

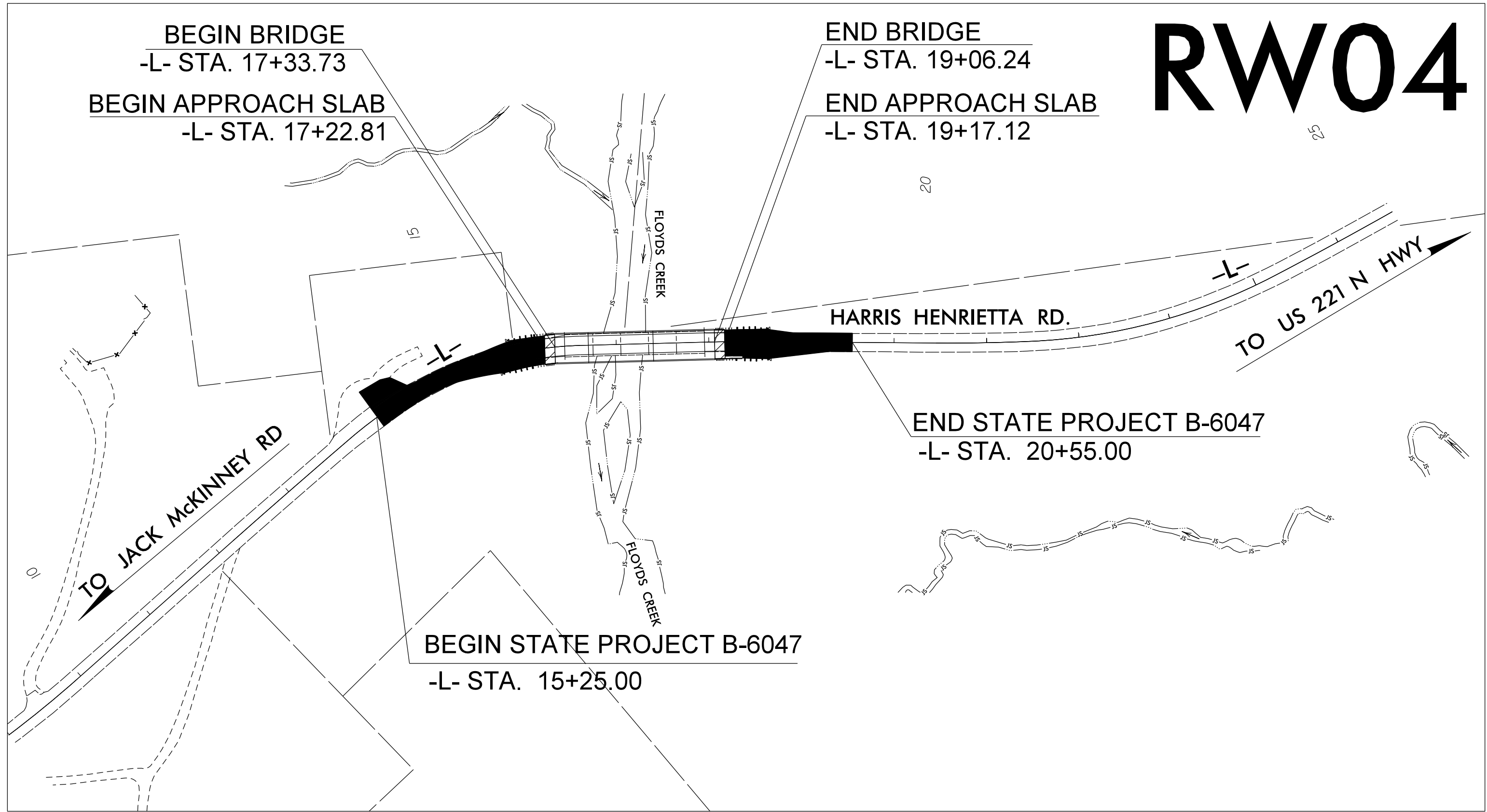
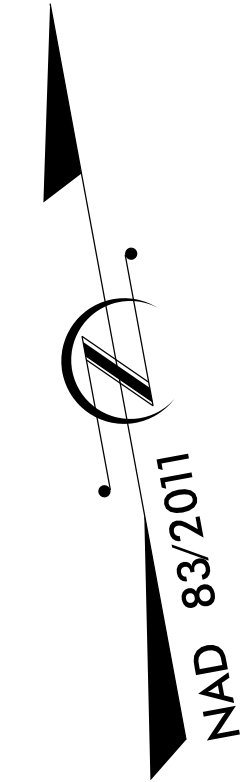
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-6047	RW01	5

