

PROJECT: U-5195

CONTRACT: C202515-SG

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.	U-5195	ITS-1
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
45309.1.STI	STM-000S(610)	P.E.
45309.3.STI	STM-000S(610)	CONST.

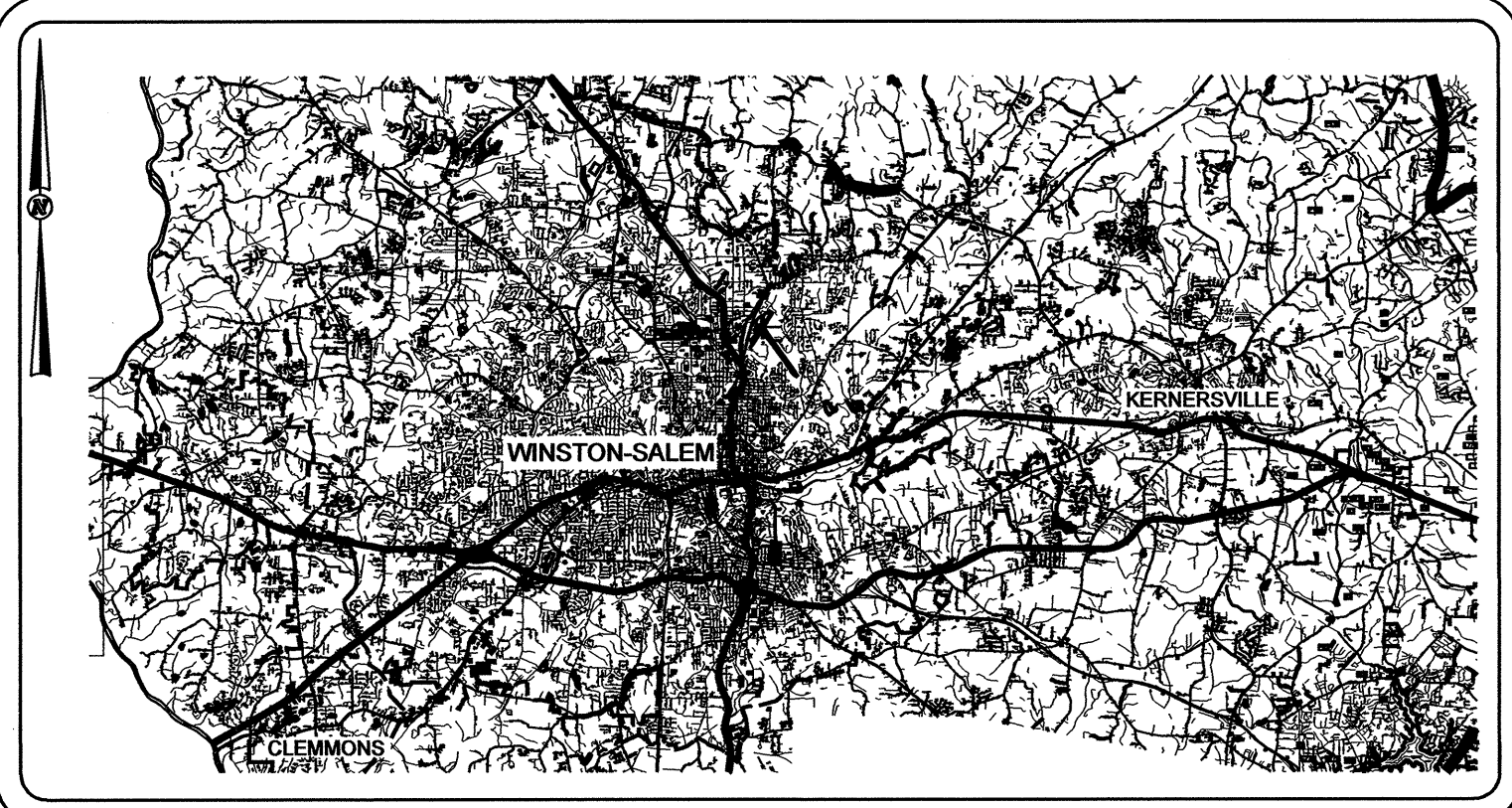
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

FORSYTH & GUILFORD COUNTIES

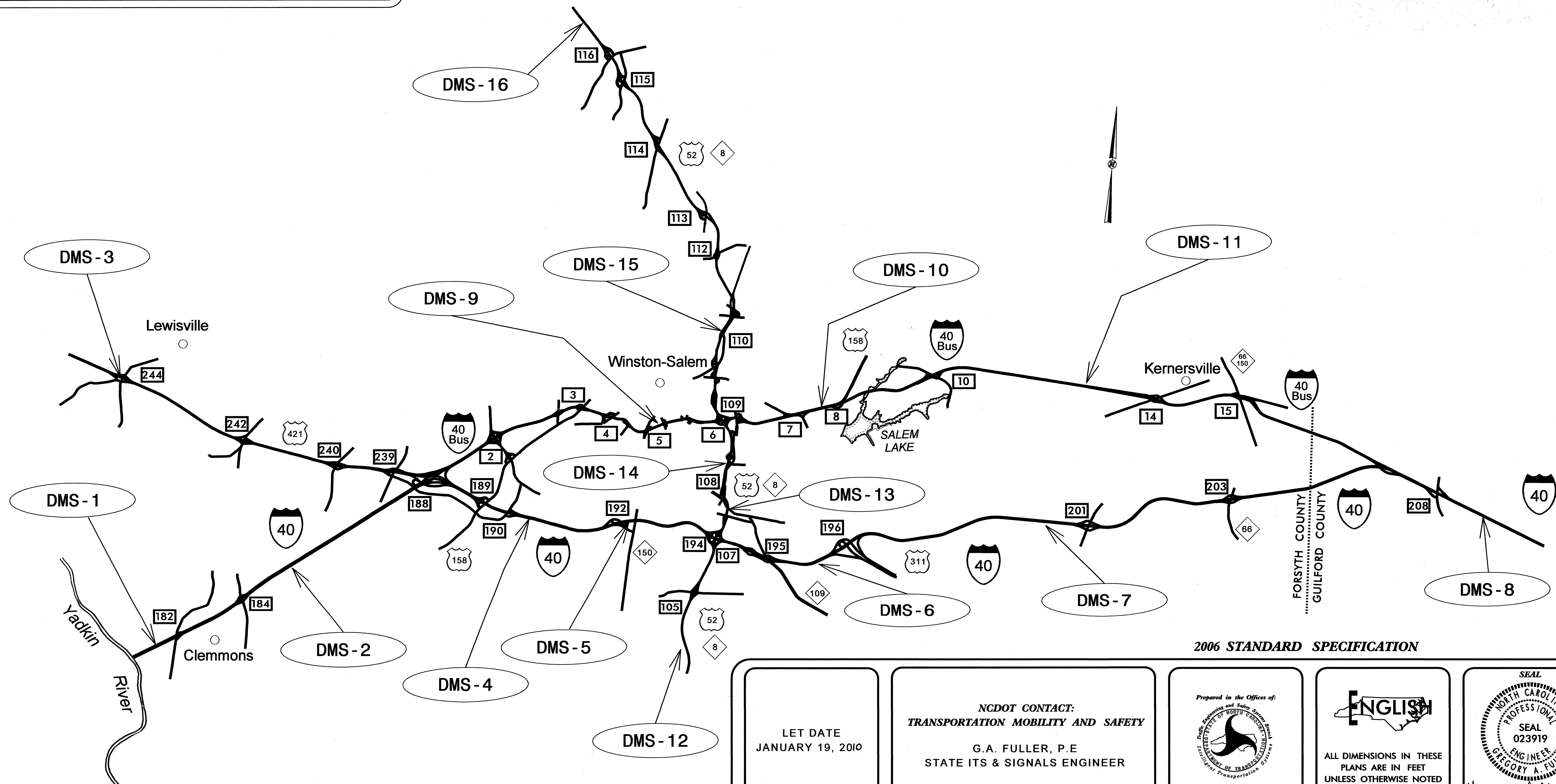
PLANS FOR PROPOSED

DYNAMIC MESSAGE SIGN REPLACEMENT

THIS PROJECT CONSISTS OF FURNISHING AND INSTALLING EQUIPMENT AND MATERIALS FOR THE REPLACEMENT OF SIXTEEN (16) DYNAMIC MESSAGE SIGNS ALONG I-40, I-40 BUS., US 421, AND US 52 IN FORSYTH AND GUILFORD COUNTIES, NORTH CAROLINA. RELATED MATERIALS CONSIST OF DMS ASSEMBLIES, LOCAL CABINETS AND CONTROLLERS, AND ELECTRICAL SERVICE EQUIPMENT.



VICINITY MAP

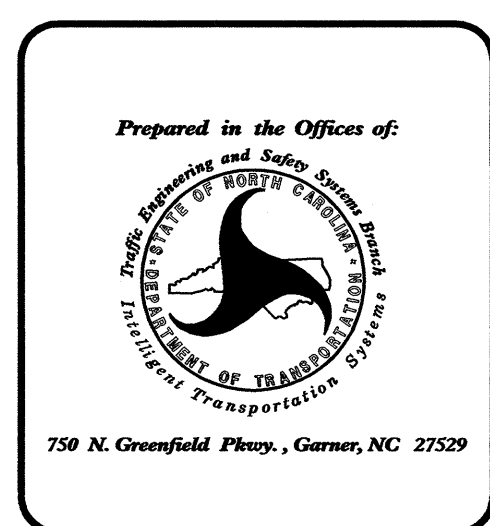


2006 STANDARD SPECIFICATION

LET DATE
JANUARY 19, 2010

NCDOT CONTACT:
TRANSPORTATION MOBILITY AND SAFETY

G. A. FULLER, P.E.
STATE ITS & SIGNALS ENGINEER



ENGLISH

ALL DIMENSIONS IN THESE
PLANS ARE IN FEET
UNLESS OTHERWISE NOTED

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
023919
ENGINEER
GREGORY A. FULLER
11/27/09

INDEX OF SHEETS



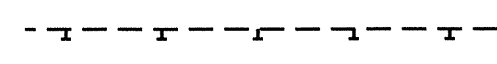
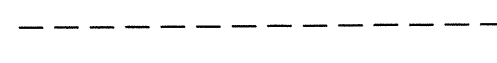
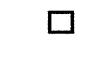

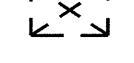

SHEET 1 TITLE SHEET
 SHEET 2 INDEX OF SHEETS, ROADWAY STANDARD DRAWINGS, AND LEGEND
 SHEET 3 SUMMARY OF QUANTITIES
 SHEET 4-19 PLAN SHEETS
 SHEET 20-21 TYPICAL DETAILS
 SHEET 22-23 DMS MOUNTING DETAILS
 SHEET S1-S14 EXISTING DMS SHOP DRAWINGS

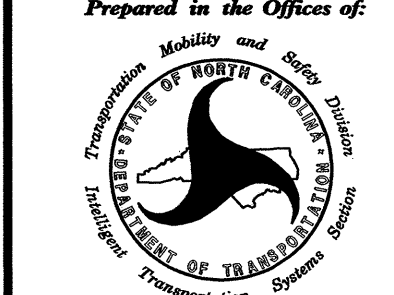
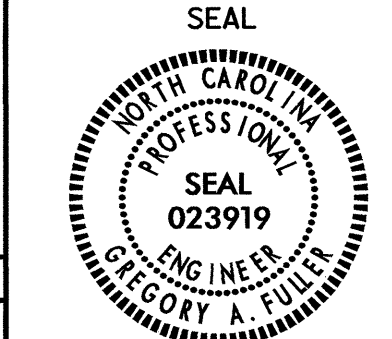

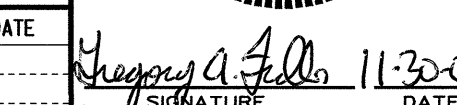
ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS". ROADWAY DESIGN UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JULY 2006 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
1716.01	JUNCTION BOXES
1720.01	WOOD POLES

LEGEND

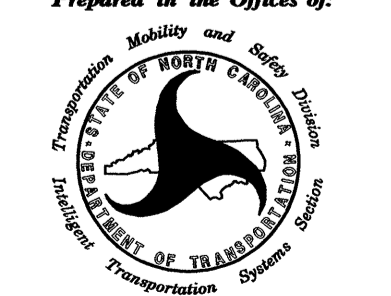

	NEW CONDUIT
	EXISTING CONDUIT
	EXISTING GUARDRAIL
	EXISTING PORTABLE CONCRETE BARRIER
	EXISTING ELECTRICAL SERVICE PEDESTAL
	EXISTING WOOD POLE
	EXISTING EQUIPMENT CABINET
	EXISTING GANTRY DMS STRUCTURE

 Prepared in the Offices of: Mobility and Safety Division STATE OF NORTH CAROLINA Department of Transportation 750 N. Greenfield Pkwy., Garner, NC 27529	DMS REPLACEMENT INDEX OF SHEETS, ROADWAY STANDARD DRAWINGS, AND LEGEND		SEAL  SEAL 023919 ENGINEER GREGORY A. FULLER
	DIVISION 09 FORSYTH & GUILFORD CO.		
	PLAN DATE: NOVEMBER 2009	REVIEWED BY: YOW/ASLAMI	
	PREPARED BY: GREEN	REVIEWED BY: PARKER	
SCALE 0  N/A	REVISIONS _____ _____ _____	INIT. DATE _____ _____ _____	SIGNATURE  DATE 11-30-09
CADD File name:			

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202515

ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
458900000-N	SP	Lump Sum		GENERIC TRAFFIC CONTROL ITEM TRAFFIC CONTROL
730000000-E	1715	550	LF	UNPAVED TRENCHING (***** (1, 1-1/4" & 1, 1/2")
755200000-N	1731	3	EA	INTERCONNECT CENTER
790100000-N	1753	4	EA	CABINET BASE EXTENDER
798000000-N	SP	37	EA	GENERIC SIGNAL ITEM 5/8" X 1/2" COPPER CLAD GROUND- ING ELECTRODE
798000000-N	SP	12	EA	GENERIC SIGNAL ITEM DISPOSAL OF EXISTING CABINET FOUNDATION
798000000-N	SP	16	EA	GENERIC SIGNAL ITEM DISPOSAL OF EXISTING DMS
798000000-N	SP	16	EA	GENERIC SIGNAL ITEM DMS
798000000-N	SP	4	EA	GENERIC SIGNAL ITEM MODIFY EXISTING DMS CABINET FOUNDATION
798000000-N	SP	10	EA	GENERIC SIGNAL ITEM MODIFY EXISTING ELECTRICAL SERVICE EQUIPMENT
799000000-E	SP	160	LF	GENERIC SIGNAL ITEM #4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR
799000000-E	SP	670	LF	GENERIC SIGNAL ITEM 4-WIRE THWN #6 AWG STRANDED COPPER FEEDER CONDUCTORS
799000000-E	SP	670	LF	GENERIC SIGNAL ITEM 6-PAIR 19 AWG FILLED TELEPHONE CABLE

