

CONSTRUCTION REV. - APRIL 2012 - Based alignment and stationing of -Y1B- and -Y1C- on the proposed road to be constructed. The proposed road is shown in black. The existing road is shown in grey. The proposed road is shown in black. The existing road is shown in grey. The proposed road is shown in black. The existing road is shown in grey.

**CURVE DATA FOR -Y1B-**  
 PI Sta 14+08.31 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 15+02.76 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 16+07.17 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.

**CURVE DATA FOR -Y1-**  
 PI Sta 17+10.93 Δ = 240° 45' 5" (RT) D = 22' 55' 05.5" L = 104.92' T = 75.25' R = 2500.00' SE = EX.  
 PI Sta 18+14.37 Δ = 240° 45' 5" (RT) D = 22' 55' 05.5" L = 104.92' T = 75.25' R = 2500.00' SE = EX.  
 PI Sta 19+17.81 Δ = 240° 45' 5" (RT) D = 22' 55' 05.5" L = 104.92' T = 75.25' R = 2500.00' SE = EX.

**CURVE DATA FOR -Y1-**  
 PI Sta 22+15.25 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.  
 PI Sta 23+18.71 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.

**CURVE DATA FOR -Y1-**  
 PI Sta 24+15.25 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.  
 PI Sta 25+18.71 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.

**CURVE DATA FOR -Y1-**  
 PI Sta 26+15.25 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.  
 PI Sta 27+18.71 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.

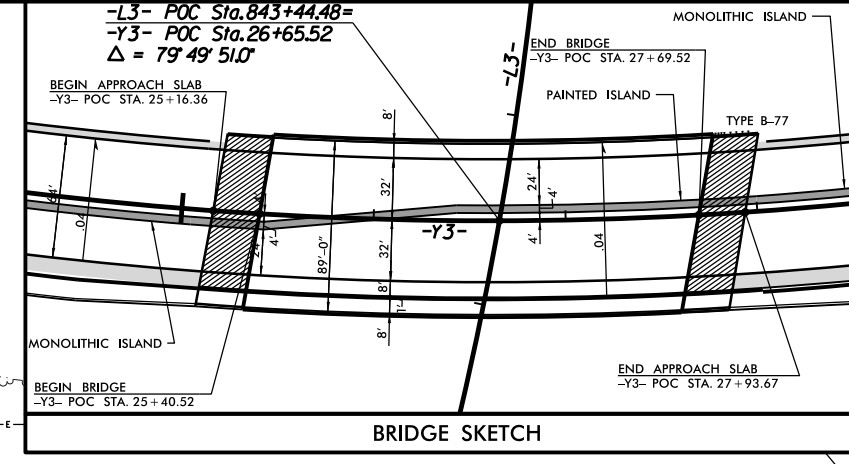
**CURVE DATA FOR -Y1-**  
 PI Sta 28+15.25 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.  
 PI Sta 29+18.71 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.

**CURVE DATA FOR -Y1-**  
 PI Sta 30+15.25 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.  
 PI Sta 31+18.71 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.

**CURVE DATA FOR -Y1-**  
 PI Sta 32+15.25 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.  
 PI Sta 33+18.71 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.

**CURVE DATA FOR -Y1-**  
 PI Sta 34+15.25 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.  
 PI Sta 35+18.71 Δ = 93° 32' 37.5" (LT) D = 102' 18' 50.0" L = 102.19' T = 50.97' R = 1995.00' SE = EX.

**CURVE DATA FOR -DR3-**  
 PI Sta 14+40.00 Δ = 83° 48' 18" (LT) D = 453.00' L = 102.84' T = 102.84' R = 1250.00'



**Dewberry**

PROJECT REFERENCE NO. 8-223388 SHEET NO. 17

REV. SHEET NO. 17

ROADWAY DESIGN: INCHES

HYDRAULICS: INCHES

DATE: 4/29/2012

DESIGNED BY: RES

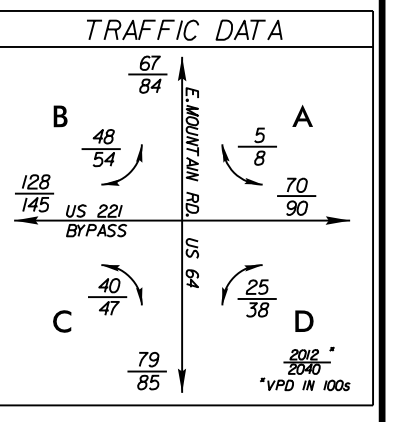
CHECKED BY: DJM

DATE: 4/29/2012

SCALE: 1" = 40'

GRAPHIC SCALE: 0 25 50 100

PLANS



**CURVE DATA FOR -RPA-**  
 PI Sta 21+19.00 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 22+23.41 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 23+27.82 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.

**CURVE DATA FOR -RPA-**  
 PI Sta 24+32.23 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 25+36.64 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.

**CURVE DATA FOR -RPA-**  
 PI Sta 26+41.05 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 27+45.46 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.

**CURVE DATA FOR -RPA-**  
 PI Sta 28+49.87 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 29+54.28 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.

**CURVE DATA FOR -RPA-**  
 PI Sta 30+58.69 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 31+63.10 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.

**CURVE DATA FOR -RPA-**  
 PI Sta 32+67.51 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 33+71.92 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.

**CURVE DATA FOR -RPA-**  
 PI Sta 34+76.33 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 35+80.74 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.

**CURVE DATA FOR -RPA-**  
 PI Sta 36+85.15 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 37+89.56 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.

**CURVE DATA FOR -RPA-**  
 PI Sta 38+93.97 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 39+98.38 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.

**CURVE DATA FOR -RPA-**  
 PI Sta 40+102.79 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 41+107.20 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.

**CURVE DATA FOR -RPA-**  
 PI Sta 42+111.61 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 43+116.02 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.

**CURVE DATA FOR -RPA-**  
 PI Sta 44+120.43 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 45+124.84 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.

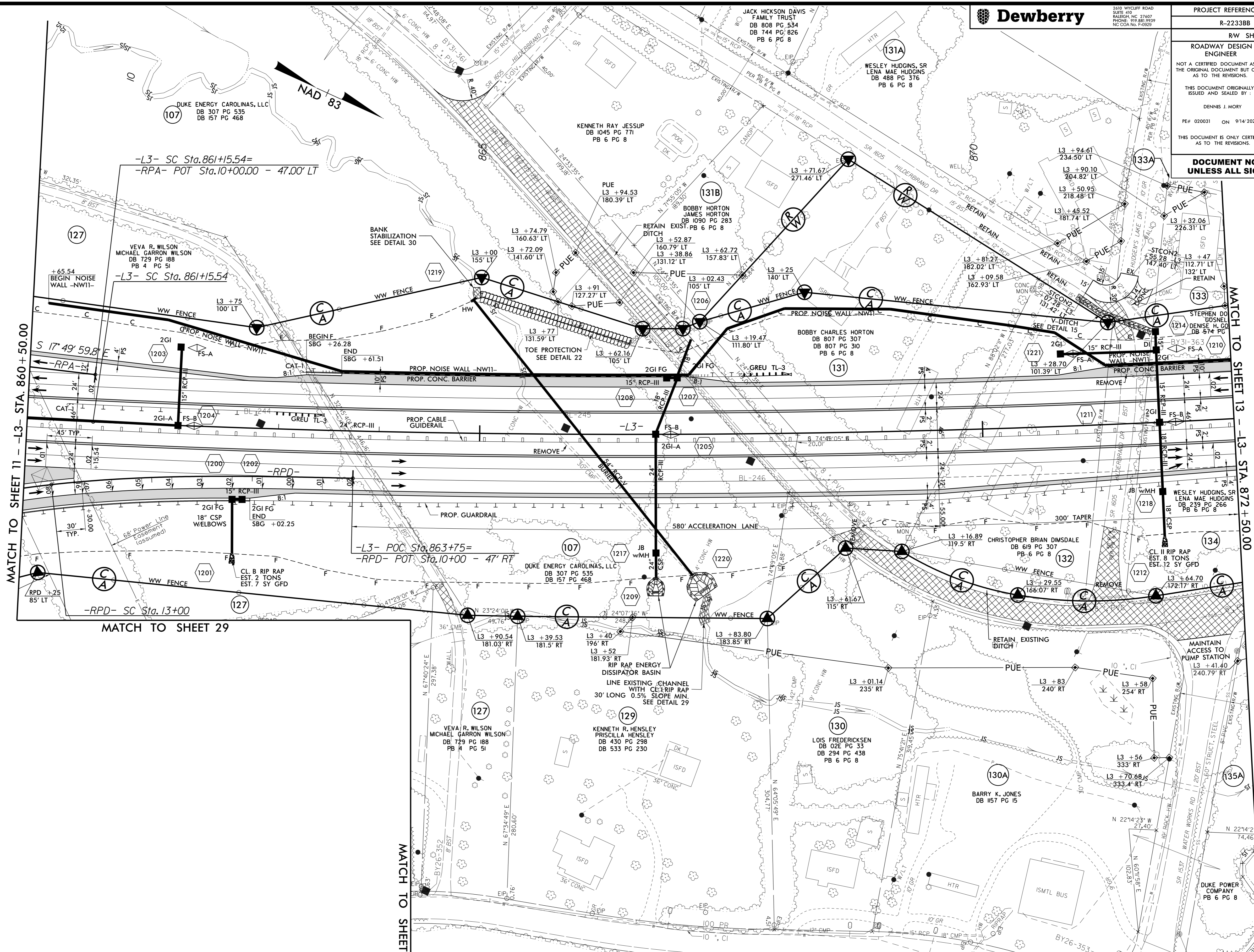
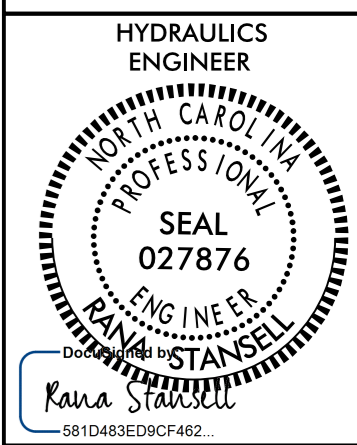
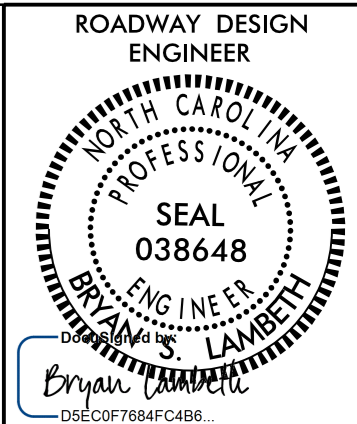
**CURVE DATA FOR -RPA-**  
 PI Sta 46+129.25 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.  
 PI Sta 47+133.66 Δ = 105° 54' 17" (RT) D = 754' 58.5" L = 203.87' T = 106.38' R = 2500.00' SE = EX.





PROJECT REFERENCE NO.	R-2233BB	SHEET NO.	12
ROW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
NOT A CERTIFIED DOCUMENT AS TO THE ORIGINAL DOCUMENT BUT ONLY AS TO THE REVISIONS.	NOT A CERTIFIED DOCUMENT AS TO THE ORIGINAL DOCUMENT BUT ONLY AS TO THE REVISIONS.		
THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY:	THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY:		
DENNIS J. MORY	STEVEN M. BONDOUR		
PE# 020031 ON 9/14/2021	PE# 012786 ON 9/14/2021		
THIS DOCUMENT IS ONLY CERTIFIED AS TO THE REVISIONS.	THIS DOCUMENT IS ONLY CERTIFIED AS TO THE REVISIONS.		

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



REVISIONS  
CONSTRUCTION REV. - APRIL 29, 2022 - Revised slope stakes along outside of -RPD- to account for SBG on cross sections.

**CURVE DATA FOR -RPD-**

Pls Sta 12+00.19	PI Sta 15+27.21	Pls Sta 18+12.27
Os = 7' 45" 00.0"	Δ = 23° 09' 28.9" (LT)	Os = 4' 57" 36.0"
Ls = 300.00'	D = 5' 10' 00.0"	Ls = 192.00'
LT = 200.19'	L = 448.22'	LT = 128.05'
ST = 100.17'	T = 227.21'	ST = 64.05'
	R = 1,08.95'	
	SE = .08	

**CURVE DATA FOR -L3-**

Pls Sta 860+48.88	PI Sta 872+38.56	Pls Sta 884+21.15
Os = 0' 29' 53.6"	Δ = 11° 09' 17.8" (LT)	Os = 0' 29' 53.6"
Ls = 200.00'	D = 0' 29' 53.6"	Ls = 200.00'
LT = 133.33'	L = 2,238.94'	LT = 133.33'
ST = 66.67'	T = 1123.02'	ST = 66.67'
	R = 11,500.00'	
	SE = RC	
	RUNOFF = 90.00'	

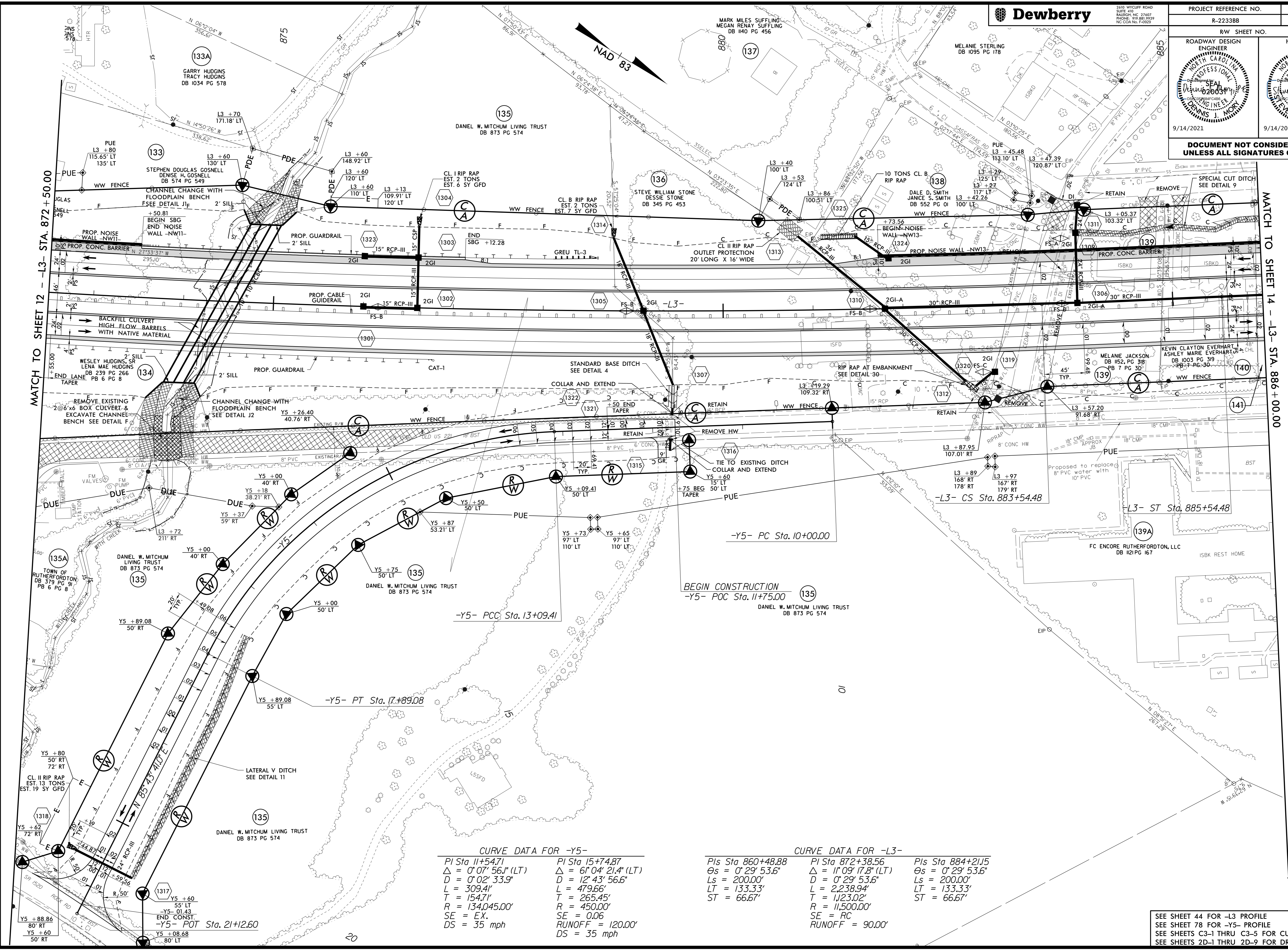
SEE SHEET 43 FOR -L3- PROFILE  
SEE SHEET 67 FOR -RPA- PROFILE  
SEE SHEET 72 FOR -RPD- PROFILE  
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS

4/29/2022 10:45:15 AM  
L:\Users\jmor\OneDrive\Documents\Projects\2233BB-RDY\_PSH12.DGN





PROJECT REFERENCE NO. R-2233BB		SHEET NO. 13
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
9/14/2021	9/14/2021	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>		



**CURVE DATA FOR -Y5-**

PI Sta 11+54.71	PI Sta 15+74.87
$\Delta = 0^{\circ} 07' 56.1''$ (LT)	$\Delta = 6^{\circ} 04' 21.4''$ (LT)
D = 0' 02' 33.9"	D = 12' 43' 56.6"
L = 309.41'	L = 479.66'
T = 154.71'	T = 265.45'
R = 134,045.00'	R = 450.00'
SE = EX.	SE = 0.06
DS = 35 mph	RUNOFF = 120.00'
	DS = 35 mph

**CURVE DATA FOR -L3-**

PIs Sta 860+48.88	PI Sta 872+38.56	PIs Sta 884+21.5
$\Delta_s = 0^{\circ} 29' 53.6''$	$\Delta = 1^{\circ} 09' 17.8''$ (LT)	$\Delta_s = 0^{\circ} 29' 53.6''$
Ls = 200.00'	D = 0' 29' 53.6"	Ls = 200.00'
LT = 133.33'	L = 2,238.94'	LT = 133.33'
ST = 66.67'	T = 1123.02'	ST = 66.67'
	R = 11,500.00'	
	SE = RC	
	RUNOFF = 90.00'	

SEE SHEET 44 FOR -L3 PROFILE  
 SEE SHEET 78 FOR -Y5- PROFILE  
 SEE SHEETS C3-1 THRU C3-5 FOR CULVERT PLANS  
 SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS

9/13/2021 4:07:15 PM  
 LISTENING TO THE ROADWAY - RDY - PSH13.DGN





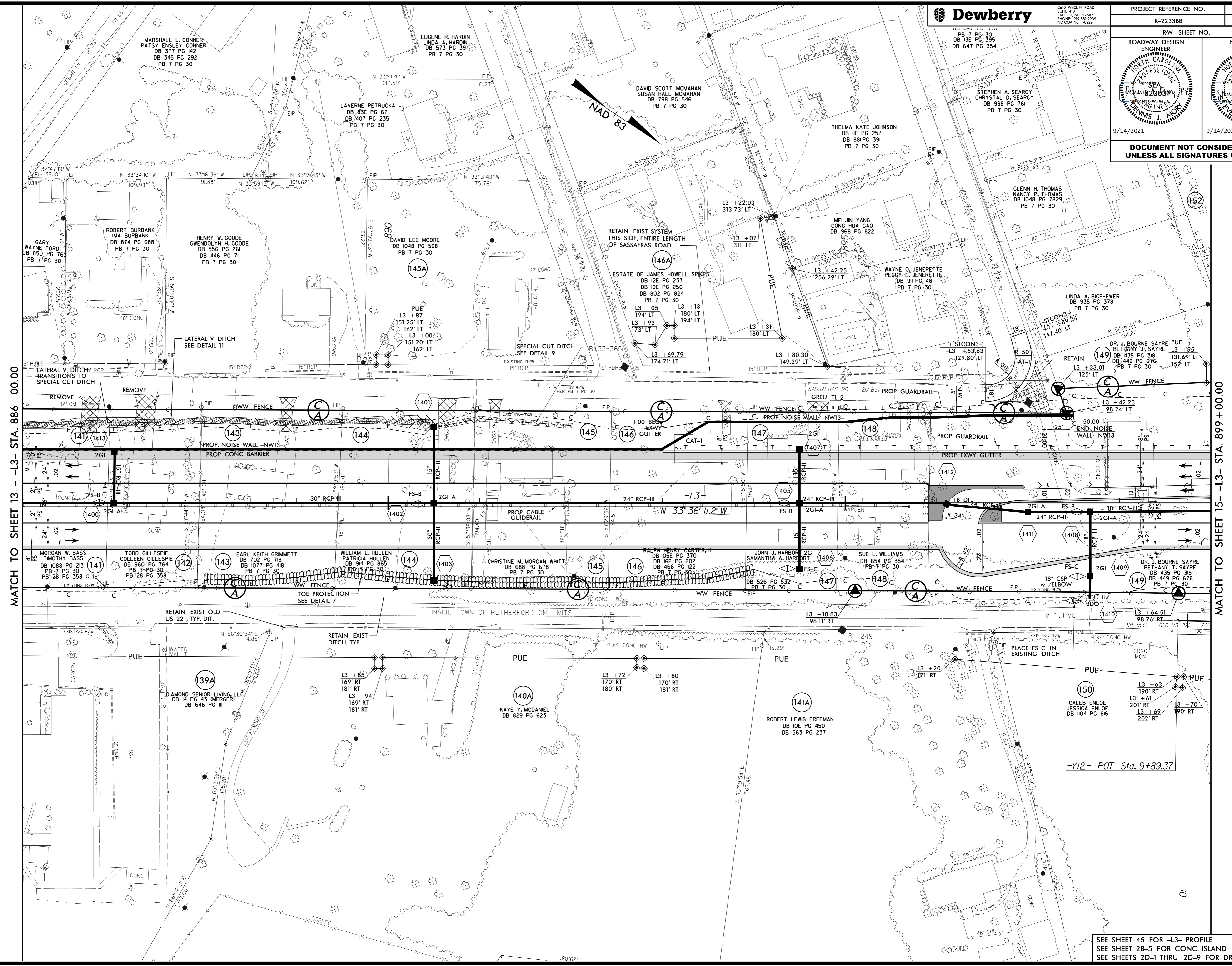
2410 WYCLIFF ROAD  
SUITE 410  
RALEIGH, NC 27607  
PHONE: 919.883.9329  
NC CCA NO. F-0029

PROJECT REFERENCE NO.	SHEET NO.
R-2233BB	14

RW SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
9/14/2021	9/14/2021

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



MATCH TO SHEET 13 - L3- STA. 886 + 00.00

MATCH TO SHEET 15 - L3- STA. 899 + 00.00

9/13/2021 10:21:47 AM  
LIST: P:\01\NR2233BB.RDY\_PSH14.DGN

SEE SHEET 45 FOR -L3- PROFILE  
SEE SHEET 2B-5 FOR CONC. ISLAND DETAILS  
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS



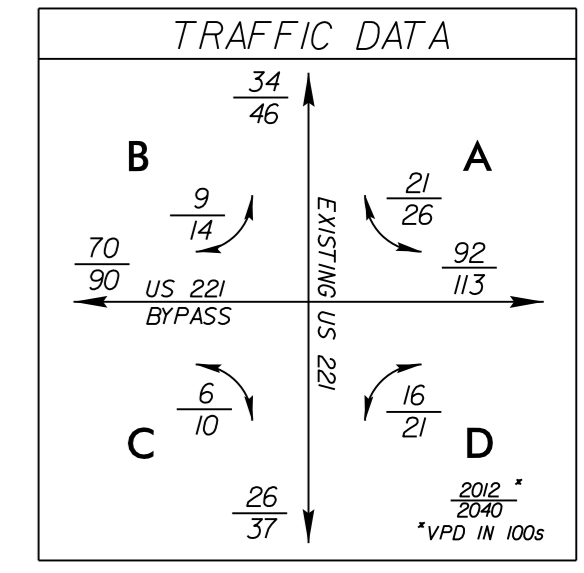
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2610 WYCLIFF ROAD  
SUITE 410  
RALEIGH, NC 27607  
PHONE: 919.883.9329  
N.C. REG. NO. P-00229

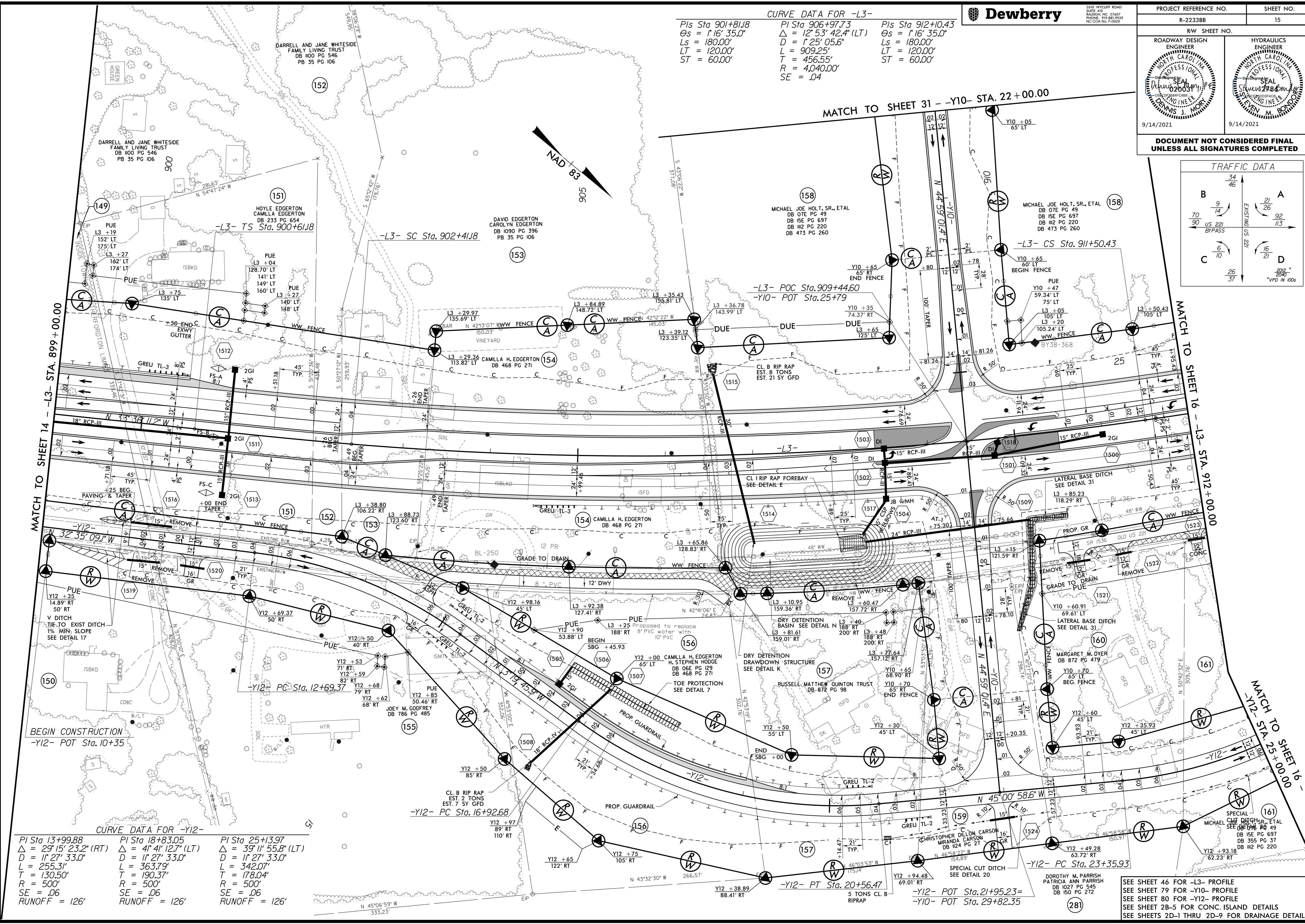
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RW SHEET NO.			
ROADWAY DESIGN ENGINEER 		HYDRAULICS ENGINEER 	
9/14/2021		9/14/2021	

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UNLESS ALL SIGNATURES COMPLETED



CURVE DATA FOR -L3-

Pls Sta 901+81.8	PI Sta 906+97.73	Pls Sta 912+10.43
Δs = 1°16'35.0"	Δ = 12°53'42.4" (LT)	Δs = 1°16'35.0"
Ls = 180.00'	D = 1°25'05.6"	Ls = 180.00'
LT = 120.00'	L = 909.25'	LT = 120.00'
ST = 60.00'	T = 456.55'	ST = 60.00'
	R = 4040.00'	
	SE = .04	



CURVE DATA FOR -Y12-

PI Sta 13+99.88	PI Sta 18+83.05	PI Sta 25+13.97
Δ = 29°15'23.2" (RT)	Δ = 4°41'12.7" (LT)	Δ = 39°11'55.8" (LT)
D = 11°27'33.0"	D = 11°27'33.0"	D = 11°27'33.0"
L = 255.31'	L = 363.79'	L = 342.07'
T = 130.50'	T = 190.37'	T = 178.04'
R = 500'	R = 500'	R = 500'
SE = .06	SE = .06	SE = .06
RUNOFF = 126'	RUNOFF = 126'	RUNOFF = 126'

SEE SHEET 46 FOR -L3- PROFILE  
SEE SHEET 79 FOR -Y10- PROFILE  
SEE SHEET 80 FOR -Y12- PROFILE  
SEE SHEET 28-5 FOR CONC. ISLAND DETAILS  
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS



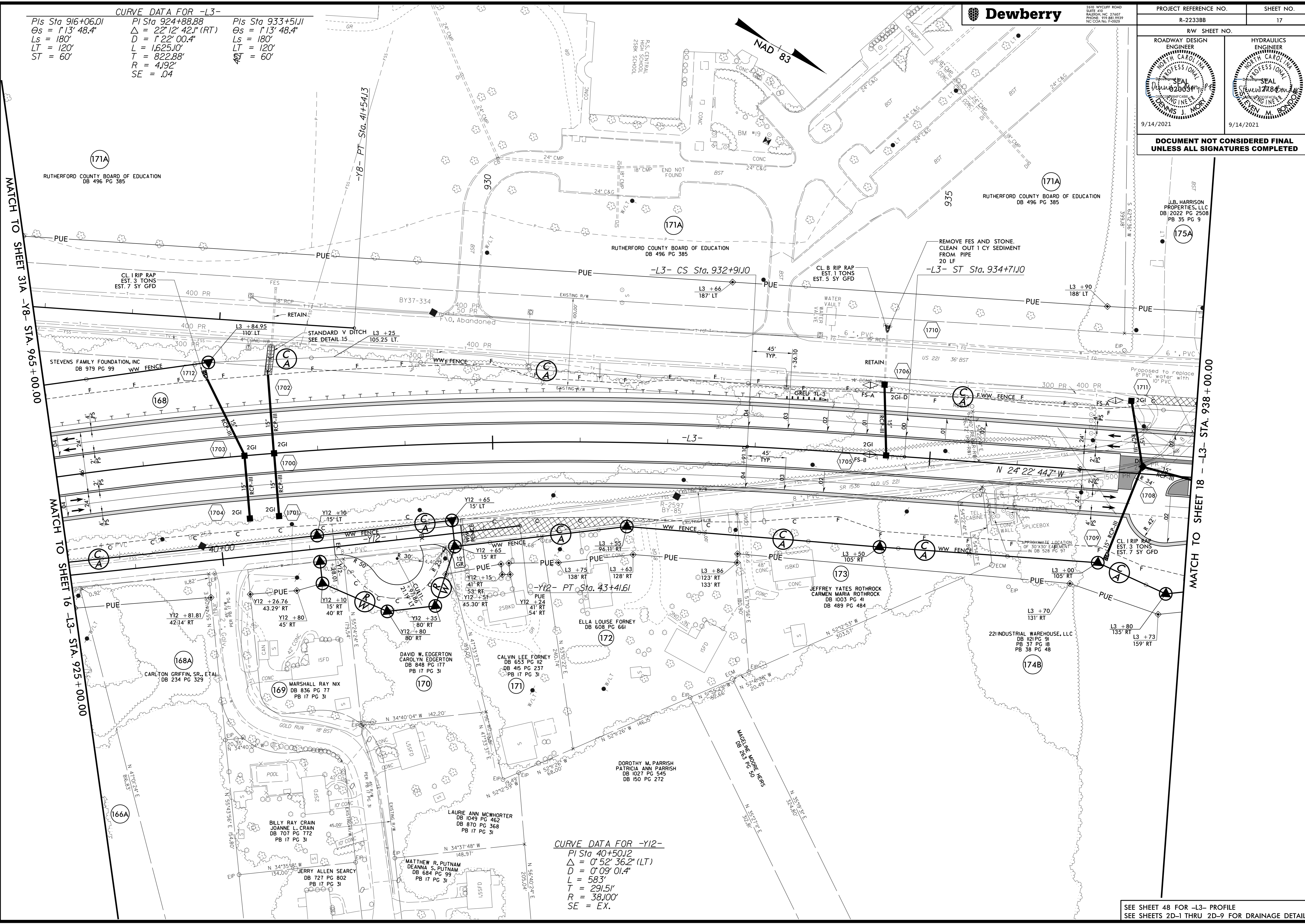






PROJECT REFERENCE NO. R-2233BB	SHEET NO. 17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
9/14/2021	9/14/2021

DOCUMENT NOT CONSIDERED FINAL  
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**CURVE DATA FOR -L3-**

PI Sta 916+06.01	PI Sta 924+88.88	PI Sta 933+51.11
$\Delta s = 1' 13" 48.4"$	$\Delta = 22' 12" 42.1" (RT)$	$\Delta s = 1' 13" 48.4"$
$Ls = 180'$	$D = 1' 22" 00.4"$	$Ls = 180'$
$LT = 120'$	$L = 1,625.0'$	$LT = 120'$
$ST = 60'$	$T = 822.88'$	$LT = 60'$
	$R = 4,192'$	
	$SE = .04$	

**CURVE DATA FOR -Y12-**

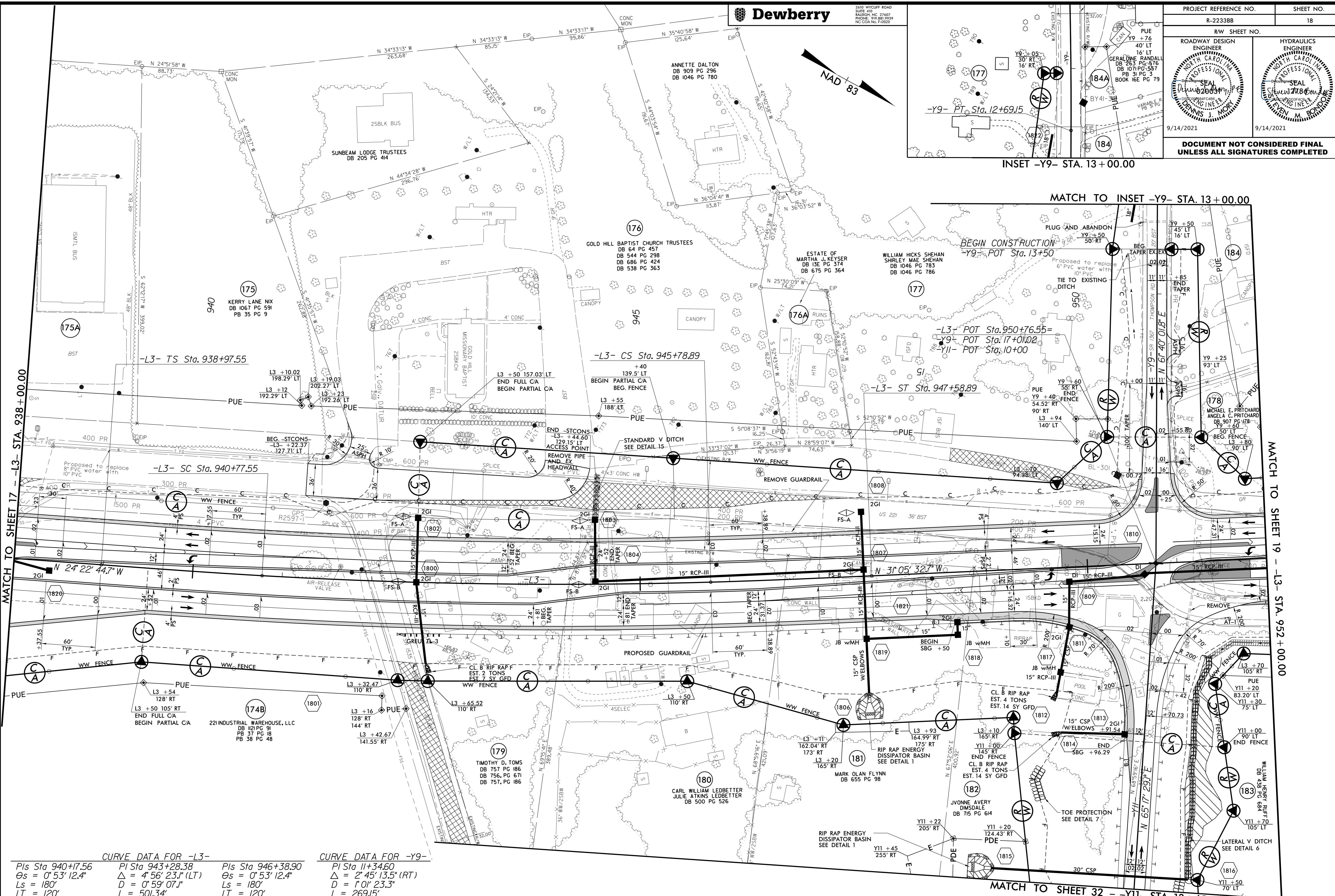
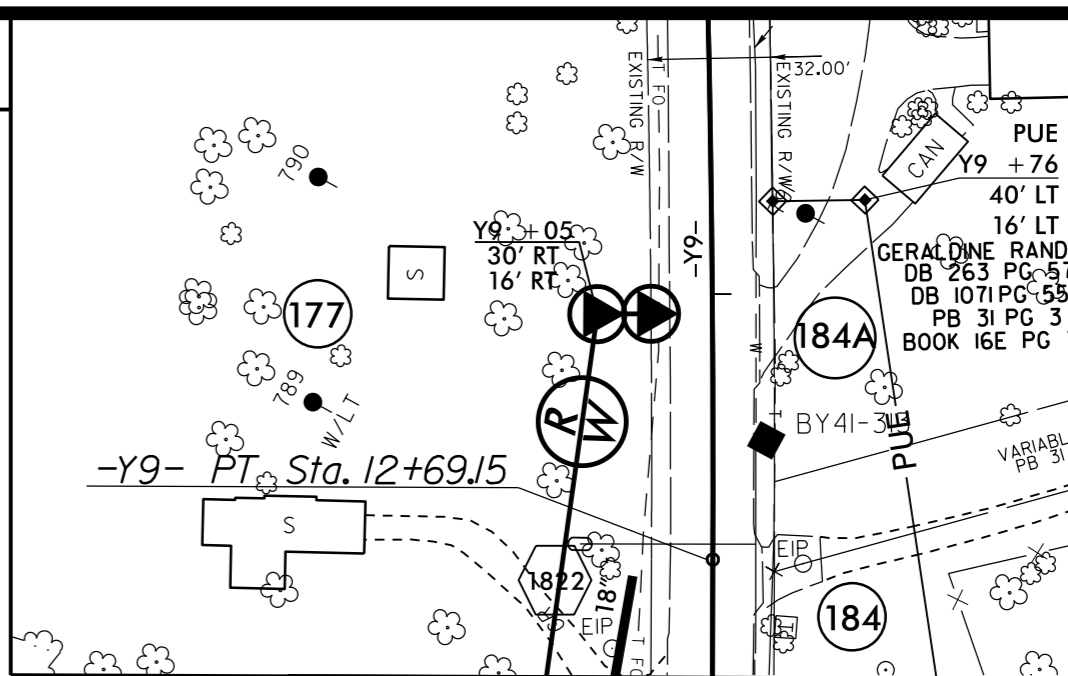
PI Sta 40+50.12
$\Delta = 0' 52" 36.2" (LT)$
$D = 0' 09" 01.4"$
$L = 583'$
$T = 291.51'$
$R = 38,100'$
$SE = EX.$

