

PC0909PHU

COMPUTED BY: SMB DATE: 04/21/2021
CHECKED BY: DM DATE: 04/21/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. R-2233BB SHEET NO. 3D-2

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)

Main data table with columns for Line & Station, Offset, Structure Number, Invert Elevation, Minimum Required Slope, Pipe Material (Drainage, C.S., R.C. Class III/IV), Quantities for Drainage Structures, Frame/Grates/Hood, and Remarks. Includes sub-totals for SHEET TOTALS and PROJECT TOTALS.

ABBREVIATIONS table listing materials like C.A.A. CORRUGATED ALUMINIUM ALLOY, C.B. CATCH BASIN, C.S. CORRUGATED STEEL, etc.

Summary table with SHEET TOTALS and PROJECT TOTALS for various quantities and materials.

PC0609PHU

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. R-2233BB SHEET NO. 3D-3

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)

Main data table with columns for Line & Station, Offset, Structure Number, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, Concrete Transitional Section, and Remarks. Includes sub-totals for SHEET TOTALS and PROJECT TOTALS.

ABBREVIATIONS table listing materials like C.A.A. CORRUGATED ALUMINIUM ALLOY, C.B. CATCH BASIN, C.S. CORRUGATED STEEL, etc.

Summary table with SHEET TOTALS and PROJECT TOTALS for various pipe sizes and materials.

PC0608PHU

COMPUTED BY: SMB DATE: 04/21/2021
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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. R-2233BB SHEET NO. 3D-4

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)

Main data table with columns for Line & Station, Structure Number, Invert Elevation, Minimum Required Slope, Pipe Type (Drainage, C.S., R.C. Class III/IV), Quantities for Drainage Structures, Frame/Grates/Hood, and Remarks. Includes sub-totals for SHEET TOTALS and PROJECT TOTALS.

ABBREVIATIONS table listing codes like C.A.A., C.B., C.S., D.I., G.D.I., H.D.P.E., J.B., M.H., N.S., P.V.C., R.C., T.B.D.I., T.B.J.B., W.S. and their corresponding material descriptions.

Summary table with columns for SHEET TOTALS and PROJECT TOTALS, containing numerical values for various categories.

PC06URHU

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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PROJECT NO. R-2233BB SHEET NO. 3D-5

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)

Table with columns for Line & Station, Offset, Structure Number, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, Concrete Transitional Section, and Remarks. Includes sub-totals for SHEET TOTALS and PROJECT TOTALS.

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. R-2233BB SHEET NO. 3D-8

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)

Table with columns for Line & Station, Offset, Structure Number, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, and Abbreviations. Includes a summary row for SHEET TOTALS and PROJECT TOTALS.

SHEET TOTALS: 160 396 516 ... PROJECT TOTALS: 2484 1796 1328 1036 264 32 ...

PC0809PHU

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. R-2233BB SHEET NO. 3D-9

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)

Main data table with columns for Line & Station, Offset, Structure Number, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, and Abbreviations. Includes sub-totals for SHEET TOTALS and PROJECT TOTALS.

PROJECT TOTALS 2484 1796 1328 1036 264 32 2012 2360 784 648 672 588 14496 6076 4800 3316 1700 1256 544 172 272 36 552 692 41400 435 546.7 75 6 42 27 34 28 54 54 37 176 3 39 172 7 1 42 1 3 15 15 2 44 1 40 16 14 44 93 15 4 137 6.4125 0.624 4653

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PROJECT NO. R-2233BB SHEET NO. 3D-12

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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)

Main data table with columns for Line & Station, Offset, Structure Number, Invert Elevation, Minimum Required Slope, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, Concrete Transitional Section, and Remarks.

SHEET TOTALS and PROJECT TOTALS summary rows.

ABBREVIATIONS table listing materials like C.A.A. CORRUGATED ALUMINIUM ALLOY, C.B. CATCH BASIN, etc.

PC08URHU

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. SHEET NO.
R-2233BB 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)

Table with columns for Line & Station, Offset, Structure Number, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, and Abbreviations. Includes SHEET TOTALS and PROJECT TOTALS rows.

Summary table with columns for SHEET TOTALS and PROJECT TOTALS, containing numerical data for various categories.

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PROJECT NO. R-2233BB SHEET NO. 3D-17

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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)

Main data table with columns for Line & Station, Offset, Structure Number, Invert Elevation, Minimum Required Slope, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, Concrete Transitional Section, and Remarks.

SHEET TOTALS and PROJECT TOTALS summary rows at the bottom of the table.

ABBREVIATIONS table listing materials like C.A.A. CORRUGATED ALUMINIUM ALLOY, C.B. CATCH BASIN, etc.

REMARKS

PC0809PHU

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. R-2233BB SHEET NO. 3D-19

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)

Main data table with columns for Line & Station, Offset, Structure Number, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, and Abbreviations. Includes SHEET TOTALS and PROJECT TOTALS rows.

SHEET TOTALS and PROJECT TOTALS summary rows with numerical data for various categories.

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. R-2233BB SHEET NO. 3D-20

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)

Table with columns for Line & Station, Offset, Structure Number, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, Concrete Transitional Section, and Abbreviations. Includes SHEET TOTALS and PROJECT TOTALS rows.

SHEET TOTALS 164 260 64 444 152 456 7 5.0 1.4 2 5 2 2 1 0.065 64 26 100 14 73 31 32 9 8 31 0.065 1115

PROJECT TOTALS 2484 1796 1328 1036 264 32 2012 2360 784 648 672 588 14498 6076 4800 3316 1700 1256 544 172 272 36 552 692 41400 435 546.7 75 6 42 27 34 28 54 54 37 176 3 39 172 7 1 42 1 3 15 15 2 44 1 40 16 14 44 93 15 4 137 6.4125 0.624 4653

PC0109PHU

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PROJECT NO. R-2233BB SHEET NO. 3D-21

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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)

Main data table with columns for Line & Station, Offset, Structure Number, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, and Pipe Removal. Includes sub-totals for SHEET TOTALS and PROJECT TOTALS.

ABBREVIATIONS table listing materials like C.A.A. CORRUGATED ALUMINUM ALLOY, C.B. CATCH BASIN, C.S. CORRUGATED STEEL, etc.

PROJECT TOTALS summary row with numerical values for various categories.

PC06URHU

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PROJECT NO. R-2233BB SHEET NO. 3D-22

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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 54 INCHES & OVER)

Table with columns for Line & Station, Offset, Structure Number, Invert Elevation, Minimum Required Slope, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class V, Quantities for Drainage Structures, Frame, Grates, and Hood, Concrete Transitional Section, and Remarks. Includes sub-totals for SHEET TOTALS and PROJECT TOTALS.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



