

DARE WBS: 80064 TYRRELL WBS: 80065

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

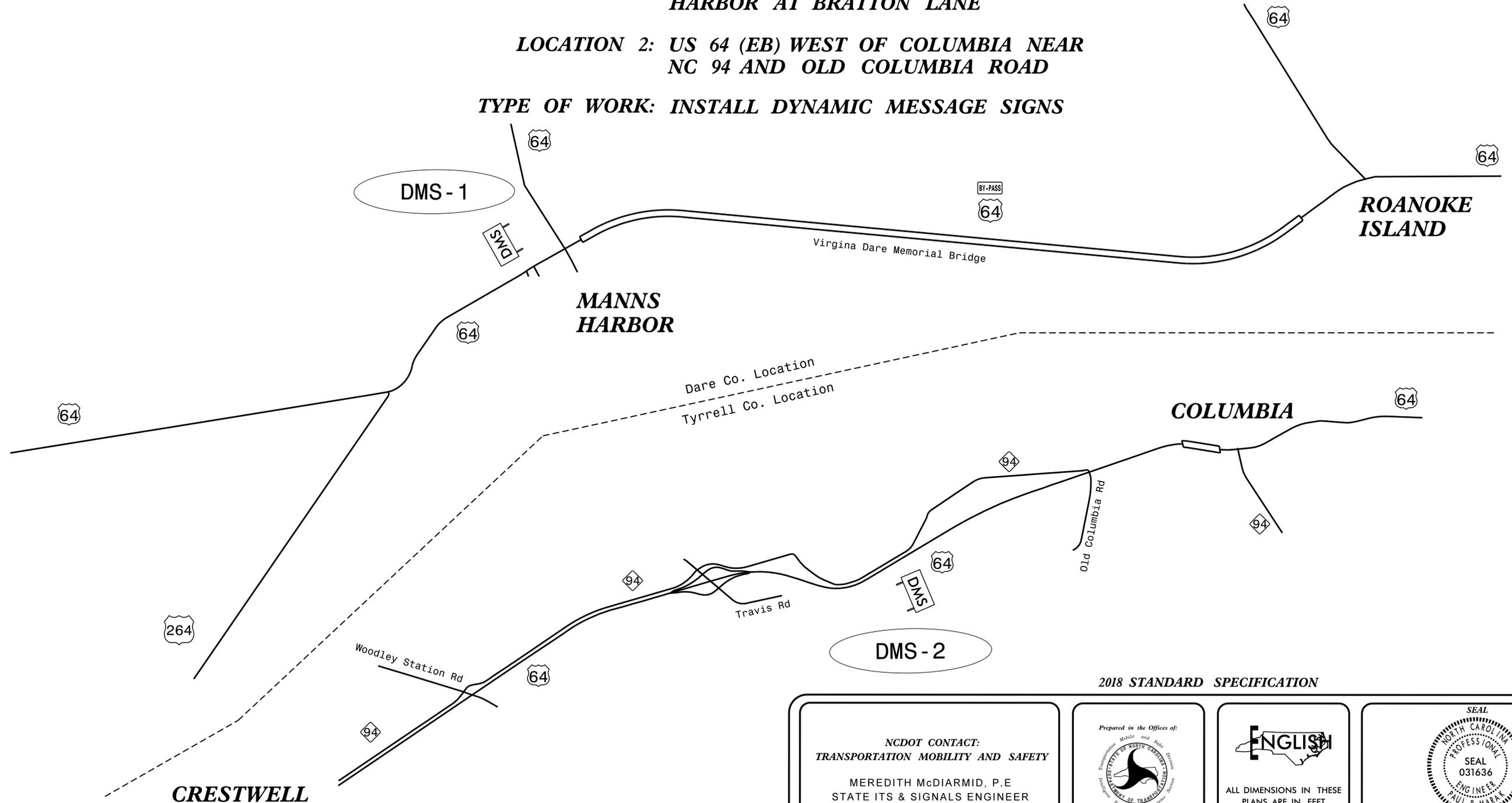
DARE & TYRRELL COUNTIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.		ITS-1
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
WBS 80064		
WBS 80065		

