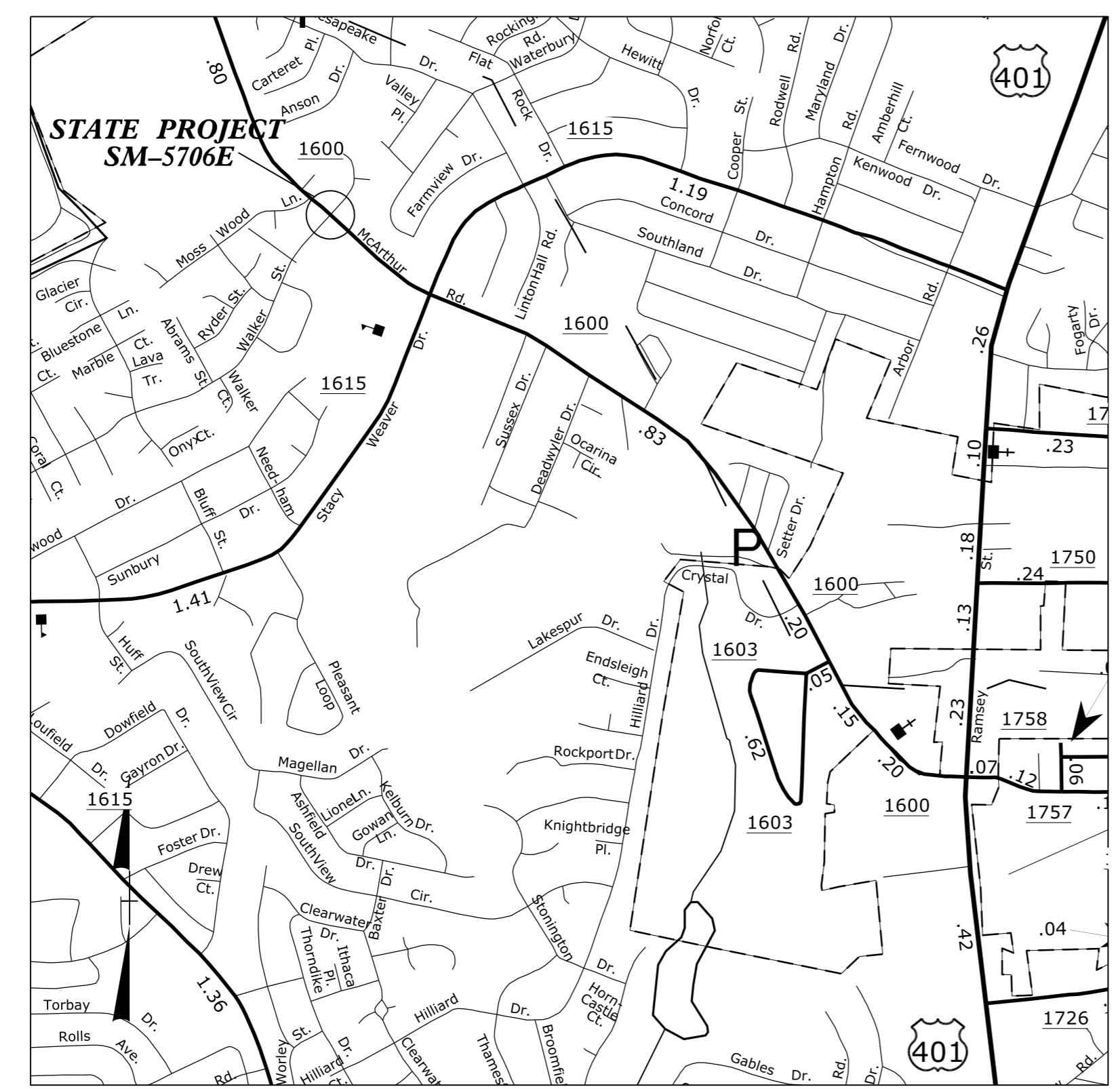


09/08/99

27-APR-2022 08:01 S:\DDC\Projects\SM-5706E_McArthur at Walker\Roadway\proj\SM-5706E-Rdy-fsh.dgn \$\$\$USERNAME\$\$\$

TIP PROJECT: SM-5706E

CONTRACT: DF00298



VICINTY MAP

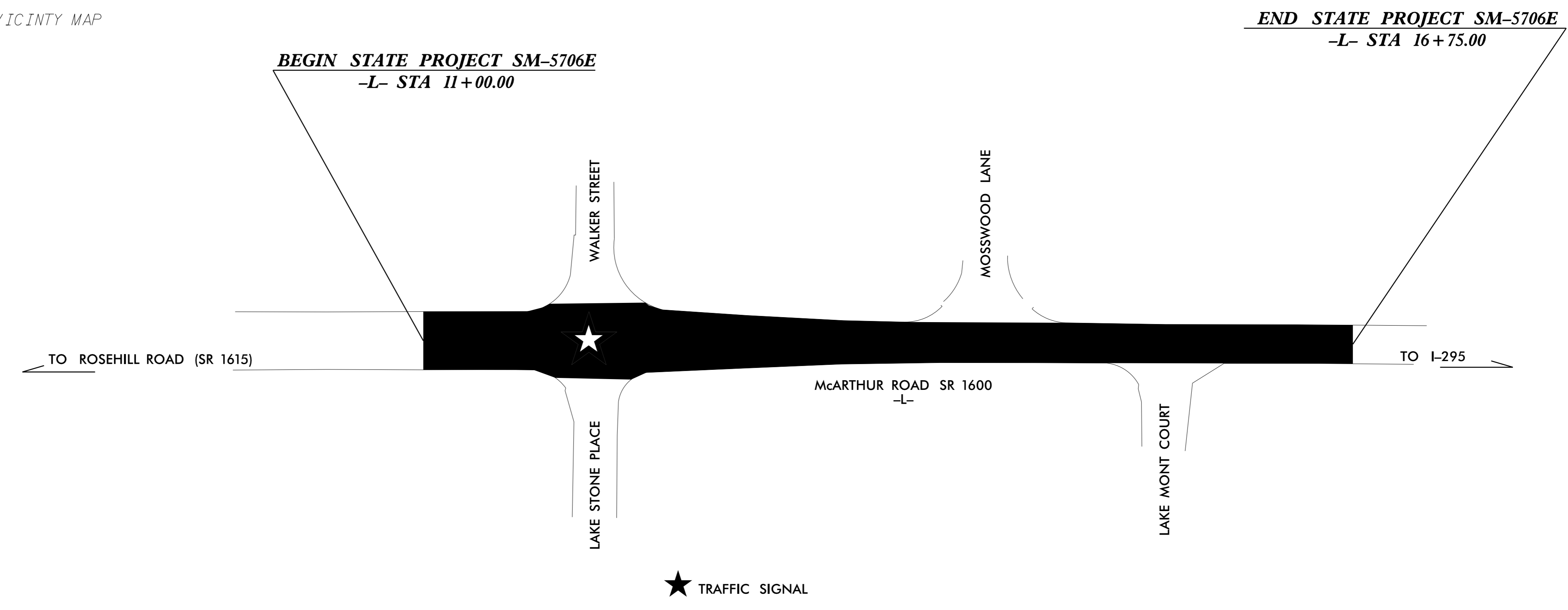
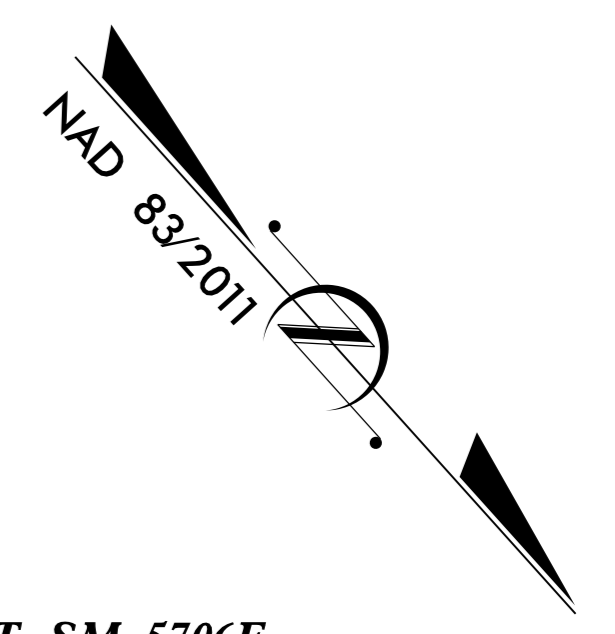
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

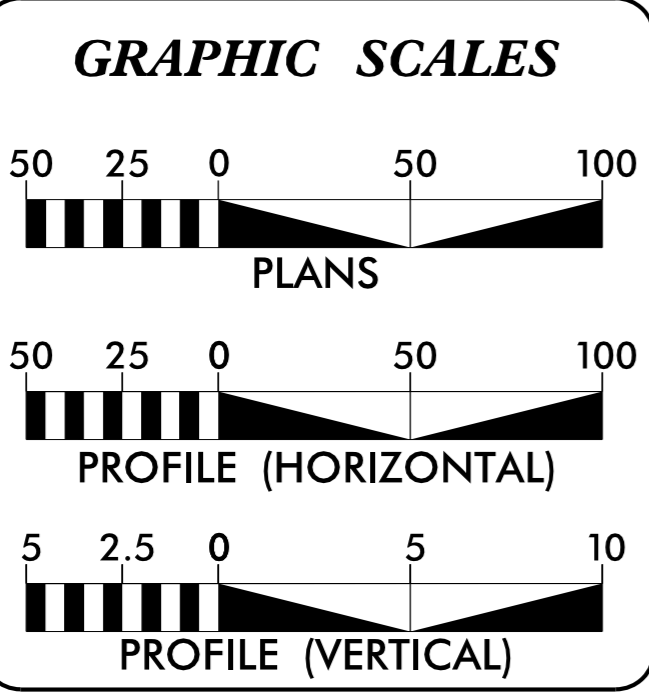
**LOCATION: McARTHUR ROAD (SR 1600) AT WALKER ST
AND LAKE STONE PLACE**

**TYPE OF WORK: WIDENING, GRADING, PAVING, SIGNAL
AND PAVEMENT MARKINGS**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	SM-5706E	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
48723.1.1		P.E.	
48723.2.1		ROW/UTILITIES	
48723.3.1		CONSTRUCTION	



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

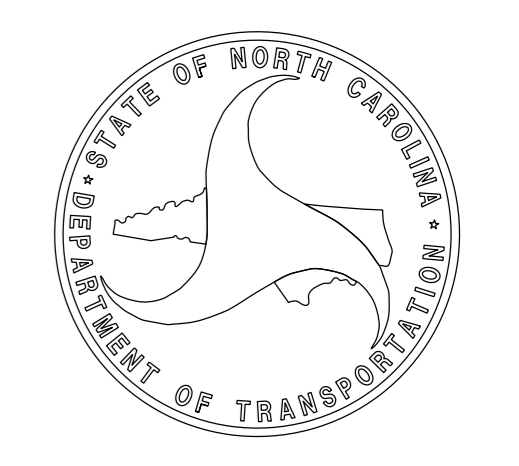
ADT 2022 =	20,300
ADT 2042 =	37,200
V =	40 MPH

PROJECT LENGTH

TOTAL LENGTH OF STATE PROJECT SM-5706E = 0.109 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
431 Transportation Dr., Fayetteville NC, 28301

2018 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: JANUARY 15, 2020	JOHN GAUTHIER PROJECT ENGINEER
LETTING DATE: MAY 18, 2022	NEIL BUTLER PROJECT DESIGN ENGINEER



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

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Computed Property Corner	----->
Property Monument	□ EDM
Parcel/Sequence Number	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	----- WLB
Proposed Wetland Boundary	----- WLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- EPB
Existing Historic Property Boundary	----- HPB
Known Contamination Area: Soil	☠-S-☠
Potential Contamination Area: Soil	☠-S-☠
Known Contamination Area: Water	☠-W-☠
Potential Contamination Area: Water	☠-W-☠
Contaminated Site: Known or Potential	☠?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	----- JS
Buffer Zone 1	----- BZ 1
Buffer Zone 2	----- BZ 2
Flow Arrow	←
Disappearing Stream	-----
Spring	○
Wetland	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	-----

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY & PROJECT CONTROL:

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

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	----- C
Proposed Slope Stakes Fill	----- F
Proposed Curb Ramp	----- CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----

VEGETATION:

Single Tree	○
Single Shrub	○

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	----- CONC
Bridge Wing Wall, Head Wall and End Wall	----- CONC WW
MINOR:	
Head and End Wall	----- CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	○ S
Storm Sewer	----- S

UTILITIES:

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

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	○
U/G Telephone Cable LOS B (S.U.E.*)	----- T
U/G Telephone Cable LOS C (S.U.E.*)	----- T
U/G Telephone Cable LOS D (S.U.E.*)	----- T
U/G Telephone Conduit LOS B (S.U.E.*)	----- TC
U/G Telephone Conduit LOS C (S.U.E.*)	----- TC
U/G Telephone Conduit LOS D (S.U.E.*)	----- TC
U/G Fiber Optics Cable LOS B (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS C (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS D (S.U.E.*)	----- T FO

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	----- W
U/G Water Line LOS C (S.U.E.*)	----- W
U/G Water Line LOS D (S.U.E.*)	----- W
Above Ground Water Line	----- A/G Water

TV:

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

GAS:

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

SANITARY SEWER:

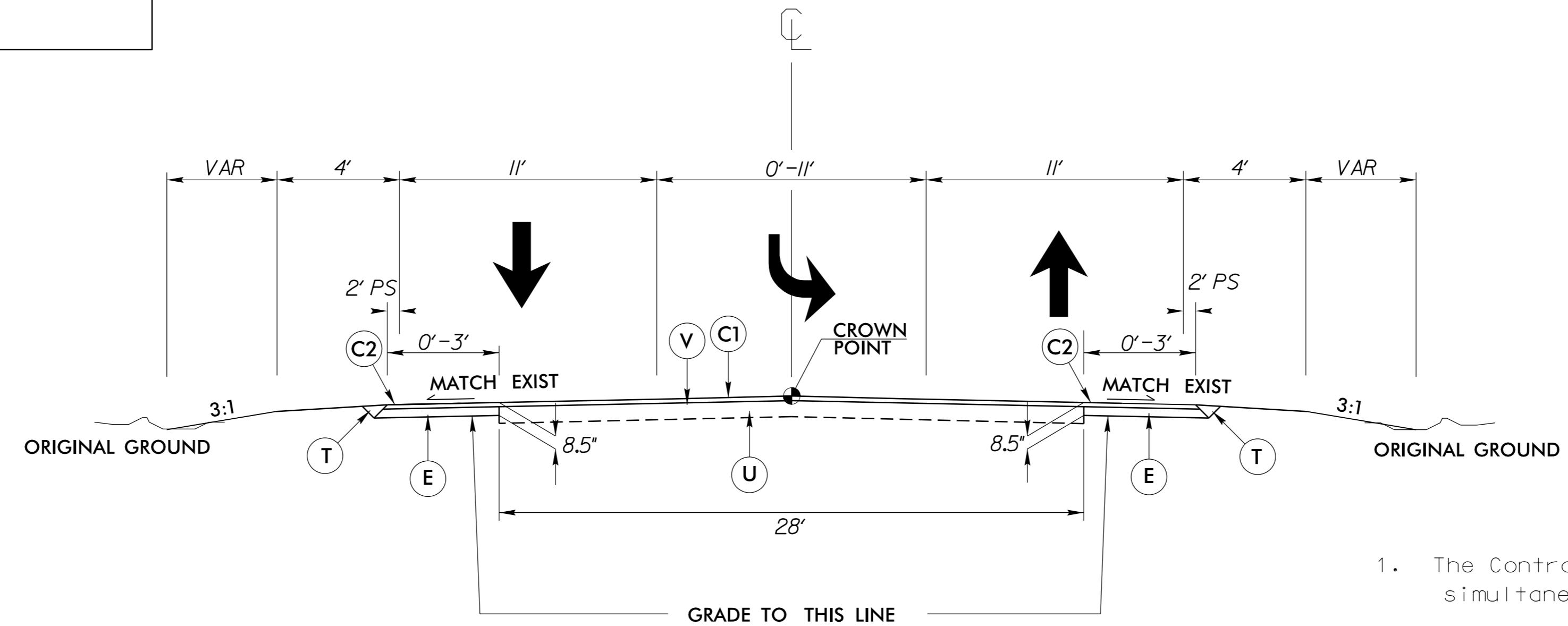
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
SS Forced Main Line LOS B (S.U.E.*)	----- FSS
SS Forced Main Line LOS C (S.U.E.*)	----- FSS
SS Forced Main Line LOS D (S.U.E.*)	----- FSS

MISCELLANEOUS:

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

PROJECT REFERENCE NO.	SHEET NO.
SM-5706E	2
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
E	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	1½" MILLING



TYPICAL SECTION NO. 1
-L- STA. 11+00.00 TO STA 16+75.00

PROJECT NOTES

1. The Contractor shall not work on both sides of the road simultaneously within the same area.
2. Ingress and egress shall be maintained to all businesses and dwellings on the project.
3. At the end of each workday, the Contractor shall be required to backfill any area adjacent to existing travelway that has been graded leaving no more than a 1½" drop-off.
4. A minimum of two-way, two-lane traffic (plus all existing left and right turn lanes) shall be maintained during periods of construction inactivity.
5. The Contractor shall not be allowed to stop traffic for more than 5 minutes at a time in any one direction.
6. During periods of construction inactivity, the difference in elevation between lanes shall not exceed 1-1/2 inch.
7. Access to police and fire station, fire hydrants, and hospitals shall be maintained at all times.
8. During periods of construction inactivity, place cones/drums 3' from existing edge of pavement (travelway) as directed by the Engineer.
9. Channelizing devices in work areas shall be spaced not greater than 50' on center in tangent areas, 45' on center in tapers, and 10' on center in radii, and shall be set 3' off the edge of travelway, unless otherwise indicated on plans.
10. Contractor to install Erosion Control devices as directed by the Engineer.
11. Contractor shall coordinate with the Division Six Traffic Services Unit (910-364-0606) for placement of all pavement markings and signs.
12. Removal of existing road signs is incidental to the project.

