



RELEASED FOR CONSTRUCTION
As Noted on Plan Review

Development Services Department
Lee's Summit, Missouri
11/10/2023

VERIZON SITE NUMBER: 716127
VERIZON SITE NAME: KCYC LEES SUMMIT DT
SITE TYPE: MONOPOLE
TOWER HEIGHT: 180'-0"

BUSINESS UNIT #: 877803
SITE ADDRESS: 207 SE DOUGLAS
COUNTY: JACKSON
JURISDICTION: MO - CITY OF LEE'S SUMMIT 2015

VERIZON INITIAL BUILD

JURISDICTIONAL APPROVAL:

verizon
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

Trylon
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

VERIZON SITE NUMBER: 716127

BU #: 877803
KCYC LEES SUMMIT DT
207 SE DOUGLAS
LEE'S SUMMIT, MO 64063
EXISTING 180'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	02/14/2023	RC	PRELIMINARY	AMT
B	02/17/2023	RC	PRELIMINARY	AMT
0	03/17/2023	RC	FINAL	EAN
1	06/21/2023	RC	FINAL	EAN
2	07/27/2023	RC	FINAL	AMT

ISSUED FOR:

STATE OF MISSOURI
 MICHAEL S. MOORE
 LICENSE NUMBER
 PE-2022020690
 7/27/2023
 PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	KCYC LEES SUMMIT DT
SITE ADDRESS:	207 SE DOUGLAS LEE'S SUMMIT, MO 64063
COUNTY:	JACKSON
MAP/PARCEL #:	61-340-20-06-00-0-00-000
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	38.913842 / 38° 54' 49.83" N
LONGITUDE:	-94.376328 / -94° 22' 34.78" W
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	1006.96'
CURRENT ZONING:	R-7
JURISDICTION:	MO - CITY OF LEE'S SUMMIT 2015
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	CITY OF LEES SUMMIT
	PO BOX 1600 LEES SUMMIT, MO 64063-7600
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	VERIZON WIRELESS 180 WASHINGTON VALLEY ROAD BEDMINSTER, NJ 07921
ELECTRIC PROVIDER:	EVERGY
TELCO PROVIDER:	AT&T

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APPROVALS

VERIZON SIGNATURE BLOCK		
APPROVAL	SIGNATURE	DATE
SITE ACQUISITION	_____	_____
CONSTRUCTION	_____	_____
RADIO	_____	_____
MICROWAVE	_____	_____
TELCO	_____	_____
EQUIPMENT	_____	_____
PROJECT ADMINISTRATOR	_____	_____
WO ADMINISTRATOR	_____	_____
CROWN CASTLE USA INC. SIGNATURE BLOCK		
APPROVAL	SIGNATURE	DATE
SITE ACQUISITION	_____	_____
PLANNER	_____	_____
CONSTRUCTION	_____	_____
PROJECT MANAGER	_____	_____
UTILITY MANAGER	_____	_____
LANDLORD	_____	_____

LOCATION MAP

DRIVING DIRECTIONS FROM VERIZON LOCAL OFFICE (180 WASHINGTON VALLEY ROAD, BEDMINSTER, NJ 07921): DEPART AND HEAD TOWARD WASHINGTON VALLEY RD / COUNTY HWY-620, TURN LEFT ONTO WASHINGTON VALLEY RD / COUNTY HWY-620, BEAR RIGHT TOWARD US-202 S / US-206 S / US HIGHWAY 202 206, TURN LEFT ONTO US-202 S / US-206 S / US HIGHWAY 202 206, KEEP LEFT TO STAY ON I-78 W, KEEP STRAIGHT TO GET ONTO I-81 S, KEEP LEFT, HEADING TOWARD PITTSBURGH, KEEP LEFT, HEADING TOWARD WHEELING, AT EXIT 5A, HEAD LEFT ON THE RAMP FOR I-470 WEST TOWARD COLUMBUS / OH, KEEP STRAIGHT TO GET ONTO I-70 W, KEEP RIGHT, HEADING TOWARD SAINT LOUIS, KEEP STRAIGHT, HEADING TOWARD KANSAS CITY, KEEP RIGHT, HEADING TOWARD KANSAS CITY, TURN RIGHT ONTO E LANGSFORD RD, TURN LEFT, ARRIVE AT **207 SE DOUGLAS, LEE'S SUMMIT, MO 64063**

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 22X34. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:

- INSTALL (9) ANTENNAS
- INSTALL (9) RRUS
- INSTALL (2) 6x12 HYBRID CABLES
- INSTALL (1) SITE PRO 1 - RMQP-4126-HK PLATFORM MOUNT
- INSTALL (1) OVP
- INSTALL (3) DUAL MOUNTS

GROUND SCOPE OF WORK:

- INSTALL (1) 11'-0"x4'-0" EQUIPMENT PAD
- INSTALL (1) EQUIPMENT PLINTH
- INSTALL (1) RF CABINET
- INSTALL (1) BATTERY CABINET
- INSTALL (1) RACK MOUNTED OVP
- INSTALL (1) GPS ANTENNA
- INSTALL (1) EQUIPMENT H-FRAME
- INSTALL (1) ILC CABINET
- INSTALL (1) APPLETON PLUG ON NEW ILC CABINET
- INSTALL (1) 200A METER SOCKET W/ DISCONNECT
- INSTALL (2) SERVICE LIGHTS

NOTE:
PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER

PROJECT TEAM

A&E FIRM:	TRYLON 1825 W. WALNUT HILL LANE, SUITE 120 IRVING, TEXAS 75038
CROWN CASTLE USA INC. DISTRICT CONTACTS:	1200 MACARTHUR BLVD, SUITE 200 MAHWAH, NJ 07430 EVE ZWEIG - PROJECT MANAGER eve.zweig@crowncastle.com
	JONATHAN MACCONKEY - CONSTRUCTION MANAGER jonathan.macconkey@crowncastle.com"V

CONTRACTOR PMI REQUIREMENTS

PMI ACCESSED AT	https://pmi.vzsmart.com
SMART TOOL VENDOR	
PROJECT NUMBER	-
VzW LOCATION CODE (PSLC)	716127

*** PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT ANALYSIS REPORT

MOUNT MODIFICATION REQUIRED | N

VzW APPROVED SMART KIT VENDORS

REFER TO MOUNT MODIFICATION DRAWINGS PAGE FOR VzW SMART KIT APPROVED VENDORS

APPLICABLE CODES/REFERENCE DOCUMENTS

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2018 IBC
MECHANICAL	2018 IMC
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	CROWN CASTLE
DATED:	01/04/2023
RFDS REVISION:	N/A
DATED:	12/22/2022
ORDER ID:	640178
REVISION:	1

CALL MISSOURI ONE CALL (800) DIG-RITE CALL 3 WORKING DAYS BEFORE YOU DIG!

SHEET NUMBER: T-1 | **REVISION: 2**

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

- NOTICE TO PROCEED- NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800-788-7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
- "LOOK UP" - CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT: THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
- PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED--STD-10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA-322 (LATEST EDITION).
- ALL SITE WORK TO COMPLY WITH QAS--STD-10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE," CED--STD-10294 "STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES," AND LATEST VERSION OF ANSI/TIA-1019--A--2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS." IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
- ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS. LATEST APPROVED REVISION.
- CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
- THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GREENFIELD GROUNDING NOTES:

- ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
- THE CONTRACTOR SHALL PERFORM IEEE FALL-OFF--POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
- THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
- METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
- EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
- APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 FT. OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
- GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (I.E., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
- ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD--WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
- BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/O COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
 CARRIER: VERIZON
 TOWER OWNER: CROWN CASTLE USA INC.
- THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
- THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
- NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
- SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS, ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CROWN CASTLE.
- ALL MATERIALS SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°F AT TIME OF PLACEMENT.
- CONCRETE EXPOSED TO FREEZE--THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER--TO--CEMENT RATIO (W/C) OF 0.45.
- ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
 #4 BARS AND SMALLER.....40 ksi
 #5 BARS AND LARGER.....60 ksi
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
 CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....3"
 CONCRETE EXPOSED TO EARTH OR WEATHER:
 #6 BARS AND LARGER.....2"
 #5 BARS AND SMALLER.....1-1/2"
 CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
 SLAB AND WALLS.....3/4"
 BEAMS AND COLUMNS.....1-1/2"
- A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
 - ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
 - ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
- EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR--CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (I.E. PANEL BOARD AND CIRCUIT ID'S).
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI--CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI--CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP--STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
- ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT) OR METAL--CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
- LIQUID--TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID--TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION--TYPE AND APPROVED FOR THE LOCATION USED. SET SNEW FITTINGS ARE NOT ACCEPTABLE.
- CABINETTS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
- SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON--PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (I.E. POWDER--ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY--COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
- METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY--COATED OR NON--CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
- INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "VERIZON".
- ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METEERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE		
SYSTEM	CONDUCTOR	COLOR
120/240V, 1Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
	GROUND	GREEN
	A PHASE	BLACK
120/208V, 3Ø	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
	A PHASE	BROWN
277/480V, 3Ø	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
DC VOLTAGE	POS (+)	RED**
	NEG (-)	BLACK**

* SEE NEC 210.5(C)(1) AND (2)
 ** POLARITY MARKED AT TERMINATION

APWA UNIFORM COLOR CODE:

- WHITE PROPOSED EXCAVATION
- PINK TEMPORARY SURVEY MARKINGS
- RED ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
- YELLOW GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
- ORANGE COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
- BLUE POTABLE WATER
- PURPLE RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
- GREEN SEWERS AND DRAIN LINES

ABBREVIATIONS:

- ANT ANTENNA
- (E) EXISTING
- FIF FACILITY INTERFACE FRAME
- GEN GENERATOR
- GPS GLOBAL POSITIONING SYSTEM
- GSM GLOBAL SYSTEM FOR MOBILE
- LTE LONG TERM EVOLUTION
- MGB MASTER GROUND BAR
- MW MICROWAVE
- (N) NEW
- NEC NATIONAL ELECTRIC CODE
- (P) PROPOSED
- PP POWER PLANT
- QTY QUANTITY
- RECT RECTIFIER
- RBS RADIO BASE STATION
- RETS REMOTE ELECTRIC TILT
- RFDSD RADIO FREQUENCY DATA SHEET
- RRH REMOTE RADIO HEAD
- RRU REMOTE RADIO UNIT
- SIAD SMART INTEGRATED DEVICE
- TMA TOWER MOUNTED AMPLIFIER
- TYP TYPICAL
- UMTS UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
- W.P. WORK POINT

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CROWN CASTLE

1200 MACARTHUR BLVD, SUITE 200
 MAHWAH, NJ 07430

Trylon

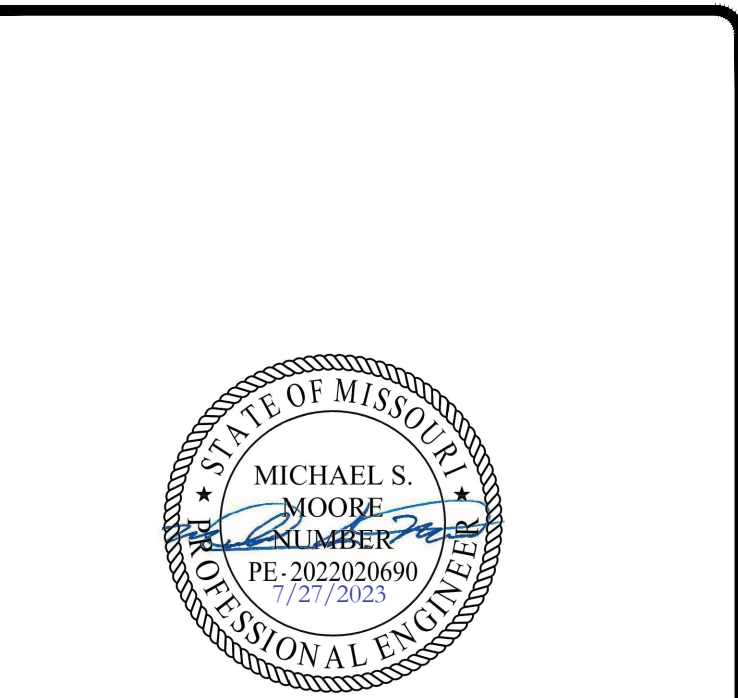
1825 W. WALNUT HILL LANE, SUITE 120
 IRVING, TEXAS 75038

VERIZON SITE NUMBER: 716127

BU #: 877803
 KCYC LEES SUMMIT DT
 207 SE DOUGLAS
 LEE'S SUMMIT, MO 64063
 EXISTING 180'-0" MONOPOLE

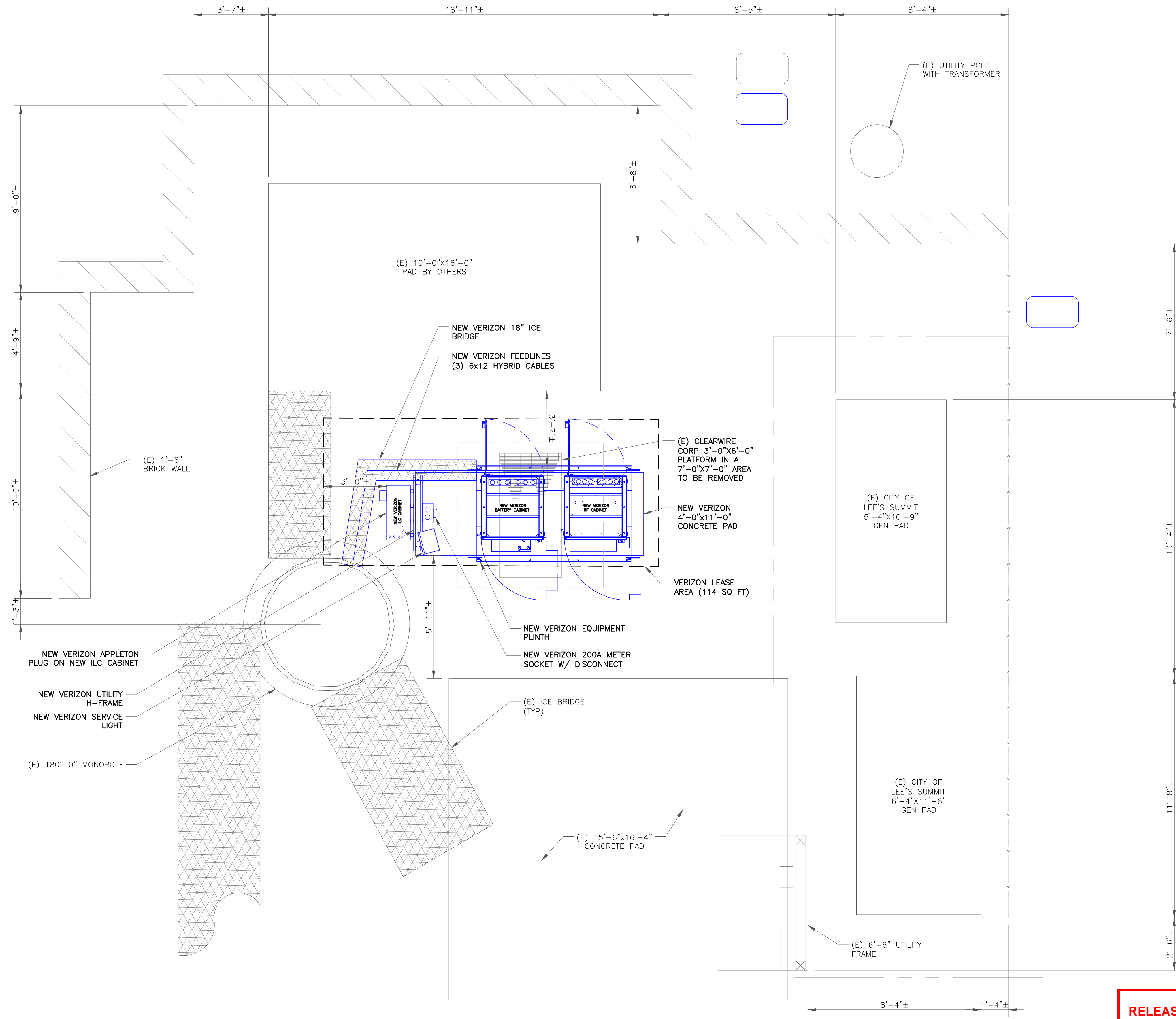
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2	07/27/2023	RC	FINAL	AMT

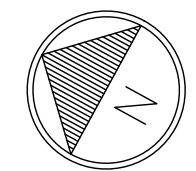


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SHEET NUMBER:	REVISION:
T-2	2



1 SITE PLAN
 SCALE: 1" = 6'-0" (FULL SIZE)
 3/4" = 1'-0" (11x17)
 3/8" = 1'-0" (11x17)



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Trylon
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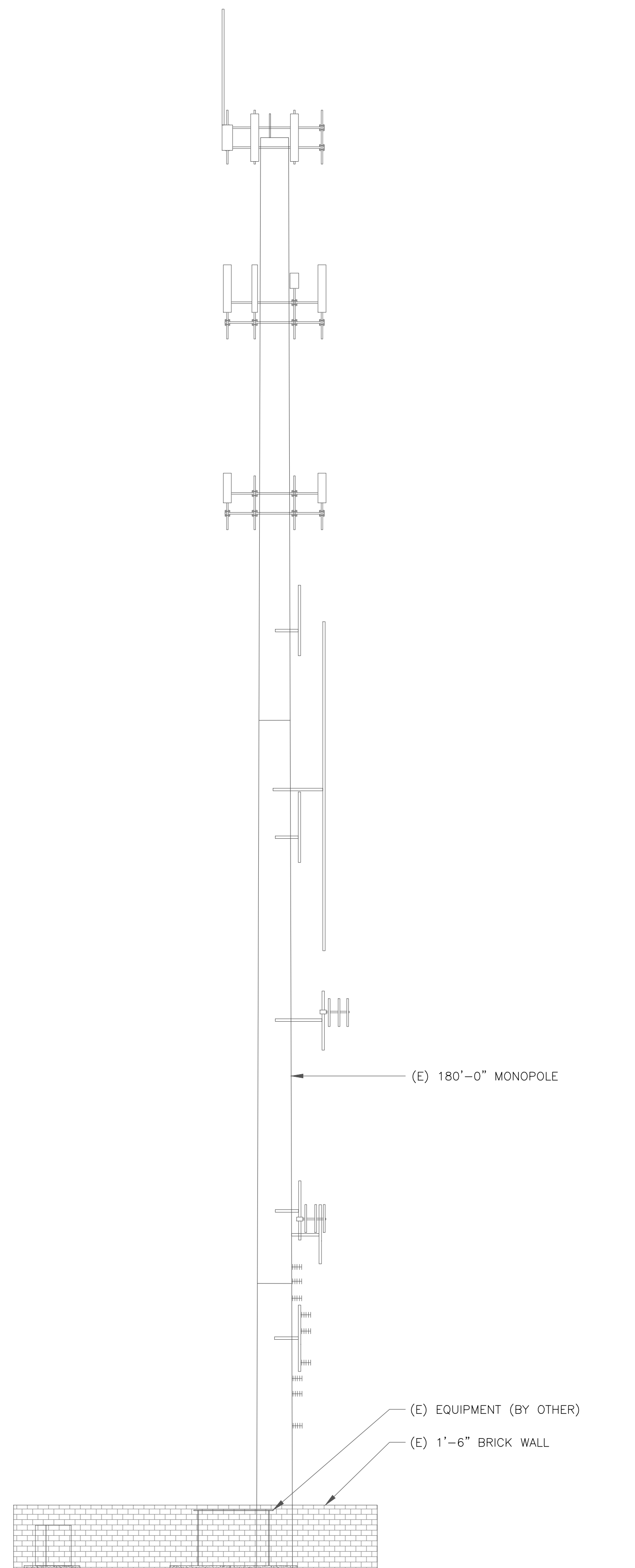
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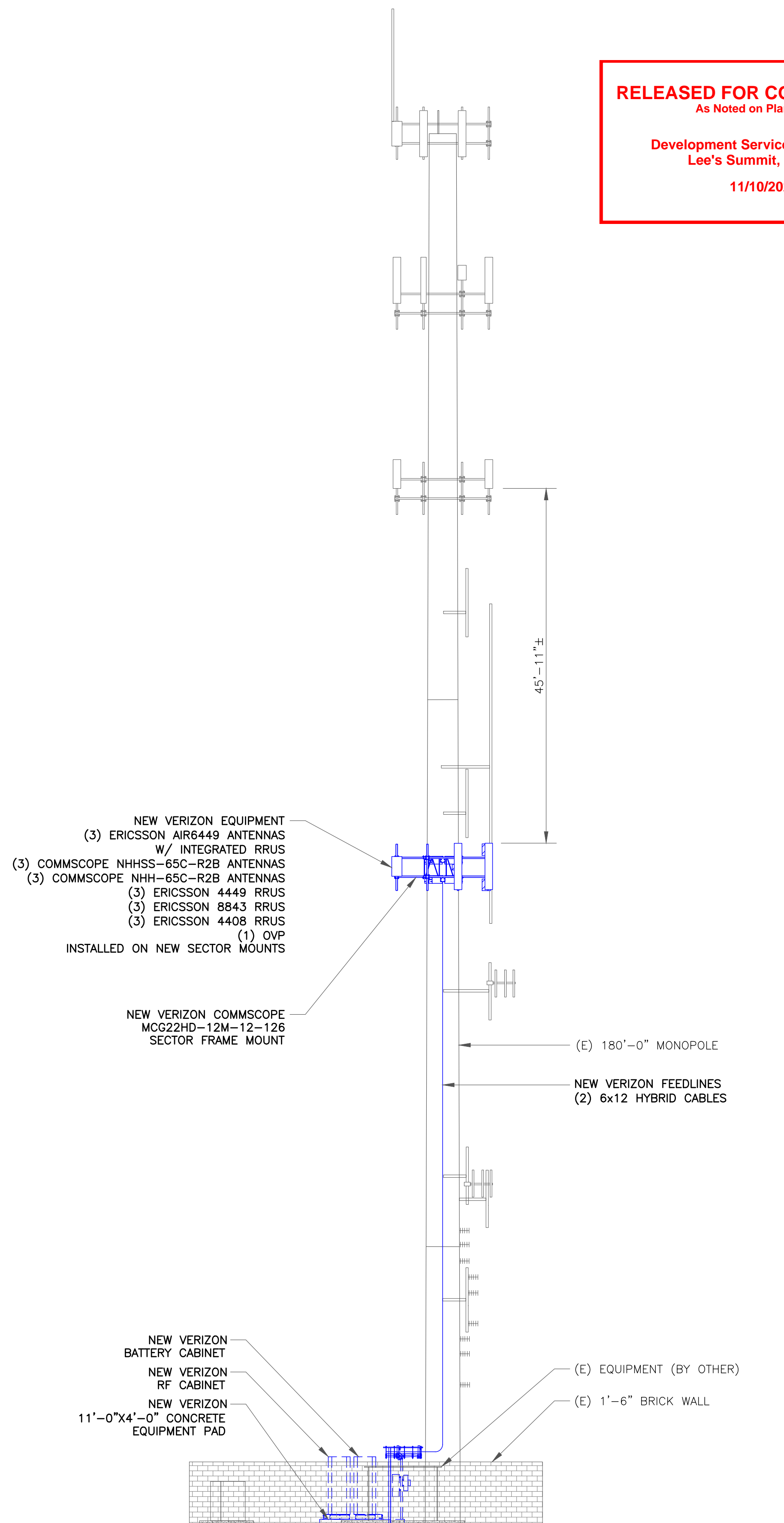
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SHEET NUMBER: **C-1.2** REVISION: **2**



1 EXISTING SOUTHEAST ELEVATION
SCALE: NOT TO SCALE

VERIZON EQUIPMENT
ANTENNA CL: 85'-0"
MOUNT CL: 85'-0"



2 FINAL SOUTHEAST ELEVATION
SCALE: NOT TO SCALE

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Trylon
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IRVING, TEXAS 75038

VERIZON SITE NUMBER: 716127

BU #: 877803
KCYC LEES SUMMIT DT
207 SE DOUGLAS
LEE'S SUMMIT, MO 64063
EXISTING 180'-0" MONOPOLE

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1	06/21/2023	RC	FINAL	EAN
2	07/27/2023	RC	FINAL	AMT