LOCATION 1: US 64 (WB) WEST OF MANNS HARBOR AT BRATTON LANE

LOCATION 2: US 64 (EB) WEST OF COLUMBIA NEAR NC 94 AND OLD COLUMBIA ROAD

TYPE OF WORK: INSTALL DYNAMIC MESSAGE SIGNS



2018 STANDARD SPECIFICATION

NCDOT CONTACT:
TRANSPORTATION MOBILITY AND SAFETY
MEREDITH McDIARMID, P.E
STATE ITS & SIGNALS ENGINEER



ENGLISH
ALL DIMENSIONS IN THESE PLANS ARE IN FEET UNLESS OTHERWISE NOTED



INDEX OF SHEETS

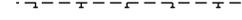
- SHEET 1 TITLE SHEET
 SHEET 2 INDEX OF SHEETS, ROADWAY STANDARD DRAWINGS, AND LEGEND
 SHEET 3-6 PLAN SHEETS
 SHEET 7-8 TYPICAL DETAILS

ROADWAY STANDARD DRAWINGS

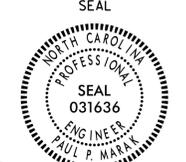
THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" ROADWAY DESIGN UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1700.01	ELECTRICAL SERVICE OPTIONS
1700.02	ELECTRICAL SERVICE GROUNDING
1715.01	UNDERGROUND CONDUIT-TRENCHING
1751.01	CONTROLLER AND CABINETS
1751.02	CONTROLLER AND CABINETS

LEGEND

	NEW CONDUIT
	DIRECTIONAL DRILL CONDUIT
	EXISTING GUARDRAIL
	NEW GUARDRAIL
	EXISTING CABLE GUIDE RAIL
	EXISTING POLE
	NEW ELECTRICAL SERVICE
	NEW DMS PEDESTAL MOUNTED STRUCTURE

2018 STANDARD SPECIFICATIONS

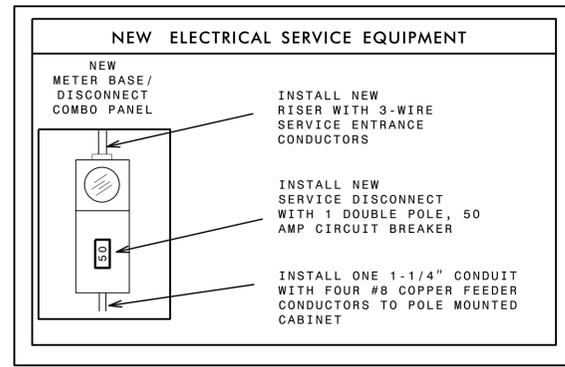
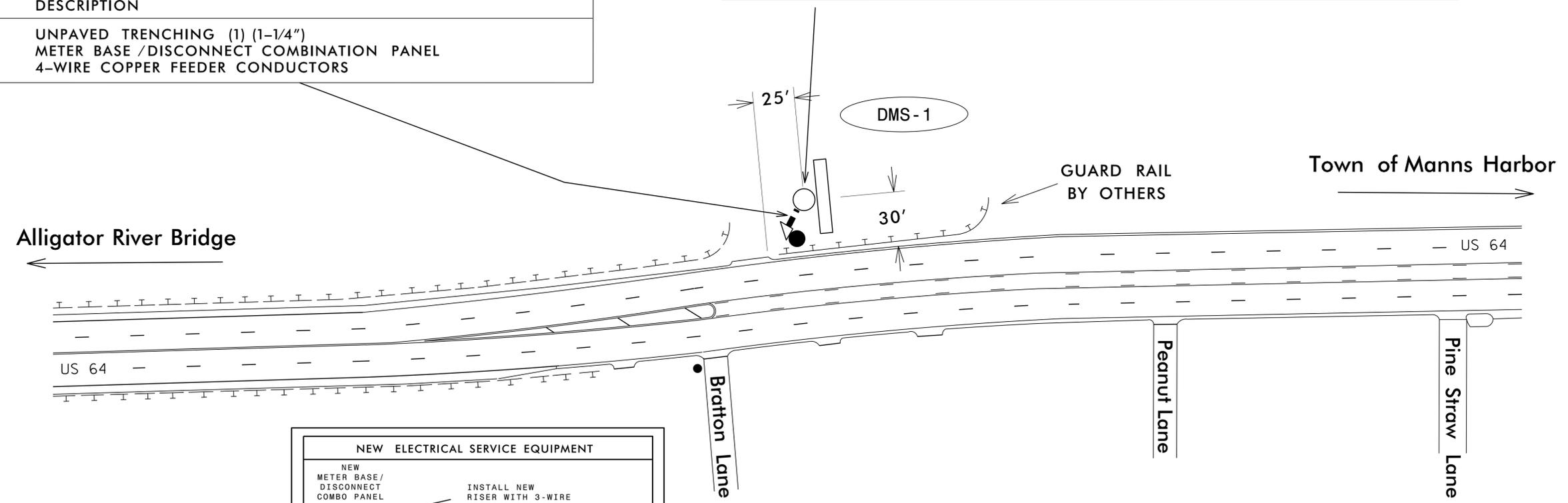
 Prepared in the Offices of: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION 750 N. Greenfield Pkwy., Garner, NC 27529	DMS INSTALLATION INDEX OF SHEETS, ROADWAY STANDARD DRAWINGS, AND LEGEND		SEAL  SEAL 031636 PAUL P. MARAK ENGINEER
	PLAN DATE: JUNE 2018 PREPARED BY: L. NEAL	REVIEWED BY: GREEN REVISIONS INIT. DATE	
SCALE 0  N/A	CADD Filename:		7/18/2018 DATE

