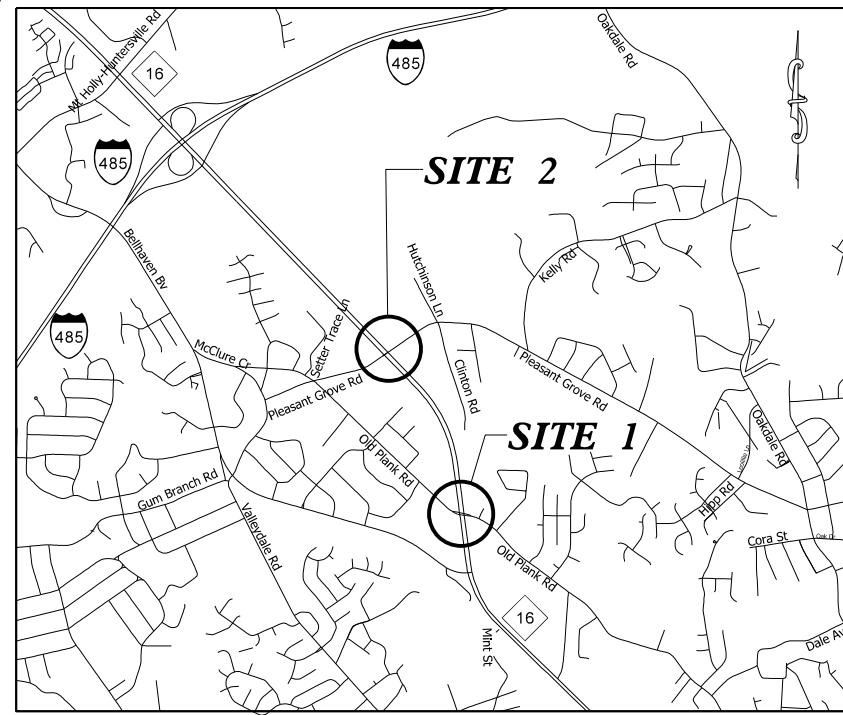


PROJECT: 44856.3.39 TIP: W-5710AK



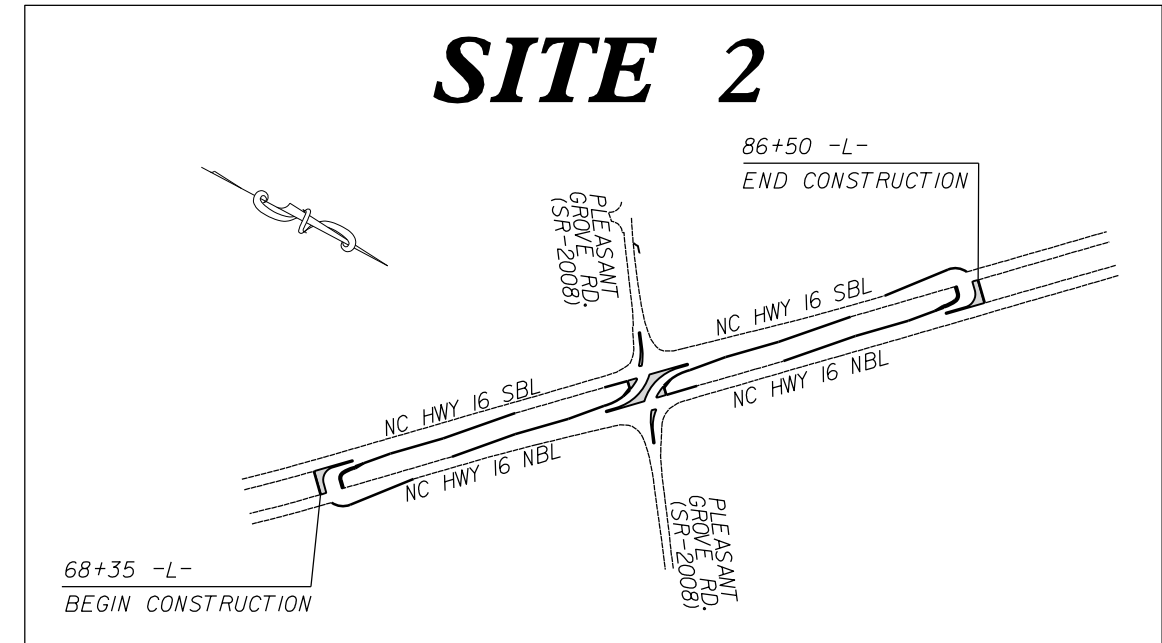
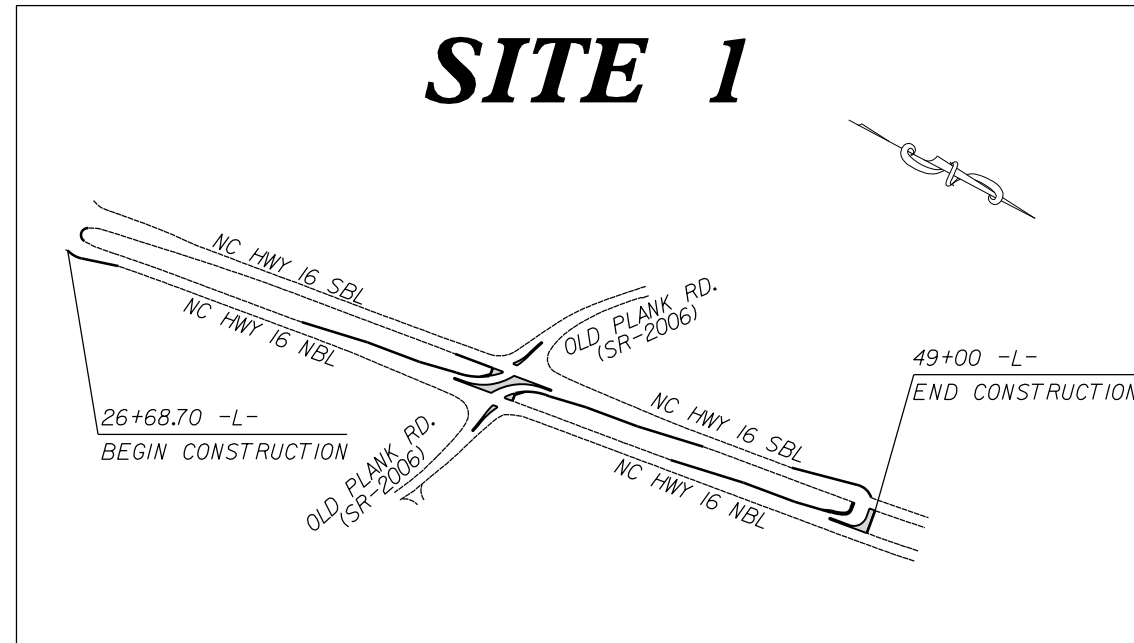
VICINITY MAP NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
MECKLENBURG COUNTY

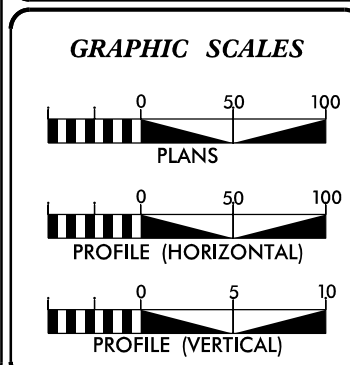
LOCATION: INTERSECTIONS ON NC 16 AT OLD PLANK RD.(SR-2006)
AND PLEASANT GROVE RD.(SR-2008)

TYPE OF WORK: GRADING, PAVING, MILLING, DRAINAGE, GUARDRAIL, MONOLITHIC
CONCRETE ISLANDS, THERMOPLASTIC PAVEMENT MARKINGS, AND SIGNALS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	44856.3.39	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
44856.1.39	HSIP-0016(065)	P.E.	
44856.2.39	HSIP-0016(065)	R/W	
44856.3.39	HSIP-0016(065)	CONST.	



CLEARING ON THIS PROJECT SHALL BE TO THE LIMITS ESTABLISHED BY METHOD III AS DESCRIBED IN THE NCDOT STANDARD DRAWINGS



DESIGN DATA

ADT	=	
ADT	=	
DHV	=	%
D	=	%
T	=	%
V	=	MPH

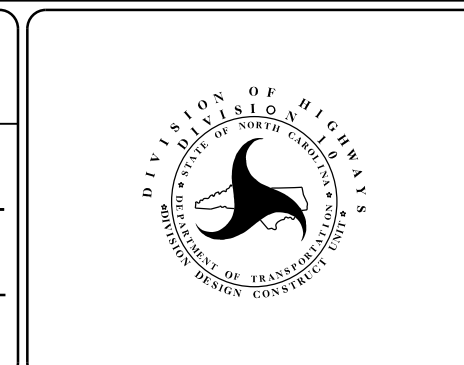
PROJECT LENGTH

LENGTH OF ROADWAY PROJECT	44856.3.39	=	0.77	MILES
TOTAL LENGTH OF STATE PROJECT	44856.3.39	=	0.77	MILES

Prepared In the Office of:
DIVISION OF HIGHWAYS
DIVISION TEN
DIVISION DESIGN / CONSTRUCT UNIT

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A	DONALD HARWARD PROJECT ENGINEER
LETTING DATE: JULY 20, 2022	TRAVIS LOWDER PROJECT DESIGN ENGINEER



ROADWAY DESIGN ENGINEER

DocuSigned by:
Michael E. Brown
A92E75CC0FFB43B...

SIGNATURE

SURVEY CONTROL SHEET

DATUM DESCRIPTION

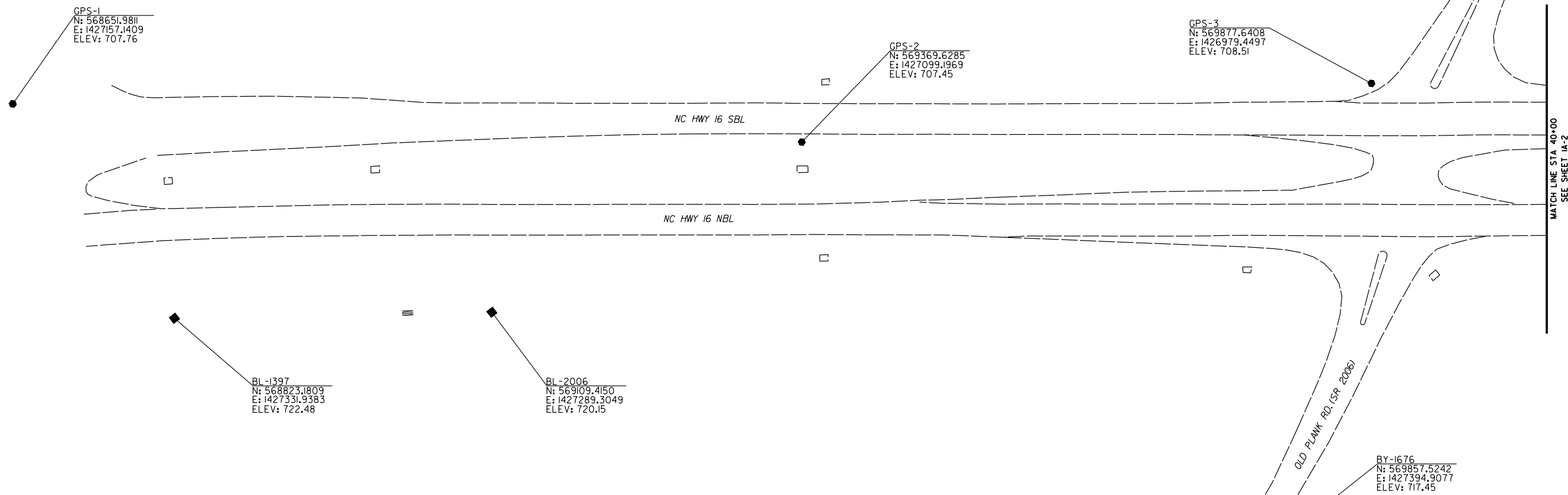
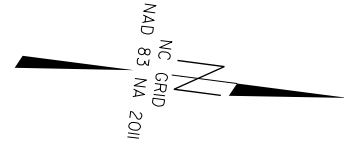
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS-5"

WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
 NORTHING: 571690.724(fft) EASTING: 1426698.488(fft)
 ELEVATION: 717.264(fft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99984381

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-5" TO "L" STATION 10+00 IS
 S 17° 55' 41" E 4564.98'

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



BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	1		568651.9811	1427157.1409	707.76	26+10.41	77.81 LT
	1397		568823.1809	1427331.9383	722.48	27+40.92	130.17 RT
	2006		569109.4150	1427289.3049	720.15	30+38.48	130.50 RT
	2		569369.6285	1427099.1969	707.45	33+20.97	24.59 LT
	3		569877.6408	1426979.4497	708.51	38+40.16	78.06 LT
	4		570842.5548	1426908.6232	713.28	48+06.18	24.29 LT
	1495		570862.6188	1426805.6218	707.33	48+39.54	123.82 LT
	5		571690.7240	1426698.4876	717.26	56+89.32	23.87 LT
	6		572377.8727	1426293.1135	727.99	64+96.41	23.19 LT
	394		572478.8080	1426327.0875	730.64	65+52.69	66.95 RT
	513		572678.6792	1426193.0864	723.30	67+85.84	100.52 RT
	395		572653.3519	1426170.2967	734.67	67+83.14	66.56 RT
	7		572993.4253	1425713.6788	741.10	73+44.24	26.59 LT
	8		573269.3295	1425350.1856	739.30	77+95.15	96.82 LT
	82		573723.3311	1425146.4420	731.85	82+63.42	71.57 RT
	9		573941.9811	1424801.9202	721.32	86+59.94	24.73 LT

BY	POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
	3		569877.6408	1426979.4497	708.51	13+95.97	57.99 RT
	1676		569857.5242	1427394.9077	717.45	18+01.87	23.34 LT

NOTES:

- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
- THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED BY THE DIVISION IO DDC UNIT. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE DIVISION IO DDC UNIT.

SIGNALIZED RCI ON NC 16
 AT OLD PLANK RD.(SR-2006) AND
 PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		

SURVEY CONTROL SHEET

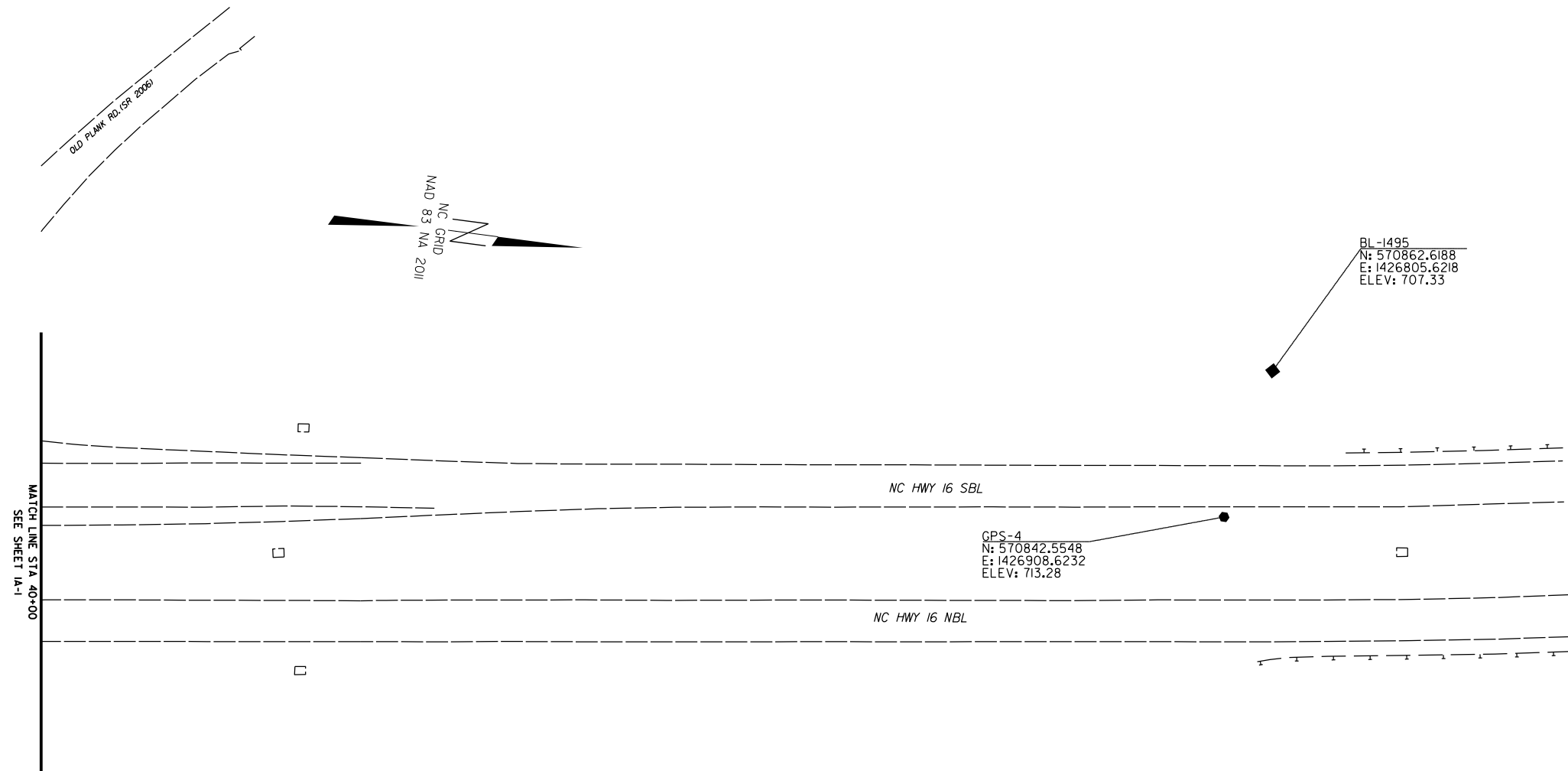
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS-5" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 571690.724(ft) EASTING: 1426698.488(ft) ELEVATION: 717.264(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99984381

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-5" TO "L" STATION 10+00 IS
 S 17° 55' 41" E 4564.98'

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



BL	POINT	DESC.	NORTH	EAST	ELEVATION	L. STATION	OFFSET
	1		568651.9811	1427157.1409	707.76	26+10.41	77.81 LT
	1397		568823.1809	1427331.9383	722.48	27+40.92	130.17 RT
	2006		569109.4150	1427289.3049	720.15	30+38.48	130.50 RT
	2		569369.6285	1427099.1969	707.45	33+20.97	24.59 LT
	3		569877.6408	1426979.4497	708.51	38+40.16	78.06 LT
	4		570842.5548	1426908.6232	713.28	48+06.18	24.29 LT
	1495		570862.6188	1426805.6218	707.33	48+39.54	123.82 LT
	5		571690.7240	1426698.4876	717.26	56+89.32	23.87 LT
	6		572377.8727	1426293.1135	727.99	64+96.41	23.19 LT
	394		572478.8080	1426327.0875	730.64	65+52.69	66.95 RT
	513		572678.6792	1426193.0864	723.30	67+85.84	100.52 RT
	395		572653.3519	1426170.2967	734.67	67+83.14	66.56 RT
	7		572993.4253	1425713.6788	741.10	73+44.24	26.59 LT
	8		573269.3295	1425350.1856	739.30	77+95.15	96.82 LT
	82		573723.3311	1425146.4420	731.85	82+63.42	71.57 RT
	9		573941.9811	1424801.9202	721.32	86+59.94	24.73 LT

BY	POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
	3		569877.6408	1426979.4497	708.51	13+95.97	57.99 RT
	1676		569857.5242	1427394.9077	717.45	18+01.87	23.34 LT

NOTES:

- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
- THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED BY THE DIVISION 10 DDC UNIT. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE DIVISION 10 DDC UNIT.

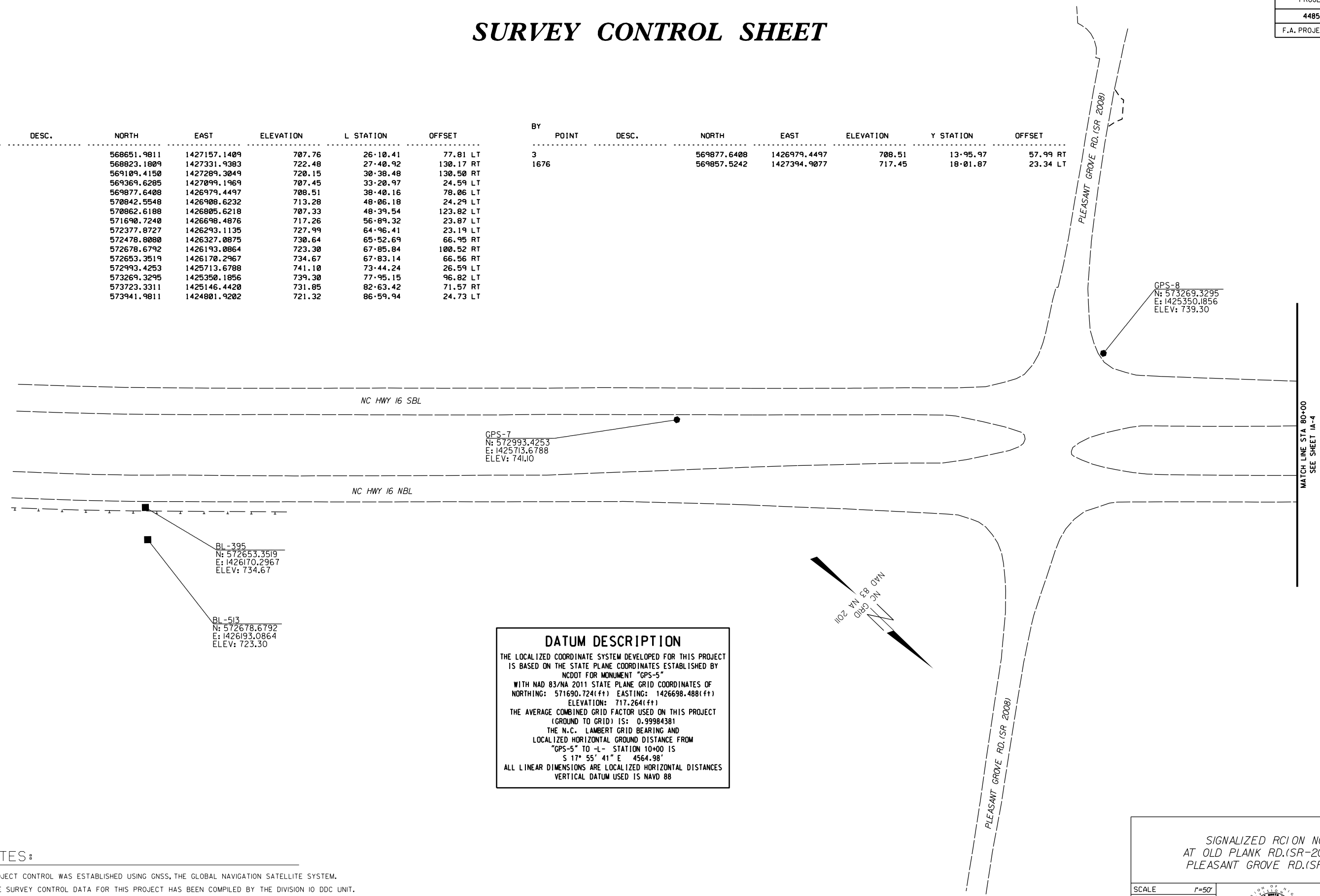
SIGNALIZED RCI ON NC 16
 AT OLD PLANK RD. (SR-2006) AND
 PLEASANT GROVE RD. (SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		

SURVEY CONTROL SHEET

PROJECT NO.	SHEET NO.
44856.3.39	IA-3
F.A. PROJECT NO. HSP-00610651	

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET	BY	POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
	1		568651.9811	1427157.1409	707.76	26+10.41	77.81 LT		3		569877.6408	1426979.4497	708.51	13+95.97	57.99 RT
	1397		568823.1809	1427331.9383	722.48	27+40.92	130.17 RT		1676		569857.5242	1427394.9077	717.45	18+01.87	23.34 LT
	2006		569109.4150	1427289.3049	720.15	30+38.48	130.50 RT								
	2		569369.6285	1427099.1969	707.45	33+20.97	24.59 LT								
	3		569877.6408	1426979.4497	708.51	38+40.16	78.06 LT								
	4		570842.5548	1426908.6232	713.28	48+06.18	24.29 LT								
	1495		570862.6188	1426805.6218	707.33	48+39.54	123.82 LT								
	5		571690.7240	1426698.4876	717.26	56+89.32	23.87 LT								
	6		572377.8727	1426293.1135	727.99	64+96.41	23.19 LT								
	394		572478.8080	1426327.0875	730.64	65+52.69	66.95 RT								
	513		572678.6792	1426193.0864	723.30	67+85.84	100.52 RT								
	395		572653.3519	1426170.2967	734.67	67+83.14	66.56 RT								
	7		572993.4253	1425713.6788	741.10	73+44.24	26.59 LT								
	8		573269.3295	1425350.1856	739.30	77+95.15	96.82 LT								
	82		573723.3311	1425146.4420	731.85	82+63.42	71.57 RT								
	9		573941.9811	1424801.9202	721.32	86+59.94	24.73 LT								



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS-5"

WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
 NORTHING: 571690.724(±) EASTING: 1426698.488(±)
 ELEVATION: 717.264(±)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99984381

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-5" TO -L- STATION 10+00 IS
 S 17° 55' 41" E 4564.98'

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

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED BY THE DIVISION 10 DDC UNIT. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE DIVISION 10 DDC UNIT.

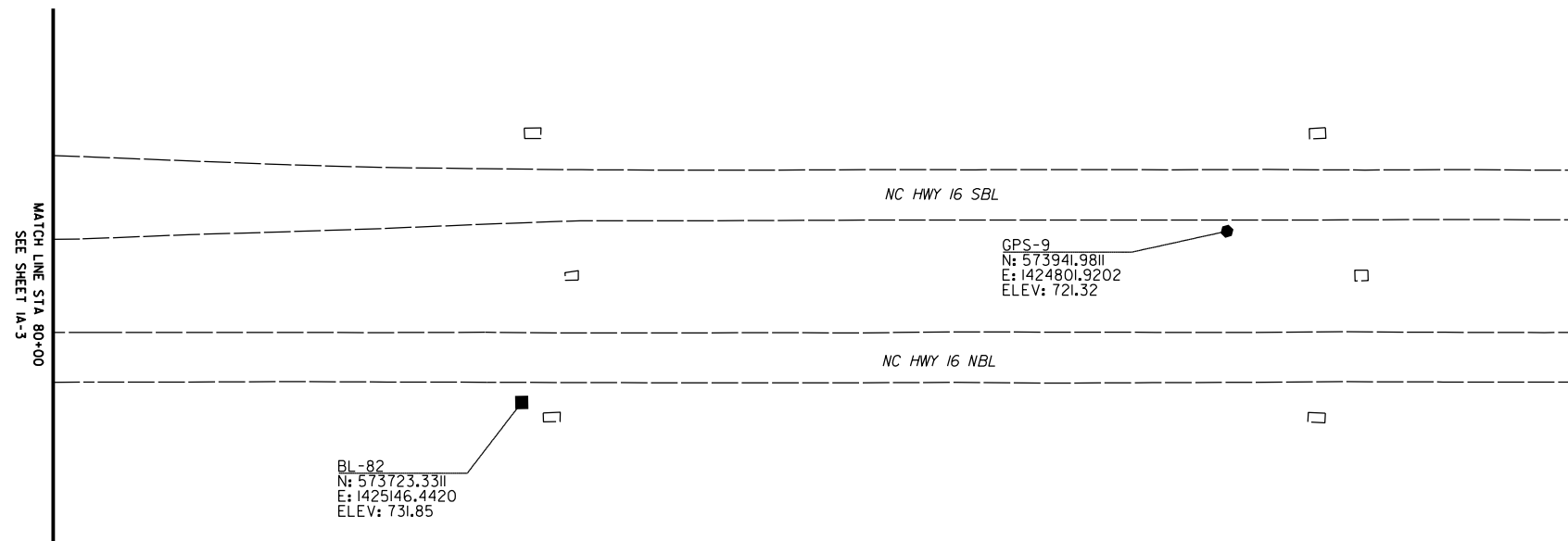
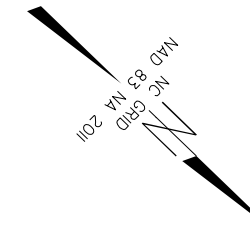
SIGNALIZED R/CION NC 16
 AT OLD PLANK RD.(SR-2006) AND
 PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		

SURVEY CONTROL SHEET

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS-5" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 571690.724(ft) EASTING: 1426698.488(ft) ELEVATION: 717.264(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99984381
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-5" TO -L- STATION 10+00 IS
 S 17° 55' 41" E 4564.98'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88



BL POINT	DESC.	NORTH	EAST	ELEVATION
1		568651.9811	1427157.1409	707.76
1397		568823.1809	1427331.9383	722.48
2006		569109.4150	1427289.3049	720.15
2		569369.6285	1427099.1969	707.45
3		569877.6408	1426979.4497	708.51
4		570842.5548	1426908.6232	713.28
1495		570862.6188	1426805.6218	707.33
5		571690.7240	1426698.4876	717.26
6		572377.8727	1426293.1135	727.99
394		572478.8080	1426327.0875	730.64
513		572678.6792	1426193.0864	723.30
395		572653.3519	1426170.2967	734.67
7		572993.4253	1425713.6788	741.10
8		573269.3295	1425350.1856	739.30
82		573723.3311	1425146.4420	731.85
9		573941.9811	1424801.9202	721.32

BY POINT	DESC.	NORTH	EAST	ELEVATION
3		569877.6408	1426979.4497	708.51
1676		569857.5242	1427394.9077	717.45

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED BY THE DIVISION IO DDC UNIT. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE DIVISION IO DDC UNIT.

SIGNALIZED R/C ON NC 16
 AT OLD PLANK RD.(SR-2006) AND
 PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		

PROJECT NO.	SHEET NO.
44856.3.39	1B
F.A. PROJECT NO. HSIP-00610651	

PROPOSED ALIGNMENT SHEET

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	567347.4012	1428103.7009
TS	12+00.04	567487.0590	1427960.4749
SC	15+00.04	567701.0935	1427750.3441
CS	27+33.60	568791.2608	1427205.5416
ST	30+33.60	569087.8048	1427160.5149
TS	47+82.74	570822.4434	1426935.7238
SC	50+82.74	571119.2013	1426891.9883
CS	66+10.92	572480.3285	1426237.9245
ST	69+10.92	572699.8946	1426033.5503
POT	93+28.61	574440.5711	1424355.6680

Y

TYPE	STATION	NORTH	EAST
POT	10+00.00	570136.1083	1426659.5226
PC	10+44.60	570104.4411	1426690.9287
PRC	14+93.87	569918.3478	1427089.6419
PT	19+26.90	569776.7016	1427494.9332

Y1

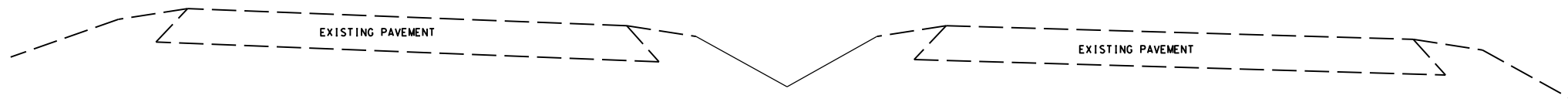
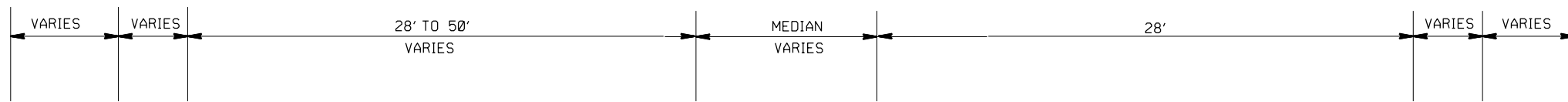
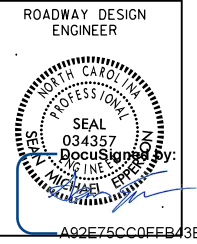
TYPE	STATION	NORTH	EAST
PC	10+00.00	573024.4948	1425065.7391
PT	12+09.34	573139.3031	1425240.7522
POT	19+57.77	573568.0945	1425854.1744

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED BY THE DIVISION IO DDC UNIT.
IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE DIVISION IO DDC UNIT.

SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

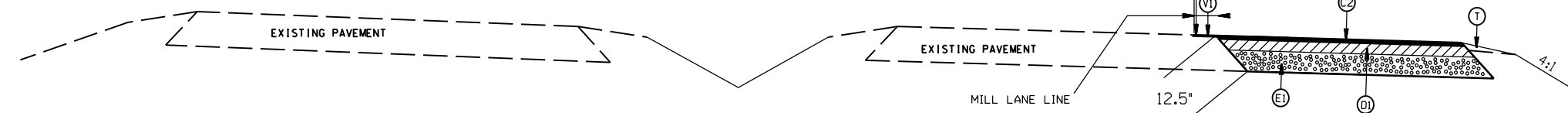
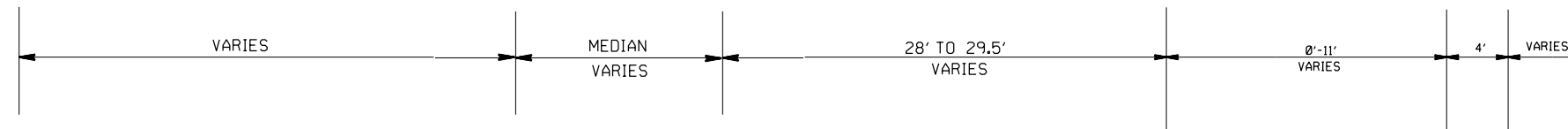
SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		



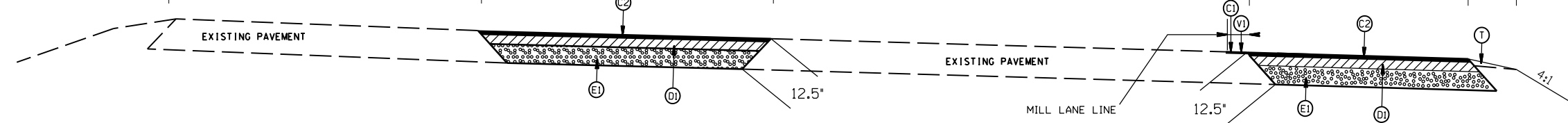
TYPICAL SECTION NO.3
STA 28+12.00 TO 33+16.04 -L-

PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD., IN TWO EQUAL LAYERS
(D1)	PROP. APPROX. 4" ASPHALT CONC. BINDER COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
(R1)	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
(T)	EARTH MATERIAL
(V1)	MILLING ASPHALT PAVEMENT, 1.5" IN DEPTH



TYPICAL SECTION NO.2
STA 27+05.00 TO 28+12.00 -L-



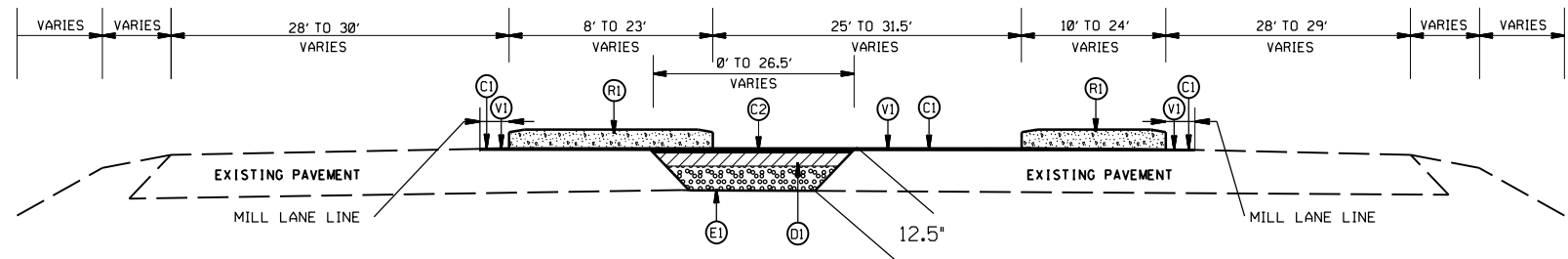
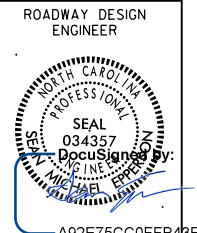
TYPICAL SECTION NO.1
STA 26+68.70 TO 27+05.00 -L-

SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

SCALE	N/A
DATE	3-2022
DWG. BY	TBL
DESIGN BY	JCB
APPROVED	JDH



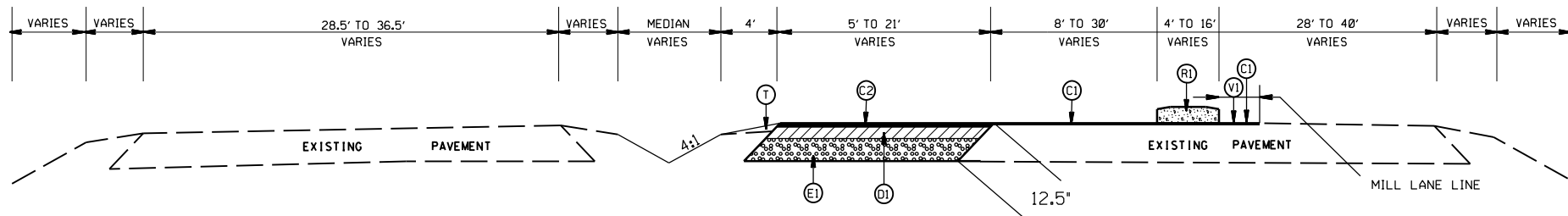
REVISIONS



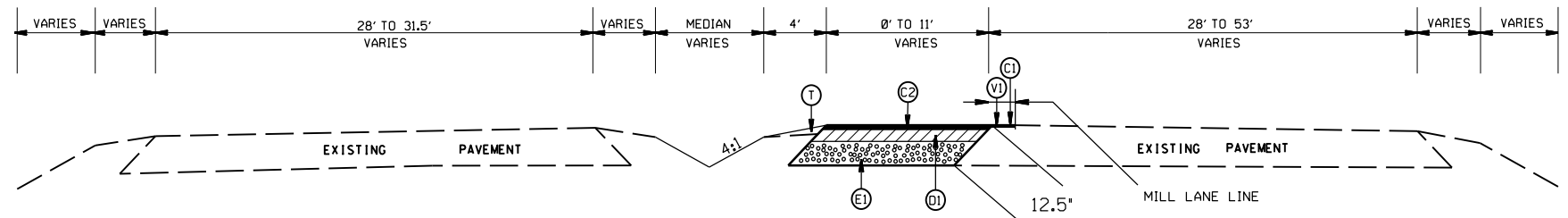
TYPICAL SECTION NO.6
 STA 38+28.00 TO 38+42.19 -L-
 STA 39+01.06 TO 39+07.00 -L-
 STA 76+92.00 TO 77+12.36 -L-
 STA 77+61.18 TO 77+80.00 -L-

PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD., IN TWO EQUAL LAYERS
(D1)	PROP. APPROX. 4" ASPHALT CONC. BINDER COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
(R1)	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
(T)	EARTH MATERIAL
(V1)	MILLING ASPHALT PAVEMENT, 1.5" IN DEPTH



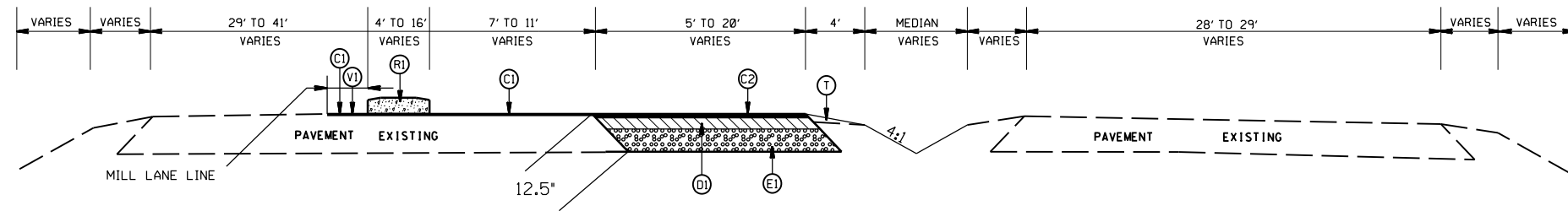
TYPICAL SECTION NO.5
 STA 37+42.00 TO 38+28.00 -L-
 STA 76+15.00 TO 76+92.00 -L-



TYPICAL SECTION NO.4
 STA 33+16.04 TO 37+42.00 -L-
 STA 44+17.38 TO 46+54.75 -L-
 STA 73+85.00 TO 76+15.00 -L-
 STA 83+02.00 TO 84+03.03 -L-

SIGNALIZED RCI ON NC 16
 AT OLD PLANK RD.(SR-2006) AND
 PLEASANT GROVE RD.(SR-2008)

SCALE	N/A		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	JCB		
APPROVED	JDH		

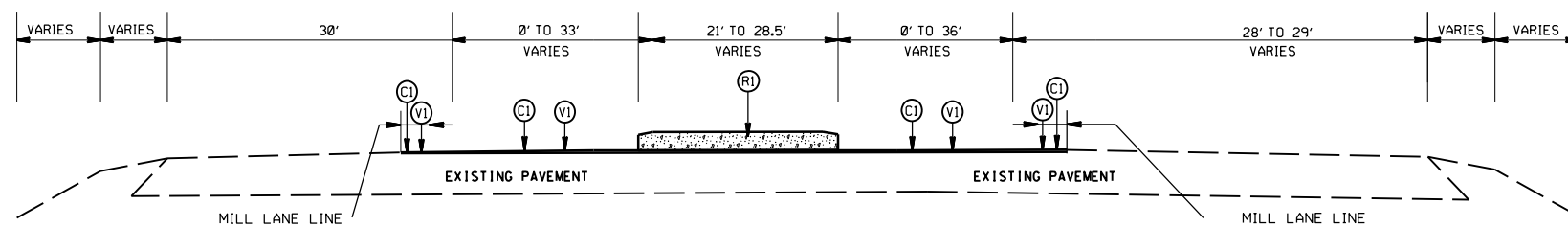


TYPICAL SECTION NO.9

STA 39+07.00 TO 39+93.00 -L-
 STA 77+80.00 TO 78+57.00 -L-

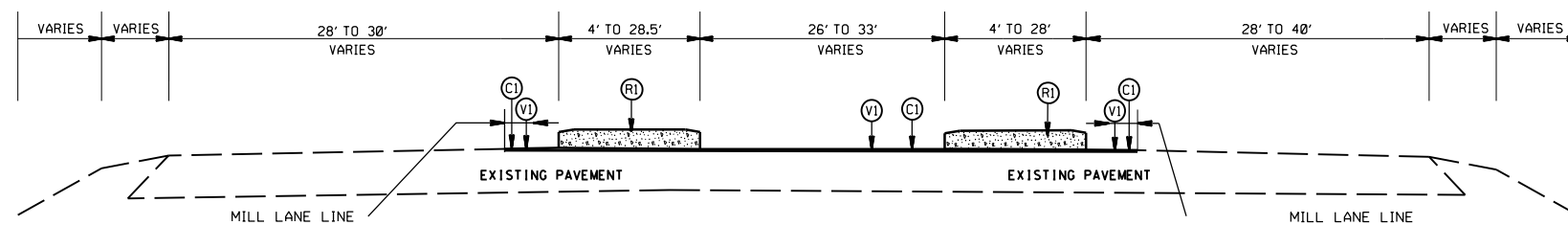
PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD., IN TWO EQUAL LAYERS
(D1)	PROP. APPROX. 4" ASPHALT CONC. BINDER COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
(R1)	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
(T)	EARTH MATERIAL
(V1)	MILLING ASPHALT PAVEMENT, 1.5" IN DEPTH



TYPICAL SECTION NO.8

STA 38+56.46 TO 38+84.68 -L-
 STA 77+17.56 TO 77+53.23 -L-

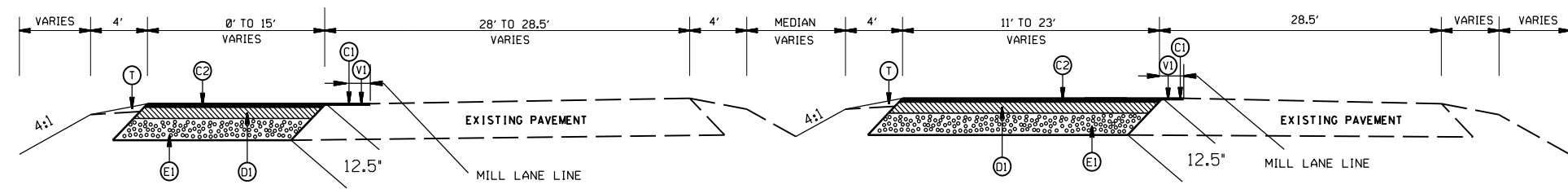
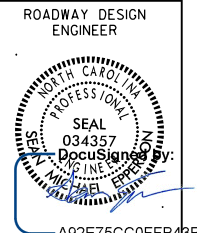


TYPICAL SECTION NO.7

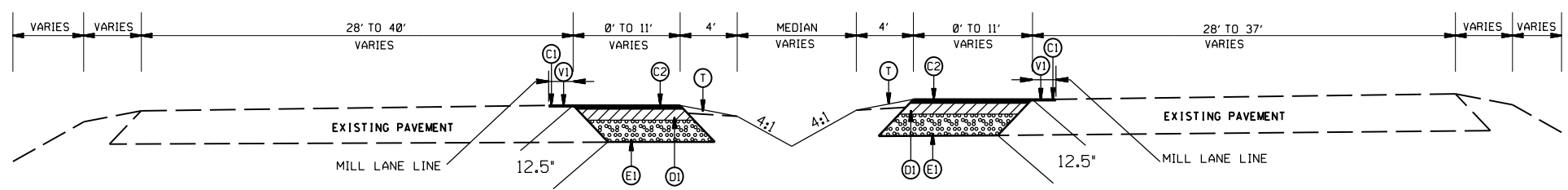
STA 38+42.19 TO 38+56.46 -L-
 STA 38+84.68 TO 39+01.06 -L-
 STA 77+12.36 TO 77+17.56 -L-
 STA 77+53.23 TO 77+61.18 -L-

SIGNALIZED RCI ON NC 16
 AT OLD PLANK RD.(SR-2006) AND
 PLEASANT GROVE RD.(SR-2008)

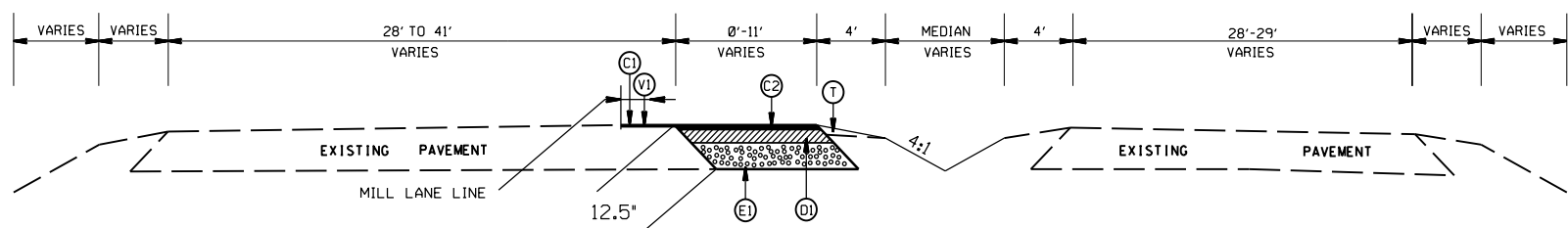
SCALE	N/A		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	JCB		
APPROVED	JDH		



TYPICAL SECTION NO.12
 STA 46+54.75 TO 47+94.00 -L-
 STA 84+03.03 TO 85+44.00 -L-



TYPICAL SECTION NO.11
 STA 43+50.00 TO 44+17.38 -L-
 STA 71+94.00 TO 73+85.00 -L-
 STA 81+00.00 TO 83+02.00 -L-



TYPICAL SECTION NO.10
 STA 39+93.00 TO 43+50.00 -L-
 STA 70+89.89 TO 71+94.00 -L-
 STA 78+57.00 TO 81+00.00 -L-

PAVEMENT SCHEDULE

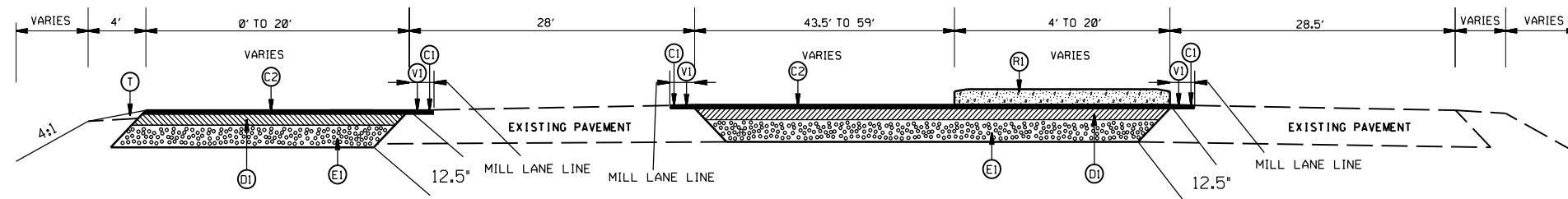
(C1)	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD., IN TWO EQUAL LAYERS
(D1)	PROP. APPROX. 4" ASPHALT CONC. BINDER COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
(R1)	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
(T)	EARTH MATERIAL
(V1)	MILLING ASPHALT PAVEMENT, 1.5" IN DEPTH

SIGNALIZED RCI ON NC 16
 AT OLD PLANK RD.(SR-2006) AND
 PLEASANT GROVE RD.(SR-2008)

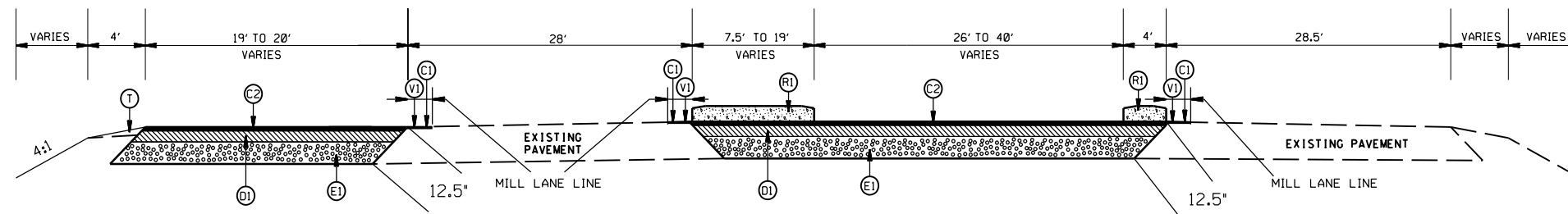
SCALE	N/A
DATE	3-2022
DWG. BY	TBL
DESIGN BY	JCB
APPROVED	JDH



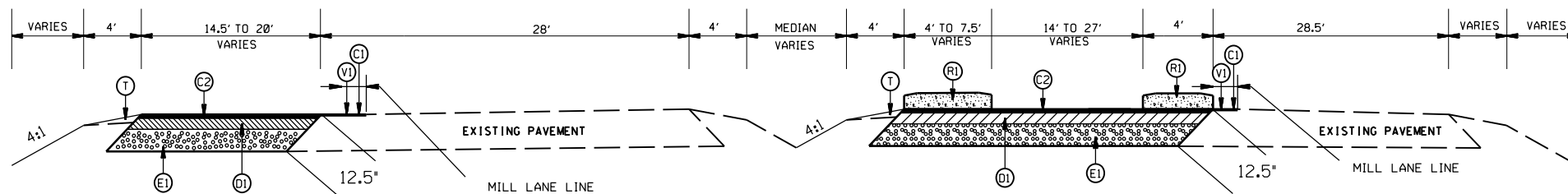
REVISIONS	



TYPICAL SECTION NO.15
 STA 48+42.00 TO 48+78.50 -L-
 STA 85+86.87 TO 86+27.51 -L-



TYPICAL SECTION NO.14
 STA 48+37.00 TO 48+42.00 -L-
 STA 85+86.87 TO 85+92.00 -L-



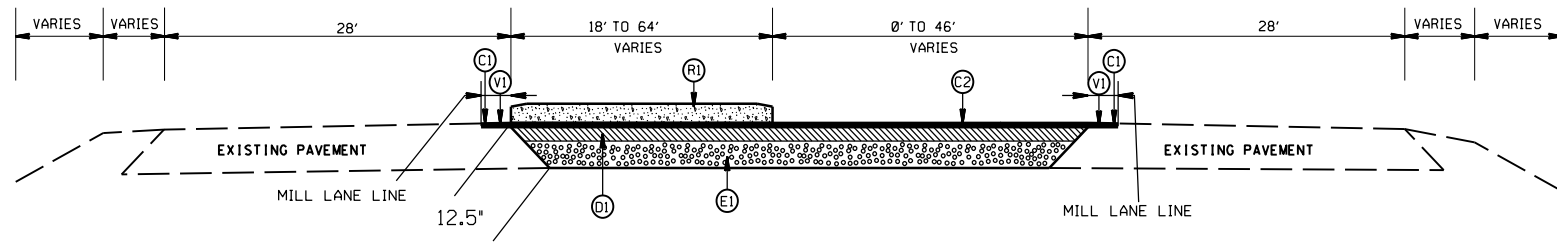
TYPICAL SECTION NO.13
 STA 47+94.00 TO 48+37.00 -L-
 STA 85+44.00 TO 85+86.87 -L-

PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD., IN TWO EQUAL LAYERS
(D1)	PROP. APPROX. 4" ASPHALT CONC. BINDER COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
(R1)	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
(T)	EARTH MATERIAL
(V1)	MILLING ASPHALT PAVEMENT, 1.5" IN DEPTH

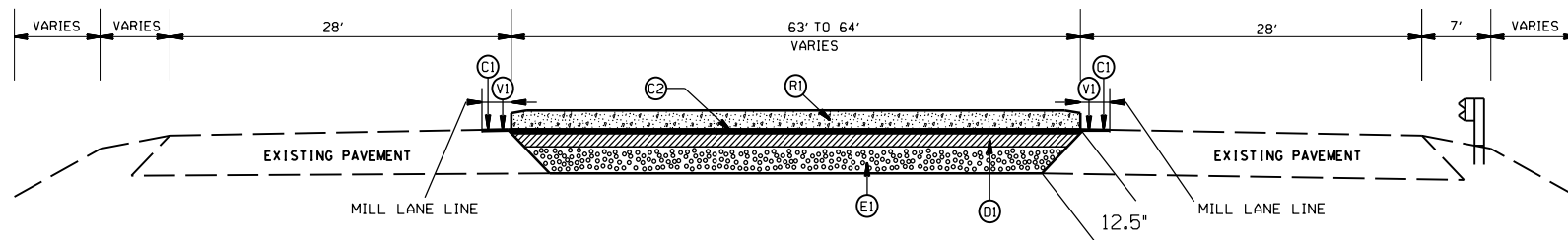
SIGNALIZED RCI ON NC 16
 AT OLD PLANK RD.(SR-2006) AND
 PLEASANT GROVE RD.(SR-2008)

SCALE	N/A		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	JCB		
APPROVED	JDH		



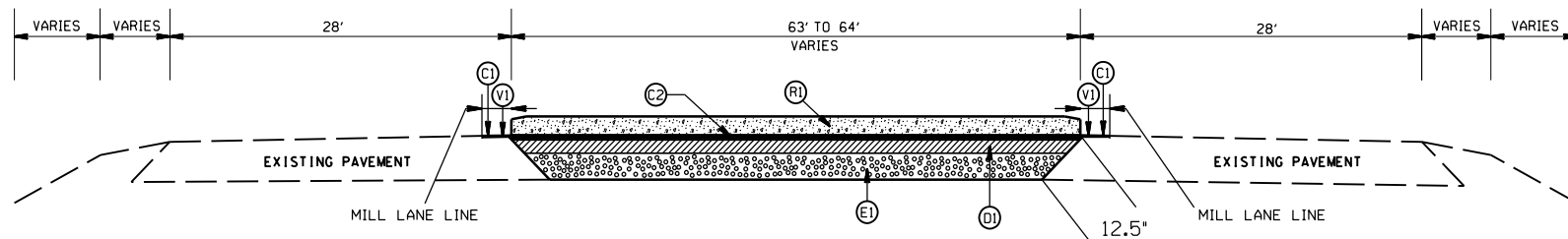
TYPICAL SECTION NO.19

STA 68+51.00 TO 68+57.47 -L-



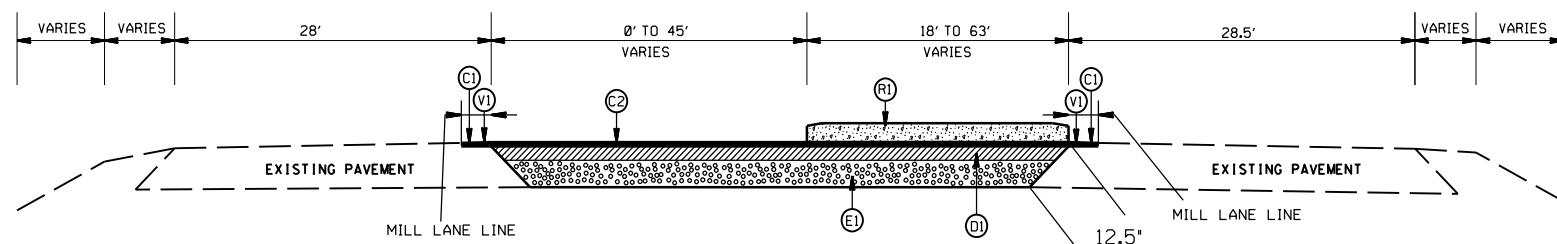
TYPICAL SECTION NO.18

STA 68+35.00 TO 68+51.00 -L-



TYPICAL SECTION NO.17

STA 48+84.00 TO 49+00.00 -L-
STA 86+34.00 TO 86+50.00 -L-



TYPICAL SECTION NO.16

STA 48+78.50 TO 48+84.00 -L-
STA 86+27.51 TO 86+34.00 -L-

PAVEMENT SCHEDULE

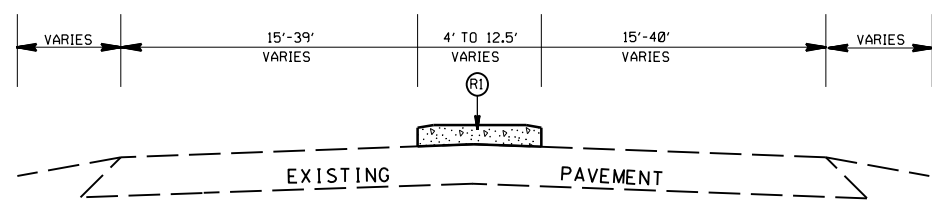
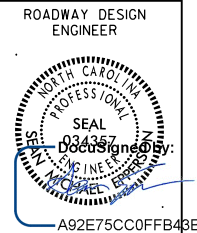
(C1)	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD., IN TWO EQUAL LAYERS
(D1)	PROP. APPROX. 4" ASPHALT CONC. BINDER COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
(R1)	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
(T)	EARTH MATERIAL
(V1)	MILLING ASPHALT PAVEMENT, 1.5" IN DEPTH

SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

SCALE	N/A
DATE	3-2022
DWG. BY	TBL
DESIGN BY	JCB
APPROVED	JDH

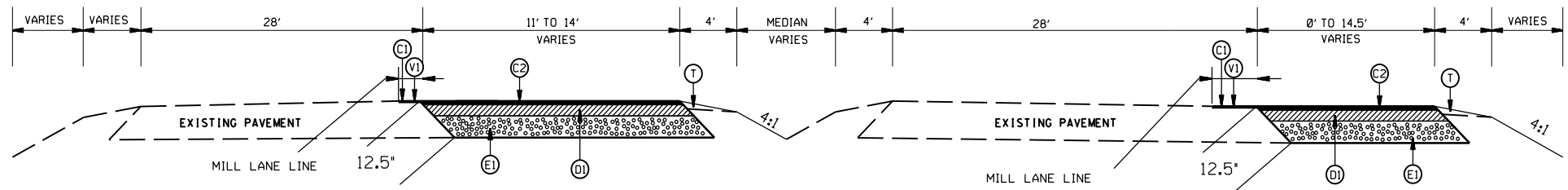


REVISIONS	



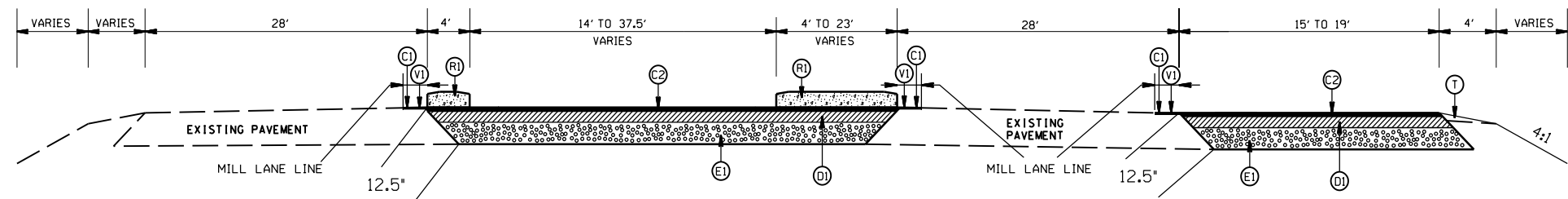
TYPICAL SECTION NO.23

STA 13+09.22 TO 14+00.00 -Y-
 STA 15+16.19 TO 16+04.00 -Y-
 STA 13+31.00 TO 14+19.74 -Y1-
 STA 15+37.79 TO 16+26.00 -Y1-



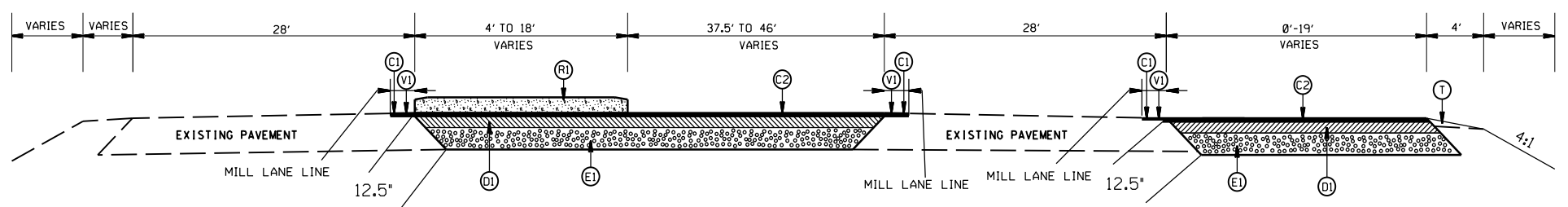
TYPICAL SECTION NO.22

STA 69+41.00 TO 70+80.89 -L-



TYPICAL SECTION NO.21

STA 68+93.00 TO 69+41.00 -L-



TYPICAL SECTION NO.20

STA 68+57.47 TO 68+93.00 -L-

PAVEMENT SCHEDULE

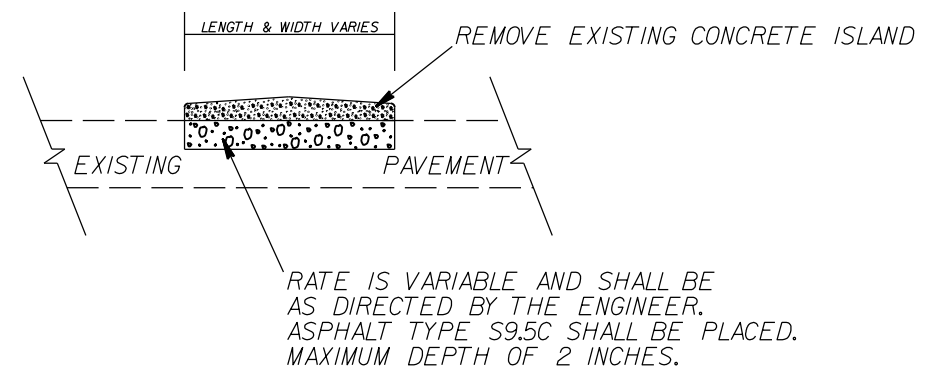
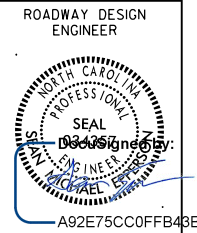
(C1)	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD., IN TWO EQUAL LAYERS
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(E1)	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
(R1)	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
(T)	EARTH MATERIAL
(V1)	MILLING ASPHALT PAVEMENT, 1.5" IN DEPTH

SIGNALIZED RCI ON NC 16
 AT OLD PLANK RD.(SR-2006) AND
 PLEASANT GROVE RD.(SR-2008)

SCALE	N/A
DATE	3-2022
DWG. BY	TBL
DESIGN BY	JCB
APPROVED	JDH



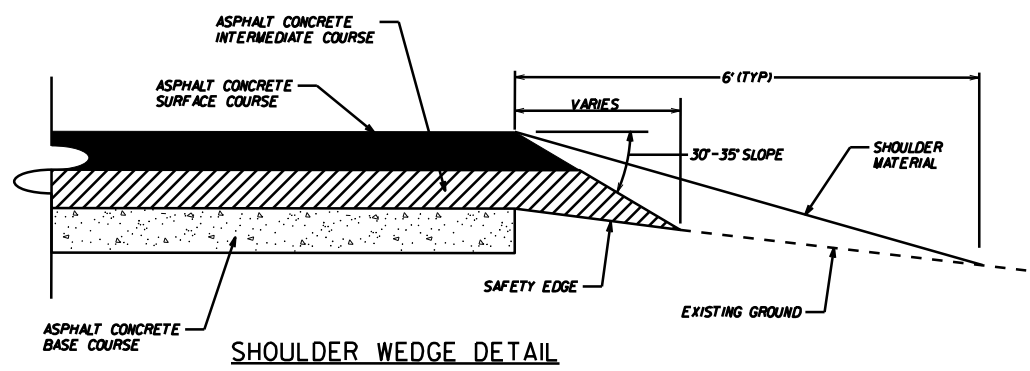
REVISIONS	



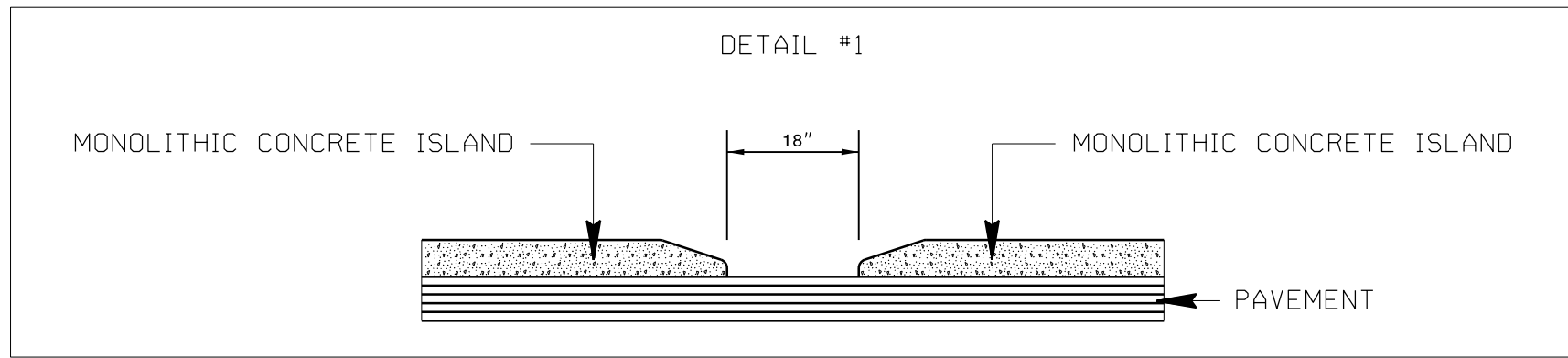
ISLAND PATCHING DETAIL

PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD., IN TWO EQUAL LAYERS
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(R1)	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
(T)	EARTH MATERIAL
(V1)	MILLING ASPHALT PAVEMENT, 1.5" IN DEPTH

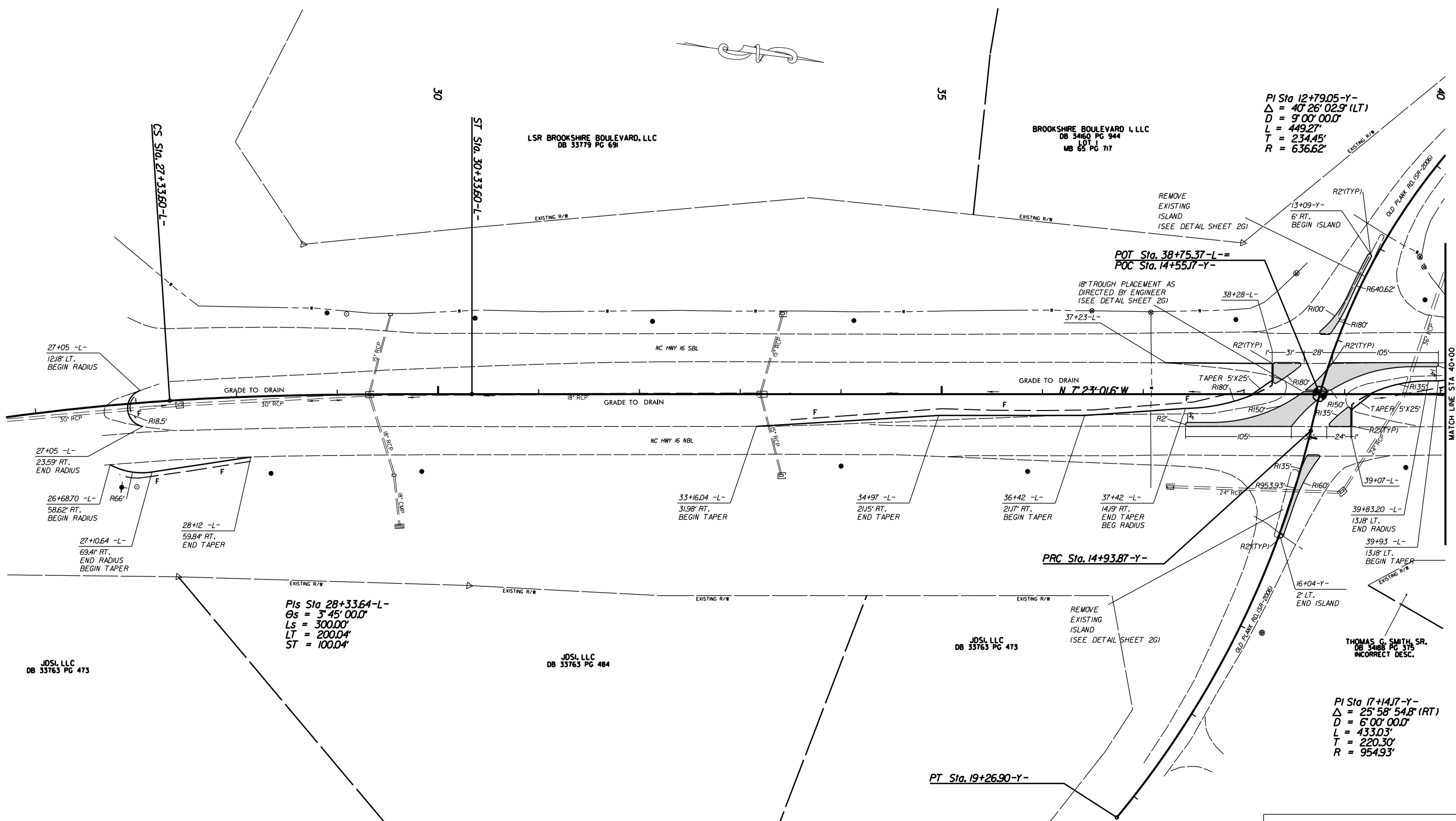
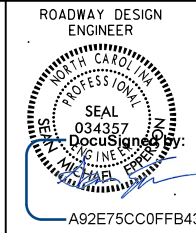


SHOULDER WEDGE DETAIL



SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

SCALE	N/A		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	JCB		
APPROVED	JDH		



SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

NOTE: INCIDENTAL MILL APPROX. 25' AT EACH
TIE IN TO PROVIDE A SMOOTH TRANSITION
TO THE EXISTING ASPHALT PAVEMENT.

SCALE	DATE	DESIGN BY	APPROVED	REVISIONS
1"=50'	3-2022	TBL	JDH	

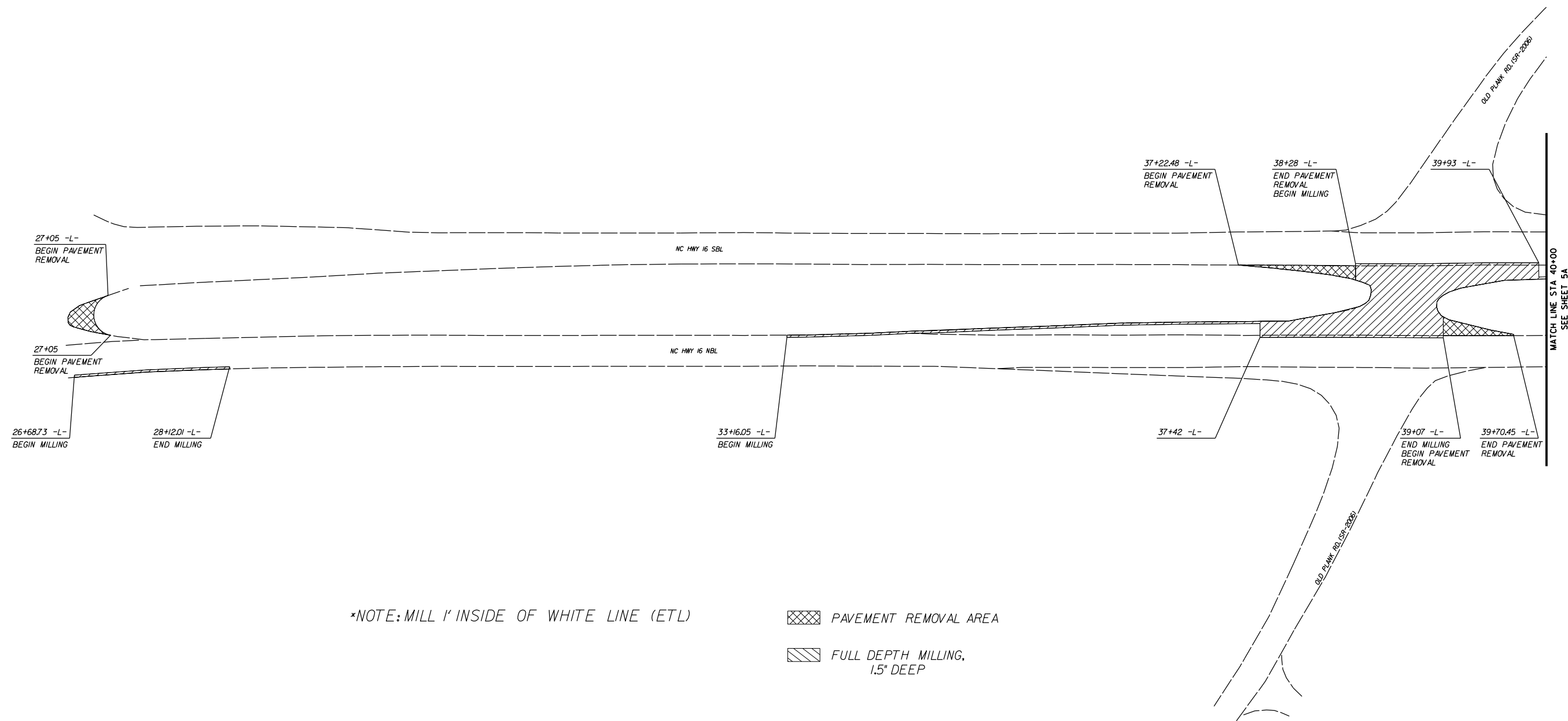


PROJECT NO.	SHEET NO.
44856.3.39	4A
F.A. PROJECT NO. HSIP-00610651	

ROADWAY DESIGN
ENGINEER

SEAL
034357
DocuSigner By:
[Signature]

A92E75CC0FFB48B

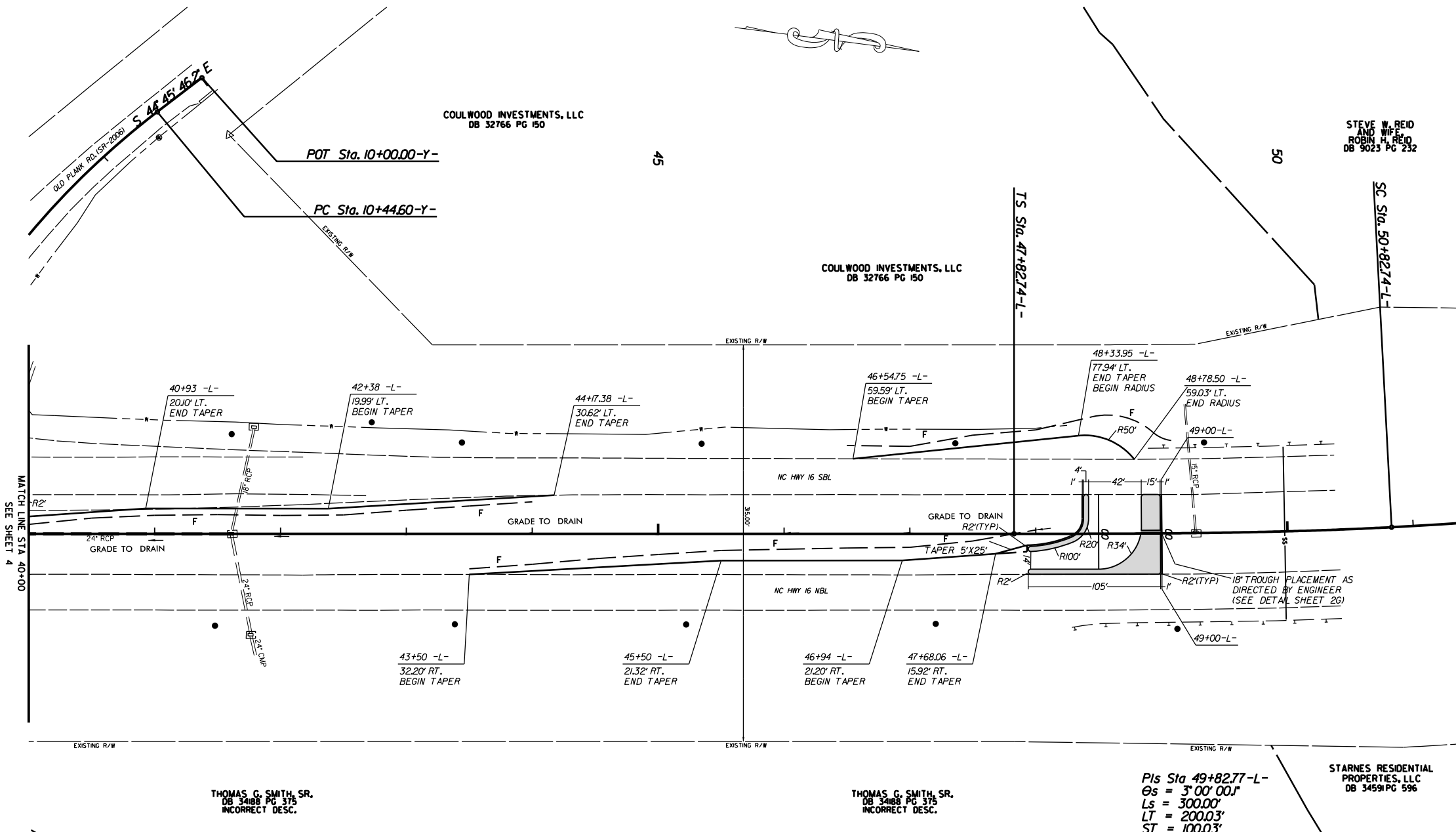
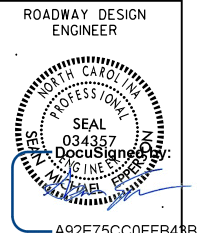


*NOTE: MILL 1' INSIDE OF WHITE LINE (ETL)

- PAVEMENT REMOVAL AREA
- FULL DEPTH MILLING, 1.5" DEEP


SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		



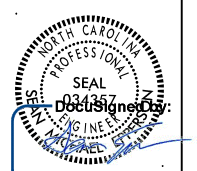
NOTE: INCIDENTAL MILL APPROX. 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

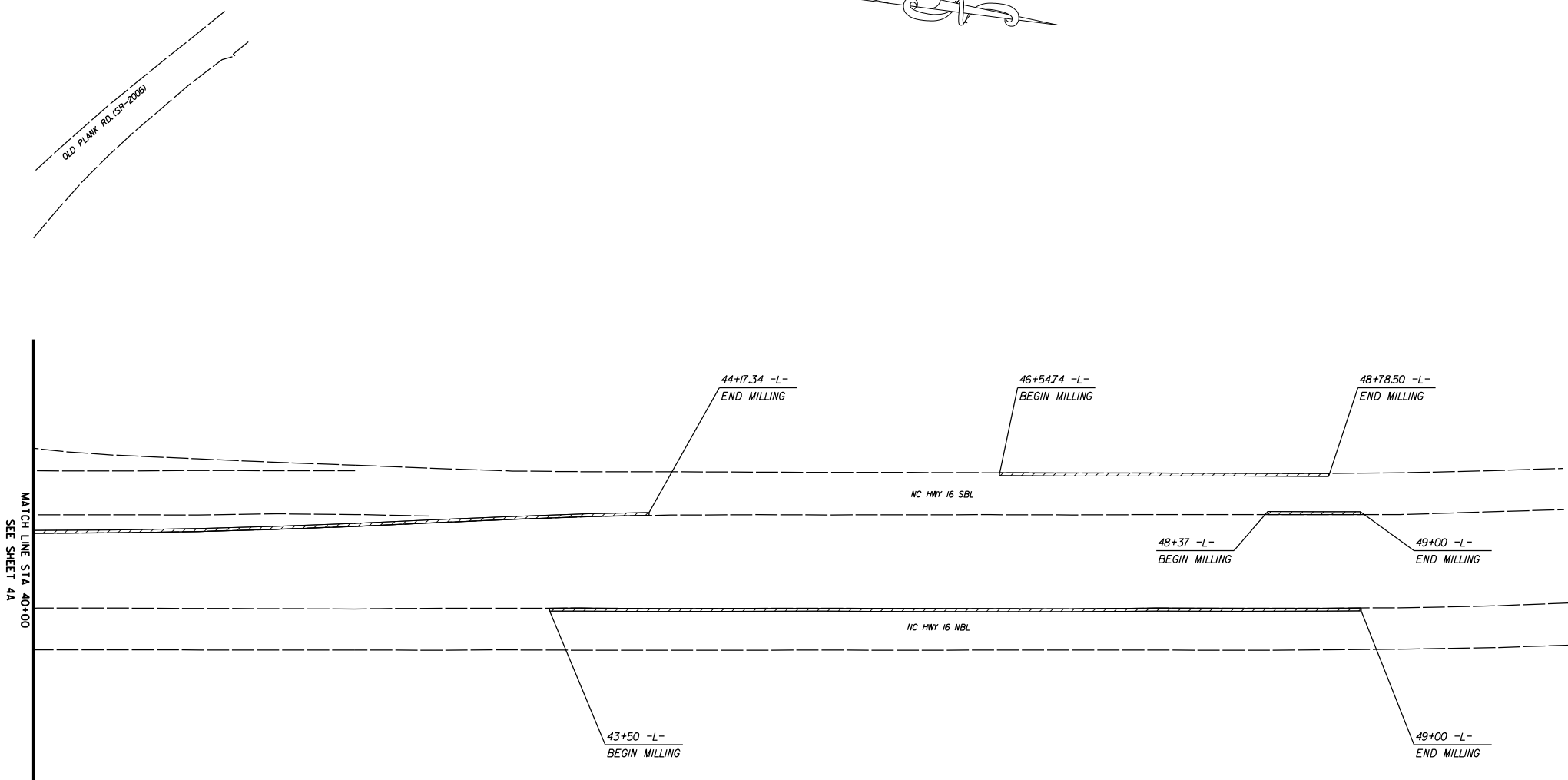
SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		

PROJECT NO.	SHEET NO.
44856.3.39	5A
F.A. PROJECT NO. HSIP-001610651	



ROADWAY DESIGN ENGINEER




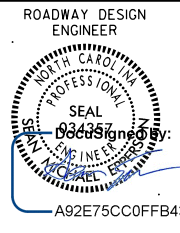
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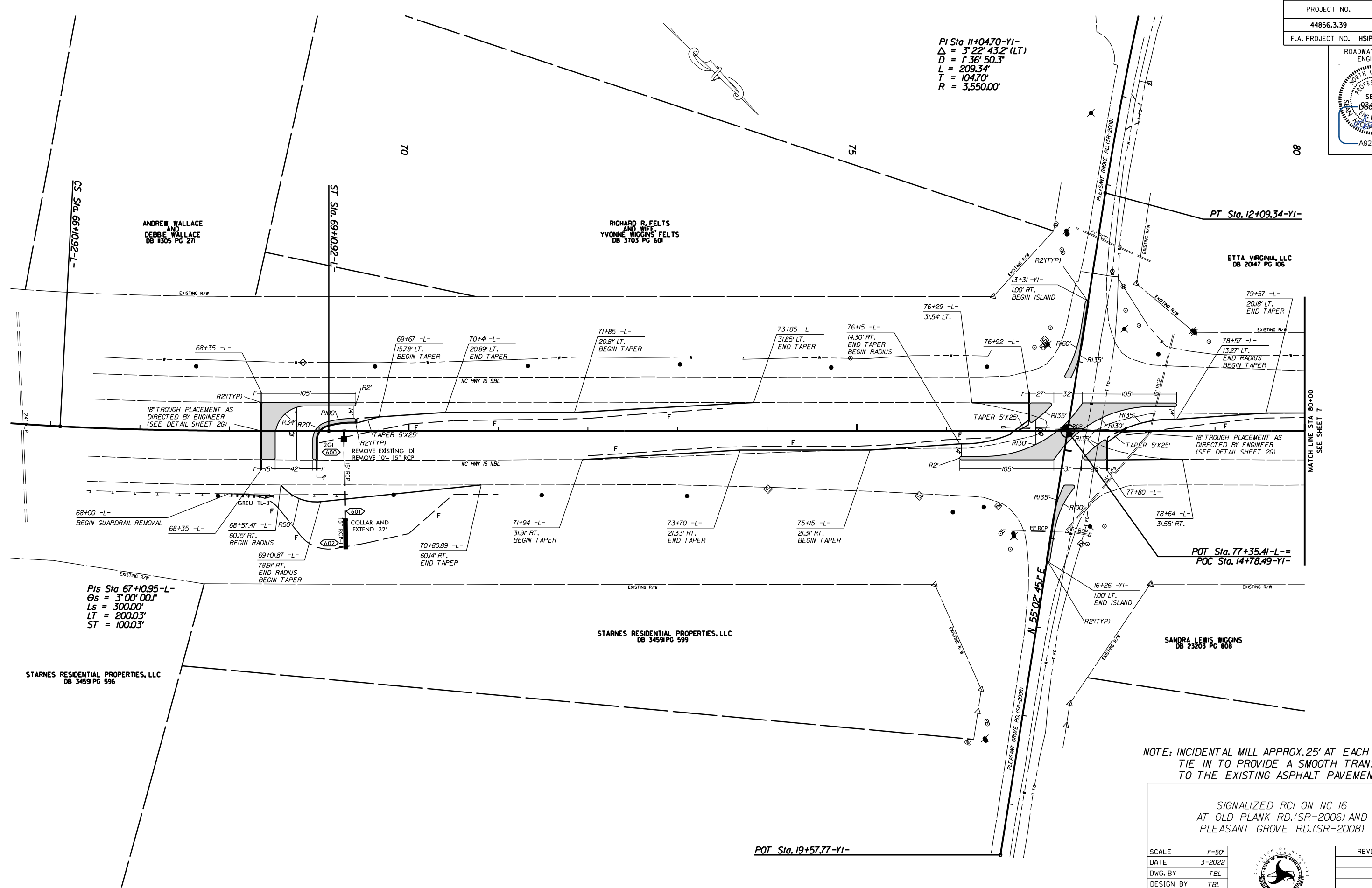
*NOTE: MILL 1' INSIDE OF WHITE LINE (ETL)

-  PAVEMENT REMOVAL AREA
-  FULL DEPTH MILLING, 1.5" DEEP

SIGNALIZED RCI ON NC 16 AT OLD PLANK RD.(SR-2006) AND PLEASANT GROVE RD.(SR-2008)			REVISIONS	
SCALE	r=50'			
DATE	3-2022			
DWG. BY	TBL			
DESIGN BY	TBL			
APPROVED	JDH			



PI Sta 11+04.70-YI-
 $\Delta = 3^{\circ} 22' 43.2''$ (LT)
 $D = 136' 50.3''$
 $L = 209.34'$
 $T = 104.70'$
 $R = 3550.00'$



PIs Sta 67+10.95-L-
 $\theta_s = 3^{\circ} 00' 00''$
 $L_s = 300.00'$
 $LT = 200.03'$
 $ST = 100.03'$

NOTE: INCIDENTAL MILL APPROX. 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

SIGNALIZED RCI ON NC 16 AT OLD PLANK RD.(SR-2006) AND PLEASANT GROVE RD.(SR-2008)	
SCALE	1"=50'
DATE	3-2022
DWG. BY	TBL
DESIGN BY	TBL
APPROVED	JDH
REVISIONS	

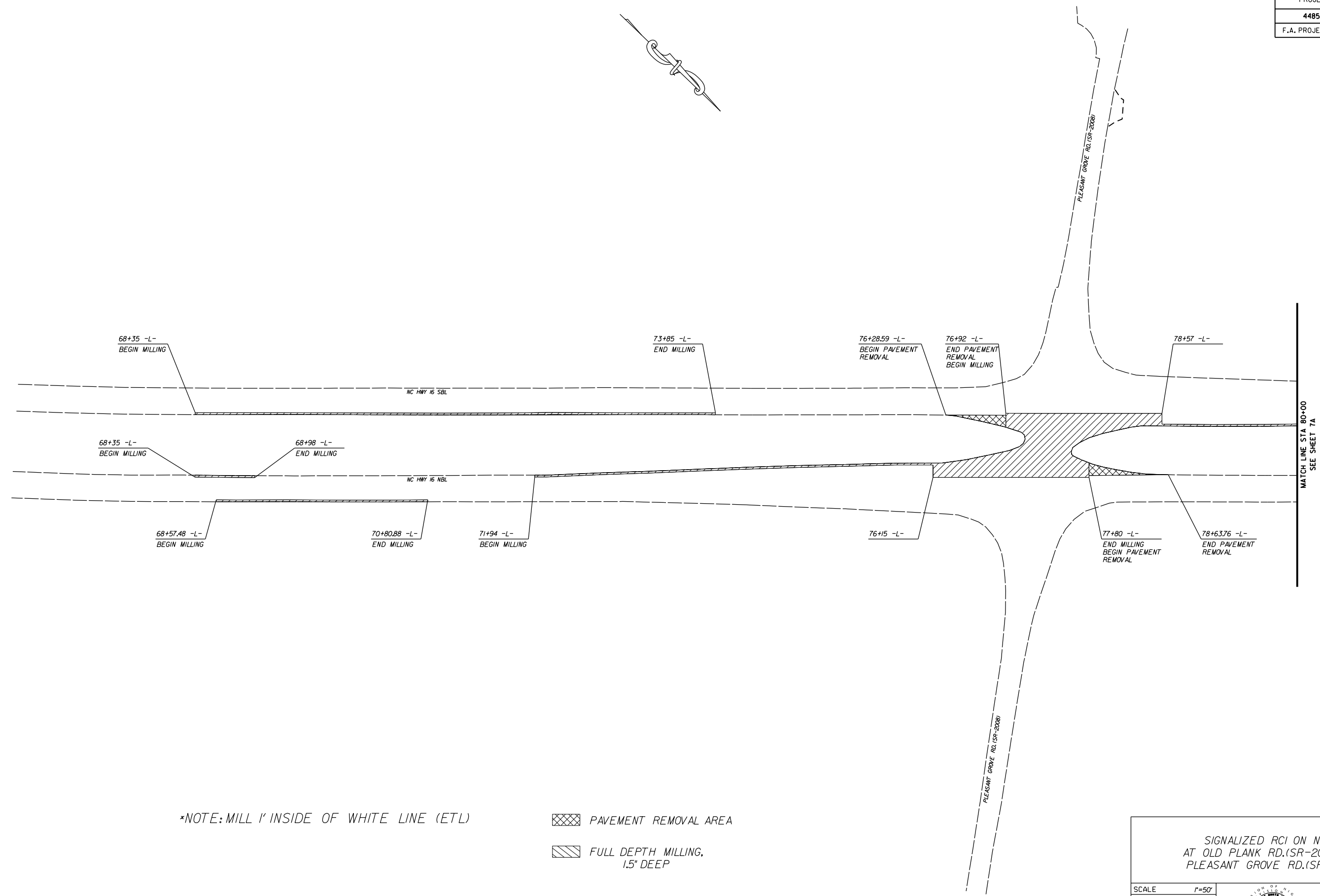


PROJECT NO.	SHEET NO.
44856.3.39	6A
F.A. PROJECT NO. HSIP-00610651	

ROADWAY DESIGN ENGINEER

Seal of Michael J. Taylor, No. 034357, State of North Carolina, Professional Engineer.

