

COMPUTED BY:	HLV	DATE:	8/8/2025
CHECKED BY:	JHP	DATE:	8/8/2025

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-5875	3D-10

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

[illegible]

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-5875	3D-11

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

[illegible]

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-5875	3D-12

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

[illegible]

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-5875	3D-13

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

[illegible]

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**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

PROJECT NO.	SHEET NO.
U-5875	3D-15

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

[illegible]

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-5875	3D-16

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

[illegible]

[illegible]

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	STATION	STATION	AGGREGATE TYPE* ASU(1/2)AST	AGGREGATE THICKNESS INCHES	SHALLOW UNDERCUT CY	CLASS IV SUBGRADE STABILIZATION TONS	GEOTEXTILE FOR SUBGRADE STABILIZATION SY	STABILIZER AGGREGATE TONS	CLASS IV AGGREGATE STABILIZATION TONS
-L- LT./RT.	19 + 75	85 + 60	ASU 1	12	6900	20370	32160		
-L- LT./RT.	87 + 75	106 + 75	ASU 1	12	1300	6350	10020		
-L- LT./RT.	116 + 75	126 + 75	ASU 1	12	1080	2310	3650		
-L- LT./RT.	129 + 25	139 + 30	ASU 1	12	1550	4140	6530		
-L2- LT./RT.	10 + 40	13 + 17	ASU 1	12	230	460	730		
-Y- LT./RT.	12 + 60	19 + 25	ASU 1	12	420	820	1290		
-Y- LT./RT.	20 + 75	31 + 45	ASU 1	12	380	1080	170		
-Y2- LT./RT.	11 + 25	12 + 10	ASU 1	12	50	115	180		
-Y7- LT./RT.	17 + 25	18 + 25	ASU 1	12	30	65	100		
-Y8- LT./RT.	10 + 25	24 + 70	ASU 1	12	1310	2490	3940		
	CONTINGENCY		ASU 1	12	500	950	1500		
			TOTAL CY/TONS/SY:		13750	39150**	60270**		
				SAY:	13750	39150**	60270**		

*ASU(1/2) = AGGREGATE SUBGRADE (Type 1 or 2)
*AST = AGGREGATE STABILIZATION
**TOTAL TONS OF "CLASS IV SUBGRADE STABILIZATION" AND TOTAL SQUARE YARDS OF "GEOTEXTILE FOR SUBGRADE STABILIZATION" ARE ONLY THE ESTIMATED QUANTITIES FOR ASU(1/2)AST AND MAY ONLY REPRESENT A PORTION OF THE SUBGRADE STABILIZATION AND GEOTEXTILE QUANTITIES SHOWN IN THE ITEM SHEETS OF THE PROPOSAL.

SUMMARY OF SUBSURFACE DRAINAGE

LINE	STATION	STATION	LOCATION LT/RT/C/L	DRAIN TYPE* UD/BD/SD	LF
-L-	13 + 00	35 + 00	RT	SD	2200
-L-	87 + 00	105 + 50	RT	SD	1850
-L-	106 + 50	116 + 50	LT	SD	1000
-L-	116 + 50	127 + 50	LT&RT	SD	2200
	CONTINGENCY			SD	500
				SUBTOTAL:	7750
				TOTAL LF:	7750

*UD = UNDERDRAIN
*BD = BLIND DRAIN
*SD = SUBSURFACE DRAIN

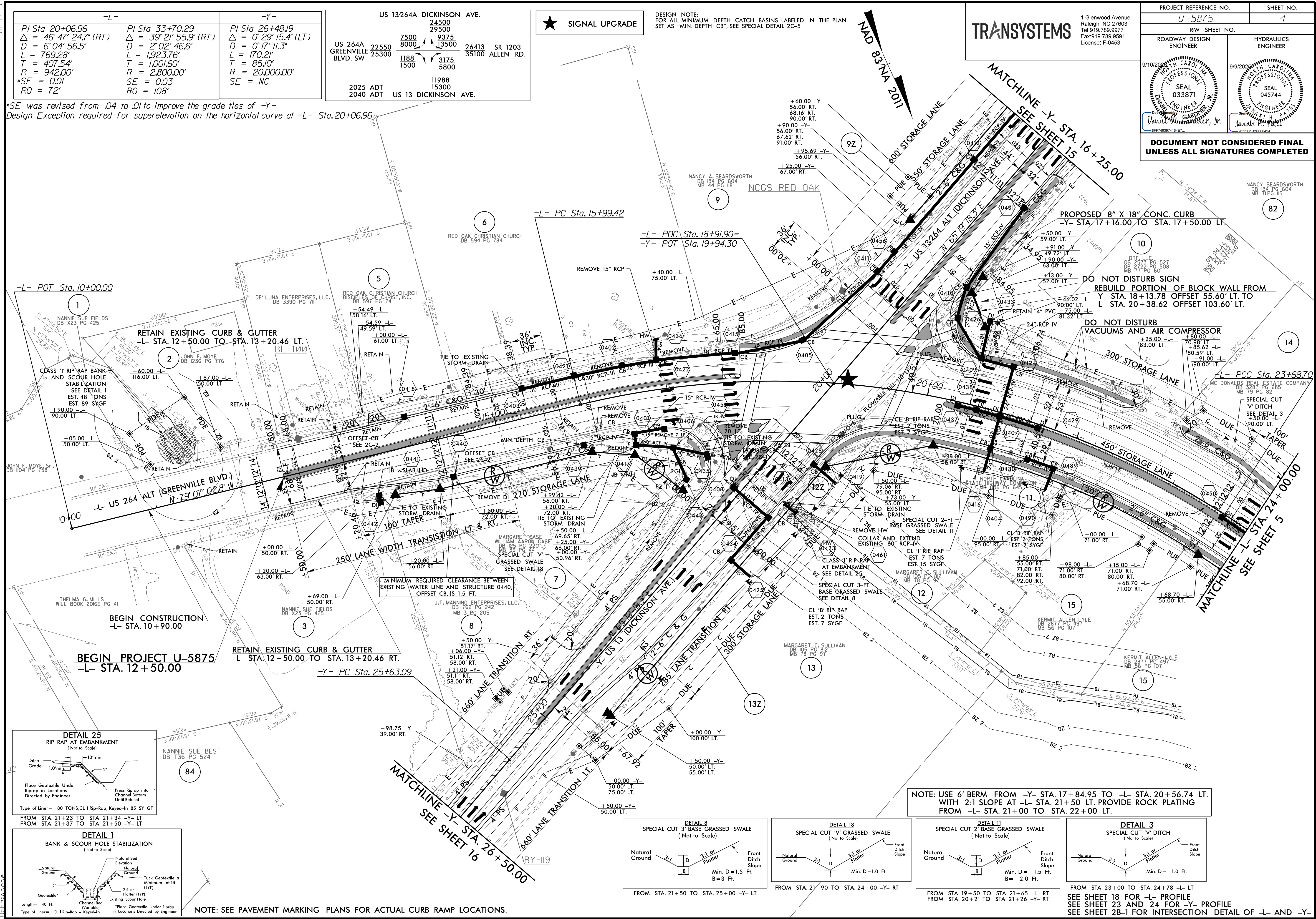
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PROJ. REFERENCE NO.	SHEET NO.
U-5875	3P-1

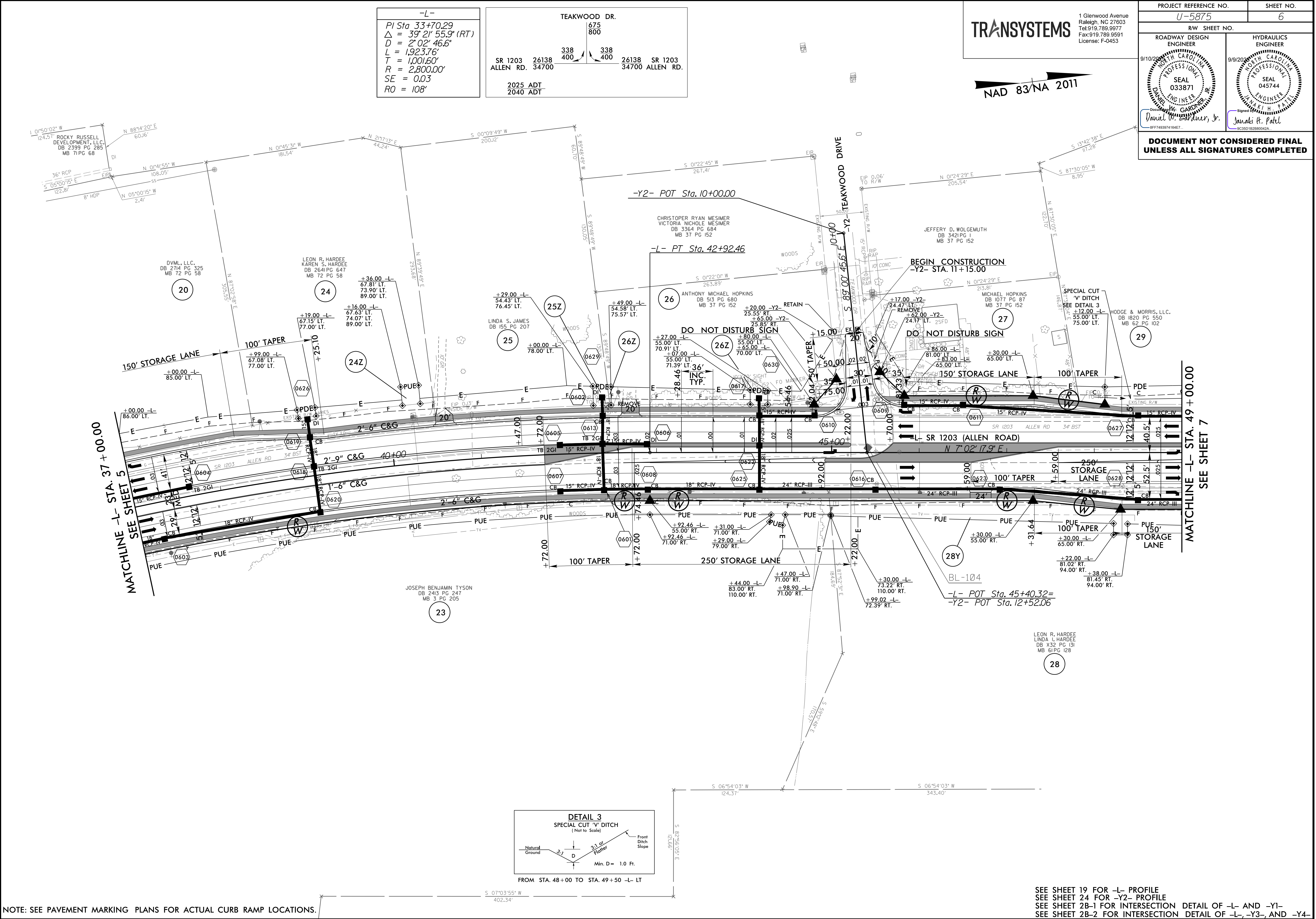
PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4	NANNIE SUE FIELDS
2	4	JOHN F. MOYE
3	4,16	NANNIE SUE FIELDS
5	4	RED OAK CHRISTIAN CHURCH DISCIPLES OF CHRIST, INC.
6	4	RED OAK CHRISTIAN CHURCH
7	4	MARGARET CASE, WILLIAM AARON CASE
8	4	J.T. MANNING ENTERPRISES, LLC.
9	4,15	NANCY A. BEARDSWORTH
10	4,15	DTF, LLC.
11	4	NORTH CAROLINA, STATE HIGHWAY COMMISSION
12	4	MARGARET C. SULLIVAN
13	4,16	MARGARET C. SULLIVAN
14	4,5	MC DONALDS REAL ESTATE COMPANY
15	4,5	KERMIT ALLEN LYLE
16	5	TRADE LAND COMPANY, LLC.
17	5,16	BETTIE T. FORREST, JOY T. CLARK
18	5	NANNIE SUE CRAWFORD BEST FIELDS
19	5	CHARLOTTE TYSON CRAWFORD
20	5,6	DVML, LLC.
21	5	ELVY K. FORREST JR.
22	5	LEON R. HARDEE, LINDA I. HARDEE
23	5,6	JOSEPH BENJAMIN TYSON
24	6	LEON R. HARDEE, KAREN S. HARDEE
25	6	LINDA S. JAMES
26	6	ANTHONY MICHAEL HOPKINS
27	6	MICHAEL HOPKINS
28	6,7,8	LEON R. HARDEE, LINDA I. HARDEE
29	6,7	HODGE & MORRIS, LLC.
30	7	HODGE & MORRIS, LCC
31	7	JOHNNY R. TYSON, BRENDA G. TYSON
32	7	CIRE DEVELOPMENT, LLC.
33	7	ERIC TODD REIFSCHNEIDER
34	7	HARDEE FAMILY HOLDINGS, LLC.
35	7,8	HARDEE FAMILY HOLDINGS, LLC.
36	8	BENT CREEK FARMS, LLC.
37	8	NORTH CAROLINA, DEPARTMENT OF TRANSPORTATION
38	8	HERBERT S. COREY
39	8	ROBERT LEE O'NEAL JR
40	8	CHRISTINA LOUVENIA, SPAIN O'NEAL HEIRS
41	8,9	THOMAS J. ANDREWS, NORMA S. HARRELL
42	8,9	BRADLEY LEE HARRELL
43	8	JOSEPH R. EVERETT
44	8	ERNIE GENE ASTON
45	9	ABC FAMLY, LLC.
46	9	B.T. WALSTON, DEBRA S. WALSTON
47	9	LILA A. BULLOCK
48	9	ROCKY RUSSELL, DEVELOPMENT, LLC.
49	9	JOHN MOYE JR.
50	9	ROCKY RUSSELL, DEVELOPMENT, LLC.
51	9	SYDNEY W. BOWEN, SHIRLEY HOUSE BOWEN
52	9	TINA FARMER
53	10	HAPPY TRAIL FARMS, LLC.
53A	9,10	TBD2, LLC., FORMERLY HAPPY TRAIL FARMS, LLC.
54	10	DANIEL JOSEPH LIMA, HEATHER LYNN LIMA
55	9,10	EDMONSON PROPERTIES, LLC
57	10	TIMOTHY V. DAUGHTRY, JO LYNN H. DAUGHTRY
58	10	BOBBY GENE HARDEE, ANNE ALLEN HARDEE
59	10	WELLS CHAPEL CHURCH OF GOD IN CHRIST, INC.
60	10	CHARLES DONALD SOUTHERLAND, JEFFREY S. ALDRIDGE, MICHAEL L. ALDRIDGE, JERRY J. WHITHEURST
61	10,11	BYPASS PROPERTIES III, LLC.

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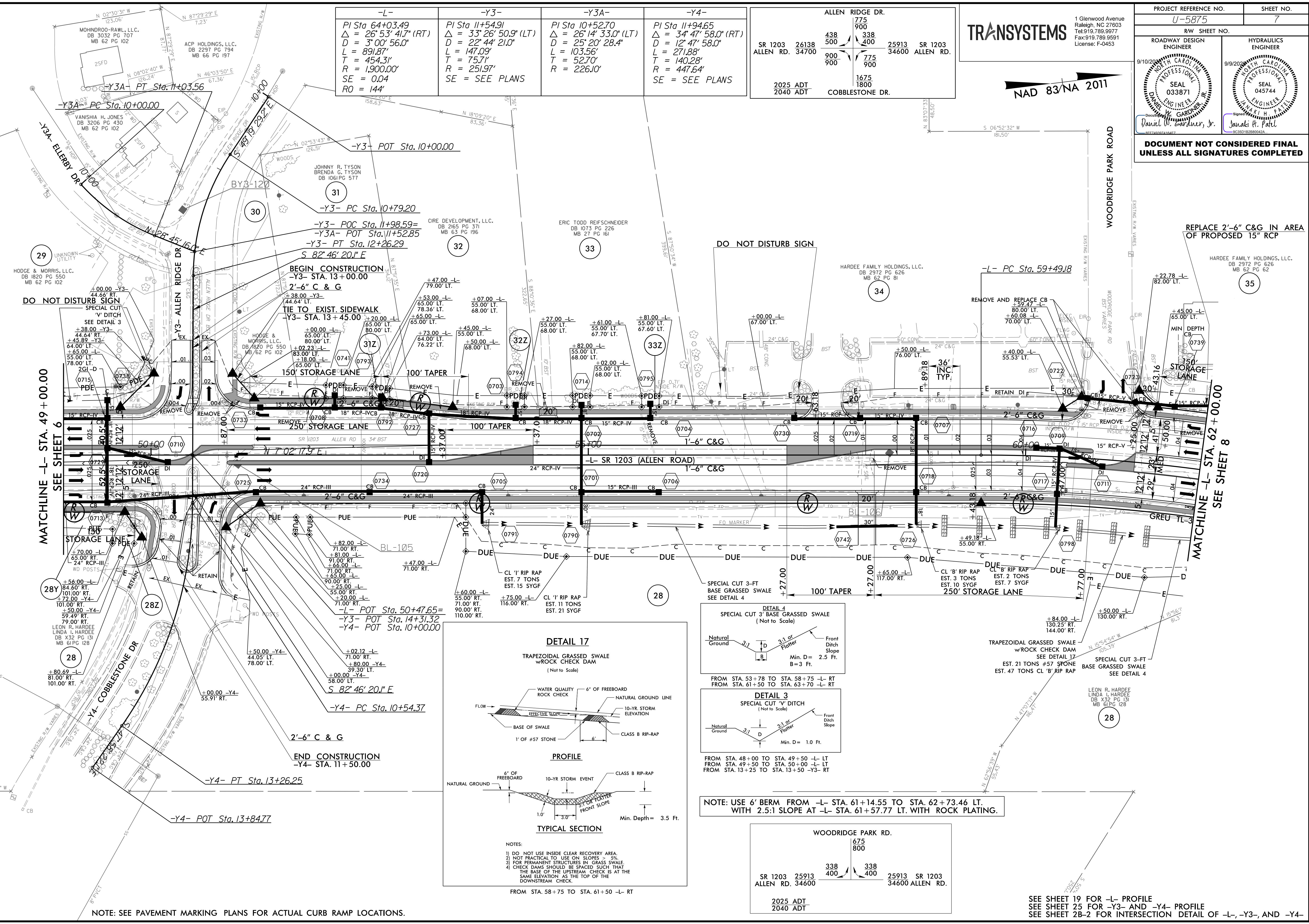