PARCEL INDEX SHEET

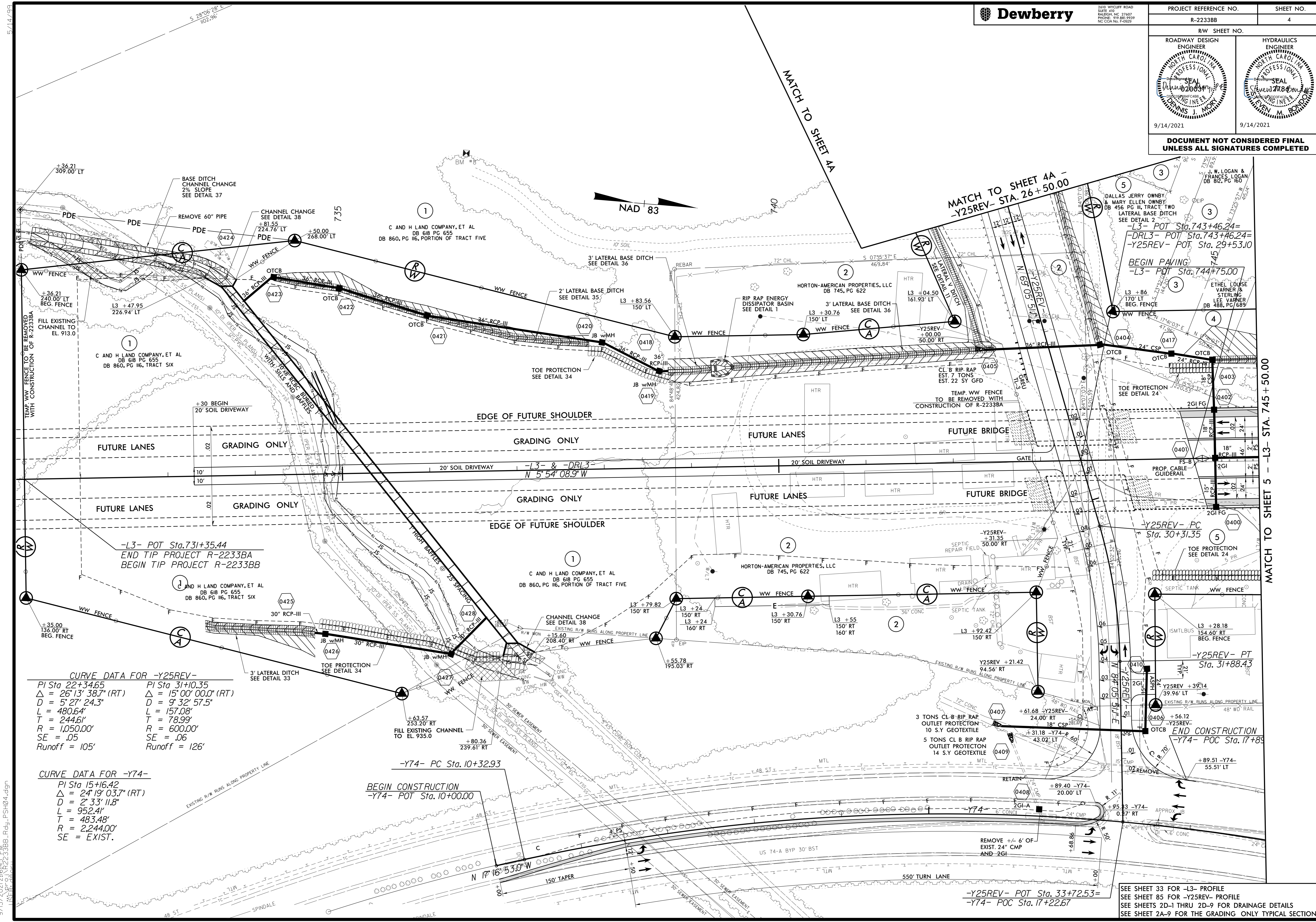
PARCEL No.	SHEET No.	PROPERTY OWNER NAME
111	11	LEANDER MARTIN
112	11	JOHN MICHAEL GRANT
112A	11	R-S SPEEDY LUBE, INC
113	11	WILLIAM D. SANSING
114	11	JOAN RUTH LLC
115	11,29	DARRILL BURNETTE
116	11	D & R BRISCOE ENTERPRISES, INC D/B/A GREEN MEMORIAL
117	11	R-S SPEEDY LUBE, INC
118	11	S&D INVESTMENTS OF RUTHERFORDTON, LLC
119	11	DAVID BRADLEY & JANETT BRADLEY
120	11	RUTHERFORD RAILROAD DEVELOPMENT CORPORATION
120A	11	RONALD J. CARPENTER CHESTER L. NORTON
121	11	BARRY K. JONES & REBECCA G. JONES
122	11	NORTH CAROLINA HIGHWAY COMMISSION
123	11,28	FEDERAL NATIONAL MORTGAGE ASSOCIATION
124	11,28	H. ODEAN KEEVER & BARBARA N. KEEVER
125	11,28	TIMOTHY MACE & LOIS MACE
125A	28	TIMOTHY MACE & LOIS MACE
126	11	GREGORY G. HAYES & DENNIS H. TONEY, LIFE ESTATE
127	11,12,29	VEVA R. WILSON & MICHAEL GARRON WILSON
128	12,29	HERMAN J. HENSLEY
129	12	KENNETH R. HENSLEY & PRISCILLA HENSLEY
130	12	LOIS FREDERICKSEN
130A	12	BARRY K. JONES
131	12	BOBBY CHARLES HORTON
131A	12	WESLEY HUDGINS, SR LENA MAE HUDGINS
131B	12	BOBBY HORTON & JAMES HORTON
132	12	CHRISTOPHER BRIAN DIMSDALE
133	12,13	STEPHEN DOUGLAS GOSNELL & DENISE H. GOSNELL
133A	12,13	GARRY HUDGINS TRACY HUDGINS
134	12,13	WESLEY HUDGINS, SR & LENA MAE HUDGINS
135	13	DANIEL W. MITCHUM LIVING TRUST
135A	12,13	TOWN OF RUTHERFORDTON
136	13	STEVE WILLIAM STONE & DESSIE STONE
137	13	MARK MILES SUFFLING MEGAN RENAY SUFFLING
138	13	DALE D. SMITH & JANICE S. SMITH
139	13	MELANIE JACKSON
139A	13,14	FC ENCORE RUTHERFORDTON, LLC
140	13	KEVIN CLAYTON EVERHART ASHLEY MARIE EVERHART
140A	14	KAYE Y. MCDANIEL
141	13,14	MORGAN W. BASS & TIMOTHY BASS
141A	14	ROBERT LEWIS FREEMAN
142	14	TODD GILLESPIE & COLLEEN GILLESPIE
143	14	EARL KEITH GRIMMETT
144	14	WILLIAM L. HULLEN & PATRICIA HULLEN
145	14	CHRISTINE M. MORGAN WHITT
145A	14	DAVID LEE MOORE
146	14	RALPH HENRY CARTER, II
146A	14	ESTATE OF JAMES HOWELL SPIKES
147	14	JOHN J. HARBORT & SAMANTHA A. HARBORT
148	14	SUE L. WILLIAMS
149	14,15	DR. J. BOURNE SAYRE & BETHANY T. SAYRE
150	14,15	CALEB ENLOE & JESSICA ENLOE
151	15	HOYLE EDGERTON & CAMILLA EDGERTON
152	14,15,31	DARRELL AND JANE WHITESIDE FAMILY LIVING TRUST
153	15,31	DAVID EDGERTON & CAROLYN EDGERTON
154	15	CAMILLA H. EDGERTON
155	15	JOEY M. GODFREY
156	15	CAMILLA H. EDGERTON & H. STEPHEN HODGE
157	15	RUSSELL MATTHEW QUINTON TRUST
158	15,16,31,31A	MICHAEL JOE HOLT, SR., ET AL

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
158A	16,31A	ROBERT HUDGINS DOROTHY HUDGINS
159	15	CHRISTOPHER DILLON CARSON MIRANDA CARSON
160	15	MARGARET M. DYER
161	15,16	MICHAEL JOE HOLT, SR., ET AL
162	16	DEBORAH FRAN LAFONTAINE
163	16	THELMA G. BLANKENSHIP & LINCOLN TODD BLANKENSHIP
164	16	ADAM J. ROLLINS & BRANDEE D. ROLLINS
164A	16	MARGARET WILLIS
165	16	STEPHANIE L. EDWARDS
166	16	ROGER PAUL CRAWFORD
166A	16, 17	WALTER WESLEY SIMPSON
167	16,31A	PATRICIA A. HARDIN
167A	31A	CATHERINE K. BEAM
168	16,17,31A	STEVENS FAMILY FOUNDATION, INC ET, AL
168A	17	CARLTON GRIFFIN, SR. ET, AL
169	17	MARSHALL RAY NIX
170	17	DAVID W. EDGERTON & CAROLYN EDGERTON
171	17	CALVIN LEE FORNEY
171A	17,31A	RUTHERFORD COUNTY BOARD OF EDUCATION
172	17	ELLA LOUISE FORNEY
173	17	JEFFREY YATES ROTHROCK & CARMEN MARIA ROTHROCK
174	32	221 INDUSTRIAL WAREHOUSE, LLC
174A	32	ROCK CORNER PROPERTIES, LLC
174B	17,18	221 INDUSTRIAL WAREHOUSE, LLC
175	18	KERRY LANE NIX
175A	17,18	JB HARRISON PROPERTIES, LLC
176	18	GOLD HILL BAPTIST CHURCH TRUSTEES
176A	18	ESTATE OF MARTHA J. KEYSER
177	18	WILLIAM HICKS SHEHAN & SHIRLEY MAE SHEHAN
178	18,19	MICHAEL E. PRITCHARD & ANGELA C. PRITCHARD
179	18,32	TIMOTHY D. TOMS
180	18,32	CARL WILLIAM LEDBETTER & JULIE ATKINS LEDBETTER
181	18,32	MARK OLAN FLYNN
182	18,32	JVONNE AVERY DIMSDALE
183	18,19,32	WILLIAM HENRY RUFF
184	18,19	MARVIN F. TONEY & BRENDA TONEY
184A	18,19	GERALDINE RANDALL
185	19	RUTHERFORD CHURCH OF CHRIST
186	19	MICHAEL A. JONES
187	19	TONY ALLAN THOMPSON
188	19	EDWARD H. PERKINS
189	19	PROPERTY INVESTMENTS LEP ENTERPRISES, INC
190	19	EARL GENE FULLER, JR & CAROLYN MARIE FULLER
191	19	JAMES MILTON FULLER
192	19,20	HEIRS OF WALTER MORRIS, ET AL
193	19	SAMANTHA GRACE HOPPER
194	19	MARY ANN JOHNSON
195	19	LILLIAN HARDING, HEIRS
196	19	ROBERT D. JOLLEY & MAXINE H. JOLLEY
197	19,20	CHARLIE M. MORRIS, MAMMIE MORRIS, & TAMMY MARIELLE MORRIS
198	19,20	JOE LOUIS GODLOCK BERTIE MAE GODLOCK
199	20	TROY CRAWFORD & DEBBIE CRAWFORD
200		DELETED
201	20,21	CURTIS MAE TOMS, HEIRS
202	20,21	NORTH SOUTH HOMES & RENTALS, LLC
203	21	JOSE ELISEO RAMOS
204	21	JUDY MCCLURE
205	21	CURTIS TOMS, JR., ET AL
206	21	JAMES LEWIS AYERS, JR
207	21	JOHN B. KEETER & RONALD TRAVIS KEETER
207A	22	JOHN B. KEETER RONALD TRAVIS KEETER



