

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DURHAM AND WAKE COUNTIES

PLANS FOR PROPOSED

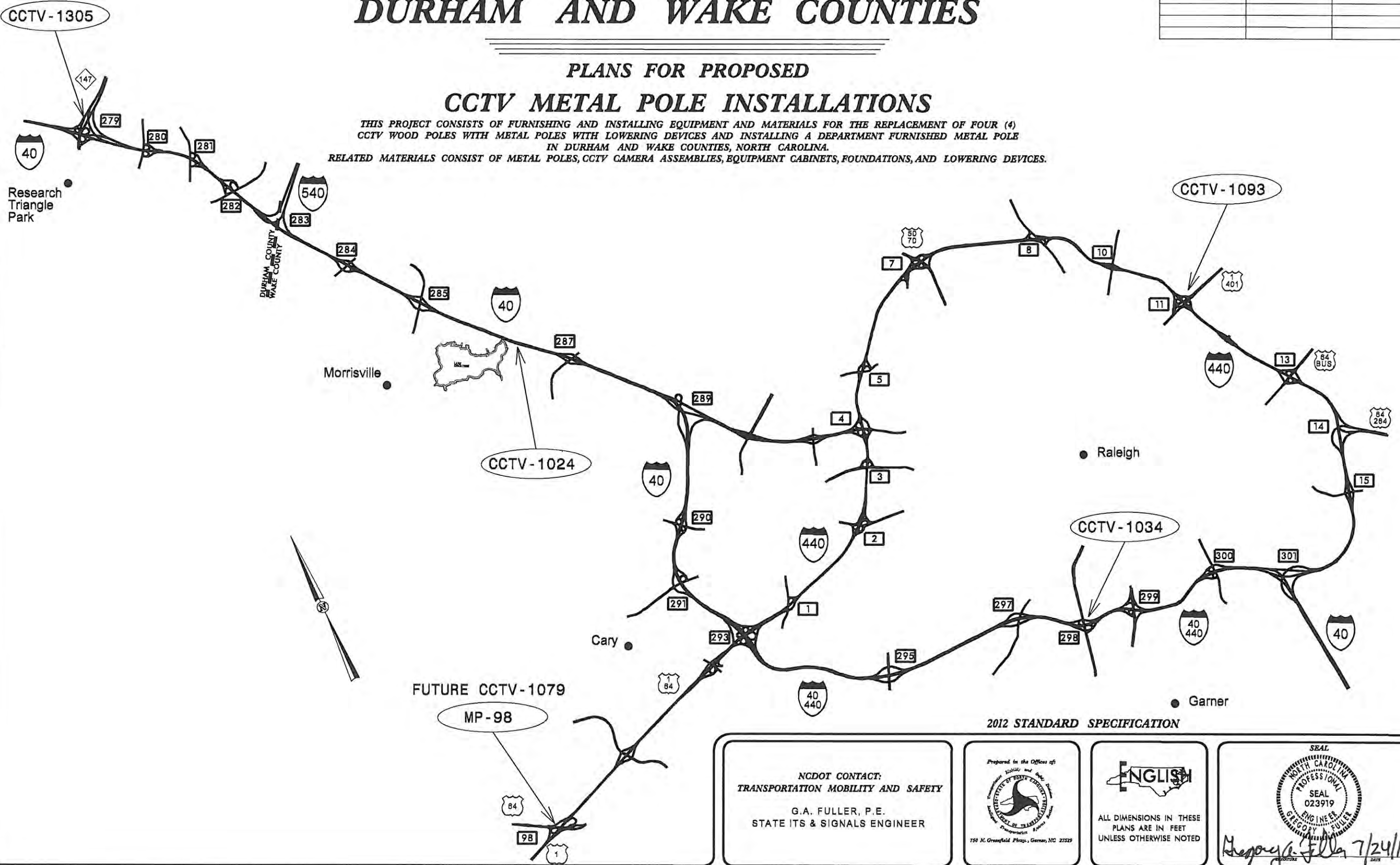
CCTV METAL POLE INSTALLATIONS

THIS PROJECT CONSISTS OF FURNISHING AND INSTALLING EQUIPMENT AND MATERIALS FOR THE REPLACEMENT OF FOUR (4) CCTV WOOD POLES WITH METAL POLES WITH LOWERING DEVICES AND INSTALLING A DEPARTMENT FURNISHED METAL POLE IN DURHAM AND WAKE COUNTIES, NORTH CAROLINA.

RELATED MATERIALS CONSIST OF METAL POLES, CCTV CAMERA ASSEMBLIES, EQUIPMENT CABINETS, FOUNDATIONS, AND LOWERING DEVICES.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.	34601.3.6	ITS-1
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
		P.E.
		CONST.

PROJECT: 34601.3.6



2012 STANDARD SPECIFICATION

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
GREGORY J. FULLER
PROFESSIONAL ENGINEER
STATE OF NORTH CAROLINA
SEAL 023919
DATE 7/24/13

INDEX OF SHEETS

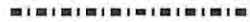













SHEET 1 TITLE SHEET
 SHEET 2 INDEX OF SHEETS, ROADWAY STANDARD DRAWINGS, AND LEGEND
 SHEET 3-7 PLAN SHEETS
 SHEET 8 TYPICAL DETAILS
 SHEET 9 NCDOT FURNISHED POLE SHOP DRAWINGS
 SHEET M1-M3 METAL POLE TYPICAL DETAILS



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 JULY 2012 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
	NEW METAL POLE
	NEW CCTV
	EXISTING CCTV
	EXISTING ELECTRICAL SERVICE
	EXISTING JUNCTION BOX
	NEW JUNCTION BOX
	EXISTING SPLICE ENCLOSURE
	NEW SPLICE ENCLOSURE

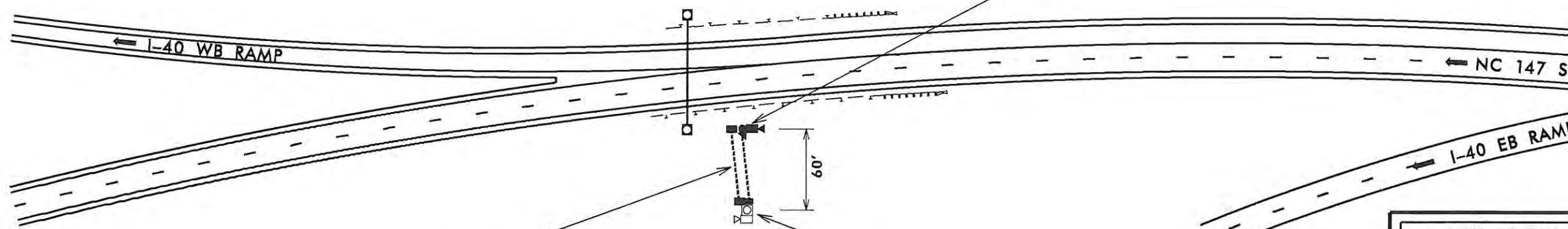
 Prepared in the Office of NORTH CAROLINA DEPARTMENT OF TRANSPORTATION 750 N. Greenfield Plaza, Greensboro, NC 27259	METAL POLE INSTALLATIONS INDEX OF SHEETS, ROADWAY STANDARD DRAWINGS, AND LEGEND		SEAL  SEAL 023919 ENGINEER GEOFFREY A. FULLER
	DIVISION 05 PLAN DATE: JULY 2013 PREPARED BY: GREEN SCALE: N/A	REVIEWED BY: PARKER REVIEWED BY:	

CCTV-1305 GPS COORDINATES

N 35° 54.214
W 78° 52.425

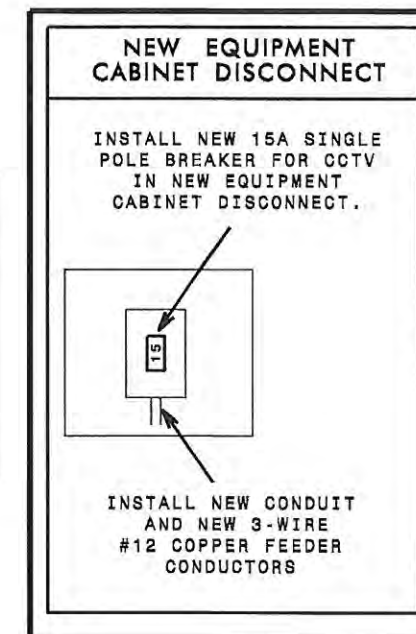
** NOTIFY THE REGIONAL ITS ENGINEER AT (919) 233-9331
A MINIMUM OF 7 DAYS BEFORE PERFORMING ANY WORK
AT EACH CCTV LOCATION.

QUANTITY	DESCRIPTION
1	REMOVE CCTV CAMERA
1	REMOVE CCTV EQUIPMENT CABINET
1	REMOVE EXISTING CCTV WOOD POLE
1	EQUIPMENT CABINET DISCONNECT
1	6" X 6" WOOD PEDESTAL



QUANTITY	DESCRIPTION
70'	TRACER WIRE
10'	UNPAVED TRENCHING (1)(2")
1	RELOCATE COMMUNICATIONS CABLE

QUANTITY	DESCRIPTION
1	70' CCTV METAL POLE
1	CCTV CAMERA ASSEMBLY
1	CCTV EQUIPMENT CABINET
1	CCTV CAMERA LOWERING SYSTEM
10'	UNPAVED TRENCHING (1)(1")
70'	3-WIRE COPPER FEEDER CONDUCTORS
4	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
40'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR



NOTES

1. INSTALL NEW METAL CAMERA POLE 60' SOUTHEAST OF EXISTING WOOD POLE. LOCATION TO BE STAKED AND APPROVED BY THE REGIONAL ITS ENGINEER BEFORE FOUNDATION IS INSTALLED.
2. INSTALL NEW CCTV CAMERA AND NEW CCTV EQUIPMENT CABINET ON NEW METAL POLE.
3. TRANSFER ALL FIBER OPTIC COMMUNICATIONS EQUIPMENT FROM THE EXISTING CCTV EQUIPMENT CABINET TO THE NEW EQUIPMENT CABINET.
4. REMOVE EXISTING CCTV CAMERA AND EXISTING EQUIPMENT CABINET AND DELIVER TO 200 ROSCOE TRAIL, RALEIGH, NC. REMOVE EXISTING CCTV WOOD POLE AND DISPOSE OF IT.
5. INSTALL NEW 6" X 6" WOOD PEDESTAL IN PLACE OF CCTV WOOD POLE TO MOUNT NEW EQUIPMENT CABINET DISCONNECT. ROUTE NEW FEEDER CONDUCTORS THROUGH EXISTING CONDUIT TO EXISTING JUNCTION BOX NEAR NEW METAL POLE LOCATION. INSTALL NEW 1" CONDUIT BETWEEN THIS JUNCTION BOX AND THE NEW CCTV EQUIPMENT CABINET.
6. PULL EXISTING FIBER OPTIC CABLE BACK TO THE EXISTING JUNCTION BOX NEAR THE EXISTING EQUIPMENT CABINET AND ROUTE TO EXISTING JUNCTION BOX NEAR NEW METAL POLE LOCATION THROUGH EXISTING CONDUIT. INSTALL NEW 2" CONDUIT FROM THIS JUNCTION BOX TO NEW CCTV EQUIPMENT CABINET. ENSURE EXISTING FIBER CONNECTIONS ARE LABELED BEFORE DISCONNECTING. REUSE EXISTING INTERCONNECT CENTER. REESTABLISH FIBER CONNECTIONS.
7. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-8 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

