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with their signature on that page.**

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shall not be considered a certified document.**

09/06/19

TIP PROJECT: B-5326

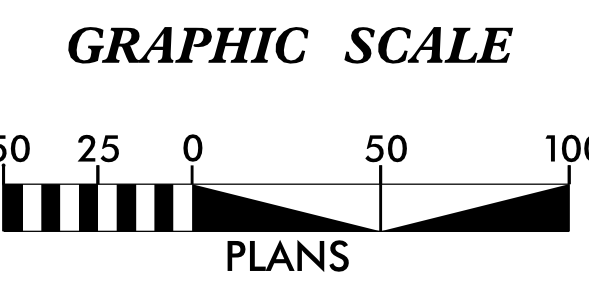
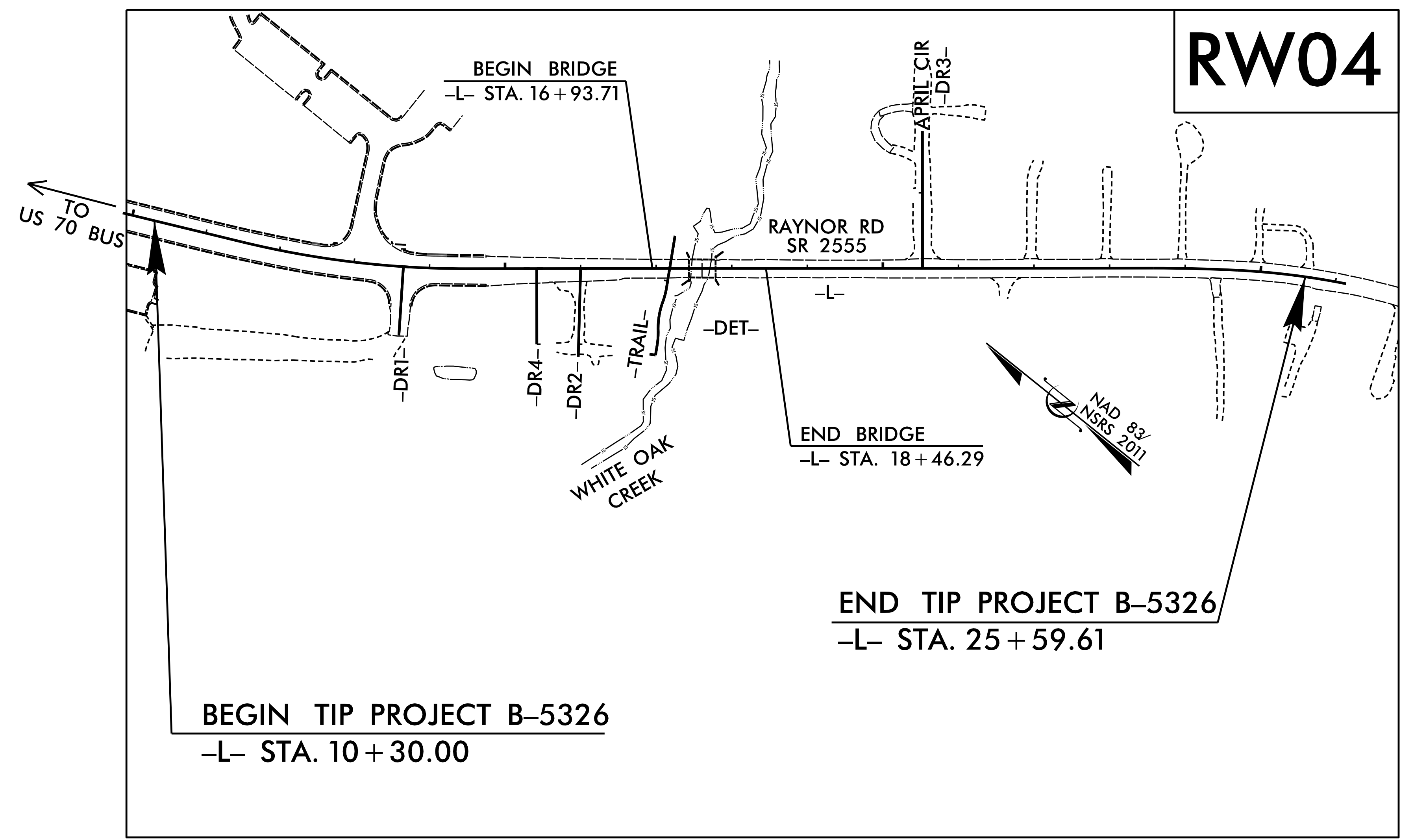
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5326	RW01	7