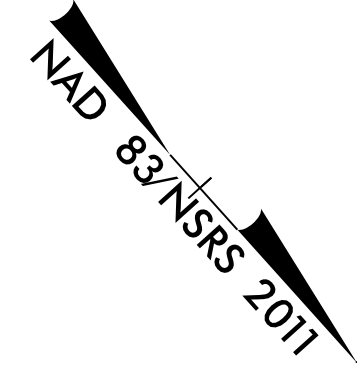
MILLING AT PAVEMENT TIE-INS

NOTES TO CONTRACTOR

For surface mixes over 1" in thickness, mill the existing pavement in accordance with the following sketch as directed by the Engineer.

Locations shall include ties into existing concrete pavement, at bridge approaches where the bridge will not be resurfaced, and at the beginning and ending point of each resurfacing map.

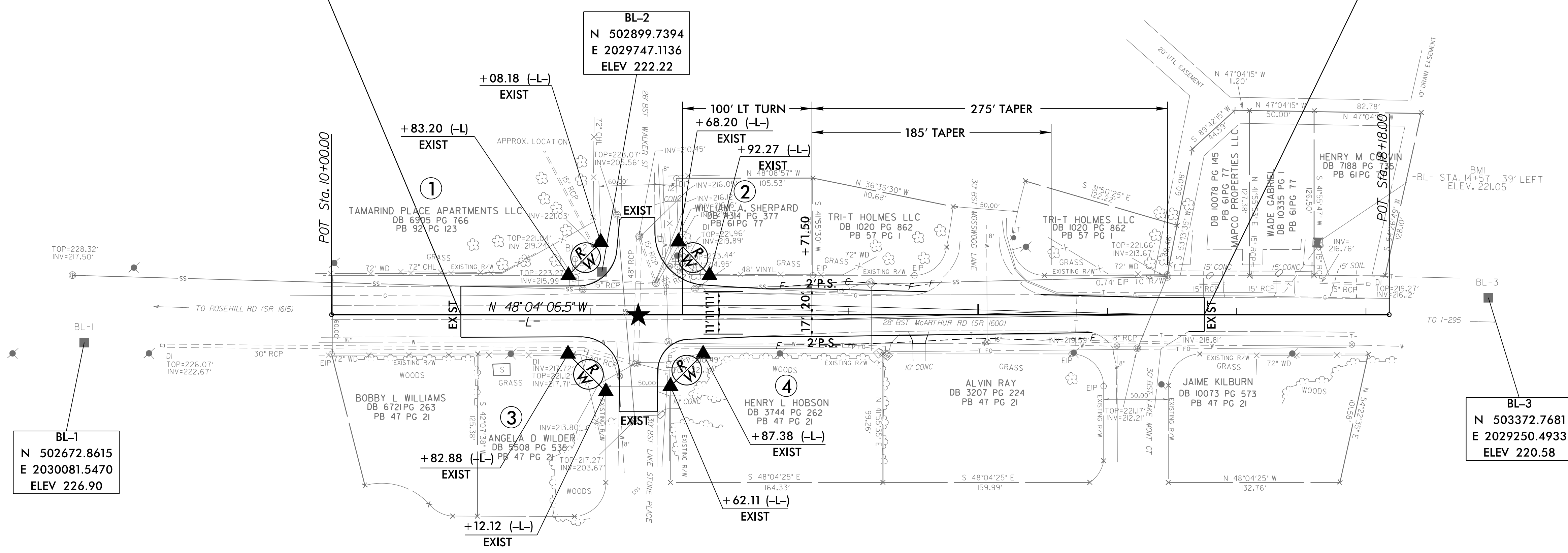
Perform the work in accordance with Section 607 of the January 2018 North Carolina Department of Transportation Standard Specifications for Roads and Structures. Resurfacing will be accomplished at the same time as the milling operation.



15

BEGIN STATE PROJECT SM-5706E
-L- STA 11+00.00

END STATE PROJECT SM-5706E
-L- STA 16+75.00



BL-2
N 502899.7394
E 2029747.1136
ELEV 222.22

BL-1
N 502672.8615
E 2030081.5470
ELEV 226.90

BL-3
N 503372.7681
E 2029250.4933
ELEV 220.58

★ TRAFFIC SIGNAL

REVISIONS

8/17/99

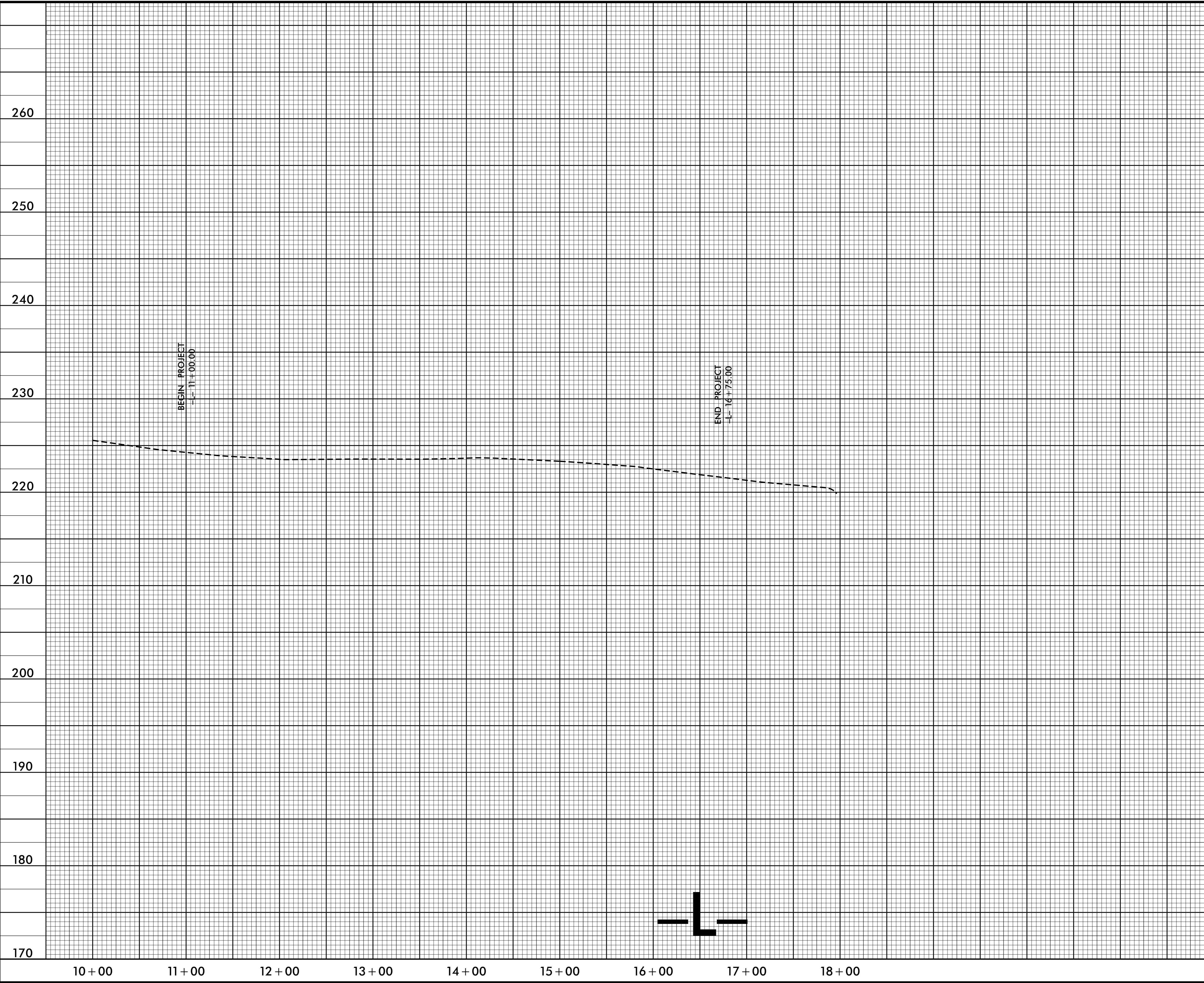
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5/14/99

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PROJECT REFERENCE NO. <i>SM-5706E</i>	SHEET NO. 5
--	----------------

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



BEGIN PROJECT
--L- 11+00.00

END PROJECT
--L- 16+75.00

260

250

240

230

220

210

200

190

180

170

10+00

11+00

12+00

13+00

14+00

15+00

16+00

17+00

18+00

250

240

230

220

210

200

190

180

170

09/06/99

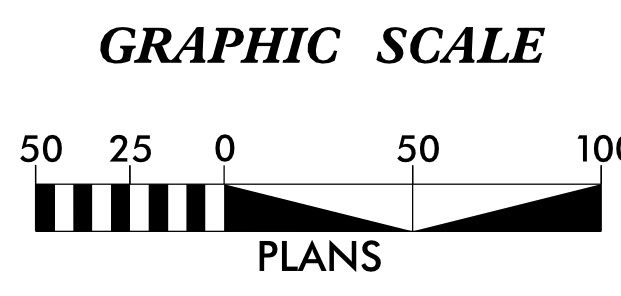
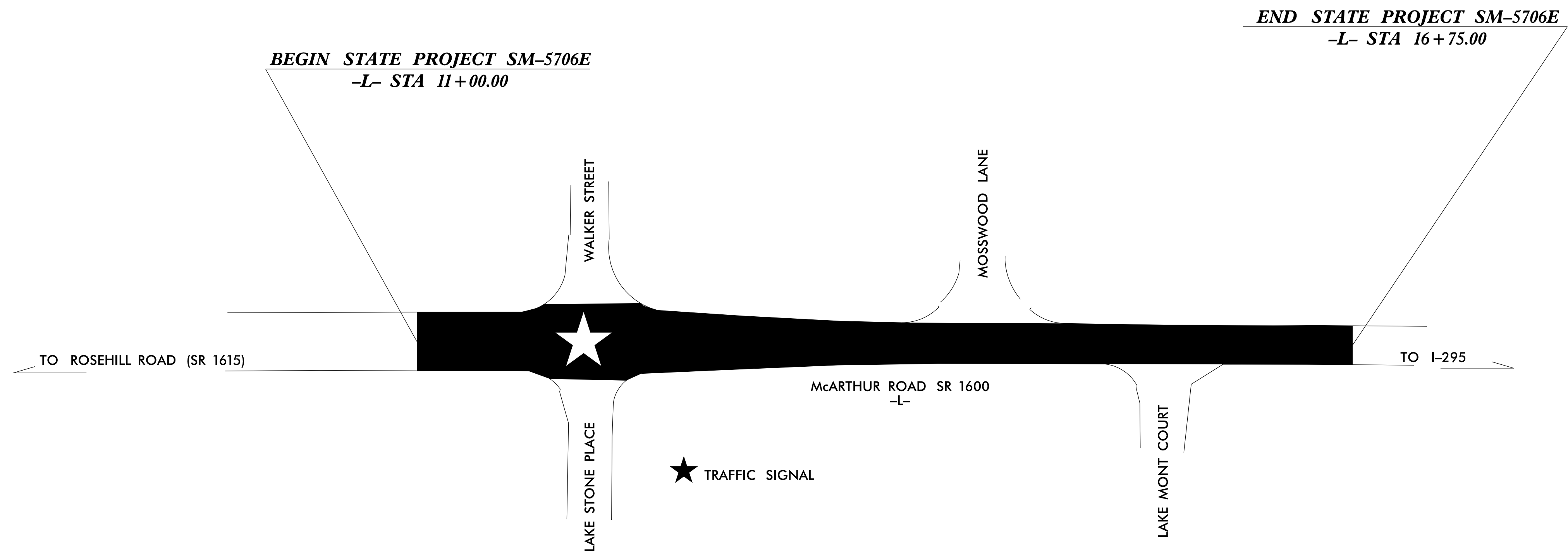
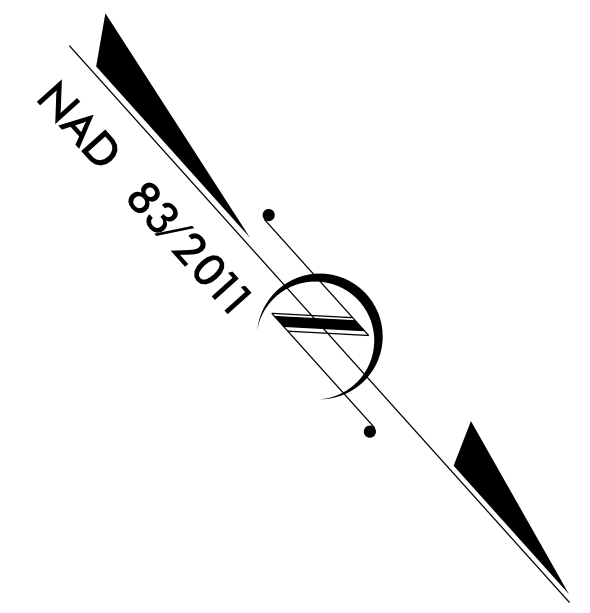
TIP PROJECT: SM-5706E

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	SM5706-E	RW01	6

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

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

CUMBERLAND COUNTY



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "SM-5706E-101" WITH NAD 83/NSRS 2011 STATE PLANE GRID COORDINATES OF NORTHING: 503870.6571(ft) EASTING: 2028922.4716(ft) ELEVATION: 225.27(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.0001309370

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "SM-5706-E-101" TO -L- STATION SM-5706-E BL-1 IS S 44° 03' 31.65" E 1666.7844(ft)

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

Prepared in the Office of:
LOCATION/SURVEYS DIV. 6
 4834 US 301 S Hope Mills, 28348

J E KAUKOLA, JR
 LOCATING ENGINEER

J C NORDAN
 CADD COMPILER

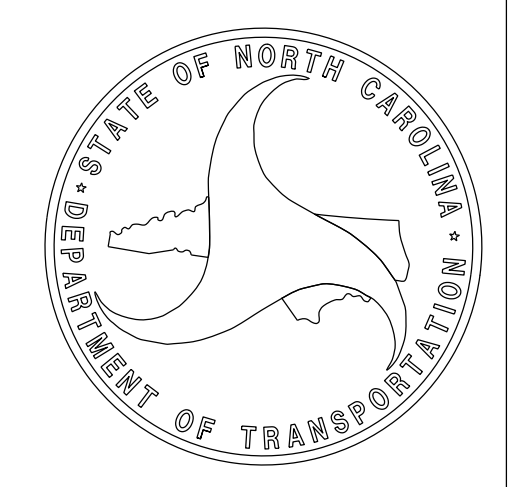
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JANUARY 15, 2020

LETTING DATE: JANUARY 20, 2021

PROFESSIONAL LAND SURVEYOR

SIGNATURE: _____ Date: _____

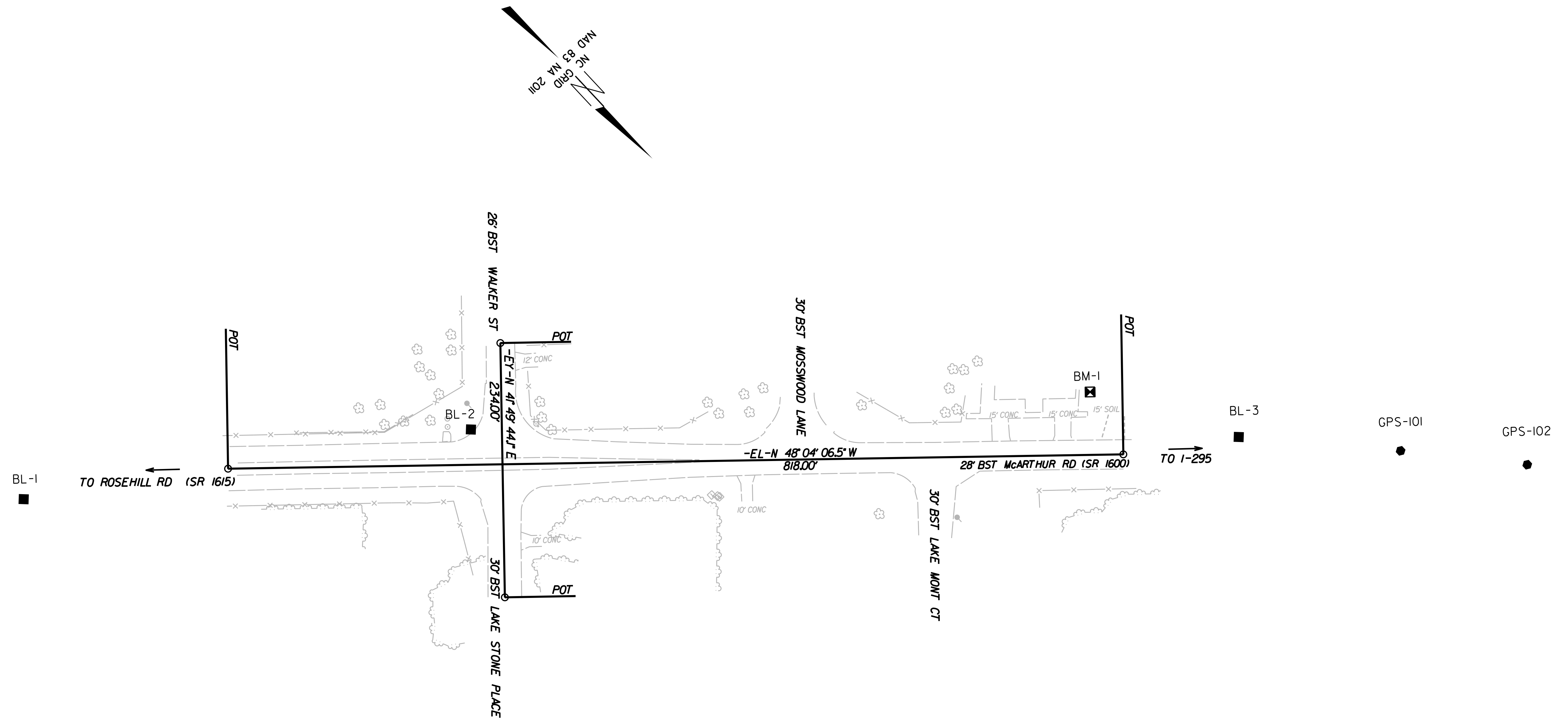


\$\$\$\$\$ SYSTEM \$\$\$\$\$\$
 \$\$\$ DDN \$\$\$
 \$\$\$ USERNAME \$\$\$

PROJECT REFERENCE NO.	SHEET NO.
SM-5706E	RW02C-1
Location and Surveys	
NCDOT LOCATION & SURVEYS DIVISION 6	

