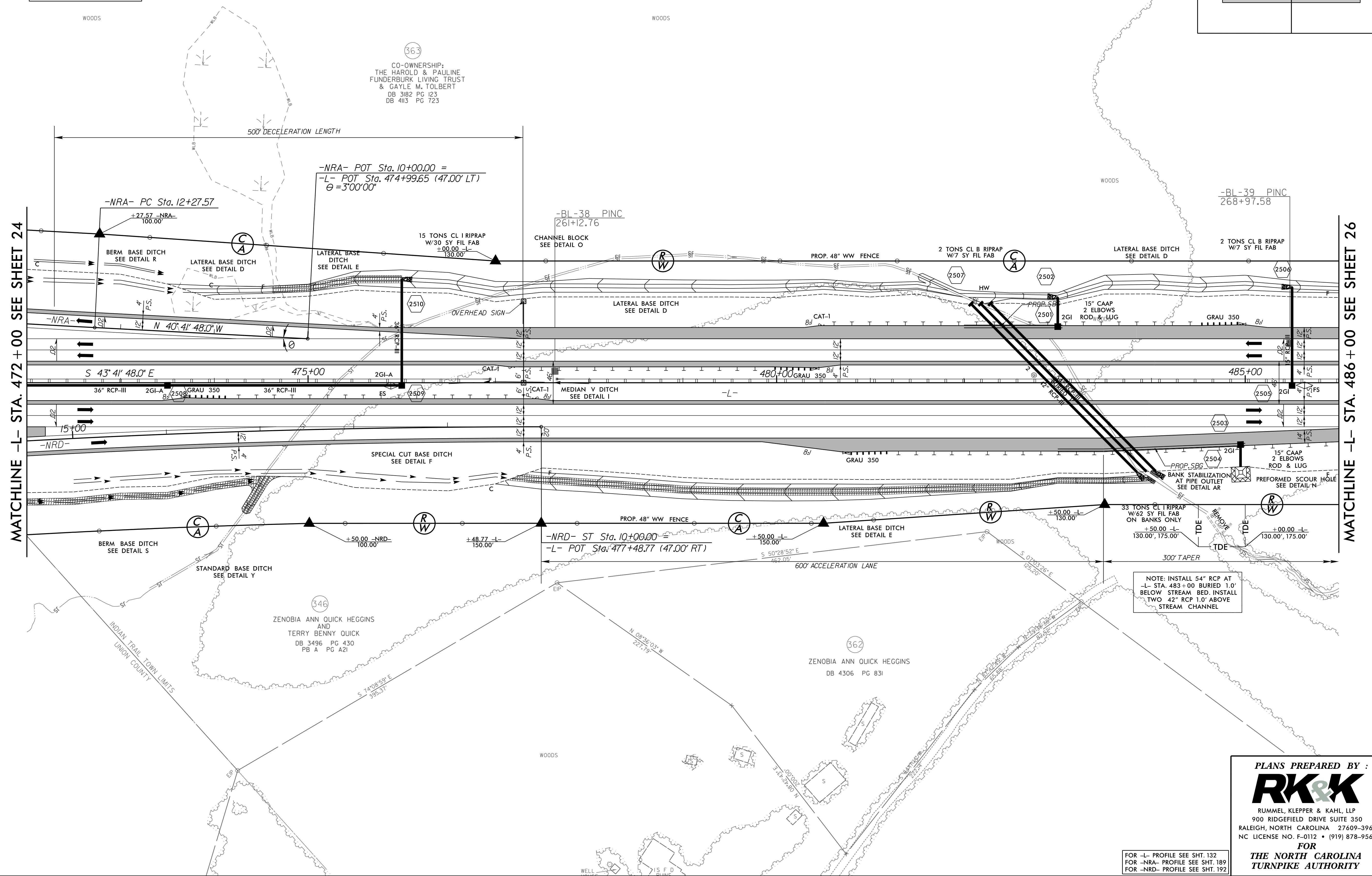






-NRD-

*PI Sta 13+84.08*  
 *$\Delta = 4^{\circ} 23' 56.7''$  (LT)*  
 *$D = 0^{\circ} 34' 22.6''$*   
 *$L = 767.78'$*   
 *$T = 384.08'$*   
 *$R = 10,000.00'$*   
 *$SE = .02$*   
 *$DS = 60\text{mph}$*



FOR -L- PROFILE SEE SHT. 132  
FOR -NRA- PROFILE SEE SHT. 189  
FOR -NRD- PROFILE SEE SHT. 192

**PLANS PREPARED BY :**  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
ALEIGH, NORTH CAROLINA 27609-3960  
IC LICENSE NO. F-0112 • (919) 878-9560  
**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



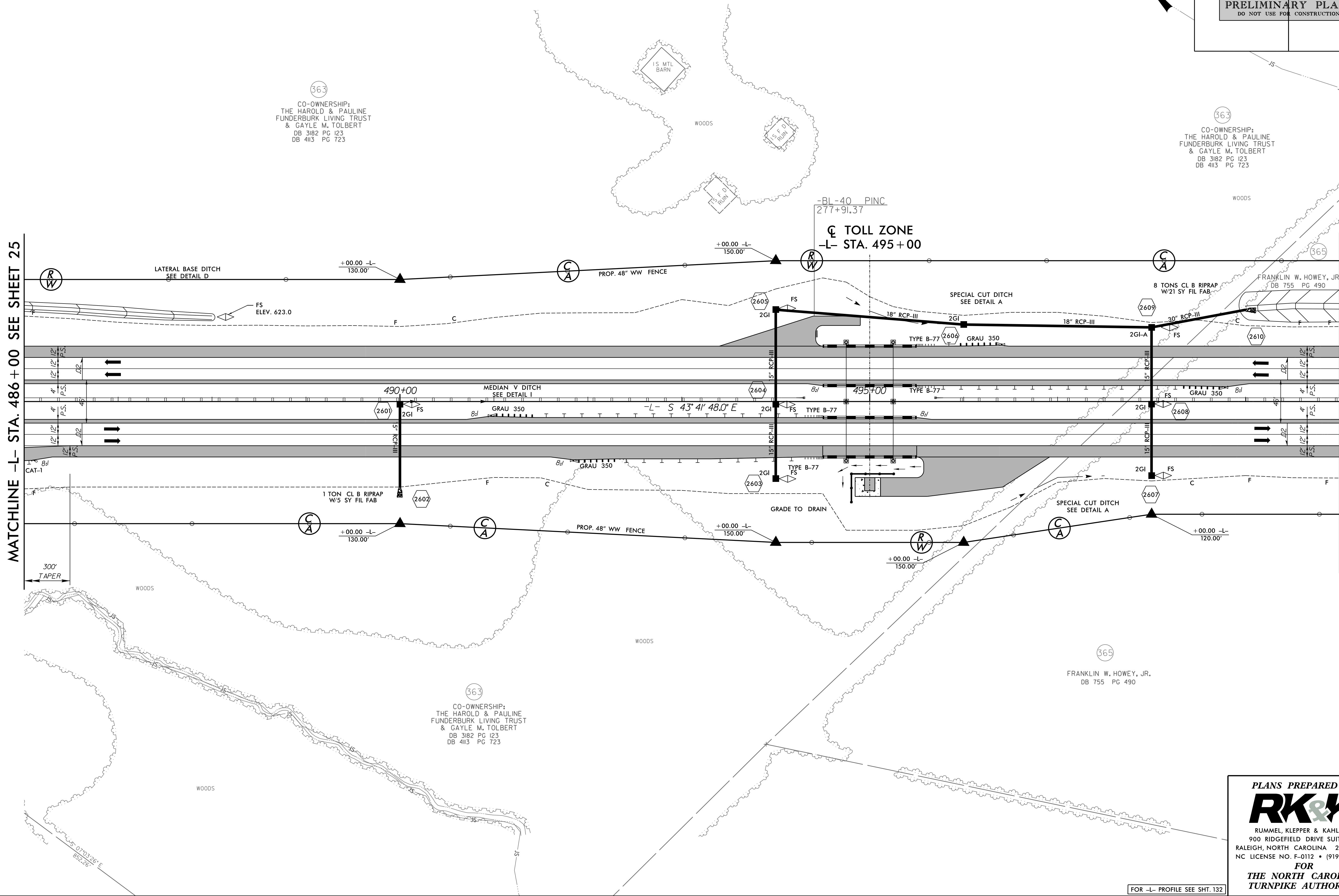
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Elevs

MATCHLINE -L- STA. 486+00 SEE SHEET 25

MATCHLINE -L- STA. 500+00 SEE SHEET 27

|                                                    |                        |                 |
|----------------------------------------------------|------------------------|-----------------|
| PROJECT REFERENCE NO.<br>R-3329 / R-2559           |                        | SHEET NO.<br>26 |
| RW SHEET NO.                                       |                        |                 |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |                 |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |                 |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |                 |



FOR -L- PROFILE SEE SHT. 132

PLANS PREPARED BY :

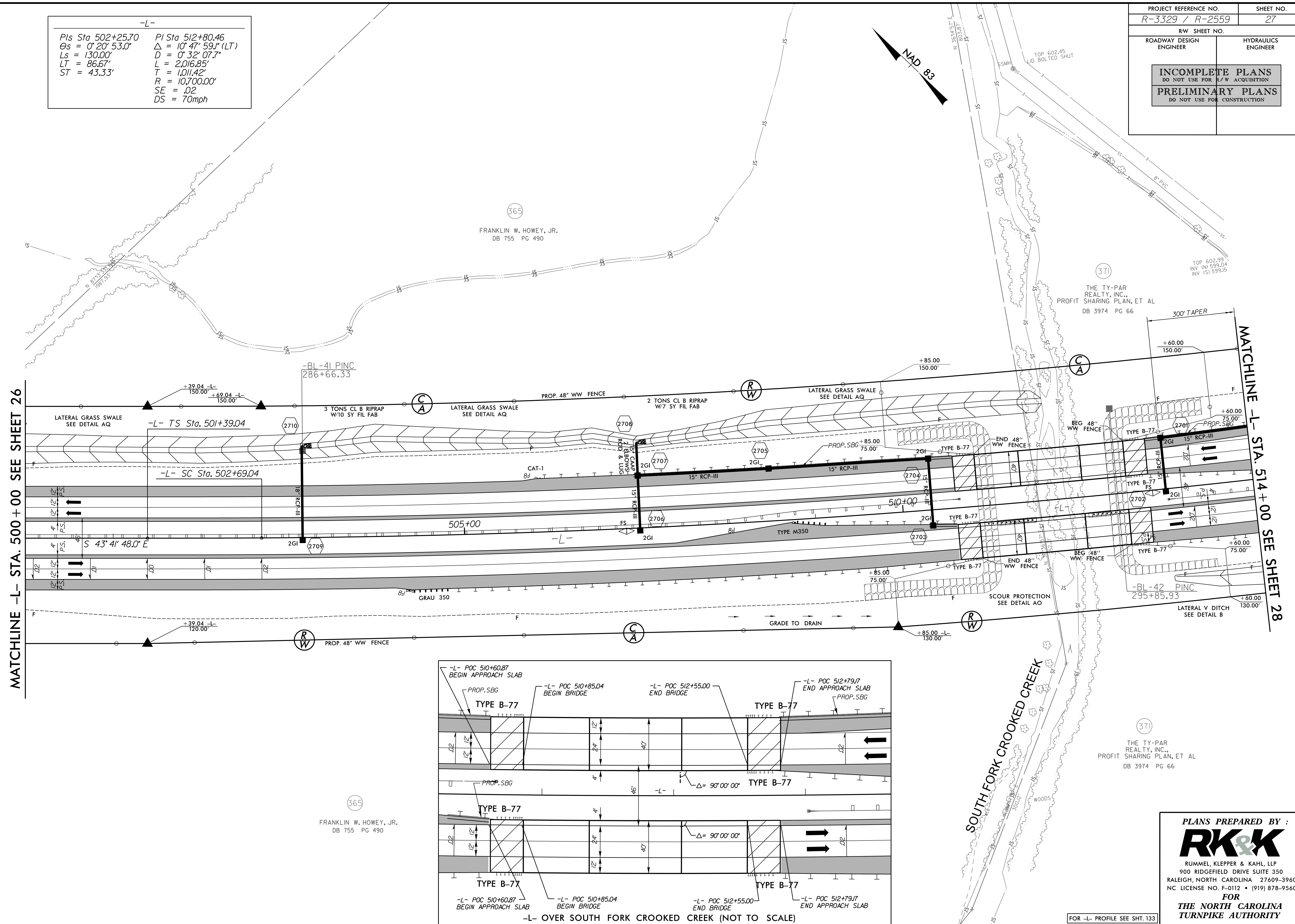
**RK&K**

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

FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



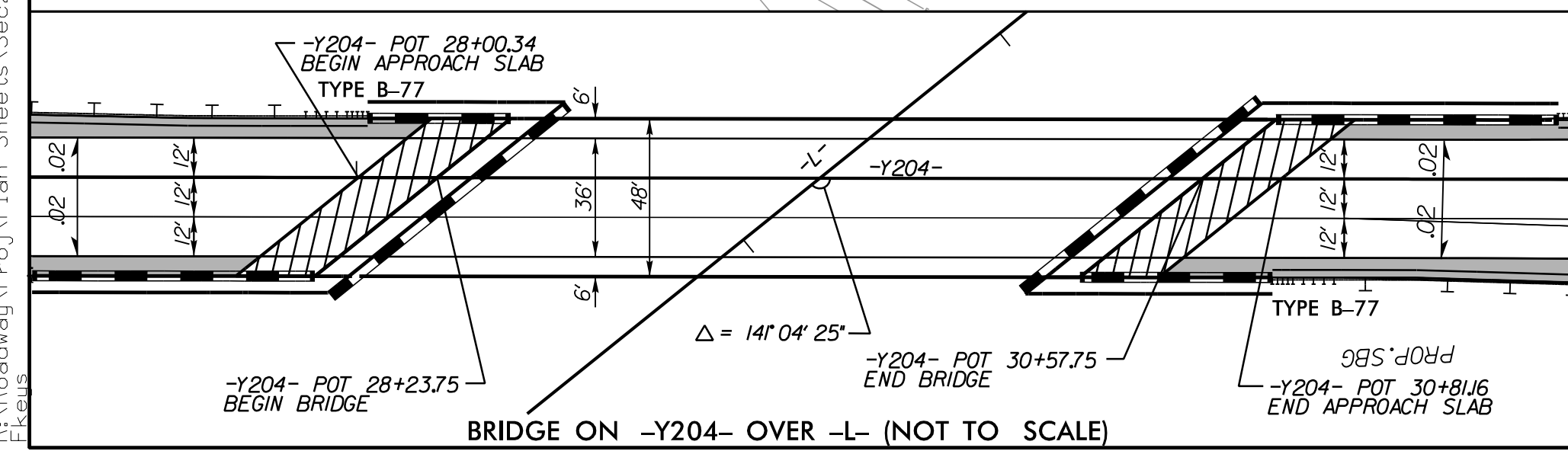
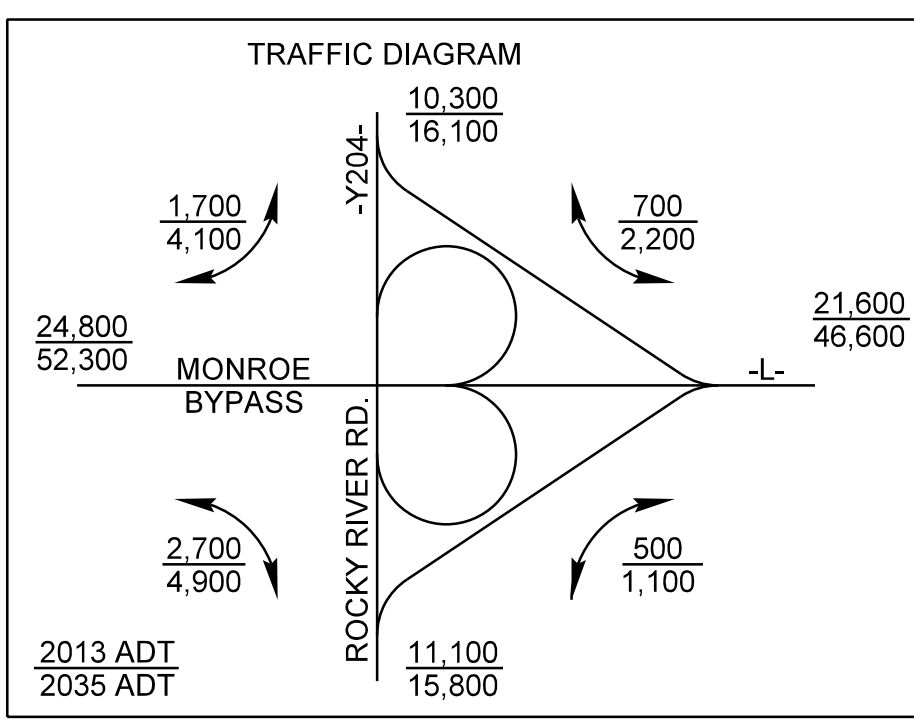
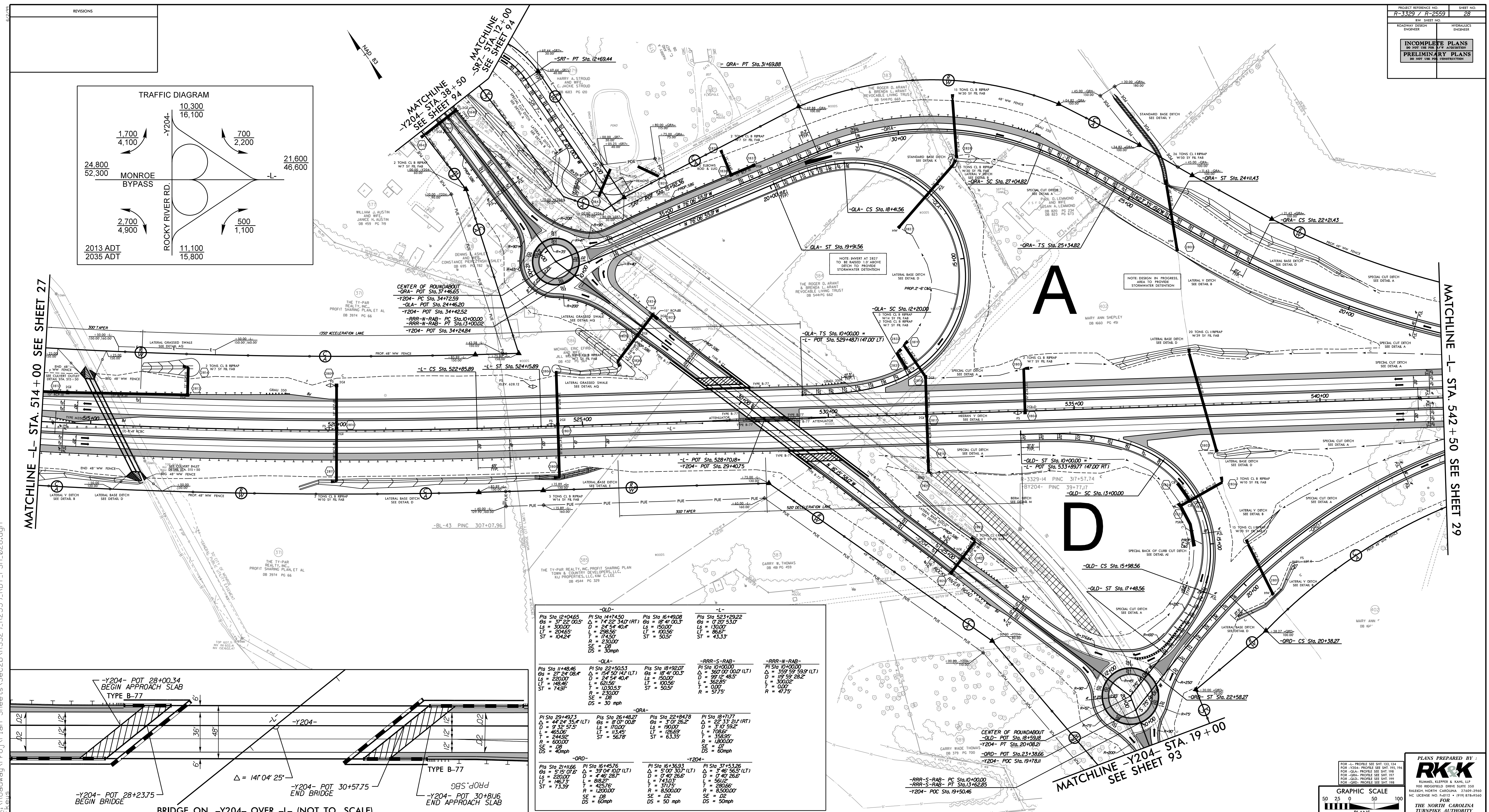
| <i>Pls Sta 502+25.70</i> |  | <i>Pl Sta 512+80.46</i>       |  |
|--------------------------|--|-------------------------------|--|
| <i>Θs = 0° 20' 53.0"</i> |  | <i>Δ = 10° 47' 53.1" (LT)</i> |  |
| <i>Ls = 130.00'</i>      |  | <i>D = 0° 32' 07.7"</i>       |  |
| <i>LT = 86.67'</i>       |  | <i>L = 2,016.85'</i>          |  |
| <i>ST = 43.33'</i>       |  | <i>T = 1,011.42'</i>          |  |
|                          |  | <i>R = 10,700.00'</i>         |  |
|                          |  | <i>SE = .02</i>               |  |
|                          |  | <i>DS = 70mph</i>             |  |



\$\$\$\$\$\$ I M L E \$\$\$\$\$\$  
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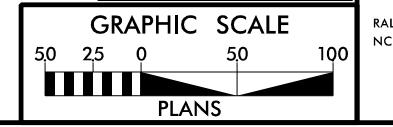




|                       |                       |                       |                       |  |  |
|-----------------------|-----------------------|-----------------------|-----------------------|--|--|
| <b>-OLD-</b>          |                       |                       | <b>-L-</b>            |  |  |
| PI Stn 12+04.55       | PI Stn 14+17.50       | PI Stn 16+49.08       | PI Stn 52+32.22       |  |  |
| Δs = 27°22'00.5"      | Δs = 17°22'34.0" (RT) | Δs = 18°41'00.3"      | Δs = 17°22'34.0" (RT) |  |  |
| D = 300.00'           | D = 24°54'40.4"       | D = 150.00'           | D = 150.00'           |  |  |
| L = 204.65'           | L = 298.56'           | L = 100.56'           | L = 96.61'            |  |  |
| ST = 174.64'          | ST = 230.00'          | ST = 50.51'           | ST = 43.33'           |  |  |
| SE = 0.8              | SE = 0.8              | SE = 0.8              | SE = 0.8              |  |  |
| DS = 30 mph           | DS = 30 mph           | DS = 30 mph           | DS = 30 mph           |  |  |
| <b>-OLA-</b>          |                       |                       | <b>-RRR-S-RAB-</b>    |  |  |
| PI Stn 11+48.46       | PI Stn 22+50.53       | PI Stn 18+92.07       | PI Stn 10+00.00       |  |  |
| Δs = 27°24'08.4"      | Δs = 15°42'14.1" (LT) | Δs = 18°41'00.3"      | Δs = 17°22'34.0" (RT) |  |  |
| D = 200.00'           | D = 24°54'40.4"       | D = 150.00'           | D = 150.00'           |  |  |
| L = 148.46'           | L = 60.56'            | L = 100.56'           | L = 96.61'            |  |  |
| ST = 74.87'           | ST = 100.56'          | ST = 50.51'           | ST = 43.33'           |  |  |
| SE = 0.8              | SE = 0.8              | SE = 0.8              | SE = 0.8              |  |  |
| DS = 30 mph           | DS = 30 mph           | DS = 30 mph           | DS = 30 mph           |  |  |
| <b>-ORD-</b>          |                       |                       | <b>-RRR-N-RAB-</b>    |  |  |
| PI Stn 21+11.66       | PI Stn 26+48.27       | PI Stn 18+71.77       | PI Stn 10+00.00       |  |  |
| Δs = 44°24'35.4" (LT) | Δs = 9°07'00.8"       | Δs = 22°33'21.1" (RT) | Δs = 17°22'34.0" (RT) |  |  |
| D = 37°22'00.5"       | D = 15°42'14.1" (LT)  | D = 30°10'00.0"       | D = 150.00'           |  |  |
| L = 204.65'           | L = 60.56'            | L = 100.56'           | L = 96.61'            |  |  |
| ST = 174.64'          | ST = 100.56'          | ST = 50.51'           | ST = 43.33'           |  |  |
| SE = 0.8              | SE = 0.8              | SE = 0.8              | SE = 0.8              |  |  |
| DS = 30 mph           | DS = 30 mph           | DS = 30 mph           | DS = 30 mph           |  |  |
| <b>-Y204-</b>         |                       |                       | <b>-RRR-S-RAB-</b>    |  |  |
| PI Stn 16+45.76       | PI Stn 16+45.76       | PI Stn 37+53.26       | PI Stn 10+00.00       |  |  |
| Δs = 39°04'10.0" (LT) | Δs = 39°04'10.0" (LT) | Δs = 39°04'10.0" (LT) | Δs = 17°22'34.0" (RT) |  |  |
| D = 200.00'           | D = 24°54'40.4"       | D = 150.00'           | D = 150.00'           |  |  |
| L = 148.46'           | L = 60.56'            | L = 100.56'           | L = 96.61'            |  |  |
| ST = 74.87'           | ST = 100.56'          | ST = 50.51'           | ST = 43.33'           |  |  |
| SE = 0.8              | SE = 0.8              | SE = 0.8              | SE = 0.8              |  |  |
| DS = 30 mph           | DS = 30 mph           | DS = 30 mph           | DS = 30 mph           |  |  |

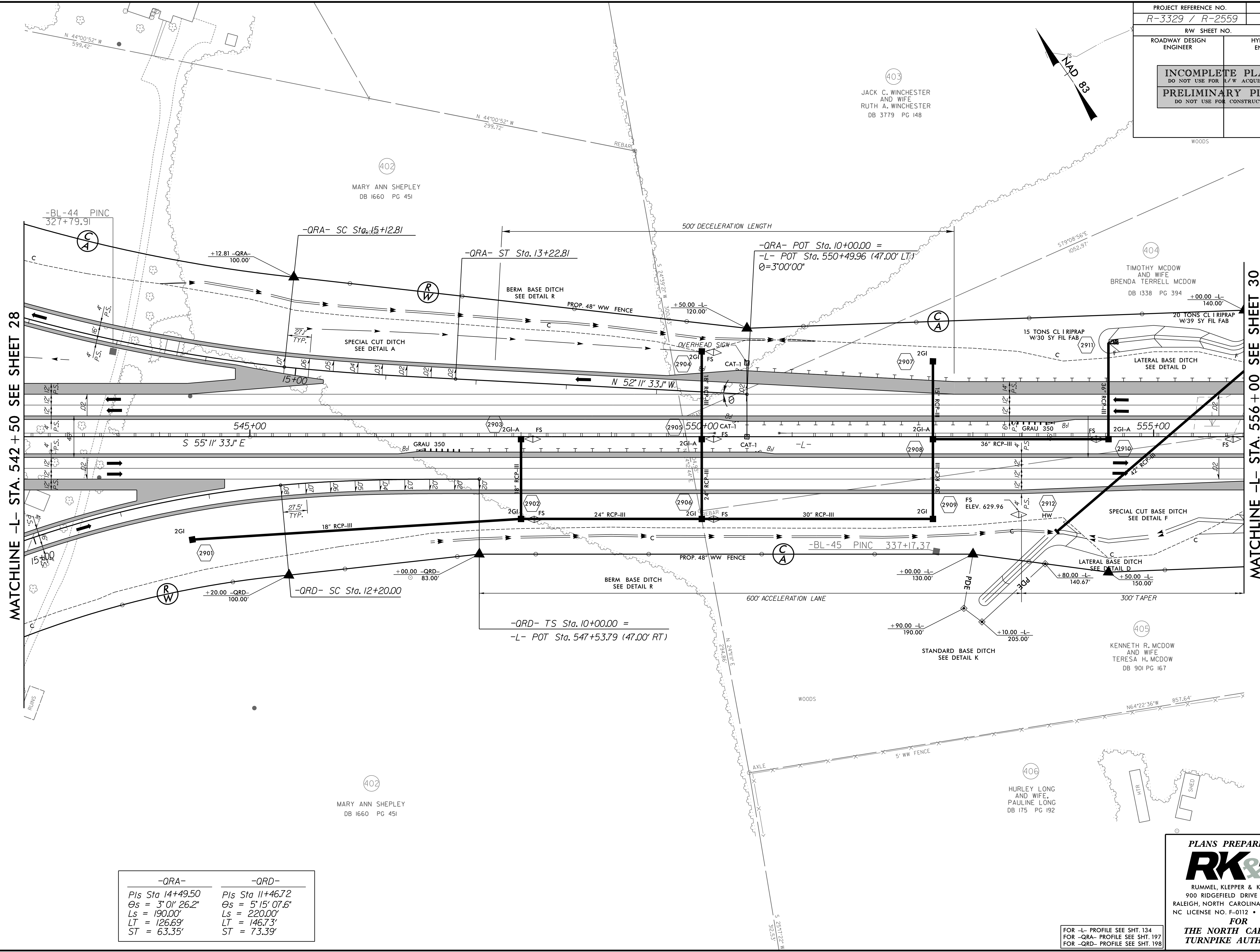
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9/30/2014 10:58:55 AM  
R33291\_R2559\_RDY\_PSH\_028.dgn

|                                                 |                                                  |
|-------------------------------------------------|--------------------------------------------------|
| PROJECT REFERENCE NO.                           | SHEET NO.                                        |
| H-3329 / H-2559                                 | 28                                               |
| ROADWAY DESIGN ENGINEER                         | HYDRAULICS ENGINEER                              |
| INCOMPLETE PLANS<br>DO NOT USE FOR CONSTRUCTION | PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |



PLANS PREPARED BY:  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
100 WOODBRIDGE DRIVE SUITE 300  
RALEIGH, NORTH CAROLINA 27609-3940  
NC LICENSE NO. E-0112 / (919) 878-9560  
FOR THE NORTH CAROLINA TURNPIKE AUTHORITY





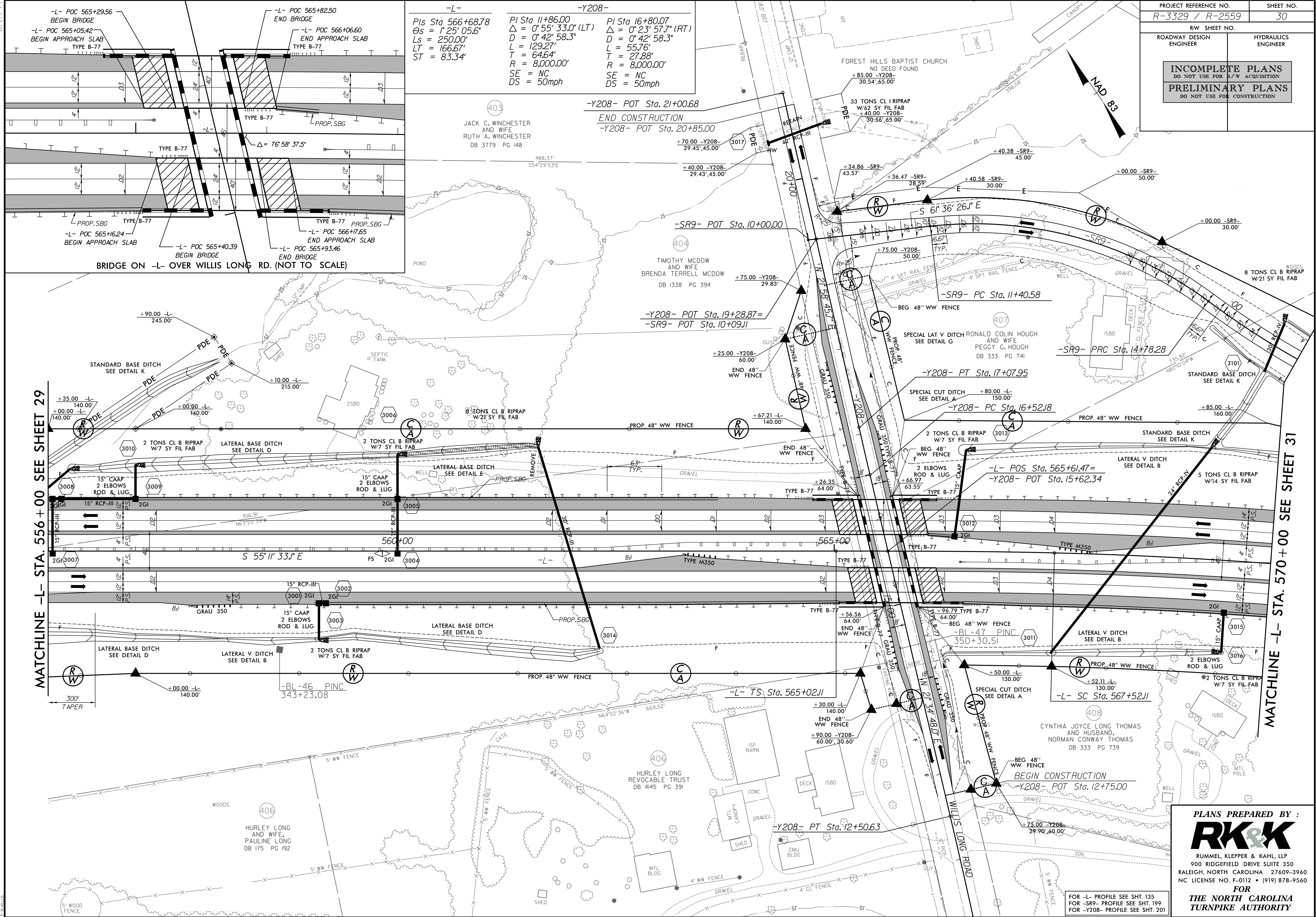
FOR -L- PROFILE SEE SHT. 134  
FOR -QRA- PROFILE SEE SHT. 197  
FOR -QRD- PROFILE SEE SHT. 198

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LEIGH, NORTH CAROLINA 27609-3960  
LICENSE NO. F-0112 • (919) 878-9560  
**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



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|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 / R-2559                                    | 30                  |
| RW SHEET NO.                                       |                     |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

|                                                                                       |                                                                                                                                     |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| -L-                                                                                   | -Y208-                                                                                                                              |
| Pls Sta 566+68.78<br>Os = 1' 25' 05.6"<br>Ls = 250.00'<br>LT = 166.67'<br>ST = 83.34' | Pl Sta 11+86.00<br>Δ = 0' 55' 33.0" (LT)<br>D = 0' 42' 58.3"<br>L = 129.27'<br>T = 64.64'<br>R = 8,000.00'<br>SE = NC<br>DS = 50mph |
|                                                                                       | Pl Sta 16+80.07<br>Δ = 0' 23' 57.7" (RT)<br>D = 0' 42' 58.3"<br>L = 55.76'<br>T = 27.88'<br>R = 8,000.00'<br>SE = NC<br>DS = 50mph  |

FOR -L- PROFILE SEE SHT. 135  
FOR -SR9- PROFILE SEE SHT. 199  
FOR -Y208- PROFILE SEE SHT. 201

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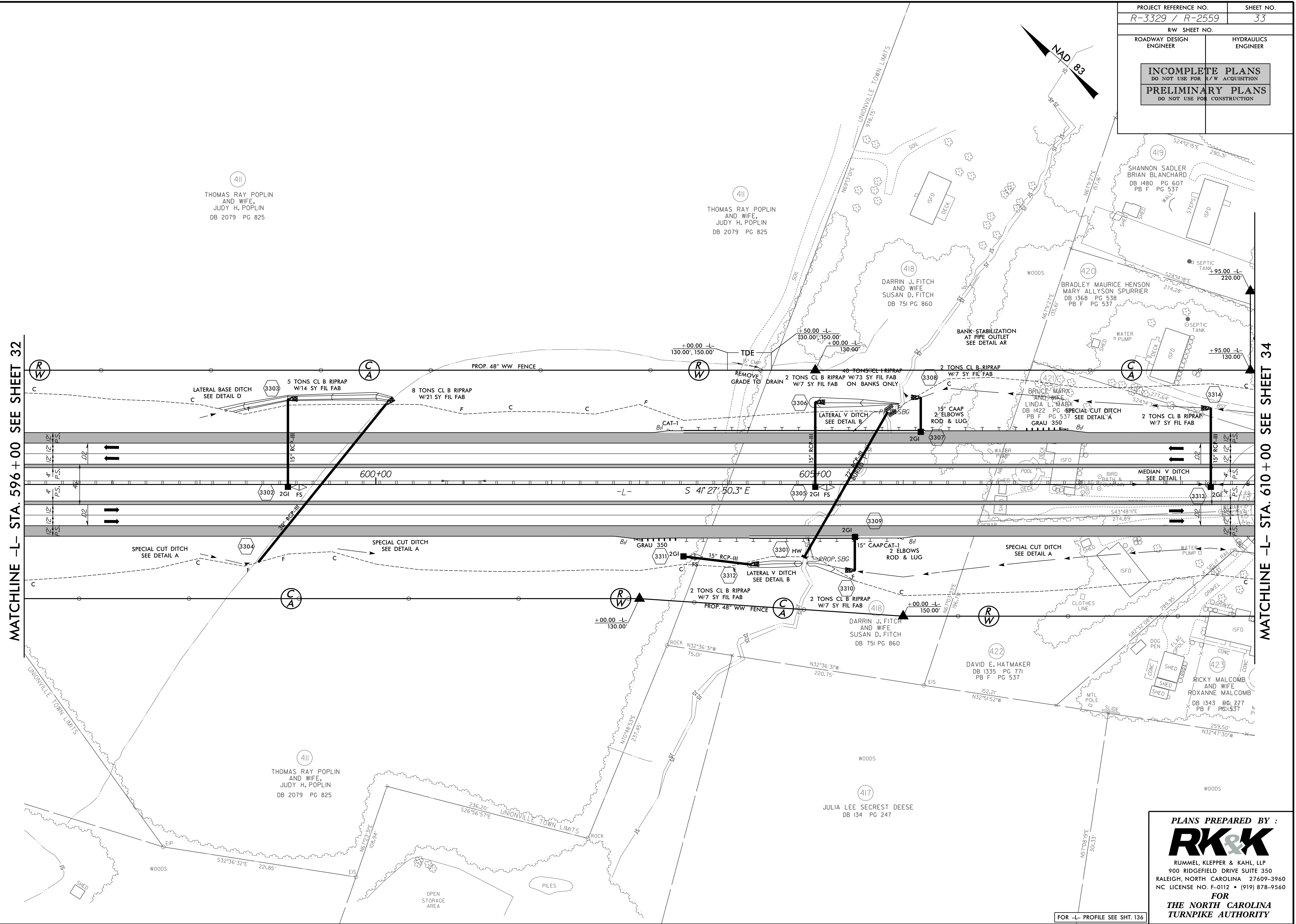






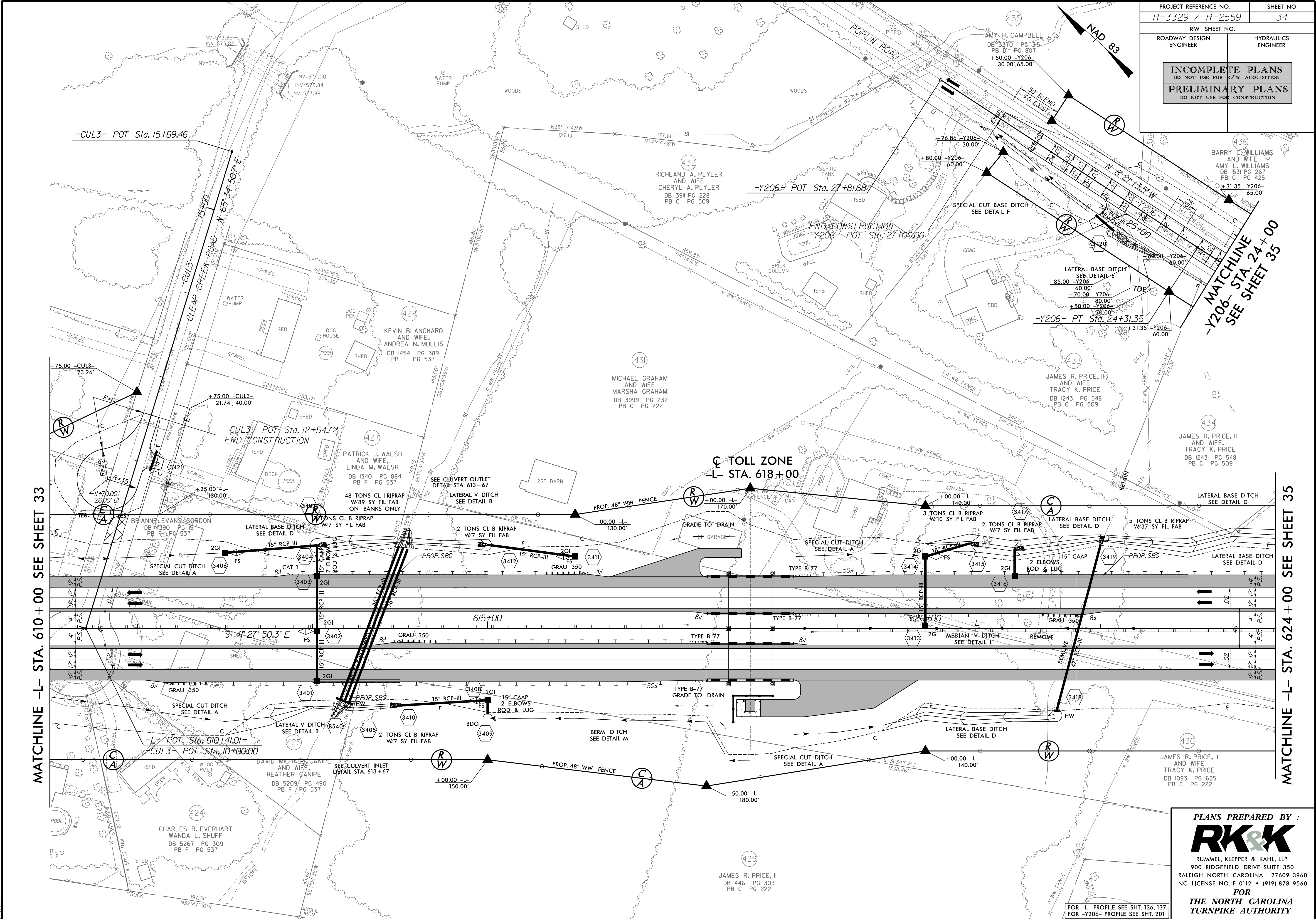
**PLANS PREPARED BY :**  
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9/29/2014  
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\$\$\$\$\$DATE\$\$\$\$\$

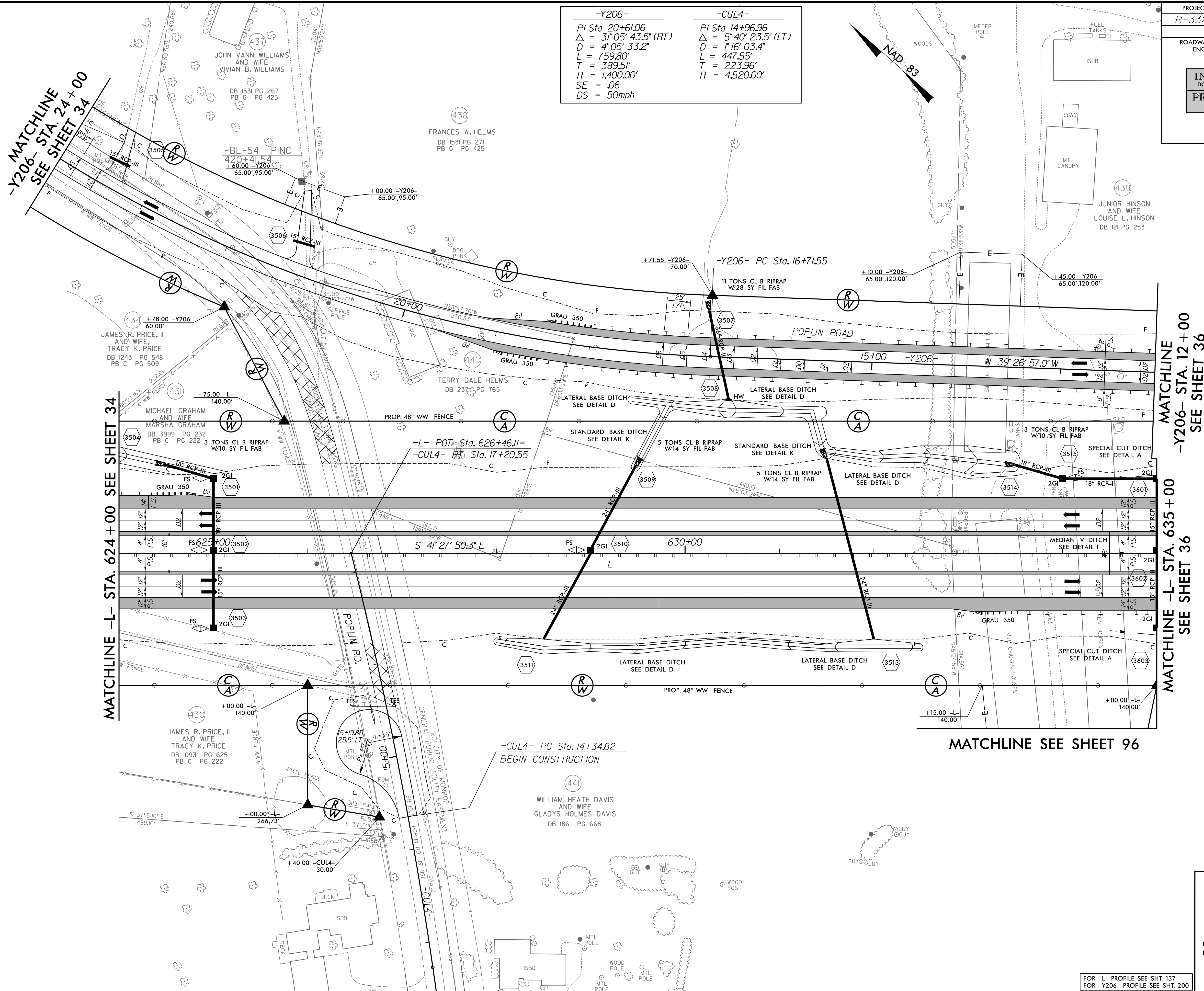


|                                                                                                                             |  |                        |
|-----------------------------------------------------------------------------------------------------------------------------|--|------------------------|
| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i>                                                                             |  | SHEET NO.<br><i>34</i> |
| RW SHEET NO.                                                                                                                |  |                        |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  |  | HYDRAULICS<br>ENGINEER |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |  |                        |

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FOR -L- PROFILE SEE SHT. 136, 137  
FOR -Y206- PROFILE SEE SHT. 201







**RK&K**

**FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY**

FOR -L- PROFILE SEE SHT. 137, 138  
FOR -Y206- PROFILE SEE SHT. 200  
FOR -Y207- PROFILE SEE SHT. 201, 202



**MATCHLINE**  
35 + 00 SEE

MATCHLINE -Y207- STA. 18+00  
SEE SHEET 96

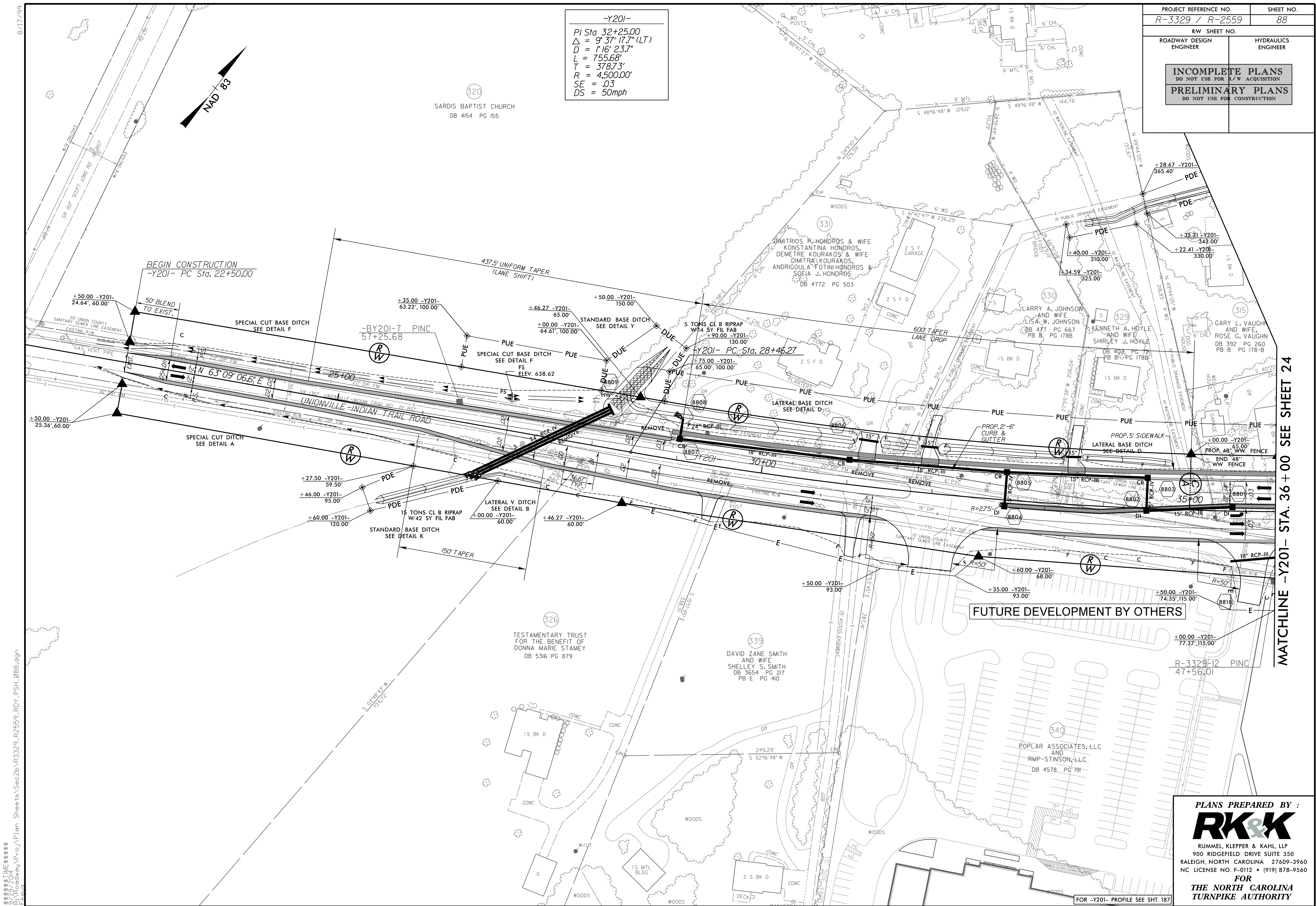
A cross-section diagram of a road. A horizontal line represents the centerline. On either side of the centerline, there are vertical lines representing the edges of the road. The area between the centerline and the edges is shaded gray. The diagram is bounded by two vertical lines labeled 'c' and 'c' at the top, indicating matchlines. The text 'MATCHLINE -L- STA. 648+00 SEE SHEET 37' is written vertically along the right matchline.



$-Y201-$   


---

*PI Sta 32+25.00*  
 $\Delta = 9^\circ 37' 17.7" (LT)$   
 $D = 16' 23.7"$   
 $L = 755.68'$   
 $T = 378.73'$   
 $R = 4,500.00'$   
 $SE = .03$   
 $DS = 50mph$

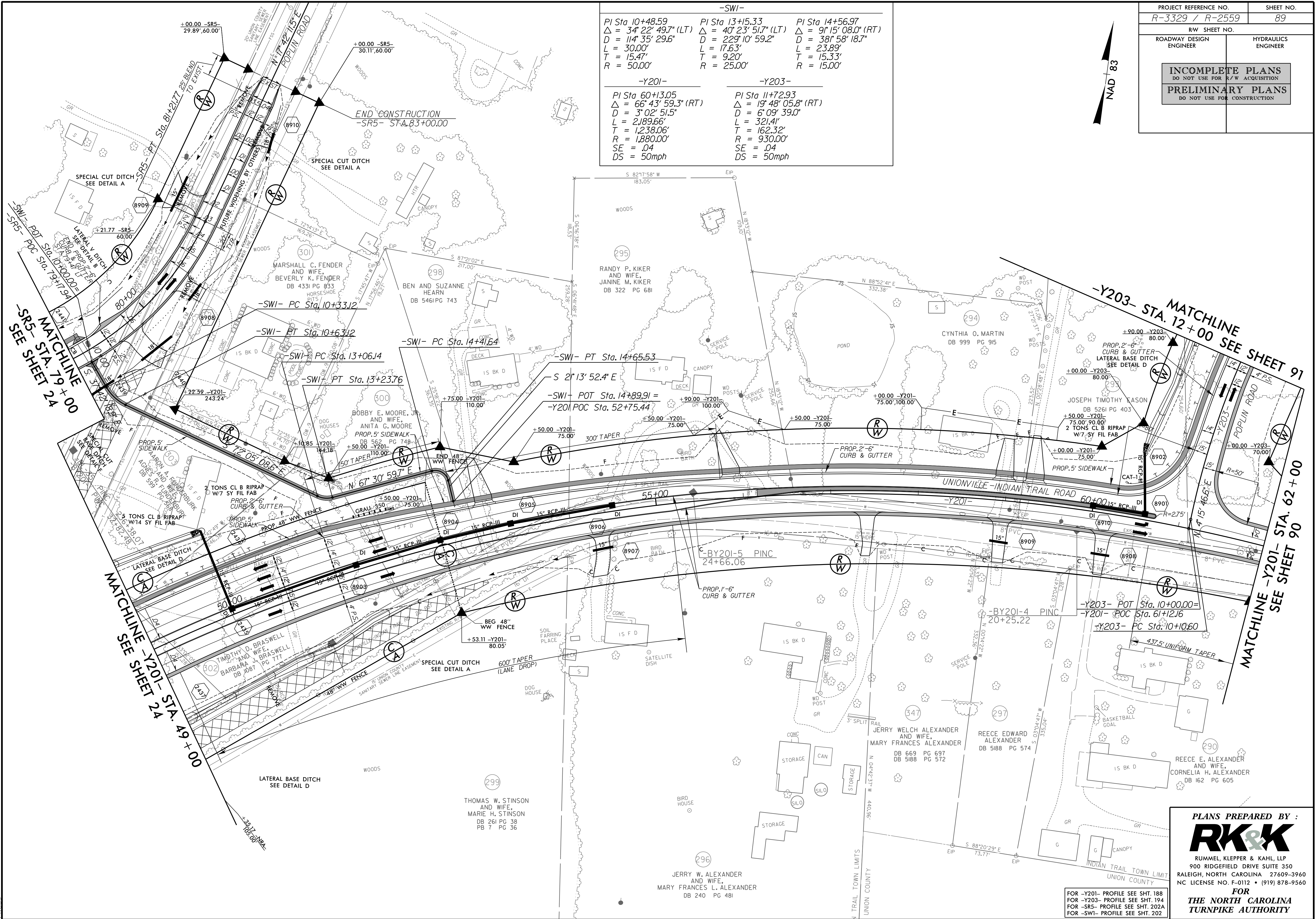


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9/29/2014  
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| -SWI-                                |                                      |                                      |
|--------------------------------------|--------------------------------------|--------------------------------------|
| <i>PI Sta 10+48.59</i>               | <i>PI Sta 13+15.33</i>               | <i>PI Sta 14+56.97</i>               |
| $\Delta = 34^{\circ} 22' 49.7" (LT)$ | $\Delta = 40^{\circ} 23' 51.7" (LT)$ | $\Delta = 91^{\circ} 15' 08.0" (RT)$ |
| <i>D = 114' 35" 29.6"</i>            | <i>D = 229' 10" 59.2"</i>            | <i>D = 381' 58" 18.7"</i>            |
| <i>L = 30.00'</i>                    | <i>L = 17.63'</i>                    | <i>L = 23.89'</i>                    |
| <i>T = 15.47'</i>                    | <i>T = 9.20'</i>                     | <i>T = 15.33'</i>                    |
| <i>R = 50.00'</i>                    | <i>R = 25.00'</i>                    | <i>R = 15.00'</i>                    |
| -Y201-                               |                                      |                                      |
| <i>PI Sta 60+13.05</i>               | <i>PI Sta 11+72.93</i>               |                                      |
| $\Delta = 66^{\circ} 43' 59.3" (RT)$ | $\Delta = 19^{\circ} 48' 05.8" (RT)$ |                                      |
| <i>D = 3' 02" 51.5"</i>              | <i>D = 6' 09" 39.0"</i>              |                                      |
| <i>L = 2189.66'</i>                  | <i>L = 321.4'</i>                    |                                      |
| <i>T = 1.238.06'</i>                 | <i>T = 162.32'</i>                   |                                      |
| <i>R = 1.880.00'</i>                 | <i>R = 930.00'</i>                   |                                      |
| <i>SE = .04</i>                      | <i>SE = .04</i>                      |                                      |
| <i>DS = 50mph</i>                    | <i>DS = 50mph</i>                    |                                      |



FOR -Y201- PROFILE SEE SHT. 188  
FOR -Y203- PROFILE SEE SHT. 194  
FOR -SR5- PROFILE SEE SHT. 202A  
FOR -SW1- PROFILE SEE SHT. 202

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**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**

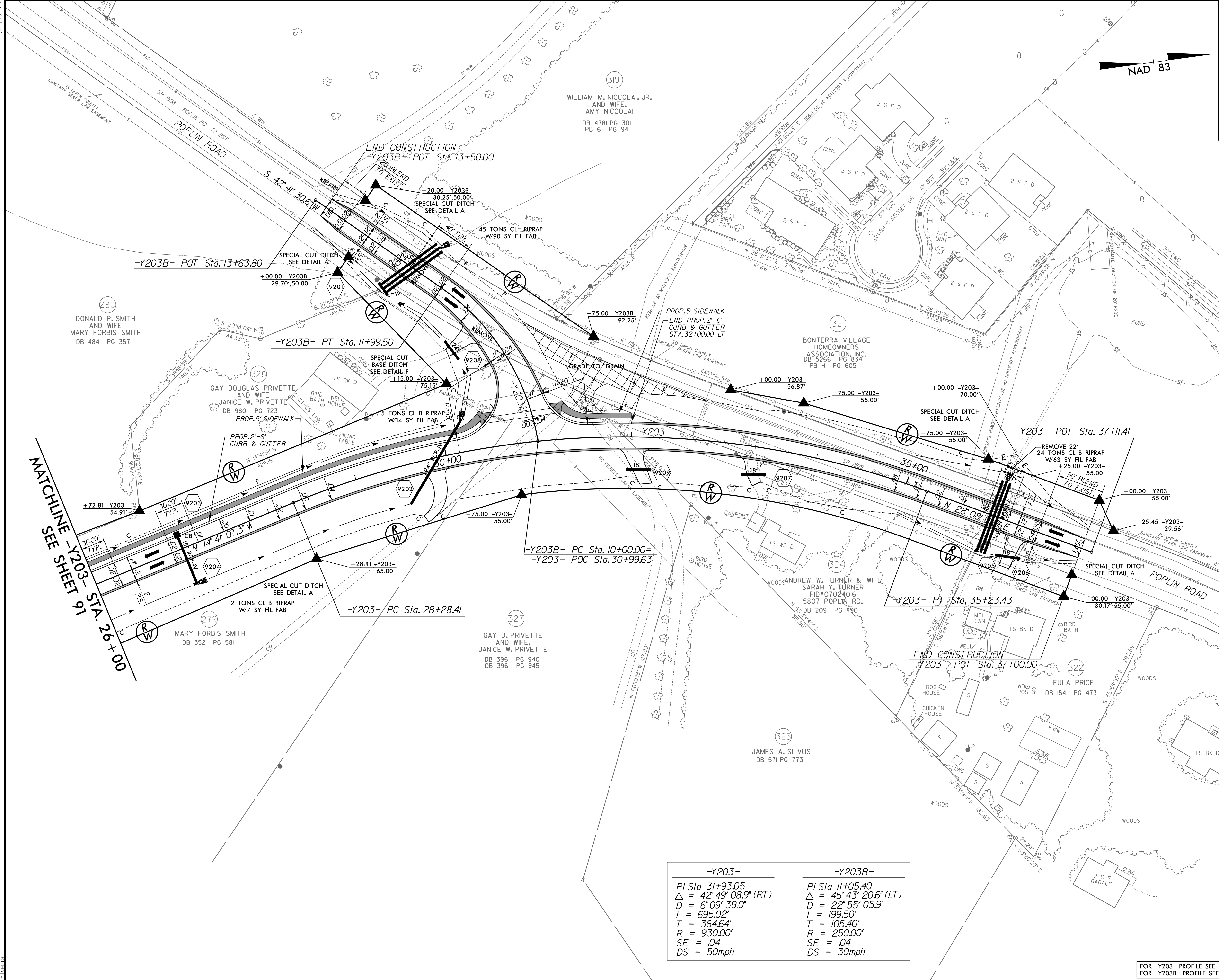












| -Y203-                              | -Y203B-                             |
|-------------------------------------|-------------------------------------|
| PI Sta 31+93.05                     | PI Sta 11+05.40                     |
| $\Delta = 42^\circ 49' 08.9''$ (RT) | $\Delta = 45^\circ 43' 20.6''$ (LT) |
| D = 6' 09' 39.0"                    | D = 22' 55' 05.9"                   |
| L = 695.02'                         | L = 199.50'                         |
| T = 364.64'                         | T = 105.40'                         |
| R = 930.00'                         | R = 250.00'                         |
| SE = .04                            | SE = .04                            |
| DS = 50mph                          | DS = 30mph                          |

FOR -Y203- PROFILE SEE SHT. 194  
FOR -Y203B- PROFILE SEE SHT. 193

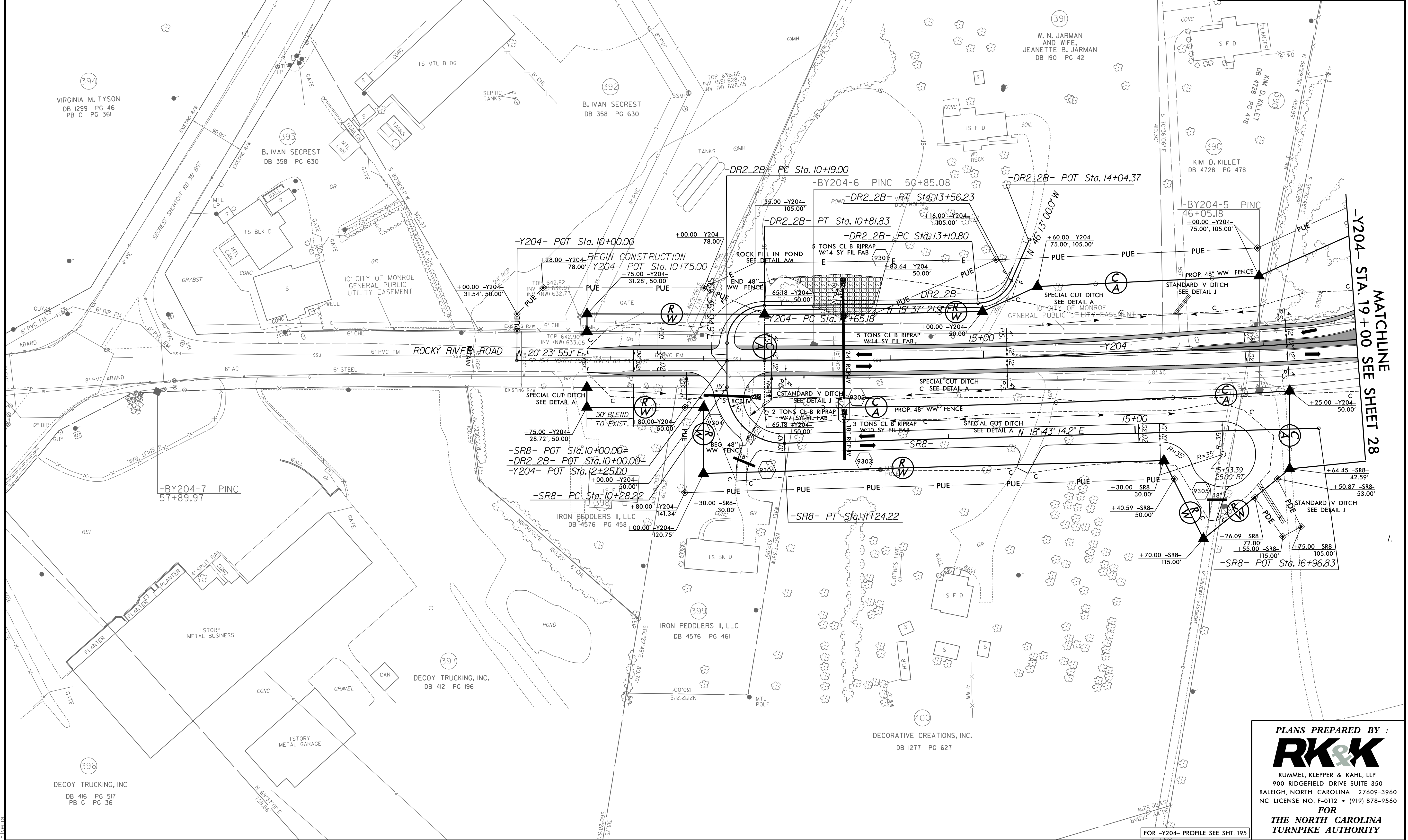
PLANS PREPARED BY :  
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900 RIDGEFIELD DRIVE SUITE 350  
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\$\$\$\$\$FILE\$\$\$\$\$

| -SR8-                                                                                                                               | -DR2_2B-                                                                                                                              | -DR2_2B-                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| PI Sta 10+90.00<br>Δ = 91° 40' 40.9" (LT)<br>D = 95' 29' 34.7"<br>L = 96.0'<br>T = 61.78'<br>R = 60.00'<br>SE = 0.02<br>DS = 15 MPH | PI Sta 10+59.00<br>Δ = 90° 00' 04.4" (RT)<br>D = 143' 14' 22.0"<br>L = 62.83'<br>T = 40.00'<br>R = 40.00'<br>SE = 0.02<br>DS = 15 MPH | PI Sta 13+36.32<br>Δ = 65° 03' 44.3" (LT)<br>D = 143' 14' 22.0"<br>L = 45.42'<br>T = 25.51'<br>R = 40.00'<br>SE = 0.02<br>DS = 15 MPH |

| PROJECT REFERENCE NO.                              | SHEET NO.           |
|----------------------------------------------------|---------------------|
| R-3329 / R-2559                                    | 93                  |
| RW SHEET NO.                                       |                     |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

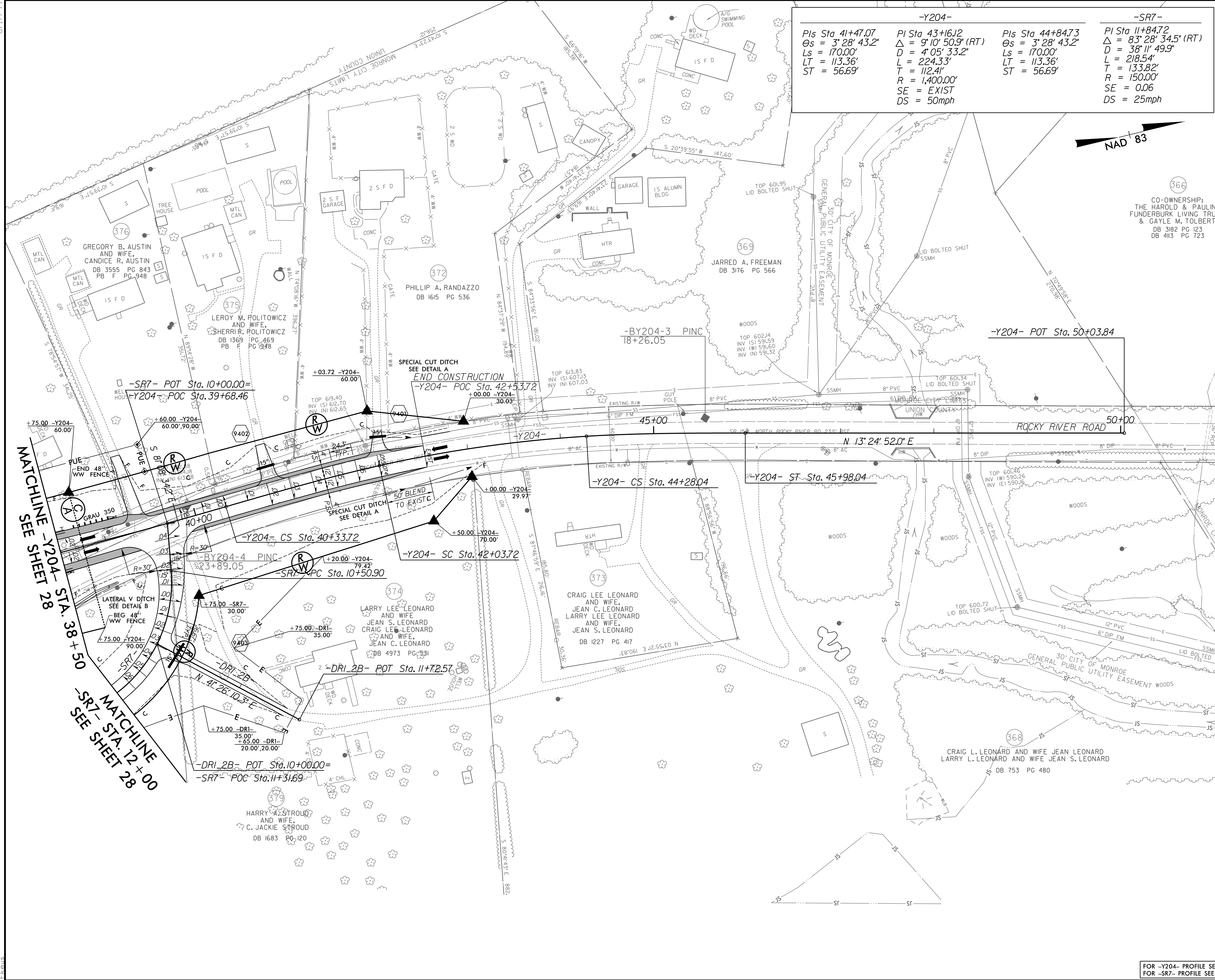


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TURNPIKE AUTHORITY

FOR -Y204- PROFILE SEE SHT. 195



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R3329\_R2559



| -Y204-                                                                               | -SR7-                                                                                                                                    |
|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Pls Sta 41+47.07<br>Os = 3° 28' 43.2"<br>Ls = 170.00'<br>LT = 113.36'<br>ST = 56.69' | Pls Sta 43+16.12<br>Δ = 9° 10' 50.9" (RT)<br>D = 4° 05' 33.2"<br>L = 224.33'<br>T = 112.41'<br>R = 1,400.00'<br>SE = EXIST<br>DS = 50mph |
| Pls Sta 44+84.73<br>Os = 3° 28' 43.2"<br>Ls = 170.00'<br>LT = 113.36'<br>ST = 56.69' | Pls Sta 11+84.72<br>Δ = 83° 28' 34.5" (RT)<br>D = 38° 11' 49.9"<br>L = 218.54'<br>T = 133.82'<br>R = 150.00'<br>SE = 0.06<br>DS = 25mph  |

| PROJECT REFERENCE NO.                              |  | SHEET NO.           |  |
|----------------------------------------------------|--|---------------------|--|
| R-3329 / R-2559                                    |  | 94                  |  |
| RW SHEET NO.                                       |  |                     |  |
| ROADWAY DESIGN ENGINEER                            |  | HYDRAULICS ENGINEER |  |
| INCOMPLETE PLANS<br>DO NOT USE FOR A/W ACQUISITION |  |                     |  |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |  |                     |  |

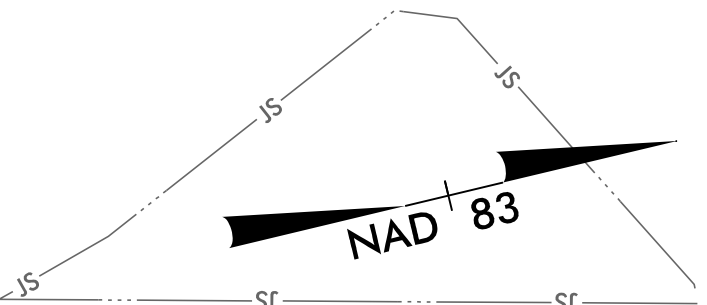
CO-OWNERSHIP:  
THE HAROLD & PAULINE  
FUNDERBURK LIVING TRUST  
& GAYLE M. TOLBERT  
DB 3182 PG 123  
DB 4113 PG 723

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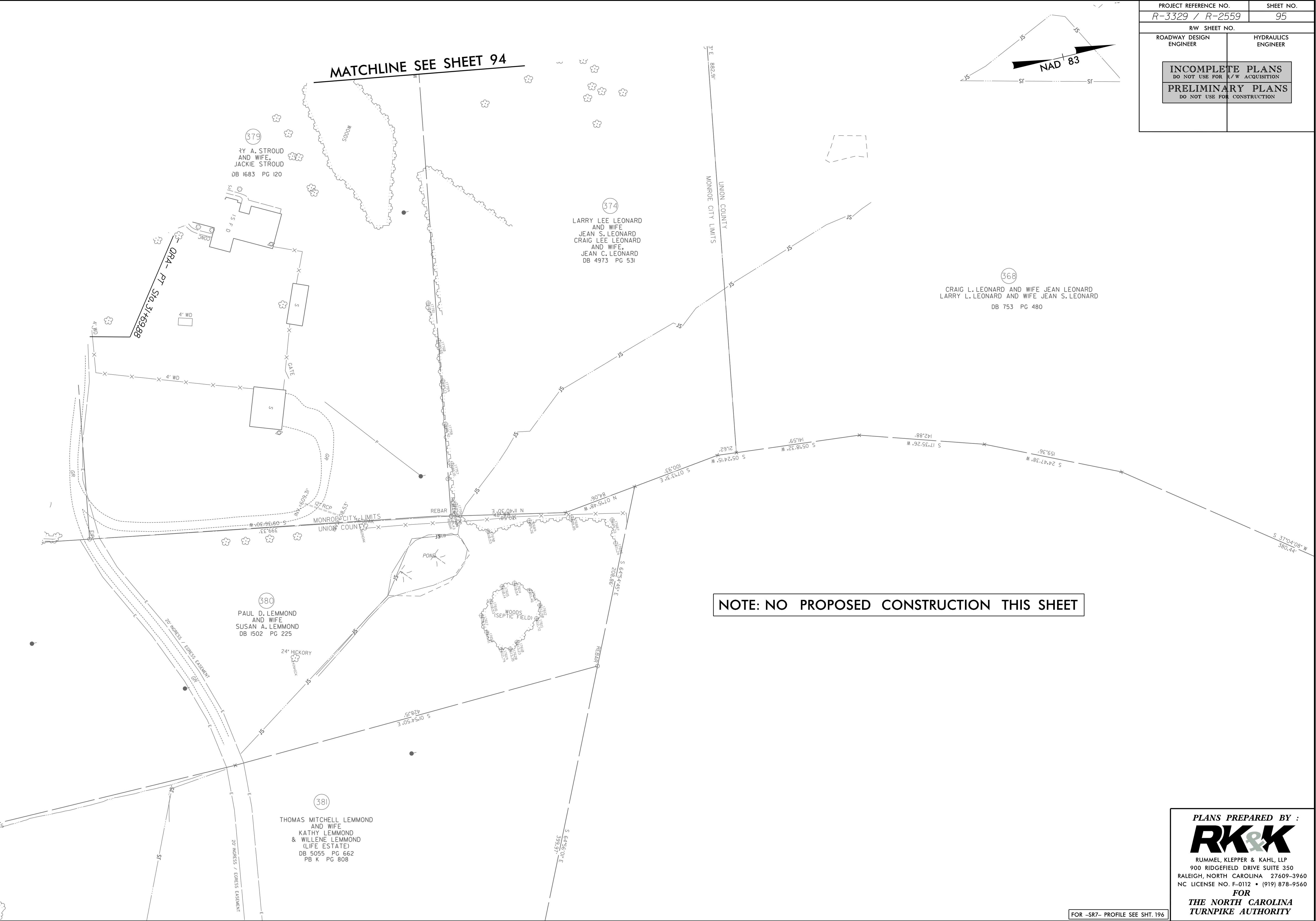
FOR -Y204- PROFILE SEE SHT. 196  
FOR -SR7- PROFILE SEE SHT. 196



|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 / R-2559                                    | 95                  |
| RW SHEET NO.                                       |                     |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR E/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



MATCHLINE SEE SHEET 94



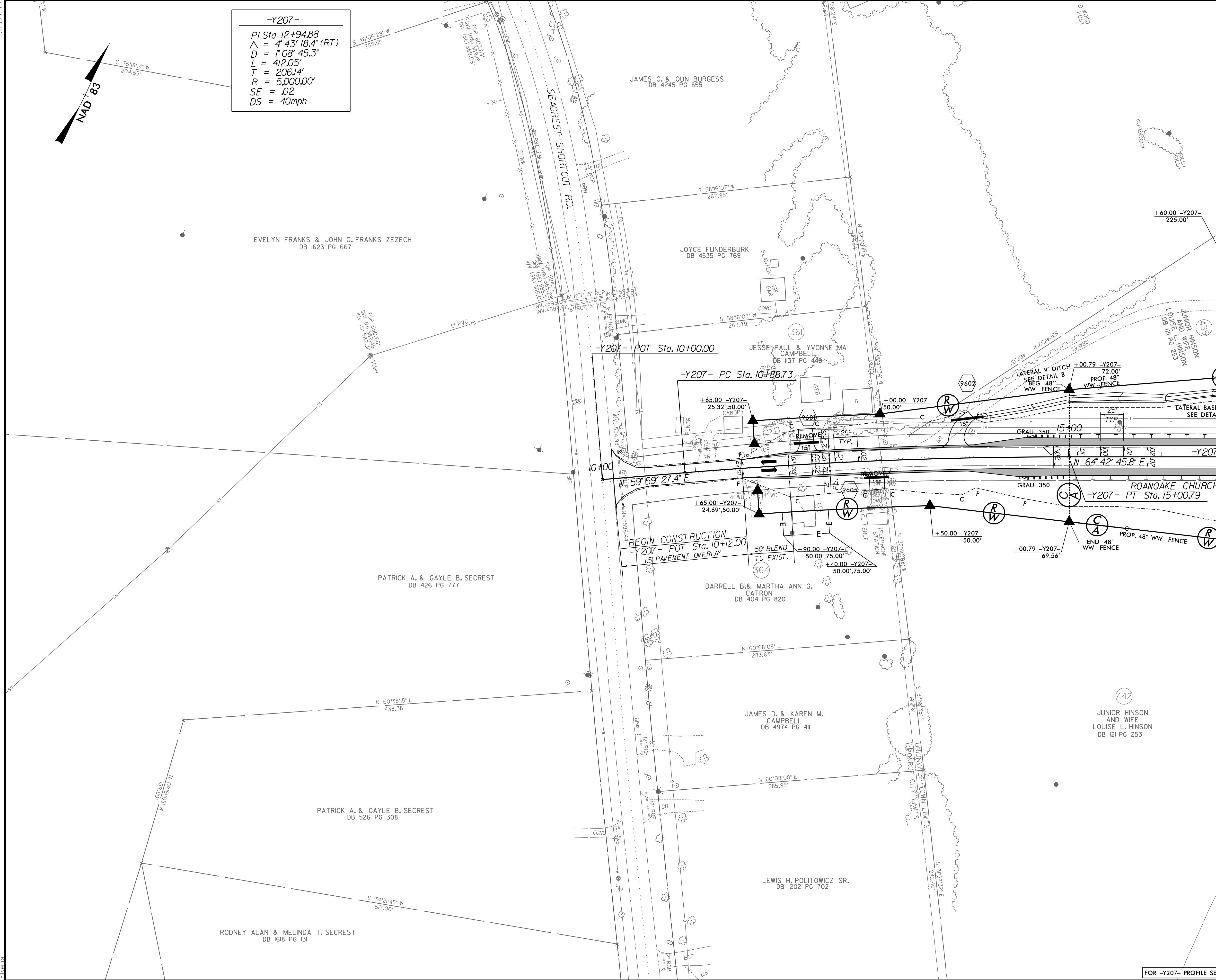
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FOR -SR7- PROFILE SEE SHT. 196



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R3329\_R2559



|                                                    |                        |           |
|----------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                              |                        | SHEET NO. |
| R-3329 / R-2559                                    |                        | 96        |
| RW SHEET NO.                                       |                        |           |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |           |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |           |

FOR -Y207- PROFILE SEE SHT. 201

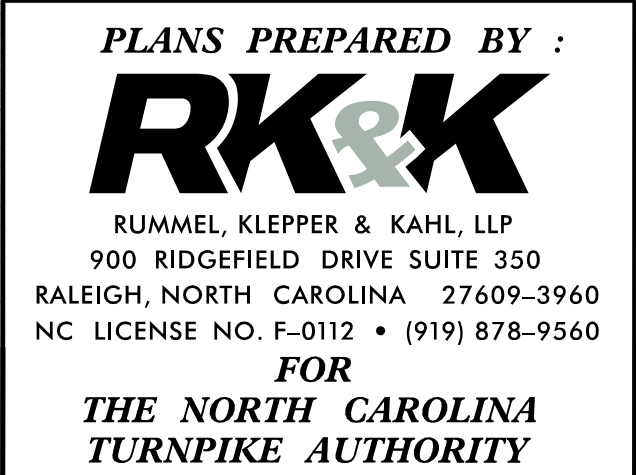
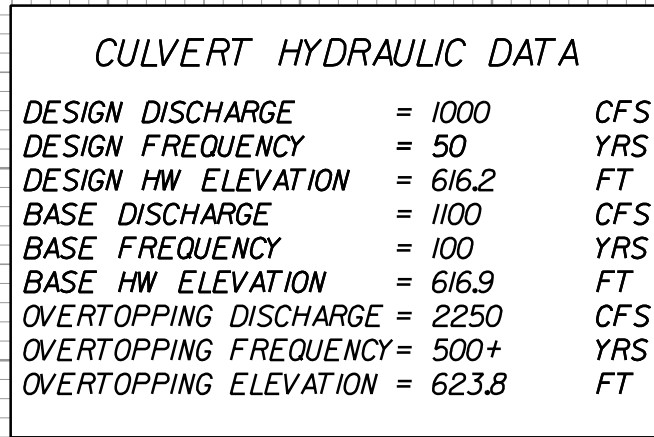
PLANS PREPARED BY :

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TURNPIKE AUTHORITY

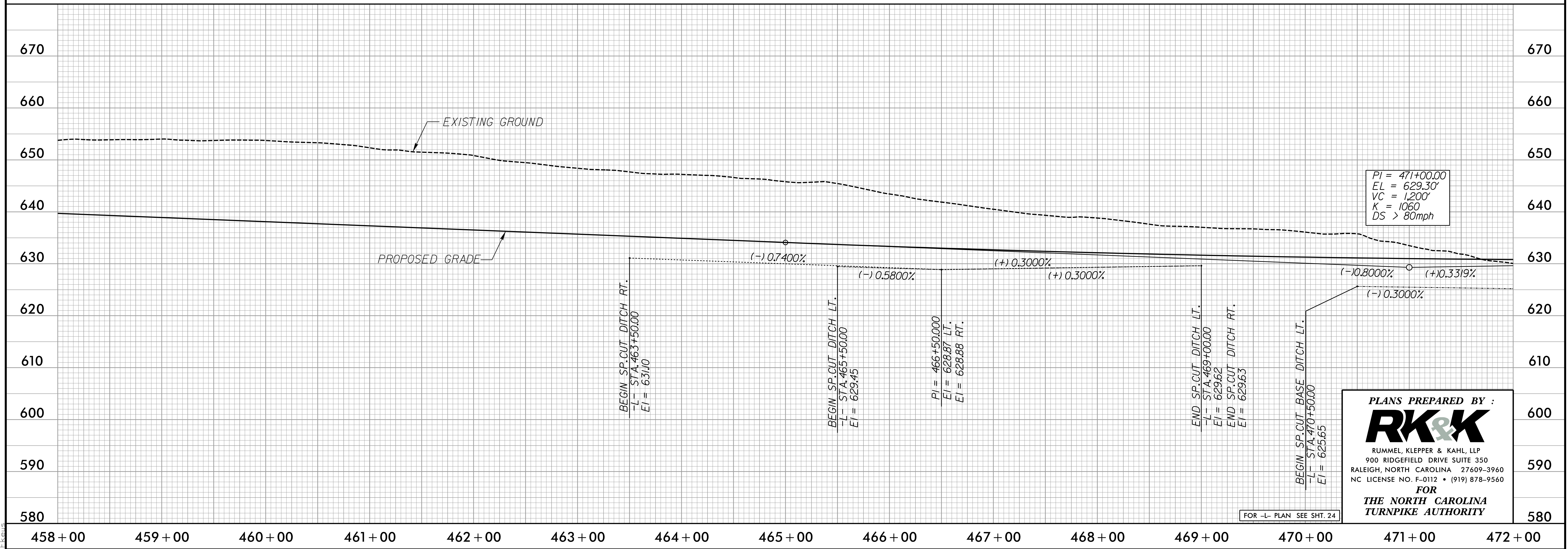
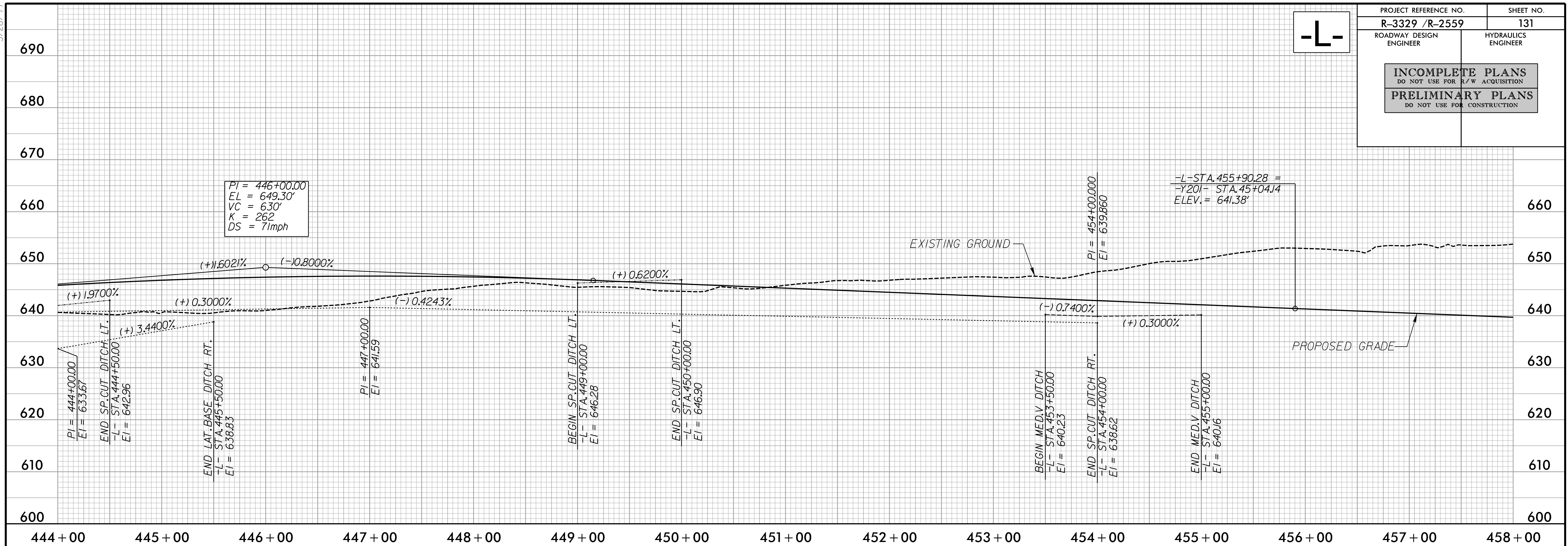






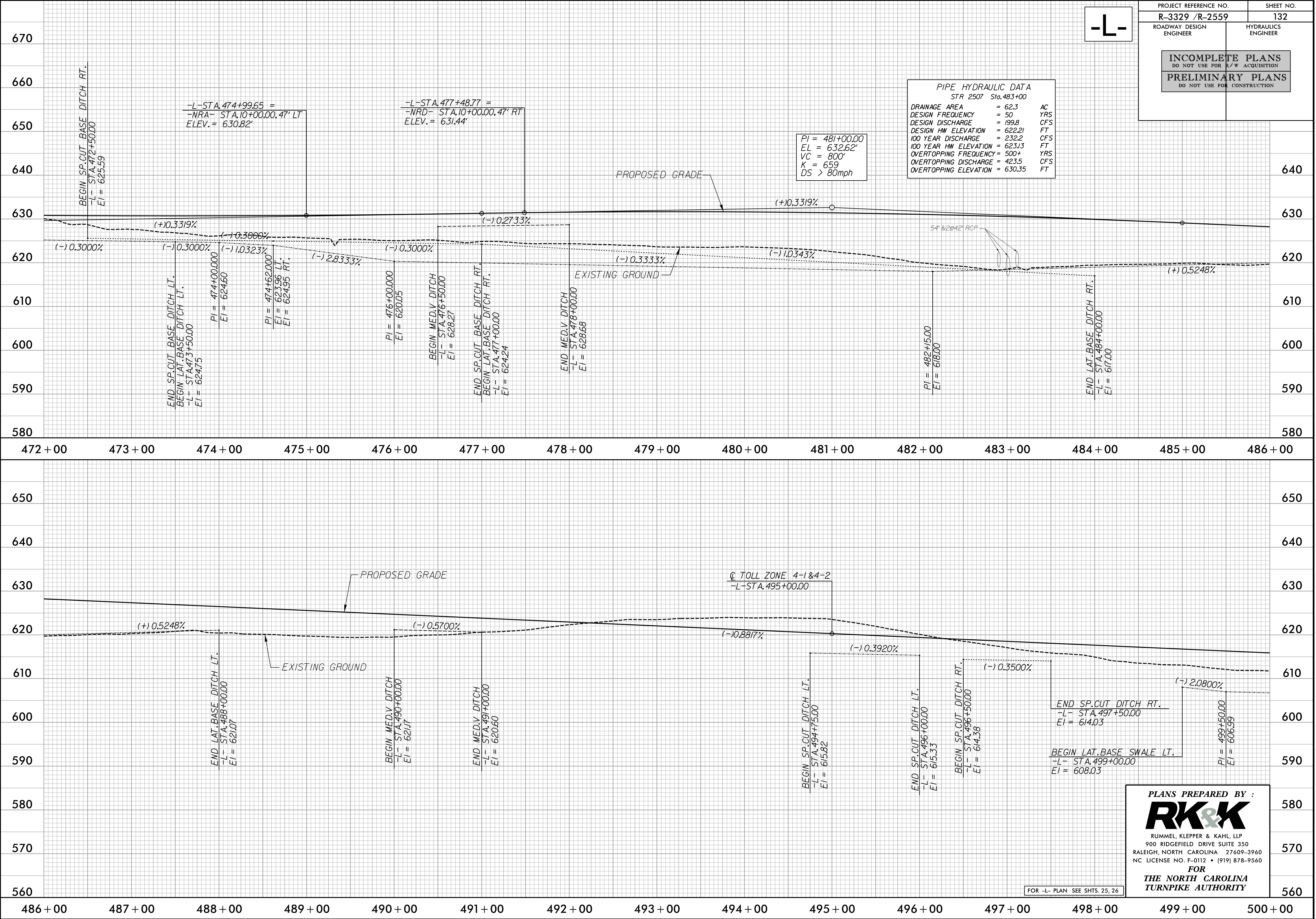
**L**

|                                                                                                                                                                                                                    |  |                        |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------|--|
| PROJECT REFERENCE NO.                                                                                                                                                                                              |  | SHEET NO.              |  |
| R-3329 /R-2559                                                                                                                                                                                                     |  | 131                    |  |
| ROADWAY DESIGN<br>ENGINEER                                                                                                                                                                                         |  | HYDRAULICS<br>ENGINEER |  |
| <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p><b>INCOMPLETE PLANS</b><br/>DO NOT USE FOR R/W ACQUISITION</p> <p><b>PRELIMINARY PLANS</b><br/>DO NOT USE FOR CONSTRUCTION</p> </div> |  |                        |  |





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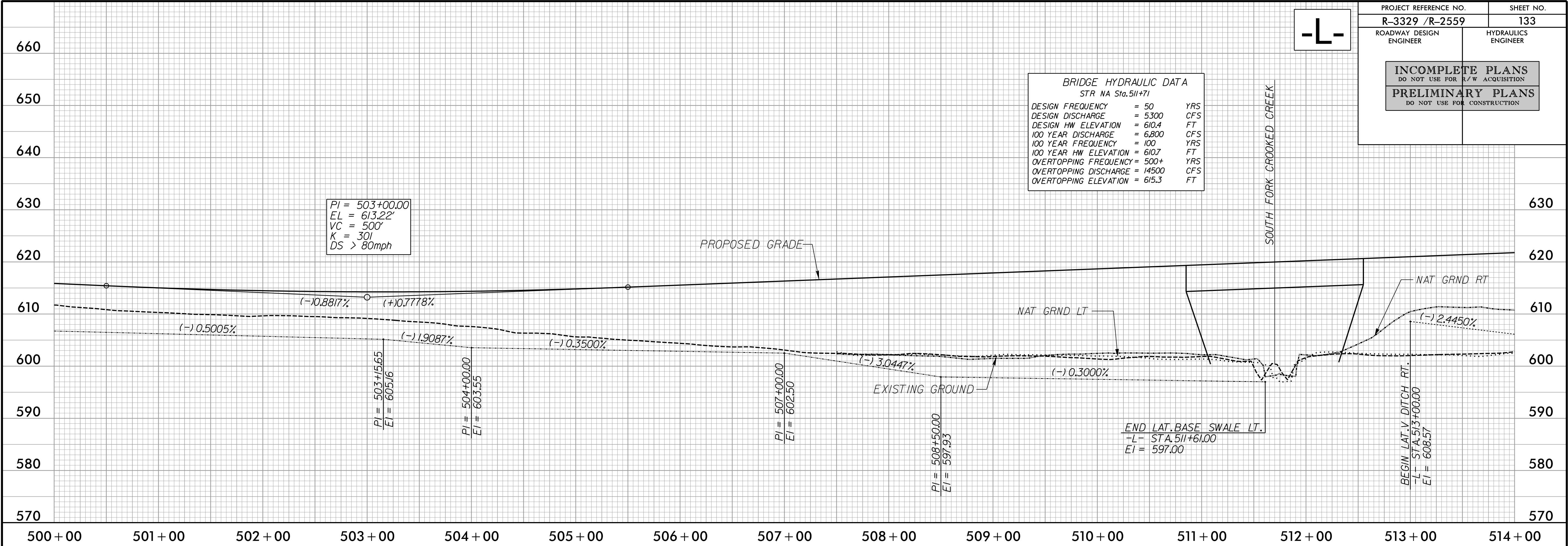


5/28/99

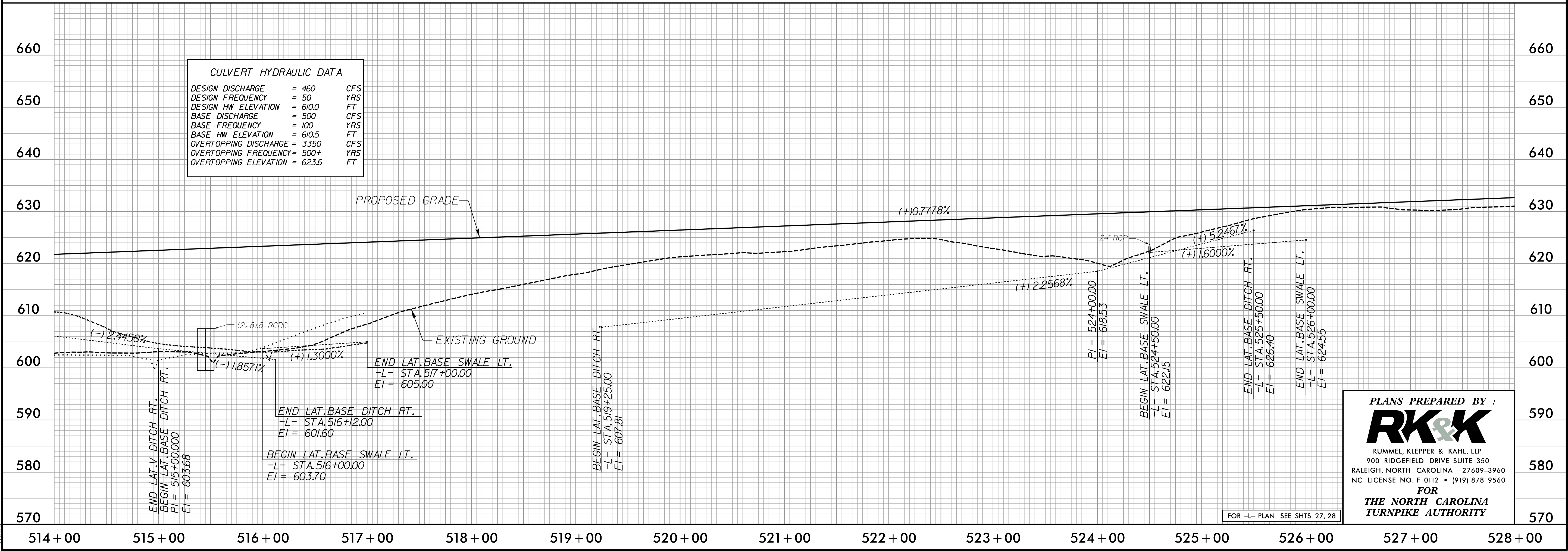
-L-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 133                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

| BRIDGE HYDRAULIC DATA |         |     |
|-----------------------|---------|-----|
| STR NA Sta. 511+71    |         |     |
| DESIGN FREQUENCY      | = 50    | YRS |
| DESIGN DISCHARGE      | = 5300  | CFS |
| DESIGN HW ELEVATION   | = 610.4 | FT  |
| 100 YEAR DISCHARGE    | = 6,800 | CFS |
| 100 YEAR FREQUENCY    | = 100   | YRS |
| 100 YEAR HW ELEVATION | = 610.7 | FT  |
| OVERTOPPING FREQUENCY | = 500+  | YRS |
| OVERTOPPING DISCHARGE | = 14500 | CFS |
| OVERTOPPING ELEVATION | = 615.3 | FT  |



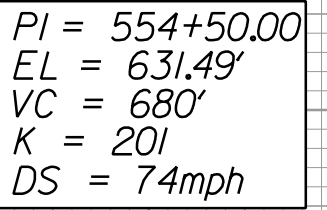
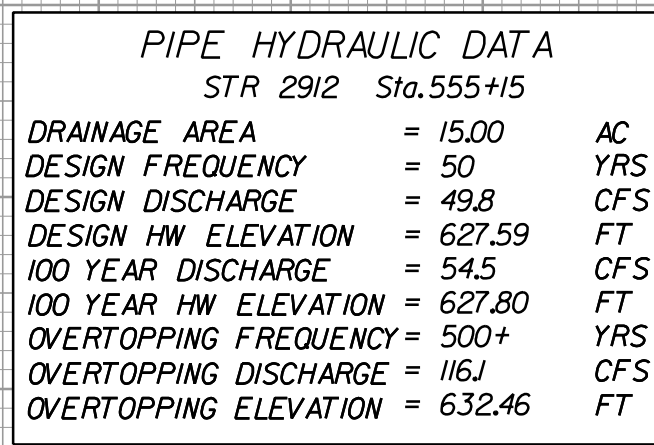
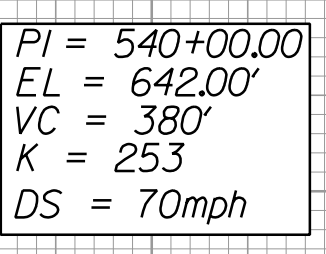
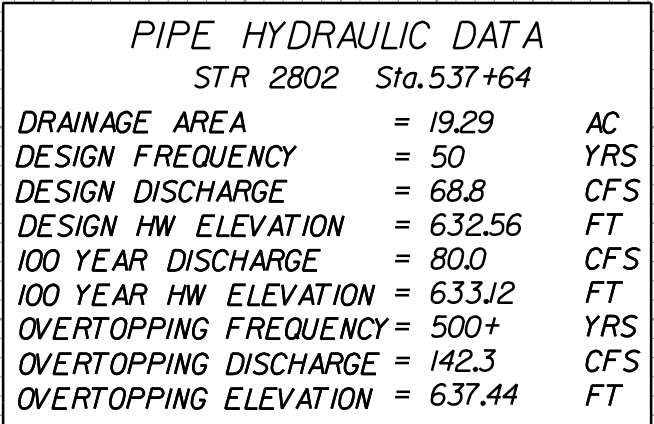
| CULVERT HYDRAULIC DATA |         |     |
|------------------------|---------|-----|
| DESIGN DISCHARGE       | = 460   | CFS |
| DESIGN FREQUENCY       | = 50    | YRS |
| DESIGN HW ELEVATION    | = 610.0 | FT  |
| BASE DISCHARGE         | = 500   | CFS |
| BASE FREQUENCY         | = 100   | YRS |
| BASE HW ELEVATION      | = 610.5 | FT  |
| OVERTOPPING DISCHARGE  | = 3350  | CFS |
| OVERTOPPING FREQUENCY  | = 500+  | YRS |
| OVERTOPPING ELEVATION  | = 623.6 | FT  |



PLANS PREPARED BY :  
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NC LICENSE NO. F-0112 • (919) 878-9560  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

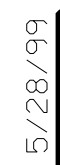
FOR -L- PLAN SEE SHTS. 27, 28





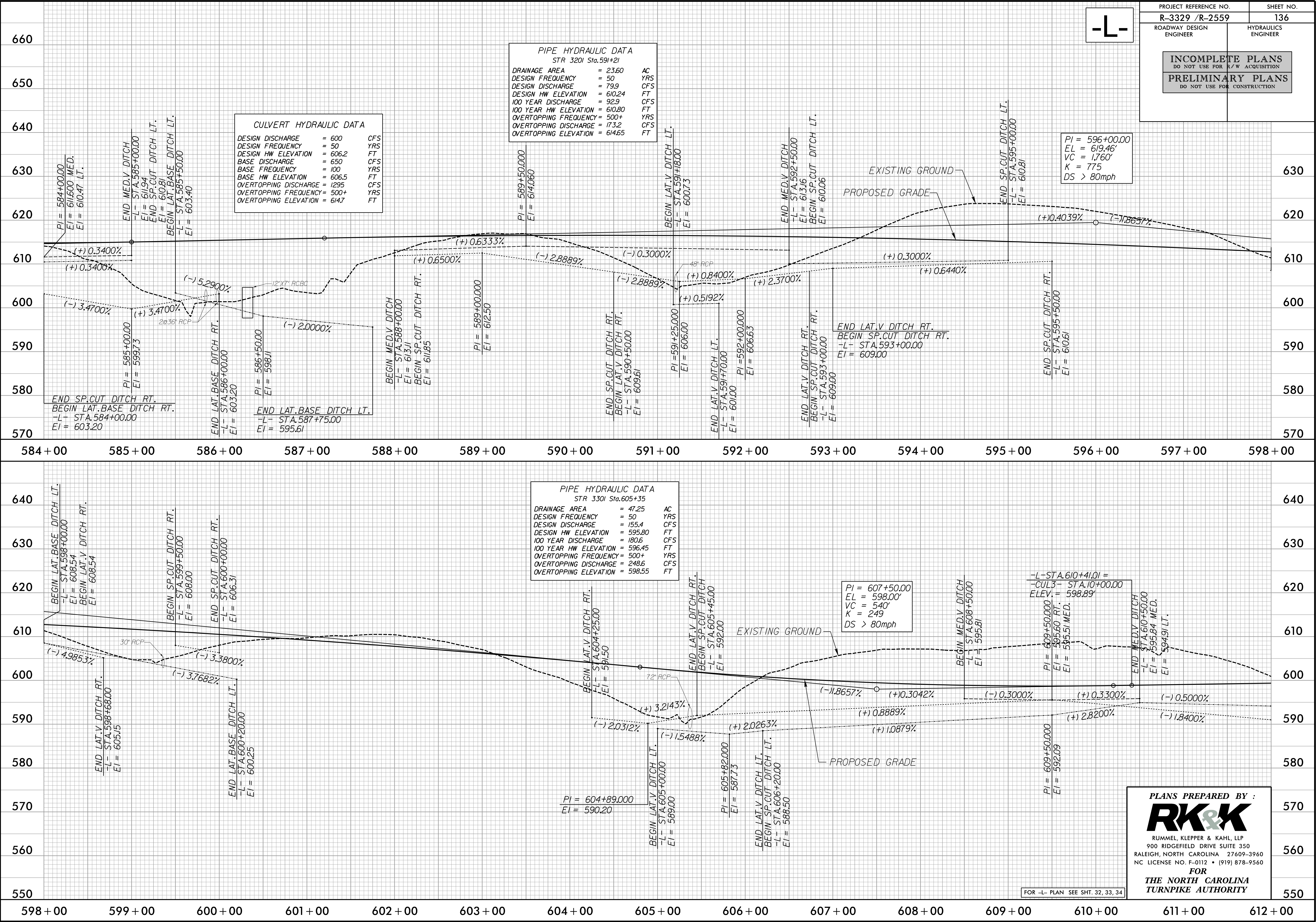
**PLANS PREPARED BY**  
**RK&K**  
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900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
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**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



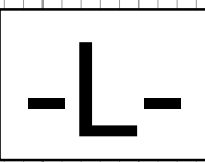




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\$\$\$\$\$ELEV\$\$\$\$\$









**-L**

PROJECT REFERENCE NO.

R-3329 / R-2559

SHEET NO.

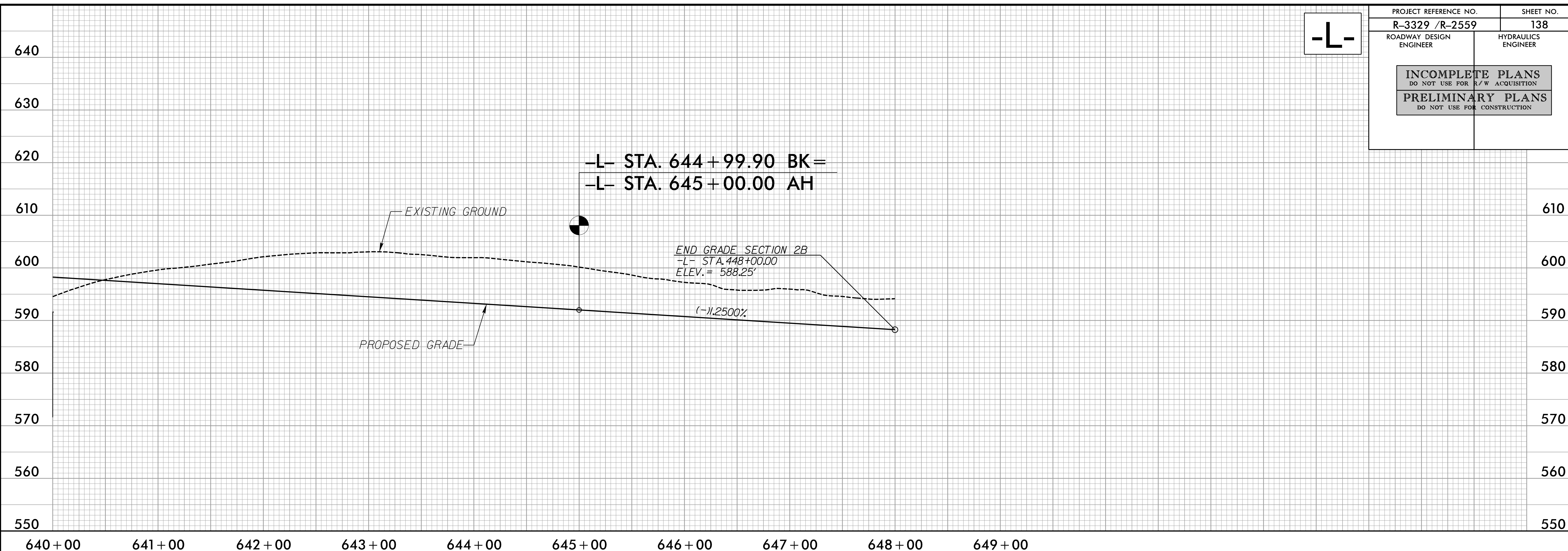
138

ROADWAY DESIGN  
ENGINEER

HYDRAULICS  
ENGINEER

**INCOMPLETE PLANS**  
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



**PLANS PREPARED BY :**



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**THE NORTH CAROLINA  
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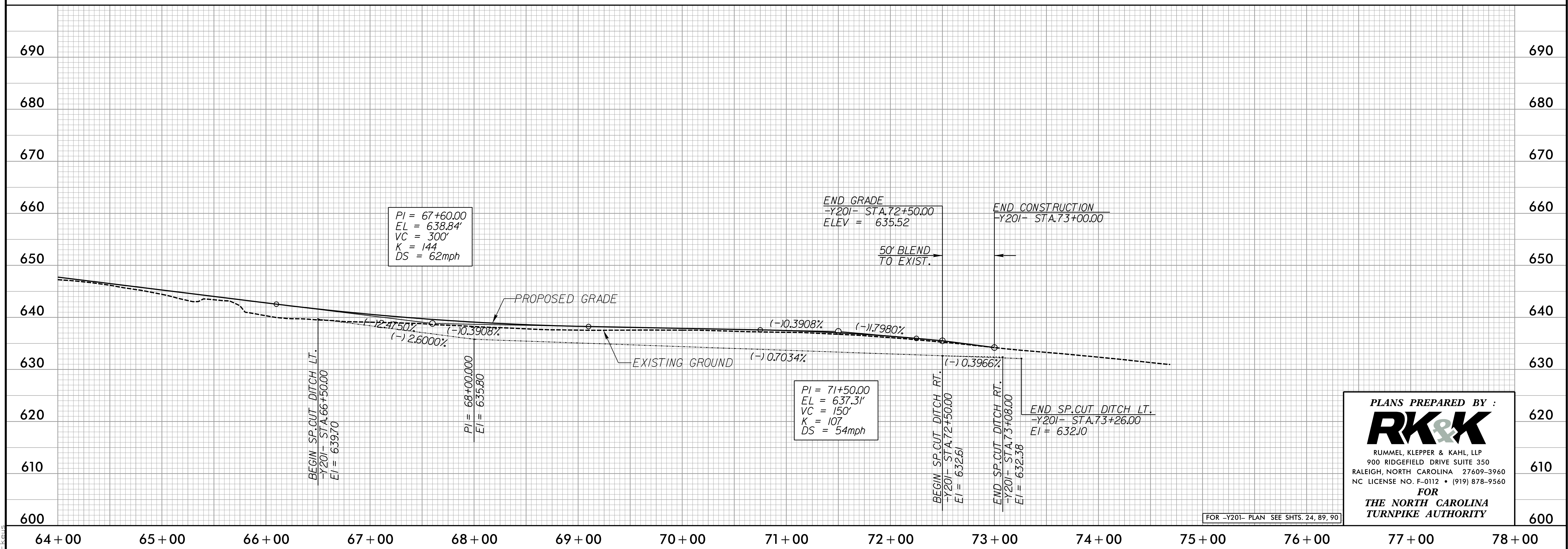
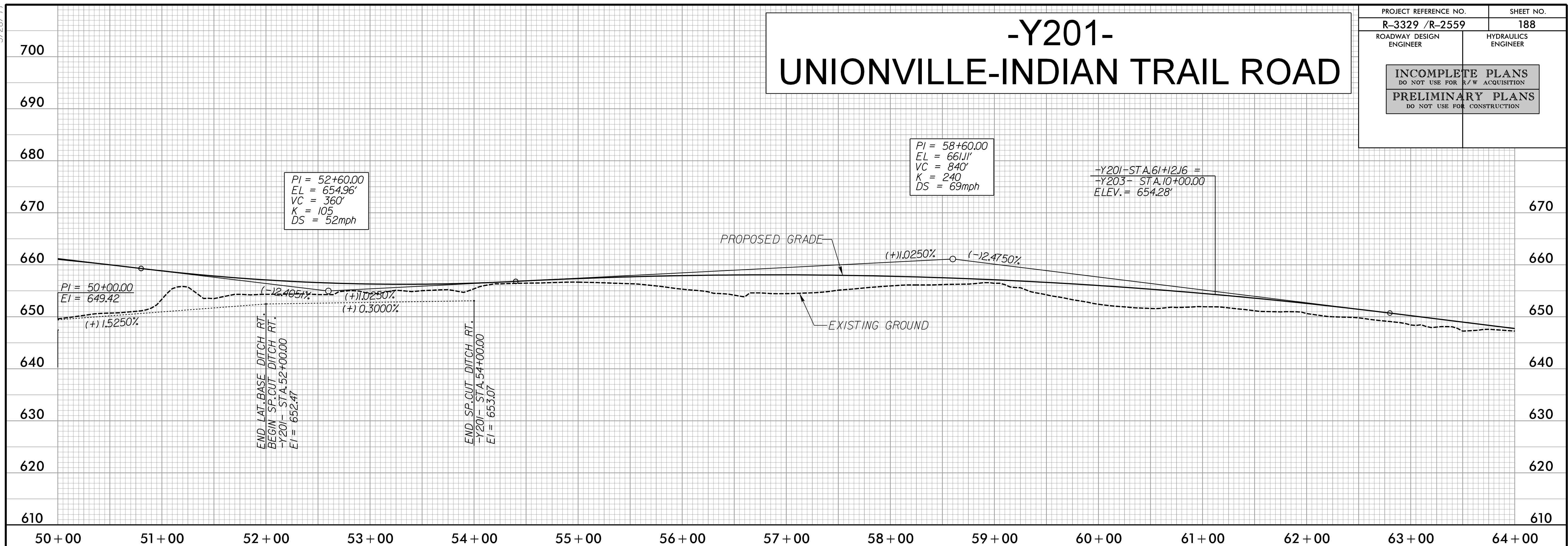
FOR -L- PLAN SEE SHT. 3







-Y201-  
UNIONVILLE-INDIAN TRAIL ROAD



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-NRA-

PROJECT REFERENCE NO.  
R-3329 /R-2559

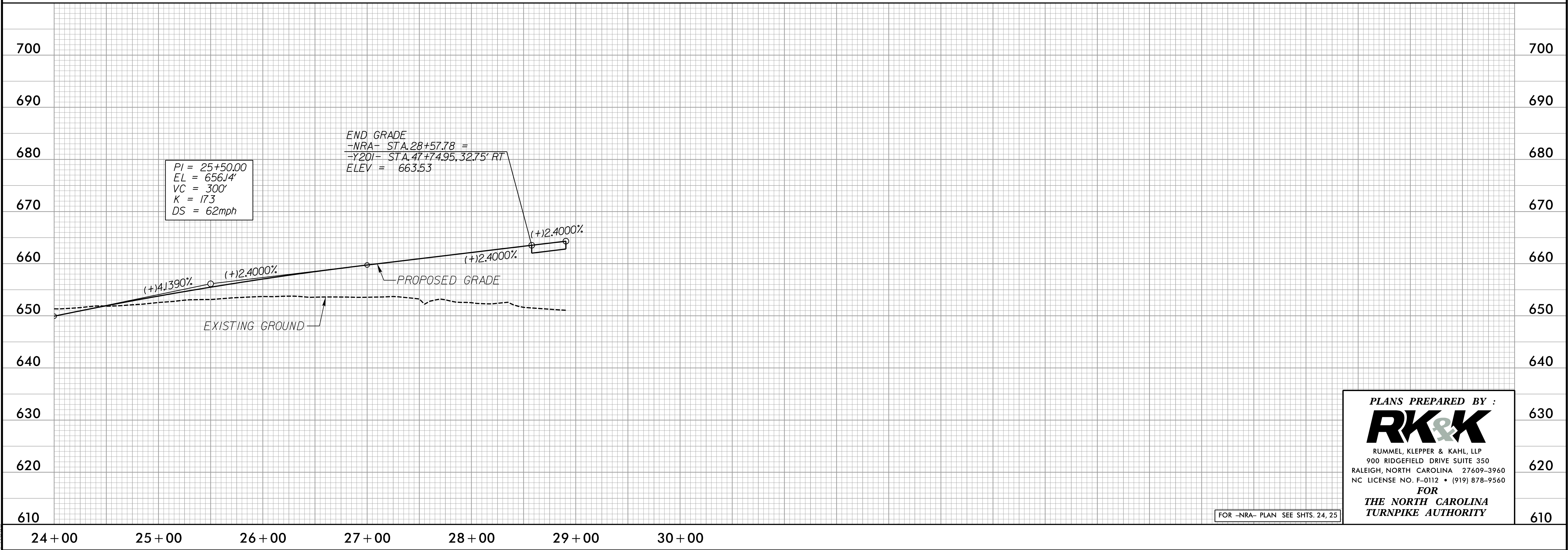
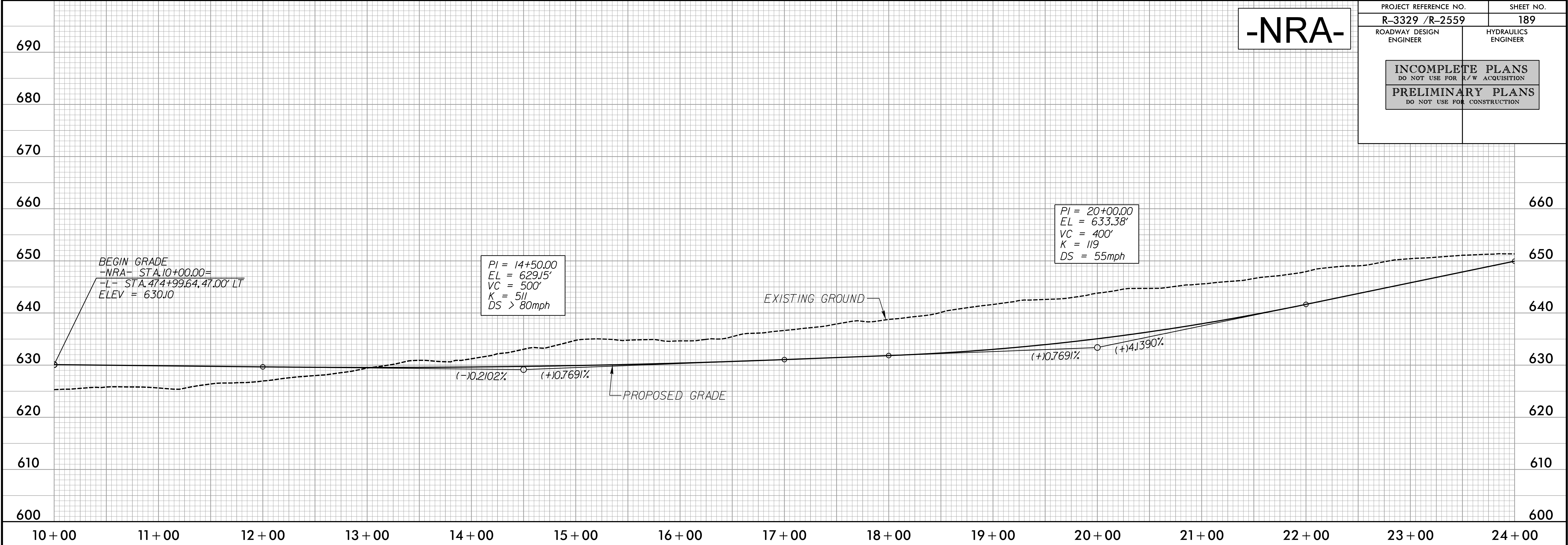
ROADWAY DESIGN  
ENGINEER

SHEET NO.  
189

HYDRAULICS  
ENGINEER

INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



FOR -NRA- PLAN SEE SHTS. 24, 25

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900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
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FOR

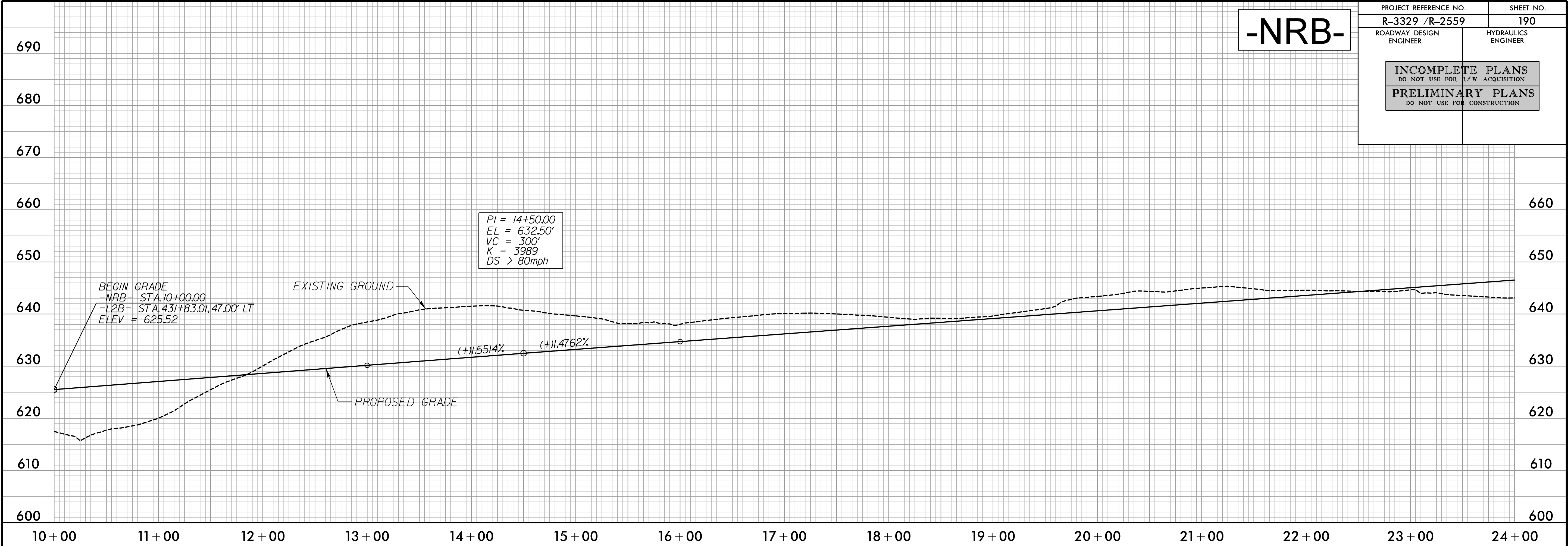
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



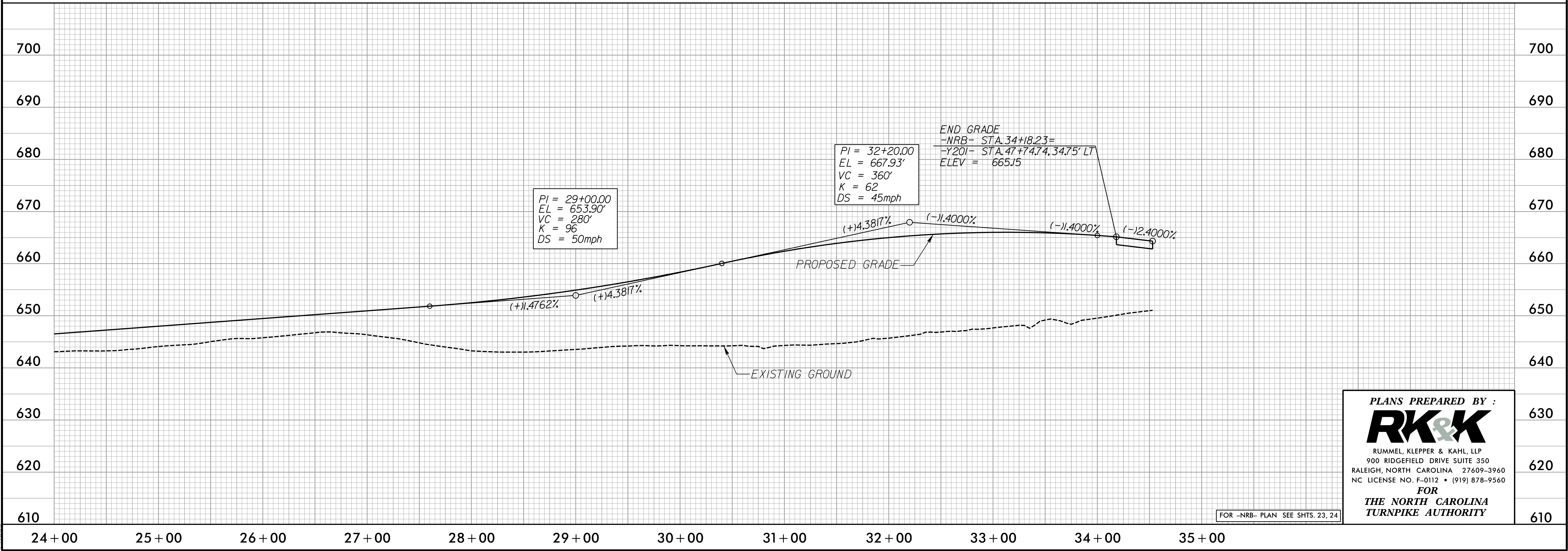
5/28/99

-NRB-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 190                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



5/28/99  
R-3329 /R-2559  
ROADWAY DESIGN ENGINEER  
HYDRAULICS ENGINEER  
INCOMPLETE PLANS  
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FOR  
THE NORTH CAROLINA  
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FOR -NRB- PLAN SEE SHTS. 23, 24



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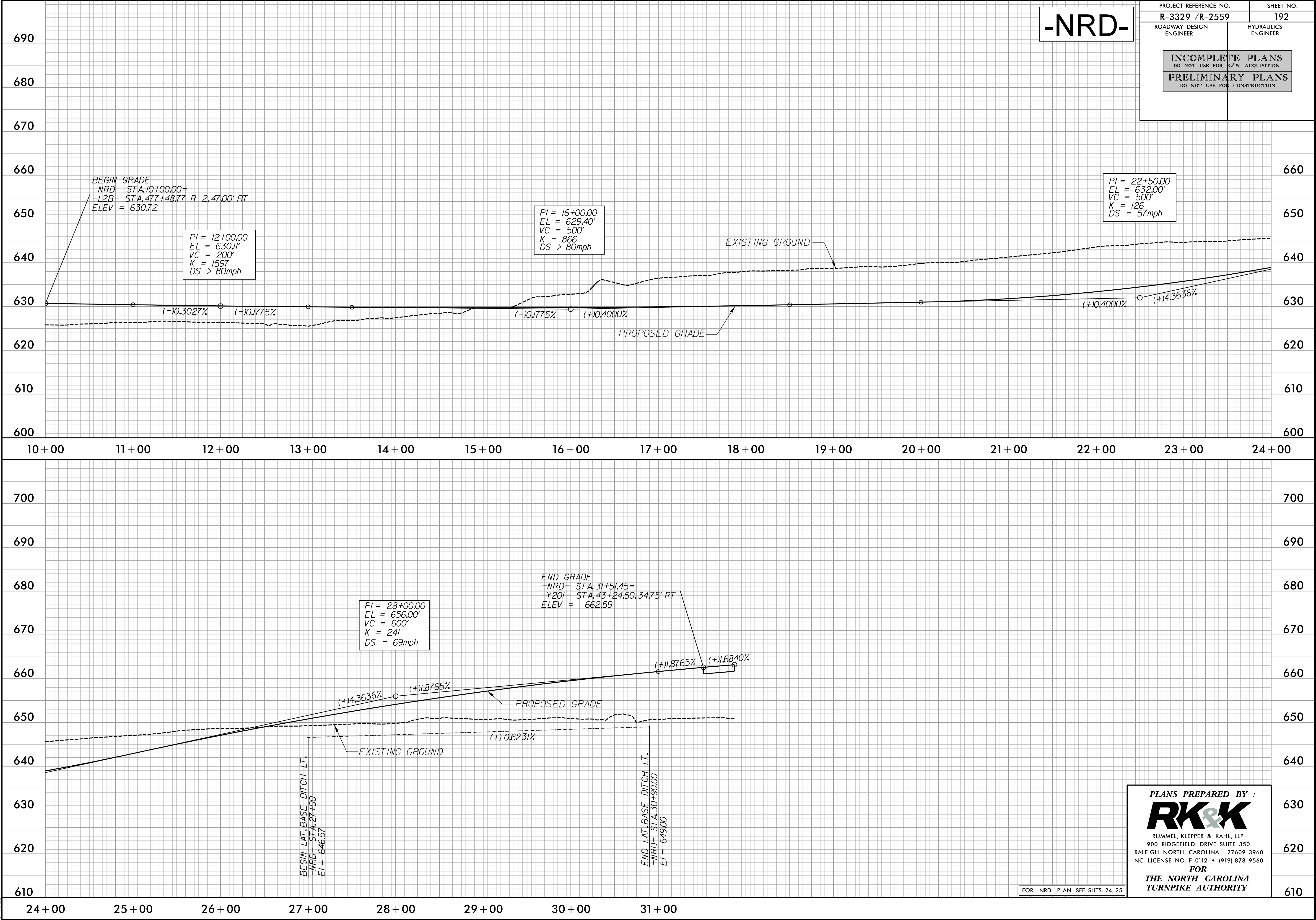
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| PROJECT REFERENCE NO.                                                                                                                                                                                                                                     |  | SHEET NO.              |  |                  |  |                                |  |                   |  |                             |  |
| R-3329 /R-2559                                                                                                                                                                                                                                            |  | 191                    |  |                  |  |                                |  |                   |  |                             |  |
| ROADWAY DESIGN<br>ENGINEER                                                                                                                                                                                                                                |  | HYDRAULICS<br>ENGINEER |  |                  |  |                                |  |                   |  |                             |  |
| <table border="1"> <tr> <td colspan="2">INCOMPLETE PLANS</td> </tr> <tr> <td colspan="2">DO NOT USE FOR R/W ACQUISITION</td> </tr> <tr> <td colspan="2">PRELIMINARY PLANS</td> </tr> <tr> <td colspan="2">DO NOT USE FOR CONSTRUCTION</td> </tr> </table> |  |                        |  | INCOMPLETE PLANS |  | DO NOT USE FOR R/W ACQUISITION |  | PRELIMINARY PLANS |  | DO NOT USE FOR CONSTRUCTION |  |
| INCOMPLETE PLANS                                                                                                                                                                                                                                          |  |                        |  |                  |  |                                |  |                   |  |                             |  |
| DO NOT USE FOR R/W ACQUISITION                                                                                                                                                                                                                            |  |                        |  |                  |  |                                |  |                   |  |                             |  |
| PRELIMINARY PLANS                                                                                                                                                                                                                                         |  |                        |  |                  |  |                                |  |                   |  |                             |  |
| DO NOT USE FOR CONSTRUCTION                                                                                                                                                                                                                               |  |                        |  |                  |  |                                |  |                   |  |                             |  |





|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 192                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

-NRD-



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FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

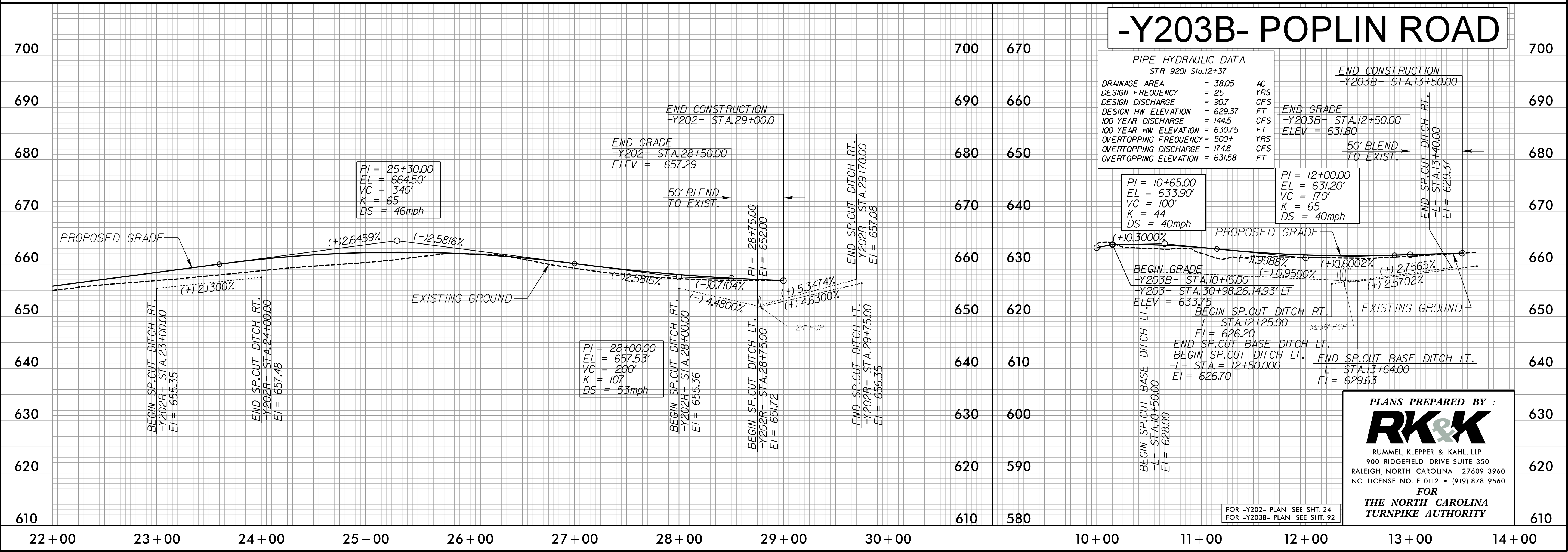
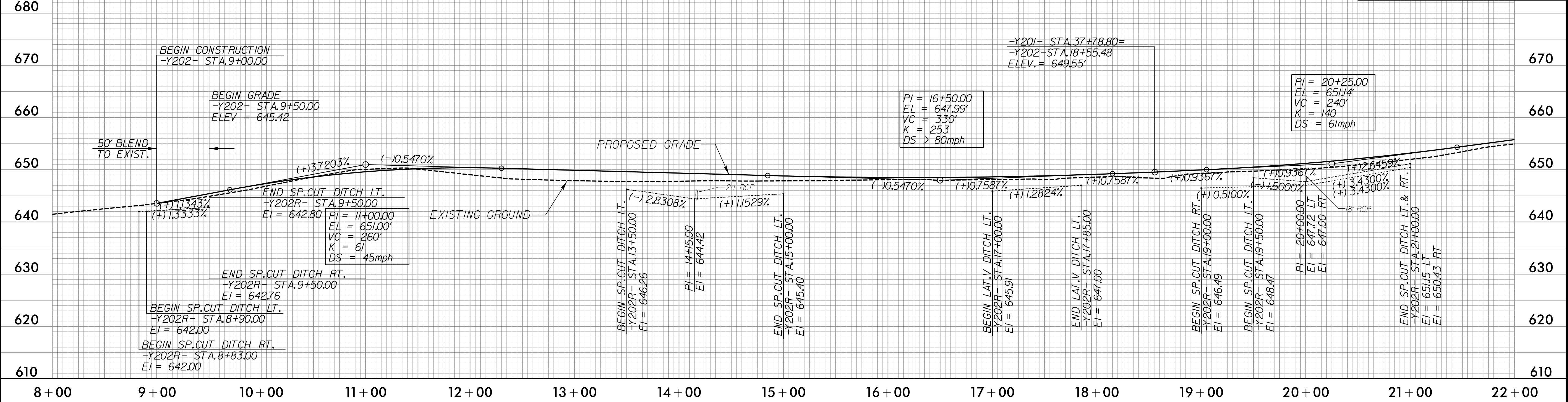
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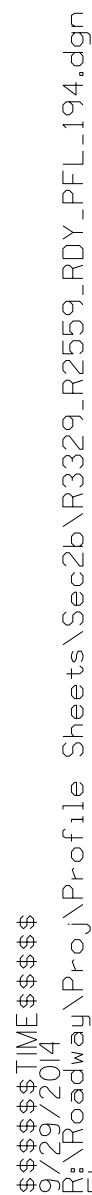
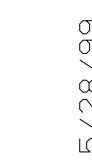
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Elevations

# -Y202- SECRET SHORTCUT ROAD

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 193                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |







| PIPE HYDRAULIC DATA   |   |        |     |
|-----------------------|---|--------|-----|
| STR 9205 Sta. 36+00   |   |        |     |
| DRAINAGE AREA         | = | 23.45  | AC  |
| DESIGN FREQUENCY      | = | 25     | YRS |
| DESIGN DISCHARGE      | = | 61.6   | CFS |
| DESIGN HW ELEVATION   | = | 629.05 | FT  |
| 100 YEAR DISCHARGE    | = | 98.0   | CFS |
| 100 YEAR HW ELEVATION | = | 629.88 | FT  |
| OVERTOPPING FREQUENCY | = | 500+   | YRS |
| OVERTOPPING DISCHARGE | = | 133.1  | CFS |
| OVERTOPPING ELEVATION | = | 631.1  | FT  |

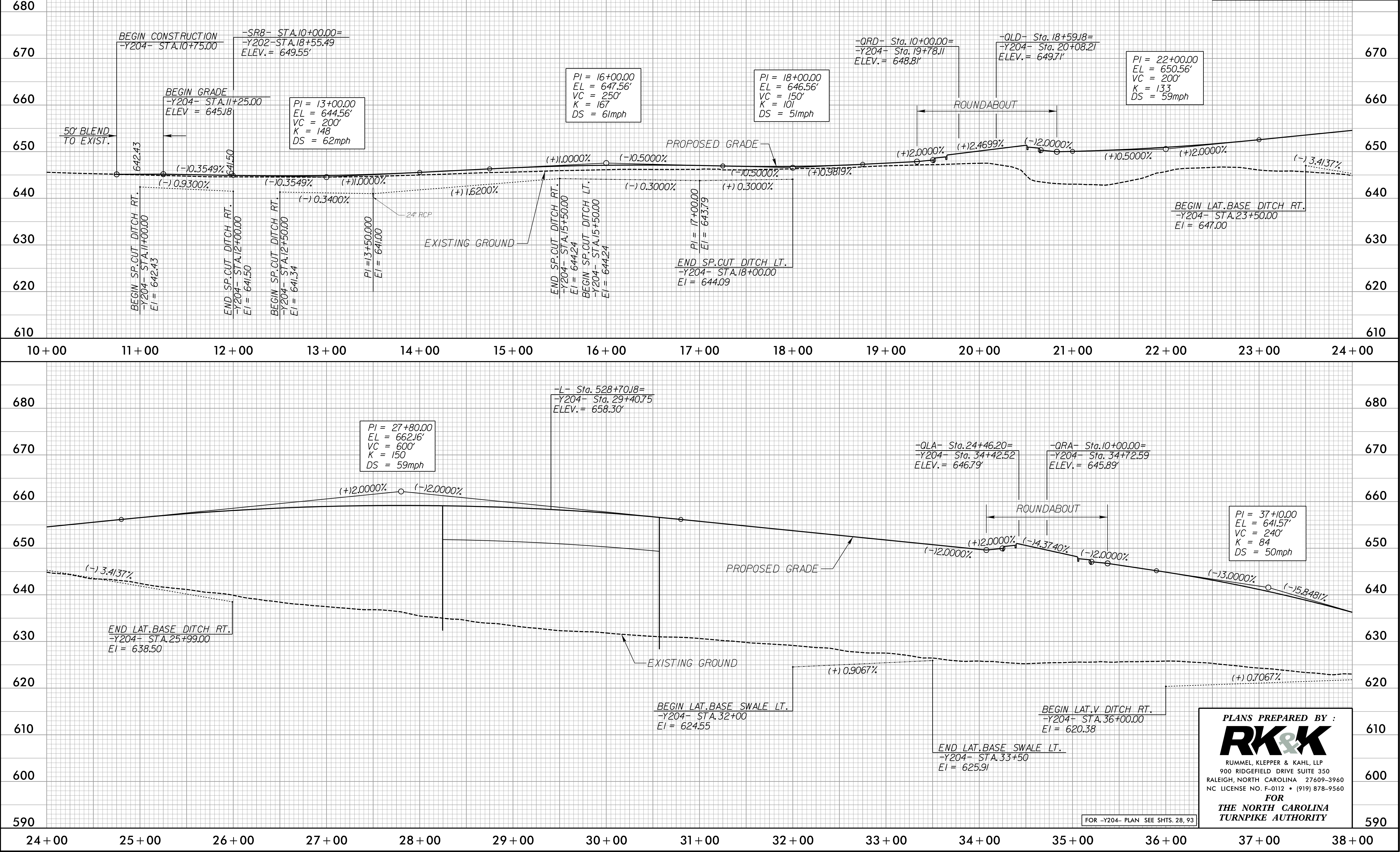
**PLANS PREPARED BY :**  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. F-0112 • (919) 878-9560  
**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



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\$\$\$\$\$TIME\$\$\$\$\$  
\$\$\$\$\$CIVIL\$\$\$\$\$  
\$\$\$\$\$ELEV\$\$\$\$\$

# -Y204- ROCKY RIVER ROAD

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 195                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



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FOR -Y204- PLAN SEE SHTS. 28, 93





**PLANS PREPARED BY :**

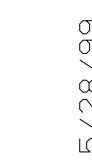
**RK&K**

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900 RIDGEFIELD DRIVE SUITE 350  
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**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**

FOR -Y204- PLAN SEE SHTS. 28, 94  
FOR -SR7- PLAN SEE SHTS. 94, 95  
FOR -SR8- PLAN SEE SHT. 93





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900 RIDGEFIELD DRIVE SUITE 350  
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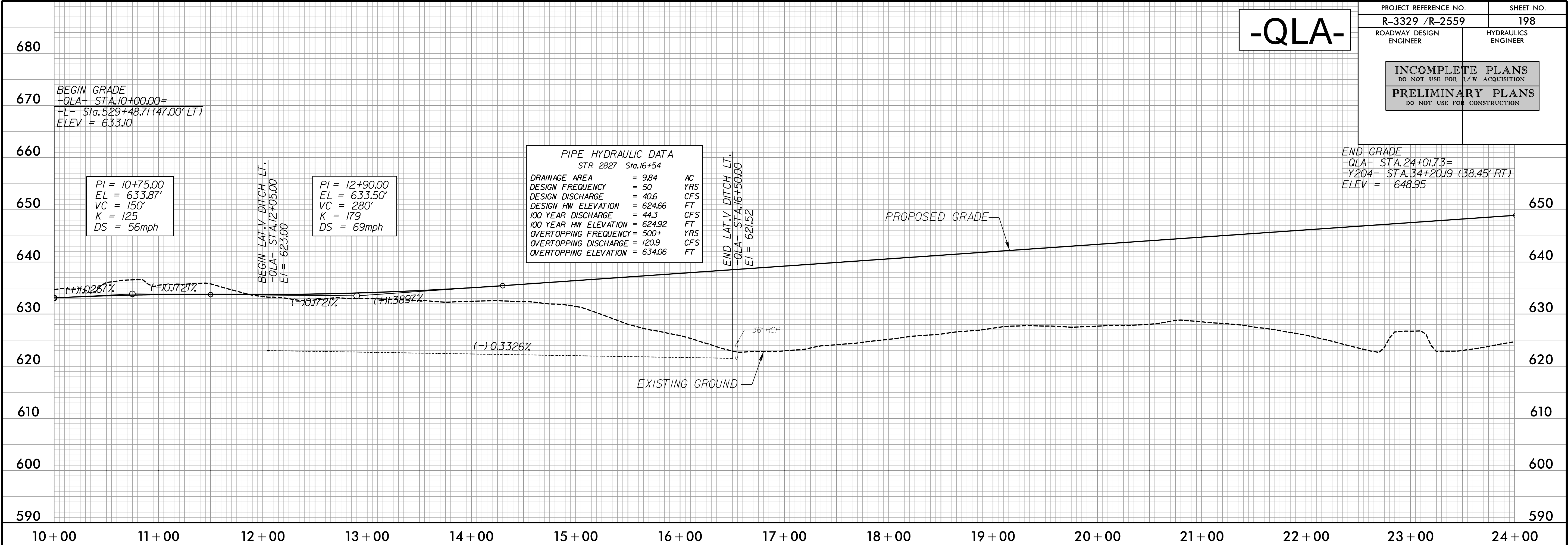
**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