8/17/99

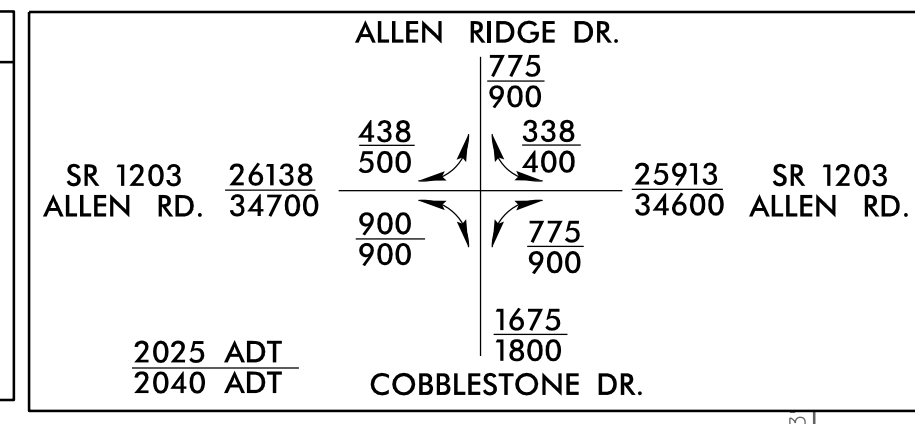
8/10/2025
U-5875_Rdy_psh6.dgn
JST/BJD



8/17/99
8/10/2025
U-5875-Rdy-psh7.dgn
JSE:RW



-L-	-Y3-	-Y3A-	-Y4-
PI Sta 64+03.49 $\Delta = 26^\circ 53' 41.7" (RT)$ $D = 3^\circ 00' 56.0"$ $L = 891.87'$ $T = 454.31'$ $R = 1900.00'$ $SE = 0.04$ $RO = 144'$	PI Sta 11+54.91 $\Delta = 33^\circ 26' 50.9" (LT)$ $D = 22^\circ 44' 21.0"$ $L = 147.09'$ $T = 75.71'$ $R = 251.97'$ $SE = SEE PLANS$	PI Sta 10+52.70 $\Delta = 26^\circ 14' 33.0" (LT)$ $D = 25^\circ 20' 28.4"$ $L = 103.56'$ $T = 52.70'$ $R = 226.10'$ $SE = SEE PLANS$	PI Sta 11+94.65 $\Delta = 34^\circ 47' 58.0" (RT)$ $D = 12^\circ 47' 58.0"$ $L = 271.88'$ $T = 140.28'$ $R = 447.64'$ $SE = SEE PLANS$



TRANSYSTEMS

1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: F-0453

NAD 83/NA 2011

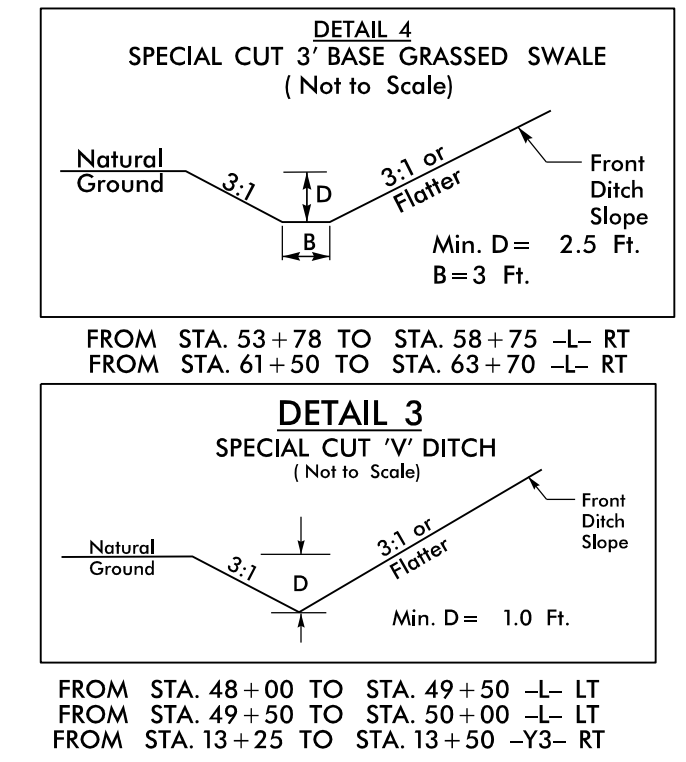
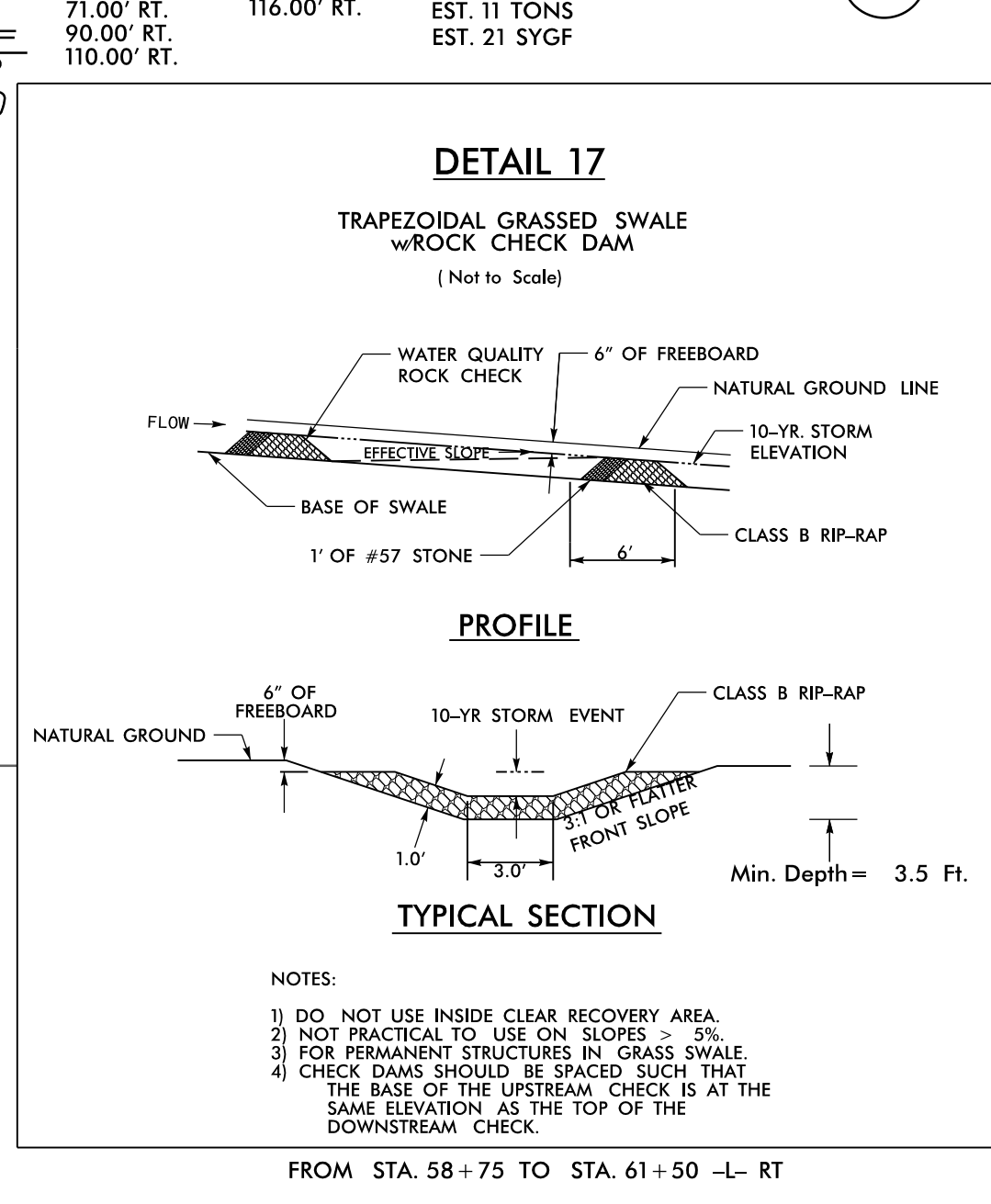
PROJECT REFERENCE NO. **U-5875** SHEET NO. **7**

RW SHEET NO.

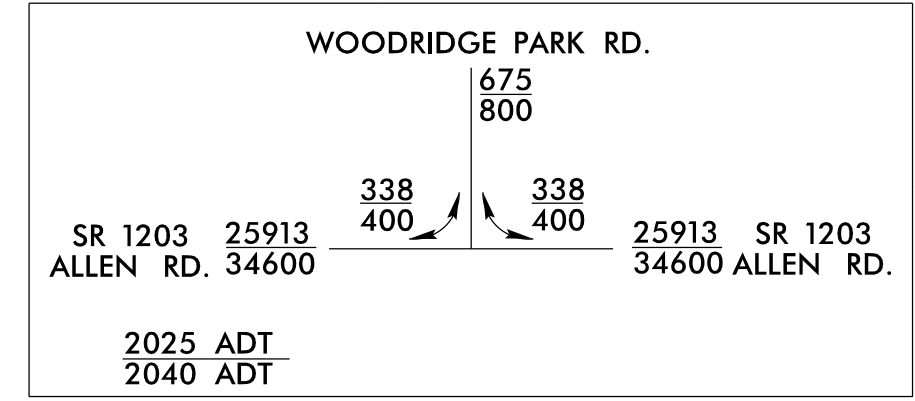
ROADWAY DESIGN ENGINEER
9/10/2025
NORTH CAROLINA PROFESSIONAL SEAL 033871
Daniel W. Gardner, Jr.

HYDRAULICS ENGINEER
9/9/2025
NORTH CAROLINA PROFESSIONAL SEAL 045744
Jana K. H. Patel

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



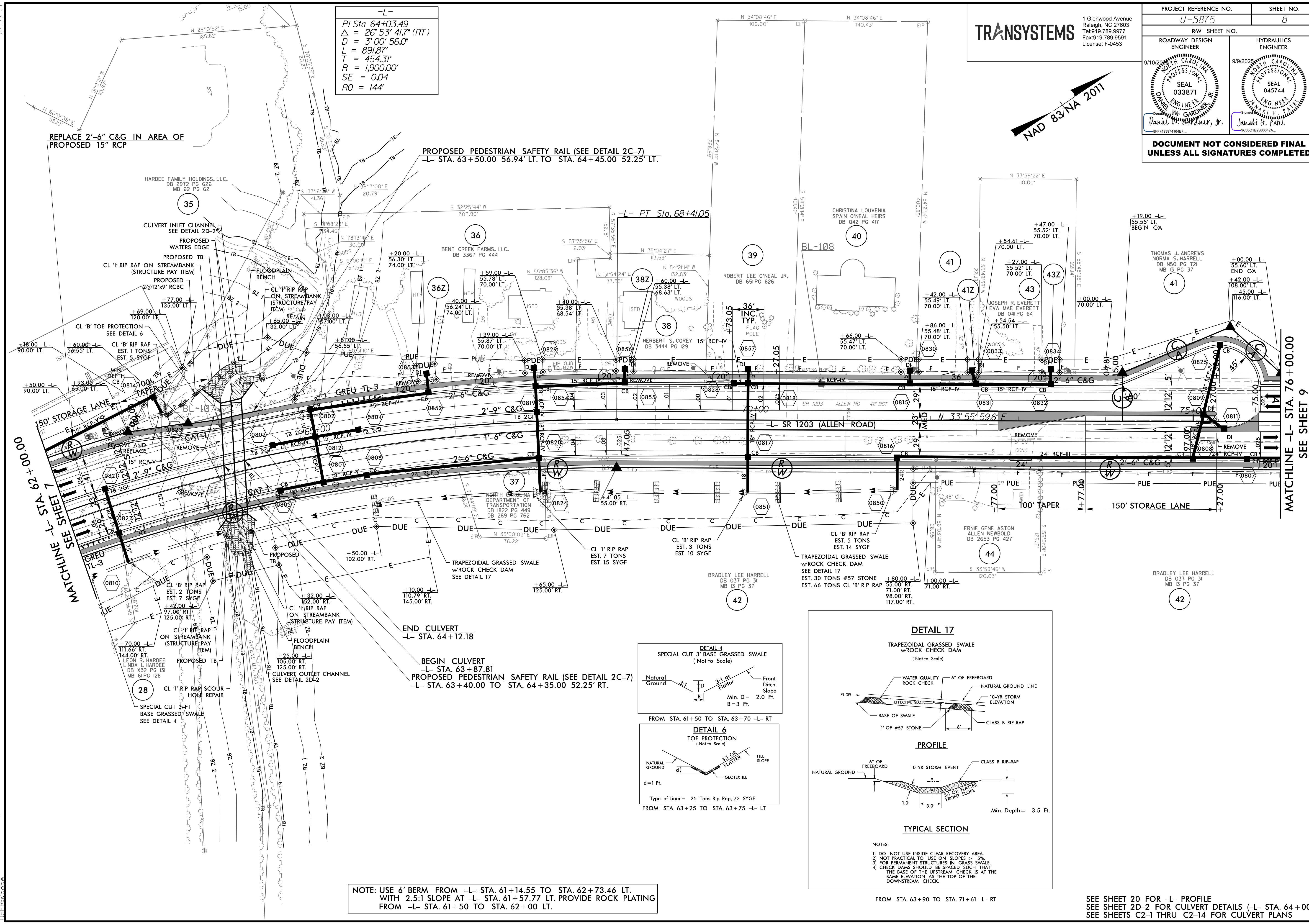
NOTE: USE 6' BERM FROM -L- STA. 61+14.55 TO STA. 62+73.46 LT. WITH 2.5:1 SLOPE AT -L- STA. 61+57.77 LT. WITH ROCK PLATING.



SEE SHEET 19 FOR -L- PROFILE
SEE SHEET 25 FOR -Y3- AND -Y4- PROFILE
SEE SHEET 28-2 FOR INTERSECTION DETAIL OF -L-, -Y3-, AND -Y4-

8/17/99

8/10/2005
U-5875_Rdy_psh8.dgn
USFBW000



-L-
PI Sta 64+03.49
 $\Delta = 26^\circ 53' 41.7''$ (RT)
 $D = 3^\circ 00' 56.0''$
 $L = 891.87'$
 $T = 454.31'$
 $R = 1,900.00'$
 $SE = 0.04$
 $RO = 144'$

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PROJECT REFERENCE NO.
U-5875

SHEET NO.
8

RW SHEET NO.

ROADWAY DESIGN ENGINEER

9/10/2005

SEAL 033871

Daniel W. Gardner, Jr.

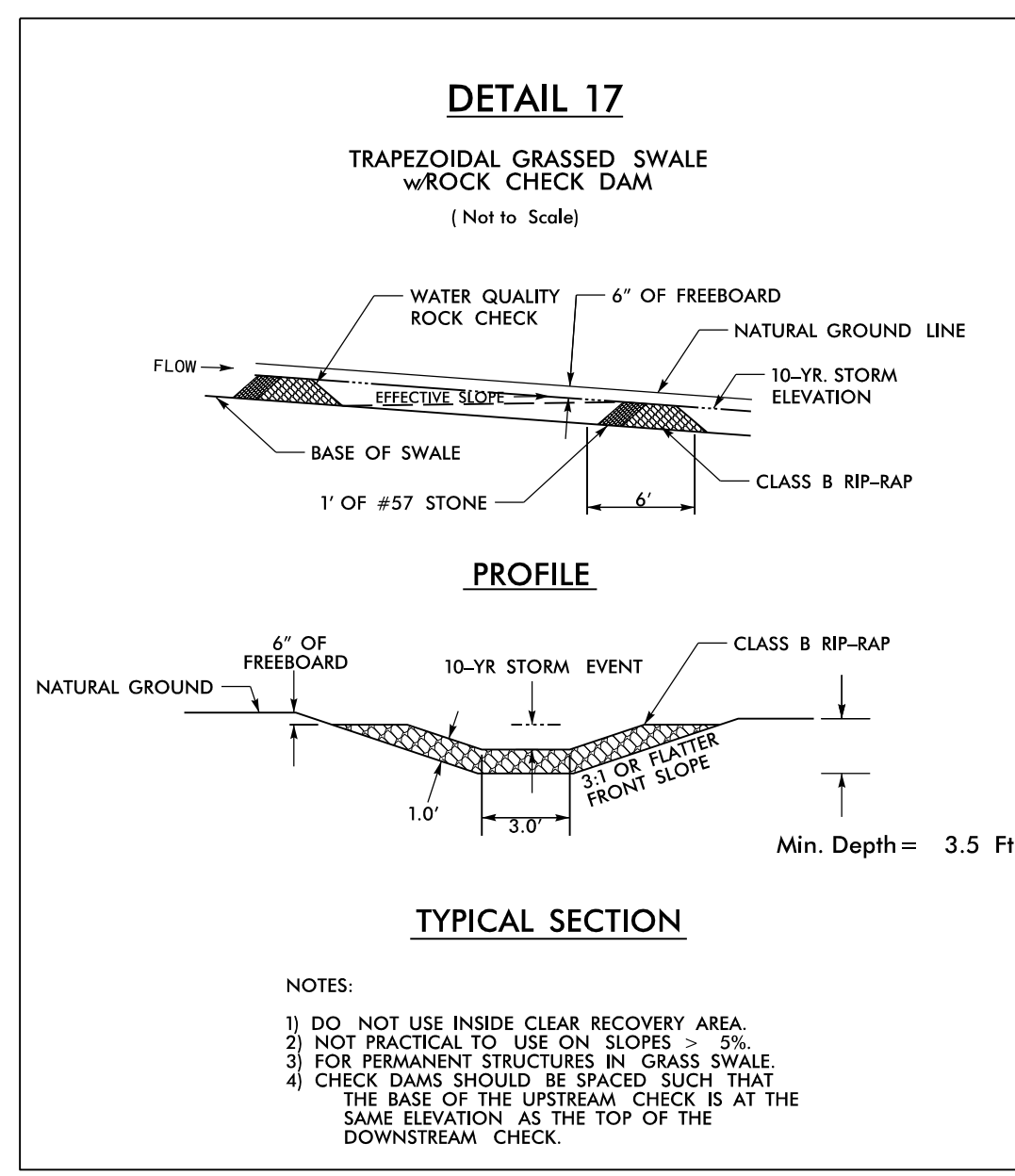
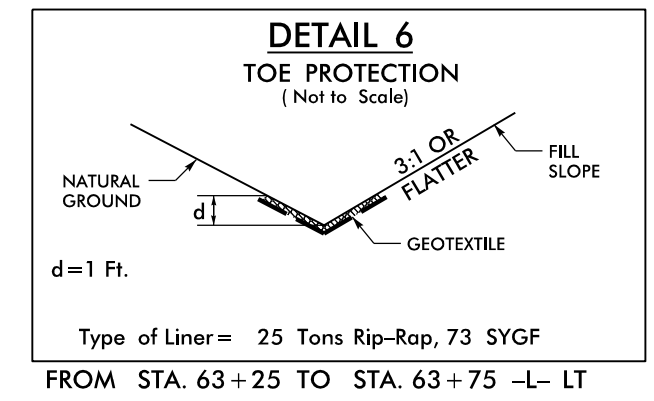
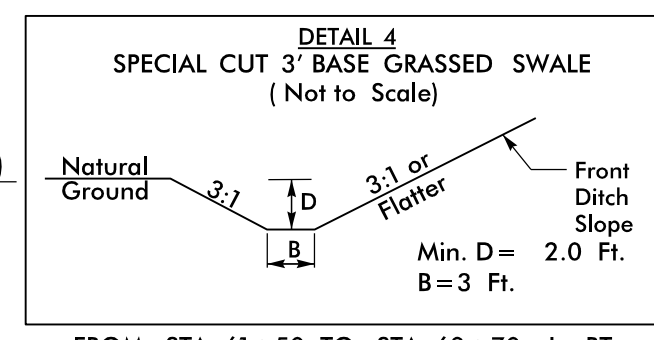
HYDRAULICS ENGINEER

