

TIP PROJECT: R-2511

CONTRACT: C204498

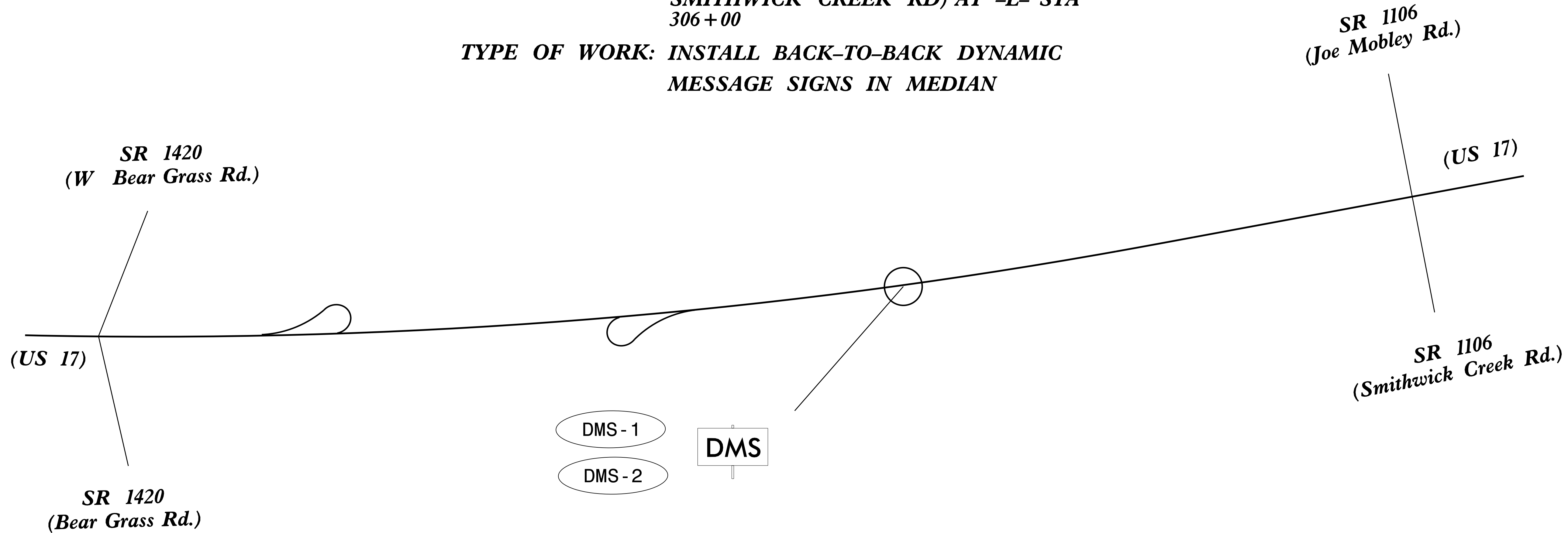
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MARTIN COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.	R-2511	ITS-1
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
35494.3.1		CONST.

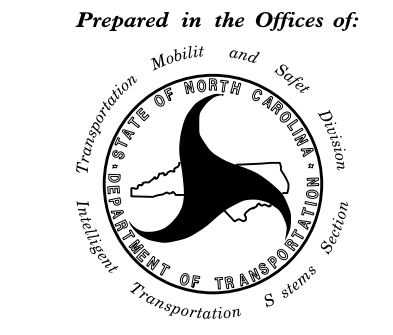
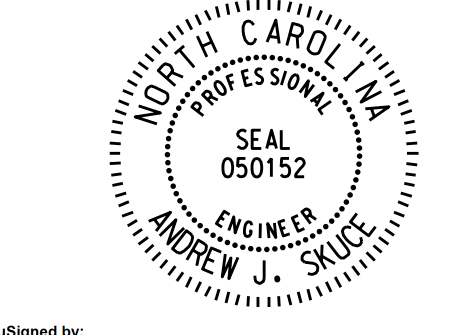
LOCATION: US 17 BETWEEN SR 1420 (BEAR GRASS RD) AND SR 1106 (JOE MOBLEY RD / SMITHWICK CREEK RD) AT -L- STA 306+00