MICHAEL S. MOORE
 LICENSE NUMBER
 PE-2022020690
 7/27/2025
 PROFESSIONAL ENGINEER

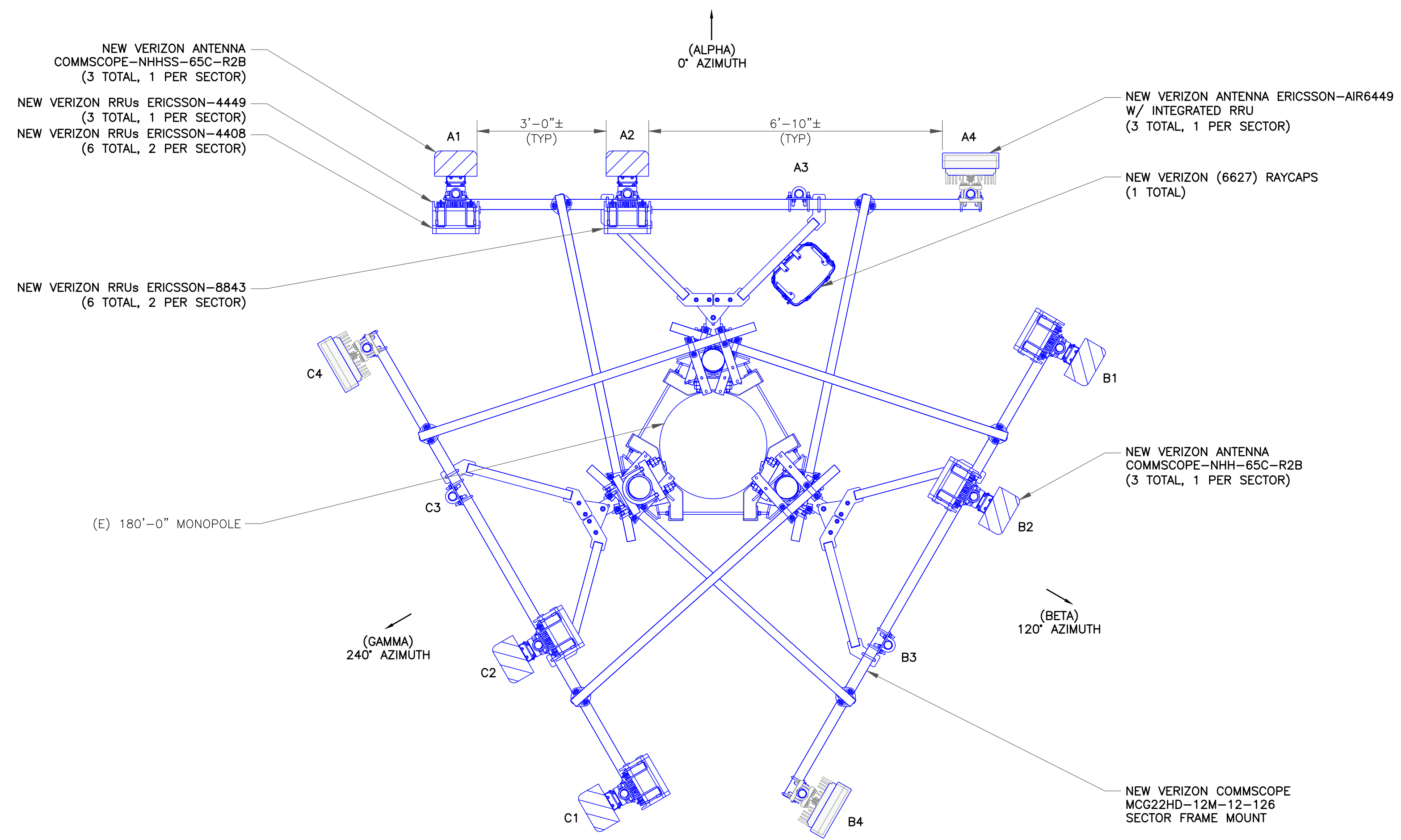
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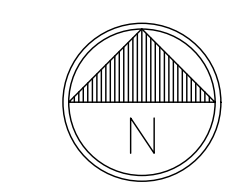
ANTENNA SCHEDULE										
SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE
ALPHA	A1	-	85'-0"	0°	JMA WIRELESS	NHHSS-65C-R2B	-	-	(1) ERICSSON - RADIO 4449 (1) ERICSSON - RADIO 4408	HYBRID
ALPHA	A2	-	85'-0"	0°	JMA WIRELESS	NHH-65C-R2B	-	-	(1) ERICSSON - RRU 8843	-
ALPHA	A3	-	85'-0"	0°	-	-	-	-	-	-
ALPHA	A4	-	85'-0"	0°	ERICSSON	AIR6449	-	-	(1) INTEGRATED RRU	-
BETA	B1	-	85'-0"	120°	JMA WIRELESS	NHHSS-65C-R2B	-	-	(1) ERICSSON - RADIO 4449 (1) ERICSSON - RADIO 4408	HYBRID
BETA	B2	-	85'-0"	120°	JMA WIRELESS	NHH-65C-R2B	-	-	(1) ERICSSON - RRU 8843	-
BETA	B3	-	85'-0"	120°	-	-	-	-	(1) OVP	-
BETA	B4	-	85'-0"	120°	ERICSSON	AIR6449	-	-	(1) INTEGRATED RRU	-
GAMMA	C1	-	85'-0"	240°	JMA WIRELESS	NHHSS-65C-R2B	-	-	(1) ERICSSON - RADIO 4449 (1) ERICSSON - RADIO 4408	HYBRID (SHARED)
GAMMA	C2	-	85'-0"	240°	JMA WIRELESS	NHH-65C-R2B	-	-	(1) ERICSSON - RRU 8843	-
GAMMA	C3	-	85'-0"	240°	-	-	-	-	-	-
GAMMA	C4	-	85'-0"	240°	ERICSSON	AIR6449	-	-	(1) INTEGRATED RRU	-

CABLE SCHEDULE			
STATUS	CABLE TYPE	SIZE	QUANTITY
NEW	HYBRID	6x12	2
FINAL CABLE QUANTITY			2

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE



2 FINAL ANTENNA PLAN
SCALE: NOT TO SCALE



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VERIZON SITE NUMBER: 716127

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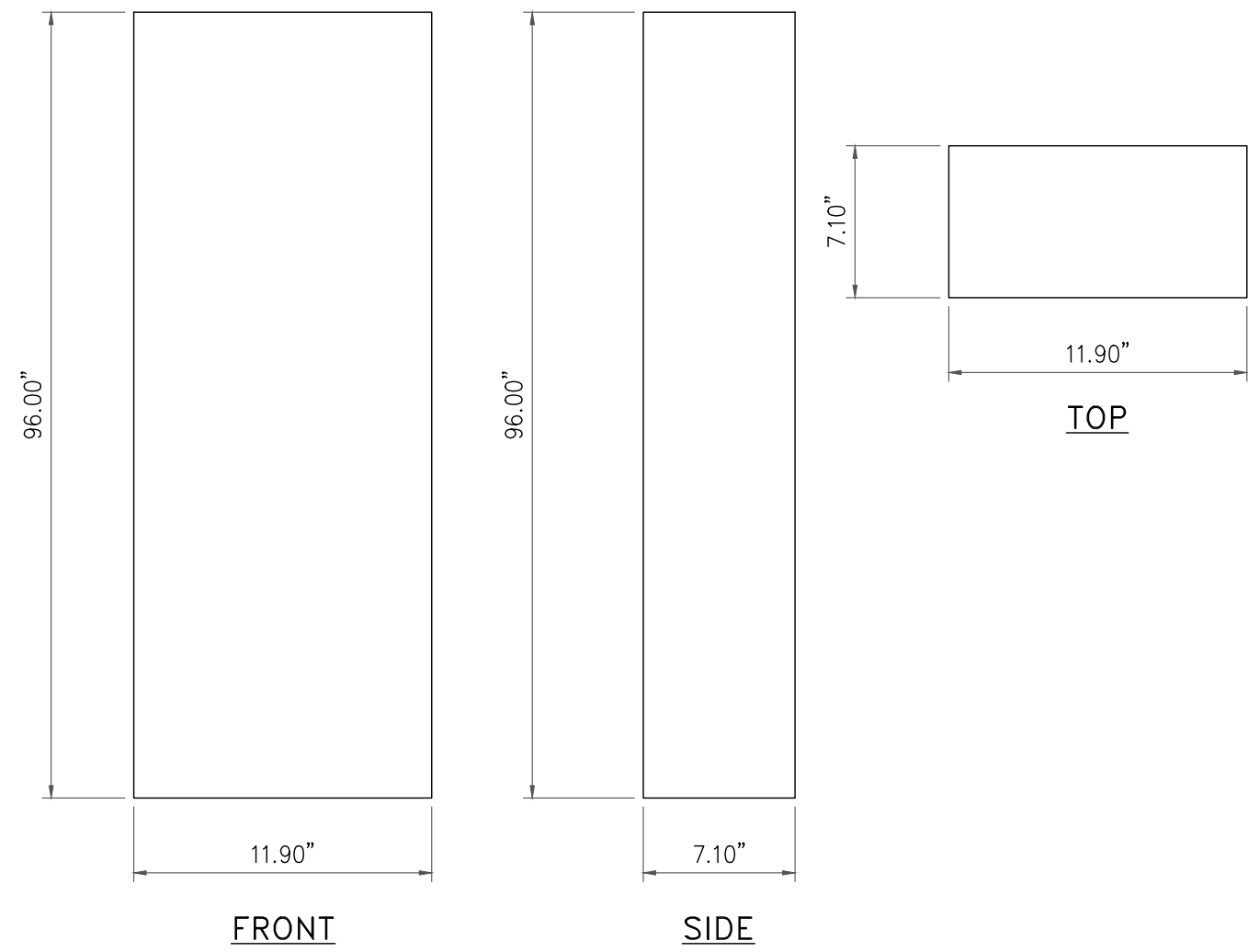
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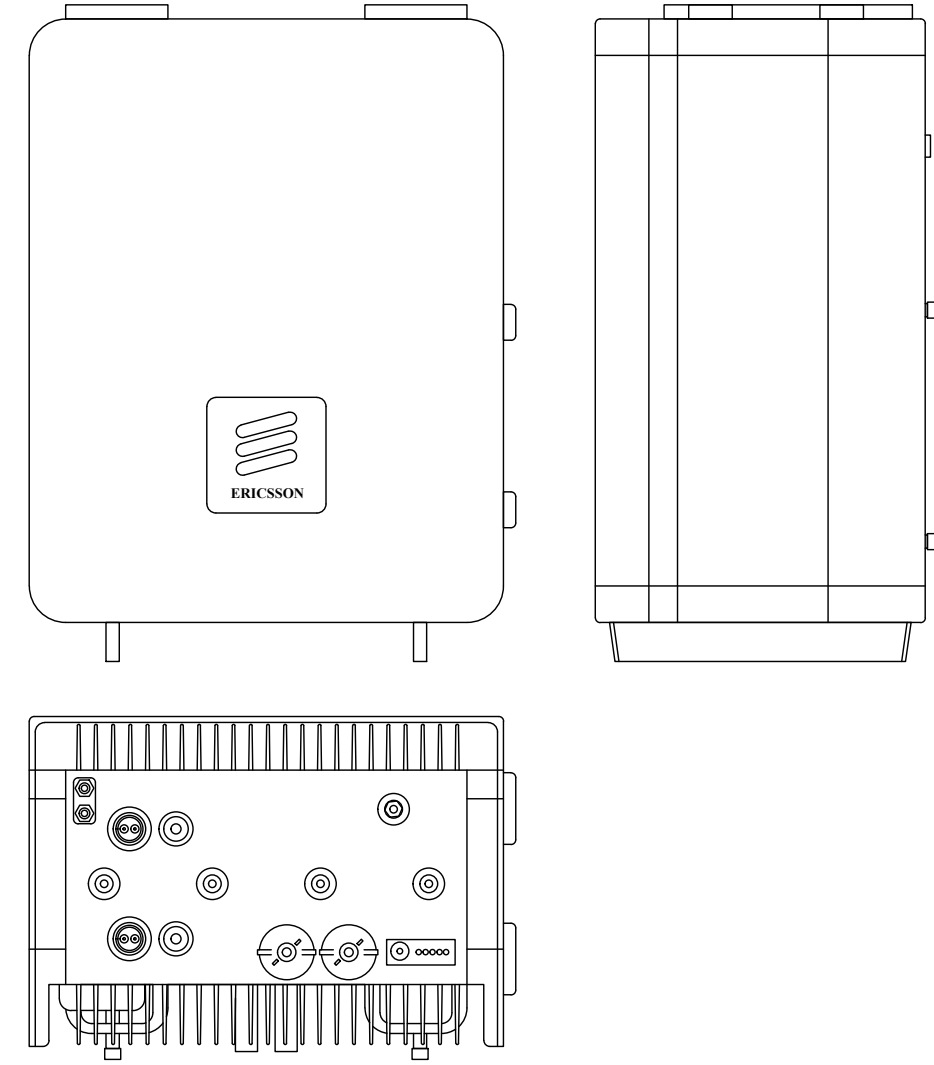
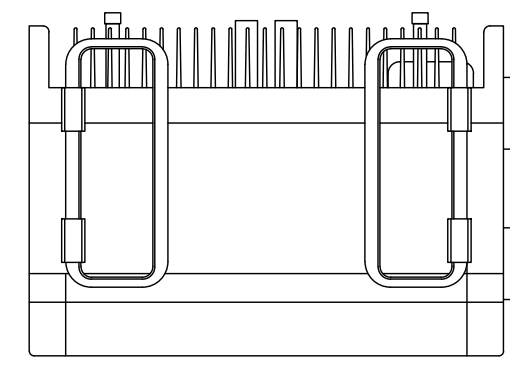
SHEET NUMBER: C-3	REVISION: 2
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PANEL ANTENNA (NHH-65C-R2B)

DIMENSIONS, HxWxD: 96.00"x11.90"x7.10"
 WEIGHT, W/O BRACKETS: 51.60 lbs

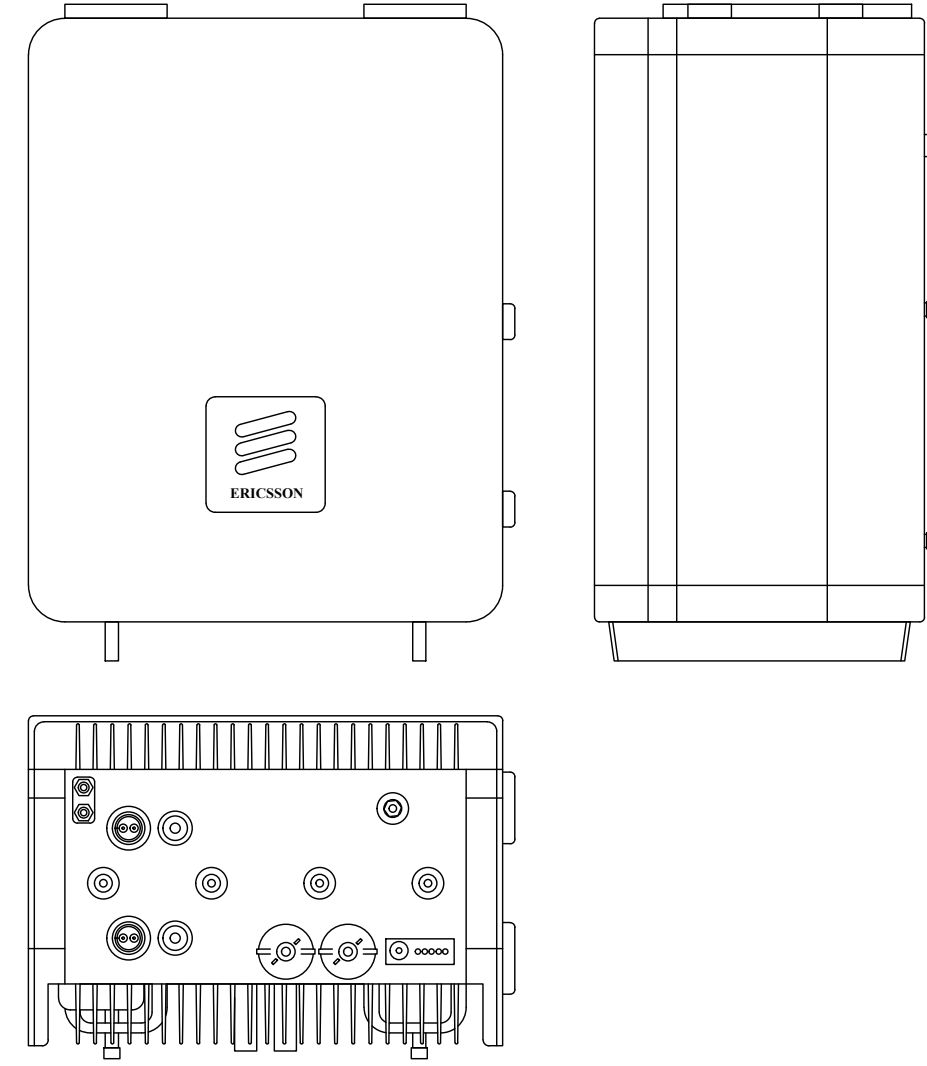
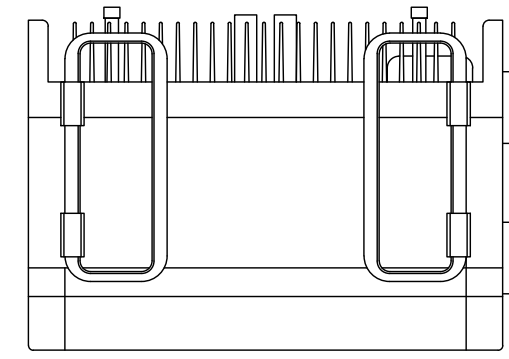


1 NHH-65C-R2B ANTENNA DETAIL
 SCALE: NOT TO SCALE



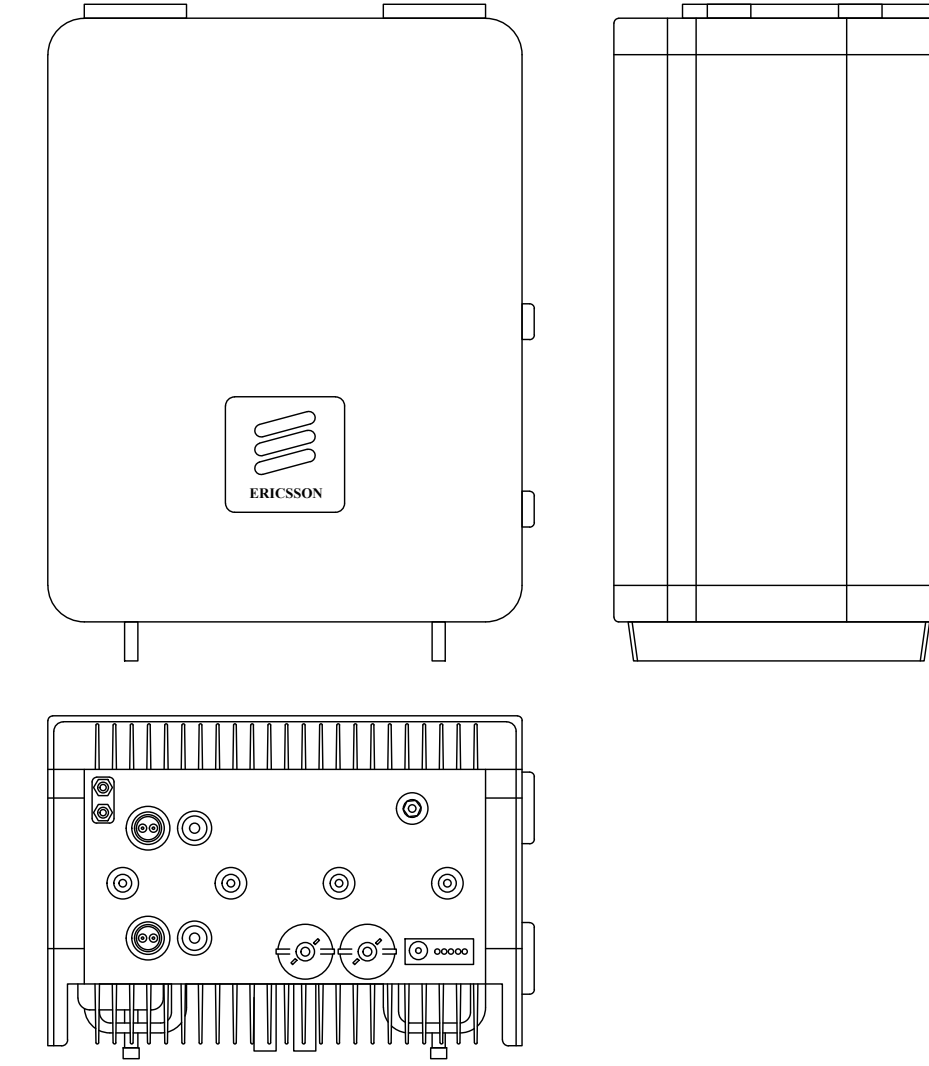
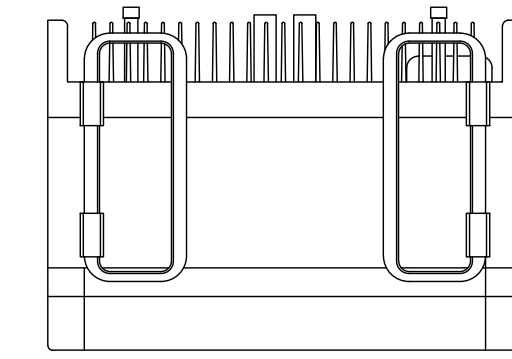
ERICSSON - RADIO 4449
 WEIGHT: 70.0 LBS
 SIZE (HxWxD): 18.0x13.2x9.4 IN.

2 ERICSSON - RADIO 4449 DETAIL
 SCALE: NOT TO SCALE



ERICSSON - RADIO 8843
 WEIGHT: 70.0 LBS
 SIZE (HxWxD): 18.0x13.2x9.4 IN.

3 ERICSSON - RADIO 8843 DETAIL
 SCALE: NOT TO SCALE

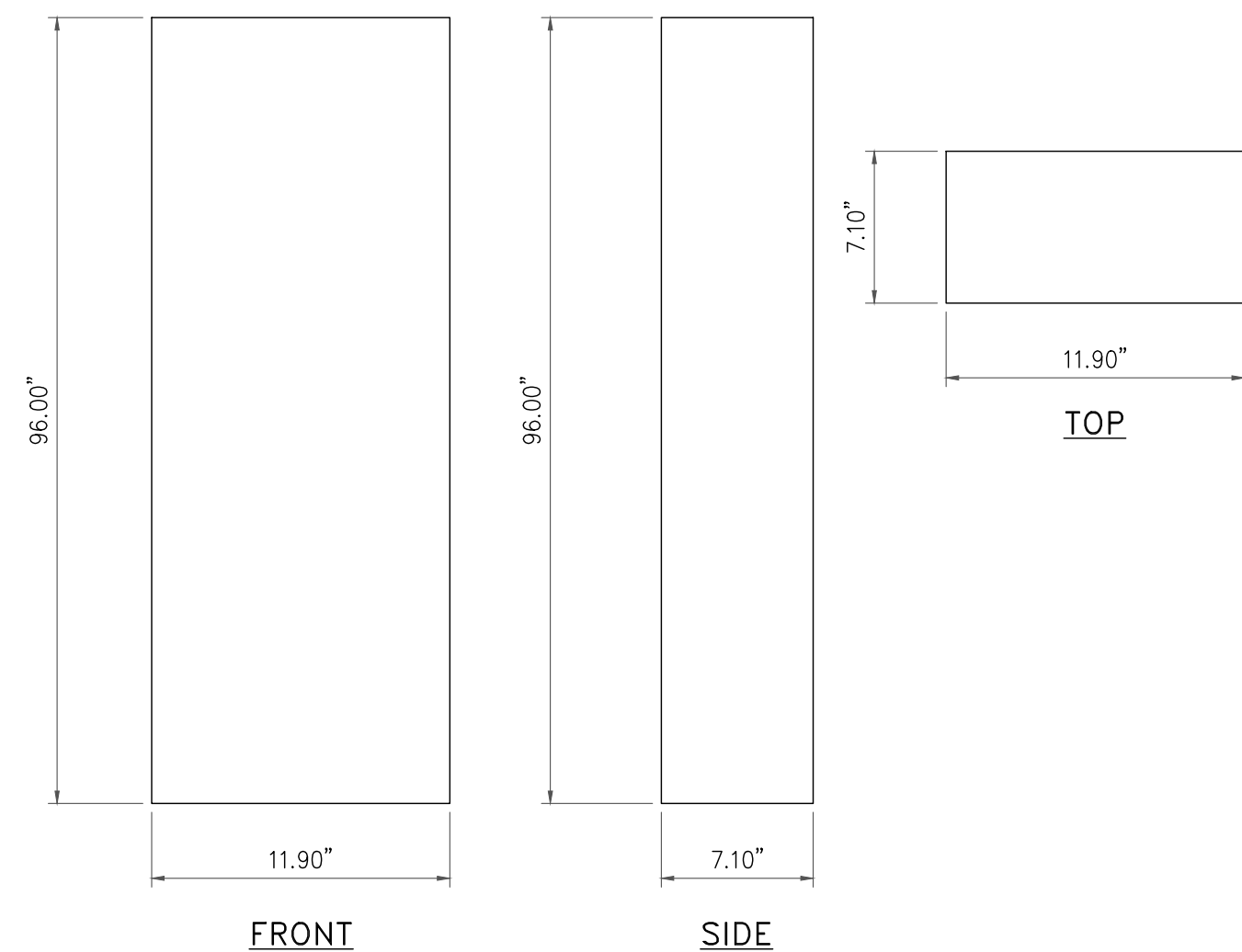


ERICSSON - RADIO 4408
 WEIGHT: 10.14 LBS
 SIZE (HxWxD): 8.41x7.88x4.13 IN.