9/9/2005

SEAL 045744

Jana K. Patel

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



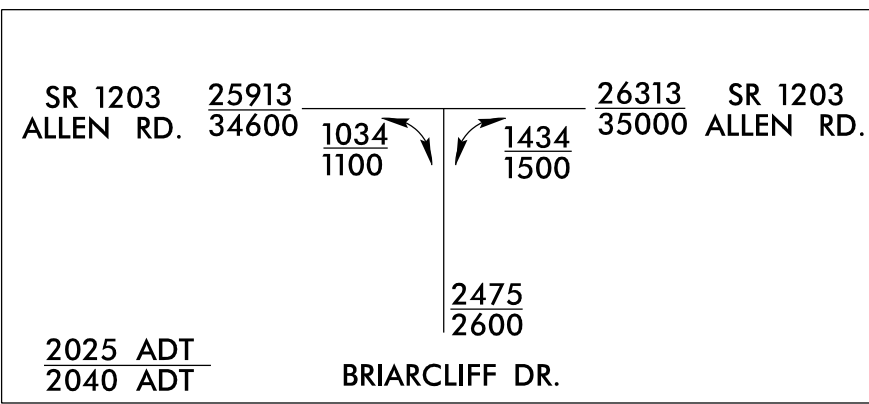
NOTE: USE 6' BERM FROM -L- STA. 61+14.55 TO STA. 62+73.46 LT.
WITH 2.5:1 SLOPE AT -L- STA. 61+57.77 LT. PROVIDE ROCK PLATING
FROM -L- STA. 61+50 TO STA. 62+00 LT.

SEE SHEET 20 FOR -L- PROFILE
SEE SHEET 2D-2 FOR CULVERT DETAILS (-L- STA. 64+00)
SEE SHEETS C2-1 THRU C2-14 FOR CULVERT PLANS

8/17/99

8/10/2025
U-5875_Rdy_psh.dgn
USF/WRP

-L-	-Y5-		
PI Sta 80+06.79 $\Delta = 5^{\circ} 01' 52.3" (LT)$ $D = 0^{\circ} 42' 58.3"$ $L = 702.49'$ $T = 351.47'$ $R = 8,000.00'$ $SE = NC$	PI Sta 12+17.06 $\Delta = 2^{\circ} 17' 06.8" (LT)$ $D = 1^{\circ} 43' 45.5"$ $L = 132.15'$ $T = 66.08'$ $R = 3,313.21'$	PI Sta 13+46.46 $\Delta = 3^{\circ} 02' 20.9" (LT)$ $D = 2^{\circ} 24' 00.3"$ $L = 126.63'$ $T = 63.33'$ $R = 2,387.25'$	



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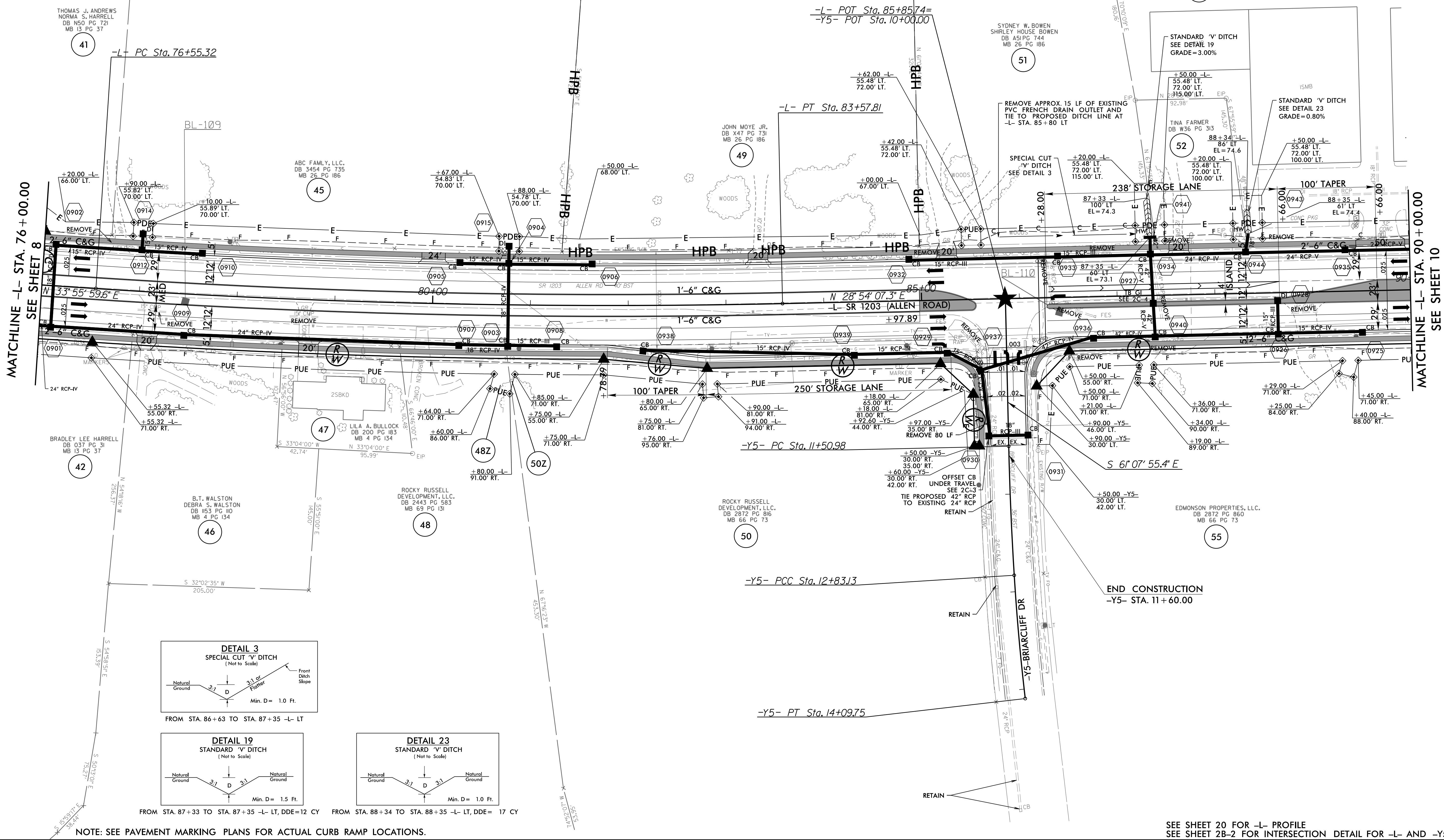
1 Glenwood Avenue
Raleigh, NC 27603
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Fax: 919.789.9591
License: F-0453

TBD 2, LLC.
DB 406 PG 754
FORMERLY
HAPPY TRAIL FARMS, LLC.
DB 3415 PG 635
MB 4 PG 134

NAD 83/NA 2011

53A

PROJECT REFERENCE NO. U-5875		SHEET NO. 9	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		NORTH CAROLINA PROFESSIONAL SEAL 033871	
9/10/2025		9/9/2025	
Daniel W. Gardner, Jr. SFF7493974194E7		Javadi H. Patel RC35D18288042A	
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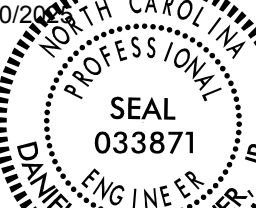
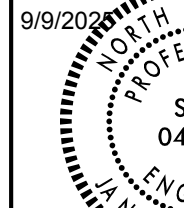
8/17/99

8/10/2005 U-5875_Rdy_psh10.dgn
USER:Rdy

-L-
PI Sta 97+90.27
 $\Delta = 15^\circ 07' 48.0''$ (RT)
 $D = 2^\circ 51' 53.2''$
 $L = 528.14'$
 $T = 265.61'$
 $R = 2,000.00'$
 $SE = 0.04$
 $RO = 144'$

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PROJECT REFERENCE NO.		SHEET NO.	
U-5875		10	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
			
Daniel W. Gardner, Jr.		Janaki H. Patel	
8FF7493974164E7		9C35D182B80042A	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

MATCHLINE -L- STA. 90 + 00.00
SEE SHEET 9

MATCHLINE -L- STA. 102 + 50.00
SEE SHEET 11



FROM STA. 92+26 TO STA. 92+34 -L- LT, DDE=13 CY
FROM STA. 94+51 TO STA. 94+53 -L- LT, DDE=11 CY
FROM STA. 96+27 TO STA. 96+32 -L- LT, DDE=10 CY



FROM STA. 93+85 TO STA. 98+50 -L- LT



FROM STA. 93+85 TO STA. 96+50 -L- RT



FROM STA. 99+35 TO STA. 106+00 -L- RT



FROM STA. 93+85 TO STA. 93+92 -L- RT, DDE=23.0 CY

SEE SHEET 21 FOR -L- PROFILE

8/17/99

8/10/2025
U-5875-Rdy_psh1.dgn
USER:Wade

-L-	-Y7-
PI Sta III+66.12	PI Sta II+9.16
$\Delta = 22' 46" 31.6" (LT)$	$\Delta = 2' 35" 27.3" (LT)$
$D = 3' 00" 56.0"$	$D = 1' 05" 14.5"$
$L = 755.26'$	$L = 238.27'$
$T = 382.68'$	$T = 119.16'$
$R = 1,900.00'$	$R = 5,269.21'$
$SE = 0.04$	
$RO = 144'$	

SR 1203 ALLEN RD.	26313 35000	SR 1726 LANDFILL RD.	775 900	26413 35100	SR 1203 ALLEN RD.
2025 ADT		400	438		2040 ADT

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Fax: 919.789.9591
License: F-0453

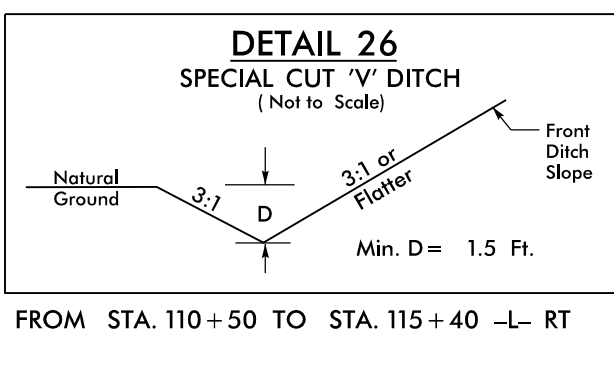
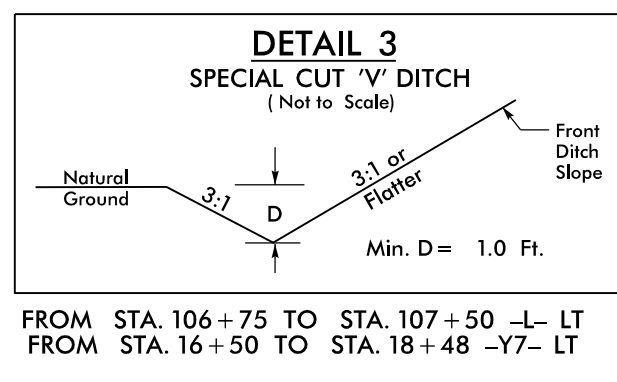
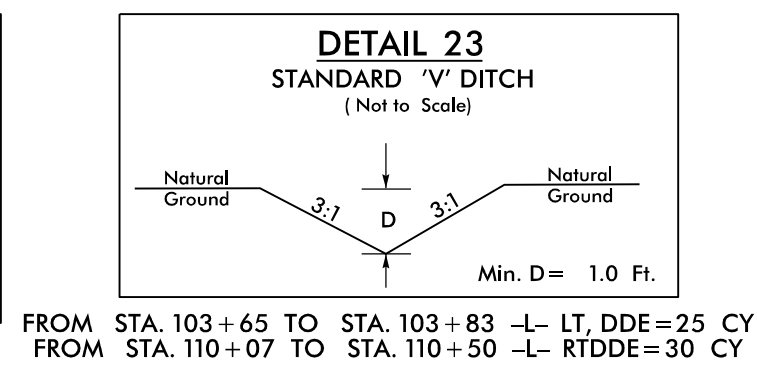
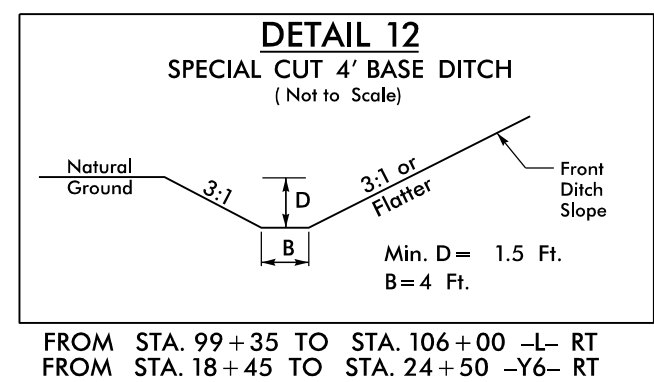
PROJECT REFERENCE NO.	SHEET NO.
U-5875	11
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	ENGINEER
9/10/2025 PROFESSIONAL SEAL 033871 DANIEL W. GARDNER, Jr. Doc: 11/1/2025 REF: 489074104E7	9/9/2025 PROFESSIONAL SEAL 045744 JANAKI H. PATEL Doc: 11/1/2025 REF: 489074104E7
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61

BYPASS PROPERTIES III, LLC.
DB 1609 PG T25
MB 60 PG 71

8/10/2025
U-5875-Rdy_psh1.dgn
USER:Wade

NOTE: SEE PAVEMENT MARKING PLANS FOR ACTUAL CURB RAMP LOCATIONS.



SEE SHEET 21 FOR -L- PROFILE
SEE SHEET 26 FOR -Y7- PROFILE
SEE SHEET 2B-3 FOR INTERSECTION DETAIL OF -L-, -Y6-, AND -Y7-

8/17/99

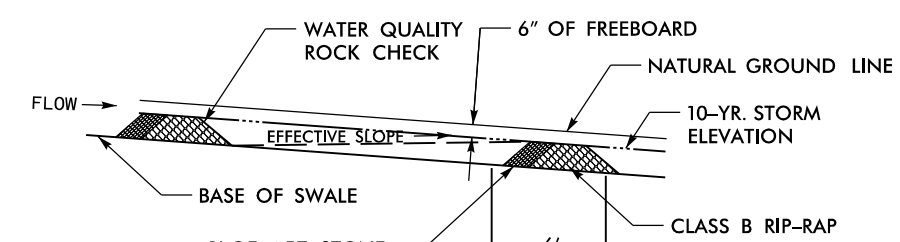
9/4/2025
U-5875_Rdy_psh12.dgn
JST/BJP

-L-	
PI Sta 111+66.12	PI Sta 126+58.61
$\Delta = 22' 46" 31.6" (LT)$	$\Delta = 16' 47" 01.2" (LT)$
$D = 3' 00" 56.0"$	$D = 4' 24" 26.5"$
$L = 755.26'$	$L = 380.81'$
$T = 382.68'$	$T = 191.78'$
$R = 1,900.00'$	$R = 1,300.00'$
$SE = 0.04$	$SE = 0.04$
$RO = 144'$	$RO = 144'$

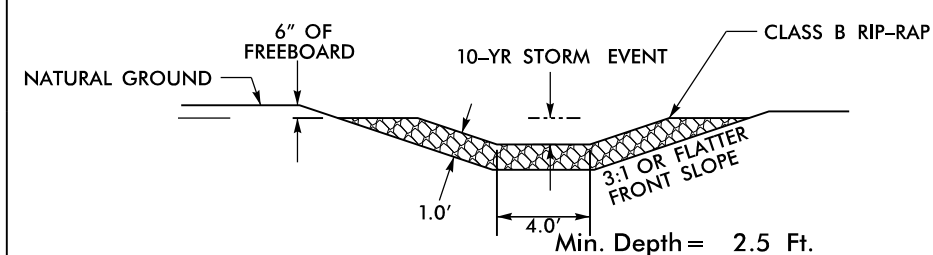
DETAIL 16

TRAPEZOIDAL GRASSED SWALE
w/ROCK CHECK DAM

(Not to Scale)