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

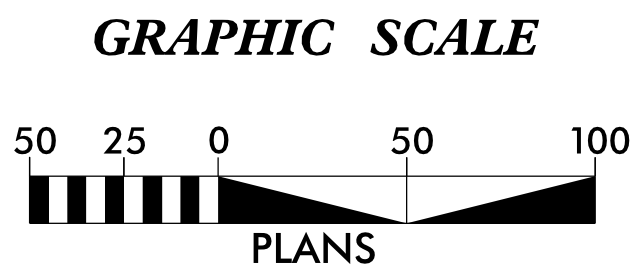
SURVEY CONTROL, EXISTING CENTERLINES,
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

RUTHERFORD COUNTY

TIP PROJECT: B-6047



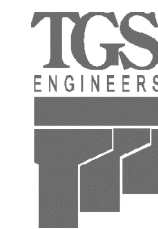
RW04



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B6047-2" WITH NAD 83/NSRS 2011 STATE PLANE GRID COORDINATES OF NORTHING: 555,757.895(ft) EASTING: 1,143,427.257(ft) ELEVATION: 757.38(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999841387 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B6047-2" TO -L- STATION 10+00.00 IS S 59°30'13.3" W 641.10(ft) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:



TGS ENGINEERS
201 WEST MARION STREET
SUITE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
TBD

LETTING DATE:
5/18/2026

PROFESSIONAL LAND
SURVEYOR

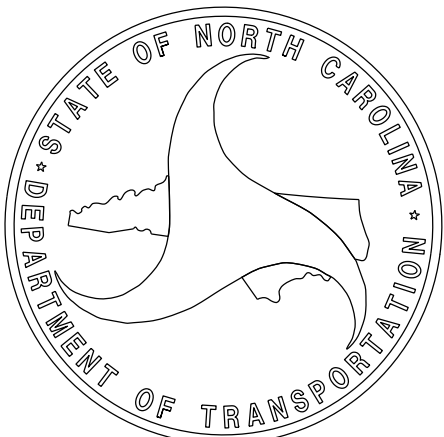


Signed by:
Matthew Cornwell
END038F11473E475.

12/1/2025

SIGNATURE:

Date:



SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

EXISTING HORIZONTAL ALIGNMENT

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	555432.214	1142874.177							
CURVE			N 61°10'44.9" E	96.30	04°37'07.2"(LT)	04°47'40.7"	96.33	48.19	1195.00
PT	555478.640	1142958.552							
LINE			N 58°52'11.2" E	224.53					
PC	555594.717	1143150.746							
CURVE			N 59°21'11.2" E	168.70	00°57'59.8"(RT)	00°34'22.6"	168.71	84.36	10000.00
PCC	555680.713	1143295.886							
CURVE			N 66°49'23.1" E	109.47	13°58'24.0"(RT)	12°43'56.6"	109.75	55.15	450.00
PCC	555723.799	1143396.525							
CURVE			N 86°22'30.9" E	160.99	25°07'51.7"(RT)	15°29'07.2"	162.29	82.47	370.00
PT	555733.977	1143557.195							
LINE			S 81°03'33.2" E	136.75					
PC	555712.724	1143692.287							
CURVE			S 80°04'46.8" E	51.29	01°57'32.8"(RT)	03°49'11.0"	51.29	25.65	1500.00
PT	555703.888	1143742.807							
LINE			S 79°06'00.5" E	196.15					
PC	555666.798	1143935.414							
CURVE			S 80°34'39.8" E	103.14	02°57'18.7"(LT)	02°51'53.2"	103.16	51.59	2000.00
PCC	555649.913	1144037.167							
CURVE			N 85°25'37.6" E	270.92	25°02'06.5"(LT)	09°10'02.4"	273.09	138.76	625.00
PT	555671.513	1144307.228							
LINE			N 85°25'37.5" E	0.00					
PC	555671.513	1144307.228							
CURVE			N 71°56'22.1" E	145.94	01°56'24.5"(LT)	01°19'45.7"	145.95	72.98	4310.00
PT	555716.757	1144445.976							