4 ERICSSON - RADIO 4408 DETAIL
 SCALE: NOT TO SCALE

PANEL ANTENNA (NHHSS-65C-R2B)

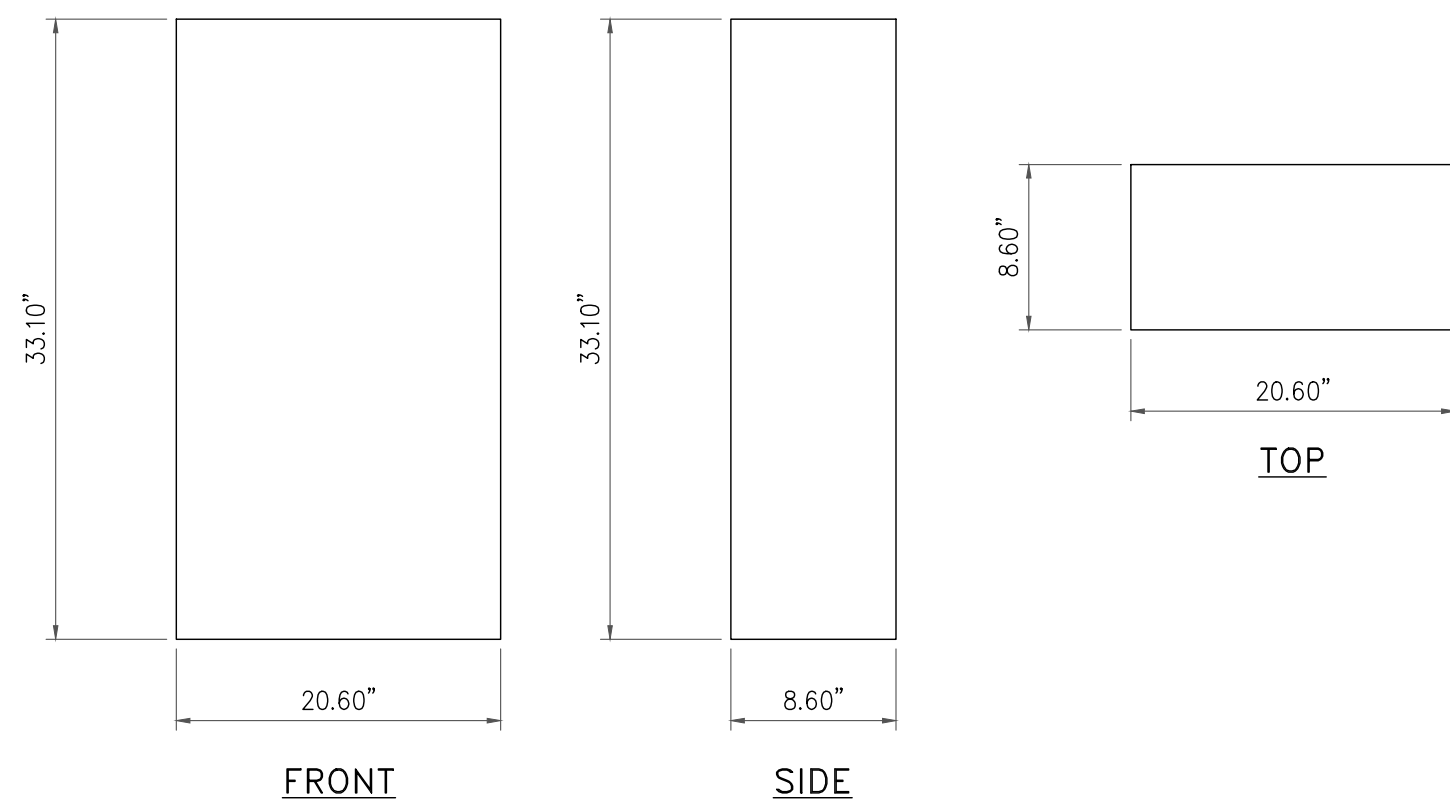
DIMENSIONS, HxWxD: 96.00"x11.90"x7.10"
 WEIGHT, W/O BRACKETS: 69.70 lbs



5 NHHSS-65C-R2B ANTENNA DETAIL
 SCALE: NOT TO SCALE

PANEL ANTENNA (AIR 6449)

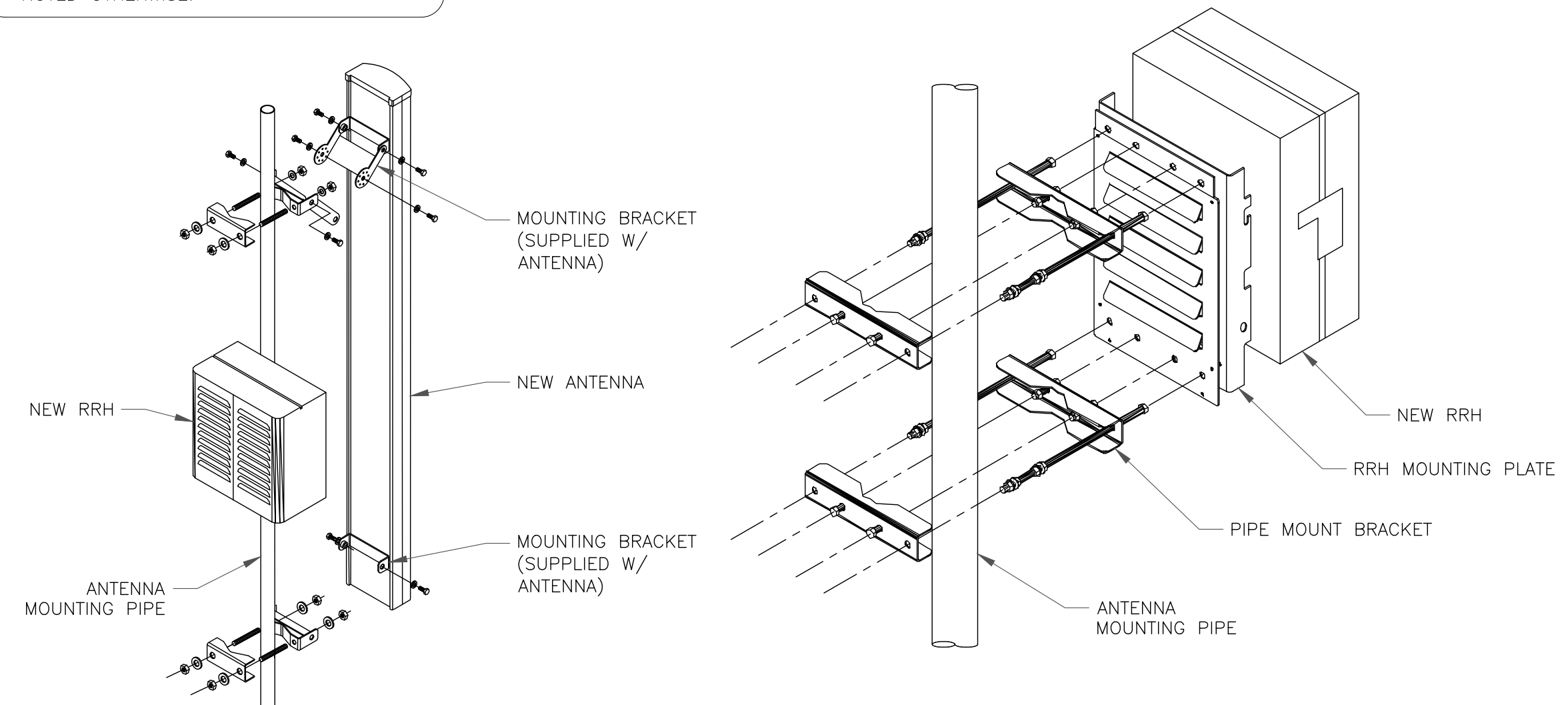
DIMENSIONS, HxWxD: 33.10"x20.60"x8.60"
 WEIGHT, W/O BRACKETS: 104.0 lbs



6 AIR 6449 ANTENNA DETAIL
 SCALE: NOT TO SCALE

INSTALLER NOTES:

1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRHs RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRH PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



7 ANTENNA WITH RRH MOUNTING DETAIL
 SCALE: NOT TO SCALE

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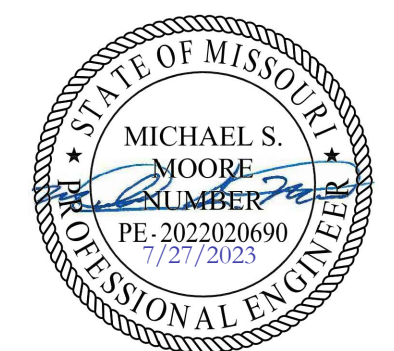
Trylon
 1825 W. WALNUT HILL LANE, SUITE 120
 IRVING, TEXAS 75038

VERIZON SITE NUMBER: 716127

BU #: 877803
KCYC LEES SUMMIT DT
 207 SE DOUGLAS
 LEE'S SUMMIT, MO 64063
 EXISTING 180'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	02/14/2023	RC	PRELIMINARY	AMT
B	02/17/2023	RC	PRELIMINARY	AMT
0	03/17/2023	RC	FINAL	EAN
1	06/21/2023	RC	FINAL	EAN
2	07/27/2023	RC	FINAL	AMT

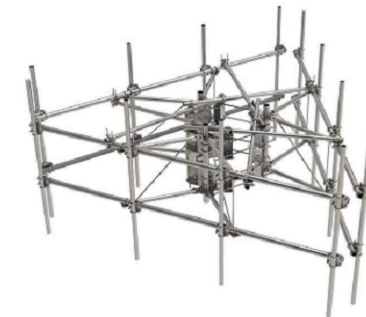


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SHEET NUMBER:
C-4

REVISION:
2

MCG22HD-12M-12-126



G22HD High Capacity 3-Sector Monopole Frame with 2 7/8in OD x 12.5ft face. Includes twelve 2 3/8in OD x 126in antenna pipes

Product Classification

Product Type High capacity monopole sector frame
Product Series G2

General Specifications

Mounting Monopole, 381–1270 mm (15–50 in) OD
Pipe, quantity 12
Sectors, quantity 3

Dimensions

Height 3,200.4 mm | 126 in
Face Width 3.81 m | 12.5 ft
Width 3,810 mm | 150 in
Pipe Length 3,200.4 mm | 126 in
Face Support Pipe Diameter 73.025 mm | 2.875 in
Mounting Diameter, maximum 1270 mm | 50 in
Mounting Diameter, minimum 381 mm | 15 in
Pipe Outer Diameter 60.325 mm | 2.375 in
Stand-off Distance 1,041.4 mm | 41 in

Material Specifications

Material Type Hot dip galvanized steel

Mechanical Specifications

Wind Rating For Specifications, please contact steelproducts@commscope.com or call 800-255-1479
Wind Rating Test Method TIA/EIA-222

MCG22HD-12M-12-126

Environmental Specifications

Man Rating 500 lb vertical man load at 15 mph (BWS)

Packaging and Weights

Included Pipe mounts | Plain end pipes (12) | Ring mounts (2) | Sector frames (3) | Stiff arm
Packaging quantity 1

* Footnotes

Wind Rating BWS—Base Wind Speed; FBC—Florida Building Code
Man Rating BWS—Base Wind Speed

JURISDICTIONAL APPROVAL:



VERIZON SITE NUMBER: 716127

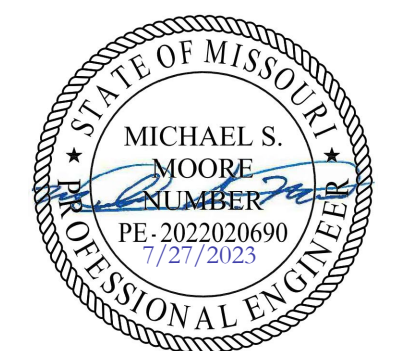
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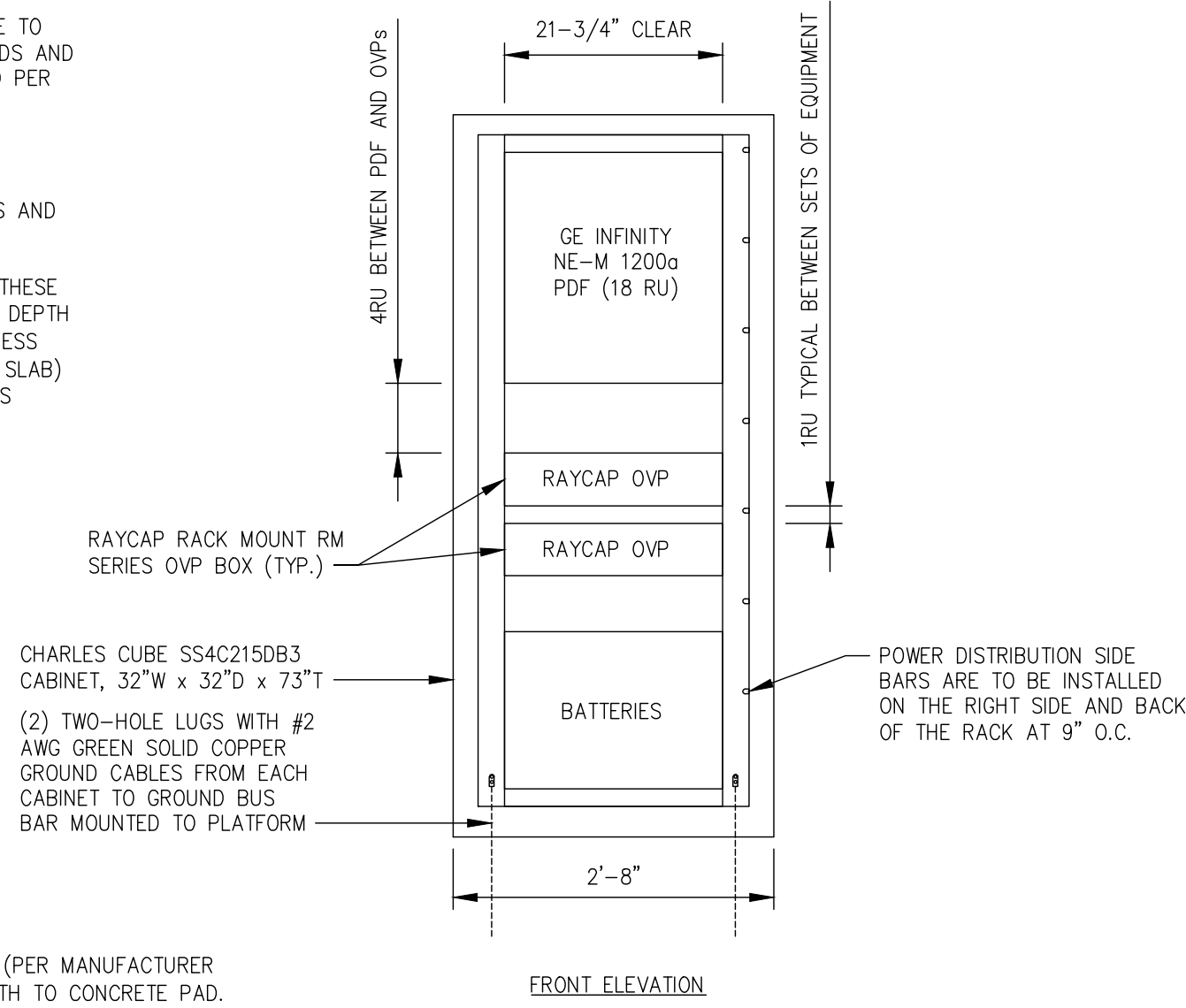
Development Services Department
 Lee's Summit, Missouri
 11/10/2023



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SHEET NUMBER: **C-5** REVISION: **2**

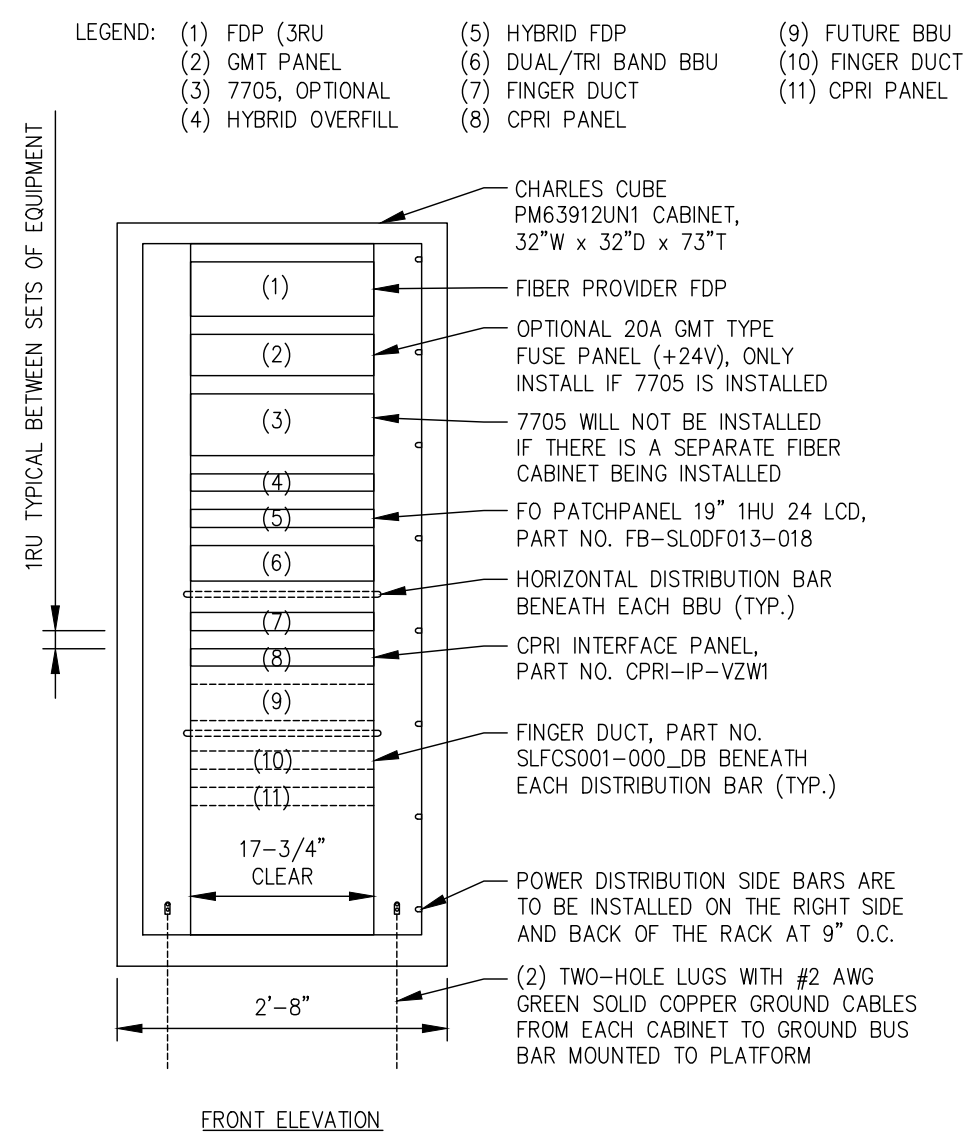
- NOTES:
- (1) TIE WRAPS ARE NOT TO BE USED FOR SUPPORT OF ANY CABLING, VZW REQUIRES WAXED LACING
 - (2) ALL EQUIPMENT CABINETS ARE TO MEET VZW NSTD406 STANDARDS AND BE INSTALLED AND GROUNDED PER VZW NSTD305 STANDARDS
 - (3) EACH EQUIPMENT CABINET IS SUPPLIED WITH (4) SEISMIC ZONE 4 STEEL WEDGE ANCHORS (11/16"Ø) OR BOLTS AND IS TO BE SECURED TO THE CONCRETE FLOOR OR STEEL EQUIPMENT PLATFORM USING THESE ANCHORS/BOLTS, EMBEDMENT DEPTH = 2/3 OF THE FLOOR THICKNESS (4" FOR 6" SLAB, 2" FOR 3" SLAB) PER VZW NSTD305 STANDARDS



NOTE: ATTACH CABINET TO PLINTH (PER MANUFACTURER SPECIFICATIONS) AND ANCHOR PLINTH TO CONCRETE PAD.

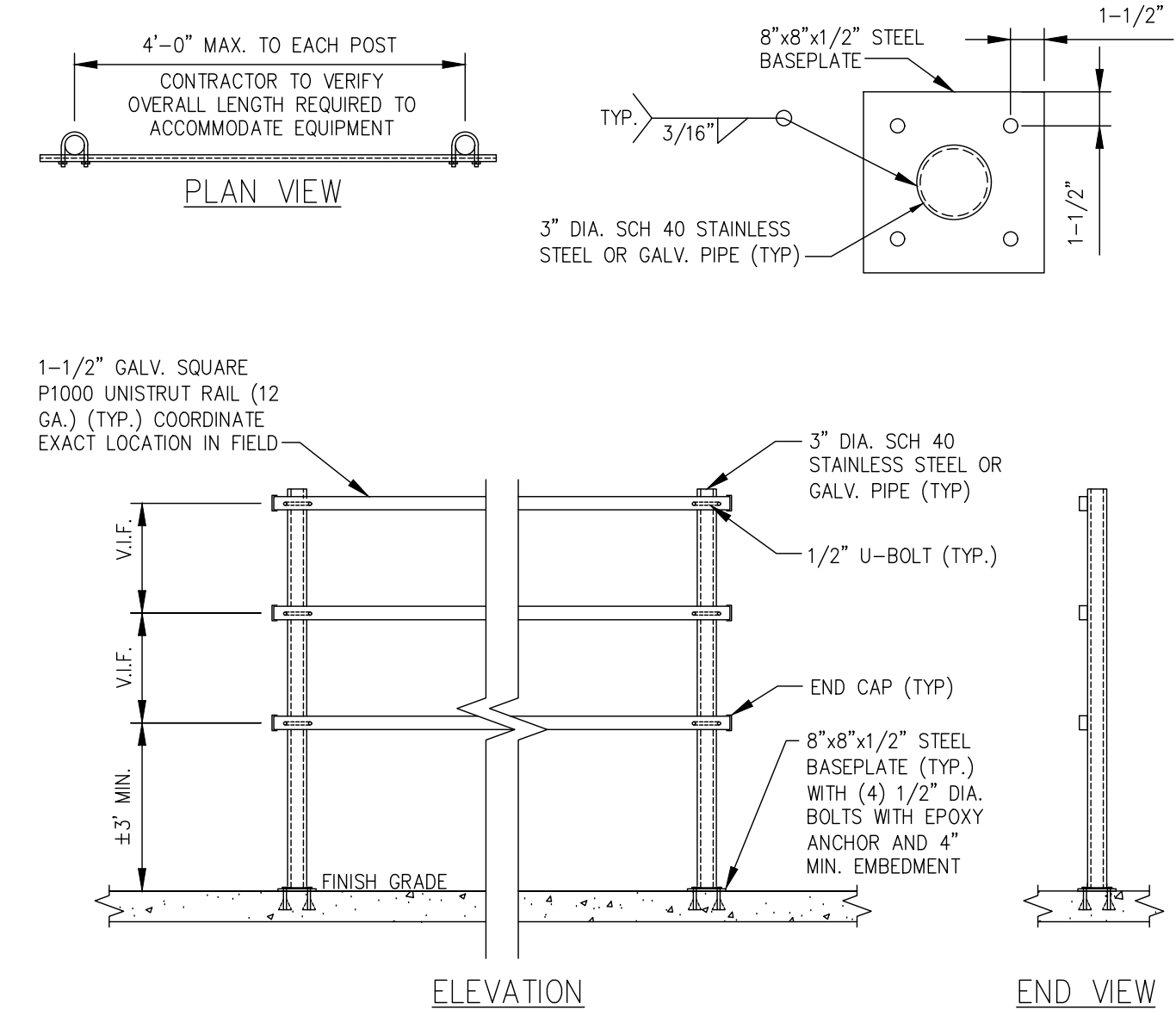
1 BATTERY CABINET DETAIL
SCALE: NOT TO SCALE

- NOTES:
- (1) CONTRACTOR IS TO INSTALL TWO 20 AMP BREAKERS IN THE PDF FRAME FEEDING THE A/B SIDES OF THE DUAL FEED FUSE PANEL, #6 CONDUCTOR, LABELED 'BBU RACK FUSE PANEL', +24v
 - (2) TIE WRAPS ARE NOT TO BE USED FOR SUPPORT OF ANY CABLING, VZW REQUIRES WAXED NSTD305 STANDARDS
 - (3) ALL EQUIPMENT RACKS ARE TO MEET VZW NSTD406 STANDARDS AND BE INSTALLED PER VZW NSTD305 STANDARDS
 - (4) EACH EQUIPMENT RACK IS SUPPLIED WITH (4) SEISMIC ZONE 4 STEEL WEDGE ANCHORS (11/16"Ø) AND EACH RACK IS TO BE SECURED TO THE CONCRETE FLOOR USING THESE ANCHORS. EMBEDMENT DEPTH = 2/3 OF THE THICKNESS (4" FOR 6" SLAB, 2-5/8" FOR 4" SLAB, 2" FOR 3" SLAB) PER VZW NSTD305 STANDARDS
 - (5) ALL CABLING IS TO BE INSTALLED ON THE INSIDE OF CABINET SUPPORT LEG AND ON INSIDE SEAL TIGHT CONDUITS THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND INSTALLING FIBER MANAGEMENT AS REQ'D IN ORDER TO COMPLETE THIS INSTALLATION
 - (6) CONTRACTOR TO VERIFY OVERALL LENGTH REQUIRED TO ACCOMMODATE EQUIPMENT
 - (7) 7705, OPTIONAL
 - (8) HYBRID OVERFILL
 - (9) FUTURE BBU
 - (10) FINGER DUCT
 - (11) CPRI PANEL



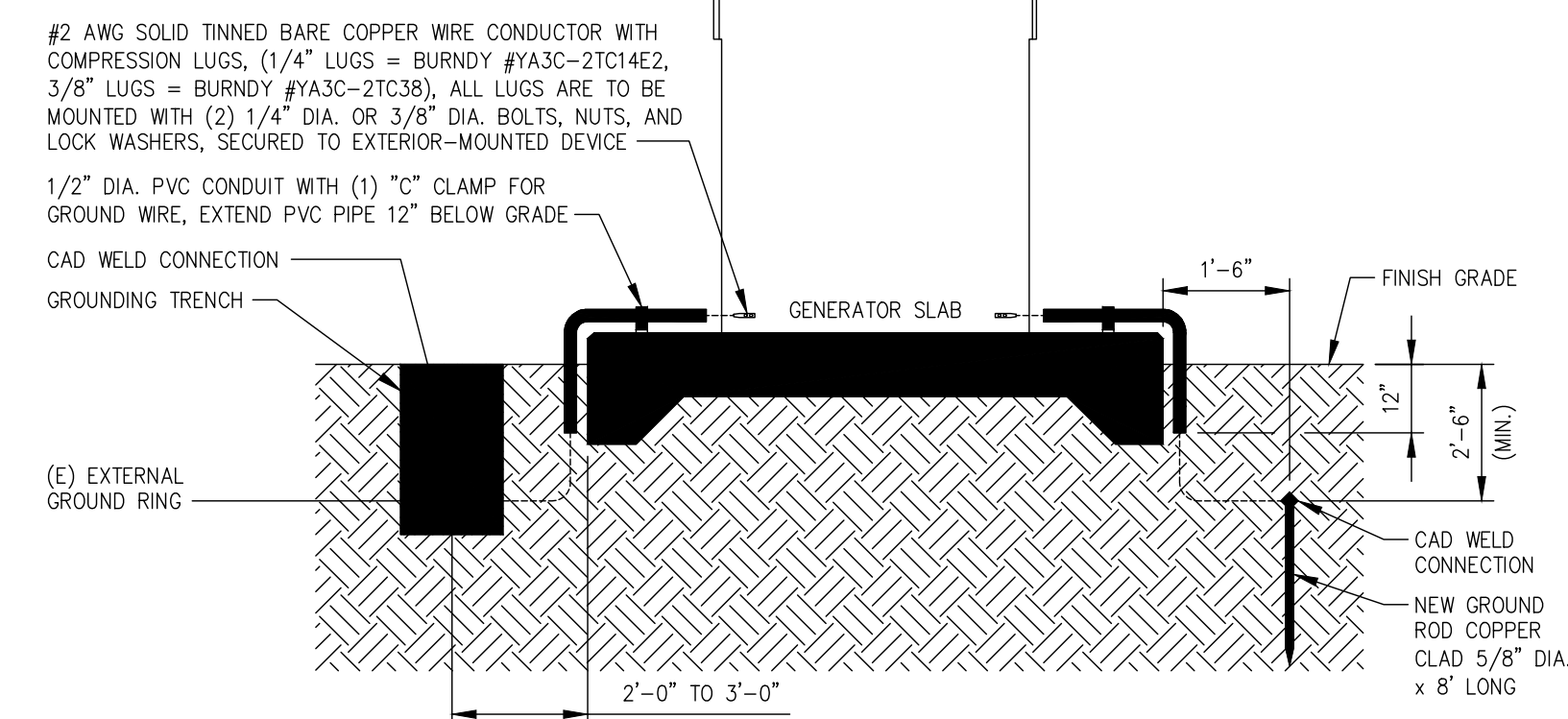
NOTE: ATTACH CABINET TO PLINTH (PER MANUFACTURER SPECIFICATIONS) AND ANCHOR PLINTH TO CONCRETE PAD.

