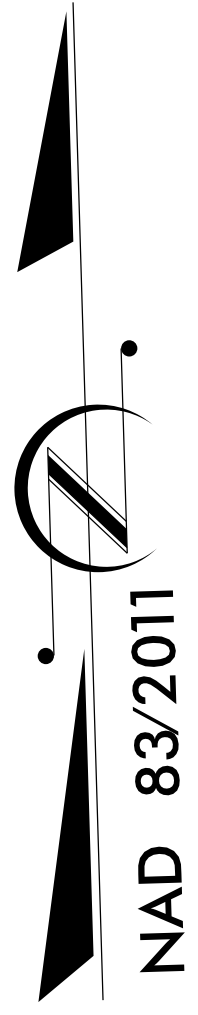
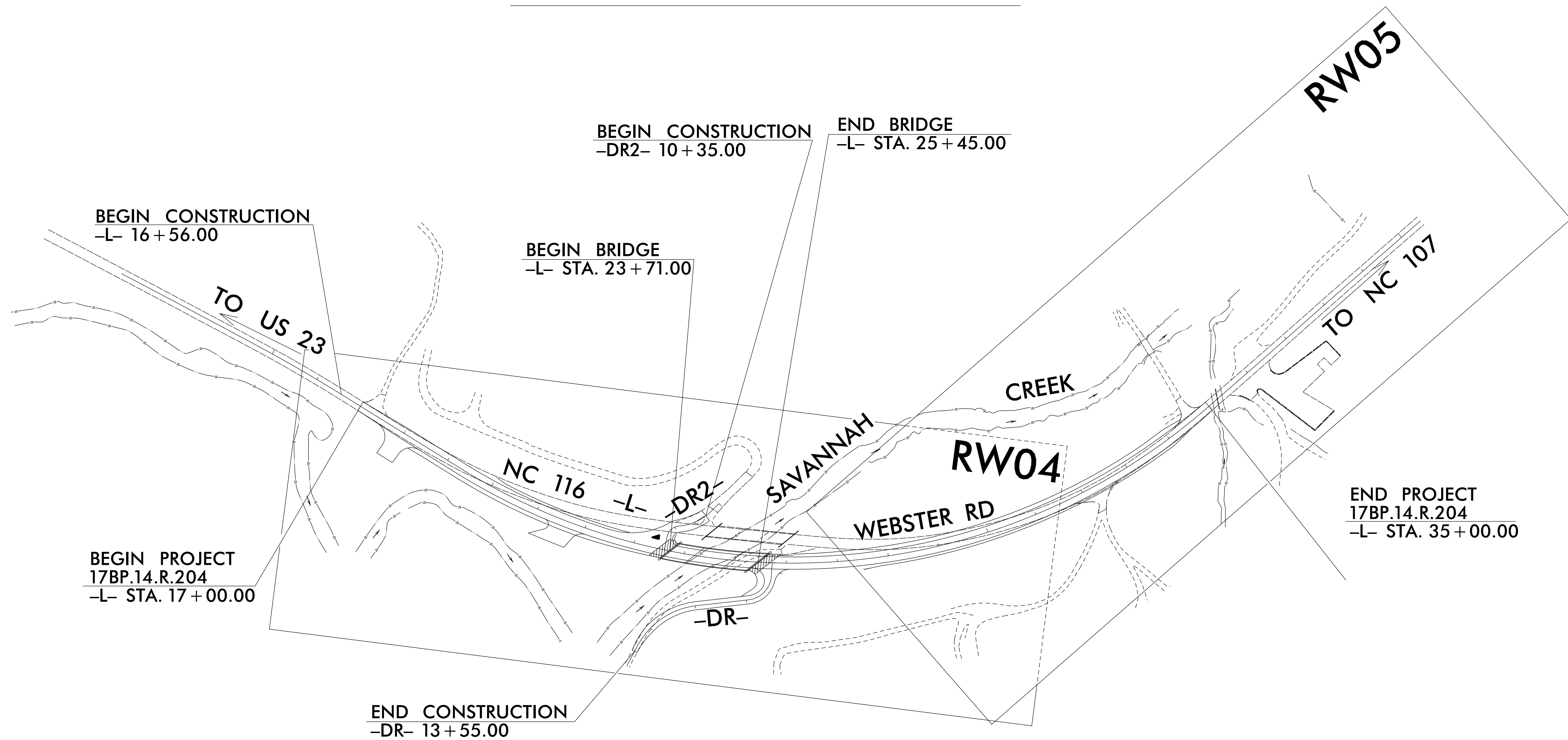


