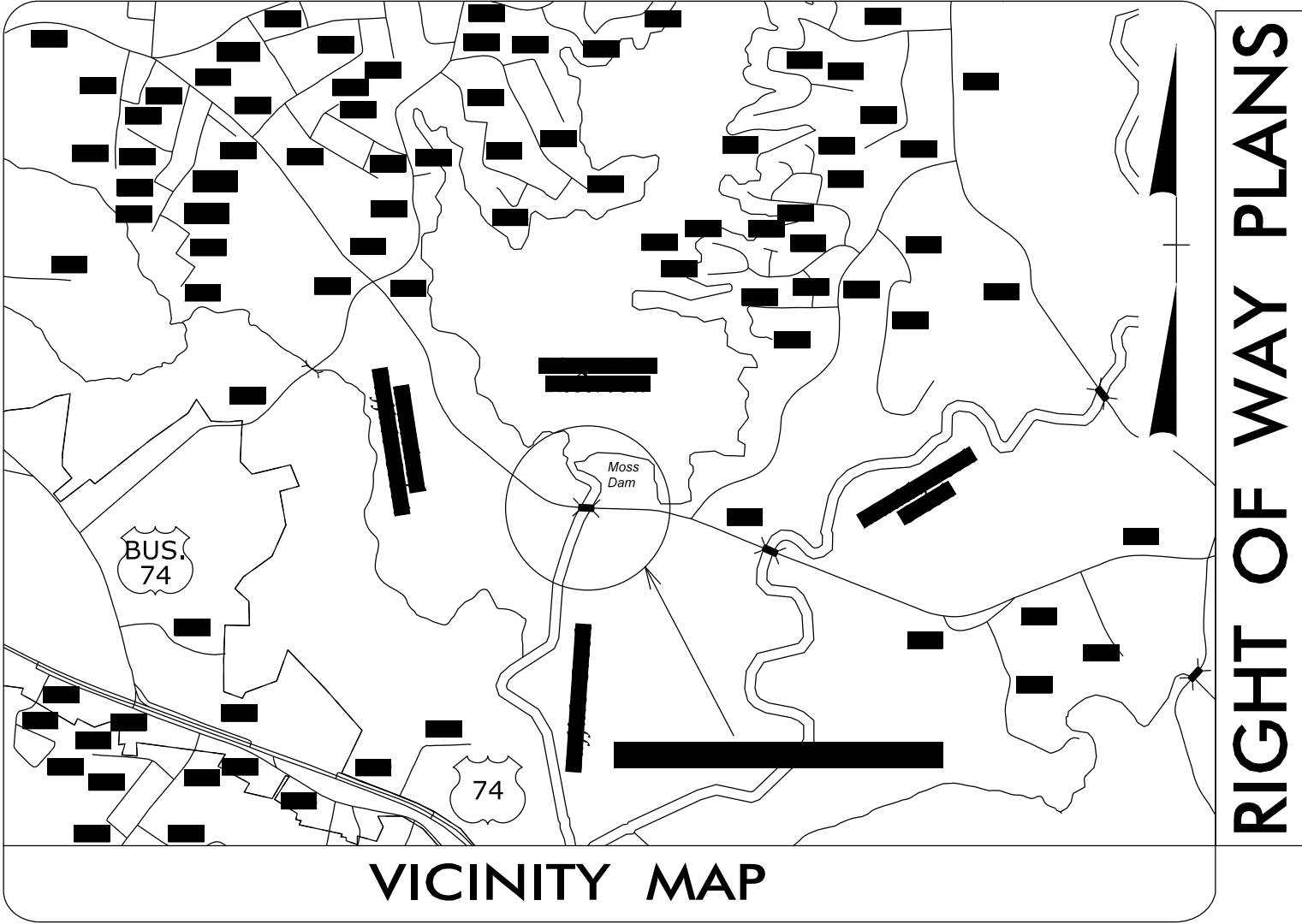


2/01/22

TIP PROJECT: B-5845

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Plan Sheet Symbols



RIGHT OF WAY PLANS

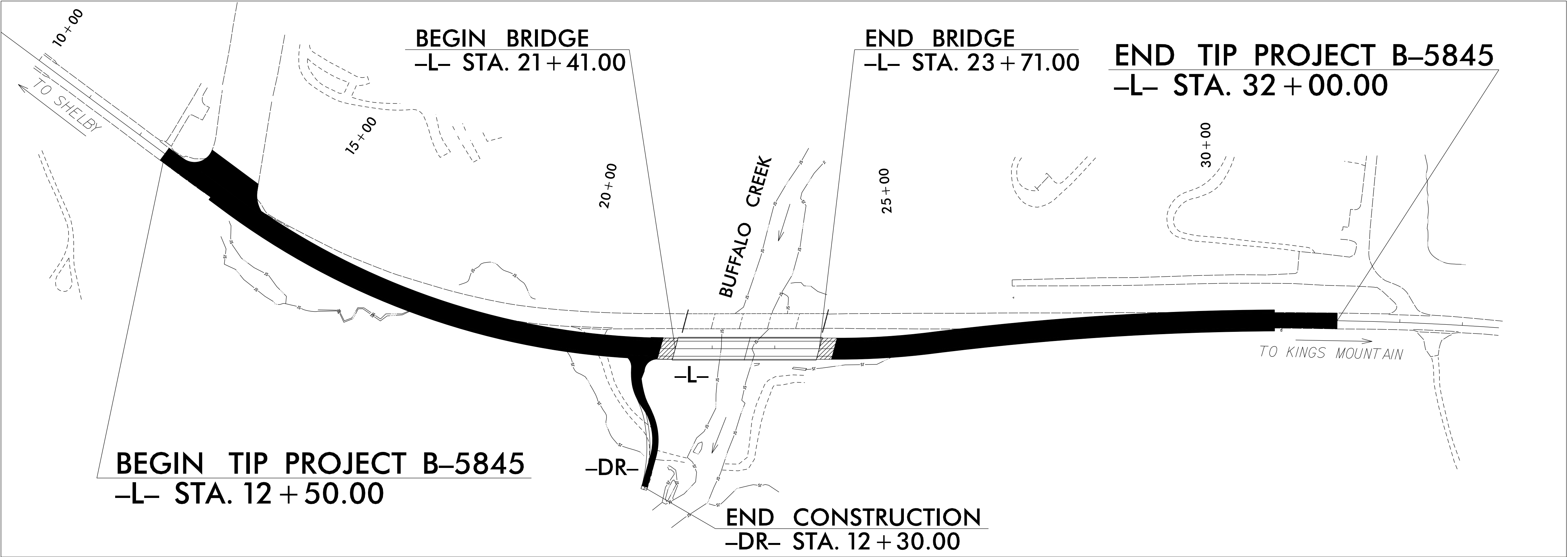
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

CLEVELAND COUNTY

LOCATION: BRIDGE #220025 ON SR 2033 (OAK GROVE RD.)
OVER BUFFALO CREEK

TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURE, & UTILITIES



GRAPHIC SCALE



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT
IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY
NCGS FOR MONUMENT "B5845-2"
WITH NAD 83/2011 STATE PLANE GRID COORDINATES OF
NORTHING: 563,832.657(ft) EASTING: 1,268,473.699(ft)
ELEVATION: 746.99(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.99984206
THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"B5845-2" TO -L- STATION 9+00.00 IS
N 77°47'05.0" W 2,752.06(ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

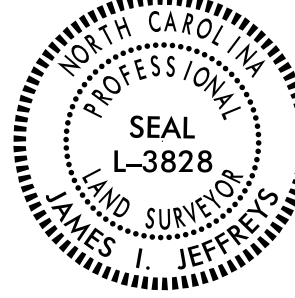
Prepared in the Office of:

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 22, 2022

LETTING DATE:
MARCH 18, 2025