TYPE OF WORK: INSTALL BACK-TO-BACK DYNAMIC MESSAGE SIGNS IN MEDIAN



<i>2018 STANDARD SPECIFICATIONS</i>	
<i>PROJECT LENGTH</i> PROJECT LENGTH = 0.0 MILES	
<i>LETTING DATE:</i> DECEMBER 21, 2021	
<i>INDEX OF SHEETS</i>	
SHEET ITS 1	TITLE SHEET
SHEET ITS 2	CONSTRUCTION NOTES AND LEGEND
SHEET ITS 3-4	ITS PLANS
SHEET ITS 5	TYPICAL DETAILS

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
1716.01	JUNCTION BOXES
1720.01	WOOD POLES

<p>2018 STANDARD SPECIFICATION</p> <p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	<p><i>Prepared in the Offices of:</i></p>  <p>750 N. Greenfield Pkwy., Garner, NC 27529</p>	<p>ENGLISH</p> <p>ALL DIMENSIONS IN THESE PLANS ARE IN FEET UNLESS OTHERWISE NOTED</p>	<p>SEAL</p>  <p>DocuSigned by: <i>Andrew J. Skuce</i> DATE: 8/4/2021</p>
<p>NCDOT CONTACT: TRANSPORTATION MOBILITY AND SAFETY M.M. MCDIARMID, P.E., CPM STATE TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS ENGINEER</p>			

- 1 INSTALL 3-WIRE COPPER SERVICE ENTRANCE CONDUCTORS
- 2 INSTALL 4-WIRE COPPER FEEDER CONDUCTORS
- 3 INSTALL 3-WIRE COPPER FEEDER CONDUCTORS
- 4 INSTALL SMFO CABLE
- 5 REUSE 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 POLYETHYLENE CONDUIT IN EXISTING OUTERDUCT
- 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 STUBOUTS
- 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 NEW POLE MOUNTED CABINET
- 25 INSTALL NEW RISER INTO NEW POLE MOUNTED CABINET
- 26 TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
- 27 INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
- 28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPlice CABLE IN CABINET
- 29 INSTALL UNDERGROUND SPlice ENCLOSURE
- 30 MODIFY EXISTING UNDERGROUND SPlice ENCLOSURE
- 31 MODIFY EXISTING BASE MOUNTED SPlice CABINET
- 32 INSTALL BASE MOUNTED SPlice CABINET
- 33 REMOVE EXISTING SPlice CABINET
- 34 INSTALL CABINET FOUNDATION