PROFILE



TYPICAL SECTION

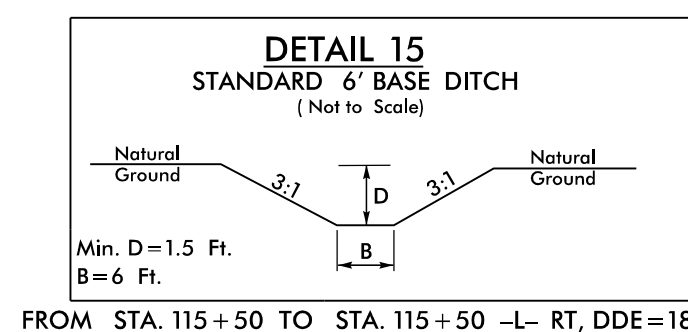
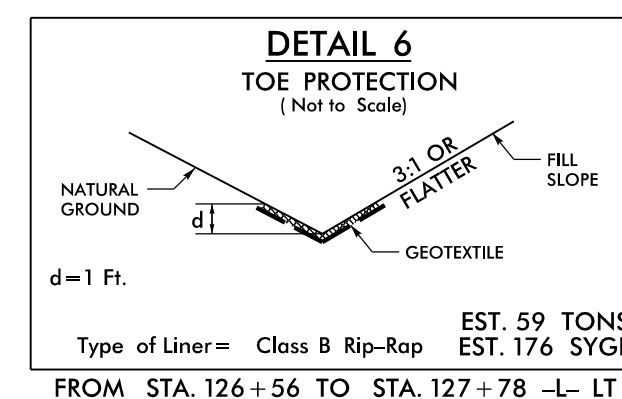
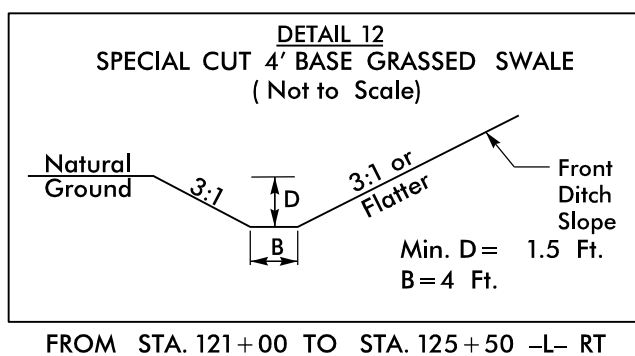
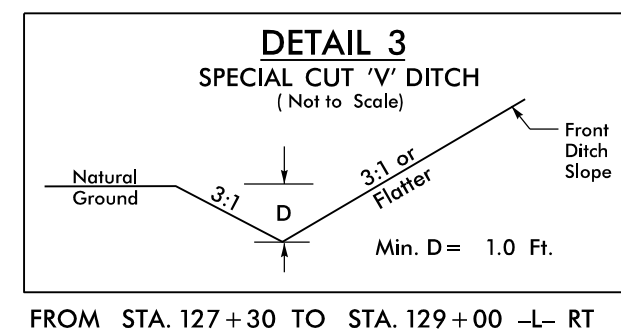
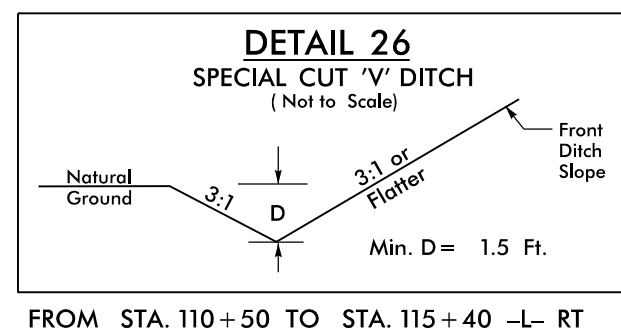
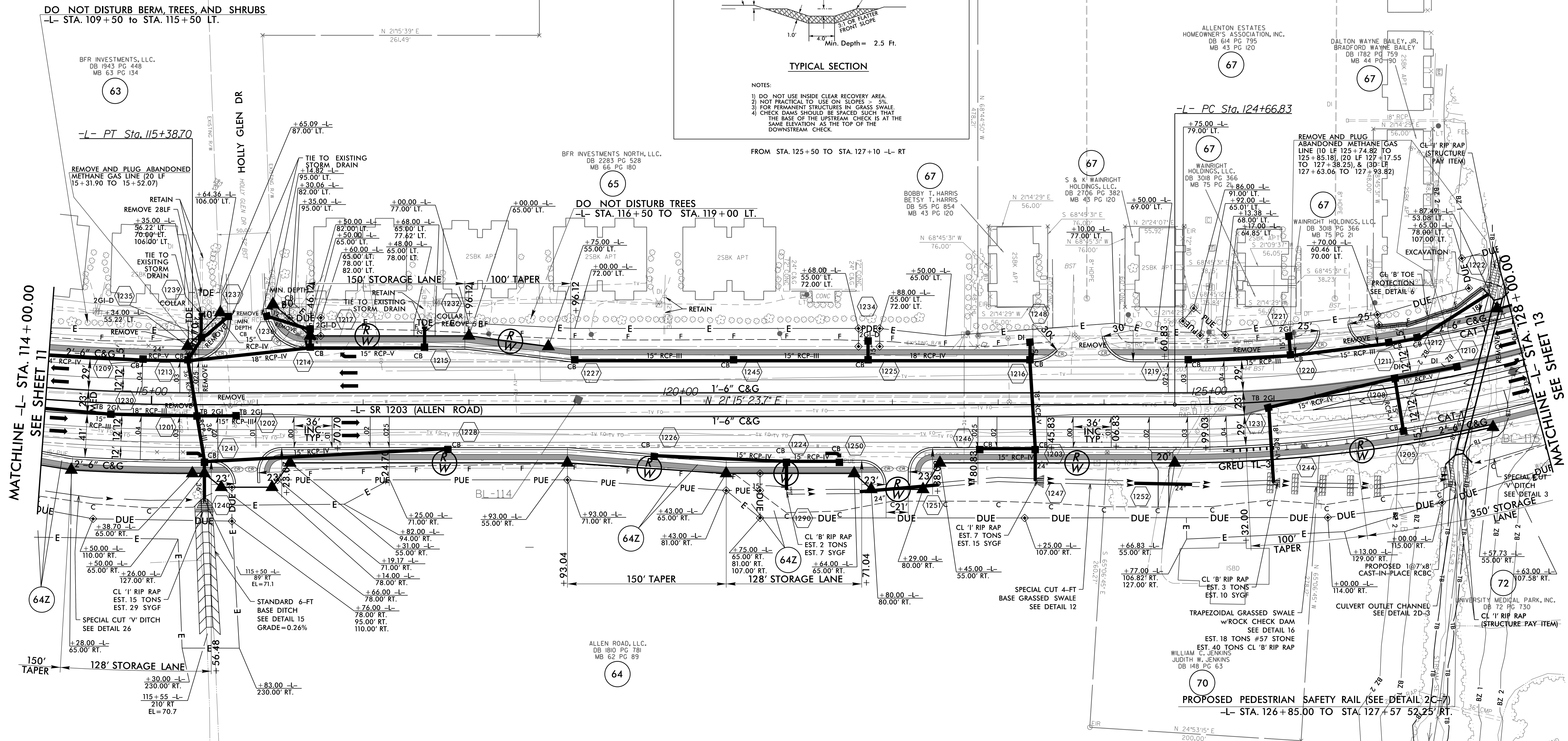
NOTES:

- DO NOT USE INSIDE CLEAR RECOVERY AREA.
- NOT PRACTICAL TO USE ON SLOPES $\geq 5\%$.
- FOR PERMANENT STRUCTURES IN GRASS SWALE, THE BASE OF THE UPSTREAM CHECK IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM CHECK.

TRANSYSTEMS

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Raleigh, NC 27603
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Fax: 919.789.9591
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PROJECT REFERENCE NO.	
U-5875	
SHEET NO.	
12	
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
HYDRAULICS ENGINEER	
9/10/2004	9/9/2004
SEAL 033871	SEAL 045744
Daniel W. Gardner, Jr.	Javadi H. Patel
SFF7489874184E7	RC35018288042A
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

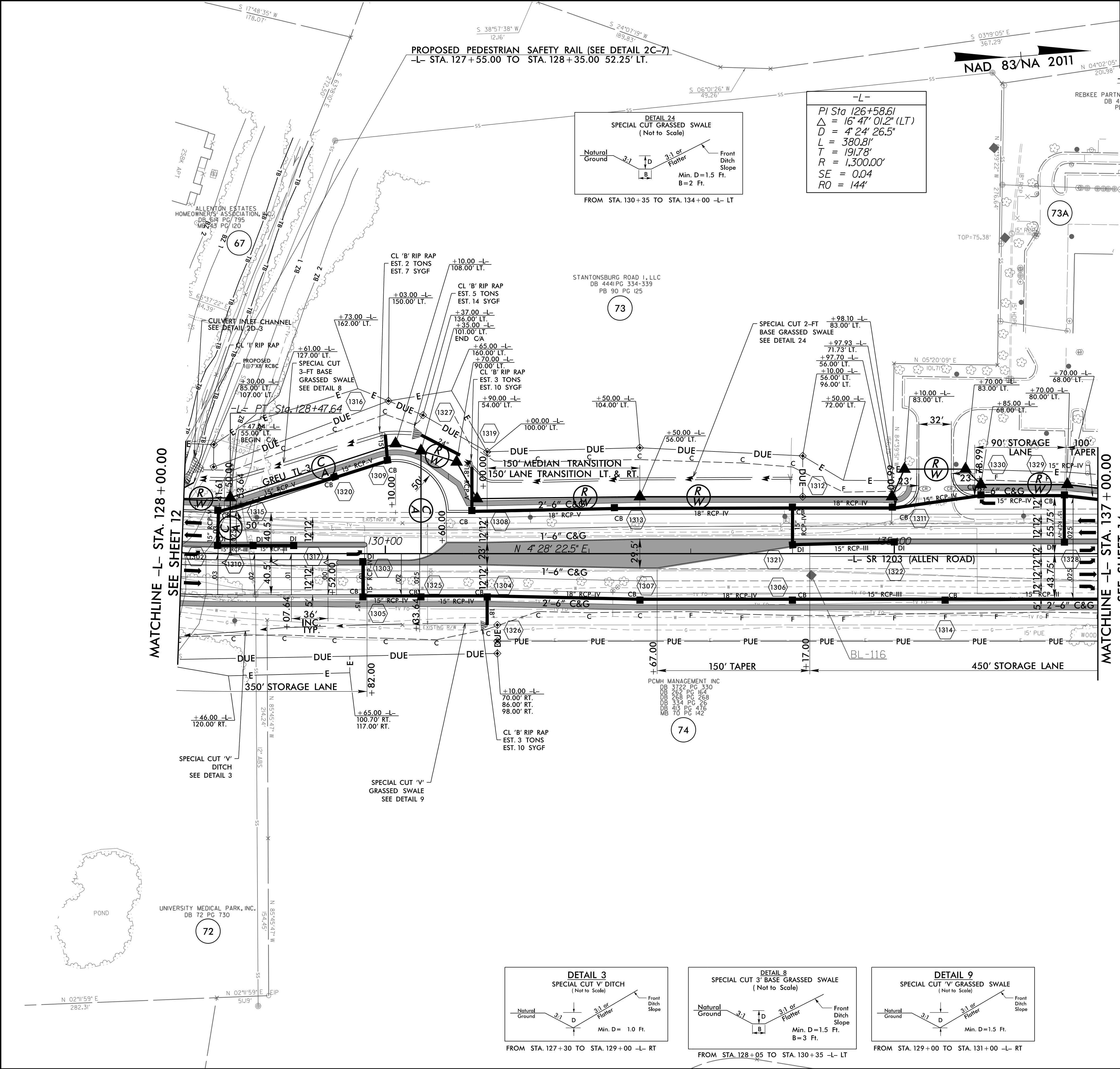


NOTE: SEE PAVEMENT MARKING PLANS FOR ACTUAL CURB RAMP LOCATIONS.

SEE SHEET 22 FOR -L- PROFILE
SEE SHEET 2D-3 FOR CULVERT DETAILS (-L- STA. 127+58)
SEE SHEETS C3-1 THRU C3-10 FOR CULVERT PLANS

8/17/99

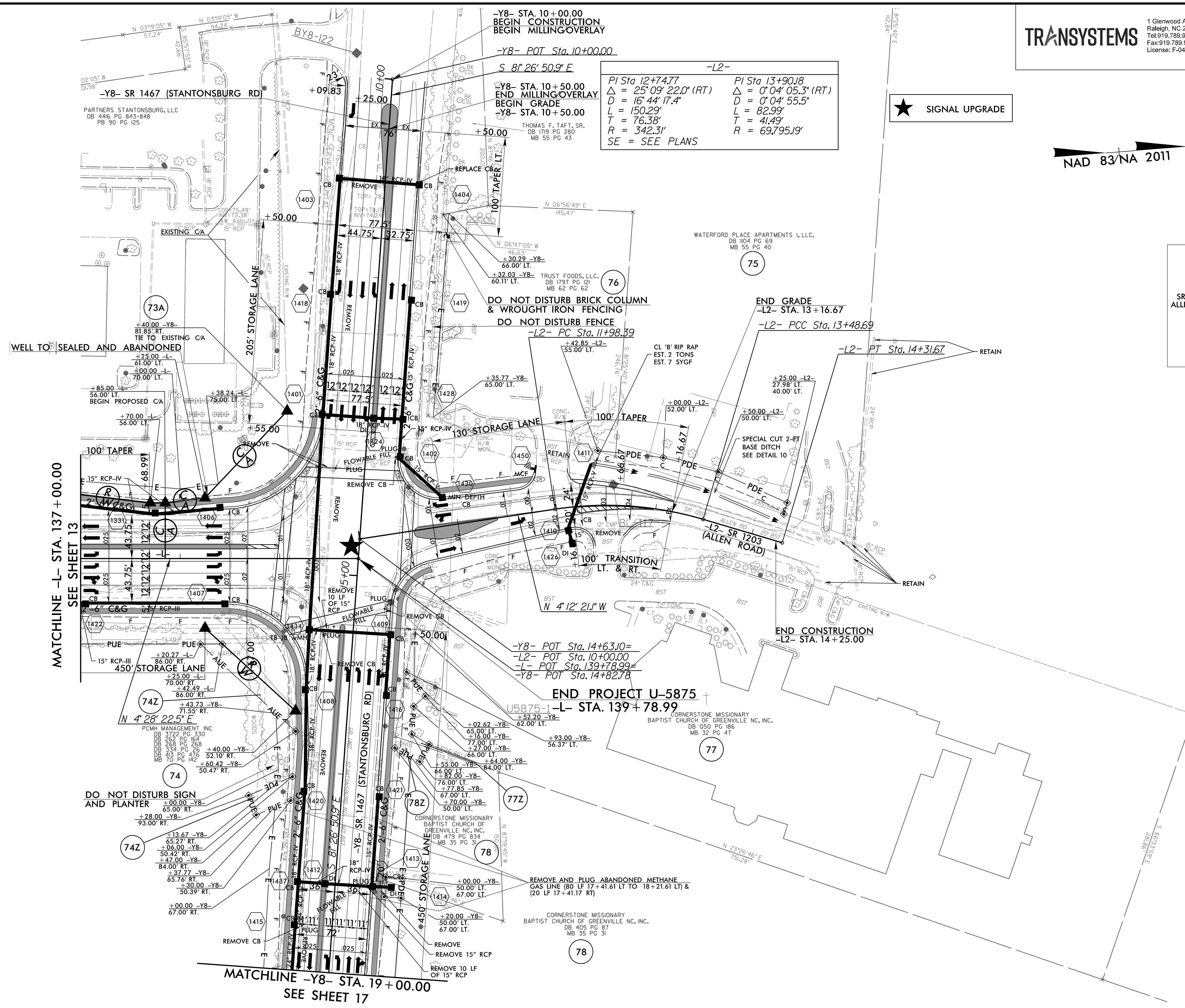
8/10/2025
U-5875_Rdy_psh13.dgn
USER:W006



SEE SHEET 22 FOR -L- PROFILE

8/17/99

9/4/2025 U-5875_Rdy_psh14.dgn
JSE:Wope



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PROJECT REFERENCE NO.
U-5875

SHEET NO.
14

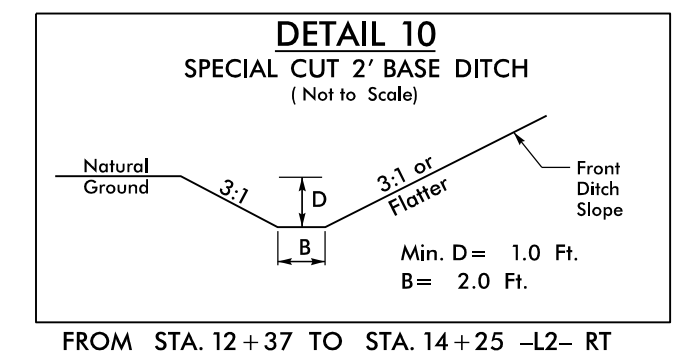
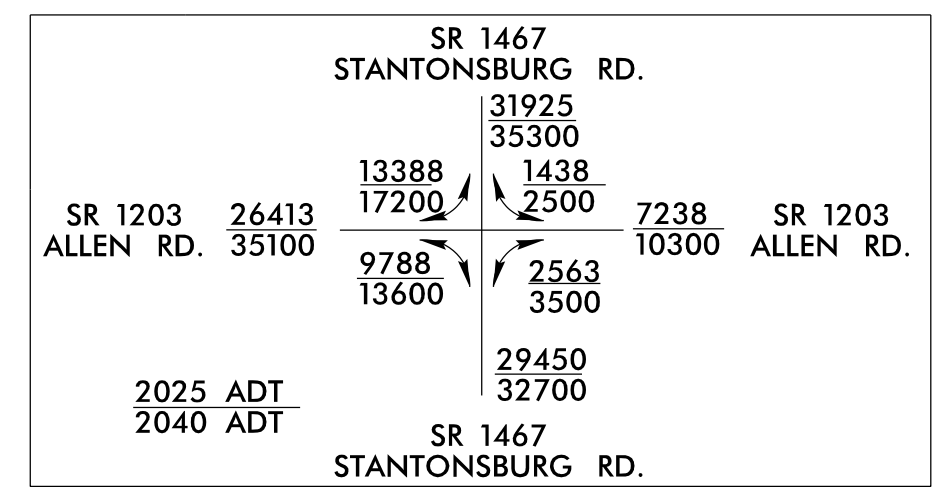
ROADWAY DESIGN ENGINEER
9/10/2025
NORTH CAROLINA PROFESSIONAL SEAL
033871
Daniel W. Gardner, Jr.
8FF7493974164E7

HYDRAULICS ENGINEER
9/9/2025
NORTH CAROLINA PROFESSIONAL SEAL
045744
Janaki H. Patel
9C35D1B2B0042A

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NAD 83/NA 2011

★ SIGNAL UPGRADE



NOTE: SEE PAVEMENT MARKING PLANS FOR ACTUAL CURB RAMP LOCATIONS.

SEE SHEET 23 FOR -L- AND -L2- PROFILE
SEE SHEET 27 FOR -Y8- PROFILE
SEE SHEET 2B-3 FOR INTERSECTION DETAIL OF -L- AND -Y8-

8/17/99

8/10/2025
U-5875_Rdy_psh15.dgn
USER:wpd

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PROJECT REFERENCE NO.