NORTH OF EXIT 279

	CCTV METAL POLE INSTALLATIONS	
	DIVISION 05 DURHAM CO. RTP PLAN DATE: JULY 2013 REVIEWED BY: PARKER PREPARED BY: GREEN REVIEWED BY:	REVISIONS INIT. DATE
SCALE: N/A 	SIGNATURE: <i>Gregory A. Fuller</i> DATE: 7/24/13	SEAL:

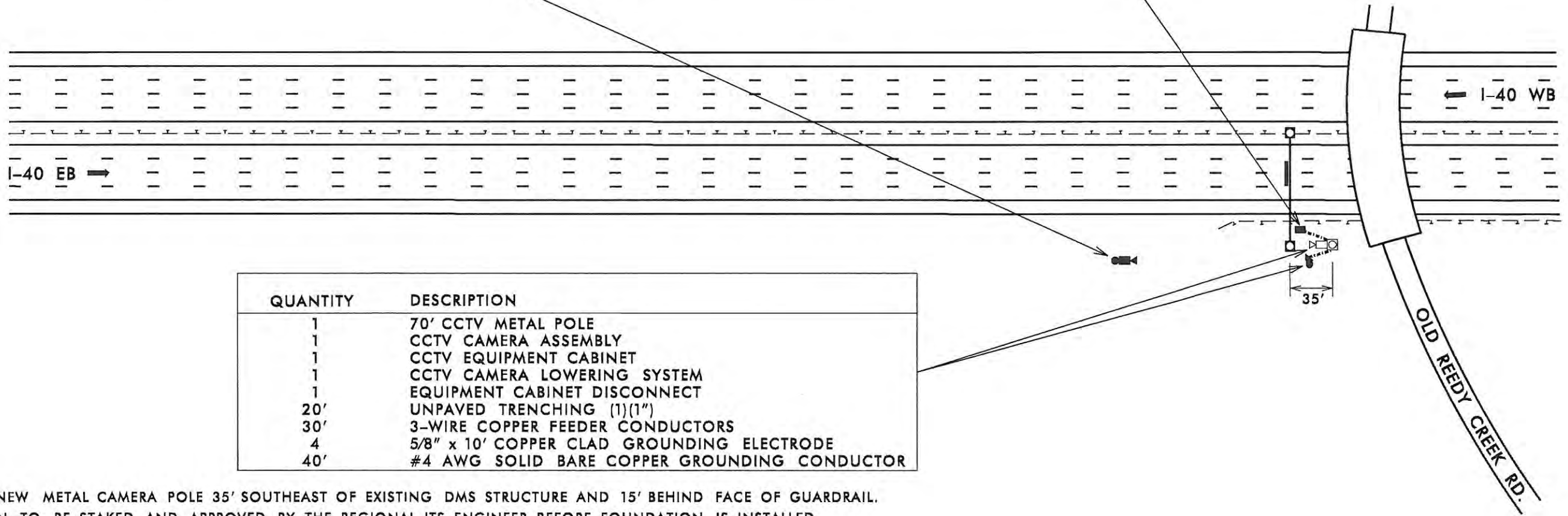
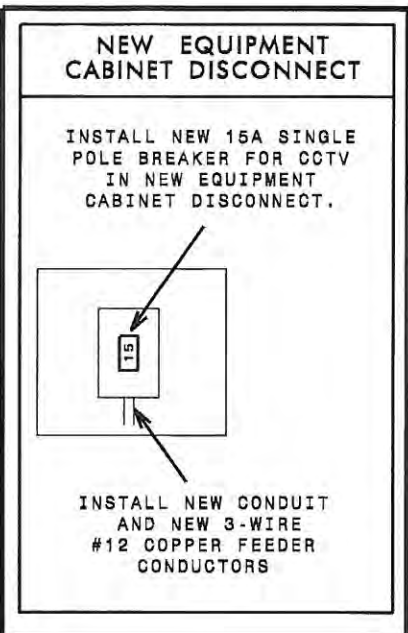
CCTV-1024 GPS COORDINATES

N 35° 50.418
W 78° 46.931

** NOTIFY THE REGIONAL ITS ENGINEER AT (919) 233-9331
A MINIMUM OF 7 DAYS BEFORE PERFORMING ANY WORK
AT EACH CCTV LOCATION.

QUANTITY	DESCRIPTION
40'	UNPAVED TRENCHING (1)(2")
45'	TRACER WIRE
1	RELOCATE COMMUNICATIONS CABLE

QUANTITY	DESCRIPTION
1	REMOVE CCTV CAMERA
1	REMOVE CCTV EQUIPMENT CABINET
1	REMOVE EXISTING CCTV WOOD POLE



QUANTITY	DESCRIPTION
1	70' CCTV METAL POLE
1	CCTV CAMERA ASSEMBLY
1	CCTV EQUIPMENT CABINET
1	CCTV CAMERA LOWERING SYSTEM
1	EQUIPMENT CABINET DISCONNECT
20'	UNPAVED TRENCHING (1)(1")
30'	3-WIRE COPPER FEEDER CONDUCTORS
4	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
40'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

NOTES

1. INSTALL NEW METAL CAMERA POLE 35' SOUTHEAST OF EXISTING DMS STRUCTURE AND 15' BEHIND FACE OF GUARDRAIL. LOCATION TO BE STAKED AND APPROVED BY THE REGIONAL ITS ENGINEER BEFORE FOUNDATION IS INSTALLED.
2. INSTALL NEW CCTV CAMERA AND NEW CCTV EQUIPMENT CABINET ON NEW METAL POLE.
3. TRANSFER ALL FIBER OPTIC COMMUNICATIONS EQUIPMENT FROM THE EXISTING CCTV EQUIPMENT CABINET TO THE NEW EQUIPMENT CABINET.
4. REMOVE EXISTING CCTV CAMERA, EXISTING CCTV EQUIPMENT CABINET, AND CCTV WOOD POLE AND DELIVER TO 200 ROSCOE TRAIL, RALEIGH, NC.
5. REPLACE EXISTING EQUIPMENT CABINET DISCONNECT FOR ABANDONED COUNTING CABINET WITH A NEW EQUIPMENT CABINET DISCONNECT. INSTALL NEW CONDUIT BETWEEN NEW DISCONNECT AND THE NEW CCTV EQUIPMENT CABINET.
6. PULL EXISTING FIBER OPTIC CABLE BACK TO THE EXISTING JUNCTION BOX AND ROUTE TO NEW CCTV EQUIPMENT CABINET THROUGH NEW CONDUIT. ENSURE EXISTING FIBER CONNECTIONS ARE LABELED BEFORE DISCONNECTING. REUSE EXISTING INTERCONNECT CENTER. REESTABLISH FIBER CONNECTIONS.
7. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-8 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

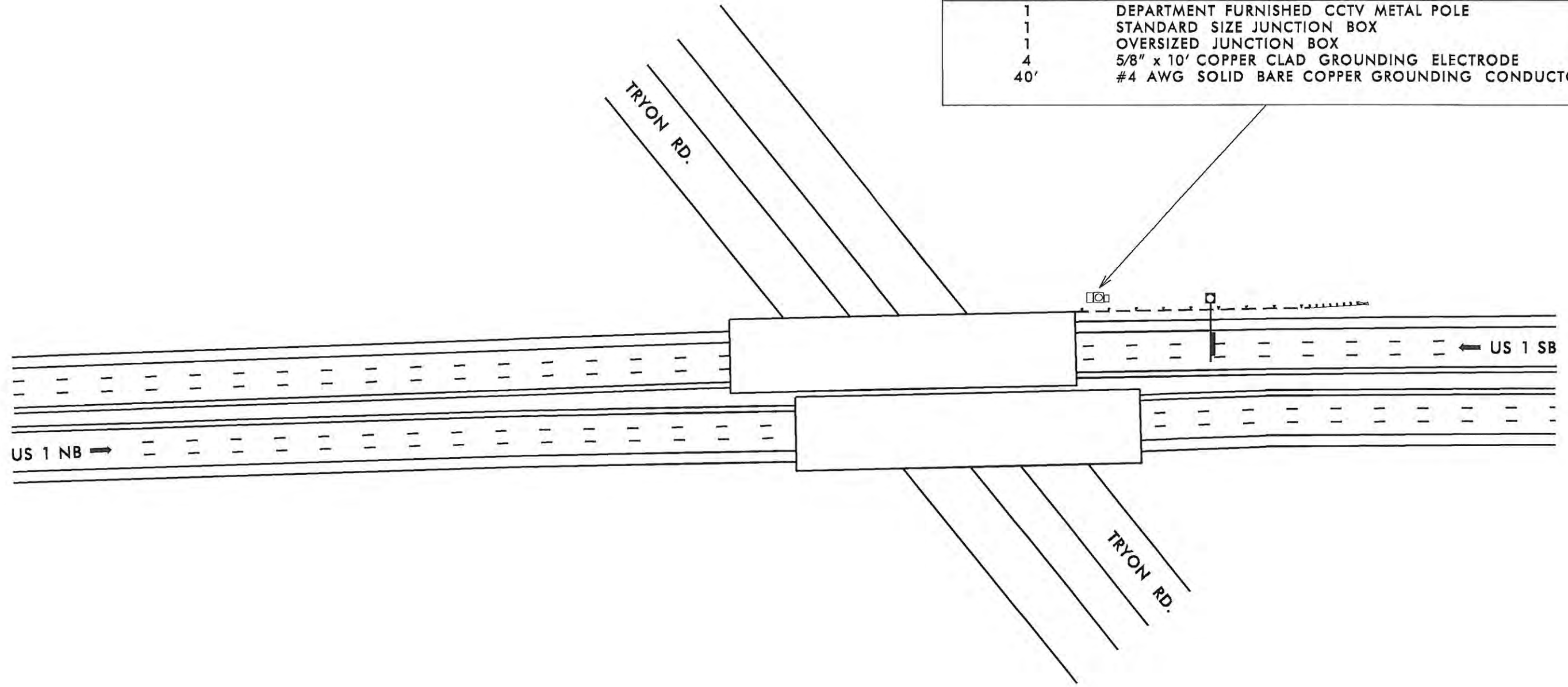
MM 286

	<p>CCTV METAL POLE INSTALLATIONS</p>						
	<p>DIVISION 05 WAKE CO. MORRISVILLE</p> <p>PLAN DATE: JULY 2013 REVIEWED BY: PARKER</p> <p>PREPARED BY: GREEN REVIEWED BY:</p>	<p>REVISIONS</p> <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DATE	DESCRIPTION		
NO.	DATE	DESCRIPTION					
<p>SCALE: 0 N/A</p>	<p>SIGNATURE: <i>Gregory A. Fuller</i> 7/24/13</p> <p>DATE: 7/24/13</p>	<p>CADD FILE: 100001</p>					