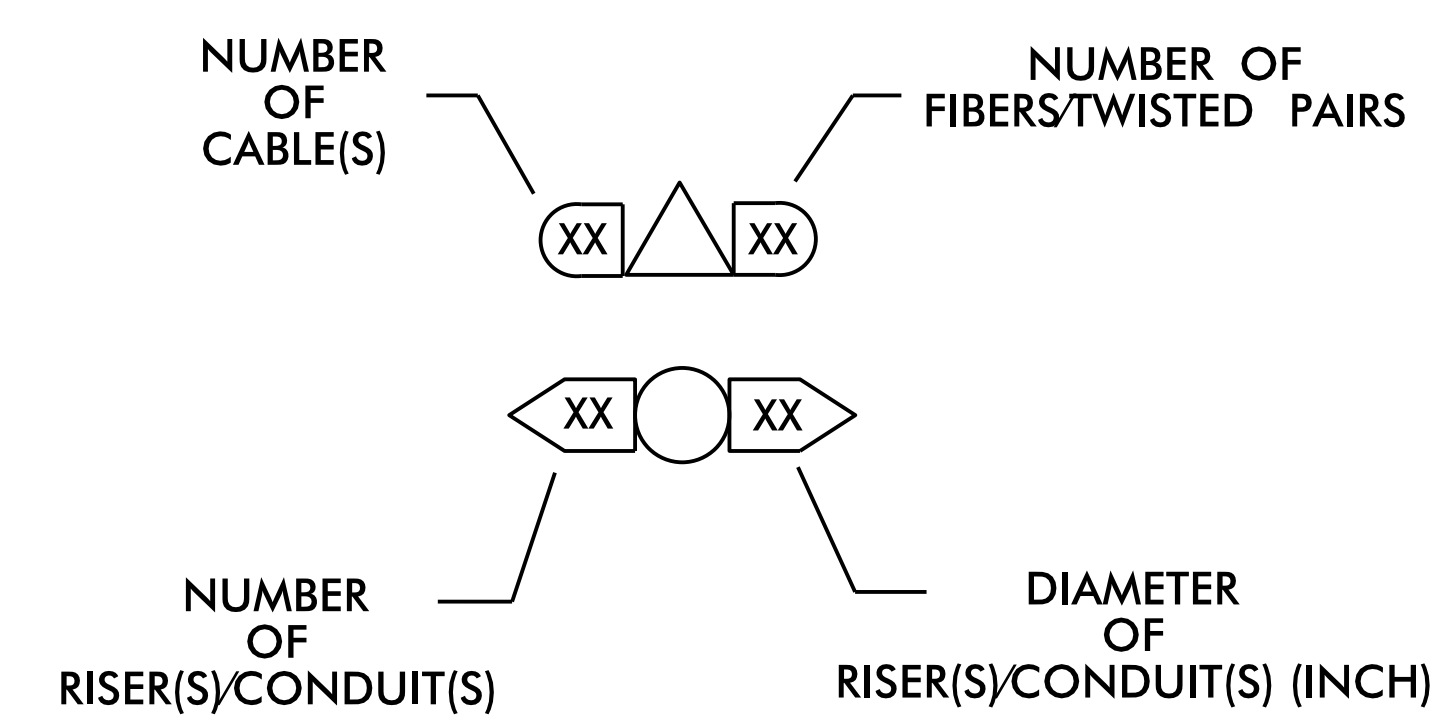
- 35 REMOVE EXISTING CABINET FOUNDATION
- 36 INSTALL CCTV CAMERA ASSEMBLY
- 37 INSTALL CCTV CAMERA METAL POLE WITH LOWERING DEVICE AND FOUNDATION
- 38 INSTALL CCTV WOOD POLE
- 39 INSTALL STANDARD JUNCTION BOX
- 40 INSTALL OVERSIZED JUNCTION BOX
- 41 INSTALL SPECIAL OVERSIZED JUNCTION BOX
- 42 INSTALL WOOD POLE
- 43 INSTALL 6" x 6" WOOD PEDESTAL
- 44 INSTALL AERIAL GUY ASSEMBLY
- 45 INSTALL STANDARD GUY ASSEMBLY
- 46 INSTALL SIDEWALK GUY ASSEMBLY
- 47 INSTALL MESSENGER CABLE
- 48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
- 49 REMOVE EXISTING COMMUNICATIONS CABLE
- 50 INSTALL TELEPHONE SERVICE
- 51 INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
- 52 INSTALL DELINEATOR MARKER
- 53 STORE 50 FEET OF COMMUNICATIONS CABLE
- 54 LASH CABLE(S) TO NEW MESSENGER CABLE
- 55 INSTALL 10KVA SINGLE PHASE TRANSFORMER
- 56 INSTALL NEW EQUIPMENT CABINET DISCONNECT
- 57 MODIFY EXISTING ELECTRICAL SERVICE
- 58 INSTALL NEW ELECTRICAL SERVICE
- 59 INSTALL NEW POLE MOUNTED CABINET
- 60 INSTALL FIELD ETHERNET SWITCH
- 61 INSTALL SOLAR POWER ASSEMBLY
- 62 INSTALL DMS ASSEMBLY
- 63 INSTALL CCTV EXTENSION POLE
- 64 INSTALL NCDOT SUPPLIED MODEM

LEGEND

- NEW FIBER OPTIC COMMUNICATIONS CABLE
- NEW CONDUIT
- EXISTING CONDUIT
- NEW DIRECTIONAL DRILLED CONDUIT
- NEW BORED AND JACKED CONDUIT
- NEW GUARDRAIL
- EXISTING GUARDRAIL
- EXISTING CONTROLLED ACCESS FENCE
- NEW JUNCTION BOX
- EXISTING JUNCTION BOX
- NEW WOOD POLE
- EXISTING WOOD POLE
- NEW SPlice ENCLOSURE
- EXISTING SPlice ENCLOSURE
- NEW METAL POLE
- NEW CCTV CAMERA ASSEMBLY
- PROPOSED PEDESTAL-MOUNTED DMS STRUCTURE
- EXISTING PEDESTAL-MOUNTED DMS STRUCTURE
- NEW STANDARD GUY ASSEMBLY
- NEW ELECTRICAL SERVICE
- NEW ITS DEVICE NUMBER

