PROJECT: 1-5987B

CT: CXXXXX

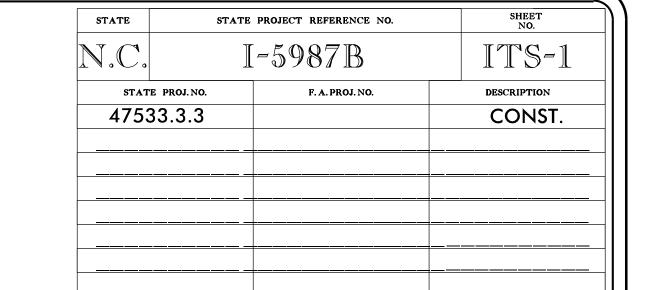
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

ROBESON COUNTY

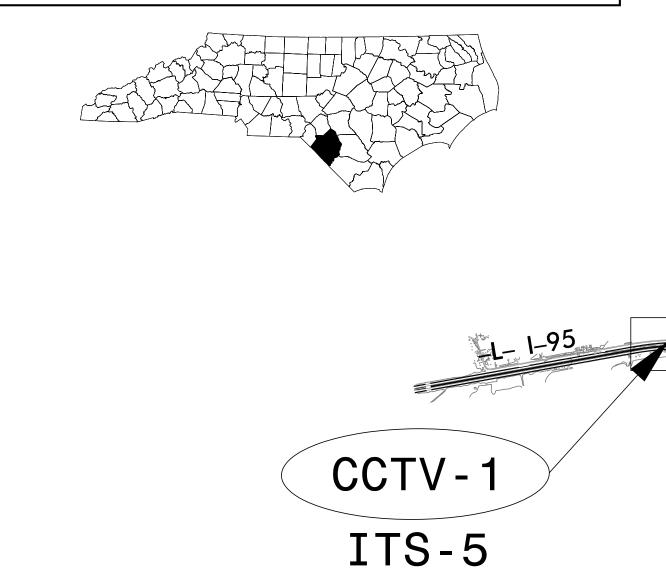
LOCATION: LUMBERTON - I-95 FROM MM 29 TO MM 37

TYPE OF WORK: CCTV CAMERA AND

DYNAMIC MESSAGE SIGN INSTALLATIONS







VICINITY MAP

END PROJECT

301

INTERSTATE 95 TOWN OF ST PAULS

BEGIN PROJECT

N.T.S.

DMS-1

ITS-6

ITS-8

-Y5- NC 20

-L- 1-95

ITS-7

CCTV-2

CUTV-2

T

TTS - 10

-Y6- SR 1726
(McRAINEY RD.)

-L- 1-95

-MS - 3

2018 STANDARD SPECIFICATION

PROJECT LENGTH
PROJECT LENGTH = 8 MILES

LEITING DATE:	
JULY 19, 2022	
	_

INDEX OF SHEETS								
SHEET ITS 1	TITLE SHEET							
SHEET ITS 2	DEVICE LOCATIONS							
SHEET ITS 3-4	CONSTRUCTION NOTES							
SHEET ITS 5–11	CCTV / DMS INSTALLATION							
SHEET ITS 12–14	4DMS CROSS SECTIONS							
SHEET ITS 15	CCTV TYPICAL DETAIL							
SHEET ITS 16	DMS ELECTRICAL SERVICE							
	AND GROUNDING DETAIL							

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" ROADWAY DESIGN 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

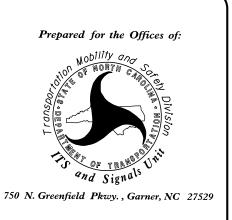
-Y4- SR 1006-

(GREAT MARSH CHURCH RD.)

1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1700.01	ELECTRICAL SERVICE OPTIONS
1700.02	ELECTRICAL SERVICE GROUNDING
1715.01	UNDERGROUND CONDUIT-TRENCHIN
1716.01	JUNCTION BOXES

NCDOT CONTACTS:

Frank D. West, Jr. - Div. 6 Traffic Engineer Janet A. Whetstone-Perez, PE - Regional Traffic Engineer Andrew J. Skuce, PE - ITS Development & Design

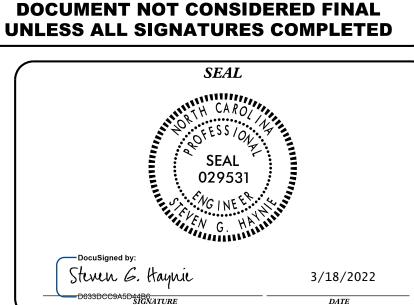


CCTV-4

ITS-9



ALL DIMENSIONS IN THESE
PLANS ARE IN FEET
UNLESS OTHERWISE NOTED



ITS-11

3/II/2022 R:\ITS\Design\Plan Sheets\I5987B_ITS_psh_Ø1 18.86.89 AM DocuSign Envelope ID: CFAF2891-8AF5-4EC3-B06A-DDC5C37BE5A7

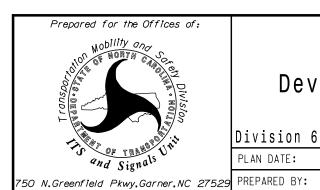
PROJECT REFERENCE NO. SHEET NO. I-5987B ITS-2

LEGEND XXXX-X DEVICE ID NUMBER ROADWAY PROPOSED CCTV DMS PROPOSED DMS

CELLULAR MODEMS

GREAT MARSH CHURCH RD PARKTON TOBEMORY RD NC 20 US 301 McRAINEY RD $\widehat{\widehat{\mathbb{S}}}$ DMS CCTV-1 CCTV-3 DMS-2 I-95 I-95 I-95 I-95 S DMS CCTV-2 CCTV-4 DMS-3 DMS-1 GREAT MARSH CHURCH RD PARKTON NC 20 US 301 McRAINEY RD

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



Device Location Schematic

Division 6 Robeson County Lumberton PLAN DATE: March 2022 REVIEWED BY: S.G. Haynie O. Drobny J. S. Cole REVIEWED BY: INIT. DATE REVISIONS

Steven G. Haynic 3/18/2022 CADD Filename:

029531

NONE

TOBEMORY RD

8521 SIX FORKS ROAD, SUITE 400 RALEIGH, NC 27615 (919) 926-4100

JECT REFERENCE NO.	SHEET NO.
I-5987B	ITS-3

						1-59878 118-3
	1	INSTALL 3-WIRE COPPER SERVICE ENTRANCE CONDUCTORS	26>	TERMINATE FIBER-OPTIC CABLE ON INTERCONNECT CENTER IN CCTV EQUIPMENT CABINET	51	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
	2	INSTALL 4-WIRE COPPER FEEDER CONDUCTORS	27>	INSTALL NEW ETHERNET EDGE SWITCH IN CABINET	52	INSTALL DELINEATOR MARKERS
	3	INSTALL 3-WIRE COPPER FEEDER CONDUCTORS	28>	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	53	STORE 30 FEET OF COMMUNICATIONS CABLE (EACH CABLE), EXCEPT AS NOTED ON PLANS
	4	INSTALL SMFO CABLE	29>	INSTALL UNDERGROUND SPLICE ENCLOSURE	54	REMOVE EXISTING CABINET
	5	INSTALL CAT 5e CCTV CABLE	30>	INSTALL AERIAL SPLICE ENCLOSURE	55	LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE
	6	INSTALL FIBER OPTIC DROP CABLE	31	INSTALL SPLICE CABINET	56	LASH CABLES TO NEW MESSENGER CABLE
	7	INSTALL TRACER WIRE	32	MODIFY EXISTING SPLICE ENCLOSURE OR INTERCONNECT CENTER	57	MODIFY EXISTING ELECTRICAL SERVICE
	8	TRENCH	33	REMOVE EXISTING SPLICE CABINET	58	INSTALL NEW ELECTRICAL SERVICE
	9	INSTALL PVC CONDUIT	34	INSTALL CABINET FOUNDATION	59	BOND TRACER WIRE TO EQUIPMENT GROUND BUS ON ONE END
	10	INSTALL RIGID, GALVANIZED STEEL CONDUIT	35	REMOVE EXISTING CABINET FOUNDATION	60	BOND MESSENGER TO POLE GROUND
	11	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	36	INSTALL CCTV CAMERA ASSEMBLY	61	BOND RISER TO POLE GROUND
	12	INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT SHRINK TUBING	37	ITS EQUIPMENT REMOVAL (DMS)	62	INSTALL DMS, PEDESTAL STRUCTURE, ACCESS LADDER AND DMS FOUNDATION
	13	INSTALL HEAT SHRINK TUBING RETROFIT KIT	38	INSTALL CCTV CAMERA METAL POLE AND FOUNDATION	63	INSTALL CCTV FIELD EQUIPMENT CABINET
	14	INSTALL POLYETHYLENE CONDUIT	39	INSTALL STANDARD (ELECTRICAL) JUNCTION BOX	64	INSTALL NEW EQUIPMENT CABINET DISCONNECT
	15	DIRECTIONAL DRILL CONDUIT	40	INSTALL OVERSIZED JUNCTION BOX	65	INSTALL GROUND MOUNTED SHELL CABINET
	16	BORE AND JACK CONDUIT	41	INSTALL SPECIAL OVERSIZED JUNCTION BOX	66	INTERCEPT EXISTING JUNCTION BOX
	17	INSTALL CABLE(S) IN EXISTING CONDUIT	42	INSTALL NCDOT SUPPLIED CELL MODEM	67	INSTALL CCTV CAMERA EXTENSION POLE
	18	INSTALL CABLE(S) IN NEW CONDUIT	43	REMOVE EXISTING METAL POLE AND FOUNDATION	68	INSTALL SOLAR PANEL ASSEMBLY
	19	INSTALL CABLE(S) IN EXISTING RISER	44	INSTALL AERIAL GUY ASSEMBLY	69	REMOVE WOOD POLE
	20	INSTALL CABLE(S) IN NEW RISER	45	INSTALL STANDARD GUY ASSEMBLY	70	INSTALL CCTV WOOD POLE
	21)	INSTALL CABLE(S) IN EXISTING CONDUIT ENTRANCE	46	INSTALL SIDEWALK GUY ASSEMBLY	71	ITS EQUIPMENT REMOVAL (CCTV)
	22	INSTALL NEW CONDUIT INTO NEW CABINET BASE (USE EXISTING CONDUIT STUBOUTS WHEN AVAILABLE)	47	INSTALL MESSENGER CABLE	72	INSTALL STEP-UP /STEP-DOWN TRANSFORMER
_03.dgn	23	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUBOUTS WHEN AVAILABLE)	48	REMOVE EXISTING COMMUNICATIONS CABLE	73	INSTALL WOOD POLE DOCUMENT NOT CONSIDERED FINAL
7B_ITS_psh	24	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	49	EXISTING SIGNAL CABINET (HUB CONNECTION)	Prepared 1	SEAL for the Offices of: Construction Notes
lan Sheets∗1598	25)	INSTALL NEW RISER INTO POLE MOUNTED CABINET	50	CONDUITS INSTALLED IN BRIDGE STRUCTURE (SEE ROADWAY PLANS)		Division 6 Robeson County Lumberton PLAN DATE: March 2022 Reviewed BY: S.G. Haynie
_ 1	1					- Control of the cont

8521 SIX FORKS ROAD, SUITE 400 RALEIGH, NC 27615 (919) 926-4100

750 N.Greenfield Pkwy,Garner,NC 27529

Steven G. Haynse/18/2022

PLAN DATE: March 2022 REVIEWED BY: S.G. Haynie PREPARED BY: O. Drobny REVIEWED BY: J. S. Cole INIT. DATE REVISIONS

CADD Filename:

LEGEND

EXISTING COMMUNICATIONS CABLE EXISTING COMMUNICATIONS CABLE SP TO BE REMOVED

EXISTING CONDUIT -----NEW DIRECTIONAL DRILLED CONDUIT EXISTING GUARDRAIL - T - -1- - T -

NEW CONDUIT

NEW GUARDRAIL NEW CHAIN LINK FENCE EXISTING RIGHT OF WAY NEW CCTV CAMERA ASSEMBLY

EXISTING CCTV CAMERA ASSEMBLY

(----NEW STANDARD GUY ASSEMBLY EXISTING STANDARD GUY ASSEMBLY NEW SIGNAL CABINET EXISTING SIGNAL CABINET NEW ITS EQUIPMENT CABINET

EXISTING ITS EQUIPMENT CABINET NEW SOLAR PANEL ASSEMBLY NEW ELECTRICAL SERVICE

EXISTING ELECTRICAL SERVICE

SIGNAL POLE

+++

XXX-#

06-XXXX

 \bigcirc

T

EXISTING ANTENNA

CCTV /DMS NUMBER

SIGNAL INVENTORY NUMBER

NEW JUNCTION BOX

EXISTING JUNCTION BOX

NEW OVERSIZED HEAVY DUTY JUNCTION BOX WITH SPLICE ENCLOSURE EXISTING OVERSIZED HEAVY DUTY JUNCTION BOX WITH SPLICE ENCLOSURE

NEW WOOD POLE

EXISTING WOOD POLE

NEW METAL POLE

EXISTING METAL POLE

STEP-UP STEP-DOWN TRANSFORMER

NEW DMS

EXISTING DMS

CONSTRUCTION NOTE SYMBOLOGY KEY

XX NUMBER OF NUMBER OF FIBERS / -(XX)CABLE(S), LOOPS, ETC. TWISTED PAIRS PER CABLE, ETC.

NUMBER OF DIAMETER OF RISER(S) / CONDUIT(S) RISER(S) / CONDUIT(S) (INCH)

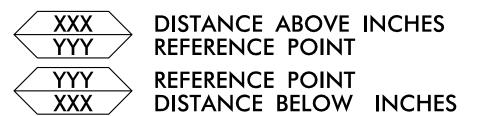
NUMBER OF

DEVICES

NUMBER OF REMOVE OR MODIFY (XX)**CABLES** CABLE

NUMBER OF FIBERS

ATTACHMENT POINT

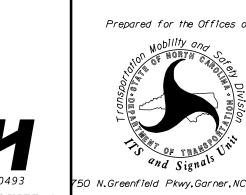


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO. SHEET NO.