DMS-1 GPS COORDINATES

35° 53'00.2" N
75° 46'01.9" W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
25'	UNPAVED TRENCHING (1) (1-1/4")
1	METER BASE /DISCONNECT COMBINATION PANEL
30'	4-WIRE COPPER FEEDER CONDUCTORS

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
1	STRUCTURE
1	FOUNDATION
20'	1 1/4" RISER WITH WEATHERHEAD
30'	3-WIRE COPPER SERVICE ENTRANCE CONDUCTORS
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR



NOTES

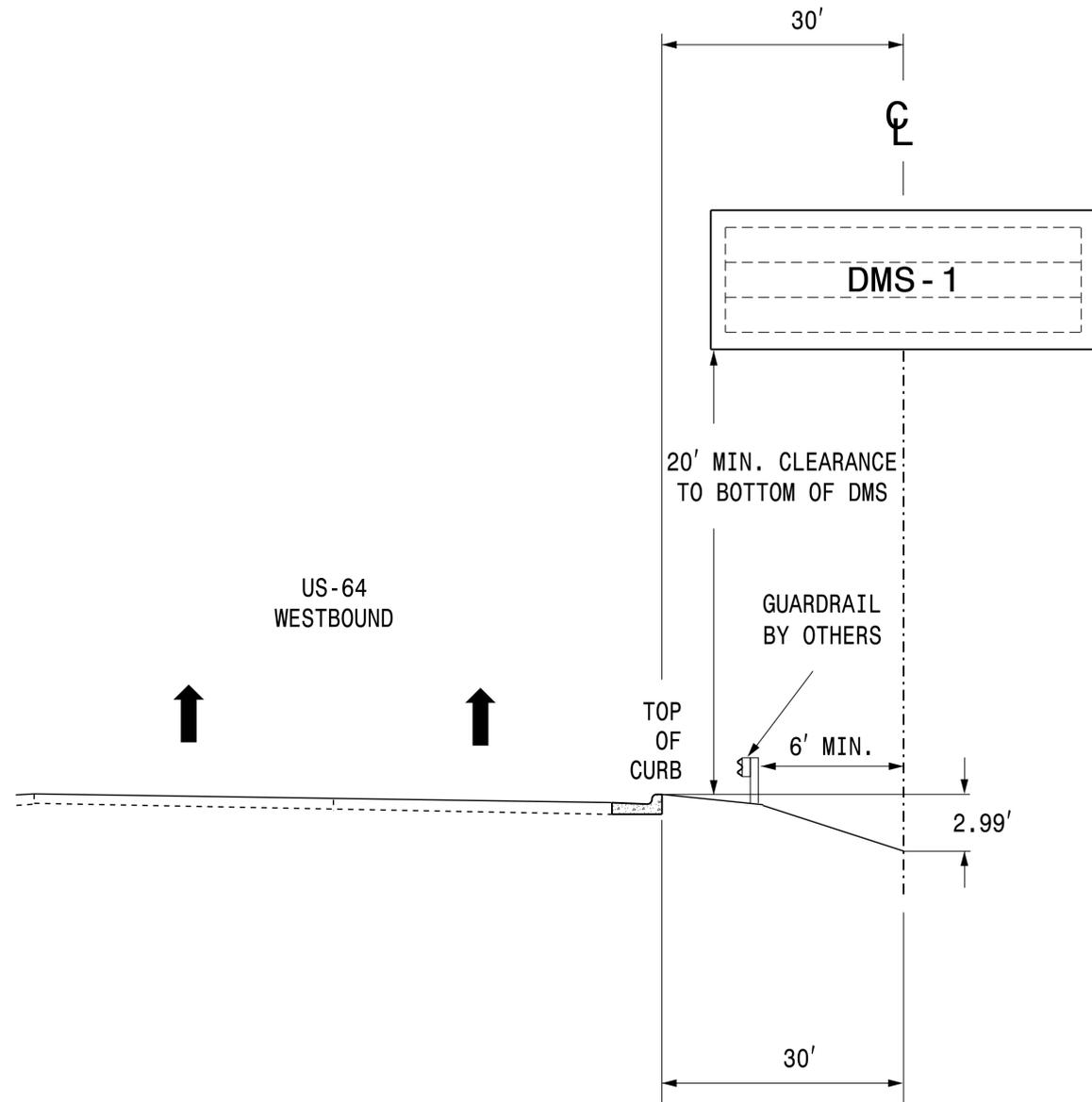
1. INSTALL NEW DMS ON NEW DMS STRUCTURE.
2. INSTALL NEW DMS POLE MOUNTED CABINET ON NEW DMS STRUCTURE.
3. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-5 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.
4. CALL NC ONE CALL CENTER OR 811 BEFORE YOU DIG.

