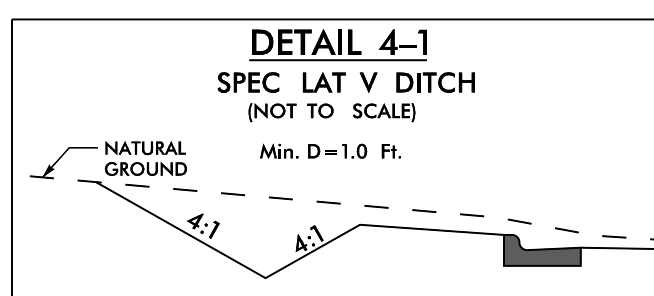


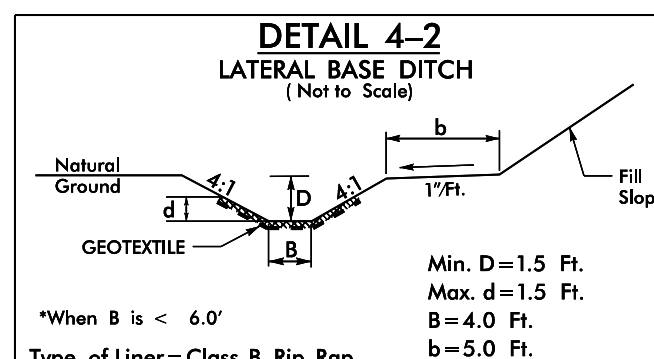
8/17/99

REVISIONS

15-APR-2025 10:05
R:\Projects\U4758.rdw_psh_04.dgn
\$\$\$\$SYTIME\$\$\$\$



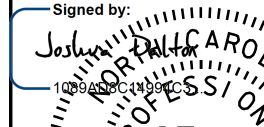
FROM STA. 20+75 TO STA. 23+00 -L- RT



FROM STA. 15+00 TO STA. 16+00 -L- LT

-L-
PI Sta 24+77.08
 $\Delta = 64^{\circ} 54' 30.9''$ (RT)
D = 6' 09' 39.0"
L = 1053.57'
T = 591.43'
R = 930.00'
SE = 0.04
LR = 96'

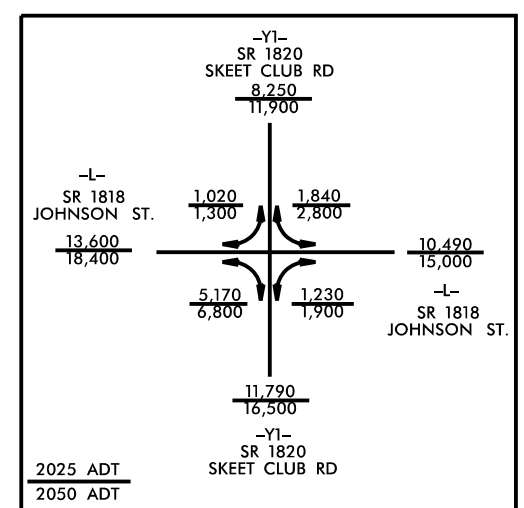
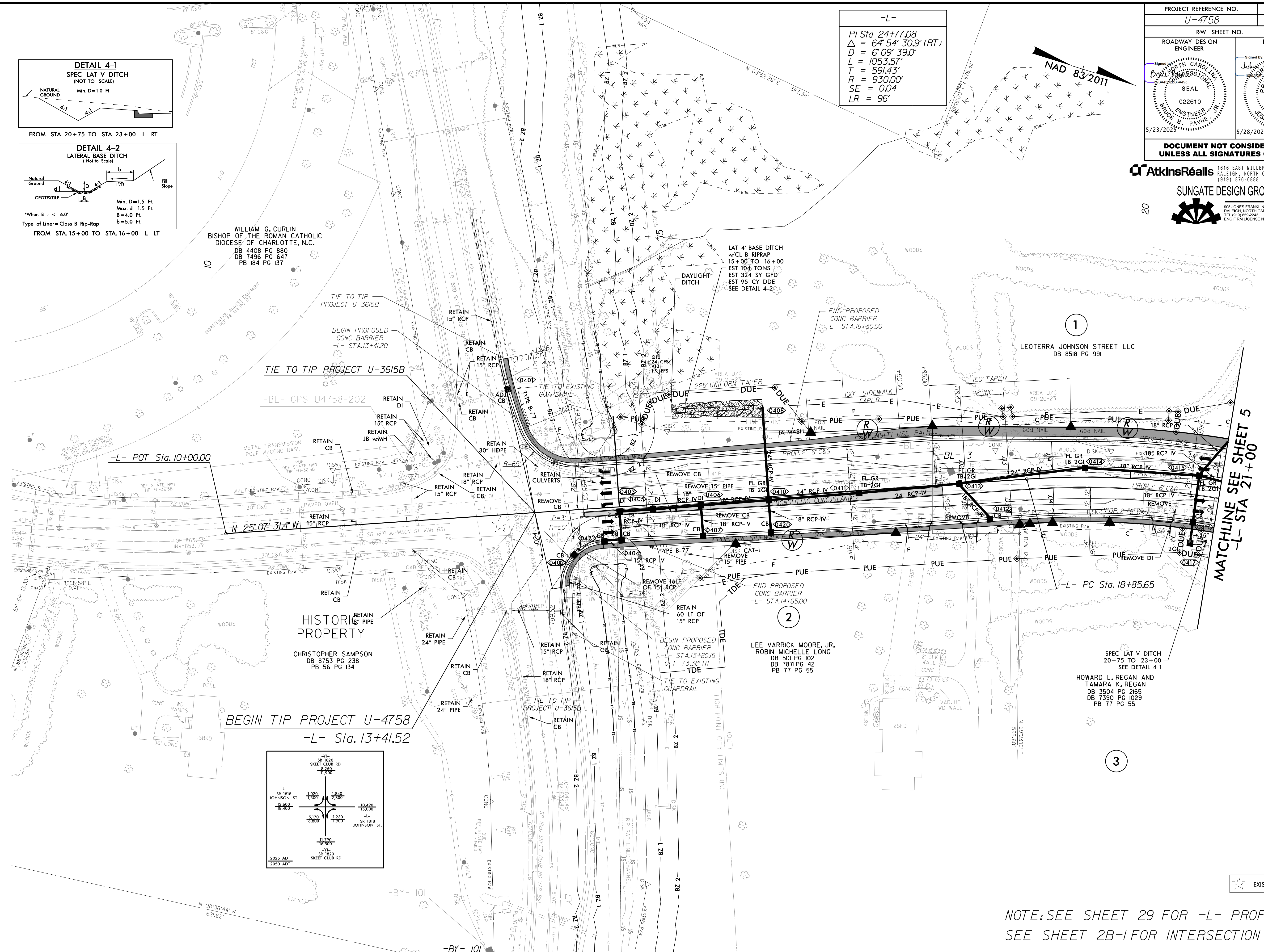
NAD 83/2011

PROJECT REFERENCE NO.		SHEET NO.
U-4758		4
RW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER		
Signed by:  BRUCE B. PAYNE		Signed by:  JOSHUA G. DALTON
SEAL 022610 ENGINEER, JR.		SEAL 26971 ENGINEER
5/23/2025		5/28/2025

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

AtkinsRéalis 1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 878-8888 NCBEES #F-0326

SUNGATE DESIGN GROUP, P.A. 905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 888-2443 ENG FIRM LICENSE NO. C-880



NOTE: SEE SHEET 29 FOR -L- PROFILE
SEE SHEET 2B-1 FOR INTERSECTION DETAIL

PROJECT REFERENCE NO.	SHEET NO.
U-4758	RW-4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Signed by: <i>Bruce G. Dalzon</i> BRUCE G. DALZON PROFESSIONAL SEAL 022610 ENGINEER BRUCE G. DALZON B. PAYNE, JR.	Signed by: <i>Joshua G. Dalzon</i> JOSHUA G. DALZON PROFESSIONAL SEAL 26971 ENGINEER JOSHUA G. DALZON
5/23/2025	5/28/2025
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

AtkinsRéalis 1616 EAST MILLBROOK ROAD, SUITE 1600
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBES #F-0326

SUNGATE DESIGN GROUP, P.A.



905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243
ENG FIRM LICENSE NO. C-890

REVISIONS

MATCHLINE SEE RW-5
-L- STA 21+00

WILLIAM G. CURLIN
BISHOP OF THE ROMAN CATHOLIC
DIOCESE OF CHARLOTTE, N.C.
DB 4408 PG 880
DB 7496 PG 647
PB 184 PG 137

HISTORIC
PROPERTY

CHRISTOPHER SAMPSON
DB 8753 PG 238
PB 56 PG 134

HOWARD L. REGAN AND
TAMARA K. REGAN
DB 3504 PG 2165
DB 7390 PG 1029
PB 77 PG 55

 EXISTING SIGNAL

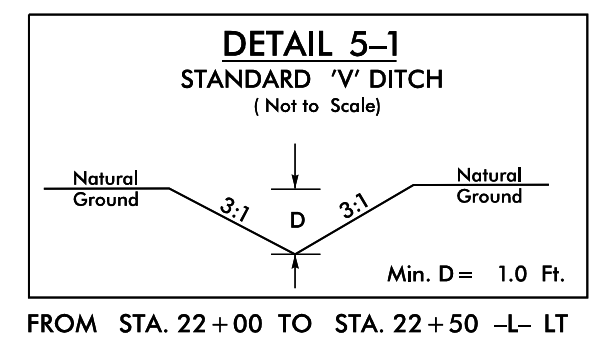
NOTE: PARTIAL DESIGN SHOWN FOR REFERENCE ONLY.
SEE PSH 4 FOR COMPLETE DESIGN DETAILS.

8/17/99

-Y33-
PI Sta 10+85.22
 $\Delta = 9^{\circ} 44' 29.7''$ (RT)
 $D = 5^{\circ} 43' 46.5''$
 $L = 170.02'$
 $T = 85.22'$
 $R = 1,000.00'$
 $SE = NC$
 $LR = N/A$

-Y34-
PI Sta 12+15.97
 $\Delta = 4^{\circ} 19' 52.3''$ (LT)
 $D = 7^{\circ} 09' 43.1''$
 $L = 60.48'$
 $T = 30.25'$
 $R = 800.00'$
 $SE = NC$
 $LR = N/A$

-L-
PI Sta 24+77.08
 $\Delta = 64^{\circ} 54' 30.9''$ (RT)
 $D = 6^{\circ} 09' 39.0''$
 $L = 1053.57'$
 $T = 591.43'$
 $R = 930.00'$
 $SE = 0.04$
 $LR = 192'$



PROJECT REFERENCE NO. U-4758		SHEET NO. 5
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

AtkinsRéalis
1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6666 NCEES #F-0326

SUNGATE DESIGN GROUP, P.A.

905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 858-2243
ENG FIRM LICENSE NO. C-880

UNKNOWN HEIRS
OF
MARIA C. HIATT
DB 2045 PG 558
PB 127 PG 113

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

UNKNOWN HEIRS
OF
MARIE C. HIATT
DB 4810 PG 1235

MATCHLINE SEE SHEET 6
-L- STA 35+00

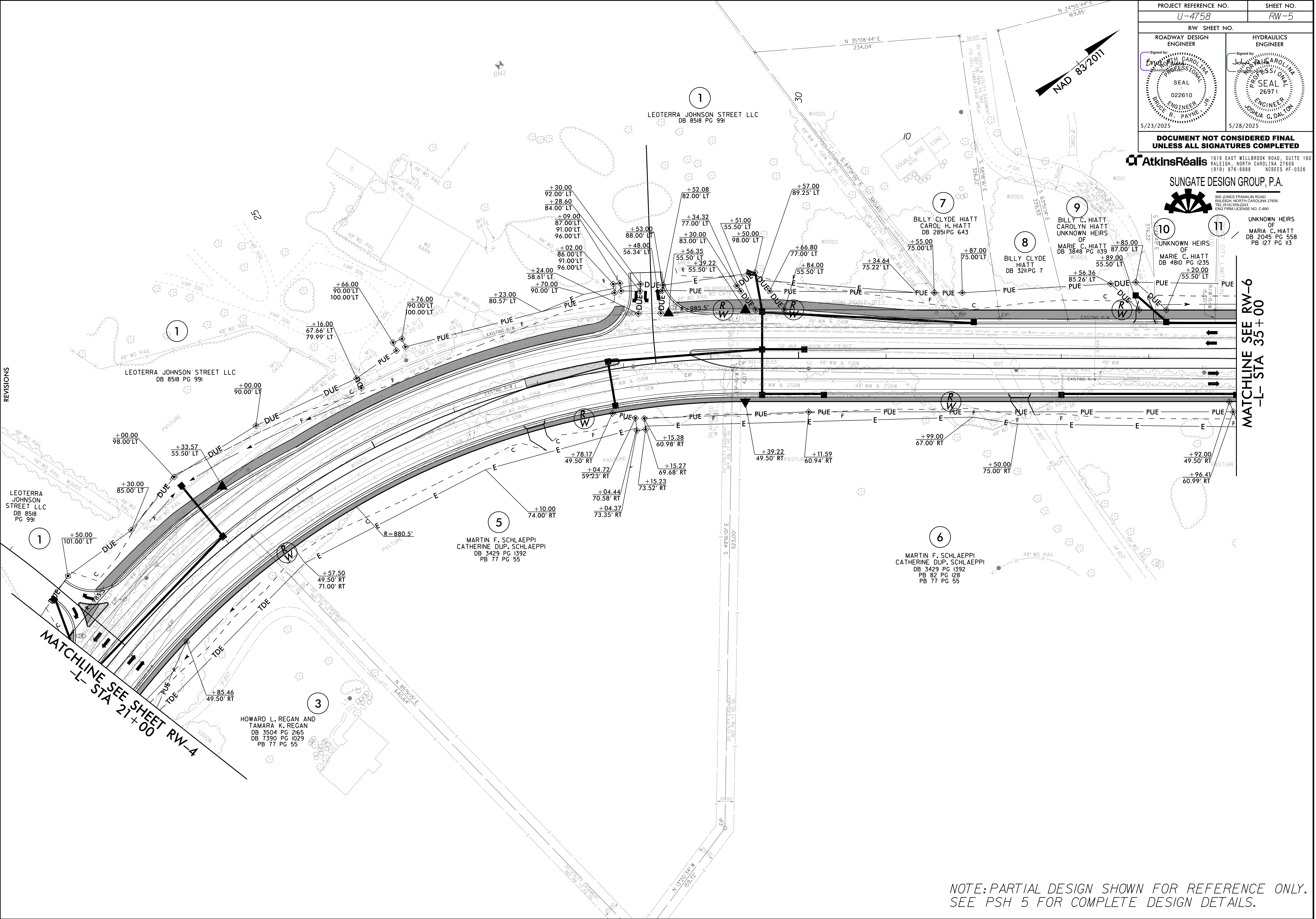
REVISIONS

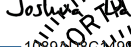
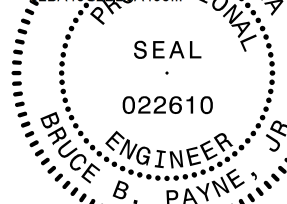
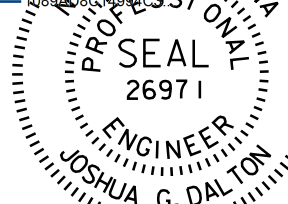
27 MAY 2025 17:06 R:\Road\U4758.rdw_psh_05.dgn

NOTE: SEE SHEET 29 FOR -L- PROFILE
SEE SHEET 46 FOR -Y33- AND -Y34- PROFILES

8/17/99

15-APR-2025 10:07
P:\Projects\14758_rdy_psh_05_rwd.dgn
\$\$\$\$\$ISTRAME\$\$\$\$\$

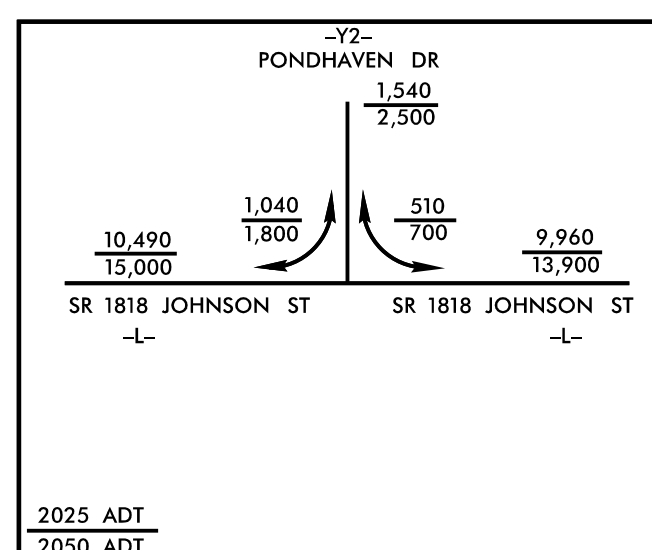


PROJECT REFERENCE NO.		SHEET NO.
U-4758		RW-5
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
Signed by: 		Signed by: 
		