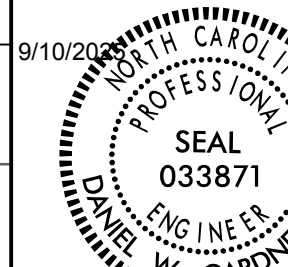
U-5875

SHEET NO.

15

RW SHEET NO.

ROADWAY DESIGN
ENGINEER



Documented By: Daniel W. Gardner, Jr.
98FT493974164E7

HYDRAULICS
ENGINEER



Signed: Janaki H. Patel
9C35D1B2B8042A

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TRADE LAND COMPANY, LLC
DB 3289 PG 799

RETAIN ALL STORM DRAINAGE
OUTSIDE OF PROJECT LIMITS

-Y- US 13264 ALT (DICKINSON AVE.)

BEGIN CONSTRUCTION
-Y- STA. 11+90.00

BEGIN GRADE
-Y- STA. 12+60.00

N 24°13'32" W
454.96'

EIP

S 65°28'26" W
170.07'

S 89°06'27" E
239.6740'

N 55°56'13" E
299.92'

H. ROBERT ALLEN, et ux
DB K46 PG 217

H. R. ALLEN, Jr., et al
DB 1264 PG 809
DB 030 PG 397

SHERWIN HERRING FARMS, LLC
DB 3153 PG 216
MB 75 PG 88

ROBERT L. JAMES, III, et ux
DB 038 PG 455
DB 2700 PG 582

NANCY BEARDSWORTH
DB 134 PG 604
MB 71 PG 115

NANCY A. BEARDSWORTH
DB 134 PG 604
MB 44 PG 118

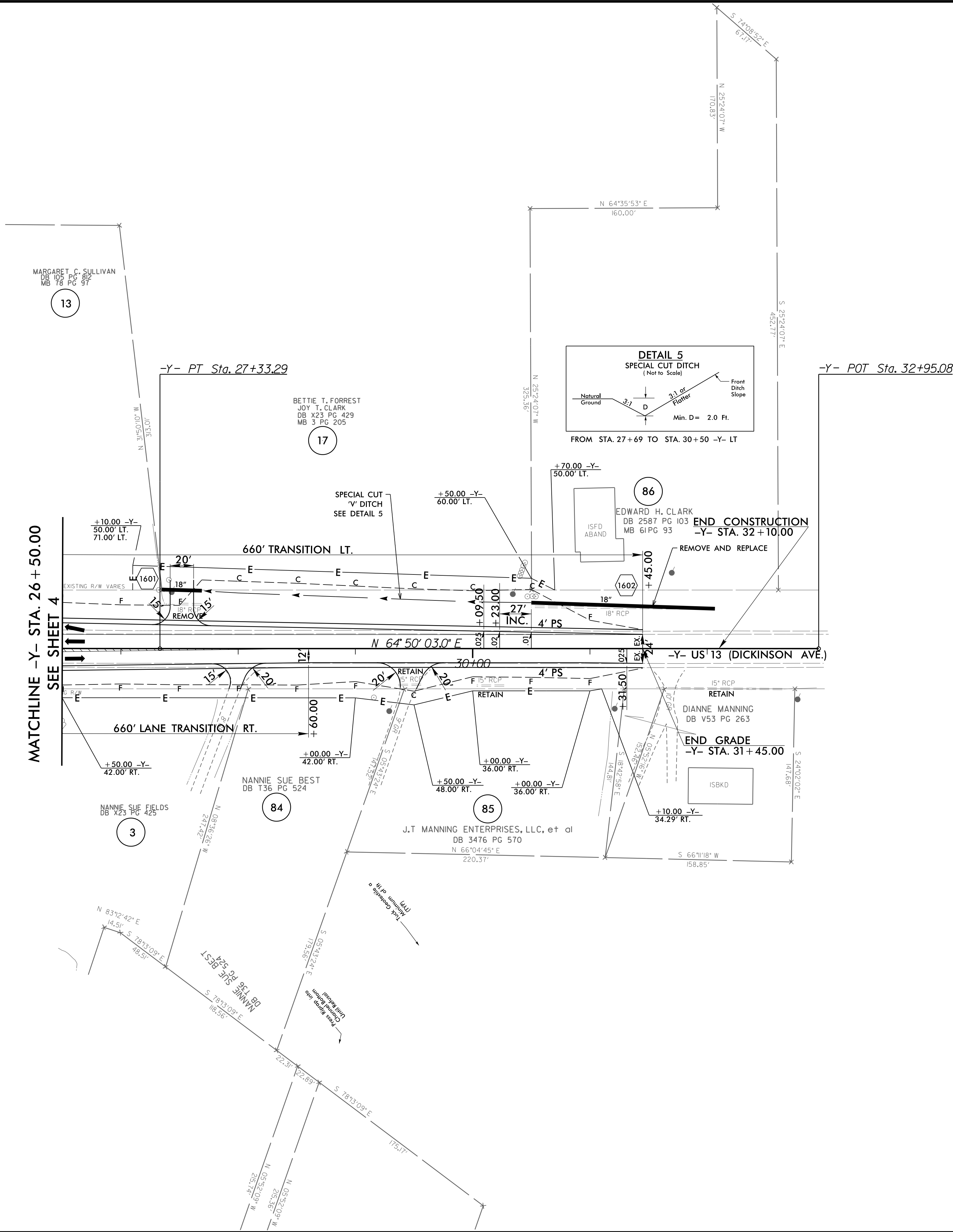
DTF, LLC
DB 2722 PG 527
MB 77 PG 60

MATCHLINE -Y- STA. 16+25.00
SEE SHEET 4

SEE SHEET 23 FOR -Y- PROFILE

8/17/99

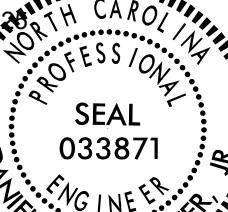
8/10/2025
U-5875-Rdy_psh16.dgn
USER:wpope



-Y-
PI Sta 26+48.19
 $\Delta = 0^\circ 29' 15.4" (LT)$
 $D = 0' 17' 11.3"$
 $L = 170.21'$
 $T = 85.10'$
 $R = 20,000.00'$
 $SE = NC$

TRANSYSTEMS

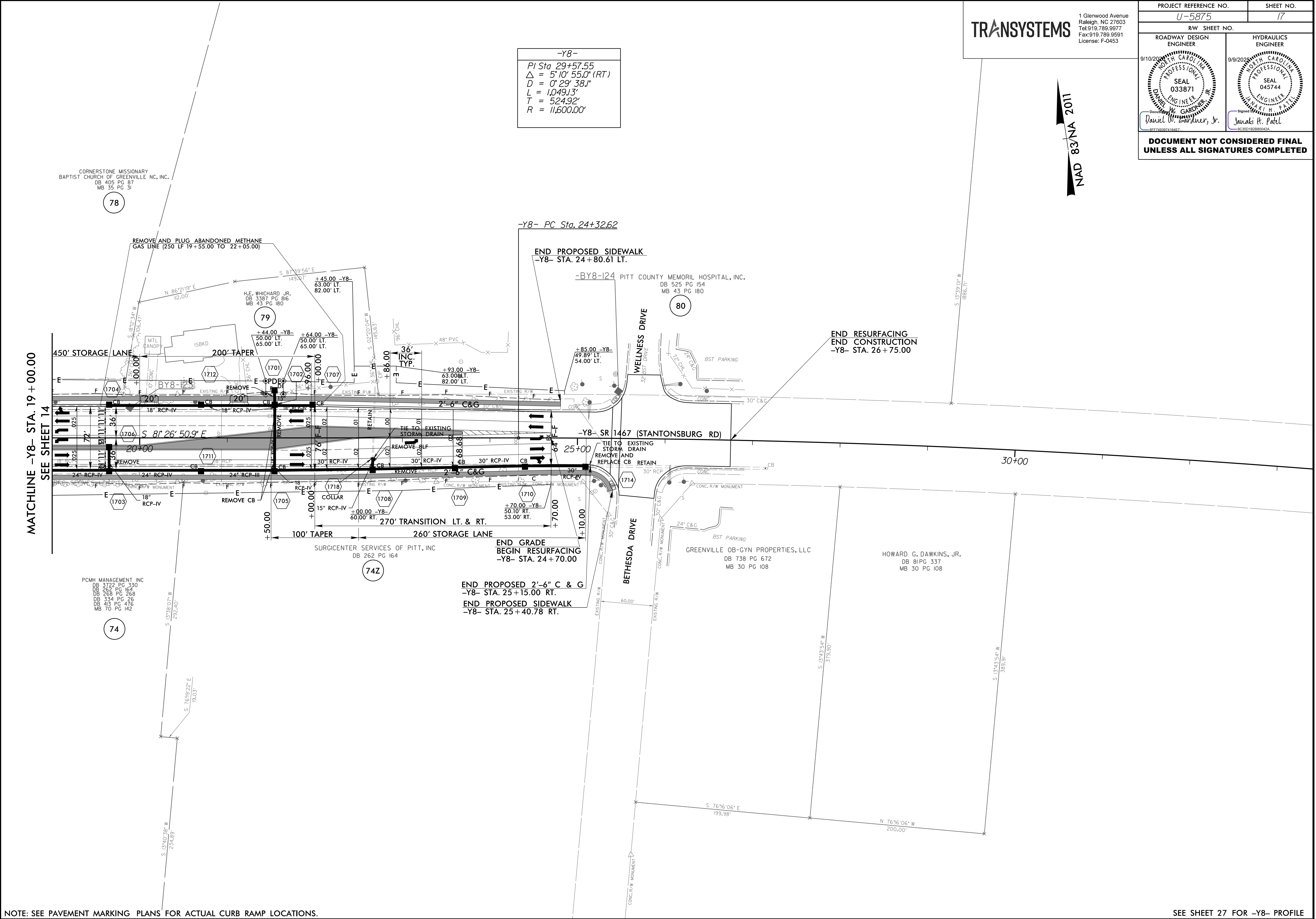
1 Glenwood Avenue
Raleigh, NC 27603
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Fax: 919.789.9591
License: F-0453

PROJECT REFERENCE NO.		SHEET NO.	
U-5875		16	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
9/10/2025  Daniel W. Gardner, Jr. BFF145309/416167		9/9/2025  Janaki H. Patel BC35015126B0042A	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

SEE SHEET 24 FOR -Y- PROFILE

8/17/99

9/4/2025
J:\5875_Rdy_psh17.dgn
USER:dpope



NOTE: SEE PAVEMENT MARKING PLANS FOR ACTUAL CURB RAMP LOCATIONS.

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PROJECT REFERENCE NO.		SHEET NO.	
U-5875		17	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
9/10/2025  Daniel W. Gardner, Jr. SIGNED		9/9/2025  Janaki H. Patel SIGNED	
9C35D19B2B0042A			
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NAD 83/NA 2011

SEE SHEET 27 FOR -Y8- PROFILE

5/28/99

8/8/2025 U:\5875_Rdy.pfl18.dgn
11:51:00 am

PIPE HYDRAULIC DATA		
EXISTING 18" RCP Sta.13+15		
DRAINAGE AREA	= 1.5	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 8	CFS
DESIGN HW ELEVATION	= 67.3	FT
100 YEAR DISCHARGE	= 9	CFS
100 YEAR HW ELEVATION	= 66.7	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 14	CFS
OVERTOPPING ELEVATION	= 70.44	FT

PIPE HYDRAULIC DATA		
30" RCP-III Sta.16+00		
DRAINAGE AREA	= 5.8	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 29	CFS
DESIGN HW ELEVATION	= 69.2	FT
100 YEAR DISCHARGE	= 32	CFS
100 YEAR HW ELEVATION	= 69.8	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 47	CFS
OVERTOPPING ELEVATION	= 73.07	FT

PIPE HYDRAULIC DATA		
24" RCP-IV Sta.20+86		
DRAINAGE AREA	= 2.1	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 15	CFS
DESIGN HW ELEVATION	= 71.7	FT
100 YEAR DISCHARGE	= 16	CFS
100 YEAR HW ELEVATION	= 71.8	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 30	CFS
OVERTOPPING ELEVATION	= 74.64	FT

PROJECT REFERENCE NO.
U-5875

SHEET NO.
18

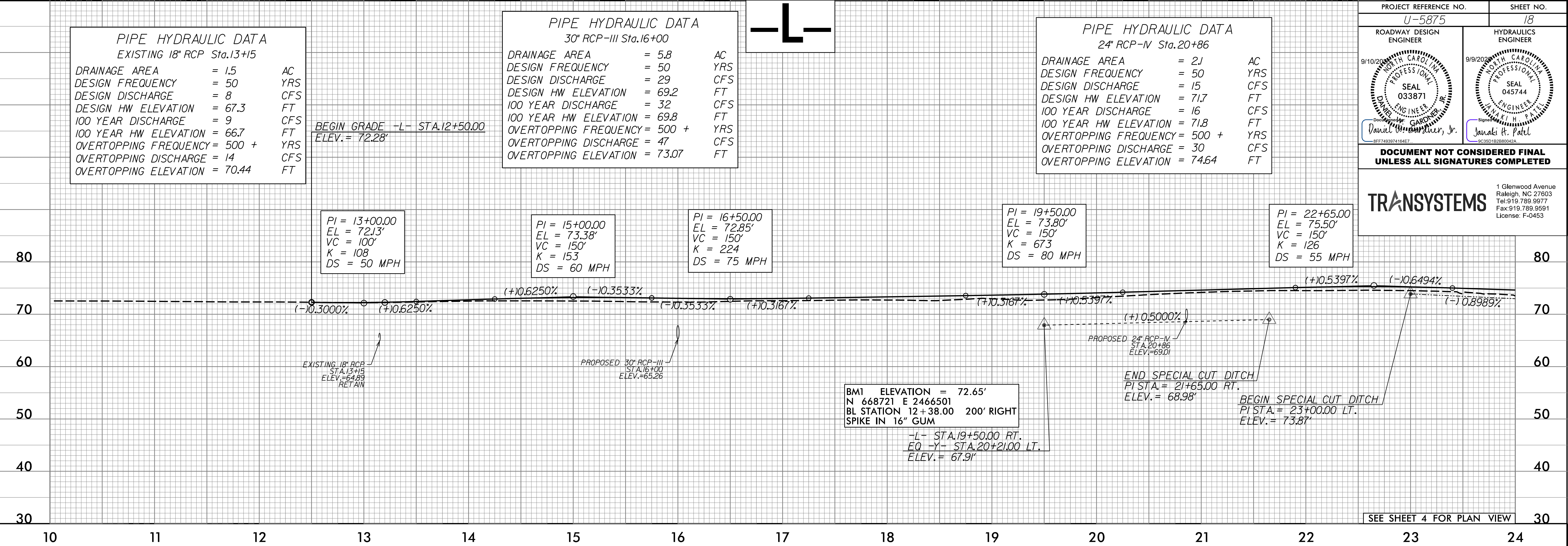
ROADWAY DESIGN ENGINEER
9/10/2025
NORTH CAROLINA PROFESSIONAL SEAL
033871
DANIEL W. GARDNER, JR.
8977483974154E7

HYDRAULICS ENGINEER
9/9/2025
NORTH CAROLINA PROFESSIONAL SEAL
045744
JANAKI H. PATEL
9C35D1B2B80042A

DOCUMENT NOT CONSIDERED FINAL
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TRANSYSTEMS

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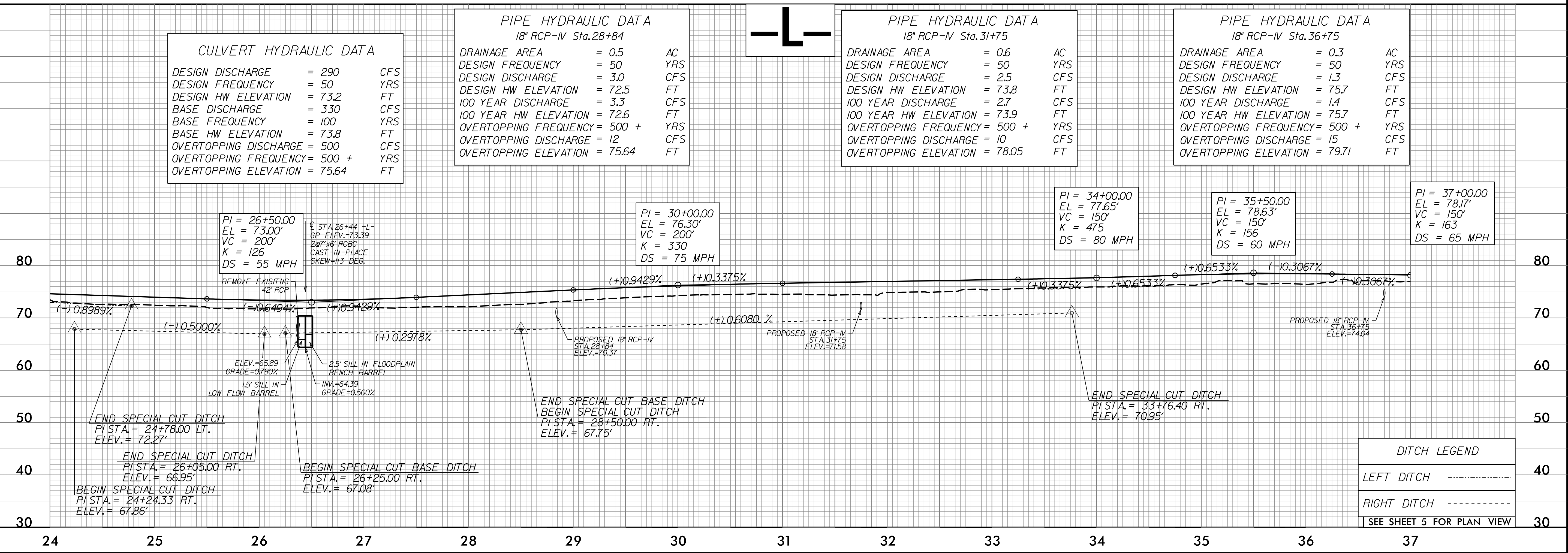


CULVERT HYDRAULIC DATA		
DESIGN DISCHARGE	= 290	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 73.2	FT
BASE DISCHARGE	= 330	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 73.8	FT
OVERTOPPING DISCHARGE	= 500	CFS
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING ELEVATION	= 75.64	FT

PIPE HYDRAULIC DATA		
18" RCP-IV Sta.28+84		
DRAINAGE AREA	= 0.5	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 3.0	CFS
DESIGN HW ELEVATION	= 72.5	FT
100 YEAR DISCHARGE	= 3.3	CFS
100 YEAR HW ELEVATION	= 72.6	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 12	CFS
OVERTOPPING ELEVATION	= 75.64	FT