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. SM-5706E	SHEET NO. RW02C-2
Location and Surveys	
NCDOT LOCATION & SURVEYS DIVISION 6	

BL	POINT	DESC.	NORTH	EAST	ELEVATION
1	SM5706E	BL - 1	502672.8615	2030081.5470	226.90
2	SM5706E	BL - 2	502899.7394	2029747.1136	222.22
3	SM5706E	BL - 3	503372.7681	2029250.4933	220.58

.....
 BM1 ELEVATION = 221.05
 N 503253 E 2029320
 BL STATION 14+57.00 39 LEFT
 NAIL IN BASE OF POWER POLE

EL

POINT	N	E	BEARING	DIST
POT	502784.683	2029924.849		
LINE			N 48°04'06.5" W	818.00
POT	503331.307	2029316.300		

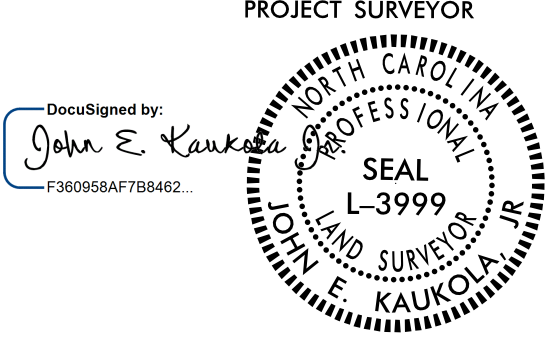
EY

POINT	N	E	BEARING	DIST
POT	502865.147	2029678.952		
LINE			N 41°49'44.1" E	234.00
POT	503039.507	2029835.007		

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

PROPOSED ALIGNMENT CONTROL SHEET

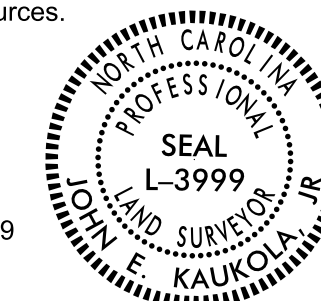
PROJECT REFERENCE NO.	SHEET NO.
SM5706-E	RW02D-1
Location and Surveys	
NCDOT LOCATIONSURVEYS DIV. 6 4834 US 30 S HOPE MILLS NC, 28348	
PROJECT SURVEYOR	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, John E. Kaukola, PLS, certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

This 9th day of July, 2020.

DocuSigned by:
John E. Kaukola Jr.

Professional Land Surveyor L-3999




REVISIONS

TYPE	STATION	NORTH	EAST
POT	10+00.00	502784.6833	2029924.8489
POT	18+18.00	503331.3072	2029316.3005

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATINO REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO. SM-5706E	SHEET NO. RW03E-1
Location and Surveys	
NCDOT LOCATIONSURVEYS DIV. 6 4834 HWY 301 SOUTH HOPE MILLS NC, 28348	
PROJECT SURVEYOR	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, John E. Kaukola, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed February 2020, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 24th day of June, 2020.

Professional Land Surveyor L-3999



REVISIONS

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST	COMMENTS
L	11+83.20	-30.35	502884.5263	2029768.2823	
L	12+08.18	-56.12	502882.0497	2029732.4721	
L	12+68.20	-56.31	502922.0194	2029687.6926	EIP
L	12+92.27	-30.36	502957.4090	2029687.1285	
L	11+82.88	30.35	502929.4661	2029809.0770	
L	12+12.12	59.49	502970.6849	2029806.8011	
L	12+62.11	55.33	503001.0003	2029766.8228	
L	12+87.38	30.36	502999.3085	2029731.3364	

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED FEBRUARY 24, 2020.

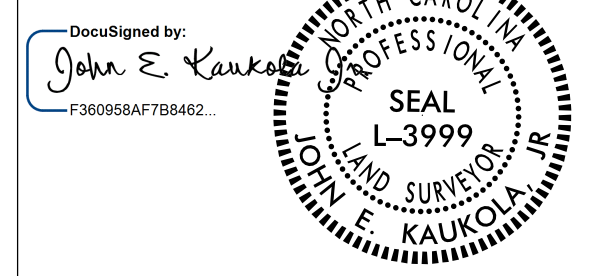
Location and Surveys

LOCATIONSURVEYS

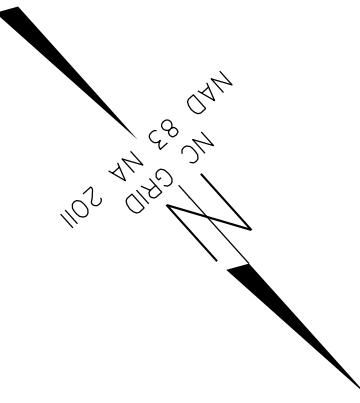
DIV. 6

4834 US 301 S
Hope Mills NC, 28348

PROJECT SURVEYOR



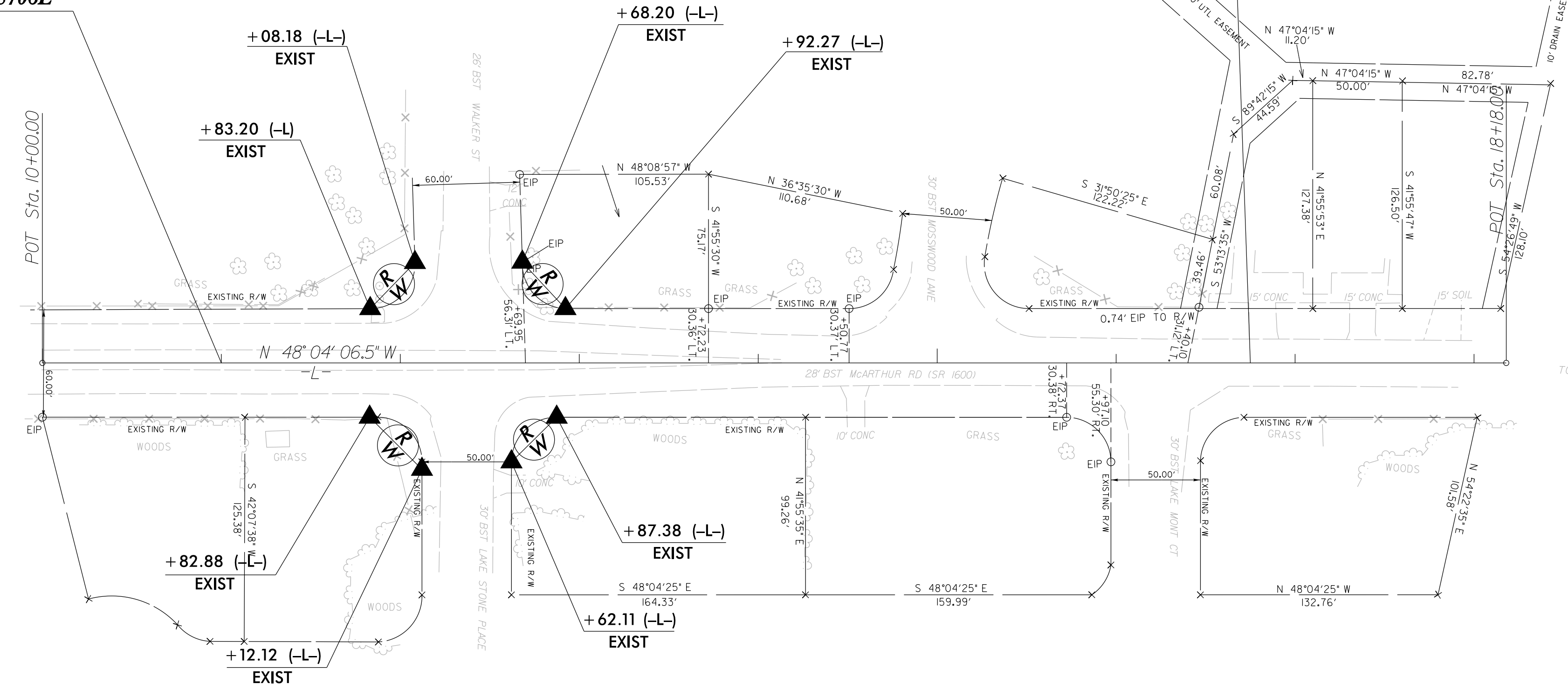
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



REVISIONS

BEGIN STATE PROJECT SM-5706E
-L- STA 11+00.00

END STATE PROJECT SM-5706E
-L- STA 16+75.00



I, John E. Kaukola Jr., certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from Feb 24 2020 to Feb 24, 2020, and all coordinates are based on NAD83(2011). That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 9th day of July, 2020.
 Designed by:
John E. Kaukola Jr.
 Professional Land Surveyor L-3999



NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED Feb 24, 2020 .

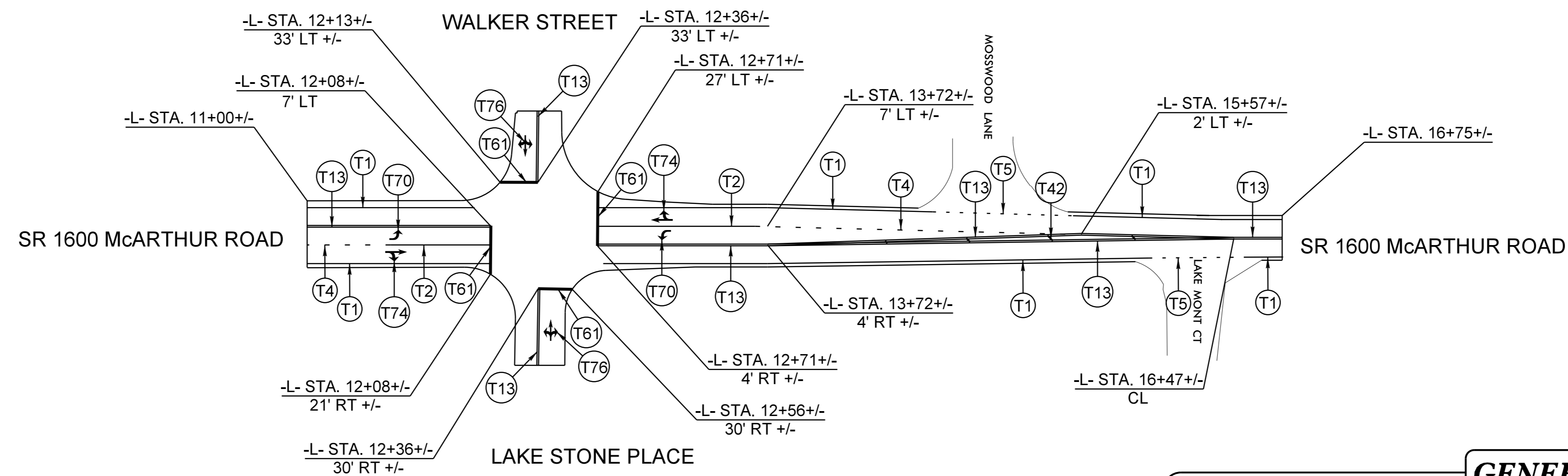
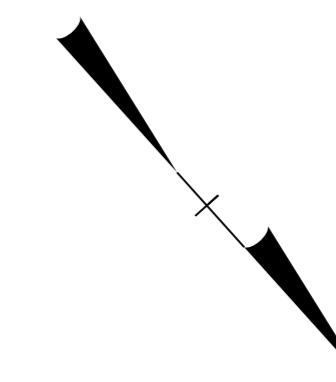
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 25:00:00 15:06:00

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 HERBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

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



GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJCT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER

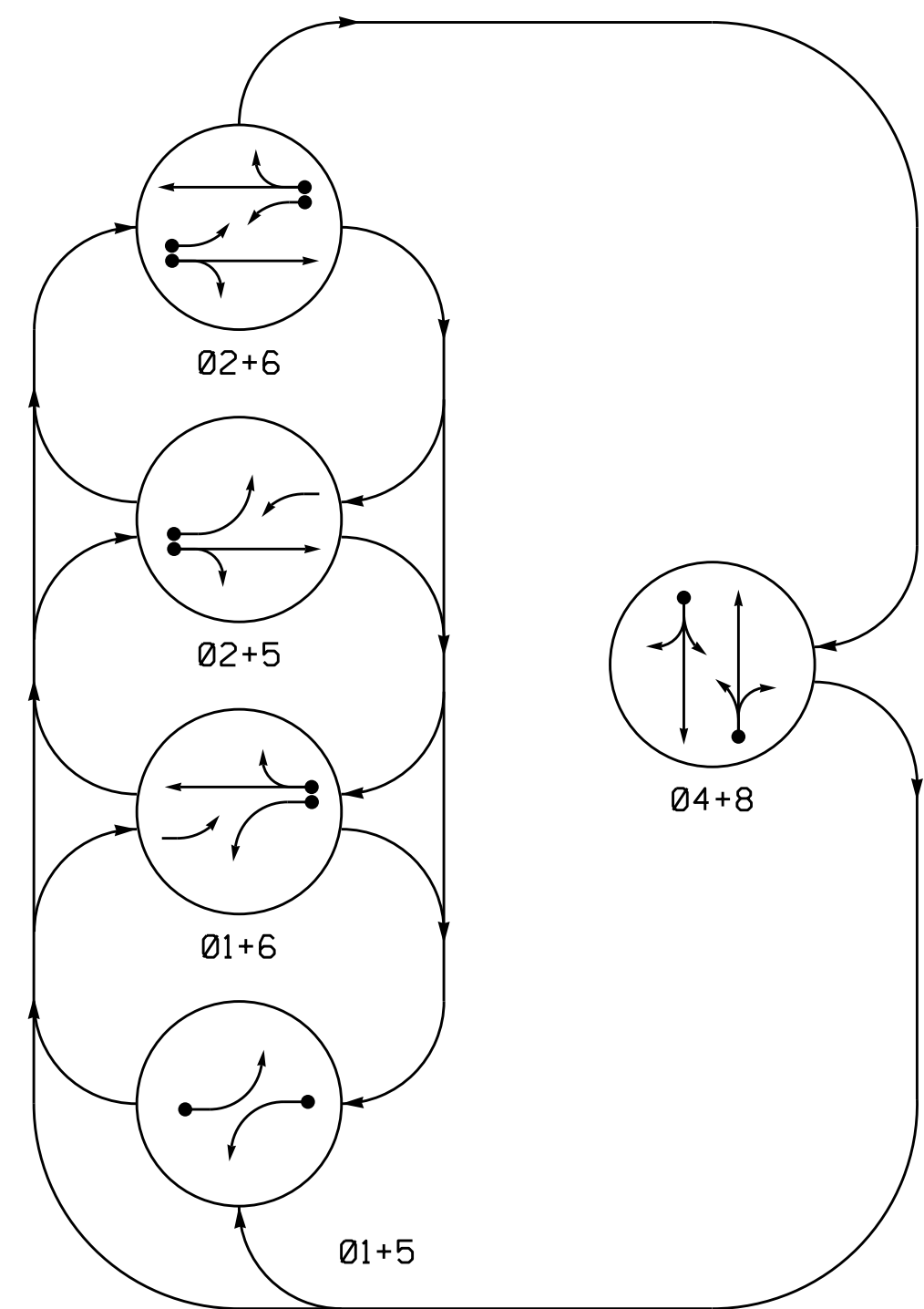
- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:
- | ROAD NAME | MARKING | MARKER |
|------------------|---------------|------------------|
| SR 1600 | THERMOPLASTIC | PERMANENT RAISED |
| WALKER STREET | THERMOPLASTIC | NONE |
| LAKE STONE PLACE | THERMOPLASTIC | NONE |
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE / REPLACE ANY CONFLICTING / DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGANOLS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

LEGEND

(T1)	WHITE EDGELINE (4", 90 MIL)
(T2)	WHITE SOLID LANE LINE (4", 90 MIL)
(T4)	3 FT. - 9 FT. / SP WHITE MINISKIP (4", 90 MIL)
(T5)	2 FT. - 6 FT. / SP WHITE MINISKIP (4", 90 MIL)
(T13)	YELLOW DOUBLE CENTER (4", 90 MIL)
(T42)	YELLOW DIAGONAL (8", 90 MIL)
(T61)	WHITE STOPBAR (24", 90 MIL)
(T70)	LEFT TURN ARROW (90 MIL)
(T74)	COMBO. RIGHT/STRAIGHT ARROW (90 MIL)
(T76)	COMBO. LEFT/RIGHT/STRAIGHT ARROW (90 MIL)

PAVEMENT MARKING DETAIL

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

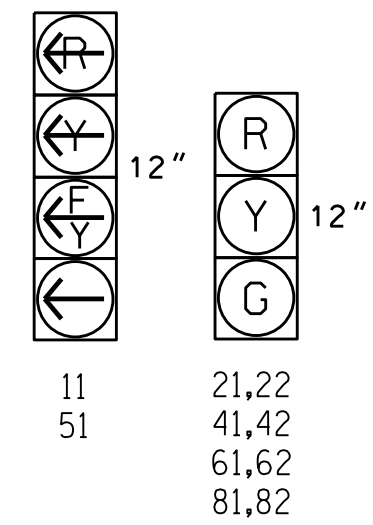
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE					
	01+5	02+5	02+6	04+8	F	Y
11	-	-	F	F	R	Y
21,22	R	R	G	G	R	Y
41,42	R	R	R	R	G	R
51	-	F	F	F	R	Y
61,62	R	G	R	G	R	Y
81,82	R	R	R	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.



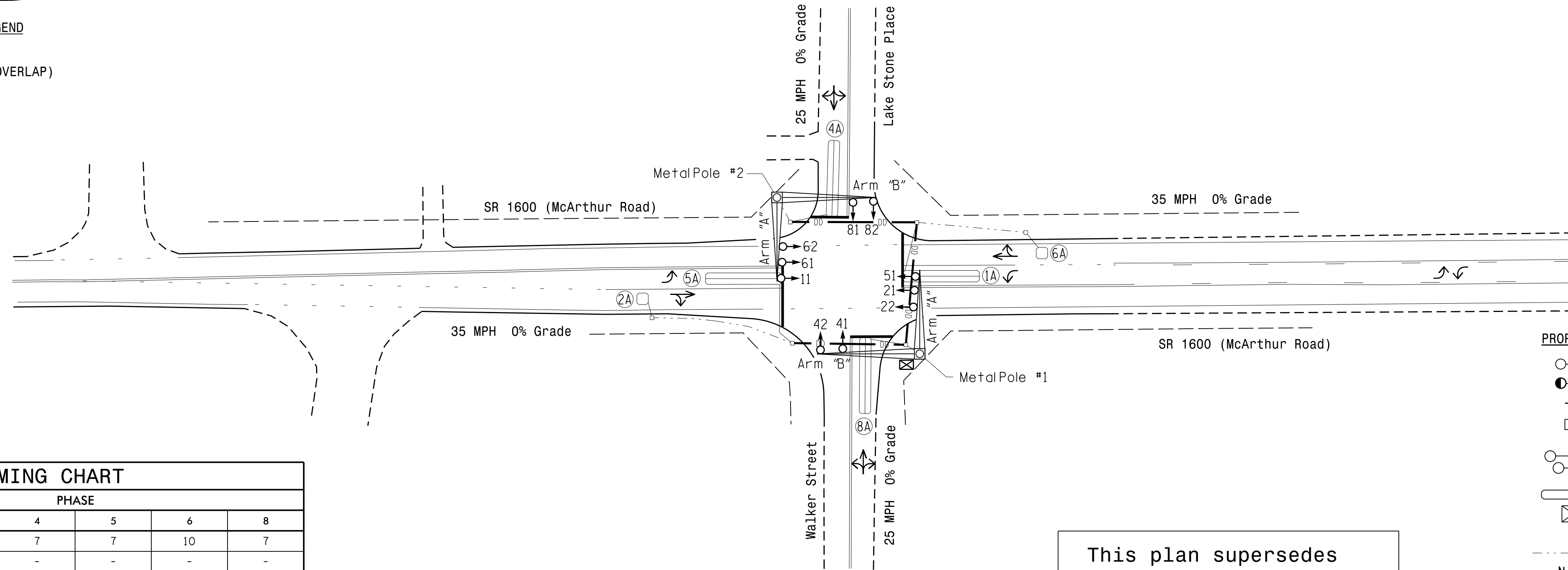
ASC/3 DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING							
					PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	LOOP SYSTEM	NEW CARD
1A	6X40	0	2-4-2	X	1	Yes	-	15	-	N	-	X
2A	6X6	70	4	X	2	Yes	-	-	-	N	-	X
4A	6X40	0	2-4-2	X	4	Yes	-	5	-	N	-	X
5A	6X40	0	2-4-2	X	5	Yes	-	15	-	N	-	X
6A	6X6	70	6	X	6	Yes	-	-	-	N	-	X
8A	6X40	0	2-4-2	X	8	Yes	-	5	-	N	-	X

5 Phase Fully Actuated Fayetteville Signal System

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

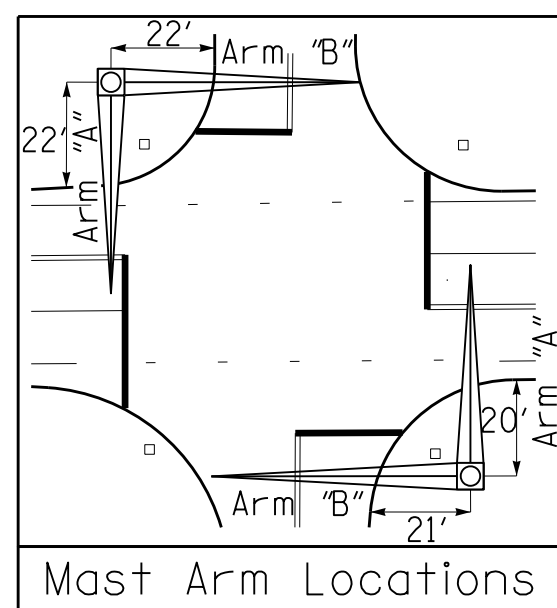


LEGEND

- | | | | |
|--|--|--|-----------------------------------|
| | PROPOSED Traffic Signal Head | | EXISTING Traffic Signal Head |
| | PROPOSED Modified Signal Head | | EXISTING N/A |
| | PROPOSED Sign | | EXISTING N/A |
| | PROPOSED Pedestrian Signal Head | | EXISTING N/A |
| | PROPOSED Signal Pole with Push Button & Sign | | EXISTING N/A |
| | PROPOSED Signal Pole with Sidewalk Guy | | EXISTING N/A |
| | PROPOSED Inductive Loop Detector | | EXISTING Inductive Loop Detector |
| | PROPOSED Controller & Cabinet | | EXISTING Controller & Cabinet |
| | PROPOSED Junction Box | | EXISTING Junction Box |
| | PROPOSED 2-in Underground Conduit | | EXISTING 2-in Underground Conduit |
| | PROPOSED Right of Way | | EXISTING Right of Way |
| | PROPOSED Directional Arrow | | EXISTING Directional Arrow |
| | PROPOSED Metal Pole with Mastarm | | EXISTING Metal Pole with Mastarm |

FEATURE	ASC/3 TIMING CHART						
	PHASE						
	1	2	4	5	6	8	
Min Green *	7	10	7	7	10	7	
Walk *	-	-	-	-	-	-	
Ped Clear	-	-	-	-	-	-	
Veh. Extension *	2.0	3.0	2.0	2.0	3.0	2.0	
Max 1 *	20	45	25	20	45	25	
Yellow	3.0	3.8	3.2	3.0	3.8	3.2	
Red Clear	1.4	1.1	1.6	1.6	1.1	1.6	
Actuations B4 Add *	-	-	-	-	-	-	
Seconds / Actuation *	-	-	-	-	-	-	
Max Initial *	-	-	-	-	-	-	
Time Before Reduction *	-	-	-	-	-	-	
Time To Reduce *	-	-	-	-	-	-	
Minimum Gap	-	-	-	-	-	-	
Locking Detector	-	X	-	-	X	-	
Recall Position	-	VEH. RECALL	-	-	VEH. RECALL	-	
Dual Entry	-	-	X	-	-	X	
Simultaneous Gap	X	X	X	X	X	X	

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



This plan supersedes plan sealed on 9/9/2021

New Installation

Prepared in the Offices of:

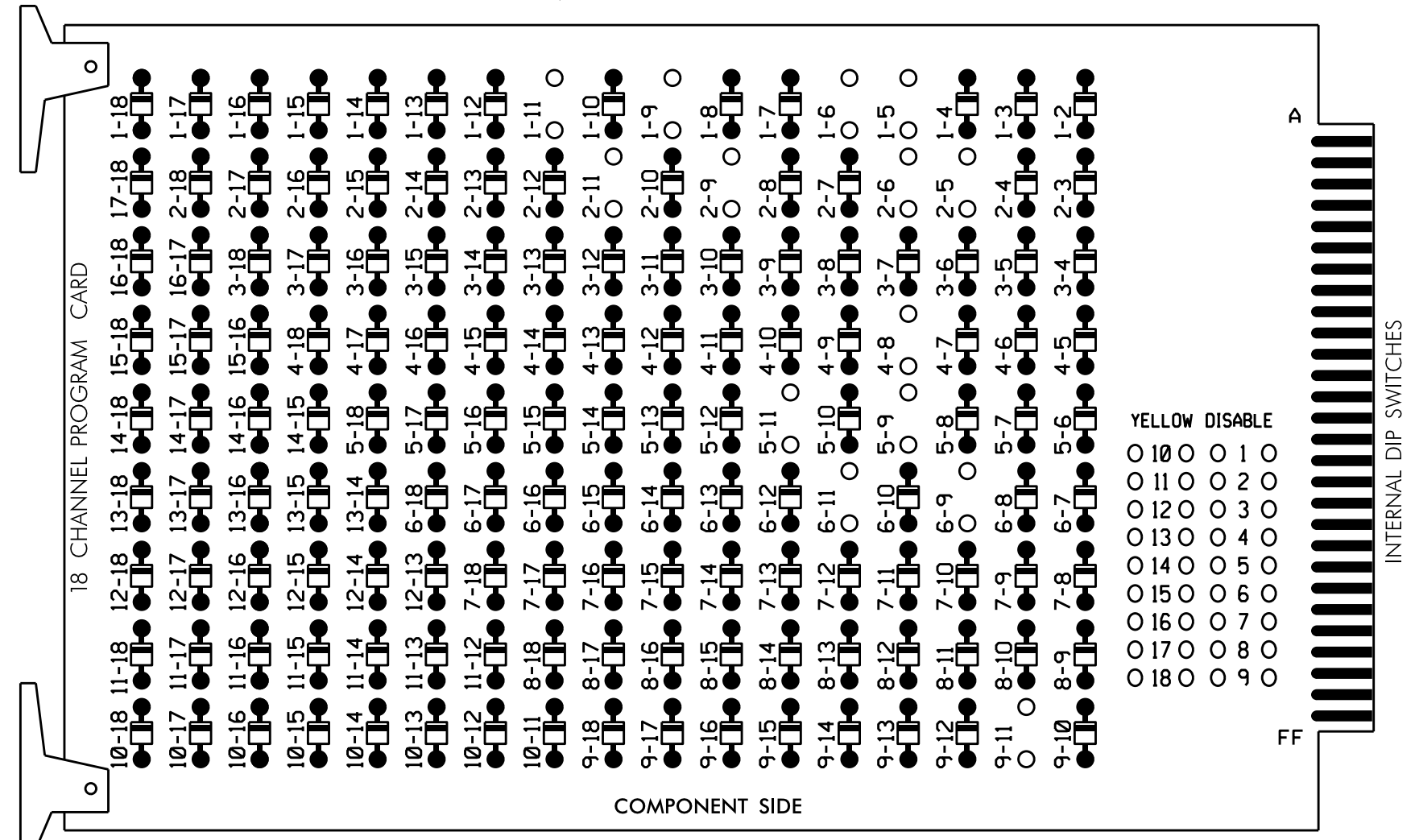
SR 1600 McArthur Road at Lake Stone Place / Walker Street
 Division 6 Cumberland County Fayetteville
 PLAN DATE: January 2022 REVIEWED BY: MEL
 PREPARED BY: Jeff Spence REVIEWED BY:
 SCALE: 1" = 40'
 REVISIONS: [Table with columns for REVISIONS, INIT., DATE]
 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

 DATE: 03/04/2022
 SIG. INVENTORY NO. 06-1385

EDI MODEL 2018ECLIP-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

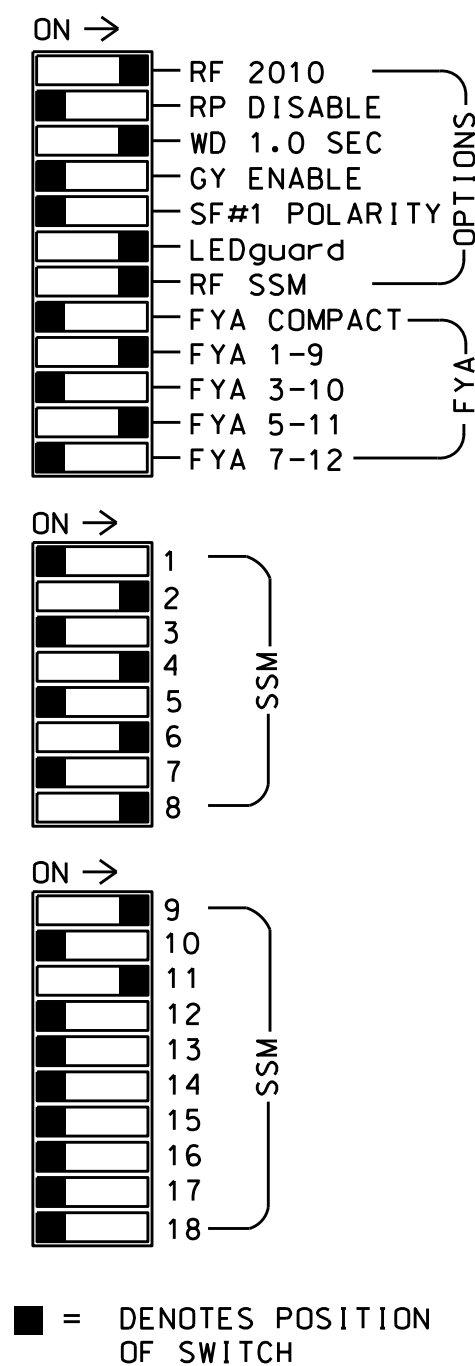
REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-11, 2-5, 2-6, 2-9, 2-11, 4-8, 5-9, 5-11, 6-9, 6-11 and 9-11.



REMOVE JUMPERS AS SHOWN

NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
- Ensure that Red Enable is active at all times during normal operation.
- Integrate monitor with Ethernet network in cabinet.



NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
- Program phases 4 and 8 for Dual Entry.
- Program controller to start up in phase 2 Green and 6 Green.
- The cabinet and controller are part of the Fayetteville Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070
 CABINET.....332 W/AUX
 SOFTWARE.....ECONOLITE ASC/3-2070
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S1,S2,S5,S7,S8,S11,AUX S1,
 AUX S4
 PHASES USED.....1,2,4,5,6,8
 OVERLAP "A".....*
 OVERLAP "B".....NOT USED
 OVERLAP "C".....*
 OVERLAP "D".....NOT USED
 * See overlap programming detail on sheet 2

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11	21,22	NU	NU	41,42	NU	51	61,62	NU	NU	81,82	NU	11	NU	NU	51	NU	NU
RED		128			101			134			107							
YELLOW	*	129			102		*	135			108							
GREEN		130			103			136			109							
RED ARROW													A121				A114	
YELLOW ARROW													A122				A115	
FLASHING YELLOW ARROW													A123				A116	
GREEN ARROW	127							133										

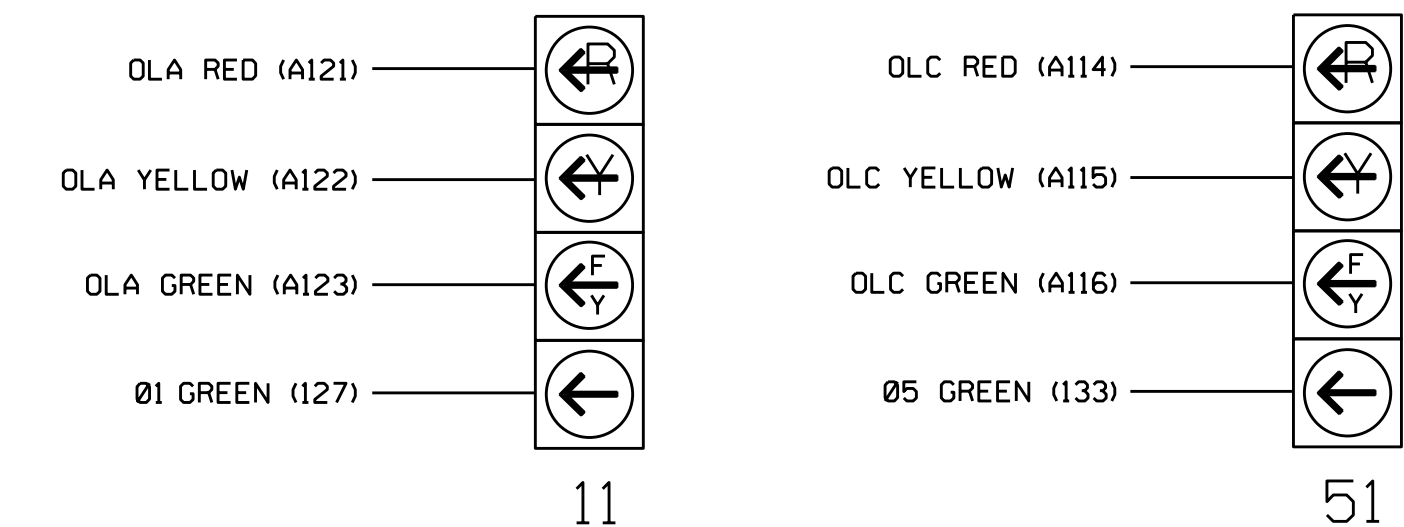
NU = Not Used

* Denotes install load resistor. See load resistor installation detail this sheet.

* See pictorial of head wiring in detail this sheet.

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



INPUT FILE POSITION LAYOUT

(front view)

FILE "I"	1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 7	Ø 8	Ø 9	Ø 10	Ø 11	Ø 12	Ø 13	FS
L	1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	DC ISOLATOR
U	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	ST
L	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR

EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
 ST = STOP TIME

⊗ Wired Input - Do not populate slot with detector card

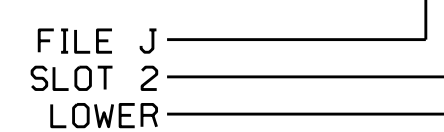
INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND TIME	DELAY TIME	ADDED INITIAL	DETECTOR TYPE
1A ¹	TB2-1,2	I1U	56	1	1	YES		15		N
	-	J4U	48	26	6	YES				N
2A	TB2-5,6	I2U	39	2	2	YES				N
4A	TB4-9,10	I6U	41	4	4	YES		5		N
5A ²	TB3-1,2	J1U	55	5	5	YES		15		N
	-	I4U	47	22	2	YES				N
6A	TB3-5,6	J2U	40	6	6	YES				N
8A	TB5-9,10	J6U	42	8	8	YES		5		N

¹Add jumper from I1-W to J4-W, on rear of input file.

²Add jumper from J1-W to I4-W, on rear of input file.

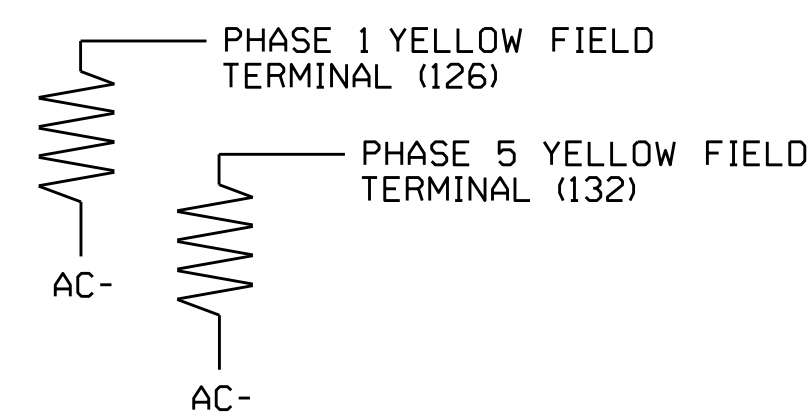
INPUT FILE POSITION LEGEND: J2L



LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

ACCEPTABLE VALUES	WATTAGE
VALUE (ohms)	
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



This Plan Supersedes Electrical Detail Sealed on 9/15/2021

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1385
 DESIGNED: January 2022
 SEALED: 3/4/2022
 REVISED: N/A

Electrical Detail - Sheet 1 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared In the Offices of: 750 N. Greenfield Pkwy, Garner, NC 27529	SR 1600 McArthur Road at Lake Stone Place / Walker Street Fayetteville		SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031001 D. Todd Joyce 03/09/2022
	Division 6 PLAN DATE: March 2022 PREPARED BY: Zarrar Zafar	Cumberland County REVIEWED BY: REVIEWED BY:	

08-MAR-2022 14:31
 S:\MITSUBISHI\SIGNAL\work\housings\g_martinez\for\plans\061385_supersede_11\061385_sm.e_20210915.dgn
 zzzfor

ECONOLITE ASC/3-2070 OVERLAP PROGRAMMING DETAIL

(program controller as shown)

1. From Main Menu select 2. CONTROLLER
2. From CONTROLLER Submenu select 2. VEHICLE OVERLAPS

OVERLAP A

Select TMG VEH OVLP [A] and 'PPLT FYA'

```

TMG VEH OVLP...[A] TYPE: ....PPLT FYA
PROTECTED LEFT TURN.... PHASE 1
OPPOSING THROUGH..... PHASE 2

FLASHING ARROW OUTPUT.....CH9 ISOLATE
DELAY START OF: FYA..0.0 CLEARANCE..0.0
ACTION PLAN SF BIT DISABLE..... 0
        
```

↓ Toggle Twice

OVERLAP C

Select TMG VEH OVLP [C] and 'PPLT FYA'

```

TMG VEH OVLP...[C] TYPE: ....PPLT FYA
PROTECTED LEFT TURN.... PHASE 5
OPPOSING THROUGH..... PHASE 6

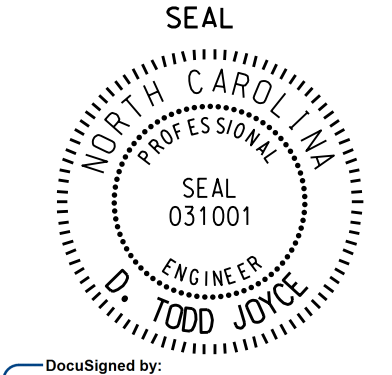


FLASHING ARROW OUTPUT.....CH11 ISOLATE
DELAY START OF: FYA..0.0 CLEARANCE..0.0
ACTION PLAN SF BIT DISABLE..... 0
        
```

END PROGRAMMING

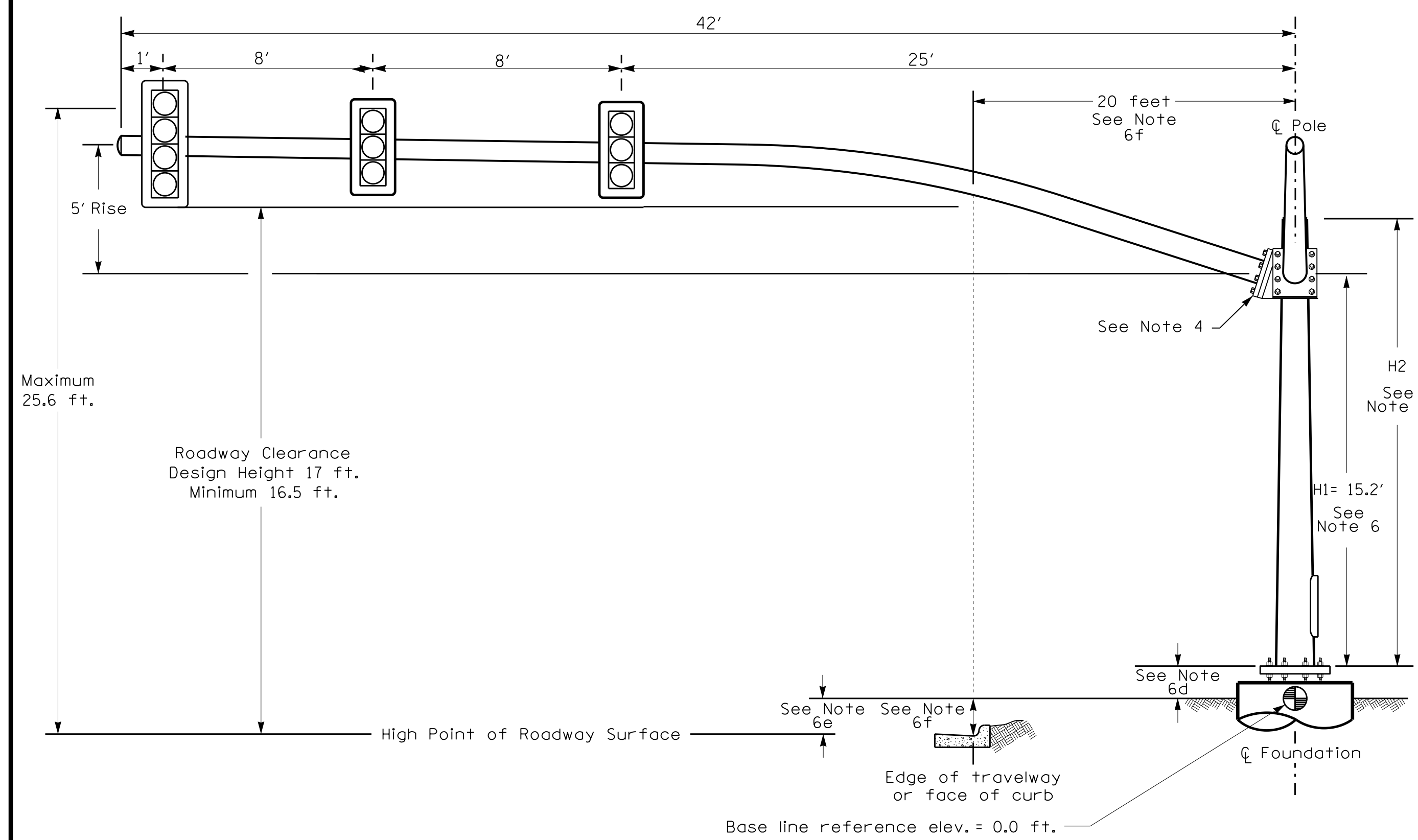
This Plan Supersedes Electrical
Detail Sealed on 9/15/2021

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1385
DESIGNED: January 2022
SEALED: 3/4/2022
REVISED: N/A

08-1485-2022 14:32
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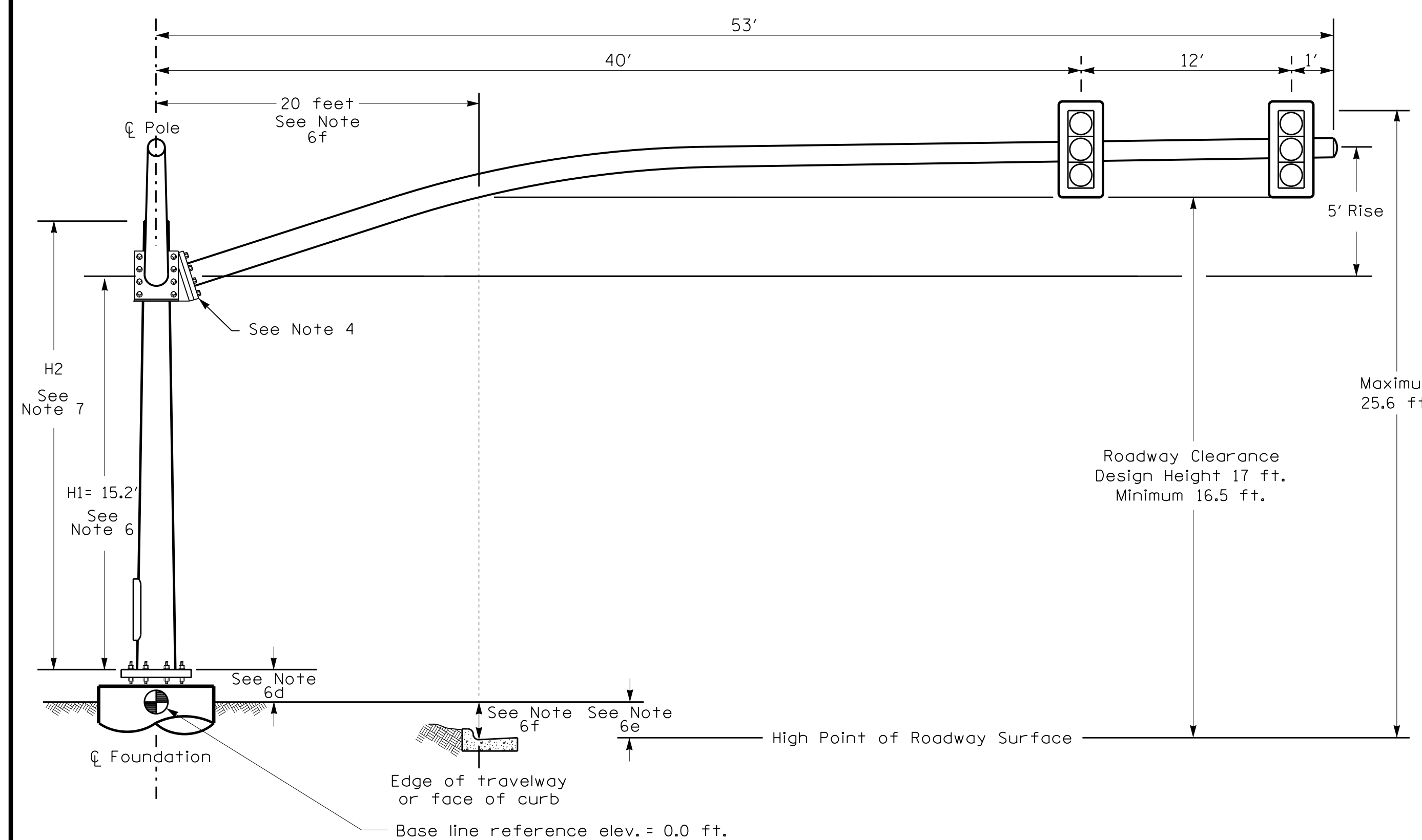
Electrical Detail - Sheet 2 of 2		DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED										
ELECTRICAL AND PROGRAMMING DETAILS FOR:	SR 1600 McArthur Road at Lake Stone Place / Walker Street Division 6 Cumberland County Fayetteville	SEAL 										
 Prepared In the Offices of: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION Mobility and Safety Division Signal Management Section 750 N. Greenfield Pkwy, Garner, NC 27529	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>PLAN DATE: March 2022</td> <td>REVIEWED BY:</td> </tr> <tr> <td>PREPARED BY: Zarrar Zafar</td> <td>REVIEWED BY:</td> </tr> <tr> <td>REVISIONS</td> <td>INIT. DATE</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	PLAN DATE: March 2022	REVIEWED BY:	PREPARED BY: Zarrar Zafar	REVIEWED BY:	REVISIONS	INIT. DATE					DocuSigned by:  03/09/2022 SEAL SIG. INVENTORY NO. 06-1385
PLAN DATE: March 2022	REVIEWED BY:											
PREPARED BY: Zarrar Zafar	REVIEWED BY:											
REVISIONS	INIT. DATE											

Design Loading for METAL POLE NO. 1, MAST ARM A



Elevation View @ 270°

Design Loading for METAL POLE NO. 1, MAST ARM B



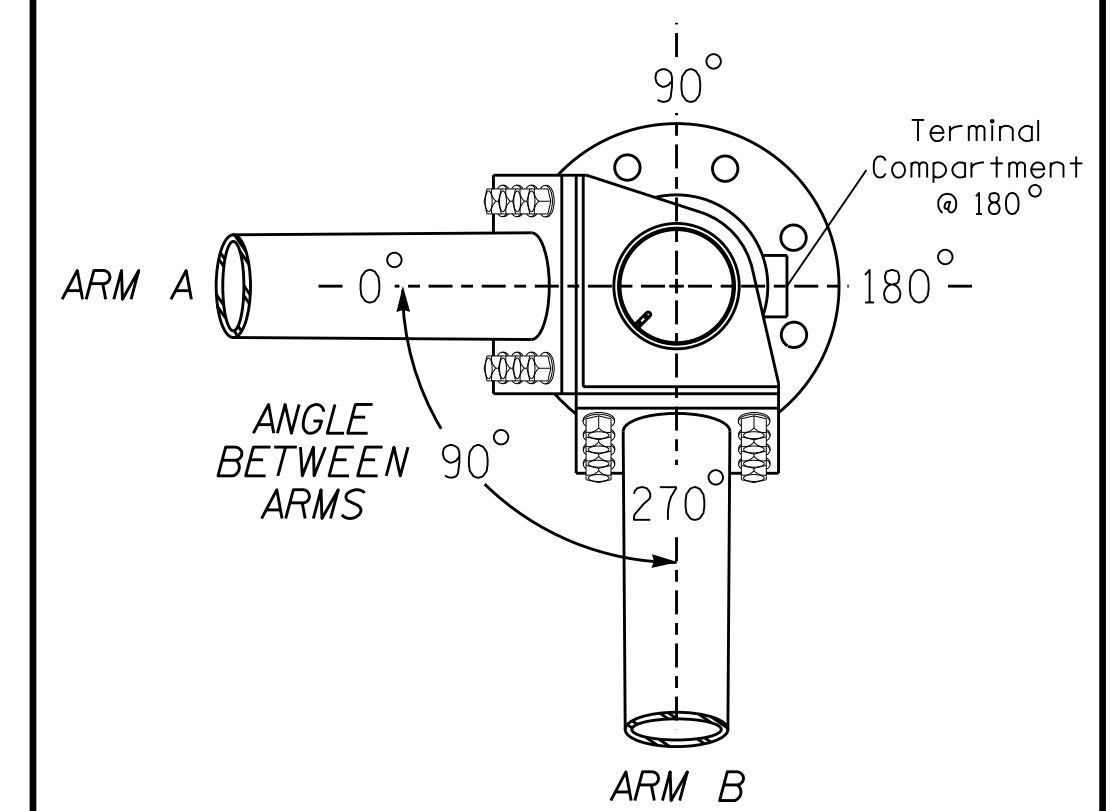
Elevation View @ 0°

SPECIAL NOTE

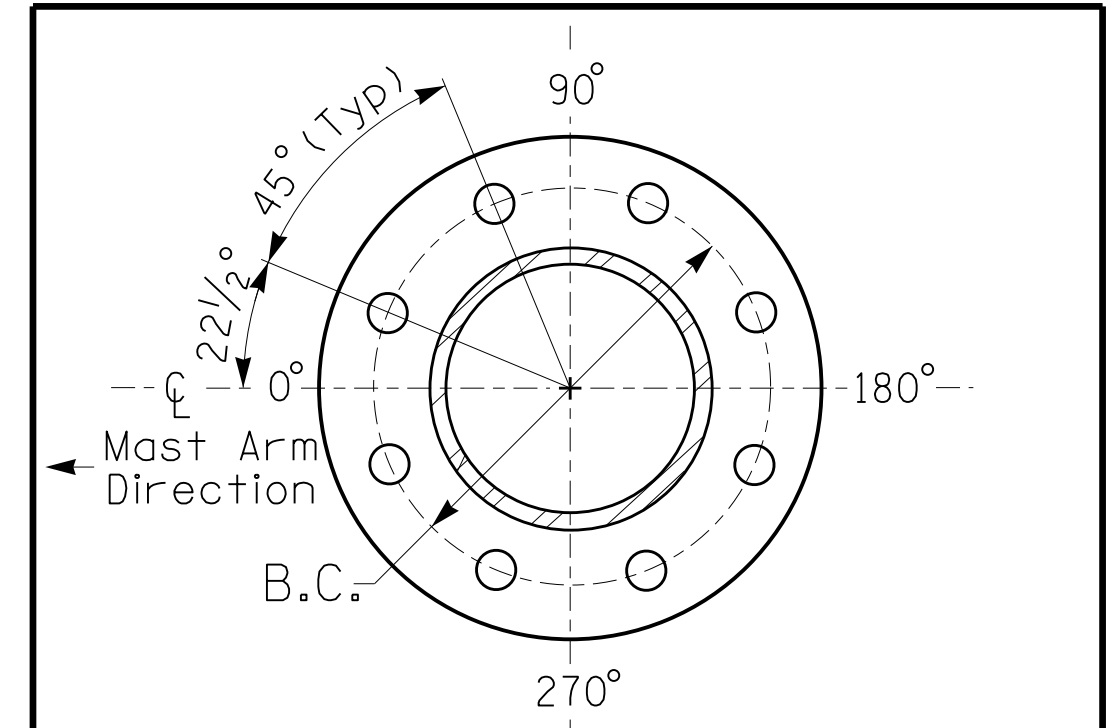
The contractor is responsible for verifying that the mast arm attachment height (H1) will provide the "Design Height" clearance from the roadway before submitting final shop drawings for approval. Verify elevation data below which was obtained by field measurement or from available project survey data.

Elevation Data for Mast Arm Attachment (H1)

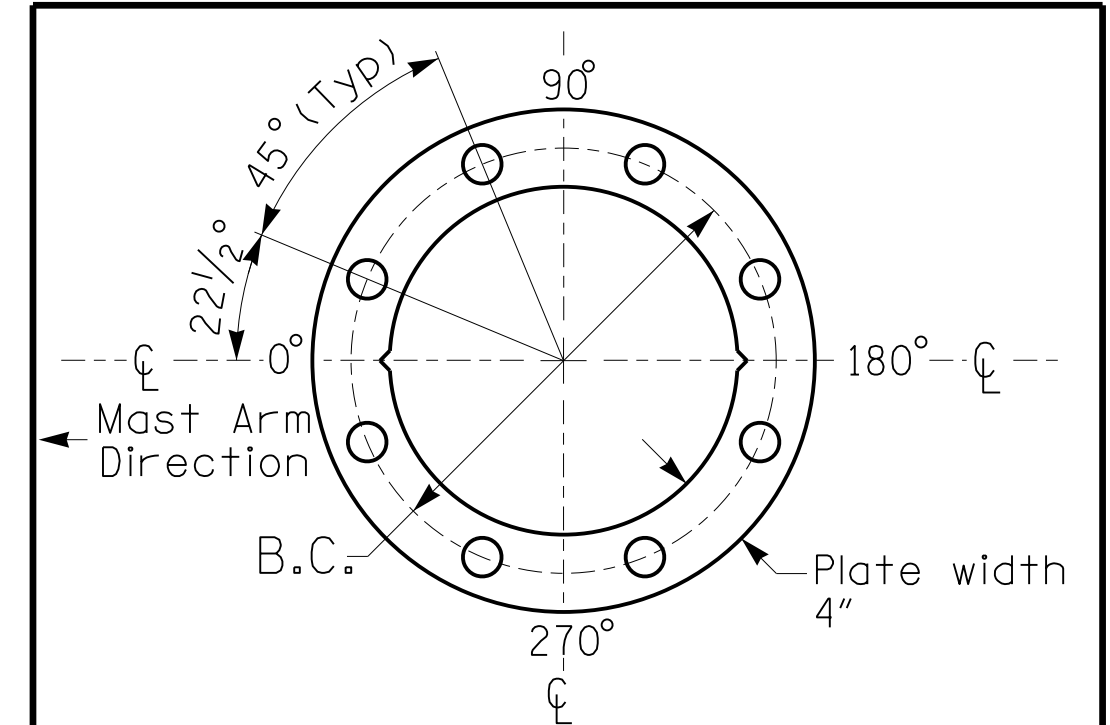
Elevation Differences for:	Arm A	Arm B
Baseline reference point at ϕ Foundation @ ground level	0.0 ft.	0.0 ft.
Elevation difference at High point of roadway surface	+1.2 ft.	+0.9 ft.
Elevation difference at Edge of travelway or face of curb	+/-0.0 ft.	+/-0.0 ft.



POLE RADIAL ORIENTATION



8 BOLT BASE PLATE DETAIL



BASE PLATE TEMPLATE & ANCHOR BOLT LOCK PLATE DETAIL For 8 Bolt Base Plate

MAST ARM LOADING SCHEDULE

LOADING SYMBOL	DESCRIPTION	AREA	SIZE	WEIGHT
	RIGID MOUNTED SIGNAL HEAD 12"-4 SECTION-WITH BACKPLATE	11.5 S.F.	25.5" W X 66.0" L	74 LBS
	RIGID MOUNTED SIGNAL HEAD 12"-3 SECTION-WITH BACKPLATE	9.3 S.F.	25.5" W X 52.5" L	60 LBS

NOTES

DESIGN REFERENCE MATERIAL

- Design the traffic signal structure and foundation in accordance with:
 - The 6th Edition 2013 AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, including all of the latest interim revisions.
 - The 2018 NCDOT "Standard Specifications for Roads and Structures." The latest addenda to the specifications can be found in the traffic signal project special provisions.
 - The 2018 NCDOT Roadway Standard Drawings.
 - The traffic signal project plans and special provisions.
 - The NCDOT "Metal Pole Standards" located at the following NCDOT website: <https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx>

DESIGN REQUIREMENTS

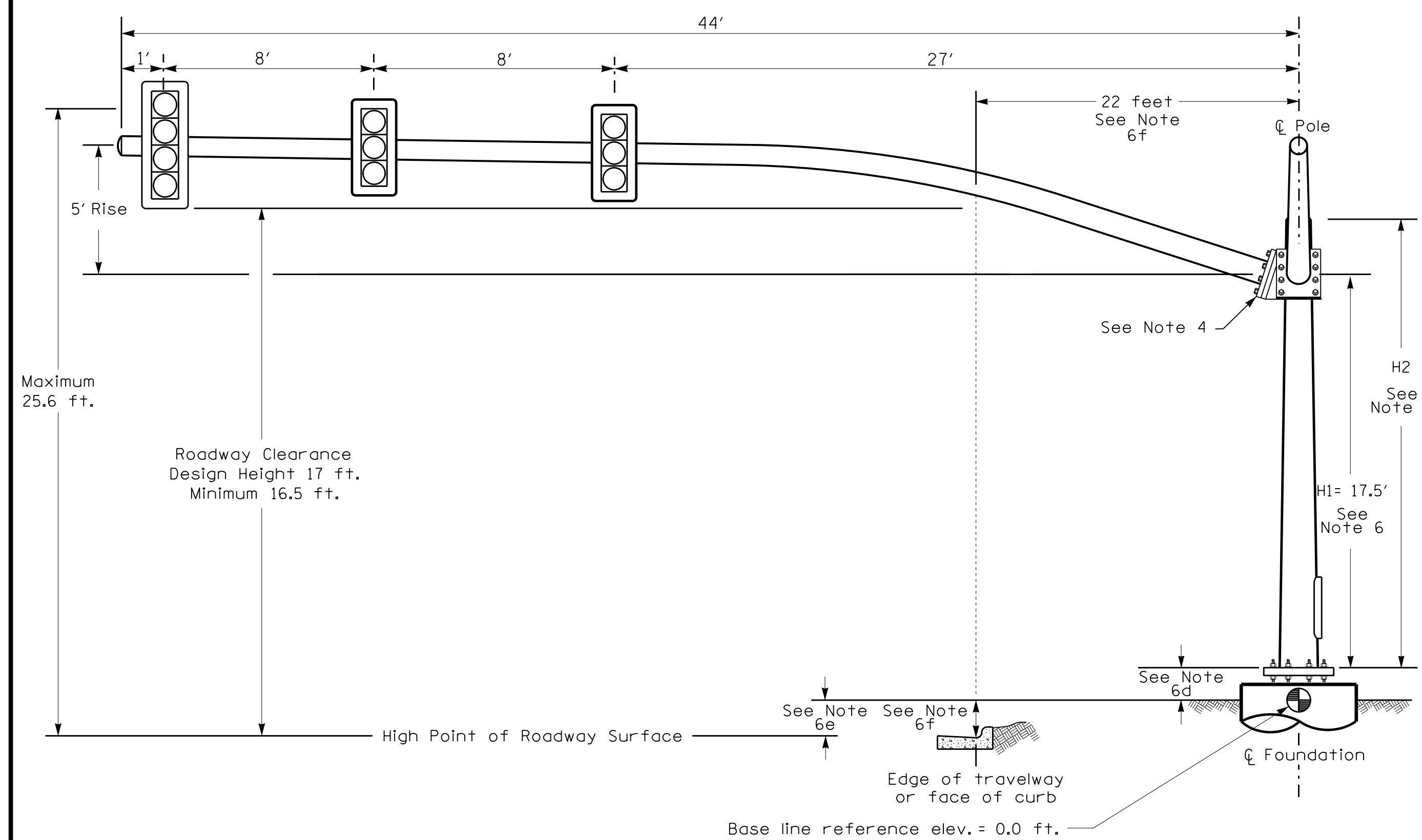
- Design the traffic signal structure using the loading conditions shown in the elevation views. These are anticipated worst case "design loads" and may not represent the actual loads that will be applied at the time of the installation. The contractor should refer to the traffic signal plans for the actual loads that will be applied at the time of the installation.
- Design all signal supports using stress ratios that do not exceed 0.9.
- A clamp-type bolted mast arm-to-pole connection may be used instead of the welded ring stiffened box connection shown as long as the connection meets all of the design requirements. This requires staggering the connections. Use elevation data for each arm to determine appropriate connection points.
- Design base plate with 8 anchor bolt holes. Provide 2 inch x 60 inch anchor bolts.
- The mast arm attachment height (H1) shown is based on the following design assumptions:
 - Nominal vertical rise in mast arm is 5 feet as measured from the centerline of the arm base to the centerline of the free end of the arm.
 - Signal heads are rigidly mounted and vertically centered on the mast arm.
 - The roadway clearance height for design is as shown in the elevation views.
 - The top of the pole base plate is 0.75 feet above the ground elevation.
 - Refer to the Elevation Data Chart for the elevation differences between the proposed foundation ground level and the high point of the roadway.
 - Provide horizontal distance from the proposed centerline of the foundation to the edge of travelway. Refer to the Elevation Data Chart for elevation difference between the proposed foundation ground level and the edge of travelway. This information is necessary to ensure that the roadway clearance is maintained at the edge of the travelway and to aid in the camber design of the arm.
- The pole manufacturer will determine the total height (H2) of each pole using the greater of the following:
 - Mast arm attachment height (H1) plus 2 feet, or
 - H1 plus 1/2 of the total height of the mast arm attachment assembly plus 1 foot.
- If pole location adjustments are required, the contractor must gain approval from the Engineer as this may affect the mast arm lengths and arm attachment heights. The contractor may contact the Signal Design Section Senior Structural Engineer for assistance at (919) 814-5000.
- The contractor is responsible for verifying that the mast arm length shown will allow proper positioning of the signal heads over the roadway.
- The contractor is responsible for providing soil penetration testing data (SPT) to the pole manufacturer so site specific foundations can be designed.

NCDOT Wind Zone 3 (110 mph)

<p>Prepared In the Offices of: TRANSPORTATION MOBILITY AND SAFETY DIVISION SIGNAL DESIGN SECTION 750 N. Greenfield Pkwy, Garner, NC 27529</p>	<p>SR 1600 (McArthur Road) at Lake Stone Place / Walker Street</p>		<p>SEAL MICHAEL E. LEBLANC ENGINEER 042608</p>
	<p>Division 6 Cumberland County Fayetteville</p> <p>PLAN DATE: January 2022 REVIEWED BY: MEL</p> <p>PREPARED BY: Jeff Spence REVIEWED BY:</p>		
<p>SCALE 0 N/A N/A</p>	<p>REVISIONS</p>	<p>INIT. DATE</p>	<p>DocuSigned by: Miguel E. Leblanc 04/26/2022 DATE</p>
<p>SIG. INVENTORY NO. 06-1385</p>			

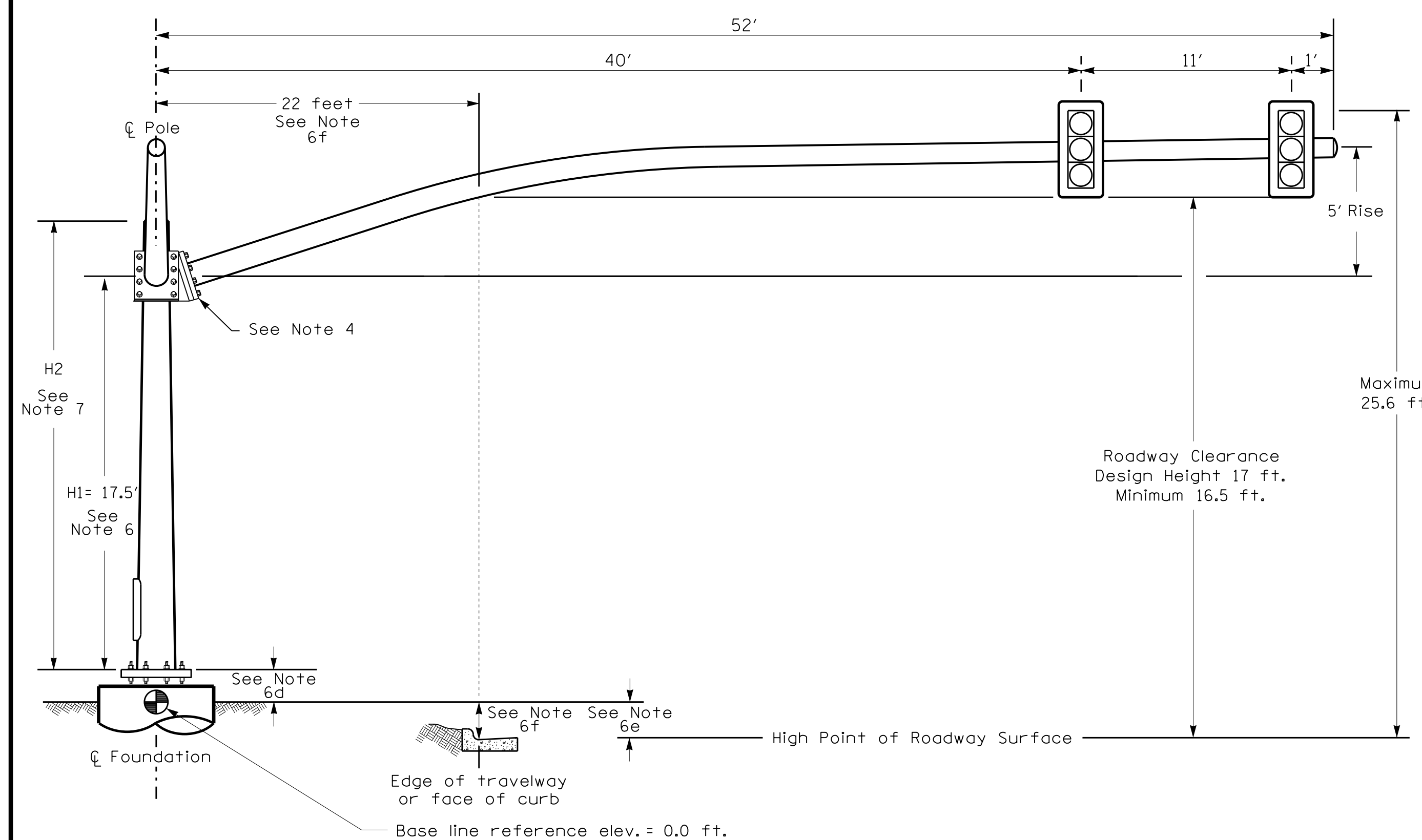
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Design Loading for METAL POLE NO. 2, MAST ARM A



Elevation View @ 270°

Design Loading for METAL POLE NO. 2, MAST ARM B



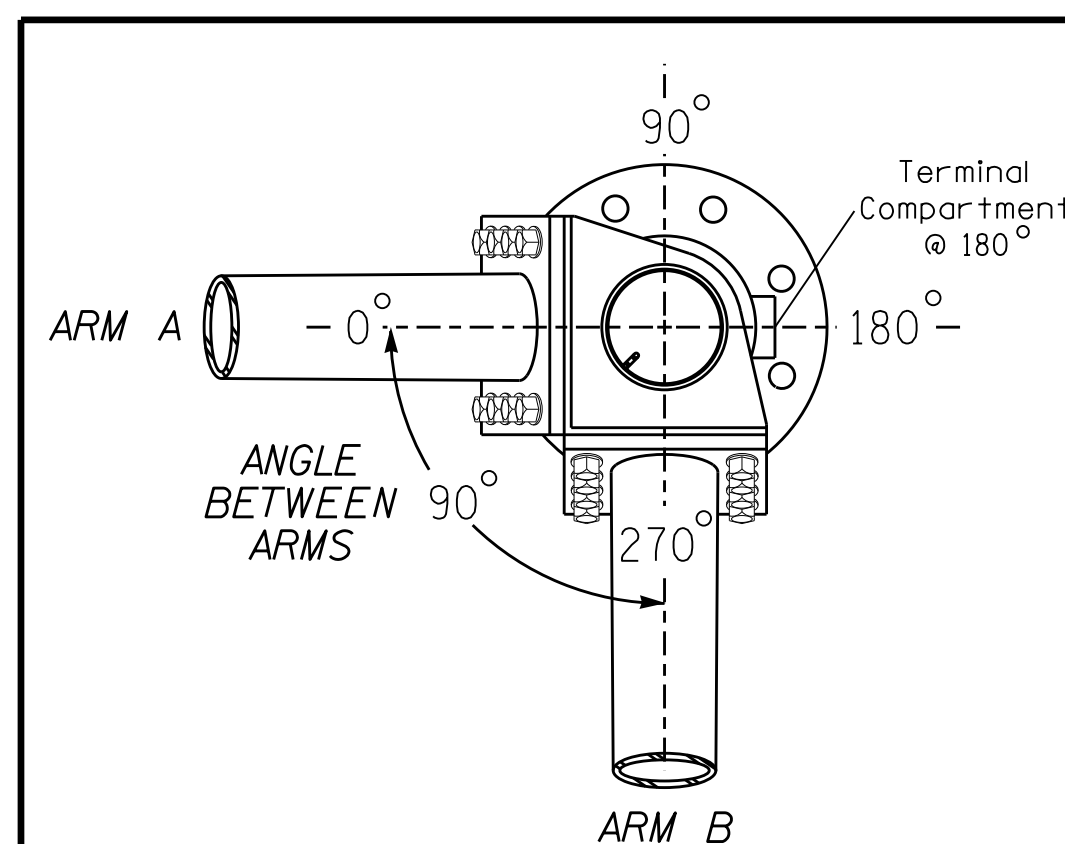
Elevation View @ 0°

SPECIAL NOTE

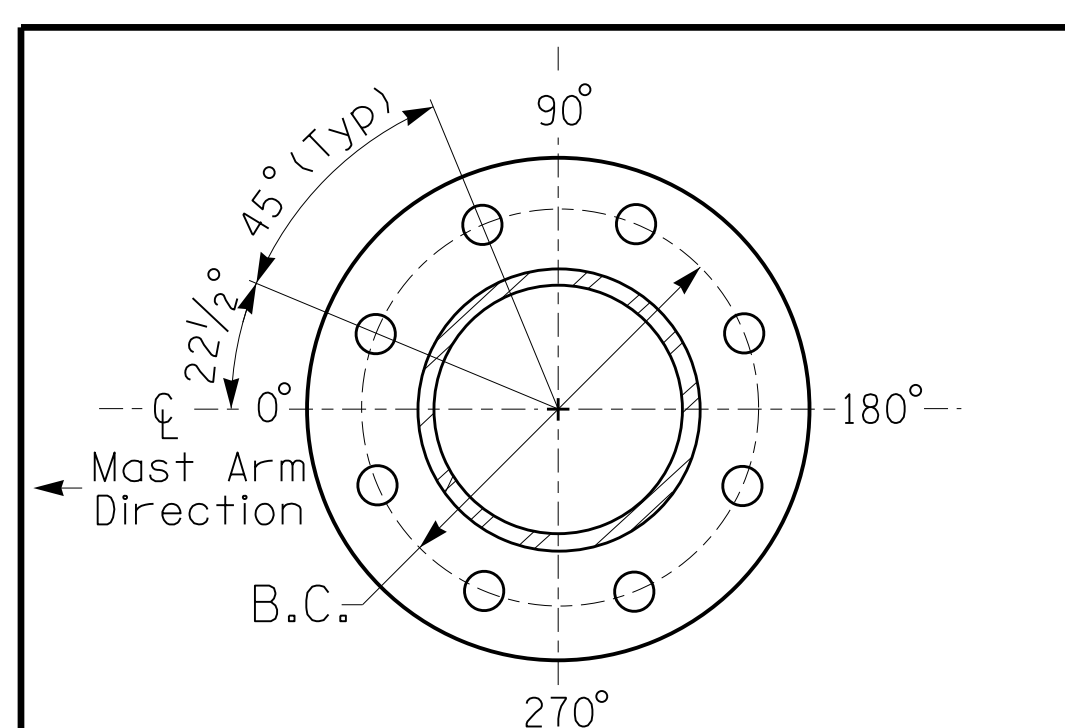
The contractor is responsible for verifying that the mast arm attachment height (H1) will provide the "Design Height" clearance from the roadway before submitting final shop drawings for approval. Verify elevation data below which was obtained by field measurement or from available project survey data.

Elevation Data for Mast Arm Attachment (H1)

Elevation Differences for:	Arm A	Arm B
Baseline reference point at ϕ Foundation @ ground level	0.0 ft.	0.0 ft.
Elevation difference at High point of roadway surface	+3.5 ft.	+0.8 ft.
Elevation difference at Edge of travelway or face of curb	+/-0.0 ft.	+/-0.0 ft.

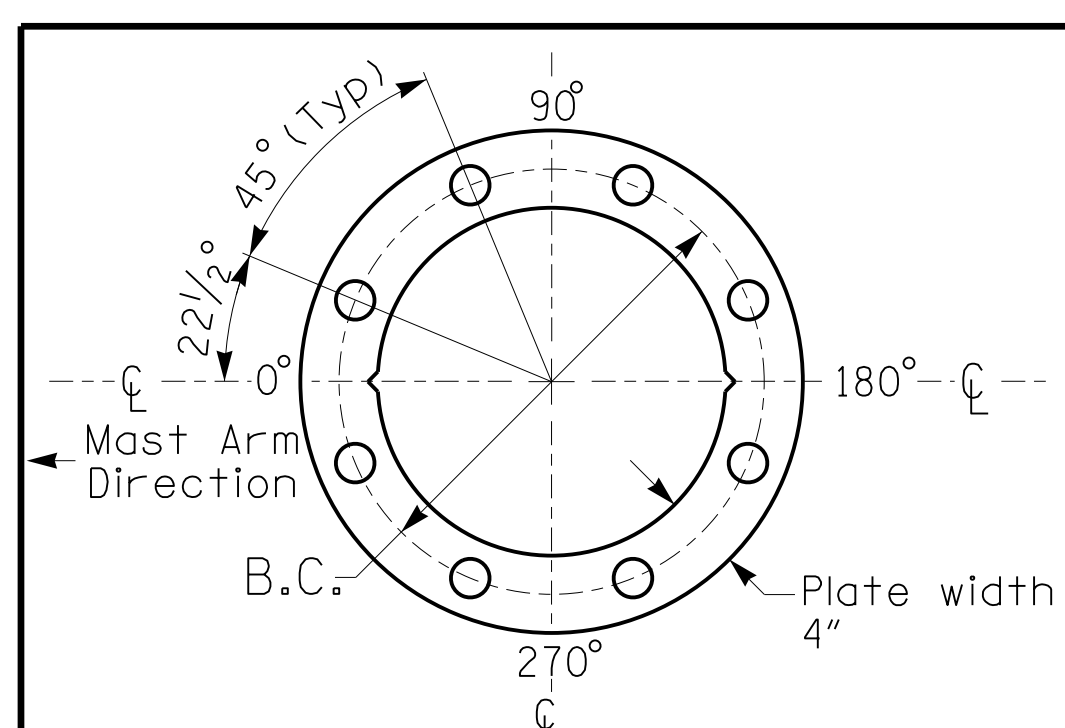


POLE RADIAL ORIENTATION



8 BOLT BASE PLATE DETAIL

See Note 5



BASE PLATE TEMPLATE & ANCHOR BOLT LOCK PLATE DETAIL For 8 Bolt Base Plate

MAST ARM LOADING SCHEDULE

LOADING SYMBOL	DESCRIPTION	AREA	SIZE	WEIGHT
	RIGID MOUNTED SIGNAL HEAD 12"-4 SECTION-WITH BACKPLATE	11.5 S.F.	25.5" W X 66.0" L	74 LBS
	RIGID MOUNTED SIGNAL HEAD 12"-3 SECTION-WITH BACKPLATE	9.3 S.F.	25.5" W X 52.5" L	60 LBS

NOTES

DESIGN REFERENCE MATERIAL

- Design the traffic signal structure and foundation in accordance with:
 - The 6th Edition 2013 AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, including all of the latest interim revisions.
 - The 2018 NCDOT "Standard Specifications for Roads and Structures." The latest addenda to the specifications can be found in the traffic signal project special provisions.
 - The 2018 NCDOT Roadway Standard Drawings.
 - The traffic signal project plans and special provisions.
 - The NCDOT "Metal Pole Standards" located at the following NCDOT website: <https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx>

DESIGN REQUIREMENTS

- Design the traffic signal structure using the loading conditions shown in the elevation views. These are anticipated worst case "design loads" and may not represent the actual loads that will be applied at the time of the installation. The contractor should refer to the traffic signal plans for the actual loads that will be applied at the time of the installation.
- Design all signal supports using stress ratios that do not exceed 0.9.
- A clamp-type bolted mast arm-to-pole connection may be used instead of the welded ring stiffened box connection shown as long as the connection meets all of the design requirements. This requires staggering the connections. Use elevation data for each arm to determine appropriate connection points.
- Design base plate with 8 anchor bolt holes. Provide 2 inch x 60 inch anchor bolts.
- The mast arm attachment height (H1) shown is based on the following design assumptions:
 - Nominal vertical rise in mast arm is 5 feet as measured from the centerline of the arm base to the centerline of the free end of the arm.
 - Signal heads are rigidly mounted and vertically centered on the mast arm.
 - The roadway clearance height for design is as shown in the elevation views.
 - The top of the pole base plate is 0.75 feet above the ground elevation.
 - Refer to the Elevation Data Chart for the elevation differences between the proposed foundation ground level and the high point of the roadway.
 - Provide horizontal distance from the proposed centerline of the foundation to the edge of travelway. Refer to the Elevation Data Chart for elevation difference between the proposed foundation ground level and the edge of travelway. This information is necessary to ensure that the roadway clearance is maintained at the edge of the travelway and to aid in the camber design of the arm.
- The pole manufacturer will determine the total height (H2) of each pole using the greater of the following:
 - Mast arm attachment height (H1) plus 2 feet, or
 - H1 plus 1/2 of the total height of the mast arm attachment assembly plus 1 foot.
- If pole location adjustments are required, the contractor must gain approval from the Engineer as this may affect the mast arm lengths and arm attachment heights. The contractor may contact the Signal Design Section Senior Structural Engineer for assistance at (919) 814-5000.
- The contractor is responsible for verifying that the mast arm length shown will allow proper positioning of the signal heads over the roadway.
- The contractor is responsible for providing soil penetration testing data (SPT) to the pole manufacturer so site specific foundations can be designed.

NCDOT Wind Zone 3 (110mph)

<p>750 N. Greenfield Pkwy, Garner, NC 27529</p>	<p>SR 1600 (McArthur Road) at Lake Stone Place / Walker Street</p>		<p>SEAL</p>			
	<p>Division 6 Cumberland County Fayetteville</p> <p>PLAN DATE: January 2022 REVIEWED BY: MEL</p> <p>PREPARED BY: Jeff Spence REVIEWED BY:</p>	<p>REVISIONS</p> <table border="1"> <tr> <th>INIT.</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> </tr> </table>		INIT.	DATE	
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- 1 INSTALL COAX CABLE
- 2 INSTALL ETHERNET CABLE
- 3 EXISTING ETHERNET (OR COAX) CABLE
- 4 INSTALL SMFO CABLE
- 5 EXISTING SMFO CABLE
- 6 INSTALL FIBER OPTIC DROP CABLE
- 7 INSTALL TRACER WIRE
- 8 TRENCH
- 9 INSTALL PVC CONDUIT
- 10 INSTALL RIGID, GALVANIZED STEEL CONDUIT
- 11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
- 12 INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL
- 13 INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
- 14 INSTALL POLYETHYLENE CONDUIT
- 15 DIRECTIONAL DRILL CONDUIT
- 16 BORE AND JACK CONDUIT
- 17 INSTALL CABLE(S) IN EXISTING CONDUIT
- 18 INSTALL CABLE(S) IN NEW CONDUIT
- 19 INSTALL CABLE(S) IN EXISTING RISER
- 20 INSTALL CABLE(S) IN NEW RISER
- 21 INSTALL CABLE(S) IN EXISTING CONDUIT STUB-OUTS
- 22 INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
- 23 INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
- 24 INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET
- 25 INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET
- 26 INSTALL NEW ETHERNET EDGE SWITCH
- 27 INSTALL NEW FIBER OPTIC TRANSCEIVER
- 28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS AND FUSION SPlice CABLE IN CABINET
- 29 INSTALL UNDERGROUND SPlice ENCLOSURE
- 30 INSTALL AERIAL SPlice ENCLOSURE
- 31 MODIFY EXISTING INTERCONNECT CENTER /SPlice ENCLOSURE
- 32 INSTALL POLE MOUNTED SPlice CABINET
- 33 INSTALL BASE MOUNTED SPlice CABINET

- 34 INSTALL CABINET FOUNDATION
- 35 INSTALL CCTV CAMERA POLE MOUNTED CABINET
- 36 INSTALL CCTV CAMERA ASSEMBLY
- 37 INSTALL CCTV CAMERA WOOD POLE
- 38 INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
- 39 INSTALL JUNCTION BOX
- 40A INSTALL OVERSIZED JUNCTION BOX
- 40B INSTALL SPECIAL OVERSIZED JUNCTION BOX (36" x 24" x 24")
- 41 REMOVE EXISTING JUNCTION BOX
- 42 INSTALL WOOD POLE
- 43 REMOVE EXISTING WOOD POLE
- 44 INSTALL AERIAL GUY ASSEMBLY
- 45 INSTALL STANDARD GUY ASSEMBLY
- 46 INSTALL SIDEWALK GUY ASSEMBLY
- 47 INSTALL MESSENGER CABLE
- 48A REMOVE EXISTING COMMUNICATIONS AND MESSENGER CABLE
- 48B REMOVE EXISTING COMMUNICATIONS CABLE
- 49 BACK PULL EXISTING COMMUNICATIONS CABLE
- 50 INSTALL CELL MODEM AND ANTENNA
- 51 INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
- 52A INSTALL DELINEATOR MARKER
- 52B INSTALL JUNCTION BOX MARKER
- 53A STORE 20 FEET OF COMMUNICATIONS CABLE
- 53B STORE 50 FEET OF EACH COMMUNICATIONS CABLE
- 54 LASH CABLE(S) TO EXISTING COMMUNICATIONS CABLE
- 55 LASH CABLE(S) TO EXISTING MESSENGER CABLE
- 56 LASH CABLE(S) TO NEW MESSENGER CABLE
- 57 MODIFY EXISTING ELECTRICAL SERVICE
- 58 INSTALL NEW ELECTRICAL SERVICE
- 59 INSTALL NEW EQUIPMENT CABINET DISCONNECT
- 60 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
DO NOT BOND TRACER WIRE TO EQUIPMENT GROUND BUS
- 61 BOND RISER AND MESSENGER CABLE TO POLE GROUND
- 62 BOND RISER TO POLE GROUND
- 63 BOND MESSENGER CABLE TO POLE GROUND
- 64 INSTALL HEAT SHRINK TUBING RETROFIT KIT
- 65 INSTALL MOLDABLE DUCT SEAL
- 67 SLACK SPAN

LEGEND

	NEW FIBER OPTIC COMMUNICATIONS CABLE
	EXISTING COMMUNICATIONS CABLE
	EXISTING COMMUNICATIONS CABLE TO BE REMOVED
	NEW AERIAL GUY ASSEMBLY
	NEW CONDUIT
	EXISTING CONDUIT
	NEW DIRECTIONAL DRILLED CONDUIT

NEW		EXISTING
	OVERSIZED JUNCTION BOX	
	WOOD POLE	
	AERIAL SPlice ENCLOSURE	
	UNDERGROUND SPlice ENCLOSURE	
	METAL POLE	
	CCTV ASSEMBLY	
	STANDARD GUY ASSEMBLY	
	SIDEWALK GUY ASSEMBLY	
	CABLE STORAGE RACKS (SNOW SHOES)	
	SIGNAL/EQUIPMENT CABINET	
	SPlice CABINET	
	FLAT PANEL ANTENNA (SINGLE)	
	YAGI ANTENNA (DOUBLE) FOR REPEATER OPERATION	
	YAGI ANTENNA (SINGLE)	
	OMNI ANTENNA	
	SIGNAL POLE	
	SIGNAL INVENTORY NUMBER	

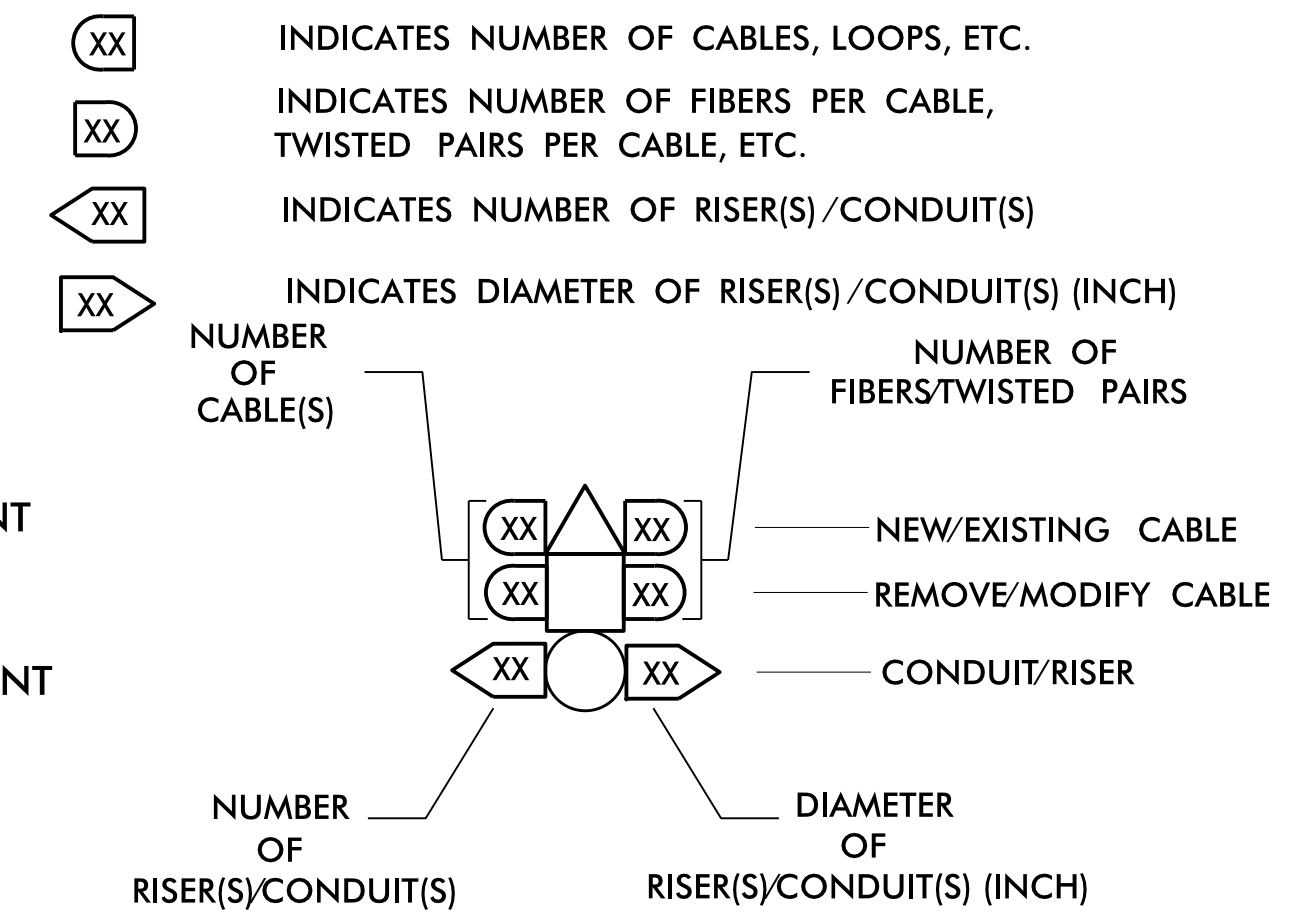
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'SS
YYY DISTANCE ABOVE (IN)/ATTACHMENT POINT REFERENCE POINT