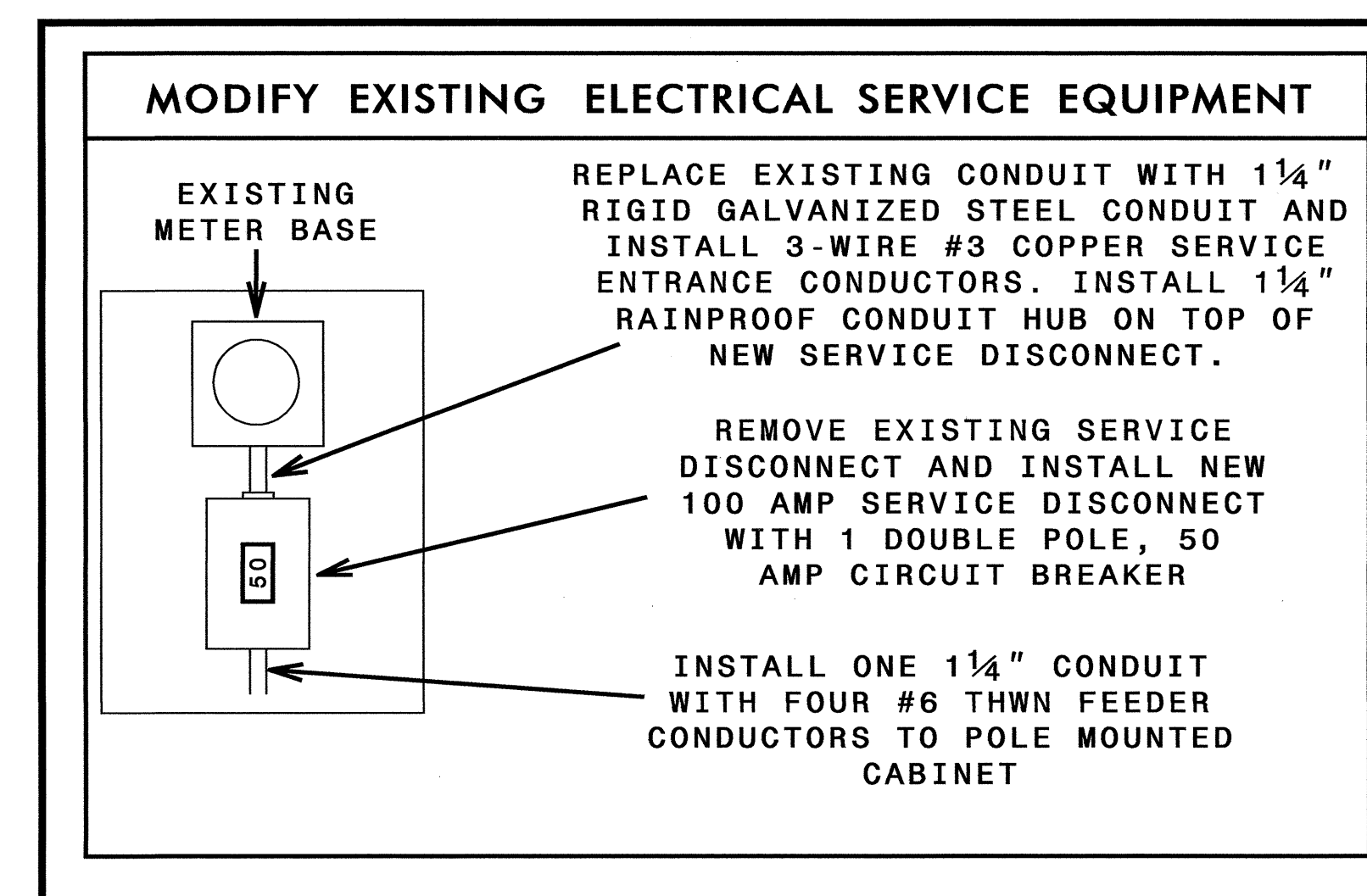
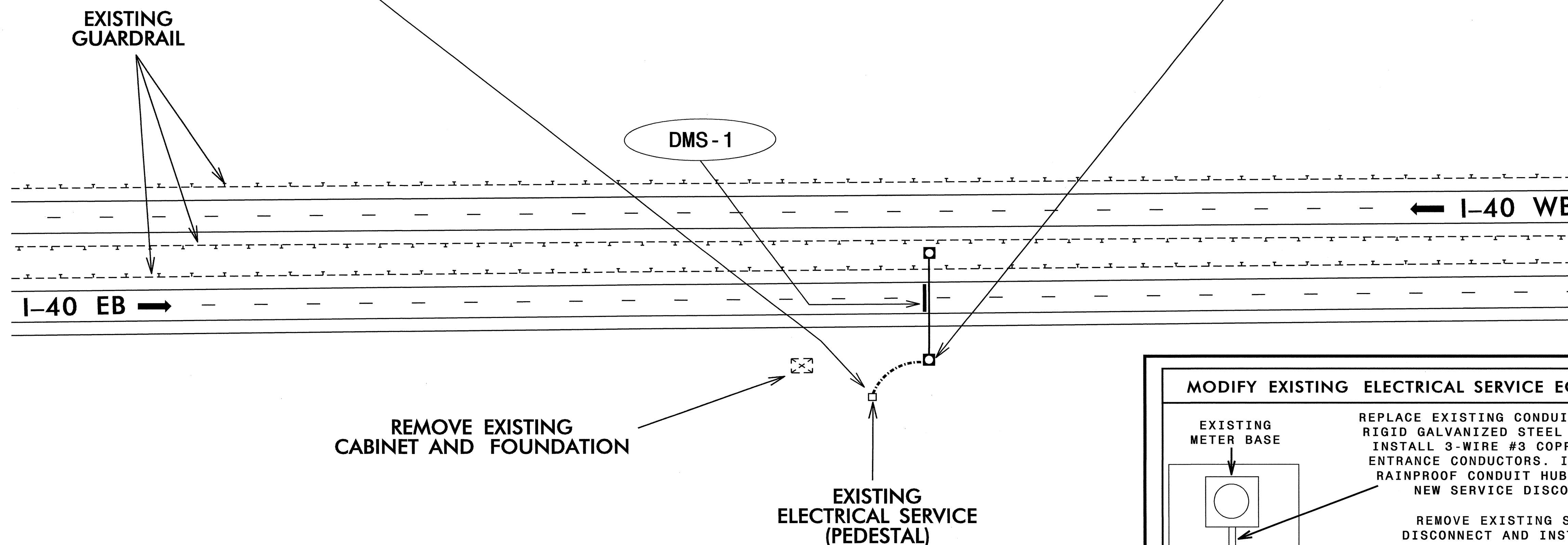
 <p>Prepared in the Offices of: Department of Transportation 750 N. Greenfield Pkwy., Garner, NC 27529</p>	DMS REPLACEMENT SUMMARY OF QUANTITIES		
	DIVISION 09 FORSYTH & GUILFORD CO.		
	PLAN DATE: NOVEMBER 2009	REVIEWED BY: YOW/ASLAMI	
	PREPARED BY: GREEN	REVIEWED BY: PARKER	
SCALE 0 N/A	REVISIONS	INIT.	DATE
		SIGNATURE	DATE
CADD File Name:			

DMS-1 GPS COORDINATES

36° 01.092 N
-80° 24.866 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	MODIFY ELECTRICAL SERVICE EQUIPMENT
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
50'	UNPAVED TRENCHING (1)(1 1/4") & (1)(1/2")
60'	4-WIRE THWN #6 AWG STRANDED COPPER FEEDER CONDUCTORS
60'	#19 AWG PE-39 TELEPHONE CABLE



NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. INSTALL NEW DMS POLE MOUNTED CABINET ON EXISTING DMS STRUCTURE.
3. MODIFY EXISTING RISERS ON DMS STRUCTURE AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE RISERS.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-20 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

MM 181

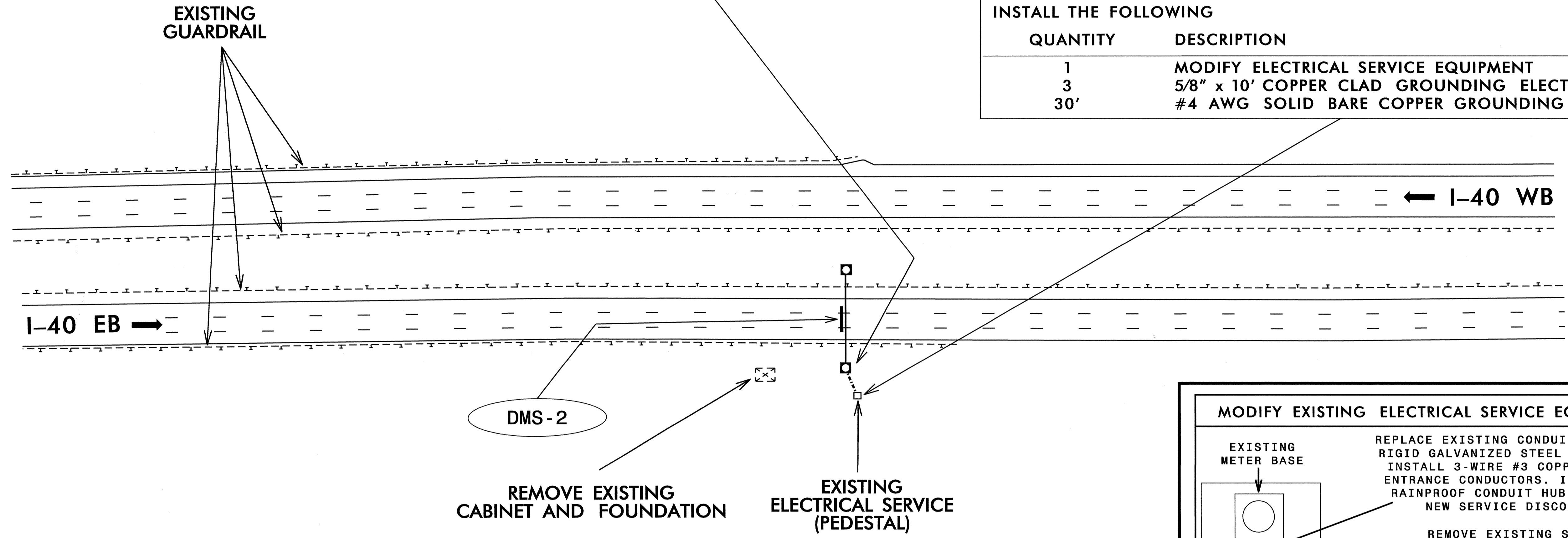
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	DIVISION 09 FORSYTH CO. CLEMMONS		
PLAN DATE: NOVEMBER 2009	REVIEWED BY: YOW/ASLAMI		
PREPARED BY: GREEN	REVIEWED BY: PARKER		
REVISIONS	INIT.	DATE	
SCALE: 0 N/A		SIGNATURE: <i>Gregory A. Fuller</i> DATE: 11/2/09	
CADD File name:			

DMS-2 GPS COORDINATES

36° 03.349 N
-80° 21.117 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
25'	UNPAVED TRENCHING (1)(1 1/4") & (1)(1/2")
35'	4-WIRE THWN #6 AWG STRANDED COPPER FEEDER CONDUCTORS
35'	#19 AWG PE-39 TELEPHONE CABLE

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	MODIFY ELECTRICAL SERVICE EQUIPMENT
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR



MODIFY EXISTING ELECTRICAL SERVICE EQUIPMENT

EXISTING METER BASE

REPLACE EXISTING CONDUIT WITH 1 1/4" RIGID GALVANIZED STEEL CONDUIT AND INSTALL 3-WIRE #3 COPPER SERVICE ENTRANCE CONDUCTORS. INSTALL 1 1/4" RAINPROOF CONDUIT HUB ON TOP OF NEW SERVICE DISCONNECT.

REMOVE EXISTING SERVICE DISCONNECT AND INSTALL NEW 100 AMP SERVICE DISCONNECT WITH 1 DOUBLE POLE, 50 AMP CIRCUIT BREAKER

INSTALL ONE 1 1/4" CONDUIT WITH FOUR #6 THWN FEEDER CONDUCTORS TO POLE MOUNTED CABINET

NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. INSTALL NEW DMS POLE MOUNTED CABINET ON EXISTING DMS STRUCTURE.
3. MODIFY EXISTING RISERS ON DMS STRUCTURE AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE RISERS.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-20 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

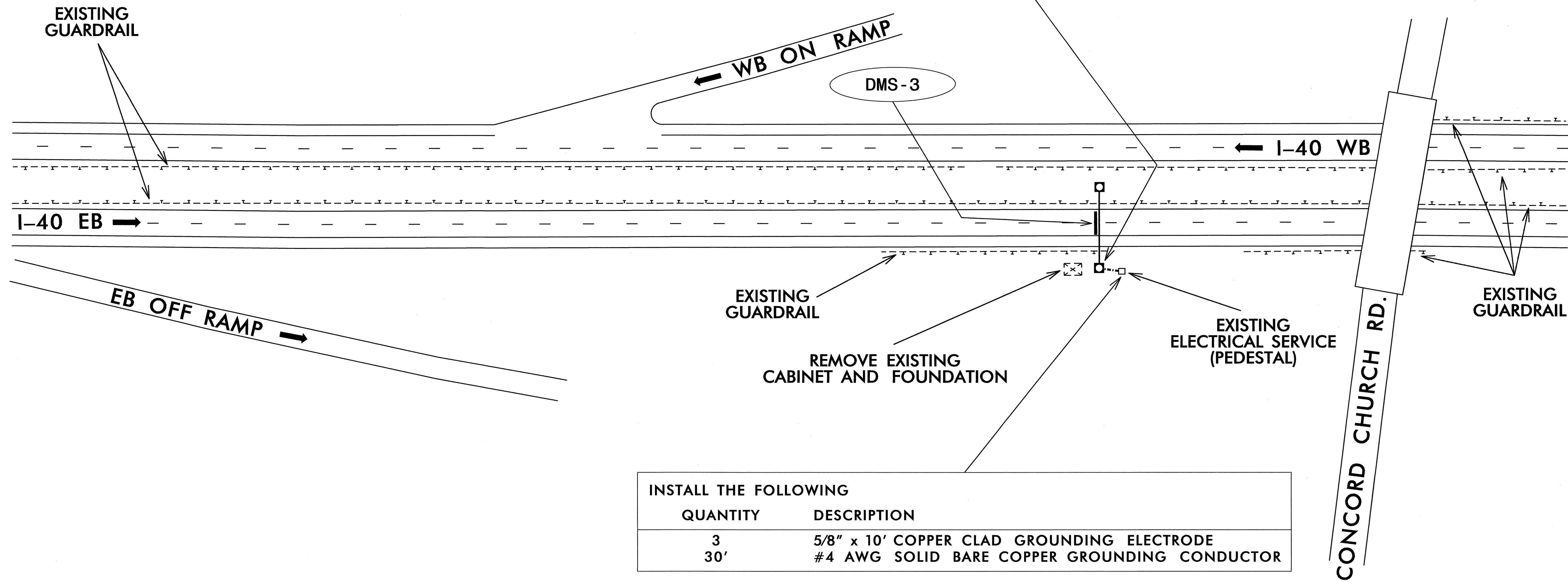
MM 186

	DMS REPLACEMENT		
	DIVISION 09 FORSYTH CO. WINSTON-SALEM		
	PLAN DATE: NOVEMBER 2009 PREPARED BY: GREEN REVISIONS: _____ INIT. DATE _____	REVIEWED BY: YOW/ASLAMI REVIEWED BY: PARKER	
750 N. Greenfield Pkwy., Garner, NC 27529 	SCALE: 0 N/A	SIGNATURE: <i>Gregory A. Fuller</i> 11/2/09 DATE:	SEAL:

DMS-3 GPS COORDINATES

36° 05.442 N
-80° 25.889 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
20'	UNPAVED TRENCHING (1)(1 1/4") & (1)(1/2")
30'	4-WIRE THWN #6 AWG STRANDED COPPER FEEDER CONDUCTORS
30'	#19 AWG PE-39 TELEPHONE CABLE



INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

EXIT 244

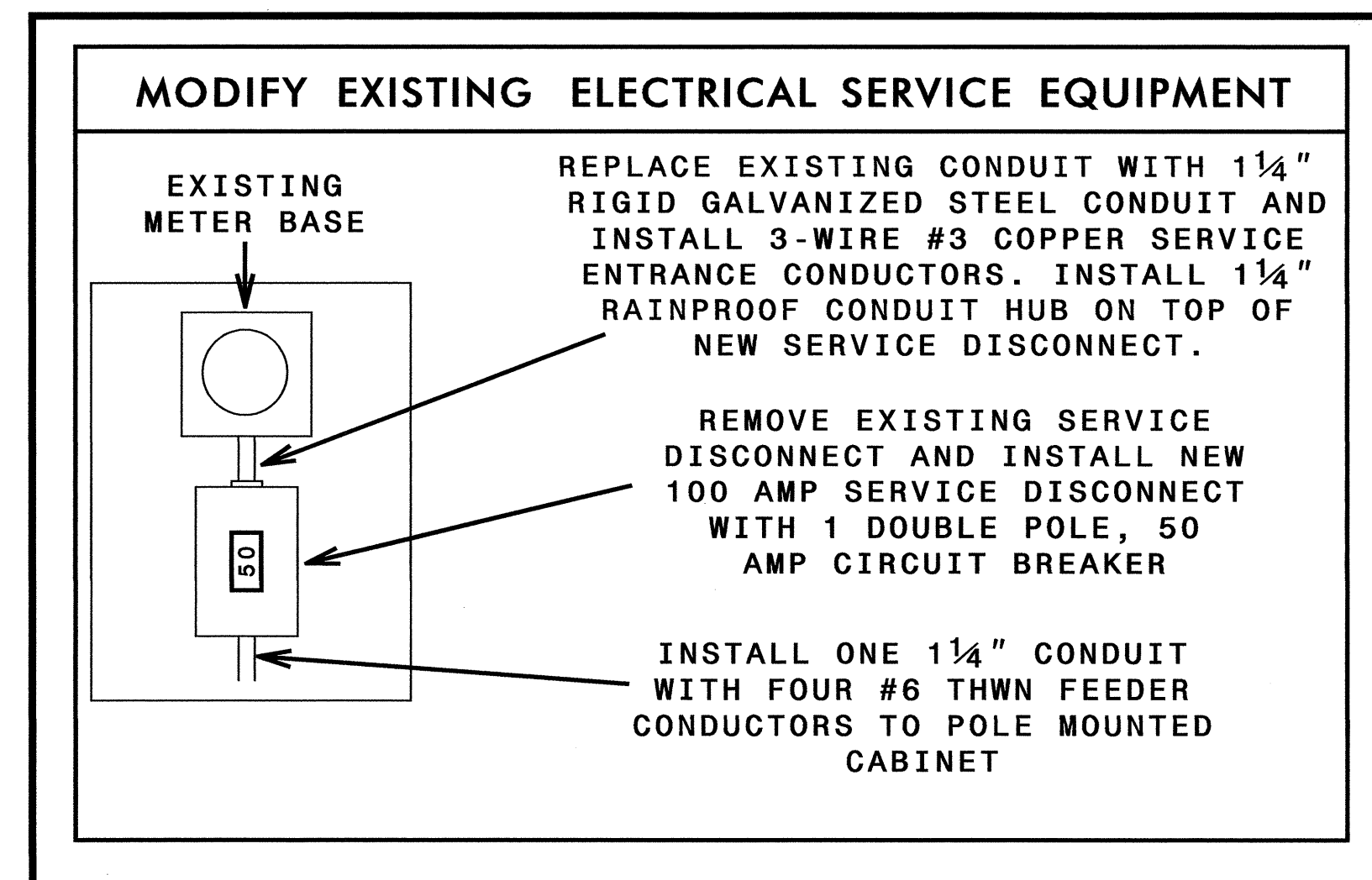
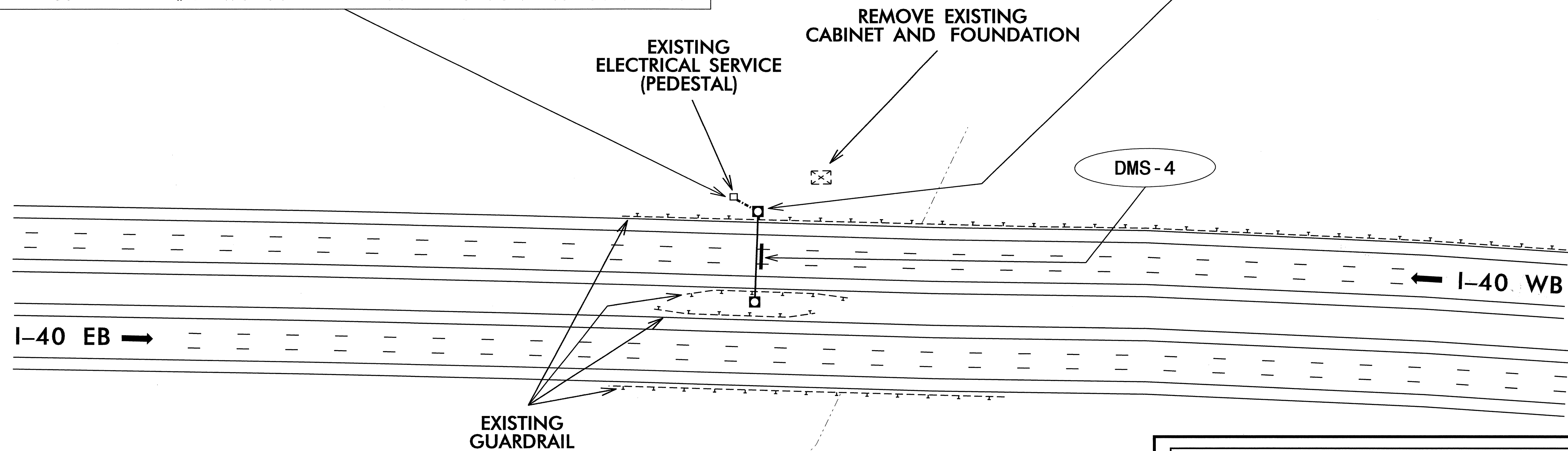
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	DIVISION 09 FORSYTH CO. LEWISVILLE												
	PLAN DATE: NOVEMBER 2009	REVIEWED BY: YOW/ASLAMI											
	PREPARED BY: GREEN	REVIEWED BY: PARKER											
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REVISIONS	INIT.	DATE											
<i>Gregory A. Fuller</i>	11/2/09												
SIGNATURE	DATE												
CADD Filename:													

DMS-4 GPS COORDINATES

36° 03.757 N
-80° 17.021 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	MODIFY ELECTRICAL SERVICE EQUIPMENT
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
10'	UNPAVED TRENCHING (1)(1 1/4") & (1)(1/2")
20'	4-WIRE THWN #6 AWG STRANDED COPPER FEEDER CONDUCTORS
20'	#19 AWG PE-39 TELEPHONE CABLE



NOTES

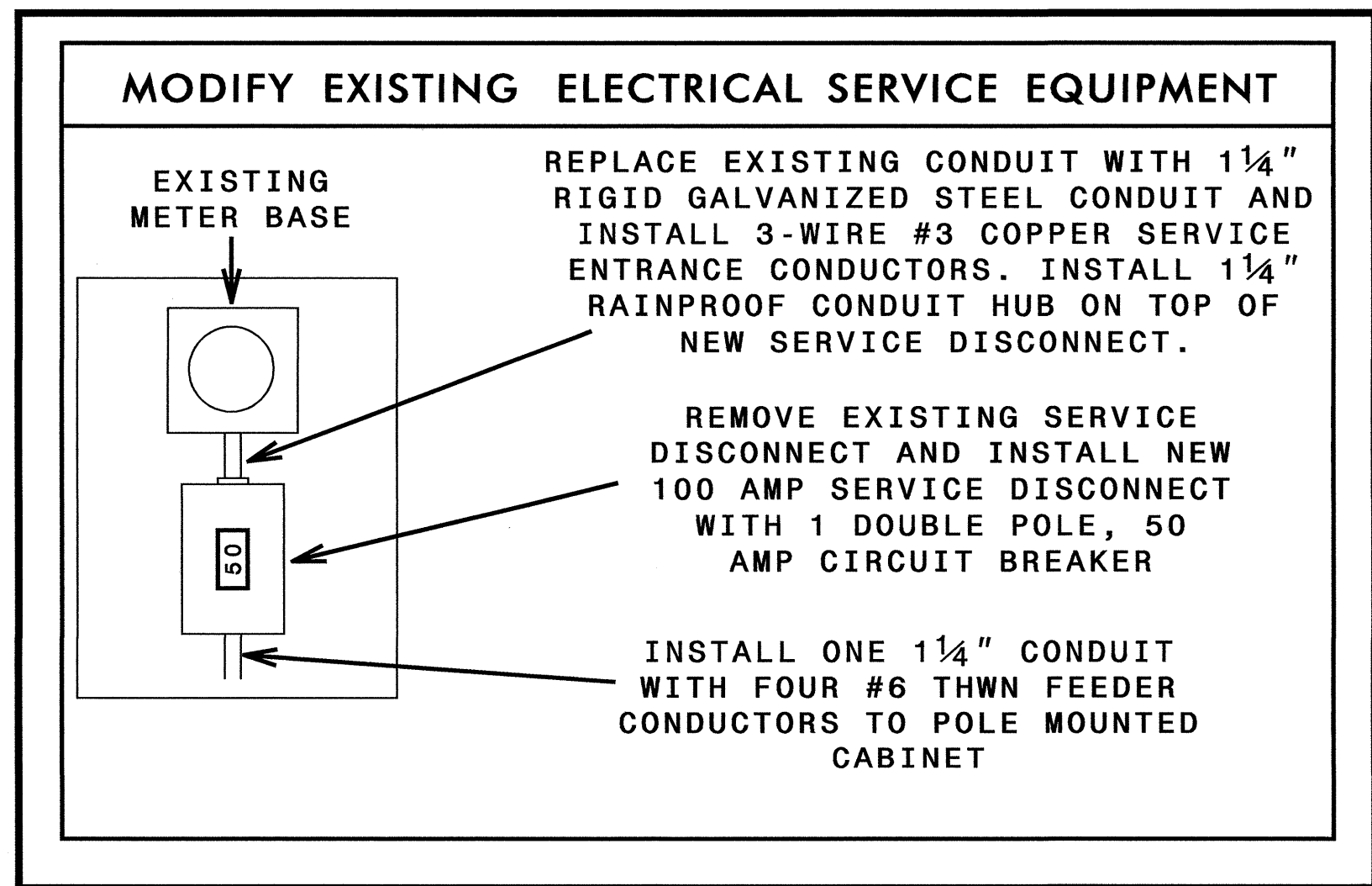
1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. INSTALL NEW DMS POLE MOUNTED CABINET ON EXISTING DMS STRUCTURE.
3. MODIFY EXISTING RISERS ON DMS STRUCTURE AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE RISERS.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-20 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

MM 191

	DMS REPLACEMENT		
	DIVISION 09 FORSYTH CO. WINSTON-SALEM		
PLAN DATE: NOVEMBER 2009	REVIEWED BY: YOW/ASLAMI	PREPARED BY: GREEN	
SCALE: 0 N/A	REVISIONS	REVIEWED BY: PARKER	SIGNATURE: <i>Gregory A. Fullam</i> DATE: 11/2/09

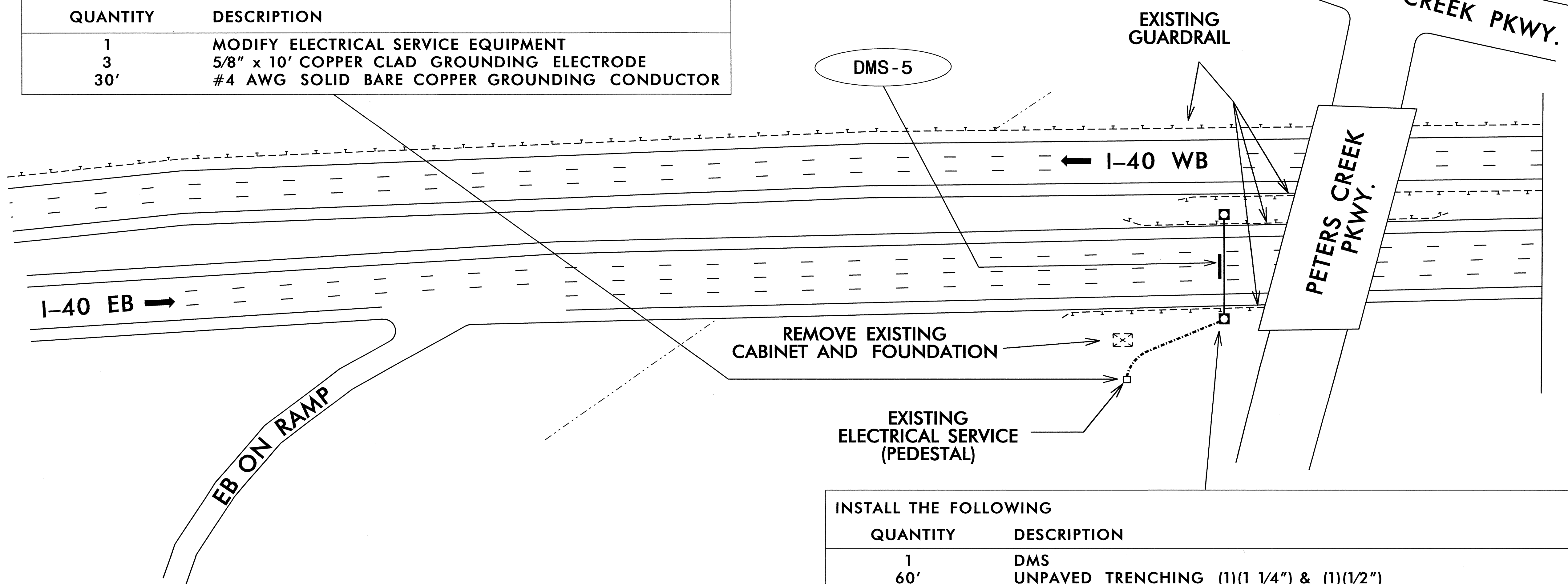
DMS-5 GPS COORDINATES

36° 03.914 N
-80° 15.526 W



INSTALL THE FOLLOWING

QUANTITY	DESCRIPTION
1	MODIFY ELECTRICAL SERVICE EQUIPMENT
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR



INSTALL THE FOLLOWING

QUANTITY	DESCRIPTION
1	DMS
60'	UNPAVED TRENCHING (1)(1 1/4") & (1)(1/2")
70'	4-WIRE THWN #6 AWG STRANDED COPPER FEEDER CONDUCTORS
70'	#19 AWG PE-39 TELEPHONE CABLE

NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. INSTALL NEW DMS POLE MOUNTED CABINET ON EXISTING DMS STRUCTURE.
3. MODIFY EXISTING RISERS ON DMS STRUCTURE AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE RISERS.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-20 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

EXIT 192

Prepared in the Offices of:

