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6/2021

TIP PROJECT: BR-0033

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0033	RW01	

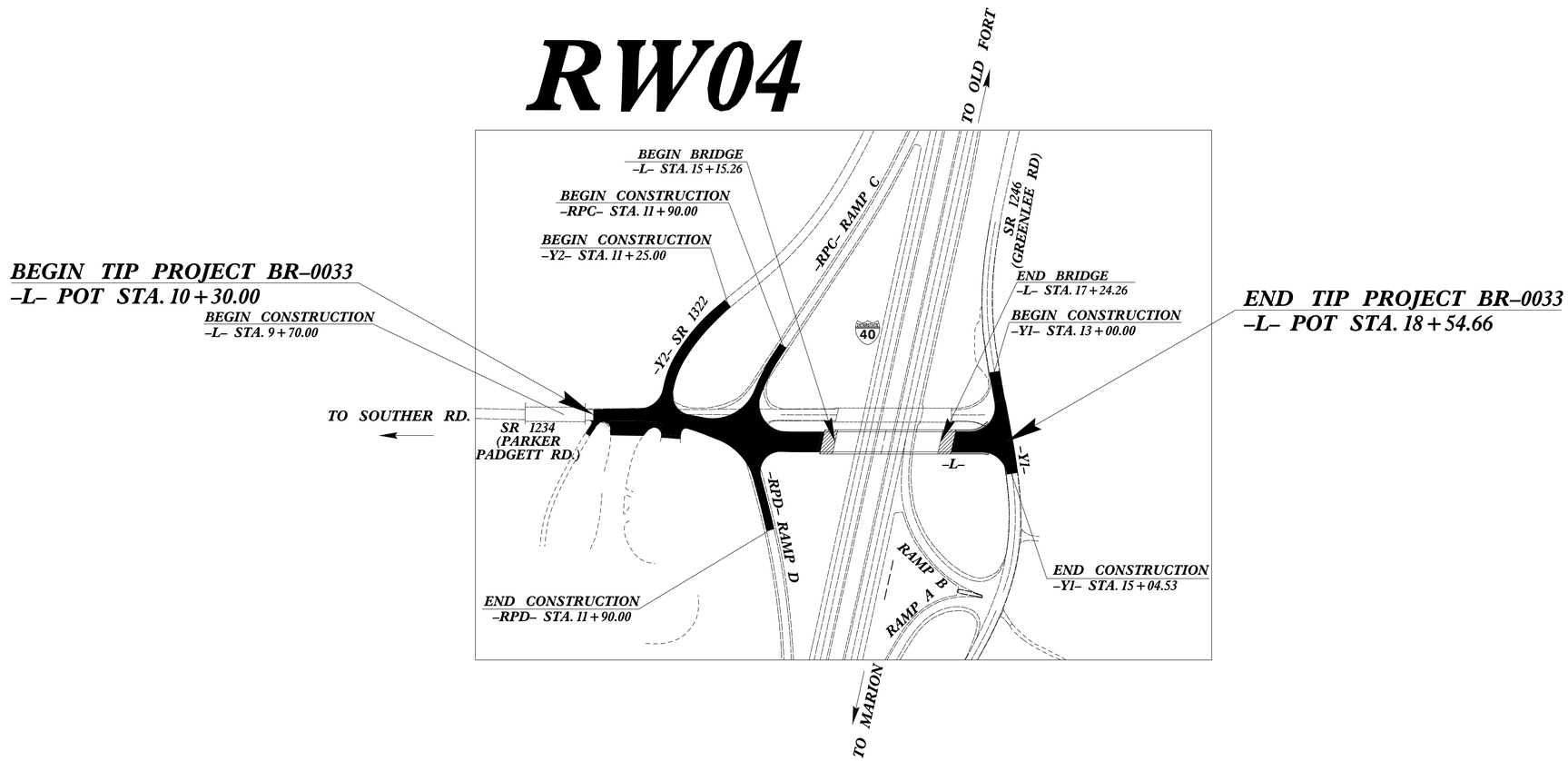
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