5/23/2025		5/28/2025
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

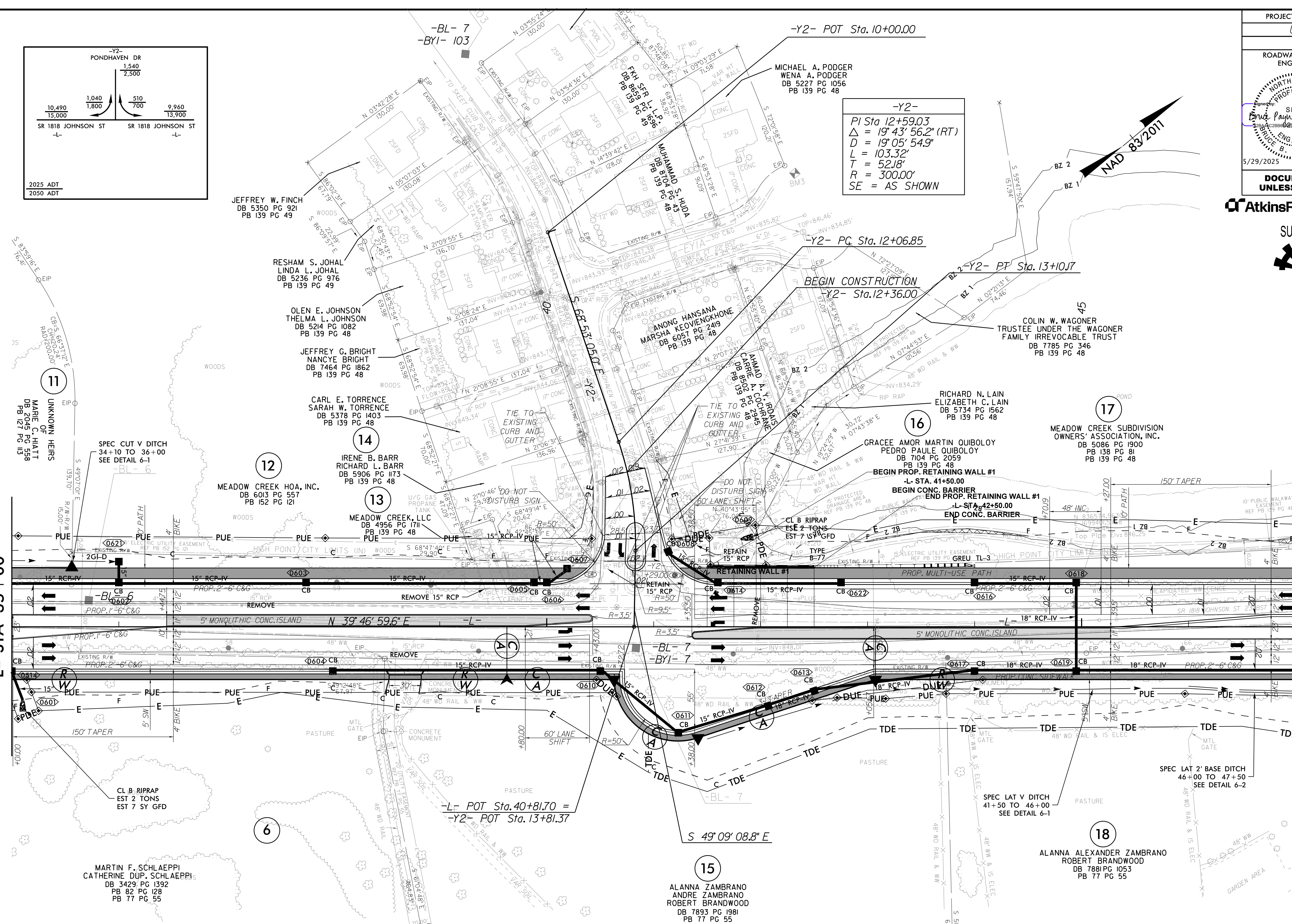
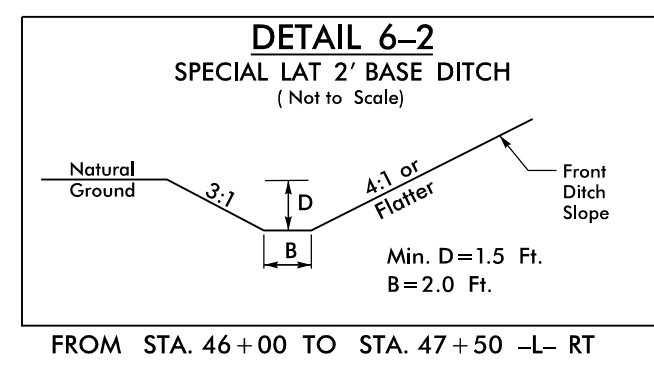
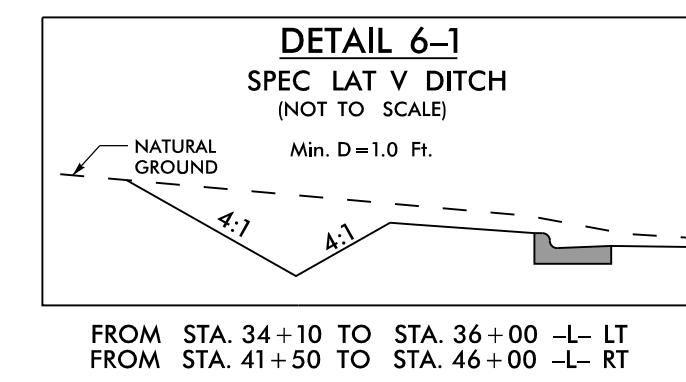
AtkinsRéalis 1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6666 NCBEES #F-0326

SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 888-2443
ENG FIRM LICENSE NO. C-880

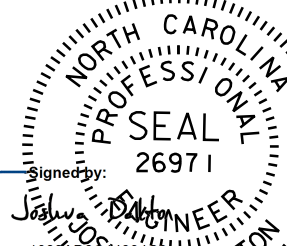
NOTE: PARTIAL DESIGN SHOWN FOR REFERENCE ONLY.
SEE PSH 5 FOR COMPLETE DESIGN DETAILS.



MATCHLINE SEE SHEET 5
-1- STA 35+00



WATCHLINE SEE SHEET 7

PROJECT REFERENCE NO.		SHEET NO.	
U-4758		6	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER 		HYDRAULICS ENGINEER 	
5/29/2025		5/28/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

AtkinsRéalis 1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

SUNGATE DESIGN GROUP, P.A.



905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27806
TEL (919) 859-2243
ENG FIRM LICENSE NO. C-890

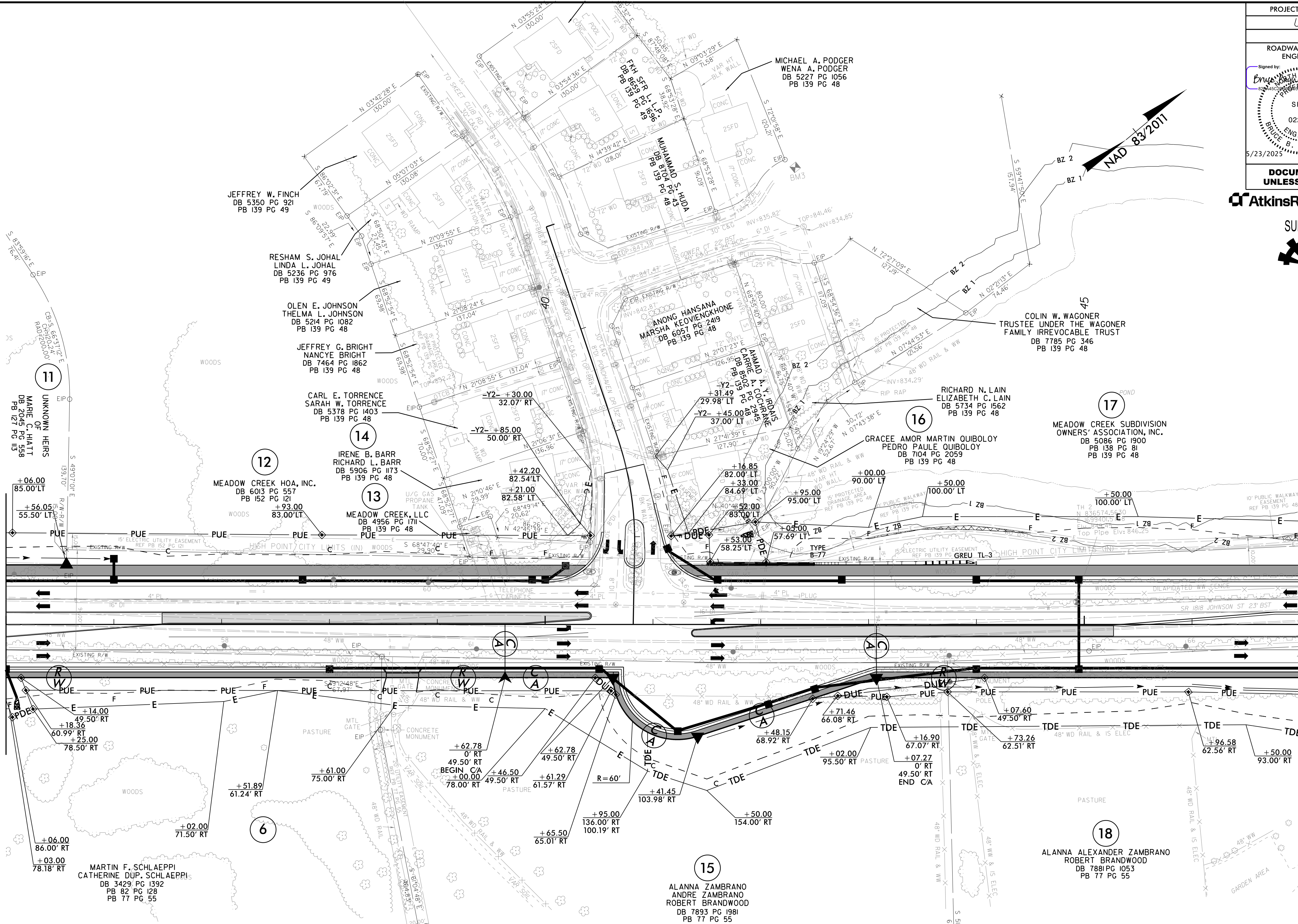
NOTE: SEE SHEETS W-1, W-3, AND W-5 FOR
RETAINING WALL #1 INFORMATION
SEE SHEET 29 & 30 FOR -L- PROFILE
SEE SHEET 38 FOR -Y2- PROFILE
SEE SHEET 2B-2 FOR INTERSECTION DETAIL

8/17/99

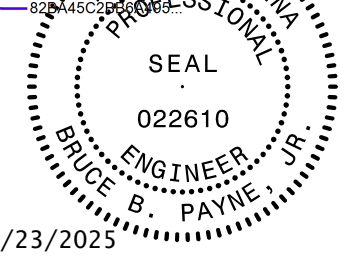
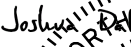
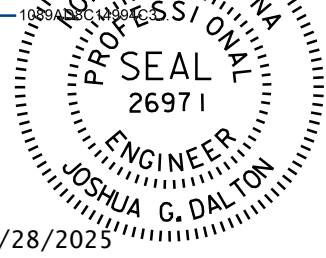
REVISIONS

15-APR-2025 10:08
R:\Projects\147558_rdy_psh_06.rwdgn
\$\$\$\$\$ISTRANAME\$\$\$\$\$

MATCHLINE SEE SHEET 5
-L- STA 35+00



MATCHLINE SEE RW-7
-L- STA 47+00

PROJECT REFERENCE NO.		SHEET NO.
U-4758		RW-6
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
Signed by:   5/23/2025		Signed by:   5/28/2025
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

AtkinsRéalis 1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 888-2443
ENG FIRM LICENSE NO. C-880

NOTE: PARTIAL DESIGN SHOWN FOR REFERENCE ONLY.
SEE PSH 6 FOR COMPLETE DESIGN DETAILS.

PROJECT REFERENCE NO.
U-4758

SHEET NO.
7

RW SHEET NO.
ENGINEER

5/23/2025

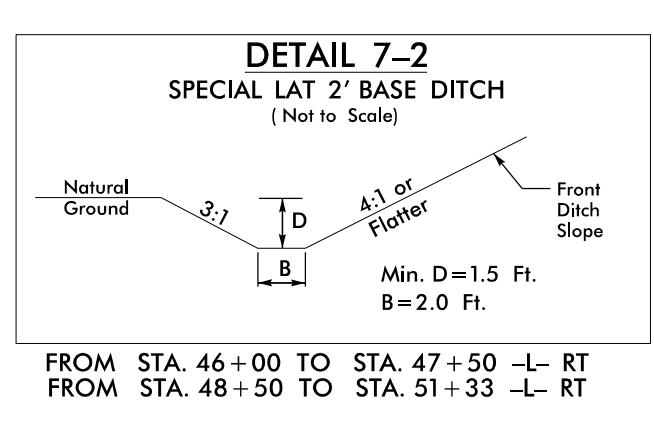
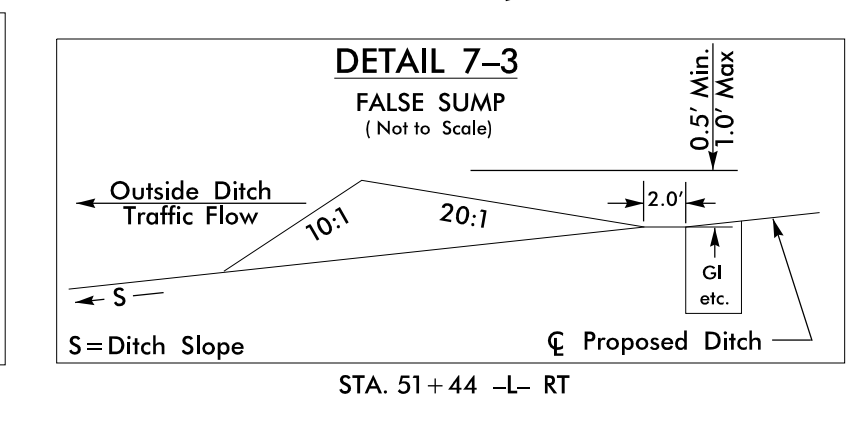
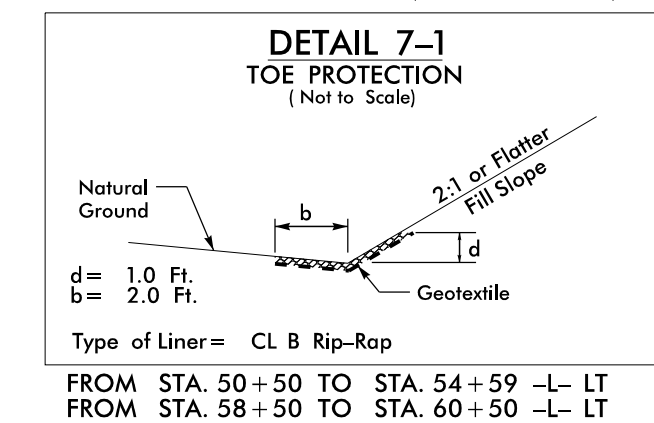
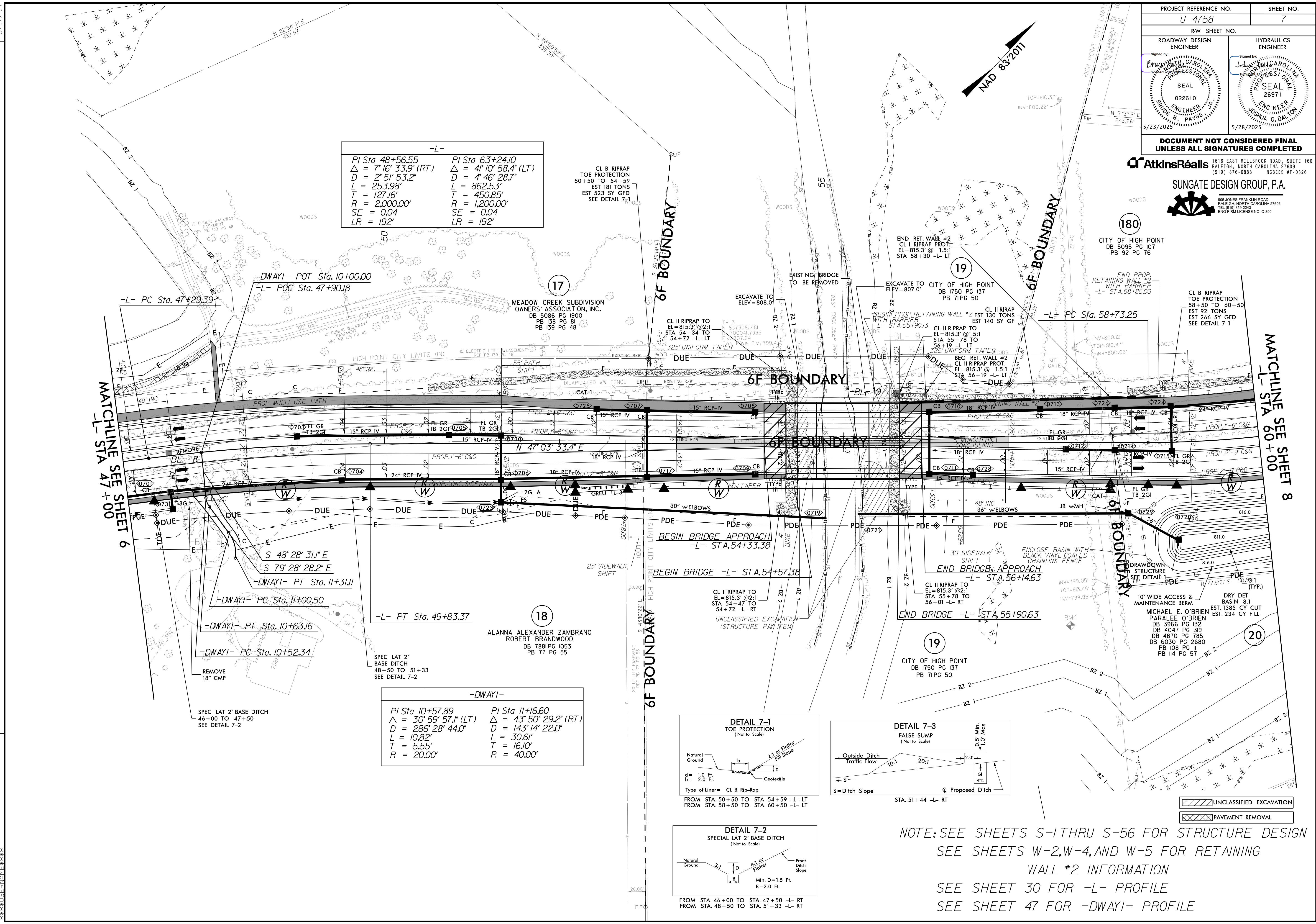
HYDRAULICS ENGINEER

5/28/2025

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

AtkinsRéalis
1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL: (919) 888-2443
ENG FIRM LICENSE NO. C-880



NOTE: SEE SHEETS S-1 THRU S-56 FOR STRUCTURE DESIGN
SEE SHEETS W-2, W-4, AND W-5 FOR RETAINING
WALL #2 INFORMATION
SEE SHEET 30 FOR -L- PROFILE
SEE SHEET 47 FOR -DWAYI- PROFILE