PROJECT REFERENCE NO.
B-6047

SHEET NO.
RW02C-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

DocuSigned by:

EB036F11473E475...

9/2/2021

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

I, Matthew T. Cornwell, 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: RTN
Dates of survey: 6/23/2021
Datum/Epoch: NAD83/2011
Published/Fixed-control use: RTN
Localized around: B6047-2
Northing: 555757.895
Easting: 1143427.257
Combined grid factor: 0.999841387
Geoid model: 12BNC
Units: US 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 8/3/2021 to 8/16/2021, 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.

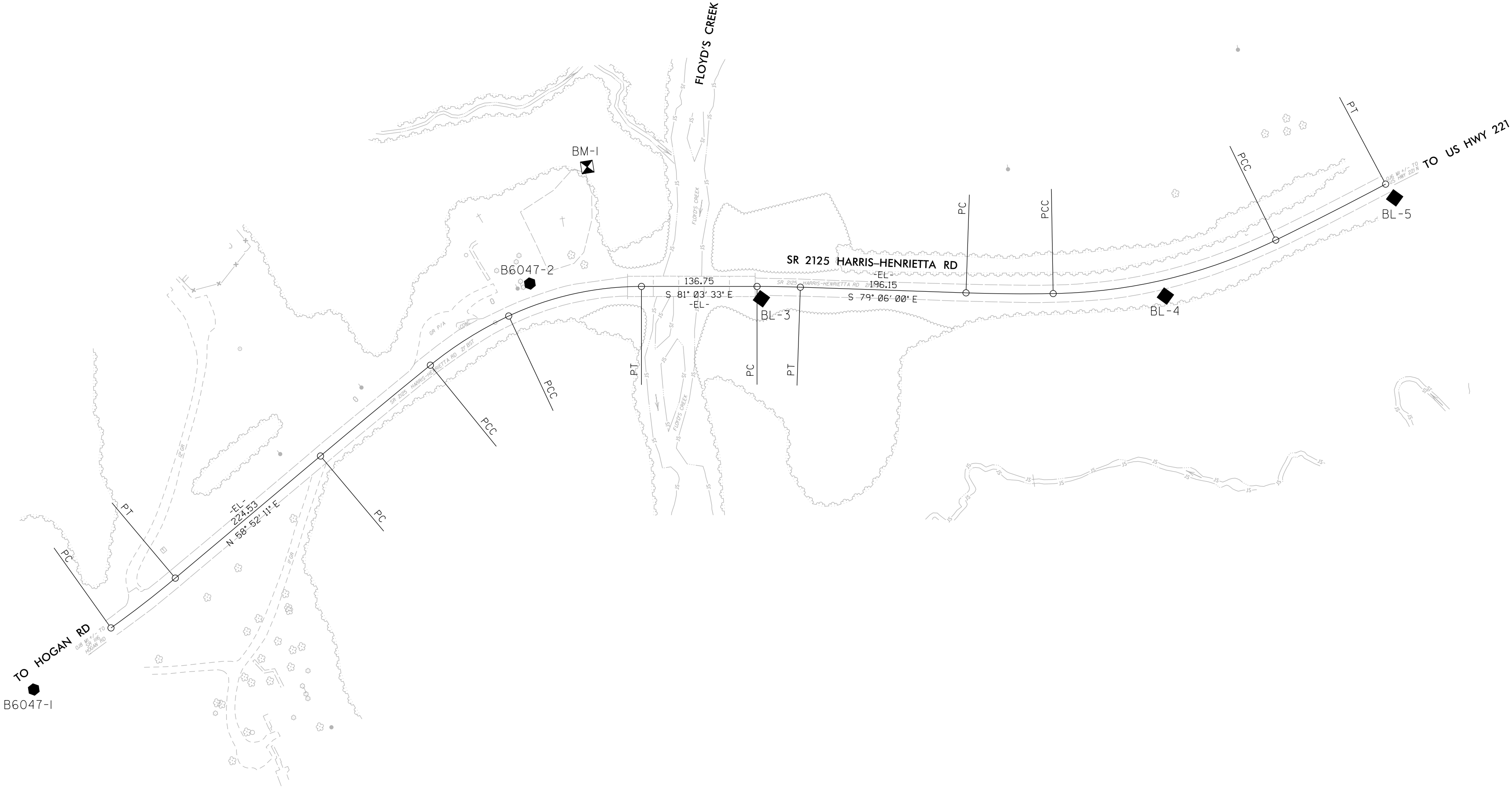
This 2nd day of September, 2021.

