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STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5765	RW01	10

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

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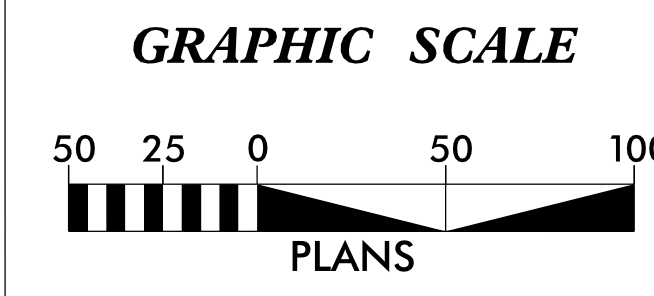
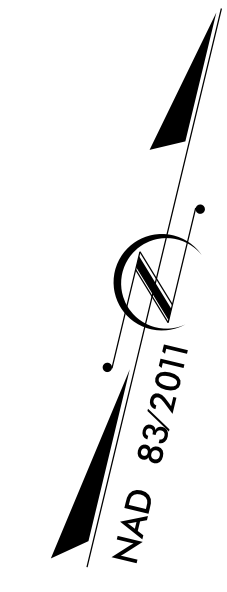
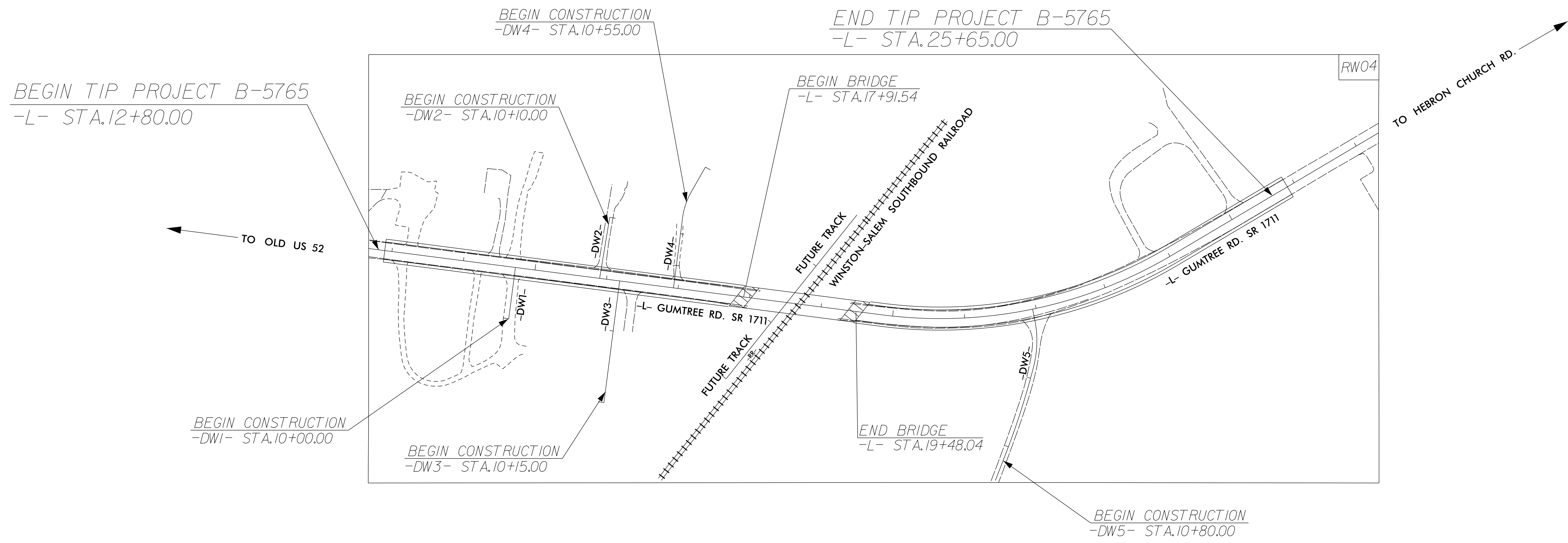
SURVEY CONTROL, EXISTING CENTERLINES,  
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

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**DAVIDSON COUNTY**

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**TIP PROJECT: B-5765**



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "B5765-1" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 811,950.644(ft) EASTING: 1,638,683.701(ft) ELEVATION: 904.363(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999139587

