

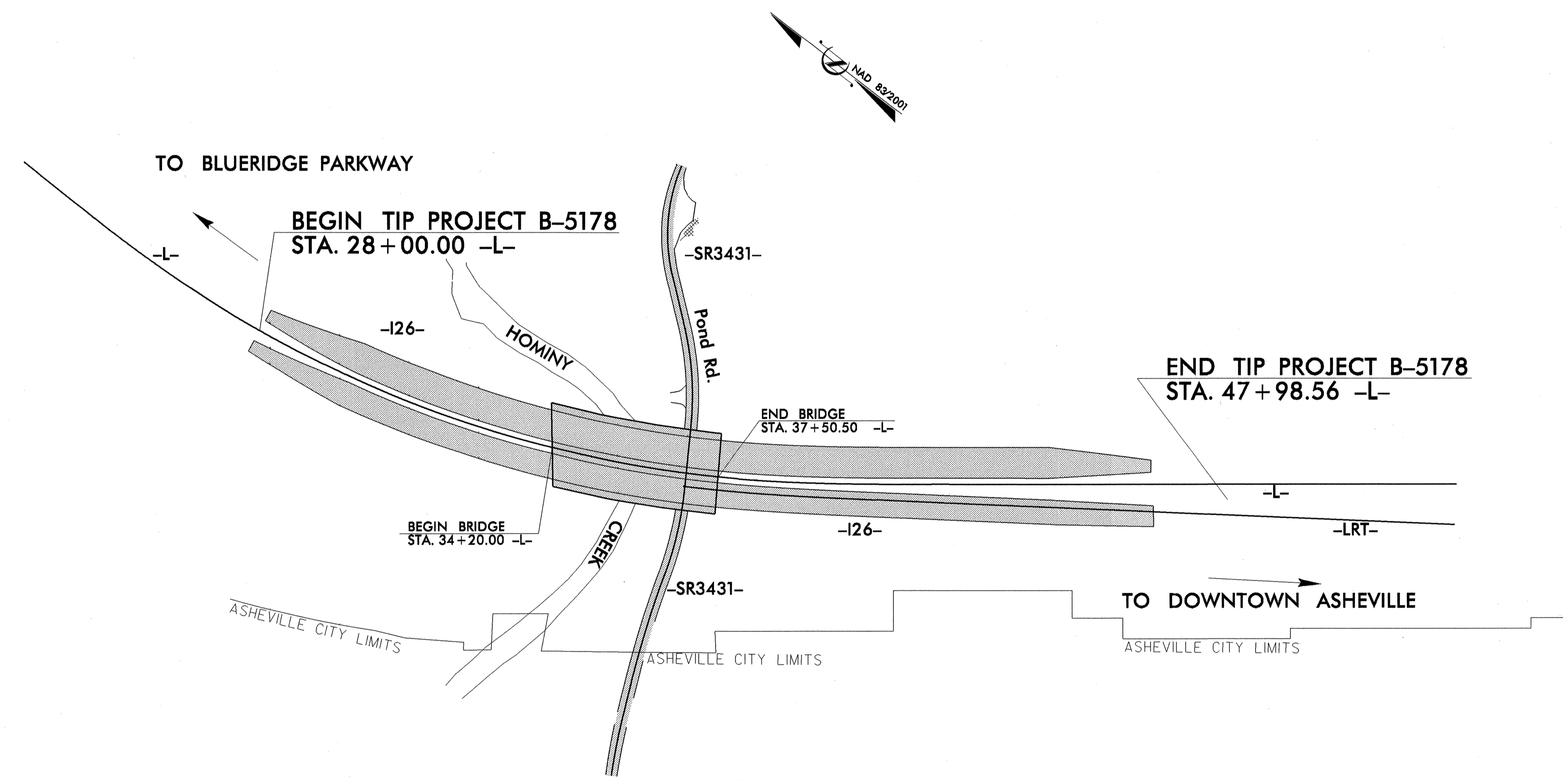
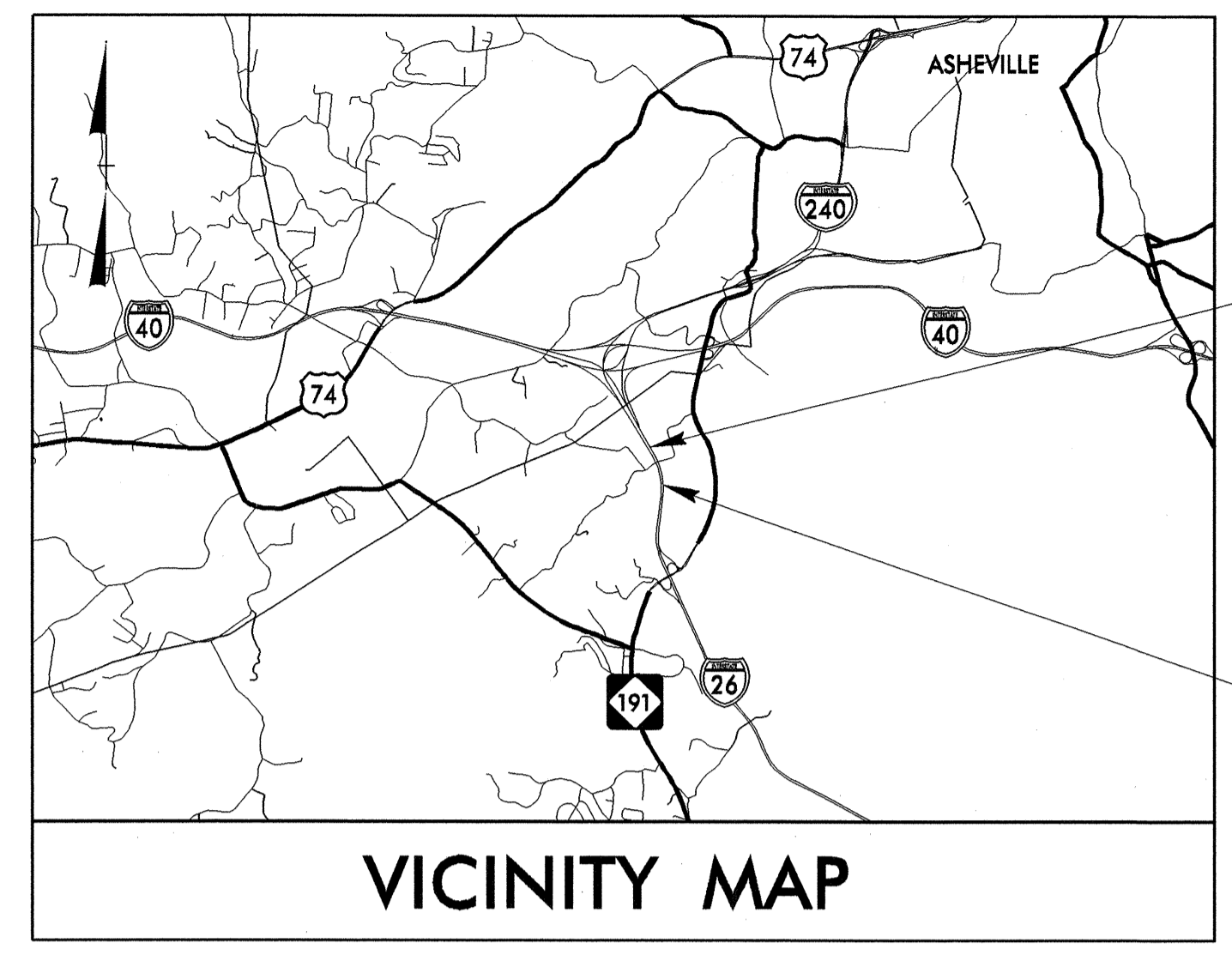
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BUNCOMBE COUNTY

LOCATION: BRIDGES 235 & 238 OVER SR 3431 (POND ROAD)
AND HOMINY CREEK ON I-26

TYPE OF WORK: INTELLIGENT TRANSPORTATION SYSTEMS
RELOCATION OF EXISTING I.T.S. DEVICES

Project: B-5178



J. Todd Brooks
6/6/12

Refer to "Roadway Standard Drawings
NCDOT" dated January 2012 and
Standard Specifications for Roads
and Structures" dated January 2012.

