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FIRM PE NUMBER : P-0671

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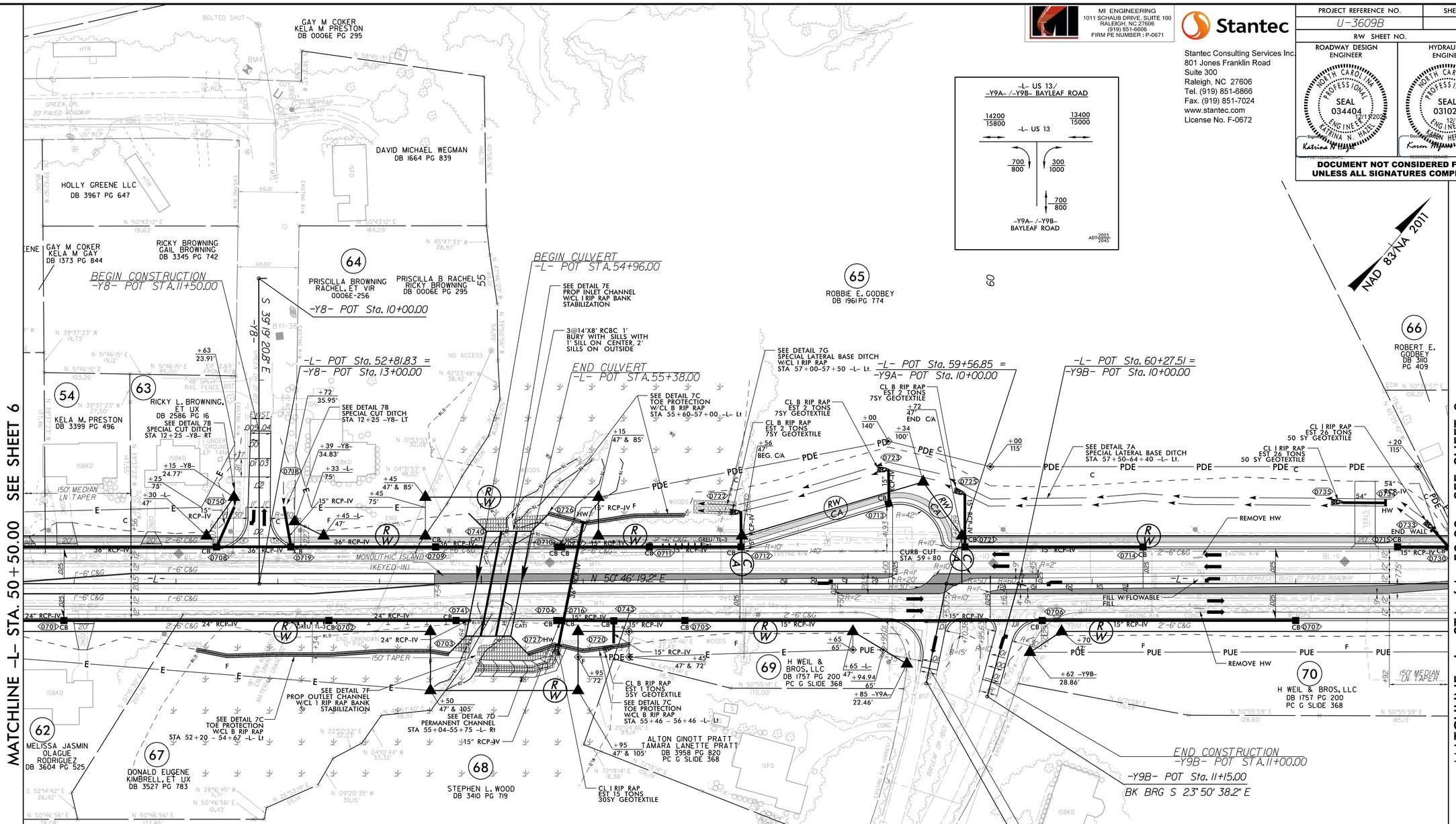
License No. F-0672

PROJECT REFERENCE NO.	SHEET NO.
U-3609B	7
R/W SHEET NO.	

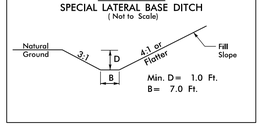
ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HALL — 12/11/2025 — Katrina N Hall

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER — 12/10/2025 — Karen Hefner

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

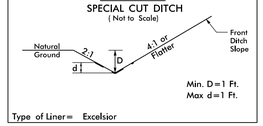


DETAIL 7A
SPECIAL LATERAL BASE DITCH
(Not to Scale)



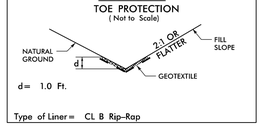
FROM STA. 57+50 TO STA. 64+40 -L- Lt

DETAIL 7B
SPECIAL CUT DITCH
(Not to Scale)



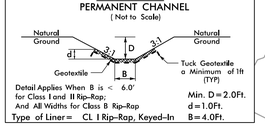
STA. 12+25-12+50 -Y8- LT
STA. 12+25-12+50 -Y8- RT

DETAIL 7C
TOE PROTECTION
(Not to Scale)



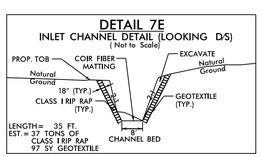
FROM STA. 52+20 TO STA. 54+67 -L- Rt
EST 20 TONS 67 SY GEOTEXTILE
FROM STA. 55+46 TO STA. 56+46 -L- Rt
EST 50 TONS 165 SY GEOTEXTILE
FROM STA. 55+60 TO STA. 57+00 -L- Lt
EST 28 TONS 94 SY GEOTEXTILE

DETAIL 7D
PERMANENT CHANNEL
(Not to Scale)

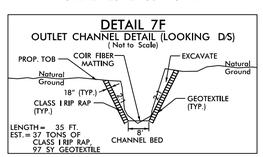


FROM STA. 55+04 TO STA. 55+75 -L- Rt
DDE=75CY
EST 130 TONS CL 1 RIP RAP; 220SY GEOTEXTILE

DETAIL 7E
INLET CHANNEL DETAIL (LOOKING D/S)
(Not to Scale)



DETAIL 7F
OUTLET CHANNEL DETAIL (LOOKING D/S)
(Not to Scale)



DETAIL 7G
SPECIAL LATERAL BASE DITCH
(Not to Scale)

FROM STA. 57+00 TO STA. 57+50 -L- Lt
EST 27 TONS
88 SY GEOTEXTILE

NOTE: REFER TO TRAFFIC MANAGEMENT PLANS FOR TEMPORARY SHORING PARAMETERS FOR CULVERT FROM -L- STA. 54+60 TO 56+00 RT.

SEE SHEET 18 FOR -L- PROFILE
SEE SHEET 23 FOR -Y8- PROFILE
SEE SHEET 24 FOR -Y9A- & -Y9B- PROFILES
SEE SHEETS C-1 THRUC-8 FOR CULVERT PLANS
REMOVE ALL DRIVE PIPES ON PROJECT UNLESS OTHERWISE NOTED

11/5/2025
U:\Roadway\Proj\U3609B_rdy_psh07.dgn
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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HATEL — 12/11/2025

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER — 12/10/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L- US 13/
-Y10-/-Y11- SR 1571 (TOMMYS RD.)

-Y10- SR 1571 (TOMMYS RD.)
3000/3100 — 13400/15000 — 1000/900 — 1200/1300 — 13600/15500
-L- US 13
100/100 — 100/100
1000/1100
-Y11- SR 1571 (TOMMYS RD.)
ADT 2025/2045

-Y10-
PI Sta 11+96.08
Δ = 2° 19' 50.5" (RT)
D = 0° 43' 40.9"
L = 320.14'
T = 160.09'
R = 7,870.00'
SE = SEE PLANS
RO = SEE PLANS
DS = 50 MPH

-Y11-
PI Sta 17+06.67
Δ = 43° 45' 02.1" (RT)
D = 4° 14' 38.9"
L = 1,030.85'
T = 542.02'
R = 1,350.00'
SE = SEE PLANS
RO = SEE PLANS
DS = 50 MPH

MATCHLINE -L- STA. 64+50.00 SEE SHEET 7

MATCHLINE -L- STA. 78+50.00 SEE SHEET 9

MATCHLINE -Y11- STA. 15+00.00 SEE SHEET 16

NAD 83/NA 2011

-Y10- PC Sta. 10+35.99

-Y10- POT Sta. 10+00.00
AHD BRG S 68° 33' 01.8" E

BEGIN CONSTRUCTION
-Y10- POT ST A.10+90.00

-Y10- PT Sta. 13+56.12
AHD BRG S 66° 13' 11.3" E

-L- POT Sta. 75+39.01 =
-Y10- POT Sta. 14+00.00
-Y11- POT Sta. 10+00.00

-Y11- PC Sta. 11+64.65
BK BRG S 66° 13' 11.3" E

66 ROBERT E. GODBEY DB 310 PG 409

70 H WEIL & BROS, LLC DB 1757 PG 200 PC G SLIDE 368

71 ATLAS DEV. CO., INC DB 1468 PG 523 PC N SLIDE 22E

72 ATLAS DEV. CO., INC. DB 1468 PG 523 PC N SLIDE 22E

73 ATLAS DEV. CO., INC. DB 1152 PG 276 PC N SLIDE 22E

74 HORIZON CAPITAL GROUP, LLC DB 3508 PG 142

75 HORIZON CAPITAL GROUP, LLC DB 3582 PG 736

76 GLENWOOD R SMITH DB 3375 PG 635

77 JAMES A. MOORING, ET UX DB 3562 PG 443

78 KAREN CRUMPLER DB 0024E PG 450 PC 1 PG 22

79 MYRTLE ROWE GLOVER DB 1134 PG 787 PC 1 PG 22

80 TRUSTEES OF WOODS GROVE PENTECOSTAL FREE WILL BAPTIST CHURCH DB 1884 PG 611 PC 1 SLIDE 22

REMOVE 25' 24" RCP
REMOVE 24' 12" HDPE

SEE DETAIL 8A SPECIAL LATERAL "V" DITCH STA 65+50-66+00 -L- Rt.

SEE DETAIL 8D SPECIAL LATERAL "V" DITCH STA 65+00-65+50 -L- Rt.

CL B RIP RAP EST 1 TONS 5SY GEOTEXTILE

CONTRACTOR IS ALLOWED TO ACCESS PARCEL BEYOND TCE FOR PURPOSES OF CONNECTING DRIVEWAY TO THE PROPOSED ROADWAY GRADE

DUKE ENERGY (PIEDMONT NATURAL GAS) PIPELINE EASEMENT "A"

DUKE ENERGY (PIEDMONT NATURAL GAS)

DUKE ENERGY (PIEDMONT NATURAL GAS) PIPELINE EASEMENT "B"

SEE DETAIL 8B SPECIAL CUT "V" DITCH STA 10+90-12+50 -Y10- RT.

SEE DETAIL 8B SPECIAL CUT "V" DITCH STA 10+90-12+50 -Y10- LT

SEE DETAIL 8B SPECIAL CUT DITCH STA 10+50 - 15+75 -Y11- Rt

SEE DETAIL 8B SPECIAL CUT DITCH STA 11+00 - 11+75 -Y11- Lt

SEE DETAIL 8C SPECIAL LATERAL "V" DITCH STA 11+75-15+50 -Y11- Lt

150' MEDIAN LN. TAPER — 75' UNIFORM TAPER — 150' MEDIAN LN TAPER

MONOLITHIC ISLAND (KEYED-IN)

CURB CUT STA 69+41

CURB CUT STA 76+50

US 13/N. BERKELEY BLVD 36' PAVED ROADWAY

8" X 12" CURB W/LT

SIGNAL UPGRADE

DETAIL 8A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground — 2:1 — D — 4:1 or Flatter — Fill Slope
Min. D = 1.0 Ft.
FROM STA. 65+50 TO STA. 66+00 -L- Rt.