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

PROJECT REFERENCE NO. R-2233BB		SHEET NO. 4
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 -Y25REV-

PI Sta 22+34.65	PI Sta 31+10.35
$\Delta = 26'13'' 38.7''$ (RT)	$\Delta = 15'00'' 00.0''$ (RT)
$D = 5'27'' 24.3''$	$D = 9'32'' 57.5''$
$L = 480.64'$	$L = 157.08'$
$T = 244.61'$	$T = 78.99'$
$R = 1,050.00'$	$R = 600.00'$
$SE = .05$	$SE = .06$
Runoff = 105'	Runoff = 126'

CURVE DATA FOR -Y74-

PI Sta 15+16.42
$\Delta = 24'19'' 03.7''$ (RT)
$D = 2'33'' 11.8''$
$L = 952.41'$
$T = 483.48'$
$R = 2,244.00'$
$SE = EXIST.$

BEGIN CONSTRUCTION
-Y74- POT Sta. 10+00.00

9/13/2021 2:16:45 PM
LST:R-2233BB-Rdy_PSH04.dgn

SEE SHEET 33 FOR -L3- PROFILE
SEE SHEET 85 FOR -Y25REV- PROFILE
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS
SEE SHEET 2A-9 FOR THE GRADING ONLY TYPICAL SECTION



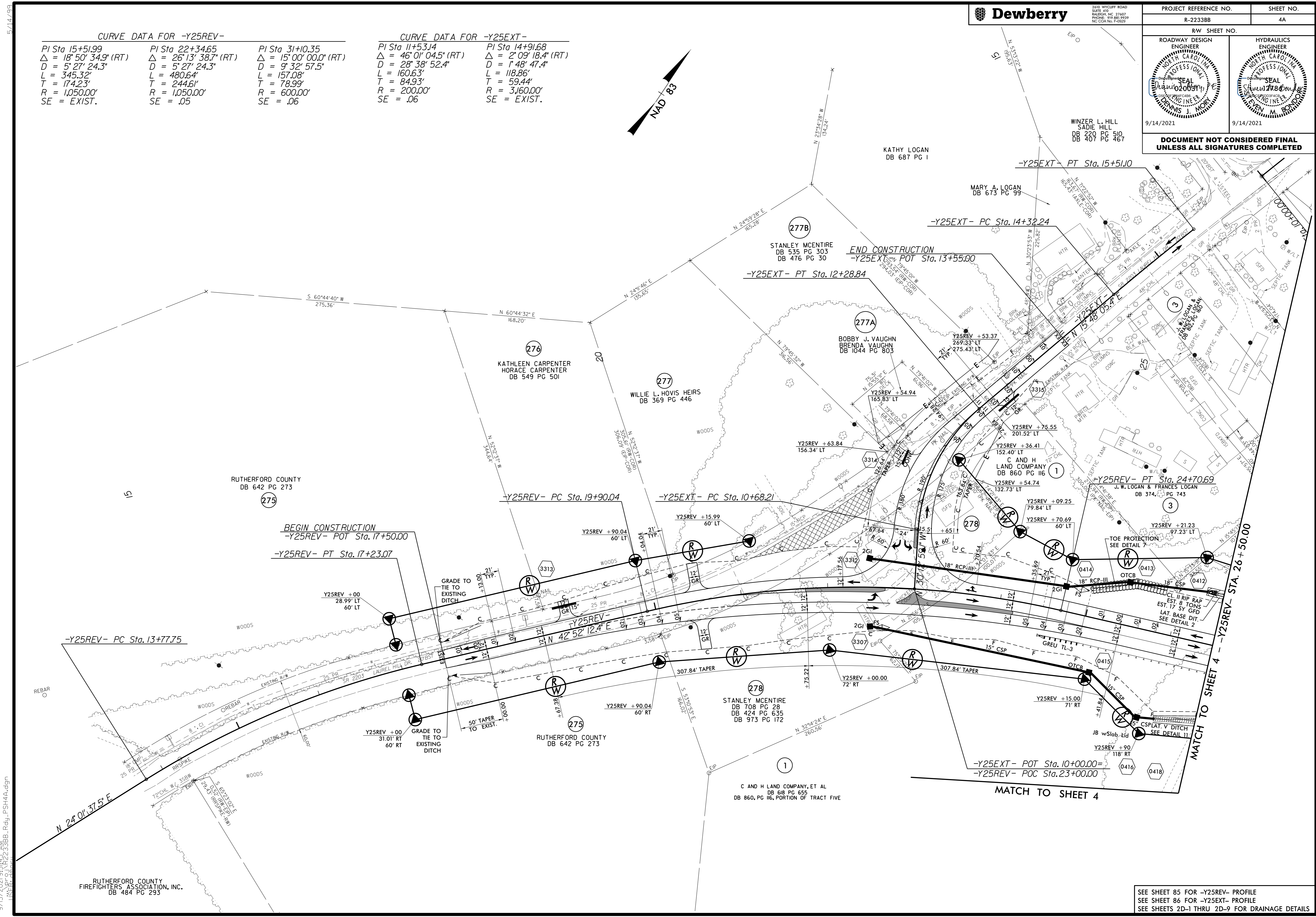
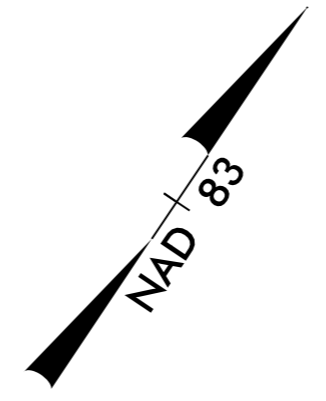
PROJECT REFERENCE NO. R-2233BB		SHEET NO. 4A
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
9/14/2021	9/14/2021	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

CURVE DATA FOR -Y25REV-

PI Sta 15+51.99	PI Sta 22+34.65	PI Sta 31+10.35
$\Delta = 18^\circ 50' 34.9''$ (RT)	$\Delta = 26^\circ 13' 38.7''$ (RT)	$\Delta = 15^\circ 00' 00.0''$ (RT)
D = 5' 27' 24.3"	D = 5' 27' 24.3"	D = 9' 32' 57.5"
L = 345.32'	L = 480.64'	L = 157.08'
T = 174.23'	T = 244.61'	T = 78.99'
R = 1,050.00'	R = 1,050.00'	R = 600.00'
SE = EXIST.	SE = .05	SE = .06

CURVE DATA FOR -Y25EXT-

PI Sta 11+53.14	PI Sta 14+91.68
$\Delta = 46^\circ 01' 04.5''$ (RT)	$\Delta = 2^\circ 09' 18.4''$ (RT)
D = 28' 38' 52.4"	D = 1' 48' 47.4"
L = 160.63'	L = 118.86'
T = 84.93'	T = 59.44'
R = 200.00'	R = 3,160.00'
SE = .06	SE = EXIST.



9/13/2021 9:45:43 AM
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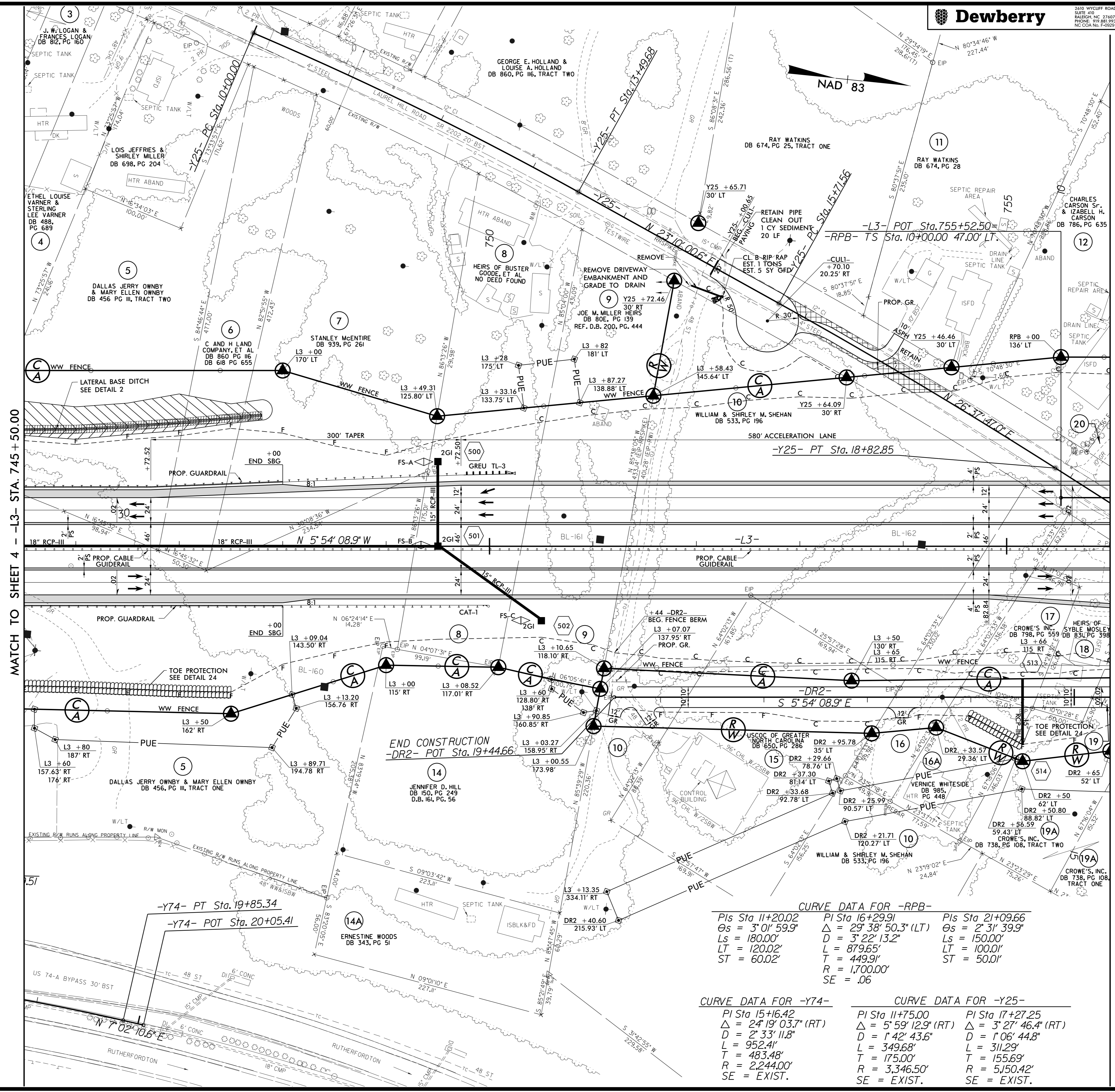
RUTHERFORD COUNTY
FIREFIGHTERS ASSOCIATION, INC.
DB 484 PG 293

SEE SHEET 85 FOR -Y25REV- PROFILE
SEE SHEET 86 FOR -Y25EXT- PROFILE
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS



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

PROJECT REFERENCE NO. R-2233BB		SHEET NO. 5	
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 4 - -L3- STA. 745+50.00

MATCH TO SHEET 6 - -L3- STA. 756+00.00

CURVE DATA FOR -RPB-

<i>Pis Sta 11+20.02</i>	<i>PI Sta 16+29.91</i>	<i>Pis Sta 21+09.66</i>
<i>Es = 3' 01' 59.9"</i>	<i>Δ = 29' 38' 50.3" (LT)</i>	<i>Es = 2' 31' 39.9"</i>
<i>Ls = 180.00'</i>	<i>D = 3' 22' 13.2"</i>	<i>Ls = 150.00'</i>
<i>LT = 120.02'</i>	<i>T = 879.65'</i>	<i>LT = 100.01'</i>
<i>ST = 60.02'</i>	<i>T = 449.91'</i>	<i>ST = 50.01'</i>
	<i>R = 1,700.00'</i>	
	<i>SE = .06</i>	

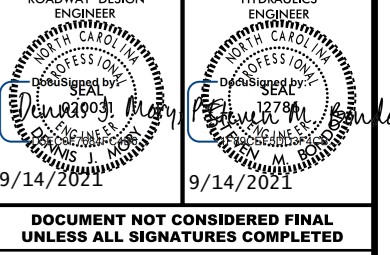
CURVE DATA FOR -Y74-

<i>PI Sta 15+16.42</i>
<i>Δ = 24' 19' 03.7" (RT)</i>
<i>D = 2' 33' 11.8"</i>
<i>L = 952.41'</i>
<i>T = 483.48'</i>
<i>R = 2,244.00'</i>
<i>SE = EXIST.</i>

CURVE DATA FOR -Y25-

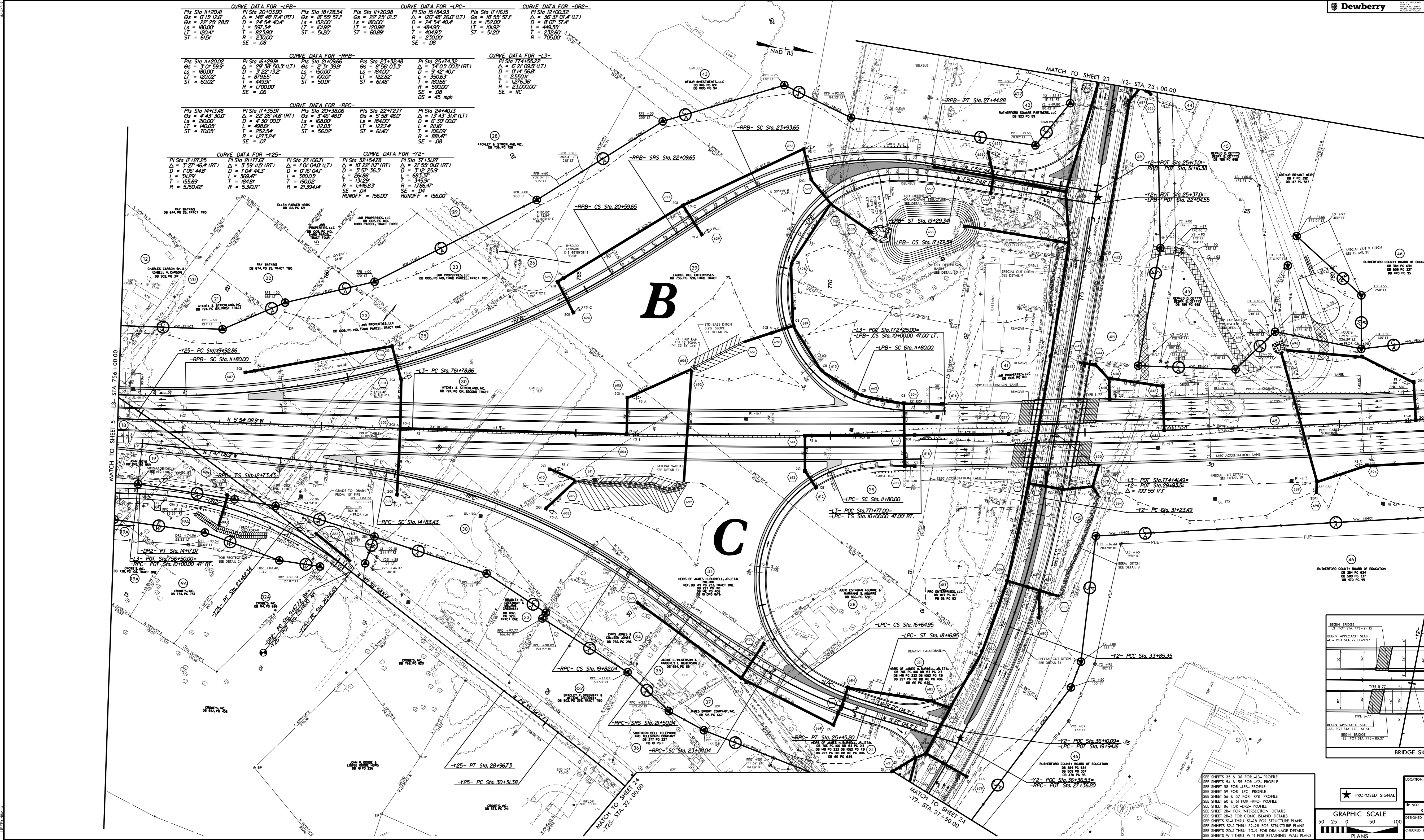
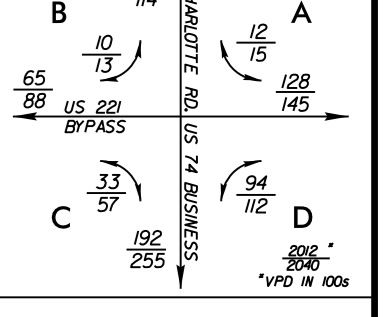
<i>PI Sta 17+27.25</i>	<i>PI Sta 17+27.25</i>
<i>Δ = 5' 59' 12.9" (RT)</i>	<i>Δ = 3' 27' 46.4" (RT)</i>
<i>D = 1' 42' 43.6"</i>	<i>D = 1' 06' 44.8"</i>
<i>L = 349.68'</i>	<i>L = 311.29'</i>
<i>T = 483.48'</i>	<i>T = 155.69'</i>
<i>R = 3,346.50'</i>	<i>R = 5,150.42'</i>
<i>SE = EXIST.</i>	<i>SE = EXIST.</i>

SEE SHEET 34 FOR -L3- PROFILE
 SEE SHEET 56 FOR -RPB- PROFILE
 SEE SHEET 85 FOR -Y25REV- PROFILE
 SEE SHEET 86 FOR -DR2- PROFILE
 SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TRAFFIC DATA



CURVE DATA FOR -LPB-

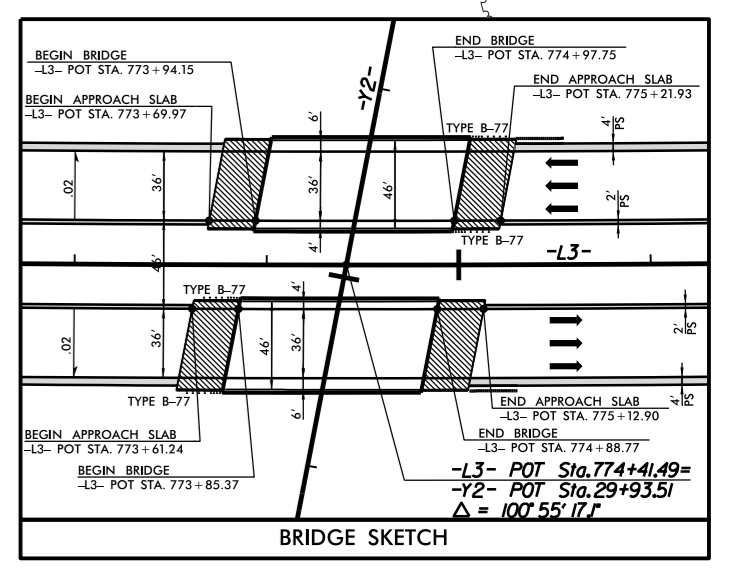
PI Sta 11+20.41	PI Sta 20+03.90	PI Sta 18+29.54	PI Sta 11+20.41	PI Sta 17+16.55	PI Sta 19+00.92
Δ = 17° 12' 26"	Δ = 22° 25' 28.5"	Δ = 18° 55' 57.1"	Δ = 22° 25' 12.3"	Δ = 15° 43' 50.4"	Δ = 35° 31' 01.4"
D = 245.4'	D = 245.4'	D = 150.0'	D = 150.0'	D = 150.0'	D = 150.0'
Ls = 180.0'	Ls = 180.0'	Ls = 150.0'	Ls = 150.0'	Ls = 150.0'	Ls = 150.0'
T = 120.4'	T = 120.4'	T = 120.4'	T = 120.4'	T = 120.4'	T = 120.4'
R = 2300.0'	R = 2300.0'	R = 2300.0'	R = 2300.0'	R = 2300.0'	R = 2300.0'
SE = 08	SE = 08	SE = 08	SE = 08	SE = 08	SE = 08

CURVE DATA FOR -LPC-

PI Sta 16+29.91	PI Sta 21+06.67	PI Sta 23+32.48	PI Sta 25+74.32	PI Sta 17+16.55	PI Sta 19+00.92
Δ = 29° 38' 50.3"	Δ = 2° 31' 39.9"	Δ = 8° 56' 03.3"	Δ = 34° 03' 00.5"	Δ = 15° 43' 50.4"	Δ = 35° 31' 01.4"
D = 293.8'	D = 168.0'	D = 168.0'	D = 168.0'	D = 150.0'	D = 150.0'
Ls = 168.0'	Ls = 168.0'	Ls = 168.0'	Ls = 168.0'	Ls = 150.0'	Ls = 150.0'
T = 170.0'	T = 100.0'	T = 122.8'	T = 122.8'	T = 120.4'	T = 120.4'
R = 1700.0'	R = 500.0'	R = 500.0'	R = 500.0'	R = 2300.0'	R = 2300.0'
SE = 16	SE = 07	SE = 08	SE = 08	SE = 08	SE = 08

CURVE DATA FOR -L3-

PI Sta 11+20.41	PI Sta 17+16.55	PI Sta 21+06.67	PI Sta 23+32.48	PI Sta 25+74.32	PI Sta 17+16.55
Δ = 3° 27' 46.4"	Δ = 3° 59' 11.5"	Δ = 1° 01' 04.0"	Δ = 10° 22' 11.7"	Δ = 27° 55' 01.6"	Δ = 15° 43' 50.4"
D = 1708.44'	D = 1708.44'	D = 3800.3'	D = 3800.3'	D = 3800.3'	D = 150.0'
Ls = 312.9'	Ls = 369.4'	Ls = 3800.3'	Ls = 3800.3'	Ls = 3800.3'	Ls = 150.0'
T = 155.6'	T = 184.8'	T = 1800.2'	T = 1312.9'	T = 1060.9'	T = 120.4'
R = 5350.4'	R = 1233.24'	R = 2334.14'	R = 1786.83'	R = 580.4'	R = 2300.0'
SE = 08	SE = 07	SE = 07	SE = 08	SE = 08	SE = 08



SEE SHEETS 35 & 36 FOR -L3- PROFILE
SEE SHEETS 34 & 35 FOR -Y2- PROFILE
SEE SHEET 58 FOR -LPB- PROFILE
SEE SHEET 59 FOR -LPC- PROFILE
SEE SHEET 56 & 57 FOR -RPB- PROFILE
SEE SHEET 56 & 61 FOR -RPC- PROFILE
SEE SHEET 56 FOR -DR2- PROFILE
SEE SHEET 28-3 FOR CONC. ISLAND DETAILS
SEE SHEETS 31A THRU 31E FOR STRUCTURE PLANS
SEE SHEETS 32A THRU 32-E FOR STRUCTURE PLANS
SEE SHEETS 32A THRU 32-E FOR DRAINAGE DETAILS
SEE SHEETS 32A THRU 32-E FOR RETAINING WALL PLANS

GRAPHIC SCALE
0 25 50 100
PLANS

PROPOSED SIGNAL

LOCATION: US 221 SOUTH OF US 74 BUSINESS (CHARLOTTE ROAD TO NORTH OF SR 136A (ROPER LOOP ROAD))

