

**TIP PROJECT: I-6039**

**CONTRACT:**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

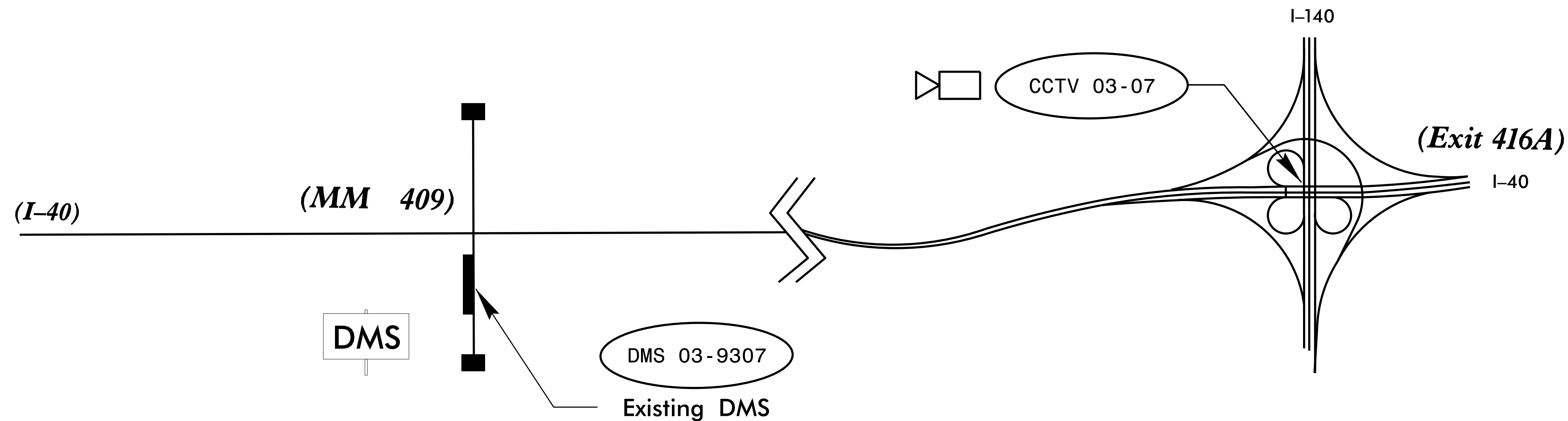
**NEW HANOVER &  
PENDER COUNTIES**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.	I-6039	ITS-1
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION



**LOCATION: I-40 EB EXIT 416A (I-140 EB) AND MM-409**

**TYPE OF WORK: REFURBISH EXISTING CCTV SOLAR POWER ASSEMBLY, AND UPDATE EXISTING DYNAMIC MESSAGING SIGN, RELOCATING TO THE MEDIAN.**



2018 STANDARD SPECIFICATIONS

PROJECT LENGTH  
PROJECT LENGTH = 0.0 MILES

LETTING DATE:

INDEX OF SHEETS

SHEET ITS 1.....TITLE SHEET  
SHEET ITS 2-3.....ITS PLANS  
SHEET ITS 4.....DMS TYPICAL  
SHEET ITS 5.....DMS ELEVATION

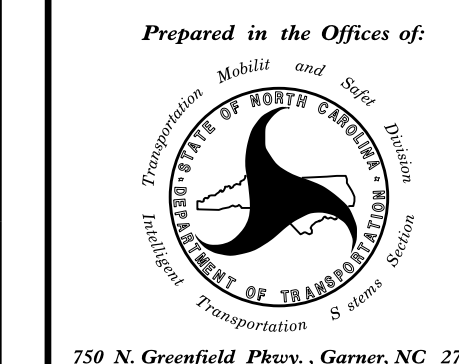
**ROADWAY STANDARD DRAWINGS**

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
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-TRENCHING

2018 STANDARD SPECIFICATION

**NCDOT CONTACT:**  
**TRANSPORTATION MOBILITY AND SAFETY**  
M. M. MCDIARMID, P.E., CPM  
STATE TRANSPORTATION SYSTEMS  
MANAGEMENT & OPERATIONS ENGINEER