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

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

WAKE COUNTY

LOCATION: REPLACE BRIDGE NO. 247 OVER WHITE OAK CREEK  
ON SR 2555 (RAYNOR RD)  
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5326-1" WITH NAD 83/NSRS 2011 STATE PLANE GRID COORDINATES OF NORTHING: 700,029.713(ft) EASTING: 2,133,777.375(ft) ELEVATION: 252.60(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99989216 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5326-1" TO -L- STATION 10+00 IS N 22°30'21" W 326.32(ft) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD88

Prepared in the Office of:



2018 STANDARD SPECIFICATIONS

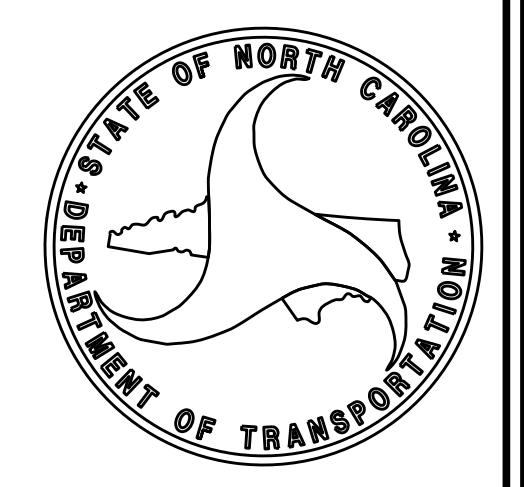
RIGHT OF WAY DATE:  
JUNE 22, 2018

LETTING DATE:  
APRIL 16, 2019

PROFESSIONAL LAND SURVEYOR



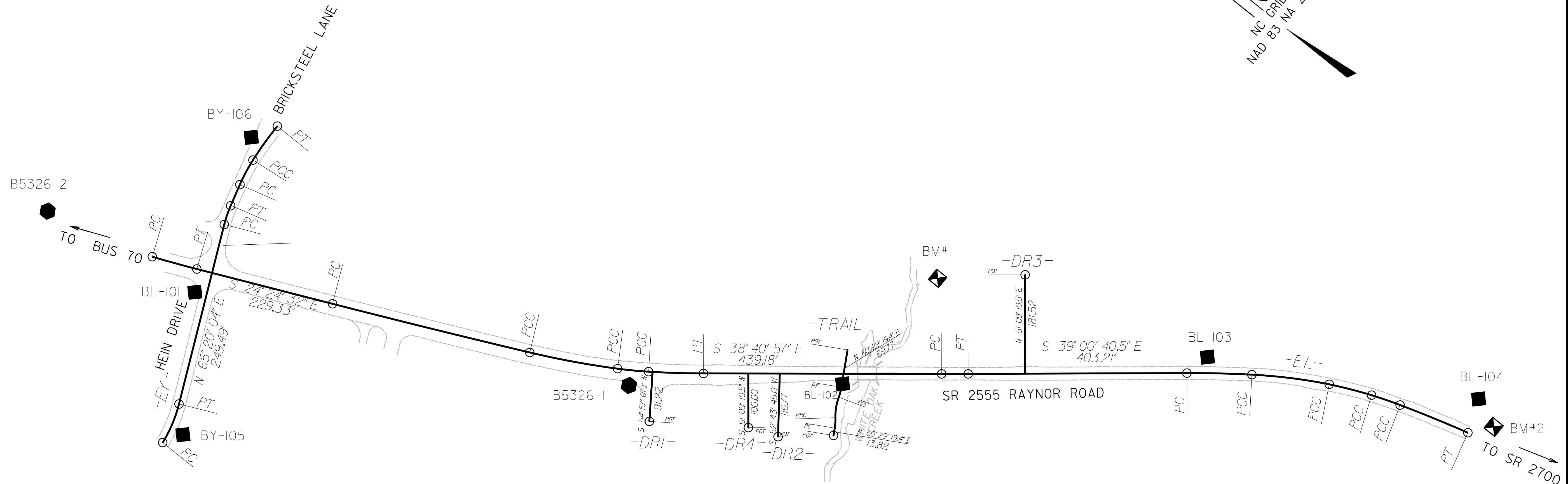
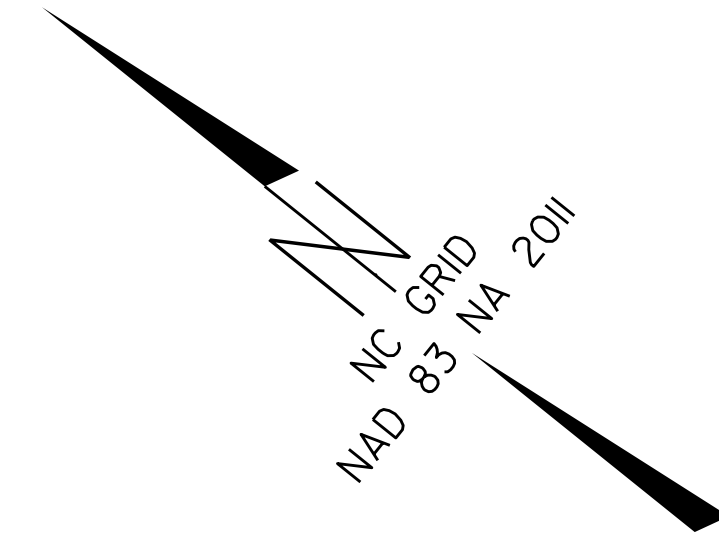
Rudolf A. Vanderveide, Jr. 12/5/2019  
SIGNATURE: Date:



\$\$\$\$\$ SYSTEM \$\$\$\$\$\$  
\$\$\$\$\$ DDN \$\$\$\$\$\$  
\$\$\$\$\$ USERNAME \$\$\$\$\$\$

# SURVEY CONTROL SHEET

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



**SEE SHEET RW02C-3  
FOR FURTHER  
ALIGNMENT DETAILS**

**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.

REVISIONS

2/19/19  
 20, FEB 2019 15:41  
 C:\FEB-2019\B5326\05-14-2017 (F)\11 Survey\Final\B5326-1s.rw02c-1.dgn  
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# SURVEY CONTROL SHEET

## W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

EL									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	700861.273	2133412.033							
CURVE			S 23°23'54.3" E	85.06	02°01'14.9"(LT)	02°22'32.3"	85.06	42.54	2411.82
PT	700783.208	2133445.812							
LINE			S 24°24'31.8" E	29.00					
POT	700756.797	2133457.798							
LINE			S 24°24'31.8" E	229.33					
PC	700547.965	2133552.567							
CURVE			S 24°55'51.3" E	374.60	01°02'38.9"(LT)	00°16'43.4"	374.60	187.31	20555.87
PCC	700208.272	2133710.470							
CURVE			S 28°20'03.7" E	164.61	05°45'45.9"(LT)	03°29'57.9"	164.68	82.41	1637.29
PCC	700063.386	2133788.595							
CURVE			S 33°15'58.0" E	57.43	04°06'02.8"(LT)	07°08'18.7"	57.45	28.74	802.63
PCC	700015.364	2133820.099							
CURVE			S 36°59'58.1" E	101.13	03°21'57.4"(LT)	03°19'39.7"	101.15	50.59	1721.78
PT	699934.594	2133880.963							
LINE			S 38°40'56.8" E	439.18					
PC	699591.763	2134155.450							
CURVE			S 38°50'48.6" E	48.90	00°19'43.7"(LT)	00°40'20.6"	48.90	24.45	8521.19
PT	699553.678	2134186.122							
LINE			S 39°00'40.5" E	403.21					
PC	699240.373	2134439.933							
CURVE			S 37°24'52.7" E	119.81	03°11'35.6"(RT)	02°39'53.9"	119.82	59.93	2149.97
PCC	699145.215	2134512.725							
CURVE			S 31°40'57.8" E	143.74	08°16'14.0"(RT)	05°44'56.4"	143.86	72.06	996.62
PCC	699022.900	2134588.218							
CURVE			S 24°25'25.8" E	80.54	04°37'54.2"(RT)	05°44'56.4"	80.57	40.30	996.62
PCC	698949.564	2134621.521							
CURVE			S 19°41'00.3" E	55.68	03°14'01.1"(RT)	05°48'25.0"	55.69	27.85	986.68
PCC	698897.139	2134640.275							
CURVE			S 16°33'12.1" E	134.99	03°01'35.2"(RT)	02°14'29.9"	135.01	67.52	2555.98
PT	698897.139	2134640.275							

EY									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	700631.534	2133156.902							
CURVE			N 74°05'15.6" E	77.12	17°30'23.2"(LT)	22°36'40.3"	77.42	39.02	253.40
PT	700652.679	2133231.070							
LINE			N 65°20'04.0" E	249.49					
POT	700756.797	2133457.798							
LINE			N 65°20'04.0" E	92.15					
PC	700795.253	2133541.541							
CURVE			N 70°03'34.3" E	36.73	09°27'00.6"(RT)	25°41'48.9"	36.78	18.43	222.97
PT	700807.781	2133576.073							
LINE			N 74°47'04.6" E	42.27					
PC	700818.874	2133616.859							
CURVE			N 79°12'44.6" E	51.42	08°51'19.9"(RT)	17°12'15.5"	51.47	25.79	333.03
PCC	700828.499	2133667.371							
CURVE			N 86°52'45.8" E	77.09	06°28'42.5"(RT)	08°23'57.6"	77.13	38.61	682.15
PT	700828.499	2133667.371							

**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.

REVISIONS

2/20/19

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 01/20/2019 10:52:27 AM  
 h-treloar

# PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
B-5326	RW02D-1
Location and Surveys	
<b style="font-size: 12px;">WithersRavenel</b> <small>Engineers   Planners   Surveyors</small>	

L

TYPE	STATION	NORTH	EAST
PC	10+00.00	700331.1825	2133652.4660
PT	10+30.24	700303.7975	2133665.3035
PC	11+49.70	700195.6722	2133716.0877
PT	14+48.34	699943.0211	2133873.9786
PC	23+57.78	699234.7287	2134444.4192
PCC	24+69.48	699145.9525	2134512.1924
PT	26+14.25	699022.8999	2134588.2176

DR1

TYPE	STATION	NORTH	EAST
POT	10+00.00	700009.2476	2133824.1683
POT	10+91.22	699956.8611	2133749.4859

DR2

TYPE	STATION	NORTH	EAST
POT	10+00.00	699824.9062	2133969.1053
POT	11+16.77	699754.1902	2133876.1793

TRAIL

TYPE	STATION	NORTH	EAST
POT	10+00.00	699675.9248	2133942.0056
PC	10+13.82	699682.7338	2133954.0351
PRC	10+33.04	699693.7460	2133969.7519
PRC	10+71.48	699712.5654	2134002.9998
PT	10+90.70	699720.3726	2134020.5308
POT	11+60.47	699754.7383	2134081.2440

DR3

TYPE	STATION	NORTH	EAST
POT	10+00.00	699472.5176	2134252.9101
POT	11+81.52	699586.3777	2134394.2854

DR4

TYPE	STATION	NORTH	EAST
POT	10+00.00	699870.0779	2133932.7252
POT	11+00.00	699807.3535	2133854.8429

REVISIONS

**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 INFORMATINO REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

6/2/09  
 05-DFG-2018-118  
 K:\REV\5-00-06\190095.20-B-5326-RW-Revisions\Geometrics\NCDDT\Submittal\B5326-1s-rw02d-1.dgn  
 AT 11/17/21  
 Vandervalde



# PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO. B-5326	SHEET NO. RW02D-1
Location and Surveys	
<b style="font-size: 12px;">WithersRavenel</b> <small>Engineers   Planners   Surveyors</small>	

**ALT1**

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	700329.739	2133649.934							
LINE			S 24°37'38.7" E	357.29					
PC	700004.946	2133798.824							
CURVE			S 31°24'55.7" E	196.92	13°34'34.1(LT)	06°52'41.7"	197.38	99.15	833.00
PT	699836.896	2133901.464							
LINE			S 38°12'12.8" E	347.99					
PC	699563.437	2134116.682							
CURVE			S 45°31'31.5" E	212.32	14°38'37.5(LT)	06°52'41.7"	212.90	107.03	833.00
PCC	699414.687	2134268.186							
CURVE			S 45°51'04.9" E	202.92	13°59'30.8(RT)	06°52'41.7"	203.42	102.22	833.00
PT	699273.350	2134413.787							
LINE			S 38°51'19.5" E	81.02					
POT	699210.261	2134464.612							