Index of Plans

Sheet #	Location/Description
ITS-01	Title Sheet
ITS-02	General Notes
ITS-03	Construction Notes
ITS-04	Plan View - I-26 at SR 3431 (Pond Road)
ITS-05 - ITS-06	ITS Assembly
ITS-07	CCTV Camera Pole

ATKINS

1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

J. Todd Brooks, P.E. - Project Manager
Bryan S. Lambeth, P.E. - Senior Transportation Engineer
INTELLIGENT TRANSPORTATION SYSTEMS SECTION
Contacts:
Thomas G. Parker - ITS Project Engineer
Mohd A. Aslami, P.E. - ITS Project Design Engineer

Prepared for the Office of:
DIVISION OF HIGHWAYS
TRANSPORTATION MOBILITY AND SAFETY
DIVISION



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LEGEND

- NEW CONDUIT
- EXISTING CONDUIT
- DD — NEW DIRECTIONAL DRILLED CONDUIT
- B&J — NEW BORED AND JACKED CONDUIT
- NEW STANDARD JUNCTION BOX
- EXISTING STANDARD JUNCTION BOX
- NEW OVERSIZED OR SPECIAL-SIZED JUNCTION BOX
- EXISTING OVERSIZED OR SPECIAL-SIZED JUNCTION BOX
- NEW WOOD POLE
- EXISTING WOOD POLE
- ☐ NEW METAL POLE
- ◻ EXISTING METAL POLE
- ▶ NEW CCTV CAMERA ASSEMBLY
- ▶ EXISTING CCTV CAMERA ASSEMBLY
- ⊠ NEW CCTV CABINET
- ⊠ EXISTING CCTV CABINET
- ▣ EXISTING SOLAR PANEL
- CAV CITY OF ASHEVILLE POWER POLE
- EOP EDGE OF PAVEMENT
- EOL EDGE OF LANE
- ⎓ NEW MICROWAVE VEHICLE DETECTOR (M.V.D.)
- EXISTING MICROWAVE VEHICLE DETECTOR (M.V.D.)

GENERAL NOTES

1. THE FIELD LOCATION OF ANY ITEM TO BE INSTALLED AS PART OF THIS PROJECT SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
2. BURIED UTILITIES AND STRUCTURES: PIPELINES, STORM SEWERS, POWER CABLES, UTILITY CABLES, BASEMENTS, AND OTHER PUBLICLY AND PRIVATELY OWNED UNDERGROUND OBSTRUCTIONS EXIST ADJACENT TO AND WITHIN THE STREET RIGHT-OF-WAY WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT. INVESTIGATE THE LOCATION OF SUCH BURIED UTILITIES AND STRUCTURES WITH PUBLIC AND PRIVATE UTILITIES.
3. THE PLAN SHEETS HAVE BEEN DEVELOPED AS CLOSE TO SCALE AS PRACTICAL. ACTUAL FIELD CONDITIONS, HOWEVER, SHALL PROVIDE THE BASIS FOR APPLYING THE WORK SHOWN.
4. THE ROADWAY STANDARD DRAWINGS AND THE DETAILS PROVIDED IN THIS PLAN SET SHALL ALL APPLY TO ALL WORK REQUIRED IN THIS PROJECT, WHETHER A PARTICULAR DETAIL IS SPECIFICALLY REFERENCED TO A WORK ITEM OR NOT. IN THE EVENT OF A CONFLICT, THE ORDER OF PRECEDENCE SHALL BE: THE PROJECT SPECIAL PROVISIONS, THE PLAN SET - INCLUDING DETAILS - SUPPLEMENTAL SPECIFICATIONS, THE STANDARD SPECIFICATIONS, AND THEN THE ROADWAY STANDARD DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPLYING THE PROPER DETAILS.
5. ANY OF THE CONTRACTOR'S WORK ACTIVITIES WHICH IMPACT ANY UTILITY FACILITY SHALL BE COORDINATED WITH THE OWNER OF THE AFFECTED UTILITIES. THE CONTRACTOR SHALL FOLLOW ANY AND ALL WORK PROCEDURES THE UTILITY OWNERS MAY REQUIRE.
6. ALL WORK SHOWN ON THESE PLANS SHALL BE PERFORMED BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED TO BE PERFORMED BY OTHERS.
7. DO NOT DISTURB THE EXISTING ITS DEVICES WITHIN THE PROJECT LIMITS UNTIL SUCH TIME THAT THIS EQUIPMENT IS TO BE REMOVED OR RELOCATED IN ACCORDANCE WITH THE PLANS. NOTIFY CHAD FRANKLIN, NCDOT DIVISION 13 ELECTRONICS TECHNICIAN, AT (828) 298-0094 A MINIMUM OF 14 CALENDAR DAYS PRIOR TO EACH OF THE FOLLOWING EVENTS:
 - A. TO ARRANGE FOR REMOVAL (BY OTHERS) OF EXISTING SOLAR POWER CCTV CAMERA ASSEMBLY ON EAST SIDE OF I-26 NEAR STA 29+00 +/- -L-.
 - B. TAKING OUT OF SERVICE THE EXISTING CCTV CAMERA ASSEMBLY, MICROWAVE VEHICLE DETECTORS AND ASSOCIATED WIRELESS COMMUNICATIONS EQUIPMENT CURRENTLY LOCATED AT THE NORTH END OF THE EXISTING I-26 WB BRIDGE TO RELOCATE THIS EQUIPMENT TO STA 33+00 +/- -L-.

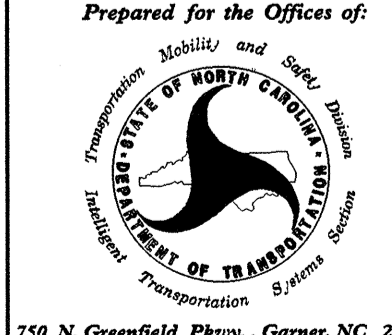
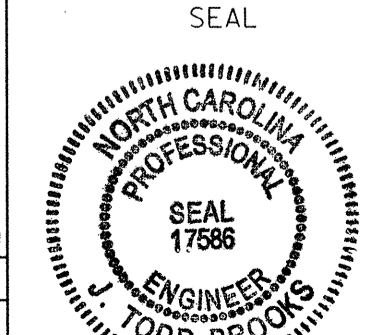

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED 2012 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
1716.01	JUNCTION BOXES
1756.01	SPREAD SPECTRUM RADIO

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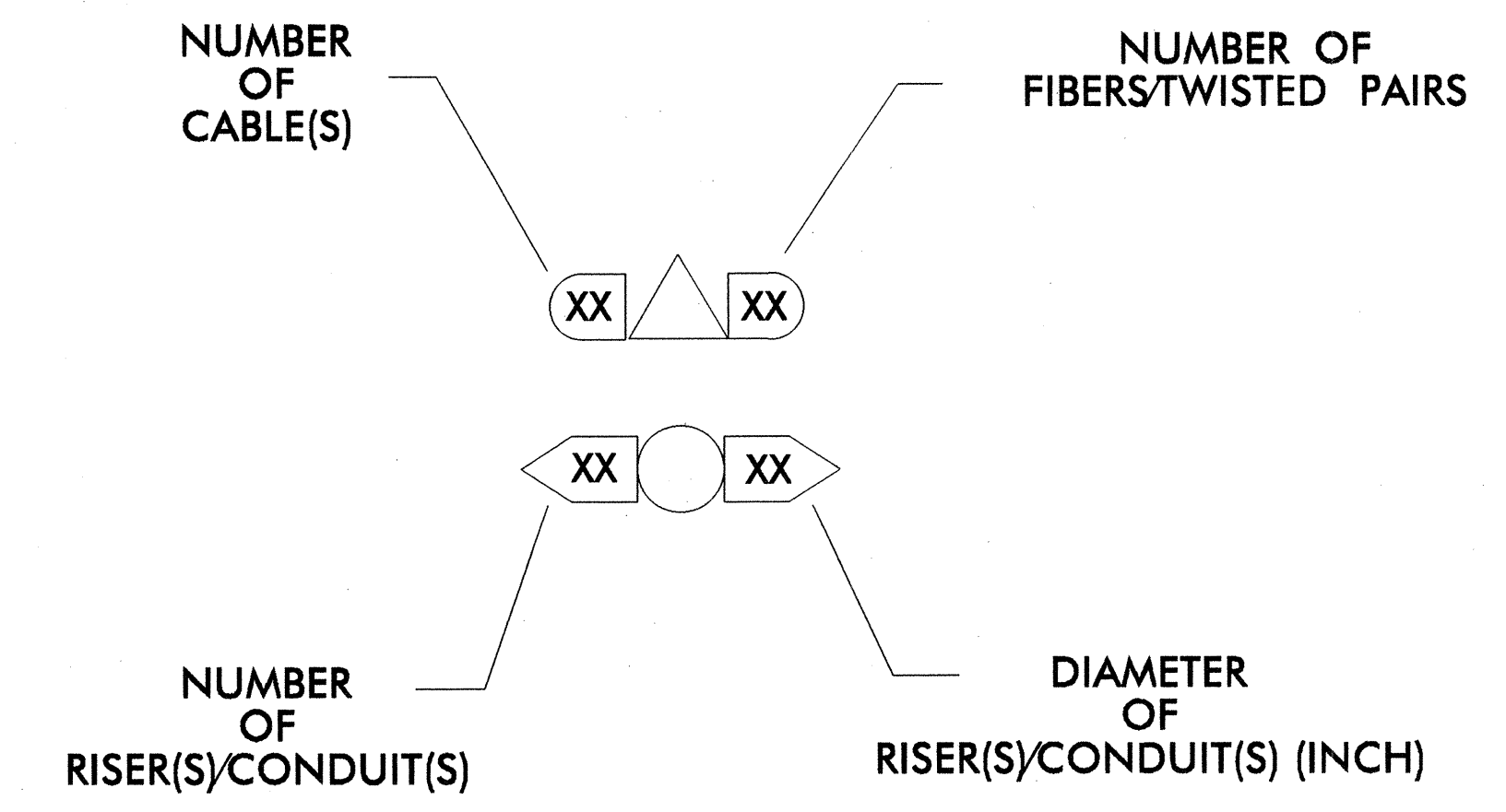
ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
 RALEIGH, NORTH CAROLINA 27609
 (919) 876-8888 NCBEES #F-0326