DMS REPLACEMENT

DIVISION 09 FORSYTH CO. WINSTON-SALEM

PLAN DATE: NOVEMBER 2009 REVIEWED BY: YOW/ASLAMI

PREPARED BY: GREEN REVIEWED BY: PARKER

SCALE: 0 N/A

REVISIONS: _____ INIT. DATE

SIGNATURE: *Gregory A. Fuller* DATE: 11/2/09

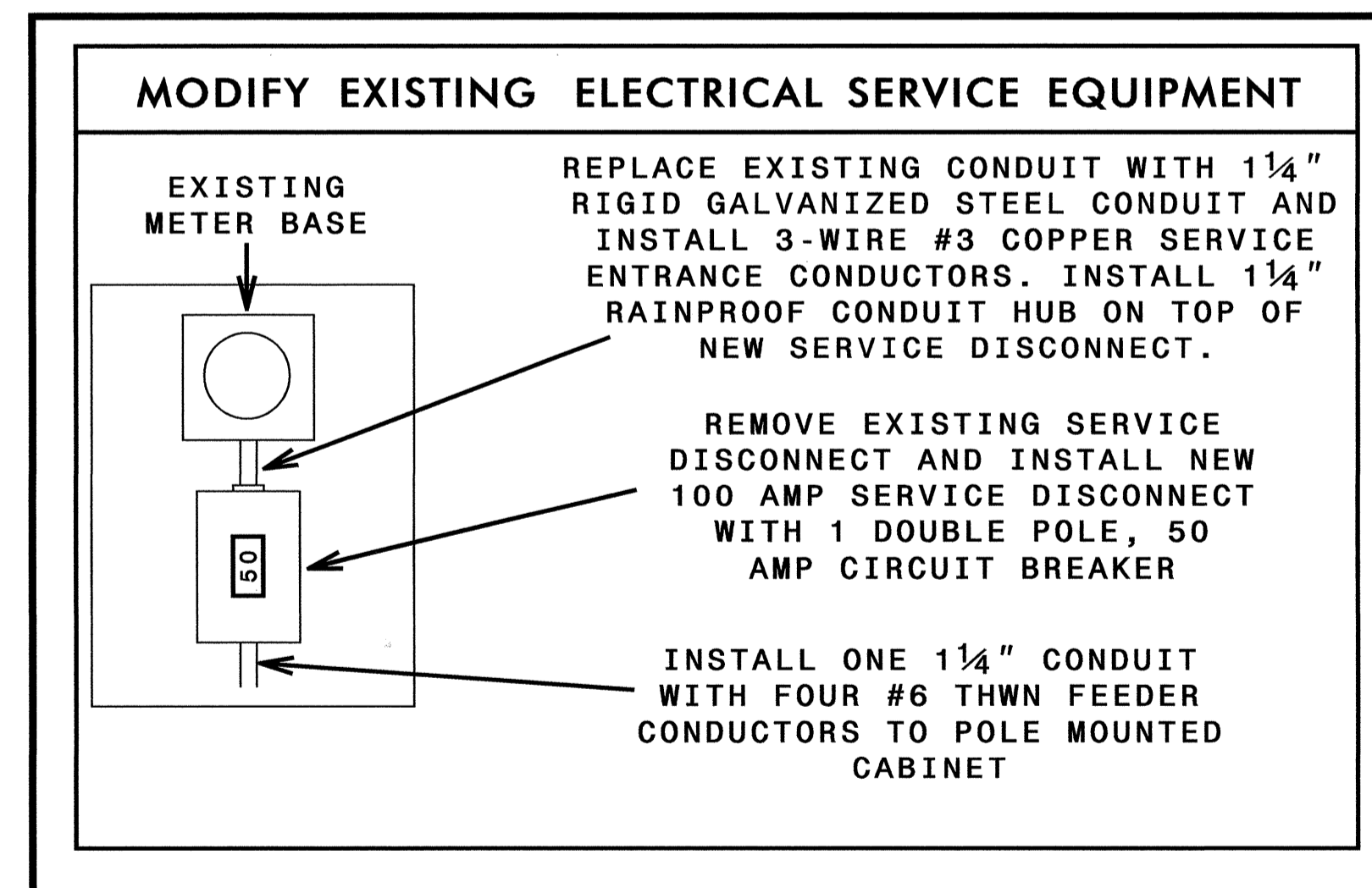
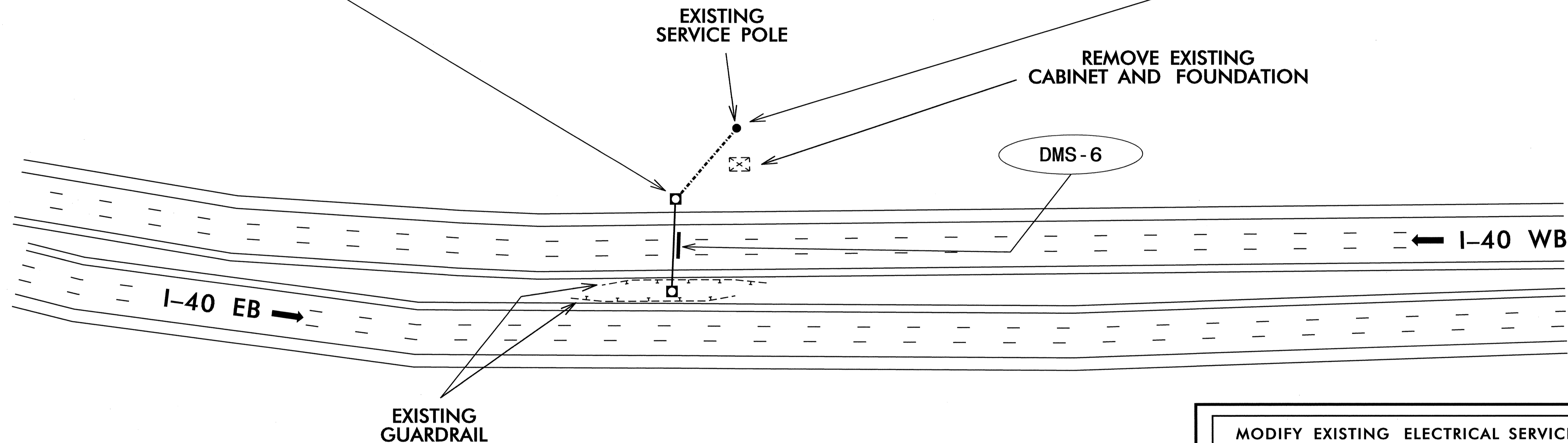
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DMS-6 GPS COORDINATES

36° 03.548 N
-80° 11.887 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
65'	UNPAVED TRENCHING (1)(1 1/4") & (1)(1/2")
75'	4-WIRE THWN #6 AWG STRANDED COPPER FEEDER CONDUCTORS
75'	#19 AWG PE-39 TELEPHONE CABLE

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	MODIFY ELECTRICAL SERVICE EQUIPMENT
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR



NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. INSTALL NEW DMS POLE MOUNTED CABINET ON EXISTING DMS STRUCTURE.
3. MODIFY EXISTING RISERS ON DMS STRUCTURE AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE RISERS.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-20 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

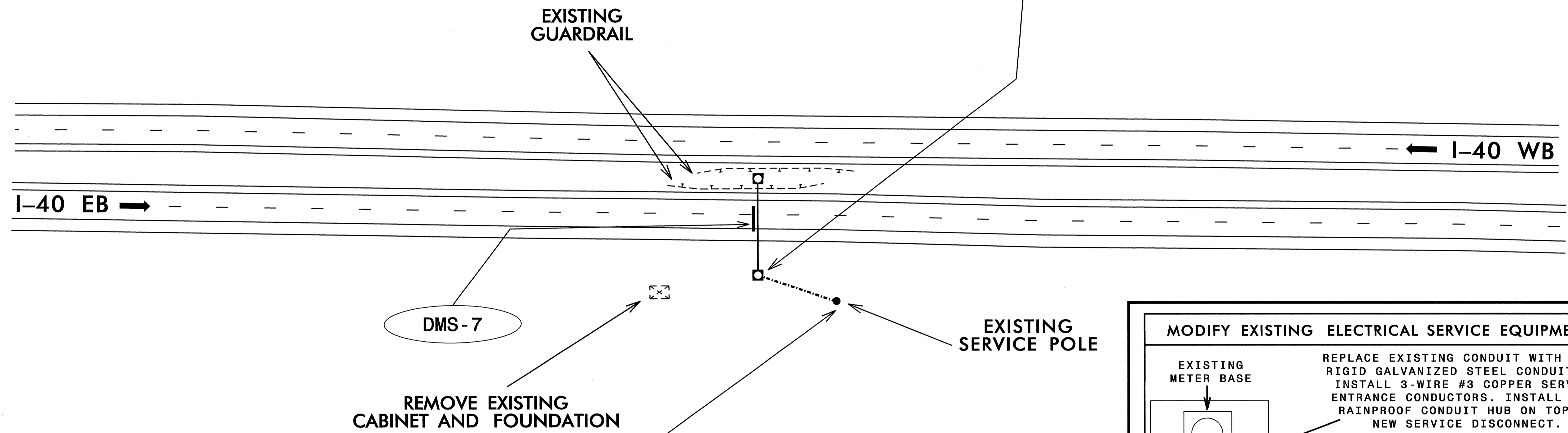
MM 196

	DMS REPLACEMENT		
	DIVISION 09 FORSYTH CO. WINSTON-SALEM PLAN DATE: NOVEMBER 2009 REVIEWED BY: YOW/ASLAMI PREPARED BY: GREEN REVIEWED BY: PARKER	REVISIONS IMIT. DATE SIGNATURE DATE CADD Filename:	

DMS-7 GPS COORDINATES

36° 04.497 N
-80° 07.393 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
40'	UNPAVED TRENCHING (1)(1 1/4") & (1)(1/2")
50'	4-WIRE THWN #6 AWG STRANDED COPPER FEEDER CONDUCTORS
50'	#19 AWG PE-39 TELEPHONE CABLE



INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	MODIFY ELECTRICAL SERVICE EQUIPMENT
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

MODIFY EXISTING ELECTRICAL SERVICE EQUIPMENT

EXISTING METER BASE

REPLACE EXISTING CONDUIT WITH 1 1/4" RIGID GALVANIZED STEEL CONDUIT AND INSTALL 3-WIRE #3 COPPER SERVICE ENTRANCE CONDUCTORS. INSTALL 1 1/4" RAINPROOF CONDUIT HUB ON TOP OF NEW SERVICE DISCONNECT.

REMOVE EXISTING SERVICE DISCONNECT AND INSTALL NEW 100 AMP SERVICE DISCONNECT WITH 1 DOUBLE POLE, 50 AMP CIRCUIT BREAKER

INSTALL ONE 1 1/4" CONDUIT WITH FOUR #6 THWN FEEDER CONDUCTORS TO POLE MOUNTED CABINET

NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. INSTALL NEW DMS POLE MOUNTED CABINET ON EXISTING DMS STRUCTURE.
3. MODIFY EXISTING RISERS ON DMS STRUCTURE AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE RISERS.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-20 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

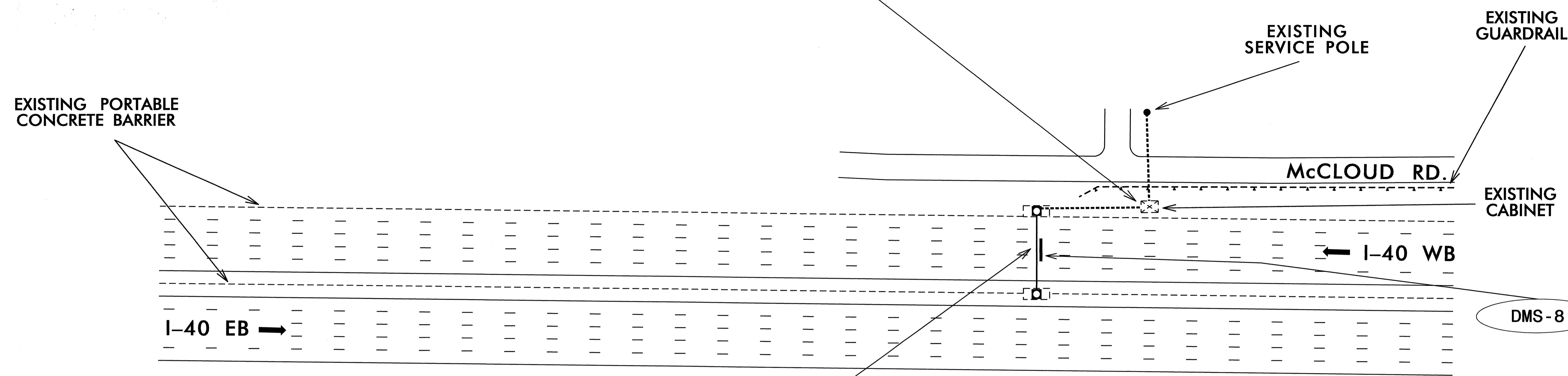
MM 201

<p>750 N. Greenfield Pkwy., Garner, NC 27529</p>	<p>DMS REPLACEMENT</p>		
	<p>DIVISION 09 FORSYTH CO. UNION CROSS</p> <p>PLAN DATE: NOVEMBER 2009 REVIEWED BY: YOW/ASLAMI</p> <p>PREPARED BY: GREEN REVIEWED BY: PARKER</p>	<p>REVISIONS</p> <p>INIT. DATE</p>	

DMS-8 GPS COORDINATES

36° 05.329 N
-79° 59.101 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	MODIFY EXISTING CABINET FOUNDATION
1	INTERCONNECT CENTER
1	CABINET BASE EXTENDER



INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS

NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. MODIFY EXISTING FOUNDATION AS SHOWN ON SHEET ITS-21 AND INSTALL NEW BASE MOUNT CABINET WITH 12" EXTENDER.
3. REMOVE EXISTING DMS COMMUNICATIONS AND FEEDER CONDUCTORS IN CONDUIT AND RISERS BETWEEN CABINET AND SIGN AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE CONDUITS AND RISERS.
4. REESTABLISH FIBER CONNECTION AFTER NEW BASE MOUNT CABINET INSTALLATION.

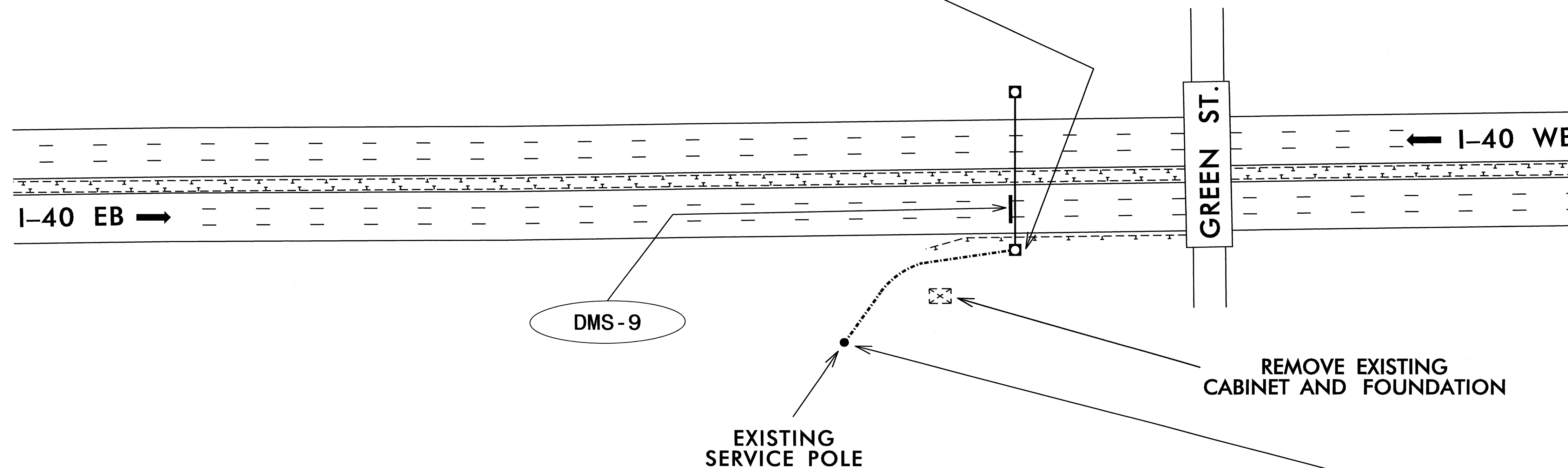
MM 208

	DMS REPLACEMENT												
	DIVISION 09 GUILFORD CO. COLFAX												
	PLAN DATE: NOVEMBER 2009	REVIEWED BY: YOW/ASLAMI											
	PREPARED BY: GREEN	REVIEWED BY: PARKER											
	SCALE: 0 N/A	<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> </tbody> </table>	REVISIONS	INIT.	DATE				<table border="1"> <tr> <td> </td> <td>11/12/09</td> </tr> <tr> <td>SIGNATURE</td> <td>DATE</td> </tr> </table>		11/12/09	SIGNATURE	DATE
REVISIONS	INIT.	DATE											
	11/12/09												
SIGNATURE	DATE												
CADD File name:													