McDOWELL COUNTY

NAD 83/
NA 2011

RW04



GRAPHIC SCALE

50 25 0 50 100

PLANS

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT
IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY
NCDOT FOR MONUMENT "GPS2"
WITH NAD 83/NSRS 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 702,251.629(ft) EASTING: 1,066,663.817(ft)
ELEVATION: 1,364.34(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.9998351227
THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"GPS2" TO -L- STATION 9+00.00 IS
S 41°17'57.8" W 934.82(ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:	LETTING DATE:
3/25/2021	2/15/2022

PROFESSIONAL LAND SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4775 LAND SURVEYOR MATTHEW T. CORNWELL

DocuSigned by: Matthew Cornwell
E8D36F114736475...
6/1/2021

SIGNATURE: Date:

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

27-MAY-2021 13:03
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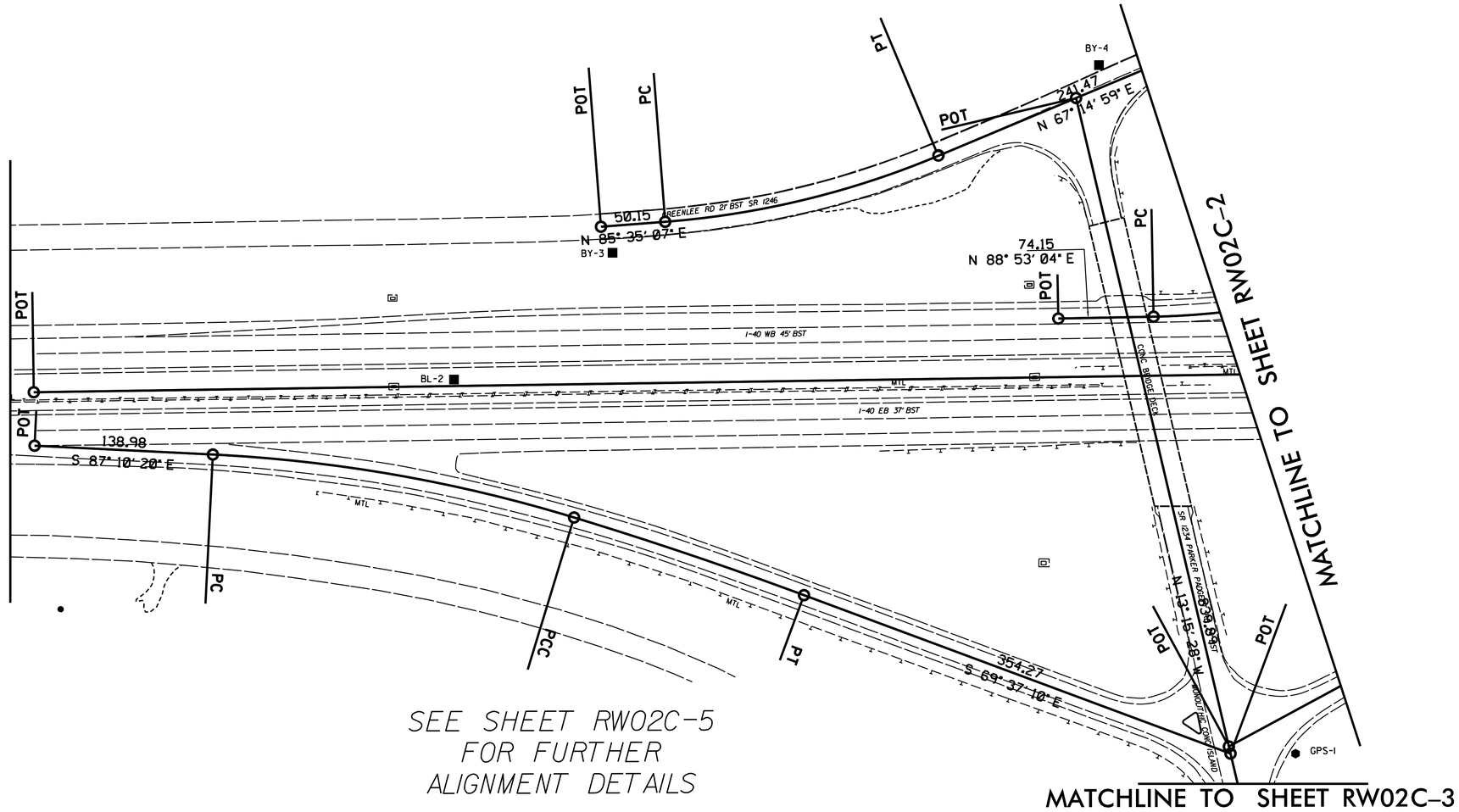
mcornwell AT MCORNWELLLAPTOP

PROJECT REFERENCE NO.	SHEET NO.
BR-0033	RW02C-1
Location and Surveys	

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



SEE SHEET RW02C-5
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.