PROFESSIONAL LAND
SURVEYOR

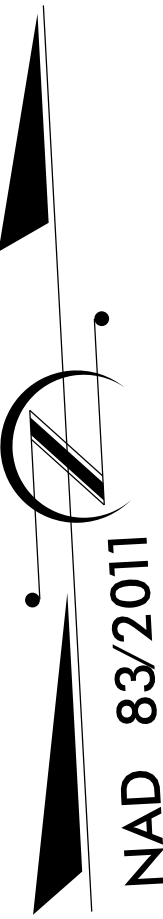
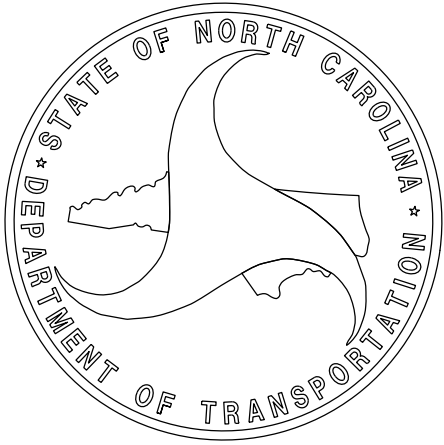


DocuSigned by:
James I. Jeffers
M43045A2D7AE4CA

02/01/2022

SIGNATURE:

Date:



NAD 83/2011

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS
CONVENTIONAL PLAN SHEET SYMBOLS

PROJECT REFERENCE NO.	SHEET NO.
B-5845	RWO/B

BOUNDARIES AND PROPERTY:

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Existing Iron Pin	
Computed Property Corner	
Property Monument	
Parcel/Sequence Number	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
Existing Historic Property Boundary	
Known Contamination Area: Soil	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water	
Contaminated Site: Known or Potential	

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	
Sign	
Well	
Small Mine	
Foundation	
Area Outline	
Cemetery	
Building	
School	
Church	
Dam	
HYDROLOGY:	
Stream or Body of Water	
Hydro, Pool or Reservoir	
Jurisdictional Stream	
Buffer Zone 1	
Buffer Zone 2	
Flow Arrow	
Disappearing Stream	
Spring	
Wetland	
Proposed Lateral, Tail, Head Ditch	
False Sump	

RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	
Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Exist Permanent Easment Pin and Cap	
New Permanent Easement Pin and Cap	
Vertical Benchmark	
Existing Right of Way Marker	
Existing Right of Way Line	
New Right of Way Line	
New Right of Way Line with Pin and Cap	
New Right of Way Line with Concrete or Granite RW Marker	
New Control of Access Line with Concrete C/A Marker	
Existing Control of Access	
New Control of Access	
Existing Easement Line	
New Temporary Construction Easement	
New Temporary Drainage Easement	
New Permanent Drainage Easement	
New Permanent Drainage /Utility Easement	
New Permanent Utility Easement	
New Temporary Utility Easement	
New Aerial Utility Easement	

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	
Existing Curb	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
Existing Metal Guardrail	
Proposed Guardrail	
Existing Cable Guiderail	
Proposed Cable Guiderail	
Equality Symbol	
Pavement Removal	
VEGETATION:	
Single Tree	
Single Shrub	

Hedge	
Woods Line	
Orchard	
Vineyard	

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	
Bridge Wing Wall, Head Wall and End Wall	
MINOR:	
Head and End Wall	
Pipe Culvert	
Footbridge	
Drainage Box: Catch Basin, DI or JB	
Paved Ditch Gutter	
Storm Sewer Manhole	
Storm Sewer	

UTILITIES:

POWER:	
Existing Power Pole	
Proposed Power Pole	
Existing Joint Use Pole	
Proposed Joint Use Pole	
Power Manhole	
Power Line Tower	
Power Transformer	
U/G Power Cable Hand Hole	
H-Frame Pole	
U/G Power Line LOS B (S.U.E.*)	
U/G Power Line LOS C (S.U.E.*)	
U/G Power Line LOS D (S.U.E.*)	

TELEPHONE:

Existing Telephone Pole	
Proposed Telephone Pole	
Telephone Manhole	
Telephone Pedestal	
Telephone Cell Tower	
U/G Telephone Cable Hand Hole	
U/G Telephone Cable LOS B (S.U.E.*)	
U/G Telephone Cable LOS C (S.U.E.*)	
U/G Telephone Cable LOS D (S.U.E.*)	
U/G Telephone Conduit LOS B (S.U.E.*)	
U/G Telephone Conduit LOS C (S.U.E.*)	
U/G Telephone Conduit LOS D (S.U.E.*)	
U/G Fiber Optics Cable LOS B (S.U.E.*)	
U/G Fiber Optics Cable LOS C (S.U.E.*)	
U/G Fiber Optics Cable LOS D (S.U.E.*)	

WATER:

Water Manhole	
Water Meter	
Water Valve	
Water Hydrant	
U/G Water Line LOS B (S.U.E.*)	
U/G Water Line LOS C (S.U.E.*)	
U/G Water Line LOS D (S.U.E.*)	
Above Ground Water Line	

TV:

TV Pedestal	
TV Tower	
U/G TV Cable Hand Hole	
U/G TV Cable LOS B (S.U.E.*)	
U/G TV Cable LOS C (S.U.E.*)	
U/G TV Cable LOS D (S.U.E.*)	
U/G Fiber Optic Cable LOS B (S.U.E.*)	
U/G Fiber Optic Cable LOS C (S.U.E.*)	
U/G Fiber Optic Cable LOS D (S.U.E.*)	

GAS:

Gas Valve	
Gas Meter	
U/G Gas Line LOS B (S.U.E.*)	
U/G Gas Line LOS C (S.U.E.*)	
U/G Gas Line LOS D (S.U.E.*)	
Above Ground Gas Line	

SANITARY SEWER:

Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	
Above Ground Sanitary Sewer	
SS Forced Main Line LOS B (S.U.E.*)	
SS Forced Main Line LOS C (S.U.E.*)	
SS Forced Main Line LOS D (S.U.E.*)	

MISCELLANEOUS:

Utility Pole	
Utility Pole with Base	
Utility Located Object	
Utility Traffic Signal Box	
Utility Unknown U/G Line LOS B (S.U.E.*)	
U/G Tank; Water, Gas, Oil	
Underground Storage Tank, Approx. Loc.	
A/G Tank; Water, Gas, Oil	
Geoenvironmental Boring	
U/G Test Hole LOS A (S.U.E.*)	
Abandoned According to Utility Records	
End of Information	

2/01/2022

REVISIONS

01-FEB-2022 15:54
C:\Projects\B5845\LS12-21-030_RW\B5845_11s-rw02c-1.dgn
J. Jeffreys AT LS-314619



SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

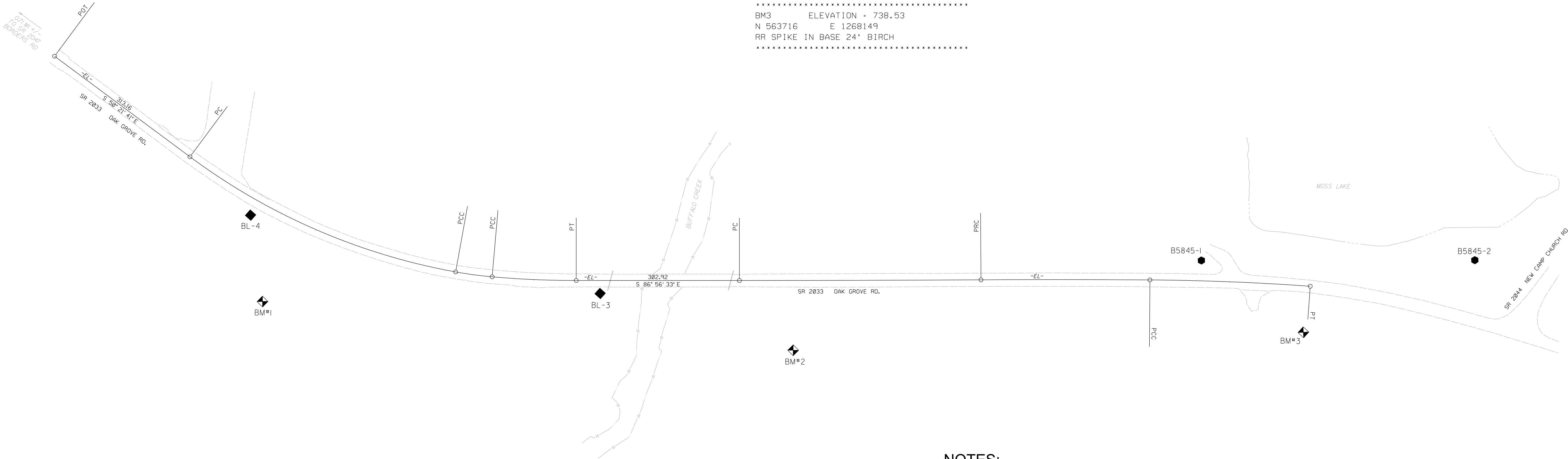
EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	564351.146	1265860.952							
LINE			S 50°21'40.7" E	313.16					
PC	564151.367	1266102.111							
CURVE			S 63°31'26.8" E	537.42	26°19'32.3"(LT)	04°51'20.1"	542.17	275.96	1180.00
PCC	563911.775	1266583.165							
CURVE			S 79°17'56.0" E	68.36	05°13'25.9"(LT)	07°38'22.0"	68.38	34.21	750.00
PCC	563899.082	1266650.333							
CURVE			S 84°25'36.0" E	156.27	05°01'54.2"(LT)	03°13'07.9"	156.32	78.21	1780.00
PT	563883.906	1266805.864							
LINE			S 86°56'33.1" E	302.92					
PC	563867.748	1267108.353							
CURVE			S 87°06'27.6" E	448.48	00°19'49.0"(LT)	00°04'25.1"	448.48	224.24	77800.00
PCC	563845.119	1267556.261							
CURVE			S 86°54'11.1" E	313.63	00°44'22.2"(RT)	00°14'08.8"	313.63	156.82	24300.00
PCC	563828.175	1267869.433							
CURVE			S 84°41'10.0" E	297.85	03°41'39.9"(RT)	01°14'24.6"	297.90	149.00	4620.00
PT	563800.591	1268165.998							

BL	POINT	DESC.	NORTH	EAST	ELEVATION
4	BL - 4		564037.2507	1266208.5459	717.00
3	BL - 3		563857.4912	1266848.8262	688.23
1	B5845-1		563859.1320	1267966.7750	741.25
2	B5845-2		563832.6570	1268473.6990	746.99

BM1 ELEVATION = 720.18
N 563876 E 1266222
RR SPIKE IN BASE 18" PINE

BM2 ELEVATION = 701.53
N 563733 E 1267201
RR SPIKE IN BASE 20" WHITE OAK

BM3 ELEVATION = 738.53
N 563716 E 1268149
RR SPIKE IN BASE 24" BIRCH



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-5845	RW02C-1
Location and Surveys	
PROJECT SURVEYOR SEAL L-3828 JAMES I. JEFFREYS	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, **James I. Jeffreys, PE, 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 day 02/01/2022

DocuSigned by:

443045A207AEBCA...

James I. Jeffreys, PE, PLS
Professional Land Surveyor L-3828

PROPOSED ALIGNMENT CONTROL SHEET

L			
TYPE	STATION	NORTH	EAST
POT	9+00.00	564414.9400	1265783.9438
PC	13+78.82	564109.4810	1266152.6730
PT	21+38.59	563837.5732	1266848.3550
PC	24+02.45	563823.4995	1267111.8404
PRC	25+50.97	563824.8416	1267260.2625
PT	34+58.49	563800.5906	1268165.9982

DR			
TYPE	STATION	NORTH	EAST
POT	10+00.00	563842.1252	1266790.0630
PC	10+37.00	563805.2796	1266786.6794
PRC	10+77.62	563765.1920	1266791.1680
PT	12+25.74	563619.6219	1266790.0890
POT	12+30.74	563614.8907	1266788.4716

PROJECT REFERENCE NO.
B-5845

SHEET NO.
RW02D-1

Location and Surveys

PROJECT SURVEYOR

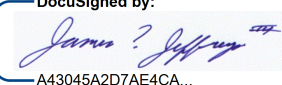


DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

I, James L. Jeffreys, PE, 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 day 02/01/2022.