DETAIL 8B
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground — 6:1 — D — 4:1 or Flatter — Front Ditch Slope
Min. D = 1.0Ft.
FROM STA. 10+90 TO STA. 12+50 -Y10- Rt
FROM STA. 10+90 TO STA. 12+50 -Y10- Lt
FROM STA. 10+50 TO STA. 15+75 -Y11- Rt
FROM STA. 11+00 TO STA. 11+75 -Y11- Lt

DETAIL 8C
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground — 6:1 — D — 4:1 or Flatter — Fill Slope
Min. D = 0.50 Ft.
FROM STA. 11+75 TO STA. 15+50 -Y11- Lt

DETAIL 8D
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground — 2:1 — D — d — 4:1 or Flatter — Fill Slope
Geotextile
Type of Liner = CL B Rip-Rap
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
FROM STA. 65+00 TO STA. 65+50 -L- Rt.
EST 18 TONS 53SY GEOTEXTILE

SEE SHEETS 18 & 19 FOR -L- PROFILE
SEE SHEET 24 FOR -Y10- PROFILE
SEE SHEET 25 FOR -Y11-, -Y12- PROFILE
REMOVE ALL DRIVE PIPES ON PROJECT UNLESS OTHERWISE NOTED

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11/5/2025
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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HATEL 12/11/2025 — Katrina N Hatel

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER 12/10/2025 — Karen Hefner

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-
PI Sta 82+92.82
Δ = 7° 17' 54.7" (LT)
D = 1° 09' 35.4"
L = 629.27'
T = 315.06'
R = 4,940.00'
SE = SEE PLANS
DS = 50 MPH

-Y13-
PI Sta 13+93.31
Δ = 12° 03' 38.7" (LT)
D = 2° 51' 53.2"
L = 421.00'
T = 211.28'
R = 2,000.00'

DETAIL 9A
SPECIAL LATERAL "V" DITCH
(Not to Scale)
Natural Ground — 2:1 — D — 4:1 or Flatter — Fill Slope
Min. D = 1.0 Ft.
FROM STA. 78+50 TO STA. 82+33 -L- RT

NAD 83/NA 2011

MATCHLINE -L- STA. 78+50.00 SEE SHEET 8

MATCHLINE -L- STA. 89+50.00 SEE SHEET 10

MATCHLINE -Y13- STA. 12+25.00 SEE SHEET 10

MATCHLINE -Y13- STA. 19+50.00 SEE SHEET 16

-L- PT Sta. 86+07.03
AHD BRG N 43° 28' 24.5" E

-L- PC Sta. 79+77.75

-Y13 PT Sta. 15+24.21

END CONSTRUCTION
-Y13- POT STA.13+35.00

77 JAMES A. MOORING, ET UX DB 3562 PG 443

81 PHILIP CRAIG SMITH, ET UX DB 728 PG 126

82 PHILIP CRAIG SMITH, ET UX DB 3603 PG 370

83 GLENWOOD RAY SMITH, ET UX DB 1154 PG 558

84 YONG S ELISARRAZ, ET VIR DB 1665 PG 142

85 TRENTON SETH MARLOWE DB 3890 PG 295

86 TRENTON SETH MARLOWE DB 3890 PG 295

87A GOLDSBORO HOLDINGS LLC DB 3937 PG 416 PC G SLIDE 384

87B GOLDSBORO HOLDINGS LLC DB 3937 PG 416 PC G SLIDE 384

88 KENNETH DARYL PEELE DB 2412 PG 571

89 WOODS GROVE PENTECOSTAL FREE WILL BAPTIST CHURC, TRUSTEES DB 2859 PG 177

90 ZCO PROPERTIES, LLC DB 3422 PG 113

91 MICHAEL DWIGHT PEELE DB 2412 PG 568

92 DEPARTMENT OF TRANSPORTATION DB 3680 COLLAR PG 483

80 TRUSTEES OF WOODS GROVE PENTECOSTAL FREE WILL BAPTIST CHURCH DB 1884 PG 611 PC I PG 22

TRUSTEES OF WOODS GROVE PENTECOSTAL FREE WILL BAPTIST CHURCH DB 1458 PG 513

CH WOODS GROVE PENTECOSTAL BAPTIST CHURCH NO RECORDS FOUND

FREE WILL BAPTIST CHURCH TRUSTEES OF WOODS GROVE PENTECOSTAL DB 1676 PG 319

BONNIE LOU PEELE BLEDSOLE DB 3115 PG 346

BONNIE LOU PEELE BLEDSOLE DB 2412 PG 564

VICKI GRADY SUTTON DB 2429 PG 263 DB 1132 PG 271

STEVE G. GRADY DB 2849 PG 640

STEVE G. GRADY DB 2849 PG 644

JOSEPH EDWARD DANIELS, SR. 0004E-89

ANTHONY M. BEST DB 2612 PG 220

TONY SMITH, ET UX DB 862 PG 656

TONY ALLEN SMITH JILL DARROUGH DB 3733 PG 40

CONTRACTOR IS ALLOWED TO ACCESS PARCEL BEYOND TCE FOR PURPOSES OF CONNECTING DRIVEWAY TO THE PROPOSED ROADWAY GRADE

SEE DETAIL 9A SPECIAL LATERAL "V" DITCH STA 78+50 - 82+33 -L- RT

CL B RIP RAP EST 2 TONS 7SY GEOTEXTILE

REMOVE 10' 18"RCP

GRADE TO DRAIN

FILL W/ FLOWABLE FILL

RETAIN

REMOVE 12' 10" HDPE

CURB CUT STA 89+10

MONOLITHIC ISLAND (KEYED-IN)

150' TAPER

N 50° 46' 19.2" E

S 6° 19' 42.3" W

SEE SHEET 19 FOR -L- PROFILE
SEE SHEET 26 FOR -Y13- PROFILE
REMOVE ALL DRIVE PIPES ON PROJECT UNLESS OTHERWISE NOTED

11/25/2025
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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	10
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HATEL 12/11/2025 — Katrina N Hatel

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER 12/10/2025 — Karen Hefner

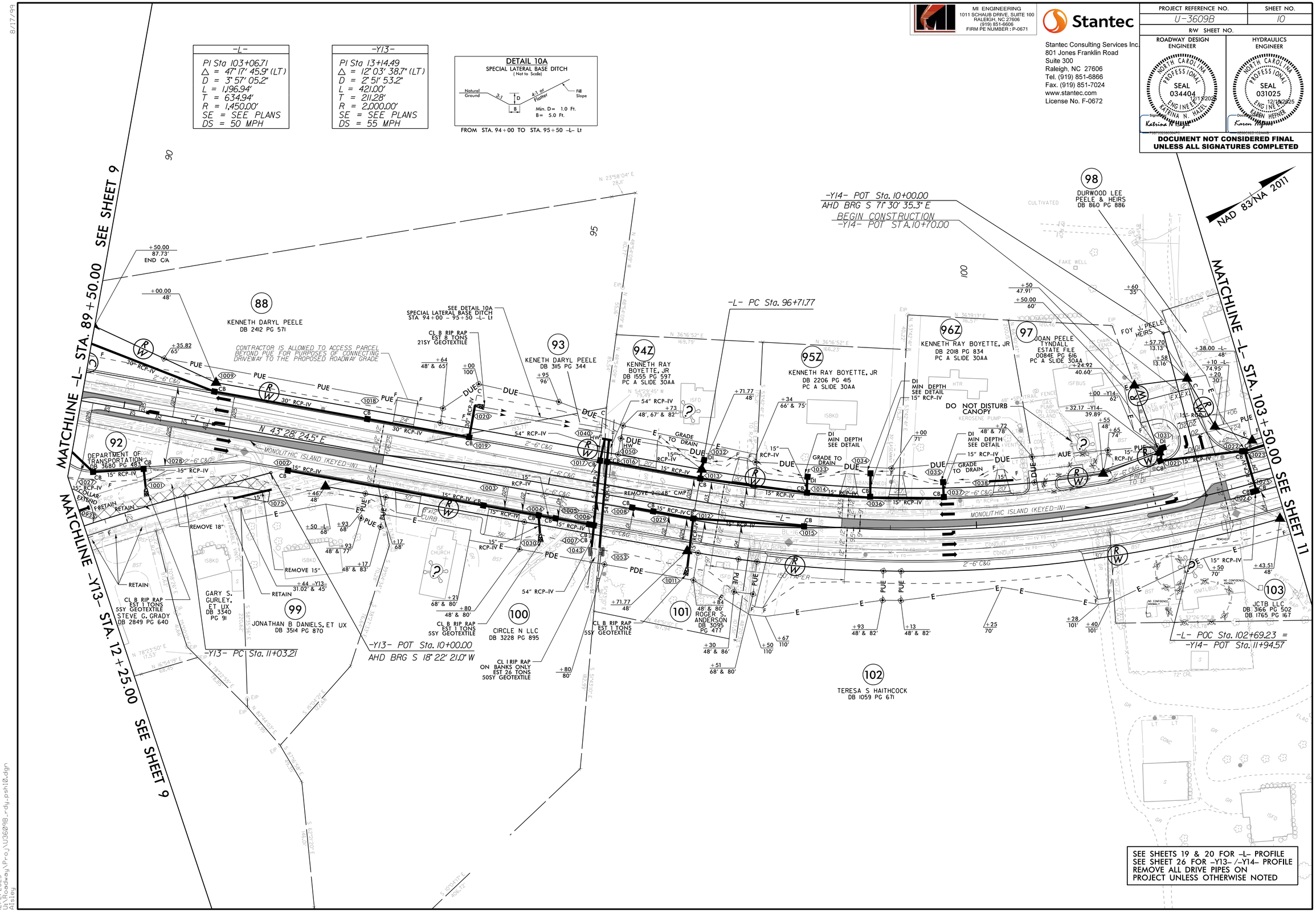
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-
PI Sta 103+06.71
△ = 47° 17' 45.9" (LT)
D = 3° 57' 05.2"
L = 1,196.94'
T = 634.94'
R = 1,450.00'
SE = SEE PLANS
DS = 50 MPH

-Y13-
PI Sta 13+14.49
△ = 12° 03' 38.7" (LT)
D = 2° 51' 53.2"
L = 421.00'
T = 211.28'
R = 2,000.00'
SE = SEE PLANS
DS = 55 MPH

DETAIL 10A
SPECIAL LATERAL BASE DITCH
(Not to Scale)

FROM STA. 94+00 TO STA. 95+50 -L- Lt



SEE SHEETS 19 & 20 FOR -L- PROFILE
SEE SHEET 26 FOR -Y13- /-Y14- PROFILE
REMOVE ALL DRIVE PIPES ON PROJECT UNLESS OTHERWISE NOTED

12/2/2025
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FIRM PE NUMBER : P-0671

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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	11
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HATEL 12/11/2025 — Katrina N Hatel

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER 12/10/2025 — Karen Hefner

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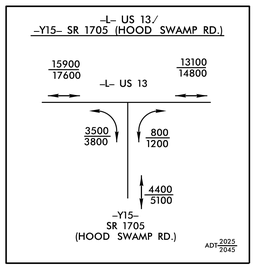

-L-	
PI Sta 102+98.12	PI Sta 126+67.29
△ = 47° 17' 45.9" (LT)	△ = 23° 46' 46.8" (RT)
D = 3° 57' 05.2"	D = 0° 57' 23.5"
L = 1,196.94'	L = 2,486.05'
T = 634.94'	T = 1,261.18'
R = 1,450.00'	R = 5,990.00'
SE = SEE PLANS	SE = SEE PLANS
DS = 50 MPH	DS = 50 MPH