09/08/99

TIP PROJECT: 17BP.14.R.204

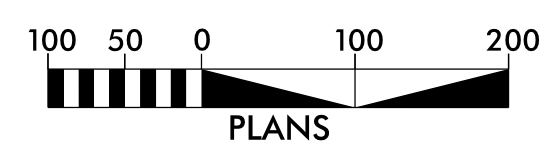
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.204	RW01	06

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 SURVEY CONTROL, EXISTING CENTERLINES,
 RIGHT OF WAY, EASEMENTS AND PROPERTY TIES
JACKSON COUNTY



10-OCT-2023 14:42
 C:\Sylvia\Bridges\17bp.14.r.204_is_rw01.dgn
 babar.watt

GRAPHIC SCALE



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "GPS-102" WITH NAD 83/NSRS XXXX STATE PLANE GRID COORDINATES OF NORTHING: 605,078.531(ft) EASTING: 736,105.091(ft) ELEVATION: 2,053.22(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99978020 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-102" TO -L- STATION 17+00.00 IS N 80-27'43.0" W 41.02(ft) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:

LOCATION AND SURVEYS, DIVISION 14
 122 BONNIE LANE
 SYLVA, NC 28779

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
 MAY 31, 2022

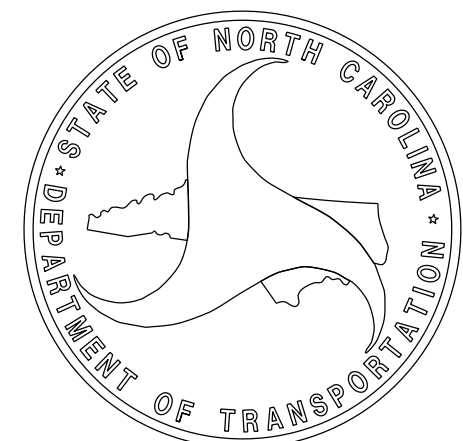
LETTING DATE:
 JANUARY 16, 2024

PROFESSIONAL LAND
 SURVEYOR



DocuSigned by:
 Brian Barwath
 SIGNATURE:

Date:
 10/10/2023



SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.204	RW02C-1
Location and Surveys	
LOCATION AND SURVEYS, DIVISION 14 122 BONNIE LANE SYLVA, NC 28779	
PROJECT SURVEYOR	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	605436.155	735459.131	S 60°58'22.6" E	166.34					
LINE									
PC	605355.443	735604.577	S 60°37'19.7" E	306.13	00°42'05.8"(RT)	00°13'45.1"	306.13	153.07	25000.00
CURVE									
PCC	605205.267	735871.339	S 58°31'18.9" E	183.17	03°29'55.9"(RT)	01°54'35.5"	183.20	91.63	3000.00
CURVE									
PT	605109.620	736027.554	S 56°46'21.0" E	162.46					
LINE									
PC	605020.598	736163.452	S 63°13'34.0" E	269.76	12°54'26.1"(LT)	04°46'28.7"	270.33	135.74	1200.00
CURVE									
PCC	604899.080	736404.289	S 76°13'01.0" E	273.24	13°04'27.9"(LT)	04°46'28.7"	273.83	137.51	1200.00
CURVE									
PT	604833.982	736669.657	S 82°45'15.0" E	278.58					
LINE									
PC	604798.845	736946.016	N 86°18'31.0" E	370.74	21°52'28.0"(LT)	05°51'52.1"	373.00	188.80	977.00
CURVE									
PCC	604822.714	737315.986	N 67°22'18.8" E	244.10	15°59'56.6"(LT)	06°31'59.4"	244.89	123.25	877.00
CURVE									
PCC	604916.630	737541.291	N 54°49'54.3" E	193.80	09°04'52.3"(LT)	04°40'51.7"	194.00	97.20	1224.00
CURVE									
PT	605028.253	737699.713	N 50°17'28.2" E	116.23					
LINE									
PC	605102.513	737789.132	N 50°05'59.6" E	100.15	00°22'57.2"(LT)	00°22'55.1"	100.15	50.08	15000.00
CURVE									
PT	605166.757	737865.966	N 49°54'31.0" E	88.26					
LINE									
PC	605223.599	737933.490	N 50°04'59.5" E	91.41	00°20'57.0"(RT)	00°22'55.1"	91.41	45.71	15000.00
CURVE									
PT	605282.258	738003.603	N 50°15'28.0" E	179.88					
LINE									
POT	605397.260	738141.916							