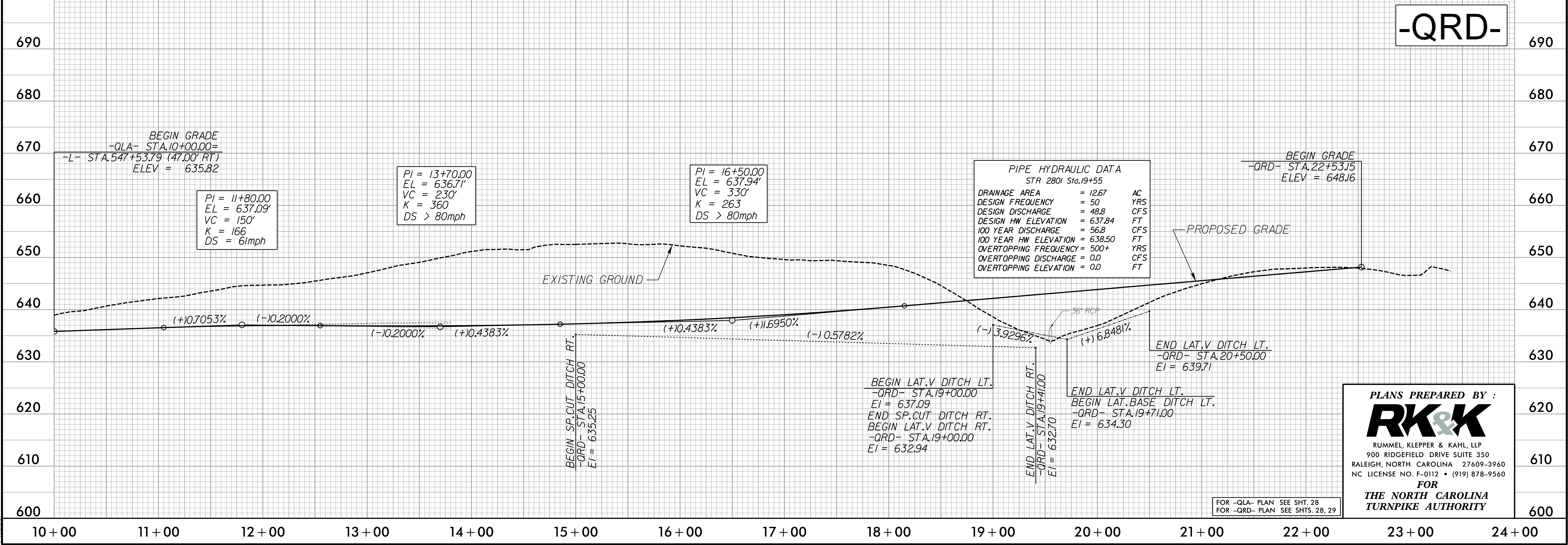
5/28/99

-QLA-

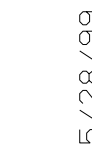
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| R-3329 /R-2559                                                                                                              |                        | 198       |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | HYDRAULICS<br>ENGINEER |           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                        |           |



-QRD-







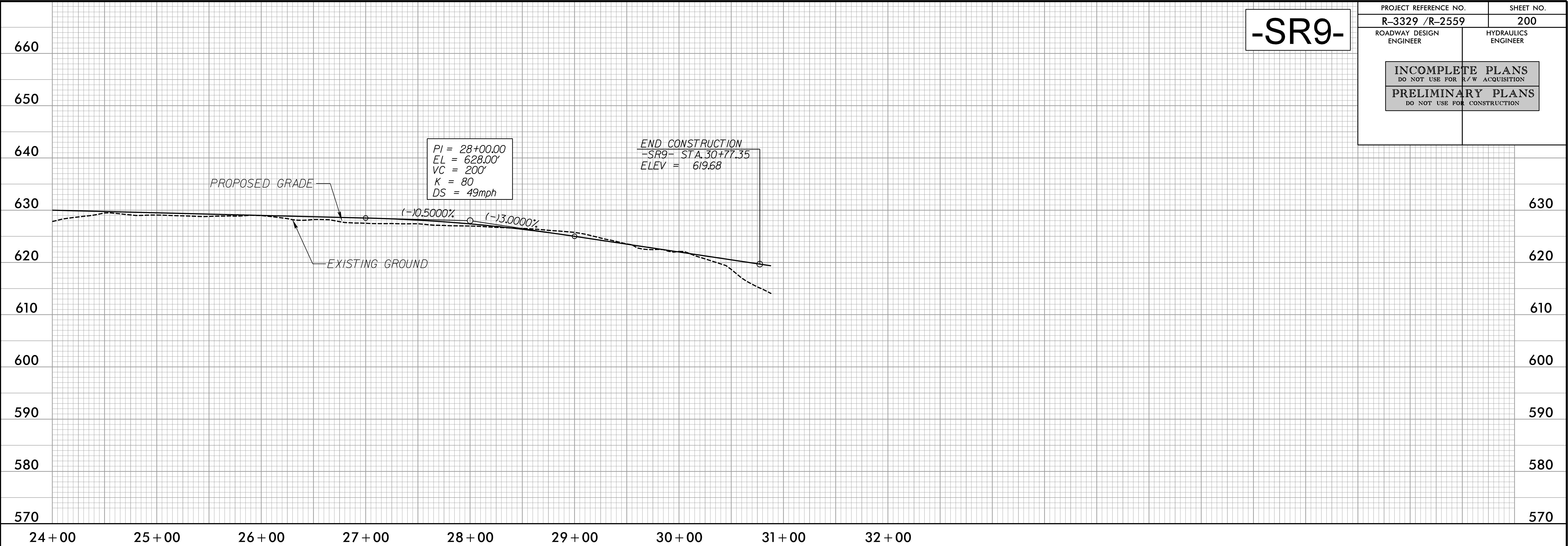
**PLANS PREPARED BY :**  
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RALEIGH, NORTH CAROLINA 27609-3960  
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**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**

FOR -QLD- PLAN SEE SHT. 28  
FOR -SR9- PLAN SEE SHTS. 30,31

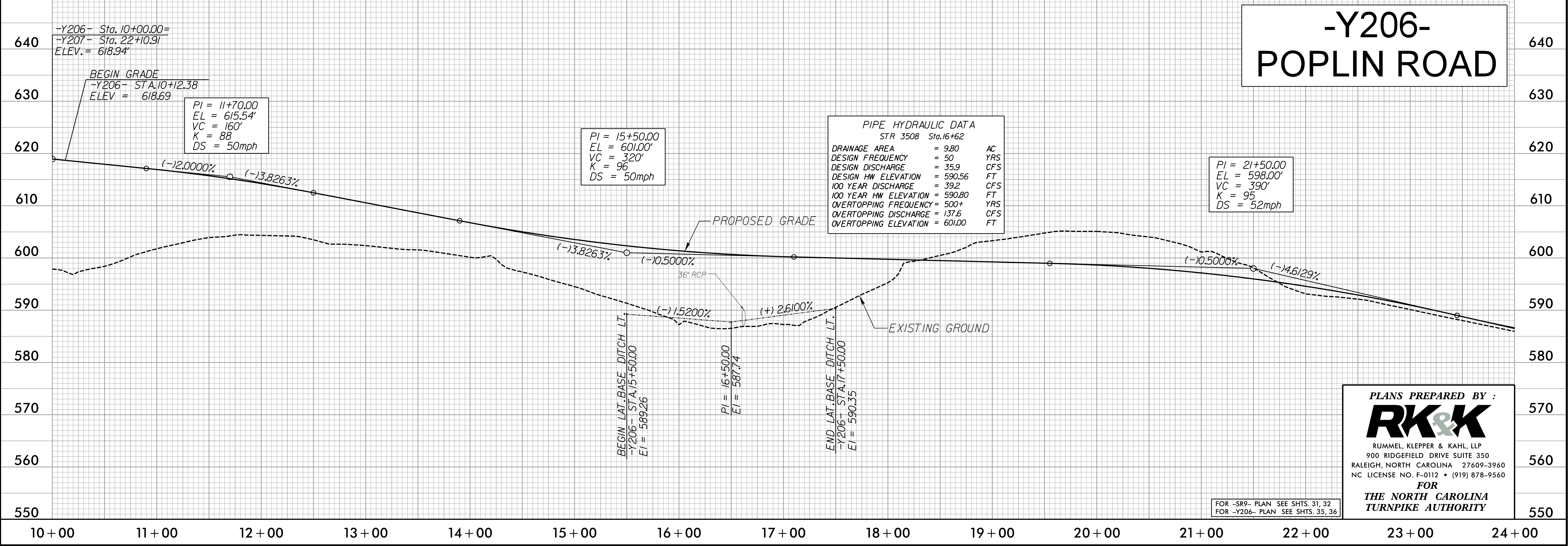


-SR9-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 200                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



-Y206-  
POPLIN ROAD



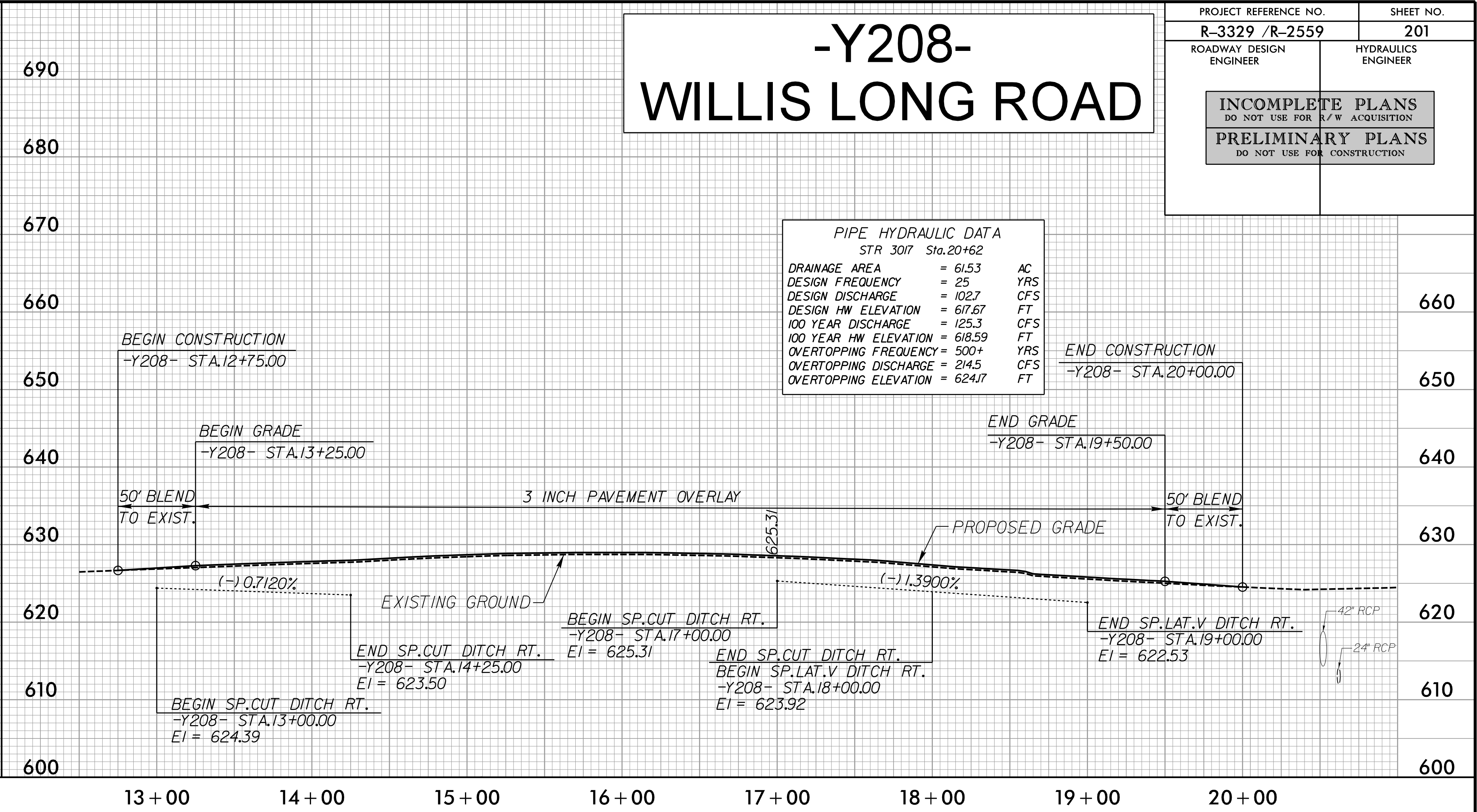
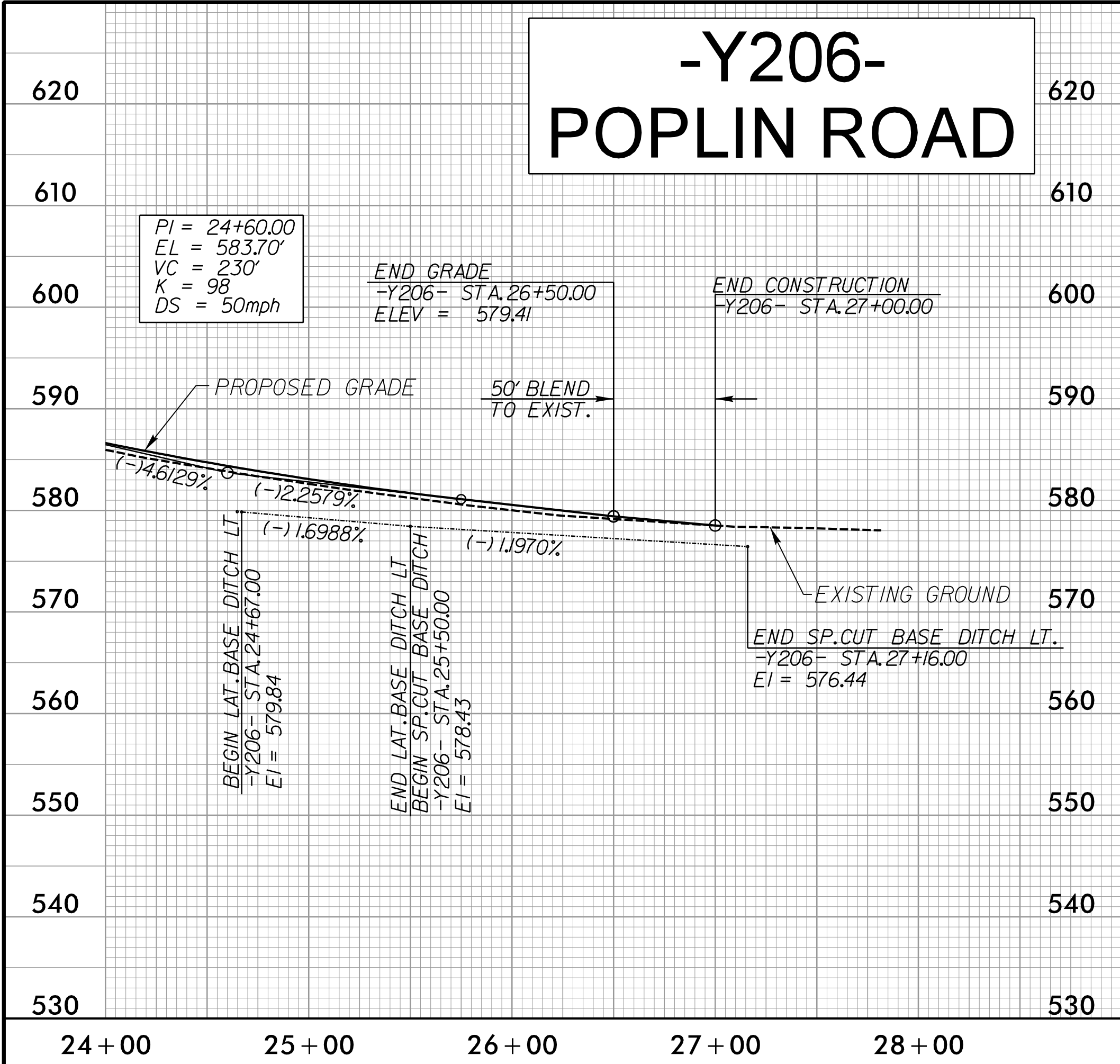
PLANS PREPARED BY :  
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900 RIDGEFIELD DRIVE SUITE 350  
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FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

FOR -SR9- PLAN SEE SHTS. 31, 32  
FOR -Y206- PLAN SEE SHTS. 35, 36

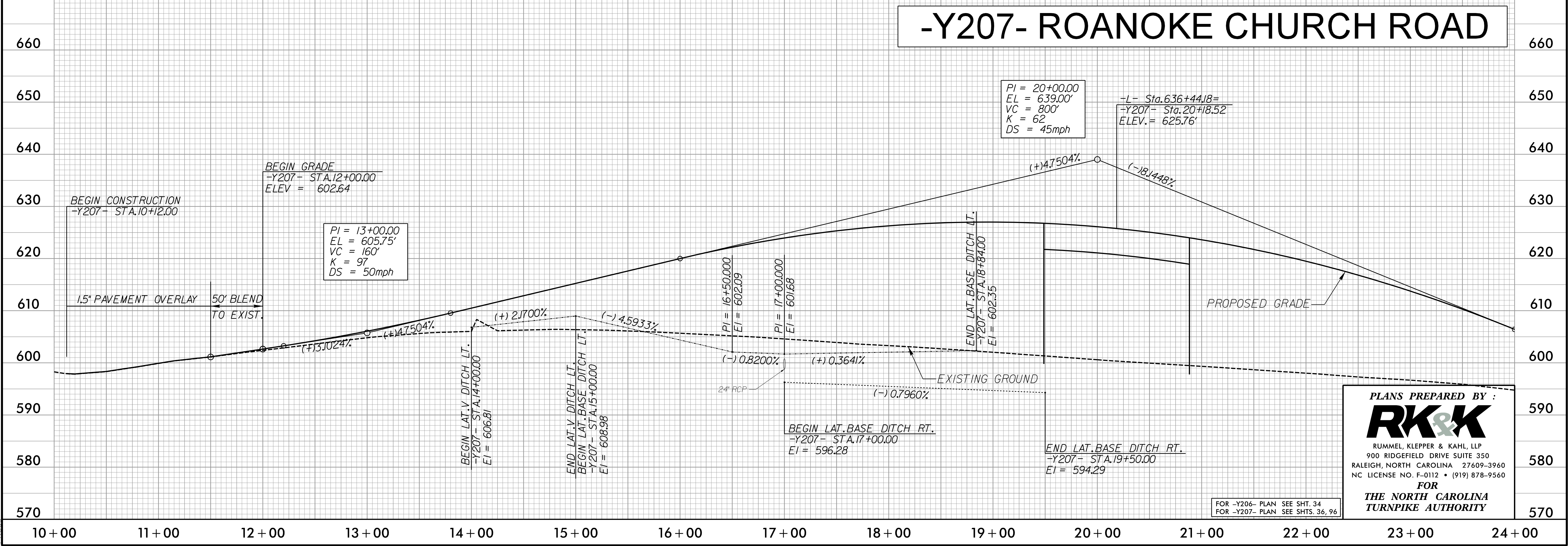


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|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 201                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



| PIPE HYDRAULIC DATA   |          |           |
|-----------------------|----------|-----------|
| STR                   | 3017     | Sta.20+62 |
| DRAINAGE AREA         | = 61.53  | AC        |
| DESIGN FREQUENCY      | = 25     | YRS       |
| DESIGN DISCHARGE      | = 102.7  | CFS       |
| DESIGN HW ELEVATION   | = 617.67 | FT        |
| 100 YEAR DISCHARGE    | = 125.3  | CFS       |
| 100 YEAR HW ELEVATION | = 618.59 | FT        |
| OVERTOPPING FREQUENCY | = 500+   | YRS       |
| OVERTOPPING DISCHARGE | = 214.5  | CFS       |
| OVERTOPPING ELEVATION | = 624.17 | FT        |



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FOR  
**THE NORTH CAROLINA  
TURNPIKE AUTHORITY**

FOR -Y206- PLAN SEE SHT. 34  
FOR -Y207- PLAN SEE SHTS. 36, 96

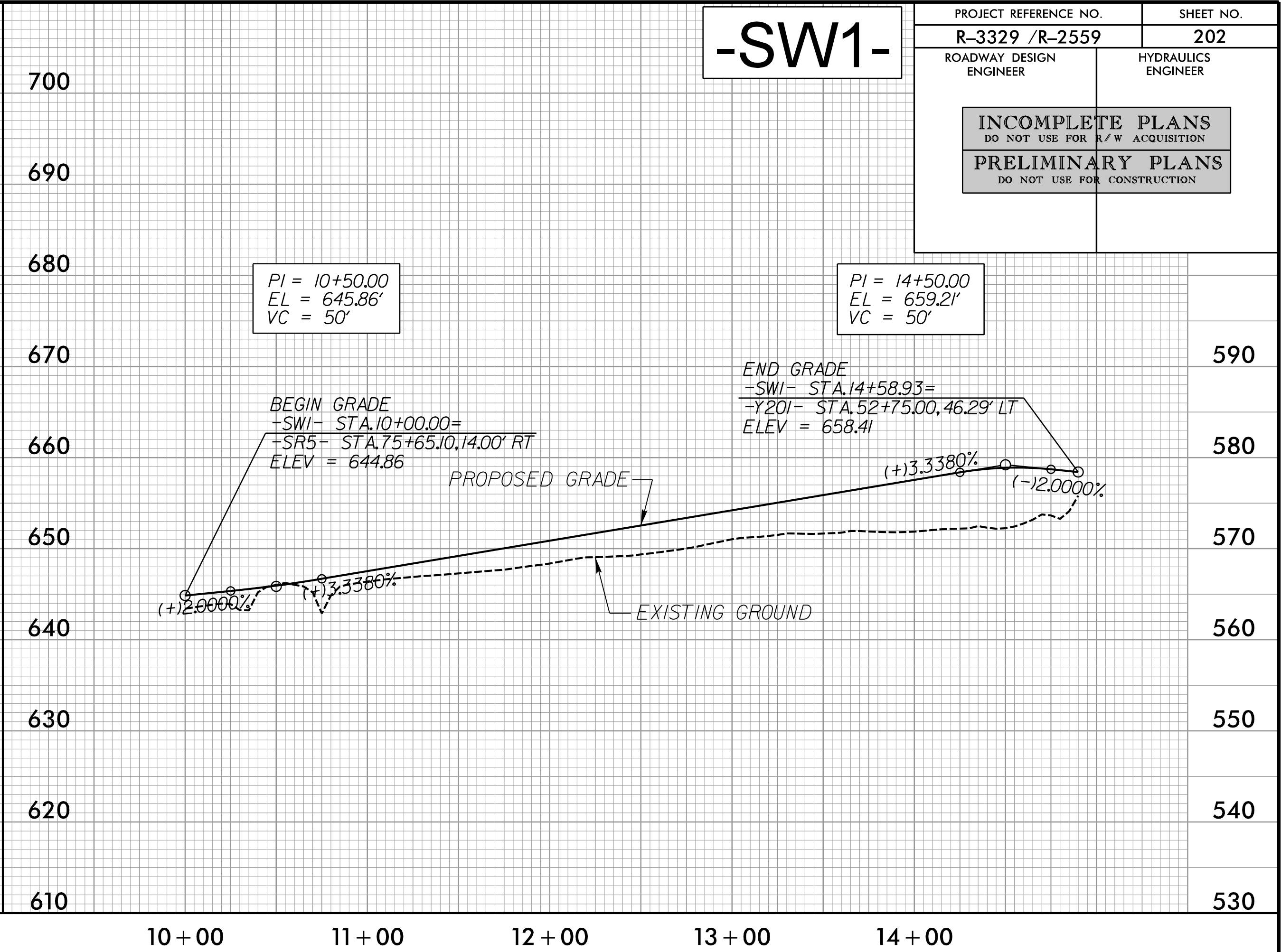
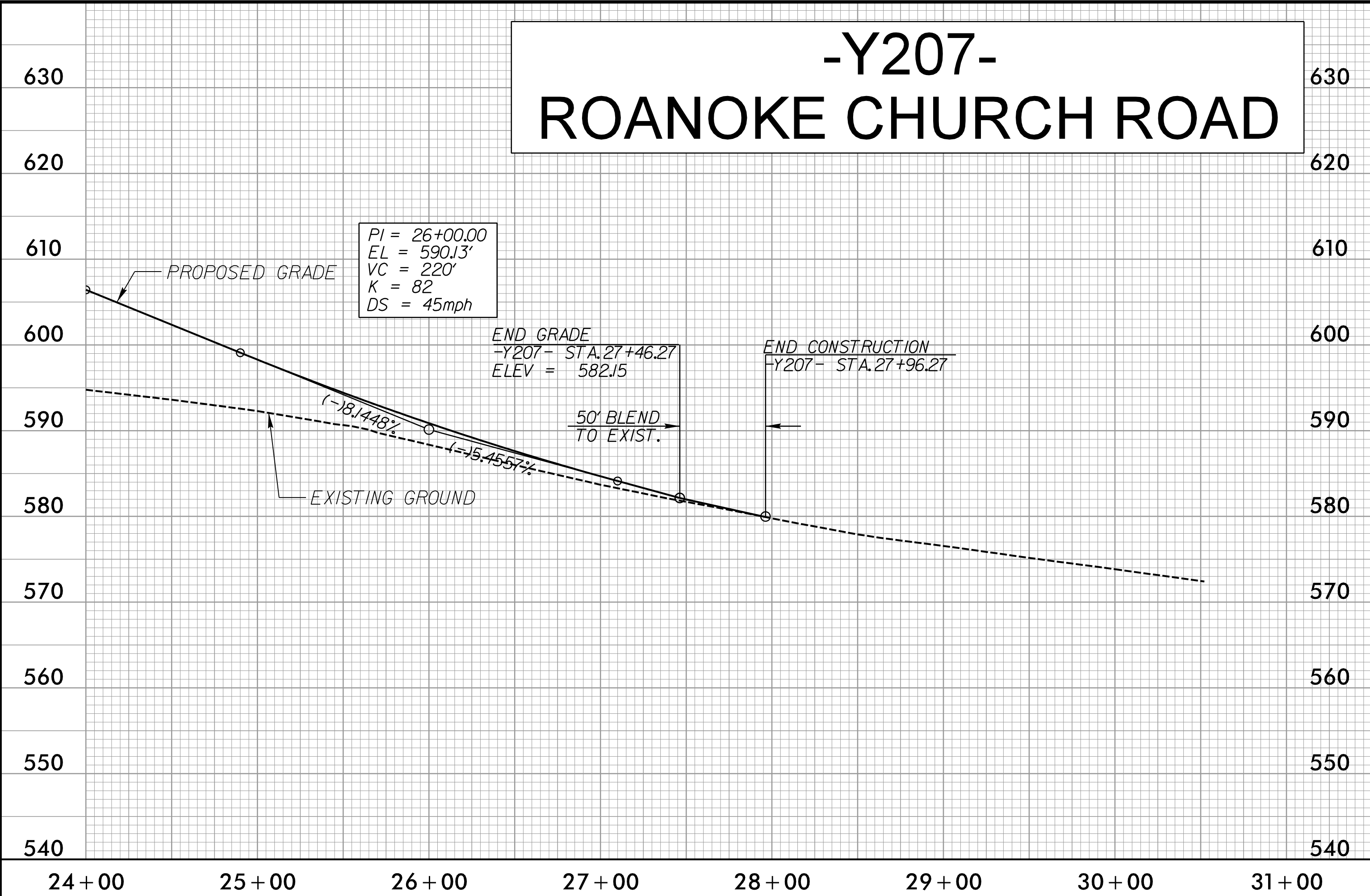


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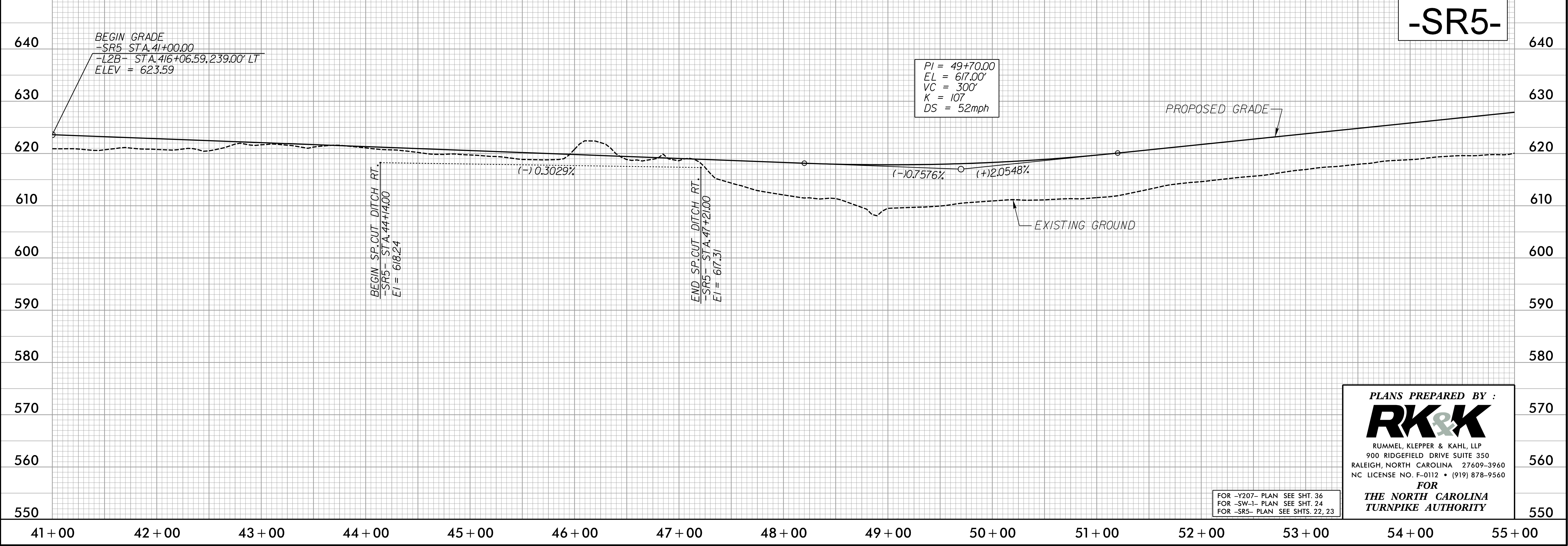
# -Y207- ROANOKE CHURCH ROAD

-SW1-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 202                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



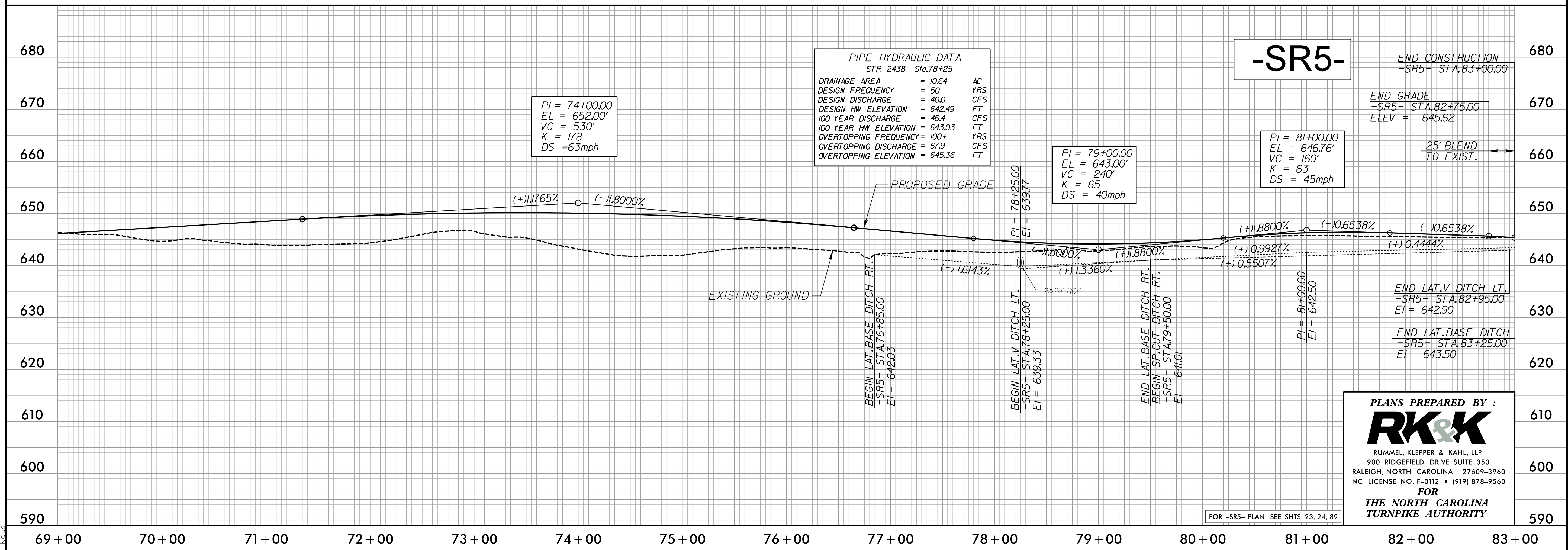
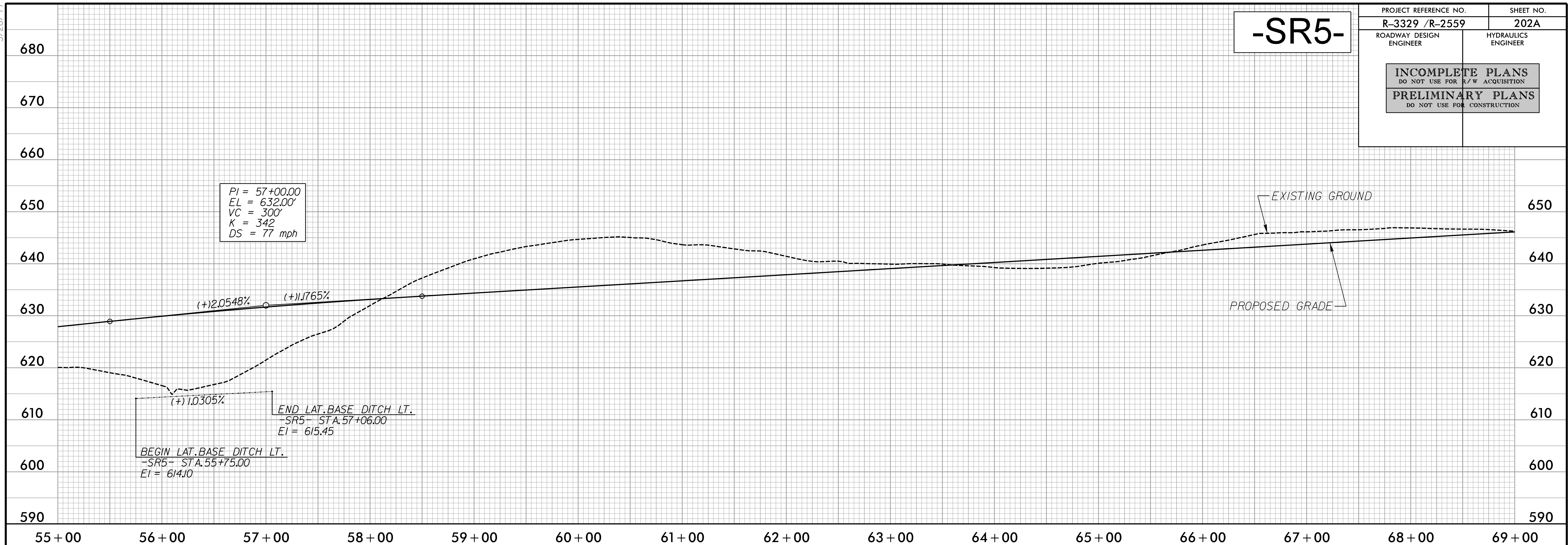
-SR5-



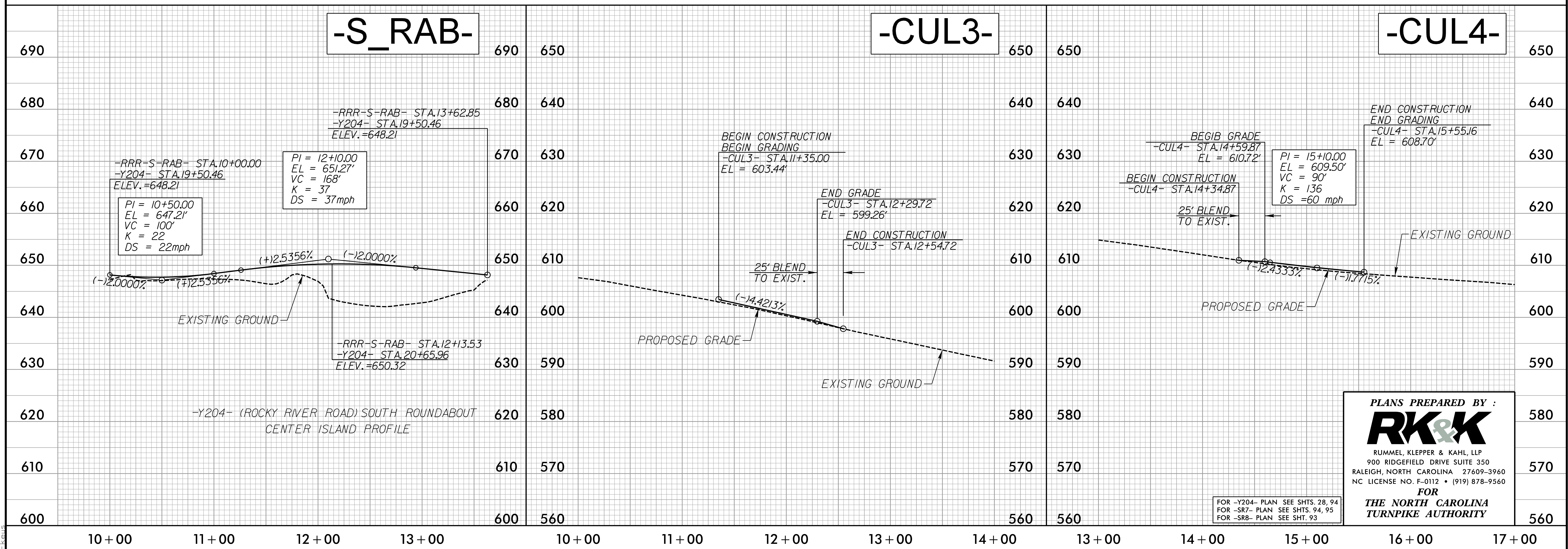
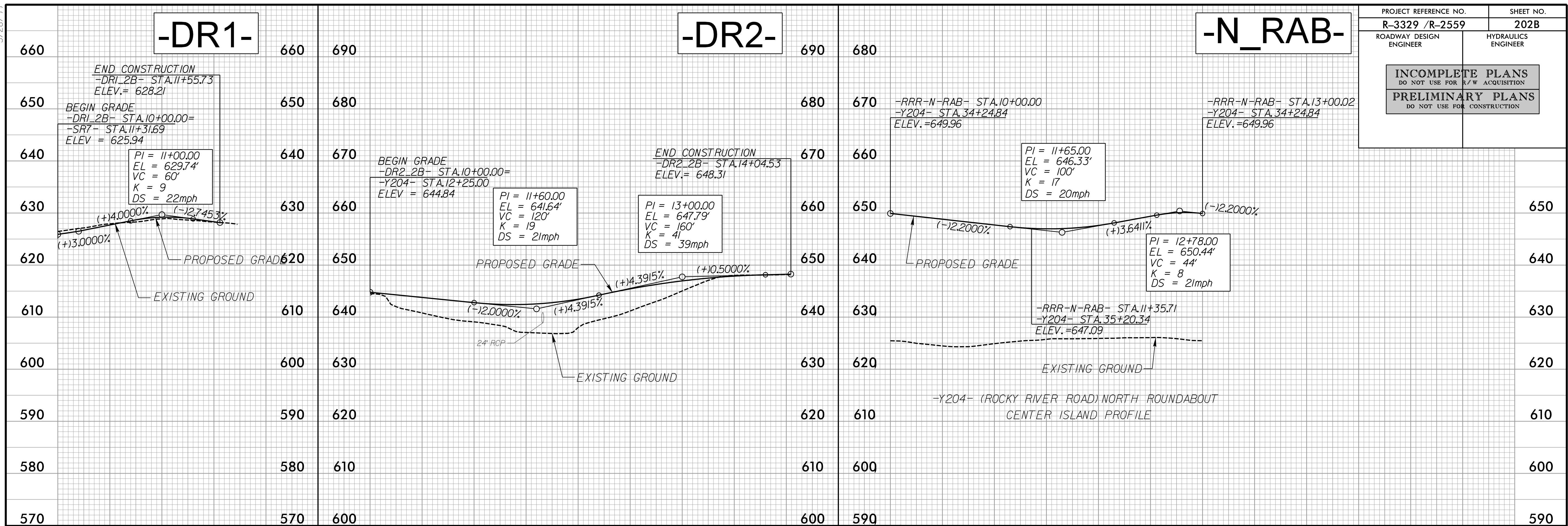
PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
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FOR  
**THE NORTH CAROLINA  
TURNPIKE AUTHORITY**

FOR -Y207- PLAN SEE SHT. 36  
FOR -SW-1- PLAN SEE SHT. 24  
FOR -SR5- PLAN SEE SHTS. 22, 23







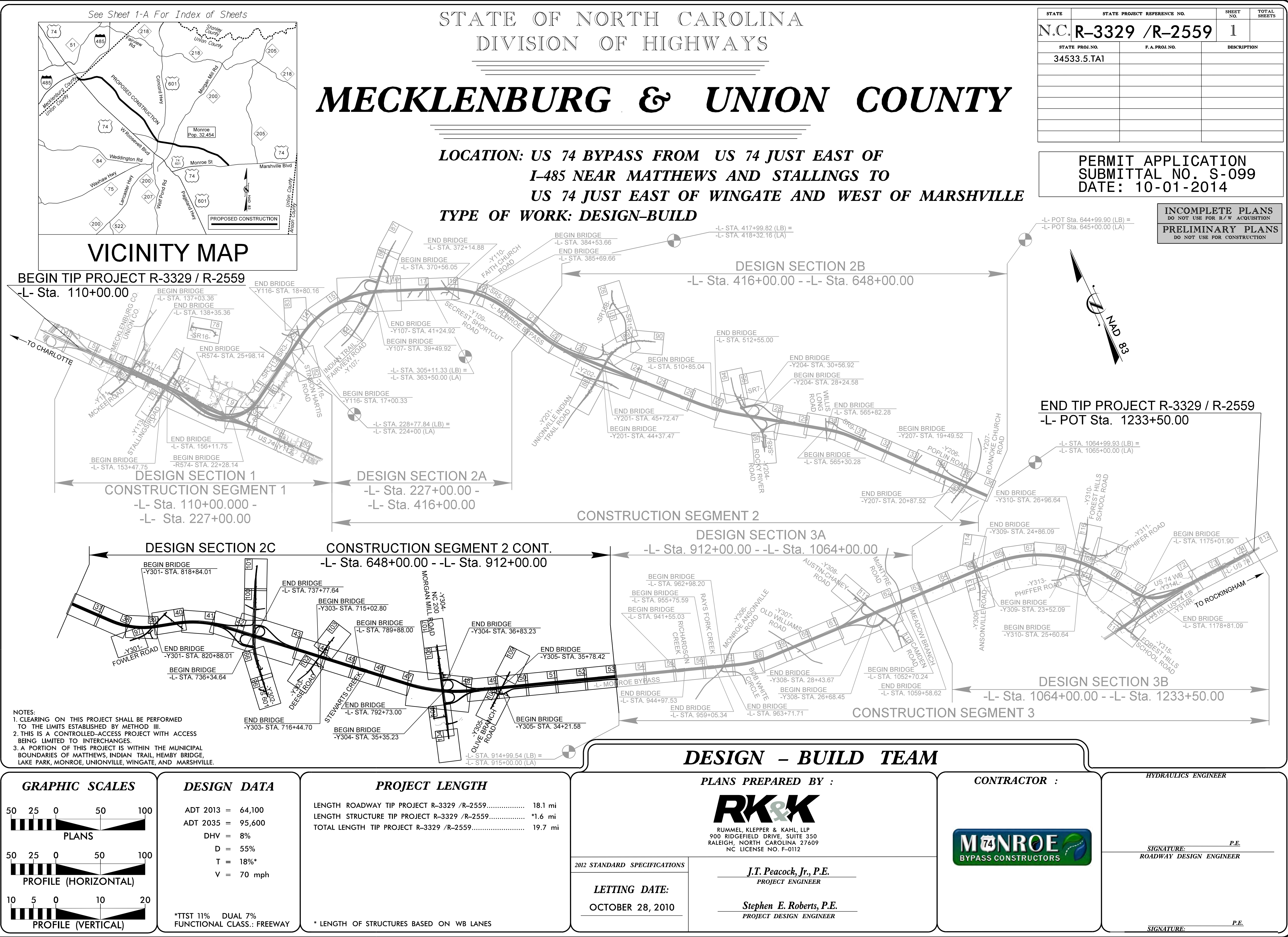




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TIP PROJECT: R-3329 / R-2559

CONTRACT: C202587





*Note: Not to Scale*

*\*S.U.E. = Subsurface Utility Engineering*

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

| PROJECT REFERENCE NO. | SHEET NO. |
|-----------------------|-----------|
| R-3329 / R-2559       | I-B       |

CONVENTIONAL PLAN SHEET SYMBOLS

**BOUNDARIES AND PROPERTY:**

|                                     |             |
|-------------------------------------|-------------|
| State Line                          | -----       |
| County Line                         | -----       |
| Township Line                       | -----       |
| City Line                           | -----       |
| Reservation Line                    | -----       |
| Property Line                       | -----       |
| Existing Iron Pin                   | ○ EIP       |
| Property Corner                     | -----*      |
| Property Monument                   | □ ECM       |
| Parcel/Sequence Number              | (123)       |
| Existing Fence Line                 | -x-x-x-     |
| Proposed Woven Wire Fence           | ○           |
| Proposed Chain Link Fence           | □           |
| Proposed Barbed Wire Fence          | ◇           |
| Existing Wetland Boundary           | --- WLB --- |
| Proposed Wetland Boundary           | WLB         |
| Existing Endangered Animal Boundary | --- EAB --- |
| Existing Endangered Plant Boundary  | --- EPB --- |

**BUILDINGS AND OTHER CULTURE:**

|                               |     |
|-------------------------------|-----|
| Gas Pump Vent or U/G Tank Cap | ○   |
| Sign                          | ○ S |
| Well                          | ○ W |
| Small Mine                    | ✕   |
| Foundation                    | ▭   |
| Area Outline                  | ▭   |
| Cemetery                      | ▭ † |
| Building                      | ▭   |
| School                        | ▭   |
| Church                        | ▭   |
| Dam                           | ▭   |

**HYDROLOGY:**

|                                    |              |
|------------------------------------|--------------|
| Stream or Body of Water            | ~~~~~        |
| Hydro, Pool or Reservoir           | ▭            |
| Jurisdictional Stream              | --- JS ---   |
| Buffer Zone 1                      | --- BZ 1 --- |
| Buffer Zone 2                      | --- BZ 2 --- |
| Flow Arrow                         | ←            |
| Disappearing Stream                | ➤            |
| Spring                             | ○            |
| Wetland                            | ⬇            |
| Proposed Lateral, Tail, Head Ditch | ▭            |
| False Sump                         | ▭            |

**RAILROADS:**

|                    |               |
|--------------------|---------------|
| Standard Gauge     | +++++         |
| RR Signal Milepost | ○ MILEPOST 35 |
| Switch             | ▭ SWITCH      |
| RR Abandoned       | -----         |
| RR Dismantled      | -----         |

**RIGHT OF WAY:**

|                                                            |               |
|------------------------------------------------------------|---------------|
| Baseline Control Point                                     | ◆             |
| Existing Right of Way Marker                               | △             |
| Existing Right of Way Line                                 | -----         |
| Proposed Right of Way Line                                 | ----- (R/W)   |
| Proposed Right of Way Line with Iron Pin and Cap Marker    | ----- (R/W) ▲ |
| Proposed Right of Way Line with Concrete or Granite Marker | ----- (R/W) ● |
| Existing Control of Access                                 | ----- (C/A)   |
| Proposed Control of Access                                 | ----- (C/A)   |
| Existing Easement Line                                     | ----- E       |
| Proposed Temporary Construction Easement                   | ----- E       |
| Proposed Temporary Drainage Easement                       | ----- TDE     |
| Proposed Permanent Drainage Easement                       | ----- PDE     |
| Proposed Permanent Drainage / Utility Easement             | ----- DUE     |
| Proposed Permanent Utility Easement                        | ----- PUE     |
| Proposed Temporary Utility Easement                        | ----- TUE     |
| Proposed Aerial Utility Easement                           | ----- AUE     |
| Proposed Permanent Easement with Iron Pin and Cap Marker   | ----- ◆       |

**ROADS AND RELATED FEATURES:**

|                            |           |
|----------------------------|-----------|
| Existing Edge of Pavement  | -----     |
| Existing Curb              | -----     |
| Proposed Slope Stakes Cut  | --- C --- |
| Proposed Slope Stakes Fill | --- F --- |
| Proposed Wheel Chair Ramp  | ○ WCR     |
| Existing Metal Guardrail   | --- T --- |
| Proposed Guardrail         | --- T --- |
| Existing Cable Guiderail   | --- ▭ --- |
| Proposed Cable Guiderail   | --- ▭ --- |
| Equality Symbol            | ●         |
| Pavement Removal           | ▭         |

**VEGETATION:**

|              |            |
|--------------|------------|
| Single Tree  | ✻          |
| Single Shrub | ✻          |
| Hedge        | ~~~~~      |
| Woods Line   | ~~~~~      |
| Orchard      | ✻ ✻ ✻ ✻    |
| Vineyard     | ▭ Vineyard |

**EXISTING STRUCTURES:**

|                                          |             |
|------------------------------------------|-------------|
| MAJOR:                                   |             |
| Bridge, Tunnel or Box Culvert            | ▭ CONC      |
| Bridge Wing Wall, Head Wall and End Wall | ┌ CONC WW ┐ |
| MINOR:                                   |             |
| Head and End Wall                        | ┌ CONC HW ┐ |
| Pipe Culvert                             | ▭           |
| Footbridge                               | ➤ -----     |
| Drainage Box: Catch Basin, DI or JB      | ▭ CB        |
| Paved Ditch Gutter                       | -----       |
| Storm Sewer Manhole                      | ○ S         |
| Storm Sewer                              | ----- S     |

**UTILITIES:**

|                                     |         |
|-------------------------------------|---------|
| POWER:                              |         |
| Existing Power Pole                 | ●       |
| Proposed Power Pole                 | ○       |
| Existing Joint Use Pole             | ●       |
| Proposed Joint Use Pole             | ○       |
| Power Manhole                       | ○ P     |
| Power Line Tower                    | ▭       |
| Power Transformer                   | ▭       |
| U/G Power Cable Hand Hole           | ▭       |
| H-Frame Pole                        | ● --- ● |
| Recorded U/G Power Line             | ----- P |
| Designated U/G Power Line (S.U.E.*) | ----- P |

**TELEPHONE:**

|                                             |            |
|---------------------------------------------|------------|
| Existing Telephone Pole                     | ●          |
| Proposed Telephone Pole                     | ○          |
| Telephone Manhole                           | ○ T        |
| Telephone Booth                             | ▭          |
| Telephone Pedestal                          | ▭          |
| Telephone Cell Tower                        | ⬇          |
| U/G Telephone Cable Hand Hole               | ▭          |
| Recorded U/G Telephone Cable                | ----- T    |
| Designated U/G Telephone Cable (S.U.E.*)    | ----- T    |
| Recorded U/G Telephone Conduit              | ----- TC   |
| Designated U/G Telephone Conduit (S.U.E.*)  | ----- TC   |
| Recorded U/G Fiber Optics Cable             | ----- T FO |
| Designated U/G Fiber Optics Cable (S.U.E.*) | ----- T FO |

**WATER:**

|                                     |                 |
|-------------------------------------|-----------------|
| Water Manhole                       | ○ W             |
| Water Meter                         | ○               |
| Water Valve                         | ⊗               |
| Water Hydrant                       | ⊕               |
| Recorded U/G Water Line             | ----- W         |
| Designated U/G Water Line (S.U.E.*) | ----- W         |
| Above Ground Water Line             | ----- A/G Water |

**TV:**

|                                            |             |
|--------------------------------------------|-------------|
| TV Satellite Dish                          | ✎           |
| TV Pedestal                                | ▭           |
| TV Tower                                   | ⊗           |
| U/G TV Cable Hand Hole                     | ▭           |
| Recorded U/G TV Cable                      | ----- TV    |
| Designated U/G TV Cable (S.U.E.*)          | ----- TV    |
| Recorded U/G Fiber Optic Cable             | ----- TV FO |
| Designated U/G Fiber Optic Cable (S.U.E.*) | ----- TV FO |

**GAS:**

|                                   |               |
|-----------------------------------|---------------|
| Gas Valve                         | ◇             |
| Gas Meter                         | ⊕             |
| Recorded U/G Gas Line             | ----- G       |
| Designated U/G Gas Line (S.U.E.*) | ----- G       |
| Above Ground Gas Line             | ----- A/G Gas |

**SANITARY SEWER:**

|                                          |                          |
|------------------------------------------|--------------------------|
| Sanitary Sewer Manhole                   | ⊕                        |
| Sanitary Sewer Cleanout                  | ⊕                        |
| U/G Sanitary Sewer Line                  | ----- SS                 |
| Above Ground Sanitary Sewer              | ----- A/G Sanitary Sewer |
| Recorded SS Forced Main Line             | ----- FSS                |
| Designated SS Forced Main Line (S.U.E.*) | ----- FSS                |

**MISCELLANEOUS:**

|                                        |            |
|----------------------------------------|------------|
| Utility Pole                           | ●          |
| Utility Pole with Base                 | ▭          |
| Utility Located Object                 | ○          |
| Utility Traffic Signal Box             | ▭          |
| Utility Unknown U/G Line               | ----- 2UTL |
| U/G Tank; Water, Gas, Oil              | ▭          |
| A/G Tank; Water, Gas, Oil              | ▭          |
| U/G Test Hole (S.U.E.*)                | ●          |
| Abandoned According to Utility Records | AATUR      |
| End of Information                     | E.O.I.     |



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| PAVEMENT SCHEDULE |                                                                                                                                                                                                       |     |                                                                                                                                                                                                   |    |                                                                                                  |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------------|
| A1                | 9" PORTLAND CEMENT CONCRETE PAVEMENT                                                                                                                                                                  | D11 | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0D, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH. | J1 | PROPOSED 6" AGGREGATE BASE COURSE                                                                |
| C1                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E1  | PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                             | J2 | PROPOSED 8" AGGREGATE BASE COURSE                                                                |
| C2                | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD. IN EACH OF TWO LAYERS.                                                                         | E2  | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                             | J3 | PROPOSED 9" AGGREGATE BASE COURSE                                                                |
| C3                | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E3  | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.                                                                                             | J4 | PROPOSED 10" AGGREGATE BASE COURSE                                                               |
| C4                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E4  | PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                      | J5 | PROPOSED VARIABLE DEPTH AGGREGATE BASE COURSE                                                    |
| 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" OR GREATER THAN 5.5" IN DEPTH.        | K1 | BASE TO BE TREATED WITH LIME TO A DEPTH OF 8" OR BASE TO BE TREATED WITH CEMENT TO A DEPTH OF 7" |
| 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 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E6  | PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                             | P  | PRIME COAT AT THE RATE OF 0.35 GAL PER SQ YD                                                     |
| C7                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E7  | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                             | R1 | 2'-6" CONCRETE CURB & GUTTER                                                                     |
| C8                | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                        | E8  | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.                                                                                             | R2 | 1'-6" CONCRETE CURB & GUTTER                                                                     |
| C9                | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E9  | PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.                                                                                           | R3 | SHOULDER BERM GUTTER                                                                             |
| C10               | PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS.PER SQ. YD.                                                                                          | E10 | PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                      | R4 | CONCRETE EXPRESSWAY GUTTER                                                                       |
| D1                | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.                                                                                       | E11 | PROP. APPROX. 6.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 370.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                  | R5 | 5" MONOLITHIC CONCRETE ISLAND, KEYED IN                                                          |
| D2                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E12 | PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                      | R6 | SINGLE FACED CONCRETE BARRIER                                                                    |
| D3                | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | E13 | PROP. APPROX. 9" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                      | R7 | DOUBLE FACED CONCRETE BARRIER (TYPE T, T1, T2)                                                   |
| D4                | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.    | E14 | PROP. APPROX. 10.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 598.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                 | R8 | RUMBLE STRIPS                                                                                    |
| D5                | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | E15 | PROP. APPROX. 11" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                     | S  | 4" CONCRETE SIDEWALK                                                                             |
| D6                | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.                                                                                       | E16 | PROP. APPROX. 3.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 199 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                    | T  | EARTH MATERIAL                                                                                   |
| D7                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E17 | PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                    | U  | EXISTING PAVEMENT                                                                                |
| D8                | 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 2.5" OR GREATER THAN 4" IN DEPTH.    | E18 | PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.        | V  | SPLIT SEAL                                                                                       |
| D9                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0D, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E19 | PROP. APPROX. 12.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 712.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS                                                                 | W  | WEDGING                                                                                          |
| D10               | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0D, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | G1  | 8" CEMENT TREATED AGGREGATE BASE COURSE                                                                                                                                                           | Z  | NON WOVEN FIBERGLASS/POLYESTER INTERLAYER PAVING MAT                                             |

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

|                                                                                                                             |                             |
|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| PROJECT REFERENCE NO.                                                                                                       | SHEET NO.                   |
| R-3329 / R-2559                                                                                                             | 2C-2A                       |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | PAVEMENT DESIGN<br>ENGINEER |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                             |

PLANS PREPARED BY :

**RK&K**

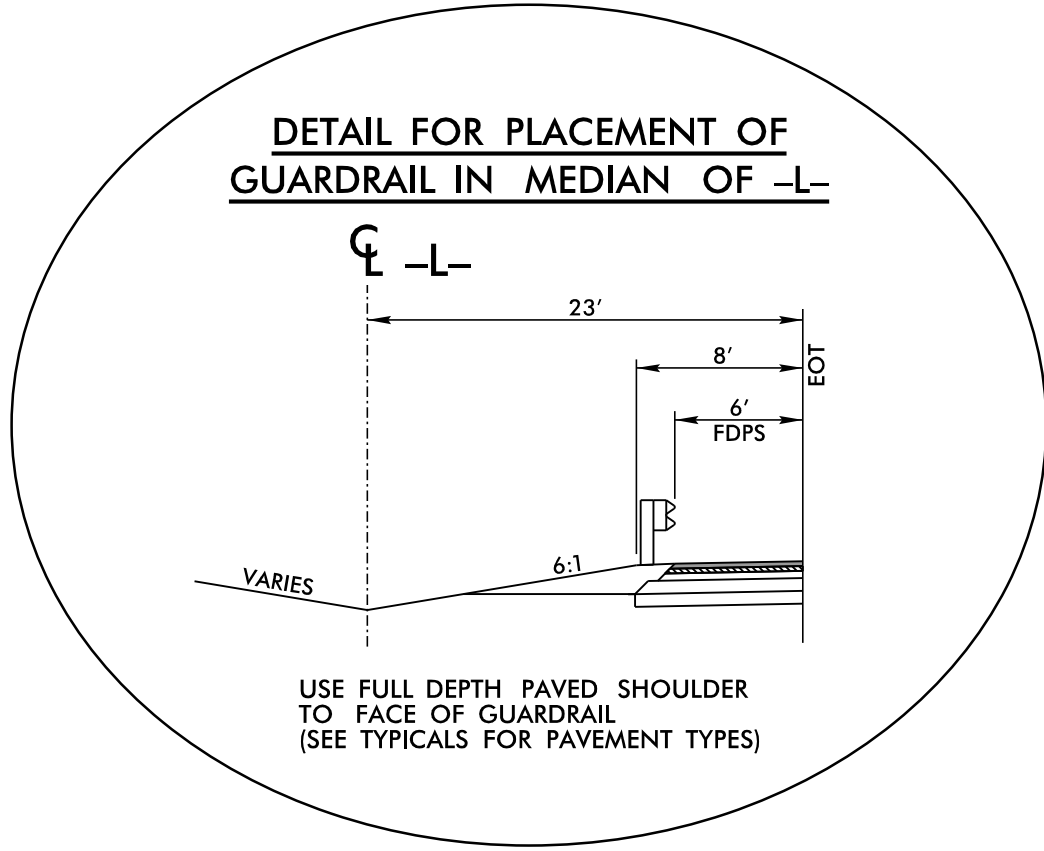
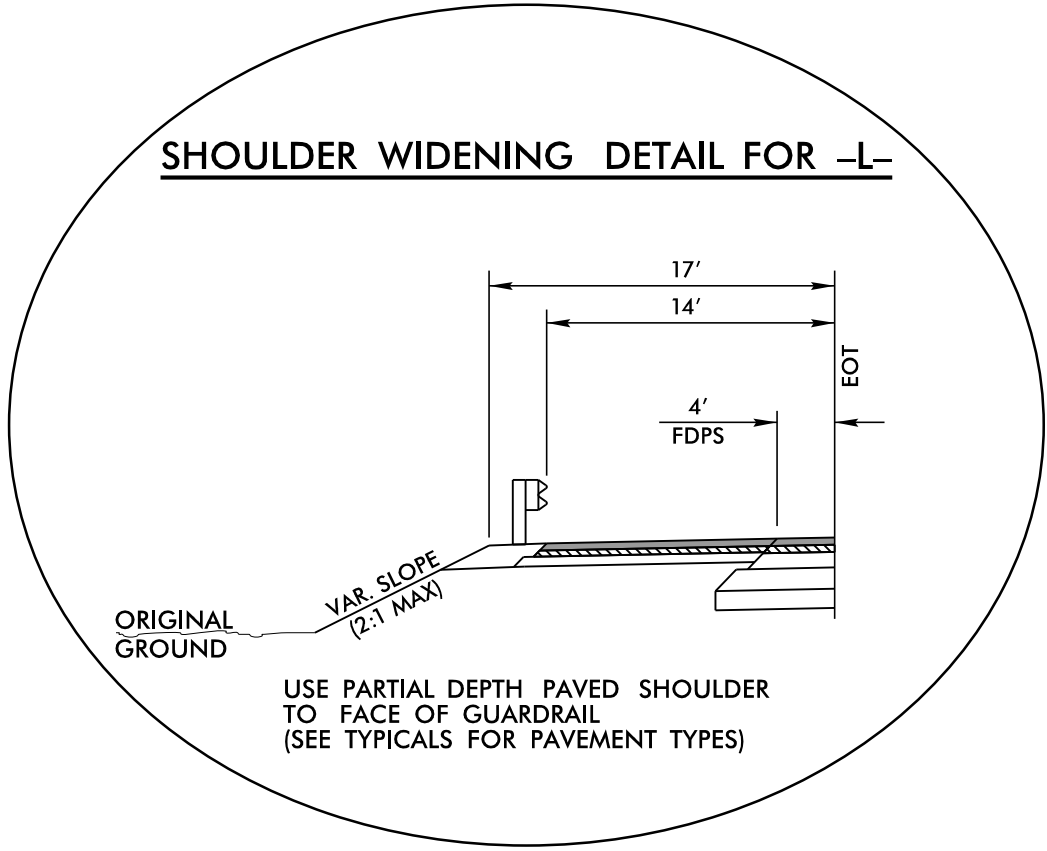
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. F-0112 • (919) 878-9560

FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

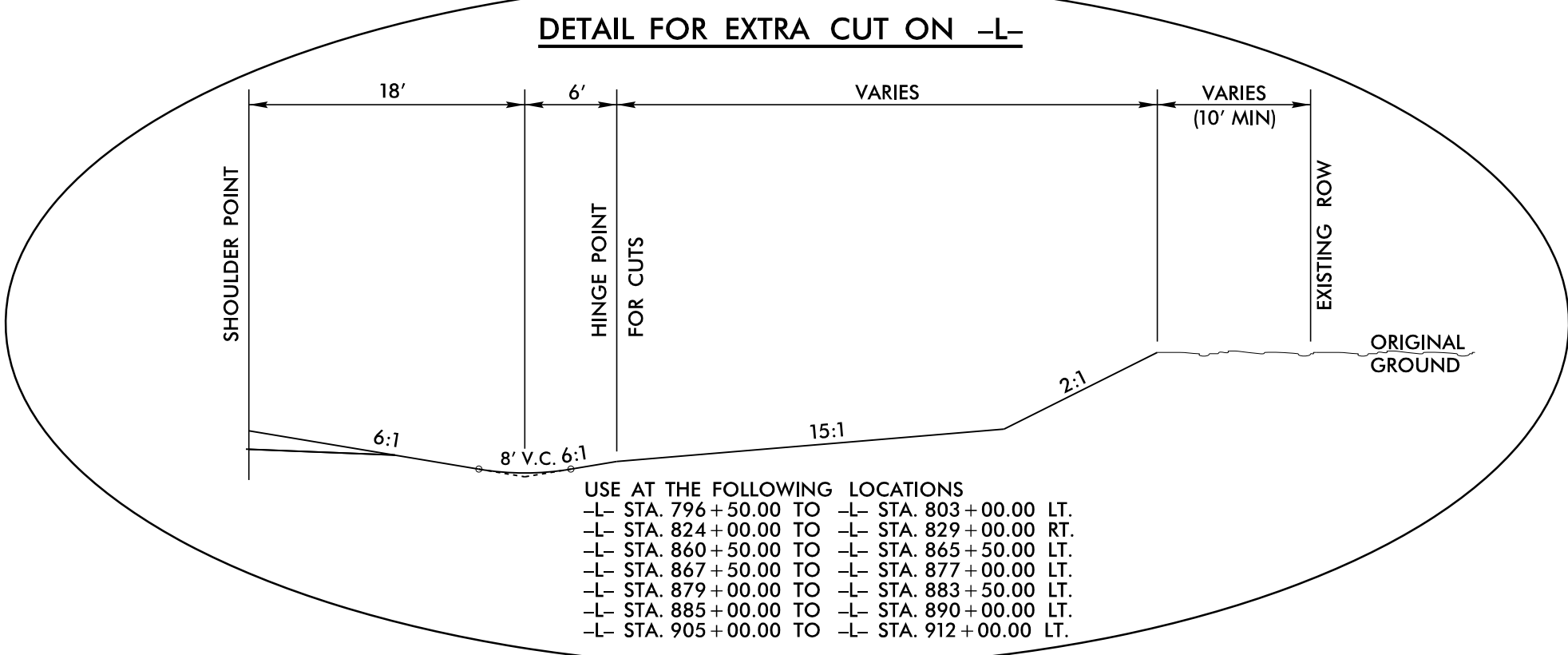
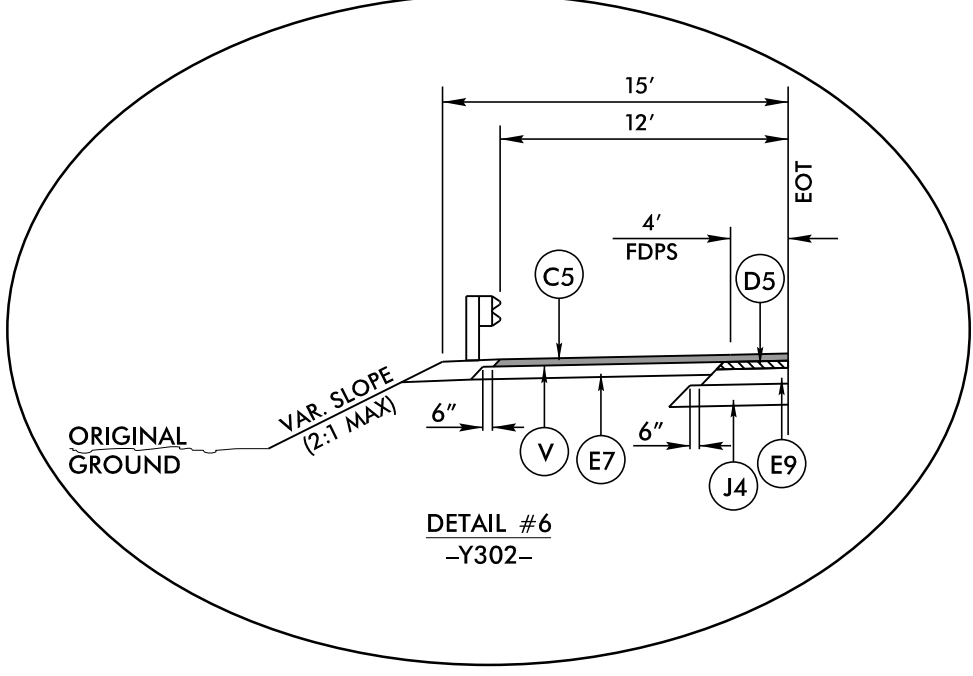
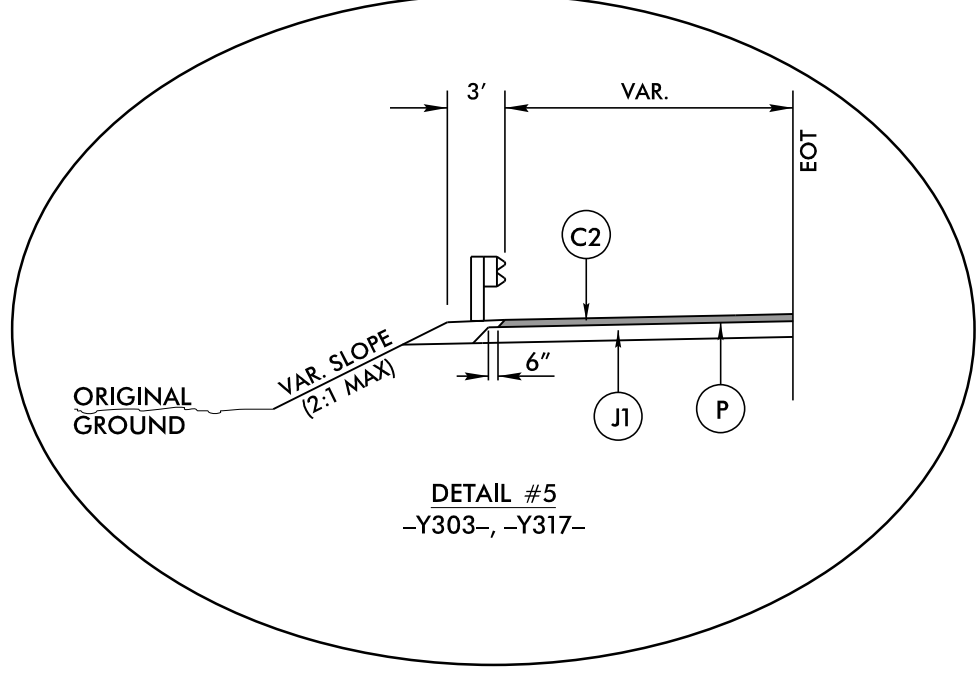
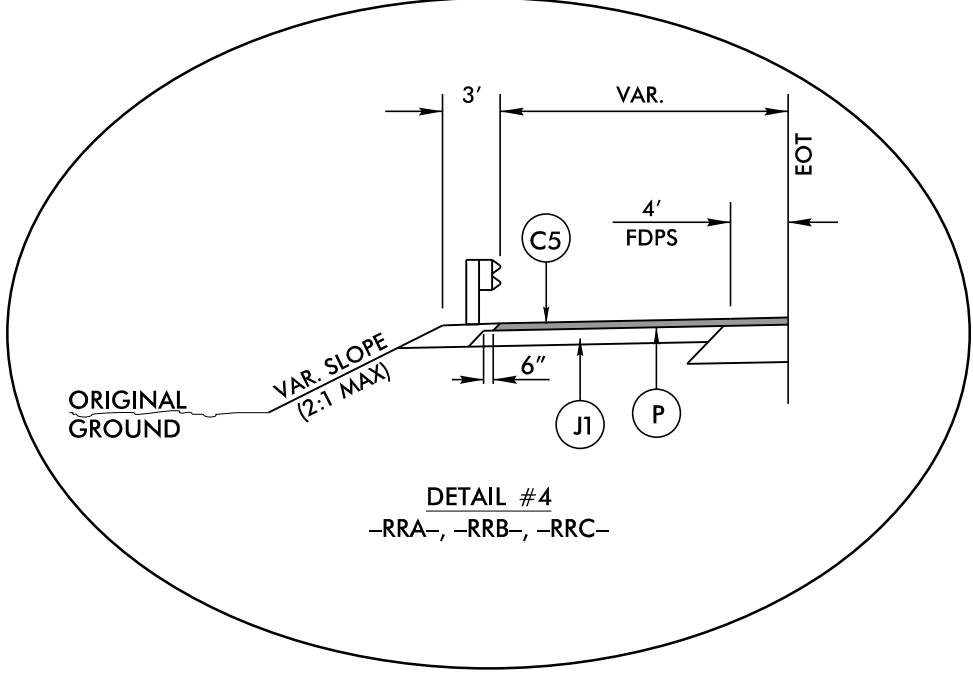
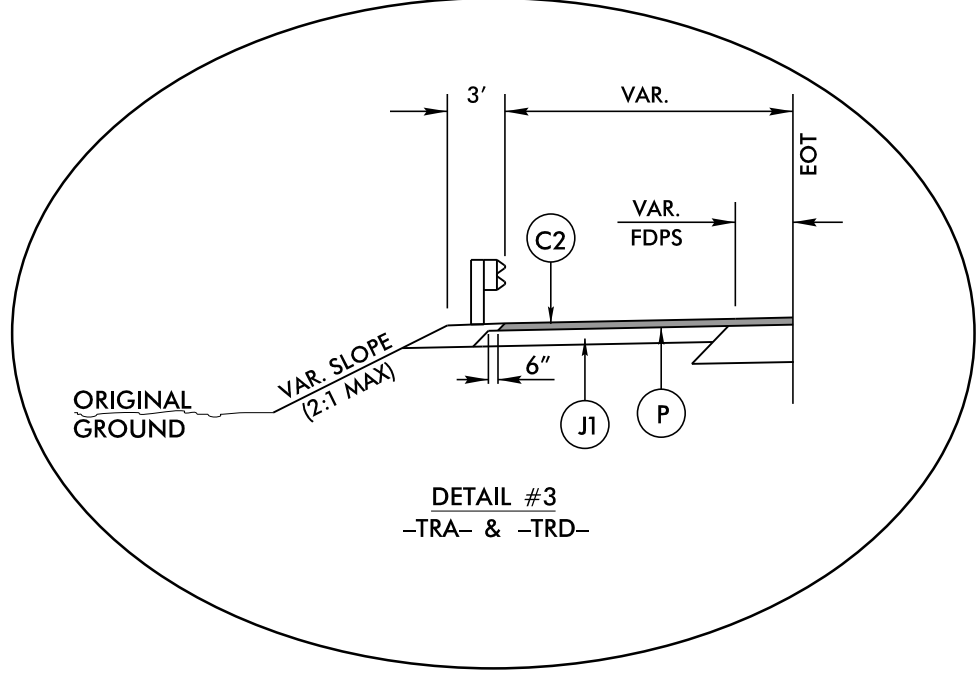
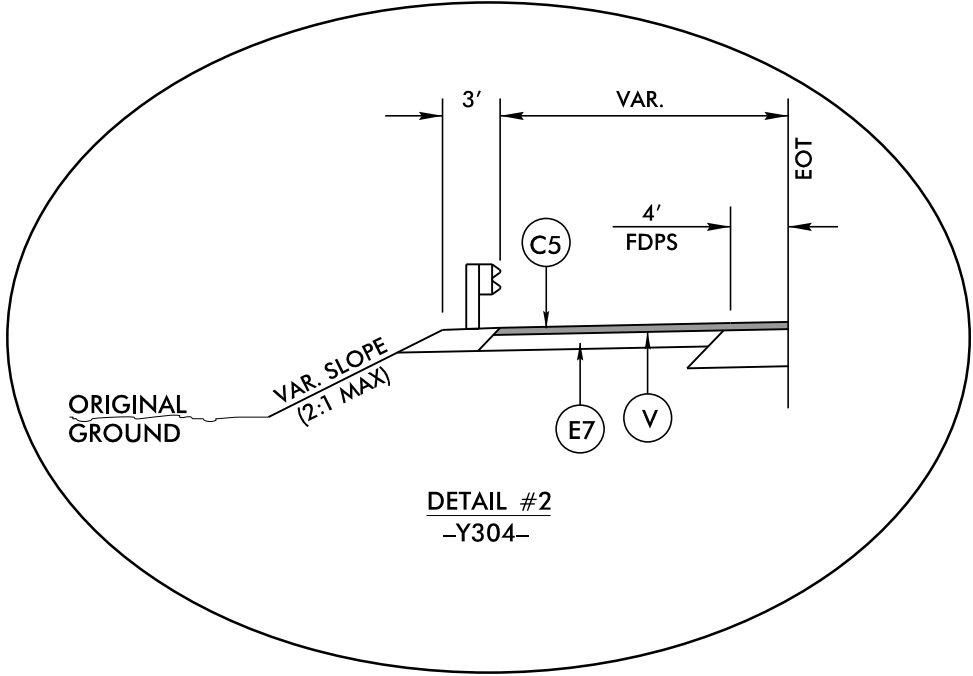
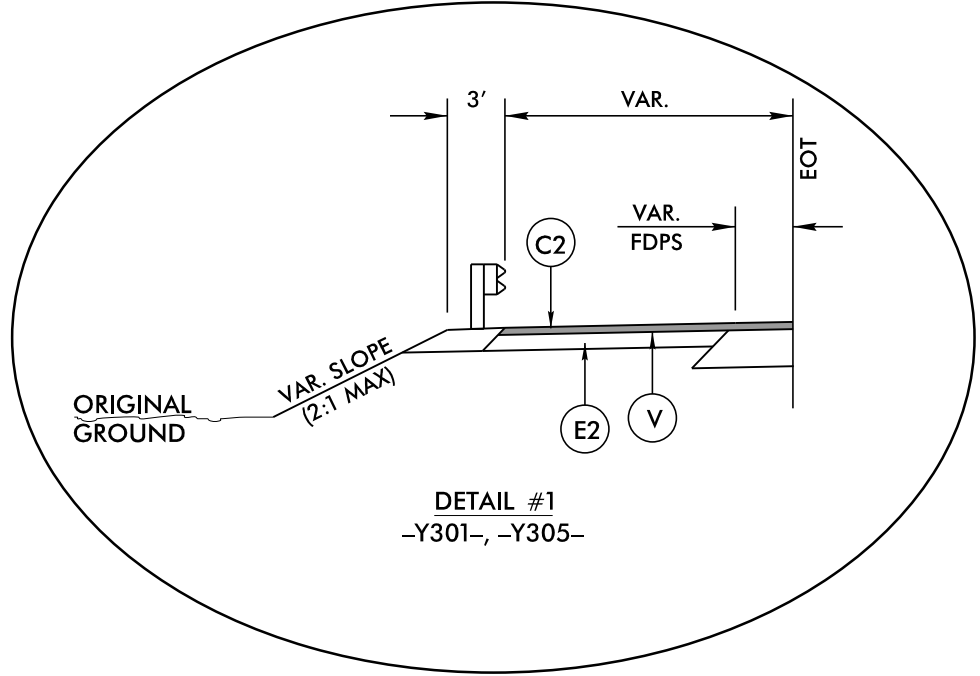


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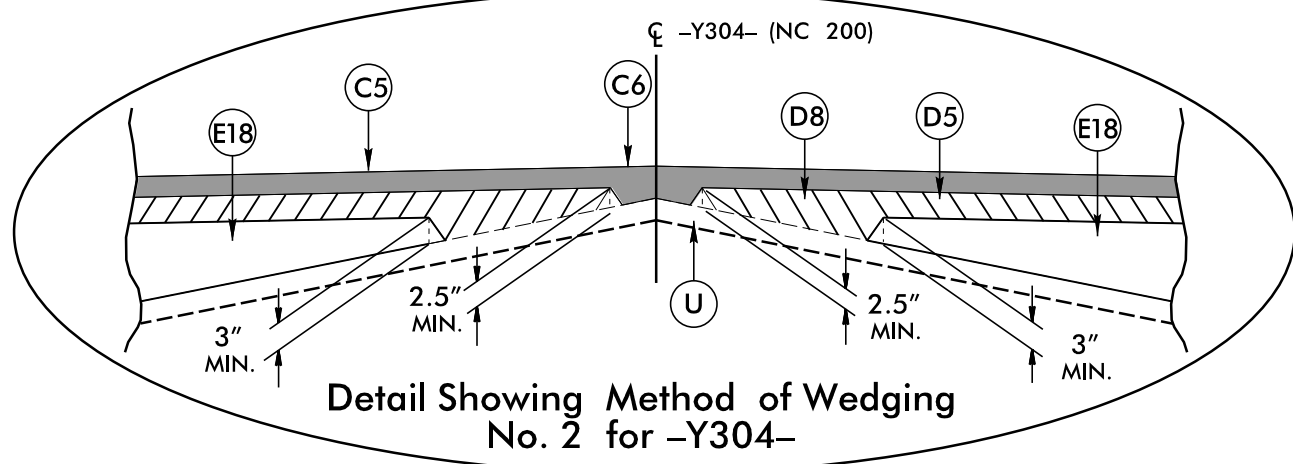
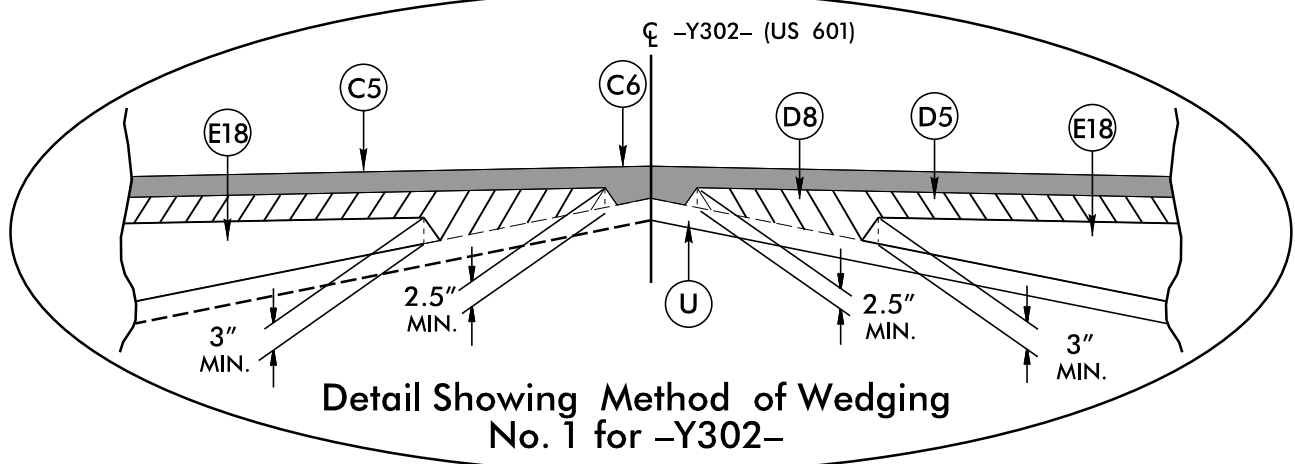
| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| C6                | VAR. DEPTH S9.5C                  |
| D1                | 2.5" I19.0B                       |
| D3                | 4" I19.0B                         |
| D5                | 4" I19.0C                         |
| D6                | 2.5" I19.0C                       |
| D7                | 3" I19.0C                         |
| D8                | VAR. DEPTH I19.0C                 |
| E2                | 4" B25.0B                         |
| E6                | 3" B25.0C                         |
| E7                | 4" B25.0C                         |
| E9                | 5.5" B25.0C                       |
| E18               | VAR. DEPTH B25.0C                 |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| J3                | 9" ABC                            |
| J4                | 10" ABC                           |
| K1                | 8" LIME BASE OR<br>7" CEMENT BASE |
| P                 | .35 PRIME COAT                    |
| R1                | 2'-6" C & G                       |
| R2                | 1'-6" C & G                       |
| R5                | 5" MCI                            |
| T                 | EARTH                             |
| U                 | EXISTING PAVEMENT                 |
| V                 | SPLIT SEAL                        |
| W                 | WEDGING                           |



**SHOULDER WIDENING DETAILS FOR Y-LINES & RAMPS**



**WEDGING DETAILS**



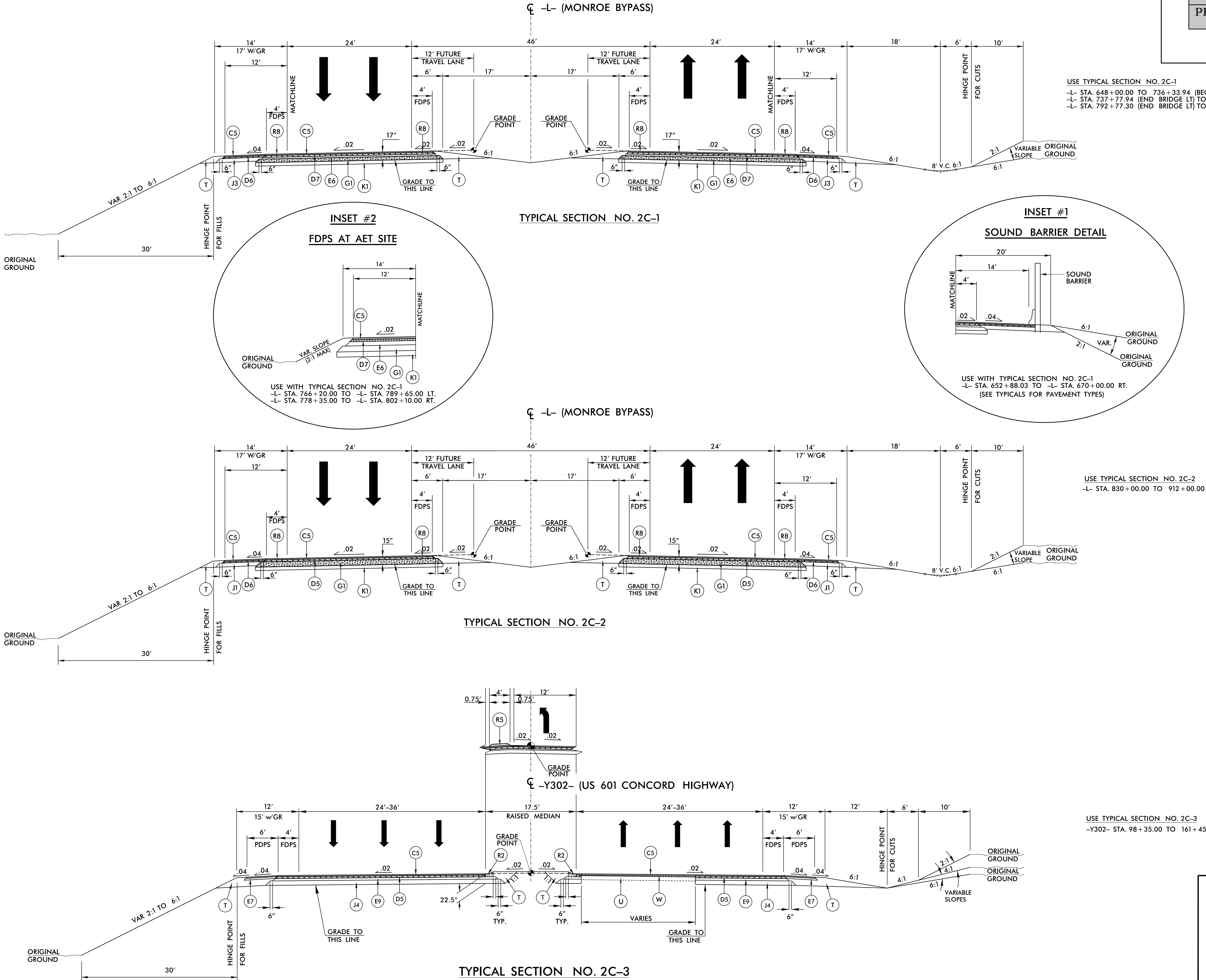
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|----------------------------------------------------------------------------------------------------------------------|---------------------------|
| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i>                                                                      | SHEET NO.<br><i>2C-2B</i> |
| ROADWAY DESIGN ENGINEER                                                                                              | PAVEMENT DESIGN ENGINEER  |
| <b>INCOMPLETE PLANS</b><br>DO NOT USE FOR R/W ACQUISITION<br><b>PRELIMINARY PLANS</b><br>DO NOT USE FOR CONSTRUCTION |                           |

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  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



6/2/99  
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R:\\Roadway\\Proj\\Plan Sheets\\Sec2c\\r-3329-r2559-rdy-tpc-2c.dgn  
E-Keys

| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D3                | 4" I19.0B                         |
| D5                | 4" I19.0C                         |
| D6                | 2.5" I19.0C                       |
| D7                | 3" I19.0C                         |
| E2                | 4" B25.0B                         |
| E6                | 3" B25.0C                         |
| E7                | 4" B25.0C                         |
| E9                | 5.5" B25.0C                       |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| J3                | 9" ABC                            |
| J4                | 10" ABC                           |
| K1                | 8" LIME BASE OR<br>7" CEMENT BASE |
| P                 | .35 PRIME COAT                    |
| R1                | 2'-6" C & G                       |
| R2                | 1'-6" C & G                       |
| R5                | 5" MCI                            |
| R8                | RUMBLE STRIPS                     |
| T                 | EARTH                             |
| U                 | EXISTING PAVEMENT                 |
| W                 | WEDGING                           |



PLANS PREPARED BY :

**RK&K**

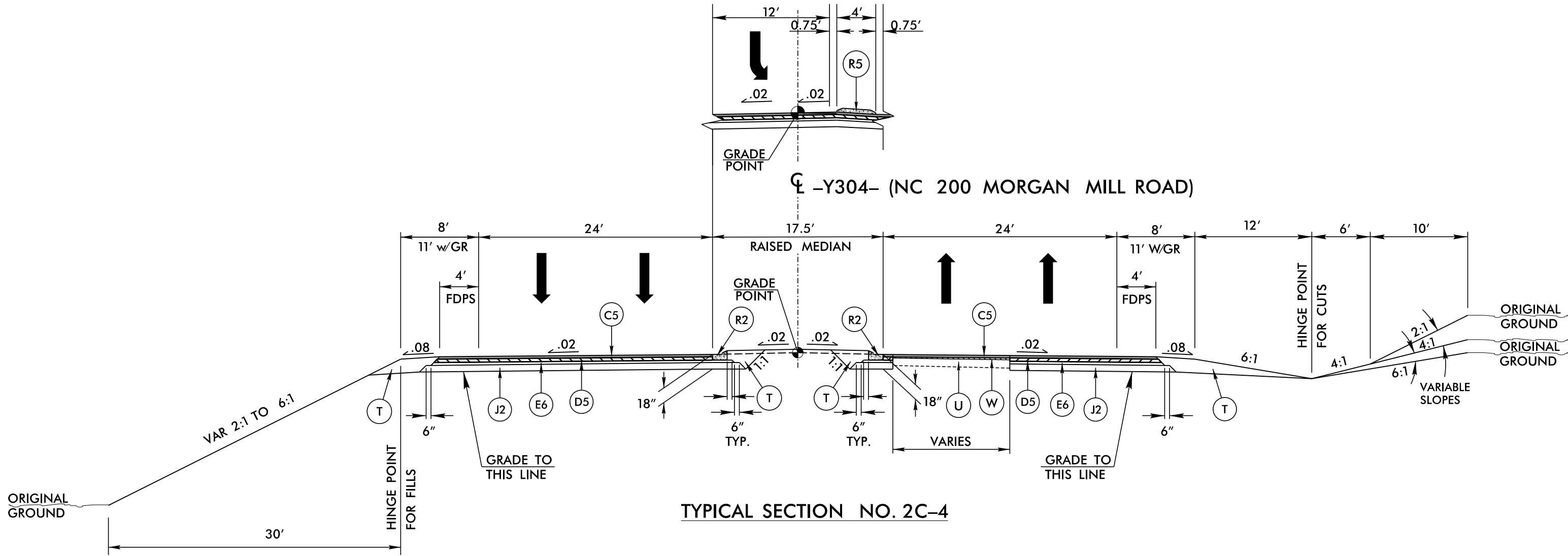
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. F-0112 • (919) 878-9560

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THE NORTH CAROLINA  
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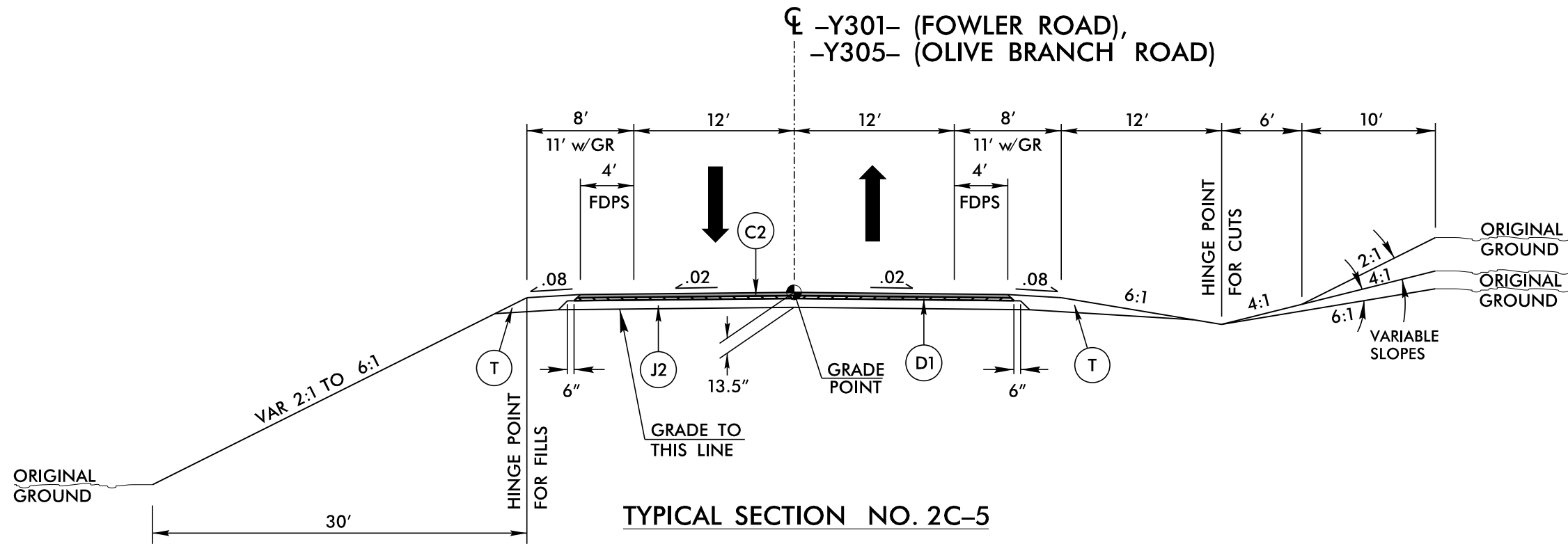
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F-keys

| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D3                | 4" I19.0B                         |
| D5                | 4" I19.0C                         |
| D6                | 2.5" I19.0C                       |
| D7                | 3" I19.0C                         |
| E2                | 4" B25.0B                         |
| E6                | 3" B25.0C                         |
| E7                | 4" B25.0C                         |
| E9                | 5.5" B25.0C                       |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| J3                | 9" ABC                            |
| J4                | 10" ABC                           |
| K1                | 8" LIME BASE OR<br>7" CEMENT BASE |
| P                 | .35 PRIME COAT                    |
| R1                | 2'-6" C & G                       |
| R2                | 1'-6" C & G                       |
| R5                | 5" MCI                            |
| T                 | EARTH                             |
| U                 | EXISTING PAVEMENT                 |
| W                 | WEDGING                           |



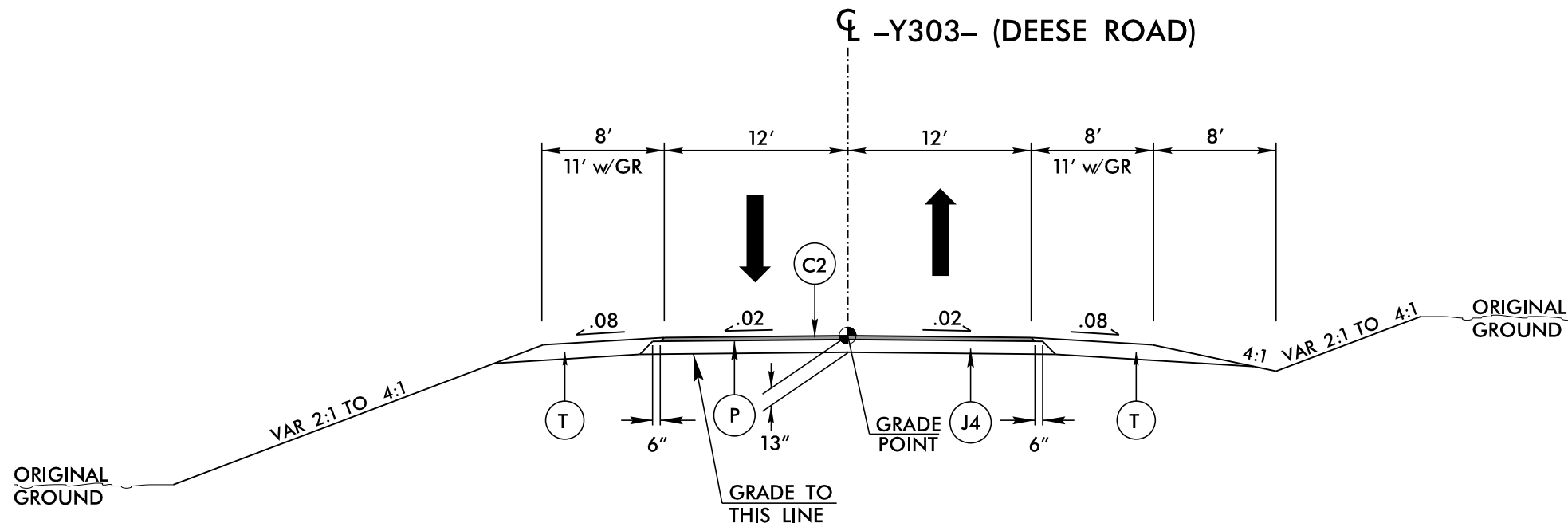
TYPICAL SECTION NO. 2C-4

USE TYPICAL SECTION NO. 2C-4  
-Y304- STA. 13+19.93 TO 35+35.23 (BEGIN BRIDGE)  
-Y304- STA. 36+83.23 (END BRIDGE) TO 58+00.00



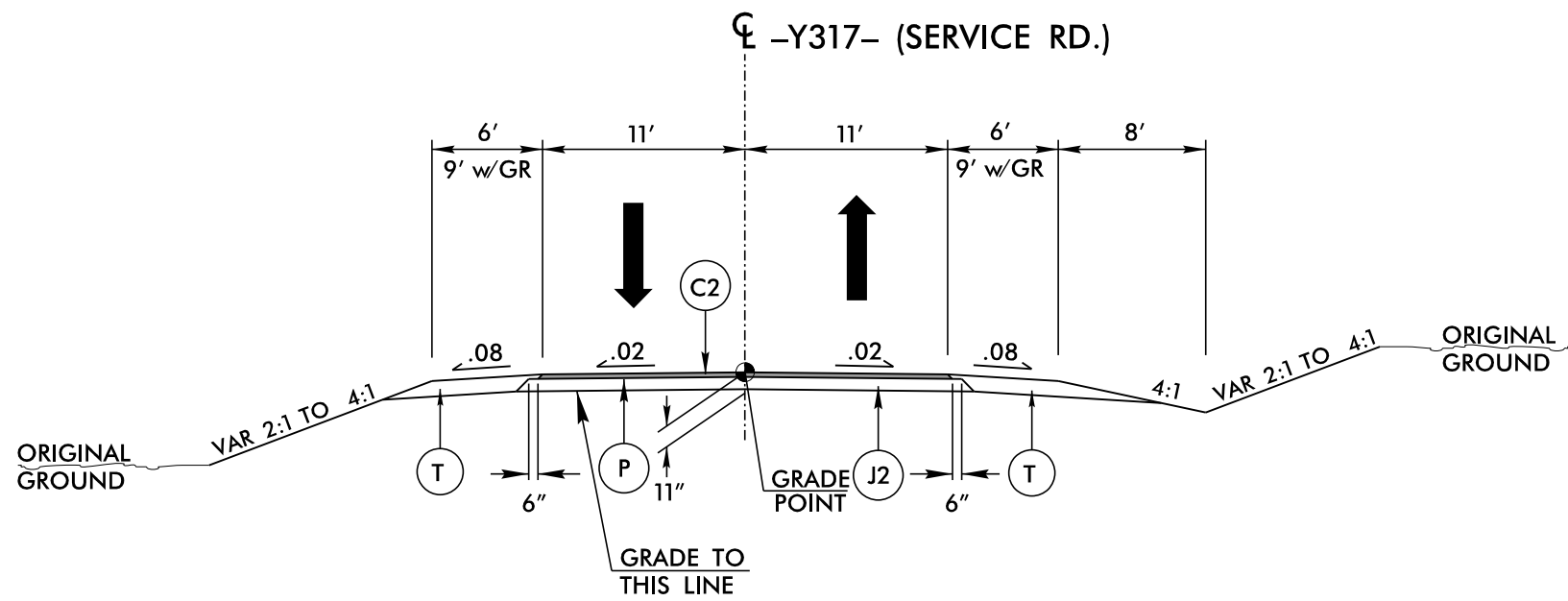
TYPICAL SECTION NO. 2C-5

USE TYPICAL SECTION NO. 2C-5  
-Y301- STA. 807+00.00 TO 818+84.69 (BEGIN BRIDGE)  
-Y301- STA. 820+88.69 (END BRIDGE) TO 829+50.00  
-Y305- STA. 23+50.00 TO 34+21.00 (BEGIN BRIDGE)  
-Y305- STA. 35+79.00 (END BRIDGE) TO 43+50.00



TYPICAL SECTION NO. 2C-6

USE TYPICAL SECTION NO. 2C-6  
-Y303- STA. 705+50.00 TO 715+03.07 (BEGIN BRIDGE)  
-Y303- STA. 716+59.93 (END BRIDGE) TO 727+20.00



TYPICAL SECTION NO. 2C-7

USE TYPICAL SECTION NO. 2C-7  
-Y317- STA. 10+12.00 TO 66+75.82

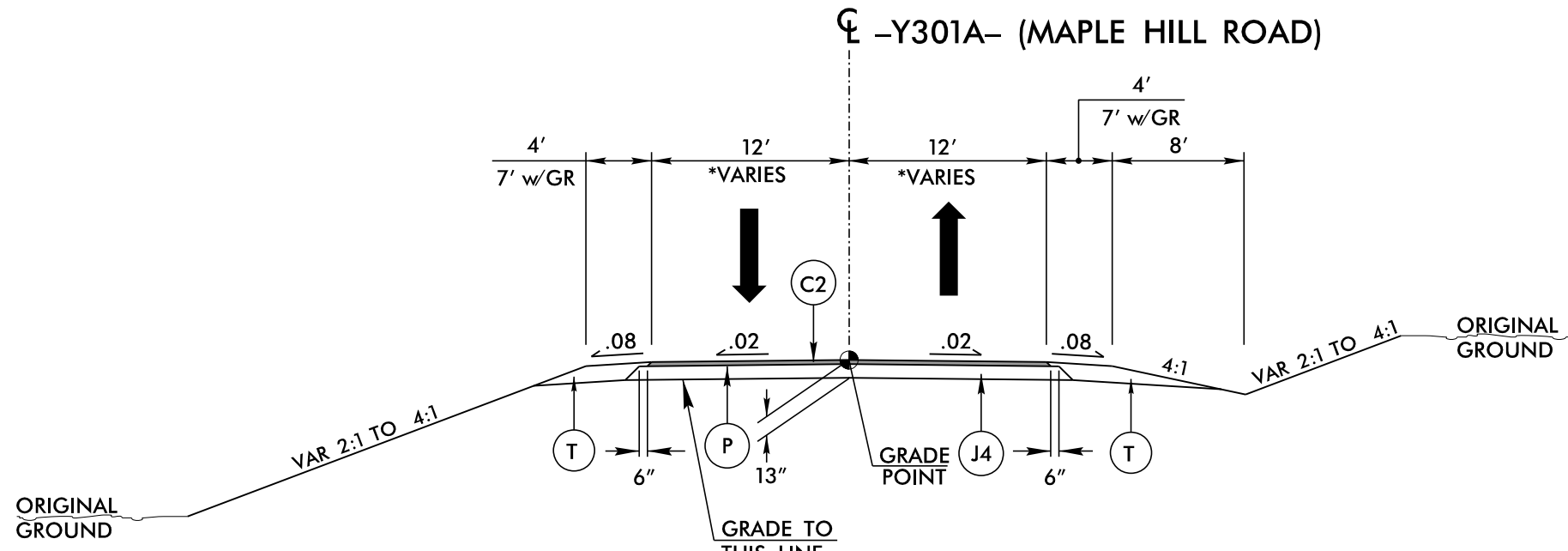
| PROJECT REFERENCE NO.                                     | SHEET NO.                |
|-----------------------------------------------------------|--------------------------|
| R-3329 / R-2559                                           | 2C-2D                    |
| ROADWAY DESIGN ENGINEER                                   | PAVEMENT DESIGN ENGINEER |
| <b>INCOMPLETE PLANS</b><br>DO NOT USE FOR R/W ACQUISITION |                          |
| <b>PRELIMINARY PLANS</b><br>DO NOT USE FOR CONSTRUCTION   |                          |

PLANS PREPARED BY :  
**RK&K**  
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\$\$\$\$\$TWE\$\$\$\$\$  
R:\Roadway\Proj\Plan Sheets\Sec2c\2c-3329-2559-rdy-tp-2C-2E.DGN  
E-keys

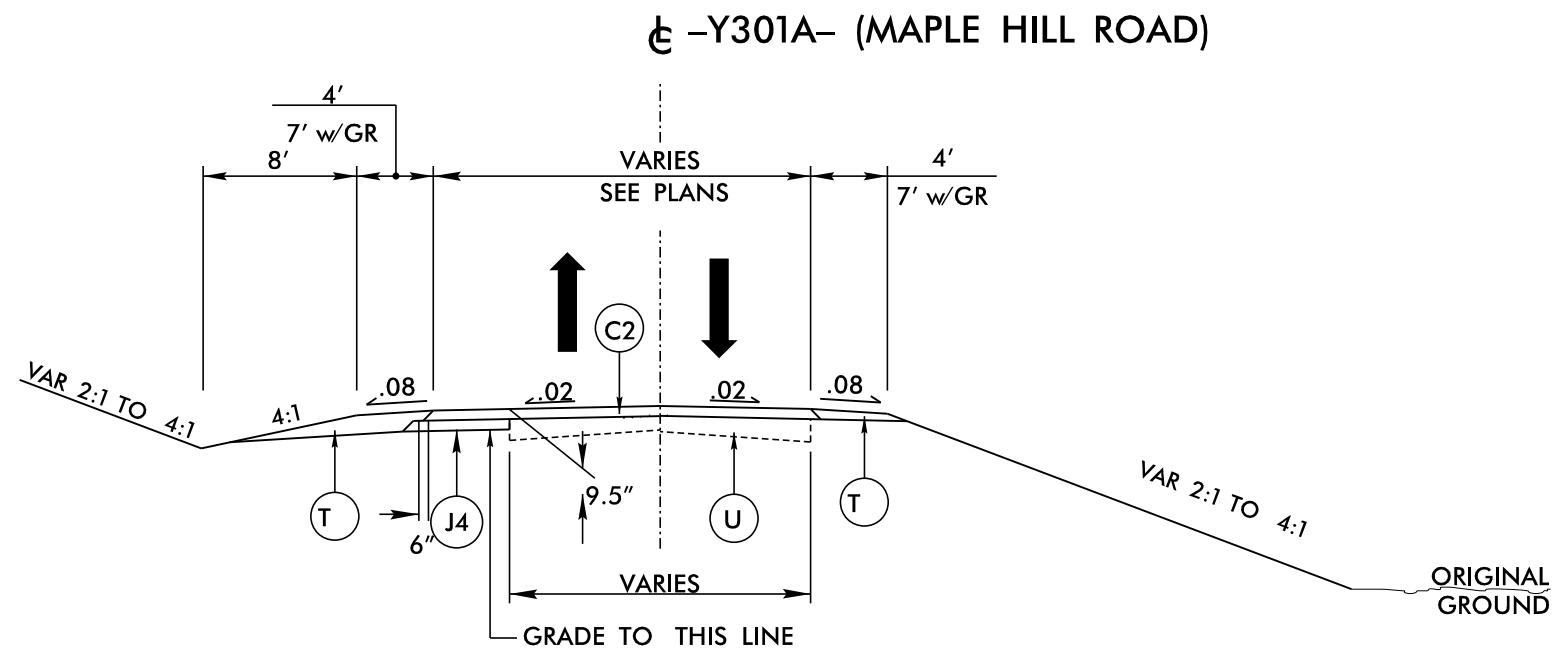
| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D3                | 4" I19.0B                         |
| D5                | 4" I19.0C                         |
| D6                | 2.5" I19.0C                       |
| D7                | 3" I19.0C                         |
| E2                | 4" B25.0B                         |
| E6                | 3" B25.0C                         |
| E7                | 4" B25.0C                         |
| E9                | 5.5" B25.0C                       |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| J3                | 9" ABC                            |
| J4                | 10" ABC                           |
| K1                | 8" LIME BASE OR<br>7" CEMENT BASE |
| P                 | .35 PRIME COAT                    |
| R1                | 2'-6" C & G                       |
| R2                | 1'-6" C & G                       |
| R5                | 5" MCI                            |
| T                 | EARTH                             |
| U                 | EXISTING PAVEMENT                 |
| W                 | WEDGING                           |



TYPICAL SECTION NO. 2C-8

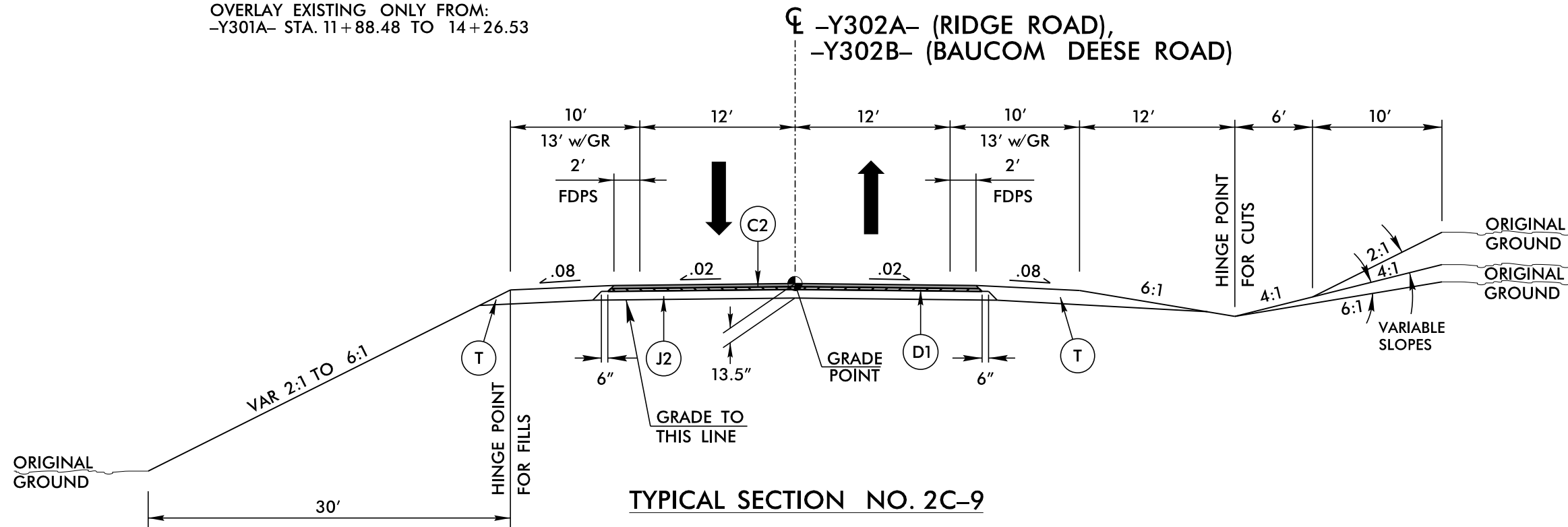
USE TYPICAL SECTION NO. 2C-8  
-Y301A- STA. 10+00.00 TO 11+88.48  
-Y301A- STA. 19+46.89 TO 20+32.66

OVERLAY EXISTING ONLY FROM:  
-Y301A- STA. 11+88.48 TO 14+26.53



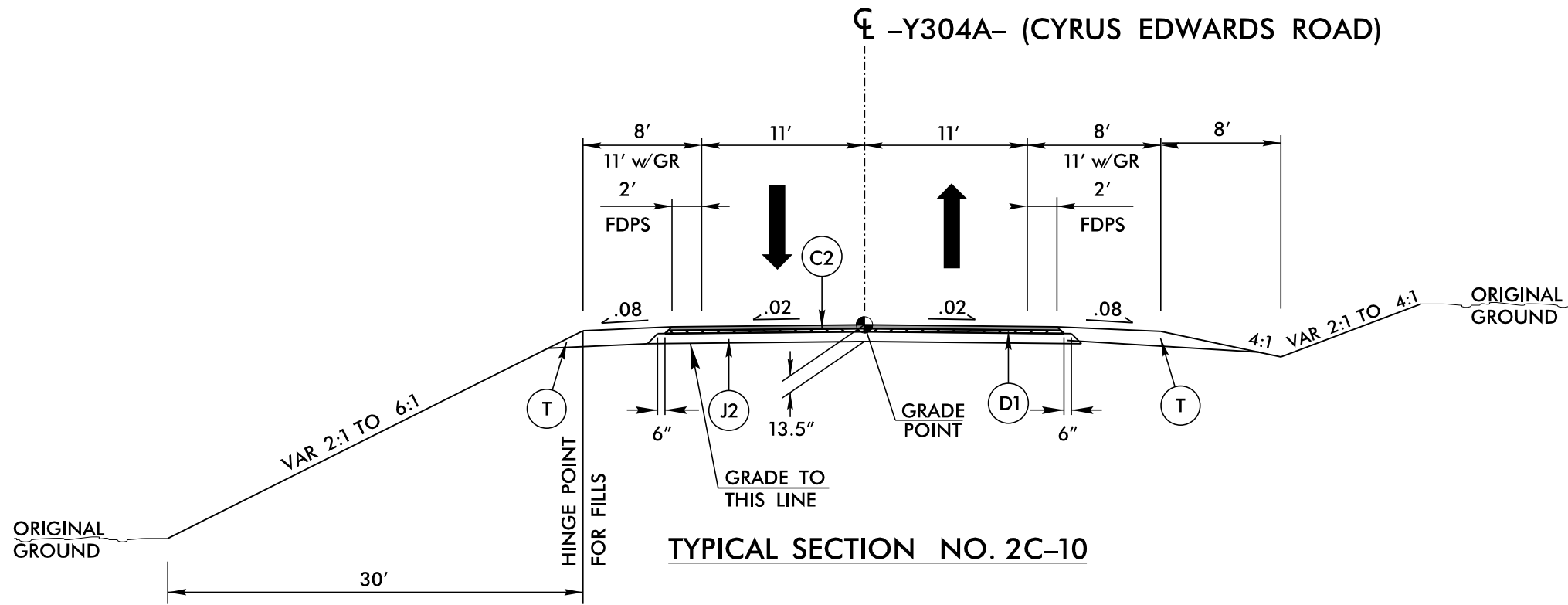
TYPICAL SECTION NO. 2C-8A

USE TYPICAL SECTION NO. 2C-8A  
-Y301A- STA. 19+46.32 TO 20+32.66



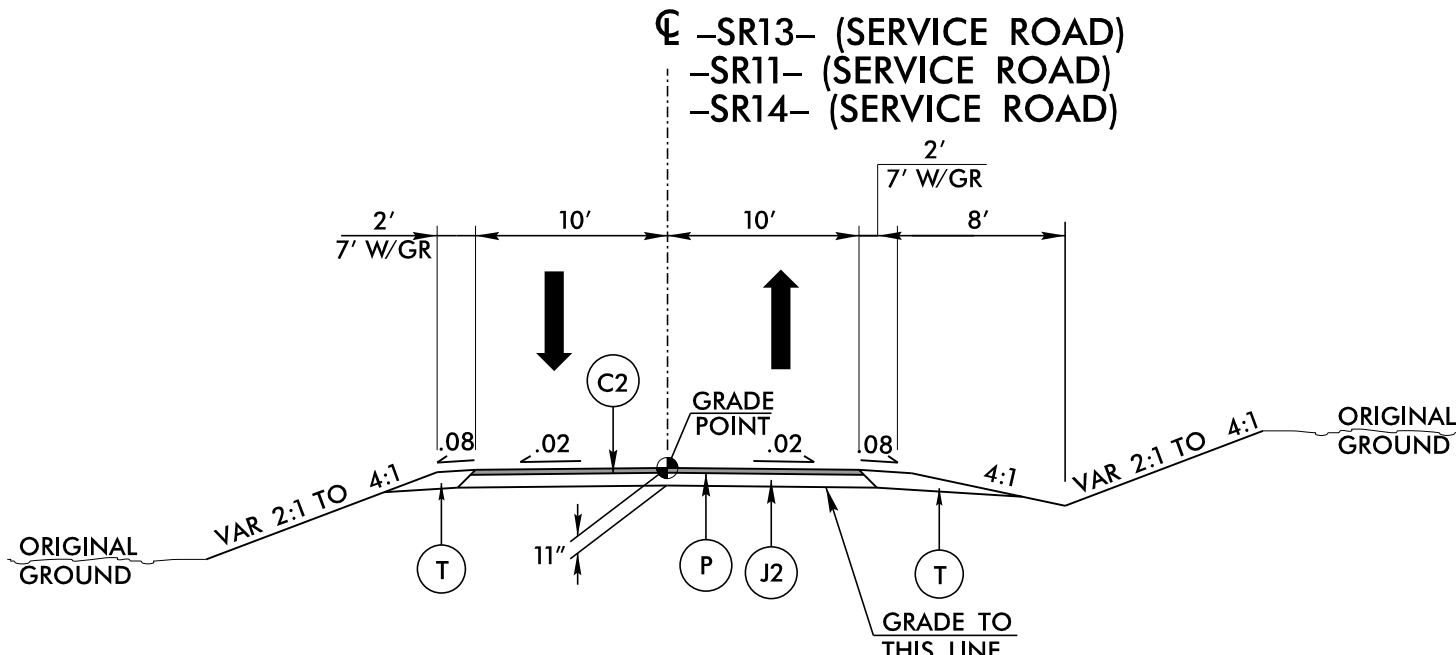
TYPICAL SECTION NO. 2C-9

USE TYPICAL SECTION NO. 2C-9  
-Y302A- STA. 11+58.74 TO 13+98.28  
-Y302B- STA. 12+78.32 TO 14+95.82



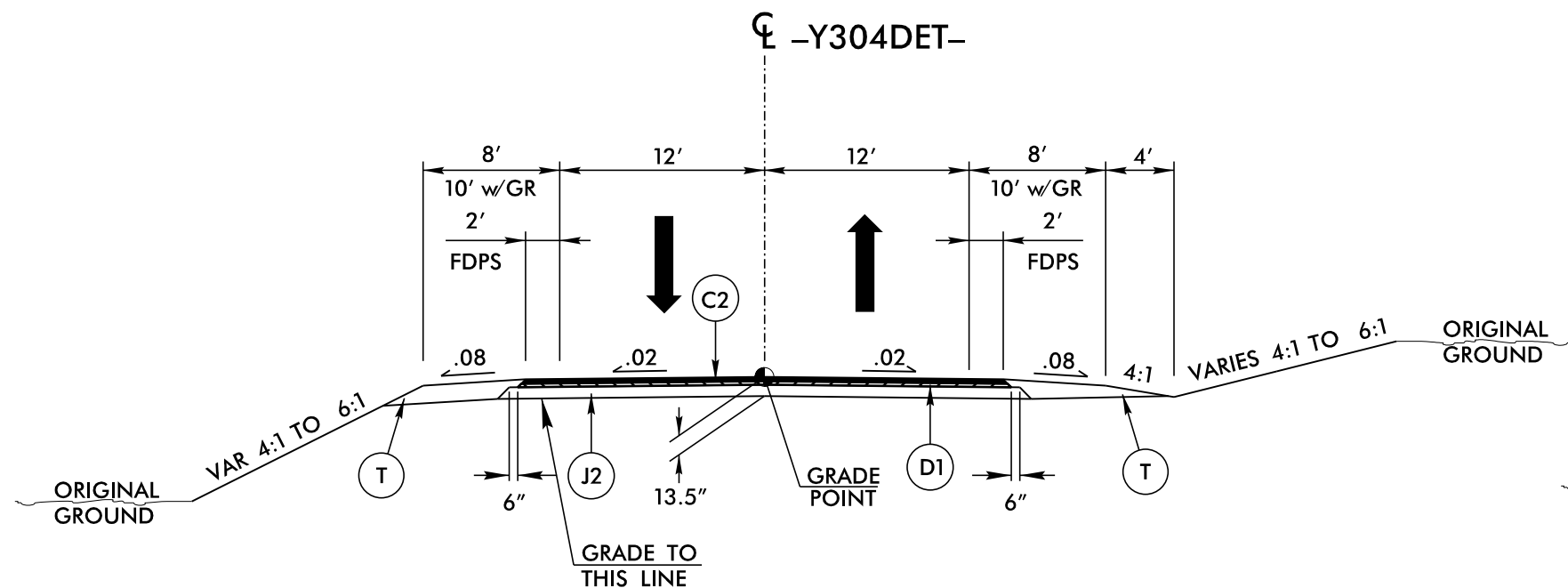
TYPICAL SECTION NO. 2C-10

USE TYPICAL SECTION NO. 2C-10  
-Y304A- STA. 10+00.00 TO 15+09.37



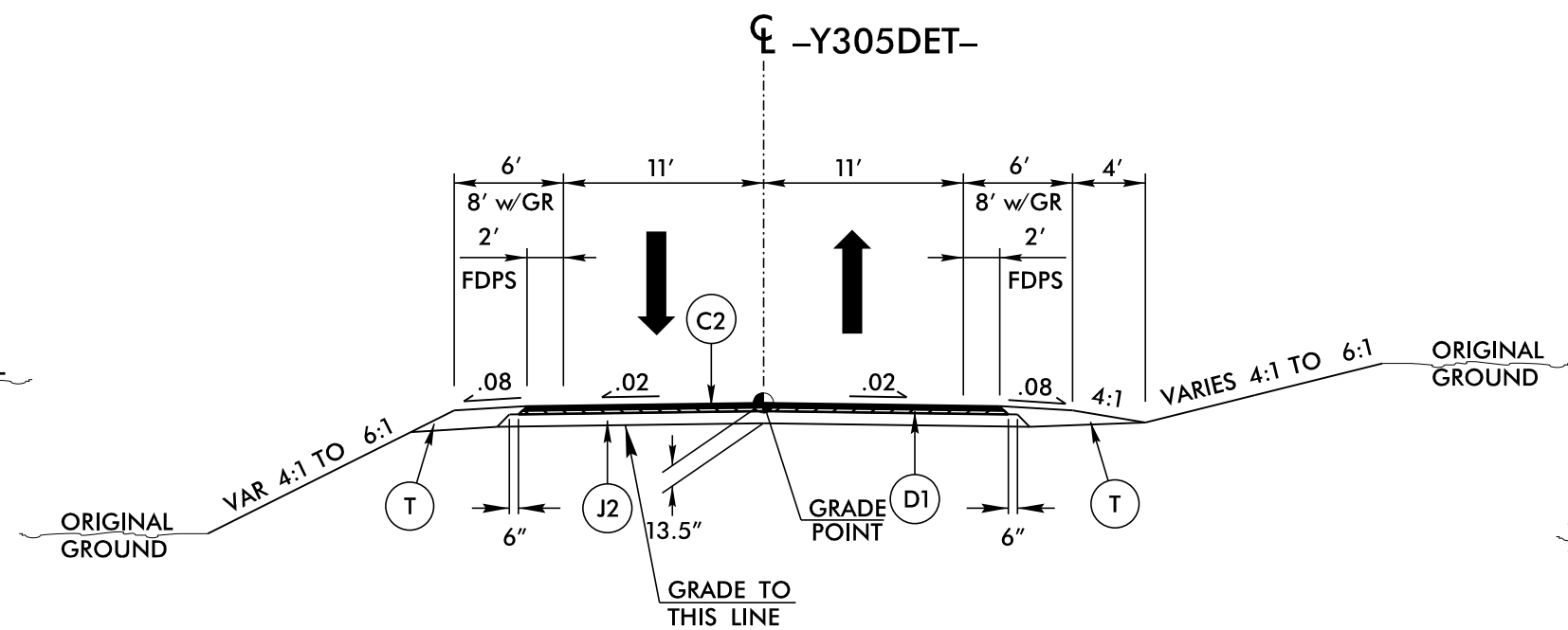
TYPICAL SECTION NO. 2C-11

USE TYPICAL SECTION NO. 2C-11  
-SR13- STA. 10+00.00 TO 15+31.14  
-SR11- STA. 10+00.00 TO 13+51.46  
-SR14- STA. 10+00.00 TO 13+25.57



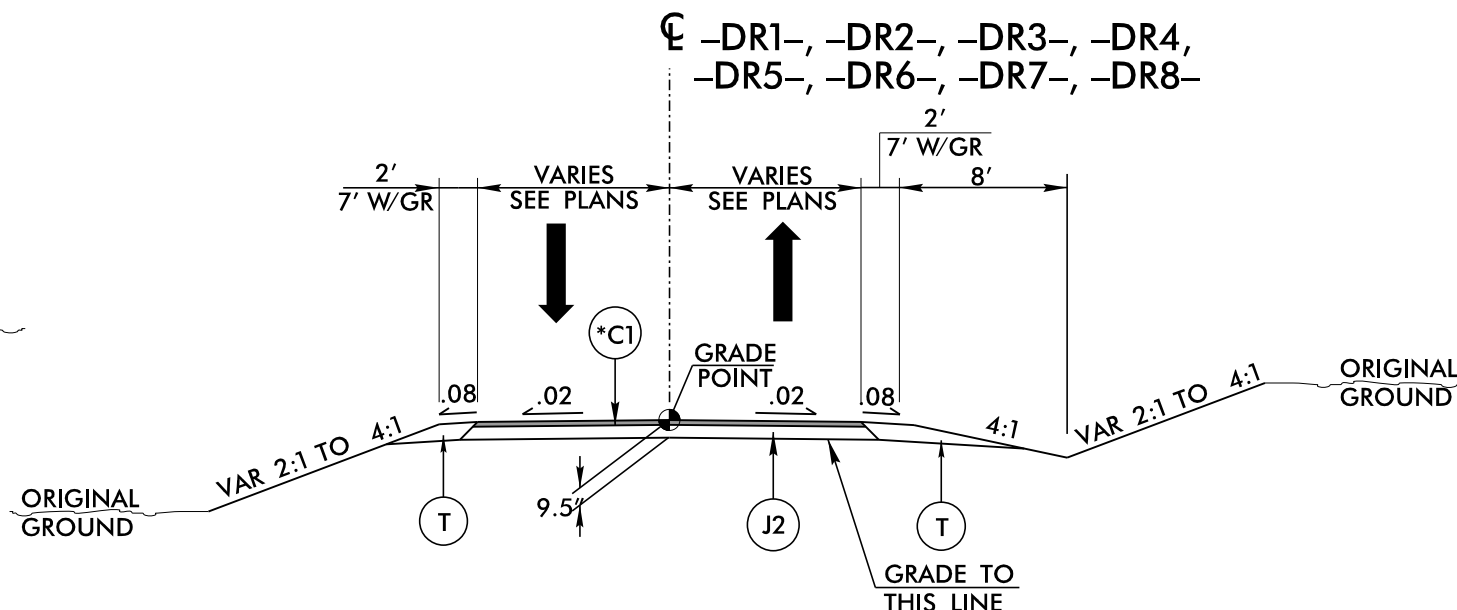
TYPICAL SECTION NO. 2C-12

USE TYPICAL SECTION NO. 2C-12  
-Y304DET- STA. 10+00.00 TO 41+34.18



TYPICAL SECTION NO. 2C-13

USE TYPICAL SECTION NO. 2C-13  
-Y304DET- STA. 10+00.00 TO 32+51.21



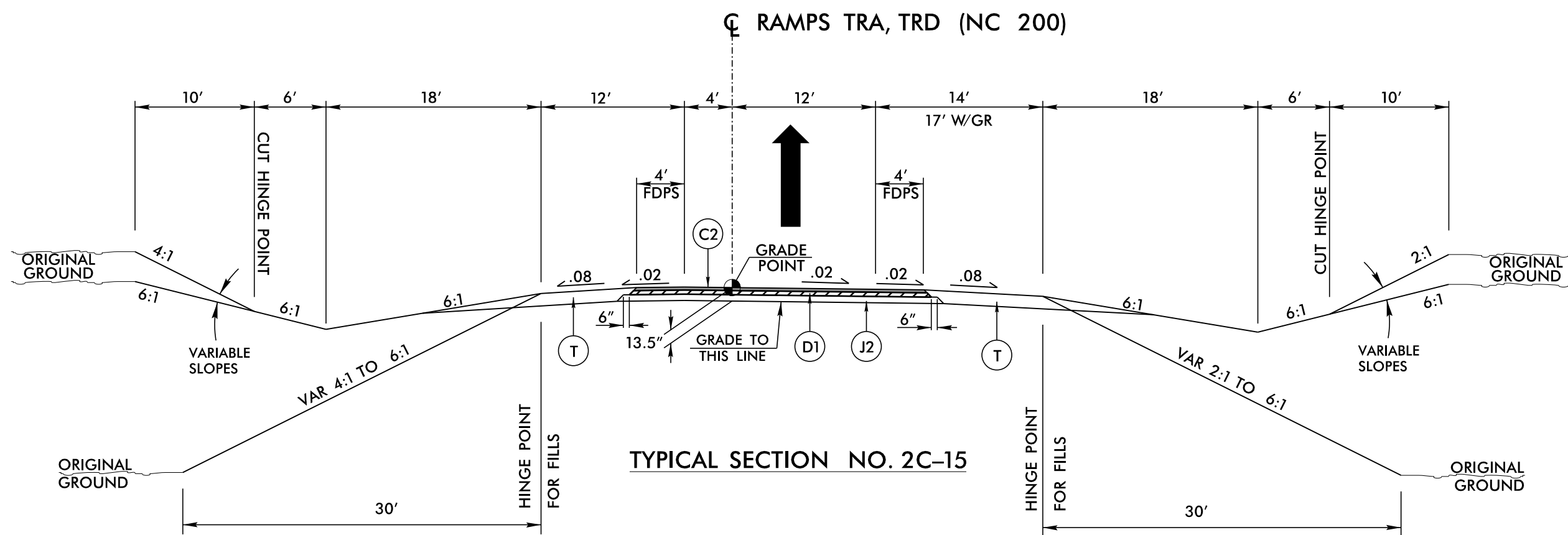
TYPICAL SECTION NO. 2C-14

USE TYPICAL SECTION NO. 2C-14  
\* -DR1- STA. 10+05.00 TO 12+91.68  
\* -DR2- STA. 10+11.00 TO 11+90.40  
\* -DR3- STA. 10+20.00 TO 12+04.23  
\* -DR4- STA. 10+12.00 TO 13+36.63  
\* -DR5- STA. 10+12.00 TO 12+10.00  
\* -DR6- STA. 10+12.00 TO 12+80.00  
\* -DR7- STA. 10+12.00 TO 11+30.00  
\* -DR8- STA. 10+12.00 TO 11+40.00

PLANS PREPARED BY :  
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TURNPIKE AUTHORITY



| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D3                | 4" I19.0B                         |
| D5                | 4" I19.0C                         |
| D6                | 2.5" I19.0C                       |
| D7                | 3" I19.0C                         |
| E2                | 4" B25.0B                         |
| E6                | 3" B25.0C                         |
| E7                | 4" B25.0C                         |
| E9                | 5.5" B25.0C                       |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| J3                | 9" ABC                            |
| J4                | 10" ABC                           |
| K1                | 8" LIME BASE OR<br>7" CEMENT BASE |
| P                 | .35 PRIME COAT                    |
| R1                | 2'-6" C & G                       |
| R2                | 1'-6" C & G                       |
| R5                | 5" MCI                            |
| T                 | EARTH                             |
| U                 | EXISTING PAVEMENT                 |
| W                 | WEDGING                           |

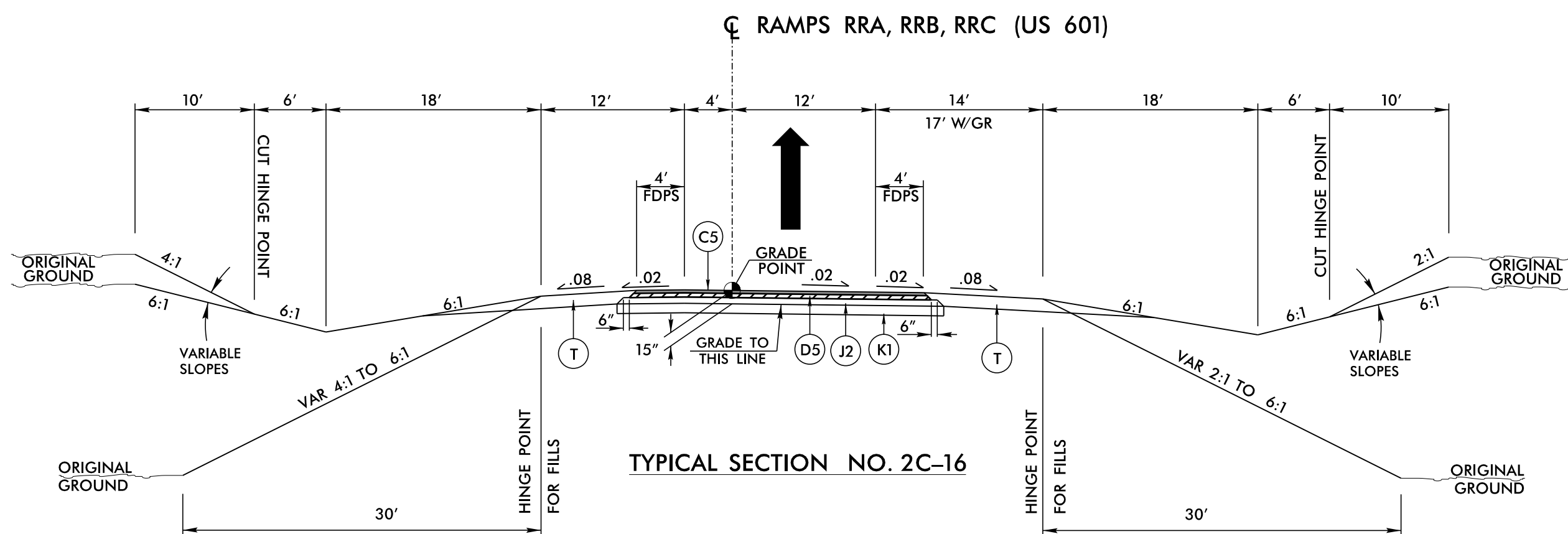


USE TYPICAL SECTION NO. 2C-15

|       |     |          |    |          |
|-------|-----|----------|----|----------|
| -TRA- | STA | 10+00.00 | TO | 31+37.15 |
| -TRD- | STA | 10+00.00 | TO | 27+85.21 |

NOTE: USE -L- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:

|       |     |          |    |          |
|-------|-----|----------|----|----------|
| -TRA- | STA | 10+00.00 | TO | 14+84.34 |
| -TRD- | STA | 10+00.00 | TO | 13+90.07 |



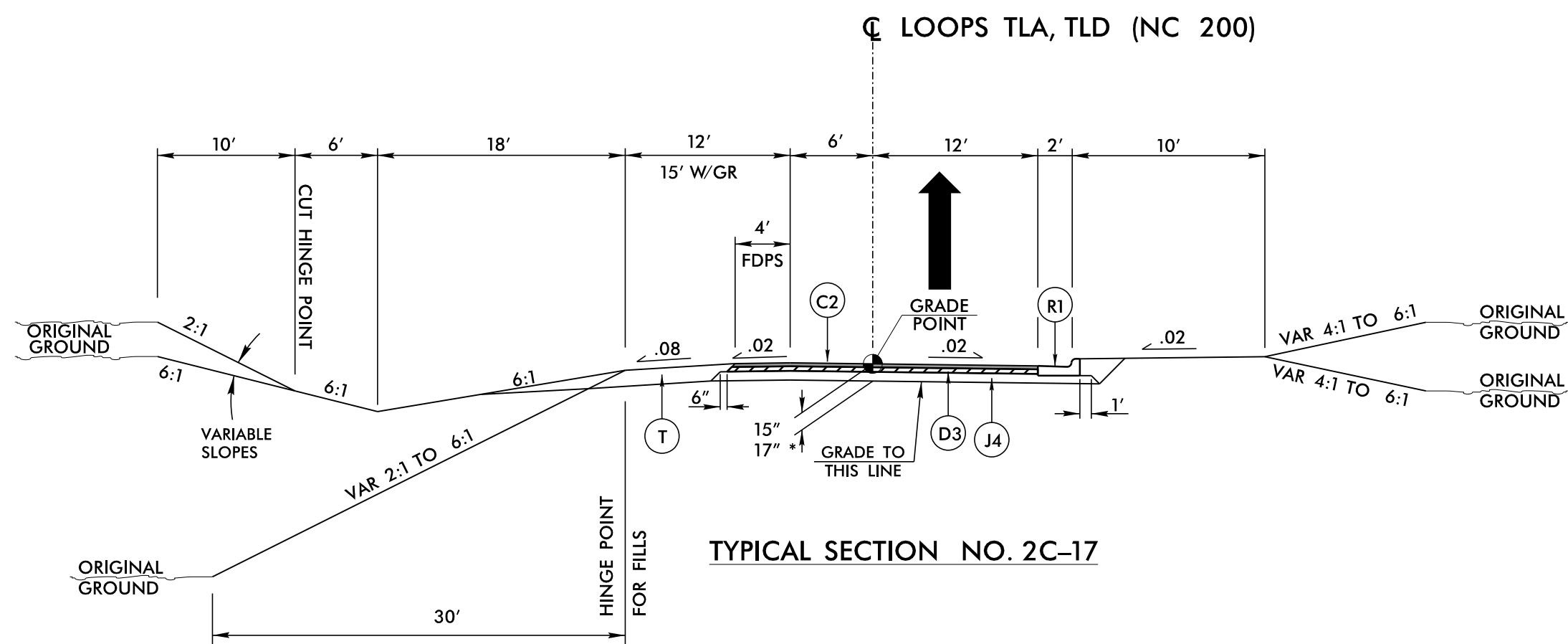
USE TYPICAL SECTION NO. 2C-16

--RA-- STA 10+00.00 TO 31+92.23  
--RB-- STA 10+00.00 TO 31+14.20  
--RC-- STA 10+00.00 TO 32+32.67

NOTE: USE --L-- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:

--RA-- STA 10+00.00 TO 14+71.18  
--RB-- STA 10+00.00 TO 15+35.23  
--RC-- STA 10+00.00 TO 14+91.19

NOTE: USE -Y302- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:  
-RRB- STA 29+59.77 TO 31+14.20

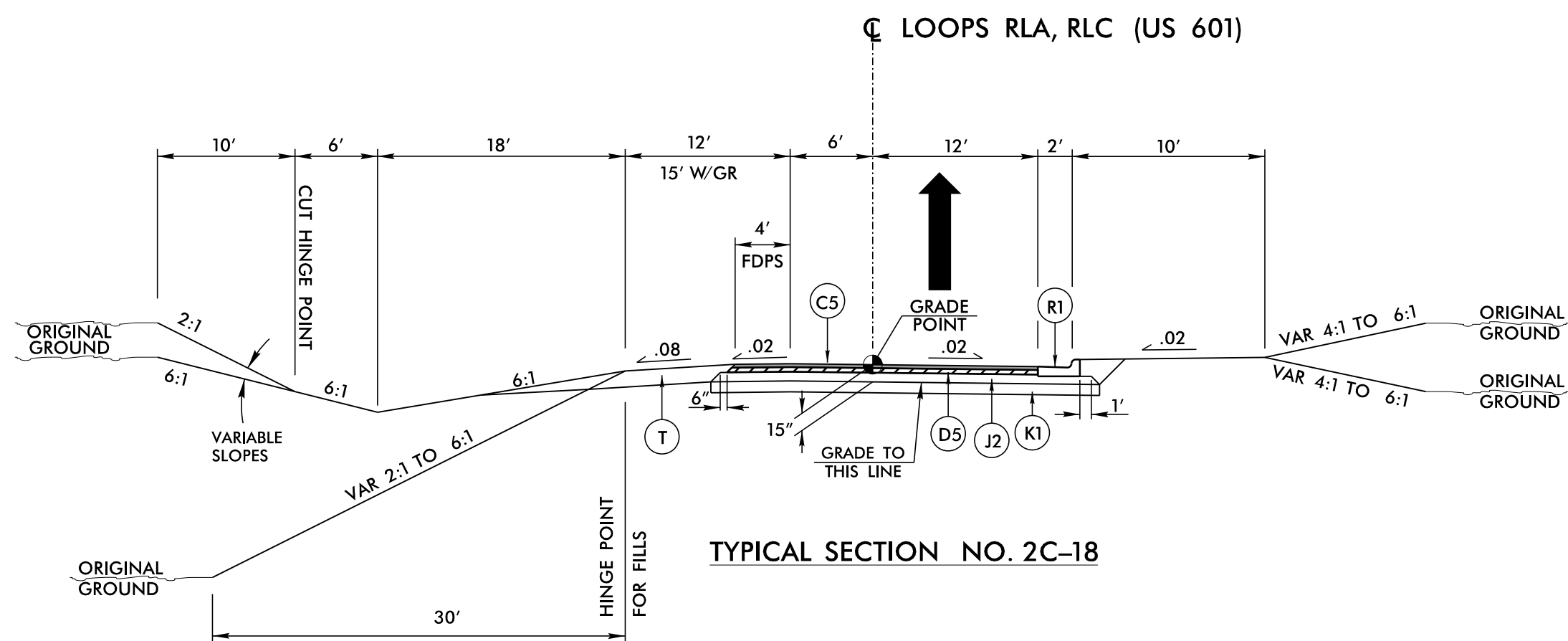


USE TYPICAL SECTION NO. 2C-17

|       |               |             |
|-------|---------------|-------------|
| -TLA- | STA 10+00.00  | TO 22+07.31 |
| -TLD- | STA. 10+00.00 | TO 20+92.30 |