'SS REFERENCE POINT DISTANCE BELOW (IN)/ATTACHMENT POINT

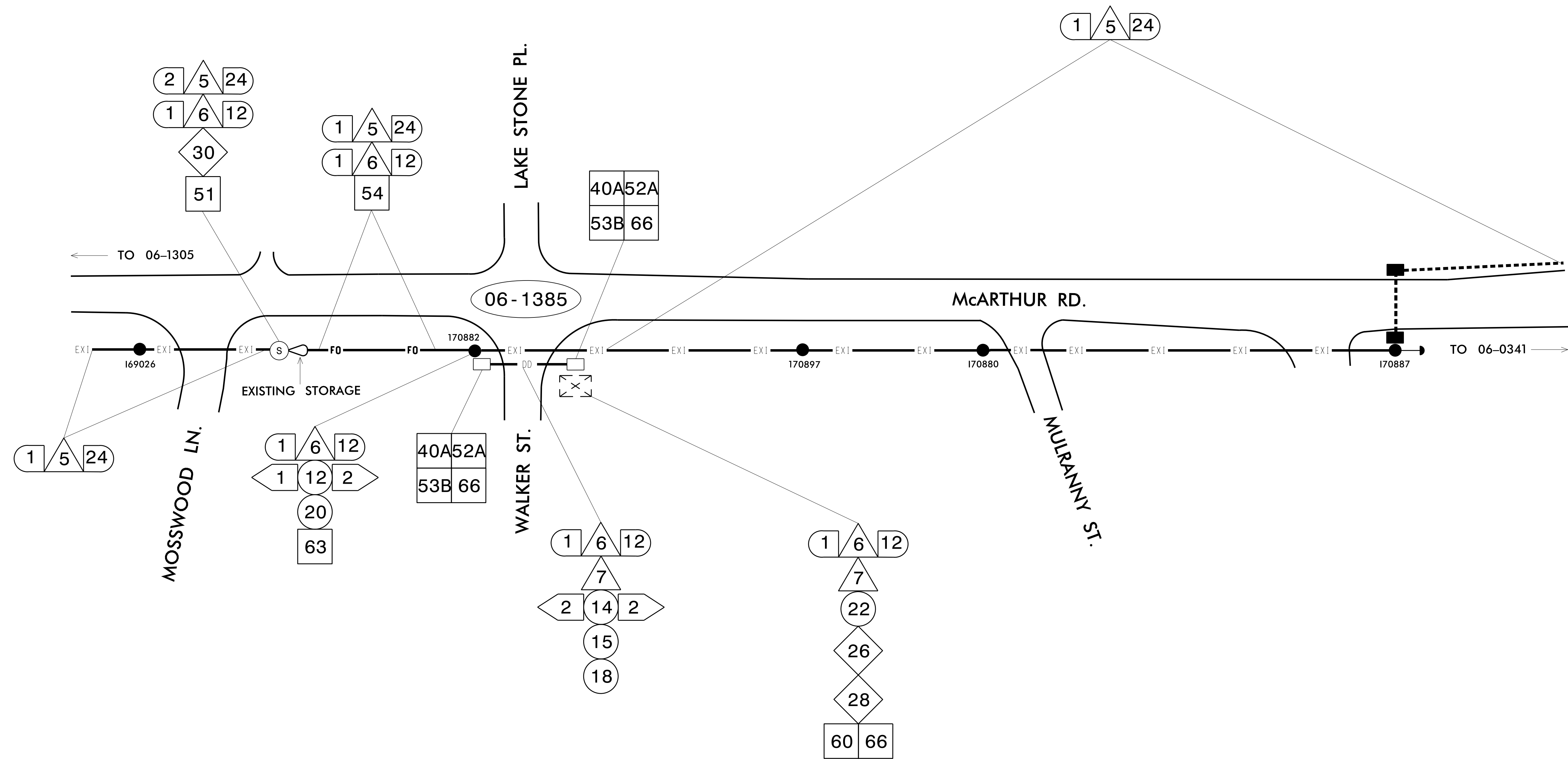
"SS" REFERENCE LOCATION
FS = FRONT SIDE OF POLE
BS = BACK SIDE OF POLE

CONSTRUCTION NOTE SYMBOLOGY KEY



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

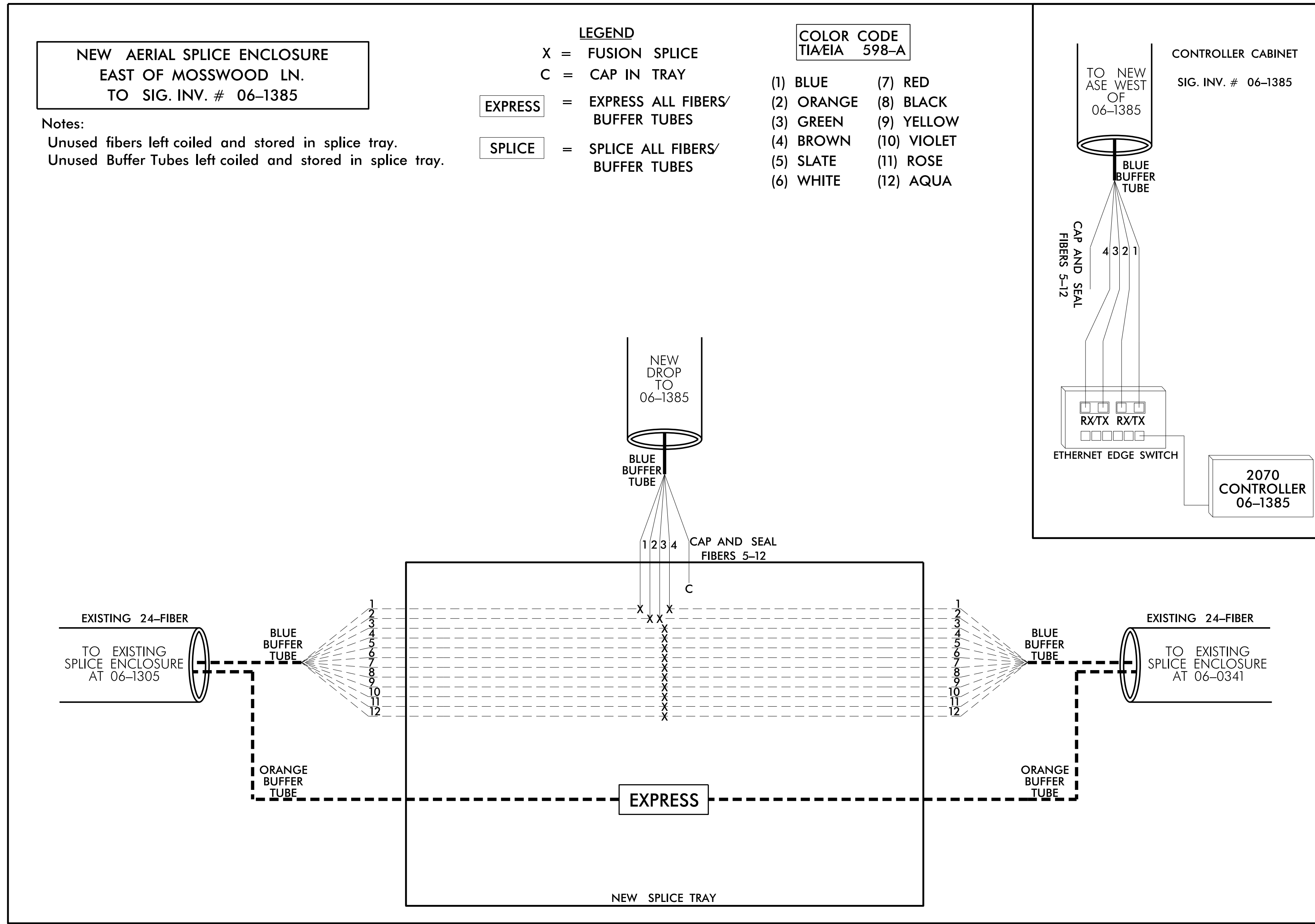
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	DIVISION 6 CUMBERLAND CO. FAYETTEVILLE	PLAN DATE: JULY 2021	
250 N. Greenfield Place, Garner, NC 27529	PREPARED BY: D.J. SONDERFAN	DATE: 8/3/2021	CADD Filename:



- 1) FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE CITY OF FAYETTEVILLE TRAFFIC ENGINEER AT (919) 433-1153 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE CITY TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL
- 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 RESPLICING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPLICE ARRANGEMENT DIFFERS FROM THE SUPPLIED SPLICE DETAILS.

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

	COMMUNICATIONS CABLE AND CONDUIT ROUTING PLANS		
	DIVISION 6 CUMBERLAND CO. FAYETTEVILLE		
750 N. Greenfield Place, Garner, NC 27529	PLAN DATE: JULY 2021	REVIEWED BY: <i>Gray Green</i>	PREPARED BY: D.J. SONDERFAN
SCALE: 0	REVISIONS	INIT. DATE	DocuSigned by: <i>Matthew M. McDaniel</i> 8/3/2021
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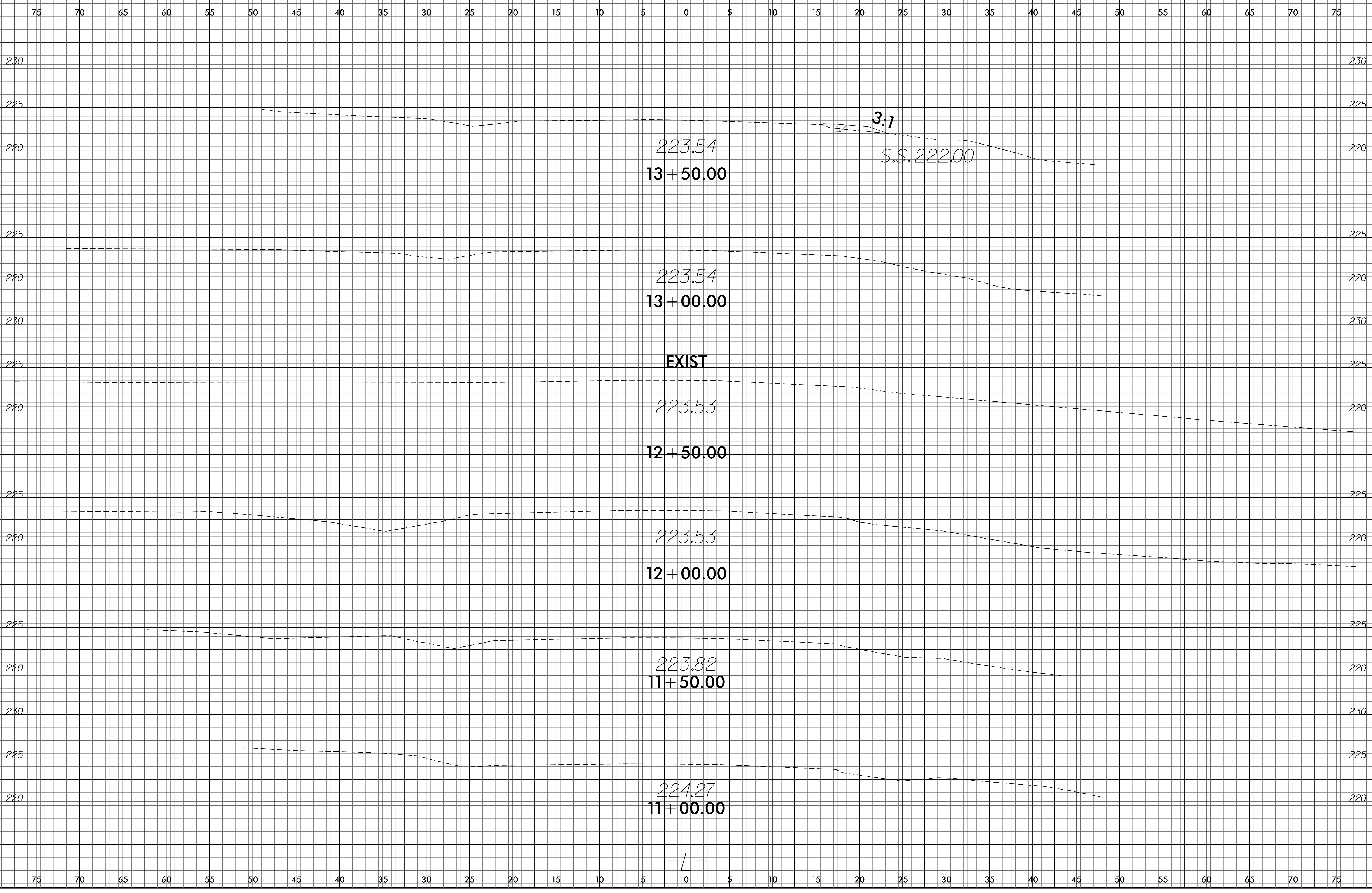


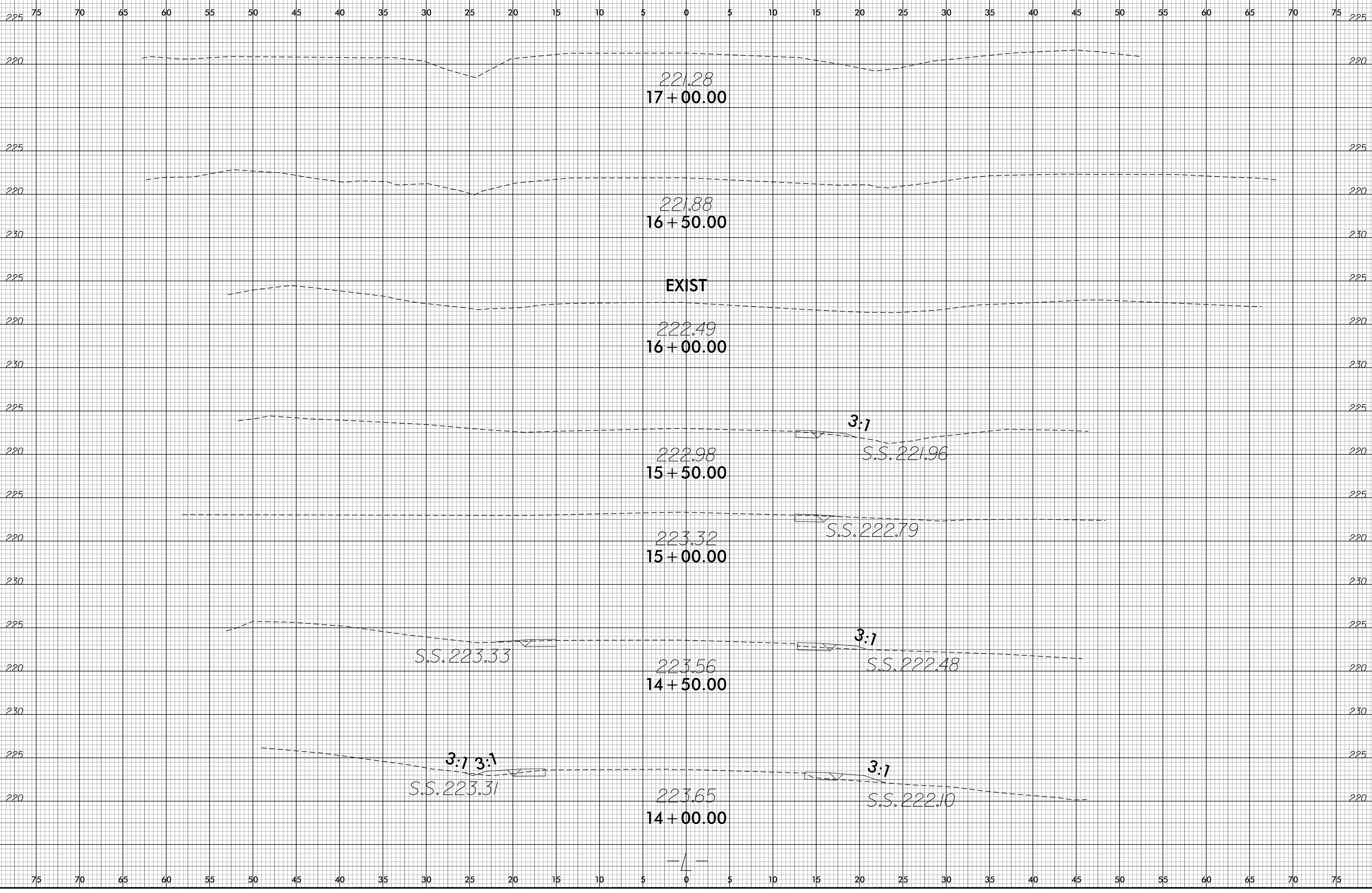
- 1) FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE CITY OF FAYETTEVILLE TRAFFIC ENGINEER AT (919) 433-1153 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE CITY TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL
- 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 RESPLICING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPLICE ARRANGEMENT DIFFERS FROM THE SUPPLIED SPLICE DETAILS.
- 3) ETHERNET SWITCH TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
- 4) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING: REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"
 - 1) SPLICE LOCATION
 - 2) DATE
 - 3) COMPANY NAME
 - 4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

PRIOR TO INSTALLING THE COVER ON THE SPLICE TRAY TAKE A DIGITAL PHOTOGRAPH SHOWING THE SPLICE TRAY AND INFORMATION SHOWN ABOVE (1-4) AND SUBMIT PHOTOGRAPH ALONG WITH OTDR TEST RESULTS.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

	SPLICE DETAIL		
	DIVISION 6 CUMBERLAND CO. FAYETTEVILLE PLAN DATE: JULY 2021 PREPARED BY: D.J. SONDERFAN		
SCALE: 0 N/A		REVISIONS:	CADD Filename:





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