DocuSigned by:


A43045A207AE4CA...

James L. Jeffreys, PE, PLS
Professional Land Surveyor L-3828

- 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.

2/02/2022

REVISIONS

02-FEB-2022 08:58
C:\FEB2022\B8845\LS12-21-030_RW\B5845_1s.rw03e-1.dgn
J.Jeffreys At LS-314619

RIGHT OF WAY CONTROL SHEET

ROW MARKER IRON PIN AND CAP				
ALIGN	STATION	OFFSET	NORTH	EAST
L	12+50.00	30.00	564168.5570	1266034.3344
L	12+50.00	40.00	564160.8562	1266027.9550
L	13+78.82	40.00	564078.6777	1266127.1553
L	18+90.00	40.00	563837.9375	1266592.9311
L	20+25.00	115.00	563735.3029	1266718.3385
L	22+15.00	40.00	563793.5545	1266922.5242
L	24+02.45	40.00	563783.5564	1267109.7069
L	25+50.97	40.00	563784.9437	1267263.1180
L	32+00.00	30.00	563795.6957	1267906.6850
L	32+00.00	40.00	563785.7195	1267905.9952

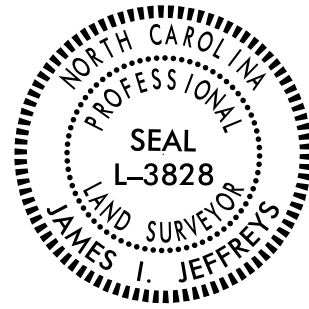
NOT SET

PERMANENT EASEMENT MARKER IRON PIN AND CAP				
ALIGN	STATION	OFFSET	NORTH	EAST
L	9+20.00	48.00	564365.2171	1265768.7242
L	9+20.00	30.00	564379.0786	1265780.2072
L	10+73.00	55.00	564262.2211	1265882.0812
L	10+73.00	30.00	564281.4731	1265898.0298
L	12+80.00	50.00	564134.0170	1266044.6780
L	12+80.00	40.00	564141.7179	1266051.0575
L	12+90.00	50.00	564127.6376	1266052.3788
L	12+90.00	40.00	564135.3384	1266058.7583
L	13+92.00	40.00	564070.0437	1266137.6959
L	14+09.00	64.00	564040.2183	1266136.5922
L	14+43.00	40.00	564037.7545	1266179.3585
L	14+79.00	50.00	564007.8414	1266203.8727
L	14+79.00	40.00	564016.0513	1266209.5820
L	14+89.00	40.00	564010.1859	1266218.0926
L	14+89.00	50.00	564001.9282	1266212.4525
L	16+08.00	40.00	563946.0022	1266322.9585
L	16+38.00	79.00	563896.8018	1266332.5642
L	17+21.00	95.00	563844.4672	1266406.3659
L	17+30.00	40.00	563891.4067	1266436.5667
L	18+68.00	40.00	563844.0357	1266571.0249
L	18+68.00	50.00	563834.4272	1266568.2541
L	18+78.00	51.00	563830.6190	1266578.0093
L	20+53.00	101.54	563744.4603	1266750.4375
L	20+67.00	-72.12	563915.1946	1266785.1958
L	20+84.00	232.00	563610.8752	1266770.9451
L	20+93.00	-90.00	563930.4981	1266811.1280
L	20+99.00	-82.00	563922.0343	1266815.9600
L	21+08.00	239.00	563601.3437	1266798.9569
L	21+30.00	69.44	563768.7494	1266835.5763
L	21+35.00	171.00	563667.0417	1266835.1362
L	21+37.00	144.00	563693.8743	1266838.8962
L	21+43.00	205.00	563632.6297	1266841.8260
L	21+56.00	188.00	563648.9121	1266855.7142
L	22+38.00	99.00	563733.4117	1266942.3445
L	22+42.00	-74.00	563905.9521	1266955.5662
L	22+46.00	40.00	563791.9011	1266953.4800
L	23+50.00	129.00	563697.4806	1267052.5850
L	24+35.00	-133.00	563955.1631	1267147.8231
L	24+39.00	-103.00	563925.0843	1267150.6956
L	24+51.00	113.00	563708.9084	1267158.9414
L	25+54.00	93.00	563732.2896	1267269.8590
L	26+25.00	42.00	563787.5988	1267336.4653
L	30+90.00	40.00	563791.9458	1267797.1280

NOT SET

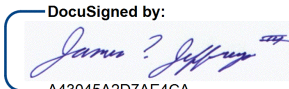
NOT SET

NOT SET

PROJECT REFERENCE NO.	SHEET NO.
B-5845	RW03E-1
Location and Surveys	
NCDOT, LOCATION & SURVEYS UNIT SHELBY FIELD OFFICE	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, James I. Jeffreys, 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 12/17/2021 to 2/1/2022, and all coordinates are based on NAD83/2011. That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This day 02/02/2022 .

DocuSigned by:

A43045A2D7A64CA
James I. Jeffreys, PE, PLS
Professional Land Surveyor L-3828

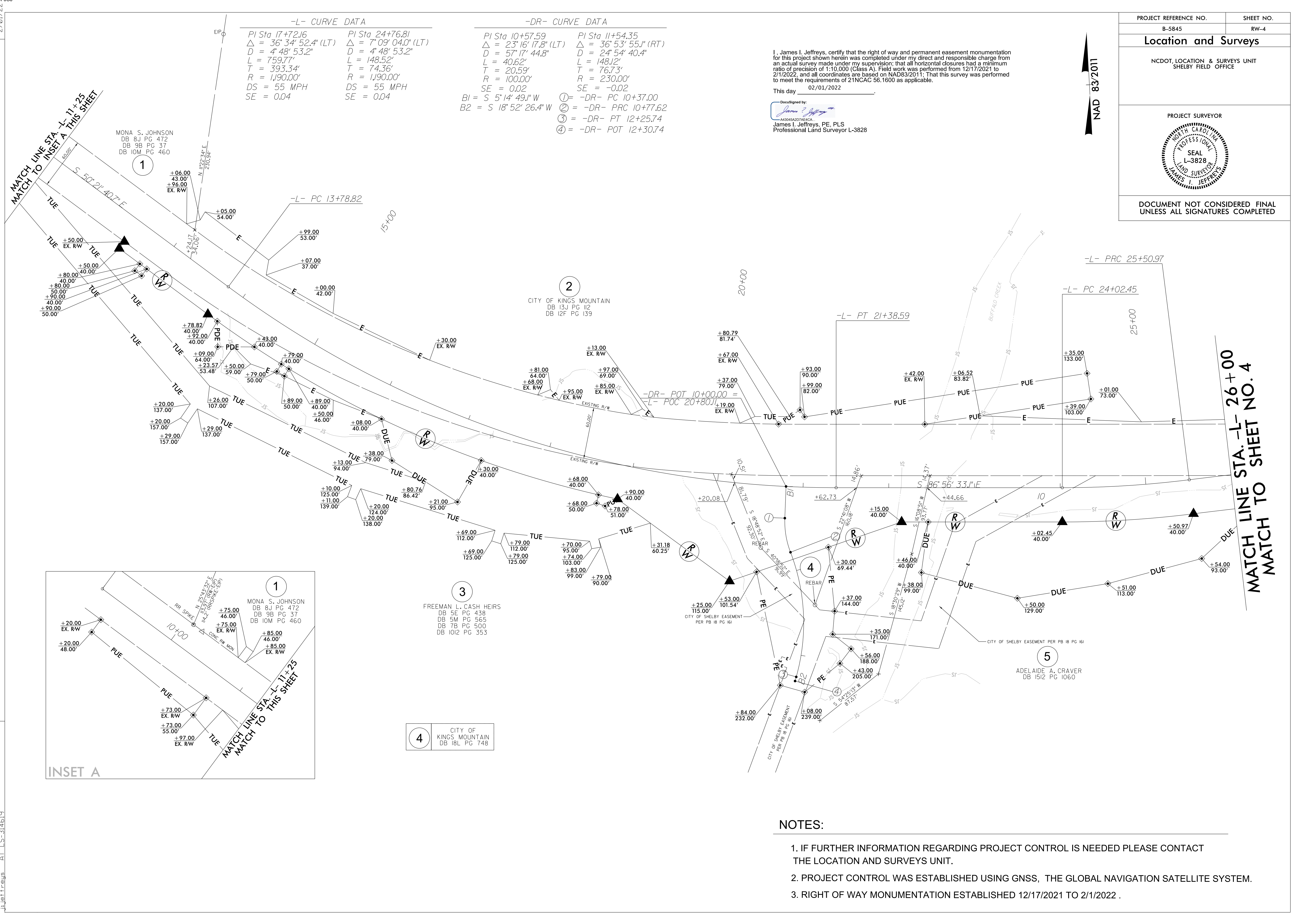
NOTES:

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 12/17/2021 TO 2/01/2022 .

2/01/22

REVISIONS

01-FEB-2022 16:51
C:\Users\jjeffreys\OneDrive\Documents\1512-21-030_RW\65845_1s_rw04.dgn
jjeffreys at 15-314619



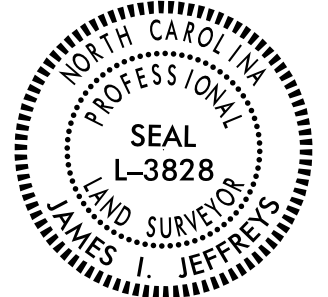
-L- CURVE DATA		-DR- CURVE DATA	
PI Sta 17+72.16	PI Sta 24+76.81	PI Sta 10+57.59	PI Sta 11+54.35
$\Delta = 36^{\circ} 34' 52.4''$ (LT)	$\Delta = 7^{\circ} 09' 04.0''$ (LT)	$\Delta = 23^{\circ} 16' 17.8''$ (LT)	$\Delta = 36^{\circ} 53' 55.1''$ (RT)
D = 4' 48' 53.2"	D = 4' 48' 53.2"	D = 57' 17' 44.8"	D = 24' 54' 40.4"
L = 759.77'	L = 148.52'	L = 40.62'	L = 148.12'
T = 393.34'	T = 74.36'	T = 20.59'	T = 76.73'
R = 1,190.00'	R = 1,190.00'	R = 100.00'	R = 230.00'
DS = 55 MPH	DS = 55 MPH	SE = 0.02	SE = -0.02
SE = 0.04	SE = 0.04	BI = S 5' 14' 49.1" W	① = -DR- PC 10+37.00
		B2 = S 18' 52' 26.4" W	② = -DR- PRC 10+77.62
			③ = -DR- PT 12+25.74
			④ = -DR- POT 12+30.74

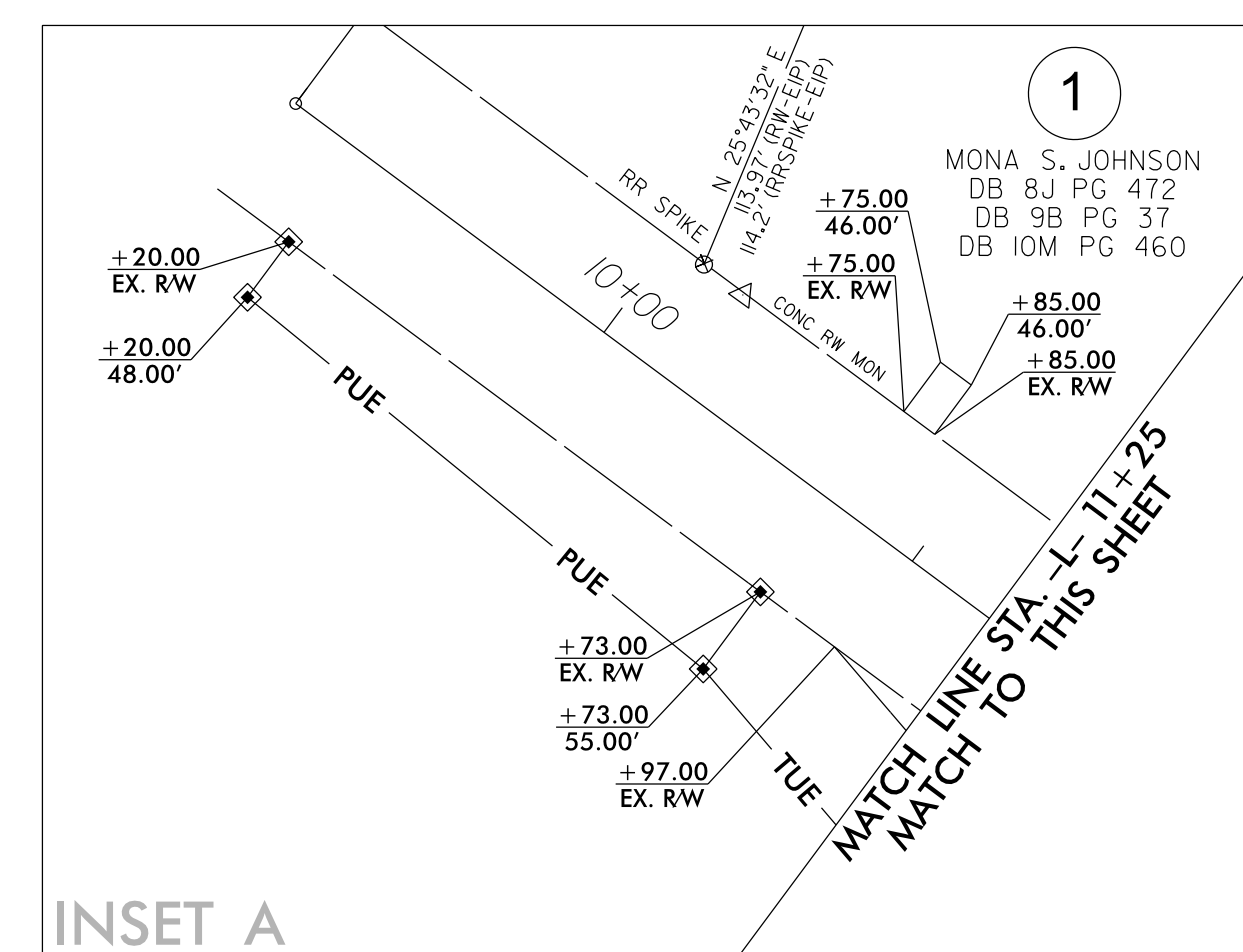
I, James I. Jeffreys, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from 12/17/2021 to 2/1/2022, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This day 02/01/2022

DocuSigned by:
James I. Jeffreys
443045A207A64CA
James I. Jeffreys, PE, PLS
Professional Land Surveyor L-3828

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
B-5845	RW-4
Location and Surveys	
NCDOT, LOCATION & SURVEYS UNIT SHELBY FIELD OFFICE	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



4 CITY OF KINGS MOUNTAIN
DB 18L PG 748

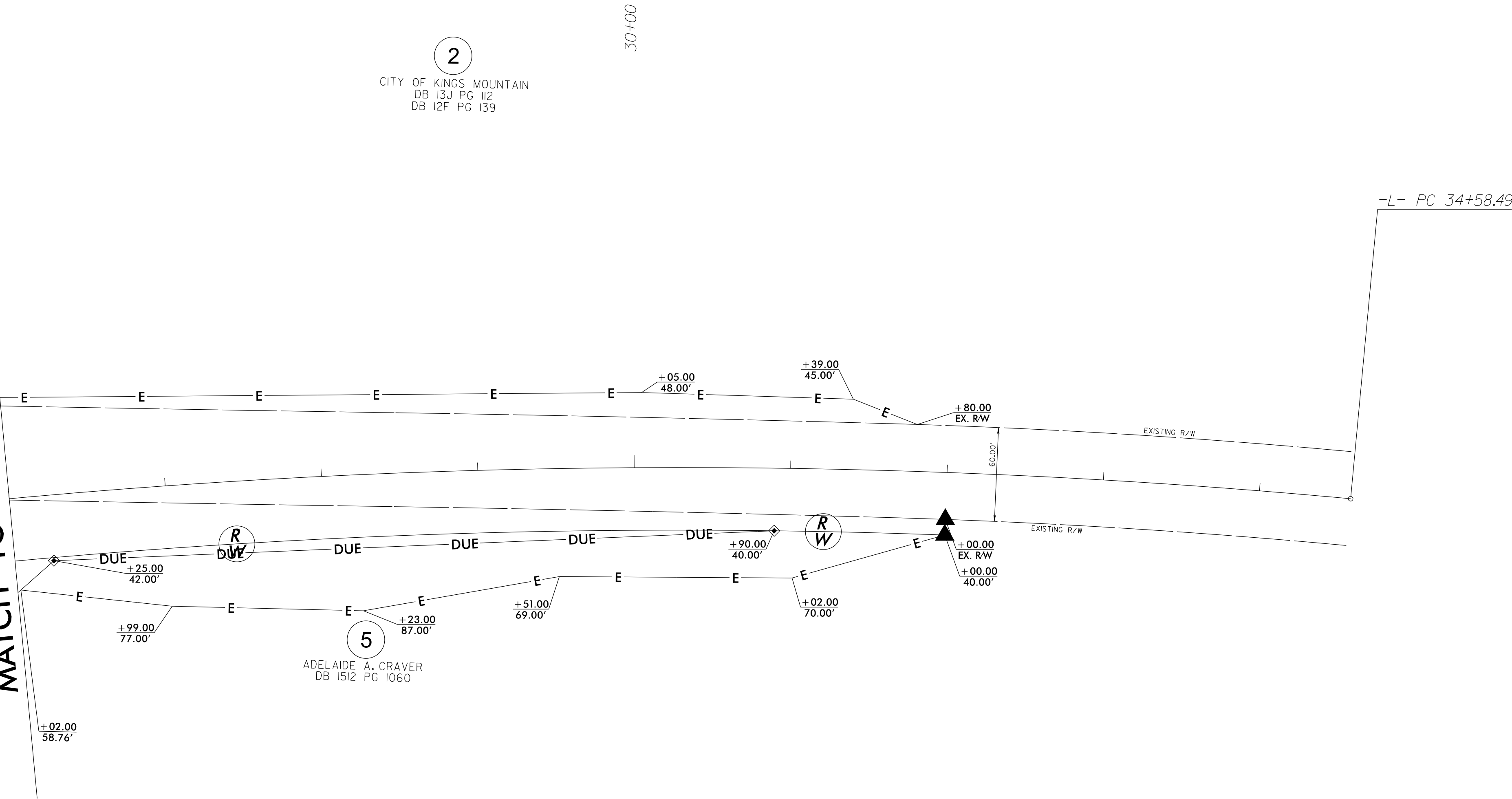
- NOTES:
1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
 2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
 3. RIGHT OF WAY MONUMENTATION ESTABLISHED 12/17/2021 TO 2/1/2022 .

2/01/22

REVISIONS

01-FEB-2022 15:55
C:\Users\jjeffreys\OneDrive\Documents\1512-21-030_RW\5845_1s_rw05.dgn
jjeffreys 01-15-2022 15:55

MATCH LINE STA. -L- 26+00
MATCH TO SHEET NO. 4



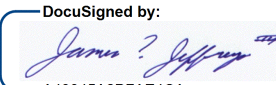
-L- CURVE DATA
PI Sta 30+06.20
 $\Delta = 11^{\circ} 15' 17.1''$ (RT)
D = 1' 14' 24.6"
L = 907.52'
T = 455.22'
R = 4,620.00'
DS = 55 MPH
SE = 0.04

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
B-5845	RW-5
Location and Surveys	
NCDOT, LOCATION & SURVEYS UNIT SHELBY FIELD OFFICE	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, James I. Jeffreys, 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 12/17/2021 to 2/1/2022, and all coordinates are based on NAD83/2011. That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This day 02/01/2022 .

DocuSigned by:

A43046A2D7A6CA
James I. Jeffreys, PE, PLS
Professional Land Surveyor L-3828

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 12/17/2021 TO 2/1/2022 .