**ENGLISH**

ALL DIMENSIONS IN THESE PLANS ARE IN FEET UNLESS OTHERWISE NOTED

SEAL

NORTH CAROLINA  
PROFESSIONAL  
ENGINEER  
ANDREW J. SKUCE

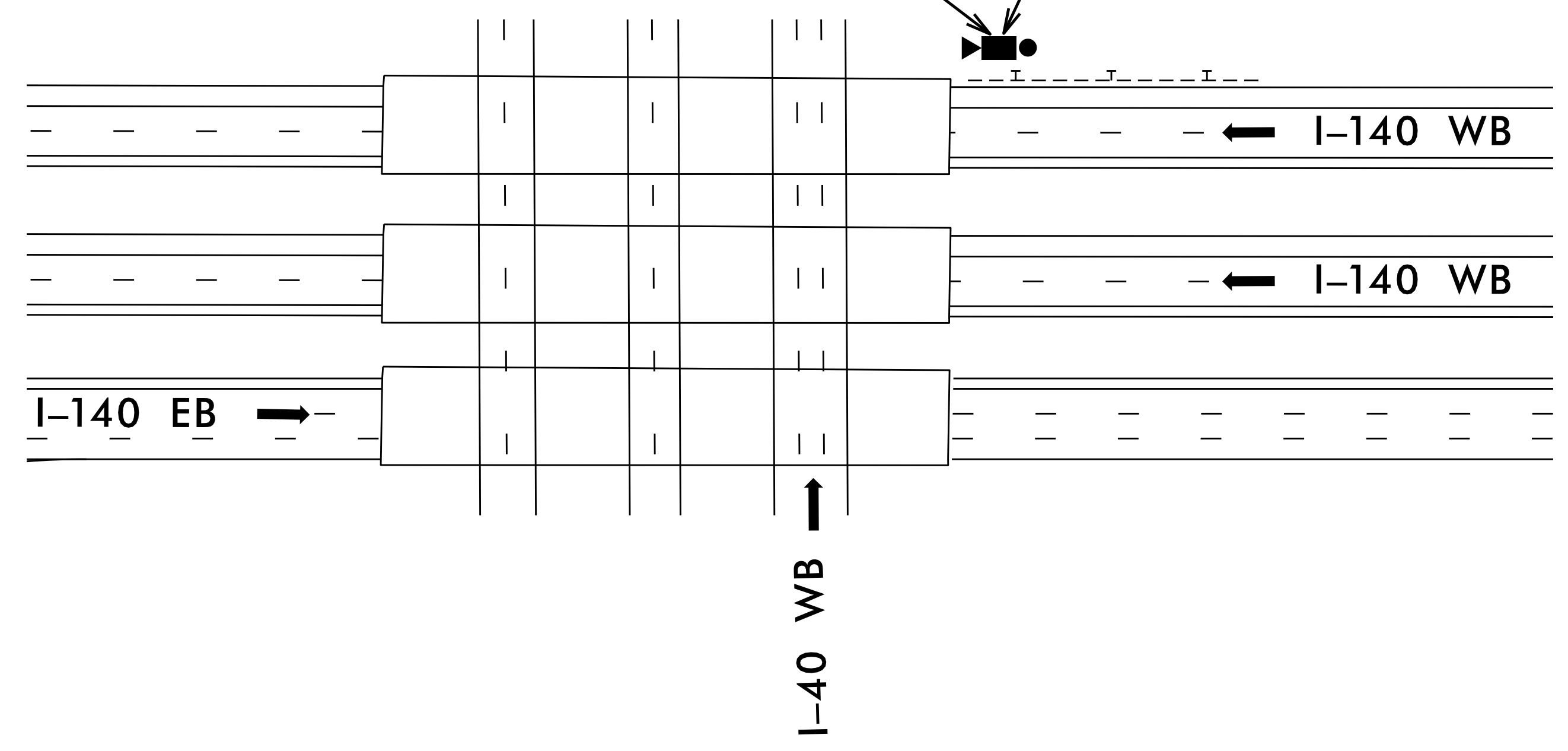
SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

# CCTV D3-07 GPS COORDINATES

34° 19.140 N  
77° 52.273 W

REMOVE THE FOLLOWING	
QUANTITY	DESCRIPTION
1 EA	EXISTING CCTV CAMERA ASSEMBLY
1 EA	EXISTING SOLAR POWER ASSEMBLY

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1 EA	CCTV CAMERA ASSEMBLY
1 EA	SOLAR POWER ASSEMBLY



- NOTES:**
1. MOUNT CAMERA 45 FEET ABOVE GRADE.
  2. RETAIN EXISTING CELL MODEM.
  3. RETAIN EXISTING POLE AND GROUNDING.
  4. RETAIN EXISTING CCTV CABINET AND BATTERY CABINET.