A92E75CC0FFB43E



*NOTE: MILL 1' INSIDE OF WHITE LINE (ETL)

- PAVEMENT REMOVAL AREA
- FULL DEPTH MILLING, 1.5' DEEP

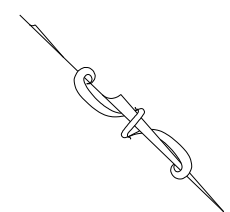
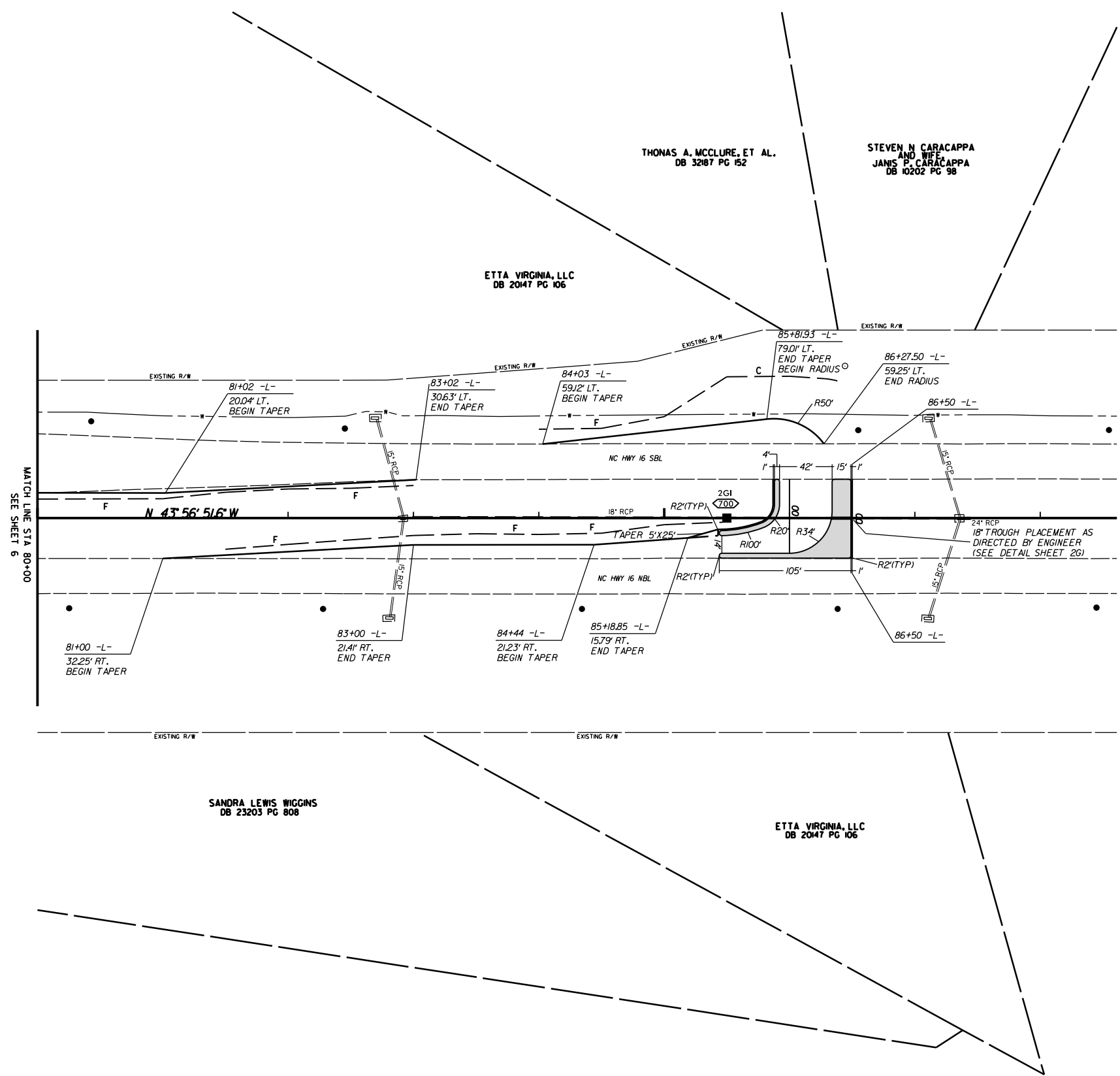
SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		

PROJECT NO.	SHEET NO.
44856.3.39	7
F.A. PROJECT NO. HSIP-00610651	

ROADWAY DESIGN ENGINEER

A92E75CC0FFB43E



NOTE: INCIDENTAL MILL APPROX. 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

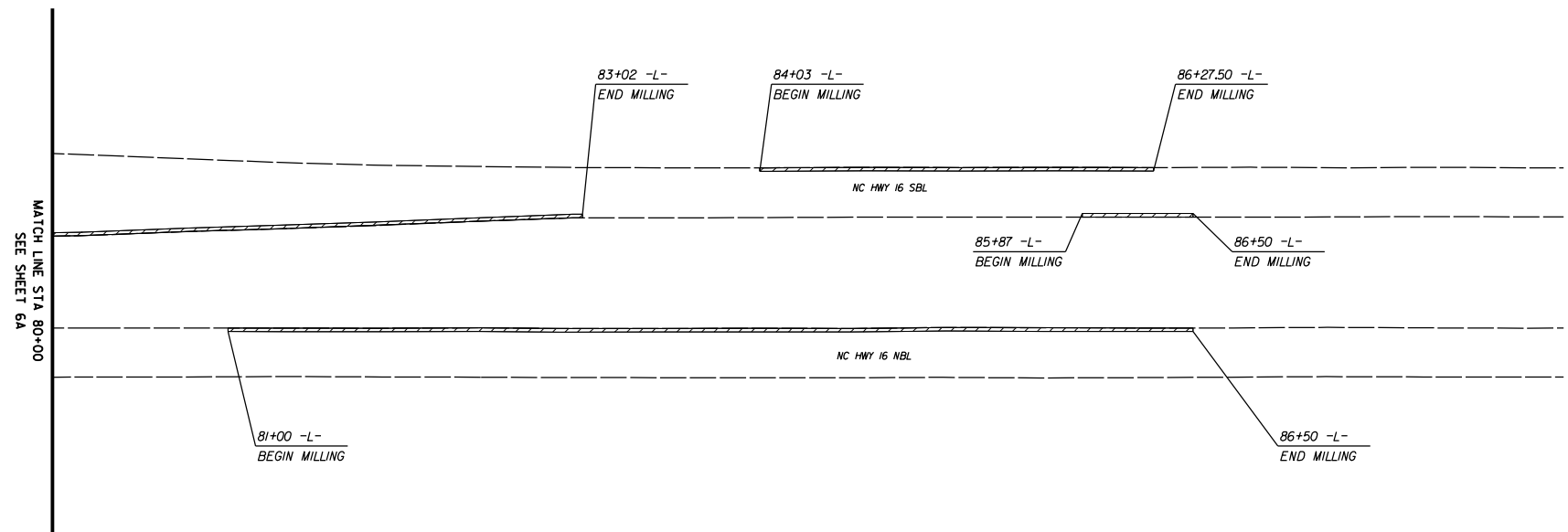
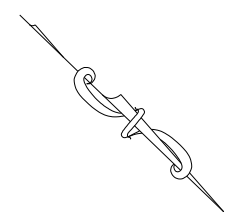
SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		

PROJECT NO.	SHEET NO.
44856.3.39	7A
F.A. PROJECT NO. HSIP-001610651	

ROADWAY DESIGN
ENGINEER

SEAL
03688
MICHAEL B. BROWN
A92E75CC0FFB3...



*NOTE: MILL 1' INSIDE OF WHITE LINE (ETL)

- PAVEMENT REMOVAL AREA
- FULL DEPTH MILLING, 1.5" DEEP

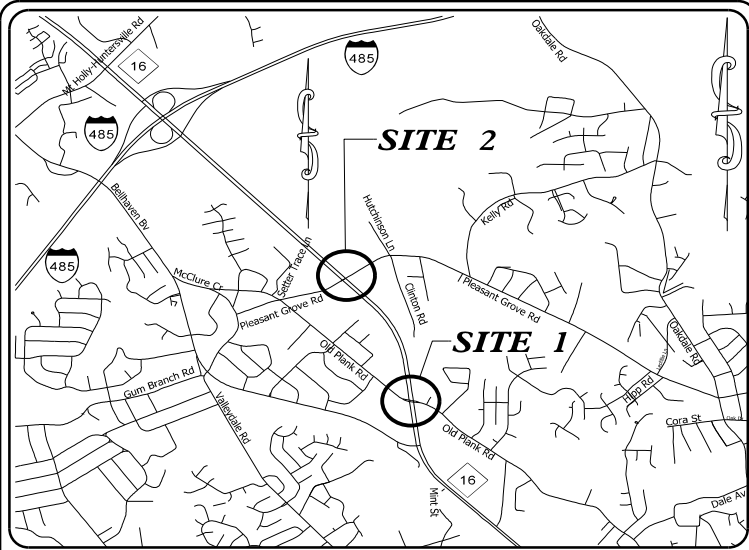
SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'
DATE	3-2022
DWG. BY	TBL
DESIGN BY	TBL
APPROVED	JDH



REVISIONS	

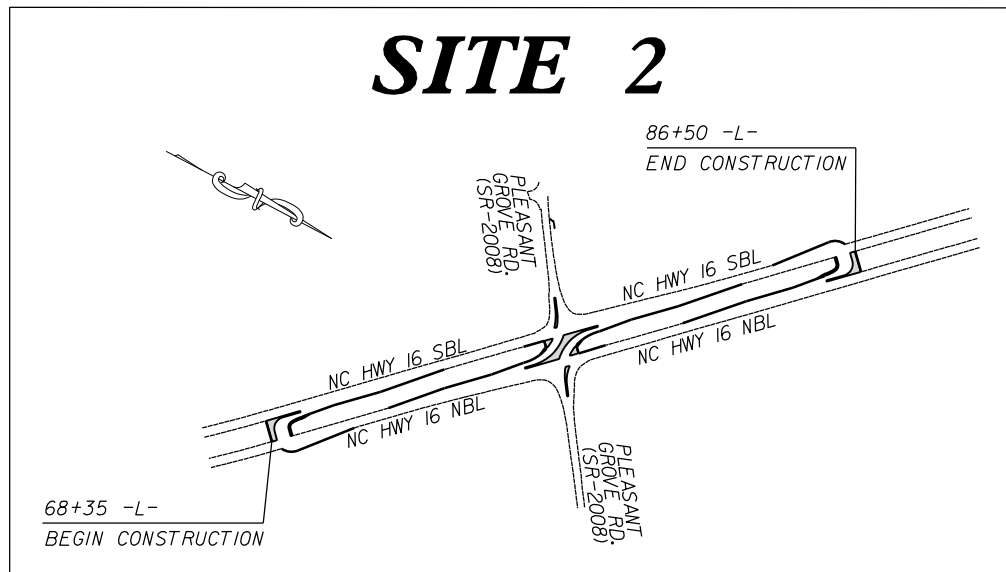
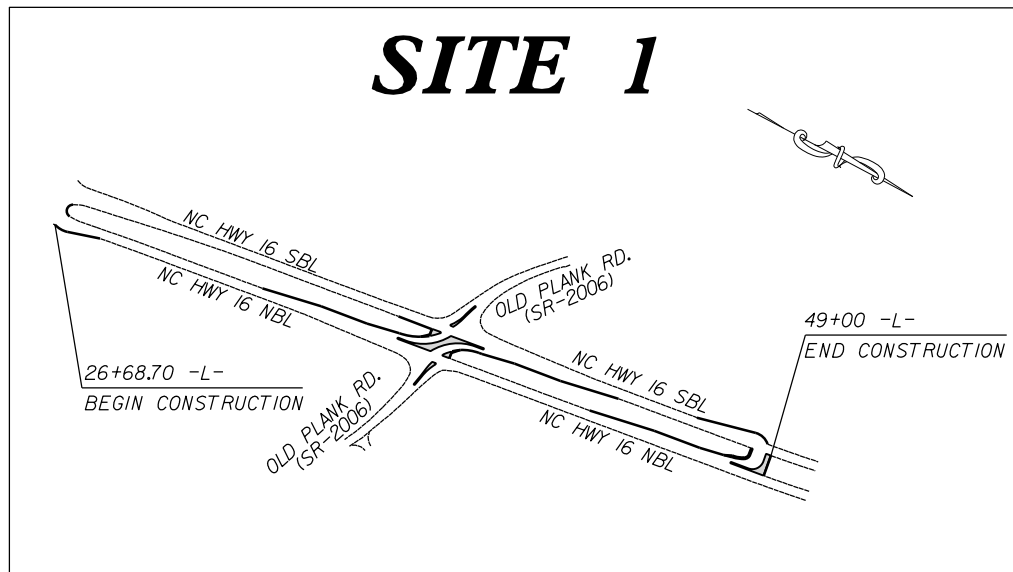
TIP PROJECT: W-5710AK



VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
**PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
MECKLENBURG COUNTY**

**LOCATION: INTERSECTIONS ON NC 16 AT OLD PLANK RD.(SR-2006)
AND PLEASANT GROVE RD.(SR-2008)**



INSTALL PERIMETER EROSION CONTROL
MEASURES DURING INITIAL CLEARING PHASE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5710AK	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
44856.1.39	HSIP-0016(065)	P.E.	
44856.2.39	HSIP-0016(065)	RW	
44856.3.39	HSIP-0016(065)	CONST.	

EROSION AND SEDIMENT CONTROL MEASURES

Sid. #	Description	Symbol
1630.05	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	TSF
1606.01	Special Sediment Control Fence	SCF
1622.01	Temporary Berms and Slope Drains	TBSD
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	TRSCA
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TRSCA-PAM
1633.02	Temporary Rock Silt Check Type-B	TRSCB
	Wattle / Coir Fiber Wattle	WF
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	WF-PAM
1634.01	Temporary Rock Sediment Dam Type-A	TRSDA
1634.02	Temporary Rock Sediment Dam Type-B	TRSDB
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPISTA
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPISTB
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SSB
	Rock Inlet Sediment Trap:	
1632.01	Type A	RA
1632.02	Type B	RB
1632.03	Type C	RC
	Skimmer Basin	SKB
	Tiered Skimmer Basin	TSKB
	Infiltration Basin	IB

**THIS PROJECT CONTAINS
EROSION CONTROL PLANS
FOR CLEARING AND
GRUBBING PHASE OF
CONSTRUCTION.**

**HIGH QUALITY WATER(S) EXIST
ON THIS PROJECT**
High Quality Water Zone(s) Exist
From Sta. Begin Project
to Sta. End Project
Refer To E. C. Special Provisions
for Special Considerations.

GRAPHIC SCALE



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH
THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000
GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019
AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF
ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.



Prepared In the Office of:
DDC UNIT DIVISION 10
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Designed by:

JASON BROOKS
NAME

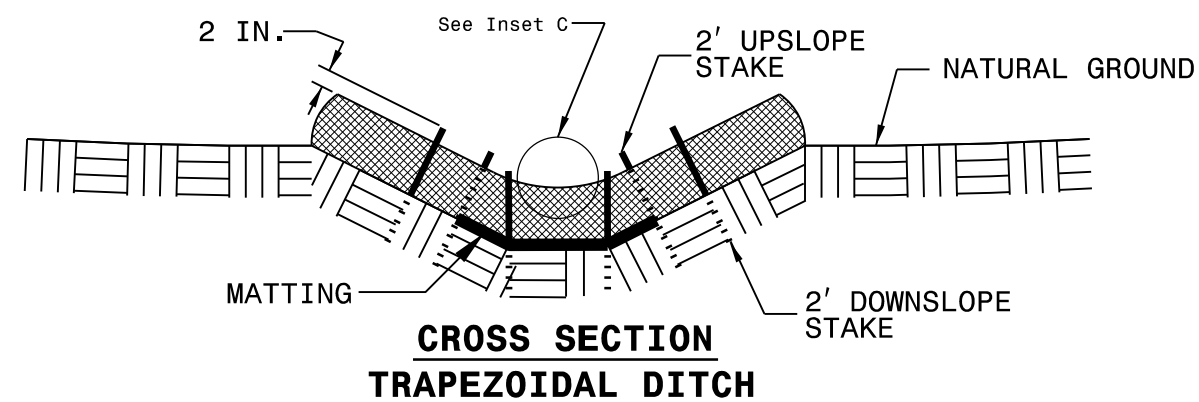
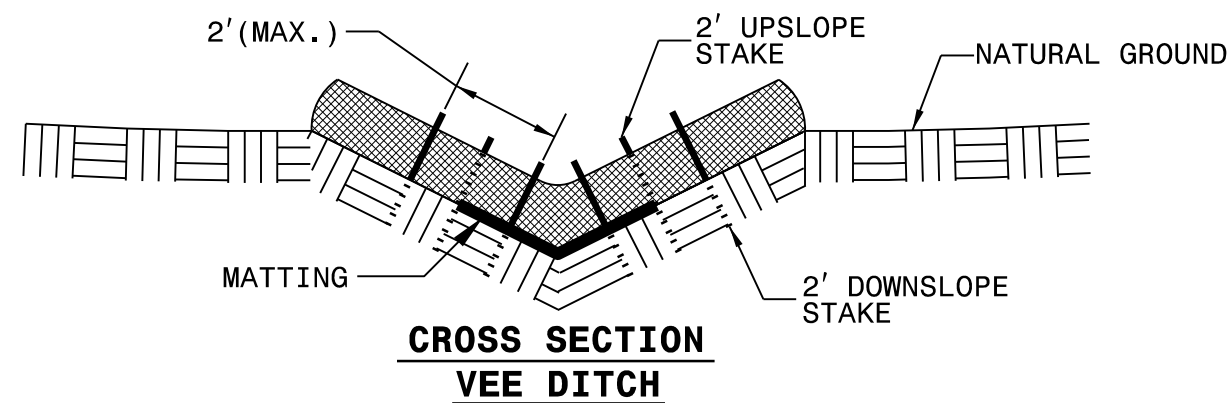
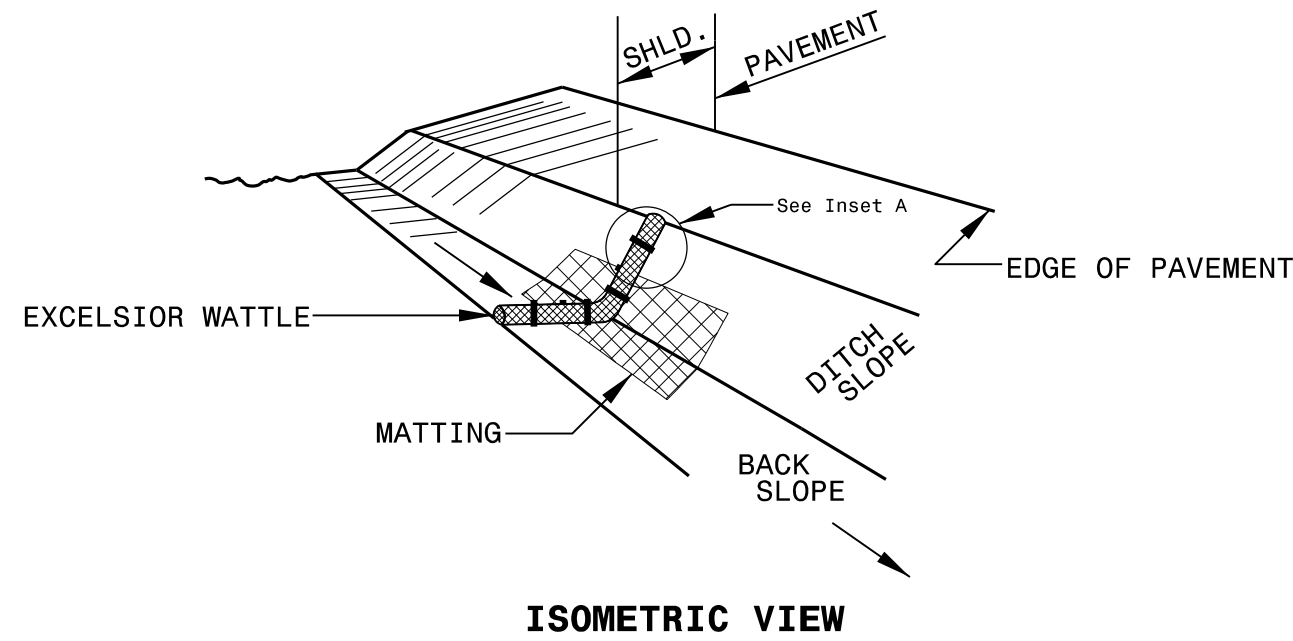
4369
LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type J
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type J
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type J	1634.02 Temporary Rock Sediment Dam Type J
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type J
1630.05 Temporary Diversion	1640.01 Coir Fiber Wattle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

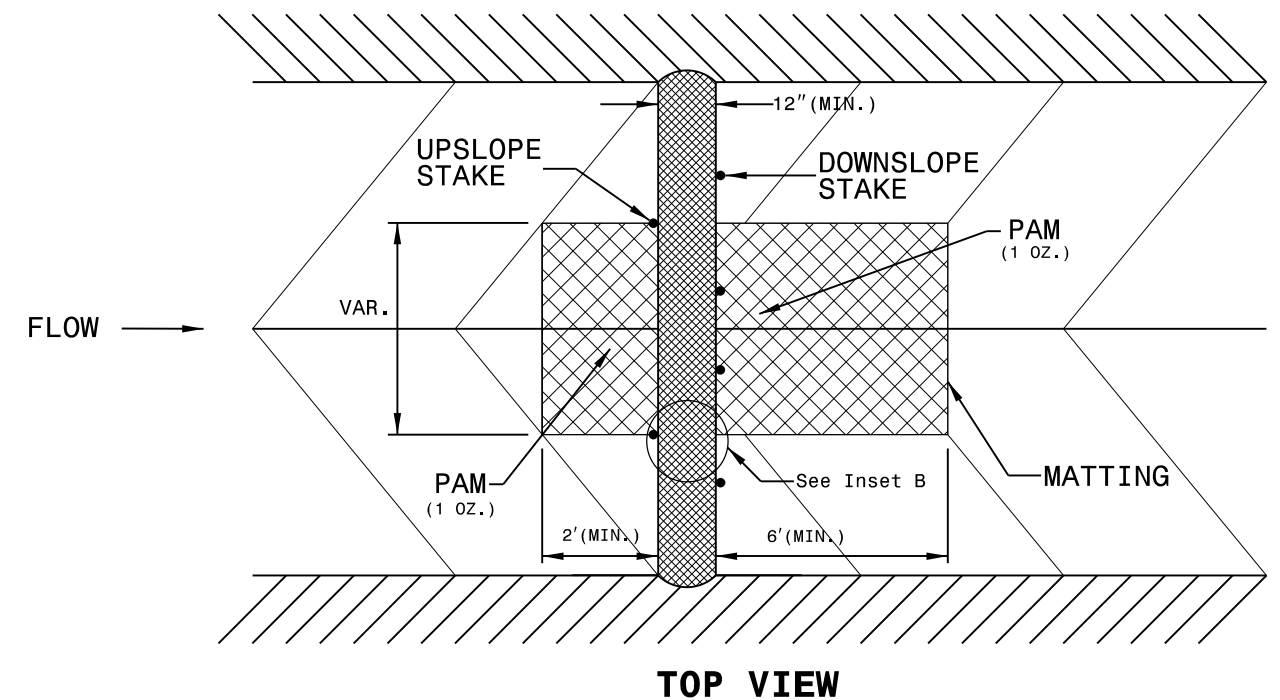
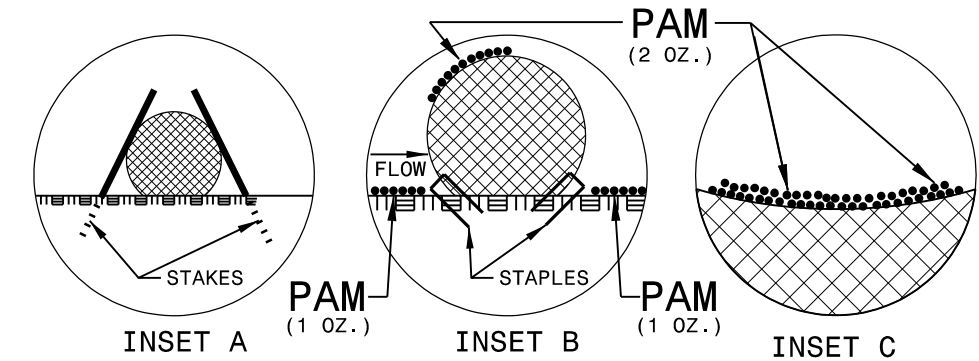
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

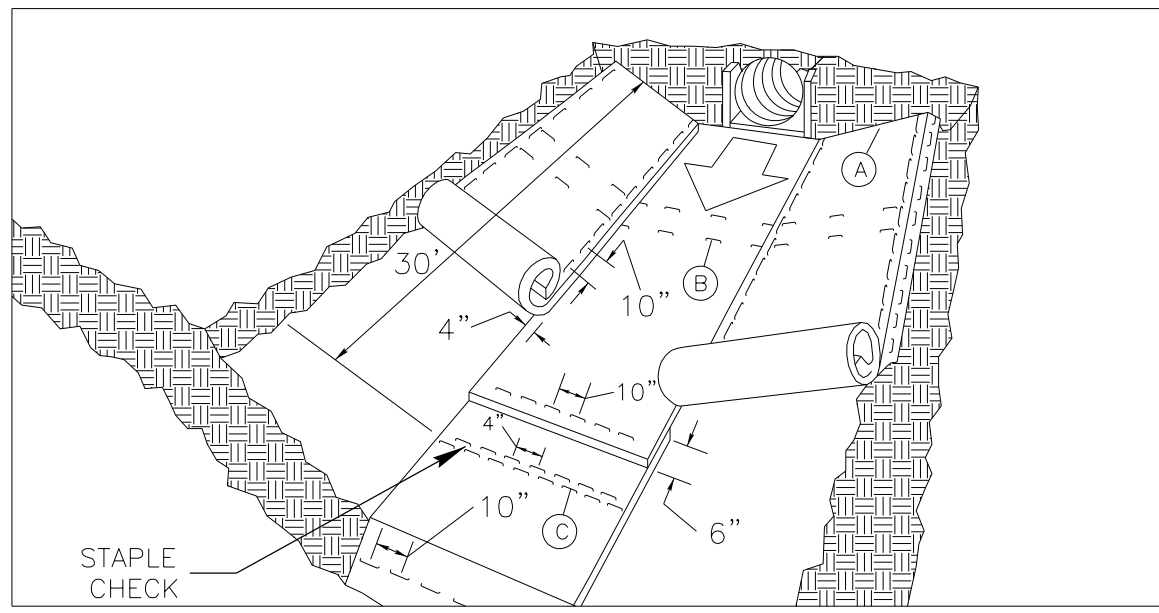
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



MATTING INSTALLATION DETAIL



MATTING IN DITCHES

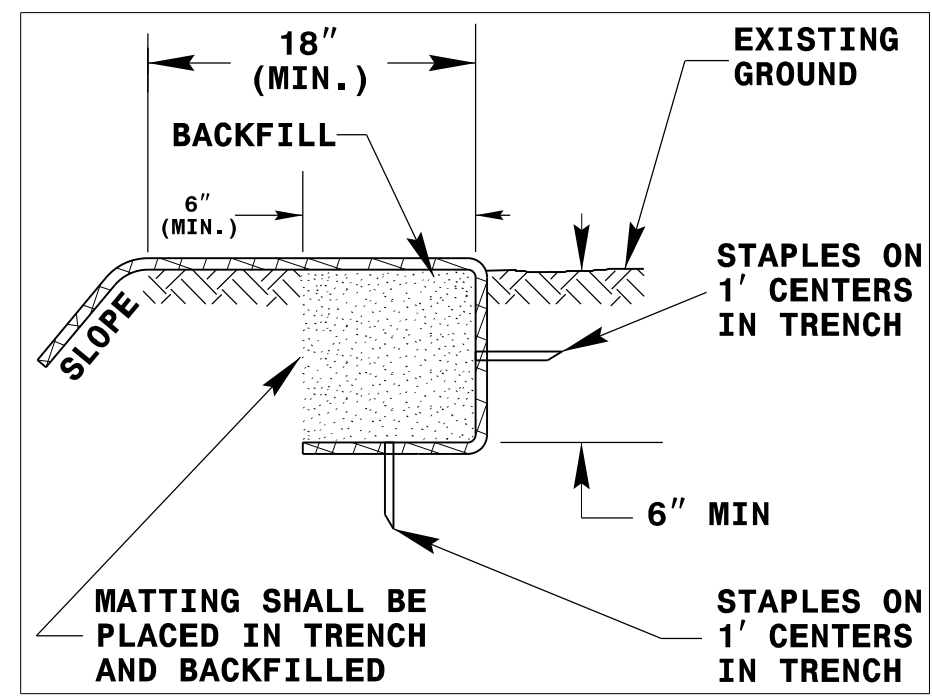
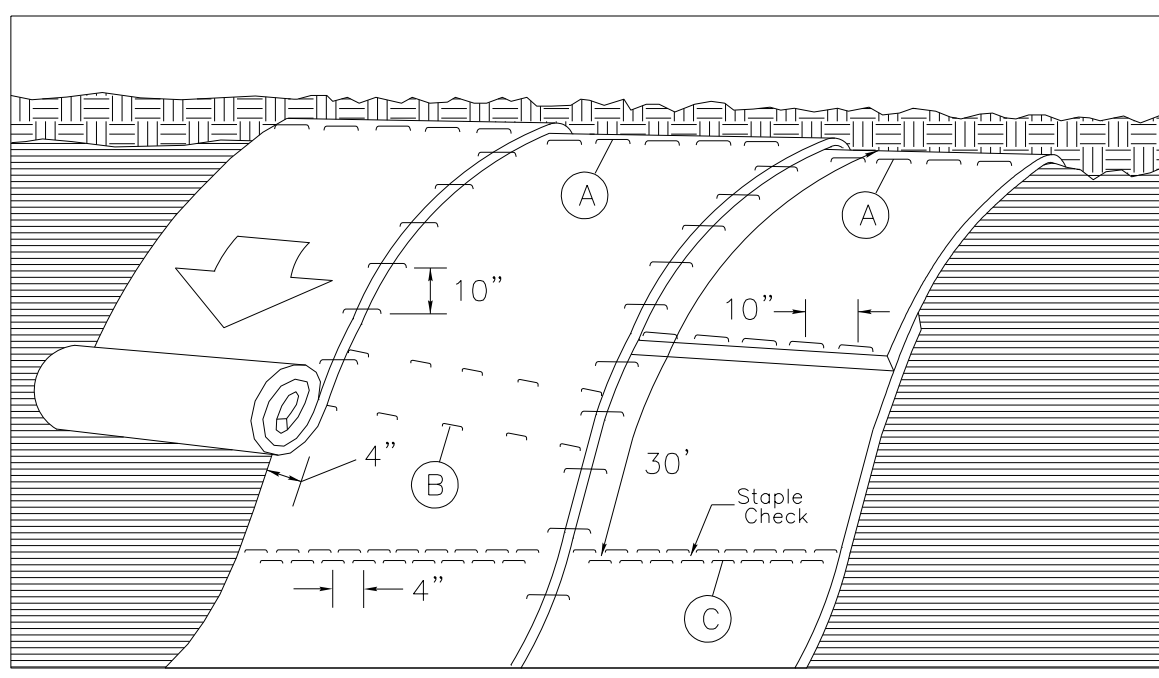


DIAGRAM (A)



MATTING ON SLOPES

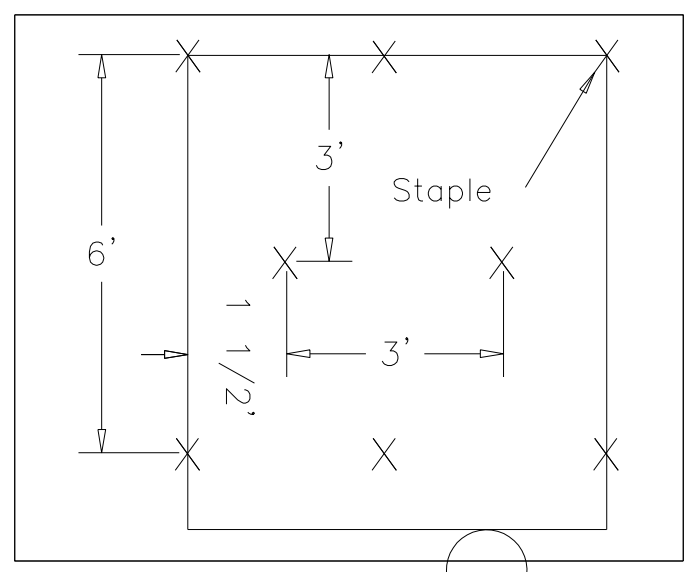


DIAGRAM (B)

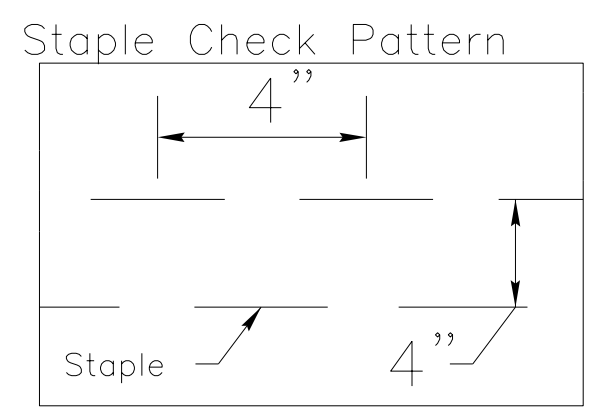


DIAGRAM (C)

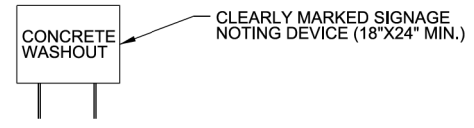
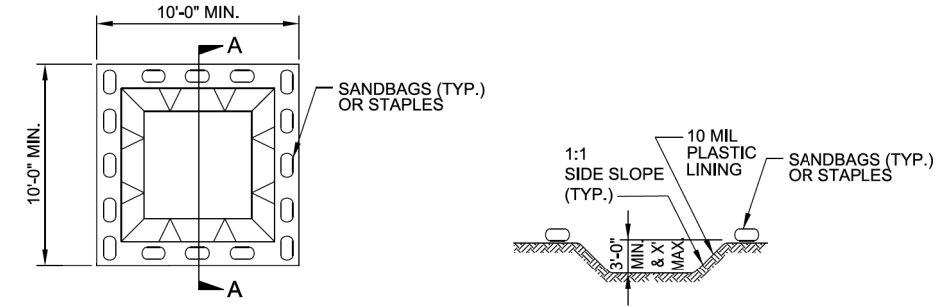
NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.
 STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

PROJECT REFERENCE NO. <i>X-XXXX</i>	SHEET NO. <i>EC-XX/CONST.XX</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

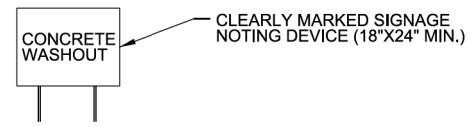
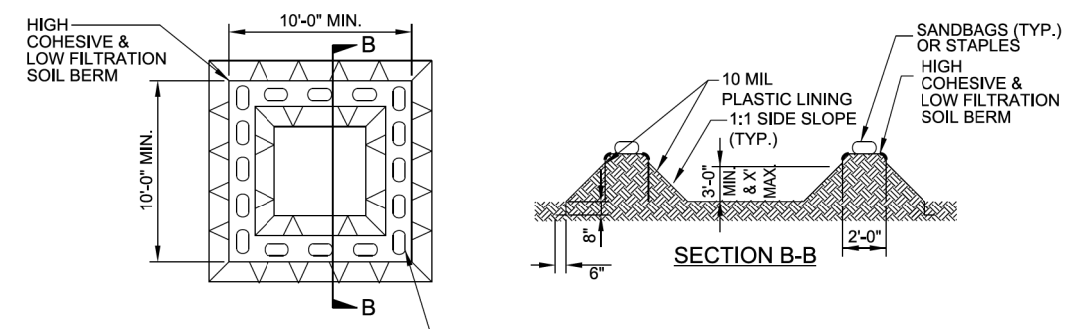


SECTION A-A

NOTES:

1. ACTUAL LOCATION DETERMINED IN FIELD
2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.
3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

PLAN
BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE



SECTION B-B

NOTES:

1. ACTUAL LOCATION DETERMINED IN FIELD
2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

PLAN
ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

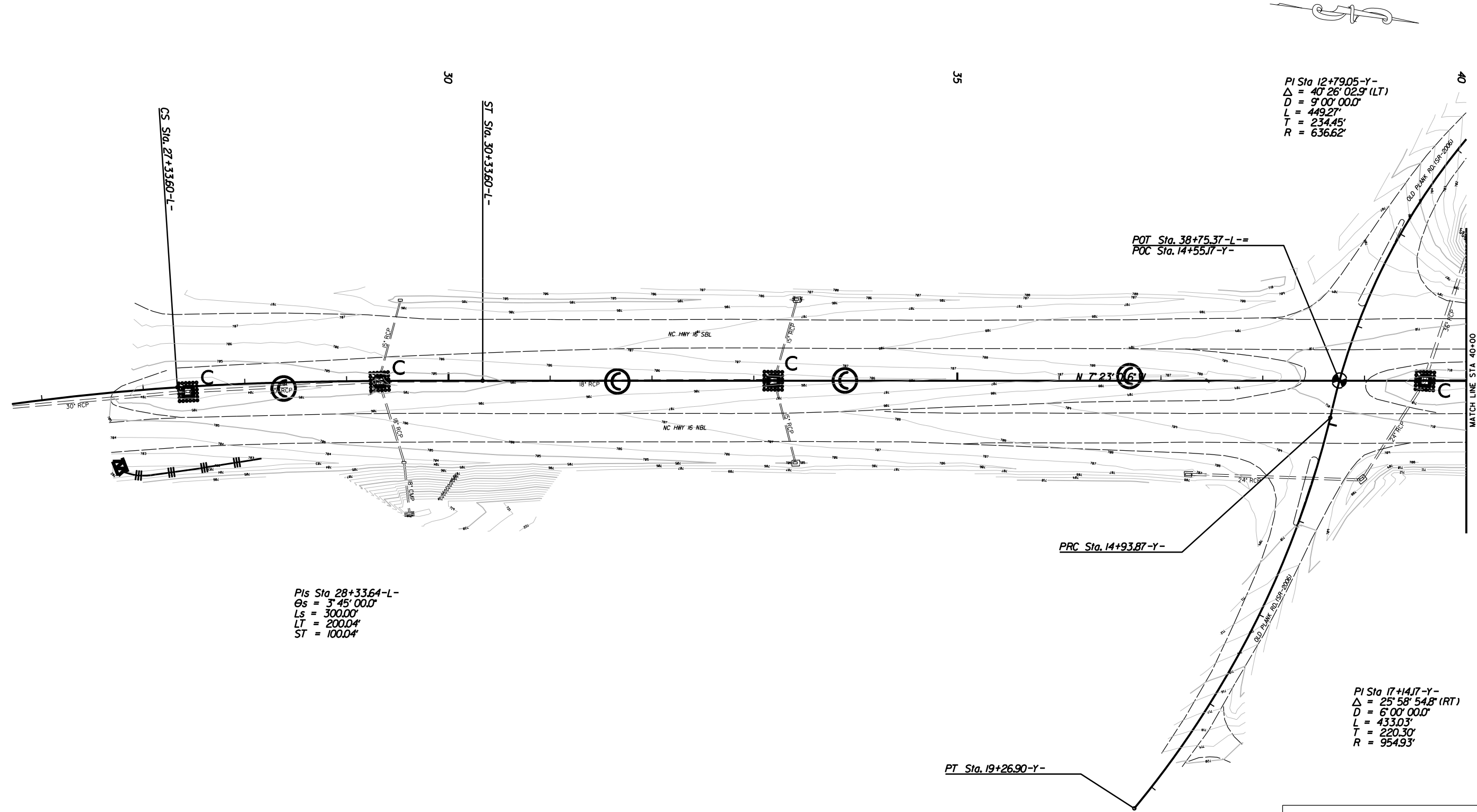
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES.

PROJECT NO.	SHEET NO.
44856.3.39	EC-4
F.A. PROJECT NO. HSIP-00610651	

CLEARING & GRUBBING PHASE



PIs Sta 28+33.64-L-
 $\Delta s = 3^{\circ}45'00.0''$
 $Ls = 300.00'$
 $LT = 200.04'$
 $ST = 100.04'$

PI Sta 12+79.05-Y-
 $\Delta = 40^{\circ}26'02.9''$ (LT)
 $D = 9^{\circ}00'00.0''$
 $L = 449.27'$
 $T = 234.45'$
 $R = 636.62'$

PI Sta 17+14.17-Y-
 $\Delta = 25^{\circ}58'54.8''$ (RT)
 $D = 6^{\circ}00'00.0''$
 $L = 433.03'$
 $T = 220.30'$
 $R = 954.93'$

EROSION CONTROL MEASURES MAY BE CHANGED IN FIELD AS DIRECTED BY THE ENGINEER

SIGNALIZED ROUNDABOUT ON NC 16 AT OLD PLANK ROAD (SR-2006) AND PLEASANT GROVE ROAD (SR-2008)

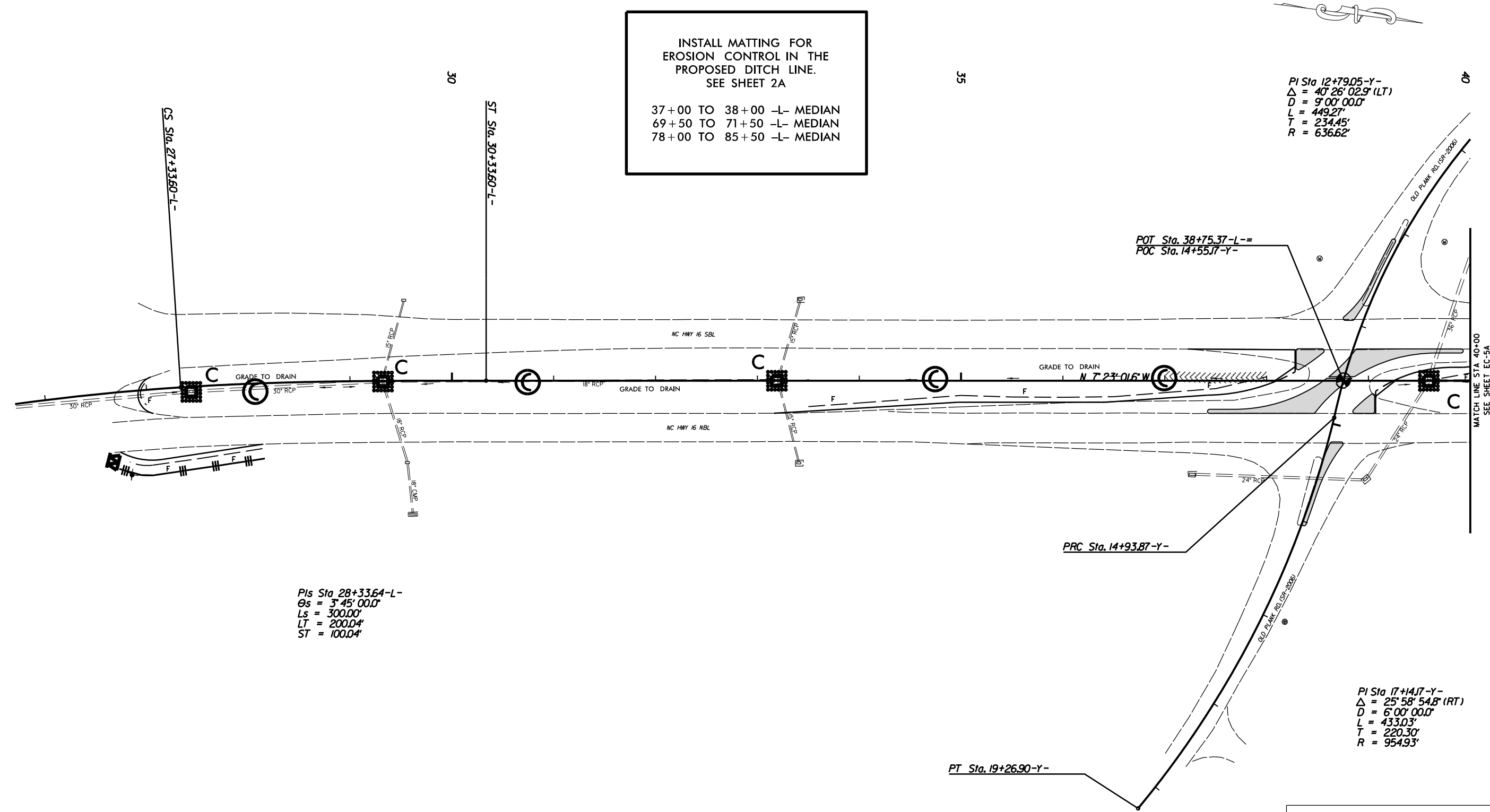
SCALE	1"=50'		REVISIONS
DATE	4-2022		
DWG. BY	JCB		
DESIGN BY	TBL		
APPROVED	JDH		

PROJECT NO.	SHEET NO.
44856.3.39	EC-4A
F.A. PROJECT NO. HSIP-00610651	

CONSTRUCTION PHASE

INSTALL MATTING FOR
EROSION CONTROL IN THE
PROPOSED DITCH LINE.
SEE SHEET 2A

37+00 TO 38+00 -L- MEDIAN
69+50 TO 71+50 -L- MEDIAN
78+00 TO 85+50 -L- MEDIAN



PIs Sta 28+33.64-L-
 $\theta_s = 3^\circ 45' 00.0''$
 $L_s = 300.00'$
 $LT = 200.04'$
 $ST = 100.04'$

PI Sta 12+79.05-Y-
 $\Delta = 40^\circ 26' 02.9''$ (LT)
 $D = 9^\circ 00' 00.0''$
 $L = 449.27'$
 $T = 234.45'$
 $R = 636.62'$

PI Sta 17+14.17-Y-
 $\Delta = 25^\circ 58' 54.8''$ (RT)
 $D = 6^\circ 00' 00.0''$
 $L = 433.03'$
 $T = 220.30'$
 $R = 954.93'$

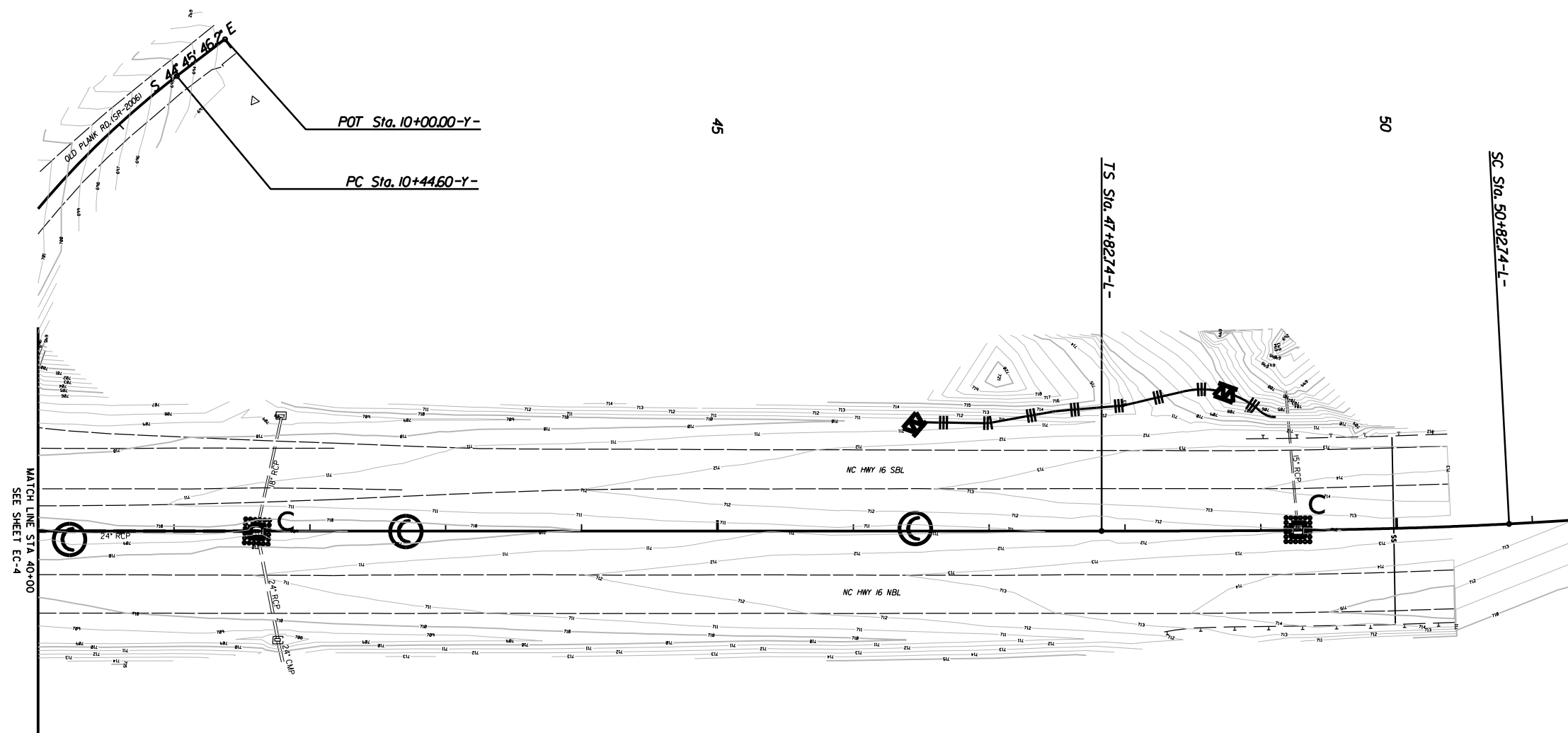
EROSION CONTROL MEASURES MAY BE CHANGED
IN FIELD AS DIRECTED BY THE ENGINEER

SIGNALIZED R/C ON NC 16
AT OLD PLANK ROAD (SR-2006) AND
PLEASANT GROVE ROAD (SR-2008)

SCALE	1"=50'		REVISIONS
DATE	4-2022		
DWG. BY	JCB		
DESIGN BY	TBL		
APPROVED	JDH		

PROJECT NO.	SHEET NO.
44856.3.39	EC-5
F.A. PROJECT NO. HSIP-00610651	

CLEARING & GRUBBING PHASE



Pls Sta 49+82.77-L-
 $\Theta_s = 3^{\circ}00'00''$
 $L_s = 300.00'$
 $LT = 200.03'$
 $ST = 100.03'$

EROSION CONTROL MEASURES MAY BE CHANGED
IN FIELD AS DIRECTED BY THE ENGINEER

SIGNALIZED R/CION NC 16
AT OLD PLANK ROAD (SR-2006) AND
PLEASANT GROVE ROAD (SR-2008)

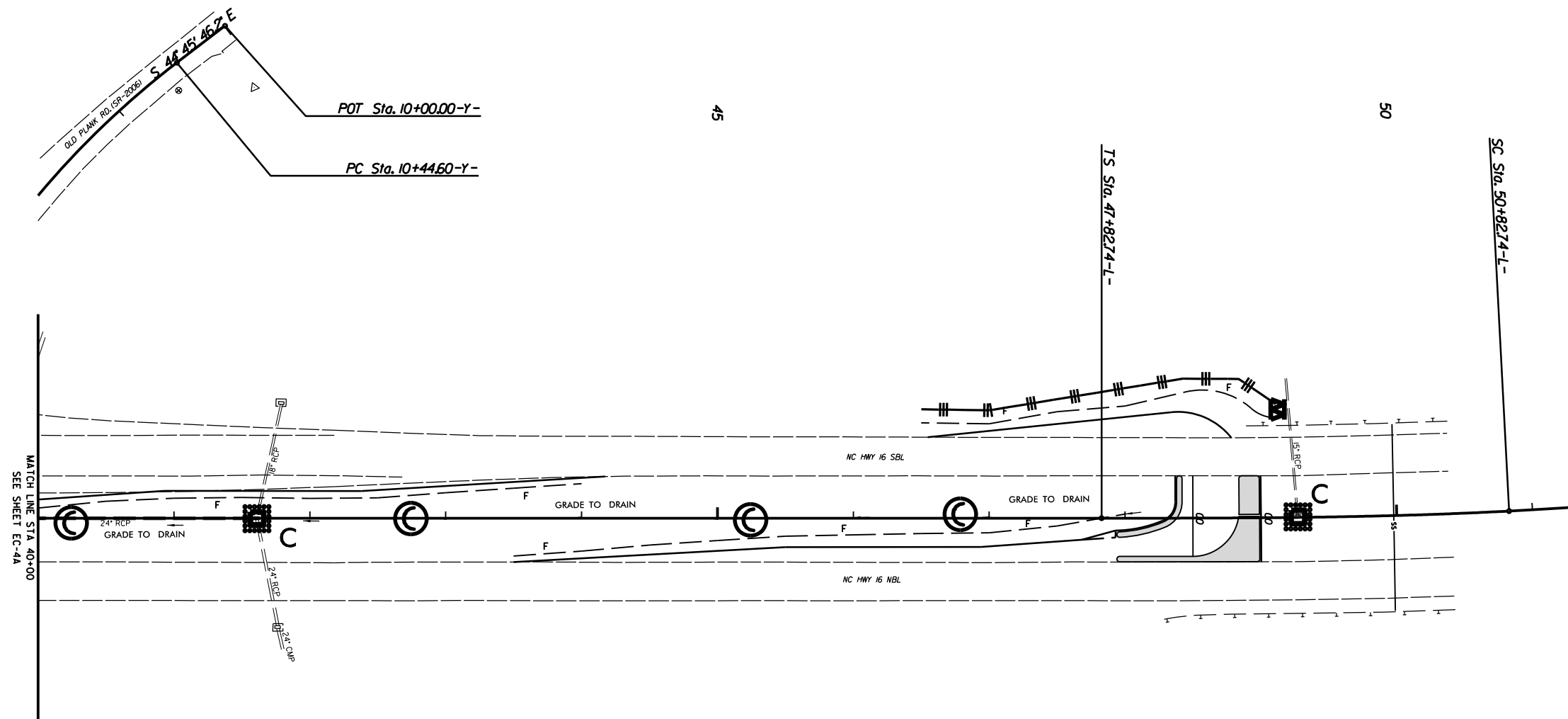
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DATE	4-2022
DWG. BY	JCB
DESIGN BY	TBL
APPROVED	JDH



REVISIONS	

PROJECT NO.	SHEET NO.
44856.3.39	EC-5A
F.A. PROJECT NO. HSIP-00610651	

CONSTRUCTION PHASE




INSTALL MATTING FOR
EROSION CONTROL IN THE
PROPOSED DITCH LINE.
SEE SHEET 2A

37+00 TO 38+00 -L- MEDIAN
69+50 TO 71+50 -L- MEDIAN
78+00 TO 85+50 -L- MEDIAN

Pls Sta 49+82.77-L-
 $\theta_s = 3'00''00''$
 $L_s = 300.00'$
 $LT = 200.03'$
 $ST = 100.03'$

EROSION CONTROL MEASURES MAY BE CHANGED
IN FIELD AS DIRECTED BY THE ENGINEER

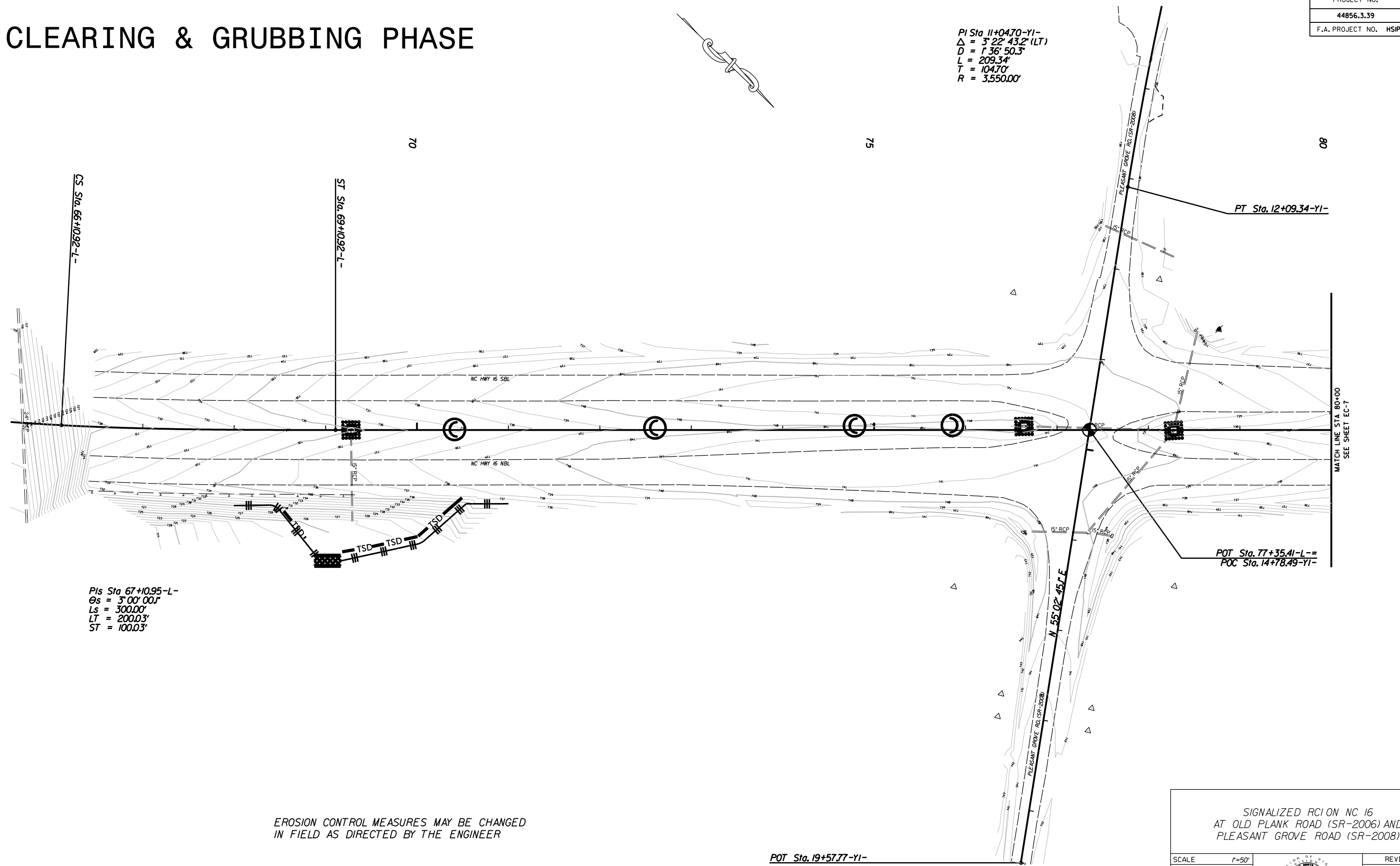
SIGNALIZED R/C ON NC 16
AT OLD PLANK ROAD (SR-2006) AND
PLEASANT GROVE ROAD (SR-2008)

SCALE	1"=50'		REVISIONS
DATE	4-2022		
DWG. BY	JCB		
DESIGN BY	TLB		
APPROVED	JDH		

CLEARING & GRUBBING PHASE

PROJECT NO.	SHEET NO.
44856.3.39	EC-6
F.A. PROJECT NO. HSIP-00610651	

PI Sta 11+04.70-YI-
 $\Delta = 3^{\circ} 22' 43.2" (LT)$
 $D = 1^{\circ} 36' 50.3"$
 $L = 209.34'$
 $T = 104.70'$
 $R = 3,550.00'$



PIs Sta 67+10.95-L-
 $\Theta_s = 3^{\circ} 00' 00"$
 $L_s = 300.00'$
 $LT = 200.03'$
 $ST = 100.03'$

EROSION CONTROL MEASURES MAY BE CHANGED IN FIELD AS DIRECTED BY THE ENGINEER

POT Sta. 19+57.77-YI-

SIGNALIZED ROUNDABOUT ON NC 16 AT OLD PLANK ROAD (SR-2006) AND PLEASANT GROVE ROAD (SR-2008)

SCALE	1"=50'
DATE	4-2022
DWG. BY	JCB
DESIGN BY	TBL
APPROVED	JDH



REVISIONS	

MATCH LINE STA 80+00 SEE SHEET EC-7

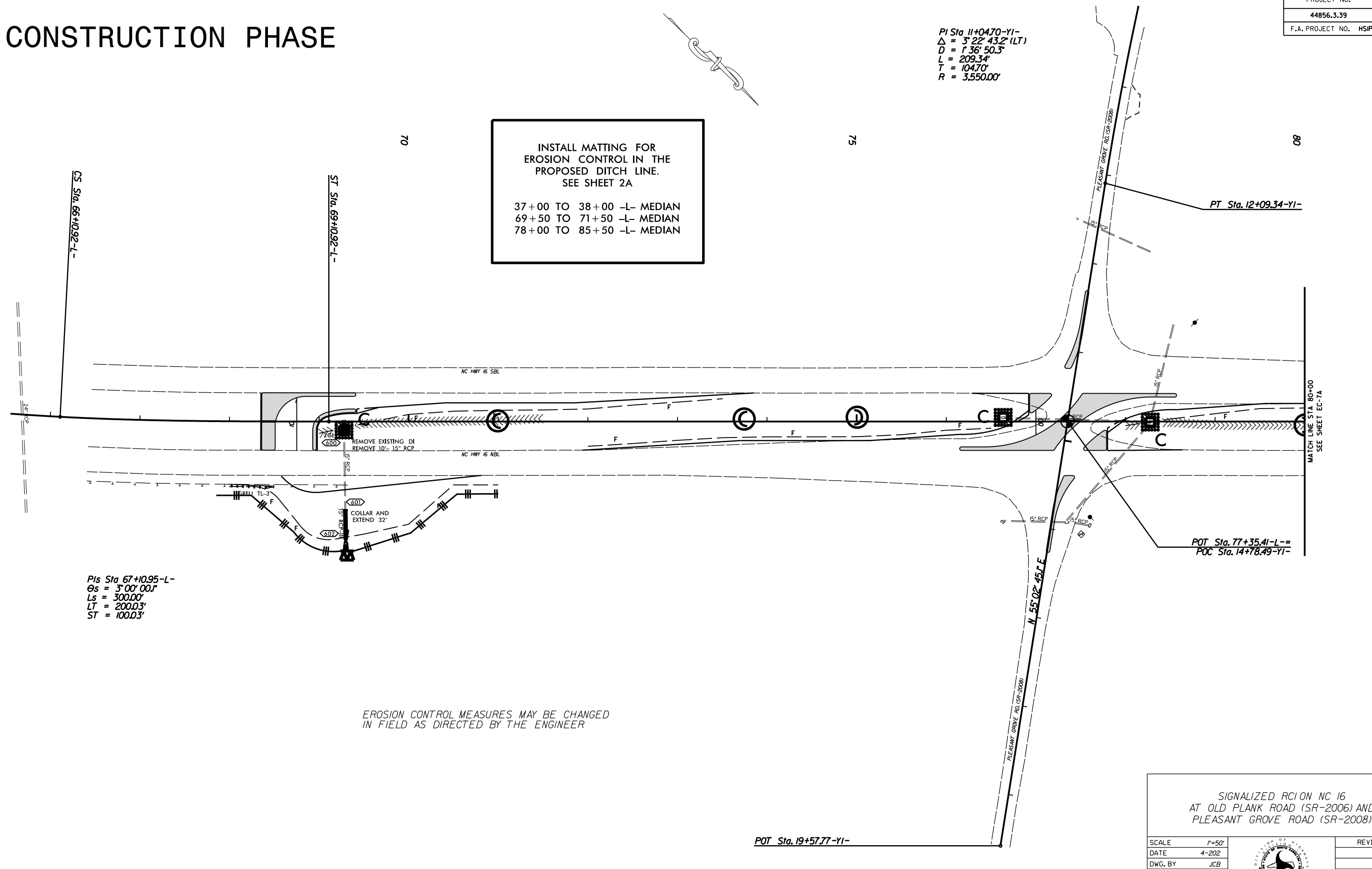
CONSTRUCTION PHASE

PROJECT NO.	SHEET NO.
44856.3.39	EC-6A
F.A. PROJECT NO. HSIP-00610651	

PI Sta 11+04.70-Y1-
 $\Delta = 3^\circ 22' 43.2" (LT)$
 $D = 136' 50.3"$
 $L = 209.34'$
 $T = 104.70'$
 $R = 3550.00'$

INSTALL MATTING FOR
 EROSION CONTROL IN THE
 PROPOSED DITCH LINE.
 SEE SHEET 2A


 37+00 TO 38+00 -L- MEDIAN
 69+50 TO 71+50 -L- MEDIAN
 78+00 TO 85+50 -L- MEDIAN



PIs Sta 67+10.95-L-
 $\theta_s = 3^\circ 00' 00"$
 $L_s = 300.00'$
 $LT = 200.03'$
 $ST = 100.03'$

EROSION CONTROL MEASURES MAY BE CHANGED
 IN FIELD AS DIRECTED BY THE ENGINEER

SIGNALIZED RCI ON NC 16
 AT OLD PLANK ROAD (SR-2006) AND
 PLEASANT GROVE ROAD (SR-2008)

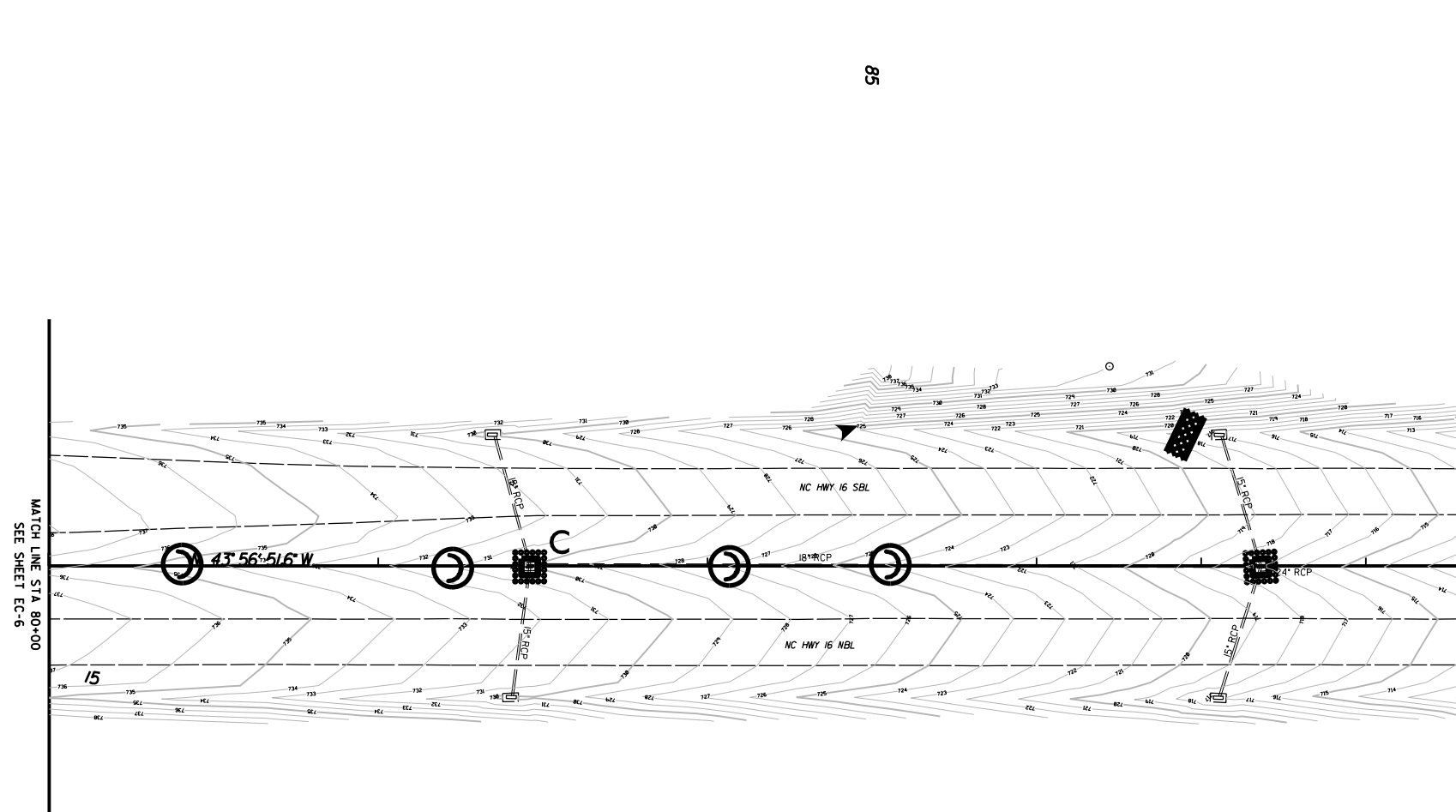
SCALE	1"=50'		REVISIONS
DATE	4-202		
DWG. BY	JCB		
DESIGN BY	TBL		
APPROVED	JDH		

POT Sta. 19+57.77-Y1-

MATCH LINE STA 80+00
 SEE SHEET EC-7A


CLEARING & GRUBBING PHASE

PROJECT NO.	SHEET NO.
44856.3.39	EC-7
F.A. PROJECT NO. HSIP-00610651	



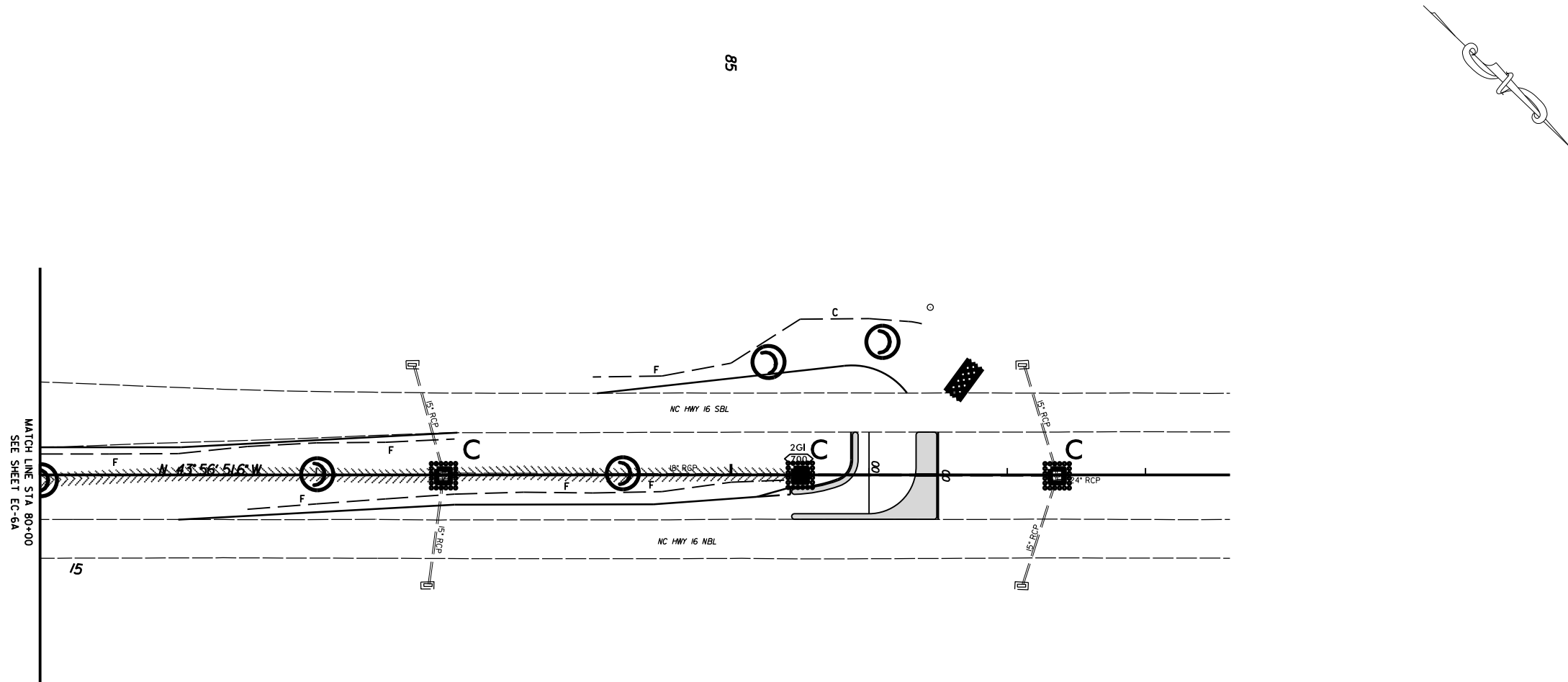
EROSION CONTROL MEASURES MAY BE CHANGED
IN FIELD AS DIRECTED BY THE ENGINEER

SIGNALIZED ROUNDABOUT ON NC 16
AT OLD PLANK ROAD (SR-2006) AND
PLEASANT GROVE ROAD (SR-2008)

SCALE	1"=50'		REVISIONS
DATE	4-2022		
DWG. BY	JCB		
DESIGN BY	TLB		
APPROVED	JDH		

CONSTRUCTION PHASE

PROJECT NO.	SHEET NO.
44856.3.39	EC-7A
F.A. PROJECT NO. HSIP-00610651	




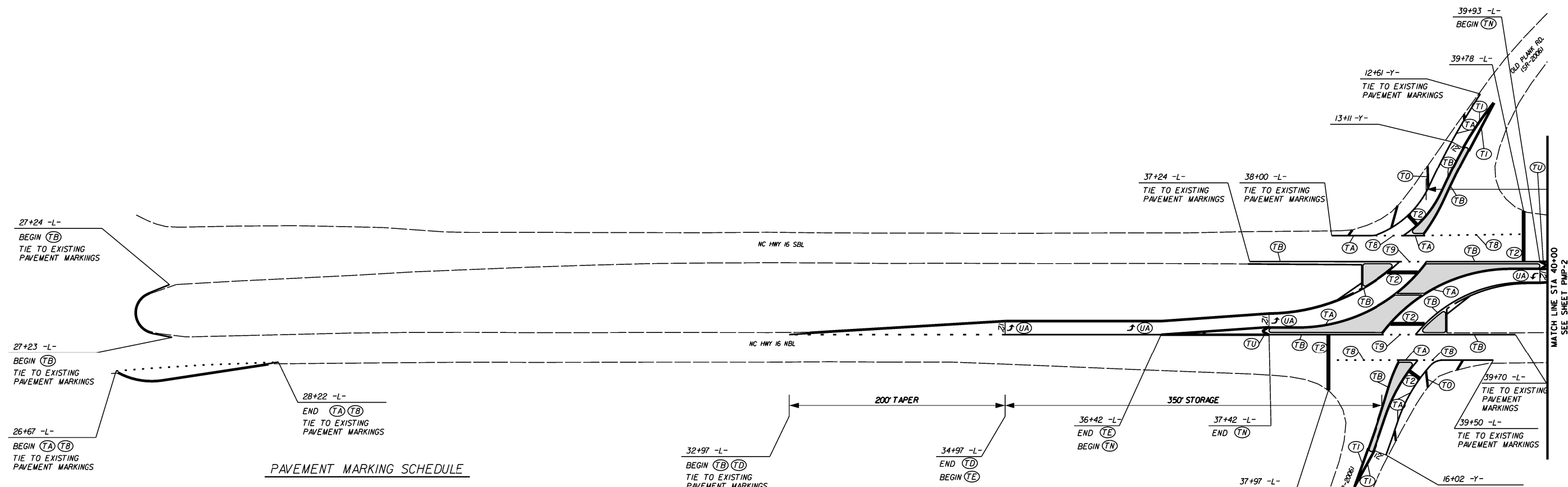
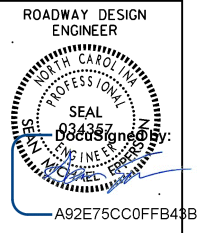
INSTALL MATTING FOR
EROSION CONTROL IN THE
PROPOSED DITCH LINE.
SEE SHEET 2A

37+00 TO 38+00 -L- MEDIAN
69+50 TO 71+50 -L- MEDIAN
78+00 TO 85+50 -L- MEDIAN

EROSION CONTROL MEASURES MAY BE CHANGED
IN FIELD AS DIRECTED BY THE ENGINEER

SIGNALIZED RCI ON NC 16
AT OLD PLANK ROAD (SR-2006) AND
PLEASANT GROVE ROAD (SR-2008)

SCALE	1"=50'		REVISIONS
DATE	4-2022		
DWG. BY	JCB		
DESIGN BY	TBL		
APPROVED	JDH		



PAVEMENT MARKING SCHEDULE

27+24 -L-
BEGIN (TB)
TIE TO EXISTING
PAVEMENT MARKINGS

27+23 -L-
BEGIN (TB)
TIE TO EXISTING
PAVEMENT MARKINGS

26+67 -L-
BEGIN (TA) (TB)
TIE TO EXISTING
PAVEMENT MARKINGS

28+22 -L-
END (TA) (TB)
TIE TO EXISTING
PAVEMENT MARKINGS

32+97 -L-
BEGIN (TB) (TD)
TIE TO EXISTING
PAVEMENT MARKINGS

34+97 -L-
END (TD)
BEGIN (TE)

36+42 -L-
END (TE)
BEGIN (TN)

37+42 -L-
END (TN)

37+97 -L-

39+70 -L-
TIE TO EXISTING
PAVEMENT MARKINGS

39+50 -L-
TIE TO EXISTING
PAVEMENT MARKINGS

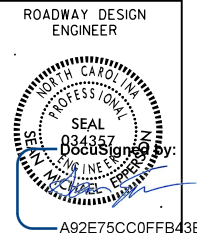
16+02 -Y-
TIE TO EXISTING
PAVEMENT MARKINGS

- THERMOPLASTIC MARKING LINES**
- | | |
|---|--|
| TA - WHITE EDGELINE (4',.90 MIL) | TU - WHITE DIAGONAL (12',.90 MIL) |
| TB - YELLOW EDGELINE (4',.90 MIL) | TV - YELLOW DIAGONAL (12',.90 MIL) |
| TC - 10FT. WHITE SKIP (4',.90 MIL) | TI - WHITE LINE, RR X (16',.90 MIL) |
| TD - 3FT.-9FT./SP WHITE MINISKIP (4',.90 MIL) | T2 - WHITE STOPBAR (24',.90 MIL) |
| TE - WHITE SOLID LANE LINE (4',.90 MIL) | T3 - WHITE CROSSWALK LINE (24',.90 MIL) |
| TF - 10FT. YELLOW SKIP (4',.90 MIL) | T4 - WHITE RUMBLE STRIP (4",.240 MIL) |
| TH - YELLOW SINGLE CENTER (4',.90 MIL) | T5 - YELLOW RUMBLE STRIP (4",.240 MIL) |
| TI - YELLOW DOUBLE CENTER (4',.90 MIL) | T6 - WHITE EDGELINE (6',.90 MIL) |
| TJ - 10FT. WHITE SKIP (6',.90 MIL) | T7 - YELLOW EDGELINE (6',.90 MIL) |
| TK - 3FT.-9FT./SP WHITE MINISKIP (6',.90 MIL) | T8 - 2FT.-6FT./SP WHITE MINISKIP (4',.90 MIL) |
| TL - WHITE SOLID LANE LINE (6',.90 MIL) | T9 - 2FT.-6FT./SP YELLOW MINISKIP (4',.90 MIL) |
| TM - 10FT. YELLOW SKIP (6',.90 MIL) | T10 - 3FT.-3FT./SP WHITE MINISKIP (12',.90 MIL) |
| TN - WHITE GORELINE (8',.90 MIL) | T11 - 2FT.-6FT./SP WHITE MINISKIP (6',.90 MIL) |
| TO - WHITE DIAGONAL (8',.90 MIL) | T12 - 2FT.-6FT./SP YELLOW MINISKIP (6',.90 MIL) |
| TP - YELLOW DIAGONAL (8',.90 MIL) | T13 - 3FT.-9FT./SP WHITE MINISKIP (8',.90 MIL) |
| TQ - WHITE CROSSWALK LINE (8',.90 MIL) | T14 - 3FT.-9FT./SP WHITE MINISKIP (12',.90 MIL) |
| TR - WHITE SOLID LANE LINE (8',.90 MIL) | T15 - YELLOW SINGLE CENTER (6',.90 MIL) |
| TS - WHITE GORELINE (12',.90 MIL) | T16 - YELLOW DOUBLE CENTER (6',.90 MIL) |
| TT - WHITE SOLID LANE LINE (12',.90 MIL) | T17 - 3FT.-3FT./SP WHITE MINISKIP ENTRANCE LINE (8',.90 MIL) |

- THERMOPLASTIC MARKING SYMBOLS**
- | | |
|--|--|
| UA - LEFT TURN ARROW (90 MIL) | UU - FISH-HOOK STRAIGHT ARROW (90 MIL) |
| UB - RIGHT TURN ARROW (90 MIL) | UV - FISH-HOOK LEFT/STRAIGHT ARROW (90 MIL) |
| UC - STRAIGHT ARROW (90 MIL) | UW - FISH-HOOK RIGHT/STRAIGHT ARROW (90 MIL) |
| UD - COMBO. LEFT/STRAIGHT ARROW (90 MIL) | UX - FISH-HOOK LEFT/RIGHT ARROW (90 MIL) |
| UE - COMBO. RIGHT/STRAIGHT ARROW (90 MIL) | UY - FISH-HOOK LEFT/RIGHT/STRAIGHT ARROW (90 MIL) |
| UF - COMBO. LEFT/RIGHT ARROW (90 MIL) | UZ - FISH-HOOK W/CIRCLE STRAIGHT ARROW (90 MIL) |
| UG - COMBO. LEFT/RIGHT/STRAIGHT ARROW (90 MIL) | |
| UH - HANDICAP PARKING (90 MIL) | YA - FISH-HOOK W/CIRCLE LEFT ARROW (90 MIL) |
| UI - ALPHANUMERIC CHAR. (90 MIL) | YB - FISH-HOOK W/CIRCLE LEFT/STRAIGHT ARROW (90 MIL) |
| UJ - BICYCLE SYMBOL (90 MIL) | YC - FISH-HOOK W/CIRCLE LEFT/RIGHT/STRAIGHT ARROW (90 MIL) |
| UK - BICYCLE STRAIGHT ARROW (90 MIL) | YD - COMBO. LEFT/U-TURN ARROW (90 MIL) |
| UL - BICYCLE CHAR. (90 MIL) | MA - PERMANENT RAISED MARKER (YELLOW & YELLOW) |
| UM - 12" YIELD LINE TRIANGLE (90 MIL) | MB - PERMANENT RAISED MARKER (CRYSTAL & RED) |
| UN - 24" YIELD LINE TRIANGLE (90 MIL) | MC - PERMANENT RAISED MARKER (YELLOW & RED) |
| UO - BICYCLE LEFT ARROW (90 MIL) | MD - PERMANENT RAISED MARKER (YELLOW) |
| UP - MERGE ARROW (90 MIL) | ME - SNOWFLOWABLE MARKER (YELLOW & YELLOW) |
| UQ - RAMP ARROW SYMBOL (90 MIL) | MF - SNOWFLOWABLE MARKER (CRYSTAL & RED) |
| UR - SHARROW (90 MIL) | MG - SNOWFLOWABLE MARKER (YELLOW & RED) |
| US - BICYCLE LOOP DETECTOR (90 MIL) | ML - PERMANENT RAISED MARKER (CRYSTAL & CRYSTAL) |
| UT - U-TURN ARROW (90 MIL) | MO - SNOWFLOWABLE MARKER (CRYSTAL & CRYSTAL) |

SIGNALIZED RCI ON NC 16
AT OLD PLANK RD. (SR-2006) AND
PLEASANT GROVE RD. (SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		



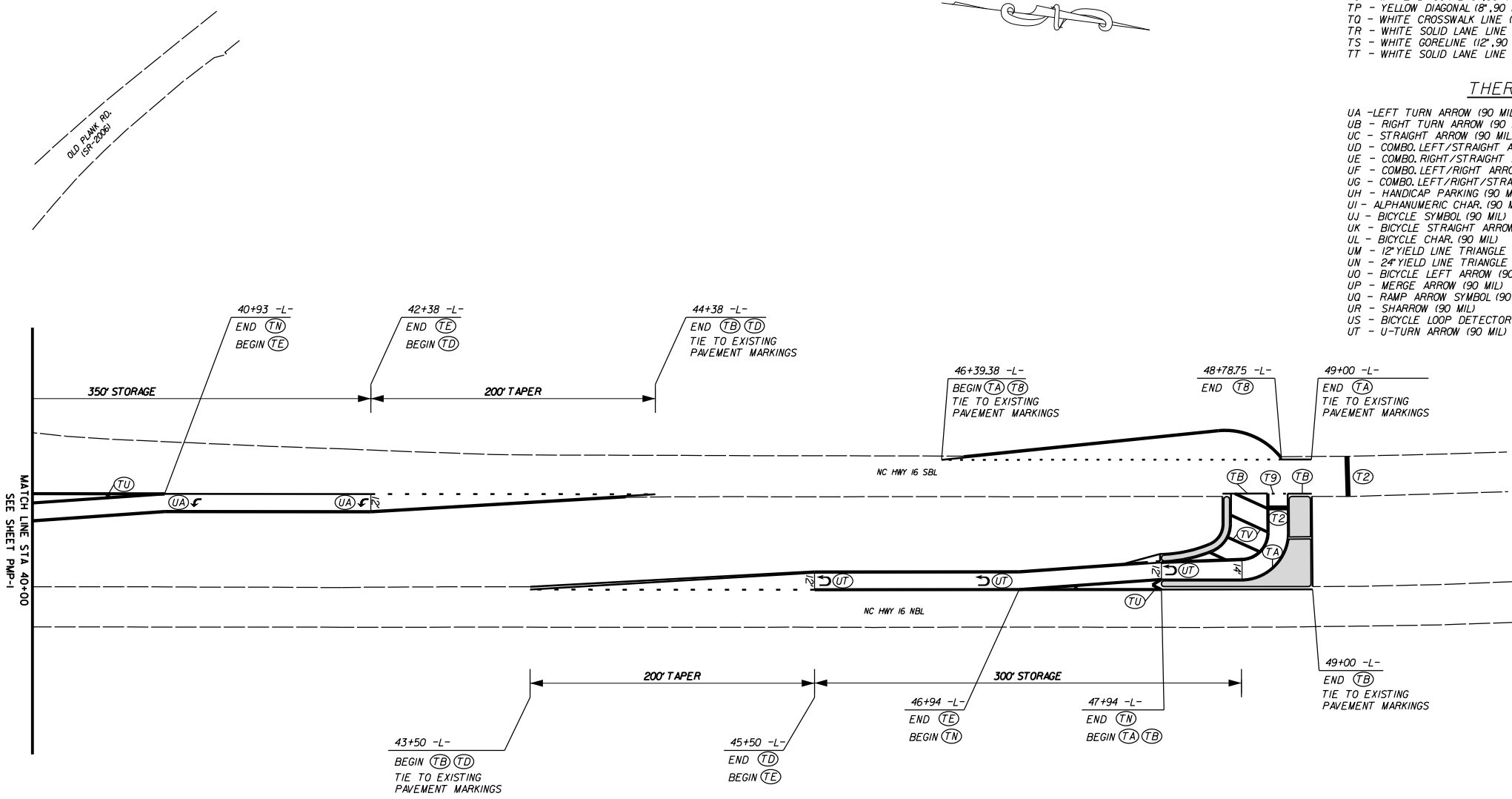
PAVEMENT MARKING SCHEDULE

THERMOPLASTIC MARKING LINES

- | | |
|---|--|
| TA - WHITE EDGELINE (4".90 MIL) | TU - WHITE DIAGONAL (12".90 MIL) |
| TB - YELLOW EDGELINE (4".90 MIL) | TV - YELLOW DIAGONAL (12".90 MIL) |
| TC - 10FT. WHITE SKIP (4".90 MIL) | TI - WHITE LINE, RR X (16".90 MIL) |
| TD - 3FT.-9FT./SP WHITE MINISKIP (4".90 MIL) | T2 - WHITE STOPBAR (24".90 MIL) |
| TE - WHITE SOLID LANE LINE (4".90 MIL) | T3 - WHITE CROSSWALK LINE (24".90 MIL) |
| TF - 10FT. YELLOW SKIP (4".90 MIL) | T4 - WHITE RUMBLE STRIP (4".240 MIL) |
| TH - YELLOW SINGLE CENTER (4".90 MIL) | T5 - YELLOW RUMBLE STRIP (4".240 MIL) |
| TI - YELLOW DOUBLE CENTER (4".90 MIL) | T6 - WHITE EDGELINE (16".90 MIL) |
| TJ - 10FT. WHITE SKIP (16".90 MIL) | T7 - YELLOW EDGELINE (16".90 MIL) |
| TK - 3FT.-9FT./SP WHITE MINISKIP (16".90 MIL) | T8 - 2FT.-6FT./SP WHITE MINISKIP (4".90 MIL) |
| TL - WHITE SOLID LANE LINE (16".90 MIL) | T9 - 2FT.-6FT./SP YELLOW MINISKIP (4".90 MIL) |
| TM - 10FT. YELLOW SKIP (16".90 MIL) | T10 - 3FT.-3FT./SP WHITE MINISKIP (12".90 MIL) |
| TN - WHITE GORELINE (8".90 MIL) | T11 - 2FT.-6FT./SP WHITE MINISKIP (16".90 MIL) |
| TO - WHITE DIAGONAL (8".90 MIL) | T12 - 2FT.-6FT./SP YELLOW MINISKIP (16".90 MIL) |
| TP - YELLOW DIAGONAL (8".90 MIL) | T13 - 3FT.-9FT./SP WHITE MINISKIP (18".90 MIL) |
| TQ - WHITE CROSSWALK LINE (8".90 MIL) | T14 - 3FT.-9FT./SP WHITE MINISKIP (12".90 MIL) |
| TR - WHITE SOLID LANE LINE (18".90 MIL) | T15 - YELLOW SINGLE CENTER (16".90 MIL) |
| TS - WHITE GORELINE (12".90 MIL) | T16 - YELLOW DOUBLE CENTER (16".90 MIL) |
| TT - WHITE SOLID LANE LINE (12".90 MIL) | T17 - 3FT.-3FT./SP WHITE MINISKIP ENTRANCE LINE (18".90 MIL) |

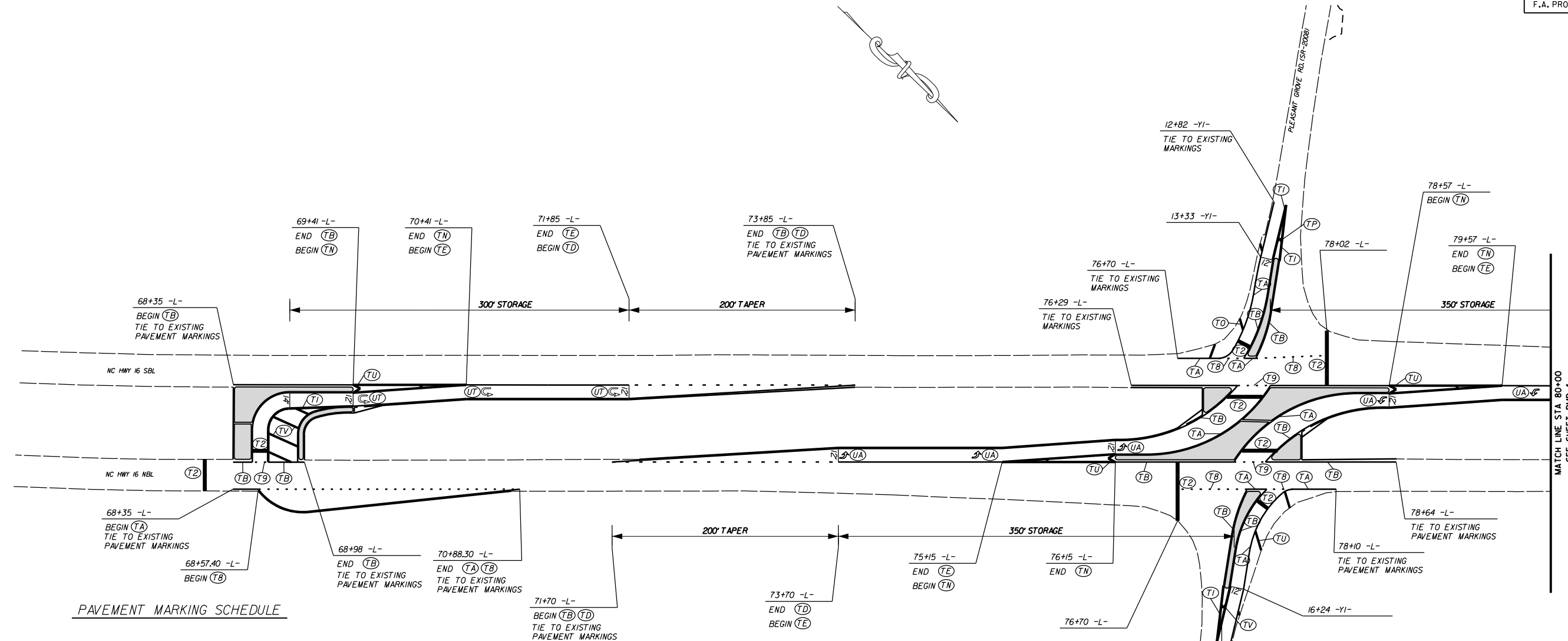
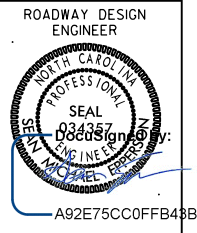
THERMOPLASTIC MARKING SYMBOLS

- | | |
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| UA - LEFT TURN ARROW (90 MIL) | UU - FISH-HOOK STRAIGHT ARROW (90 MIL) |
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| UD - COMBO. LEFT/STRAIGHT ARROW (90 MIL) | UX - FISH-HOOK LEFT/RIGHT ARROW (90 MIL) |
| UE - COMBO. RIGHT/STRAIGHT ARROW (90 MIL) | UY - FISH-HOOK LEFT/RIGHT/STRAIGHT ARROW (90 MIL) |
| UF - COMBO. LEFT/RIGHT ARROW (90 MIL) | UZ - FISH-HOOK W/CIRCLE STRAIGHT ARROW (90 MIL) |
| UG - COMBO. LEFT/RIGHT/STRAIGHT ARROW (90 MIL) | YA - FISH-HOOK W/CIRCLE LEFT ARROW (90 MIL) |
| UH - HANDICAP PARKING (90 MIL) | YB - FISH-HOOK W/CIRCLE LEFT/STRAIGHT ARROW (90 MIL) |
| UI - ALPHANUMERIC CHAR. (90 MIL) | YC - FISH-HOOK W/CIRCLE LEFT/RIGHT/STRAIGHT ARROW (90 MIL) |
| UJ - BICYCLE SYMBOL (90 MIL) | YD - COMBO. LEFT/U-TURN ARROW (90 MIL) |
| UK - BICYCLE STRAIGHT ARROW (90 MIL) | MA - PERMANENT RAISED MARKER (YELLOW & YELLOW) |
| UL - BICYCLE CHAR. (90 MIL) | MB - PERMANENT RAISED MARKER (CRYSTAL & RED) |
| UM - 12" YIELD LINE TRIANGLE (90 MIL) | MC - PERMANENT RAISED MARKER (YELLOW & RED) |
| UN - 24" YIELD LINE TRIANGLE (90 MIL) | MD - PERMANENT RAISED MARKER (YELLOW) |
| UO - BICYCLE LEFT ARROW (90 MIL) | ME - SNOWPLOWABLE MARKER (YELLOW & YELLOW) |
| UP - MERGE ARROW (90 MIL) | MF - SNOWPLOWABLE MARKER (CRYSTAL & RED) |
| UQ - RAMP ARROW SYMBOL (90 MIL) | MG - SNOWPLOWABLE MARKER (YELLOW & RED) |
| UR - SHARROW (90 MIL) | ML - PERMANENT RAISED MARKER (CRYSTAL & CRYSTAL) |
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SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		



PAVEMENT MARKING SCHEDULE

THERMOPLASTIC MARKING LINES

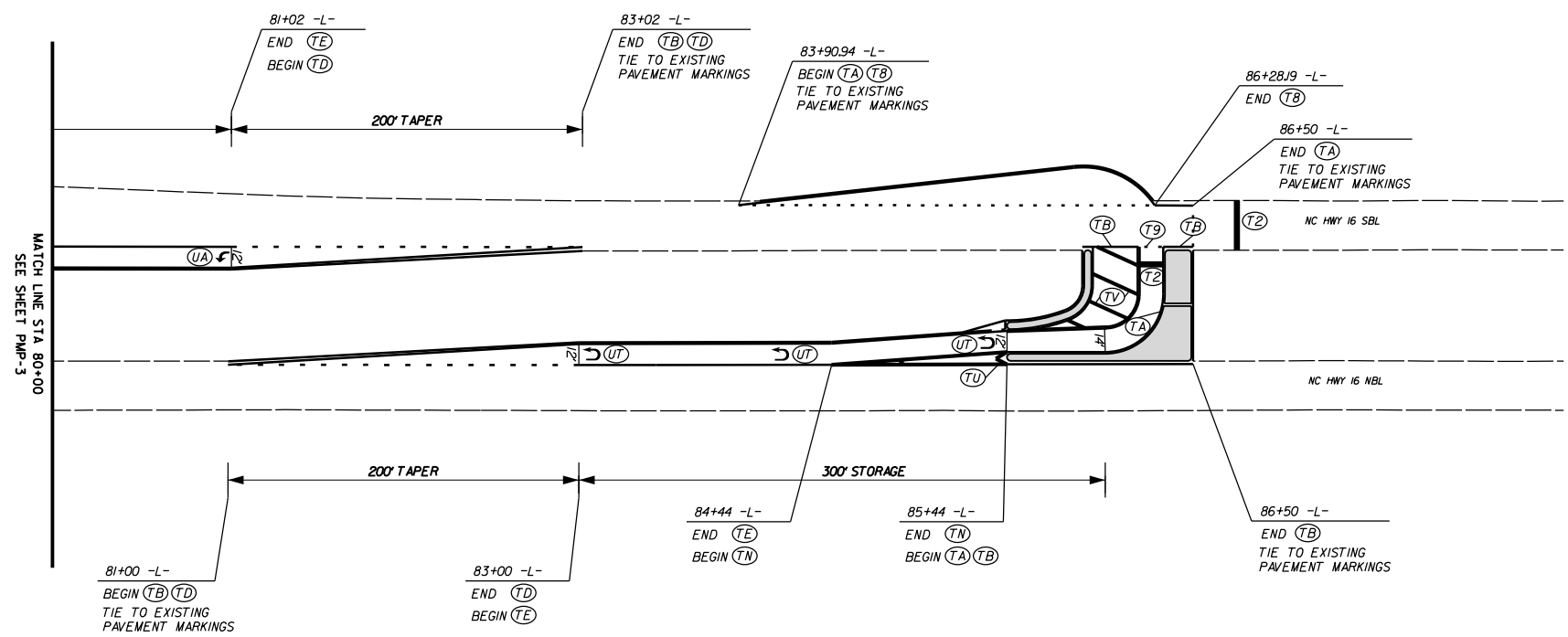
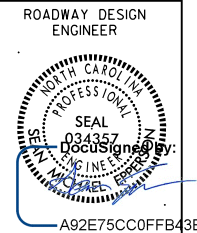
- | | |
|---|---|
| TA - WHITE EDGELINE (4',.90 MIL) | TU - WHITE DIAGONAL (12',.90 MIL) |
| TB - YELLOW EDGELINE (4',.90 MIL) | TV - YELLOW DIAGONAL (12',.90 MIL) |
| TC - 10FT. WHITE SKIP (4',.90 MIL) | TI - WHITE LINE, RR X (16',.90 MIL) |
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| TJ - YELLOW DOUBLE CENTER (4',.90 MIL) | T6 - WHITE EDGELINE (16',.90 MIL) |
| TK - 10FT. WHITE SKIP (16',.90 MIL) | T7 - YELLOW EDGELINE (16',.90 MIL) |
| TL - WHITE SOLID LANE LINE (16',.90 MIL) | T8 - 2FT.-6FT./SP WHITE MINISKIP (4',.90 MIL) |
| TM - 10FT. YELLOW SKIP (16',.90 MIL) | T9 - 2FT.-6FT./SP YELLOW MINISKIP (4',.90 MIL) |
| TN - WHITE GORELINE (8',.90 MIL) | T10 - 3FT.-3FT./SP WHITE MINISKIP (12',.90 MIL) |
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| TQ - WHITE CROSSWALK LINE (8',.90 MIL) | T13 - 3FT.-9FT./SP WHITE MINISKIP (18',.90 MIL) |
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THERMOPLASTIC MARKING SYMBOLS

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| UA - LEFT TURN ARROW (90 MIL) | UU - FISH-HOOK STRAIGHT ARROW (90 MIL) |
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| UH - HANDICAP PARKING (90 MIL) | YA - FISH-HOOK W/CIRCLE LEFT ARROW (90 MIL) |
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SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		



PAVEMENT MARKING SCHEDULE

THERMOPLASTIC MARKING LINES

- | | |
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| TA - WHITE EDGELINE (4',90 MIL) | TU - WHITE DIAGONAL (12',90 MIL) |
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| TC - 10FT. WHITE SKIP (4',90 MIL) | T1 - WHITE LINE, RR X (16',90 MIL) |
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| UO - BICYCLE LEFT ARROW (90 MIL) | ME - SNOWPLOWABLE MARKER (YELLOW & YELLOW) |
| UP - MERGE ARROW (90 MIL) | MF - SNOWPLOWABLE MARKER (CRYSTAL & RED) |
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SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**SIGNING PLAN
MECKLENBURG COUNTY**
LOCATION: NC 16 AT OLD PLANK RD. (SR-2006) AND
PLEASANT GROVE RD. (SR-2008) RCI

PROJECT REFERENCE NO. W-5710AK	SHEET NO. SIGN-01
APPROVED:  <small>DocuSigned by: Jose G. Martinez 4A7DB418C88461...</small>	
DATE: 06/01/2022	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

T.I.P.: W-5710AK

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
901.50	ARROWS AND SHIELDS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS
910.30	SIGNING SIGNALIZED AND UNSIGNALIZED SUPERSTREET

GENERAL NOTES

- . SIGNS FURNISHED BY STATE
- . CONFIRM IN WRITING AT LEAST 4 MONTHS IN ADVANCE, THE ACTUAL DATE THE DEPARTMENT FURNISHED SIGNS WILL BE REQUIRED.
- . IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- . WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- . ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- . WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- . THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- . SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	1000	L.F.
4102000000	904	SIGN ERECTION, TYPE E	52	EA.
4108000000	904	SIGN ERECTION, TYPE F	15	EA.
4116100000	904	SIGN ERECTION, RELOCATE SIGN TYPE E (GROUND MOUNTED)	2	EA.
4238000000	907	DISPOSAL OF SIGN, D, E OR F	1	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	38	EA.
4192000000	907	DISPOSAL OF SUPPORT, U-CHANNEL	1	EA.