 Prepared for the Offices of: Transportation, Mobility and Safety DEPARTMENT OF TRANSPORTATION 750 N. Greenfield Pkwy., Garner, NC 27529	I-26 at Pond Rd / Hominy Creek ITS Plans		 SEAL 17586 TODD BROOKS ENGINEER
	Division 13 Buncombe County Asheville PLAN DATE: June 2012 REVIEWED BY: JT Brooks PREPARED BY: BS Lambeth REVIEWED BY:	REVISIONS INIT. DATE	
NTS			SIGNATURE DATE  CADD Filename: ITS_02.dgn

- | | |
|---|--|
| <ul style="list-style-type: none"> 1 INSTALL RS-422 CABLE 2 INSTALL REA, PE - 38, (FIGURE - 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE 3 INSTALL MMFO CABLE 4 INSTALL SMFO CABLE 5 INSTALL SMFO/MMFO HYBRID 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 HEAT SHRINK TUBING 13 INSTALL HEAT SHRINK TUBING RETROFIT KIT 14 INSTALL HIGH DENSITY 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(S) 20 INSTALL CABLE(S) IN NEW RISER(S) 21 INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS 22 INSTALL NEW CONDUIT INTO CABINET BASE (USE EXISTING CONDUIT STUBOUTS WHEN AVAILABLE) 23 INSTALL NEW RISER INTO CABINET BASE (USE EXISTING CONDUIT STUBOUTS WHEN AVAILABLE) 24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET 25 INSTALL NEW RISER INTO POLE MOUNTED CABINET 26 INSTALL FIBER-OPTIC VIDEO/DATA TRANSCEIVER 27 INSTALL FIBER-OPTIC TRANSCEIVER - DROP AND REPEAT 28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPlice CABLE IN CABINET 29 INSTALL UNDERGROUND SPlice ENCLOSURE 30 INSTALL AERIAL SPlice ENCLOSURE 31 INSTALL POLE MOUNTED SPlice CABINET 32 INSTALL BASE MOUNTED SPlice CABINET 33 REMOVE EXISTING SPlice CABINET 34 INSTALL CABINET FOUNDATION | <ul style="list-style-type: none"> 35 REMOVE EXISTING CABINET FOUNDATION 36 INSTALL CCTV CAMERA ASSEMBLY 37 INSTALL CCTV CAMERA WOOD POLE 38 INSTALL EXISTING CCTV CAMERA METAL POLE ON NEW FOUNDATION 39 INSTALL JUNCTION BOX 40 INSTALL OVERSIZED JUNCTION BOX 41 REMOVE EXISTING JUNCTION BOX 42 INSTALL WOOD POLE 43 REMOVE EXISTING WOOD POLE 44 INSTALL AERIAL GUY ASSEMBLY 45 INSTALL STANDARD GUY ASSEMBLY 46 INSTALL SIDEWALK GUY ASSEMBLY 47 INSTALL MESSENGER CABLE 48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE 49 REMOVE EXISTING COMMUNICATIONS CABLE 50 REINSTALL EXISTING MICROWAVE VEHICLE DETECTOR (MVD) ON NEW O.H. SIGN STRUCTURE 51 INSTALL CABLE STORAGE RACK(S) [SNOW SHOE(S)] AND STORE 100 FEET OF CABLE 52 INSTALL DELINEATOR MARKER 53 STORE 30 FEET OF COMMUNICATIONS CABLE (EACH 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 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV 58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV 59 REINSTALL EXISTING POLE MOUNTED CCTV CABINET 60 INSTALL NEW BASE MOUNTED CCTV CABINET 61 REINSTALL EXISTING ANTENNA 62 INSTALL OMNI-DIRECTIONAL ANTENNA 63 REINSTALL EXISTING ETHERNET RADIO 64 INTERCEPT AND REROUTE EXISTING CONDUITS |
|---|--|

CONSTRUCTION NOTE SYMBOLOGY KEY

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



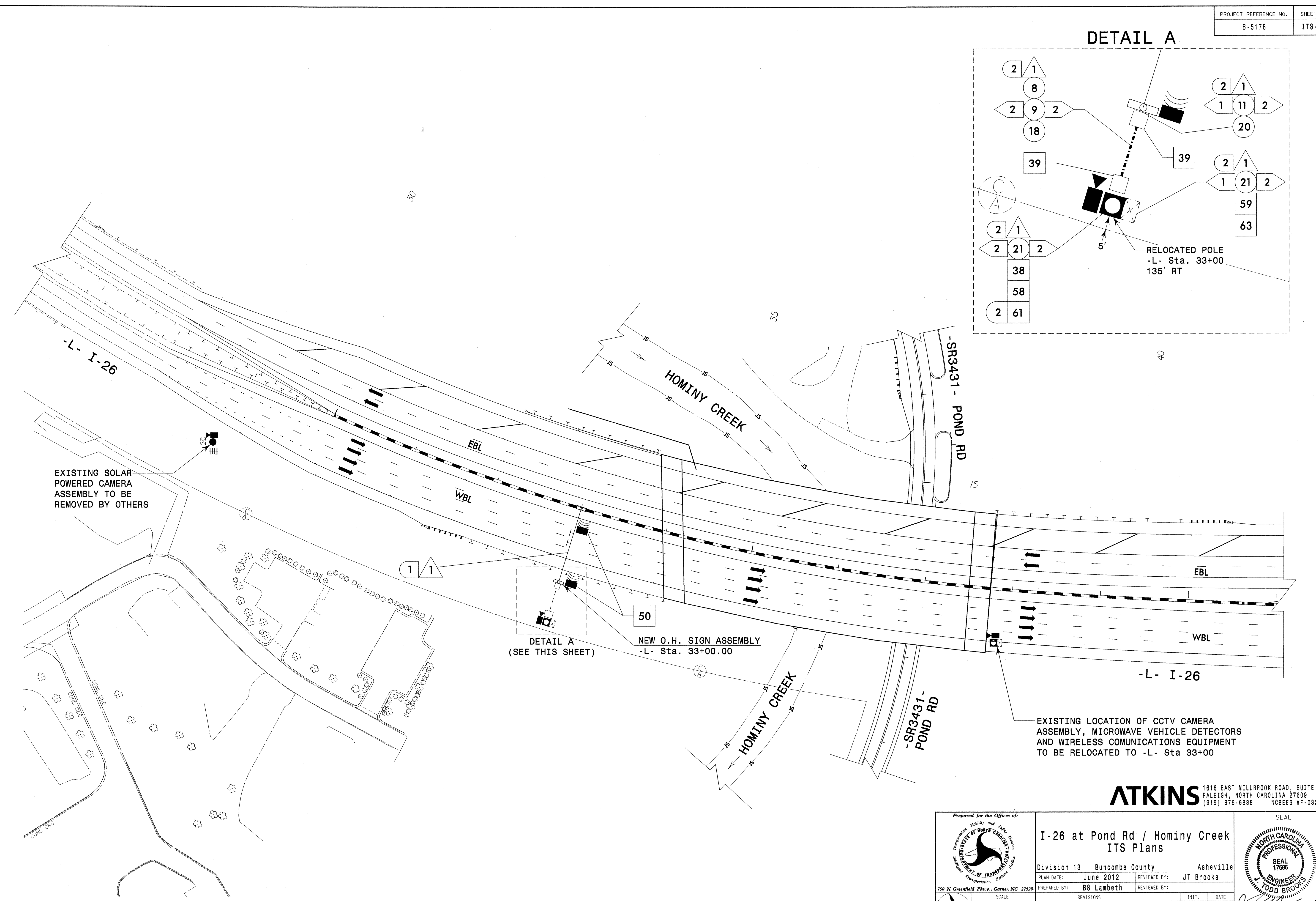
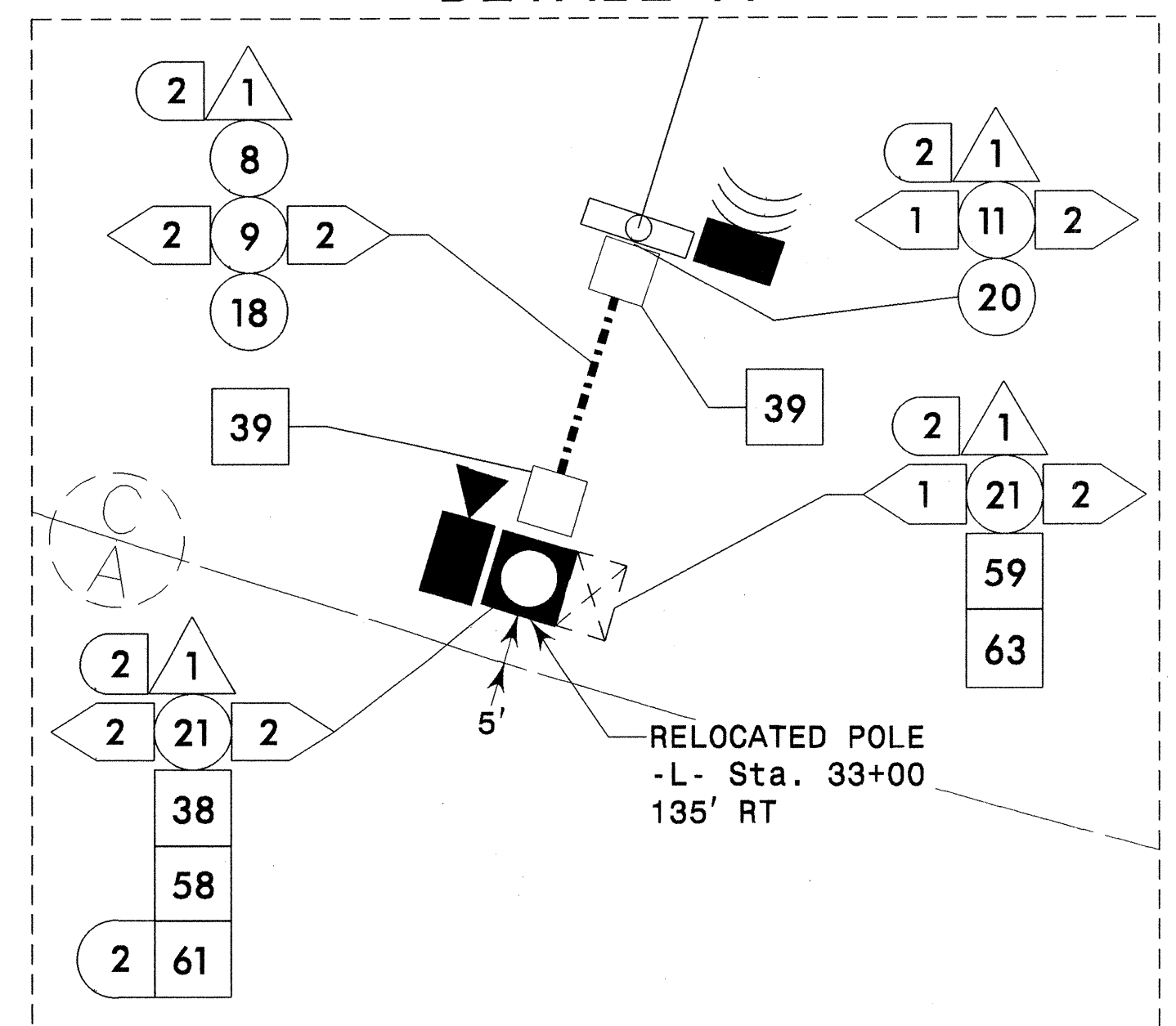
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ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
 RALEIGH, NORTH CAROLINA 27609
 (919) 876-8888 NCBEES #F-0326