NOTE: USE -L- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:

|       |               |             |
|-------|---------------|-------------|
| -TLA- | STA 10+00.00  | TO 12+49.77 |
| -TLD- | STA. 10+00.00 | TO 12+46.73 |



USE TYPICAL SECTION NO. 2C-18  
 -RLA- STA 10+00.00 TO 23+31.25  
 -RLC- STA 10+00.00 TO 23+40.84

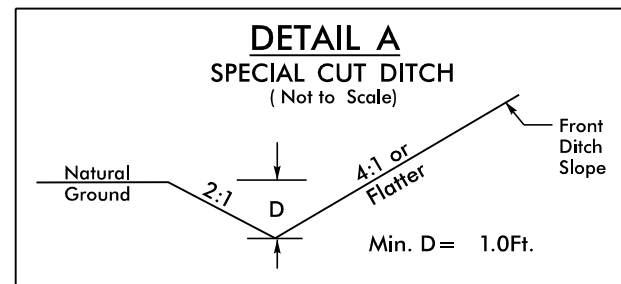
NOTE: USE -L- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:  
 -RLA- STA 10+00.00 TO 12+16.57  
 -RLC- STA 10+00.00 TO 12+16.57

NOTE: USE -Y302- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:  
 -RLA- STA 21+20.74 TO 23+31.25

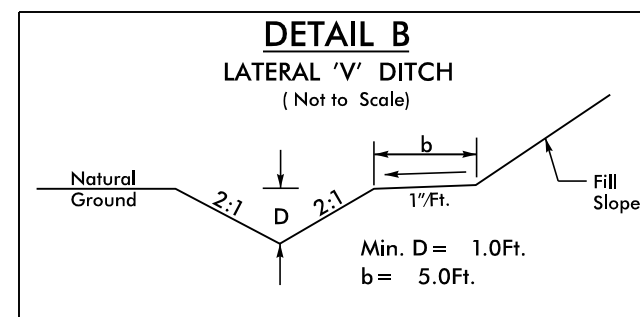
**PLANS PREPARED BY :**  
**RK&K**  
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900 RIDGEFIELD DRIVE SUITE 350  
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**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



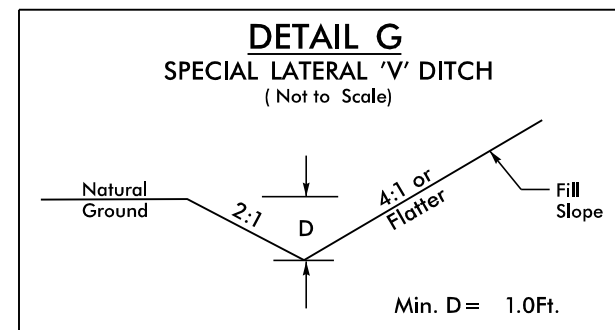
|                                                                                                                                                                                                                                                                                       |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                                                                                                                                                                                                                                                                 | SHEET NO.           |
| R-3329 / R-2559                                                                                                                                                                                                                                                                       | 2C-26               |
| RW SHEET NO.                                                                                                                                                                                                                                                                          | HYDRAULICS ENGINEER |
| ROADWAY DESIGN ENGINEER                                                                                                                                                                                                                                                               |                     |
| <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>INCOMPLETE PLANS</b><br/> DO NOT USE FOR R/W ACQUISITION </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>PRELIMINARY PLANS</b><br/> DO NOT USE FOR CONSTRUCTION </div> |                     |



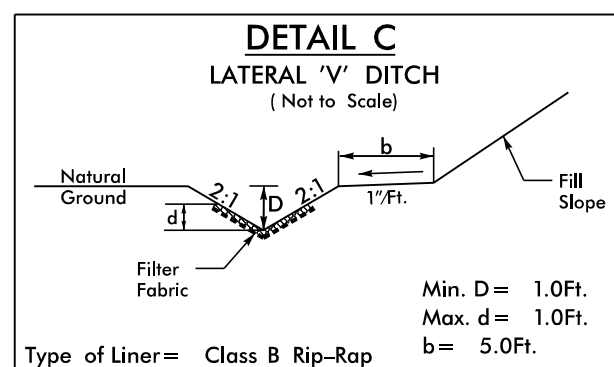
-L2C- STA. 673+50 TO STA. 678+00 LT  
-L2C- STA. 681+00 TO STA. 684+50 RT  
-L2C- STA. 707+00 TO STA. 708+50 RT  
-L2C- STA. 707+00 TO STA. 709+00 LT  
-L2C- STA. 715+50 TO STA. 721+50 RT  
-L2C- STA. 795+50 TO STA. 796+00 LT  
-L2C- STA. 818+26 TO STA. 819+50 LT  
-L2C- STA. 821+50 TO STA. 829+50 RT  
-L2C- STA. 822+00 TO STA. 829+00 LT  
-L2C- STA. 835+00 TO STA. 838+50 RT  
-L2C- STA. 872+00 TO STA. 874+50 LT  
-L2C- STA. 895+00 TO STA. 897+25 LT  
-TRA- STA. 24+00 TO STA. 27+50 RT  
-RRB- STA. 26+00 TO STA. 28+80 RT  
-RRC- STA. 18+13.62 TO STA. 20+00 LT  
-TRA- STA. 20+00 TO STA. 21+00 LT  
-Y301- STA. 806+40 TO STA. 807+00 RT  
-Y301- STA. 829+50 TO STA. 830+15 LT  
-Y302- STA. 141+13 TO STA. 142+00 RT  
-Y302- STA. 141+75 TO STA. 142+50 LT  
-Y302- STA. 161+00 TO STA. 161+45 LT & RT  
-Y302A- STA. 11+60 TO STA. 12+75 RT  
-Y302A- STA. 11+60 TO STA. 14+00 RT  
-Y302B- STA. 11+00 TO STA. 14+00 RT  
-Y302B- STA. 12+00 TO STA. 14+20 LT  
-Y302C- STA. 10+85 TO STA. 11+70 RT  
-Y303- STA. 706+50 TO STA. 707+50 LT  
-Y303- STA. 727+20 TO STA. 728+65 RT  
-Y304- STA. 13+19.93 TO STA. 15+20 LT  
-Y304- STA. 19+00 TO STA. 19+50 RT  
-Y305- STA. 42+50 TO STA. 43+60 RT  
-SR13- STA. 13+00 TO STA. 15+00 RT



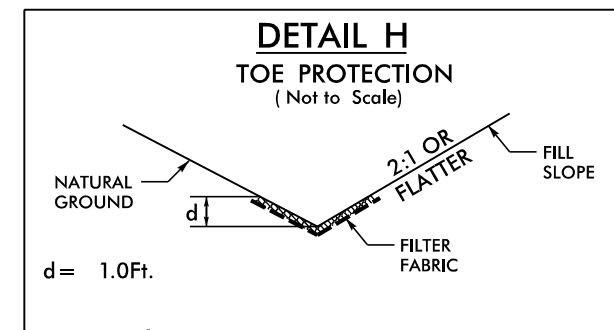
-L2C- STA. 820+50 TO STA. 821+50 LT  
-L2C- STA. 877+60 TO STA. 879+00 LT  
-L2C- STA. 900+00 TO STA. 901+00 LT  
-TRA- STA. 25+00 TO STA. 27+50 RT  
-Y301- STA. 811+46 TO STA. 814+50 RT  
-Y302- STA. 103+77.79 TO STA. 104+74.17 RT  
-Y302- STA. 118+50 TO STA. 119+50 RT  
-Y303- STA. 713+50 TO STA. 714+90 RT



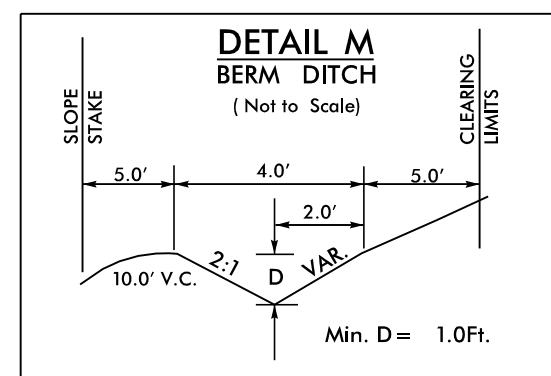
-L2C- STA. 838+50 TO STA. 839+77 RT  
-Y302- STA. 98+50 TO STA. 110+10 LT  
-Y302- STA. 108+50 TO STA. 110+80 RT  
-Y302- STA. 150+50 TO STA. 151+84 RT  
-Y304- STA. 13+19.93 TO STA. 15+20 RT  
-Y304- STA. 19+00 TO STA. 20+00 LT  
-Y304- STA. 21+35 TO STA. 23+00 LT  
-Y304- STA. 21+50 TO STA. 24+00 RT  
-Y304- STA. 42+40 TO STA. 43+80 LT  
-Y304- STA. 51+00 TO STA. 52+64 LT  
-Y304- STA. 51+00 TO STA. 52+82 RT  
-Y304- STA. 56+00 TO STA. 57+50 RT



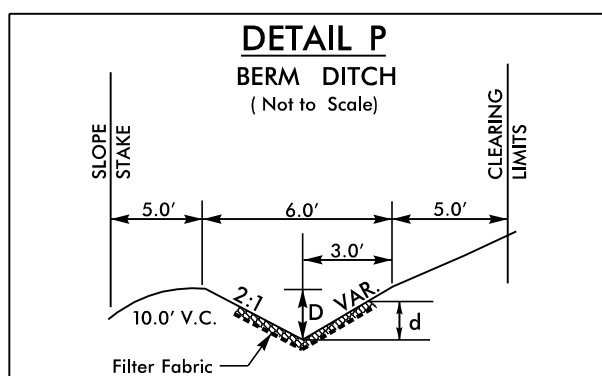
-Y303- STA. 710+00 TO STA. 711+05 LT  
-Y303- STA. 711+18 TO STA. 713+50 RT



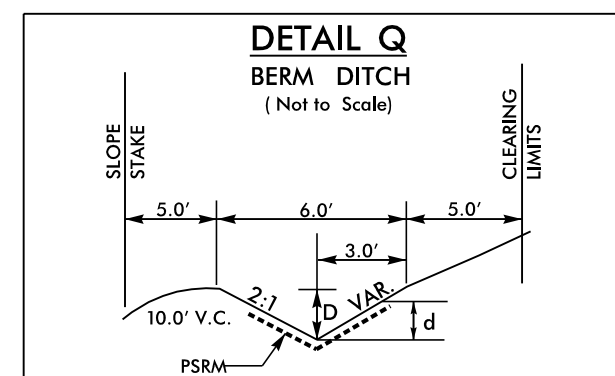
-L2C- STA. 866+00 TO STA. 867+00 LT  
-TRA- STA. 15+30 TO STA. 16+55 RT  
-Y302- STA. 126+50 TO STA. 127+30 LT  
-Y302- STA. 133+95 TO STA. 136+55 LT  
-Y301A- STA. 19+43 TO STA. 19+90 LT



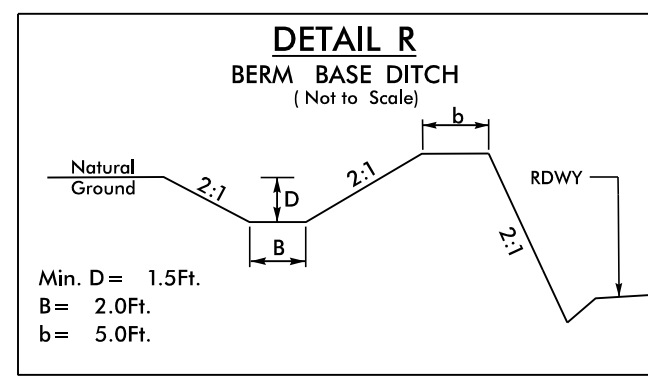
-L2C- STA. 702+50 TO STA. 714+00 RT  
-L2C- STA. 713+00 TO STA. 721+00 LT  
-L2C- STA. 859+40 TO STA. 864+00 LT  
-L2C- STA. 866+10 TO STA. 873+20 LT  
-L2C- STA. 905+30 TO STA. 909+50 LT  
-TRA- STA. 18+00 TO STA. 22+75 RT



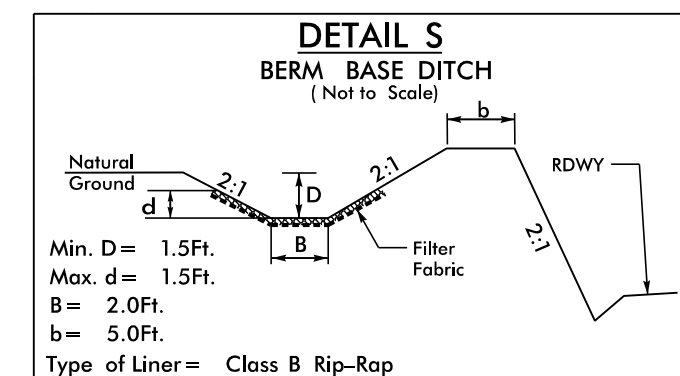
DETAIL P NOT USED IN SECTION 2C



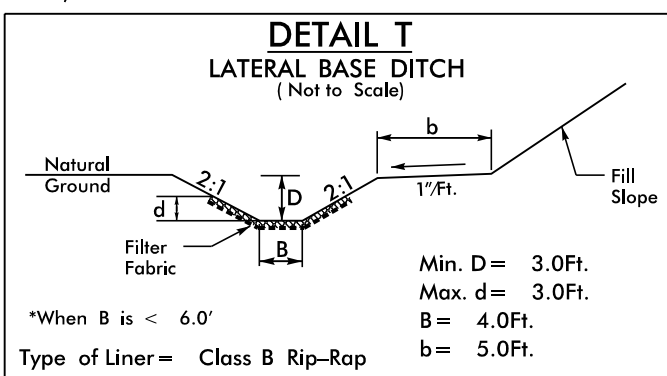
-RRB- STA. 15+00 TO STA. 20+45 LT



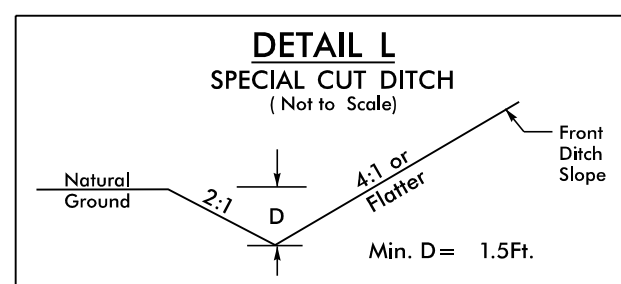
-L2C- STA. 656+50 TO STA. 663+50 LT



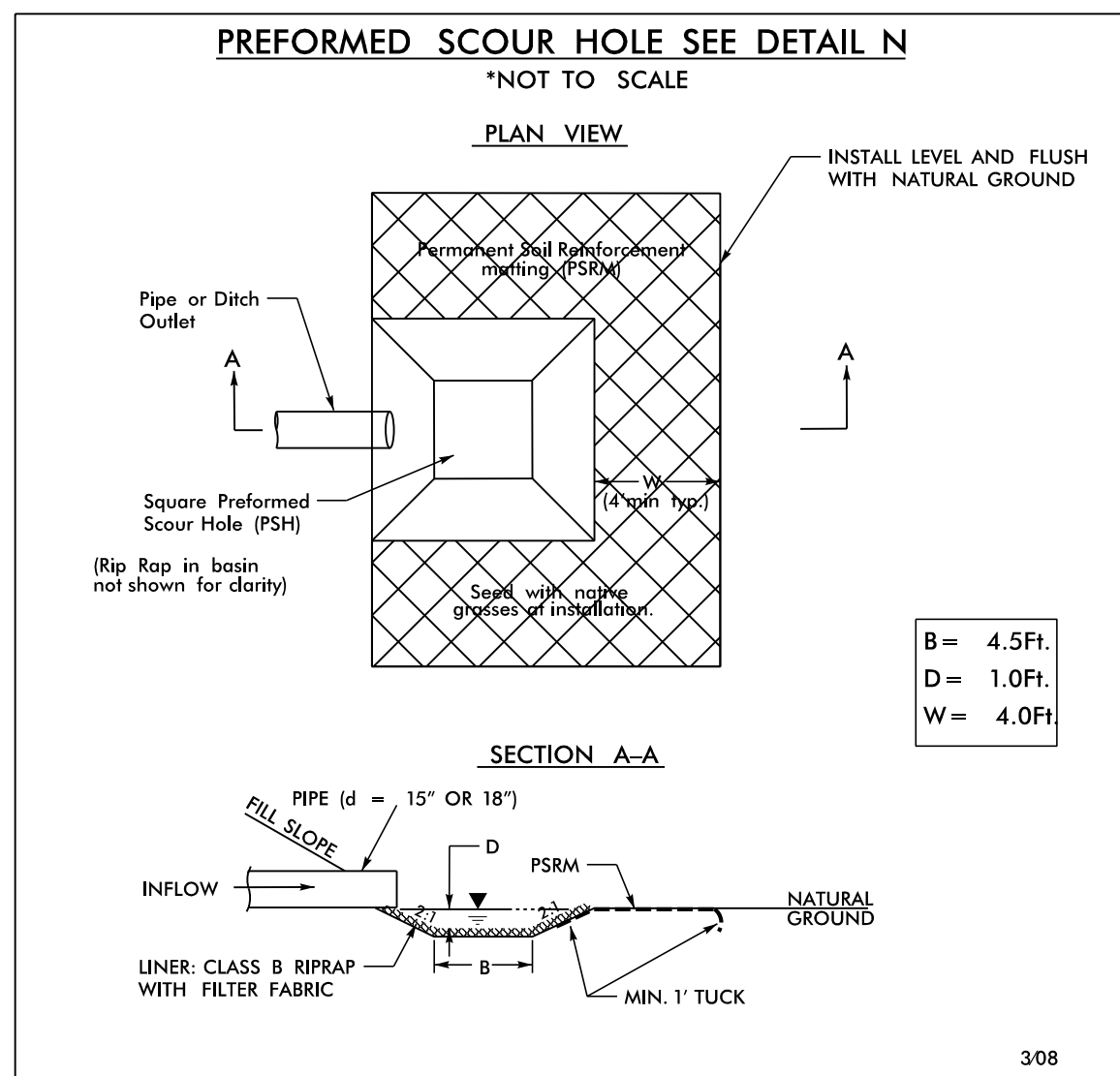
DETAIL S NOT USED IN SECTION 2C



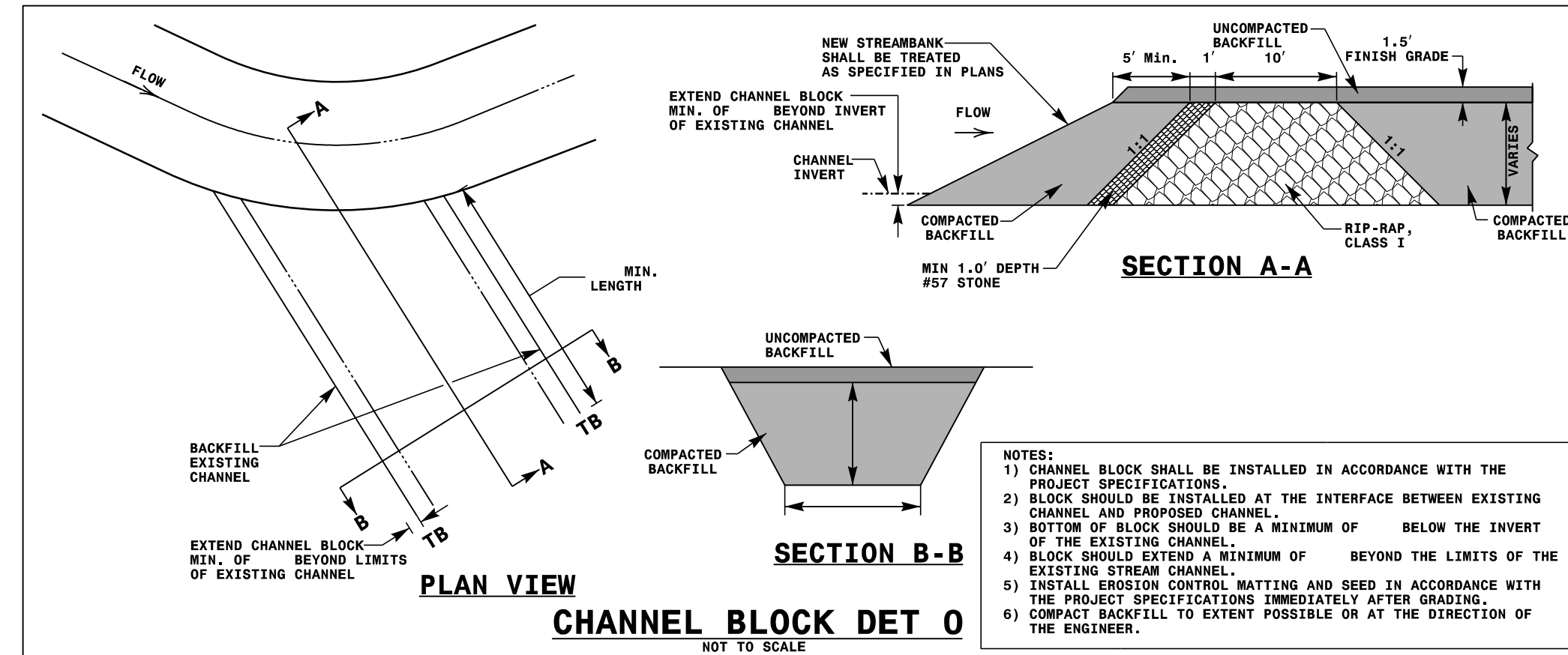
DETAIL T NOT USED IN SECTION 2C



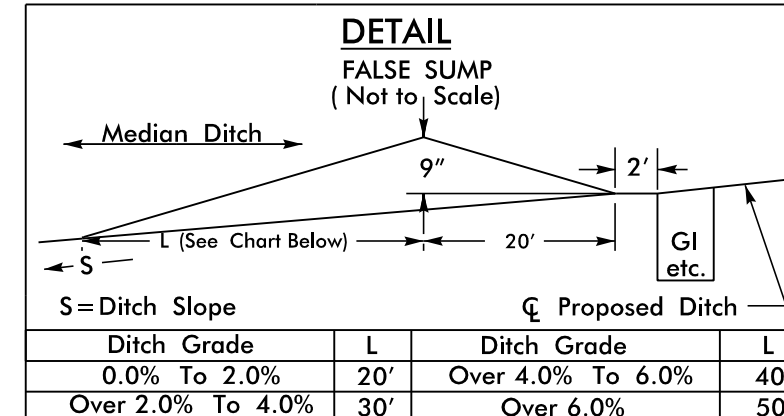
-L2C- STA. 767+50 TO STA. 768+00 RT  
-Y302- STA. 138+00 TO STA. 140+00 RT



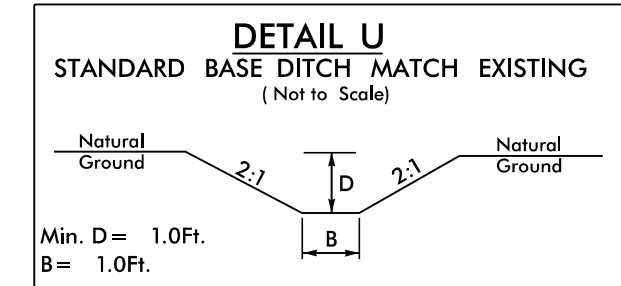
-L2C- STA. 659+50 RT  
-L2C- STA. 671+00 RT  
-Y317- STA. 57+00 RT



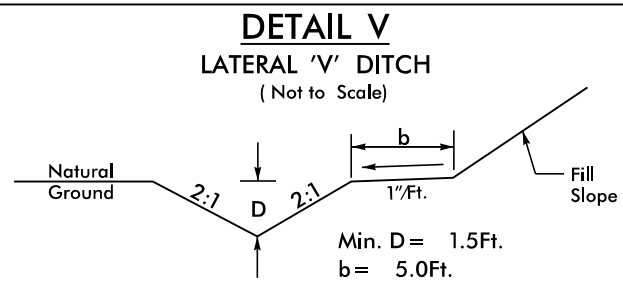
-L2C- STA. 654+26 RT  
-L2C- STA. 701+25 RT



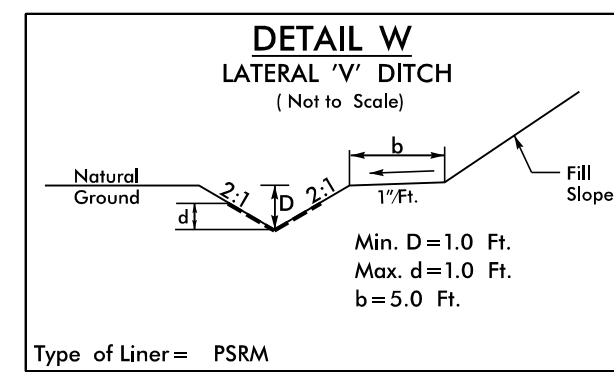
DETAIL NOT USED IN SECTION 2C



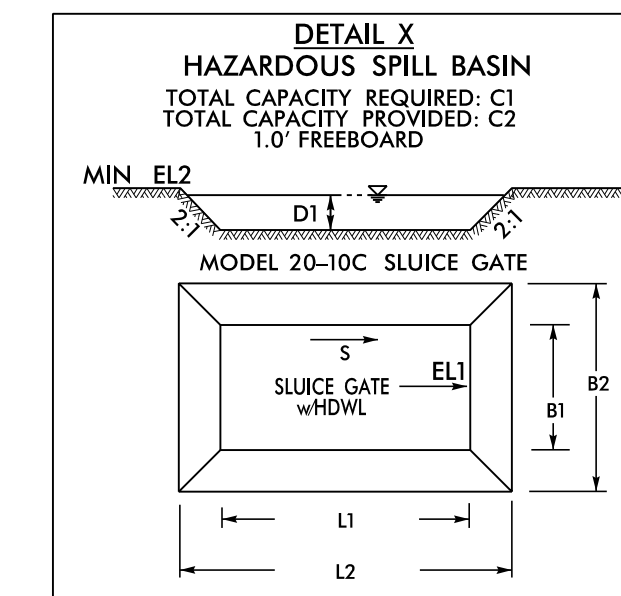
DETAIL U NOT USED IN SECTION 2C



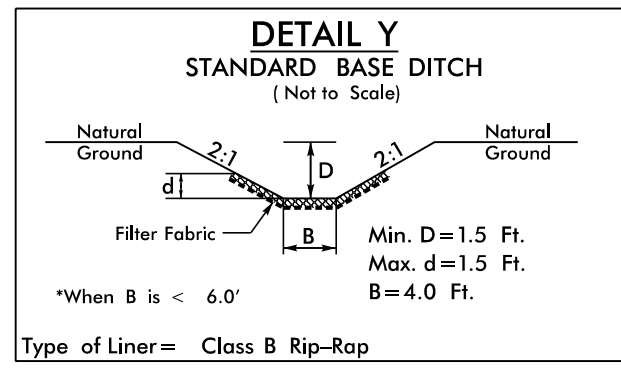
-Y302- STA. 104+74.17 TO STA. 108+50 RT  
-Y302- STA. 116+00 TO STA. 118+50 RT  
-Y303- STA. 707+50 TO STA. 710+00 LT  
-Y317- STA. 11+60 TO STA. 16+88.38 LT



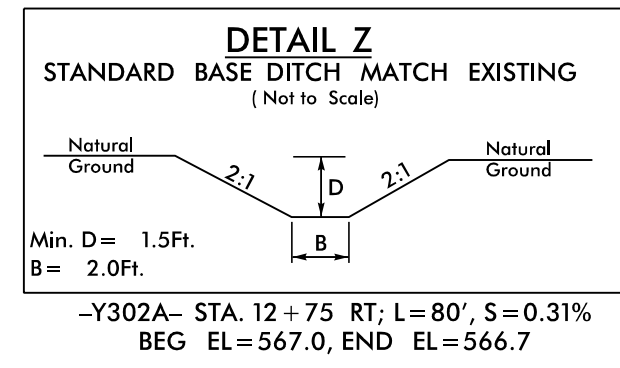
-L2C- STA. 819+50 TO STA. 821+50 LT  
-Y305- STA. 26+77.73 TO STA. 29+00 LT



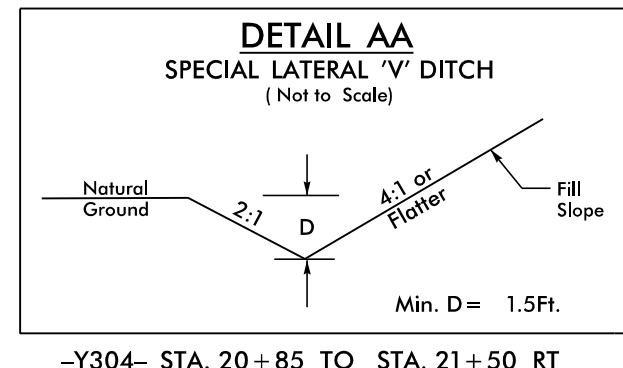
-L2C- 818+00 LT  
C1 = 899.6cf C2 = 901.6cf EL1 = 552.9' EL2 = 558.0'  
D1 = 4.0' L1 = 65.0' L2 = 81.0'  
B1 = 22.0' B2 = 38.0' S = 0.30%  
-L2C- 807+00 LT  
C1 = 1145.4cf C2 = 1195.2cf EL1 = 525.0' EL2 = 530.2'  
D1 = 4.0' L1 = 60.0' L2 = 76.0'  
B1 = 35.0' B2 = 51.0' S = 0.30%  
-L2C- 786+50 RT  
C1 = 1507.4cf C2 = 1619.2cf EL1 = 532.0' EL2 = 537.2'  
D1 = 4.0' L1 = 75.0' L2 = 91.0'  
B1 = 40.0' B2 = 62.0' S = 0.30%  
-L2C- 793+00 RT  
C1 = 1198.0cf C2 = 1201.5cf EL1 = 518.0' EL2 = 522.2'  
D1 = 3.0' L1 = 75.0' L2 = 87.0'  
B1 = 43.0' B2 = 55.0' S = 0.30%  
-TRA- 14+50 LT  
C1 = 276.0cf C2 = 302.4cf EL1 = 555.8' EL2 = 559.0'  
D1 = 2.0' L1 = 40.0' L2 = 48.0'  
B1 = 30.0' B2 = 38.0' S = 0.30%  
-TRA- 20+25 RT  
C1 = 253.2cf C2 = 291.6cf EL1 = 561.4' EL2 = 535.5'  
D1 = 3.0' L1 = 30.0' L2 = 46.0'  
B1 = 20.0' B2 = 36.0' S = 0.30%  
-TRA- 22+25 LT  
C1 = 216.02cf C2 = 369.63cf EL1 = 547.5' EL2 = 552.0'  
D1 = 4.0' L1 = 183.0' L2 = 199.0'  
B1 = 59.0' B2 = 75.0' S = 0.30%



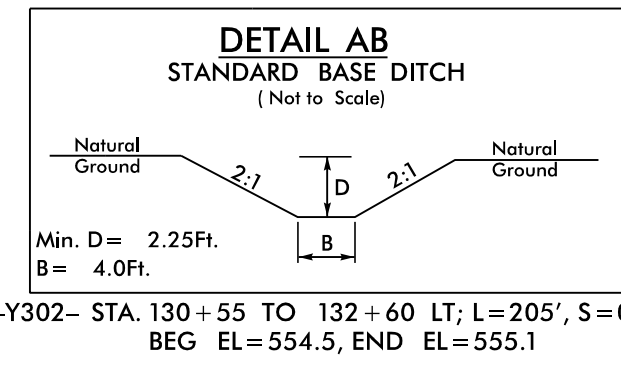
-L2C- STA. 835+38 LT, L = 186', S = 4.84%  
BEG EL = 557.0, END EL = 548.0



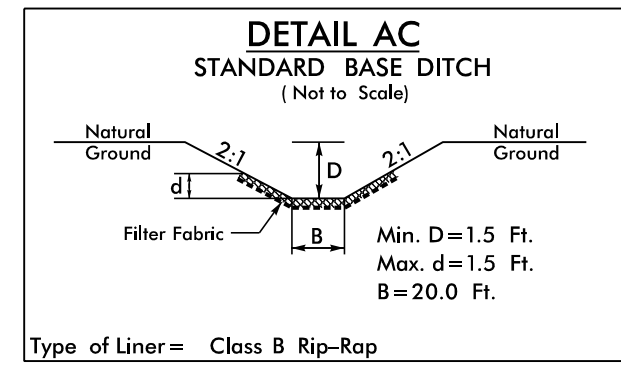
-Y302A- STA. 12+75 RT, L = 80', S = 0.31%  
BEG EL = 567.0, END EL = 566.7



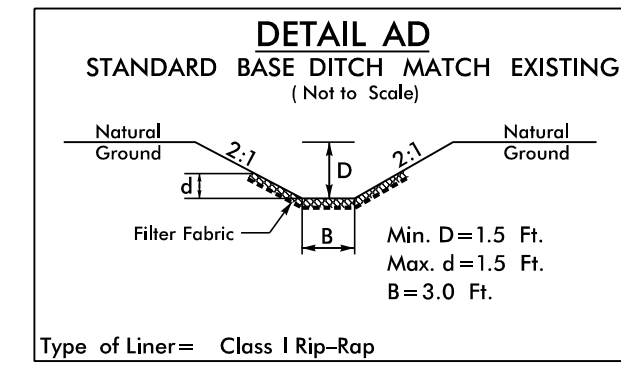
-Y304- STA. 20+85 TO STA. 21+50 RT



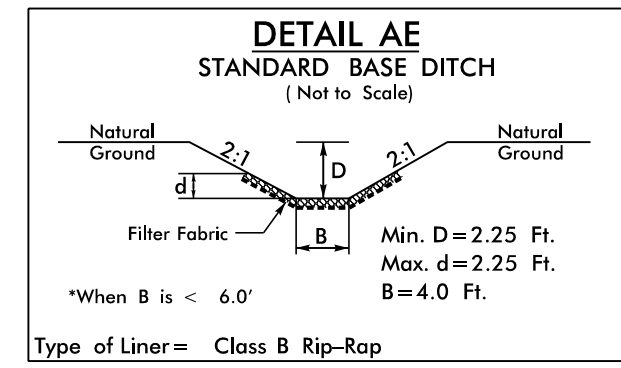
-Y302- STA. 130+55 TO 132+60 LT, L = 205', S = 0.29%  
BEG EL = 554.5, END EL = 555.1



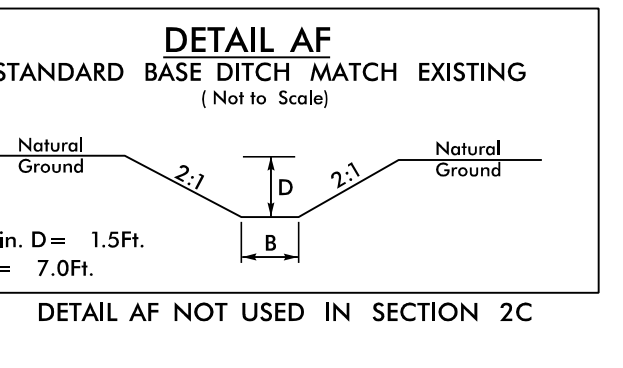
DETAIL AC NOT USED IN SECTION 2C



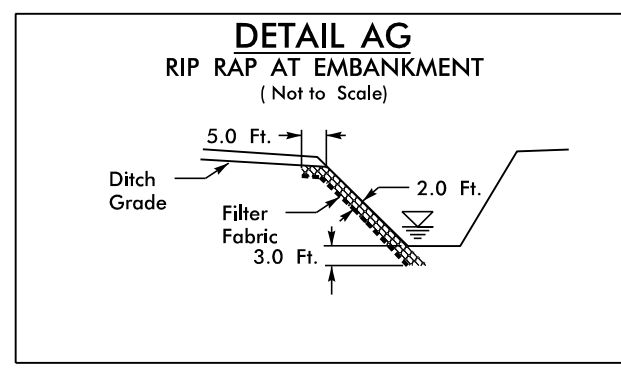
-L3A- STA. 916+49 LT, L = 18', S = 14.1%  
BEG EL = 515.24, END EL = 512.7



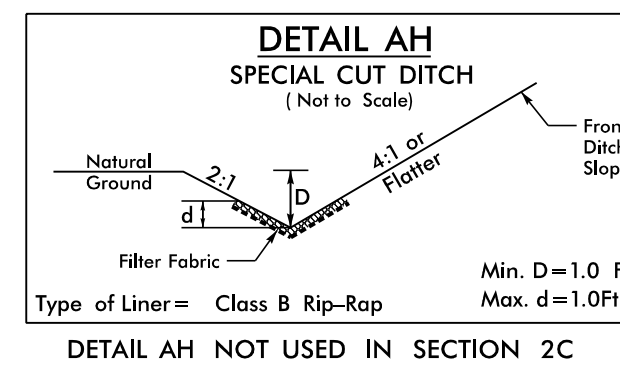
DETAIL AE NOT USED IN SECTION 2C



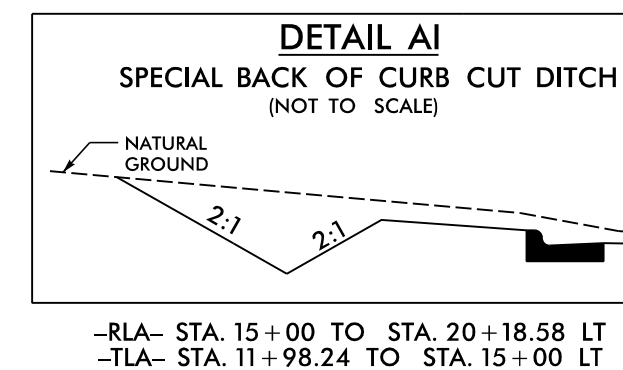
DETAIL AF NOT USED IN SECTION 2C



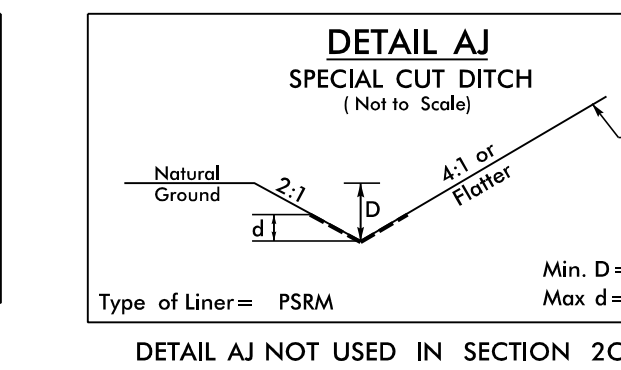
DETAIL AG NOT USED IN SECTION 2C



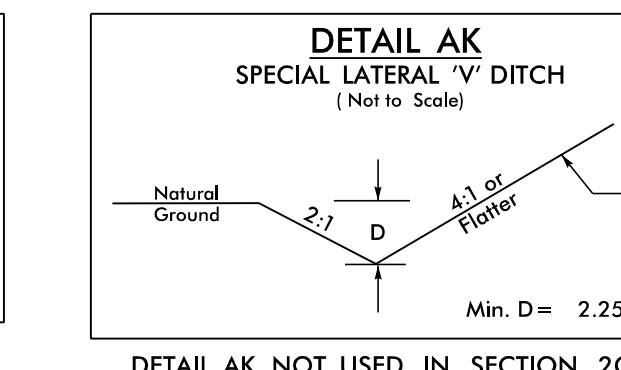
DETAIL AH NOT USED IN SECTION 2C



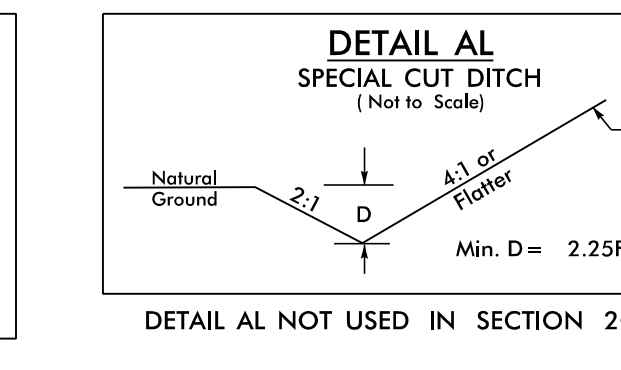
-RLA- STA. 15+00 TO STA. 20+18.58 LT  
-TLA- STA. 11+98.24 TO STA. 15+00 LT  
-TLD- STA. 12+27.70 TO STA. 15+50 RT



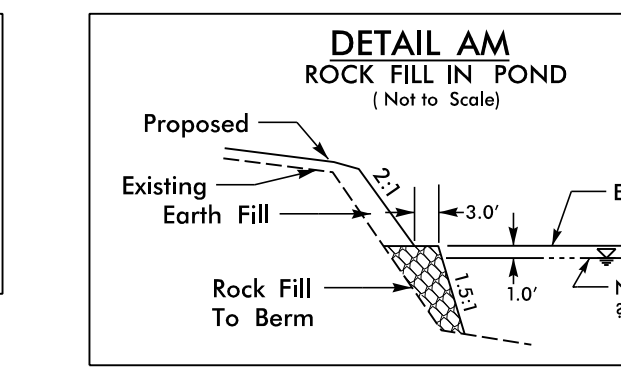
DETAIL AJ NOT USED IN SECTION 2C



DETAIL AK NOT USED IN SECTION 2C

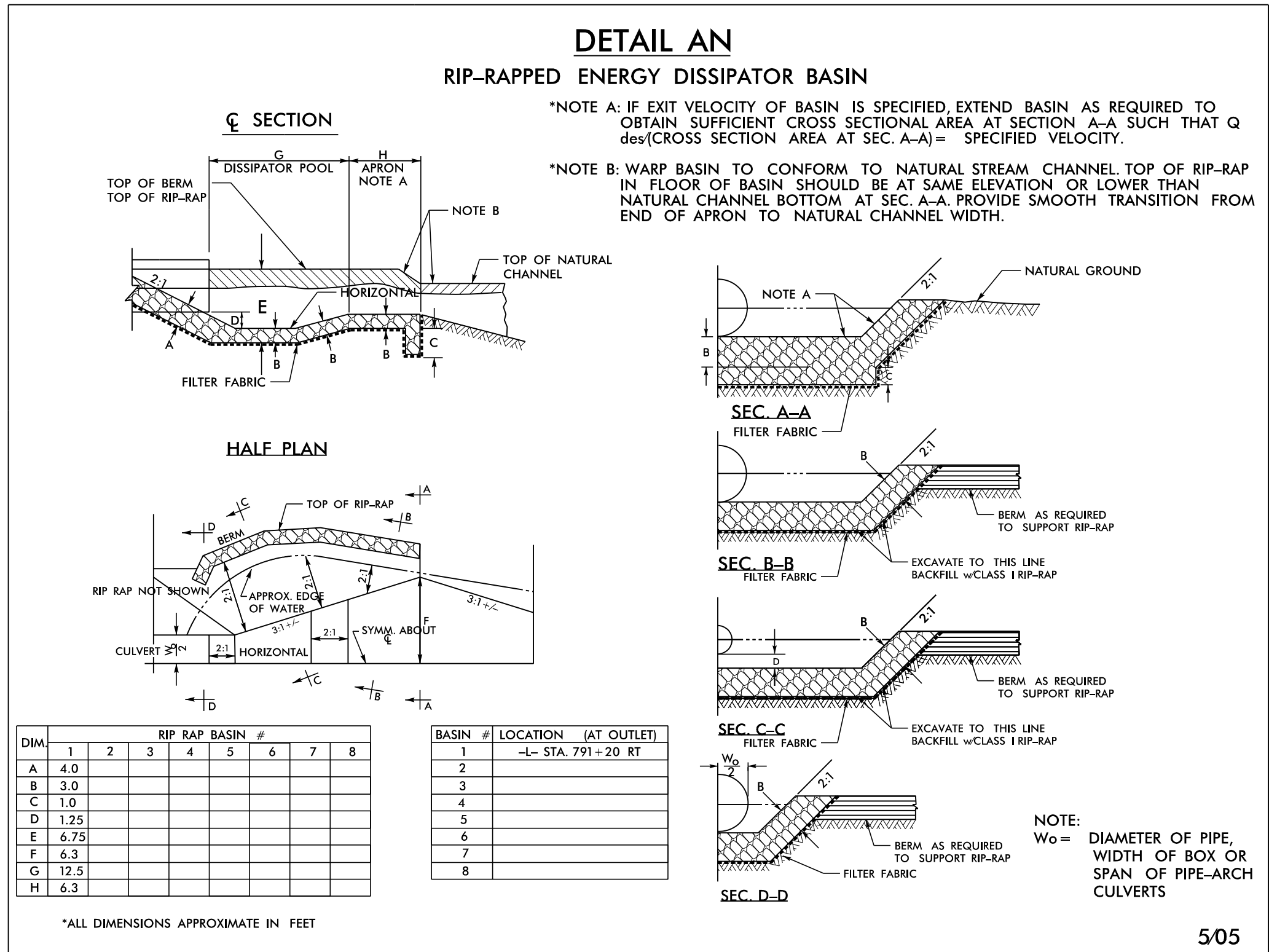


DETAIL AL NOT USED IN SECTION 2C

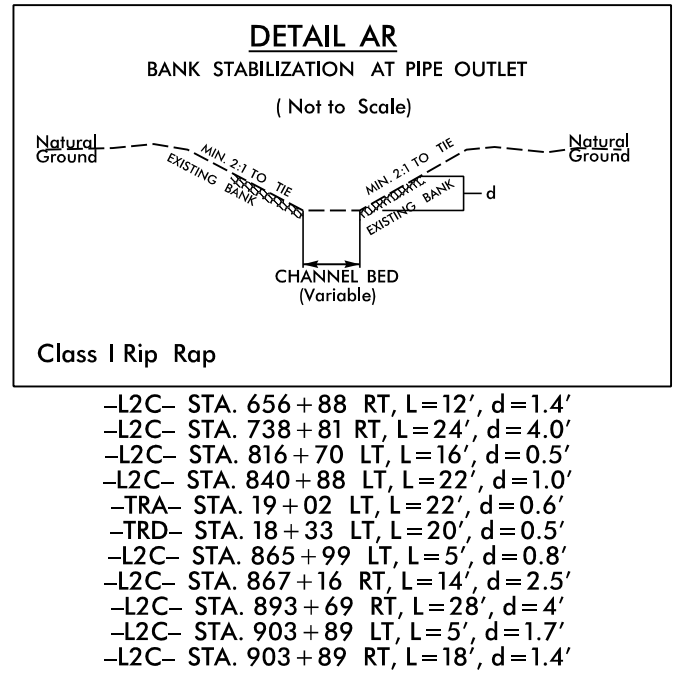
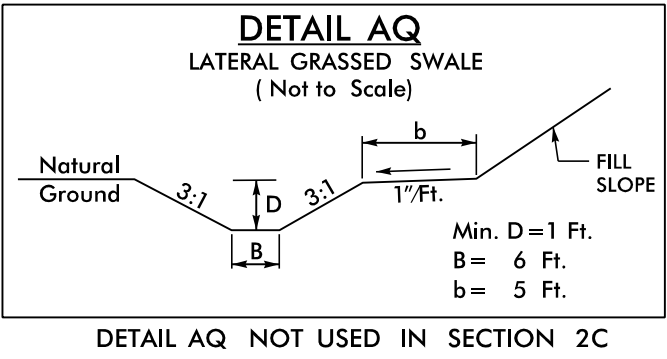
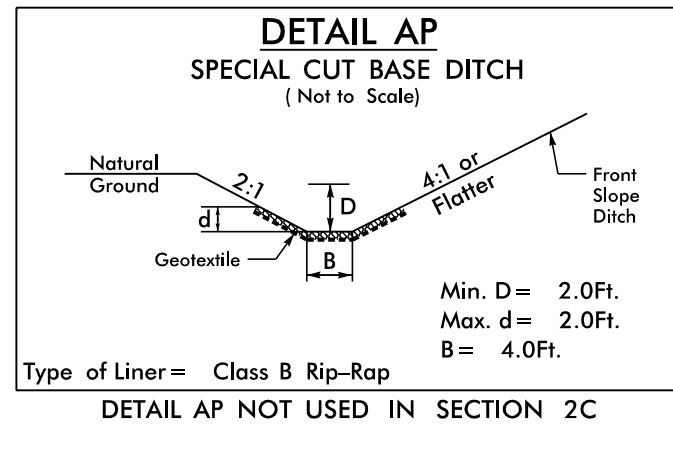
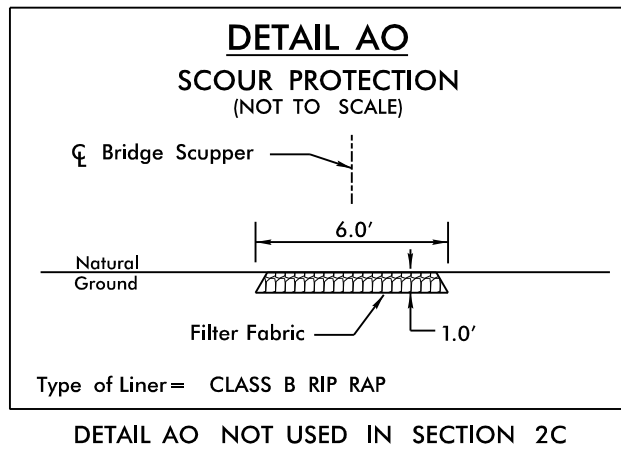


-L2C- STA. 848+25 TO 850+07 RT  
-Y302- STA. 151+80 TO STA. 152+78 RT  
-Y304- STA. 52+75 LT

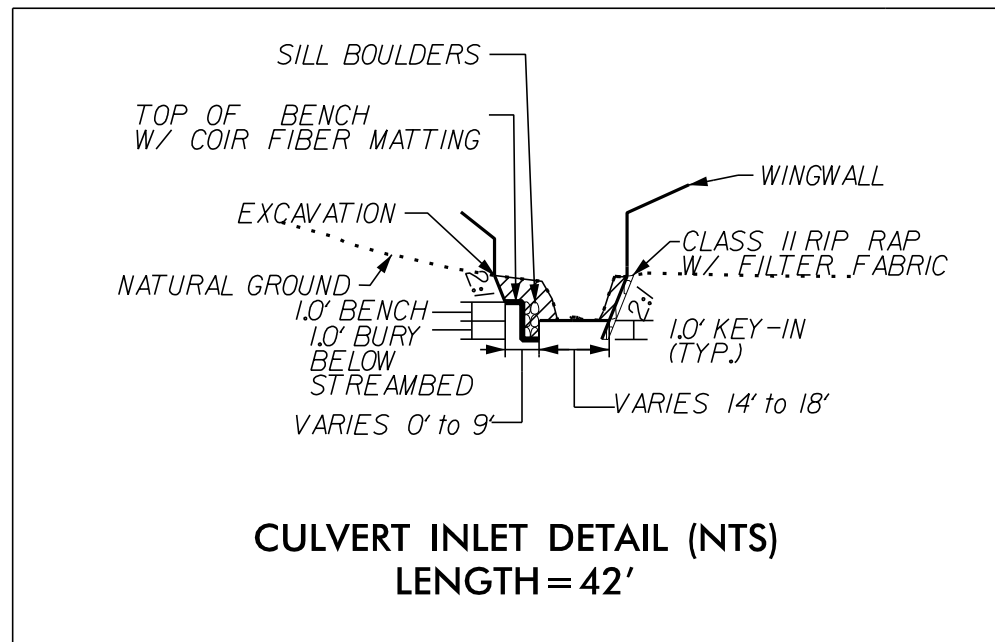




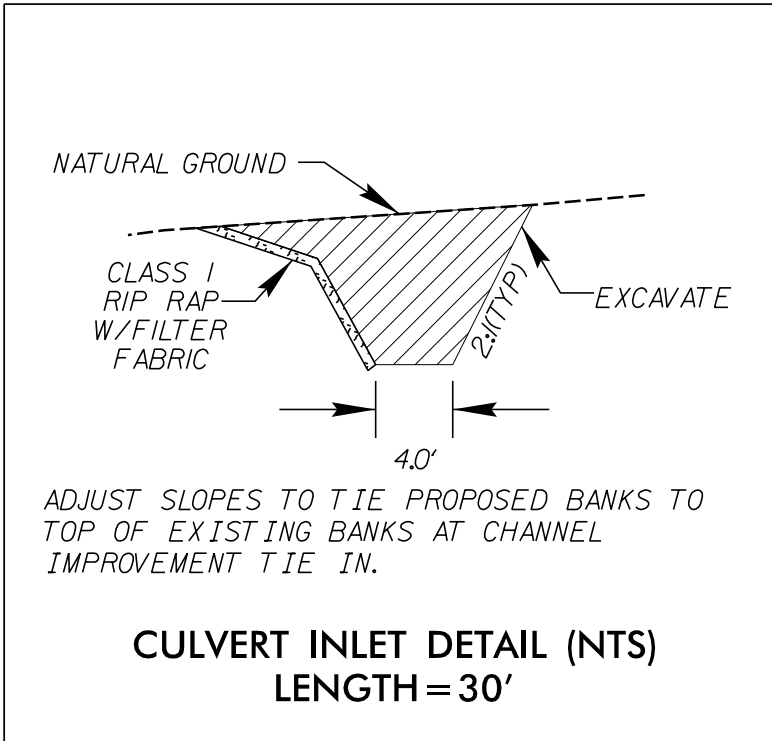
DETAIL AN NOT USED IN SECTION 2C



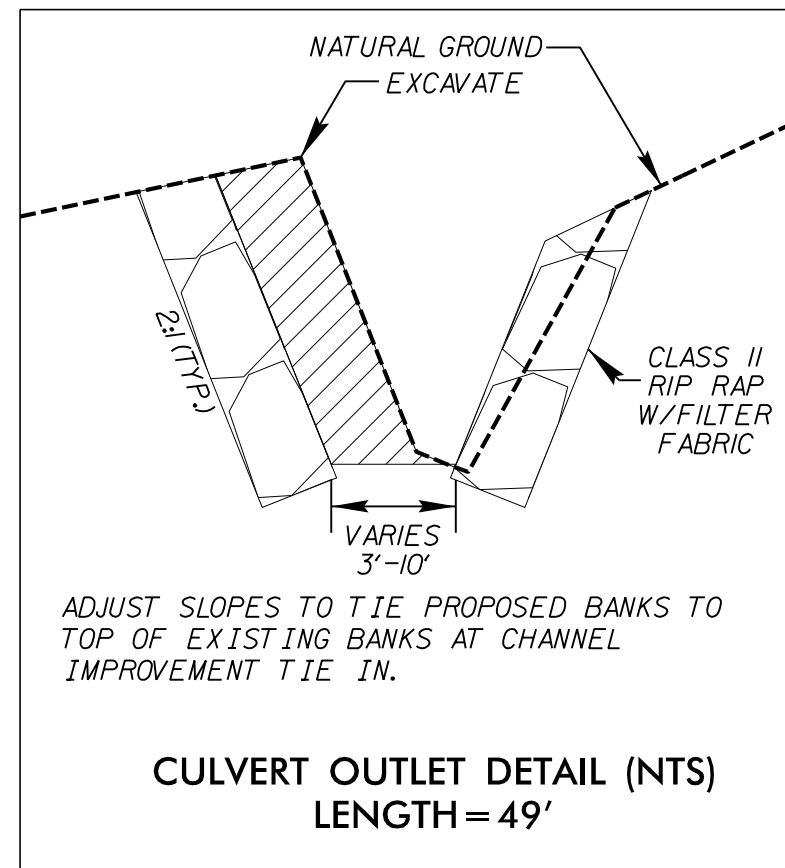
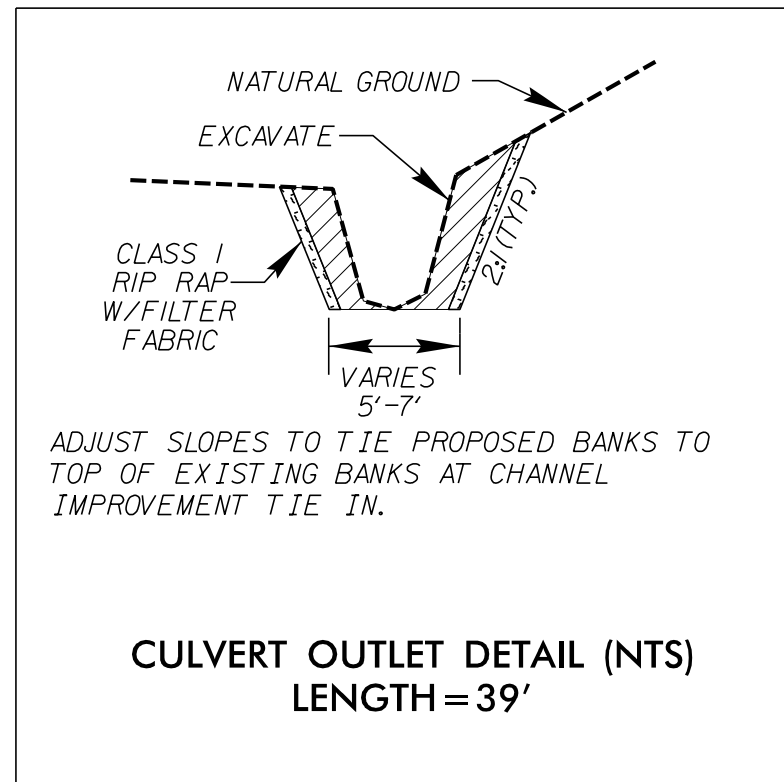
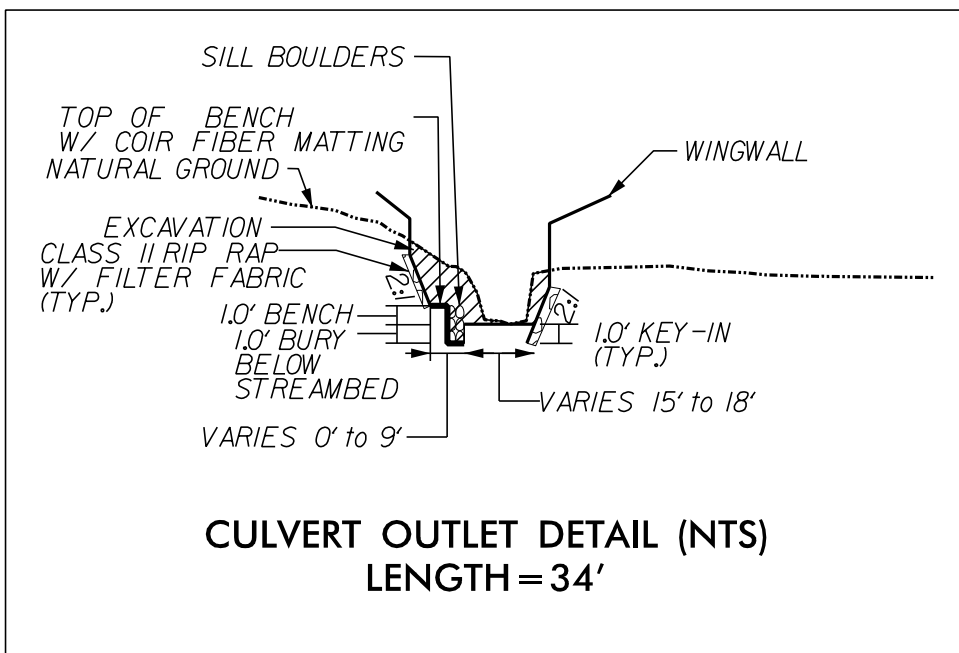
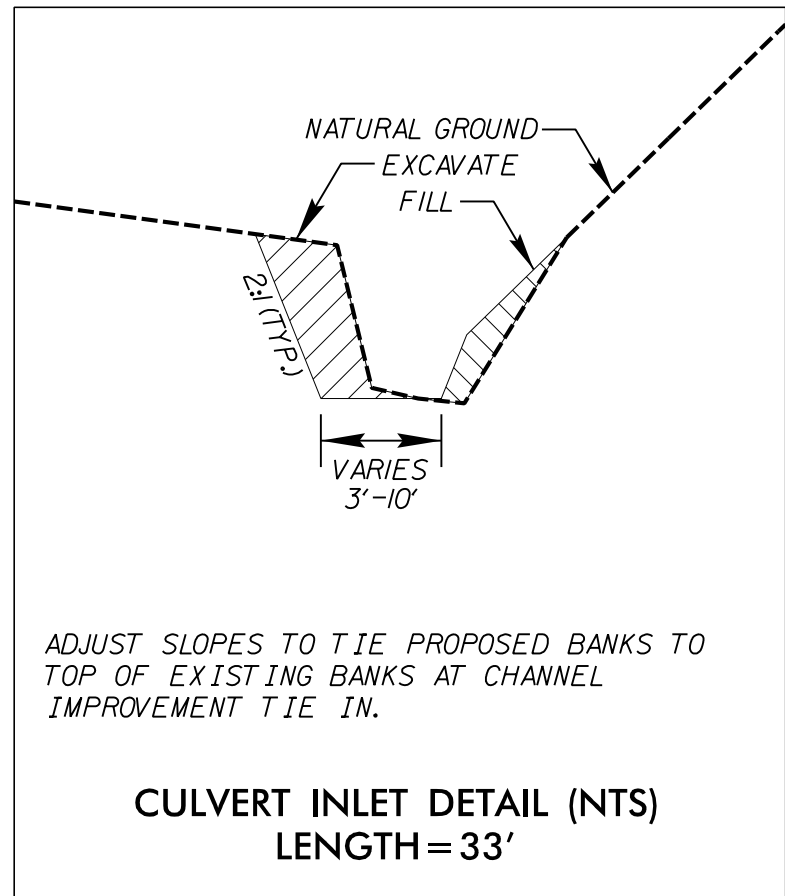
EAST FORK  
STEWARTS CREEK  
-L- STA. 669+12



UT TO  
STEWARTS CREEK  
-L- STA. 702+70



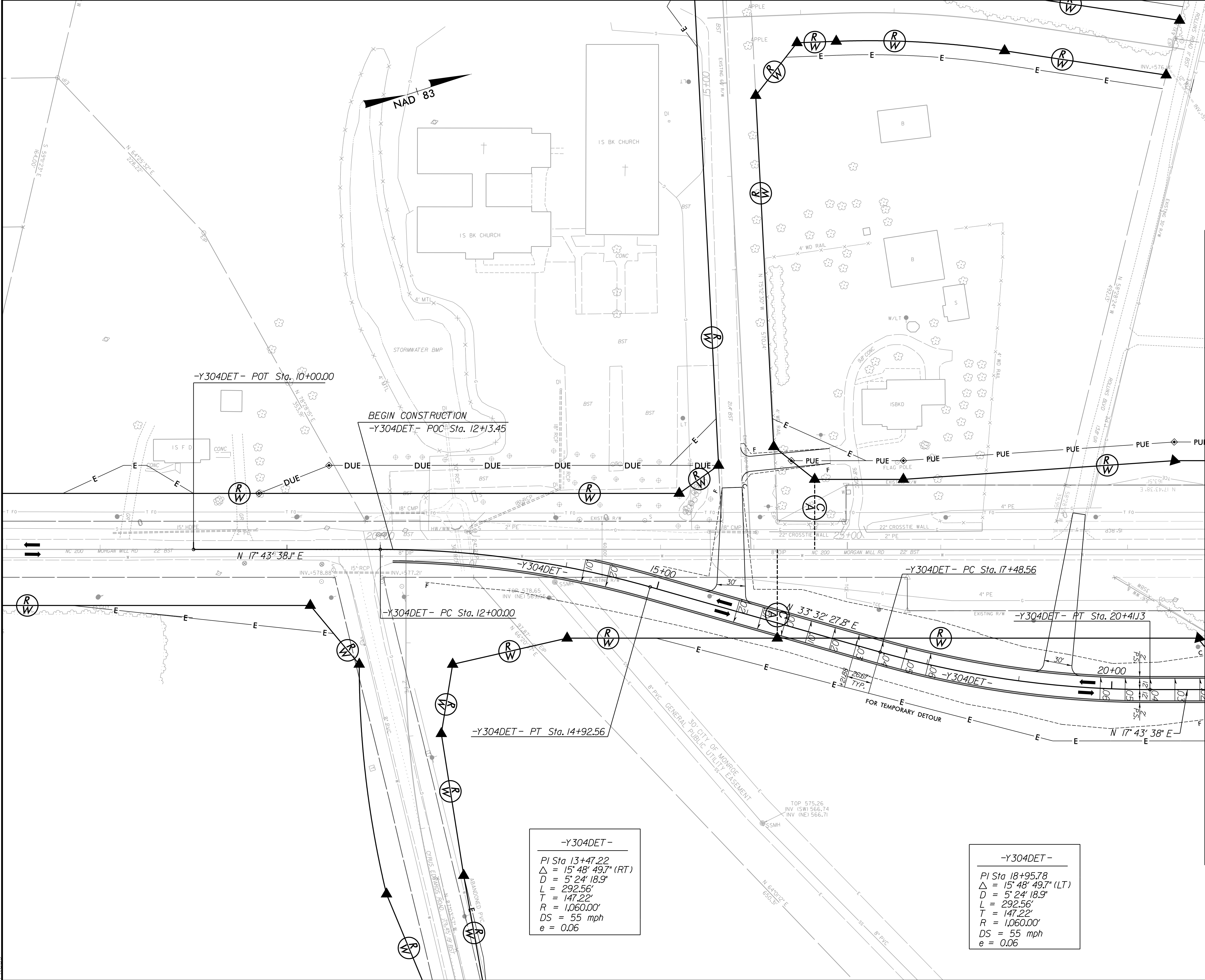
UT TO  
STEWARTS CREEK  
-L- STA. 805+89





8/17/99

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8/29/2014  
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RKA



MATCHLINE -Y304DET-  
STA. 21+00 SEE SHEET 2C-2J

|                                                                                                                             |                        |                           |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------|
| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i>                                                                             |                        | SHEET NO.<br><i>2C-2I</i> |
| RW SHEET NO.                                                                                                                |                        |                           |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | HYDRAULICS<br>ENGINEER |                           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                        |                           |
| DETOUR PLAN                                                                                                                 |                        |                           |

-Y304DET-  
PI Sta 13+47.22  
 $\Delta = 15^\circ 48' 49.7''$  (RT)  
 $D = 5^\circ 24' 18.9''$   
 $L = 292.56'$   
 $T = 147.22'$   
 $R = 1,060.00'$   
 $DS = 55$  mph  
 $e = 0.06$

-Y304DET-  
PI Sta 18+95.78  
 $\Delta = 15^\circ 48' 49.7''$  (LT)  
 $D = 5^\circ 24' 18.9''$   
 $L = 292.56'$   
 $T = 147.22'$   
 $R = 1,060.00'$   
 $DS = 55$  mph  
 $e = 0.06$

FOR -Y304DET- PROFILE SEE SHT. 2C-2L  
FOR -Y304- ROADWAY SEE SHT. 48, 103, 106, 107

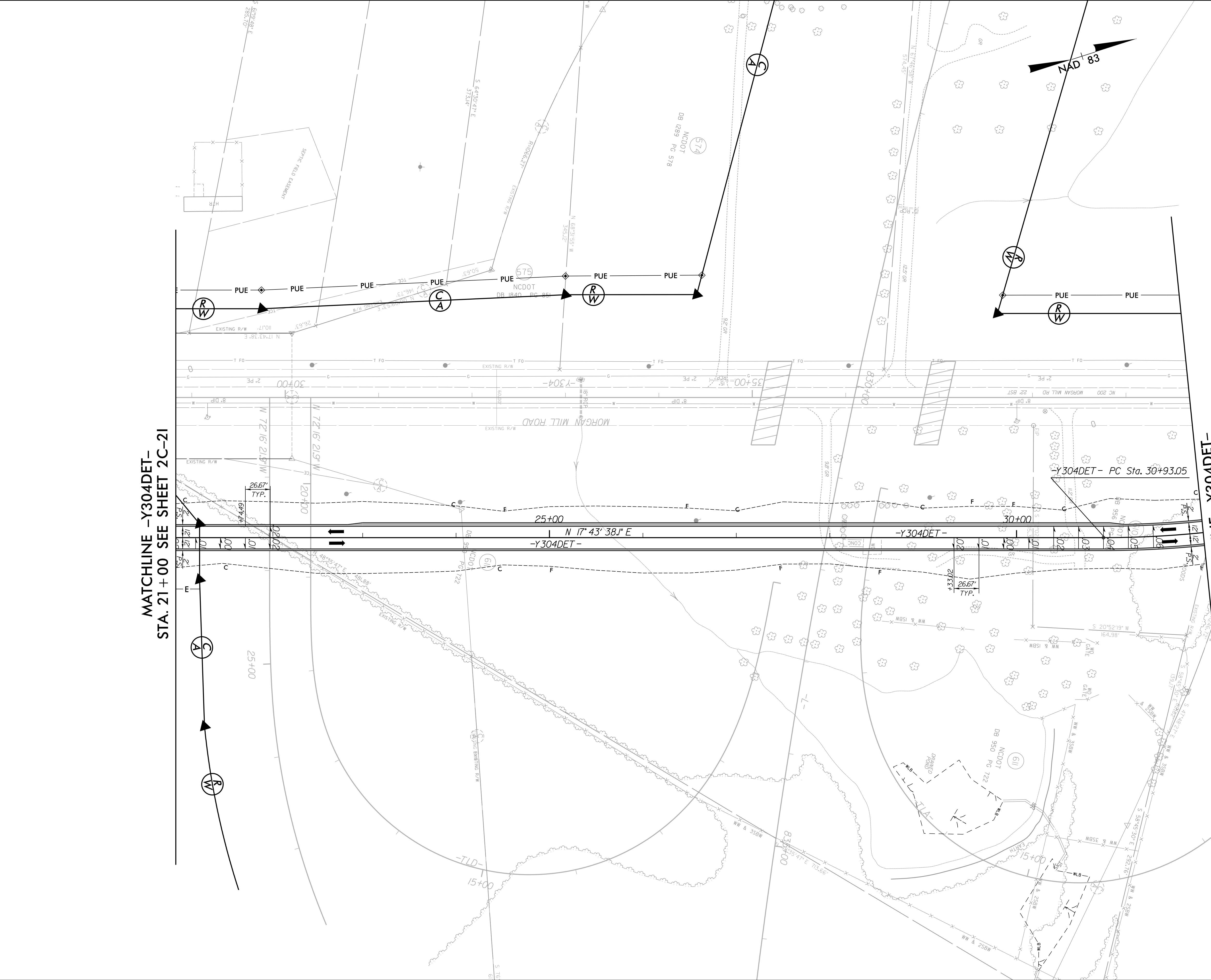
PLANS PREPARED BY :

**RK&K**

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

FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY





MATCHLINE -Y304DET-  
STA. 21+00 SEE SHEET 2C-2I

MATCHLINE -Y304DET-  
STA. 31+00 SEE SHEET 2C-2K

|                                                                                                                             |                        |                           |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------|
| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i>                                                                             |                        | SHEET NO.<br><i>2C-2J</i> |
| RW SHEET NO.                                                                                                                |                        |                           |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | HYDRAULICS<br>ENGINEER |                           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                        |                           |
| DETOUR PLAN                                                                                                                 |                        |                           |

FOR -Y304DET- PROFILE SEE SHT. 2C-2L  
FOR -Y304- ROADWAY SEE SHT. 48, 105, 106, 107

PLANS PREPARED BY :

**RK&K**

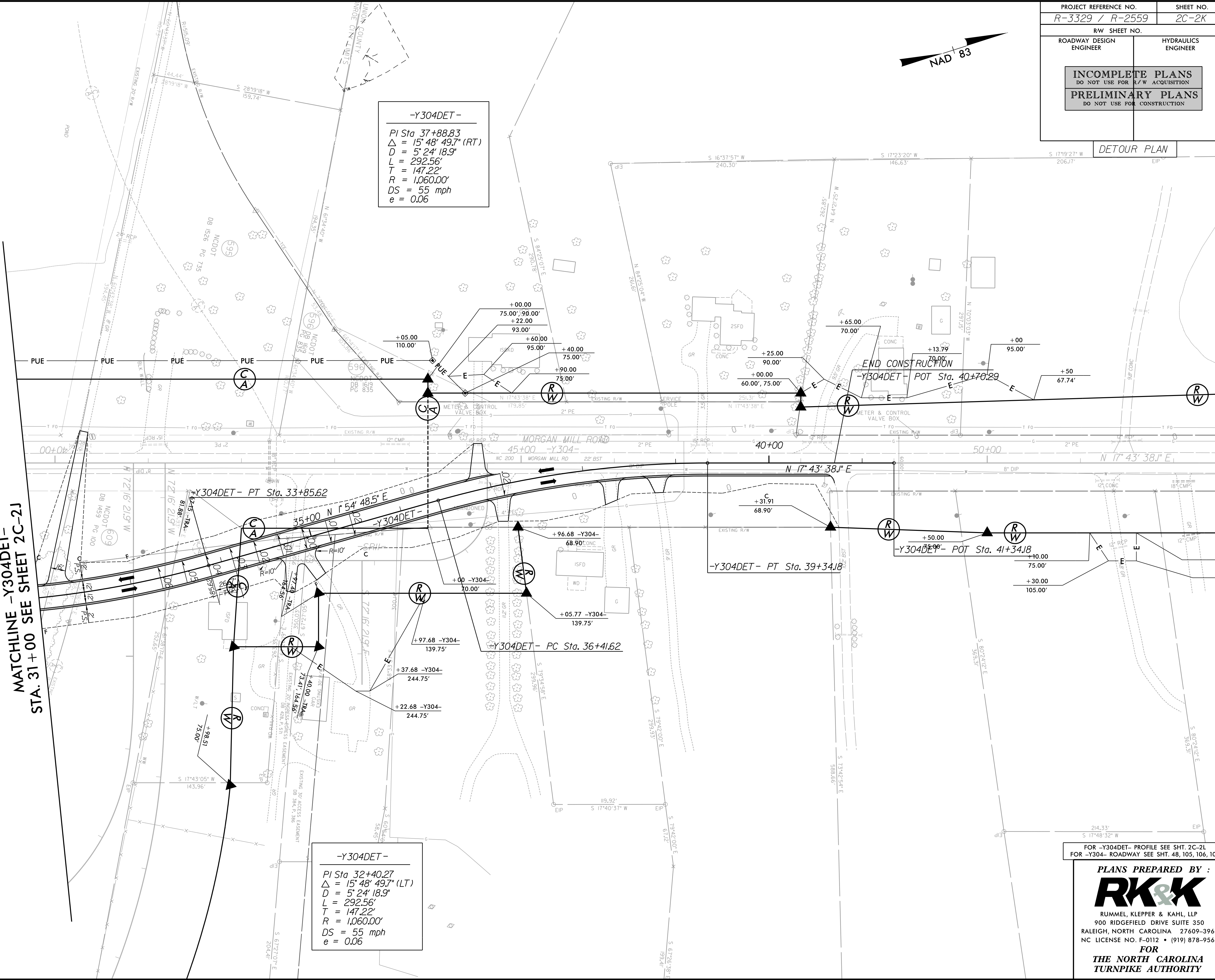
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
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9/29/2014  
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K&K

MATCHLINE -Y304DET-  
STA. 31+00 SEE SHEET 2C-2J



|                                                    |                        |                           |
|----------------------------------------------------|------------------------|---------------------------|
| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i>    |                        | SHEET NO.<br><i>2C-2K</i> |
| RW SHEET NO.                                       |                        |                           |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |                           |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |                           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |                           |

DETOUR PLAN

FOR -Y304DET- PROFILE SEE SHT. 2C-2L  
FOR -Y304- ROADWAY SEE SHT. 48, 105, 106, 107

PLANS PREPARED BY :

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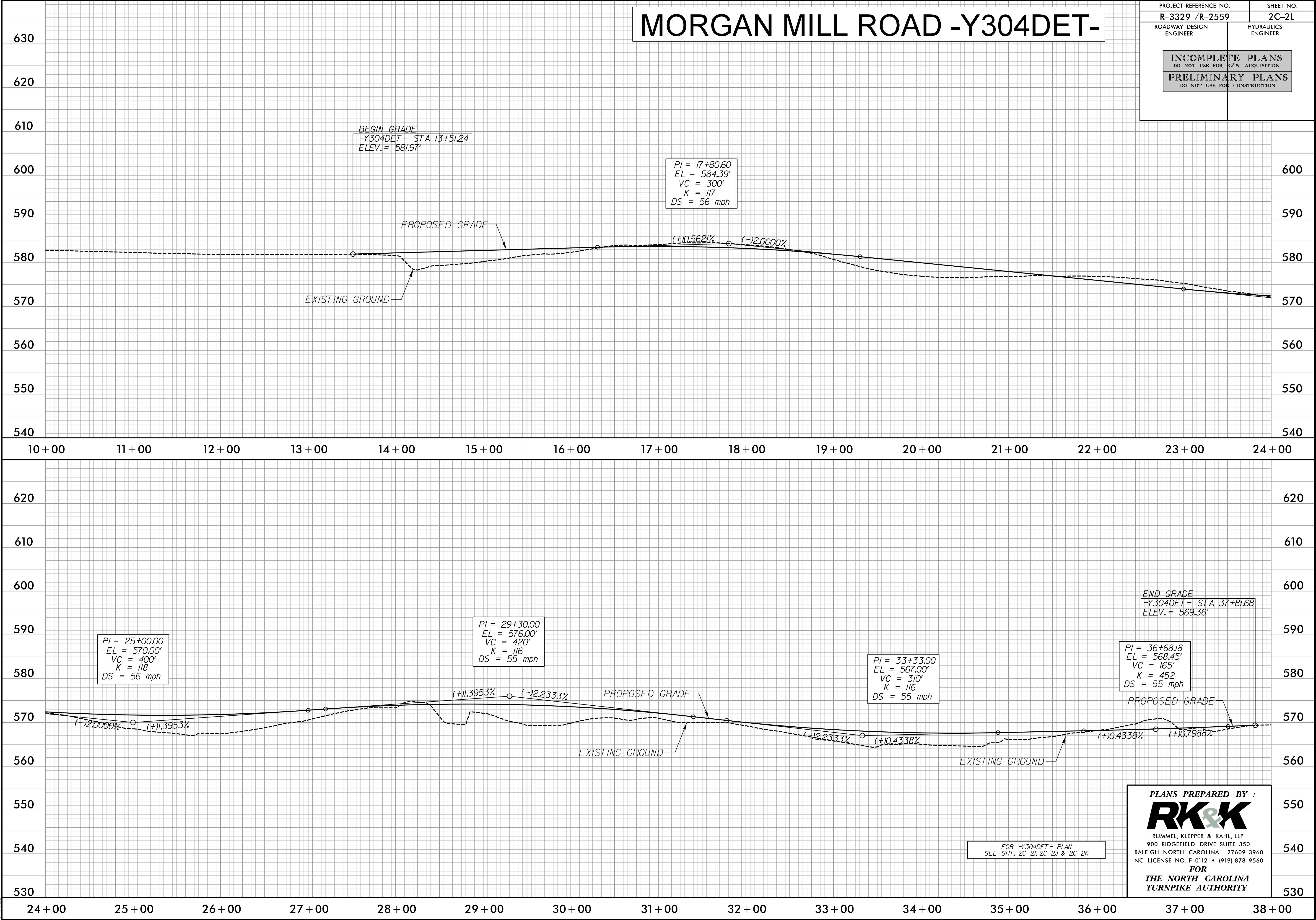
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THE NORTH CAROLINA  
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8/29/2014  
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Elevations

# MORGAN MILL ROAD -Y304DET-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 2C-2L               |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



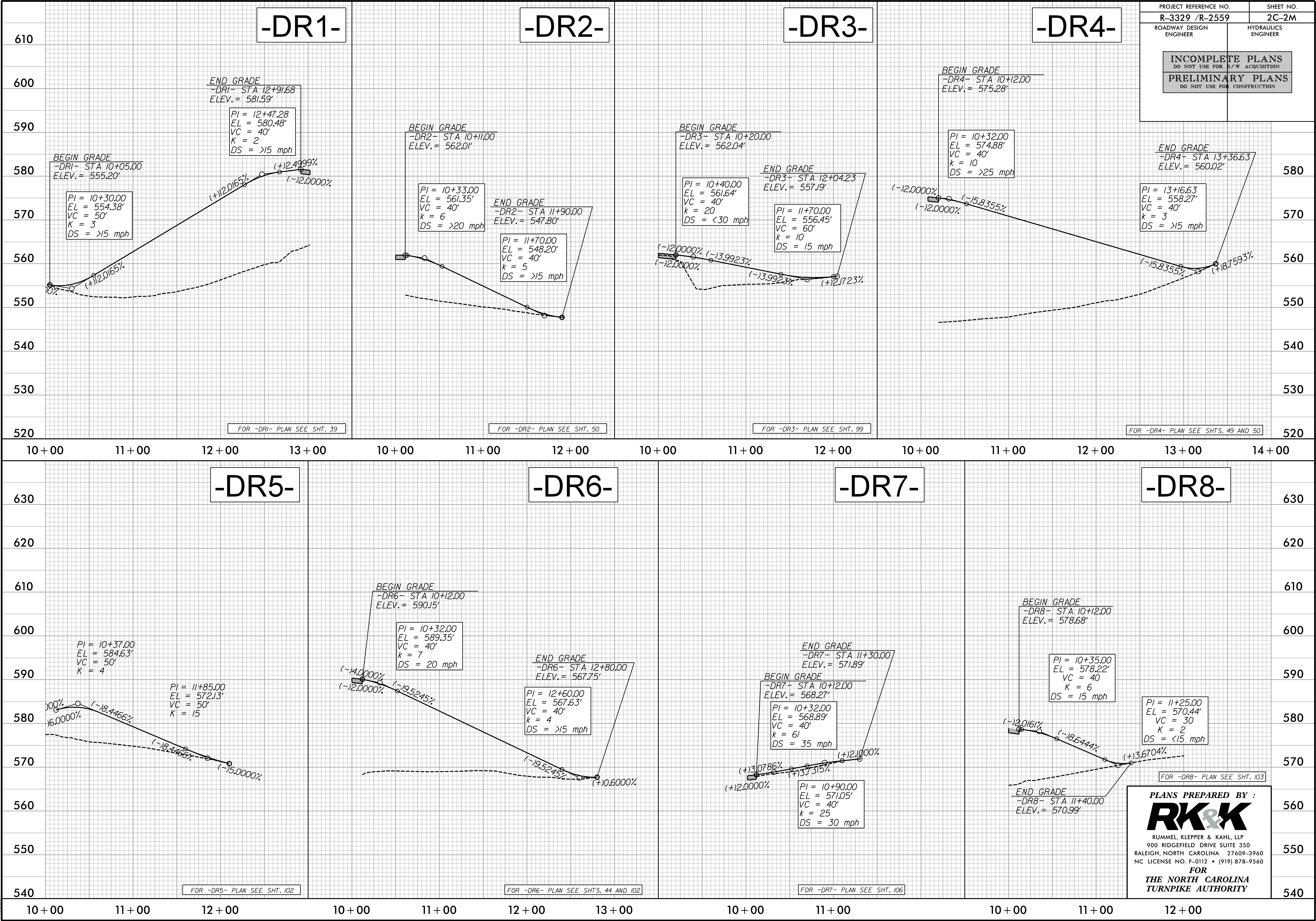
PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. F-0112 • (919) 878-9560  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

FOR -Y304DET- PLAN  
SEE SHT. 2C-2I, 2C-2J & 2C-2K



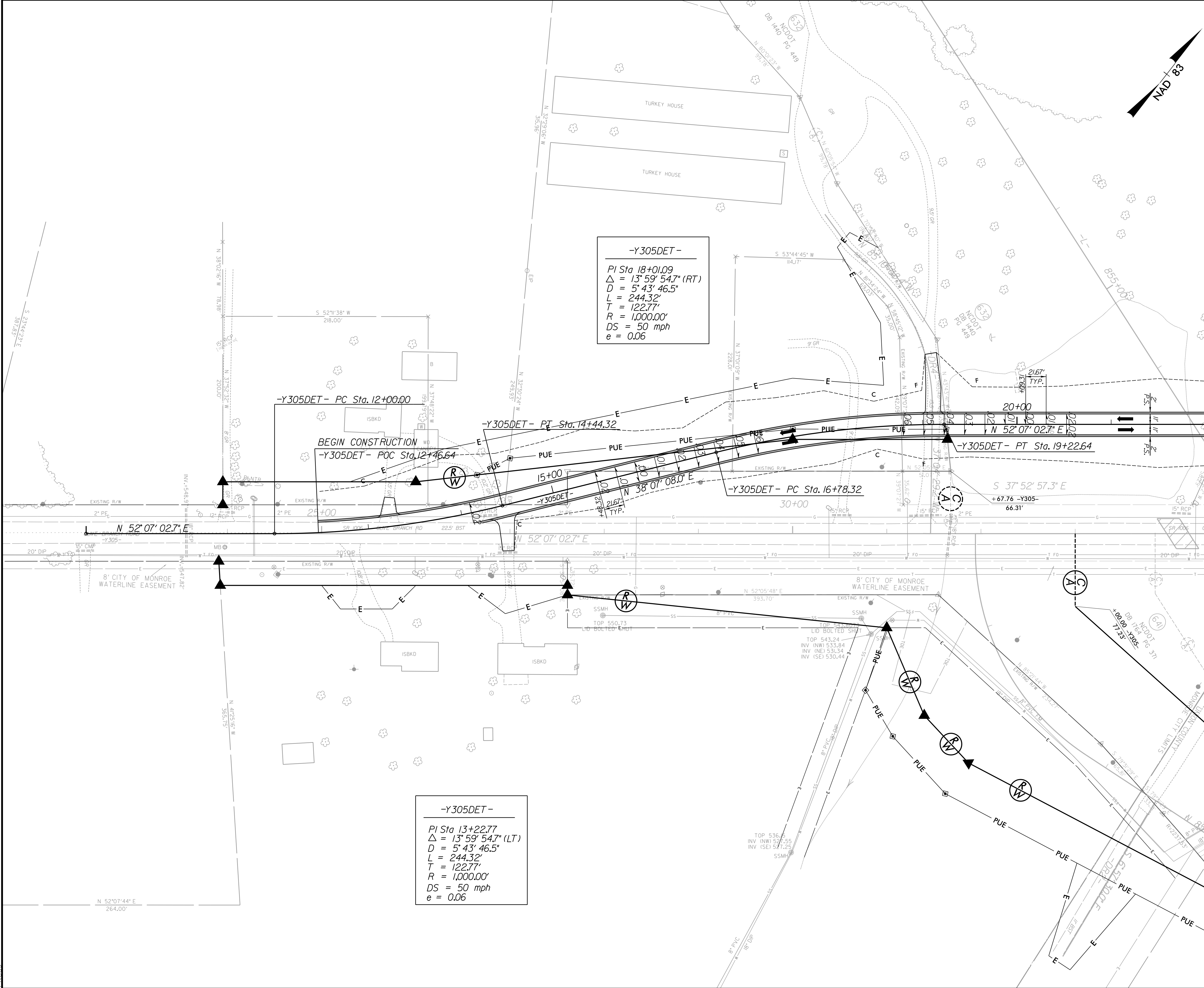
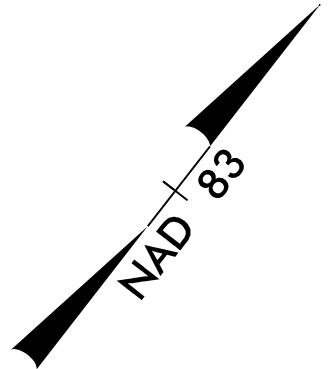
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8/29/2014  
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Elevs





|                                                                                                                             |  |                        |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|------------------------|--|
| PROJECT REFERENCE NO.                                                                                                       |  | SHEET NO.              |  |
| R-3329 / R-2559                                                                                                             |  | 2C-2N                  |  |
| RW SHEET NO.                                                                                                                |  |                        |  |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  |  | HYDRAULICS<br>ENGINEER |  |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |  |                        |  |



MATCHLINE -Y305DET-  
STA. 22+00 SEE SHEET 2C-20

FOR -Y305DET- PROFILE SEE SHT. 2C-2P  
FOR -Y305- ROADWAY SEE SHT. 50, 108, 109

PLANS PREPARED BY :

**RK&K**

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

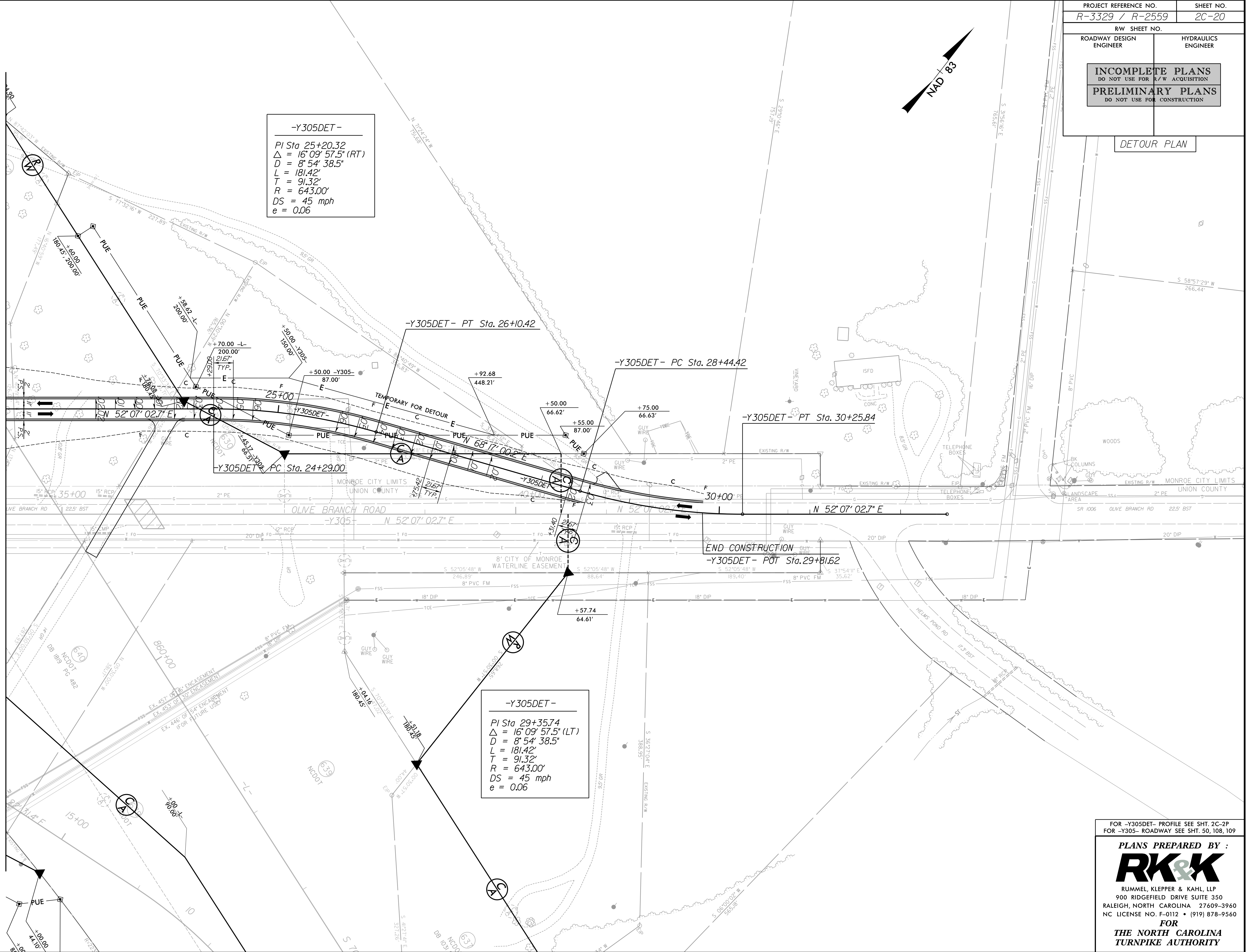
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



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9/29/2014  
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kels

MATCHLINE -Y305DET-  
STA. 22+00 SEE SHEET 2C-2N



FOR -Y305DET- PROFILE SEE SHT. 2C-2P  
FOR -Y305- ROADWAY SEE SHT. 50, 108, 109

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

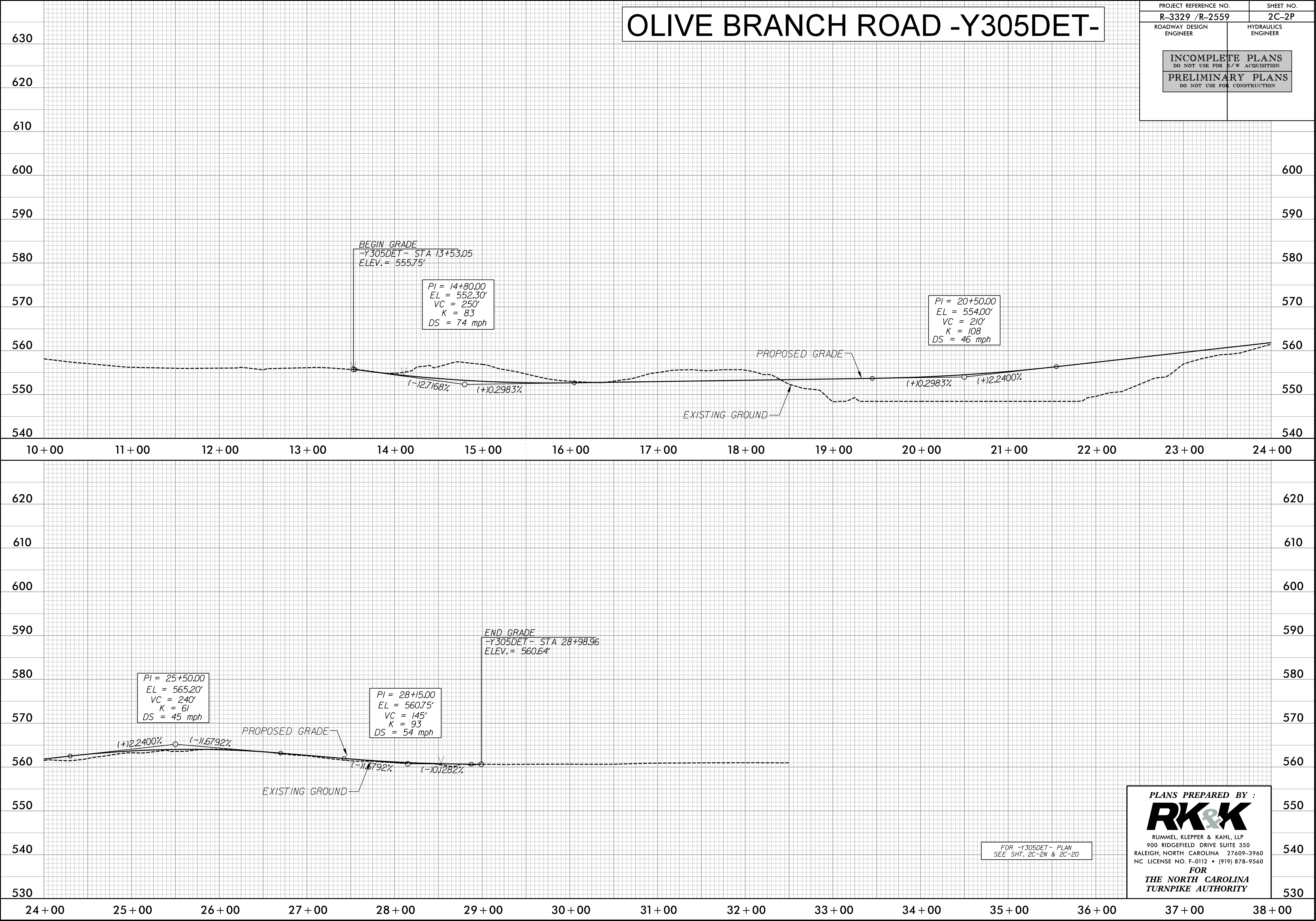
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



5/28/99  
8/29/2014  
R:\Roadway\Proj\Profile Sheets\Sec2c\R3329\_R2559\_RDY\_PFL\_DET\_2C\_2P.dgn

OLIVE BRANCH ROAD -Y305DET-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 2C-2P               |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



FOR -Y305DET- PLAN  
SEE SHT. 2C-2N & 2C-2O

PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
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THE NORTH CAROLINA  
TURNPIKE AUTHORITY





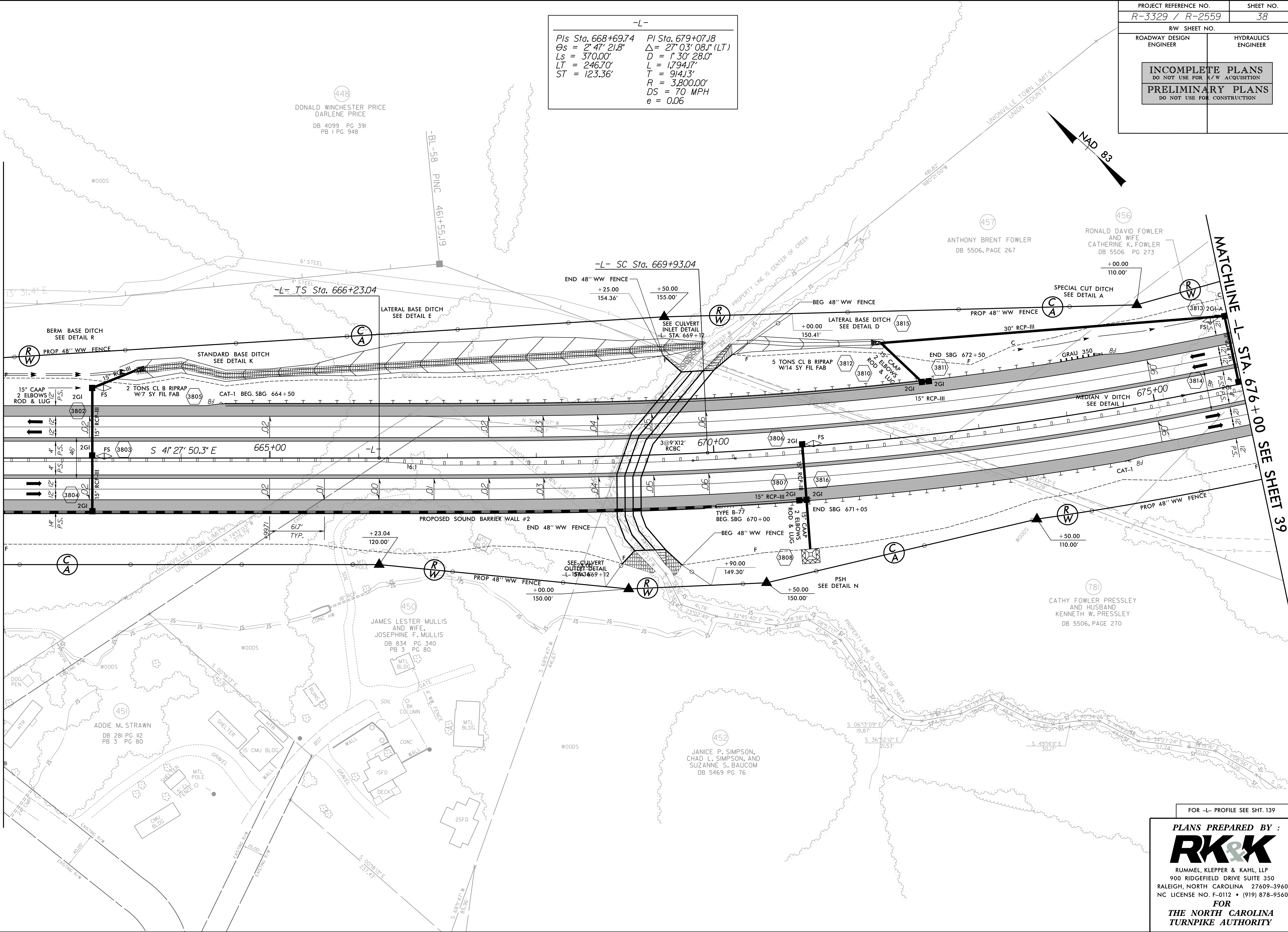


8/17/99

\$\$\$\$\$TIME\$\$\$\$\$  
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R3329\_R2559

MATCHLINE -L- STA. 662+00 SEE SHEET 37

MATCHLINE -L- STA. 676+00 SEE SHEET 39



-L-  
Pls Sta. 668+69.74  
Ds = 2' 47' 21.8"  
Ls = 370.00'  
LT = 246.70'  
ST = 123.36'  
PI Sta. 679+07.18  
Ds = 27' 03' 08" (LT)  
D = 1' 30' 28.0"  
L = 1,794.17'  
T = 914.13'  
R = 3,800.00'  
DS = 70 MPH  
e = 0.06

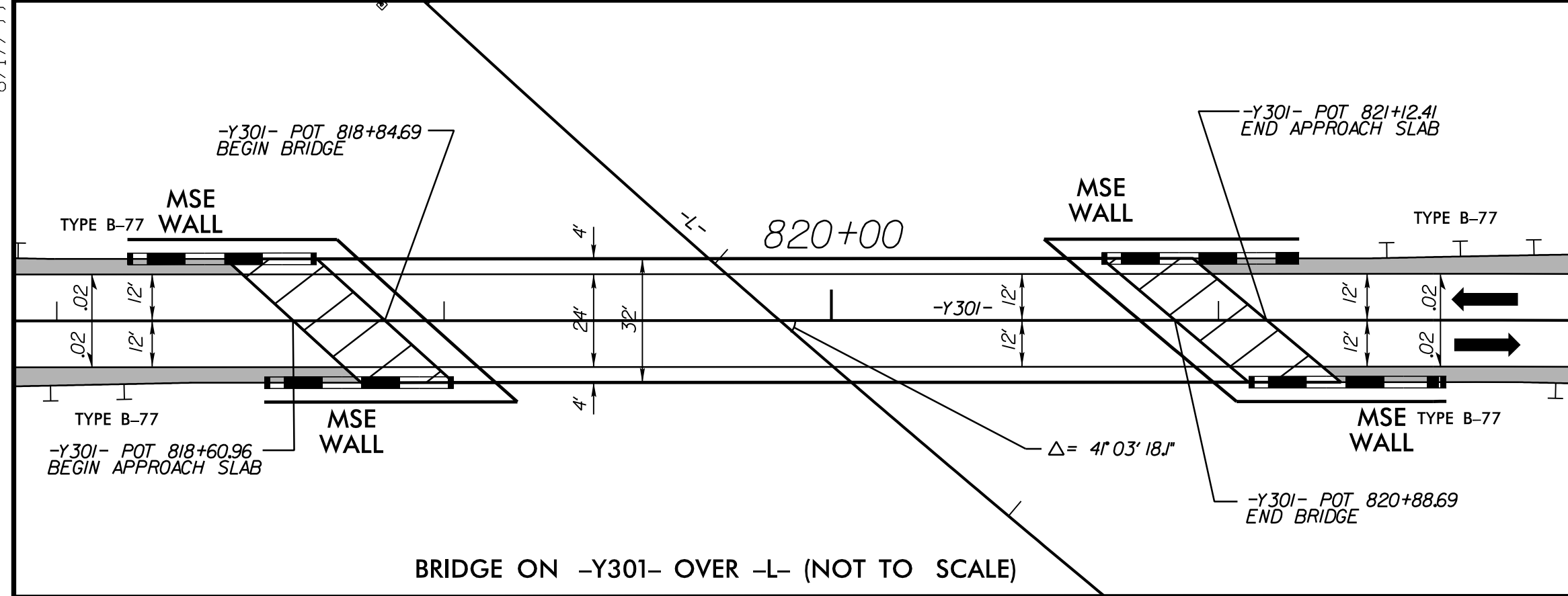
|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 / R-2559                                    | 38                  |
| RW SHEET NO.                                       |                     |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

FOR -L- PROFILE SEE SHT. 139

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  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



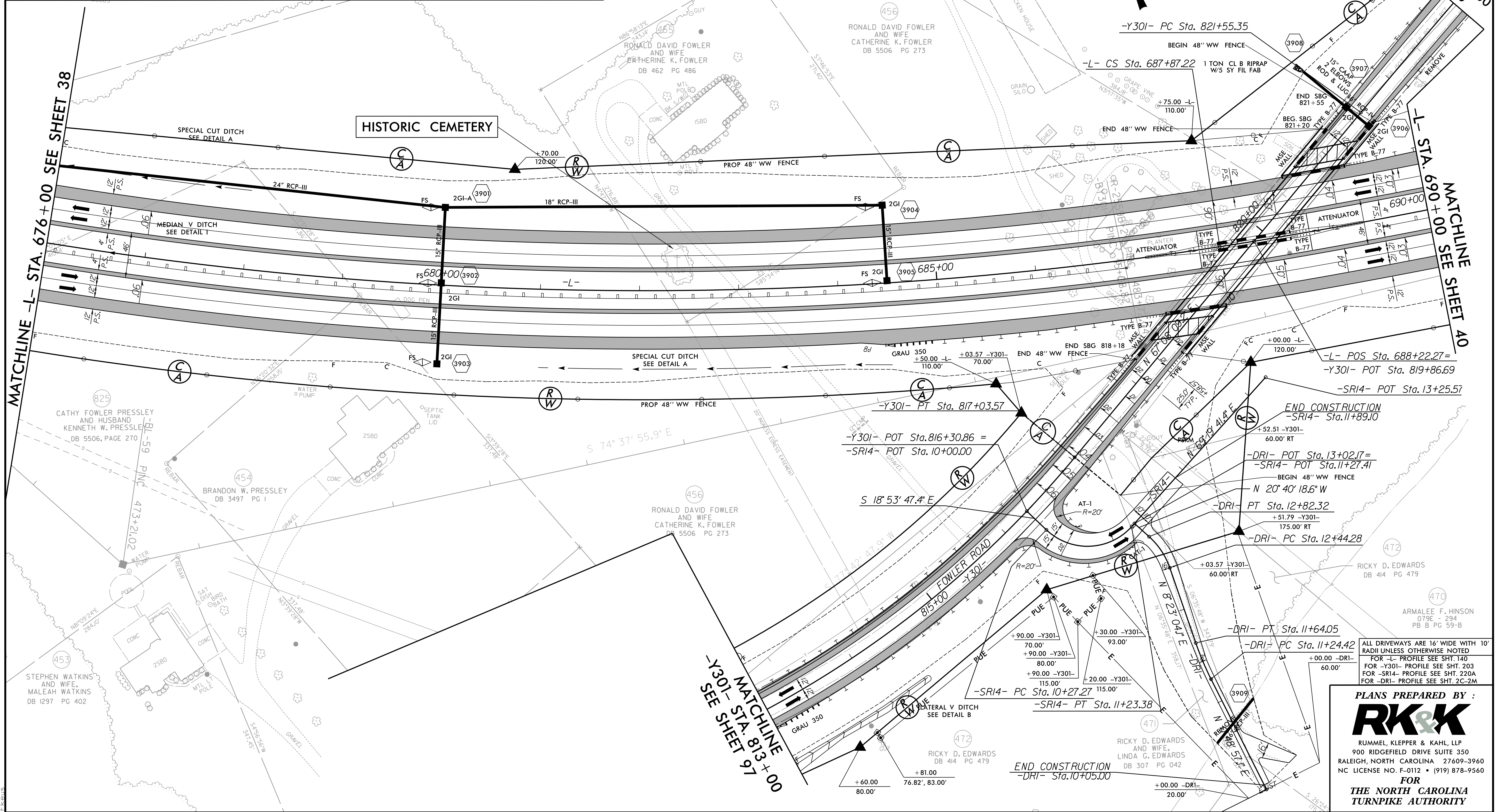
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\$\$\$\$\$TIME\$\$\$\$\$  
R3329\_R2559\_RDX\_PSH\_0239.dgn



| -L-                                   |                                   | -Y301-                                |                                      | -SRI4-                               |  |
|---------------------------------------|-----------------------------------|---------------------------------------|--------------------------------------|--------------------------------------|--|
| PI Sta. 679+07.18                     | PIs Sta. 689+10.58                | PI Sta. 814+45.28                     | PI Sta. 823+04.85                    | PI Sta. 10+89.16                     |  |
| $\Delta = 27^{\circ} 03' 08.1''$ (LT) | $\Delta s = 2^{\circ} 47' 21.8''$ | $\Delta = 28^{\circ} 48' 37.4''$ (LT) | $\Delta = 2^{\circ} 10' 35.9''$ (RT) | $\Delta = 9^{\circ} 46' 31.2''$ (LT) |  |
| D = 1,30' 28.0'                       | Ls = 370.00'                      | D = 5' 27' 24.3'                      | D = 0' 43' 40.9'                     | D = 95' 29' 34.7'                    |  |
| L = 1,794.17'                         | LT = 246.70'                      | L = 527.98'                           | L = 298.98'                          | L = 96.11'                           |  |
| T = 914.13'                           | ST = 123.36'                      | T = 269.70'                           | T = 149.51'                          | T = 61.89'                           |  |
| R = 3,800.00'                         |                                   | R = 1,050.00'                         | R = 7,870.00'                        | R = 60.00'                           |  |
| DS = 70 MPH                           |                                   | DS = 50 MPH                           | DS = 50 MPH                          | DS = 15 MPH                          |  |
| e = 0.06                              |                                   | e = 0.06                              | e = NC                               |                                      |  |

| -DRI-                                |                                       |
|--------------------------------------|---------------------------------------|
| PI Sta. 11+44.26                     | PI Sta. 12+63.72                      |
| $\Delta = 7^{\circ} 34' 07.0''$ (RT) | $\Delta = 29^{\circ} 03' 22.7''$ (LT) |
| D = 19' 05' 54.9'                    | D = 76' 23' 39.7'                     |
| L = 39.63'                           | L = 38.03'                            |
| T = 19.84'                           | T = 19.44'                            |
| R = 300.00'                          | R = 75.00'                            |

|                                                    |                        |                 |
|----------------------------------------------------|------------------------|-----------------|
| PROJECT REFERENCE NO.<br>R-3329 / R-2559           |                        | SHEET NO.<br>39 |
| R/W SHEET NO.                                      |                        |                 |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |                 |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |                 |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |                 |



ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED  
FOR -L- PROFILE SEE SHT. 140  
FOR -Y301- PROFILE SEE SHT. 203  
FOR -SRI4- PROFILE SEE SHT. 220A  
FOR -DRI- PROFILE SEE SHT. 2C-2M

PLANS PREPARED BY :  
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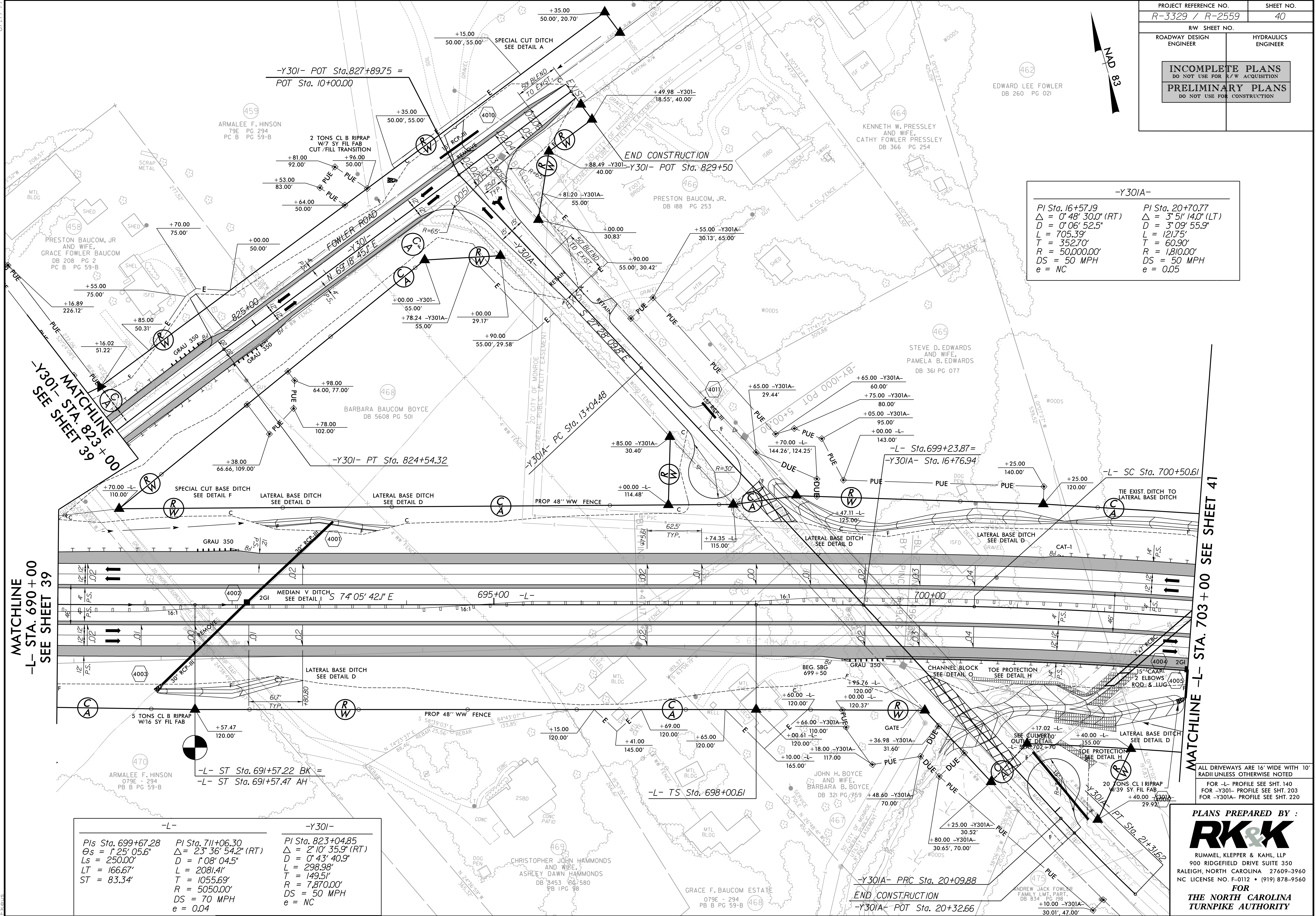


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\$\$\$\$\$TIME\$\$\$\$\$

FILE



|                                                    |                        |           |
|----------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                              |                        | SHEET NO. |
| R-3329 / R-2559                                    |                        | 40        |
| R/W SHEET NO.                                      |                        |           |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |           |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |           |

| -Y301A-                                                                                                                                                               |                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PI Sta. 16+57.19<br>$\Delta = 0^\circ 48' 30.0''$ (RT)<br>$D = 0^\circ 06' 52.5''$<br>$L = 705.39'$<br>$T = 352.70'$<br>$R = 50,000.00'$<br>$DS = 50$ MPH<br>$e = NC$ | PI Sta. 20+70.77<br>$\Delta = 3^\circ 51' 14.0''$ (LT)<br>$D = 3^\circ 09' 55.9''$<br>$L = 121.75'$<br>$T = 60.90'$<br>$R = 18,100.00'$<br>$DS = 50$ MPH<br>$e = 0.05$ |

MATCHLINE  
-L- STA. 690+00  
SEE SHEET 39

MATCHLINE -L- STA. 703+00  
SEE SHEET 41

| -L-                                                                                                        |                                                                                                                                                                            | -Y301-                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PIs Sta. 699+67.28<br>$\Theta s = 1^\circ 25' 05.6''$<br>$Ls = 250.00'$<br>$LT = 166.67'$<br>$ST = 83.34'$ | PI Sta. 711+06.30<br>$\Delta = 23^\circ 36' 54.2''$ (RT)<br>$D = 1^\circ 08' 04.5''$<br>$L = 2081.41'$<br>$T = 1055.69'$<br>$R = 50500.00'$<br>$DS = 70$ MPH<br>$e = 0.04$ | PI Sta. 823+04.85<br>$\Delta = 2^\circ 10' 35.9''$ (RT)<br>$D = 0^\circ 43' 40.9''$<br>$L = 298.98'$<br>$T = 149.51'$<br>$R = 7,870.00'$<br>$DS = 50$ MPH<br>$e = NC$ |

ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED  
FOR -L- PROFILE SEE SHT. 140  
FOR -Y301- PROFILE SEE SHT. 203  
FOR -Y301A- PROFILE SEE SHT. 220

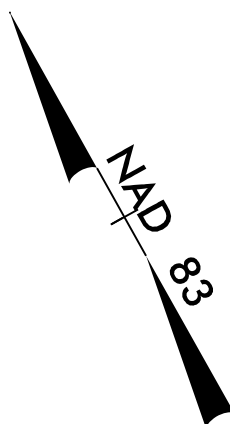
PLANS PREPARED BY :  
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900 RIDGEFIELD DRIVE SUITE 350  
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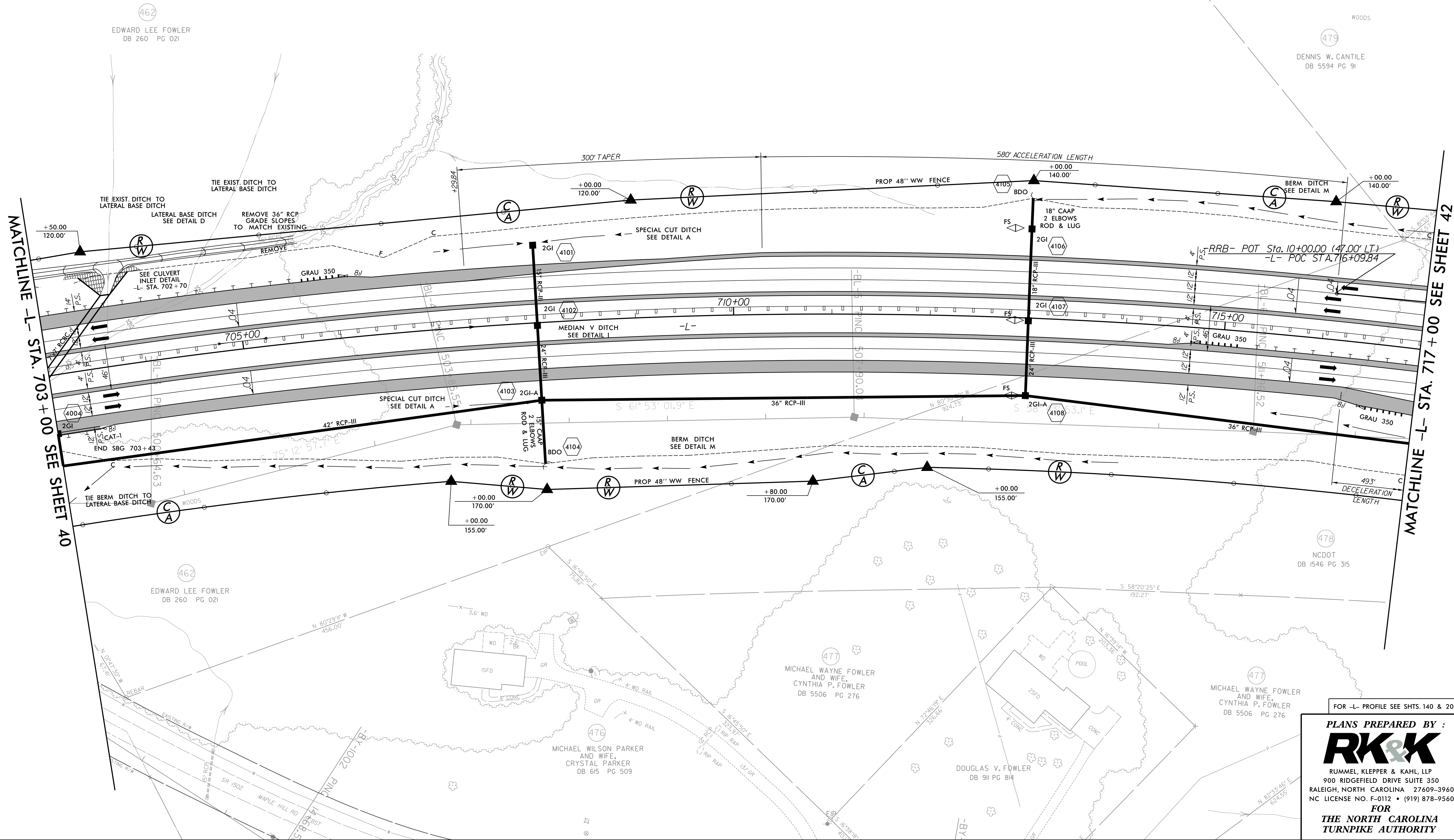
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8/29/2014  
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-L-  
PI Sta. 711+06.30  
 $\Delta = 23^\circ 36' 54.2''$  (RT)  
 $D = 1' 08' 04.5''$   
 $L = 2,081.41'$   
 $T = 1,055.69'$   
 $R = 5,050.00'$   
 $DS = 70$  MPH  
 $e = 0.04$



|                                                    |  |                        |
|----------------------------------------------------|--|------------------------|
| PROJECT REFERENCE NO.<br>R-3329 / R-2559           |  | SHEET NO.<br>41        |
| RW SHEET NO.                                       |  |                        |
| ROADWAY DESIGN<br>ENGINEER                         |  | HYDRAULICS<br>ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |  |                        |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |  |                        |



FOR -L- PROFILE SEE SHTS. 140 & 203

PLANS PREPARED BY :

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FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

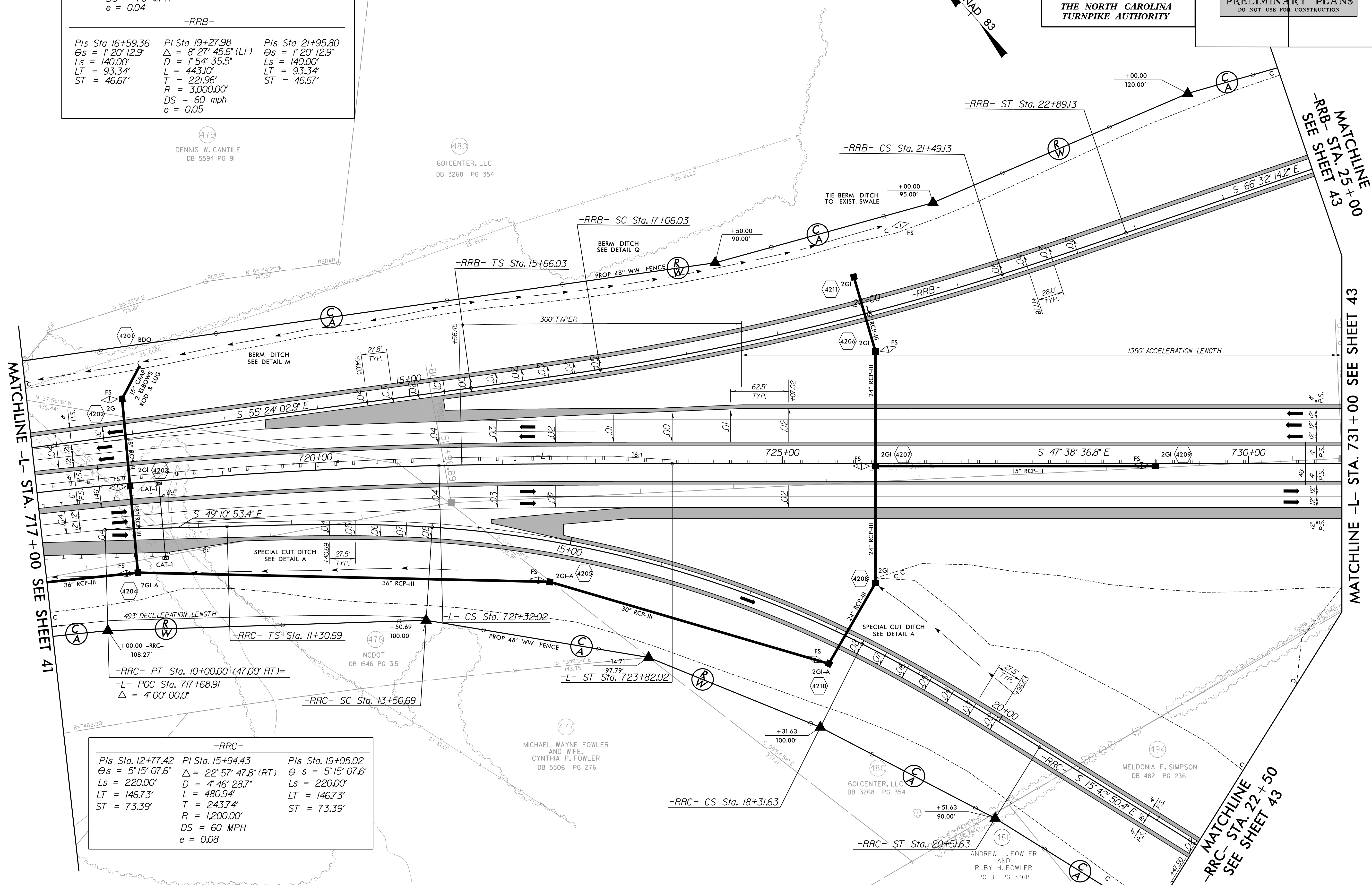


| -L-                                   |                                   |  |
|---------------------------------------|-----------------------------------|--|
| <i>Pls Sta. 711+06.30</i>             | <i>Pls Sta. 722+15.36</i>         |  |
| $\Delta = 23^{\circ} 36' 54.2''$ (RT) | $\Theta_s = 1^{\circ} 25' 05.6''$ |  |
| <i>D = 1^{\circ} 08' 04.5''</i>       | <i>Ls = 250.00'</i>               |  |
| <i>L = 2,081.41'</i>                  | <i>LT = 166.67'</i>               |  |
| <i>T = 1,055.69'</i>                  | <i>ST = 83.34'</i>                |  |
| <i>R = 5,050.00'</i>                  |                                   |  |
| <i>DS = 70 MPH</i>                    |                                   |  |
| <i>e = 0.04</i>                       |                                   |  |

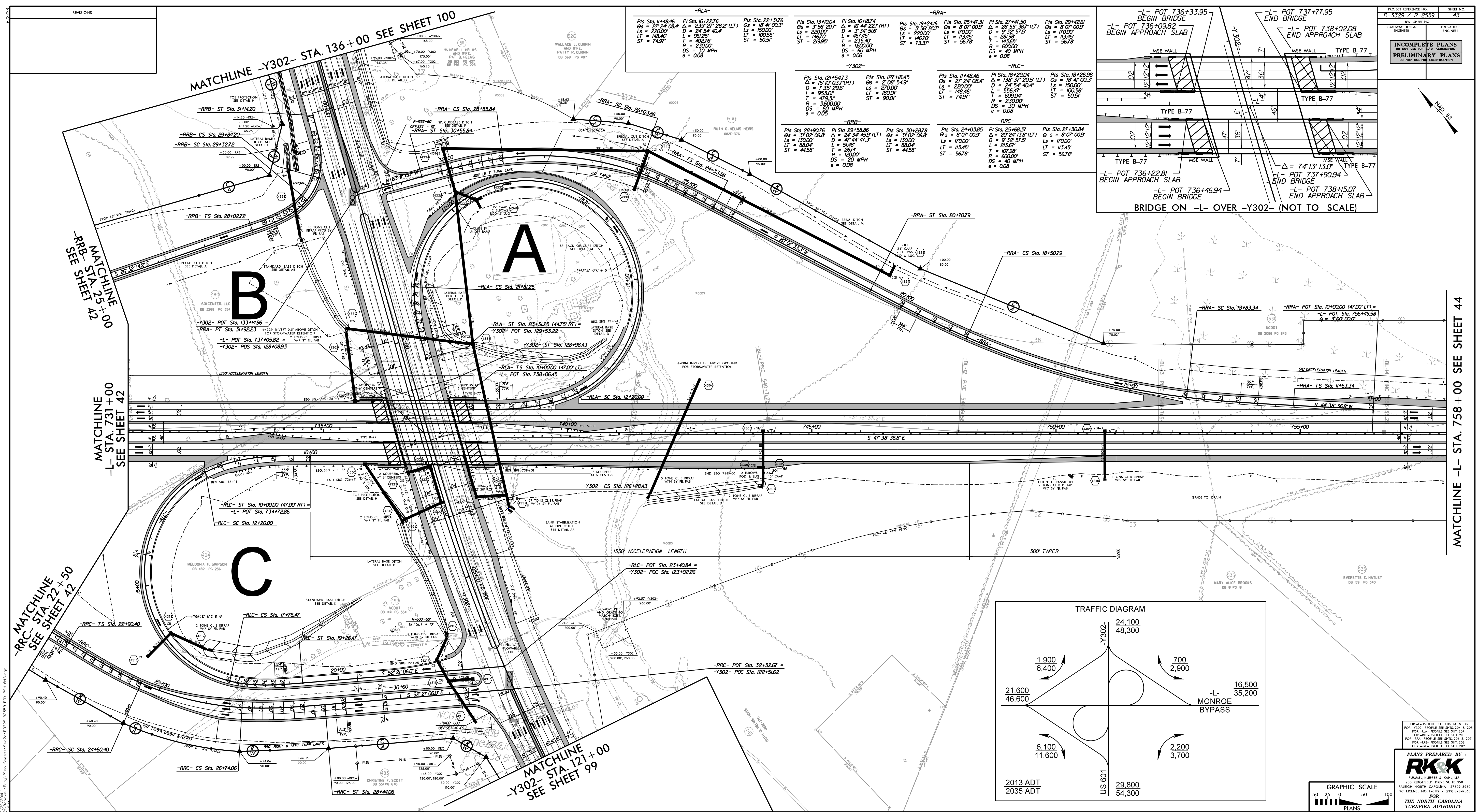
FOR -L- PROFILE SEE SHT. 141  
FOR -RRB- PROFILE SEE SHT. 208  
FOR -RRC- PROFILE SEE SHT. 209

**PLANS PREPARED BY :**  
**RK&K**  
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 C LICENSE NO. F-0112 • (919) 878-9560  
**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**

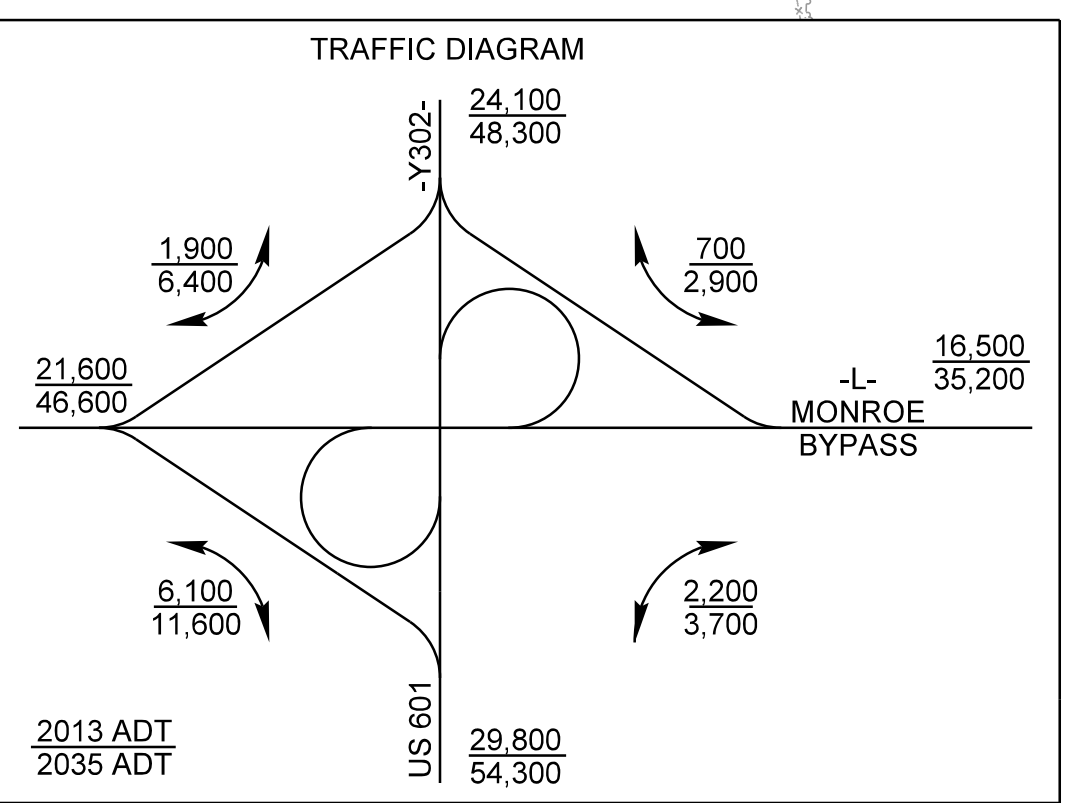
|                                                                                                                                                                                                                    |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| PROJECT REFERENCE NO.                                                                                                                                                                                              | SHEET NO.              |
| <i>R-3329 / R-2559</i>                                                                                                                                                                                             | <i>42</i>              |
| RW SHEET NO.                                                                                                                                                                                                       |                        |
| ROADWAY DESIGN<br>ENGINEER                                                                                                                                                                                         | HYDRAULICS<br>ENGINEER |
| <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p><b>INCOMPLETE PLANS</b><br/>DO NOT USE FOR R/W ACQUISITION</p> <p><b>PRELIMINARY PLANS</b><br/>DO NOT USE FOR CONSTRUCTION</p> </div> |                        |







|                                                 |                 |             |          |
|-------------------------------------------------|-----------------|-------------|----------|
| PROJECT REFERENCE NO.                           | R-1329 / R-2559 | SHEET NO.   | 43       |
| REV. SHEET NO.                                  |                 |             |          |
| ROADWAY DESIGN                                  | ENGINEER        | FEDERAL AID | ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR CONSTRUCTION |                 |             |          |

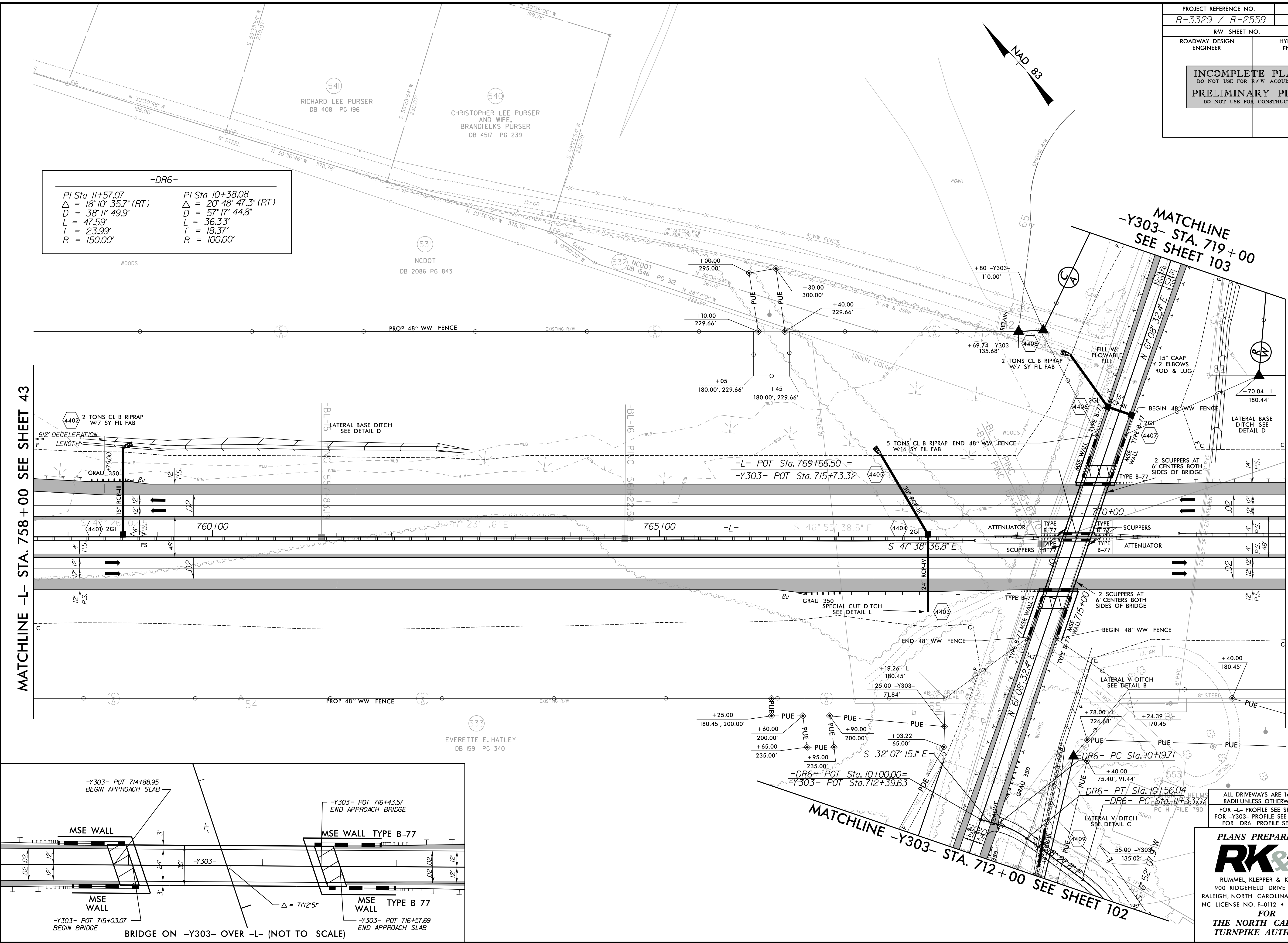


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100 HICKORY DRIVE, SUITE 310  
RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. 1-0111 / (919) 878-9540  
FOR THE NORTH CAROLINA  
TURNPIKE AUTHORITY



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|                                                    |  |                        |
|----------------------------------------------------|--|------------------------|
| PROJECT REFERENCE NO.                              |  | SHEET NO.              |
| R-3329 / R-2559                                    |  | 44                     |
| RW SHEET NO.                                       |  |                        |
| ROADWAY DESIGN<br>ENGINEER                         |  | HYDRAULICS<br>ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |  |                        |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |  |                        |



ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED  
FOR -L- PROFILE SEE SHTS. 142 & 143  
FOR -Y303- PROFILE SEE SHTS. 210 & 211  
FOR -DR6- PROFILE SEE SHT. 2C-2M

**PLANS PREPARED BY :**

**RK&K**

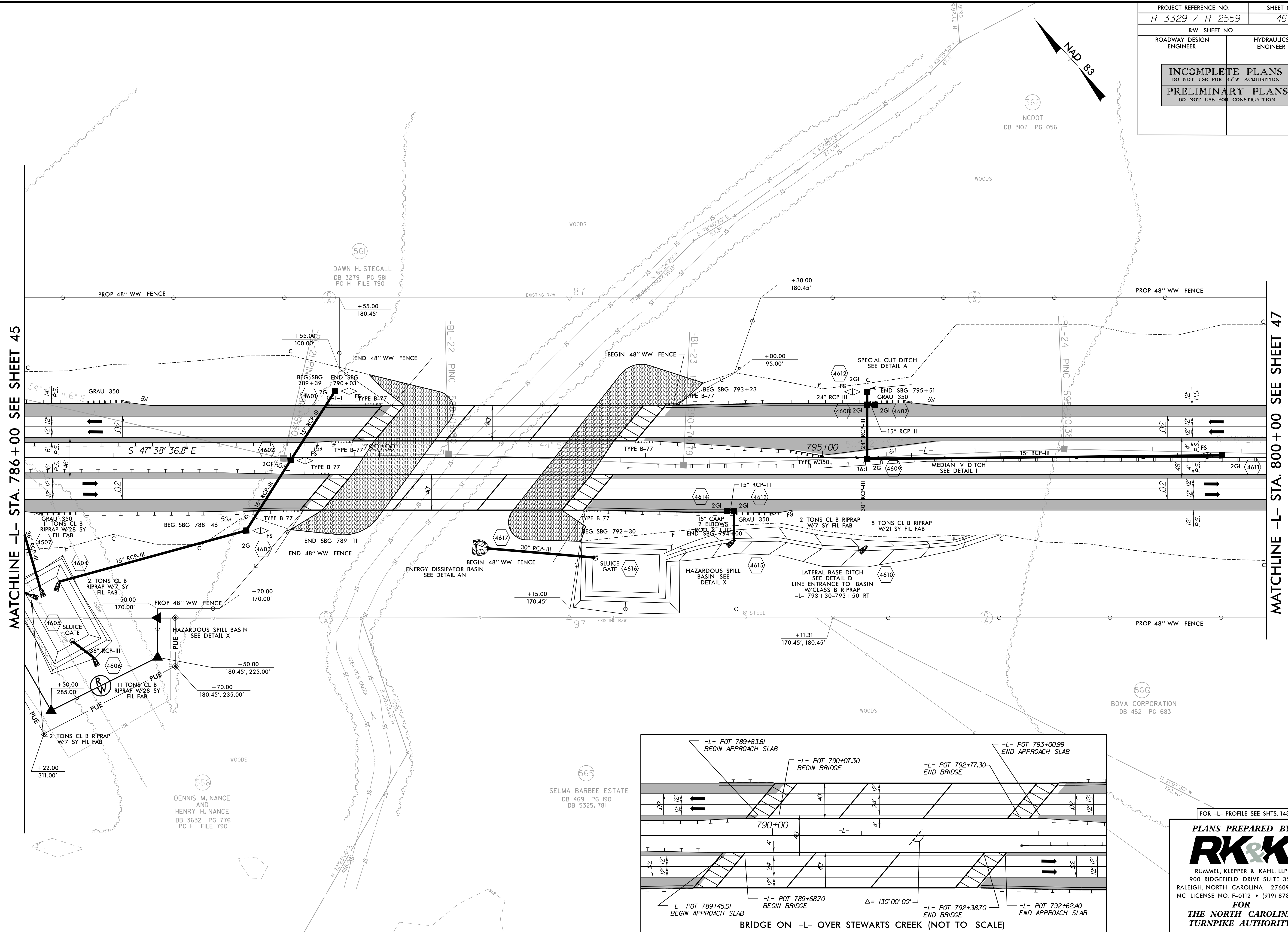
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. F-0112 • (919) 878-9560