2 RF CABINET DETAIL
SCALE: NOT TO SCALE



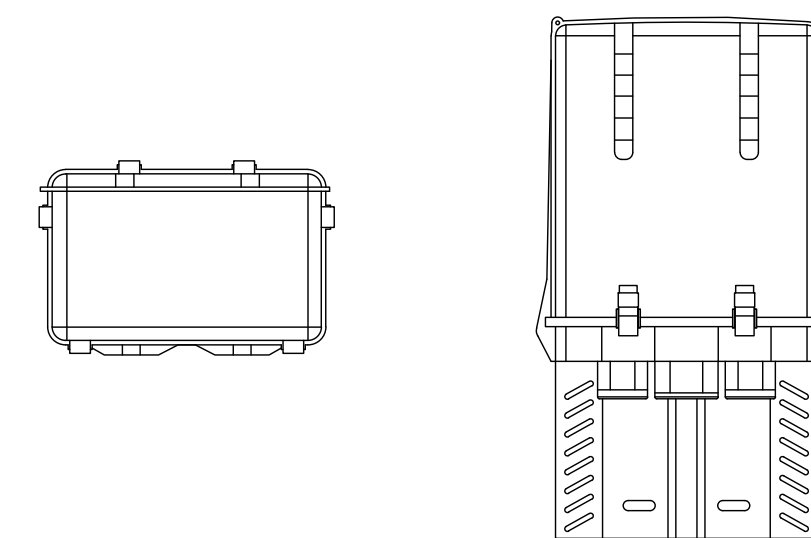
3 H-FRAME DETAIL
SCALE: NOT TO SCALE

NOTE: BEFORE MOUNTING LUGS TO ANY EXTERIOR EQUIPMENT, SURFACE PAINT IS TO BE STRIPPED AND DEOX IS TO BE APPLIED TO THE SURFACE



5 GENERATOR GROUNDING DETAIL (TYPICAL)
SCALE: NOT TO SCALE

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RAYCAP - RCMDC-3315-PF-48
WEIGHT (WITHOUT MOUNTING HARDWARE): 32.0 LBS
SIZE (HxWxD): 25.66x15.73x10.26 IN.

RATED WIND VELOCITY: 150 MPH (SUSTAINED)
OPERATING TEMPERATURE: -40° C TO +80° C
NOMINAL OPERATING DC VOLTAGE: 48 VDC

6 RAYCAP - RCMDC-3315-PF-48
SCALE: NOT TO SCALE

JURISDICTIONAL APPROVAL:

verizon
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

Trylon
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

VERIZON SITE NUMBER: 716127

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SHEET NUMBER:

C-6

REVISION:

2

4 NOT USED
SCALE: NOT TO SCALE

NOTE:

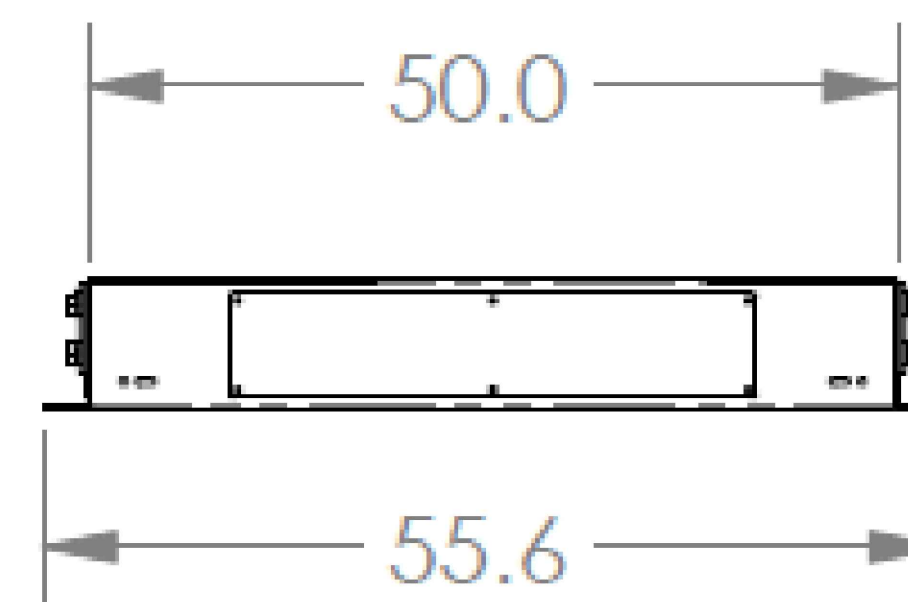
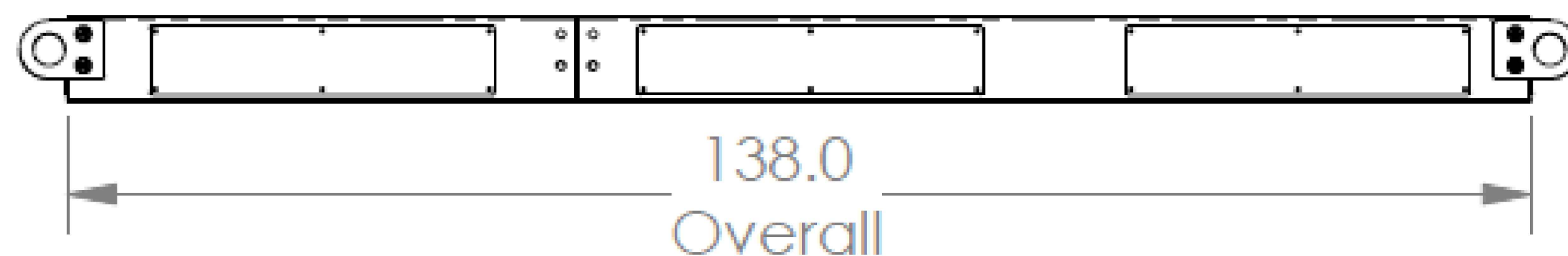
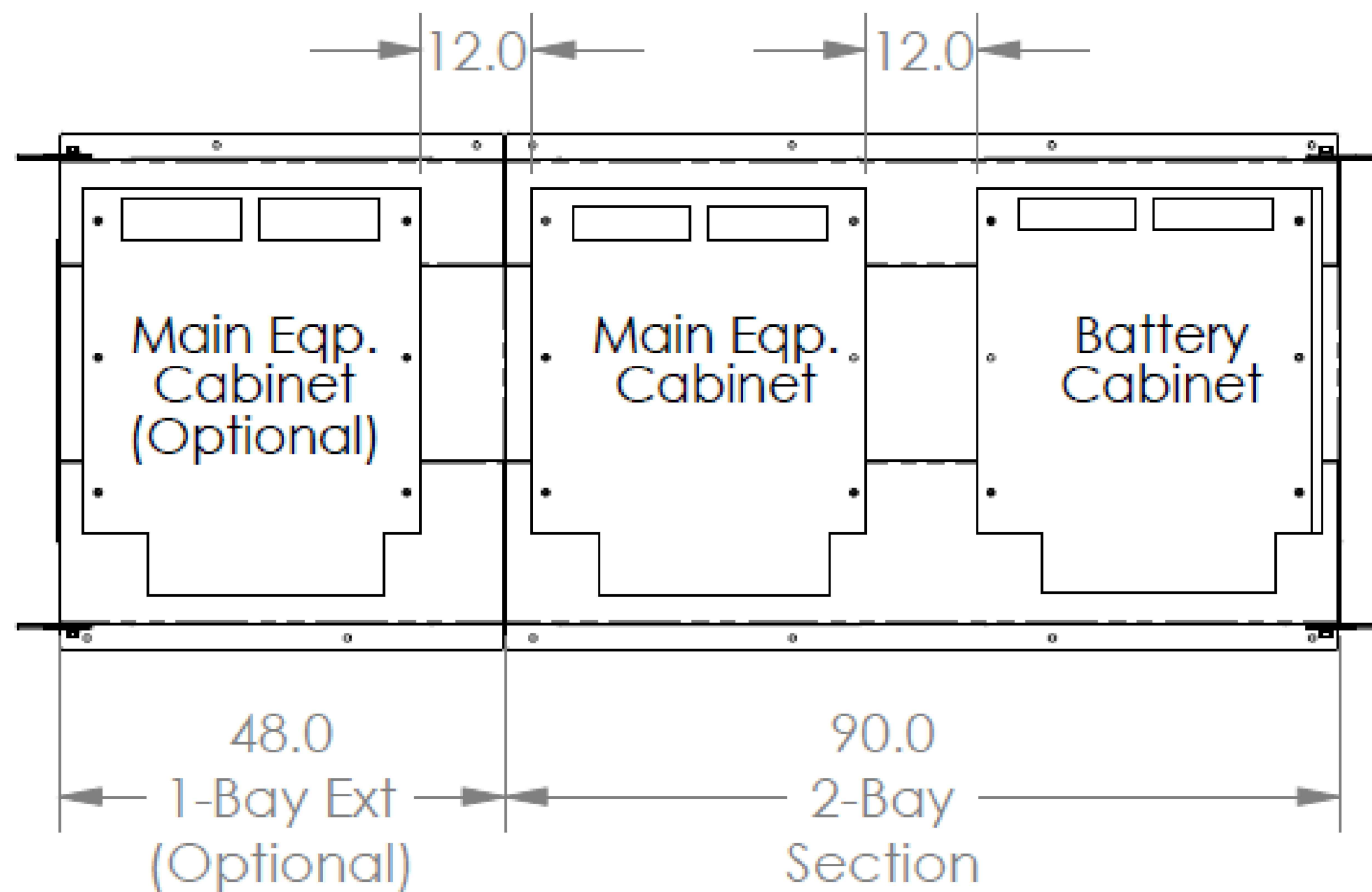
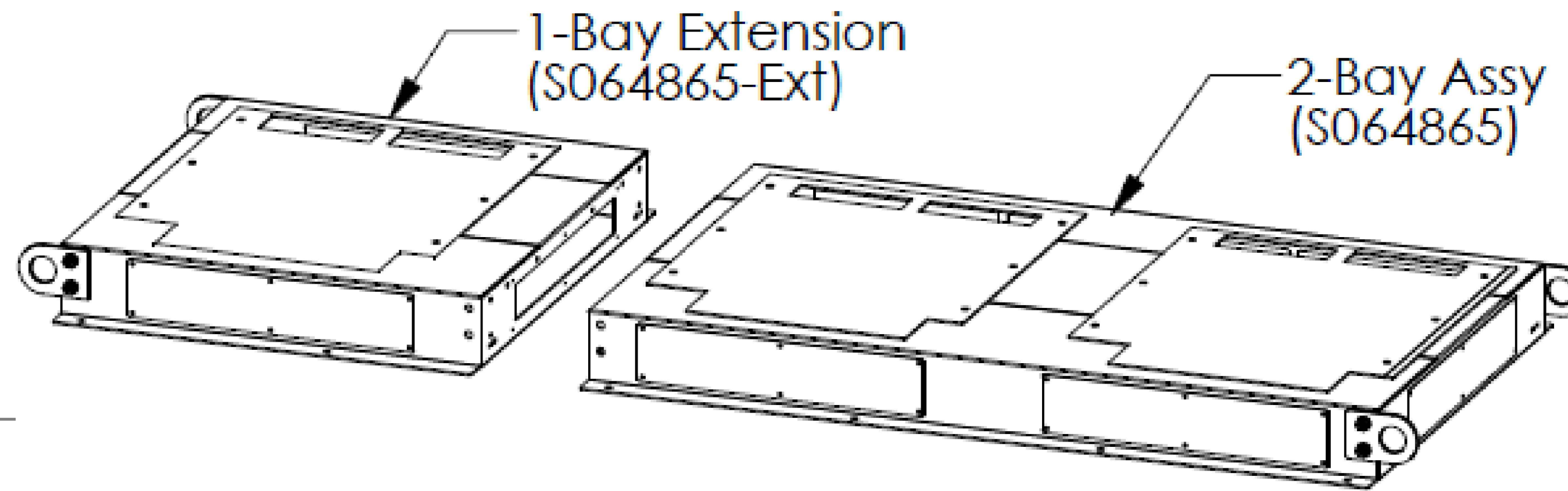
-Part Number **S064865** contains the 2 Bay Assy

-Part Number **S064865-EXT** contains the 2 Bay Assy
PLUS the 1-Bay Extension

NAME: Commscope Plinth w/ Extension Assy

DWG: S064865-Ext

MDT 2/23/2021



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 BEDMINSTER, NJ 07921

CROWN CASTLE
 1200 MACARTHUR BLVD, SUITE 200
 MAHWAH, NJ 07430

Trylon
 1825 W. WALNUT HILL LANE, SUITE 120
 IRVING, TEXAS 75038

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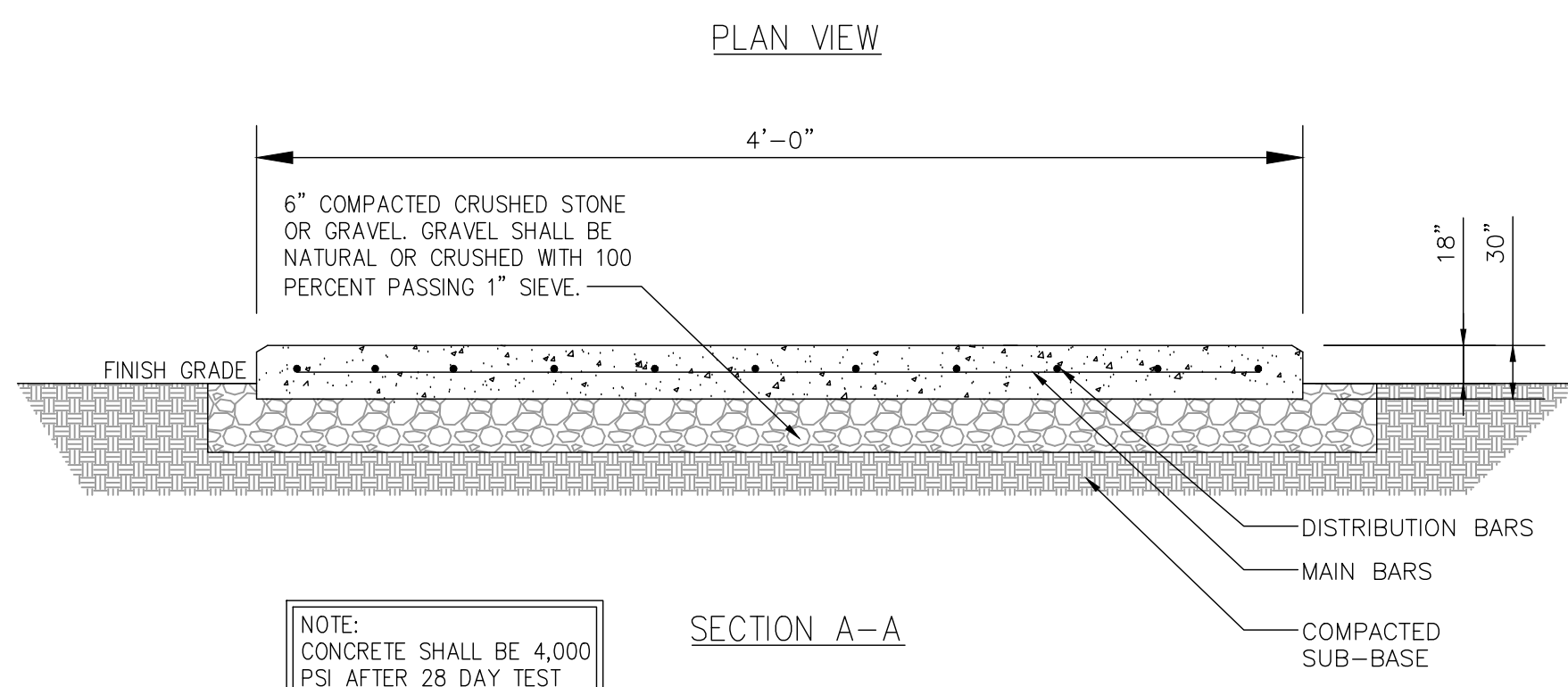
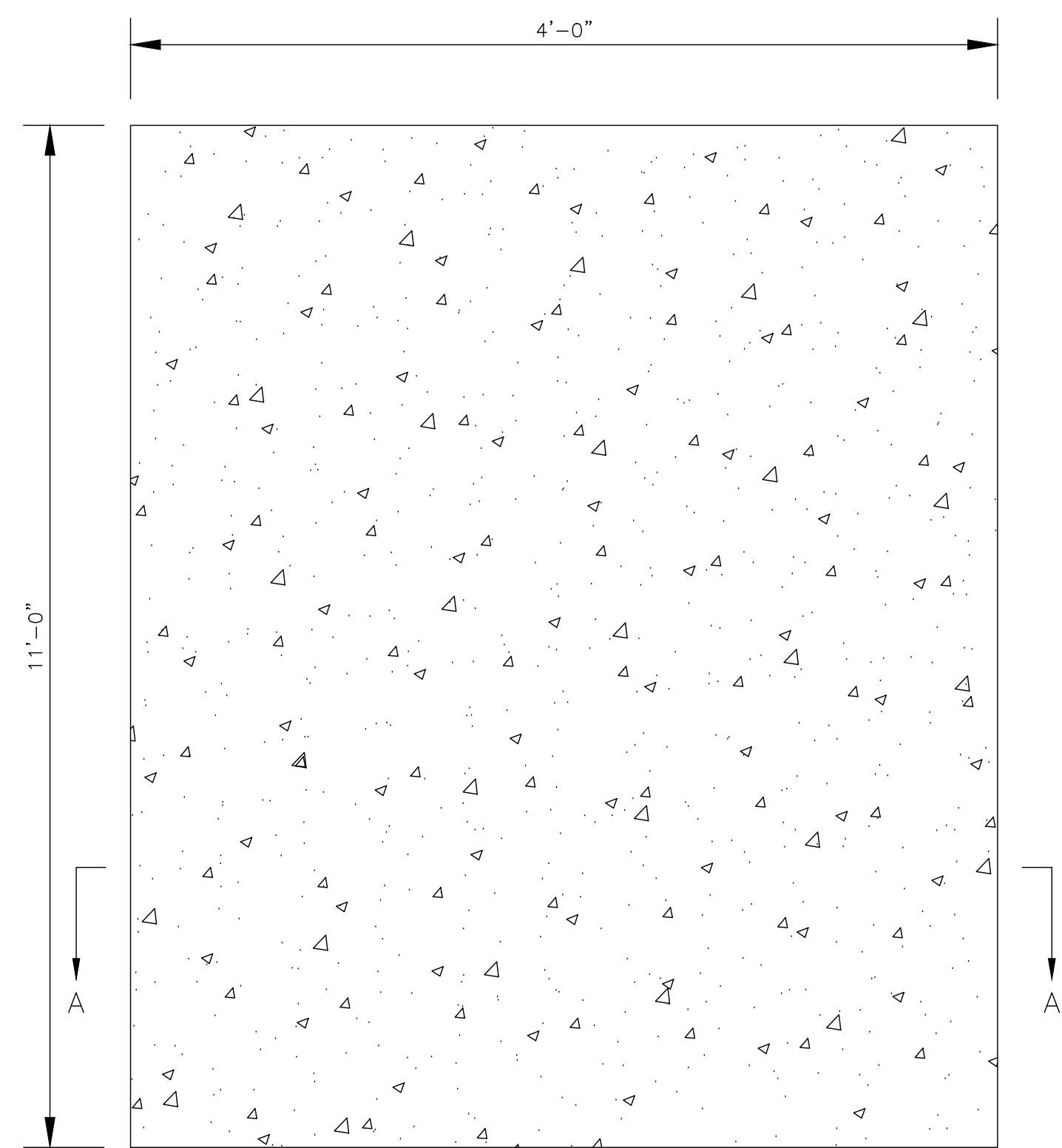
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SHEET NUMBER: **C-7** REVISION: **2**

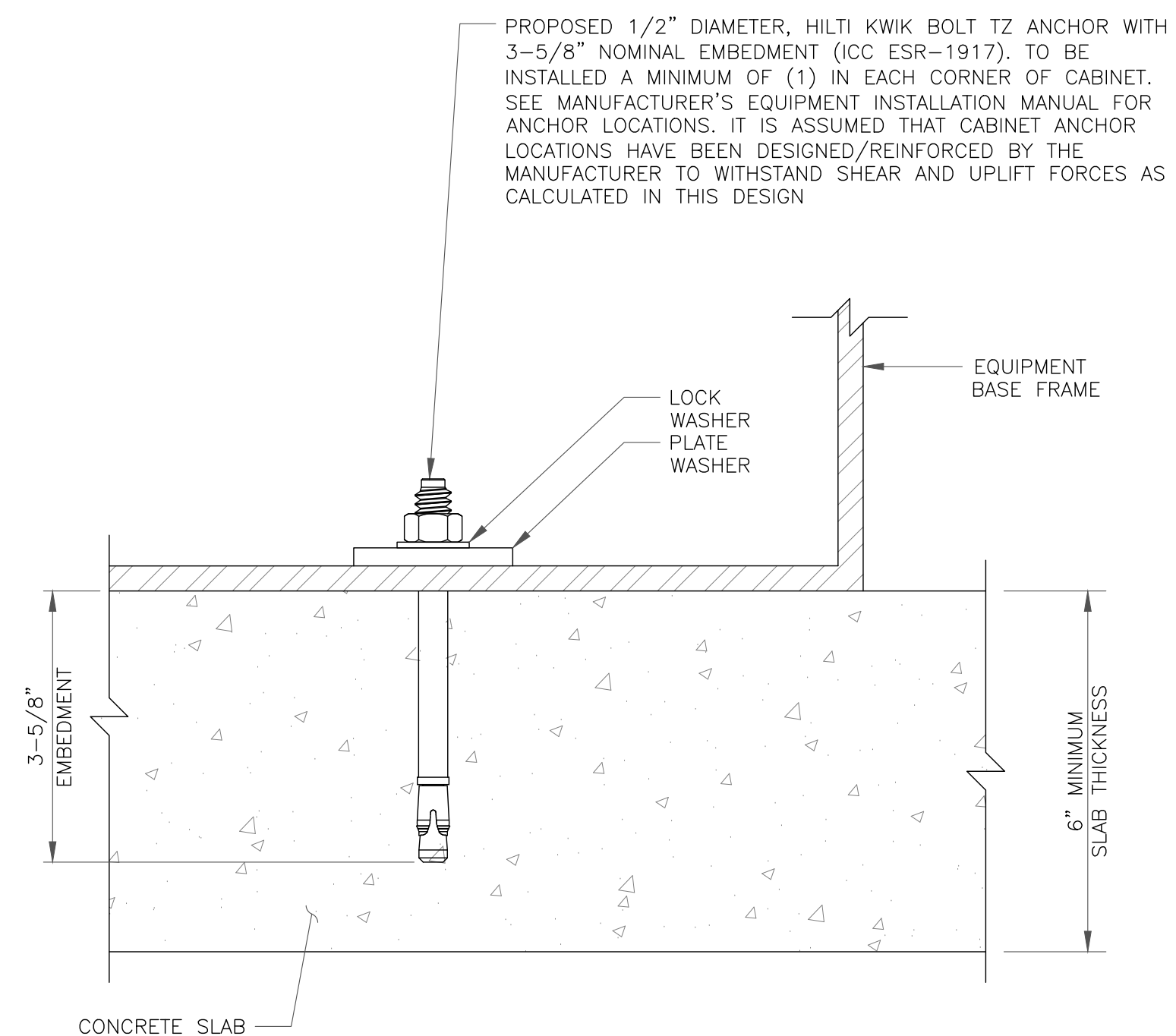
1 PLINTH
SCALE: NOT TO SCALE



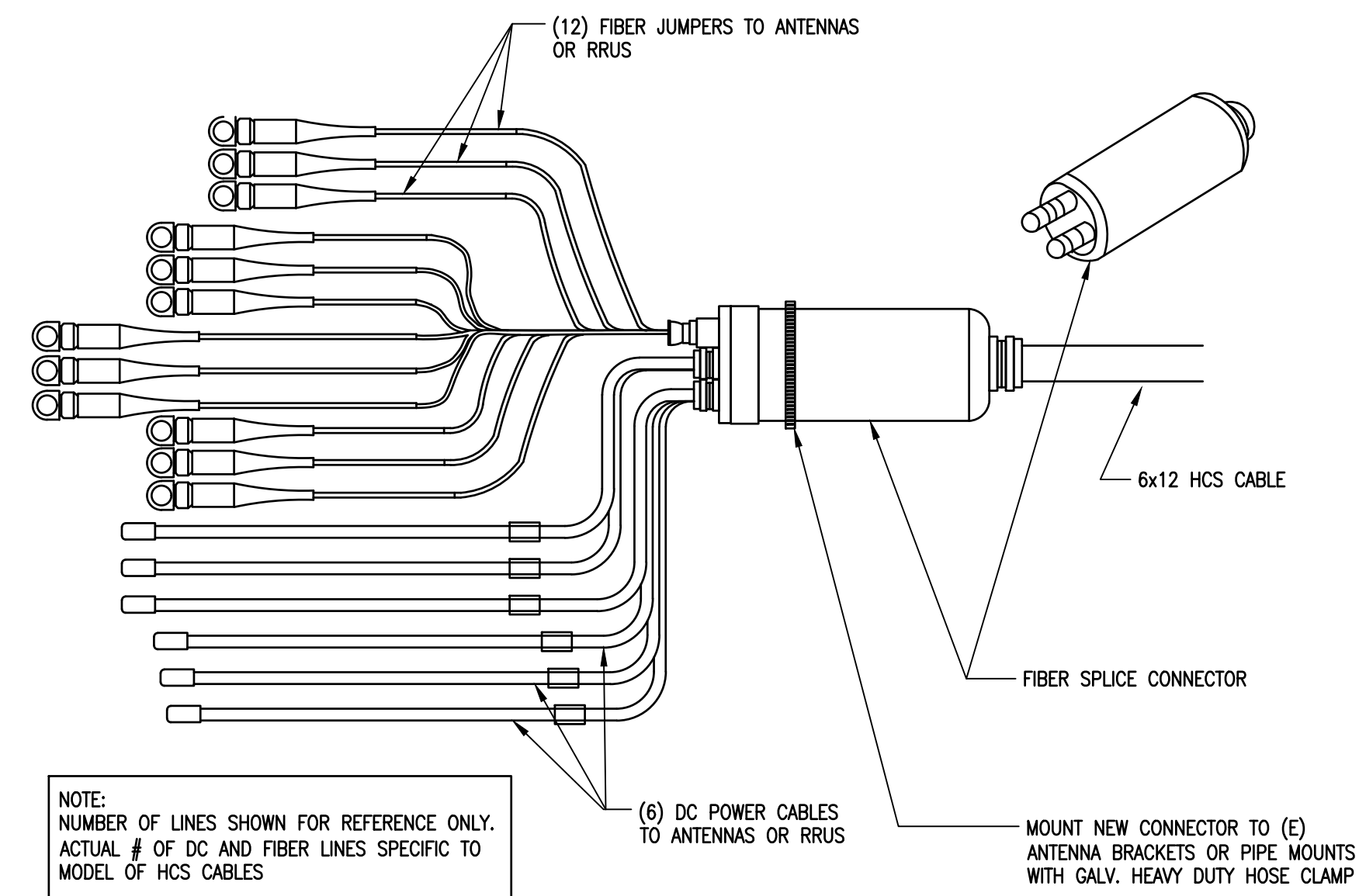
NOTE: CONCRETE SHALL BE 4,000 PSI AFTER 28 DAY TEST