	Prepared for the Offices of: STATE OF NORTH CAROLINA Department of Transportation		SEAL NORTH CAROLINA PROFESSIONAL ENGINEER J. TODD BROOKS 17586
	I-26 at Pond Rd / Hominy Creek ITS Plans		
Division 13 Buncombe County Asheville		PLAN DATE: June 2012 REVIEWED BY: JT Brooks	
PREPARED BY: BS Lambeth		REVIEWED BY:	
SCALE	REVISIONS	INIT.	DATE
NTS			

SIGNATURE: *J. Todd Brooks* 6/11/12
 CAD FILE NAME:

DETAIL A



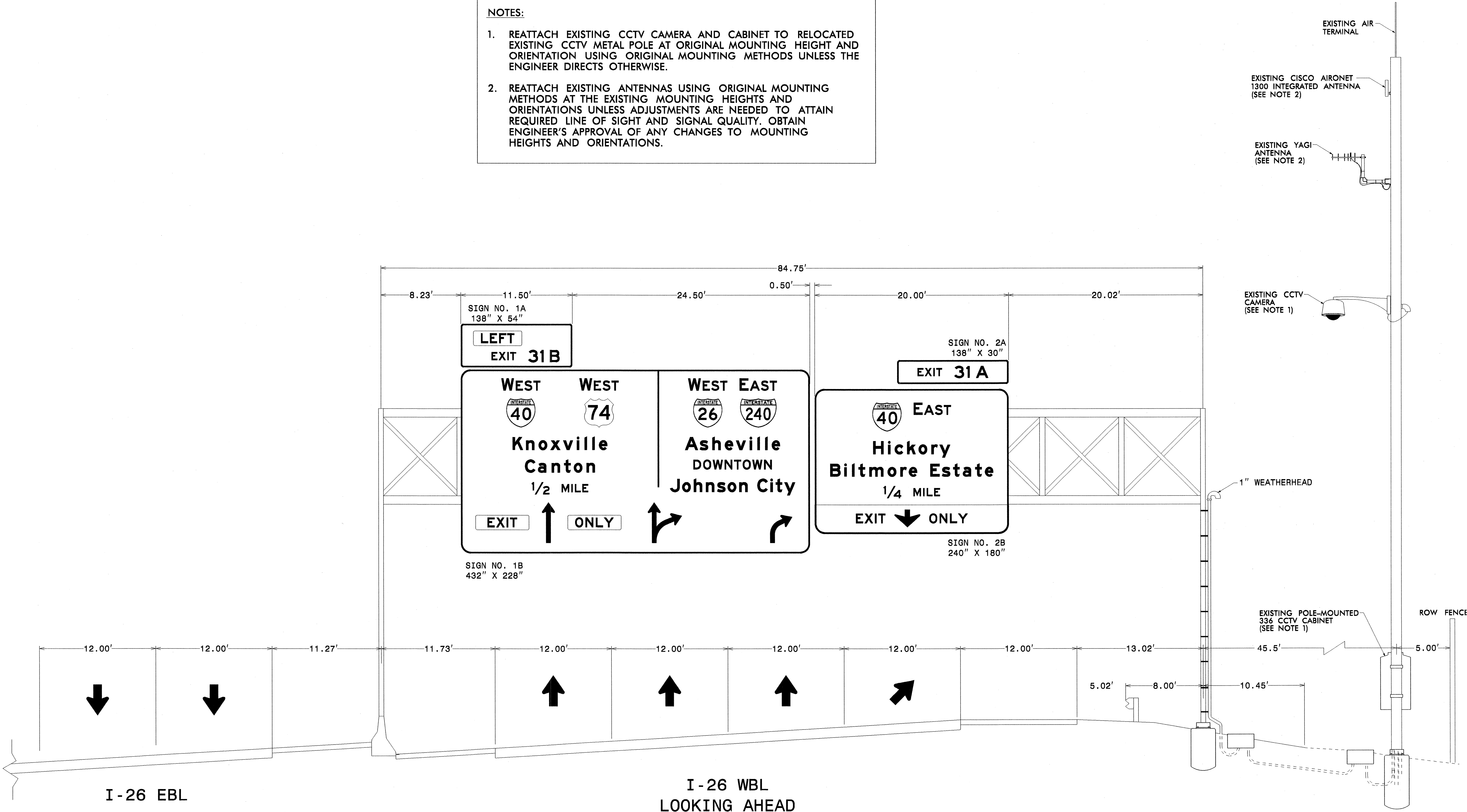
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ATKINS 1616 EAST HILLBROOK ROAD, SUITE 310
 RALEIGH, NORTH CAROLINA 27609
 (919) 876-8888 NOBEE #F-0326

	I-26 at Pond Rd / Hominy Creek ITS Plans		
	Division 13 Buncombe County Asheville		
	PLAN DATE: June 2012	REVIEWED BY: JT Brooks	
	PREPARED BY: BS Lambeth	REVIEWED BY:	
SCALE 1" = 50' 			SIGNATURE: <i>BS Lambeth</i> DATE:

NOTES:

- REATTACH EXISTING CCTV CAMERA AND CABINET TO RELOCATED EXISTING CCTV METAL POLE AT ORIGINAL MOUNTING HEIGHT AND ORIENTATION USING ORIGINAL MOUNTING METHODS UNLESS THE ENGINEER DIRECTS OTHERWISE.
- REATTACH EXISTING ANTENNAS USING ORIGINAL MOUNTING METHODS AT THE EXISTING MOUNTING HEIGHTS AND ORIENTATIONS UNLESS ADJUSTMENTS ARE NEEDED TO ATTAIN REQUIRED LINE OF SIGHT AND SIGNAL QUALITY. OBTAIN ENGINEER'S APPROVAL OF ANY CHANGES TO MOUNTING HEIGHTS AND ORIENTATIONS.