<p>750 N. Greenfield Pkwy., Garner, NC 27529</p>	DMS INSTALLATION		
	DIVISION 01 DARE CO. MANN'S HARBOR PLAN DATE: MAY 2018 REVIEWED BY: PREPARED BY: L. NEAL REVIEWED BY: GREEN	REVISIONS INIT. DATE SCALE: 0 CADD Filename:	

ESTIMATED DIMENSION : 15' X 8'
 MAXIMUM DEADLOAD OF 1500 LBS

NOTES:

1. USE THE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS PROVIDED BY THE DMS FABRICATOR TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
2. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTINGS USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
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 140 MPH.
5. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT COMMUNICATIONS CABLE DURING CONSTRUCTION.

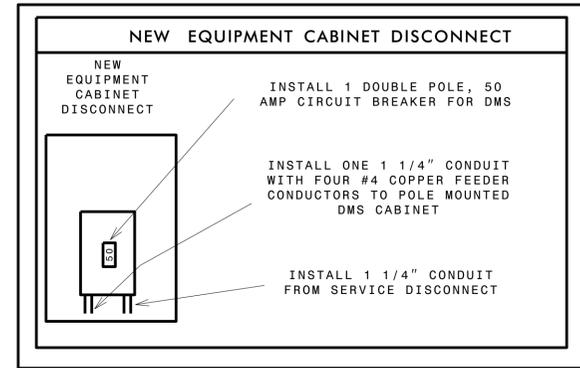
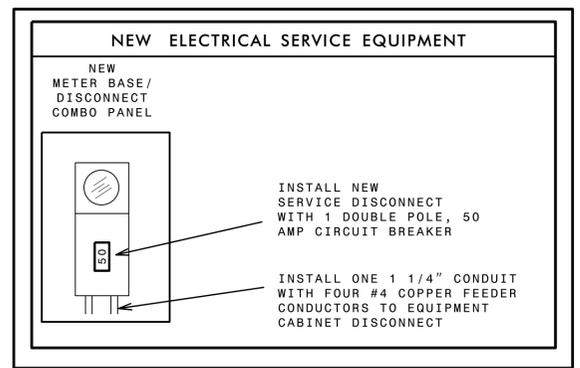
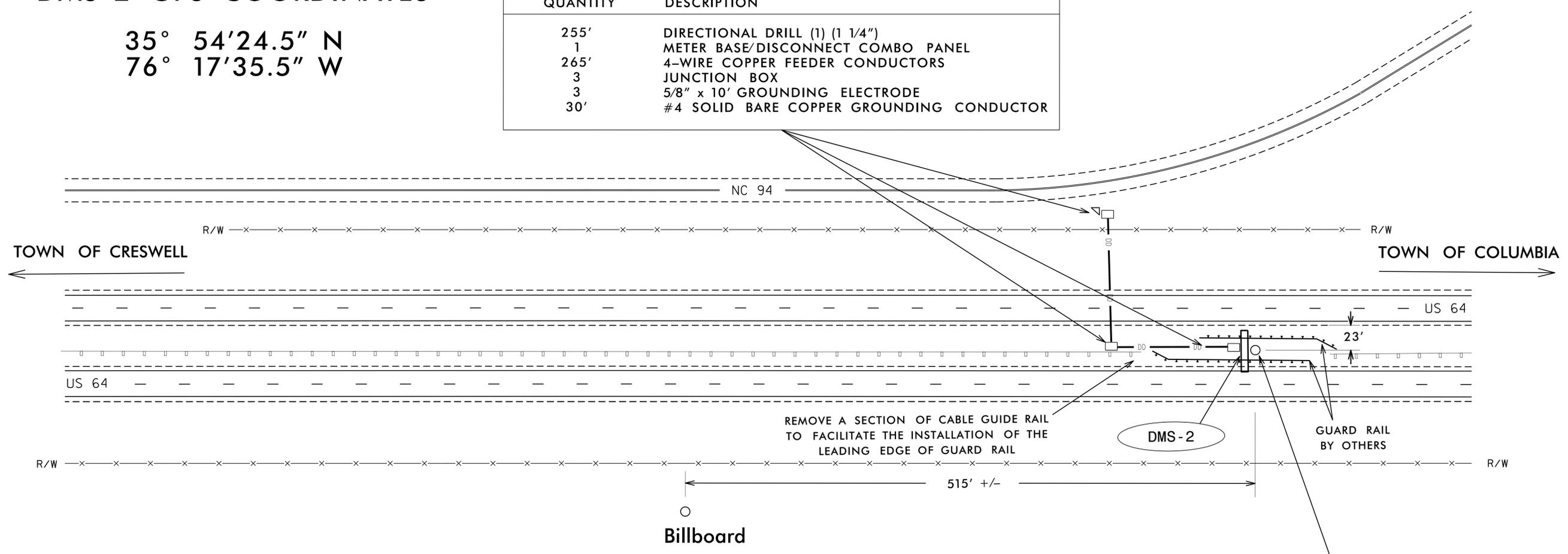