I-5987B

ITS-4

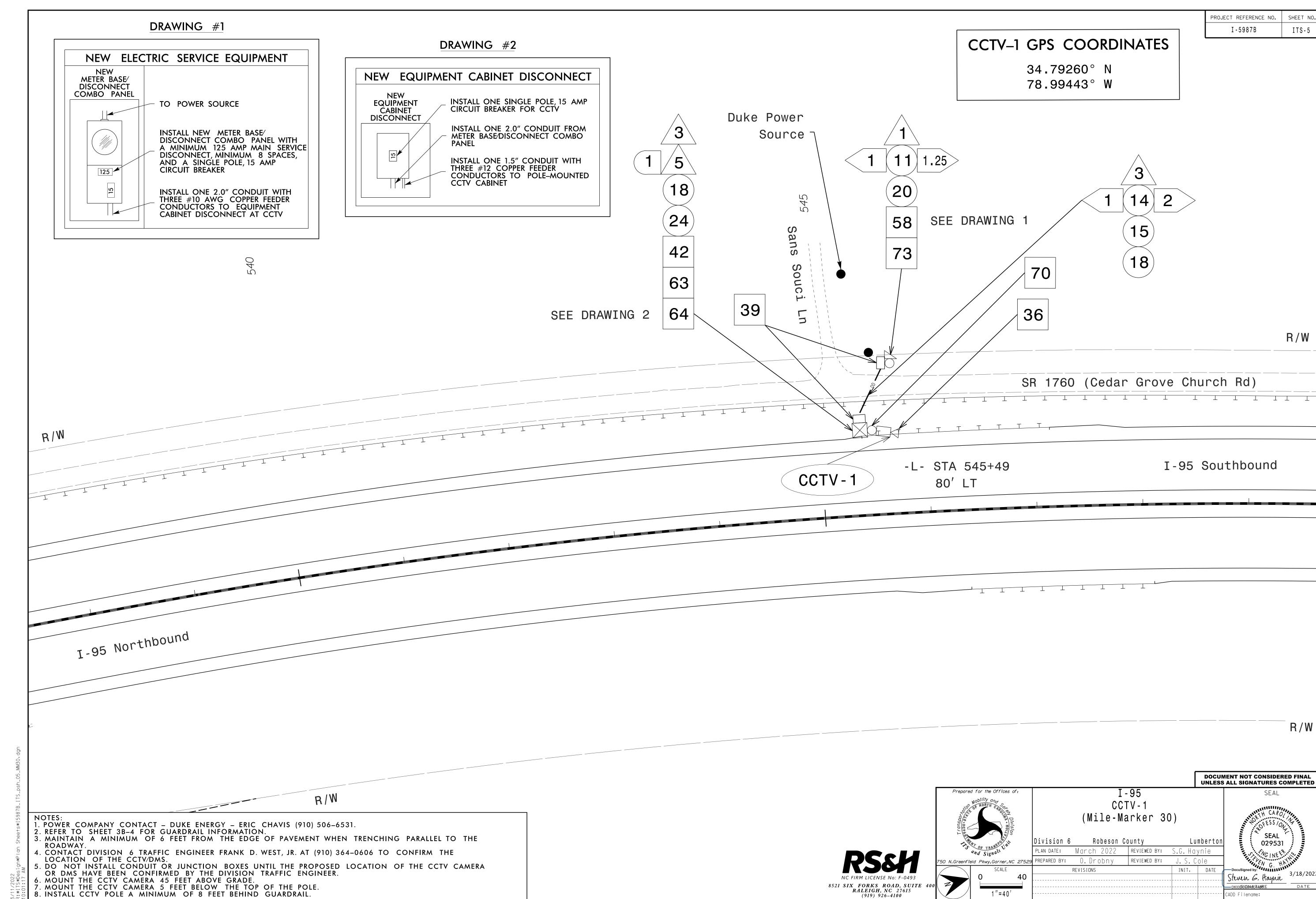


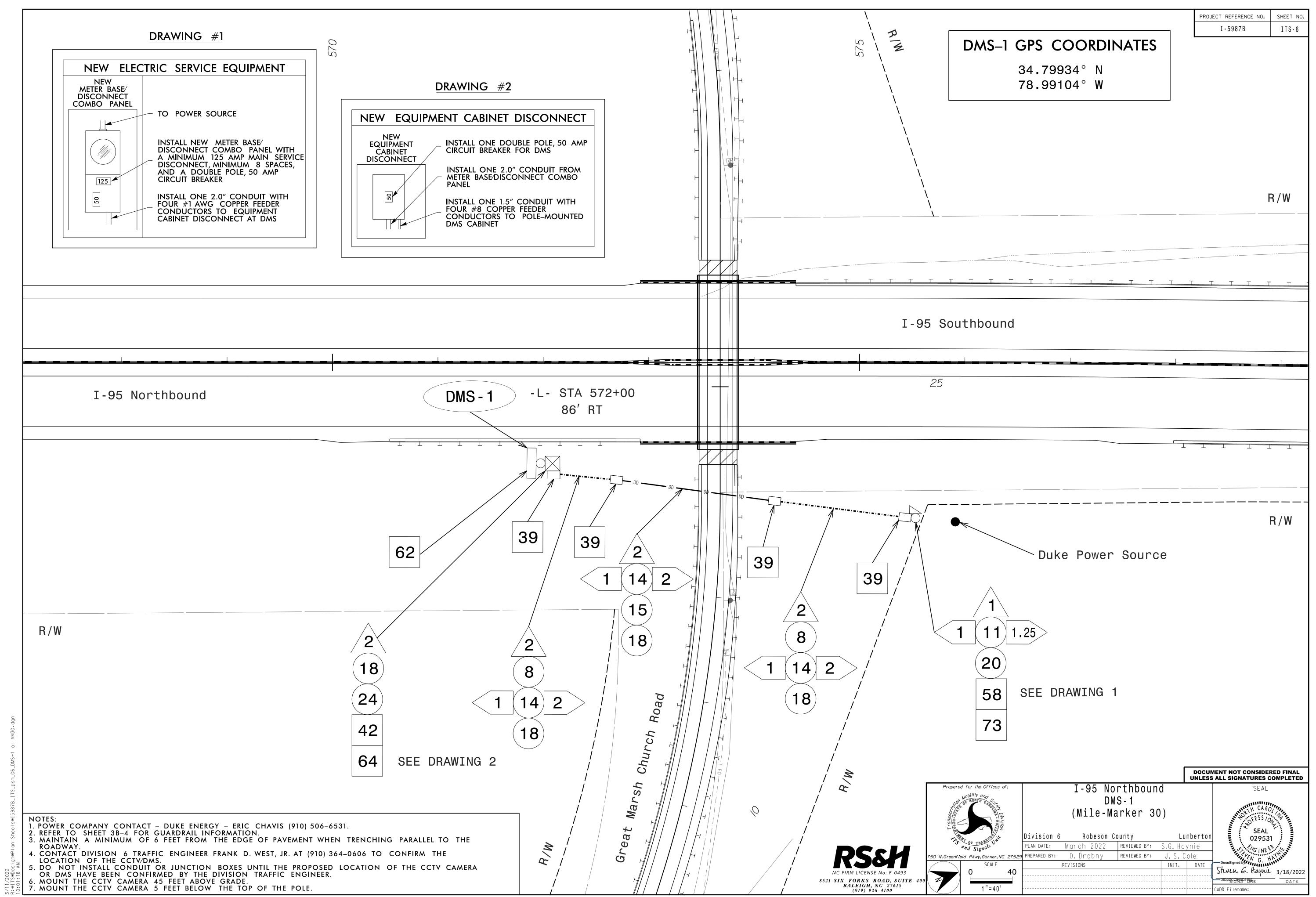
Construction Note Symbology Legend

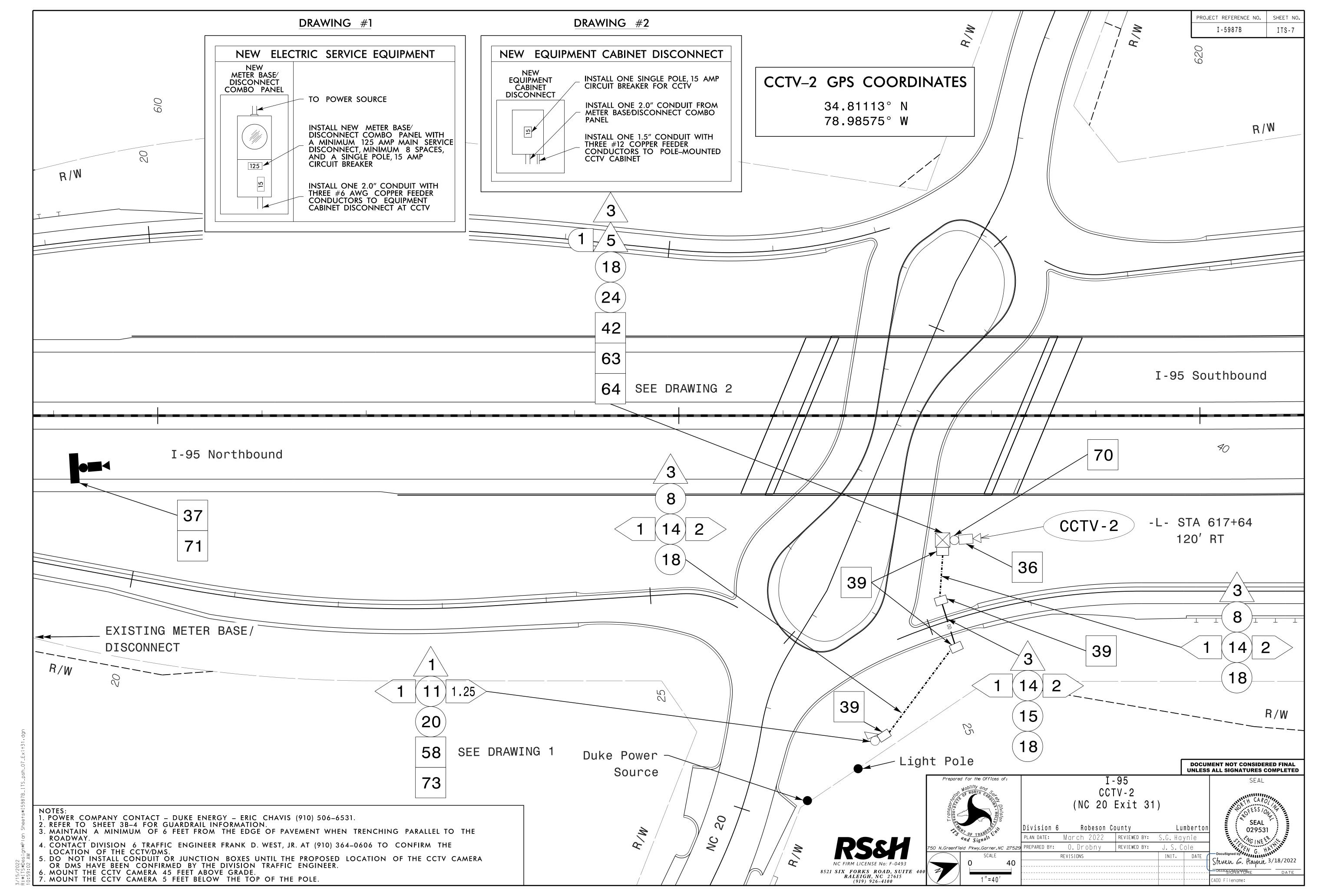
Division 6 Robeson County Lumberton REVIEWED BY: S.G. Haynie PREPARED BY: O. Drobny REVIEWED BY: J. S. Cole REVISIONS INIT. DATE

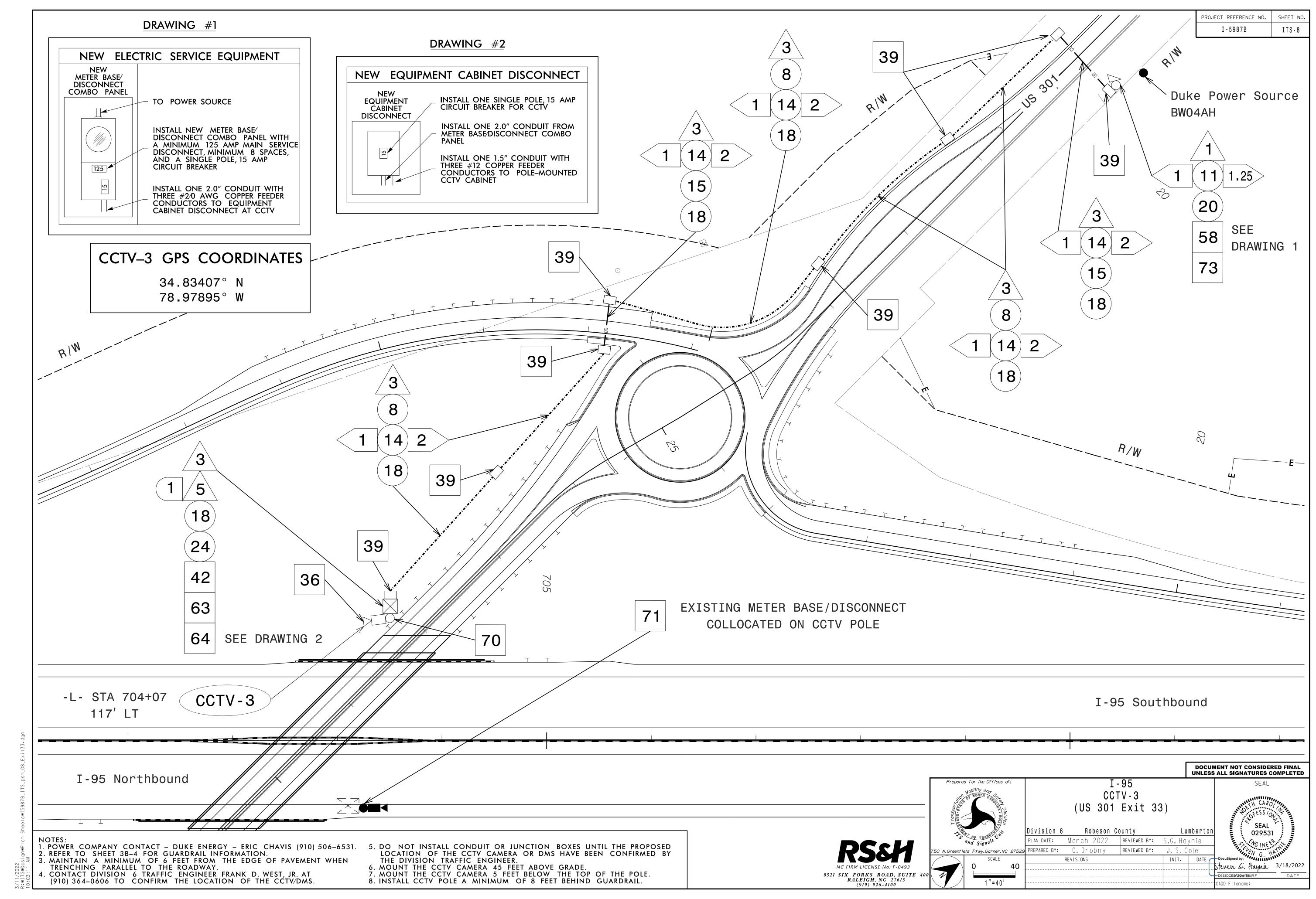
Steven G. Haynie 3/18/2022

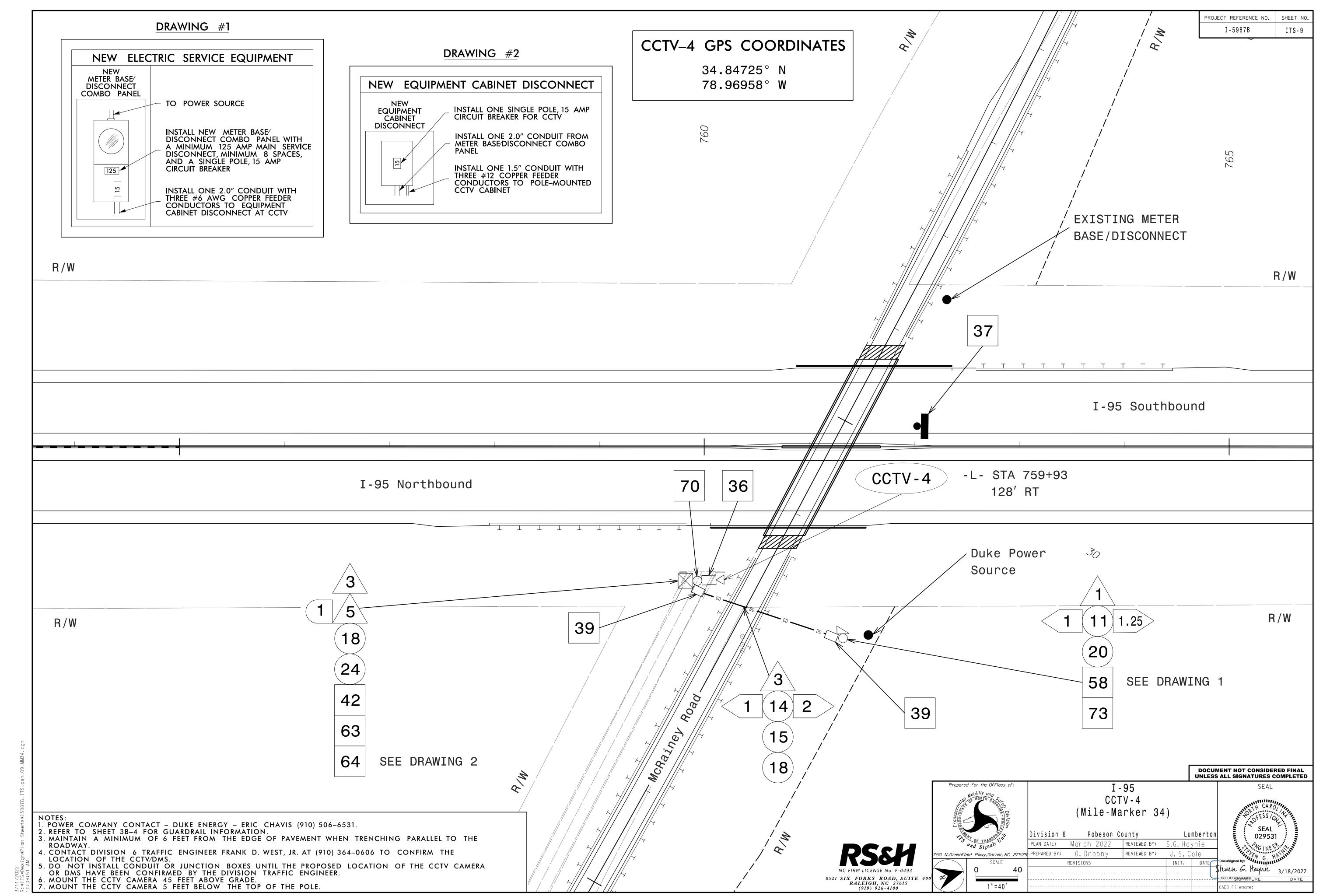
RALEIGH, NC 27615 (919) 926-4100

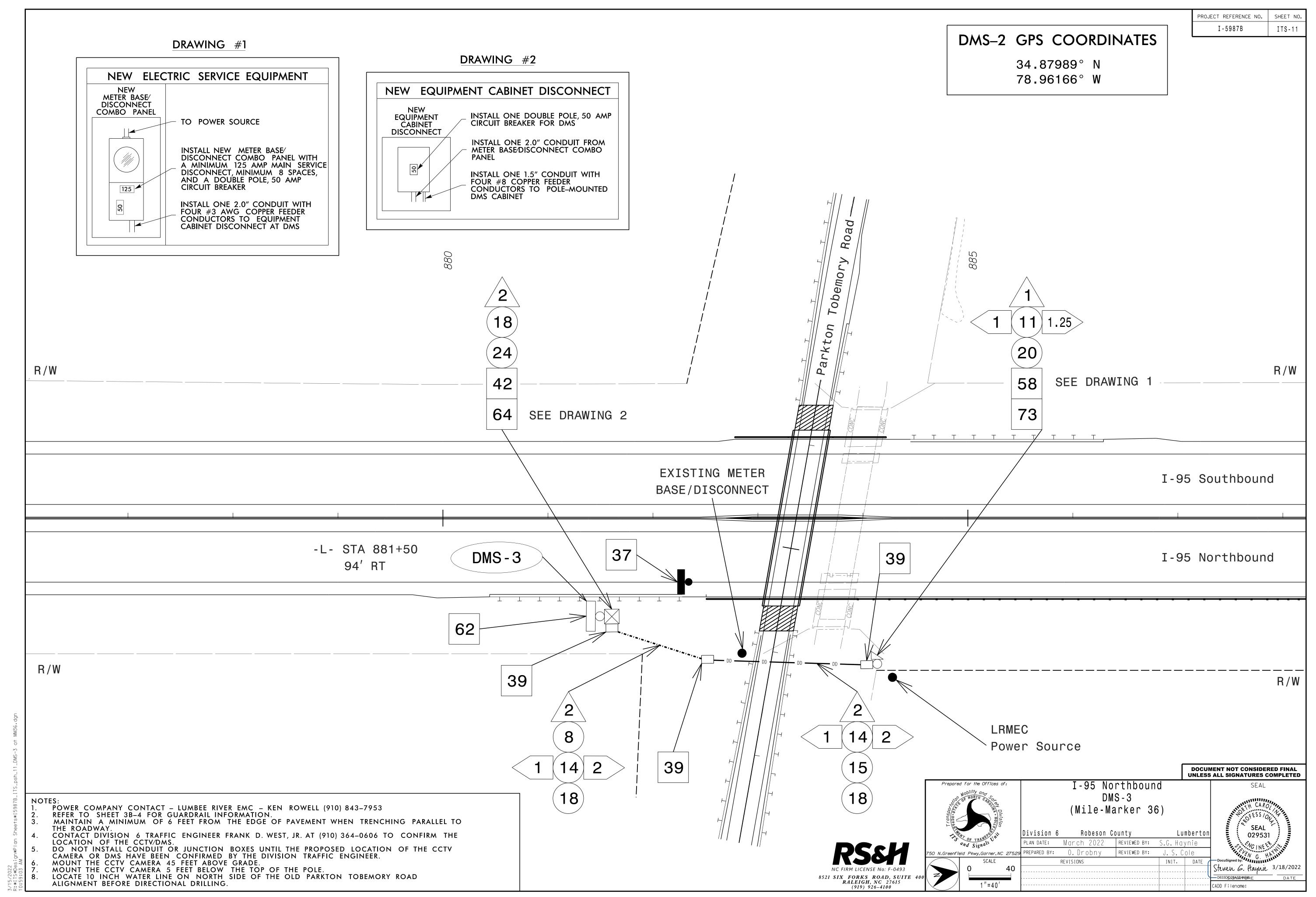


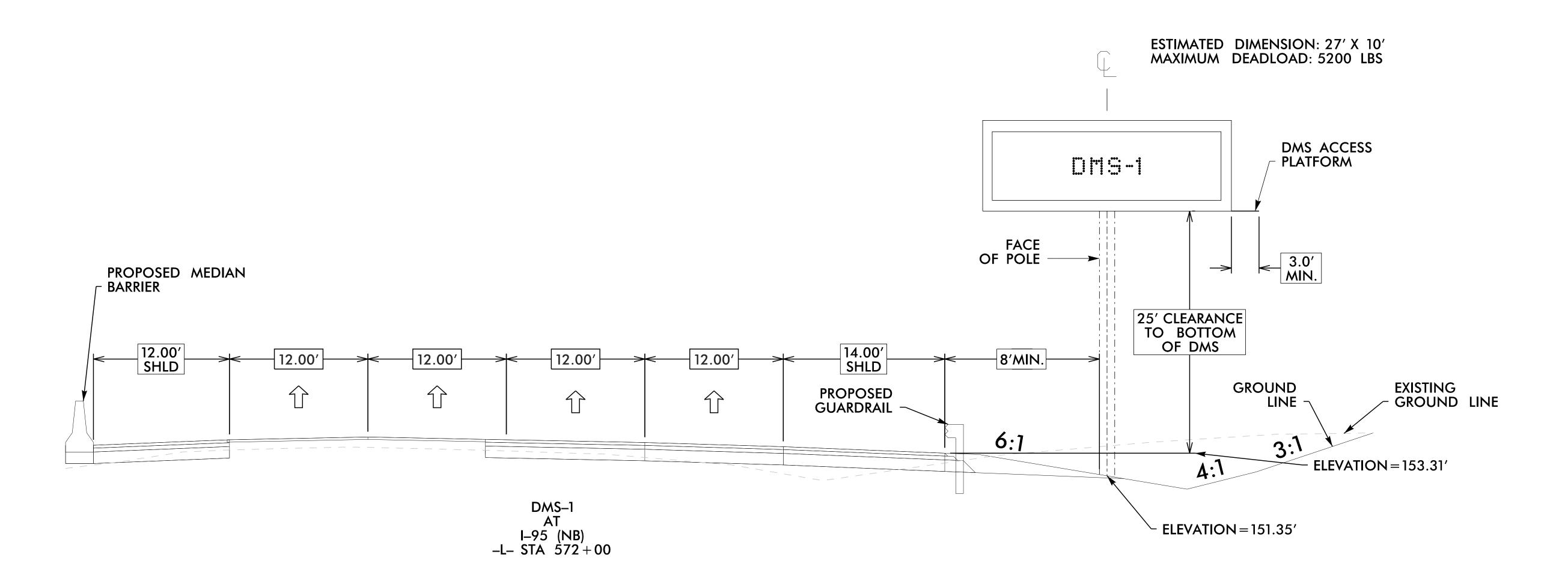








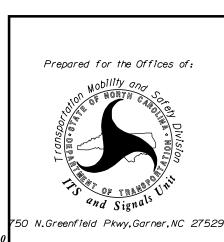




NOTES

- 1. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTING USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR FURNISHING ELEVATION DRAWINGS FOR ENGINEER'S APPROVAL.
- 2. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
- 3. ENSURE THAT THE TOP OF THE FOOTING EXTENDS AT LEAST 6 INCHES AND NOT MORE THAN 24 INCHES ABOVE THE HIGHEST POINT OF THE GROUND SURFACE AT THE FOOTING.