REVISIONS

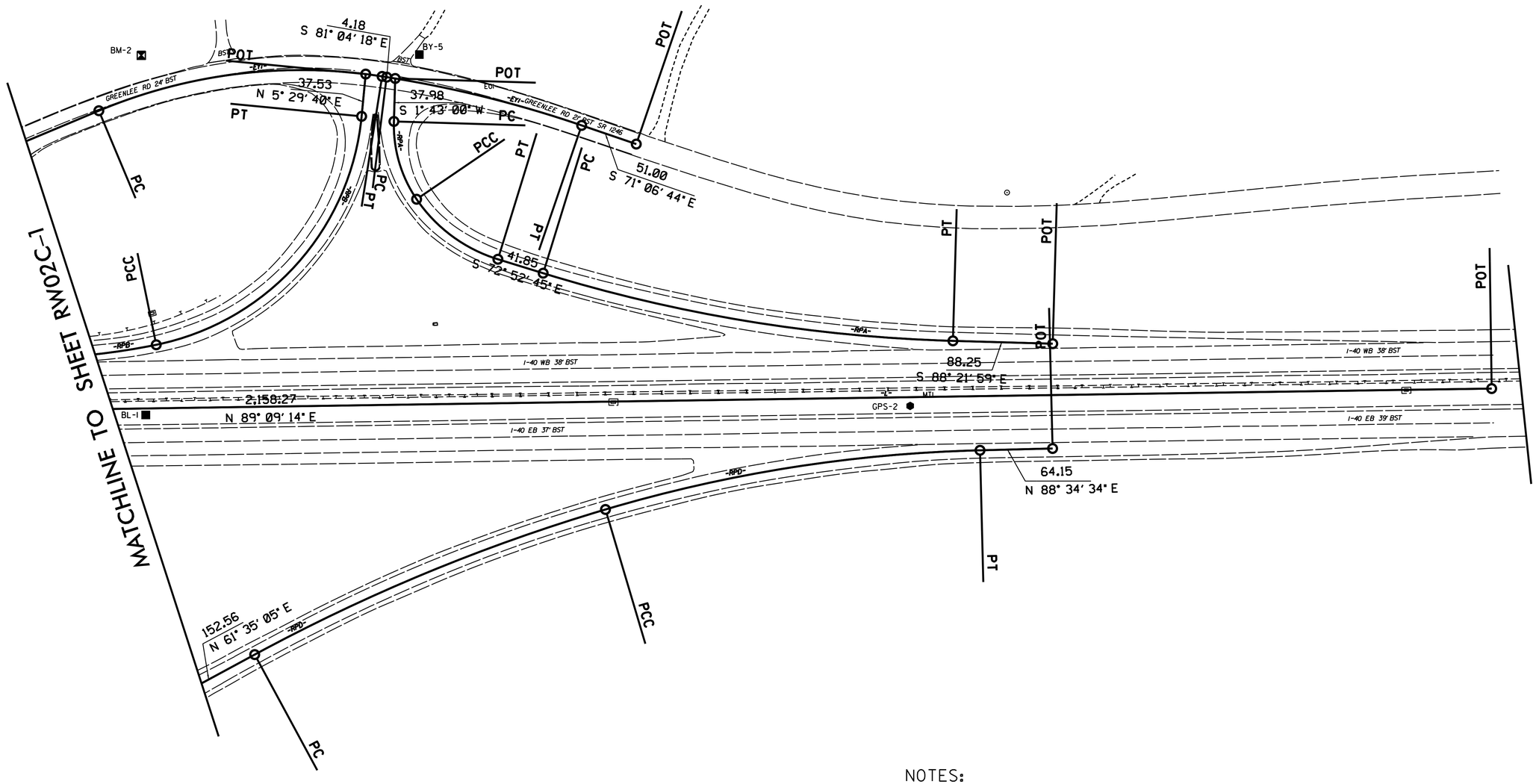
6/2/99

1-SLINE
2-BLINE

PROJECT REFERENCE NO.	SHEET NO.
BR-0033	RW02C-2
Location and Surveys	

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



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REVISIONS

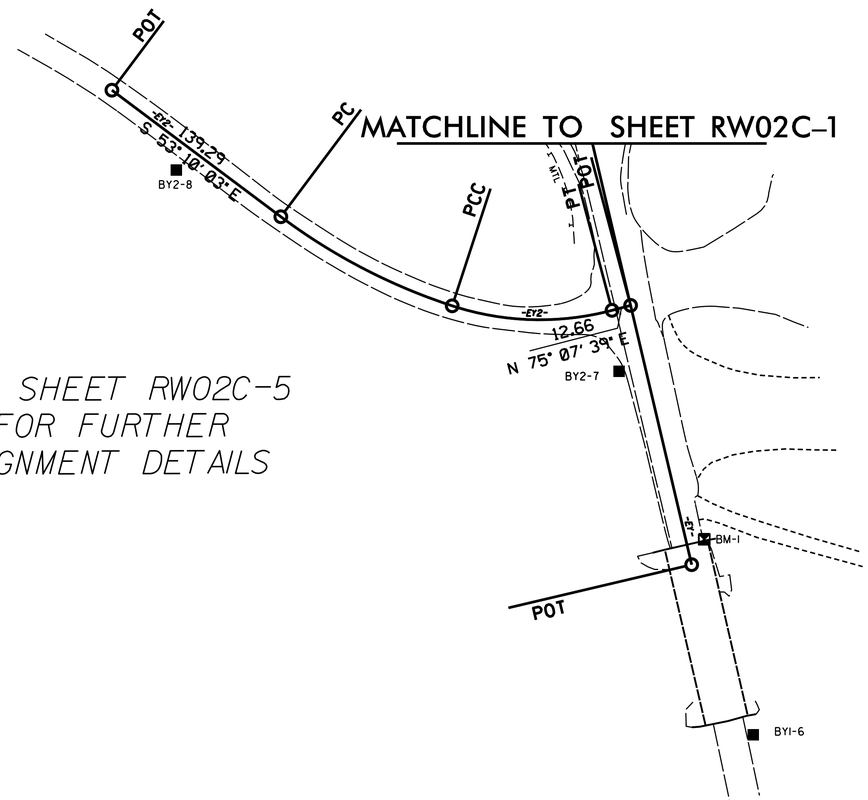
6/2/99

$$$$SYSTIME$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
BR-0033	RW02C-3
Location and Surveys	

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



SEE SHEET RW02C-5
FOR FURTHER
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REVISIONS

6/2/99

1-SINE 2-ALIGN

PROJECT REFERENCE NO.	SHEET NO.
BR-0033	RW02C-4
Location and Surveys	

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

BASELINE

BL

POINT	DESC.	NORTH	EAST	ELEVATION
2	BL-2	702245.0580	1065346.9360	1377.27
1	BL-1	702243.7170	1065988.1400	1369.96
GPS2	BR0033-2	702251.6290	1066663.8170	1364.34

BY

POINT	DESC.	NORTH	EAST	ELEVATION
3	BY-3	702343.7710	1065470.3780	1385.35
4	BY-4	702489.8290	1065849.0350	1398.23
5	BY-5	702562.1950	1066230.0860	1385.97

BY1

POINT	DESC.	NORTH	EAST	ELEVATION
6	BY1-6	701534.2950	1066064.6440	1358.75
GPS1	BR0033-1	701953.6640	1066002.1880	1370.58
BY4	BY-4	702489.8290	1065849.0350	1398.20