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5765-1" TO -L- STATION 12+80.00 IS S 84°12'43.50" W 876.07(ft)

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

Prepared in the Office of:

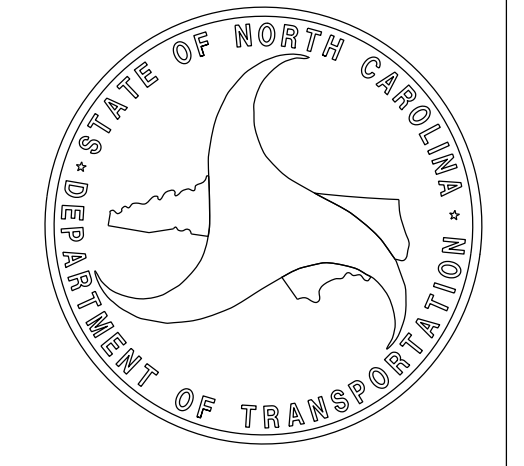
2018 STANDARD SPECIFICATIONS

<b>RIGHT OF WAY DATE:</b> <u>TBD</u>	<b>LETTING DATE:</b> <u>TBD</u>
---	------------------------------------

**PROFESSIONAL LAND SURVEYOR**



DocuSigned by:  
*Michael L. Molsinger*  
SIGNATURE: \_\_\_\_\_ Date: 03/07/2022



07-MAR-2022 16:29 SA:\units\Div09\Winston\Ru\Hts Computer\Bridge\B5XXX\B5765\Control Sheets\2022-03-02\tobechecked\B5765\_Ls\_rw01.dgn AT LS-312635




# SURVEY CONTROL SHEET

## W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



NC GRID  
NAD 83 NA 2011



PROJECT REFERENCE NO. B-5765	SHEET NO. RW02C-1
<b>Location and Surveys</b>	
INSERT CONSULTANT'S NAME	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Michael L. Motsinger, 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: Opus  
 Dates of survey: 02-19-2018  
 Datum/Epoch: NAD 1983/2011  
 Published/Fixed-control use: [Project Control if applicable, N/A for RTN]  
 Localized around: B5765-1  
 Northing: 811950.644  
 Easting: 1638683.701  
 Combined grid factor: 0.999913967402  
 Geoid model: G12BNC  
 Units: English

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 May 2018 to June 2018, 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 7th day of March, 2022.


DocuSigned by:  
  
 Professional Land Surveyor L-3877



SEE SHEET RW02C-4  
FOR FURTHER  
ALIGNMENT DETAILS

### 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.

PROJECT REFERENCE NO.	SHEET NO.
B-5765	RW02C-2
<b>Location and Surveys</b>	
INSERT CONSULTANT'S NAME	
PROJECT SURVEYOR	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

# SURVEY CONTROL SHEET

## W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



-BL- 6



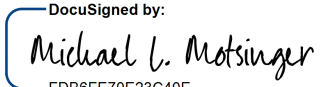
SEE SHEET RW02C-4  
FOR FURTHER  
ALIGNMENT DETAILS

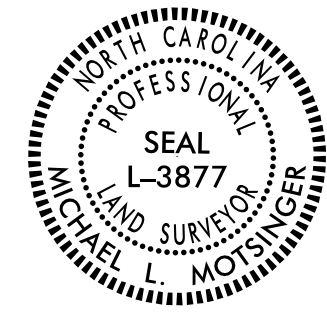
I, Michael L. Motsinger, PLS, certify that the Project Control was performed under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: **AA**  
 Type of GPS field procedure: Opus  
 Dates of survey: 02-19-2018  
 Datum/Epoch: NAD 1983/2011  
 Published/Fixed-control use: [Project Control if applicable, N/A for RTN]  
 Localized around: B5765-1  
 Northing: 811950.644  
 Easting: 1638683.701  
 Combined grid factor: 0.999913967402  
 Geoid model: G12BNC  
 Units: English

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 May 2018 to June 2018, 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 7th day of March, 2022.