**NOTE:**  
ELECTRICAL SERVICE DETAILS AND CONSTRUCTION METHODS DEPICT FIELD CONDITIONS AT THE TIME OF DESIGN. CONTRACTOR TO VERIFY ACTUAL CONDITIONS AT THE TIME OF CONSTRUCTION AND OBTAIN APPROVAL FROM ENGINEER PRIOR TO MAKING ANY CHANGES.

## I-40 WB EXIT 416A

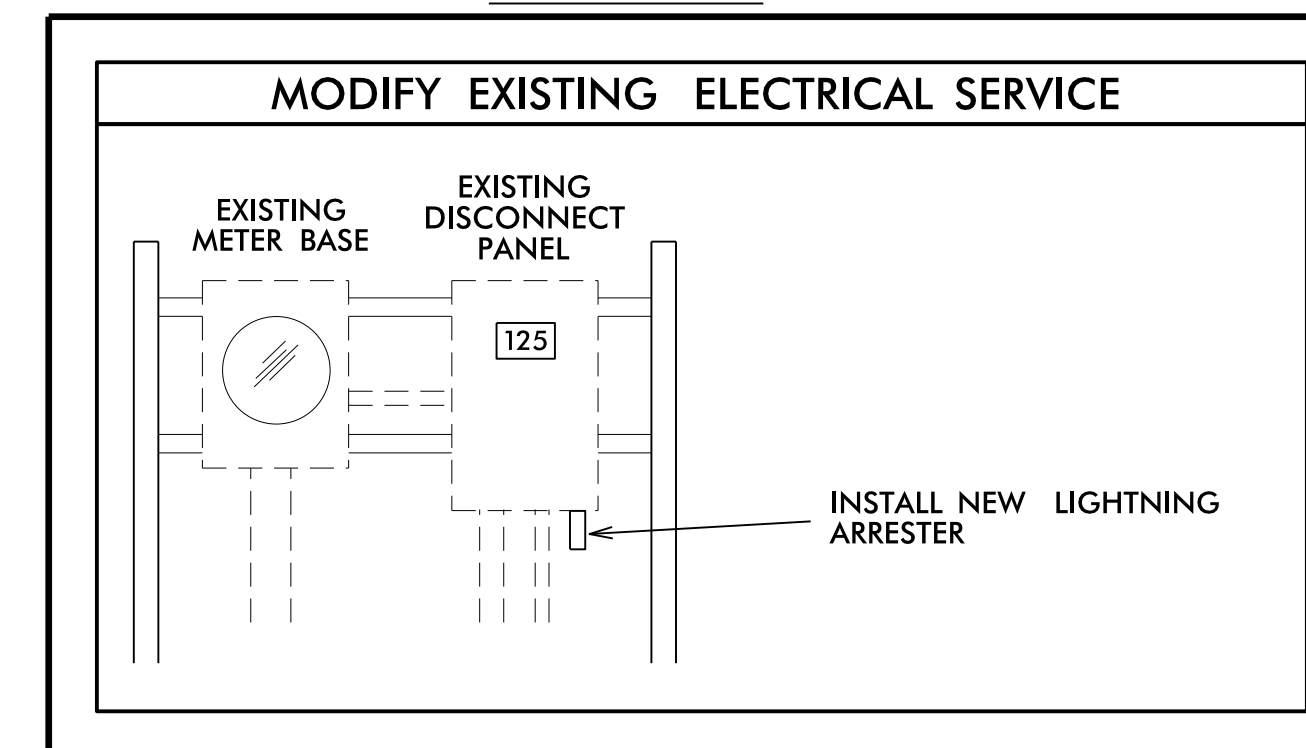
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	<b>ITS DEVICE REPLACEMENT</b>											
	DIVISION 3 NEW HANOVER COUNTY CASTLE HAYNE PLAN DATE: NOVEMBER 2022 REVIEWED BY: A. J. SKUCE, PE PREPARED BY: B. CHRISTIAN REVIEWED BY:											
750 N. Greenfield Pkwy., Garner, NC 27529 	SCALE 0 NTS	<table border="1"> <thead> <tr> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS	INIT.	DATE							SEAL NORTH CAROLINA PROFESSIONAL ENGINEER ANDREW J. SKUCE 050152 DATE
REVISIONS	INIT.	DATE										