PROJECT NOTES

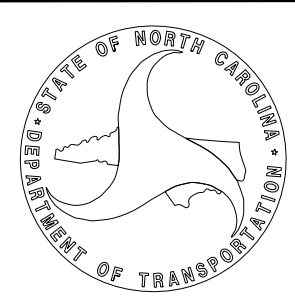
- 1 DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 DISPOSAL OF SIGN, D, E OR F
- 3 RELOCATE SIGN, TYPE E
- 4 DISPOSAL OF SUPPORT, U-CHANNEL



INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	TYPE "E" SIGNS
SIGN-3	TYPE "F" SIGNS
SIGN-4	SIGN DESIGNS
SIGN-5-8	SIGNING PLAN SHEETS

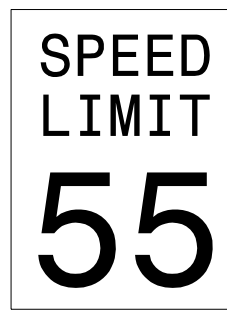
PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

K. L. JORDAN SIGNING & DELINEATION REGIONAL ENGINEER
J. G. MARTINEZ, PE SIGNING & DELINEATION PROJECT DESIGN ENGINEER



PROJECT REFERENCE NO. W-5710AK	SHEET NO. SIGN-02
APPROVED:  4A70B418C88461	
DATE: 05/04/2022	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

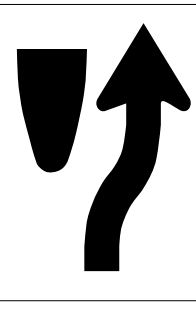
401 QUANTITY REQ'D 1



30" X 36"
R2-1

ONE "U" POSTS PER SIGN

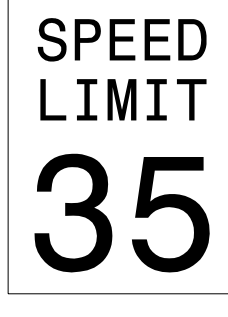
406 QUANTITY REQ'D 2



24" X 30"
R4-7

ONE "U" POST PER SIGN


411 QUANTITY REQ'D 2



24" X 30"
R2-1

ONE "U" POST PER SIGN

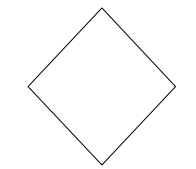
402 QUANTITY REQ'D 4



42" X 30"
R5-1a

ONE "U" POST PER SIGN


407 QUANTITY REQ'D 2



18" X 18"
OM1-3

MOUNT BELOW SIGN 406
IN 2 INSTALLATIONS

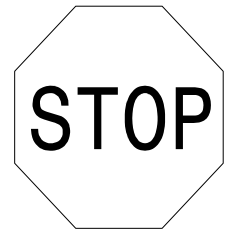
412 QUANTITY REQ'D 1



24" X 24"
R5-2

ONE "U" POST PER SIGN

403 QUANTITY REQ'D 8




36" X 36"
R1-1

MOUNT BELOW SIGN 404
IN 4 INSTALLATIONS

ONE "U" POST PER SIGN


408 QUANTITY REQ'D 8



36" X 36"
R5-1

ONE "U" POST PER SIGN


413 QUANTITY REQ'D 1



24" X 12"
SEE SIGN DESIGN

MOUNT BELOW SIGN 412
IN 1 INSTALLATIONS

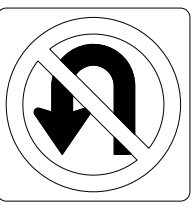
404 QUANTITY REQ'D 4



36" X 12"
R6-1 (R)

ONE "U" POST PER SIGN


409 QUANTITY REQ'D 8



36" X 36"
R3-4

ONE "U" POST PER SIGN

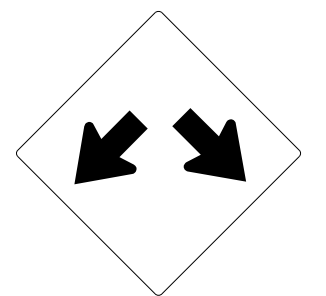
405 QUANTITY REQ'D 4



54" X 18"
R6-1 (L)

TWO "U" POSTS PER SIGN

410 QUANTITY REQ'D 7



36" X 36"
W12-1

ONE "U" POST PER SIGN

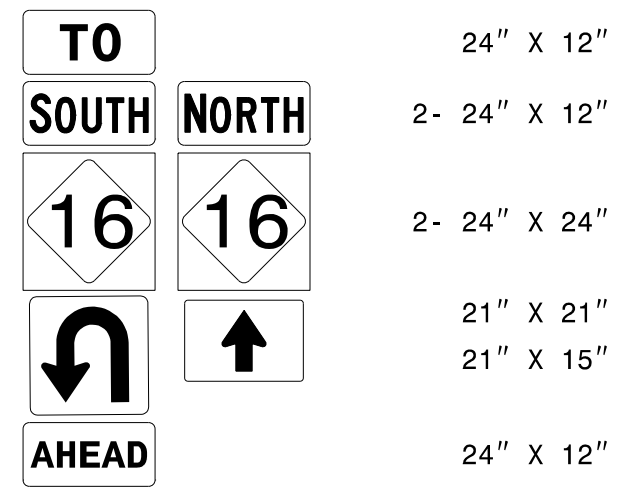
TYPE "E" SIGNS

05/03/22 U:\Projects\2022 Sign Designs\Div 10\W-5710AK\W-5710AK_Signing.dgn



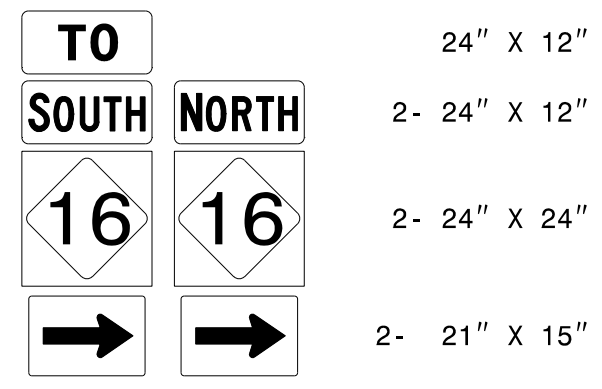
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

501 508



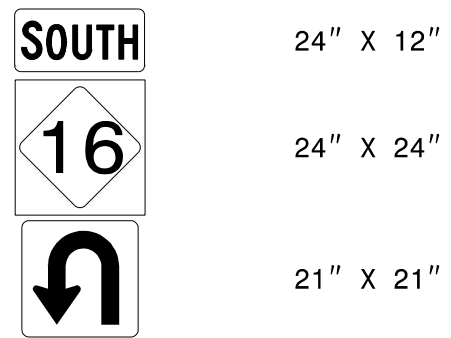
TWO "U" POSTS PER SIGN

506 514



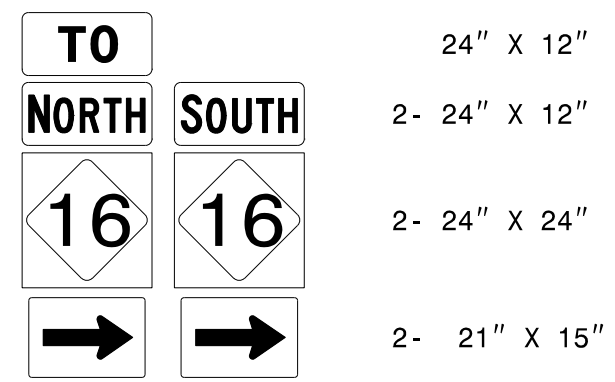
TWO "U" POSTS PER SIGN

502 509



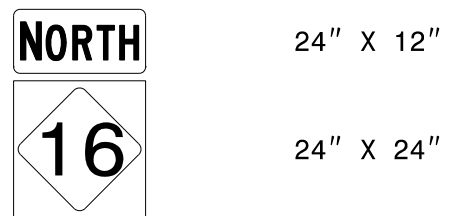
ONE "U" POST PER SIGN

507 515



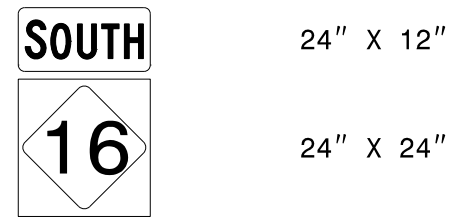
TWO "U" POSTS PER SIGN

503 510



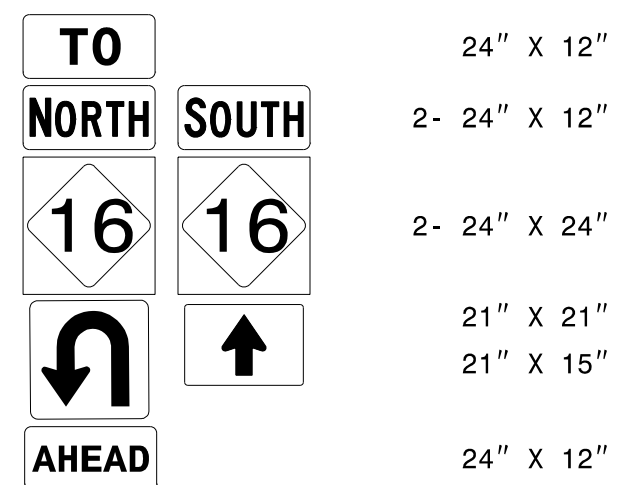
ONE "U" POST PER SIGN

513



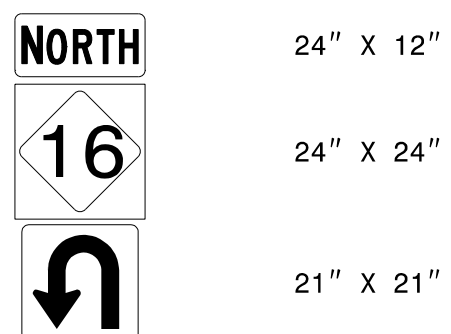
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504 511




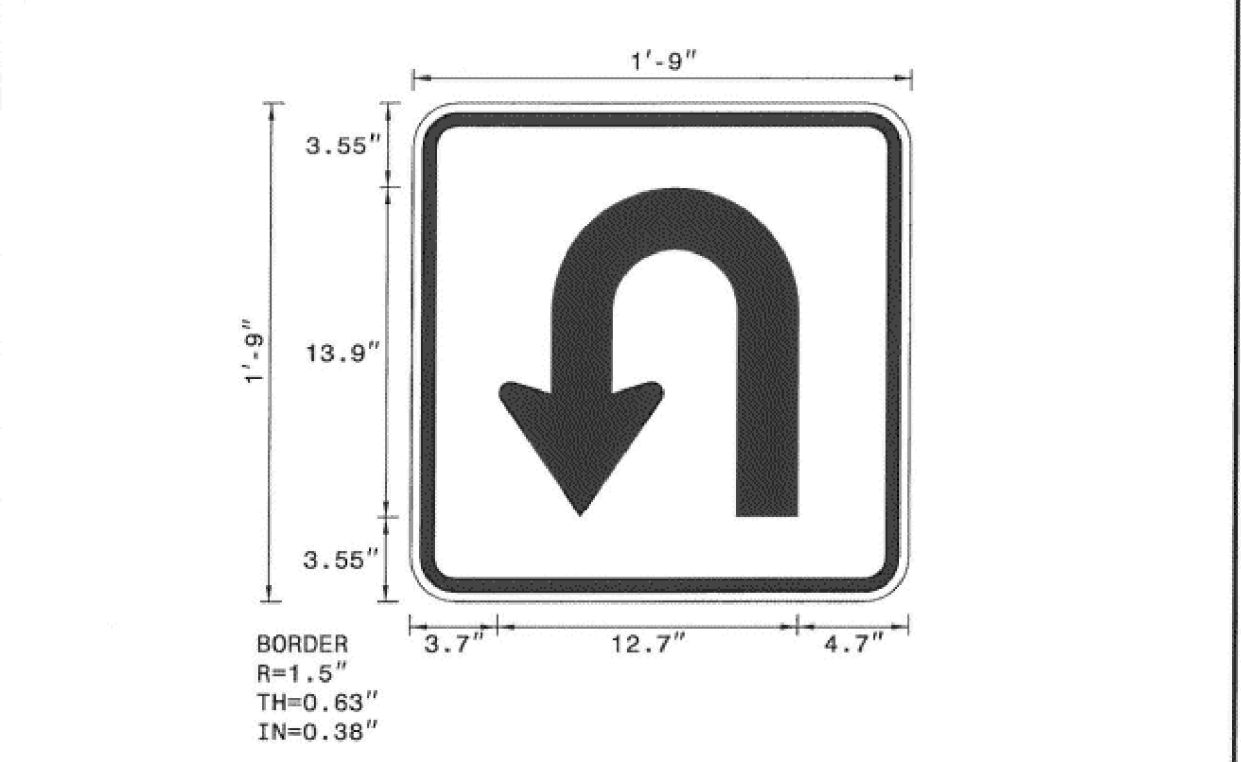
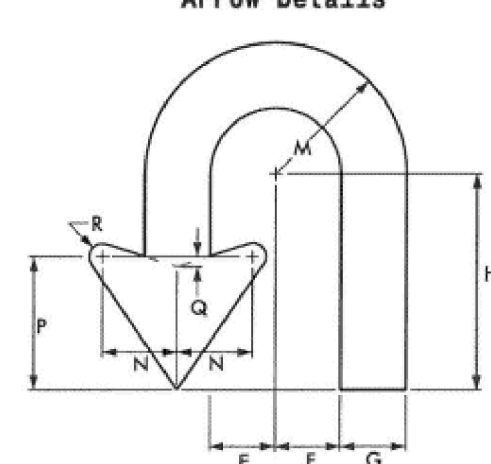
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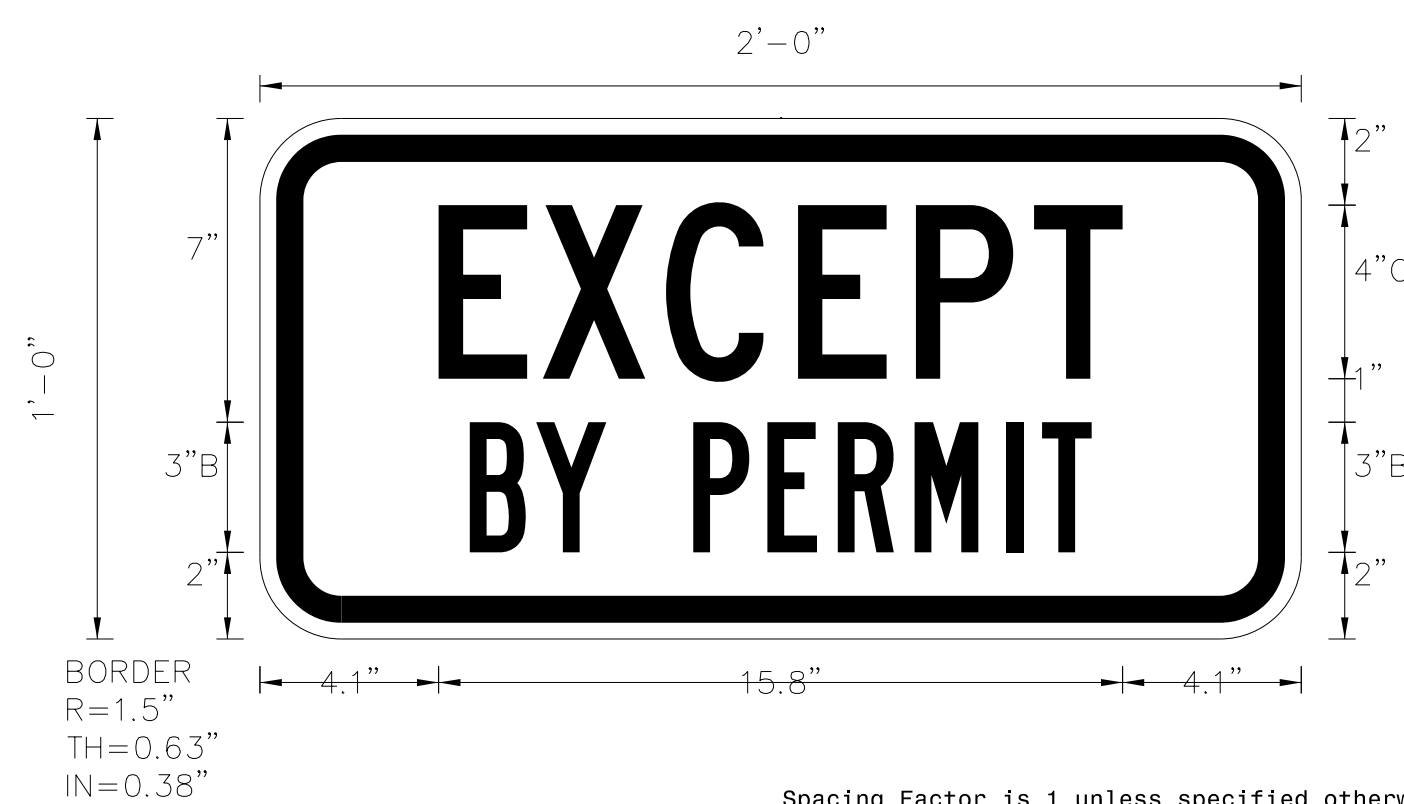
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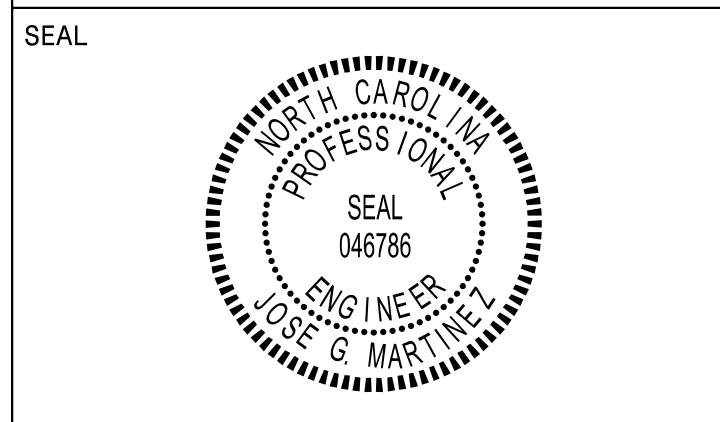
ONE "U" POST PER SIGN

TYPE "F" SIGNS

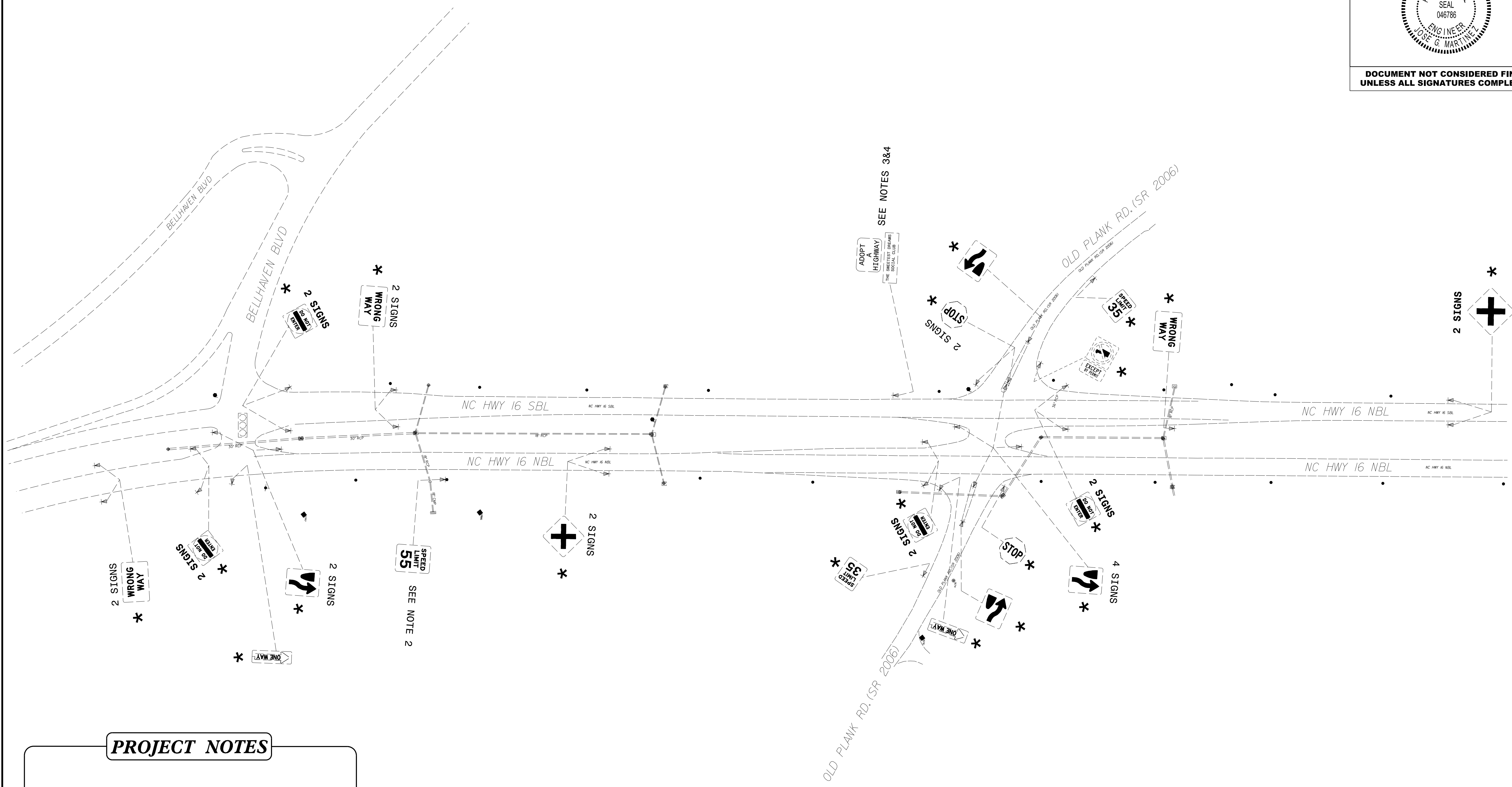
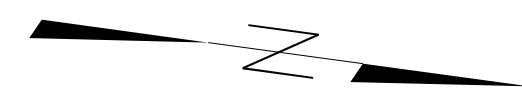
SIGN NUMR: TYPE: F Ground QUANTITY: 1	BACKG. COLOR: White COPY COLOR: Black	DESIGN BY: PROJECT ID:	CHK BY: DIV:	STD #: DATE:																																																								
SIGN WIDTH: 1'-9" HEIGHT: 1'-9" TOTAL AREA: 3.1 Sq.Ft.		MATERIAL: 0.063" ALUMINUM		<table border="1" style="font-size: 8px;"> <thead> <tr> <th>SYMBOL</th> <th>X</th> <th>Y</th> <th>WID</th> <th>HT</th> </tr> </thead> <tbody> <tr> <td>u arrow</td> <td>3.7</td> <td>3.5</td> <td>12.7</td> <td>13.9</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		SYMBOL	X	Y	WID	HT	u arrow	3.7	3.5	12.7	13.9																																													
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BORDER TYPE: RECESSED RECESS: 0.38" WIDTH: 0.63" RADII: 1.5" NO. Z BARS: LENGTH:																																																												
<p>NOTES:</p> <ol style="list-style-type: none"> Legend and border shall be direct applied Non-reflective sheeting. Background shall be Grade C reflective sheeting. 																																																												
<p>Arrow Details</p>  <table border="1" style="margin: 10px auto; font-size: 8px;"> <thead> <tr> <th>ARROW DIMENSIONS (INCHES)</th> <th>F</th> <th>G</th> <th>H</th> <th>M</th> <th>N</th> <th>P</th> <th>Q</th> <th>R</th> </tr> </thead> <tbody> <tr> <td></td> <td>2.625</td> <td>2.625</td> <td>8.659</td> <td>5.25</td> <td>3</td> <td>5.25</td> <td>0.375</td> <td>0.5</td> </tr> </tbody> </table> <p style="font-size: 8px;">Spacing Factor is 1 unless specified otherwise FILENAME: GSENG</p>						ARROW DIMENSIONS (INCHES)	F	G	H	M	N	P	Q	R		2.625	2.625	8.659	5.25	3	5.25	0.375	0.5																																					
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SIGN NUMBER: 413 TYPE: E QUANTITY: 1	BACKG COLOR: White COPY COLOR: Black	DESIGN BY: jgm PROJECT ID: W-5710AK	CHECKED BY: LOCATION:	Apr 28, 2022 DIV: 10																																																																											
SIGN WIDTH: 2'-0" HEIGHT: 1'-0" TOTAL AREA: 2.0 Sq.Ft.		MATERIAL: 0.063" (1.6 mm) ALUMINUM																																																																													
BORDER TYPE: FLUSH RECESS: 0.38" WIDTH: 0.63" RADII: 1.5" NO. Z BARS: LENGTH:																																																																															
<p>USE NOTES: 1,2</p> <ol style="list-style-type: none"> Legend and border(except those that are colored black) shall be direct applied Grade B sheeting. Background shall be Grade C reflective sheeting. Shields; A, B, and C type arrows shall be on 0.032" (0.8mm) aluminum and demountable. Bottom panel shall be yellow Grade C sheeting. Legend shall be direct applied black non-reflective sheeting. Yellow panel is: 		Spacing Factor is 1 unless specified otherwise																																																																													
<p>LETTER POSITIONS</p> <p style="font-size: 8px;">Letter spacings are to start of next letter</p> <table border="1" style="width: 100%; font-size: 8px;"> <thead> <tr> <th></th> <th>E</th> <th>X</th> <th>C</th> <th>E</th> <th>P</th> <th>T</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Series/Size Text Length</th> </tr> </thead> <tbody> <tr> <td></td> <td>4.1</td> <td>2.4</td> <td>2.8</td> <td>3</td> <td>2.7</td> <td>2.7</td> <td>2</td> <td>4.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C 2000 15.8</td> </tr> <tr> <td></td> <td></td> <td>B</td> <td>Y</td> <td></td> <td>P</td> <td>E</td> <td>R</td> <td>M</td> <td>I</td> <td>T</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>B 2000 14.3</td> </tr> <tr> <td></td> <td>4.8</td> <td>1.5</td> <td>1.6</td> <td>2</td> <td>1.7</td> <td>1.6</td> <td>1.8</td> <td>2.1</td> <td>0.8</td> <td>1.1</td> <td>4.8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p style="font-size: 8px;">FILENAME: W-5710AK_Signing_Existing</p>						E	X	C	E	P	T												Series/Size Text Length		4.1	2.4	2.8	3	2.7	2.7	2	4.1										C 2000 15.8			B	Y		P	E	R	M	I	T								B 2000 14.3		4.8	1.5	1.6	2	1.7	1.6	1.8	2.1	0.8	1.1	4.8						
	E	X	C	E	P	T												Series/Size Text Length																																																													
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		B	Y		P	E	R	M	I	T								B 2000 14.3																																																													
	4.8	1.5	1.6	2	1.7	1.6	1.8	2.1	0.8	1.1	4.8																																																																				
NORTH CAROLINA D.O.T. SIGN DETAIL																																																																															

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**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



PROJECT NOTES

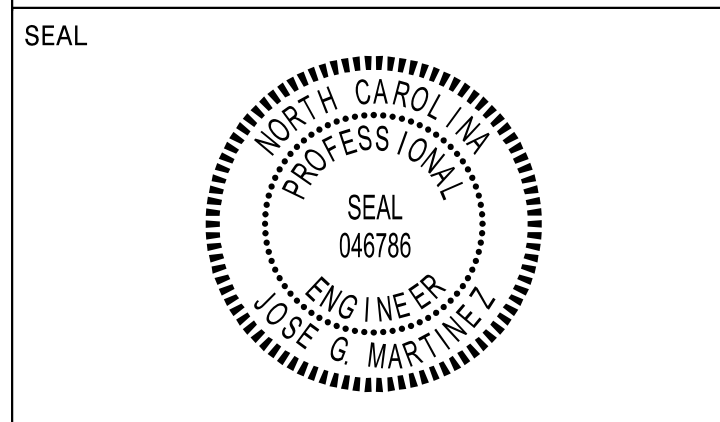
- 1 DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 DISPOSAL OF SIGN, D, E, OR F
- 3 RELOCATE SIGN, TYPE E
- 4 DISPOSAL OF SUPPORT, U-CHANNEL

* SEE NOTE 1

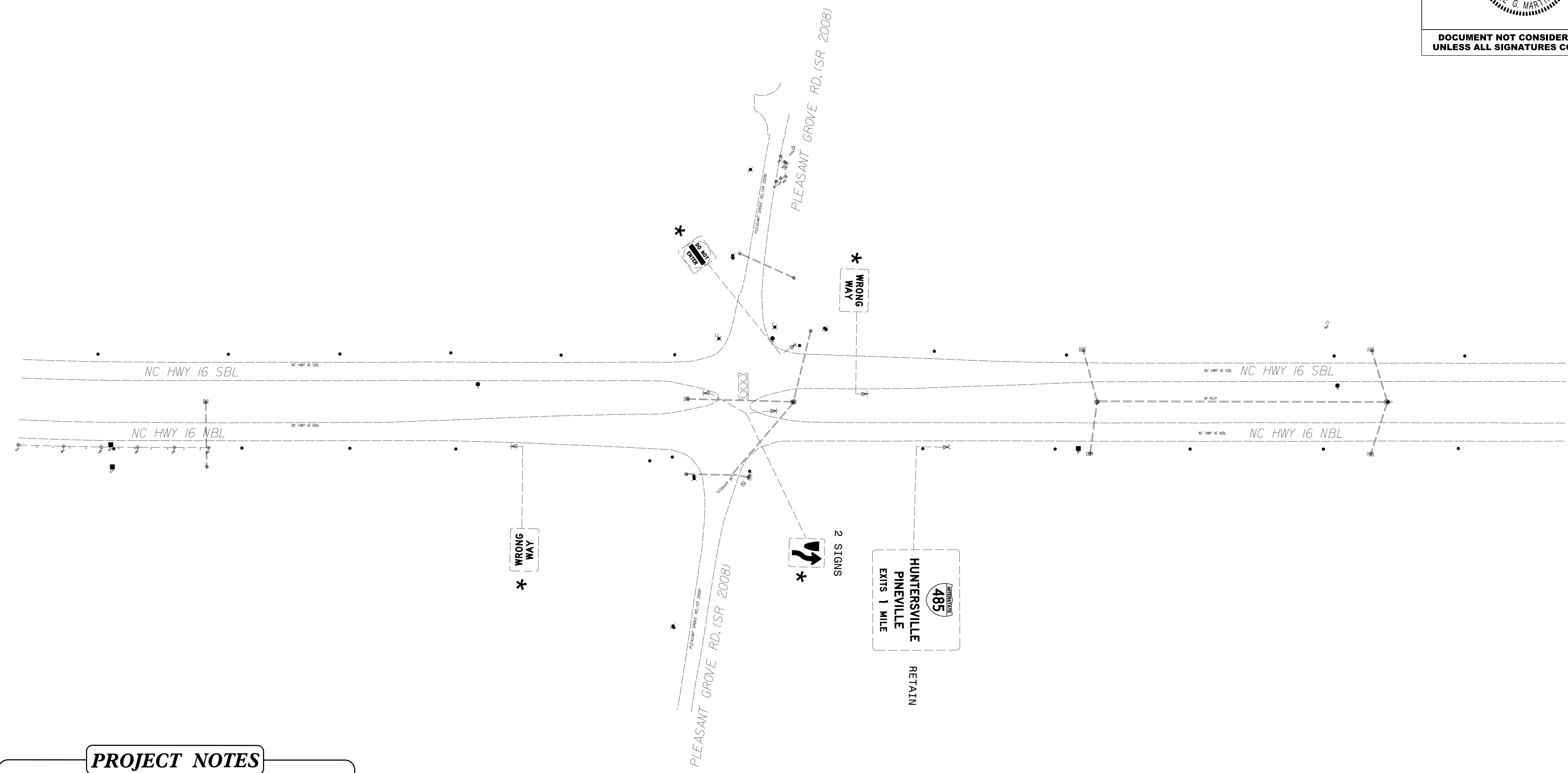
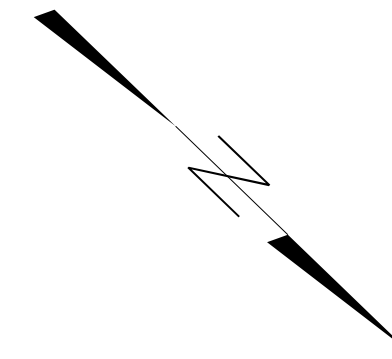
EXISTING SIGNS

04/29/22
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 Jose G. Martinez

APPROVED: *Jose G. Martinez*
4470B418C88461...
 DATE: 05/04/2022



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



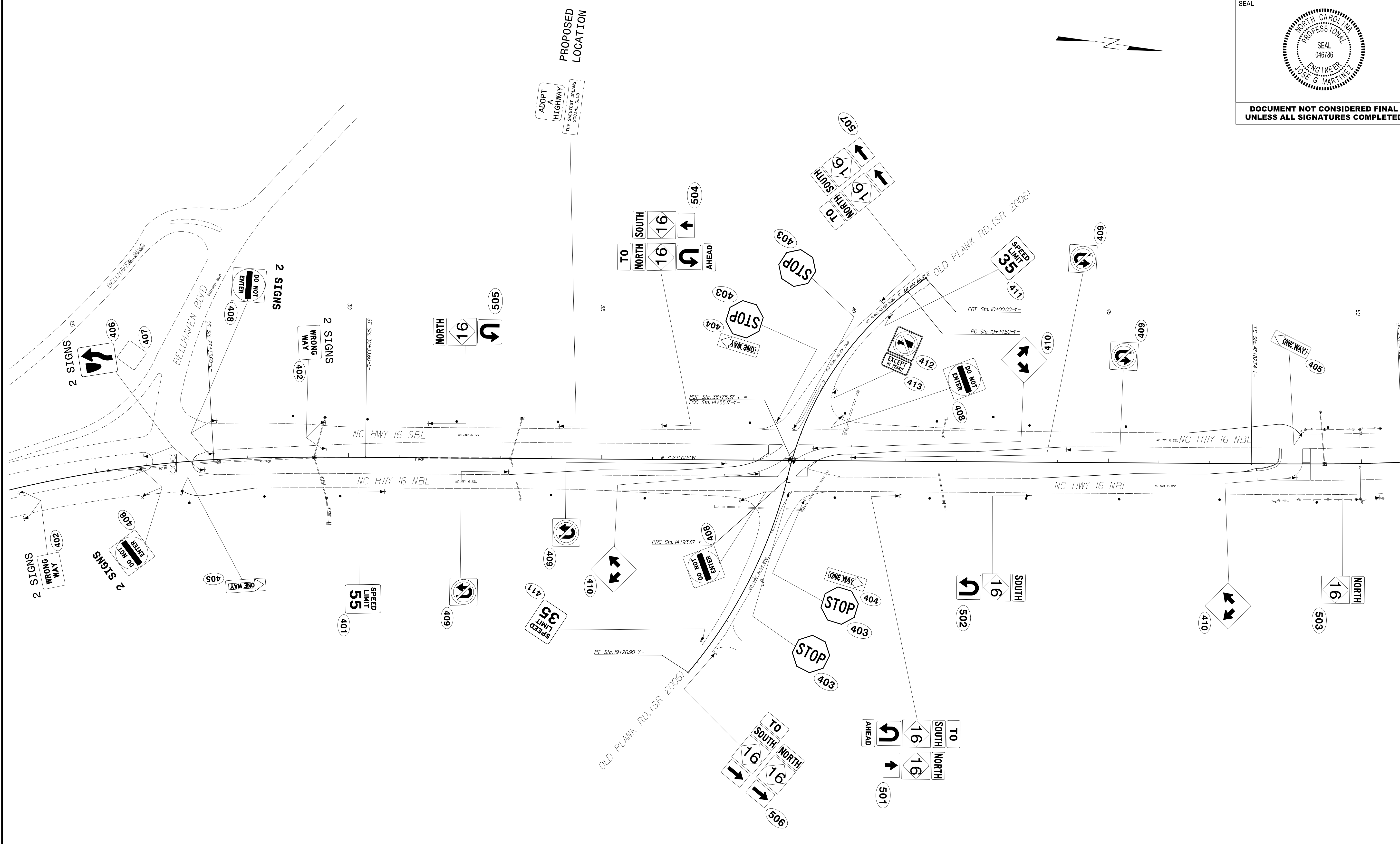
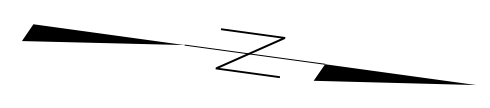
PROJECT NOTES

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* SEE NOTE 1

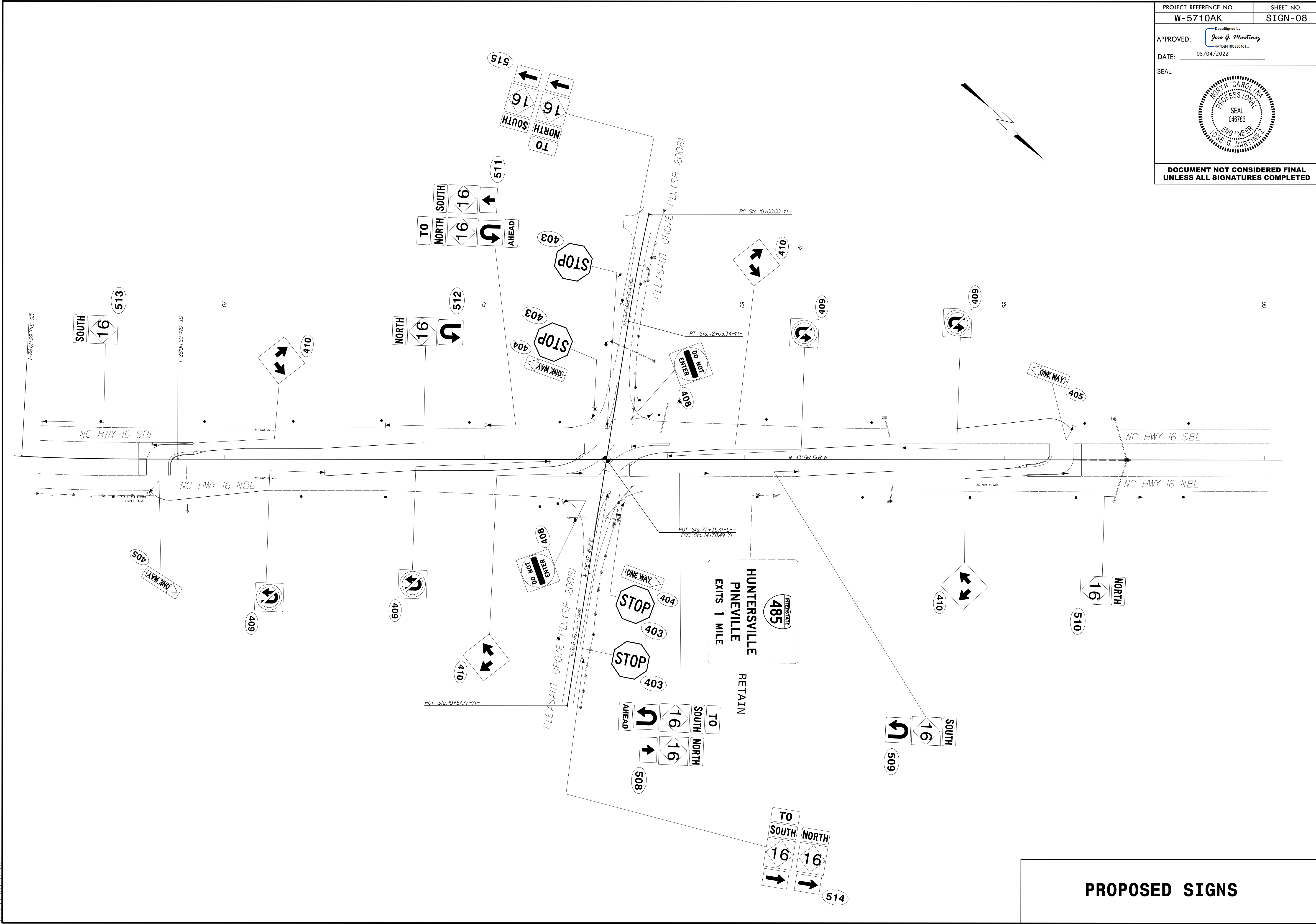
EXISTING SIGNS

04/29/22
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 Jserf.lemartinez



04/29/22
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 Jserf.comartinez

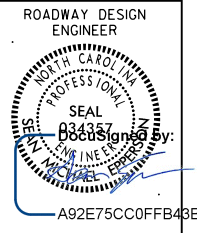
PROPOSED SIGNS



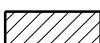
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 User: jmartinez

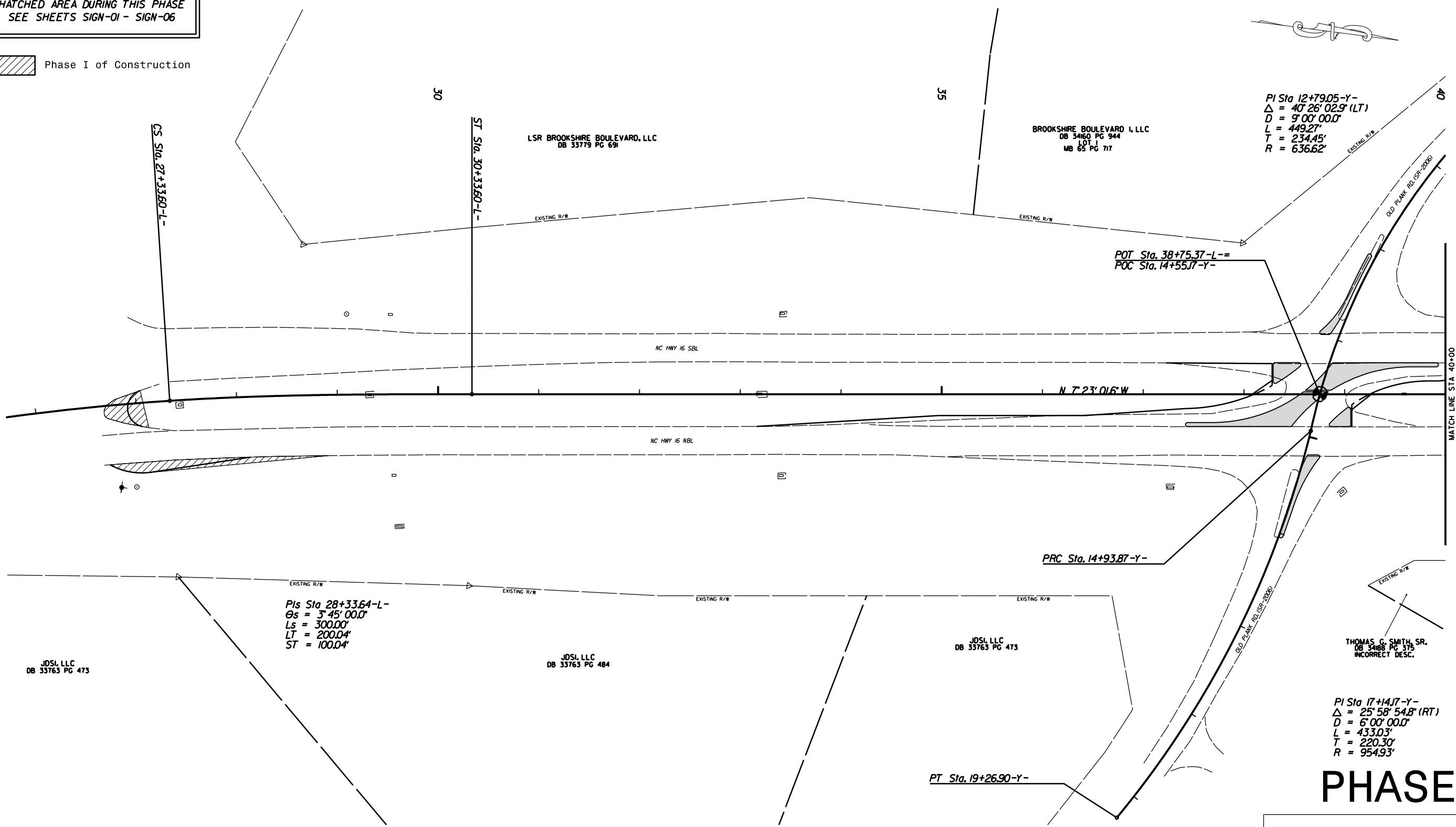
PROPOSED SIGNS

PROJECT NO.	SHEET NO.
44856.3.39	TCP-1
F.A. PROJECT NO. HSIP-00610651	



INSTALL ALL SIGNS PERTAINING TO HATCHED AREA DURING THIS PHASE SEE SHEETS SIGN-01 - SIGN-06

 Phase I of Construction



PHASE I

SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

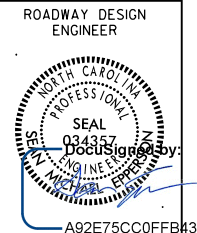
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DATE	3-2022
DWG. BY	TBL
DESIGN BY	TBL
APPROVED	JDH



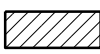
REVISIONS	

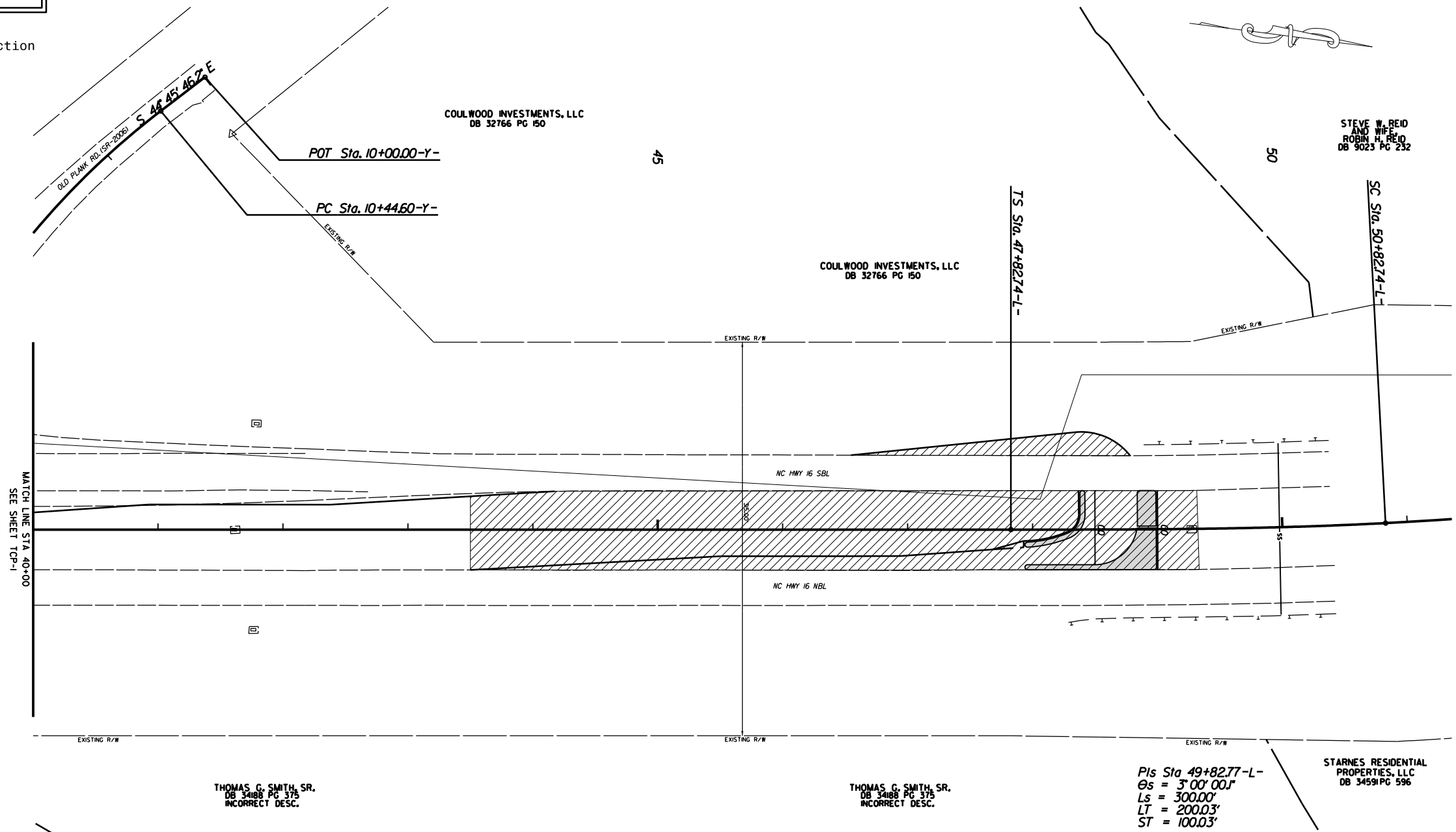
MATCH LINE STA 40+00
SEE SHEET TCP-2

PROJECT NO.	SHEET NO.
44856.3.39	TCP-2
F.A. PROJECT NO. HSIP-00610651	




INSTALL ALL SIGNS PERTAINING TO HATCHED AREA DURING THIS PHASE SEE SHEETS SIGN-01 - SIGN-06

 Phase I of Construction

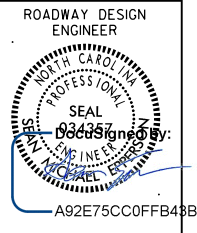


PHASE I

SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

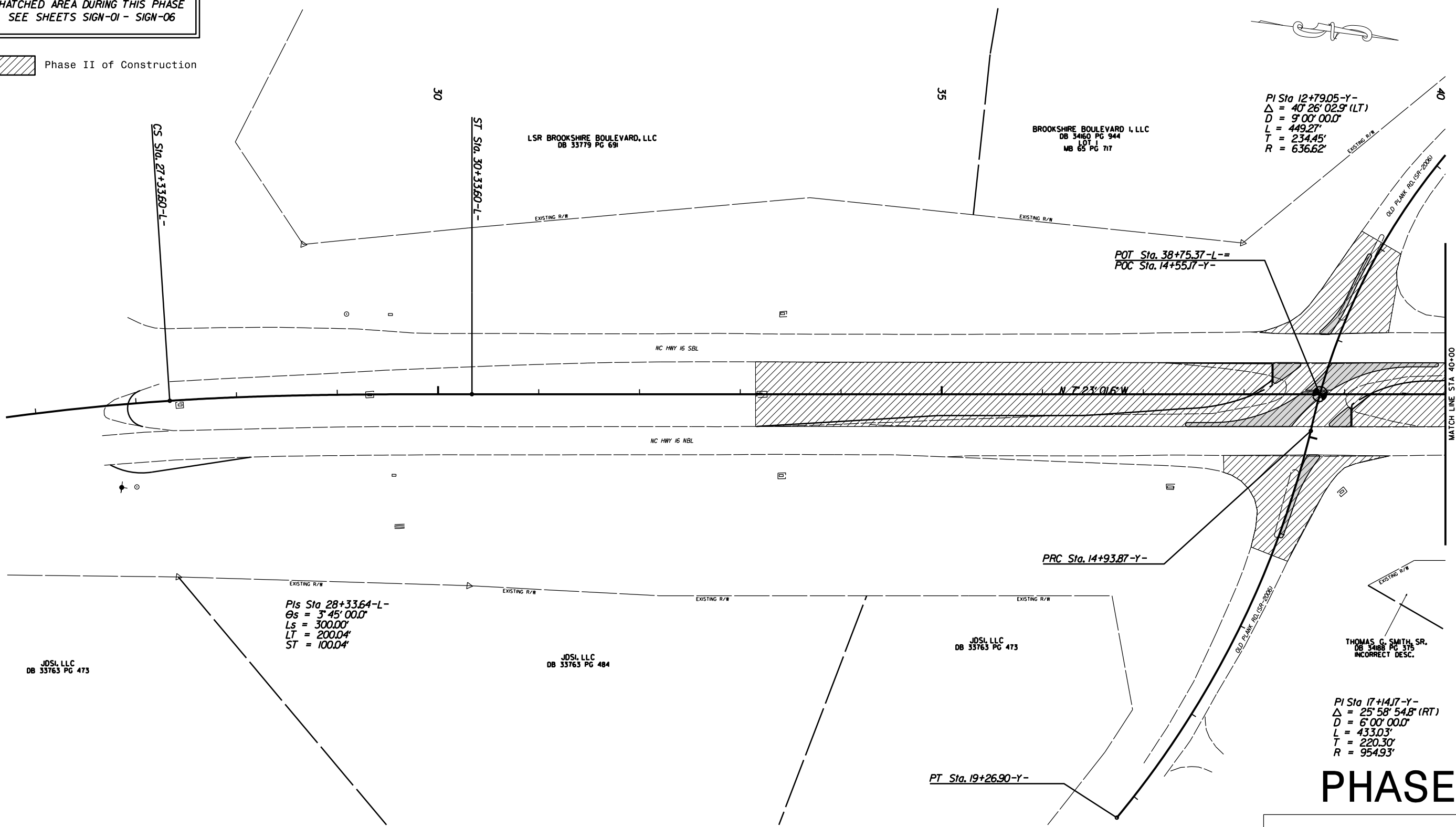
SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		

PROJECT NO.	SHEET NO.
44856.3.39	TCP-3
F.A. PROJECT NO. HSIP-00610651	



INSTALL ALL SIGNS PERTAINING TO HATCHED AREA DURING THIS PHASE SEE SHEETS SIGN-01 - SIGN-06

Phase II of Construction



PHASE II

SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

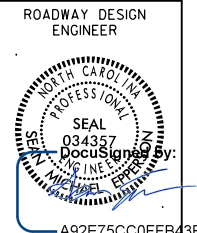
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DATE	3-2022
DWG. BY	TBL
DESIGN BY	TBL
APPROVED	JDH



REVISIONS	

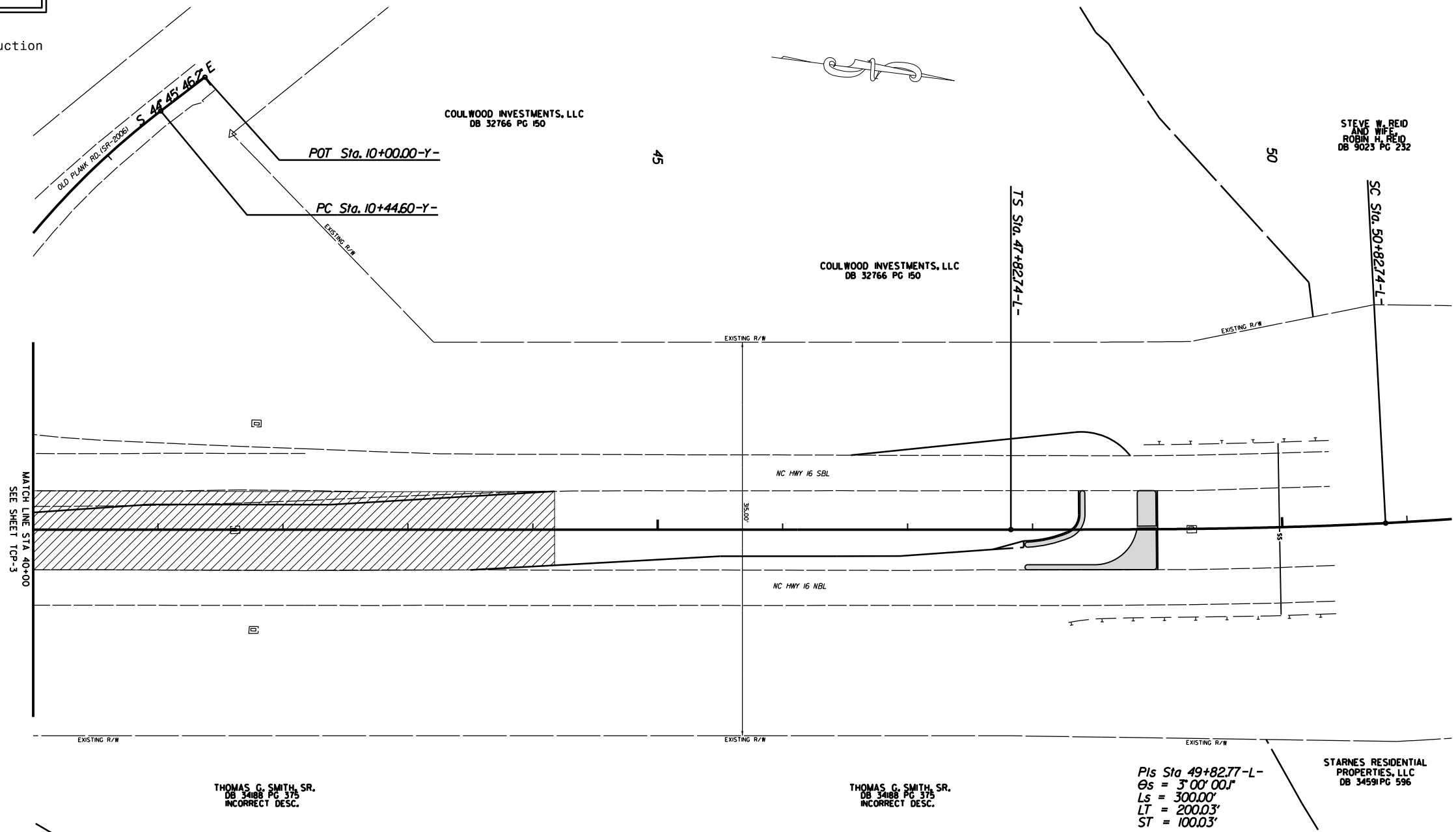
MATCH LINE STA 40+00
SEE SHEET TCP-4

PROJECT NO.	SHEET NO.
44856.3.39	TCP-4
F.A. PROJECT NO. HSIP-00610651	




INSTALL ALL SIGNS PERTAINING TO HATCHED AREA DURING THIS PHASE SEE SHEETS SIGN-01 - SIGN-06

 Phase II of Construction

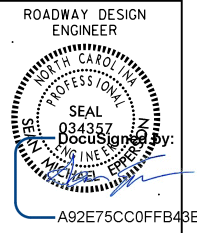


PHASE II

SIGNALIZED RCI ON NC 16 AT OLD PLANK RD.(SR-2006) AND PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		

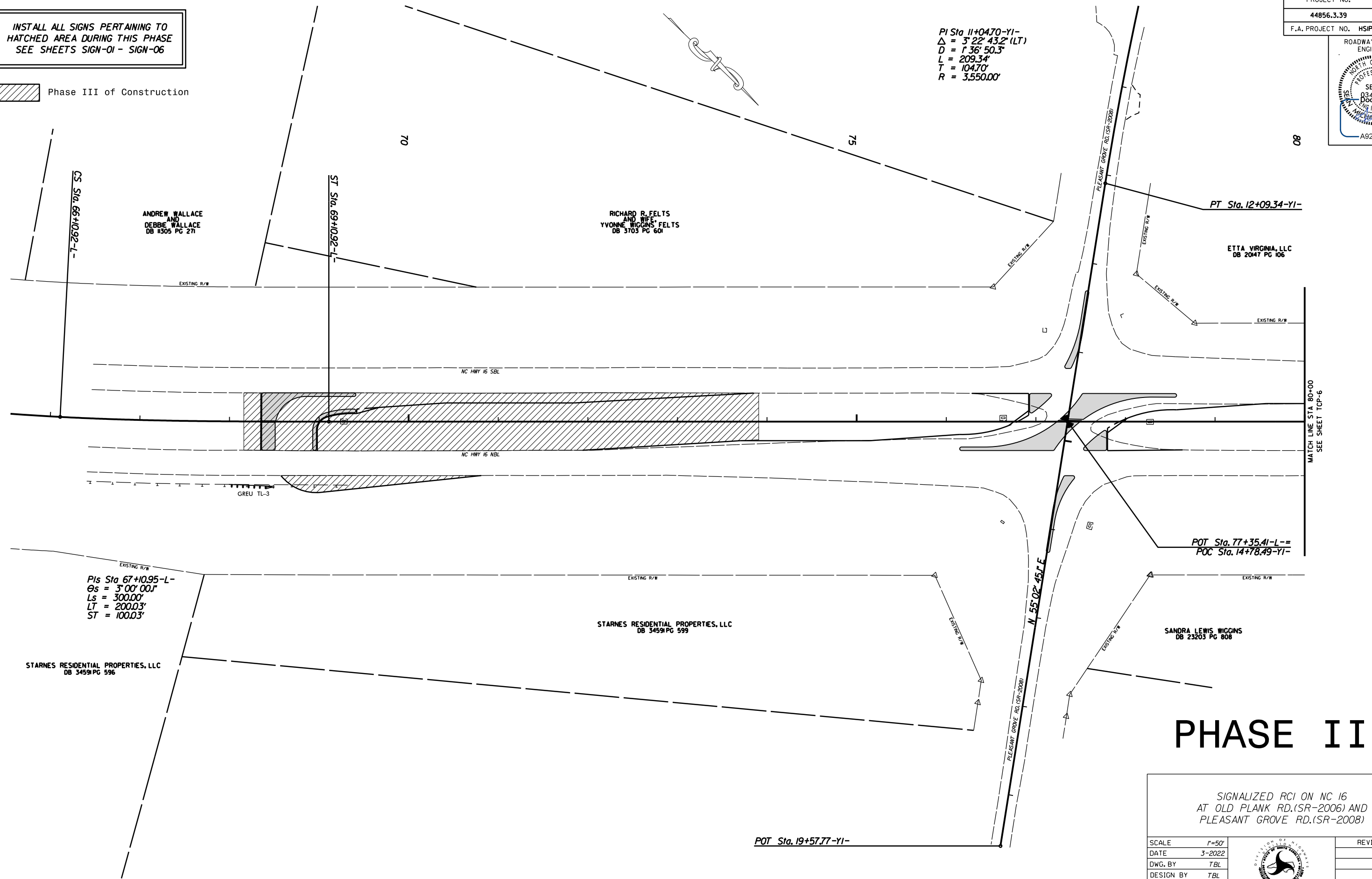
PROJECT NO.	SHEET NO.
44856.3.39	TCP-5
F.A. PROJECT NO. HSIP-00610651	



INSTALL ALL SIGNS PERTAINING TO HATCHED AREA DURING THIS PHASE SEE SHEETS SIGN-01 - SIGN-06

Phase III of Construction

PI Sta 11+04.70-YI-
 $\Delta = 3^\circ 22' 43.2''$ (LT)
 $D = 136' 50.3''$
 $L = 209.34'$
 $T = 104.70'$
 $R = 3550.00'$



PHASE III

SIGNALIZED RCI ON NC 16
 AT OLD PLANK RD.(SR-2006) AND
 PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'
DATE	3-2022
DWG. BY	TBL
DESIGN BY	TBL
APPROVED	JDH

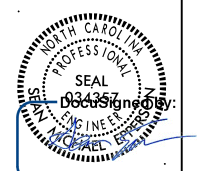


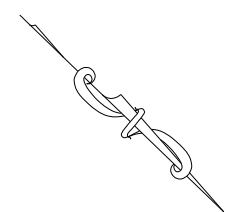
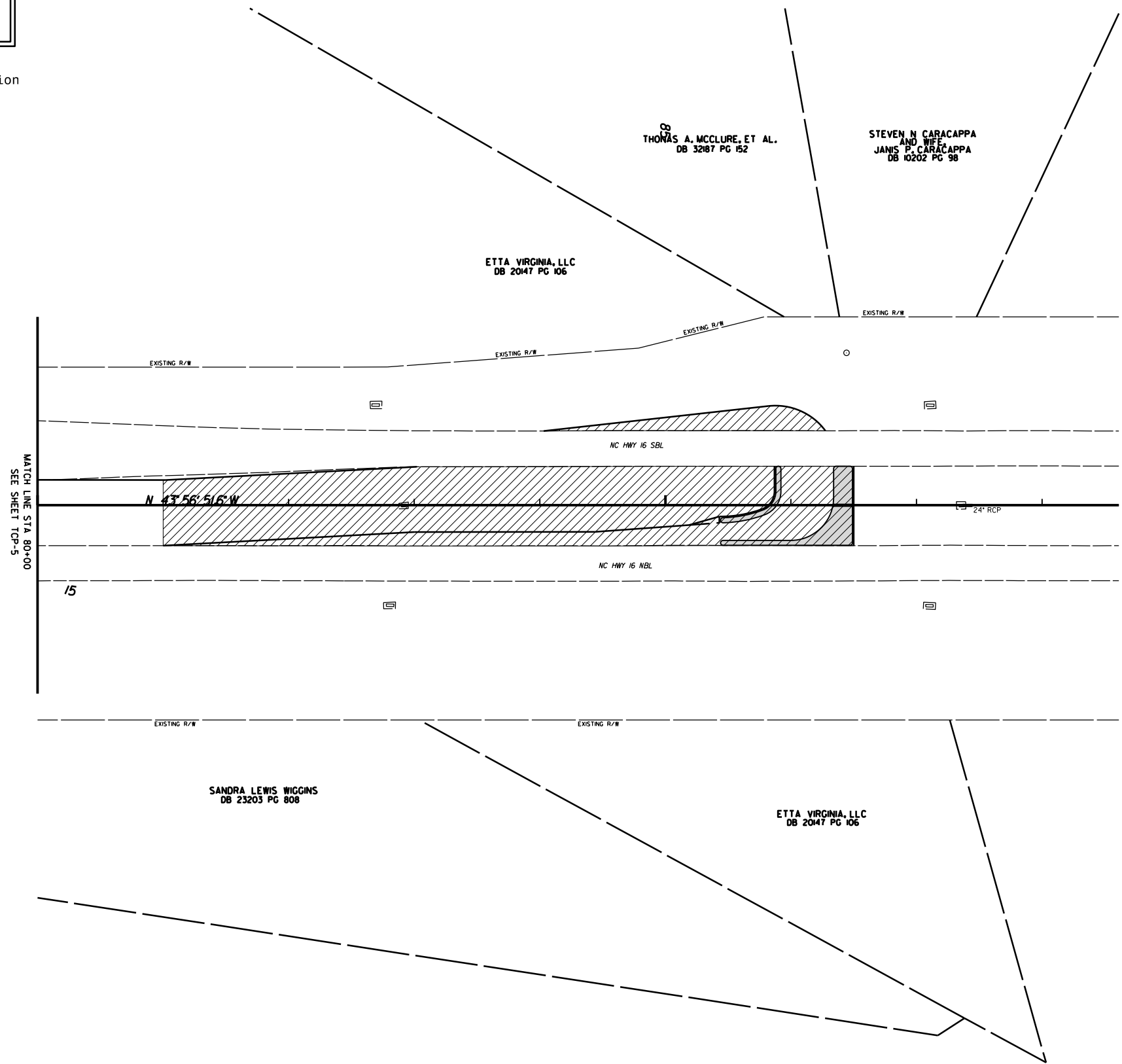
REVISIONS	

MATCH LINE STA 80+00
SEE SHEET TCP-6

INSTALL ALL SIGNS PERTAINING TO
HATCHED AREA DURING THIS PHASE
SEE SHEETS SIGN-01 - SIGN-06


 Phase III of Construction

PROJECT NO.	SHEET NO.
44856.3.39	TCP-6
F.A. PROJECT NO. HSP-00610651	
ROADWAY DESIGN ENGINEER	
	
A92E75CC0FFB3E...	



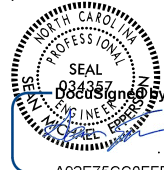
PHASE III

SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		


PROJECT NO.	SHEET NO.
44856.3.39	TCP-7
F.A. PROJECT NO. HSIP-00610651	

ROADWAY DESIGN ENGINEER

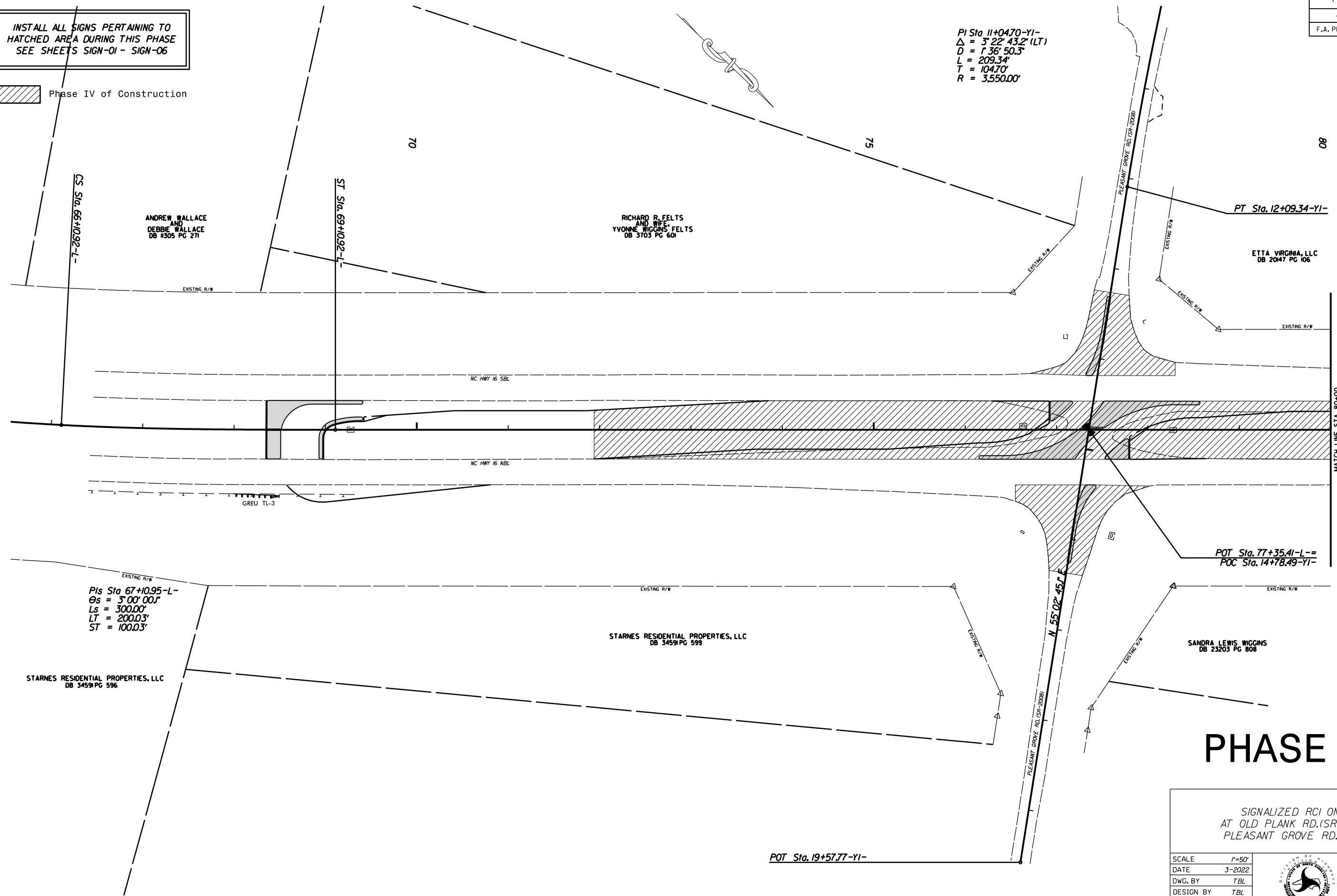


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INSTALL ALL SIGNS PERTAINING TO HATCHED AREA DURING THIS PHASE SEE SHEETS SIGN-01 - SIGN-06

 Phase IV of Construction


PI Sta 11+04.70-YI-
 $\Delta = 3^{\circ} 22' 43.2''$ (LT)
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 $L = 209.34'$
 $T = 104.70'$
 $R = 3550.00'$



MATCH LINE STA 80+00 SEE SHEET TCP-8

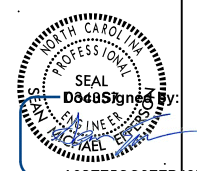
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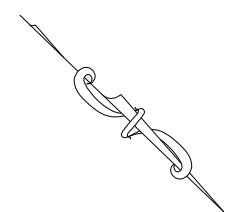
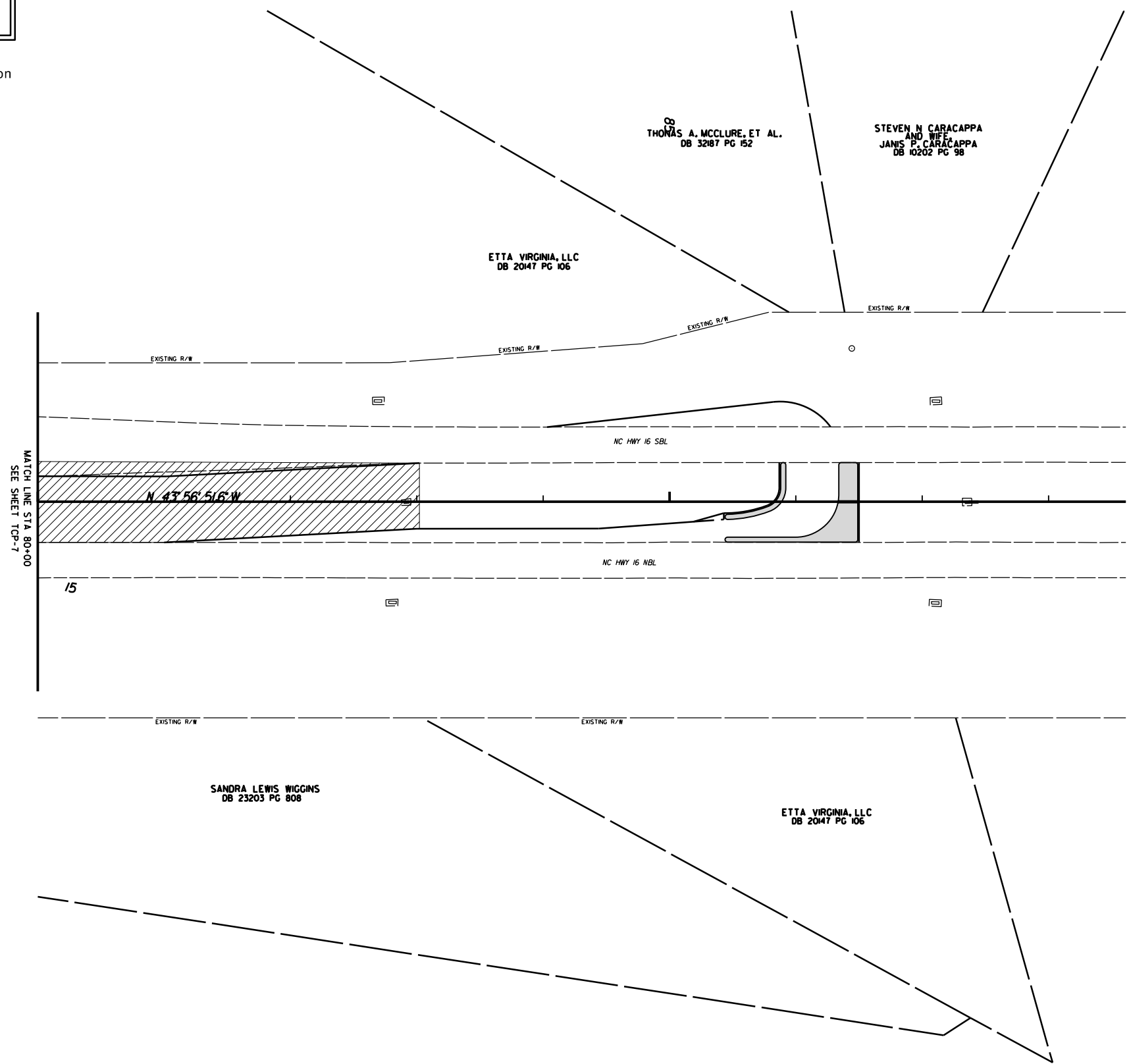
SIGNALIZED RCI ON NC 16 AT OLD PLANK RD.(SR-2006) AND PLEASANT GROVE RD.(SR-2008)

SCALE	1"=50'		REVISIONS
DATE	3-2022		
DWG. BY	TBL		
DESIGN BY	TBL		
APPROVED	JDH		

INSTALL ALL SIGNS PERTAINING TO
HATCHED AREA DURING THIS PHASE
SEE SHEETS SIGN-01 - SIGN-06


 Phase IV of Construction

PROJECT NO.	SHEET NO.
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F.A. PROJECT NO. HSIP-00610651	
ROADWAY DESIGN ENGINEER	
	
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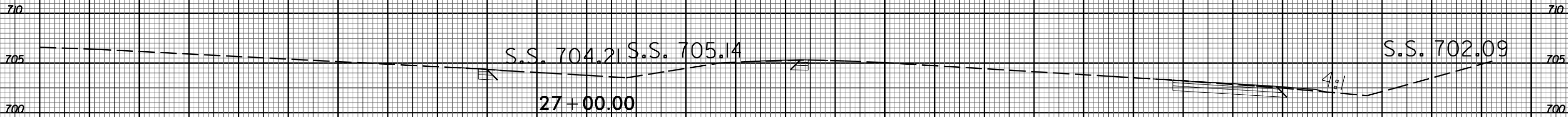
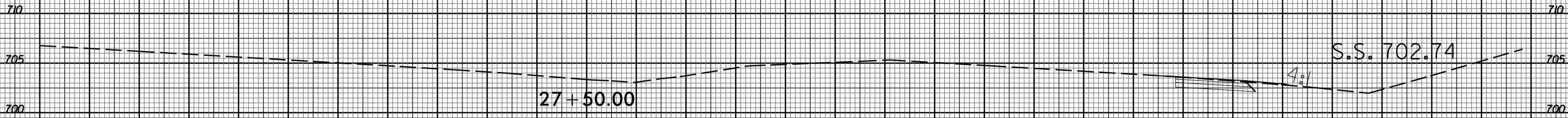
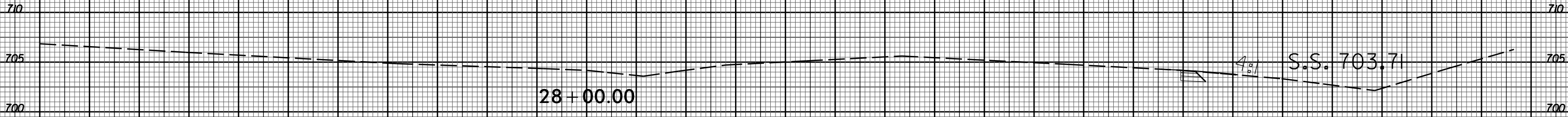
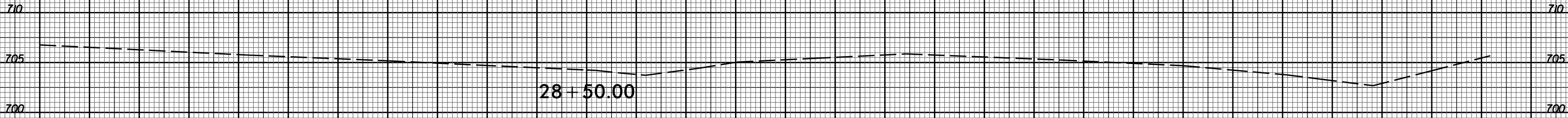
PHASE IV

SIGNALIZED RCI ON NC 16
AT OLD PLANK RD.(SR-2006) AND
PLEASANT GROVE RD.(SR-2008)

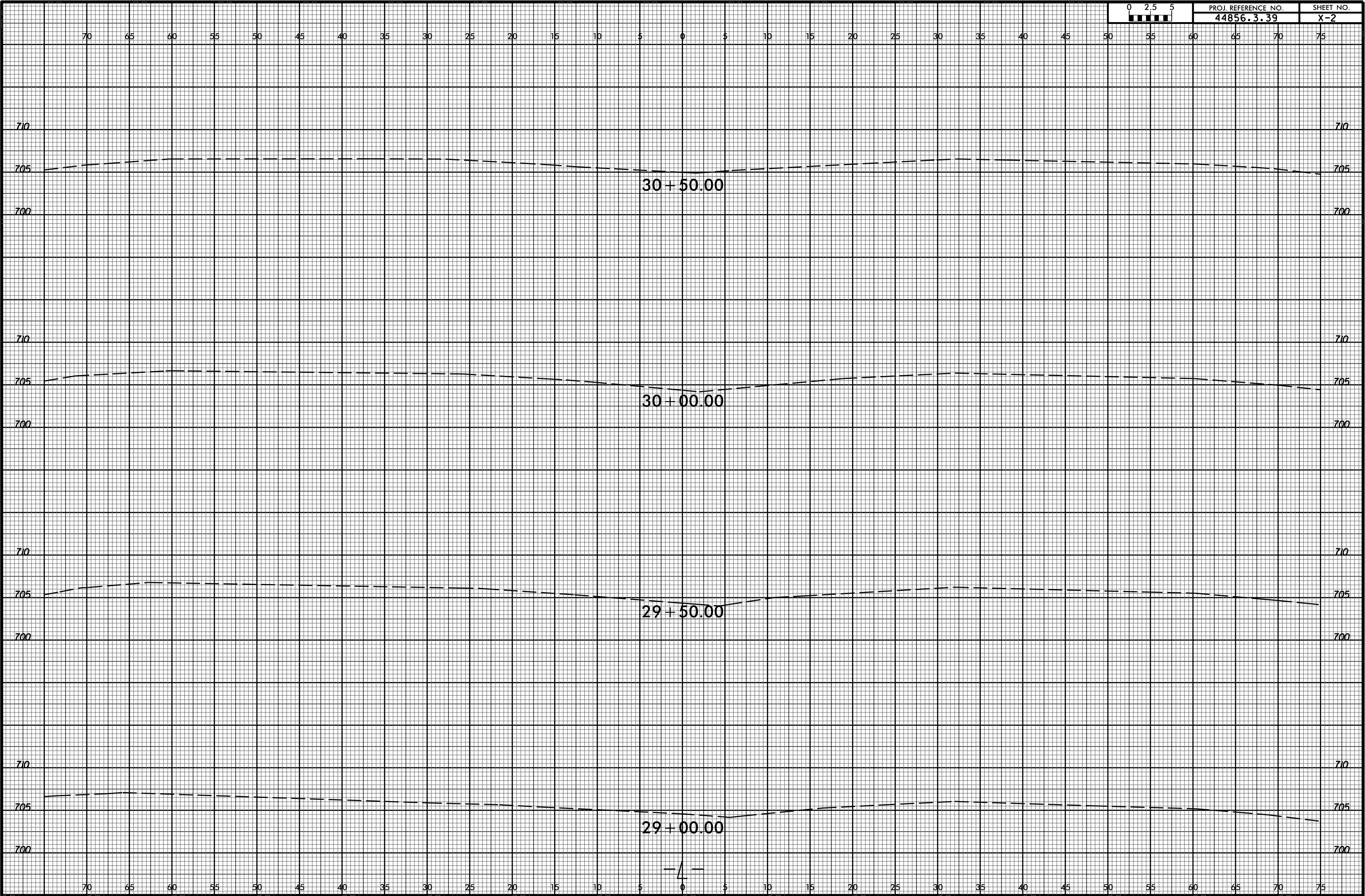
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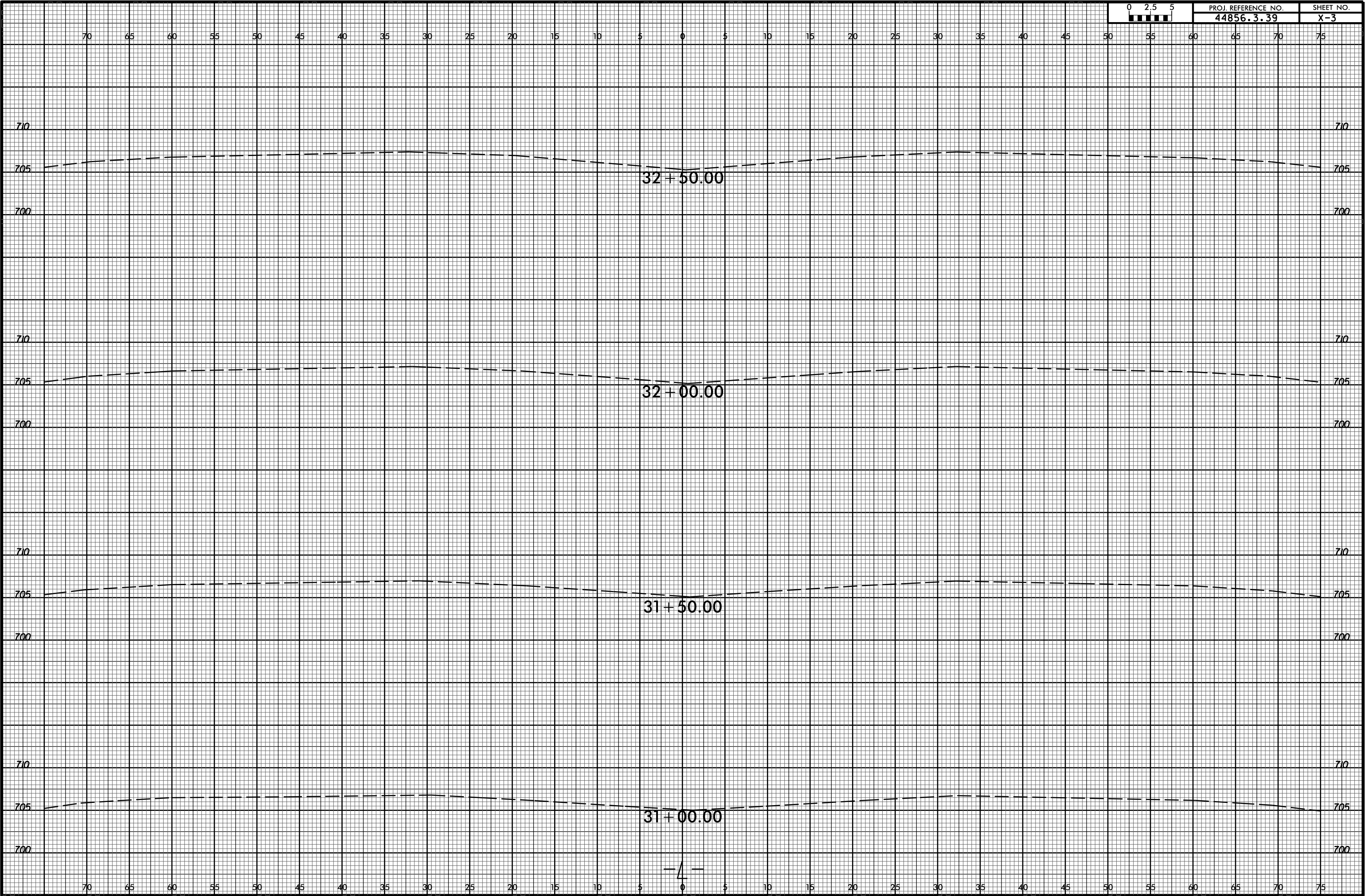