Decided by:  
  
 Professional Land Surveyor L-3877



### 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

08-MAR-2022 07:36  
 S:\Units\Div08\Winston\Ryths Computer\Bridge\B5765\Control Sheets\2022-03-02\tobechecked\B5765.LS-rw02c-2.dgn  
 M.L.Motsinger AT LS-312635



# SURVEY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
B-5765	RW02C-3
<b>Location and Surveys</b>	
PROJECT SURVEYOR	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

BL	POINT	DESC.	NORTH	EAST	ELEVATION
4		BL - 4	811828.6693	1637714.7296	903.53
3		BL - 3	811884.8706	1638212.5691	903.34
1		GPS B5765-1	811950.6440	1638683.7010	904.36
2		GPS B5765-2	812427.8880	1639253.8880	903.71
7		BL - 7	812923.0125	1639476.0197	882.14
8		BL - 8	813402.9500	1639726.0860	875.49

BY1	POINT	DESC.	NORTH	EAST	ELEVATION
5		GPS B5765-5	816453.2298	1636978.4476	852.08
6		GPS B5765-6	817091.3689	1636494.9249	849.26

\*\*\*\*\*  
 BM1 ELEVATION = 903.87'  
 N 811832 E 1637699  
 SCRIBED "X" IN TOP OF CONCRETE ISLAND  
 \*\*\*\*\*  
 \*\*\*\*\*  
 BM2 ELEVATION = 889.93'  
 N 811761 E 1638275  
 RAILROAD SPIKE SET IN 20" MAPLE TREE  
 \*\*\*\*\*  
 \*\*\*\*\*  
 BM3 ELEVATION = 855.24'  
 N 816348.57 E 1637057.75  
 WHITE PAINTED SCRIBED SQUARE IN  
 CORNER OF CONCRETE SIDEWALK  
 \*\*\*\*\*  
 \*\*\*\*\*  
 BM4 ELEVATION = 875.49'  
 N 813403 E 1639726  
 BL-8 CONTROL REBAR & CAP  
 \*\*\*\*\*

I, Michael L. Molsinger, 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: Opus  
 Dates of survey: 02-19-2018  
 Datum/Epoch: NAD 1983/2011  
 Published/Fixed-control use: [Project Control if applicable, N/A for RTN]  
 Localized around: B5765-1  
 Northing: 811950.644  
 Easting: 1638683.701  
 Combined grid factor: 0.999913967402  
 Geoid model: G12BNC  
 Units: English

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 May 2018 to June 2018, 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 7th day of March, 2022.

DocuSigned by:  
 Michael L. Molsinger  
 FDB6F7E23C40E  
 Professional Land Surveyor L-3877




### 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

# SURVEY CONTROL SHEET

## W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
B-5765	RW02C-4
<b>Location and Surveys</b>	
PROJECT SURVEYOR	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	811854.477	1637731.349	N 84°28'11.6" E	463.60					
LINE									
PC	811899.154	1638192.796	N 84°38'03.3" E	86.05	00°19'43.3(RT)	00°22'55.1"	86.05	43.03	15000.00
CURVE									
PT	811907.201	1638278.470	N 84°47'54.9" E	199.10					
LINE									
PC	811925.251	1638476.749	N 81°57'12.1" E	119.13	05°41'25.5(LT)	04°46'28.7"	119.18	59.64	1200.00
CURVE									
PCC	811941.927	1638594.707	N 73°57'34.8" E	65.51	10°17'49.2(LT)	15°41'50.9"	65.60	32.89	365.00
CURVE									
PCC	811960.028	1638657.665	N 63°58'58.8" E	112.78	09°39'22.7(LT)	08°33'05.8"	112.92	56.59	670.00
CURVE									
PCC	812009.499	1638759.021	N 55°30'32.2" E	78.05	07°17'30.5(LT)	09°14'28.5"	78.90	39.51	620.00
CURVE									
PCC	812054.151	1638824.011	N 49°10'00.1" E	211.69	05°23'33.6(LT)	02°32'47.3"	211.77	105.96	2250.00
CURVE									
PT	812192.568	1638984.180	N 46°28'13.3" E	276.24					
LINE									
PC	812382.824	1639184.460	N 33°14'39.7" E	320.31	26°27'07.2(LT)	08°11'06.4"	323.17	164.52	700.00
CURVE									
P	812650.712	1639360.057	N 20°01'06.1" E	218.23					
LINE									
PC	812855.757	1639434.762	N 19°13'30.1" E	55.38	01°35'12.0(LT)	02°51'53.2"	55.39	27.69	2000.00
CURVE									
PT	812908.052	1639452.999	N 18°25'54.1" E	151.51					
LINE									
PC	813051.793	1639500.903	N 22°19'59.7" E	142.89	07°48'11.3(RT)	05°27'24.3"	143.00	71.61	1050.00
CURVE									
PT	813183.964	1639555.201							