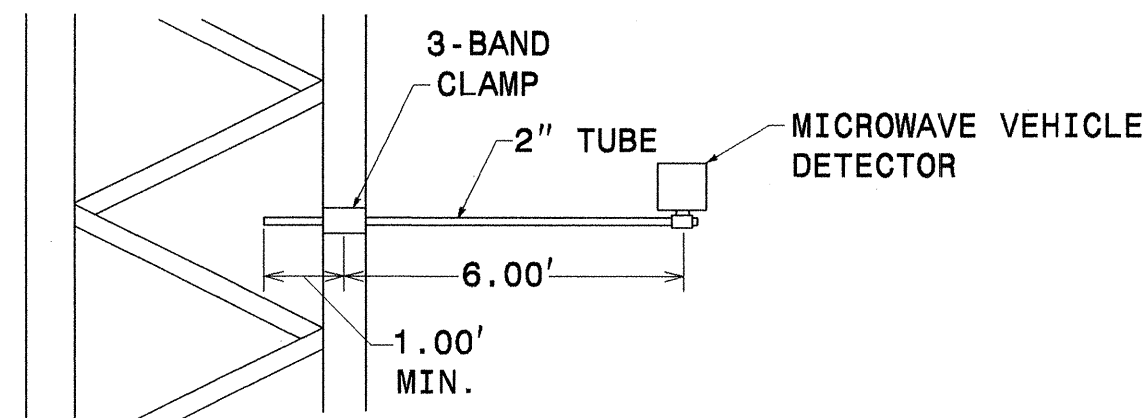


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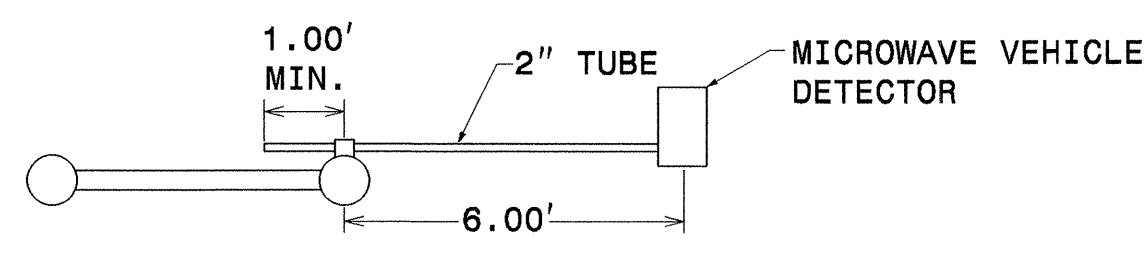
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 RALEIGH, NORTH CAROLINA 27609
 (919) 876-8888 NOBEE'S #F-0326

	Prepared for the Offices of: Transportation Mobility and Safety Division DEPARTMENT OF TRANSPORTATION 750 N. Greenfield Pkwy., Garner, NC 27529		
	I-26 at Pond Rd / Hominy Creek ITS Plans Division 13 Buncombe County Asheville PLAN DATE: June 2012 REVIEWED BY: JT Brooks PREPARED BY: BS Lambeth REVIEWED BY:		
SCALE NTS	REVISIONS _____ _____ _____	INIT. DATE _____ _____ _____	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER TODD BROOKS SIGNATURE DATE

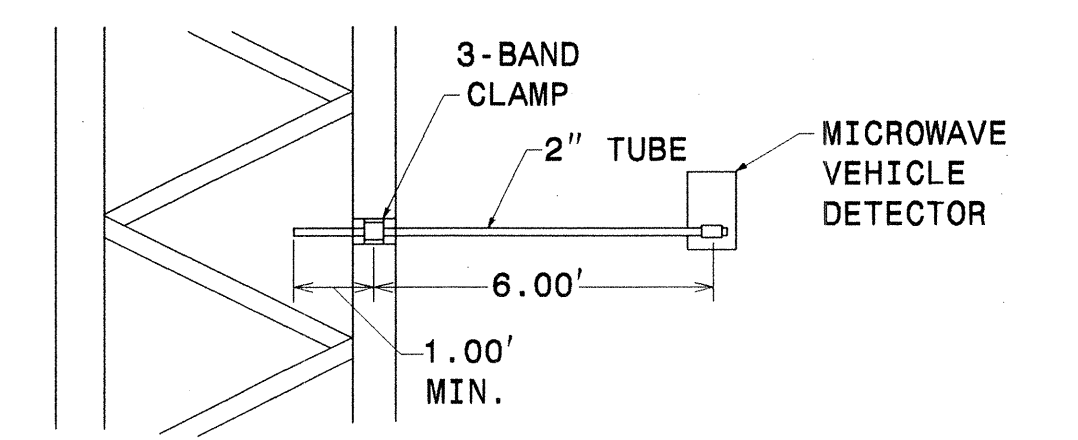
WBL MICROWAVE VEHICLE DETECTOR
SIDE VIEW



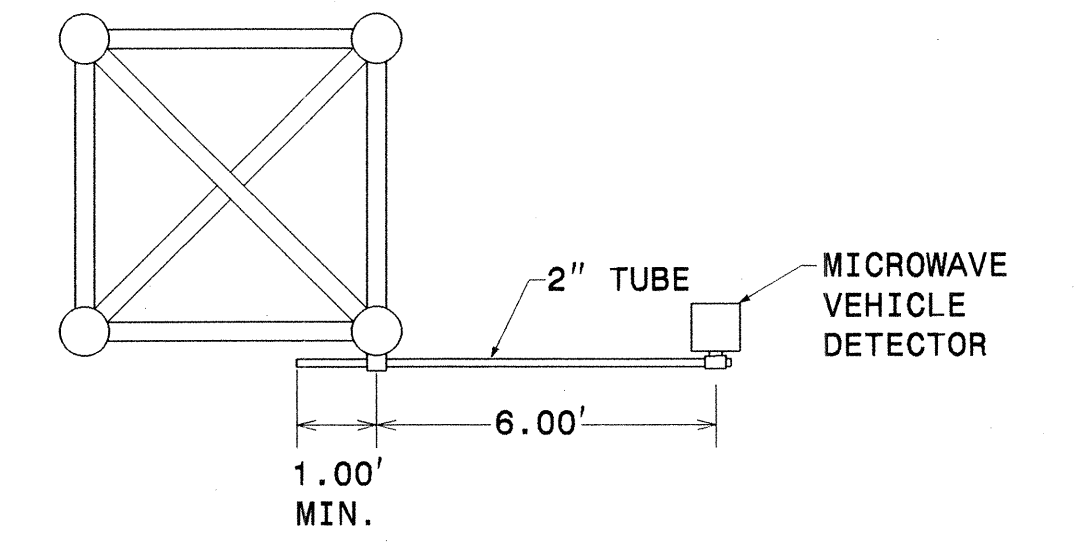
TOP VIEW



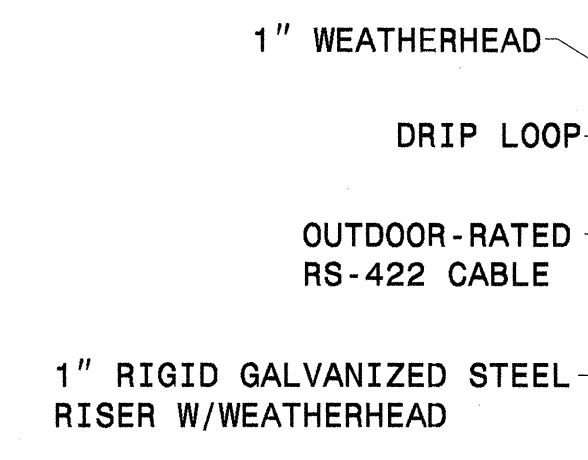
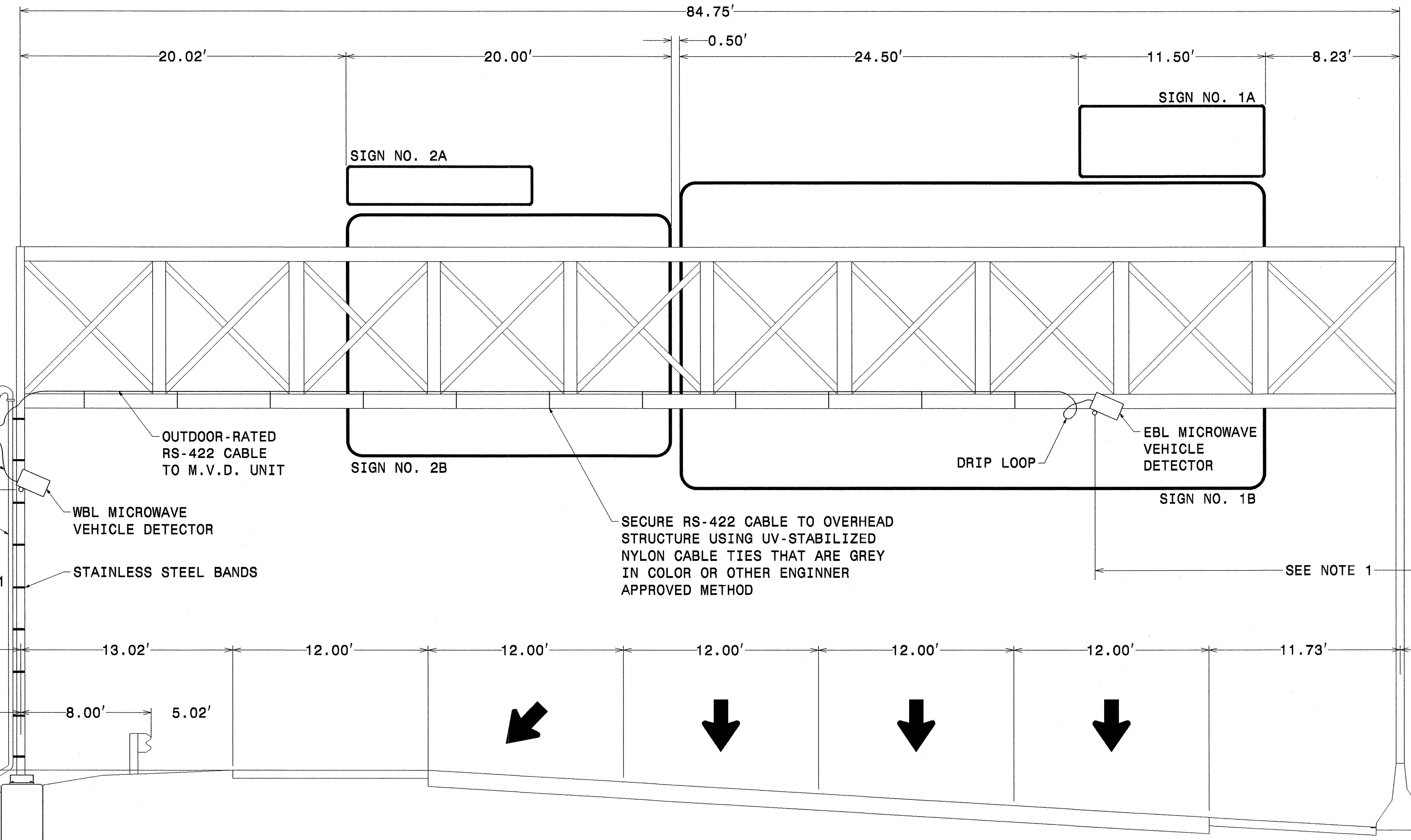
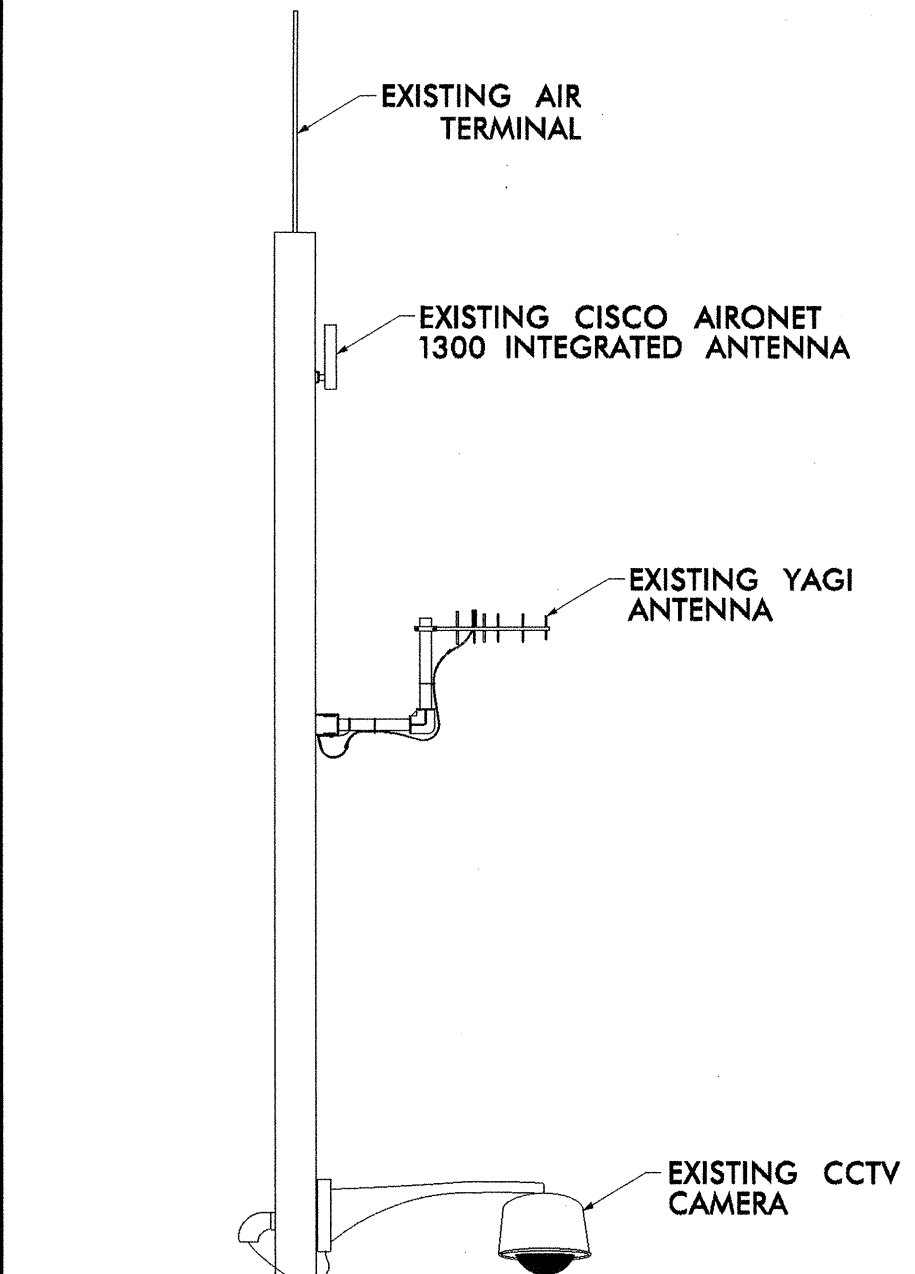
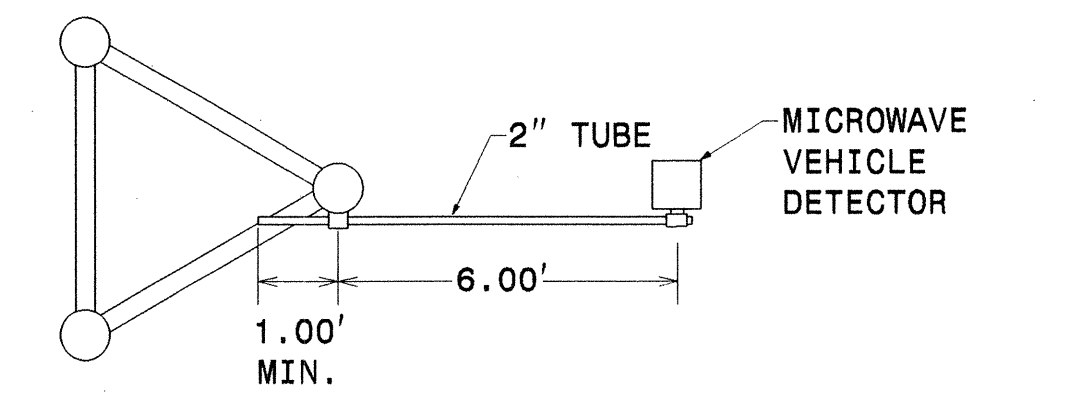
EBL MICROWAVE VEHICLE DETECTOR
BOTTOM VIEW



SIDE VIEW



ALT. SIDE VIEW



SECURE RS-422 CABLE TO OVERHEAD STRUCTURE USING UV-STABILIZED NYLON CABLE TIES THAT ARE GREY IN COLOR OR OTHER ENGINEER APPROVED METHOD

I-26 WBL
LOOKING BACK

I-26 EBL

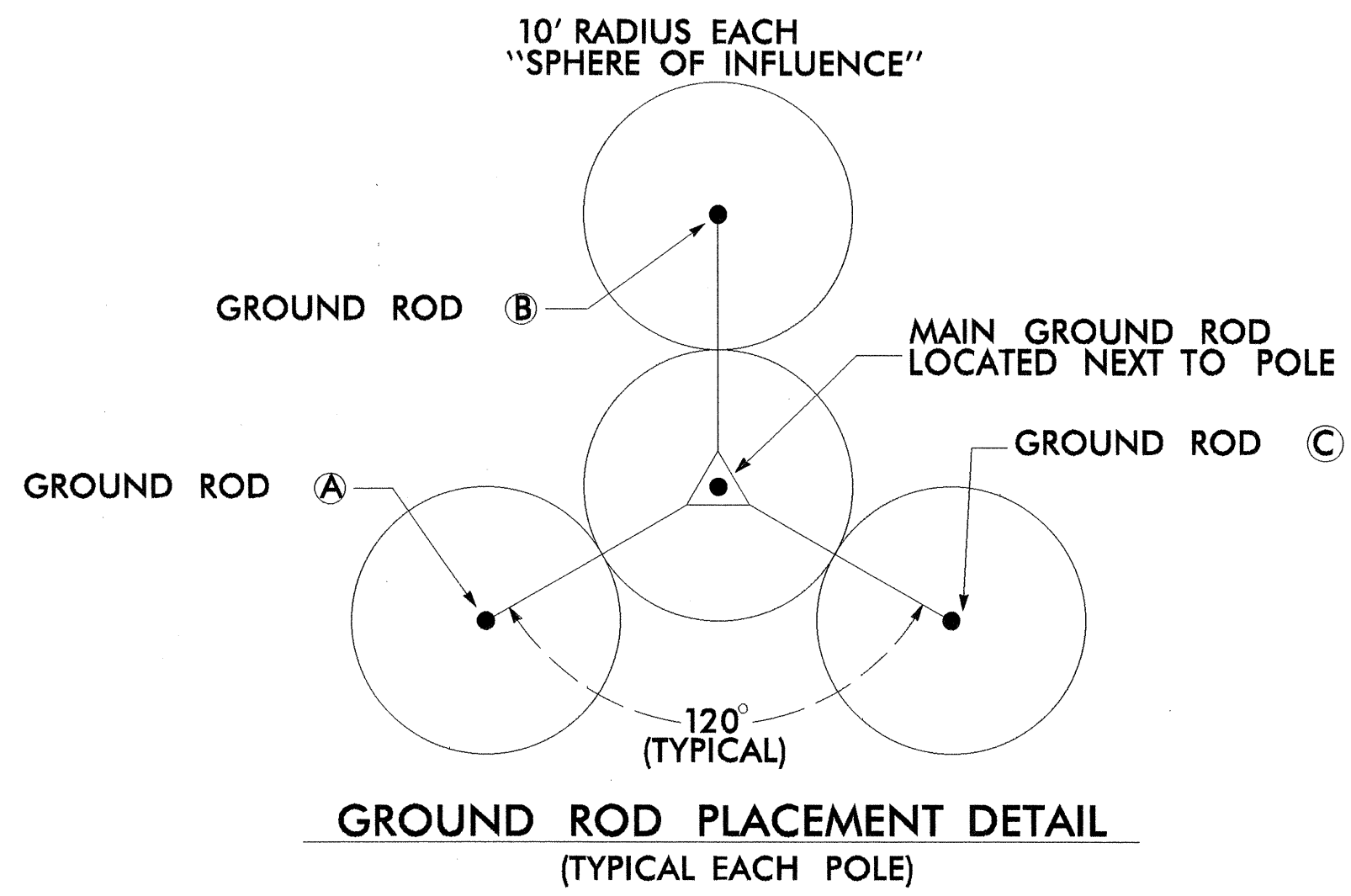
NOTES:
1. MOUNT THE M.V.D. UNITS AT THE HEIGHT, SETBACK AND ANGLE REQUIRED PER THE MANUFACTURER'S INSTRUCTIONS TO PROPERLY DETECT TRAFFIC IN EACH CORRESPONDING LANE BELOW, AS APPROVED BY THE ENGINEER

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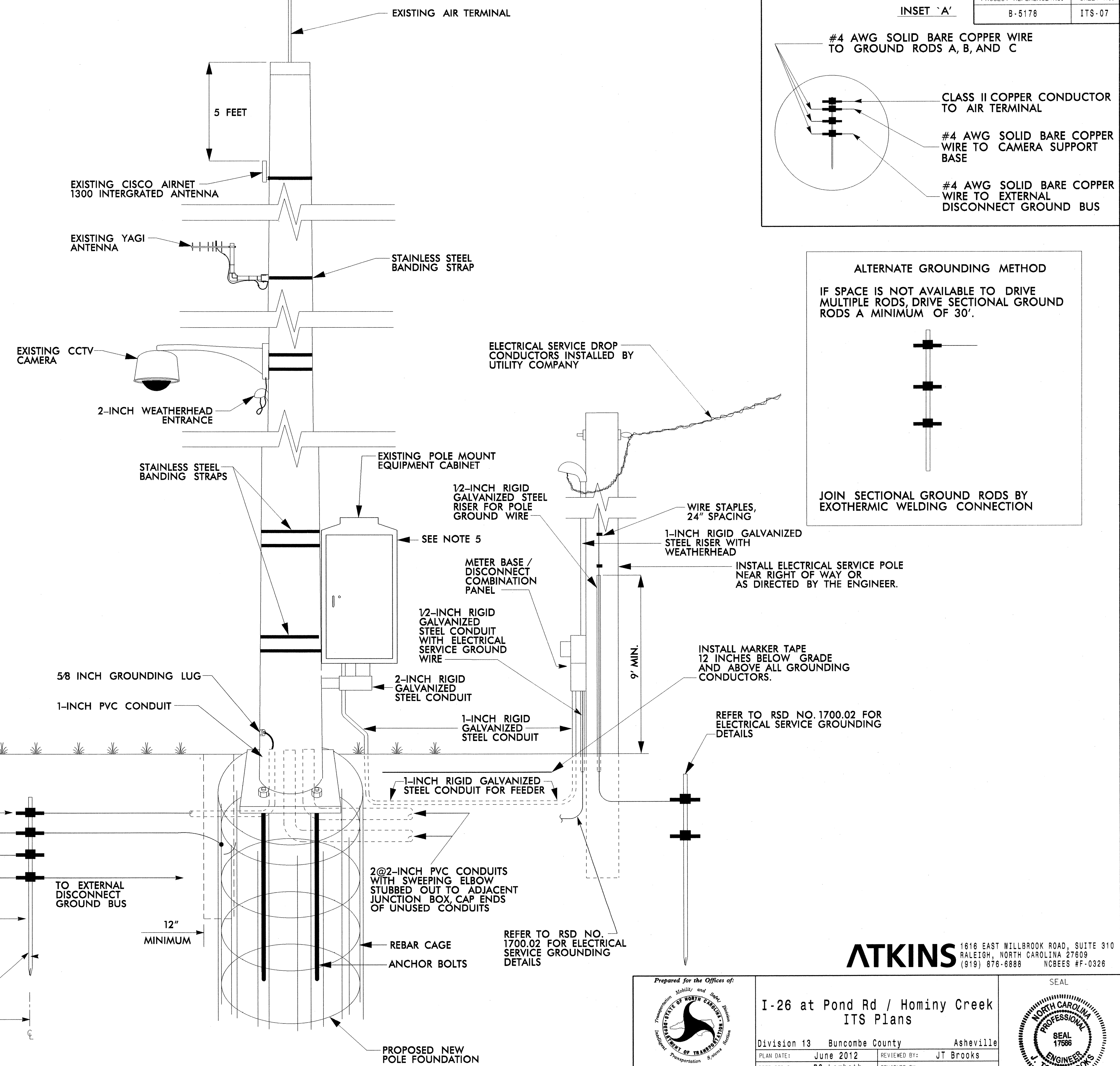
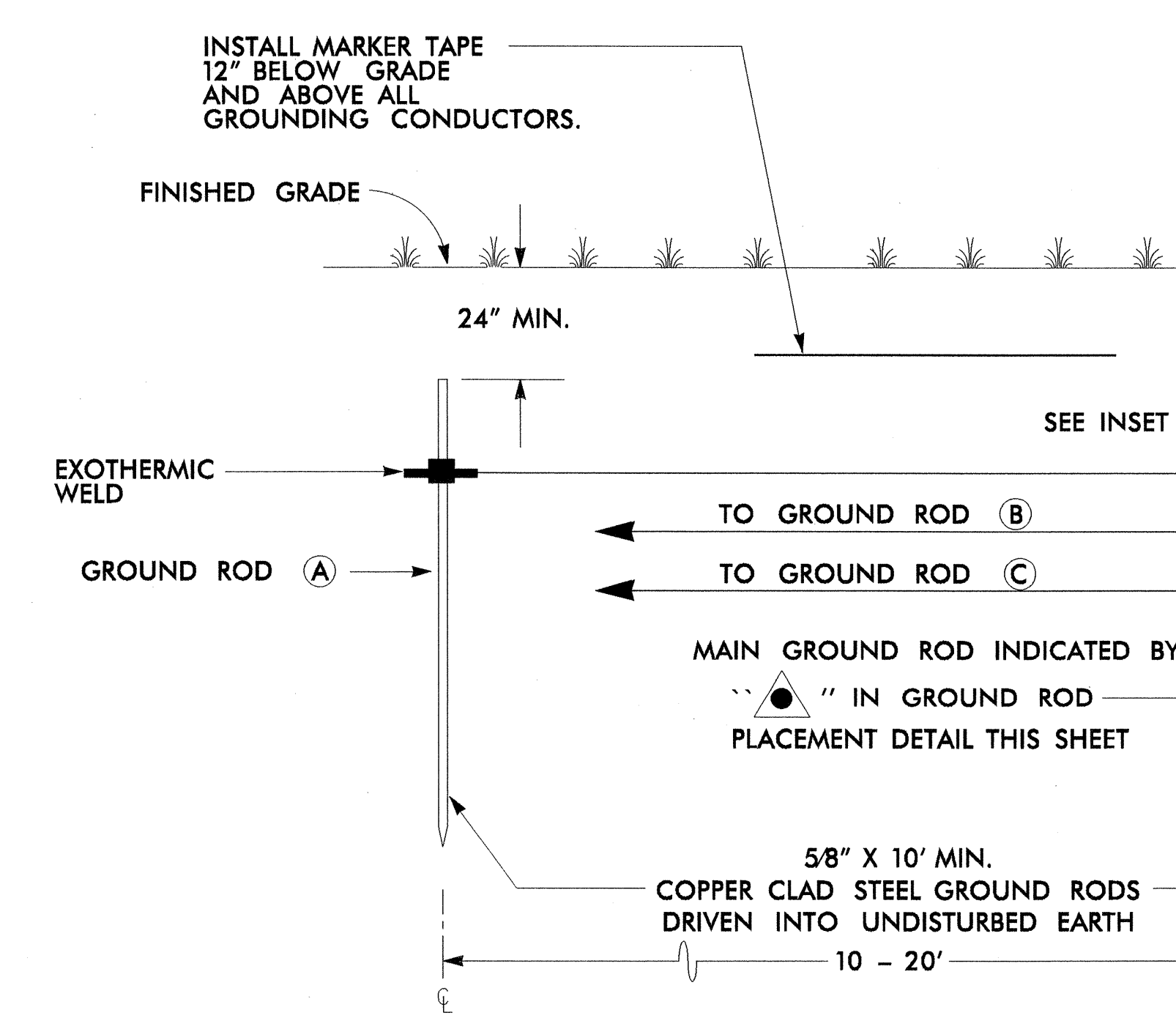
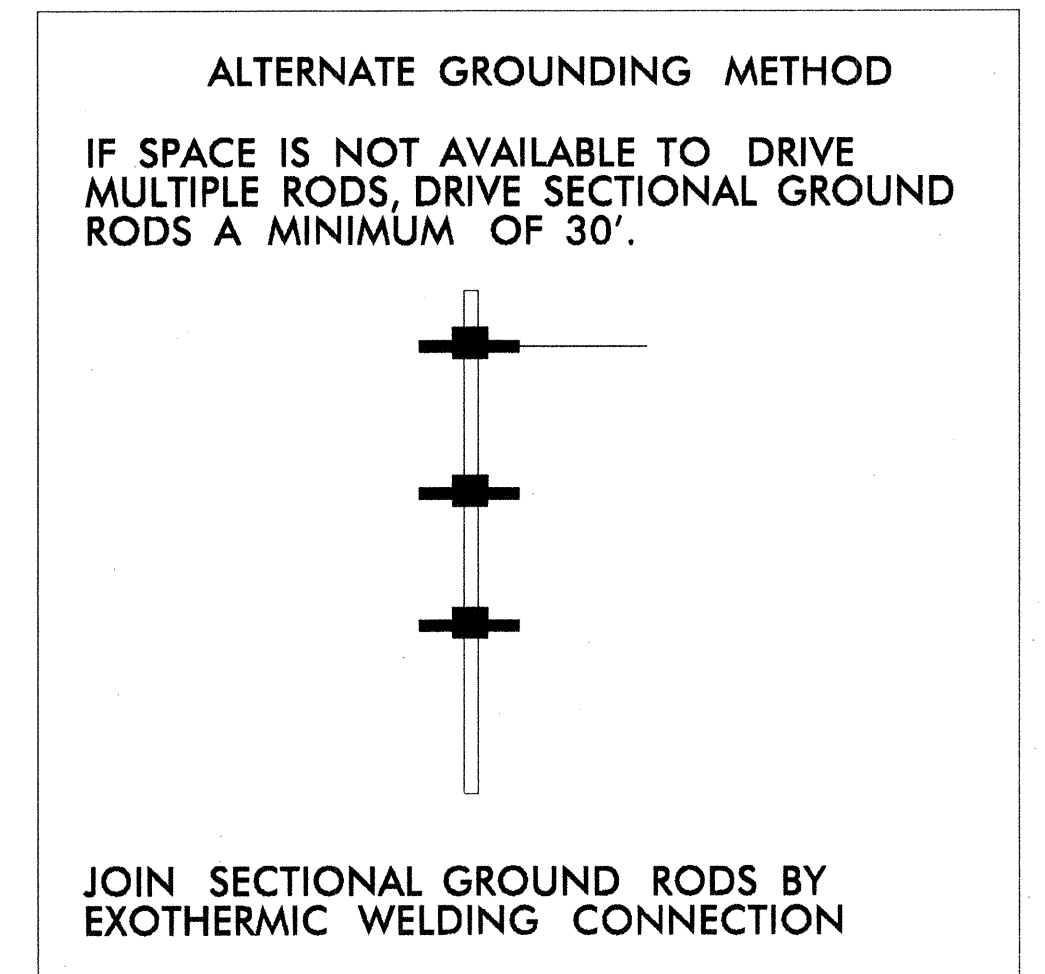
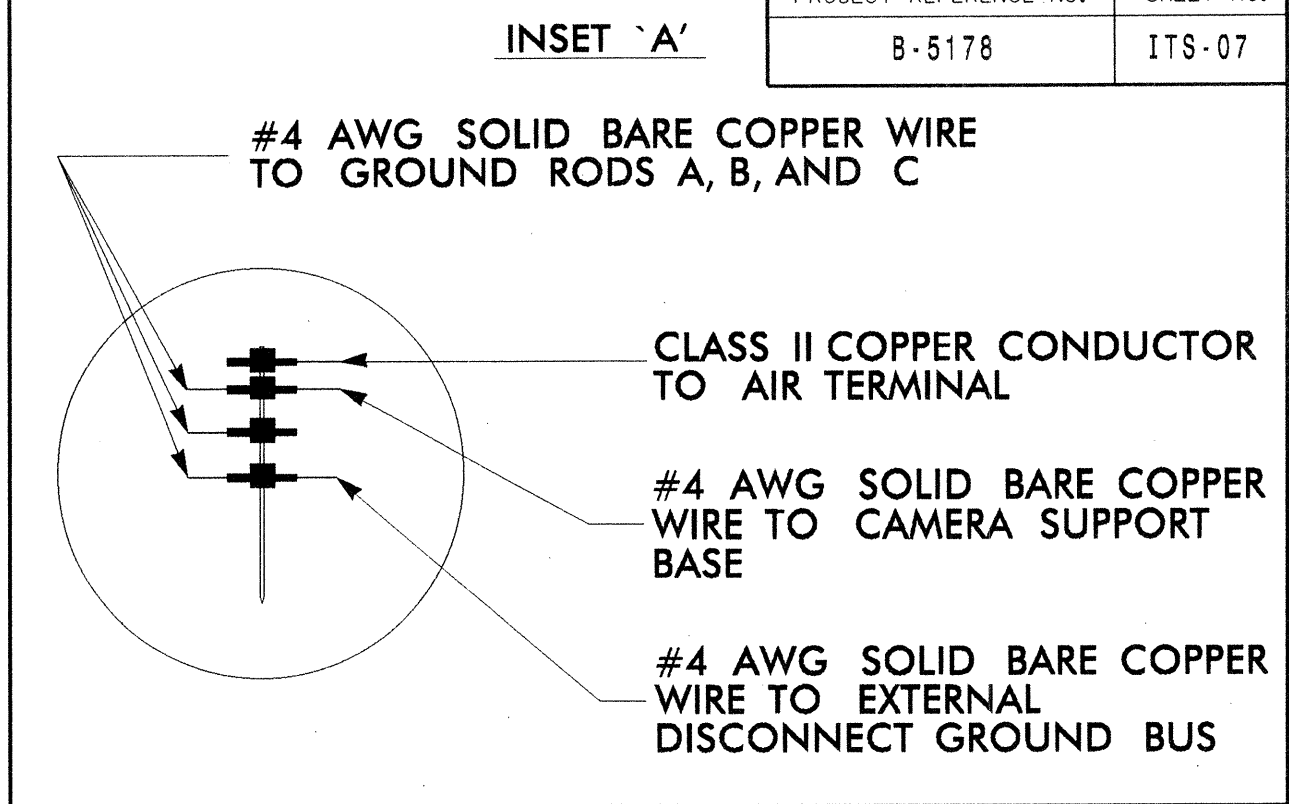
ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-8888 NCBEES #F-0326

	I-26 at Pond Rd / Hominy Creek ITS Plans		
	Division 13 Buncombe County Asheville	REVIEWED BY: JT Brooks	
PLAN DATE: June 2012	PREPARED BY: BS Lambeth	REVIEWED BY:	DATE:
SCALE: NTS	REVISIONS:	INIT.:	DATE:

CADD File Name:



- 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' 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".
 5. REMOVE BONDING JUMPER BETWEEN EQUIPMENT CABINET GROUND BUS AND NEUTRAL BUS.
 6. SEE SHEET SD-05 FOR RISERS AND CONDUIT DETAILS FOR POLE MOUNTED CCTV CABINETS



REFER TO RSD NO. 1700.02 FOR ELECTRICAL SERVICE GROUNDING DETAILS

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
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Department of Transportation

I-26 at Pond Rd / Hominy Creek ITS Plans

Division 13 Buncombe County Asheville

PLAN DATE: June 2012 REVIEWED BY: JT Brooks

PREPARED BY: BS Lambeth REVIEWED BY:

SCALE: NTS

750 N. Greenfield Pkwy., Garner, NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
TODD BROOKS
17586

SIGNATURE: *Todd Brooks* DATE: 6/11/12

CADD Filename:

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