DMS-9 GPS COORDINATES

36° 05.481 N
-80° 15.171 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
90'	UNPAVED TRENCHING (1)(1 1/4") & (1)(1/2")
100'	4-WIRE THWN #6 AWG STRANDED COPPER FEEDER CONDUCTORS
100'	#19 AWG PE-39 TELEPHONE CABLE



INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. INSTALL NEW DMS POLE MOUNTED CABINET ON EXISTING DMS STRUCTURE.
3. MODIFY EXISTING RISERS ON DMS STRUCTURE AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE RISERS.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-20 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

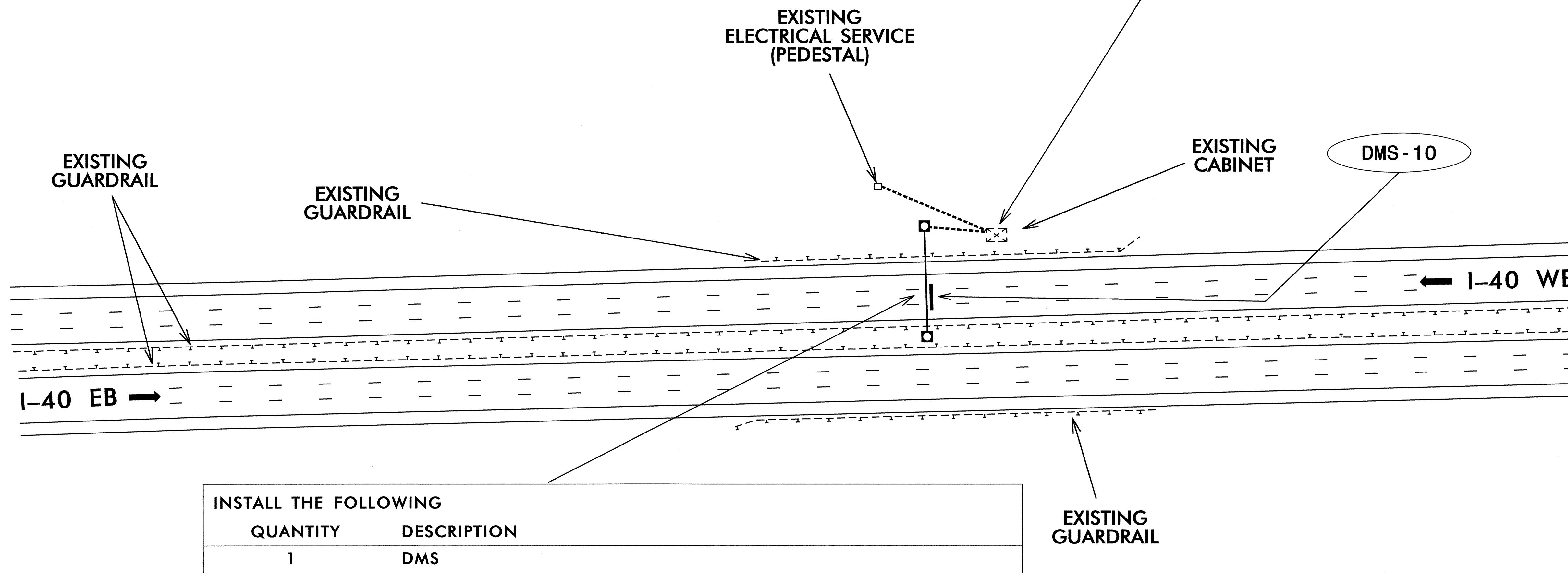
MM 5

	DMS REPLACEMENT		
	DIVISION 09 FORSYTH CO. WINSTON-SALEM PLAN DATE: NOVEMBER 2009 REVIEWED BY: YOW/ASLAMI	PREPARED BY: GREEN REVIEWED BY: PARKER	
750 N. Greenfield Pkwy., Garner, NC 27529 SCALE: 0' = 1" N/A	REVISIONS:	INIT.:	DATE:

DMS-10 GPS COORDINATES

36° 05.998 N
-80° 12.060 W

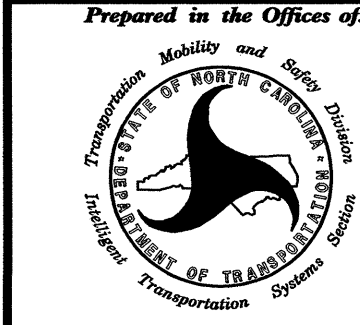
INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	MODIFY EXISTING CABINET FOUNDATION
1	INTERCONNECT CENTER
1	CABINET BASE EXTENDER



NOTES

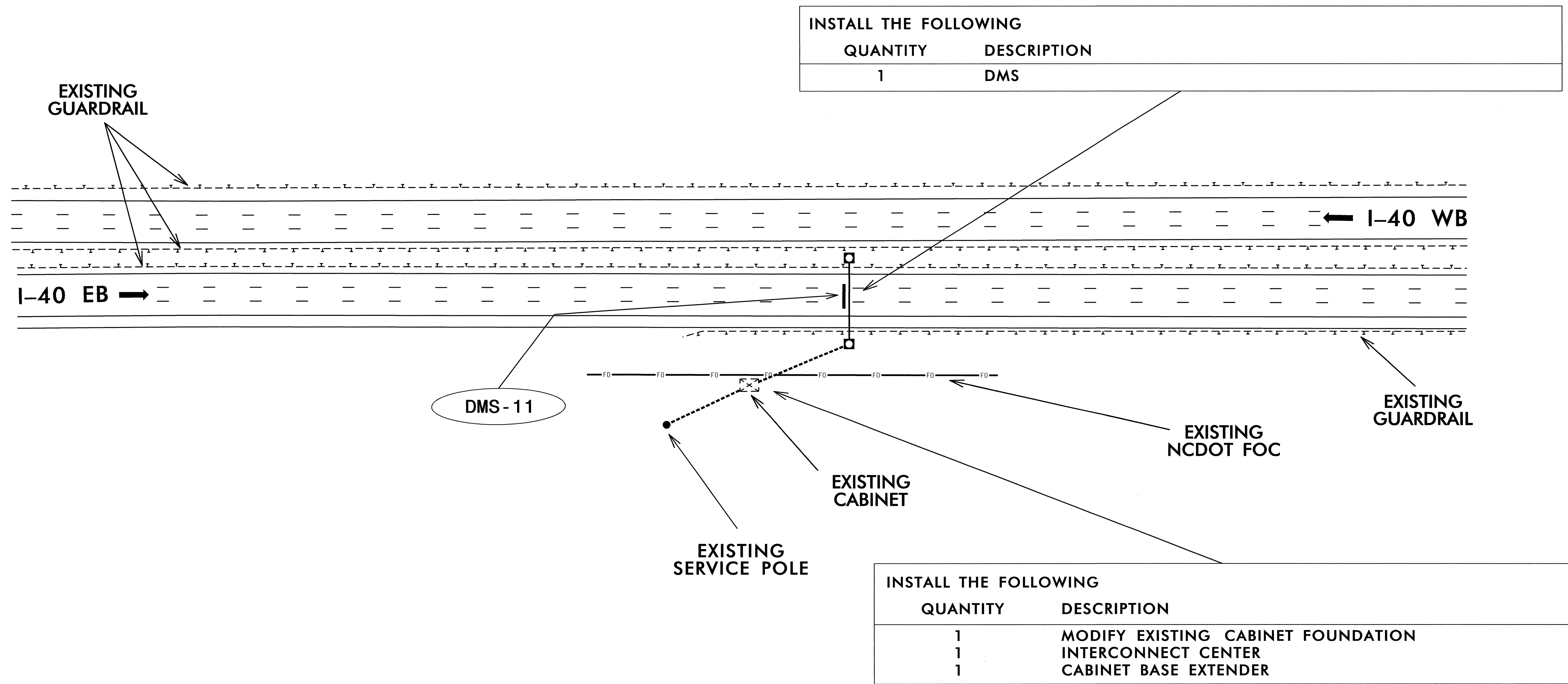
1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. MODIFY EXISTING FOUNDATION AS SHOWN ON SHEET ITS-21 AND INSTALL NEW BASE MOUNT CABINET WITH 12" EXTENDER.
3. REMOVE EXISTING DMS COMMUNICATIONS AND FEEDER CONDUCTORS IN CONDUIT AND RISERS BETWEEN CABINET AND SIGN AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE CONDUITS AND RISERS.
4. REESTABLISH FIBER CONNECTION AFTER NEW BASE MOUNT CABINET INSTALLATION.

MM 8

 750 N. Greenfield Pkwy., Garner, NC 27529	DMS REPLACEMENT		SEAL PROFESSIONAL ENGINEER SEAL 023919 GREGORY A. FULLER
	DIVISION 09 FORSYTH CO. WINSTON-SALEM		
	PLAN DATE: NOVEMBER 2009	REVIEWED BY: YOW/ASLAMI	
	PREPARED BY: GREEN	REVIEWED BY: PARKER	
SCALE: 0 N/A	REVISIONS:	INIT. DATE:	SIGNATURE: <i>Gregory A. Fuller</i> DATE: 11/2/09

DMS-11 GPS COORDINATES

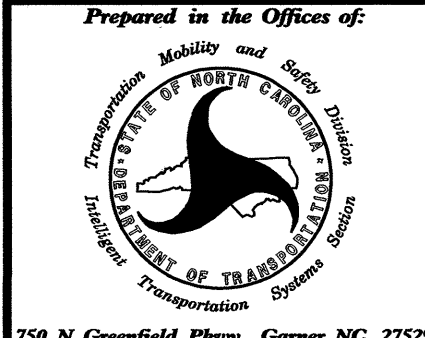


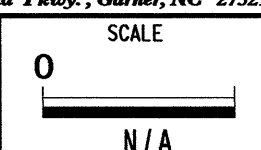

36° 06.710 N
-80° 06.922 W



NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. MODIFY EXISTING FOUNDATION AS SHOWN ON SHEET ITS-21 AND INSTALL NEW BASE MOUNT CABINET WITH 12" EXTENDER.
3. REMOVE EXISTING DMS COMMUNICATIONS AND FEEDER CONDUCTORS IN CONDUIT AND RISERS BETWEEN CABINET AND SIGN AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE CONDUITS AND RISERS.
4. REESTABLISH FIBER CONNECTION AFTER NEW BASE MOUNT CABINET INSTALLATION.

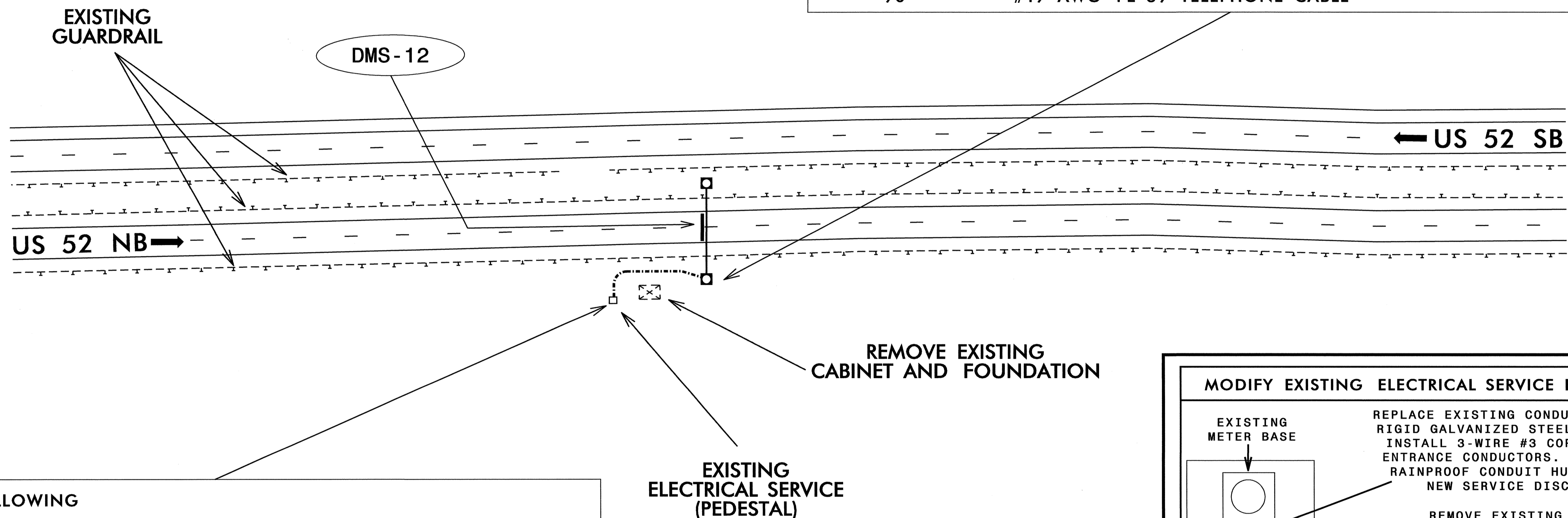
MM 13

 <small>750 N. Greenfield Pkwy., Garner, NC 27529</small>	DMS REPLACEMENT		
	<small>DIVISION 09 FORSYTH CO. KERNERSVILLE</small> <small>PLAN DATE: NOVEMBER 2009</small>	<small>REVIEWED BY: YOW/ASLAMI</small> <small>PREPARED BY: GREEN</small>	
	<small>SCALE</small> 	<small>REVISIONS</small>	<small>SIGNATURE</small>  <small>DATE</small>