NAD 83/NA 2011

MATCHLINE -L- STA. 103+50.00 SEE SHEET 10

MATCHLINE -L- STA. 115+00.00 SEE SHEET 12

-L- PT Sta. 108+68.71

-L- POT Sta. 108+72.57 = -Y15- POT Sta. 10+00.00 AHD BRG S 82° 26' 14.2" E

END CONSTRUCTION -Y15- POT STA. 11+50.00

-L- PC Sta. 114+01.09

98 DURWOOD LEE PEELE & HEIRS DB 860 PG 886

104 RONALD SCHULTZE PAULA SCHULTZE DB 3871 BK 529

105 DEPARTMENT OF TRANSPORTATION DB 3760 PG 333

106 FILIBERTOR AMBRIZ, ET UX DB 2267 PG 810

107 REGINA CLARKE DB 2761 PG 111

108 REGINA CLARKE DB 2761 PG 111

109 DIANNE ANN PERRY DB 3521 PG 790 PC H SLIDE 9

110 TYLER R. DAVIS TERRA SIELSKI DB 3865 PG 859 PC H SLIDE 9

111 S ANNA EDWARDS BRYSON DB 3747 PG 688

112 DEPARTMENT OF TRANSPORTATION DB 3775 PG 515 PC H SLIDE 9

113 MICHAEL D KEARNEY & REX KEARNEY DB 1023 PG 71

114 DAVID M. LANAVILLE DB 3490 PG 304 PC H SLIDE 9

115 JOHN SELBY WADE, ET UX DB 2947 PG 630 PC I SLIDE 98

116 JOHN SELBY WADE DB 2947 PG 630 PC I SLIDE 98

117 JOHN PHILIP WADE, ET UX DB 1169 PG 373 PC I SLIDE 98

103 JCTB LLC DB 3166 PG 502 DB 1765 PG 167

PREPS, INC DB 3414 PG 268 MB O PG 89H

A&E FARMS, LLC DB 2817 PG 204 PC M SLIDE 97F PC N SLIDE 41F

J. ISAAC GURLEY FARMS INC. DB 822 PG 430

REMOVE 4' - 42" RCP
REMOVE HW
TIE EXIST 42" RCP INTO STR 1106

RETAIN EXIST 42" RCP
N 3°49' 21.4" W

REMOVE 5.5' - 42" RCP
TIE EXIST 42" RCP INTO STR 1132

CL I RIP RAP ON BANKS ONLY EST 20 TONS 39SY GEOTEXTILE

MONOLITHIC ISLAND (KEYED-IN)

150' MEDIAN IN TAPER

SIGNAL UPGRADE

SEE SHEET 20 FOR -L- PROFILE
SEE SHEET 27 FOR -Y15- PROFILE
REMOVE ALL DRIVE PIPES ON PROJECT UNLESS OTHERWISE NOTED

11/5/2025
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Aisley

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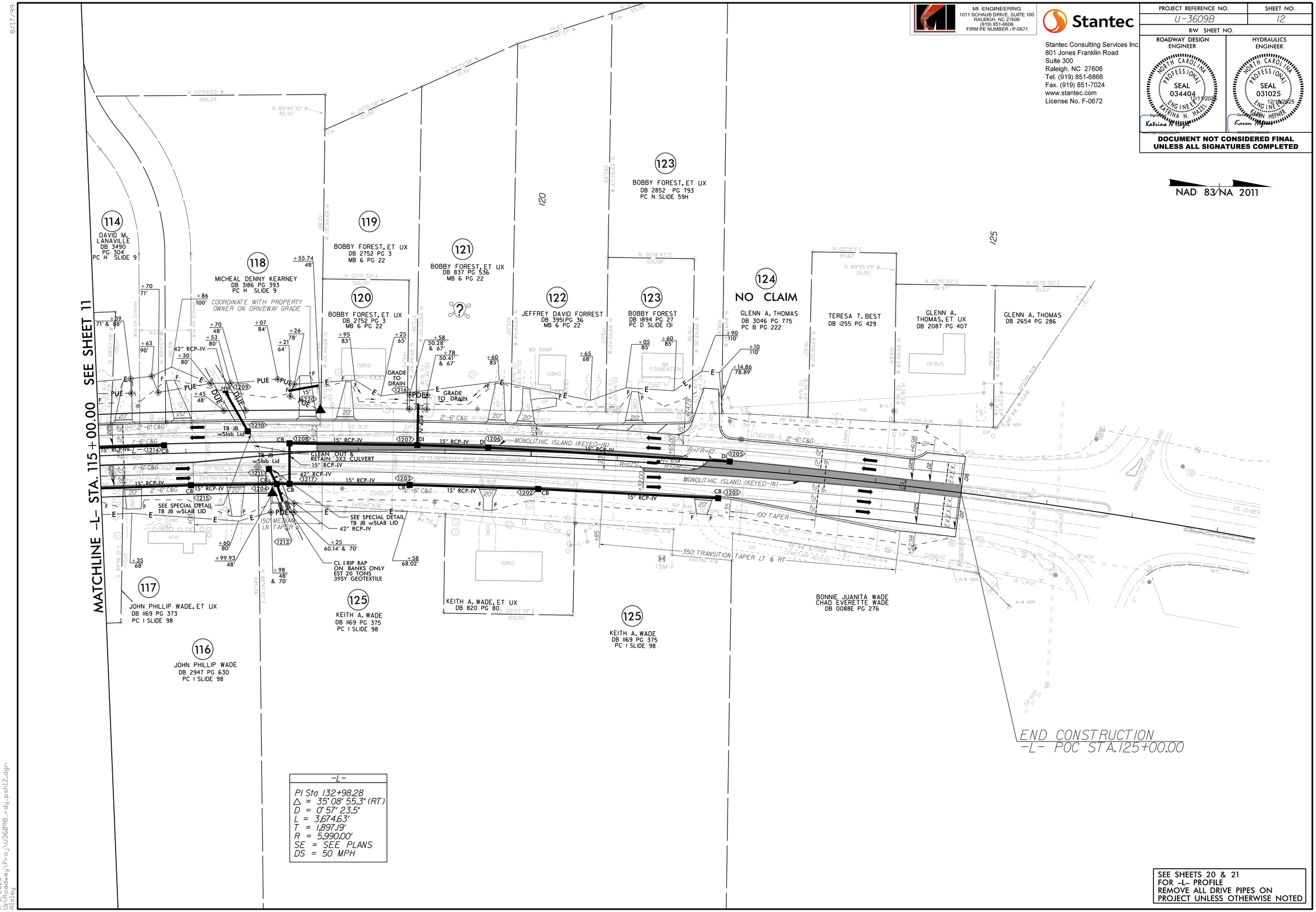
PROJECT REFERENCE NO.	SHEET NO.
U-3609B	12
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HATEL
12/11/2025
Katrina N Hatel

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER
12/10/2025
Karen Hefner

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011



-L-
PI Sta 132+98.28
Δ = 35° 08' 55.3" (RT)
D = 0° 57' 23.5"
L = 3,674.63'
T = 1,897.19'
R = 5,990.00'
SE = SEE PLANS
DS = 50 MPH

SEE SHEETS 20 & 21
FOR -L- PROFILE
REMOVE ALL DRIVE PIPES ON
PROJECT UNLESS OTHERWISE NOTED

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11/5/2025
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MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671

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Fax. (919) 851-7024
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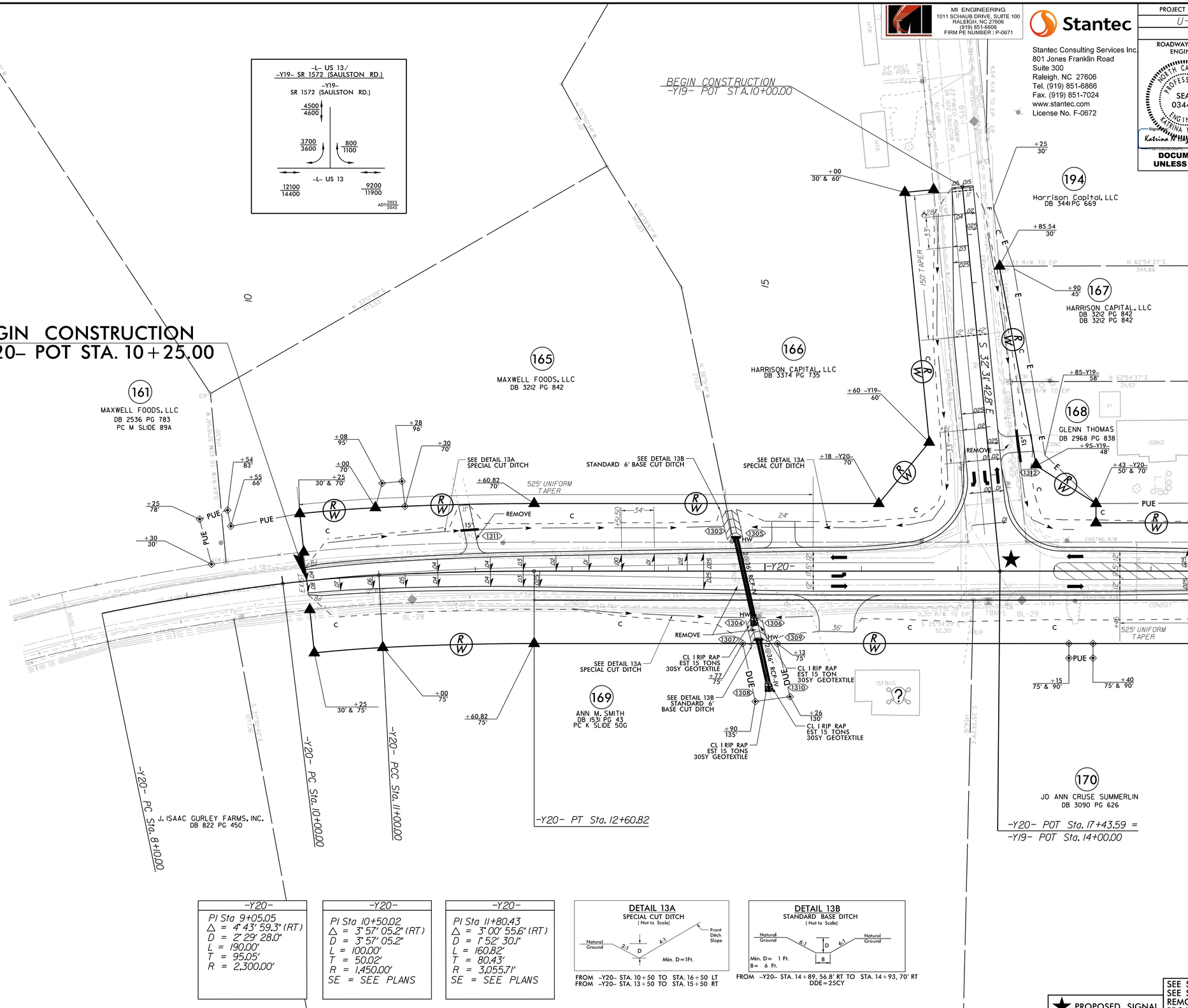
License No. F-0672

PROJECT REFERENCE NO.	SHEET NO.
U-3609B	13
R/W SHEET NO. 17	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HATEL 12/11/2025	NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER 12/10/2025
Katrina N Hatel	Karen Hefner

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-Y20-
PI Sta 9+05.05 △ = 4° 43' 59.3" (RT) D = 2° 29' 28.0" L = 190.00' T = 95.05' R = 2,300.00'

-Y20-
PI Sta 10+50.02 △ = 3° 57' 05.2" (RT) D = 3° 57' 05.2" L = 100.00' T = 50.02' R = 1,450.00' SE = SEE PLANS

-Y20-
PI Sta 11+80.43 △ = 3° 00' 55.6" (RT) D = 1° 52' 30.1" L = 160.82' T = 80.43' R = 3,055.71' SE = SEE PLANS

DETAIL 13A
SPECIAL CUT DITCH
(Not to Scale)

FROM -Y20- STA. 10+50 TO STA. 16+50 LT
FROM -Y20- STA. 13+50 TO STA. 15+50 RT

DETAIL 13B
STANDARD BASE DITCH
(Not to Scale)

FROM -Y20- STA. 14+89, 56.8' RT TO STA. 14+93, 70' RT
DDE=25CY

★ PROPOSED SIGNAL

SEE SHEET 27 FOR -Y19- PROFILE
SEE SHEET 27 FOR -Y20- PROFILE
REMOVE ALL DRIVE PIPES ON PROJECT UNLESS OTHERWISE NOTED

11/5/2025
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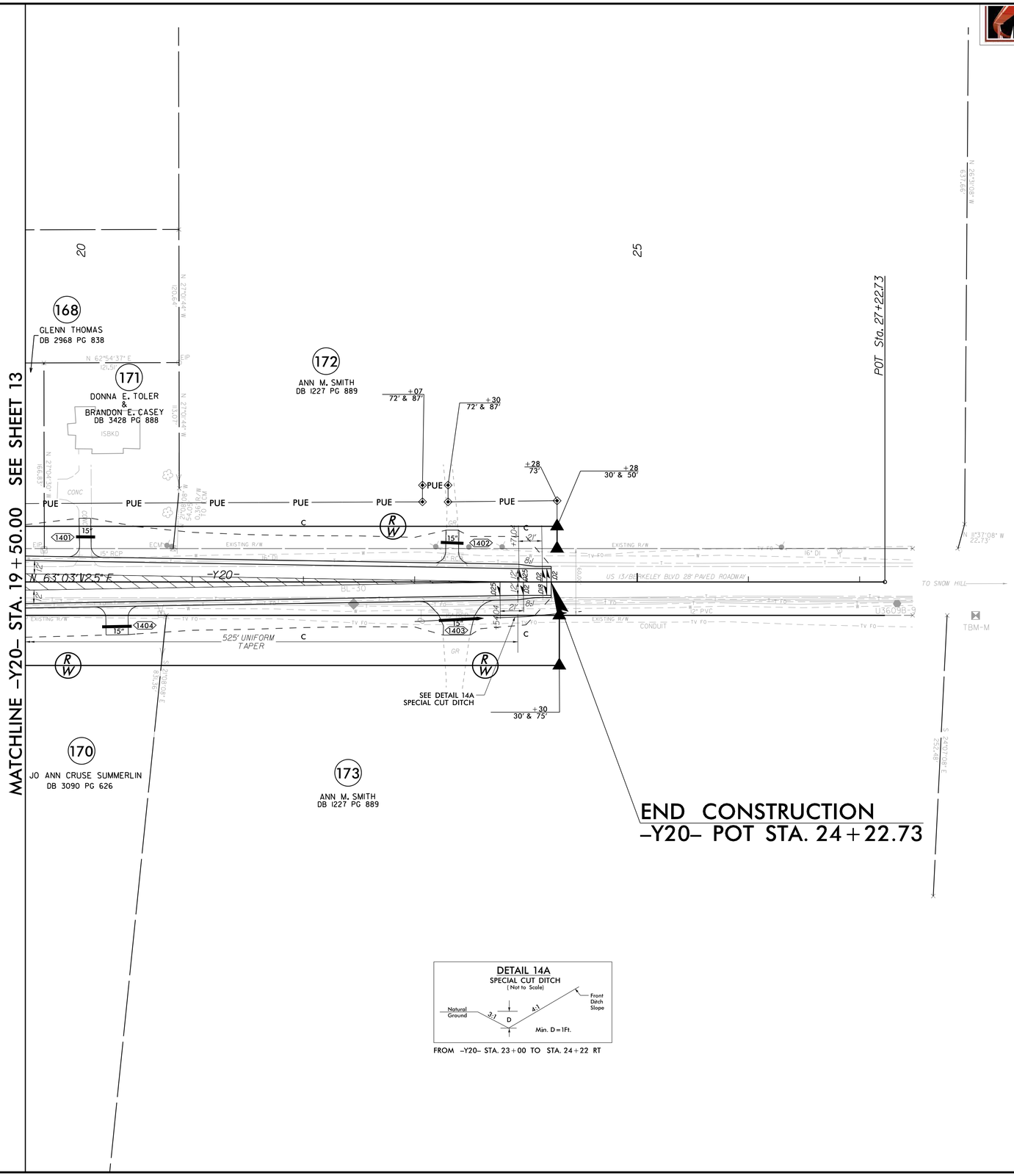
PROJECT REFERENCE NO.	SHEET NO.
U-3609B	14
R/W SHEET NO. 18	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HATEL 12/11/2025	NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER 12/10/2025
Katrina N Hatel	Karen Hefner

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DETAIL 14A
SPECIAL CUT DITCH
(Not to Scale)

FROM -Y20- STA. 23+00 TO STA. 24+22 RT

SEE SHEET 27 FOR -Y20- PROFILE
REMOVE ALL DRIVE PIPES ON PROJECT UNLESS OTHERWISE NOTED

12/2/2025
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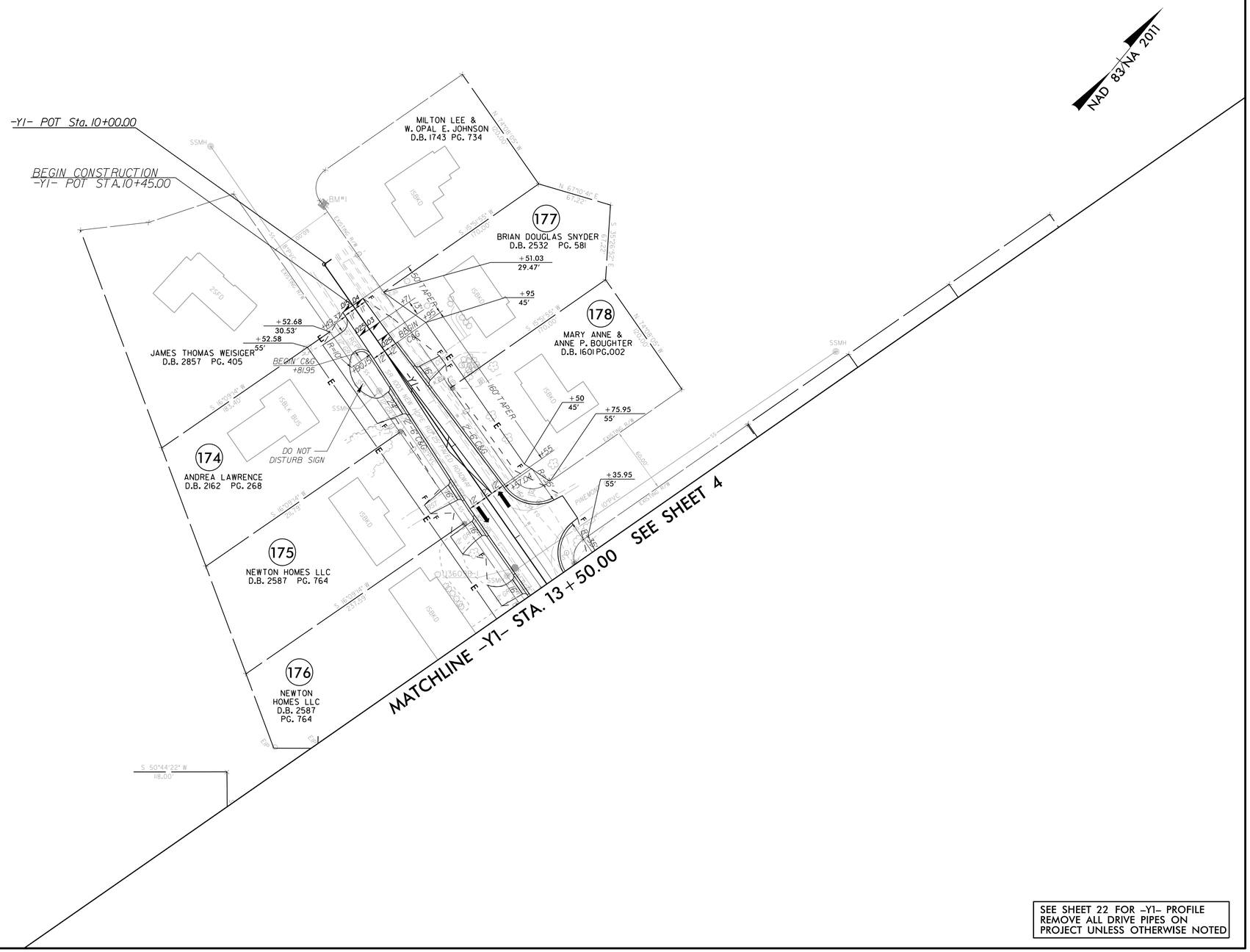
PROJECT REFERENCE NO.	SHEET NO.
U-3609B	15
R/W SHEET NO. 19	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HAYES 12/11/2025	NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER 12/10/2025
Signature: Katrina N Hayes	Signature: Karen Hefner

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



SEE SHEET 22 FOR -Y1- PROFILE
REMOVE ALL DRIVE PIPES ON
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11/5/2025
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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	16
R/W SHEET NO. 20	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HAGEL — 12/11/2025

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER — 12/10/2025

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K CORBETT FARMS LLC

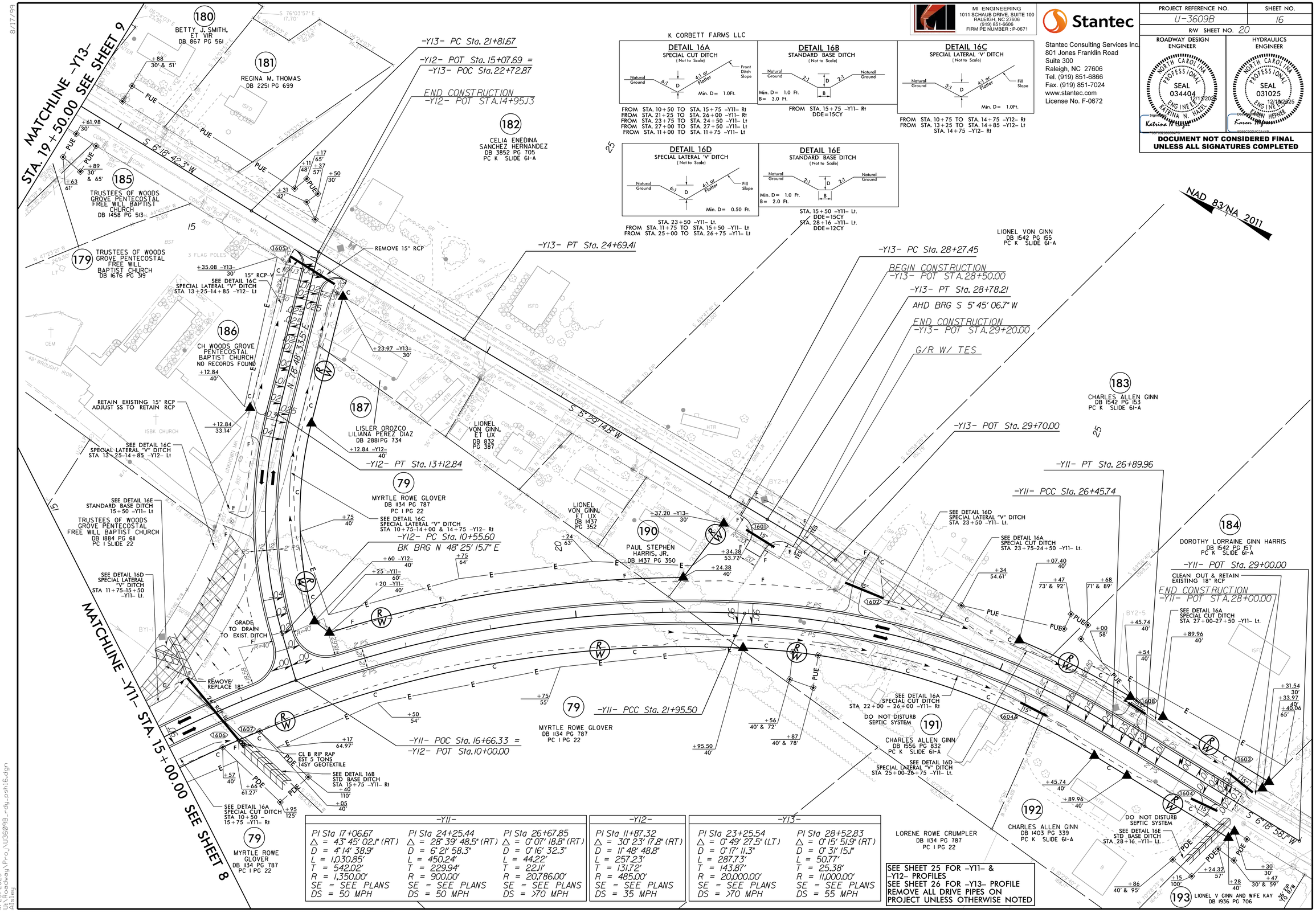
DETAIL 16A
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 6:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D= 1.0Ft.
FROM STA. 10+50 TO STA. 15+75 –Y11– Rt
FROM STA. 21+25 TO STA. 26+00 –Y11– Rt
FROM STA. 23+75 TO STA. 24+50 –Y11– Lt
FROM STA. 27+00 TO STA. 27+50 –Y11– Lt
FROM STA. 11+00 TO STA. 11+75 –Y11– Lt