CONSTRUCTION NOTE SYMBOLOGY KEY

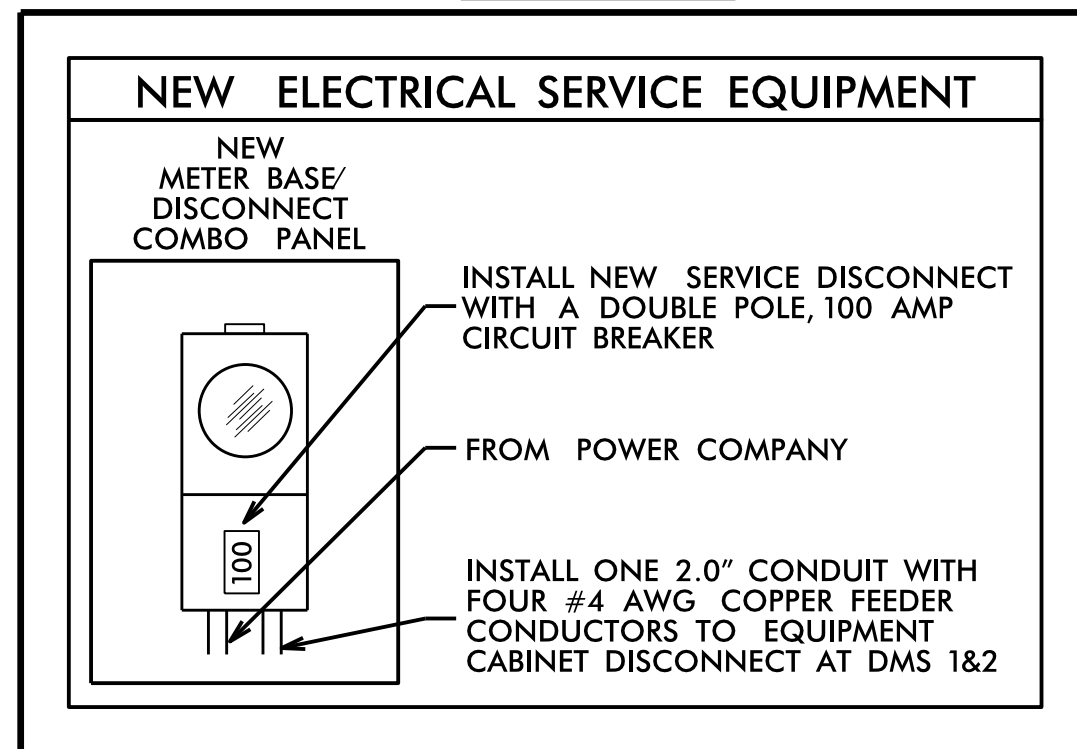
- INDICATES NUMBER OF CABLES, LOOPS, ETC.
- INDICATES NUMBER OF FIBERS PER CABLE, TWISTED PAIRS PER CABLE, ETC.
- INDICATES NUMBER OF RISER(S)/CONDUIT(S)
- INDICATES DIAMETER OF RISER(S)/CONDUIT(S) (INCH)