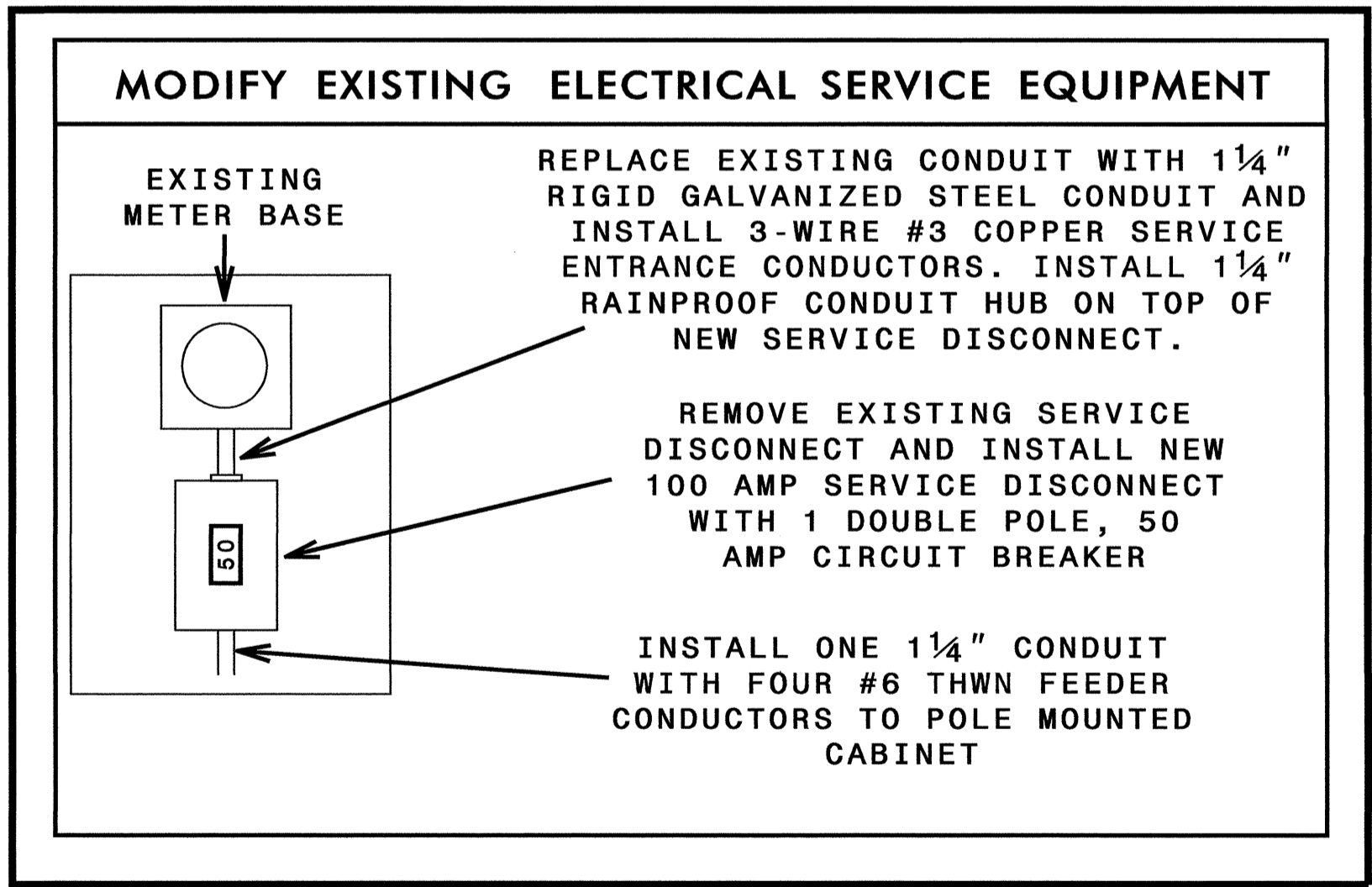
DMS-12 GPS COORDINATES

36° 02.050 N
-80° 14.311 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
80'	UNPAVED TRENCHING (1)(1 1/4") & (1)(1/2")
90'	4-WIRE THWN #6 AWG STRANDED COPPER FEEDER CONDUCTORS
90'	#19 AWG PE-39 TELEPHONE CABLE



INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	MODIFY ELECTRICAL SERVICE EQUIPMENT
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR



NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. INSTALL NEW DMS POLE MOUNTED CABINET ON EXISTING DMS STRUCTURE.
3. MODIFY EXISTING RISERS ON DMS STRUCTURE AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE RISERS.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-20 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

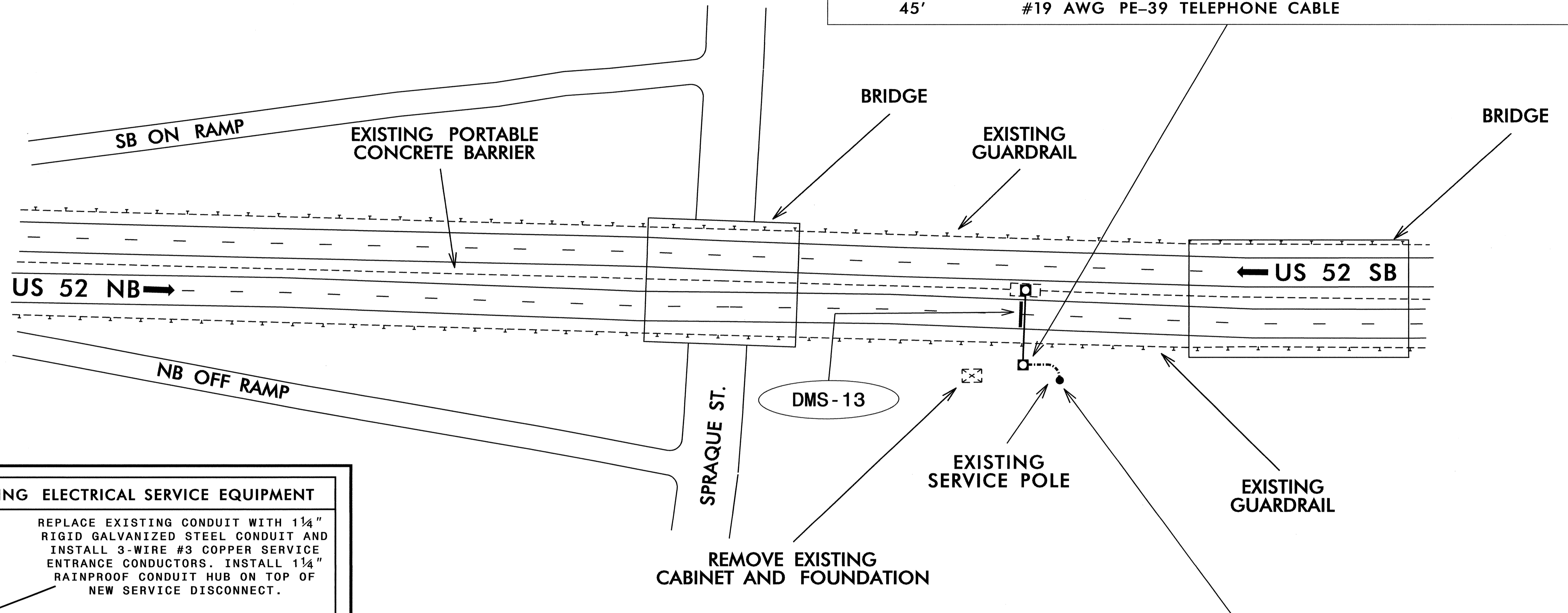
MM 104

	DMS REPLACEMENT		
	DIVISION 09 FORSYTH CO. WINSTON-SALEM PLAN DATE: NOVEMBER 2009 REVIEWED BY: YOW/ASLAMI PREPARED BY: GREEN REVIEWED BY: PARKER	REVISIONS INIT. DATE SIGNATURE: <i>Gregory A. Fuller</i> 11/2/09 DATE	

DMS-13 GPS COORDINATES

36° 04.177 N
-80° 13.704 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
35'	UNPAVED TRENCHING (1)(1 1/4") & (1)(1/2")
45'	4-WIRE THWN #6 AWG STRANDED COPPER FEEDER CONDUCTORS
45'	#19 AWG PE-39 TELEPHONE CABLE



MODIFY EXISTING ELECTRICAL SERVICE EQUIPMENT

REPLACE EXISTING CONDUIT WITH 1 1/4" RIGID GALVANIZED STEEL CONDUIT AND INSTALL 3-WIRE #3 COPPER SERVICE ENTRANCE CONDUCTORS. INSTALL 1 1/4" RAINPROOF CONDUIT HUB ON TOP OF NEW SERVICE DISCONNECT.

REMOVE EXISTING SERVICE DISCONNECT AND INSTALL NEW 100 AMP SERVICE DISCONNECT WITH 1 DOUBLE POLE, 50 AMP CIRCUIT BREAKER

INSTALL ONE 1 1/4" CONDUIT WITH FOUR #6 THWN FEEDER CONDUCTORS TO POLE MOUNTED CABINET

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	MODIFY ELECTRICAL SERVICE EQUIPMENT
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. INSTALL NEW DMS POLE MOUNTED CABINET ON EXISTING DMS STRUCTURE.
3. MODIFY EXISTING RISERS ON DMS STRUCTURE AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE RISERS.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-20 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

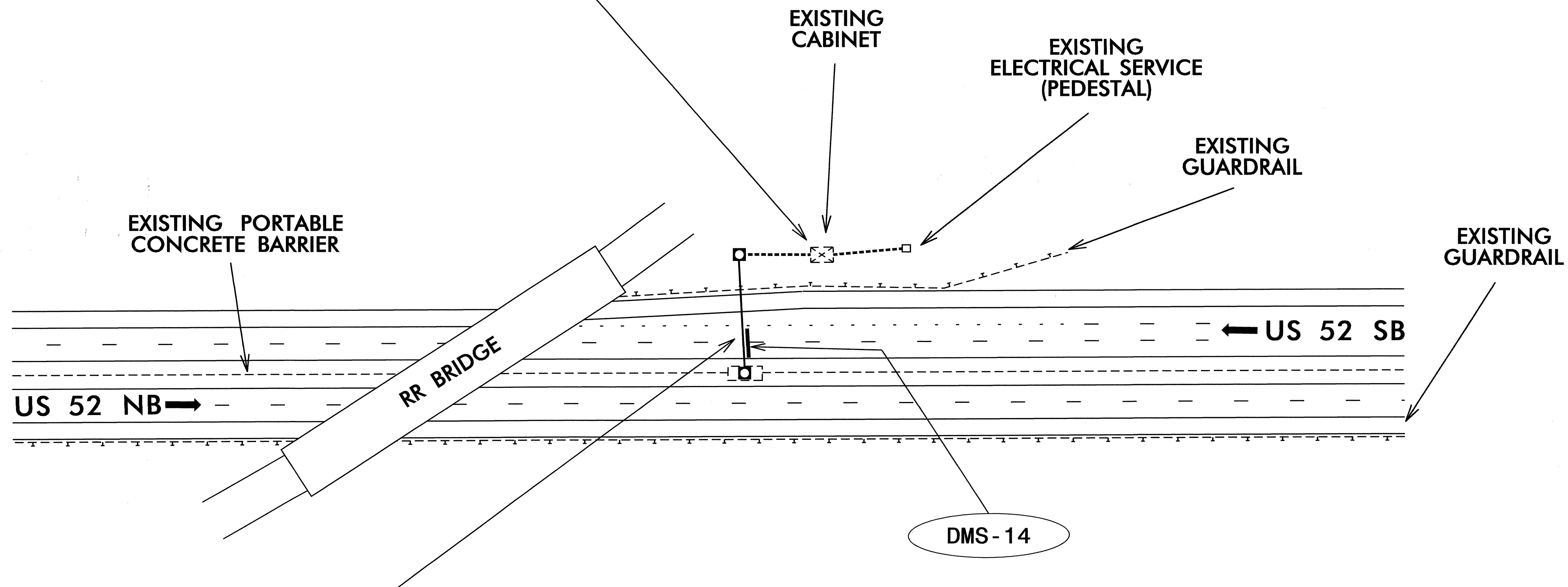
MM 107.5

	DMS REPLACEMENT		
	DIVISION 09 FORSYTH CO. WINSTON-SALEM PLAN DATE: NOVEMBER 2009 REVIEWED BY: YOW/ASLAMI PREPARED BY: GREEN REVIEWED BY: PARKER		
750 N. Greenfield Pkwy., Garner, NC 27529 SCALE: 0 N/A	REVISIONS INIT. DATE	SIGNATURE: <i>Gregory A. Fuller</i> DATE: 11/12/09	SEAL

DMS-14 GPS COORDINATES

36° 04.947 N
-80° 13.799 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	MODIFY EXISTING CABINET FOUNDATION
1	CABINET BASE EXTENDER



INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS

NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. MODIFY EXISTING FOUNDATION AS SHOWN ON SHEET ITS-21 AND INSTALL NEW BASE MOUNT CABINET WITH 12" EXTENDER.
3. REMOVE EXISTING DMS COMMUNICATIONS AND FEEDER CONDUCTORS IN CONDUIT AND RISERS BETWEEN CABINET AND SIGN AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE CONDUITS AND RISERS.
4. REESTABLISH FIBER CONNECTION AFTER NEW BASE MOUNT CABINET INSTALLATION.

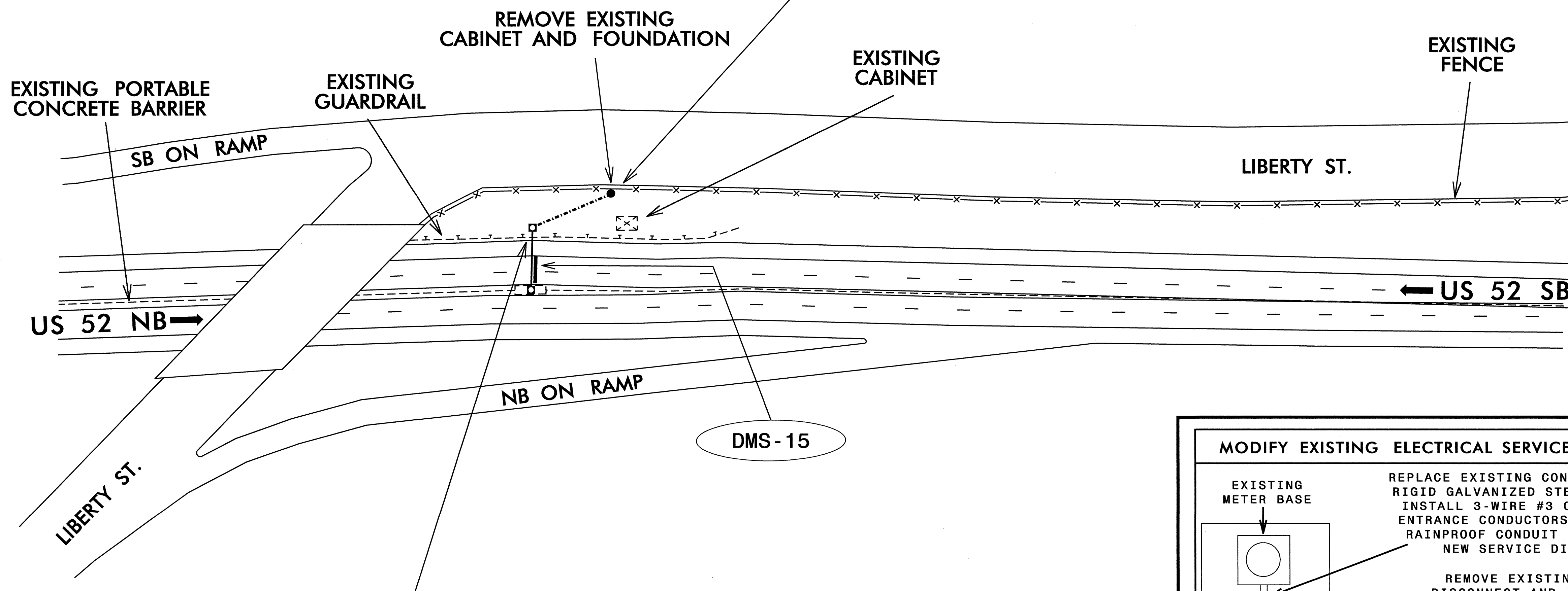
MM 108.5

	DMS REPLACEMENT		
	DIVISION 09 FORSYTH CO. WINSTON-SALEM PLAN DATE: NOVEMBER 2009 REVIEWED BY: YOW/ASLAMI PREPARED BY: GREEN REVIEWED BY: PARKER		
750 N. Greenfield Pkwy., Garner, NC 27529 SCALE: 0 N/A	REVISIONS INIT. DATE	SIGNATURE: <i>Gregory A. Fuller</i> DATE: 11/2/09	SEAL