METAL POLE GPS COORDINATES

N 35° 44.260
W 78° 47.555

QUANTITY	DESCRIPTION
1	DEPARTMENT FURNISHED CCTV METAL POLE
1	STANDARD SIZE JUNCTION BOX
1	OVERSIZED JUNCTION BOX
4	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
40'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR



EXIT 98

NOTES

1. INSTALL NCDOT SUPPLIED METAL CAMERA POLE 110' WEST OF EXISTING STATIC SIGN AND 6' BEHIND FACE OF GUARDRAIL. LOCATION TO BE STAKED AND APPROVED BY THE REGIONAL ITS ENGINEER BEFORE FOUNDATION IS INSTALLED.
2. INSTALL A 2" CONDUIT STUBOUT FROM BASE OF POLE INTO OVERSIZED JUNCTION BOX.
INSTALL A 1" CONDUIT STUBOUT FROM BASE OF POLE INTO STANDARD SIZE JUNCTION BOX.
3. SEE ITS-9 FOR NCDOT FURNISHED METAL POLE SHOP DRAWINGS.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-8 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

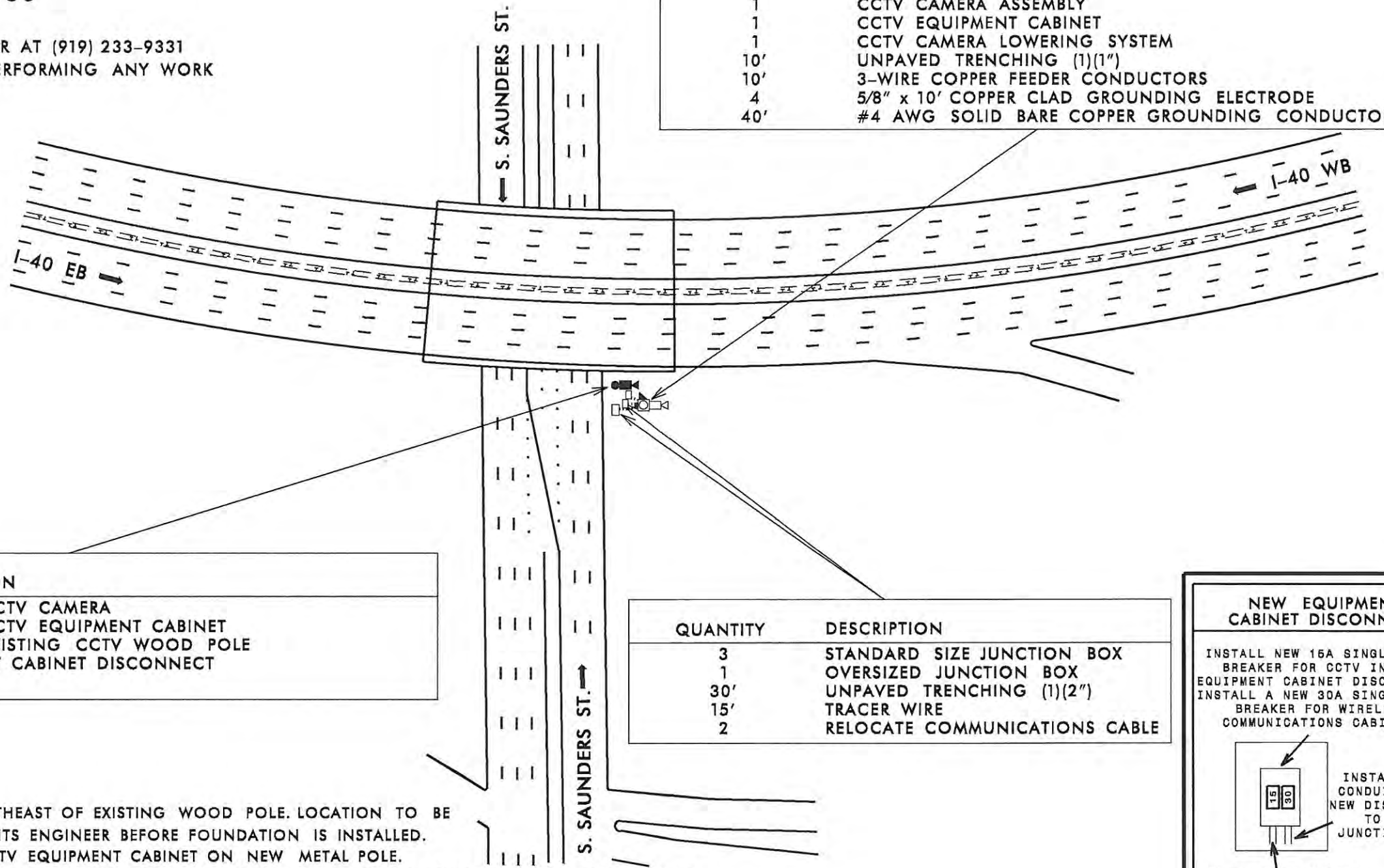
	CCTV METAL POLE INSTALLATIONS	
	DIVISION 05 WAKE CO. CARY PLAN DATE: JULY 2013 REVIEWED BY: PARKER PREPARED BY: GREEN REVIEWED BY:	REVISIONS INIT. DATE _____ _____
	SEAL SIGNATURE: <i>Gregory A. Fuller</i> DATE: 7/24/13	

CCTV-1034 GPS COORDINATES

N 35° 45.158
W 78° 38.930

** NOTIFY THE REGIONAL ITS ENGINEER AT (919) 233-9331
A MINIMUM OF 7 DAYS BEFORE PERFORMING ANY WORK
AT EACH CCTV LOCATION.

QUANTITY	DESCRIPTION
1	70' CCTV METAL POLE
1	CCTV CAMERA ASSEMBLY
1	CCTV EQUIPMENT CABINET
1	CCTV CAMERA LOWERING SYSTEM
10'	UNPAVED TRENCHING (1)(1")
10'	3-WIRE COPPER FEEDER CONDUCTORS
4	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
40'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR



QUANTITY	DESCRIPTION
1	REMOVE CCTV CAMERA
1	REMOVE CCTV EQUIPMENT CABINET
1	REMOVE EXISTING CCTV WOOD POLE
1	EQUIPMENT CABINET DISCONNECT

QUANTITY	DESCRIPTION
3	STANDARD SIZE JUNCTION BOX
1	OVERSIZED JUNCTION BOX
30'	UNPAVED TRENCHING (1)(2")
15'	TRACER WIRE
2	RELOCATE COMMUNICATIONS CABLE

NEW EQUIPMENT CABINET DISCONNECT

INSTALL NEW 16A SINGLE POLE BREAKER FOR CCTV IN NEW EQUIPMENT CABINET DISCONNECT. INSTALL A NEW 30A SINGLE POLE BREAKER FOR WIRELESS COMMUNICATIONS CABINET.

INSTALL NEW CONDUIT FROM NEW DISCONNECT TO NEW JUNCTION BOX

INSTALL NEW CONDUIT AND NEW 3-WIRE #12 COPPER FEEDER CONDUCTORS

NOTES

1. INSTALL NEW METAL CAMERA POLE 10' SOUTHEAST OF EXISTING WOOD POLE. LOCATION TO BE STAKED AND APPROVED BY THE REGIONAL ITS ENGINEER BEFORE FOUNDATION IS INSTALLED.
2. INSTALL NEW CCTV CAMERA AND NEW CCTV EQUIPMENT CABINET ON NEW METAL POLE.
3. TRANSFER ALL FIBER OPTIC COMMUNICATIONS EQUIPMENT AND WIRELESS COMMUNICATIONS EQUIPMENT FROM THE EXISTING CCTV EQUIPMENT CABINET TO THE NEW EQUIPMENT CABINET.
4. REMOVE EXISTING CCTV CAMERA, EXISTING CCTV EQUIPMENT CABINET, AND CCTV WOOD POLE AND DELIVER TO 200 ROSCOE TRAIL, RALEIGH, NC.
5. INSTALL NEW EQUIPMENT CABINET DISCONNECT ON NEW CCTV METAL POLE. INTERCEPT EXISTING CONDUIT AND FEEDER CONDUCTORS WITH A STANDARD SIZE JUNCTION BOX AND REROUTE TO NEW DISCONNECT. SPLICE FEEDER CONDUCTORS WITH UL LISTED AND ENGINEER APPROVED WATERPROOF SPLICE ONLY IF NECESSARY TO REACH DISCONNECT.
6. INTERCEPT EXISTING FEEDER CONDUCTORS TO CCTV 1034 AND WIRELESS COMMUNICATIONS SYSTEM WITH NEW STANDARD SIZE JUNCTION BOXES AND ROUTE THESE FEEDER CONDUCTORS TO THE RELOCATED EQUIPMENT CABINET DISCONNECT THROUGH NEW CONDUIT.
7. INSTALL NEW OVERSIZED JUNCTION BOX TO INTERCEPT EXISTING FIBER OPTIC CABLE AND CONDUIT. DO NOT CUT THE FIBER OPTIC CABLE. ROUTE FIBER OPTIC CABLE TO NEW CCTV EQUIPMENT CABINET THROUGH NEW CONDUIT. ENSURE EXISTING FIBER CONNECTIONS ARE LABELED BEFORE DISCONNECTING. REUSE EXISTING INTERCONNECT CENTER. REESTABLISH FIBER CONNECTIONS.
8. INSTALL NEW STANDARD SIZE JUNCTION BOX TO INTERCEPT ETHERNET CABLE AND CONDUIT. DO NOT CUT ETHERNET CABLE. ROUTE ETHERNET CABLE TO RELOCATED CCTV EQUIPMENT CABINET THROUGH NEW CONDUIT.
9. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-8 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

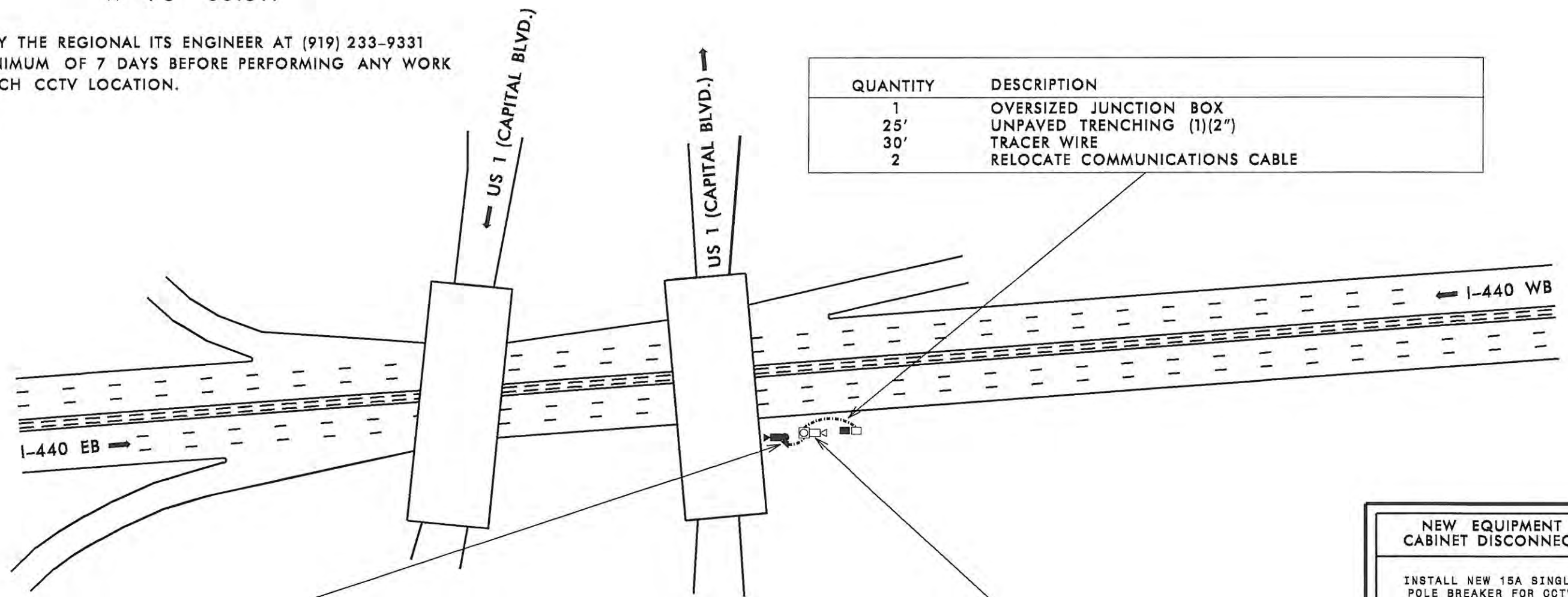
EXIT 298

	CCTV METAL POLE INSTALLATIONS	
	DIVISION 05	WAKE CO. RALEIGH
	PLAN DATE: JULY 2013	REVIEWED BY: PARKER
	PREPARED BY: GREEN	REVIEWED BY:
		REVISIONS: _____ INIT.: _____ DATE: _____ _____ _____ _____
Signature: <i>Gregory A. Fuller</i> DATE: 7/24/13		SEAL: _____ PROFESSIONAL ENGINEER STATE OF NORTH CAROLINA LICENSE NO. 023919 GREGORY A. FULLER

CCTV-1093 GPS COORDINATES

N 35° 48.854
W 78° 36.311

** NOTIFY THE REGIONAL ITS ENGINEER AT (919) 233-9331
A MINIMUM OF 7 DAYS BEFORE PERFORMING ANY WORK
AT EACH CCTV LOCATION.



QUANTITY	DESCRIPTION
1	OVERSIZED JUNCTION BOX
25'	UNPAVED TRENCHING (1)(2")
30'	TRACER WIRE
2	RELOCATE COMMUNICATIONS CABLE

QUANTITY	DESCRIPTION
1	REMOVE CCTV CAMERA
1	REMOVE CCTV EQUIPMENT CABINET
1	REMOVE EXISTING CCTV WOOD POLE
1	EQUIPMENT CABINET DISCONNECT
1	6" X 6" WOOD PEDESTAL

QUANTITY	DESCRIPTION
1	70' CCTV METAL POLE
1	CCTV CAMERA ASSEMBLY
1	CCTV EQUIPMENT CABINET
1	CCTV CAMERA LOWERING SYSTEM
10'	UNPAVED TRENCHING (1)(1")
20'	3-WIRE COPPER FEEDER CONDUCTORS
4	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
40'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

NEW EQUIPMENT CABINET DISCONNECT

INSTALL NEW 15A SINGLE POLE BREAKER FOR CCTV IN NEW EQUIPMENT CABINET DISCONNECT.

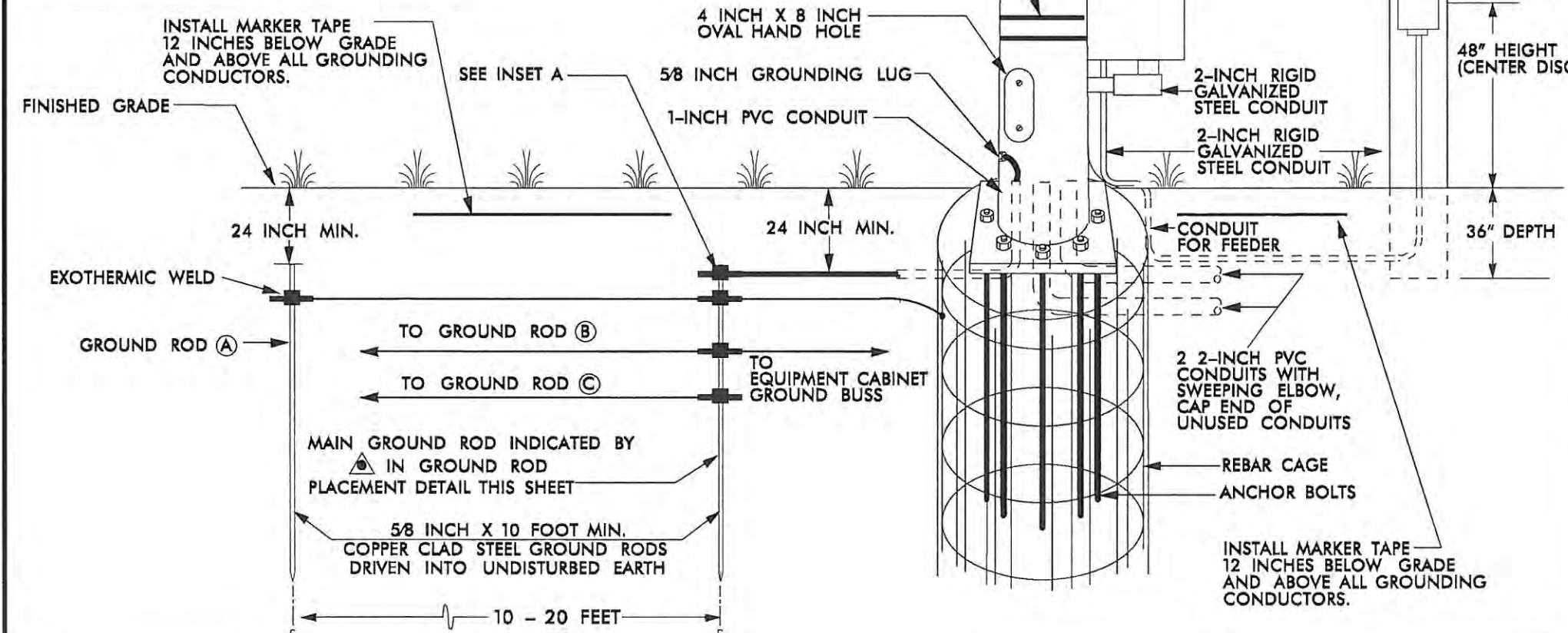
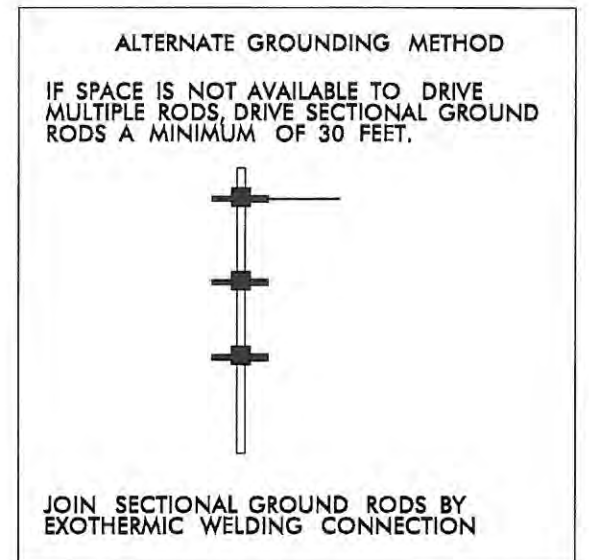
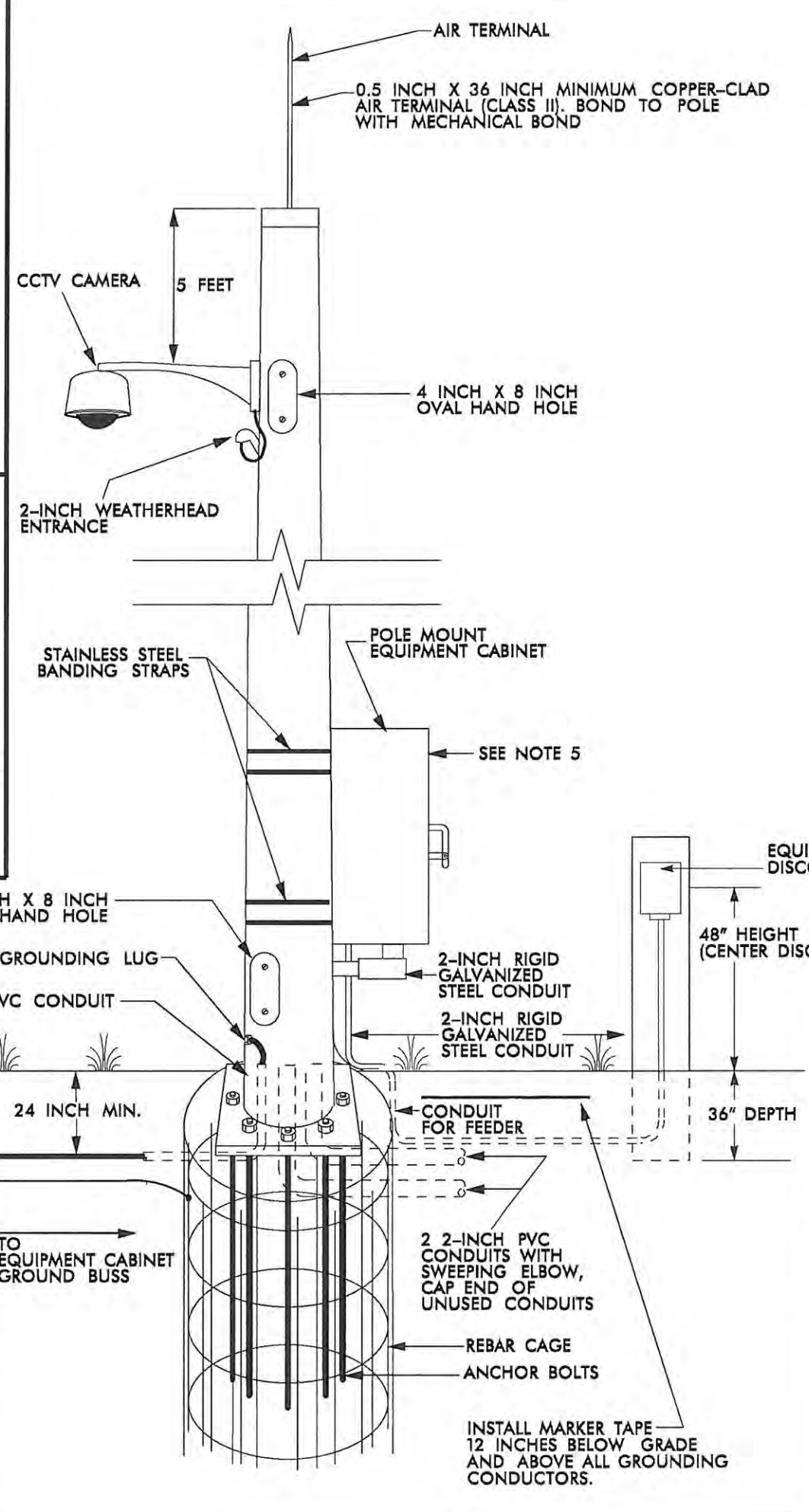
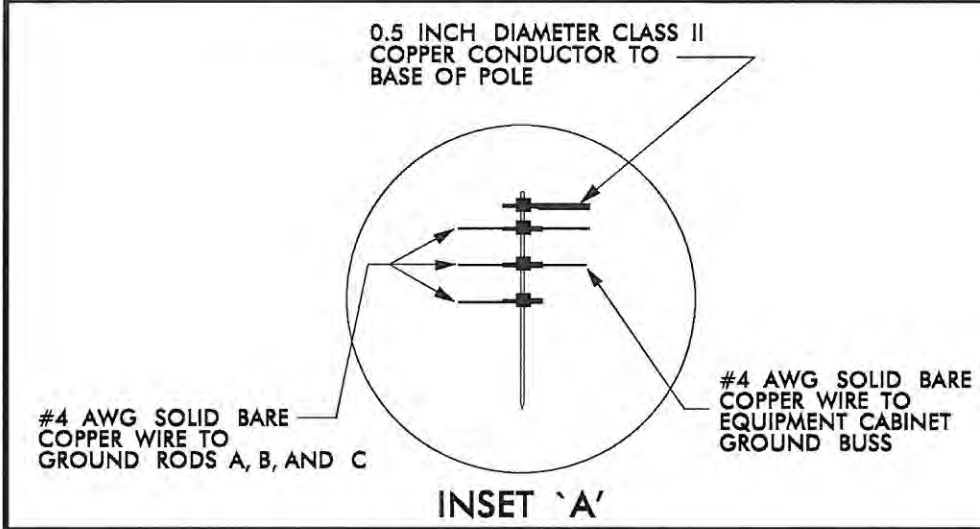
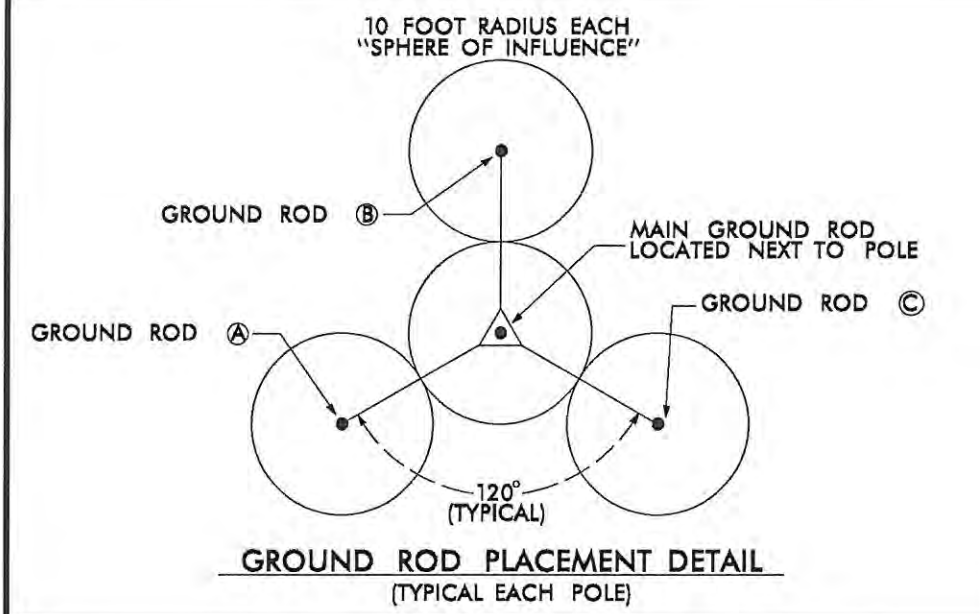
INSTALL NEW CONDUIT AND NEW 3-WIRE #12 COPPER FEEDER CONDUCTORS

NOTES

1. INSTALL NEW METAL CAMERA POLE ADJACENT TO THE EXISTING WOOD POLE. LOCATION TO BE STAKED AND APPROVED BY THE REGIONAL ITS ENGINEER BEFORE FOUNDATION IS INSTALLED.
2. INSTALL NEW CCTV CAMERA AND NEW CCTV EQUIPMENT CABINET ON NEW METAL POLE.
3. TRANSFER ALL FIBER OPTIC COMMUNICATIONS EQUIPMENT AND WIRELESS COMMUNICATIONS EQUIPMENT FROM THE EXISTING CCTV EQUIPMENT CABINET TO THE NEW EQUIPMENT CABINET.
4. RELOCATE EXISTING WIRELESS ANTENNAS FROM EXISTING WOOD POLE TO NEW METAL POLE.
5. REMOVE EXISTING CCTV CAMERA, EXISTING CCTV EQUIPMENT CABINET, AND CCTV WOOD POLE AND DELIVER TO 200 ROSCOE TRAIL, RALEIGH, NC.
6. INSTALL NEW 6" X 6" WOOD PEDESTAL IN PLACE OF CCTV WOOD POLE TO MOUNT NEW EQUIPMENT CABINET DISCONNECT. INSTALL NEW CONDUIT BETWEEN NEW EQUIPMENT CABINET DISCONNECT AND THE NEW CCTV EQUIPMENT CABINET.
7. INSTALL NEW OVERSIZED JUNCTION BOX TO INTERCEPT EXISTING FIBER OPTIC CABLE AND CONDUIT. DO NOT CUT THE FIBER OPTIC CABLE. ROUTE FIBER OPTIC CABLE TO NEW CCTV EQUIPMENT CABINET THROUGH NEW CONDUIT. ENSURE EXISTING FIBER CONNECTIONS ARE LABELED BEFORE DISCONNECTING. REUSE EXISTING INTERCONNECT CENTER. REESTABLISH FIBER CONNECTIONS.
8. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-8 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

EXIT 11

	CCTV METAL POLE INSTALLATIONS	
	DIVISION 06 WAKE CO. RALEIGH PLAN DATE: JULY 2013 REVIEWED BY: PARKER PREPARED BY: GREEN REVIEWED BY:	REVISIONS INIT. DATE
	SCALE: N/A SIGNATURE: <i>Gregory A. Fuller</i> DATE: 7/24/13	SEAL: 023919 GREGORY A. FULLER PROFESSIONAL ENGINEER



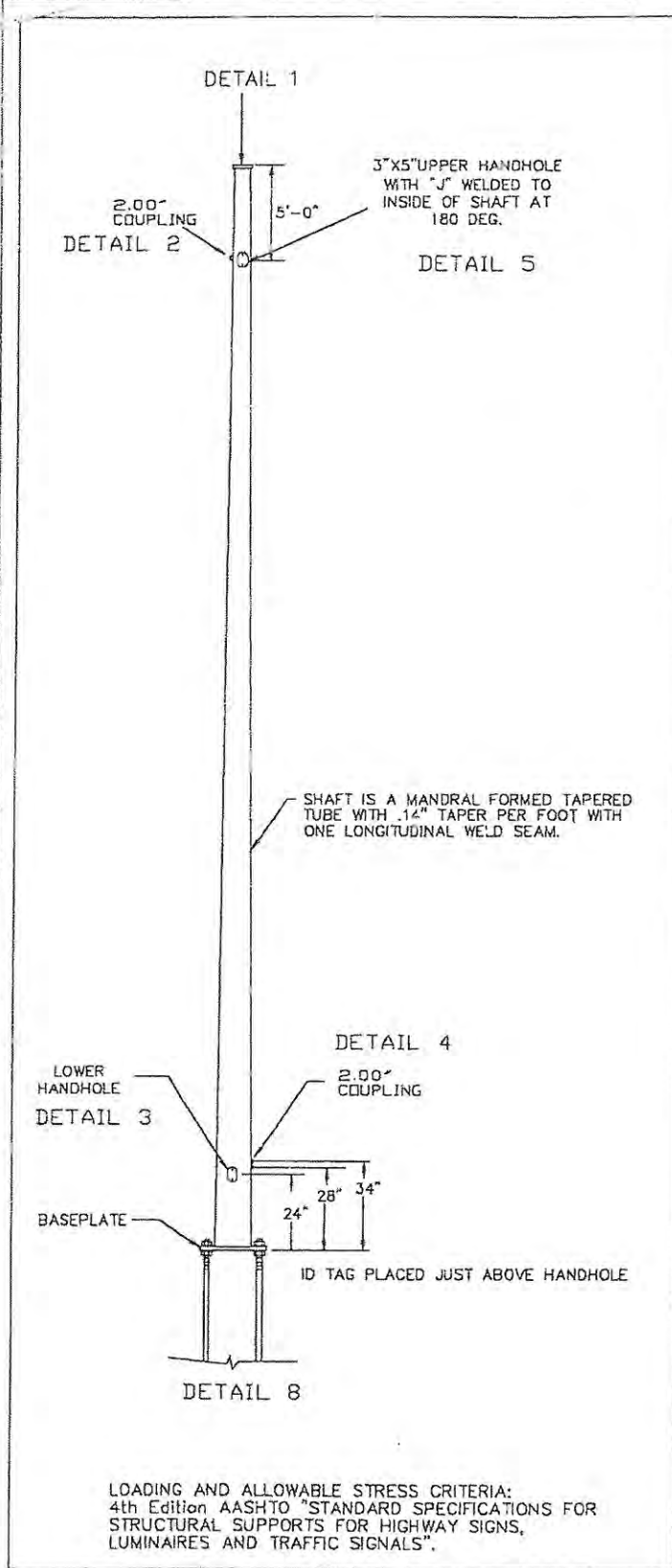
- NOTES**
1. BOND 0.5 INCH DIAMETER, 28 STRAND (MINIMUM) CLASS II COPPER CONDUCTOR TO THE MAIN GROUND ROD BY AN EXOTHERMIC WELD METHOD.
 2. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
 3. BOND #4 AWG SOLID BARE COPPER WIRE TO REBAR CAGE AND THE MAIN GROUND ROD BY AN EXOTHERMIC WELD METHOD.
 4. ENSURE CAMERA HOUSING, CAMERA, AND PAN -TILT UNIT ARE BONDED TO POLE.
 5. REMOVE BONDING JUMPER BETWEEN EQUIPMENT CABINET GROUND BUSS AND NEUTRAL BUSS.
 6. THE CONTRACTOR MAY, UPON APPROVAL OF THE ENGINEER, INSTALL A 30-FOOT SECTIONAL GROUND ROD WHEN CONDITIONS WILL NOT ALLOW FOR THE INSTALLATION OF THE 3 - RADIAL GROUND RODS.
 7. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.

Prepared in the Office of

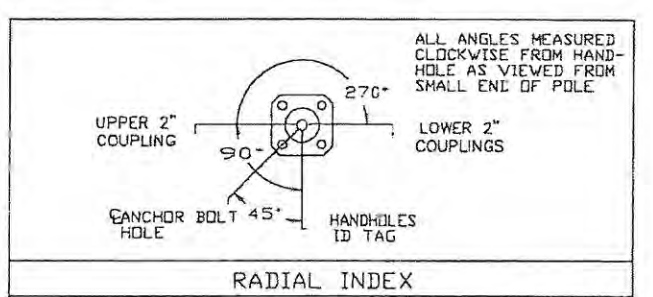
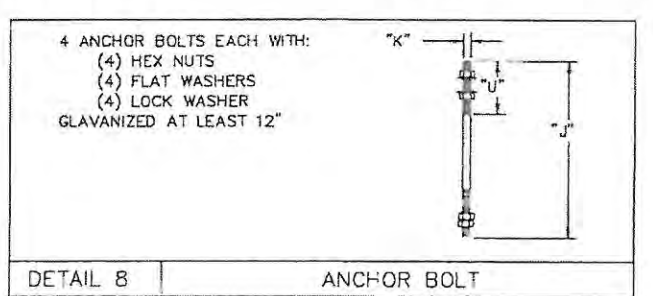
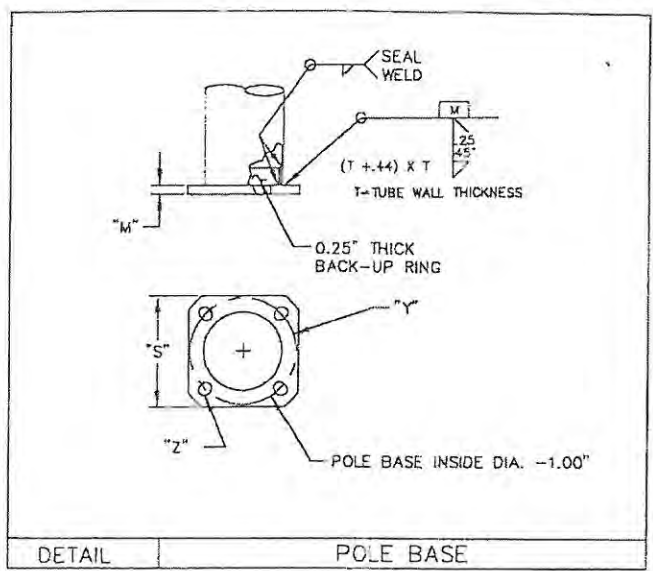
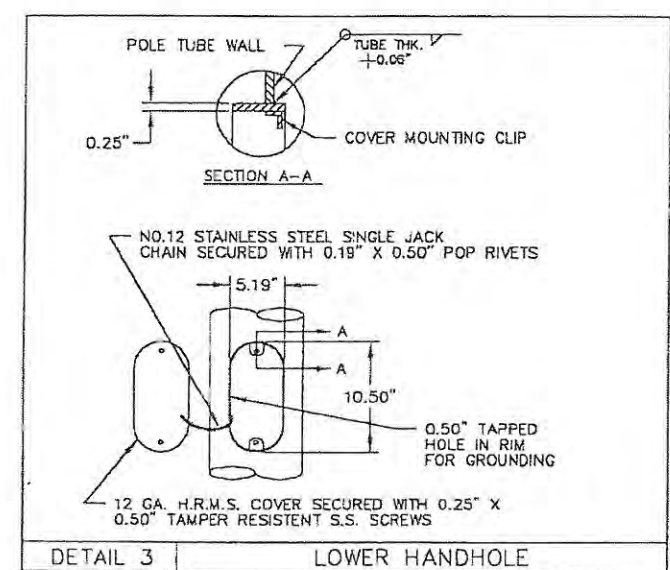
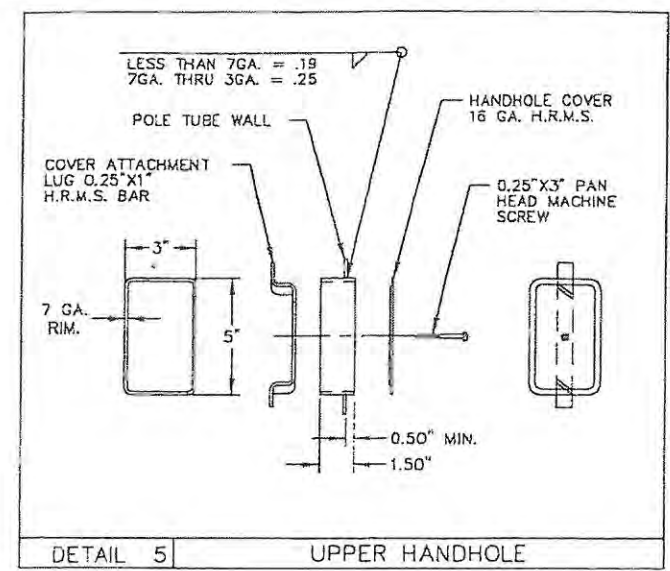
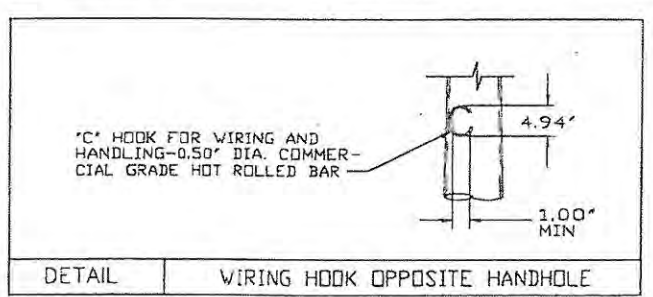
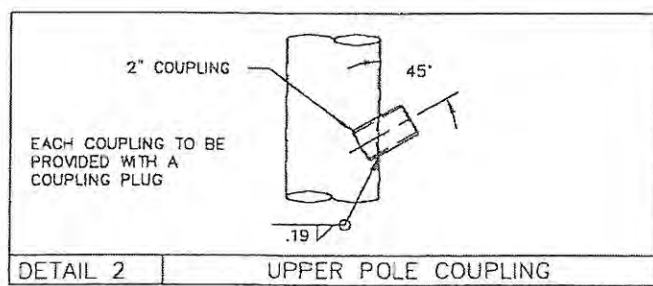
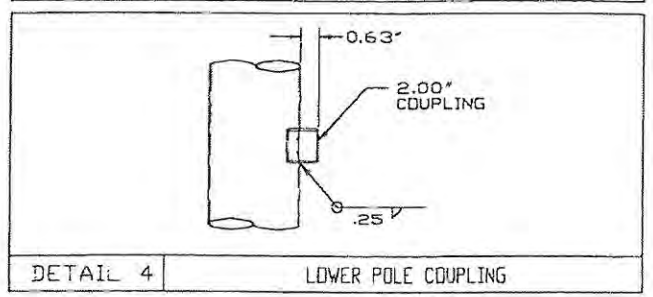
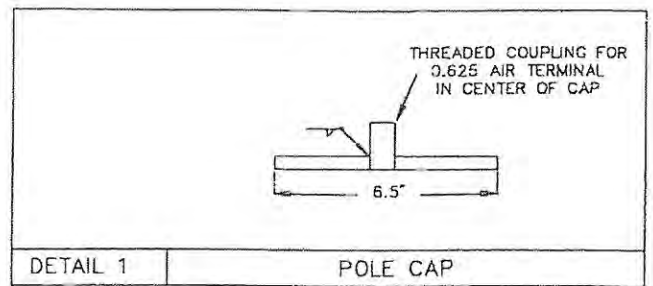
CCTV CAMERA INSTALLATION FOR METAL POLE WITH ELECTRICAL SERVICE TYPICAL DETAIL

PLAN DATE: JULY 2013 REVIEWED BY: PARKER
 PREPARED BY: GREEN REVIEWED BY:
 SCALE: 0
 REVISIONS: INIT. DATE
 SIGNATURE: *Gregory A. Falls* DATE: 7/24/13
 CADD File Name:

7/24/13



LOADING AND ALLOWABLE STRESS CRITERIA:
4th Edition AASHTO "STANDARD SPECIFICATIONS FOR
STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS,
LUMINAIRES AND TRAFFIC SIGNALS".



POLE DATA																
ITEM NO.	QTY.	POLE HEIGHT (FT)	NO. L.D. ARMS REQ'D	TUBE				POLE BASE				ANCHOR BOLT				
				BASE DIAMETER (IN)	TOP DIAMETER (IN)	LENGTH (FT)	GAUGE OR THICK (IN)	SQUARE (IN)	BOLT CIRCLE (IN)	THICK (IN)	BOLT HOLE DIAMETER (IN)	DIA. (IN)	LENGTH (IN)	HOOK (IN)	THREAD LENGTH (IN)	NUM. REQ'D
3442-6-1	10	50.00	-	12.0	5.0	50.00	3	17.00	16.00	1.5	1.75	1.50	60.0		10	4

MATERIAL DATA					
COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)	COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
POLE SHAFT- 3,5,7,11 GA.	A595 GR.A	55	ARM CONN. BOLTS	A325	
POLE SHAFT- ALL OTHERS	A572 GR.65	65	GALVANIZING - STRUCTURE	A123	
POLE PLATE	A572	42	GALVANIZING- HARDWARE	A153	
TENON - C.D.S. TUBING	----	42	ANCHOR BOLTS*	F1554 GR.55	55

* BOLTS TO BE WELDABLE GRADE WITH A194-2H NUTS

REV.	DATE	REVISION

SOLD TO: _____
DATE: 6/18/04 DRWN: MGS

CCTV POLES
NCDDT PROJECT # 8T351212
DURHAM COUNTY

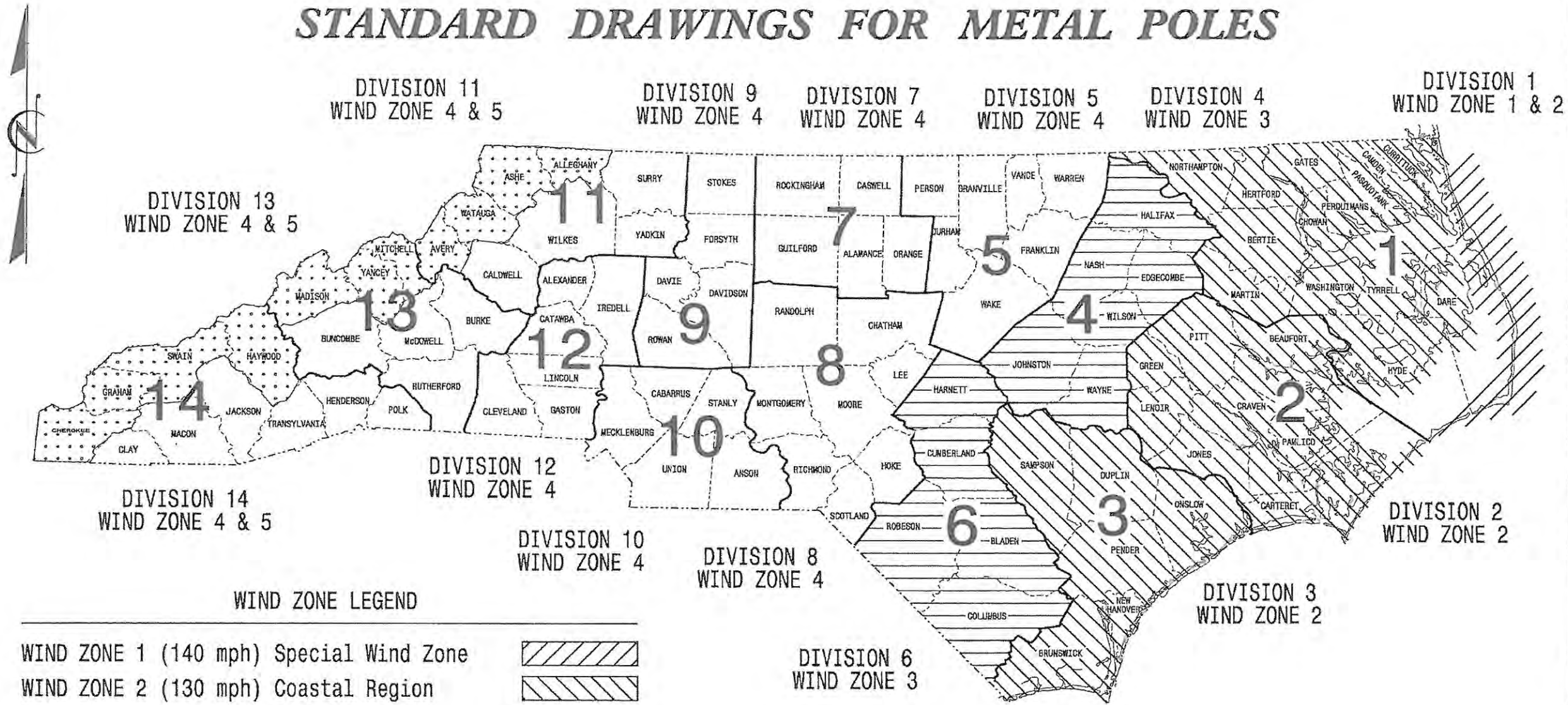
Atlantic Technical Sales
DRAWING # MA3442-6 REV.



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

STATE	PROJECT NO.	SHEET NO.
N.C.		Sig.
F. A. PROJ. NO.		M 1
PROJECT ID. NO.		

STANDARD DRAWINGS FOR METAL POLES



WIND ZONE LEGEND

WIND ZONE 1 (140 mph) Special Wind Zone	
WIND ZONE 2 (130 mph) Coastal Region	
WIND ZONE 3 (110 mph) Eastern Region	
WIND ZONE 4 (90 mph) Central & Mtn. Region	
WIND ZONE 5 (120 mph) Special Wind Zone	

<http://www.ncdot.org/doh/preconstruct/traffic/ITSS/ws/mpoles/poles.html>

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

Designed in conformance with the 2002 Interim to the 4th Edition 2001

AASHTO

Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals

INDEX OF PLANS

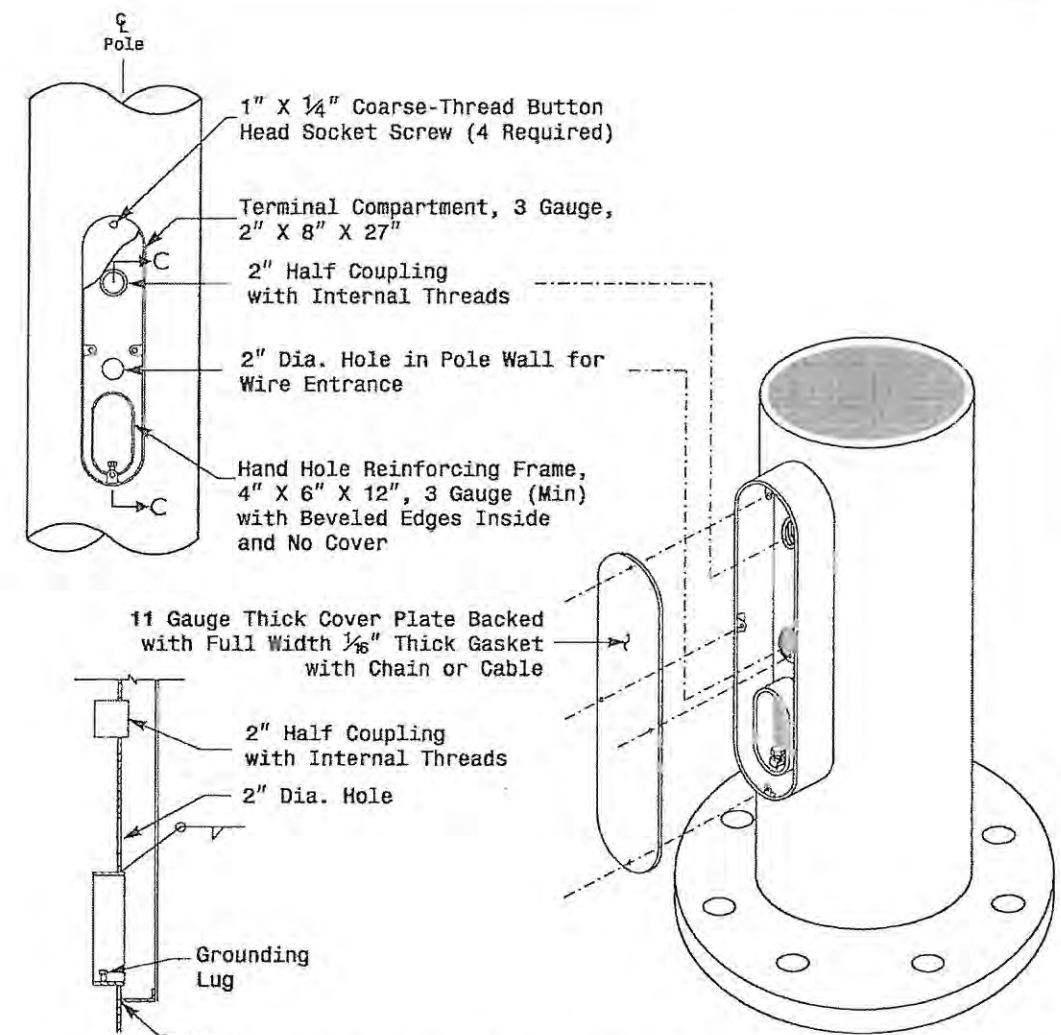
DRAWING NUMBER	DESCRIPTION
M 1	Title Sheet
M 2	Fabrication Details - All Poles
M 3	Fabrication Details - Strain Poles
M 4,5	Fabrication Details - Mast Arm Poles
M 6	Construction Details - Strain Poles
M 7	Construction Details - Foundations
M 8	Standard Strain Poles

NCDOT CONTACTS:
MOBILITY AND SAFETY DIVISION - ITS and SIGNALS UNIT

G. A. Fuller, P.E. - State ITS and Signals Engineer
 G. G. Murr, Jr., P.E. - State Signals Engineer
 D. C. Sarkar, P.E. - ITS and Signals Senior Structural Engineer
 C. F. Andrews, Jr. - ITS and Signals Structural Project Engineer
 M. Aslam - ITS and Signals Structural Project Engineer
 N. Bitting, P.E. - ITS and Signals Structural Project Engineer

SEAL

D. Sarkar 7.21.2009
SIGNATURE DATE



Section C-C Note: Unless otherwise specified, locate Terminal Compartment 1 foot above the pole base plate at 180 degrees on the pole's radial index.

Terminal Compartment Detail

MFG	MFG. DATE: MM/YY
SHAFT D/T/L/Y
ARM-A D/T/L/Y
ARM-B D/T/L/Y
A.B. DIA./B.C./L/Y
NCDOT STANDARD

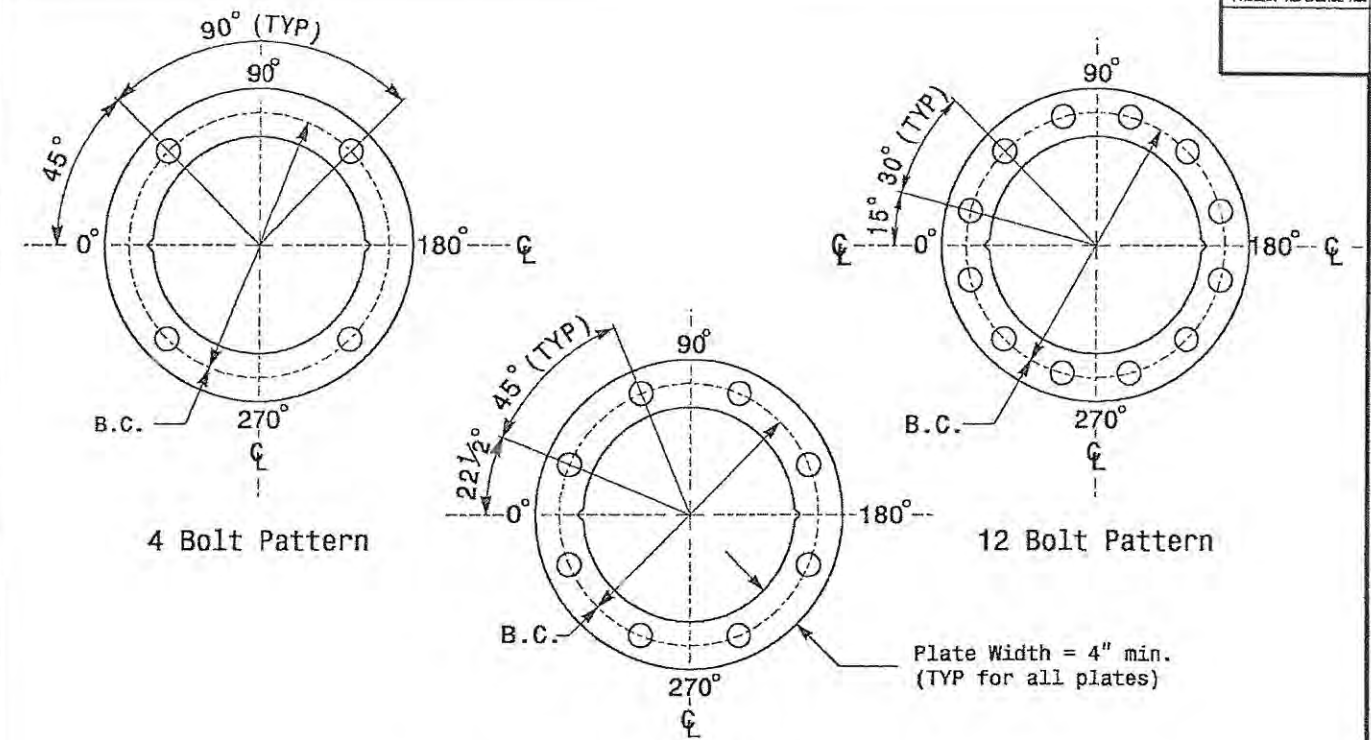
Shaft I.D. Tag (Provide on Strain Poles and Mast Arm Poles)

MFG	MFG. DATE: MM/YY
SECTION D/T/L/Y
NCDOT STANDARD

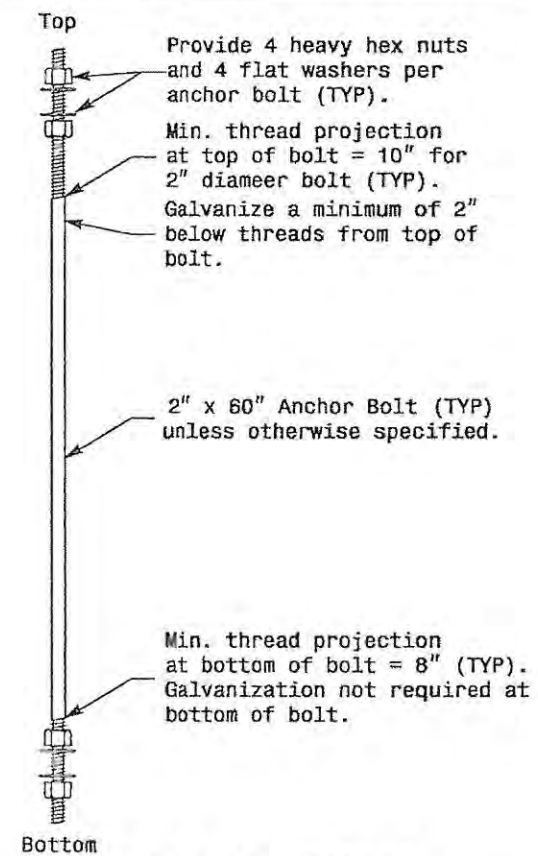
Arm I.D. Tag (Provide on each section of a multi-section mast arm)

- Notes:
- 1) D= Diameter, T= Thickness, L= Length, Y= Yield Strength
 - 2) A.B. = Anchor Bolt
 - 3) B.C. = Bolt Circle of Anchor Bolts
 - 4) If Custom Design, use "NCDOT STANDARD" line for plan pole I.D.
 - 5) See drawing M4 for mounting positions of I.D. tags.

Identification Tag Details

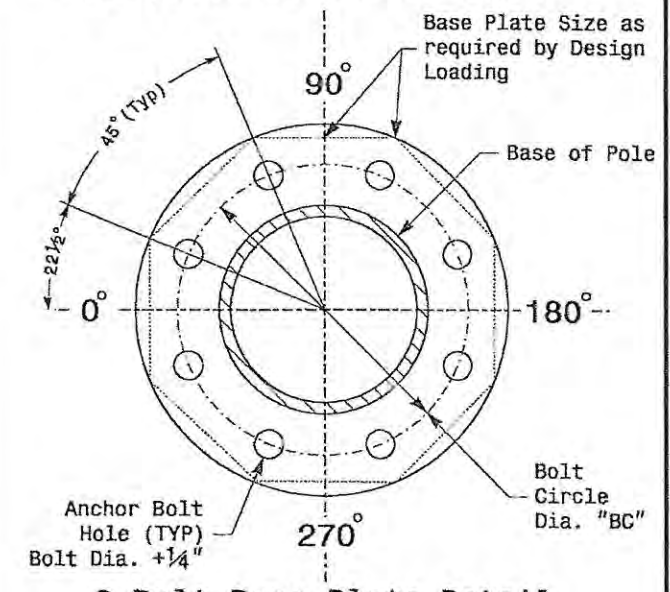


Construct Templates and Plates from 1/4" min. thick Steel. Galvanizing is not required.
Base Plate Template and Anchor Bolt Lock Plate Details



Anchor Bolt Detail

Note: See Strain Pole drawing M3 and Mast arm drawing M4 for base plate weld details.

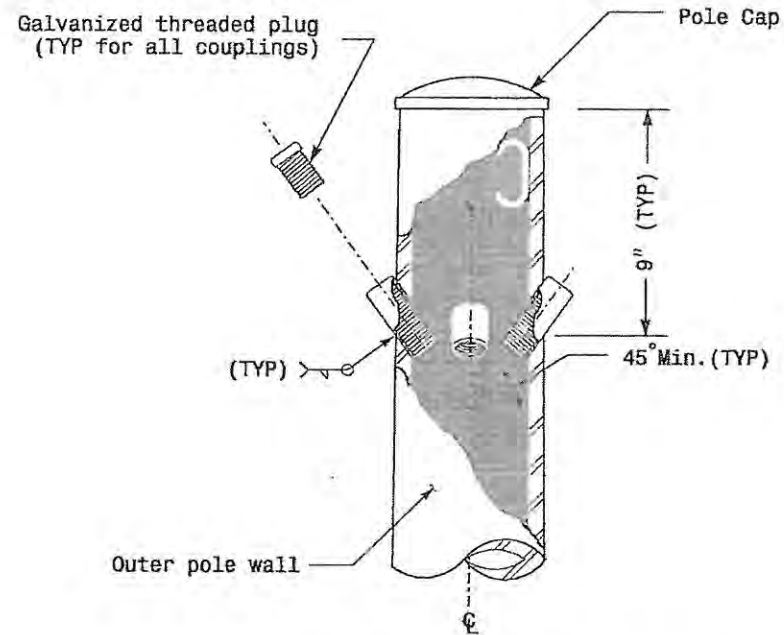


8 Bolt Base Plate Detail

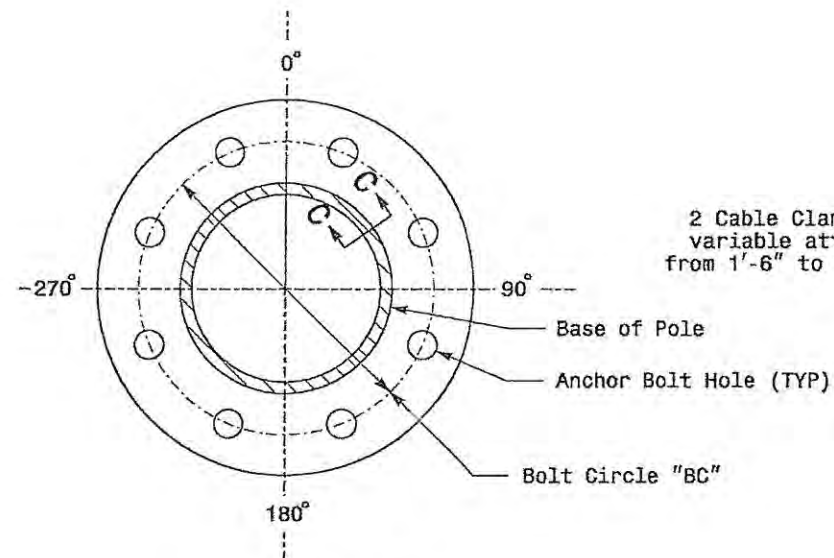
	<p>Typical Fabrication Details Common To All Metal Poles</p>		
	<p>PLAN DATE: May 2005</p>	<p>REVIEWED BY: C.F. ANDRYKE</p>	
<p>123 N. McDowell St., Raleigh, NC 27603</p>	<p>PREPARED BY: P.I. Alexander</p>	<p>REVIEWED BY: A.W. Espisito</p>	<p>SIGNATURE: P.I. Alexander</p>
<p>SCALE: NA</p>	<p>REVISIONS:</p>	<p>DATE:</p>	<p>SIB. INVENTORY NO.</p>

Fabrication Details - All Poles

01-SEP-2005 14:22 Metal Pole Standard.dwg

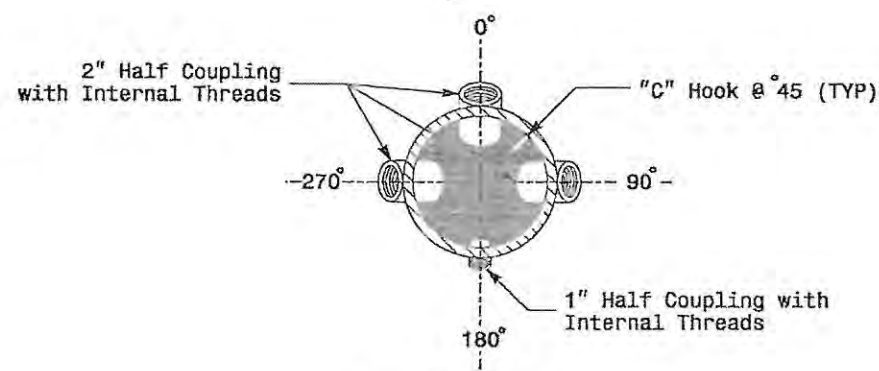
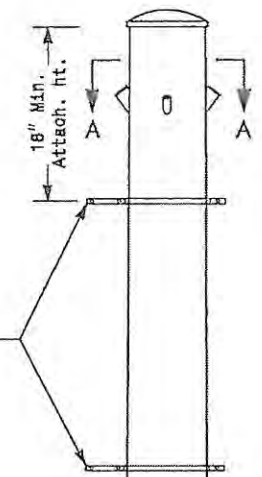


Cable Entrances at Top of Pole

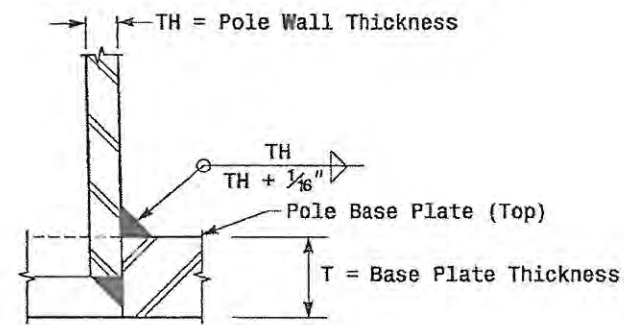


Section B-B
 (See drawing M2)
Pole Base Plate

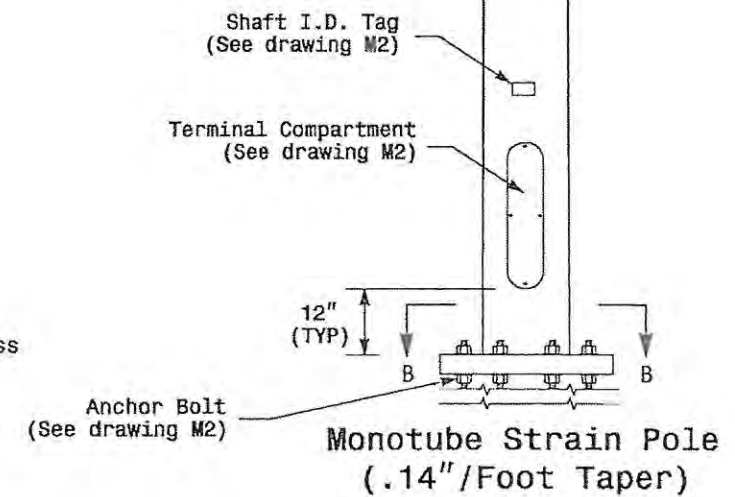
2 Cable Clamps designed for variable attachment heights from 1'-6" to 10' below the top of the pole.



Radial Orientation for Factory Installed Accessories at Top of Pole



Socket Connection Weld Detail



Fabrication Details - Strain Poles

01-100-2001 14/01
 v:\spec\elec\m\back\group\2004 metal pole\shander\01001.mbd.dgn
 pol\strn\mtr

	Typical Fabrication Details For Strain Poles		
	PLAN DATE: May 2005 PREPARED BY: P.L. Alexander	REVIEWED BY: C.F. Andrews REVIEWED BY: A.B. Esposito	
SCALE 0 NA NONE	REVISIONS _____ _____ _____	INIT. DATE _____ _____ _____	SIG. INVENTORY NO.