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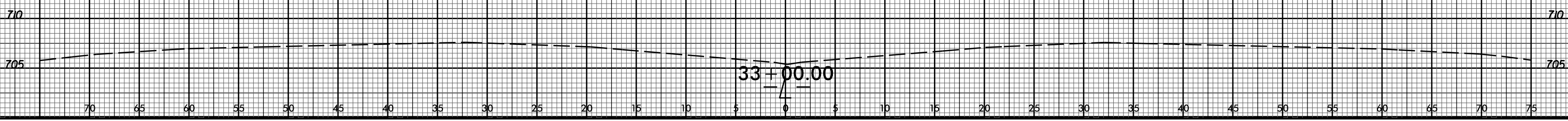
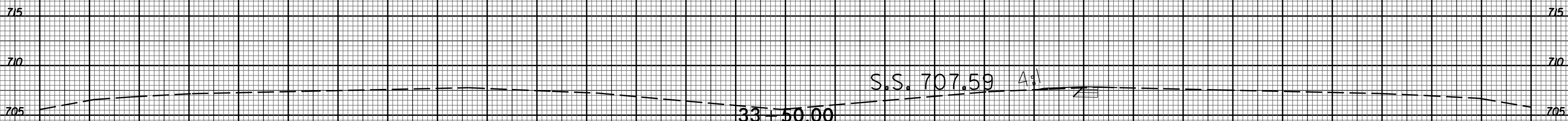
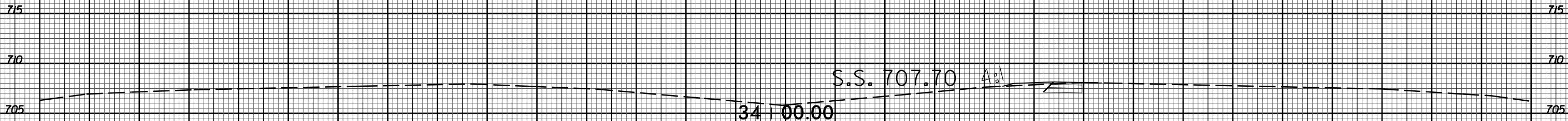
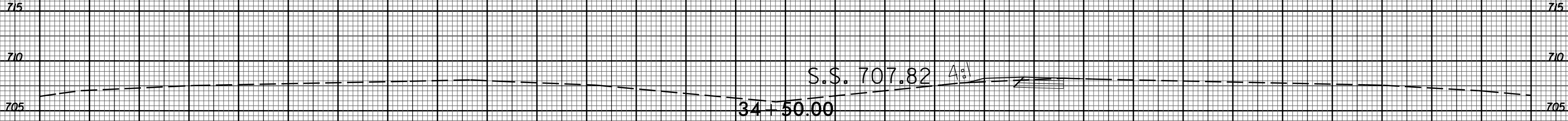
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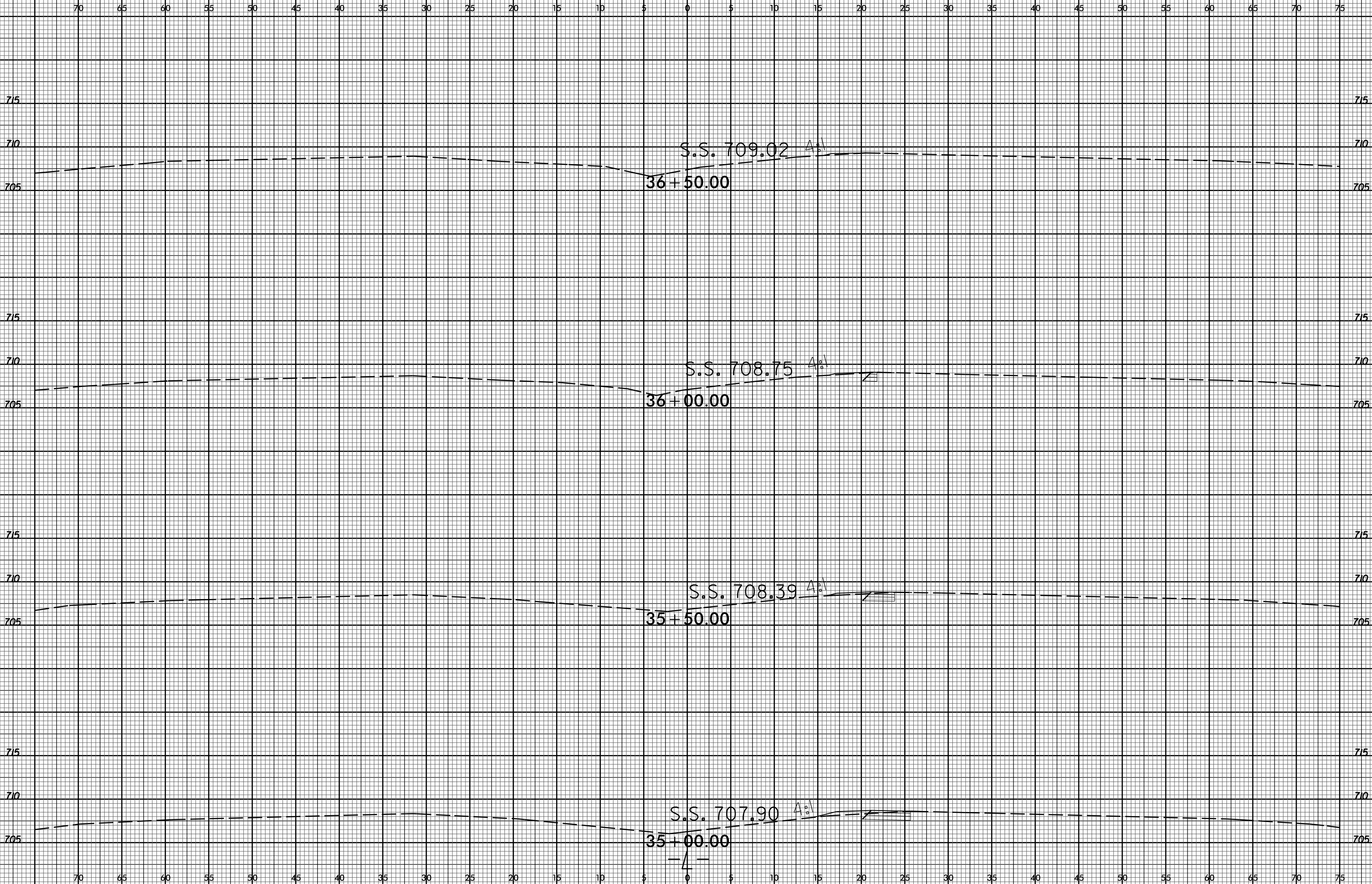






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705 705

38 + 50.00

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37 + 50.00

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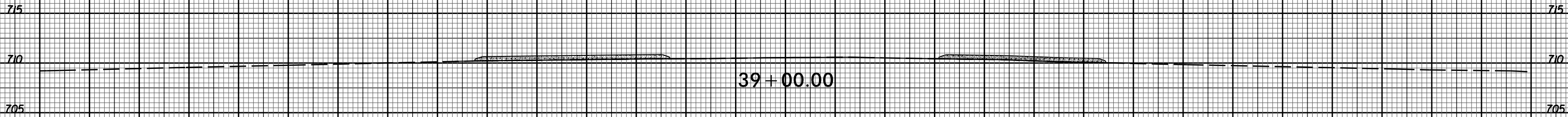
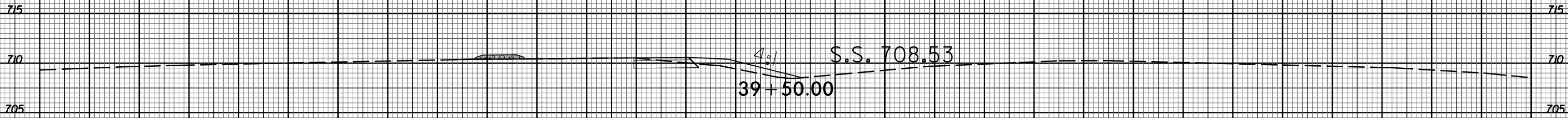
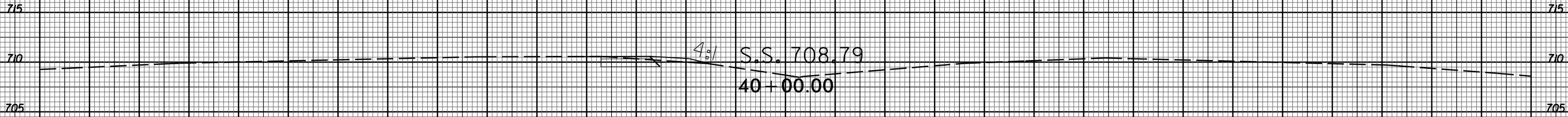
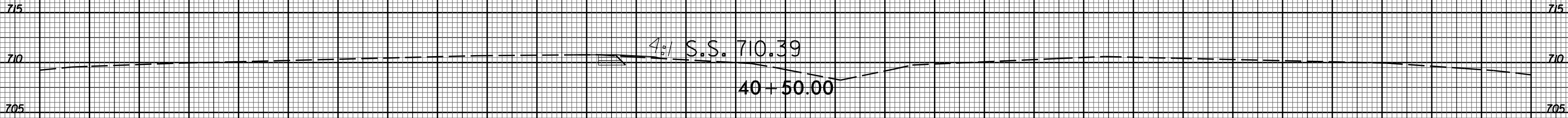
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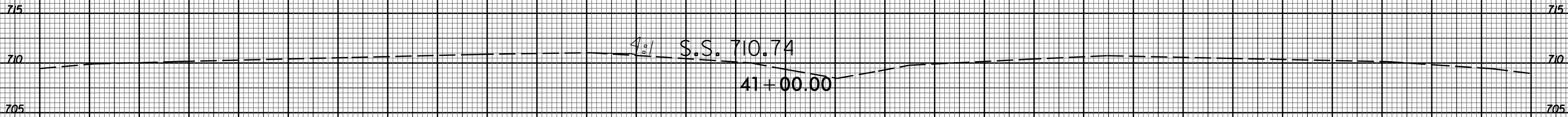
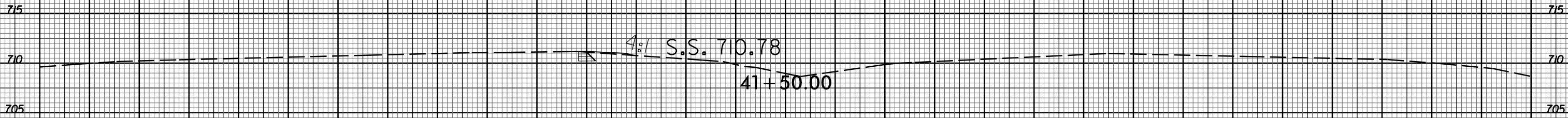
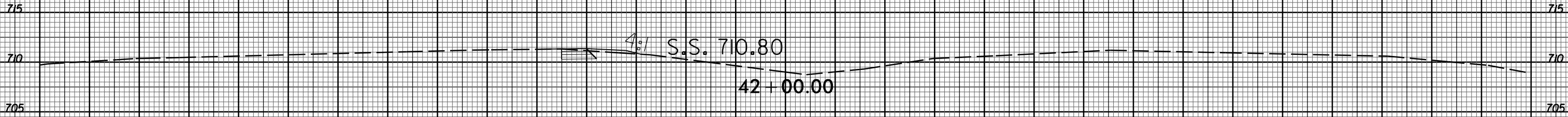
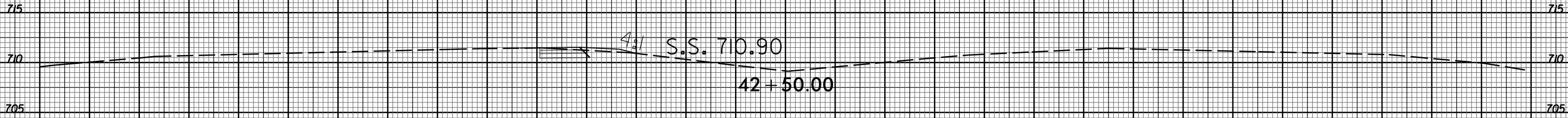
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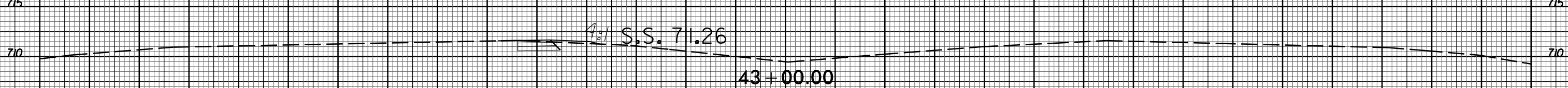
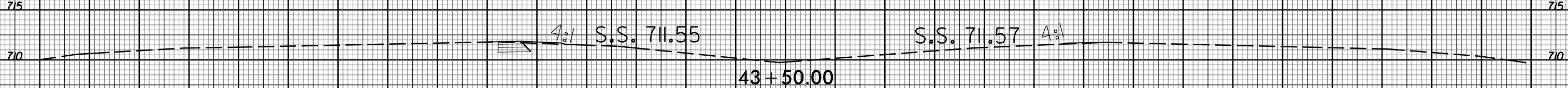
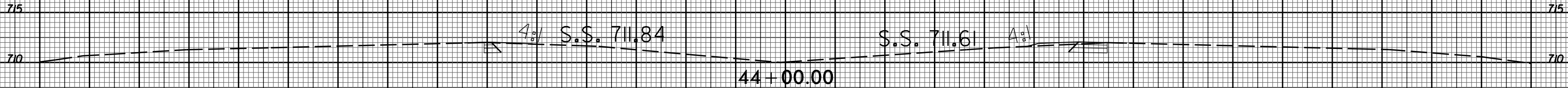
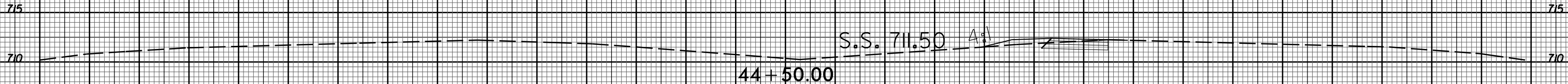
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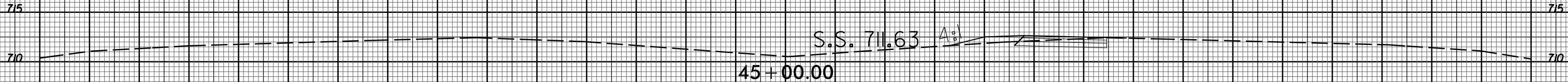
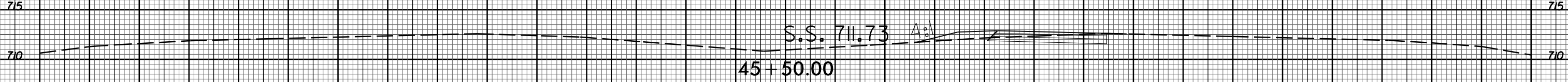
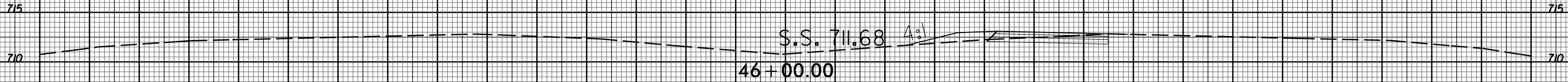
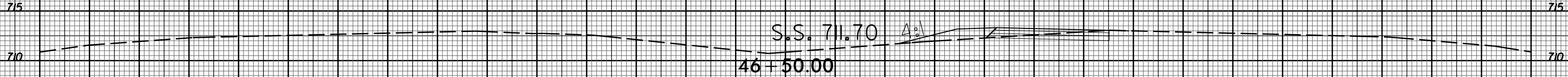
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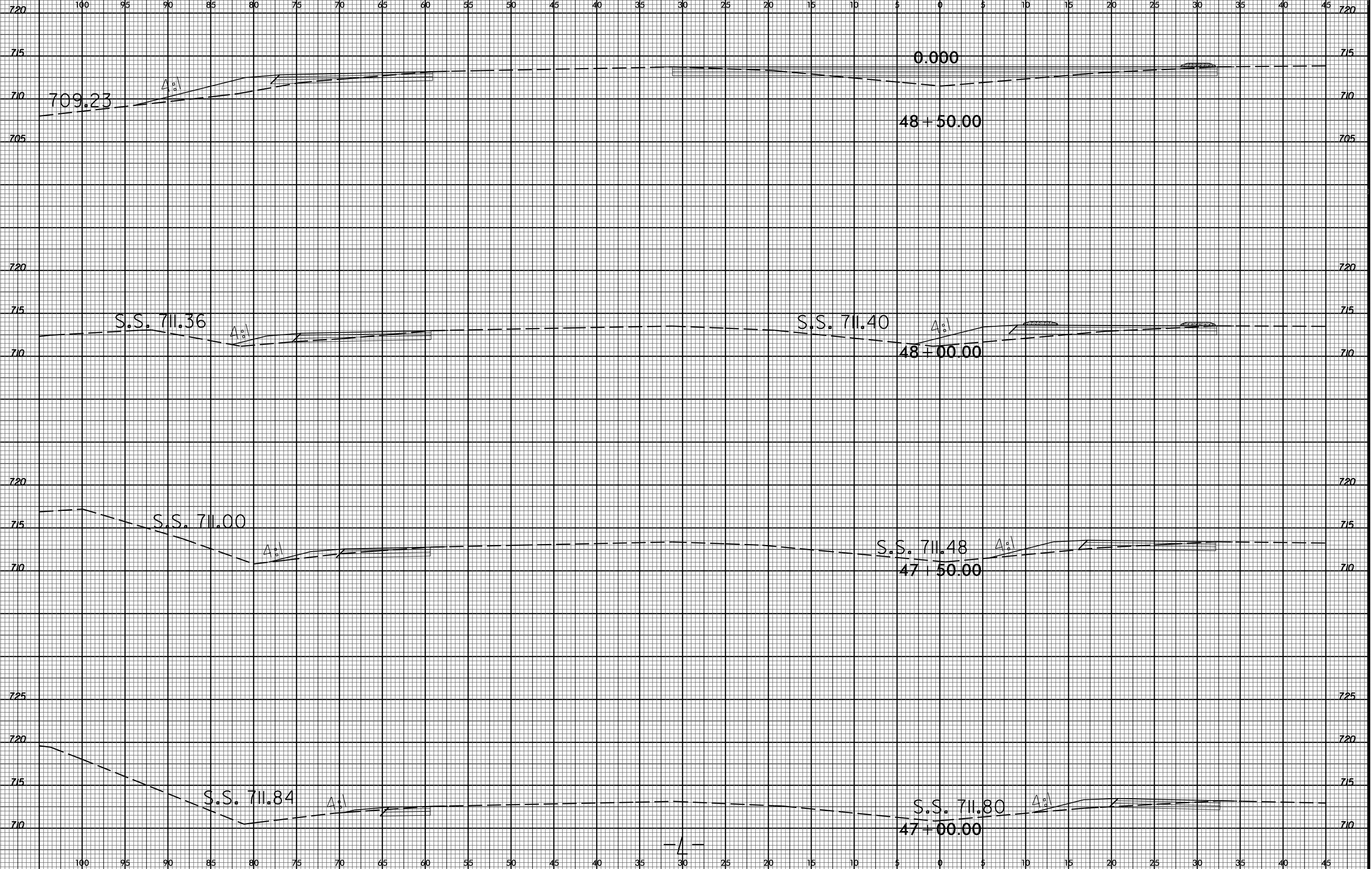
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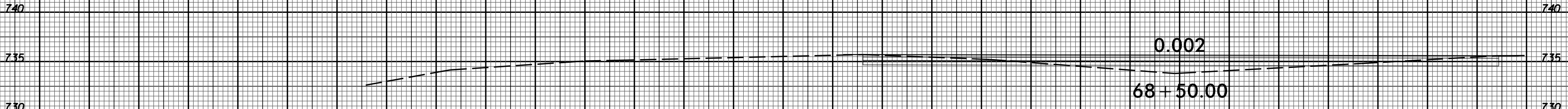
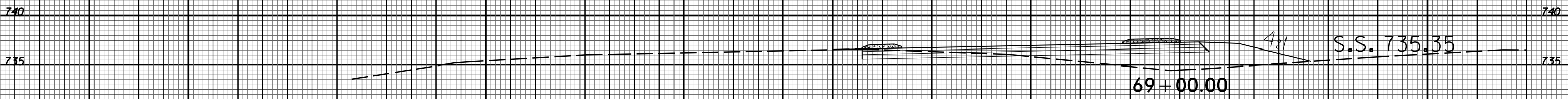
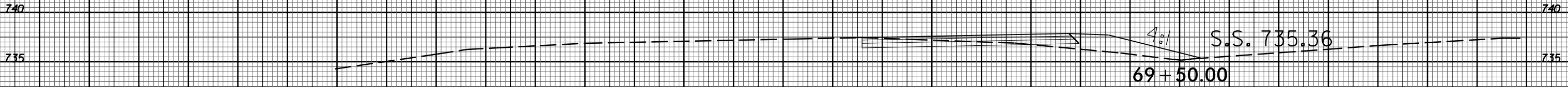
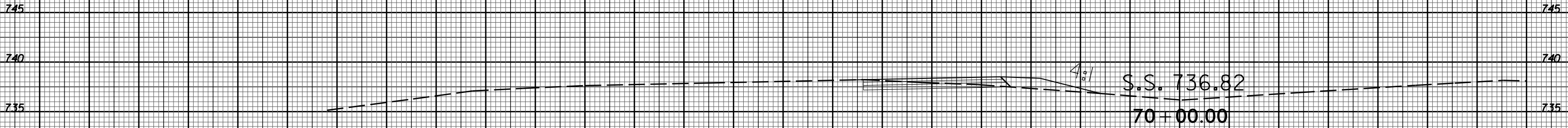
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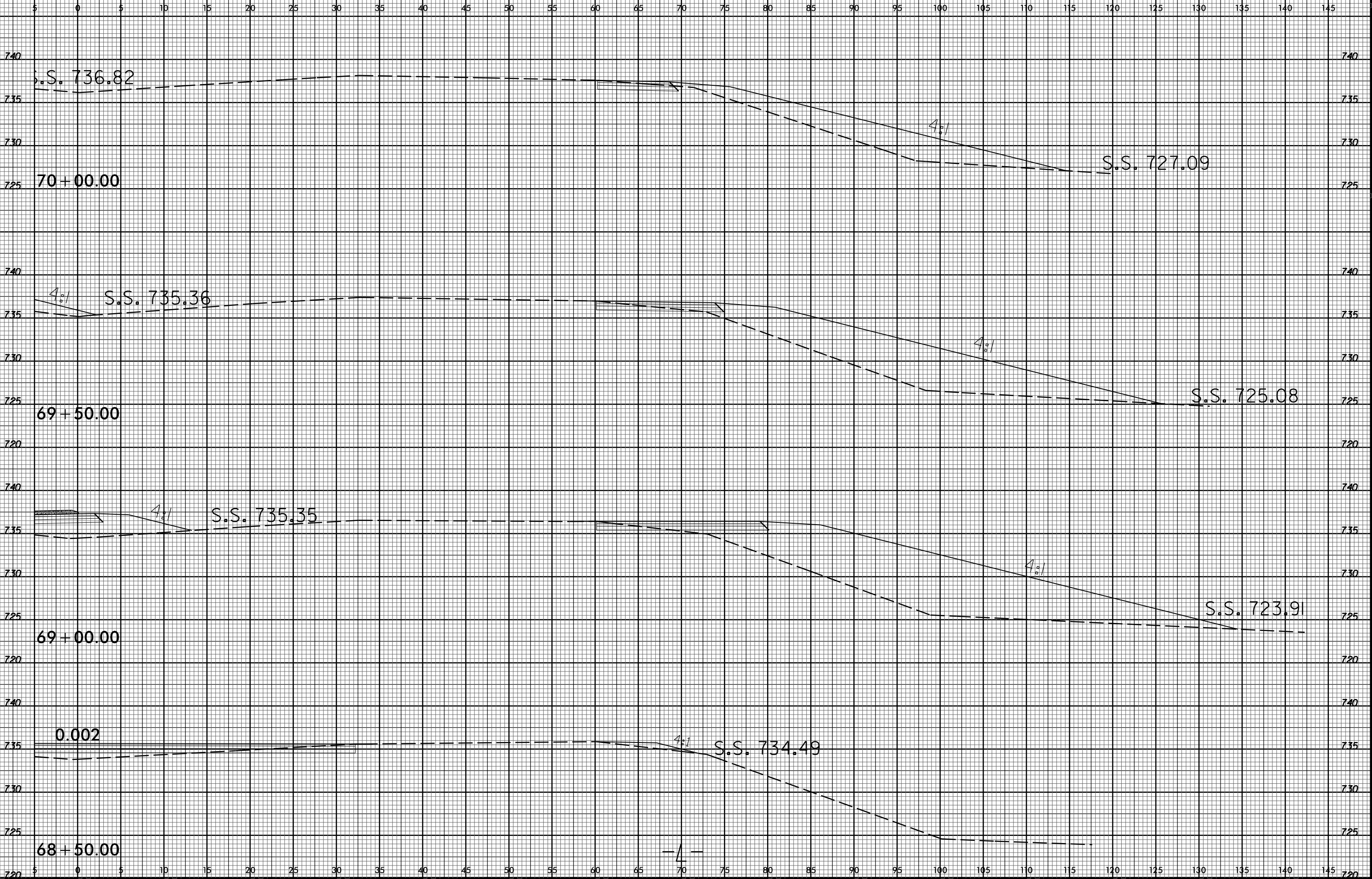
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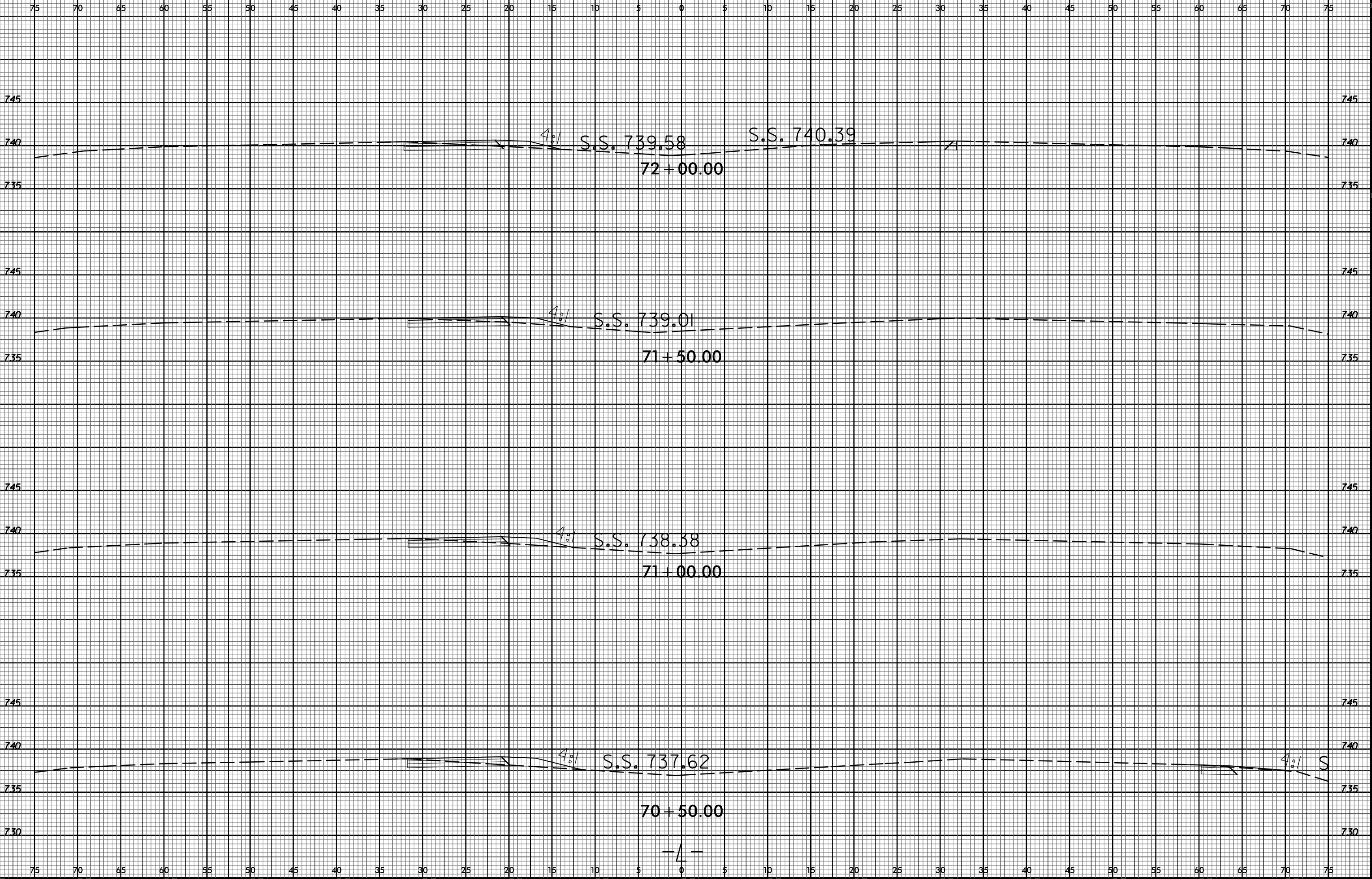


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75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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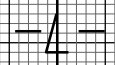
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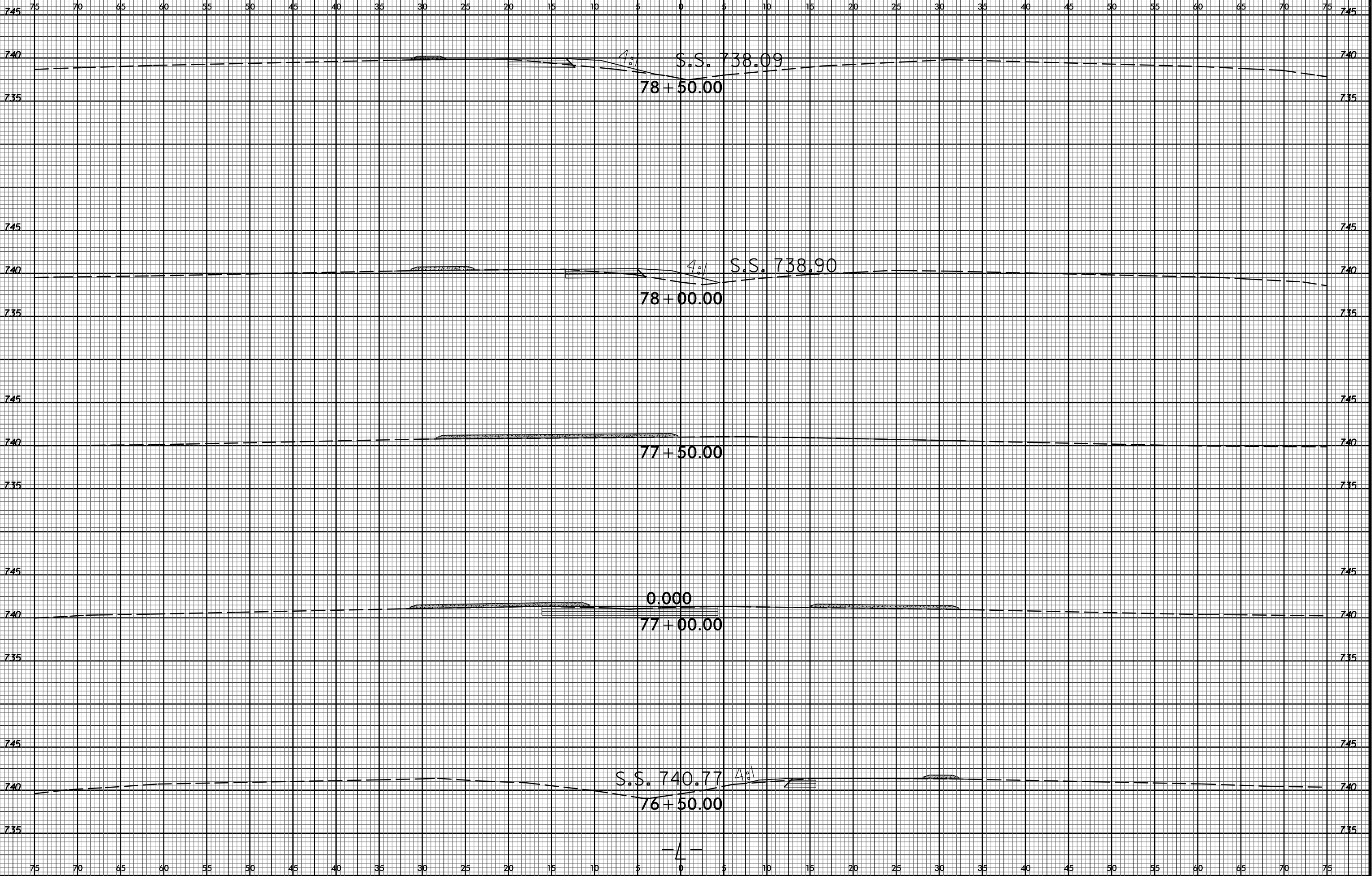
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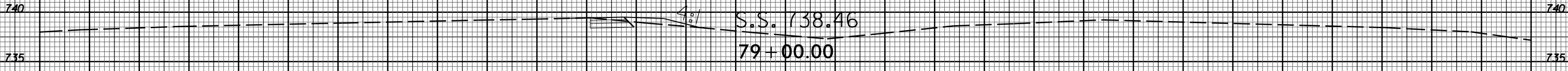
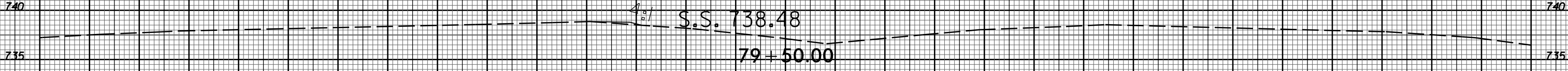
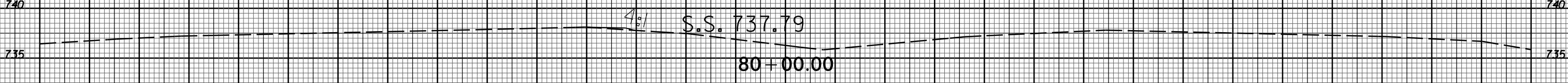
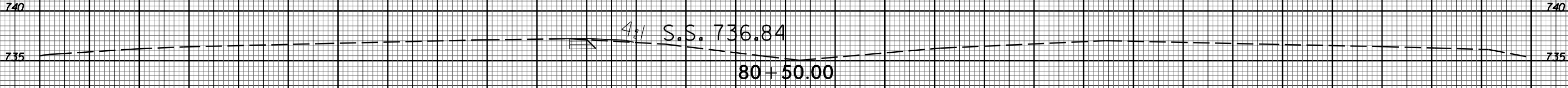
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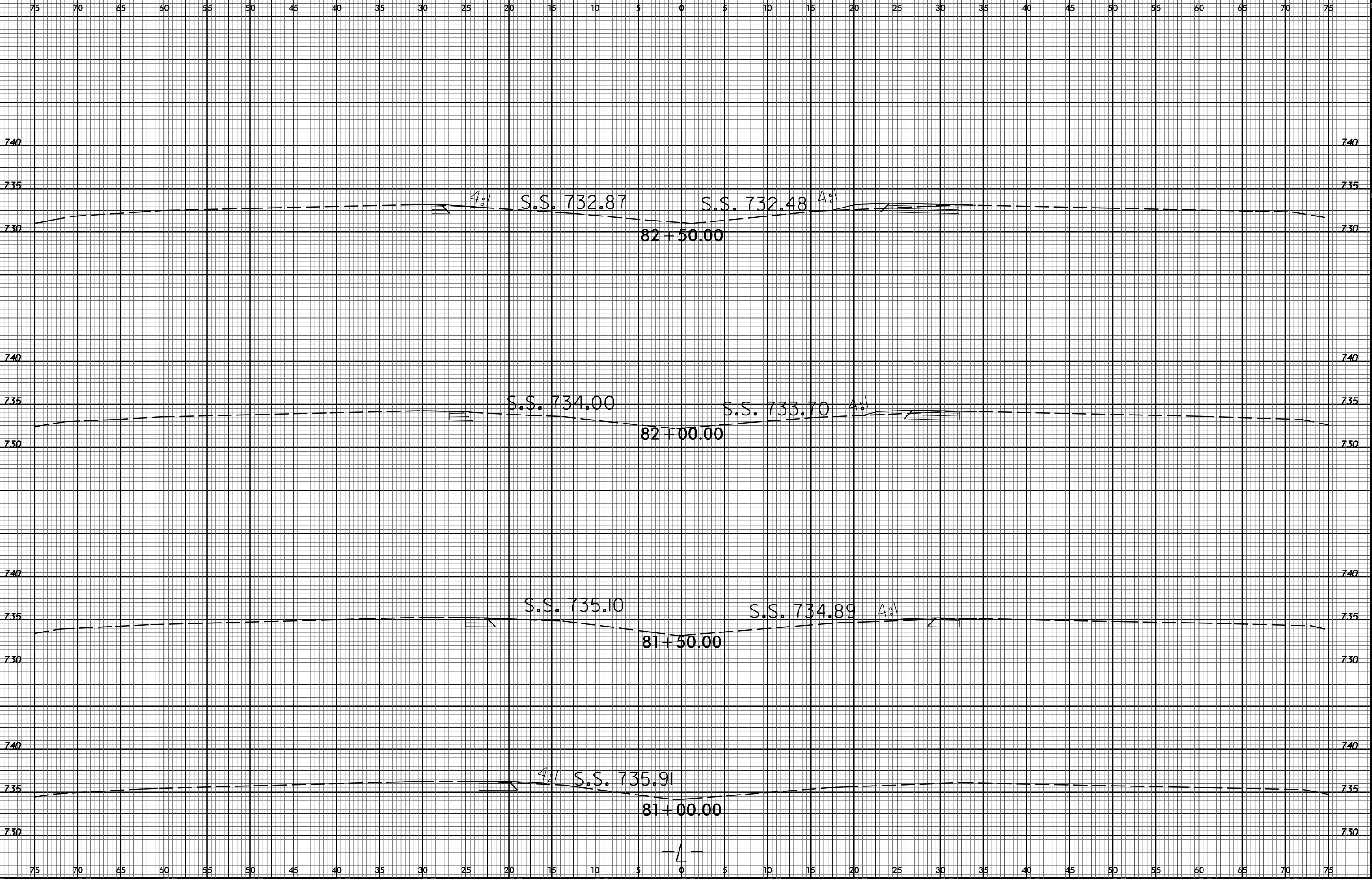


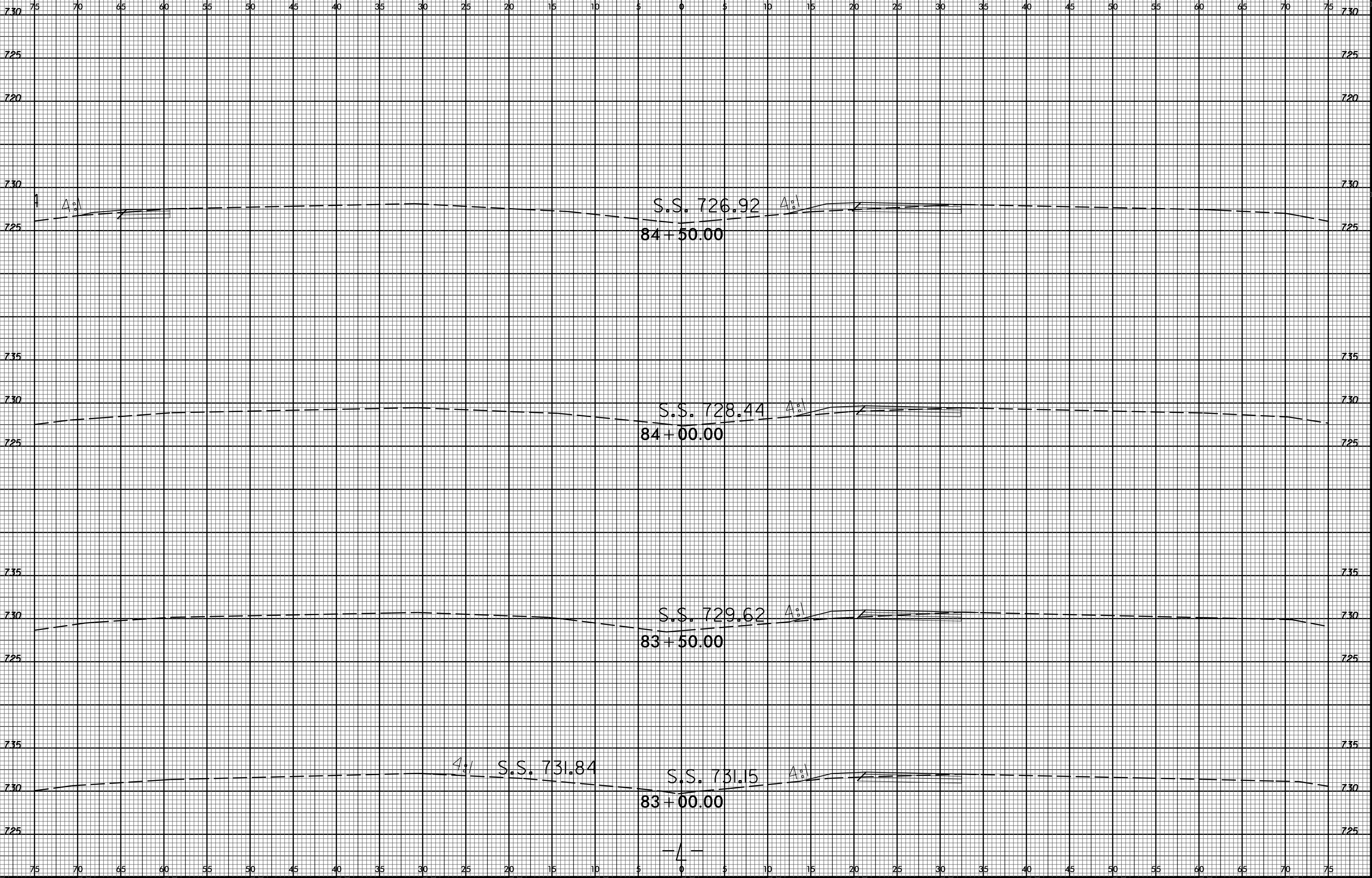


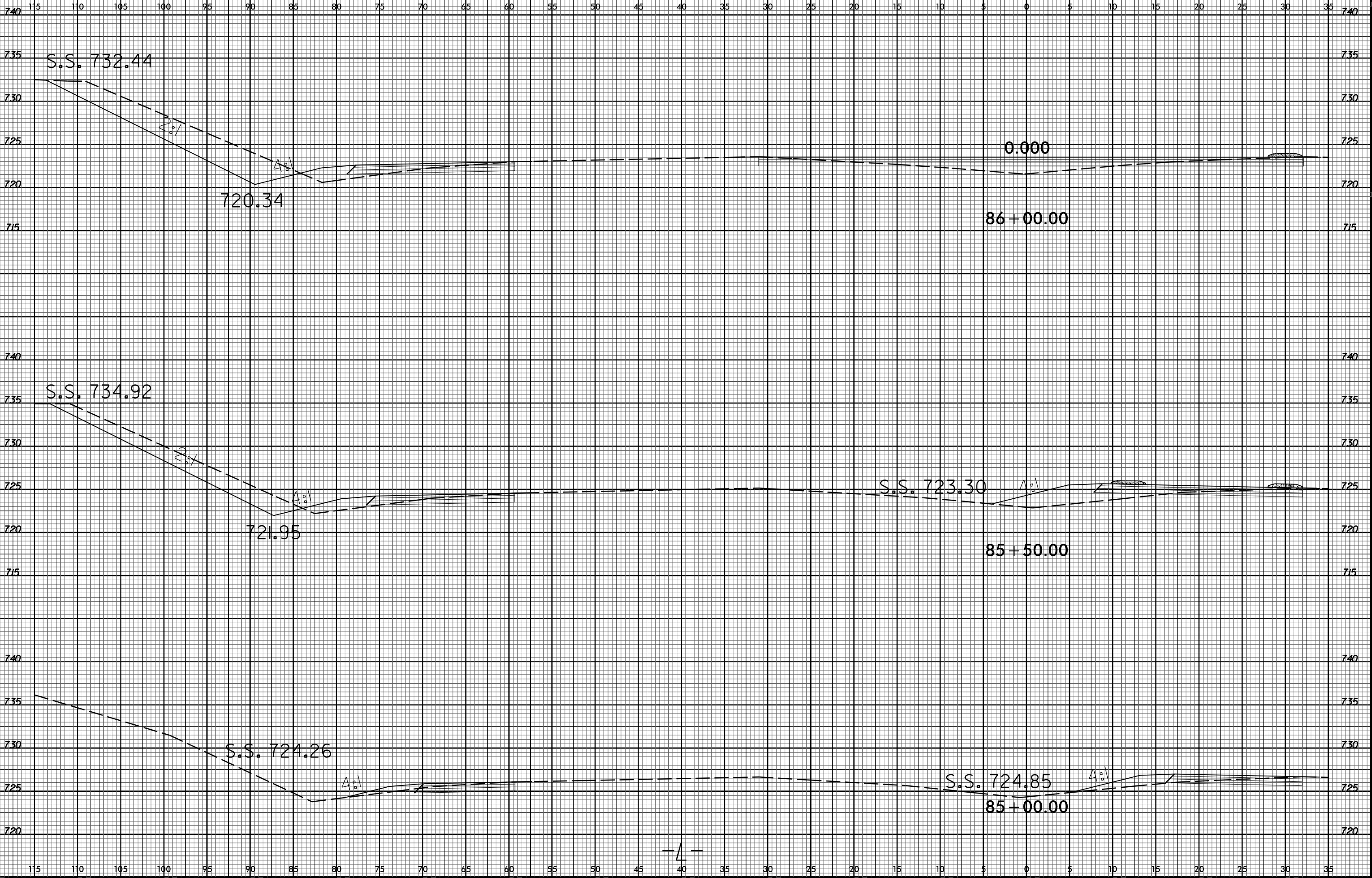
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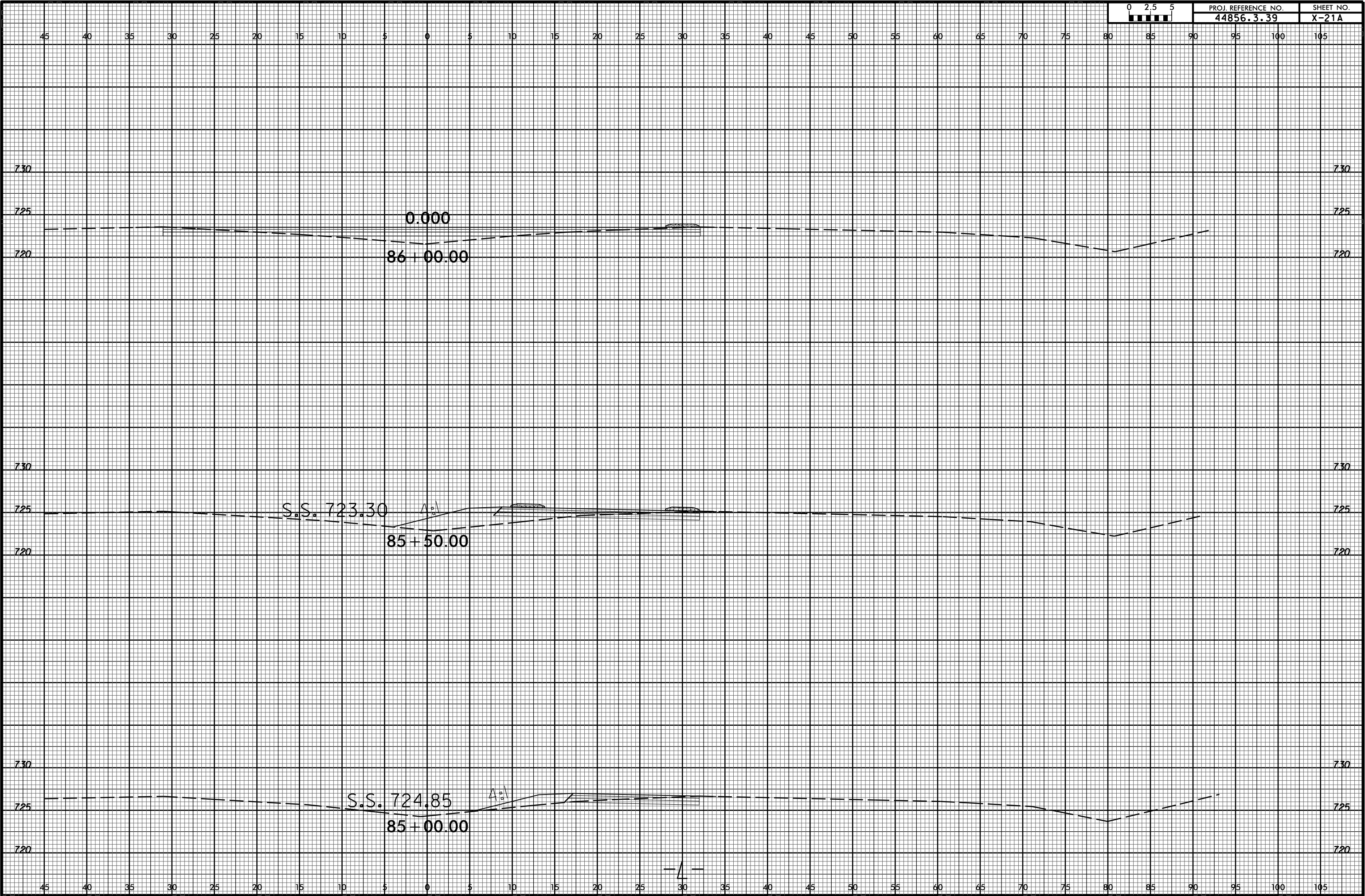


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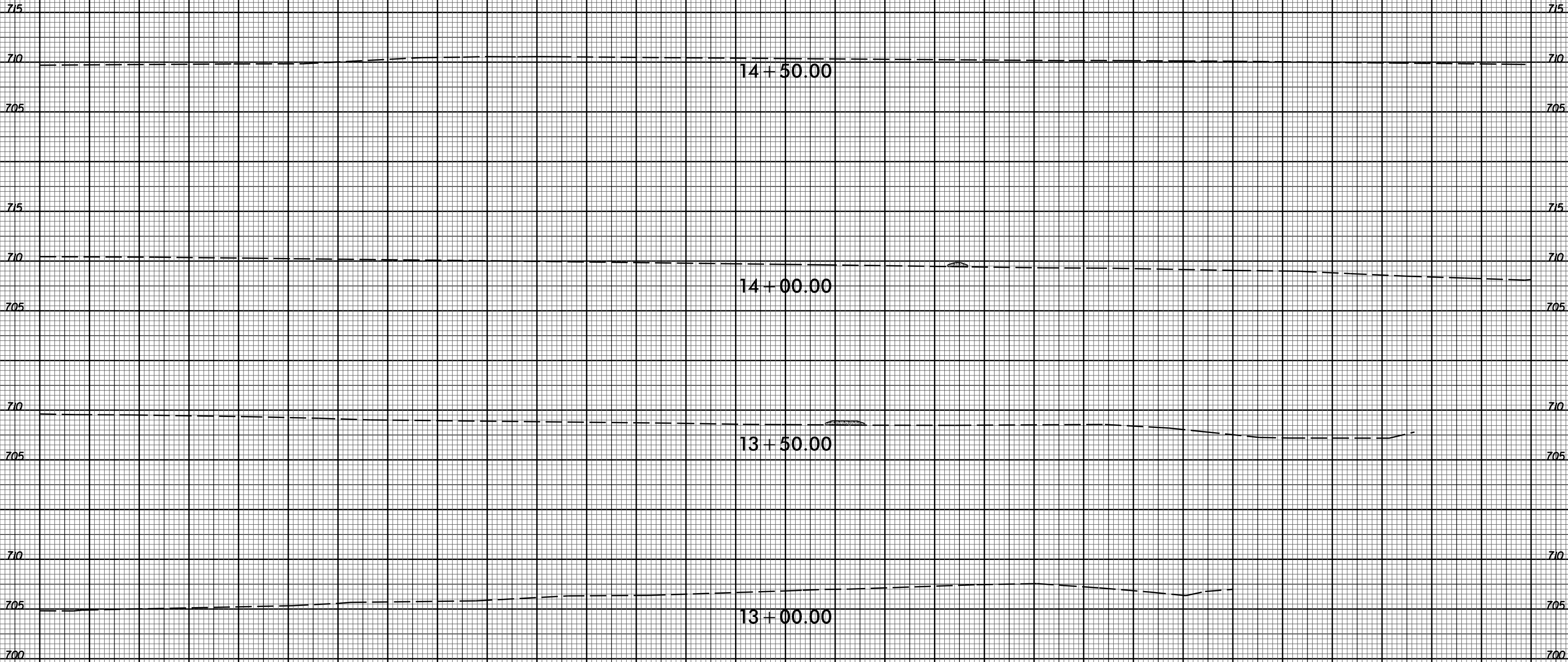
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Project: W-5710AK

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

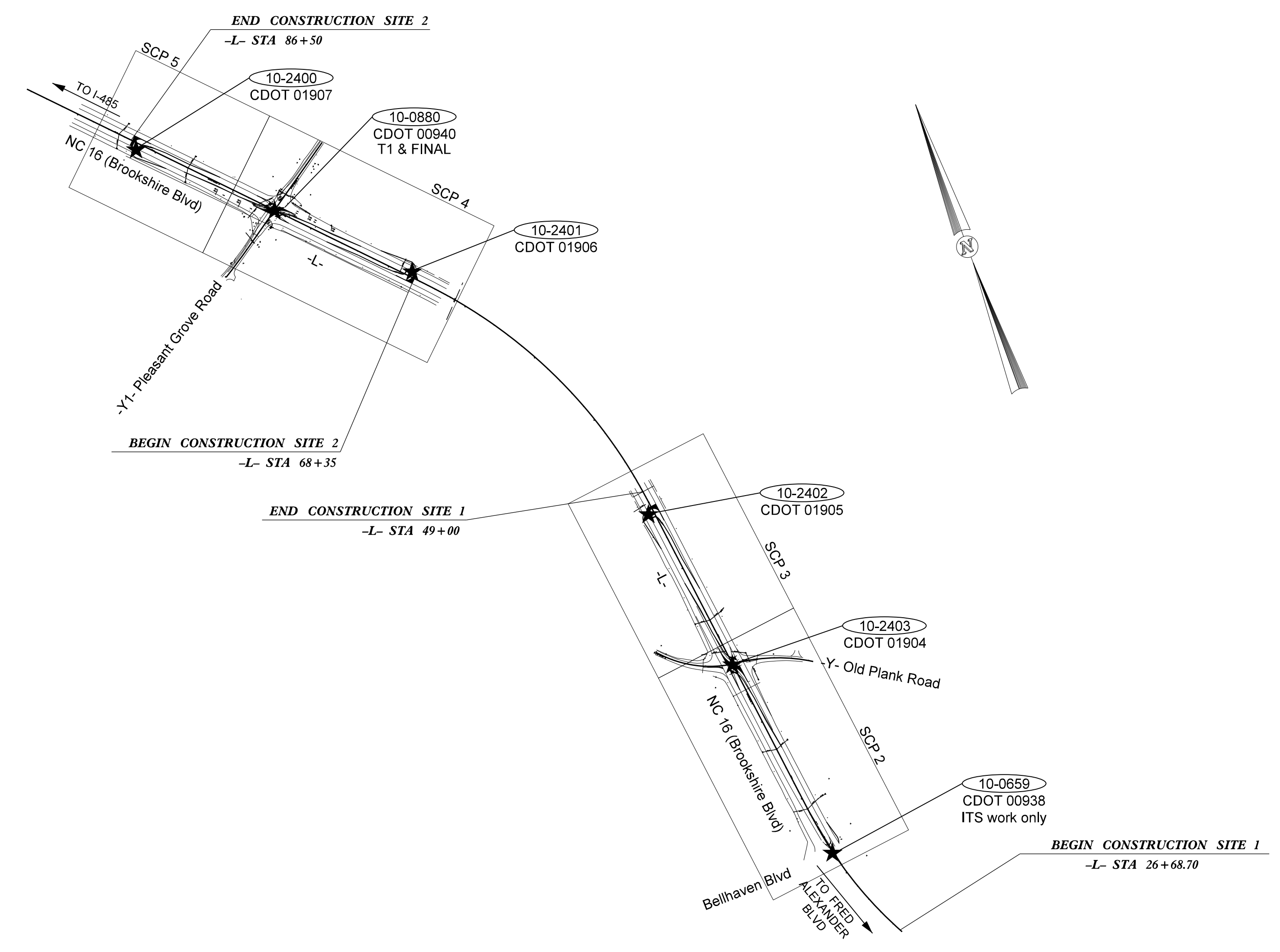
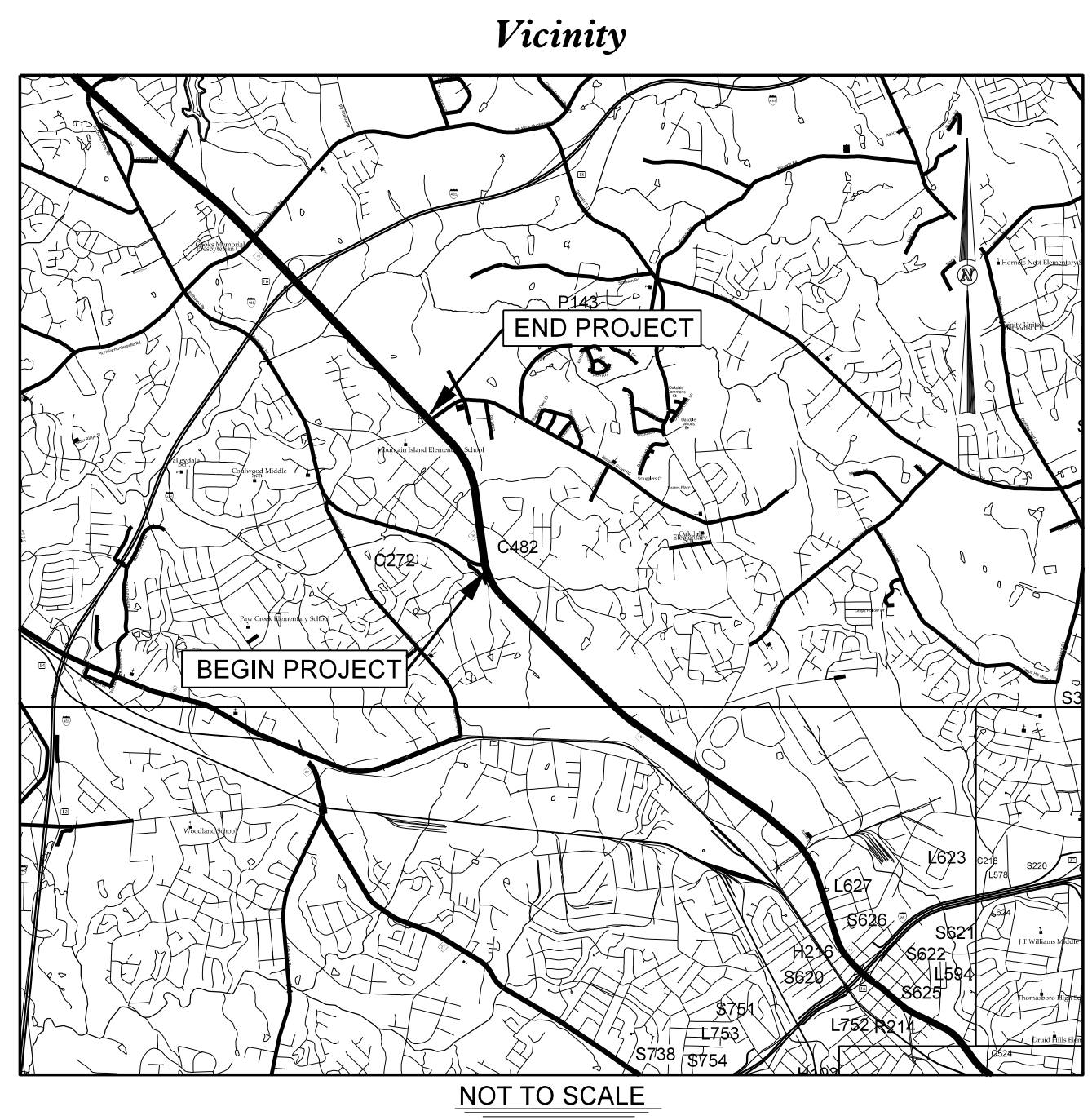
Project No. W-5710AK	Sheet No. Sig. 1.0
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★ PROPOSED SIGNAL

MECKLENBURG COUNTY

LOCATION: NC 16 (BROOKSHIRE BLVD) FROM BELLHAVEN BLVD TO NORTH OF PLEASANT GROVE ROAD

**TYPE OF WORK: SIGNALS
SIGNAL COMMUNICATIONS**



DocuSigned by:
Lisa M. Moon 3/25/2022
58CE588D83D0421

**DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED**

Plans Prepared By:



DRMP, Inc.
8000 Regency Parkway, Suite 110
Cary, NC 27518
NC License No. C-2213 (919) 650-1038

Refer to "Roadway Standard Drawings
NCDOT" dated January 2018 and
"Standard Specifications for Roads
and Structures" dated January 2018.

Sheet #	Reference #	Index of Plans Location/Description
Sig. 1.0	-----	TITLE SHEET
Sig. 1.1	-----	2018 STANDARD DRAWING FOR ELECTRICAL SERVICE GROUNDING AND WOOD POLES
Sig. 1.2	-----	2018 STANDARD DRAWING FOR PEDESTALS
Sig. 2.0	10-2403/01904	NC 16 (BROOKSHIRE BLVD) AT OLD PLANK ROAD
Sig. 3.0	10-2402/01905	NC 16 (BROOKSHIRE BLVD) SOUTHBOUND AT OLD PLANK ROAD U-TURN
Sig. 4.0	10-2401/01906	NC 16 (BROOKSHIRE BLVD) NORTHBOUND AT PLEASANT GROVE ROAD U-TURN
Sig. 5.0	10-0880/00940	NC 16 (BROOKSHIRE BLVD) AT PLEASANT GROVE ROAD
Sig. 6.0	10-2400/01907	NC 16 (BROOKSHIRE BLVD) SOUTHBOUND AT PLEASANT GROVE ROAD U-TURN
SCP 1	-----	SIGNAL COMMUNICATION PLAN CONSTRUCTION NOTES
SCP 2-6	-----	SIGNAL COMMUNICATION PLAN LAYOUT
SCP 7-17	-----	SIGNAL COMMUNICATION PLAN SPLICE DIAGRAMS

**NCDOT
INTELLIGENT TRANSPORTATION AND SIGNALS UNIT**
Contacts:
Tim Williams, PE - Western Region Signals Engineer
Gregg Green - Intelligent Transportation Systems Engineer

CHARLOTTE DEPARTMENT OF TRANSPORTATION
Contacts:
Nathan Conard, PE - Transportation Systems Manager
Ashley Boenisch - Intelligent Transportation Systems Engineer

Prepared for the Offices of:

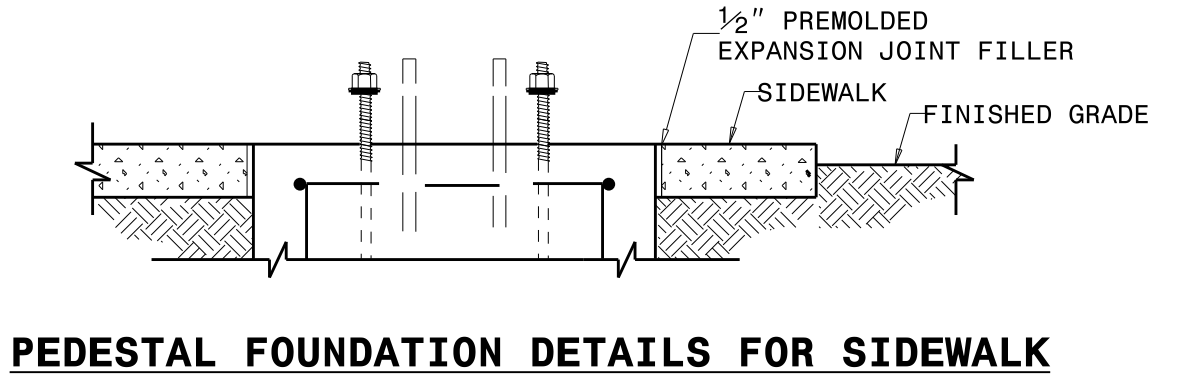
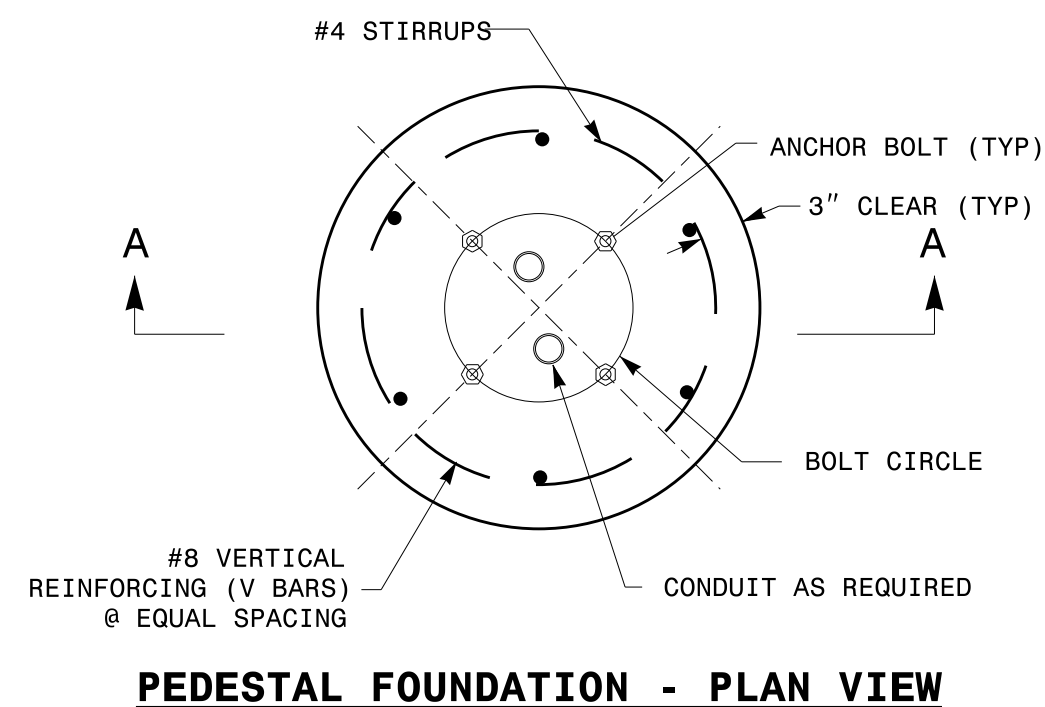
**DIVISION OF HIGHWAYS
TRANSPORTATION MOBILITY AND SAFETY
DIVISION**

CHARLOTTE
TRANSPORTATION

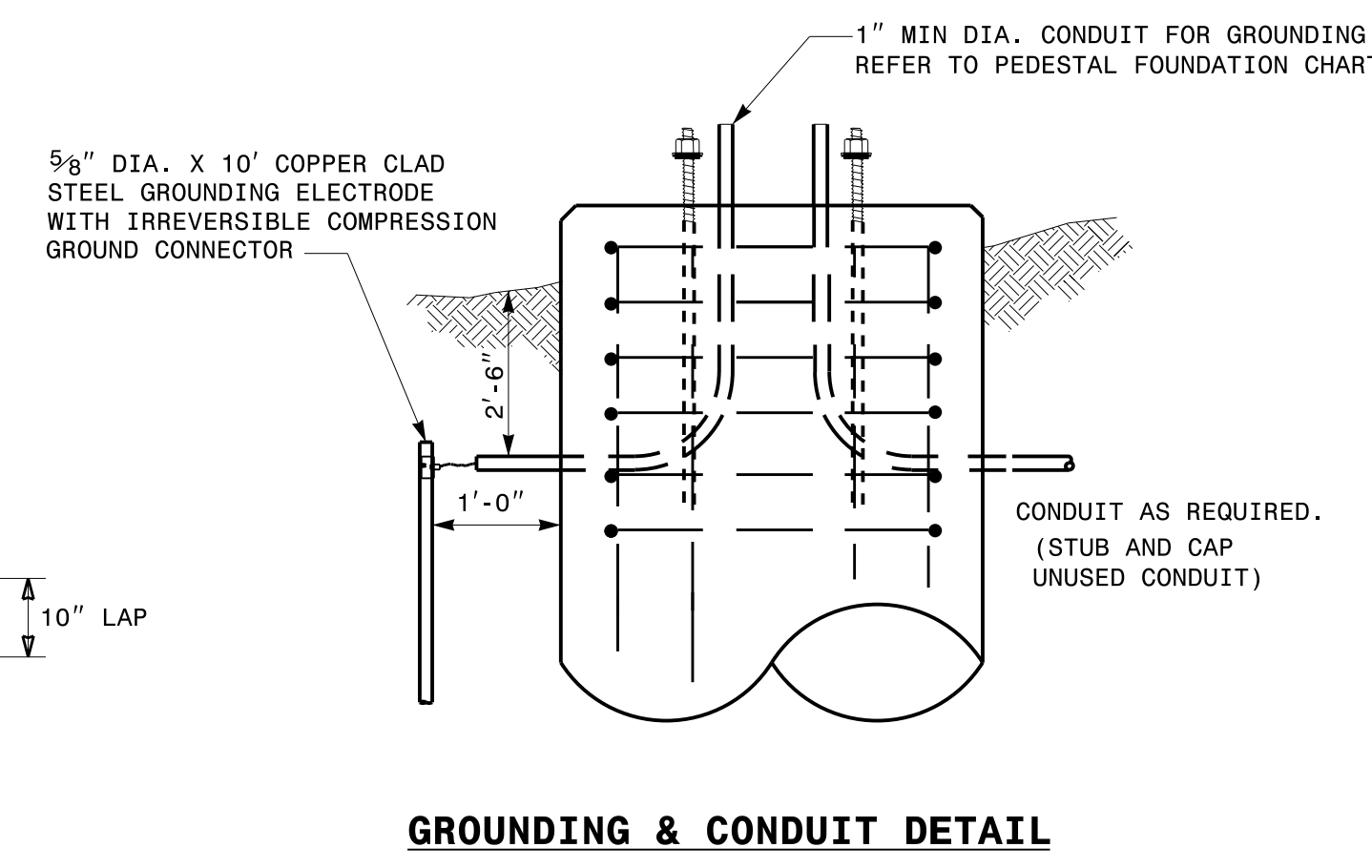
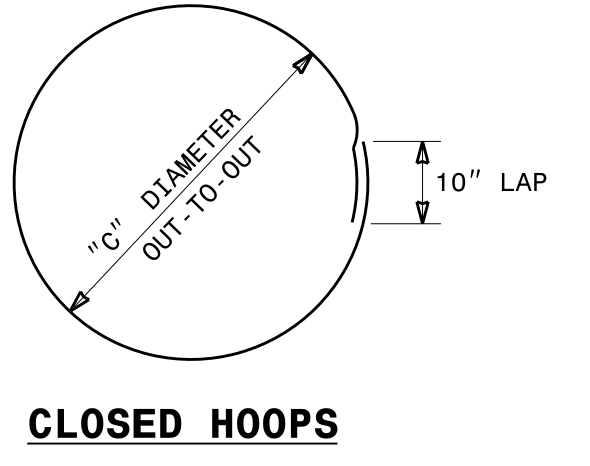
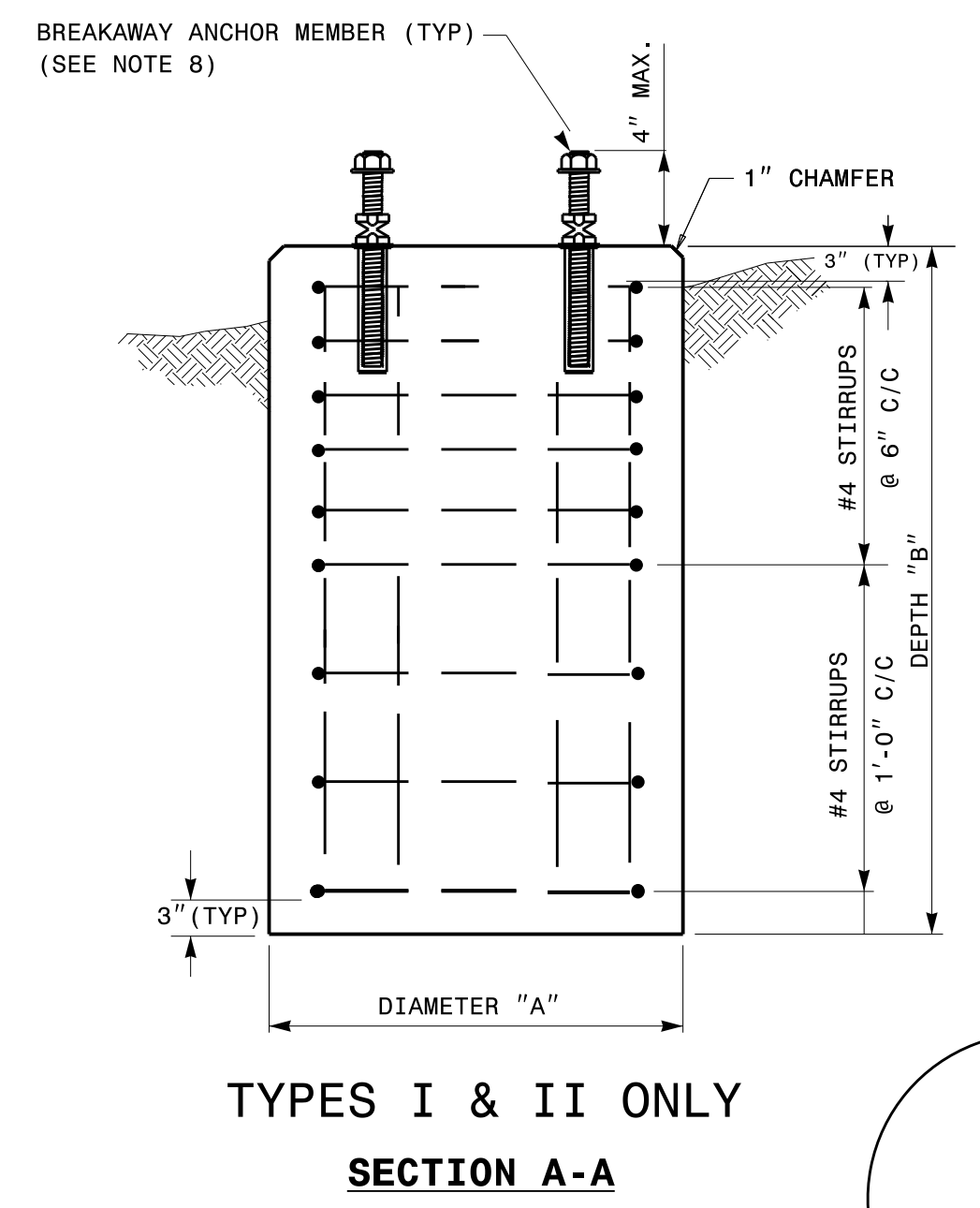
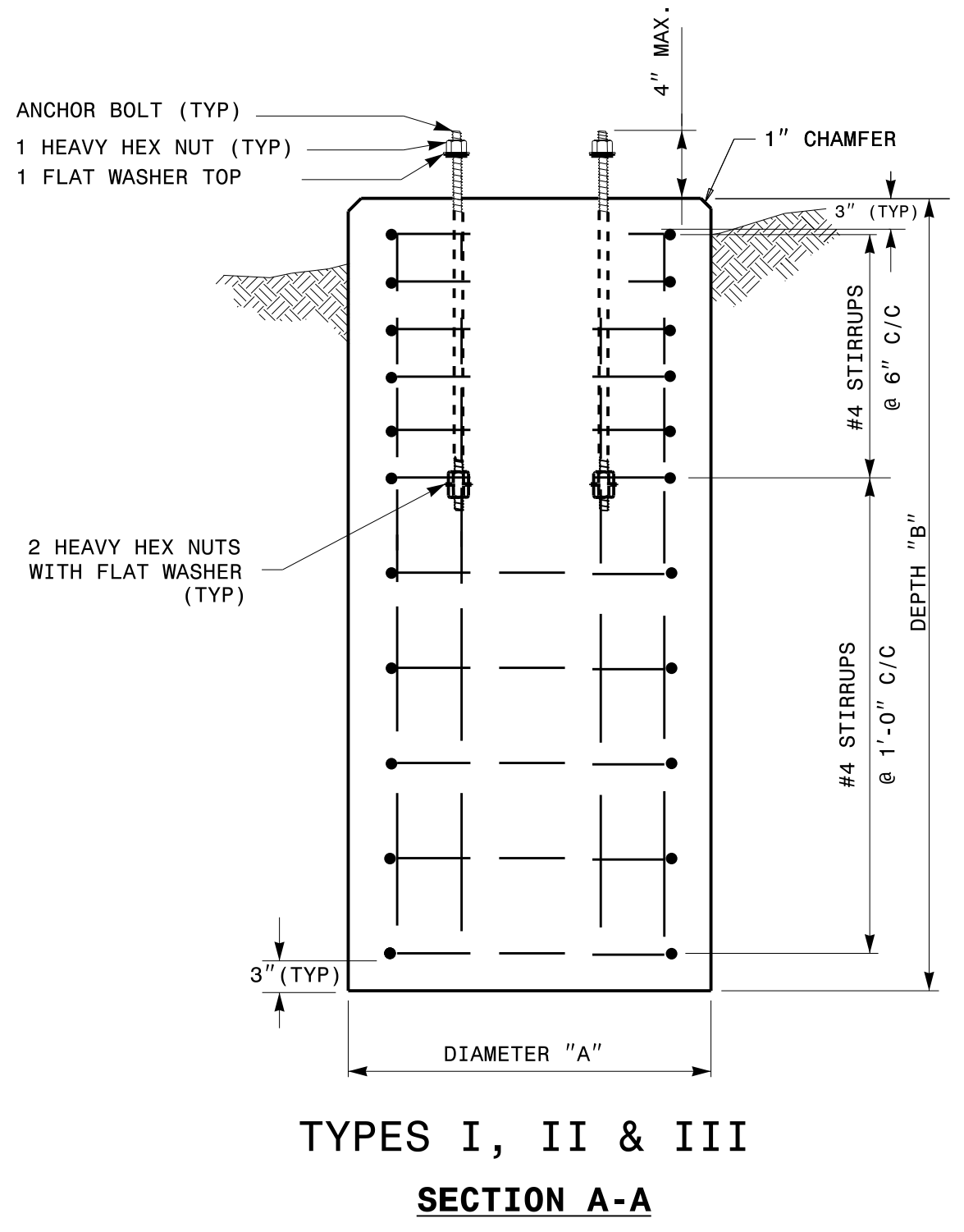
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Charlotte, NC 28202

750 N. Greenfield Parkway, Garner, NC 27529

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LISA M. MOON



- NOTES:**
- CAST FOUNDATION AGAINST UNDISTURBED SOIL WHEREVER CONDITIONS PERMIT. IN UNSTABLE SOIL, CAST-IN-PLACE TUBE FORMS ARE ALLOWED WITH APPROVAL.
 - COMPLY WITH APPLICABLE PROVISIONS OF SECTION 825 FOR CONCRETE CONSTRUCTION.
 - USE CLASS "A" CONCRETE THAT MEETS THE REQUIREMENTS OF SECTION 1000 WITH A COMPRESSION STRENGTH AT 28 DAYS OF $F'c = 3000$ PSI (MIN.).
 - USE ASTM GRADE 60 DEFORMED BARS FOR ALL REINFORCING STEEL.
 - GRADE IS ASSUMED TO BE (8H:1V) OR FLATTER. FOUNDATION SIZE AND DEPTHS ARE BASED ON THE FOLLOWING SOIL DESIGN PARAMETERS:
 - SANDY TYPE SOIL
 - NO GROUND WATER WITHIN 5'-0" OF SURFACE ELEVATION
 - WIND SPEED NOT TO EXCEED 140 MPH
 IF ACTUAL CONDITIONS VARY SUBSTANTIALLY FROM THOSE ASSUMED, THE FOUNDATION DEPTH MAY BE ADJUSTED. IN THIS CASE, CONTACT THE ENGINEER.
 - MAINTAIN AT LEAST 3" COVER ON ALL REINFORCEMENT.
 - ORIENT CONDUIT AS REQUIRED BY THE DESIGN OR AS DICTATED BY FIELD CONDITIONS.
 - USE ADHESIVE ANCHOR FOR THREADED COUPLING INSERT. FOR TYPE I MINIMUM DEPTH NECESSARY IS 0'-4 1/2" AND FOR TYPE II MINIMUM DEPTH NECESSARY IS 0'-6 5/8". FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.



PEDESTAL FOUNDATION TYPE AND SIZE							
TYPE	PEDESTAL DESCRIPTION	SIZE			ANCHOR BOLT		INSTALL GROUNDING SYSTEM (YES/NO)
		DIAMETER "A" FT	DEPTH "B" FT	CONCRETE VOLUME CY	DIAMETER (MIN.) IN	LENGTH FT-IN	
I	PEDESTRIAN PUSHBUTTON	2'-0"	3'-6"	.41	1/2	1'-6"	NO
II	NORMAL-DUTY	2'-0"	5'-0"	.58	3/4	2'-0"	YES
III	HEAVY-DUTY	2'-6"	7'-0"	1.27	1	4'-0"	YES

REINFORCING STEEL SCHEDULE													
TYPE	V-BAR				STIRRUP								
	SIZE #	QTY	LENGTH	WEIGHT LBS	SIZE #	QUANTITY			LENGTH	DIAMETER "C" FT	OVERLAP MIN.	WEIGHT LBS	TOTAL STEEL WEIGHT LBS
						VERTICAL ON 6" CENTERS	SPACING ON 12" CENTERS	TOTAL					
I	8	6	3'-0"	56	4	0	4	4	5'-7"	1'-6"	0'-10"	15	71
II	8	6	4'-6"	86	4	5	3	8	5'-7"	1'-6"	0'-10"	30	116
III	8	6	6'-6"	122	4	7	4	11	7'-2"	2'-0"	0'-10"	53	175

STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
PEDESTALS
 FOUNDATIONS

SHEET 1 OF 1
1743D01

11-10-2017 08:03
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SIGNATURES COMPLETED

See Plate for Title

Prepared in the Offices of:

750 N. Greenfield Parkway
Garner, NC 27529

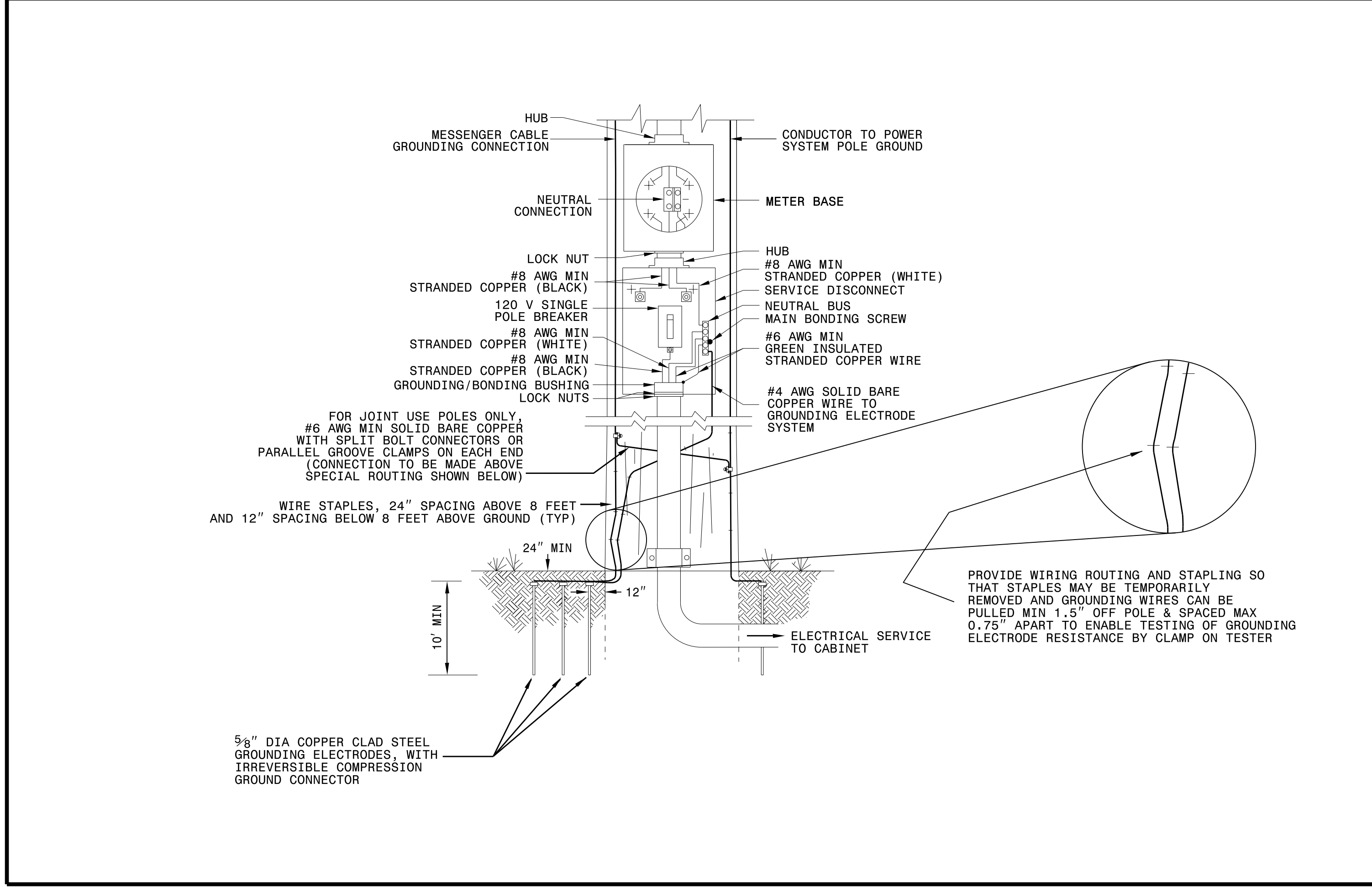
SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
028094
ENGINEER
DEBESH C. SARKAR

Disc Signed by: *Debes C. Sarkar* 10/11/2017
DATE

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
ELECTRICAL SERVICE GROUNDING
GROUNDING AND BONDING

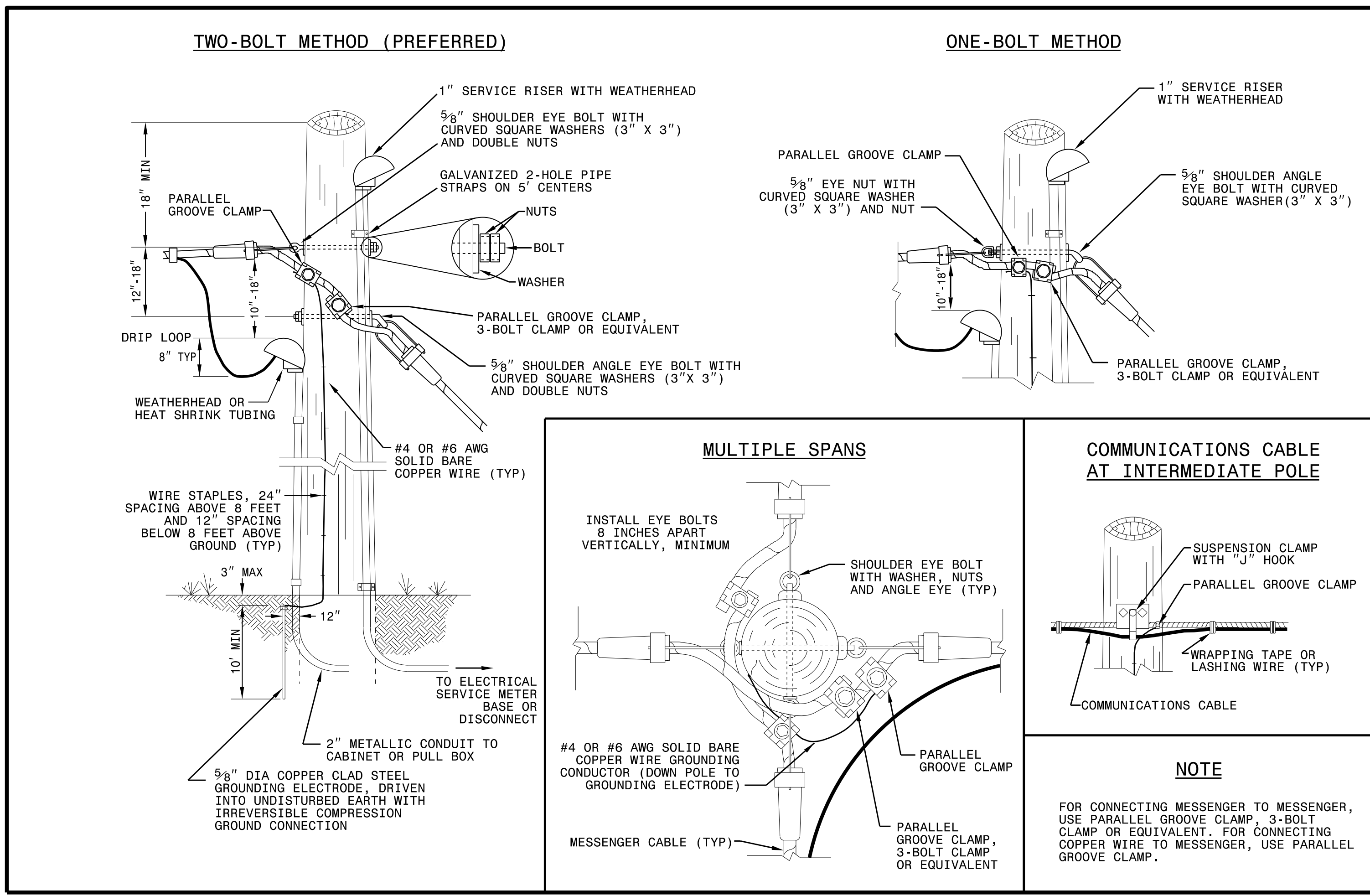
SHEET 1 OF 1
1700D01



1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
WOOD POLES
METHODS OF ATTACHMENT AND GROUNDING

SHEET 1 OF 1
1720D01



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See Plate for Title

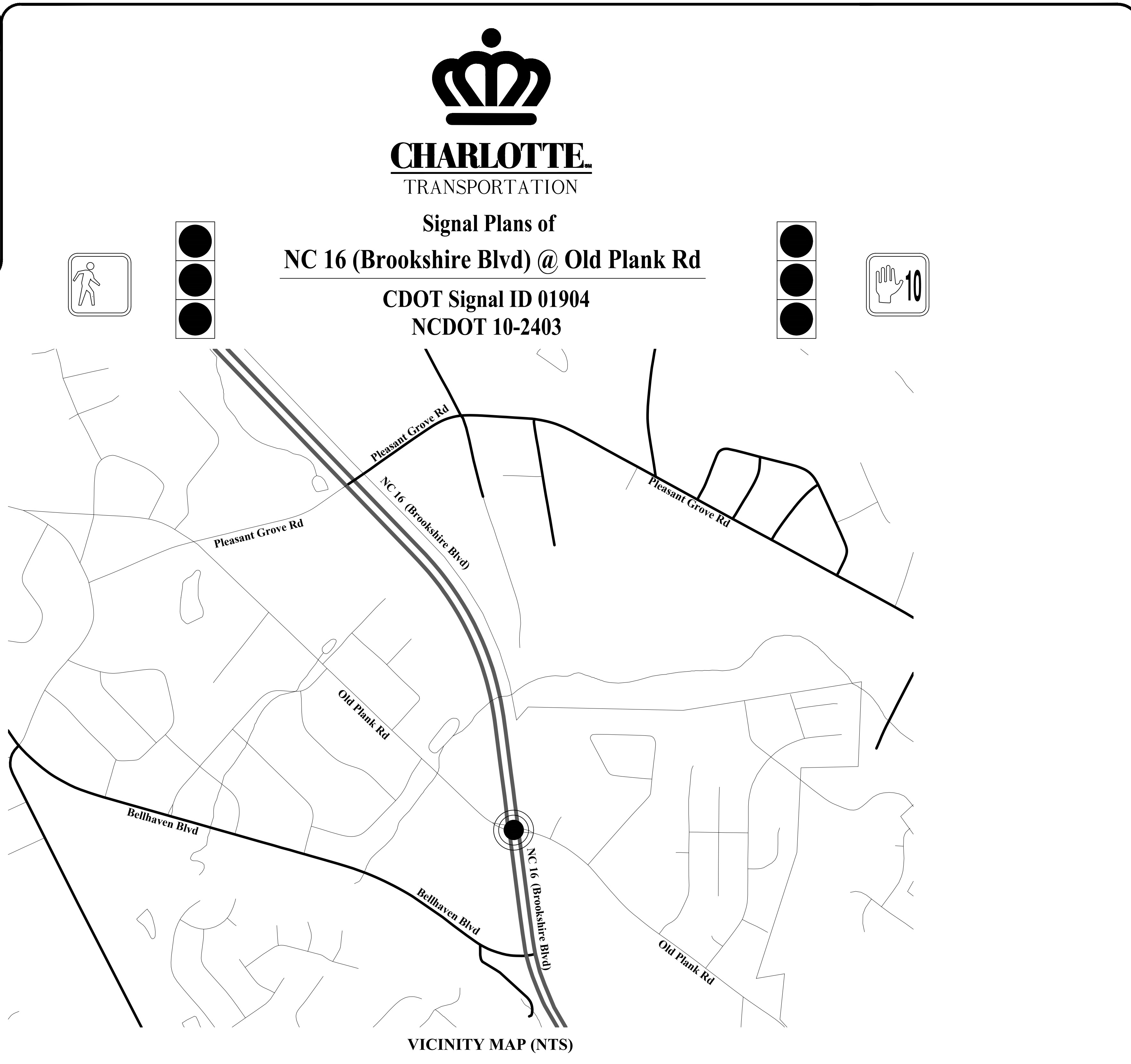
<p>Prepared in the Offices of:</p> <p>750 N. Greenfield Parkway Garner, NC 27529</p>	<p>SEAL</p> <p>DocuSigned by: Mohd Aslami</p> <p>10/11/2017 DATE</p>
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Signal ID 01904 / NCDOT 10-2403

NC 16 (Brookshire Blvd) @ Old Plank Rd

INDEX OF SHEETS	
Cover Sheet	SIG2.0
Signal Plan	SIG2.1
Signal Details	SIG2.2
Splice Detail	SIG2.3
Signal Wiring Diagram	SIG2.4
Low Voltage Wiring Diagram	SIG2.5
Miscellaneous Details	SIG2.6
TOTAL SHEETS 7	



LEGEND		
PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	METER PEDESTAL	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	
	UTILITIES TELEPHONE UG CABLE SUE	
	UTILITIES SANITARY SEWER UG LINE	
	UTILITIES WATER UG LINE SUE	
	UTILITIES GAS UG LINE SUE	
	UTILITIES TELEPHONE UG FO SUE	
	OTHER CULTURE FENCE LINE	

PULLBOX ID		
	SIZE	PULLBOX TYPE
①	13"x24"x12"	LOOP
②	17"x30"x30"	FIBER OPTIC
③	24"x36"x24"	CONTROLLER / FIBER
④	30"x48"x36"	CONTROLLER
⑤	24"x24"x12"	CONTROLLER
UH-2	24"x36"x30"	FIBER SPLICE

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE 2018 NCDOT STANDARD TRAFFIC SIGNAL SPECIFICATIONS.