DocuSigned by:

EB036F11473E475...

9/2/2021

Professional Land Surveyor L-4775



BASELINE

BL	POINT	DESC.	NORTH	EAST	ELEVATION
1		B6047-1	555374.3860	1142772.6040	774.39
2		B6047-2	555757.8950	1143427.2570	757.38
3		BL-3	555697.4503	1143695.1058	750.12
4		BL-4	555626.3285	1144167.8529	770.92
5		BL-5	555699.0027	1144453.9150	779.23

BENCHMARK

BM1 ELEVATION = 754.08
N 555884 E 1143516
BL STATION 13+17.00 142 LEFT
RRSPIKE IN 24" POPLAR

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.

5/2024

REVISIONS

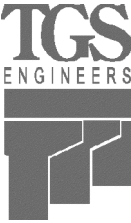
09 MAY 2024 09:25
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mccornwell A MCCORNWELL\TOP

PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO.
B-6047

SHEET NO.
RW02D-1

Location and Surveys



TGS ENGINEERS
201 WEST MARION STREET
SUITE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PROJECT SURVEYOR

DocuSigned by:
Matthew Cornwell
EBD36F11473E475

5/9/2024



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 5/9/2024

DocuSigned by:
Matthew Cornwell
EBD36F11473E475

Professional Land Surveyor L-4775

REVISIONS

09 MAY 2024 09:33
S:\Survey\Projects\ncdot\B-6047\2024 RW STK\WTC\B6047_1s.rw03e-1.dgn
mccornwell A MCCORNWELL\TOP

RIGHT OF WAY & PERMANENT EASEMENT CONTROL SHEET

PROJECT REFERENCE NO.
B-6047

SHEET NO.
RW03E-1

Location and Surveys



TGS ENGINEERS
201 WEST MARION STREET
SUITE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PROJECT SURVEYOR

DocuSigned by:
Matthew Cornwell
EBD39F11473E475...

5/9/2024



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

ROW MARKER IRON PIN AND CAP				
ALIGN	STATION	OFFSET	NORTH	EAST
L	15+25.00	30.00	555670.5547	1143340.8132
L	15+25.00	17.00	555682.2828	1143335.2051
L	15+98.56	30.00	555694.9889	1143404.8903
L	16+90.88	-17.00	555755.2616	1143486.9055
L	16+91.13	-20.00	555758.2685	1143487.0674
L	17+20.00	-30.00	555768.0562	1143517.9447
L	17+20.00	-20.00	555758.0667	1143517.4884
L	17+60.85	-30.00	555763.6127	1143561.8571
L	17+60.85	30.00	555704.3418	1143552.5323
L	18+97.60	-30.00	555742.3593	1143696.9494
L	18+97.60	30.00	555683.0884	1143687.6246
L	19+48.89	-30.00	555733.3471	1143748.4796
L	19+48.89	30.00	555674.4295	1143737.1340
L	20+55.00	30.00	555654.3648	1143841.3295
L	20+55.00	-17.00	555700.5169	1143850.2169
L	20+55.00	-30.00	555713.2824	1143852.6751
L	20+55.00	17.00	555667.1303	1143843.7877