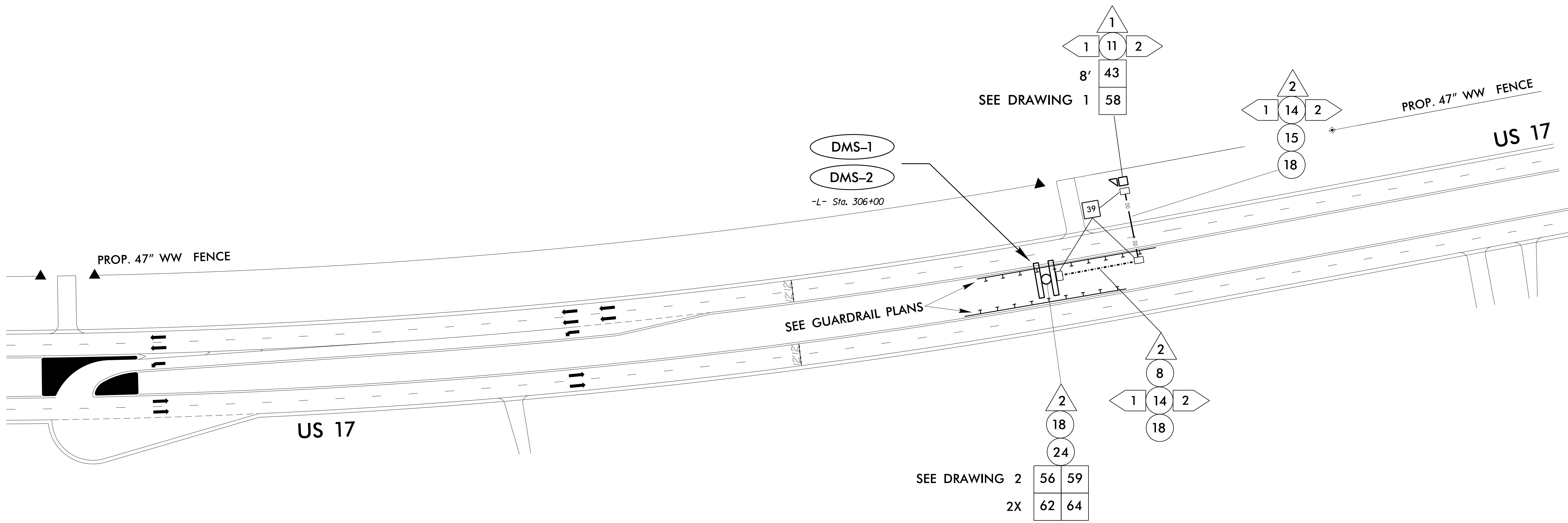
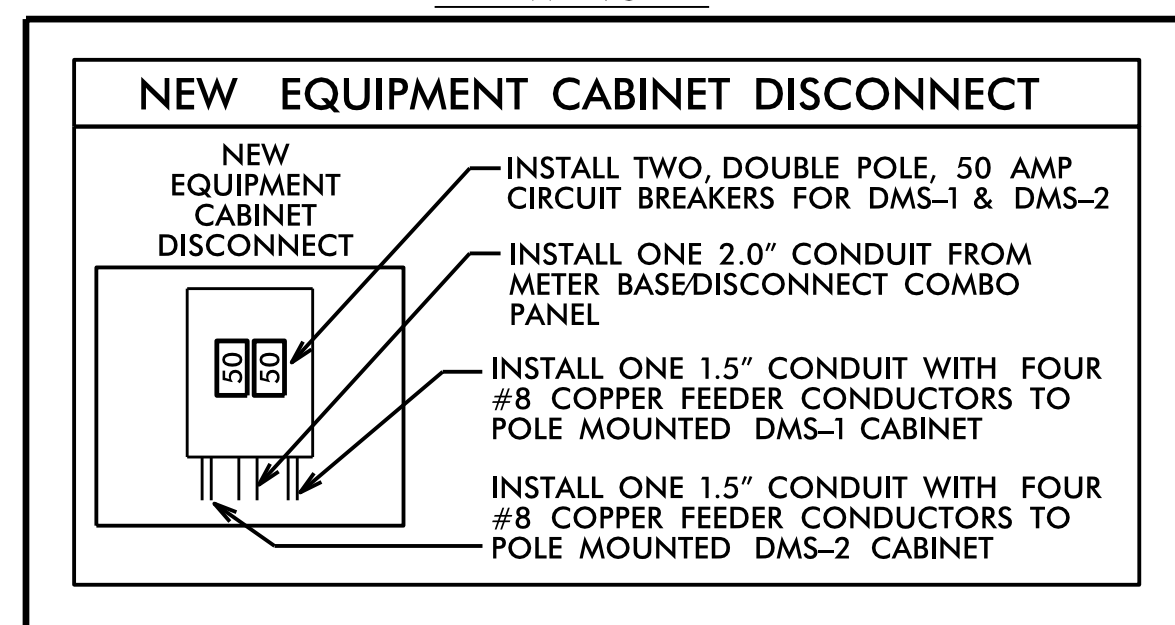
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