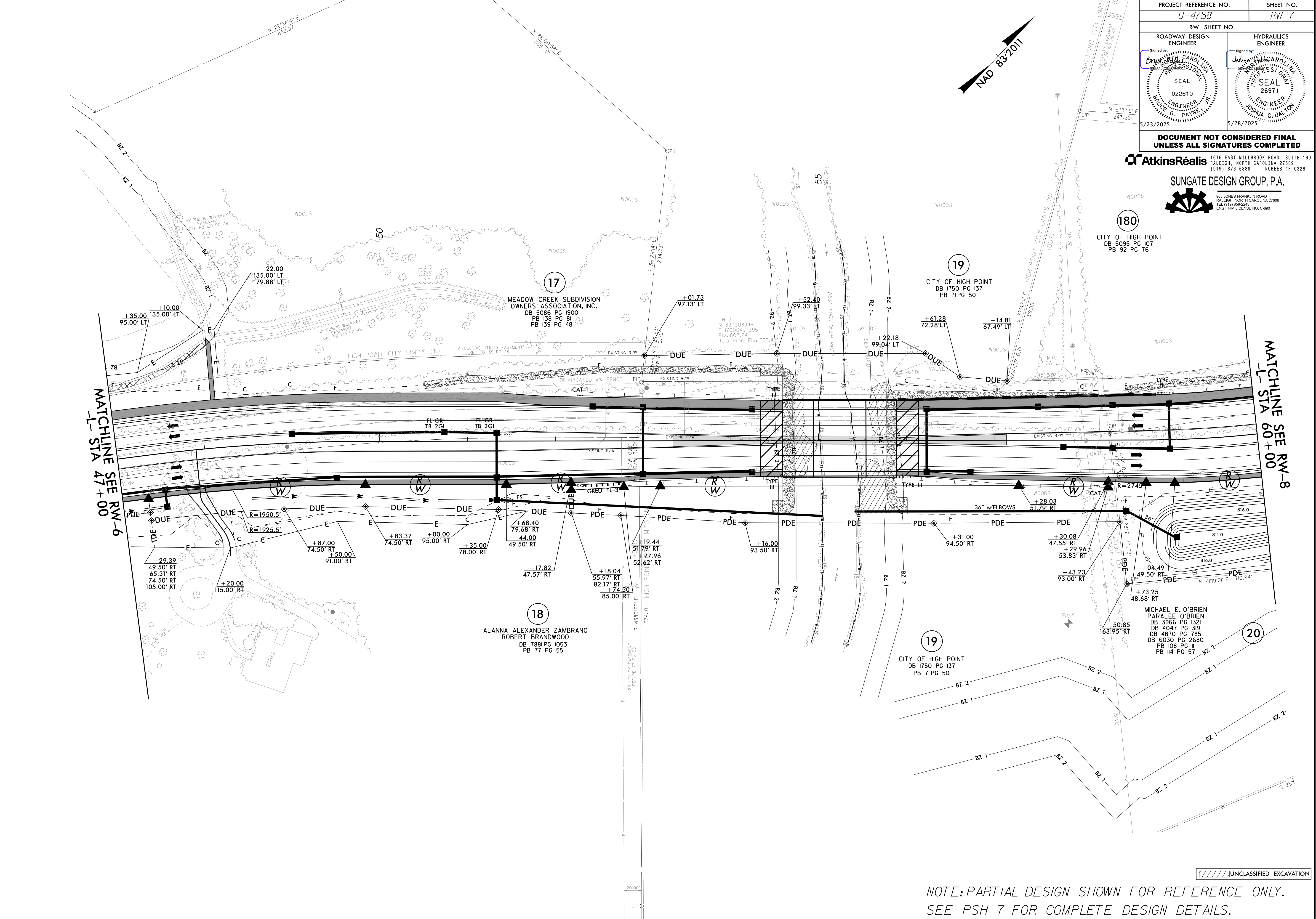
REVISIONS

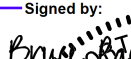
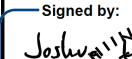
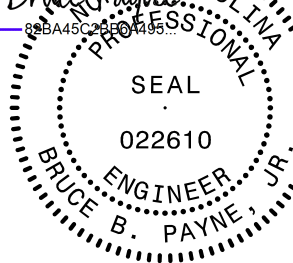
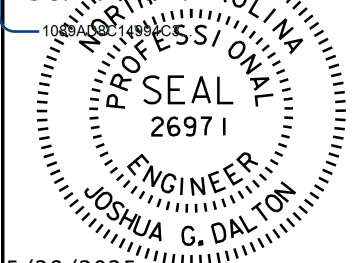
8/17/99
20-MAY-2025 (J22)
R:\Roadway\Projects\U4758.rdw.psh_07.dgn
\$\$\$\$\$ISTRAME\$\$\$\$\$

8/17/99

20-MAY-2025 12:23
R:\Roadwork\PSH\U4758.rdw_psh_07.rwdgn
\$\$\$\$\$ISTRAME\$\$\$\$\$

REVISIONS



PROJECT REFERENCE NO.		SHEET NO.
U-4758		RW-7
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
Signed by: 		Signed by: 
		
5/23/2025		5/28/2025
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

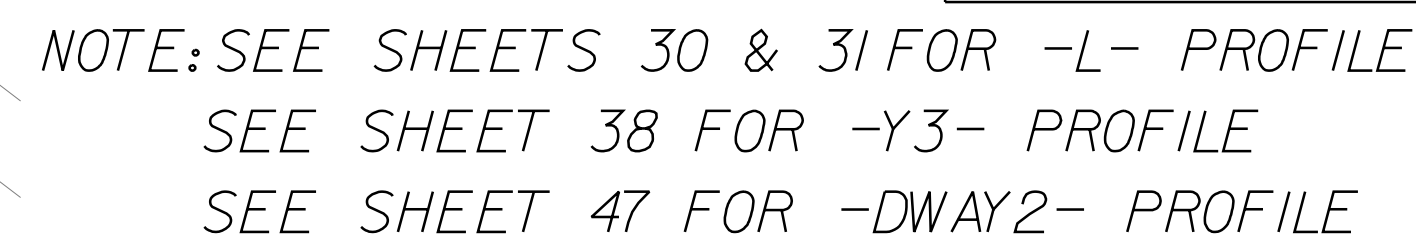


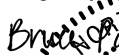
SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 888-2443
ENG FIRM LICENSE NO. C-880

NOTE: PARTIAL DESIGN SHOWN FOR REFERENCE ONLY.
SEE PSH 7 FOR COMPLETE DESIGN DETAILS.



905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243
ENG FIRM LICENSE NO. C-890

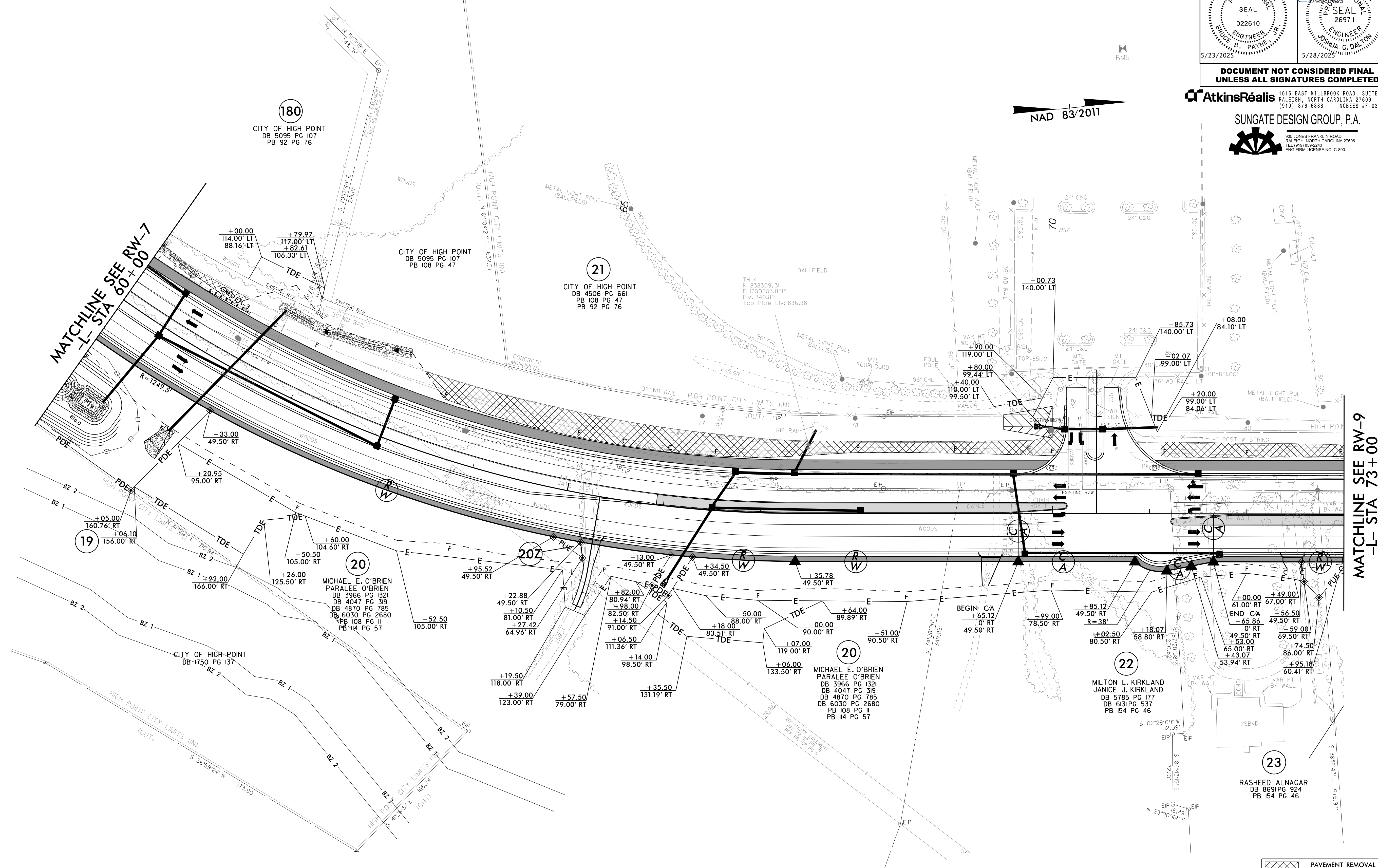


PROJECT REFERENCE NO.	SHEET NO.
U-4758	RW-8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Signed by:  BRUCE B. PAYNE Professional Engineer No. 22610 State of North Carolina SEAL 022610 ENGINEER - JR. BRUCE B. PAYNE	Signed by:  JOSHUA G. DALTON Professional Engineer No. 26971 State of North Carolina SEAL 26971 ENGINEER JOSHUA G. DALTON
5/23/2025	5/28/2025
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

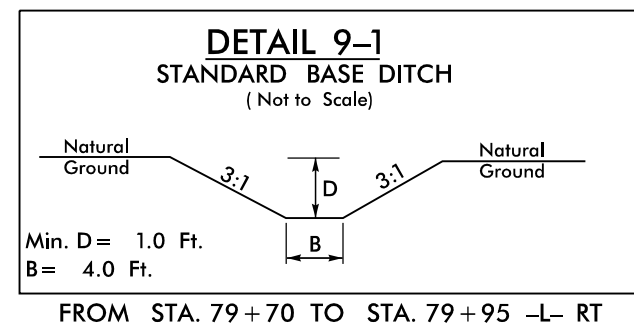
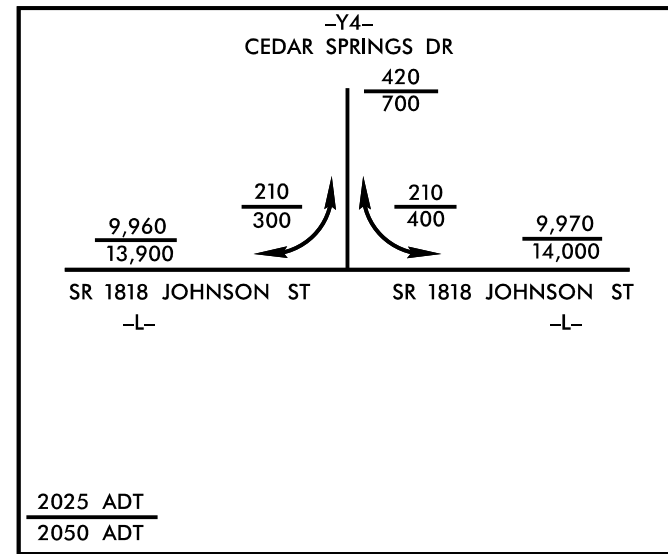
 **AtkinsRéalis** 1616 EAST MILLBROOK ROAD, SUITE 100
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

SUNGATE DESIGN GROUP, P.A.

 905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 888-2343
ENG FIRM LICENSE NO. C-890



NOTE: PARTIAL DESIGN SHOWN FOR REFERENCE ONLY.
SEE PSH 8 FOR COMPLETE DESIGN DETAILS.



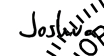
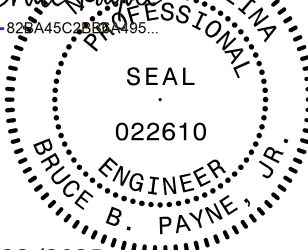
$\begin{aligned} & -L- \\ & PI\ Sta\ 82+55.54 \\ & \Delta = 17^{\circ}\ 49'\ 37.3''\ (LT) \\ & D = 3^{\circ}\ 10'\ 59.2'' \\ & L = 56005' \\ & T = 282.31' \\ & R = 1,800.00' \\ & SE = 0.04 \\ & LR = 192' \end{aligned}$
$\begin{aligned} & -Y4- \\ & PI\ Sta\ 12+22.84 \\ & \Delta = 8^{\circ}\ 22'\ 01.9''\ (RT) \\ & D = 10^{\circ}\ 36'\ 37.2'' \\ & L = 78.86' \\ & T = 39.50' \\ & R = 540.00' \\ & SE = AS\ SHOWN \end{aligned}$

-DWAY 3-	
PI Sta 10+59.14	PI Sta 11+45.97
$\Delta = 16' 19'' 57.2''$ (LT)	$\Delta = 11' 06'' 35.9''$ (RT)
D = 229' 10' 59.2"	D = 38' 11' 49.9'
L = 71.3'	L = 29.09'
T = 3.59'	T = 14.59'
R = 25.00'	R = 150.00'

-DWAY 4-
PI Sta 10+87.38
$\Delta = 61^{\circ} 08' 16.4"$ (LT)
$D = 190^{\circ} 59' 09.4"$
$L = 32.01'$
$T = 17.72'$
$R = 30.00'$

-DWAY5-

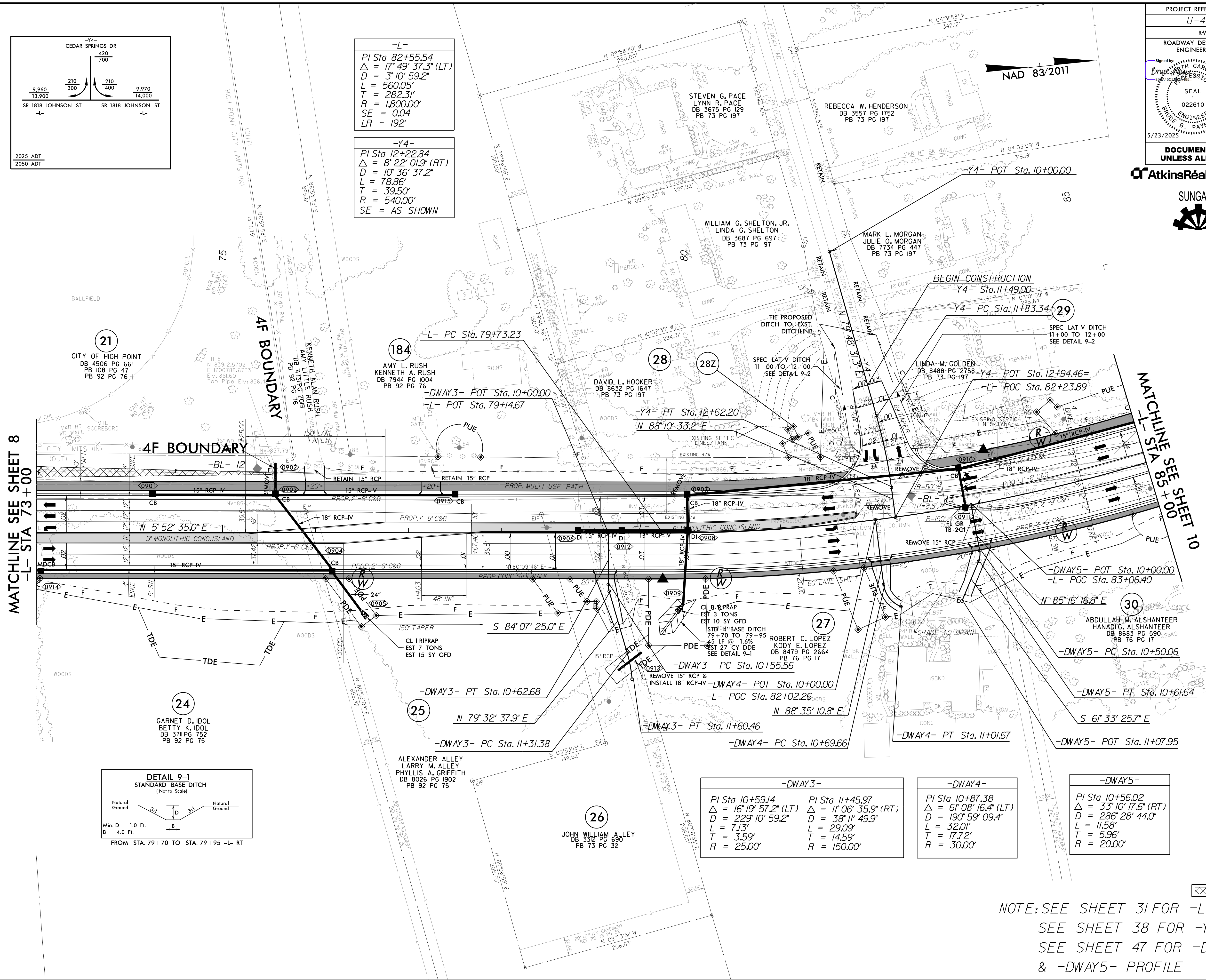
$PI Sta$	10+56.02
Δ	$= 33^{\circ} 10' 17.6"$ (RT)
D	$= 286^{\circ} 28' 44.0"$
L	$= 11.58'$
T	$= 5.96'$
R	$= 20.00'$

PROJECT REFERENCE NO.		SHEET NO.	
U-4758		9	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Signed by  BRUCE B. PAYNE		Signed by  JOSHUA G. DALTON	
			
5/23/2025		5/28/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

AtkinsRéalis 1616 EAST HILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

SUNGATE DESIGN GROUP, P.A.

 905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 859-2243
ENG FIRM LICENSE NO. C-680



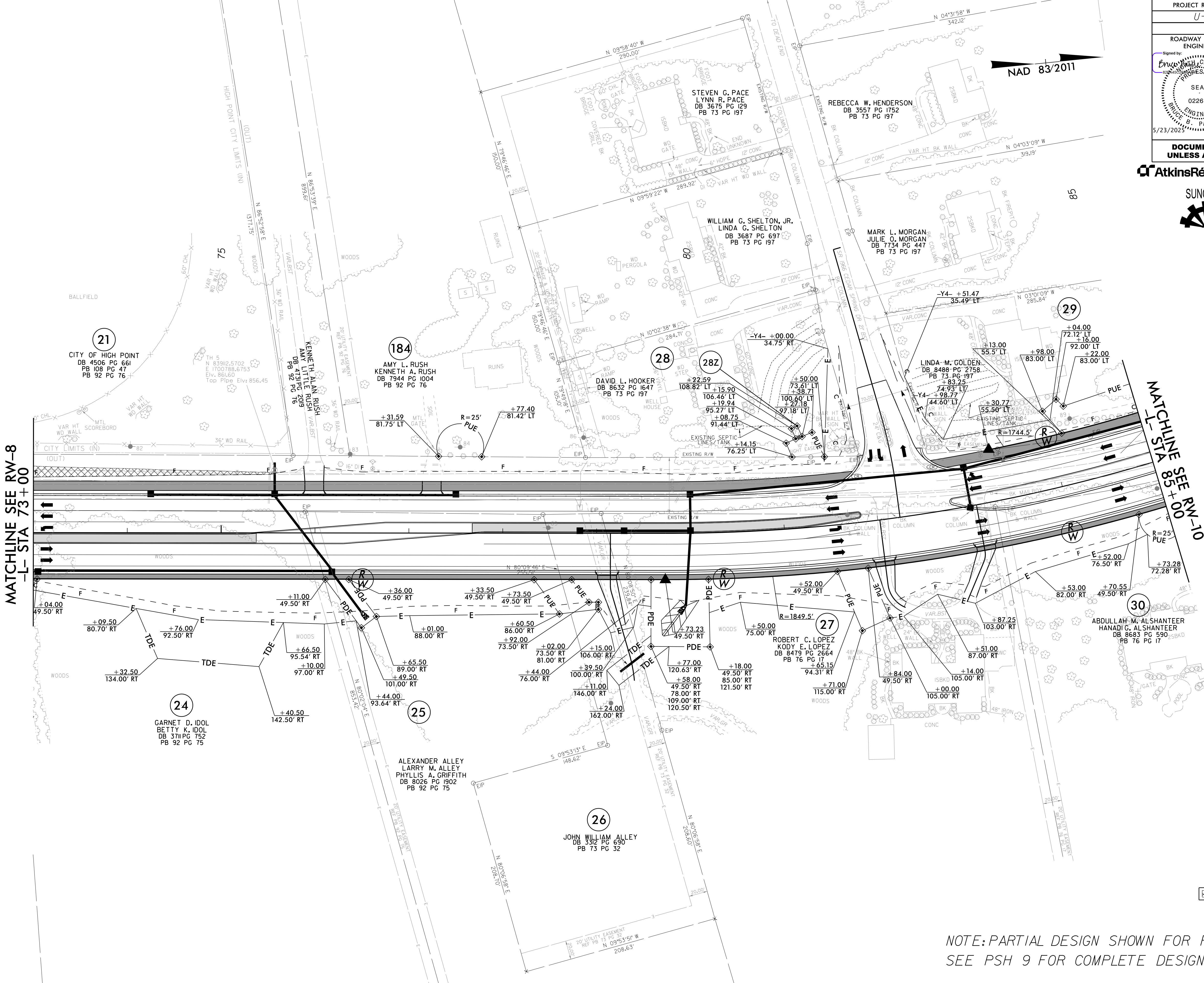
NOTE: SEE SHEET 31 FOR -L- PROFILE
SEE SHEET 38 FOR -Y4- PROFILE
SEE SHEET 47 FOR -DWAY3-, -DWAY4-,
& -DWAY5- PROFILE

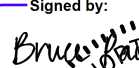
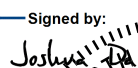
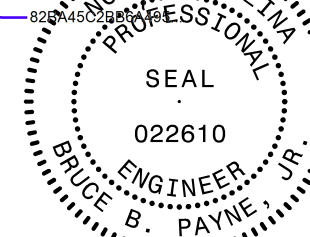
8/17/99

REVISIONS

22-MAY-2025 07:45
R:\Roadwork\PSH\4758_rdy_psh_09_rwd.dgn
\$\$\$\$\$SYSTRAME\$\$\$\$\$

MATCHLINE SEE RW-8
-L- STA 73+00



PROJECT REFERENCE NO.		SHEET NO.	
U-4758		RW-9	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Signed by: 		Signed by: 	
			
5/23/2025		5/28/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

 1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

 SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 888-2243
ENG FIRM LICENSE NO. C-880

 PAVEMENT REMOVAL

NOTE: PARTIAL DESIGN SHOWN FOR REFERENCE ONLY.
SEE PSH 9 FOR COMPLETE DESIGN DETAILS.

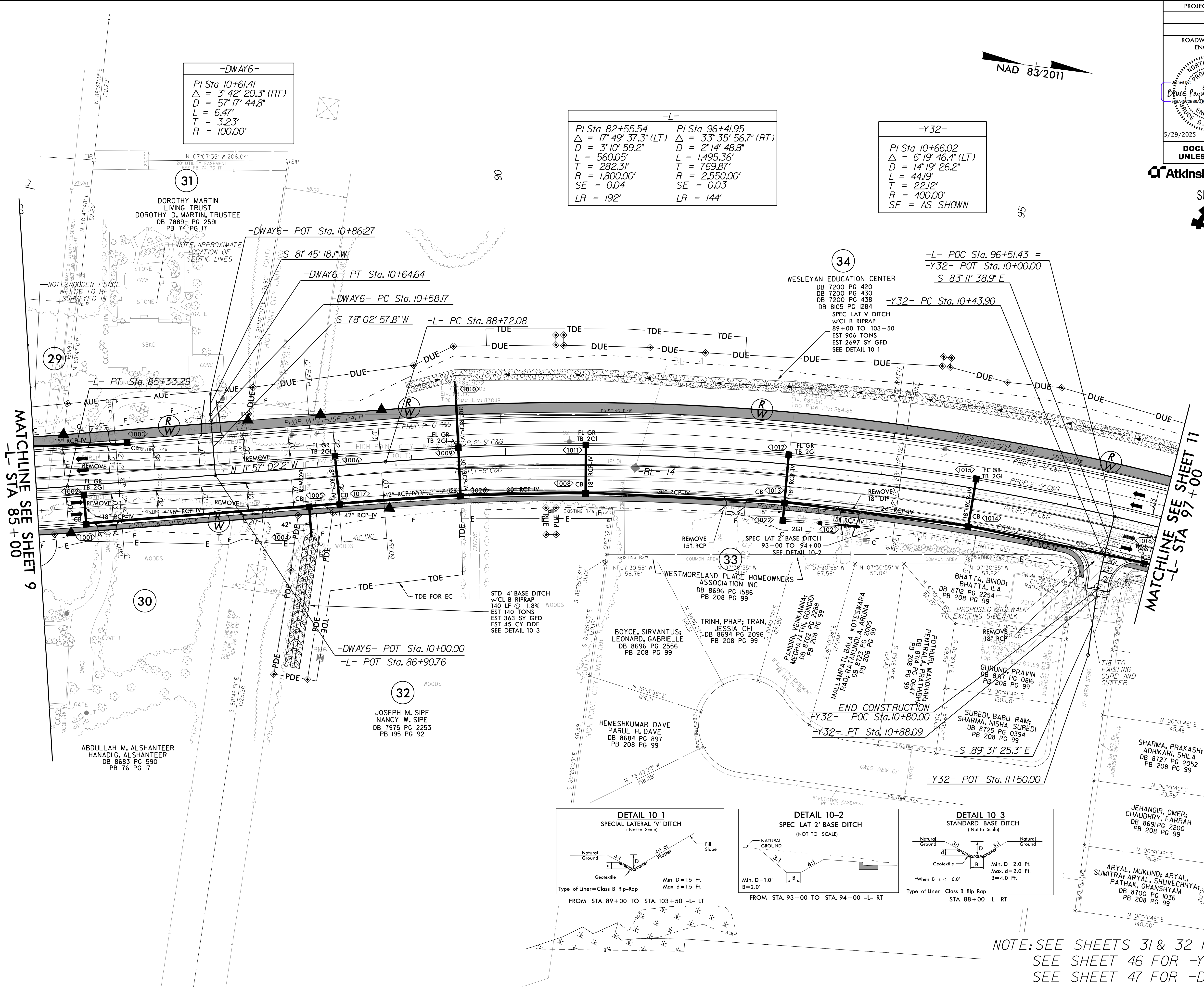
8/17/99

27 MAY 2025 10:04
R:\Roadwork\14758.rdw_psh_10.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$

REVISIONS

MATCHLINE SEE SHEET 9
-L- STA 85+00

MATCHLINE SEE SHEET 11
-L- STA 97+00



-DWAY6-
PI Sta 10+61.41
 $\Delta = 3^\circ 42' 20.3''$ (RT)
D = 57°17' 44.8"
L = 6.47'
T = 3.23'
R = 100.00'

-L-
PI Sta 82+55.54
 $\Delta = 17^\circ 49' 37.3''$ (LT)
D = 3°10' 59.2"
L = 560.05'
T = 282.31'
R = 1,800.00'
SE = 0.04
LR = 192'

PI Sta 96+41.95
 $\Delta = 33^\circ 35' 56.7''$ (RT)
D = 2°14' 48.8"
L = 1,495.36'
T = 769.87'
R = 2,550.00'
SE = 0.03
LR = 144'

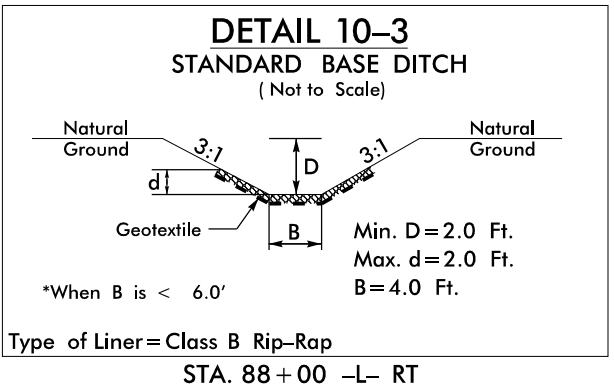
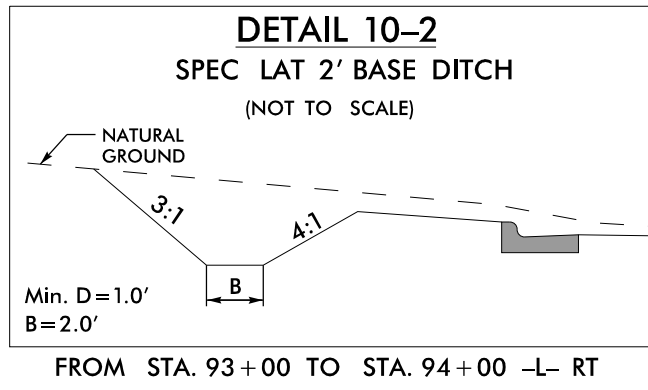
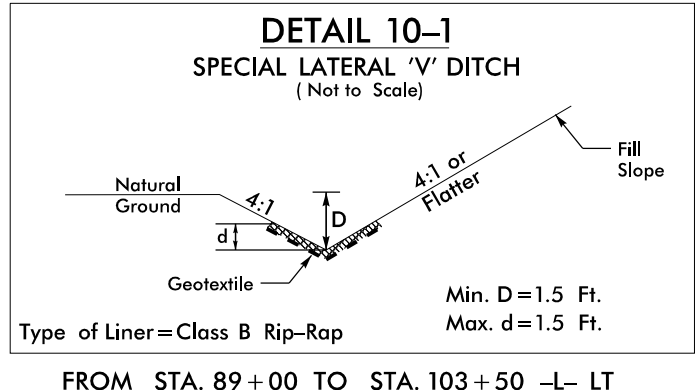
-Y32-
PI Sta 10+66.02
 $\Delta = 6^\circ 19' 46.4''$ (LT)
D = 14°19' 26.2"
L = 44.19'
T = 22.12'
R = 400.00'
SE = AS SHOWN

NAD 83/2011

PROJECT REFERENCE NO.		SHEET NO.
U-4758		10
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

AtkinsRéalis
1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #P-0326

SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
(919) 876-6888 NCBEES #P-0326



NOTE: SEE SHEETS 31 & 32 FOR -L- PROFILE
SEE SHEET 46 FOR -Y32- PROFILE
SEE SHEET 47 FOR -DWAY6- PROFILE

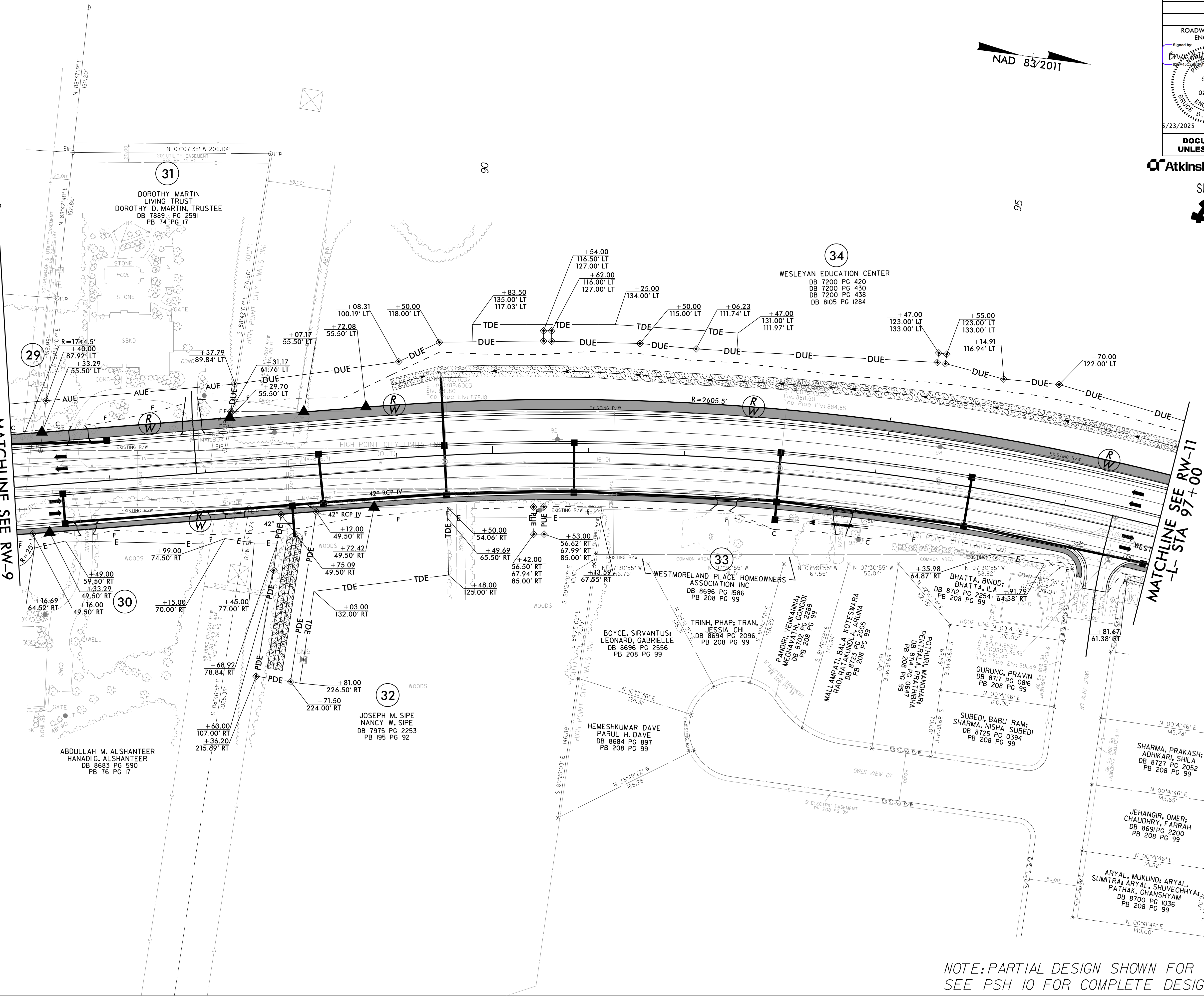
8/17/99

15-APR-2025 10:13
R:\Projects\14758_rdy_psh_10.rwdgn
\$\$\$\$\$ISTRAME\$\$\$\$\$

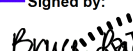
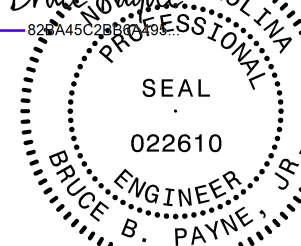
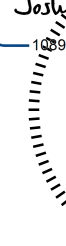
REVISIONS

MATCHLINE SEE RW-9
-L- STA 85+00

MATCHLINE SEE RW-11
-L- STA 97+00



NOTE: PARTIAL DESIGN SHOWN FOR REFERENCE ONLY.
SEE PSH 10 FOR COMPLETE DESIGN DETAILS.

PROJECT REFERENCE NO.		SHEET NO.	
U-4758		RW-10	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Signed by: 		Signed by: 	
			
5/23/2025		5/28/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

AtkinsRéalis 1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 878-6888 NCBEES #P-0326

SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 888-2343
ENG FIRM LICENSE NO. C-880

REVISIONS

PROJECT REFERENCE NO.
U-4758

SHEET NO.
11

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

1616 EAST WILLOW ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCEES #F-0326
SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 888-2245
ENG FIRM LICENSE NO. C-890

-Y5-

PI Sta 15+67.22
 $\Delta = 26' 26'' 56.5''$ (RT)
 $D = 14' 19'' 26.2''$
 $L = 184.65'$
 $T = 94.00'$
 $R = 400.00'$

-Y5-

PI Sta 17+69.38
 $\Delta = 4' 22'' 33.7''$ (RT)
 $D = 5' 43'' 46.5''$
 $L = 76.38'$
 $T = 38.21'$
 $R = 1000.00'$
 $SE = 0.03$

-Y5-

PI Sta 19+06.54
 $\Delta = 5' 13'' 50.7''$ (RT)
 $D = 5' 43'' 46.5''$
 $L = 91.29'$
 $T = 45.68'$
 $R = 1000.00'$
 $SE = 0.03$

DETAIL 11-1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Type of Liner = Class B Rip-Rap
Min. D = 1.5 Ft.
Max. d = 1.5 Ft.

FROM STA. 89+00 TO STA. 103+50 -L- LT
FROM STA. 104+50 TO STA. 107+00 -L- LT

DETAIL 11-2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Min. D = 1.0 Ft.

FROM STA. 10+90 TO STA. 11+85 -Y30- RT
FROM STA. 11+50 TO STA. 12+00 -Y30- LT
FROM STA. 18+00 TO STA. 19+00 -Y5- LT

DETAIL 11-3
SPECIAL 'V' DITCH
(Not to Scale)

Type of Liner = Class B Rip-Rap
Min. D = 1.0 Ft.
d = 1.0 Ft.