9/13/2021 12:03:51 PM  
LISTENING TO THE VOICES OF THE FUTURE  
LISTENING TO THE VOICES OF THE FUTURE

SEE SHEET 48 FOR -L3- PROFILE  
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS



PROJECT REFERENCE NO. R-2233BB	SHEET NO. 18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
9/14/2021	9/14/2021
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



**CURVE DATA FOR -L3-**

Pls Sta 940+17.56	PI Sta 943+28.38	Pls Sta 946+38.90
$\Delta = 0^\circ 53' 12.4''$	$\Delta = 4^\circ 56' 23.1''$ (LT)	$\Delta = 0^\circ 53' 12.4''$
$L_s = 180'$	$L = 0^\circ 59' 07.1''$	$L_s = 180'$
$LT = 120'$	$L = 501.34'$	$LT = 120'$
$ST = 60'$	$T = 250.83'$	$ST = 60'$
	$R = 5,815'$	
	$SE = .03$	

**CURVE DATA FOR -Y9-**

PI Sta 11+34.60
$\Delta = 2^\circ 45' 13.5''$ (RT)
$D = 1^\circ 01' 23.3''$
$L = 269.15'$
$T = 134.60'$
$R = 5,600'$
$SE = EX.$

SEE SHEET 49 FOR -L3- PROFILE  
 SEE SHEET 81 FOR -Y11- PROFILE  
 SEE SHEET 83 FOR -Y9- PROFILE  
 SEE SHEET 2B-6 FOR CONC. ISLAND DETAILS  
 SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS

9/13/2021 12:02:54 PM  
 LISTENING TO THE ROADWAY DESIGN ENGINEER  
 LISTENING TO THE HYDRAULICS ENGINEER  
 LISTENING TO THE SURVEYOR  
 LISTENING TO THE CIVIL ENGINEER  
 LISTENING TO THE ELECTRICAL ENGINEER  
 LISTENING TO THE MECHANICAL ENGINEER  
 LISTENING TO THE PLUMBING ENGINEER  
 LISTENING TO THE STRUCTURAL ENGINEER  
 LISTENING TO THE TRAFFIC ENGINEER  
 LISTENING TO THE ENVIRONMENTAL ENGINEER  
 LISTENING TO THE GEOTECHNICAL ENGINEER  
 LISTENING TO THE LANDSCAPE ARCHITECT  
 LISTENING TO THE HISTORIC PRESERVATION ARCHITECT  
 LISTENING TO THE ARCHITECTURAL HISTORIC PRESERVATION ARCHITECT  
 LISTENING TO THE ARCHITECTURAL HISTORIC PRESERVATION ARCHITECT

5/14/19

MATCH TO SHEET 17 -L3- STA. 938+00.00

MATCH TO SHEET 19 -L3- STA. 952+00.00

MATCH TO SHEET 32 -Y11- STA. 13+65.00





2410 WYCLIFF ROAD  
SUITE 410  
RALEIGH, NC 27607  
PHONE: 919.883.9329  
NC CCA No. F-0029

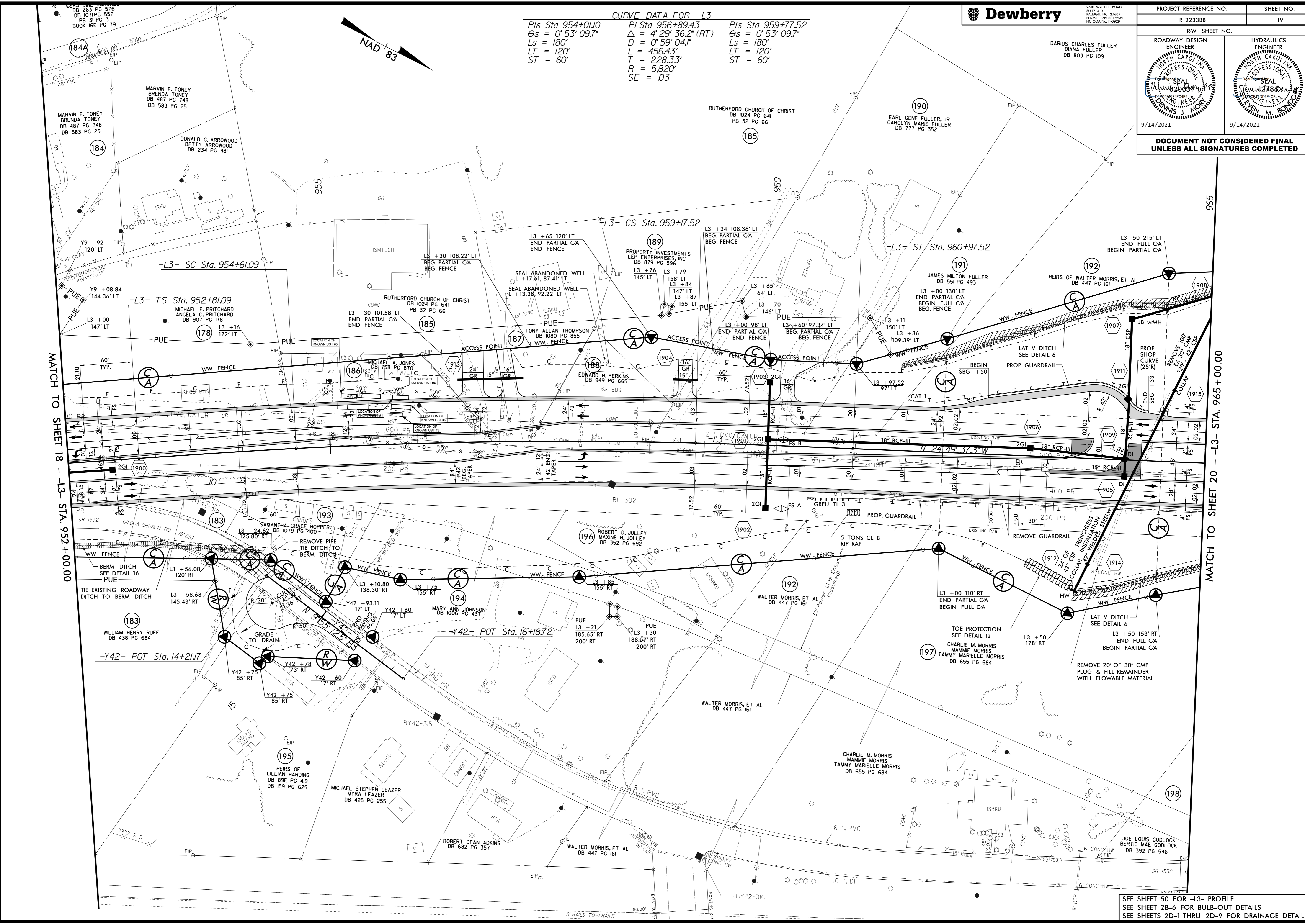
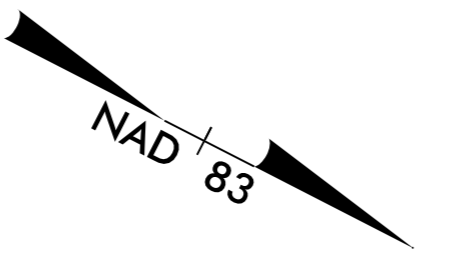
PROJECT REFERENCE NO.	SHEET NO.
R-2233BB	19
RW SHEET NO.	

ROADWAY DESIGN ENGINEER DIANA FULLER 9/14/2021	HYDRAULICS ENGINEER DANNIS M. BOND 9/14/2021
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DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**CURVE DATA FOR -L3-**

Pls Sta 954+01.00	Pls Sta 956+89.43	Pls Sta 959+77.52
$\theta_s = 0^\circ 53' 09.7''$	$\Delta = 4^\circ 29' 36.2''$ (RT)	$\theta_s = 0^\circ 53' 09.7''$
$L_s = 180'$	$D = 0^\circ 59' 04.1''$	$L_s = 180'$
$LT = 120'$	$L = 456.43'$	$LT = 120'$
$ST = 60'$	$T = 228.33'$	$ST = 60'$
	$R = 5,820'$	
	$SE = .03$	



MATCH TO SHEET 18 - L3- STA. 952 + 00.00

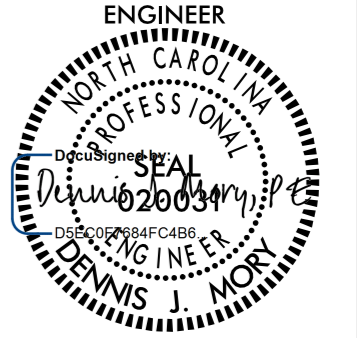

MATCH TO SHEET 20 - L3- STA. 965 + 00.00

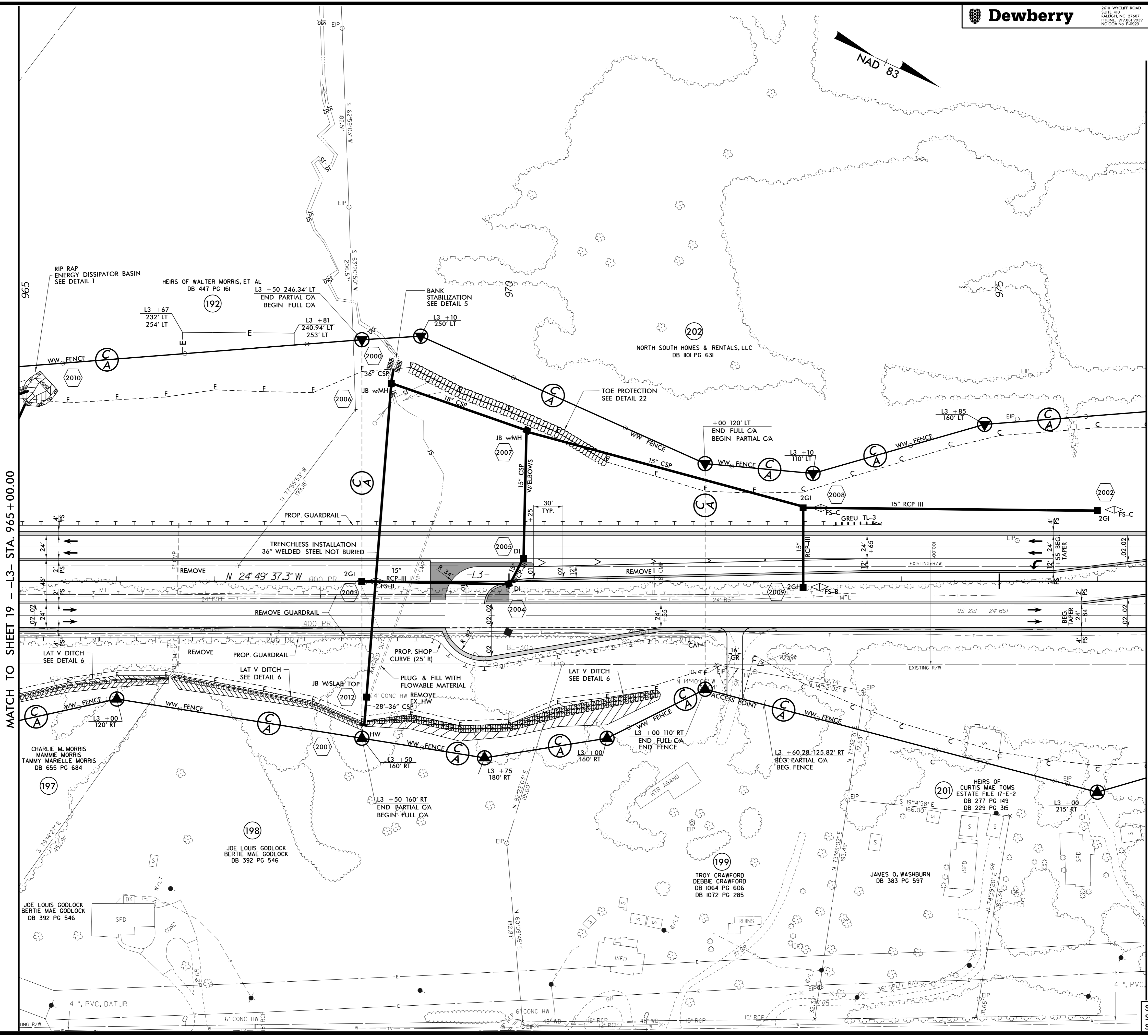
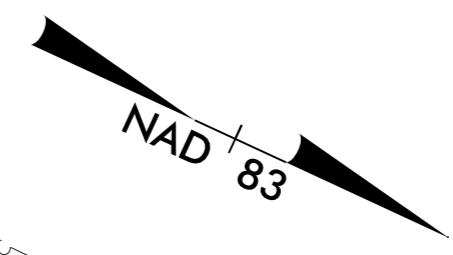
SEE SHEET 50 FOR -L3- PROFILE  
SEE SHEET 2B-6 FOR BULB-OUT DETAILS  
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS

9/13/2021 12:08:08 PM  
L3-2B-6.dwg  
L3-2B-6.dwg



5/14/19

PROJECT REFERENCE NO. R-2233BB	SHEET NO. 20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
9/14/2021	9/14/2021
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



MATCH TO SHEET 19 - L3- STA. 965 + 00.00

MATCH TO SHEET 21 - L3- STA. 976 + 50.00

9/13/2021 12:33:38 PM  
L3-21-22-33BB.RDY\_PSH20.DGN

SEE SHEET 51 FOR -L3- PROFILE  
 SEE SHEET 28-7 FOR BULB-OUT DETAILS  
 SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS





R/W SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
9/14/2021	9/14/2021

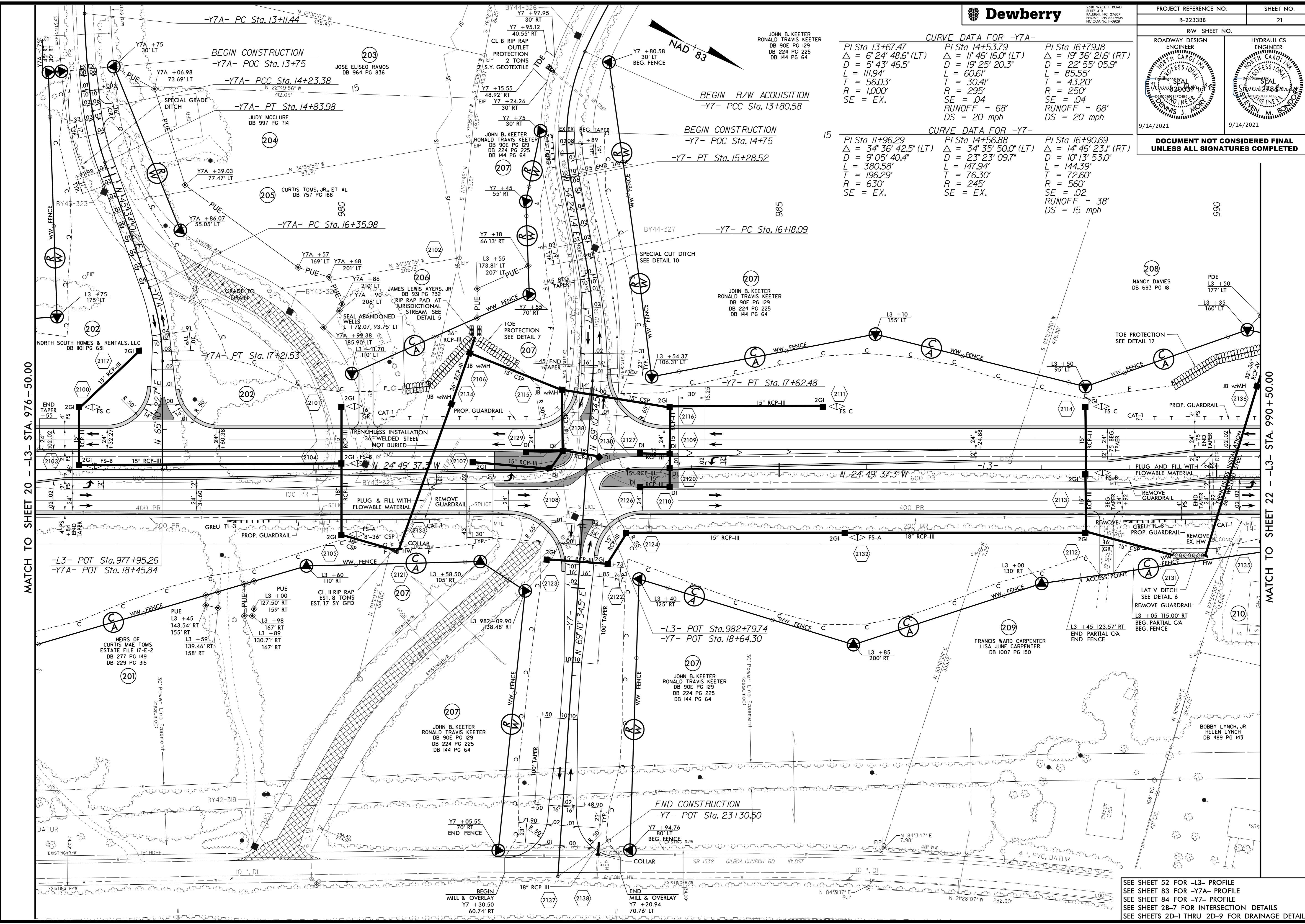
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

**CURVE DATA FOR -Y7A-**

PI Sta 13+67.47 $\Delta = 6^{\circ}24'48.6"$ (LT) $D = 5^{\circ}43'46.5"$ $L = 111.94'$ $T = 56.03'$ $R = 1,000'$ SE = EX.	PI Sta 14+53.79 $\Delta = 1^{\circ}46'16.0"$ (LT) $D = 19^{\circ}25'20.3"$ $L = 60.61'$ $T = 30.41'$ $R = 295'$ SE = .04 RUNOFF = 68' DS = 20 mph	PI Sta 16+79.18 $\Delta = 19^{\circ}36'21.6"$ (RT) $D = 22^{\circ}55'05.9"$ $L = 85.55'$ $T = 43.20'$ $R = 250'$ SE = .04 RUNOFF = 68' DS = 20 mph
--	---	--

**CURVE DATA FOR -Y7-**

PI Sta 11+96.29 $\Delta = 3^{\circ}36'42.5"$ (LT) $D = 9^{\circ}05'40.4"$ $L = 380.58'$ $T = 196.29'$ $R = 630'$ SE = EX.	PI Sta 14+56.88 $\Delta = 3^{\circ}35'50.0"$ (LT) $D = 23^{\circ}23'09.7"$ $L = 147.94'$ $T = 76.30'$ $R = 245'$ SE = EX.	PI Sta 16+90.69 $\Delta = 1^{\circ}46'23.1"$ (RT) $D = 10^{\circ}13'53.0"$ $L = 144.39'$ $T = 72.60'$ $R = 560'$ SE = .02 RUNOFF = 38' DS = 15 mph
---	---	--



MATCH TO SHEET 20 - L3- STA. 976+50.00

MATCH TO SHEET 22 - L3- STA. 990+50.00

SEE SHEET 52 FOR -L3- PROFILE  
 SEE SHEET 83 FOR -Y7A- PROFILE  
 SEE SHEET 84 FOR -Y7- PROFILE  
 SEE SHEET 2B-7 FOR INTERSECTION DETAILS  
 SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS

9/13/2021 12:45:36 PM  
 LISTED: C:\NF2233BB.RDY\_PSH21.DGN





2410 WYCLIFF ROAD  
SUITE 410  
RALEIGH, NC 27607  
PHONE: 919.883.9329  
NC CCA No. F-0029

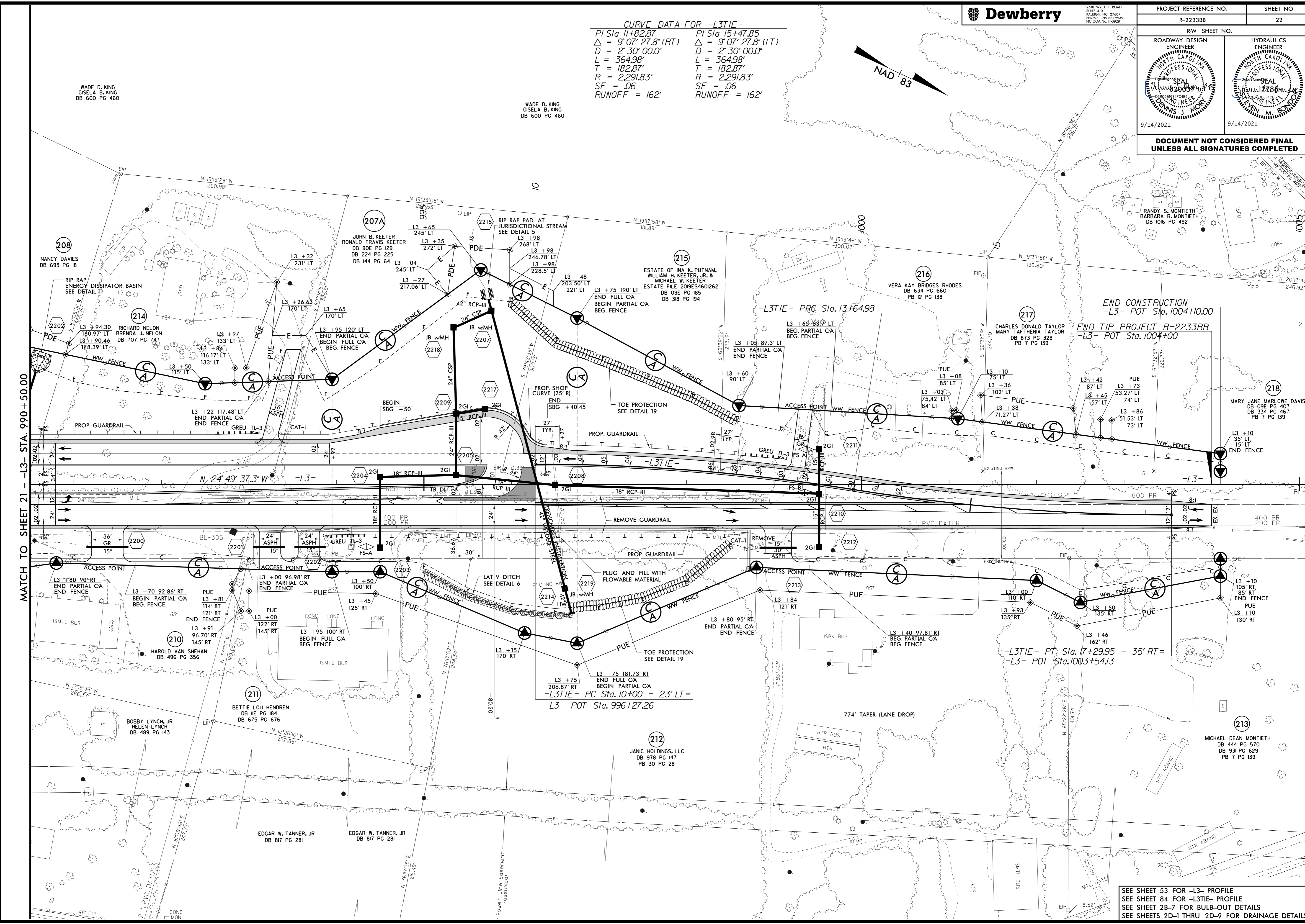
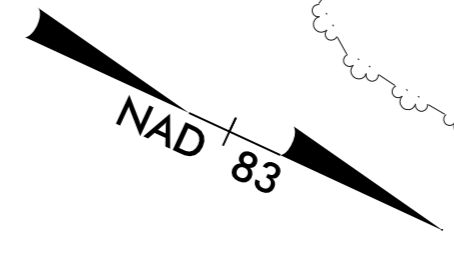
PROJECT REFERENCE NO.	SHEET NO.
R-2233BB	22
RW SHEET NO.	

ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
9/14/2021	9/14/2021

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

**CURVE DATA FOR -L3TIE-**

PI Sta 11+82.87	PI Sta 15+47.85
$\Delta = 9^{\circ}07'27.8''$ (RT)	$\Delta = 9^{\circ}07'27.8''$ (LT)
$D = 2^{\circ}30'00.0''$	$D = 2^{\circ}30'00.0''$
$L = 364.98'$	$L = 364.98'$
$T = 182.87'$	$T = 182.87'$
$R = 2,291.83'$	$R = 2,291.83'$
$SE = .06$	$SE = .06$
$RUNOFF = 162'$	$RUNOFF = 162'$



MATCH TO SHEET 21 - L3 - STA. 990 + 50.00

END CONSTRUCTION  
-L3- POT Sta. 1004+10.00  
END TIP PROJECT R-2233BB  
-L3- POT Sta. 1004+00

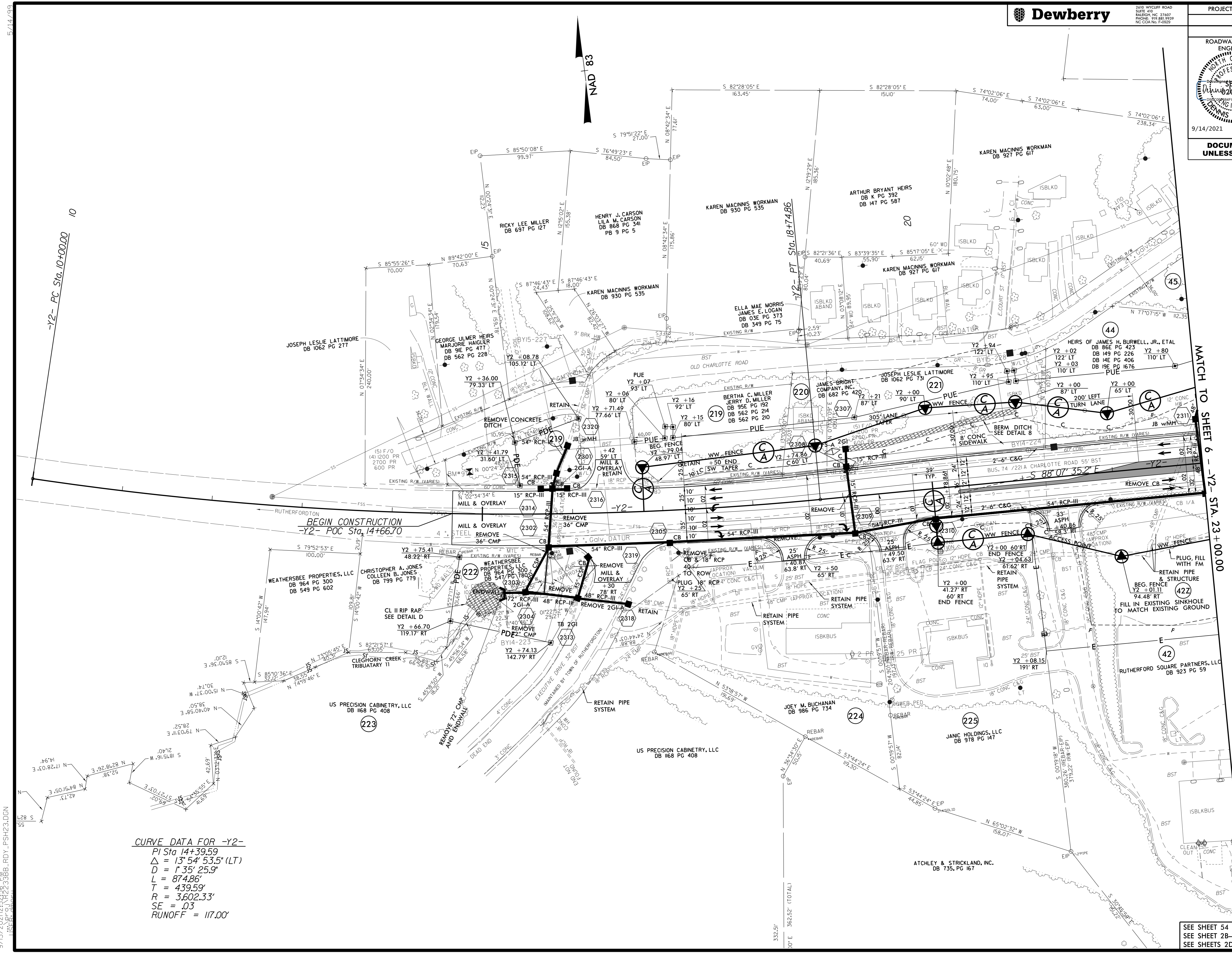
-L3TIE- PT. Sta. 17+29.95 - 35' RT =  
-L3- POT Sta. 1003+54.13

L3 + 75  
206.87' RT  
-L3TIE- PC Sta. 10+00 - 23' LT =  
-L3- POT Sta. 996+27.26

SEE SHEET 53 FOR -L3- PROFILE  
SEE SHEET 84 FOR -L3TIE- PROFILE  
SEE SHEET 2B-7 FOR BULB-OUT DETAILS  
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS

9/13/2021 12:49:00 PM  
1152-PT-SO-NR2233BB-RDY\_PSH22.DGN




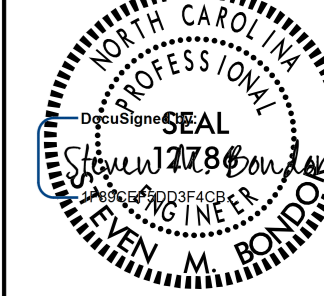


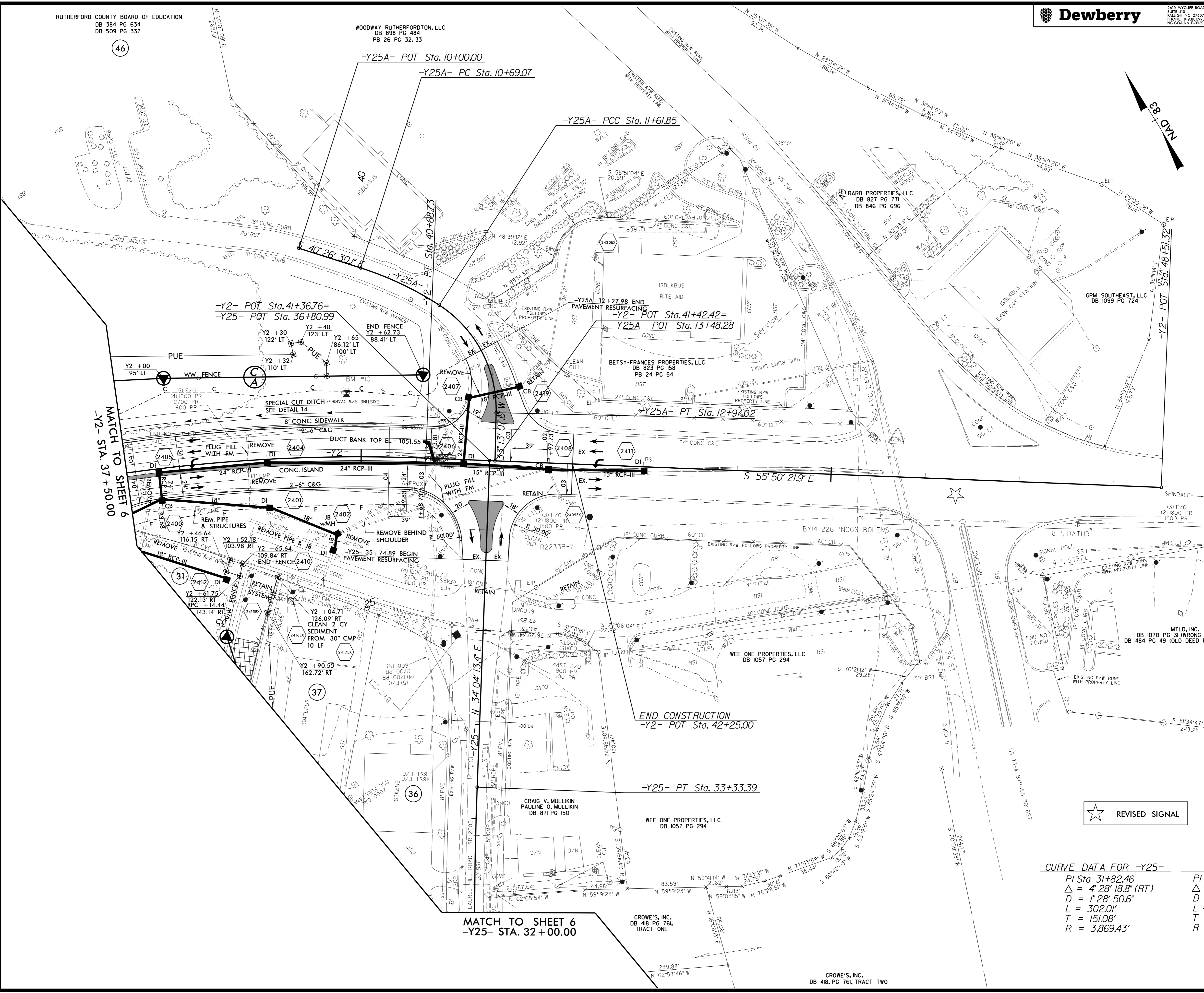
**CURVE DATA FOR -Y2-**  
 PI Sta 14+39.59  
 $\Delta = 13^{\circ} 54' 53.5''$  (LT)  
 $D = 1^{\circ} 35' 25.9''$   
 $L = 874.86'$   
 $T = 439.59'$   
 $R = 3,602.33'$   
 $SE = .03$   
 $RUNOFF = 117.00'$

9/13/2021 12:52:46 PM  
 15:27:07 S:\NR2233BB.RDY\_PSH23.DGN  
 5/14/2021

SEE SHEET 54 FOR -Y2- PROFILE  
 SEE SHEET 2B-1 FOR CONCRETE ISLAND DETAILS  
 SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS



PROJECT REFERENCE NO. R-2233BB		SHEET NO. 24
RW SHEET NO.		
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 	
9/14/2021	9/14/2021	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>		



**CURVE DATA FOR -Y2-**  
 PI Sta 37+31.27  
 $\Delta = 21^\circ 55' 01.6"$  (RT)  
 $D = 3^\circ 12' 25.9"$   
 $L = 683.37'$   
 $T = 345.91'$   
 $R = 1,786.47'$   
 $SE = .04$   
 $RUNOFF = 156.00'$

**CURVE DATA FOR -Y25-**  
 PI Sta 31+82.46  
 $\Delta = 4^\circ 28' 18.8"$  (RT)  
 $D = 1^\circ 28' 50.6"$   
 $L = 302.01'$   
 $T = 151.08'$   
 $R = 3,869.43'$

**CURVE DATA FOR -Y25A-**  
 PI Sta 11+51.74  
 $\Delta = 15^\circ 18' 49.9"$  (RT)  
 $D = 16^\circ 30' 22.9"$   
 $L = 92.78'$   
 $T = 46.67'$   
 $R = 347.11'$

PI Sta 12+59.95  
 $\Delta = 58^\circ 20' 47.8"$  (RT)  
 $D = 43^\circ 09' 49.7"$   
 $L = 135.17'$   
 $T = 74.10'$   
 $R = 132.74'$


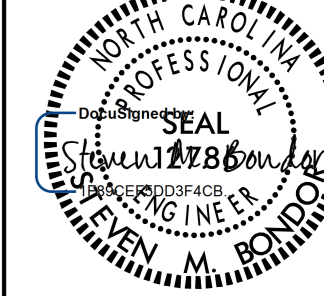
MATCH TO SHEET 6  
 -Y25- STA. 32+00.00

9/13/2021 12:58:57 PM  
 I:\2021\2233BB.RDY\_PSH24.DGN

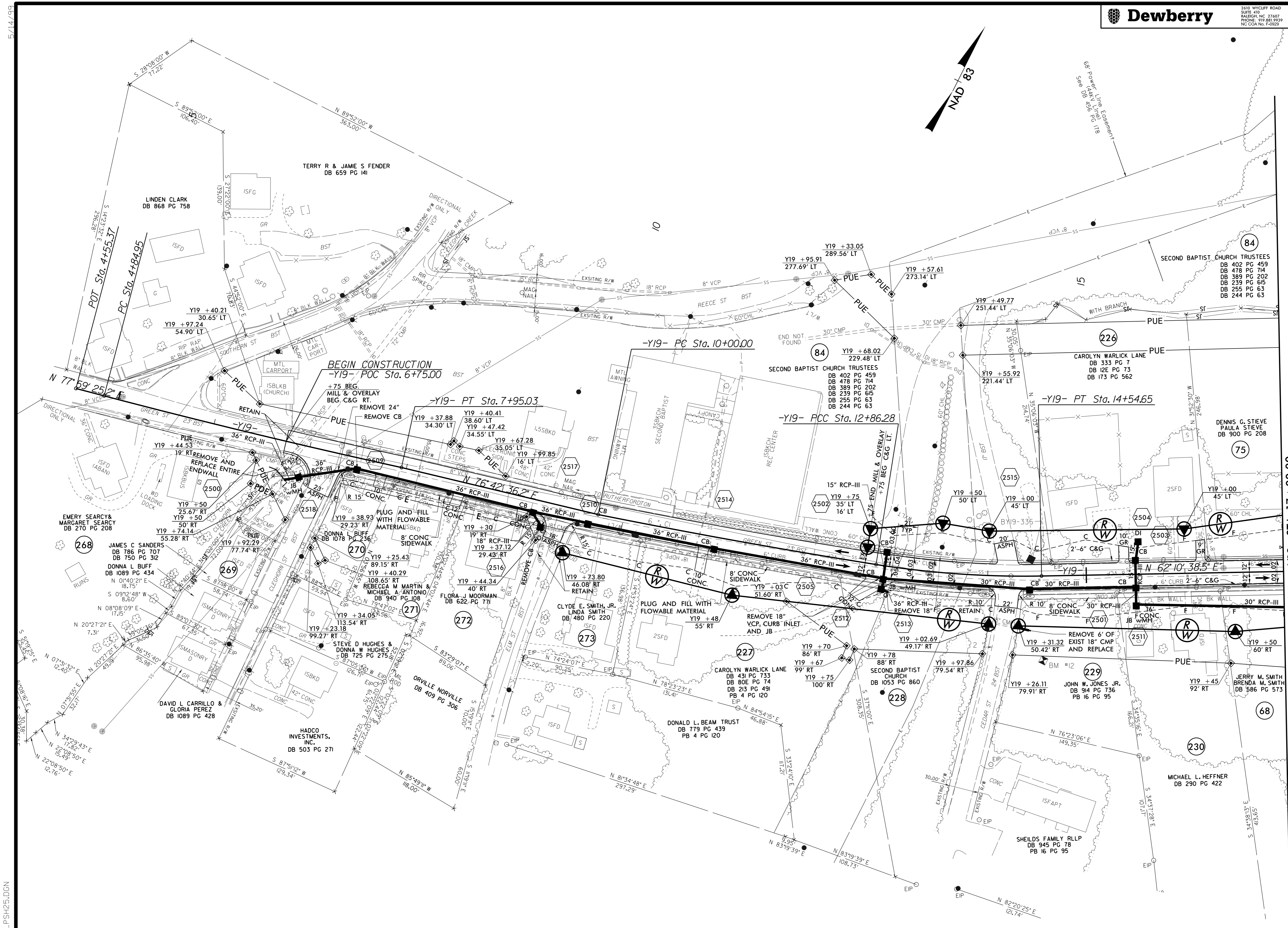
SEE SHEET 55 FOR -Y2- PROFILE  
 SEE SHEET 2B-2 FOR CONC. ISLAND DETAILS  
 SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS



R/W SHEET NO.