 Prepared in the Offices of: Transportation, Mobility and Safety Division DEPARTMENT OF TRANSPORTATION 750 N. Greenfield Pkwy., Garner, NC 27529	DMS INSTALLATION		SEAL  SEAL 031636 ENGINEER PAUL P. MARK
	DIVISION 01 DARE CO. MANN'S HARBOR		
	PLAN DATE: MAY 2018 REVIEWED BY:	PREPARED BY: L. NEAL REVIEWED BY: GREEN	
SCALE 0 N/A	REVISIONS _____ _____ _____	INIT. DATE _____ _____	DocuSigned by: <i>Paul P. Mark</i> CADDIST0156461 SIGNATURE DATE _____ _____ 7/18/2018

DMS-2 GPS COORDINATES

35° 54'24.5" N
76° 17'35.5" W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
255'	DIRECTIONAL DRILL (1) (1 1/4")
1	METER BASE/DISCONNECT COMBO PANEL
265'	4-WIRE COPPER FEEDER CONDUCTORS
3	JUNCTION BOX
3	5/8" x 10' GROUNDING ELECTRODE
30'	#4 SOLID BARE COPPER GROUNDING CONDUCTOR



INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
1	DMS PEDESTAL STRUCTURE FOUNDATION
1	DMS ACCESS LADDER
1	EQUIPMENT CABINET DISCONNECT
1	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
10'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

NOTES

1. INSTALL NEW DMS, WALKWAY, AND LADDER ON NEW DMS STRUCTURE.
2. INSTALL NEW DMS POLE MOUNTED CABINET ON NEW DMS STRUCTURE.
3. COMMUNICATION LINK BETWEEN DMS & DIVISION OFFICES WILL BE ESTABLISHED BY OTHERS.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-5 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.
5. CALL NC ONE CALL CENTER OR 811 BEFORE YOU DIG.