I, Brian Barwatt, PLS, certify that the Project Control was performed under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

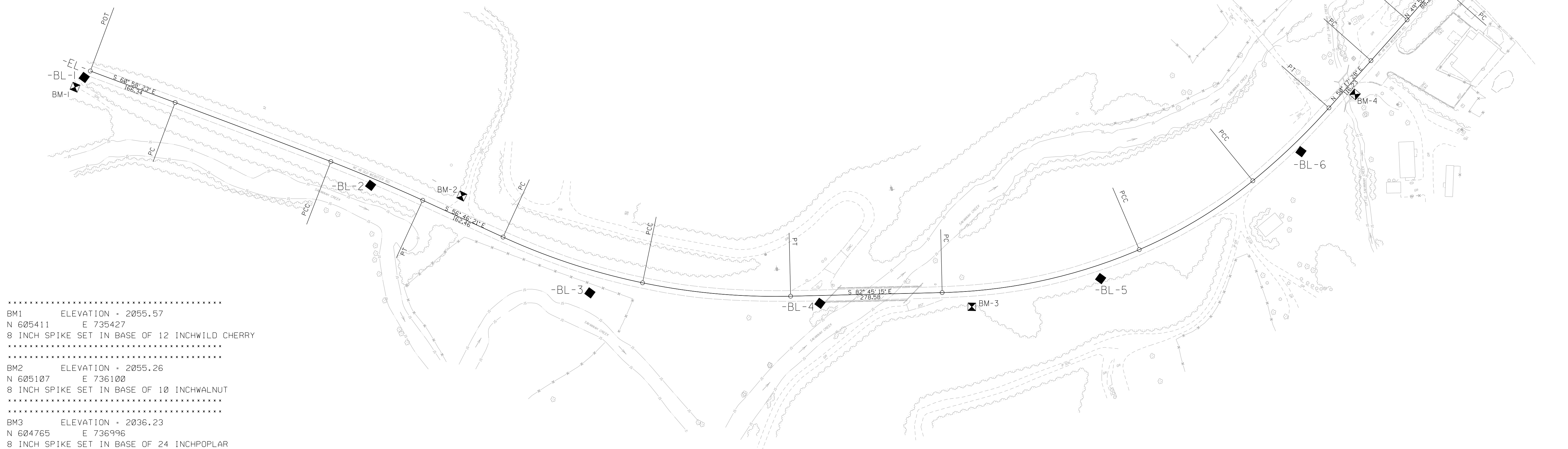
Class of survey: AA
 Type of GPS field procedure: VRS
 Dates of survey: January 2013
 Datum/Epoch: NAD 83/NA 2011
 Published/Fixed-control use: N/A
 Localized around: GPS 102
 Northing: 605078.531
 Easting: 736105.091
 Combined grid factor: 99978020
 Geoid model: 12NC
 Units: U.S. Survey Feet

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed January 2013, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 10th day of October, 2023.
 Documented by:

 Brian Barwatt
 Professional Land Surveyor L-4727

BL POINT	DESC.	NORTH	EAST	ELEVATION
1	BL - 1	605426.0000	735446.2530	2060.10
2	BL - 2	605151.0730	735936.9090	2053.89
3	BL - 3	604895.2520	736305.7870	2051.02
4	BL - 4	604812.8810	736720.9930	2039.20
5	BL - 5	604780.6350	737237.7870	2035.10
6	BL - 6	604956.2980	737636.7630	2031.45
7	BL - 7	605360.1680	738117.9000	2040.39



-
- BM1 ELEVATION = 2055.57
 N 605411 E 735427
 8 INCH SPIKE SET IN BASE OF 12 INCH WILD CHERRY

- BM2 ELEVATION = 2055.26
 N 605107 E 736100
 8 INCH SPIKE SET IN BASE OF 10 INCH WALNUT

- BM3 ELEVATION = 2036.23
 N 604765 E 736996
 8 INCH SPIKE SET IN BASE OF 24 INCH POPLAR


- BM4 ELEVATION = 2029.40
 N 605046 E 737751
 CHISELED SQUARE ON NE END OF CONCRETE HEADWALL

- BM5 ELEVATION = 2032.99
 N 605432 E 738132
 8 INCH SPIKE SET IN BASE OF 36 INCH TRIPLE POPLAR

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO. 17BP.14.R.204	SHEET NO. RW03E-1
Location and Surveys	
LOCATION AND SURVEYS, DIVISION 14 122 BONNIE LANE SYLVA, NC 28779	
PROJECT SURVEYOR	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	16+55.67	-50.00	605151.4447	736054.9527
L	16+55.67	-17.00	605123.8401	736036.8698
L	17+00.00	50.00	605043.5033	736037.2381
L	17+00.00	17.00	605071.1079	736055.3210
L	19+29.57	-50.00	605001.3592	736284.0672
L	19+29.57	50.00	604917.7091	736229.2707
L	22+24.89	-50.00	604875.9122	736537.3433
L	24+90.60	50.00	604718.2280	736772.5995
L	25+91.70	50.00	604709.5385	736877.4237
L	27+15.78	-50.00	604810.5029	737000.5652
L	34+95.33	-50.00	605080.6556	737684.5518
L	34+95.33	50.00	605003.7255	737748.4405
L	35+00.00	50.00	605006.7084	737752.0323
L	35+00.00	17.00	605032.0954	737730.9491
L	35+00.00	-50.00	605083.6385	737688.1437
L	35+00.00	-17.00	605058.2516	737709.2269

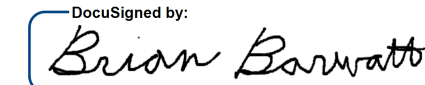
ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	23+00.00	50.00	604757.8435	736578.4515
L	23+00.00	70.00	604738.6155	736572.9481
L	23+50.00	70.00	604725.1107	736624.0351
L	23+70.00	50.00	604739.8018	736649.0173

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
DR	11+47.43	-25.00	604659.9124	736763.3633
DR	10+95.48	-25.00	604664.4737	736815.1161

I, Brian Barwatt, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed on September, 2022, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 10th day of October, 2023.
 Designed by:

 Professional Land Surveyor L-4727

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED ON SEPTEMBER, 2022.

Location and Surveys

LOCATION AND SURVEYS, DIVISION 14
122 BONNIE LANE
SYLVA, NC 28779

PROJECT SURVEYOR



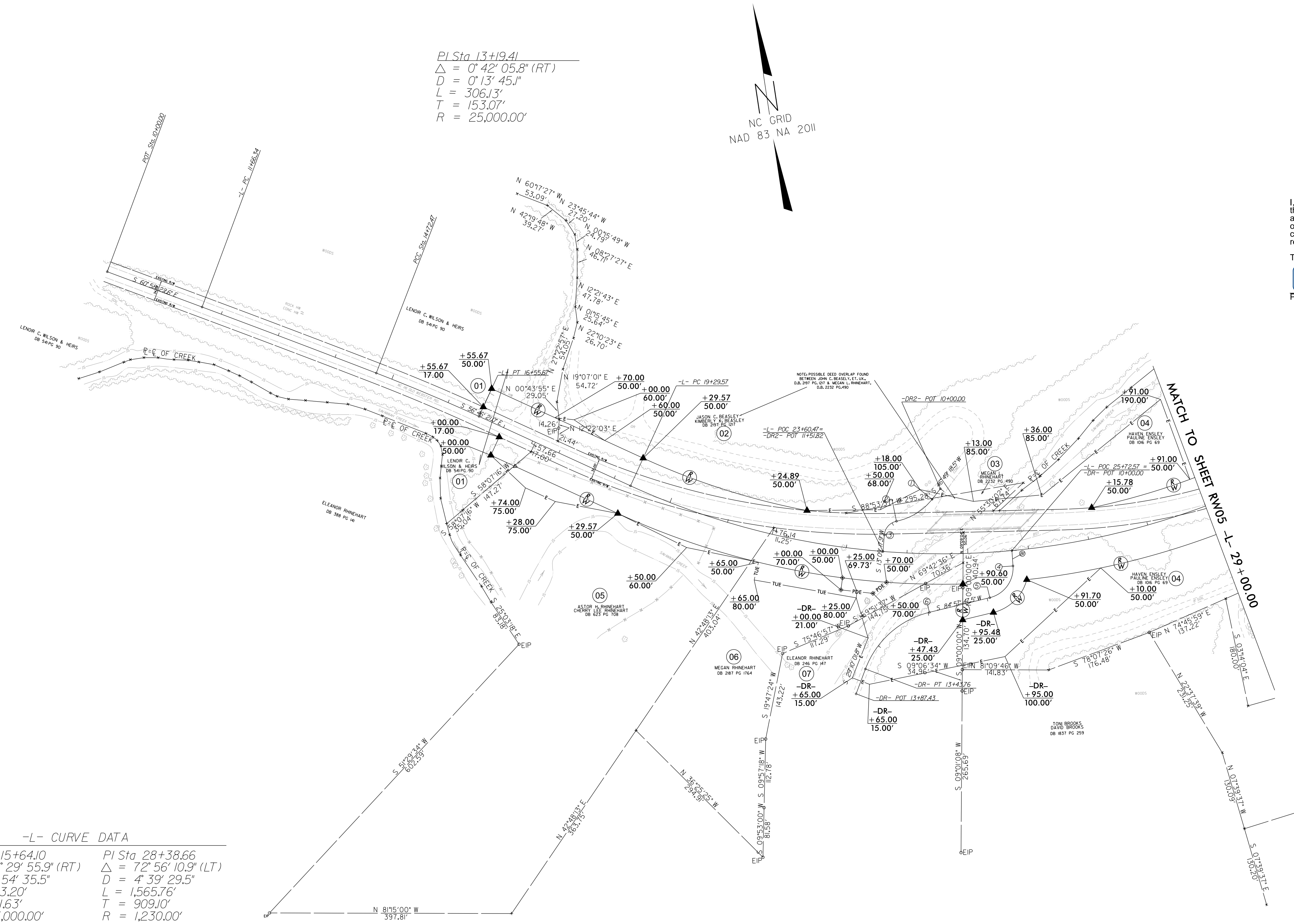
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

I, Brian Barwatt, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed on September, 2022, and all coordinates are based on NAD83/2011. That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 10th day of October, 2023.
DocuSigned by:
Brian Barwatt
Professional Land Surveyor L-4727

6/2/09

REVISIONS



PI Sta. 13+19.41
Δ = 0° 42' 05.8" (RT)
D = 0° 13' 45.1"
L = 306.13'
T = 153.07'
R = 25,000.00'