BY2

POINT	DESC.	NORTH	EAST	ELEVATION
8	BY2-8	701907.1120	1065683.7390	1362.58
7	BY2-7	701774.4040	1065975.9150	1359.60

BENCHMARKS

****

BM1 ELEVATION = 1359.94

N 701663 E 1066032

CHISLED X ON NE COR BRIDGE WHEEL GUARD

****

****

BM2 ELEVATION = 1395.50

N 702561 E 1065984

RR SPIKE SET IN BASE OF 24" OAK

****

NOTES:

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REVISIONS

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
BR-0033	RW02C-5
Location and Surveys	

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

EL

POINT	N	E	BEARING	DIST
POT	702235.078	1065019.793		
LINE			N 89°09'14.0" E	2158.27
POT	702266.949	1067177.823		

EY

POINT	N	E	BEARING	DIST
POT	701646.657	1066023.906		
LINE			N 13°15'28.4" W	839.89
POT	702464.165	1065831.289		

EY1

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	702363.945	1065461.390							
LINE			N 85°35'06.5" E	50.15					
PC	702367.805	1065511.390							
CURVE			N 76°25'02.8" E	218.72	18°20'07.4"(LT)	08°20'50.8"	219.65	110.77	686.39
PT	702419.170	1065723.989							
LINE			N 67°14'59.1" E	241.47					
PC	702512.549	1065946.670							
CURVE			N 83°05'20.8" E	252.20	31°40'43.3"(RT)	12°24'05.4"	255.44	131.08	462.01
PT	702542.895	1066197.039							
LINE			S 81°04'17.6" E	4.18					
PC	702542.246	1066201.171							
CURVE			S 76°05'30.7" E	177.50	09°57'33.8"(RT)	05°36'13.9"	177.72	89.09	1022.43
PT	702499.581	1066373.467							
LINE			S 71°06'43.8" E	51.00					
POT	702483.072	1066421.721							

EY2

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	701959.792	1065641.244							
LINE			S 53°10'03.2" E	139.29					
PC	701876.290	1065752.732							
CURVE			S 62°31'52.6" E	127.48	18°43'38.8"(LT)	14°37'30.8"	128.05	64.60	391.76
PCC	701817.488	1065865.840							
CURVE			S 88°23'01.4" E	105.55	32°58'38.8"(LT)	30°48'46.7"	107.02	55.04	185.95
PT	701814.511	1065971.352							
LINE			N 75°07'39.2" E	12.66					
POT	701817.762	1065983.591							

RPA

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	702541.046	1066208.629							
LINE			S 01°43'00.5" W	37.98					
PC	702503.080	1066207.491							
CURVE			S 16°15'43.0" E	71.63	35°57'26.9"(LT)	49°22'50.0"	72.82	37.65	116.03
PCC	702434.317	1066227.549							
CURVE			S 53°33'35.8" E	89.32	38°38'18.7"(LT)	42°26'41.1"	91.03	47.32	134.99
PT	702381.265	1066299.403							
LINE			S 72°52'45.2" E	41.85					
PC	702368.944	1066339.401							
CURVE			S 80°37'22.3" E	367.11	15°29'14.2"(LT)	04°12'21.1"	368.23	185.25	1362.29
PT	702309.129	1066701.607							
LINE			S 88°21'59.4" E	88.25					
POT	702306.613	1066789.824							

RPB

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	702292.463	1065817.484							
LINE			N 88°53'03.9" E	74.15					
PC	702293.906	1065891.623							
CURVE			N 83°39'19.7" E	106.43	10°27'28.4"(LT)	09°48'45.6"	106.58	53.44	583.90
PCC	702305.667	1065997.399							
CURVE			N 41°57'37.5" E	271.53	72°55'55.9"(LT)	25°04'56.4"	290.77	168.82	228.43
PT	702507.582	1066178.952							
LINE			N 05°29'39.6" E	37.53					
POT	702544.938	1066182.545							

RPC

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	702193.451	1065020.406							
LINE			S 87°10'19.8" E	138.98					
PC	702186.594	1065159.214							
CURVE			S 80°06'29.5" E	285.49	14°07'40.5"(RT)	04°56'10.3"	286.21	143.84	1160.73
PCC	702137.551	1065440.457							
CURVE			S 71°19'54.4" E	188.95	03°25'29.6"(RT)	01°48'44.2"	188.98	94.52	3161.53
PT	702077.069	1065619.470							
LINE			S 69°37'09.7" E	354.27					
POT	701953.692	1065951.564							