PIPE HYDRAULIC DATA		
18" RCP-IV Sta.31+75		
DRAINAGE AREA	= 0.6	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 2.5	CFS
DESIGN HW ELEVATION	= 73.8	FT
100 YEAR DISCHARGE	= 2.7	CFS
100 YEAR HW ELEVATION	= 73.9	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 10	CFS
OVERTOPPING ELEVATION	= 78.05	FT

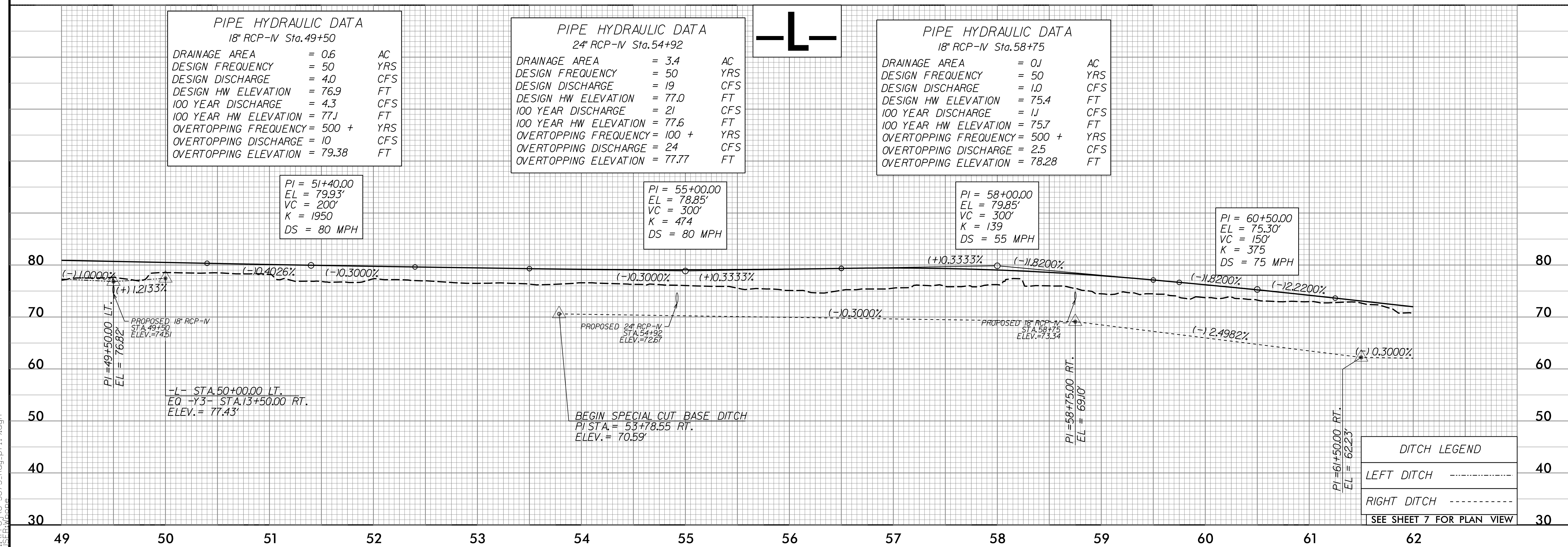
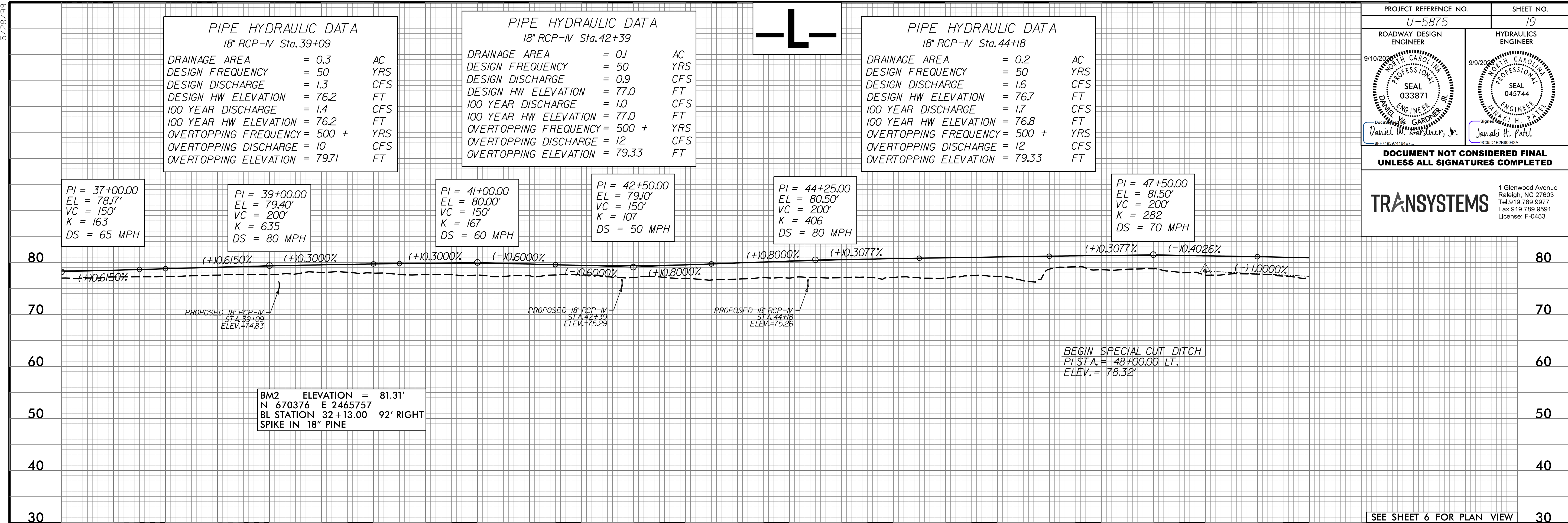
PIPE HYDRAULIC DATA		
18" RCP-IV Sta.36+75		
DRAINAGE AREA	= 0.3	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1.3	CFS
DESIGN HW ELEVATION	= 75.7	FT
100 YEAR DISCHARGE	= 1.4	CFS
100 YEAR HW ELEVATION	= 75.7	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 15	CFS
OVERTOPPING ELEVATION	= 79.71	FT



DITCH LEGEND	
LEFT DITCH	-----
RIGHT DITCH	-----
SEE SHEET 5 FOR PLAN VIEW	

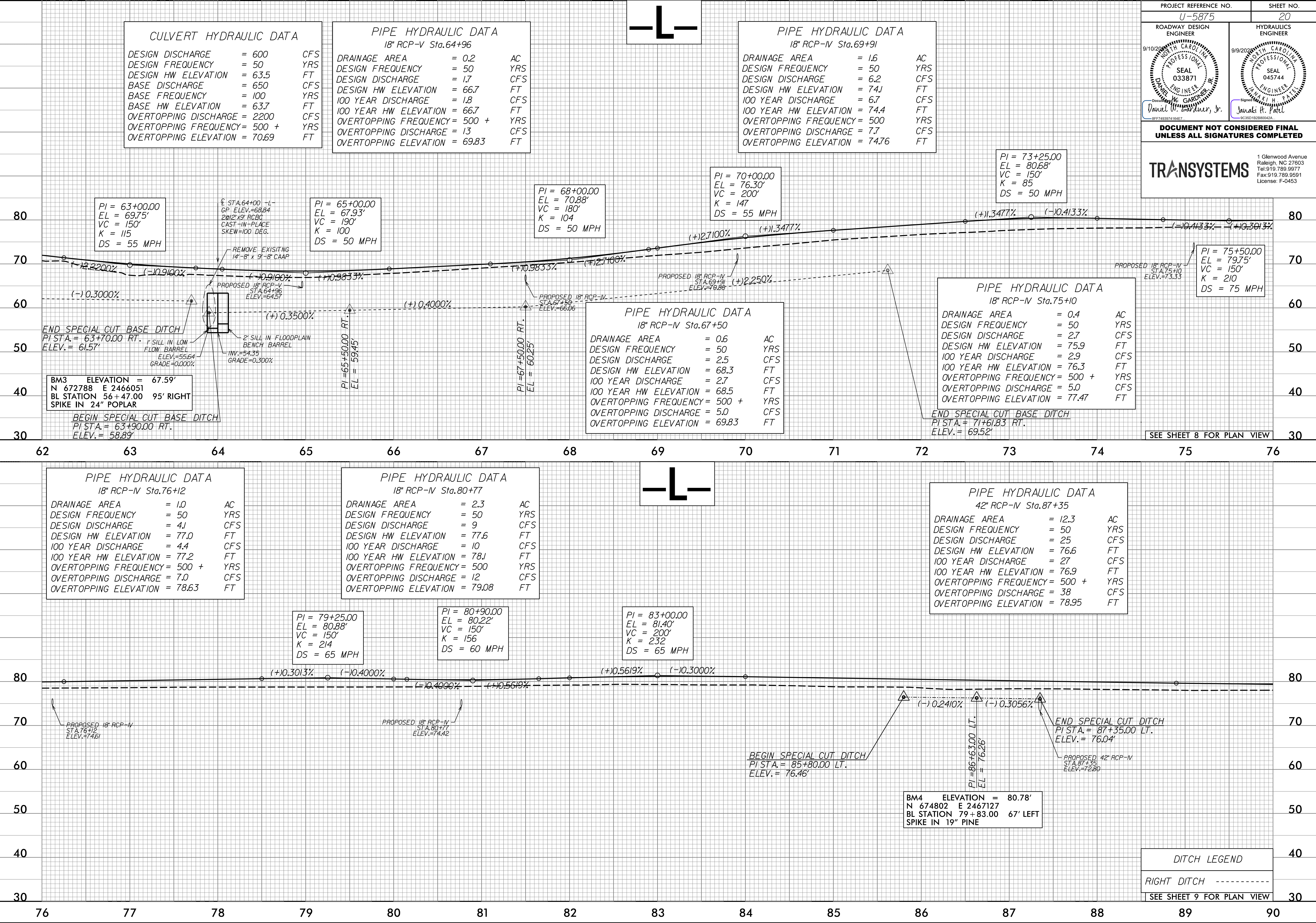
**DOCUMENT NOT CONSIDERED FINAL
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5/28/99

8/8/2025
U-5875_Rdy.plt20.dgn
11:55:30 am



PROJECT REFERENCE NO.
U-5875

SHEET NO.
20

ROADWAY DESIGN ENGINEER
9/10/2005
SEAL 033871
DANIEL W. GARDNER, JR.
SHEET 18897418AET

HYDRAULICS ENGINEER
9/9/2005
SEAL 045744
JANAKI K. PATEL
SHEET 18897418AET

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TRANSYSTEMS
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Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: F-0453

DITCH LEGEND

RIGHT DITCH - - - - -

SEE SHEET 9 FOR PLAN VIEW

5/28/99

PROJECT REFERENCE NO.
U-5875

SHEET NO.
21

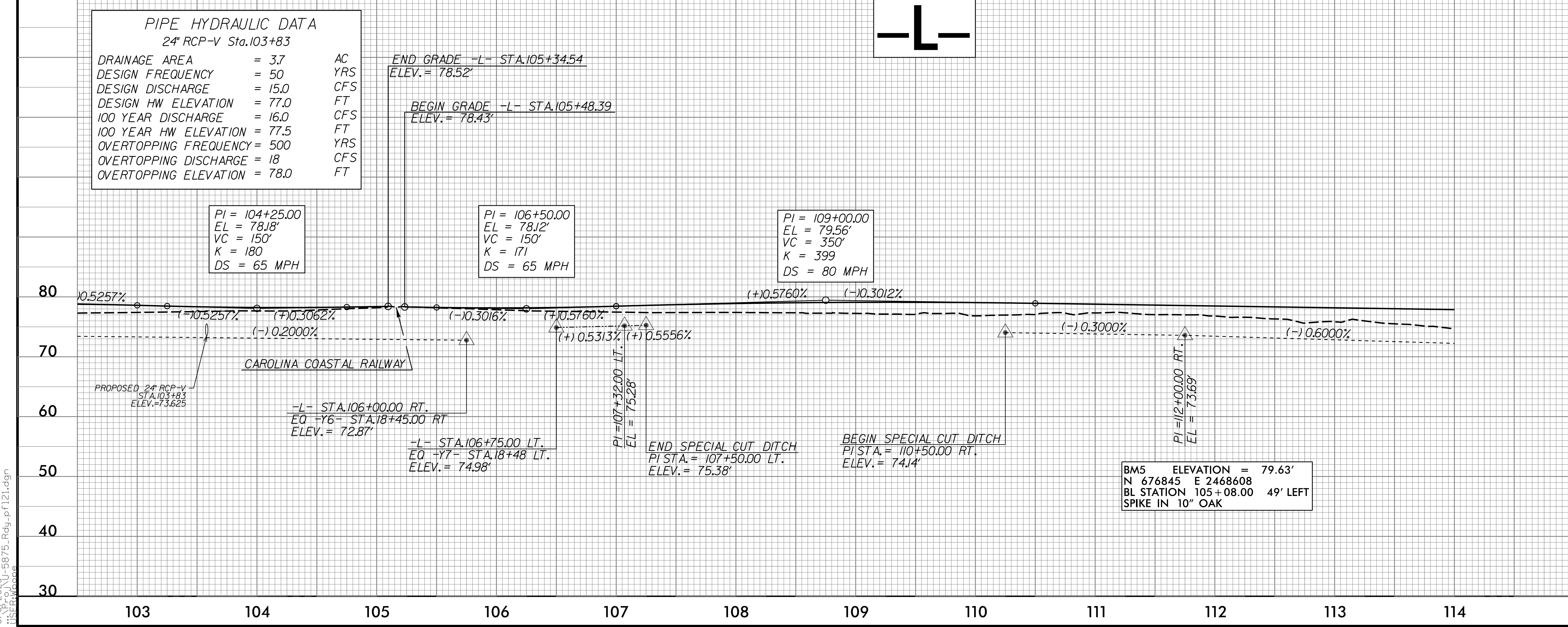
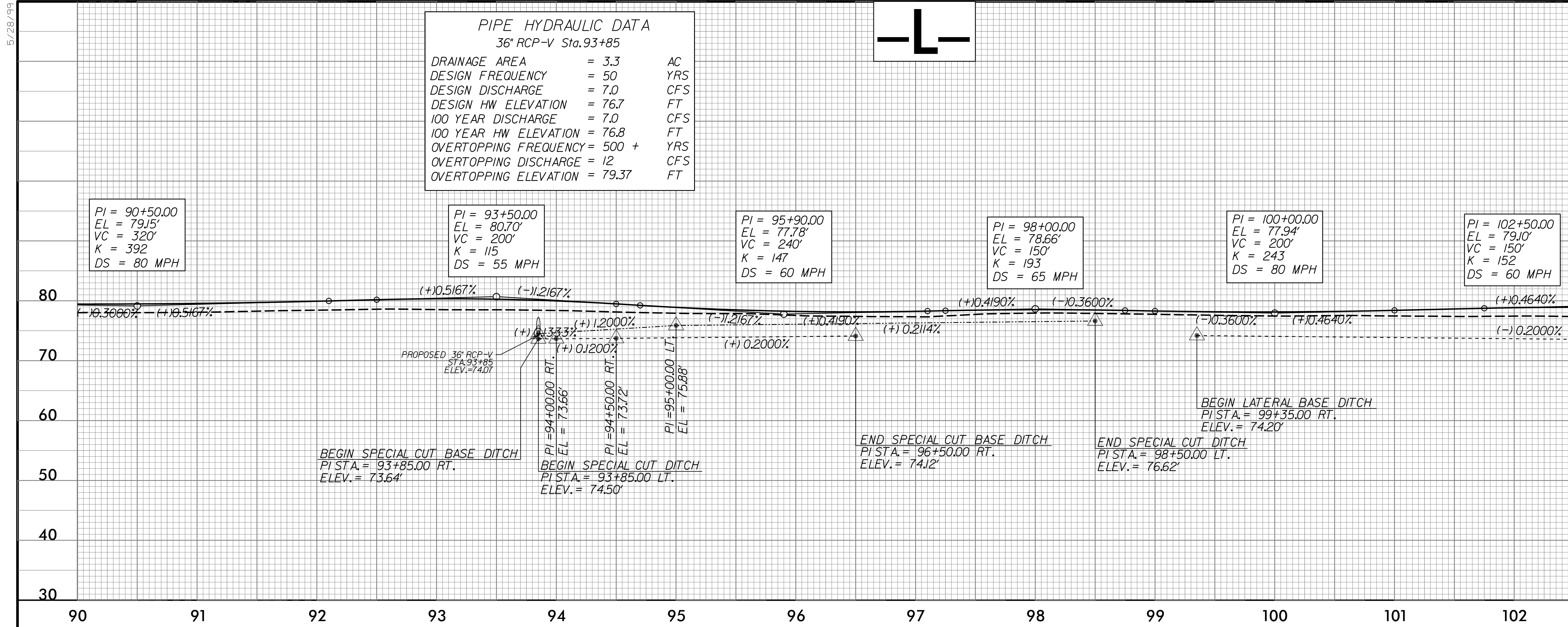
ROADWAY DESIGN
ENGINEER
9/10/2005
NORTH CAROLINA
PROFESSIONAL
SEAL
033871
ENGINEER
DANIEL W. GARDNER, JR.
8877489874164E7

HYDRAULICS
ENGINEER
9/9/2005
NORTH CAROLINA
PROFESSIONAL
SEAL
045744
ENGINEER
JANAKI K. PATEL
9C38D1B2B805042A

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8/8/2005 U-5875-Rdy-pl121.dgn
1155190000

5/28/99

PIPE HYDRAULIC DATA		
36" RCP-V Sta.115+41		
DRAINAGE AREA	= 8.6	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 34	CFS
DESIGN HW ELEVATION	= 74.4	FT
100 YEAR DISCHARGE	= 37	CFS
100 YEAR HW ELEVATION	= 74.6	FT
OVERTOPPING FREQUENCY	= 1000 +	YRS
OVERTOPPING DISCHARGE	= 57	CFS
OVERTOPPING ELEVATION	= 76.15	FT

PI = 117+50.00
EL = 77.00'
VC = 150'
K = 754
DS = 80 MPH

PIPE HYDRAULIC DATA		
24" RCP-V Sta.123+33		
DRAINAGE AREA	= 1.3	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 7.0	CFS
DESIGN HW ELEVATION	= 71.2	FT
100 YEAR DISCHARGE	= 8.0	CFS
100 YEAR HW ELEVATION	= 71.50	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 11	CFS
OVERTOPPING ELEVATION	= 72.73	FT