**DR1**

POINT	N	E	BEARING	DIST
POT	700009.248	2133824.168		
LINE			S 54°57'07.1" W	91.22
POT	699956.861	2133749.486		

**DR2**

POINT	N	E	BEARING	DIST
POT	699824.906	2133969.105		
LINE			S 52°43'45.0" W	116.77
POT	699754.190	2133876.179		

**DR3**

POINT	N	E	BEARING	DIST
POT	699472.518	2134252.910		
LINE			N 51°09'10.5" E	181.52
POT	699586.378	2134394.285		

**DR4**

POINT	N	E	BEARING	DIST
POT	699870.078	2133932.725		
LINE			S 51°09'10.5" W	100.00
POT	699807.354	2133854.843		

**DET**

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	700326.945	2133643.408							
CURVE			S 18°15'20.3" E	126.56	13°38'13.3(RT)	10°44'58.8"	126.86	63.73	533.00
PCC	700206.754	2133683.054							
CURVE			S 24°49'13.2" E	246.74	26°45'59.1(LT)	10°44'58.8"	249.00	126.81	533.00
PT	699982.807	2133786.629							
LINE			S 38°12'12.8" E	710.16					
PC	699424.748	2134225.834							
CURVE			S 42°36'58.9" E	153.88	08°49'32.2(LT)	05°43'46.5"	154.04	77.17	1000.00
PT	699311.504	2134330.027							
LINE			S 47°01'45.0" E	193.99					
PC	699179.273	2134471.972							
CURVE			S 38°11'36.8" E	163.74	17°40'16.4(RT)	10°44'58.8"	164.39	82.85	533.00
PCC	699050.587	2134573.214							
CURVE			S 28°27'09.7" E	31.49	01°48'37.7(RT)	05°44'56.4"	31.49	15.75	996.62
PT	699022.900	2134588.218							

**L**

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	700331.183	2133652.466							
CURVE			S 25°06'58.7" E	30.24	00°05'03.5(LT)	00°16'43.4"	30.24	15.12	20555.87
PT	700303.798	2133665.304							
LINE			S 25°09'30.4" E	119.46					
PC	700195.672	2133716.088							
CURVE			S 32°00'10.0" E	297.93	13°41'19.1(LT)	04°35'01.2"	298.64	150.03	1250.00
PT	699943.021	2133873.979							
LINE			S 38°50'49.5" E	909.44					
PC	699234.729	2134444.419							
CURVE			S 37°21'31.3" E	111.69	02°58'36.3(RT)	02°39'53.7"	111.70	55.86	2150.00
PCC	699145.953	2134512.192							
CURVE			S 31°42'32.0" E	144.64	08°19'22.3(RT)	05°44'56.4"	144.77	72.51	996.62
PT	699022.900	2134588.218							

**TRAIL**

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	699675.925	2133942.006							
LINE			N 60°29'19.4" E	13.82					
PC	699682.734	2133954.035							
CURVE			N 54°58'56.9" E	19.19	11°00'44.9(LT)	57°17'44.8"	19.22	9.64	100.00
PCC	699693.746	2133969.752							
CURVE			N 60°29'19.4" E	38.20	22°01'29.8(RT)	57°17'44.8"	38.44	19.46	100.00
PCC	699712.565	2134003.000							
CURVE			N 65°59'41.8" E	19.19	11°00'44.9(LT)	57°17'44.8"	19.22	9.64	100.00
PT	699720.373	2134020.531							
LINE			N 60°29'19.4" E	69.76					
POT	699754.738	2134081.244							

**NOTES:**

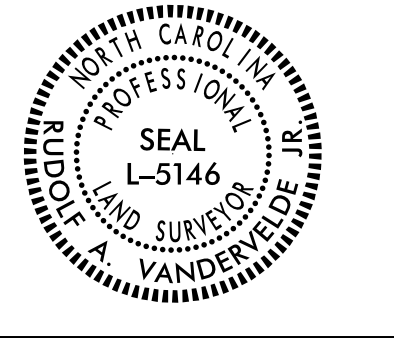
1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

REVISIONS

6/2/09  
22-JUL-2018 17:27  
C:\Users\j\Documents\Projects\B-5326 RW Stakeout\Geomatics\NC001\ROW Sheets\J-D-Series\B-5326\_Ls\_r\02d-1.dgn  
AT:WRT

# RIGHT OF WAY AND PERMANENT EASEMENT CONTROL SHEET

PROJECT REFERENCE NO. B-5326	SHEET NO. RW03E-1
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I, Rudolf A. VanderVelde Jr., a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 5th day of December, 2019.

Rudolf A. VanderVelde Jr. 12/5/2019 L-5146  
Professional Land Surveyor PLS \* Seal

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	9+86.29	35.00	700328.4253	2133615.1192
L	9+86.29	70.40	700313.4450	2133583.0479
L	12+25.00	88.94	700085.9310	2133672.0483
L	12+28.16	84.94	700084.8912	2133677.1831
L	12+39.16	101.90	700066.3290	2133668.0786
L	12+54.23	83.31	700061.4362	2133692.2386
L	12+77.07	86.83	700038.6231	2133701.5771
L	12+79.52	70.00	700045.0760	2133717.3408
L	13+74.43	-70.00	700042.5286	2133886.3647
L	13+82.08	-76.70	700040.5766	2133896.0035
L	13+88.62	-70.00	700031.6613	2133894.1980
L	14+21.86	-73.44	700008.6633	2133915.7418
L	14+23.65	-70.00	700005.2278	2133914.0538
L	14+41.06	-82.13	699999.8435	2133933.6921
L	14+84.86	70.00	699870.6701	2133842.3690
L	14+95.93	93.75	699847.1487	2133830.8120
L	15+00.47	91.64	699844.9438	2133835.2995
L	15+13.14	118.83	699818.0184	2133822.0700
L	15+24.17	95.15	699824.2822	2133847.4314
L	15+31.27	110.39	699809.1987	2133840.0202
L	16+26.46	-70.00	699848.2082	2134040.2177
L	16+80.01	-93.18	699821.0432	2134091.8609
L	16+88.00	80.00	699706.1903	2133961.9970
L	16+88.00	70.00	699712.4627	2133969.7852
L	19+17.61	-91.17	699634.7292	2134239.3331
L	19+37.08	-70.00	699606.2889	2134235.0533
L	21+84.56	-61.92	699408.4822	2134383.9933
L	22+75.17	-61.47	699337.6229	2134440.4784
L	22+75.80	-76.47	699346.5422	2134452.5511
L	22+95.16	-60.64	699321.5369	2134452.3628
L	22+95.80	-75.98	699330.6624	2134464.7146
L	24+81.12	-49.77	699165.1719	2134559.6229
L	24+82.36	-30.00	699152.7313	2134544.2062

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	10+30.00	-70.00	700333.7769	2133728.5593
L	10+30.00	50.00	700282.7634	2133619.9425
L	10+30.00	35.00	700289.1401	2133633.5196
L	10+30.00	-30.00	700316.7724	2133692.3537
L	11+49.70	-70.00	700225.4308	2133779.4472
L	11+49.70	70.00	700165.9136	2133652.7282
L	14+48.34	-70.00	699986.9282	2133928.4962
L	14+48.34	70.00	699899.1140	2133819.4610
L	20+24.55	-70.00	699538.1612	2134289.9217
L	20+84.58	-70.00	699491.4141	2134327.5706
L	21+60.00	-44.00	699416.3642	2134354.6302
L	21+84.57	-50.00	699400.9900	2134374.7161
L	23+57.78	70.00	699190.8216	2134389.9016
L	23+57.78	-50.00	699266.0909	2134483.3604
L	24+68.82	30.00	699128.9022	2134487.4998
L	24+69.48	-30.00	699163.5313	2134536.5029
L	24+69.48	-50.00	699175.2502	2134552.7096
L	24+69.60	70.00	699104.8479	2134455.5318

**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.

REVISIONS

6/2/09

D5-PCS-2019-1116  
K:\Projects\2019\12\05\190055\_20-B-5326 ROW Revisions\Geometrics\NCDOT\Submittal\B5326\_1s\_rw03e-1.dgn  
Rudolf A. VanderVelde