	CONSTRUCTION NOTES AND LEGEND		
	DIVISION 01 MARTIN CO		
PLAN DATE: AUGUST 2021	REVIEWED BY: A. J. SKUCE		SEAL 050152 ENGINEER ANDREW J. SKUCE
PREPARED BY: L. E. NEAL	REVIEWED BY:		
SCALE 0 N/A	REVISIONS	INIT.	DATE
750 N. Greenfield Pkwy., Garner, NC 27529			8/4/2021 DATE Andrew J. Skuce

DRAWING 1



DRAWING 2



NOTES

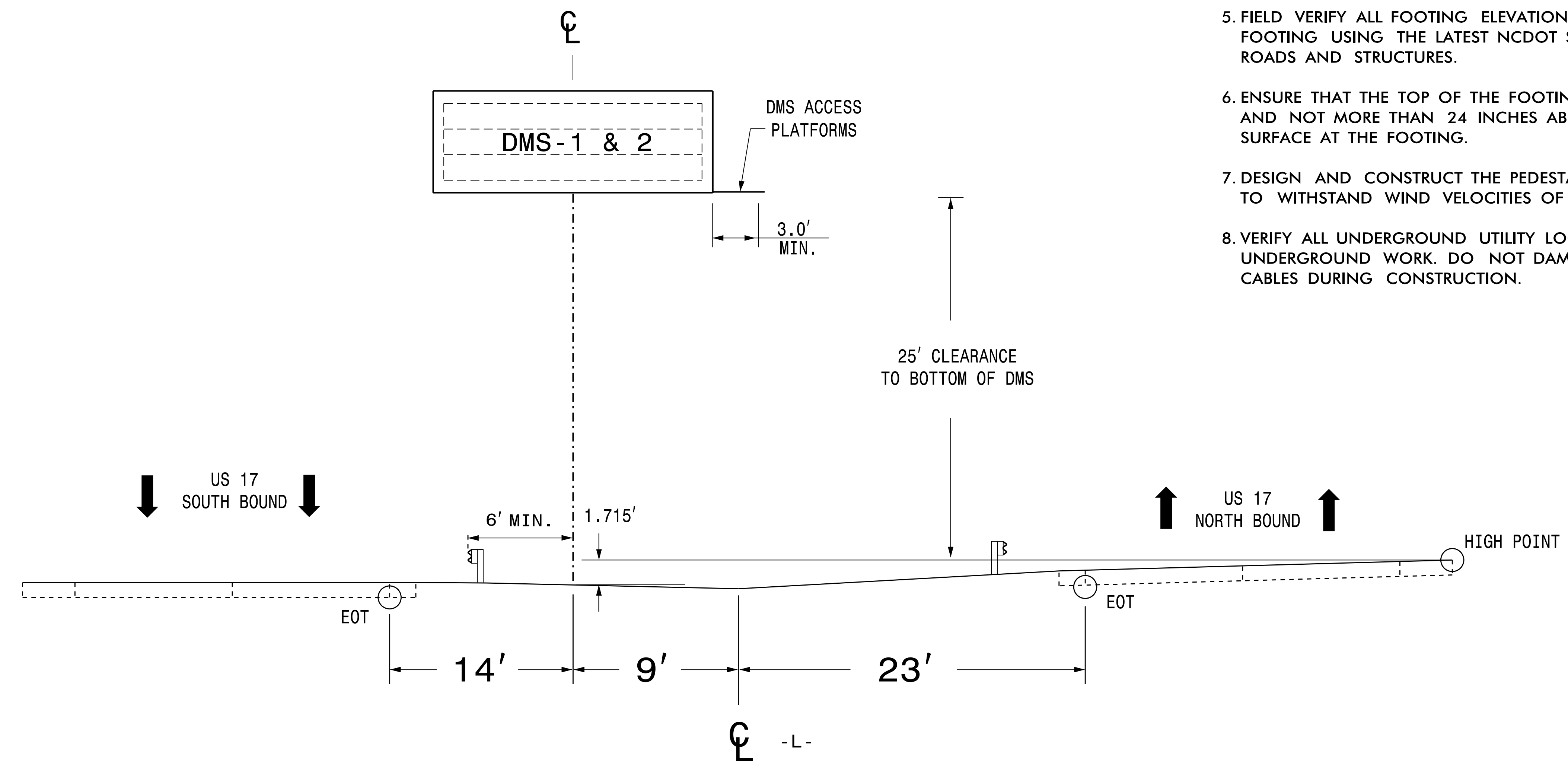
1. INSTALL ELECTRICAL SERVICE PEDESTAL NEAR THE POWER POLE AT -L- STA 307+00.
2. INSTALL DMS STRUCTURE EIGHT FEET (8') BEHIND SOUTHBOUND GUARDRAIL.
3. OBTAIN FINAL LOCATION APPROVAL FROM THE DIVISION TRAFFIC ENGINEER (252-482-1850) BEFORE INITIATING ANY WORK AT THIS LOCATION.
4. INSTALL NEW DMS, WALKWAYS, AND LADDER ON NEW DMS STRUCTURE. INSTALL NEW DMS POLE MOUNTED CABINETS ON NEW DMS STRUCTURE.
5. MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY. MAXIMUM JUNCTION BOX SPACING 1200' FOR FIBER OPTIC CABLE AND 150' FOR FEEDER CONDUCTORS OR AS DIRECTED BY THE ENGINEER.
6. INSTALL NEW GROUNDING SYSTEM AS DESCRIBED ON SHEET ITS-5 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.
7. SEE ROADWAY PLANS FOR GUARDRAIL DETAILS.
8. CONTACT DIVISION TRAFFIC ENGINEER TO REQUEST NCDOT SUPPLIED MODEMS AT LEAST EIGHT (8) WEEKS PRIOR TO INSTALLATION.