- 4. DESIGN AND CONSTRUCT THE PEDESTAL STRUCTURE AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 110 MPH.
- 5. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT CABLES DURING CONSTRUCTION.





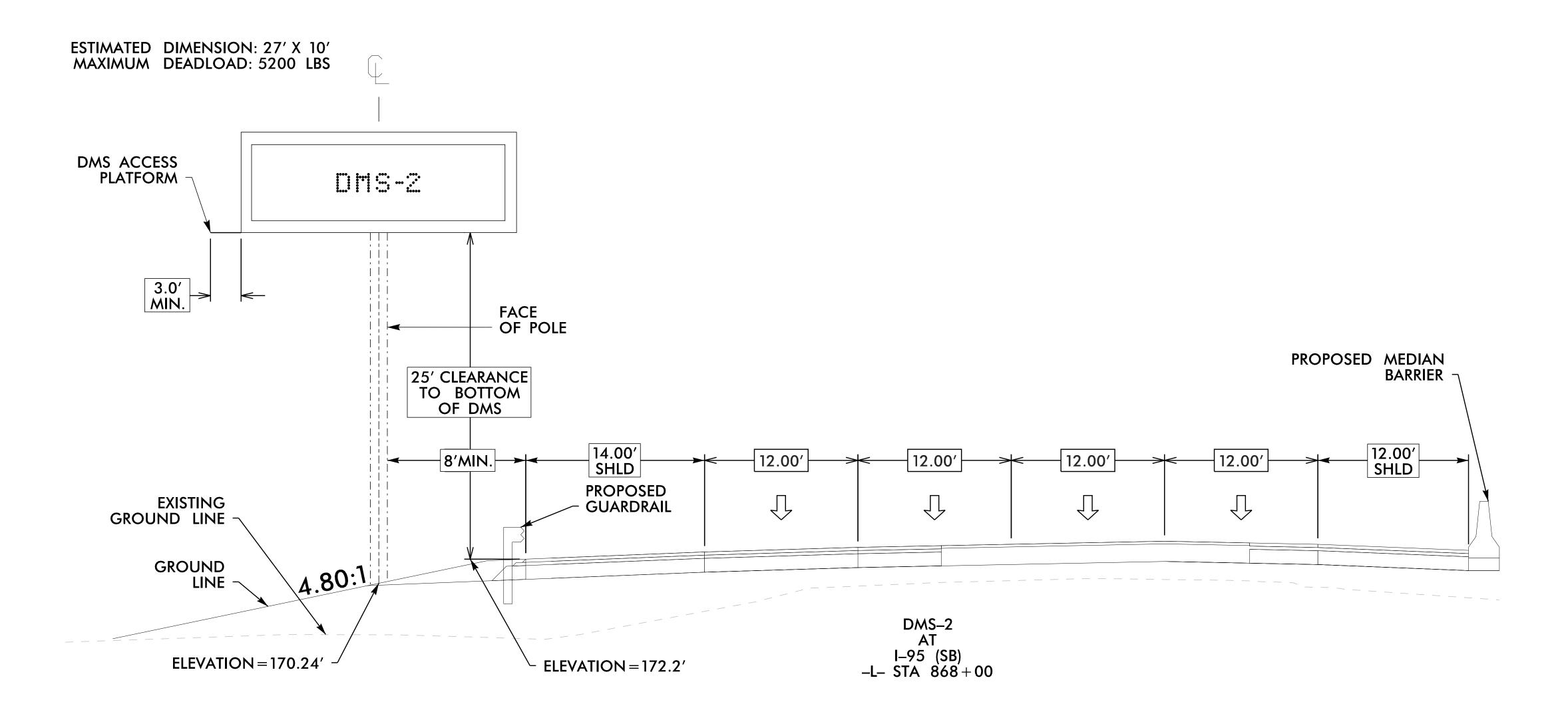
I-95 Northbound DMS-1 Elevation (Mile-Marker 30)

Division 6 Robeson County PLAN DATE: March 2022 REVIEWED BY: S.G. Haynie PREPARED BY: 0. Drobny

Lumberton 029531 REVIEWED BY: J. S. Cole REVISIONS INIT. DATE Steven G. Haynie 3/18/2022

-D633DCS9A5D44B6TURE DATE CADD Filename: 159878 ITS psh 12 DWS at WW 30 xsc

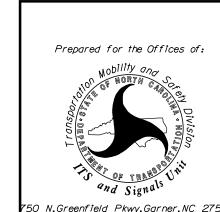
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



NOTES

- 1. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTING USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR FURNISHING ELEVATION DRAWINGS FOR ENGINEER'S APPROVAL.
- 2. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
- 3. ENSURE THAT THE TOP OF THE FOOTING EXTENDS AT LEAST 6 INCHES AND NOT MORE THAN 24 INCHES ABOVE THE HIGHEST POINT OF THE GROUND SURFACE AT THE FOOTING.
- 4. DESIGN AND CONSTRUCT THE PEDESTAL STRUCTURE AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 110 MPH.
- 5. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT CABLES DURING CONSTRUCTION.





I-95 Southbound DMS-2 Elevation (Mile-Marker 36)

Division 6 Robeson County Lumberton

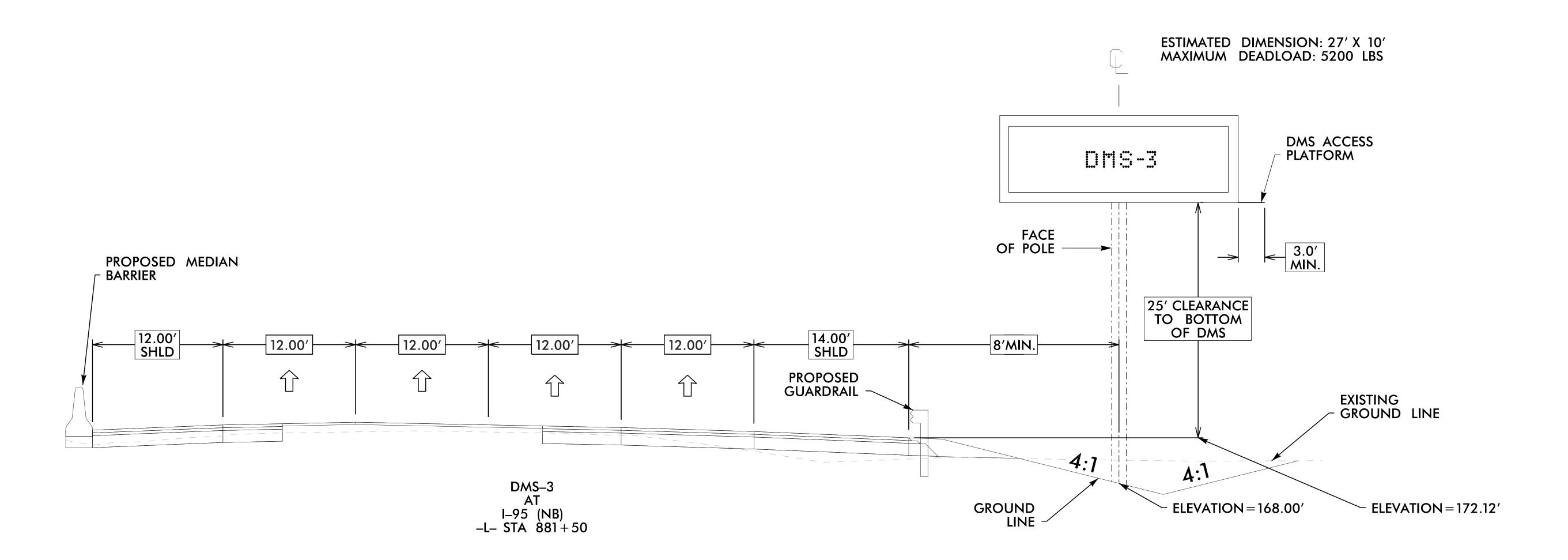
PLAN DATE: March 2022 REVIEWED BY: S.G. Haynie

PREPARED BY: O. Drobny REVIEWED BY: J. S. Cole

REVISIONS INIT. DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

3/11/2022 R:*!TS*Design*Plan Sheets*!5987E 8:36:30 AM



NOTES

- 1. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTING USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR FURNISHING ELEVATION DRAWINGS FOR ENGINEER'S APPROVAL.
- 2. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
- 3. ENSURE THAT THE TOP OF THE FOOTING EXTENDS AT LEAST 6 INCHES AND NOT MORE THAN 24 INCHES ABOVE THE HIGHEST POINT OF THE GROUND SURFACE AT THE FOOTING.
- 4. DESIGN AND CONSTRUCT THE PEDESTAL STRUCTURE AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 110 MPH.
- 5. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT CABLES DURING CONSTRUCTION.





I-95 Northbound DMS-3 Elevation (Mile-Marker 36)

Division 6 Robeson County Lumbert
PLAN DATE: March 2022 REVIEWED BY: S.G. Haynie
PREPARED BY: O. Drobny REVIEWED BY: J. S. Cole

REVISIONS

Lumberton

O29531

S.G. Haynie

J. S. Cole

INIT. DATE

Steven G. Haynie

JA18/2022

D633DCC9A5D44B6.

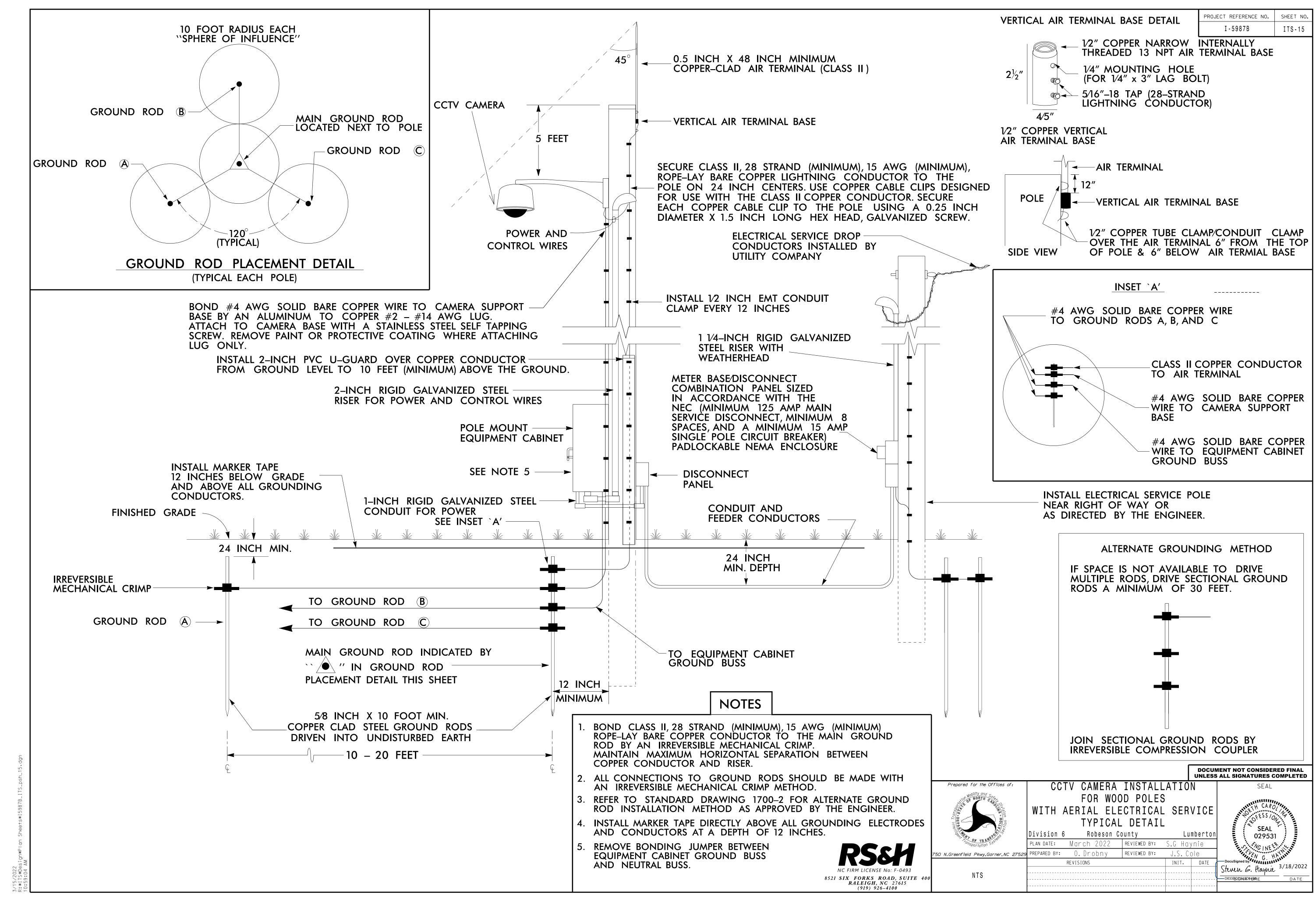
SIGNATURE

DATE

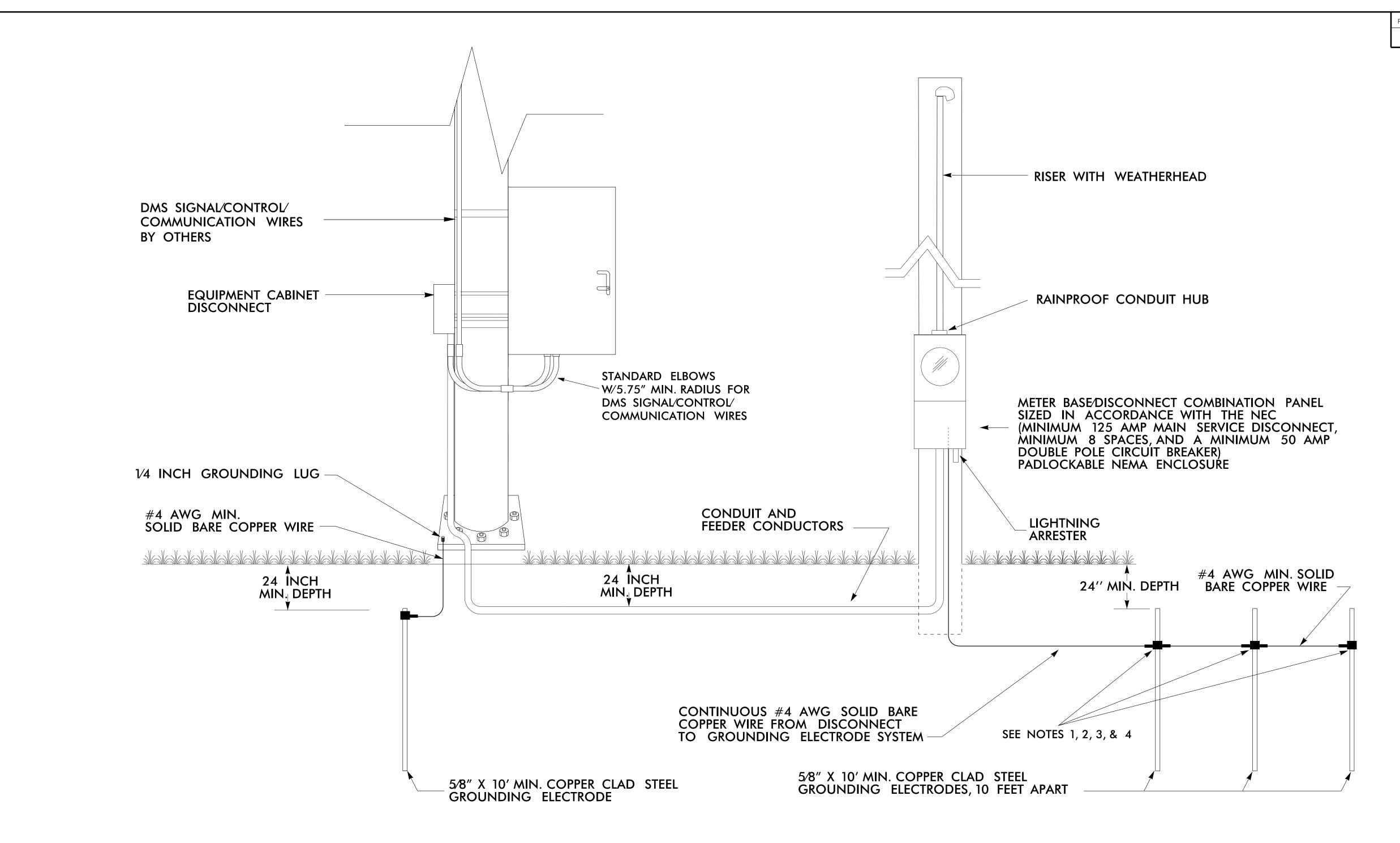
CADD Filenameiiiii II II III III III

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

3/11/2022 R:*!TS*Design*Plan Sheets*!5987B_ 8:36:32 AM



PROJECT REFERENCE NO. SHEET NO. I-5987B ITS-16



NOTES

- INSTALL A MINIMUM OF THREE (3) GROUNDING ELECTRODES SPACED A MINIMUM OF 10 FEET APART. ENSURE THAT EXISTING UNDERGROUND FACILITIES ARE NOT DAMAGED DURING INSTALLATION.
- 2. TEST GROUNDING SYSTEM USING AN APPROVED METHOD. SYSTEM SHOULD MEASURE TWENTY (20) OHMS OR LESS. ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER TO MEET THIS REQUIREMENT.
- 3. MECHANICALLY CRIMP ALL CONNECTIONS TO GROUND RODS USING AN IRREVERSIBLE COMPRESSION TOOL.
- 4. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.
- 5. REMOVE BONDING JUMPER IN EQUIPMENT CABINET IF INSTALLED BETWEEN AC NEUTRAL AND EQUIPMENT GROUND.
- 6. BOND ALL RIGID GALVANIZED STEEL CONDUITS ENTERING THE CABINET TO "EQUIPMENT GROUND".
- 7. INSTALL CONDUIT BETWEEN DISCONNECT AND CABINET.
- 8. ENSURE EQUIPMENT GROUND IS ELECTRICALLY BONDED TO CABINET.



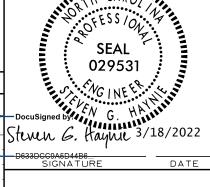
RALEIGH, NC 27615 (919) 926-4100 DYNAMIC MESSAGE SIGN WITH AERIAL ELECTRICAL SERVICE TYPICAL DETAIL

Division 6 Robeson County Lumberton
PLAN DATE: March 2022 REVIEWED BY: S.G Haynie
PREPARED BY: O. Drobny REVIEWED BY: J.S. Cole

PLAN DATE: March 2022 REVIEWED BY: S.G Haynie

O N.Greenfield Pkwy.Garner.NC 27529 PREPARED BY: 0. Drobny REVIEWED BY: J.S. Cole

REVISIONS INIT. DATE



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED