

PROJECT: U-4909A

WBS: 40278.3.FD2

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 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

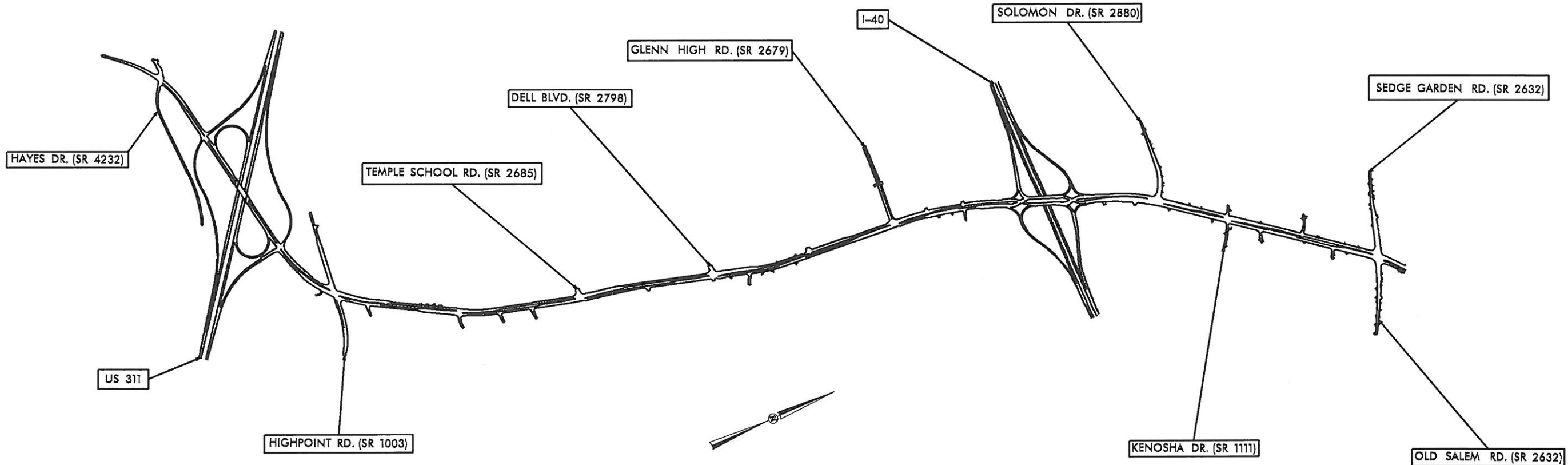
STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUM
1135.01	CONES
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1180.01	SKINNY - DRUM
1700.01	ELECTRICAL SERVICE OPTIONS
1715.01	UNDERGROUND CONDUIT
1716.01	JUNCTION BOXES
1751.01	CONTROLLERS AND CABINETS - ELECTRICAL SERVICE GROUNDING
1751.02	CONTROLLERS AND CABINETS - ELECTRICAL SERVICE DETAILS
1752.01	CONTROLLERS AND CABINETS - POWER, GROUND AND AUXILIARY POWER SYSTEMS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
FORSYTH COUNTY

PLANS FOR PROPOSED
CCTV CAMERA INSTALLATIONS

THIS PROJECT CONSISTS OF FURNISHING AND INSTALLING EQUIPMENT AND MATERIALS FOR THE INSTALLATION OF TWO (2) CCTV CAMERAS ON I-40 AND I-40 BUSINESS IN FORSYTH COUNTY, NORTH CAROLINA.
RELATED MATERIALS CONSIST OF CCTV CAMERA EQUIPMENT, EQUIPMENT CABINETS, FIBER OPTIC COMMUNICATIONS CABLE, WOOD POLES, UNDERGROUND CONDUIT, JUNCTION BOXES, GUY ASSEMBLIES, RISERS, SPLICE ENCLOSURES, AND ELECTRICAL SERVICE EQUIPMENT.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.	U-4909A	ITS-1
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
40278.1.FD2	CMS-2643(6)	PE
40278.3.FD2	CMS-2643(6)	CONST



INDEX OF PLANS

SHEET NUMBER	DESCRIPTION
ITS 1	TITLE SHEET
ITS 2	CONSTRUCTION NOTES
ITS 3 - 9	COMMUNICATIONS CABLE AND CCTV PLANS
ITS 10 - 11	SPLICE DETAILS
ITS 12 - 13	ELECTRICAL SERVICE GROUNDING DETAILS

2012 STANDARD SPECIFICATION

PROJECT LENGTH:
3.73 MILES

LETTING DATE:
MAY 27, 2015

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
Signature: Gregory A. Fuller
DATE: 2/26/15

- | | |
|----|---|
| 1 | MVD CONTROL CABLES |
| 2 | 3-WIRE #3 SERVICE ENTRANCE CONDUCTORS |
| 3A | 4-WIRE #4 COPPER FEEDER CONDUCTORS |
| 3B | 4-WIRE #6 COPPER FEEDER CONDUCTORS |
| 3C | 3-WIRE #8 COPPER FEEDER CONDUCTORS |
| 3D | 3-WIRE #10 COPPER FEEDER CONDUCTORS |
| 3E | 3-WIRE #12 COPPER FEEDER CONDUCTORS |
| 4 | INSTALL SMFO CABLE |
| 5 | INSTALL MMFO 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 OUTER-DUCT POLYETHYLENE CONDUIT |
| 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 EXISTING POLE MOUNTED CABINET |
| 25 | INSTALL NEW RISER INTO EXISTING 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 | INSTALL AERIAL SPLICE ENCLOSURE |

- | | |
|----|--|
| 31 | MODIFY EXISTING SPLICE ENCLOSURE |
| 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 WOOD POLE |
| 38 | INSTALL CCTV CAMERA METAL POLE AND FOUNDATION |
| 39 | INSTALL STANDARD JUNCTION BOX |
| 40 | INSTALL OVERSIZED JUNCTION BOX |
| 41 | REMOVE EXISTING 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 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 30 FEET OF COMMUNICATIONS CABLE |
| 54 | LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE |
| 55 | LASH CABLE(S) TO EXISTING MESSENGER CABLE |
| 56 | LASH CABLE(S) TO NEW MESSENGER CABLE |
| 57 | INSTALL NEW EQUIPMENT CABINET DISCONNECT |
| 58 | INSTALL NEW ELECTRICAL SERVICE |
| 59 | MODIFY ELECTRICAL SERVICE |
| 60 | INSTALL MICROWAVE VEHICLE DETECTION ASSEMBLY |

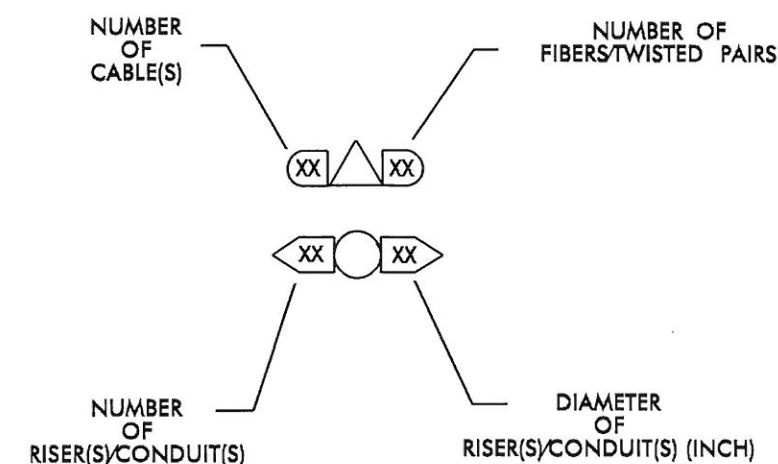
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|----|--|
| 61 | INSTALL POLE MOUNTED EQUIPMENT CABINET |
| 62 | INSTALL INDUSTRIAL ETHERNET SWITCH |
| 63 | INSTALL FIBER OPTIC TRANSCEIVER |
| 64 | INSTALL VIDEO ENCODER |
| 65 | INSTALL VIDEO DECODER |

LEGEND

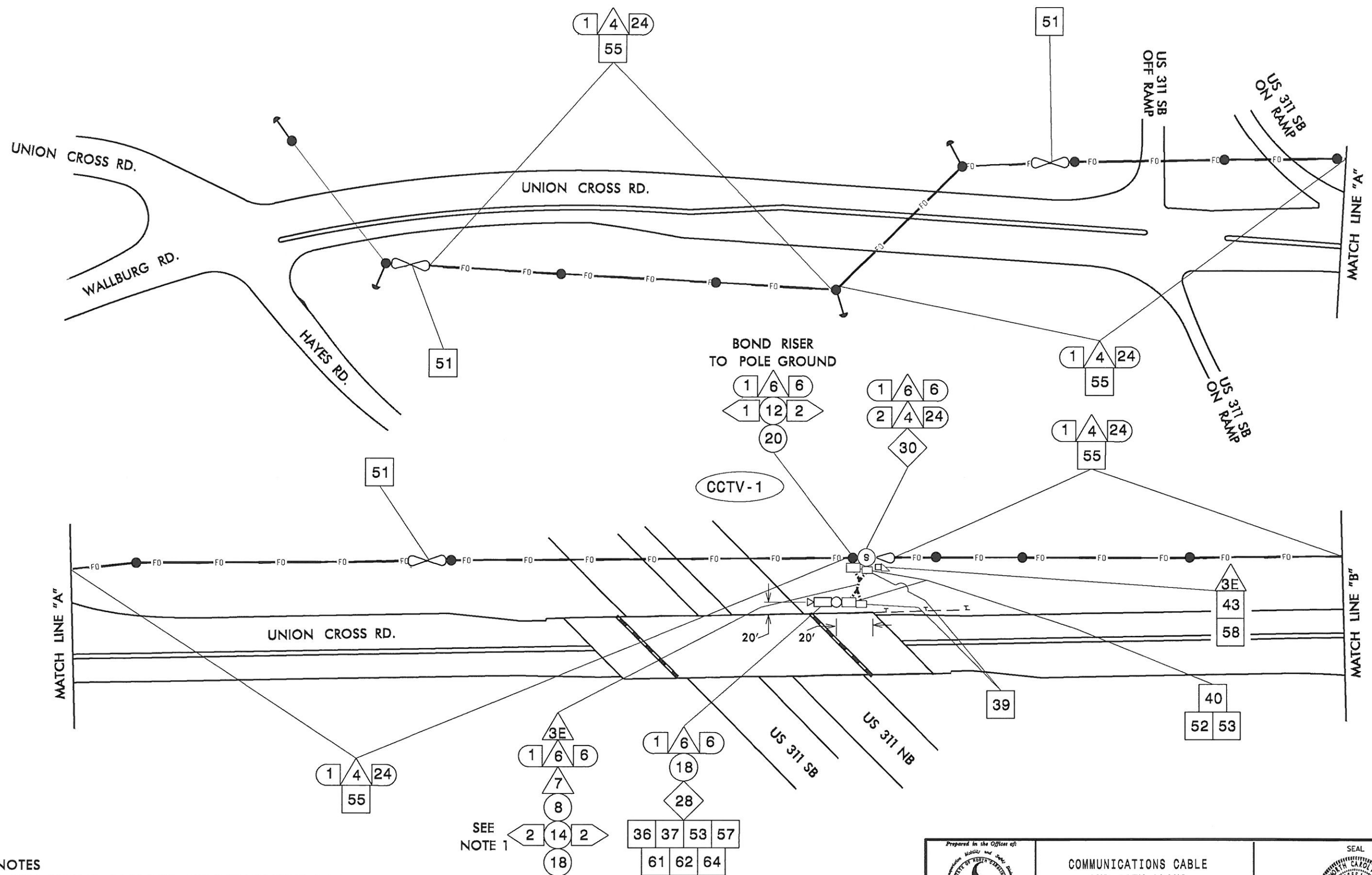
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|----------|---------------------------------|--------------|---------------------------------|
| ----- | NEW CONDUIT | (S) | NEW SPLICE ENCLOSURE |
| ----- | EXISTING CONDUIT | (S) | EXISTING SPLICE ENCLOSURE |
| ---DD--- | NEW DIRECTIONAL DRILLED CONDUIT | [CCTV] | NEW CCTV CAMERA ASSEMBLY |
| ---T--- | EXISTING GUARDRAIL | [CCTV] | EXISTING CCTV CAMERA ASSEMBLY |
| [] | NEW JUNCTION BOX | [CONTROLLER] | EXISTING CONTROLLER AND CABINET |
| [] | EXISTING JUNCTION BOX | SP | SIGNAL POLE |
| (O) | NEW WOOD POLE | [ELECTRICAL] | NEW ELECTRICAL SERVICE |
| (O) | EXISTING WOOD POLE | [ELECTRICAL] | EXISTING ELECTRICAL SERVICE |
| ← | NEW DOWN GUY | [PEDESTAL] | NEW 6" X 6" WOOD PEDESTAL |
| ← | EXISTING DOWN GUY | | |

CONSTRUCTION NOTE SYMBOLOGY KEY

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



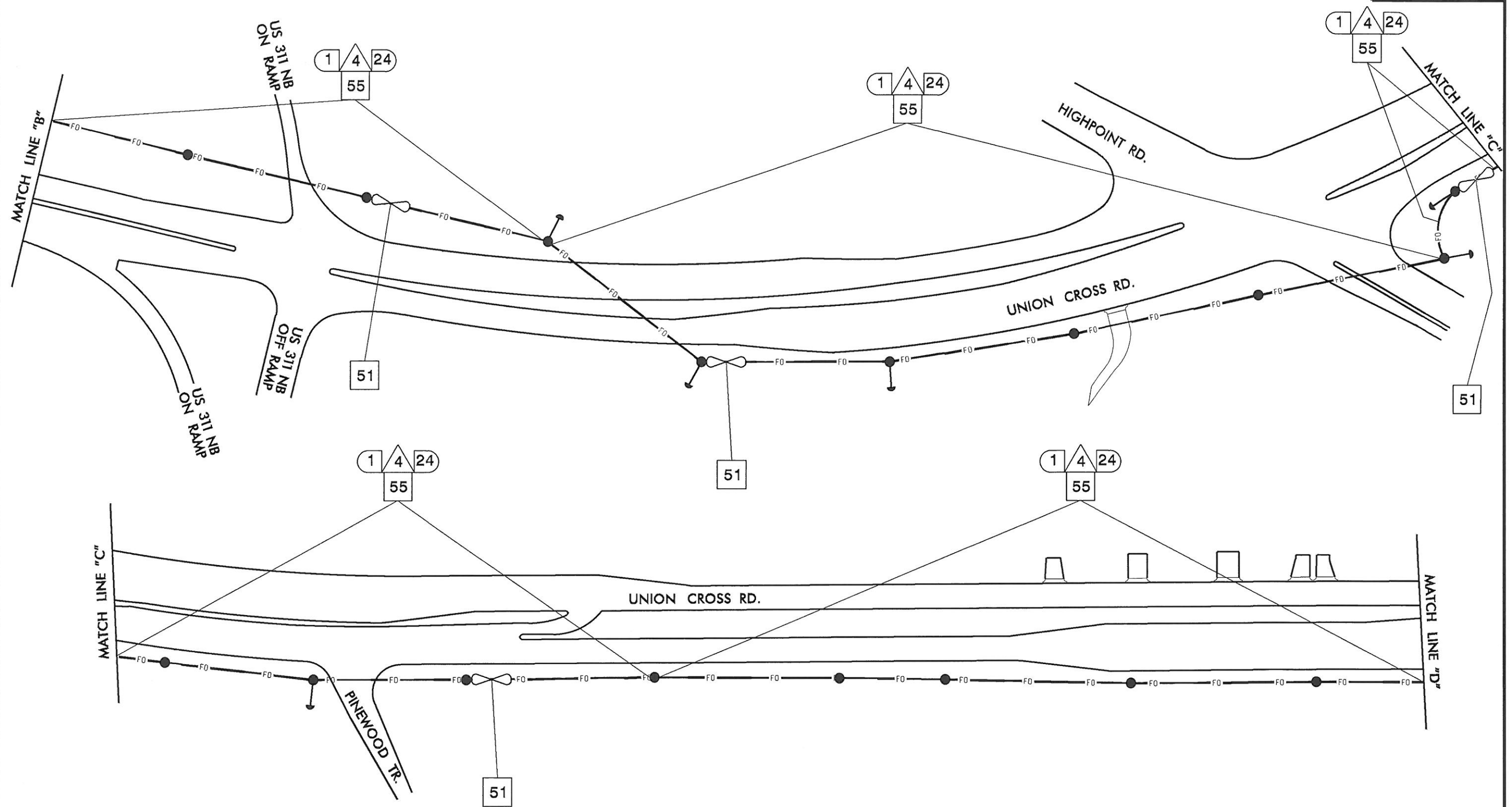
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	PLAN DATE: FEBRUARY 2015	REVIEWED BY: PARKER			
	PREPARED BY: GREEN	REVIEWED BY:	INIT.	DATE	
	REVISIONS				
SCALE: 0 N/A					CADD File Name: 2-26-15



NOTES

1. CALL NORTH CAROLINA 811 BEFORE YOU DIG.
2. INSTALL CONDUITS FOR FEEDER CONDUCTORS AND FIBER OPTIC CABLE IN SAME TRENCH. USE SEPERATE CONDUIT AND JUNCTION BOXES.
3. CCTV POLE LOCATION TO BE STAKED AND APPROVED BY THE ENGINEER.
4. CONTACT WAYMON MONROE WITH (DUKE ENERGY) AT (336) 650-6360 TO OBTAIN ELECTRICAL SERVICE.

Prepared in the Office of:  UNIVERSITY OF NORTH CAROLINA AT GREENSBORO 750 N. Greenfield Plaza, Greensboro, NC 27409	COMMUNICATIONS CABLE AND CCTV PLANS	SEAL 																		
DIVISION 09 FORSYTH CO. KERNERSVILLE																				
PLAN DATE: FEBRUARY 2015 REVIEWED BY: PARKER																				
PREPARED BY: GREEN REVIEWED BY:																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">REVISONS</th> <th style="width: 25%;">INIT.</th> <th style="width: 25%;">DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>			REVISONS	INIT.	DATE															
REVISONS	INIT.	DATE																		
SCALE  N/A	<i>Gregory A. Fuller</i> 2-26-15 SIGNATURE DATE CADD File name:																			



Prepared in the Office of



750 N. Greenfield Pkwy., Garner, NC 27539

**COMMUNICATIONS CABLE
AND CCTV PLANS**

DIVISION 09 FORSYTH CO. KERNERSVILLE

PLAN DATE: FEBRUARY 2015 REVIEWED BY: PARKER

PREPARED BY: GREEN REVIEWED BY:

REVISIONS	INIT.	DATE

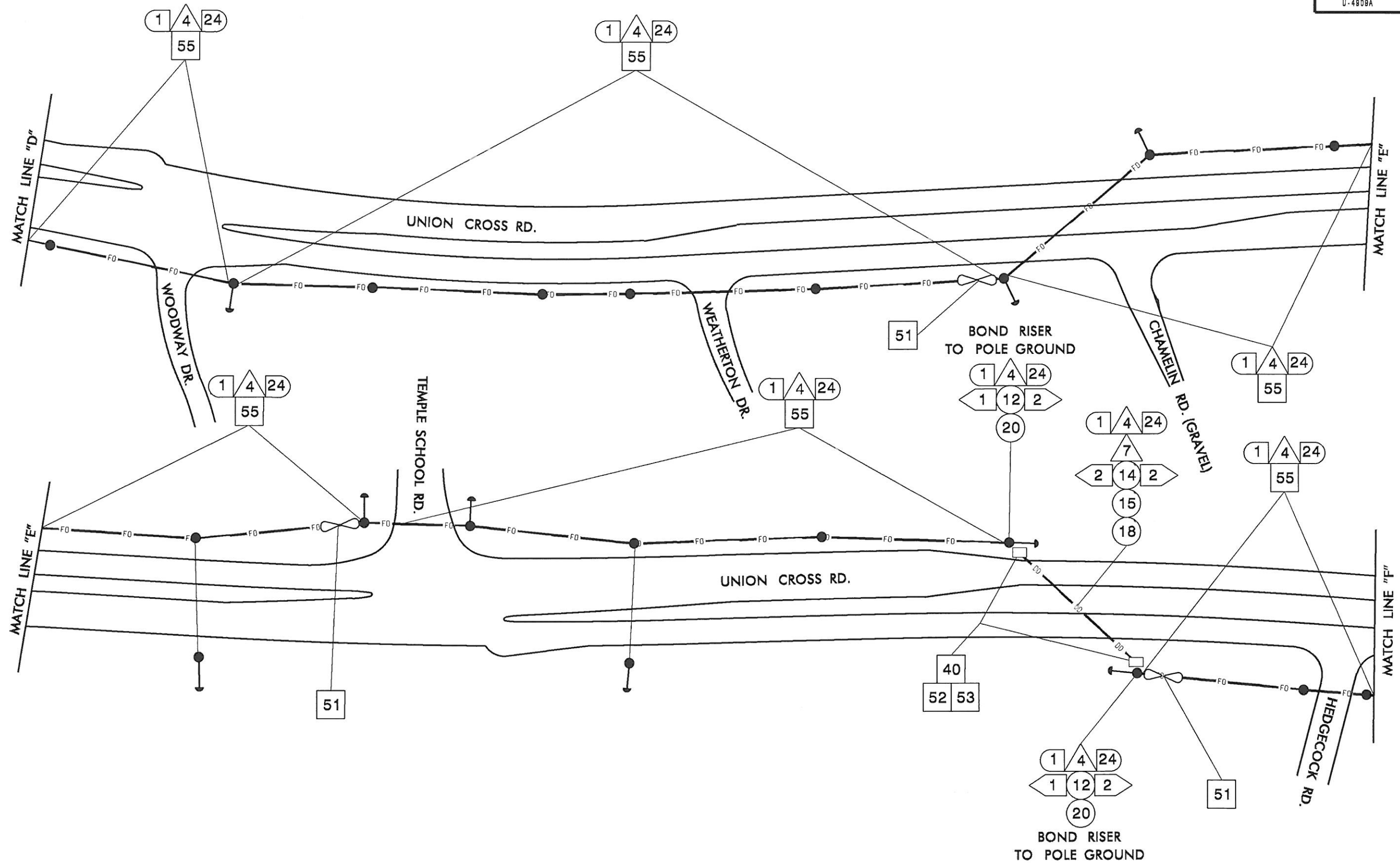
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SEAL



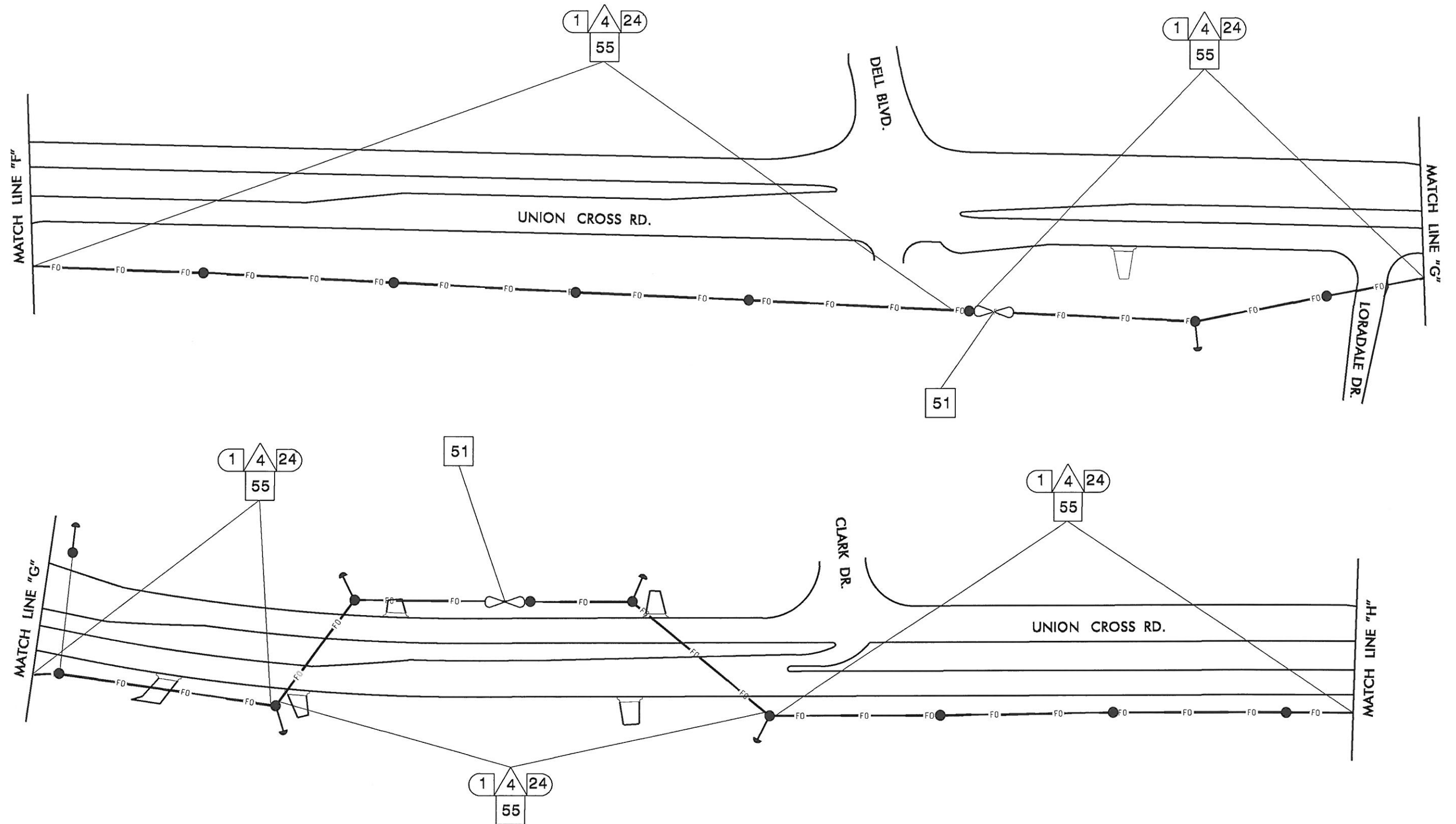
Gregory A. Fuller 2-26-15

CADD File: 0001

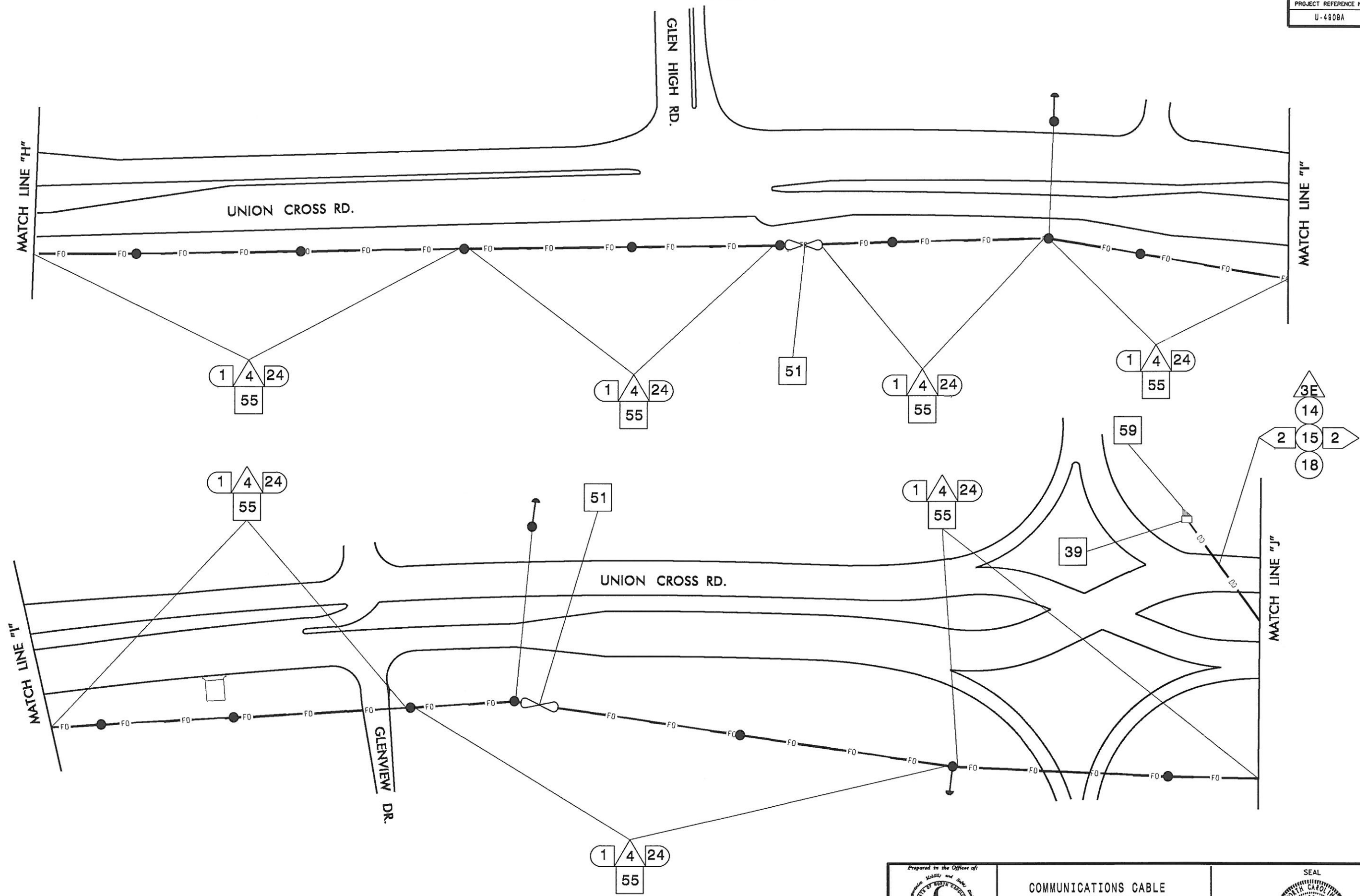


NOTES
1. CALL NORTH CAROLINA 811 BEFORE YOU DIG.

 150 N. Greenfield Place, Garner, NC 27529	COMMUNICATIONS CABLE AND CCTV PLANS			
	DIVISION 09 FORSYTH CO. KERNERSVILLE			
	PLAN DATE: FEBRUARY 2015	REVIEWED BY: PARKER		
	PREPARED BY: GREEN	REVIEWED BY:	INIT.	DATE
SCALE 0 N/A				
		SIGNATURE: <i>Gregory A. Fuller</i> 2-26-15		
		DATE		



	COMMUNICATIONS CABLE AND CCTV PLANS			
	DIVISION 08 FORSYTH CO. KERNERSVILLE			
	PLAN DATE: FEBRUARY 2015	REVIEWED BY: PARKER		
	PREPARED BY: GREEN	REVIEWED BY:		
	REVISIONS	INIT.	DATE	
SCALE 0' = 1" / N/A		SIGNATURE: <i>Gregory A. Foye</i> DATE: 2-26-15		



NOTES
1. CALL NORTH CAROLINA 811 BEFORE YOU DIG.

Prepared in the Office of
Infrastructure, Mobility and Safety Division
DIVISION OF NORTH CAROLINA TRANSPORTATION
150 N. Greenfield Pkwy., Garner, NC 27539



SCALE
0
N/A

COMMUNICATIONS CABLE
AND CCTV PLANS

DIVISION 08 FORSYTH CO. KERNERSVILLE

PLAN DATE: FEBRUARY 2015 REVIEWED BY: PARKER

PREPARED BY: GREEN REVIEWED BY:

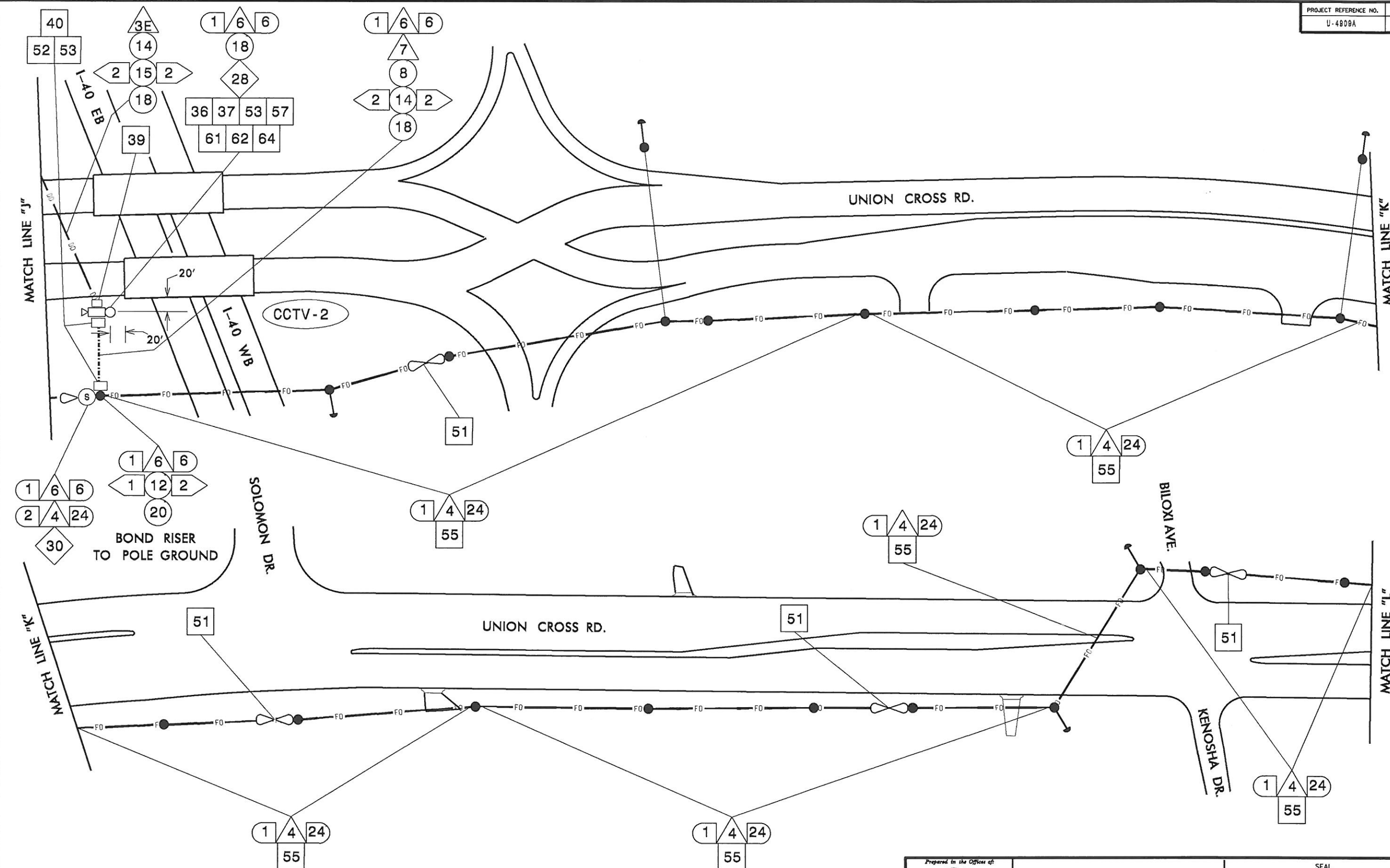
REVISIONS

INIT. DATE

CADD FILED

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
023919
ENGINEER
GREGORY A. FULES

Gregory A. Fules 2-26-15
DATE



NOTES
1. CALL NORTH CAROLINA 811 BEFORE YOU DIG.
2. CCTV POLE LOCATION TO BE STAKED AND APPROVED BY THE ENGINEER.

Prepared in the Office of:

750 N. Greenfield Place, Greensboro, NC 27409

COMMUNICATIONS CABLE
AND CCTV PLANS

DIVISION 08 FORSYTH CO. KERNERSVILLE

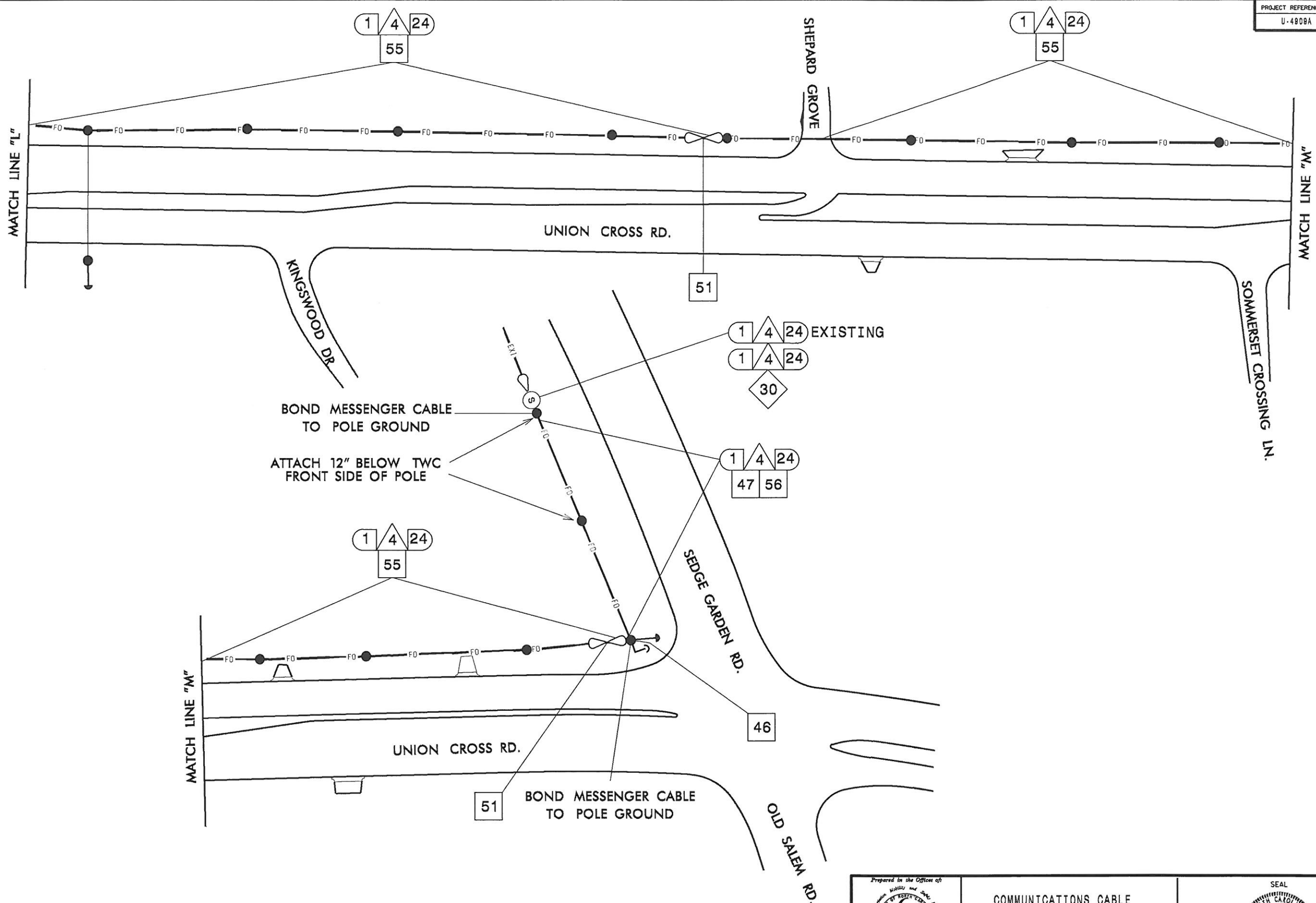
PLAN DATE: FEBRUARY 2015 REVIEWED BY: PARKER

PREPARED BY: GREEN REVIEWED BY:

REVISIONS	INT.	DATE

SCALE
0
N/A

SEAL
NORTH CAROLINA
PROFESSIONAL
ENGINEER
SEAL
023919
C. GREGORY A. FULLER
DATE
2.26.15



Prepared by the Office of
Transportation, Mobility and Safety
Division of the
North Carolina Department of Transportation
150 N. Greenfield Place, Greensboro, NC 27426

COMMUNICATIONS CABLE
AND CCTV PLANS

DIVISION 08	FORSYTH CO.	KERNERSVILLE
PLAN DATE: FEBRUARY 2016	REVIEWED BY: PARKER	
PREPARED BY: GREEN	REVIEWED BY:	
REVISIONS	INIT.	DATE

SCALE
0
N/A

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
023919
ENGINEER
CATHY A. FULLER

Gregory A. Fuller 2-26-15
SIGNATURE DATE

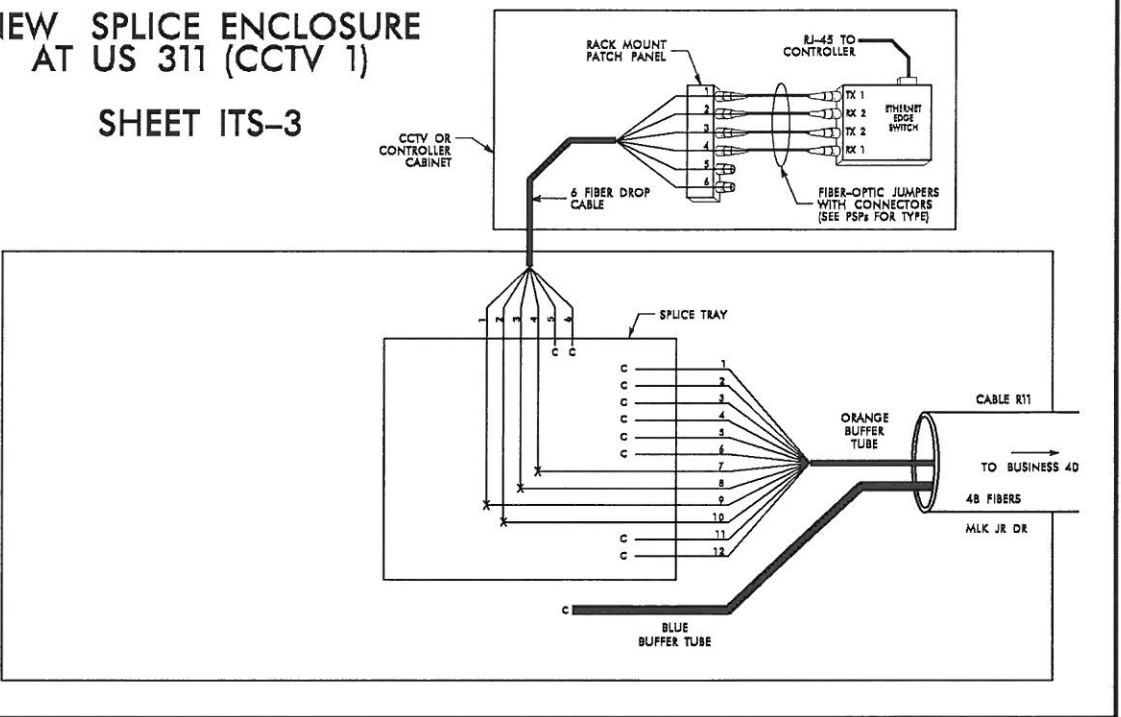
CADD File Name:

LEGEND

- X = FUSION SPLICE
E = EXISTING FUSION SPLICE
C = CAP FIBERS OR BUFFER TUBES
= EXPRESS FIBERS THROUGH WITHOUT CUTTING

EXPRESS

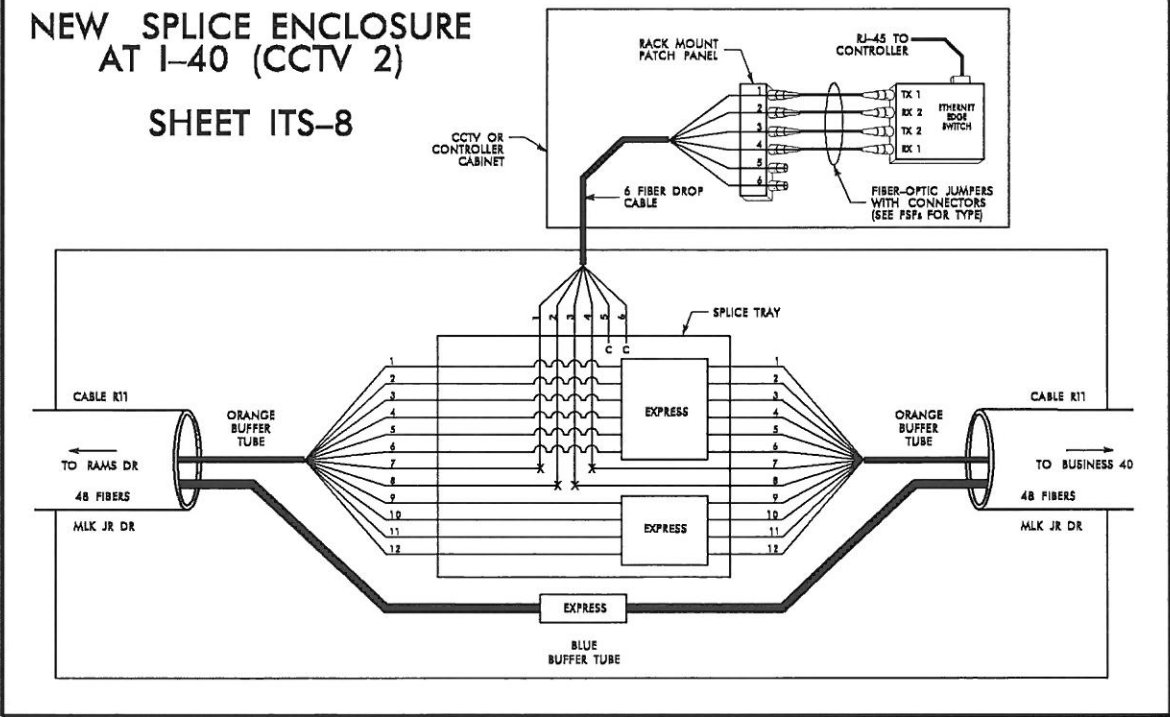
NEW SPLICE ENCLOSURE
AT US 311 (CCTV 1)
SHEET ITS-3



COLOR CODE
TIA/EIA 598-A

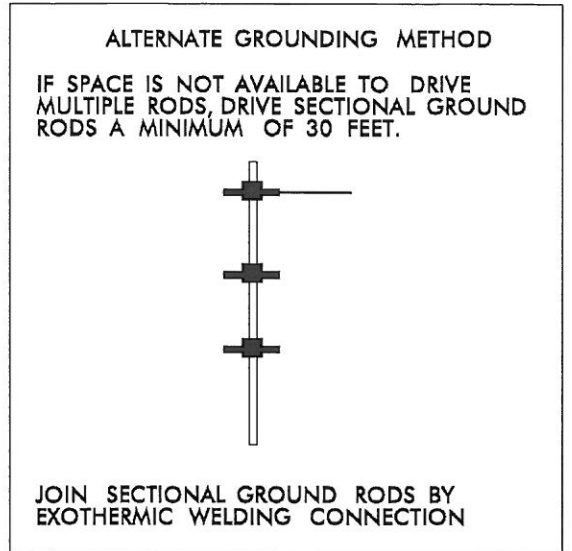
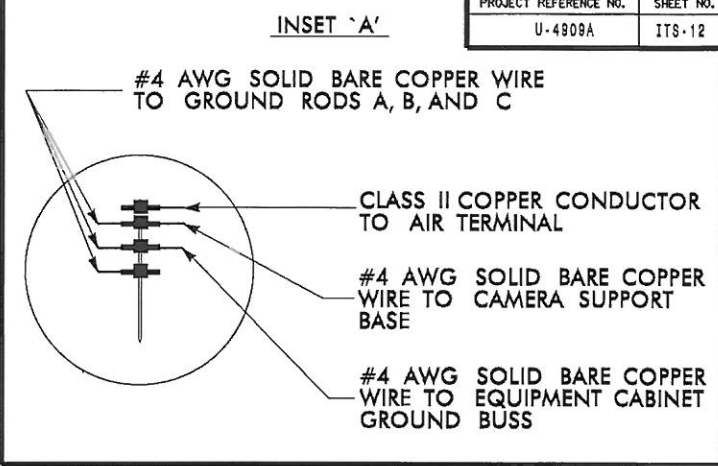
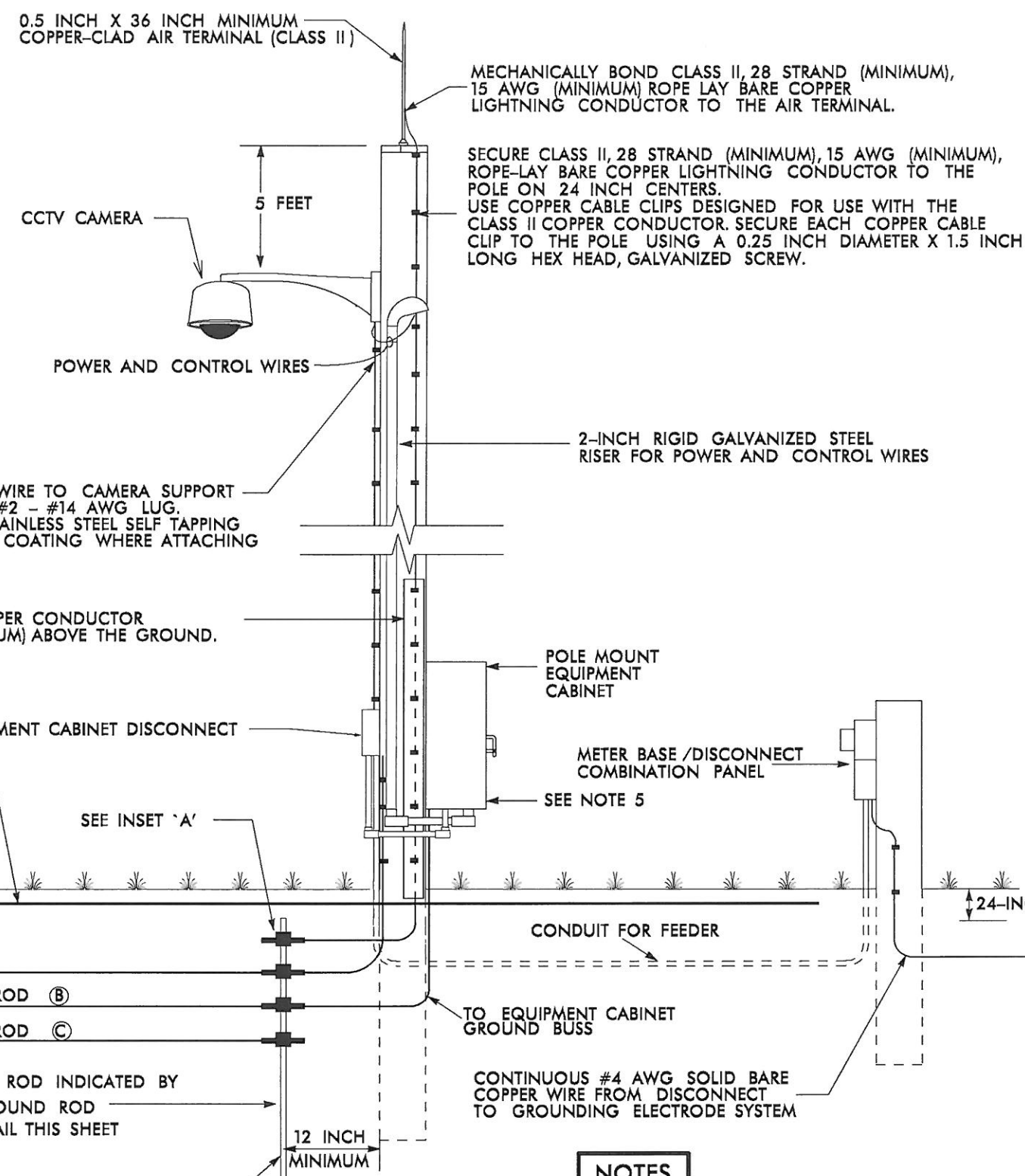
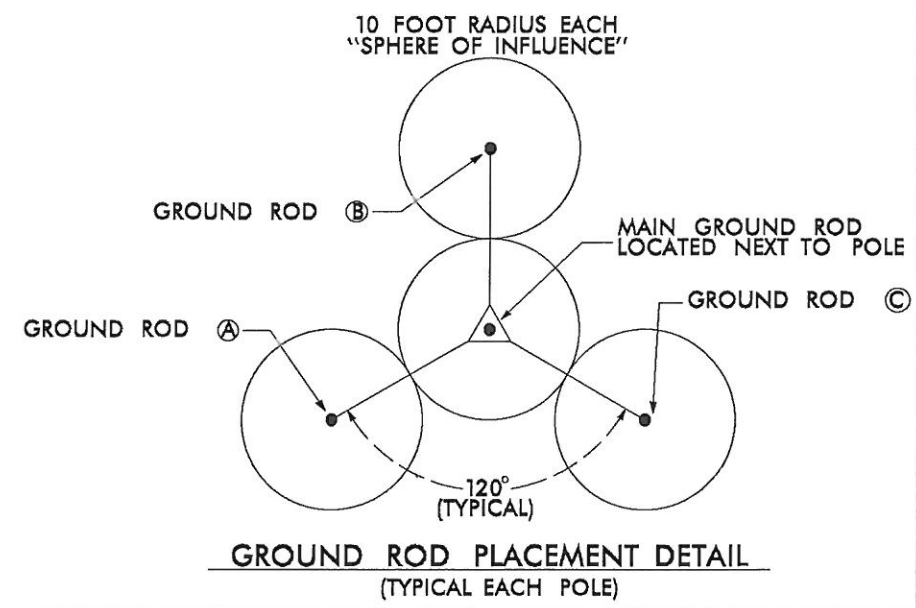
- | | |
|------------|-------------|
| (1) BLUE | (7) RED |
| (2) ORANGE | (8) BLACK |
| (3) GREEN | (9) YELLOW |
| (4) BROWN | (10) VIOLET |
| (5) SLATE | (11) ROSE |
| (6) WHITE | (12) AQUA |

NEW SPLICE ENCLOSURE
AT I-40 (CCTV 2)
SHEET ITS-8



NOTES:
1. COIL AND STORE ALL UNUSED FIBERS IN SPLICE TRAY. CAP UNUSED BUFFER TUBES.
2. ETHERNET SWITCH TERMINATION CONFIGURATIONS ARE GENERIC.
CONTRACTOR IS RESPONSIBLE FOR DETERMINING/ENSURING PROPER TERMINATION.

	SPLICE DETAILS		
	DIVISION 08 FORSYTH CO. KERNERSVILLE		
	PLAN DATE: FEBRUARY 2015	REVIEWED BY: PARKER	
	PREPARED BY: GREEN	REVIEWED BY:	
REVISIONS		INIT.	DATE
0			
SCALE		N/A	
750 N. Greenfield Plaza, Garner, NC 27529		CADD Filetime: 2-26-15	



NOTES

1. BOND CLASS II, 28 STRAND (MINIMUM), 15 AWG (MINIMUM) ROPE-LAY BARE COPPER CONDUCTOR TO THE MAIN GROUND ROD BY AN EXOTHERMIC WELD METHOD. MAINTAIN MAXIMUM HORIZONTAL SEPARATION BETWEEN COPPER CONDUCTOR AND RISER.
2. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
3. THE CONTRACTOR MAY, UPON APPROVAL OF THE ENGINEER, INSTALL A 30-FOOT SECTIONAL GROUND ROD FOR INSTANCES WHEN CONDITIONS WILL NOT ALLOW FOR THE INSTALLATION OF THE 3 - RADIAL GROUND RODS.
4. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.
5. REMOVE BONDING JUMPER BETWEEN EQUIPMENT CABINET GROUND BUSS AND NEUTRAL BUSS.