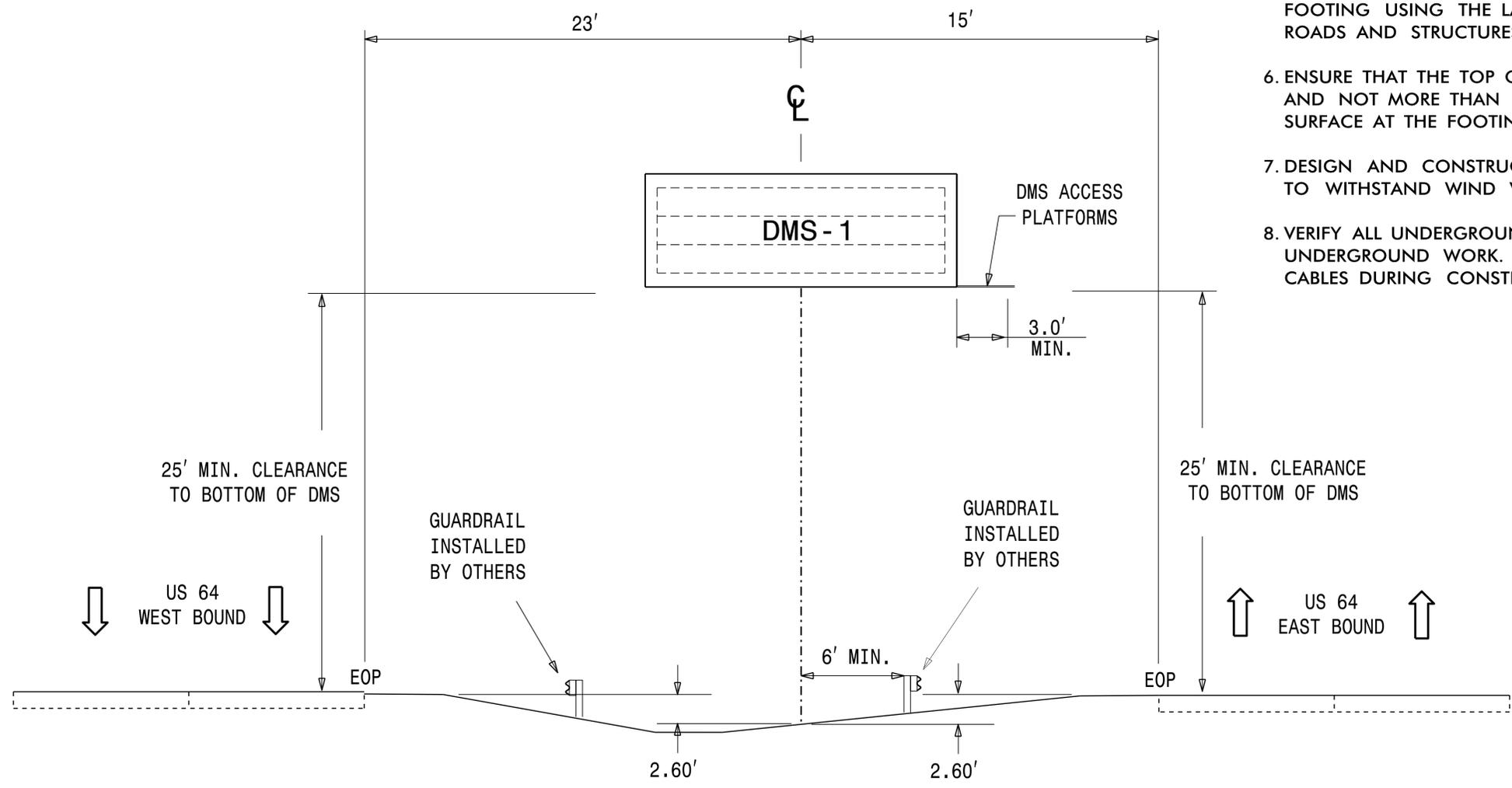
MM 563.5

	DMS INSTALLATION		
	DIVISION 01 TYRRELL CO., WEST OF COLUMBIA PLAN DATE: JUNE 2018 PREPARED BY: L. NEAL REVISIONS: _____ INIT. DATE: _____	REVIEWED BY: GREEN REVISIONS: _____ INIT. DATE: _____	