DETAIL 16B
STANDARD BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1, Natural Ground
Min. D= 1.0 Ft.
B= 3.0 Ft.
FROM STA. 15+75 –Y11– Rt
DDE=15CY

DETAIL 16C
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 3:1, D, 4:1 or Flatter, Fill Slope
Min. D= 1.0Ft.
FROM STA. 10+75 TO STA. 14+75 –Y12– Rt
FROM STA. 13+25 TO STA. 14+85 –Y12– Lt
STA. 14+75 –Y12– Rt

DETAIL 16D
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 6:1, D, 4:1 or Flatter, Fill Slope
Min. D= 0.50 Ft.
STA. 23+50 –Y11– Lt.
FROM STA. 11+75 TO STA. 15+50 –Y11– Lt
FROM STA. 25+00 TO STA. 26+75 –Y11– Lt

DETAIL 16E
STANDARD BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1, Natural Ground
Min. D= 1.0 Ft.
B= 2.0 Ft.
STA. 15+50 –Y11– Lt.
DDE=15CY
STA. 28+16 –Y11– Lt.
DDE=12CY



–Y11–		
PI Sta 17+06.67	PI Sta 24+25.44	PI Sta 26+67.85
△ = 43° 45' 02.1" (RT)	△ = 28° 39' 48.5" (RT)	△ = 0° 07' 18.8" (RT)
D = 4° 14' 38.9"	D = 6° 21' 58.3"	D = 0° 16' 32.3"
L = 1,030.85'	L = 450.24'	L = 44.22'
T = 542.02'	T = 229.94'	T = 22.11'
R = 1,350.00'	R = 900.00'	R = 20,786.00'
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS
DS = 50 MPH	DS = 50 MPH	DS = >70 MPH

–Y12–	
PI Sta 11+87.32	
△ = 30° 23' 17.8" (RT)	
D = 11° 48' 48.8"	
L = 257.23'	
T = 131.72'	
R = 485.00'	
SE = SEE PLANS	
DS = 35 MPH	

–Y13–	
PI Sta 23+25.54	PI Sta 28+52.83
△ = 0° 49' 27.5" (LT)	△ = 0° 15' 51.9" (RT)
D = 0° 17' 11.3"	D = 0° 31' 15.1"
L = 287.73'	L = 50.77'
T = 143.87'	T = 25.38'
R = 20,000.00'	R = 11,000.00'
SE = SEE PLANS	SE = SEE PLANS
DS = >70 MPH	DS = 55 MPH

SEE SHEET 25 FOR –Y11– & –Y12– PROFILES
SEE SHEET 26 FOR –Y13– PROFILE
REMOVE ALL DRIVE PIPES ON PROJECT UNLESS OTHERWISE NOTED

8/17/99

11/25/2025
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FIRM PE NUMBER : P-0671

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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	17

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HILL
12/11/2025
Signed by: Katrina N. Hill
F8B706208084479...

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER
12/18/2025
Docusigned by: Karen Hefner
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5/28/99

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(919) 851-6606
FIRM PE NUMBER : P-0671

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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	18

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HAZEL 12/11/2025
Signed by: Katrina N. Hazel
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HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER 12/18/2025
DocuSigned by: Karen Hefner
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FIRM PE NUMBER : P-0671

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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	19

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HAZEL 12/11/2025
Signature: Katrina N. Hazel

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER 12/18/2025
Signature: Karen Hefner

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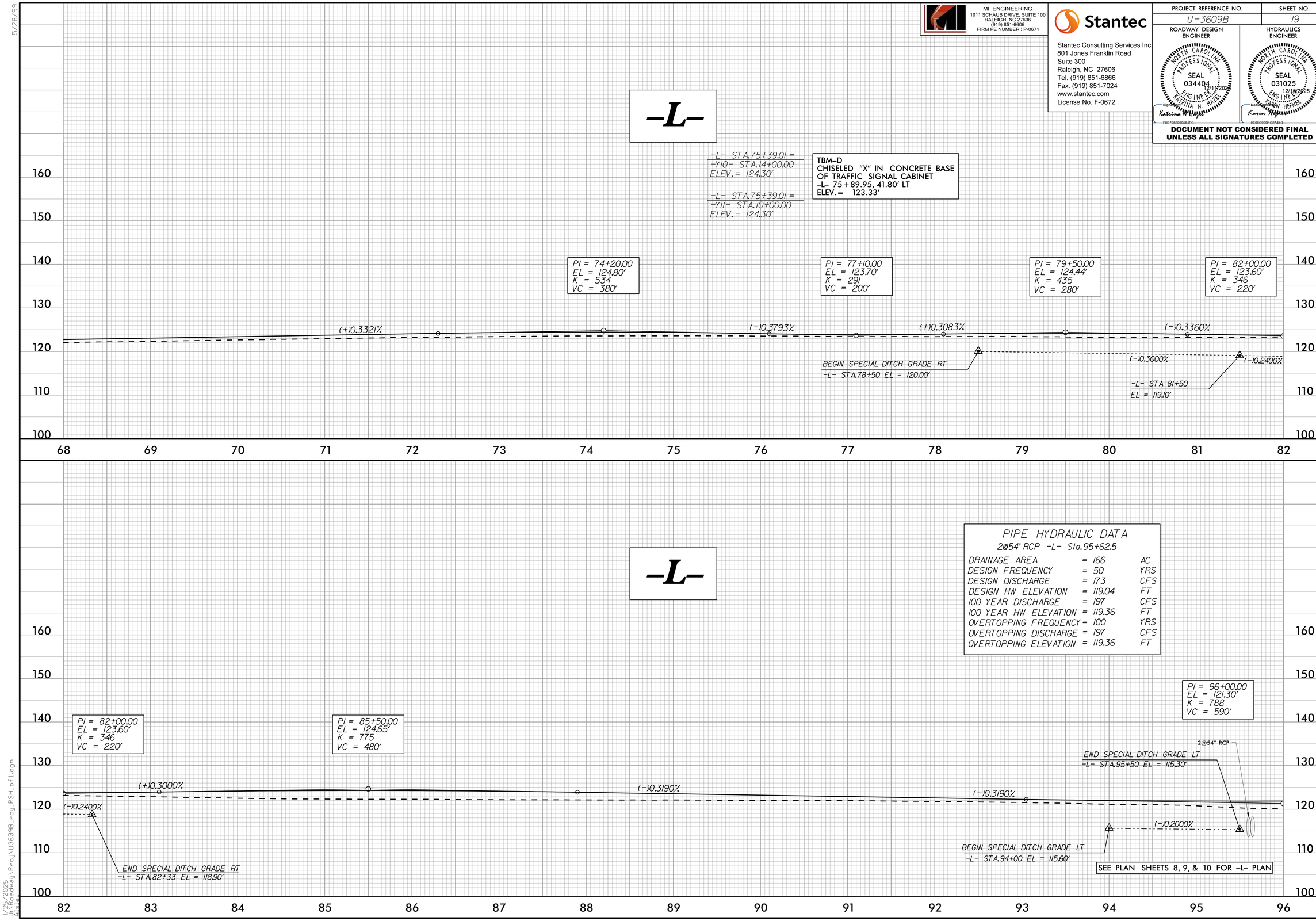

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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	20

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HEFFEL
12/11/2025
Signature: Katrina N. Heffel
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HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER
12/18/2025
Docusigned by: Karen Hefner
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Kelsey Owens

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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	21

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HAZEL
12/11/2025
Signed by: Katrina N. Hazel
F4B7062008684FC...

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER
12/18/2025
Docusigned by: Karen Hefner
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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	22

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HILL 12/11/2025
Signature: Katrina N. Hill

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER 12/18/2025
Signature: Karen Hefner

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-Y1-

BM1
RR SPIKE IN UTILITY POLE
N: 598,468
E: 2,320,923
N 66°58'56.06" W
ELEV. = 136.93'

BM2
RR SPIKE IN UTILITY POLE
-Y1- 24+15.64, 31.13 RT
ELEV. = 138.55'

PI = 12+05.00
EL = 139.55'
K = 193
VC = 220'

PI = 16+20.00
EL = 138.28'
K = 189
VC = 140'

PI = 19+85.94
EL = 139.53'

PI = 21+50.00
EL = 140.10'
K = 183
VC = 200'

BEGIN GRADE
-Y1- STA.10+45.00
ELEV.138.22'

END GRADE
-Y1- STA.23+50.00
ELEV.138.61'

-Y1- STA.19+09.68 =
-L- STA.15+30.97
ELEV.139.54'

-Y1- STA.19+47.03 =
-L- STA.15+52.71
ELEV.140.34'

-Y1- STA.19+86.95 =
-L- STA.15+76.06
ELEV.139.53'

(+)0.8313%
(-)0.3060%
(-)0.3060%
(+)0.4345%
(+)0.3474%
(-)0.0800%
(-)0.2000%
(-)0.2000%
(-)0.3200%
(-)0.2000%
(-)0.3600%
(-)0.3600%
(-)0.7450%

BEGIN SPECIAL DITCH GRADE RT
-Y1- STA.20+25 EL = 138.85'

-Y1- STA 20+50
EL = 138.80'

-Y1- STA 20+75
EL = 138.00'

-Y1- STA 21+00
EL = 137.73'

-Y1- STA 21+25
EL = 137.65'

-Y1- STA 21+50
EL = 137.60'

END SPECIAL DITCH GRADE RT
-Y1- STA.23+75 EL = 136.79'

-Y3-

PI = 12+10.00
EL = 135.85'
K = 35
VC = 80'
DS = 25 MPH

BEGIN GRADE
-Y3- STA.11+70.00
ELEV.135.41'

END GRADE
-Y3- STA.12+69.62
ELEV.137.86'

-Y3- STA.13+00.00=
-L- STA.19+48.44
ELEV.138.64'

(+)1.1000%
(+)3.3714%
(+)0.4400%
(+)0.8200%
(+)2.5675%
(+)0.2000%
(+)0.1200%

END SPECIAL DITCH GRADE RT
-Y3- STA.12+25 EL = 133.99'

END SPECIAL DITCH GRADE LT
-Y3- STA.12+00 EL = 133.86'

-Y3- STA 12+00
EL = 133.81'

-Y3- STA 11+75
EL = 133.78'

BEGIN SPECIAL DITCH GRADE RT
-Y3- STA.11+50 EL = 133.73'

BEGIN SPECIAL DITCH GRADE LT
-Y3- STA.11+75 EL = 133.75'

-Y4-

PI = 12+30.00
EL = 130.50'
K = 112
VC = 60'

BEGIN GRADE
-Y4- STA.11+70.00
ELEV.130.32'

END GRADE
-Y4- STA.12+65.75
ELEV.130.80'

-Y4- STA.13+00.00=
-L- STA.30+10.54
ELEV.131.66'

(+)0.3033%
(+)0.8392%
(+)2.5109%
(-)0.6800%

END SPECIAL DITCH GRADE LT
-Y4- STA.12+25 EL = 128.50'

BEGIN SPECIAL DITCH GRADE LT
-Y4- STA.12+00 EL = 128.67'

SEE PLAN SHEETS 4 & 15 FOR -Y1- PLAN
SEE PLAN SHEET 4 FOR -Y3- PLAN
SEE PLAN SHEET 5 FOR -Y4- PLAN

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11/3/2025
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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	23

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HILL
12/11/2025
Signature: Katrina N. Hill
F8D7062608664F0...

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER
12/18/2025
Docusigned by: Karen Hefner
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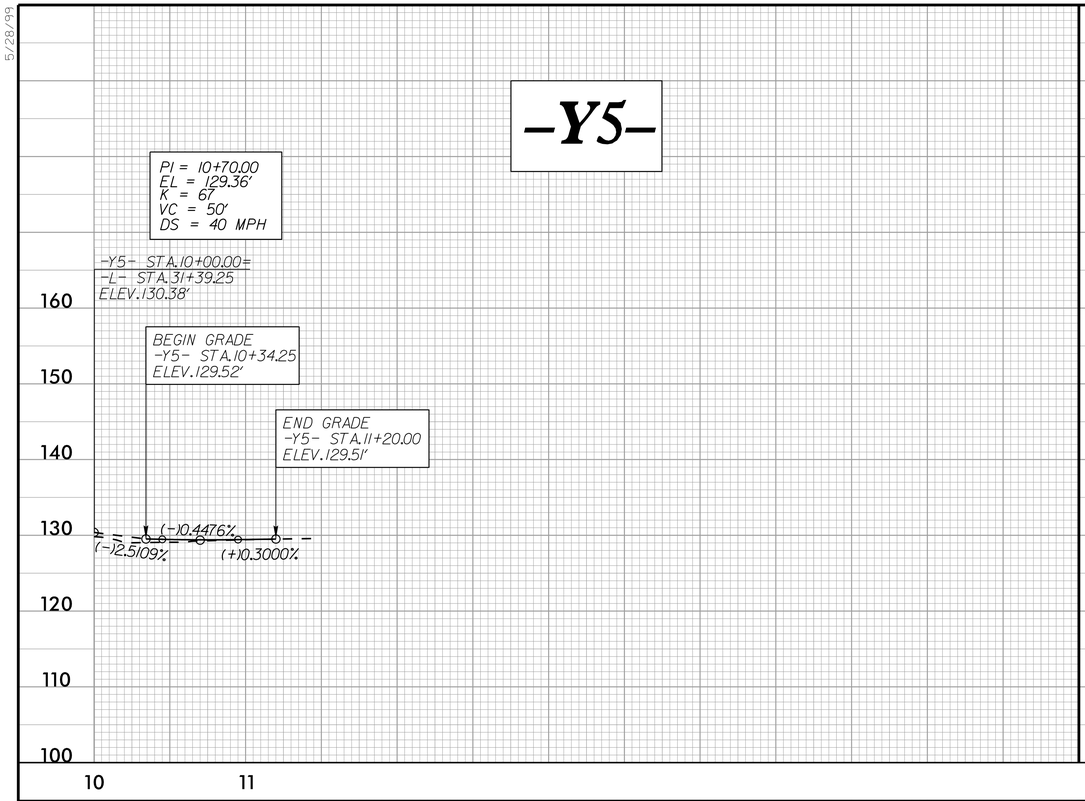

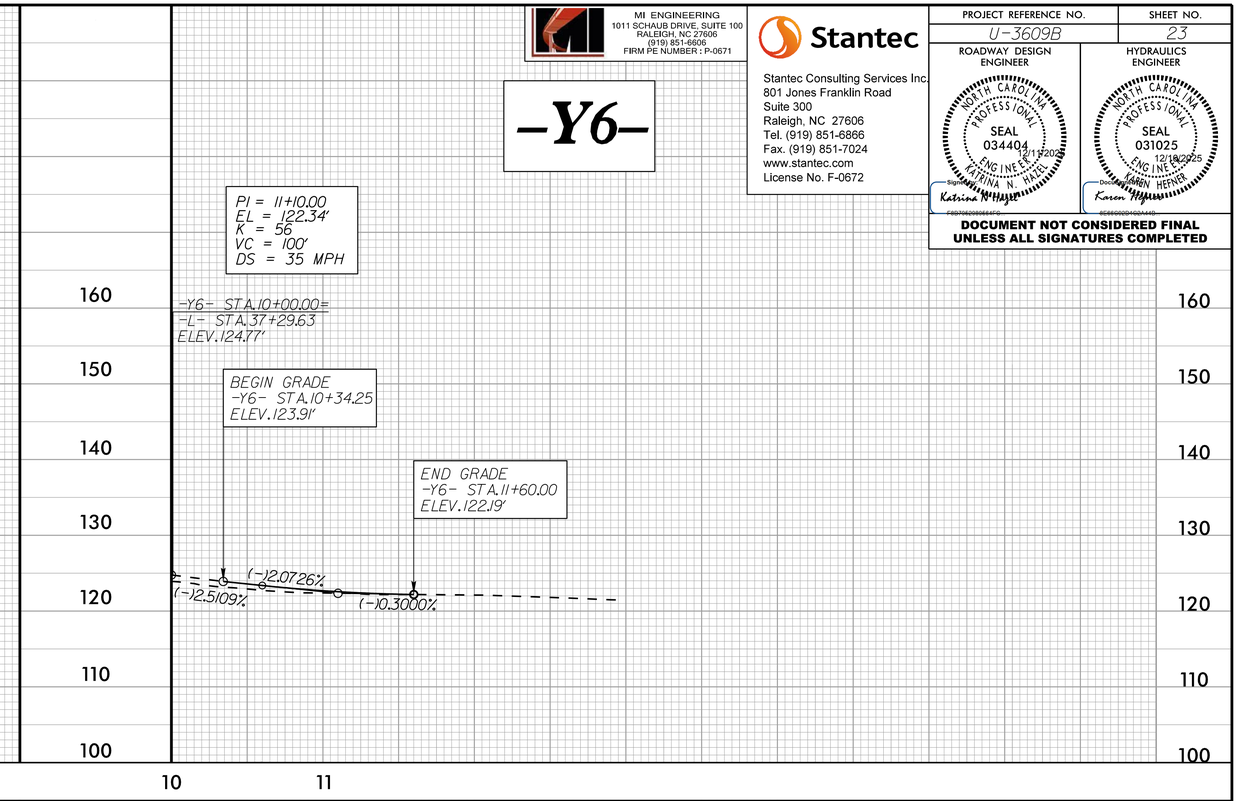

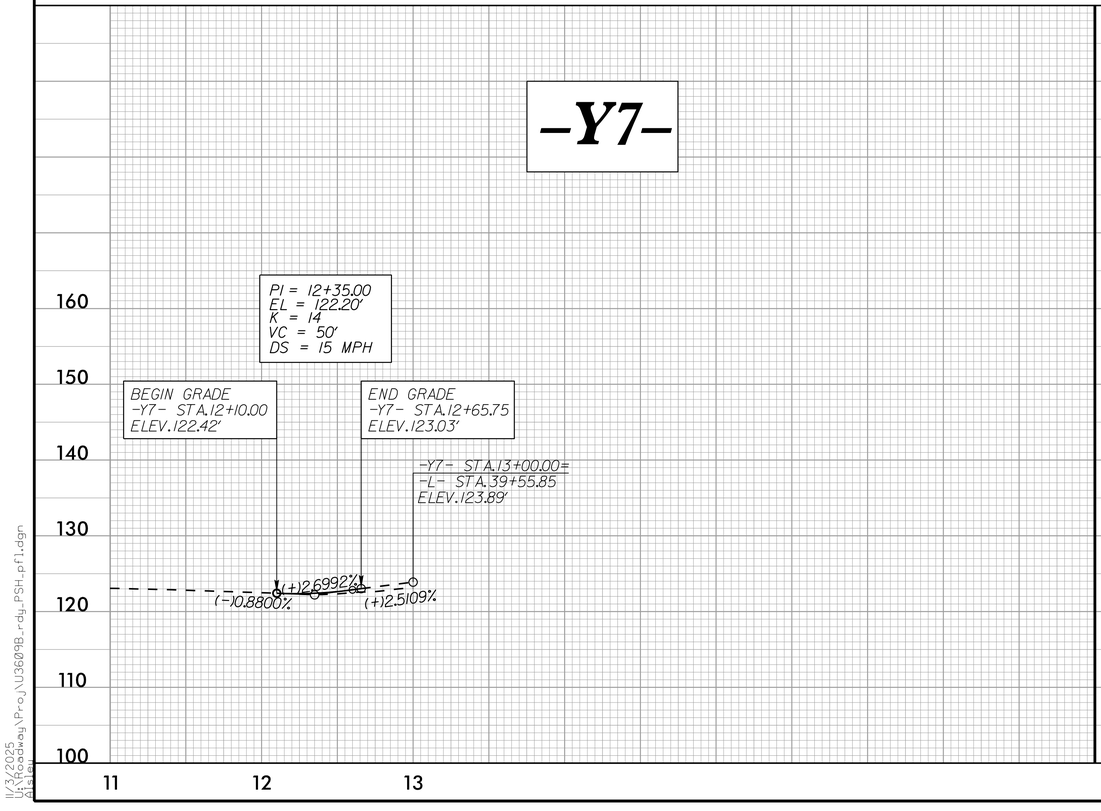

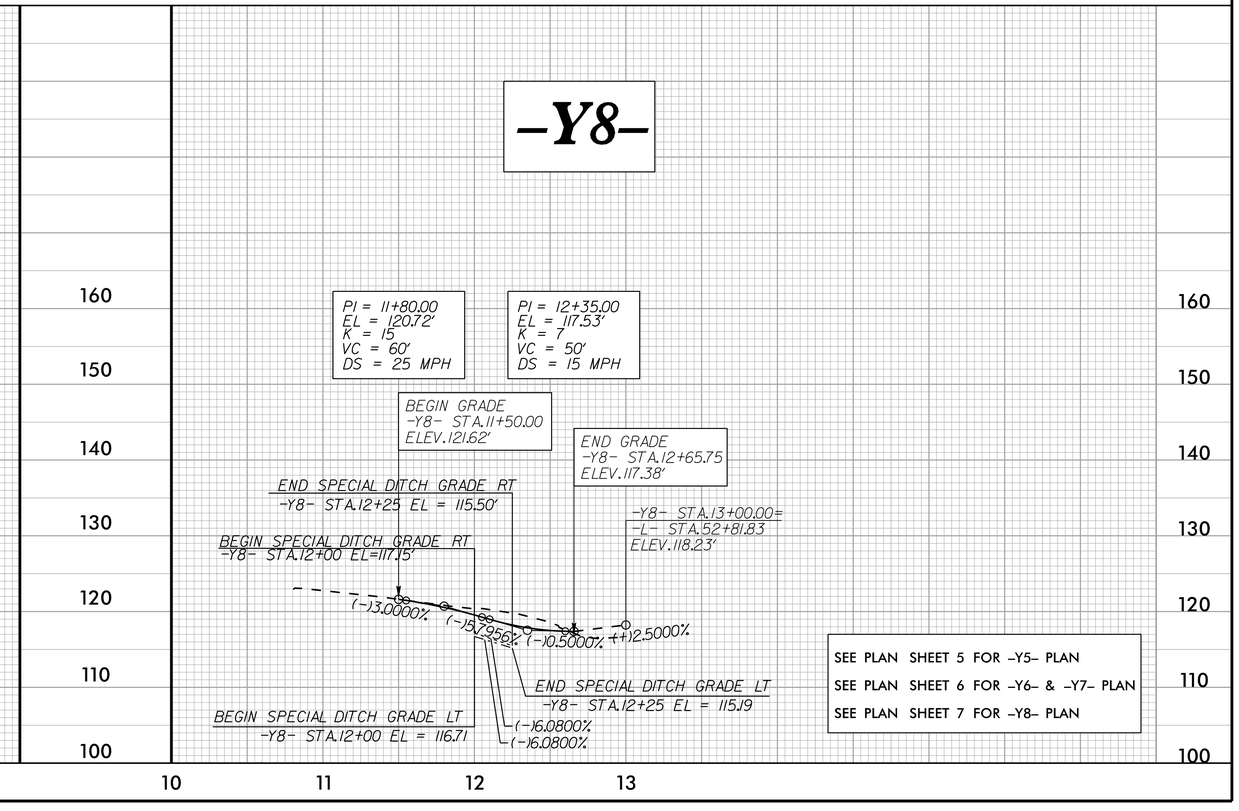

SEE PLAN SHEET 5 FOR -Y5- PLAN
SEE PLAN SHEET 6 FOR -Y6- & -Y7- PLAN
SEE PLAN SHEET 7 FOR -Y8- PLAN

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FIRM PE NUMBER : P-0671

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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	24

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HILL 12/11/2025
Signed by: Katrina N. Hill
F8B706208084F0...

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER 12/18/2025
Docusigned by: Karen Hefner
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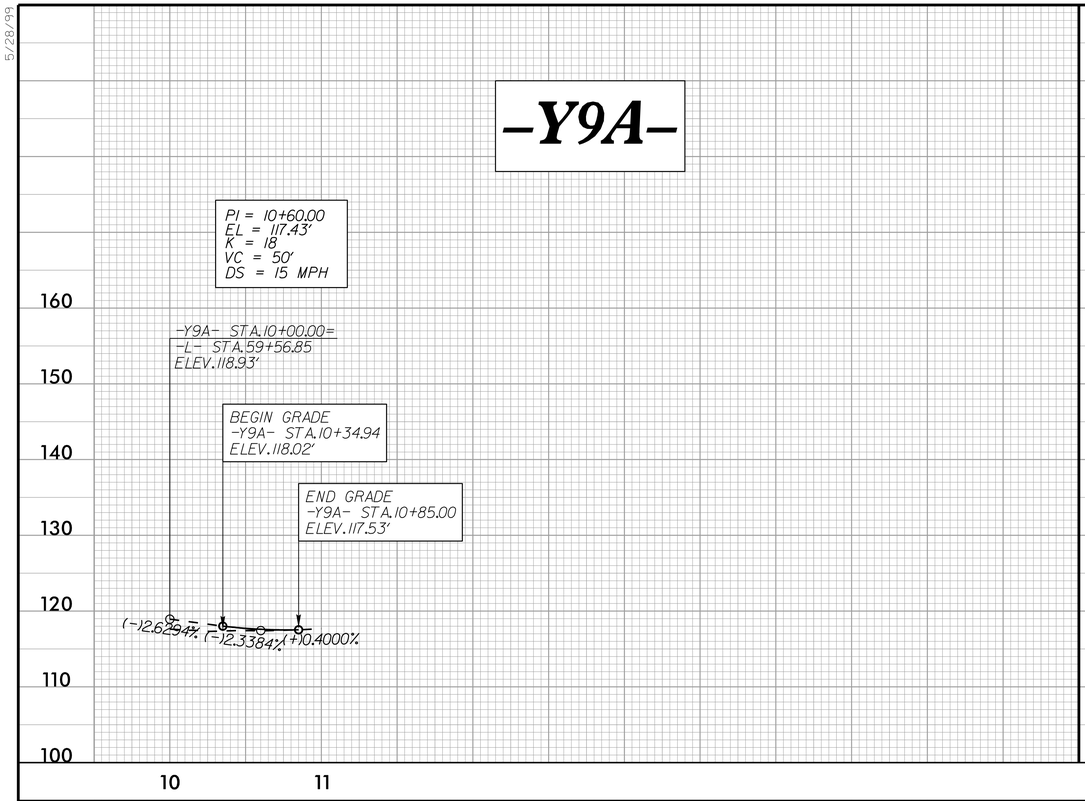

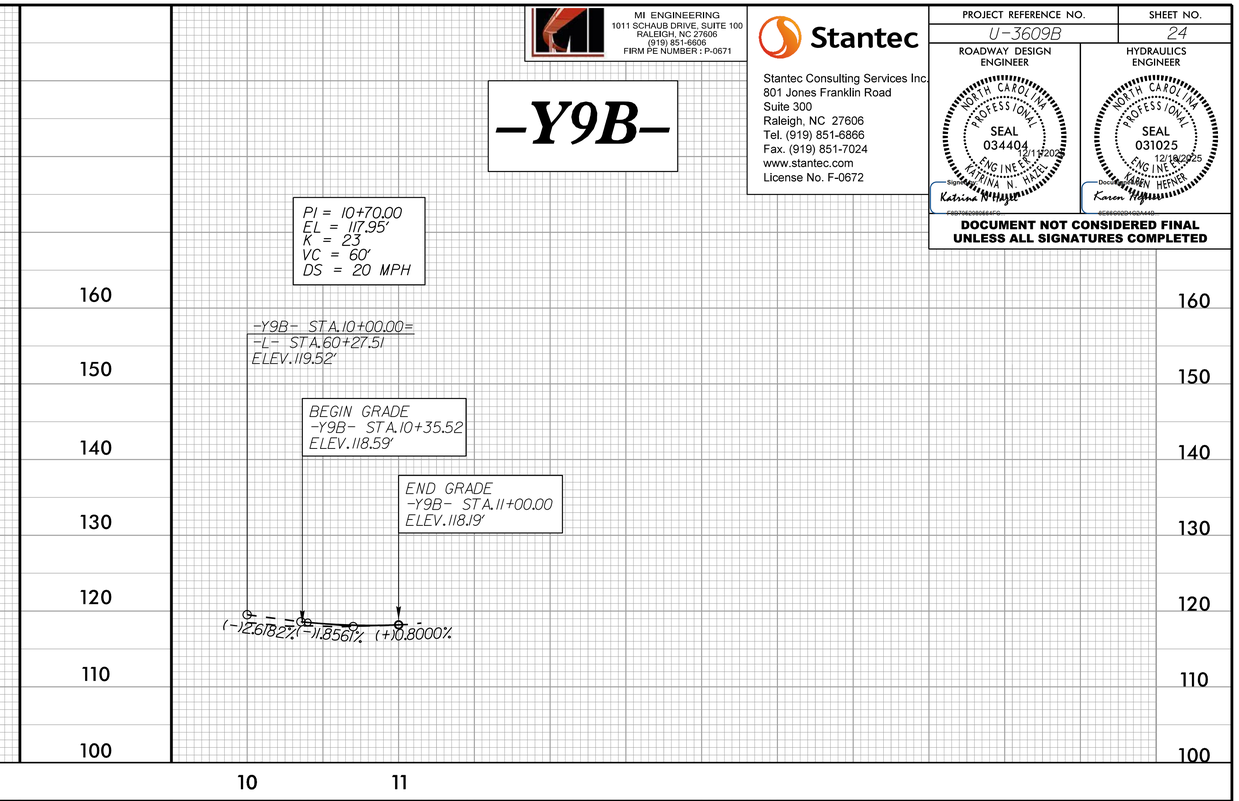

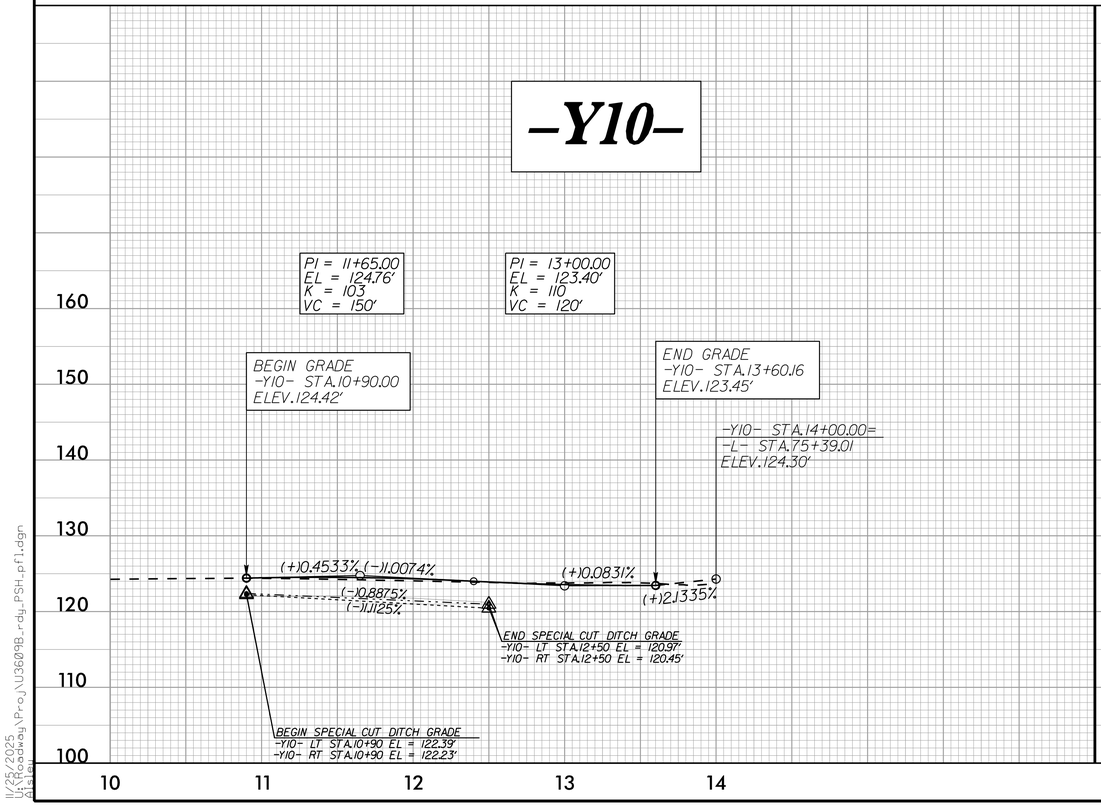

SEE PLAN SHEET 7 FOR -Y9A- & -Y9B- PLAN
SEE PLAN SHEET 8 FOR -Y10- PLAN

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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	25

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HILL 12/11/2025
Signed by: Katrina N. Hill
F8D7062808684F0...

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER 12/18/2025
Docusigned by: Karen Hefner
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-Y11-

PI = 11+46.00
EL = 123.03'
VC = 100'
K = 126

PI = 12+73.00
EL = 123.64'
VC = 120'
K = 153

PI = 13+83.00
EL = 123.31'
VC = 100'
K = 163

PI = 18+00.00
EL = 124.60'
VC = 300'
K = 325

-Y11- STA.10+00.00=
-L- STA.75+39.01
ELEV.124.30'

-Y11- STA.16+66.33=
-Y12- STA.10+00.00
ELEV.124.18'

BEGIN GRADE
-Y11- STA.10+39.84
ELEV.123.36'

BEGIN SPECIAL DITCH GRADE LT
-Y11- STA.11+00 EL = 120.99'

-Y11- STA 11+75
EL = 120.77'

(-)0.3109%
(-)2.3594%
(-)1.2500%
(-)0.2833%
(+)0.4803%
(-)0.3000%
(-)0.2987%
(-)0.2000%
(-)0.3038%
(+)0.3103%
(-)0.2987%
(-)0.2000%
(-)0.4000%
(+)0.3103%
(-)0.6133%
(-)0.2000%
(-)0.2400%
(-)0.4800%
(-)0.2000%
(-)0.2000%

-Y11- STA 12+00
EL = 120.30'

-Y11- STA 11+50
EL = 120.45'

BEGIN SPECIAL DITCH GRADE RT
-Y11- STA.10+50 EL = 121.70'

-Y11- STA 15+50
EL = 119.60'

END SPECIAL DITCH GRADE LT
-Y11- STA.15+50 EL = 119.65'

END SPECIAL DITCH GRADE RT
-Y11- STA.15+75 EL = 119.50'

BEGIN SPECIAL DITCH GRADE RT
-Y11- STA.21+25 EL = 119.29'

BEGIN SPECIAL DITCH GRADE LT
-Y11- STA.23+50 EL = 118.96'

-Y11- STA 23+50
EL = 118.84'

-Y11-

PI = 24+75.00
EL = 120.46'
VC = 130'
K = 111

PI = 26+25.00
EL = 121.30'
VC = 125'
K = 88

PI = 27+50.00
EL = 120.23'
VC = 100'
K = 100

END GRADE
-Y11- STA.28+00.00
ELEV.120.30'

END SPECIAL DITCH GRADE LT
-Y11- STA.24+50 EL = 118.72'

-Y11- STA 24+50
EL = 118.36'

BEGIN SPECIAL DITCH GRADE LT
-Y11- STA.25+00 EL = 118.60'

END SPECIAL DITCH GRADE RT
-Y11- STA.26+00 EL = 118.05'

(-)0.6133%
(-)0.2400%
(-)0.4800%
(-)0.2000%
(-)0.1600%
(-)0.2400%
(-)0.4800%
(+)0.5600%
(-)0.3200%
(-)0.2000%
(-)0.2400%
(-)0.8560%
(-)0.4000%
(-)0.2800%
(+)0.1400%
(-)0.3600%
(-)0.3200%

-Y11- STA 24+75
EL = 118.30'

-Y11- STA 25+00
EL = 118.25'

-Y11- STA 25+25
EL = 118.56'

-Y11- STA 25+75
EL = 118.38'

-Y11- STA 25+50
EL = 118.50'

-Y11- STA 26+00
EL = 118.30'

-Y11- STA 27+00
EL = 117.90'

END SPECIAL DITCH GRADE LT
-Y11- STA.28+00 EL = 117.57'

-Y11- STA 27+50
EL = 117.75'

-Y11- STA 27+25
EL = 117.82'

-Y12-

PIPE HYDRAULIC DATA
15" RCP -Y12- Sta.14+90

DRAINAGE AREA	= 5.1	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 3.9	CFS
DESIGN HW ELEVATION	= 119.49	FT
100 YEAR DISCHARGE	= 4.5	CFS
100 YEAR HW ELEVATION	= 119.49	FT
OVERTOPPING FREQUENCY	= +100	YRS
OVERTOPPING DISCHARGE	= 5.7	CFS
OVERTOPPING ELEVATION	= 119.92	FT

-Y12- STA.10+00.00=
-Y11- STA.16+66.33
ELEV.124.18'

BEGIN GRADE
-Y10- STA.10+12.02
ELEV.124.90'

END GRADE
-Y12- STA.14+95.13
ELEV.120.74'

PI = 10+90.00
EL = 126.45'
K = 30
VC = 140'
DS = 35 MPH

PI = 12+10.00
EL = 123.28'
K = 52
VC = 100'
DS = 35 MPH

PI = 13+50.00
EL = 122.25'
K = 492
VC = 150'

(+)5.9608%
(+)0.9838%
(-)1.8357%
(-)0.6300%
(-)0.9014%
(-)1.3333%
(+)0.0000%

BEGIN SPECIAL DITCH GRADE LT
-Y12- STA.13+25 EL = 120.00'

END SPECIAL DITCH GRADE LT
-Y12- STA.14+85 EL = 118.00'

BEGIN SPECIAL DITCH GRADE RT
-Y12- STA.10+75 EL = 121.02'

END SPECIAL DITCH GRADE RT
-Y12- STA.13+50 EL = 118.50'

-Y12- STA 14+75
EL = 118.00'

SEE PLAN SHEETS 8 & 16 FOR -Y11- PLAN
SEE PLAN SHEET 16 FOR -Y12- PLAN

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PROJECT REFERENCE NO.	SHEET NO.
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HEEL 12/11/2025	NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER 12/18/2025
Signed by: Katrina N. Heel	Docusigned by: Karen Hefner
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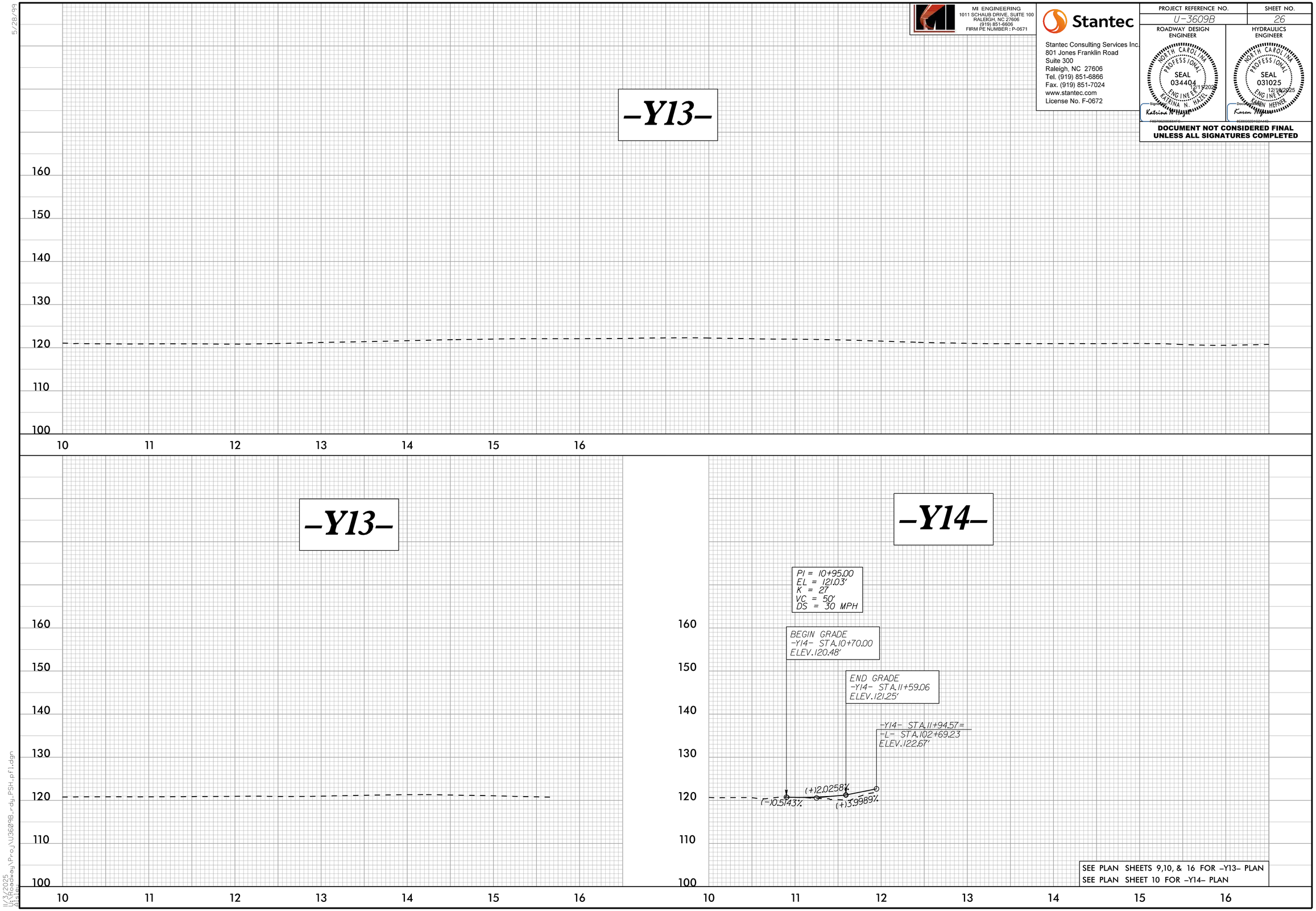

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FIRM PE NUMBER : P-0671

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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	27

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HEEL 12/18/2025

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HEFNER 12/18/2025

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–Y15–

-Y15- STA.10+00.00=
-L- STA.108+72.57
ELEV.123.42'

BEGIN GRADE
-Y15- STA.10+36.21
ELEV.124.67'

PI = 10+65.00
EL = 124.53'
K = 72
VC = 50'

END GRADE
-Y15- STA.11+50.00
ELEV.123.65'

PI = 11+20.00
EL = 123.88'
K = 135
VC = 60'

(-)0.4863%
(+)3.4524%
(-)1.1818%
(-)0.7667%

SEE PLAN SHEET 11 FOR –Y15– PLAN

–Y19–

PI = 10+30.00
EL = 128.40'
VC = 60'
K = 97

PI = 11+50.00
EL = 128.90'
VC = 180'
K = 241

PI = 12+80.00
EL = 128.47'
VC = 80'
K = 225
DS = 45 MPH

BEGIN GRADE
-Y19- STA.10+00.00
ELEV.128.46'

END GRADE
-Y19- STA.13+79.15
ELEV.127.79'

-Y19- STA.14+00.00=
-Y20- STA.17+43.59
ELEV.128.30'

BEGIN SPECIAL DITCH GRADE LT
-Y19- STA.10+25 EL = 126.85'

(-)0.2%
(+)0.4167%
(-)0.3308%
(-)0.6858%
(-)0.8769%
(-)0.3015%
(-)0.3015%
(-)0.8769%
(+)2.4460%

BEGIN SPECIAL DITCH GRADE RT
-Y19- STA.10+25 EL = 126.18'

END SPECIAL DITCH GRADE RT
-Y19- STA.13+50 EL = 124.50'

END SPECIAL DITCH GRADE LT
-Y19- STA.13+50 EL = 124.00'

SEE PLAN SHEET 13 FOR –Y19– PLAN

–Y20–

PIPE HYDRAULIC DATA
2@36" RCP -Y20- Sta. 14+76

DRAINAGE AREA	=	16.9	AC
DESIGN FREQUENCY	=	50	YRS
DESIGN DISCHARGE	=	40	CFS
DESIGN HW ELEVATION	=	126.27	FT
100 YEAR DISCHARGE	=	43	CFS
100 YEAR HW ELEVATION	=	126.40	FT
OVERTOPPING FREQUENCY	=	+100	YRS
OVERTOPPING DISCHARGE	=	73	CFS
OVERTOPPING ELEVATION	=	127.82	FT

BEGIN GRADE
-Y20- STA.10+25.00
ELEV.128.40'

PI = 14+10.00
EL = 129.36'
K = 352
VC = 200'

-Y20- STA.17+43.59 =
-Y19- STA.14+00.00
ELEV.= 128.30'

PI = 18+06.70
EL = 128.10'
K = 670
VC = 180'

PI = 21+16.70
EL = 126.28'
K = 440
VC = 200'

2@36" RCP-IV W/HW

(+)0.2497%
(-)0.3183%
(-)0.3183%
(-)0.5871%
(-)0.5871%
(-)1.0413%
(-)0.4067%
(-)0.79%
(+)3.00%
(+)0.4670%
(-)0.2250%

BEGIN SPECIAL DITCH GRADE RT
-Y20- STA 13+50 EL = 124.00

END SPECIAL DITCH GRADE RT
-Y20- STA 15+50 EL = 124.70

END SPECIAL DITCH GRADE LT
-Y20- STA 16+50 EL = 124.35

-Y20- STA 14+90 RT EL = 122.90

-Y20- STA 14+68 LT EL = 123.50

BEGIN SPECIAL DITCH GRADE LT
-Y20- STA 10+50 EL = 125.20

BEGIN SPECIAL DITCH GRADE RT
-Y20- STA 23+00 EL = 120.45

END GRADE
-Y20- STA.24+22.73
ELEV.123.09'

END SPECIAL DITCH GRADE RT
-Y20- STA 24+22 EL = 120.18

SEE PLAN SHEET 13 & 14 FOR –Y20– PLAN

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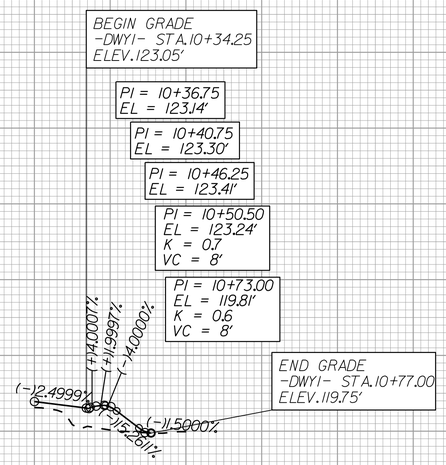
-DWY1-



SEE PLAN SHEET 6 FOR -DWY1- PLAN

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PROJECT REFERENCE NO.	SHEET NO.
U-3609B	28

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 034404 ENGINEER KATRINA N. HAMEL
12/11/2025
Signature: Katrina Hamel
F8D7B6208B664F0...

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 031025 ENGINEER KAREN HERNER
12/18/2025
Docusigned by: Karen Herner
8E66C920107234AB...

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