-L- CURVE DATA

PI Sta 15+64.10	PI Sta 28+38.66
Δ = 3° 29' 55.9" (RT)	Δ = 7° 56' 10.9" (LT)
D = 1° 54' 35.5"	D = 4° 39' 29.5"
L = 183.20'	L = 1,565.76'
T = 91.63'	T = 909.10'
R = 3,000.00'	R = 1,230.00'
	SE = 04
	DS = 55 MPH

-DR2- CURVE DATA

PI Sta 10+58.66	PI Sta 11+111
Δ = 40° 17' 02.3" (RT)	Δ = 7° 3' 57" 02.9" (LT)
D = 57° 17' 44.8"	D = 229° 10' 59.2"
L = 70.31'	L = 32.27'
T = 36.68'	T = 18.82'
R = 100.00'	R = 25.00'

-DR- CURVE DATA

PI Sta 10+67.57	PI Sta 12+77.10
Δ = 80° 22' 58.1" (RT)	Δ = 55° 47' 45.8" (LT)
D = 114° 35' 29.6"	D = 38° 11' 49.9"
L = 70.15'	L = 146.07'
T = 42.24'	T = 79.41'
R = 50.00'	R = 150.00'

- ① -DR2- PC 10+21.98 ④ -DR- PC 10+25.33 ⑥ -DR- PC 11+97.69
- ② -DR2- PRC 10+92.29 ⑤ -DR- PT 10+95.48
- ③ -DR2- PT 11+24.56 ⑦ S 4° 34' 49.5" W


NOTES:

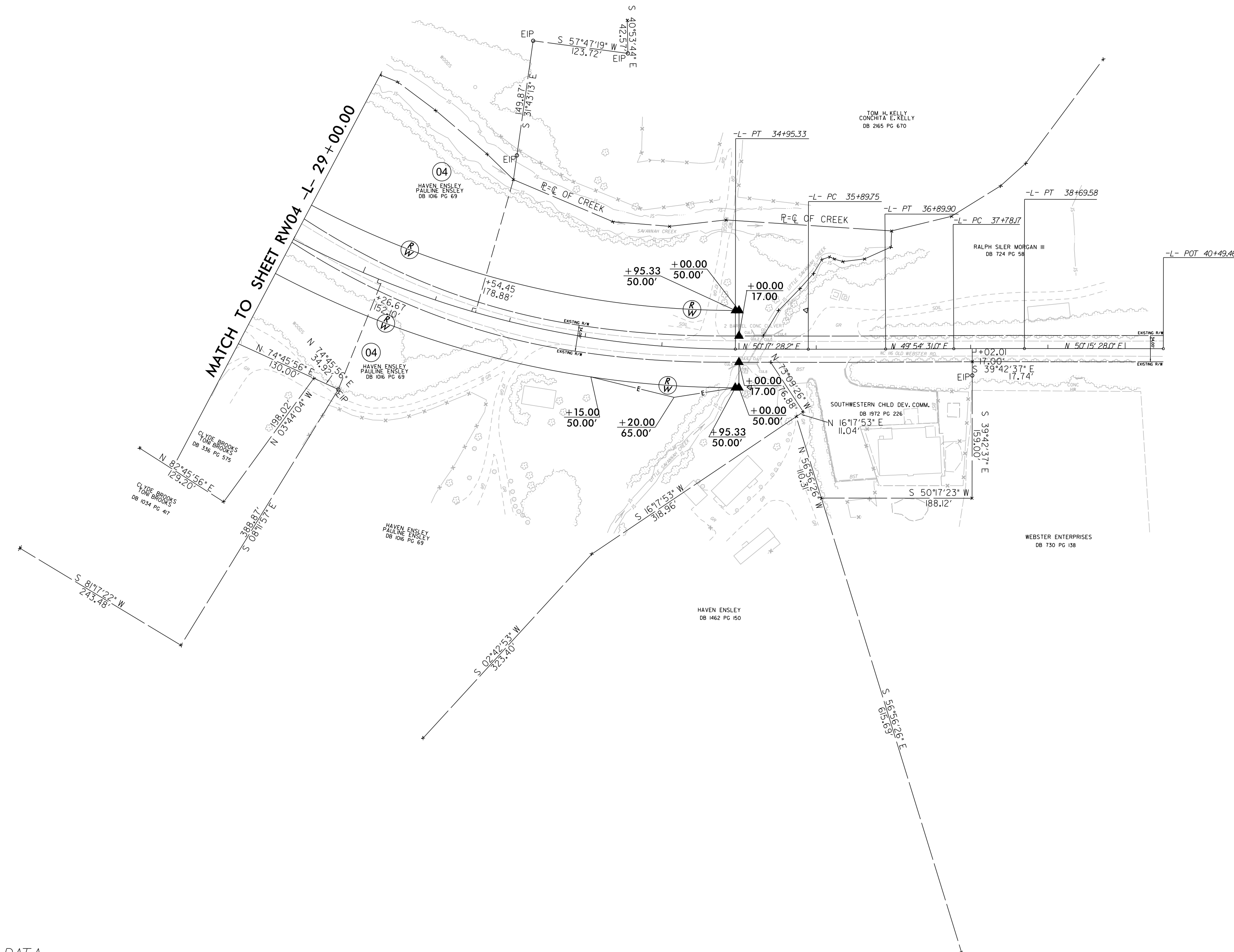
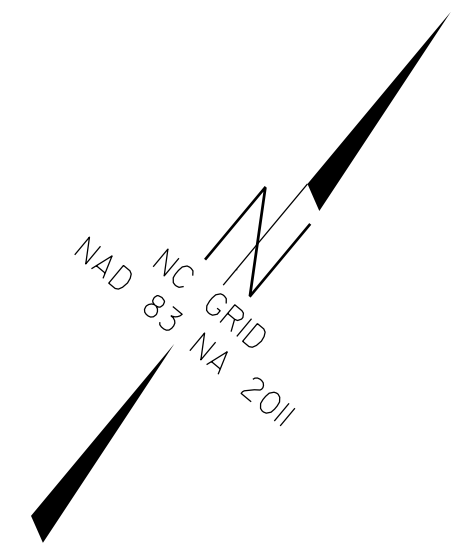
1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED ON SEPTEMBER, 2022.

I:\01-2023\14105-C:\Sullivan\17BP.14.R.204\17BP.14.R.204.dwg
 10/10/2023 14:05
 C:\Sullivan\17BP.14.R.204\17BP.14.R.204.dwg
 AT 15:30:17.31
 bbarwatt

REVISIONS

10-01-2023 14:38
C:\Users\barbawatt\OneDrive\Work\Projects\17bp.14.r-204.1.s-rw05.dgn
barbawatt

PROJECT REFERENCE NO. 17BP.14.R.204	SHEET NO. RW05
Location and Surveys	
LOCATION AND SURVEYS, DIVISION 14 122 BONNIE LANE SYLVA, NC 28779	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



-L- CURVE DATA

PI Sta 28+38.66	PI Sta 36+39.83	PI Sta 38+23.87
$\Delta = 72^{\circ} 56' 10.9''$ (LT)	$\Delta = 0^{\circ} 22' 57.2''$ (LT)	$\Delta = 0^{\circ} 20' 57.0''$ (RT)
D = 4' 39' 29.5"	D = 0' 22' 55.1"	D = 0' 22' 55.1"
L = 1,565.76'	L = 100.15'	L = 91.41'
T = 909.10'	T = 50.08'	T = 45.71'
R = 1,230.00'	R = 15,000.00'	R = 15,000.00'
SE = 04		
DS = 55 MPH		

I, Brian Barwatt, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed on September, 2022, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 10th day of October, 2023.
DocuSigned by:
Brian Barwatt
Professional Land Surveyor L-4727

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
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3. RIGHT OF WAY MONUMENTATION ESTABLISHED ON SEPTEMBER, 2022.