CCTV 1
NEW ELECTRICAL SERVICE AND GROUNDING DETAIL

PLAN DATE: FEBRUARY 2015	REVIEWED BY:
PREPARED BY: GREEN	REVIEWED BY: PARKER
REVISIONS	INIT. DATE

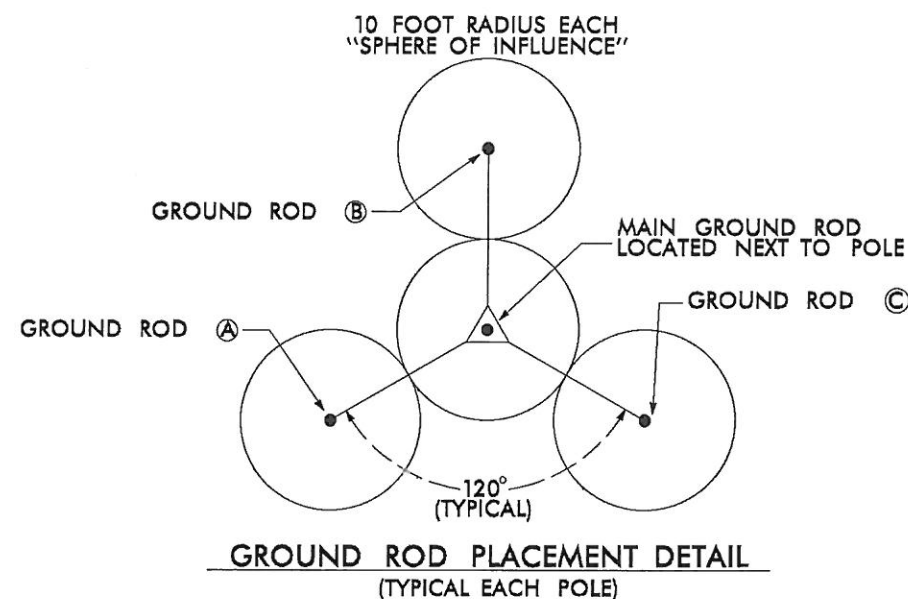
Prepared in the Office of:

750 N. Greenfield Plaza, Garner, NC 27529

SCALE: 0 N/A

SEAL: PROFESSIONAL ENGINEER, GEORGE A. FULLER, 023919

SIGNATURE: *George A. Fuller* DATE: 2-26-15



0.5 INCH X 36 INCH MINIMUM COPPER-CLAD AIR TERMINAL (CLASS II)

MECHANICALLY BOND CLASS II, 28 STRAND (MINIMUM), 15 AWG (MINIMUM) ROPE LAY BARE COPPER LIGHTNING CONDUCTOR TO THE AIR TERMINAL.

SECURE CLASS II, 28 STRAND (MINIMUM), 15 AWG (MINIMUM), ROPE-LAY BARE COPPER LIGHTNING CONDUCTOR TO THE POLE ON 24 INCH CENTERS. USE COPPER CABLE CLIPS DESIGNED FOR USE WITH THE CLASS II COPPER CONDUCTOR. SECURE EACH COPPER CABLE CLIP TO THE POLE USING A 0.25 INCH DIAMETER X 1.5 INCH LONG HEX HEAD, GALVANIZED SCREW.

CCTV CAMERA

5 FEET

POWER AND CONTROL WIRES

2-INCH RIGID GALVANIZED STEEL RISER FOR POWER AND CONTROL WIRES

BOND #4 AWG SOLID BARE COPPER WIRE TO CAMERA SUPPORT BASE BY AN ALUMINUM TO COPPER #2 - #14 AWG LUG. ATTACH TO CAMERA BASE WITH A STAINLESS STEEL SELF TAPPING SCREW. REMOVE PAINT OR PROTECTIVE COATING WHERE ATTACHING LUG ONLY.

INSTALL 2-INCH PVC U-GUARD OVER COPPER CONDUCTOR FROM GROUND LEVEL TO 10 FEET (MINIMUM) ABOVE THE GROUND.

POLE MOUNT EQUIPMENT CABINET

EXISTING METER BASE /DISCONNECT COMBINATION PANEL

SEE NOTE 5

EQUIPMENT CABINET DISCONNECT

INSTALL MARKER TAPE 12 INCHES BELOW GRADE AND ABOVE ALL GROUNDING CONDUCTORS.

SEE INSET 'A'

FINISHED GRADE

24 INCH MIN.

EXOTHERMIC WELD

GROUND ROD (A)

TO GROUND ROD (B)

TO GROUND ROD (C)

MAIN GROUND ROD INDICATED BY "●" IN GROUND ROD PLACEMENT DETAIL THIS SHEET

5/8 INCH X 10 FOOT MIN. COPPER CLAD STEEL GROUND RODS DRIVEN INTO UNDISTURBED EARTH

10 - 20 FEET

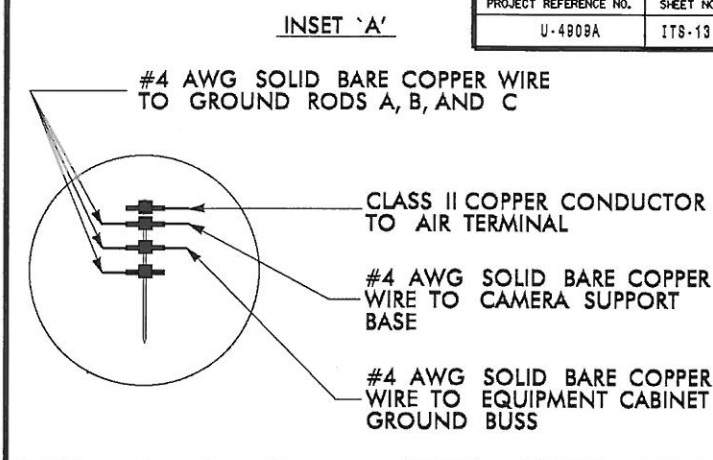
12 INCH MINIMUM

CONDUIT FOR FEEDER

TO EQUIPMENT CABINET GROUND BUSS

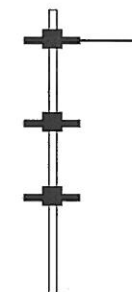
24-INCH MIN. DEPTH

EXISTING GROUND RODS



ALTERNATE GROUNDING METHOD

IF SPACE IS NOT AVAILABLE TO DRIVE MULTIPLE RODS, DRIVE SECTIONAL GROUND RODS A MINIMUM OF 30 FEET.



JOIN SECTIONAL GROUND RODS BY EXOTHERMIC WELDING CONNECTION

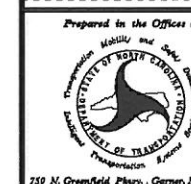
NOTES

1. BOND CLASS II, 28 STRAND (MINIMUM), 15 AWG (MINIMUM) ROPE-LAY BARE COPPER CONDUCTOR TO THE MAIN GROUND ROD BY AN EXOTHERMIC WELD METHOD. MAINTAIN MAXIMUM HORIZONTAL SEPARATION BETWEEN COPPER CONDUCTOR AND RISER.
2. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
3. THE CONTRACTOR MAY, UPON APPROVAL OF THE ENGINEER, INSTALL A 30-FOOT SECTIONAL GROUND ROD FOR INSTANCES WHEN CONDITIONS WILL NOT ALLOW FOR THE INSTALLATION OF THE 3 - RADIAL GROUND RODS.
4. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.
5. REMOVE BONDING JUMPER BETWEEN EQUIPMENT CABINET GROUND BUSS AND NEUTRAL BUSS.

CCTV 2

MODIFIED ELECTRICAL SERVICE AND GROUNDING DETAIL

PLAN DATE: FEBRUARY 2015	REVIEWED BY:
PREPARED BY: GREEN	REVIEWED BY: PARKER
REVISIONS	INIT. DATE



SCALE: 0 N/A

SIGNATURE: Gregory A. Fuller 2-26-15

DATE: 2-26-15