CULVERT HYDRAULIC DATA		
DESIGN DISCHARGE	= 420	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 68.7	FT
BASE DISCHARGE	= 470	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 69.6	FT
OVERTOPPING DISCHARGE	= 700	CFS
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING ELEVATION	= 73.93*	FT
*HIGH SHOULDER AT -L- STA.129+75		

PI = 126+50.00
EL = 72.20'
VC = 300'
K = 308
DS = 80 MPH

PROJECT REFERENCE NO.
U-5875

SHEET NO.
22

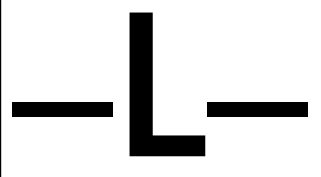
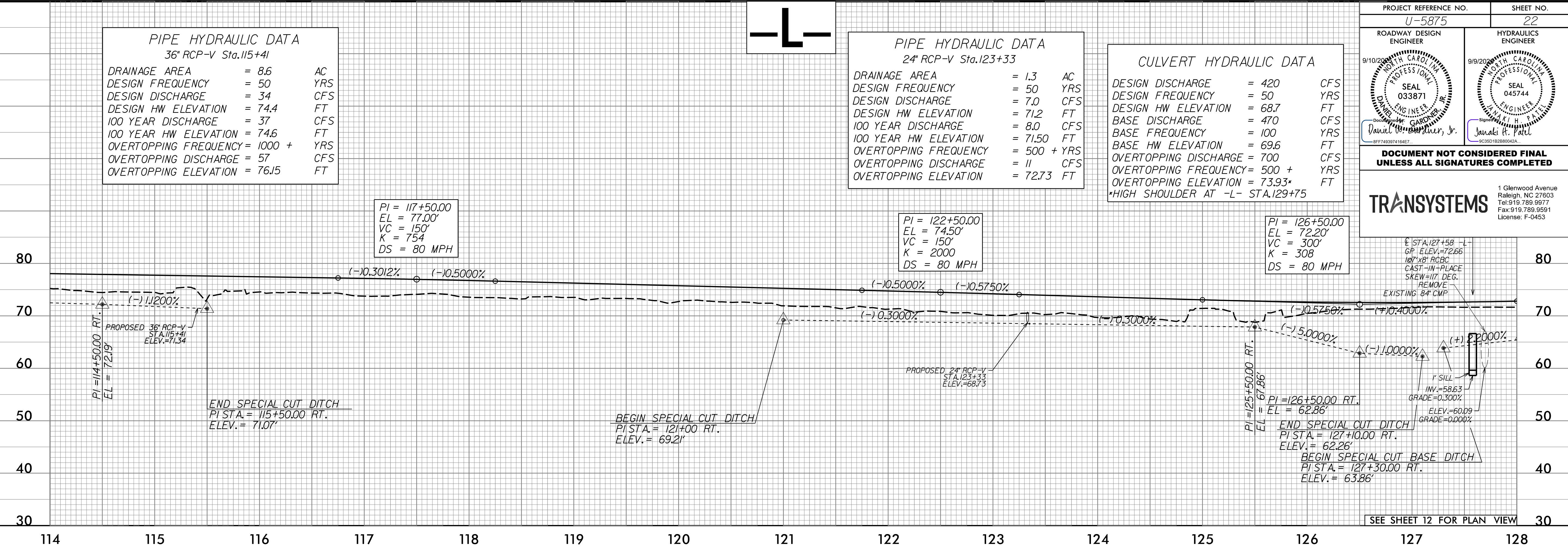
ROADWAY DESIGN ENGINEER
9/10/2005
SEAL 033871
DANIEL W. GARDNER, JR.
BFF148997418AE7

HYDRAULICS ENGINEER
9/9/2005
SEAL 045744
JANAKI K. PATEL
9C38D1B2B8042A

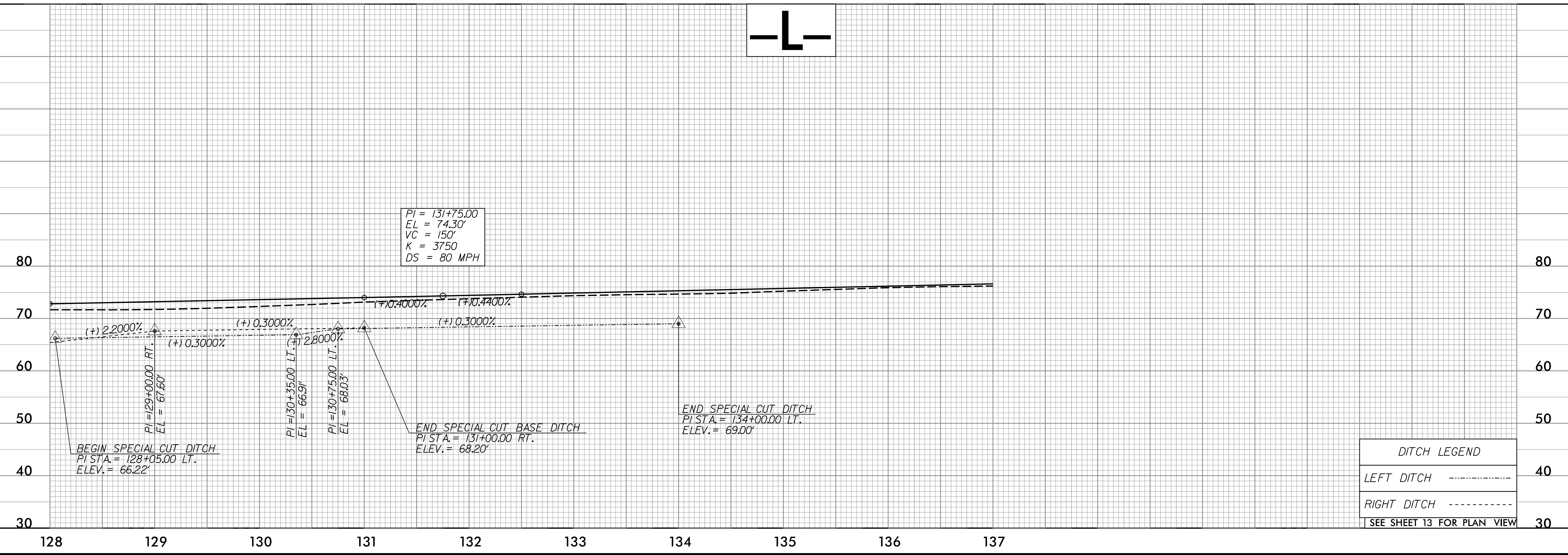
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License: F-0453

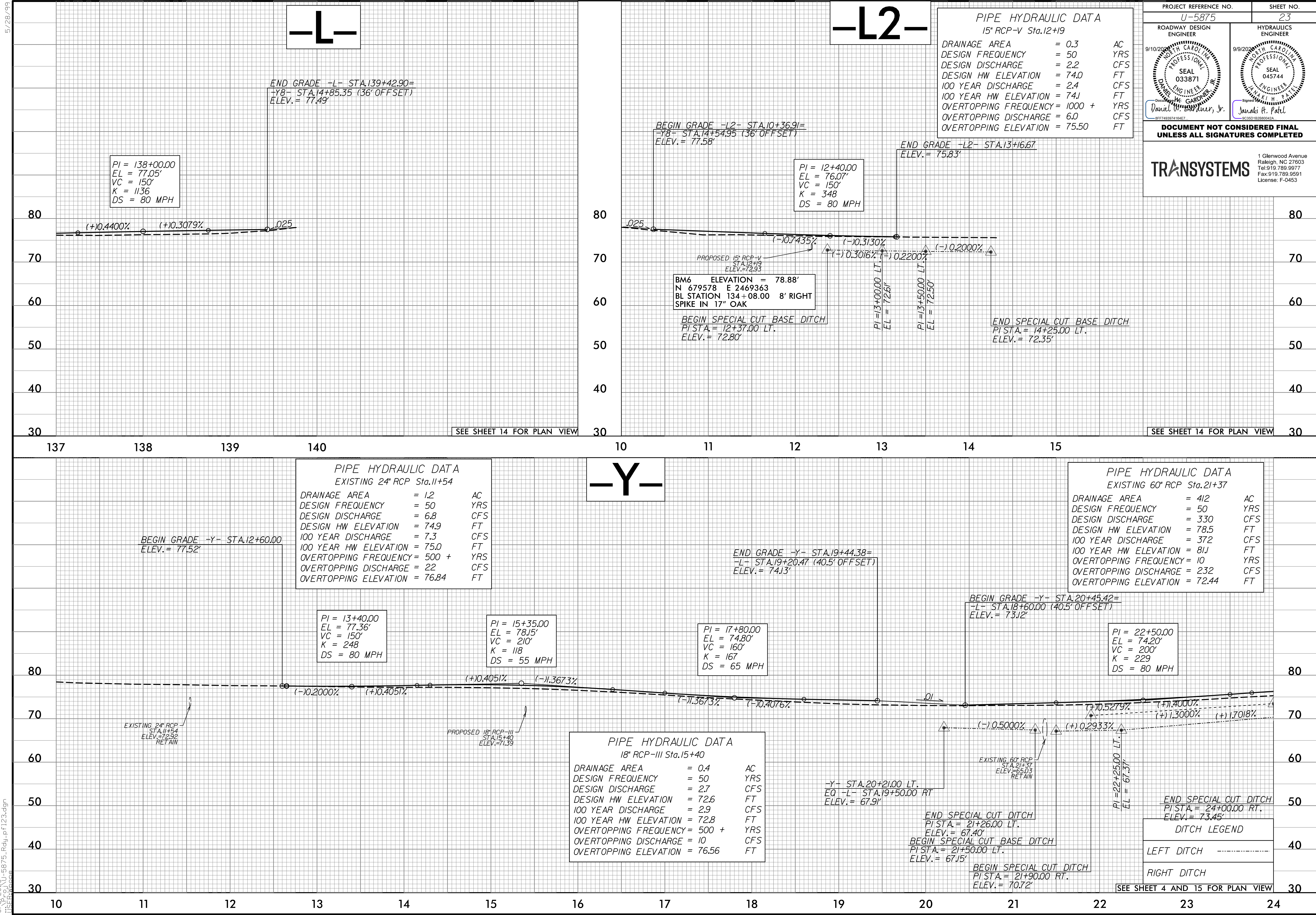


PI = 131+75.00
EL = 74.30'
VC = 150'
K = 3750
DS = 80 MPH



DITCH LEGEND	
LEFT DITCH	-----
RIGHT DITCH	-----
SEE SHEET 13 FOR PLAN VIEW	

8/8/2005 U-5875_Rdy.pfl22.dgn
1156190000



5/28/99

8/8/2025 U:\5875.Rdy.pfl23.dgn
1155630000

PROJECT REFERENCE NO.
U-5875

SHEET NO.
23

ROADWAY DESIGN ENGINEER
9/10/2025
NORTH CAROLINA PROFESSIONAL SEAL
033871
Daniel W. Gardner, Jr.
08077483074164E7

HYDRAULICS ENGINEER
9/9/2025
NORTH CAROLINA PROFESSIONAL SEAL
045744
Janaki H. Patel
0C35D1B2B80042A

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Fax: 919.789.9591
License: F-0453

5/28/99

-Y-

PROJECT REFERENCE NO.
U-5875

SHEET NO.
24

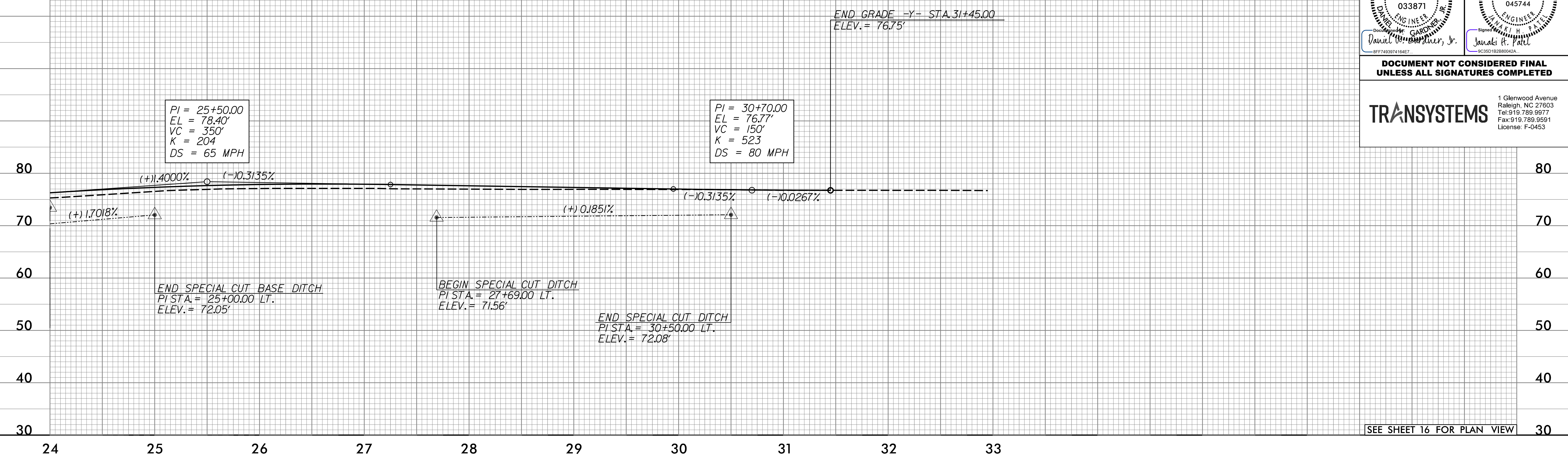
ROADWAY DESIGN ENGINEER
9/10/2005
SEAL 033871
DANIEL W. GARDNER, JR.
BFF748997418AET

HYDRAULICS ENGINEER
9/9/2005
SEAL 045744
JANAKI K. PATEL
9C3501B2B5042A

DOCUMENT NOT CONSIDERED FINAL
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TRANSYSTEMS

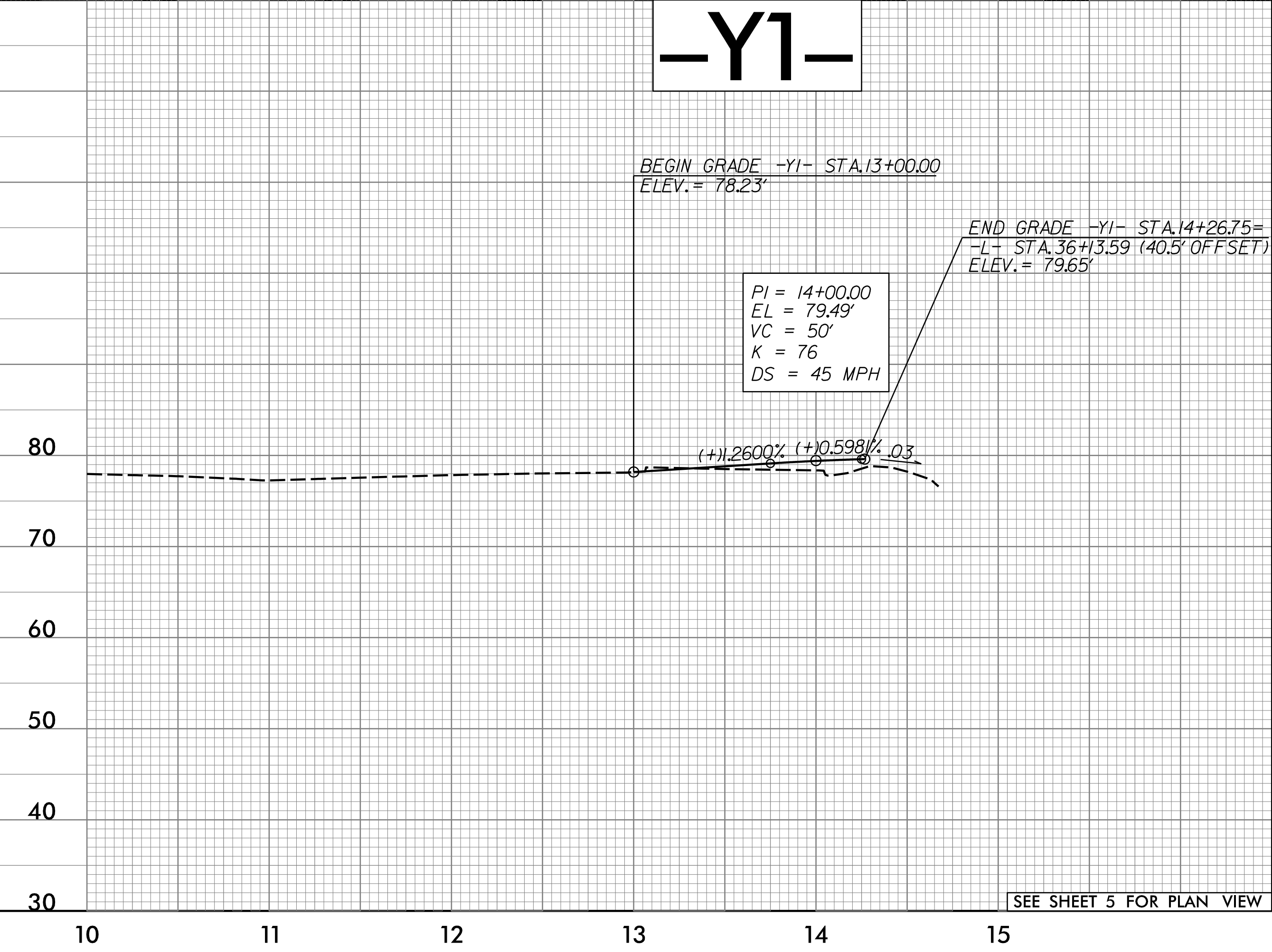
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: F-0453



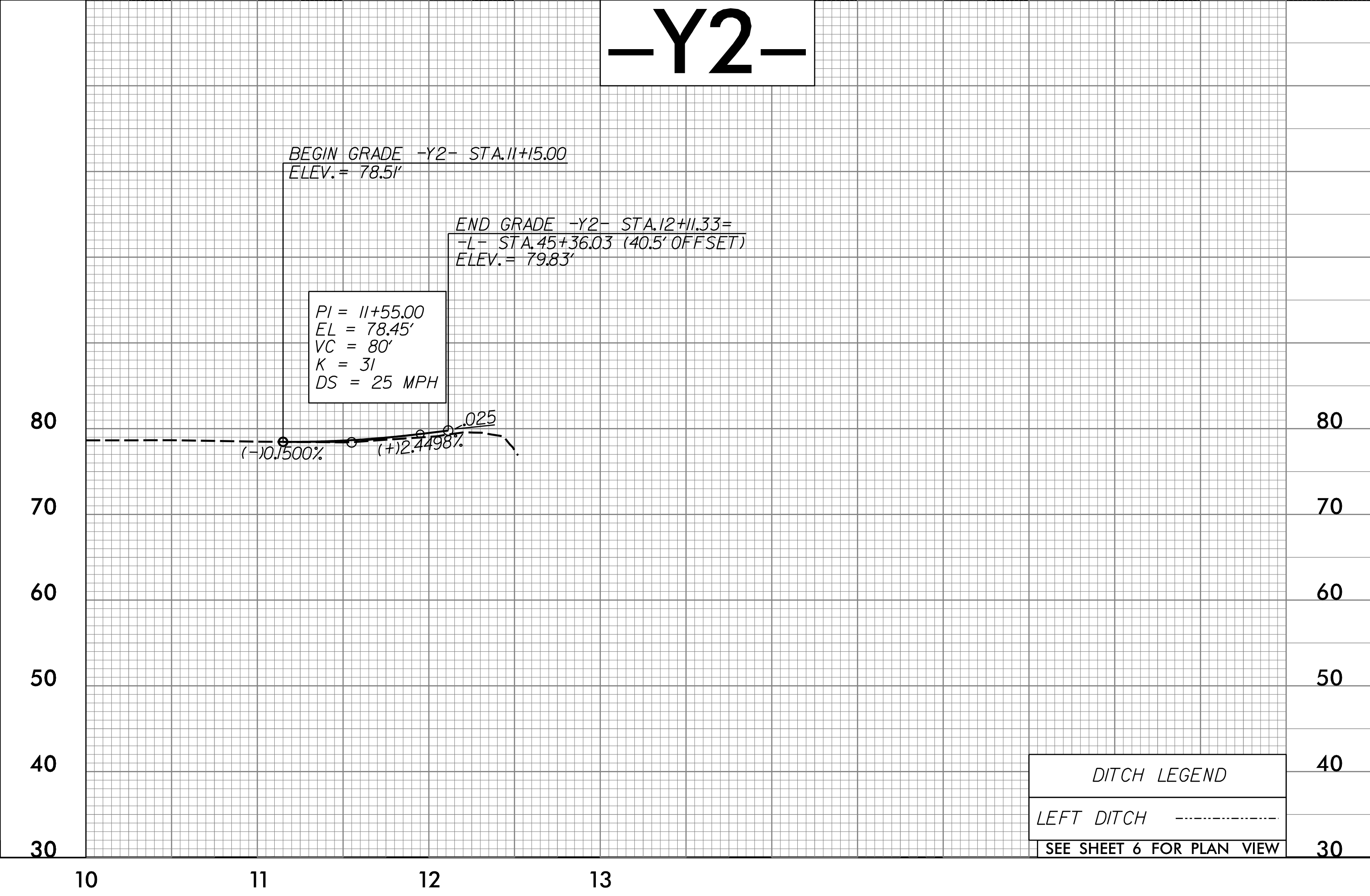
SEE SHEET 16 FOR PLAN VIEW

-Y1-

-Y2-



SEE SHEET 5 FOR PLAN VIEW



DITCH LEGEND

LEFT DITCH

SEE SHEET 6 FOR PLAN VIEW

8/8/2005 U-5875_Rdy.pfl24.dgn
1155190000

5/28/99

-Y3-

BEGIN GRADE -Y3- STA.13+00.00
ELEV. = 80.19'

END GRADE -Y3- STA.13+90.82=
-L- STA.50+47.79 (40.5' OFFSET)
ELEV. = 79.29'

PI = 13+20.00
EL = 80.17'
VC = 40'
K = 20
DS = 30 MPH

PI = 13+70.00
EL = 79.10'
VC = 40'
K = 13
DS = 15 MPH

BEGIN SPECIAL CUT DITCH
PI STA. = 13+25.00 RT.
ELEV. = 77.73'

-Y3- STA.13+50.00 RT.
EQ -L- STA.50+00 LT.
ELEV. = 77.43'

SEE SHEET 7 FOR PLAN VIEW

-Y3A-

80

70

60

50

40

30

10

11

12

13

SEE SHEET 7 FOR PLAN VIEW

80

70

60

50

40

30

-Y4-

BEGIN GRADE -Y4- STA.10+40.50=
-L- STA.50+47.52 (40.5' OFFSET)
ELEV. = 79.29'

END GRADE -Y4- STA.11+50.00
ELEV. = 78.01'

PI = 11+00.00
EL = 77.90'
VC = 100'
K = 39
DS = 30 MPH

80

70

60

50

40

30

10

11

12

13

13

15

SEE SHEET 7 FOR PLAN VIEW

-Y5-

BEGIN GRADE -Y5- STA.10+40.50=
-L- STA.85+85.76 (40.5' OFFSET)
ELEV. = 79.53'

END GRADE -Y5- STA.11+50.00
ELEV. = 77.25'

PI = 11+20.00
EL = 77.47'
VC = 20'
K = 32
DS = 25 MPH

80

70

60

50

40

30

10

11

12

13

14

15

16

DITCH LEGEND

RIGHT DITCH -----

SEE SHEET 9 FOR PLAN VIEW

80

70

60

50

40

30

PROJECT REFERENCE NO.

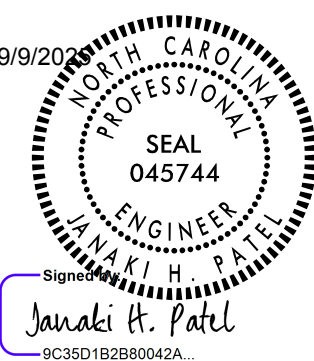
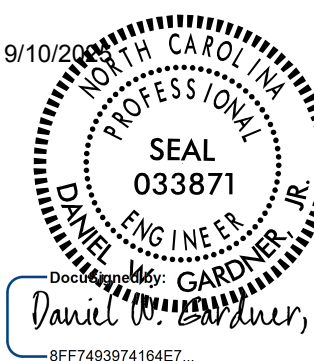
U-5875

SHEET NO.

25

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TRANSYSTEMS

1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: F-0453

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5/28/99

-Y6-

PROJECT REFERENCE NO.
U-5875

SHEET NO.
26

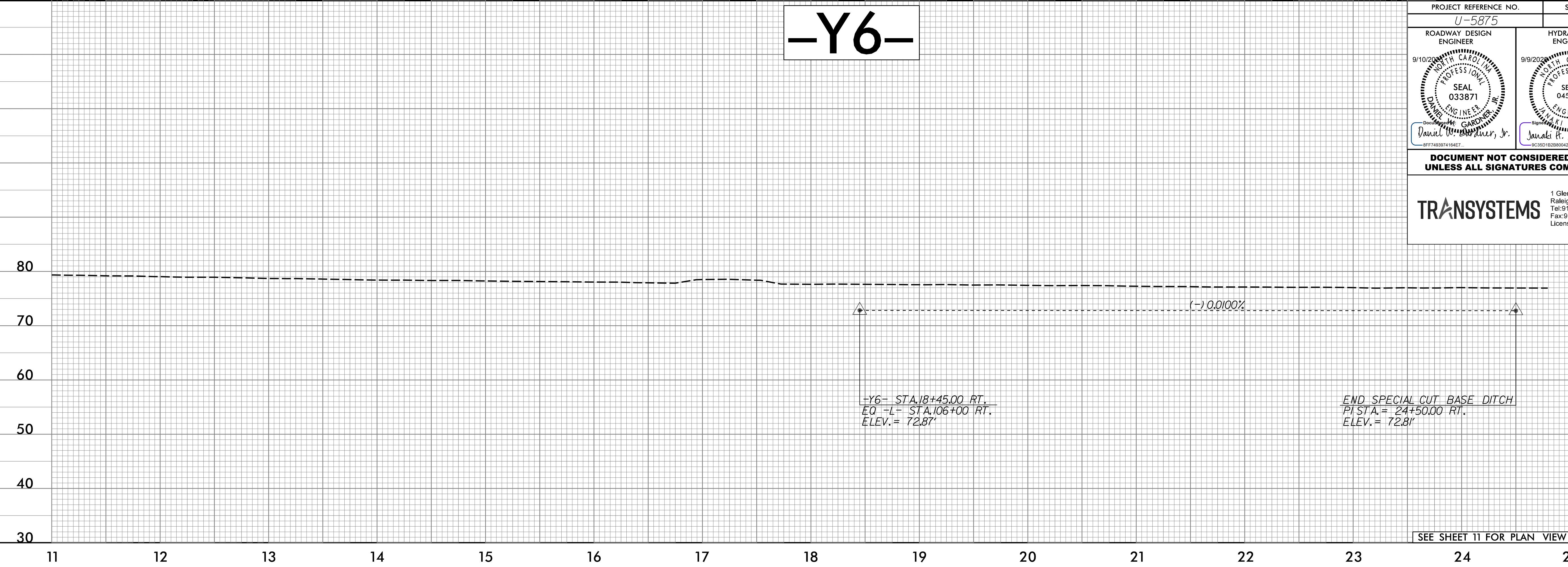
ROADWAY DESIGN
ENGINEER
9/10/2005
NORTH CAROLINA
PROFESSIONAL
SEAL
033871
ENGINEER
Daniel W. Gardner, Jr.
8F7749307416AET

HYDRAULICS
ENGINEER
9/9/2005
NORTH CAROLINA
PROFESSIONAL
SEAL
045744
ENGINEER
Janaki H. Patel
9C38D1B2B80042A

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TRANSYSTEMS

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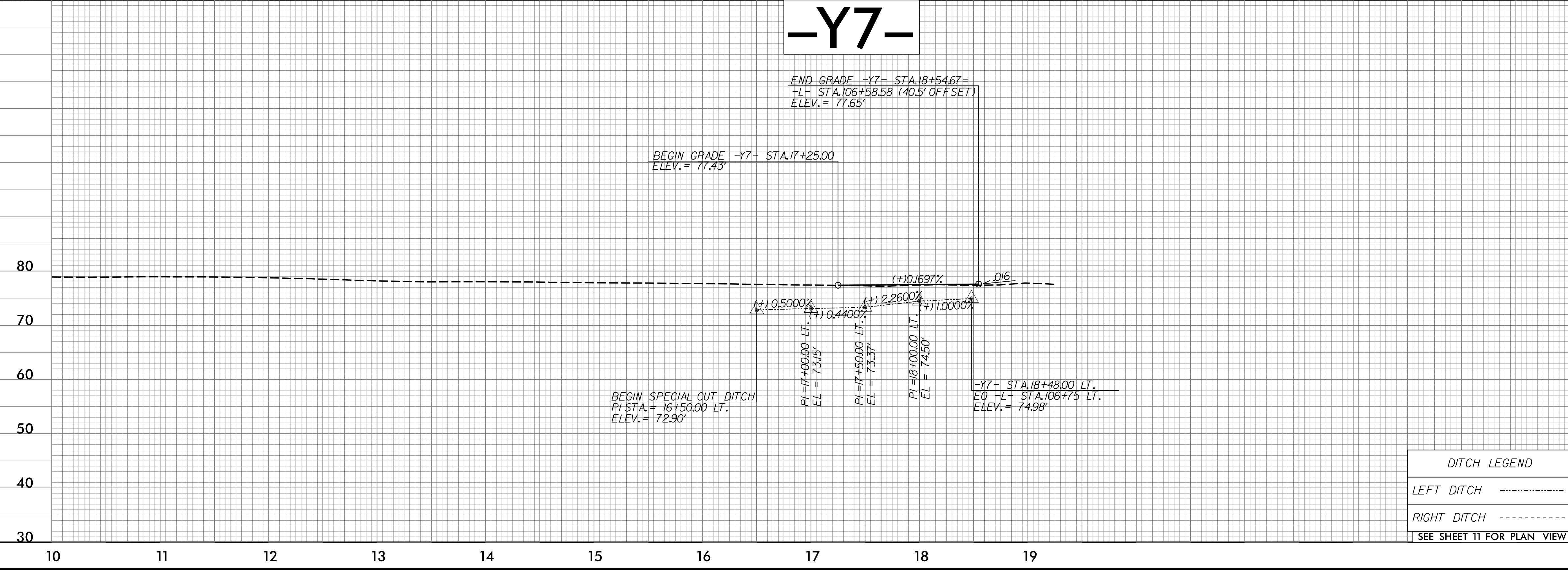
-Y7-

DITCH LEGEND

LEFT DITCH -----

RIGHT DITCH -----

SEE SHEET 11 FOR PLAN VIEW



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-Y8-

PROJECT REFERENCE NO.
U-5875

SHEET NO.
27

ROADWAY DESIGN
ENGINEER

9/10/2004
NORTH CAROLINA
PROFESSIONAL
SEAL
033871
DANIEL W. GARDNER, JR.
ENGINEER
BFF7493074164E7

HYDRAULICS
ENGINEER

9/9/2004
NORTH CAROLINA
PROFESSIONAL
SEAL
045744
JANAKI H. PATEL
ENGINEER
9C38D1B2B80042A

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TRANSYSTEMS

1 Glenwood Avenue
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Tel: 919.789.9977
Fax: 919.789.9591
License: F-0453

BEGIN MILLING/OVERLAY -Y8- STA.10+00.00
ELEV.= 79.62'

BEGIN GRADE -Y8- STA.10+50.00
END MILLING -Y8- STA.10+50.00
ELEV.= 79.75'

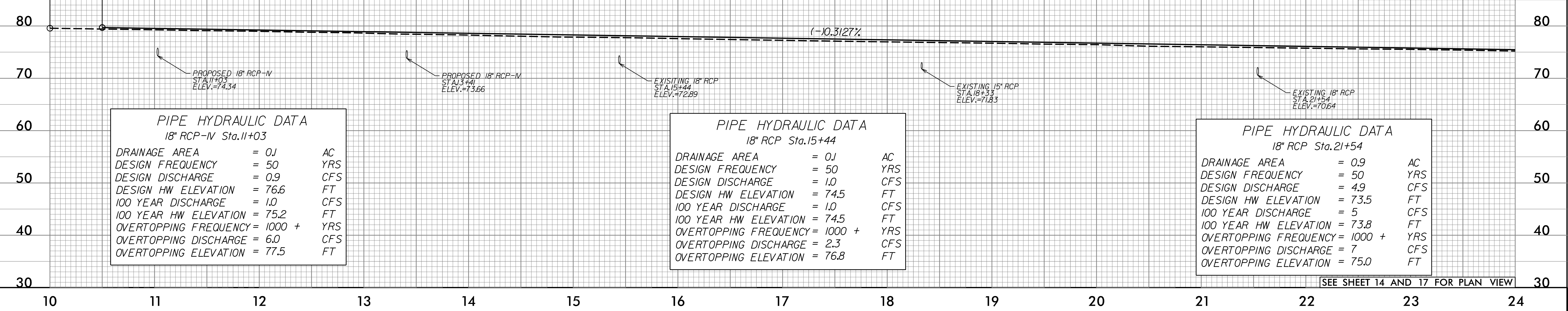
PIPE HYDRAULIC DATA			
18" RCP-N Sta.13+41			
DRAINAGE AREA	= 0.3	AC	
DESIGN FREQUENCY	= 50	YRS	
DESIGN DISCHARGE	= 2.4	CFS	
DESIGN HW ELEVATION	= 75.1	FT	
100 YEAR DISCHARGE	= 2.6	CFS	
100 YEAR HW ELEVATION	= 75.2	FT	
OVERTOPPING FREQUENCY	= 1000 +	YRS	
OVERTOPPING DISCHARGE	= 5.0	CFS	
OVERTOPPING ELEVATION	= 77.6	FT	

PIPE HYDRAULIC DATA			
15" RCP Sta.18+33			
DRAINAGE AREA	= 0.6	AC	
DESIGN FREQUENCY	= 50	YRS	
DESIGN DISCHARGE	= 1.0	CFS	
DESIGN HW ELEVATION	= 74.6	FT	
100 YEAR DISCHARGE	= 1.0	CFS	
100 YEAR HW ELEVATION	= 75.0	FT	
OVERTOPPING FREQUENCY	= 1000 +	YRS	
OVERTOPPING DISCHARGE	= 3.50	CFS	
OVERTOPPING ELEVATION	= 76.6	FT	

PIPE HYDRAULIC DATA			
18" RCP-N Sta.11+03			
DRAINAGE AREA	= 0.1	AC	
DESIGN FREQUENCY	= 50	YRS	
DESIGN DISCHARGE	= 0.9	CFS	
DESIGN HW ELEVATION	= 76.6	FT	
100 YEAR DISCHARGE	= 1.0	CFS	
100 YEAR HW ELEVATION	= 75.2	FT	
OVERTOPPING FREQUENCY	= 1000 +	YRS	
OVERTOPPING DISCHARGE	= 6.0	CFS	
OVERTOPPING ELEVATION	= 77.5	FT	

PIPE HYDRAULIC DATA			
18" RCP Sta.15+44			
DRAINAGE AREA	= 0.1	AC	
DESIGN FREQUENCY	= 50	YRS	
DESIGN DISCHARGE	= 1.0	CFS	
DESIGN HW ELEVATION	= 74.5	FT	
100 YEAR DISCHARGE	= 1.0	CFS	
100 YEAR HW ELEVATION	= 74.5	FT	
OVERTOPPING FREQUENCY	= 1000 +	YRS	
OVERTOPPING DISCHARGE	= 2.3	CFS	
OVERTOPPING ELEVATION	= 76.8	FT	

PIPE HYDRAULIC DATA			
18" RCP Sta.21+54			
DRAINAGE AREA	= 0.9	AC	
DESIGN FREQUENCY	= 50	YRS	
DESIGN DISCHARGE	= 4.9	CFS	
DESIGN HW ELEVATION	= 73.5	FT	
100 YEAR DISCHARGE	= 5	CFS	
100 YEAR HW ELEVATION	= 73.8	FT	
OVERTOPPING FREQUENCY	= 1000 +	YRS	
OVERTOPPING DISCHARGE	= 7	CFS	
OVERTOPPING ELEVATION	= 75.0	FT	



END GRADE -Y8- STA.24+70.00
BEGIN RESURFACING
INCLUDES 3" OVERLAY
ELEV.= 75.31'

BEGIN MILLING -Y8- STA.26+25.00
ELEV.=74.94'

END RESURFACING -Y8- STA.26+75.00
ELEV.= 74.44'



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