PLANS PREPARED FOR:

City of Charlotte
Department of Transportation
 600 East 4th Street Charlotte, NC 28202
 Phone: (704) 336-4119
 Fax: (704) 336-4400

PLAN NOTES

- ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
- SIGNAL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND PROJECT SPECIAL PROVISIONS.
- CITY WILL SUPPLY STREET NAME SIGNS FOR INSTALLATION.
- SEE SIGNAL COMMUNICATION PLANS FOR CONSTRUCTION RELATED TO SYSTEM, SHOWN ON SIGNAL PLANS AS EXISTING.
- FYA #11, #12, #51 AND #52 WILL OPERATE PROTECTED-ONLY FROM 0500-2200 7 DAYS A WEEK, AND PROTECTED-PERMISSIVE ALL OTHER TIMES.
- ATTACHMENT HEIGHTS ARE ESTIMATED. BASED ON AVAILABLE INFORMATION AND EXISTING SURVEY ELEVATIONS. CONTRACTOR SHALL FIELD VERIFY ELEVATIONS TO ENSURE POLES OF SUFFICIENT LENGTH TO MAINTAIN MINIMUM REQUIRED CLEARANCE ABOVE THE ROADWAY.

PE SEAL

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PROJECT TEAM

Plans Prepared By:

DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Cary, NC 27518
 NC License No. C-2213 (919) 650-1038

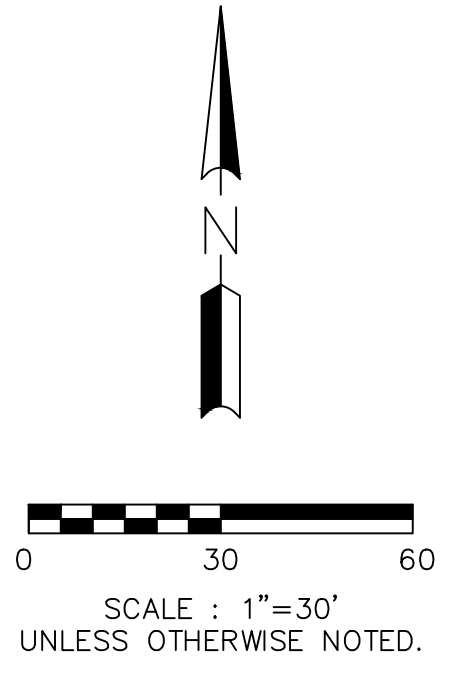
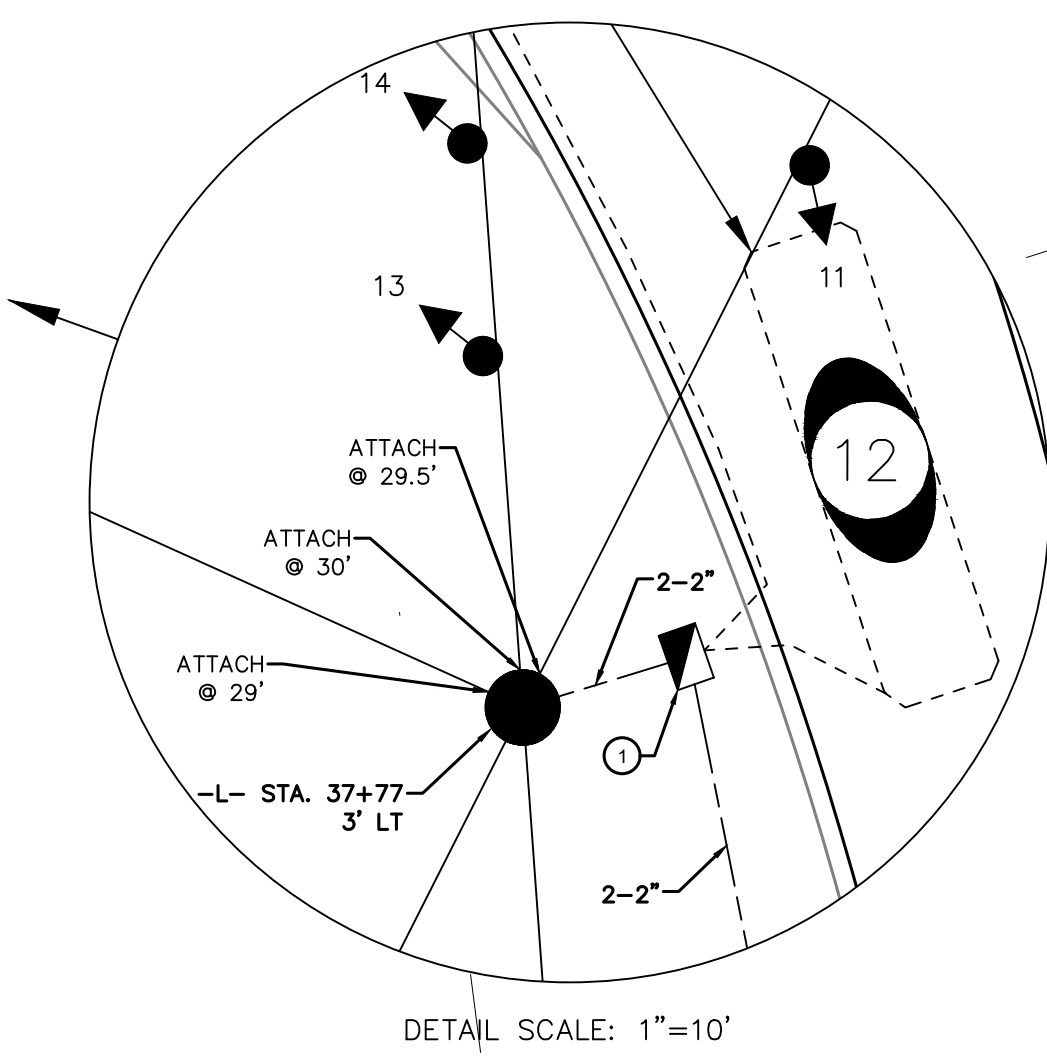
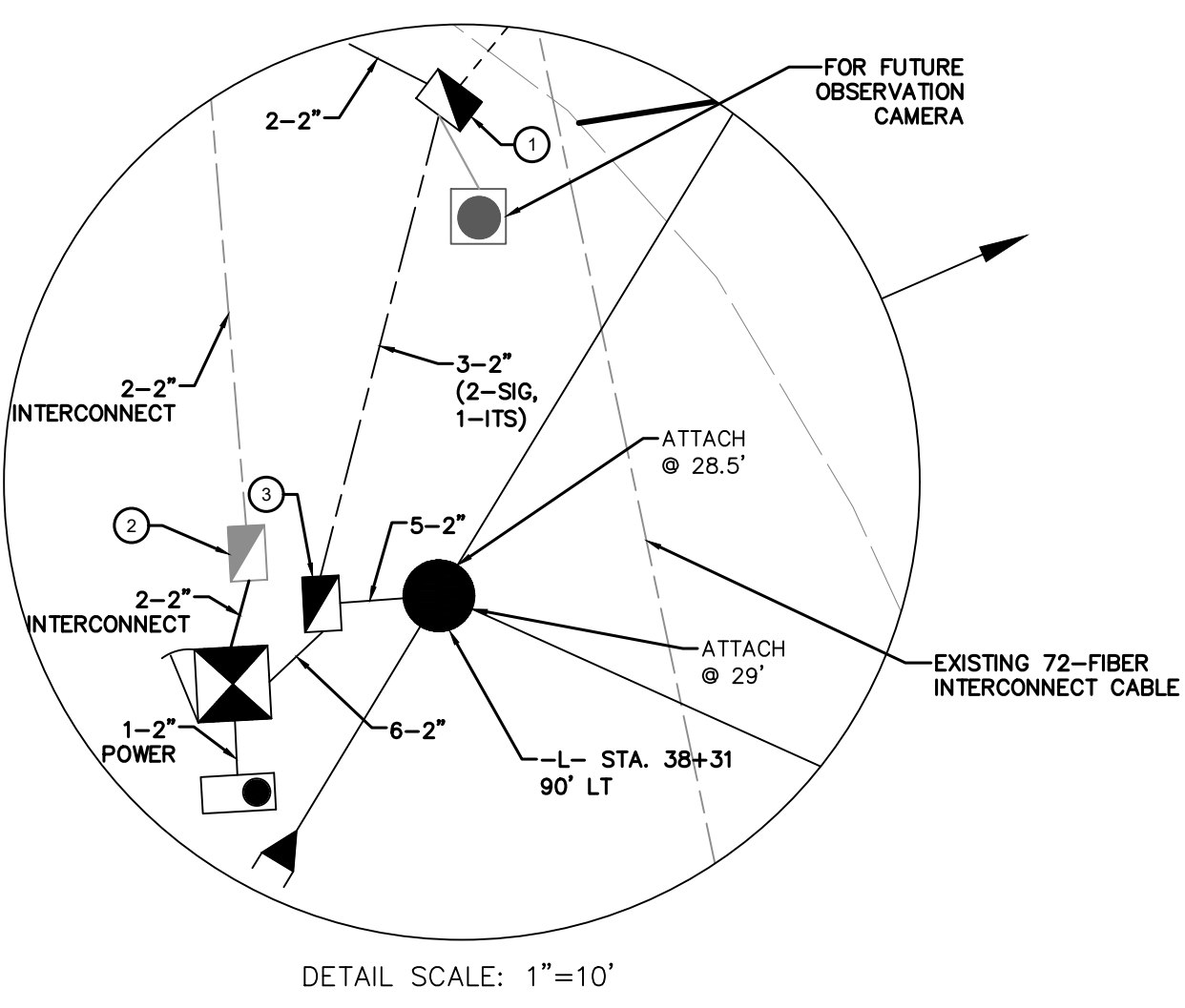
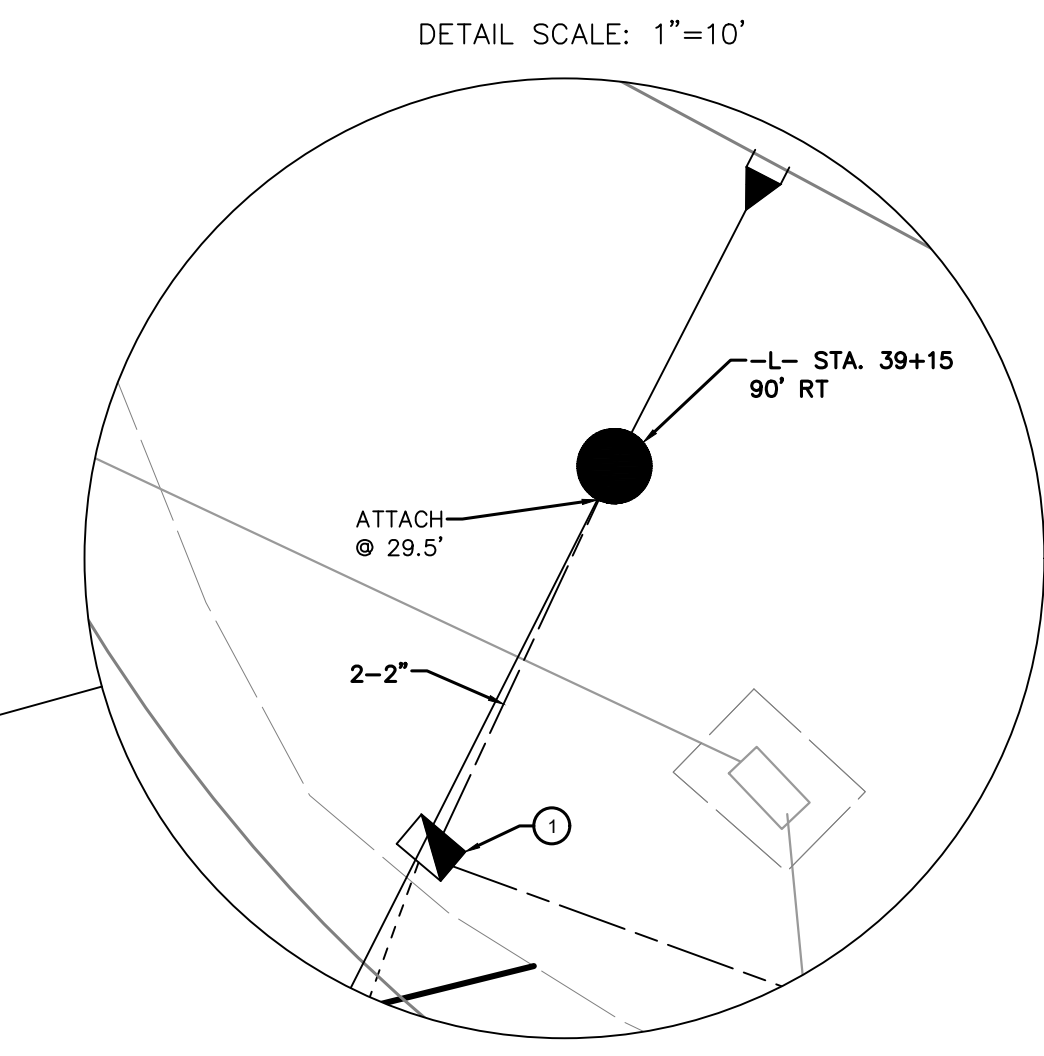
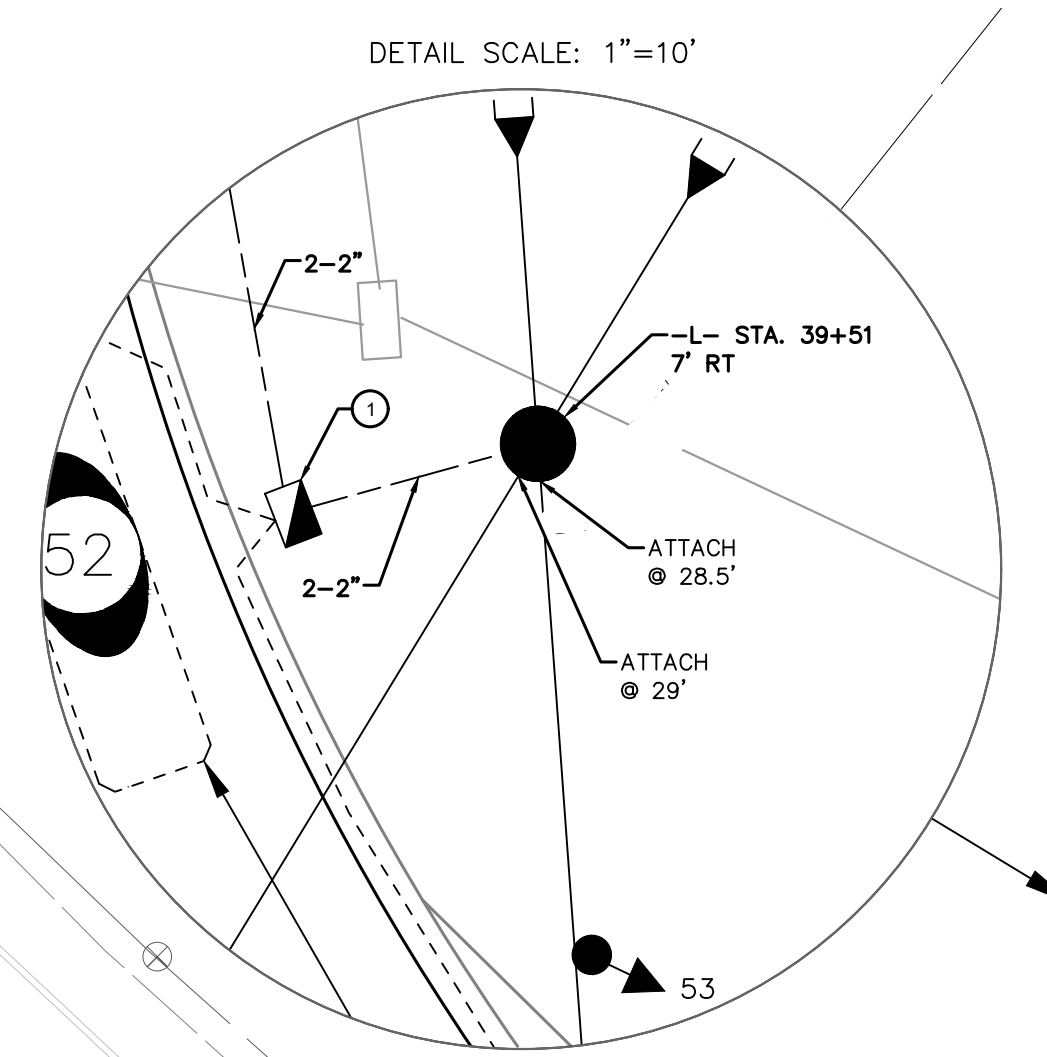
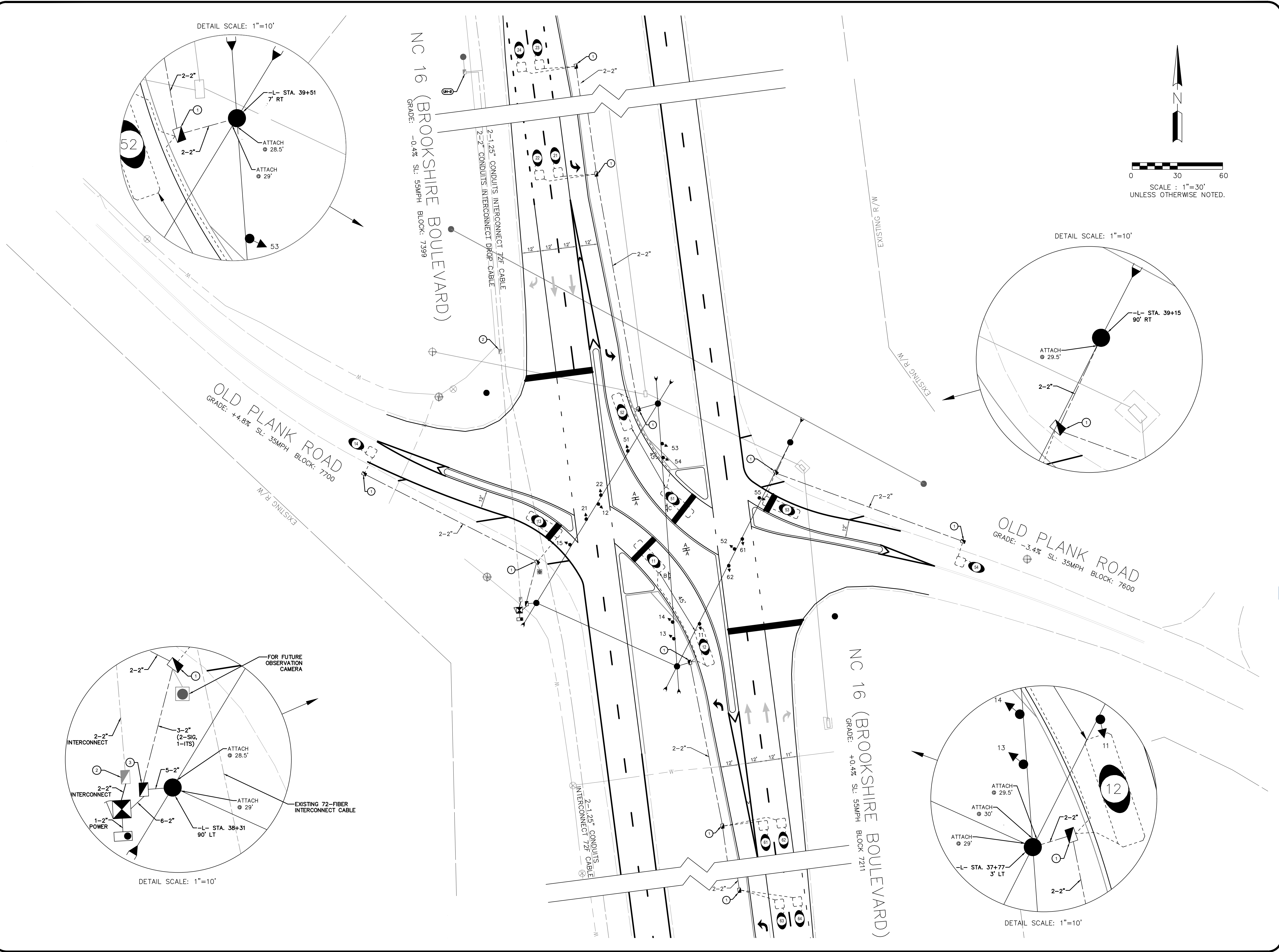
DESIGNER:	D. White
PROJECT ENGINEER:	C. Silver
PROJECT MANAGER:	L. Moon

Prepared for the Offices of:


CHARLOTTE
 TRANSPORTATION

750 N. Greenfield Pkwy,
 Garner, NC 27529

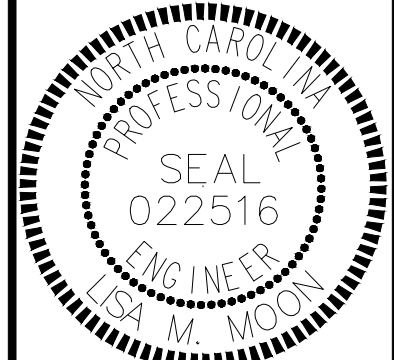
SHEET
SIG2.0



Plans Prepared For:
CITY OF CHARLOTTE
 DEPARTMENT OF
 TRANSPORTATION
 600 E. 4TH STREET, FLOOR 1000, NC 28202
 704.359.4191 FAX: 704.359.4660

Plans Prepared By:

DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Cary, NC 27513
 NC License No. C-2216 (919) 659-1038

NO.	DATE	BY	REVISION DESCRIPTION



Designed by
Lisa M. Moon 3/25/2022
02251600021

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W-5710AK	JOB NO.	D/JW	PREPARED BY	03-2022	DATE
01904	SIGNAL NO.	10-2403	NC DOT ID NO.	L. MOON	APPROVER

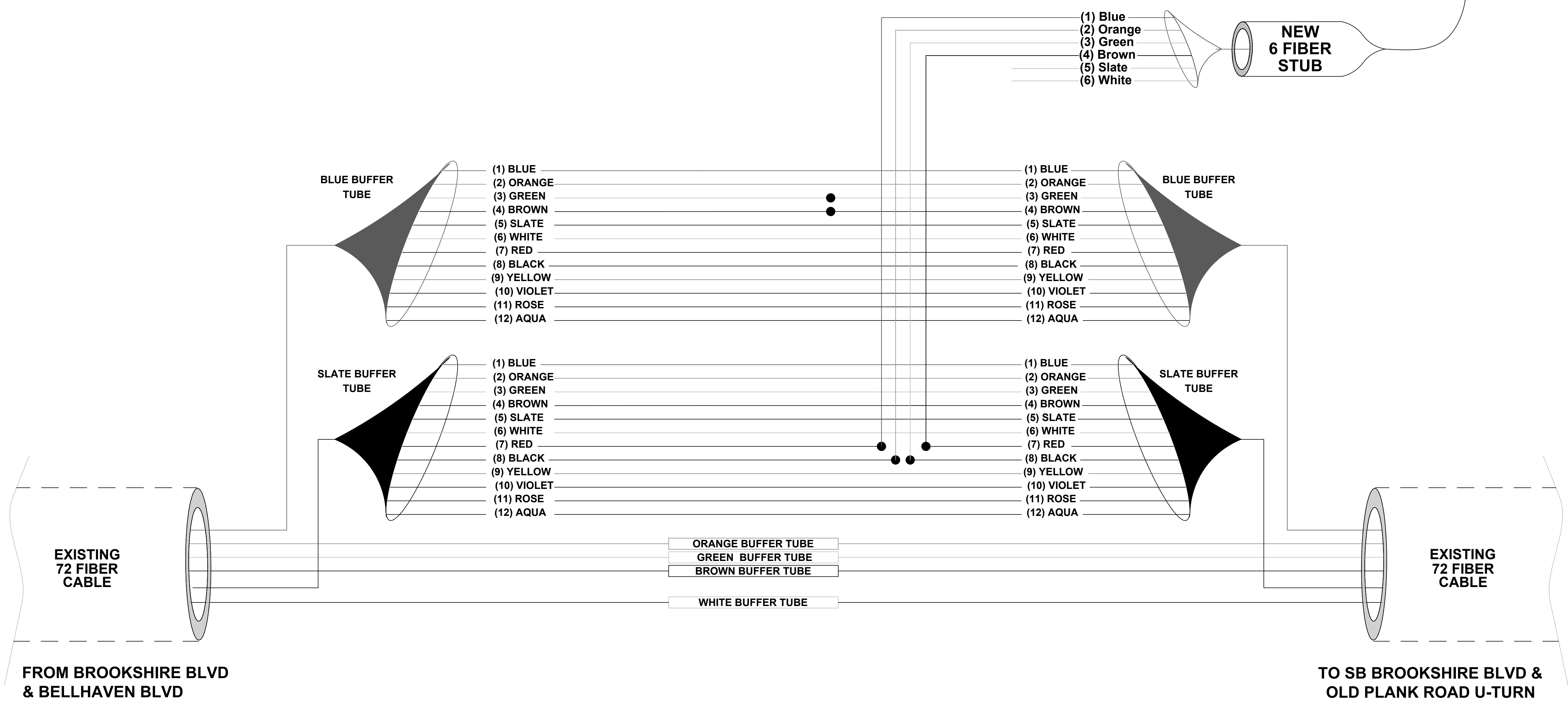
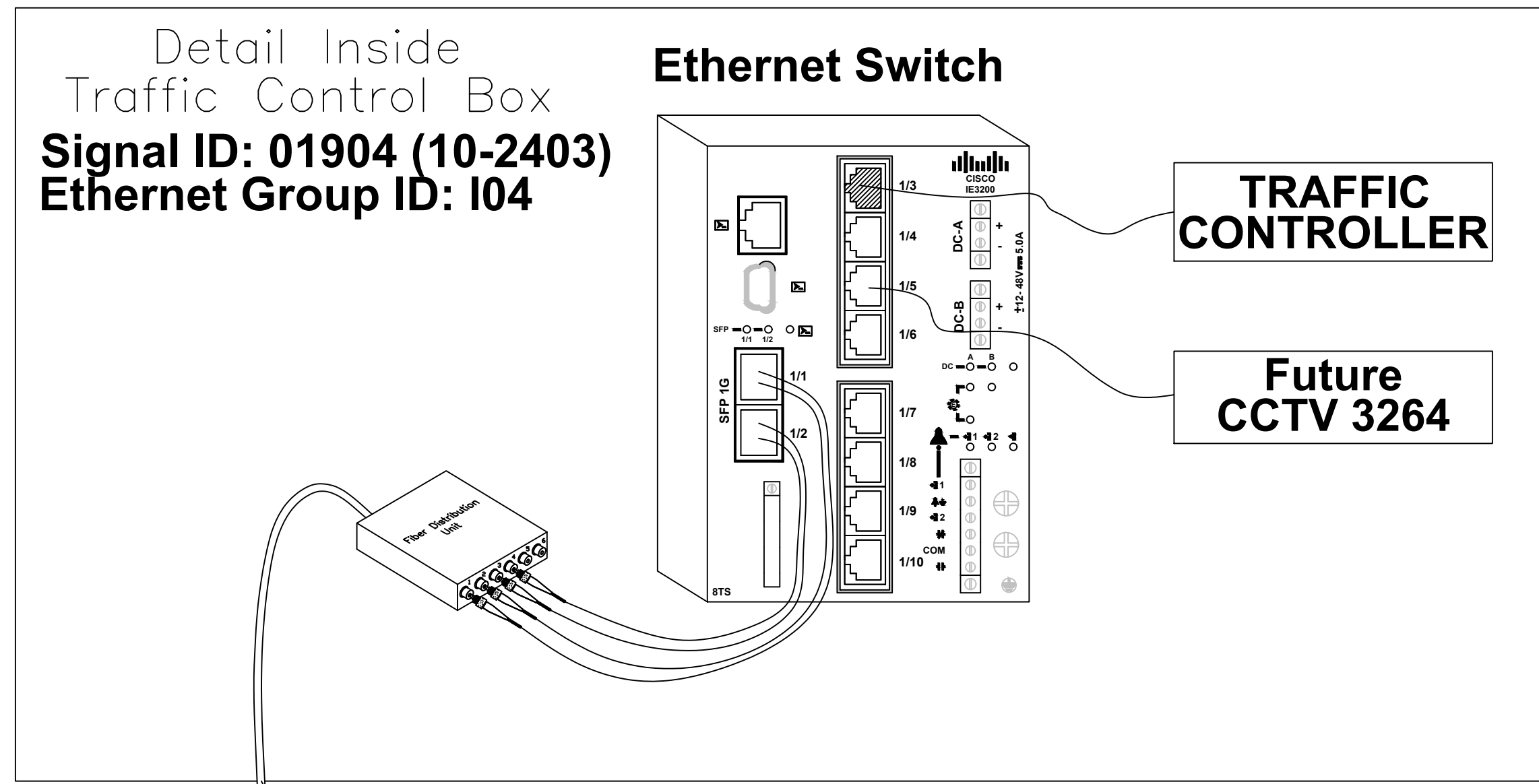
**NC 16 (BROOKSHIRE BLVD)
 @ OLD PLANK RD**

SIGNAL PLAN

SHEET
SIG2.1
 OF
SIG2.6

LEGEND
 ○ EXISTING SPLICE
 ● NEW SPLICE
 ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH.

SPLICE 01904



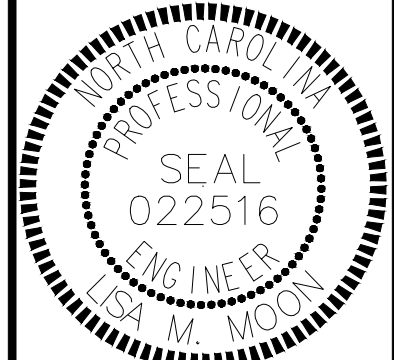
SPLICE CASE IN EX. HANDHOLE# 13 ON SB BROOKSHIRE BLVD AT ~300' NORTH OF OLD PLANK ROAD



Plans Prepared For:
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 600 E. 4TH ST., 11TH FLOOR, NC 28202
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Plans Prepared By:
DRMP
 DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Cary, NC 27513
 NC License No. C-2216 (919) 659-1038

NO.	DATE	BY	REVISION DESCRIPTION



DocuSigned by:
 Lisa M. Moon
 3/25/2022
 58CE58B8D83D0421

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W-5710AK JOB NO.	DJW PREPARED BY	03-2022 DATE
01904 SIGNAL NO.	10-2403 NCDOT ID NO.	L. MOON APPROVER

NC 16 (BROOKSHIRE BLVD) @ OLD PLANK RD
FIBER OPTIC SPLICE DETAILS

SHEET **SIG2.3** OF **SIG2.6**

SIGNAL HEAD WIRING

CHANNEL		SIGNAL HEAD HOOK UP CHART																																			
PHASE		1				2		3		4		5				6		7		8		9		10		11		12		13		14		15		16	
SIGNAL HEAD NO.		11★	12★	14	13	15	22	21	NU	NU	51★	52★	54	53	55	61	62	NU	NU	NU	NU	NU	NU	NU	NU	NU	11a★	12a★	NU	51a★	52a★	NU					
RED	Wire			14R	13R	15R	22R	21R					54R	53R	55R	61R	62R																				
	Terminal			LS1-R	[14R]	LS1-R	LS2-R	[22R]					LS5-R	[54R]	LS5-R	LS6-R	[61R]																				
YELLOW	Wire	*	*								*	*																									
	Terminal						LS2-Y	[22Y]								LS6-Y	[61Y]																				
GREEN	Wire						22G	21G								61G	62G																				
	Terminal						LS2-G	[22G]								LS6-G	[61G]																				
RED ARROW	Wire																									11RS	12RS		51RS	52RS							
	Terminal																									LS13-R	LS13-R		LS15-R	LS15-R							
YELLOW ARROW	Wire			14YS	13YS	15YS							54YS	53YS	55YS											11YS	12YS		51YS	52YS							
	Terminal			LS1-Y	[14Y]	LS1-Y							LS5-Y	[54Y]	LS5-Y											LS13-Y	LS13-Y		LS15-Y	LS15-Y							
FLASHING YELLOW	Wire																									11Y	12Y		51Y	52Y							
	Terminal																									LS13-G	LS13-G		LS15-G	LS15-G							
GREEN ARROW	Wire	11GS	12GS	14GS	13GS	15GS					51GS	52GS	54GS	53GS	55GS																						
	Terminal	LS1-G	LS1-G	LS1-G	[14G]	LS1-G					LS5-G	LS5-G	LS5-G	[54G]	LS5-G																						

[XX*] = TERMINAL BLOCK IN SIGNAL HEAD | LSX* = TERMINAL IN LOAD BAY * Denotes install load resistor. See Load Resistor Detail on this sheet. See pictorial of head wiring detail on this sheet, NU = NOT USED



Plans Prepared For:
CITY OF CHARLOTTE
DEPARTMENT OF TRANSPORTATION
600 E. 4TH ST. 1ST FLOOR, NC 28202
704.359.4119 FAX 704.359.4600

Plans Prepared By:
DRMP
DRMP, Inc.
8000 Regency Parkway, Suite 110
Charlotte, NC 28226
NC License No. C-2219 (P) 919.656-1088

NO.	DATE	BY	REVISION DESCRIPTION



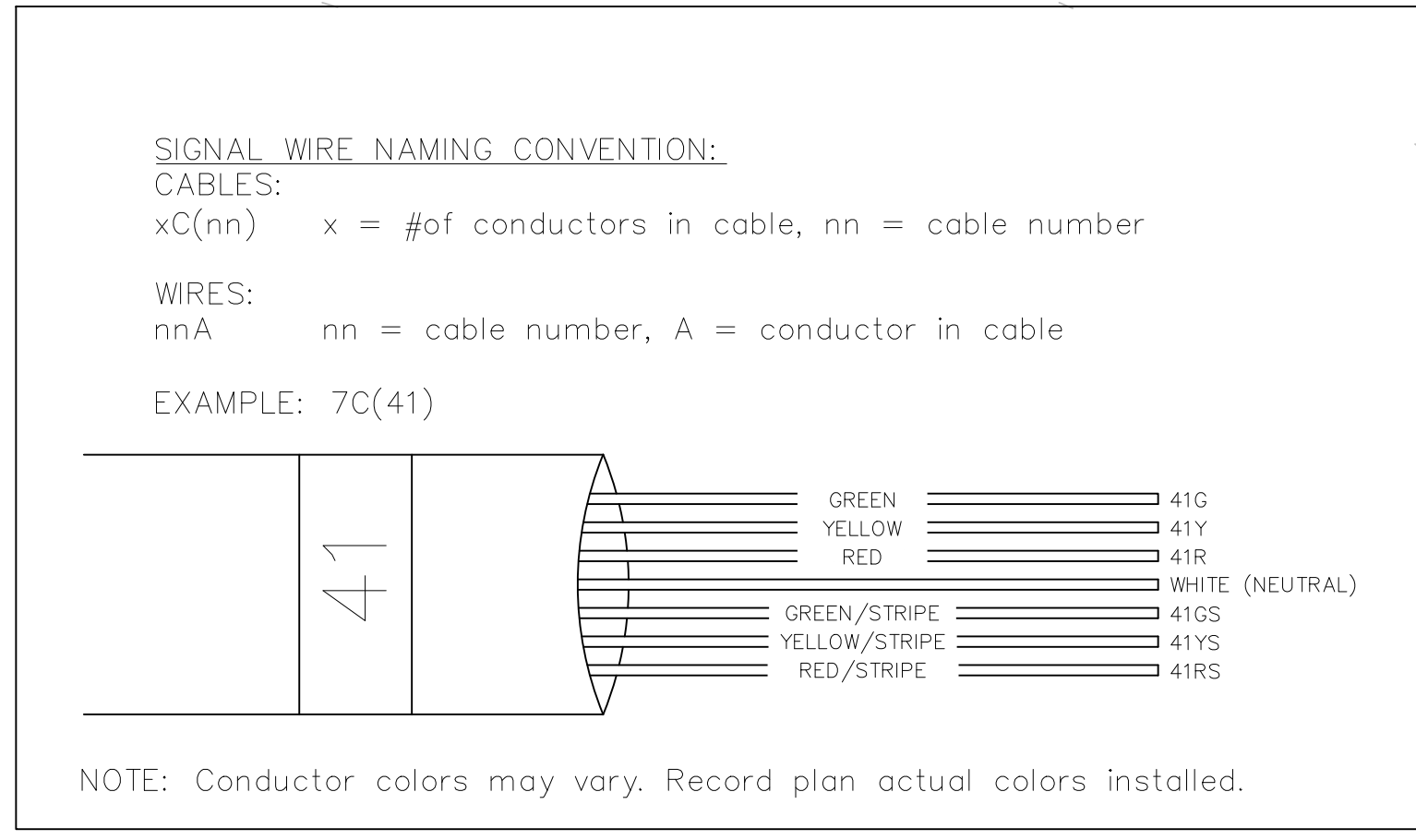
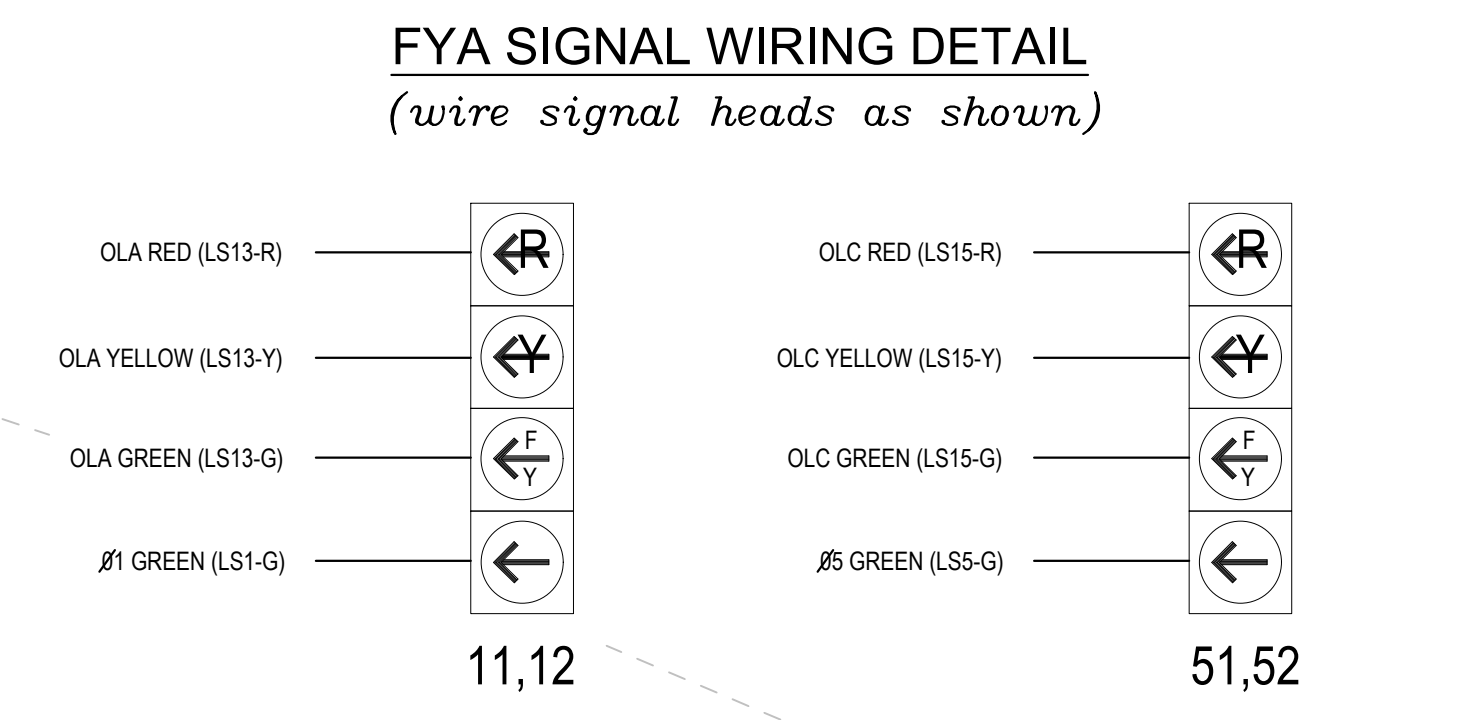
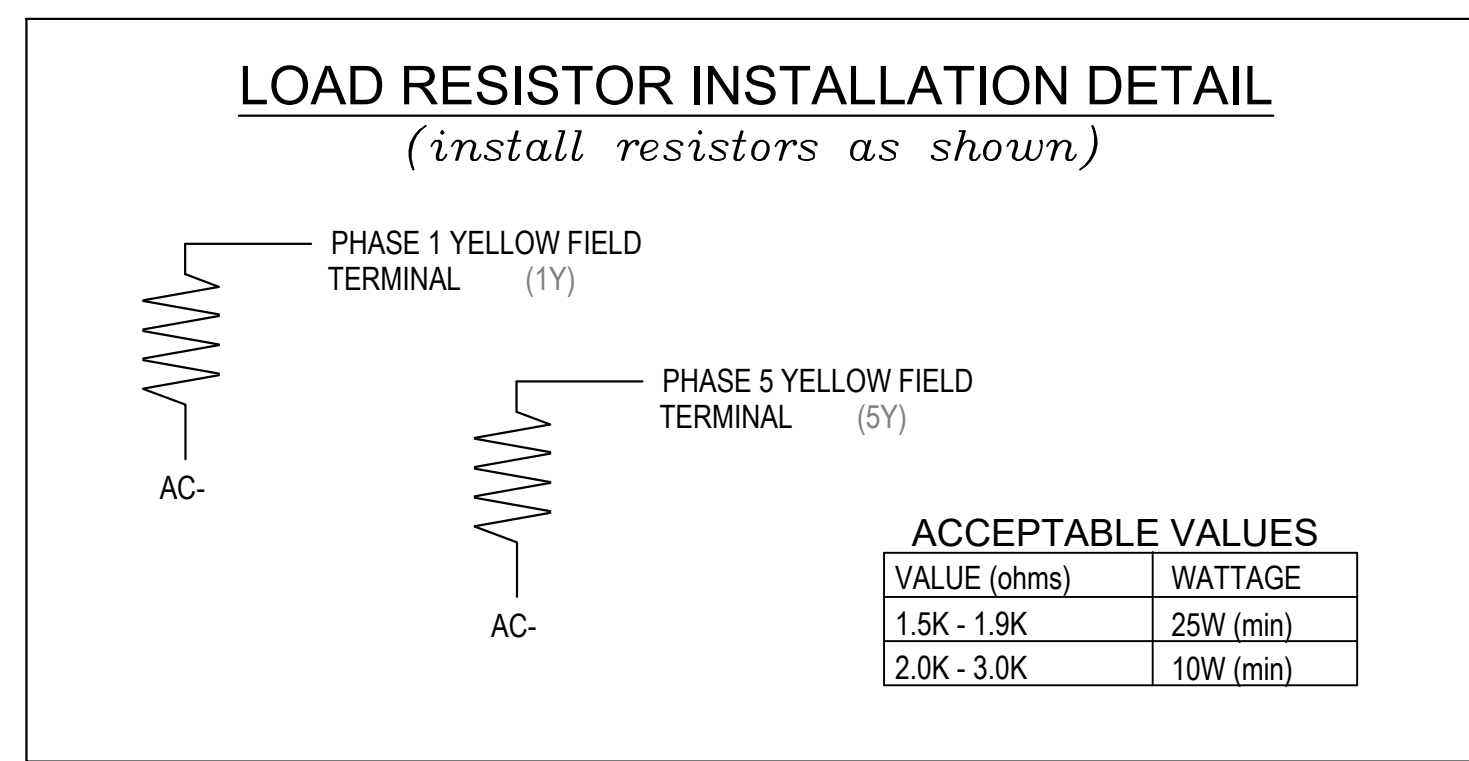
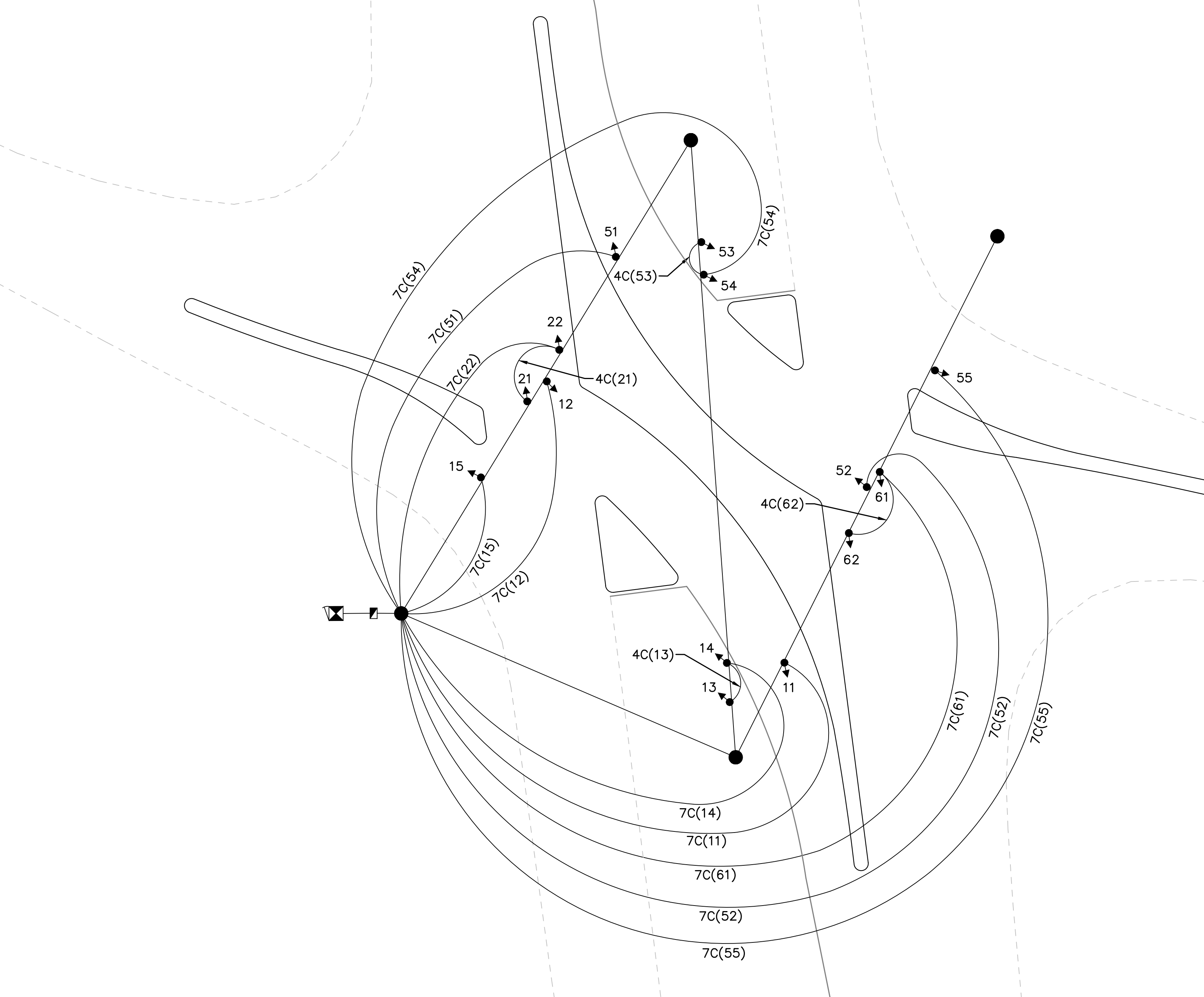
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Lisa M. Moon 3/25/2022
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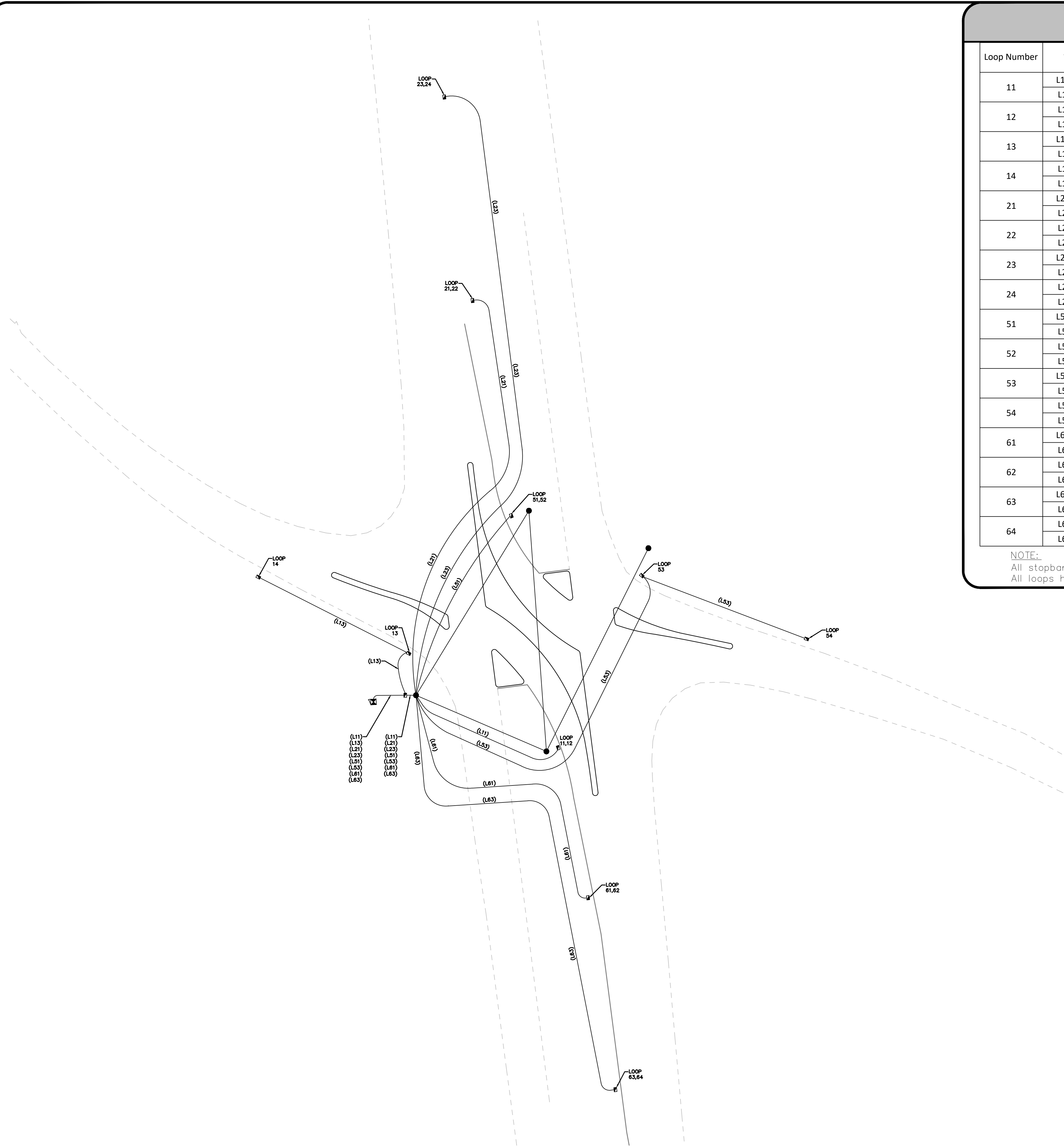
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W-5710AK	JOB NO.	DJW	PREPARED BY	03-2022	DATE
01904	SIGNAL NO.	10-2403	NCDOT ID NO.	L. MOON	APPROVER

NC 16 (BROOKSHIRE BLVD)
@ OLD PLANK RD
SIGNAL WIRING DIAGRAM

SHEET SIG2.4 OF SIG2.6

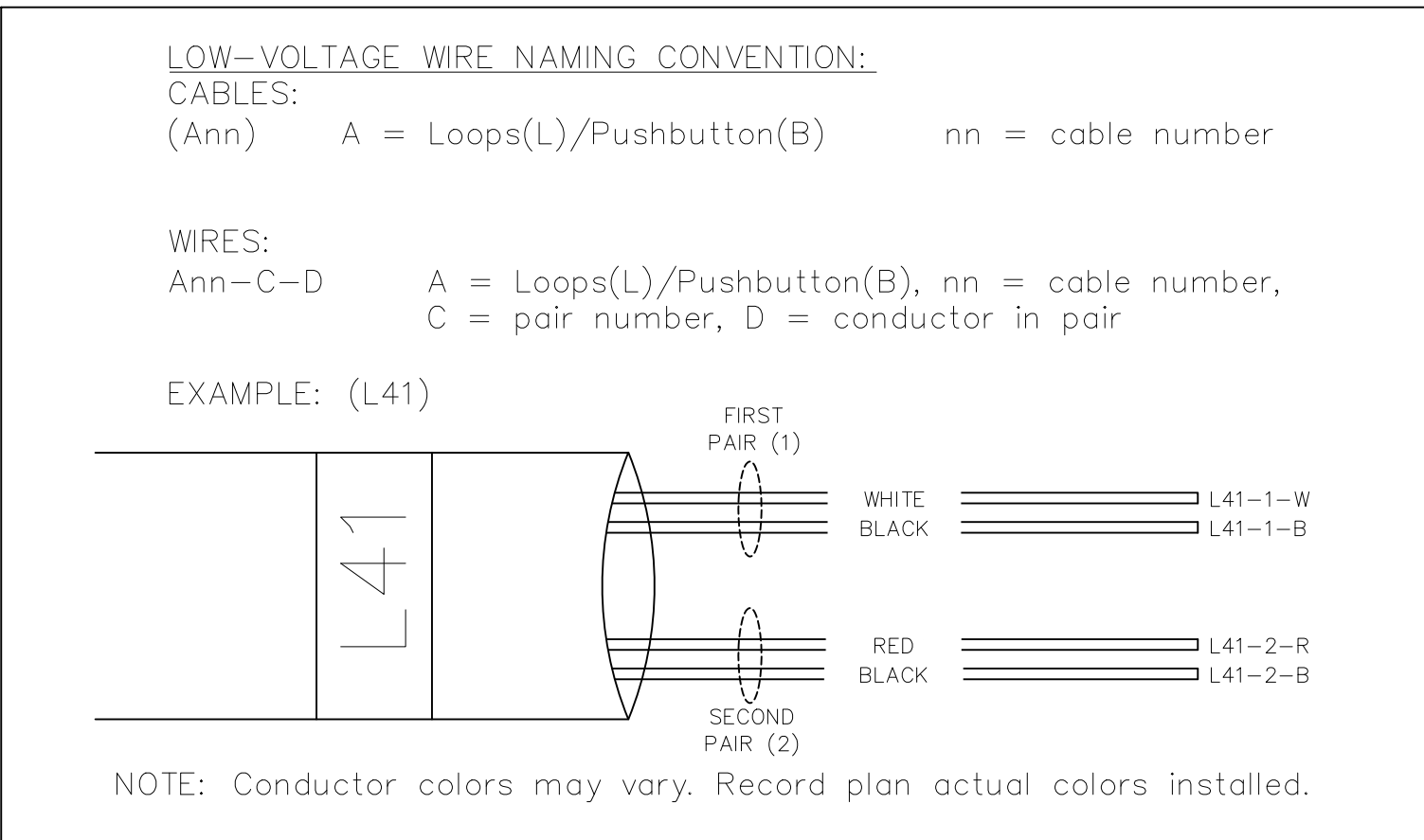




LOOP WIRING

Loop Number	Wire	Terminal	Controller Detector Number	Phase	Timing		Size	Comments
					Feature	Time (sec)		
11	L11-1-W	LT1-1	1	1	-	-	6'X25'	@ STOP BAR
	L11-1-B	LT1-2						
12	L11-2-R	LT1-3	2	1	-	-	6'X25'	65' FROM STOP BAR
	L11-2-B	LT1-4						
13	L13-1-W	LT1-5	3	1	DELAY	15	6'X25'	@STOP BAR
	L13-1-B	LT1-6						
14	L13-2-R	LT1-7	4	1	-	-	6'X6'	130' FROM STOP BAR
	L13-2-B	LT1-8						
21	L21-1-W	LT1-9	5	2	-	-	6'X6'	130' FROM STOP BAR
	L21-1-B	LT1-10						
22	L21-2-R	LT1-11	6	2	-	-	6'X6'	130' FROM STOP BAR
	L21-2-B	LT1-12						
23	L23-1-W	LT1-13	7	2	-	-	6'X6'	280' FROM STOP BAR
	L23-1-B	LT1-14						
24	L23-2-R	LT1-15	8	2	-	-	6'X6'	280' FROM STOP BAR
	L23-2-B	LT1-16						
51	L51-1-W	LT2-1	9	5	-	-	6'X25'	@ STOP BAR
	L51-1-B	LT2-2						
52	L51-2-R	LT2-3	10	5	-	-	6'X25'	65' FROM STOP BAR
	L51-2-B	LT2-4						
53	L53-1-W	LT2-5	11	5	DELAY	15	6'X25'	@STOP BAR
	L53-1-B	LT2-6						
54	L53-2-R	LT2-7	12	5	-	-	6'X25'	130' FROM STOP BAR
	L53-2-B	LT2-8						
61	L61-1-W	LT2-9	13	6	-	-	6'X6'	130' FROM STOP BAR
	L61-1-B	LT2-10						
62	L61-2-R	LT2-11	14	6	-	-	6'X6'	130' FROM STOP BAR
	L61-2-B	LT2-12						
63	L63-1-W	LT2-13	15	6	-	-	6'X6'	280' FROM STOP BAR
	L63-1-B	LT2-14						
64	L63-2-R	LT2-15	16	6	-	-	6'X6'	280' FROM STOP BAR
	L63-2-B	LT2-16						

NOTE:
 All stopbar loops are 5' beyond the stopbar unless otherwise noted.
 All loops have 3 turns.



NOTE

CDOT TO PROGRAM DETECTOR
 TYPES AND TIMERS (EXTEND AND
 DELAY) AS SHOWN IN LOOP WIRING
 CHART ABOVE INTO CONTROLLER

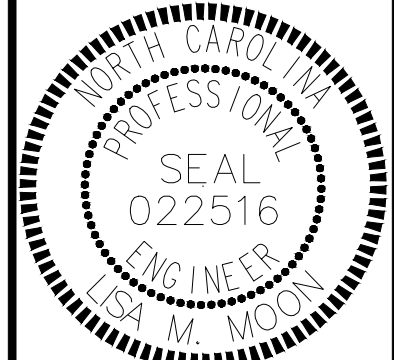


Plans Prepared For:
CITY OF CHARLOTTE
 DEPARTMENT OF
 TRANSPORTATION
 600 E. 4TH STREET, FLOOR 10, NC 28202
 704.259.4191 FAX: 704.336.4660

Plans Prepared By:

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 8000 Regency Parkway, Suite 110
 Cary, NC 27513
 NC License No. C-2216 (919) 659-1038

NO.	DATE	BY	REVISION DESCRIPTION



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Lisa M. Moon
 3/25/2022
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W-5710AK JOB NO.	DJW PREPARED BY	03-2022 DATE
01904 SIGNAL NO.	10-2403 NCDOT ID NO.	L. MOON APPROVER

**NC 16 (BROOKSHIRE BLVD)
 @ OLD PLANK RD**

**LOW VOLTAGE
 WIRING DIAGRAM**

SHEET
SIG2.5
 OF
SIG2.6

NOTE:
 ALL LEAD-IN WIRE SHOULD BE TWO PAIR CABLE

NOTES

1. To prevent "flash-conflict" problems, wire all unused load switches to flash red. Verify that signal heads flash in accordance with the signal plans.
2. To prevent red failures on unused monitor channels, tie unused load switch red outputs 3, 4, 7, 8, 9, 10, 11, 12, 14, and 16 to load switch AC+ by inserting a jumper plug in the unused load switch socket from pin 1 (LS AC+) to pin 3 (RED out). Make sure all flash transfer relays are in place.
- ◆ 3. Program controller to start up in phase 2 Green and 6 Green.
- ◆ 4. Set power-up flash time to 12 seconds and implement on the Malfunction Management Unit. Set controller power-up flash time to 22 seconds.
- ◆ 5. Program detectors in accordance with the manufacturer's instructions to accomplish the detection schemes shown on the signal design plans.
- ◆ 6. Program detector call delay and extension timing on the controller, unless otherwise specified.
7. Set all detector card unit channels to "presence" mode.
8. The cabinet and controller are a part of the Charlotte Signal System.

◆ Software and Programming by CDOT

City of Charlotte Department of Transportation (CDOT) to provide EOS Software and do all Programming of the controller database. Contractor to provide CDOT with controller for programming a minimum of two weeks prior to installation. CDOT will return controller, fully programmed for contractor to install and integrate into the controller cabinet.

EQUIPMENT INFORMATION

CONTROLLER.....2070LX
 CABINET[TS-2]
 SOFTWAREECONOLITE EOS-2070
 CABINET MOUNT.....BASE MOUNT ON A RISER
 LOADBAY POSITIONS.....16
 LOAD SWITCHES USED.....1,2,5,6,13,15
 PHASES USED.....1,2,5,6
 OLA.....1+2
 OLB.....NOT USED
 OLC.....5+6
 OLD.....NOT USED



Plans Prepared For:
 CITY OF CHARLOTTE
 DEPARTMENT OF
 TRANSPORTATION
 600 E. 4TH ST. CHARLOTTE, NC 28202
 704.259-4119 FAX: 704.359-4667

Plans Prepared By:

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 8000 Regency Parkway, Suite 110
 Cary, NC 27513
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NO.	DATE	BY	REVISION DESCRIPTION



DocuSigned by:
 Lisa M. Moon
 4/14/2022

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W-5710AK JOB NO.	DJM PREPARED BY	04-2022 DATE
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01904 SIGNAL NO.	10-2403 NCDOT ID NO.	L. MOON APPROVER
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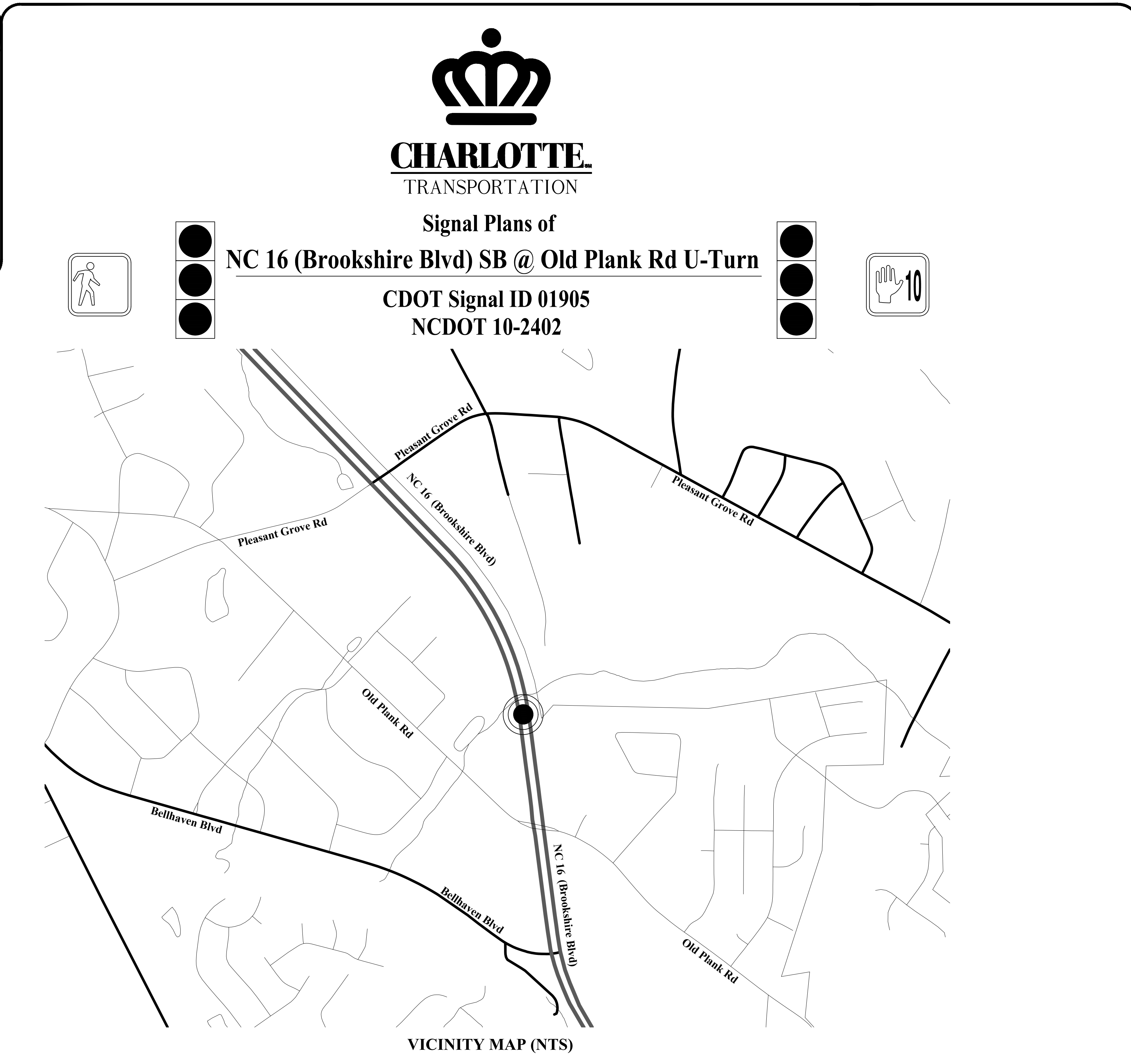
NC 16 (BROOKSHIRE BLVD)
 @ OLD PLANK RD
 MISCELLANEOUS
 DETAILS

SHEET
SIG2.6
 OF
SIG2.6

Signal ID 01905 / NCDOT 10-2402

NC 16 (Brookshire Blvd) SB @ Old Plank Rd U-Turn

INDEX OF SHEETS	
Cover Sheet	SIG3.0
Signal Plan	SIG3.1
Signal Details	SIG3.2
Splice Detail	SIG3.3
Signal Wiring Diagram	SIG3.4
Low Voltage Wiring Diagram	SIG3.5
Miscellaneous Details	SIG3.6
TOTAL SHEETS 7	



LEGEND		
PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	METER PEDESTAL	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	
	UTILITIES TELEPHONE UG CABLE SUE	
	UTILITIES SANITARY SEWER UG LINE	
	UTILITIES WATER UG LINE SUE	
	UTILITIES GAS UG LINE SUE	
	UTILITIES TELEPHONE UG FO SUE	
	OTHER CULTURE FENCE LINE	

PULLBOX ID		
	SIZE	PULLBOX TYPE
①	13"x24"x12"	LOOP
②	17"x30"x30"	FIBER OPTIC
③	24"x36"x24"	CONTROLLER / FIBER
④	30"x48"x36"	CONTROLLER
⑤	24"x24"x12"	CONTROLLER
UH-2	24"x36"x30"	FIBER SPLICE
NOTE: PULLBOX MATERIAL MUST MEET OR EXCEED THE 2018 NCDOT STANDARD TRAFFIC SIGNAL SPECIFICATIONS.		

PLANS PREPARED FOR:

City of Charlotte
Department of Transportation
 600 East 4th Street Charlotte, NC 28202
 Phone: (704) 336-4119
 Fax: (704) 336-4400

- PLAN NOTES**
- ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
 - SIGNAL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND PROJECT SPECIAL PROVISIONS.
 - CITY WILL SUPPLY STREET NAME SIGNS FOR INSTALLATION.
 - SEE SIGNAL COMMUNICATION PLANS FOR CONSTRUCTION RELATED TO SYSTEM, SHOWN ON SIGNAL PLANS AS EXISTING.
 - ATTACHMENT HEIGHTS ARE ESTIMATED, BASED ON AVAILABLE INFORMATION AND EXISTING SURVEY ELEVATIONS. CONTRACTOR SHALL FIELD VERIFY ELEVATIONS TO ENSURE POLES OF SUFFICIENT LENGTH TO MAINTAIN MINIMUM REQUIRED CLEARANCE ABOVE THE ROADWAY.

PE SEAL

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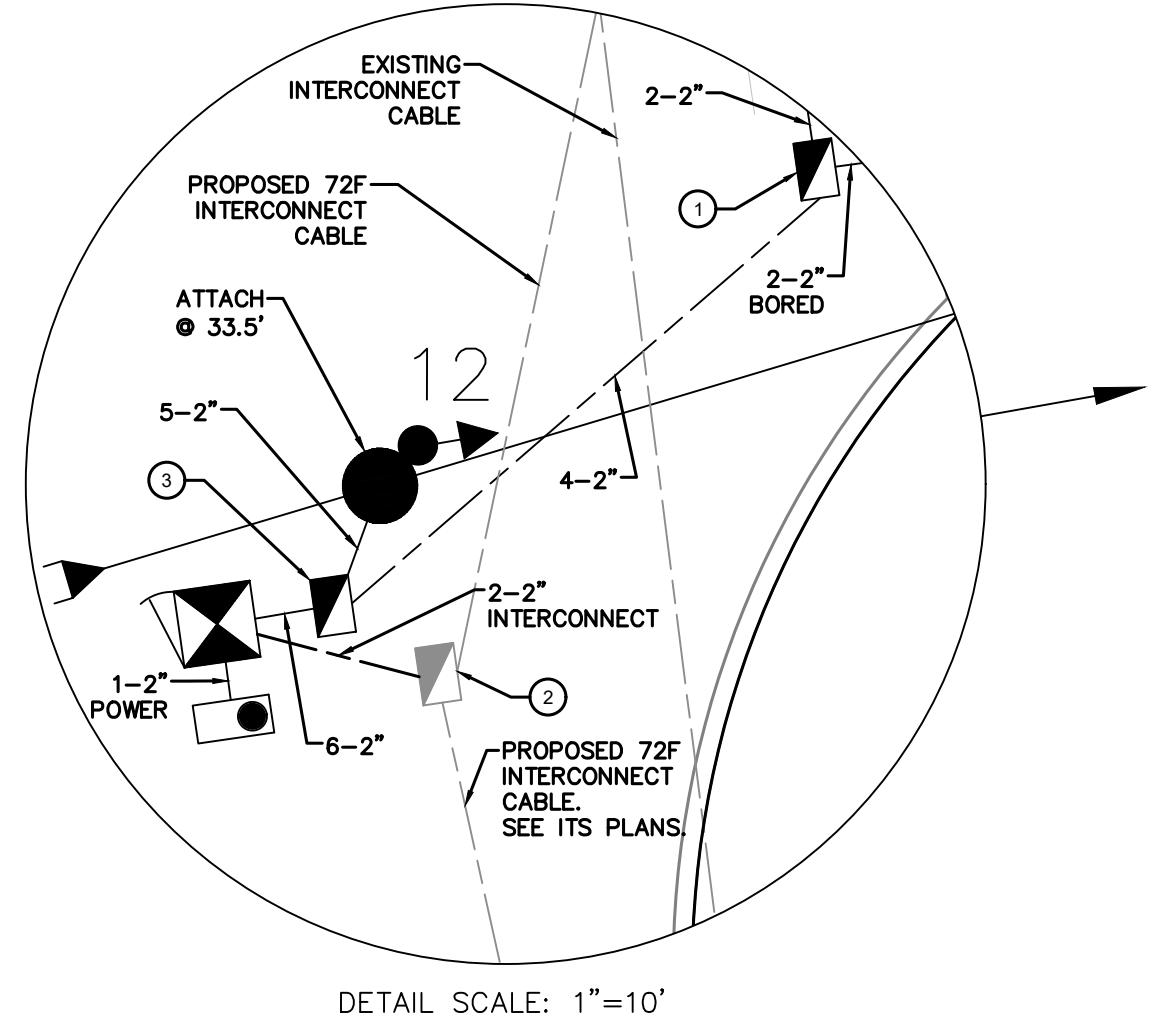
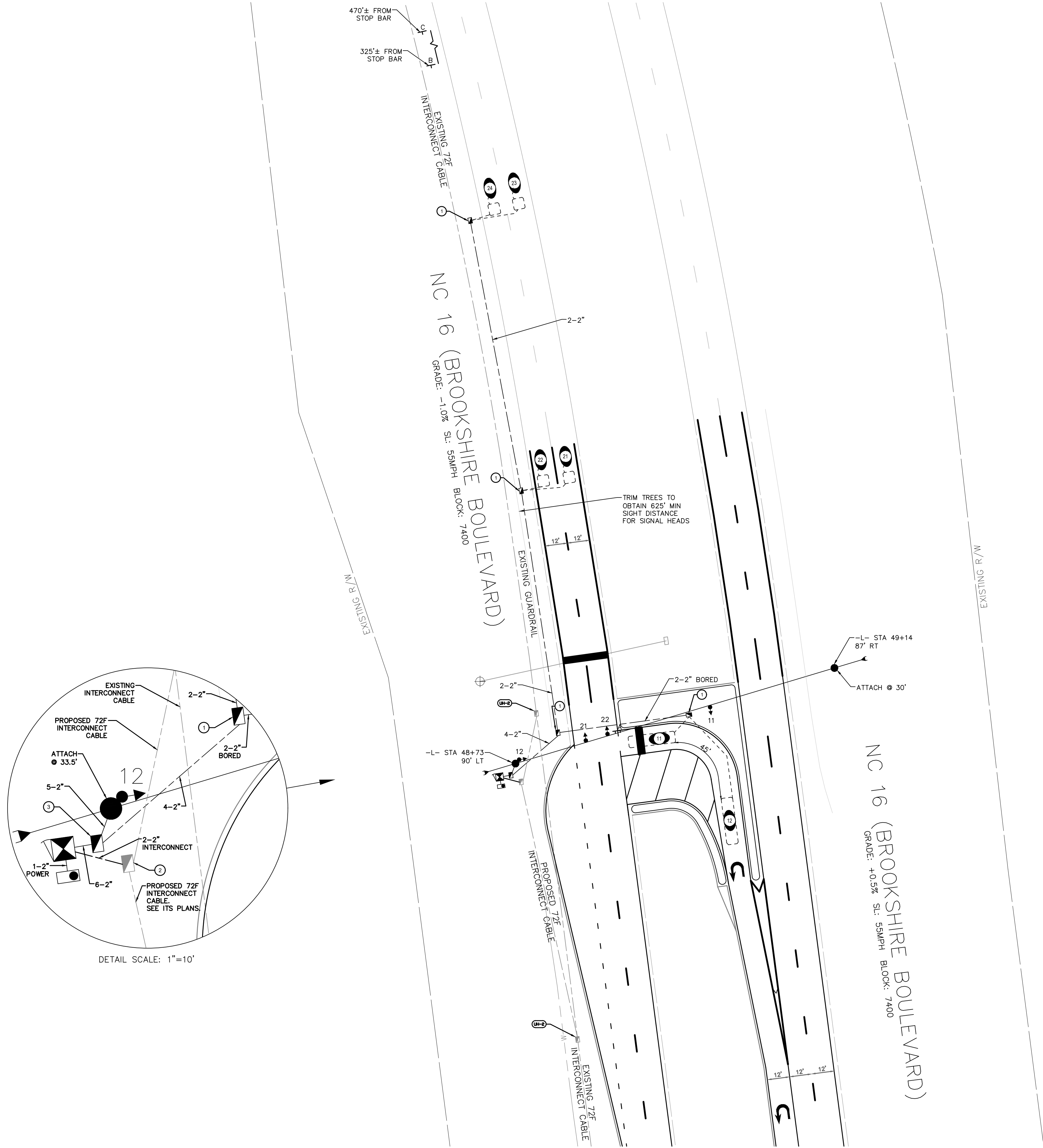
PROJECT TEAM

Plans Prepared By:	DESIGNER:	D. White
DRMP	PROJECT ENGINEER:	C. Silver
DRMP, Inc. 8000 Regency Parkway, Suite 110 Cary, NC 27518 NC License No. C-2213 (919) 650-1038	PROJECT MANAGER:	L. Moon

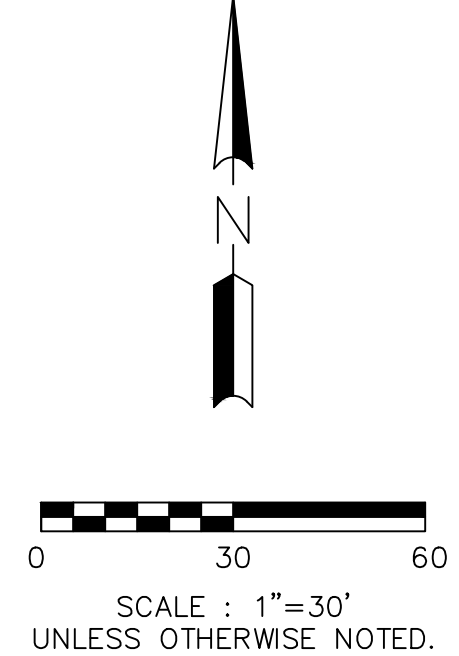
Prepared for the Offices of:

750 N. Greenfield Pkwy,
Garner, NC 27529

SHEET
SIG3.0



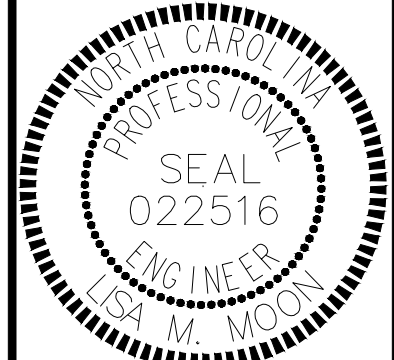
DETAIL SCALE: 1"=10'



Plans Prepared For:
CITY OF CHARLOTTE
DEPARTMENT OF
TRANSPORTATION
600 E. 4TH ST. CHARLOTTE, NC 28202
704.252-4119 FAX: 704.336-4660

Plans Prepared By:
DRMP
DRMP, Inc.
8000 Regency Parkway, Suite 110
Charlotte, NC 28226
NC License No. C-2216 (919) 659-1038

NO.	DATE	BY	REVISION DESCRIPTION



Designed by
Lisa M. Moon 3/25/2022
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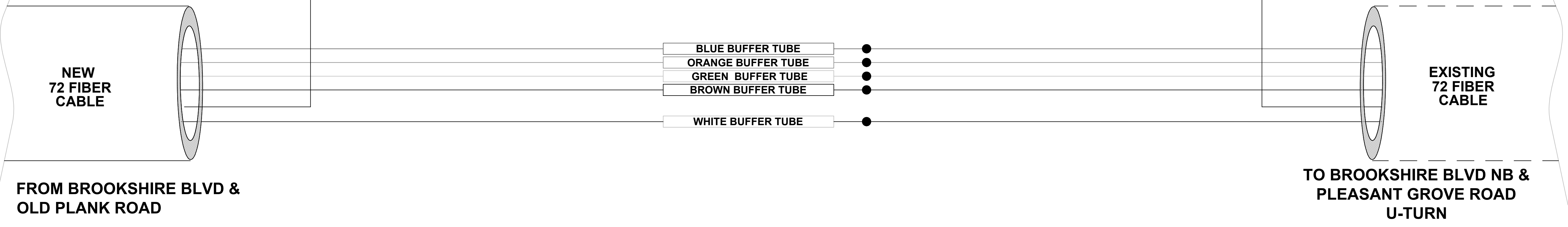
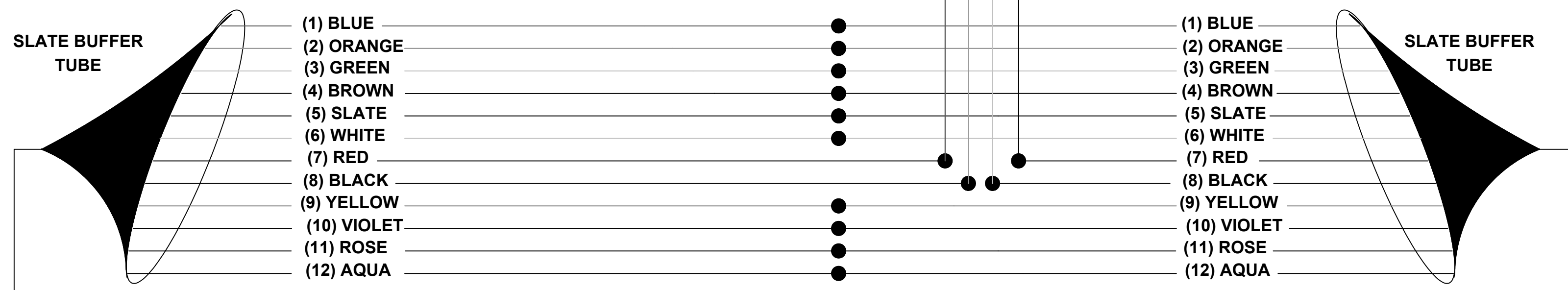
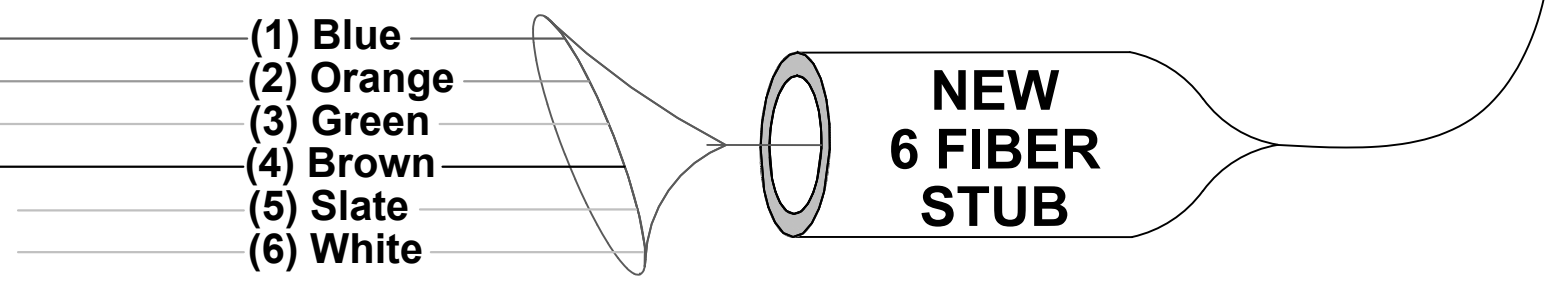
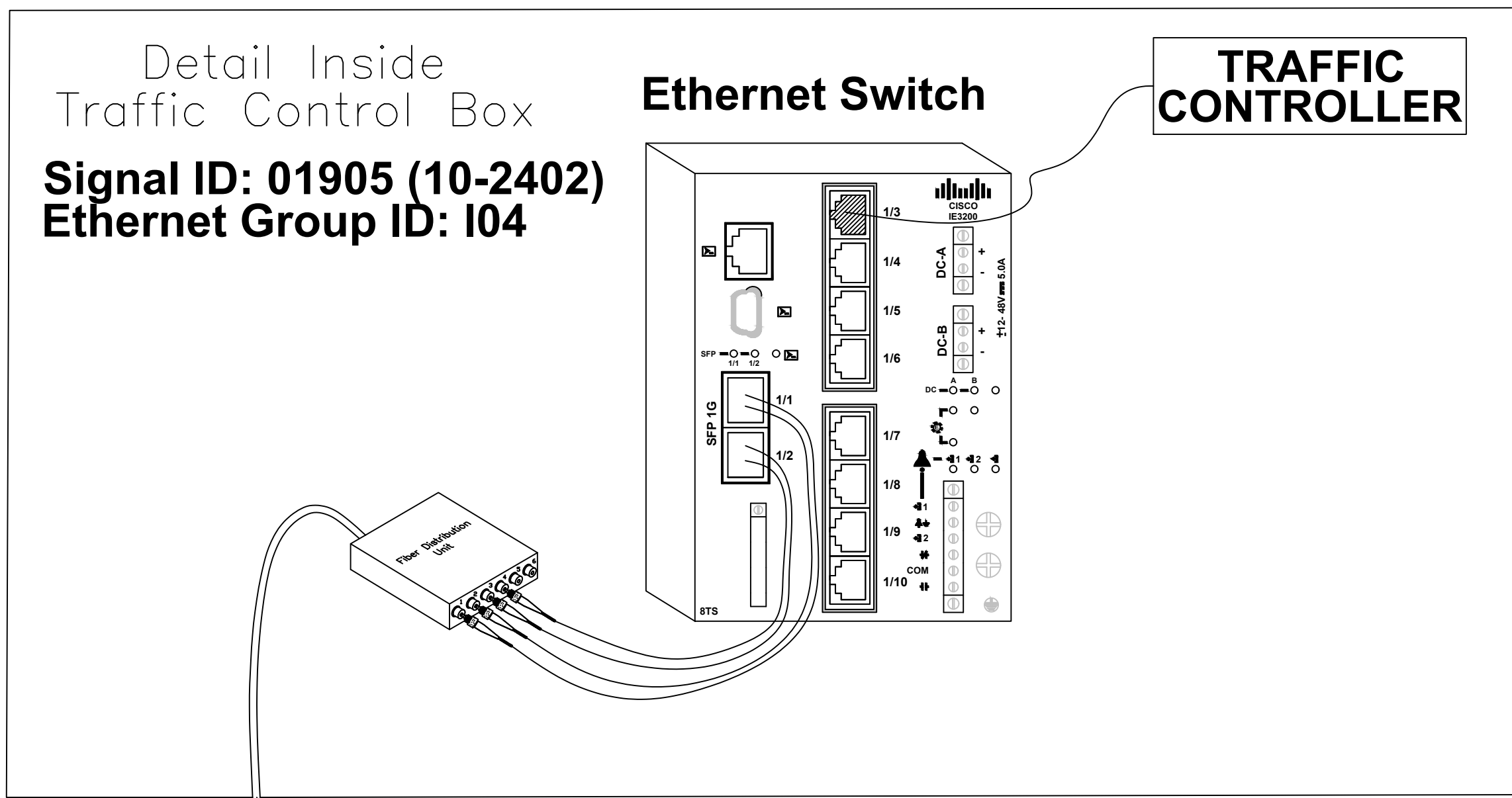
W-5710AK JOB NO.	DJW PREPARED BY	03-2022 DATE
01905 SIGNAL NO.	10-2402 NCDOT ID NO.	L. MOON APPROVER

NC 16 (BROOKSHIRE BLVD) SB
@ OLD PLANK RD U-TURN
SIGNAL PLAN

SHEET
SIG3.1
OF
SIG3.6

LEGEND
 ○ EXISTING SPLICE
 ● NEW SPLICE
 ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH.

SPLICE 01905



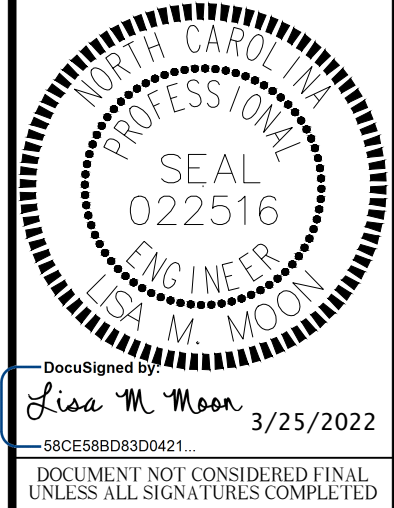
SPLICE CASE IN EX HANDHOLE# 13.3 ON SB BROOKSHIRE BLVD AT OLD PLANK ROAD U-TURN



Plans Prepared For:
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 DEPARTMENT OF
 TRANSPORTATION
 600 E. 4TH ST. CHARLOTTE, NC 28202
 704.259.4191 FAX: 704.336.4660

Plans Prepared By:
DRMP
 DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Cary, NC 27513
 NC License No. C-2216 (919) 659-1038

NO.	DATE	BY	REVISION DESCRIPTION



01905	W-5710AK	3/25/2022
SIGNAL NO.	JOB NO.	DATE
10-2402	DJW	03-2022
NC DOT ID NO.	PREPARED BY	DATE
L. MOON	APPROVER	

SHEET **SIG3.3** OF **SIG3.6**

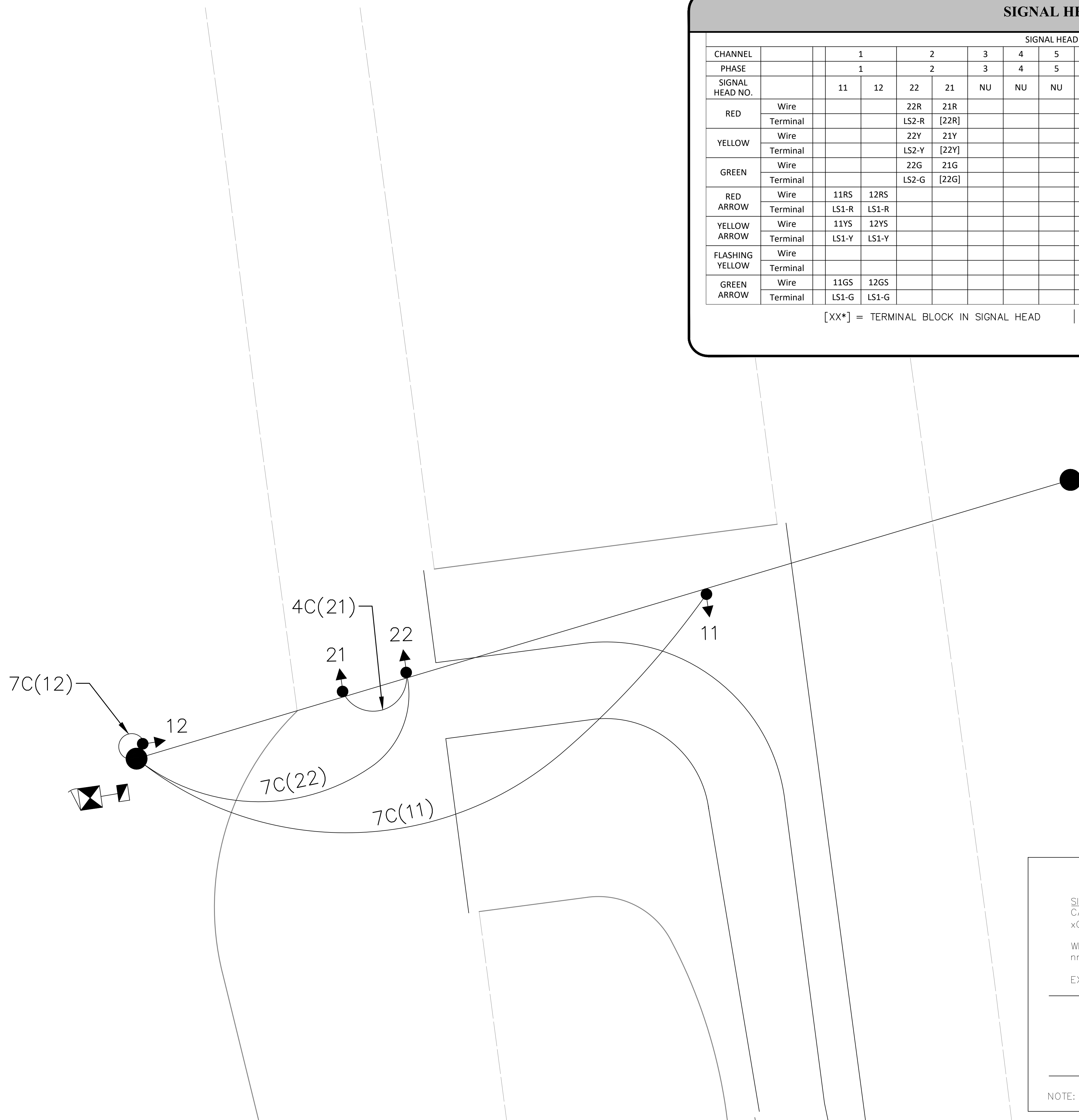
NC 16 (BROOKSHIRE BLVD) SB @ OLD PLANK RD U-TURN

FIBER OPTIC SPLICE DETAILS

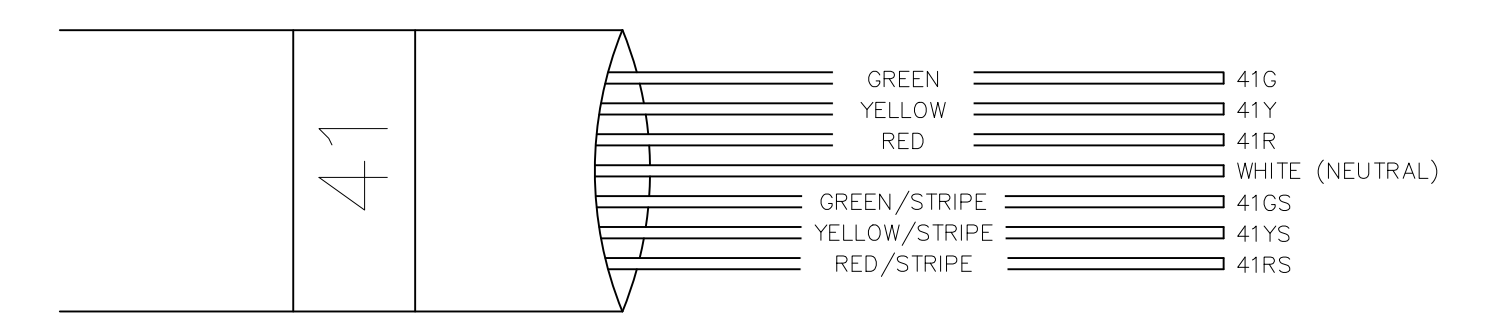
SIGNAL HEAD WIRING

		SIGNAL HEAD HOOK UP CHART															
CHANNEL		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE		1	2	3	4	5	6	7	8	2 PED	4 PED	6 PED	8 PED	OL-A	OL-B	OL-C	OL-D
SIGNAL HEAD NO.		11	12	22	21	NU	NU	NU	NU	NU	NU	NU	NU	NU	NU	NU	NU
RED	Wire			22R	21R												
	Terminal			LS2-R	[22R]												
YELLOW	Wire			22Y	21Y												
	Terminal			LS2-Y	[22Y]												
GREEN	Wire			22G	21G												
	Terminal			LS2-G	[22G]												
RED ARROW	Wire	11RS	12RS														
	Terminal	LS1-R	LS1-R														
YELLOW ARROW	Wire	11YS	12YS														
	Terminal	LS1-Y	LS1-Y														
FLASHING YELLOW	Wire																
	Terminal																
GREEN ARROW	Wire	11GS	12GS														
	Terminal	LS1-G	LS1-G														

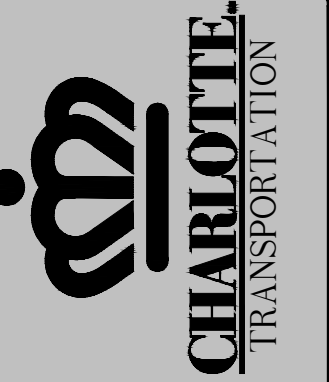
[XX*] = TERMINAL BLOCK IN SIGNAL HEAD | LSX* = TERMINAL IN LOAD BAY | NU = NOT USED



SIGNAL WIRE NAMING CONVENTION:
CABLES:
 xC(nn) x = #of conductors in cable, nn = cable number
WIRES:
 nnA nn = cable number, A = conductor in cable
 EXAMPLE: 7C(41)



NOTE: Conductor colors may vary. Record plan actual colors installed.



Plans Prepared For:
CITY OF CHARLOTTE
 DEPARTMENT OF
 TRANSPORTATION
 600 E. 4TH ST. CHARLOTTE, NC 28202
 PH: 352-410-1313 FAX: 704-358-4660

Plans Prepared By:
DRMP
 DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Cary, NC 27513
 NC License No. C-22-16 (919) 659-1038

NO.	DATE	BY	REVISION DESCRIPTION

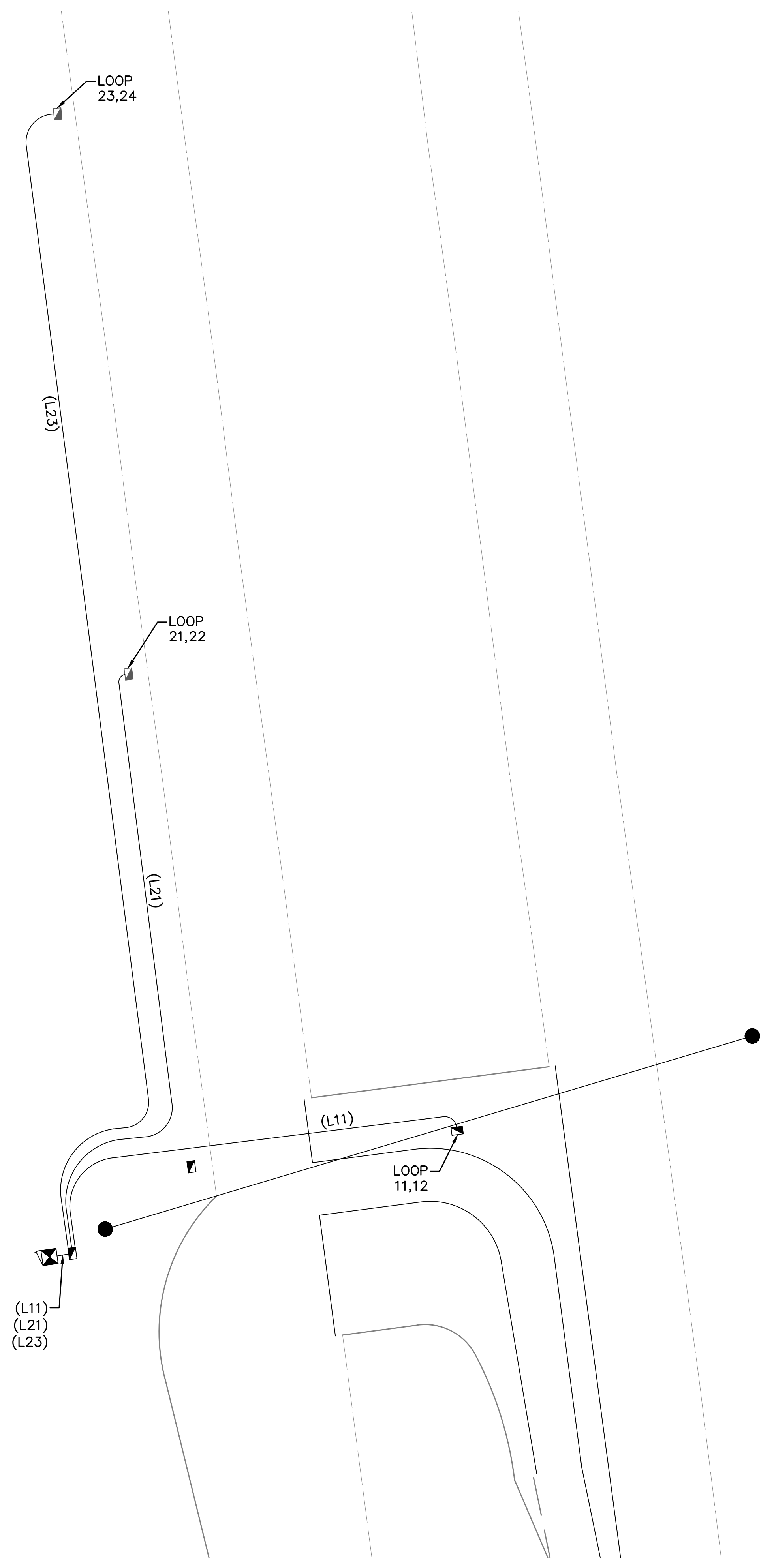


DocuSigned by:
 Lisa M. Moon 3/25/2022

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01905	W-5710AK	03-2022
SIGNAL NO.	JOB NO.	DATE
10-2402	DJW	
NC DOT ID NO.	PREPARED BY	
L. MOON		
APPROVER		

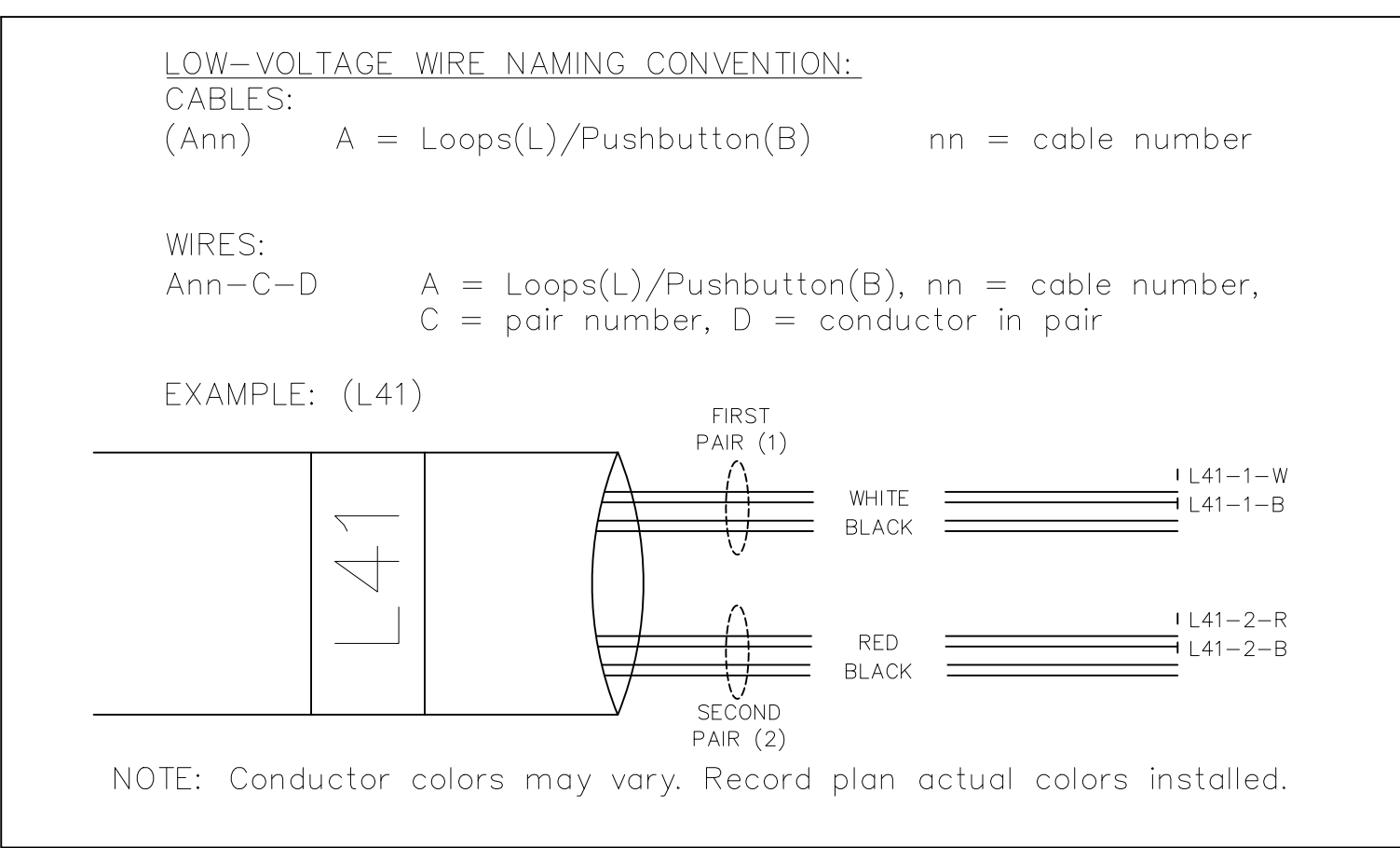
NC 16 (BROOKSHIRE BLVD) SB @ OLD PLANK RD U-TURN
SIGNAL WIRING DIAGRAM



LOOP WIRING

Loop Number	Wire	Terminal	Controller Detector Number	Phase	Timing		Size	Comments
					Feature	Time (sec)		
11	L11-1-W	LT1-1	1	1	-	-	6'X25'	@ STOP BAR
	L11-1-B	LT1-2						
12	L11-2-R	LT1-3	2	1	-	-	6'X25'	65' FROM STOP BAR
	L11-2-B	LT1-4						
21	L21-1-W	LT1-5	3	2	-	-	6'X6'	130' FROM STOP BAR
	L21-1-B	LT1-6						
22	L21-2-R	LT1-7	4	2	-	-	6'X6'	130' FROM STOP BAR
	L21-2-B	LT1-8						
23	L23-1-W	LT1-9	5	2	-	-	6'X6'	280' FROM STOP BAR
	L23-1-B	LT1-10						
24	L23-2-R	LT1-11	6	2	-	-	6'X6'	280' FROM STOP BAR
	L23-2-B	LT1-12						

NOTE:
All stopbar loops are 5' beyond the stopbar unless otherwise noted.
All loops have 3 turns.



NOTE

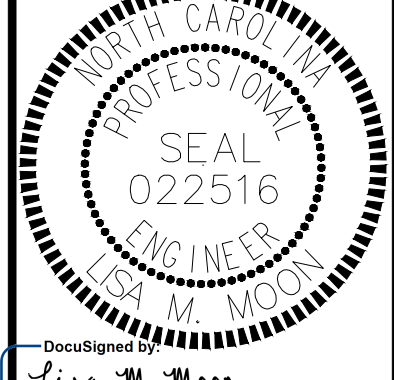
CDOT TO PROGRAM DETECTOR
TYPES AND TIMERS (EXTEND AND
DELAY) AS SHOWN IN LOOP WIRING
CHART ABOVE INTO CONTROLLER



Plans Prepared For:
CITY OF CHARLOTTE
DEPARTMENT OF
TRANSPORTATION
600 E. 4TH ST. CHARLOTTE, NC 28202
704.252.4119 FAX: 704.336.4660

Plans Prepared By:
DRMP
DRMP, Inc.
8000 Regency Parkway, Suite 110
Charlotte, NC 28226
NC License No. C-2216 (919) 659-1038

NO.	DATE	BY	REVISION DESCRIPTION



DocuSigned by:
Lisa M. Moon 3/25/2022
58CE588D83D0421

W-5710AK JOB NO.	DJM PREPARED BY	03-2022 DATE
01905 SIGNAL NO.	10-2402 NCDOT ID NO.	L. MOON APPROVER

NC 16 (BROOKSHIRE BLVD) SB
@ OLD PLANK RD U-TURN

**LOW VOLTAGE
WIRING DIAGRAM**

SHEET
SIG3.5
OF
SIG3.6

NOTE:
ALL LEAD-IN WIRE SHOULD BE TWO PAIR CABLE

NOTES

1. To prevent "flash-conflict" problems, wire all unused load switches to flash red. Verify that signal heads flash in accordance with the signal plans.
2. To prevent red failures on unused monitor channels, tie unused load switch red outputs 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 to load switch AC+ by inserting a jumper plug in the unused load switch socket from pin 1 (LS AC+) to pin 3 (RED out). Make sure all flash transfer relays are in place.
- ◆ 3. Program controller to start up in phase 2 Green.
- ◆ 4. Set power-up flash time to 12 seconds and implement on the Malfunction Management Unit. Set controller power-up flash time to 22 seconds.
- ◆ 5. Program detectors in accordance with the manufacturer's instructions to accomplish the detection schemes shown on the signal design plans.
- ◆ 6. Program detector call delay and extension timing on the controller, unless otherwise specified.
7. Set all detector card unit channels to "presence" mode.
8. The cabinet and controller are a part of the Charlotte Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070LX
 CABINET[TS-2]
 SOFTWAREECONOLITE EOS-2070
 CABINET MOUNT.....BASE MOUNT ON A RISER
 LOADBAY POSITIONS.....16
 LOAD SWITCHES USED.....1,2
 PHASES USED.....1,2
 OLA.....NOT USED
 OLB.....NOT USED
 OLC.....NOT USED
 OLD.....NOT USED

◆ Software and Programming by CDOT

City of Charlotte Department of Transportation (CDOT) to provide EOS Software and do all Programming of the controller database. Contractor to provide CDOT with controller for programming a minimum of two weeks prior to installation. CDOT will return controller, fully programmed for contractor to install and integrate into the controller cabinet.



Plans Prepared For:
 CITY OF CHARLOTTE
 DEPARTMENT OF
 TRANSPORTATION
 600 E. 4TH ST. CHARLOTTE, NC 28202
 704.259-4119 FAX: 704.359-4667

Plans Prepared By:
 DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Cary, NC 27513
 NC License No. C-22516 (919) 659-1038

NO.	DATE	BY	REVISION DESCRIPTION



DocuSigned by:
 Lisa M. Moon 4/14/2022

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01905 SIGNAL NO.	10-2402 NCDOT ID NO.	W-5710AK JOB NO.	DJM PREPARED BY	04-2022 DATE
L. MOON APPROVER				

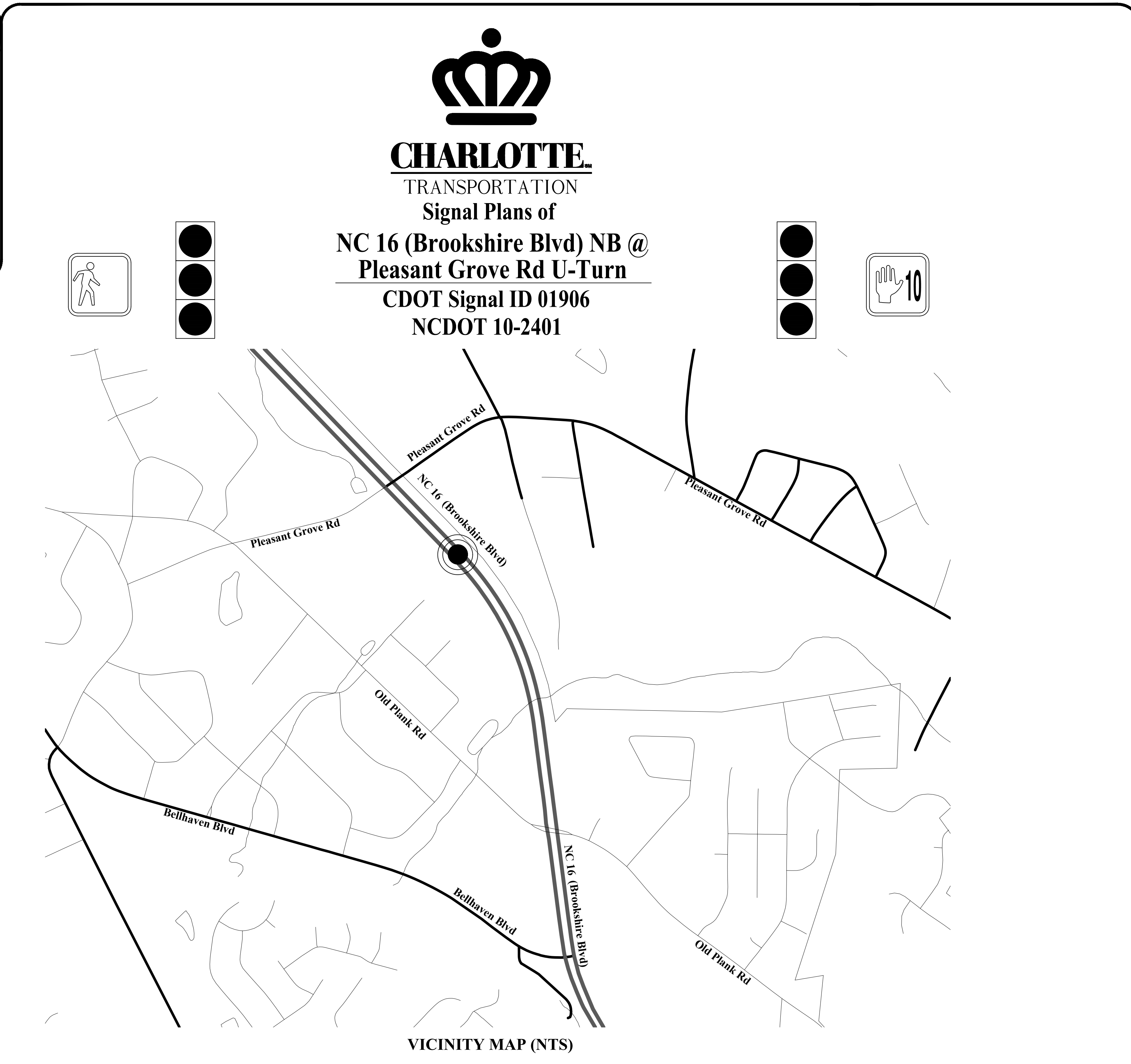
NC 16 (BROOKSHIRE BLVD) SB
 @ OLD PLANK RD U-TURN
**MISCELLANEOUS
 DETAILS**

SHEET
SIG3.6
 OF
SIG3.6

Signal ID 01906 / NCDOT 10-2401

NC 16 (Brookshire Blvd) NB @ Pleasant Grove Rd U-Turn

INDEX OF SHEETS	
Cover Sheet	SIG4.0
Signal Plan	SIG4.1
Signal Details	SIG4.2
Splice Detail	SIG4.3
Signal Wiring Diagram	SIG4.4
Low Voltage Wiring Diagram	SIG4.5
Miscellaneous Details	SIG4.6
TOTAL SHEETS 7	



LEGEND		
PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	METER PEDESTAL	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	
	UTILITIES TELEPHONE UG CABLE SUE	
	UTILITIES SANITARY SEWER UG LINE	
	UTILITIES WATER UG LINE SUE	
	UTILITIES GAS UG LINE SUE	
	UTILITIES TELEPHONE UG FO SUE	
	OTHER CULTURE FENCE LINE	

PULLBOX ID		
	SIZE	PULLBOX TYPE
①	13"x24"x12"	LOOP
②	17"x30"x30"	FIBER OPTIC
③	24"x36"x24"	CONTROLLER / FIBER
④	30"x48"x36"	CONTROLLER
⑤	24"x24"x12"	CONTROLLER
UH-2	24"x36"x30"	FIBER SPLICE

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE 2018 NCDOT STANDARD TRAFFIC SIGNAL SPECIFICATIONS.

PLANS PREPARED FOR:

City of Charlotte
Department of Transportation
 600 East 4th Street Charlotte, NC 28202
 Phone: (704) 336-4119
 Fax: (704) 336-4400

PLAN NOTES

- ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
- SIGNAL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND PROJECT SPECIAL PROVISIONS.
- CITY WILL SUPPLY STREET NAME SIGNS FOR INSTALLATION.
- SEE SIGNAL COMMUNICATION PLANS FOR CONSTRUCTION RELATED TO SYSTEM, SHOWN ON SIGNAL PLANS AS EXISTING.
- ATTACHMENT HEIGHTS ARE ESTIMATED, BASED ON AVAILABLE INFORMATION AND EXISTING SURVEY ELEVATIONS. CONTRACTOR SHALL FIELD VERIFY ELEVATIONS TO ENSURE POLES OF SUFFICIENT LENGTH TO MAINTAIN MINIMUM REQUIRED CLEARANCE ABOVE THE ROADWAY.

PE SEAL

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PROJECT TEAM

Plans Prepared By:

DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Cary, NC 27518
 NC License No. C-2213 (919) 650-1038

DESIGNER:	D. White
PROJECT ENGINEER:	C. Silver
PROJECT MANAGER:	L. Moon

Prepared for the Offices of:

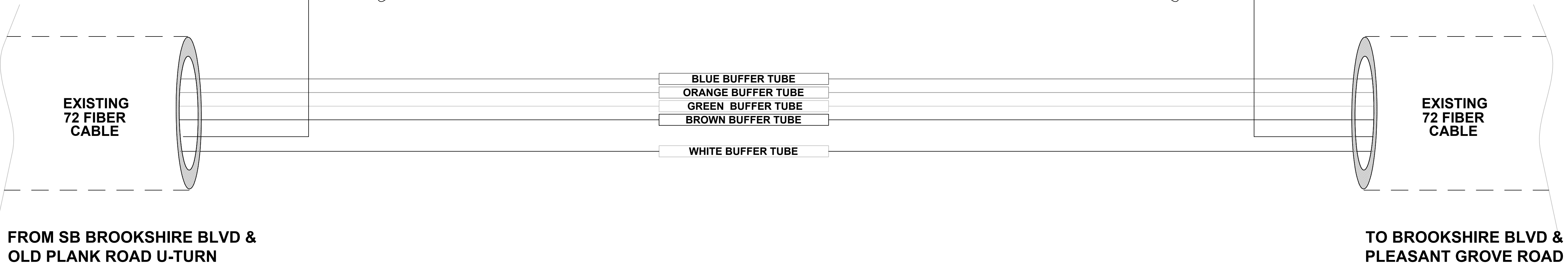
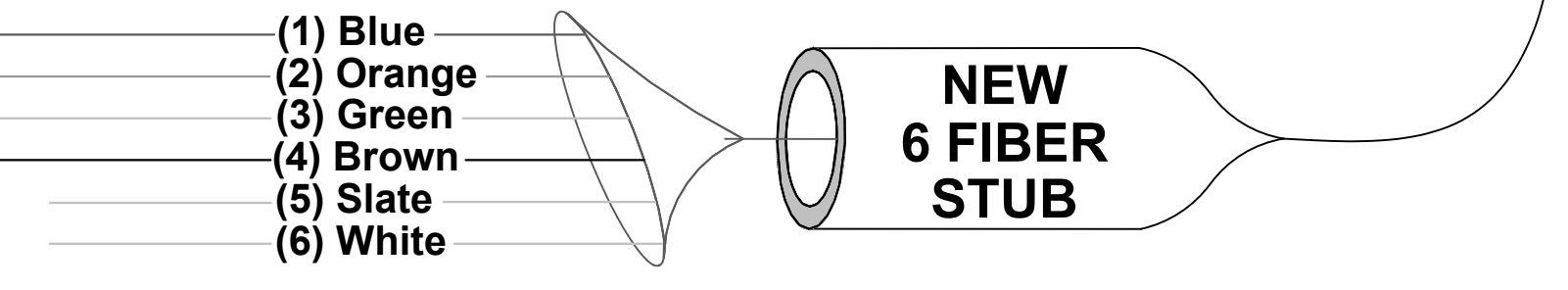
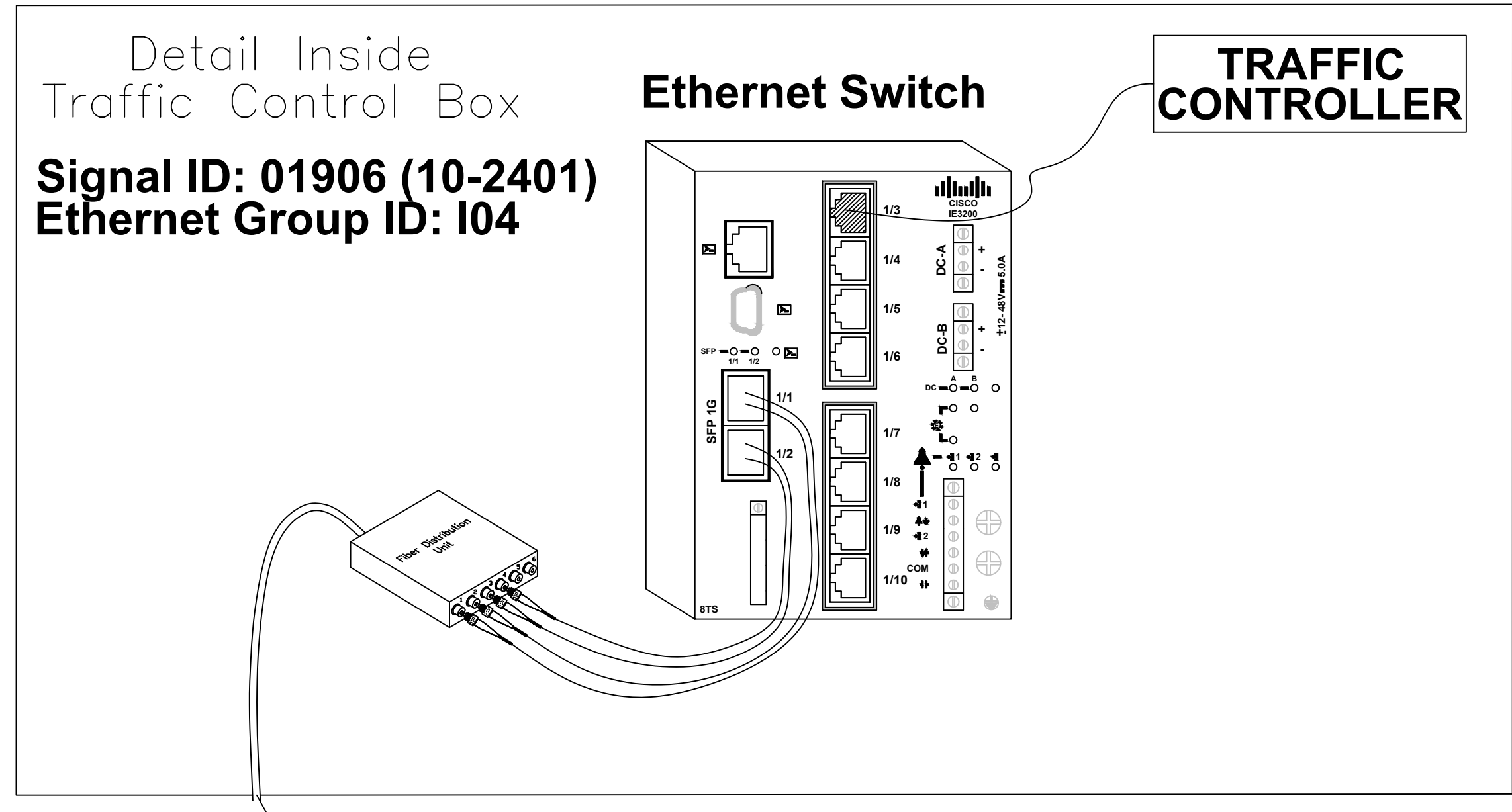
CHARLOTTE
 TRANSPORTATION

750 N. Greenfield Pkwy,
 Garner, NC 27529

SHEET
SIG4.0

LEGEND
 ○ EXISTING SPLICE
 ● NEW SPLICE
 ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH.

SPLICE 01906



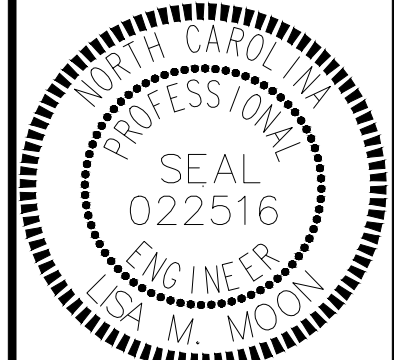
SPLICE CASE IN HANDHOLE# 15 ON NB BROOKSHIRE BLVD AT PLEASANT GROVE RD U-TURN



Plans Prepared For:
CITY OF CHARLOTTE
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Plans Prepared By:
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 8000 Regency Parkway, Suite 110
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 NC License No. C-2216 (919) 659-1038

NO.	DATE	BY	REVISION DESCRIPTION



DocuSigned by:
 Lisa M. Moon 3/25/2022
 56c589e330921

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W-5710AK JOB NO.	DJW PREPARED BY	03-2022 DATE
01906 SIGNAL NO.	10-2401 NCDOT ID NO.	L. MOON APPROVER

NC 16 (BROOKSHIRE BLVD) NB
 @ PLEASANT GROVE RD U-TURN

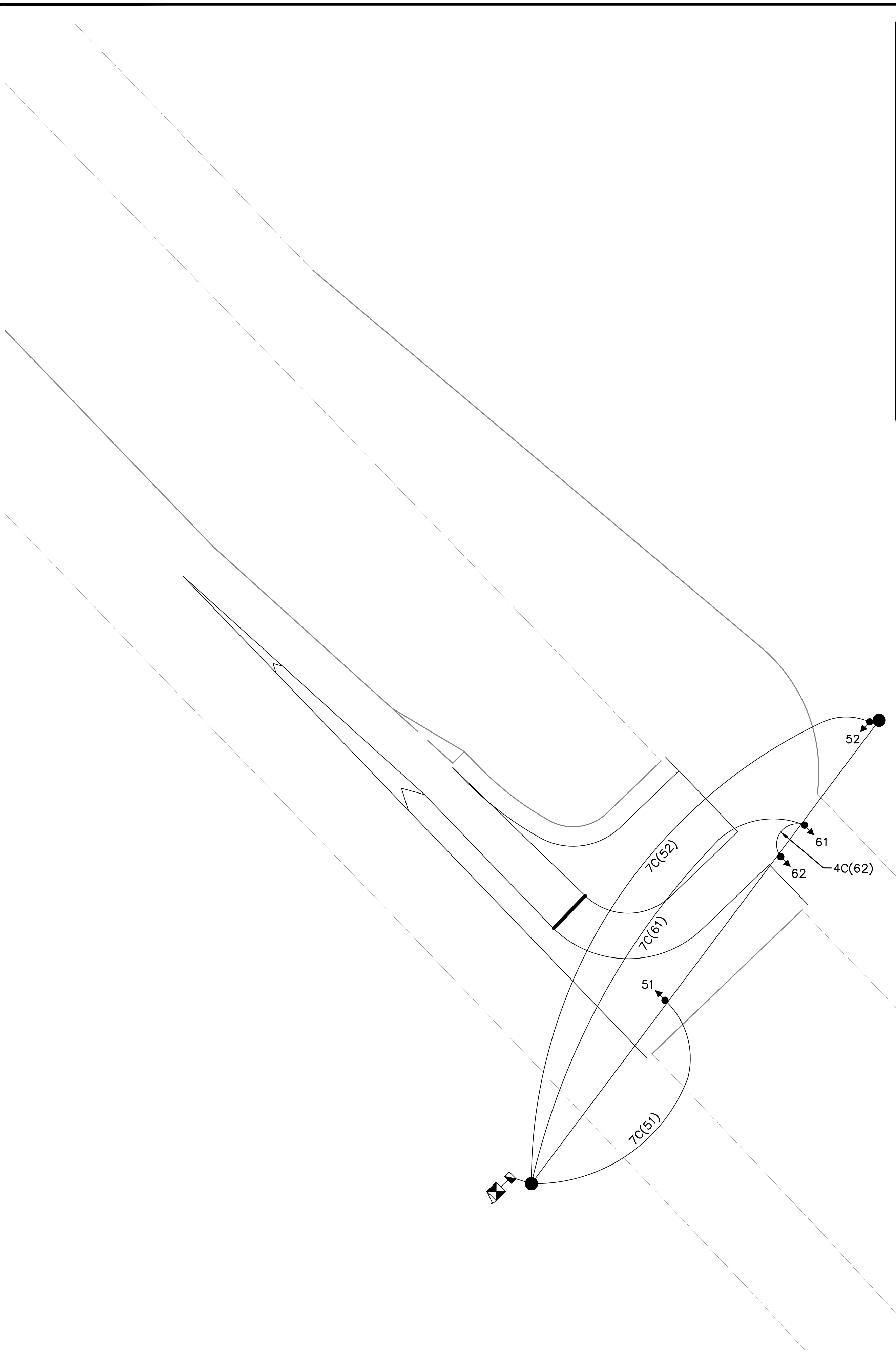
**FIBER OPTIC
 SPLICE DETAILS**

SHEET
SIG4.3
 OF
SIG4.6

SIGNAL HEAD WIRING

		SIGNAL HEAD HOOK UP CHART															
CHANNEL		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE		1	2	3	4	5	6	7	8	2 PED	4 PED	6 PED	8 PED	OL-A	OL-B	OL-C	OL-D
SIGNAL HEAD NO.		NU	NU	NU	NU	51	52	61	62	NU	NU	NU	NU	NU	NU	NU	NU
RED	Wire							61R	62R								
	Terminal							LS6-R	[61R]								
YELLOW	Wire							61Y	62Y								
	Terminal							LS6-Y	[61Y]								
GREEN	Wire							61G	62G								
	Terminal							LS6-G	[61G]								
RED ARROW	Wire					51RS	52RS										
	Terminal					LS5-R	LS5-R										
YELLOW ARROW	Wire					51YS	52YS										
	Terminal					LS5-Y	LS5-Y										
FLASHING YELLOW	Wire																
	Terminal																
GREEN ARROW	Wire					51GS	52GS										
	Terminal					LS5-G	LS5-G										

[XX*] = TERMINAL BLOCK IN SIGNAL HEAD | LSX* = TERMINAL IN LOAD BAY | NU = NOT USED



SIGNAL WIRE NAMING CONVENTION:
CABLES:
 xC(nn) x = #of conductors in cable, nn = cable number
WIRES:
 nnA nn = cable number, A = conductor in cable
EXAMPLE: 7C(41)

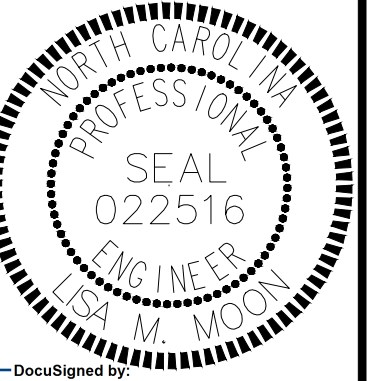
NOTE: Conductor colors may vary. Record plan actual colors installed.



Plans Prepared For:
CITY OF CHARLOTTE
 DEPARTMENT OF
 TRANSPORTATION
 600 E. 4th Street, Charlotte, NC 28202
 704.358.4181 FAX: 704.358.4660

Plans Prepared By:
DRMP
 DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Cary, NC 27513
 NC License No. C-2216 (919) 659-1038

NO.	DATE	BY	REVISION DESCRIPTION



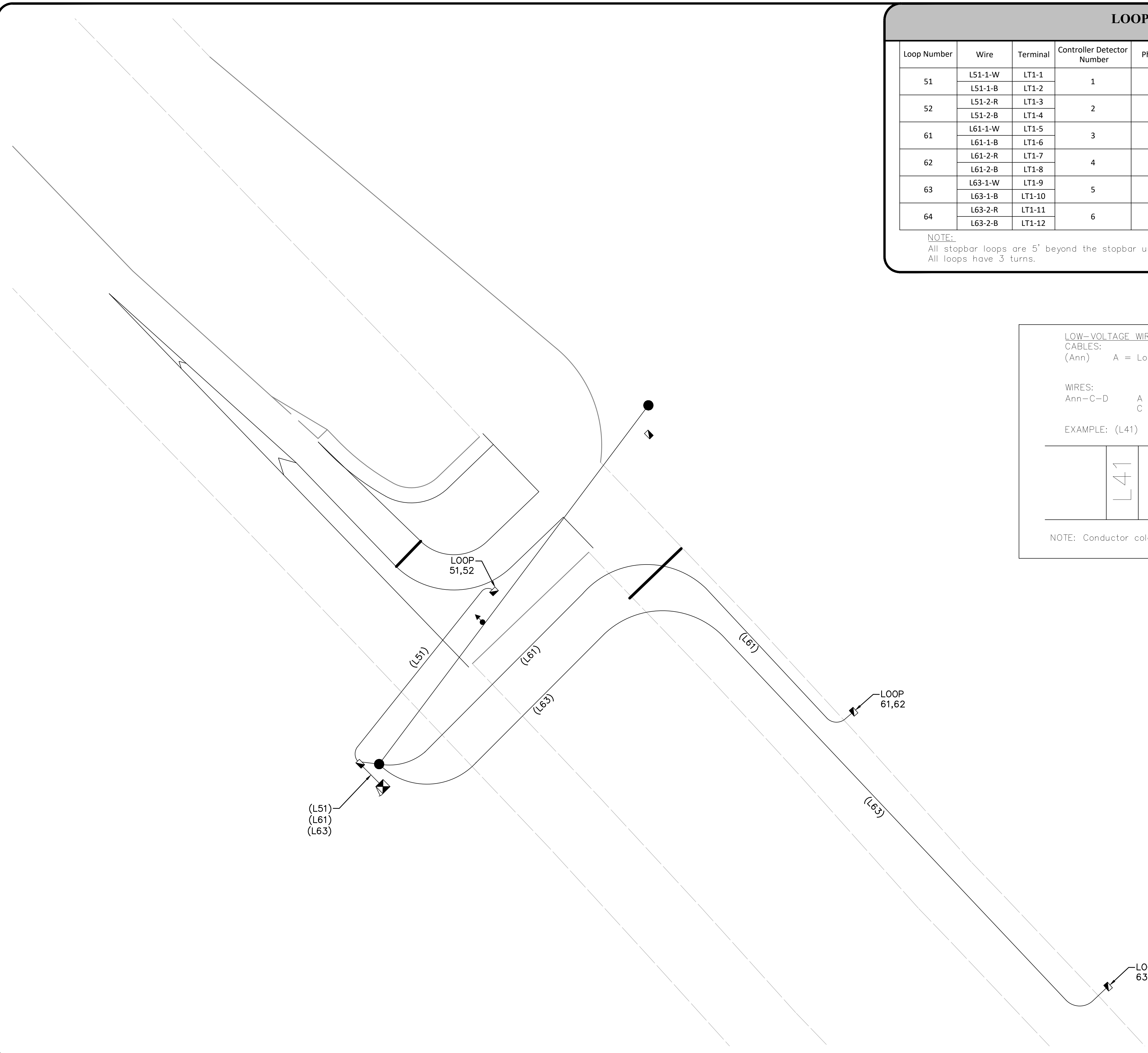
DocuSigned by:
 Lisa M. Moon
 3/25/2022
 86CF58B08300421

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01906	W-5710AK	APPROVER	DATE
SIGNAL NO.	JOB NO.	PREPARED BY	DATE
10-2401		L. MOON	03-2022
NCDOT ID NO.			

SHEET
SIG4.4
 OF
SIG4.6

NC 16 (BROOKSHIRE BLVD) NB @ PLEASANT GROVE RD U-TURN
SIGNAL WIRING DIAGRAM



LOOP WIRING

Loop Number	Wire	Terminal	Controller Detector Number	Phase	Timing		Size	Comments
					Feature	Time (sec)		
51	L51-1-W	LT1-1	1	5	-	-	6'X25'	@ STOP BAR
	L51-1-B	LT1-2						
52	L51-2-R	LT1-3	2	5	-	-	6'X25'	65' FROM STOP BAR
	L51-2-B	LT1-4						
61	L61-1-W	LT1-5	3	6	-	-	6'X6'	130' FROM STOP BAR
	L61-1-B	LT1-6						
62	L61-2-R	LT1-7	4	6	-	-	6'X6'	130' FROM STOP BAR
	L61-2-B	LT1-8						
63	L63-1-W	LT1-9	5	6	-	-	6'X6'	280' FROM STOP BAR
	L63-1-B	LT1-10						
64	L63-2-R	LT1-11	6	6	-	-	6'X6'	280' FROM STOP BAR
	L63-2-B	LT1-12						

NOTE:
All stopbar loops are 5' beyond the stopbar unless otherwise noted.
All loops have 3 turns.

LOW-VOLTAGE WIRE NAMING CONVENTION:
CABLES:
 (Ann) A = Loops(L)/Pushbutton(B) nn = cable number

WIRES:
 Ann-C-D A = Loops(L)/Pushbutton(B), nn = cable number,
 C = pair number, D = conductor in pair

EXAMPLE: (L41)

NOTE: Conductor colors may vary. Record plan actual colors installed.

NOTE

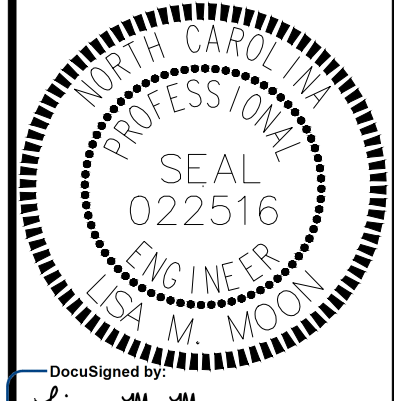
CDOT TO PROGRAM DETECTOR
 TYPES AND TIMERS (EXTEND AND
 DELAY) AS SHOWN IN LOOP WIRING
 CHART ABOVE INTO CONTROLLER



Plans Prepared For:
CITY OF CHARLOTTE
 DEPARTMENT OF
 TRANSPORTATION
 600 E. 4TH STREET, FLOOR 1300, NC 28202
 704.255.4191 FAX: 704.336.4660

Plans Prepared By:
DRMP
 DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Cary, NC 27513
 NC License No. C-2216 (919) 659-1088

NO.	DATE	BY	REVISION DESCRIPTION



DocuSigned by:
 Lisa M. Moon, 3/25/2022
 50CF58B83D3D21

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 UNLESS ALL SIGNATURES COMPLETED

W-5710AK JOB NO.	DJW PREPARED BY	03-2022 DATE
01906 SIGNAL NO.	10-2401 NCDOT ID NO.	L. MOON APPROVER

NC 16 (BROOKSHIRE BLVD) NB
 @ PLEASANT GROVE RD U-TURN
**LOW VOLTAGE
 WIRING DIAGRAM**

SHEET
SIG4.5
 OF
SIG4.6

NOTE:
 ALL LEAD-IN WIRE SHOULD BE TWO PAIR CABLE

NOTES

1. To prevent "flash-conflict" problems, wire all unused load switches to flash red. Verify that signal heads flash in accordance with the signal plans.
2. To prevent red failures on unused monitor channels, tie unused load switch red outputs 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 to load switch AC+ by inserting a jumper plug in the unused load switch socket from pin 1 (LS AC+) to pin 3 (RED out). Make sure all flash transfer relays are in place.
- ◆ 3. Program controller to start up in phase 6 Green.
- ◆ 4. Set power-up flash time to 12 seconds and implement on the Malfunction Management Unit. Set controller power-up flash time to 22 seconds.
- ◆ 5. Program detectors in accordance with the manufacturer's instructions to accomplish the detection schemes shown on the signal design plans.
- ◆ 6. Program detector call delay and extension timing on the controller, unless otherwise specified.
7. Set all detector card unit channels to "presence" mode.
8. The cabinet and controller are a part of the Charlotte Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070LX
 CABINETTS-2
 SOFTWAREECONOLITE EOS-2070
 CABINET MOUNT.....BASE MOUNT ON A RISER
 LOADBAY POSITIONS.....16
 LOAD SWITCHES USED.....5,6
 PHASES USED.....5,6
 OLA.....NOT USED
 OLB.....NOT USED
 OLC.....NOT USED
 OLD.....NOT USED

◆ Software and Programming by CDOT

City of Charlotte Department of Transportation (CDOT) to provide EOS Software and do all Programming of the controller database. Contractor to provide CDOT with controller for programming a minimum of two weeks prior to installation. CDOT will return controller, fully programmed for contractor to install and integrate into the controller cabinet.



Plans Prepared For:
 CITY OF CHARLOTTE
 DEPARTMENT OF
 TRANSPORTATION
 600 E. 4TH ST. CHARLOTTE, NC 28202
 704.259.4119 FAX: 704.358.4667

Plans Prepared By:
 DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Cary, NC 27513
 NC License No. C-22516 (919) 659-1038

NO.	DATE	BY	REVISION DESCRIPTION



DocuSigned by:
 Lisa M. Moon 4/14/2022

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W-5710AK JOB NO.	DJM PREPARED BY	04-2022 DATE
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01906 SIGNAL NO.	10-2401 NCDOT ID NO.	L. MOON APPROVER
---------------------	-------------------------	---------------------

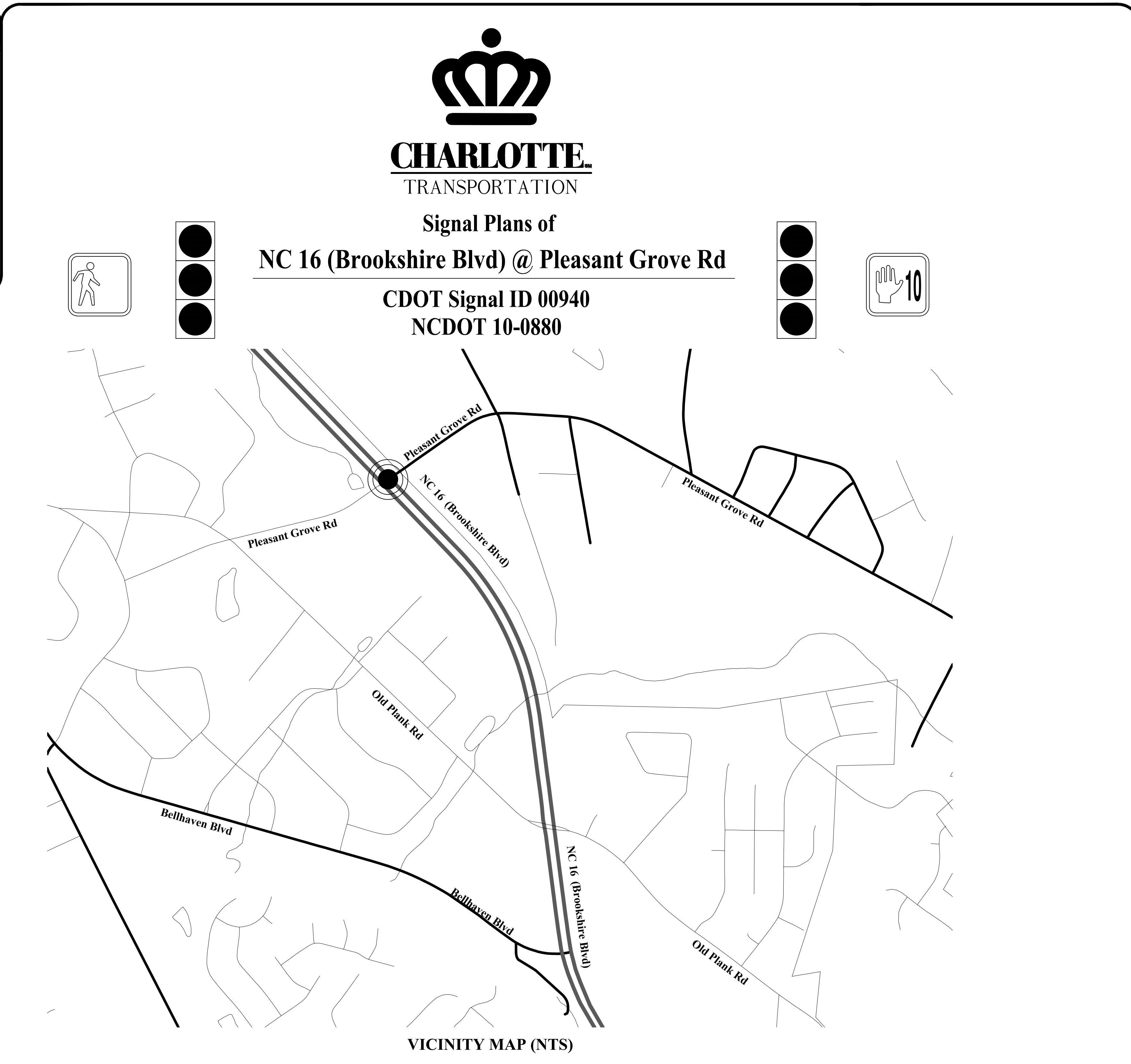
NC 16 (BROOKSHIRE BLVD) NB
 @ PLEASANT GROVE RD U-TURN
**MISCELLANEOUS
 DETAILS**

SHEET
SIG4.6
 OF
SIG4.6

Signal ID 00940 / NCDOT 10-0880

NC 16 (Brookshire Blvd) @ Pleasant Grove Rd

INDEX OF SHEETS	
Cover Sheet	SIG5.0
Temporary Signal Plan	SIG5.1
Temporary Signal Details	SIG5.2
Signal Plan	SIG5.3
Signal Details	SIG5.4
Splice Detail	SIG5.5
Signal Wiring Diagram	SIG5.6
Low Voltage Wiring Diagram	SIG5.7
Miscellaneous Details	SIG5.8
TOTAL SHEETS	9



LEGEND		
PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	METER PEDESTAL	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVTM	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	
	UTILITIES TELEPHONE UG CABLE SUE	
	UTILITIES SANITARY SEWER UG LINE	
	UTILITIES WATER UG LINE SUE	
	UTILITIES GAS UG LINE SUE	
	UTILITIES TELEPHONE UG FO SUE	
	OTHER CULTURE FENCE LINE	

PULLBOX ID		
	SIZE	PULLBOX TYPE
①	13"x24"x12"	LOOP
②	17"x30"x30"	FIBER OPTIC
③	24"x36"x24"	CONTROLLER / FIBER
④	30"x48"x36"	CONTROLLER
⑤	24"x24"x12"	CONTROLLER
UH-2	24"x36"x30"	FIBER SPLICE

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE 2018 NCDOT STANDARD TRAFFIC SIGNAL SPECIFICATIONS.

PLANS PREPARED FOR:

City of Charlotte
Department of Transportation
 600 East 4th Street Charlotte, NC 28202
 Phone: (704) 336-4119
 Fax: (704) 336-4400

PLAN NOTES

- ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
- SIGNAL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND PROJECT SPECIAL PROVISIONS.
- CITY WILL SUPPLY STREET NAME SIGNS FOR INSTALLATION.
- SEE SIGNAL COMMUNICATION PLANS FOR CONSTRUCTION RELATED TO SYSTEM, SHOWN ON SIGNAL PLANS AS EXISTING.
- FYA #11, #12, #51 AND #52 WILL OPERATE PROTECTED-ONLY FROM 0500-2200 7 DAYS A WEEK, AND PROTECTED-PERMISSIVE ALL OTHER TIMES.
- ATTACHMENT HEIGHTS ARE ESTIMATED, BASED ON AVAILABLE INFORMATION AND EXISTING SURVEY ELEVATIONS. CONTRACTOR SHALL FIELD VERIFY ELEVATIONS TO ENSURE POLES OF SUFFICIENT LENGTH TO MAINTAIN MINIMUM REQUIRED CLEARANCE ABOVE THE ROADWAY.

PE SEAL

DESIGNED BY:
Lisa M. Moon 3/25/2022

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PROJECT TEAM

DESIGNER:	D. White
PROJECT ENGINEER:	C. Silver
PROJECT MANAGER:	L. Moon

Plans Prepared By:

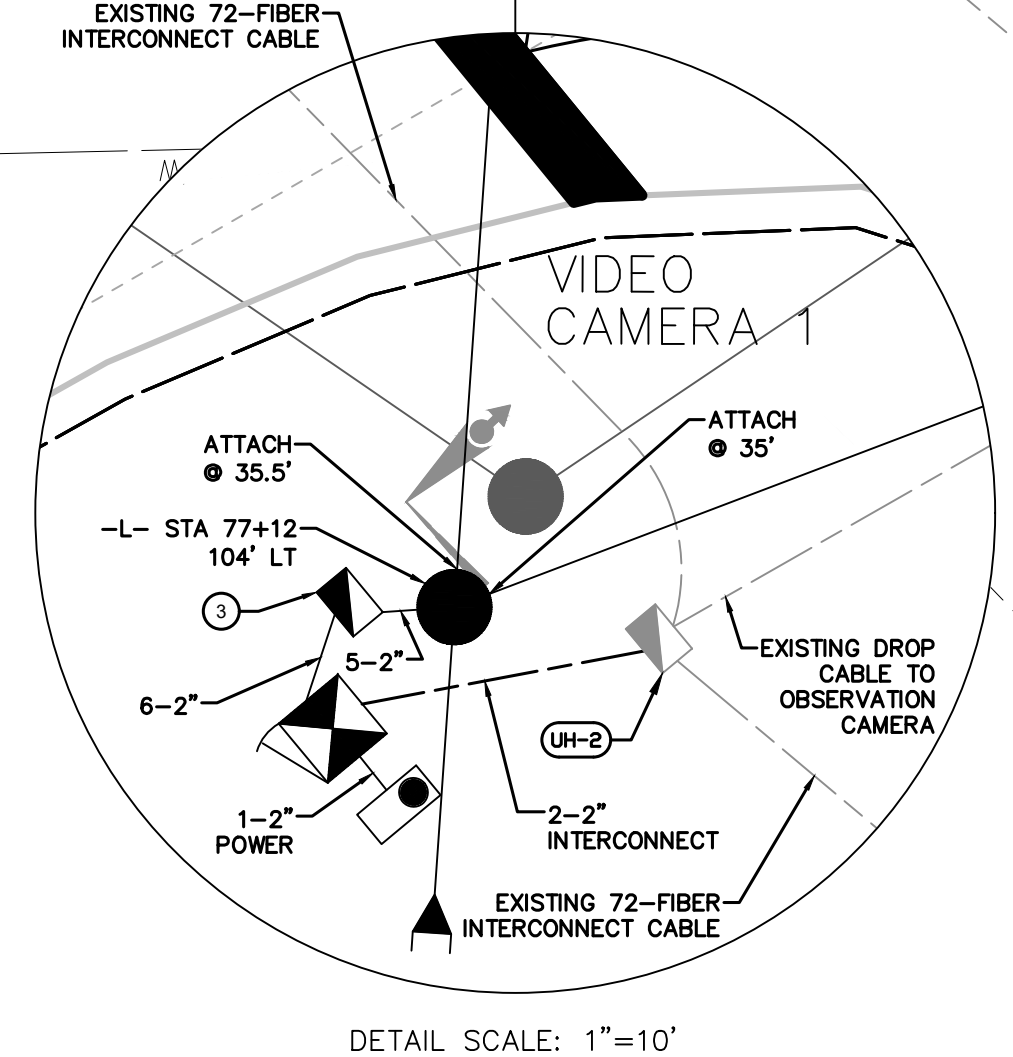
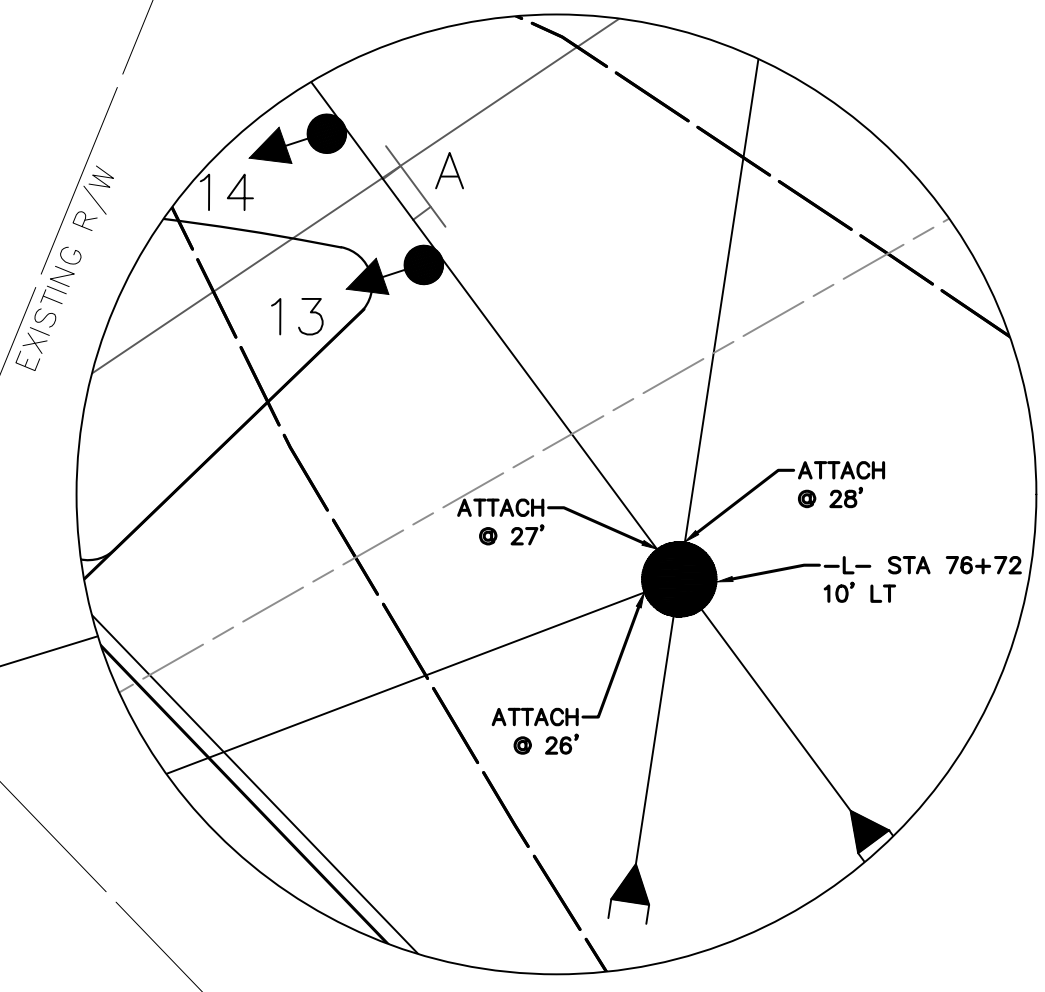
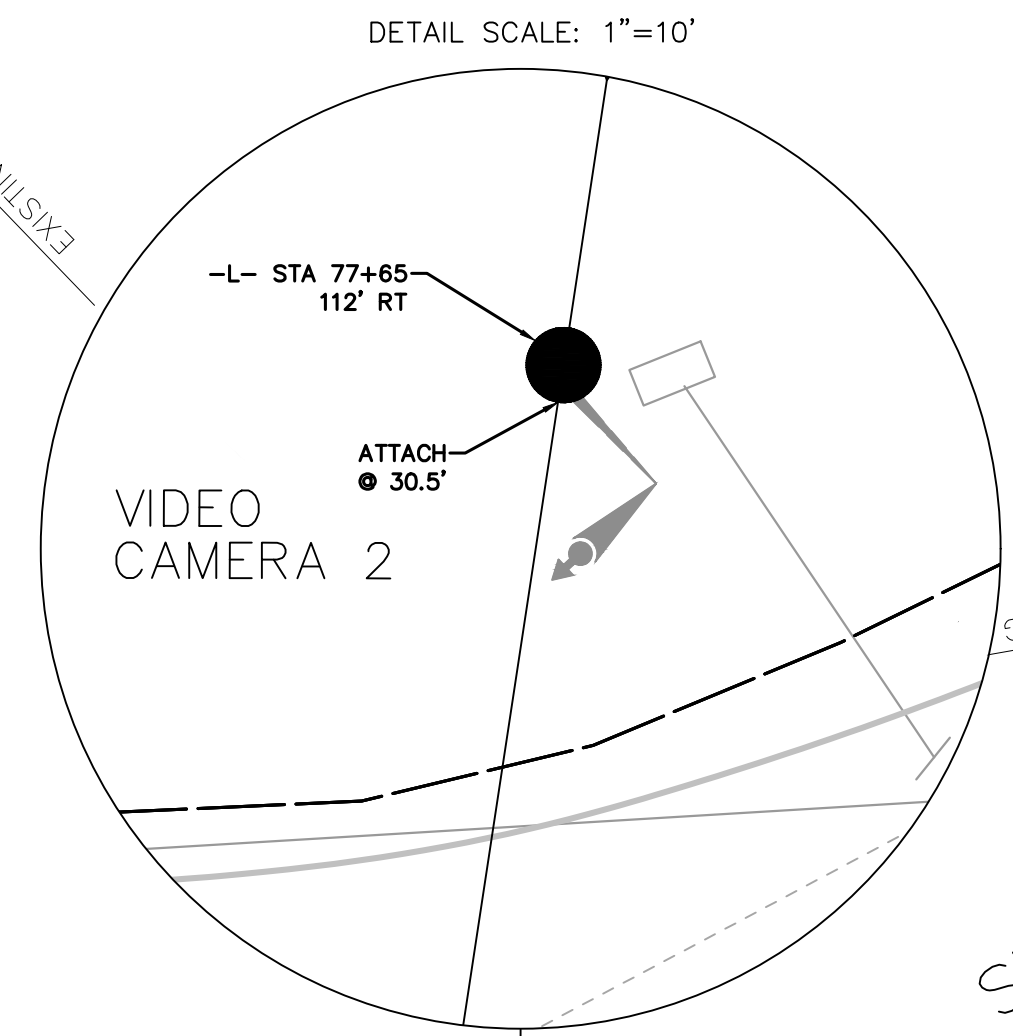
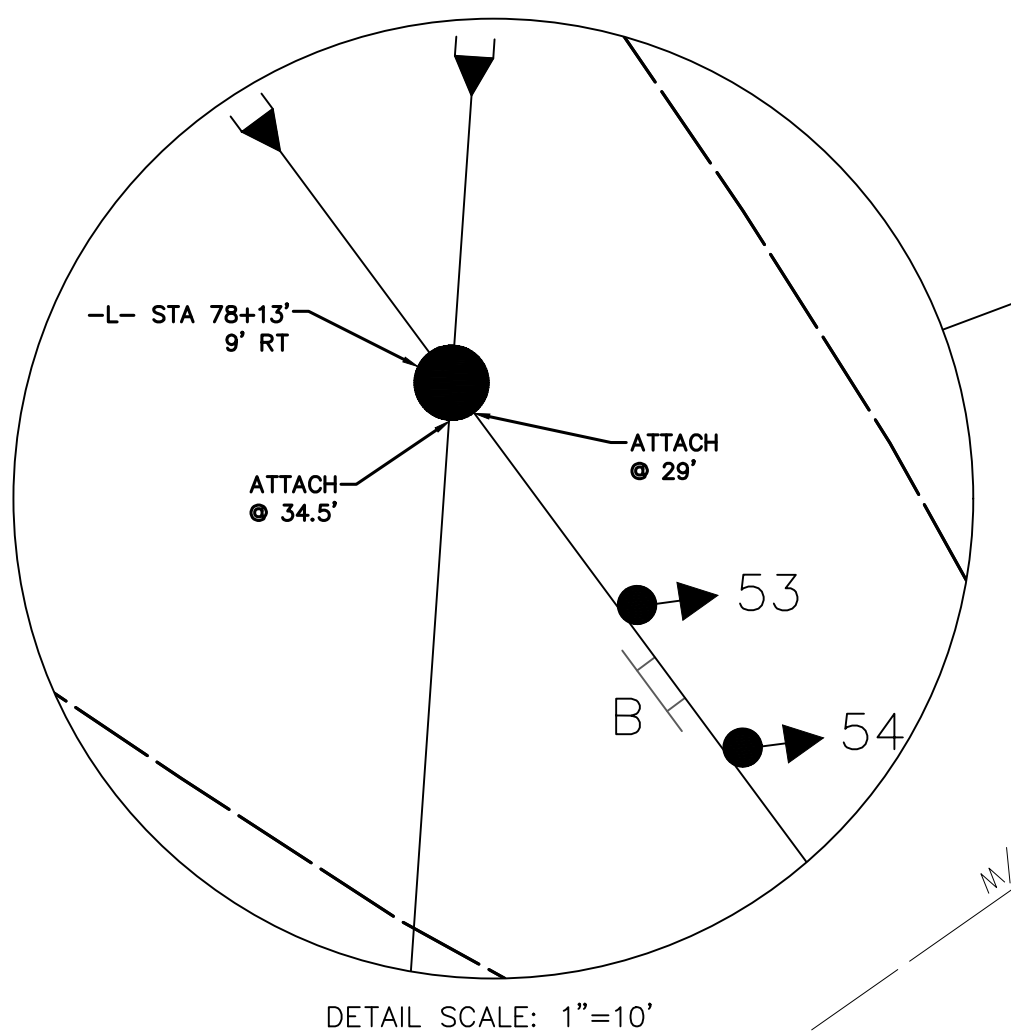
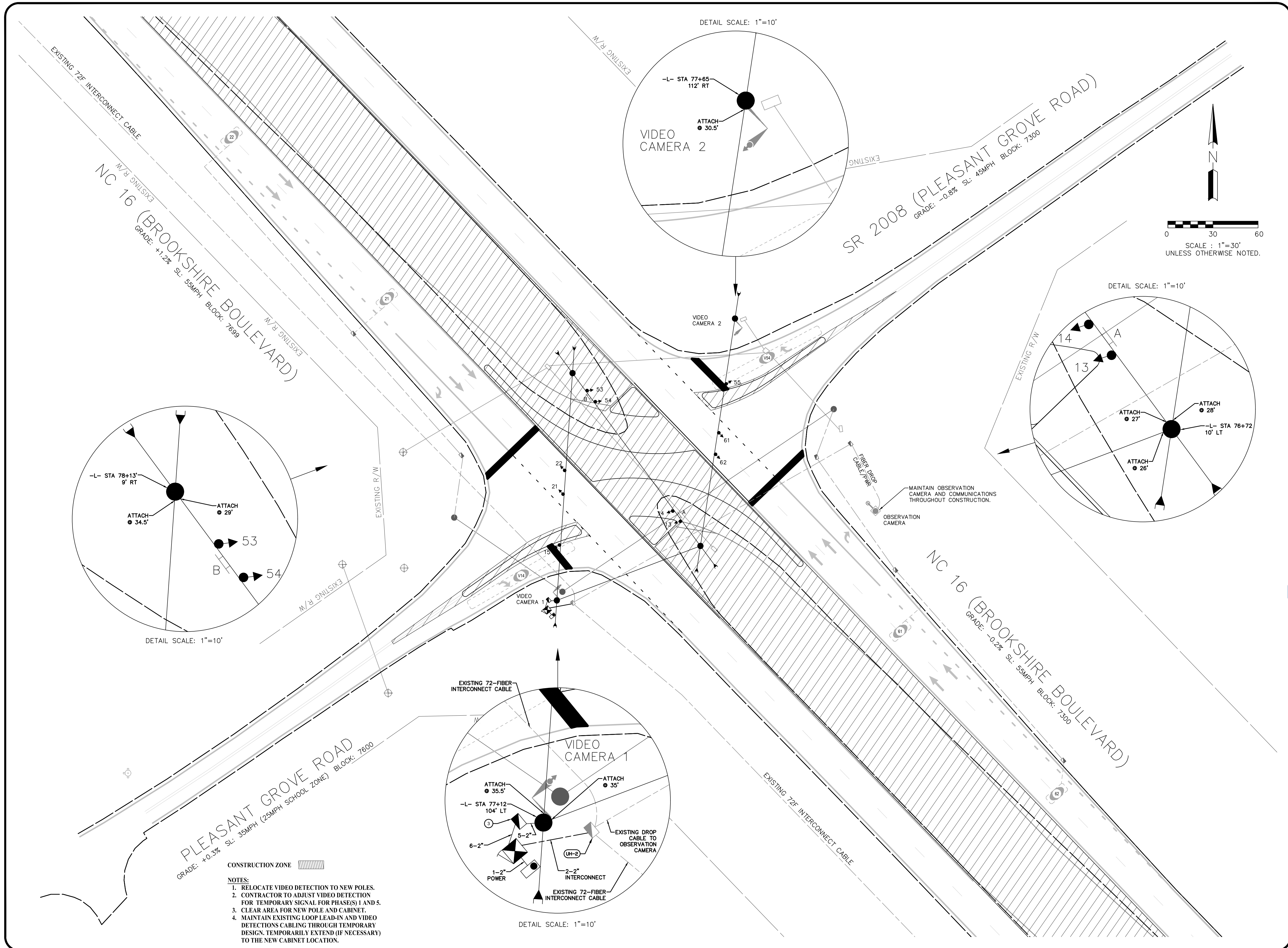
DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Cary, NC 27518
 NC License No. C-2213 (919) 650-1038

Prepared for the Offices of:

CHARLOTTE
 TRANSPORTATION

750 N. Greenfield Pkwy,
 Garner, NC 27529

SHEET
SIG5.0



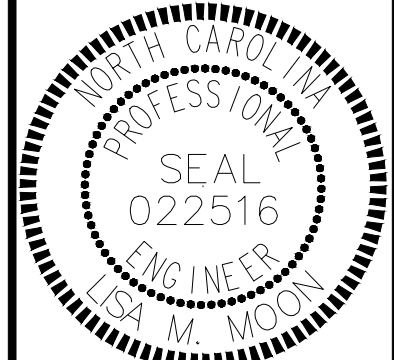
- NOTES:**
1. RELOCATE VIDEO DETECTION TO NEW POLES.
 2. CONTRACTOR TO ADJUST VIDEO DETECTION FOR TEMPORARY SIGNAL FOR PHASE(S) 1 AND 5.
 3. CLEAR AREA FOR NEW POLE AND CABINET.
 4. MAINTAIN EXISTING LOOP LEAD-IN AND VIDEO DETECTIONS CABLING THROUGH TEMPORARY DESIGN. TEMPORARILY EXTEND (IF NECESSARY) TO THE NEW CABINET LOCATION.



Plans Prepared For:
CITY OF CHARLOTTE
 DEPARTMENT OF
 TRANSPORTATION
 600 E. 4TH STREET, 2ND FLOOR, NC 28202
 704.259.4191 FAX: 704.359.4660

Plans Prepared By:
DRMP
 DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Cary, NC 27513
 919.222.2222 (919) 659-1088
 NC License No. C-2216

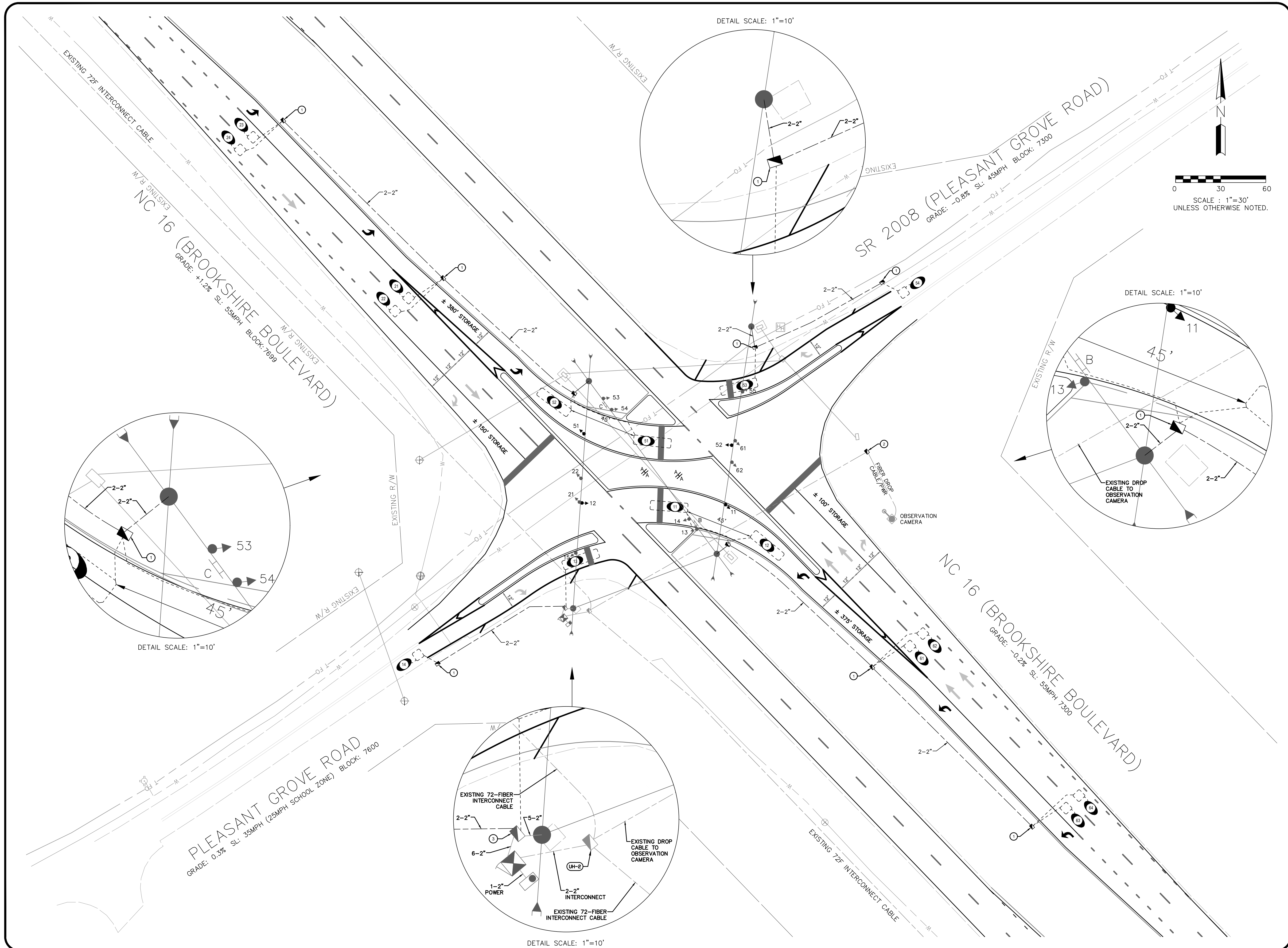
NO.	DATE	BY	REVISION DESCRIPTION



Designed by:
 Lisa M. Moon 3/25/2022
 SSCES88B3D0421

W-5710AK	JOB NO.	D/JW	PREPARED BY	03-2022	DATE
00940	SIGNAL NO.	10-0880	NC DOT ID NO.	L. MOON	APPROVER

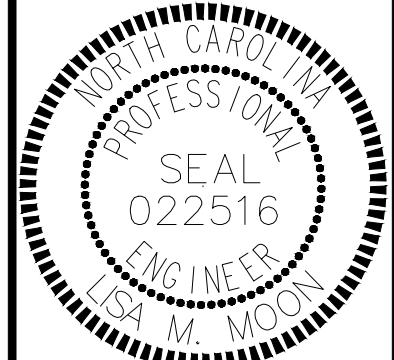
SHEET **SIG5.1** OF **SIG5.8**
NC 16 (BROOKSHIRE BLVD) @ PLEASANT GROVE RD
TEMPORARY SIGNAL PLAN



Plans Prepared For:
CITY OF CHARLOTTE
 DEPARTMENT OF
 TRANSPORTATION
 600 E. 4TH ST. ST. CATHERINE'S BLDG., 2ND FLOOR, NC 28202
 704.255-4191 FAX: 704.336-4660

Plans Prepared By:
DRMP
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 Cary, NC 27513
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NO.	DATE	BY	REVISION DESCRIPTION



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 Lisa M. Moon 3/25/2022
 9CF4F0D3100421

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W-5710AK JOB NO.	DJW PREPARED BY	03-2022 DATE
00940 SIGNAL NO.	10-0880 NCDOT ID NO.	L. MOON APPROVER

SHEET **SIG5.3** OF **SIG5.8**
NC 16 (BROOKESHIRE BLVD) @ PLEASANT GROVE RD
SIGNAL PLAN

SIGNAL PHASING

Ring Configuration 1,2,a,3,4,b
5,6,a,7,8,b

SIGNAL SEQUENCE

RING 1	PHASE 1	PHASE 2	PHASE 3	PHASE 4	FLASH
SIGNAL ID NUMBER	R/W OTH	R/W OTH	R/W OTH	R/W OTH	
11,12	▶	◀			
13,14,15	▶	◀			
21,22		G Y			

RING 2	PHASE 5	PHASE 6	PHASE 7	PHASE 8	FLASH
SIGNAL ID NUMBER	R/W OTH	R/W OTH	R/W OTH	R/W OTH	
51,52	▶	◀			
53,54,55	▶	◀			
61,62		G Y			

◀ RED ARROW ▶ YELLOW ARROW
▶ GREEN ARROW ✱ FLASHING YELLOW ARROW

OVERLAP PHASE

OVERLAP PHASE	OL-A/1+2 LT/FYA	OL-B/	OL-C/5+6 LT/FYA	OL-D/	FLASH
SIGNAL ID NUMBER	R/W OTH	R/W OTH	R/W OTH	R/W OTH	
11a,12a	✱	◀			
51a,52a			✱	◀	

OVERLAP PHASE	OL-E/	OL-F/	OL-G/	OL-H/	FLASH
SIGNAL ID NUMBER	R/W OTH	R/W OTH	R/W OTH	R/W OTH	

◀ RED ARROW ▶ YELLOW ARROW
▶ GREEN ARROW ✱ FLASHING YELLOW ARROW

TURNING MOVEMENT COUNT

NOT AVAILABLE

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade	-0.2%	1.2%			1.2%	-0.2%		
Distance	68	109			73	109		
Approach Speed (mph)	25	55			25	55		
Yellow	3.2	5.0			3.1	5.2		
All Red	1.9	1.4			2.0	1.4		
Total Clearance	5.1	6.4			5.1	6.6		

SIGN ID

A
R3-24
36" x 36"

NOTE: City will supply street name signs for installation

SIGNAL HEAD ID

11a, 12a, 51a, 52a
11a, 12a, 51a, 52a
11a, 12a, 51a, 52a
11, 12, 51, 52

21,22
61,62

13,14,15
53,54,55

MALFUNCTION MANAGEMENT UNIT / CONFLICT MONITOR

PROGRAMMING DETAIL

(program card and tables as shown)

FIELD CHECK ENABLE

CHANNEL NUMBER	ENABLE/DISABLE
1	ENABLE
2	ENABLE
3	DISABLE
4	DISABLE
5	ENABLE
6	ENABLE
7	DISABLE
8	DISABLE
9	DISABLE
10	DISABLE
11	DISABLE
12	DISABLE
13	ENABLE
14	DISABLE
15	ENABLE
16	DISABLE

ECONOLITE EOS-2070 SPECIAL MMU PROGRAMMING

(program controller as shown)

- From Main Menu select **1. CONFIGURATION**
- From CONFIGURATION Submenu select **1. CABINET**
- From PORT 1 (SDLC) Submenu select **4. MONITOR PROGRAMMING**

CAUTION!

Set intersection to Flash before attempting to enter or change any MMU programming data.

This programming and that of the MMU programming card must match exactly. If they do not, the intersection will be placed into Flash.

```

MMU PROGRAM [  MANUAL ]

CH  6 5 4 3 2 1 0 9 8 7 6 5 4 3 2
1  . X . X . . . . . X X . . .
2  . X . X . . . . . X X . . .
3  . . . . .
4  . . . . .
5  . X . X . . . . .
6  . X . X . . . . .
7  . . . . .
8  . . . . .
9  . . . . .
10 . . . . .
11 . . . . .
12 . . . . .
13 . X .
14 . .
15 .
    
```

END PROGRAMMING

UNIT OPTIONS

OPTION	SETTING
RECURRENT PULSE	ON
WALK DISABLE	OFF
LOG CVM FAULTS	ON
EXTERN WATCHDOG	OFF
24V-2=12VDC	OFF
PGM CARD MEMORY	ON
LEDguard	ON
FORCE TYPE 16	OFF
TYPE12-SDLC	OFF
VM 3xDay Latch	ON

FLASHING YELLOW ARROW

CONFIG MODE	B
ENABLE CHANNEL PAIR, FYA	
CH 1-13	ON
CH 3-14	OFF
CH 5-15	ON
CH 7-16	OFF
RED/YEL INPUT ENABLE	
CH 1	ON
CH 3	OFF
CH 5	ON
CH 7	OFF
FLASH RATE FAULT	ON
FYA TRAP DETECT	ON

MMU PROGRAMMING NOTE
ENSURE YELLOW CHANGE PLUS RED CLEARANCE MONITORING IS ENABLED FOR ALL CHANNELS.

DETECTOR RACK SETUP

INSERT DETECTOR CARDS IN RACK ACCORDING TO THE DETAIL SHOWN BELOW. PARTICULAR DETECTOR CHANNELS WILL CALL PHASES INDICATED.

DET BIU #1	CH3	CH1	CH3	CH1	CH3	CH1	CH3	CH1	SLOT	SLOT	SLOT	SLOT	DET BIU #2
L3	L1	L7	L5	L11	L9	L15	L13		S	S	S	S	
∅1	∅1	∅2	∅2	∅5	∅5	∅6	∅6		E	E	E	E	
13	11	23	21	53	51	63	61		M	M	M	M	
CH4	CH2	CH4	CH2	CH4	CH2	CH4	CH2						
L4	L2	L8	L6	L12	L10	L16	L14						
∅1	∅1	∅2	∅2	∅5	∅5	∅6	∅6						
14	12	24	22	54	52	64	62						

APS PUSH BUTTON INPUT SETUP

W-5710AK JOB NO.	DJW PREPARED BY	03-2022 DATE
00940 SIGNAL NO.	10-0880 NCDOT ID NO.	L. MOON APPROVER

**NC 16 (BROOKSHIRE BLVD)
@ PLEASANT GROVE RD**

SIGNAL DETAILS

SHEET **SIG5.4** OF **SIG5.8**

Plans Prepared For:
CITY OF CHARLOTTE
DEPARTMENT OF
TRANSPORTATION
600 E. 4TH ST. 1ST FLOOR, CHARLOTTE, NC 28202
704.259.4109 FAX: 704.336.4660

Plans Prepared By:
DRMP
DRMP, Inc.
8000 Regency Parkway, Suite 110
Charlotte, NC 28226
NC License No. C-2216 (919) 659-1038

REVISION DESCRIPTION

NO.	DATE	BY

DocuSigned by:
Lisa M. Moon
3/25/2022
58CE58B283D0421

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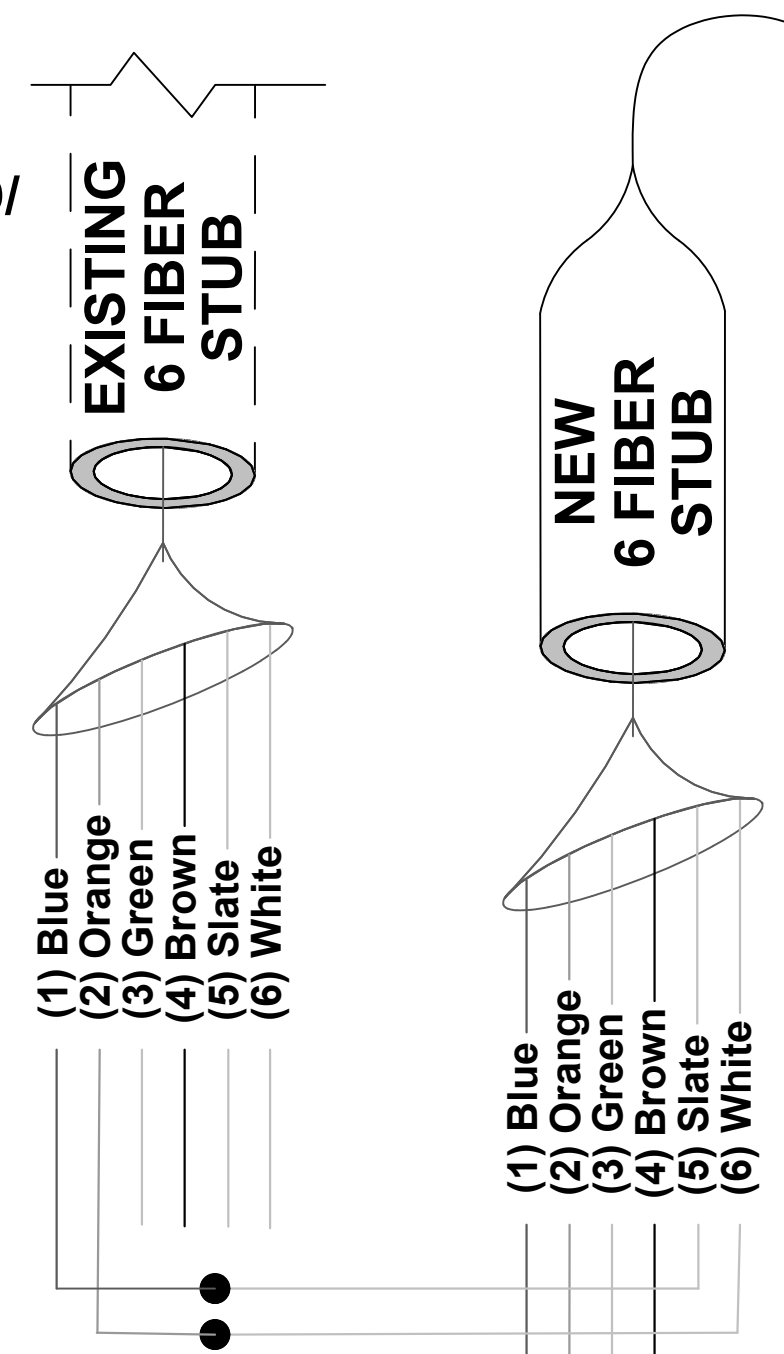
LEGEND

- EXISTING SPLICE
- NEW SPLICE

ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH.

SPLICE 00940

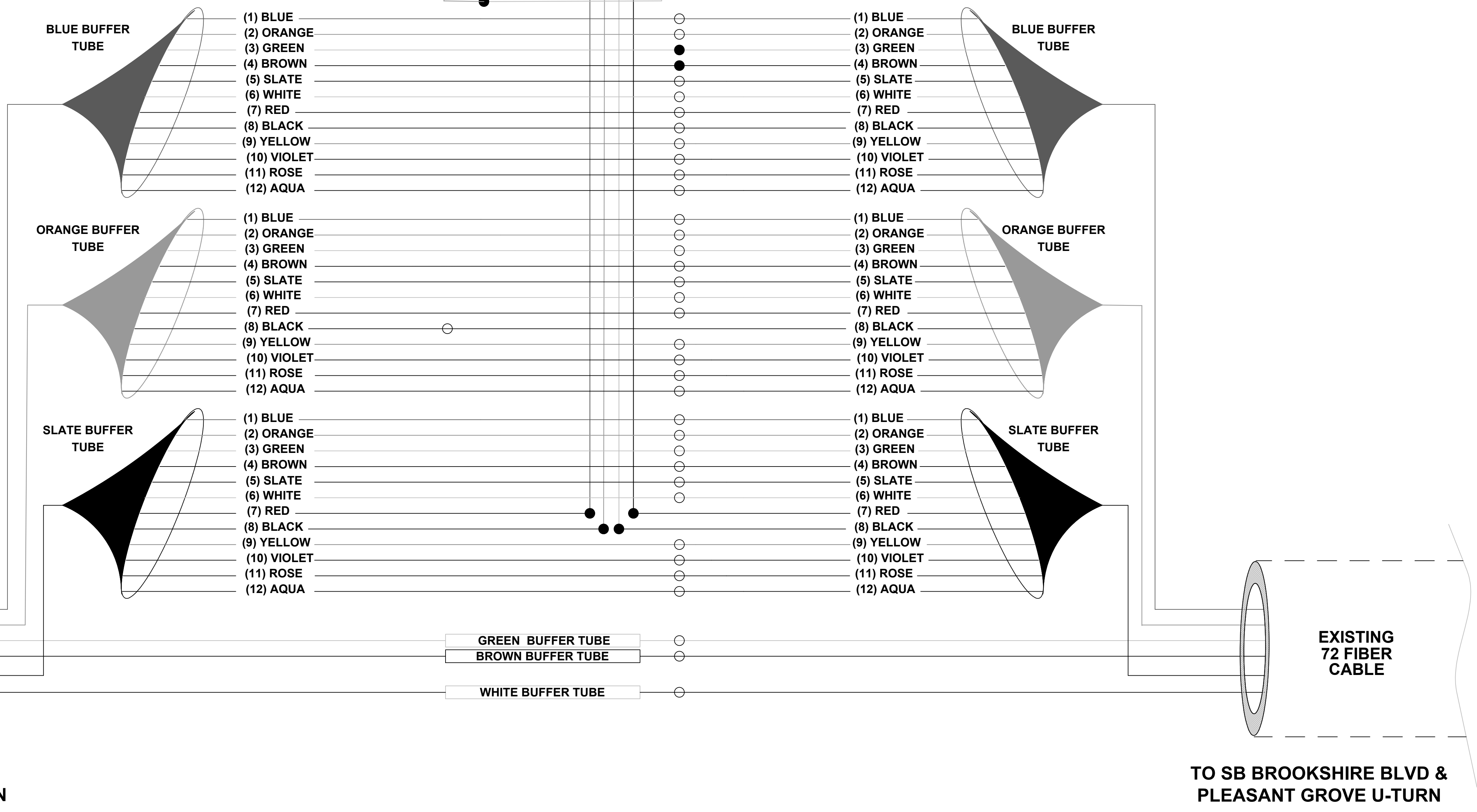
STUB TO BROOKSHIRE BLVD/
PLEASANT GROVE ROAD
CAMERA CONTROL BOX
CCTV #1281



Detail Inside Traffic Control Box

Signal ID: 940 (10-0880)
Ethernet Group ID: I04

NOTE: ALL 6 FIBERS TO BE SPLICED INSIDE FIBER DISTRIBUTION UNIT



FROM NB BROOKSHIRE BLVD &
PLEASANT GROVE ROAD U-TURN

TO SB BROOKSHIRE BLVD &
PLEASANT GROVE U-TURN

SPLICE CASE IN HANDHOLE# 16 ON BROOKSHIRE BLVD AT PLEASANT GROVE ROAD



Plans Prepared For:
CITY OF CHARLOTTE
DEPARTMENT OF
TRANSPORTATION
600 E. 4TH ST. FLOOR 210
CHARLOTTE, NC 28202
704.259.4191 FAX: 704.336.4660

Plans Prepared By:
DRMP
DRMP, Inc.
8000 Regency Parkway, Suite 110
Charlotte, NC 28226
NC License No. C-2216 (919) 659-1038

NO.	DATE	BY	REVISION DESCRIPTION



DocuSigned by:
Lisa M. Moon
3/25/2022
NCEP698330421

00940	W-5710AK		
SIGNAL NO.	JOB NO.	D/JW	PREPARED BY
10-0880			03-2022
			DATE
		L. MOON	
		APPROVER	

NC 16 (BROOKSHIRE BLVD)
@ PLEASANT GROVE RD

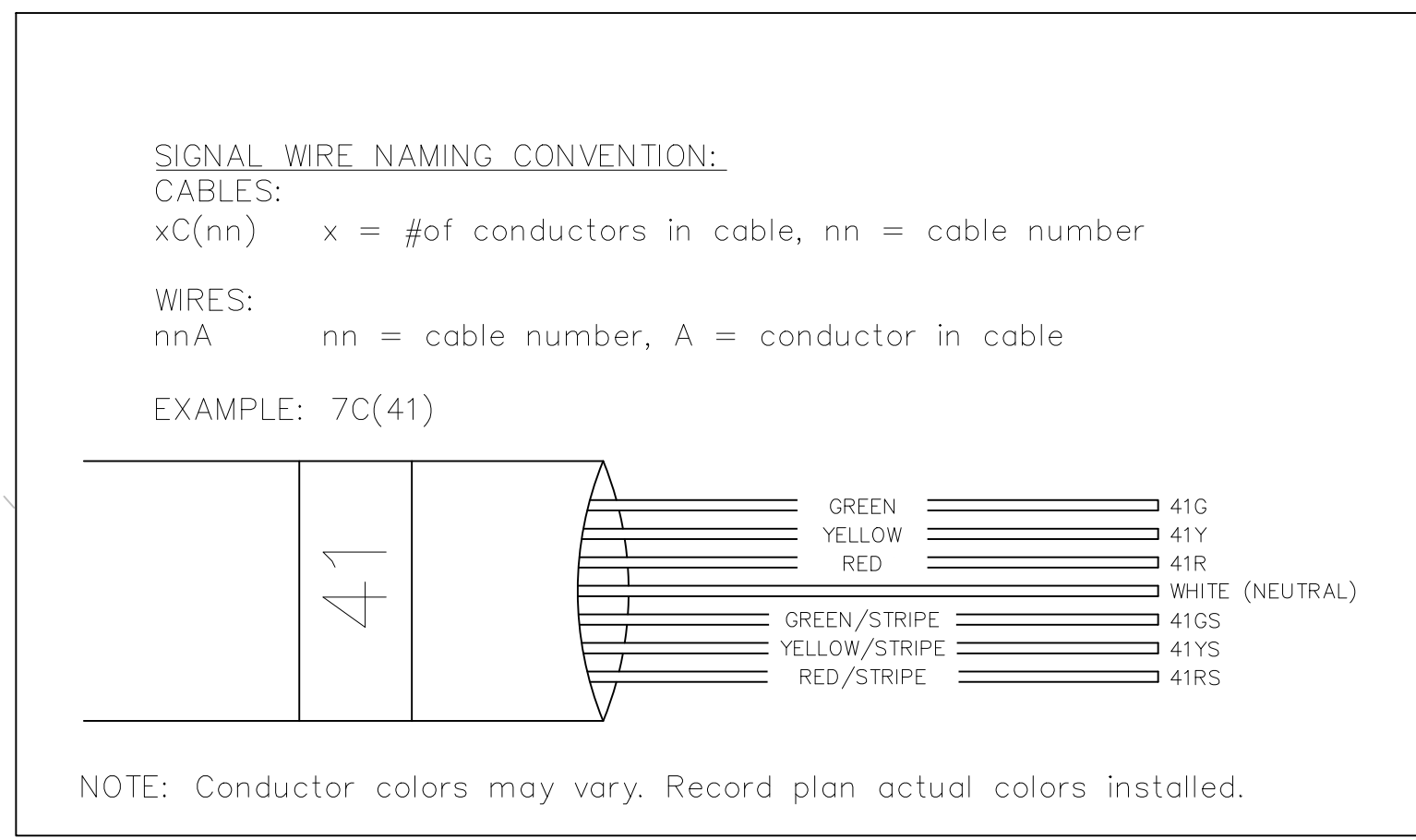
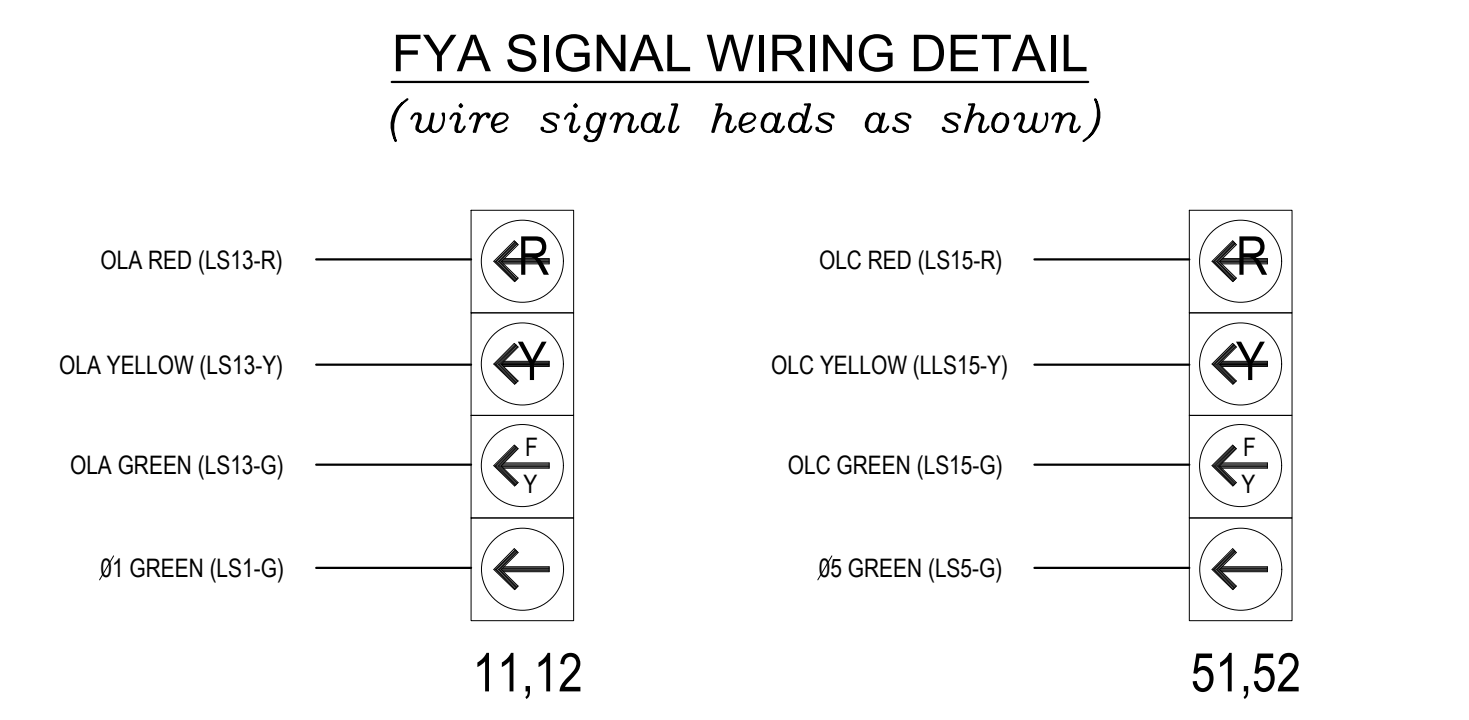
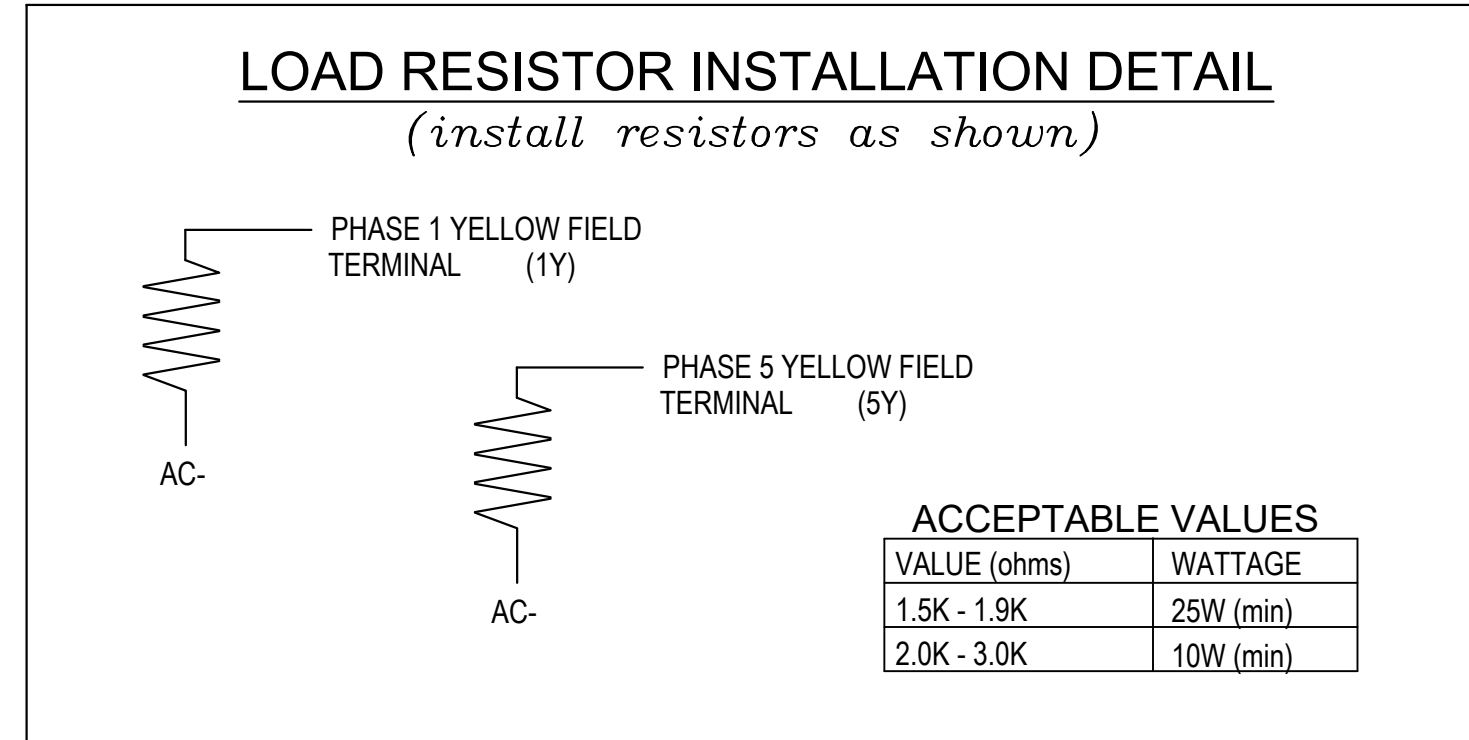
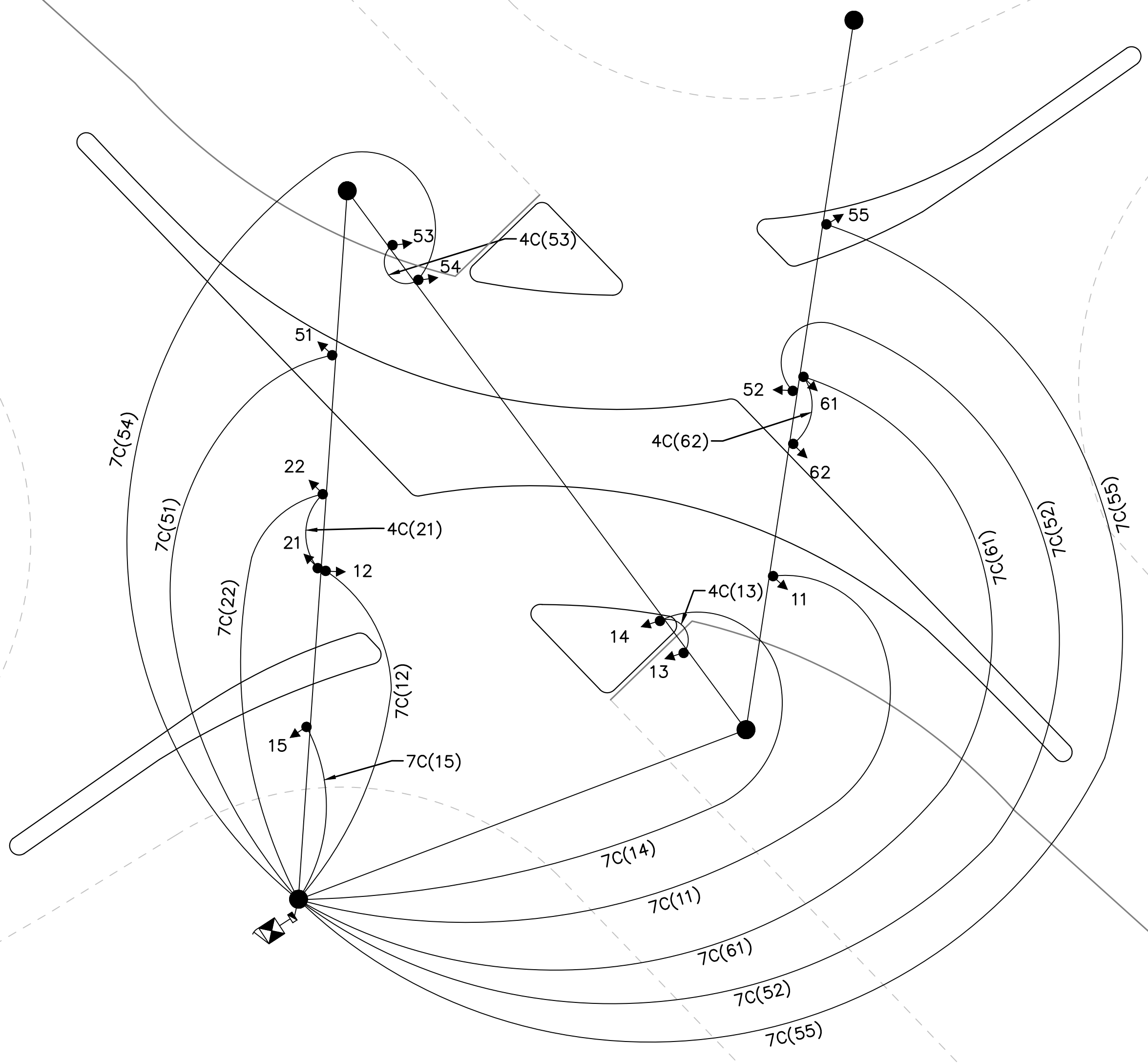
SHEET
SIG5.5
OF
SIG5.8

**FIBER OPTIC
SPLICE DETAILS**

SIGNAL HEAD WIRING

		SIGNAL HEAD HOOK UP CHART																											
CHANNEL		1				2		3	4	5				6		7	8	9	10	11	12	13		14	15		16		
PHASE		1				2		3	4	5				6		7	8	2 PED	4 PED	6 PED	8 PED	OL-A	OL-B	OL-C		OL-D			
SIGNAL HEAD NO.		11★	12★	14	13	15	22	21	NU	NU	51★	52★	54	53	55	61	62	NU	NU	NU	NU	NU	NU	11a★	12a★	NU	51a★	52a★	NU
RED	Wire			14R	13R	15R	22R	21R					54R	53R	55R	61R	62R												
	Terminal			LS1-R	[14R]	LS1-R	LS2-R	[22R]					LS5-R	[54R]	LS5-R	LS6-R	[61R]												
YELLOW	Wire	*	*				22Y	21Y			*	*				61Y	62Y												
	Terminal						LS2-Y	[22Y]								LS6-Y	[61Y]												
GREEN	Wire						22G	21G								61G	62G												
	Terminal						LS2-G	[22G]								LS6-G	[61G]												
RED ARROW	Wire																							11RS	12RS		51RS	52RS	
	Terminal																							LS13-R	LS13-R		LS15-R	LS15-R	
YELLOW ARROW	Wire			14YS	13YS	15YS							54YS	53YS	55YS									11YS	12YS		51YS	52YS	
	Terminal			LS1-Y	[14Y]	LS1-Y							LS5-Y	[54Y]	LS5-Y									LS13-Y	LS13-Y		LS15-Y	LS15-Y	
FLASHING YELLOW	Wire																							11Y	12Y		51Y	52Y	
	Terminal																							LS13-G	LS13-G		LS15-G	LS15-G	
GREEN ARROW	Wire	11GS	12GS	14GS	13GS	15GS					51GS	52GS	54GS	53GS	55GS														
	Terminal	LS1-G	LS1-G	LS1-G	[14G]	LS1-G					LS5-G	LS5-G	LS5-G	[54G]	LS5-G														

[XX*] = TERMINAL BLOCK IN SIGNAL HEAD | LSX* = TERMINAL IN LOAD BAY * Denotes install load resistor. See Load Resistor Detail on this sheet. See pictorial of head wiring detail on this sheet. NU = NOT USED



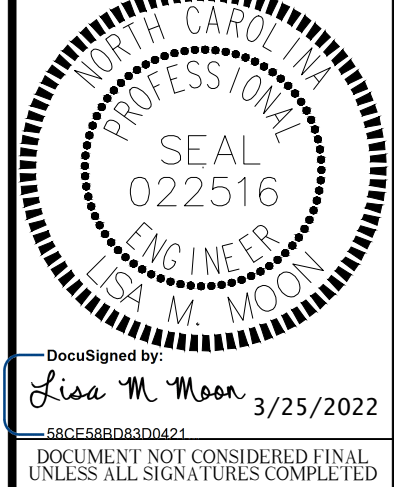
NOTE: Conductor colors may vary. Record plan actual colors installed.



Plans Prepared For:
CITY OF CHARLOTTE
 DEPARTMENT OF
 TRANSPORTATION
 600 E. 4TH ST. FLOOR 1100
 CHARLOTTE, NC 28202
 704-654-4100 FAX 704-359-4600

Plans Prepared By:
DRMP
 DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Charlotte, NC 28226
 NC License No. C-2216 (919) 859-0088

NO	DATE	BY	REVISION DESCRIPTION



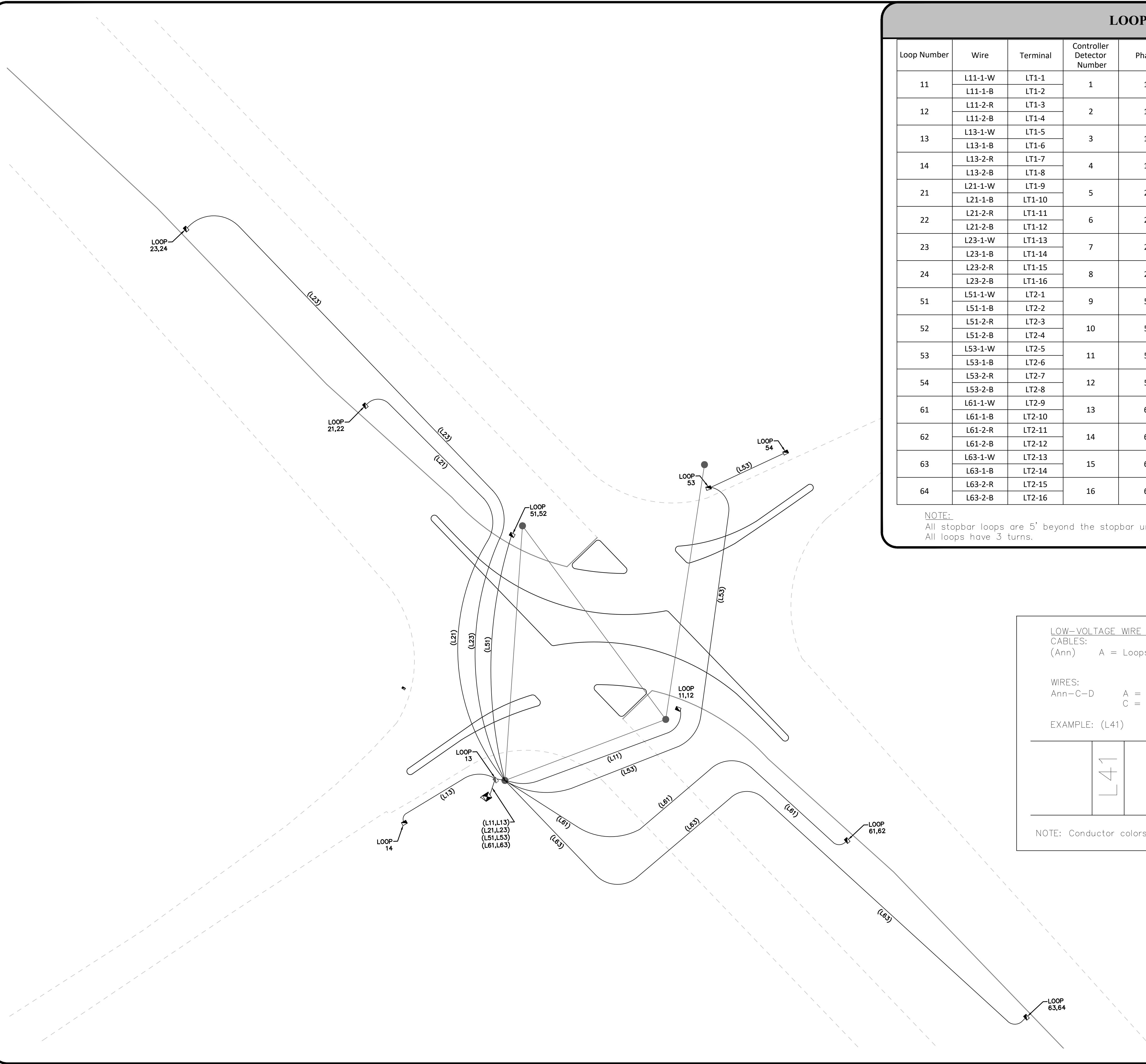
DocuSigned by:
 Lisa M. Moon
 3/25/2022

W-5710AK JOB NO.	DJM PREPARED BY	03-2022 DATE
00940 SIGNAL NO.	10-0880 NCDOT ID NO.	L. MOON APPROVER

SHEET
SIG5.6
 OF
SIG5.8

NC 16 (BROOKSHIRE BLVD)
 @ PLEASANT GROVE RD

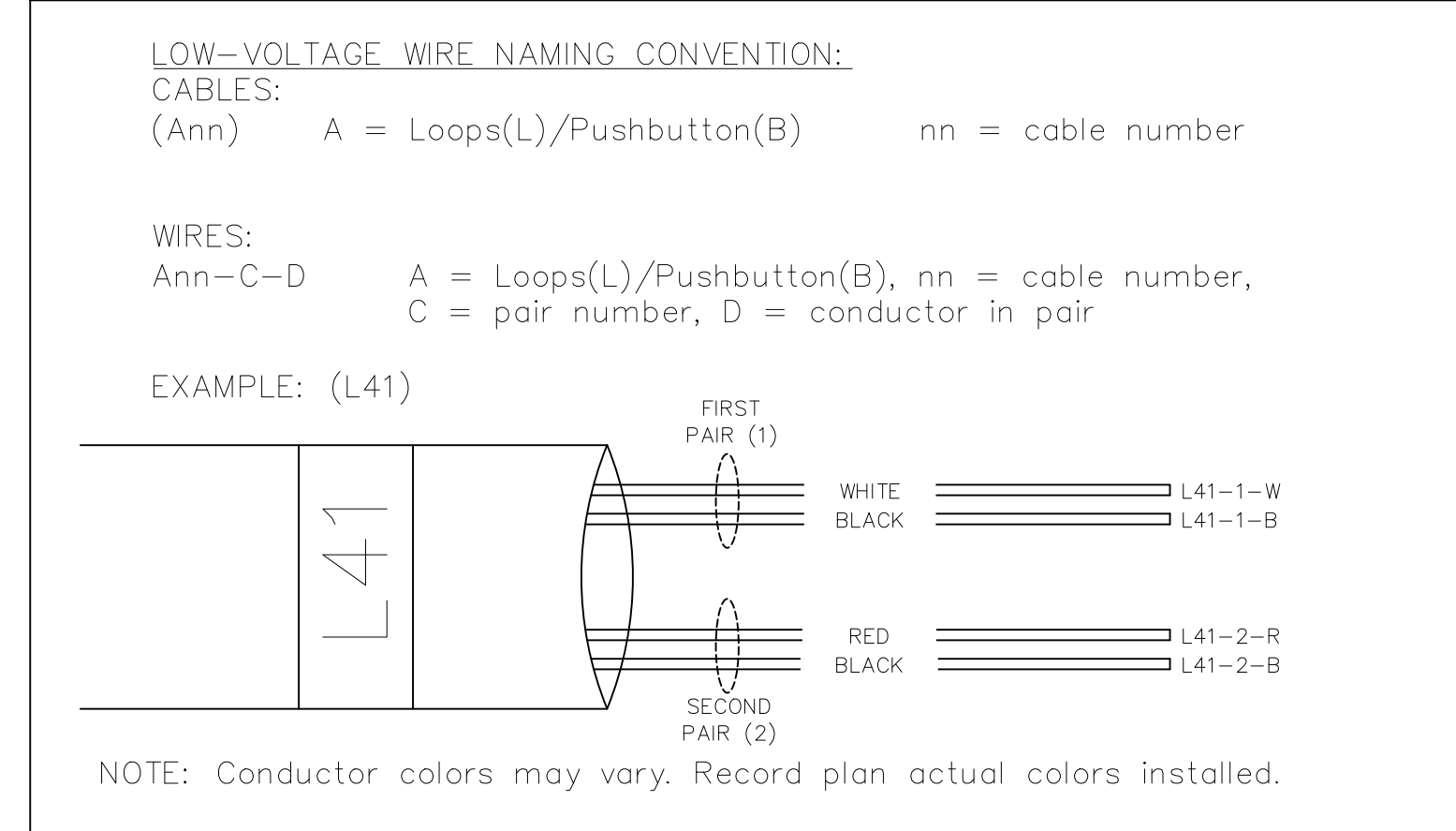
SIGNAL WIRING DIAGRAM



LOOP WIRING

Loop Number	Wire	Terminal	Controller Detector Number	Phase	Timing		Size	Comments
					Feature	Time (sec)		
11	L11-1-W	LT1-1	1	1	-	-	6'X25'	@ STOP BAR
	L11-1-B	LT1-2						
12	L11-2-R	LT1-3	2	1	-	-	6'X25'	65' FROM STOP BAR
	L11-2-B	LT1-4						
13	L13-1-W	LT1-5	3	1	DELAY	15	6'X25'	@STOP BAR
	L13-1-B	LT1-6						
14	L13-2-R	LT1-7	4	1	-	-	6'X6'	130' FROM STOP BAR
	L13-2-B	LT1-8						
21	L21-1-W	LT1-9	5	2	-	-	6'X6'	130' FROM STOP BAR
	L21-1-B	LT1-10						
22	L21-2-R	LT1-11	6	2	-	-	6'X6'	130' FROM STOP BAR
	L21-2-B	LT1-12						
23	L23-1-W	LT1-13	7	2	-	-	6'X6'	280' FROM STOP BAR
	L23-1-B	LT1-14						
24	L23-2-R	LT1-15	8	2	-	-	6'X6'	280' FROM STOP BAR
	L23-2-B	LT1-16						
51	L51-1-W	LT2-1	9	5	-	-	6'X25'	@ STOP BAR
	L51-1-B	LT2-2						
52	L51-2-R	LT2-3	10	5	-	-	6'X25'	65' FROM STOP BAR
	L51-2-B	LT2-4						
53	L53-1-W	LT2-5	11	5	DELAY	15	6'X25'	@STOP BAR
	L53-1-B	LT2-6						
54	L53-2-R	LT2-7	12	5	-	-	6'X25'	130' FROM STOP BAR
	L53-2-B	LT2-8						
61	L61-1-W	LT2-9	13	6	-	-	6'X6'	130' FROM STOP BAR
	L61-1-B	LT2-10						
62	L61-2-R	LT2-11	14	6	-	-	6'X6'	130' FROM STOP BAR
	L61-2-B	LT2-12						
63	L63-1-W	LT2-13	15	6	-	-	6'X6'	280' FROM STOP BAR
	L63-1-B	LT2-14						
64	L63-2-R	LT2-15	16	6	-	-	6'X6'	280' FROM STOP BAR
	L63-2-B	LT2-16						

NOTE:
 All stopbar loops are 5' beyond the stopbar unless otherwise noted.
 All loops have 3 turns.



NOTE

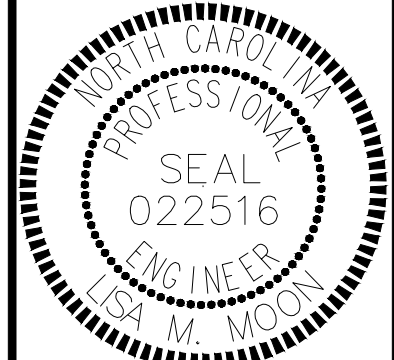
CDOT TO PROGRAM DETECTOR TYPES AND TIMERS (EXTEND AND DELAY) AS SHOWN IN LOOP WIRING CHART ABOVE INTO CONTROLLER



Plans Prepared For:
CITY OF CHARLOTTE
 DEPARTMENT OF TRANSPORTATION
 600 E. 4TH ST. 2ND FLOOR, NC 28202
 704.259-4119 FAX: 704.336-4660

Plans Prepared By:
DRMP
 DRMP, Inc.
 8000 Regency Parkway, Suite 110
 Cary, NC 27513
 NC License No. C-2216 (919) 659-1038

NO.	DATE	BY	REVISION DESCRIPTION



DocuSigned by:
Lisa M. Moon
 3/25/2022
 58CE58B03D0421

W-5710AK JOB NO.	DJM PREPARED BY	03-2022 DATE
00940 SIGNAL NO.	10-0880 NCDOT ID NO.	L. MOON APPROVER

**NC 16 (BROOKSHIRE BLVD)
 @ PLEASANT GROVE RD**

**LOW VOLTAGE
 WIRING DIAGRAM**

SHEET
SIG5.7
 OF
SIG5.8

NOTE:
 ALL LEAD-IN WIRE SHOULD BE TWO PAIR CABLE

NOTES

1. To prevent "flash-conflict" problems, wire all unused load switches to flash red. Verify that signal heads flash in accordance with the signal plans.
2. To prevent red failures on unused monitor channels, tie unused load switch red outputs 3, 4, 7, 8, 9, 10, 11, 12, 14 and 16 to load switch AC+ by inserting a jumper plug in the unused load switch socket from pin 1 (LS AC+) to pin 3 (RED out). Make sure all flash transfer relays are in place.
- ◆ 3. Program controller to start up in phase 2 Green and 6 Green.
- ◆ 4. Set power-up flash time to 12 seconds and implement on the Malfunction Management Unit. Set controller power-up flash time to 22 seconds.
- ◆ 5. Program detectors in accordance with the manufacturer's instructions to accomplish the detection schemes shown on the signal design plans.
- ◆ 6. Program detector call delay and extension timing on the controller, unless otherwise specified.
7. Set all detector card unit channels to "presence" mode.
8. The cabinet and controller are a part of the Charlotte Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070LX
 CABINET[TS-2]
 SOFTWAREECONOLITE EOS-2070
 CABINET MOUNT.....BASE MOUNT ON A RISER
 LOADBAY POSITIONS.....16
 LOAD SWITCHES USED.....1,2,5,6,13,15
 PHASES USED.....1,2,5,6
 OLA.....1+2
 OLB.....NOT USED
 OLC.....5+6
 OLD.....NOT USED

◆ Software and Programming by CDOT

City of Charlotte Department of Transportation (CDOT) to provide EOS Software and do all Programming of the controller database. Contractor to provide CDOT with controller for programming a minimum of two weeks prior to installation. CDOT will return controller, fully programmed for contractor to install and integrate into the controller cabinet.



Plans Prepared For:
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W-5710AK JOB NO.	DJM PREPARED BY	04-2022 DATE
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00940 SIGNAL NO.	10-0880 NCDOT ID NO.	L. MOON APPROVER
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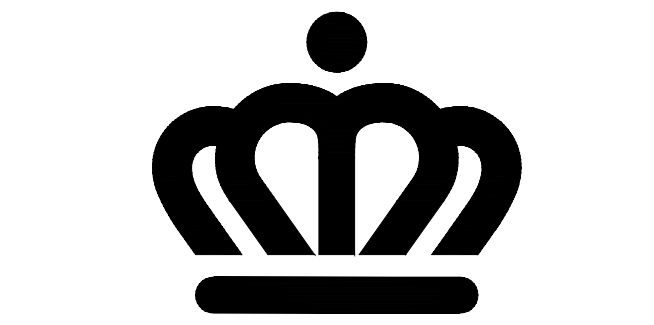
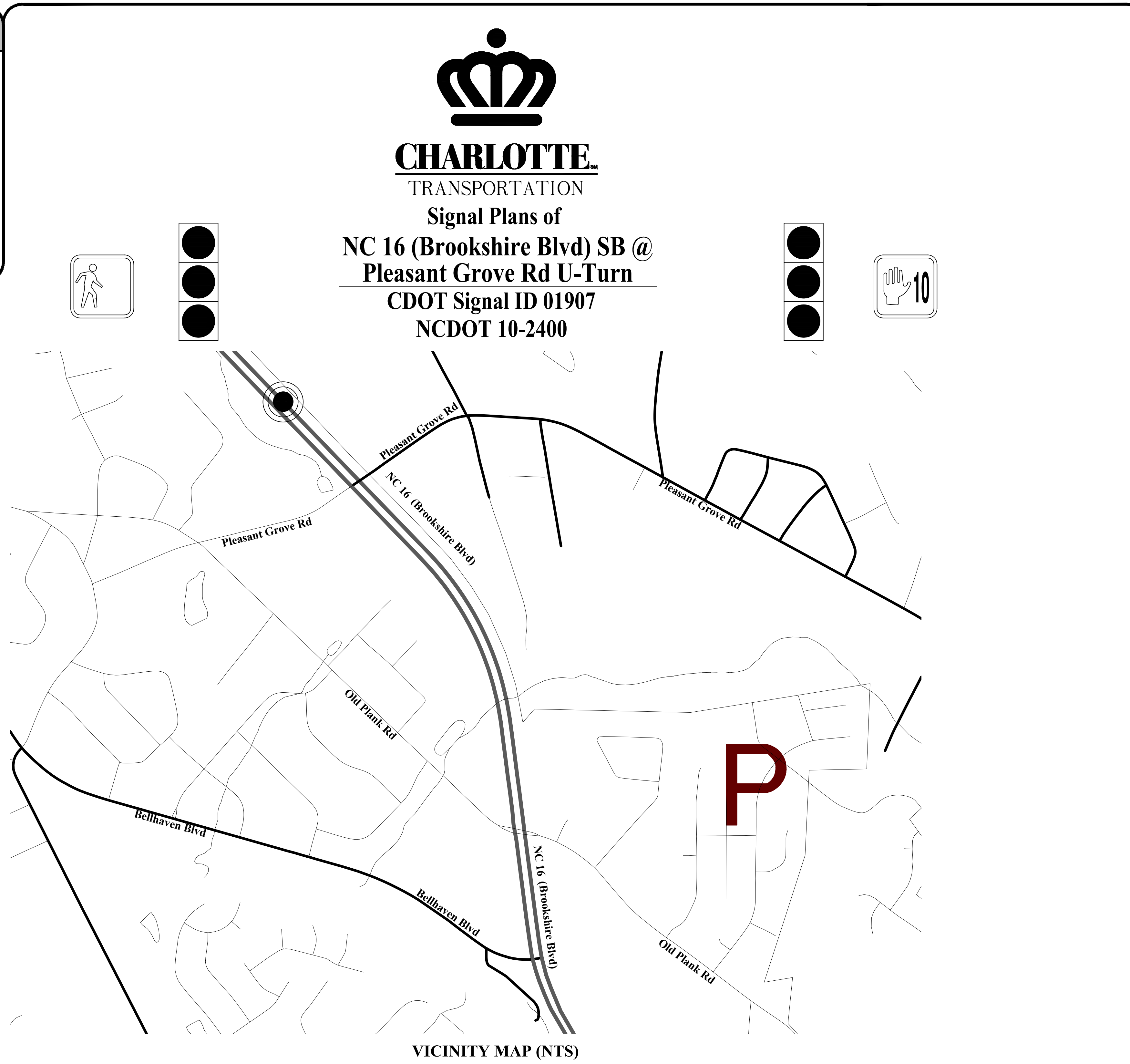
NC 16 (BROOKSHIRE BLVD)
 @ PLEASANT GROVE RD
 MISCELLANEOUS
 DETAILS

SHEET
SIG5.8
 OF
SIG5.8

Signal ID 01907/ NCDOT 10-2400

NC 16 (Brookshire Blvd) SB @ Pleasant Grove Rd U-Turn

INDEX OF SHEETS	
Cover Sheet	SIG6.0
Signal Plan	SIG6.1
Signal Details	SIG6.2
Splice Detail	SIG6.3
Signal Wiring Diagram	SIG6.4
Low Voltage Wiring Diagram	SIG6.5
Miscellaneous Details	SIG6.6
TOTAL SHEETS 7	



CHARLOTTE
TRANSPORTATION
Signal Plans of
**NC 16 (Brookshire Blvd) SB @
Pleasant Grove Rd U-Turn**
CDOT Signal ID 01907
NCDOT 10-2400

LEGEND		
PROPOSED	DESCRIPTION	EXISTING
	CONTROL BOX	
	METER PEDESTAL	
	PULL BOX	
	STEEL POLE	
	MAST ARM	
	PED PEDESTAL	
	UTILITY POLE	
	ANCHOR	
	SIGNAL HEAD	
	VIDEO CAMERA	
	OPTICOM	
	OBSERVATION CAM	
	DETECTOR	
	CONDUIT	
	INTERCONNECT	
	EDGE OF PVMT.	
	CURB & GUTTER	
	TUBULAR MARKER	
	GROUND SIGN	
	OVERHEAD SIGN	
	DOUBLE YELLOW	
	STOP BAR	
	WHITE SKIP	
	WHITE MINI	
	PAVEMENT ARROW	
	PROPERTY LINE	
	ROW	
	UTILITIES TELEPHONE UG CABLE SUE	
	UTILITIES SANITARY SEWER UG LINE	
	UTILITIES WATER UG LINE SUE	
	UTILITIES GAS UG LINE SUE	
	UTILITIES TELEPHONE UG FO SUE	
	OTHER CULTURE FENCE LINE	

PULLBOX ID		
	SIZE	PULLBOX TYPE
①	13"x24"x12"	LOOP
②	17"x30"x30"	FIBER OPTIC
③	24"x36"x24"	CONTROLLER / FIBER
④	30"x48"x36"	CONTROLLER
⑤	24"x24"x12"	CONTROLLER
UH-2	24"x36"x30"	FIBER SPLICE

NOTE:
PULLBOX MATERIAL MUST MEET OR EXCEED THE 2018 NCDOT STANDARD TRAFFIC SIGNAL SPECIFICATIONS.

PLANS PREPARED FOR:

City of Charlotte
Department of Transportation
600 East 4th Street Charlotte, NC 28202
Phone: (704) 336-4119
Fax: (704) 336-4400

PLAN NOTES

- ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
- SIGNAL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS AND PROJECT SPECIAL PROVISIONS.
- CITY WILL SUPPLY STREET NAME SIGNS FOR INSTALLATION.
- SEE SIGNAL COMMUNICATION PLANS FOR CONSTRUCTION RELATED TO SYSTEM, SHOWN ON SIGNAL PLANS AS EXISTING.
- ATTACHMENT HEIGHTS ARE ESTIMATED, BASED ON AVAILABLE INFORMATION AND EXISTING SURVEY ELEVATIONS. CONTRACTOR SHALL FIELD VERIFY ELEVATIONS TO ENSURE POLES OF SUFFICIENT LENGTH TO MAINTAIN MINIMUM REQUIRED CLEARANCE ABOVE THE ROADWAY.

PE SEAL

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PROJECT TEAM

Plans Prepared By:	DESIGNER:	D. White
	PROJECT ENGINEER:	C. Silver
	PROJECT MANAGER:	L. Moon

DRMP, Inc.
8000 Regency Parkway, Suite 110
Cary, NC 27518
NC License No. C-2213 (919) 650-1038

Prepared for the Offices of:

CHARLOTTE
TRANSPORTATION

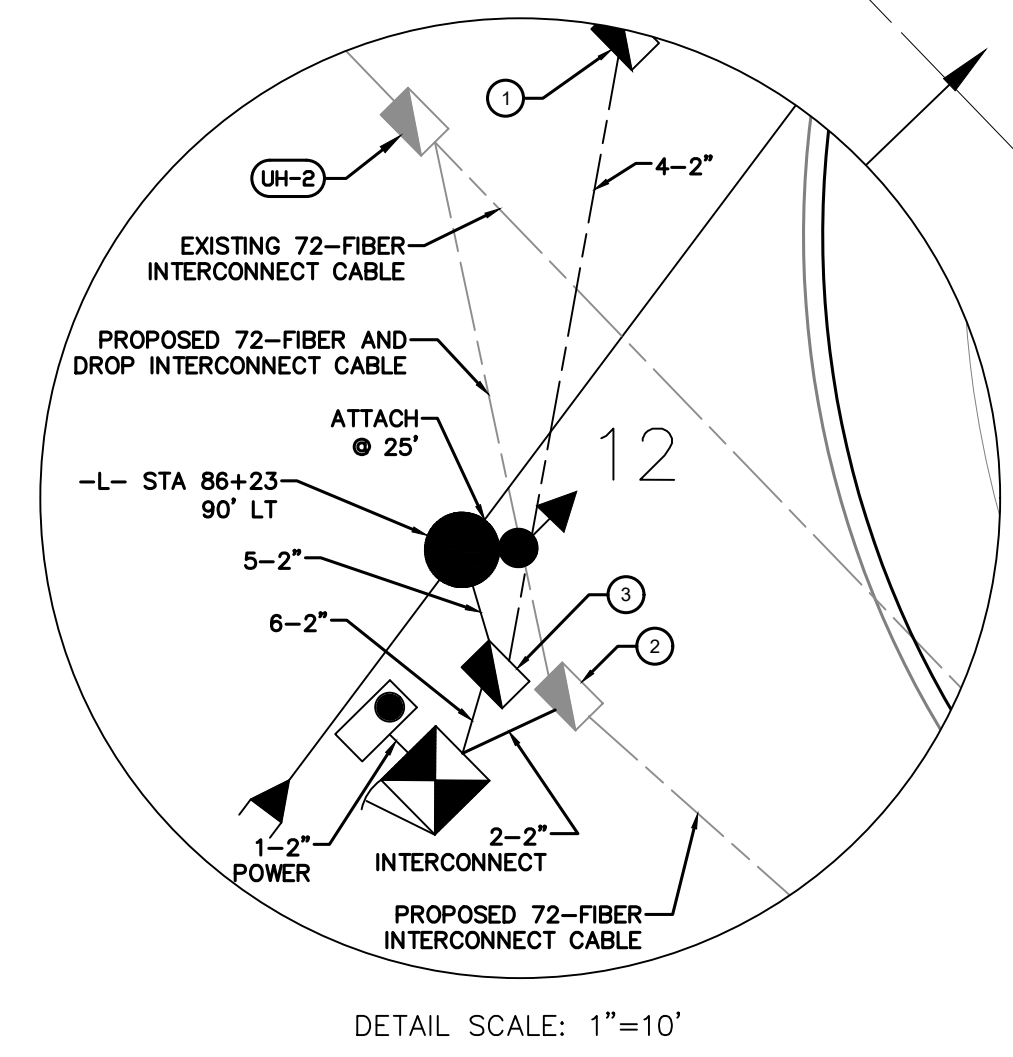
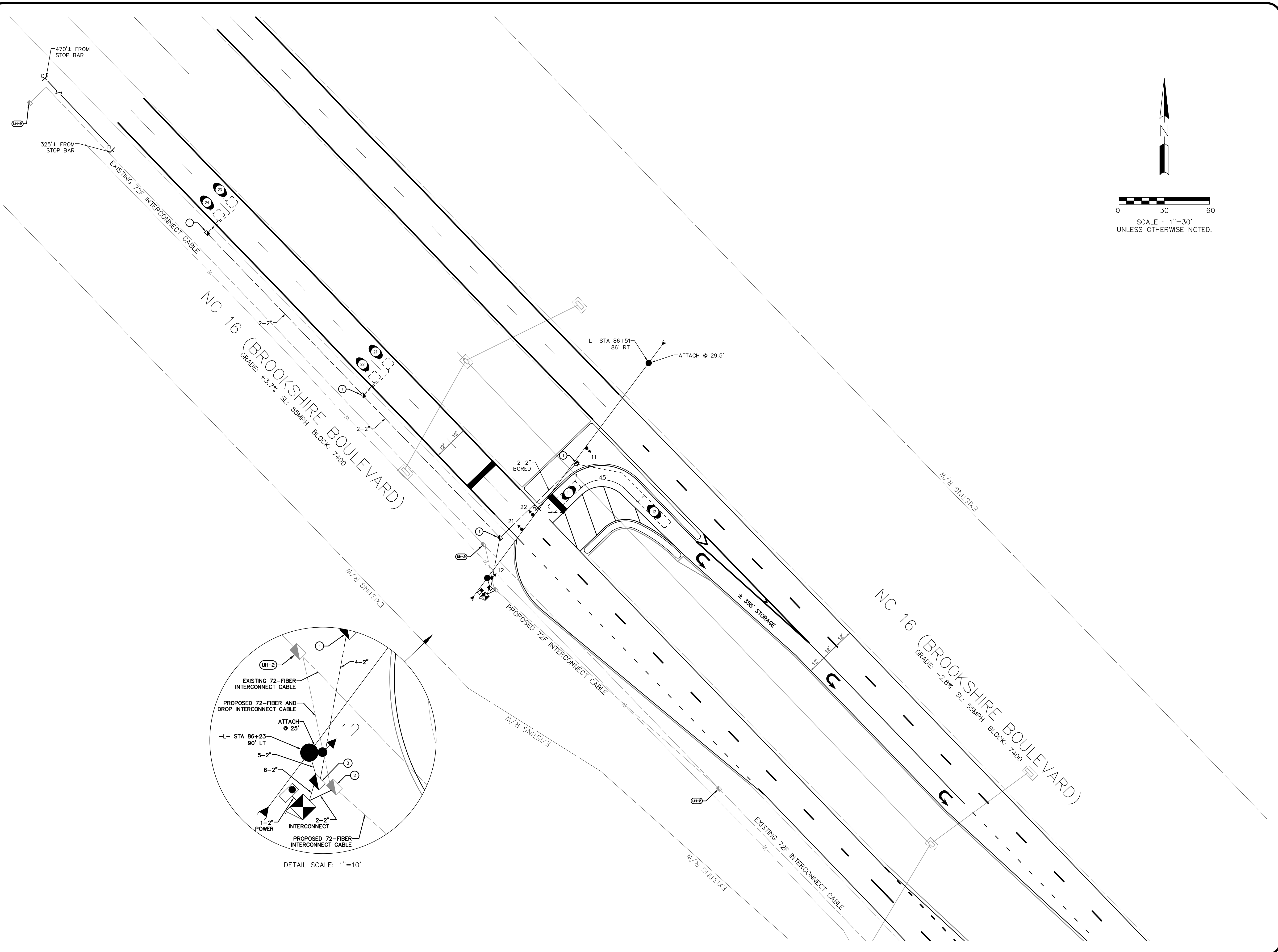
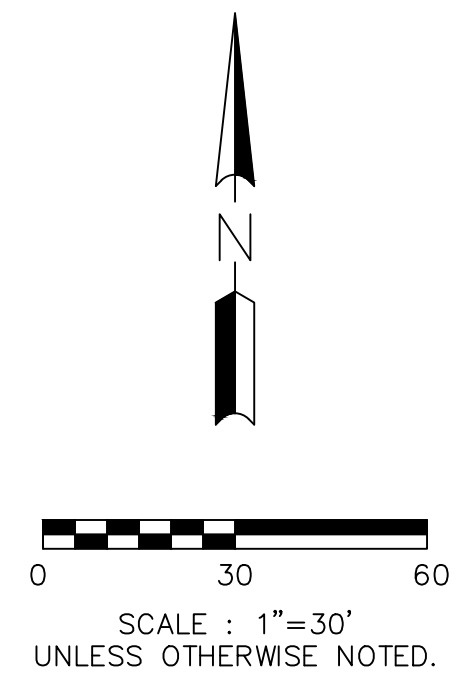
750 N. Greenfield Pkwy,
Garner, NC 27529

SHEET
SIG6.0

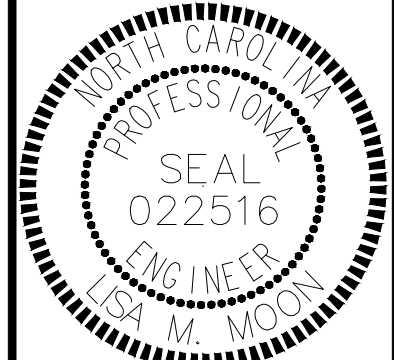


Plans Prepared For:
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NO.	DATE	BY	REVISION DESCRIPTION



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 Lisa M. Moon 3/25/2022
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W-5710AK JOB NO.	DJW PREPARED BY	03-2022 DATE
01907 SIGNAL NO.	10-2400 NCDOT ID NO.	L. MOON APPROVER

NC 16 (BROOKSHIRE BLVD) SB @ PLEASANT GROVE RD U-TURN

SHEET **SIG6.1** OF **SIG6.6**
SIGNAL PLAN

SIGNAL PHASING

Ring Configuration	1,2,3,4,5 5,6,7,8,b
--------------------	------------------------

SIGNAL SEQUENCE

RING 1	PHASE 1	PHASE 2	PHASE 3	PHASE 4	FLASH
SIGNAL ID NUMBER	R/W OTH	R/W OTH	R/W OTH	R/W OTH	
11,12	◀	◀			
21,22		G	Y		◀

RING 2	PHASE 5	PHASE 6	PHASE 7	PHASE 8	FLASH
SIGNAL ID NUMBER	R/W OTH	R/W OTH	R/W OTH	R/W OTH	

◀ RED ARROW ◀ YELLOW ARROW
◀ GREEN ARROW ✱ FLASHING YELLOW ARROW

OVERLAP PHASE

OVERLAP PHASE	OL-A/	OL-B/	OL-C/	OL-D/	FLASH
SIGNAL ID NUMBER	R/W OTH	R/W OTH	R/W OTH	R/W OTH	

OVERLAP PHASE	OL-E/	OL-F/	OL-G/	OL-H/	FLASH
SIGNAL ID NUMBER	R/W OTH	R/W OTH	R/W OTH	R/W OTH	

◀ RED ARROW ◀ YELLOW ARROW
◀ GREEN ARROW ✱ FLASHING YELLOW ARROW

TURNING MOVEMENT COUNT

NOT AVAILABLE

CLEARANCE INTERVALS

Phase	1	2	3	4	5	6	7	8
% Grade	-2.8%	3.7%						
Distance	61	81						
Approach Speed (mph)	15	55						
Yellow	3.0	4.8						
All Red	2.8	1.1						
Total Clearance	5.8	5.9						

SIGN ID

A R3-2 36" x 36"
B W3-3 36" x 36"
C W3-4 36" x 36"

SIGNAL HEAD ID

21,22 11 12

MALFUNCTION MANAGEMENT UNIT / CONFLICT MONITOR

PROGRAMMING DETAIL

(program card and tables as shown)

ECONOLITE EOS-2070 SPECIAL MMU PROGRAMMING

(program controller as shown)

- From Main Menu select **1. CONFIGURATION**
- From CONFIGURATION Submenu select **1. CABINET**
- From PORT 1 (SDLC) Submenu select **4. MONITOR PROGRAMMING**

CAUTION!

Set intersection to Flash before attempting to enter or change any MMU programming data.

This programming and that of the MMU programming card must match exactly. If they do not, the intersection will be placed into Flash.

MMU PROGRAM [MANUAL]

CH	6	5	4	3	2	1	0	9	8	7	6	5	4	3	2
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

END PROGRAMMING

FIELD CHECK ENABLE

CHANNEL NUMBER	ENABLE/ DISABLE
1	ENABLE
2	ENABLE
3	DISABLE
4	DISABLE
5	DISABLE
6	DISABLE
7	DISABLE
8	DISABLE
9	DISABLE
10	DISABLE
11	DISABLE
12	DISABLE
13	DISABLE
14	DISABLE
15	DISABLE
16	DISABLE

UNIT OPTIONS

OPTION	SETTING
RECURRENT PULSE	ON
WALK DISABLE	OFF
LDG CVM FAULTS	ON
EXTERN WATCHDOG	OFF
24V-2-12VDC	OFF
PGM CARD MEMORY	ON
LEDguard	ON
FORCE TYPE 16	OFF
TYPE12-SDLC	OFF
VM 3xDay Latch	ON

FLASHING YELLOW ARROW

CONFIG MODE	B
ENABLE CHANNEL PAIR, FYA	
CH 1-13	OFF
CH 3-14	OFF
CH 5-15	OFF
CH 7-16	OFF
RED/YEL INPUT ENABLE	
CH 1	OFF
CH 3	OFF
CH 5	OFF
CH 7	OFF
FLASH RATE FAULT	ON
FYA TRAP DETECT	ON

MMU PROGRAMMING NOTE
ENSURE YELLOW CHANGE PLUS RED CLEARANCE MONITORING IS ENABLED FOR ALL CHANNELS.

DETECTOR RACK SETUP

INSERT DETECTOR CARDS IN RACK ACCORDING TO THE DETAIL SHOWN BELOW. PARTICULAR DETECTOR CHANNELS WILL CALL PHASES INDICATED.

DET BIU #1	CH3	CH1	CH3	CH1												DET BIU #2
L3	L1	L7	L5													
∅ 2	∅ 1	NOT USED	∅ 2													
21	11		23													
CH4	CH2	CH4	CH2													
L4	L2	L8	L6													
∅ 2	∅ 1	NOT USED	∅ 2													
22	12		24													

APS PUSH BUTTON INPUT SETUP

W-5710AK	JOB NO.	DJW	PREPARED BY	03-2022	DATE
01907	SIGNAL NO.	10-2400	NC DOT ID NO.	L. MOON	APPROVER

NC 16 (BROOKSHIRE BLVD) SB @ PLEASANT GROVE RD U-TURN

SHEET SIG6.2 OF SIG6.6

SIGNAL DETAILS

City of Charlotte
Department of Transportation
600 E. 4th St. Charlotte, NC 28202
704.259.4191 FAX: 704.336.4660

DRMP, Inc.
8000 Regency Parkway, Suite 110
Charlotte, NC 28226
NC License No. C-2216 (919) 659-1038

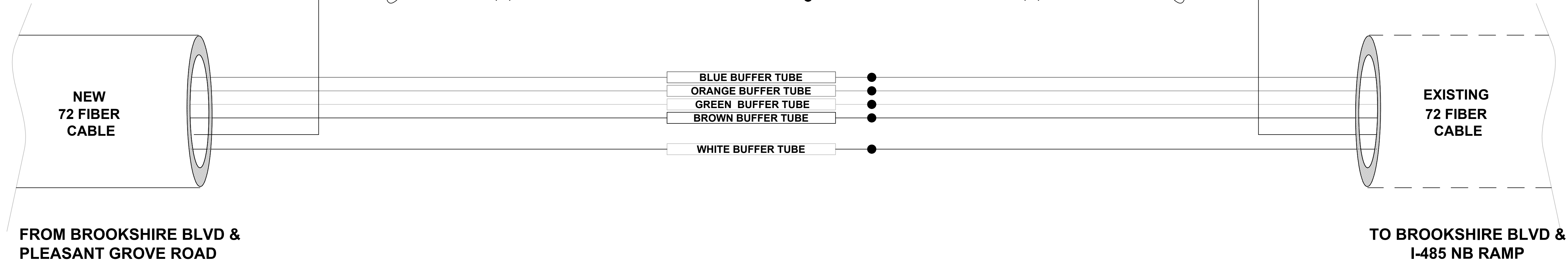
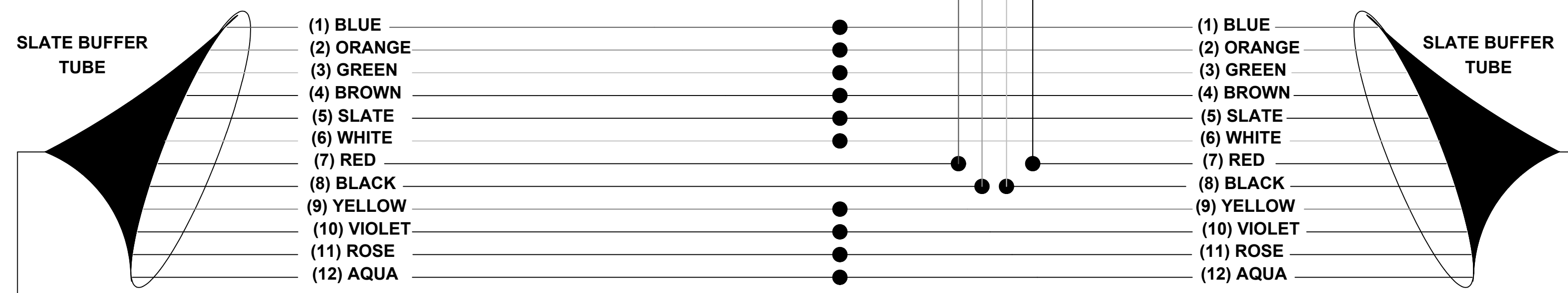
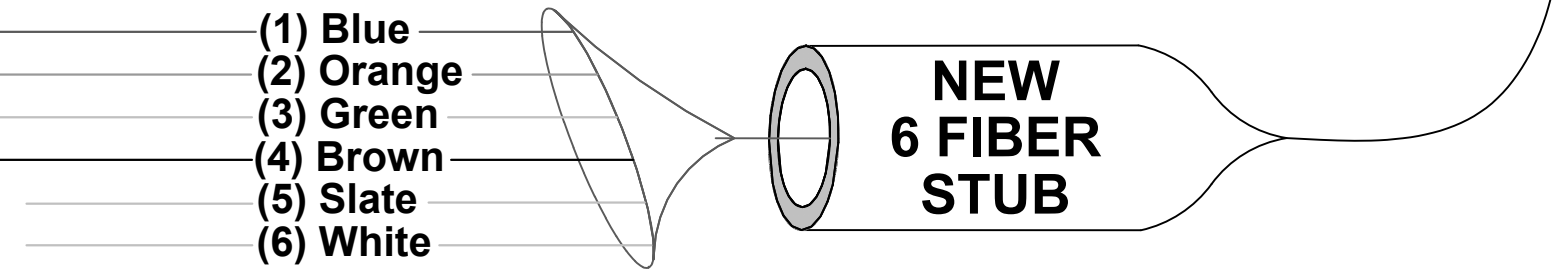
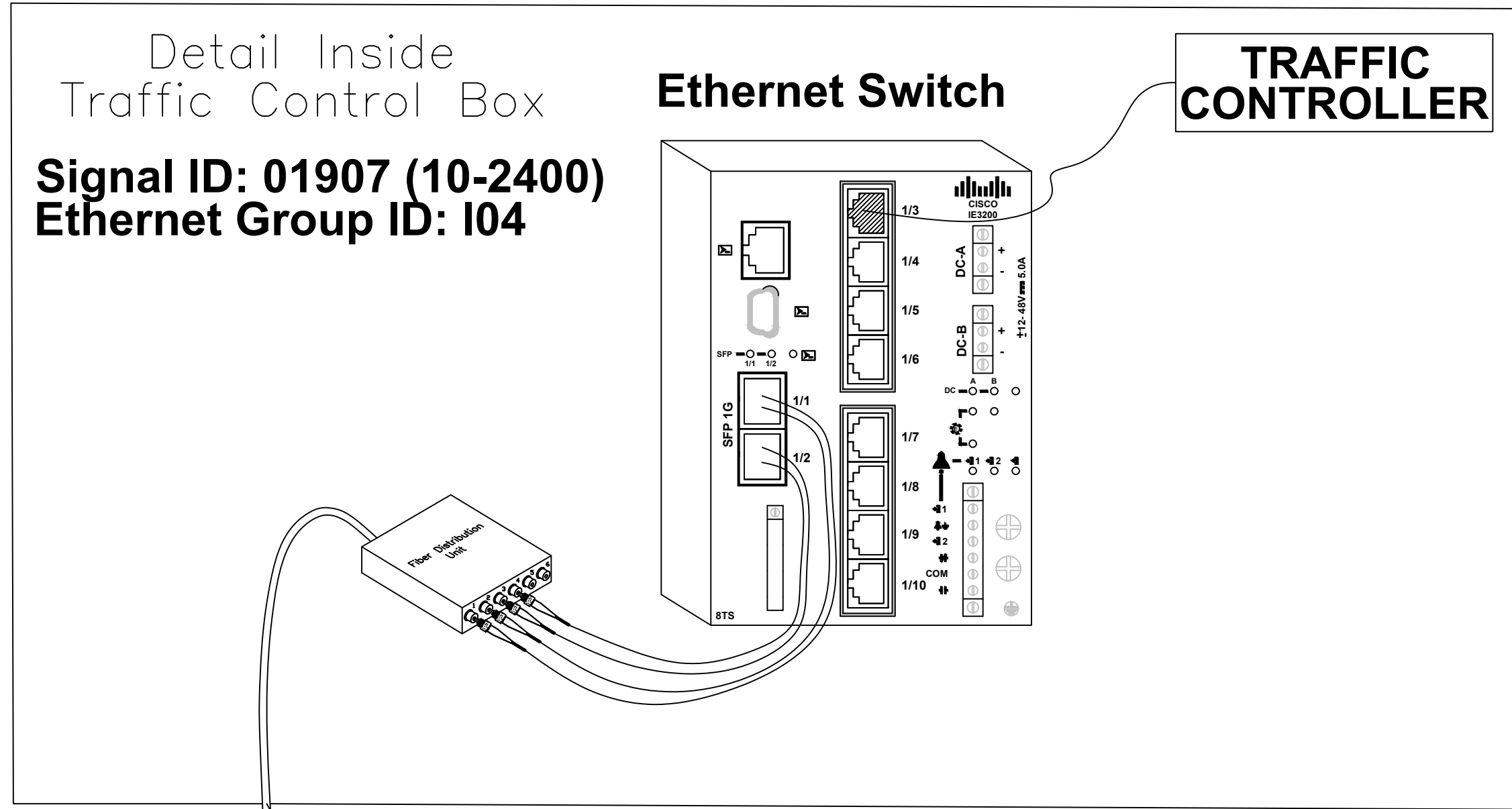
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Lisa M. Moon 3/25/2022
SEAL 022516
LISA M. MOON
ENGINEER
USA

REVISION DESCRIPTION

NO.	DATE	BY

LEGEND
 ○ EXISTING SPLICE
 ● NEW SPLICE
 ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH.

SPLICE 01907



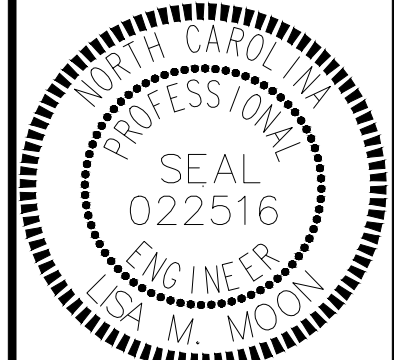
SPLICE CASE IN HANDHOLE# 16.4 ON SB BROOKSHIRE BLVD AT PLEASANT GROVE RD U-TURN



Plans Prepared For:
CITY OF CHARLOTTE
 DEPARTMENT OF
 TRANSPORTATION
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NO.	DATE	BY	REVISION DESCRIPTION



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01907	W-5710AK	03-2022
SIGNAL NO.	JOB NO.	DATE
10-2400	DJW	PREPARED BY
NCDOT ID NO.	L. MOON	APPROVER

NC 16 (BROOKSHIRE BLVD) SB
 @ PLEASANT GROVE RD U-TURN

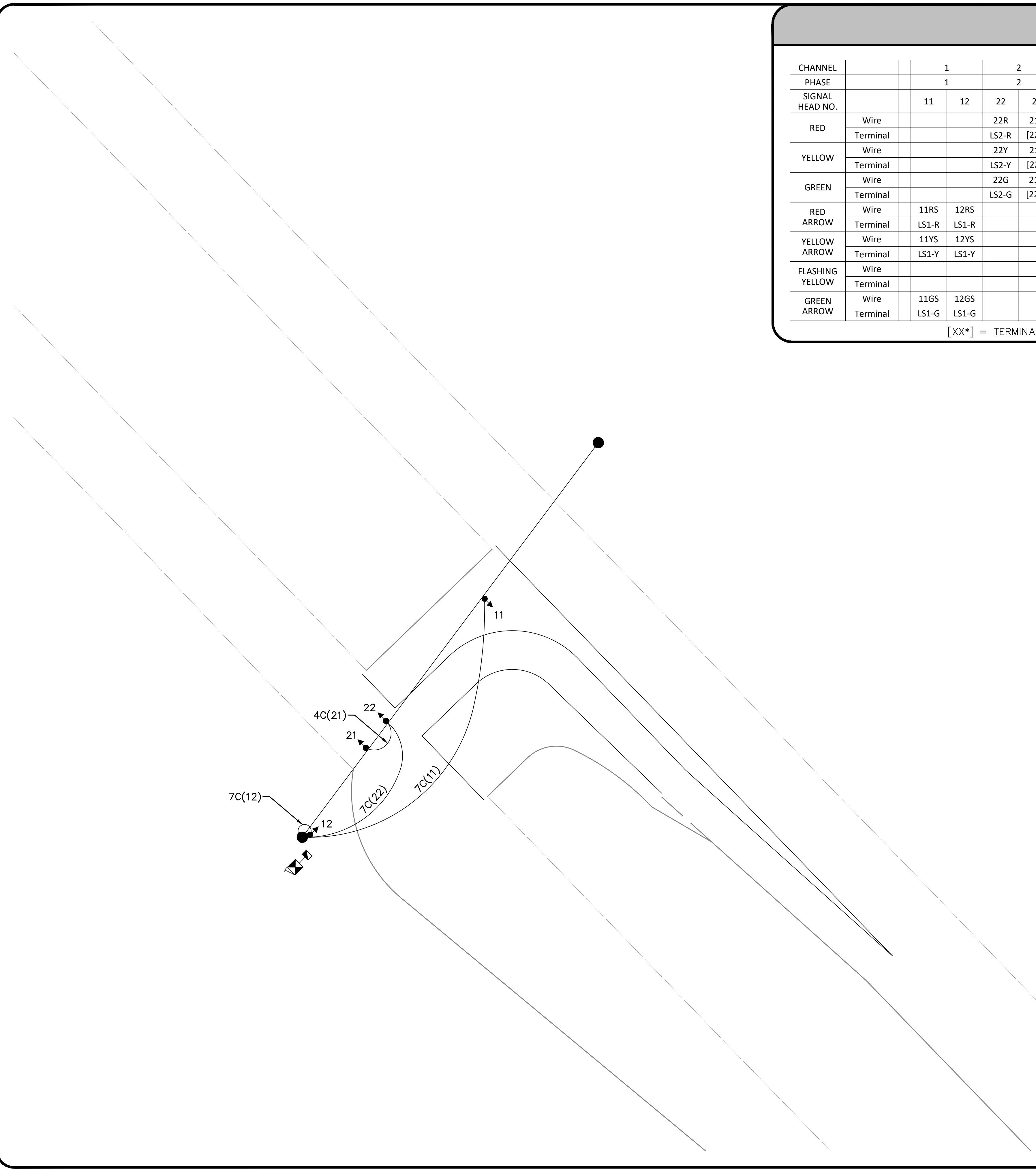
FIBER OPTIC
 SPLICE DETAILS

SHEET
SIG6.3
 OF
SIG6.6

SIGNAL HEAD WIRING

		SIGNAL HEAD HOOK UP CHART															
CHANNEL		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE		1	2	3	4	5	6	7	8	2 PED	4 PED	6 PED	8 PED	OL-A	OL-B	OL-C	OL-D
SIGNAL HEAD NO.		11	12	22	21	NU	NU	NU	NU	NU	NU	NU	NU	NU	NU	NU	NU
RED	Wire			22R	21R												
	Terminal			LS2-R	[22R]												
YELLOW	Wire			22Y	21Y												
	Terminal			LS2-Y	[22Y]												
GREEN	Wire			22G	21G												
	Terminal			LS2-G	[22G]												
RED ARROW	Wire	11RS	12RS														
	Terminal	LS1-R	LS1-R														
YELLOW ARROW	Wire	11YS	12YS														
	Terminal	LS1-Y	LS1-Y														
FLASHING YELLOW	Wire																
	Terminal																
GREEN ARROW	Wire	11GS	12GS														
	Terminal	LS1-G	LS1-G														

[XX*] = TERMINAL BLOCK IN SIGNAL HEAD | LSX* = TERMINAL IN LOAD BAY | NU = NOT USED



SIGNAL WIRE NAMING CONVENTION:
CABLES:
 xC(nn) x = #of conductors in cable, nn = cable number

WIRES:
 nnA nn = cable number, A = conductor in cable

EXAMPLE: 7C(41)

NOTE: Conductor colors may vary. Record plan actual colors installed.

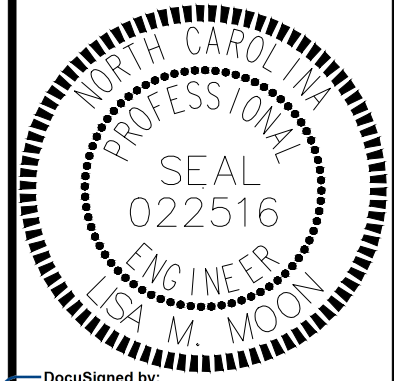


Plans Prepared For:
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 NC License No. C-2216 (919) 859-0088

NO.	DATE	BY	REVISION DESCRIPTION



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 Lisa M. Moon 3/25/2022

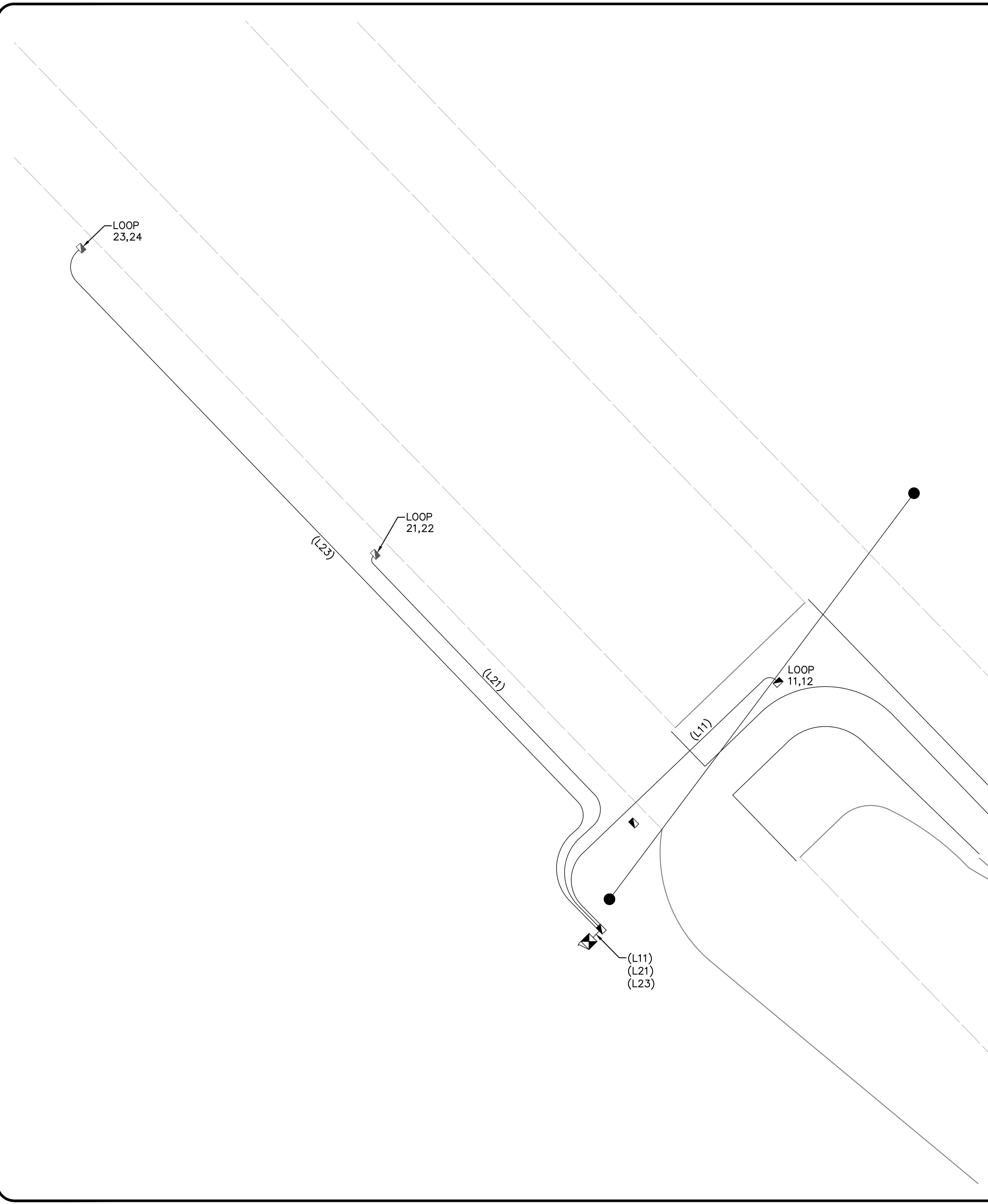
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01907	W-5710AK	01907	03-2022
SIGNAL NO.	JOB NO.	DRAWN BY	DATE
10-2400		PREPARED BY	
NC DOT ID NO.			
L. MOON			
APPROVER			

SHEET
SIG6.4
 OF
SIG6.6

NC 16 (BROOKSHIRE BLVD) SB
 @ PLEASANT GROVE RD U-TURN

SIGNAL WIRING DIAGRAM



LOOP WIRING

Loop Number	Wire	Terminal	Controller Detector Number	Phase	Timing		Size	Comments
					Feature	Time (sec)		
11	L11-1-W	LT1-1	1	1	-	-	6'X25'	@ STOP BAR
	L11-1-B	LT1-2						
12	L11-2-R	LT1-3	2	1	-	-	6'X25'	65' FROM STOP BAR
	L11-2-B	LT1-4						
21	L21-1-W	LT1-5	3	2	-	-	6'X6'	130' FROM STOP BAR
	L21-1-B	LT1-6						
22	L21-2-R	LT1-7	4	2	-	-	6'X6'	130' FROM STOP BAR
	L21-2-B	LT1-8						
23	L23-1-W	LT1-9	5	2	-	-	6'X6'	280' FROM STOP BAR
	L23-1-B	LT1-10						
24	L23-2-R	LT1-11	6	2	-	-	6'X6'	280' FROM STOP BAR
	L23-2-B	LT1-12						

NOTE:
All stopbar loops are 5' beyond the stopbar unless otherwise noted.
All loops have 3 turns.

LOW-VOLTAGE WIRE NAMING CONVENTION:

CABLES:
(Ann) A = Loops(L)/Pushbutton(B) nn = cable number

WIRES:
Ann-C-D A = Loops(L)/Pushbutton(B), nn = cable number,
C = pair number, D = conductor in pair

EXAMPLE: (L41)

NOTE: Conductor colors may vary. Record plan actual colors installed.

NOTE

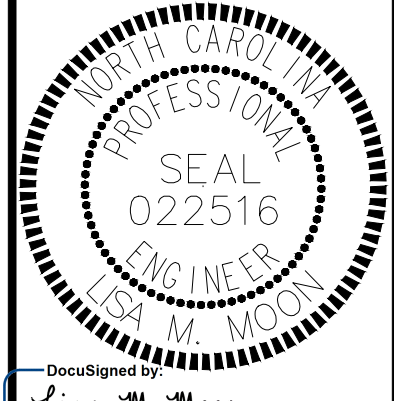
CDOT TO PROGRAM DETECTOR
TYPES AND TIMERS (EXTEND AND
DELAY) AS SHOWN IN LOOP WIRING
CHART ABOVE INTO CONTROLLER



Plans Prepared For:
CITY OF CHARLOTTE
DEPARTMENT OF
TRANSPORTATION
600 E. 4TH STREET, FLOOR 1300, NC 28202
704.259.4119 FAX: 704.336.4660

Plans Prepared By:
DRMP
DRMP, Inc.
8000 Regency Parkway, Suite 110
Charlotte, NC 28226 (919) 659-1038
NC License No. C-2216 (919) 659-4660

NO.	DATE	BY	REVISION DESCRIPTION



DocuSigned by:
Lisa M. Moon
3/25/2022
SRCE58B03D0421

01907 SIGNAL NO.	10-2400 NCDOT ID NO.	L. MOON APPROVER	W-5710AK JOB NO.	DJW PREPARED BY	03-2022 DATE
---------------------	-------------------------	---------------------	---------------------	--------------------	-----------------

NC 16 (BROOKSHIRE BLVD) SB
@ PLEASANT GROVE RD U-TURN

**LOW VOLTAGE
WIRING DIAGRAM**

NOTE:
ALL LEAD-IN WIRE SHOULD BE TWO PAIR CABLE

NOTES

1. To prevent "flash-conflict" problems, wire all unused load switches to flash red. Verify that signal heads flash in accordance with the signal plans.
2. To prevent red failures on unused monitor channels, tie unused load switch red outputs 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 to load switch AC+ by inserting a jumper plug in the unused load switch socket from pin 1 (LS AC+) to pin 3 (RED out). Make sure all flash transfer relays are in place.
- ◆ 3. Program controller to start up in phase 2 Green.
- ◆ 4. Set power-up flash time to 12 seconds and implement on the Malfunction Management Unit. Set controller power-up flash time to 22 seconds.
- ◆ 5. Program detectors in accordance with the manufacturer's instructions to accomplish the detection schemes shown on the signal design plans.
- ◆ 6. Program detector call delay and extension timing on the controller, unless otherwise specified.
7. Set all detector card unit channels to "presence" mode.
8. The cabinet and controller are a part of the Charlotte Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070LX
 CABINET[TS-2]
 SOFTWAREECONOLITE EOS-2070
 CABINET MOUNT.....BASE MOUNT ON A RISER
 LOADBAY POSITIONS.....16
 LOAD SWITCHES USED.....1,2
 PHASES USED.....1,2
 OLA.....NOT USED
 OLB.....NOT USED
 OLC.....NOT USED
 OLD.....NOT USED

◆ Software and Programming by CDOT

City of Charlotte Department of Transportation (CDOT) to provide EOS Software and do all Programming of the controller database. Contractor to provide CDOT with controller for programming a minimum of two weeks prior to installation. CDOT will return controller, fully programmed for contractor to install and integrate into the controller cabinet.



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 CITY OF CHARLOTTE
 DEPARTMENT OF
 TRANSPORTATION
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 CHARLOTTE, NC 28202
 704.259.4119 FAX: 704.359.4667

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 8000 Regency Parkway, Suite 110
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NO.	DATE	BY	REVISION DESCRIPTION



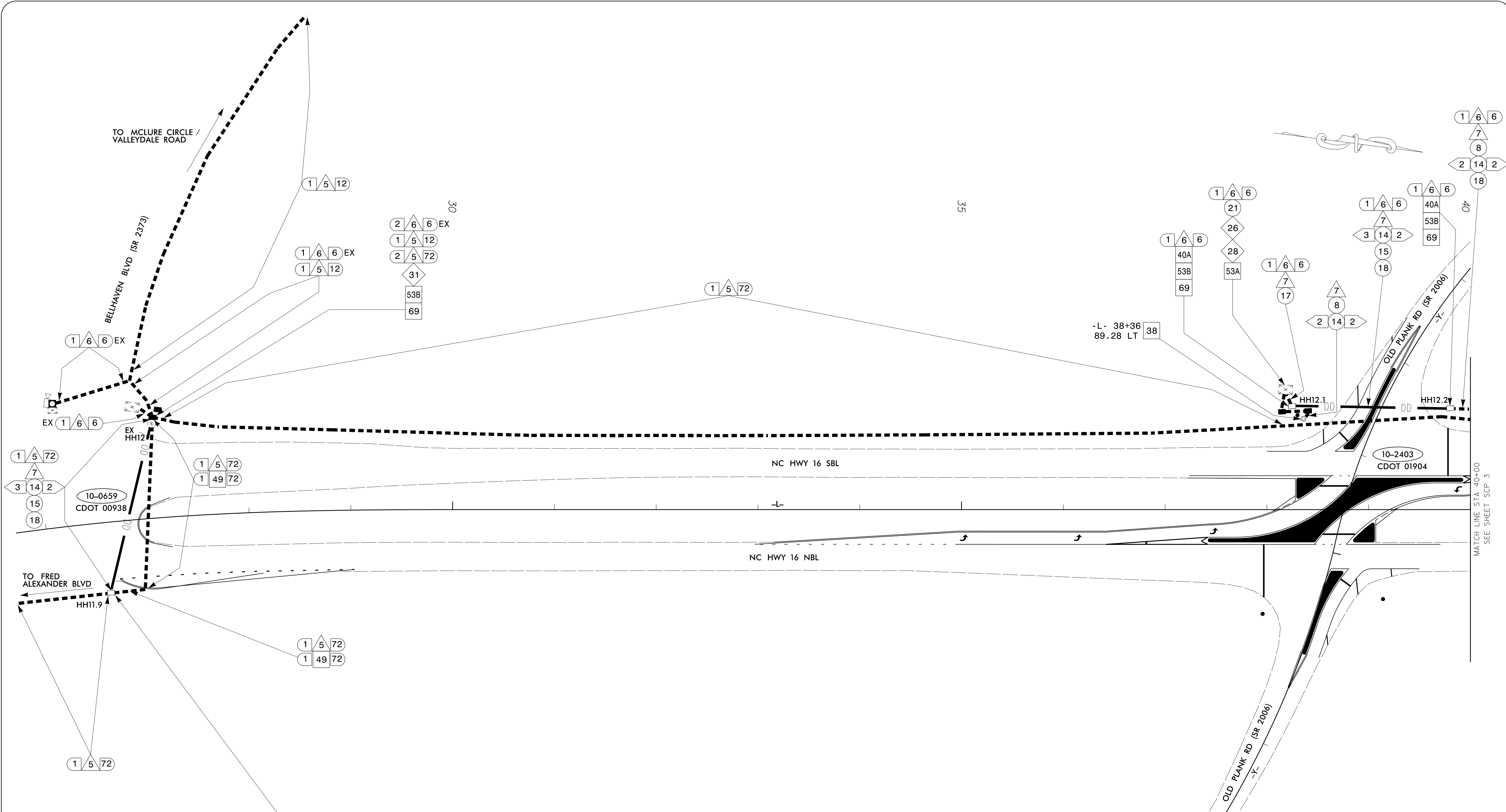
Documented by:
Lisa M. Moon 4/14/2022

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W-5710AK JOB NO.	DJM PREPARED BY	04-2022 DATE
01907 SIGNAL NO.	10-2400 NCDOT ID NO.	L. MOON APPROVER

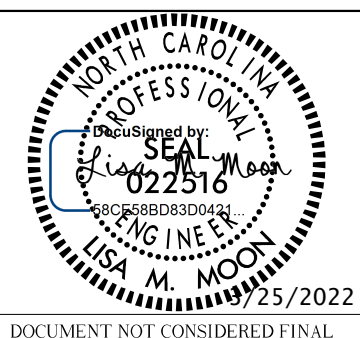
NC 16 (BROOKSHIRE BLVD) SB
 @ PLEASANT GROVE RD U-TURN
**MISCELLANEOUS
 DETAILS**

SHEET
SIG6.6
 OF
SIG6.6



Plans Prepared For:
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 Department of Transportation
 600 East Fourth Street
 Charlotte, North Carolina 28202
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W-5710AK	1" = 50'
JOB NO.	SCALE
00838, 01904	10-0659, 10-2403
Signal ID	NC DOT SIGNAL ID
D. White	C. Silver
PREPARED BY	CHECKED BY
L. Moon	MARCH 2022
APPROVED BY	DATE

SIGNAL COMMUNICATION PLAN LAYOUT

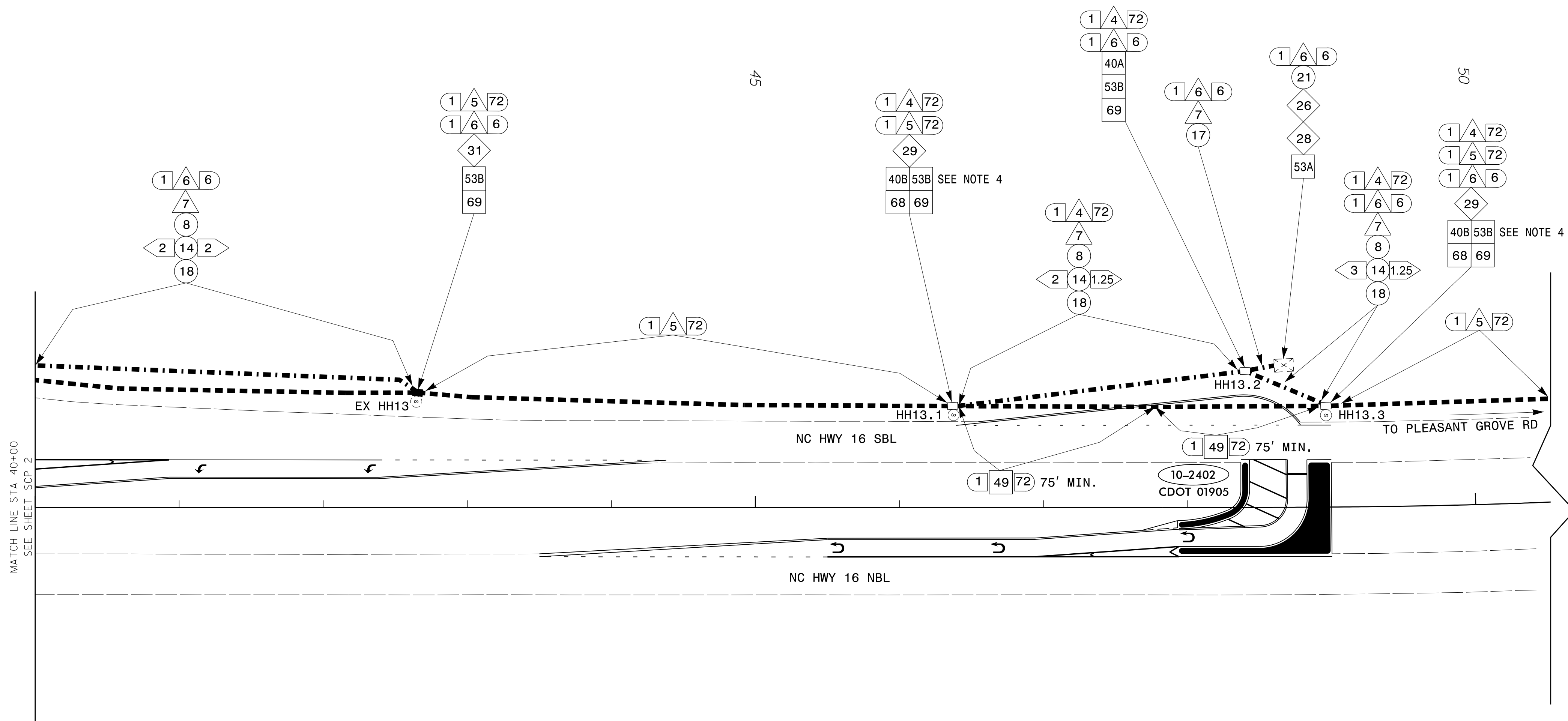
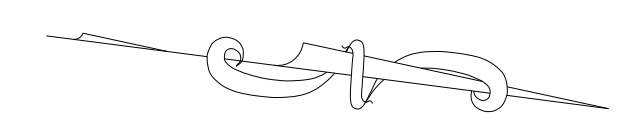
SHEET SCP 2 OF 17

CONSTRUCTION NOTES:

- ALL EFFORTS SHALL BE MADE TO LIMIT THE AMOUNT OF DOWN TIME TO THE SYSTEM. PRIOR TO DISCONNECTION OF THE EXISTING FO CABLE, DOCUMENT AND TAKE PHOTOS OF EXISTING SPLICE.
- CONTRACTOR TO RECORD EXISTING SPLICE ARRANGEMENT FOR COMPARISON TO THE SUPPLIED SPLICE DETAILS. IF DISCREPANCIES EXIST, CONTACT THE ENGINEER TO DETERMINE HOW TO PROCEED WITH REPLACING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPLICE ARRANGEMENT DIFFERS FROM THE SUPPLIED SPLICE DETAILS.
- FIVE (5) DAYS PRIOR TO CUTTING ANY EXISTING FIBER AND FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE CHARLOTTE ENGINEERING PROJECT COORDINATOR, MARK ODEM, AT (980)230-1847 TO COORDINATE DOWN TIME FOR SIGNAL SYSTEM DUE TO THIS PROJECT. NOTIFY ENGINEERING PROJECT COORDINATOR AFTER ALL WORK PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
- MAINTAIN AS MUCH EXISTING FIBER OPTIC CABLE AS POSSIBLE. ANY ADDITIONAL SPARE CABLE NOT SPECIFIED IN CONSTRUCTION NOTES SHALL BE STORED IN JUNCTION BOXES NOTED.
- DISCONNECT AND PULL BACK EXISTING FIBER OPTIC CABLE FROM EXISTING SPLICE LOCATION TO NEW JUNCTION BOX AS SHOWN.
- REROUTE EXISTING CABLE IN NEW UNDERGROUND CONDUIT SYSTEM AS SHOWN, BACK TO THE EXISTING SPLICE. RE-SPLICE IN EXISTING CONFIGURATION TO MAINTAIN SIGNAL SYSTEM UNTIL ALL FINAL SIGNALS ARE CONSTRUCTED. FOR FINAL CONFIGURATION, SEE SPLICE DETAILS TO CREATE GROUP I04.

1 5 72
 40A
 53A SEE NOTE 4
 68
 69

MATCH LINE STA 40+00
 SEE SHEET SCP 3



CONSTRUCTION NOTES:

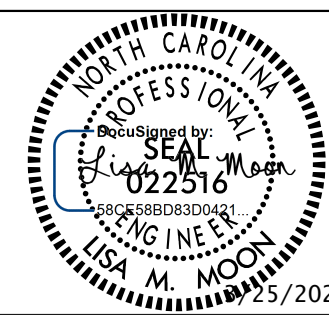
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2. CONTRACTOR TO RECORD EXISTING SPLICE ARRANGEMENT FOR COMPARISON TO THE SUPPLIED SPLICE DETAILS. IF DISCREPANCIES EXIST, CONTACT THE ENGINEER TO DETERMINE HOW TO PROCEED WITH REPLACING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPLICE ARRANGEMENT DIFFERS FROM THE SUPPLIED SPLICE DETAILS.
3. FIVE (5) DAYS PRIOR TO CUTTING ANY EXISTING FIBER AND FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE CHARLOTTE ENGINEERING PROJECT COORDINATOR, MARK ODEM, AT (980)230-1847 TO COORDINATE DOWN TIME FOR SIGNAL SYSTEM DUE TO THIS PROJECT. NOTIFY ENGINEERING PROJECT COORDINATOR AFTER ALL WORK PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
4. MAINTAIN AS MUCH EXISTING FIBER OPTIC CABLE AS POSSIBLE. ANY ADDITIONAL SPARE CABLE NOT SPECIFIED IN CONSTRUCTION NOTES SHALL BE STORED IN JUNCTION BOXES NOTED.
5. PULL BACK EXISTING FIBER OPTIC CABLE TO NEW JUNCTION BOXES AS SHOWN.
6. UTILIZE EXISTING CABLES FOR PROPOSED SPLICES AS SHOWN. BUTT SPLICE COLOR-TO-COLOR TO MAINTAIN SYSTEM DURING SIGNAL CONSTRUCTION. UPDATE SPLICE IN HH13.3 FOR NEW SIGNAL IN PROPOSED GROUP I04 FOR FINAL CONFIGURATION.




Plans Prepared For:
City of Charlotte
 Department of Transportation
 600 East Fourth Street
 Charlotte, North Carolina 28202
 Phone: (704) 336-4119



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Plans Prepared By:

DRMP
 DRMP, Inc.
 8000 Regency Parkway, Suite 110
 NC License No. C-2213 (819) 855-1038

W-5710AK	1" = 50'
JOB NO. 01905	SCALE
Signal ID D. White	10-2402
PREPARED BY L. Moon	NC DOT SIGNAL ID
APPROVED BY	C. Silver
	CHECKED BY
	MARCH 2022
	DATE

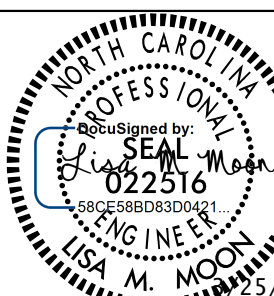
SIGNAL COMMUNICATION PLAN LAYOUT



City of Charlotte
Department of Transportation
600 East Fourth Street
Charlotte, North Carolina 28202
Phone: (704) 336-4119



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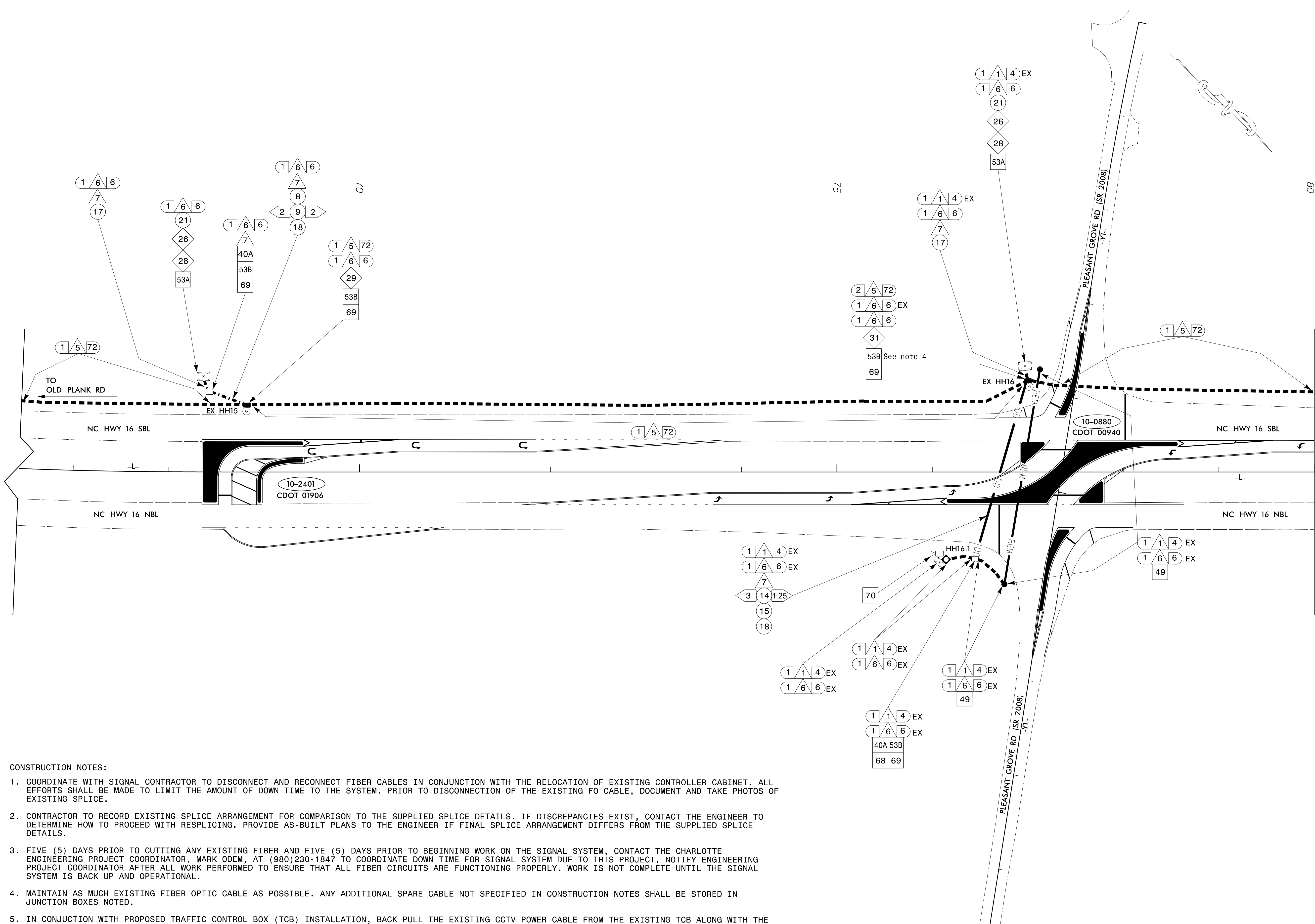
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Plans Prepared By:

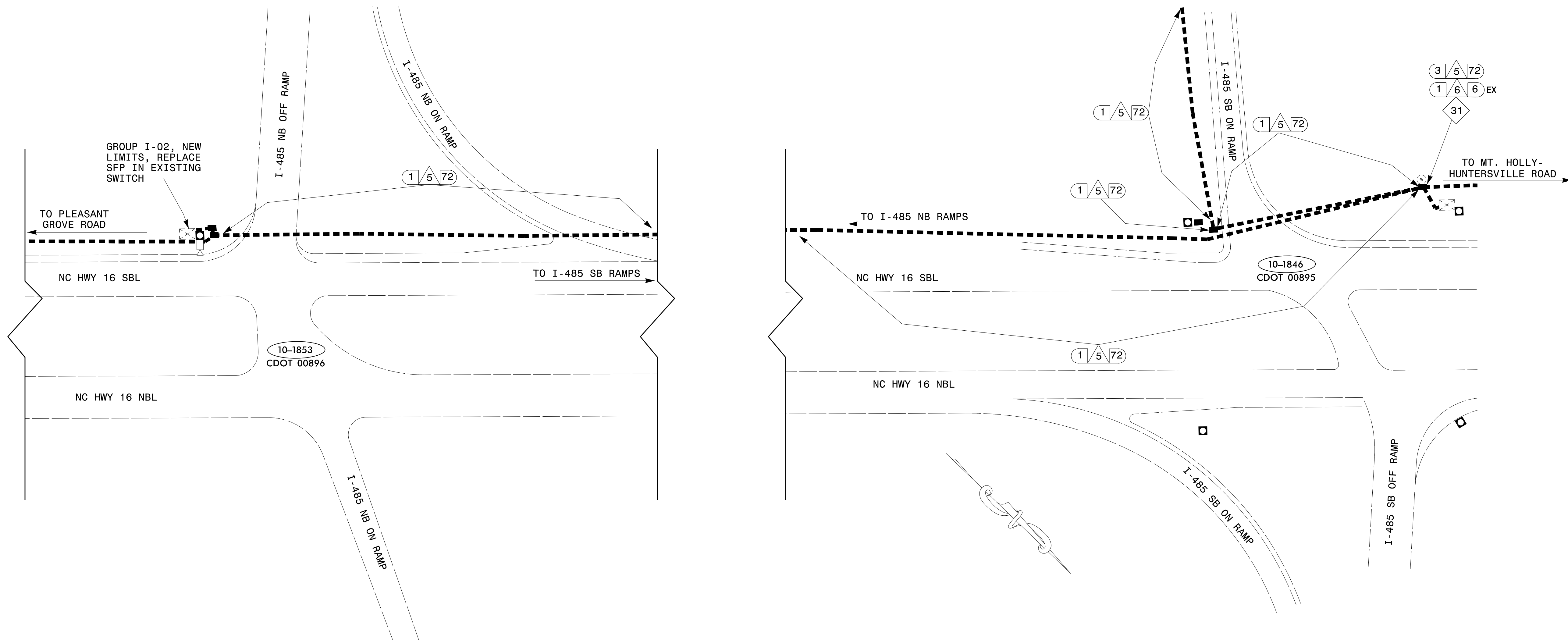
DRMP, Inc.
8000 Regency Parkway, Suite 110
NC License No. C-2713 (819) 855-1038

W-5710AK	1" = 50'
JOB NO.	SCALE
1906, 940	10-2401, 10-0880
Signal ID	NC DOT SIGNAL ID
D. White	C. Silver
PREPARED BY	CHECKED BY
L. Moon	MARCH 2022
APPROVED BY	DATE

SIGNAL COMMUNICATION PLAN LAYOUT



- CONSTRUCTION NOTES:
- COORDINATE WITH SIGNAL CONTRACTOR TO DISCONNECT AND RECONNECT FIBER CABLES IN CONJUNCTION WITH THE RELOCATION OF EXISTING CONTROLLER CABINET. ALL EFFORTS SHALL BE MADE TO LIMIT THE AMOUNT OF DOWN TIME TO THE SYSTEM. PRIOR TO DISCONNECTION OF THE EXISTING FO CABLE, DOCUMENT AND TAKE PHOTOS OF EXISTING SPLICE.
 - CONTRACTOR TO RECORD EXISTING SPLICE ARRANGEMENT FOR COMPARISON TO THE SUPPLIED SPLICE DETAILS. IF DISCREPANCIES EXIST, CONTACT THE ENGINEER TO DETERMINE HOW TO PROCEED WITH RESPLICING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPLICE ARRANGEMENT DIFFERS FROM THE SUPPLIED SPLICE DETAILS.
 - FIVE (5) DAYS PRIOR TO CUTTING ANY EXISTING FIBER AND FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE CHARLOTTE ENGINEERING PROJECT COORDINATOR, MARK ODEM, AT (980)230-1847 TO COORDINATE DOWN TIME FOR SIGNAL SYSTEM DUE TO THIS PROJECT. NOTIFY ENGINEERING PROJECT COORDINATOR AFTER ALL WORK PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
 - MAINTAIN AS MUCH EXISTING FIBER OPTIC CABLE AS POSSIBLE. ANY ADDITIONAL SPARE CABLE NOT SPECIFIED IN CONSTRUCTION NOTES SHALL BE STORED IN JUNCTION BOXES NOTED.
 - IN CONJUNCTION WITH PROPOSED TRAFFIC CONTROL BOX (TCB) INSTALLATION, BACK PULL THE EXISTING CCTV POWER CABLE FROM THE EXISTING TCB ALONG WITH THE EXISTING FIBER DROP CABLE FROM THE EXISTING SPLICE IN HH#16 AND REROUTE IN NEW UNDERGROUND CONDUIT BACK TO THE NEW TCB OR EXISTING SPLICE IN HH#16, RESPECTIVELY AS SHOWN.
 - SPLICE NEW DROP CABLE IN EXISTING CONFIGURATION TO MAINTAIN SIGNAL SYSTEM UNTIL ALL FINAL SIGNALS ARE CONSTRUCTED. FOR FINAL CONFIGURATION, SEE SPLICE DETAILS TO CREATE GROUP I04.



CONSTRUCTION NOTES:

1. ALL EFFORTS SHALL BE MADE TO LIMIT THE AMOUNT OF DOWN TIME TO THE SYSTEM. PRIOR TO DISCONNECTION OF THE EXISTING FO CABLE, DOCUMENT AND TAKE PHOTOS OF EXISTING SPLICE.
2. CONTRACTOR TO RECORD EXISTING SPLICE ARRANGEMENT FOR COMPARISON TO THE SUPPLIED SPLICE DETAILS. IF DISCREPANCIES EXIST, CONTACT THE ENGINEER TO DETERMINE HOW TO PROCEED WITH REPLICING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPLICE ARRANGEMENT DIFFERS FROM THE SUPPLIED SPLICE DETAILS.
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4. COORDINATE WITH PROJECT I-5973. SPLICE 895 WILL BE MODIFIED UNDER BOTH PROJECTS AND MAY BE RELOCATED IN THE SAME QUADRANT UNDER I-5973. PROPOSED WORK UNDER I-5973 IS SHOWN AS EXISTING.

PROPOSED FIBER OPTIC ETHERNET SWITCHES & SFP OPTICS								
TCB Location	Sheet	Intersection	Switch	Group	SFP 1		SFP 2	
					Status	Range	Status	Range
TCB 10-0659/0938	SCP 2	NC 16 (Brookshire Blvd) at Bellhaven Blvd	EXISTING	I-04	EXISTING*	70 KM	EXISTING*	10 KM
TCB 10-2403/01904	SCP 2	NC 16 (Brookshire Blvd) at Old Plank Road	NEW	I-04	NEW	10 KM	NEW	10 KM
TCB 10-2402/01905	SCP 3	NC 16 (Brookshire Blvd) SB at Old Plank Road U-turn	NEW	I-04	NEW	10 KM	NEW	10 KM
TCB 10-2401/01906	SCP 4	NC 16 (Brookshire Blvd) NB at Pleasant Grove Road U-turn	NEW	I-04	NEW	10 KM	NEW	10 KM
TCB 10-0880/0940	SCP 4	NC 16 (Brookshire Blvd) at Pleasant Grove Road	NEW	I-04	NEW	10 KM	NEW	10 KM
TCB 10-2400/01907	SCP 5	NC 16 (Brookshire Blvd) SB at Pleasant Grove Road U-turn	NEW	I-04	NEW	10 KM	NEW	70 KM
TCB 10-1853/0896	SCP 6	NC 16 (Brookshire Blvd) at I-485 NB Ramp	EXISTING	I-02	NEW	70 KM	EXISTING*	10 KM
TCB 10-1846/0895	SCP 6	NC 16 (Brookshire Blvd) at I-485 SB Ramp	EXISTING	I-04	EXISTING*	10 KM	EXISTING*	10 KM
Old City Hall	NA	NA	EXISTING	I-04	NEW **	70 KM	-	-
NCDOT Hub 6	NA	NA	EXISTING	I-04	NEW **	10 KM	-	-

Note: All SFP's shall be 1GB Optic

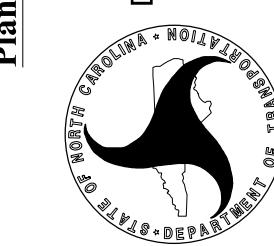
* FOR INFORMATION ONLY
 ** PROVIDE SFP AND JUMPERS TO THE CITY. CITY WILL INSTALL IN APPROPRIATE LOCATION.

TO COMPLETE THE CIRCUIT FOR NEW GROUP I-04, CDOT WILL INSTALL THE APPROPRIATE SFPs AND JUMPERS AT OLD CITY HALL AND AT NCDOT HUB 6, LOCATED AT THE INTERCHANGE OF I-485 AND I-85. FOR INFORMATIONAL PURPOSES ONLY, THE SPLICE OUTSIDE HUB 6 AND THE CDOT SWITCH INSIDE HUB 6 IS SHOWN ON SHEETS SCP 16 AND SCP 17.

THE CONTRACTOR WILL BE RESPONSIBLE FOR SUPPLYING APPROPRIATE SMALL FORM-FACTOR PLUG-ABLE (SFP) OPTICS AND JUMPERS FOR USE AT OLD CITY HALL AND NCDOT HUB 6.



City of Charlotte
 Department of Transportation
 600 East Fourth Street
 Charlotte, North Carolina 28202
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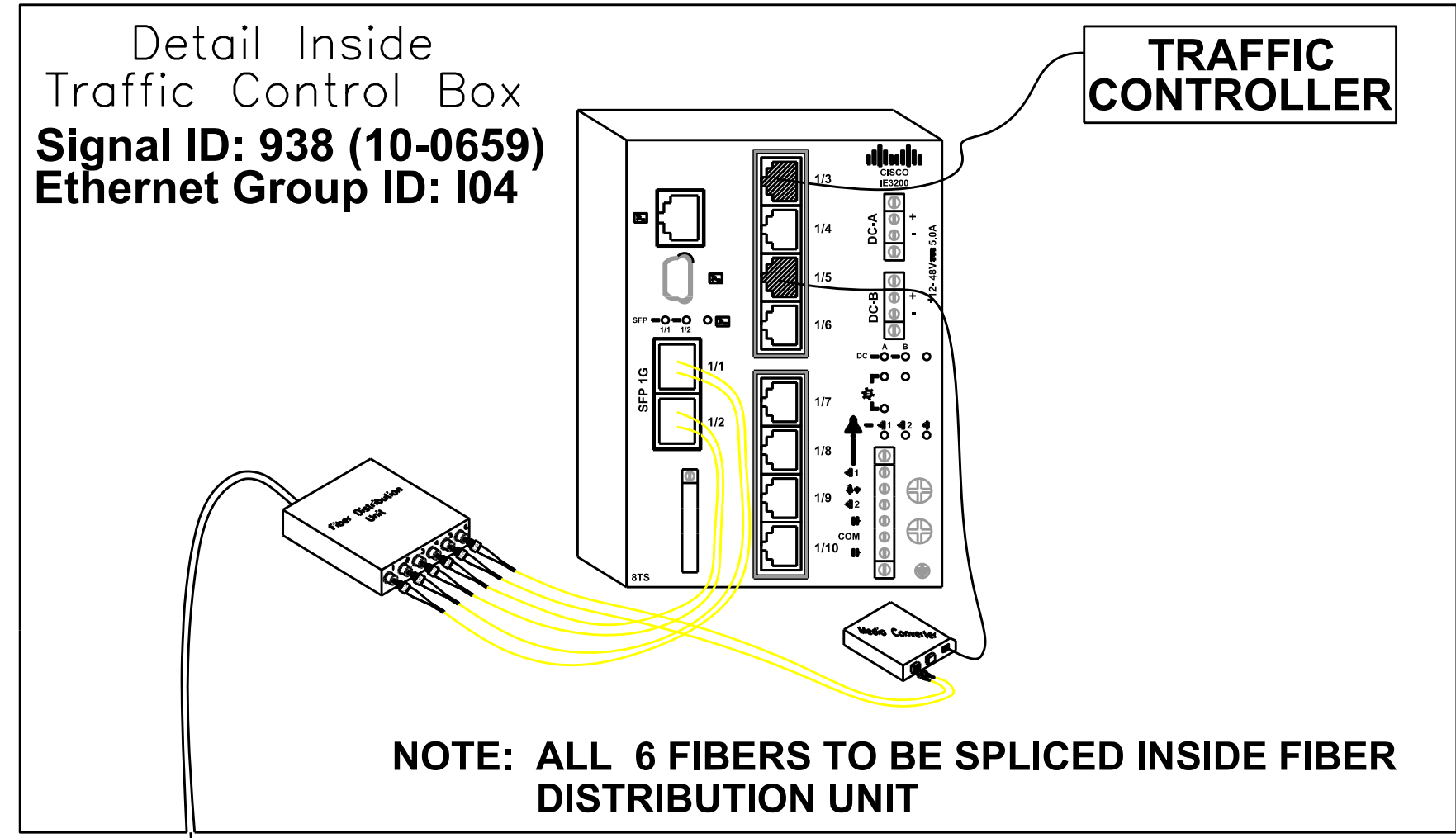
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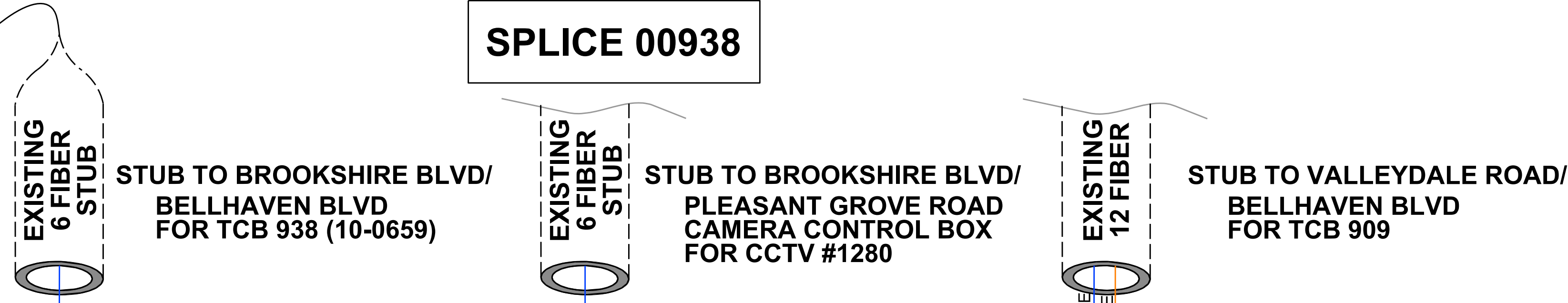
1" = 50'	SCALE
10-1853, 10-1846	NCDOT SIGNAL ID
C. Silver	CHECKED BY
MARCH 2022	DATE

W-5710AK	JOB NO.
895, 896	SIGNAL ID
D. White	PREPARED BY
L. Moon	APPROVED BY

SIGNAL COMMUNICATION PLAN LAYOUT



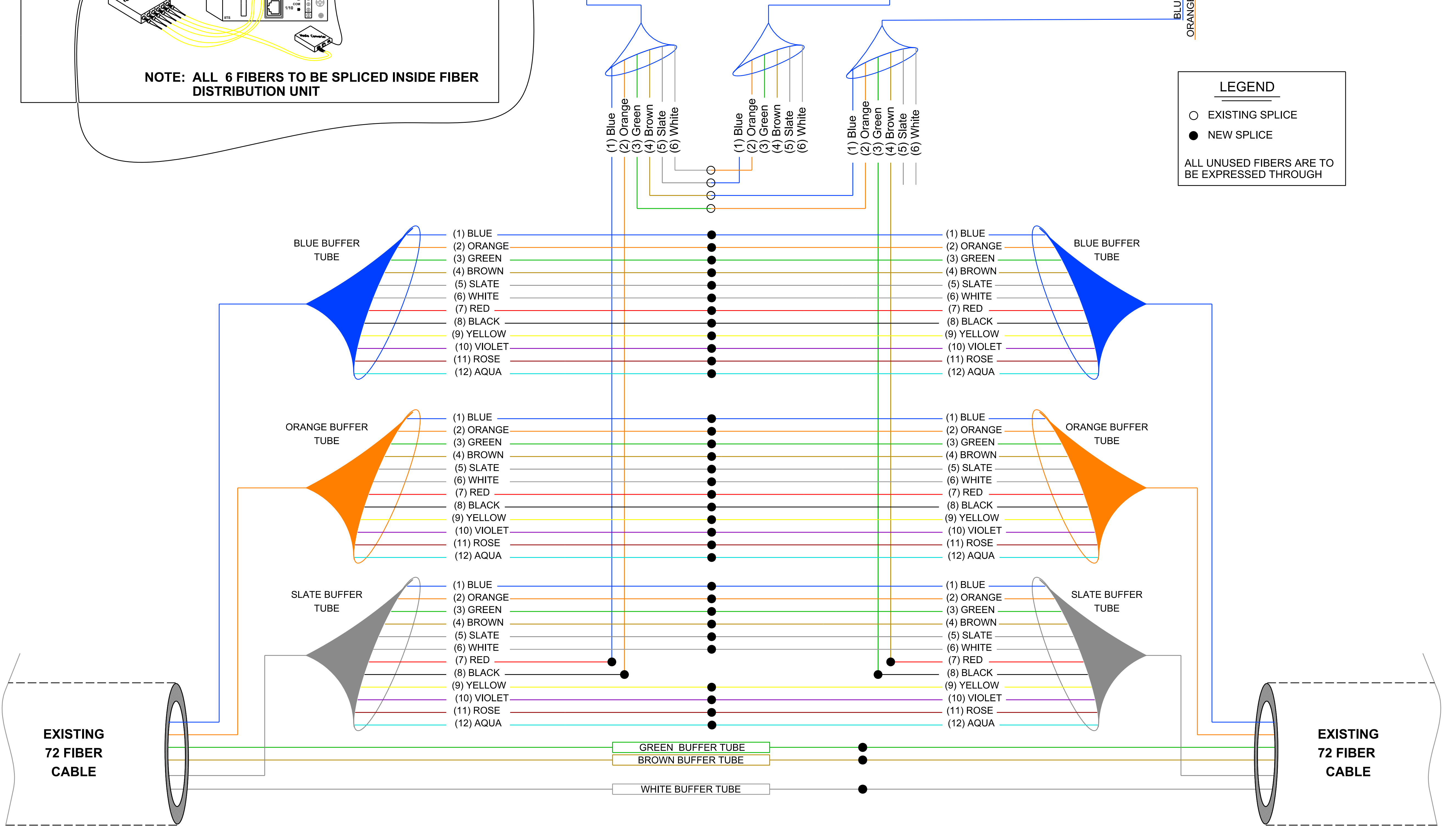
SPLICE 00938



LEGEND

- EXISTING SPLICE
- NEW SPLICE

ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH



SPLICE CASE IN HANDHOLE EX-HH#12 AT BROOKSHIRE BLVD AND BELLHAVEN BLVD

CHARLOTTE

City of Charlotte
Department of Transportation
600 East Fourth Street
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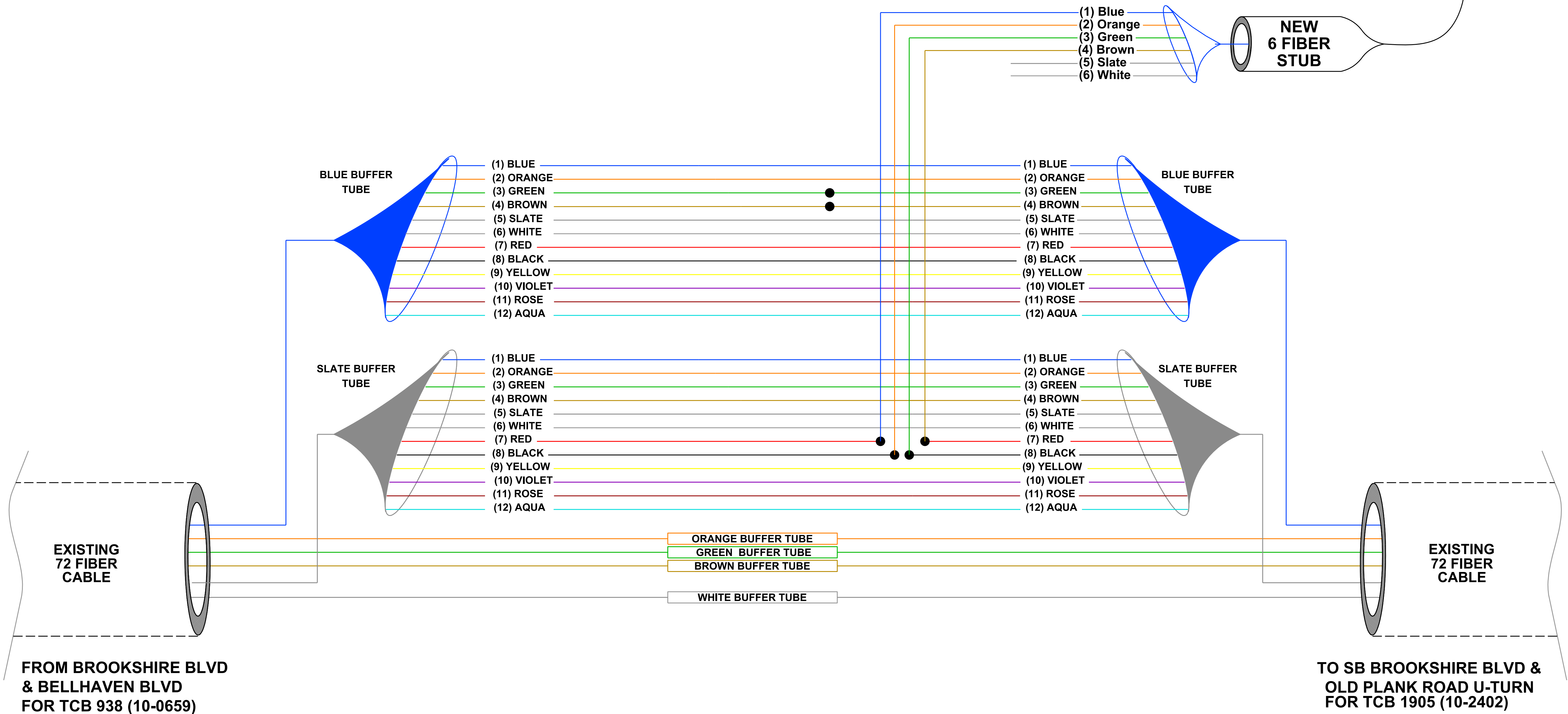
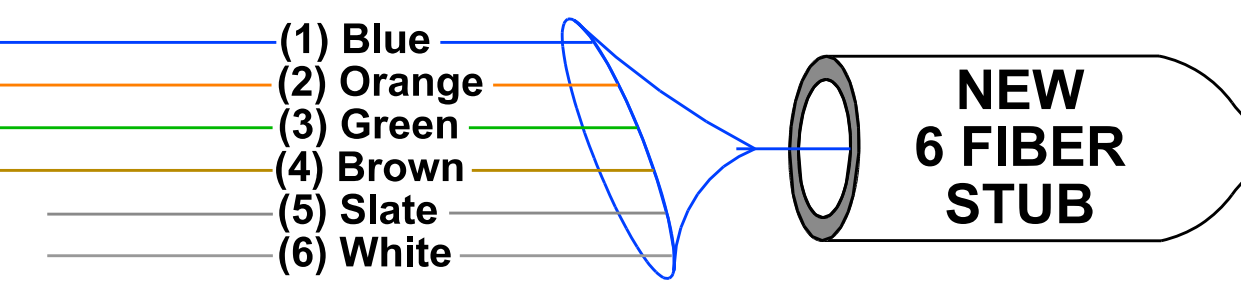
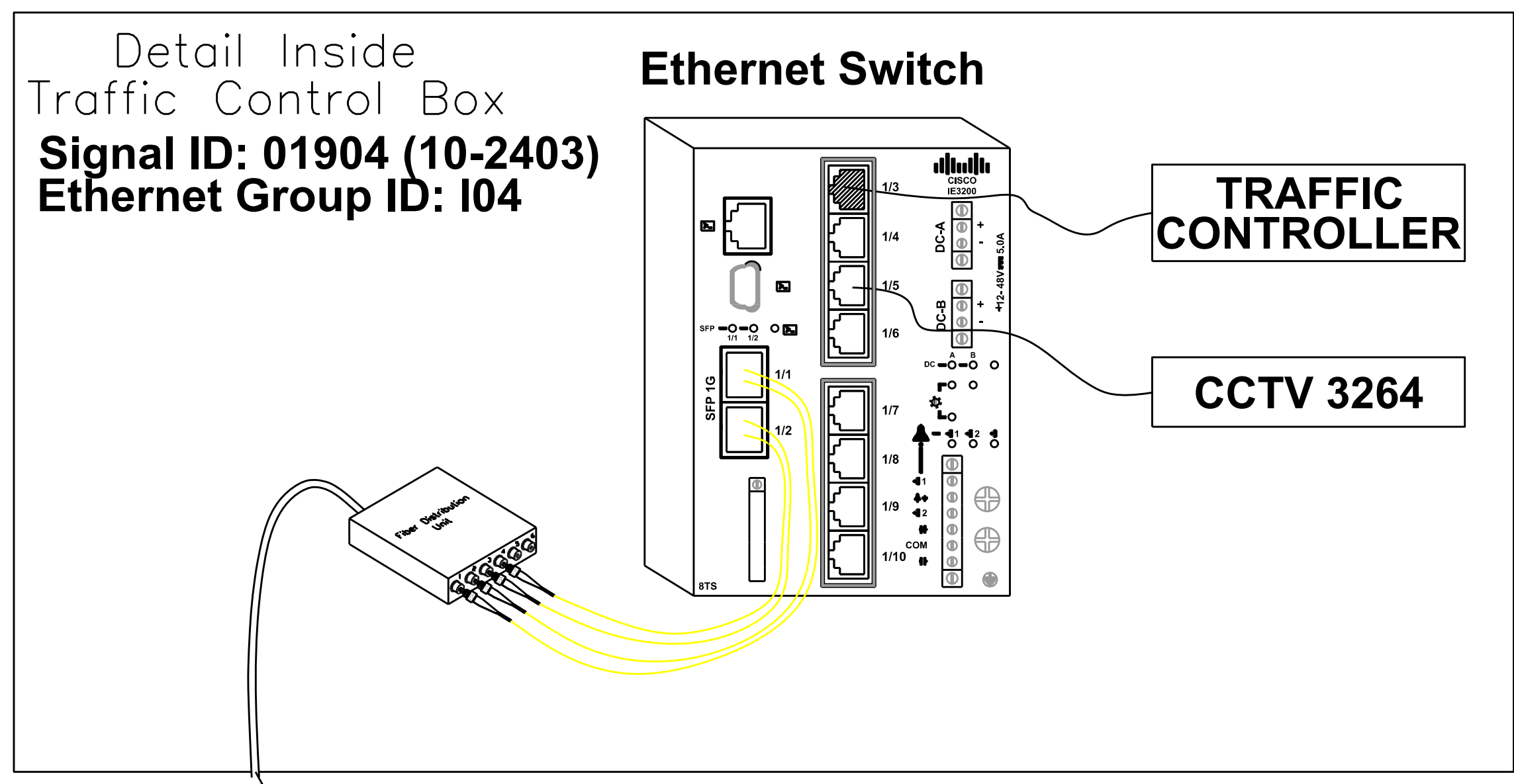
W-57/0AK JOB NO.	NA	SCALE	NA
NA	NA	NC DOT SIGNAL ID	C. Silver
D. White	PREPARED BY	CHECKED BY	MARCH 2022
L. Moon	APPROVED BY	DATE	

SIGNAL COMMUNICATION PLAN
SPLICE DIAGRAMS

SHEET SCP 7 OF SCP 17

LEGEND
 ○ EXISTING SPLICE
 ● NEW SPLICE
 ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH

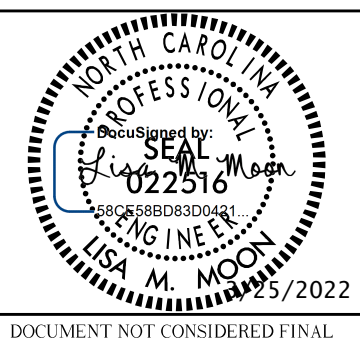
SPLICE 01904



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NA	SCALE	10-2403	NC DOT SIGNAL ID
W-57/OAK	JOB NO.	D. White	PREPARED BY
	NA	L. Moon	APPROVED BY
	Signal ID		CHECKED BY
	C. Silver		MARCH 2022
	DATE		

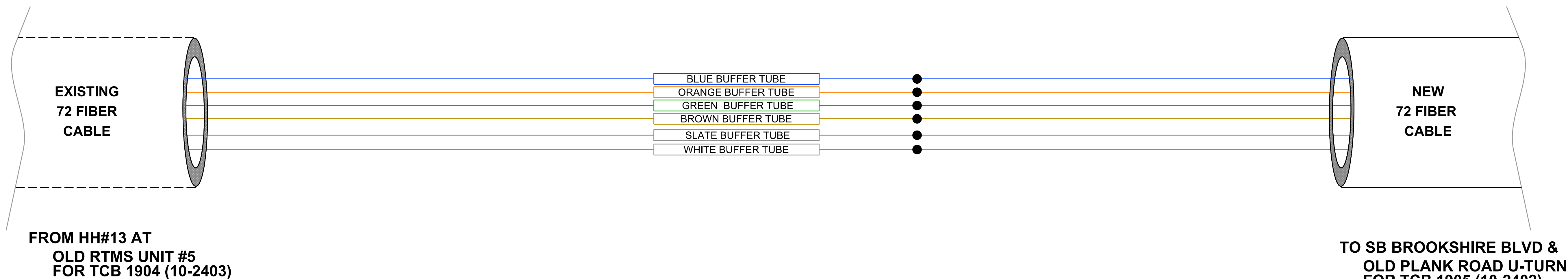
SIGNAL COMMUNICATION PLAN
SPLICE DIAGRAMS

BUTT SPLICE IN HH13.1 ON BROOKSHIRE BLVD

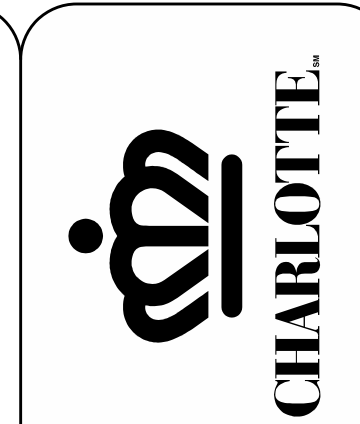
LEGEND

- EXISTING SPLICE
- NEW SPLICE

ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH

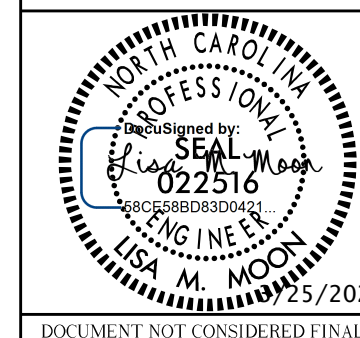


SPLICE CASE IN HANDHOLE #13.1 ON BROOKSHIRE BLVD ~1100' NORTH OF OLD PLANK ROAD



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W-57/0AK JOB NO.	NA	SCALE	NA
NA	NA	NC DOT SIGNAL ID	NA
D. White	C. Silver	CHECKED BY	MARCH 2022
L. Moon		APPROVED BY	DATE

SIGNAL COMMUNICATION PLAN
SPLICE DIAGRAMS

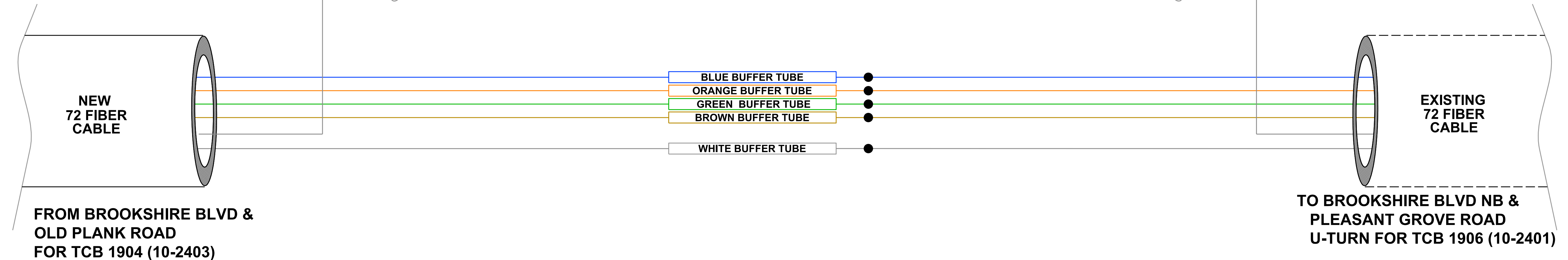
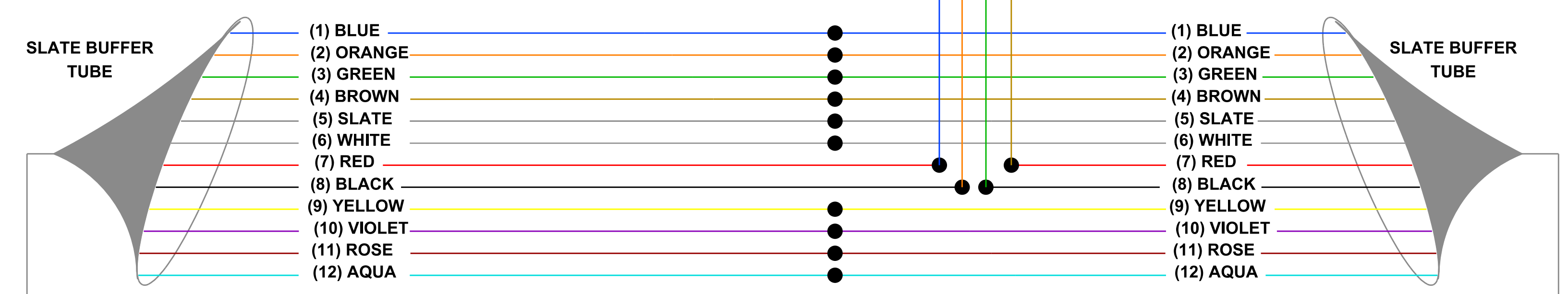
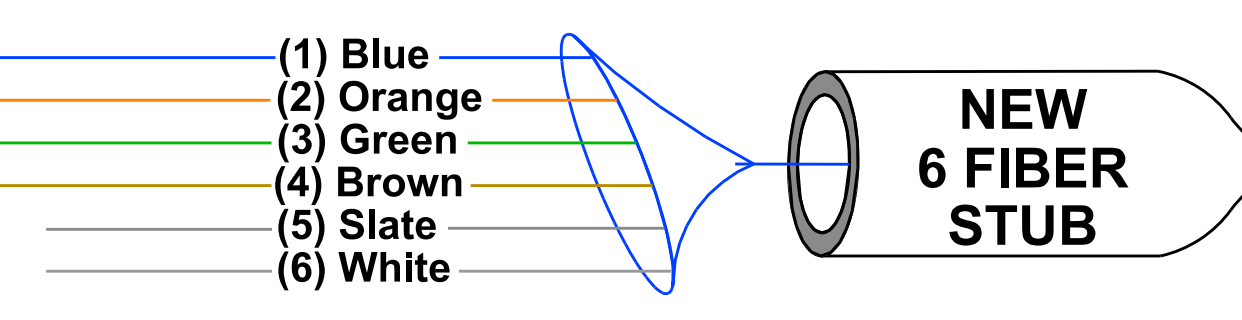
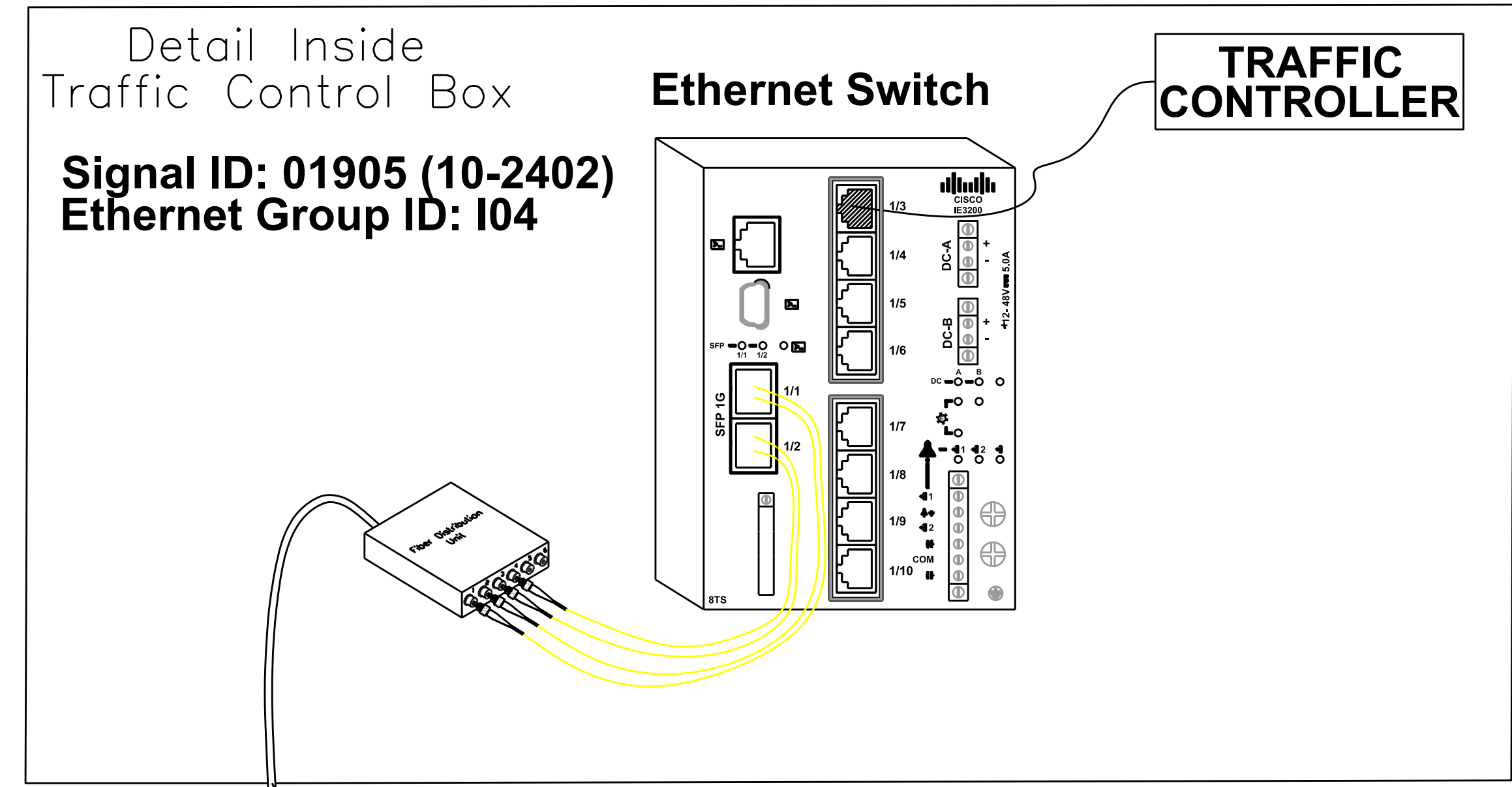
SHEET
SCP 9
 OF
SCP 17

LEGEND

- EXISTING SPLICE
- NEW SPLICE

ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH

SPLICE 01905



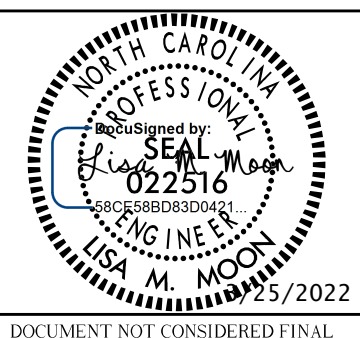
SPLICE CASE IN EX HANDHOLE# 13.3 ON SB BROOKSHIRE BLVD AT OLD PLANK ROAD U-TURN



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Charlotte, North Carolina 28202
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Charlotte, NC 28213 | (704) 655-1038
NC License No. C-2213

NA	SCALE	100% (AS SHOWN)	NA	NC DOT SIGNAL ID	C. Silver	CHECKED BY	MARCH 2022	DATE
W-5710AK	JOB NO.	NA	Signal ID	D. White	PREPARED BY	L. Moon	APPROVED BY	

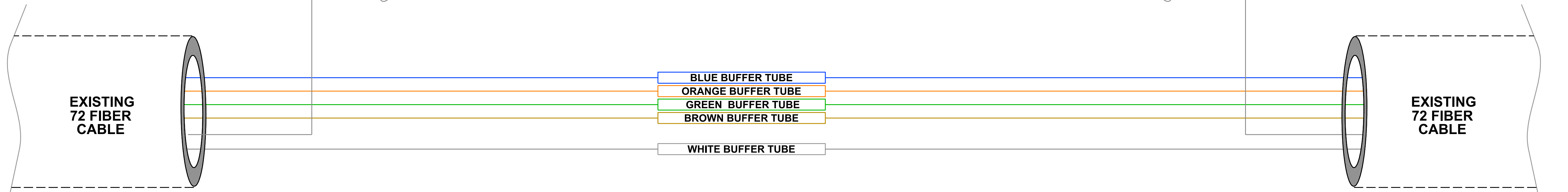
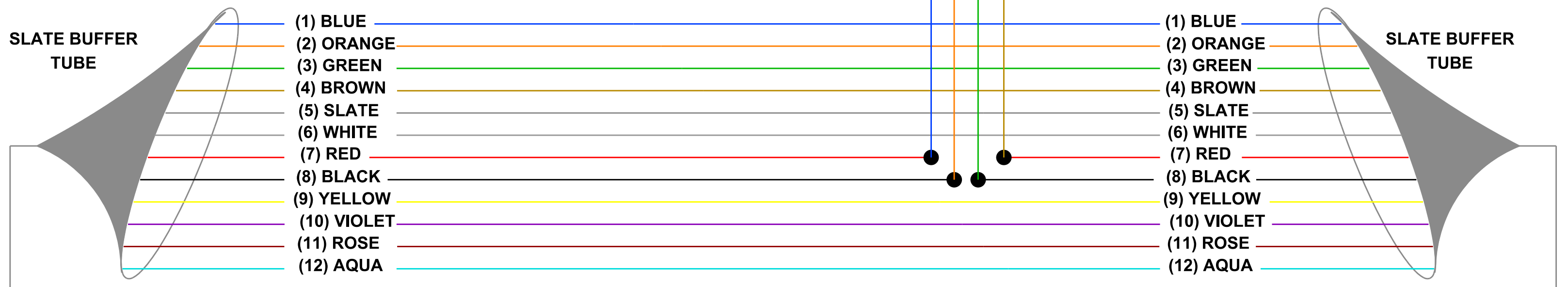
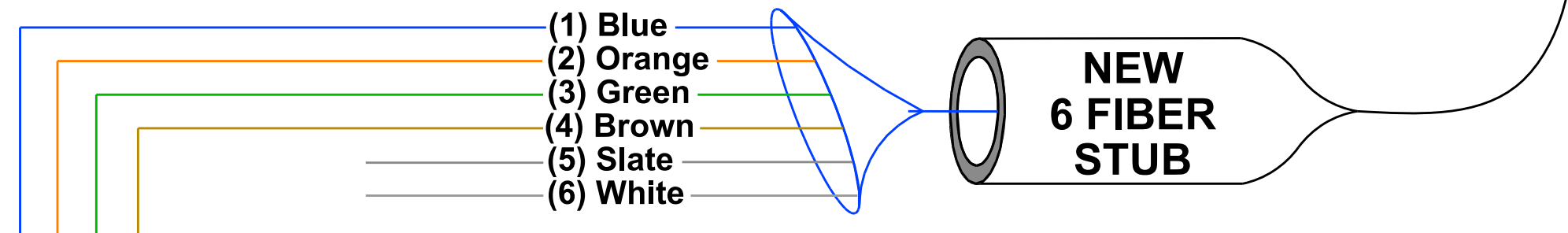
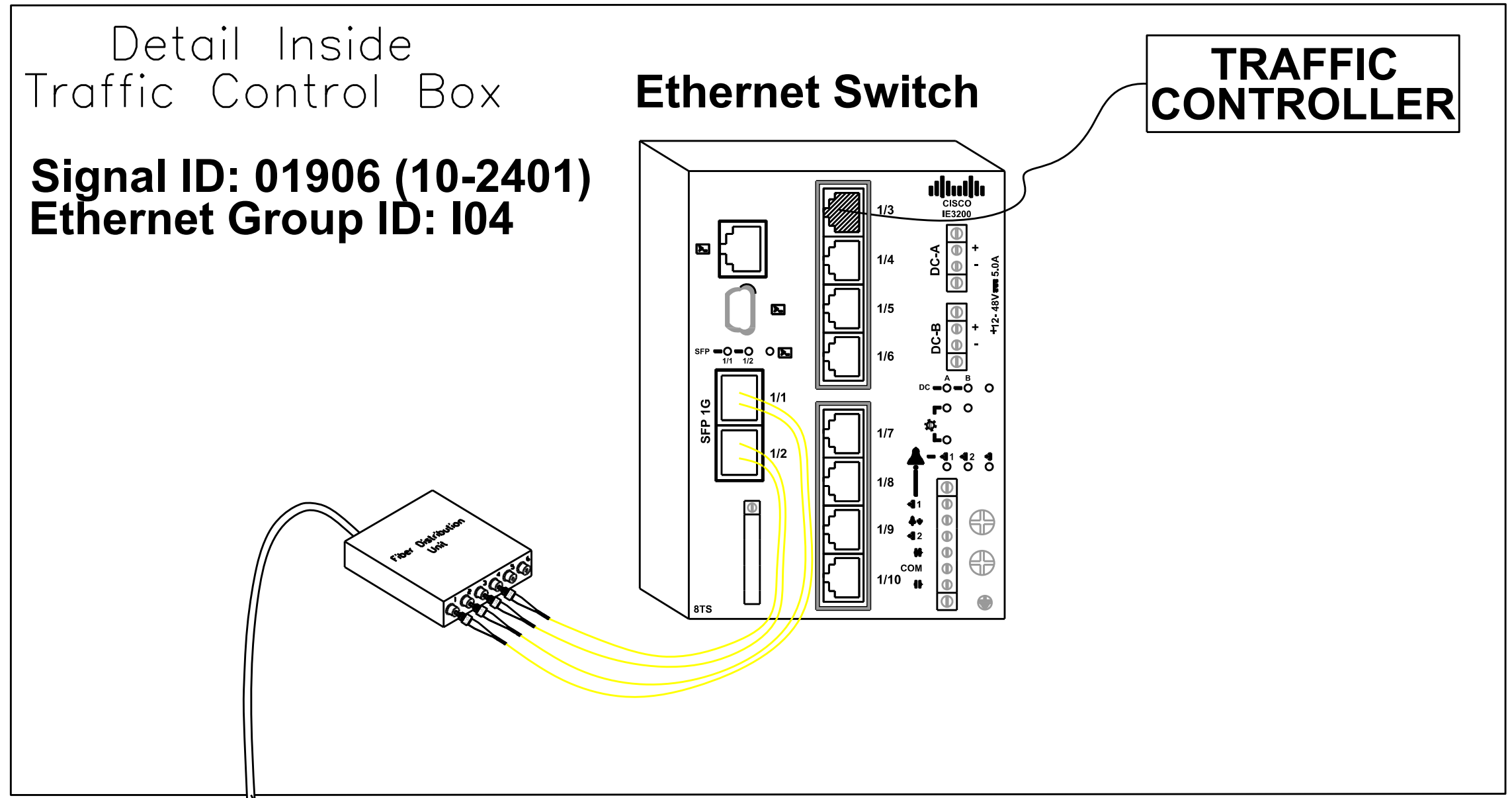
SIGNAL COMMUNICATION PLAN
SPLICE DIAGRAMS

LEGEND

- EXISTING SPLICE
- NEW SPLICE

ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH

SPLICE 01906



FROM SB BROOKSHIRE BLVD & OLD PLANK ROAD U-TURN FOR TCB 1905 (10-2402)

SPLICE CASE IN HANDHOLE# 15 ON NB BROOKSHIRE BLVD AT PLEASANT GROVE RD U-TURN

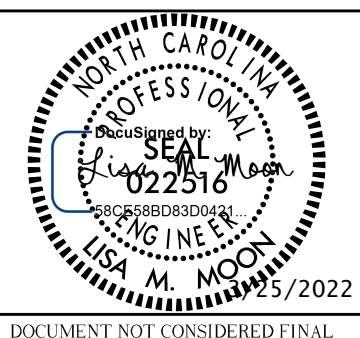
TO BROOKSHIRE BLVD & PLEASANT GROVE ROAD FOR TCB 940 (10-0880)



Plans Prepared For:
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Charlotte, North Carolina 28202
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NC License No. C-2213

NA	SCALE	10-2401	NC DOT SIGNAL ID	C. Silver	CHECKED BY	MARCH 2022	DATE
W-57/OAK	JOB NO.	NA	Signal ID	D. White	PREPARED BY	L. Moon	APPROVED BY

SIGNAL COMMUNICATION PLAN
SPLICE DIAGRAMS

SHEET SCP 11 OF SCP 17

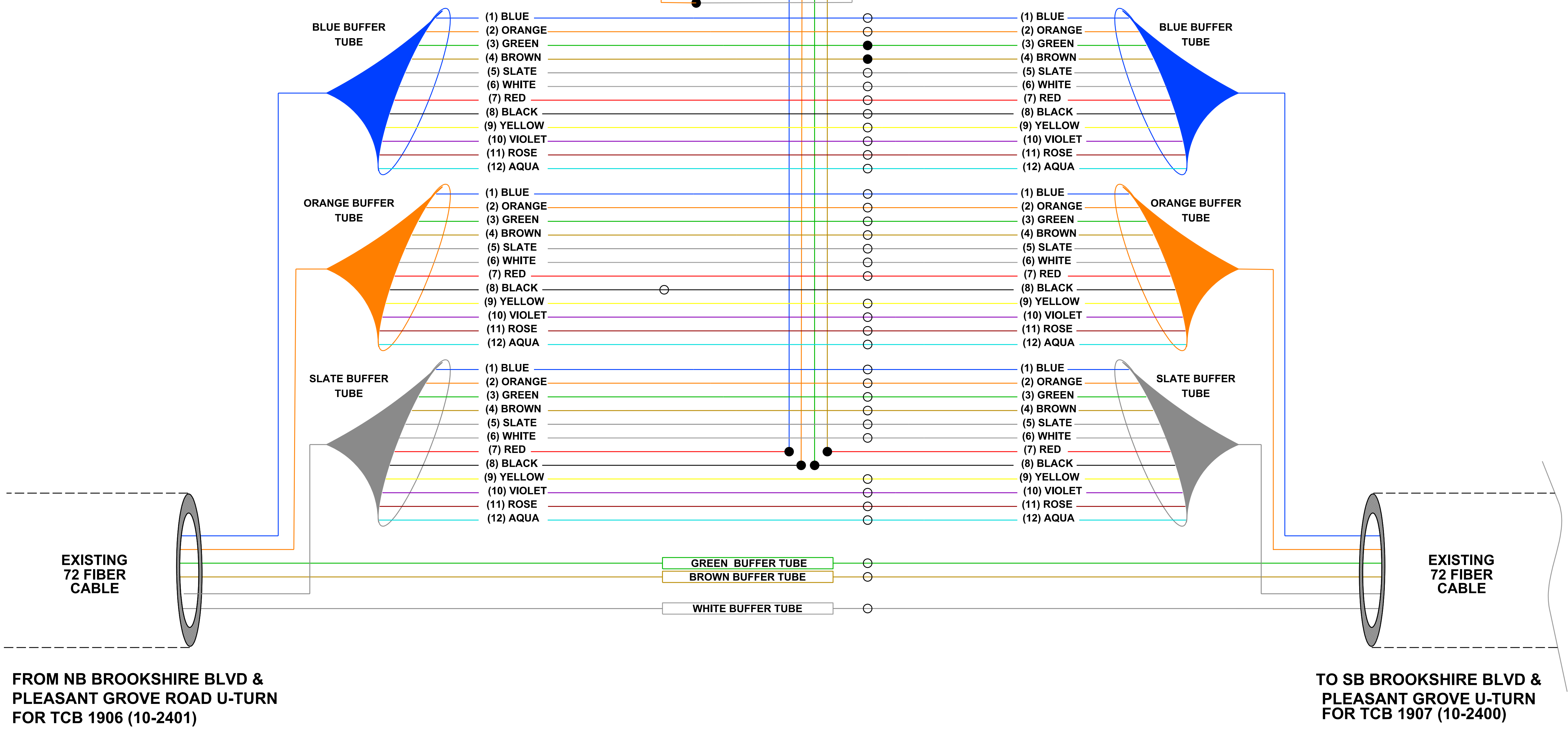
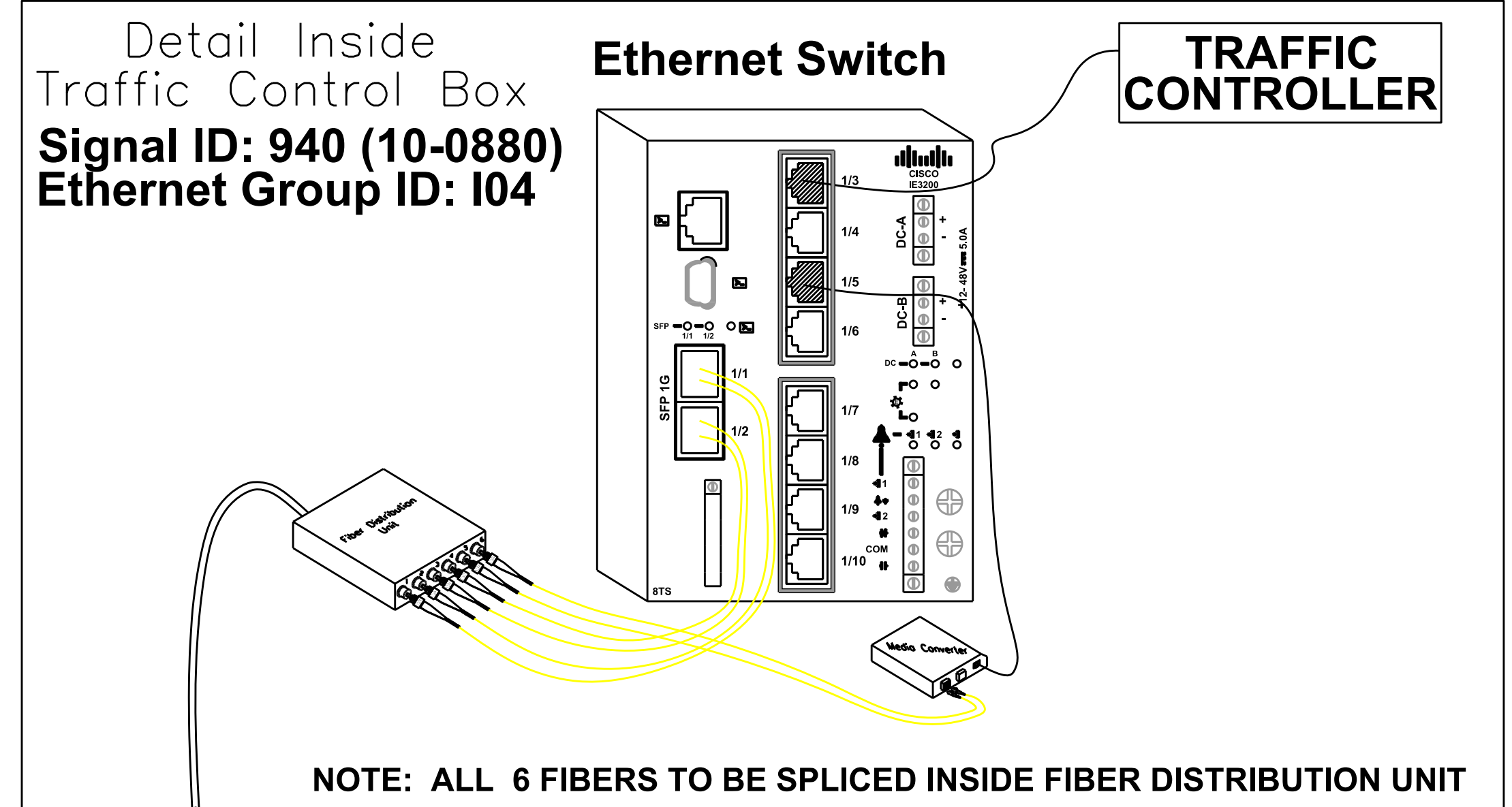
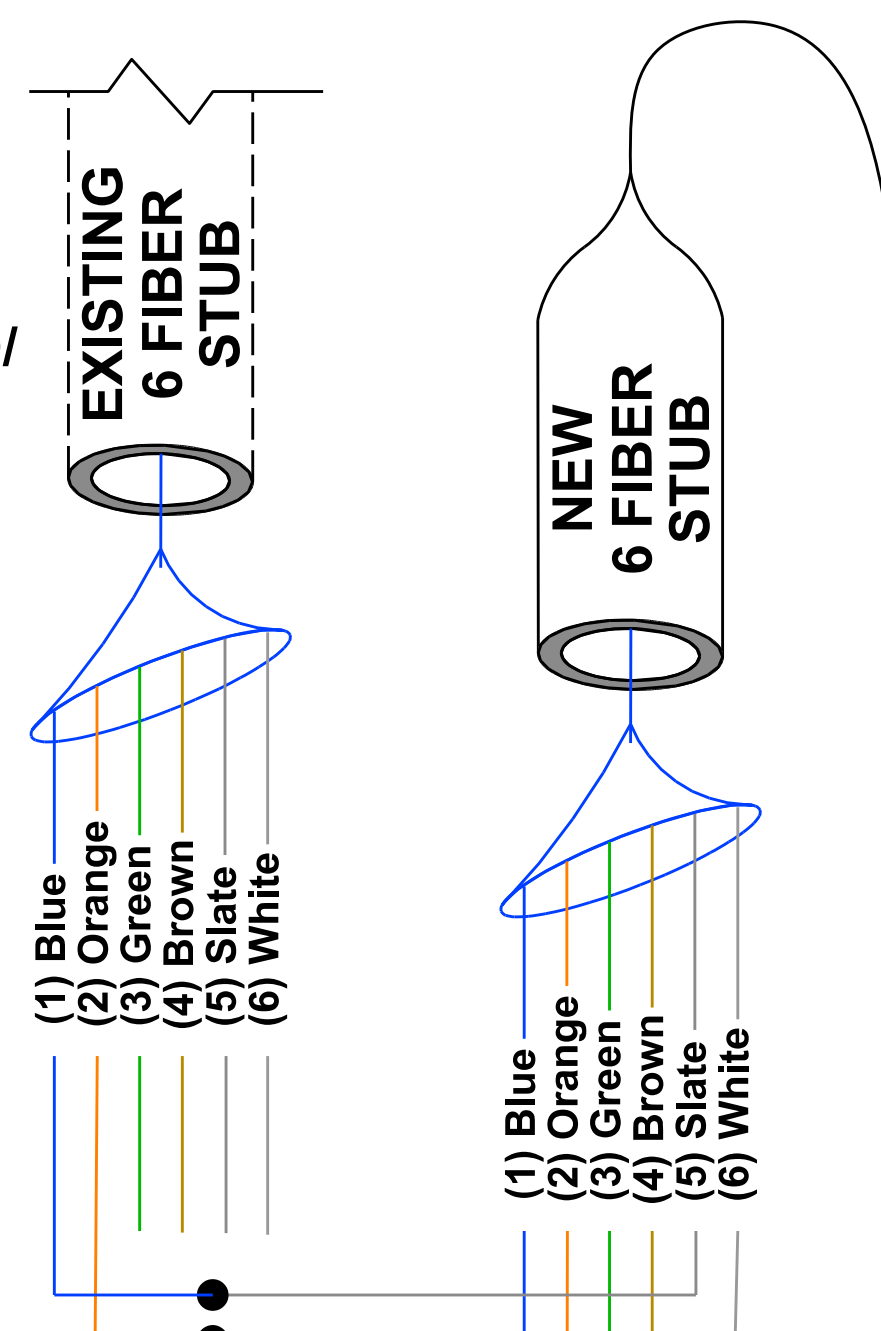
LEGEND

- EXISTING SPLICE
- NEW SPLICE

ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH

SPLICE 00940

STUB TO BROOKSHIRE BLVD/
PLEASANT GROVE ROAD
CAMERA CONTROL BOX
FOR CCTV #1281



FROM NB BROOKSHIRE BLVD &
PLEASANT GROVE ROAD U-TURN
FOR TCB 1906 (10-2401)

TO SB BROOKSHIRE BLVD &
PLEASANT GROVE U-TURN
FOR TCB 1907 (10-2400)

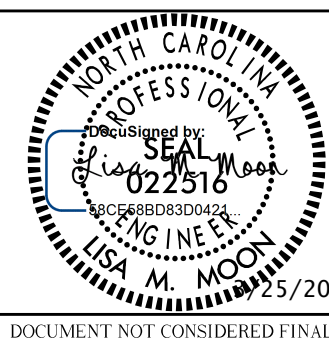
SPLICE CASE IN HANDHOLE# 16 ON BROOKSHIRE BLVD AT PLEASANT GROVE ROAD



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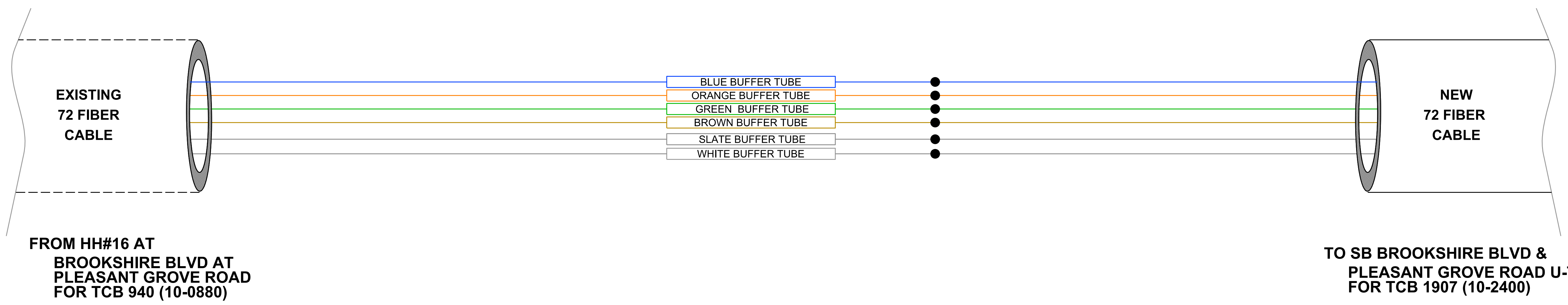
W-5770AK	NA	SCALE	DATE
JOB NO.	10-0880	NC DOT SIGNAL ID	MARCH 2022
NA	C. Silver	CHECKED BY	
Signal ID	D. White	PREPARED BY	
	L. Moon	APPROVED BY	

SIGNAL COMMUNICATION
PLAN
SPLICE DIAGRAMS

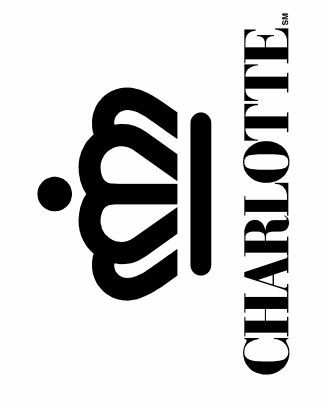
SHEET SCP 12 OF SCP 17

BUTT SPLICE IN HH16.2 ON BROOKSHIRE BLVD

LEGEND
 ○ EXISTING SPLICE
 ● NEW SPLICE
 ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH



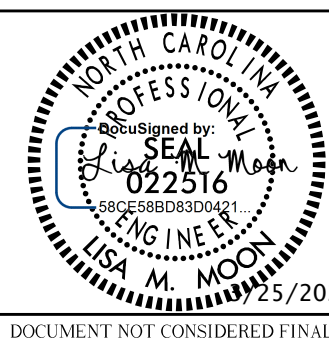
SPLICE CASE IN HANDHOLE #16.2 ON BROOKSHIRE BLVD ~900' NORTH PLEASANT GROVE ROAD



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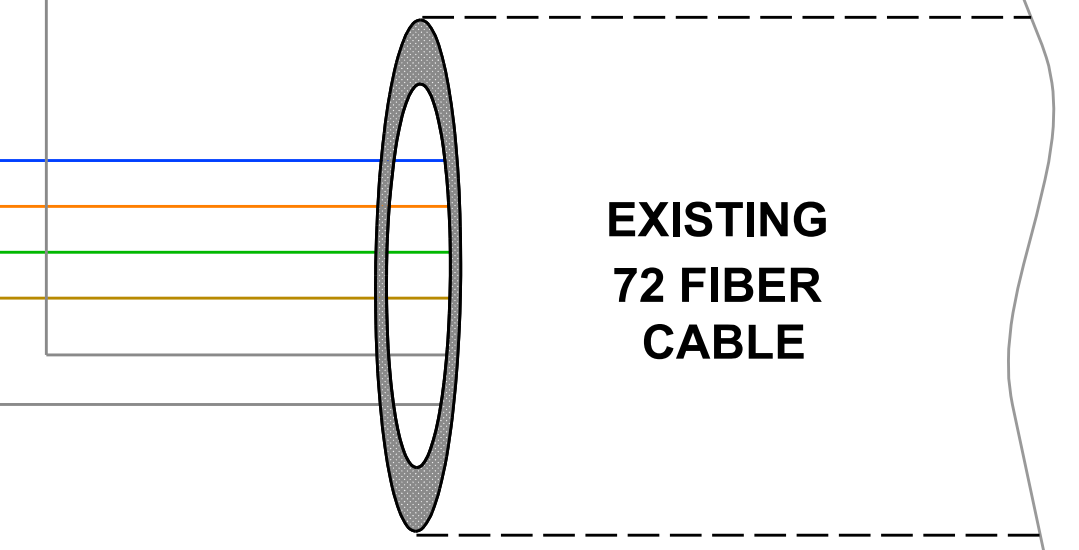
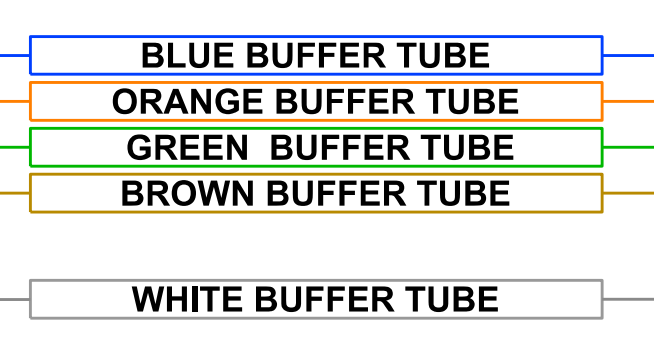
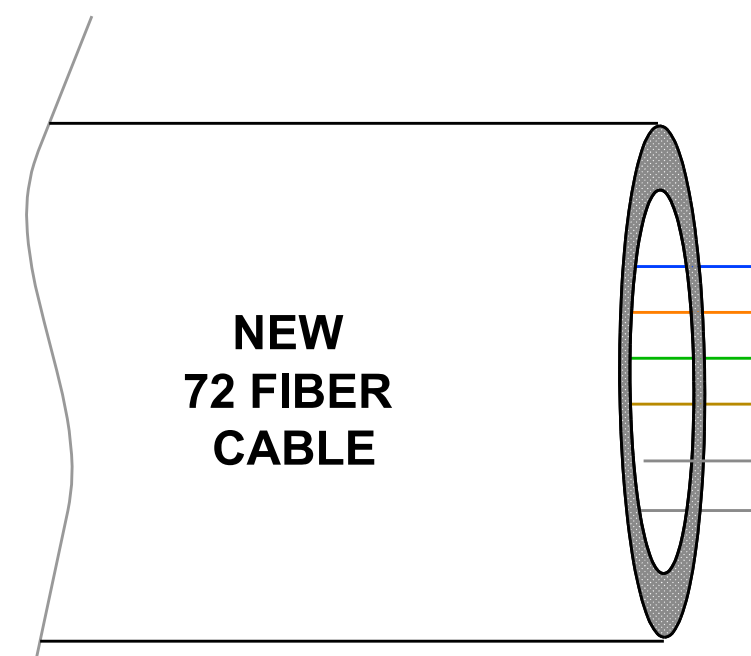
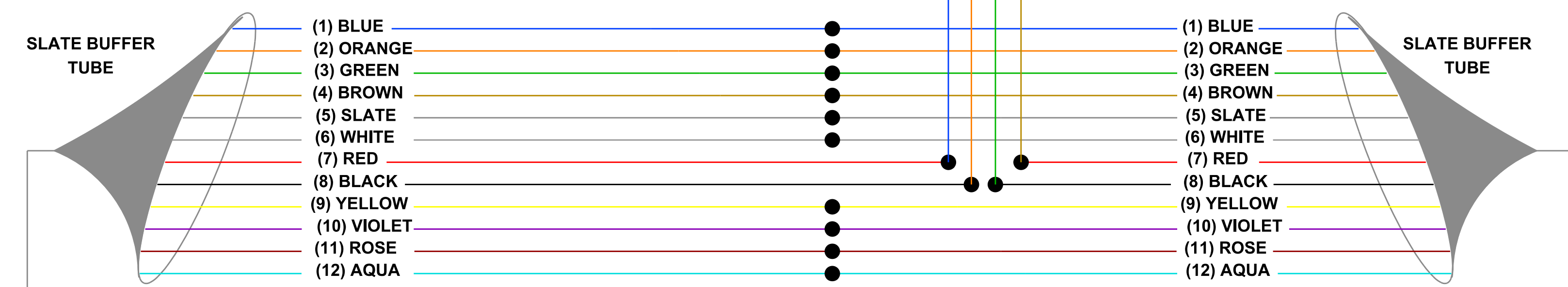
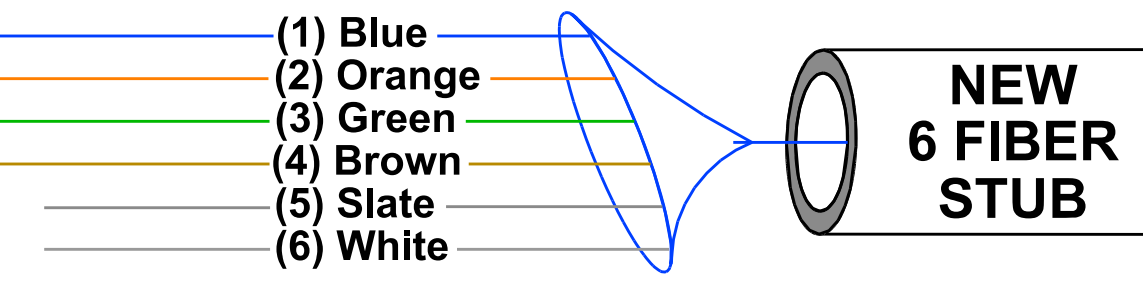
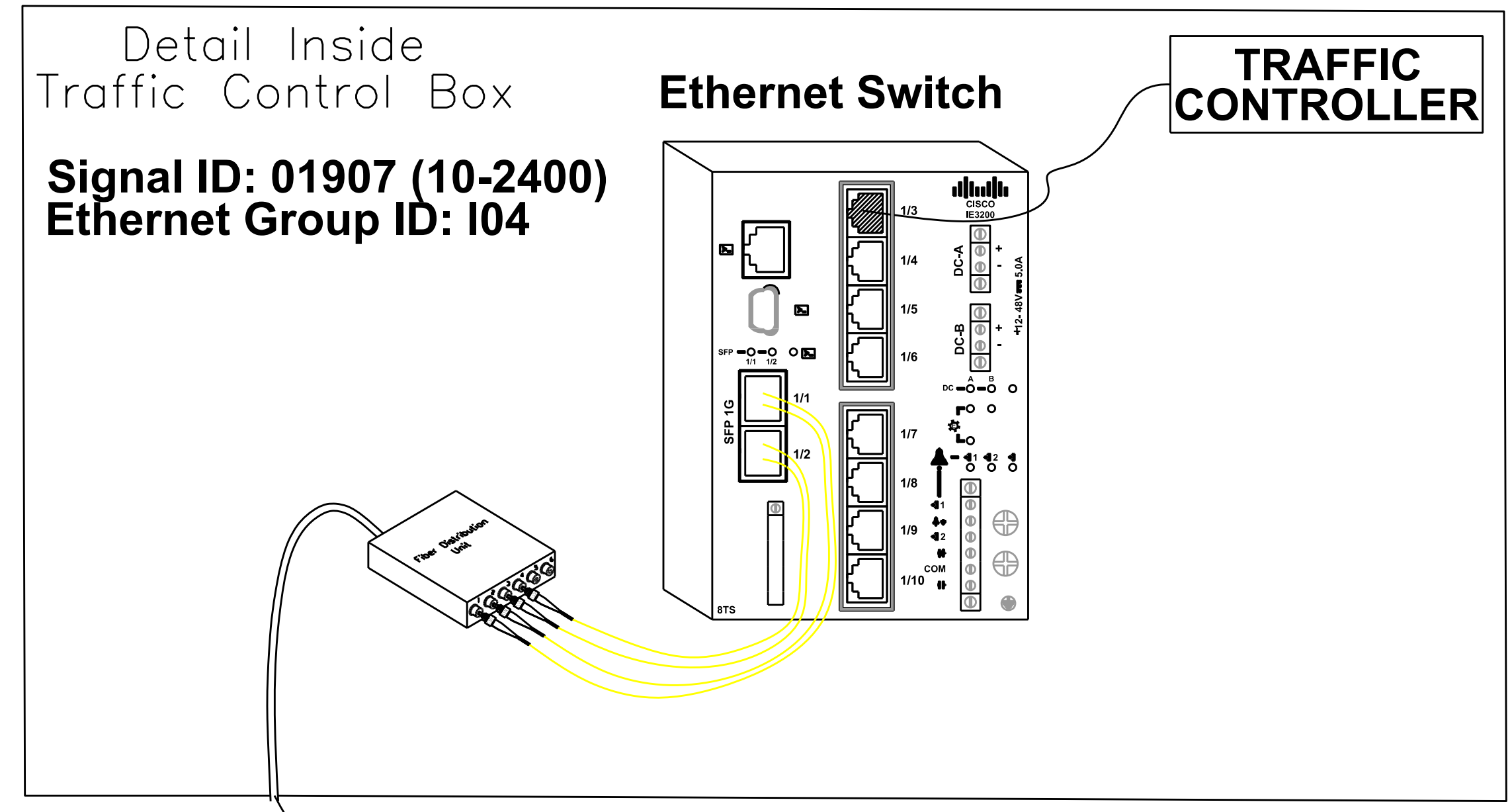
NA	SCALE	NA	DATE
W-57/OAK	NA	NC DOT SIGNAL ID	MARCH 2022
JOB NO.	NA	C. Silver	CHECKED BY
NA	Signal ID	D. White	PREPARED BY
		L. Moon	APPROVED BY

SIGNAL COMMUNICATION
 PLAN
 SPLICE DIAGRAMS

SHEET
SCP 13
 OF
SCP 17

LEGEND
 ○ EXISTING SPLICE
 ● NEW SPLICE
 ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH

SPLICE 01907



FROM BROOKSHIRE BLVD & PLEASANT GROVE ROAD FOR TCB 940 (10-0880)

TO BROOKSHIRE BLVD & I-485 NB RAMP FOR TCB 896 (10-1853)

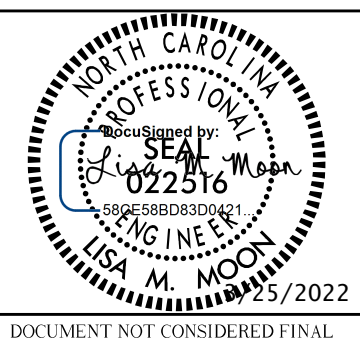
SPLICE CASE IN HANDHOLE# 16.4 ON SB BROOKSHIRE BLVD AT PLEASANT GROVE RD U-TURN



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W-57/0AK	NA	SCALE	NA
JOB NO.	10-2400	NC DOT SIGNAL ID	C. Silver
NA	Signal ID	CHECKED BY	MARCH 2022
D. White	PREPARED BY	DATE	
L. Moon	APPROVED BY		

SIGNAL COMMUNICATION PLAN
 SPLICE DIAGRAMS

SHEET SCP 14 OF SCP 17

LEGEND

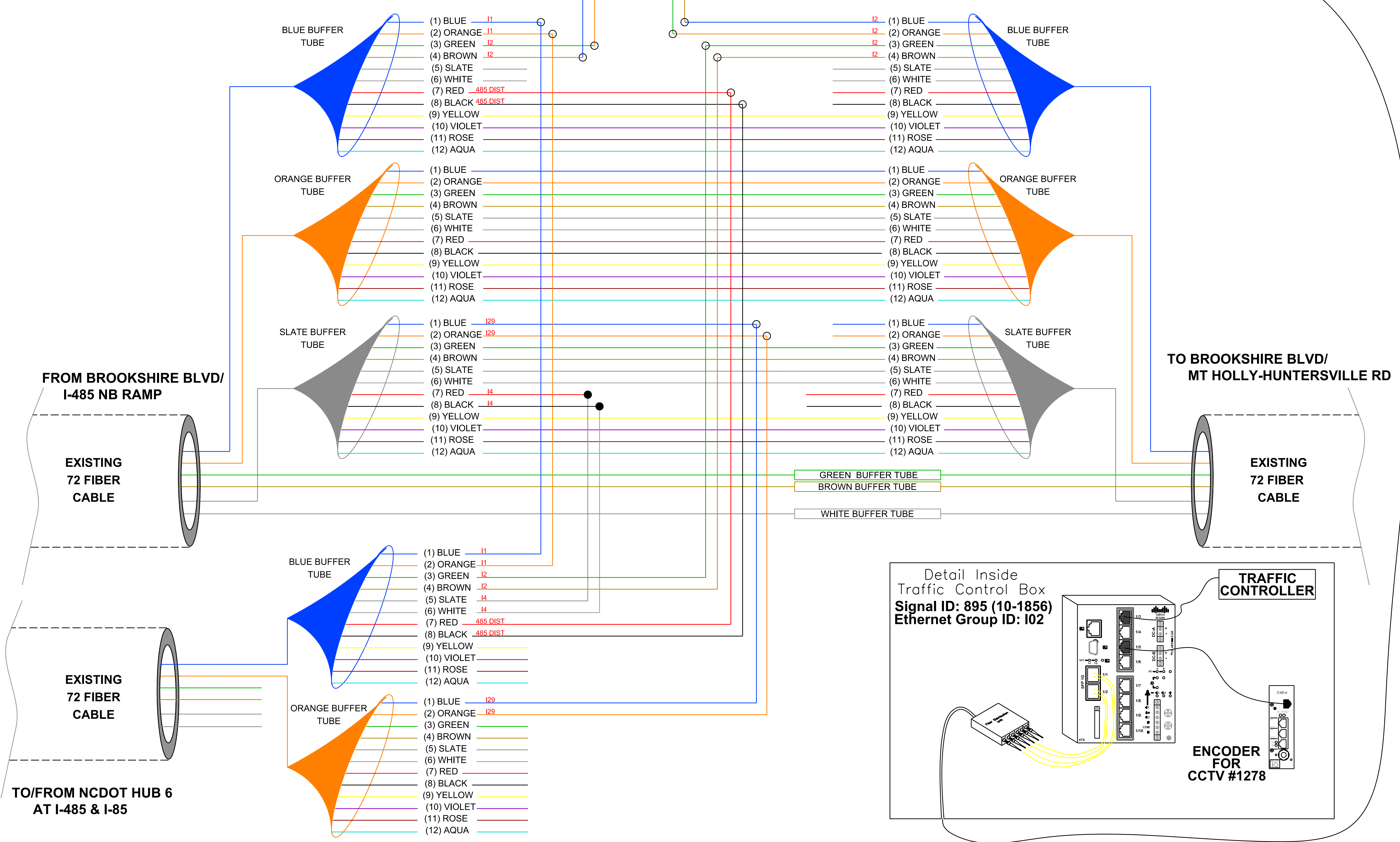
○ EXISTING SPLICE
● NEW SPLICE

ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH

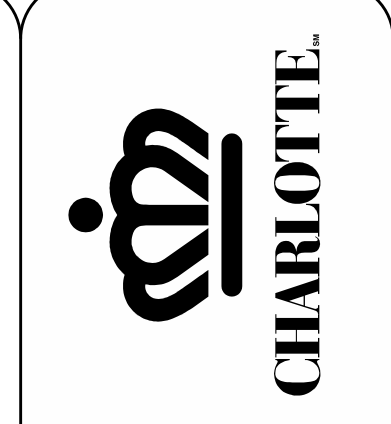
SPLICE 00895

STUB TO BROOKSHIRE BLVD/
I-485 SB RAMP CONTROLLER
FOR TCB 895 (10-1856)

EXISTING
6 FIBER
STUB



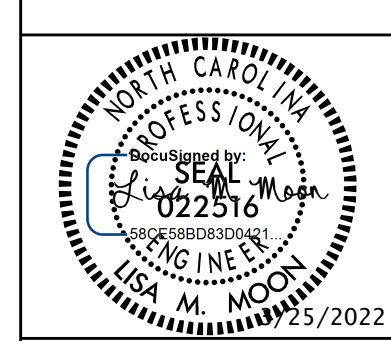
SPLICE CASE IN EX HANDHOLE AT BROOKSHIRE BLVD / I-485 SB RAMP



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NC License No. C-2713

NA	SCALE
NA	NCDOT SIGNAL ID
C. Silver	CHECKED BY
MARCH 2022	DATE

W-57/0AK	JOB NO.
NA	SIGNAL ID
D. White	PREPARED BY
L. Moon	APPROVED BY

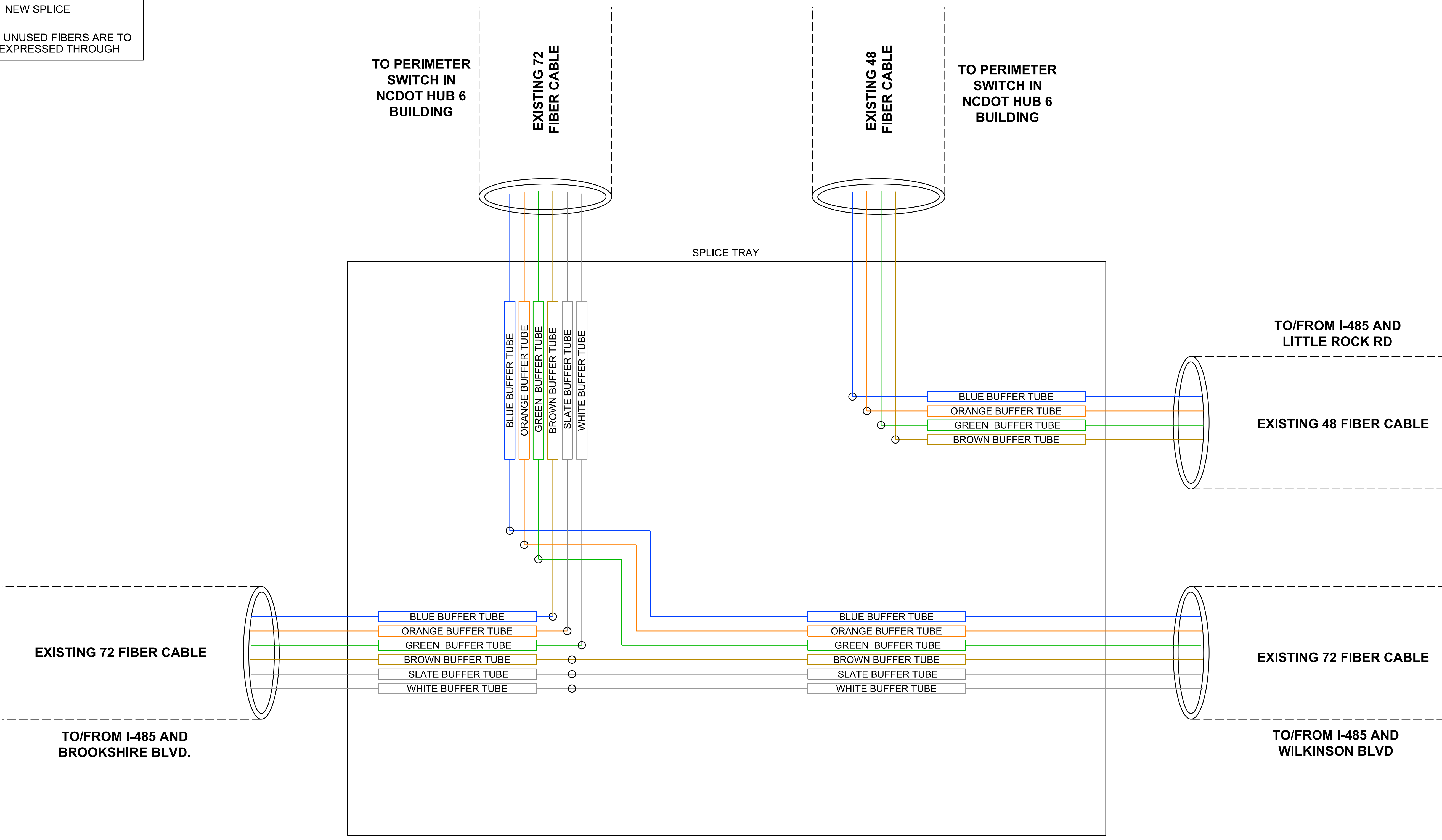
SIGNAL COMMUNICATION
PLAN
SPLICE DIAGRAMS

NCDOT HUB 6 AT I-85

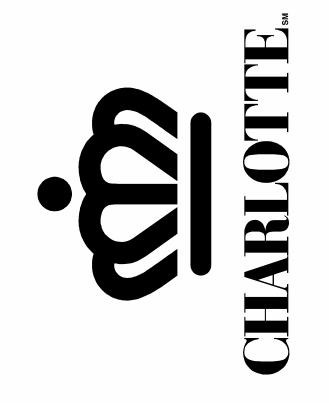
LEGEND

- EXISTING SPLICE
- NEW SPLICE

ALL UNUSED FIBERS ARE TO BE EXPRESSED THROUGH



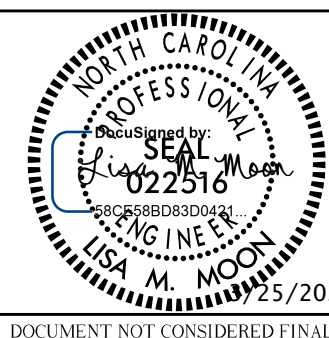
**EXISTING SPLICE CASE IN HANDHOLE AT NCDOT HUB 6 AT I-85 & I-485
(INFORMATION ONLY)**



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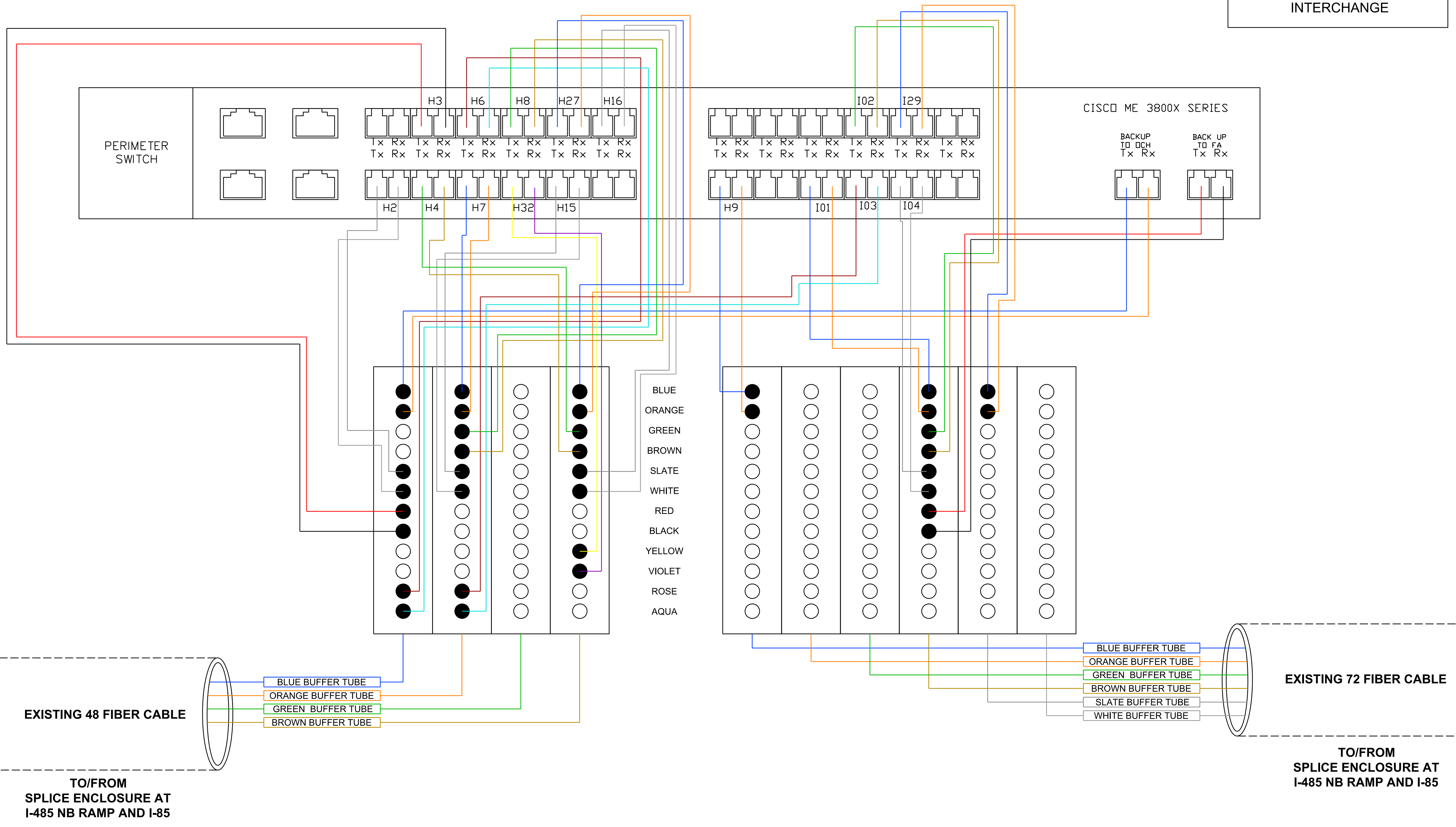
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W-57/0AK JOB NO.	NA	SCALE	NA
NA	NA	NCDOT SIGNAL ID	C. Silver
D. White	PREPARED BY	L. Moon	APPROVED BY
NA	CHECKED BY	MARCH 2022	DATE

**SIGNAL COMMUNICATION
PLAN
SPLICE DIAGRAMS**

PERIMETER SWITCH I-485 HUB

PERIMETER SWITCH TERMINATIONS
NCDOT HUB ON I-485
NORTH OF I-85/I-485 INTERCHANGE



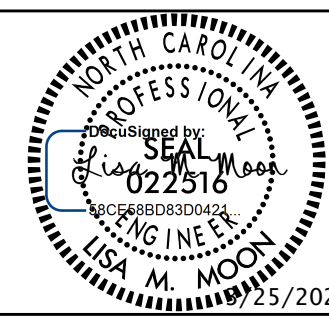
**EXISTING PERIMETER SWITCH IN NCDOT HUB 6 AT I-85 & I-485
(INFORMATION ONLY - CDOT TO MAKE CONNECTIONS)**



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NA	NCDOT SIGNAL ID
C. Silver	CHECKED BY
MARCH 2022	DATE

W-5710AK	JOB NO.
NA	SIGNAL ID
D. White	PREPARED BY
L. Moon	APPROVED BY

**SIGNAL COMMUNICATION PLAN
SPLICE DIAGRAMS**