ROW MARKER PERMANENT EASEMENT				
ALIGN	STATION	OFFSET	NORTH	EAST
L	14+19.86	-44.00	555683.7522	1143214.0234
L	14+60.00	-43.50	555703.7468	1143249.0309
L	14+60.00	-34.17	555695.6955	1143253.7411
L	14+60.00	-17.00	555680.8736	1143262.4123
L	14+60.00	-51.00	555710.2204	1143245.2437
L	14+85.00	-41.00	555714.2376	1143271.9761
L	14+85.00	-51.00	555722.8817	1143266.9481
L	16+30.00	-30.00	555760.6895	1143421.1671
L	16+96.00	-33.00	555771.3985	1143491.9479
L	17+06.00	-61.00	555799.4598	1143503.0580
L	17+20.00	-61.00	555799.0240	1143519.3593
L	17+20.00	-49.50	555787.5359	1143518.8345
L	17+20.00	-37.19	555775.2419	1143518.2729
L	17+28.95	-40.80	555778.2739	1143528.3559
L	18+80.00	70.00	555646.3098	1143664.0209
L	18+80.00	30.00	555685.8238	1143670.2374
L	18+80.00	-30.00	555745.0948	1143679.5622
L	18+80.00	-55.00	555769.7910	1143683.4475
L	19+48.89	70.00	555635.1512	1143729.5701
L	19+50.00	-68.00	555770.4516	1143756.7549
L	19+75.00	-68.00	555765.7243	1143781.3039
L	20+10.00	-30.00	555721.7916	1143808.4869
L	21+89.73	-162.00	555818.5607	1144006.4609

BRIDGE SPIKE SET IN TREE ROOT

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 from 4/16/2024 to 4/20/2024, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 5/9/2024

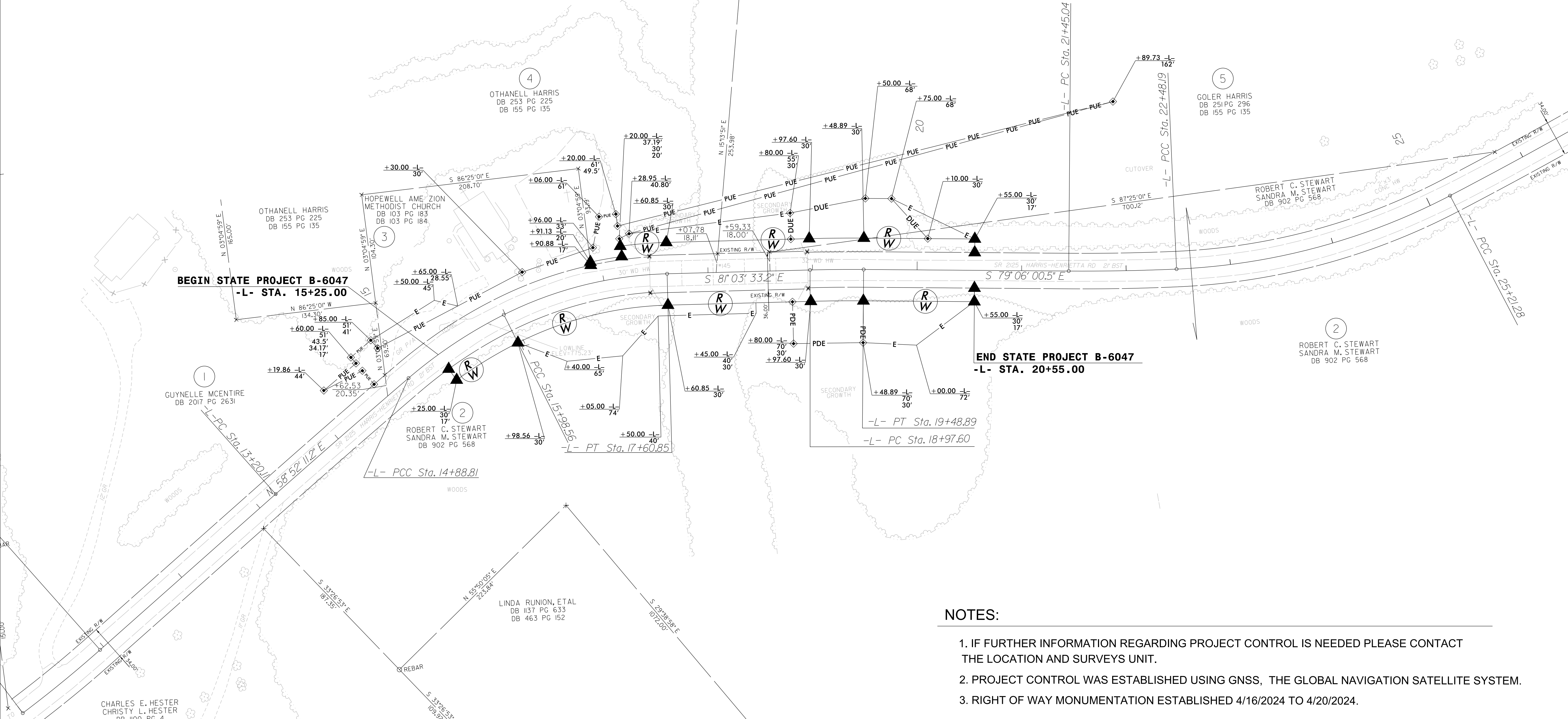
DocuSigned by:
Matthew Cornwell
EBD39F11473E475...
Professional Land Surveyor L-4775