EY POINT	N	E	BEARING	DIST
POT	811785.163	1638334.662	N 25°42'00.5" E	295.19
LINE				
POT	812051.148	1638462.673		

EY1 POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	816858.202	1636615.325	S 35°06'32.2" E	50.53					
LINE									
PC	816816.868	1636644.385	S 26°11'33.5" E	240.72	17°11'51.0(RT)	07°07'03.0"	241.62	121.73	805.00
CURVE									
PCC	816600.869	1636750.635	S 07°35'21.3" E	239.74	20°00'33.5(RT)	08°18'13.5"	240.97	121.72	690.00
CURVE									
PCC	816363.224	1636782.298	S 06°08'32.0" W	114.92	07°27'13.1(RT)	06°28'53.1"	115.00	57.58	884.00
CURVE									
PT	816248.965	1636770.002							

EY2 POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	816376.026	1636998.978	N 33°21'54.9" W	63.24	05°29'32.4(RT)	08°40'52.2"	63.27	31.66	660.00
CURVE									
PT	816428.845	1636964.196	N 30°37'08.7" W	215.50					
LINE									
PC	816614.300	1636854.435	N 44°54'55.3" W	111.12	28°35'33.3(LT)	25°27'53.2"	112.28	57.34	225.00
CURVE									
PCC	816692.990	1636775.977	N 78°30'14.7" W	68.72	38°35'05.4(LT)	55°05'31.5"	70.04	36.40	104.00
CURVE									
PT	816706.686	1636708.634							

EY3 POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	813177.318	1639285.584	S 22°44'14.7" E	79.49					
LINE									
PC	813104.006	1639316.307	S 24°03'13.2" E	137.83	02°37'57.1(LT)	01°54'35.5"	137.84	68.93	3000.00
CURVE									
PT	812978.148	1639372.484	S 25°22'11.8" E	15.87					
LINE									
PC	812963.808	1639379.284	S 31°12'19.2" E	101.67	11°40'14.8(LT)	11°27'33.0"	101.85	51.10	500.00
CURVE									
PT	812876.848	1639431.960	S 37°02'26.6" E	11.69					
LINE									
POT	812867.514	1639439.004							

I, Michael L. Molsinger, 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: Opus  
 Dates of survey: 02-19-2018  
 Datum/Epoch: NAD 1983/2011  
 Published/Fixed-control use: [Project Control if applicable, N/A for RTN]  
 Localized around: B5765-1  
 Northing: 811950.644  
 Easting: 1638683.701  
 Combined grid factor: 0.999913967402  
 Geoid model: G12BNC  
 Units: English

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 May 2018 to June 2018, 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 7th day of March, 2022.

DocuSigned by:  
 Michael L. Molsinger  
 FDB8F70E23C40E

Professional Land Surveyor L-3877



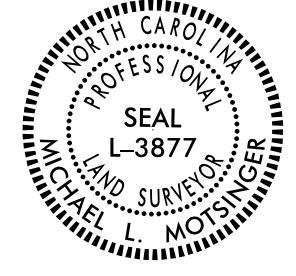
REVISIONS

08-MAR-2022 07:58  
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 AT LS-312635  
 mmolsinger

### 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.

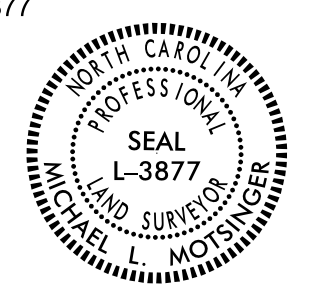
# PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO. B-5765	SHEET NO. RW02D-1
<b>Location and Surveys</b>	
ENTER CONSULTANT'S NAME IN THIS BOX	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Michael L. Molsinger, 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 7th day of March, 2022.