<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	
	<p>DMS-1 & DMS-2</p>
<p>750 N. Greenfield Pkwy., Garner, NC 27529</p>	<p>DIVISION 01 MARTIN CO.</p>
<p>SCALE 0 N/A</p>	<p>PLAN DATE: AUGUST 2021 REVIEWED BY: A. J. SKUCE, PE PREPARED BY: L. E. NEAL REVIEWED BY:</p>
<p>REVISIONS</p>	<p>INIT. DATE</p>
<p>8/4/2021</p>	<p>Andrew J. Skuce ENGINEER SEAL 050152</p>
<p>CADD Filename: _____</p>	

ESTIMATED DIMENSION : 27' X 10' FOR EACH DMS
 MAXIMUM DEADLOAD OF 5200 LBS FOR EACH DMS

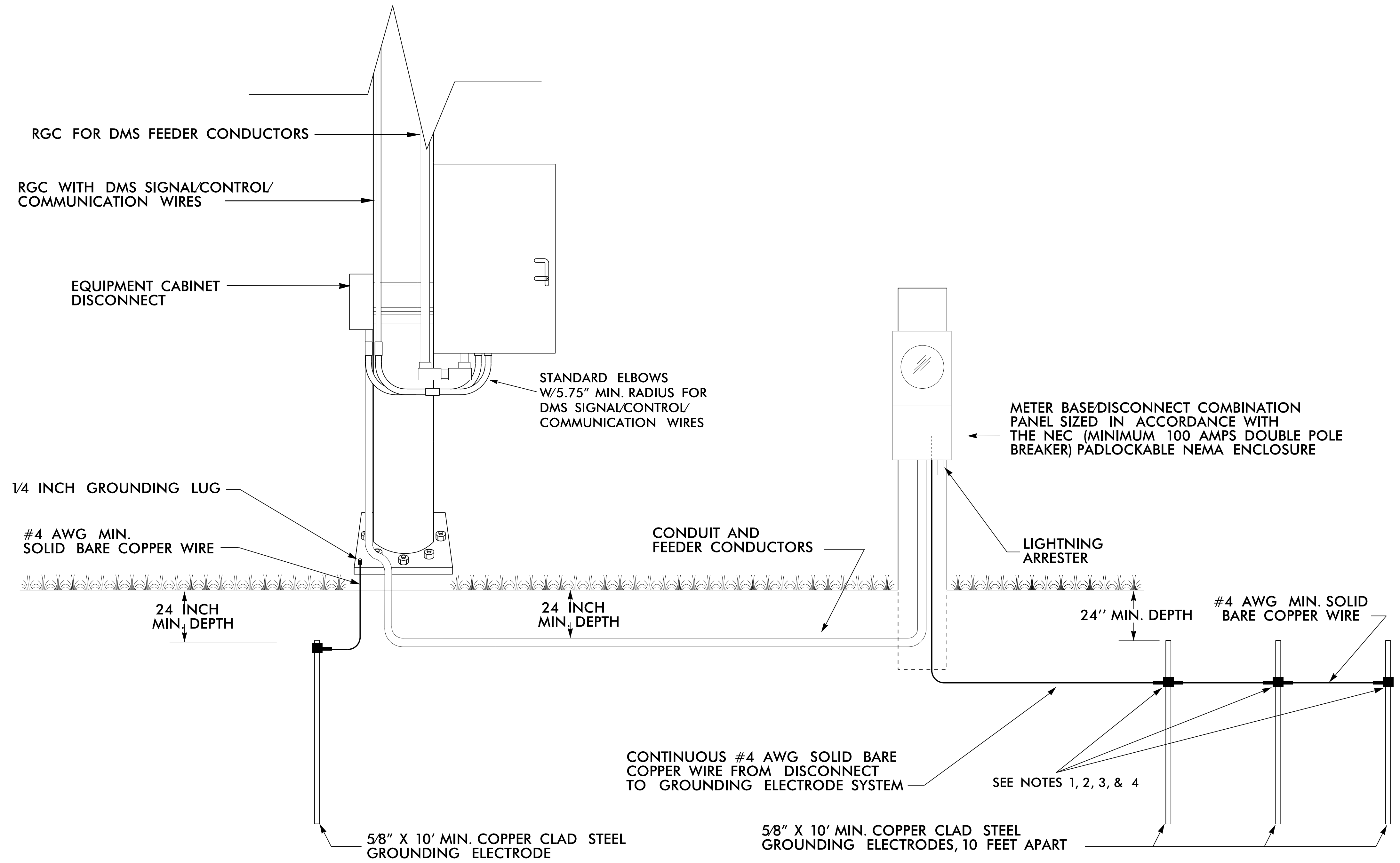
NOTES

1. PROVIDE A FIXED LADDER LEADING TO THE ACCESS PLATFORM FOR THE DMS AS INDICATED IN THE PROJECT SPECIAL PROVISIONS.
2. 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.
3. INSTALL A CONCRETE LANDING PAD MEASURING A MINIMUM 4 INCHES DEEP, 24 INCHES WIDE, AND 36 INCHES LONG DIRECTLY BENEATH THE LADDER.
4. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
5. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTING USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. 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.
7. DESIGN AND CONSTRUCT THE PEDESTAL STRUCTURE AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 130 MPH.
8. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT CABLES DURING CONSTRUCTION.



**DOCUMENT NOT CONSIDERED FINAL
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	ELEVATION DRAWING DMS 1&2 -L- STA 306+00		SEAL
	DIVISION 01 MARTIN CO.		
PLAN DATE: AUGUST 2021 PREPARED BY: L.E. NEAL	REVIEWED BY: A.J. SKUCE, PE REVIEWED BY:		Documented by: Andrew J. Skuce DATE: 8/4/2021
SCALE: 0 N/A	REVISIONS	INIT. DATE	CADD Filename:



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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UNLESS ALL SIGNATURES COMPLETED**

	Prepared in the Offices of: 		SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 050152 ANDREW J. SKUCE
	DYNAMIC MESSAGE SIGN WITH UNDERGROUND ELECTRICAL SERVICE TYPICAL DETAIL DIVISION 01 MARTIN CO. PLAN DATE: AUGUST 2021 REVIEWED BY: A. J. SKUCE PREPARED BY: L. E. NEAL REVIEWED BY:		
SCALE 0 N/A	REVISIONS _____ _____ _____	INIT. DATE _____ _____ _____	CADD Filename: