

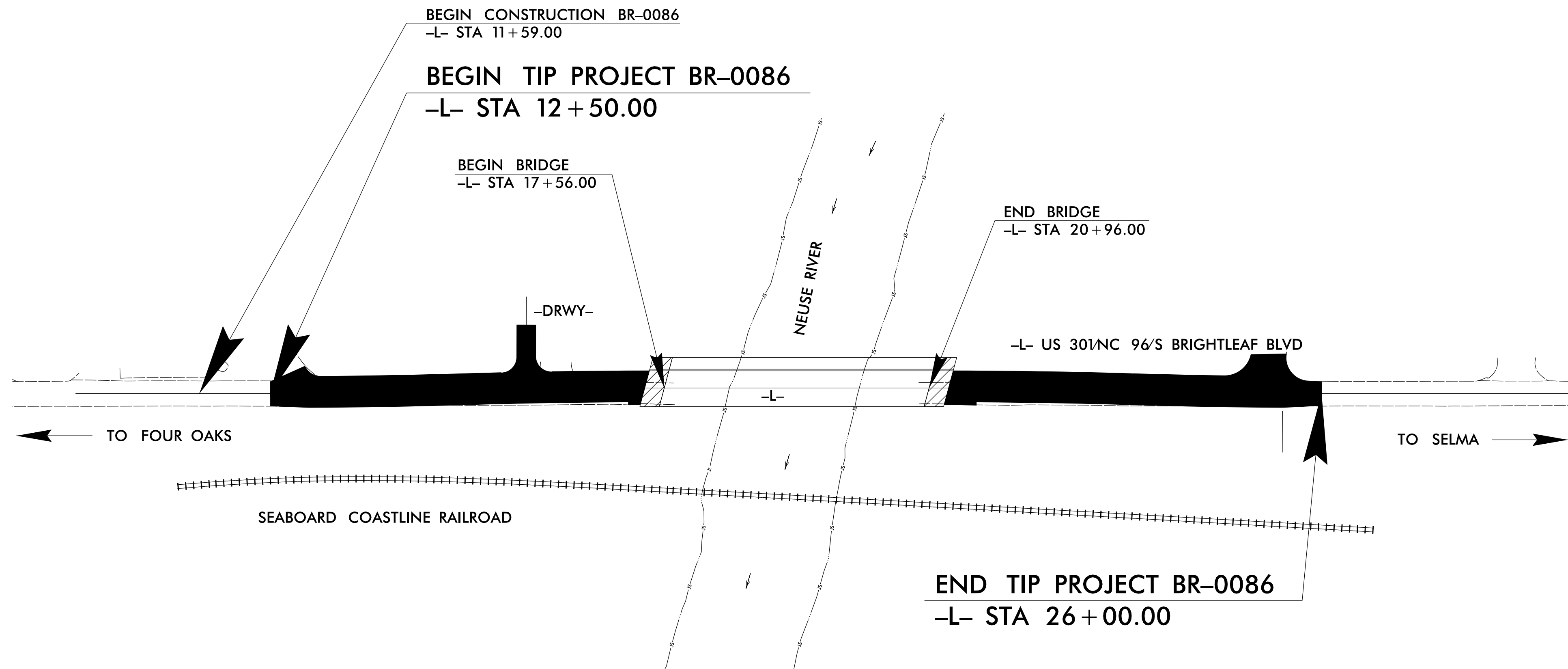
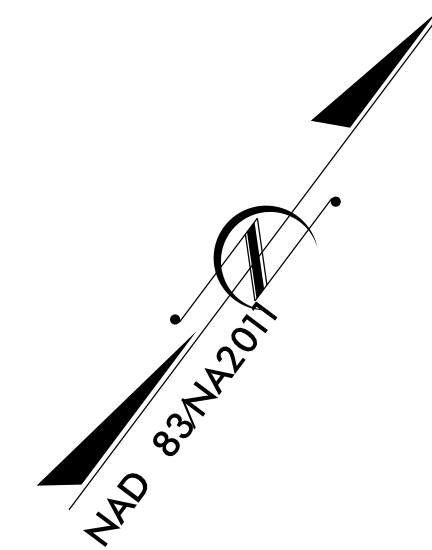
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0086	RW01	06

**TIP PROJECT: BR-0086**

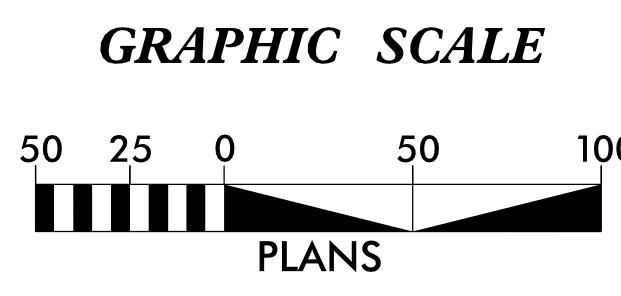
STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS

SURVEY CONTROL, EXISTING CENTERLINES,  
 RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

**JOHNSTON COUNTY**



14-JUL-2023 13:44  
 P:\Project\23\23-0107\001\br-0089-con.drm\LocationSurveys\Working\br-0086\_ls\_rw01.dgn  
 C:\hambliss AT CAR-CCHAMBLISS



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "BR0086-2" WITH NAD 83/NSRS 2011 STATE PLANE GRID COORDINATES OF NORTHING: 630,468.879(ft) EASTING: 2,187,221.866(ft) ELEVATION: 126.437(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987986

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BR0086-2" TO -L- STATION 11+59.00 IS S 51-09'25" W 573.17(ft)

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

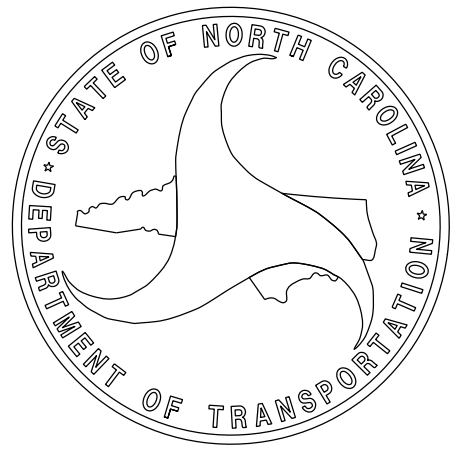
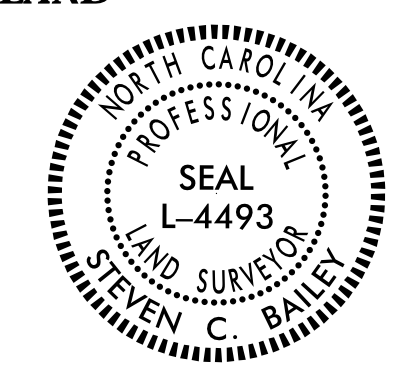
Prepared in the Office of:

**DRMP**  
 DRMP NC, INC.  
 NC License No: C-4923  
 8000 Regency Parkway, Suite 110  
 Cary, NC 27518  
 PHONE: (919) 650 1038

2018 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:** \_\_\_\_\_ **LETTING DATE:** 01/21/2025



PROFESSIONAL LAND SURVEYOR



SIGNATURE: \_\_\_\_\_ Date: \_\_\_\_\_

# SURVEY CONTROL SHEET


W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

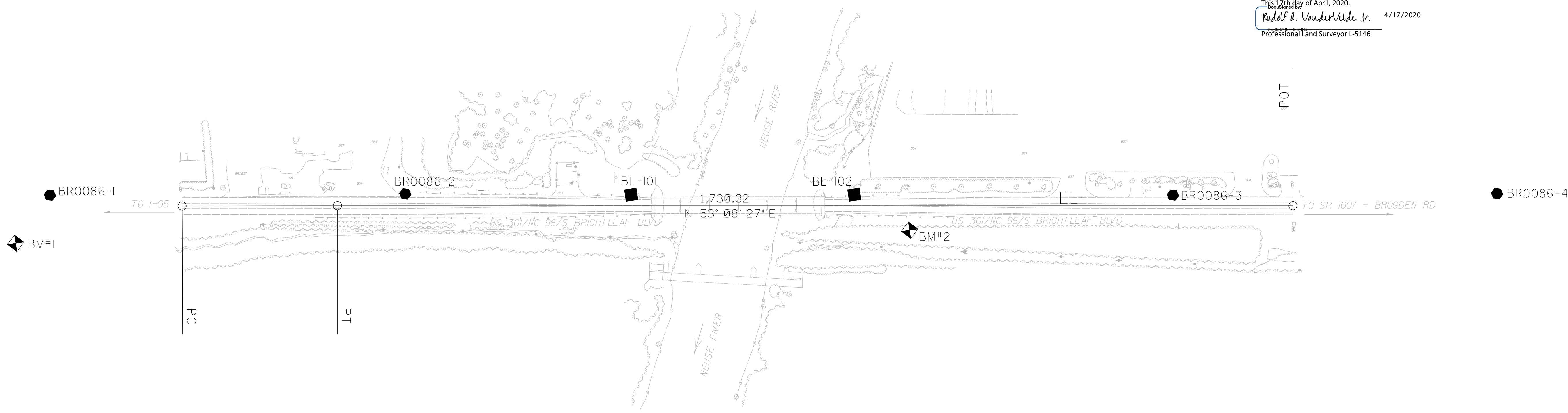
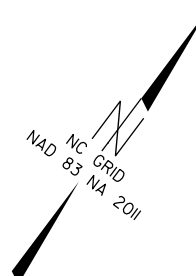
PROJECT REFERENCE NO. BR-0086	SHEET NO. RW02C-1
Location and Surveys	
	
<p>PROJECT SURVEYOR</p> 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Rudolf A. VanderVelde Jr., PLS, certify that the Project Control was (performed/verified) 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: (Static, OPUS, RTN)  
Dates of survey: March 3, 2020  
Datum/Epoch: NAD83/NA 2011  
Published/Fixed-control used: (Control Utilized)  
Localized around: BR0086-2  
Northing: 630,468.8787  
Easting: 2,187,221.8656  
Combined grid factor: 0.99987986 (ground to grid)  
Geoid model: NAVD 88/GEOID G12NC  
Units: 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 from 3-9-2020 to 3-12-2020, 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 17th day of April, 2020.  
 4/17/2020  
Professional Land Surveyor L-5146



REVISIONS

location\Geomatics\NCDOT\Submittal\br-0086\_1s-rw02c-1.dgn



17-APR-2020 12:52  
K:\19\15-0000\1500095\26-BR-0086 Br.ridge 500070  
r.vandervelde AT WR1701

### NOTES:

- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
- 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.

# SURVEY CONTROL SHEET

**W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION**

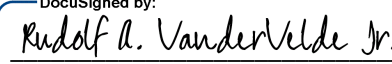
PROJECT REFERENCE NO. BR-0086	SHEET NO. RW02C-2
<b>Location and Surveys</b>	
 WithersRavenel Engineers   Planners   Surveyors	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Rudolf A. VanderVelde Jr., PLS, certify that the Project Control was (performed/verified) 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: (Static, OPUS, RTN)  
 Dates of survey: March 3, 2020  
 Datum/Epoch: NAD83/NA 2011  
 Published/Fixed-control used: (Control Utilized)  
 Localized around: BR0086-2  
 Northing: 630,468.8787  
 Easting: 2,187,221.8656  
 Combined grid factor: 0.99987986 (ground to grid)  
 Geoid model: NAVD 88/GEOID G12NC  
 Units: 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 from 3-9-2020 to 3-12-2020, 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 9th day of April, 2020.

DocuSigned by:  
  
 Rudolf A. VanderVelde Jr.  
 Professional Land Surveyor L-5146  
 4/9/2020

BL	POINT	DESC.	NORTH	EAST	ELEVATION
1		BR0086-1	630080.8707	2186708.4022	140.65
2		BR0086-2	630468.8787	2187221.8656	126.44
101		BL-101	630712.9890	2187550.0340	128.27
102		BL-102	630955.4320	2187873.2950	128.90
3		BR0086-3	631300.8922	2188335.4051	130.40
4		BR0086-4	631655.2946	2188803.5343	133.66

\*\*\*\*\*  
 BM1            ELEVATION = 143.65  
 N 629974       E 2186711  
 BL STATION 5+00.00  
 S 01°29'28.8" E     DIST 106.77  
 RR SPIKE IN BASE OF 12" PINE  
 \*\*\*\*\*

\*\*\*\*\*  
 BM2            ELEVATION = 124.49  
 N 630964       E 2187992  
 BL STATION 20+57.00 64 RIGHT  
 RR SPIKE IN BASE OF 14" POPLAR  
 \*\*\*\*\*

EL	POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC		630209.079	2186911.823							
CURVE				N 53°02'01.9" E	281.08	00°12'49.5"(RT)	00°04'33.8"	281.08	140.54	75342.48
PT		630378.107	2187136.406							
LINE				N 53°08'26.7" E	1730.32					
POT		631416.042	2188520.855							

**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.

REVISIONS

Location\Geomatics\NCDDT\Submittal\br-0086\_1s-rw02c-2.dgn


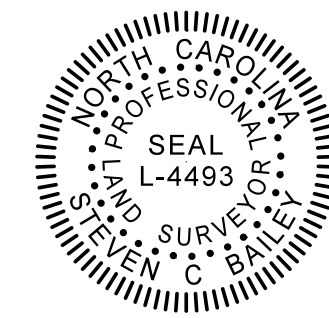
09-APR-2020 12:14  
 K:\1815-0030\190095-26-BR-0086-Br-ridge 500070  
 r.vandervelde  
 AT WRT701

# PROPOSED ALIGNMENT CONTROL SHEET

I, Steven C Bailey, PLS, certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

This 14th day of July, 2023.

STEVEN C BAILEY  
L-4493

PROJECT REFERENCE NO. BR-0086	SHEET NO. RW02D-1
<b>Location and Surveys</b>	
	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

REVISIONS

TYPE	STATION	NORTH	EAST
POT	10+00.00	630258.1368	2186976.3841
PC	12+61.53	630415.0138	2187185.6345
PRC	15+00.45	630561.1993	2187374.6015
PT	17+39.37	630707.3847	2187563.5684
PC	21+17.47	630934.1892	2187866.0916
PRC	23+56.38	631074.5902	2188059.3875
PT	25+95.30	631214.9913	2188252.6836
POT	29+30.47	631416.0421	2188520.8551

**NOTES:**

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE PROPOSED ALIGNMENT 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.



Location and Surveys



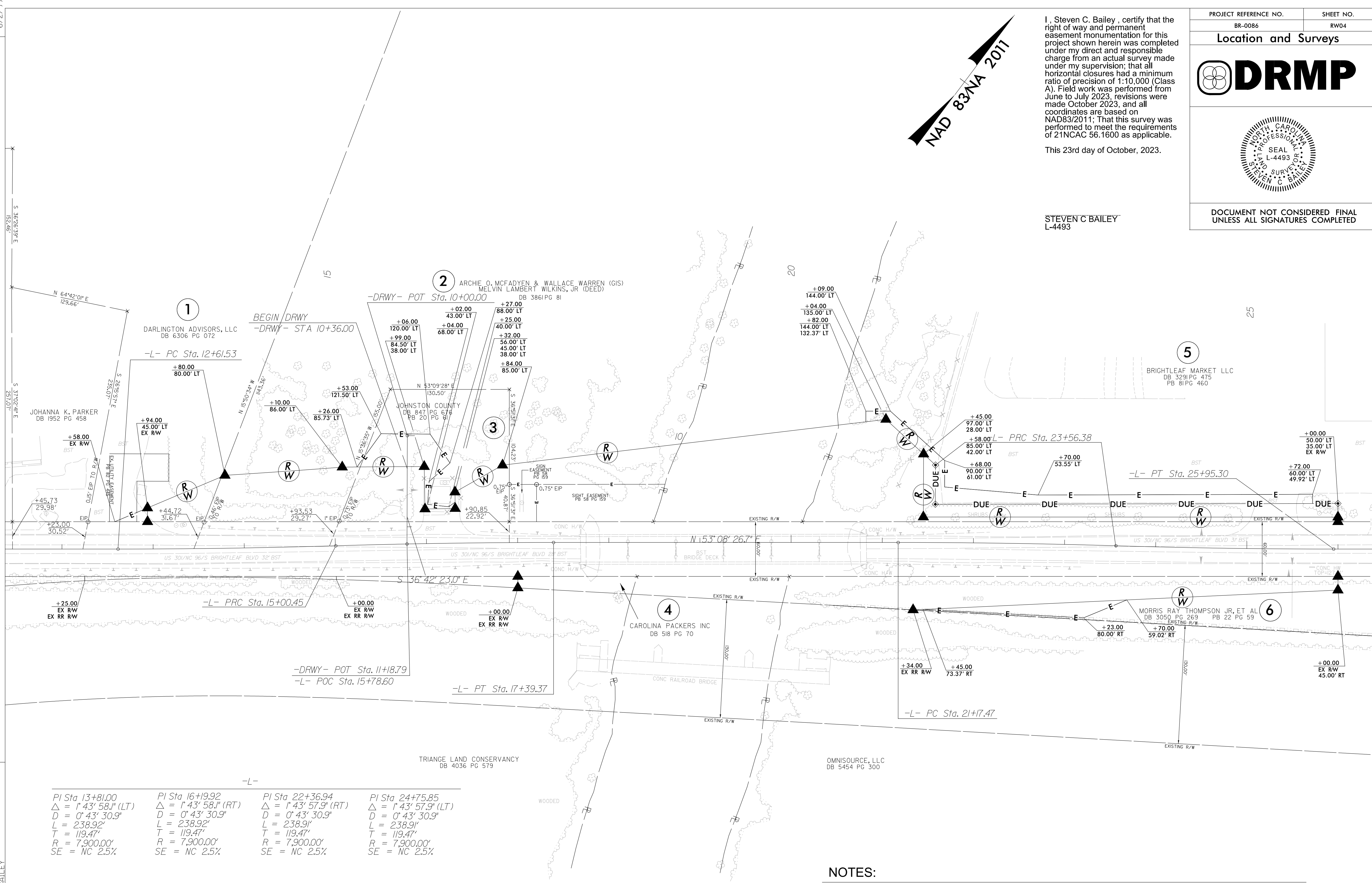
I, Steven C. Bailey, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from June to July 2023, revisions were made October 2023, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.  
This 23rd day of October, 2023.

STEVEN C. BAILEY  
L-4493

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

P:\PROJECTS\2023\0725-00107-016-BR0086-con.drm2\Surveying\_and\_Mapping\Working\_NewSheets\BR0086\_rw04.dgn  
6/2/2023 07:25  
S:\Projects\2023\0725-00107-016-BR0086-con.drm2\Surveys\CAR-SBAILEY



Station	Delta	Diameter	Length	Tangent	Radius	Setback
PI Sta 13+81.00	Δ = 1° 43' 58.1" (LT)	D = 0' 43' 30.9"	L = 238.92'	T = 119.47'	R = 7,900.00'	SE = NC 2.5%
PI Sta 16+19.92	Δ = 1° 43' 58.1" (RT)	D = 0' 43' 30.9"	L = 238.92'	T = 119.47'	R = 7,900.00'	SE = NC 2.5%
PI Sta 22+36.94	Δ = 1° 43' 57.9" (RT)	D = 0' 43' 30.9"	L = 238.91'	T = 119.47'	R = 7,900.00'	SE = NC 2.5%
PI Sta 24+75.85	Δ = 1° 43' 57.9" (LT)	D = 0' 43' 30.9"	L = 238.91'	T = 119.47'	R = 7,900.00'	SE = NC 2.5%

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 JUNE 2023 TO JULY 2023. REVISIONS MADE OCTOBER 2023.