DocuSigned by:  
*Michael L. Molsinger*  
FD86F70E23C40E  
Professional Land Surveyor L-3877



L

TYPE	STATION	NORTH	EAST
POT	10+00.00	811835.3122	1637533.4002
PC	19+85.34	811930.2679	1638514.1520
PT	24+03.16	812100.5743	1638887.3394
POT	27+19.07	812318.1468	1639116.3755
PC	28+12.98	812382.8237	1639184.4602
PT	31+36.15	812650.7117	1639360.0575
PC	33+54.38	812855.7572	1639434.7623
PT	34+09.76	812908.0519	1639452.9989
PC	35+61.28	813051.7931	1639500.9035
PT	37+04.28	813183.9643	1639555.2005

Y1

TYPE	STATION	NORTH	EAST
POT	10+00.00	816858.2020	1636615.3250
PC	10+50.53	816816.8679	1636644.3848
PCC	12+92.15	816600.8687	1636750.6351
PCC	15+33.12	816363.2239	1636782.2983
PT	16+48.12	816248.9647	1636770.0023

Y2

TYPE	STATION	NORTH	EAST
PC	10+00.00	816376.0259	1636998.9782
PT	10+63.27	816428.8452	1636964.1963
PC	12+78.77	816614.2999	1636854.4353
PT	14+21.59	816677.2582	1636734.3013
POT	14+33.48	816676.4153	1636722.4424

Y3

TYPE	STATION	NORTH	EAST
POT	10+00.00	813177.3180	1639285.5840
PC	10+79.49	813104.0061	1639316.3073
PT	12+17.33	812978.1478	1639372.4843
POT	12+30.34	812966.3936	1639378.0581
PC	12+33.20	812963.8084	1639379.2840
PT	13+35.04	812876.8477	1639431.9603
POT	13+46.74	812867.5140	1639439.0041

DW1

TYPE	STATION	NORTH	EAST
POT	10+00.00	811809.5259	1638010.6665
POT	10+71.65	811880.8517	1638003.8346

DW2

TYPE	STATION	NORTH	EAST
PC	10+00.00	811993.6453	1638114.8276
PRC	10+25.00	811969.3494	1638110.1735
PT	10+51.78	811943.2685	1638105.6600
POT	11+04.09	811891.2060	1638110.7007

DW3

TYPE	STATION	NORTH	EAST
POT	10+00.00	811725.6845	1638165.2547
POT	11+70.01	811894.9017	1638148.8712

DW4

TYPE	STATION	NORTH	EAST
POT	10+00.00	812075.3120	1638229.5762
PC	10+39.36	812037.6454	1638218.1564
PT	10+78.17	811999.2595	1638214.4004
POT	11+75.73	811902.1564	1638223.8017

DW5

TYPE	STATION	NORTH	EAST
POT	10+00.00	811692.0226	1638711.1683
PC	10+89.25	811780.3384	1638724.0737
PCC	12+16.78	811907.3343	1638734.8655
PT	12+82.58	811971.2344	1638721.7504
POT	12+97.18	811984.5069	1638715.6744