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

NOTES

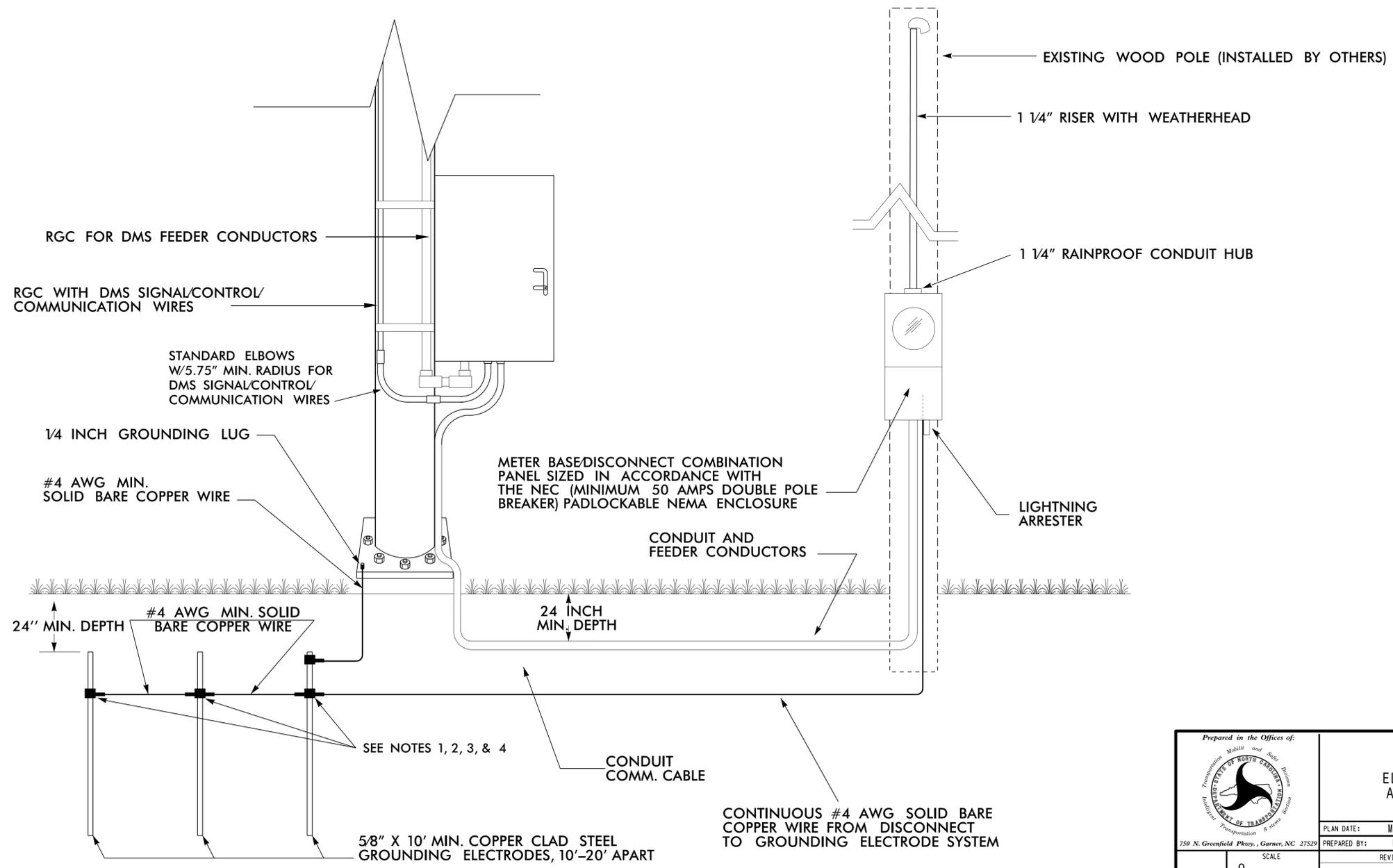
1. PROVIDE A FIXED LADDER LEADING TO THE ACCESS PLATFORM.
2. EQUIP THE LADDER WITH A SECURITY COVER (LADDER GUARD). START THE FIRST LADDER RUNG NO MORE THAN 18 INCHES ABOVE A CONCRETE LANDING PAD. DESIGN RUNGS ON 12 INCH CENTER-TO-CENTER TYPICAL SPACING.
3. INSTALL A CONCRETE LANDING PAD MEASURING A 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.



Prepared in the Offices of:  750 N. Greenfield Pkwy., Garner, NC 27529	DMS INSTALLATION		SEAL  SEAL 031636 ENGINEER PAUL P. MARAK
	DIVISION 01 TYRRELL CO., WEST OF COLUMBIA PLAN DATE: JUNE 2018 REVIEWED BY: GREEN PREPARED BY: NEAL REVIEWED BY:	REVISIONS INIT. DATE	
SCALE 0 N/A	CADD Filename:		7/18/2018