**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**

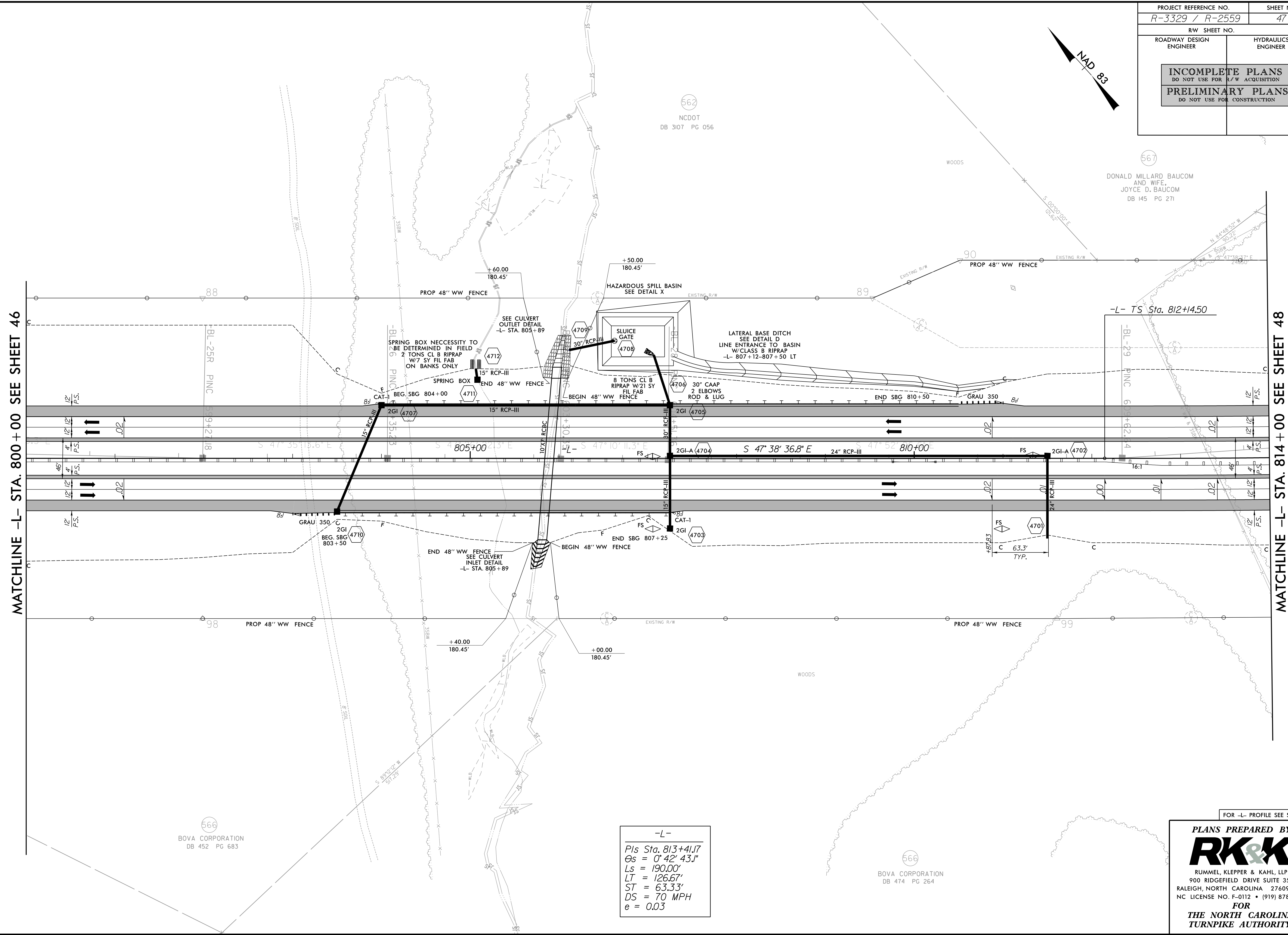




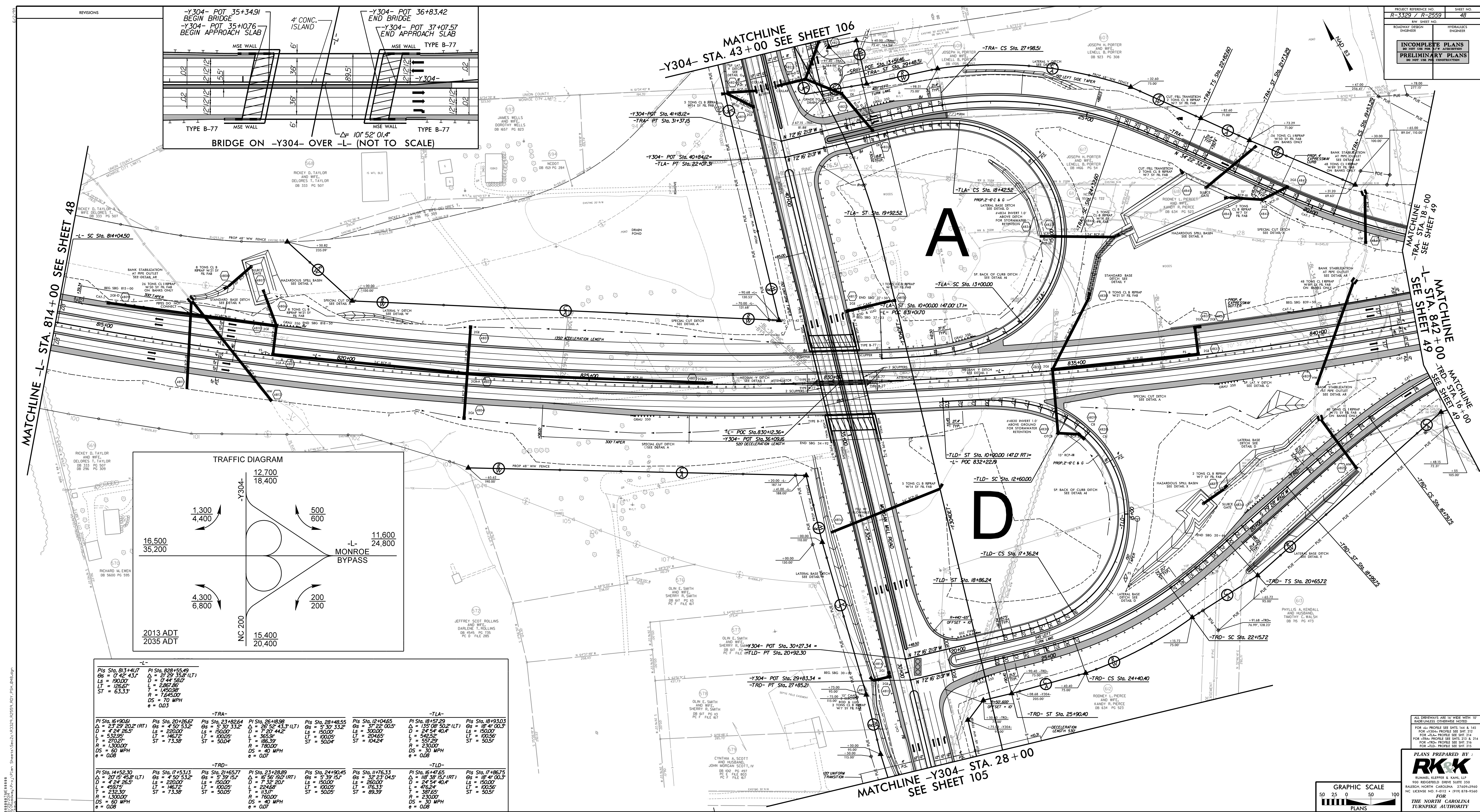








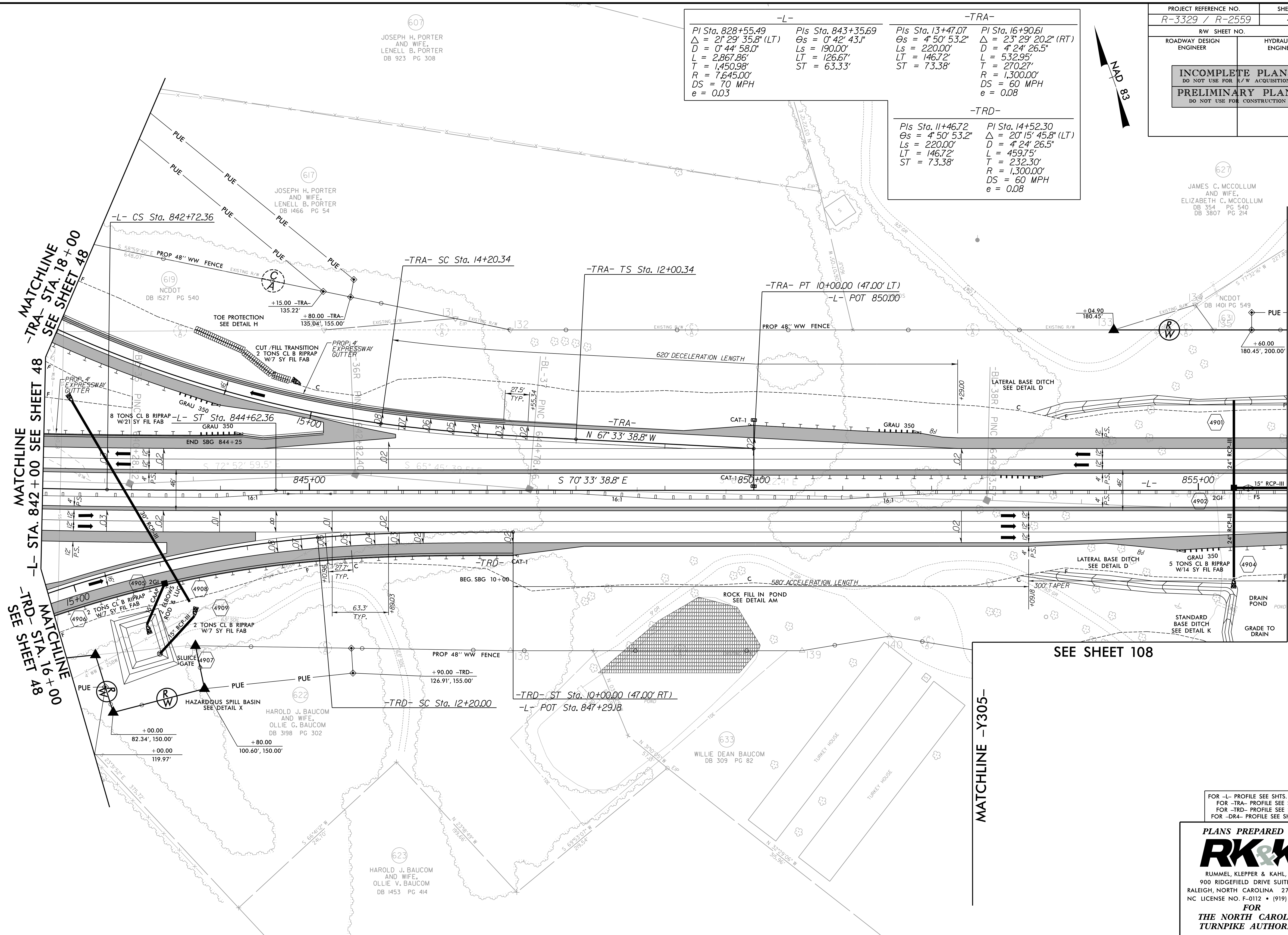






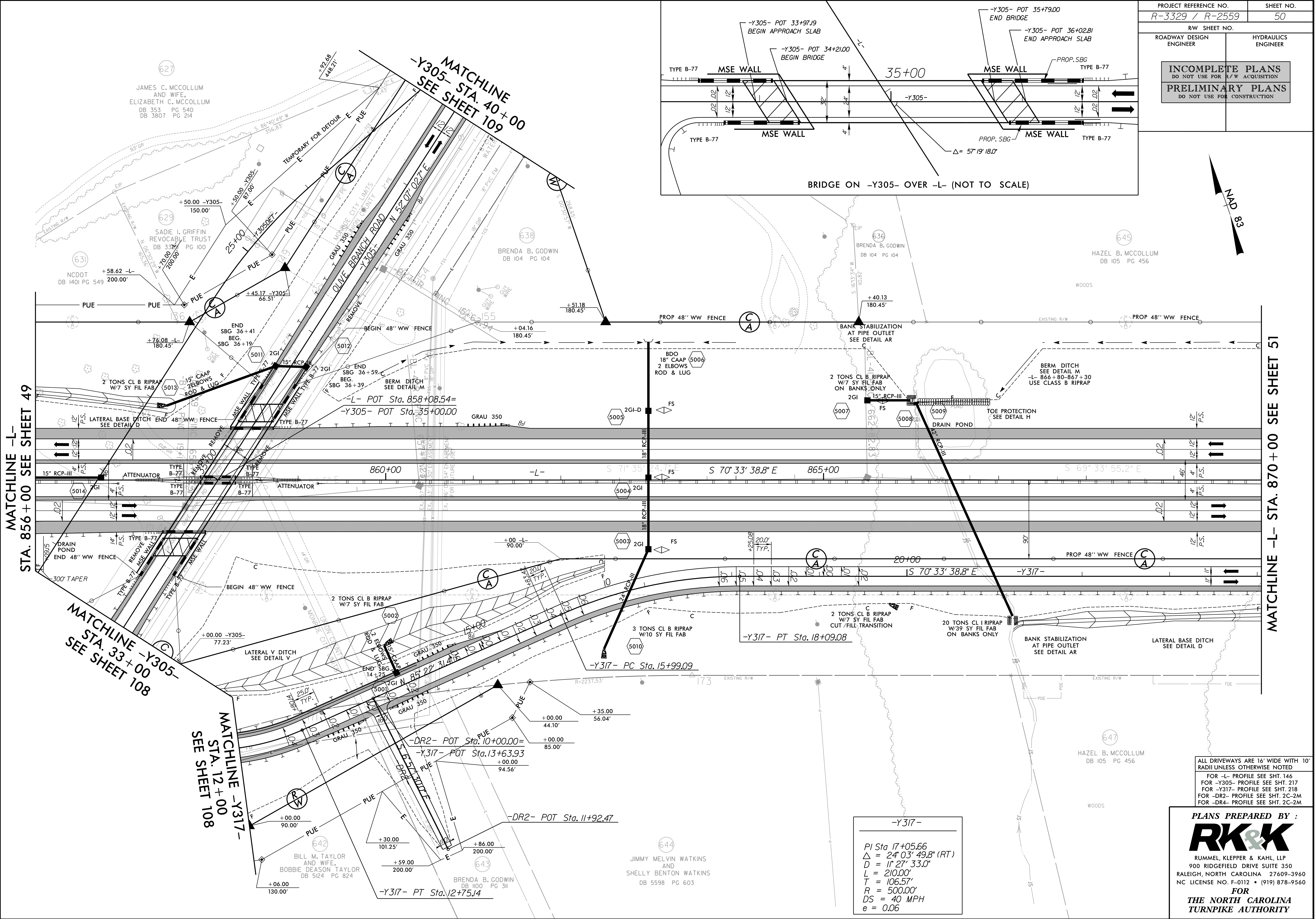
JAMES C. MCCOLLUM  
AND WIFE,  
ELIZABETH C. MCCOLLUM  
DB 354 PG 540  
DB 3807 PG 214

**PLANS PREPARED BY :**  
**RK&K**  
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900 RIDGEFIELD DRIVE SUITE 350  
ALEIGH, NORTH CAROLINA 27609-3960  
IC LICENSE NO. F-0112 • (919) 878-9560  
**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**

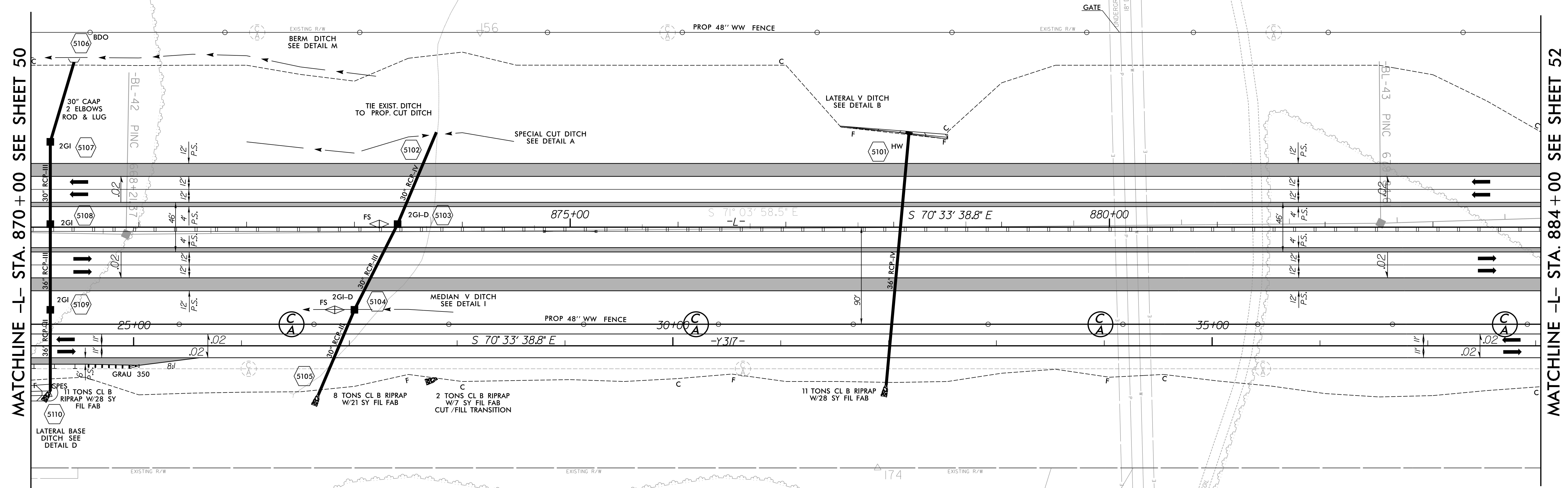




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\$\$\$\$\$DATE\$\$\$\$\$







**MATCHLINE -L- STA. 870+00 SEE SHEET 50**

**MATCHLINE -L- STA. 884+00 SEE SHEET 52**

FOR -L- PROFILE SEE SHTS. 146 & 147  
FOR -Y317- PROFILE SEE SHT. 218

**PLANS PREPARED BY :**  
**RK&K**  
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900 RIDGEFIELD DRIVE SUITE 350  
EIGH, NORTH CAROLINA 27609-3960  
LICENSE NO. F-0112 • (919) 878-9560  
**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**

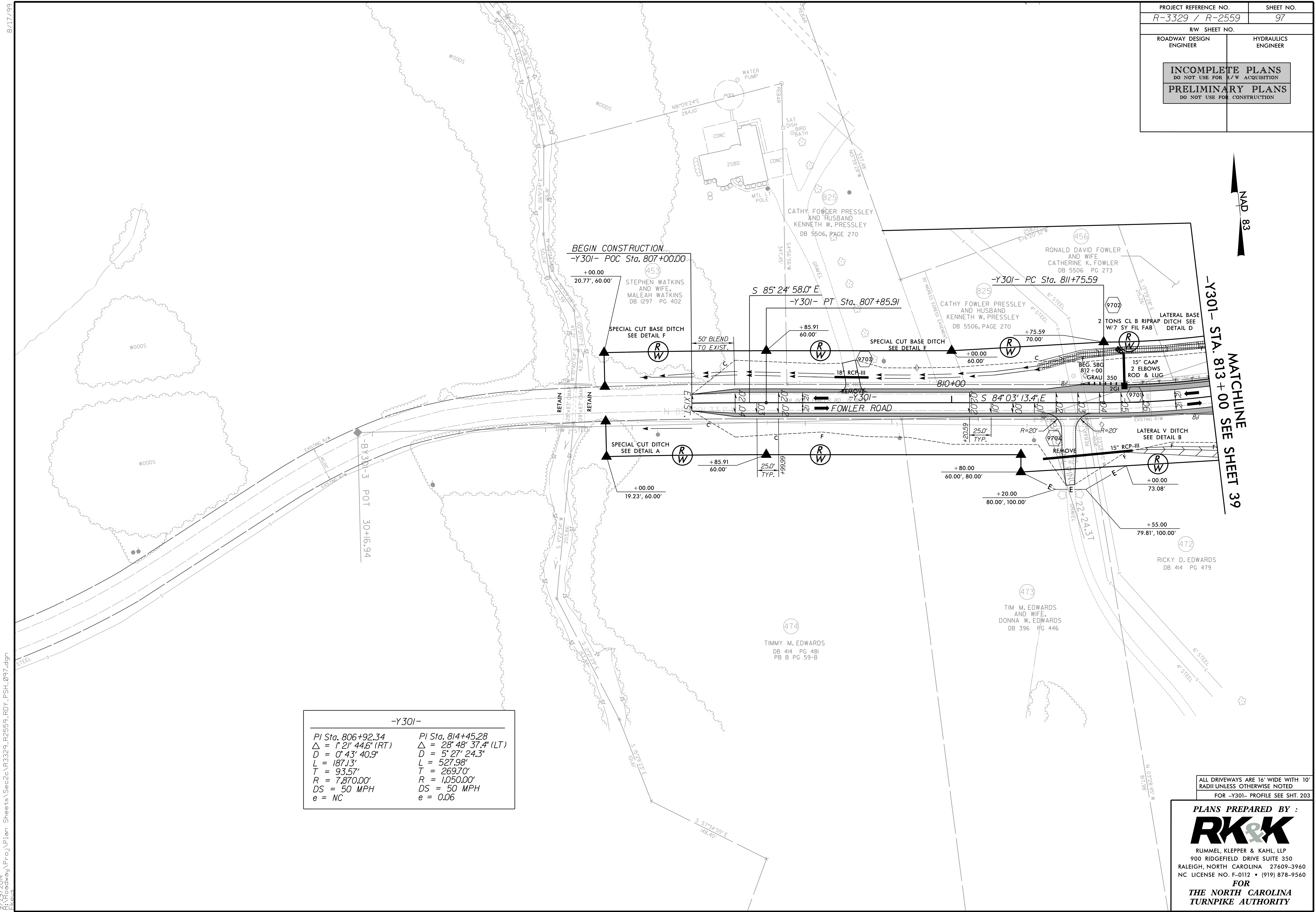










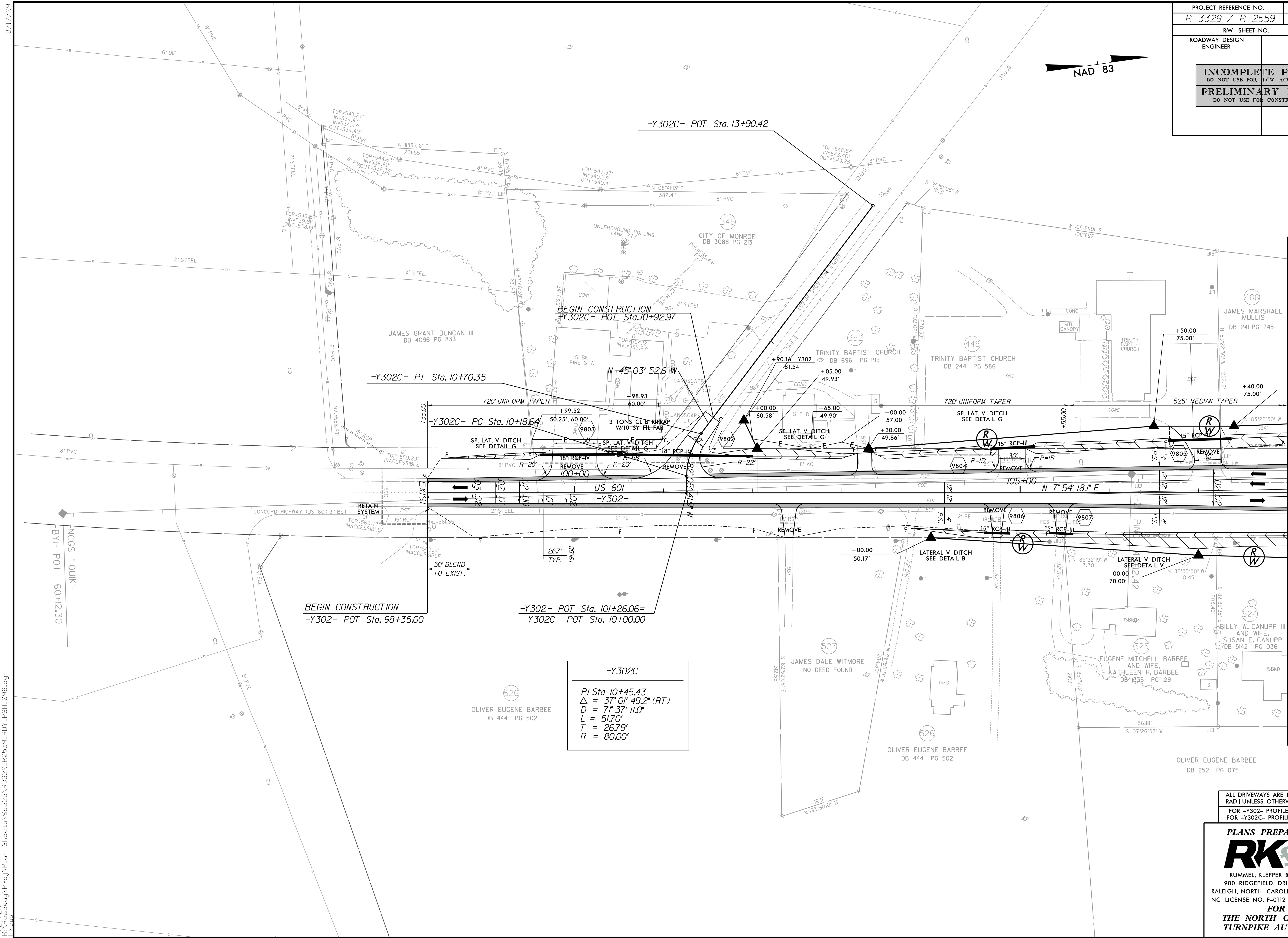


ALL DRIVEWAYS ARE 16' WIDE WITH 10'  
RADII UNLESS OTHERWISE NOTED

FOR -Y301- PROFILE SEE SHT. 203

**PLANS PREPARED BY :**  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
10 RIDGEFIELD DRIVE SUITE 350  
FARMINGTON, NORTH CAROLINA 27609-3960  
LICENSE NO. F-0112 • (919) 878-9560  
**FOR**  
**THE NORTH CAROLINA**  
**REGISTERED PROFESSIONAL ENGINEER**  
**AND SURVEYOR AUTHORITY**





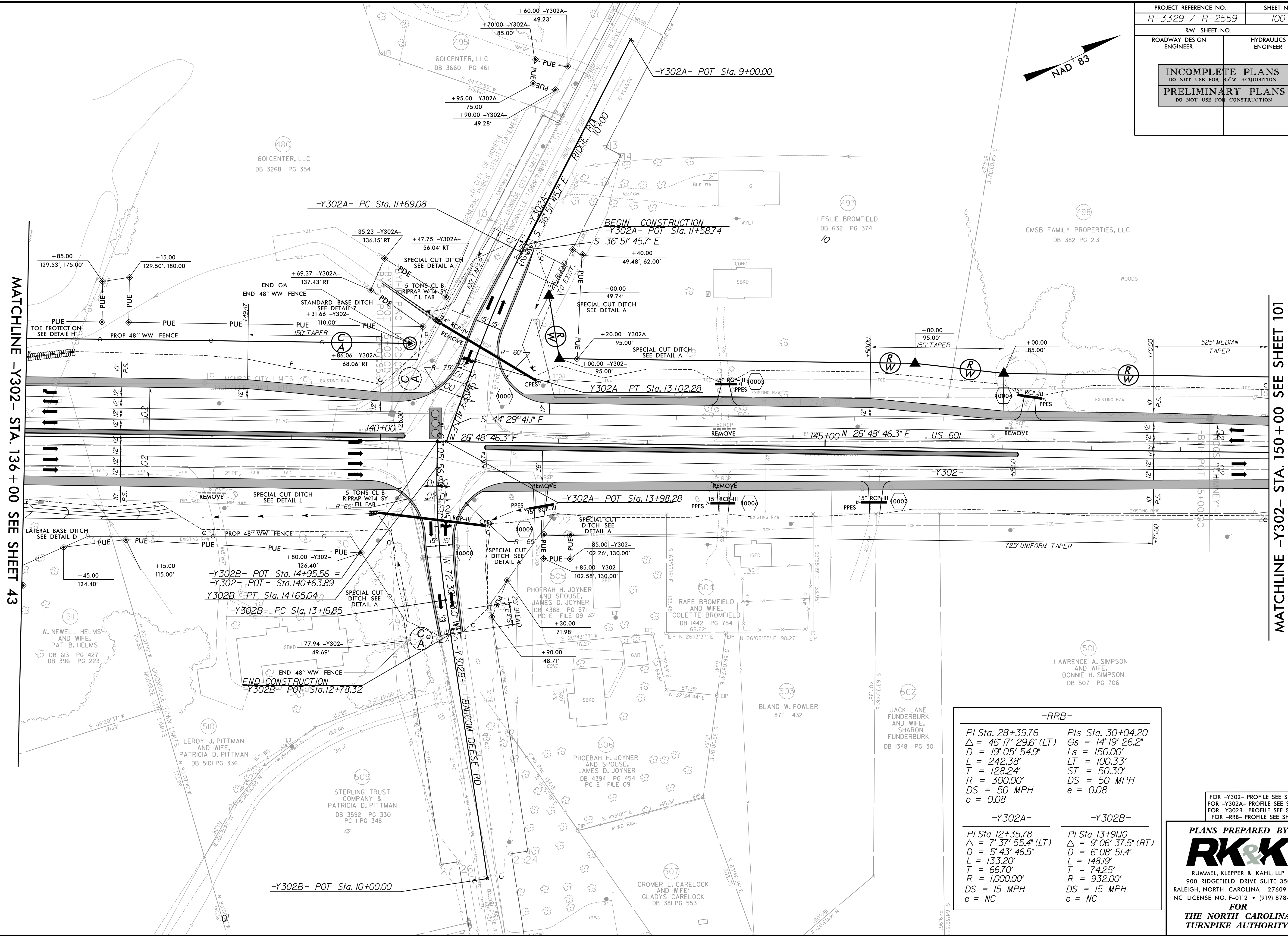
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MATCHLINE -Y302- STA. 108+00 SEE SHEET 99



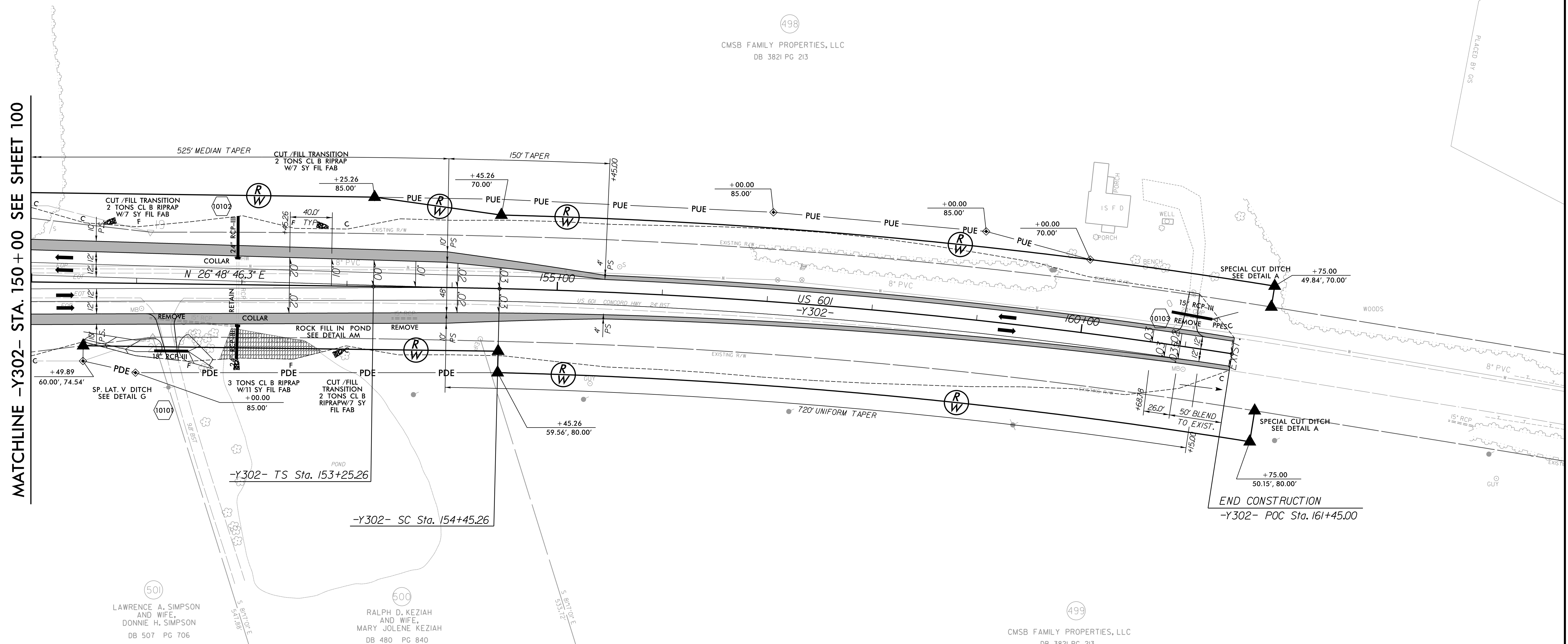








| -Y 302-                         |                                      |                                 |
|---------------------------------|--------------------------------------|---------------------------------|
| <i>Pls Sta.</i> 154+05.26       | <i>Pl Sta.</i> 158+04.17             | <i>Pls Sta.</i> 161+88.70       |
| $\phi s = 0^{\circ} 38' 03.4''$ | $\Delta = 7^{\circ} 34' 37.8''$ (RT) | $\phi s = 0^{\circ} 25' 22.3''$ |
| <i>Ls</i> = 120.00'             | <i>D</i> = 1' 03' 25.6"              | <i>Ls</i> = 80.00'              |
| <i>LT</i> = 80.00'              | <i>L</i> = 716.78'                   | <i>LT</i> = 53.33'              |
| <i>ST</i> = 40.00'              | <i>T</i> = 358.91'                   | <i>ST</i> = 26.67'              |
|                                 | <i>RS</i> = 5,420.00'                |                                 |
|                                 | <i>DS</i> = 60 MPH                   |                                 |
|                                 | <i>e</i> = 0.03                      |                                 |



|                                                                  |
|------------------------------------------------------------------|
| ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED |
| FOR -Y302- PROFILE SEE SHTS. 205 & 206                           |

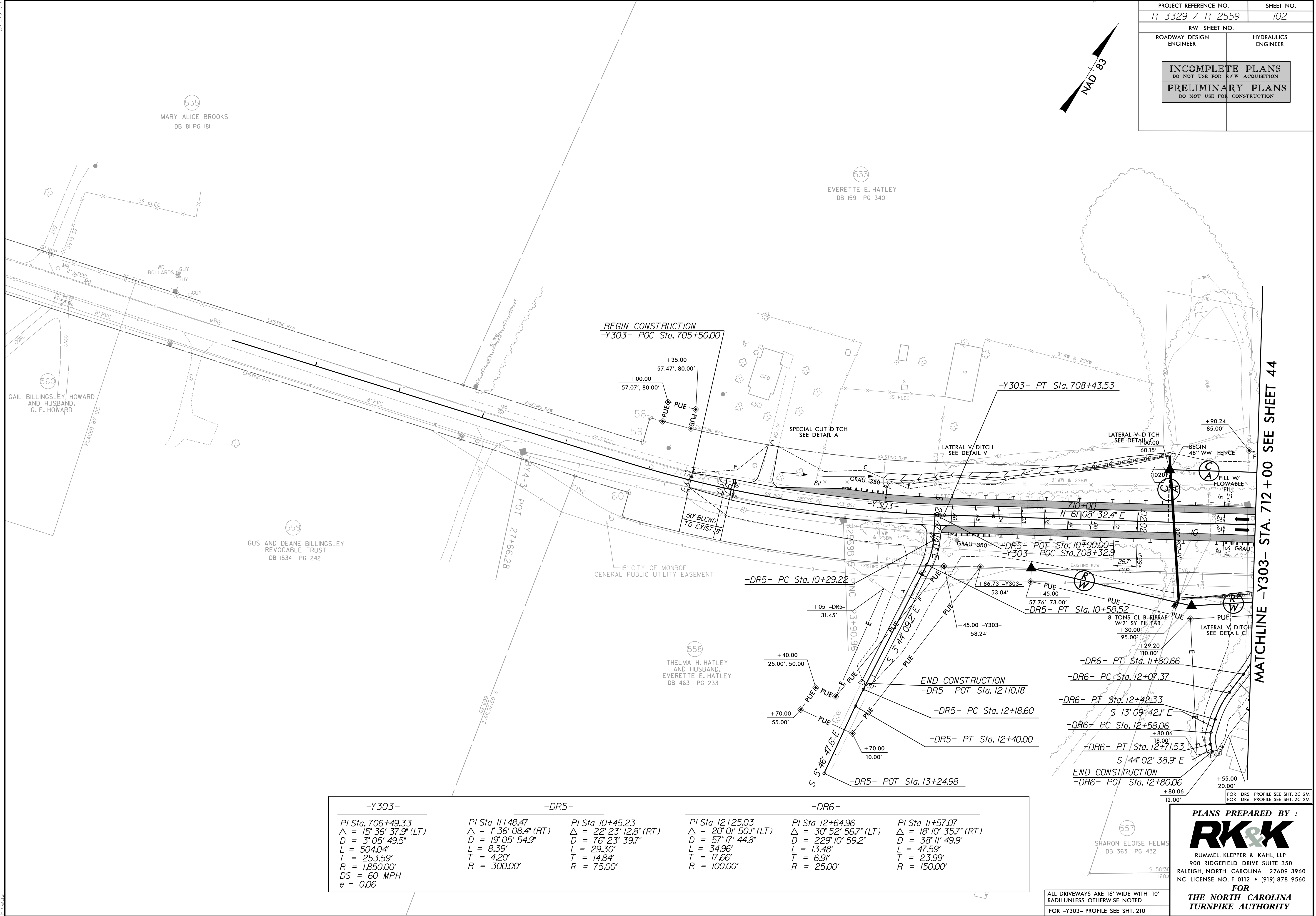
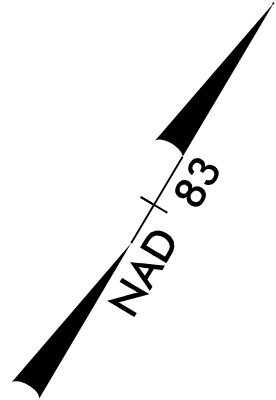
**PLANS PREPARED BY :**  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
LEIGH, NORTH CAROLINA 27609-3960  
LICENSE NO. F-0112 • (919) 878-9560  
**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



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|                                                    |  |                        |
|----------------------------------------------------|--|------------------------|
| PROJECT REFERENCE NO.                              |  | SHEET NO.              |
| R-3329 / R-2559                                    |  | 102                    |
| RW SHEET NO.                                       |  |                        |
| ROADWAY DESIGN<br>ENGINEER                         |  | HYDRAULICS<br>ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |  |                        |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |  |                        |



| -Y303-                                                                                                                                                 | -DR5-                                                                                                                   | -DR6-                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| PI Sta. 706+49.33<br>$\Delta = 15^\circ 36' 37.9''$ (LT)<br>D = 3' 05' 49.5"<br>L = 504.04'<br>T = 253.59'<br>R = 1,850.00'<br>DS = 60 MPH<br>e = 0.06 | PI Sta. 11+48.47<br>$\Delta = 1^\circ 36' 08.4''$ (RT)<br>D = 19' 05' 54.9"<br>L = 8.39'<br>T = 4.20'<br>R = 300.00'    | PI Sta. 10+45.23<br>$\Delta = 22^\circ 23' 12.8''$ (RT)<br>D = 76' 23' 39.7"<br>L = 29.30'<br>T = 14.84'<br>R = 75.00' |
|                                                                                                                                                        | PI Sta. 12+25.03<br>$\Delta = 20^\circ 01' 50.1''$ (LT)<br>D = 57' 17' 44.8"<br>L = 34.96'<br>T = 17.66'<br>R = 100.00' | PI Sta. 12+64.96<br>$\Delta = 30^\circ 52' 56.7''$ (LT)<br>D = 229' 10' 59.2"<br>L = 13.48'<br>T = 6.91'<br>R = 25.00' |
|                                                                                                                                                        | PI Sta. 11+57.07<br>$\Delta = 18^\circ 10' 35.7''$ (RT)<br>D = 38' 11' 49.9"<br>L = 47.59'<br>T = 23.99'<br>R = 150.00' |                                                                                                                        |

ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED  
FOR -Y303- PROFILE SEE SHT. 210

PLANS PREPARED BY :

**RK&K**

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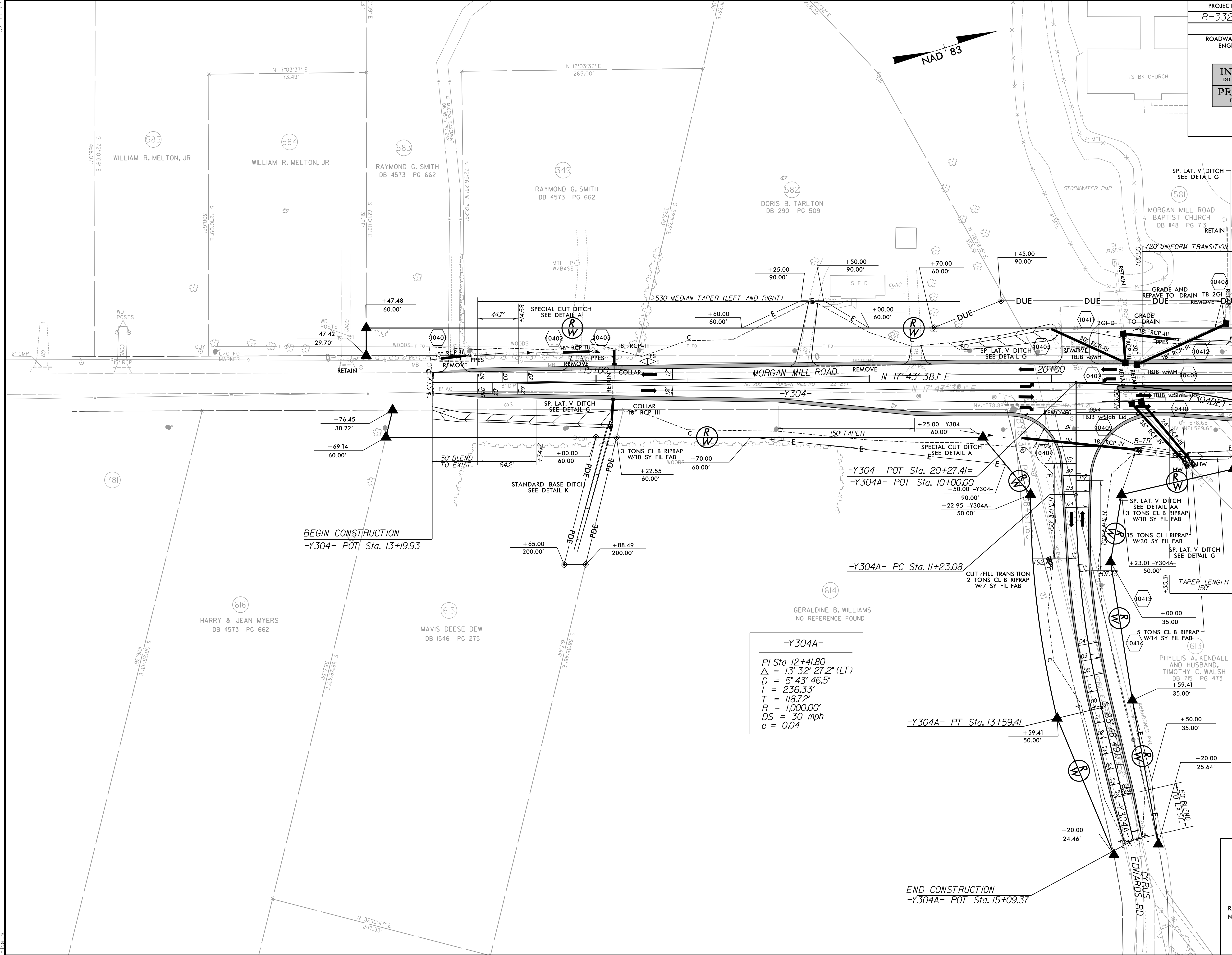
| $-Y303-$                             | $-DR8-$                               |
|--------------------------------------|---------------------------------------|
| $PI\ Sta. 723+41.44$                 | $PI\ Sta 10+27.87$                    |
| $\Delta = 1^{\circ} 34' 18.7'' (RT)$ | $\Delta = 11^{\circ} 45' 43.6'' (RT)$ |
| $D = 0^{\circ} 43' 40.9''$           | $D = 76^{\circ} 23' 39.7''$           |
| $L = 215.9'$                         | $L = 15.40'$                          |
| $T = 107.96'$                        | $T = 7.73'$                           |
| $R = 7,870.00'$                      | $R = 75.00'$                          |
| $DS = 60\ MPH$                       |                                       |
| $e = NC$                             |                                       |

|                                                                  |
|------------------------------------------------------------------|
| ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED |
| FOR -Y303- PROFILE SEE SHT. 211                                  |
| FOR -DR8- PROFILE SEE SHT. 2C-2M                                 |

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



8/17/99  
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\$\$\$\$\$DATE\$\$\$\$\$  
\$\$\$\$\$USER\$\$\$\$\$  
\$\$\$\$\$PROJECT\$\$\$\$\$  
\$\$\$\$\$SHEET\$\$\$\$\$



|                                                    |                        |                         |
|----------------------------------------------------|------------------------|-------------------------|
| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i>    |                        | SHEET NO.<br><i>104</i> |
| RW SHEET NO.                                       |                        |                         |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |                         |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |                         |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |                         |

-Y304A-  
PI Sta 12+41.80  
 $\Delta = 13^{\circ}32'27.2''$  (LT)  
 $D = 5^{\circ}43'46.5''$   
 $L = 236.33'$   
 $T = 118.72'$   
 $R = 1,000.00'$   
 $DS = 30$  mph  
 $e = 0.04$

ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED  
FOR -Y304- PROFILE SEE SHT. 211

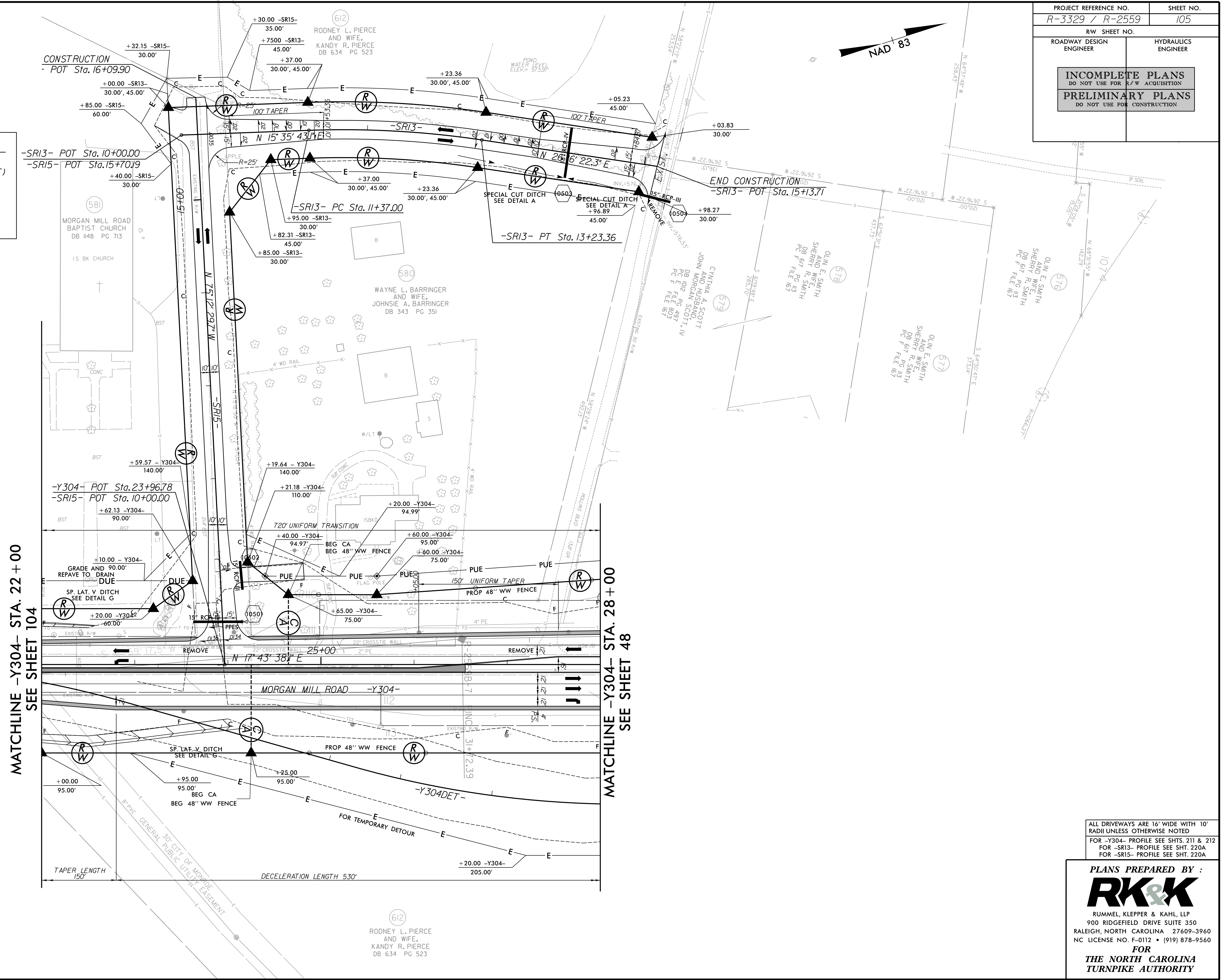
PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
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TURNPIKE AUTHORITY



-SRI3-

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*Pl Sta 12+30.45*  
 $\Delta = 10^{\circ} 40' 39.2''$  (RT)  
 $D = 5^{\circ} 43' 46.5''$   
 $L = 186.36'$   
 $T = 93.45'$   
 $R = 1,000.00'$   
 $DS = 20$  mph  
 $e = 0.02$

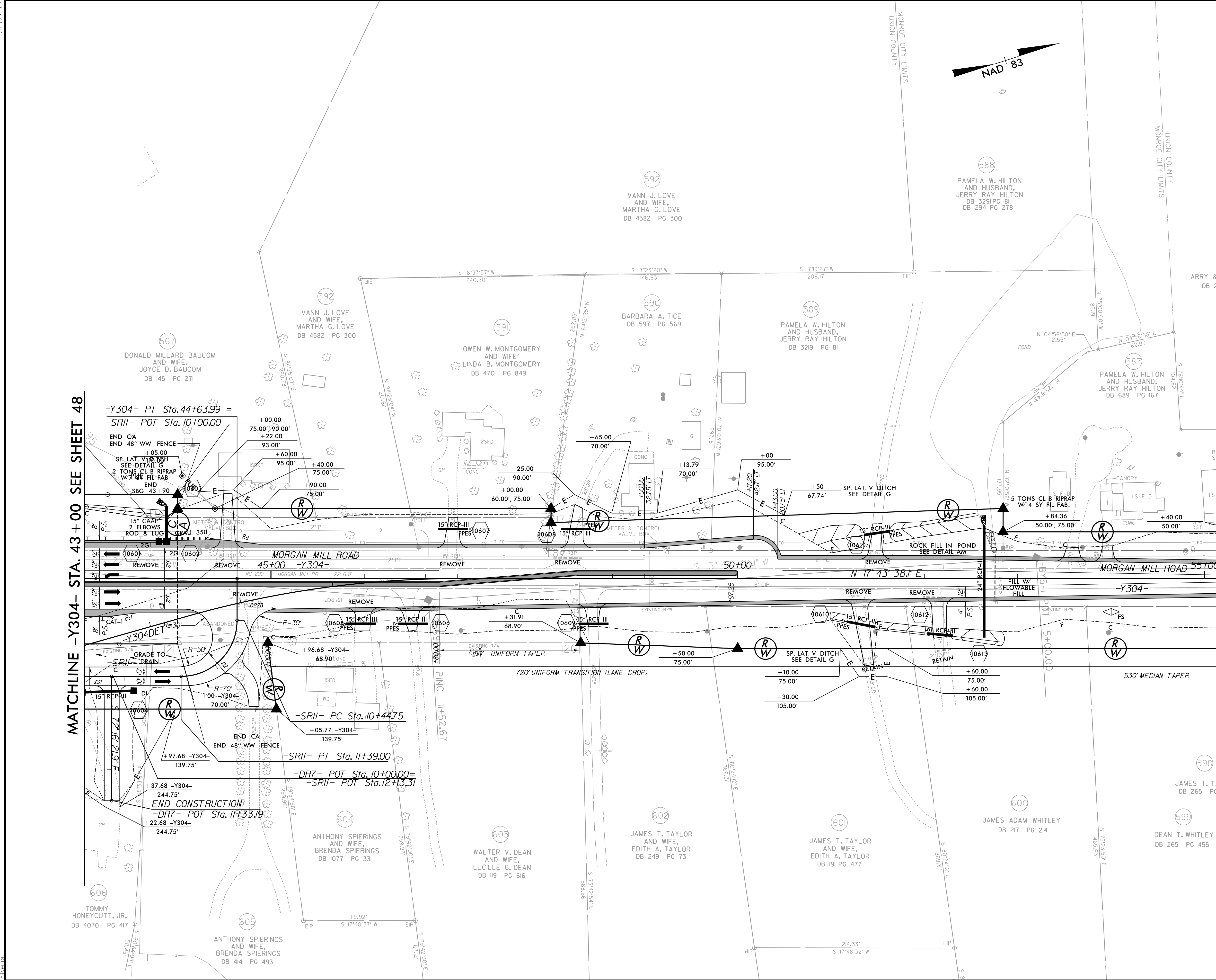


|                                                                  |
|------------------------------------------------------------------|
| ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED |
| FOR -Y304- PROFILE SEE SHTS. 211 & 212                           |
| FOR -SR13- PROFILE SEE SHT. 220A                                 |
| FOR -SR15- PROFILE SEE SHT. 220A                                 |

**PLANS PREPARED BY :**  
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R3329\_R2559

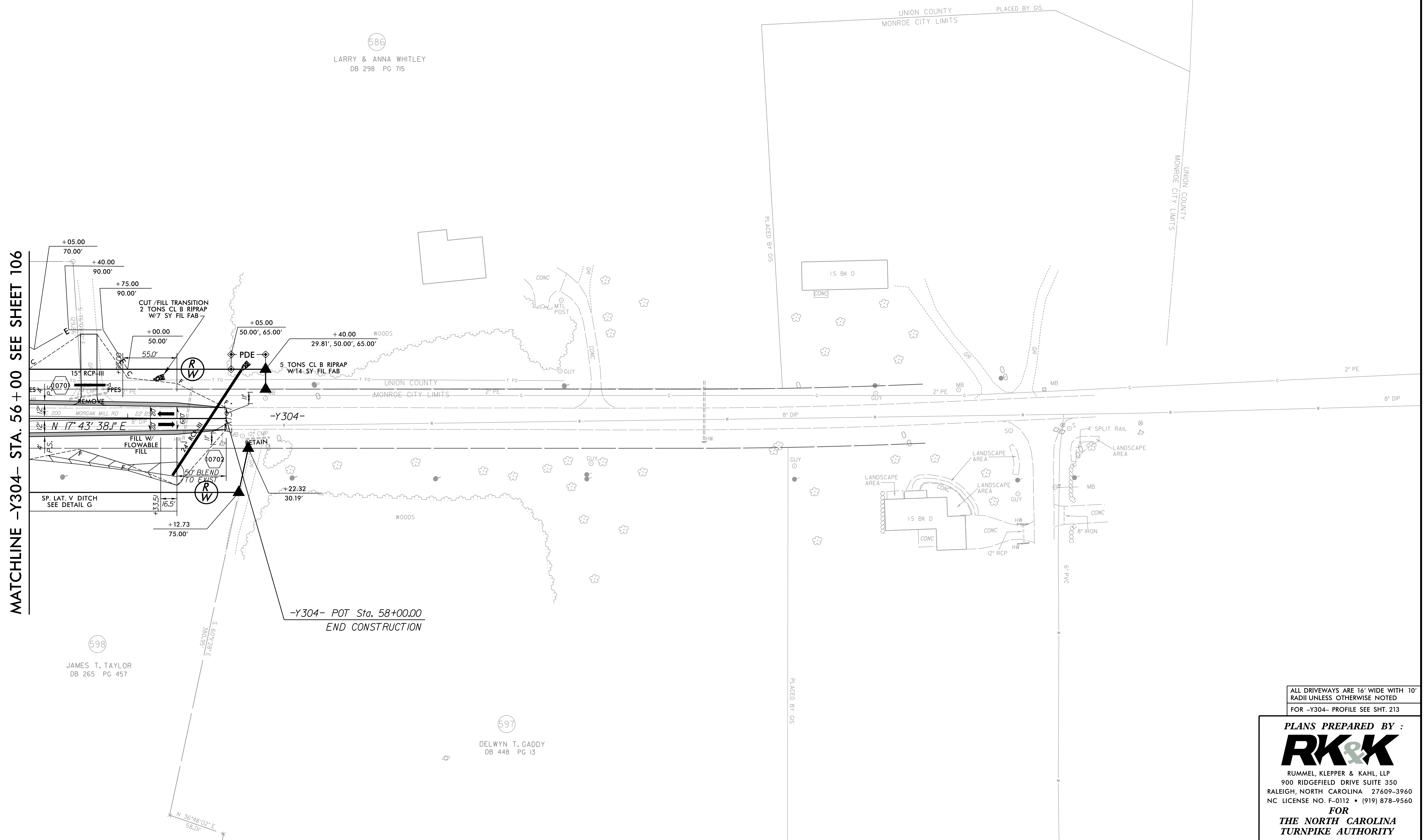


|                                                    |  |                        |  |
|----------------------------------------------------|--|------------------------|--|
| PROJECT REFERENCE NO.<br>R-3329 / R-2559           |  | SHEET NO.<br>106       |  |
| RW SHEET NO.                                       |  |                        |  |
| ROADWAY DESIGN<br>ENGINEER                         |  | HYDRAULICS<br>ENGINEER |  |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |  |                        |  |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |  |                        |  |

ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.  
FOR -Y304- PROFILE SEE SHTS. 212 & 213  
FOR -DR7- PROFILE SEE SHT. 2C-2M

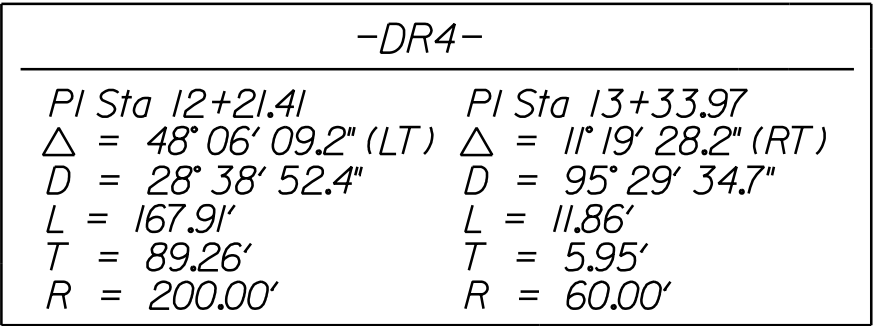
PLANS PREPARED BY :  
**RK&K**  
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 -kells

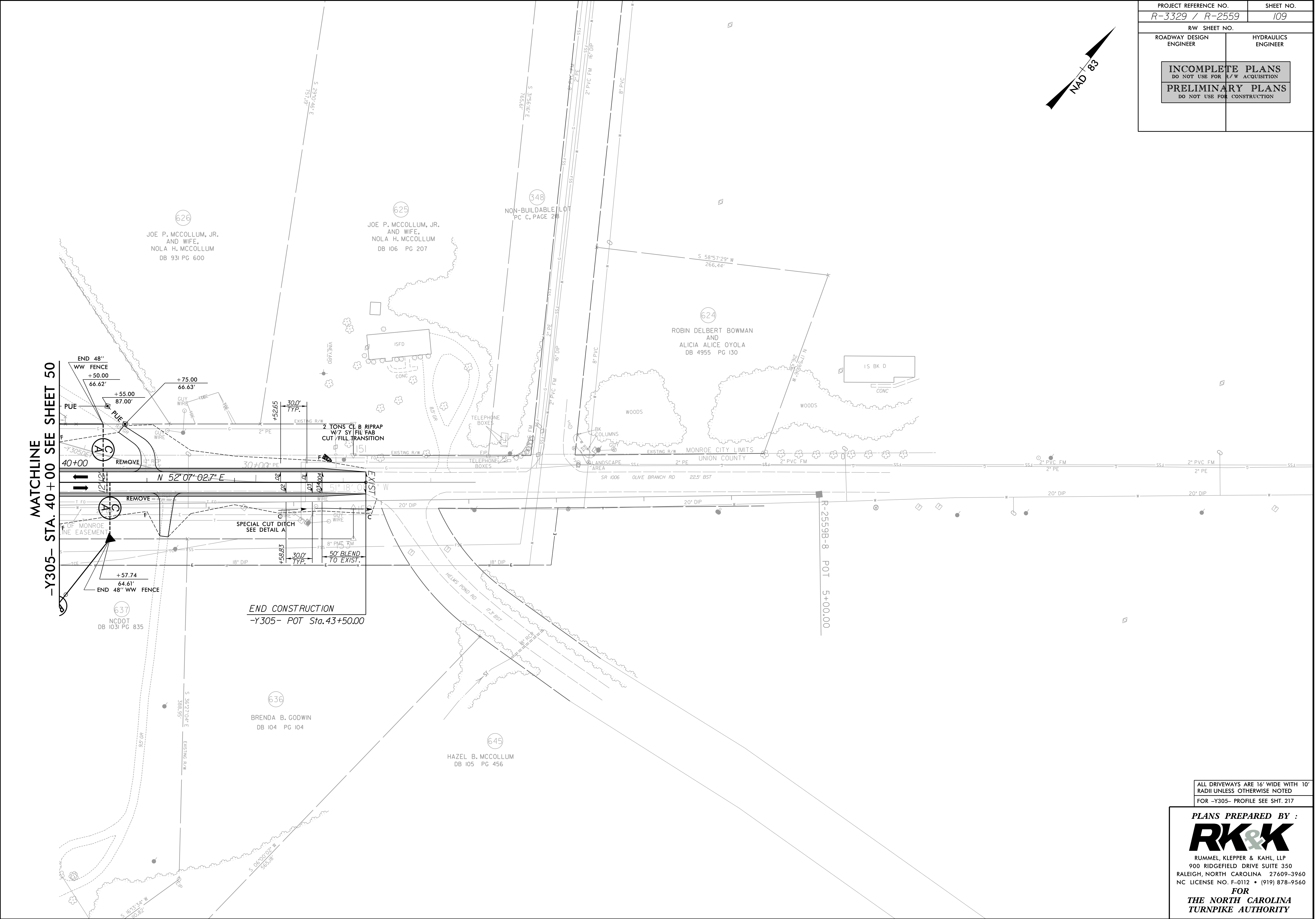






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|                                                    |                        |           |
|----------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                              |                        | SHEET NO. |
| R-3329 / R-2559                                    |                        | 109       |
| RW SHEET NO.                                       |                        |           |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |           |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |           |

ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED  
FOR -Y305- PROFILE SEE SHT. 217

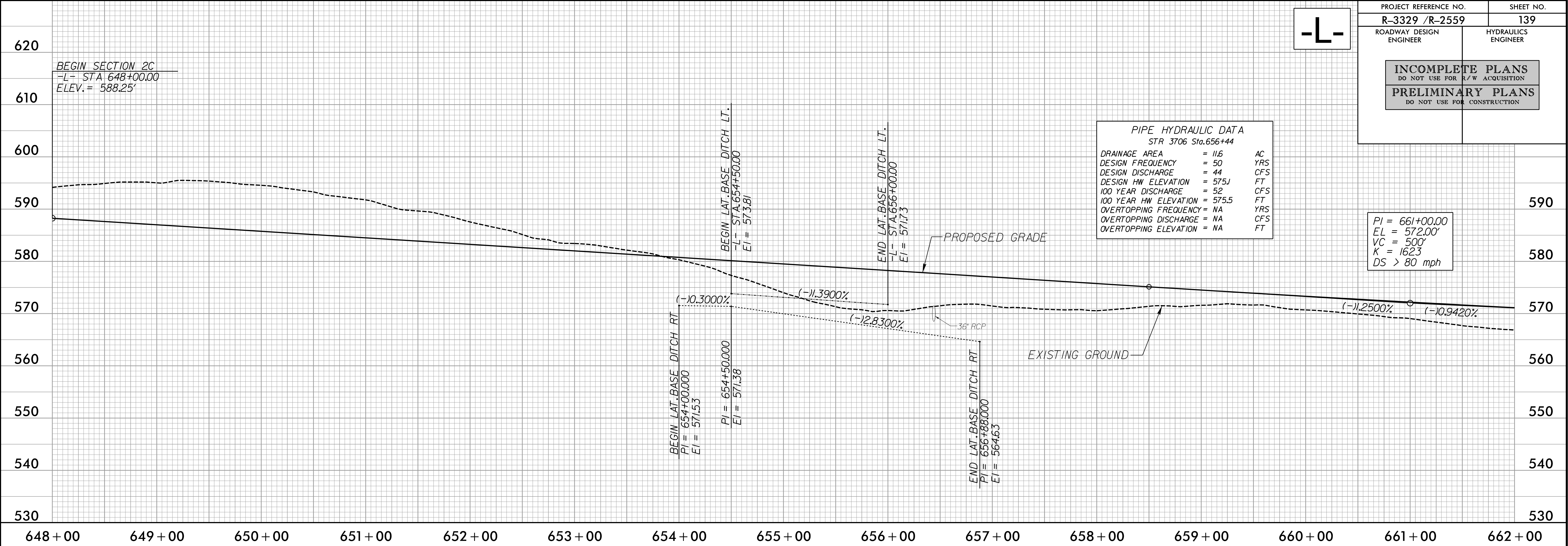
PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
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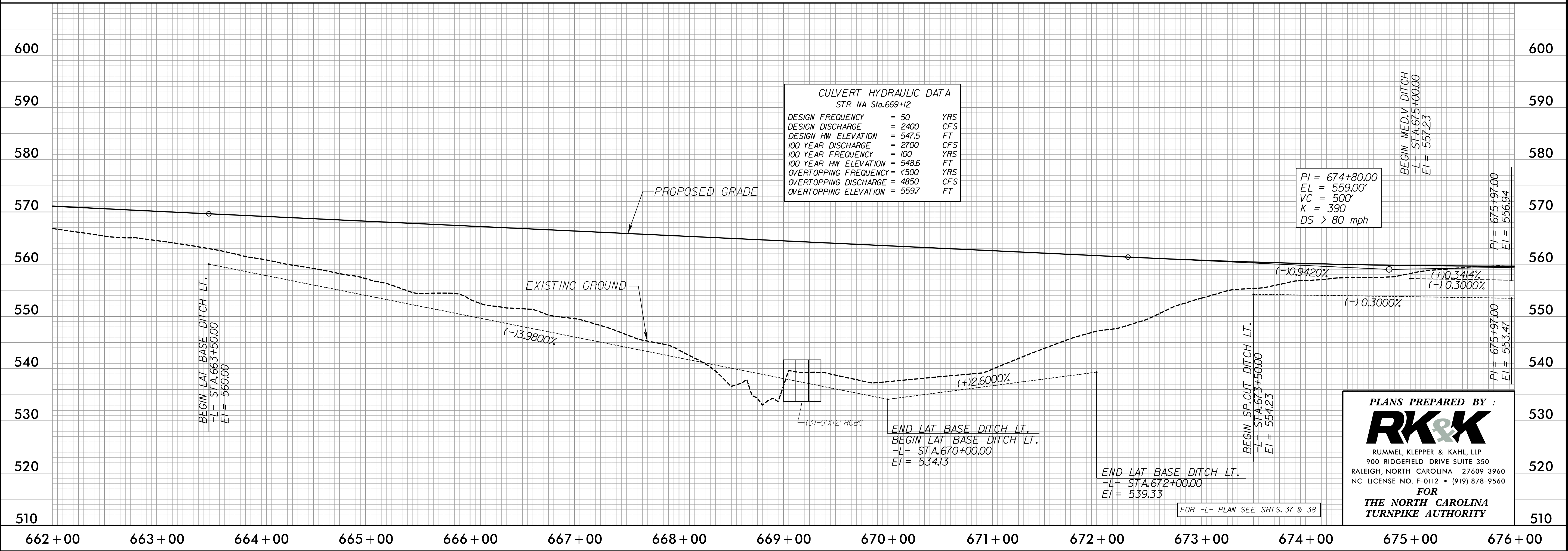
5/28/99

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|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 139                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



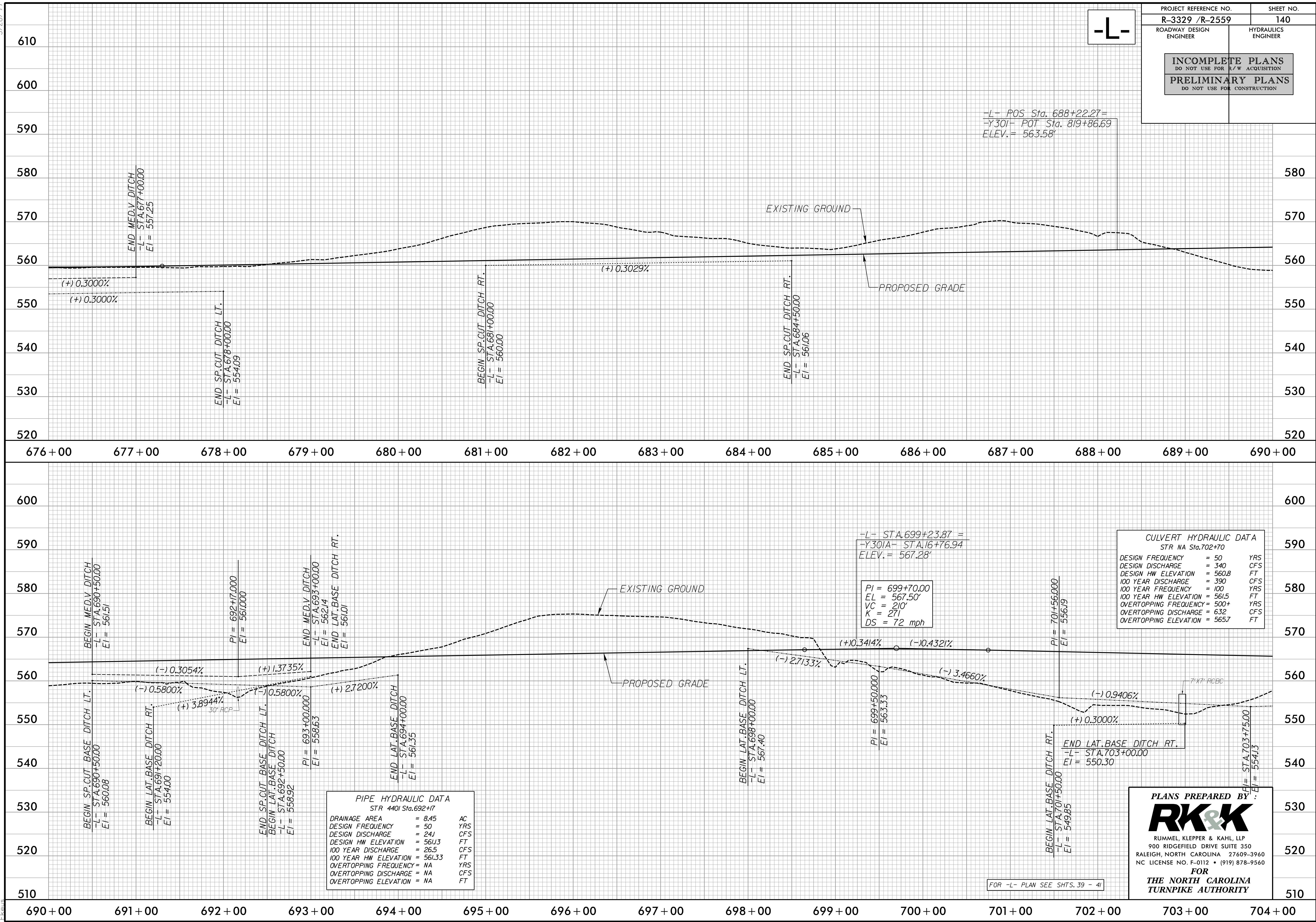
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|                                                    |                        |           |
|----------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                              |                        | SHEET NO. |
| R-3329 /R-2559                                     |                        | 140       |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |           |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |           |

-L- POS Sta. 688+22.27 =  
-Y301A- POT Sta. 819+86.69  
ELEV. = 563.58'

| CULVERT HYDRAULIC DATA |         |     |
|------------------------|---------|-----|
| STR NA Sta. 702+70     |         |     |
| DESIGN FREQUENCY       | = 50    | YRS |
| DESIGN DISCHARGE       | = 340   | CFS |
| DESIGN HW ELEVATION    | = 560.8 | FT  |
| 100 YEAR DISCHARGE     | = 390   | CFS |
| 100 YEAR FREQUENCY     | = 100   | YRS |
| 100 YEAR HW ELEVATION  | = 561.5 | FT  |
| OVERTOPPING FREQUENCY  | = 500+  | YRS |
| OVERTOPPING DISCHARGE  | = 632   | CFS |
| OVERTOPPING ELEVATION  | = 565.7 | FT  |

| PIPE HYDRAULIC DATA   |          |     |
|-----------------------|----------|-----|
| STR 4401 Sta. 692+17  |          |     |
| DRAINAGE AREA         | = 8.45   | AC  |
| DESIGN FREQUENCY      | = 50     | YRS |
| DESIGN DISCHARGE      | = 241    | CFS |
| DESIGN HW ELEVATION   | = 561.3  | FT  |
| 100 YEAR DISCHARGE    | = 265    | CFS |
| 100 YEAR HW ELEVATION | = 561.33 | FT  |
| OVERTOPPING FREQUENCY | = NA     | YRS |
| OVERTOPPING DISCHARGE | = NA     | CFS |
| OVERTOPPING ELEVATION | = NA     | FT  |

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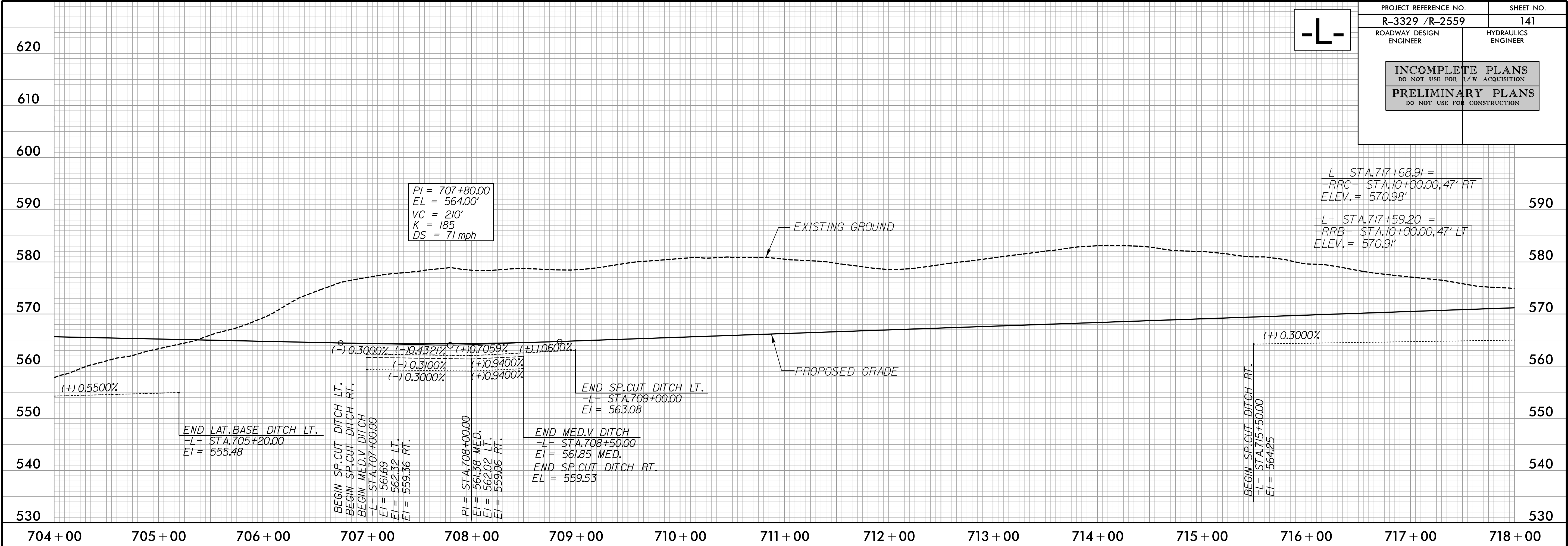
FOR -L- PLAN SEE SHTS. 39 - 41



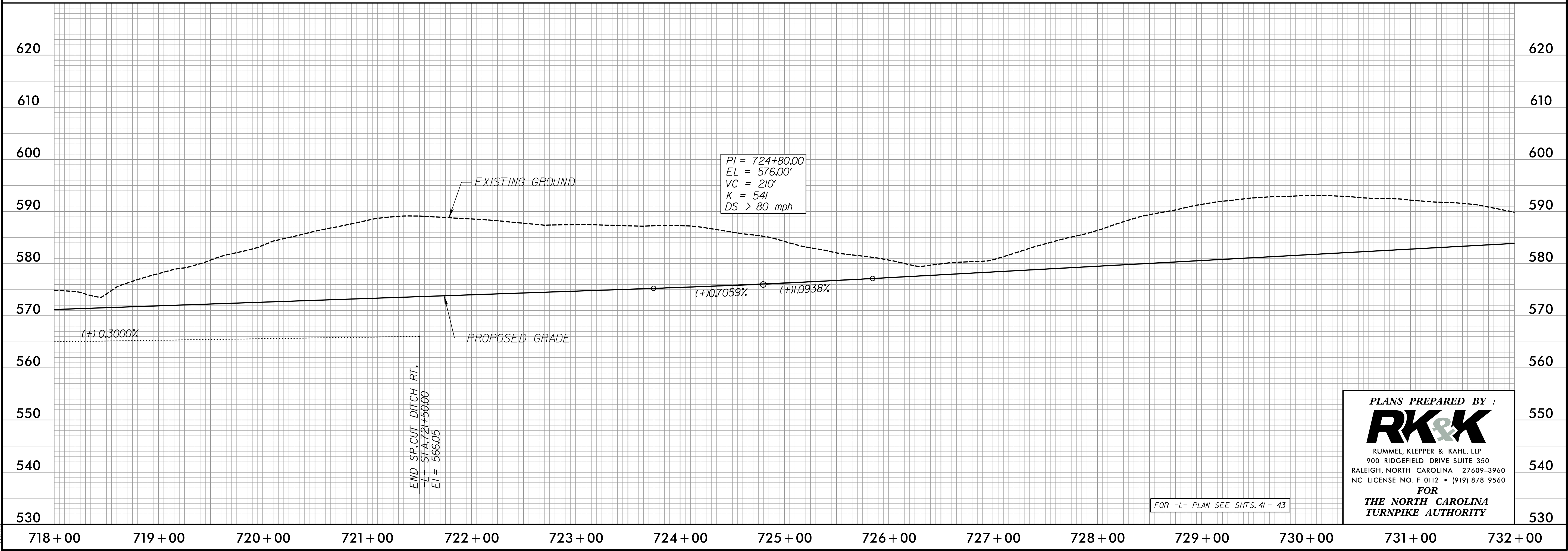
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|                                                                                 |                        |           |
|---------------------------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                                           |                        | SHEET NO. |
| R-3329 /R-2559                                                                  |                        | 141       |
| ROADWAY DESIGN<br>ENGINEER                                                      | HYDRAULICS<br>ENGINEER |           |
| <div><div>INCOMPLETE PLANS</div><div>DO NOT USE FOR R/W ACQUISITION</div></div> |                        |           |
| <div><div>PRELIMINARY PLANS</div><div>DO NOT USE FOR CONSTRUCTION</div></div>   |                        |           |



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Elevs



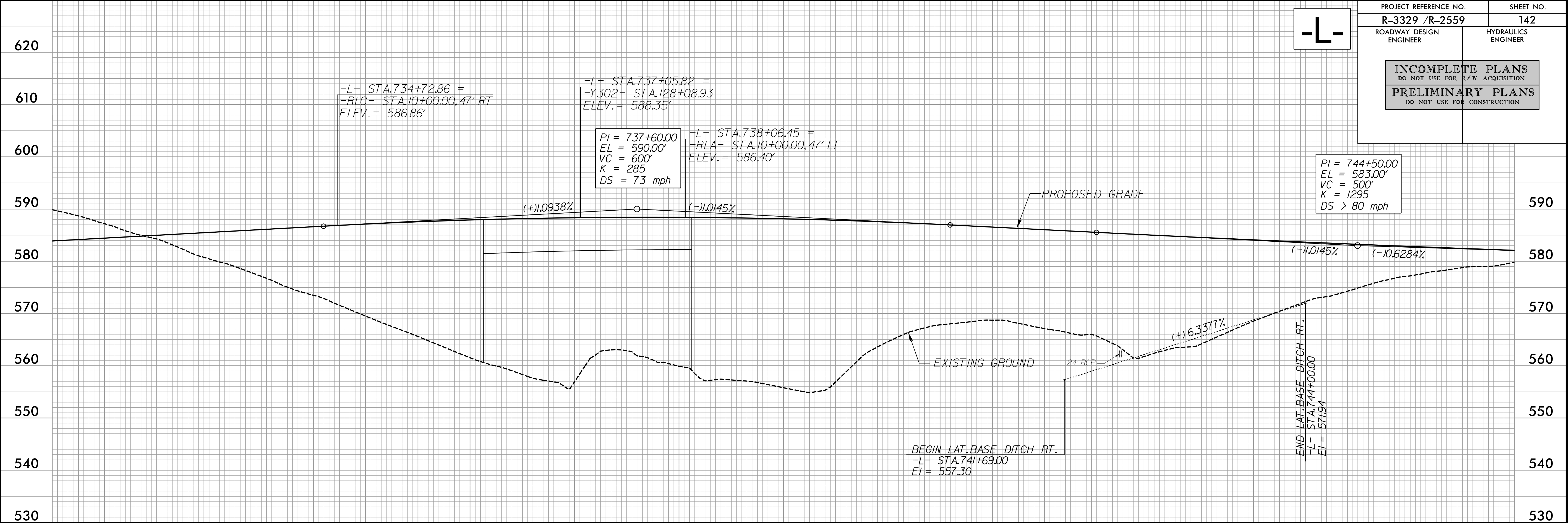
PLANS PREPARED BY :  
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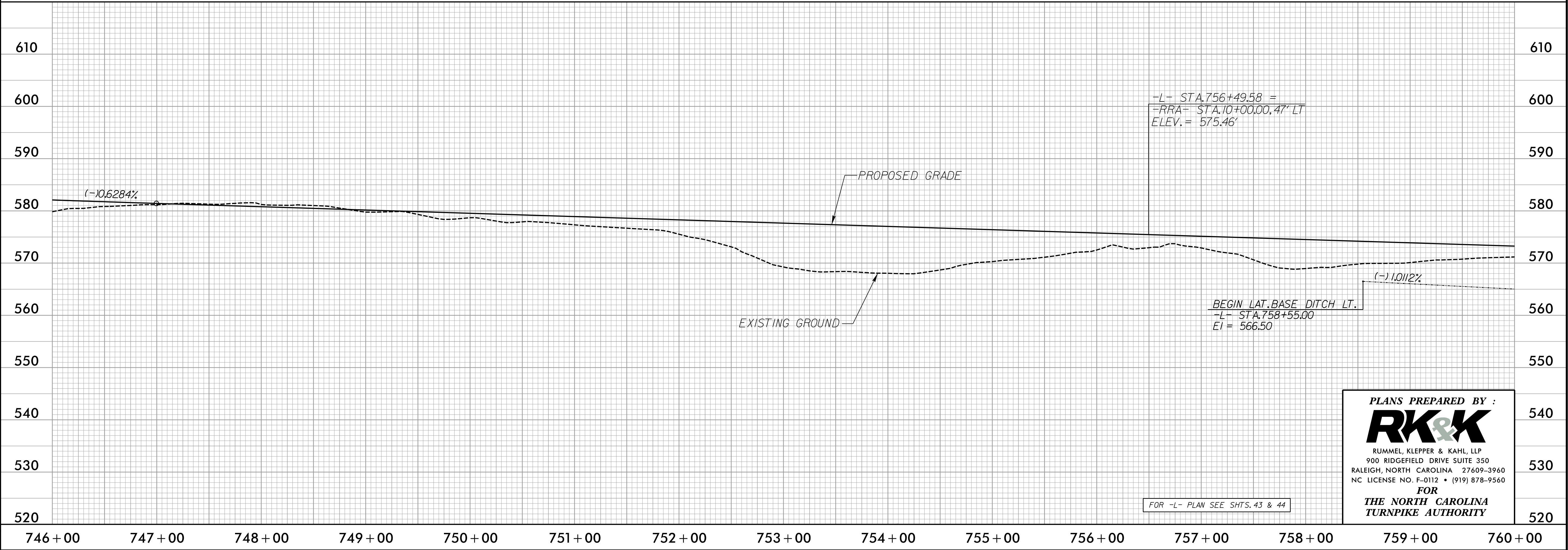
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|                                                                                                                             |                        |           |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                                                                                       |                        | SHEET NO. |
| R-3329 /R-2559                                                                                                              |                        | 142       |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | HYDRAULICS<br>ENGINEER |           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                        |           |



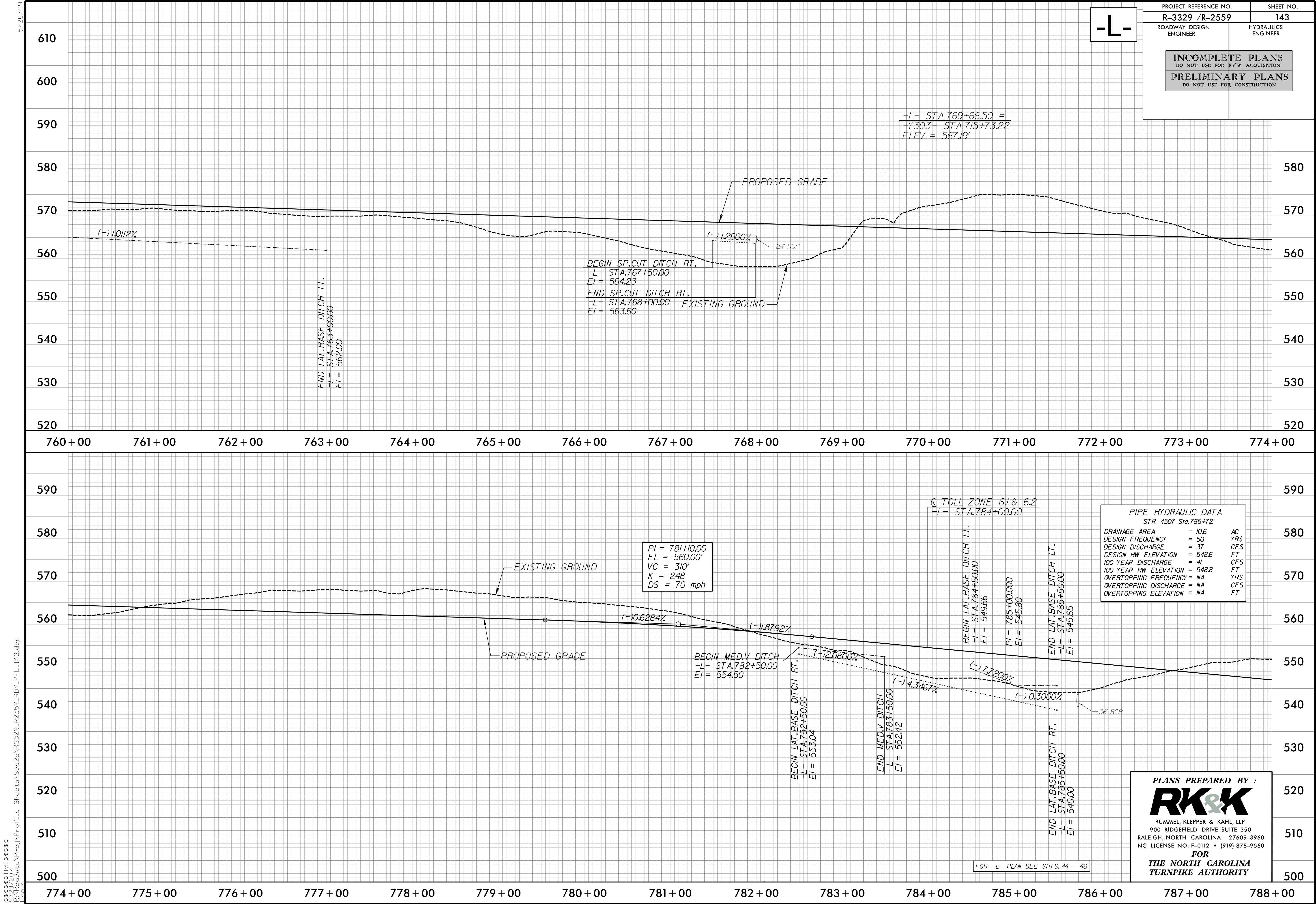
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FOR -L- PLAN SEE SHTS. 43 & 44

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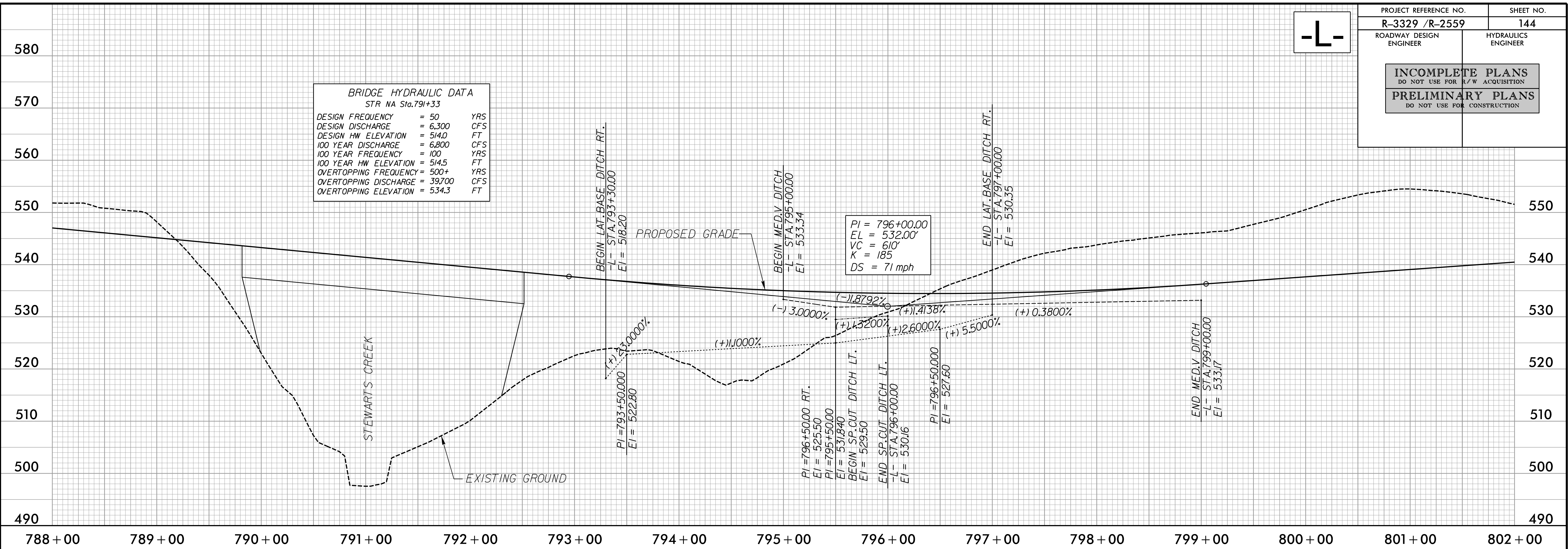
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R3329\_R2559

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|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 144                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

|                       |          |     |
|-----------------------|----------|-----|
| BRIDGE HYDRAULIC DATA |          |     |
| STR NA Sta.791+33     |          |     |
| DESIGN FREQUENCY      | = 50     | YRS |
| DESIGN DISCHARGE      | = 6,300  | CFS |
| DESIGN HW ELEVATION   | = 514.0  | FT  |
| 100 YEAR DISCHARGE    | = 6,800  | CFS |
| 100 YEAR FREQUENCY    | = 100    | YRS |
| 100 YEAR HW ELEVATION | = 514.5  | FT  |
| OVERTOPPING FREQUENCY | = 500+   | YRS |
| OVERTOPPING DISCHARGE | = 39,700 | CFS |
| OVERTOPPING ELEVATION | = 534.3  | FT  |

|                |
|----------------|
| PI = 796+00.00 |
| EL = 532.00'   |
| VC = 610'      |
| K = 185        |
| DS = 71 mph    |



|                        |         |     |
|------------------------|---------|-----|
| CULVERT HYDRAULIC DATA |         |     |
| STR NA Sta.805+89      |         |     |
| DESIGN FREQUENCY       | = 50    | YRS |
| DESIGN DISCHARGE       | = 550   | CFS |
| DESIGN HW ELEVATION    | = 535.1 | FT  |
| 100 YEAR DISCHARGE     | = 600   | CFS |
| 100 YEAR FREQUENCY     | = 100   | YRS |
| 100 YEAR HW ELEVATION  | = 535.5 | FT  |
| OVERTOPPING FREQUENCY  | = <500  | YRS |
| OVERTOPPING DISCHARGE  | = 810   | CFS |
| OVERTOPPING ELEVATION  | = 538.3 | FT  |

PROPOSED GRADE

EXISTING GROUND

BEGIN LAT. BASE DITCH LT.  
-L- STA. 807+12.00  
EI = 525.20

PI = 807+50.00  
EI = 531.00

END LAT. BASE DITCH LT.  
-L- STA. 811+00.00  
EI = 548.85

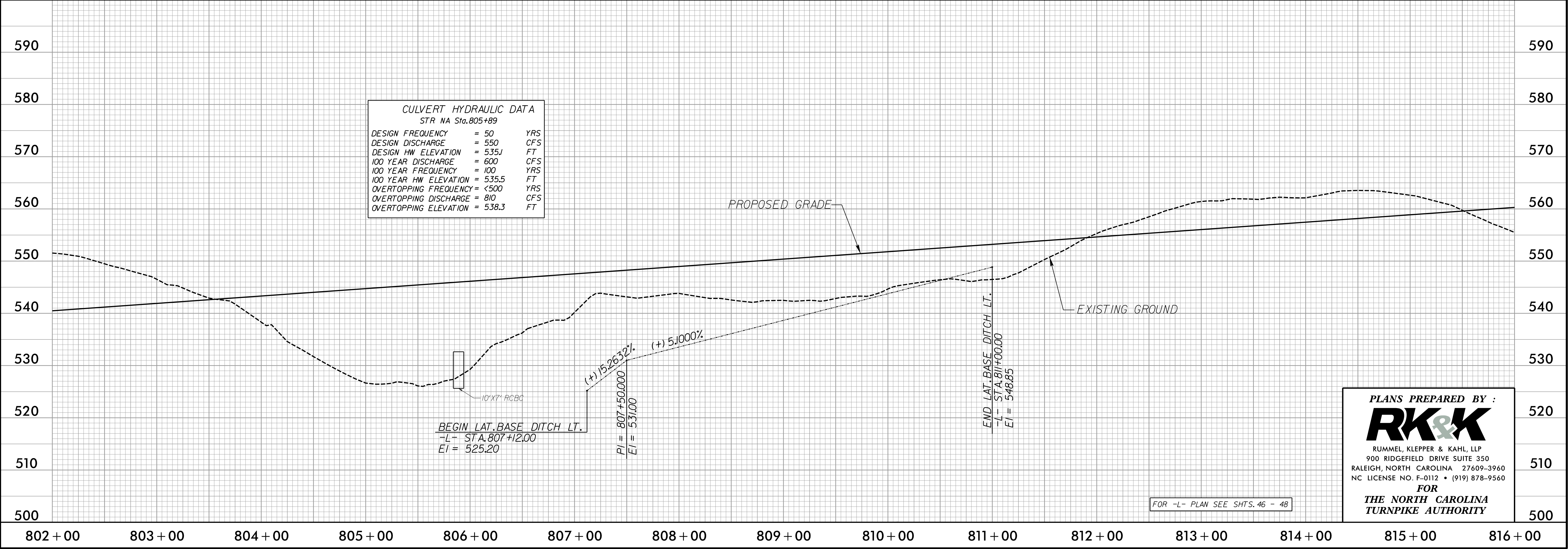
PLANS PREPARED BY :

**RK&K**

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RALEIGH, NORTH CAROLINA 27609-3960  
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FOR -L- PLAN SEE SHTS. 46 - 48

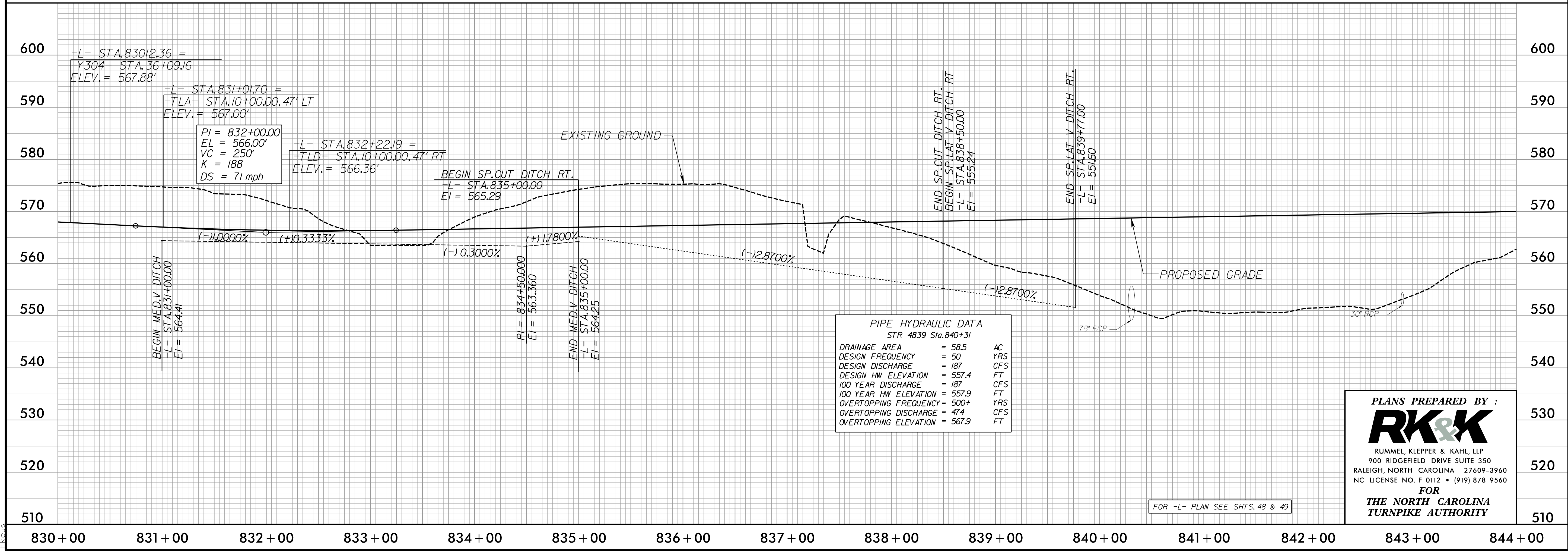
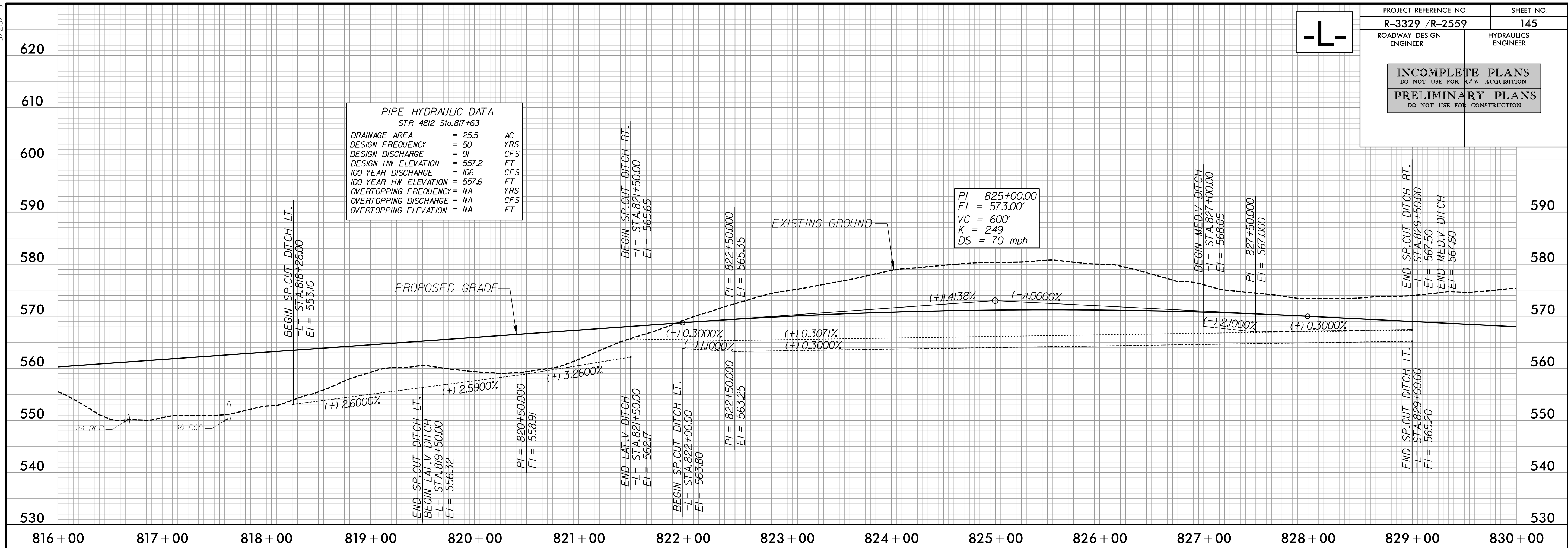




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|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 145                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



FOR -L- PLAN SEE SHTS. 48 & 49

PLANS PREPARED BY :

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Elevs

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PROJECT REFERENCE NO.  
R-3329 /R-2559

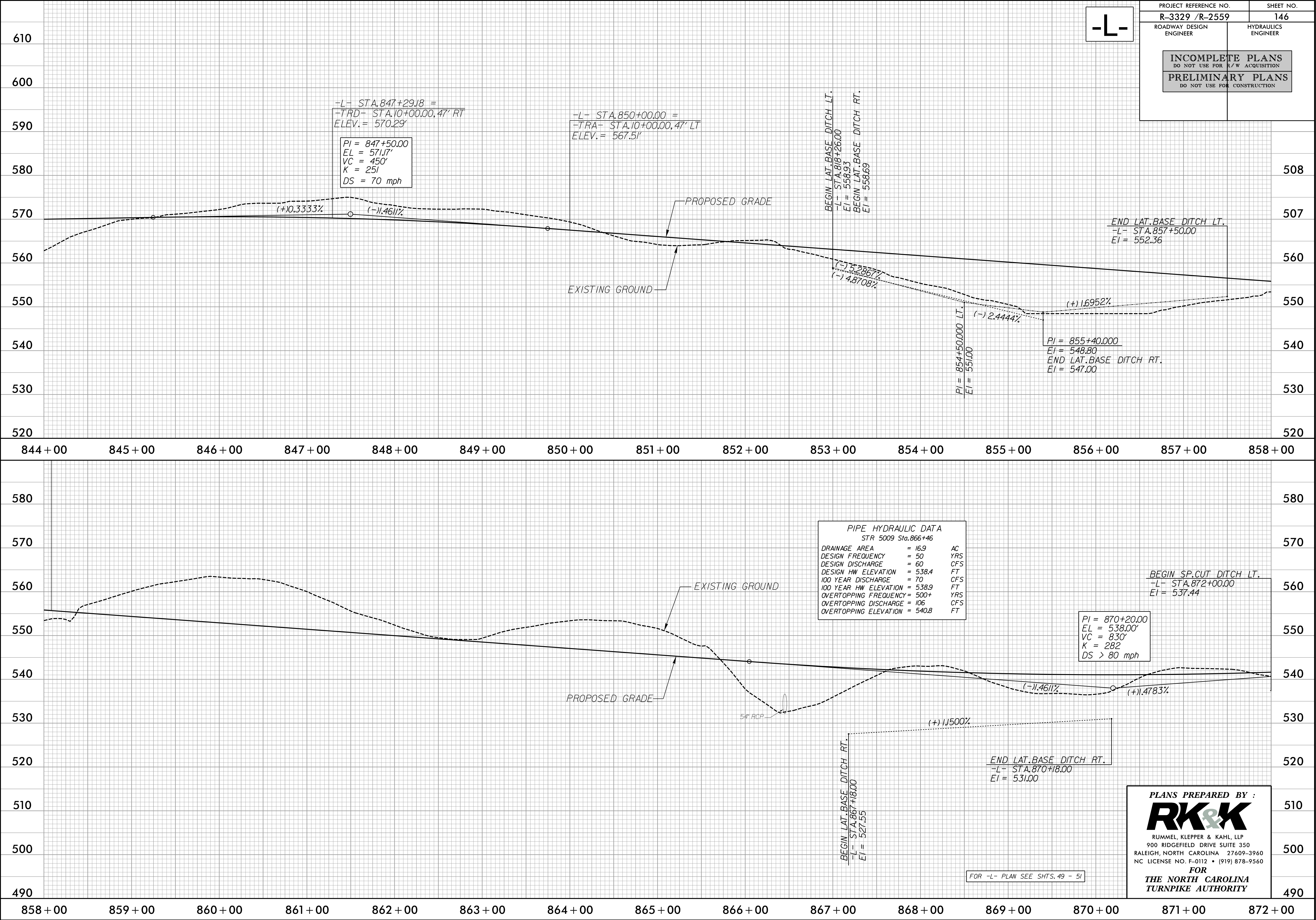
ROADWAY DESIGN  
ENGINEER

SHEET NO.  
146

HYDRAULICS  
ENGINEER

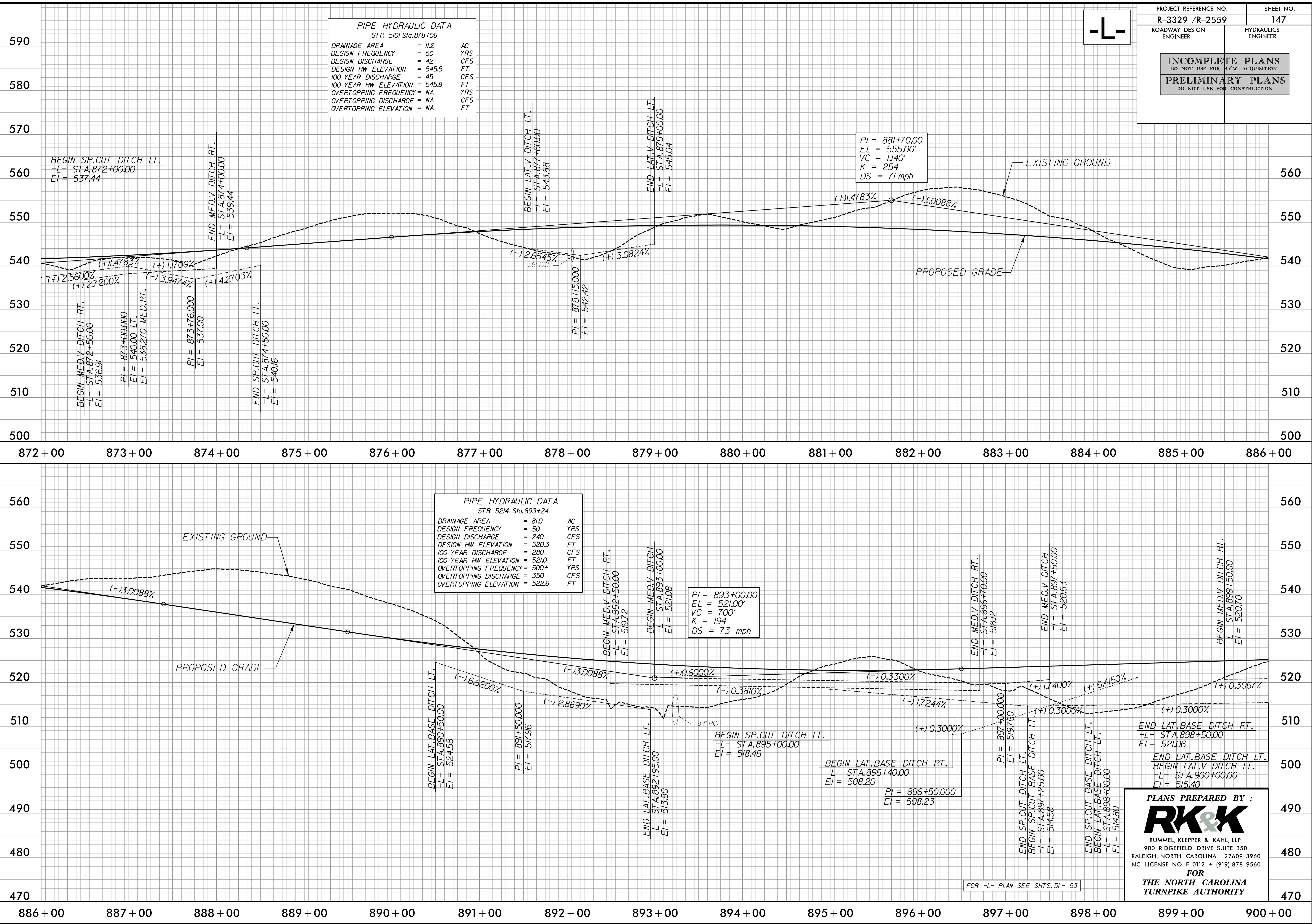
INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION





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8/29/2014  
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Elev





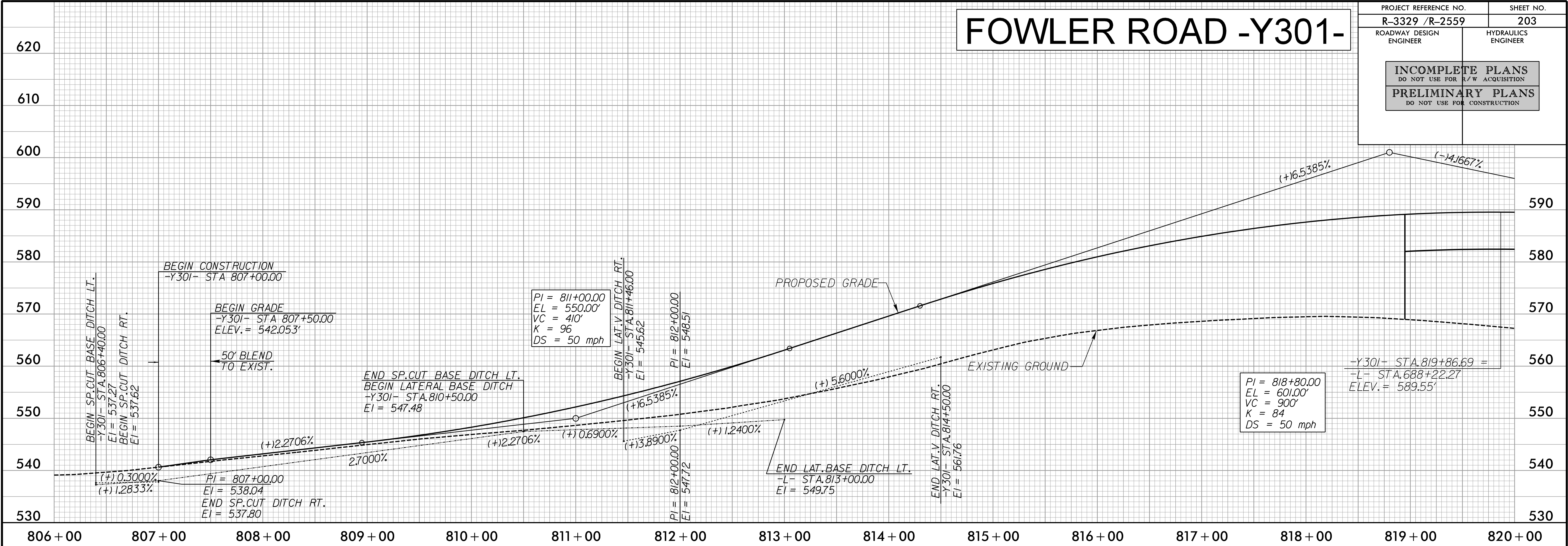




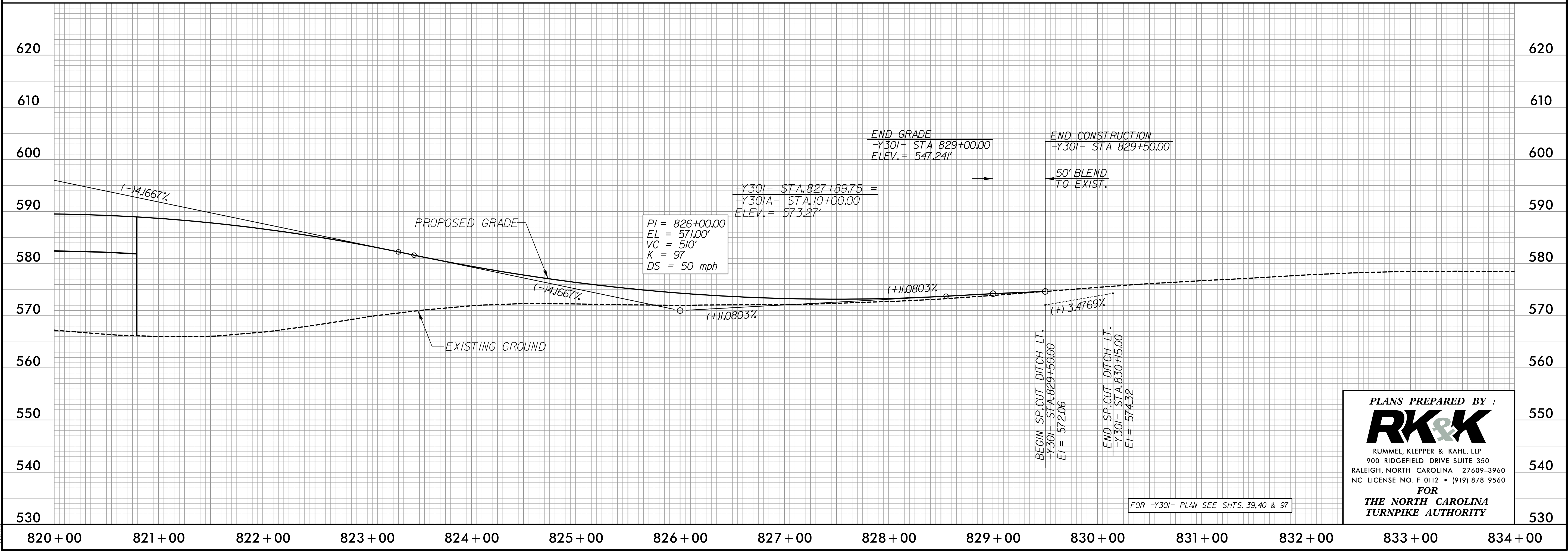
5/28/99

# FOWLER ROAD -Y301-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 203                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



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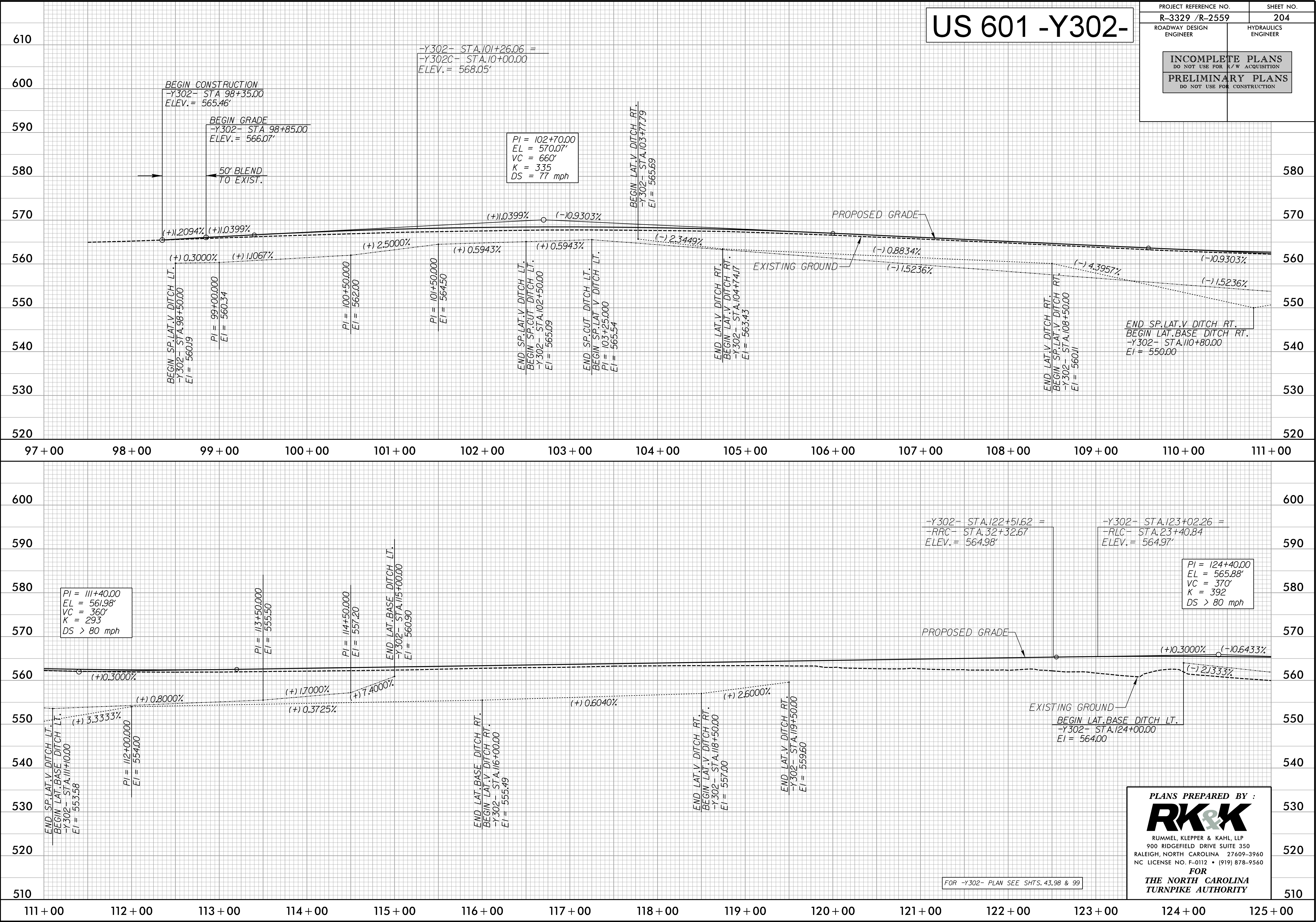
FOR -Y301- PLAN SEE SHTS. 39,40 & 97



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8/29/2014  
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Elevs

# US 601 -Y302-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 204                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



FOR -Y302- PLAN SEE SHTS. 43, 98 & 99

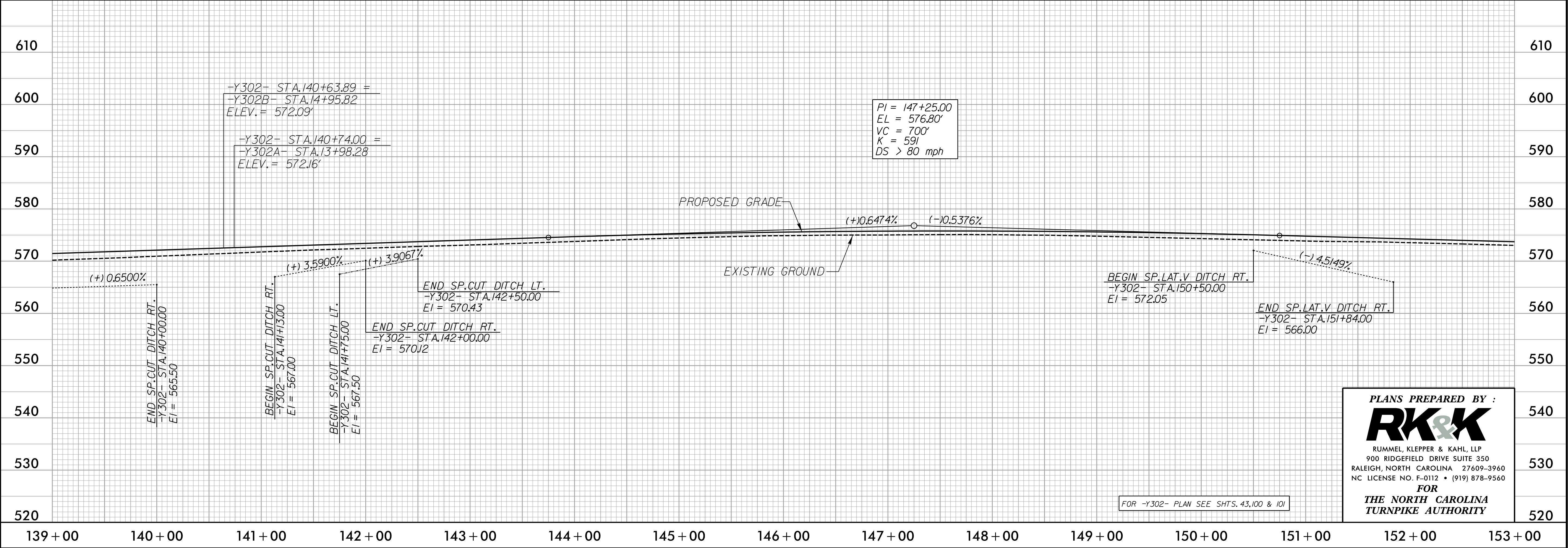
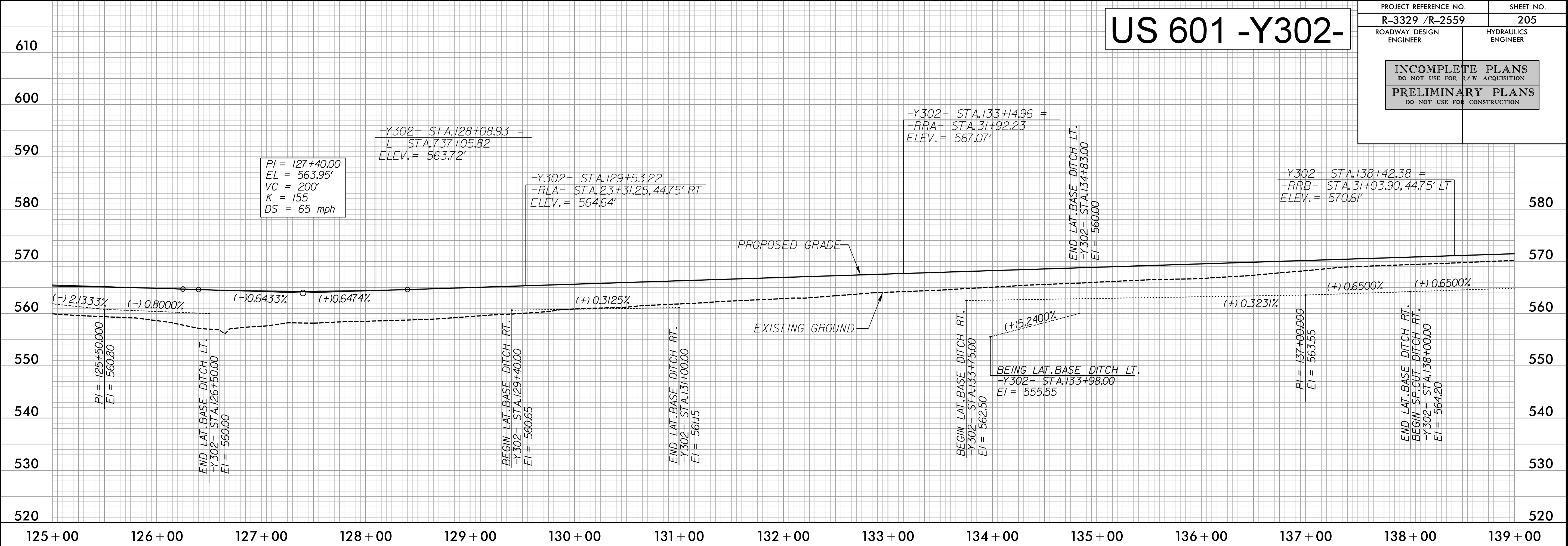
PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
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Elevs

# US 601 -Y302-

|                                                    |                        |           |
|----------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                              |                        | SHEET NO. |
| R-3329 /R-2559                                     |                        | 205       |
| ROADWAY DESIGN<br>ENGINEER                         | HYDRAULICS<br>ENGINEER |           |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                        |           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                        |           |



FOR -Y302- PLAN SEE SHTS. 43,100 & 101

PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
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THE NORTH CAROLINA  
TURNPIKE AUTHORITY



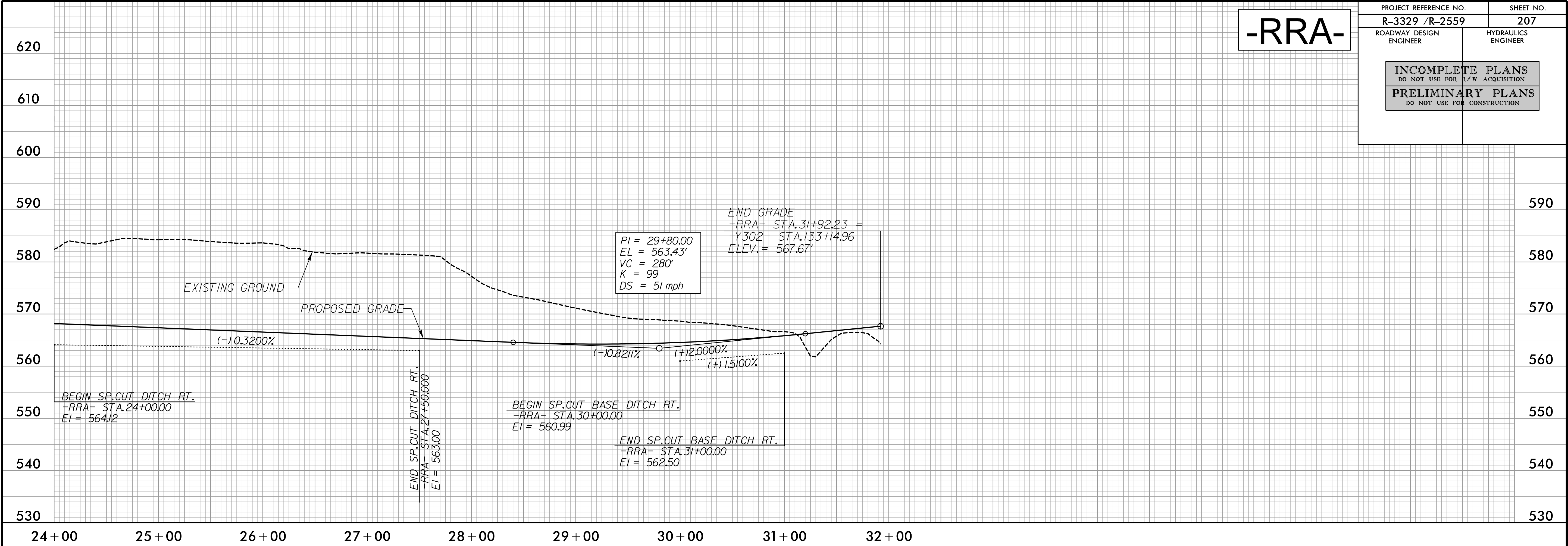




5/28/99

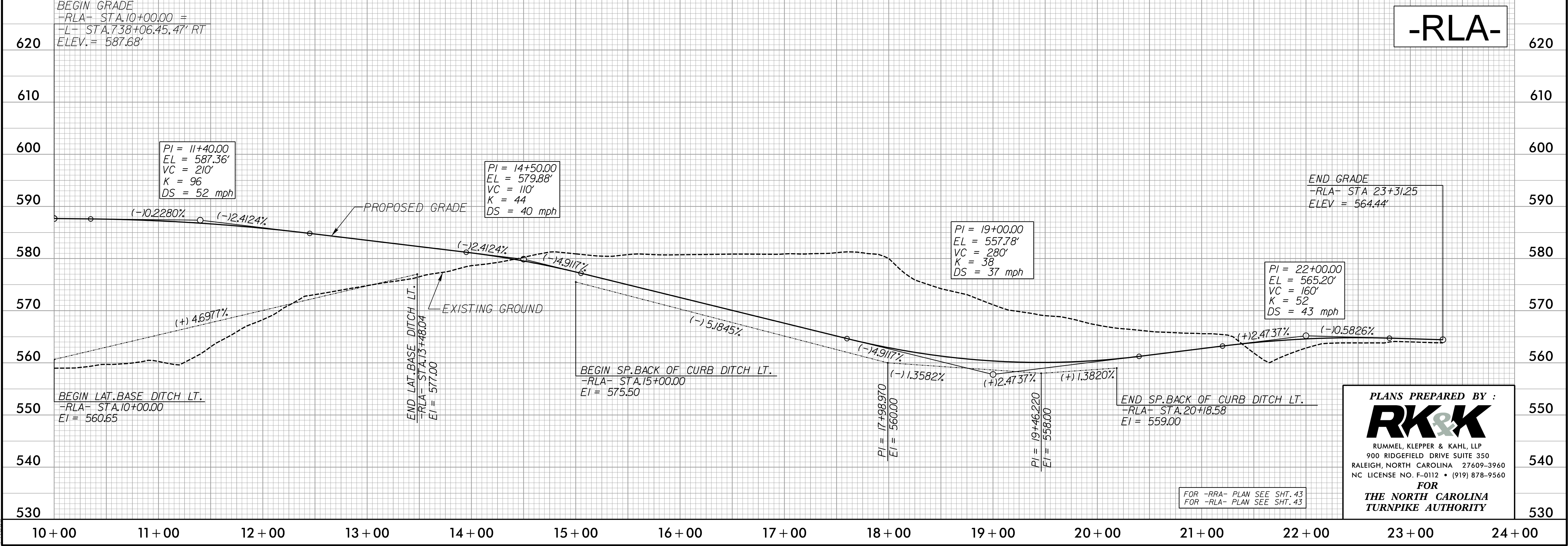
-RRA-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 207                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



8/29/2014  
R:\Roadway\Proj\Profile Sheets\Sec2c\R3329\_R2559\_RDY\_PFL\_207.dgn

-RLA-



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

FOR  
**THE NORTH CAROLINA  
TURNPIKE AUTHORITY**

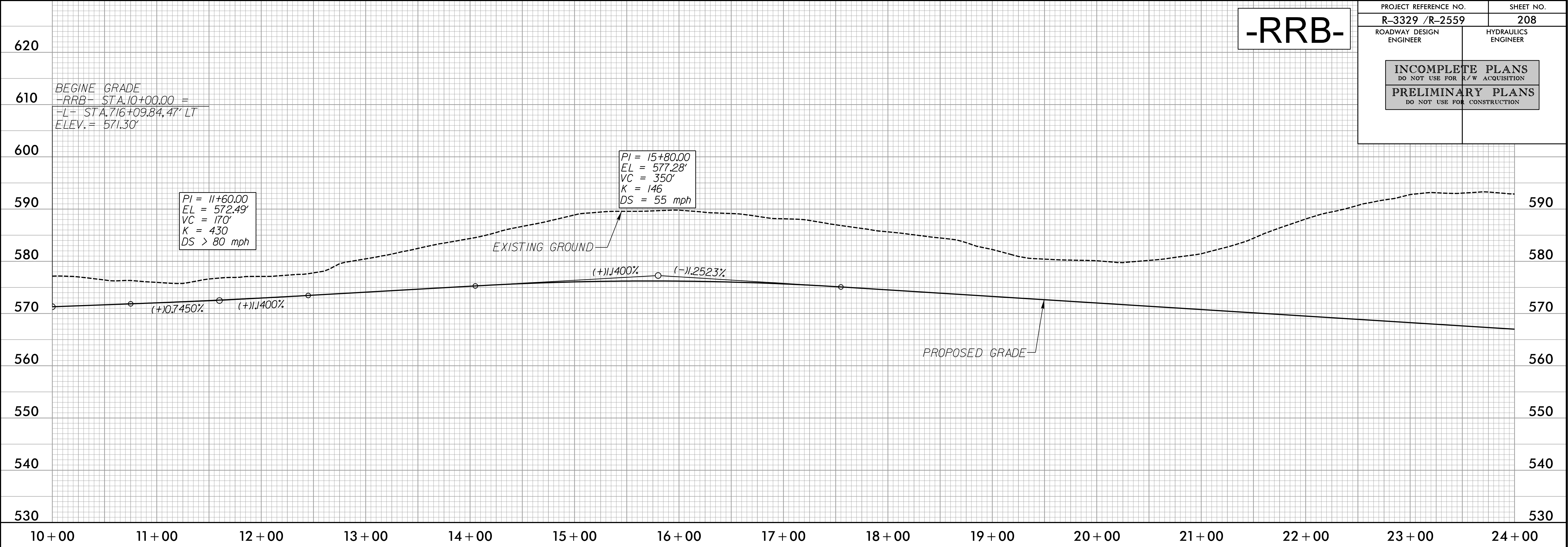
FOR -RRA- PLAN SEE SHT. 43  
FOR -RLA- PLAN SEE SHT. 43



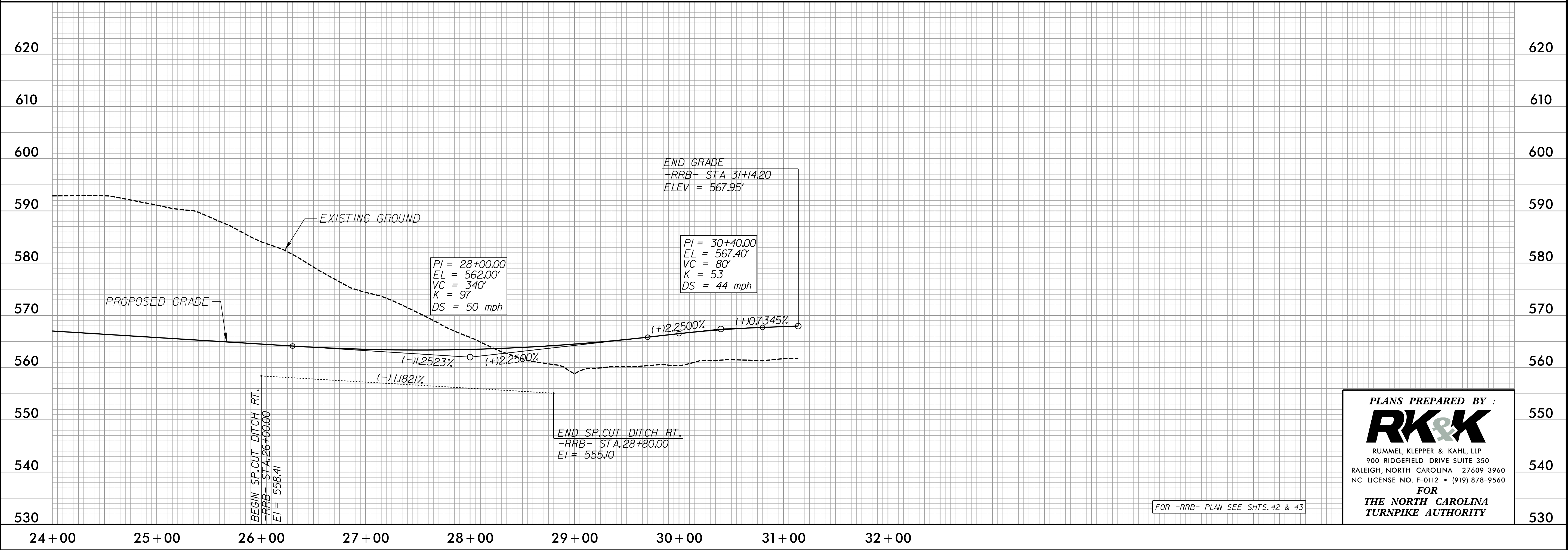
5/28/99

-RRB-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 208                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



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FOR -RRB- PLAN SEE SHTS. 42 & 43

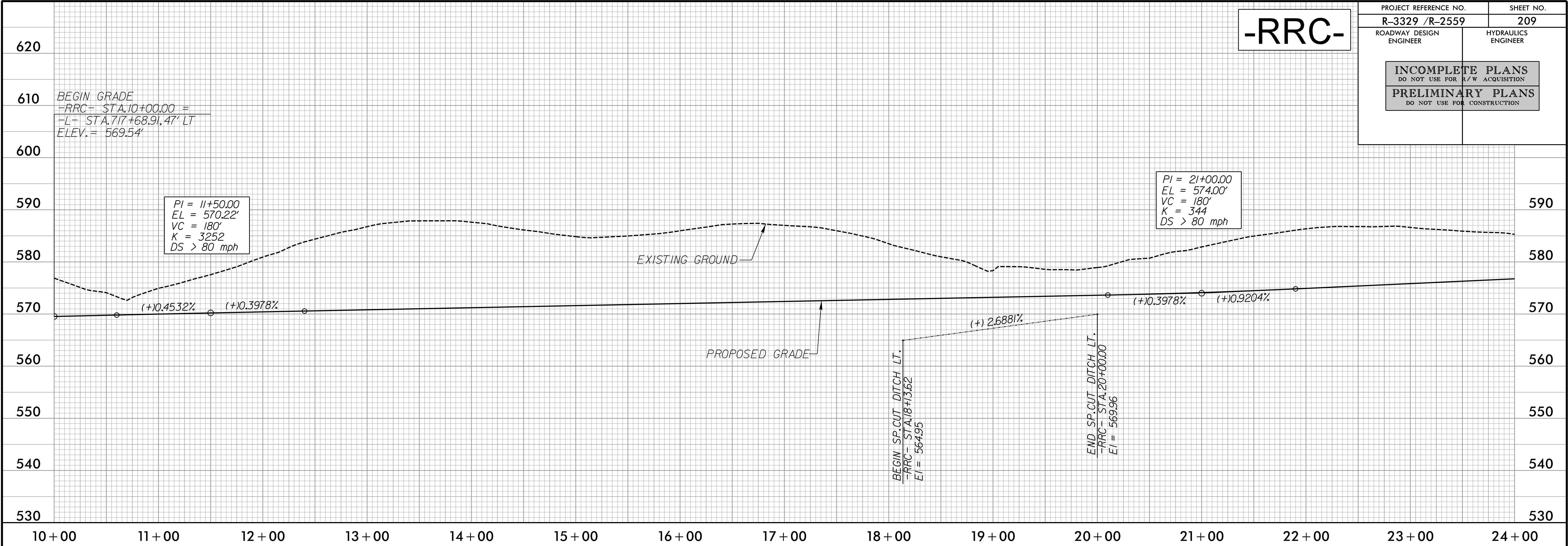
PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. F-0112 • (919) 878-9560  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



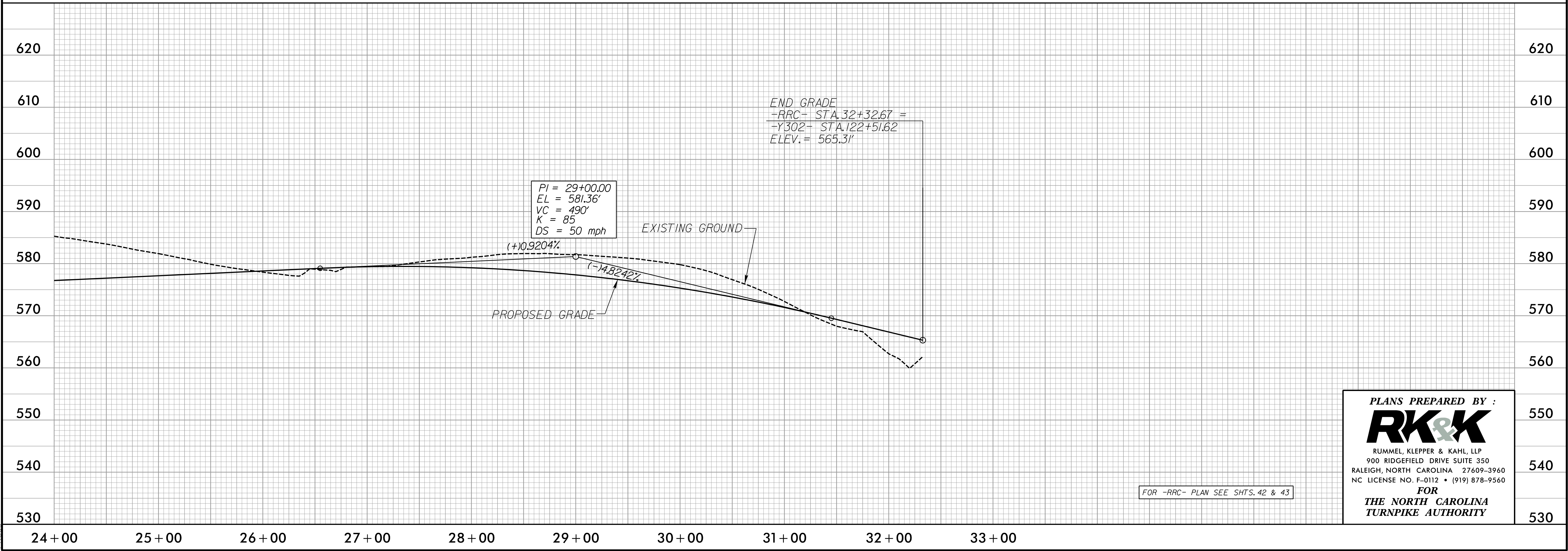
5/28/99

-RRC-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 209                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



8/29/2014  
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Elevs



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  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