IP NO.: R-233388 COUNTY: RUTHFORD
DESIGNED BY: RES DATE: 9/13/2021
CHECKED BY: DJM DATE: 9/13/2021

9/13/2021 9:56:16 AM
RUTHFORD COUNTY, NC



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

PROJECT REFERENCE NO.	SHEET NO.
R-2233BB	7

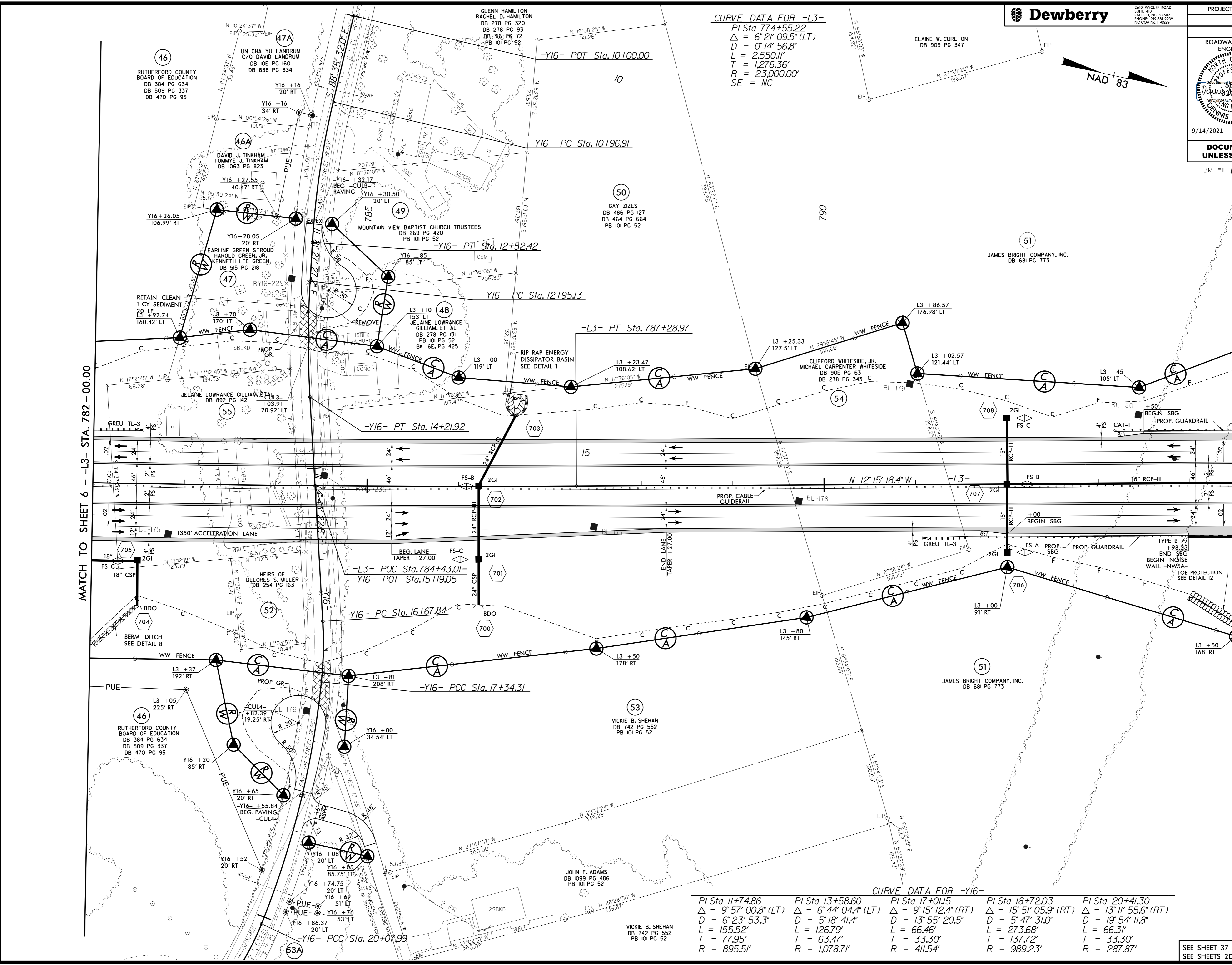
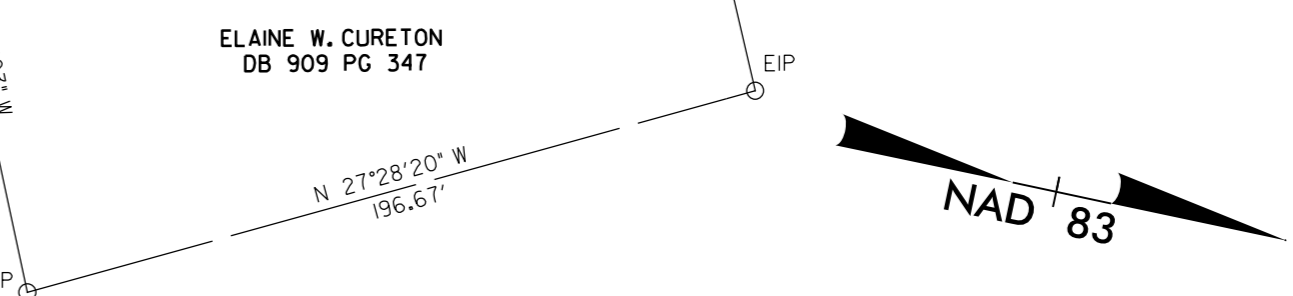
R/W SHEET NO.

ROADWAY DESIGN ENGINEER Dennis M. Mori SEAL 0200347 9/14/2021	HYDRAULICS ENGINEER Steven M. Bonner SEAL 0200347 9/14/2021
---------------------------------------------------------------------------	-------------------------------------------------------------------------

9/14/2021 9/14/2021

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CURVE DATA FOR -L3-
 PI Sta 774+55.22
 $\Delta = 6^\circ 21' 09.5''$ (LT)
 $D = 0' 14' 56.8''$
 $L = 2,550.11'$
 $T = 1,276.36'$
 $R = 23,000.00'$
 SE = NC



CURVE DATA FOR -Y16-

PI Sta 11+74.86 $\Delta = 9^\circ 57' 00.8''$ (LT) $D = 6' 23' 53.3''$ $L = 155.52'$ $T = 77.95'$ $R = 895.51'$	PI Sta 13+58.60 $\Delta = 6' 44' 04.4''$ (LT) $D = 5' 18' 41.4''$ $L = 126.79'$ $T = 63.47'$ $R = 1,078.71'$	PI Sta 17+01.15 $\Delta = 9' 15' 12.4''$ (RT) $D = 13' 55' 20.5''$ $L = 66.46'$ $T = 33.30'$ $R = 411.54'$	PI Sta 18+72.03 $\Delta = 15' 51' 05.9''$ (RT) $D = 5' 47' 31.0''$ $L = 273.68'$ $T = 137.72'$ $R = 989.23'$	PI Sta 20+41.30 $\Delta = 13' 11' 55.6''$ (RT) $D = 19' 54' 11.8''$ $L = 66.31'$ $T = 33.30'$ $R = 287.87'$
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SEE SHEET 37 FOR -L3- PROFILE
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS

9/13/2021 9:45:15 AM
LISTENING TO THE ROADWAY DESIGN ENGINEER
R-2233BB.RDY_PSH07.DGN

Dewberry

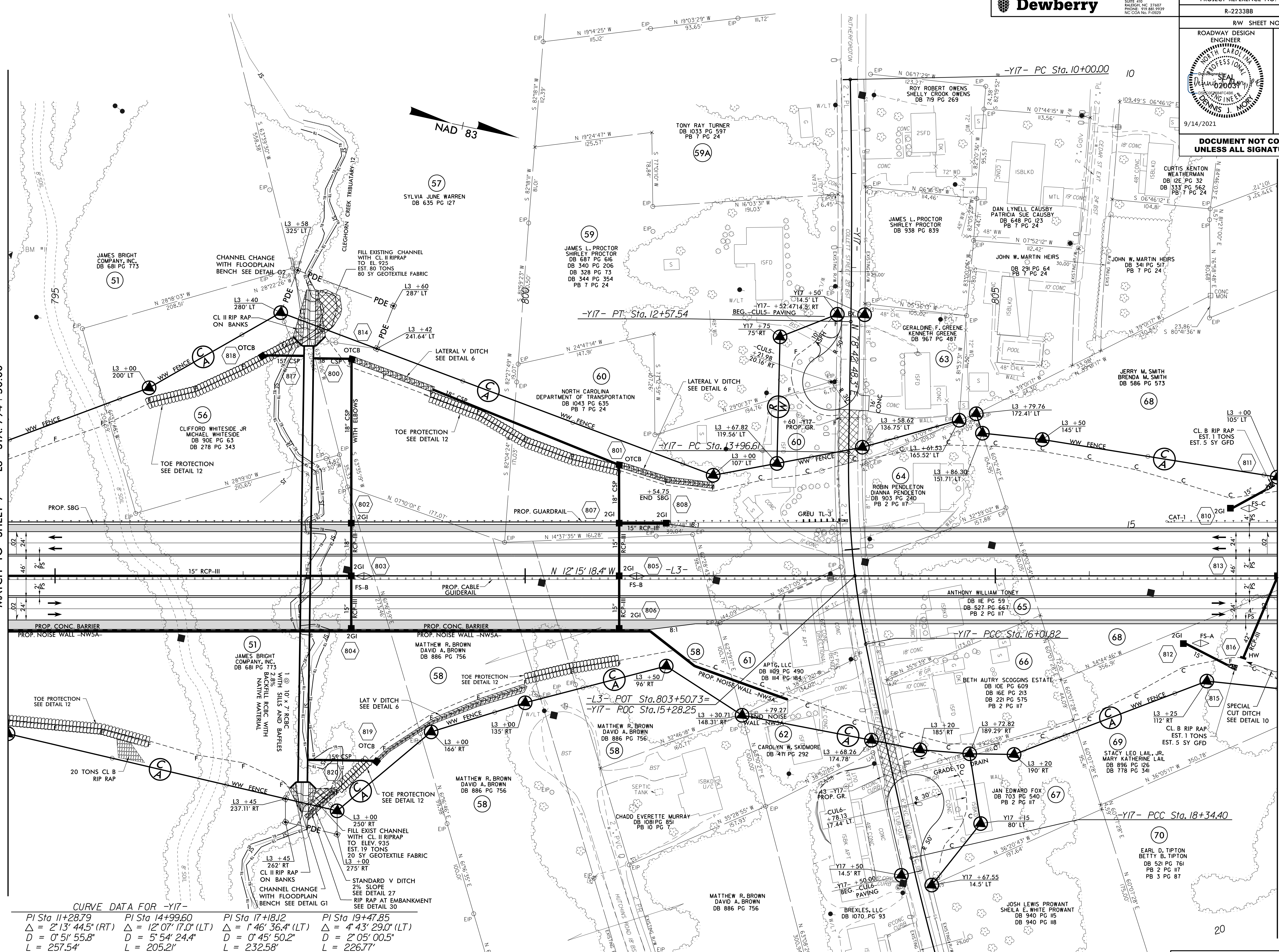
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9999
NC CON. NO. F-09251