### DMS 03-9307 GPS COORDINATES

34° 25.683 N  
77° 52.243 W

DRAWING 1

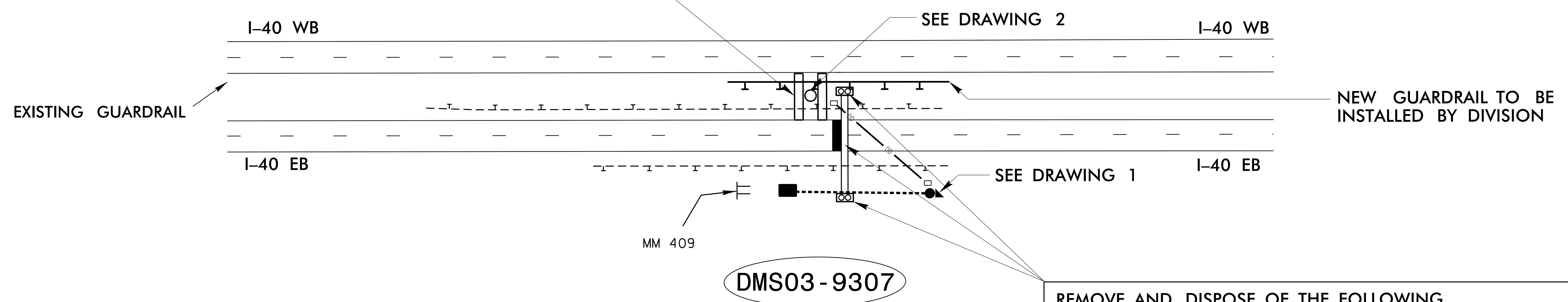
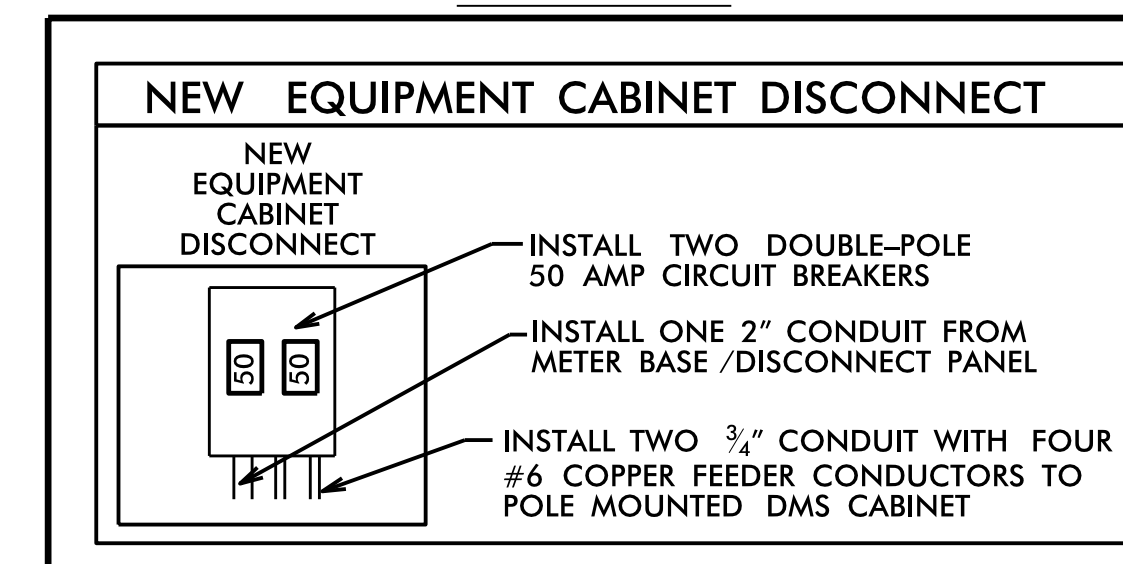


### LEGEND

- 00 — 00 — DIRECTIONAL DRILL NEW CONDUIT
- EXISTING CONDUIT
- - - - - EXISTING GUARDRAIL
- I — I — NEW GUARDRAIL
- MODIFY EXISTING ELECTRICAL SERVICE
- PROPOSED DUAL DMS ON PEDESTAL STRUCTURE
- ▬ EXISTING OVERHEAD SIGN STRUCTURE
- XXXXX NEW ITS DEVICE NUMBER
- EXISTING CABINET ON CONCRETE FOUNDATION

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
2	DYNAMIC MESSAGE SIGN (TYPE 2C)
1	DMS PEDESTAL STRUCTURE
1	DMS ACCESS LADDER
50'	(2,2) DIRECTIONAL DRILL
2	STANDARD JUNCTION BOX
1	MODIFY EXISTING ELECTRICAL SERVICE
80'	4-WIRE FEEDER CONDUCTOR

DRAWING 2



REMOVE AND DISPOSE OF THE FOLLOWING	
QUANTITY	DESCRIPTION
1	EXISTING DMS COMPONENTS
1	EXISTING DMS STRUCTURE
2	EXISTING DMS STRUCTURE FOUNDATION

### NOTES

1. MAINTAIN FUNCTIONALITY OF EXISTING SIGN UNTIL NEW SIGNS ARE INSTALLED AND POWER IS READY TO BE CONNECTED.
2. INSTALL NEW DUAL DMS ON PEDESTAL STRUCTURE WITH ACCESS LADDER.
3. REMOVE EXISTING DMS OVERHEAD SIGN STRUCTURE AND FOUNDATIONS.
4. INSTALL DEPARTMENT SUPPLIED CELL MODEM IN NEW DMS CABINET. ALLOW 8 WEEK LEAD-TIME WHEN REQUESTING MODEM FROM THE DEPARTMENT.

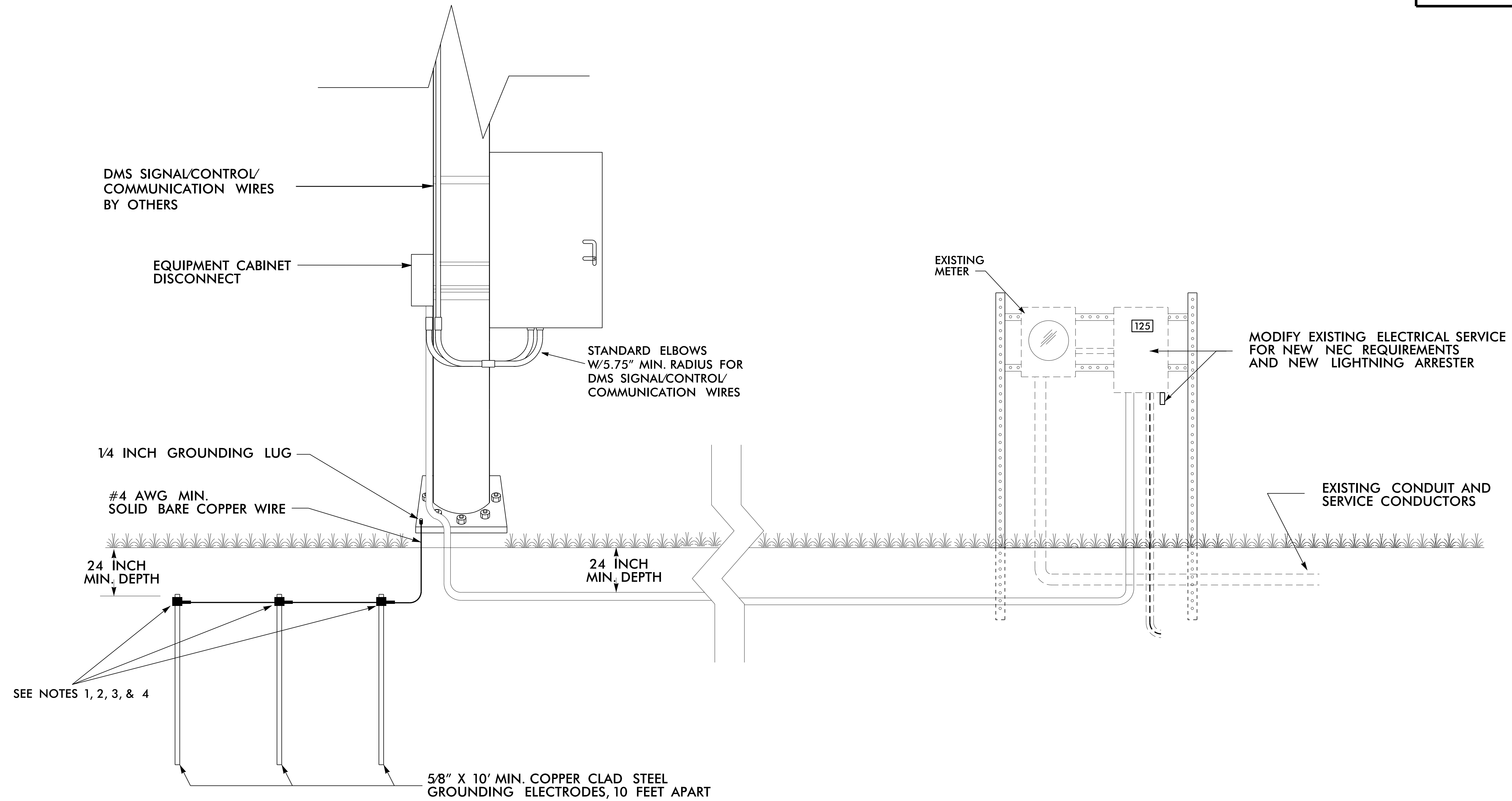
MM 409

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

	DMS REPLACEMENT PLANS	
	DIVISION 3 PENDER COUNTY N. OF CASTLE HAYNE	
	PLAN DATE: NOVEMBER 2022 PREPARED BY: B. CHRISTIAN REVISIONS: _____ INIT. DATE: _____	REVIEWED BY: A. J. SKUCE, PE SEAL ANDREW J. SKUCE DATE: _____

750 N. Greenfield Pkwy., Garner, NC 27529

SCALE: 0 NTS



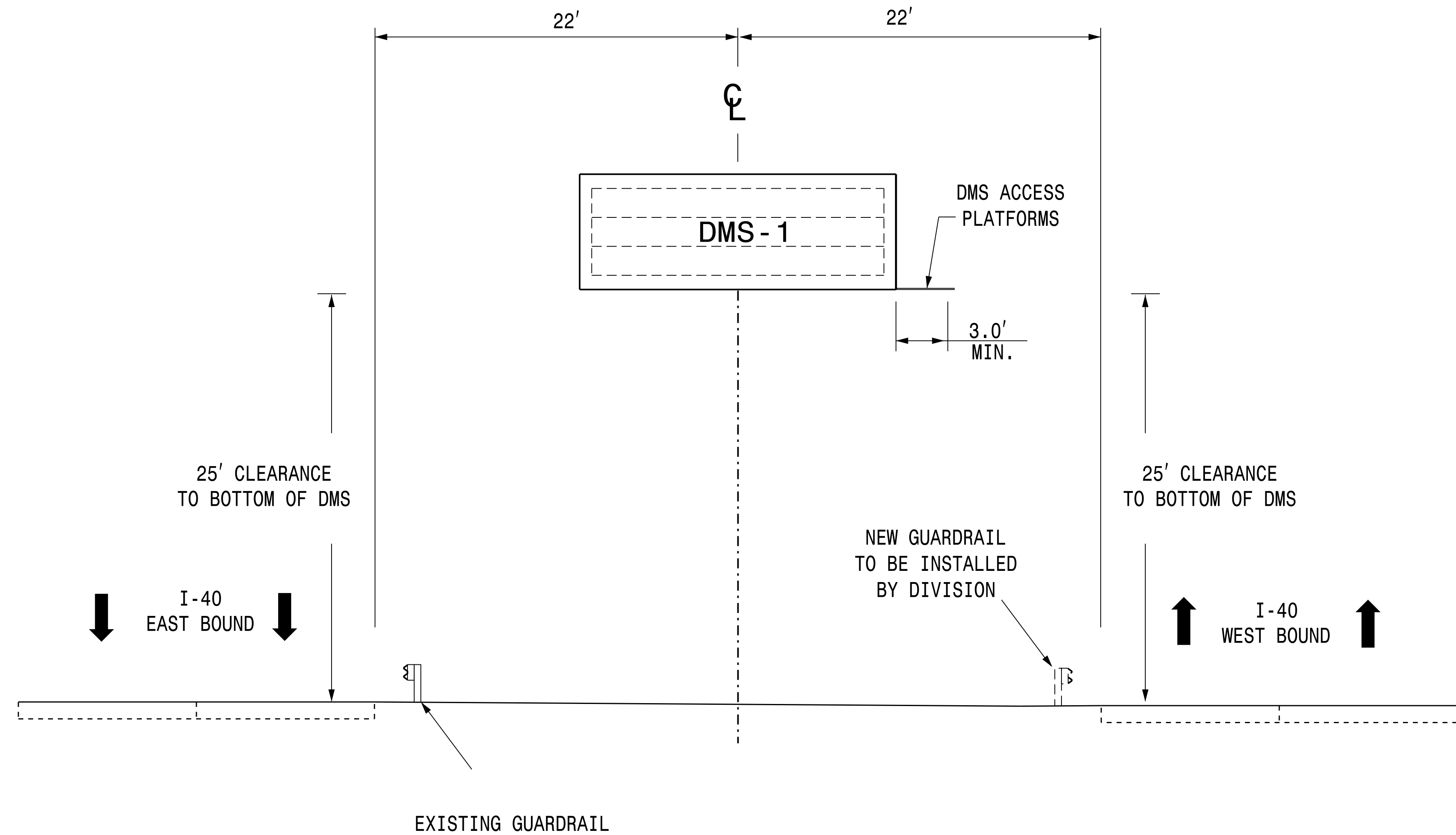
**NOTES**

1. 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.

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	<p>Prepared in the Offices of:</p> <p><b>DYNAMIC MESSAGE SIGN WITH UNDERGROUND ELECTRICAL SERVICE TYPICAL DETAIL</b></p>		<p>SEAL</p> <p>STATE OF NORTH CAROLINA</p> <p>PROFESSIONAL ENGINEER</p> <p>ANDREW J. SKUCE</p> <p>050152</p>								
	<p>DIVISION 3 PENDER COUNTY N. OF CASTLE HAYNE</p> <p>PLAN DATE: NOVEMBER 2022 REVIEWED BY: A. J. SKUCE, P. E.</p> <p>PREPARED BY: B. CHRISTIAN REVIEWED BY:</p>	<p>SCALE</p> <p>0</p> <p>N/A</p>		<table border="1"> <thead> <tr> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS	INIT.	DATE				
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ESTIMATED DIMENSION : 27' X 10'  
 MAXIMUM DEADLOAD OF 5200 LBS



NOTES

1. CONTRACTOR IS RESPONSIBLE FOR FURNISHING ELEVATION DRAWINGS FOR ENGINEER'S APPROVAL
2. PROVIDE A FIXED LADDER LEADING TO THE ACCESS PLATFORM FOR THE DMS AS INDICATED IN THE PROJECT SPECIAL PROVISIONS.
3. EQUIP THE LADDER WITH A SECURITY COVER (LADDER GUARD). START THE FIRST LADDER RUNG NO MORE THAN 18 INCHES ABOVE A CONCRETE LANDING PAD. DESIGN RUNGS ON 12 INCH CENTER-TO-CENTER TYPICAL SPACING.
4. INSTALL A CONCRETE LANDING PAD MEASURING A MINIMUM 4 INCHES DEEP, 24 INCHES WIDE, AND 36 INCHES LONG DIRECTLY BENEATH THE LADDER.
5. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
6. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTING USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
7. 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.
8. DESIGN AND CONSTRUCT THE PEDESTAL STRUCTURE AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 110 MPH.
9. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT CABLES DURING CONSTRUCTION.

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	<b>DMS ELEVATION</b>									
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