1 CONCRETE PAD DETAIL
SCALE: NOT TO SCALE

2 NOT USED
SCALE: NOT TO SCALE



3 CABINET ANCHOR DETAIL
SCALE: NOT TO SCALE



NOTE: NUMBER OF LINES SHOWN FOR REFERENCE ONLY. ACTUAL # OF DC AND FIBER LINES SPECIFIC TO MODEL OF HCS CABLES

4 HYBRID CABLE
SCALE: NOT TO SCALE

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verizon
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

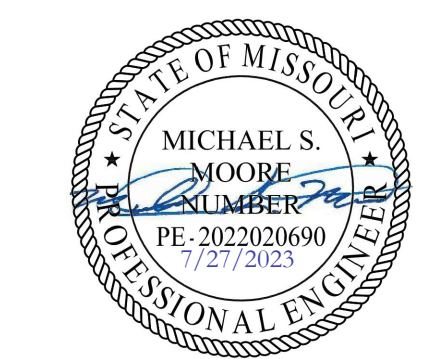
Trylon
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

VERIZON SITE NUMBER: 716127

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EXISTING 180'-0" MONOPOLE

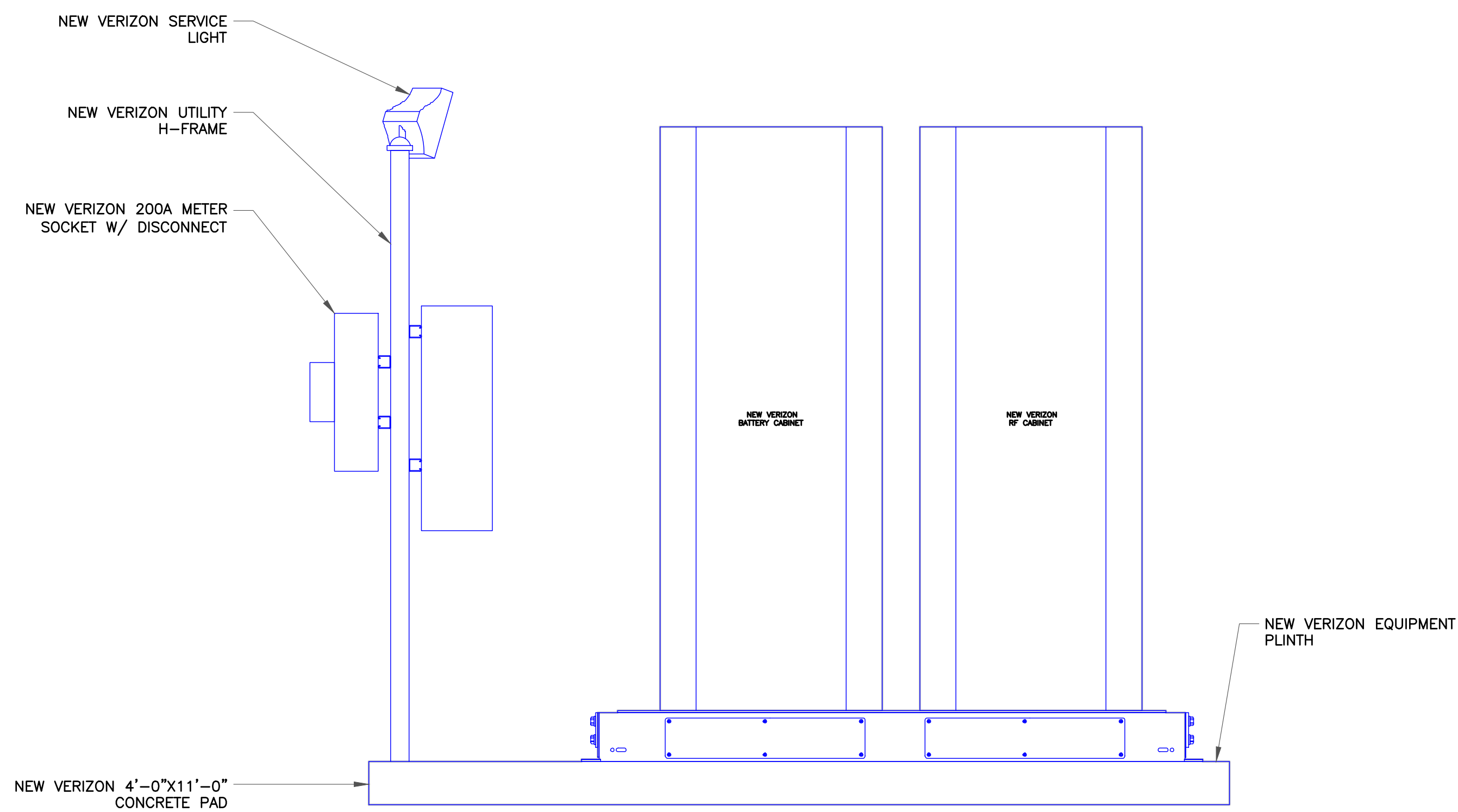
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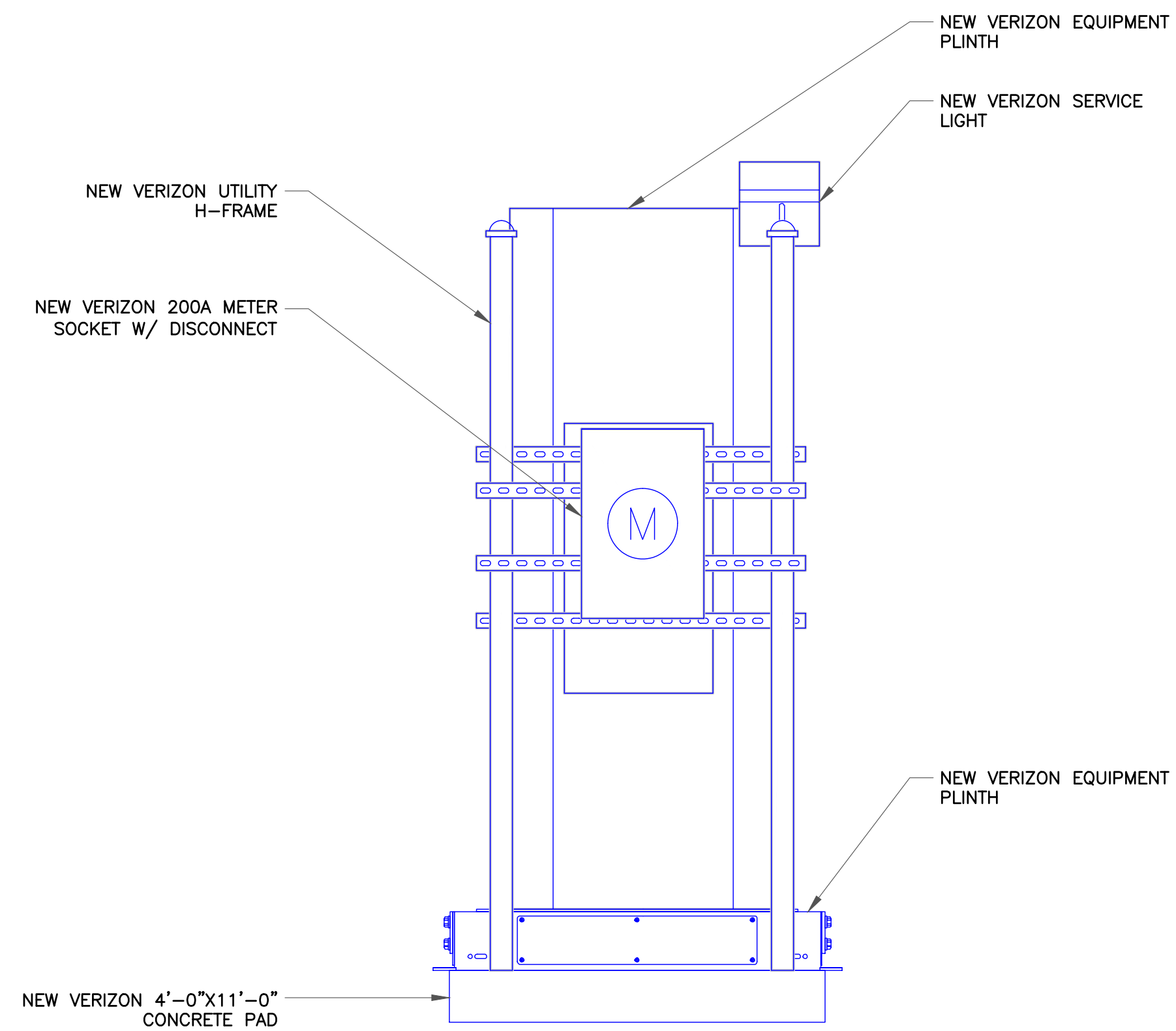


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SHEET NUMBER: **C-8** REVISION: **2**



1 FRONT EQUIPMENT ELEVATION
SCALE: NOT TO SCALE



2 SIDE EQUIPMENT ELEVATION
SCALE: NOT TO SCALE

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verizon
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

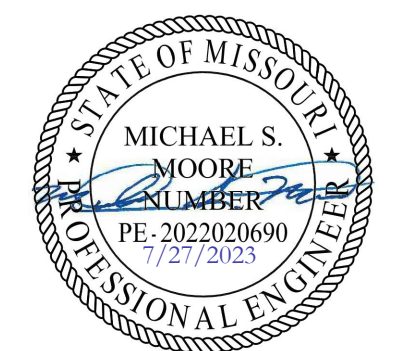
Trylon
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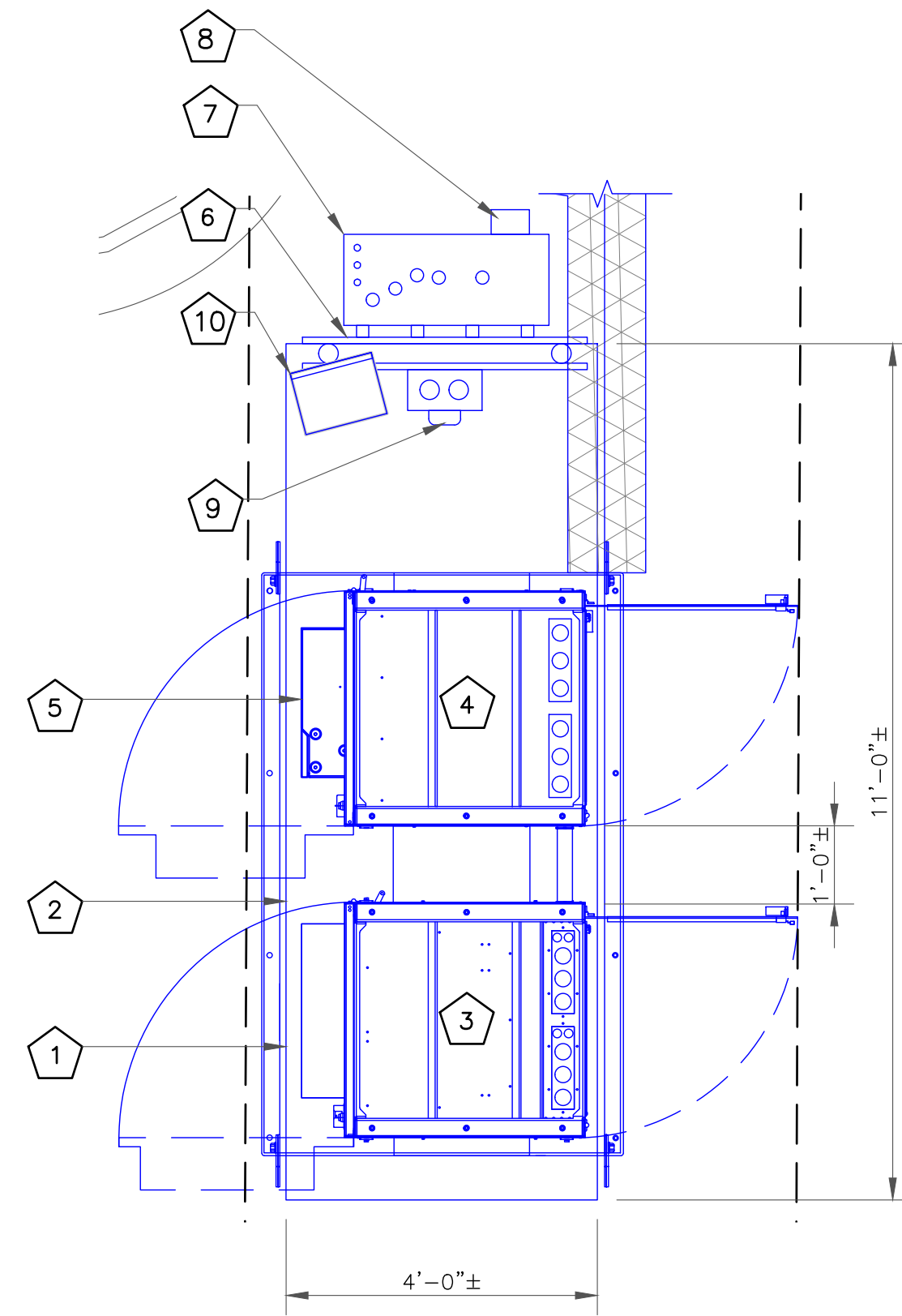
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SHEET NUMBER:
C-9

REVISION:
2

CODED DRAWING NOTES

- ① NEW VERIZON 11'-0"x4'-0" EQUIPMENT PAD
- ② NEW VERIZON EQUIPMENT PLINTH
- ③ NEW VERIZON RF CABINET
- ④ NEW VERIZON BATTERY CABINET
- ⑤ NEW VERIZON RACK MOUNTED OVP
- ⑥ NEW VERIZON EQUIPMENT H-FRAME
- ⑦ NEW VERIZON ILC CABINET
- ⑧ NEW VERIZON APPLETON PLUG ON NEW ILC CABINET
- ⑨ NEW VERIZON 200A METER SOCKET W/ DISCONNECT
- ⑩ NEW VERIZON SERVICE LIGHTS

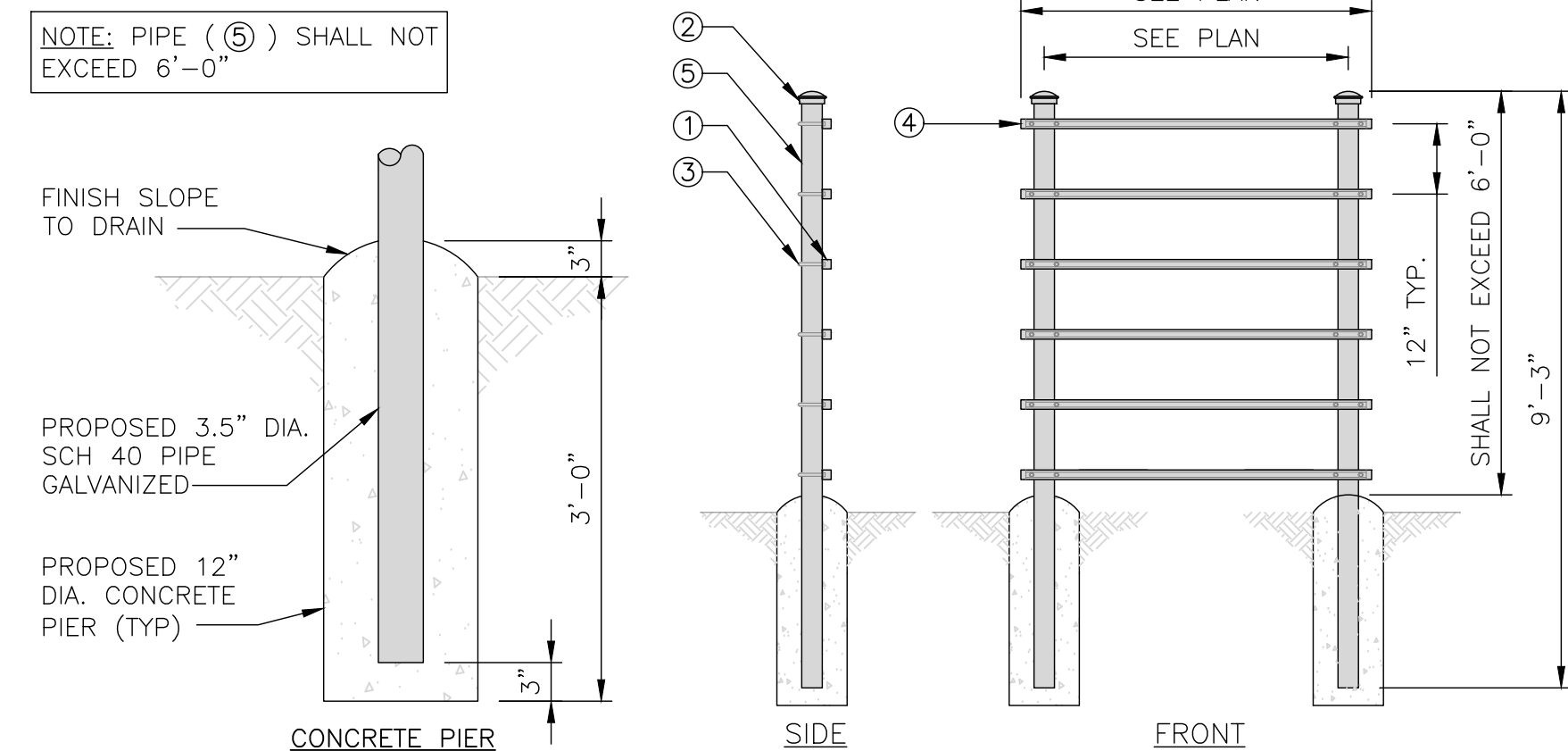


① EQUIPMENT LAYOUT
SCALE: NOT TO SCALE

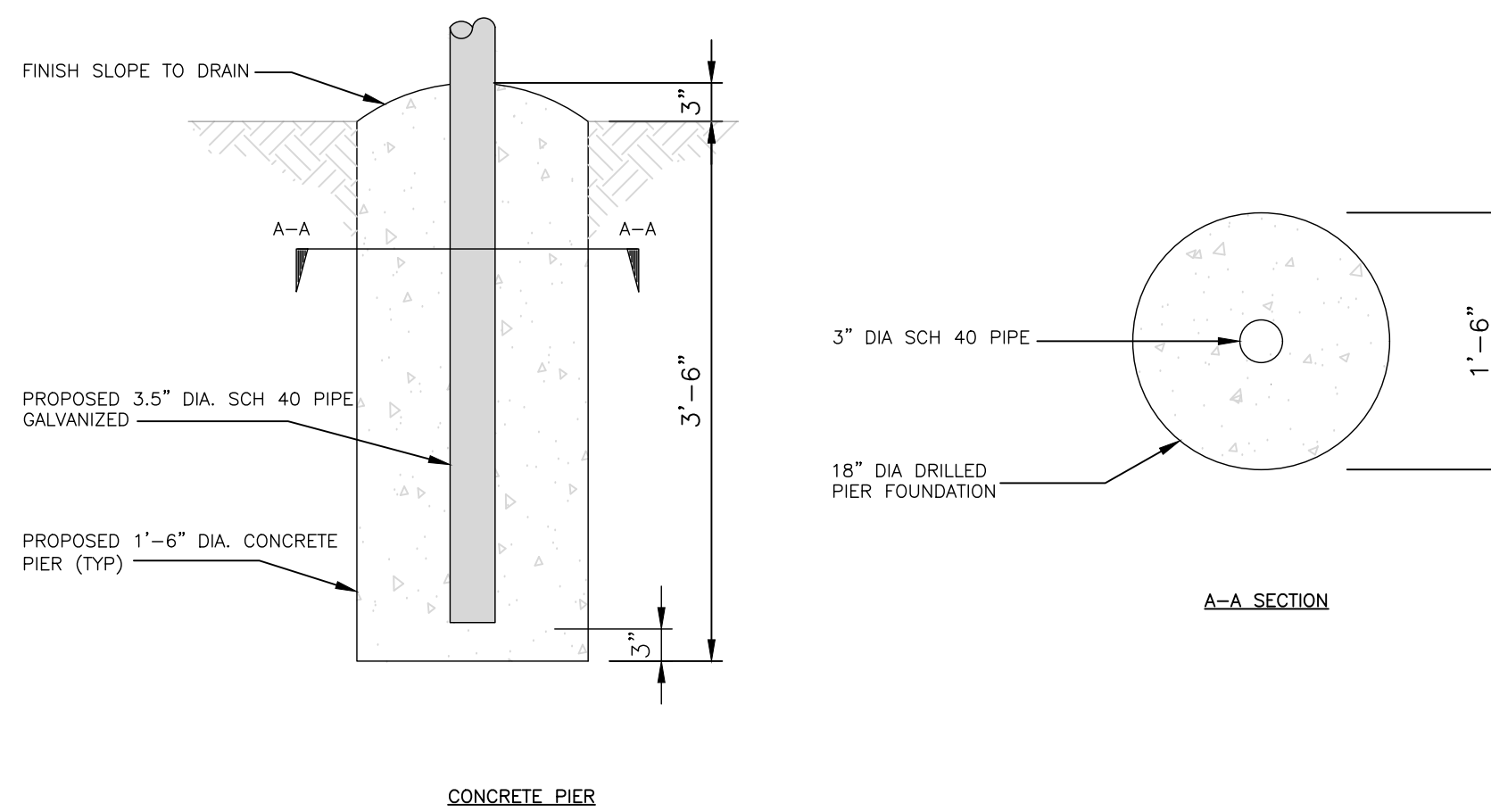
H-FRAME	
UNISTRUT/SUPPORT RAIL	6
WEIGHT	273

ITEM#	DESCRIPTION
1	UNISTRUT, 1-5/8"x1-5/8"x5", SLOTTED
2	PIPE CAP FOR 3.5" OD PIPE, HDG
3	U-BOLT KIT, 3.5" OD (1 U-BOLT)
4	END CAP, RED, 1-5/8" UNISTRUT
5	3.5" OD PIPE, 126" LONG

NOTE: PIPE (⑤) SHALL NOT EXCEED 6'-0"



② H-FRAME CONCRETE SLAB INSTALLATION DETAIL
SCALE: NOT TO SCALE



③ TYPICAL ICE BRIDGE DETAIL
SCALE: NOT TO SCALE

④ NOT USED
SCALE: NOT TO SCALE

JURISDICTIONAL APPROVAL:

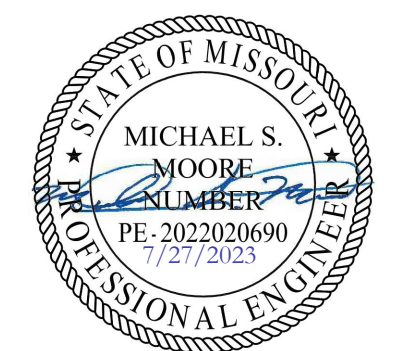


VERIZON SITE NUMBER: 716127

BU #: 877803
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SHEET NUMBER: C-10	REVISION: 2
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GENERAL ELECTRICAL NOTES:

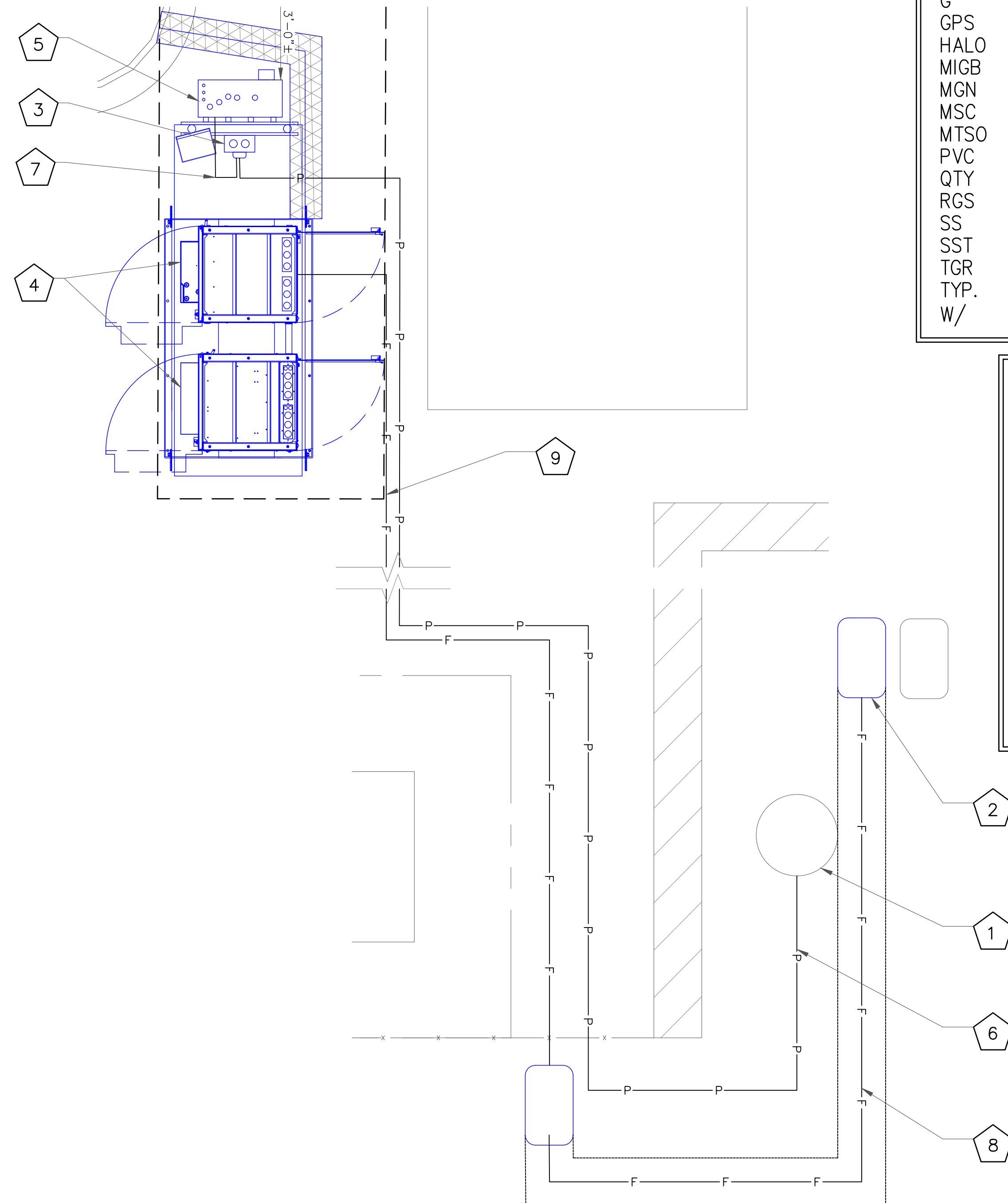
1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE AND ALL LOCAL AND STATE CODES, LAWS, AND ORDINANCES.
2. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 UNLESS OTHERWISE INDICATED. SUPPLY UTILITY MARKING TAPE BURIED 12" BELOW GRADE ALONG ENTIRE LENGTH OF UNDERGROUND CONDUITS.
3. ALL CONDUCTORS SHALL BE COPPER WITH THHN/THWN INSULATION. CONTROL CONDUCTORS SHALL BE STRANDED, POWER & LIGHTING CONDUCTORS SHALL BE SOLID FOR #10 & #12 CONDUCTORS AND STRANDED FOR ALL OTHER SIZES.
4. ELECTRICAL DRAWINGS ARE IN PART DIAGRAMMATIC. COORDINATE ELECTRICAL WORK WITH SITE CONDITIONS.
5. LOCATE ALL UNDERGROUND UTILITIES BEFORE TRENCHING. IF CONFLICTS ARISE, CONTACT UTILITY COMPANY AND ENGINEER IMMEDIATELY.
6. ALL EXPOSED CONDUITS SHALL HAVE WEATHERPROOF CAPS, NOT DUCT TAPE.
7. PROVIDE 200 LB TEST PULL WIRES IN EACH TELEPHONE AND POWER CONDUIT.
8. PULL BOXES SHALL BE INSTALLED AS NEEDED PER NEC UTILITY REQUIREMENTS.

CODED DRAWING NOTES:

- 1 EXISTING UTILITY POLE
- 2 NEW VERIZON FIBER HANDHOLE COVER SHALL BE STAMPED VERIZON
- 3 NEW VERIZON 200A METER SOCKET W/ DISCONNECT
- 4 NEW VERIZON CABINETS ON A NEW 11'-0"x4'-0" EQUIPMENT PAD
- 5 NEW VERIZON ILC CABINET ON NEW EQUIPMENT H-FRAME
- 6 EOR POWER - (1) 2" SCH. 40 PVC CONDUIT FOR POWER FROM EXISTING UTILITY POLE TO NEW VERIZON 200A METER SOCKET W/ DISCONNECT
- 7 (1) 4" SCH. 40 PVC CONDUIT FROM NEW VERIZON 200A METER SOCKET W/ DISCONNECT TO NEW ILC CABINET
- 8 EOR TELCO - (1) 4" SCH 40 PVC CONDUIT WITH (3) 1" INNERDUCTS, MULE TAPE AND TRACE WIRE FOR FIBER BETWEEN THE (2) NEW FIBER HANDHOLES (PENDING COORDINATION WITH LOCAL UTILITY COMPANY)
- 9 EOR TELCO - (1) 2" SCH 40 PVC CONDUIT WITH MULE TAPE FOR FIBER FROM THE NEW FIBER HANDHOLE TO THE EQUIPMENT CABINET.

NOTE:
ICE BRIDGE NOT SHOWN FOR CLARITY.

NOTE:
CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. COORDINATE LOCATION OF ALL PROPOSED DIGGING & UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.



1 OVERALL CONDUIT LAYOUT
SCALE: NOT TO SCALE

ABBREVIATIONS:

&	AND
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
BTS	BARE TINNED STRANDED
C	CONDUIT
CAB	CABINET
CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
DLO	DIESEL LOCOMOTIVE CABLE
DWG	DRAWING
EGR	EXTERIOR GROUND RING
EIGB	EXTERIOR ISOLATED GROUND BAR
G	GROUND
GPS	GLOBAL POSITIONING SYSTEM
HALO	INTERIOR GROUND RING
MIGB	MAIN ISOLATED GROUND BAR
MGN	MULTI-GROUNDED NEUTRAL
MSC	MOBILE SWITCHING CENTER
MTSO	MOBILE TELEPHONE SWITCHING OFFICE
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RGS	RIGID GALVANIZED STEEL
SS	STAINLESS STEEL
SST	SELF SUPPORT TOWER
TGR	TOWER GROUND RING
TYP.	TYPICAL
W/	WITH

ELECTRICAL SYMBOLS:

⌀	RECEPTACLE
— P — P —	BURIED POWER CONDUIT
— T — T —	BURIED TELCO CONDUIT
(M)	ELECTRICAL METER
#	INDICATES CODED NUMBER
□	SAFETY SWITCH
⊗	UTILITY POLE

JURISDICTIONAL APPROVAL:

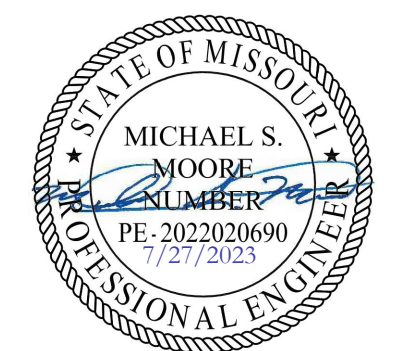


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SHEET NUMBER: **E-1** REVISION: **2**

CODED DRAWING NOTES:

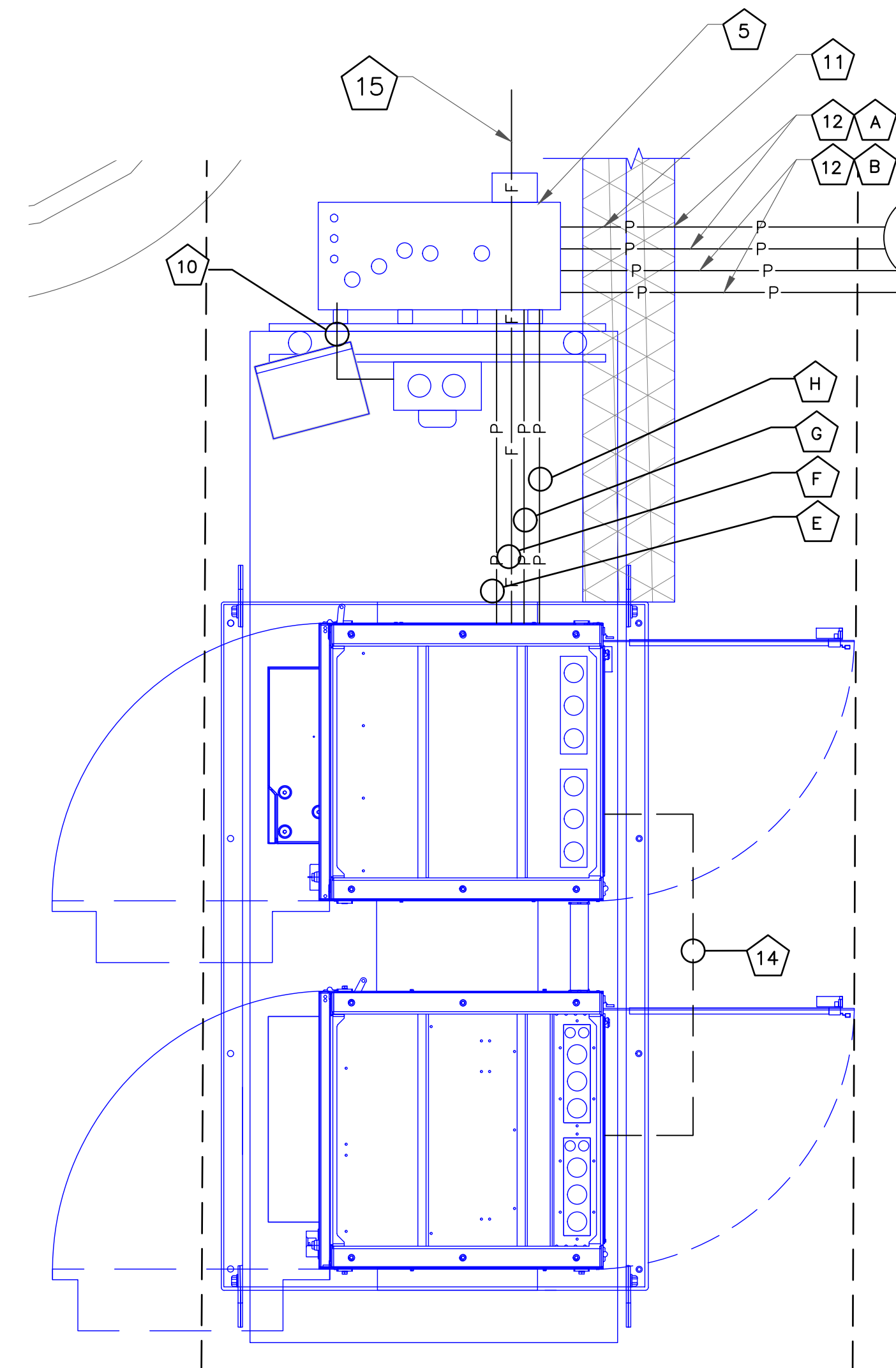
- 1 EXISTING UTILITY POLE
- 2 NEW VERIZON FIBER HANDHOLE (MEET ME POINT)
- 3 NEW VERIZON 200A METER SOCKET W/ DISCONNECT
- 4 NEW VERIZON CABINETS ON A NEW 4'-0"x11'-0" EQUIPMENT PAD
- 5 NEW VERIZON ILC CABINET ON NEW EQUIPMENT H-FRAME
- 6 FOR POWER - (1) 2" SCH. 40 PVC CONDUIT FOR POWER FROM EXISTING UTILITY POLE TO NEW VERIZON 200A METER SOCKET W/ DISCONNECT
- 7 (1) 4" SCH. 40 PVC CONDUIT FROM NEW VERIZON 200A METER SOCKET W/ DISCONNECT TO NEW ILC CABINET
- 8 FOR TELCO - (1) 4" GRC OR LIQUDTIGHT CONDUIT FOR FIBER FROM NEW FIBER HANDHOLE TO NEW VERIZON BBU CABINET (PENDING COORDINATION WITH LOCAL UTILITY COMPANY)
- 9 FOR POWER - (1) 2" SCH. 40 PVC CONDUIT FROM EXISTING UTILITY POLE (NOT SHOWN) TO PROPOSED VERIZON METER/DISCONNECT SWITCH (NOT SHOWN) (PENDING COORDINATION WITH LOCAL UTILITY COMPANY)
- 10 (1) 4" SCH. 40 PVC CONDUIT FROM PROPOSED ELECTRIC METER/DISCONNECT SWITCH (NOT SHOWN) TO PROPOSED ILC CABINET
- 11 (1) 1" SCH. 40 PVC CONDUIT FOR ALARMS FROM PROPOSED VERIZON ILC CABINET TO PROPOSED VERIZON BACKUP GENERATOR (CONTRACTOR TO SUPPLY SIZE/QTY CONDUCTORS PER MANUFACTURER SPECIFICATIONS)
- 12 (1) 2" SCH. 40 PVC CONDUIT FOR POWER FROM PROPOSED VERIZON ILC CABINET TO PROPOSED VERIZON BACKUP GENERATOR (CONTRACTOR TO SUPPLY SIZE/1TY CONDUCTORS PER MANUFACTURER SPECIFICATIONS)
- 13 (1) 2" SCH 40 PVC CONDUIT FROM PROPOSED VERIZON ILC CABINET TO PROPOSED VERIZON POWER DISTRIBUTION CABINET (CONTRACTOR TO SUPPLY SIZE/QTY CONDUCTORS PER MANUFACTURER SPECIFICATIONS)
- 14 (1) 2" GRC OR LIQUDTIGHT CONDUIT FROM PROPOSED VERIZON POWER DISTRIBUTION CABINET TO PROPOSED VERIZON BBU CABINET
- 15 FOR TELCO - (1) 2" SCH 40 PVC CONDUIT WITH MULE TAPE FOR FIBER FROM THE NEW FIBER HANDHOLE TO THE EQUIPMENT CABINET.

NOTE:
ICE BRIDGE NOT SHOWN FOR CLARITY.

NOTE:
CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. COORDINATE LOCATION OF ALL PROPOSED DIGGING & UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.

GENERAL ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE AND ALL LOCAL AND STATE CODES, LAWS, AND ORDINANCES.
2. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 UNLESS OTHERWISE INDICATED. SUPPLY UTILITY MARKING TAPE BURIED 12" BELOW GRADE ALONG ENTIRE LENGTH OF UNDERGROUND CONDUITS.
3. ALL CONDUCTORS SHALL BE COPPER WITH THHN/THWN INSULATION. CONTROL CONDUCTORS SHALL BE STRANDED, POWER & LIGHTING CONDUCTORS SHALL BE SOLID FOR #10 & #12 CONDUCTORS AND STRANDED FOR ALL OTHER SIZES.
4. ELECTRICAL DRAWINGS ARE IN PART DIAGRAMMATIC. COORDINATE ELECTRICAL WORK WITH SITE CONDITIONS.
5. LOCATE ALL UNDERGROUND UTILITIES BEFORE TRENCHING. IF CONFLICTS ARISE, CONTACT UTILITY COMPANY AND ENGINEER IMMEDIATELY.
6. ALL EXPOSED CONDUITS SHALL HAVE WEATHERPROOF CAPS, NOT DUCT TAPE.
7. PROVIDE 200 LB TEST PULL WIRES IN EACH TELEPHONE AND POWER CONDUIT.
8. PULL BOXES SHALL BE INSTALLED AS NEEDED PER NEC UTILITY REQUIREMENTS.



1 EQUIPMENT CONDUIT LAYOUT
SCALE: NOT TO SCALE

ABBREVIATIONS:

&	AND
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
BTS	BARE TINNED STRANDED
C	CONDUIT
CAB	CABINET
CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
DLO	DIESEL LOCOMOTIVE CABLE
DWG	DRAWING
EGR	EXTERIOR GROUND RING
EIGB	EXTERIOR ISOLATED GROUND BAR
G	GROUND
GPS	GLOBAL POSITIONING SYSTEM
HALO	INTERIOR GROUND RING
MGB	MAIN ISOLATED GROUND BAR
MGN	MULTI-GROUNDED NEUTRAL
MSC	MOBILE SWITCHING CENTER
MTSO	MOBILE TELEPHONE SWITCHING OFFICE
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RGS	RIGID GALVANIZED STEEL
SS	STAINLESS STEEL
SST	SELF SUPPORT TOWER
TGR	TOWER GROUND RING
TYP.	TYPICAL
W/	WITH

ELECTRICAL SYMBOLS:

⊕	RECEPTACLE
—P—P—	BURIED POWER CONDUIT
—T—T—	BURIED TELCO CONDUIT
(M)	ELECTRICAL METER
#	INDICATES CODED NUMBER
□	SAFETY SWITCH
⊘	UTILITY POLE

GENERATOR CONDUITS:

- A. (1) 2" CONDUIT (AC POWER) ILC TO GENERATOR
- B. (1) 1" CONDUIT WITH 2 #12 AC CIRCUITS (CHARGER AND HEATER) ILC TO GENERATOR
- C. (1) 1" CONDUIT WITH 1 #14 DC CIRCUIT (START/STOP) ILC TO GENERATOR
- D. (1) 1" CONDUIT WITH 2 CATS'S (1 TO THE TRANSFER SWITCH AND 1 TO THE GENERATOR) ILC TO GENERATOR

EQUIPMENT CABINET:

- E. (1) 2" CONDUIT (AC POWER) ILC TO EQUIPMENT CABINET/PLINTH
- F. (1) 2" CONDUIT (ALARMS) ILC TO EQUIPMENT CABINET/PLINTH
- G. (1) 2" CONDUIT (FUTURE) ILC TO EQUIPMENT CABINET/PLINTH
- H. (1) 3" CONDUIT (OR PER JURISDICTION) (MAIN POWER) METER TO ILC

RELEASED FOR CONSTRUCTION
As Noted on Plan Review

Development Services Department
Lee's Summit, Missouri
11/10/2023

JURISDICTIONAL APPROVAL:



VERIZON SITE NUMBER: 716127

BU #: 877803
KCYC LEES SUMMIT DT
207 SE DOUGLAS
LEE'S SUMMIT, MO 64063
EXISTING 180'-0" MONOPOLE

ISSUED FOR:

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SHEET NUMBER:

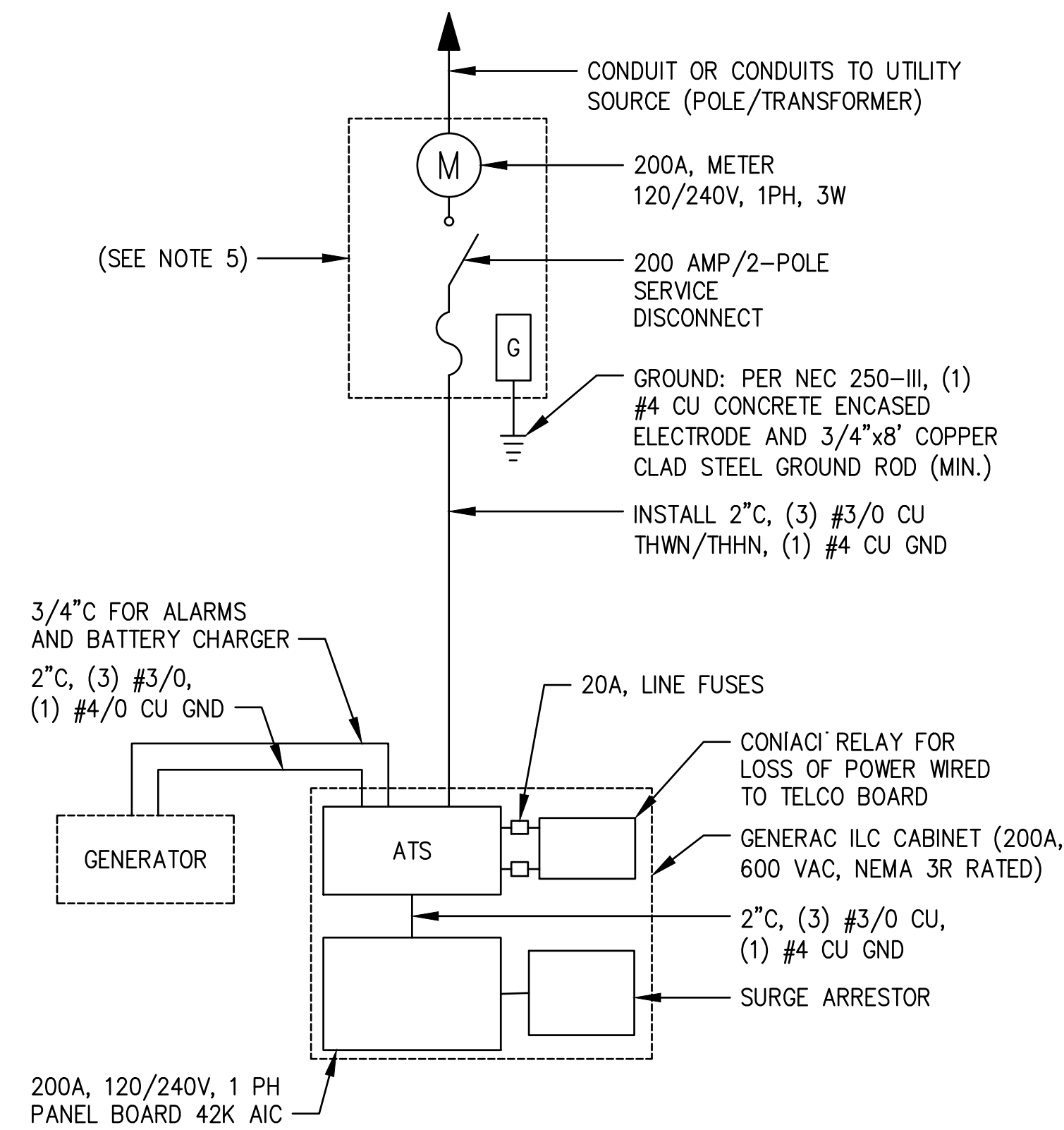
E-2

REVISION:

2

POWER NOTES:

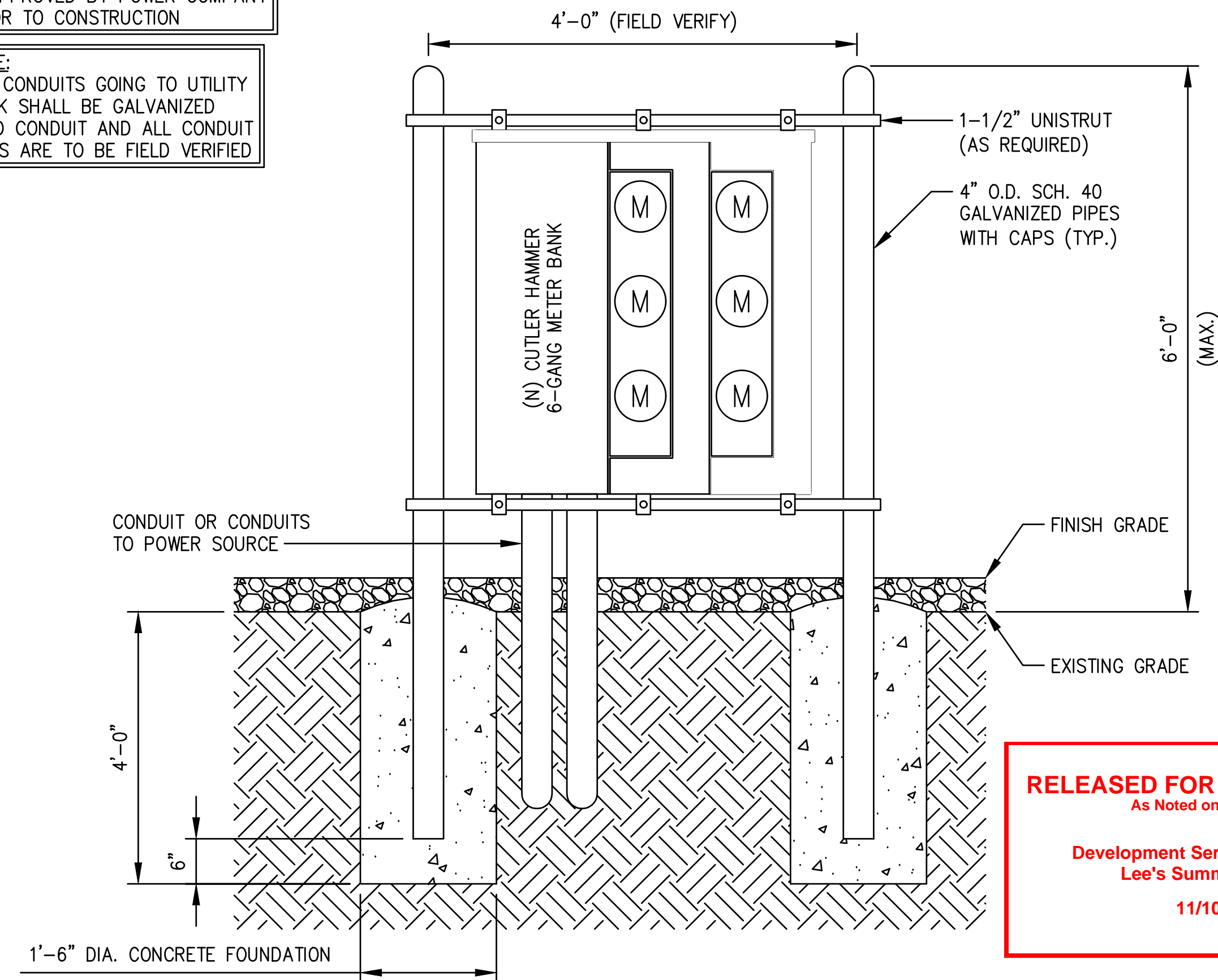
- (1) ALL SERVICE EQUIPMENT SHALL USE EUSERC/POWER COMPANY REQUIREMENTS AND BE REVIEWED & APPROVED BY POWER COMPANY PRIOR TO CONSTRUCTION.
- (2) ALL CONDUITS MUST BE COPPER UNLESS OTHERWISE SPECIFIED.
- (3) CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR FINAL AND EXACT WORK/MATERIALS REQUIREMENTS & CONSTRUCT TO UTILITY ENGINEERING PLANS & SPECIFICATIONS ONLY.
- (4) CONTRACTOR SHALL FURNISH AND INSTALL CONDUITS, PULL WIRES, CABLE PULL BOXES, CONCRETE ENCASEMENT OF CONDUITS, TRANSFORMER PAD, BARRIERS, POLE RISER TRENCHING, BACK FILL, PAY ALL UTILITY FEES, & INCLUDE REQUIREMENTS IN SCOPE
- (5) COMMERCIAL ELECTRICAL SERVICE COMBINATION METER AND MAIN DISCONNECT, 200A 120/240V, 1-PHASE, 3-WIRE, RING-TYPE, WITH TEST-PASS FACILITIES, 10K AIC, NEMA 3R ENCLOSURE
- (6) THE DESIGN CRITERIA USED FOR THIS PROJECT WAS THE 2014 NEC