PROJECT REFERENCE NO. R-2233BB	SHEET NO. 8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER Dewberry SEAL 02003471 Dennis J. Moore ENGINEER	HYDRAULICS ENGINEER Dewberry SEAL 02003471 Evan M. Bond ENGINEER
9/14/2021	9/14/2021

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

MATCH TO SHEET 7 - L3- STA. 794+50.00

MATCH TO SHEET 9 - L3- STA. 808+00.00



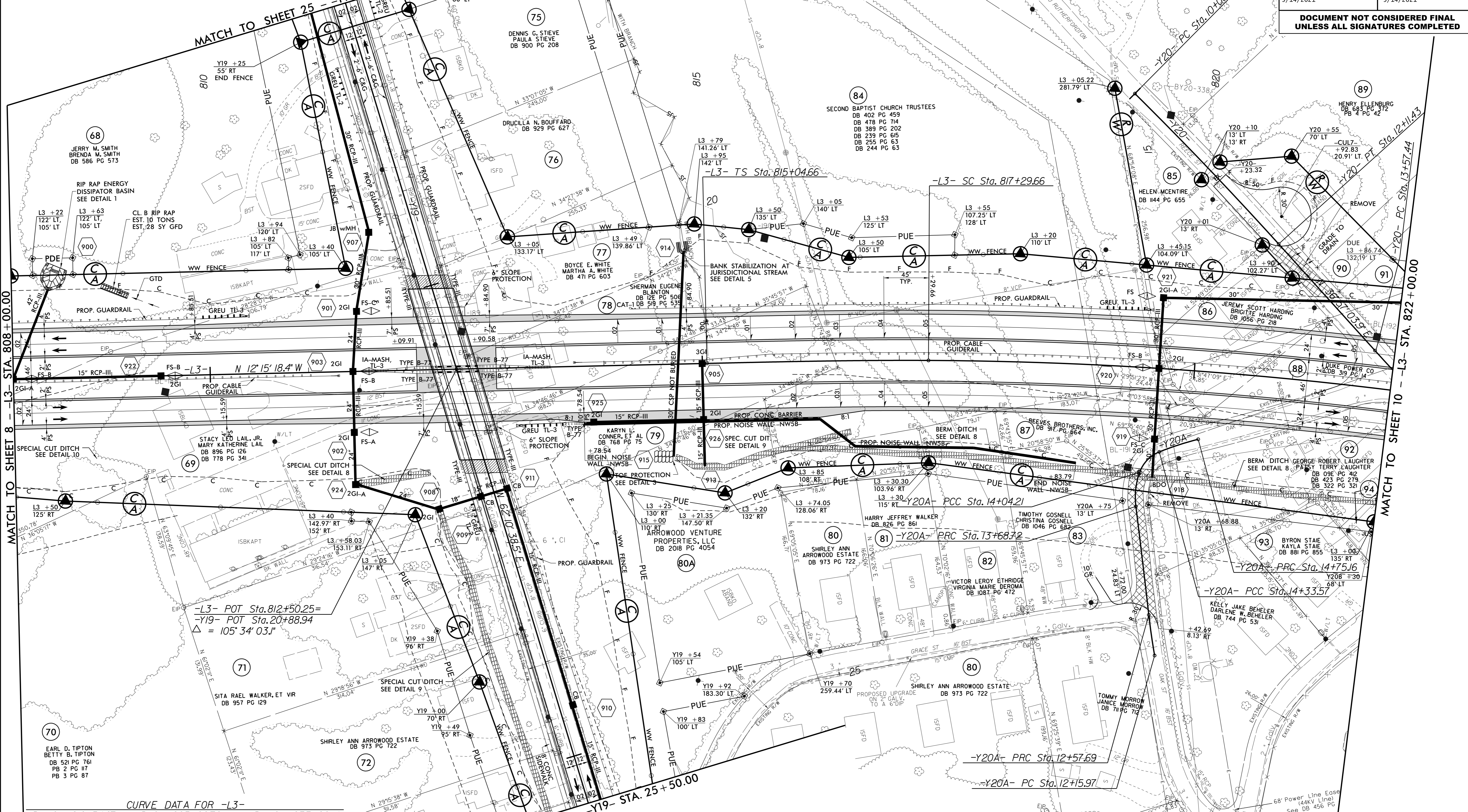
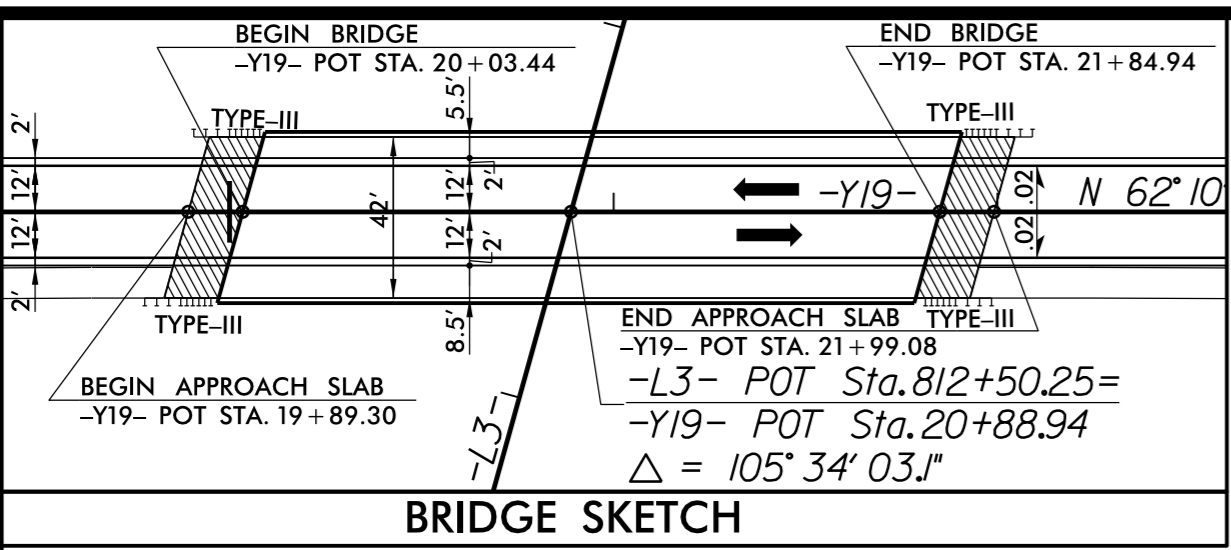
CURVE DATA FOR -Y17-

PI Sta	PI Sta	PI Sta	PI Sta
11+28.79	14+99.60	17+18.12	19+47.85
$\Delta = 2' 13'' 44.5''$ (RT)	$\Delta = 12' 07'' 17.0''$ (LT)	$\Delta = 1' 46'' 36.4''$ (LT)	$\Delta = 4' 43'' 29.0''$ (LT)
$D = 0' 51'' 55.8''$	$D = 5' 54'' 24.4''$	$D = 0' 05'' 50.2''$	$D = 2' 05'' 00.5''$
$L = 257.54'$	$L = 205.21'$	$L = 232.58'$	$L = 226.77'$
$T = 128.79'$	$T = 102.99'$	$T = 116.30'$	$T = 113.45'$
$R = 6,620.00'$	$R = 970.00'$	$R = 7,500.00'$	$R = 2,750.00'$

SEE SHEET 38 FOR -L3- PROFILE
SEE SHEETS C1-1 THRU C1-5 FOR CULVERT PLANS
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS

PROJECT REFERENCE NO. R-2233BB		SHEET NO. 9
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 -L3-