FROM STA. 18+00 TO STA. 18+70 -Y5- RT

MATCHLINE SEE SHEET 10
-L- STA 97+00

MATCHLINE SEE SHEET 12
-L- STA 110+00

NOTE: SEE SHEET 32 FOR -L- PROFILE
SEE SHEET 38 FOR -Y5- PROFILE
SEE SHEET 46 FOR -Y30- PROFILE
SEE SHEET 2B-3 FOR INTERSECTION DETAIL

-L-

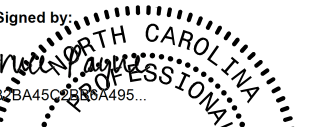
PI Sta 96+41.95
 $\Delta = 33' 35'' 56.7''$ (RT)
 $D = 2' 14'' 48.8''$
 $L = 1,495.36'$
 $T = 769.87'$
 $R = 2,550.00'$
 $SE = 0.03$
 $LR = 144'$

PI Sta 106+73.36
 $\Delta = 20' 24'' 12.1''$ (RT)
 $D = 3' 22'' 13.2''$
 $L = 605.38'$
 $T = 305.93'$
 $R = 1,700.00'$
 $SE = 0.04$
 $LR = 192'$

-Y30-

PI Sta 12+23.65
 $\Delta = 5' 37'' 40.8''$ (LT)
 $D = 10' 25'' 02.7''$
 $L = 54.02'$
 $T = 27.03'$
 $R = 550.00'$
 $SE = AS SHOWN$

27 MAY 2025 10:56 R:\Roads\pdp\4758_rdu_psh-11.dgn
\$\$\$\$ISTRAME\$\$\$\$

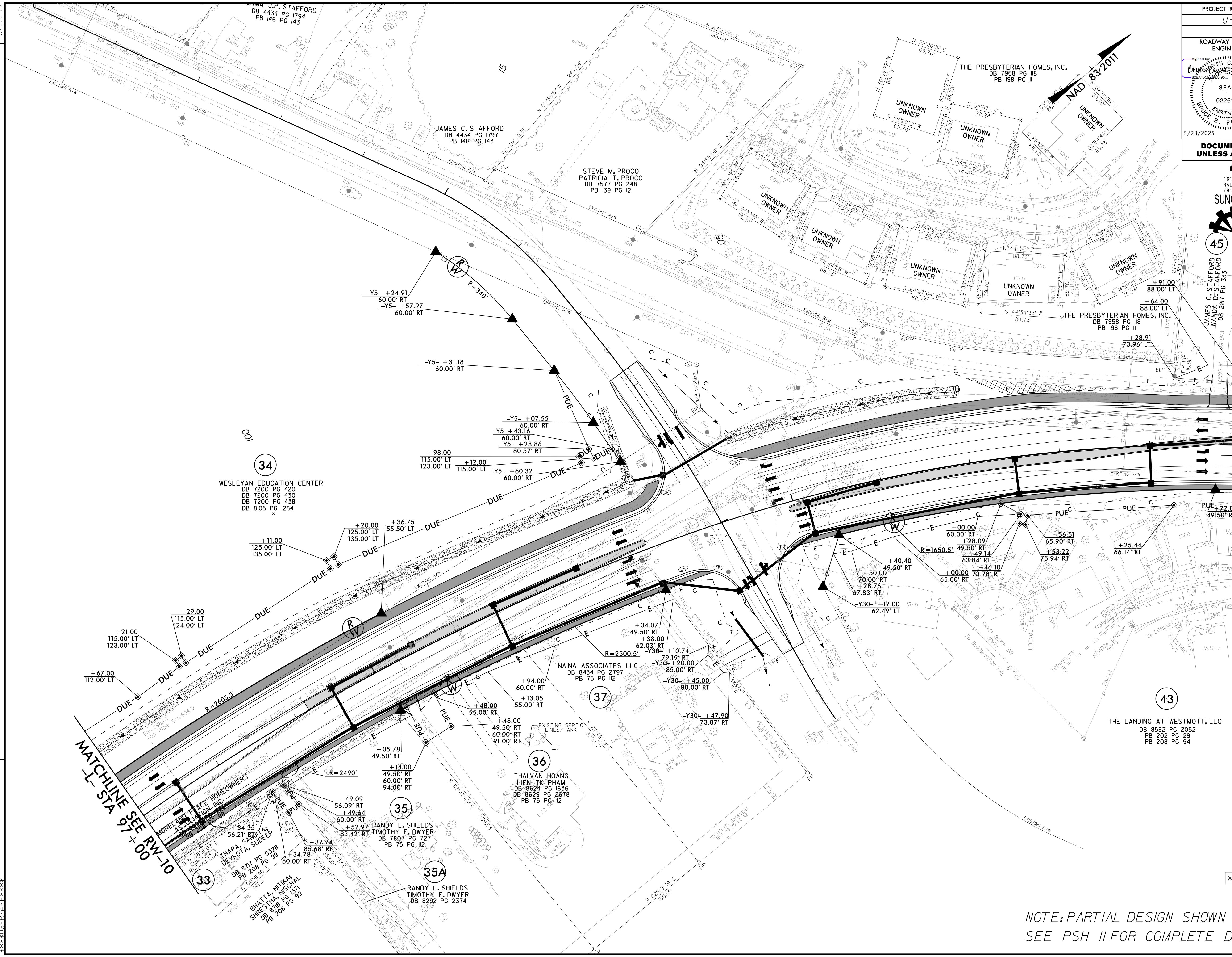
PROJECT REFERENCE NO. U-4758		SHEET NO. RW-11	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		SEAL	
Signed by:  JOSHUA G. DALTON 022610 ENGINEER BRIDGE & PAVEMENT		Signed by:  JOSHUA G. DALTON 026971 ENGINEER BRIDGE & PAVEMENT	
5/23/2025		5/28/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

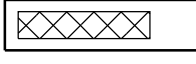
AtkinsRéalis
1616 EAST WILLOW ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-8888 NCBEES #F-0326
SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 858-2243
ENG FIRM LICENSE NO. C-890



45

MATCHLINE SEE RW-12
-L- STA 110+00



	PAVEMENT REMOVAL
	EXISTING SIGNAL

NOTE: PARTIAL DESIGN SHOWN FOR REFERENCE.
SEE PSH II FOR COMPLETE DESIGN DETAILS.

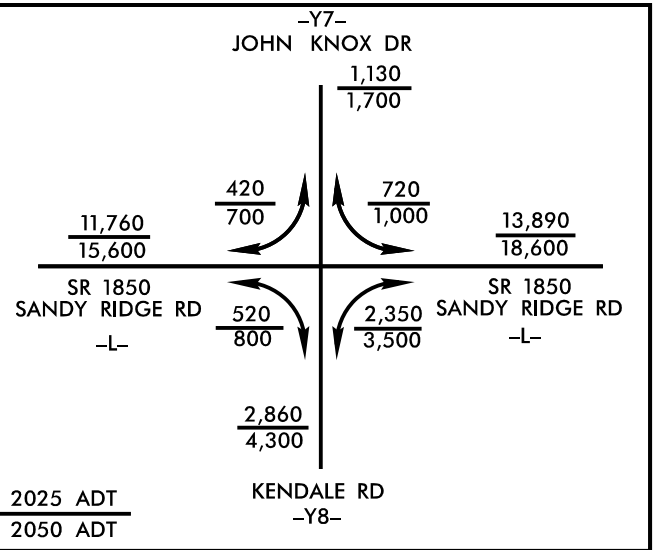
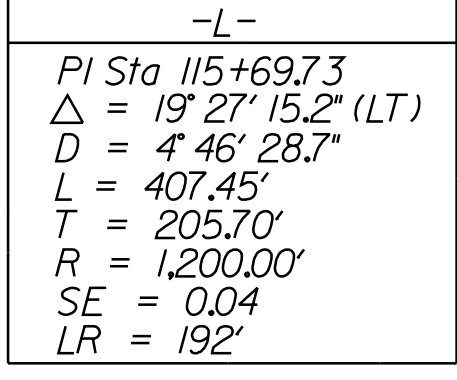
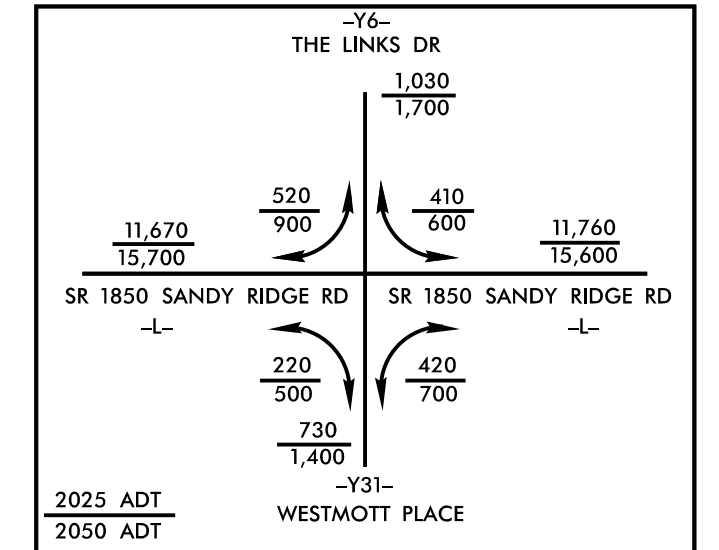
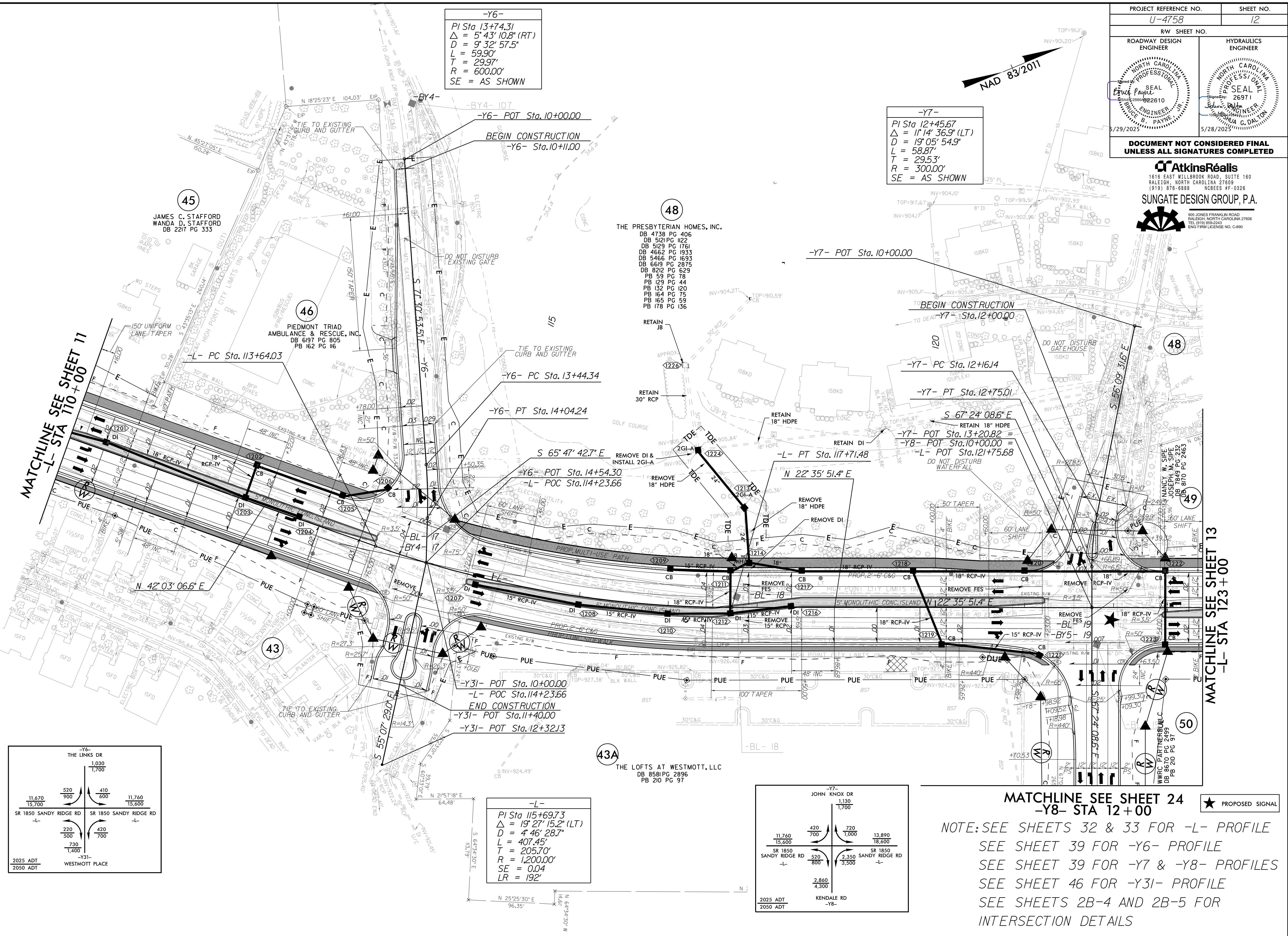
REVISIONS

15-APR-2025 10:15
P:\Projects\U4758_rdy_psh_11.rwdgn
\$\$\$\$SYTIME\$\$\$\$

8/17/99

REVISIONS

27 MAY 2025 11:03
R:\Road\pdp\U4758.rdw.psh.12.dgn
\$\$\$\$\$ISPRNAME\$\$\$\$\$



MATCHLINE SEE SHEET 24
-Y8- STA 12+00

★ PROPOSED SIGNAL

NOTE: SEE SHEETS 32 & 33 FOR -L- PROFILE
SEE SHEET 39 FOR -Y6- PROFILE
SEE SHEET 39 FOR -Y7 & -Y8- PROFILES
SEE SHEET 46 FOR -Y31- PROFILE
SEE SHEETS 2B-4 AND 2B-5 FOR INTERSECTION DETAILS

PROJECT REFERENCE NO. U-4758		SHEET NO. 12
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

AtkinsRéalis
1616 EAST WILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCCEES #F-0326

SUNGATE DESIGN GROUP, P.A.
866 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 886-2433
ENG FIRM LICENSE NO. C-890

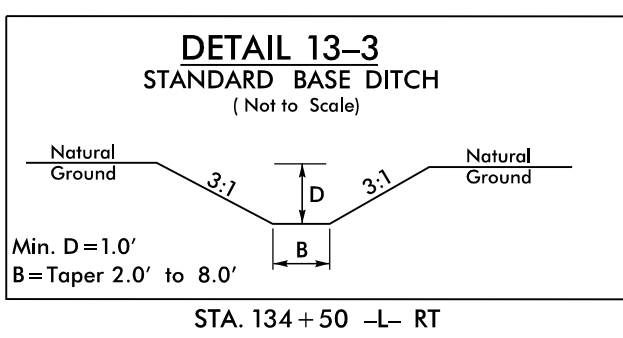
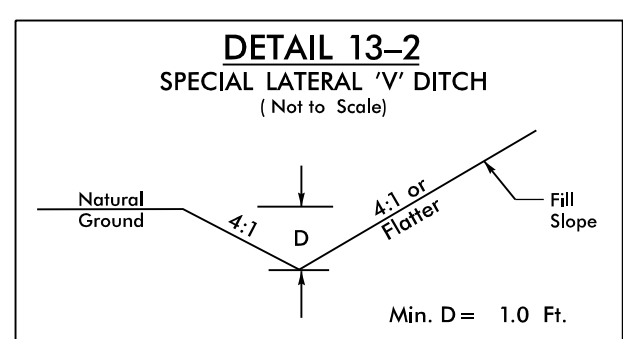
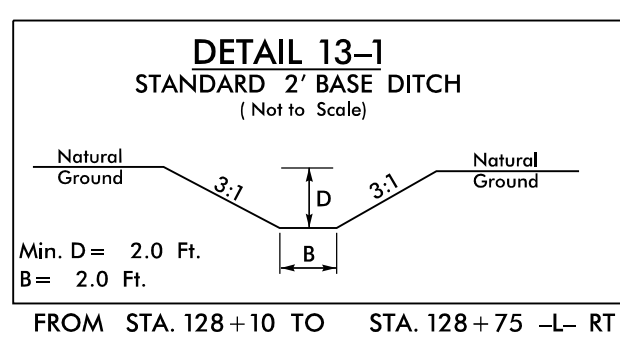
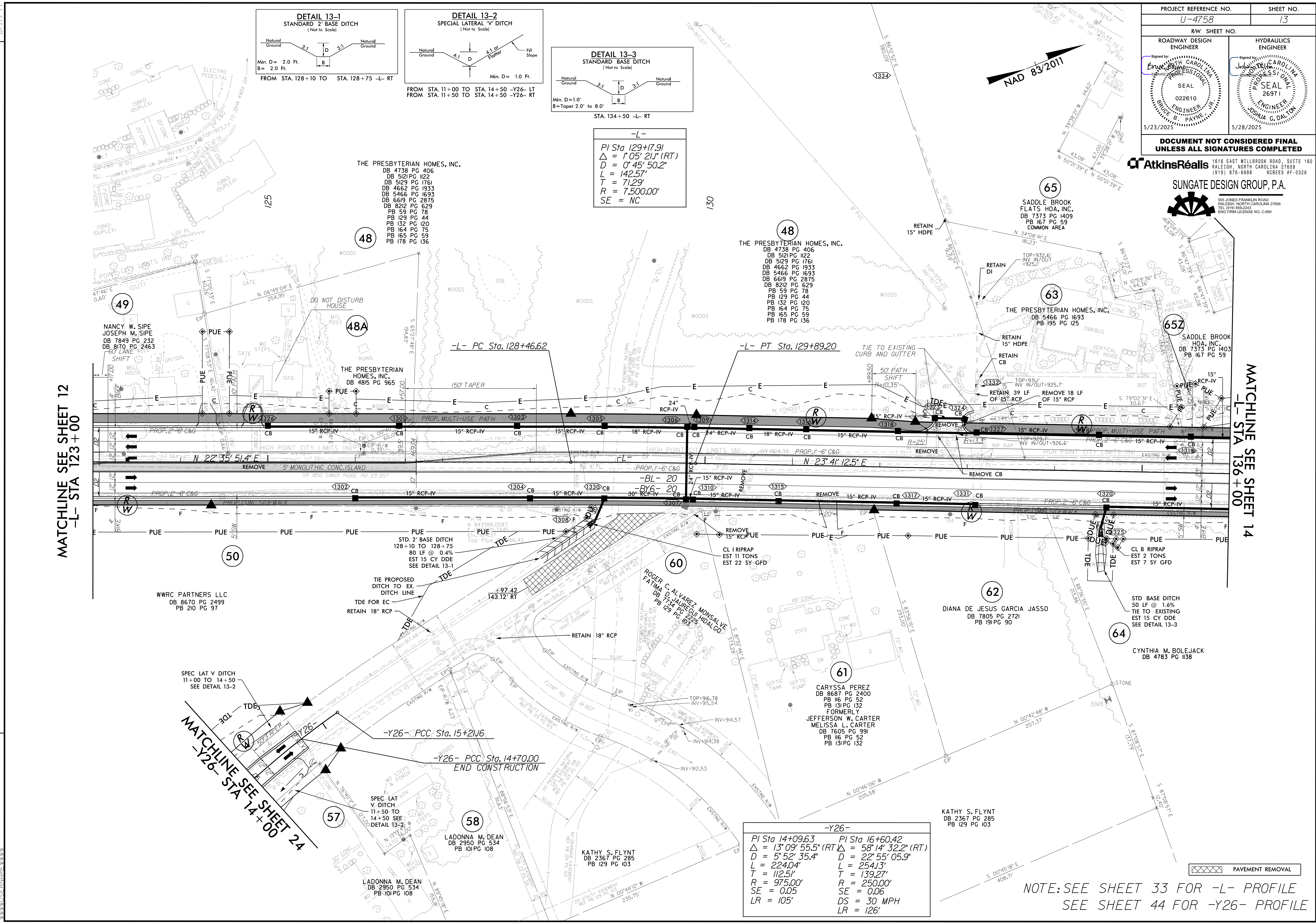
8/17/99

15-APR-2025 10:47
R:\Roadway\Projects\14758_rdu_psh_13.dgn
\$\$\$\$SYTIME\$\$\$\$

REVISIONS

MATCHLINE SEE SHEET 12
-L- STA 123+00

MATCHLINE SEE SHEET 14
-L- STA 136+00



-L-
PI Sta 129+17.91
Δ = 1°05'21" (RT)
D = 0°45'50.2"
L = 142.57'
T = 71.29'
R = 7,500.00'
SE = NC

THE PRESBYTERIAN HOMES, INC.
DB 4738 PG 406
DB 5121 PG 1122
DB 5129 PG 1761
DB 4662 PG 1933
DB 5466 PG 1693
DB 6619 PG 2875
DB 8212 PG 629
PB 59 PG 78
PB 129 PG 44
PB 132 PG 120
PB 164 PG 75
PB 165 PG 59
PB 178 PG 136

THE PRESBYTERIAN HOMES, INC.
DB 4738 PG 406
DB 5121 PG 1122
DB 5129 PG 1761
DB 4662 PG 1933
DB 5466 PG 1693
DB 6619 PG 2875
DB 8212 PG 629
PB 59 PG 78
PB 129 PG 44
PB 132 PG 120
PB 164 PG 75
PB 165 PG 59
PB 178 PG 136

SADDLE BROOK
FLATS HOA, INC.
DB 7373 PG 1409
PB 167 PG 59
COMMON AREA

SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27605
TEL (919) 888-2243
ENG FIRM LICENSE NO. C-690

AtkinsRéalis

PROJECT REFERENCE NO.		SHEET NO.
U-4758		13
RW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER		SEAL
Signed by: [Signature]		Signed by: [Signature]
022610		26971
BRUCE B. PAYNE, J.E.		JOSHUA G. DALTON
5/23/2025		5/28/2025
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

-Y26-
PI Sta 14+09.63
Δ = 13°09'55.5" (RT)
D = 5°52'35.4"
L = 224.04'
T = 112.51'
R = 975.00'
SE = 0.05
LR = 105'

PI Sta 16+60.42
Δ = 58°14'32.2" (RT)
D = 22°55'05.9"
L = 254.13'
T = 139.27'
R = 250.00'
SE = 0.06
DS = 30 MPH
LR = 126'

NOTE: SEE SHEET 33 FOR -L- PROFILE
SEE SHEET 44 FOR -Y26- PROFILE

PAVEMENT REMOVAL

8/17/99

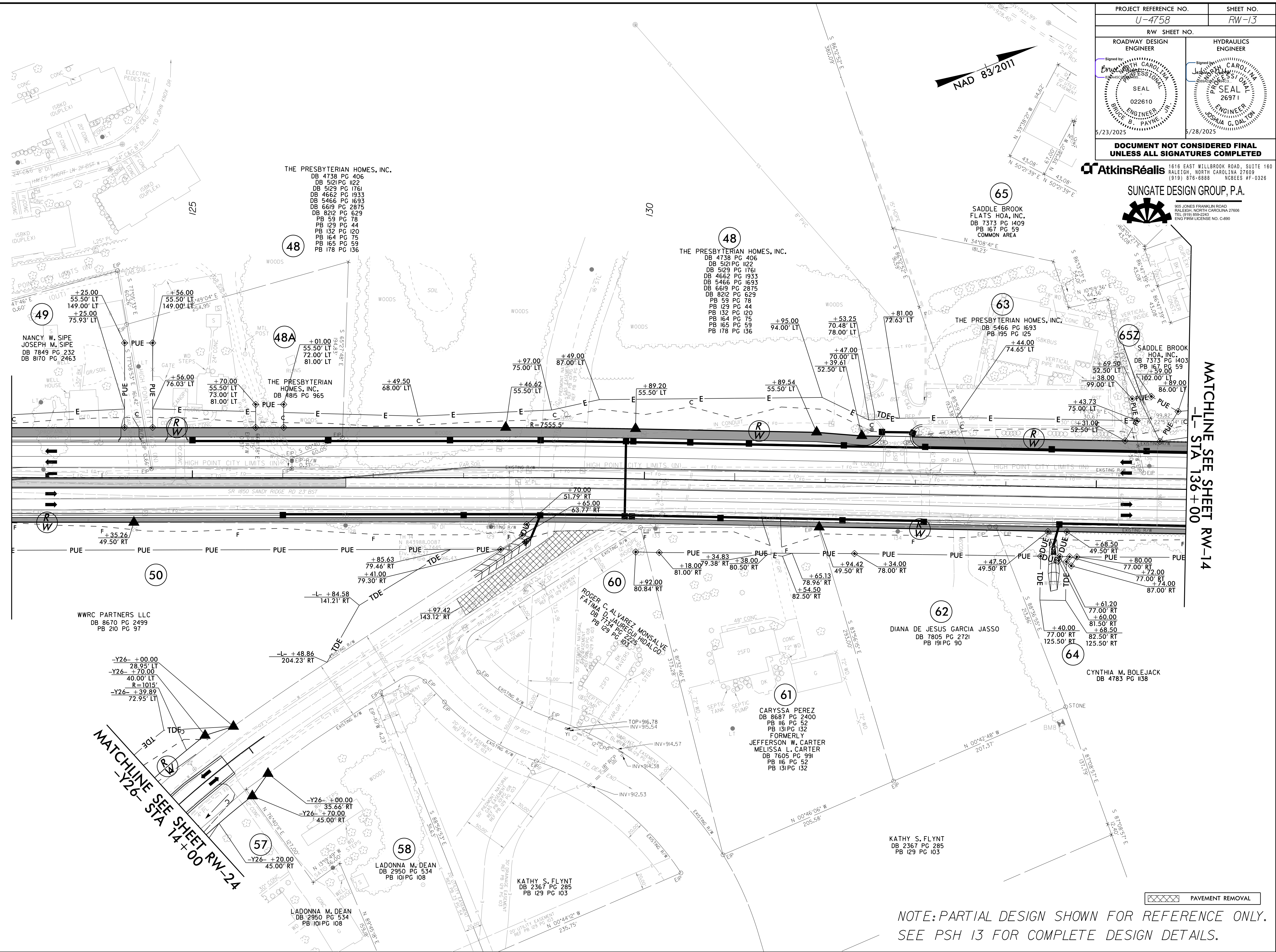
REVISIONS

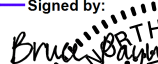
15-APR-2025 P:\N4758.rdu.psh.13.rwdgn
\$\$\$\$13-APR-2025 P:\N4758.rdu.psh.13.rwdgn

MATCHLINE SEE SHEET RW-12
-L- STA 123+00

MATCHLINE SEE SHEET RW-24
-Y26- STA 14+00

MATCHLINE SEE SHEET RW-14
-L- STA 136+00



PROJECT REFERENCE NO.		SHEET NO.
U-4758		RW-13
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
Signed by:  BRUCE B. PAYNE, JR. 022610 5/23/2025	Signed by:  JOSHUA C. DALTON 26971 5/28/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

AtkinsRéalis 1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 878-6888 NCBEES #F-0326

SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 888-2243
ENG FIRM LICENSE NO. C-880

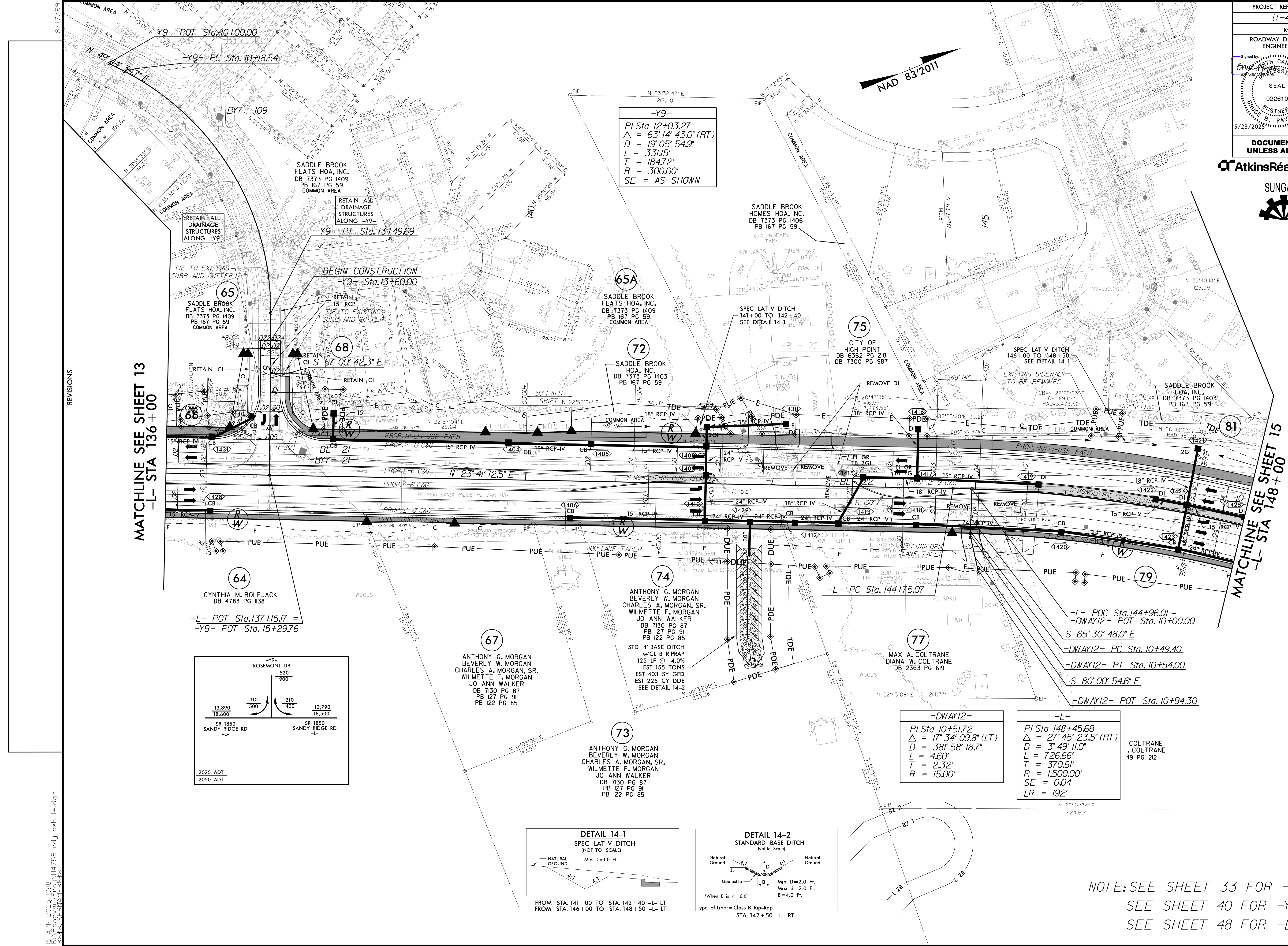
PAVEMENT REMOVAL

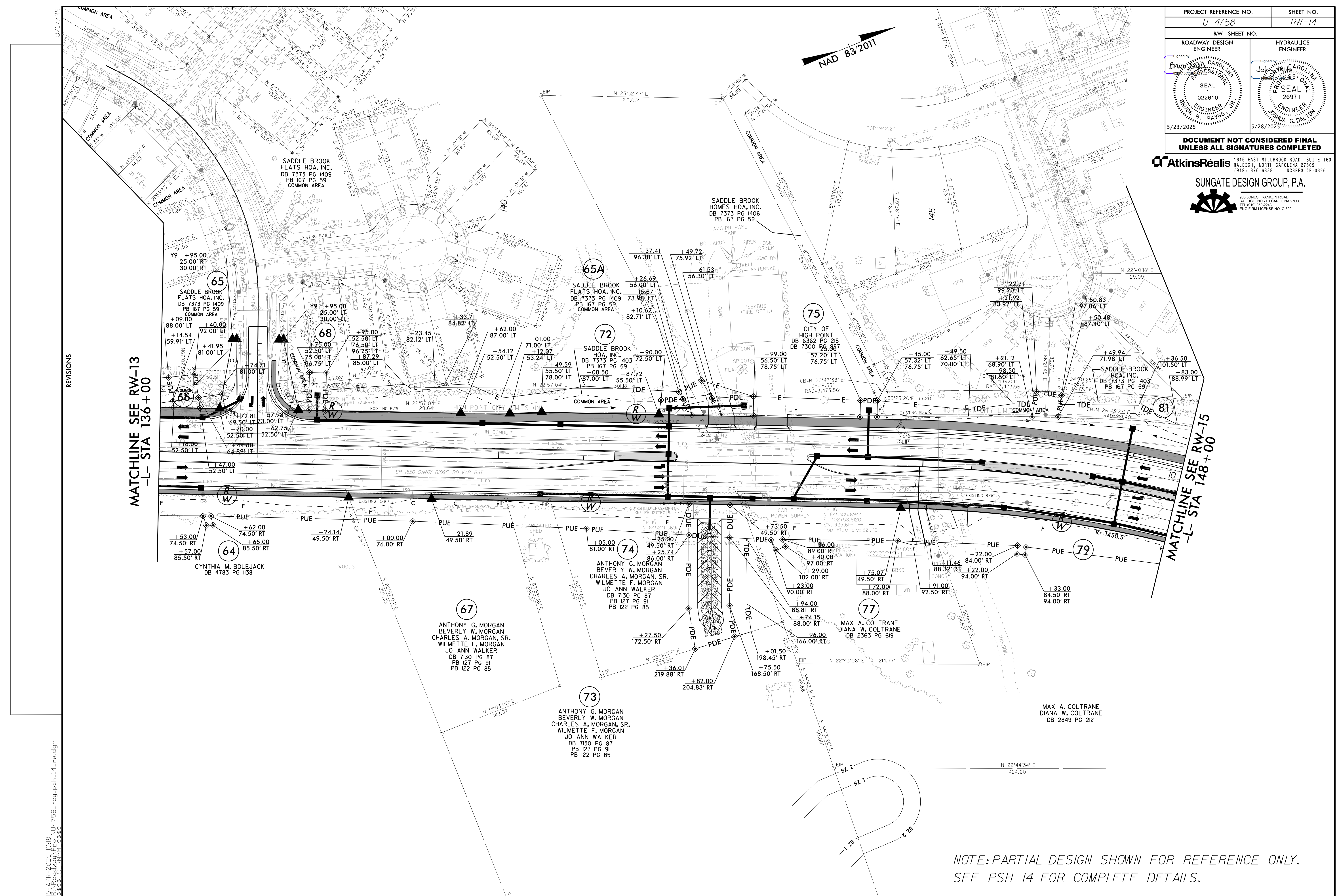
NOTE: PARTIAL DESIGN SHOWN FOR REFERENCE ONLY.
SEE PSH 13 FOR COMPLETE DESIGN DETAILS.

PROJECT REFERENCE NO.		SHEET NO.
U-4758		14
RW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER		
Signed by:  BRUCE B. PAYNE		Signed by:  JOSHUA G. DALTON
SEAL 022610 ENGINEER JR.		PROFESSIONAL SEAL 26971 ENGINEER
5/23/2025		5/28/2025
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

AtkinsRéalis 1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #P-0326

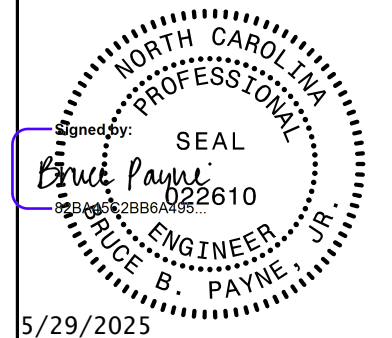
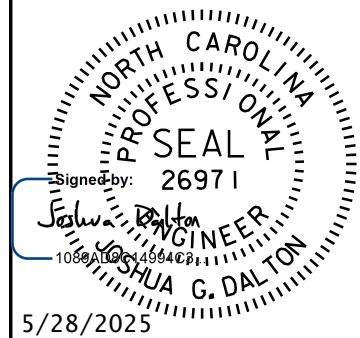
SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27609
TEL (919) 888-2443
ENG FIRM LICENSE NO. C-880





NOTE: PARTIAL DESIGN SHOWN FOR REFERENCE ONLY.
SEE PSH 14 FOR COMPLETE DETAILS.

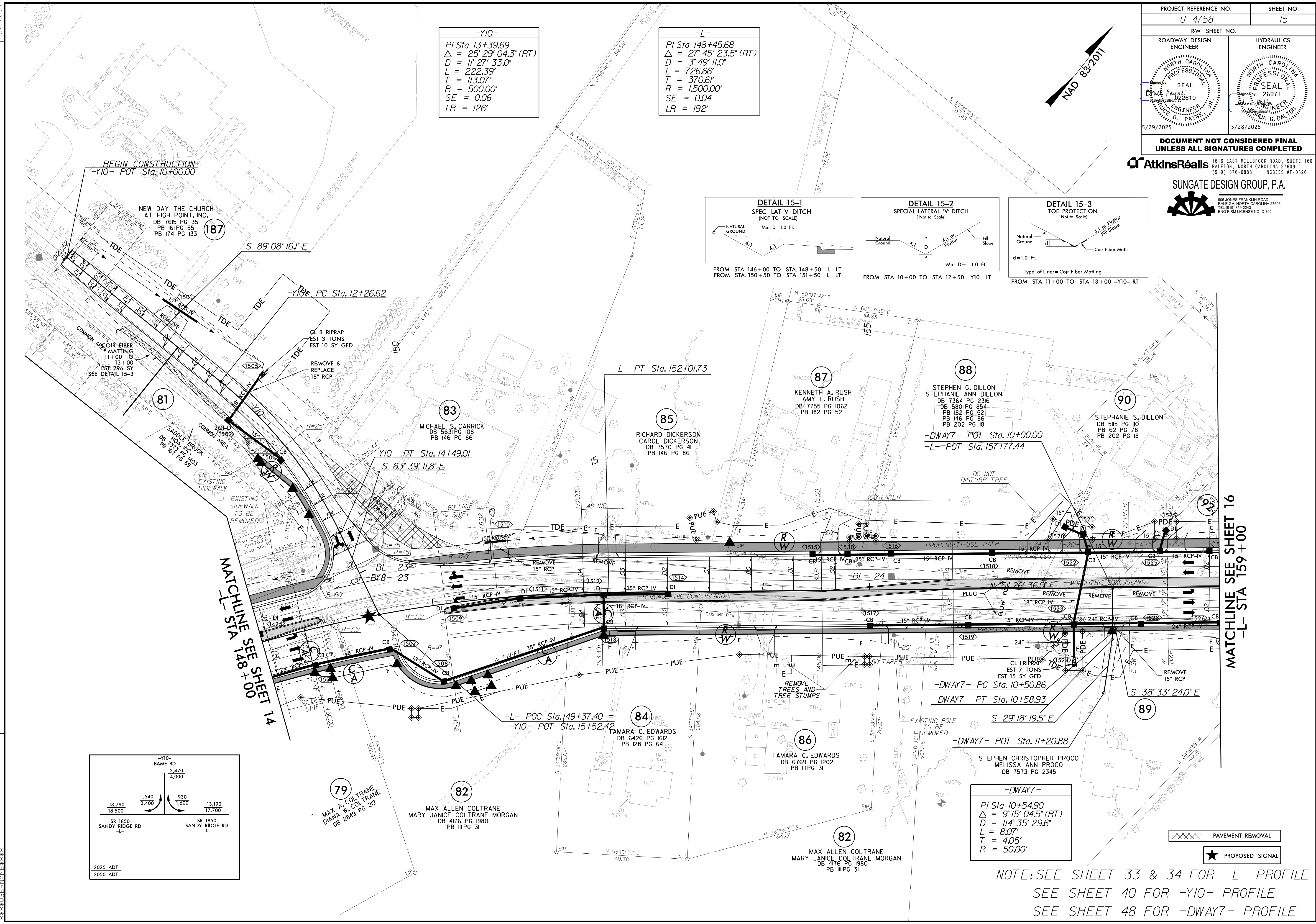
REVISIONS

PROJECT REFERENCE NO. U-4758		SHEET NO. 15	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

AtkinsRéalis

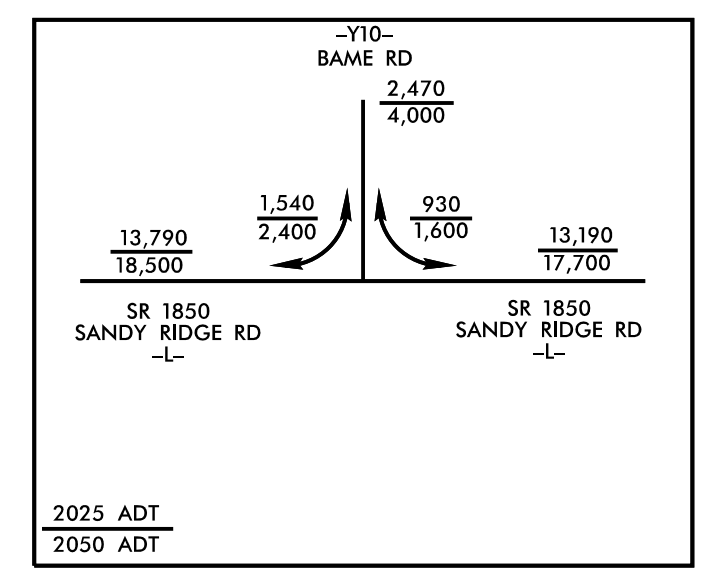
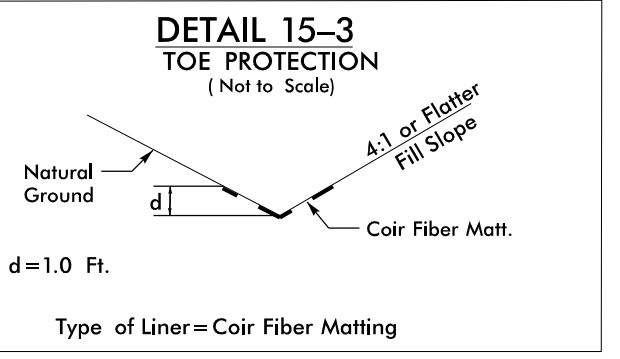
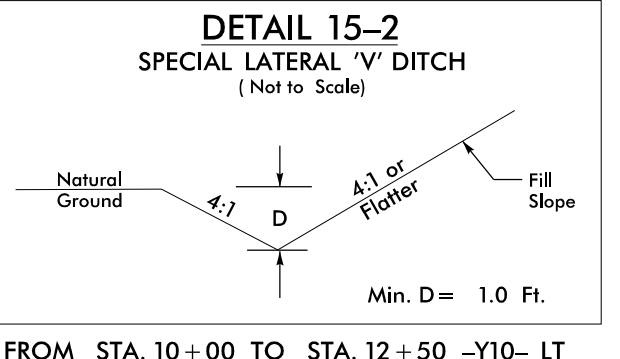
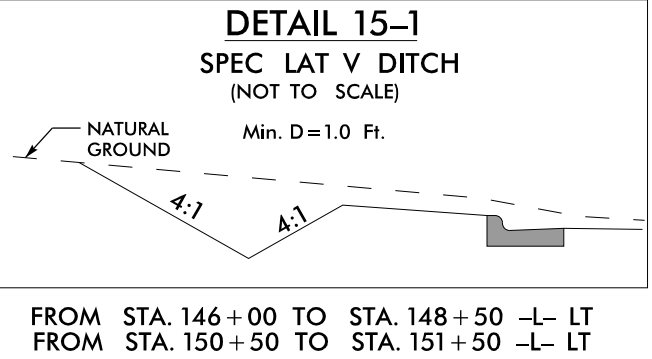
SUNGATE DESIGN GROUP, P.A.

1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
(919) 876-6888 ENG FIRM LICENSE NO. C-880

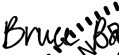
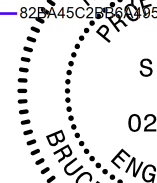
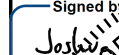
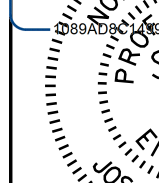


-Y10-
PI Sta 13+39.69
 $\Delta = 25^\circ 29' 04.3''$ (RT)
D = 11' 27' 33.0"
L = 222.39'
T = 113.07'
R = 500.00'
SE = 0.06
LR = 126'

-L-
PI Sta 148+45.68
 $\Delta = 27^\circ 45' 23.5''$ (RT)
D = 3' 49' 11.0"
L = 726.66'
T = 370.61'
R = 1,500.00'
SE = 0.04
LR = 192'



-DWAY7-
PI Sta 10+54.90
 $\Delta = 9^\circ 15' 04.5''$ (RT)
D = 114' 35' 29.6"
L = 8.07'
T = 4.05'
R = 50.00'

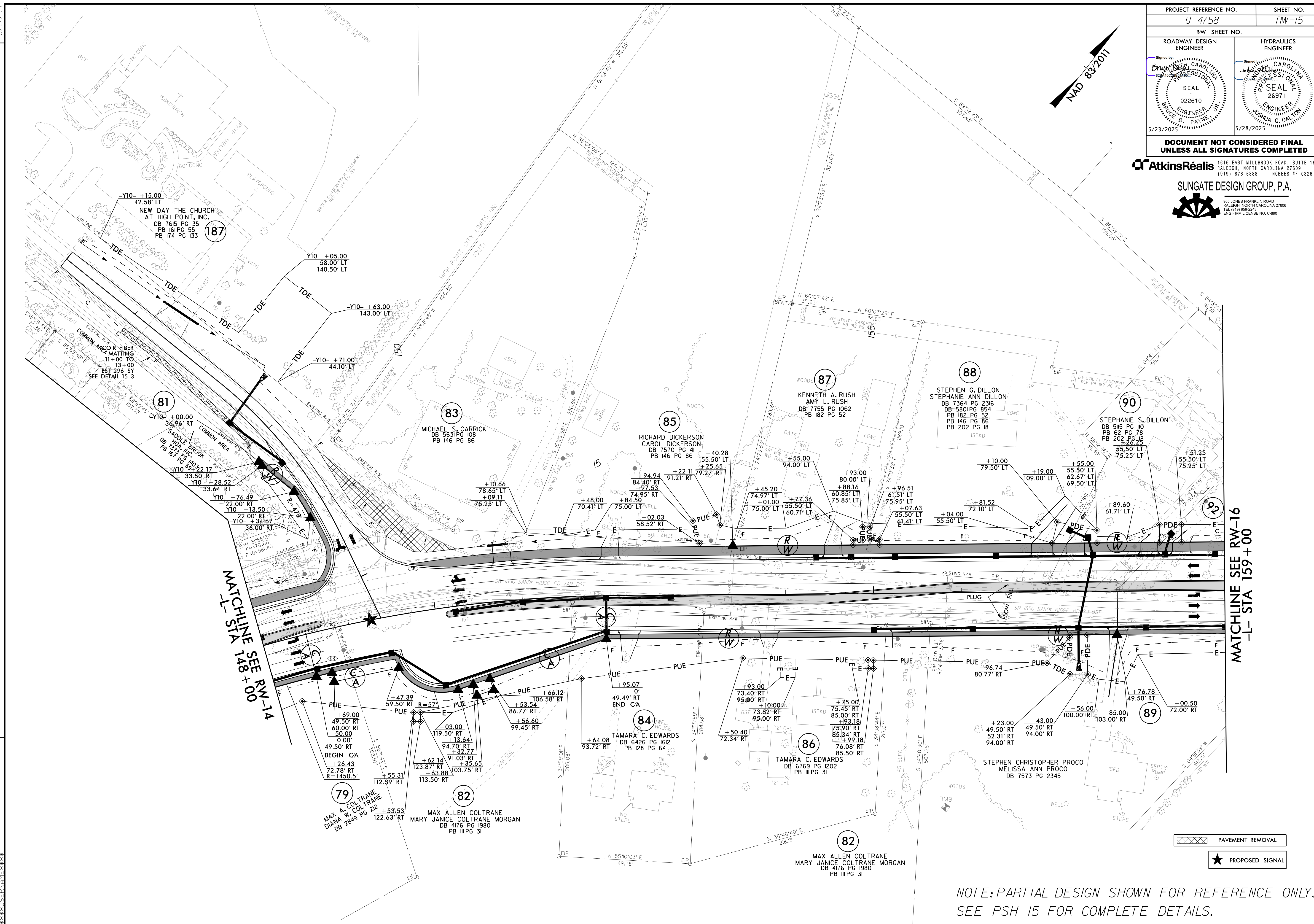
PROJECT REFERENCE NO.	SHEET NO.
U-4758	RW-15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Signed by:  	Signed by:  
5/23/2025	5/28/2025
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

AtkinsRéalis 1616 EAST MILLBROOK ROAD, SUITE 100
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

SUNGATE DESIGN GROUP, P.A.



905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243
ENG FIRM LICENSE NO. C-890

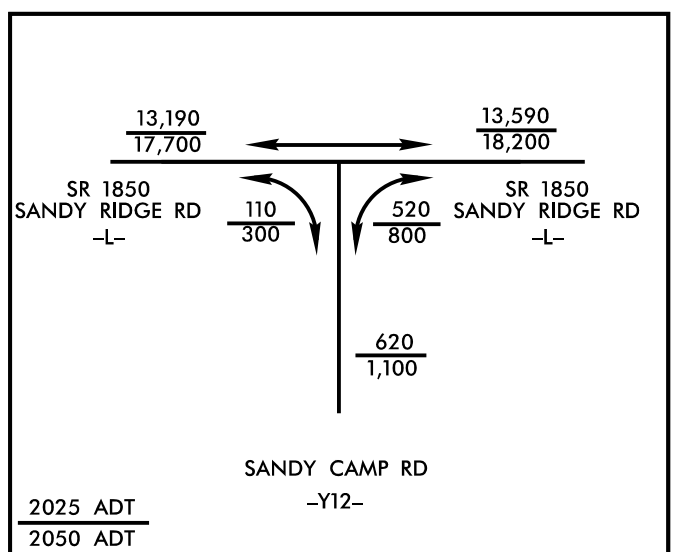
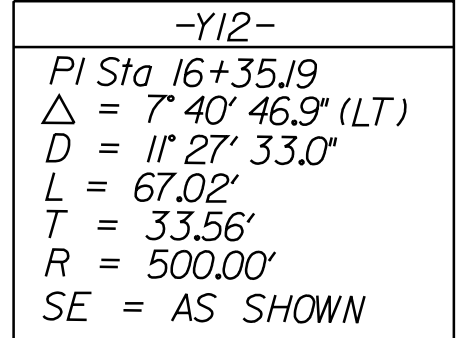
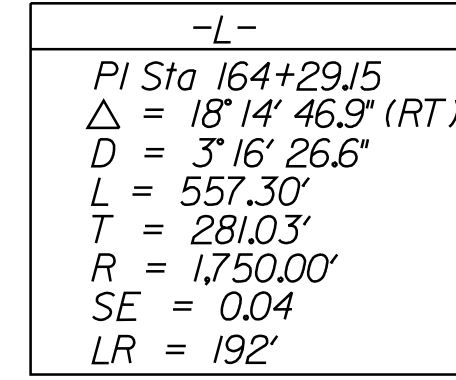
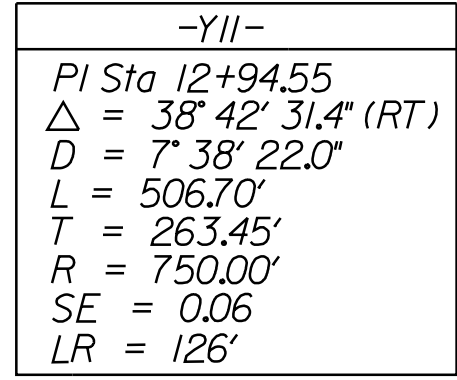
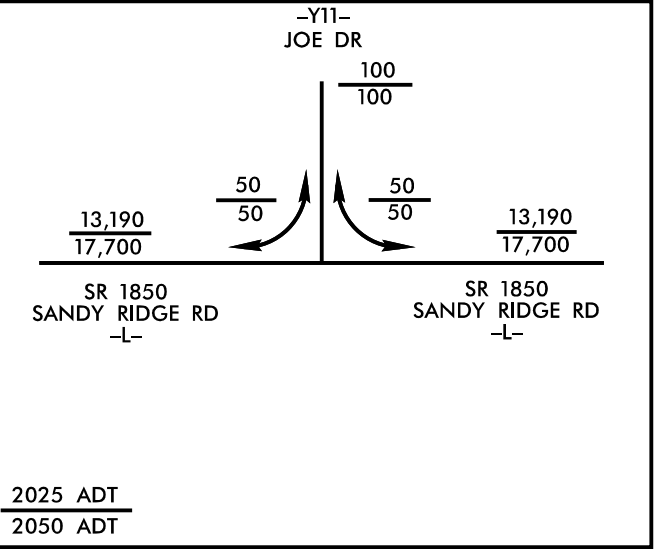
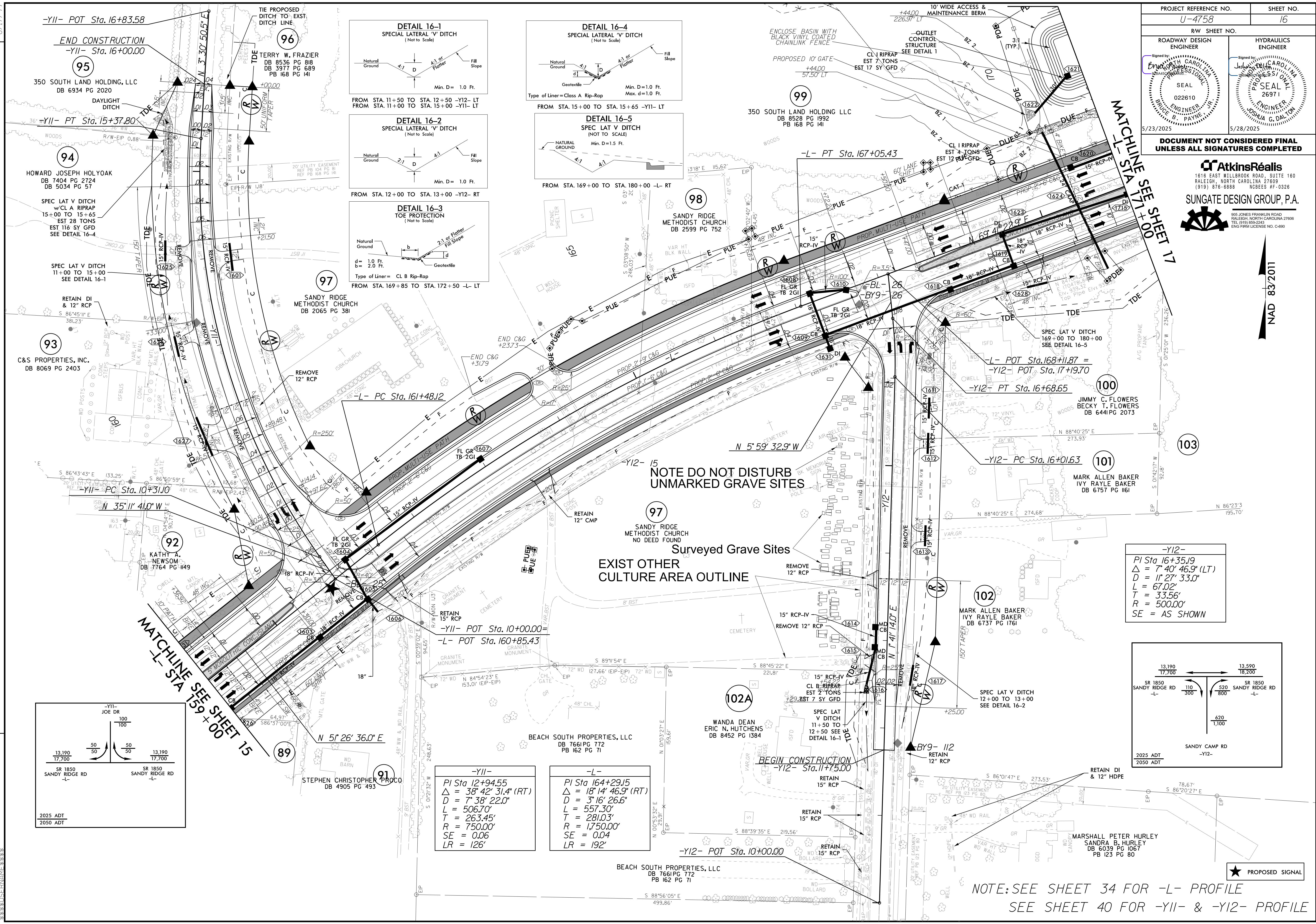
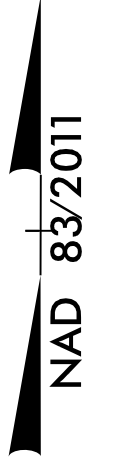


NOTE: PARTIAL DESIGN SHOWN FOR REFERENCE ONLY.
SEE PSH 15 FOR COMPLETE DETAILS.

PROJECT REFERENCE NO. U-4758		SHEET NO. 16	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Signed by: BRUCE B. PAYNE, JR. SEAL 022610 ENGINEER, JR. 5/23/2025		Signed by: JOSHUA C. DALTON SEAL 26971 ENGINEER 5/28/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

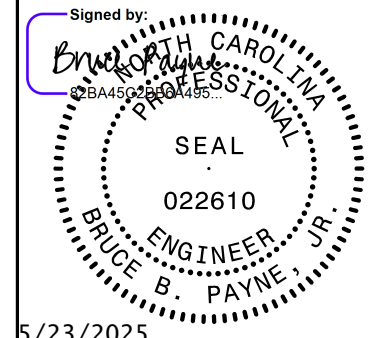
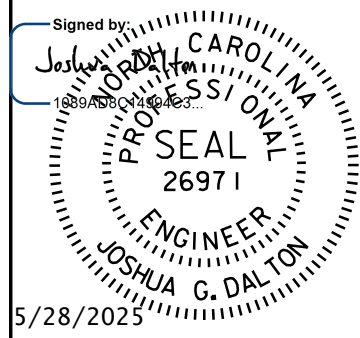
AtkinsRéalis
1616 EAST WILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NOBES #F-0326

SUNGATE DESIGN GROUP, P.A.
805 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243
ENG FIRM LICENSE NO. C-980



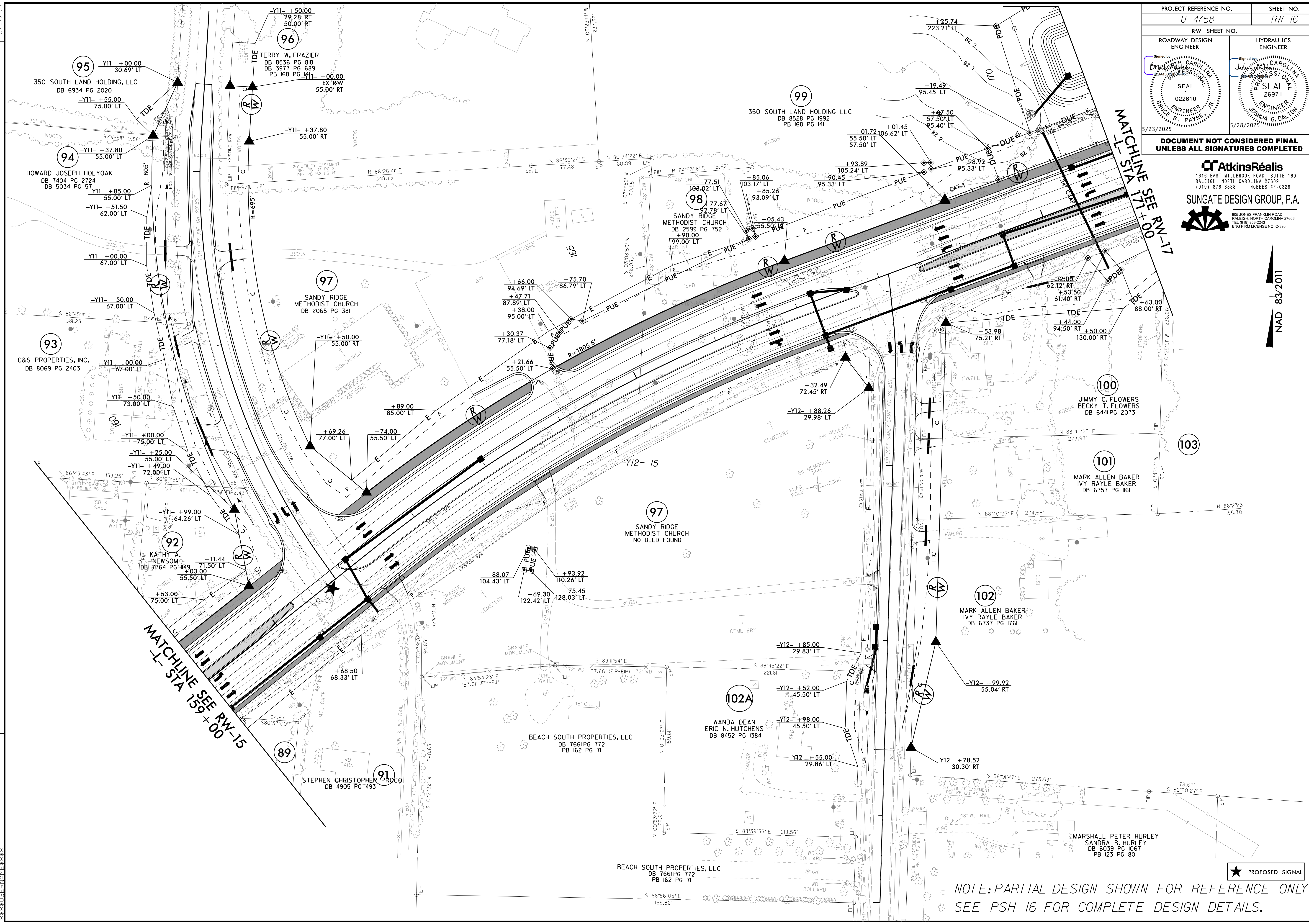
NOTE: SEE SHEET 34 FOR -L- PROFILE
SEE SHEET 40 FOR -Y11- & -Y12- PROFILE



PROJECT REFERENCE NO. U-4758		SHEET NO. RW-16	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER 		HYDRAULICS ENGINEER 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

AtkinsRéalis
1616 EAST WILBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NOBES #F-0326

SUNGATE DESIGN GROUP, P.A.
805 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243
ENG FIRM LICENSE NO. C-980



NOTE: PARTIAL DESIGN SHOWN FOR REFERENCE ONLY.
SEE PSH 16 FOR COMPLETE DESIGN DETAILS.



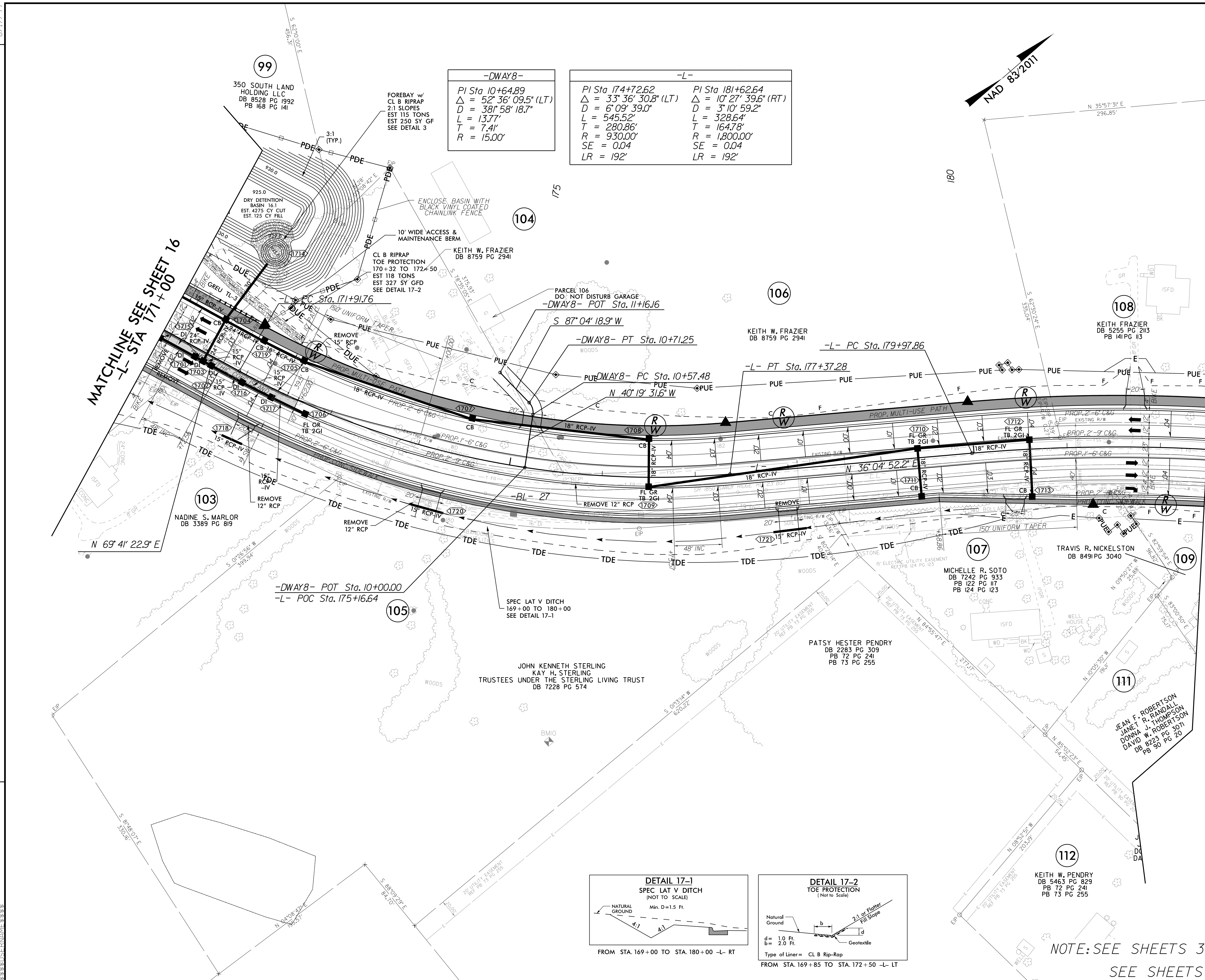
REVISIONS

8/17/99
15-APR-2025 10:20
R:\Projects\U4758\rdw_psh_16.rwdgn
\$\$\$\$SYTIME\$\$\$\$

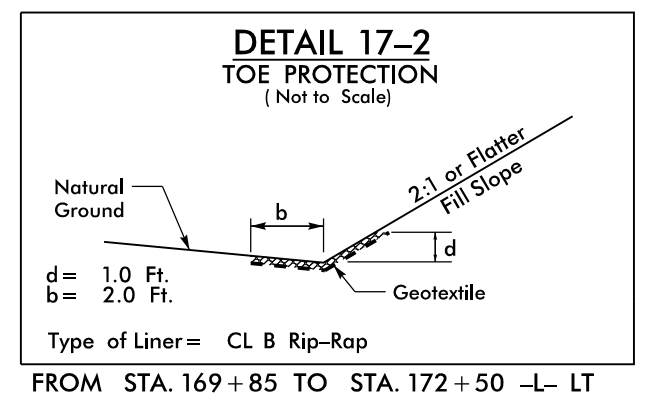
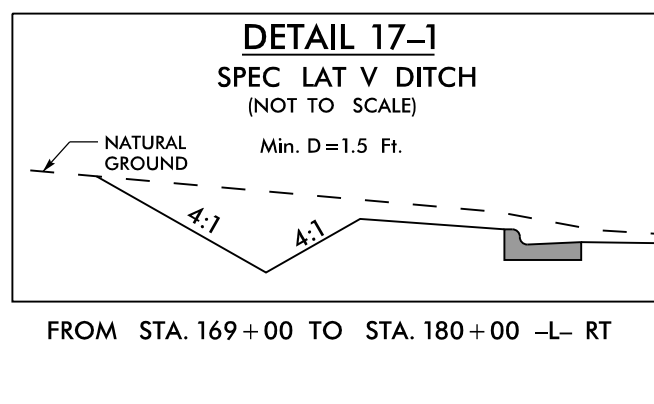
8/17/99

27-MAY-2025 11:20
R:\Road\pdp\pdp\U4758.rdw_psh.17.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$

REVISIONS



-DWAY8-		-L-	
PI Sta 10+64.89		PI Sta 174+72.62	PI Sta 181+62.64
$\Delta = 52^\circ 36' 09.5''$ (LT)		$\Delta = 33^\circ 36' 30.8''$ (LT)	$\Delta = 10^\circ 27' 39.6''$ (RT)
D = 381' 58" 18.7"		D = 6' 09' 39.0"	D = 3' 10' 59.2"
L = 13.77'		L = 545.52'	L = 328.64'
T = 7.41'		T = 280.86'	T = 164.78'
R = 15.00'		R = 930.00'	R = 1,800.00'
		SE = 0.04	SE = 0.04
		LR = 192'	LR = 192'



NOTE: SEE SHEETS 34 & 35 FOR -L- PROFILE
SEE SHEETS 48 FOR -DWAY8- PROFILE

PROJECT REFERENCE NO. U-4758		SHEET NO. 17
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
5/29/2025		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

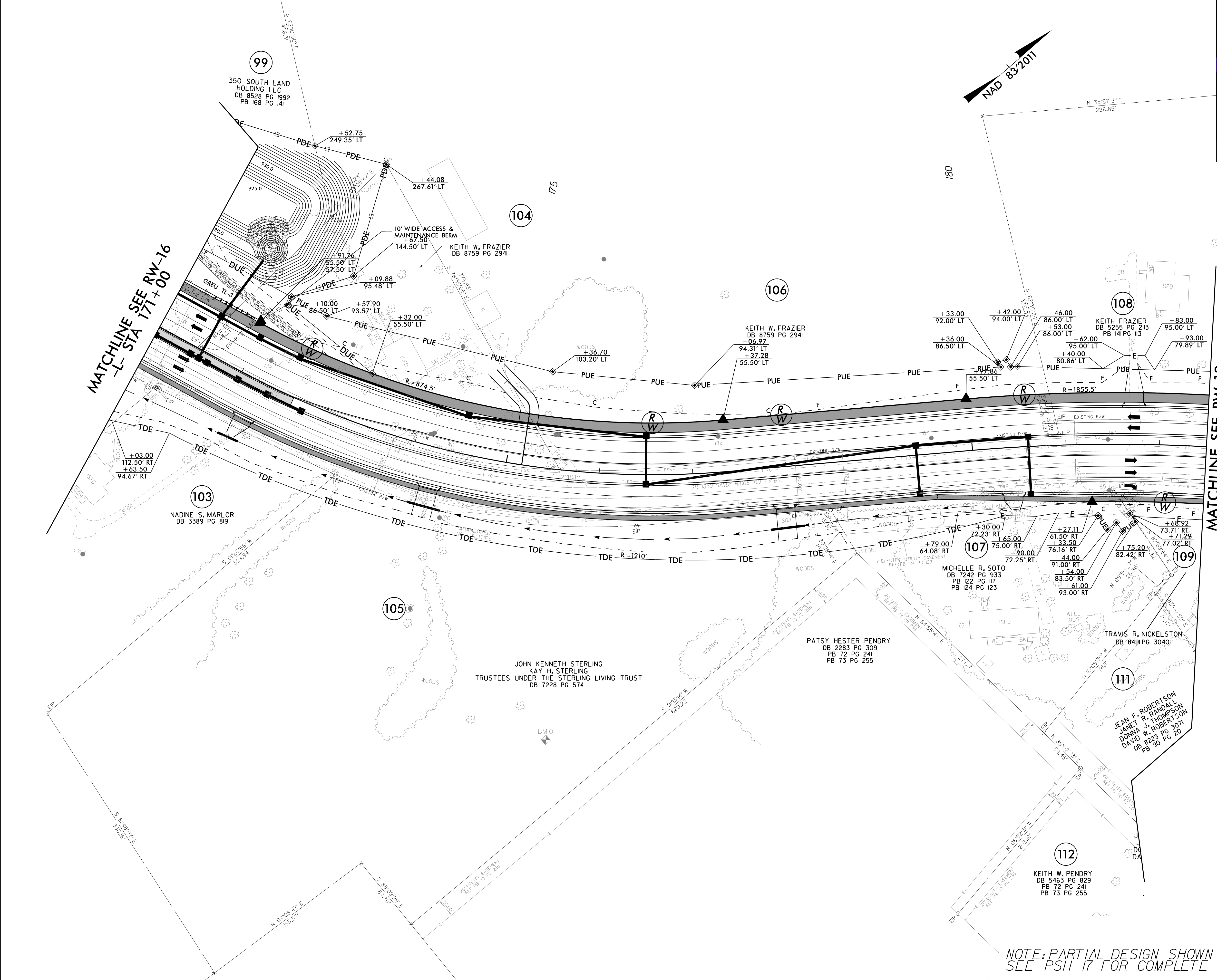
AtkinsRéalis
1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-8888 NOBES #F-0326

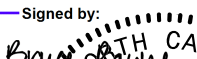
SUNGATE DESIGN GROUP, P.A.
806 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 880-2243
ENG FIRM LICENSE NO. C-890

8/17/99

15-APR-2025 10:21
R:\Projects\14758.rdw_psh_17.rwdgn
\$\$\$\$\$SYTIME\$\$\$\$\$

REVISIONS



PROJECT REFERENCE NO.		SHEET NO.	
U-4758		RW-17	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Signed by:  BRUCE B. PAYNE 022610 5/23/2025		Signed by:  JOSHUA C. DALTON 26971 5/28/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

AtkinsRéalis
1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 876-8888 NOBES #F-0326

SUNGATE DESIGN GROUP, P.A.
866 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 888-2243
ENG FIRM LICENSE NO. C-890

NOTE: PARTIAL DESIGN SHOWN FOR REFERENCE ONLY.
SEE PSH 17 FOR COMPLETE DESIGN DETAILS.