RPD

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	701959.237	1065950.258							
LINE			N 61°35'05.2" E	152.56					
PC	702031.832	1066084.434							
CURVE			N 67°31'35.4" E	335.55	11°53'00.3"(RT)	03°32'06.5"	336.15	168.68	1620.76
PCC	702160.098	1066394.501							
CURVE			N 81°01'19.5" E	335.17	15°06'28.0"(RT)	04°29'40.1"	336.14	169.05	1274.80
PT	702212.402	1066725.563							
LINE			N 88°34'33.5" E	64.15					
POT	702213.996	1066789.696							

NOTES:

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6/2/99

REVISIONS

$$$$SYSTIME$$$$ $$$$$DGN$$$$$$$$$$$$$$$$ $$$$USERNAME$$$$

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6/2021

REVISIONS

PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
BR-0033	RW02D-1

Location and Surveys

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4775 LAND SURVEYOR MATTHEW T. CORNWELL

DocuSigned by: Matthew Cornwell
EBD36F11473E475...

6/1/2021

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I, Matthew T. Cornwell, 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 1st day of June, 2021.

DocuSigned by: Matthew Cornwell
EBD36F11473E475...

6/1/2021

Professional Land Surveyor L-4775

L

TYPE	STATION	NORTH	EAST
POT	9+00.00	701549.3226	1066046.8392
PC	10+98.33	701742.3628	1066001.3561
PRC	12+68.53	701911.4064	1065989.2098
PT	14+38.73	702080.4500	1065977.0634
POT	18+54.66	702485.2944	1065881.6763

Y1

TYPE	STATION	NORTH	EAST
PC	10+50.15	702367.8054	1065511.3899
PT	12+69.80	702419.1700	1065723.9893
PC	15+11.27	702512.5490	1065946.6704
PT	17+66.71	702542.8953	1066197.0390
PC	17+70.89	702542.2461	1066201.1709
PT	19+48.62	702499.5812	1066373.4669

Y2

TYPE	STATION	NORTH	EAST
POT	10+00.00	701959.7923	1065641.2444
PC	11+39.29	701876.2902	1065752.7324
PCC	12+67.34	701817.4884	1065865.8403
PT	13+74.37	701814.5112	1065971.3517
POT	13+92.71	701819.2206	1065989.0856

RPC

TYPE	STATION	NORTH	EAST
POT	10+00.00	702077.0690	1065619.4699
PC	12+12.98	702002.8980	1065819.1163
PT	13+60.92	701980.0172	1065964.2904
POT	13+87.43	701981.1584	1065990.7750

RPD

TYPE	STATION	NORTH	EAST
POT	10+00.00	701981.1584	1065990.7750
PC	11+06.49	702031.8316	1066084.4338
PT	14+42.64	702160.0979	1066394.5014

NOTES:

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12/2021

RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
BR-0033	RW03E-1

Location and Surveys

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4775 LAND SURVEYOR MATTHEW T. CORNWELL

DocuSigned by: Matthew Cornwell EBD36F11473E475...

12/16/2021

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I , Matthew T. Cornwell , 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 5/24/2021, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 16th day of December, 2021.

DocuSigned by: Matthew Cornwell EBD36F11473E475... 12/16/2021

Professional Land Surveyor L-4775

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST	
L	9+76.70	30.00	701630.8549	1066058.4505	COULD NOT SET - FELL IN CREEK
L	9+76.70	50.00	701635.4416	1066077.9174	
L	10+30.00	50.00	701687.3246	1066065.6930	
L	11+50.00	47.05	701799.4618	1066038.5884	
L	12+59.30	52.91	701898.4789	1066041.2529	

REVISIONS

NOTES:

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2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED 5/24/2021.

16-DEC-2021 09:46
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mcornwell A T MCORNWELL LAPTOP

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PROJECT REFERENCE NO.	SHEET NO.
BR-0033	RW04

Location and Surveys

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4775 LAND SURVEYOR MATTHEW T. CORNWELL

DocuSigned by: Matthew Cornwell EBD36F11473E475...

12/20/2021

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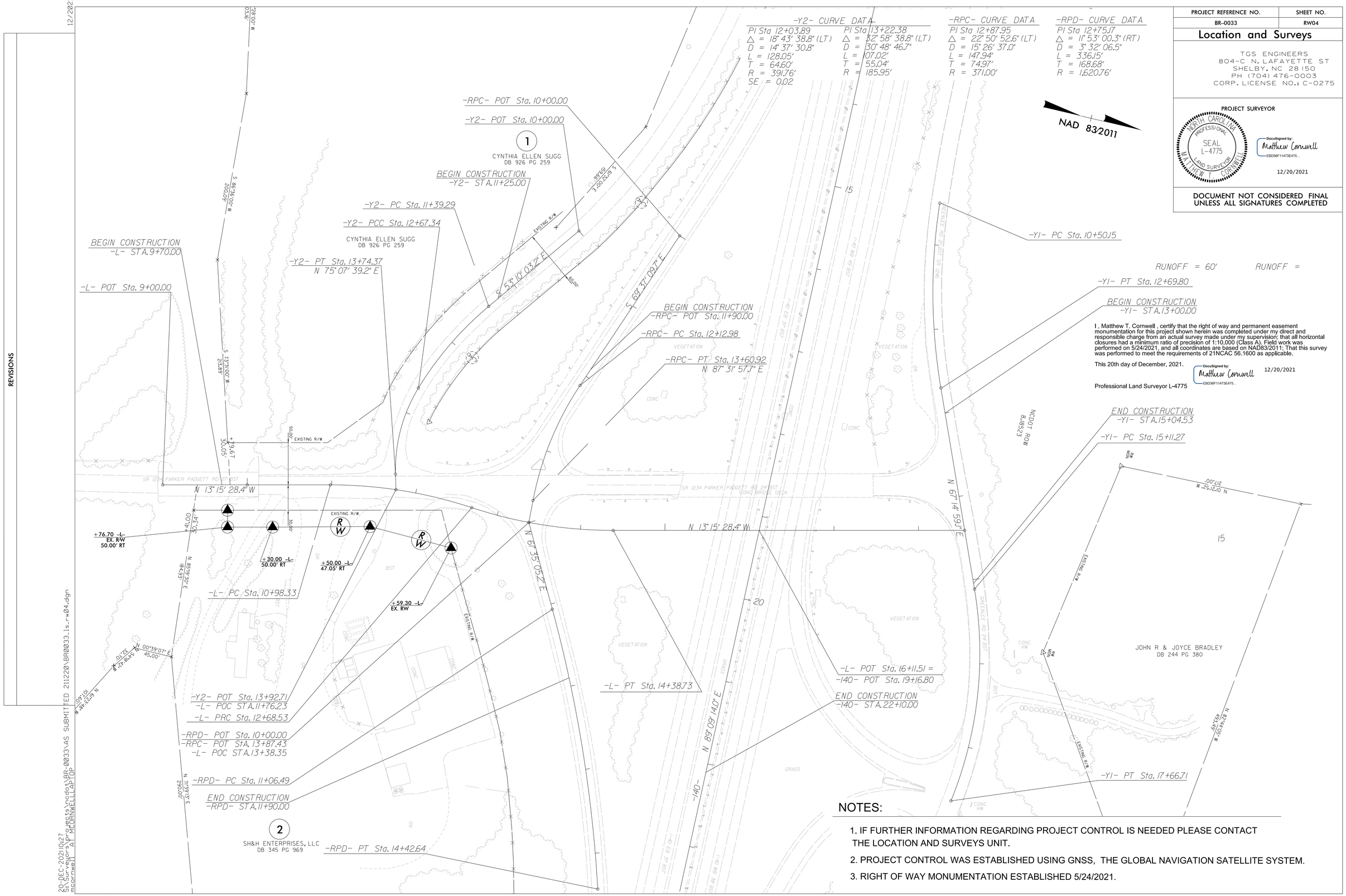

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This 20th day of December, 2021.

DocuSigned by: Matthew Cornwell EBD36F11473E475... 12/20/2021

Professional Land Surveyor L-4775