-RR-

TYPE	STATION	NORTH	EAST
POT	10+00.00	811795.5464	1638323.0123
POT	12+90.88	812057.6534	1638449.1566

REVISIONS

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mmolsinger AT LS-312635

**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

PROJECT SURVEYOR

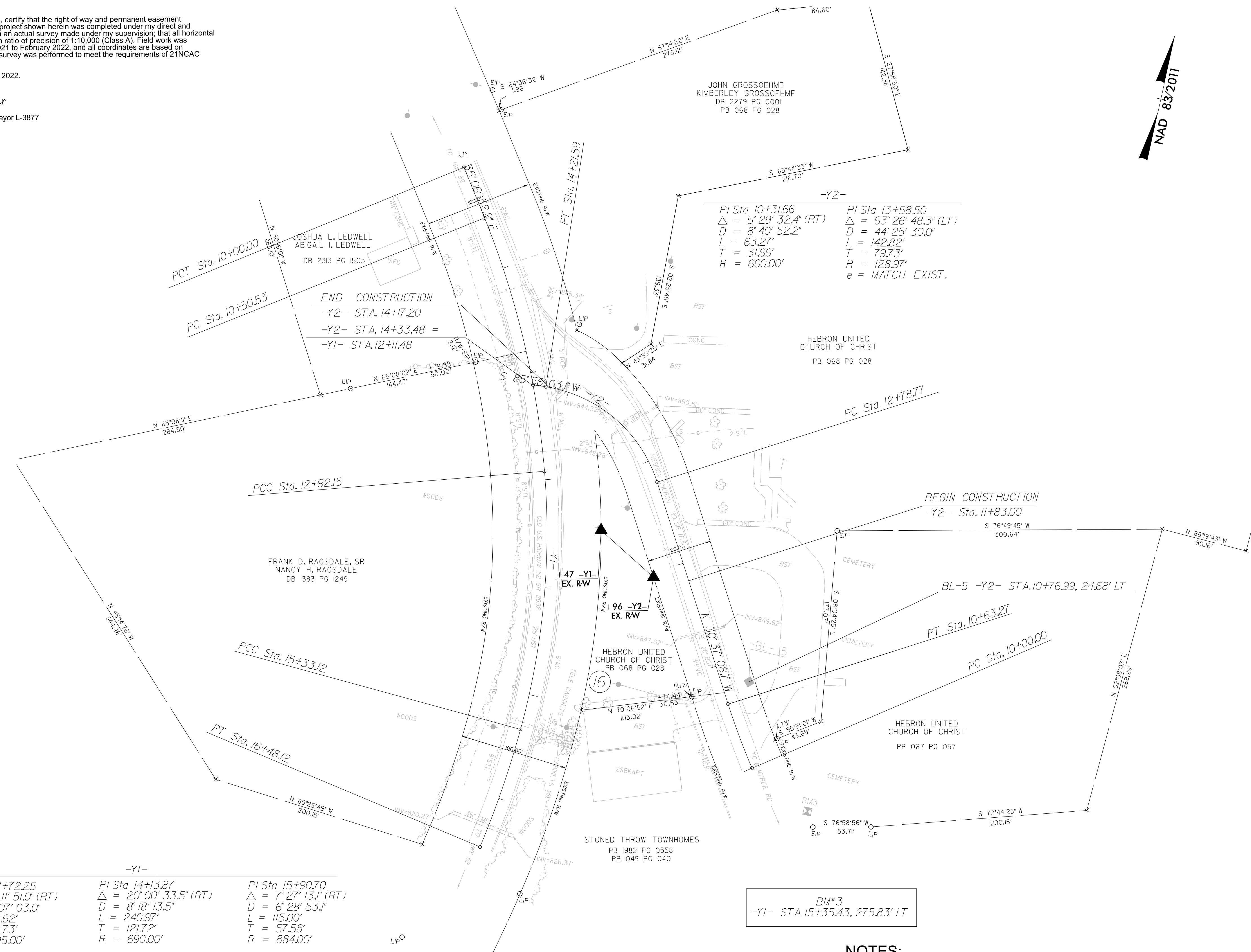
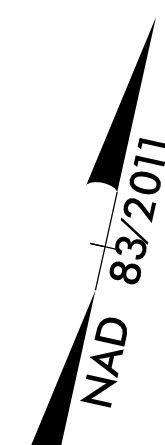


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I, Michael L. Molsinger, 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 2021 to February 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 7th day of March, 2022.

DocuSigned by:  
**Michael L. Molsinger**  
 F088F7E23C4DE  
 Professional Land Surveyor L-3877



-Y2-

PI Sta 10+31.66 Δ = 5° 29' 32.4" (RT) D = 8° 40' 52.2" L = 63.27' T = 31.66' R = 660.00'	PI Sta 13+58.50 Δ = 63° 26' 48.3" (LT) D = 44° 25' 30.0" L = 142.82' T = 79.73' R = 128.97' e = MATCH EXIST.
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-Y1-

PI Sta 11+72.25 Δ = 17° 11' 51.0" (RT) D = 7° 07' 03.0" L = 241.62' T = 121.73' R = 805.00'	PI Sta 14+13.87 Δ = 20° 00' 33.5" (RT) D = 8° 18' 13.5" L = 240.97' T = 121.72' R = 690.00'	PI Sta 15+90.70 Δ = 7° 27' 13.1" (RT) D = 6° 28' 53.1" L = 115.00' T = 57.58' R = 884.00'
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BM#3  
 -Y1- STA.15+35.43, 275.83' LT

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 \_\_\_\_ TO \_\_\_\_.

REVISIONS

6/2/09  
 S:\Projects\0203\Winston\_Ruths Computer\Bridge\B5765\Control Sheets\2022-03-02\tobechecked\B5765.1s\_rw06.dgn  
 M.L.Molsinger