ROADWAY DESIGN ENGINEER  9/14/2021	HYDRAULICS ENGINEER  9/14/2021
---	---

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



MATCH TO SHEET 9 - -Y19- STA. 17 + 00.00

**CURVE DATA FOR -Y19-**

PI Sta 6+40.01 Δ = 2° 22' 07.7" (LT) D = 0' 45' 50.2" L = 310.08' T = 155.06' R = 7,500.00' SE = EX.	PI Sta 11+43.16 Δ = 2° 20' 35.7" (LT) D = 0' 49' 06.6" L = 286.28' T = 143.16' R = 7,000.00' SE = EX.	PI Sta 13+70.68 Δ = 10' 06' 04.4" (LT) D = 5' 59' 58.4" L = 168.37' T = 84.40' R = 955.00' SE = EX.
--	---	---

SEE SHEET 62 FOR -Y19- PROFILE  
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS





2610 WYCLIFF ROAD  
SUITE 410  
RALEIGH, NC 27607  
PHONE: 919.883.9329  
NC CCA No. F-0029

PROJECT REFERENCE NO. R-2233BB		SHEET NO. 26	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
9/14/2021		9/14/2021	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			



**CURVE DATA FOR -Y19-**  
 PI Sta. 31+55.16  
 $\Delta = 1^{\circ} 05' 41.6''$  (LT)  
 $D = 0^{\circ} 28' 38.9''$   
 $L = 229.31'$   
 $T = 114.66'$   
 $R = 12,000.00'$   
 $SE = NC$

MATCH TO SHEET 9 --Y19-- STA. 25 + 50.00

9/13/2021 3:10:43 PM  
LISTENING TO THE ROADWAY DESIGN  
LISTENING TO THE ROADWAY DESIGN

SEE SHEET 63 FOR -Y19- PROFILE  
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS

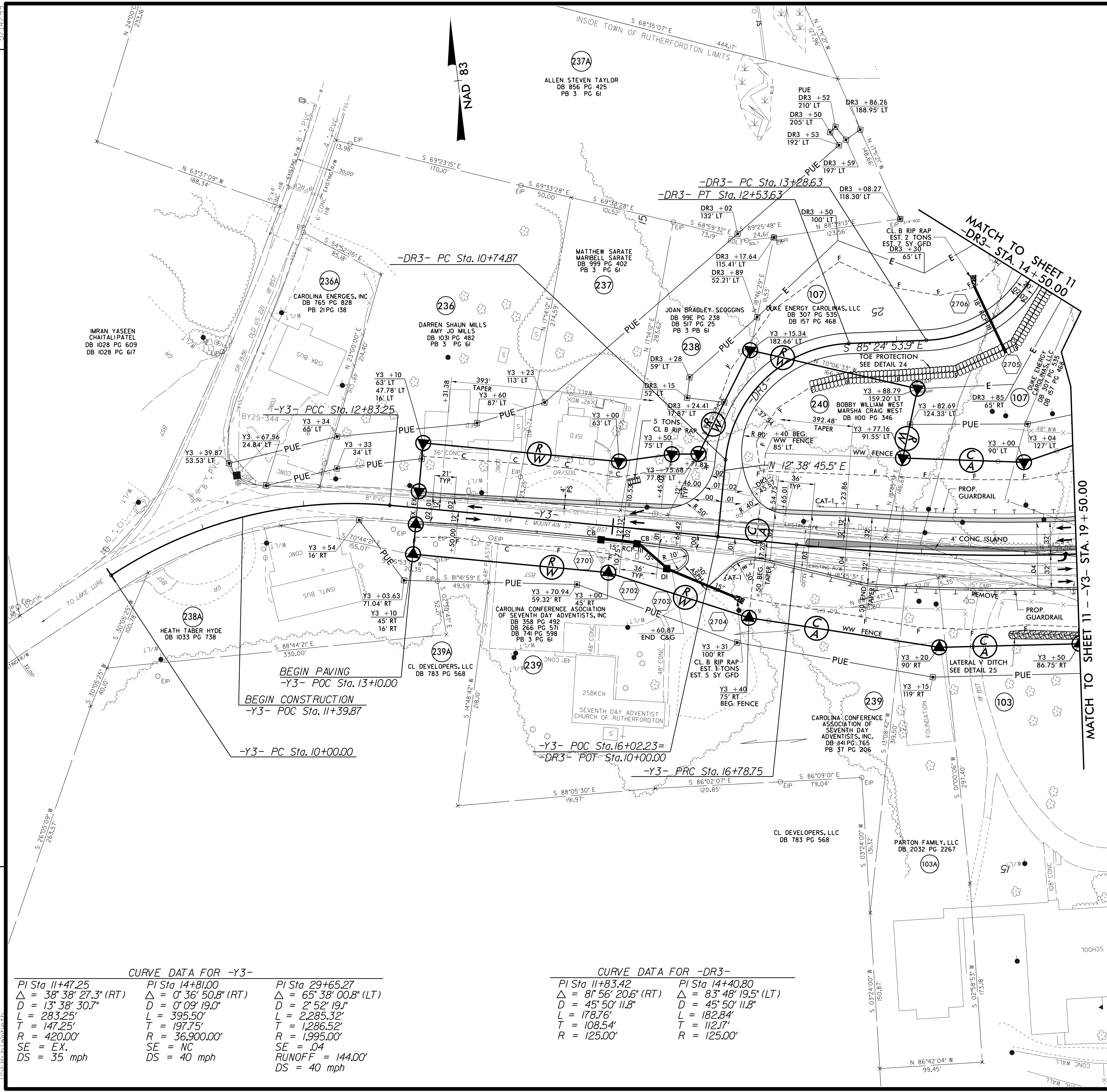


RW SHEET NO.	
ROADWAY DESIGN ENGINEER NOT A CERTIFIED DOCUMENT AS TO THE ORIGINAL DOCUMENT BUT ONLY AS TO THE REVISIONS. THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY : DENNIS J. MORY PE# 020031 ON 9/14/2021 THIS DOCUMENT IS ONLY CERTIFIED AS TO THE REVISIONS.	HYDRAULICS ENGINEER NOT A CERTIFIED DOCUMENT AS TO THE ORIGINAL DOCUMENT BUT ONLY AS TO THE REVISIONS. THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY : STEVEN M. BONDOR PE# 012786 ON 9/14/2021 THIS DOCUMENT IS ONLY CERTIFIED AS TO THE REVISIONS.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

--	--

REVISIONS  
CONSTRUCTION REV. - APRIL 29, 2022 - Revised payment width of -DR3- to be 20' and increased radii of driveway tie to -Y3- to accommodate WB-62. Also pulled back nose of concrete island along -Y3- at -DR3- to allow left turn of a WB-62 onto -Y3-



**CURVE DATA FOR -Y3-**

PI Sta 11+47.25 Δ = 38° 38' 27.3" (RT) D = 13' 38' 30.7" L = 283.25' T = 147.25' R = 420.00' SE = EX. DS = 35 mph	PI Sta 14+81.00 Δ = 0° 36' 50.8" (RT) D = 0' 09' 19.0" L = 395.50' T = 197.75' R = 36,900.00' SE = NC DS = 40 mph	PI Sta 29+65.27 Δ = 65° 38' 00.8" (LT) D = 2' 52' 19.1" L = 2,285.32' T = 1,286.52' R = 1,995.00' SE = .04 RUNOFF = 144.00' DS = 40 mph
--	--	---

**CURVE DATA FOR -DR3-**



PI Sta 11+83.42 Δ = 81° 56' 20.6" (RT) D = 45° 50' 11.8" L = 178.76' T = 108.54' R = 125.00'	PI Sta 14+40.80 Δ = 83° 48' 19.5" (LT) D = 45° 50' 11.8" L = 182.84' T = 112.17' R = 125.00'
---	---

SEE SHEET 64 FOR -Y3- PROFILE  
SEE SHEET 74 FOR -DR3- PROFILE  
SEE SHEET 2B-4 FOR CONC. ISLAND DETAILS  
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS

4/29/2022 1:06:35 PM  
USER: J. MORY  
FILE: PSH27.DGN

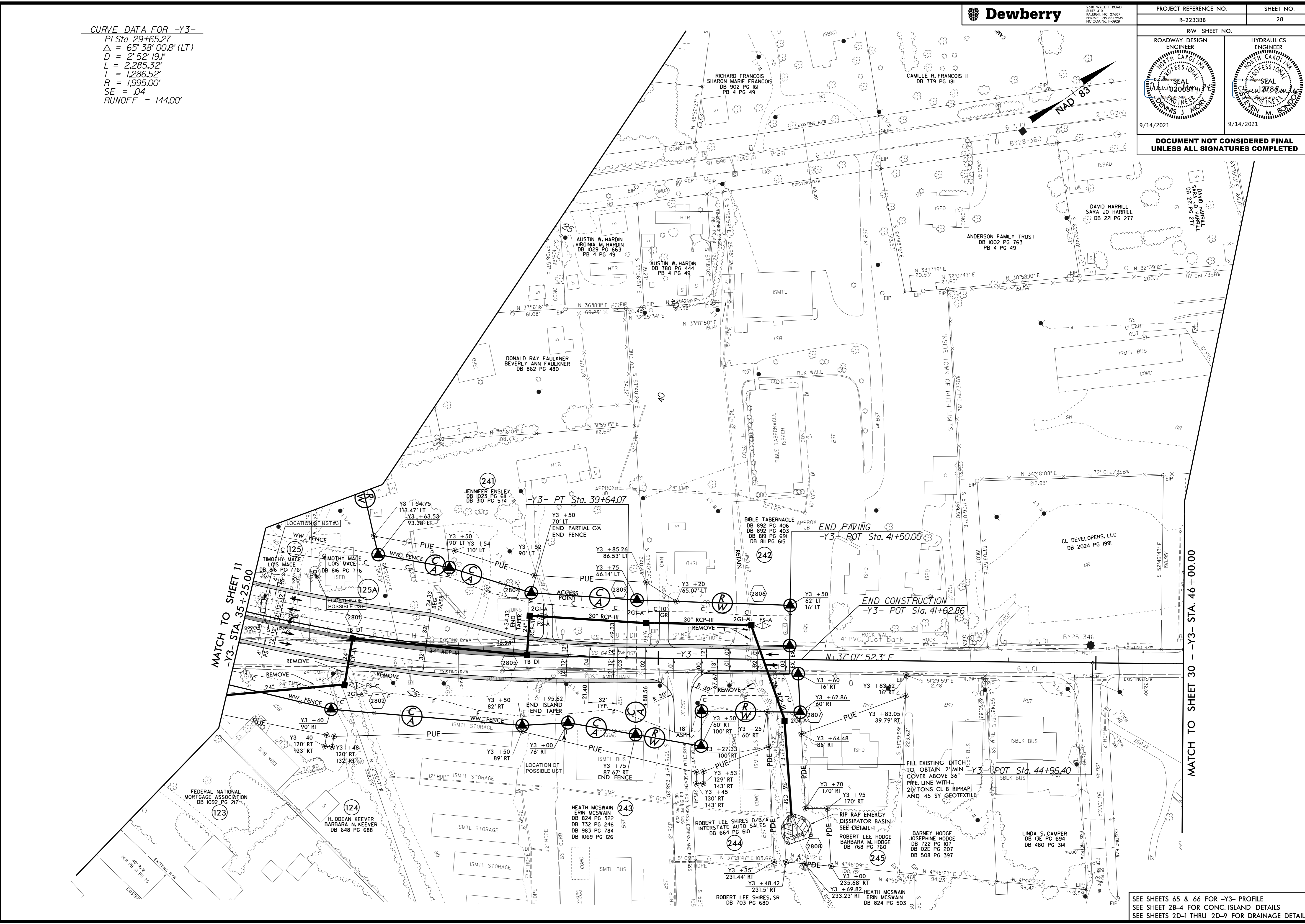


**CURVE DATA FOR -Y3-**  
 PI Sta 29+65.27  
 $\Delta = 65^\circ 38' 00.8" (LT)$   
 $D = 2^\circ 52' 19.1"$   
 $L = 2,285.32'$   
 $T = 1,286.52'$   
 $R = 1,995.00'$   
 $SE = .04$   
 $RUNOFF = 144.00'$