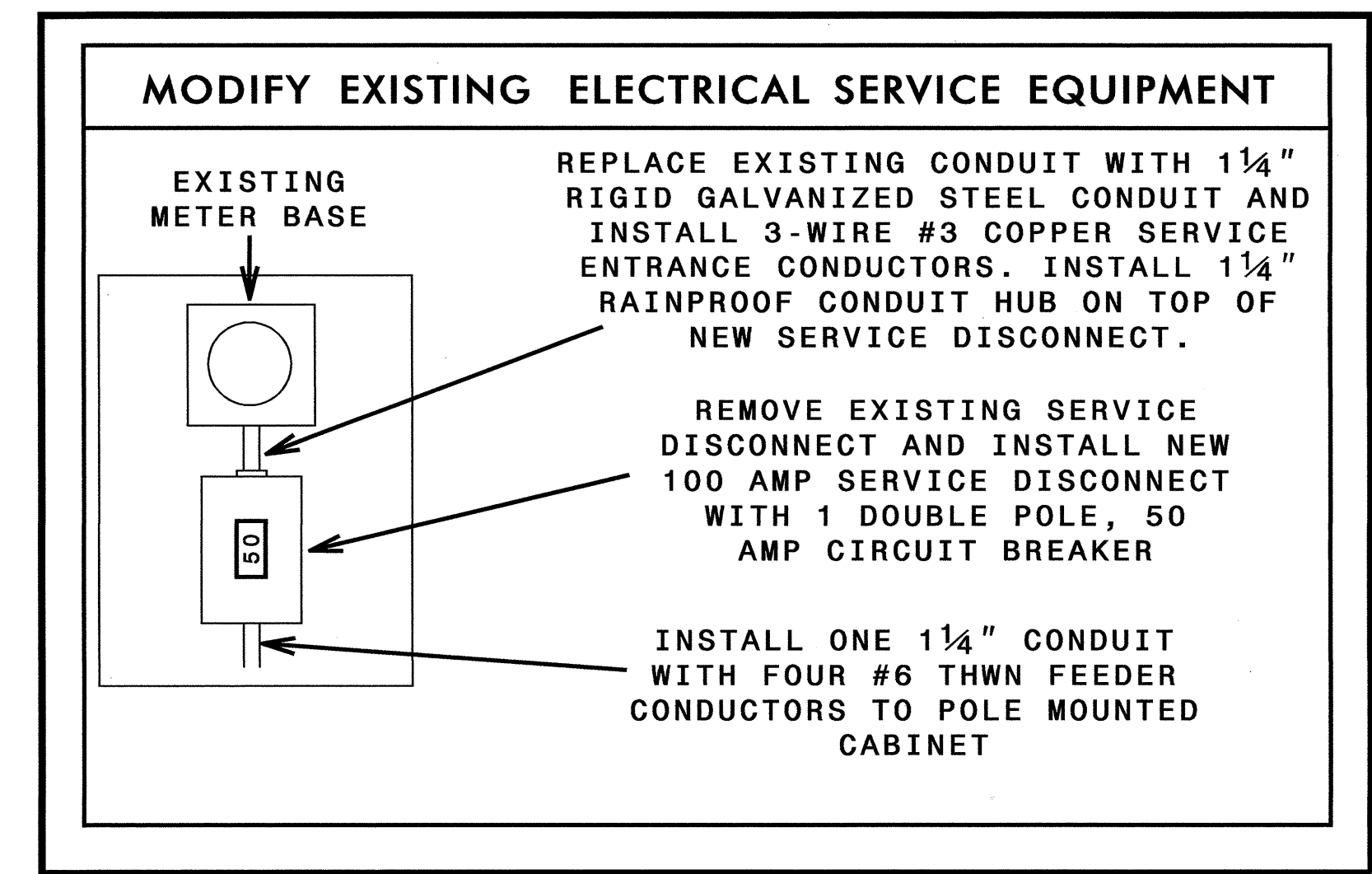
DMS-15 GPS COORDINATES

36° 07.091 N
-80° 14.097 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	MODIFY ELECTRICAL SERVICE EQUIPMENT
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR



INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
55'	UNPAVED TRENCHING (1)(1 1/4") & (1)(1/2")
65'	4-WIRE THWN #6 AWG STRANDED COPPER FEEDER CONDUCTORS
65'	#19 AWG PE-39 TELEPHONE CABLE



NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. INSTALL NEW DMS POLE MOUNTED CABINET ON EXISTING DMS STRUCTURE.
3. MODIFY EXISTING RISERS ON DMS STRUCTURE AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE RISERS.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-20 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

MM 110

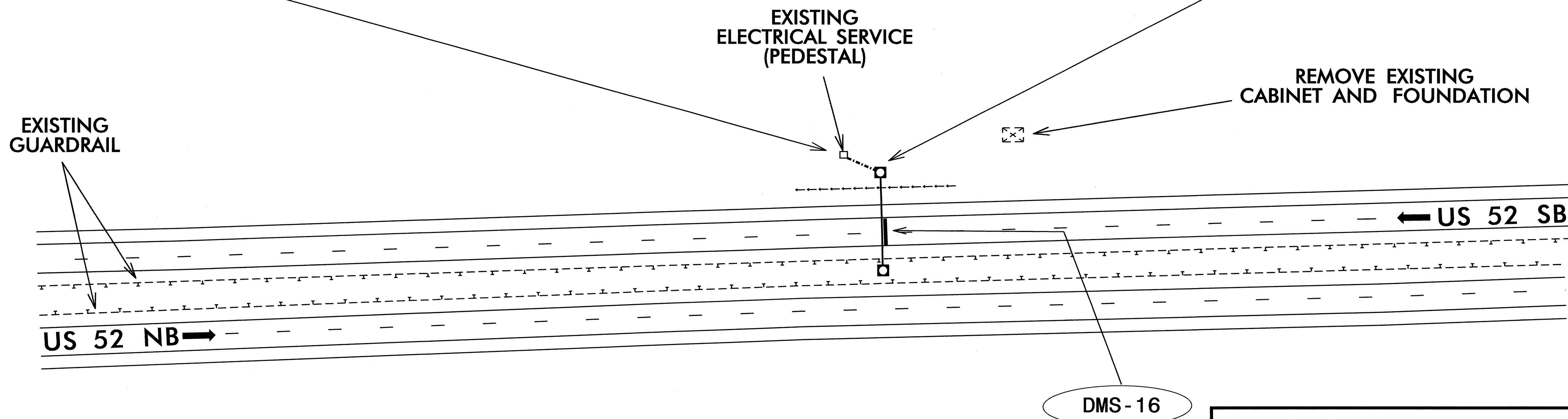
<p>750 N. Greenfield Pkwy., Garner, NC 27529</p>	<p>DMS REPLACEMENT</p>		
	<p>DIVISION 09 FORSYTH CO. WINSTON-SALEM</p> <p>PLAN DATE: NOVEMBER 2009 REVIEWED BY: YOW/ASLAMI</p> <p>PREPARED BY: GREEN REVIEWED BY: PARKER</p>	<p>SCALE: 0 N/A</p>	
<p>CADD FILE NAME:</p>			<p>DATE: 11/2/09</p>

DMS-16 GPS COORDINATES

36° 11.766 N
-80° 17.386 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	MODIFY ELECTRICAL SERVICE EQUIPMENT
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
20'	UNPAVED TRENCHING (1)(1 1/4") & (1)(1/2")
30'	4-WIRE THWN #6 AWG STRANDED COPPER FEEDER CONDUCTORS
30'	#19 AWG PE-39 TELEPHONE CABLE



MODIFY EXISTING ELECTRICAL SERVICE EQUIPMENT

REPLACE EXISTING CONDUIT WITH 1 1/4" RIGID GALVANIZED STEEL CONDUIT AND INSTALL 3-WIRE #3 COPPER SERVICE ENTRANCE CONDUCTORS. INSTALL 1 1/4" RAINPROOF CONDUIT HUB ON TOP OF NEW SERVICE DISCONNECT.

REMOVE EXISTING SERVICE DISCONNECT AND INSTALL NEW 100 AMP SERVICE DISCONNECT WITH 1 DOUBLE POLE, 50 AMP CIRCUIT BREAKER

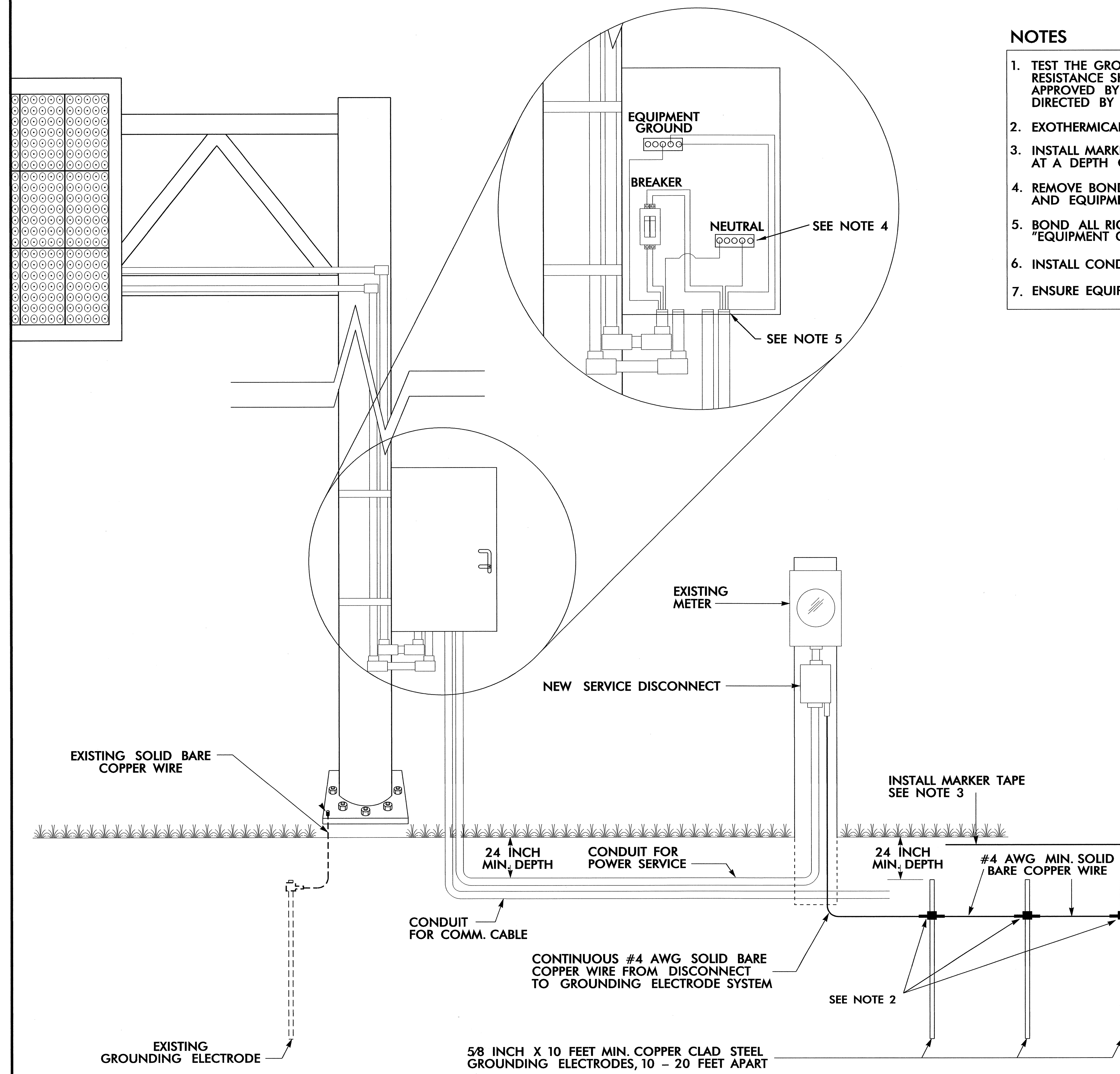
INSTALL ONE 1 1/4" CONDUIT WITH FOUR #6 THWN FEEDER CONDUCTORS TO POLE MOUNTED CABINET

MM 117

NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE (SEE APPENDICES FOR EXISTING SHOP DRAWINGS)
2. INSTALL NEW DMS POLE MOUNTED CABINET ON EXISTING DMS STRUCTURE.
3. MODIFY EXISTING RISERS ON DMS STRUCTURE AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE RISERS.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-20 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

<p>750 N. Greenfield Pkwy., Garner, NC 27529</p>	<p>DMS REPLACEMENT</p>			
	<p>DIVISION 09 FORSYTH CO. RURAL HALL</p>	<p>NOVEMBER 2009</p>		<p>YOW/ASLAMI</p>
	<p>PREPARED BY: GREEN</p>	<p>REVIEWED BY: PARKER</p>		<p>INIT. DATE</p>
<p>SCALE: 0 N/A</p>	<p>REVISIONS</p>	<p>SIGNATURE: <i>Gregory A. Fuller</i></p>	<p>DATE: 11/2/09</p>	