1 ELECTRICAL ONE LINE DIAGRAM (TYPICAL)
SCALE: NOT TO SCALE

NOTE:
ALL SERVICE EQUIPMENT SHALL MEET POWER COMPANY REQUIREMENTS AND BE REVIEWED & APPROVED BY POWER COMPANY PRIOR TO CONSTRUCTION

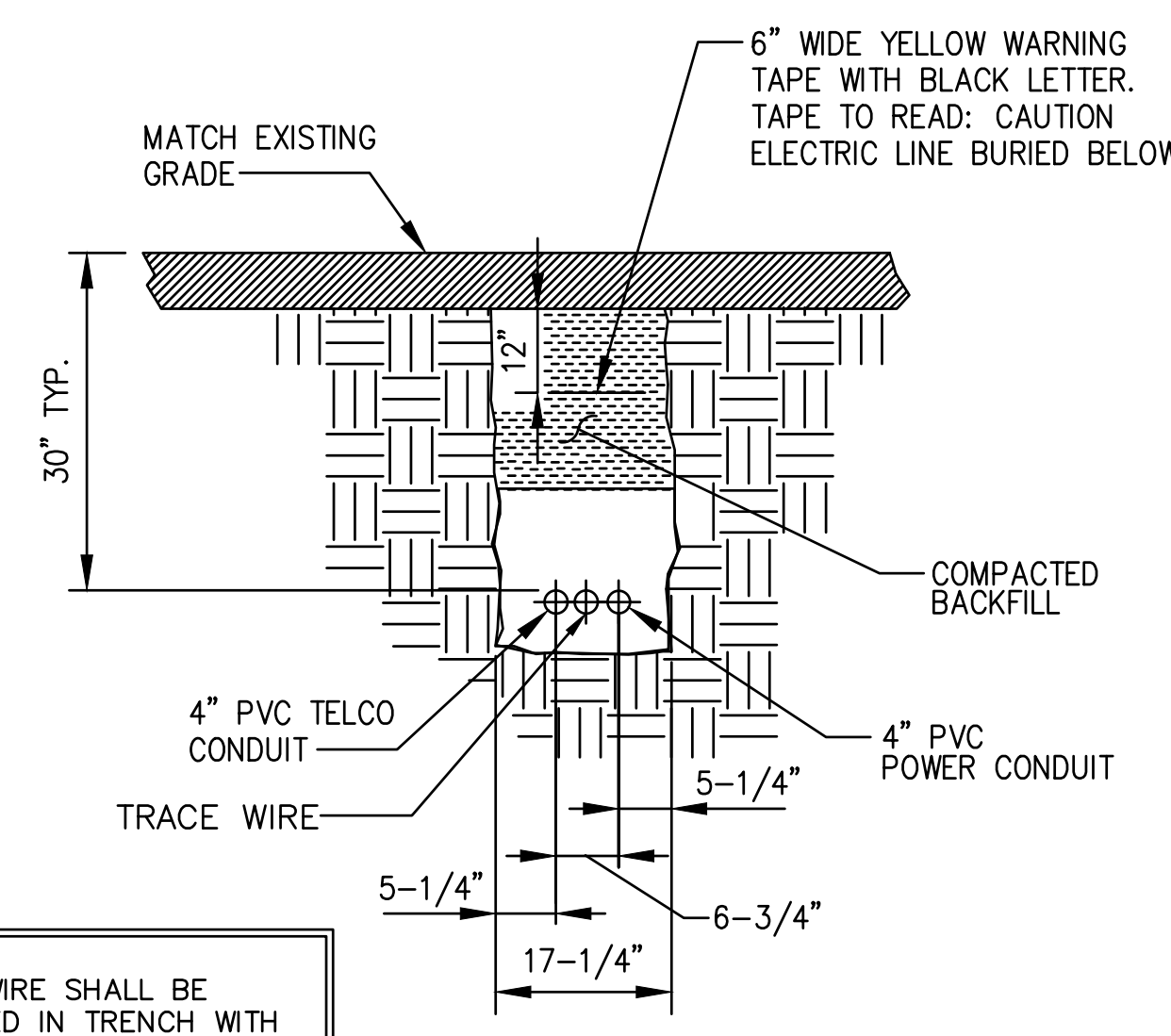
NOTE:
ALL CONDUITS GOING TO UTILITY RACK SHALL BE GALVANIZED RIGID CONDUIT AND ALL CONDUIT SIZES ARE TO BE FIELD VERIFIED



2 UTILITY H-FRAME DETAIL (TYPICAL)
SCALE: NOT TO SCALE

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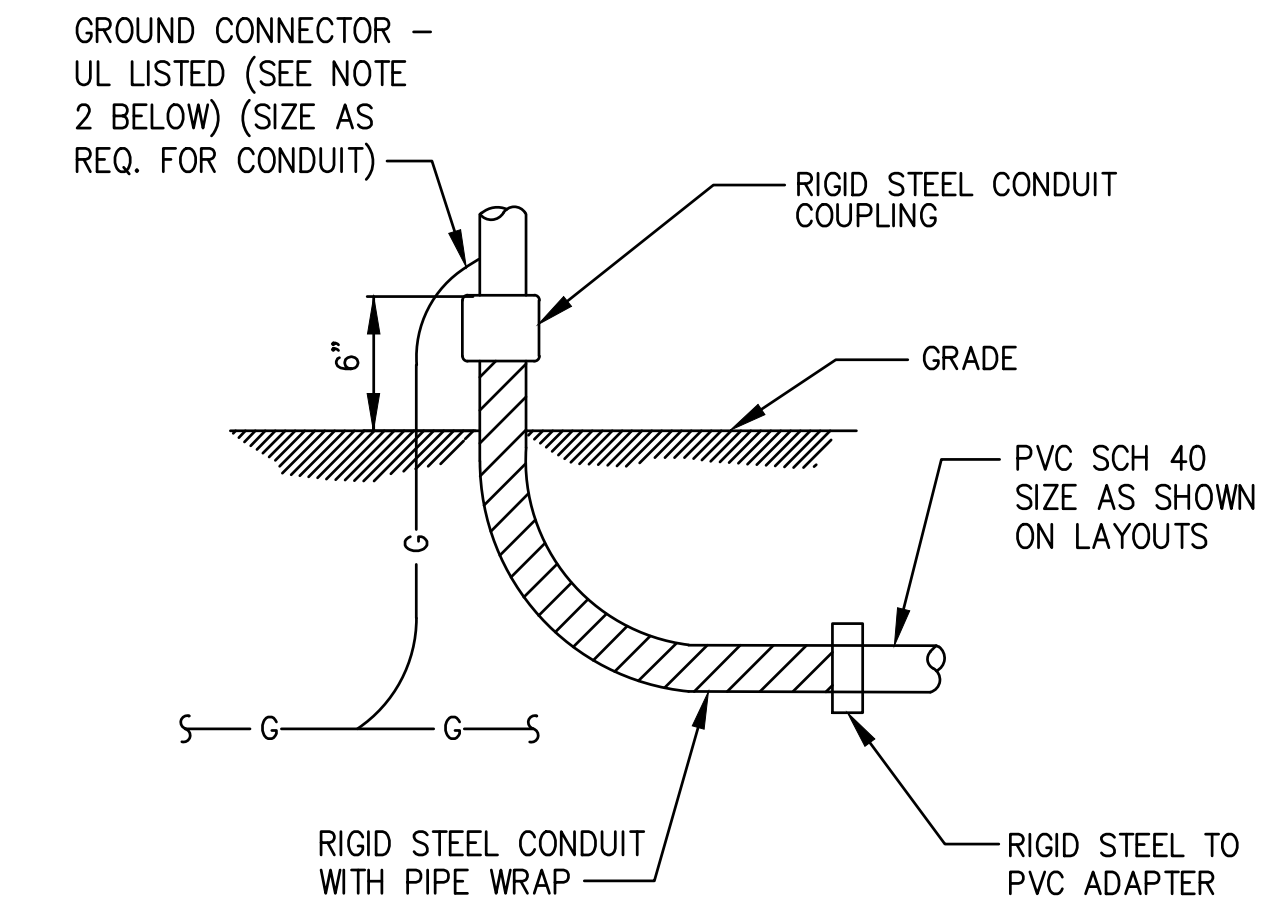
Development Services Department
Lee's Summit, Missouri
11/10/2023



NOTE:
TRACE WIRE SHALL BE INSTALLED IN TRENCH WITH THE FIBER / TELCO CONDUIT.

NOTE:
NUMBER AND SIZE OF CONDUITS MAY VARY. SEE DWG E-1 FOR CONDUIT SIZE AND LOCATION. CONFIRM DIMENSIONS SHOWN WITH UTILITY COMPANY.

3 CONDUIT TRENCH DETAILS
SCALE: NOT TO SCALE



- NOTES:
1. ALL CONDUIT ABOVE GRADE MUST BE RIGID STEEL OR LIQUIDTIGHT
 2. ALL NEW STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 G90 AFTER FABRICATION.
 3. FIELD ABRASIONS SHALL BE TOUCH UP PAINTED WITH ZINC RICH GALVANIZING REPAIR PAINT IN ACCORDANCE WITH ASTM A780.
 4. ALL EXPOSED ENDS OF CONDUITS SHALL HAVE WEATHER PROOF CAPS. DO NOT USE DUCT TAPE.
 5. PROVIDE 200LB. TEST PULL WIRES IN EACH TELEPHONE AND POWER CONDUIT. STUB CONDUITS INTO ENCLOSURE AND LABEL.

4 UNDERGROUND CONDUIT STUB-UP
SCALE: NOT TO SCALE

JURISDICTIONAL APPROVAL:

verizon
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

Trylon
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

VERIZON SITE NUMBER: 716127

BU #: 877803
KCYC LEES SUMMIT DT
207 SE DOUGLAS
LEE'S SUMMIT, MO 64063
EXISTING 180'-0" MONOPOLE

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2	07/27/2023	RC	FINAL	AMT

STATE OF MISSOURI
MICHAEL S. MOORE
LICENSE NUMBER
PE-2022020690
7/27/2023
PROFESSIONAL ENGINEER

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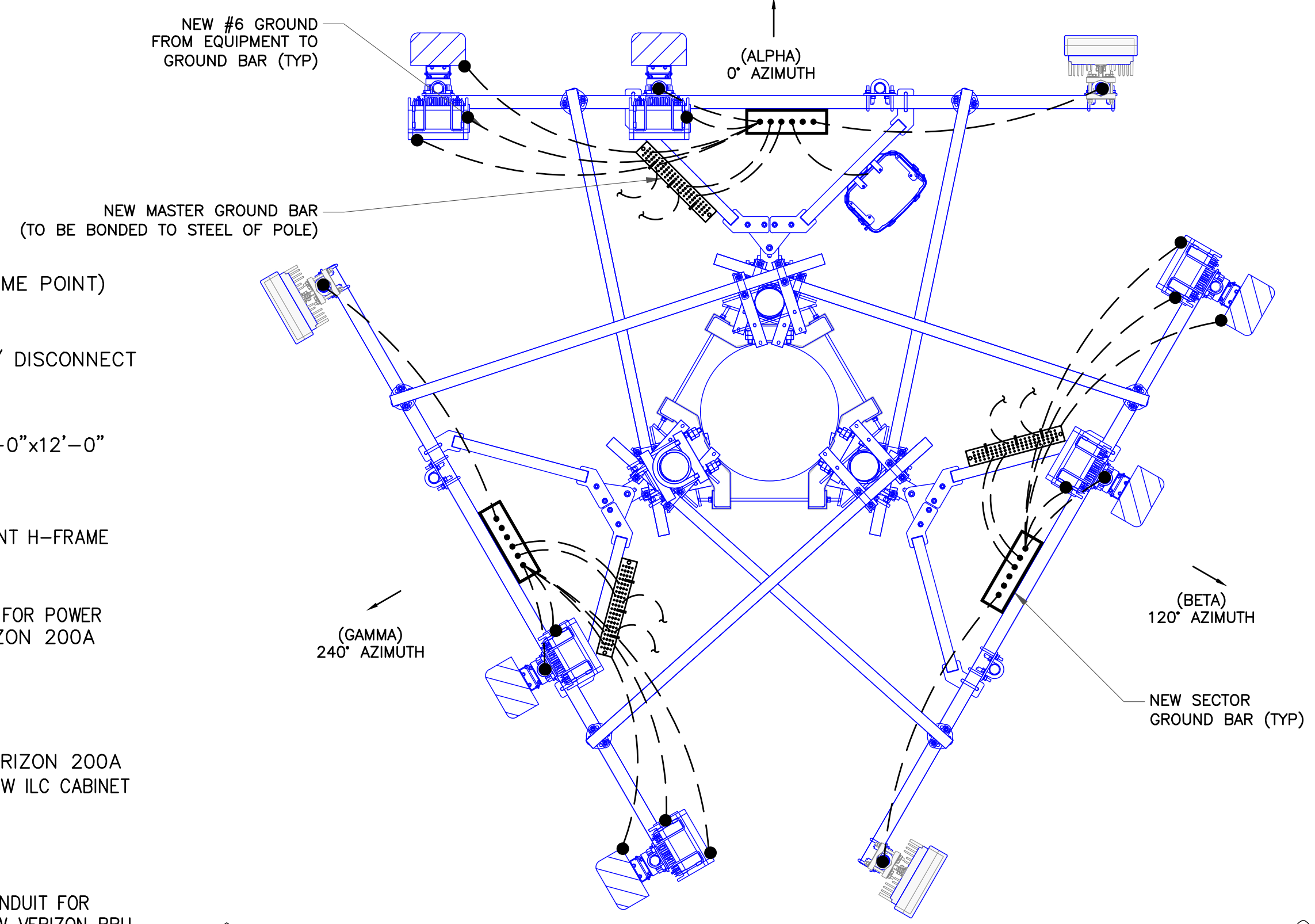
SHEET NUMBER: **E-3** REVISION: **2**

CODED DRAWING NOTES:

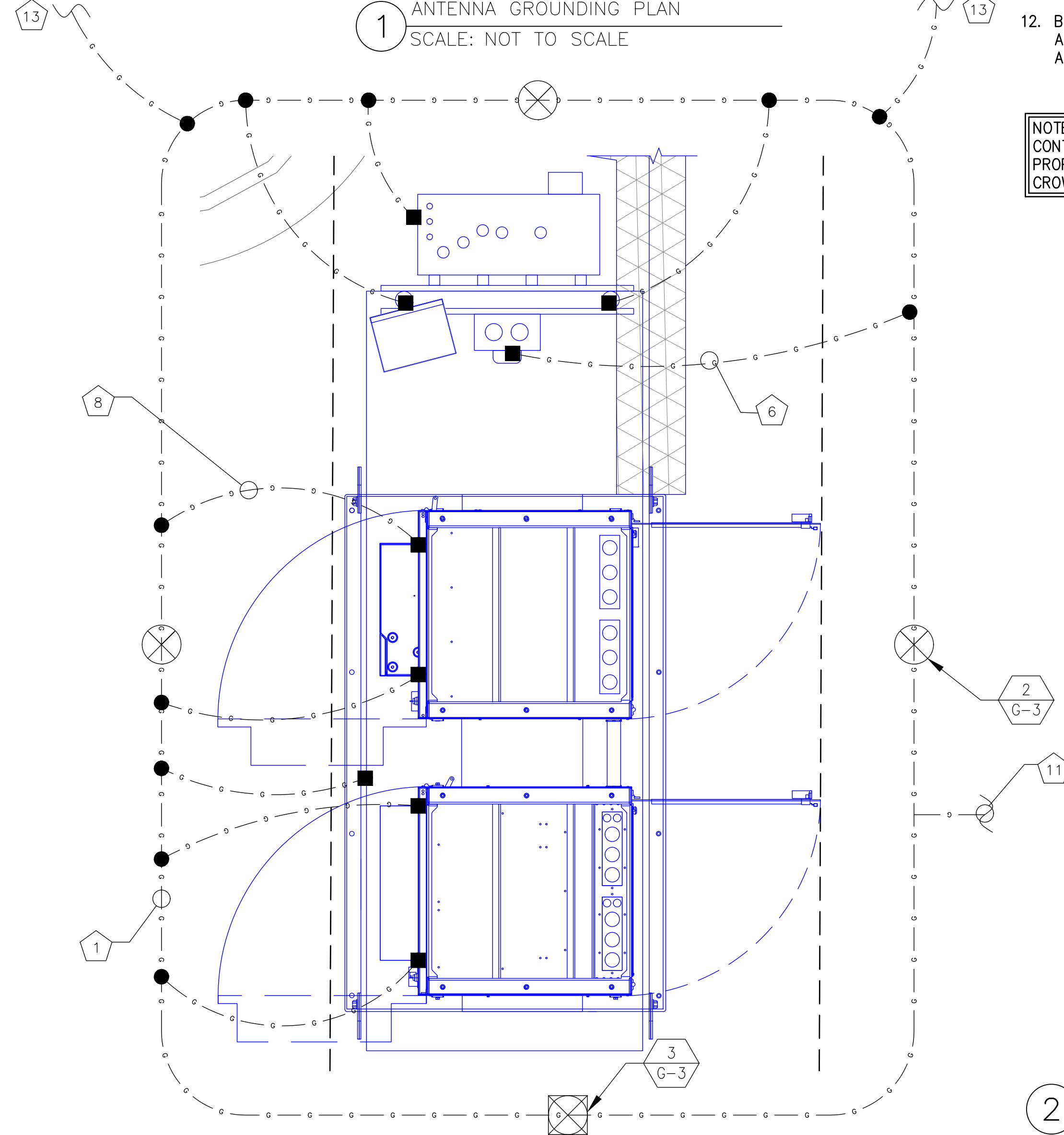
- 1 EXISTING UTILITY POLE
- 2 NEW VERIZON FIBER HANDHOLE (MEET ME POINT)
- 3 NEW VERIZON 200A METER SOCKET W/ DISCONNECT
- 4 NEW VERIZON CABINETS ON A NEW 6'-0"x12'-0" EQUIPMENT PAD
- 5 NEW VERIZON ILC CABINET ON NEW EQUIPMENT H-FRAME
- 6 FOR POWER - (1) 2" SCH. 40 PVC CONDUIT FOR POWER FROM EXISTING UTILITY POLE TO NEW VERIZON 200A METER SOCKET W/ DISCONNECT
- 7 (1) 4" SCH. 40 PVC CONDUIT FROM NEW VERIZON 200A METER SOCKET W/ DISCONNECT TO NEW ILC CABINET
- 8 FOR TELCO - (1) 4" GRC OR LIQUIDTIGHT CONDUIT FOR FIBER FROM NEW FIBER HANDHOLE TO NEW VERIZON BBU CABINET (PENDING COORDINATION WITH LOCAL UTILITY COMPANY)
- 9 NOT USED
- 10 PROPOSED VERIZON TOWER BASE CIGBE (TYP. OF (1)) (NOT SHOWN)
- 11 BOND PROPOSED VERIZON TOWER BASE CIGBE (NOT SHOWN) TO PROPOSED EQUIPMENT GROUND BAR WITH #2 SOLID TINNED BCW. (CONTRACTOR TO VERIFY)
- 12 BOND PROPOSED VERIZON TOWER TOP CIGBE (NOT SHOWN) TO PROPOSED TOWER BASE CIGBE (NOT SHOWN) WITH #2 SOLID TINNED BCW. (CONTRACTOR TO VERIFY)
- 13 BOND PROPOSED VERIZON BURIED EQUIPMENT GROUND RING TO EXISTING COMPOUND GROUNDING SYSTEM WITH #2 SOLID TINNED BCW. (TYP. OF (2) PLACES) (CONTRACTOR TO VERIFY)
- 14 BOND TOWER BASE CIGBE (NOT SHOWN) TO EXISTING TOWER GROUND RING (NOT SHOWN) WITH #2 SOLID TINNED BCW. (CONTRACTOR TO VERIFY)
- 15 PROPOSED BACKUP GENERATOR TO BE GROUNDED PER MANUFACTURER'S SPECIFICATIONS

GROUNDING SYMBOLS:

	GROUND ROD
	ACCESS WELL
	GROUND ROD WITH ACCESS
	COMPRESSION TYPE CONNECTION
	EXOTHERMIC WELD TYPE CONNECTION
	#2/0 BTS COPPER CONDUCTOR BURIED GROUND CABLE
	INDICATES CODED NOTE



1 ANTENNA GROUNDING PLAN
SCALE: NOT TO SCALE



NOTE:
CONTRACTOR TO GROUND PROPOSED ICE BRIDGE TO CROWN CASTLE SPECIFICATIONS

RELEASED FOR CONSTRUCTION
As Noted on Plan Review

Development Services Department
Lee's Summit, Missouri
11/10/2023

GENERAL GROUNDING NOTES:

1. TO ENSURE PROPER BONDING, ALL CONNECTIONS SHALL BE AS FOLLOWS:
- #2 BARE TINNED SOLID COPPER CONDUCTOR: EXOTHERMIC WELD TO RODS OR GROUND RING
- LUGS AND BUS BAR (UNLESS NOTED OTHERWISE): SANDED CLEAN, COATED WITH OXIDE INHIBITOR AND BOLTED FOR MAXIMUM SURFACE CONTACT. ALL LUGS SHALL BE COPPER (NO ALUMINUM SHALL BE PERMITTED). PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT.
2. ALL GROUNDING CABLE IN CONCRETE OR THROUGH WALLS SHALL BE IN 3/4" PVC CONDUIT. SEAL AROUND CONDUIT THROUGH WALLS. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTORS.
3. OWNER'S REPRESENTATIVE WILL INSPECT EXOTHERMIC WELD AND CONDUCT MEGGER TEST PRIOR TO BURIAL. MAXIMUM 5 OHMS RESISTANCE IS REQUIRED.
4. CONTRACTOR TO INSTALL GROUNDING IN CLOSE PROXIMITY TO EQUIPMENT PLATFORM OR PAD.
5. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. ALL BENDS SHALL BE A MINIMUM 8" RADIUS AND NO GREATER THAN 90 DEGREES.
6. ALL CADWELDS TO BURIED GROUND RING SHALL BE THE PARALLEL TYPE, EXCEPT FOR THE GROUND RODS WHICH SHALL BE THE TEE TYPE.
7. BOND SERVICE CONDUITS TO GROUND RING AS THEY CROSS. DO NOT EXOTHERMICALLY WELD TO CONDUITS.
8. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM PRIOR TO BACKFILLING.
9. THE MINIMUM SPACING BETWEEN GROUND RODS SHALL BE 10'-0" (MAX. 15'-0").
10. BOND CIGBE TO EXTERNAL GROUND RING WITH 2 RUNS OF #2 BARE, TINNED, SOLID COPPER CONDUCTOR IN PVC. CONNECT BAR END WITH 2 HOLE LUG, AND "CADWELD" THE OTHER END TO THE EXTERNAL GROUND ROD.
11. THE PREFERRED LOCATION FOR COAX GROUNDING IS AT THE BASE OF THE TOWER PRIOR TO THE COAX BEND.
12. BONDING OF THE GROUNDED CONDUCTOR (NEUTRAL) AND THE GROUNDING CONDUCTOR SHALL BE AT THE SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250-30.

2 TYPICAL GROUNDING PLAN
SCALE: NOT TO SCALE

JURISDICTIONAL APPROVAL:

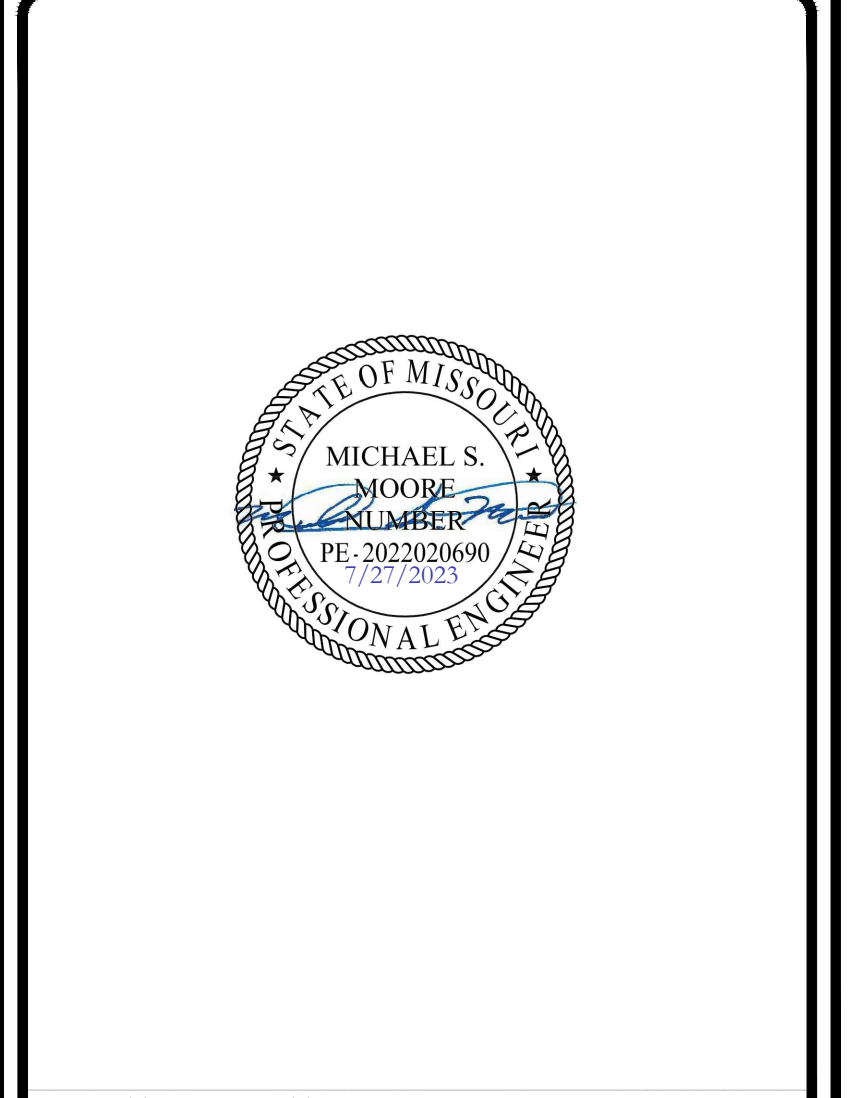


VERIZON SITE NUMBER: 716127

BU #: 877803
KCYC LEES SUMMIT DT
 207 SE DOUGLAS
 LEE'S SUMMIT, MO 64063
 EXISTING 180'-0" MONOPOLE

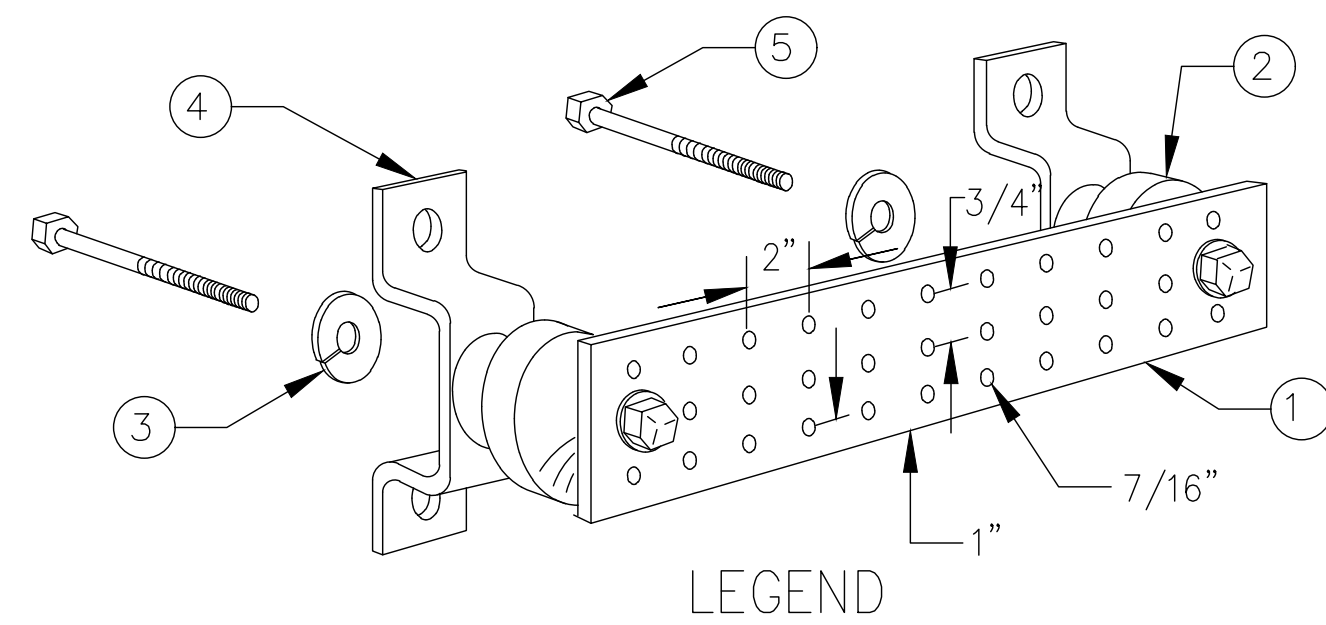
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SHEET NUMBER: **G-1** REVISION: **2**

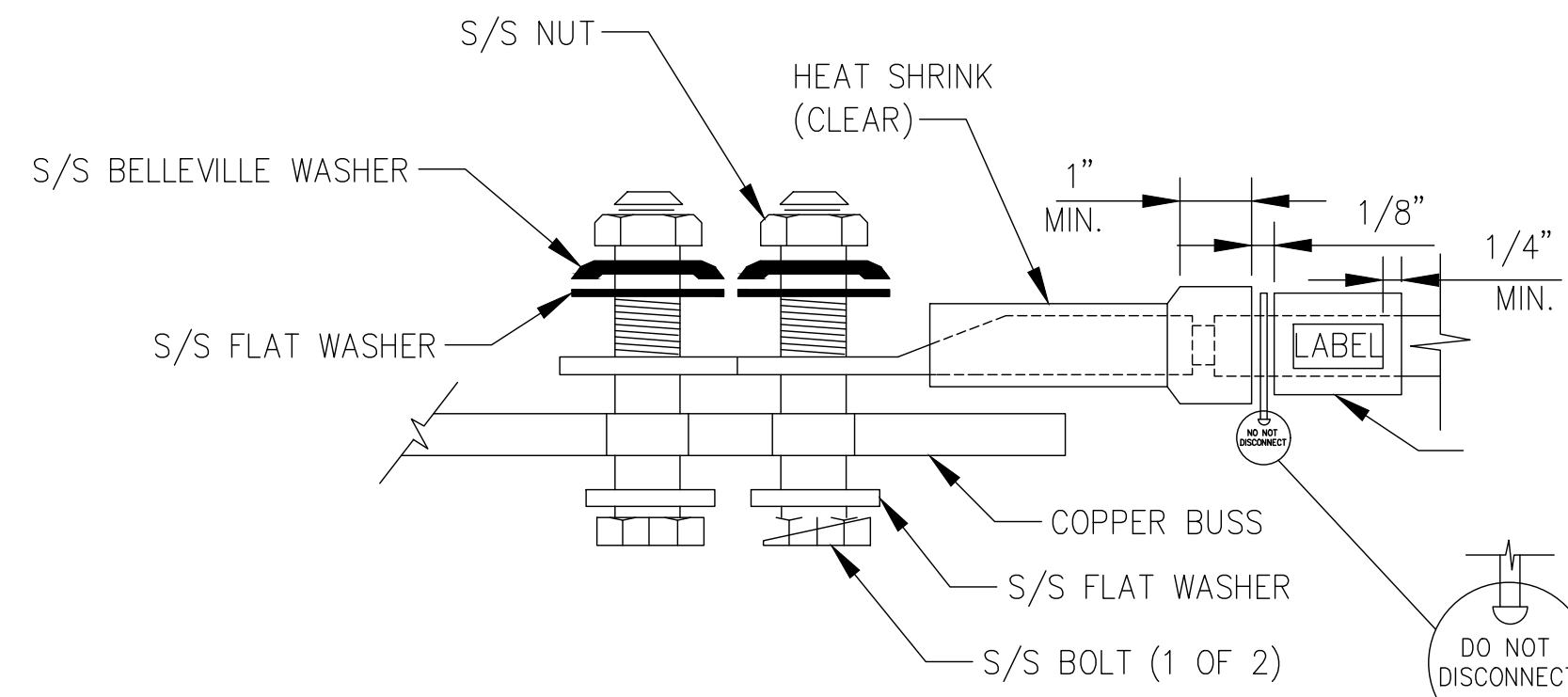


- LEGEND**
1. TINNED COPPER GROUND BAR, 1/4"x4"x20", NEWTON INSTRUMENT CO., HARGER TGB14420M, OR EQUIVALENT. HOLE CENTERS TO MATCH
 2. NEMA DOUBLE LUG CONFIGURATION.
 3. INSULATORS, NEWTON INSTRUMENT CO. CAT. NO. 3061-4 OR HARGER EQUIVALENT.
 4. 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8 OR EQUIVALENT.
 5. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056 OR HARGER EQUIVALENT.
 6. 5/8-11"x1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT. NO. 3012-1 OR HARGER EQUIVALENT.

NOTES:

1. ALL MOUNTING HARDWARE CAN ALSO BE USED ON 6", 12", 18", ETC. GROUND BARS.
2. ENTIRE ESSEMBLY AVAILABLE FROM NEWTON INSTRUMENT CO. CAT. NO. 2106060010 OR AS HARGER TGB14420M.

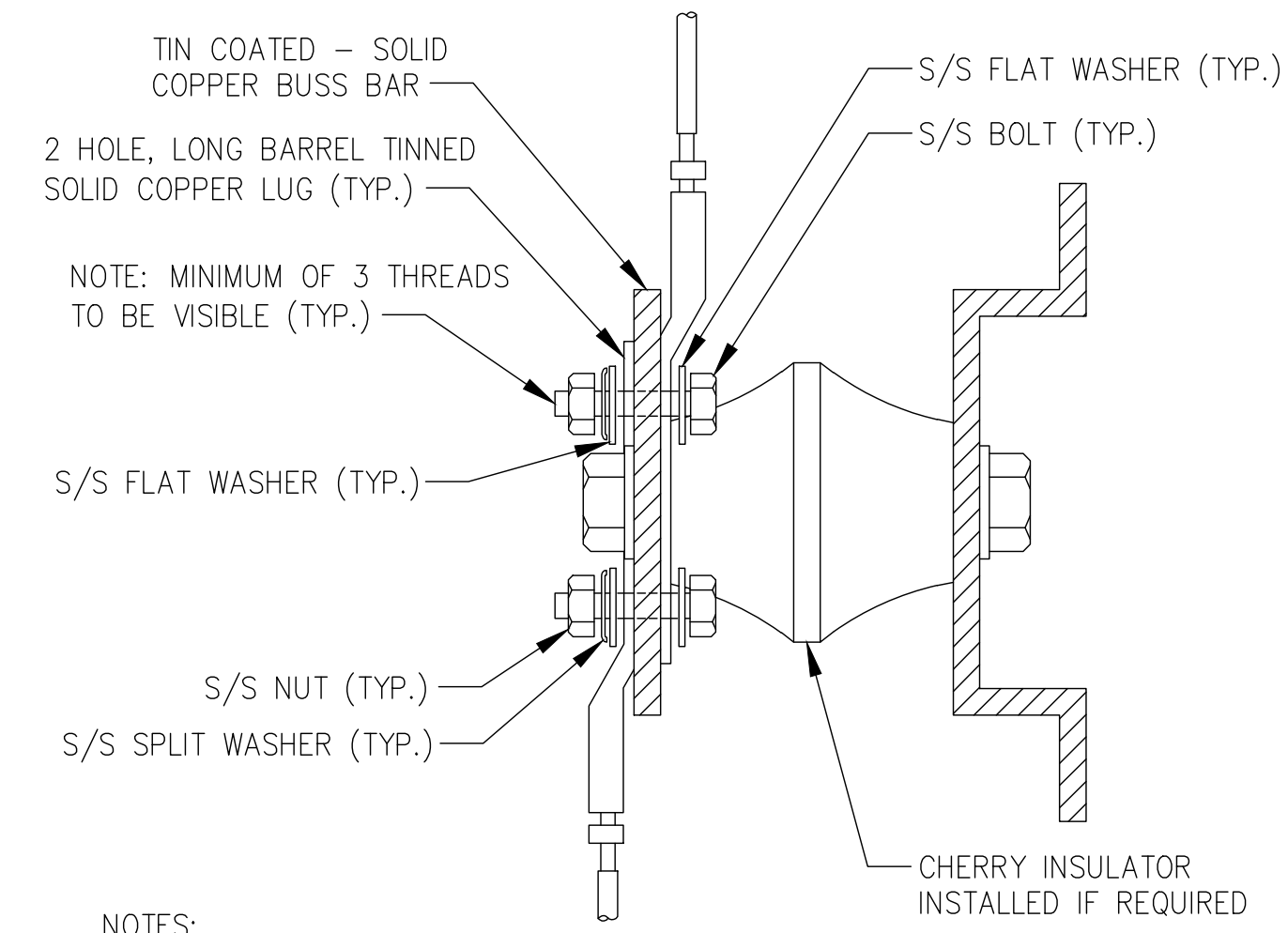
1 TYPICAL GROUND BAR
SCALE: NOT TO SCALE



NOTE:
ALL MECHANICAL EXTERNAL TERMINATION SURFACES SHALL BE TREATED WITH T&B KOPR-SHIELD CP8 ANTI-OXIDATION COMPOUND.

"DO NOT DISCONNECT"
TAG ON ALL GROUND BAR INTERCONNECTS

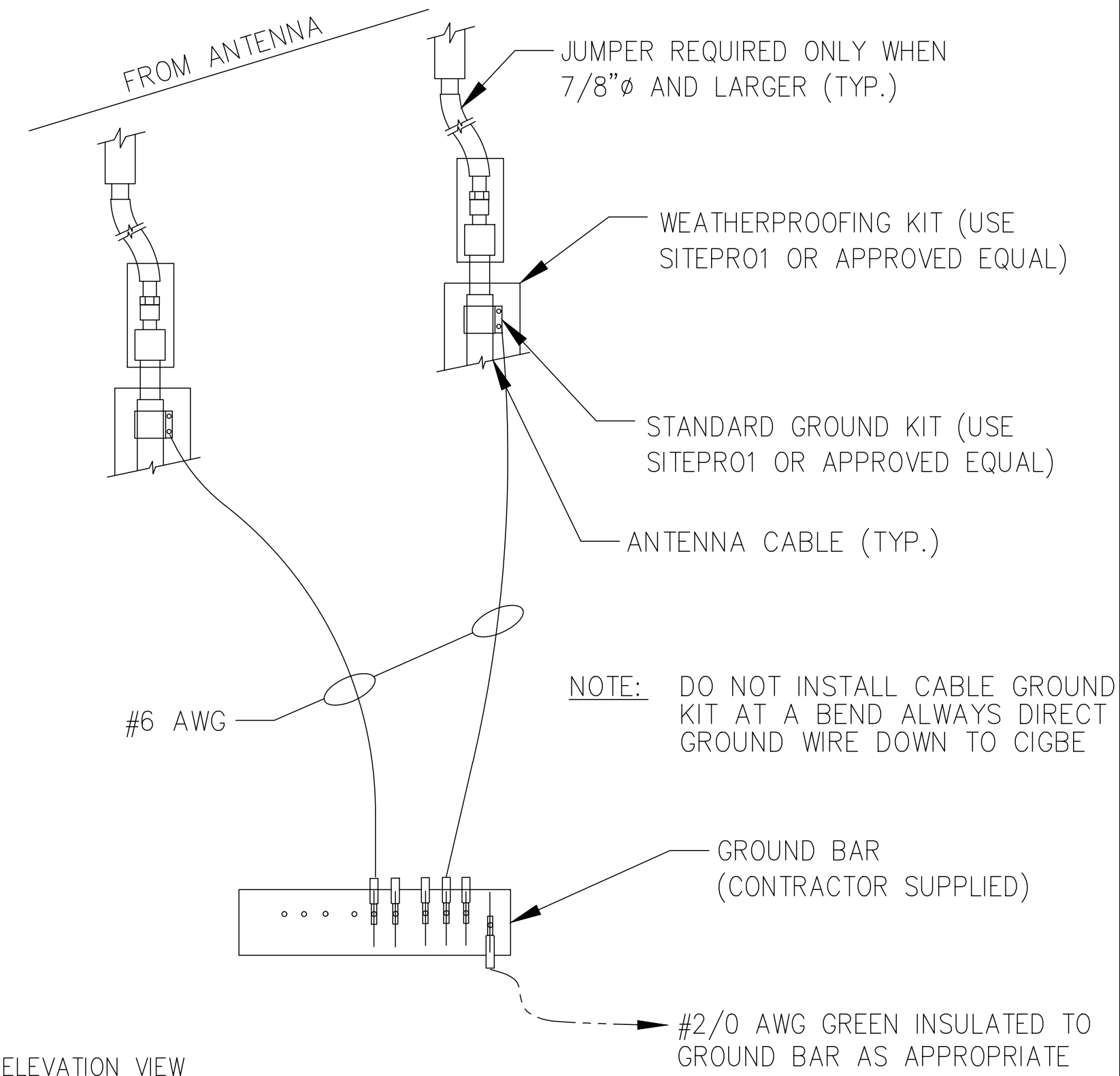
2 TYPICAL EQUIPMENT GROUND CONNECTION
SCALE: NOT TO SCALE



NOTES:

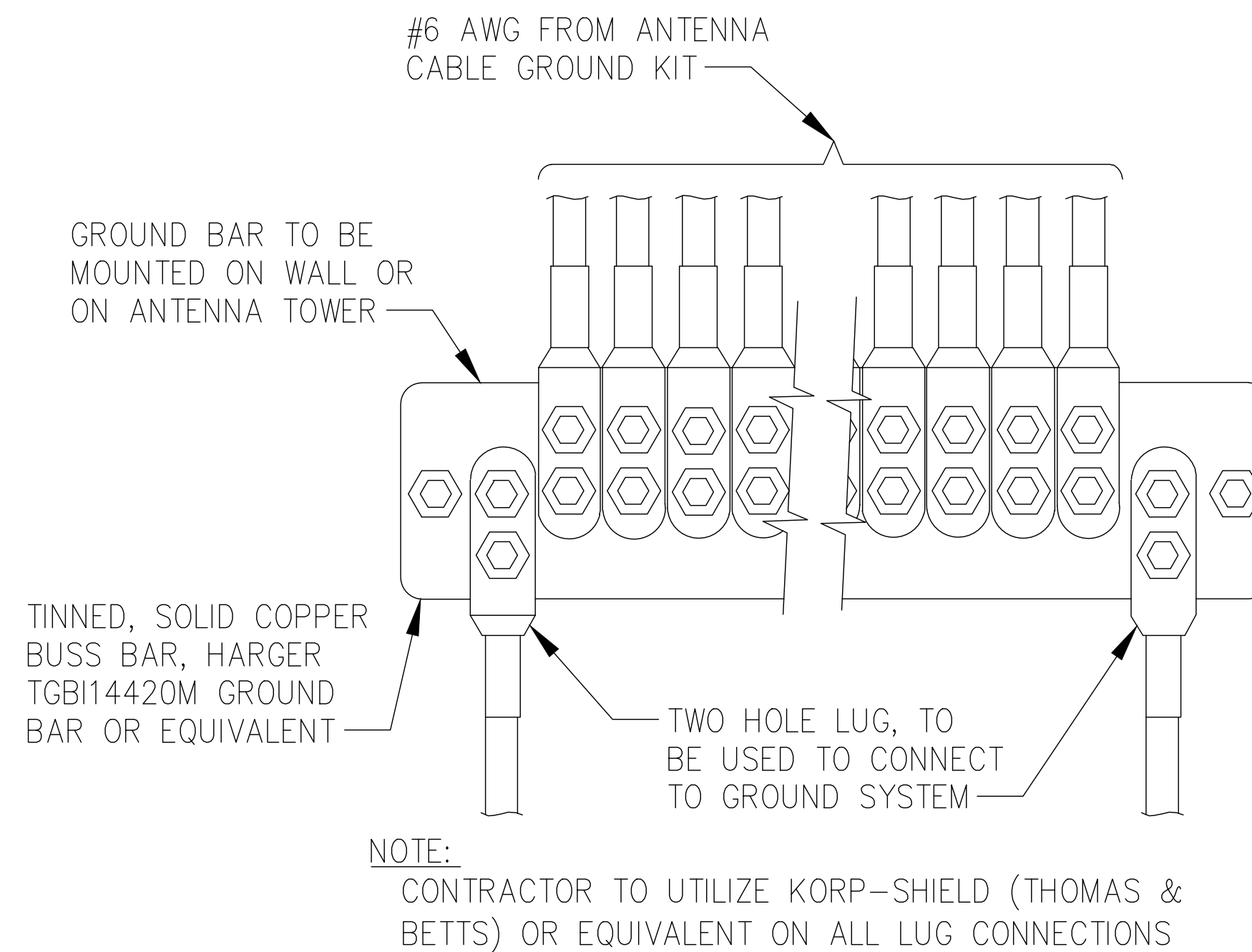
1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
2. COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
3. APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING.

3 TYPICAL GROUND LUG
SCALE: NOT TO SCALE



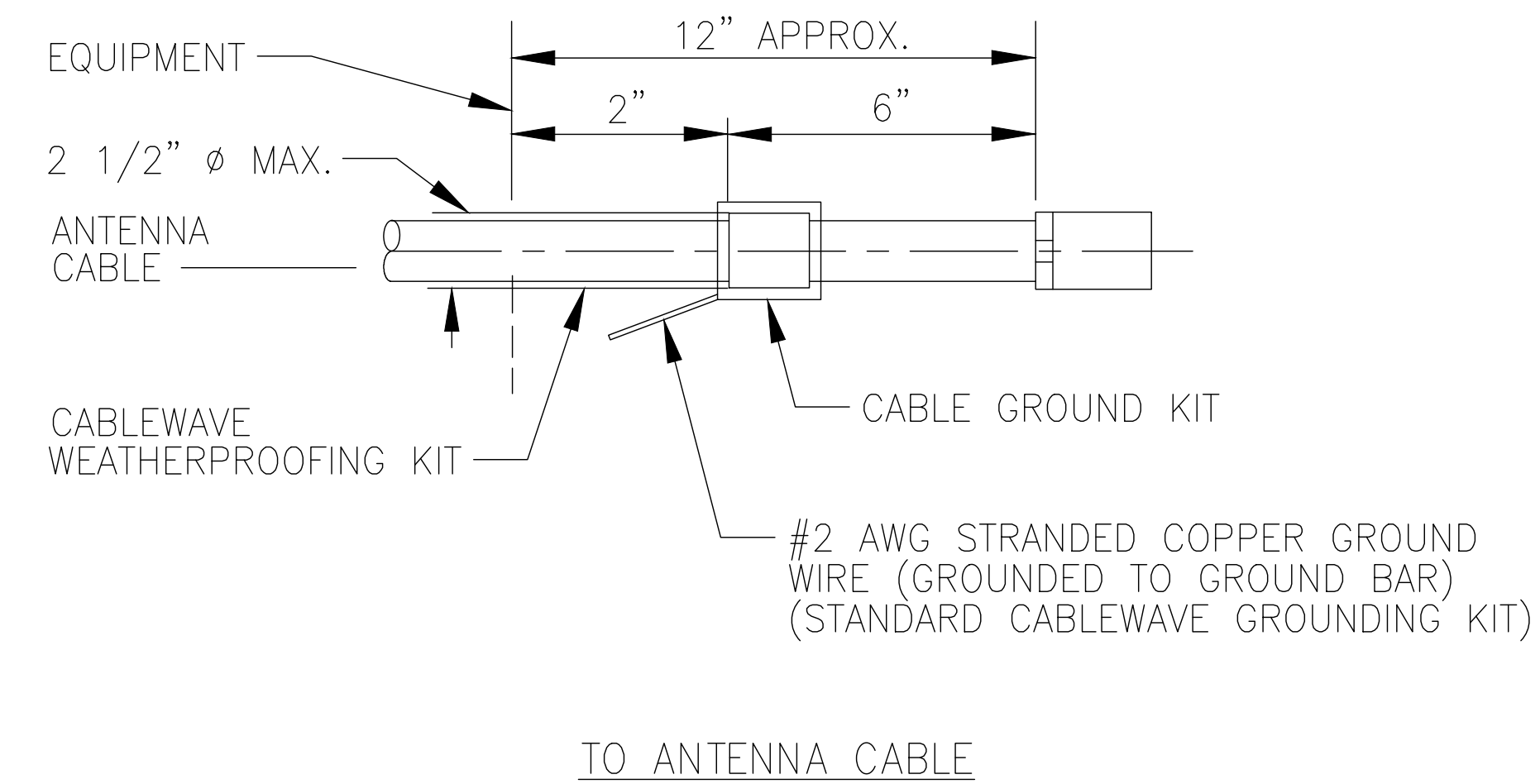
ELEVATION VIEW

4 TYPICAL CONNECTION OF GROUND WIRES TO GROUNDING BARS@ANTENNA
SCALE: NOT TO SCALE



NOTE:
CONTRACTOR TO UTILIZE KOPR-SHIELD (THOMAS & BETTS) OR EQUIVALENT ON ALL LUG CONNECTIONS

5 TYPICAL ANTENNA GROUND BAR
SCALE: NOT TO SCALE



NOTE:
DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

6 TYPICAL CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE

JURISDICTIONAL APPROVAL:



180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921



1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430



1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

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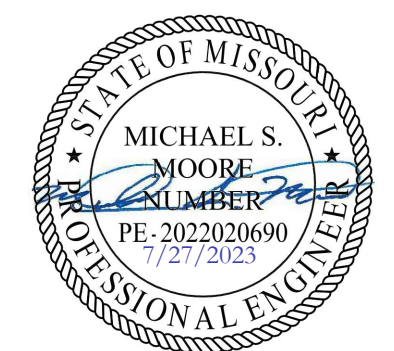
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