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
9/14/2021	9/14/2021

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

5/14/19  
9/13/2021 3:09:31 PM  
LISTEN TO THE MUSIC  
FEDERAL NATIONAL MORTGAGE ASSOCIATION DB 1092 PG 217  
H. ODEAN KEEVER BARBARA N. KEEVER DB 648 PG 688  
HEATH MCSWAIN ERIN MCSWAIN DB 824 PG 322 DB 732 PG 246 DB 983 PG 784 DB 1069 PG 126  
ROBERT LEE SHIRES, SR DB 703 PG 680  
ROBERT LEE SHIRES D/B/A INTERSTATE AUTO SALES DB 664 PG 610  
HEATH MCSWAIN ERIN MCSWAIN DB 824 PG 503  
BARNEY HODGE JOSEPHINE HODGE DB 722 PG 107 DB 02E PG 207 DB 508 PG 397  
LINDA S. CAMPER DB 480 PG 314  
MATCH TO SHEET 11 -Y3- STA. 35+25.00  
MATCH TO SHEET 30 -Y3- STA. 46+00.00



SEE SHEETS 65 & 66 FOR -Y3- PROFILE  
 SEE SHEET 2B-4 FOR CONC. ISLAND DETAILS  
 SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS



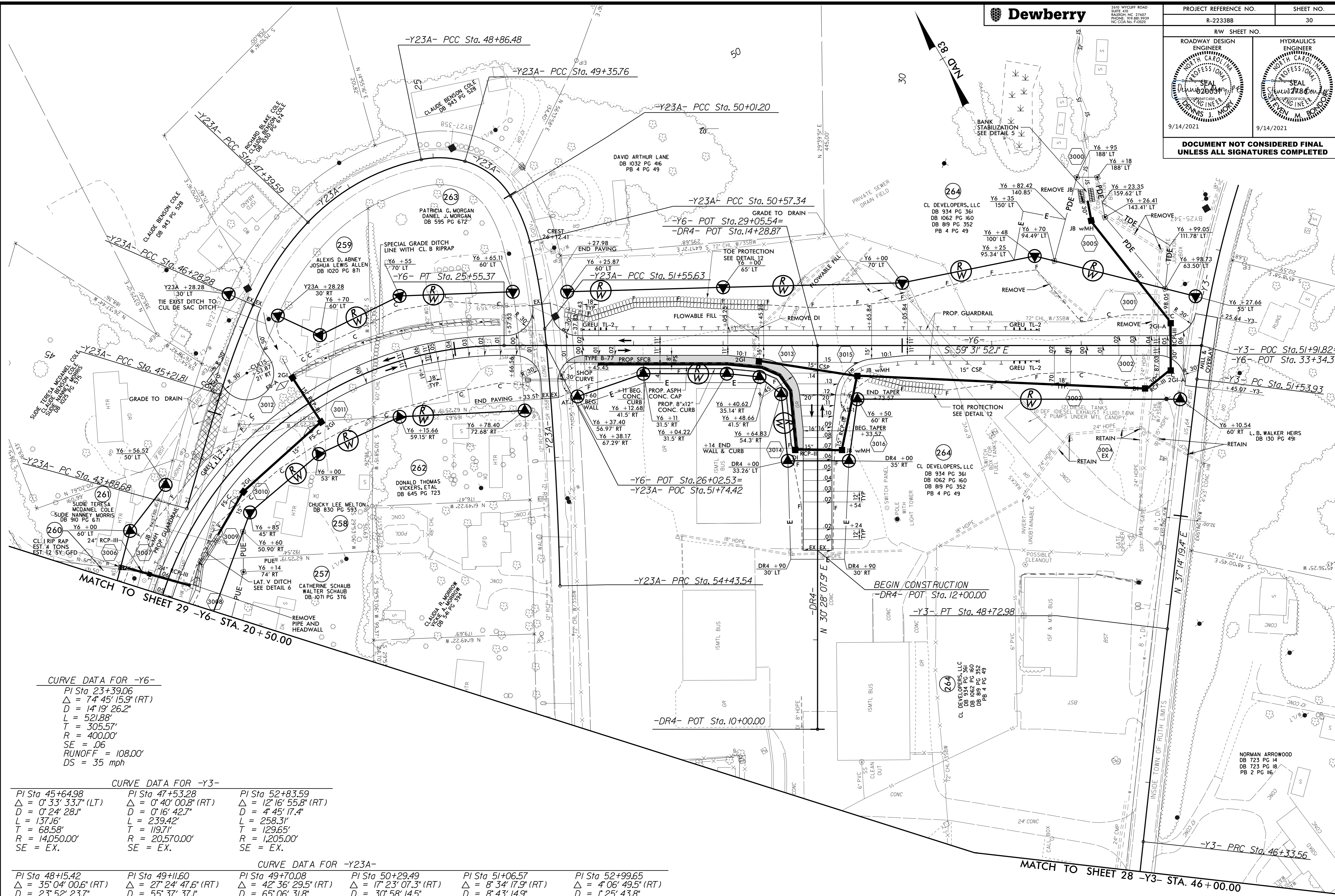






2610 WYCLIFF ROAD  
SUITE 410  
RALEIGH, NC 27607  
PHONE: 919.883.9329  
NC CCA No. F-0029

PROJECT REFERENCE NO. R-2233BB		SHEET NO. 30
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
9/14/2021	9/14/2021	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>		



**CURVE DATA FOR -Y6-**  
 PI Sta 23+39.06  
 $\Delta = 74^{\circ} 45' 15.9''$  (RT)  
 D = 14' 19" 26.2"  
 L = 521.88'  
 T = 305.57'  
 R = 400.00'  
 SE = .06  
 RUNOFF = 108.00'  
 DS = 35 mph

**CURVE DATA FOR -Y3-**

PI Sta 45+64.98	PI Sta 47+53.28	PI Sta 52+83.59
$\Delta = 0^{\circ} 33' 33.7''$ (LT)	$\Delta = 0^{\circ} 40' 00.8''$ (RT)	$\Delta = 12^{\circ} 16' 55.8''$ (RT)
D = 0' 24" 28.1"	D = 0' 16" 42.7"	D = 4' 45" 17.4"
L = 137.16'	L = 239.42'	L = 258.31'
T = 68.58'	T = 119.71'	T = 129.65'
R = 14,050.00'	R = 20,570.00'	R = 1,205.00'
SE = EX.	SE = EX.	SE = EX.

**CURVE DATA FOR -Y23A-**

PI Sta 48+15.42	PI Sta 49+11.60	PI Sta 49+70.08	PI Sta 50+29.49	PI Sta 50+06.57	PI Sta 52+99.65
$\Delta = 35^{\circ} 04' 00.6''$ (RT)	$\Delta = 27^{\circ} 24' 47.6''$ (RT)	$\Delta = 42^{\circ} 36' 29.5''$ (RT)	$\Delta = 17^{\circ} 23' 07.3''$ (RT)	$\Delta = 8^{\circ} 34' 17.9''$ (RT)	$\Delta = 4^{\circ} 06' 49.5''$ (RT)
D = 23' 52" 23.7"	D = 55' 37" 37.1"	D = 65' 06" 31.8"	D = 30' 58" 14.5"	D = 8' 43" 14.9"	D = 1' 25" 43.8"
L = 146.89'	L = 49.28'	L = 65.44'	L = 56.13'	L = 98.29'	L = 287.91'
T = 75.83'	T = 25.12'	T = 34.32'	T = 28.28'	T = 49.24'	T = 144.02'
R = 240.00'	R = 103.00'	R = 88.00'	R = 185.00'	R = 657.00'	R = 4,010.00'
SE = EX.	SE = EX.	SE = EX.	SE = EX.	SE = EX.	SE = EX.

SEE SHEET 76 FOR -DR4- PROFILE  
 SEE SHEETS 75 & 76 FOR -Y6- PROFILE  
 SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS  
 SEE SHEETS W-1 THRU W-11 FOR RETAINING WALL PLANS

9/13/2021 11:41:41 AM  
 I:\S\2233BB.RDY\_PSH30.DGN



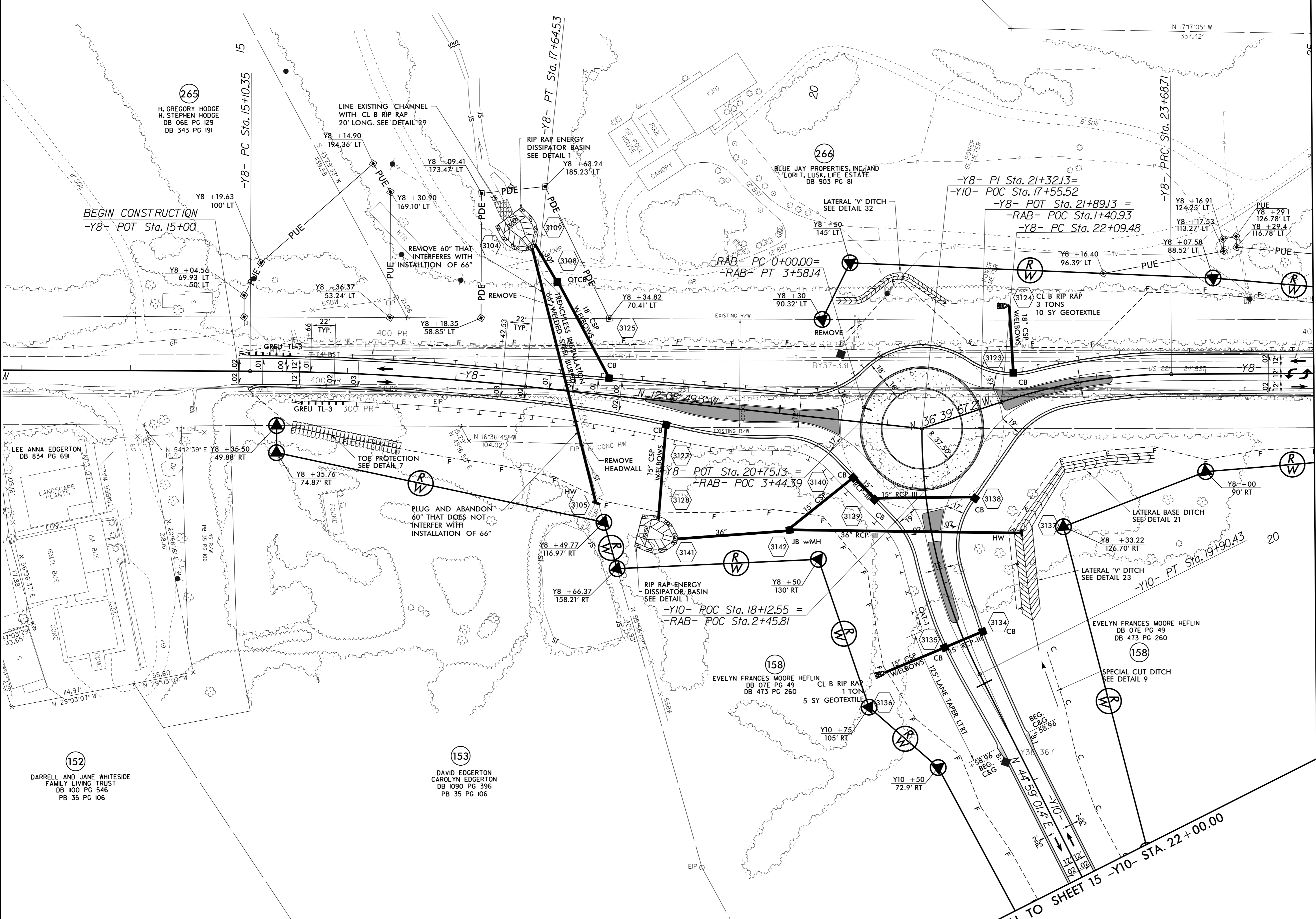
R/W SHEET NO.

ROADWAY DESIGN ENGINEER SEAL DENNIS J. MOYER 9/14/2021	HYDRAULICS ENGINEER SEAL STEVEN M. BOYD 9/14/2021
---	--

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

**CURVE DATA FOR -Y8-**

PI Sta 16+37.55 Δ = 5° 49' 31.0" (RT) D = 2' 17' 30.6" L = 254.18' T = 127.20' R = 2,500.00'	PI Sta 22+89.77 Δ = 18° 14' 44.9" (RT) D = 11' 27' 33.0" L = 159.22' T = 80.29' R = 500.00'	PI Sta 24+86.43 Δ = 0° 26' 26.8" (LT) D = 0' 11' 14.0" L = 235.44' T = 117.72' R = 30,605.00'	PI Sta 28+64.40 Δ = 3° 01' 15.1" (LT) D = 0' 34' 49.8" L = 520.39' T = 260.25' R = 9,870.00'
---	--	--	---



**CURVE DATA FOR -Y10-**

PI Sta 18+75.18 Δ = 26° 55' 04.1" (LT) D = 11' 27' 32.9" L = 234.90' T = 119.66' R = 500.00'
---

**CURVE DATA FOR -RAB-**

PI Sta 1+63.96 Δ = 141° 39' 34.3" (RT) D = 100' 31' 08.1" L = 140.93' T = 163.96' R = 57.00'	PI Sta 3+04.88 Δ = 218° 20' 25.7" (RT) D = 100' 31' 08.1" L = 217.21' T = 163.96' R = 57.00'
---	---

SEE SHEET 78 & 79 FOR -Y8- PROFILE  
SEE SHEET 79 FOR -Y10- PROFILE  
SEE SHEET 79 FOR -RAB- PROFILE  
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS

9/13/2021 12:32:32 PM  
LISTENING TO THE VOICES OF THE FUTURE  
R-2233BB-RDY\_PSH131.DGN