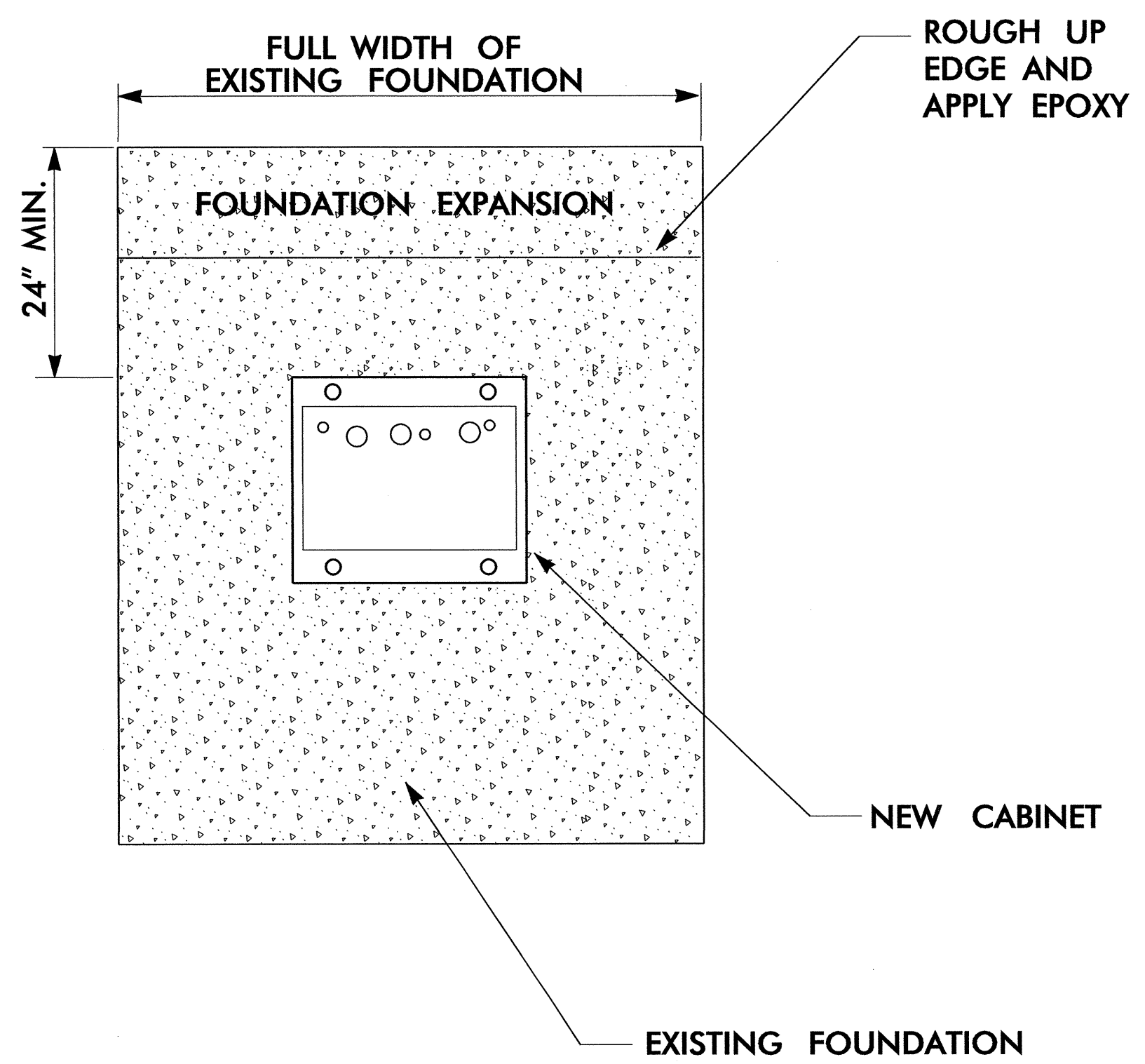


NOTES

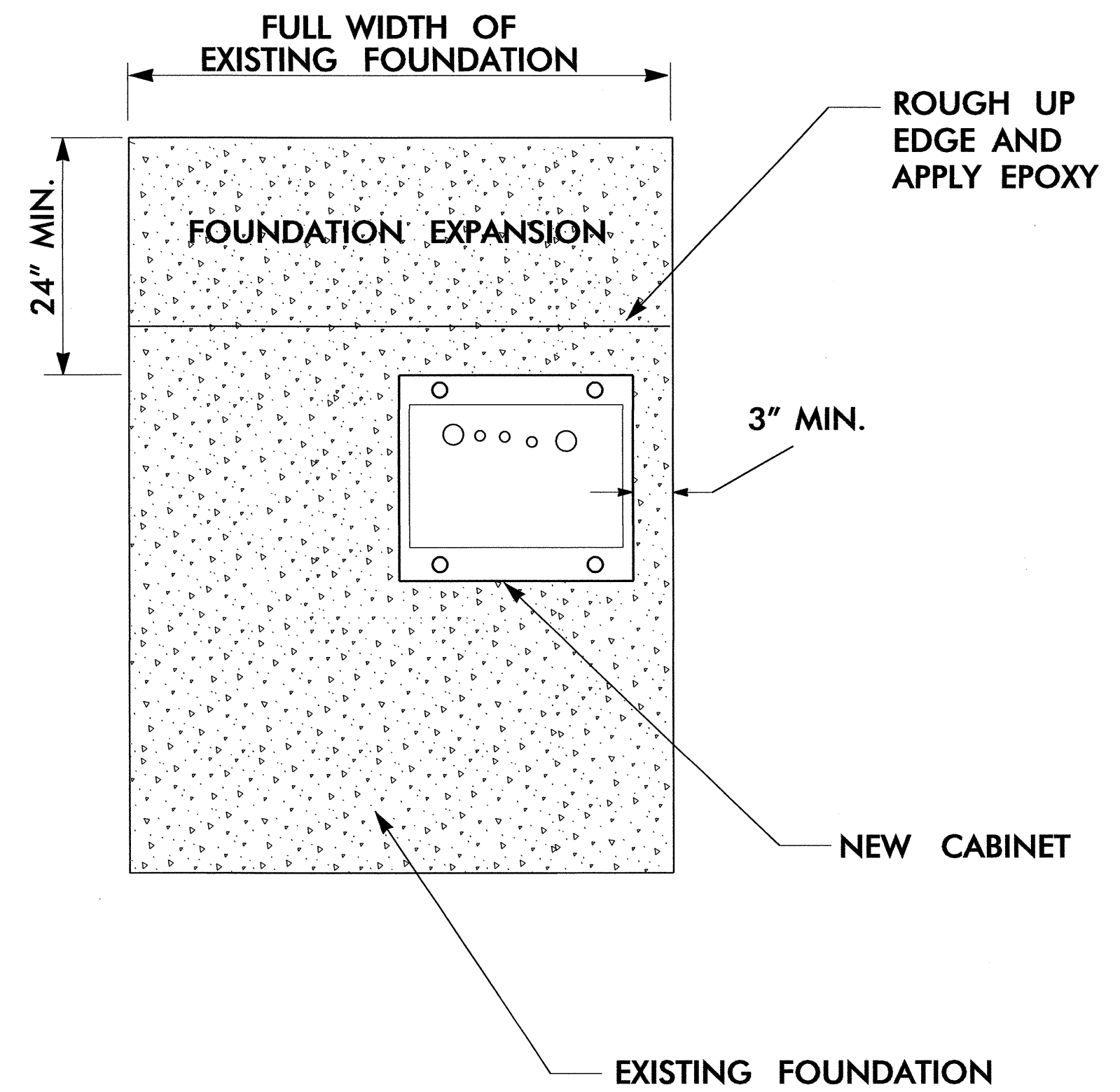
1. TEST THE GROUNDING SYSTEM USING AN APPROVED METHOD. THE GROUND RESISTANCE SHOULD MEASURE TWENTY (20) OHMS OR LESS (UNLESS OTHERWISE APPROVED BY THE ENGINEER). DRIVE ADDITIONAL GROUNDING ELECTRODES AS DIRECTED BY THE ENGINEER TO ACHIEVE THE PROPER GROUND RESISTANCE.
2. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUNDING ELECTRODES.
3. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 6 - 12 INCHES.
4. REMOVE BONDING JUMPER IN EQUIPMENT CABINET IF INSTALLED BETWEEN AC NEUTRAL AND EQUIPMENT GROUND.
5. BOND ALL RIGID GALVANIZED STEEL CONDUITS ENTERING THE CABINET TO "EQUIPMENT GROUND".
6. INSTALL CONDUIT BETWEEN DISCONNECT AND CABINET.
7. ENSURE EQUIPMENT GROUND IS ELECTRICALLY BONDED TO CABINET.

	DYNAMIC MESSAGE SIGN ELECTRICAL SERVICE AND GROUNDING TYPICAL DETAIL	
	PLAN DATE: NOVEMBER 2009 PREPARED BY: GREEN	REVIEWED BY: YOW/ASLAMI REVIEWED BY: PARKER
SCALE: 0 N/A	REVISIONS:	INIT. DATE:
SIGNATURE: <i>Gregory A. Fuller</i>		DATE: 11/2/09

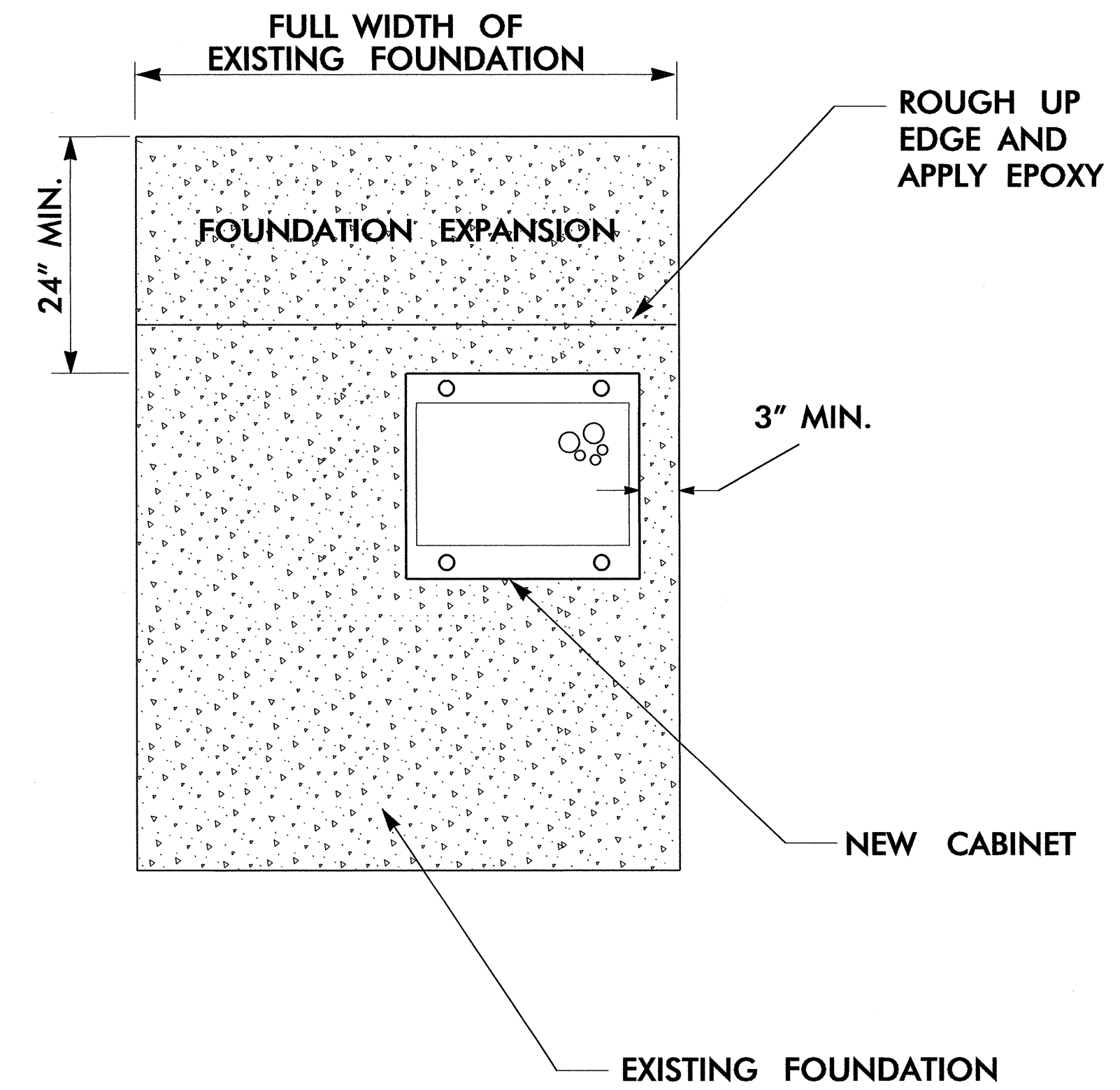
DMS-8



DMS-10



DMS-11



DMS-14

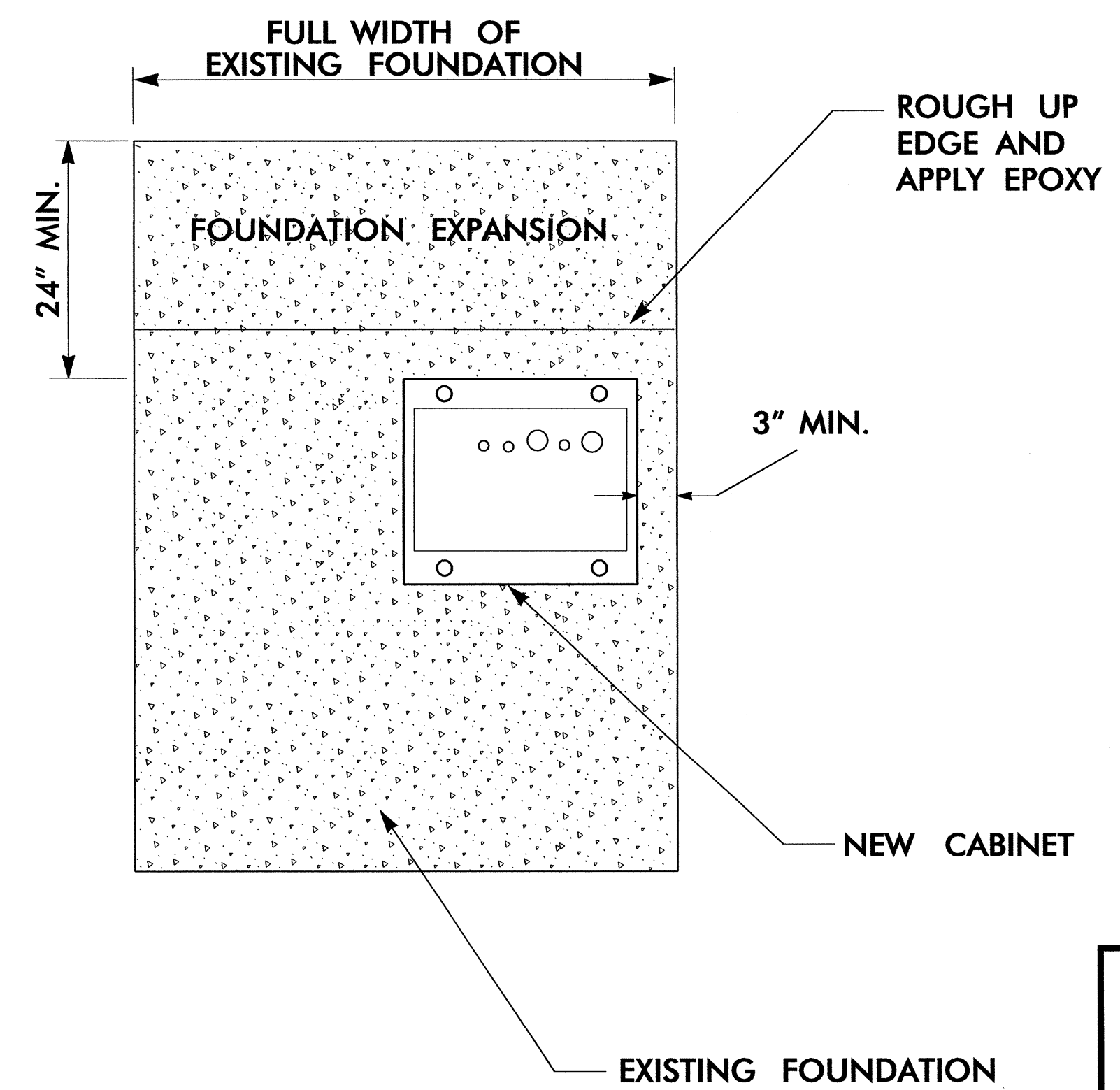


TABLE 1

FOUNDATION EXTENSION	LENGTH OF DOWEL
>16"	18"
>6' AND <16"	11"
=6"	8"

NOTES

FOR FOUNDATION MODIFICATIONS:

1. EXTEND THE FOUNDATION TO PROVIDE A MINIMUM MAINTENANCE TECHNICIAN PAD AREA THAT EXTENDS 24" FROM THE FRONT AND BACK OF THE CABINET, AND 3" FROM THE SIDES OF THE CABINET.
2. EXCAVATE THE GROUND AROUND THE EXISTING FOUNDATION TO A DEPTH SUFFICIENT TO EXPOSE A MINIMUM OF 4" OF THE FOUNDATION BELOW EXISTING GRADE.
3. ROUGH THE SIDES OF THE EXISTING FOUNDATION FROM THE TOP TO A POINT FOUR INCHES BELOW GRADE MINIMUM BY MEANS OF A CHISEL OR OTHER METHOD APPROVED BY THE ENGINEER.
4. WASH THE SIDES OF THE FOUNDATION WITH WATER PRESSURIZED AT 50 PSI AND THOROUGHLY DRY WITH COMPRESSED AIR.
5. DRILL HOLES APPROXIMATELY 6" DEEP ON 12-INCH CENTERS INTO THE EXISTING FOUNDATION. INSTALL #4 DOWELS AND EPOXY INTO PLACE. DOWELS SHALL BE THE LENGTH SHOWN IN THE TABLE 1.
6. FORM THE SIDES OF THE MODIFIED FOUNDATION TO A MINIMUM DEPTH OF 4" BELOW GRADE.
7. POSITION FORMS SO THAT ALL EXISTING EXPOSED FOUNDATION SURFACES AT OR ABOVE GRADE LEVEL WILL BE MATCHED AND LEVEL.
8. APPLY A COATING OF APPROVED EPOXY BONDING AGENT TO ALL EXPOSED ROUGHENED CONCRETE SURFACES AS RECOMMENDED BY THE MANUFACTURER.
9. PROVIDE A ONE INCH CHAMFER ON ALL NEW OUTSIDE EDGES.
10. WHERE CABINETS ARE RELOCATED OR ROTATED ON EXISTING FOUNDATION, CUT OFF ANY EXISTING CABINET MOUNTING BOLTS AND EXISTING GROUND RODS AND GRIND FLUSH WITH THE PAD SURFACE.

	FOUNDATION MODIFICATION DETAIL	
	PLAN DATE: NOVEMBER 2009 PREPARED BY: GREEN SCALE: N/A	REVIEWED BY: YOW/ASLAMI REVIEWED BY: PARKER INIT. DATE
SIGNATURE: <i>Gregory A. Fuller</i> DATE: 11/2/09 CADD FILE NAME:		