PIs Sta 816+54.67	PI Sta 825+28.78	PIs Sta 833+82.14
$\Delta s = 1^{\circ} 36' 41.2''$	$\Delta = 22^{\circ} 35' 44.0''$ (RT)	$\Delta s = 1^{\circ} 36' 41.2''$
$Ls = 225.00'$	$D = 1^{\circ} 25' 56.6''$	$Ls = 225.00'$
$LT = 150.01'$	$L = 1,577.47'$	$LT = 150.01'$
$ST = 75.01'$	$T = 799.12'$	$ST = 75.01'$
	$R = 4,000.00'$	
	$SE = .05$	

CURVE DATA FOR -Y20A-

PI Sta 12+36.83	PI Sta 13+32.21	PI Sta 13+86.81	PI Sta 14+19.82	PI Sta 14+54.40
$\Delta = 3^{\circ} 19' 12.5''$ (RT)	$\Delta = 0^{\circ} 36' 06.8''$ (LT)	$\Delta = 27^{\circ} 06' 40.0''$ (RT)	$\Delta = 48^{\circ} 03' 58.1''$ (RT)	$\Delta = 7^{\circ} 56' 30.6''$ (RT)
$D = 7^{\circ} 57' 27.9''$	$D = 0^{\circ} 32' 31.4''$	$D = 76^{\circ} 23' 39.7''$	$D = 163^{\circ} 42' 08.0''$	$D = 19^{\circ} 05' 54.7''$
$L = 41.72'$	$L = 111.04'$	$L = 35.49'$	$L = 29.36'$	$L = 41.58'$
$T = 20.87'$	$T = 55.52'$	$T = 18.08'$	$T = 15.61'$	$T = 20.83'$
$R = 720.00'$	$R = 10,570.00'$	$R = 75.00'$	$R = 35.00'$	$R = 300.00'$

9/13/2021 2:35:42 PM RBY_PSH09.DGN

SEE SHEET 39 FOR -L3- PROFILE
SEE SHEETS 62 & 63 FOR -Y19- PROFILE
SEE SHEETS S3-1 THRU S3-34 FOR STRUCTURE PLANS
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS



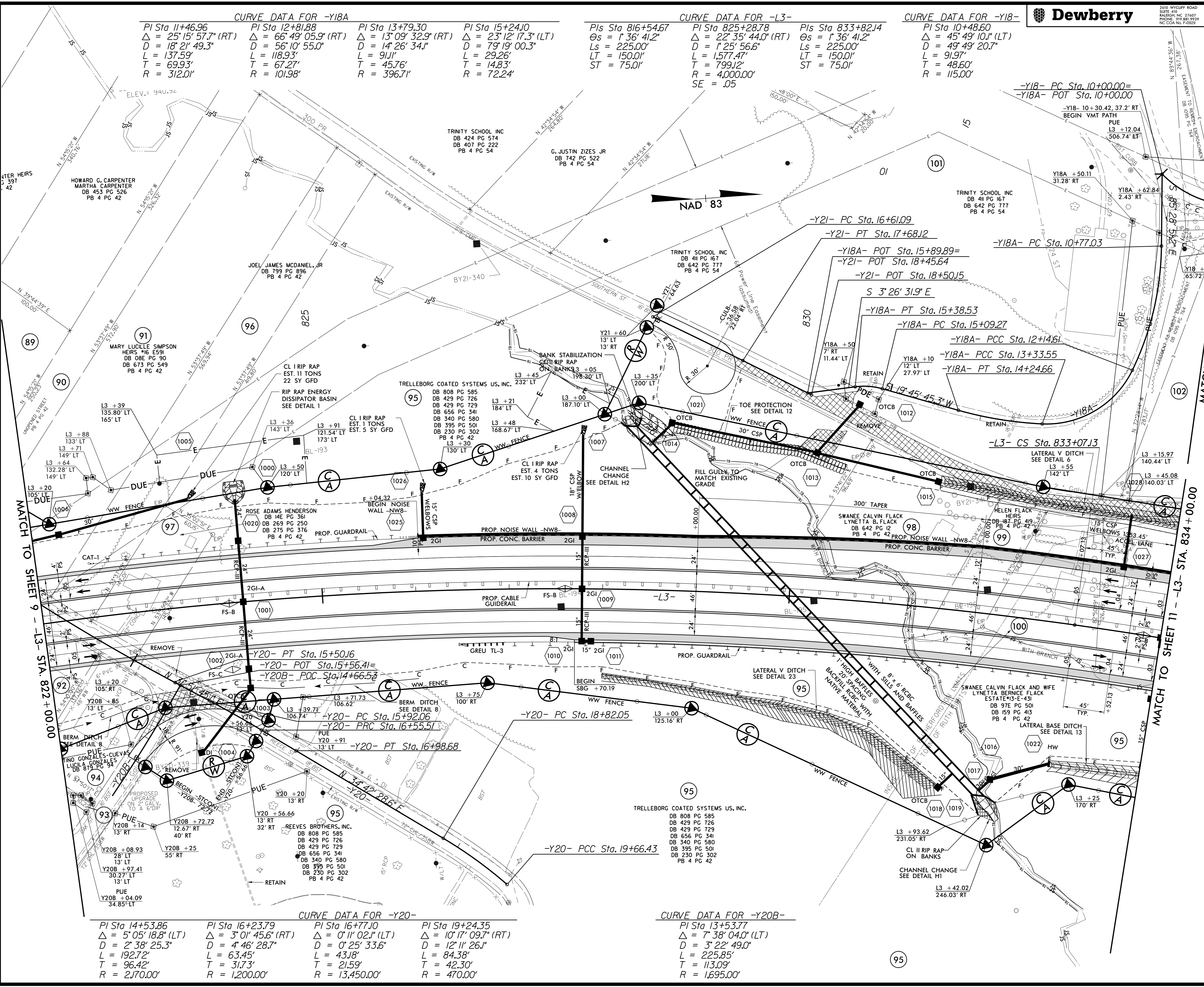
2410 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.883.9329
NC CCA No. F-0029

PROJECT REFERENCE NO.	SHEET NO.
R-2233BB	10

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 -Y18A

PI Sta 11+46.96 Δ = 25° 15' 57.7" (RT) D = 18' 21' 49.3" L = 137.59' T = 69.93' R = 312.01'	PI Sta 12+81.88 Δ = 66° 49' 05.9" (RT) D = 56' 10' 55.0" L = 118.93' T = 67.27' R = 101.98'	PI Sta 13+79.30 Δ = 13° 09' 32.9" (RT) D = 14' 26' 34.1" L = 91.11' T = 45.76' R = 396.71'	PI Sta 15+24.10 Δ = 23° 12' 17.3" (LT) D = 79' 19' 00.3" L = 29.26' T = 14.83' R = 72.24'
------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------

CURVE DATA FOR -L3-

PIs Sta 816+54.67 Θs = 1° 36' 41.2" Ls = 225.00' LT = 150.01' ST = 75.01'	PI Sta 825+28.78 Δ = 22° 35' 44.0" (RT) D = 1° 25' 56.6" L = 1,577.47' T = 799.12' R = 4,000.00' SE = .05	PIs Sta 833+82.14 Θs = 1° 36' 41.2" Ls = 225.00' LT = 150.01' ST = 75.01'
---------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------

CURVE DATA FOR -Y18-

PI Sta 10+48.60 Δ = 45° 49' 10.1" (LT) D = 49' 49' 20.7" L = 91.97' T = 48.60' R = 115.00'

CURVE DATA FOR -Y20-

PI Sta 14+53.86 Δ = 5° 05' 18.8" (LT) D = 2° 38' 25.3" L = 192.72' T = 96.42' R = 2,170.00'	PI Sta 16+23.79 Δ = 3° 01' 45.6" (RT) D = 4° 46' 28.7" L = 63.45' T = 31.73' R = 1,200.00'	PI Sta 16+77.10 Δ = 0° 11' 02.1" (LT) D = 0° 25' 33.6" L = 43.18' T = 21.59' R = 13,450.00'	PI Sta 19+24.35 Δ = 10° 17' 09.7" (RT) D = 12° 11' 26.1" L = 84.38' T = 42.30' R = 470.00'
------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------

CURVE DATA FOR -Y20B-

PI Sta 13+53.77 Δ = 7° 38' 04.0" (LT) D = 3° 22' 49.0" L = 225.85' T = 113.09' R = 1,695.00'

SEE SHEET 40 FOR -L3- PROFILE
SEE SHEET 74 FOR -Y18- PROFILE
SEE SHEETS C2-1 THRU C2-5 FOR CULVERT PLANS
SEE SHEETS 2D-1 THRU 2D-9 FOR DRAINAGE DETAILS

9/13/2021 10:09:02 AM
LISTENING TO THE ROADWAY DESIGN ENGINEER
RDY_PSH10.DGN