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 4/16/2024 TO 4/20/2024.

REVISIONS

09 MAY 2024 09:57
S:\Projects\ncdot\B-6047_2024 RW STK\WTC\B6047_1s.rw04.dgn
Matthew T. Cornwell
A P MORNWELL LLP



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 from 4/16/2024 to 4/20/2024, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 5/9/2024

DocuSigned by:
Matthew Cornwell
EBD096F11473E475...
Professional Land Surveyor L-4775

NAD 83/2011

PROJECT REFERENCE NO.
B-6047

SHEET NO.
RW04

Location and Surveys



TGS ENGINEERS
201 WEST MARION STREET
SUITE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PROJECT SURVEYOR

DocuSigned by:
Matthew Cornwell
EBD096F11473E475...
5/9/2024



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

-L- CURVE DATA						
PI Sta 14+04.46 Δ = 0° 57' 59.8" (RT) D = 0° 34' 22.6" L = 168.71' T = 84.36' R = 10,000.00' DS = EXIST	PI Sta 15+43.96 Δ = 13° 58' 24.0" (RT) D = 12° 43' 56.6" L = 109.75' T = 55.15' R = 450.00' DS = 35 MPH SE = 0.04 RO = 70'	PI Sta 16+81.03 Δ = 25° 07' 51.7" (RT) D = 15° 29' 07.2" L = 162.29' T = 82.47' R = 370.00' DS = 30 MPH SE = 0.04 RO = 70'	PI Sta 19+23.25 Δ = 1° 57' 32.8" (RT) D = 3° 49' 11.0" L = 51.29' T = 25.65' R = 1,500.00' DS = EXIST	PI Sta 21+96.63 Δ = 2° 57' 18.7" (LT) D = 2° 51' 53.2" L = 103.16' T = 51.59' R = 2,000.00' DS = EXIST	PI Sta 23+86.95 Δ = 25° 02' 06.5" (LT) D = 9° 10' 02.4" L = 273.09' T = 138.76' R = 625.00' DS = EXIST	PI Sta 25+94.26 Δ = 1° 56' 24.5" (LT) D = 1° 19' 45.7" L = 145.95' T = 72.98' R = 4,310.00' DS = EXIST

NOTES:

- IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
- RIGHT OF WAY MONUMENTATION ESTABLISHED 4/16/2024 TO 4/20/2024.