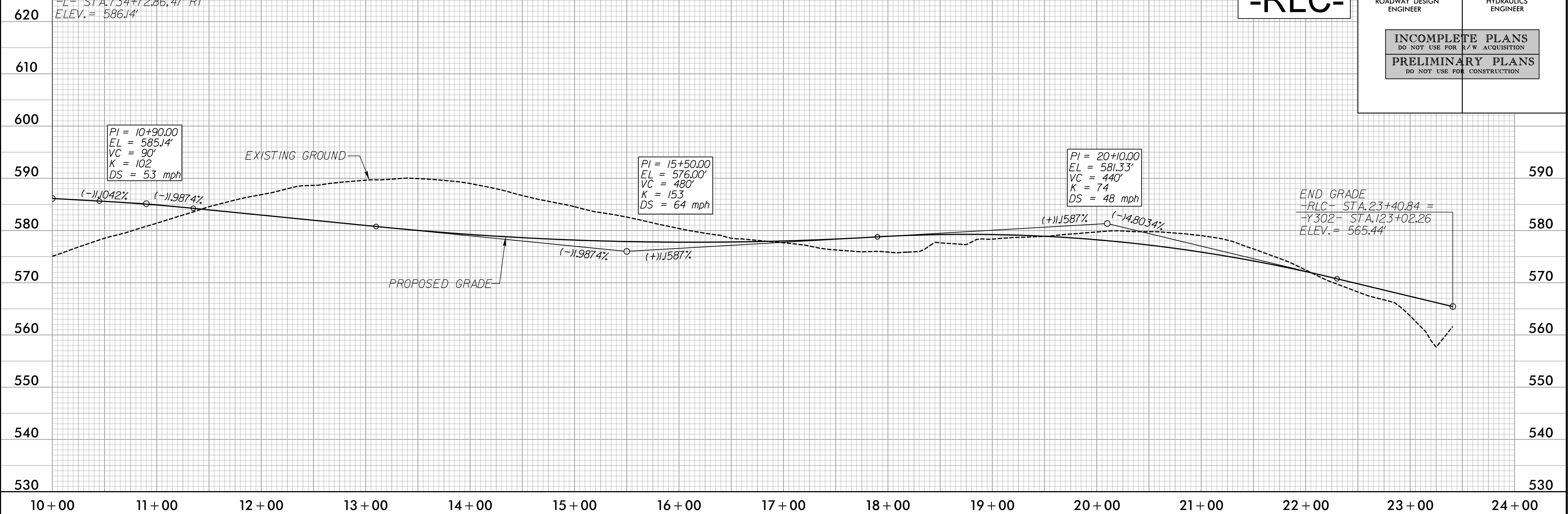


5/28/99

BEGIN GRADE  
-RLC- STA.10+00.00 =  
-L- STA.734+72.86, 47' RT  
ELEV.= 586.14'

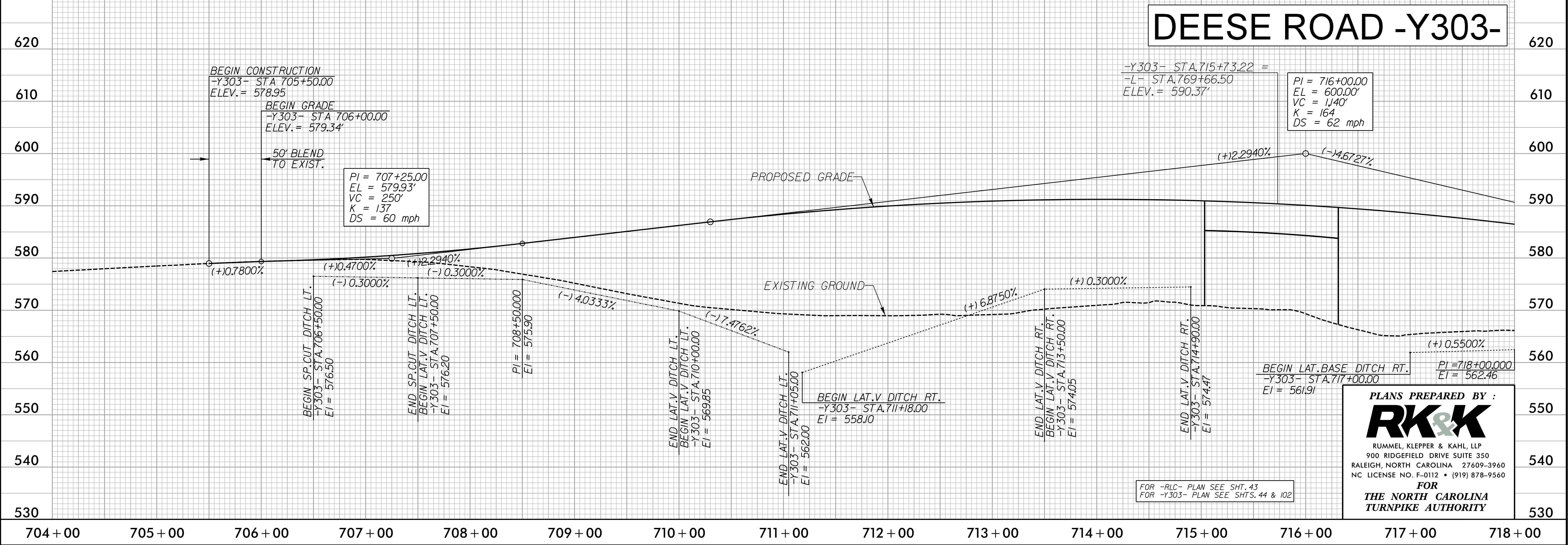
-RLC-

|                                                                                                                             |                        |           |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                                                                                       |                        | SHEET NO. |
| R-3329 /R-2559                                                                                                              |                        | 210       |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | HYDRAULICS<br>ENGINEER |           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                        |           |



8/28/2014  
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Elevs

DEESE ROAD -Y303-



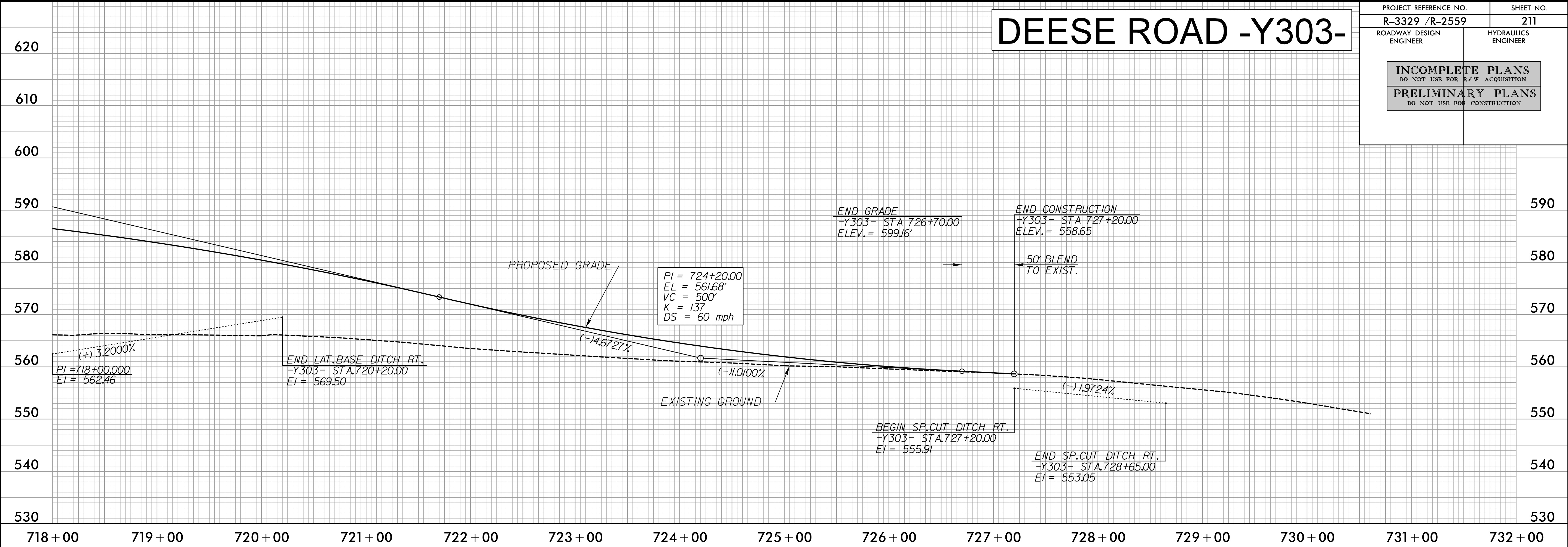
PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. F-0112 • (919) 878-9560  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



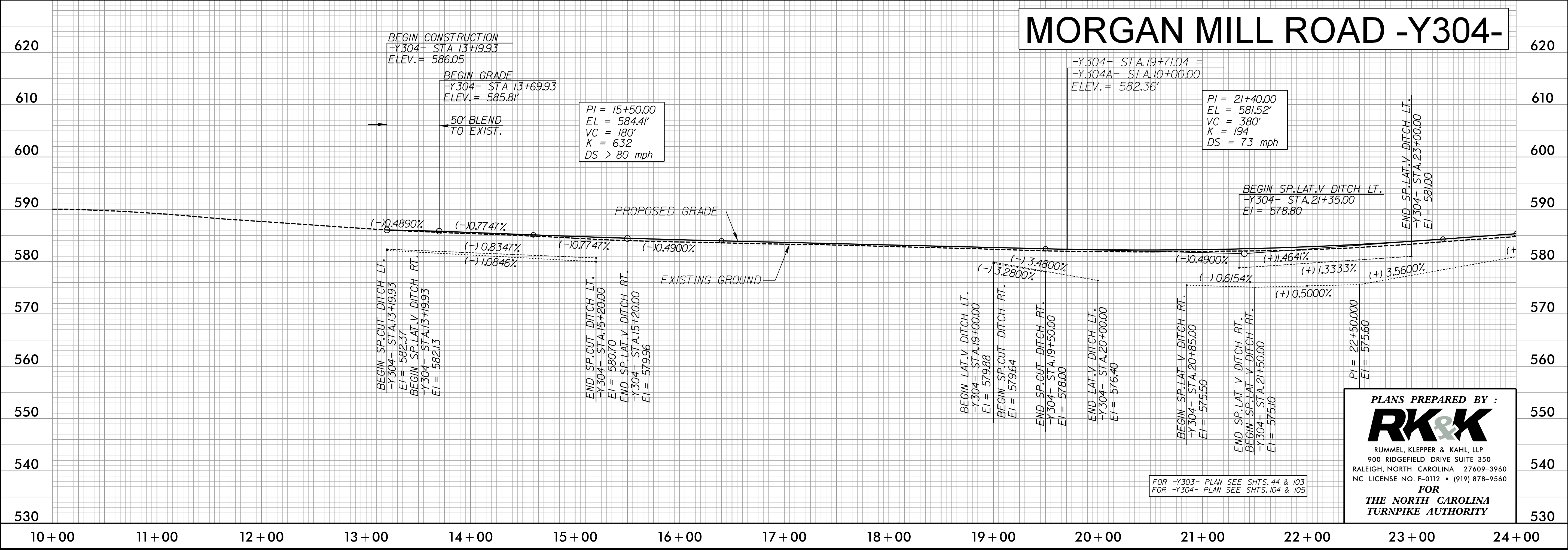
5/28/99

# DEESE ROAD -Y303-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 211                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



# MORGAN MILL ROAD -Y304-



FOR -Y303- PLAN SEE SHTS. 44 & 103  
FOR -Y304- PLAN SEE SHTS. 104 & 105

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  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

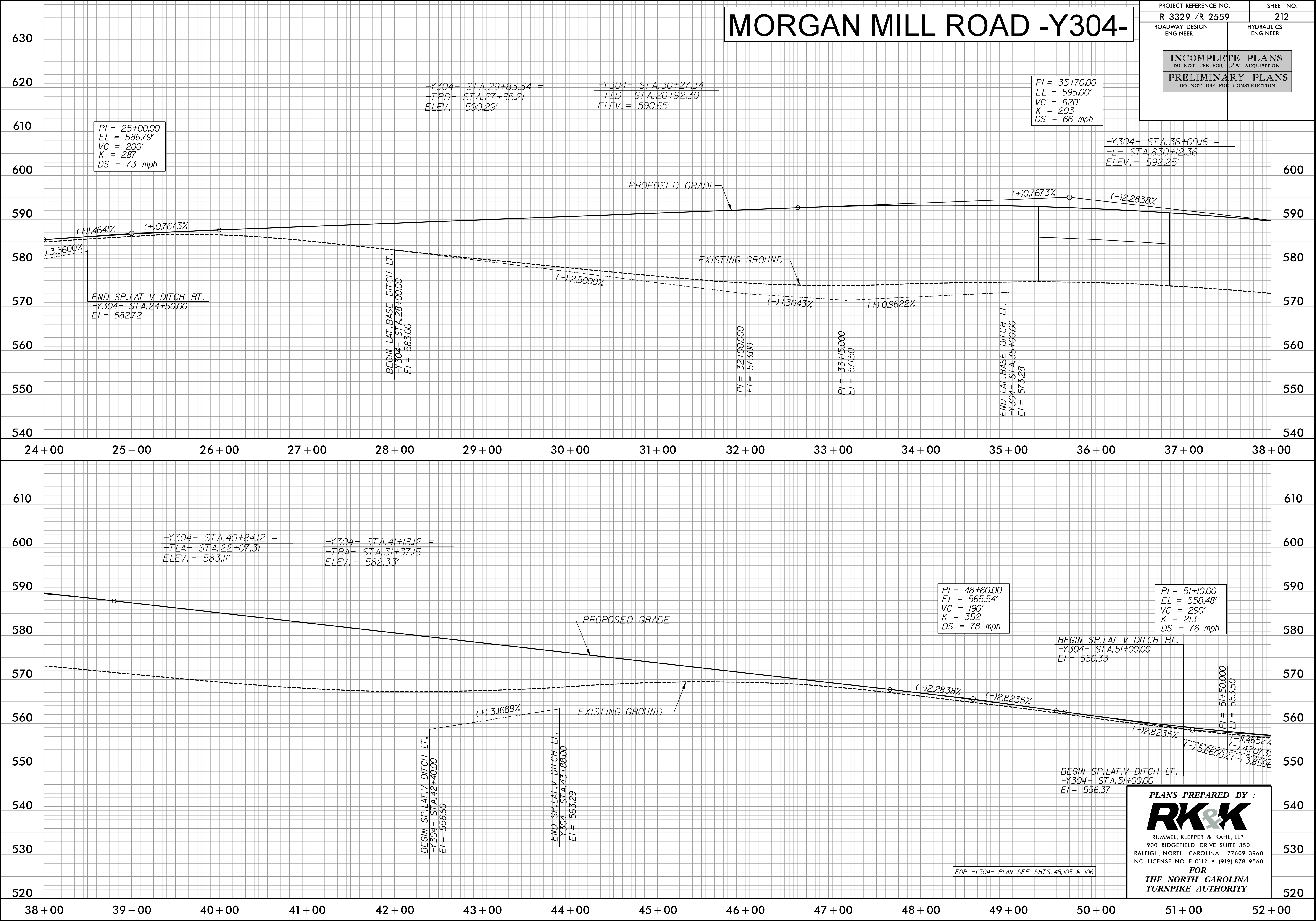
8/29/2014  
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Elevs



5/28/99  
8/29/2014  
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Elevs

# MORGAN MILL ROAD -Y304-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 212                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



FOR -Y304- PLAN SEE SHTS. 48,105 & 106

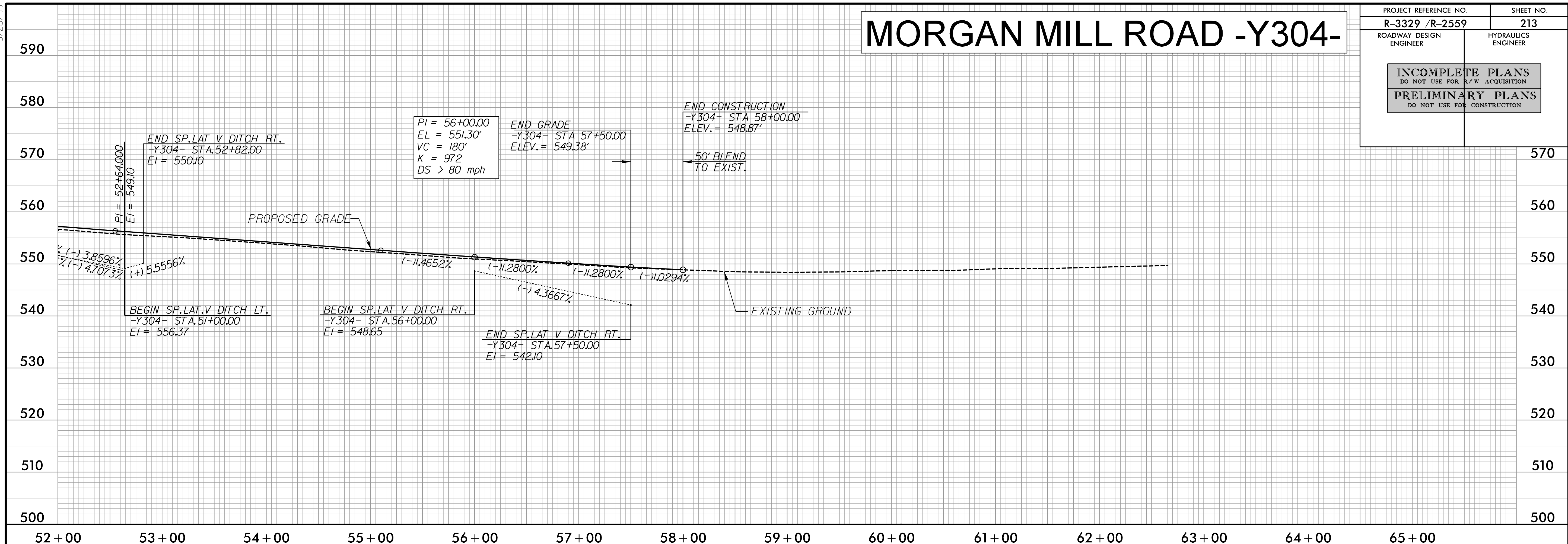
PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
NC LICENSE NO. F-0112 • (919) 878-9560  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



5/28/99

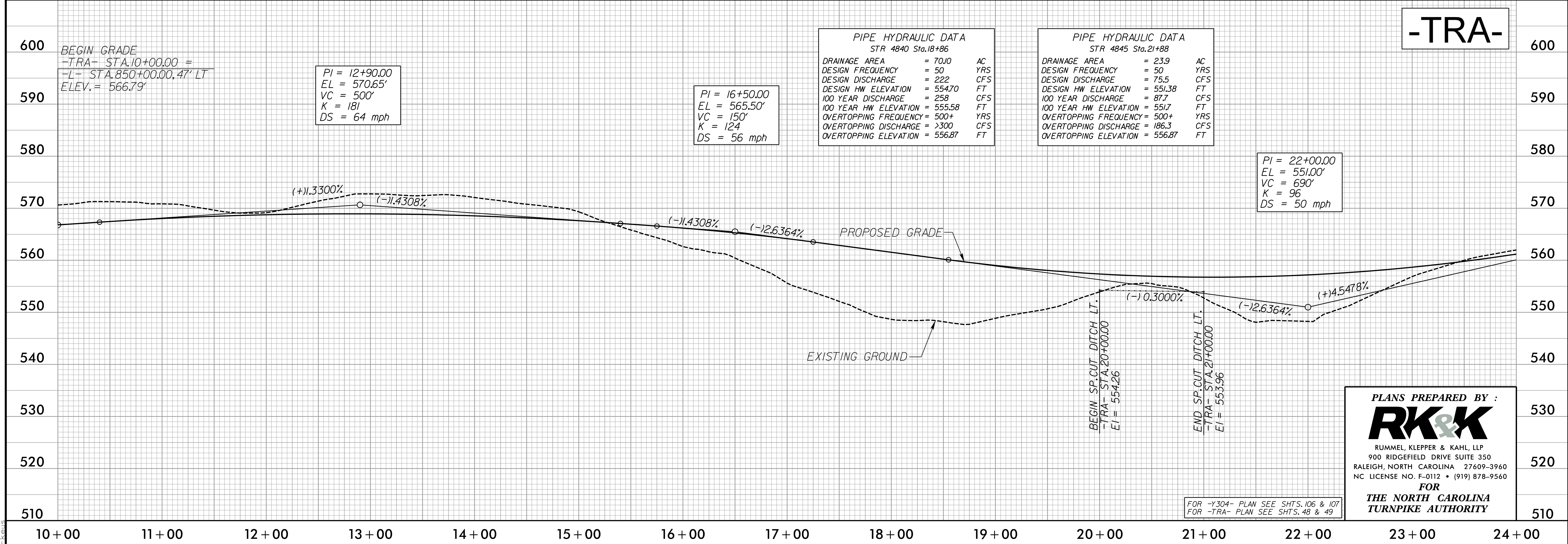
# MORGAN MILL ROAD -Y304-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 213                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



8/29/2014  
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## -TRA-



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  
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

FOR -Y304- PLAN SEE SHTS. 106 & 107  
FOR -TRA- PLAN SEE SHTS. 48 & 49



5/28/99  
8/29/2014  
R:\Roadway\Proj\Profile Sheets\Sec2c\R3329\_R2559\_R0Y\_PFL\_214.dgn  
Elevs

PROJECT REFERENCE NO.  
R-3329 /R-2559

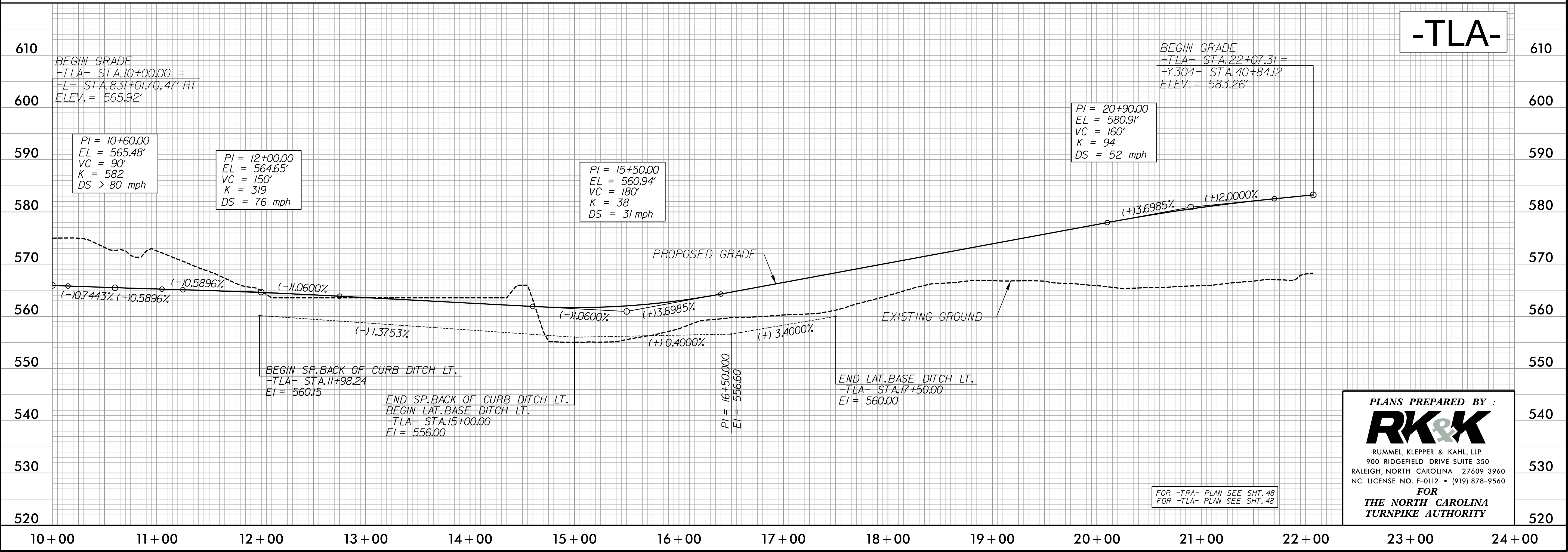
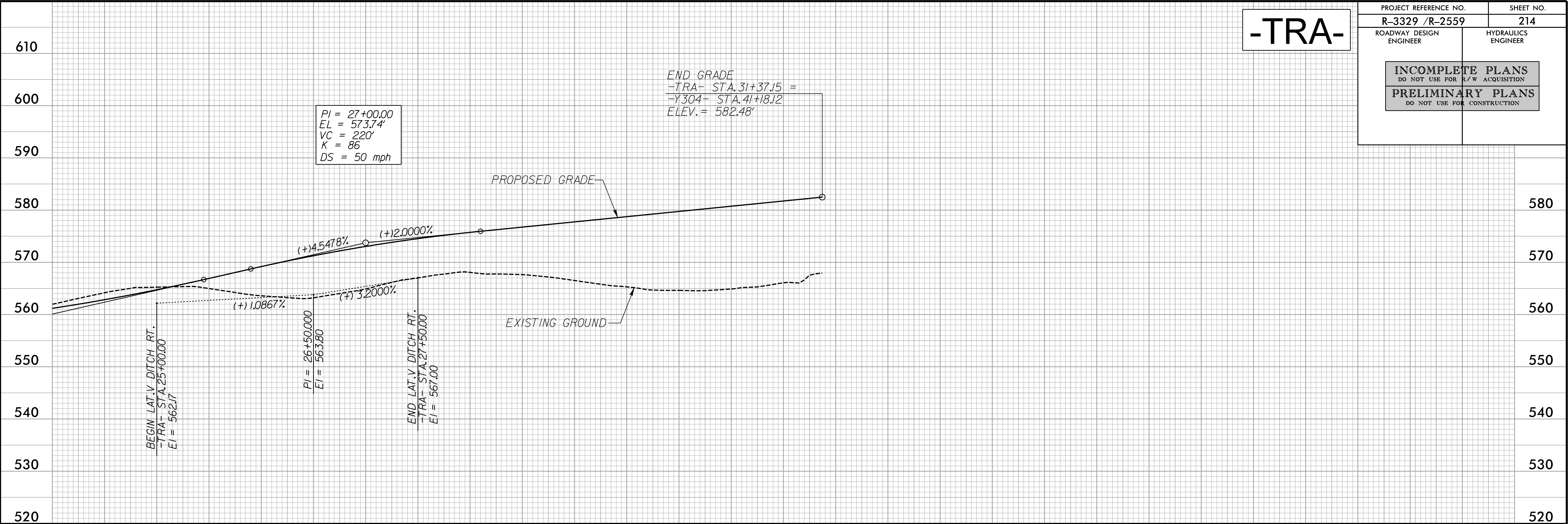
ROADWAY DESIGN  
ENGINEER

SHEET NO.  
214

HYDRAULICS  
ENGINEER

INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



FOR -TRA- PLAN SEE SHT. 48  
FOR -TLA- PLAN SEE SHT. 48

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

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THE NORTH CAROLINA  
TURNPIKE AUTHORITY



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8/29/2014  
R:\Roadway\Proj\Profile Sheets\Sec2c\R3329\_R2559\_RDY\_PFL\_215.dgn  
Elevs

-TLD-

PROJECT REFERENCE NO.  
R-3329 /R-2559

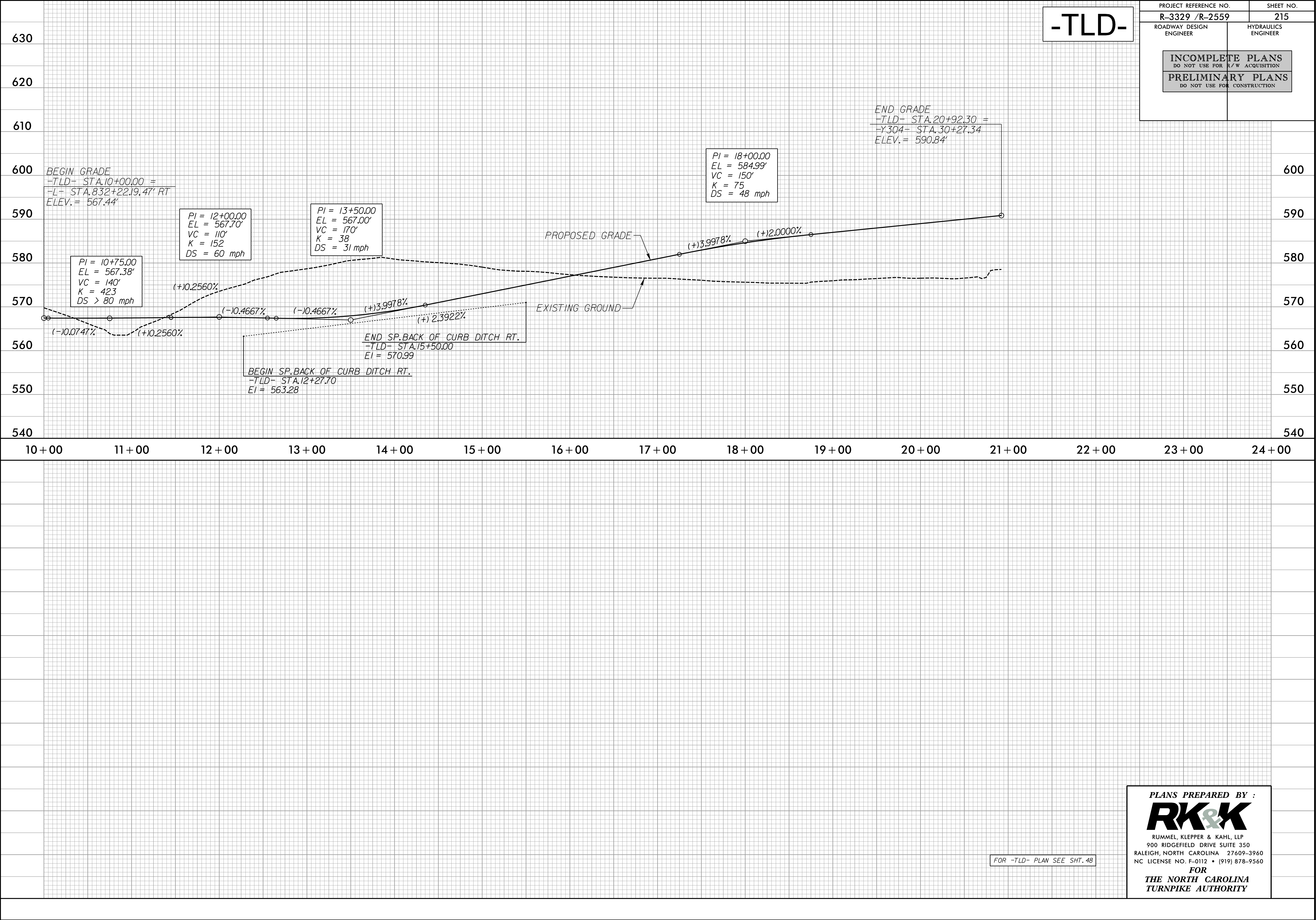
ROADWAY DESIGN  
ENGINEER

SHEET NO.  
215

HYDRAULICS  
ENGINEER

INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



FOR -TLD- PLAN SEE SHT. 48

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

FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



5/28/99

8/29/2014  
B:\Roadway\Proj\Profile Sheets\Sec2c\R3329\_R2559\_R0Y\_PFL\_216.dgn  
Elevs

-TRD-

PROJECT REFERENCE NO.  
R-3329 /R-2559

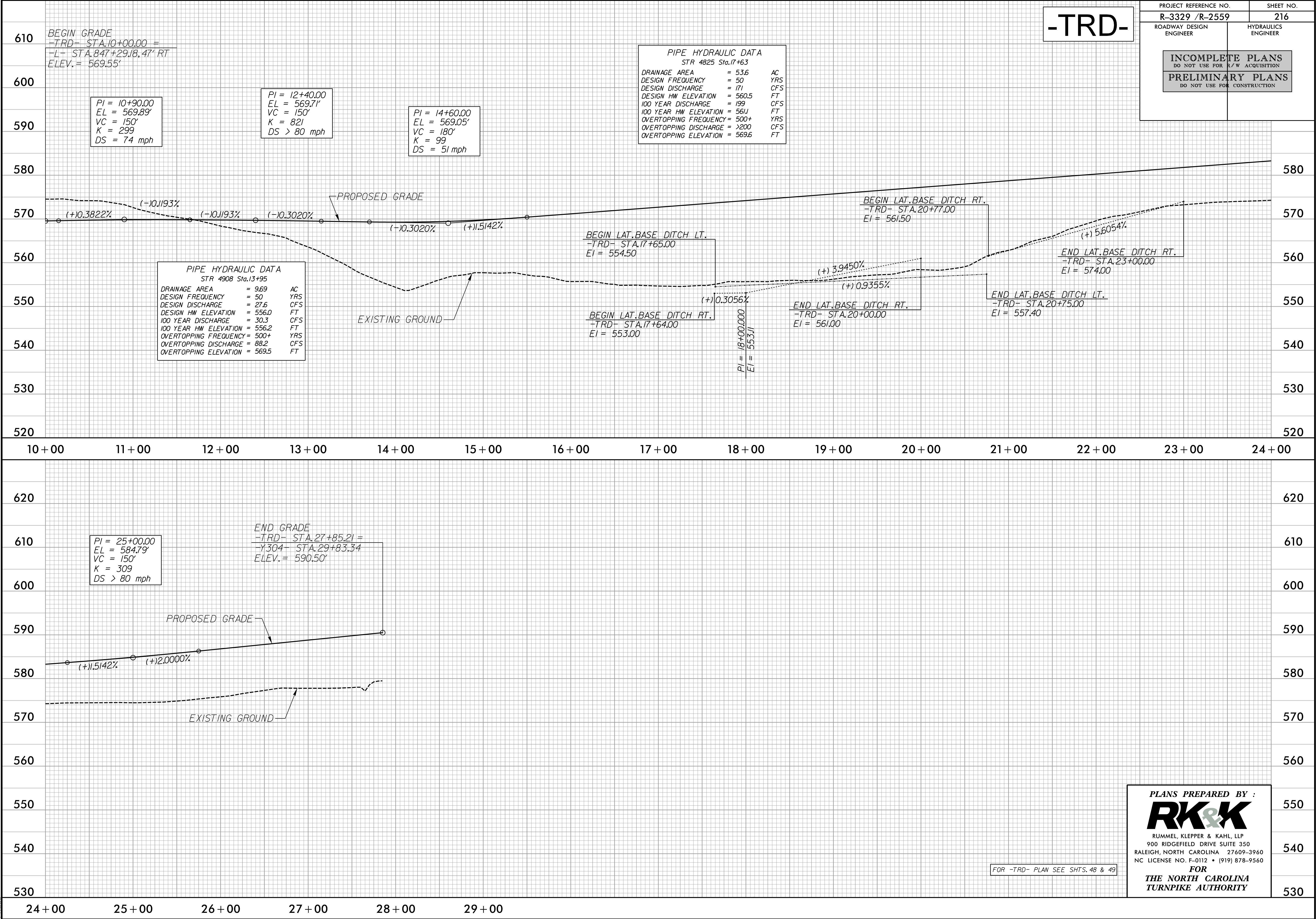
ROADWAY DESIGN ENGINEER

SHEET NO.  
216

HYDRAULICS ENGINEER

INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

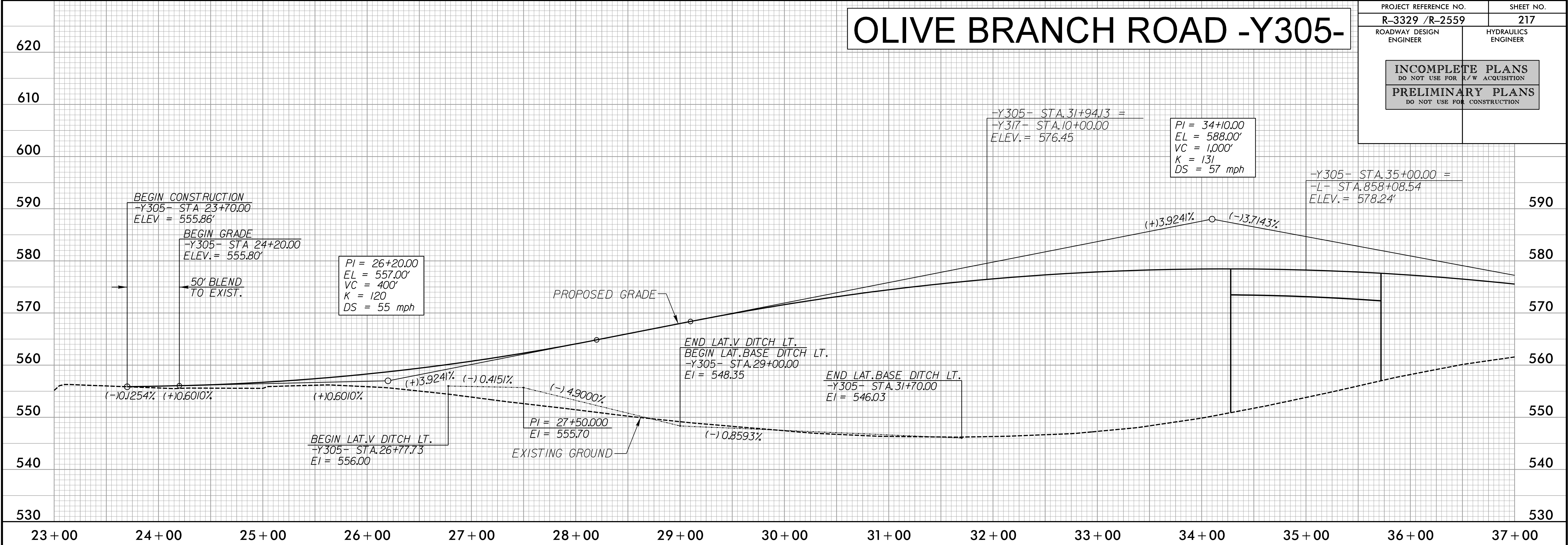




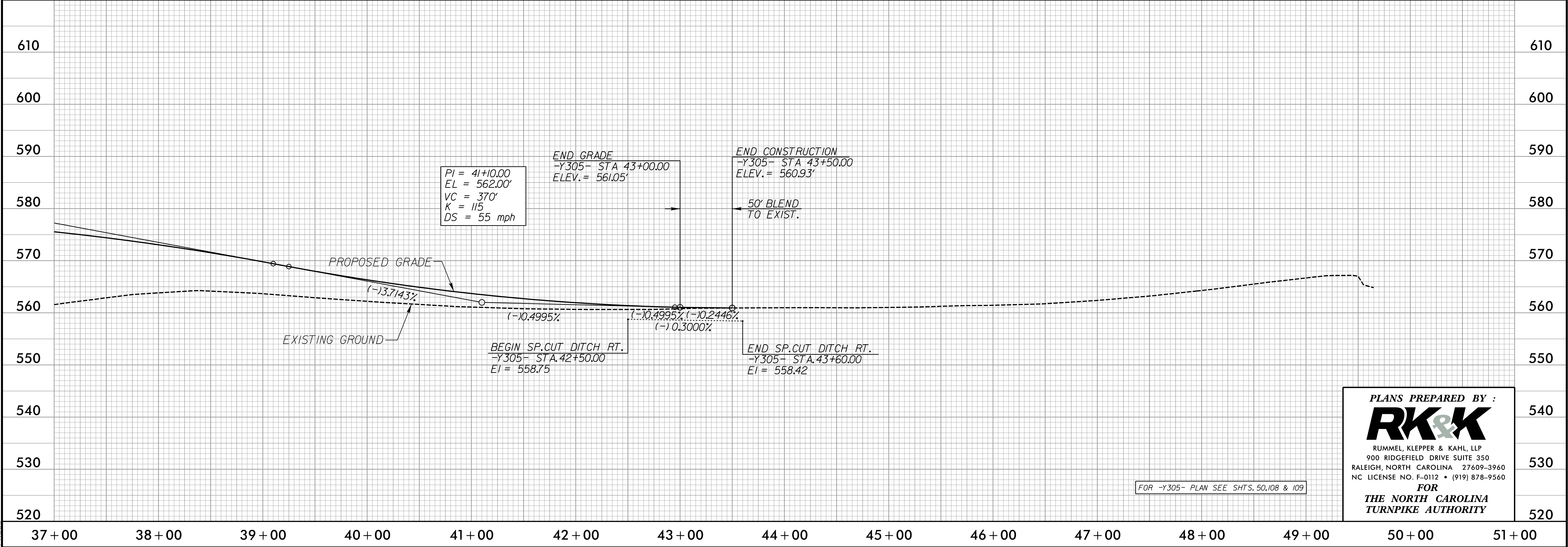
5/28/99

# OLIVE BRANCH ROAD -Y305-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 217                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



8/29/2014  
R:\Roadway\Proj\Profile Sheets\Sec2c\R3329\_R2559\_R0Y\_PFL\_217.dgn  
Elevs



FOR -Y305- PLAN SEE SHTS. 50,108 & 109

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

FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

$$\begin{array}{l} \text{BEGIN GRADE} \\ -Y317- \text{STA. } 10+00.00 = \\ -Y305- \text{STA. } 31+94.13 \\ \text{ELEV.} = 576.45' \end{array}$$

$PI = 16+00.00$   
 $EL = 549.52'$   
 $VC = 300'$   
 $K = 78$   
 $DS = 45 \text{ mph}$

PROPOSED GRADE—

BEGIN LAT.V DITCH LT.  
-Y317- STA.11+60.00  
EI = 547+00.00

END LAT.V DITCH LT.  
-Y317 - STA. 16+88.38  
EI = 544.32

$$(-)1.4611\%$$

$PI = 24+09.15$   
 $EL = 537.70'$   
 $VC = 830'$   
 $K = 282$   
 $DS > 80 \text{ mph}$

$$\begin{aligned} PI &= 35 + 59.15 \\ EL &= 554.70' \\ VC &= 1,140' \\ K &= 254 \\ DS &= 71 \text{ mph} \end{aligned}$$

EXISTING GROUND—

(+)1.4783%

(-13.0088%

**FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY**

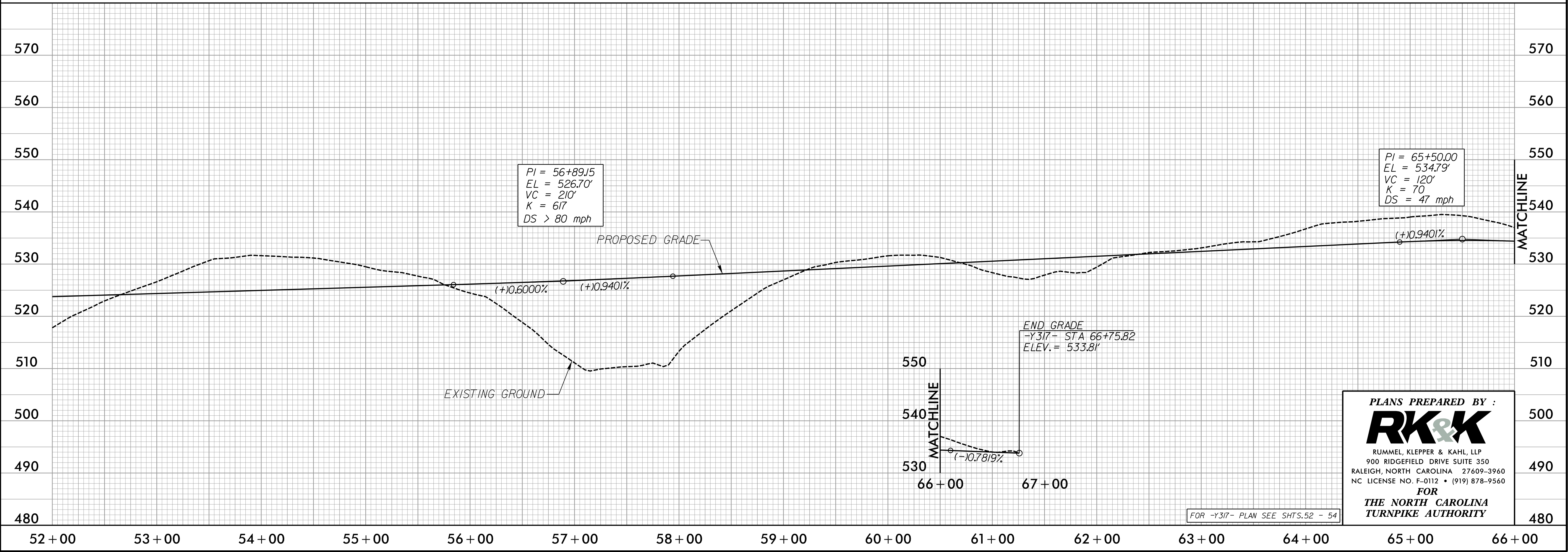
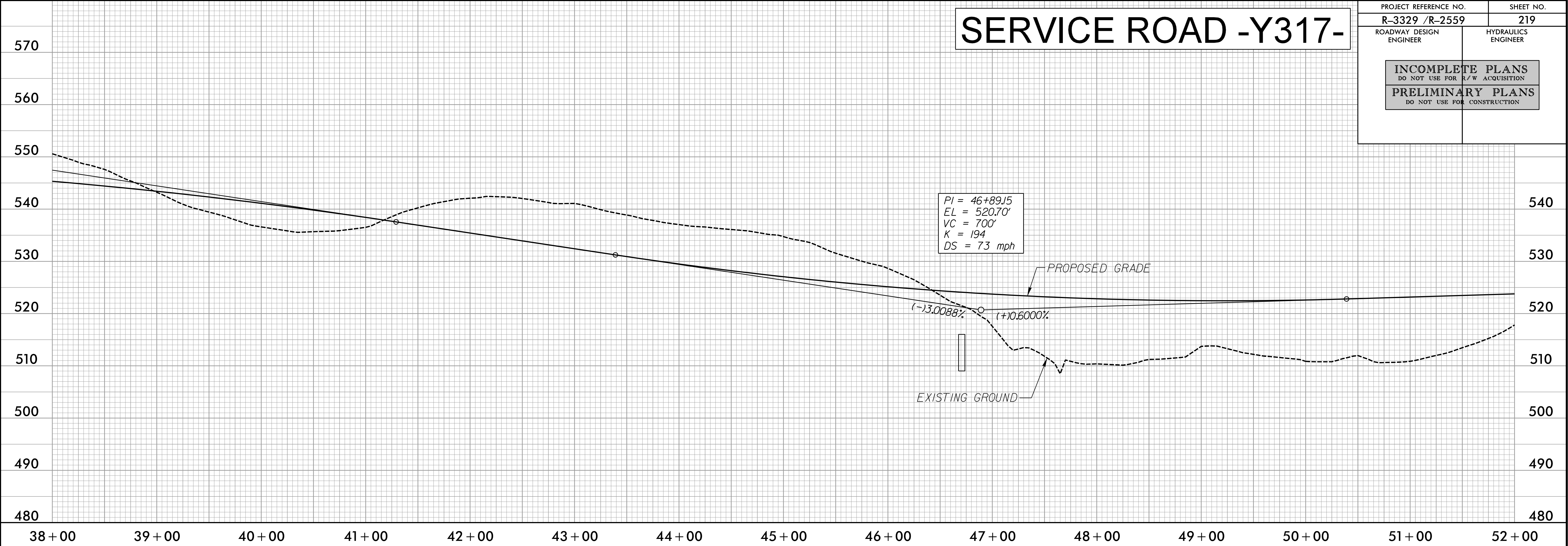
FOR -Y317- PLAN SEE SHTS. 50 - 52 & 108



5/28/99  
8/29/2014  
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Elevs

# SERVICE ROAD -Y317-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 219                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



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

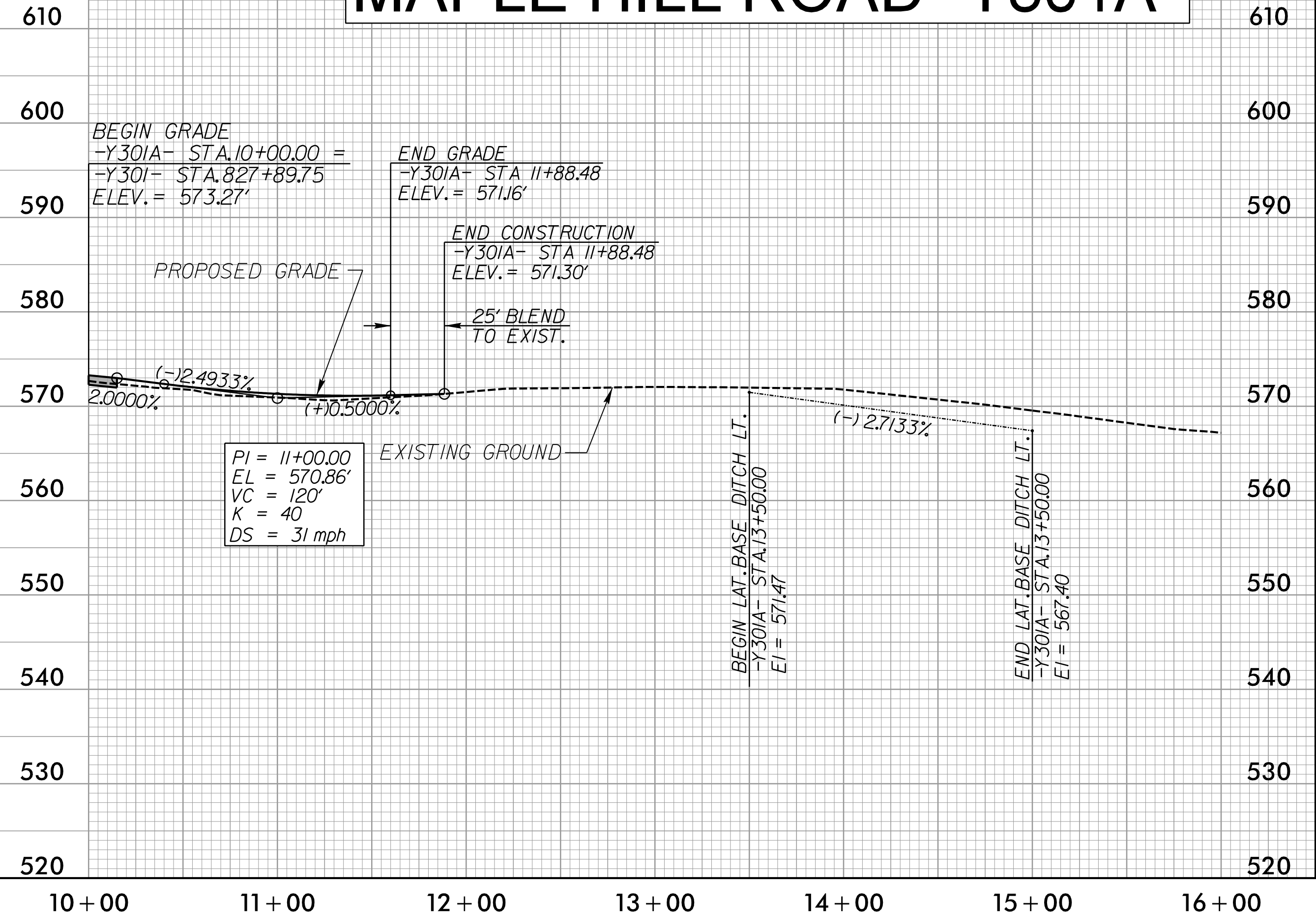
FOR  
**THE NORTH CAROLINA  
TURNPIKE AUTHORITY**

FOR -Y317- PLAN SEE SHTS. 52 - 54

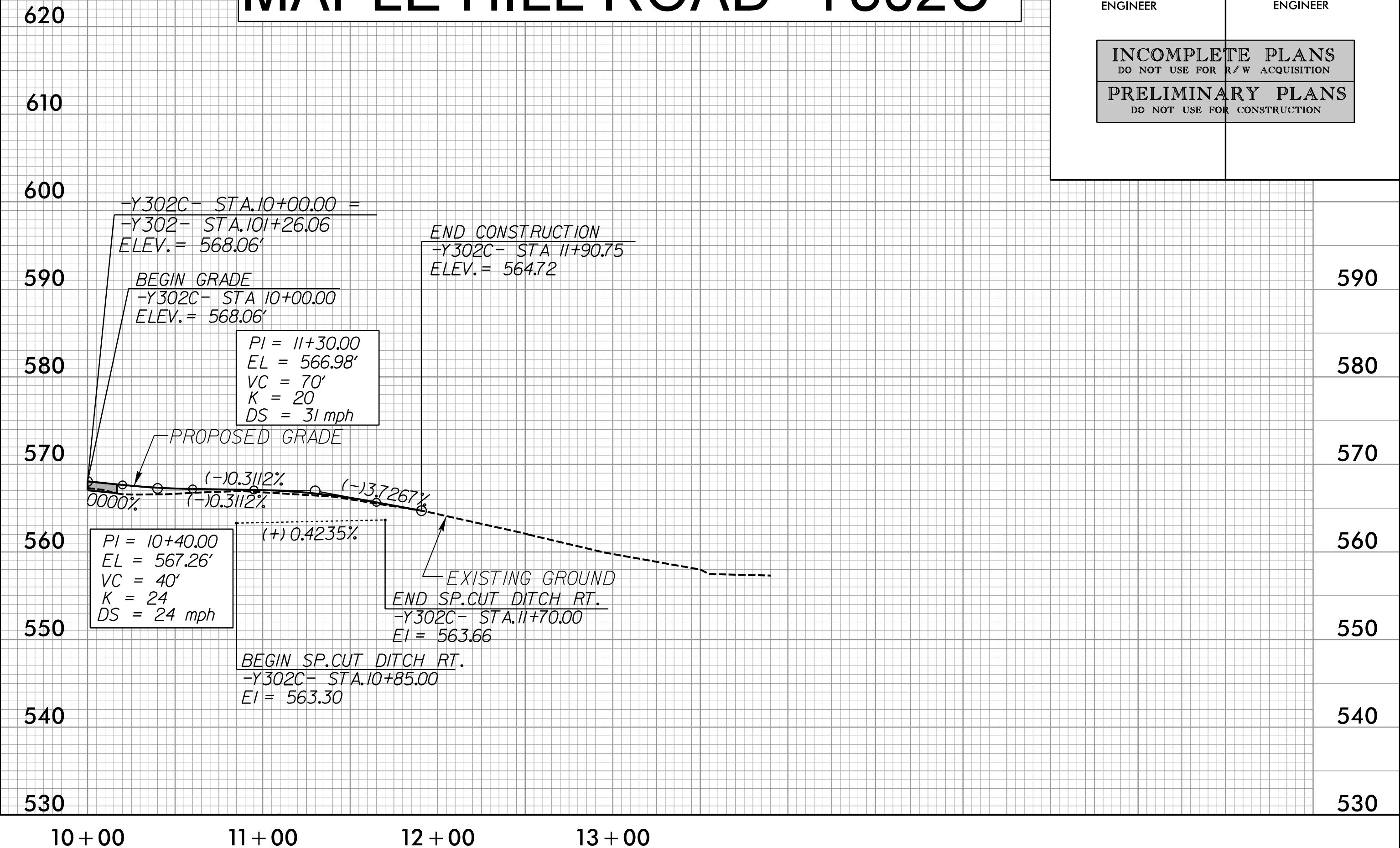


5/28/99  
8/29/2014  
R:\Roadway\Proj\Profile Sheets\Sec2c\R3329\_R2559\_R0Y\_PFL\_220.dgn

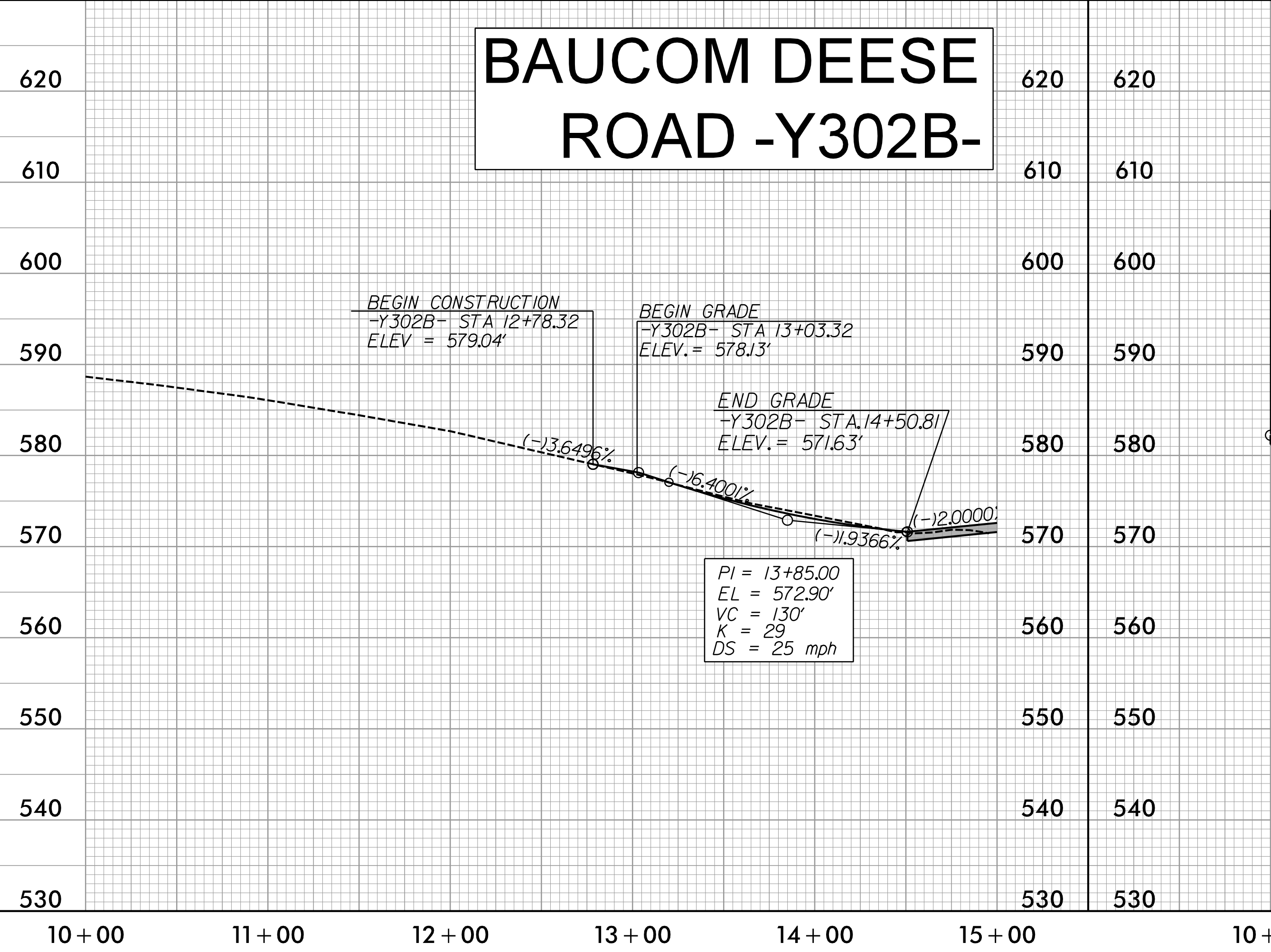
MAPLE HILL ROAD -Y301A-



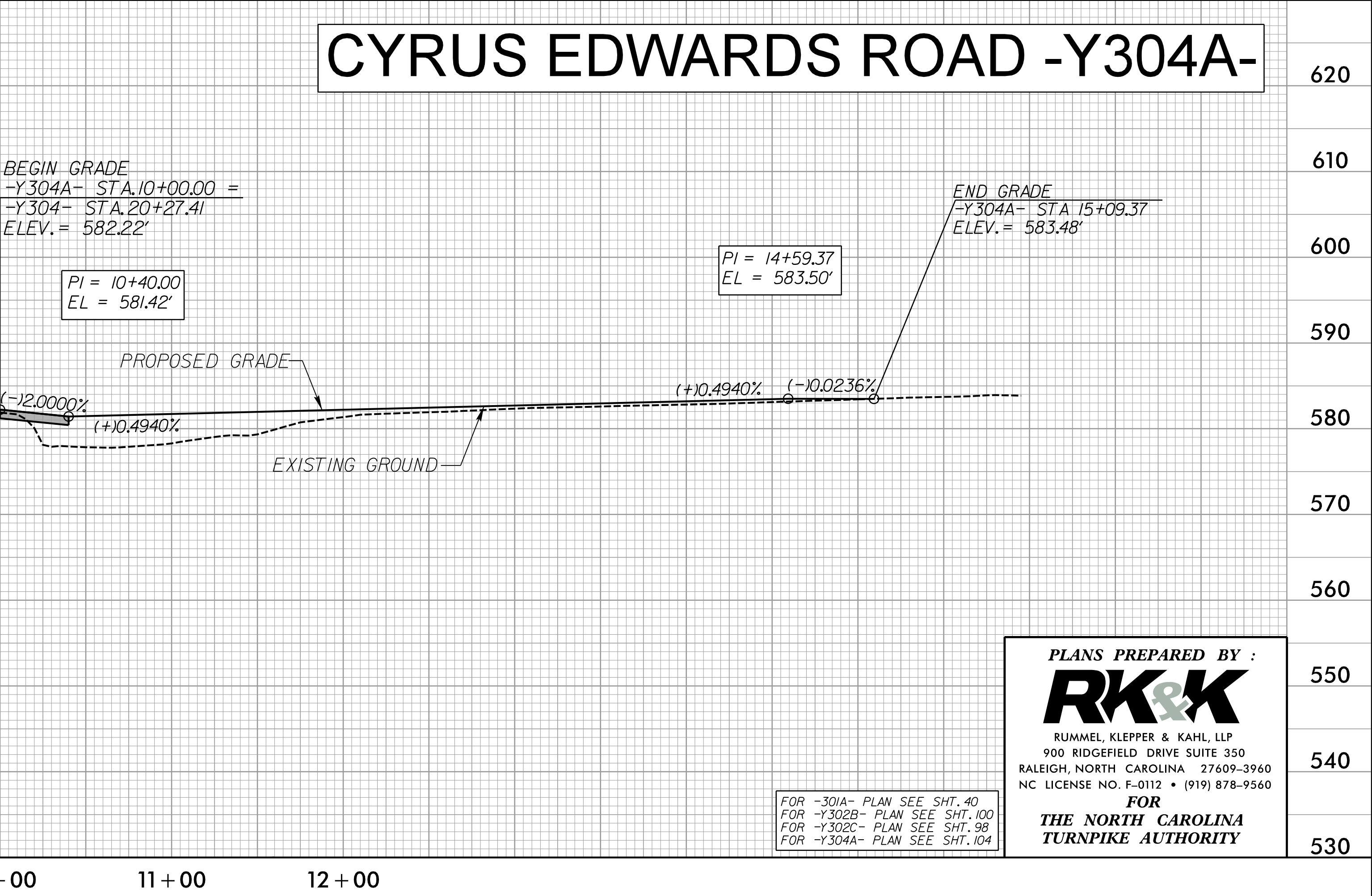
MAPLE HILL ROAD -Y302C-



BAUCOM DEESE ROAD -Y302B-



CYRUS EDWARDS ROAD -Y304A-



| PROJECT REFERENCE NO.                              | SHEET NO.           |
|----------------------------------------------------|---------------------|
| R-3329 /R-2559                                     | 220                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

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

FOR  
**THE NORTH CAROLINA**  
TURNPIKE AUTHORITY

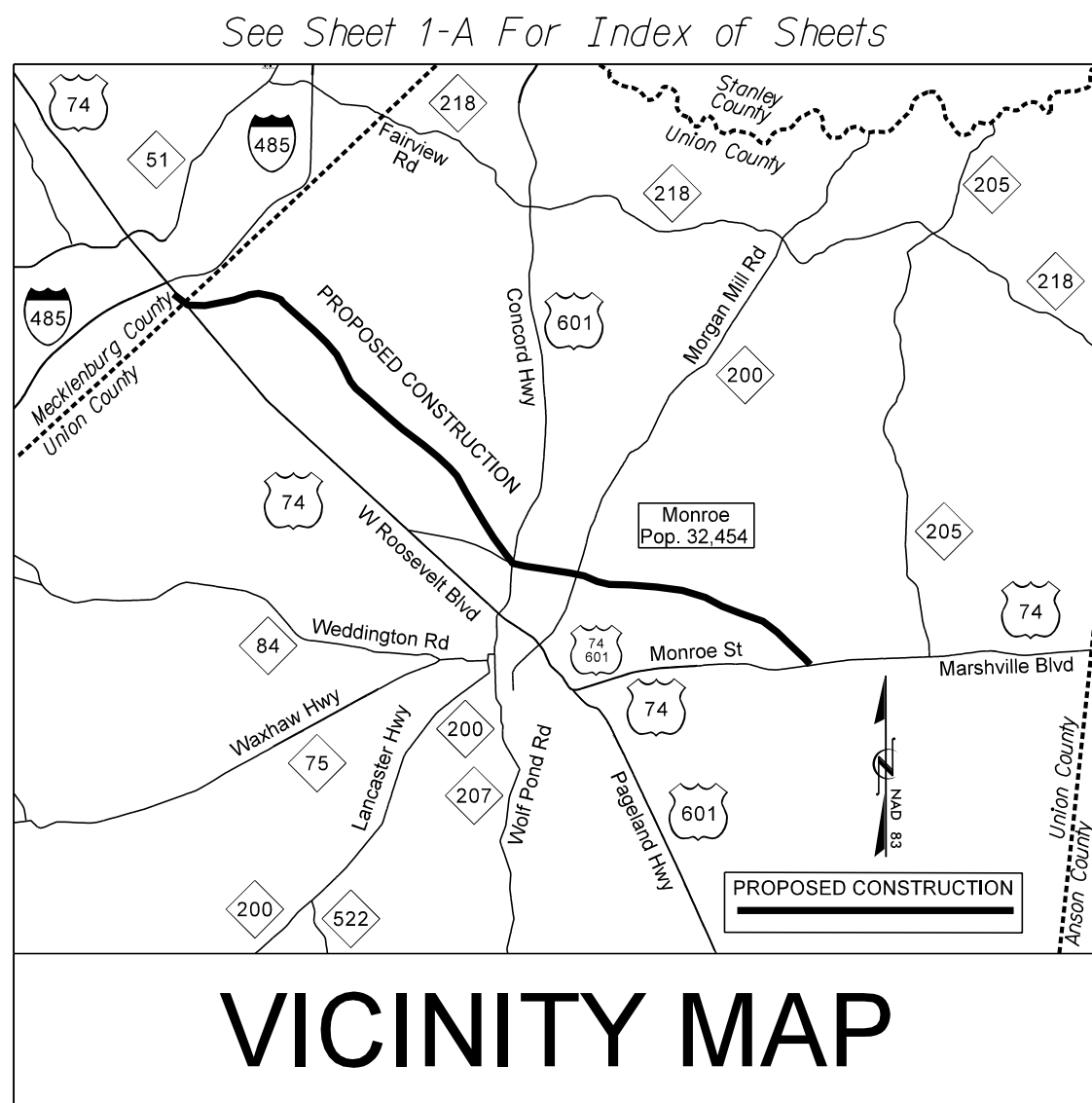
FOR -Y301A- PLAN SEE SHT. 40  
FOR -Y302B- PLAN SEE SHT. 100  
FOR -Y302C- PLAN SEE SHT. 98  
FOR -Y304A- PLAN SEE SHT. 104



9/30/2014 R:\Roadway\Proj\Plan Sheets\Sec3a\3329\_r2559\_rdy\_tst\_Sec3a.dgn default

TIP PROJECT: R-3329 / R-2559

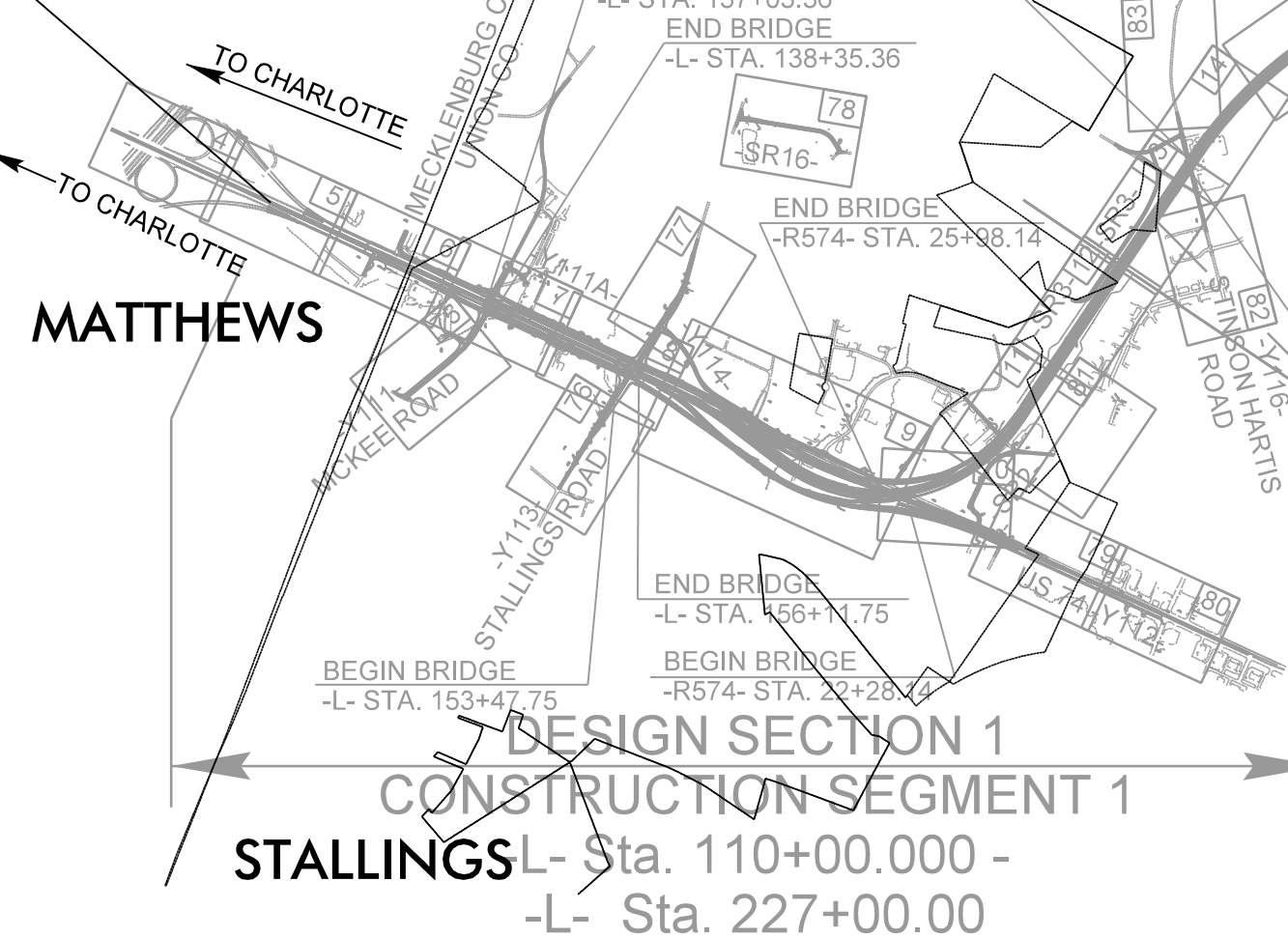
CONTRACT: C202587



VICINITY MAP

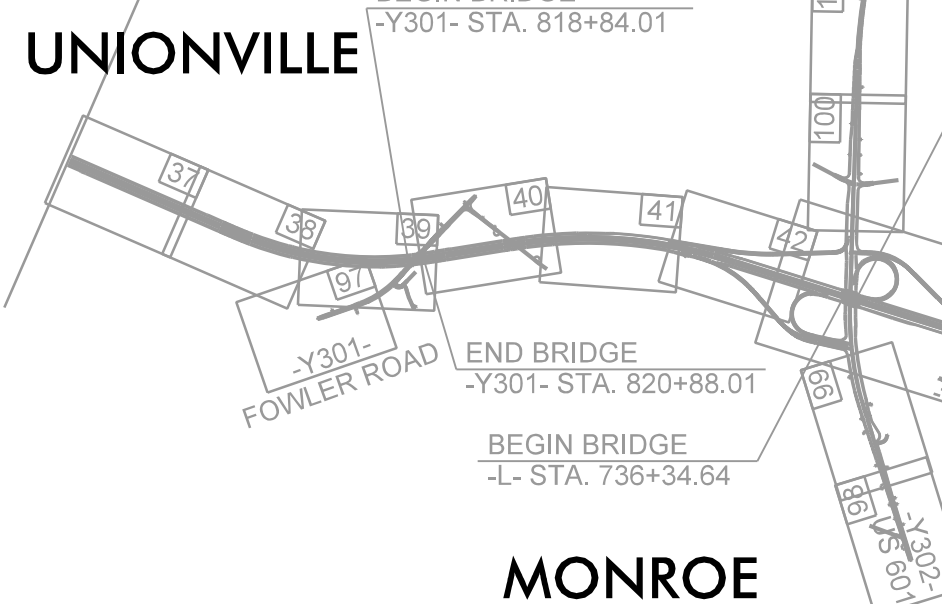
BEGIN TIP PROJECT R-3329 / R-2559

-L- Sta. 110+00.00



DESIGN SECTION 1  
CONSTRUCTION SEGMENT 1  
STALLINGS -L- Sta. 110+00.000 -  
-L- Sta. 227+00.00

DESIGN SECTION 2C  
CONSTRUCTION SEGMENT 2 CONT.  
-L- Sta. 648+00.00 - -L- Sta. 912+00.00



NOTES:  
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.  
2. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.  
3. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF MATTHEWS, INDIAN TRAIL, HEMBY BRIDGE, LAKE PARK, MONROE, UNIONVILLE, WINGATE, AND MARSHVILLE.

GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

DESIGN DATA

ADT 2013 = 64,100  
ADT 2035 = 95,600  
DHV = 8%  
D = 55%  
T = 18%\*  
V = 70 mph

\*TTST 11% DUAL 7%  
FUNCTIONAL CLASS.: FREEWAY

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3329 / R-2559..... 18.1 mi  
LENGTH STRUCTURE TIP PROJECT R-3329 / R-2559..... \*1.6 mi  
TOTAL LENGTH TIP PROJECT R-3329 / R-2559..... 19.7 mi

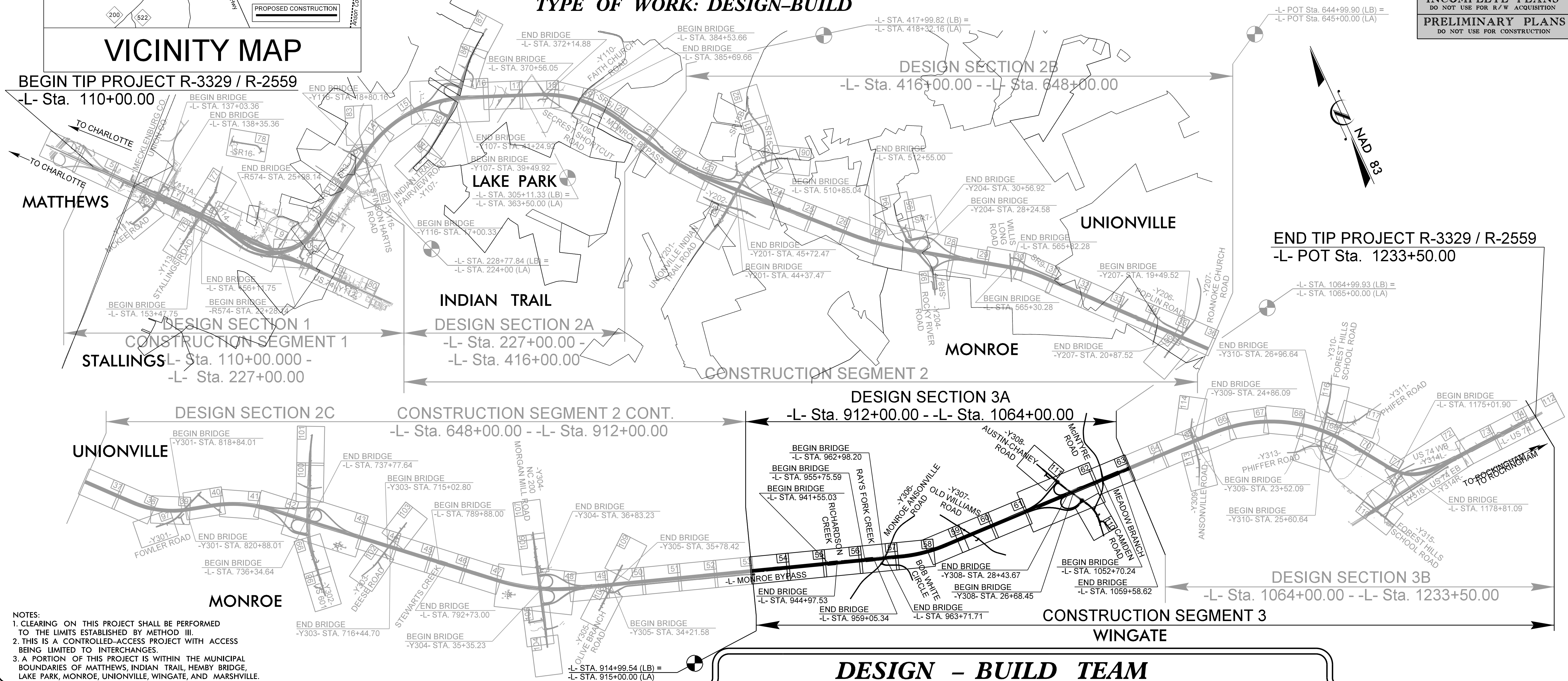
\* LENGTH OF STRUCTURES BASED ON WB LANES

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

MECKLENBURG & UNION COUNTY

LOCATION: US 74 BYPASS FROM US 74 JUST EAST OF  
I-485 NEAR MATTHEWS AND STALLINGS TO  
US 74 JUST EAST OF WINGATE AND WEST OF MARSHVILLE

TYPE OF WORK: DESIGN-BUILD



DESIGN - BUILD TEAM

PLANS PREPARED BY :  
**MULKEY**  
ENGINEERS & CONSULTANTS  
PO Box 33127  
RALEIGH, N.C. 27636  
(919) 851-1912  
(919) 851-1918 (FAX)  
WWW.MULKEYINC.COM  
NC LICENSE NO. C-1021

2012 STANDARD SPECIFICATIONS

LETTING DATE:

OCTOBER 28, 2010

J.T. Peacock, Jr., P.E.  
PROJECT ENGINEER

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

CONTRACTOR :



HYDRAULICS ENGINEER

SIGNATURE: P.E.  
ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C.            | R-3329 / R-2559             | 1           |              |
| STATE PROJ. NO. | F.A. PROJ. NO.              | DESCRIPTION |              |
| 34533.5.TA1     |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |

PERMIT APPLICATION  
SUBMITTAL NO. S-099  
DATE: 10-01-2014

INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION  
PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



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E:\Users\jgordon\Documents\3329\_r2559\_rdu\_tjp\_Sec3a.DGN

6/2/99

| PAVEMENT SCHEDULE |                                                                                                                                                                                                       |     |                                                                                                                                                                                                    |    |                                                                                                  |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------------|
| A1                | 9" PORTLAND CEMENT CONCRETE PAVEMENT                                                                                                                                                                  | D11 | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH. | J1 | PROPOSED 6" AGGREGATE BASE COURSE                                                                |
| C1                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E1  | PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                              | J2 | PROPOSED 8" AGGREGATE BASE COURSE                                                                |
| C2                | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD. IN EACH OF TWO LAYERS.                                                                         | E2  | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                              | J3 | PROPOSED 9" AGGREGATE BASE COURSE                                                                |
| C3                | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E3  | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.                                                                                              | J4 | PROPOSED 10" AGGREGATE BASE COURSE                                                               |
| C4                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E4  | PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                       | J5 | PROPOSED VARIABLE DEPTH AGGREGATE BASE COURSE                                                    |
| 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" OR GREATER THAN 5.5" IN DEPTH.         | K1 | BASE TO BE TREATED WITH LIME TO A DEPTH OF 8" OR BASE TO BE TREATED WITH CEMENT TO A DEPTH OF 7" |
| 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 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E6  | PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                              | P  | PRIME COAT AT THE RATE OF 0.35 GAL PER SQ YD                                                     |
| C7                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E7  | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                              | R1 | 2'-6" CONCRETE CURB & GUTTER                                                                     |
| C8                | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                        | E8  | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.                                                                                              | R2 | 1'-6" CONCRETE CURB & GUTTER                                                                     |
| C9                | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E9  | PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.                                                                                            | R3 | SHOULDER BERM GUTTER                                                                             |
| C10               | PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS.PER SQ. YD.                                                                                          | E10 | PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                       | R4 | CONCRETE EXPRESSWAY GUTTER                                                                       |
| D1                | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.                                                                                       | E11 | PROP. APPROX. 6.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 370.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                   | R5 | 5" MONOLITHIC CONCRETE ISLAND (KEYED IN)                                                         |
| D2                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E12 | PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                       | R6 | SINGLE FACED CONCRETE BARRIER                                                                    |
| D3                | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | E13 | PROP. APPROX. 9" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                       | R7 | DOUBLE FACED CONCRETE BARRIER (TYPE T, T1, T2)                                                   |
| D4                | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.    | E14 | PROP. APPROX. 10.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 598.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                  | R8 | RUMBLE STRIPS                                                                                    |
| D5                | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | E15 | PROP. APPROX. 11" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                      | S  | 4" CONCRETE SIDEWALK                                                                             |
| D6                | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.                                                                                       | E16 | PROP. APPROX. 3.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 199 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                     | T  | EARTH MATERIAL                                                                                   |
| D7                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E17 | PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                     | U  | EXISTING PAVEMENT                                                                                |
| D8                | 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 2.5" OR GREATER THAN 4" IN DEPTH.    | E18 | PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.         | V  | SPLIT SEAL                                                                                       |
| D9                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0D, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E19 | PROP. APPROX. 12.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 712.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                  | W  | WEDGING                                                                                          |
| D10               | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0D, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | G1  | 8" CEMENT TREATED AGGREGATE BASE COURSE                                                                                                                                                            | Z  | NON WOVEN FIBERGLASS/POLYESTER INTERLAYER PAVING MAT                                             |

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO.  
R-3329 / R-2559

SHEET NO.  
3A-2

ROADWAY DESIGN  
ENGINEER

PAVEMENT DESIGN  
ENGINEER

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

PLANS PREPARED BY :

MULKEY

ENGINEERS & CONSULTANTS

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NC LICENSE NO. C-1021

FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

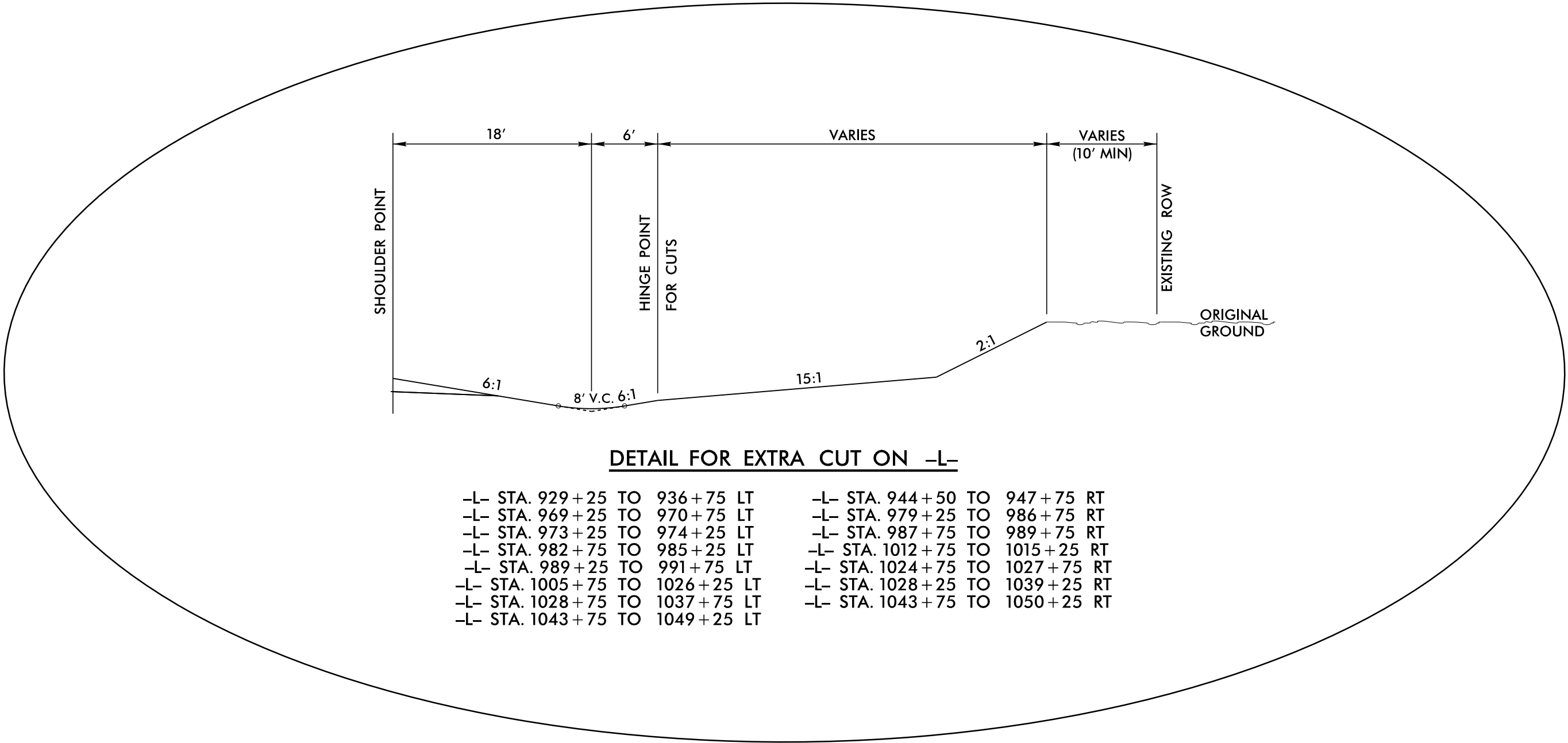
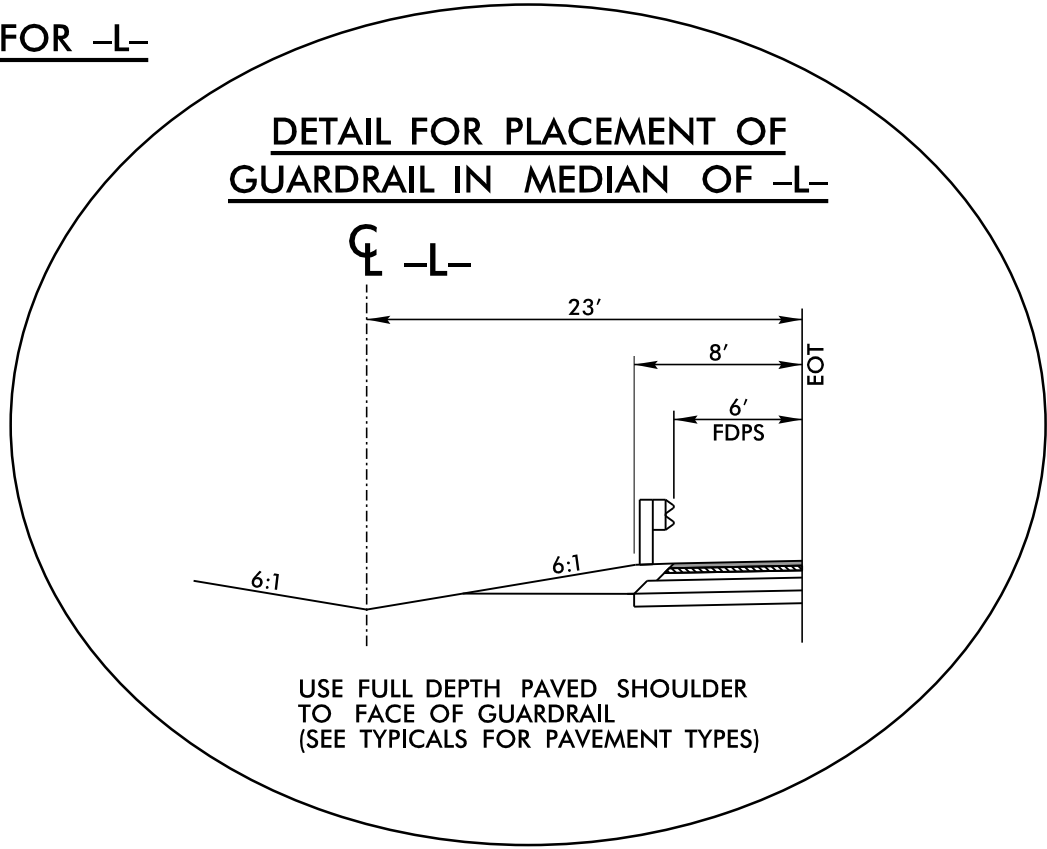
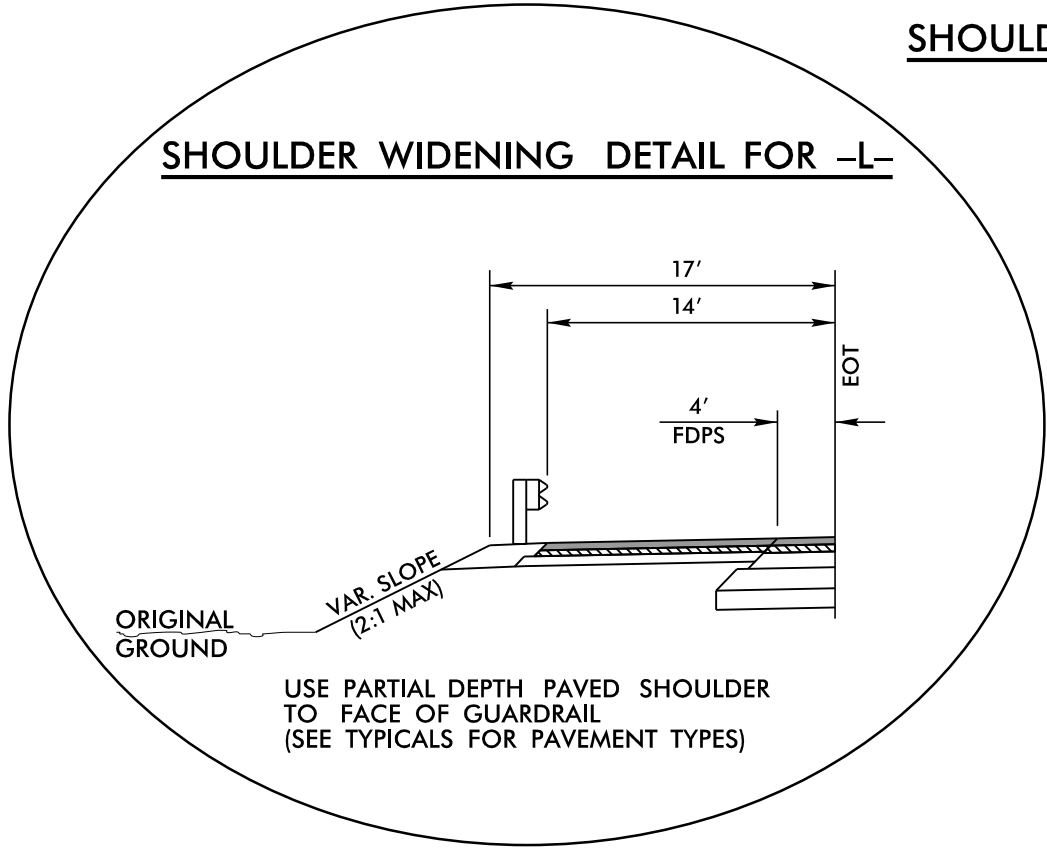


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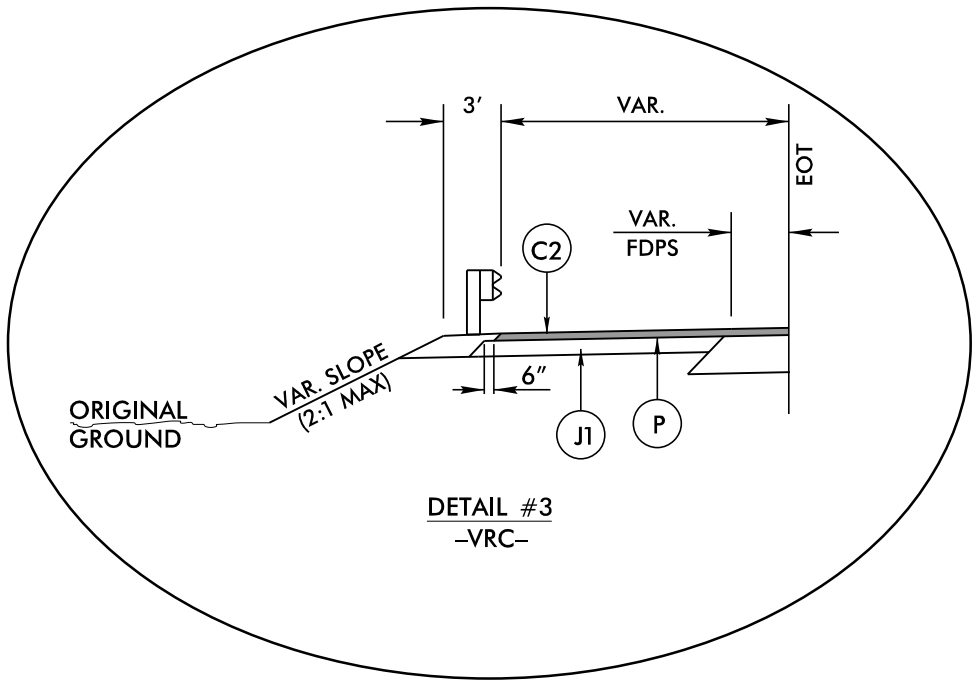
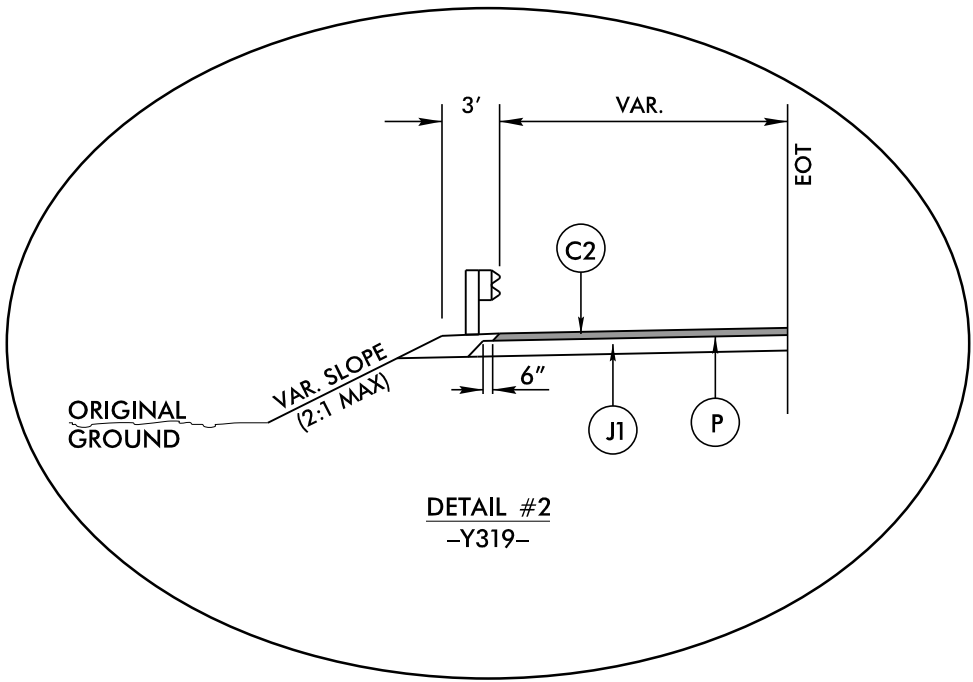
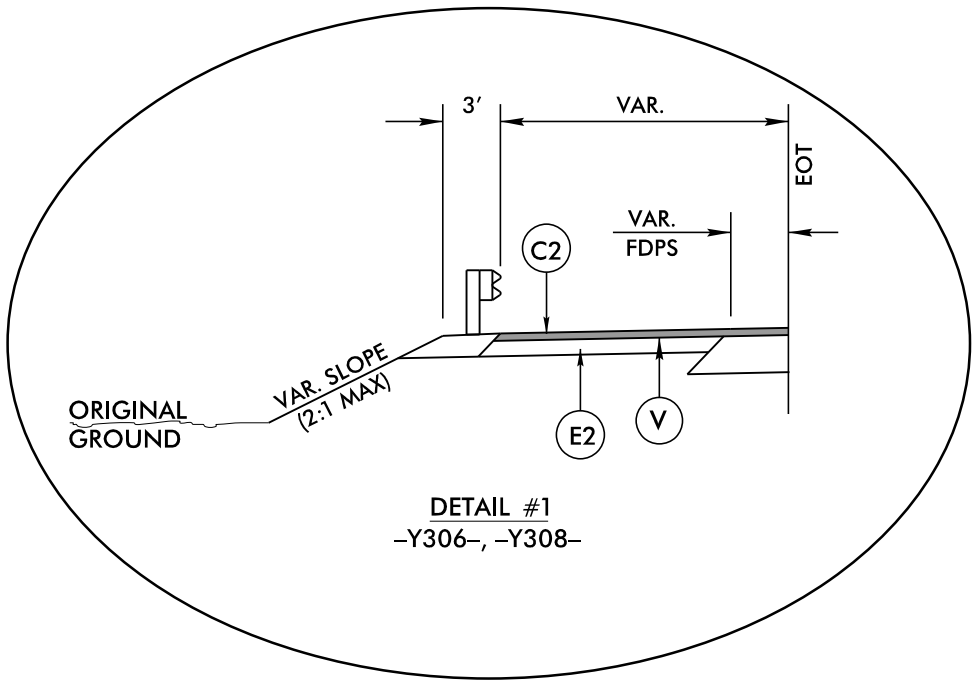
| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D2                | 3" I19.0B                         |
| D3                | 4" I19.0B                         |
| D5                | 4" I19.0C                         |
| D6                | 2.5" I19.0C                       |
| E2                | 4" B25.0B                         |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| P                 | PRIME COAT                        |
| K1                | 8" LIME BASE<br>OR 7" CEMENT BASE |
| R1                | 2'-6" CURB & GUTTER               |
| R2                | 1'-6" CURB & GUTTER               |
| R8                | RUMBLE STRIPS                     |
| T                 | EARTH MATERIAL                    |
| U                 | EXISTING PAVEMENT                 |
| V                 | SPLIT SEAL                        |
| W                 | WEDGING                           |

NOTE: PAVEMENT EDGE SLOPES ARE 1:1  
UNLESS SHOWN OTHERWISE

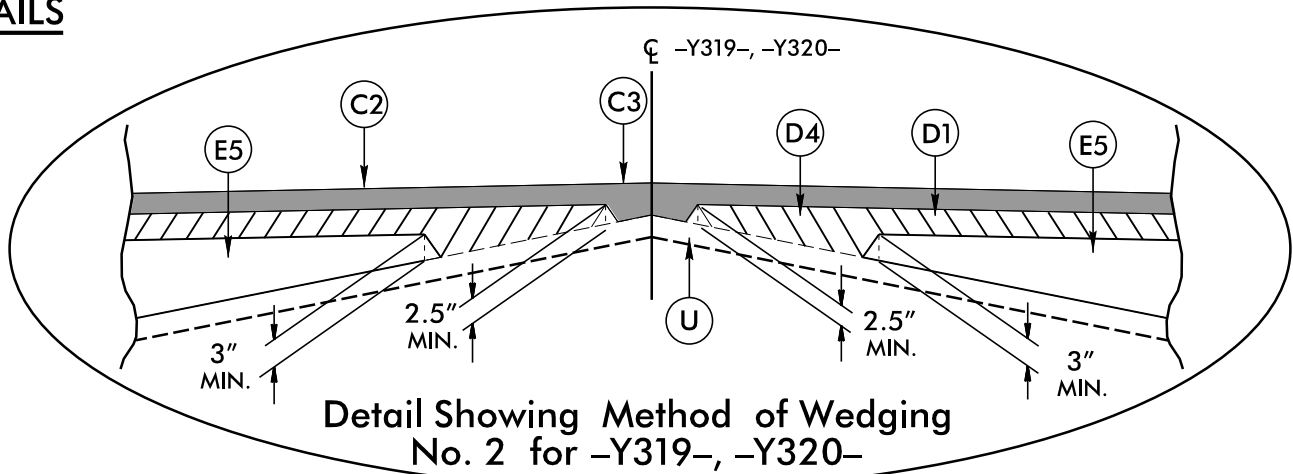
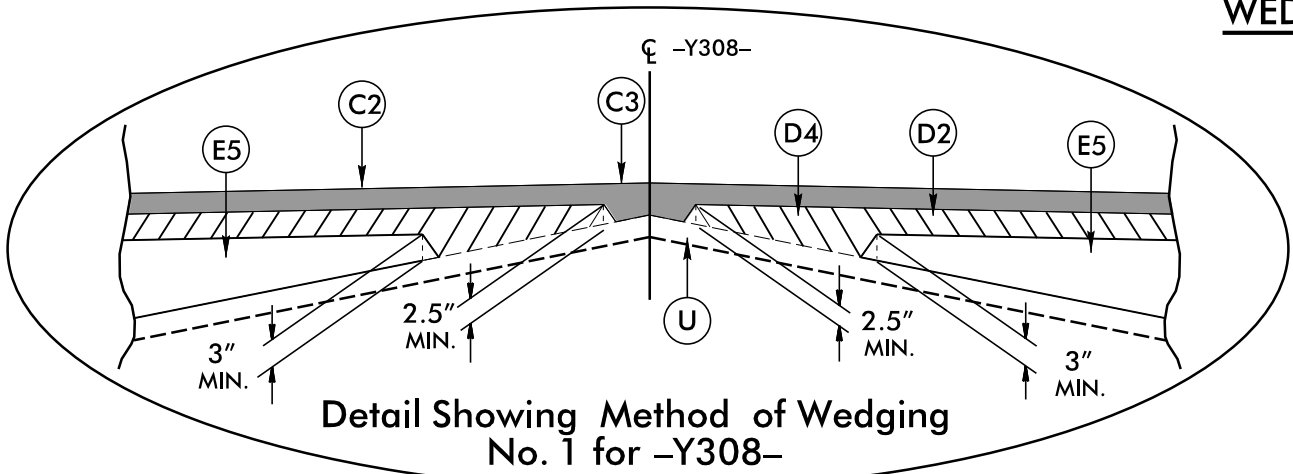
SHOULDER WIDENING DETAILS FOR -L-



SHOULDER WIDENING DETAILS  
FOR Y-LINES & RAMPS



WEDGING DETAILS



| PROJECT REFERENCE NO.                            | SHEET NO.                |
|--------------------------------------------------|--------------------------|
| R-3329 / R-2559                                  | 3A-2A                    |
| ROADWAY DESIGN ENGINEER                          | PAVEMENT DESIGN ENGINEER |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                          |

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PLANS PREPARED BY :

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THE NORTH CAROLINA  
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NOTE: PAVEMENT EDGE SLOPES ARE 1:1  
UNLESS SHOWN OTHERWISE



12" FDPS DETAIL (INSET 1)  
USE INSET 1 IN CONJUNCTION  
WITH TYPICAL SECTION NO. 3A-1

—L— STA. 901+44.54 TO 914+99.54 (BK) LT  
—L— STA. 915+00.00 (AH) TO 924+90.00 LT  
—L— STA. 913+59.54 TO 914+99.54 (BK) RT  
—L— STA. 915+00.00 (AH) TO 937+36.50 RT

STA. 915+00.00 AH TO 941+55.03 (BEGIN BRIDGE LT)  
STA. 944+97.53 (END BRIDGE LT) TO 955+67.26 (BEGIN BRIDGE LT)  
STA. 958+98.41 (END BRIDGE LT) TO 962+97.37 (BEGIN BRIDGE LT)  
STA. 963+72.62 (END BRIDGE LT) TO 1052+70.68 (BEGIN BRIDGE LT)  
STA. 1059+75.00 (END BRIDGE LT) TO 1064+00.00



USE TYPICAL SECTION NO. 3A-2  
-VRB- STA 10+00.00 TO 26+42.55  
-VRC- STA 10+00.00 TO 31+90.80

NOTE: USE -L- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:  
-VRB- STA 10+00.00 TO 14+27.50  
-VRC- STA 10+00.00 TO 14+30.91



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NO LICENSE NO. 0-10

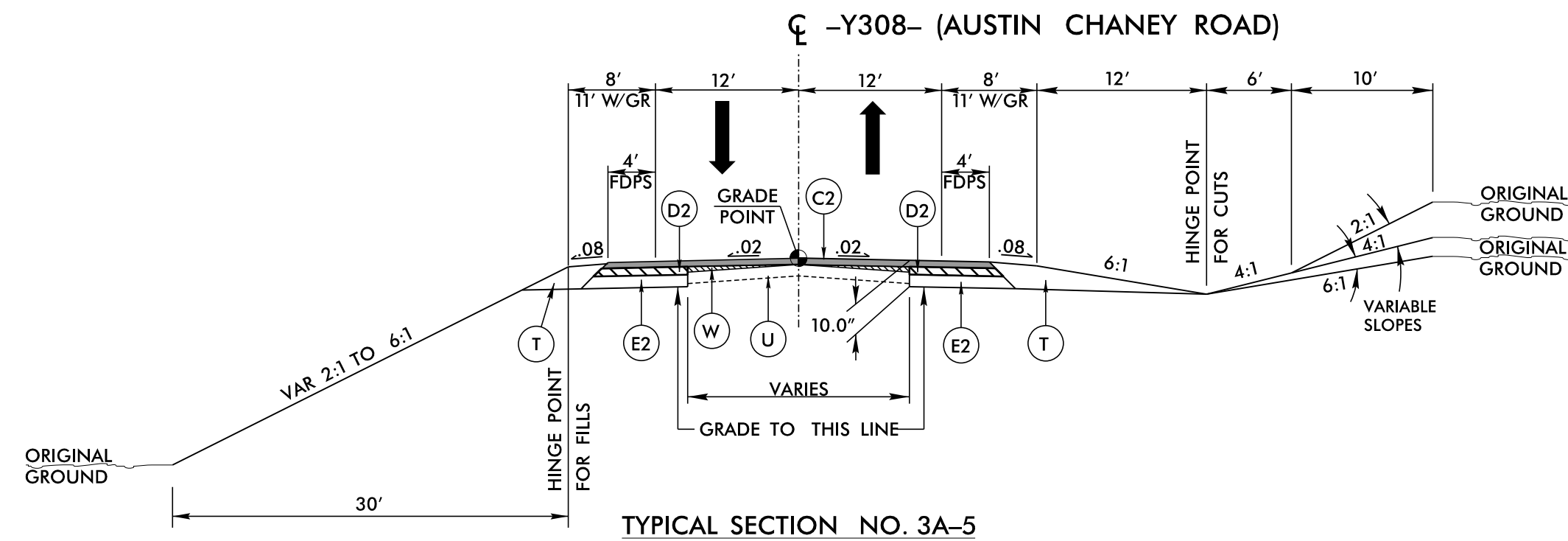
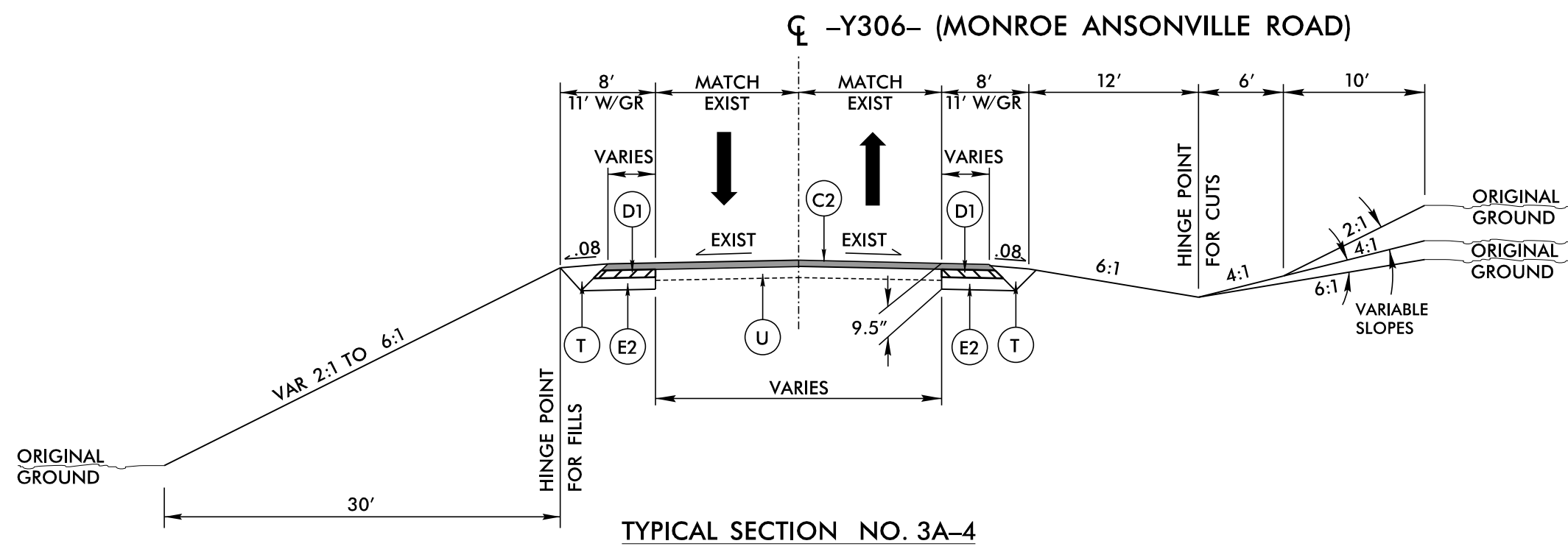
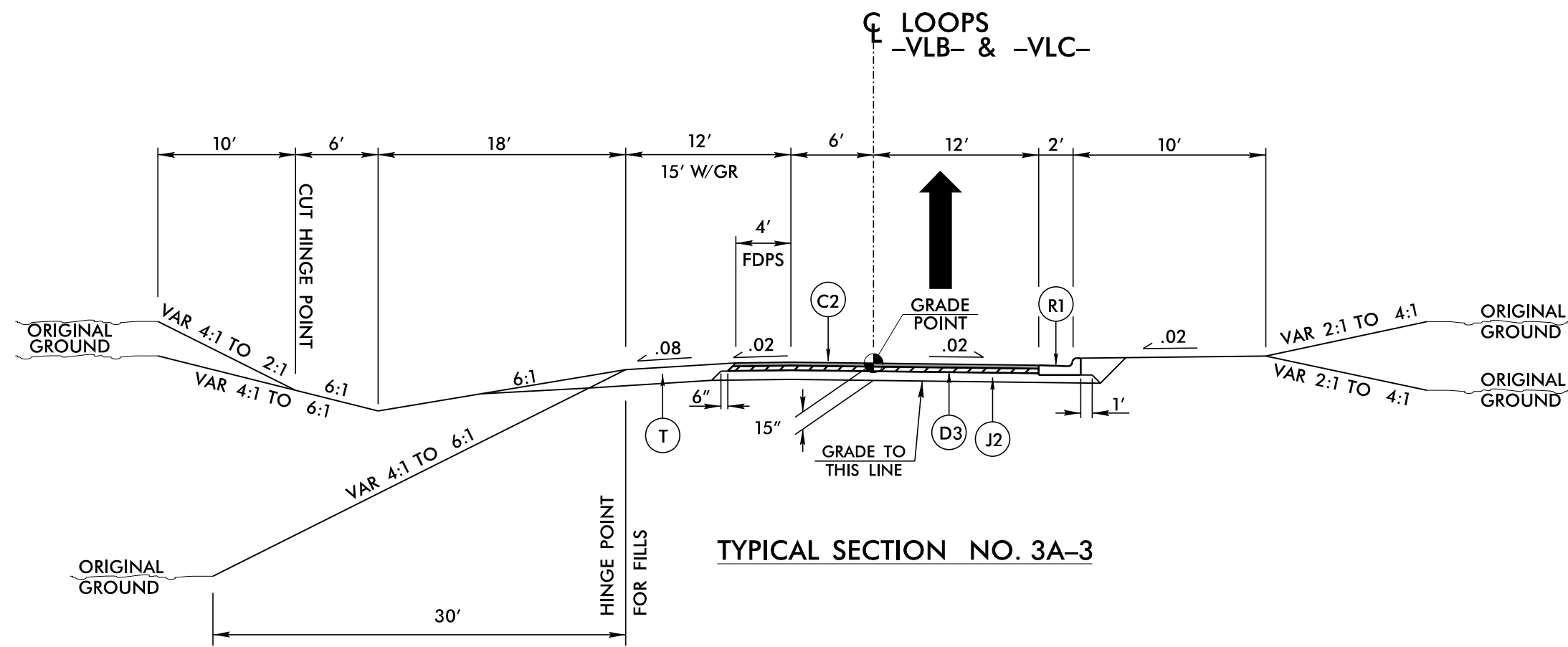
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| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D2                | 3" I19.0B                         |
| D3                | 4" I19.0B                         |
| D5                | 4" I19.0C                         |
| D6                | 2.5" I19.0C                       |
| E2                | 4" B25.0B                         |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| P                 | PRIME COAT                        |
| K1                | 8" LIME BASE<br>OR 7" CEMENT BASE |
| R1                | 2'-6" CURB & GUTTER               |
| R2                | 1'-6" CURB & GUTTER               |
| R8                | RUMBLE STRIPS                     |
| T                 | EARTH MATERIAL                    |
| U                 | EXISTING PAVEMENT                 |
| V                 | SPLIT SEAL                        |
| W                 | WEDGING                           |

NOTE: PAVEMENT EDGE SLOPES ARE 1:1  
UNLESS SHOWN OTHERWISE



| PROJECT REFERENCE NO.                            | SHEET NO.                |
|--------------------------------------------------|--------------------------|
| R-3329 / R-2559                                  | 3A-2C                    |
| ROADWAY DESIGN ENGINEER                          | PAVEMENT DESIGN ENGINEER |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                          |

USE TYPICAL SECTION NO. 3A-3  
-VLB- STA 10+00.00 TO 18+51.09  
-VLC- STA 10+00.00 TO 23+46.54  
NOTE: USE -L- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:  
-VLB- STA 10+00.00 TO 12+35.84  
-VLC- STA 10+00.00 TO 11+91.11

USE TYPICAL SECTION NO. 3A-4  
MONROE ANSONVILLE ROAD (-Y306-)  
STA. 27+66.00 TO 35+07.00

USE TYPICAL SECTION NO. 3A-5  
AUSTIN CHANEY ROAD (-Y308-)  
STA. 10+50.82 TO 14+50.00  
STA. 37+78.00 TO 41+50.00

PLANS PREPARED BY :  
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STA. 14+50.00 TO 26+71.06 (BEGIN BRIDGE)  
STA. 28+41.06 (END BRIDGE) TO 37+78.00



STA. 21+73.86 TO 23+02.86  
STA. 33+58.22 TO 34+88.22



BOB WHITE CIRCLE (-Y318-)  
STA. 15+75.00 TO 25+21.21



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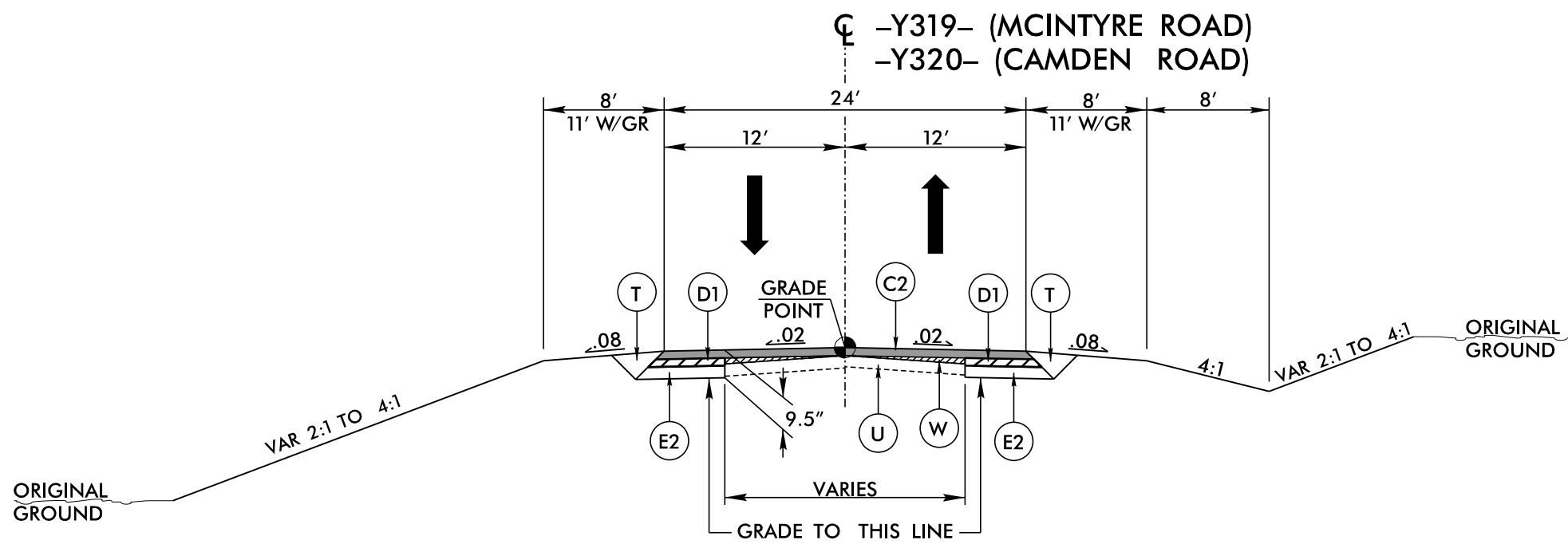
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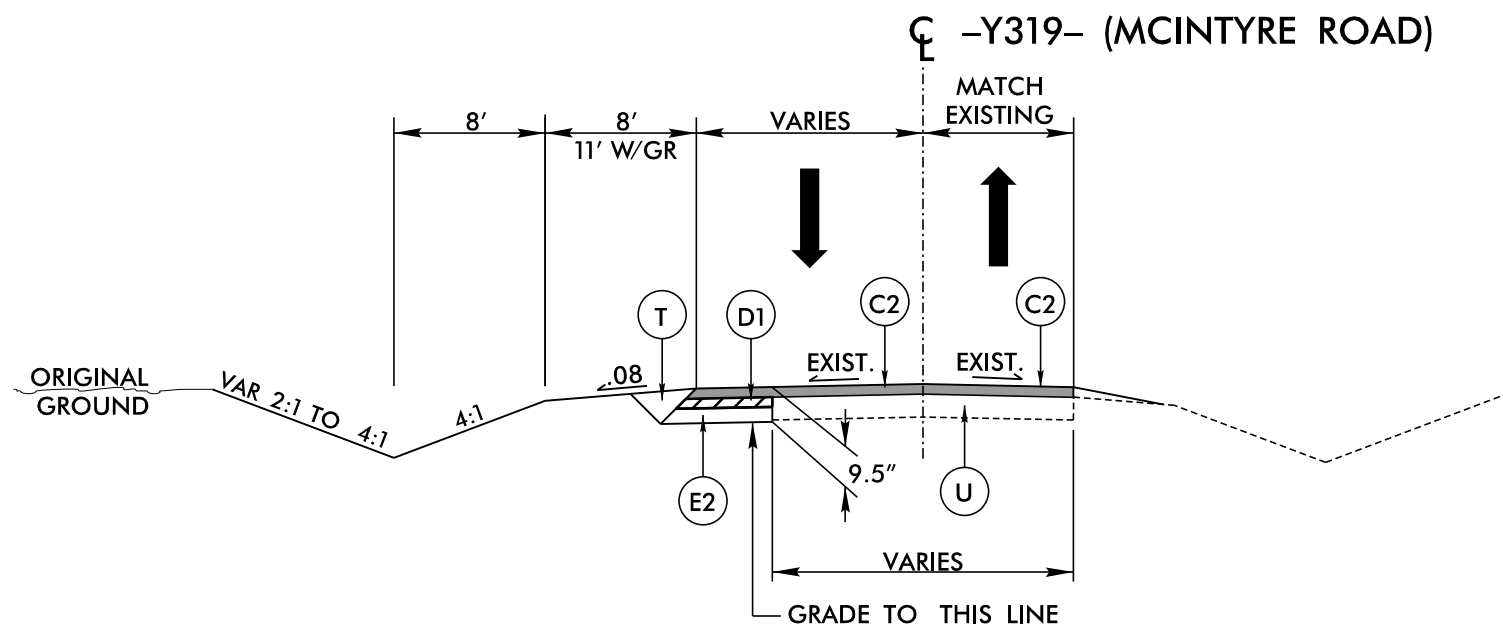
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6/2/99

| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D2                | 3" I19.0B                         |
| D3                | 4" I19.0B                         |
| D5                | 4" I19.0C                         |
| D6                | 2.5" I19.0C                       |
| E2                | 4" B25.0B                         |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| P                 | PRIME COAT                        |
| K1                | 8" LIME BASE<br>OR 7" CEMENT BASE |
| R1                | 2'-6" CURB & GUTTER               |
| R2                | 1'-6" CURB & GUTTER               |
| R8                | RUMBLE STRIPS                     |
| T                 | EARTH MATERIAL                    |
| U                 | EXISTING PAVEMENT                 |
| V                 | SPLIT SEAL                        |
| W                 | WEDGING                           |

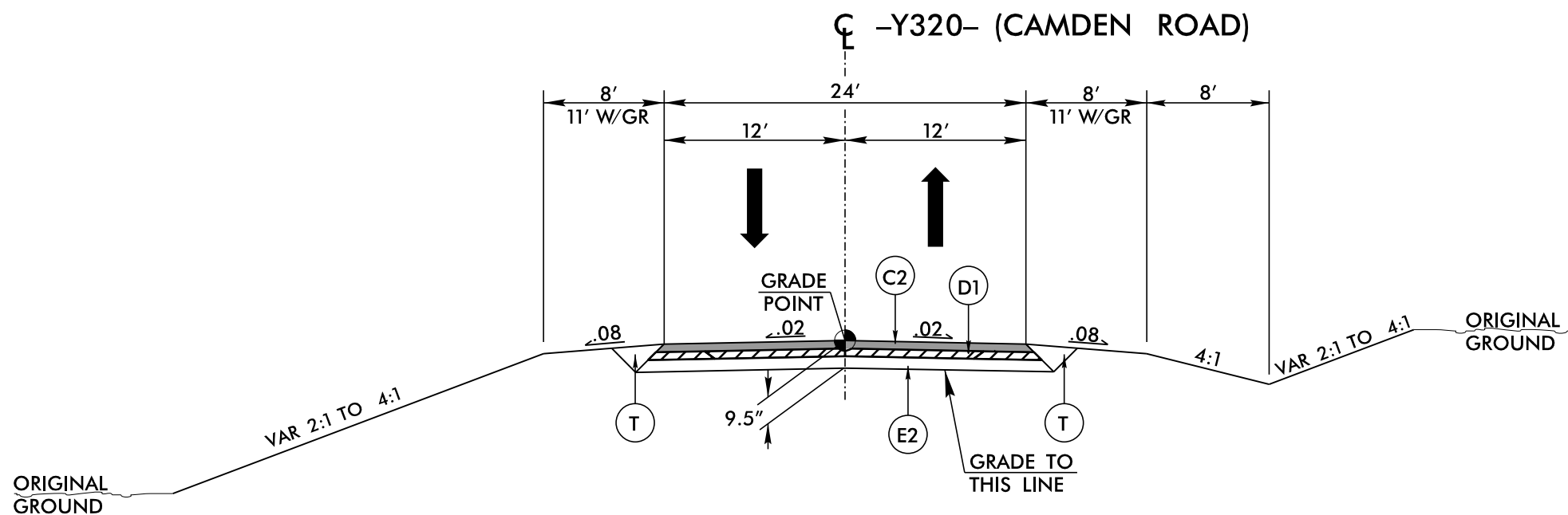
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TYPICAL SECTION NO. 3A-9



TYPICAL SECTION NO. 3A-10



TYPICAL SECTION NO. 3A-11

|                                                  |  |                             |  |
|--------------------------------------------------|--|-----------------------------|--|
| PROJECT REFERENCE NO.                            |  | SHEET NO.                   |  |
| R-3329 / R-2559                                  |  | 3A-2E                       |  |
| ROADWAY DESIGN<br>ENGINEER                       |  | PAVEMENT DESIGN<br>ENGINEER |  |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |  |                             |  |

USE TYPICAL SECTION NO. 3A-9

MCINTYRE ROAD (-Y319-)  
STA. 10+13.54 TO 11+99.36  
CAMDEN ROAD (-Y320-)  
STA. 12+44.01 TO 14+00.00

USE TYPICAL SECTION NO. 3A-10

MCINTYRE ROAD (-Y319-)  
STA. 20+03.00 TO 26+70.00

USE TYPICAL SECTION NO. 3A-11

CAMDEN ROAD (-Y320-)  
STA. 14+00.00 TO 15+39.45

PLANS PREPARED BY :

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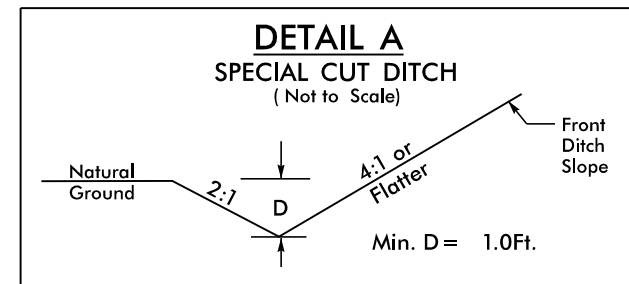
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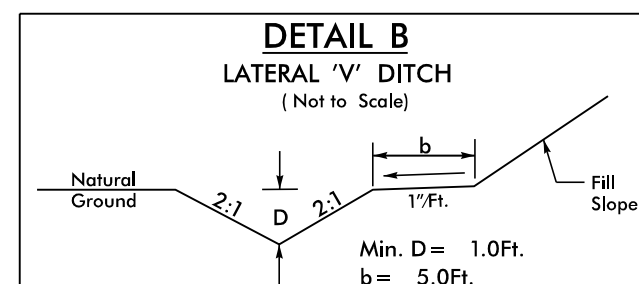
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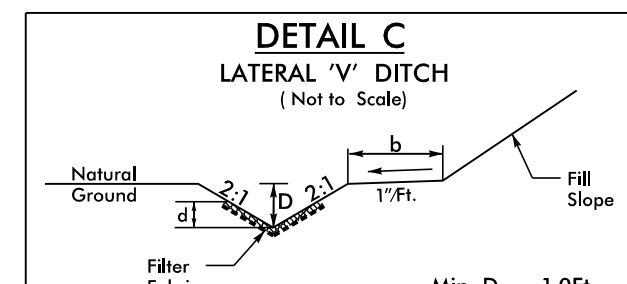
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| PROJECT REFERENCE NO.                            | SHEET NO.           |
| R-3329 / R-2559                                  | 3A-2F               |
| RW SHEET NO.                                     |                     |
| ROADWAY DESIGN ENGINEER                          | HYDRAULICS ENGINEER |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                     |



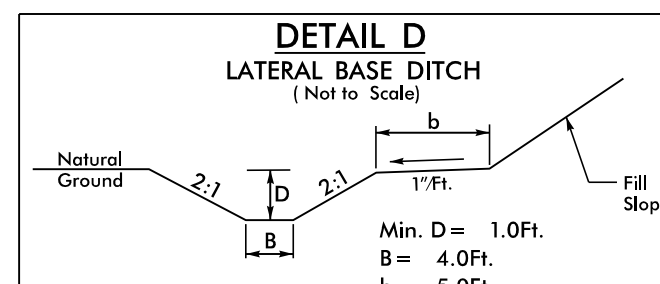
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-L- STA. 986+50 TO STA. 987+50 RT  
-L- STA. 1063+50 TO STA. 1064+00 LT  
-Y320- STA. 13+50 TO STA. 14+60 RT



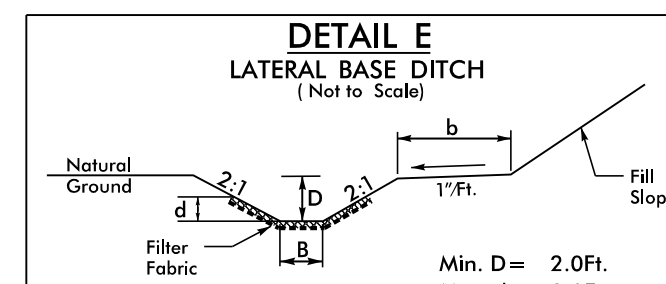
-L- STA. 965+00 TO STA. 965+39 LT  
-Y306- STA. 29+50 TO STA. 30+00 RT  
-Y318- STA. 16+00 TO STA. 16+50 LT  
-Y318- STA. 24+17 TO STA. 24+75 RT  
-L- STA. 977+75 TO STA. 978+20 LT  
-L- STA. 1001+00 TO STA. 1001+75 LT  
-Y308- STA. 30+25 TO STA. 31+75 LT  
-L- STA. 1049+50 TO STA. 1052+00 LT  
-L- STA. 1062+00 TO STA. 1063+73 RT



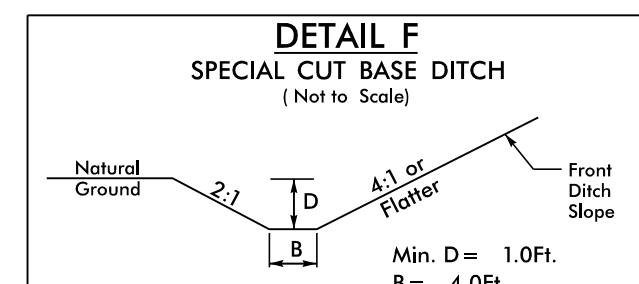
Type of Liner = Class B Rip-Rap  
-L- STA. 924+82 TO STA. 925+00 RT  
-L- STA. 928+58 TO STA. 928+88 LT



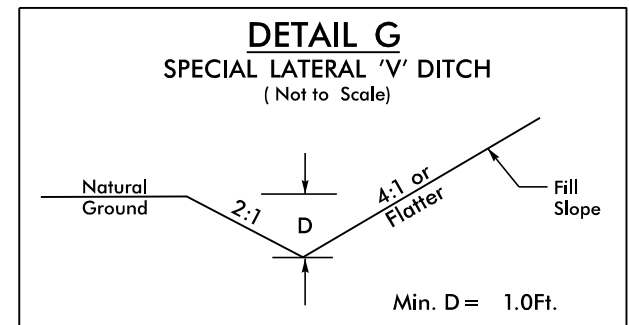
-L- STA. 923+41 TO STA. 924+82 RT  
-L- STA. 955+00 TO STA. 955+50 LT  
-L- STA. 959+50 TO STA. 961+50 RT  
-L- STA. 985+00 TO STA. 986+35 LT  
-L- STA. 992+50 TO STA. 993+97 LT  
-L- STA. 1001+75 TO STA. 1002+60 LT  
-VLC- STA. 20+75 TO STA. 22+40 LT  
-L- STA. 1041+65 TO STA. 1043+00 LT



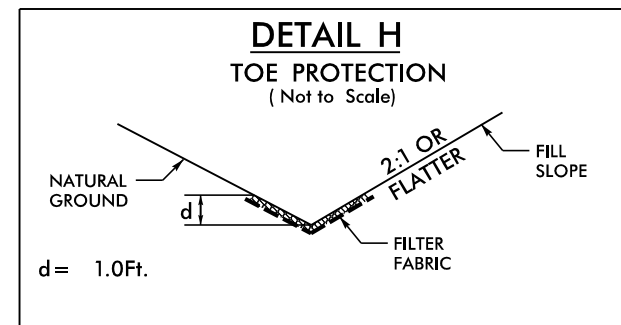
\*When B is < 6.0'  
Type of Liner = Class B Rip-Rap  
-L- STA. 915+00 TO STA. 916+43 RT  
-L- STA. 916+43 TO STA. 917+00 RT  
-L- STA. 923+40 TO STA. 923+85 LT  
-L- STA. 929+58 TO STA. 930+59 RT  
-L- STA. 937+15 TO STA. 939+50 LT  
-L- STA. 939+50 TO STA. 942+10 LT  
-L- STA. 939+15 TO STA. 941+05 RT  
-L- STA. 946+35 TO STA. 947+20 LT  
-L- STA. 954+70 TO STA. 955+00 LT  
-L- STA. 958+80 TO STA. 962+20 LT  
-Y306- STA. 28+80 RT TO -L- STA. 966+25 RT  
-L- STA. 975+54 TO STA. 977+30 LT  
-L- STA. 976+20 TO STA. 979+00 RT  
-L- STA. 981+44 TO STA. 982+50 LT  
-L- STA. 993+55 TO STA. 998+00 RT  
-L- STA. 993+97 TO STA. 998+50 LT  
-L- STA. 1001+16 TO STA. 1003+00 RT  
-L- STA. 1002+60 TO STA. 1003+15 LT  
-Y308- STA. 21+50 TO STA. 25+35 RT  
-Y308- STA. 20+50 LT TO -VRC- STA. 28+34 RT  
-L- STA. 1039+00 RT TO -Y308- STA. 25+45 LT  
-L- STA. 1041+65 TO STA. 1043+00 LT  
-L- STA. 1059+30 TO STA. 1063+00 LT  
-L- STA. 1060+00 TO STA. 1060+50 RT



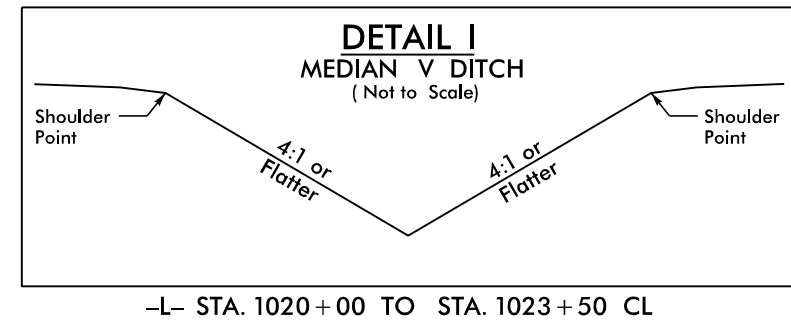
-VRB- STA. 17+00 TO STA. 26+30 LT  
-Y308- STA. 35+00 TO STA. 36+50 LT  
-VRB- STA. 18+50 TO STA. 23+50 RT



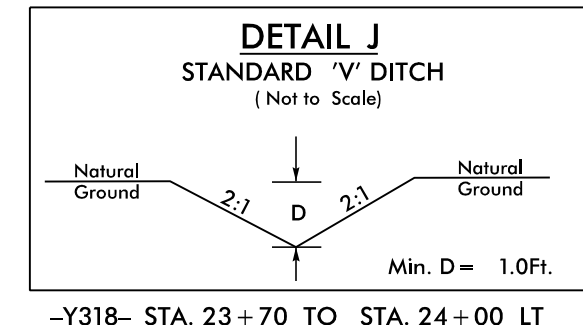
DETAIL G NOT USED IN SECTION 3A



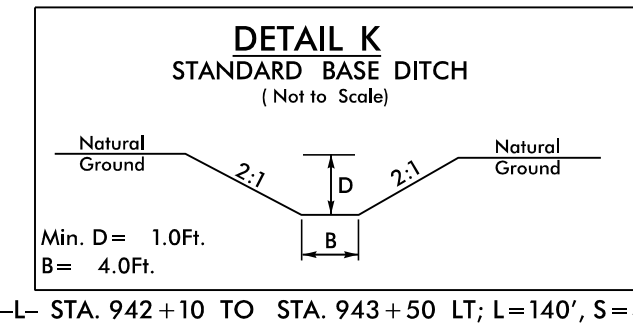
Type of Liner = Class B Rip-Rap  
-L- STA. 928+97 TO STA. 929+50 LT  
-L- STA. 964+50 TO STA. 965+00 LT  
-Y308- STA. 31+75 TO STA. 32+50 LT  
-L- STA. 1050+50 TO STA. 1051+50 RT  
-L- STA. 1052+00 TO STA. 1052+68 LT



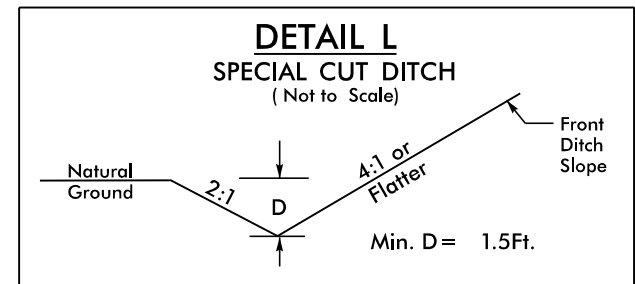
-L- STA. 1020+00 TO STA. 1023+50 CL



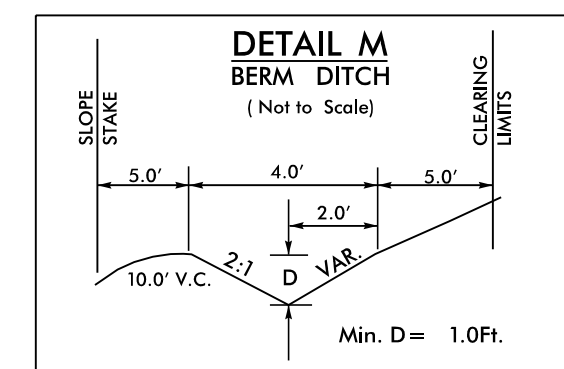
-Y318- STA. 23+70 TO STA. 24+00 LT  
L=35', S=1.50%  
BEG EL=455.50, END EL=456.03  
-Y308- STA. 37+35 LT; L=35', S=2.77%  
BEG EL=549.74, END EL=548.77  
-Y308- STA. 28+91 RT; L=55', S=3.18%  
BEG EL=520.75, END EL=519.00  
-Y308- STA. 28+91 RT; L=110', S=7.27%  
BEG EL=519.00, END EL=511.00



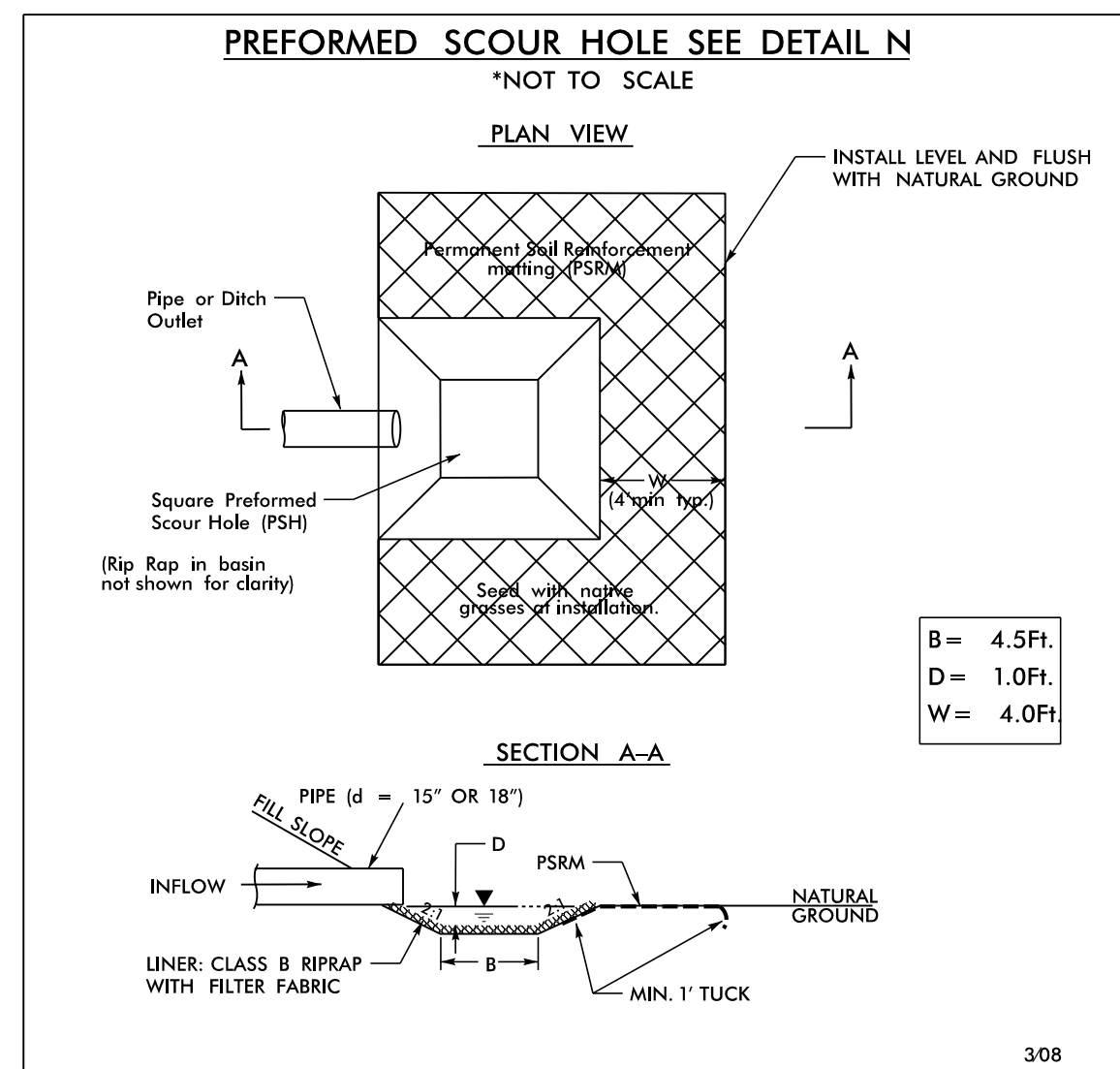
Min. D= 1.0Ft.  
B= 4.0Ft.  
-L- STA. 942+10 TO STA. 943+50 LT; L=140', S=4.6%  
BEG EL=456.4, END EL=450.0  
-L- STA. 943+50 TO STA. 944+04 LT; L=54', S=1.9%  
BEG EL=450.0, END EL=449.0  
-L- STA. 955+50 TO STA. 956+82 LT; L=132', S=2.0%  
BEG EL=452.0, END EL=449.36  
-L- STA. 957+13 TO STA. 958+80 LT; L=167', S=2.65%  
BEG EL=449.55, END EL=453.98  
-L- STA. 957+50 TO STA. 958+00 RT; L=50', S=1.00%  
BEG EL=449.50, END EL=450.00  
-L- STA. 958+00 TO STA. 958+50 RT; L=50', S=3.00%  
BEG EL=450.00, END EL=451.50  
-L- STA. 958+50 TO STA. 959+50 RT; L=100', S=0.50%  
BEG EL=451.50, END EL=452.00  
-Y308- STA. 37+25 LT; L=95', S=1.5%  
BEG EL=549.74, END EL=548.35  
-Y319- STA. 23+12 RT; L=45', S=14.00%  
BEG EL=515.0, END EL=508.7  
-Y319- STA. 23+55 RT; L=100', S=0.50%  
BEG EL=508.7, END EL=508.2



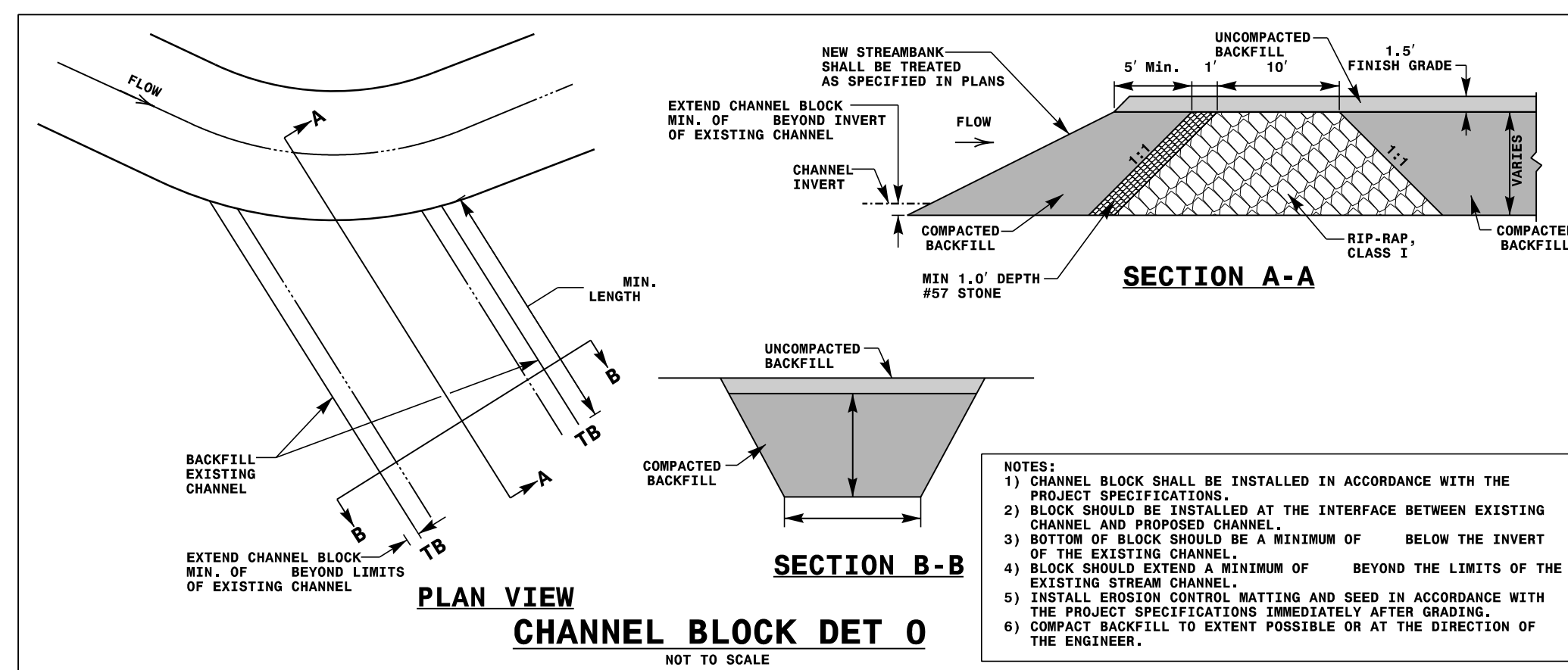
DETAIL L NOT USED IN SECTION 3A



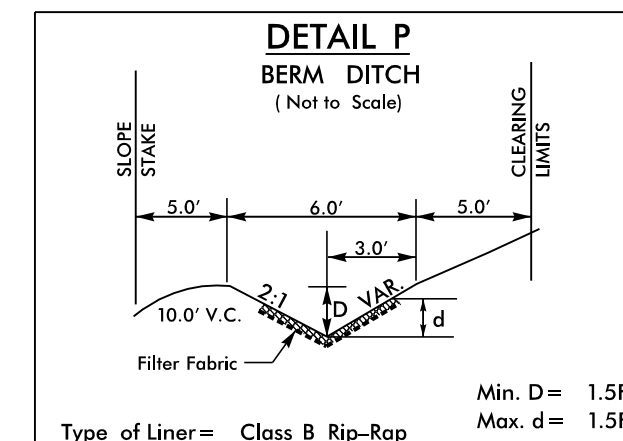
-L- STA. 913+25 TO STA. 913+75 LT  
-L- STA. 919+25 TO STA. 921+00 LT  
-L- STA. 1019+00 TO STA. 1020+00 LT  
-VRC- STA. 14+50 TO STA. 15+60 RT  
-VRC- STA. 20+40 TO STA. 21+00 RT



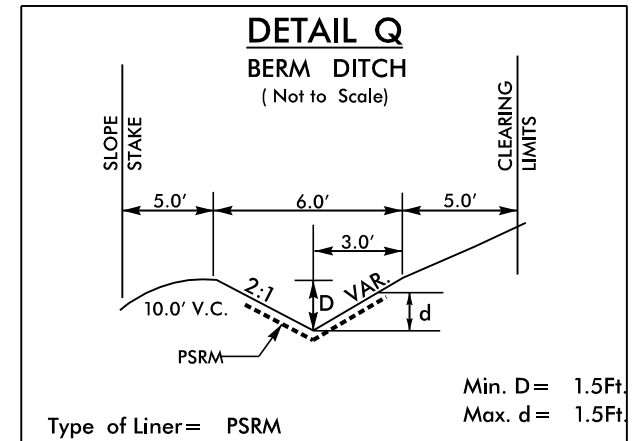
-L- STA. 945+65 LT  
-L- STA. 979+00 LT  
-L- STA. 1041+00 LT  
-Y319- STA. 23+60 +/- RT



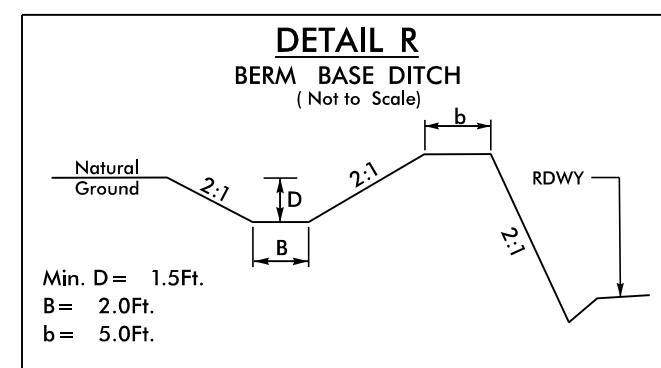
DETAIL O NOT USED IN SECTION 3A



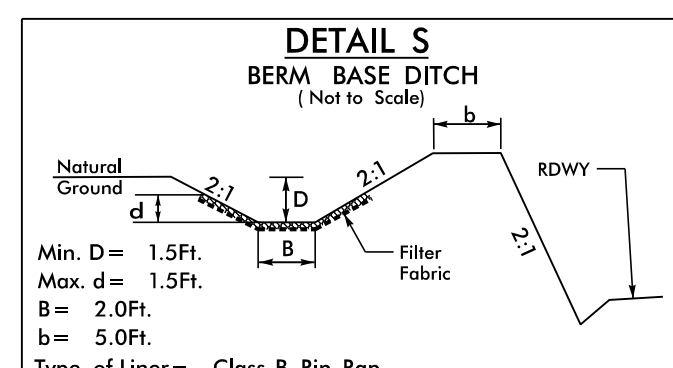
Type of Liner = Class B Rip-Rap  
DETAIL P NOT USED IN SECTION 3A



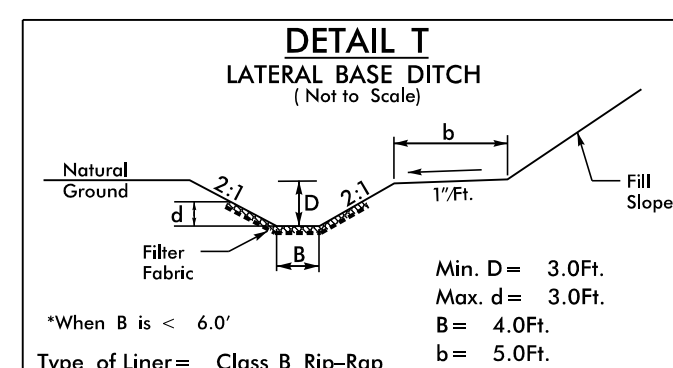
Type of Liner = PSRM  
-L- STA. 921+00 TO STA. 921+80 LT  
-L- STA. 930+50 TO STA. 933+80 LT



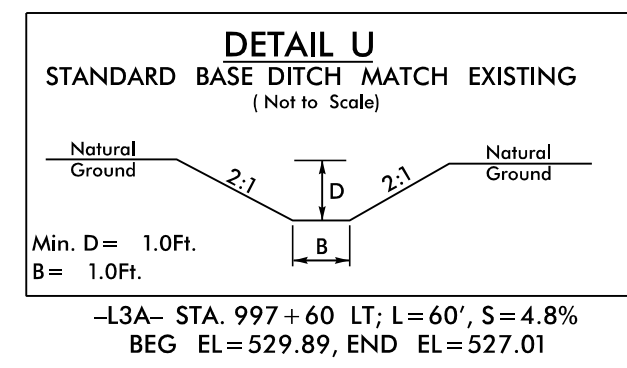
-L- STA. 1009+50 TO STA. 1013+00 LT  
-L- STA. 1013+00 TO STA. 1014+00 LT  
-L- STA. 1023+50 TO STA. 1027+00 LT  
-VRB- STA. 16+70 TO STA. 17+00 LT



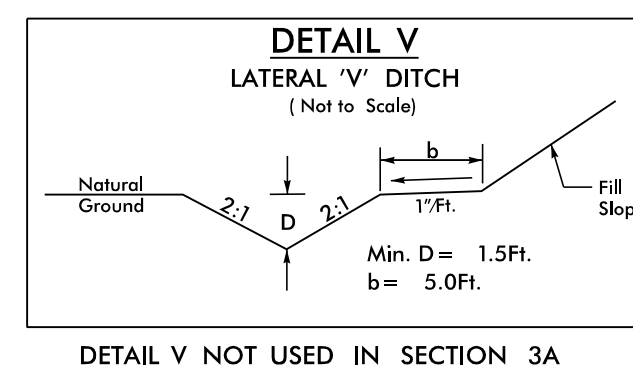
Type of Liner = Class B Rip-Rap  
-L- STA. 909+50 TO -L- STA. 913+25 LT



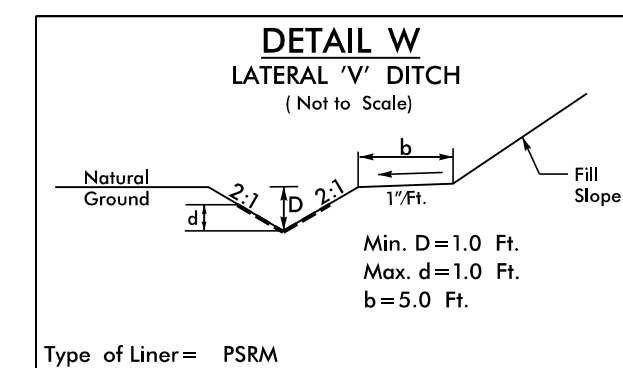
\*When B is < 6.0'  
Type of Liner = Class B Rip-Rap  
DETAIL T NOT USED IN SECTION 3A



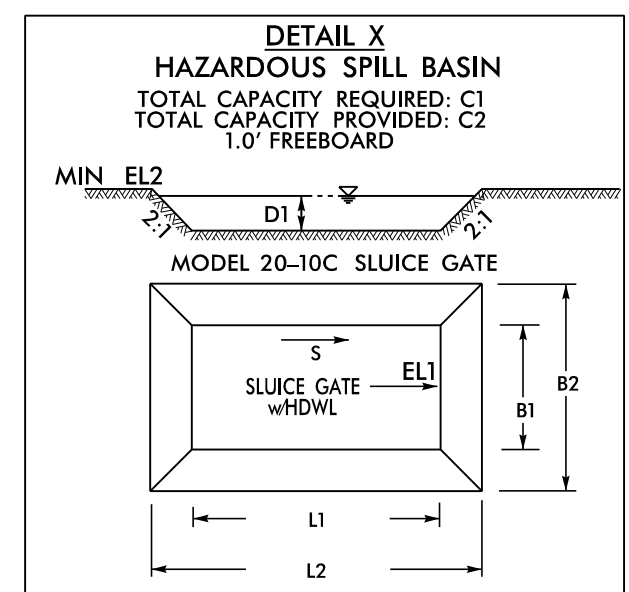
-L3A- STA. 997+60 LT; L=60', S=4.8%  
BEG EL=529.89, END EL=527.01



DETAIL V NOT USED IN SECTION 3A



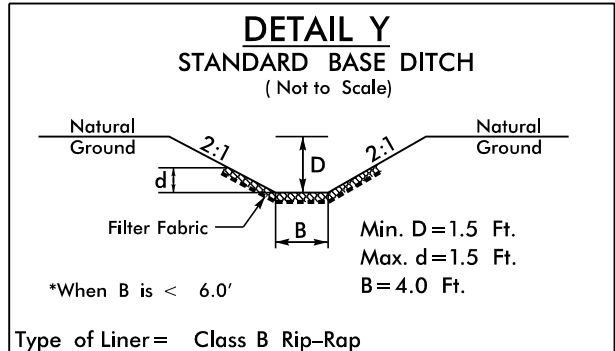
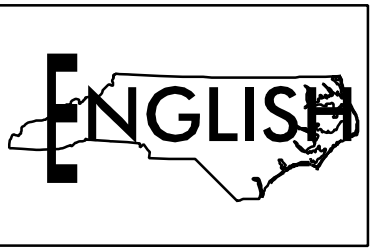
Type of Liner = PSRM  
-L- STA. 923+85 TO STA. 924+75 LT  
-L- STA. 974+50 TO STA. 975+54 LT  
-L- STA. 1000+00 TO STA. 1001+16 RT  
-L- STA. 1042+30 TO STA. 1043+50 RT  
-L- STA. 1060+50 TO STA. 1062+00 RT



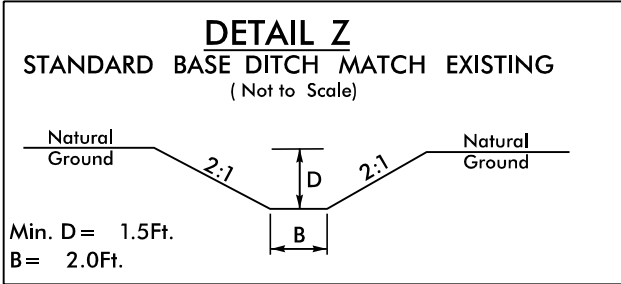
DETAIL X NOT USED IN SECTION 3A



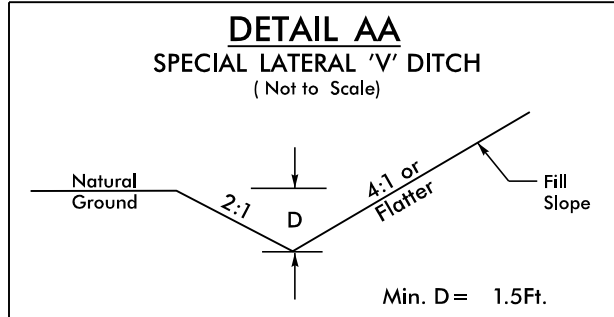
|                                                  |                     |
|--------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                            | SHEET NO.           |
| R-3329 / R-2559                                  | 3A-26               |
| RW SHEET NO.                                     |                     |
| ROADWAY DESIGN ENGINEER                          | HYDRAULICS ENGINEER |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                     |



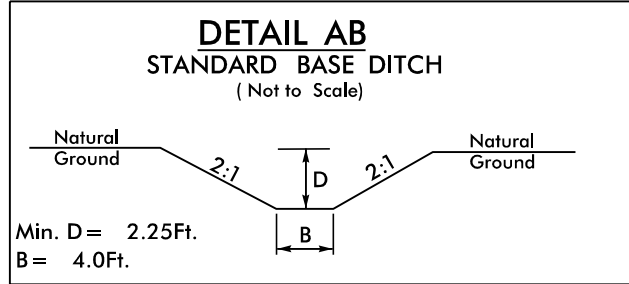
-L- STA. 941+05 TO STA. 941+50 RT; L=45', S=10.5%  
BEG EL=456.7, END EL=452.0  
-L- STA. 941+50 TO STA. 942+38 RT; L=88', S=4.6%  
BEG EL=452.0, END EL=448.0  
-L- STA. 1059+50 TO STA. 1060+00 RT  
L=50', S=0.50%  
BEG EL=509.00, END EL=509.25  
-Y319- STA. 21+35 RT  
L=52', S=0.40%  
BEG EL=510.20, END EL=510.00



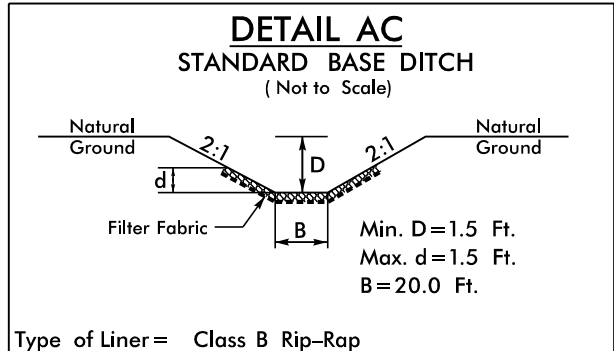
DETAIL Z NOT USED IN SECTION 3A



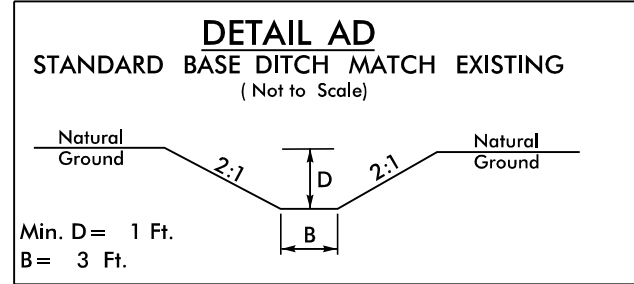
DETAIL AA NOT USED IN SECTION 3A



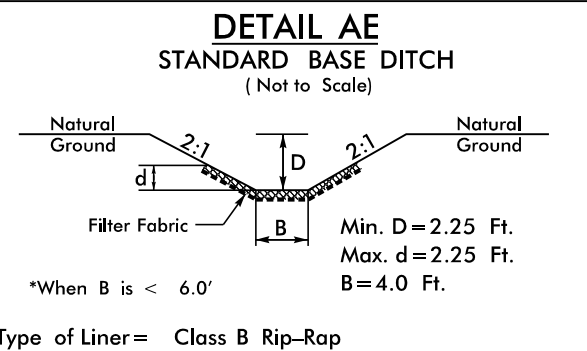
-VLC- STA. 15+00 LT; L=305', S=0.89%  
BEG EL=522.71, END EL=522.00



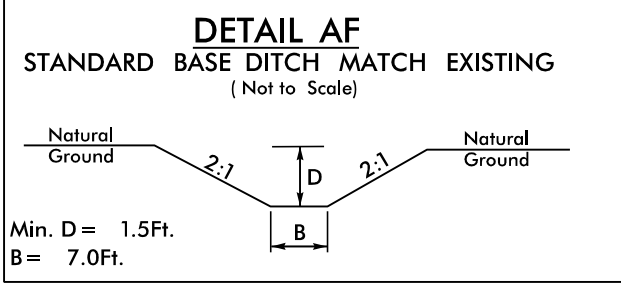
-L- STA. 1058+60 TO STA. 1059+30 LT  
L=70', S=0.20%  
BEG EL=508.50, END EL=508.58



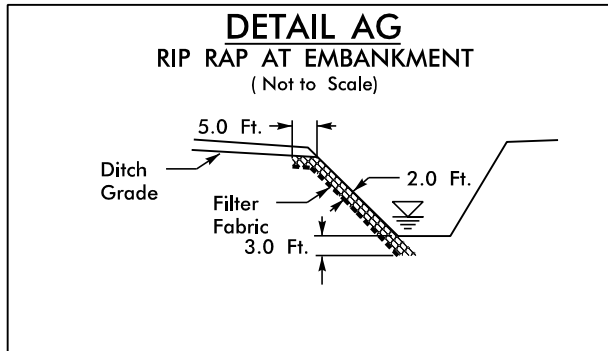
DETAIL AD NOT USED IN SECTION 3A



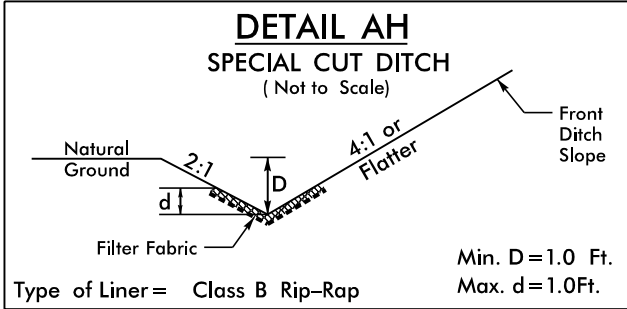
-L- STA. 1002+60 LT; L=54', S=3.43%  
BEG EL=530.35, END EL=528.50  
-L- STA. 1002+60 LT; L=27', S=1.00%  
BEG EL=528.50, END EL=528.23  
-Y308- STA. 30+00 RT; L=214', S=1.55%  
BEG EL=514.31, END EL=511.00  
-Y308- STA. 32+85 LT; L=23', S=0.30%  
BEG EL=518.04, END EL=517.97



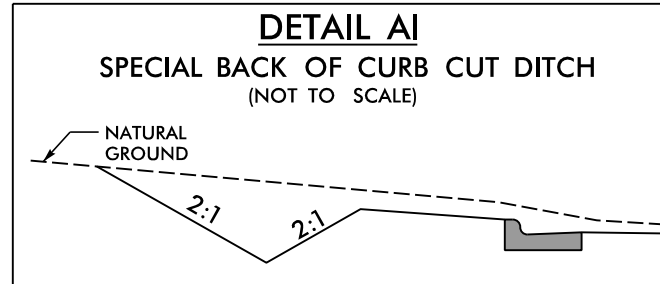
-Y308- STA. 10+08 RT; L=120', S=0.50%  
BEG EL=536.8, END EL=536.2



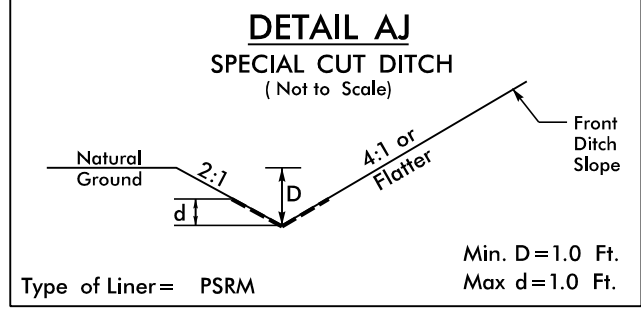
-L- STA. 942+35 RT 6 TONS CL I; 7 SY FF  
-L- STA. 944+07 LT 5 TONS CL I; 7 SY FF  
-L- STA. 956+80 LT 6 TONS CL I; 7 SY FF  
-L- STA. 957+13 LT 7 TONS CL I; 7 SY FF  
-L- STA. 957+50 RT 18 TONS CL I; 18 SY FF  
-Y308- STA. 29+51 RT 5 TONS CL I; 7 SY FF  
-Y308- STA. 28+43 RT 5 TONS CL I; 7 SY FF  
-Y308- STA. 25+45 LT 10 TONS CL I; 14 SY FF  
-VRC- STA. 28+34 RT 10 TONS CL I; 14 SY FF



-Y308- STA. 37+00 TO STA. 37+50 RT  
-Y318- STA. 15+87 TO STA. 17+00 RT  
-Y318- STA. 16+50 TO STA. 17+50 LT



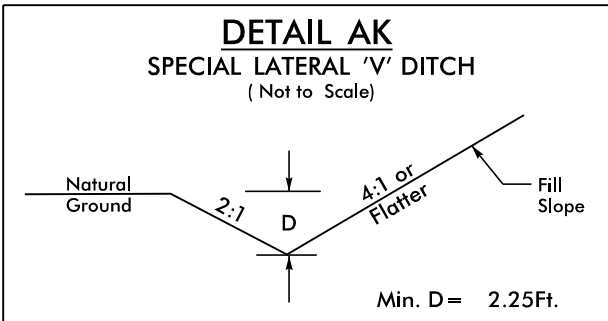
DETAIL AI NOT USED IN SECTION 3A



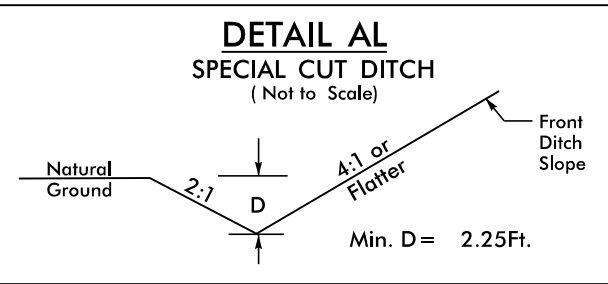
-L- STA. 1042+30 TO STA. 1043+50 RT  
-Y307- STA. 28+64 LT TO STA. 29+41 RT  
-Y307- STA. 28+64 TO STA. 29+39 LT  
-Y308- STA. 13+50 TO STA. 14+60 LT  
-Y308- STA. 14+50 TO STA. 16+49 LT  
-Y308- STA. 20+50 TO STA. 21+50 RT  
-Y308- STA. 33+50 TO STA. 35+00 RT  
-VLC- STA. 18+00 TO STA. 20+35 LT

**DETAIL**  
FALSE SUMP  
(Not to Scale)

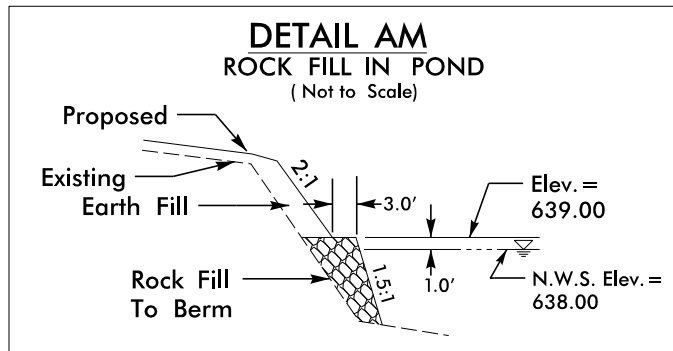
| Ditch Grade       | L   | Ditch Grade       | L   |
|-------------------|-----|-------------------|-----|
| 0.0% To 2.0%      | 20' | Over 4.0% To 6.0% | 40' |
| Over 2.0% To 4.0% | 30' | Over 6.0%         | 50' |



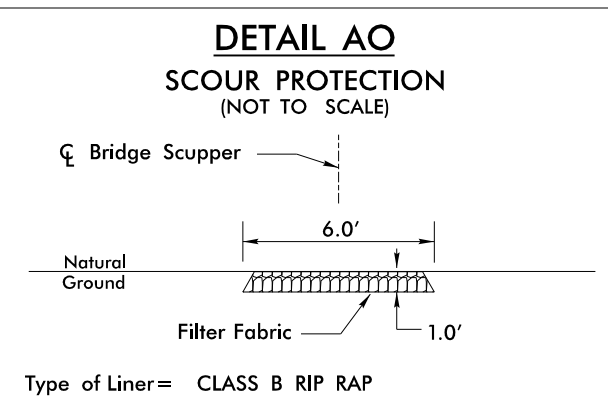
DETAIL AK NOT USED IN SECTION 3A



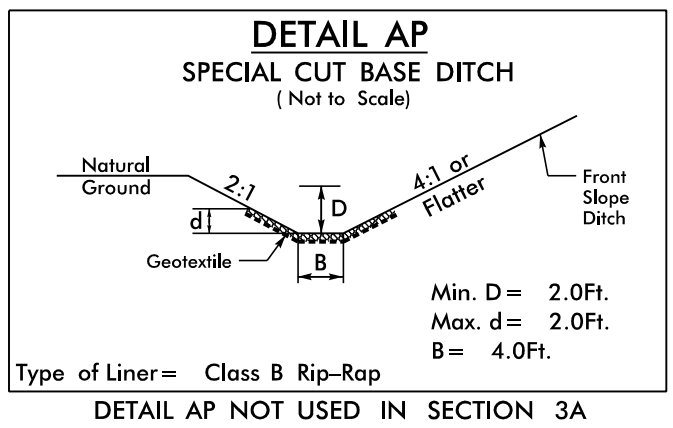
DETAIL AL NOT USED IN SECTION 3A



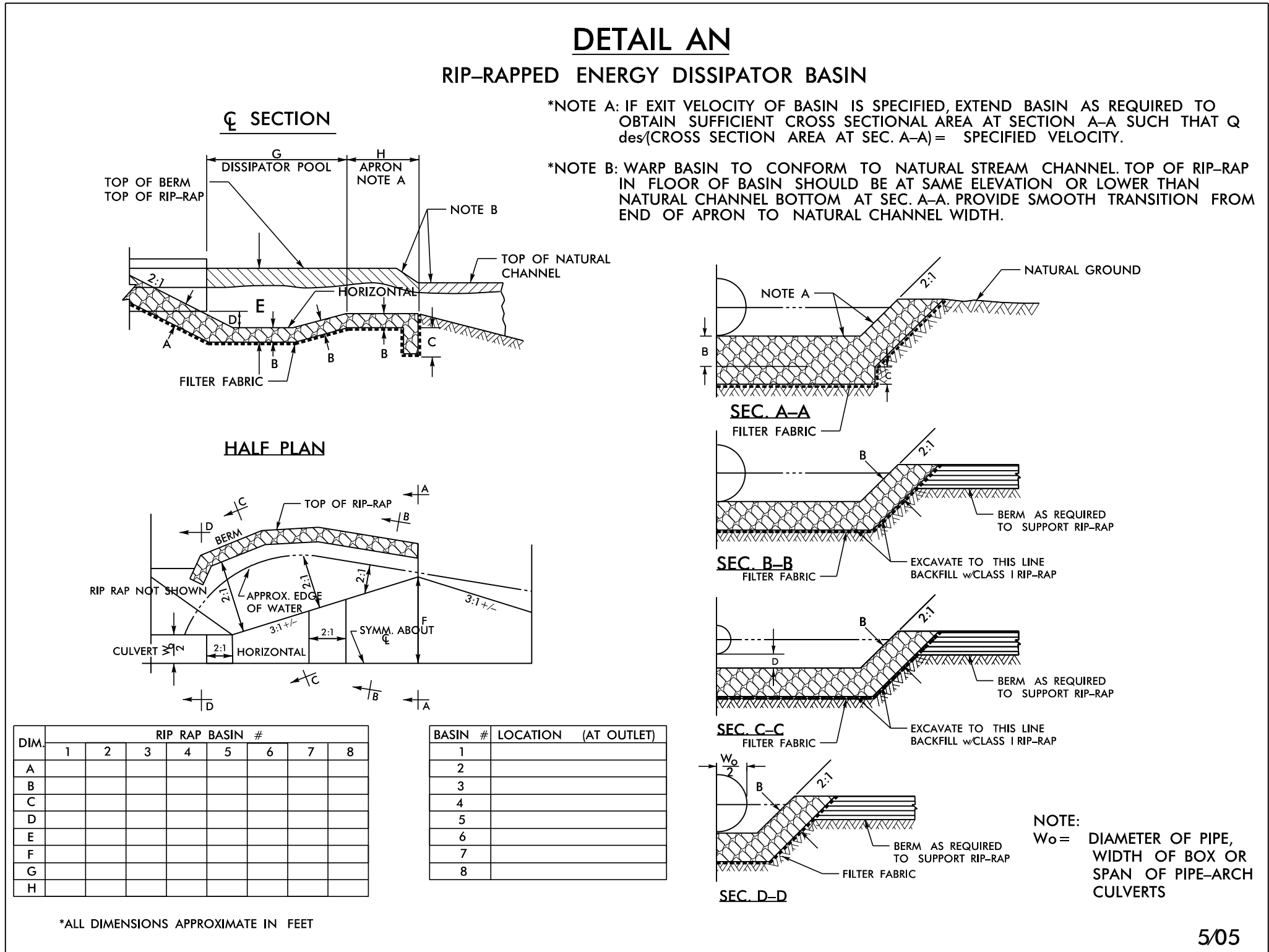
DETAIL AM NOT USED IN SECTION 3A



DETAIL AO NO USED IN SECTION 3A

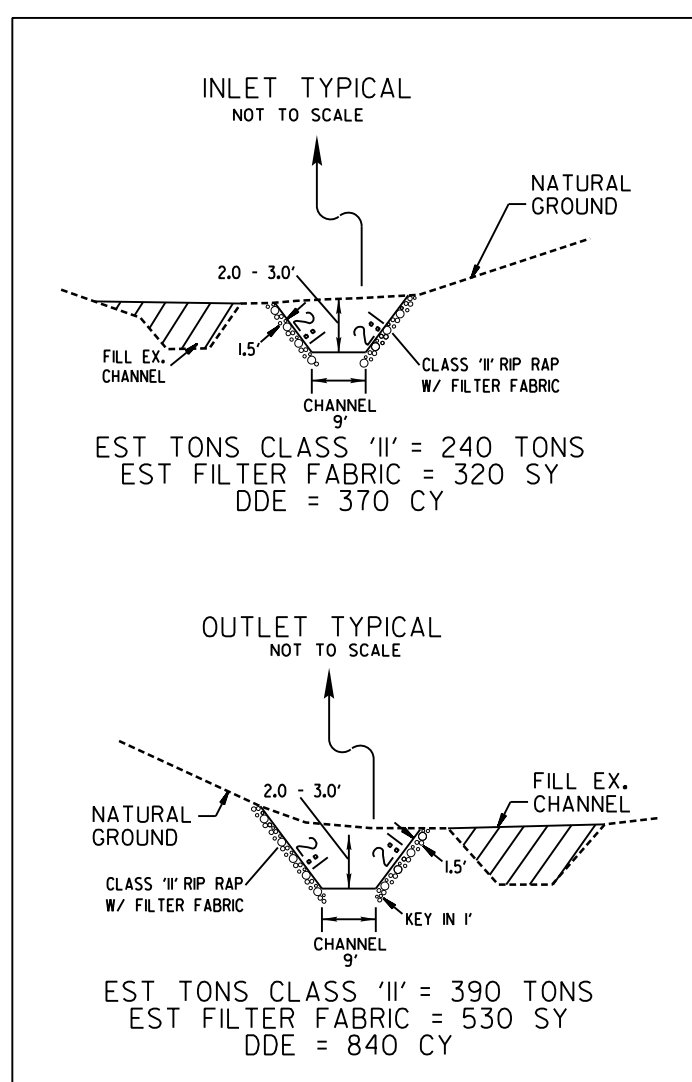


DETAIL AP NOT USED IN SECTION 3A

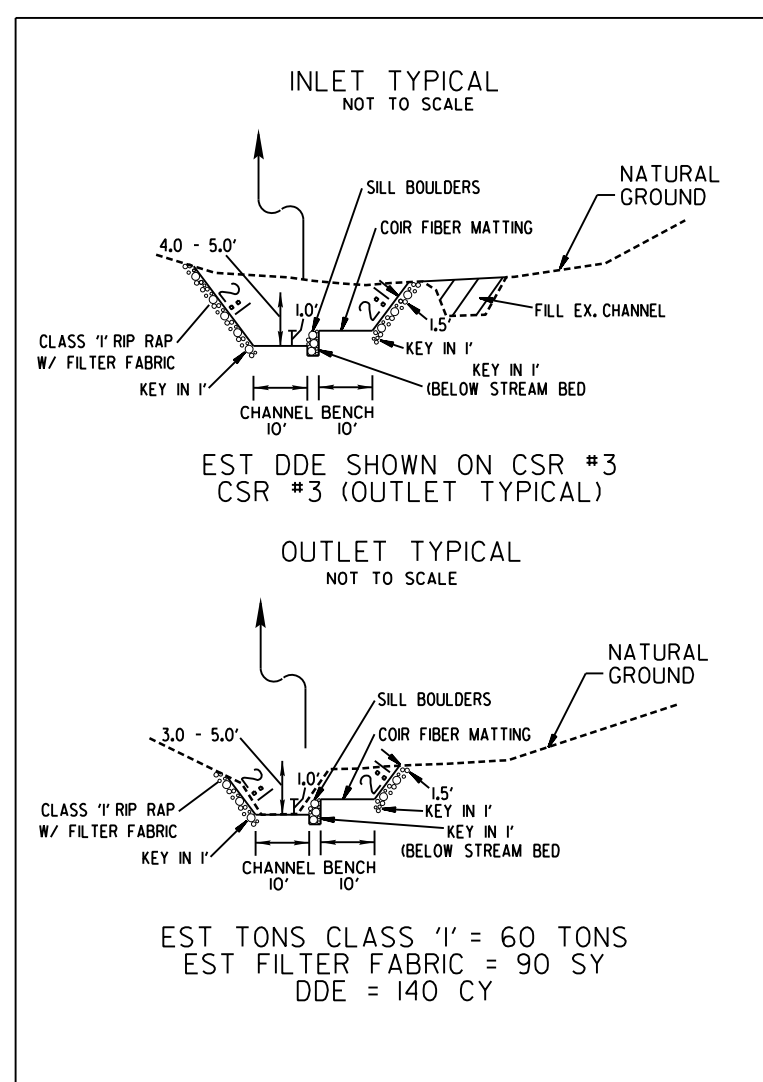


DETAIL AN NOT USED IN SECTION 3A

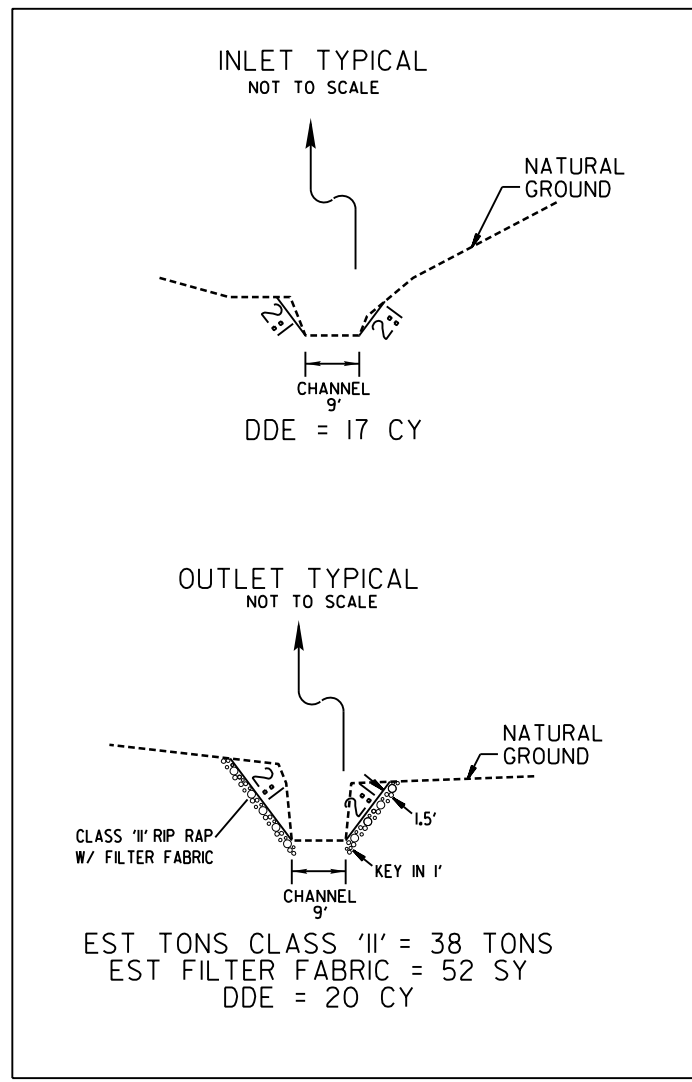
CORRESPONDS TO -L- 977+22 9'X7' RCBC



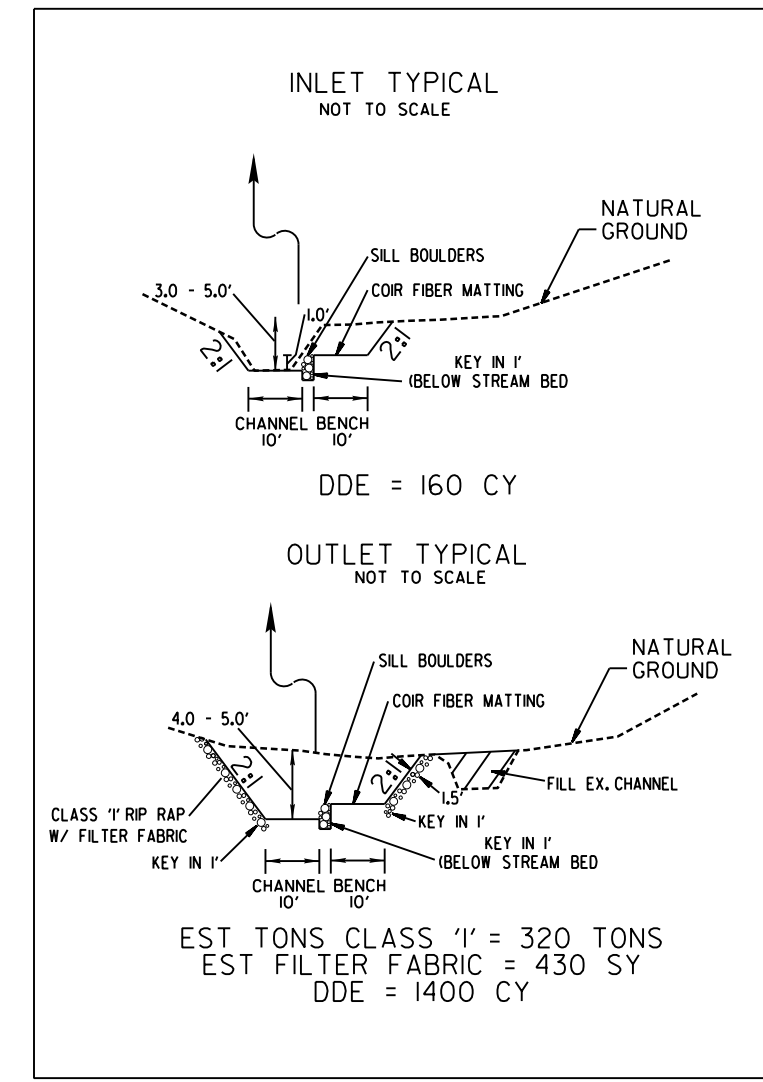
CORRESPONDS TO -L- 1041+25 2@10'X6' RCBC



CORRESPONDS TO -Y318- 15+85 9'X7' RCBC



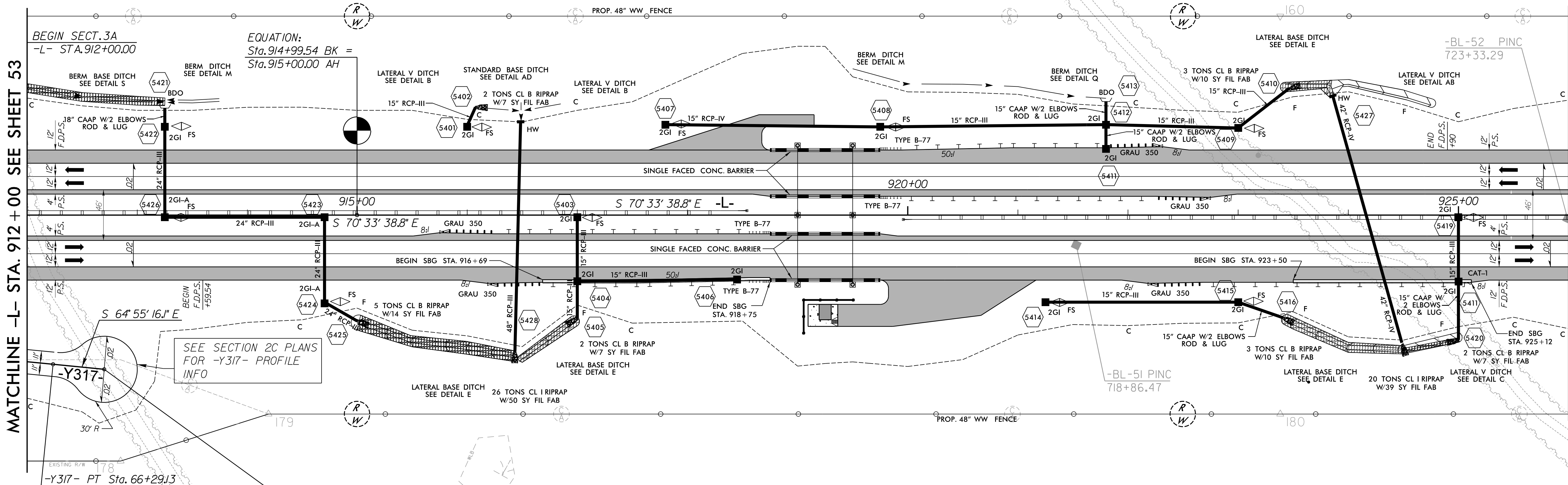
CORRESPONDS TO -VRC- 28+46 2@10'X6' RCBC





8/17/99

8/29/2014  
R:\Roadway\Proj\Plan Sheets\Sec3a\R3329\_R2559\_RDY\_PSH\_054.dgn  
E:\Users



MATCHLINE -L- STA. 912 + 00 SEE SHEET 53

MATCHLINE -L- STA. 926 + 00 SEE SHEET 55

|                                                                     |  |                        |  |
|---------------------------------------------------------------------|--|------------------------|--|
| PROJECT REFERENCE NO.<br>R-3329 / R-2559                            |  | SHEET NO.<br>54        |  |
| RW SHEET NO.                                                        |  |                        |  |
| ROADWAY DESIGN<br>ENGINEER                                          |  | HYDRAULICS<br>ENGINEER |  |
| <div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div> |  |                        |  |

FOR -L- PROFILE SEE SHT.149

PLANS PREPARED BY :

**MULKEY**  
ENGINEERS & CONSULTANTS

PO Box 33127  
RALEIGH, N.C. 27636  
(919) 851-1912  
(919) 851-1918 (FAX)  
WWW.MULKEYINC.COM

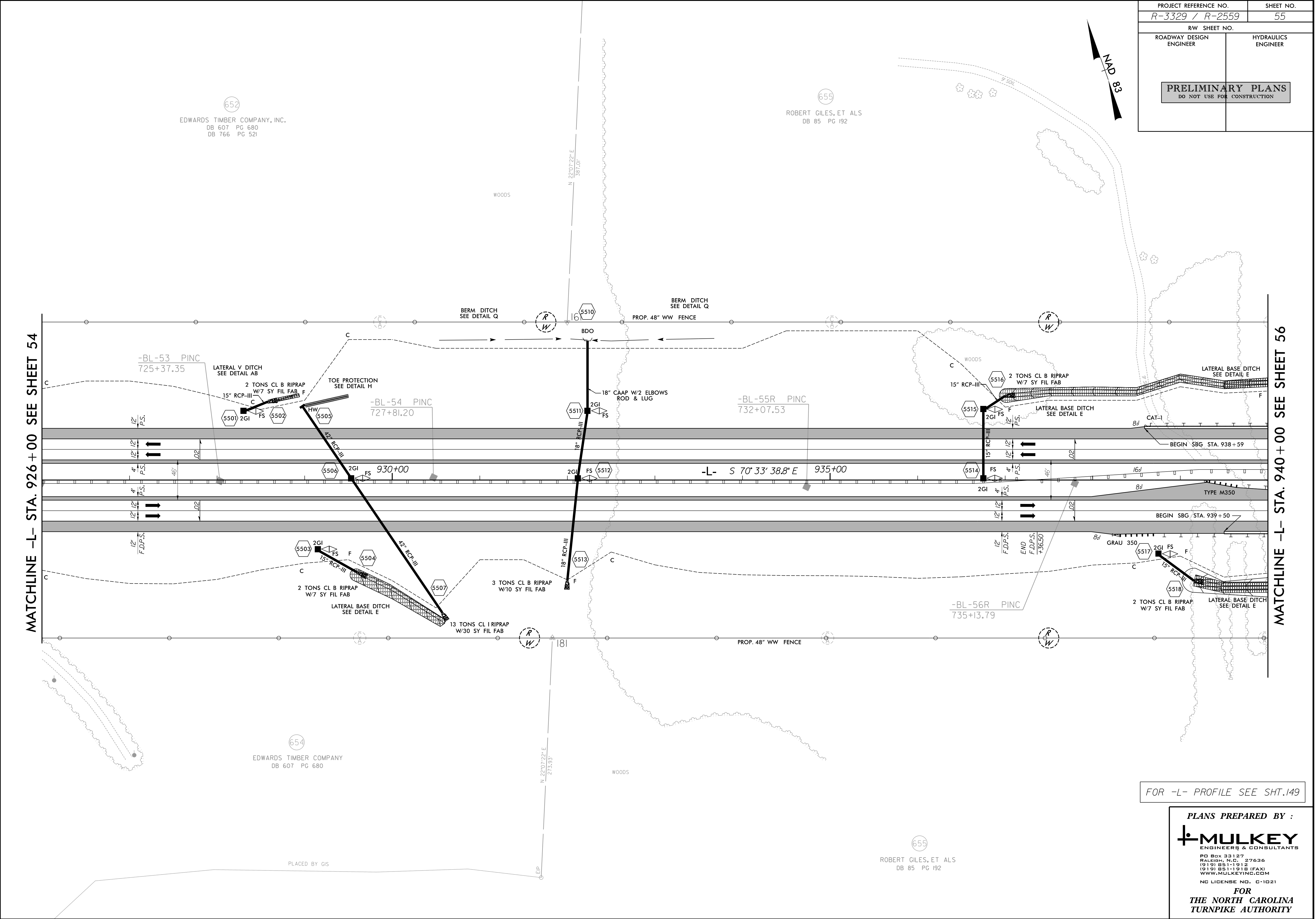
NC LICENSE NO. C-1021

FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



8/17/99

8/29/2014  
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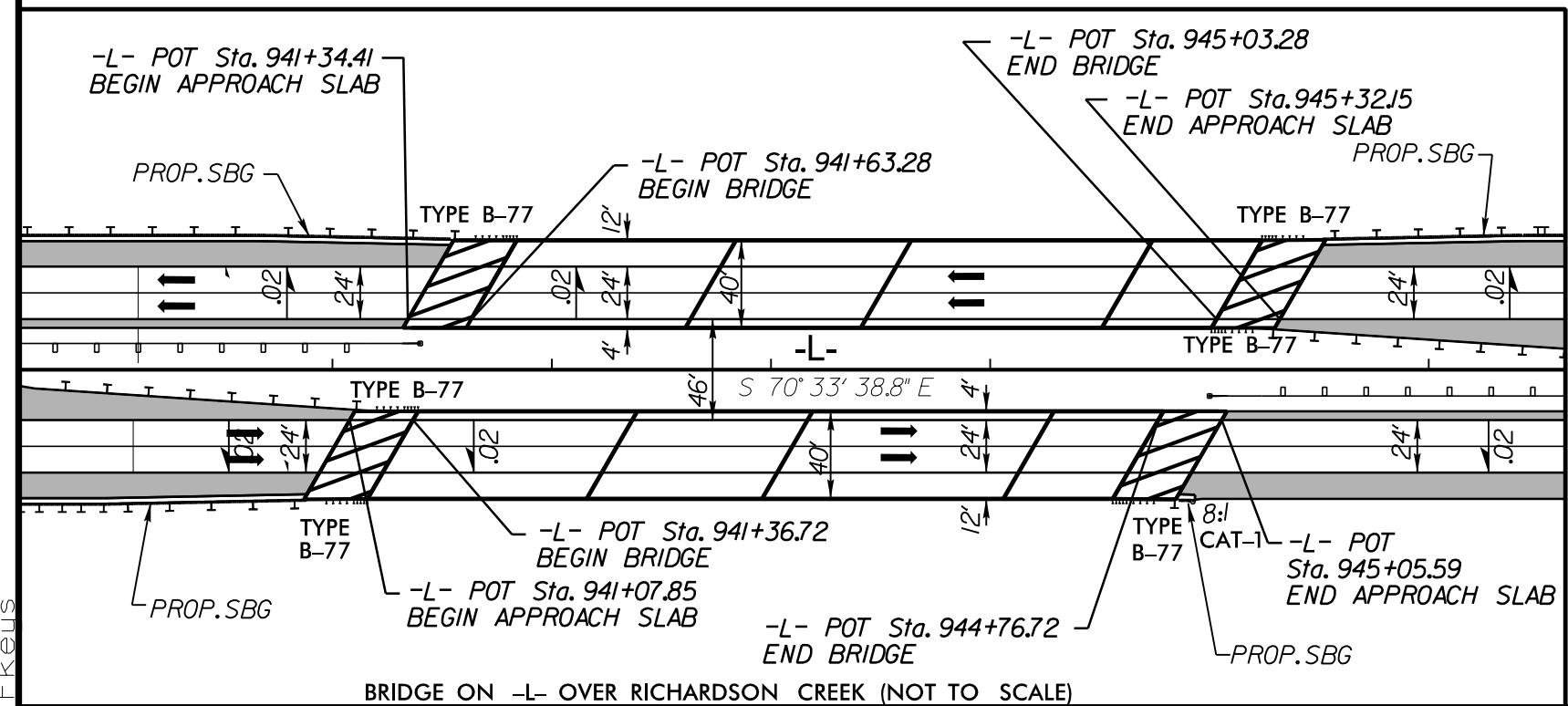
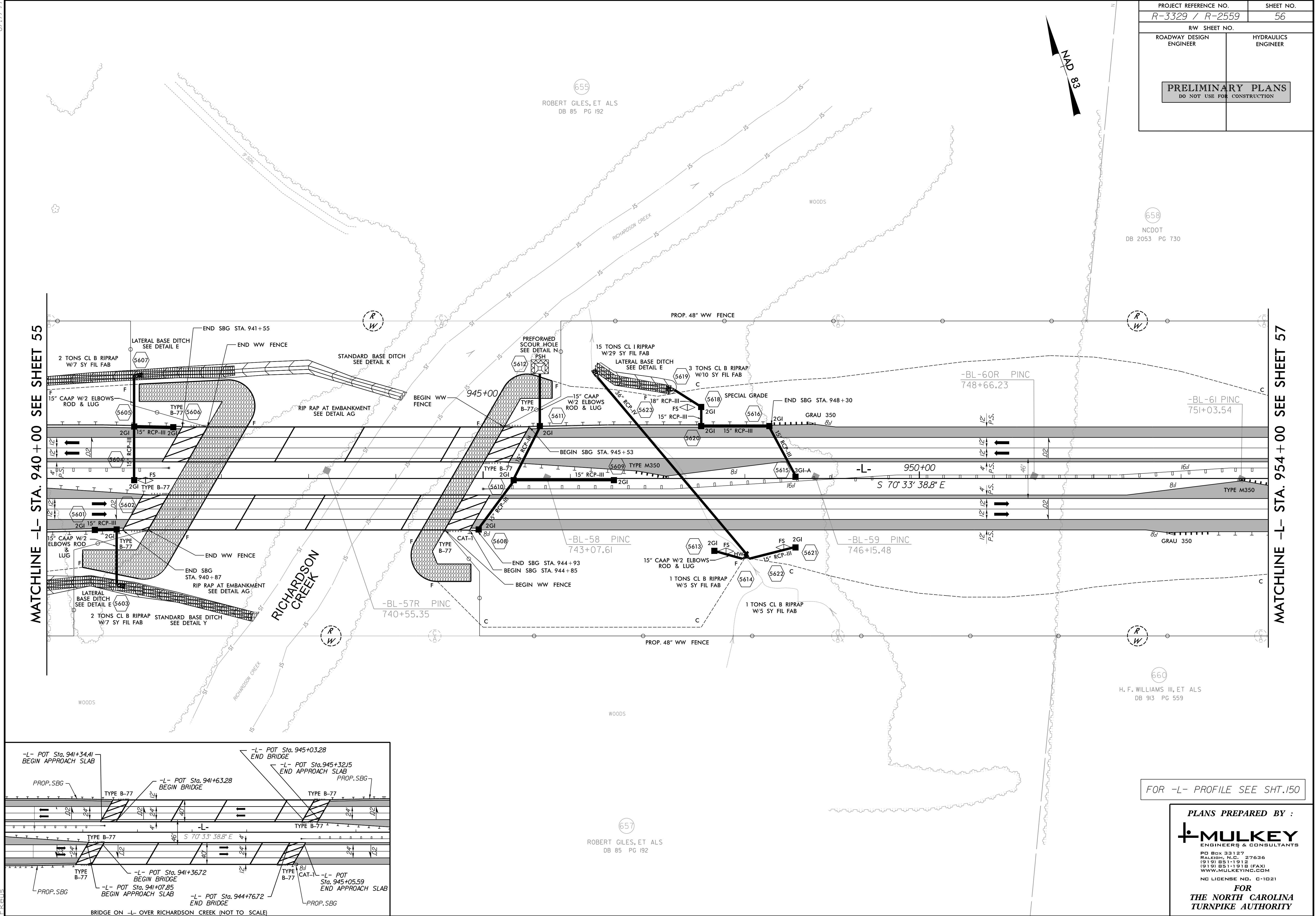




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|                                                  |  |                        |
|--------------------------------------------------|--|------------------------|
| PROJECT REFERENCE NO.                            |  | SHEET NO.              |
| R-3329 / R-2559                                  |  | 56                     |
| RW SHEET NO.                                     |  |                        |
| ROADWAY DESIGN<br>ENGINEER                       |  | HYDRAULICS<br>ENGINEER |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |  |                        |

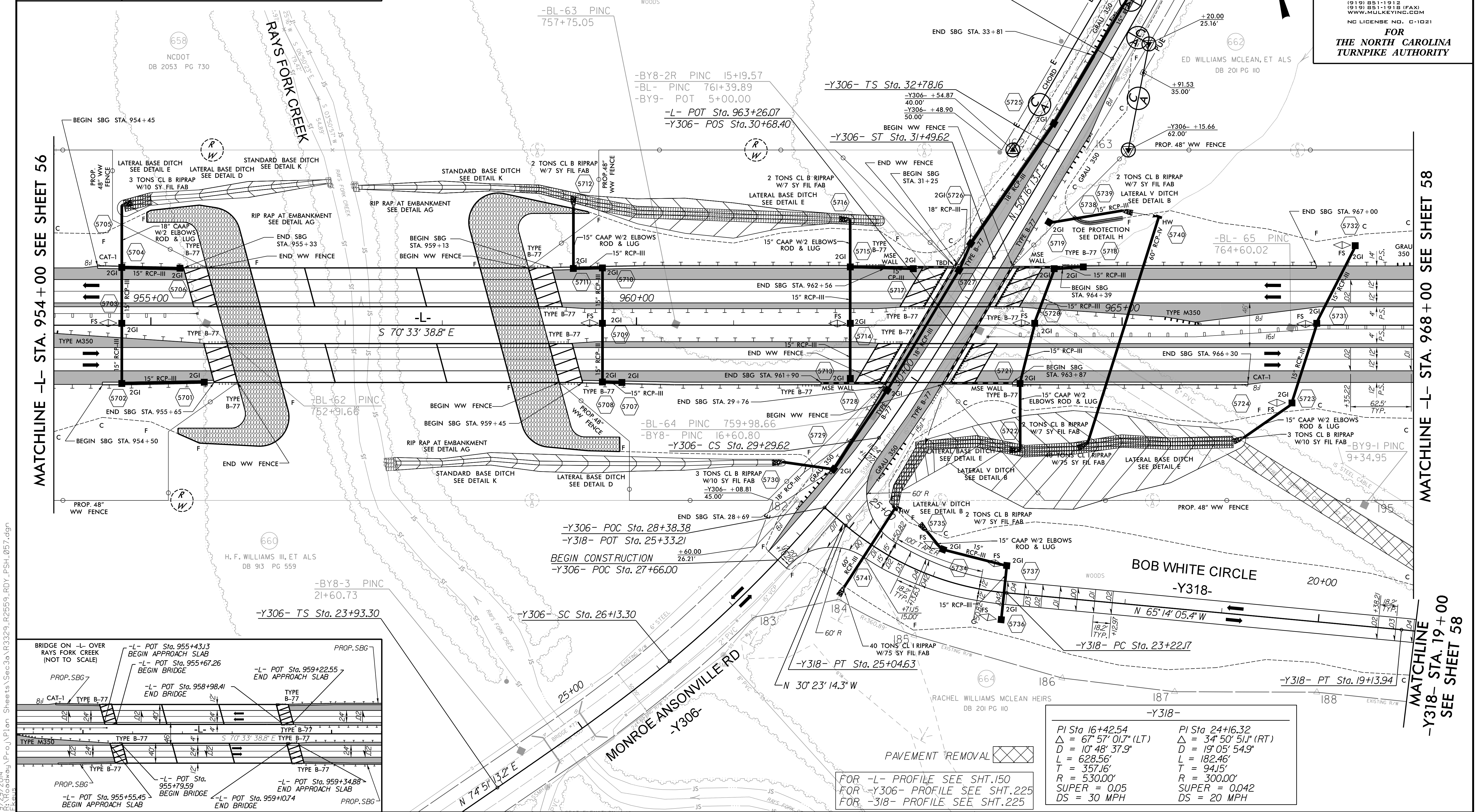


FOR -L- PROFILE SEE SHT.150

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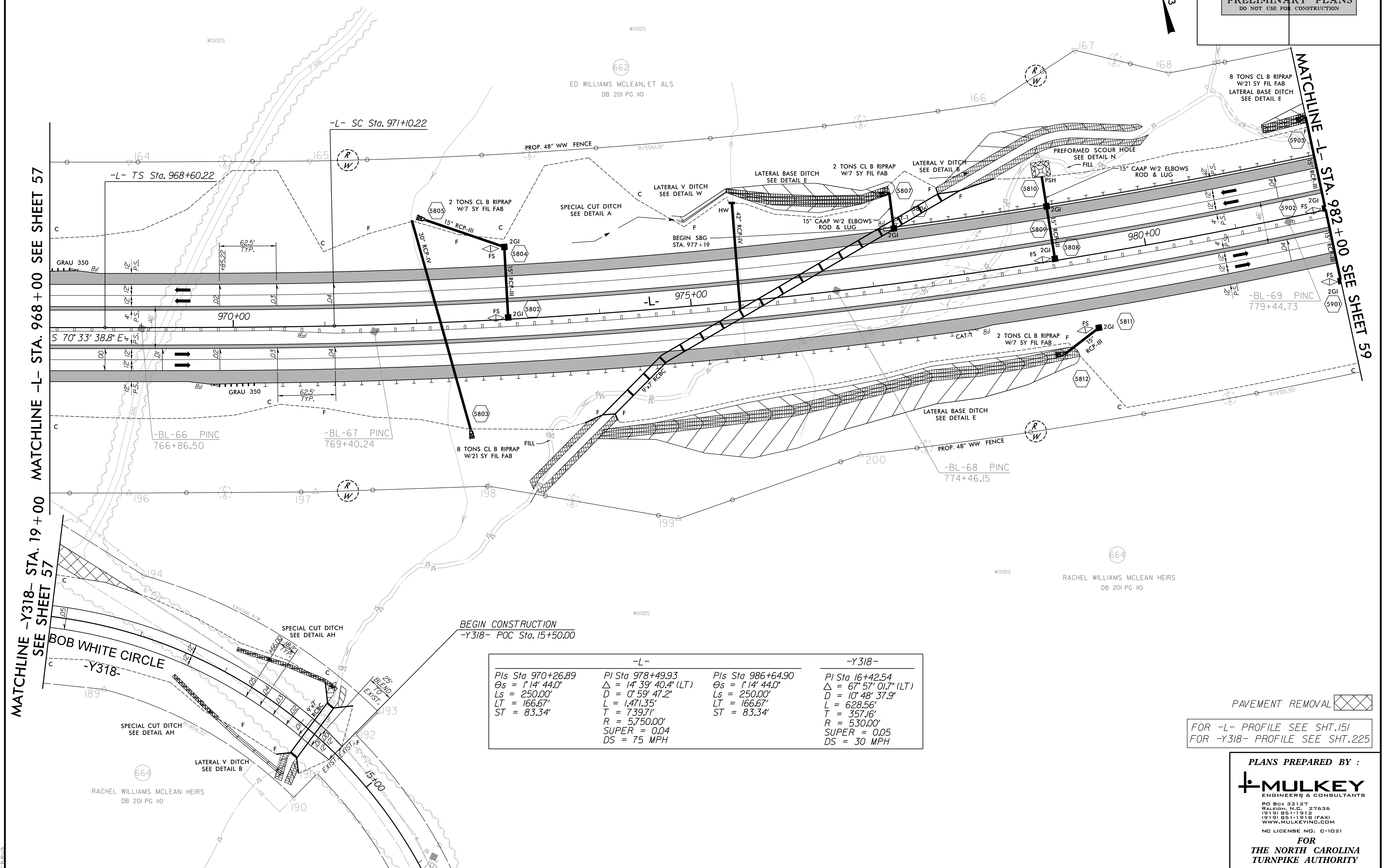
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**TURNPIKE AUTHORITY**

**MATCHLINE -L- STA. 968+00 SEE SHEET 58**

MA/CHLINE  
-Y318- STA. 19+00  
SEE SHEET 58





PAVEMENT REMOVAL   
 FOR -L- PROFILE SEE SHT.151  
 FOR -Y318- PROFILE SEE SHT.225

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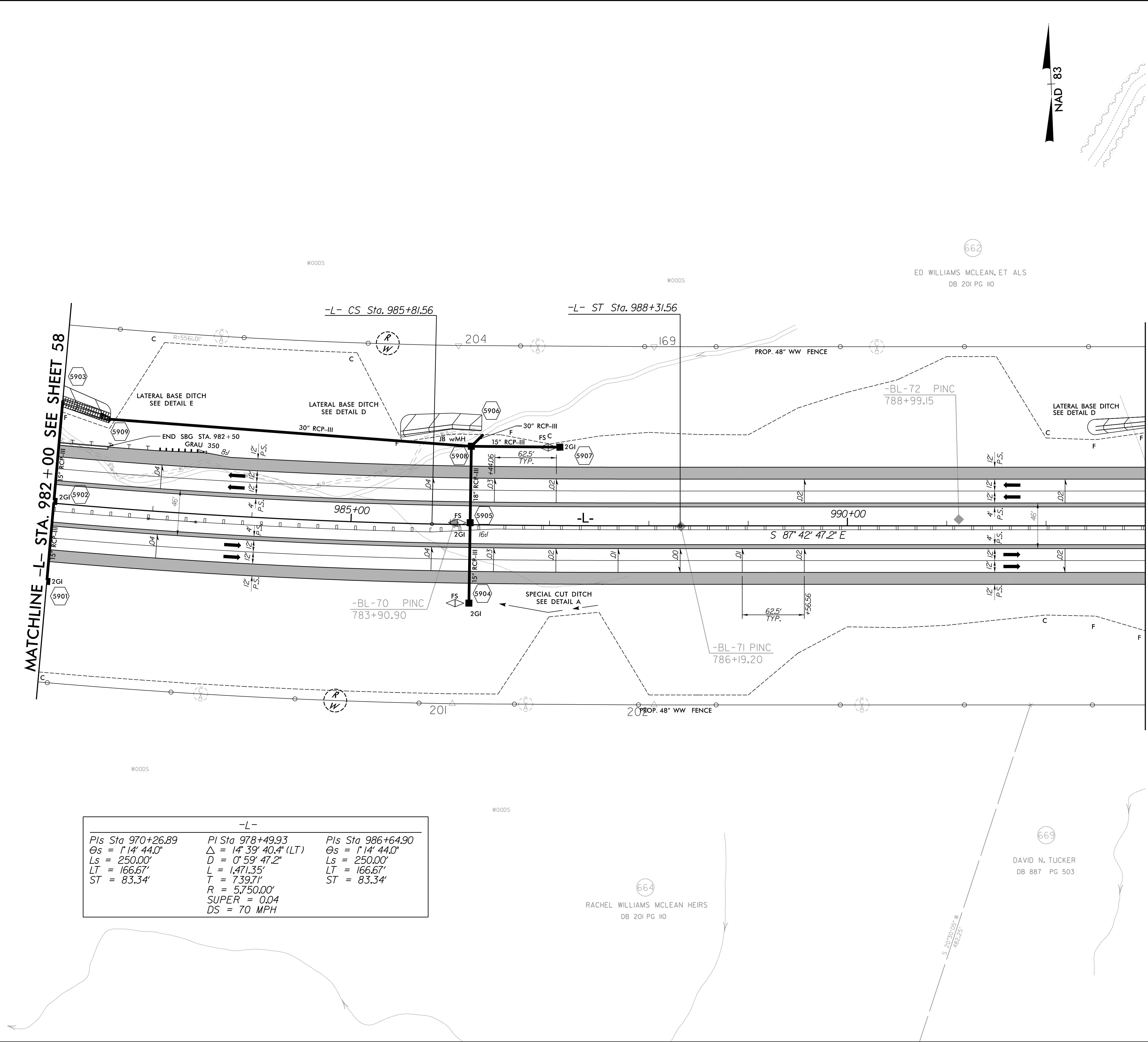
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Elevs

|                                                  |                        |           |
|--------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                            |                        | SHEET NO. |
| R-3329 / R-2559                                  |                        | 59        |
| RW SHEET NO.                                     |                        |           |
| ROADWAY DESIGN<br>ENGINEER                       | HYDRAULICS<br>ENGINEER |           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                        |           |



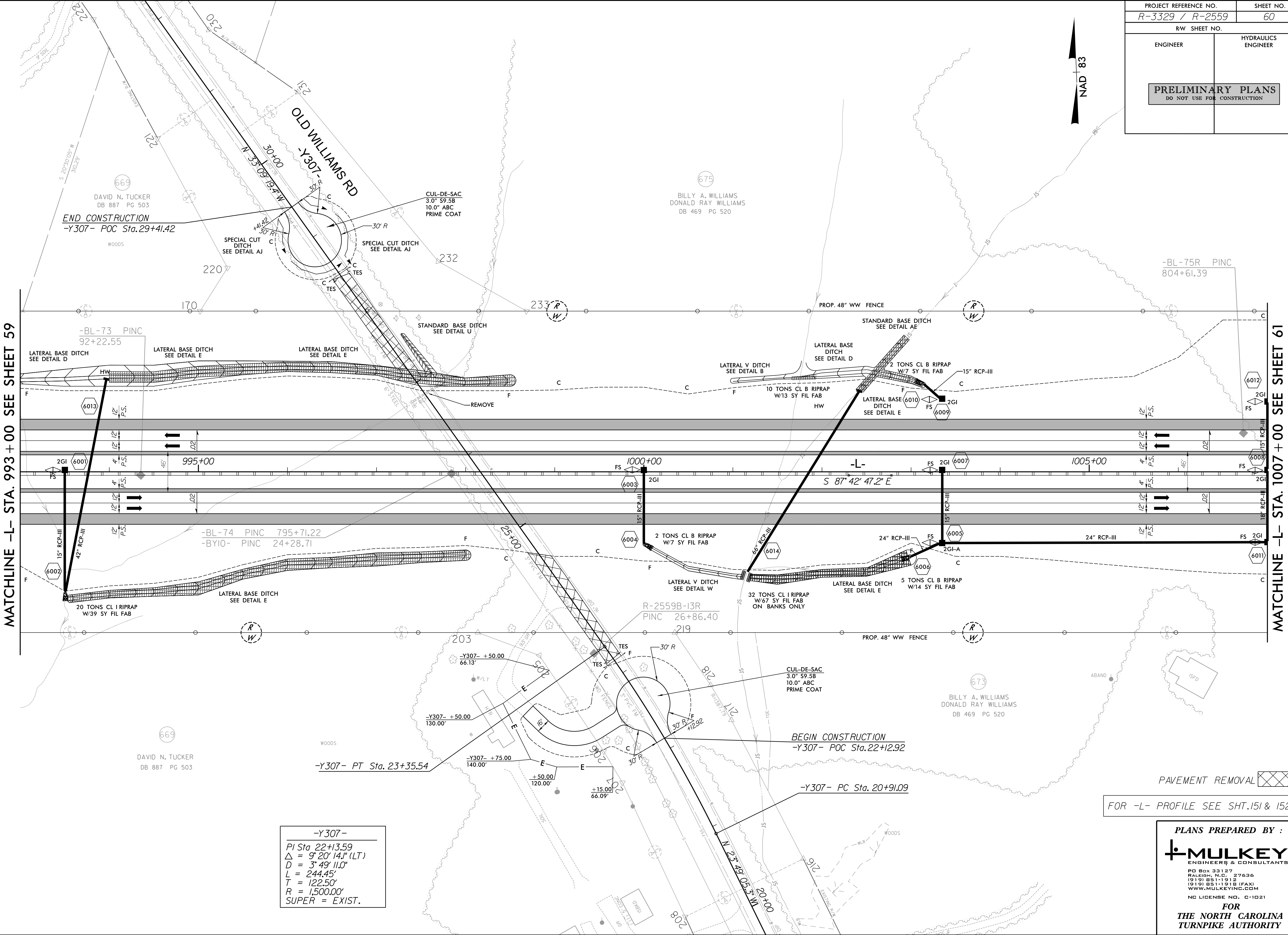
| -L-               |                       |                   |
|-------------------|-----------------------|-------------------|
| Pls Sta 970+26.89 | Pl Sta 978+49.93      | Pls Sta 986+64.90 |
| Os = 1°14' 44.0"  | Δ = 14°39' 40.4" (LT) | Os = 1°14' 44.0"  |
| Ls = 250.00'      | D = 0°59' 47.2"       | Ls = 250.00'      |
| LT = 166.67'      | L = 1,471.35'         | LT = 166.67'      |
| ST = 83.34'       | T = 739.71'           | ST = 83.34'       |
|                   | R = 5,750.00'         |                   |
|                   | SUPER = 0.04          |                   |
|                   | DS = 70 MPH           |                   |

FOR -L- PROFILE SEE SHT.151

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|                                                  |                     |           |
|--------------------------------------------------|---------------------|-----------|
| PROJECT REFERENCE NO.                            |                     | SHEET NO. |
| R-3329 / R-2559                                  |                     | 60        |
| RW SHEET NO.                                     |                     |           |
| ENGINEER                                         | HYDRAULICS ENGINEER |           |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                     |           |



-Y307-  
PI Sta 22+13.59  
 $\Delta = 9^{\circ} 20' 14.1''$  (LT)  
D = 3' 49' 11.0"  
L = 244.45'  
T = 122.50'  
R = 1,500.00'  
SUPER = EXIST.

FOR -L- PROFILE SEE SHT. 151 & 152

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**MATCHLINE -L- STA. 1021+00 SEE SHEET 62**

**PLANS PREPARED BY :**

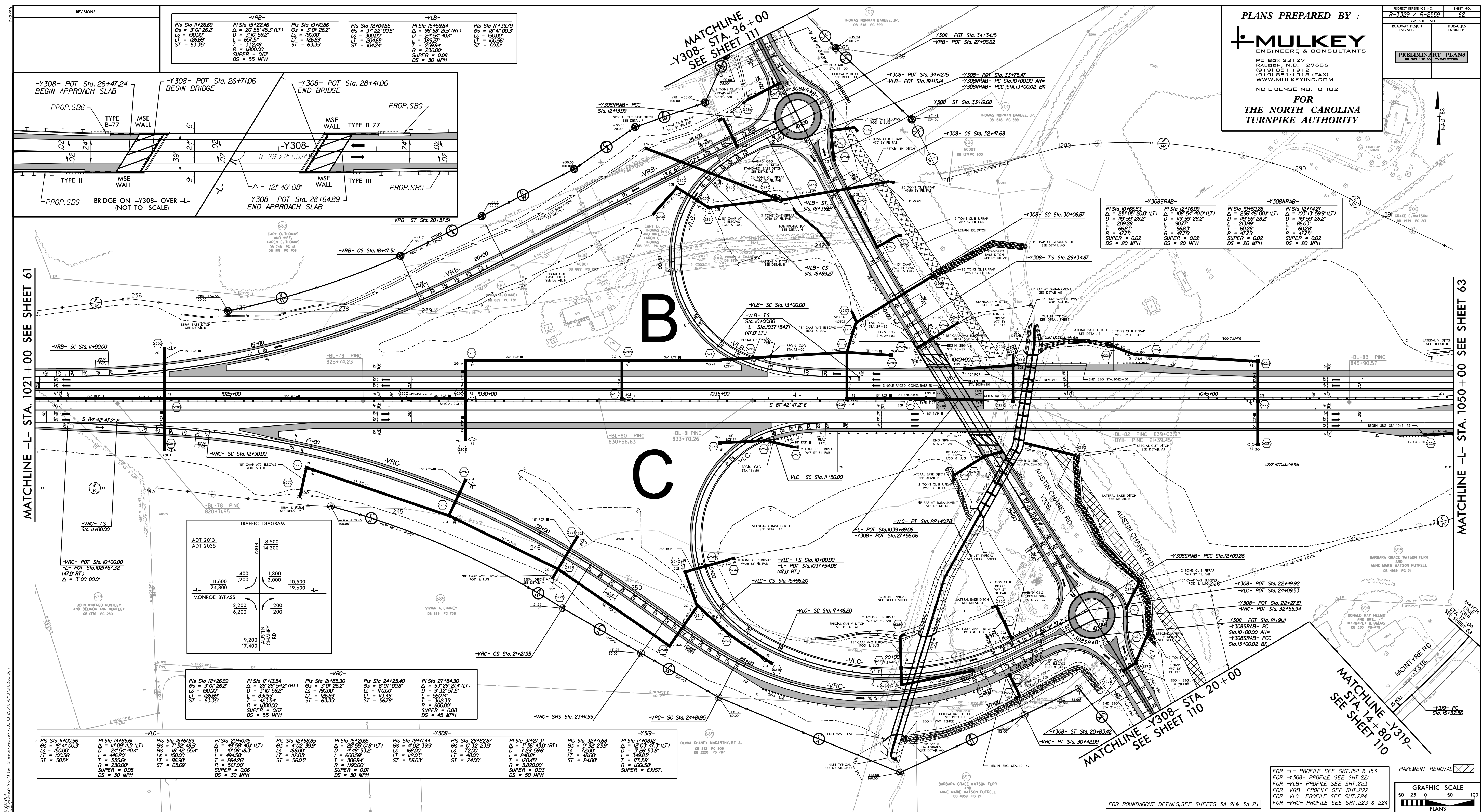
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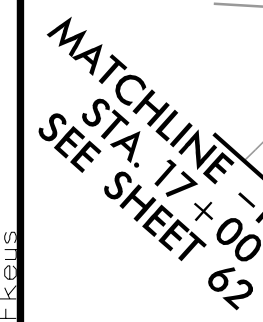
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**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**











PROJECT REFERENCE NO.  
R-3329 / R-2559

SHEET NO.  
110

RW SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION

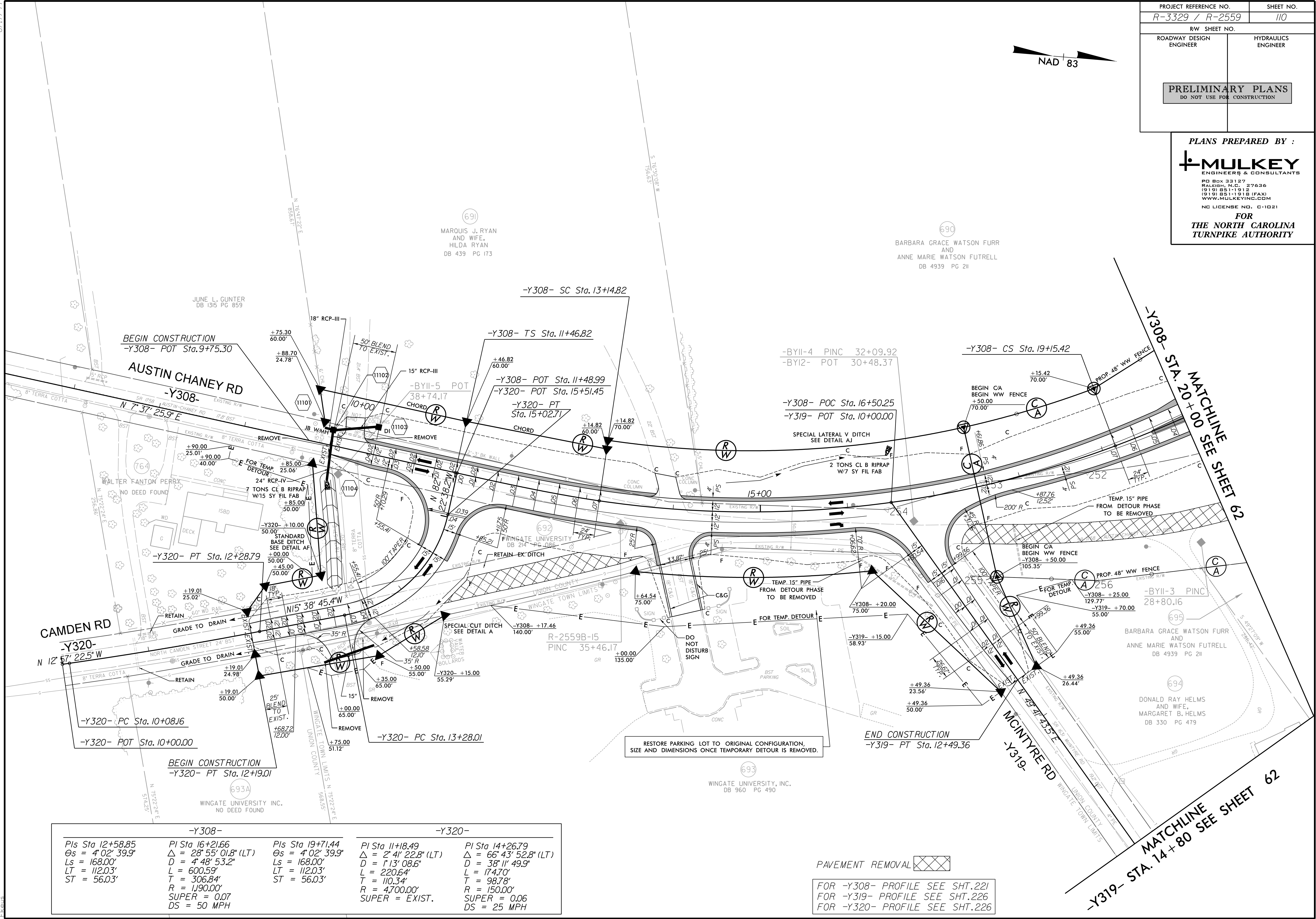
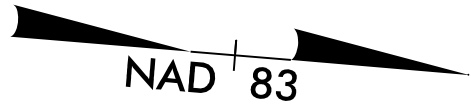
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FOR  
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| -Y308-           |                        | -Y320-           |                       |
|------------------|------------------------|------------------|-----------------------|
| PIs Sta 12+58.85 | PI Sta 16+21.66        | PI Sta 19+71.44  | PI Sta 11+18.49       |
| Os = 4'02' 39.9" | Δ = 28' 55' 01.8" (LT) | Os = 4'02' 39.9" | Δ = 2' 41' 22.8" (LT) |
| Ls = 168.00'     | L = 4' 48' 53.2"       | Ls = 168.00'     | D = 1' 13' 08.6"      |
| LT = 1120.3'     | L = 600.59'            | LT = 1120.3'     | L = 220.64'           |
| ST = 56.03'      | T = 306.84'            | ST = 56.03'      | T = 110.34'           |
|                  | R = 1,900.00'          |                  | R = 4,700.00'         |
|                  | SUPER = 0.07           |                  | SUPER = EXIST.        |
|                  | DS = 50 MPH            |                  | DS = 25 MPH           |

PAVEMENT REMOVAL

FOR -Y308- PROFILE SEE SHT.221  
FOR -Y319- PROFILE SEE SHT.226  
FOR -Y320- PROFILE SEE SHT.226

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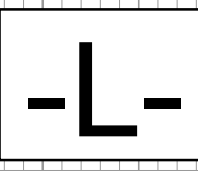
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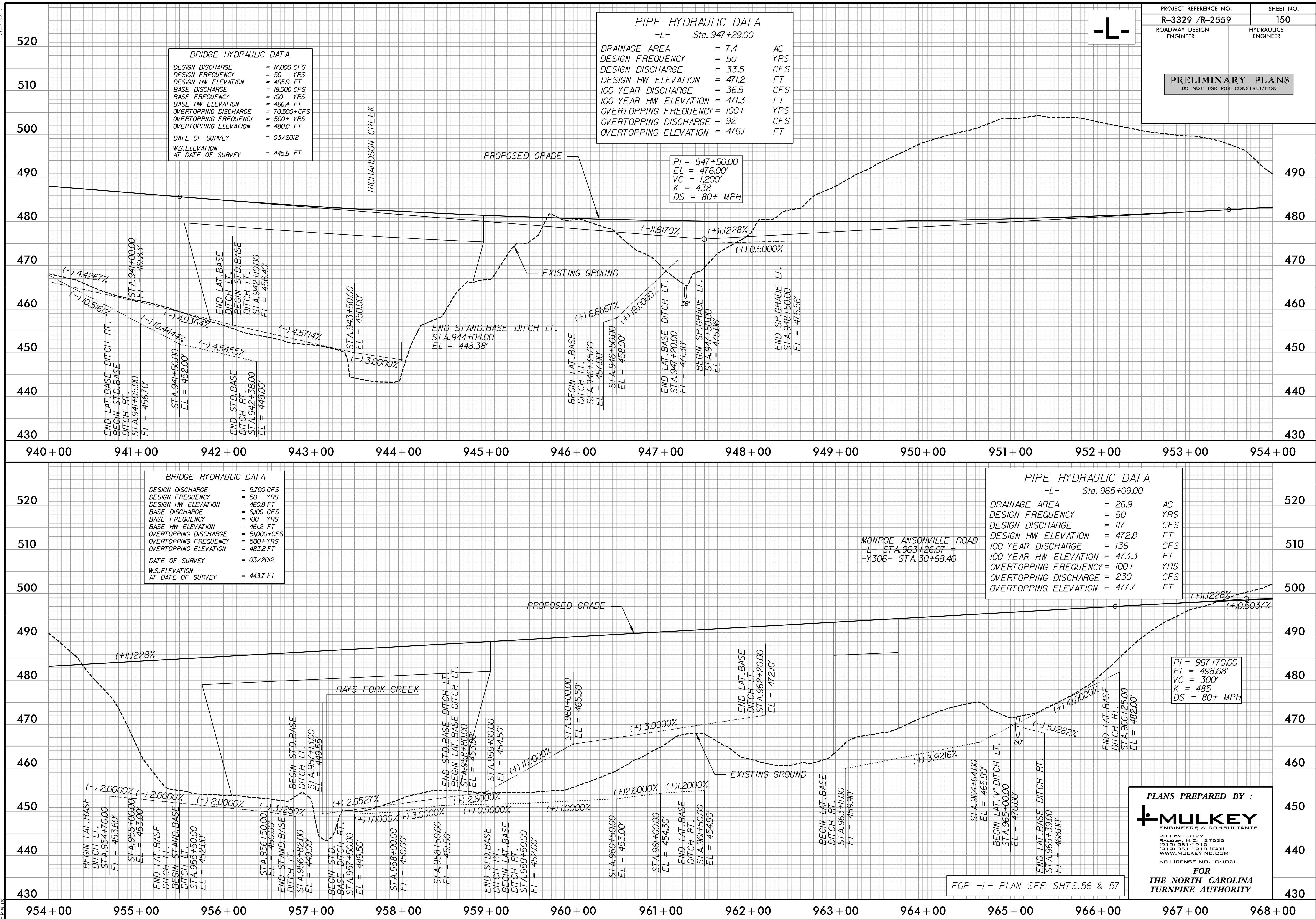
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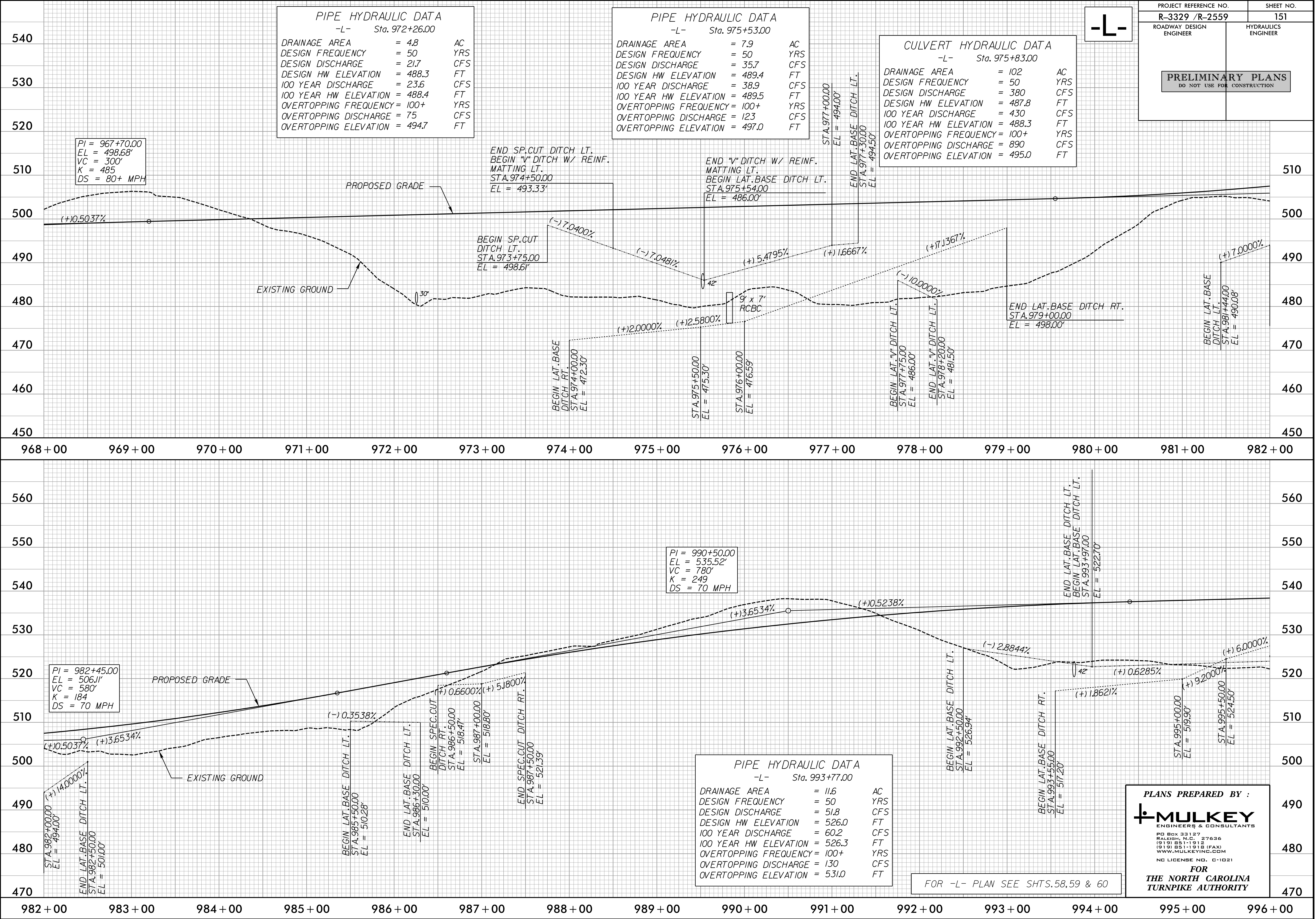
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8/29/2014  
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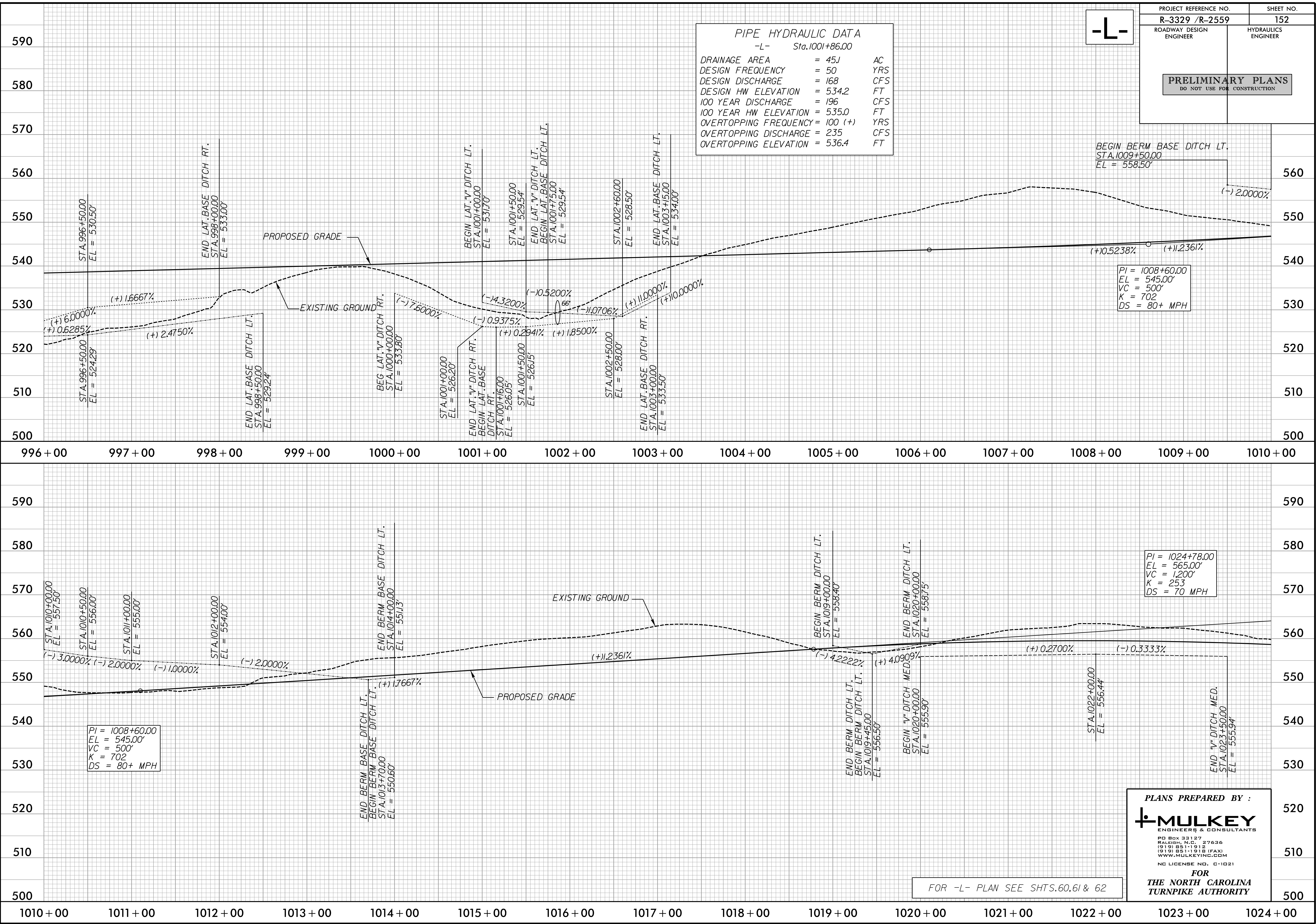
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Elevs





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8/29/2014  
R:\Roadway\Proj\Profile Sheets\Sec3a\R3329\_R2559\_RDY\_PFL\_152.dgn  
Elev



-L-

PROJECT REFERENCE NO.  
**R-3329 /R-2559**

ROADWAY DESIGN  
ENGINEER

SHEET NO.  
**152**

HYDRAULICS  
ENGINEER

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

BEGIN BERM BASE DITCH LT.  
STA.1009+50.00  
EL = 558.50'

(-) 2.0000%

(+) 0.5238% (+) 0.2361%

PI = 1008+60.00  
EL = 545.00'  
VC = 500'  
K = 702  
DS = 80+ MPH

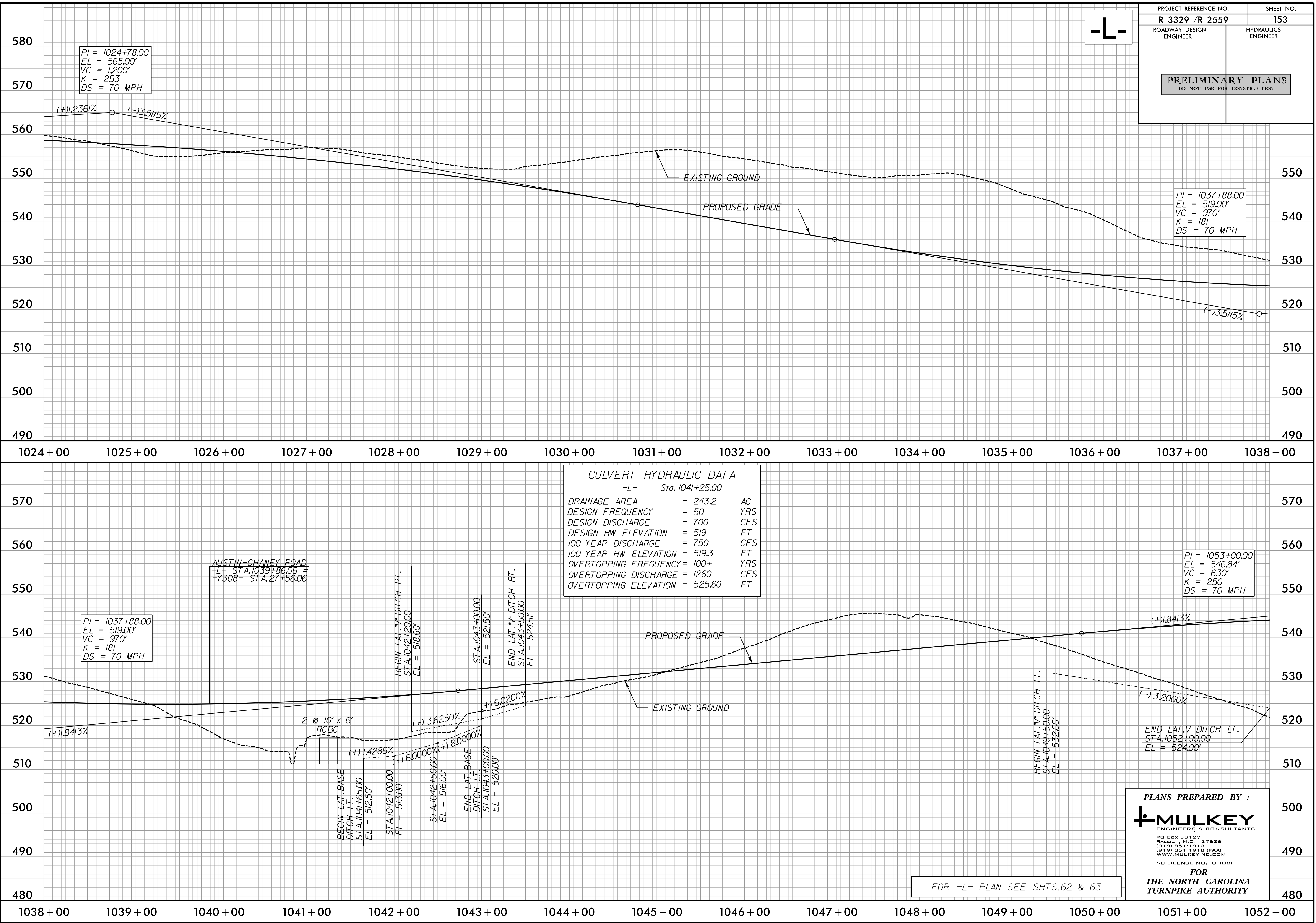
PI = 1024+78.00  
EL = 565.00'  
VC = 1,200'  
K = 253  
DS = 70 MPH

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TURNPIKE AUTHORITY

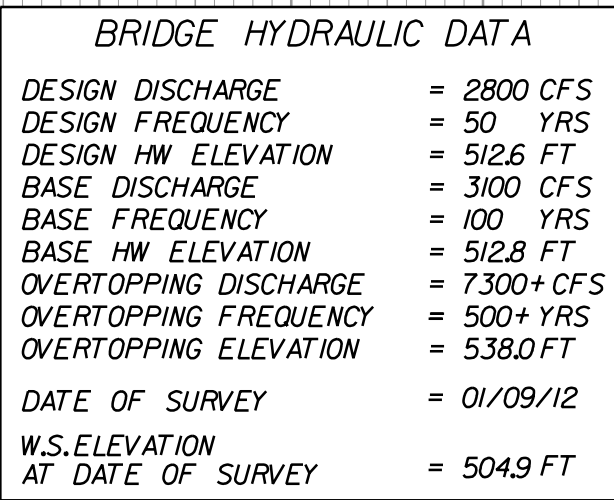
FOR -L- PLAN SEE SHTS.60,61 & 62



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Elevs







| PIPE HYDRAULIC DATA   |                 |     |
|-----------------------|-----------------|-----|
| -L-                   | Sta. 1063+03.00 |     |
| DRAINAGE AREA         | = 8.5           | AC  |
| DESIGN FREQUENCY      | = 50            | YRS |
| DESIGN DISCHARGE      | = 38.5          | CFS |
| DESIGN HW ELEVATION   | = 527.5         | FT  |
| 100 YEAR DISCHARGE    | = 41.9          | CFS |
| 100 YEAR HW ELEVATION | = 527.7         | FT  |
| OVERTOPPING FREQUENCY | = 100+          | YRS |
| OVERTOPPING DISCHARGE | = 85            | CFS |
| OVERTOPPING ELEVATION | = 532.7         | FT  |

END GRADE SECT.3A  
-L- STA.1064+00.00  
ELEV.= 539.33'

$PI = 1053+00.00$   
 $EL = 546.84'$   
 $VC = 630'$   
 $K = 250$   
 $DS = 70 \text{ MPH}$

McINTYRE ROAD  
-L- STA. 1053+08.05 =  
-Y319- STA. 22+62.55

MEADOW  
BRANCH

EXISTING GROUND

END SP. CUT DITCH LT.  
TIE TO SECTION 3B  
SAT. 1064+00.00  
EL = 531.80'

END LAT. "V" DITCH RT.  
TIE TO SECTION 3B  
STA. 1064+00.00  
EL = 524.50'

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**EOR**

FOR  
THE NORTH CAROLINA

## THE NORTH CAP

## TURNPIKE AUTH

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FOR -L- PLAN SEE SHT.63



5/28/99

# AUSTIN CHANEY ROAD -Y308-

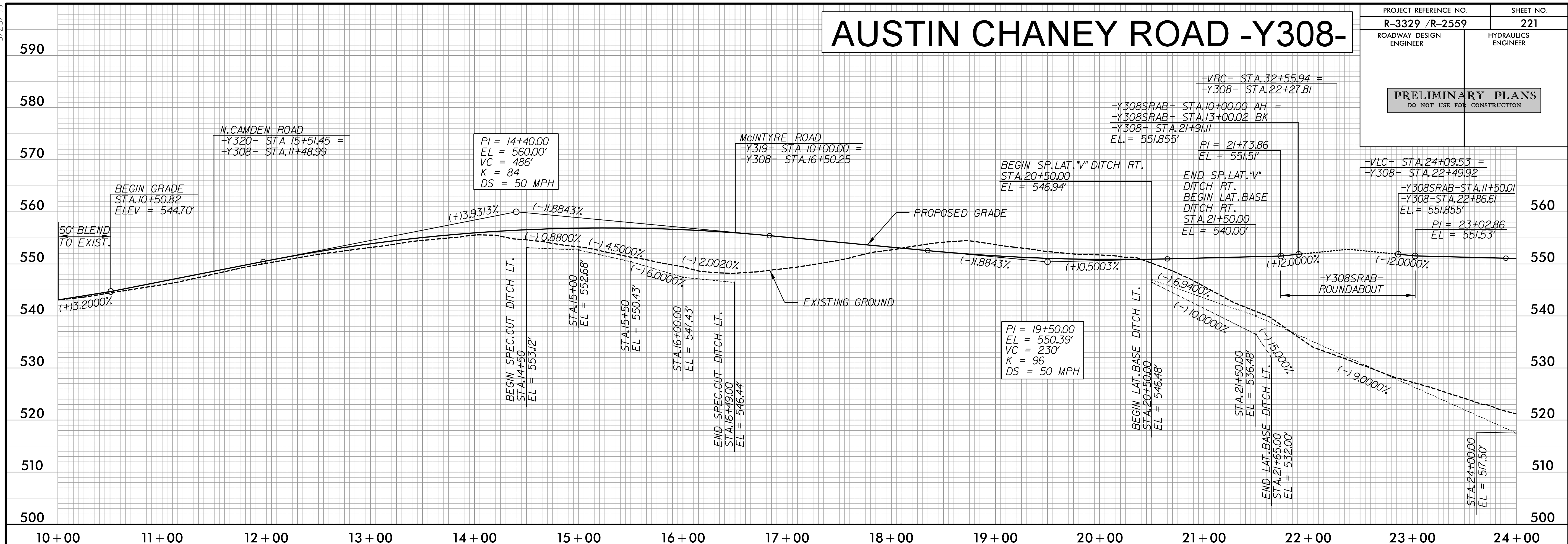
PROJECT REFERENCE NO.  
**R-3329 /R-2559**

SHEET NO.  
**221**

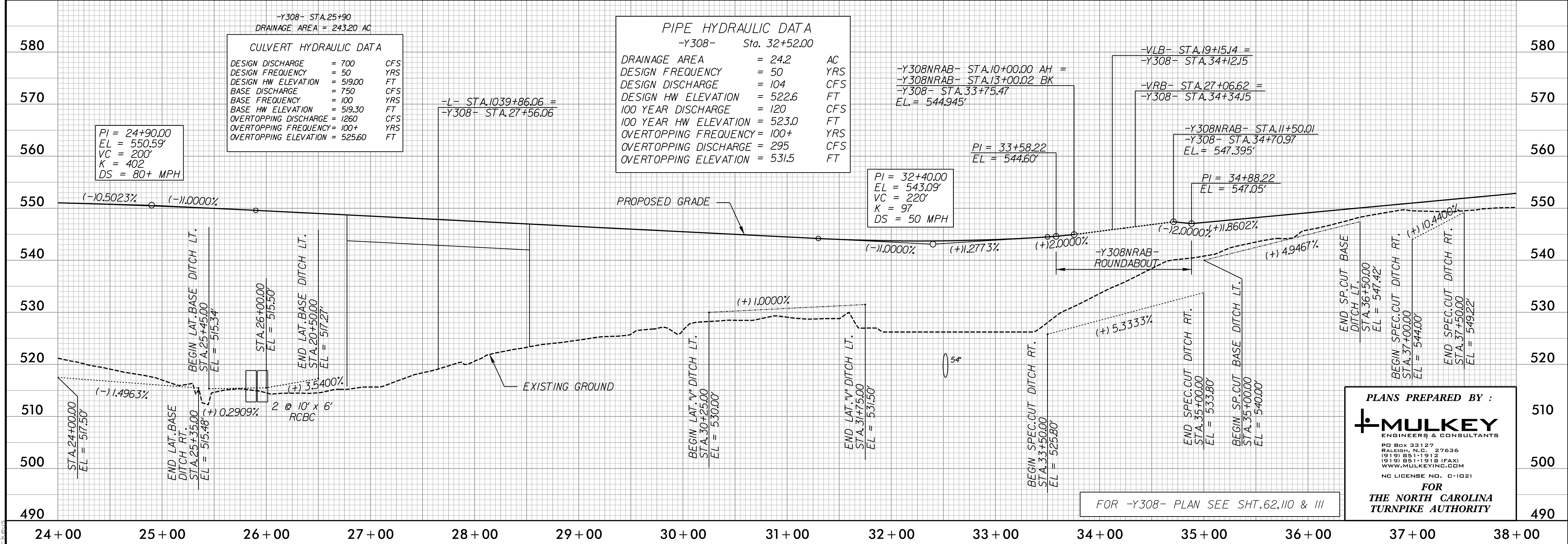
ROADWAY DESIGN  
ENGINEER

HYDRAULICS  
ENGINEER

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION



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Elev



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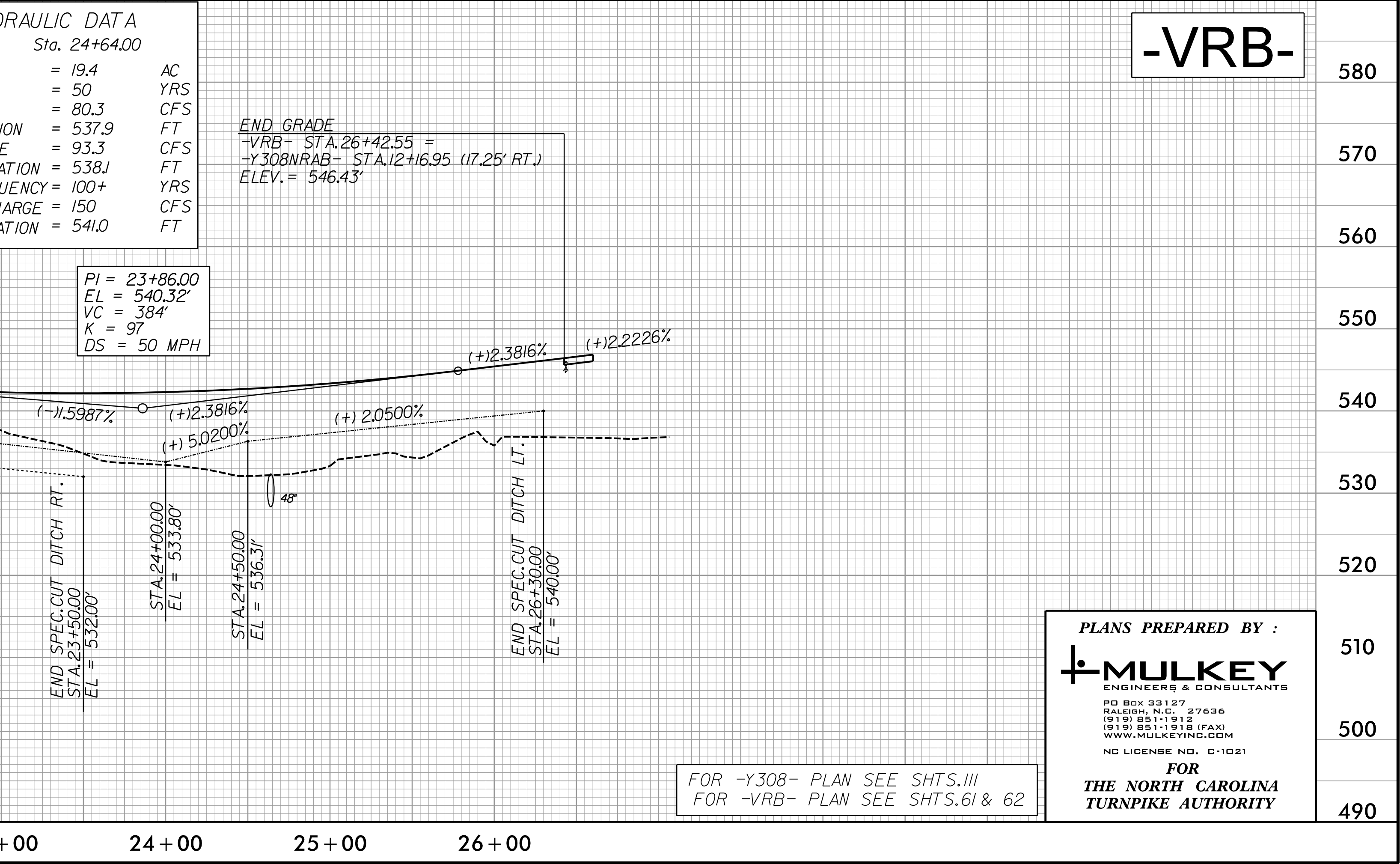
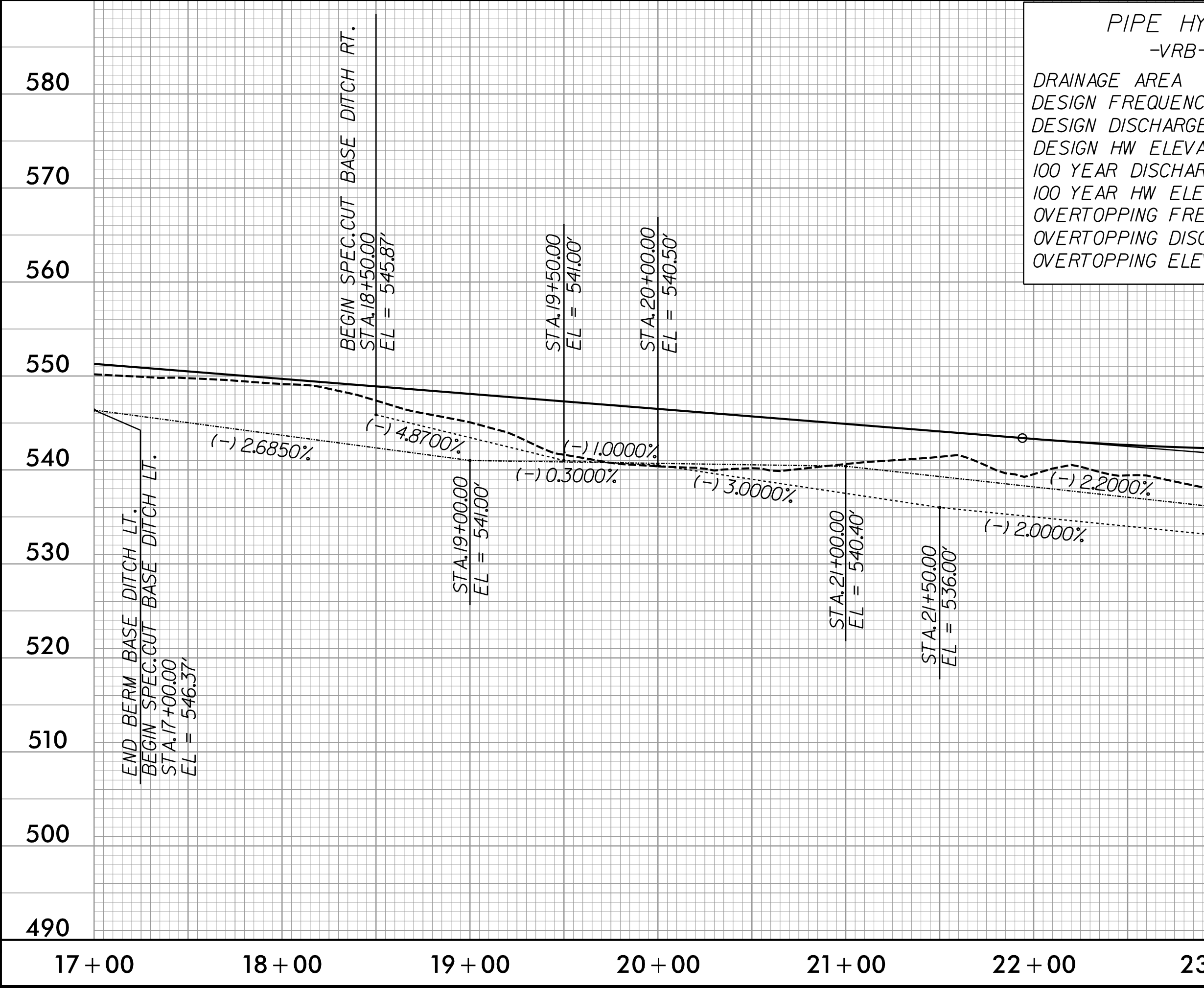
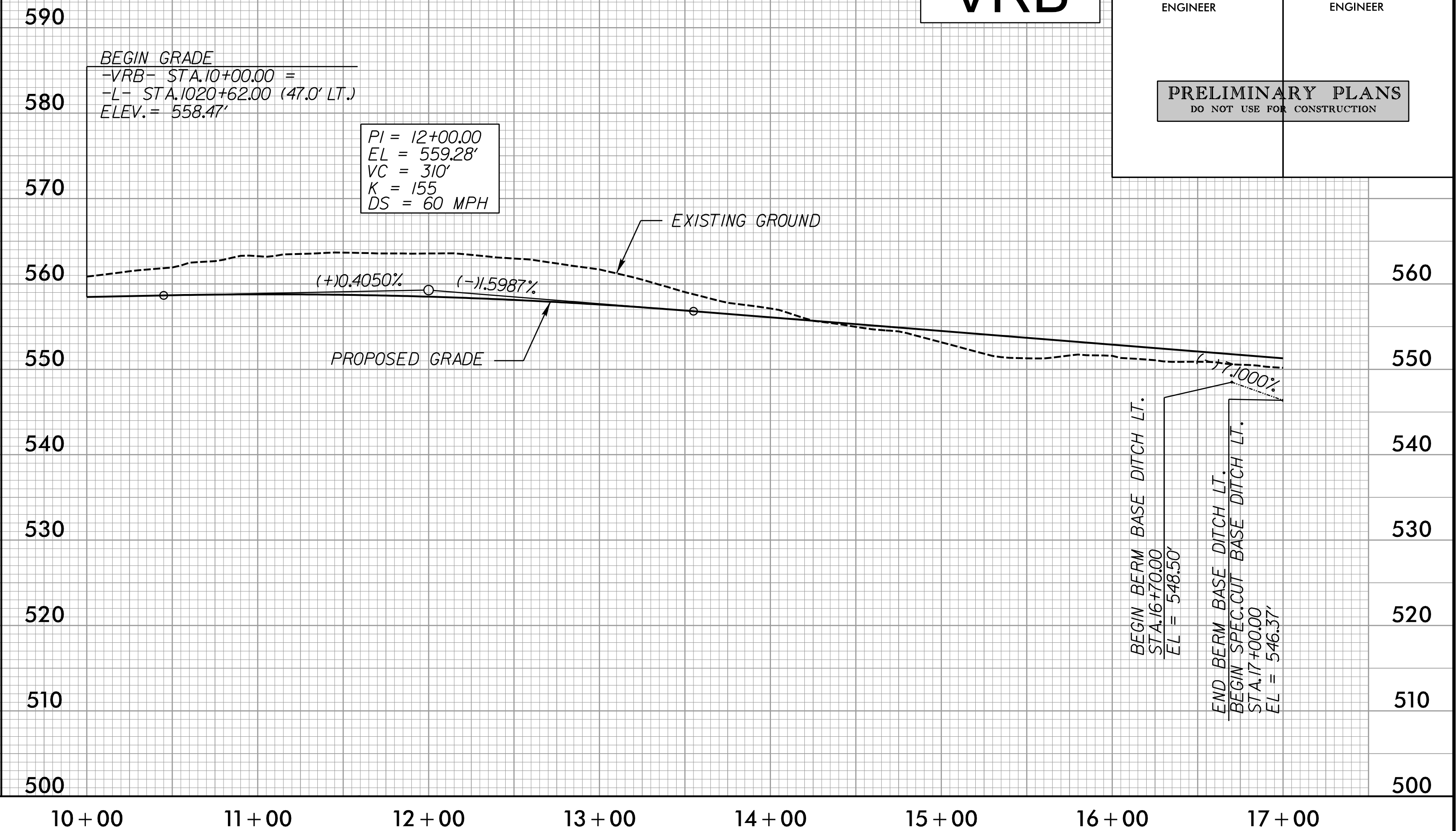
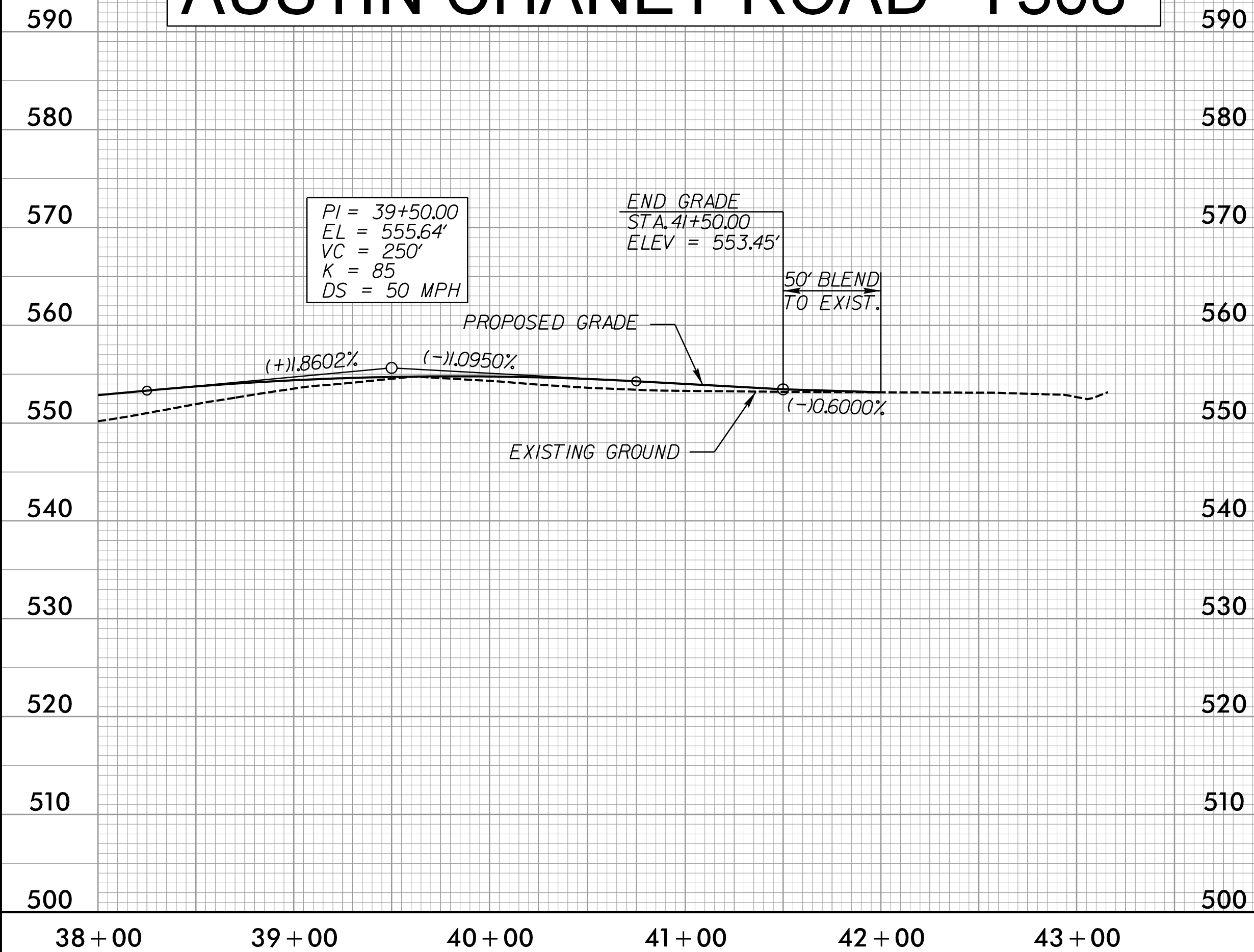


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Elevs

AUSTIN CHANEY ROAD -Y308-

-VRB-

|                                                  |                     |
|--------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                            | SHEET NO.           |
| R-3329 /R-2559                                   | 222                 |
| ROADWAY DESIGN ENGINEER                          | HYDRAULICS ENGINEER |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                     |



PIPE HYDRAULIC DATA  
-VRB- Sta. 24+64.00

|                       |         |     |
|-----------------------|---------|-----|
| DRAINAGE AREA         | = 19.4  | AC  |
| DESIGN FREQUENCY      | = 50    | YRS |
| DESIGN DISCHARGE      | = 80.3  | CFS |
| DESIGN HW ELEVATION   | = 537.9 | FT  |
| 100 YEAR DISCHARGE    | = 93.3  | CFS |
| 100 YEAR HW ELEVATION | = 538.1 | FT  |
| OVERTOPPING FREQUENCY | = 100+  | YRS |
| OVERTOPPING DISCHARGE | = 150   | CFS |
| OVERTOPPING ELEVATION | = 541.0 | FT  |

-VRB-

FOR -Y308- PLAN SEE SHTS.III  
FOR -VRB- PLAN SEE SHTS.61 & 62

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Elevations

-VLB-

PROJECT REFERENCE NO.  
R-3329 /R-2559

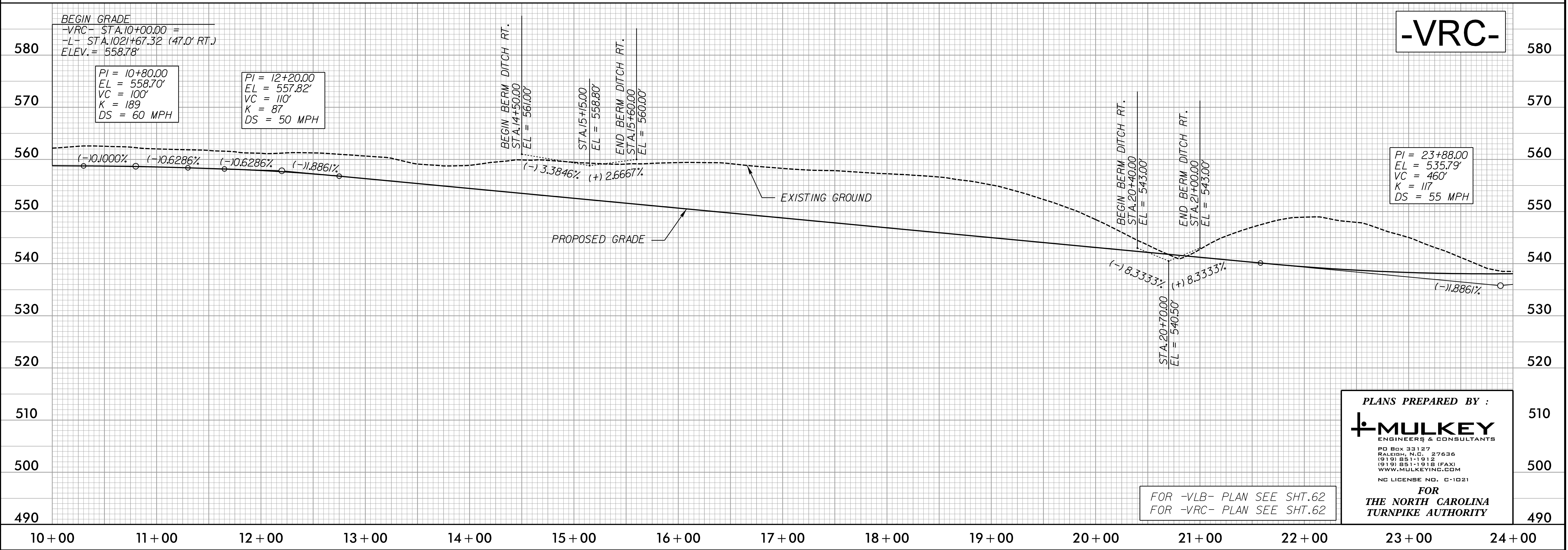
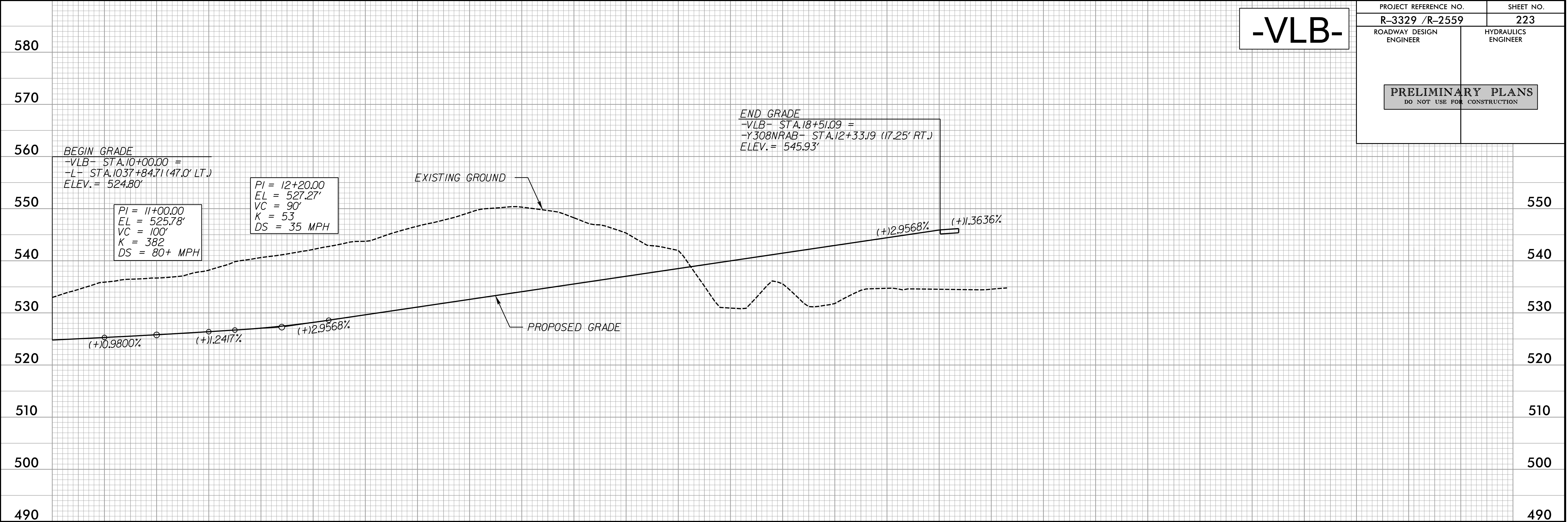
ROADWAY DESIGN  
ENGINEER

SHEET NO.  
223

HYDRAULICS  
ENGINEER

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION



FOR -VLB- PLAN SEE SHT.62  
FOR -VRC- PLAN SEE SHT.62

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PROJECT REFERENCE NO.

R-3329 /R-2559

SHEET NO.

224

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION

-VRC-

**-VRC- STA.28+46**  
DRAINAGE AREA = 224.0 AC

**CULVERT HYDRAULIC DATA**

|                       |         |     |
|-----------------------|---------|-----|
| DESIGN DISCHARGE      | = 650   | CFS |
| DESIGN FREQUENCY      | = 50    | YRS |
| DESIGN HW ELEVATION   | = 521.3 | FT  |
| BASE DISCHARGE        | = 700   | CFS |
| BASE FREQUENCY        | = 100   | YRS |
| BASE HW ELEVATION     | = 521.7 | FT  |
| OVERTOPPING DISCHARGE | = 1720  | CFS |
| OVERTOPPING FREQUENCY | = 500+  | YRS |
| OVERTOPPING ELEVATION | = 537.0 | FT  |

**END GRADE**  
-VRC- STA.31+90.80 =  
-Y308SRAB- STA.12+28.48 (17.25' RT.)  
ELEV. = 552.30'

**PI = 23+88.00**  
EL = 535.79'  
VC = 460'  
K = 117  
DS = 55 MPH

**BEGIN LAT. BASE DITCH RT.**  
STA.28+34.00  
EL = 516.00'

**STA.28+50.00**  
EL = 516.24'

**STA.29+00.00**  
EL = 517.00'

**STA.30+00.00**  
EL = 525.00'

**END LAT. BASE DITCH RT.**  
STA.31+75.00  
EL = 532.00'

PROPOSED GRADE

EXISTING GROUND

2 @ 10' x 6' RCBC

(+) 1.5200% (+) 1.5200% (+) 8.0000% (+) 4.0000% (+) 2.0566% (+) 2.1035%

24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00

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**-VLC- STA.20+28**  
DRAINAGE AREA = 224.0 AC

**CULVERT HYDRAULIC DATA**

|                       |         |     |
|-----------------------|---------|-----|
| DESIGN DISCHARGE      | = 650   | CFS |
| DESIGN FREQUENCY      | = 50    | YRS |
| DESIGN HW ELEVATION   | = 521.3 | FT  |
| BASE DISCHARGE        | = 700   | CFS |
| BASE FREQUENCY        | = 100   | YRS |
| BASE HW ELEVATION     | = 521.7 | FT  |
| OVERTOPPING DISCHARGE | = 1720  | CFS |
| OVERTOPPING FREQUENCY | = 500+  | YRS |
| OVERTOPPING ELEVATION | = 537.0 | FT  |

**END GRADE**  
-VLC- STA.23+46.54 =  
-Y308SRAB- STA.12+12.24 (17.25' RT.)  
ELEV. = 552.14'

**BEGIN GRADE**  
-VLC- STA.10+00.00 =  
-L- STA.1037+54.08 (47.0' RT.)  
ELEV. = 525.09'

**PI = 11+00.00**  
EL = 526.22'  
VC = 100'  
K = 149  
DS = 55 MPH

**PI = 12+70.00**  
EL = 527.00'  
VC = 120'  
K = 64  
DS = 40 MPH

**BEGIN SPEC. CUT DITCH LT.**  
STA.18+00.00  
EL = 534.00'

**STA.19+00.00**  
EL = 528.00'

**END SPEC. CUT DITCH LT.**  
STA.20+35.00  
EL = 515.00'

**BEGIN LAT. BASE DITCH LT.**  
STA.20+75.00  
EL = 515.00'

**END LAT. BASE DITCH LT.**  
STA.22+40.00  
EL = 517.00'

EXISTING GROUND

PROPOSED GRADE

2 @ 10' x 6' RCBC

(+) 1.300% (+) 0.4588% (+) 0.4588% (+) 2.3353% (-) 6.0000% (-) 9.6296% (+) 1.212% (+) 2.3353% (+) 1.7614%

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00

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PO Box 33127  
RALEIGH, N.C. 27636  
(919) 851-1912  
(919) 851-1918 (FAX)  
WWW.MULKEYINC.COM  
NC LICENSE NO. C-1021

FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

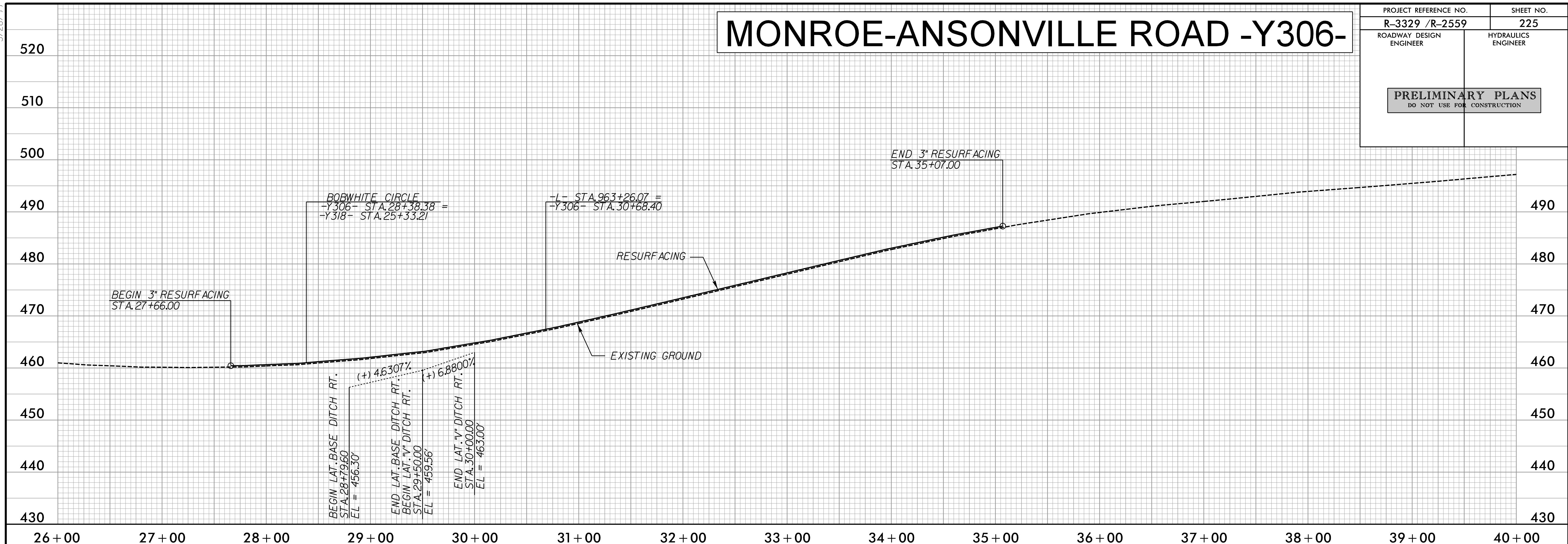
FOR -VRC- PLAN SEE SHT.62  
FOR -VLC- PLAN SEE SHT.62



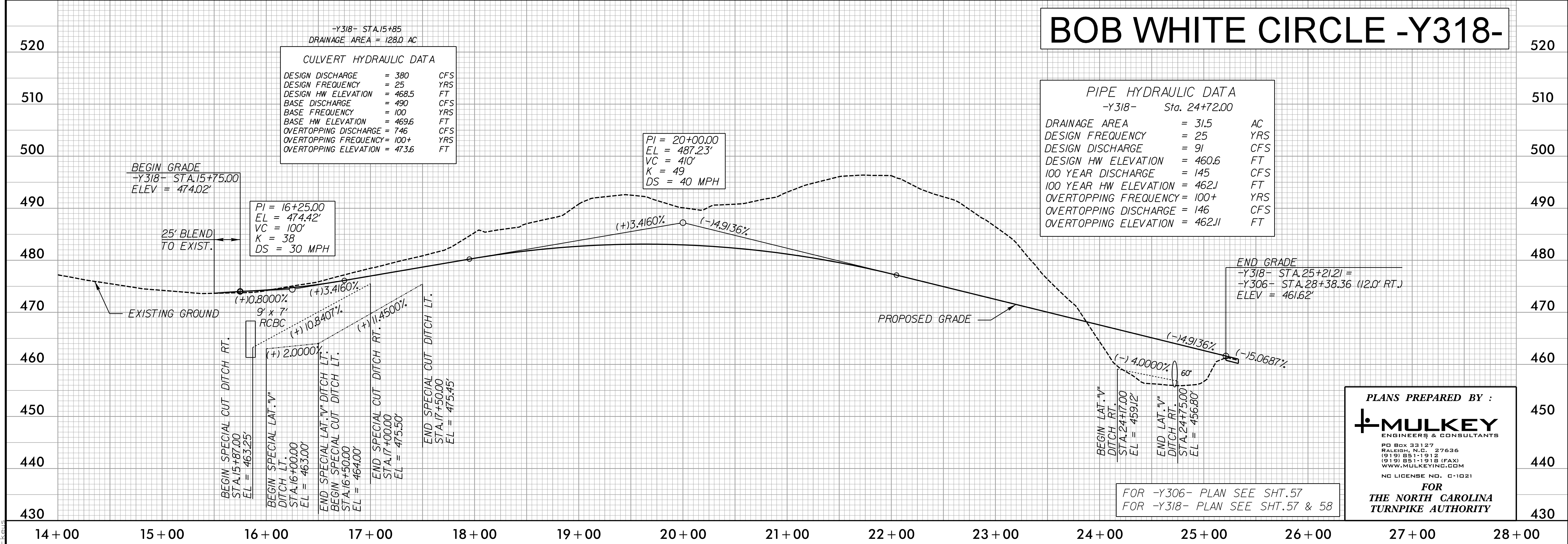
5/28/99

# MONROE-ANSONVILLE ROAD -Y306-

|                                                  |                     |
|--------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                            | SHEET NO.           |
| R-3329 /R-2559                                   | 225                 |
| ROADWAY DESIGN ENGINEER                          | HYDRAULICS ENGINEER |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                     |



# BOB WHITE CIRCLE -Y318-



CULVERT HYDRAULIC DATA

|                       |         |     |
|-----------------------|---------|-----|
| DESIGN DISCHARGE      | = 380   | CFS |
| DESIGN FREQUENCY      | = 25    | YRS |
| DESIGN HW ELEVATION   | = 468.5 | FT  |
| BASE DISCHARGE        | = 490   | CFS |
| BASE FREQUENCY        | = 100   | YRS |
| BASE HW ELEVATION     | = 469.6 | FT  |
| OVERTOPPING DISCHARGE | = 746   | CFS |
| OVERTOPPING FREQUENCY | = 100+  | YRS |
| OVERTOPPING ELEVATION | = 473.6 | FT  |

PIPE HYDRAULIC DATA

|                       |          |     |
|-----------------------|----------|-----|
| DRAINAGE AREA         | = 31.5   | AC  |
| DESIGN FREQUENCY      | = 25     | YRS |
| DESIGN DISCHARGE      | = 91     | CFS |
| DESIGN HW ELEVATION   | = 460.6  | FT  |
| 100 YEAR DISCHARGE    | = 145    | CFS |
| 100 YEAR HW ELEVATION | = 462.1  | FT  |
| OVERTOPPING FREQUENCY | = 100+   | YRS |
| OVERTOPPING DISCHARGE | = 146    | CFS |
| OVERTOPPING ELEVATION | = 462.11 | FT  |

PLANS PREPARED BY :

**MULKEY**  
ENGINEERS & CONSULTANTS

PO BOX 33127  
RALEIGH, N.C. 27636  
(919) 851-1912  
(919) 851-1918 (FAX)  
WWW.MULKEYINC.COM

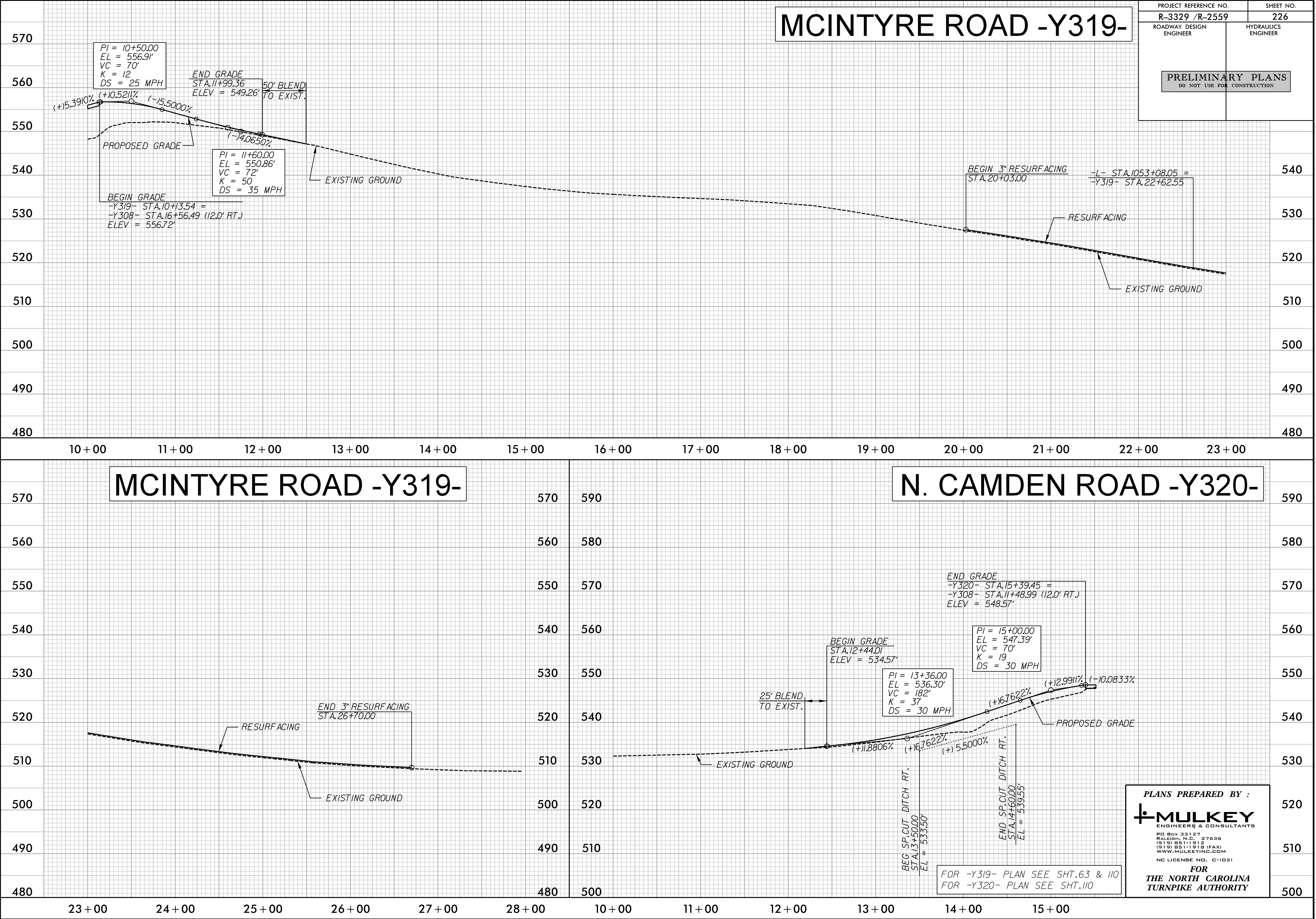
NC LICENSE NO. C-1021

FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY

FOR -Y306- PLAN SEE SHT.57  
FOR -Y318- PLAN SEE SHT.57 & 58



5/28/99  
8/29/2014  
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Elevs



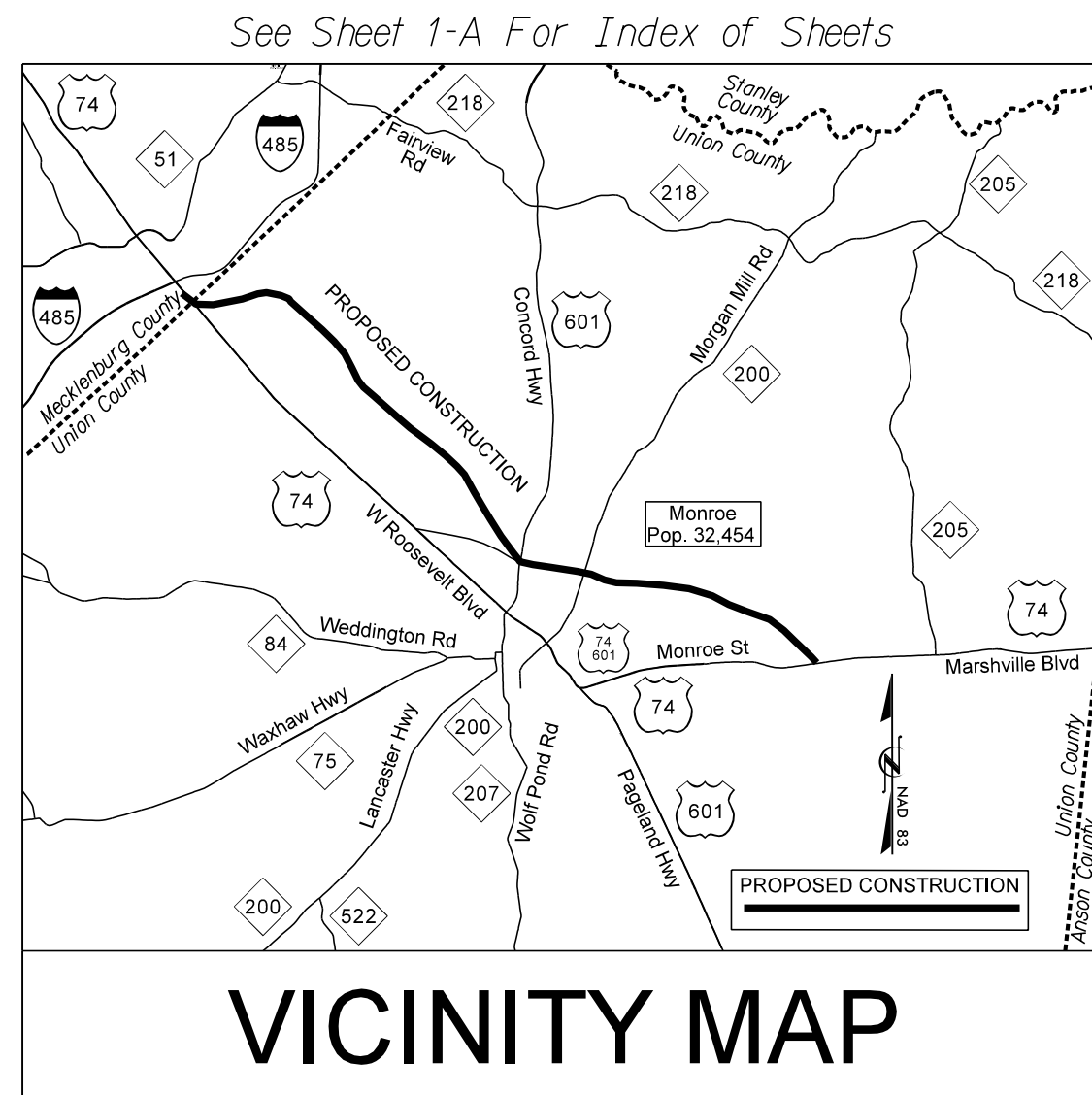


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TIP PROJECT: R-3329 / R-2559

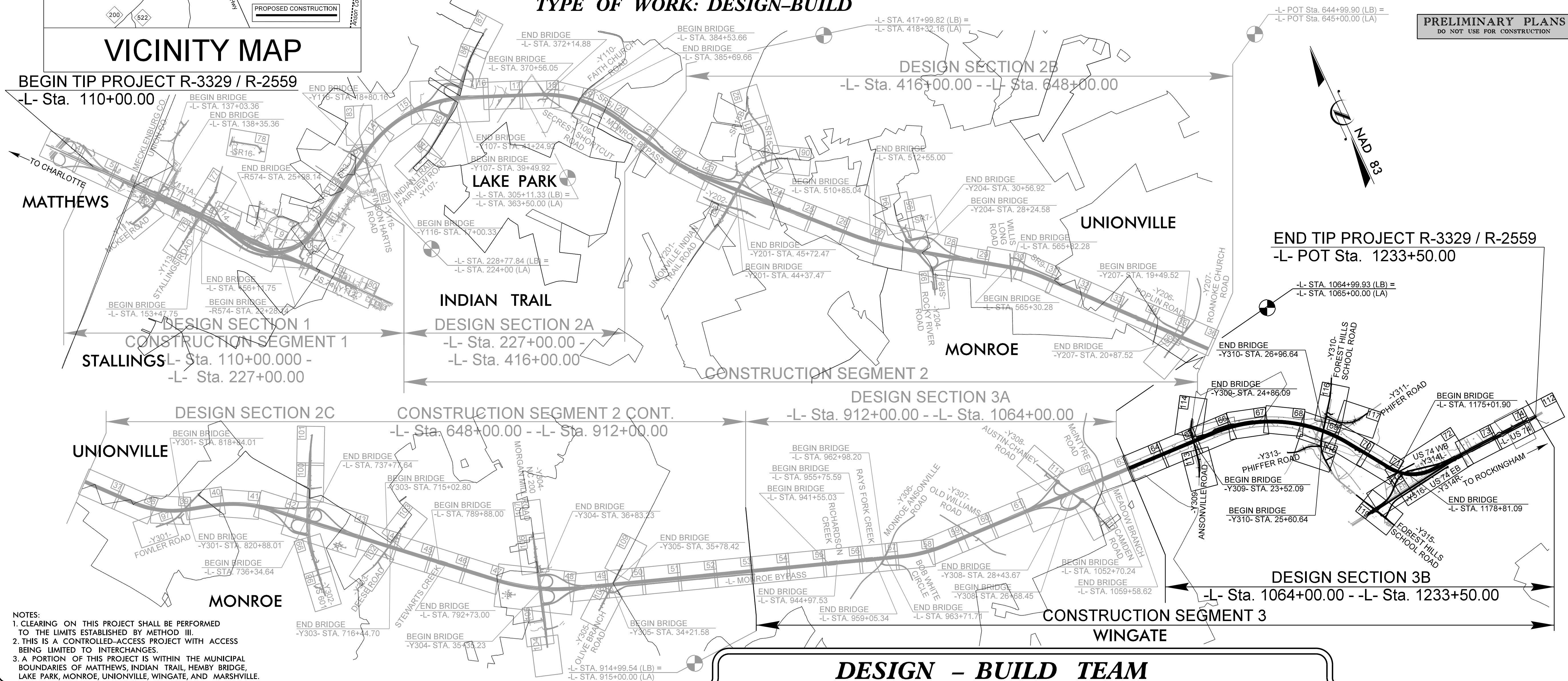
CONTRACT: C202587



VICINITY MAP

BEGIN TIP PROJECT R-3329 / R-2559

-L- Sta. 110+00.00



NOTES:  
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.  
2. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.  
3. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF MATTHEWS, INDIAN TRAIL, HEMBY BRIDGE, LAKE PARK, MONROE, UNIONVILLE, WINGATE, AND MARSHVILLE.

GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

DESIGN DATA

ADT 2013 = 64,100  
ADT 2035 = 95,600  
DHV = 8%  
D = 55%  
T = 18%\*  
V = 70 mph

\*TTST 11% DUAL 7%  
FUNCTIONAL CLASS.: FREEWAY

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3329 / R-2559..... 18.1 mi  
LENGTH STRUCTURE TIP PROJECT R-3329 / R-2559..... \*1.6 mi  
TOTAL LENGTH TIP PROJECT R-3329 / R-2559..... 19.7 mi

\* LENGTH OF STRUCTURES BASED ON WB LANES

DESIGN - BUILD TEAM

PLANS PREPARED BY :

**RK&K**

RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE, SUITE 350  
RALEIGH, NORTH CAROLINA 27609  
NC LICENSE NO. F-0112

2012 STANDARD SPECIFICATIONS

LETTING DATE:

OCTOBER 28, 2010

J.T. Peacock, Jr., P.E.  
PROJECT ENGINEER

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

CONTRACTOR :



HYDRAULICS ENGINEER

SIGNATURE: P.E.  
ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

MECKLENBURG & UNION COUNTY

LOCATION: US 74 BYPASS FROM US 74 JUST EAST OF  
I-485 NEAR MATTHEWS AND STALLINGS TO  
US 74 JUST EAST OF WINGATE AND WEST OF MARSHVILLE  
TYPE OF WORK: DESIGN-BUILD

| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C.            | R-3329 / R-2559             | 1           |              |
| STATE PROJ. NO. | F.A. PROJ. NO.              | DESCRIPTION |              |
| 34533.5.TA1     |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |

PERMIT APPLICATION  
SUBMITTAL NO. S-099  
DATE: 10-01-2014

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



*Note: Not to Scale*

*\*S.U.E. = Subsurface Utility Engineering*

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

| PROJECT REFERENCE NO. | SHEET NO. |
|-----------------------|-----------|
| R-3329 / R-2559       | 3B-1B     |

CONVENTIONAL PLAN SHEET SYMBOLS

**BOUNDARIES AND PROPERTY:**

|                                     |                     |
|-------------------------------------|---------------------|
| State Line                          | -----               |
| County Line                         | -----               |
| Township Line                       | -----               |
| City Line                           | -----               |
| Reservation Line                    | -----               |
| Property Line                       | -----               |
| Existing Iron Pin                   | ○ EP                |
| Property Corner                     | -----x              |
| Property Monument                   | □ ECM               |
| Parcel/Sequence Number              | (23)                |
| Existing Fence Line                 | -x-x-x-             |
| Proposed Woven Wire Fence           | ○                   |
| Proposed Chain Link Fence           | □                   |
| Proposed Barbed Wire Fence          | ◇                   |
| Existing Wetland Boundary           | - - - - WLB - - - - |
| Proposed Wetland Boundary           | - - - - WLB         |
| Existing Endangered Animal Boundary | ----- EAB           |
| Existing Endangered Plant Boundary  | ----- EPB           |

**BUILDINGS AND OTHER CULTURE:**

|                               |       |
|-------------------------------|-------|
| Gas Pump Vent or U/G Tank Cap | ○     |
| Sign                          | ○ S   |
| Well                          | ○ W   |
| Small Mine                    | ⋈     |
| Foundation                    | □     |
| Area Outline                  | □     |
| Cemetery                      | □ †   |
| Building                      | □     |
| School                        | □     |
| Church                        | □     |
| Dam                           | ----- |

**HYDROLOGY:**

|                                    |            |
|------------------------------------|------------|
| Stream or Body of Water            | -----      |
| Hydro, Pool or Reservoir           | □          |
| Jurisdictional Stream              | ----- JS   |
| Buffer Zone 1                      | ----- BZ 1 |
| Buffer Zone 2                      | ----- BZ 2 |
| Flow Arrow                         | ←          |
| Disappearing Stream                | ----->     |
| Spring                             | ○          |
| Wetland                            | ⚡          |
| Proposed Lateral, Tail, Head Ditch | -----      |
| False Sump                         | ◇          |

**RAILROADS:**

|                    |               |
|--------------------|---------------|
| Standard Gauge     | -----         |
| RR Signal Milepost | ○ MILEPOST 35 |
| Switch             | □ SWITCH      |
| RR Abandoned       | -----         |
| RR Dismantled      | -----         |

**RIGHT OF WAY:**

|                                                            |           |
|------------------------------------------------------------|-----------|
| Baseline Control Point                                     | ◆         |
| Existing Right of Way Marker                               | △         |
| Existing Right of Way Line                                 | -----     |
| Proposed Right of Way Line                                 | ○ R W     |
| Proposed Right of Way Line with Iron Pin and Cap Marker    | ○ R W ▲   |
| Proposed Right of Way Line with Concrete or Granite Marker | ○ R W     |
| Existing Control of Access                                 | ○ C A     |
| Proposed Control of Access                                 | ○ C A     |
| Existing Easement Line                                     | ----- E   |
| Proposed Temporary Construction Easement                   | ----- E   |
| Proposed Temporary Drainage Easement                       | ----- TDE |
| Proposed Permanent Drainage Easement                       | ----- PDE |
| Proposed Permanent Utility Easement                        | ----- PUE |
| Proposed Temporary Utility Easement                        | ----- TUE |
| Proposed Permanent Easement with Iron Pin and Cap Marker   | ◆         |

**ROADS AND RELATED FEATURES:**

|                            |         |
|----------------------------|---------|
| Existing Edge of Pavement  | -----   |
| Existing Curb              | -----   |
| Proposed Slope Stakes Cut  | ----- C |
| Proposed Slope Stakes Fill | ----- F |
| Proposed Wheel Chair Ramp  | ○ WCR   |
| Existing Metal Guardrail   | -----   |
| Proposed Guardrail         | -----   |
| Existing Cable Guiderail   | -----   |
| Proposed Cable Guiderail   | -----   |
| Equality Symbol            | ⊙       |
| Pavement Removal           | □       |

**VEGETATION:**

|              |            |
|--------------|------------|
| Single Tree  | ☼          |
| Single Shrub | ☼          |
| Hedge        | -----      |
| Woods Line   | -----      |
| Orchard      | ☼ ☼ ☼ ☼    |
| Vineyard     | □ Vineyard |

**EXISTING STRUCTURES:**

|                                          |         |
|------------------------------------------|---------|
| MAJOR:                                   |         |
| Bridge, Tunnel or Box Culvert            | CONC    |
| Bridge Wing Wall, Head Wall and End Wall | CONC WW |
| MINOR:                                   |         |
| Head and End Wall                        | CONC HW |
| Pipe Culvert                             | -----   |
| Footbridge                               | -----   |
| Drainage Box: Catch Basin, DI or JB      | □ CB    |
| Paved Ditch Gutter                       | -----   |
| Storm Sewer Manhole                      | ○ S     |
| Storm Sewer                              | ----- S |

**UTILITIES:**

|                                     |         |
|-------------------------------------|---------|
| POWER:                              |         |
| Existing Power Pole                 | ●       |
| Proposed Power Pole                 | ○       |
| Existing Joint Use Pole             | ●       |
| Proposed Joint Use Pole             | ○       |
| Power Manhole                       | ○ P     |
| Power Line Tower                    | □       |
| Power Transformer                   | □       |
| U/G Power Cable Hand Hole           | □ FH    |
| H-Frame Pole                        | ●       |
| Recorded U/G Power Line             | ----- P |
| Designated U/G Power Line (S.U.E.*) | ----- P |

**TELEPHONE:**

|                                             |            |
|---------------------------------------------|------------|
| Existing Telephone Pole                     | ●          |
| Proposed Telephone Pole                     | ○          |
| Telephone Manhole                           | ○ T        |
| Telephone Booth                             | □          |
| Telephone Pedestal                          | □ T        |
| Telephone Cell Tower                        | ⚡          |
| U/G Telephone Cable Hand Hole               | □ FH       |
| Recorded U/G Telephone Cable                | ----- T    |
| Designated U/G Telephone Cable (S.U.E.*)    | ----- T    |
| Recorded U/G Telephone Conduit              | ----- TC   |
| Designated U/G Telephone Conduit (S.U.E.*)  | ----- TC   |
| Recorded U/G Fiber Optics Cable             | ----- T FO |
| Designated U/G Fiber Optics Cable (S.U.E.*) | ----- T FO |

**WATER:**

|                                     |                 |
|-------------------------------------|-----------------|
| Water Manhole                       | ○ W             |
| Water Meter                         | ○               |
| Water Valve                         | ⊗               |
| Water Hydrant                       | ⊕               |
| Recorded U/G Water Line             | ----- W         |
| Designated U/G Water Line (S.U.E.*) | ----- W         |
| Above Ground Water Line             | ----- A/G Water |

**TV:**

|                                            |             |
|--------------------------------------------|-------------|
| TV Satellite Dish                          | ⋈           |
| TV Pedestal                                | □           |
| TV Tower                                   | ⊗           |
| U/G TV Cable Hand Hole                     | □ FH        |
| Recorded U/G TV Cable                      | ----- TV    |
| Designated U/G TV Cable (S.U.E.*)          | ----- TV    |
| Recorded U/G Fiber Optic Cable             | ----- TV FO |
| Designated U/G Fiber Optic Cable (S.U.E.*) | ----- TV FO |

**GAS:**

|                                   |               |
|-----------------------------------|---------------|
| Gas Valve                         | ◇             |
| Gas Meter                         | ⊕             |
| Recorded U/G Gas Line             | ----- G       |
| Designated U/G Gas Line (S.U.E.*) | ----- G       |
| Above Ground Gas Line             | ----- A/G Gas |

**SANITARY SEWER:**

|                                          |                          |
|------------------------------------------|--------------------------|
| Sanitary Sewer Manhole                   | ⊕                        |
| Sanitary Sewer Cleanout                  | ⊕                        |
| U/G Sanitary Sewer Line                  | ----- SS                 |
| Above Ground Sanitary Sewer              | ----- A/G Sanitary Sewer |
| Recorded SS Forced Main Line             | ----- FSS                |
| Designated SS Forced Main Line (S.U.E.*) | ----- FSS                |

**MISCELLANEOUS:**

|                                        |            |
|----------------------------------------|------------|
| Utility Pole                           | ●          |
| Utility Pole with Base                 | □          |
| Utility Located Object                 | ○          |
| Utility Traffic Signal Box             | □          |
| Utility Unknown U/G Line               | ----- 2UTL |
| U/G Tank; Water, Gas, Oil              | □          |
| A/G Tank; Water, Gas, Oil              | □          |
| U/G Test Hole (S.U.E.*)                | ⊕          |
| Abandoned According to Utility Records | AATUR      |
| End of Information                     | E.O.I.     |



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| PAVEMENT SCHEDULE |                                                                                                                                                                                                       |     |                                                                                                                                                                                            |                                                            |                                                                                                  |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| C1                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E1  | PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                      | J2                                                         | PROPOSED 8" AGGREGATE BASE COURSE                                                                |
| C2                | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD. IN EACH OF TWO LAYERS.                                                                         | E2  | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                      | J3                                                         | PROPOSED 9" AGGREGATE BASE COURSE                                                                |
| C3                | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E3  | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.                                                                                      | J4                                                         | PROPOSED 10" AGGREGATE BASE COURSE                                                               |
| C4                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E4  | PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | J5                                                         | PROPOSED VARIABLE DEPTH AGGREGATE BASE COURSE                                                    |
| 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" OR GREATER THAN 5.5" IN DEPTH. | K1                                                         | BASE TO BE TREATED WITH LIME TO A DEPTH OF 8" OR BASE TO BE TREATED WITH CEMENT TO A DEPTH OF 7" |
| 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 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E6  | PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                      | P                                                          | PRIME COAT AT THE RATE OF 0.35 GAL PER SQ YD                                                     |
| C7                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS.PER SQ. YD.                                                                                              | E7  | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                      | R1                                                         | 2'-6" CONCRETE CURB & GUTTER                                                                     |
| C8                | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                                        | E8  | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.                                                                                      | R2                                                         | 1'-6" CONCRETE CURB & GUTTER                                                                     |
| C9                | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH. | E9  | PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.                                                                                    | R3                                                         | SHOULDER BERM GUTTER                                                                             |
| C10               | PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS.PER SQ. YD.                                                                                          | E10 | PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | R4                                                         | CONCRETE EXPRESSWAY GUTTER                                                                       |
| D1                | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.                                                                                       | E11 | PROP. APPROX. 6.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 370.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                           | R5                                                         | 5" MONOLITHIC CONCRETE ISLAND (KEYED IN)                                                         |
| D2                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E12 | PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | R6                                                         | SINGLE FACED CONCRETE BARRIER                                                                    |
| D3                | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | E13 | PROP. APPROX. 9" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                               | R7                                                         | DOUBLE FACED CONCRETE BARRIER (TYPE T, T1, T2)                                                   |
| D4                | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.    | E14 | PROP. APPROX. 10.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 598.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                          | R8                                                         | RUMBLE STRIPS                                                                                    |
| D5                | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | E15 | PROP. APPROX. 11" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                              | S                                                          | 4" CONCRETE SIDEWALK                                                                             |
| D6                | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.                                                                                       | E16 | PROP. APPROX. 3.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 199 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                             | T                                                          | EARTH MATERIAL                                                                                   |
| D7                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E17 | PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                             | U                                                          | EXISTING PAVEMENT                                                                                |
| D8                | 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 2.5" OR GREATER THAN 4" IN DEPTH.    | E18 | PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH. | V                                                          | SPLIT SEAL                                                                                       |
| D9                | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0D, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.                                                                                         | E19 | PROP. APPROX. 12.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 712.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.                                                          | W                                                          | WEDGING                                                                                          |
| D10               | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0D, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.                                                                                         | G1  | 8" CEMENT TREATED BASE COURSE                                                                                                                                                              | Z                                                          | NON WOVEN FIBERGLASS/POLYESTER INTERLAYER PAVING MAT                                             |
| D11               | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.    | J1  | PROPOSED 6" AGGREGATE BASE COURSE                                                                                                                                                          | NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE. |                                                                                                  |

PROJECT REFERENCE NO.  
R-3329 / R-2559

SHEET NO.  
3B-2

ROADWAY DESIGN  
ENGINEER

PAVEMENT DESIGN  
ENGINEER

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

PLANS PREPARED BY :



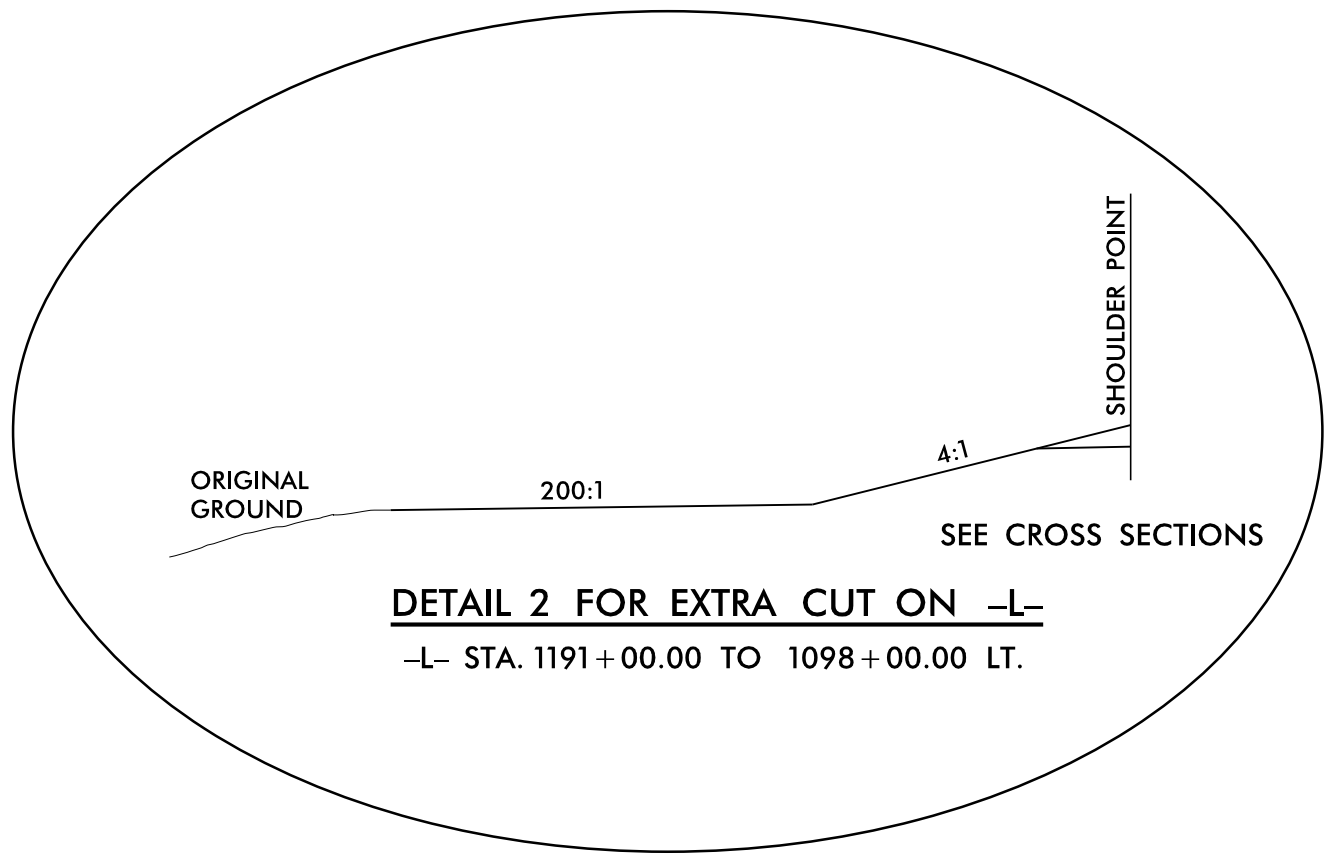
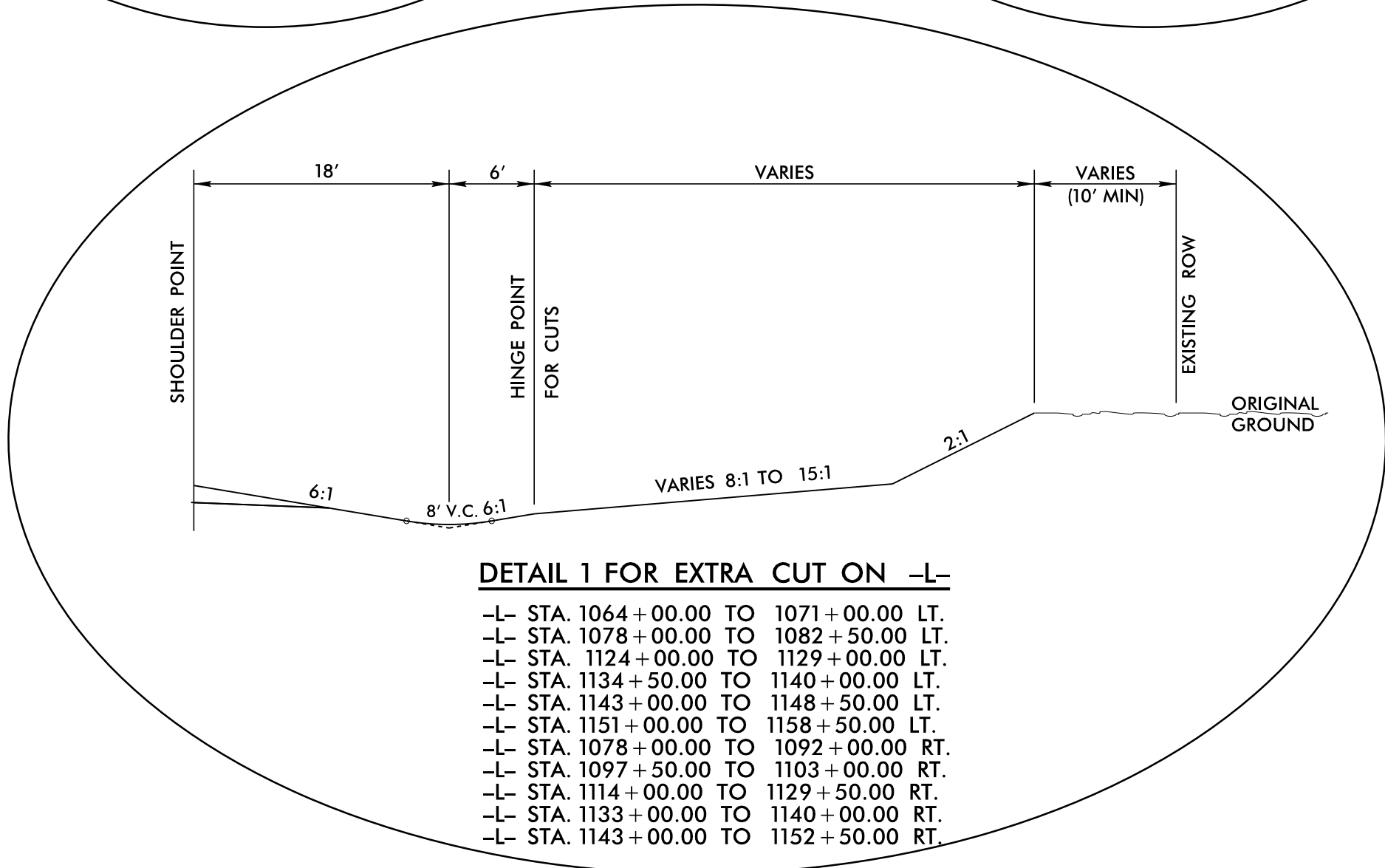
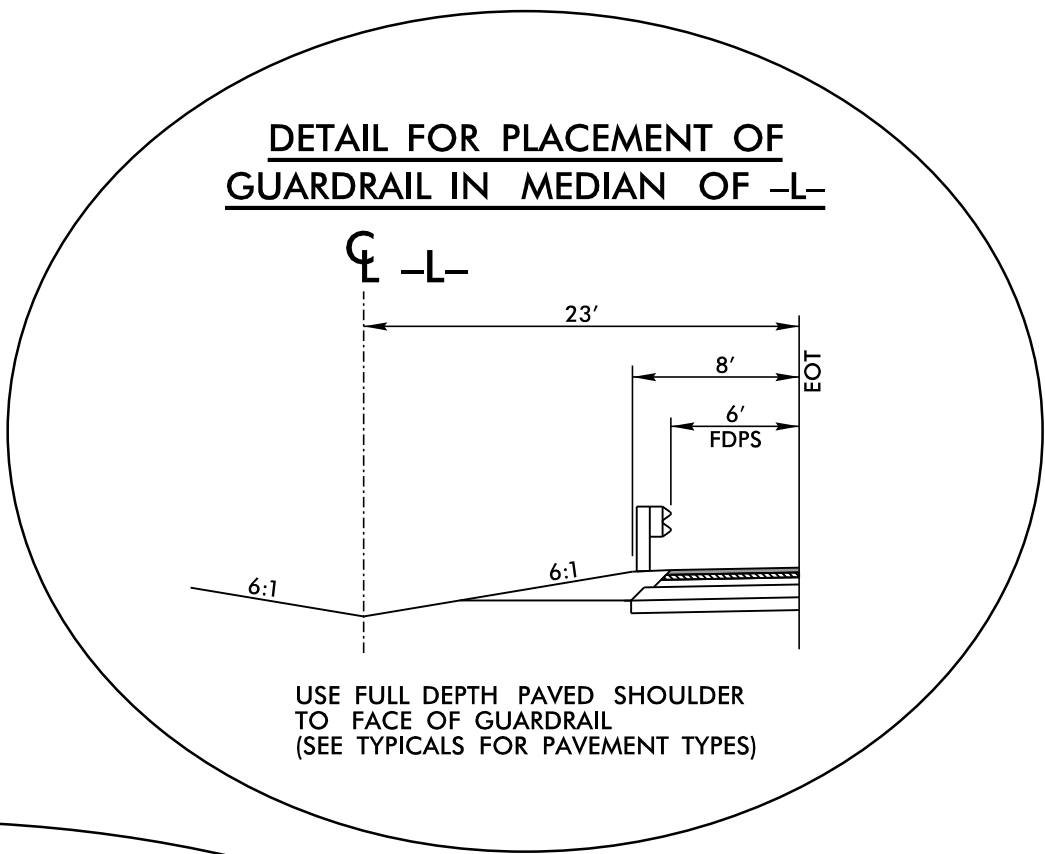
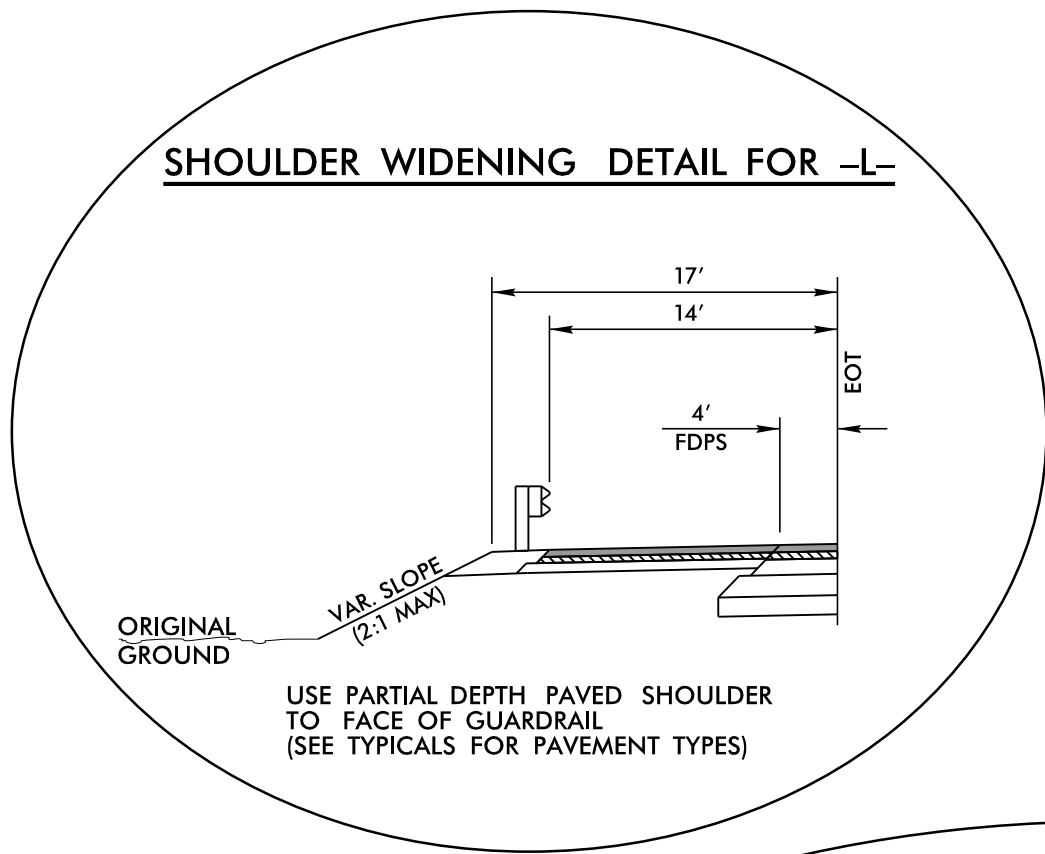
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
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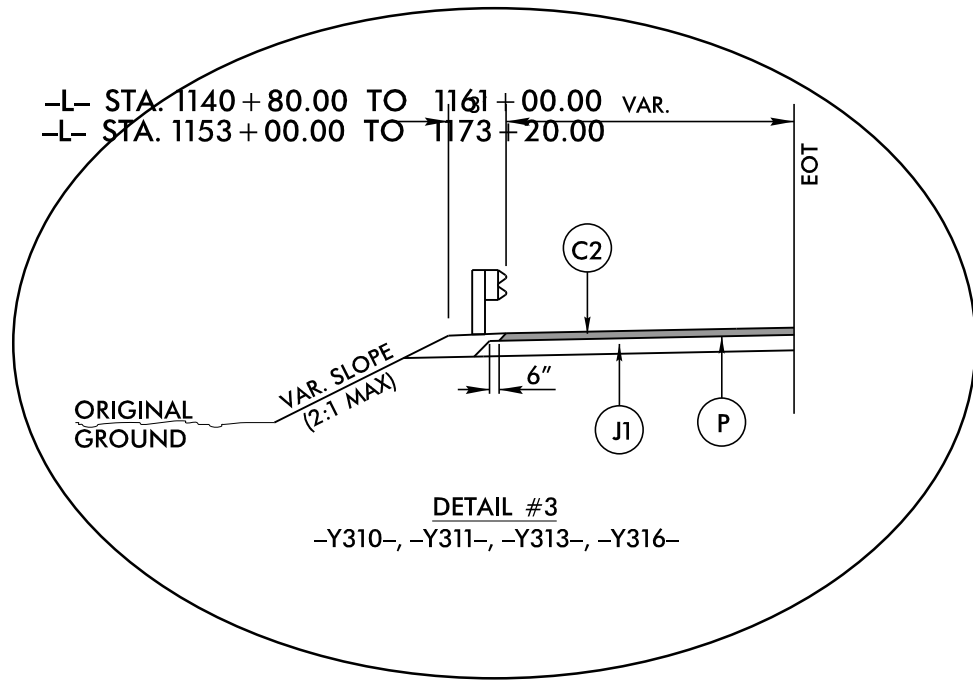
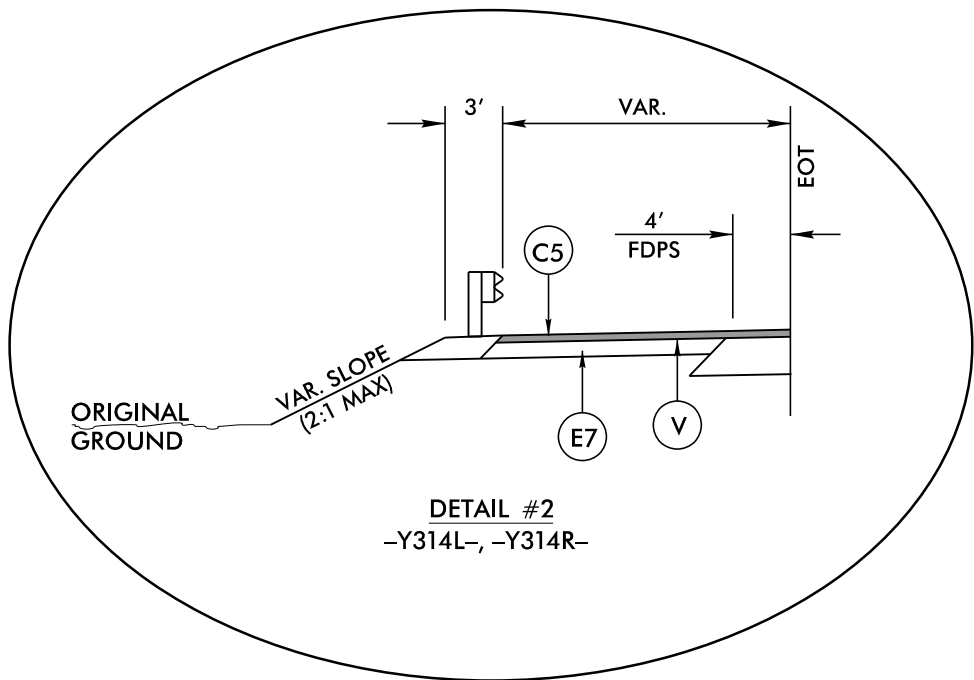
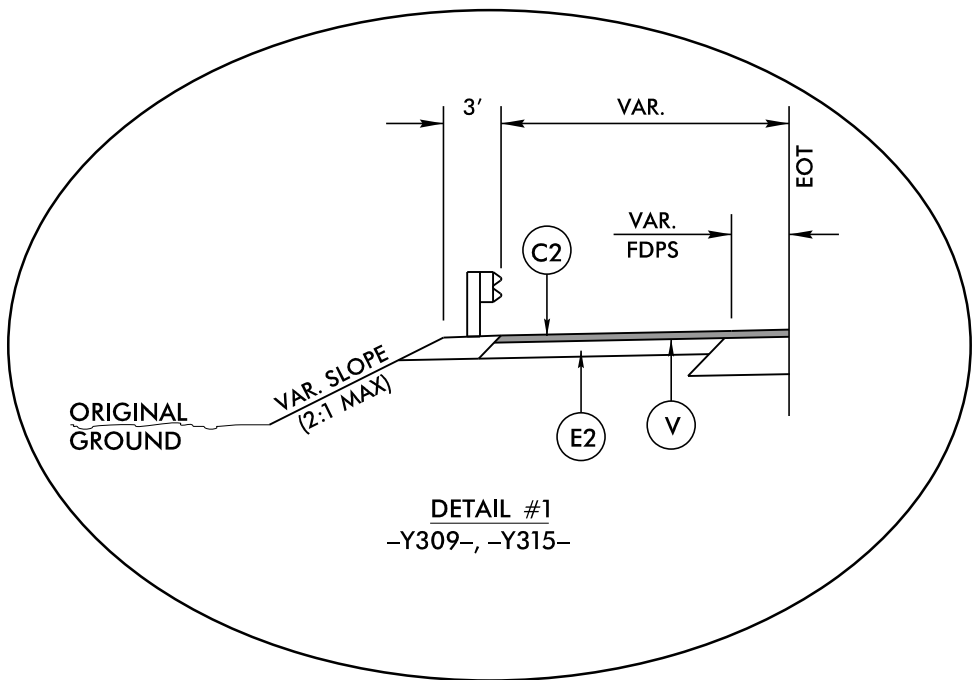


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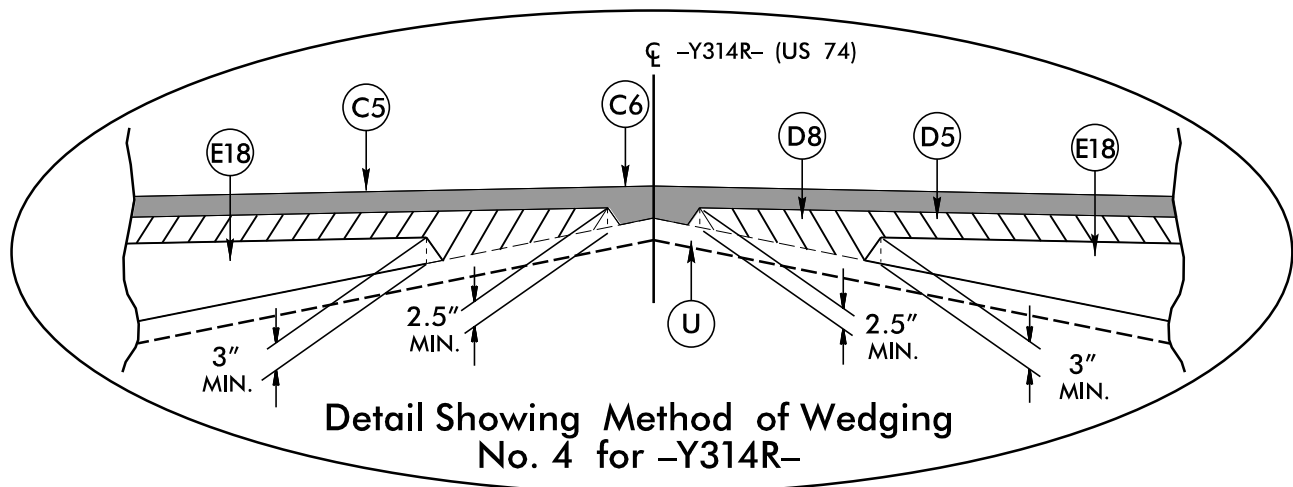
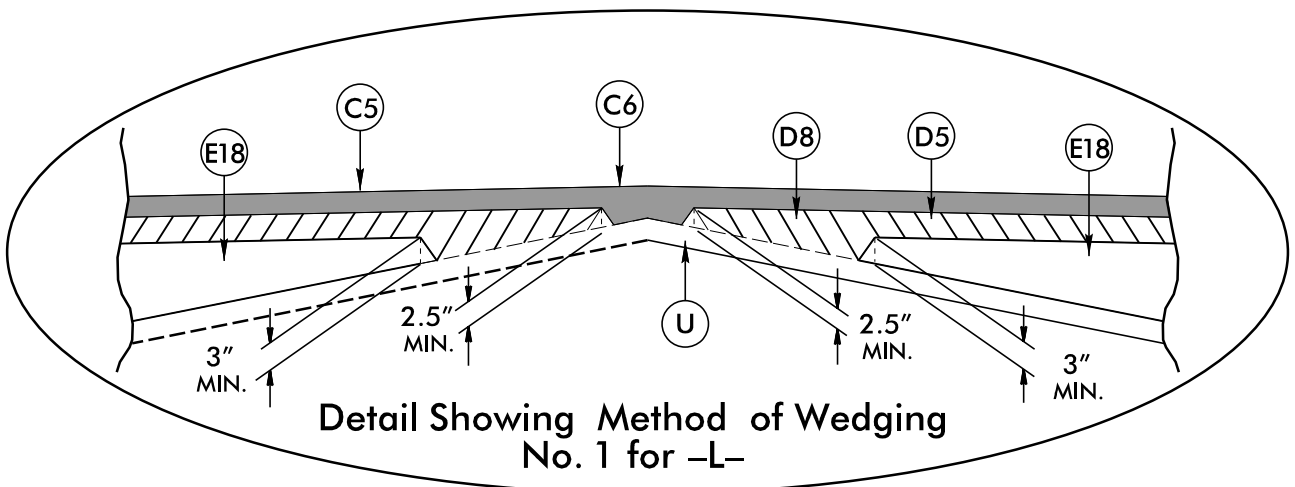
| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D5                | 4" I19.0C                         |
| D6                | 2.5" I19.0C                       |
| E2                | 4" B25.0B                         |
| E7                | 4" B25.0C                         |
| E8                | 5" B25.0C                         |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| K1                | 8" LIME BASE OR<br>7" CEMENT BASE |
| P                 | PRIME COAT                        |
| T                 | EARTH MATERIAL                    |
| U                 | EXISTING PAVEMENT                 |
| V                 | SPLIT SEAL                        |
| W                 | WEDGING                           |
| Z                 | PAVING MAT                        |



**SHOULDER WIDENING DETAILS FOR Y-LINES**



**WEDGING DETAILS**



| PROJECT REFERENCE NO.                            | SHEET NO.                |
|--------------------------------------------------|--------------------------|
| R-3329 / R-2559                                  | 3B-2A                    |
| ROADWAY DESIGN ENGINEER                          | PAVEMENT DESIGN ENGINEER |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                          |

PLANS PREPARED BY :

**RK&K**

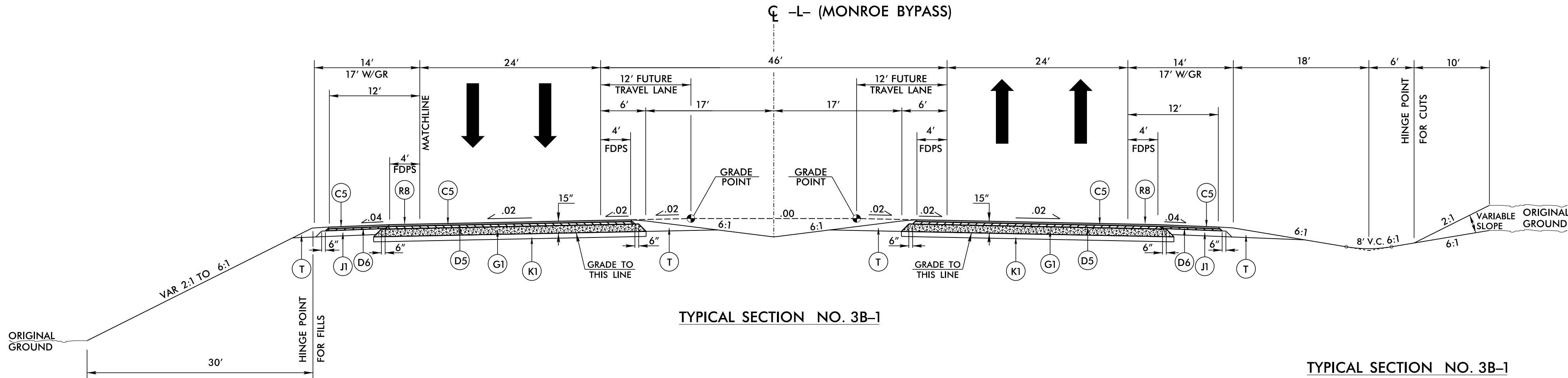
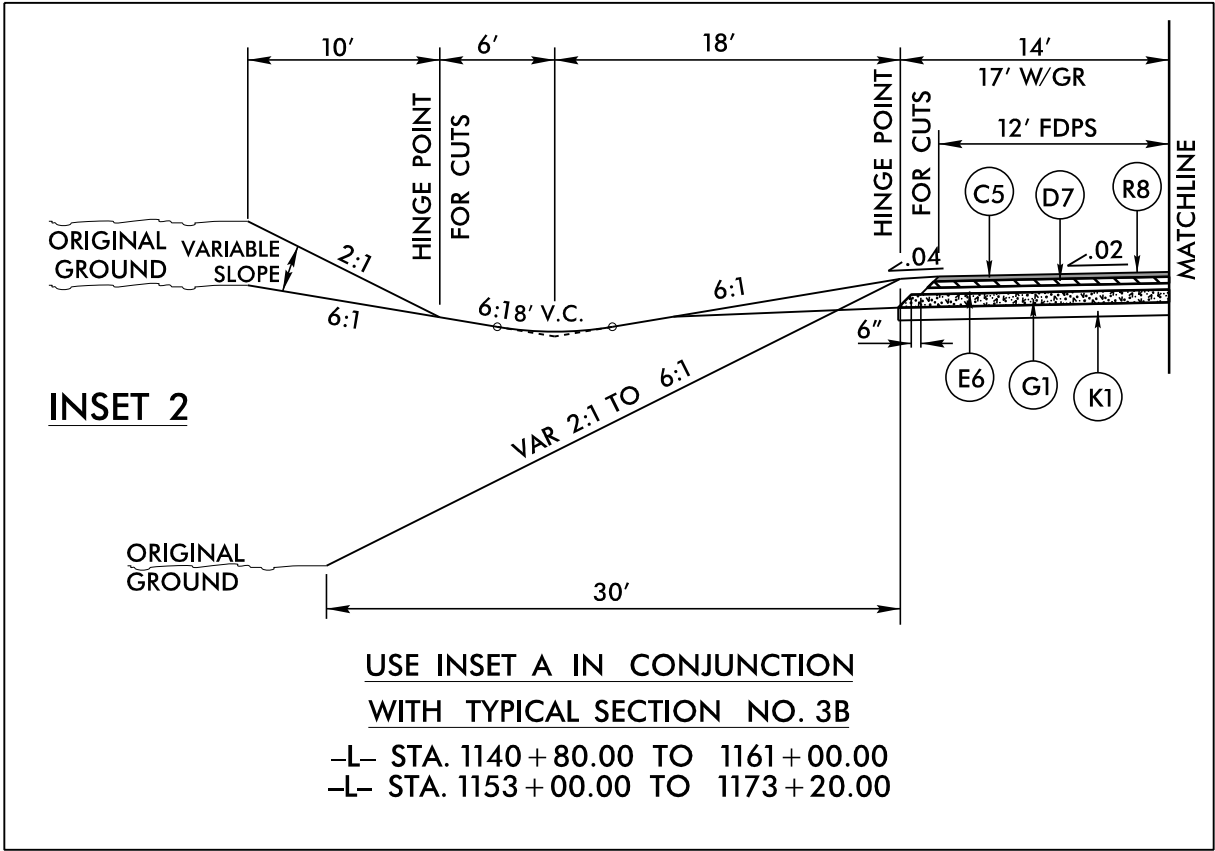
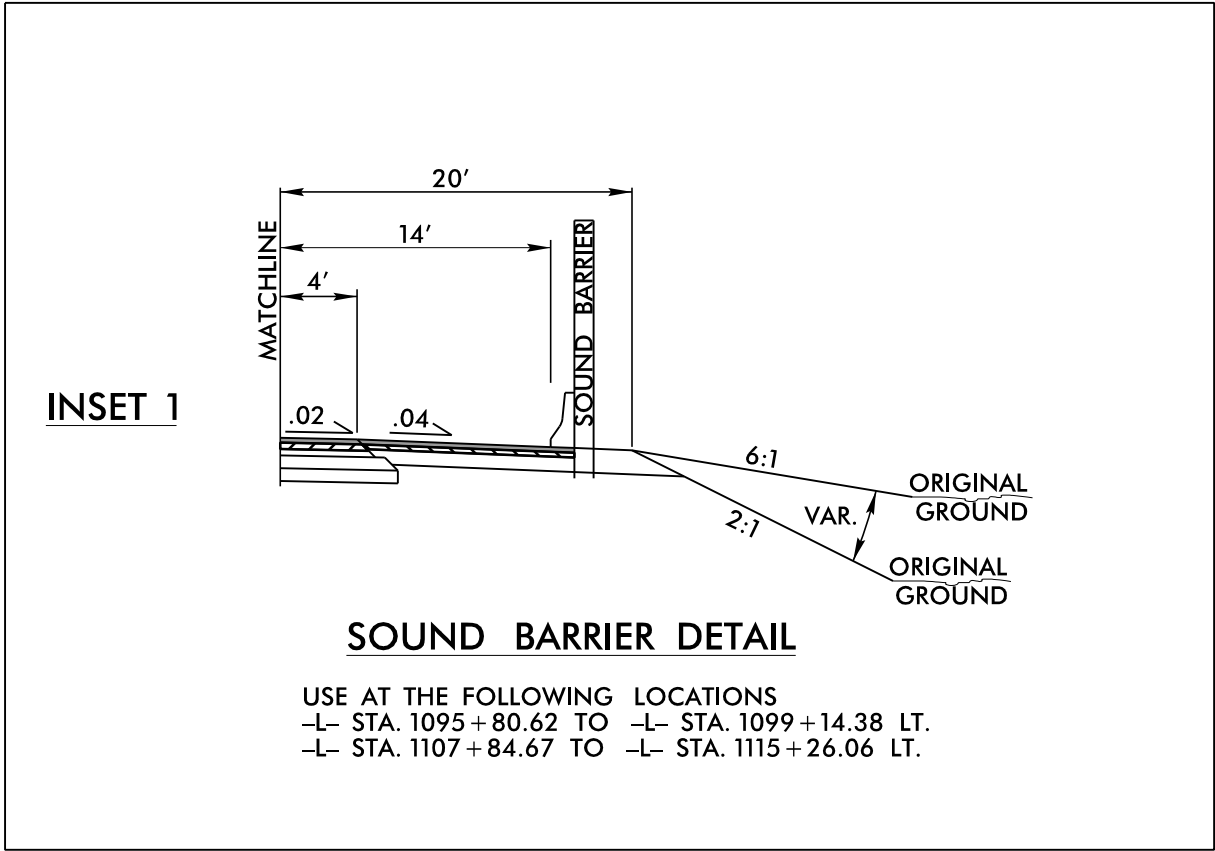
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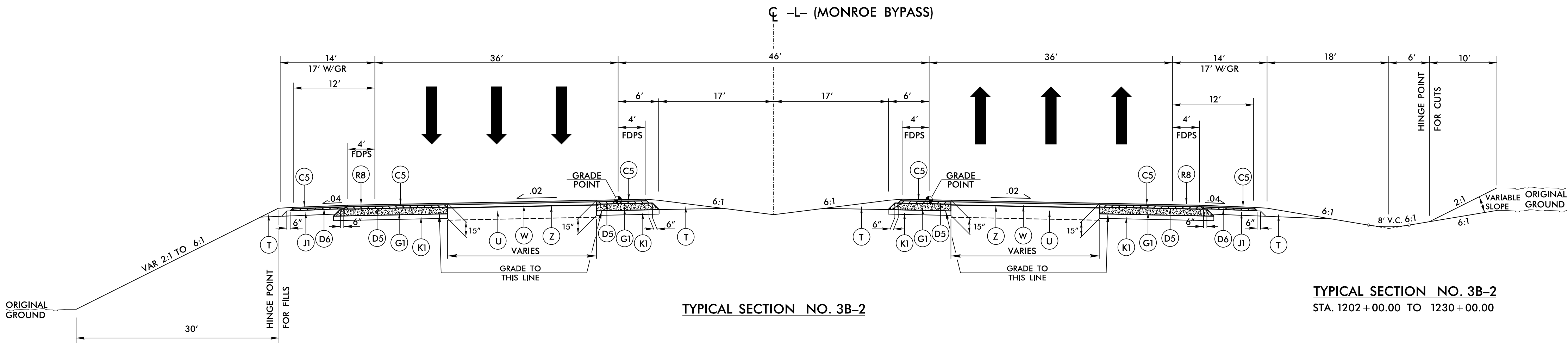


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| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D5                | 4" I19.0C                         |
| D6                | 2.5" I19.0C                       |
| E2                | 4" B25.0B                         |
| E7                | 4" B25.0C                         |
| E8                | 5" B25.0C                         |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| K1                | 8" LIME BASE OR<br>7" CEMENT BASE |
| P                 | PRIME COAT                        |
| R8                | RUMBLE STRIPS                     |
| T                 | EARTH MATERIAL                    |
| U                 | EXISTING PAVEMENT                 |
| V                 | SPLIT SEAL                        |
| W                 | WEDGING                           |
| Z                 | PAVING MAT                        |



**TYPICAL SECTION NO. 3B-1**  
STA. 1064+00.00+/- TO 1175+01.99+/- (BEGIN BRIDGE LT)  
STA. 1178+81.10 (END BRIDGE LT) TO 1202+00.00



**TYPICAL SECTION NO. 3B-2**  
STA. 1202+00.00 TO 1230+00.00

PLANS PREPARED BY :

**RK&K**

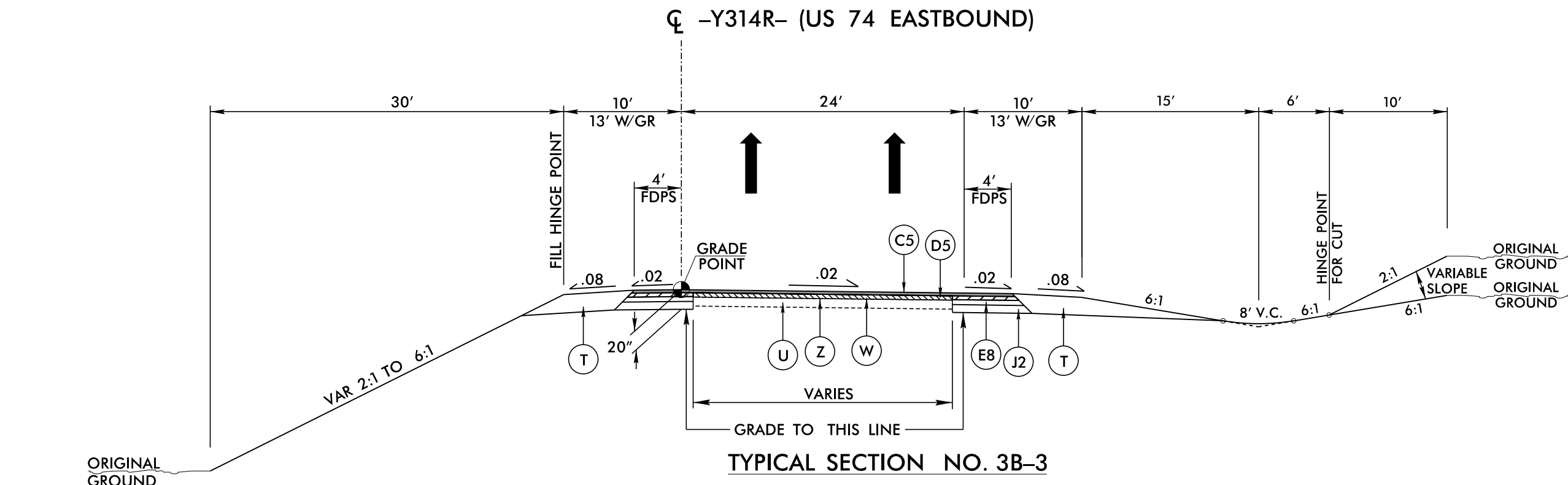
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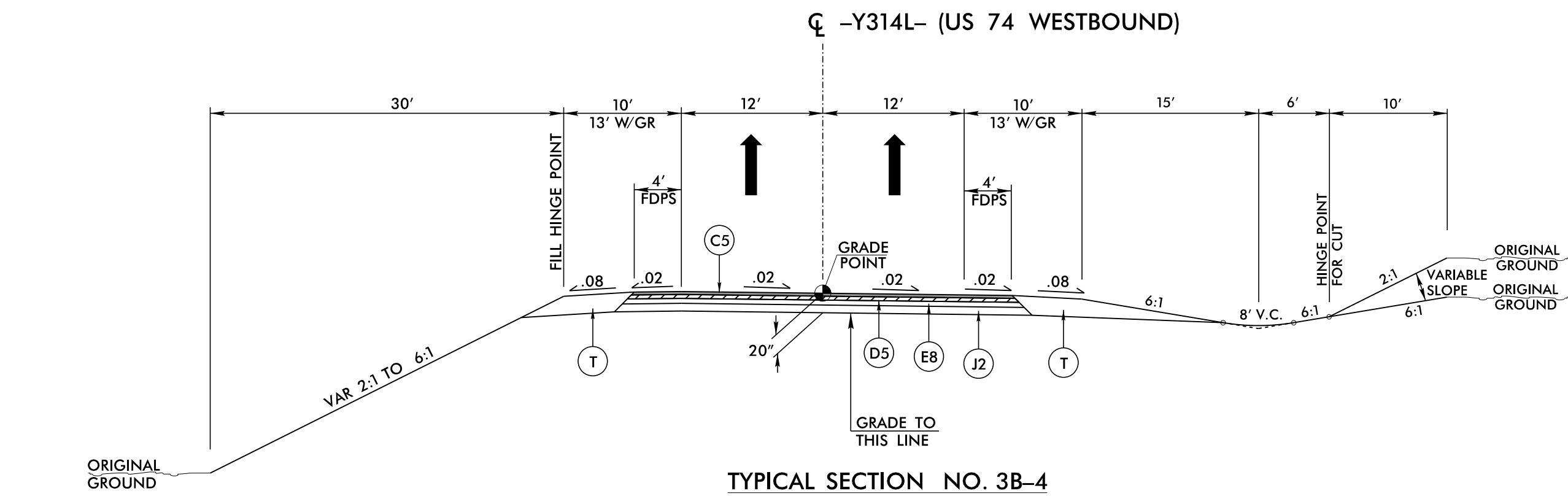
| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D5                | 4" I19.0C                         |
| D6                | 2.5" I19.0C                       |
| E2                | 4" B25.0B                         |
| E7                | 4" B25.0C                         |
| E8                | 5" B25.0C                         |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| K1                | 8" LIME BASE OR<br>7" CEMENT BASE |
| P                 | PRIME COAT                        |
| T                 | EARTH MATERIAL                    |
| U                 | EXISTING PAVEMENT                 |
| V                 | SPLIT SEAL                        |
| W                 | WEDGING                           |
| Z                 | PAVING MAT                        |



TYPICAL SECTION NO. 3B-3

STA. 12+25.00 TO 53+12.25

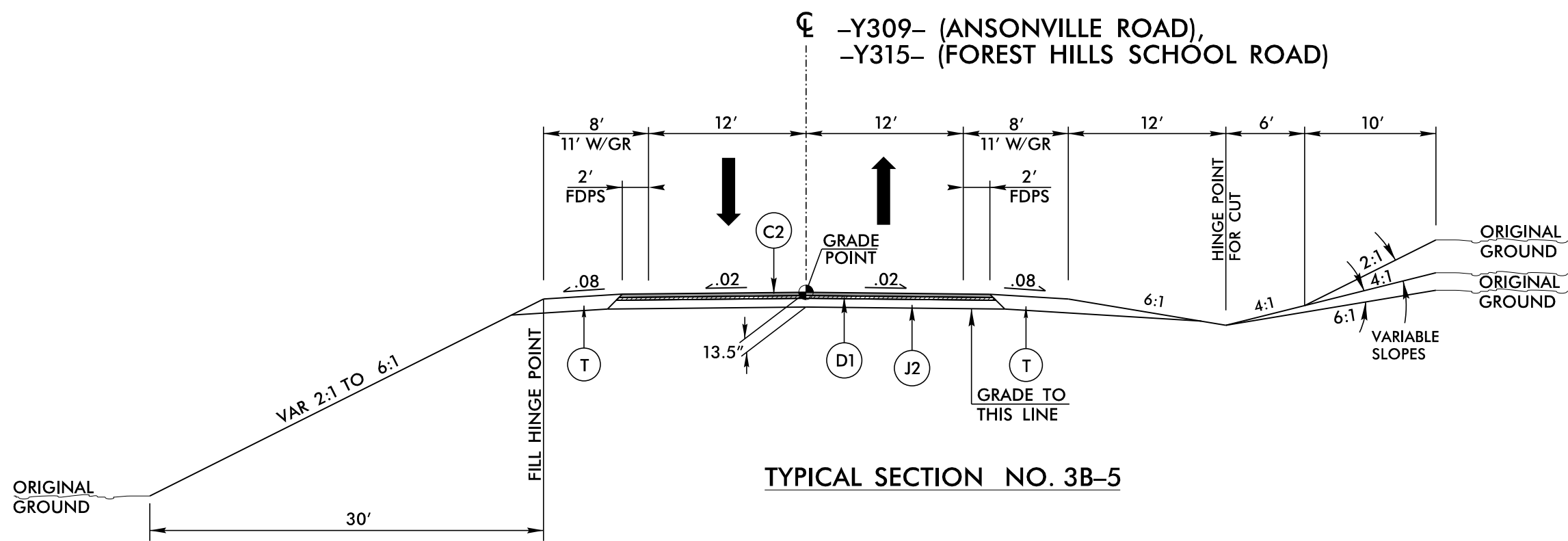
NOTE: USE -L- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:  
STA. 46+02.95 TO 53+12.25



TYPICAL SECTION NO. 3B-4

STA. 10+00.00 TO 50+00.00

NOTE: USE -L- PAVEMENT DESIGN AT THE FOLLOWING LOCATIONS:  
STA. 10+00.00 TO 15+59.07



TYPICAL SECTION NO. 3B-5

-Y309- STA. 13+00.00 TO 23+52.09 +/- (BEGIN BRIDGE)  
-Y309- STA. 24+86.09 +/- (END BRIDGE) TO 29+50.00  
FOREST HILLS SCHOOL ROAD (-Y315-)  
-Y315- STA. 12+50.00 TO 19+13.17

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO.3B-5  
-Y109- STA. 11+80.00 TO 13+00.00  
-Y109- STA. 29+50.00 TP 32+25.00

PLANS PREPARED BY :

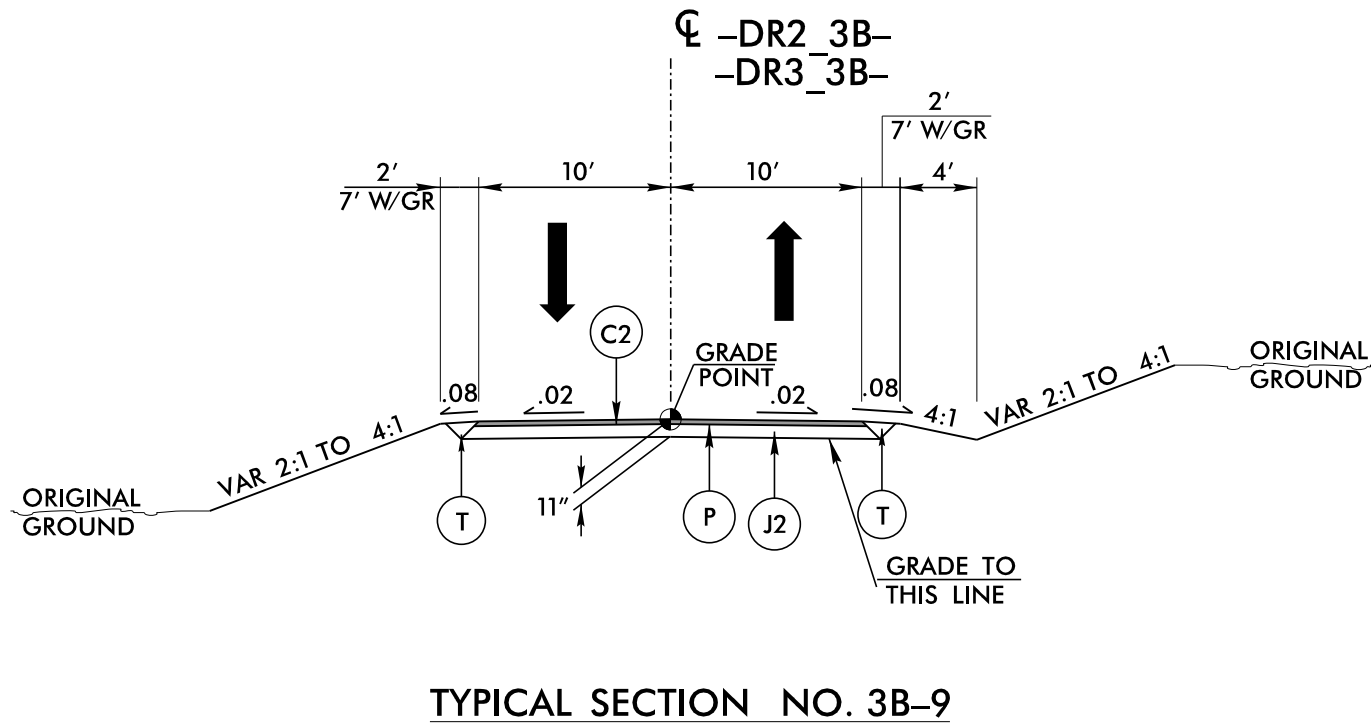
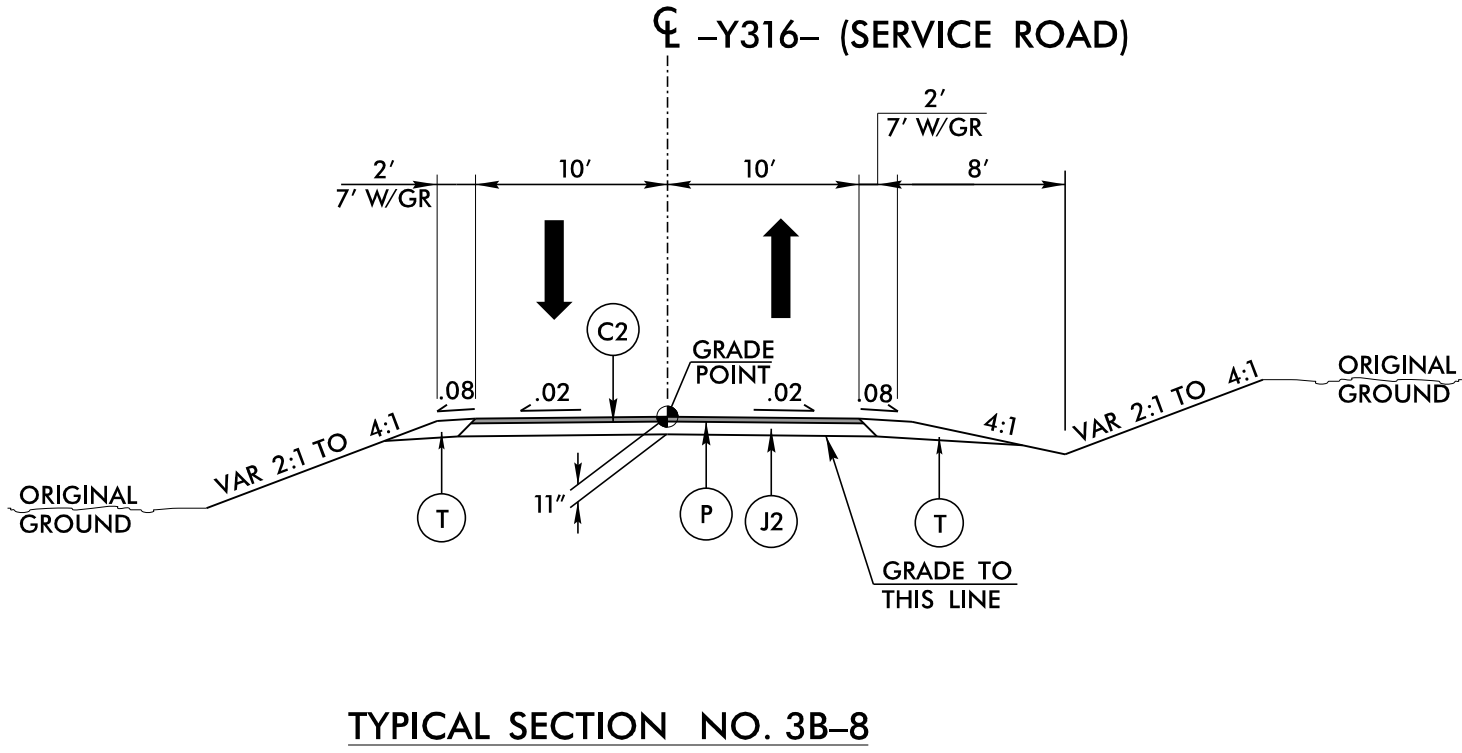
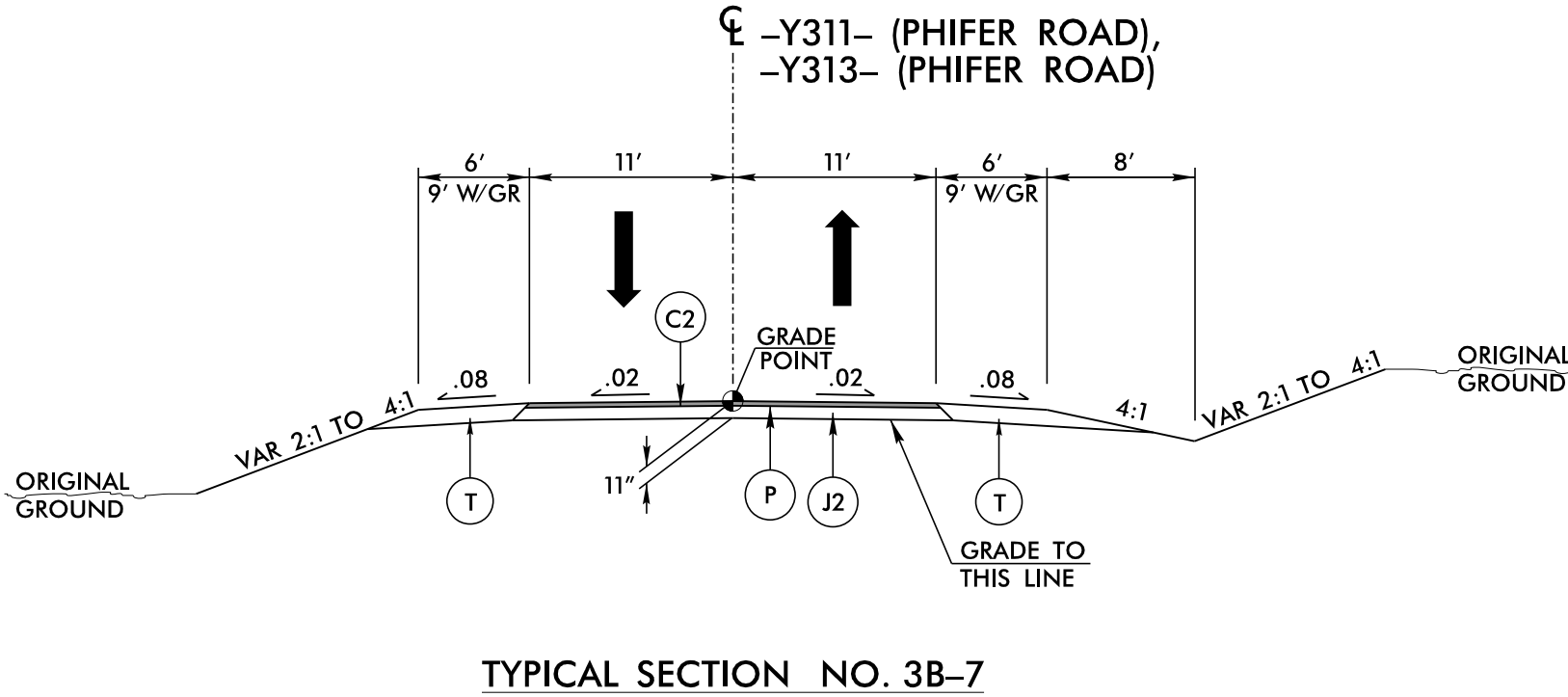
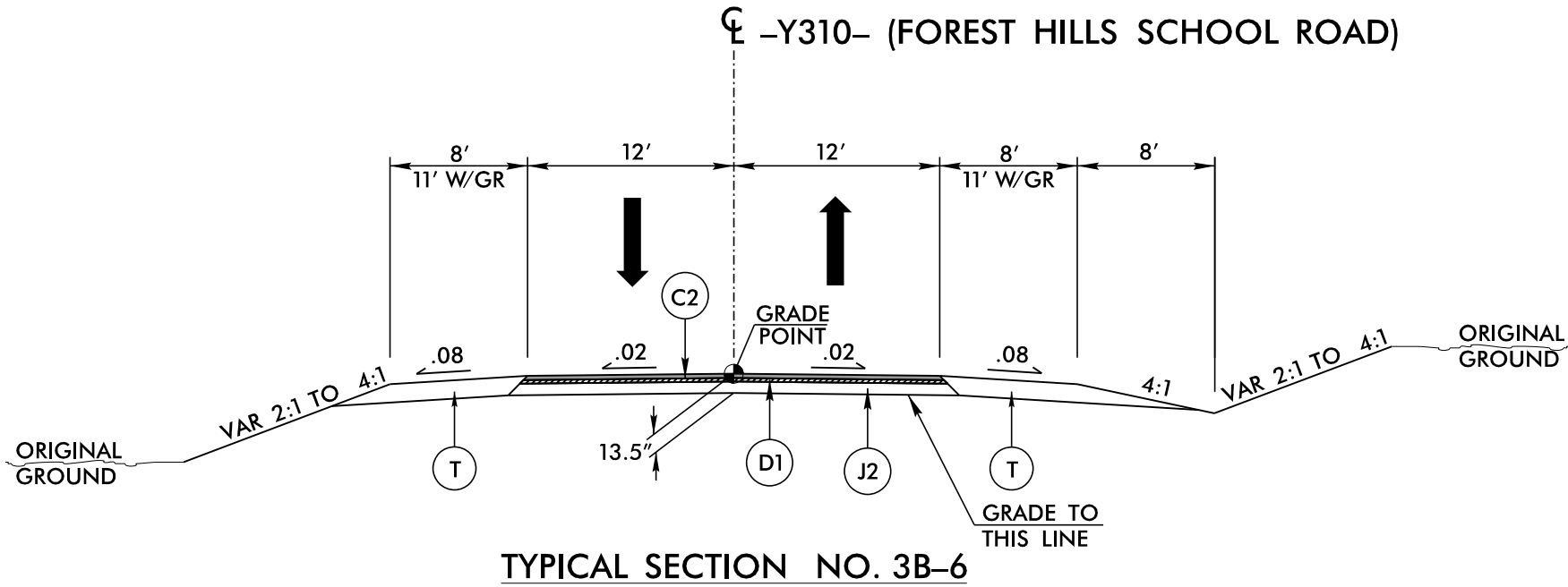
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| PAVEMENT SCHEDULE |                                   |
|-------------------|-----------------------------------|
| C2                | 3" S9.5B                          |
| C5                | 3" S9.5C                          |
| D1                | 2.5" I19.0B                       |
| D5                | 4" I19.0C                         |
| D6                | 2.5" I19.0C                       |
| E2                | 4" B25.0B                         |
| E7                | 4" B25.0C                         |
| E8                | 5" B25.0C                         |
| G1                | 8" CTABC                          |
| J1                | 6" ABC                            |
| J2                | 8" ABC                            |
| K1                | 8" LIME BASE OR<br>7" CEMENT BASE |
| P                 | PRIME COAT                        |
| T                 | EARTH MATERIAL                    |
| U                 | EXISTING PAVEMENT                 |
| V                 | SPLIT SEAL                        |
| W                 | WEDGING                           |
| Z                 | PAVING MAT                        |



| PROJECT REFERENCE NO.                            | SHEET NO.                |
|--------------------------------------------------|--------------------------|
| R-3329 / R-2559                                  | 3B-2D                    |
| ROADWAY DESIGN ENGINEER                          | PAVEMENT DESIGN ENGINEER |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                          |

TYPICAL SECTION NO. 3B-6

STA. 13+50.00 TO 25+60.91 +/- (BEGIN BRIDGE)  
STA. 26+96.91 +/- (END BRIDGE) TO 36+50.00

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 3B-6  
STA. 13+00.00 TO 17+00.00  
STA. 36+00.00 TP 40+00.00

TYPICAL SECTION NO. 3B-7

-Y311- STA. 10+12.42 TO 26+60.00  
-Y313- STA. 15+50.00 TO 23+48.11

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 3B-7  
-Y311- STA. 22+00.00 TO 27+10.00  
-Y313- STA. 15+00.00 TO 17+50.00

TYPICAL SECTION NO. 3B-8

STA. 10+27.10 TO 95+05.00

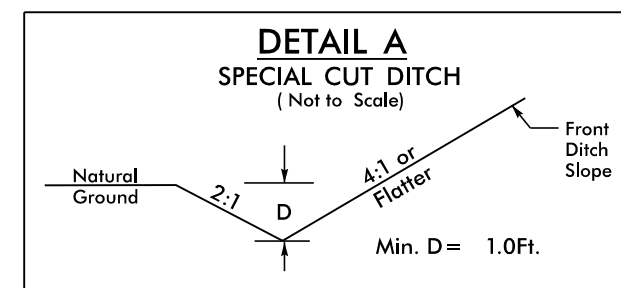
TYPICAL SECTION NO. 3B-9

-DR2\_3B- STA. 10+00.00 TO 13+29.50  
-DR3\_3B- STA. 10+00.00 TO 12+20.00

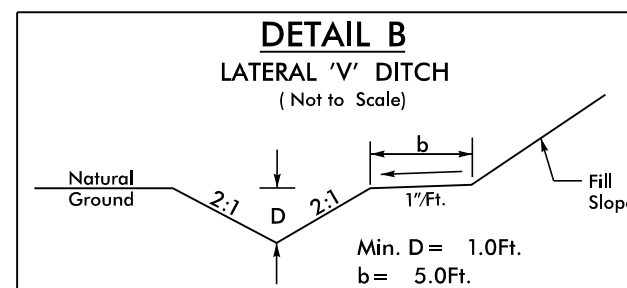
PLANS PREPARED BY :  
**RK&K**  
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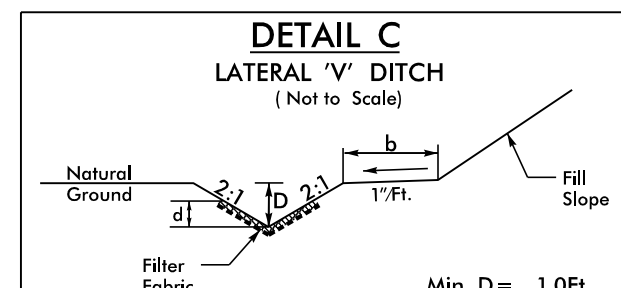
|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 / R-2559                                    | 3B-2E               |
| RW SHEET NO.                                       |                     |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR A/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



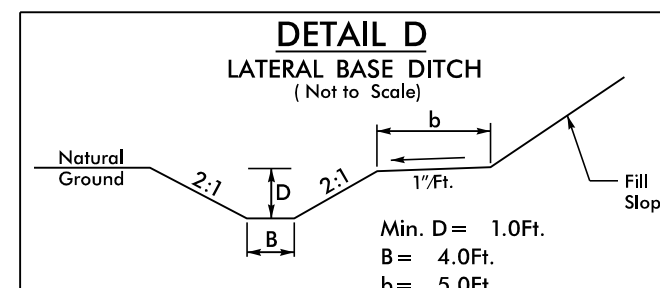
-L- STA. 1064+00 TO STA. 1071+50 LT  
 -L- STA. 1065+00 TO STA. 1066+50 RT  
 -L- STA. 1091+50 TO STA. 1095+00 LT  
 -L- STA. 1102+50 TO STA. 1106+50 RT  
 -L- STA. 1104+00 TO STA. 1107+00 LT  
 -L- STA. 1125+00 TO STA. 1131+00 LT  
 -L- STA. 1128+00 TO STA. 1134+50 RT  
 -L- STA. 1156+50 TO STA. 1158+50 LT  
 -Y309- STA. 12+50 TO STA. 13+50 RT  
 -Y309- STA. 28+00 TO STA. 29+50 RT  
 -Y309- STA. 32+50 TO STA. 32+00 RT  
 -Y310- STA. 13+18 TO STA. 14+50 LT  
 -Y310- STA. 33+00 TO STA. 35+00 LT  
 -Y310- STA. 39+00 TO STA. 39+92 LT  
 -Y310- STA. 38+50 TO STA. 40+50 RT  
 -Y313- STA. 14+74 TO STA. 15+50 LT  
 -Y313- STA. 14+91 TO STA. 15+50 RT  
 -Y314L- STA. 29+50 TO STA. 38+00 RT  
 -Y314L- STA. 30+50 TO STA. 31+00 LT  
 -Y314L- STA. 37+50 TO STA. 41+00 LT  
 -Y314R- STA. 16+50 TO STA. 18+00 LT  
 -Y315- STA. 11+92 TO STA. 14+50 RT  
 -Y314R- STA. 18+50 TO STA. 27+00 RT  
 -Y314R- STA. 23+50 TO STA. 25+85 LT  
 -Y314R- STA. 29+50 TO STA. 32+60 RT  
 -Y314R- STA. 33+00 TO STA. 37+50 RT  
 -Y316- STA. 17+00 TO STA. 20+50 RT  
 -Y316- STA. 13+00 TO STA. 15+00 RT  
 -Y316- STA. 24+20 TO STA. 25+50 RT  
 -DR2- STA. 10+25 TO STA. 10+50 RT  
 -DR2- STA. 10+25 TO STA. 10+50 LT



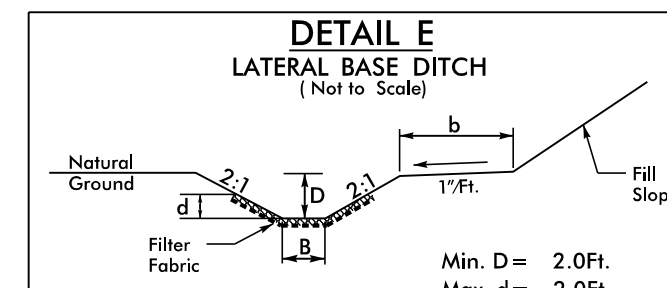
-L- STA. 1064+00 TO STA. 1065+00 RT  
 -L- STA. 1072+50 TO STA. 1073+50 LT  
 -L- STA. 1110+30 TO STA. 1112+00 LT  
 -L- STA. 1158+00 TO STA. 1159+51 RT  
 -Y309- STA. 15+82 TO STA. 16+70 RT  
 -Y309- STA. 16+63 TO STA. 17+19 LT  
 -Y309- STA. 25+35 TO STA. 28+00 RT  
 -Y310- STA. 22+80 TO STA. 24+50 RT  
 -Y310- STA. 29+00 TO STA. 33+00 LT  
 -Y311- STA. 21+00 TO STA. 26+82 RT  
 -Y314R- STA. 15+50 TO STA. 16+50 LT  
 -Y315- STA. 15+01 TO STA. 16+50 LT  
 -Y316- STA. 11+50 TO STA. 13+00 RT  
 -Y316- STA. 20+50 TO STA. 21+20 RT  
 -Y316- STA. 25+50 TO STA. 29+00 RT



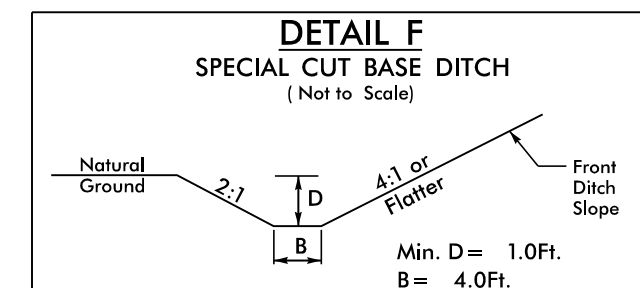
-L- STA. 1137+00 TO STA. 1137+50 LT  
 Type of Liner = Class B Rip-Rap  
 Min. D = 1.0 Ft.  
 Max. d = 1.0 Ft.  
 b = 5.0 Ft.



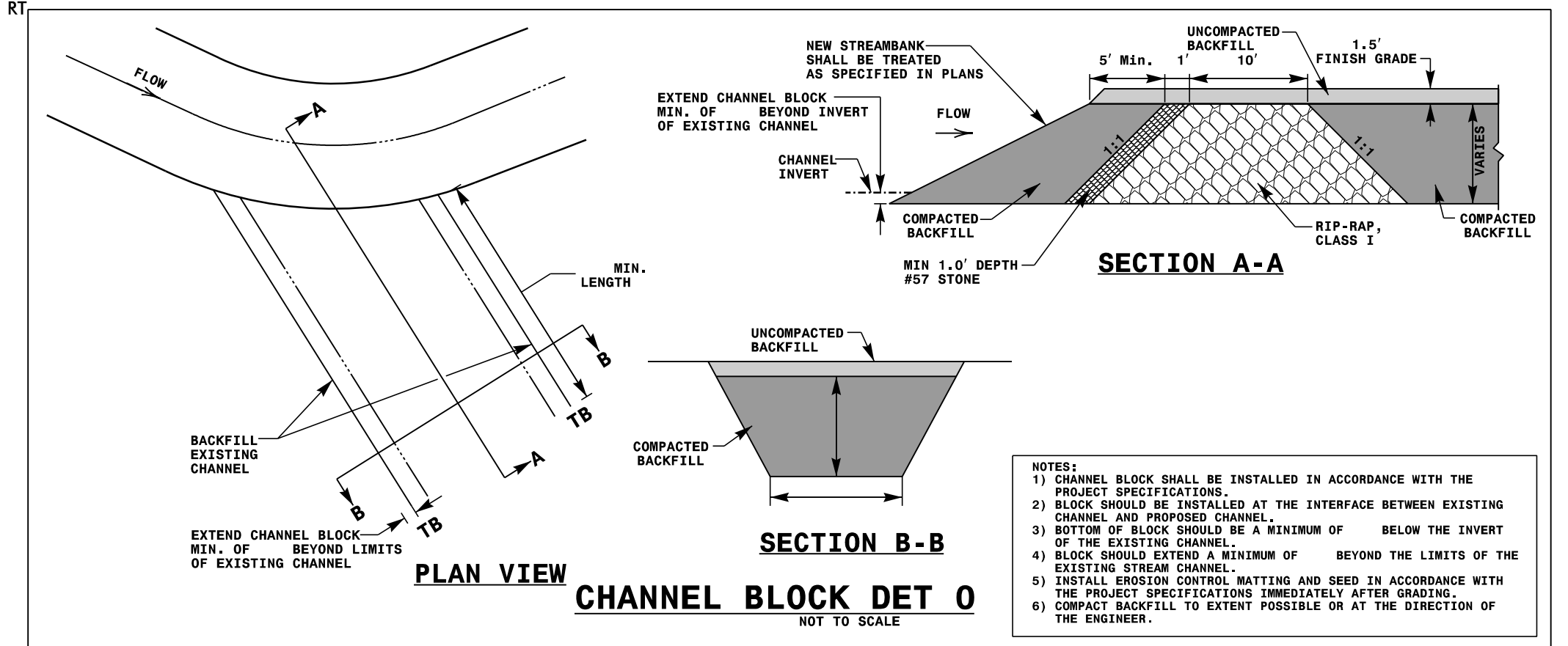
-L- STA. 1071+50 TO STA. 1072+50 LT  
 -L- STA. 1072+50 TO STA. 1073+95 RT  
 -L- STA. 1074+00 TO STA. 1076+00 RT  
 -L- STA. 1095+30 TO STA. 1096+50 RT  
 -L- STA. 1097+00 TO STA. 1097+94 LT  
 -L- STA. 1106+50 TO STA. 1111+50 RT  
 -L- STA. 1108+00 TO STA. 1110+30 LT  
 -L- STA. 1159+00 TO STA. 1162+70 LT  
 -L- STA. 1161+80 TO STA. 1164+00 RT  
 -L- STA. 1198+50 TO STA. 1200+00 RT  
 -L- STA. 1201+41 TO STA. 1205+50 LT  
 -Y309- STA. 17+00 TO STA. 18+50 RT  
 -Y309- STA. 20+00 TO STA. 21+00 RT  
 -Y309- STA. 22+00 TO STA. 23+49 RT  
 -Y310- STA. 16+50 TO STA. 19+68 LT  
 -Y310- STA. 21+00 TO STA. 25+60 LT  
 -Y310- STA. 27+30 TO STA. 29+00 LT  
 -Y310- STA. 27+50 TO STA. 31+25 RT  
 -Y311- STA. 10+50 TO STA. 18+50 LT  
 -Y311- STA. 23+00 TO STA. 24+38 LT  
 -Y311- STA. 11+00 TO STA. 17+65 RT  
 -Y313- STA. 17+00 TO STA. 22+50 LT  
 -Y313- STA. 18+50 TO STA. 22+77 RT  
 -Y315- STA. 16+50 TO STA. 18+66 LT  
 -Y316- STA. 29+00 TO STA. 29+72 RT



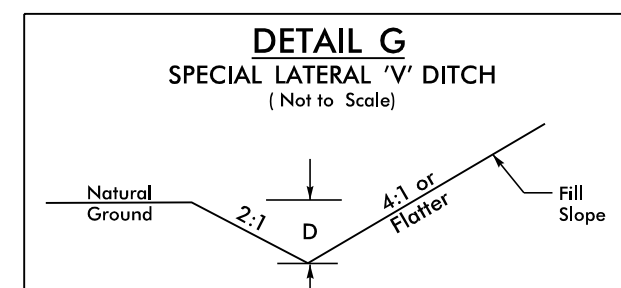
-L- STA. 1076+00 TO STA. 1076+50 RT  
 -L- STA. 1159+51 TO STA. 1161+80 RT  
 -L- STA. 1164+00 TO STA. 1165+00 RT  
 -L- STA. 1201+93 TO STA. 1206+00 RT  
 -Y309- STA. 18+50 TO STA. 20+00 RT  
 -Y309- STA. 21+00 TO STA. 22+00 RT  
 Type of Liner = Class B Rip-Rap  
 Min. D = 2.0 Ft.  
 Max. d = 2.0 Ft.  
 B = 4.0 Ft.  
 b = 5.0 Ft.



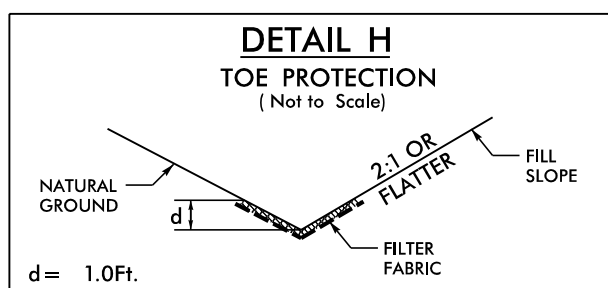
-L- STA. 1140+00 TO STA. 1141+20 LT  
 -L- STA. 1194+50 TO STA. 1198+50 RT  
 -Y311- STA. 24+38 TO STA. 27+00 LT



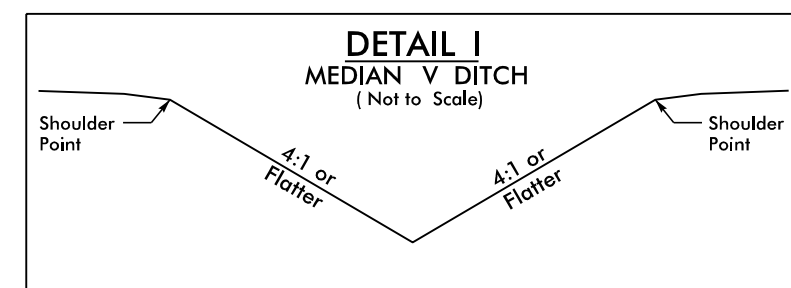
DETAIL O NOT USED IN SECTION 3B



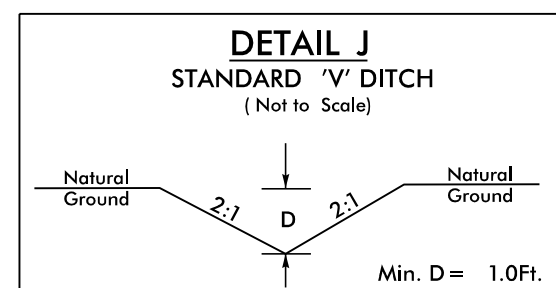
DETAIL G NOT USED IN SECTION 3B



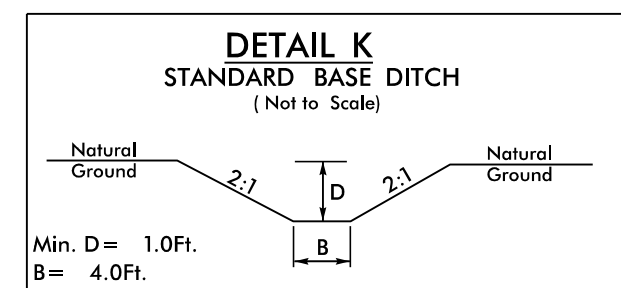
-L- STA. 1096+50 TO STA. 1098+50 LT  
 -L- STA. 1201+00 TO STA. 1201+78 RT  
 -L- STA. 1166+00 TO STA. 1167+65 RT  
 -Y314L- STA. 24+85 TO STA. 28+00 RT  
 -Y31R- STA. 11+00 TO STA. 12+50 LT  
 Type of Liner = Class B Rip-Rap



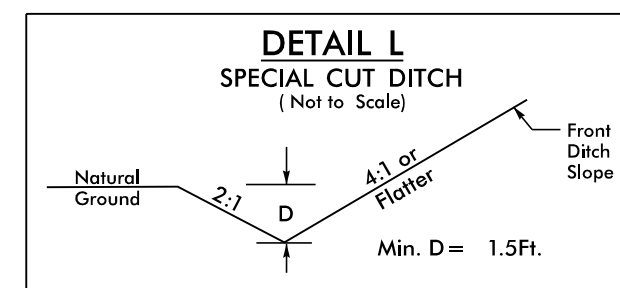
-L- STA. 1091+50 TO STA. 1094+00 MED  
 -L- STA. 1104+50 TO STA. 1106+50 MED  
 -L- STA. 1130+00 TO STA. 1135+50 MED  
 -L- STA. 1157+50 TO STA. 1159+50 MED  
 -L- STA. 1201+50 TO STA. 1203+00 MED  
 -L- STA. 1219+50 TO STA. 1223+00 MED



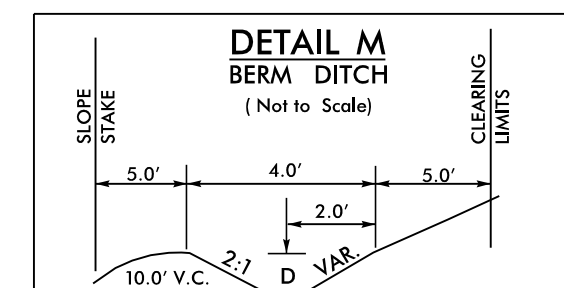
-L- STA. 1092+50 TO STA. 1094+50 LT  
 -L- STA. 1127+50 LT; L=85', S=0.47%  
 -L- STA. 1149+50 LT; L=120', S=0.79%  
 -L- STA. 1186+11 TO STA. 1188+00 RT  
 -L- STA. 1092+50 TO STA. 1094+50 LT  
 -L- STA. 1127+50 LT; L=85', S=0.47%  
 -L- STA. 1149+50 LT; L=120', S=0.79%  
 -L- STA. 1186+11 TO STA. 1188+00 RT



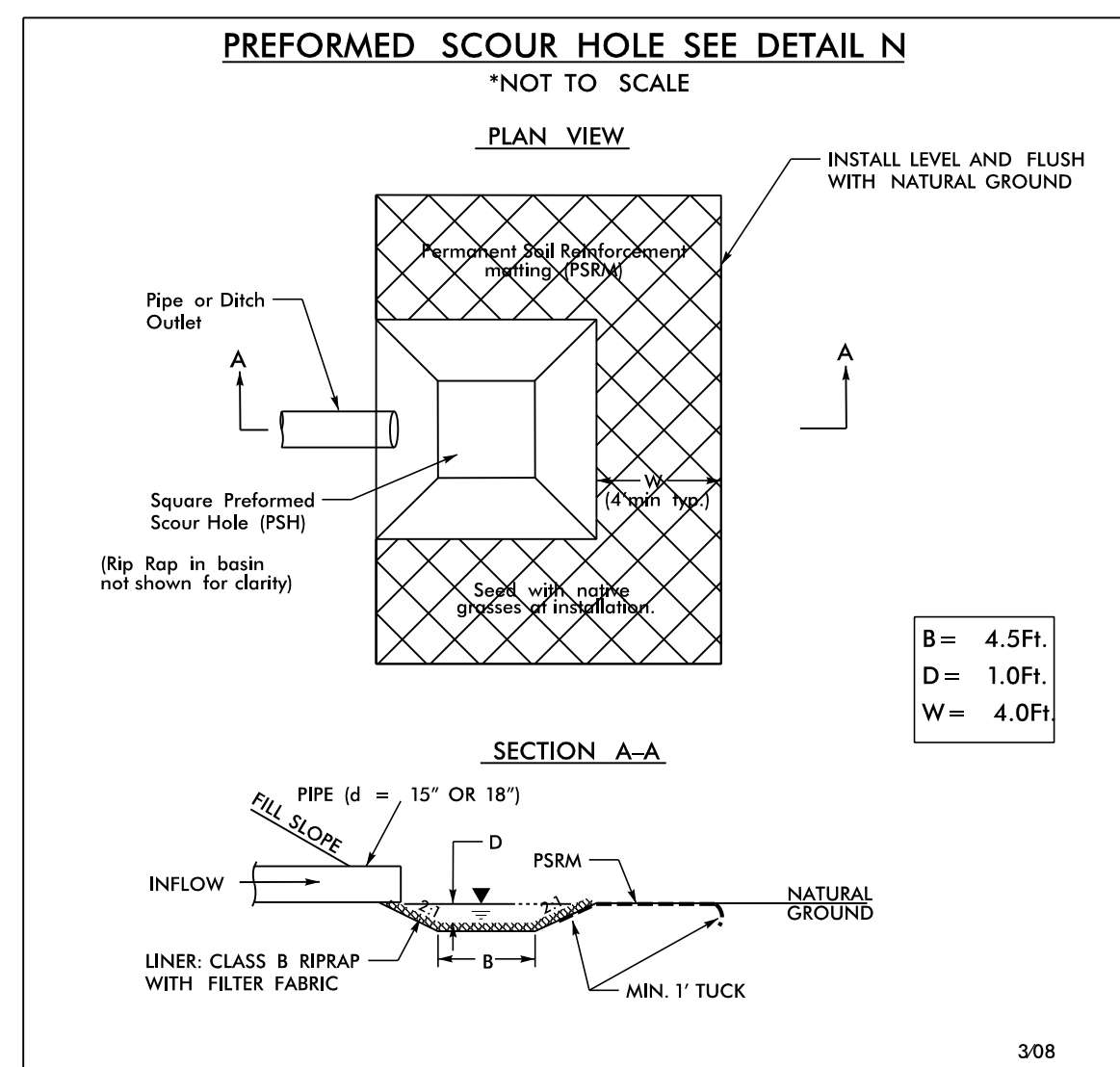
-L- STA. 1067+50 RT; L=182', S=0.55%  
 -L- STA. 1068+00 LT; L=101', S=9.85%  
 -L- STA. 1071+23 RT; L=89', S=0.90%  
 -L- STA. 1072+50 LT; L=82', S=10.00%  
 -L- STA. 1094+50 TO STA. 1096+50 LT  
 -L- STA. 1094+50 RT; L=20', S=0.55%  
 -L- STA. 1095+30 RT; L=24', S=0.50%  
 -L- STA. 1103+35 TO STA. 1108+00 LT  
 -L- STA. 1131+00 LT; L=150', S=1.09%  
 -L- STA. 1137+50 LT; L=320', S=0.60%  
 -L- STA. 1147+54 TO STA. 1148+57 RT  
 -L- STA. 1194+50 TO STA. 1197+00 RT  
 -L- STA. 1198+42 LT; L=41', S=4.63%  
 -L- STA. 1211+80 LT; L=40', S=1.03%  
 -L- STA. 1216+57 LT; L=40', S=0.30%  
 -Y310- STA. 19+56 TO STA. 19+68 LT  
 -Y310- STA. 24+30 LT; L=150', S=3.03%  
 -Y311- STA. 18+75 TO STA. 19+00 RT  
 -Y314L- STA. 31+00 LT; L=305', S=0.75%  
 -Y314R- STA. 25+85 LT; L=279', S=0.36%  
 -Y314R- STA. 30+00 TO STA. 31+31 LT  
 -Y314R- STA. 33+00 TO STA. 34+35 LT



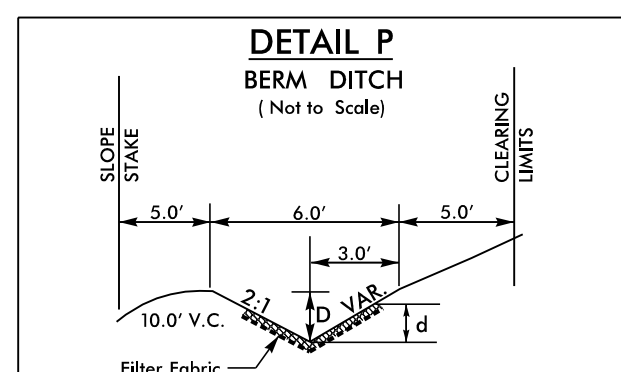
DETAIL L NOT USED IN SECTION 3B



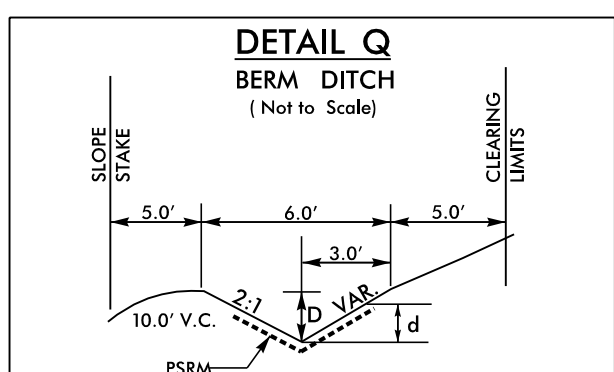
-L- STA. 1120+50 TO STA. 1124+50 RT



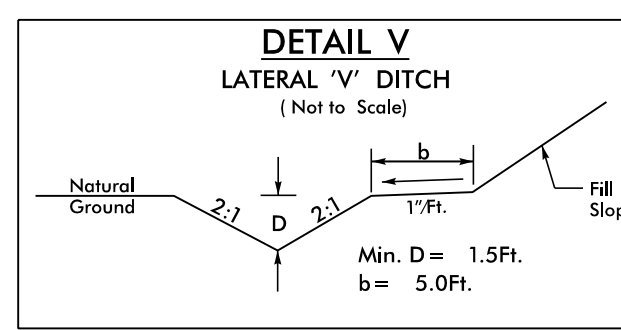
308



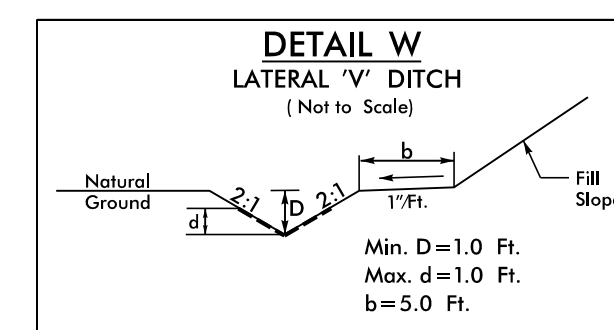
DETAIL P NOT USED IN SECTION 3B



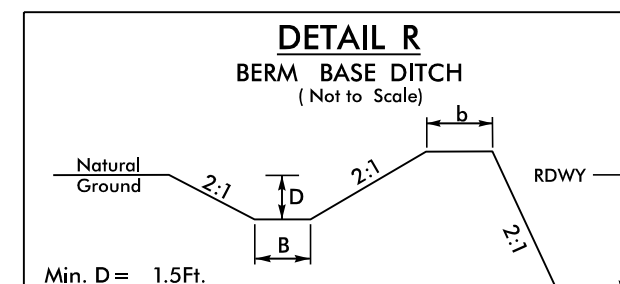
DETAIL Q NOT USED IN SECTION 3B



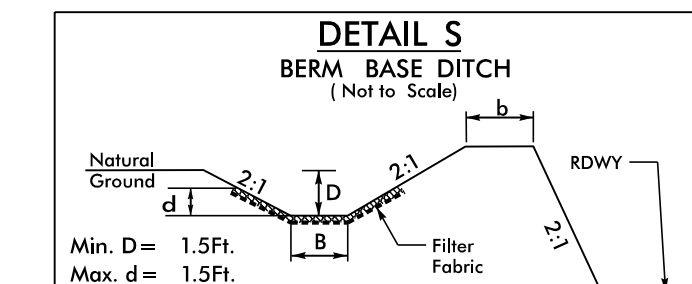
DETAIL V NOT USED IN SECTION 3B



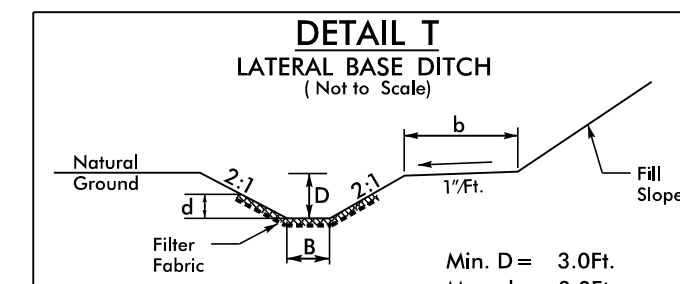
-Y309- STA. 13+50 TO STA. 15+82 RT  
 Type of Liner = PSRM



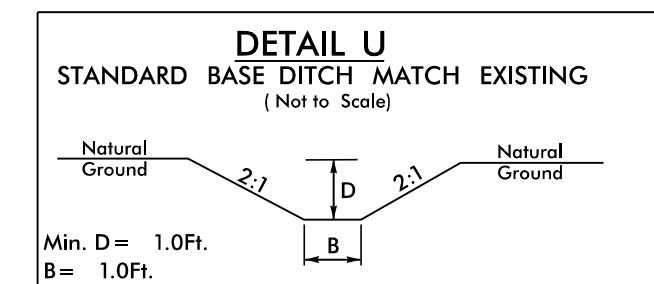
DETAIL R NOT USED IN SECTION 3B



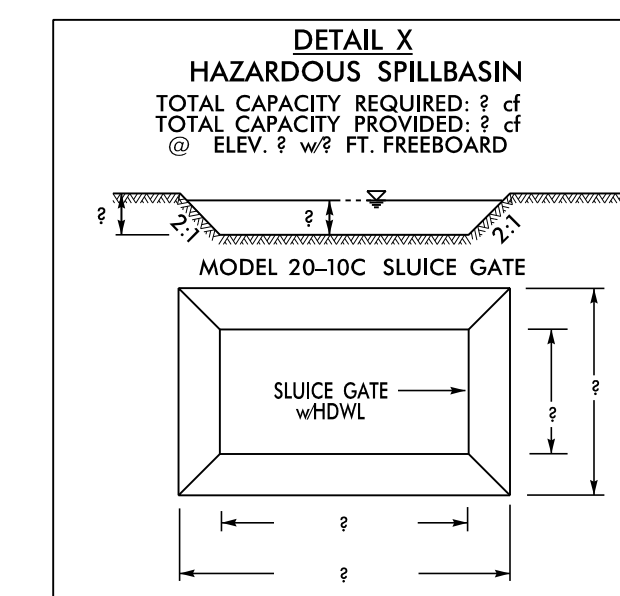
DETAIL S NOT USED IN SECTION 3B



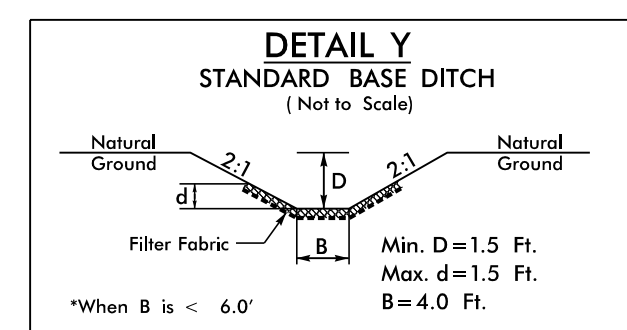
DETAIL T NOT USED IN SECTION 3B



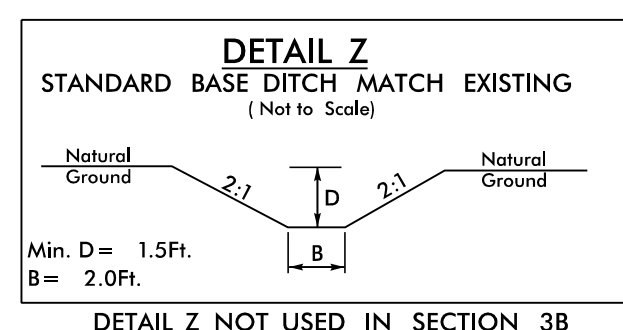
DETAIL U NOT USED IN SECTION 3B



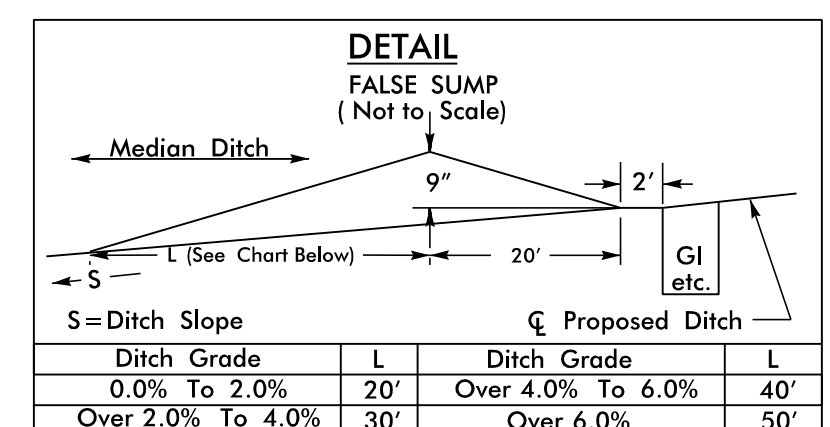
DETAIL X NOT USED IN SECTION 3B



-L- STA. 1110+30 LT; L=122', S=1.95%  
 -Y314R- STA. 30+50 LT; L=40', S=3.13%  
 -Y314R- STA. 30+50 LT; L=40', S=3.13%  
 -Y314R- STA. 30+50 LT; L=40', S=3.13%

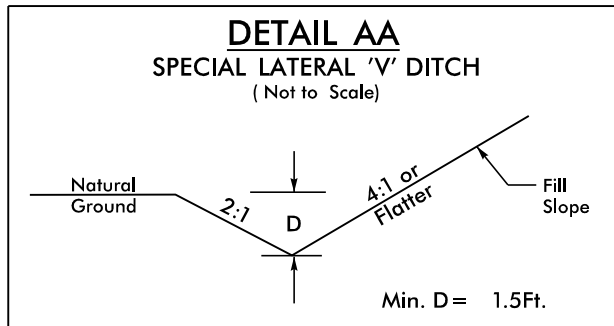


DETAIL Z NOT USED IN SECTION 3B

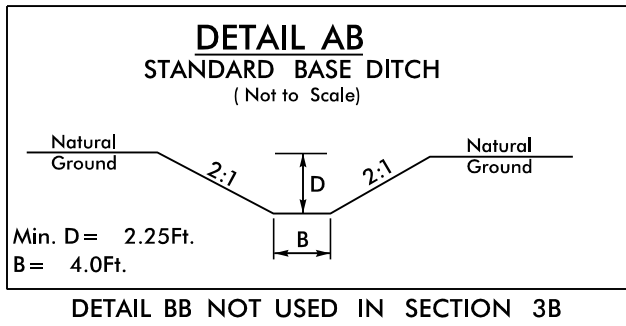




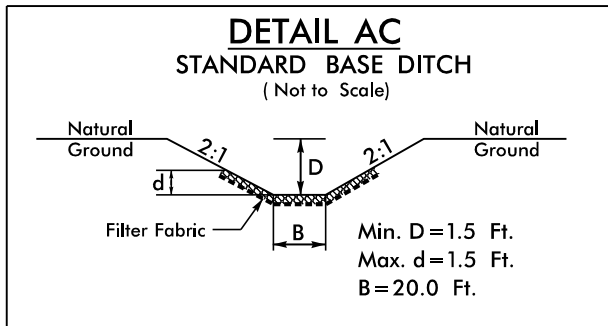
|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 / R-2559                                    | 3B-2F               |
| RW SHEET NO.                                       |                     |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR A/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



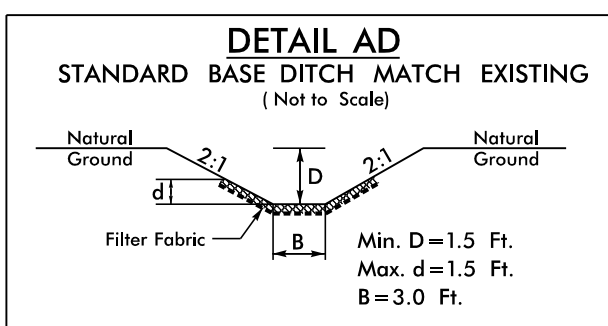
DETAIL AA NOT USED IN SECTION 3B



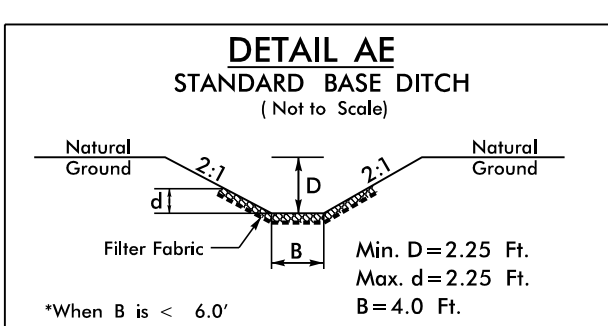
DETAIL BB NOT USED IN SECTION 3B



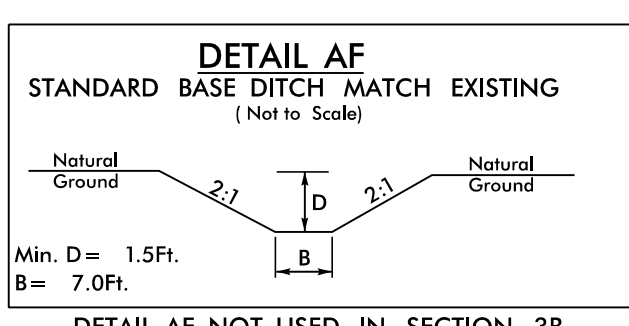
Type of Liner = Class B Rip-Rap  
DETAIL AC NOT USED IN SECTION 3B



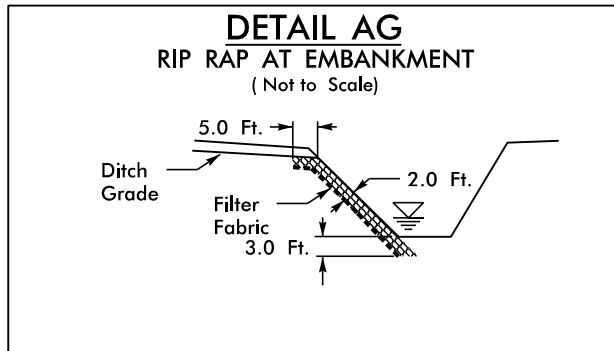
Type of Liner = Class I Rip-Rap  
DETAIL AD NOT USED IN SECTION 3B



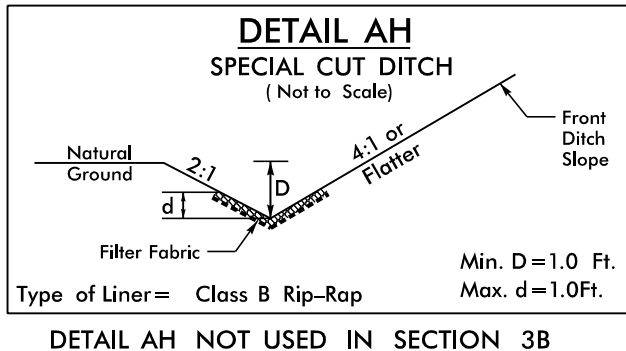
\*When B is < 6.0'  
Type of Liner = Class B Rip-Rap  
DETAIL AE NOT USED IN SECTION 3B



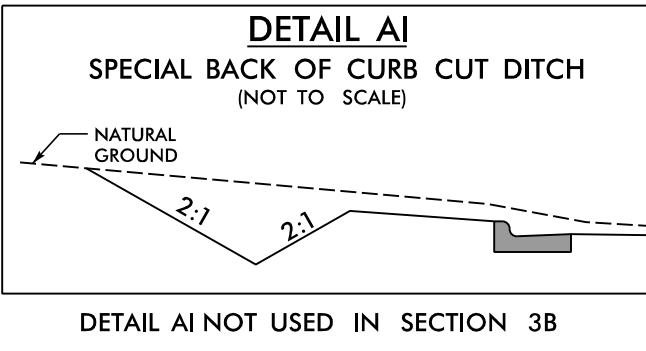
DETAIL AF NOT USED IN SECTION 3B



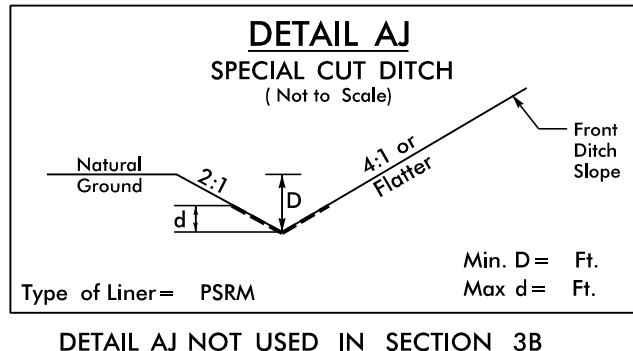
DETAIL AG NOT USED IN SECTION 3B



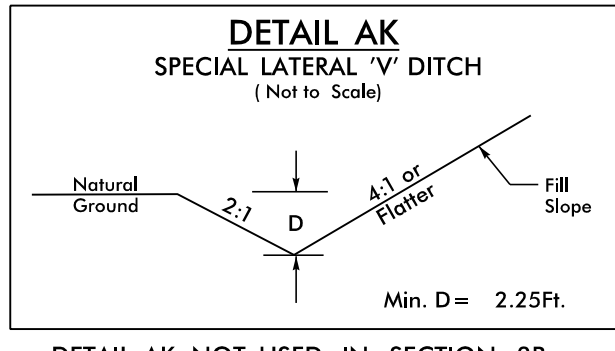
Type of Liner = Class B Rip-Rap  
DETAIL AH NOT USED IN SECTION 3B



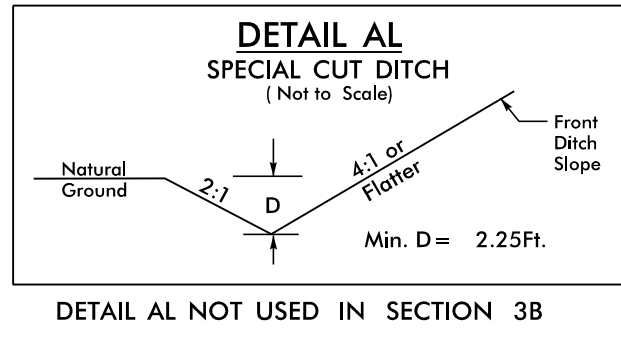
DETAIL AI NOT USED IN SECTION 3B



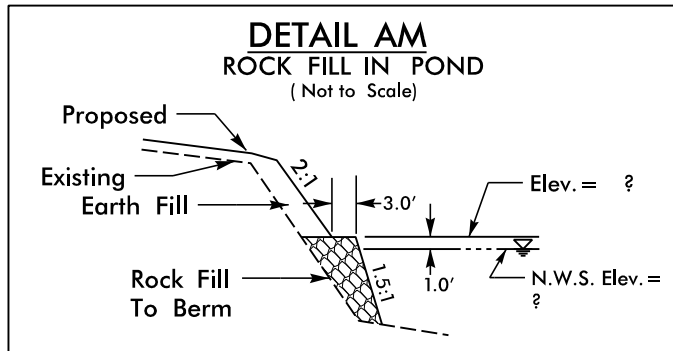
Type of Liner = PSRM  
DETAIL AJ NOT USED IN SECTION 3B



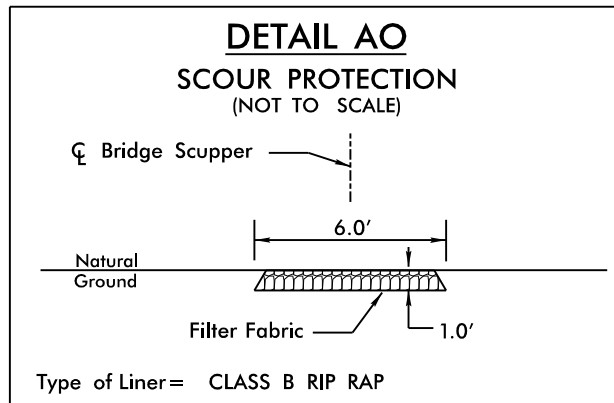
DETAIL AK NOT USED IN SECTION 3B



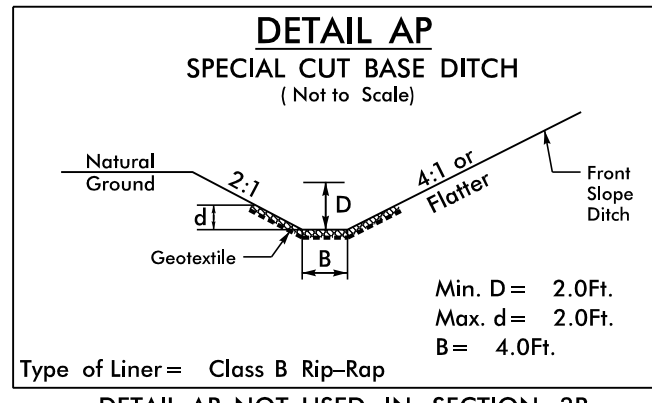
DETAIL AL NOT USED IN SECTION 3B



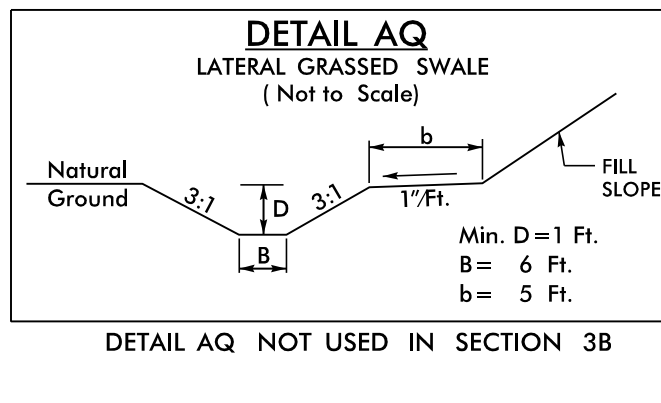
DETAIL AM NOT USED IN SECTION 3B



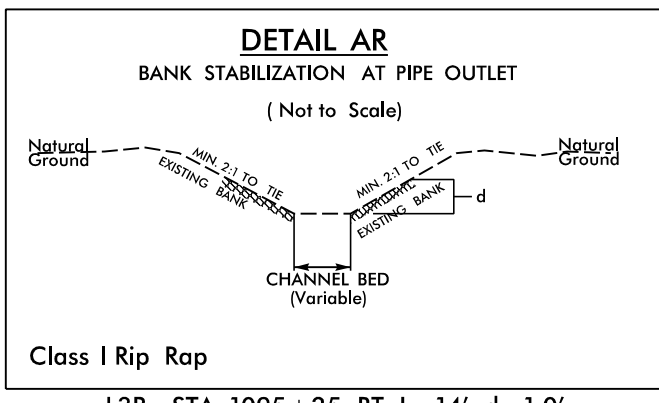
Type of Liner = CLASS B RIP RAP  
DETAIL AO NOT USED IN SECTION 3B



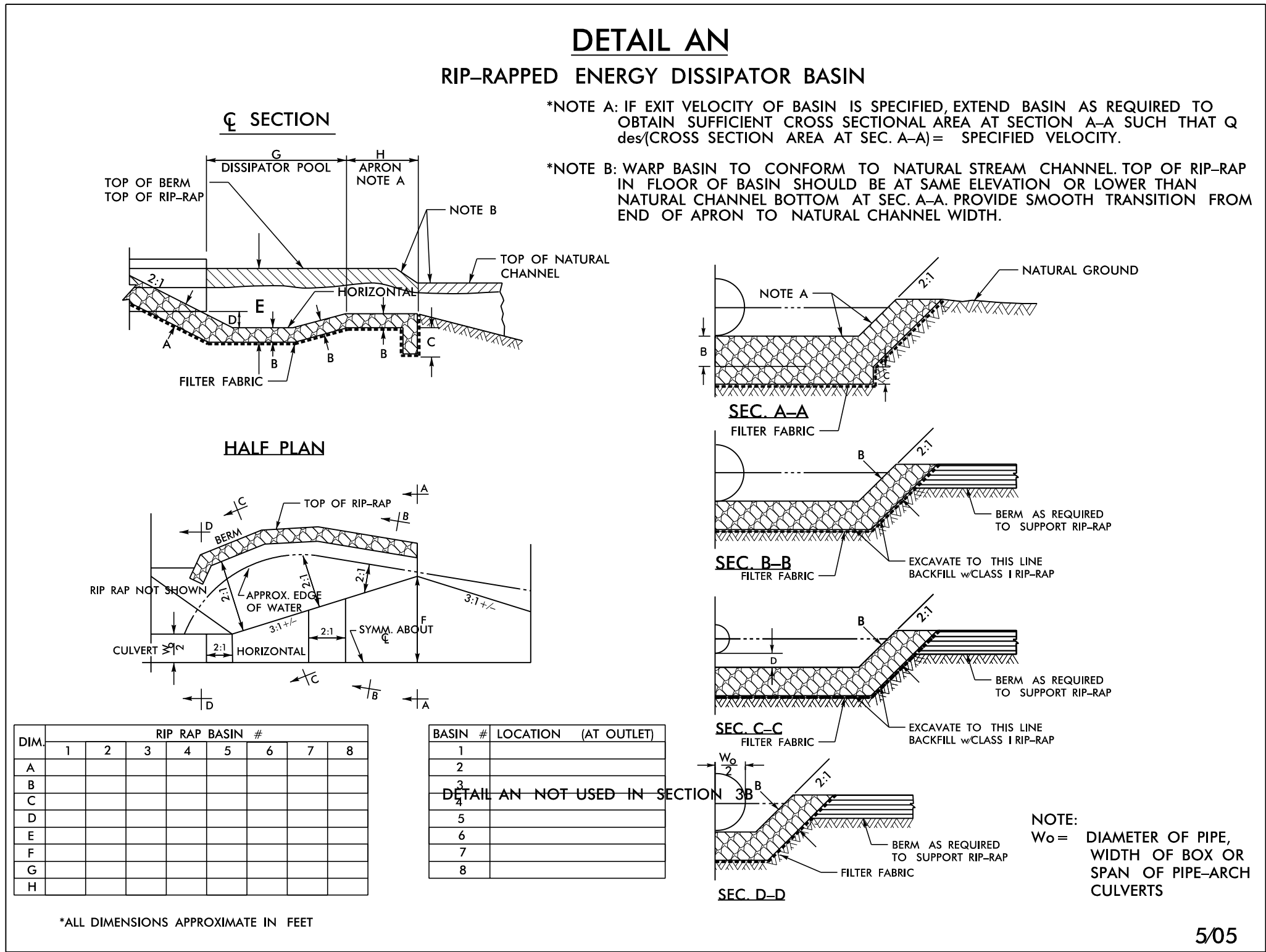
Type of Liner = Class B Rip-Rap  
DETAIL AP NOT USED IN SECTION 3B



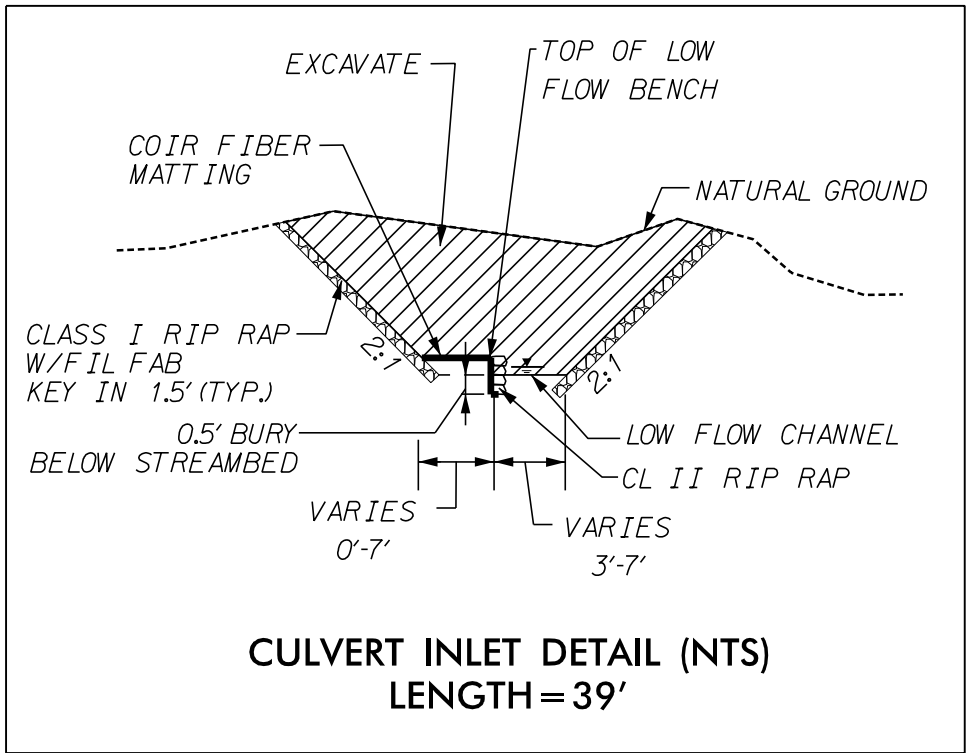
DETAIL AQ NOT USED IN SECTION 3B



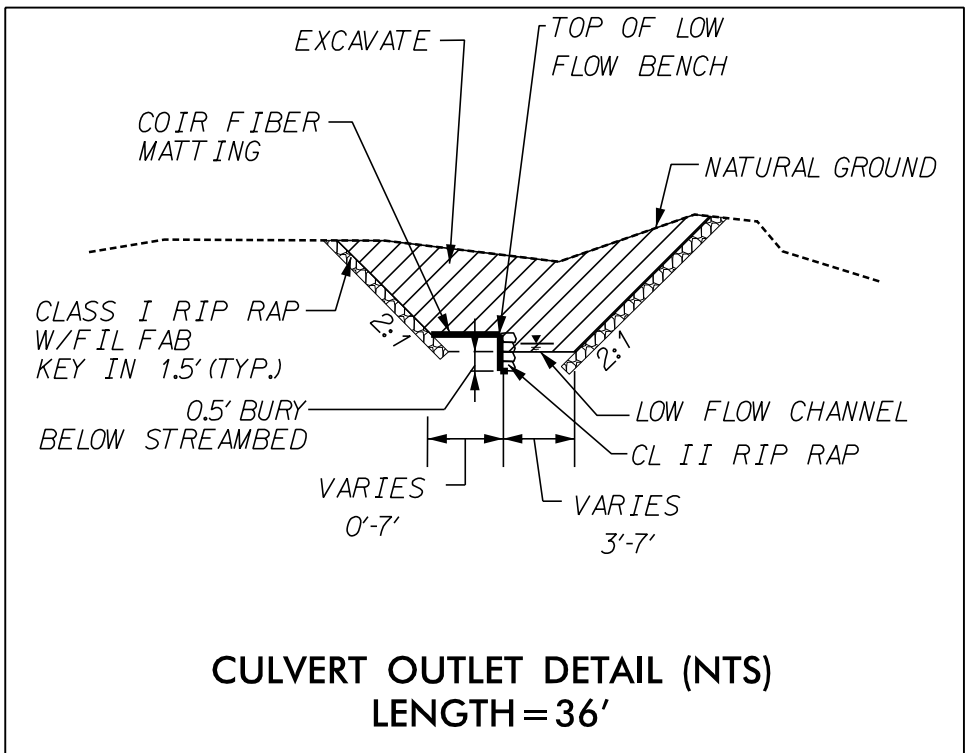
Class I Rip Rap  
-L3B- STA. 1095+25 RT, L=14', d=1.0'  
-Y309- STA. 19+08 LT, L=16', d=0.8'  
-Y310- STA. 22+83 RT, L=12', d=1.2'  
-Y316- STA. 11+98 RT, L=16', d=1.5'



UT TO MEADOW BRANCH  
-L- STA. 1074 + 23

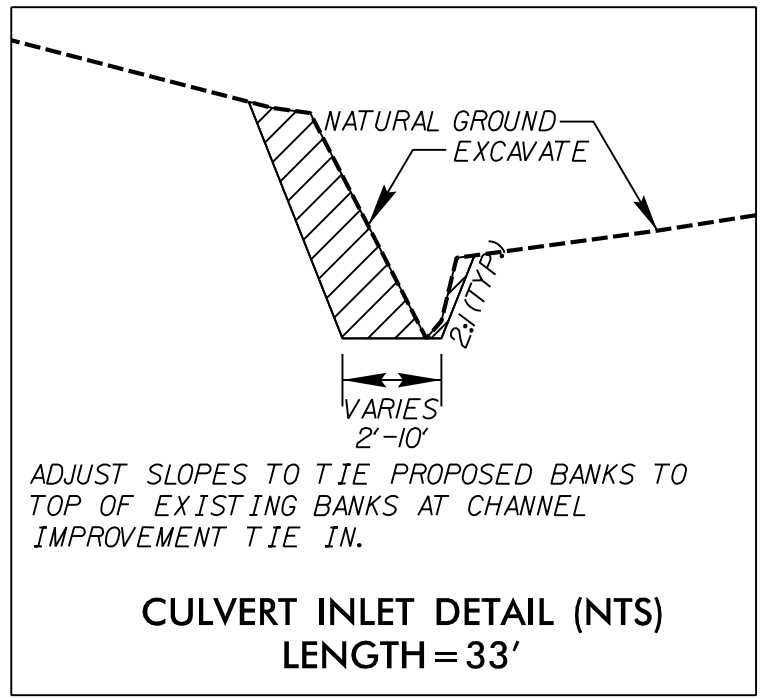


CULVERT INLET DETAIL (NTS)  
LENGTH = 39'

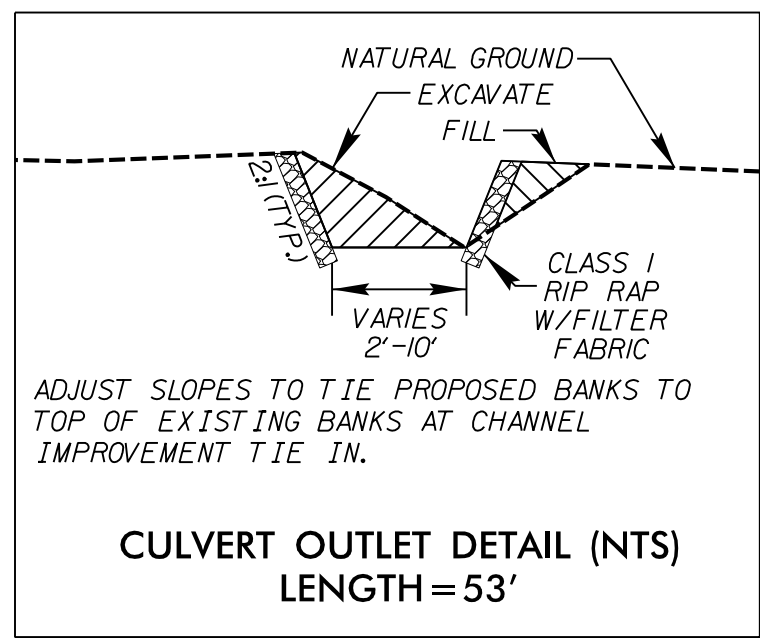


CULVERT OUTLET DETAIL (NTS)  
LENGTH = 36'

UT TO SALEM CREEK  
-L- STA. 1162 + 27

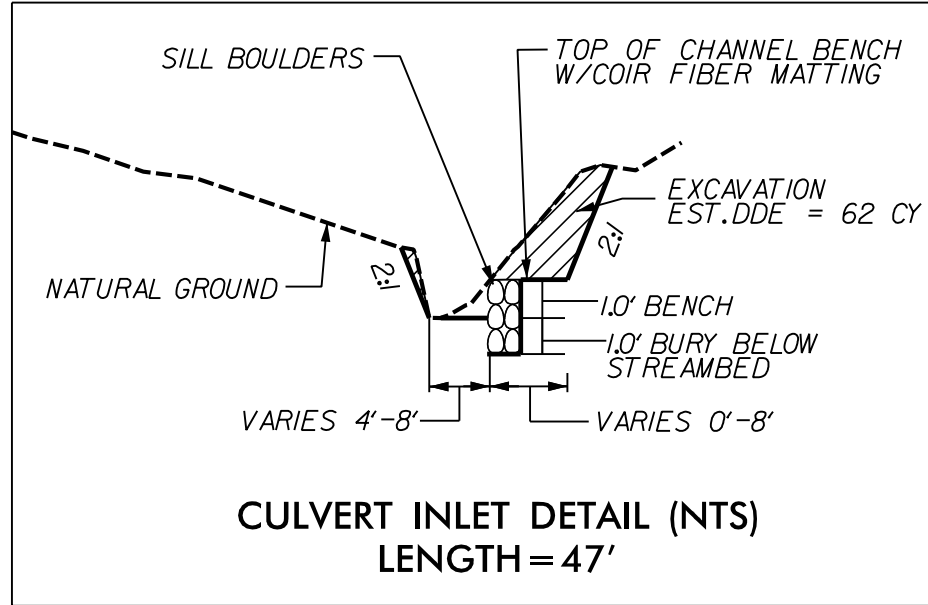


CULVERT INLET DETAIL (NTS)  
LENGTH = 33'

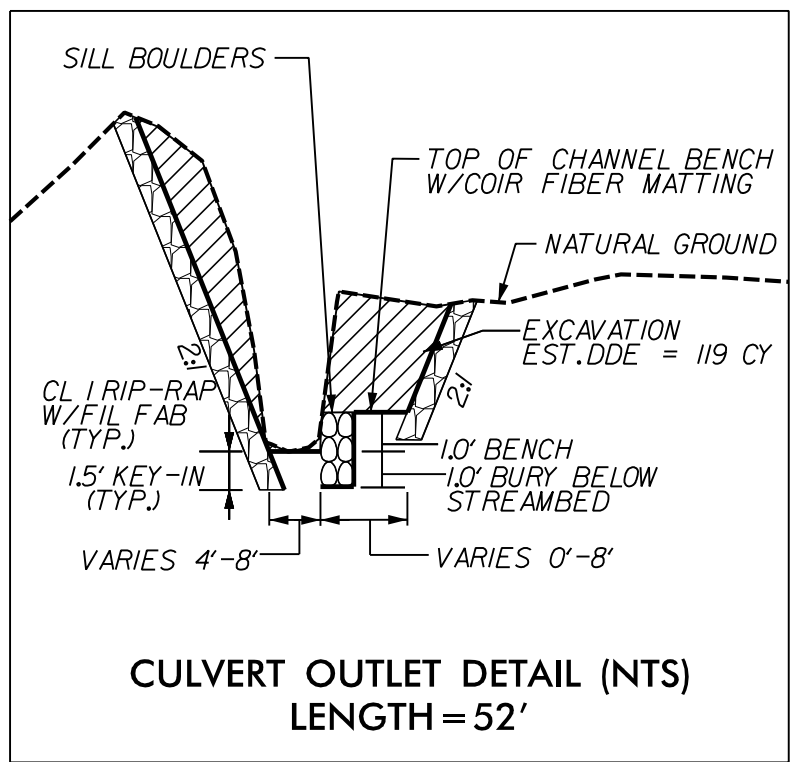


CULVERT OUTLET DETAIL (NTS)  
LENGTH = 53'

SALEM CREEK  
-L- STA. 1201 + 62



CULVERT INLET DETAIL (NTS)  
LENGTH = 47'



CULVERT OUTLET DETAIL (NTS)  
LENGTH = 52'





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



8/17/99

8/29/2014  
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Elevs

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900 RIDGEFIELD DRIVE SUITE 350  
RALEIGH, NORTH CAROLINA 27609-3960  
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THE NORTH CAROLINA  
TURNPIKE AUTHORITY

PROJECT REFERENCE NO.

R-3329 / R-2559

SHEET NO.

65

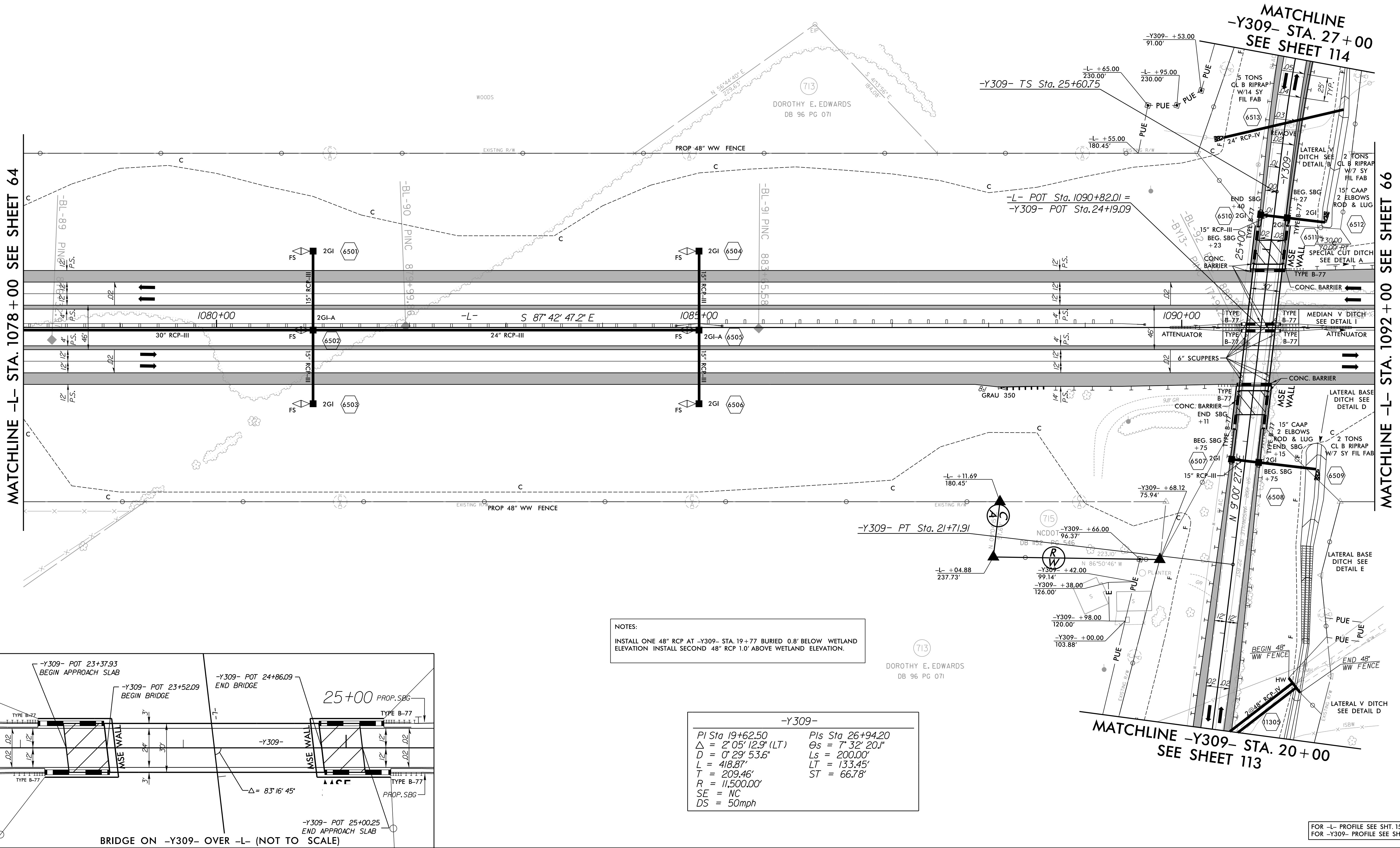
RW SHEET NO.

ROADWAY DESIGN  
ENGINEER

HYDRAULICS  
ENGINEER

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

NAD 83



NOTES:

INSTALL ONE 48" RCP AT -Y309- STA. 19+77 BURIED 0.8' BELOW WETLAND ELEVATION. INSTALL SECOND 48" RCP 1.0' ABOVE WETLAND ELEVATION.

-Y309-

PI Sta 19+62.50  
 $\Delta = 2^\circ 05' 12.9''$  (LT)  
 $D = 0^\circ 29' 53.6''$   
 $L = 418.87'$   
 $T = 209.46'$   
 $R = 11,500.00'$   
 $SE = NC$   
 $DS = 50\text{mph}$

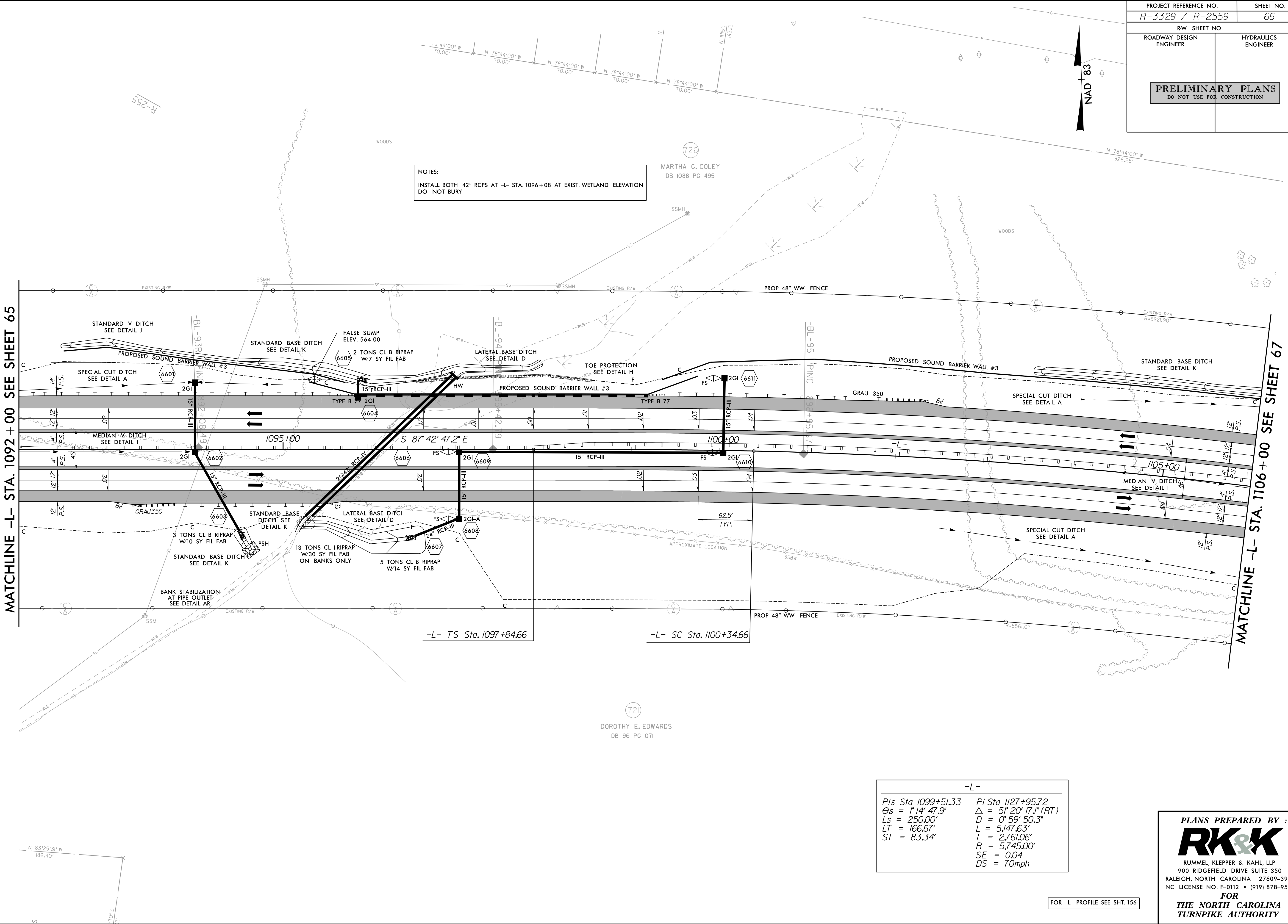
PIs Sta 26+94.20  
 $\Delta s = 7^\circ 32' 20.1''$   
 $Ls = 200.00'$   
 $LT = 133.45'$   
 $ST = 66.78'$

FOR -L- PROFILE SEE SHT. 155  
FOR -Y309- PROFILE SEE SHT. 227



8/17/99  
8/29/2014  
R:\Roadway\Proj\Plan Sheets\Sec3b\R3329\_R2559\_RDY\_PSH\_066.dgn

|                                                                     |  |                        |  |
|---------------------------------------------------------------------|--|------------------------|--|
| PROJECT REFERENCE NO.<br>R-3329 / R-2559                            |  | SHEET NO.<br>66        |  |
| RW SHEET NO.                                                        |  |                        |  |
| ROADWAY DESIGN<br>ENGINEER                                          |  | HYDRAULICS<br>ENGINEER |  |
| <div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div> |  |                        |  |







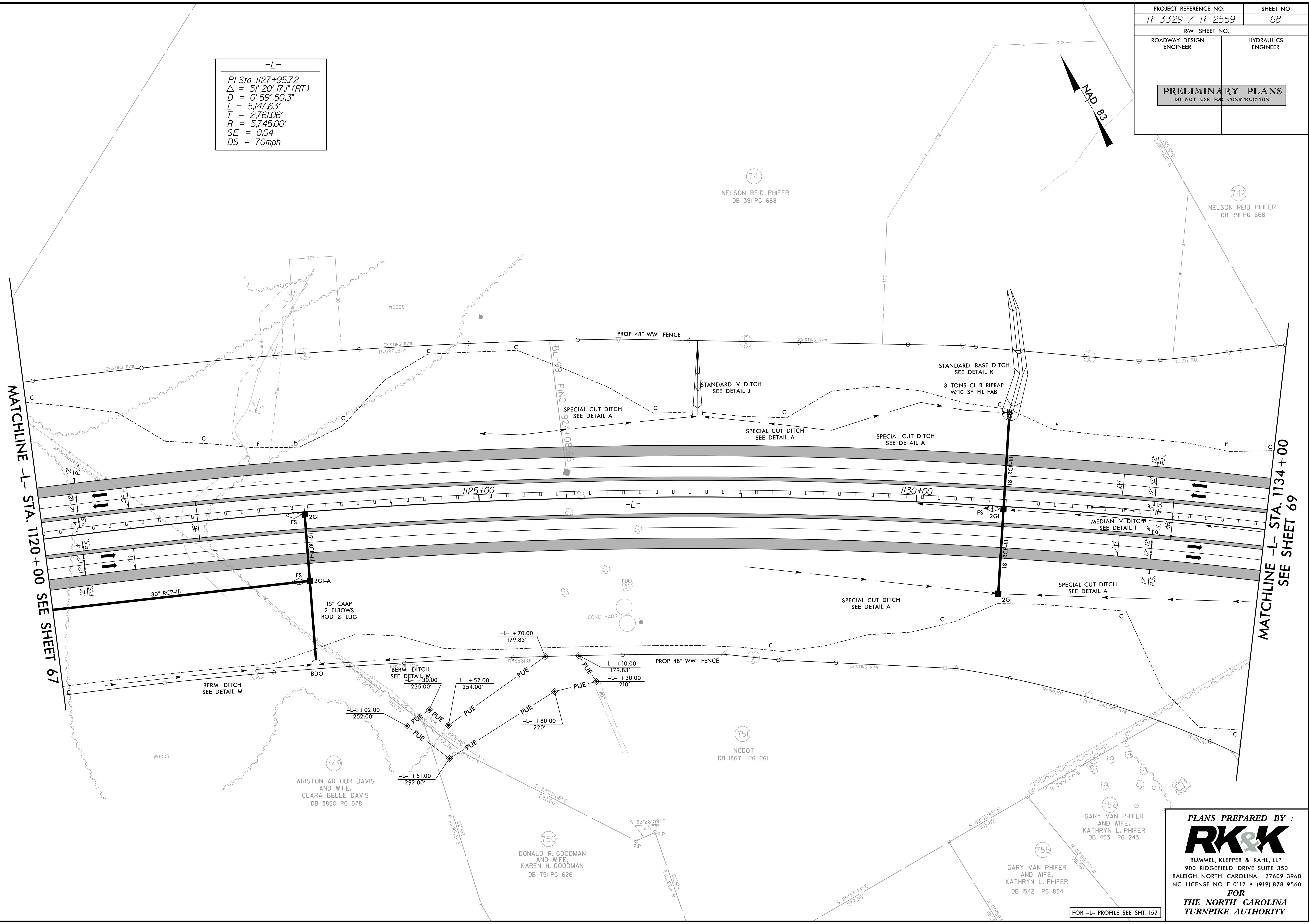
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Ekeus



8/17/99  
8/29/2014  
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Elev

-L-  
PI Sta 1127+95.72  
 $\Delta = 5^{\circ}20'17.1''$  (RT)  
 $D = 0^{\circ}59'50.3''$   
 $L = 5,147.63'$   
 $T = 2,761.06'$   
 $R = 5,745.00'$   
 $SE = 0.04$   
 $DS = 70\text{mph}$

|                                                                     |                        |                        |
|---------------------------------------------------------------------|------------------------|------------------------|
| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i>                     |                        | SHEET NO.<br><i>68</i> |
| RW SHEET NO.                                                        |                        |                        |
| ROADWAY DESIGN<br>ENGINEER                                          | HYDRAULICS<br>ENGINEER |                        |
| <div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div> |                        |                        |



FOR -L- PROFILE SEE SHT. 157

PLANS PREPARED BY :

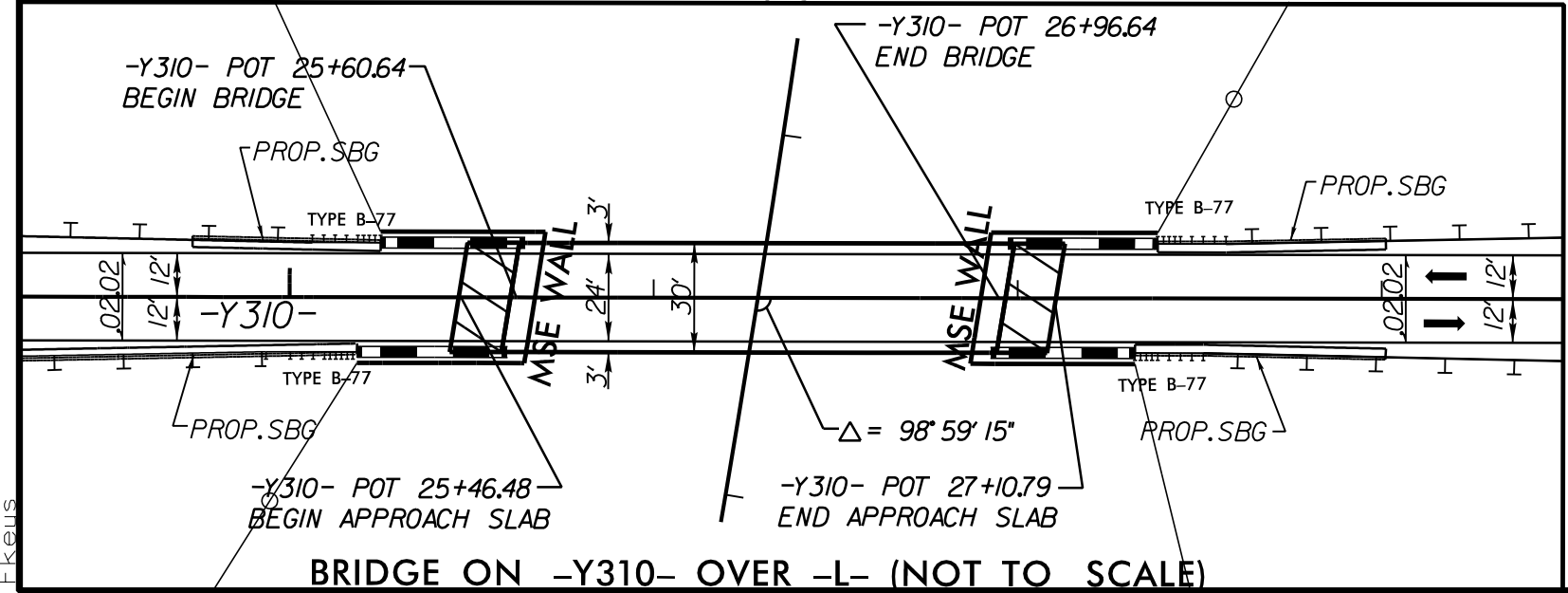
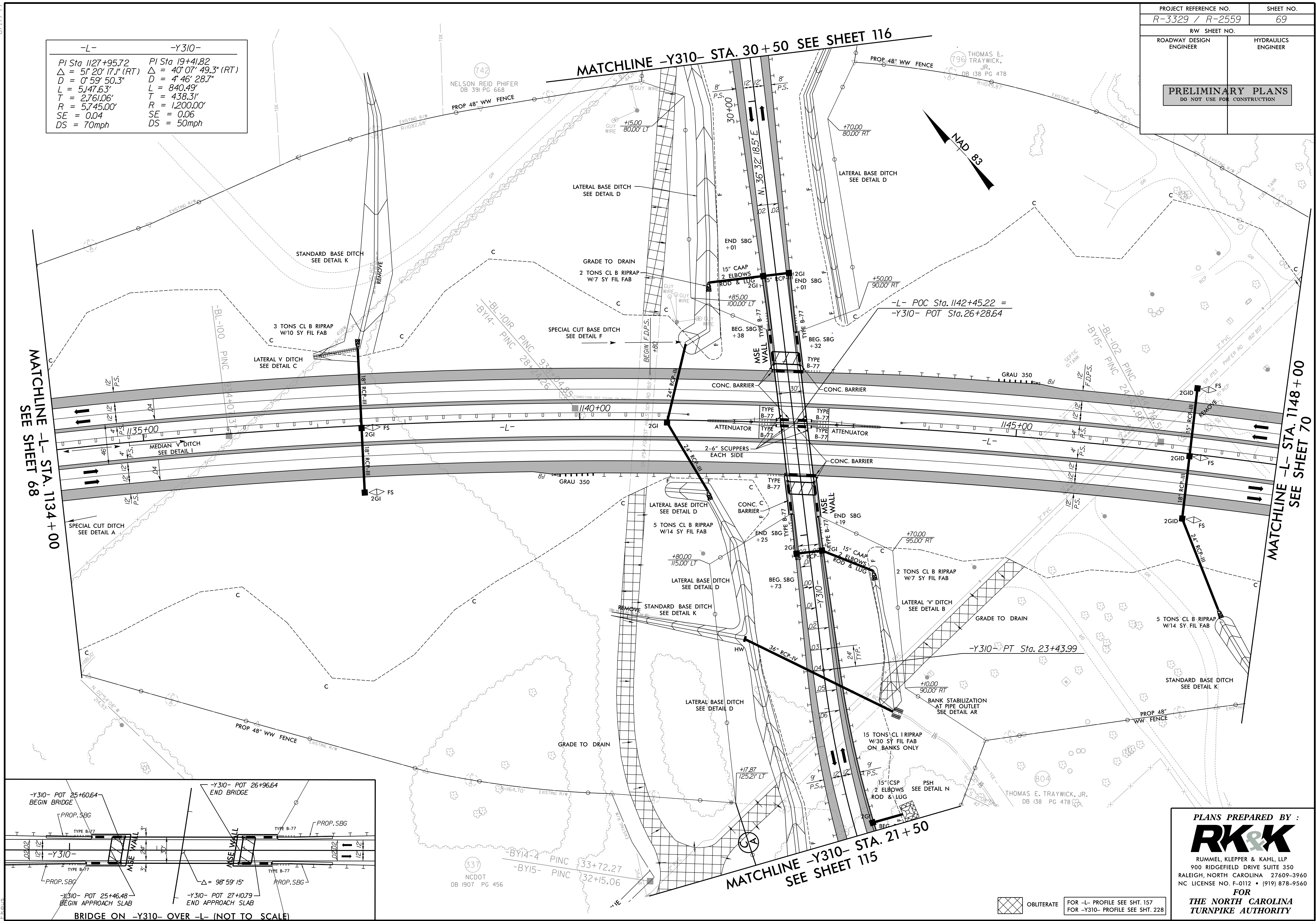
**RK&K**

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

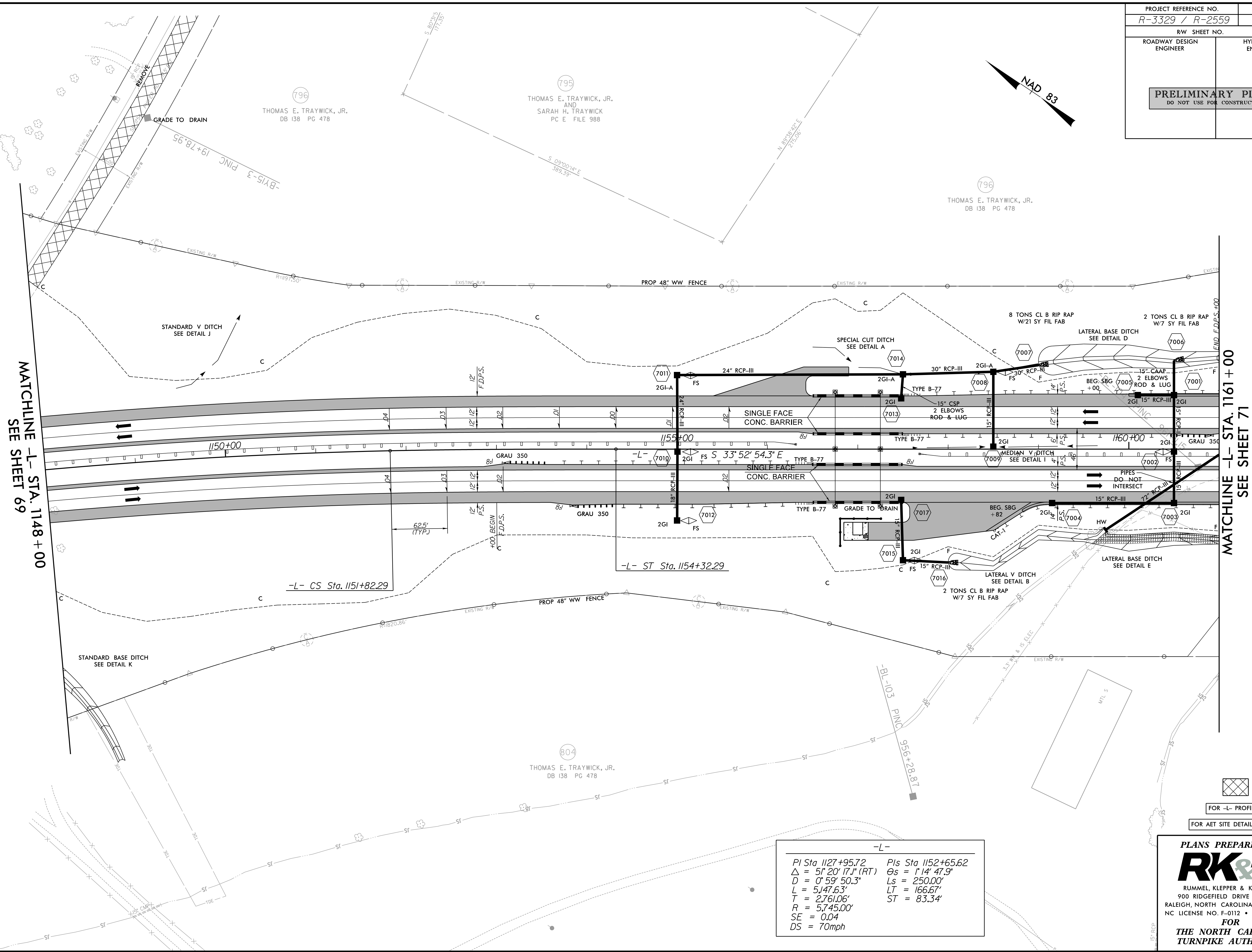
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY



| -L-                                | -Y310-                              |
|------------------------------------|-------------------------------------|
| PI Sta 1127+95.72                  | PI Sta 19+41.82                     |
| $\Delta = 5^\circ 20' 17.1''$ (RT) | $\Delta = 40^\circ 07' 49.3''$ (RT) |
| D = 0' 59' 50.3"                   | D = 4' 46' 28.7"                    |
| L = 5,147.63'                      | L = 840.49'                         |
| T = 2,761.06'                      | T = 438.31'                         |
| R = 5,745.00'                      | R = 1,200.00'                       |
| SE = 0.04                          | SE = 0.06                           |
| DS = 70mph                         | DS = 50mph                          |







**PLANS PREPARED BY :**  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
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LICENSE NO. F-0112 • (919) 878-9560  
**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

| -L-                       |                               |
|---------------------------|-------------------------------|
| <i>Pls Sta 1172+04.24</i> | <i>Pl Sta 1180+77.94</i>      |
| <i>Øs = 5' 25' 59.6"</i>  | <i>Δ = 47' 23' 59.8" (LT)</i> |
| <i>Ls = 330.00'</i>       | <i>D = 3' 17' 34.3"</i>       |
| <i>LT = 220.10'</i>       | <i>L = 1,439.48'</i>          |
| <i>ST = 110.09'</i>       | <i>T = 763.81'</i>            |
|                           | <i>R = 1,740.00'</i>          |
|                           | <i>SE = 0.06</i>              |
|                           | <i>DS = 60mph</i>             |

797  
NCDOT  
DB 1840 PG 681

BRUCE C. PHIFER (HEIRS)  
DB 110 PG 231

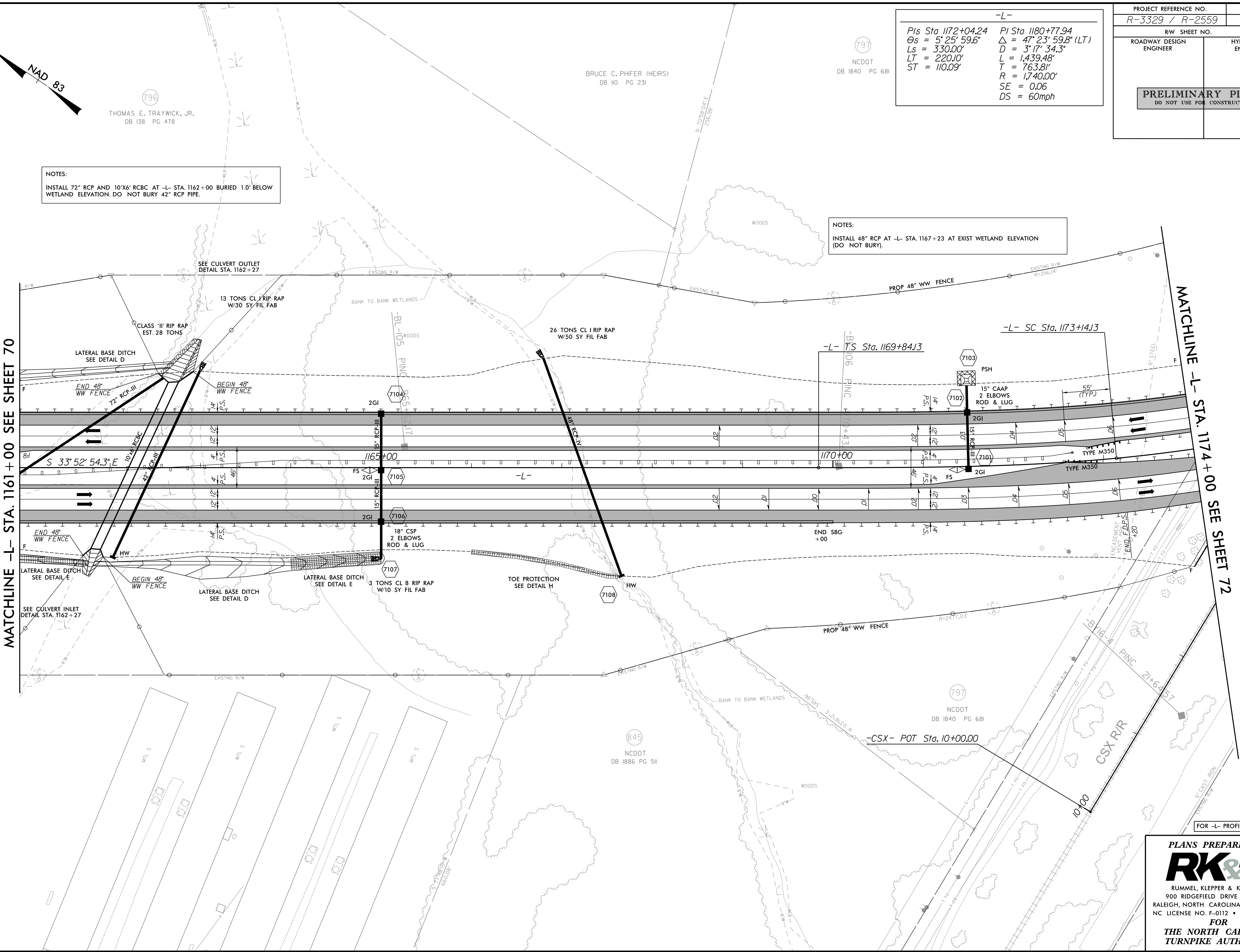
796  
THOMAS E. TRAYWICK, JR.  
DB 138 PG 478

NOTES:

INSTALL 72" RCP AND 10'X6' RCBC AT -L- STA. 1162+00 BURIED 1.0' BELOW WETLAND ELEVATION. DO NOT BURY 42" RCP PIPE.

NOTES:

INSTALL 48" RCP AT -L- STA. 1167+23 AT EXIST WETLAND ELEVATION (DO NOT BURY).



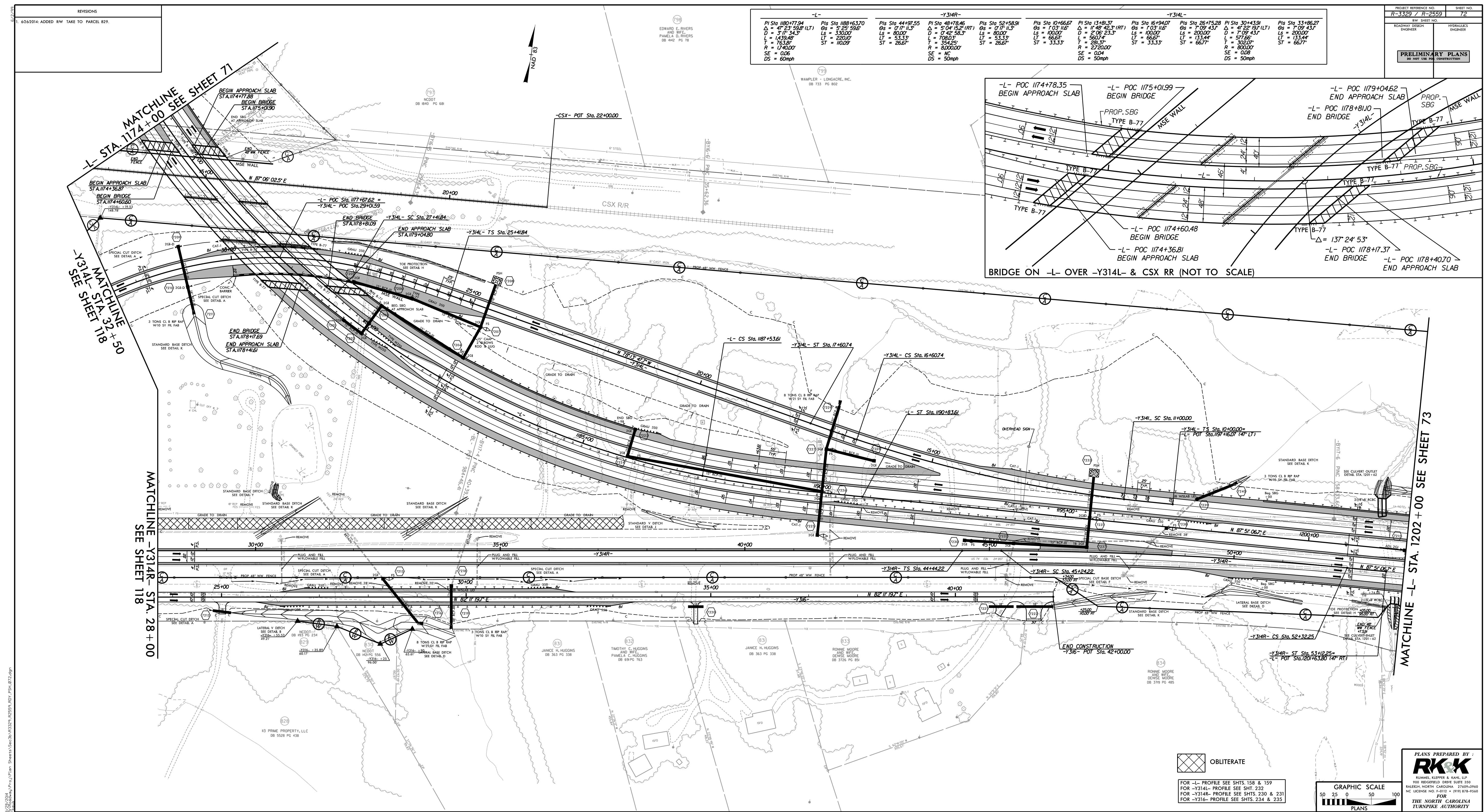
FOR -L- PROFILE SEE SHT. 158

**PLANS PREPARED BY :**

**RK&K**

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900 RIDGEFIELD DRIVE SUITE 350  
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NC LICENSE NO. F-0112 • (919) 878-9560  
**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**







DO NOT USE FOR CONSTRUCTION

NAD<sup>+</sup> + 83

MATCHLINE -L- STA. 1202+00 SEE SHEET 72

**MATCHLINE -L- STA. 1216+00 SEE SHEET 74**

**OBLITERATE**

FOR -L- PROFILE SEE SHTS. 159 & 160

**PLANS PREPARED BY :**

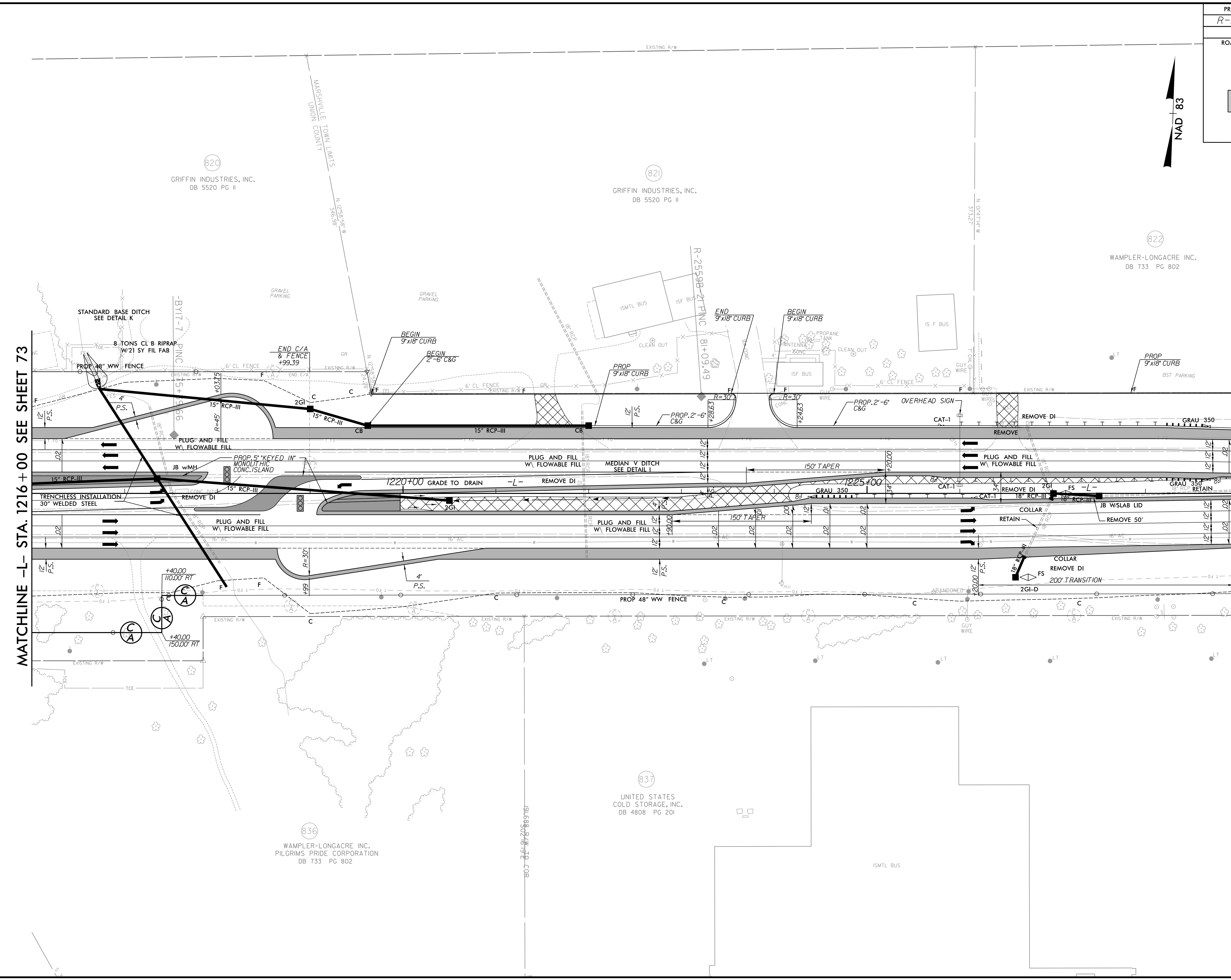
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900 RIDGEFIELD DRIVE SUITE 350  
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NC LICENSE NO. F-0112 • (919) 878-9560

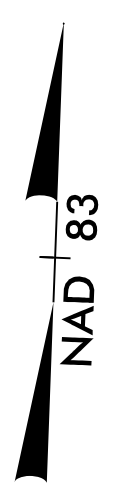
**FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY**



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8/29/2014  
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|                                                                     |  |                        |
|---------------------------------------------------------------------|--|------------------------|
| PROJECT REFERENCE NO.<br><i>R-3329 / R-2559</i>                     |  | SHEET NO.<br><i>74</i> |
| RW SHEET NO.                                                        |  |                        |
| ROADWAY DESIGN<br>ENGINEER                                          |  | HYDRAULICS<br>ENGINEER |
| <div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div> |  |                        |



MATCHLINE -L- STA. 1216+00 SEE SHEET 73

MATCHLINE -L- STA. 1229+00 SEE SHEET 112

 OBLITERATE  
FOR -L- PROFILE SEE SHT. 160

PLANS PREPARED BY :  
**RK&K**  
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TURNPIKE AUTHORITY





END TIP PROJECT R-3329, R-2559  
-L- Sta. 1233+50.00

-L- POT Sta. 1234+00.00

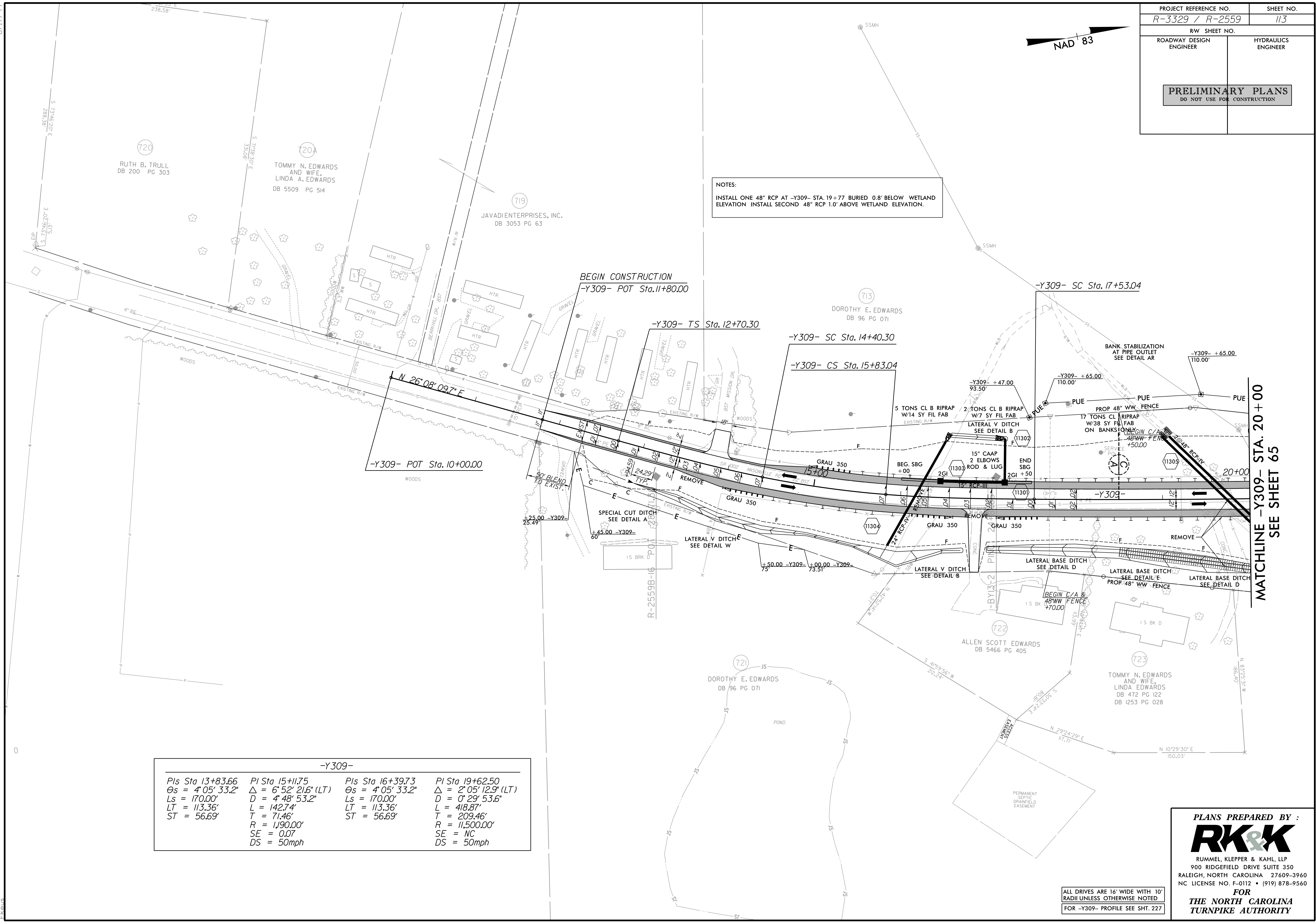
FOR -L- PROFILE SEE SHT. 160

**PLANS PREPARED BY :**  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
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IC LICENSE NO. F-01112 • (919) 878-9560  
**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



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Elev

|                                                                     |                        |           |
|---------------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                               |                        | SHEET NO. |
| R-3329 / R-2559                                                     |                        | 113       |
| RW SHEET NO.                                                        |                        |           |
| ROADWAY DESIGN<br>ENGINEER                                          | HYDRAULICS<br>ENGINEER |           |
| <div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div> |                        |           |



| -Y309-            |                       |                   |                       |
|-------------------|-----------------------|-------------------|-----------------------|
| PIs Sta 13+83.66  | PI Sta 15+11.75       | PIs Sta 16+39.73  | PI Sta 19+62.50       |
| Os = 4° 05' 33.2" | Δ = 6° 52' 21.6" (LT) | Os = 4° 05' 33.2" | Δ = 2° 05' 12.9" (LT) |
| Ls = 170.00'      | D = 4° 48' 53.2"      | Ls = 170.00'      | D = 0° 29' 53.6"      |
| LT = 113.36'      | L = 142.74'           | LT = 113.36'      | L = 418.87'           |
| ST = 56.69'       | T = 71.46'            | ST = 56.69'       | T = 209.46'           |
|                   | R = 1190.00'          |                   | R = 11,500.00'        |
|                   | SE = 0.07             |                   | SE = NC               |
|                   | DS = 50mph            |                   | DS = 50mph            |

ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED  
FOR -Y309- PROFILE SEE SHT. 227

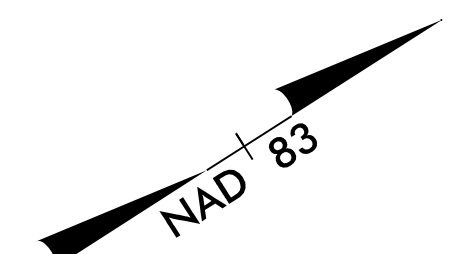
PLANS PREPARED BY :  
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RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE SUITE 350  
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FOR  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



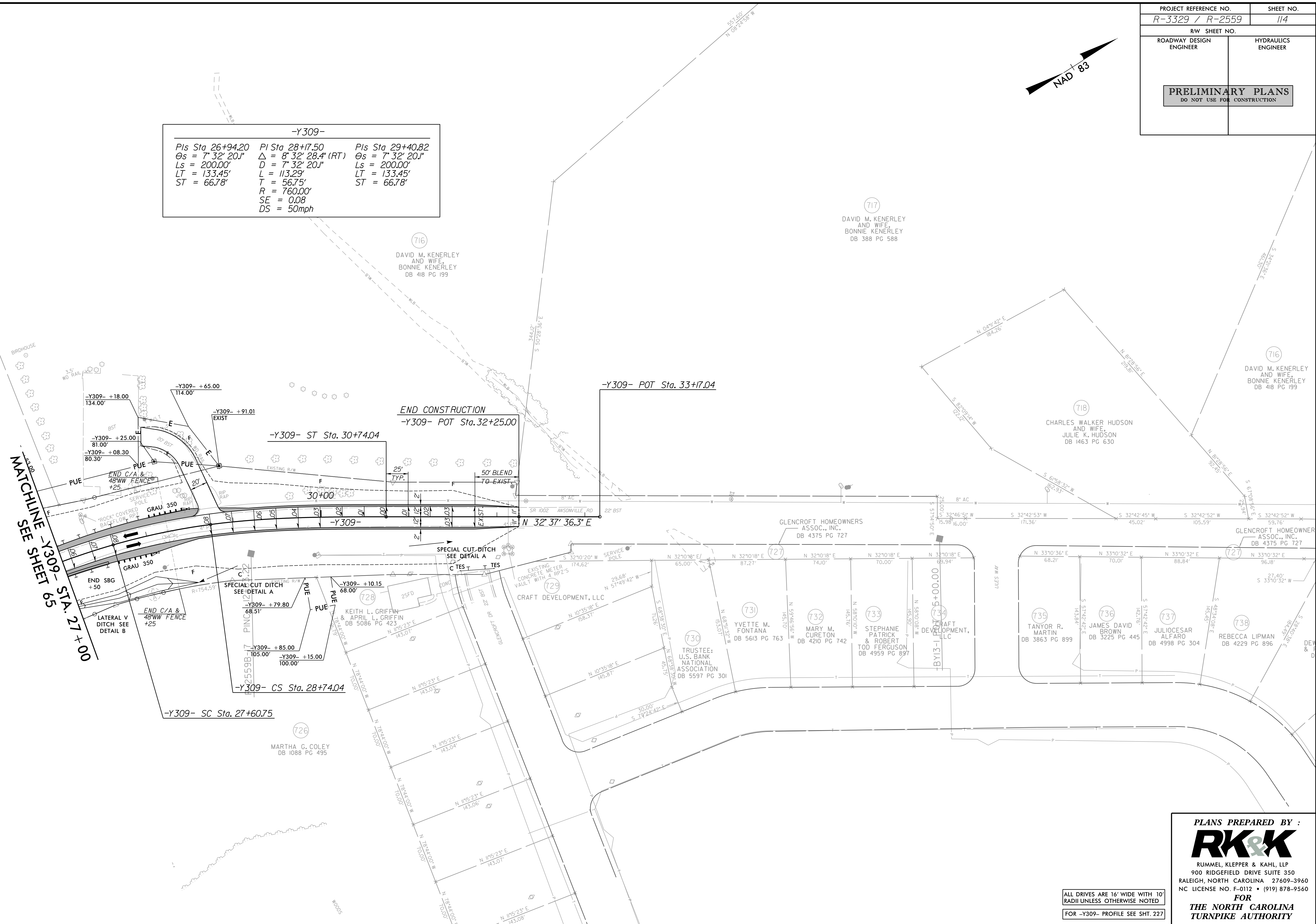
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8/29/2014  
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R3329\_R2559

|                                                                     |                        |           |
|---------------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                               |                        | SHEET NO. |
| R-3329 / R-2559                                                     |                        | 114       |
| RW SHEET NO.                                                        |                        |           |
| ROADWAY DESIGN<br>ENGINEER                                          | HYDRAULICS<br>ENGINEER |           |
| <div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div> |                        |           |



|                                 |                                    |                                 |
|---------------------------------|------------------------------------|---------------------------------|
| -Y309-                          |                                    |                                 |
| Pls Sta 26+94.20                | Pl Sta 28+17.50                    | Pls Sta 29+40.82                |
| $\Theta_s = 7^\circ 32' 20.1''$ | $\Delta = 8^\circ 32' 28.4''$ (RT) | $\Theta_s = 7^\circ 32' 20.1''$ |
| Ls = 200.00'                    | D = 7' 32' 20.1"                   | Ls = 200.00'                    |
| LT = 133.45'                    | L = 113.29'                        | LT = 133.45'                    |
| ST = 66.78'                     | T = 56.75'                         | ST = 66.78'                     |
|                                 | R = 760.00'                        |                                 |
|                                 | SE = 0.08                          |                                 |
|                                 | DS = 50mph                         |                                 |



ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED  
FOR -Y309- PROFILE SEE SHT. 227

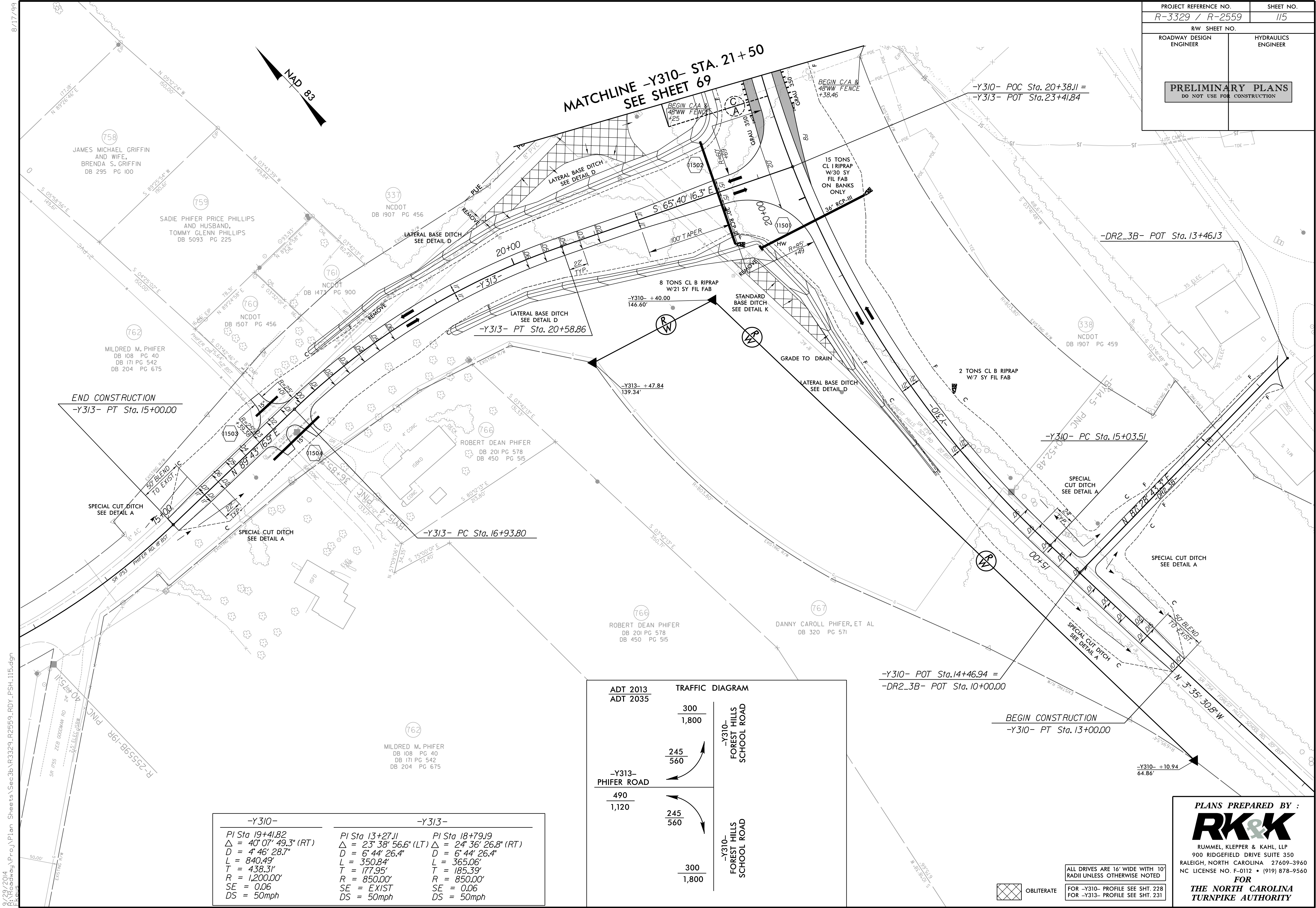
PLANS PREPARED BY :

**RK&K**

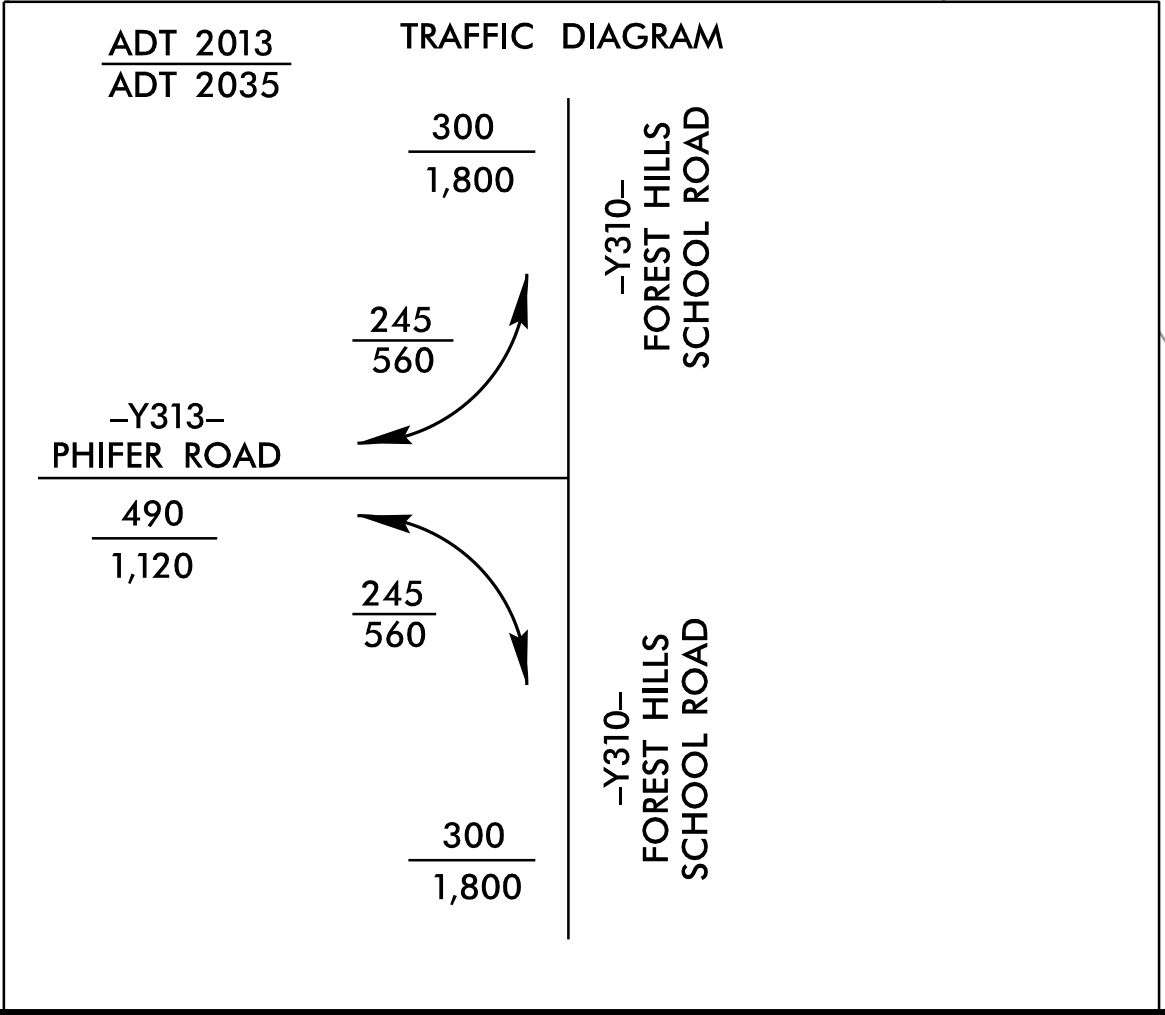
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FOR  
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| -Y310-                                | -Y313-                                | -Y313-                                |
|---------------------------------------|---------------------------------------|---------------------------------------|
| PI Sta 19+41.82                       | PI Sta 13+27.11                       | PI Sta 18+79.9                        |
| $\Delta = 40^{\circ} 07' 49.3''$ (RT) | $\Delta = 23^{\circ} 38' 56.6''$ (LT) | $\Delta = 24^{\circ} 36' 26.8''$ (RT) |
| $D = 4^{\circ} 46' 28.7''$            | $D = 6^{\circ} 44' 26.4''$            | $D = 6^{\circ} 44' 26.4''$            |
| $L = 840.49'$                         | $L = 350.84'$                         | $L = 365.06'$                         |
| $T = 438.31'$                         | $T = 177.95'$                         | $T = 185.39'$                         |
| $R = 1,200.00'$                       | $R = 850.00'$                         | $R = 850.00'$                         |
| $SE = 0.06$                           | $SE = EXIST$                          | $SE = 0.06$                           |
| $DS = 50mph$                          | $DS = 50mph$                          | $DS = 50mph$                          |



ALL DRIVES ARE 16' WIDE WITH 10' RADI UNLESS OTHERWISE NOTED

FOR -Y310- PROFILE SEE SHT. 228  
FOR -Y313- PROFILE SEE SHT. 231

PLANS PREPARED BY :

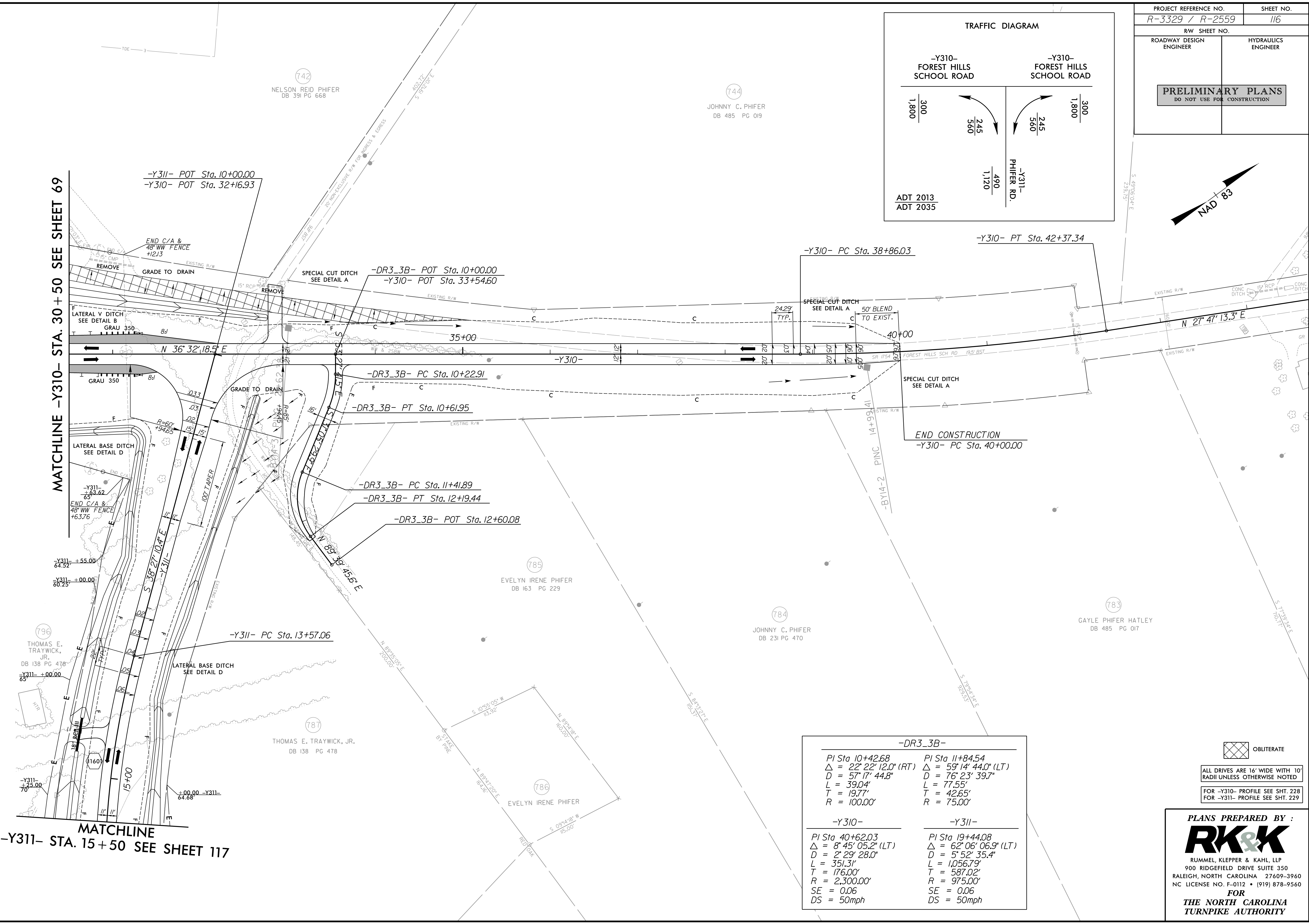
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FOR  
**THE NORTH CAROLINA  
TURNPIKE AUTHORITY**



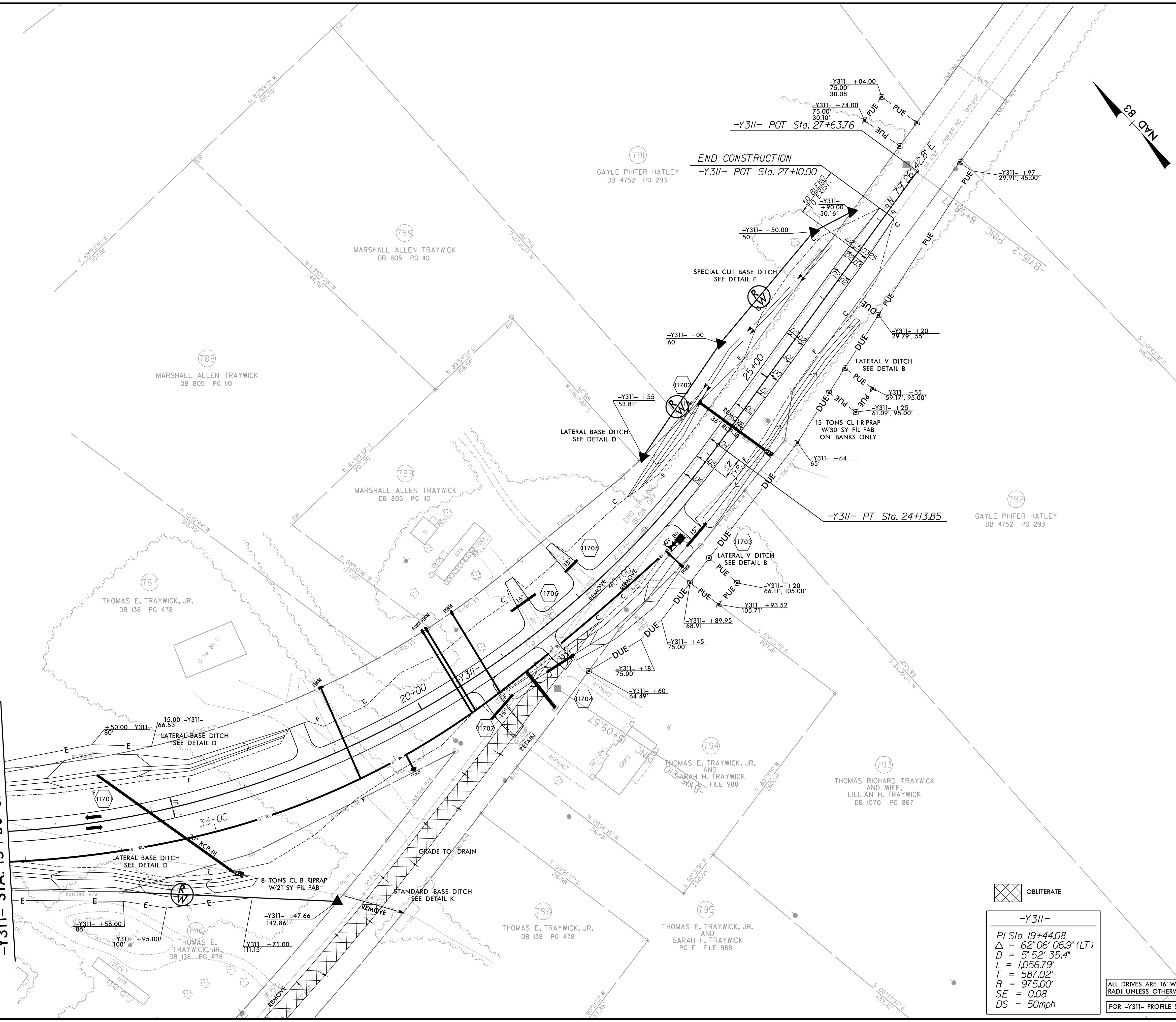
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8/29/2014  
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E:\Users\jrh\My Documents\Projects\Roadway\Plan Sheets\Sec3b\R3329\_R2559\_RDY\_PSH.117.dgn

MATCHLINE  
-Y311- STA. 15+50 SEE SHEET 116



|                                                  |                     |
|--------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                            | SHEET NO.           |
| R-3329 / R-2559                                  | 117                 |
| RW SHEET NO.                                     |                     |
| ROADWAY DESIGN ENGINEER                          | HYDRAULICS ENGINEER |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                     |

**OBLITERATE**

**-Y311-**

PI Sta 19+44.08  
Δ = 62° 06' 06.9" (LT)  
D = 5' 52' 35.4"  
L = 1,056.79'  
T = 587.02'  
R = 975.00'  
SE = 0.08  
DS = 50mph

ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED  
FOR -Y311- PROFILE SEE SHT. 229

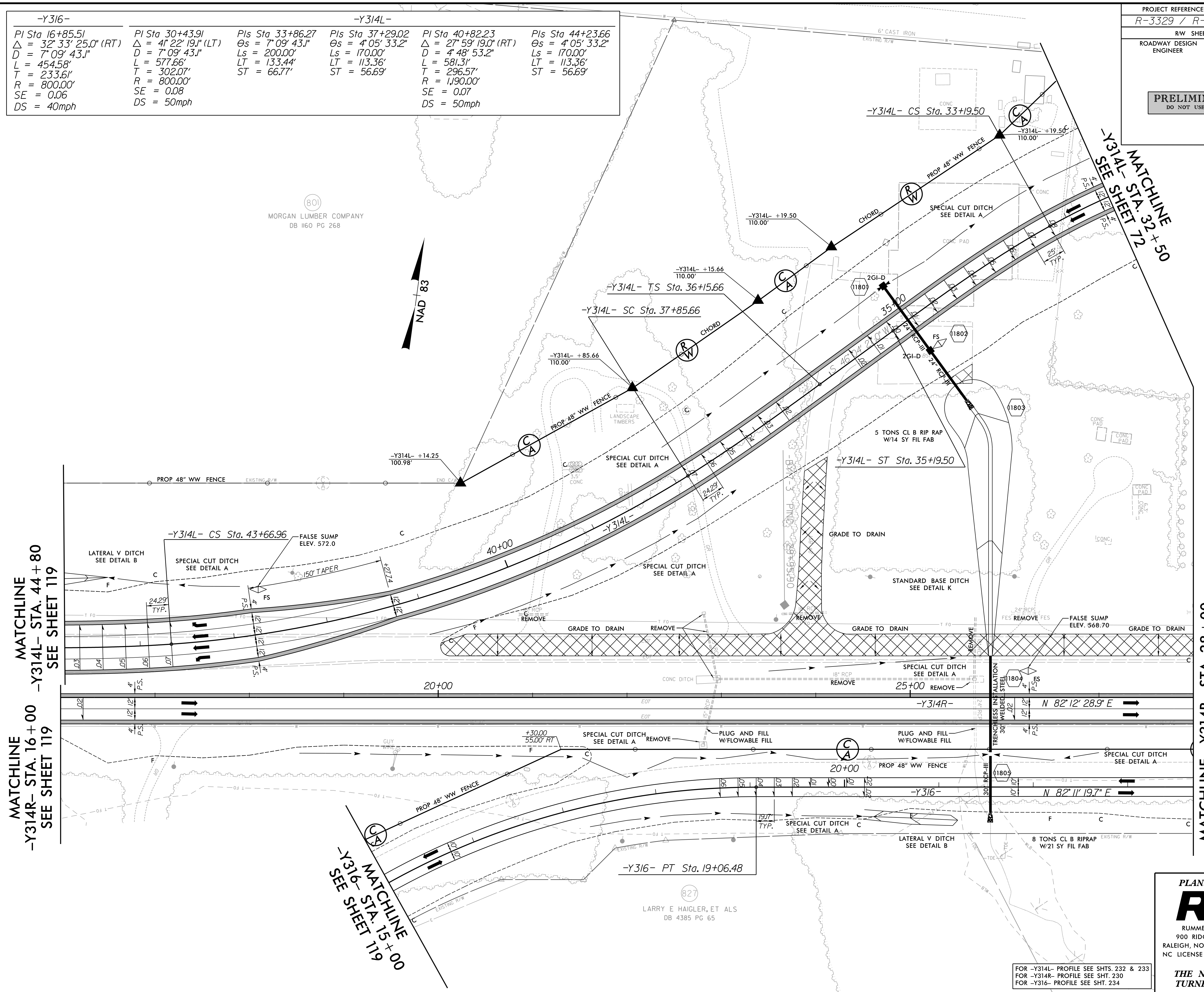
PLANS PREPARED BY :

**RK&K**

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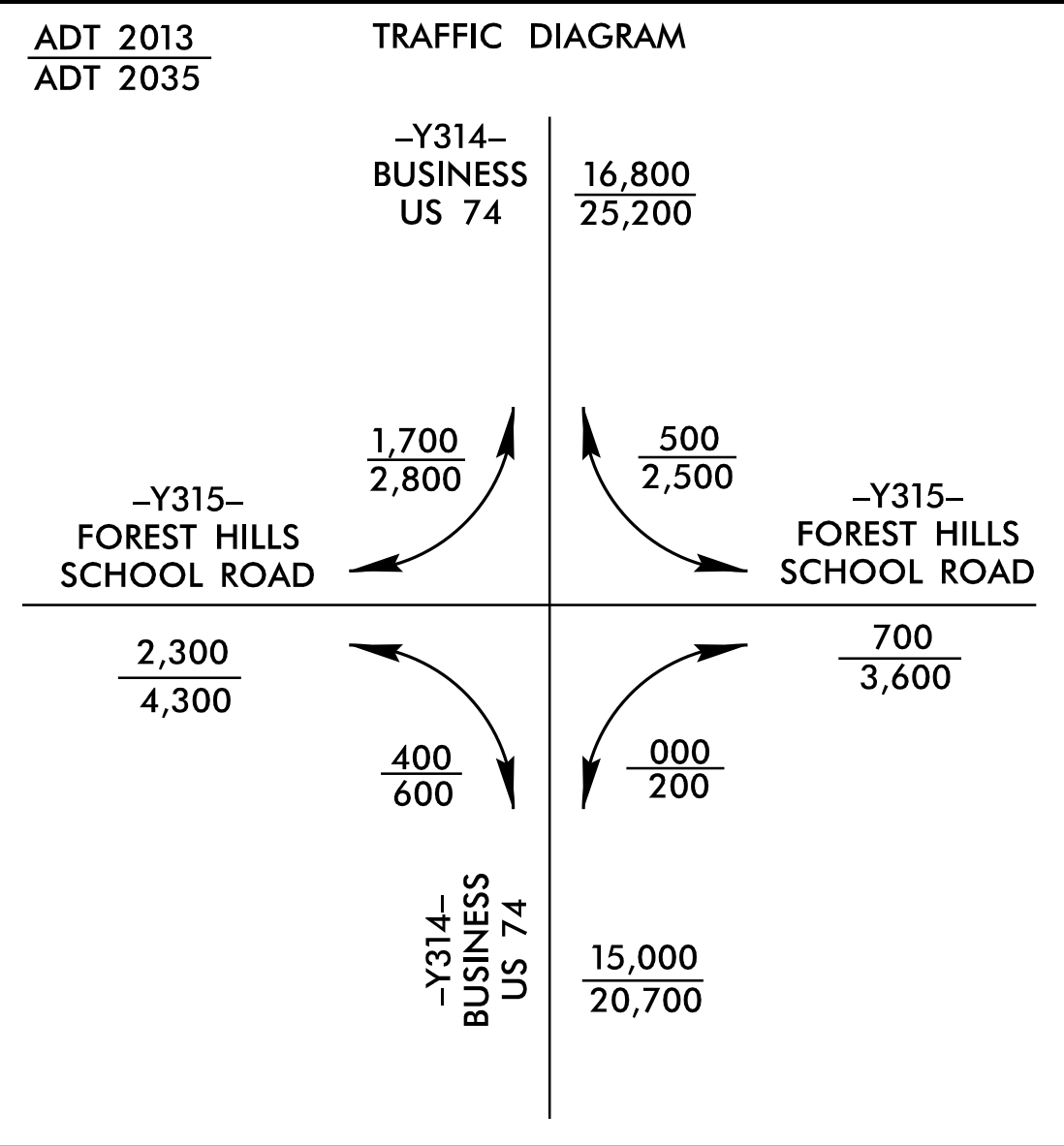
FOR  
THE NORTH CAROLINA  
TURNPIKE AUTHORITY







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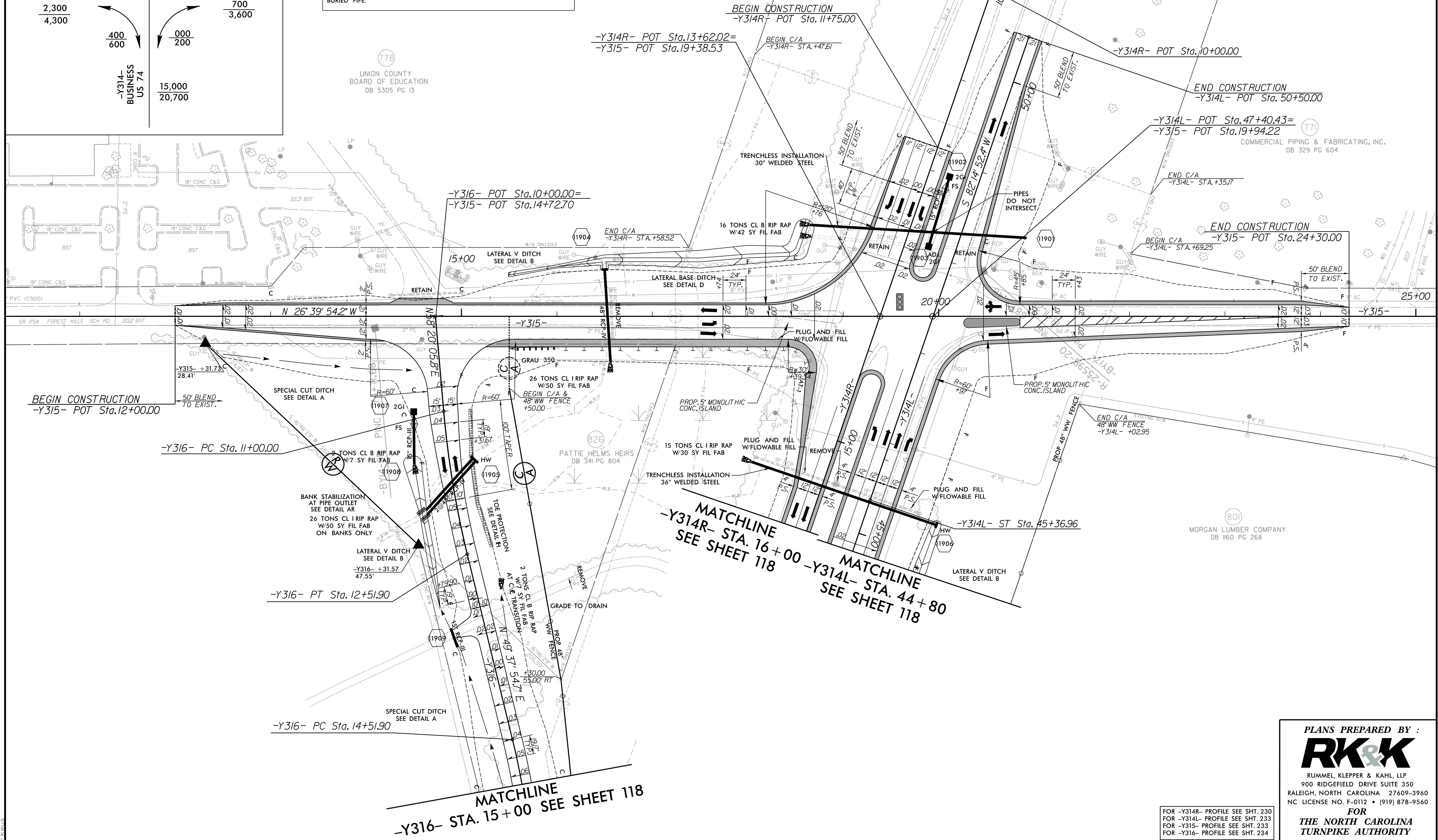
| -Y314L-                                                                                            | -Y316-                                                                                                                                                  | -Y316-                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pls Sta 44+23.66<br>$\Delta s = 4'05''33.2''$<br>$Ls = 170.00'$<br>$LT = 113.36'$<br>$ST = 56.69'$ | Pl Sta 11+76.10<br>$\Delta = 8'42''11.1''$ (LT)<br>$D = 5'43'46.5''$<br>$L = 151.90'$<br>$T = 76.10'$<br>$R = 1,000.00'$<br>$SE = 0.05$<br>$DS = 40mph$ | Pl Sta 16+85.51<br>$\Delta = 32'33'25.0''$ (RT)<br>$D = 7'09'43.1''$<br>$L = 454.58'$<br>$T = 233.61'$<br>$R = 800.00'$<br>$SE = 0.06$<br>$DS = 40mph$ |

NOTES:

INSTALL ONE 48" RCP AT -Y316- STA. 11+76 BURIED 0.8' BELOW EXIST. WETLAND ELEVATION. INSTALL SECOND 48" RCP 1.0' ABOVE BURIED PIPE.

778  
UNION COUNTY  
BOARD OF EDUCATION  
DB 5305 PG 13

| PROJECT REFERENCE NO.                            | SHEET NO.              |
|--------------------------------------------------|------------------------|
| R-3329 / R-2559                                  | 119                    |
| RW SHEET NO.                                     |                        |
| ROADWAY DESIGN<br>ENGINEER                       | HYDRAULICS<br>ENGINEER |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                        |



COMMERCIAL PIPING & FABRICATING, INC.  
DB 329 PG 604

MORGAN LUMBER COMPANY  
DB 1160 PG 268

PLANS PREPARED BY :

**RK&K**

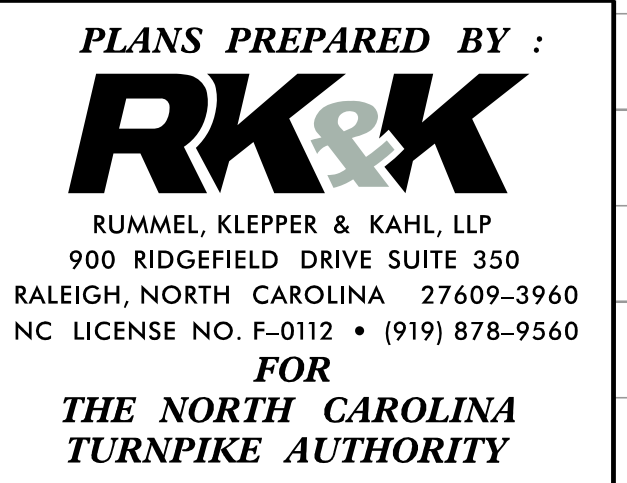
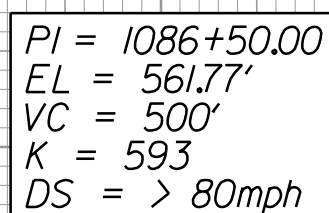
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FOR  
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FOR -Y314R- PROFILE SEE SHT. 230  
FOR -Y314L- PROFILE SEE SHT. 233  
FOR -Y315- PROFILE SEE SHT. 233  
FOR -Y316- PROFILE SEE SHT. 234

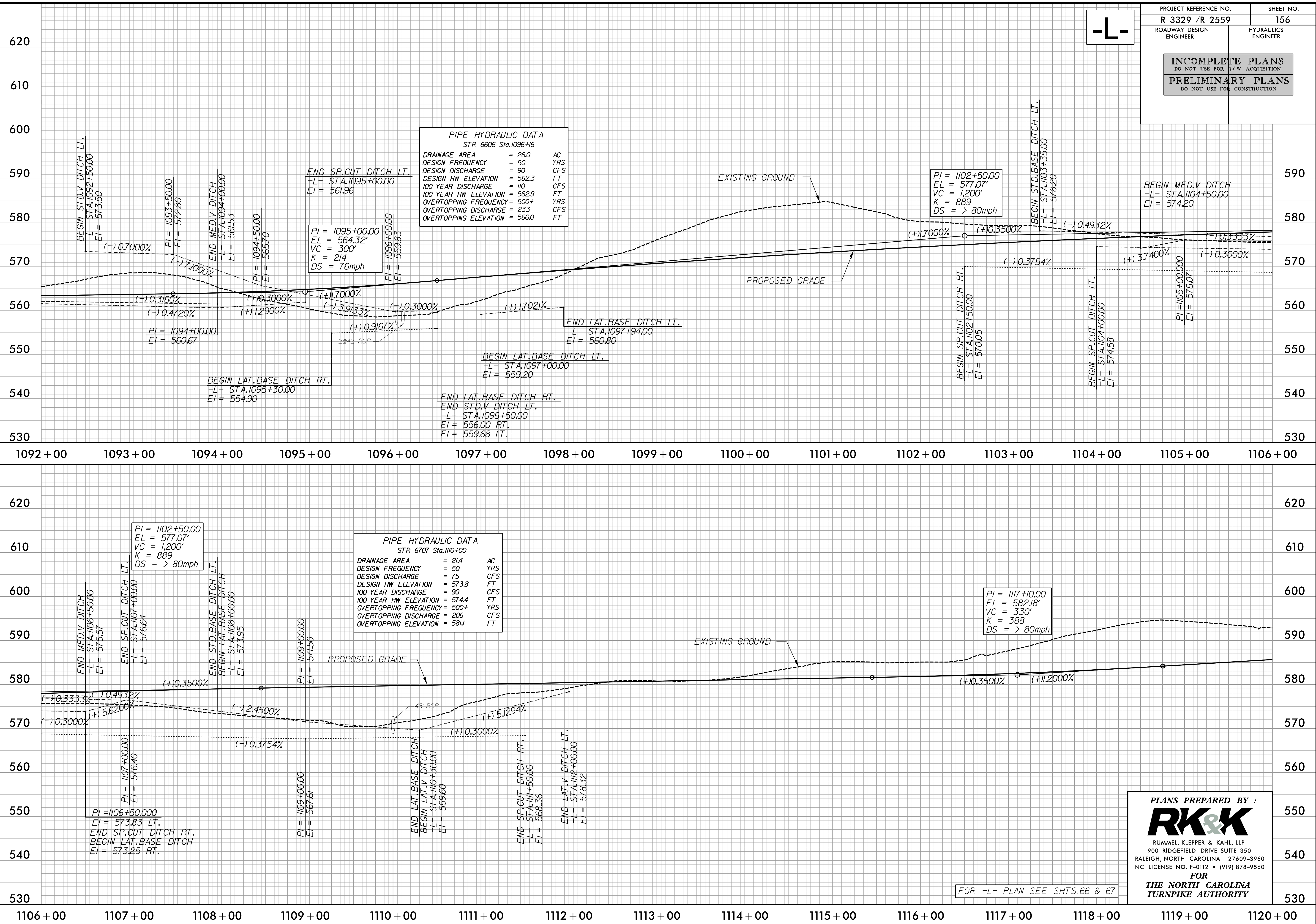
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$$\begin{aligned} PI &= 1065 + 80.00 \\ EL &= 538.10' \\ VC &= 350' \\ K &= 192 \\ DS &= 72 \text{ mph} \end{aligned}$$




5/28/99  
8/29/2014  
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Elevations



-L-

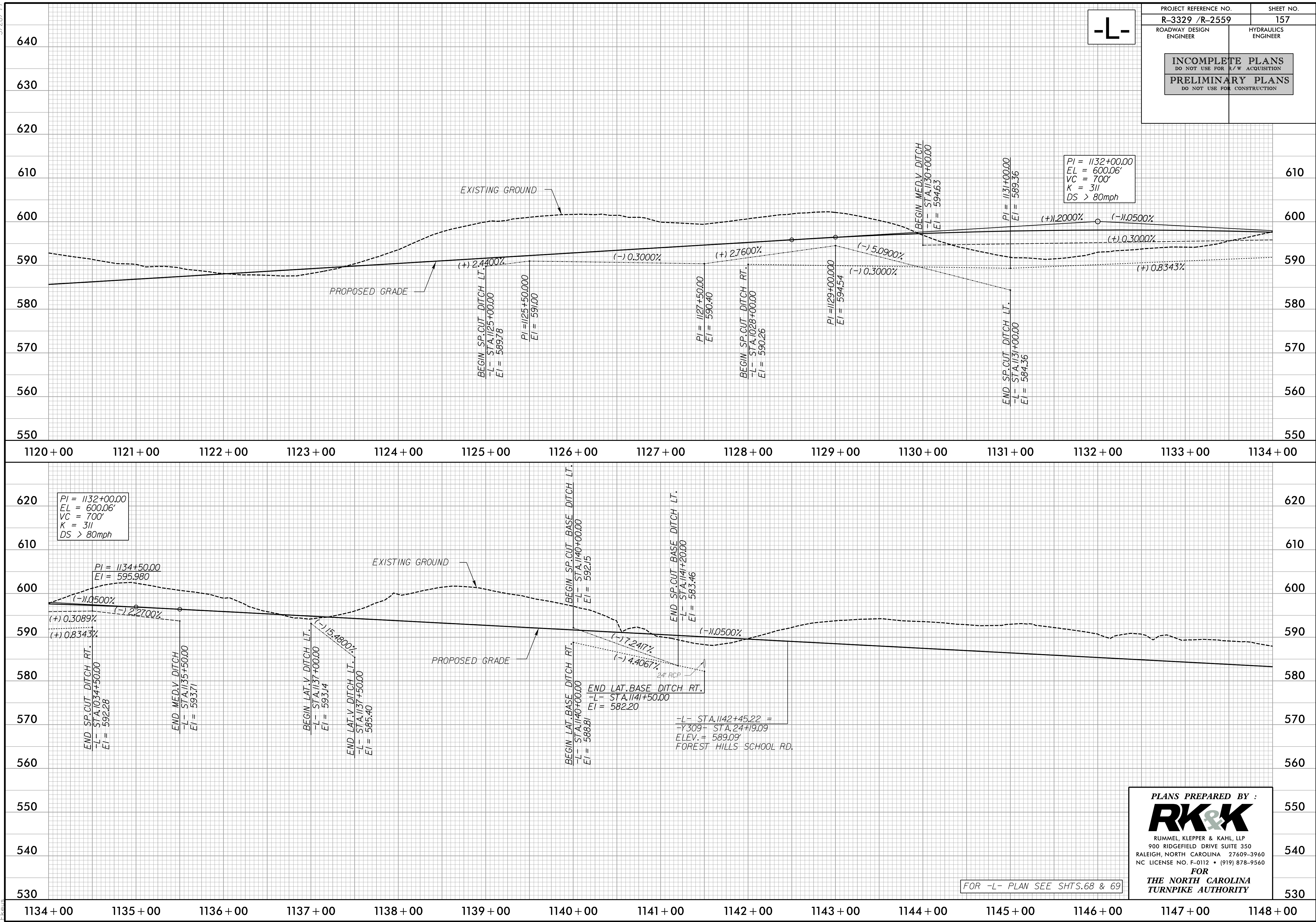
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|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 156                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

PLANS PREPARED BY :  
**RK&K**  
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THE NORTH CAROLINA  
TURNPIKE AUTHORITY

FOR -L- PLAN SEE SHTS.66 & 67



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8/29/2014  
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Elevs



-L-

|                                                    |  |                                                  |  |
|----------------------------------------------------|--|--------------------------------------------------|--|
| PROJECT REFERENCE NO.                              |  | SHEET NO.                                        |  |
| R-3329 /R-2559                                     |  | 157                                              |  |
| ROADWAY DESIGN ENGINEER                            |  | HYDRAULICS ENGINEER                              |  |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |  | PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |  |

PLANS PREPARED BY :

**RK&K**

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TURNPIKE AUTHORITY

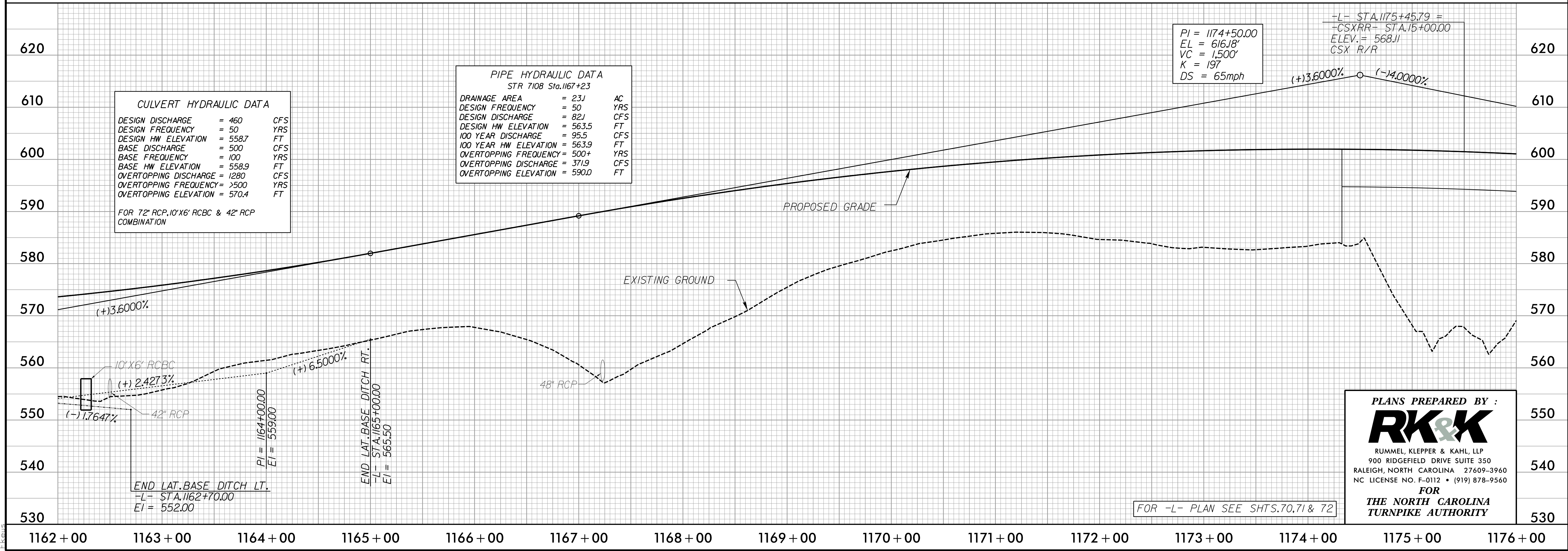
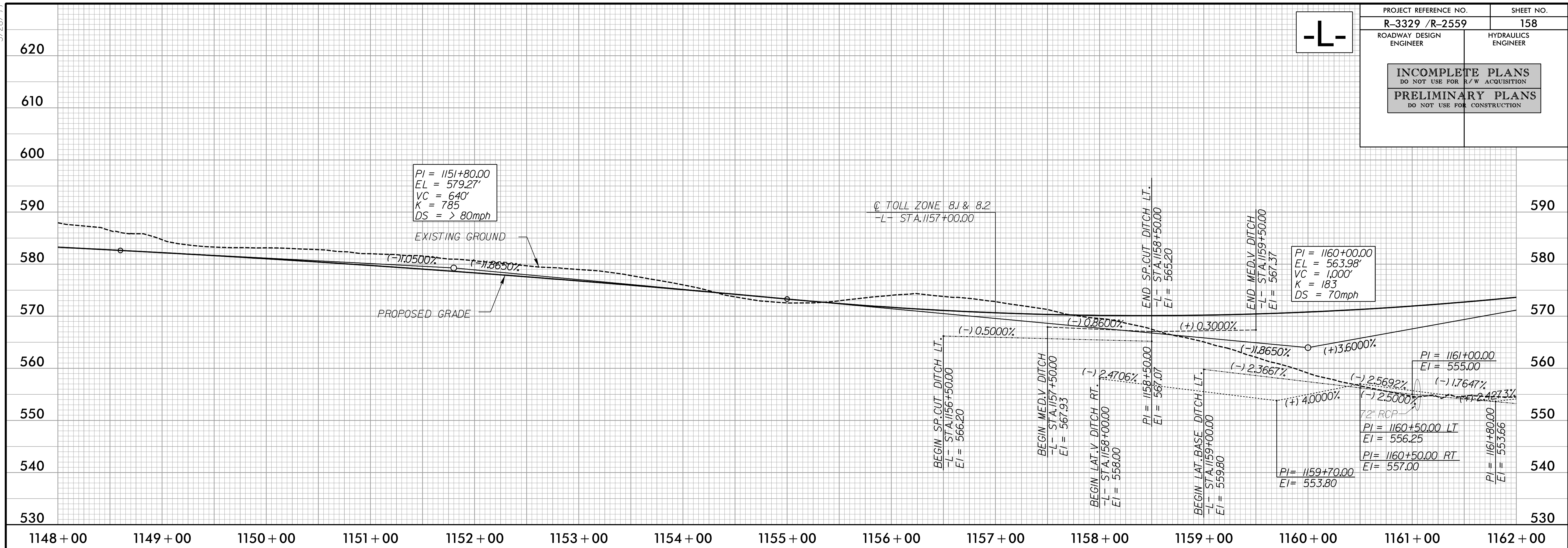
FOR -L- PLAN SEE SHTS.68 & 69



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8/28/2014  
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-L-

|                                                    |  |                     |  |
|----------------------------------------------------|--|---------------------|--|
| PROJECT REFERENCE NO.                              |  | SHEET NO.           |  |
| R-3329 /R-2559                                     |  | 158                 |  |
| ROADWAY DESIGN ENGINEER                            |  | HYDRAULICS ENGINEER |  |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |  |                     |  |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |  |                     |  |



| CULVERT HYDRAULIC DATA                         |         |     |
|------------------------------------------------|---------|-----|
| DESIGN DISCHARGE                               | = 460   | CFS |
| DESIGN FREQUENCY                               | = 50    | YRS |
| DESIGN HW ELEVATION                            | = 558.7 | FT  |
| BASE DISCHARGE                                 | = 500   | CFS |
| BASE FREQUENCY                                 | = 100   | YRS |
| BASE HW ELEVATION                              | = 558.9 | FT  |
| OVERTOPPING DISCHARGE                          | = 1280  | CFS |
| OVERTOPPING FREQUENCY                          | = >500  | YRS |
| OVERTOPPING ELEVATION                          | = 570.4 | FT  |
| FOR 72" RCP, 10'X6' RCBC & 42" RCP COMBINATION |         |     |

| PIPE HYDRAULIC DATA   |         |     |
|-----------------------|---------|-----|
| STR 7108 Sta. 1167+23 |         |     |
| DRAINAGE AREA         | = 23J   | AC  |
| DESIGN FREQUENCY      | = 50    | YRS |
| DESIGN DISCHARGE      | = 82J   | CFS |
| DESIGN HW ELEVATION   | = 563.5 | FT  |
| 100 YEAR DISCHARGE    | = 95.5  | CFS |
| 100 YEAR HW ELEVATION | = 563.9 | FT  |
| OVERTOPPING FREQUENCY | = 500+  | YRS |
| OVERTOPPING DISCHARGE | = 371.9 | CFS |
| OVERTOPPING ELEVATION | = 590.0 | FT  |

PLANS PREPARED BY :

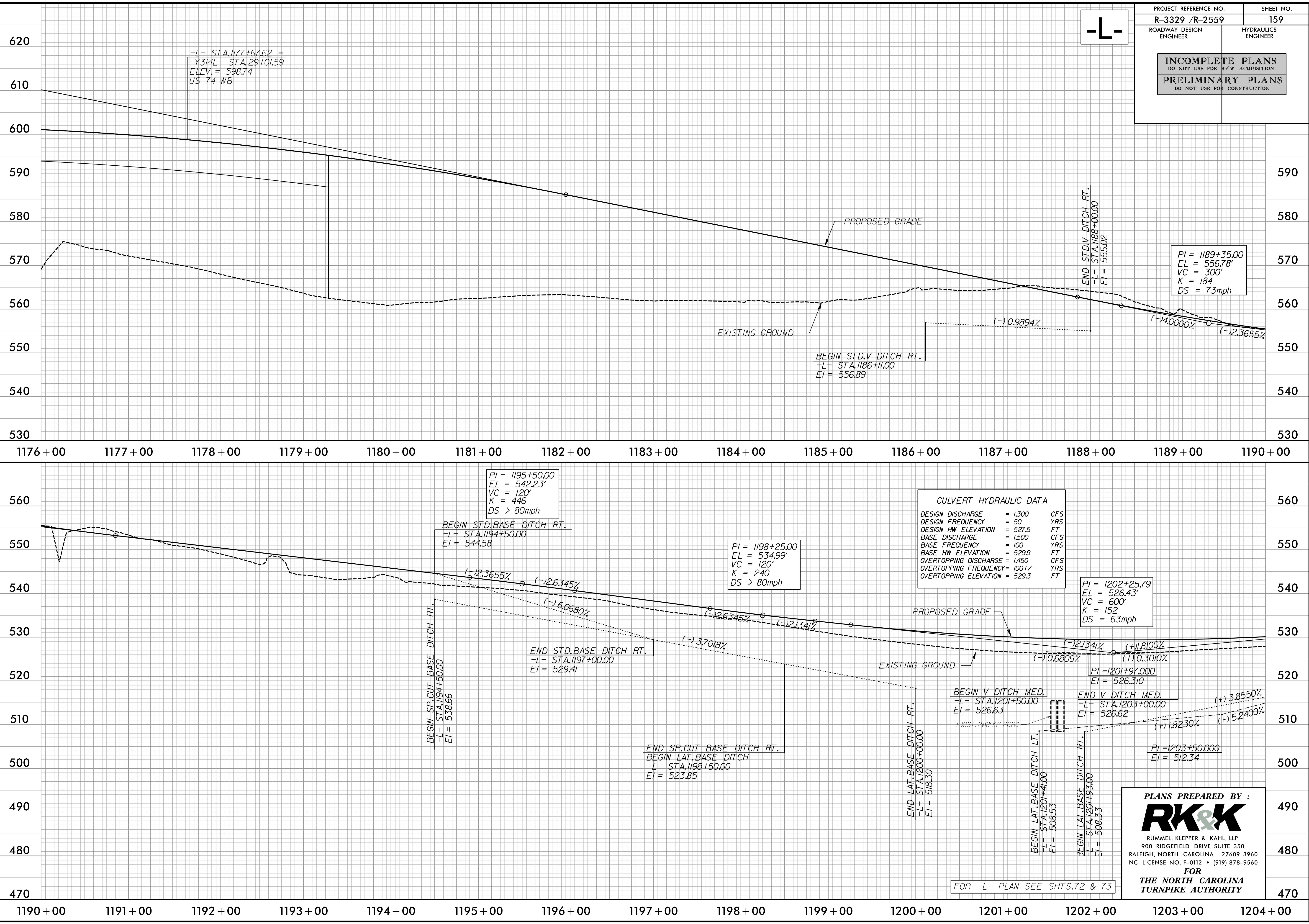
**RK&K**

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FOR  
**THE NORTH CAROLINA**  
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Elevs



PROJECT REFERENCE NO.

R-3329 /R-2559

SHEET NO.

159

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

-L-

-L- STA.1177+67.62 =  
-Y314L- STA.29+01.59  
ELEV. = 598.74  
US 74 WB

PI = 1189+35.00  
EL = 556.78'  
VC = 300'  
K = 184  
DS = 73mph

PI = 1195+50.00  
EL = 542.23'  
VC = 120'  
K = 446  
DS > 80mph

PI = 1198+25.00  
EL = 534.99'  
VC = 120'  
K = 240  
DS > 80mph

PI = 1202+25.79  
EL = 526.43'  
VC = 600'  
K = 152  
DS = 63mph

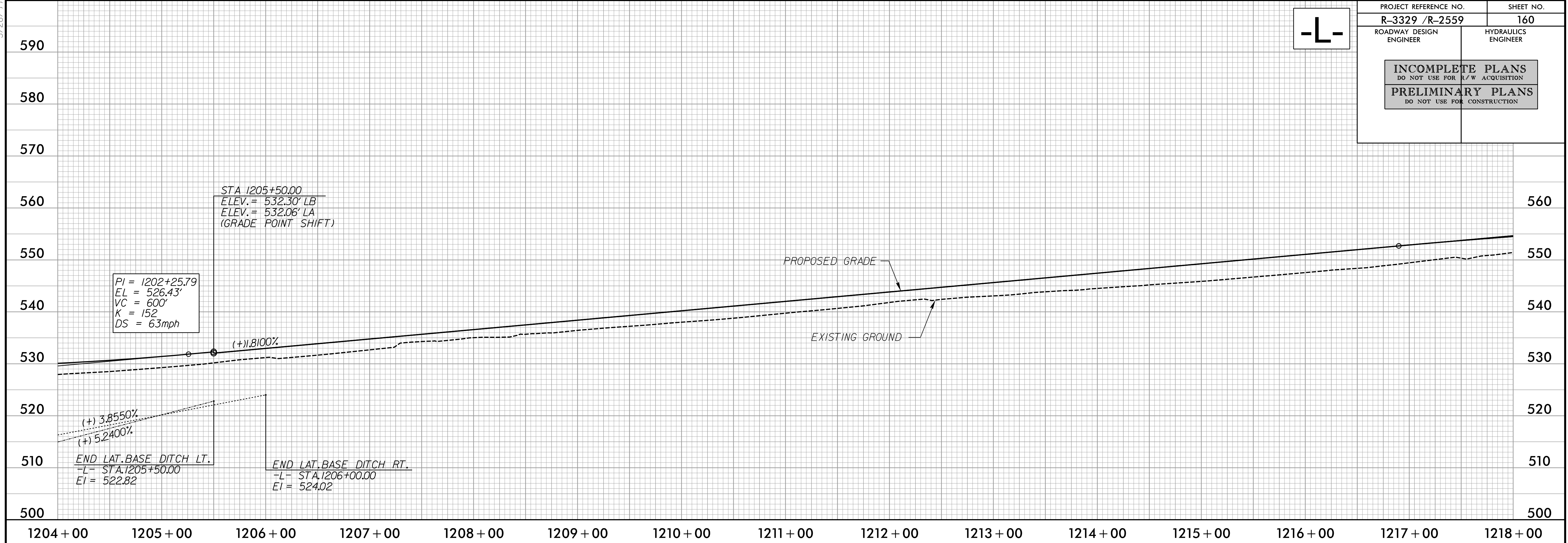
**PLANS PREPARED BY :**  
**RK&K**  
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**FOR**  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**



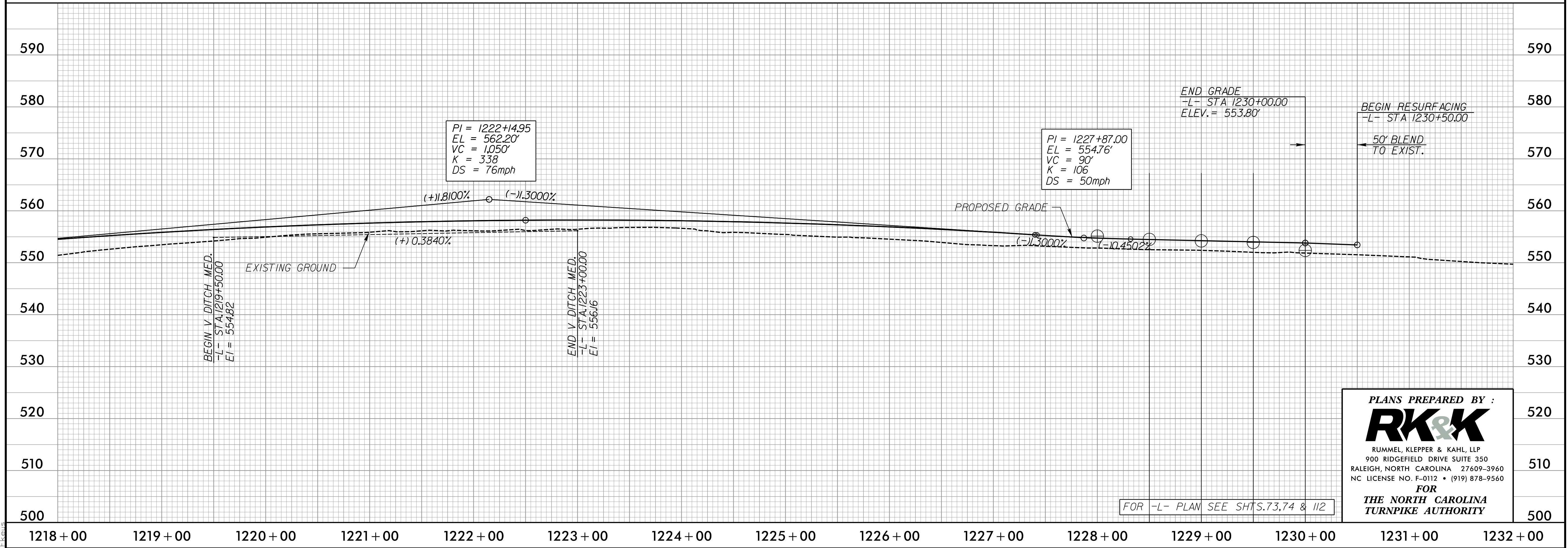
5/28/99

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|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 160                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



8/29/2014  
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FOR -L- PLAN SEE SHTS. 73, 74 & 112

PLANS PREPARED BY :

**RK&K**

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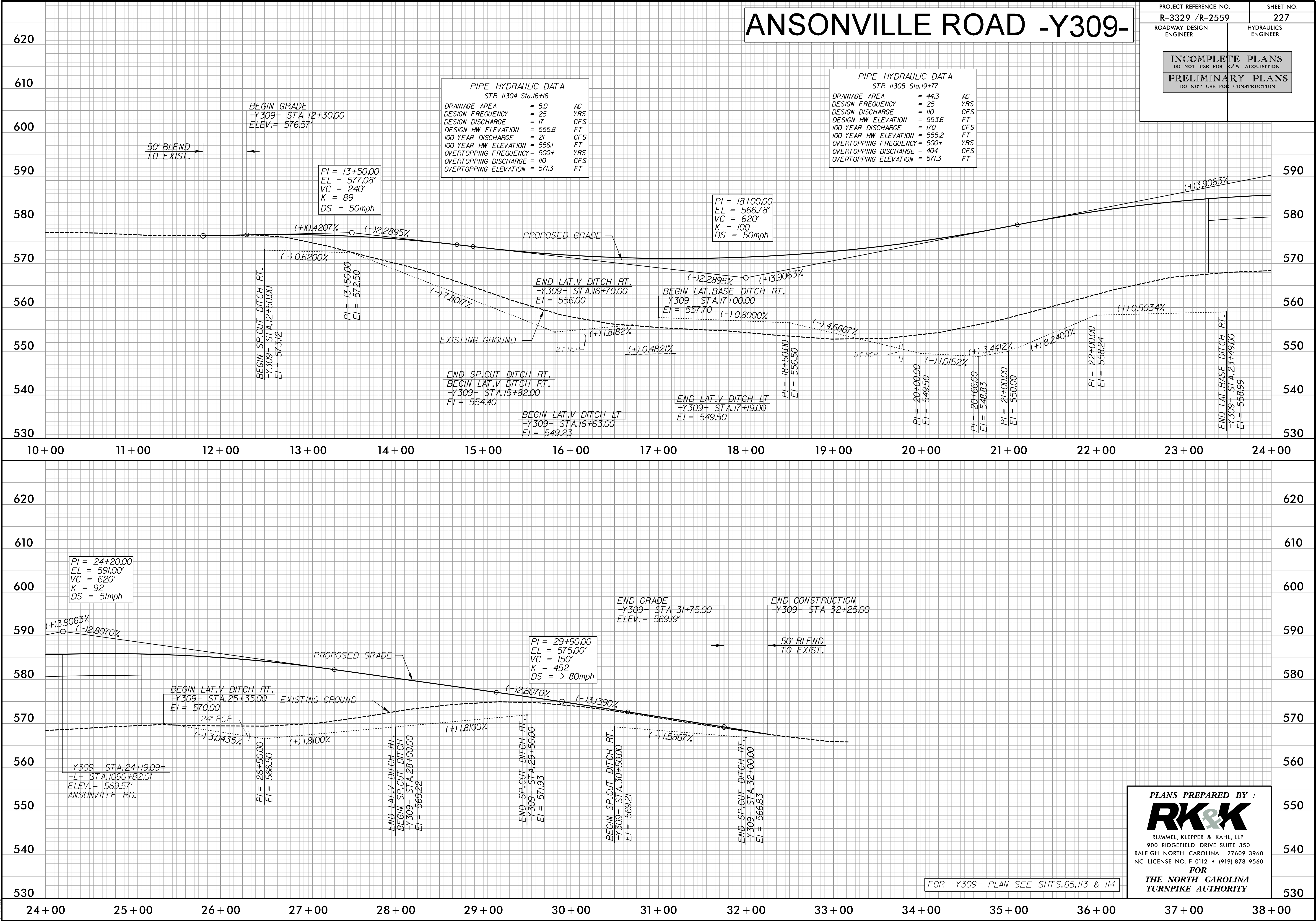
FOR  
**THE NORTH CAROLINA  
TURNPIKE AUTHORITY**



5/28/99

# ANSONVILLE ROAD -Y309-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 227                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



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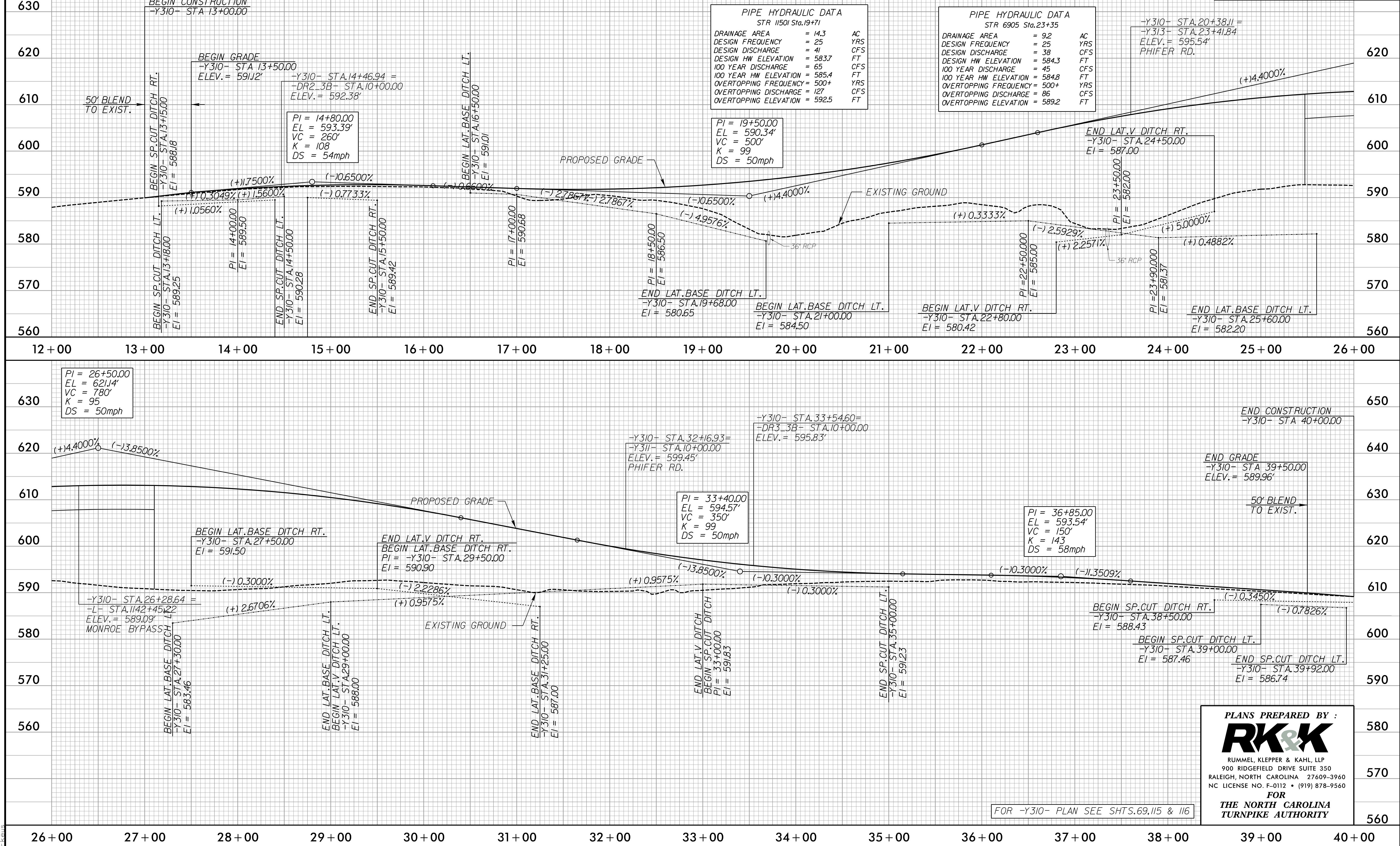
PLANS PREPARED BY :  
**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
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FOR  
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# FOREST HILLS SCHOOL ROAD -Y310-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 228                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



FOR -Y310- PLAN SEE SHTS. 69, 115 & 116

PLANS PREPARED BY :

**RK&K**

RUMMEL, KLEPPER & KAHL, LLP  
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RALEIGH, NORTH CAROLINA 27609-3960  
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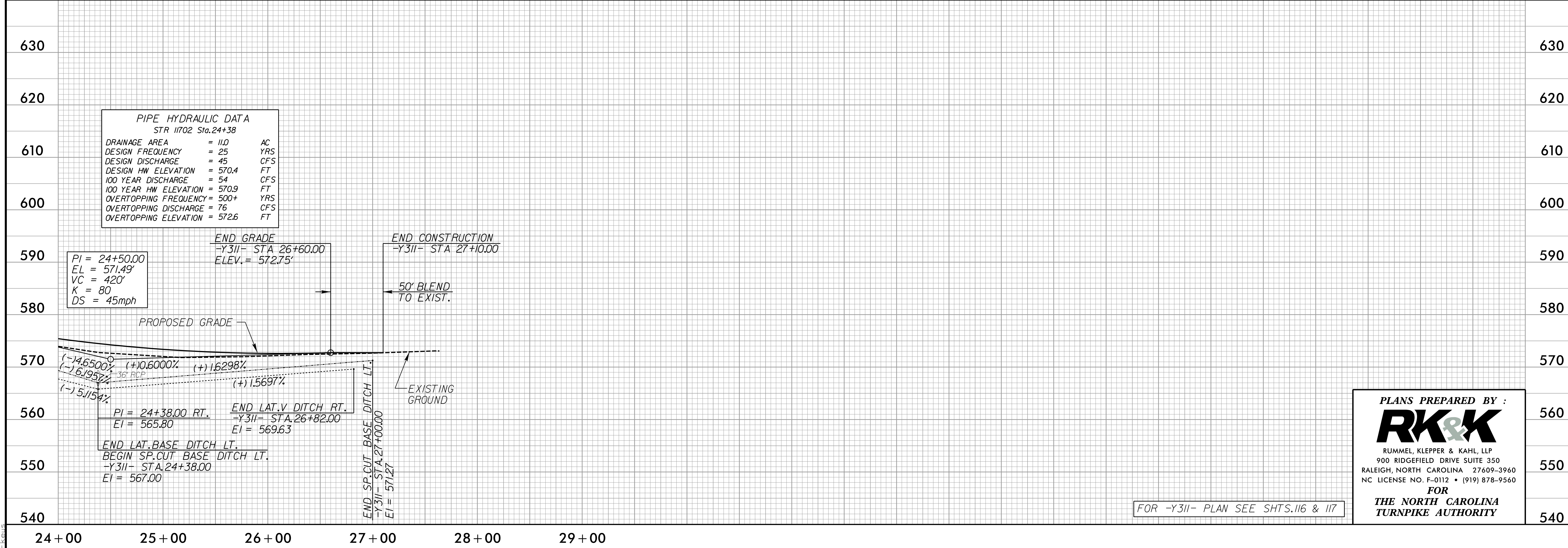
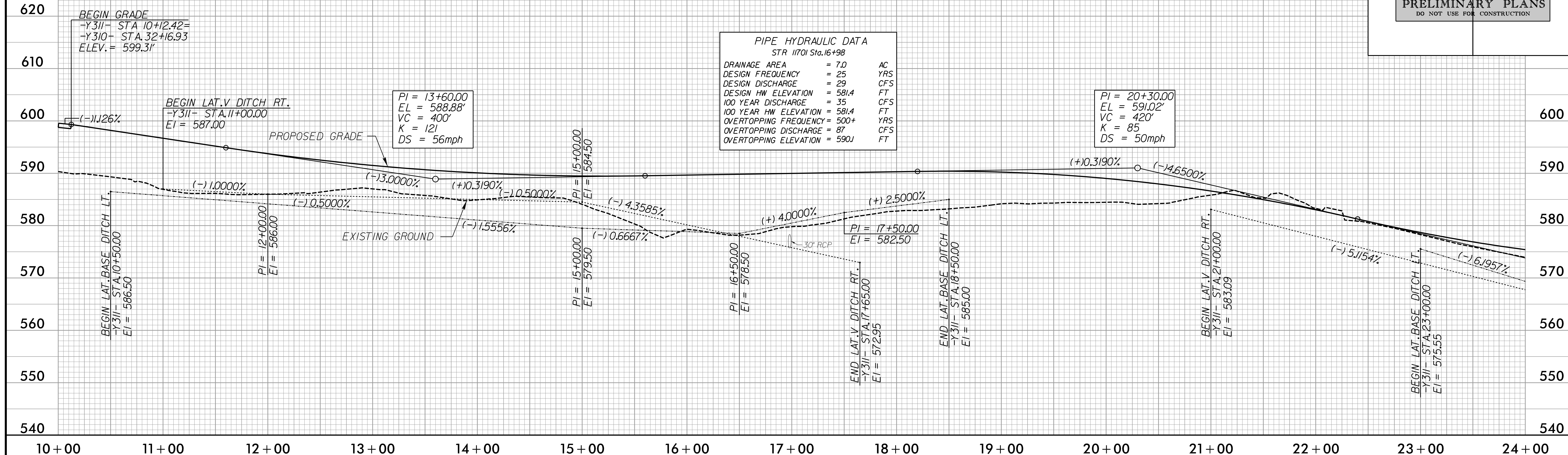
FOR  
**THE NORTH CAROLINA  
TURNPIKE AUTHORITY**



5/28/99

# PHIFER ROAD -Y311-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 229                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |



PLANS PREPARED BY :  
**RK&K**  
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FOR  
**THE NORTH CAROLINA**  
**TURNPIKE AUTHORITY**

FOR -Y311- PLAN SEE SHTS.116 & 117

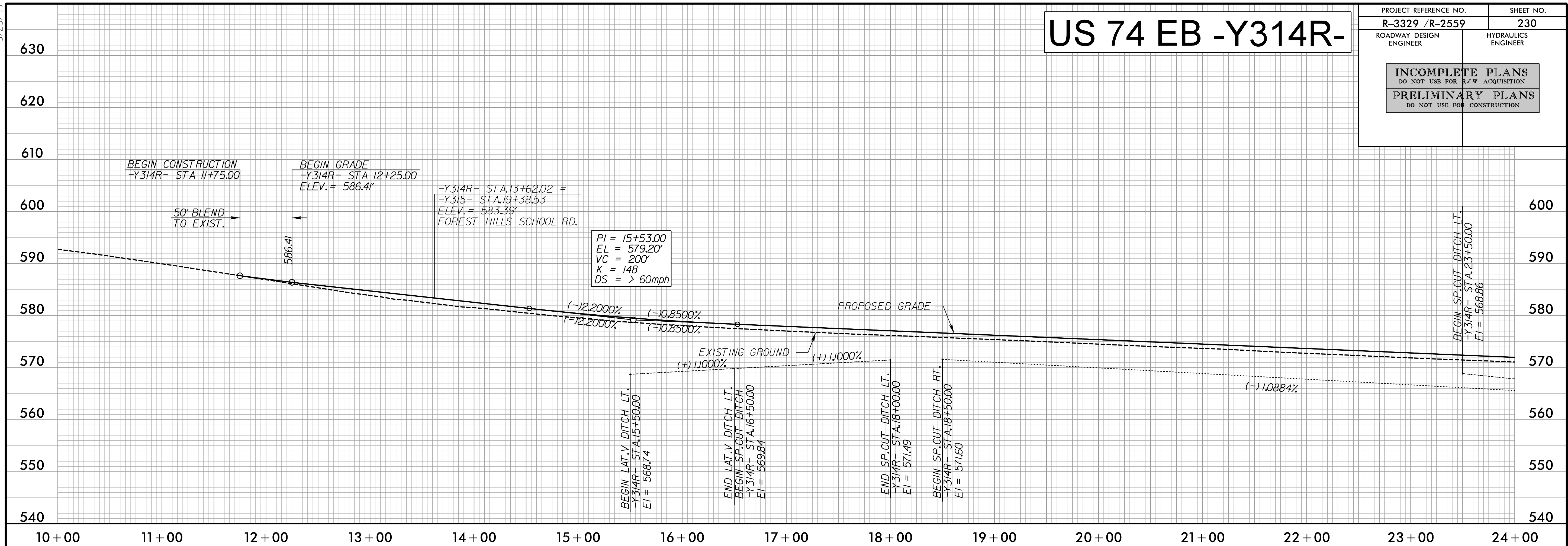
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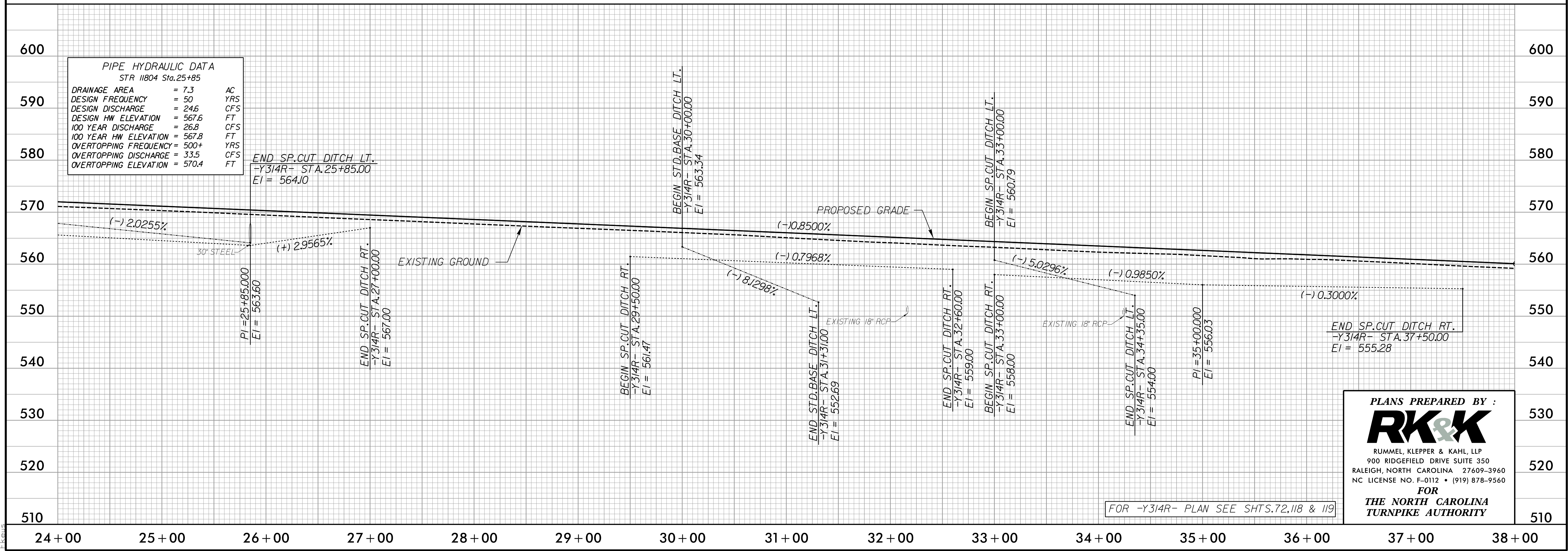
5/28/99

# US 74 EB -Y314R-

|                                                                                                                             |                        |           |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------|-----------|
| PROJECT REFERENCE NO.                                                                                                       |                        | SHEET NO. |
| R-3329 /R-2559                                                                                                              |                        | 230       |
| ROADWAY DESIGN<br>ENGINEER                                                                                                  | HYDRAULICS<br>ENGINEER |           |
| <div>INCOMPLETE PLANS<br/>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS<br/>DO NOT USE FOR CONSTRUCTION</div> |                        |           |



8/29/2014  
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FOR -Y314R- PLAN SEE SHTS. 72, 118 & 119

PLANS PREPARED BY :

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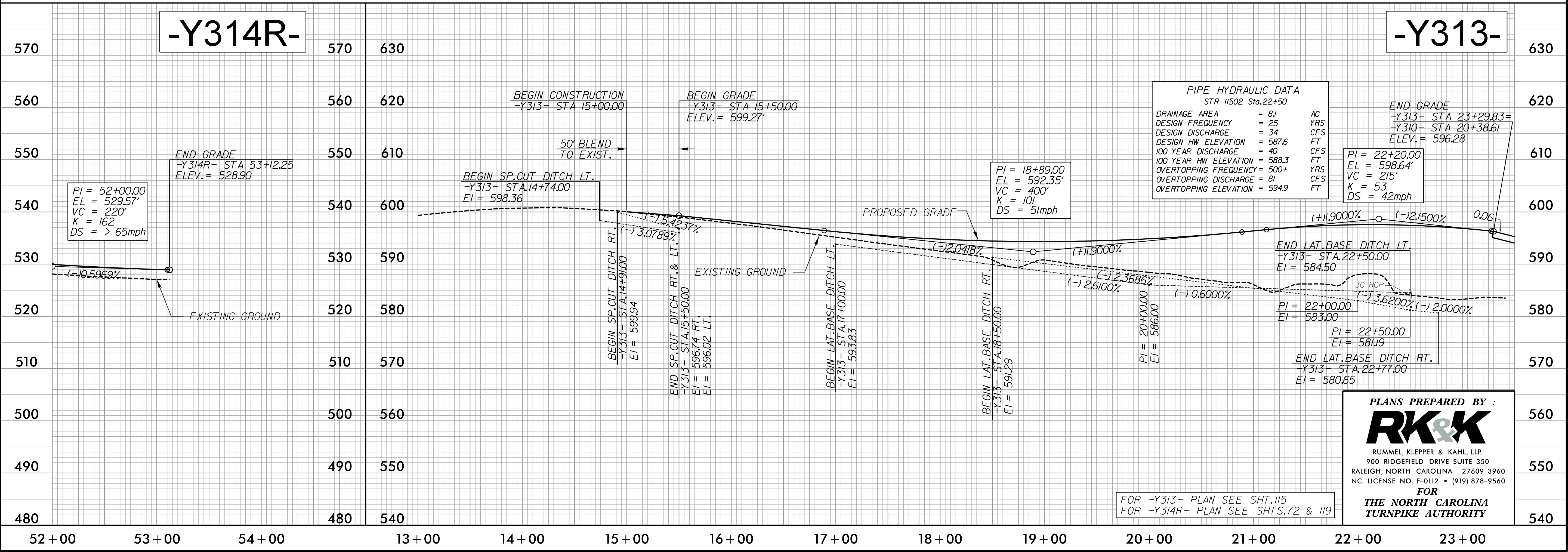
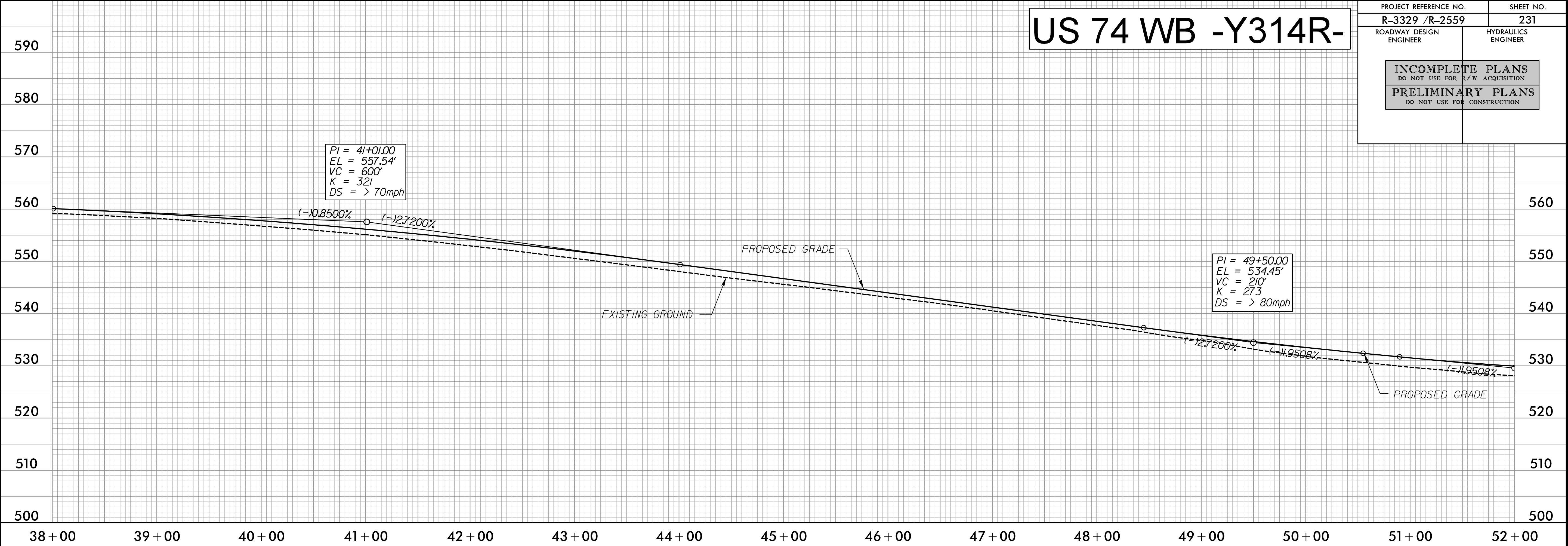
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8/29/2014  
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US 74 WB -Y314R-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 231                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

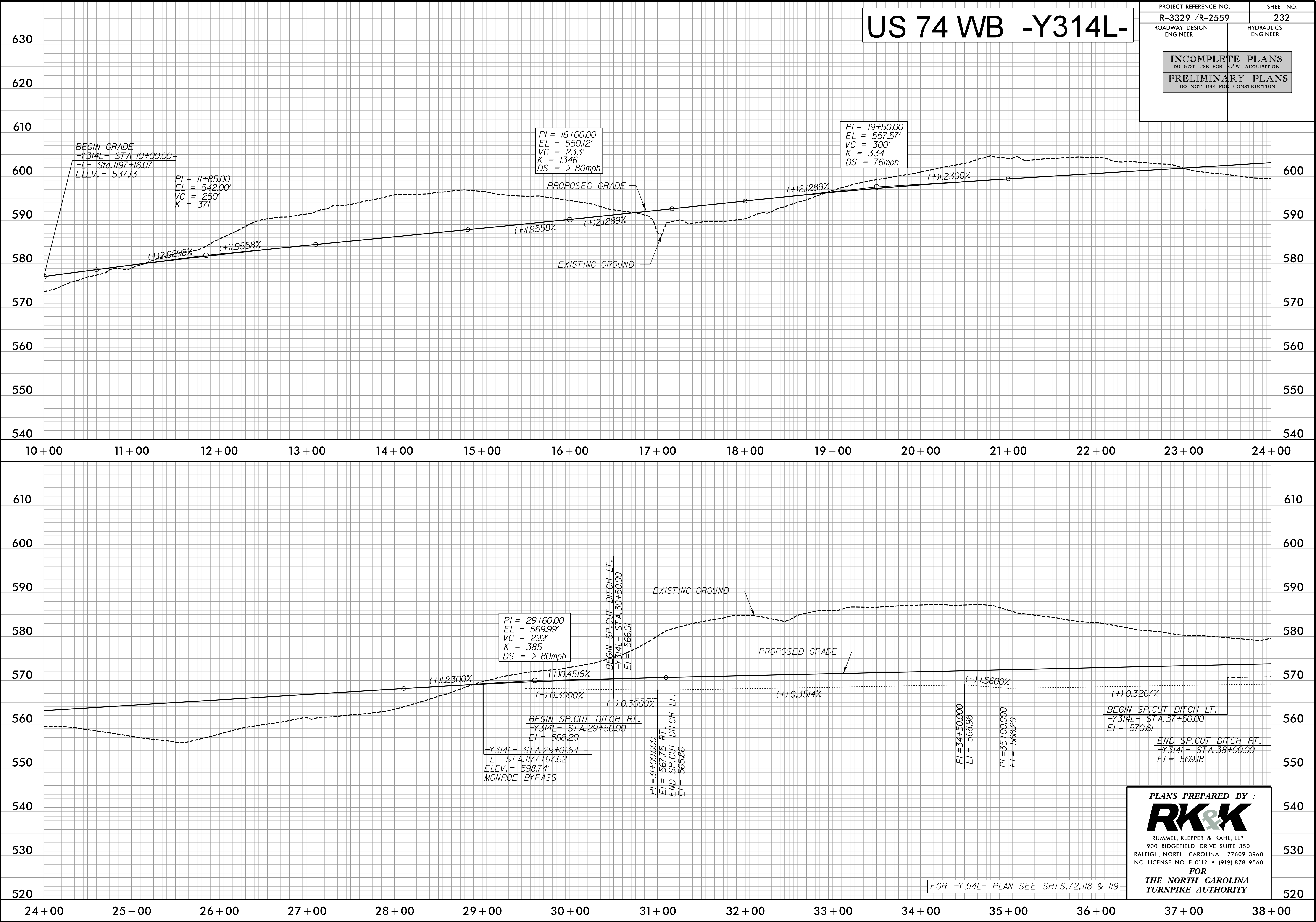




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US 74 WB -Y314L-

|                                                    |                     |
|----------------------------------------------------|---------------------|
| PROJECT REFERENCE NO.                              | SHEET NO.           |
| R-3329 /R-2559                                     | 232                 |
| ROADWAY DESIGN ENGINEER                            | HYDRAULICS ENGINEER |
| INCOMPLETE PLANS<br>DO NOT USE FOR R/W ACQUISITION |                     |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION   |                     |

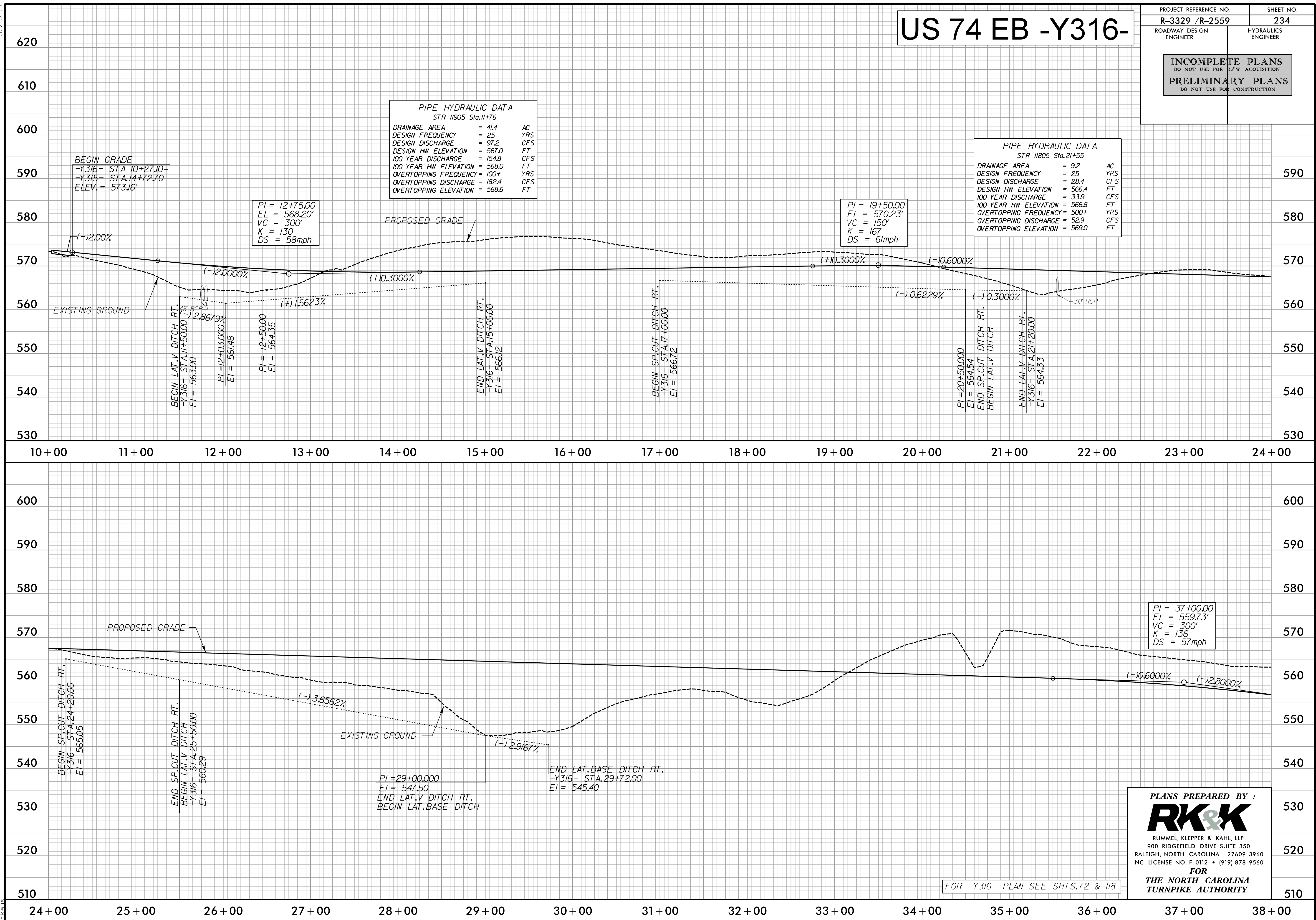








US 74 EB -Y316-



FOR -Y316- PLAN SEE SHTS.72 & 118

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