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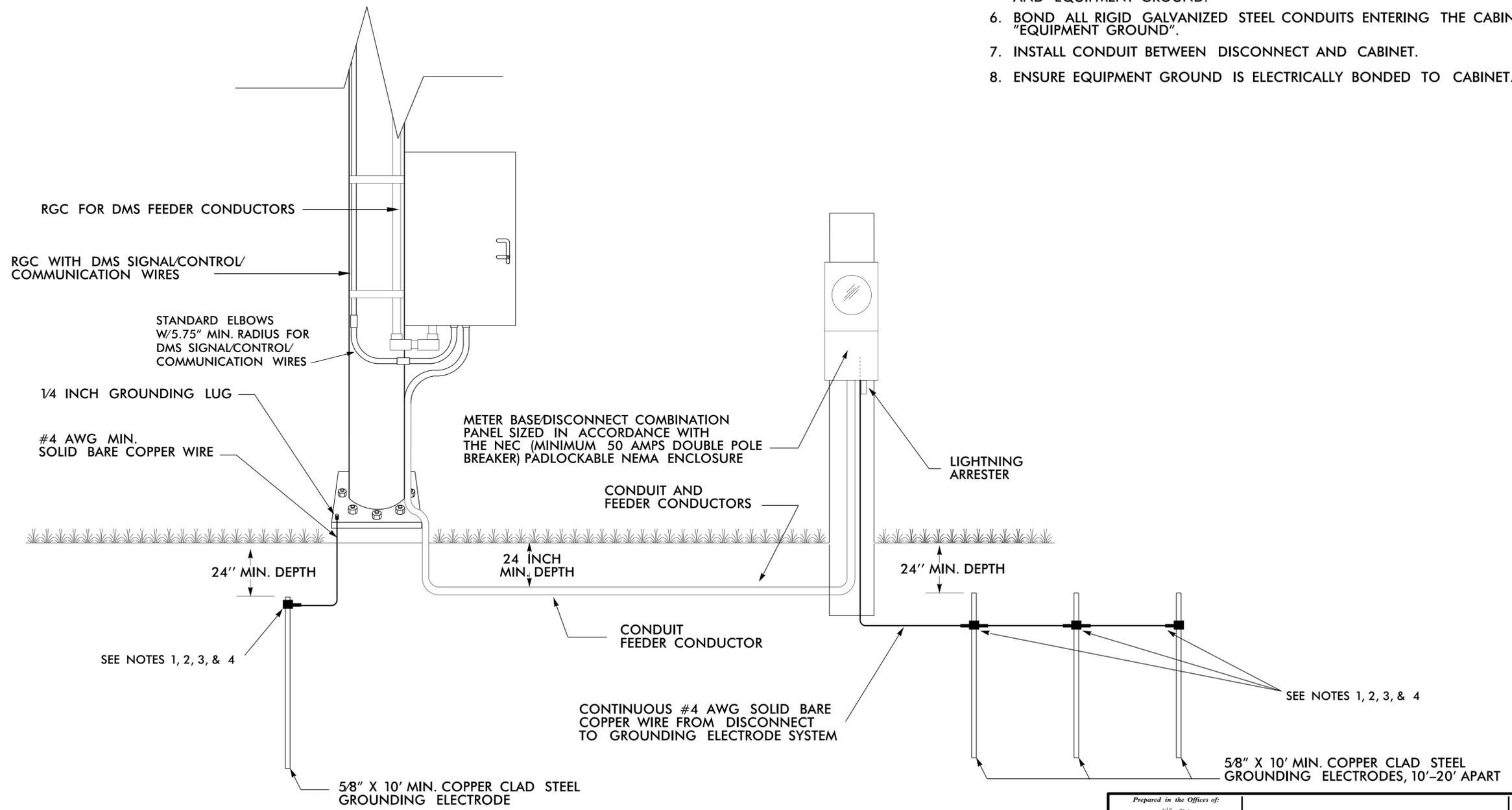
1. INSTALL A MINIMUM OF ONE (1) GROUNDING ELECTRODE. ENSURE THAT EXISTING UNDERGROUND FACILITIES ARE NOT DAMAGED DURING INSTALLATION.
2. TEST GROUNDING SYSTEM USING AN APPROVED METHOD. SYSTEM SHOULD MEASURE TWENTY (20) OHMS OR LESS. ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED AS DIRECTED BY THE 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.



	DMS ELECTRICAL SERVICE AND GROUNDING DETAIL	
	PLAN DATE: MAY 2018 PREPARED BY: L. NEAL SCALE: 0 N/A	REVIEWED BY: GREEN REVIEWED BY: GREEN INIT.: DATE:
DocuSigned by: Paul P. Marak PROFESSIONAL ENGINEER PAUL P. MARAK		7/18/2018 SIGNATURE: _____ DATE: _____

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	PLAN DATE: MAY 2018 PREPARED BY: L. NEAL SCALE: 0 N/A	REVIEWED BY: GREEN REVIEWED BY: GREEN REVISIONS: _____ INIT.: _____ DATE: _____	