

T-Mobile

Approved

By: Kevin Mastin

Date: 08/17/2022

El Paso County Planning & Community Development



T-Mobile



RAMAKER

employee-owned

(608) 643-4100 www.ramaker.com

RAMAKER PROJECT #: 54074

T-MOBILE SITE NUMBER:
DN04252A

BU #: 855798
SUNVIEW RV PARK

10410 STATE HIGHWAY 115
IVYWILD, CO 80926

EXISTING 150' MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	2/9/2022	DJG	FINAL	JMO
1	03/02/2022	AMW	MA UPDATE	JMO

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Colorado.



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.

SHEET NUMBER:

T-1

REVISION:

1

T-MOBILE SITE NUMBER: DN04252A
T-MOBILE SITE NAME: AT&T SUNVIEW
T-MOBILE PROJECT: ANCHOR

BUSINESS UNIT #: 855798
SITE ADDRESS: 10410 STATE HIGHWAY 115
COUNTY: EL PASO
SITE TYPE: MONOPOLE
TOWER HEIGHT: 150'

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME: SUNVIEW RV PARK
SITE ADDRESS: 10410 STATE HIGHWAY 115
IVYWILD, CO 80926
COUNTY: EL PASO
MAP/PARCEL #: 7602400004
AREA OF CONSTRUCTION: EXISTING
LATITUDE: 38.68034167
LONGITUDE: -104.849131
LAT/LONG TYPE: NAD83
GROUND ELEVATION: 6389'
CURRENT ZONING: A-5 MHP
JURISDICTION: CO-PIKES PEAK REGIONAL BLDG DEPT
OCCUPANCY CLASSIFICATION: U
TYPE OF CONSTRUCTION: IIB
A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER: HOLTON LUELLA
1408 W COLORADO AVE
COLORADO SPRINGS, CO 80904
TOWER OWNER: CROWN CASTLE
2000 CORPORATE DRIVE
CANONSBURG, PA 15317
CARRIER/APPLICANT: T-MOBILE
2323 DELGANY STREET
DENVER, CO 80216
ELECTRIC PROVIDER: EXISTING
TELCO PROVIDER: EXISTING

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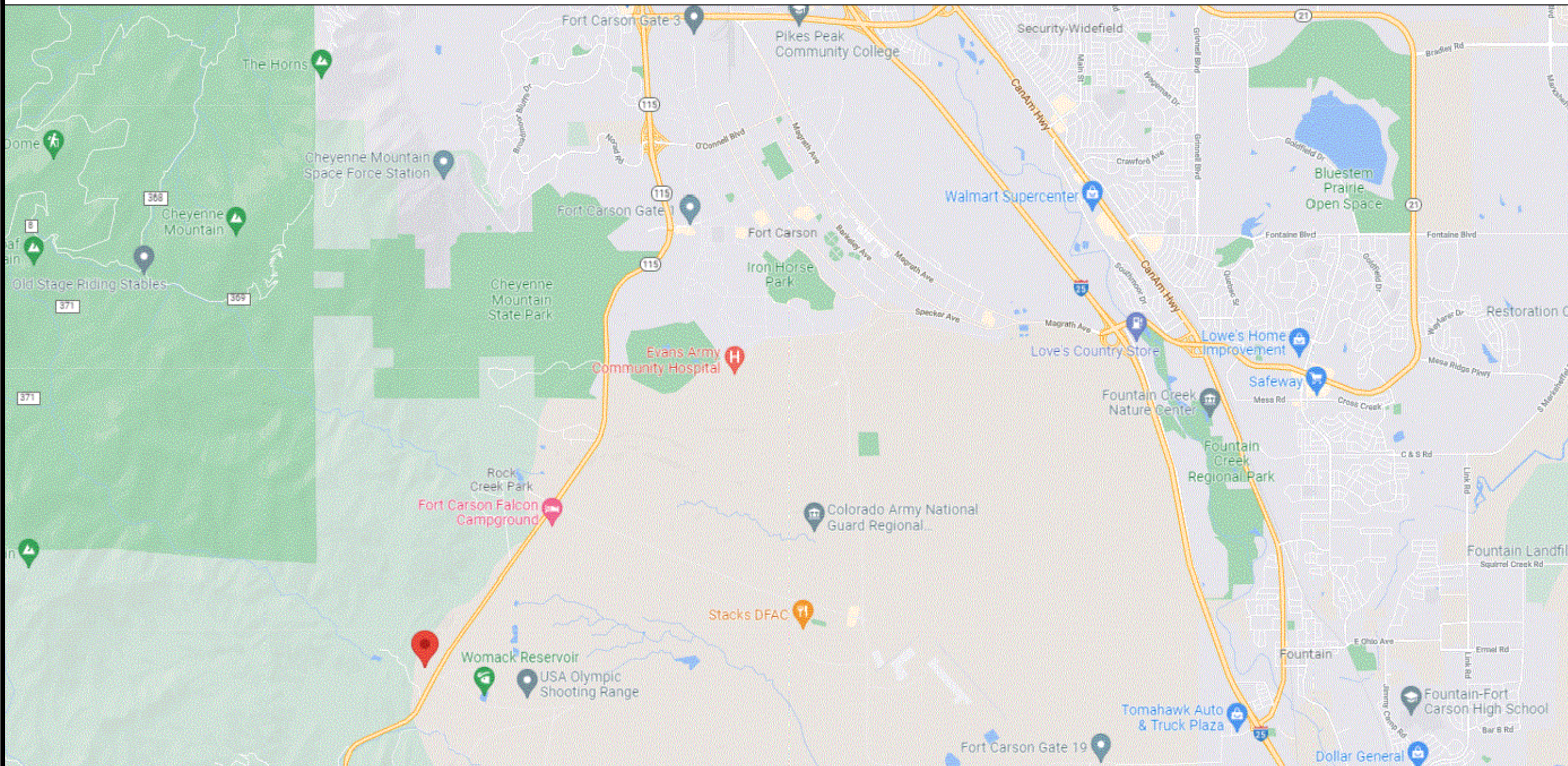
ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 22X34. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



CALL COLORADO ONE CALL
(800) 922-1987
CALL 3 WORKING DAYS
BEFORE YOU DIG!



LOCATION MAP



NO SCALE

PROJECT TEAM

A&E FIRM: RAMAKER & ASSOCIATES, INC.
855 COMMUNITY DRIVE
SAUK CITY, WI 53583
(608) 643-4100
CONTACT: JOSH OPSETH, PROJECT MANAGER
EMAIL: JOPSETH@RAMAKER.COM
CROWN CASTLE USA INC. DISTRICT CONTACTS:
BRYCE NORTHCUTT - PROJECT MANAGER
BRYCE.NORTHCUTT@CROWNCastle.COM
JUSTIN LOPEZ - CONSTRUCTION MANAGER
JUSTIN.LOPEZ@CROWNCastle.COM

PROJECT DESCRIPTION

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

TOWER SCOPE OF WORK:

- REMOVE (4) ANTENNAS
- REMOVE (2) TMAs
- INSTALL (4) ANTENNAS
- INSTALL (4) RRHs
- INSTALL (2) BREAKOUT PENDANT
- INSTALL (2) HYBRID CABLE (1-1/2")
- INSTALL (1) PLATFORM MOUNT MC-PM12M-AP4 W/MT-195-12HD, PVS 0508-U

GROUND SCOPE OF WORK:

- REMOVE (1) ESMB
- REMOVE (1) FSMF
- REMOVE (1) FBBC
- REMOVE (4) FRIE
- REMOVE(1) FXFB
- REMOVE (2) FXFC
- INSTALL (2) ASIB
- INSTALL (1) ASIL
- INSTALL (3) ABIA
- INSTALL (2) ABIC
- INSTALL (2) ABIO
- INSTALL (2) AMIA
- INSTALL (1) HPL3 CABINET
- INSTALL (1) LB3 CABINET
- INSTALL (1) 2" EMT CONDUIT FROM HPL3 TO PPC
- INSTALL (1) 1" EMT FROM JUNCTION BOXES TO HPL3 CABINET

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	2021 IBC
MECHANICAL	2021 IMC
ELECTRICAL	2020 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	BY CROWN CASTLE
DATED:	02/03/2022
MOUNT ANALYSIS:	BY CROWN CASTLE
DATED:	02/03/2022
RFDS REVISION:	4
DATED:	12/3/2021
ORDER ID:	597407
REVISION:	0

NOTE:

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

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

1. 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.
2. "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.
3. 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.
4. 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).
5. 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.
7. 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.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. 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.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. 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.
13. 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.
14. 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.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. 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.
18. 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.
19. 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.
20. 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.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. 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:

1. 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.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL–OF–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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON–ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft. OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. 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.
20. 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).
21. 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 2/0 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:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
CARRIER: T–MOBILE
TOWER OWNER: CROWN CASTLE USA INC.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. 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.
11. 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.
12. 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.
13. 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.
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. 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.
4. 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.
5. 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
6. 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"
7. 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:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
 - 4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
 - 4.2. 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.
5. 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.
6. 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).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. 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.
10. 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.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI–CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI–CONDUCTOR, TYPE TO CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. 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° F IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL–CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SLEW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECIMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. 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.
24. 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.
25. 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.
26. 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.
27. 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.
28. 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.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "T–MOBILE".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

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

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

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
RET	REMOTE ELECTRIC TILT
RFDS	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

T-Mobile



RAMAKER

employee-owned

(608) 643-4100 www.ramaker.com

RAMAKER PROJECT #: 54074

T-MOBILE SITE NUMBER:
DN04252A

BU #: 855798
SUNVIEW RV PARK

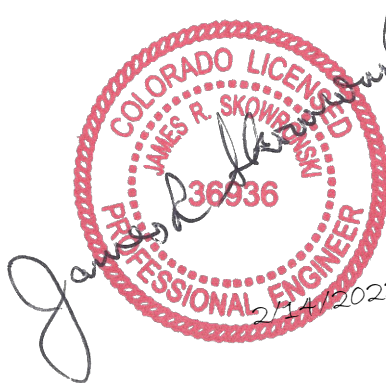
10410 STATE HIGHWAY 115
IVYWILD, CO 80926

EXISTING 150' MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	2/9/2022	DJG	FINAL	JMO
1	03/02/2022	AMW	MA UPDATE	JMO

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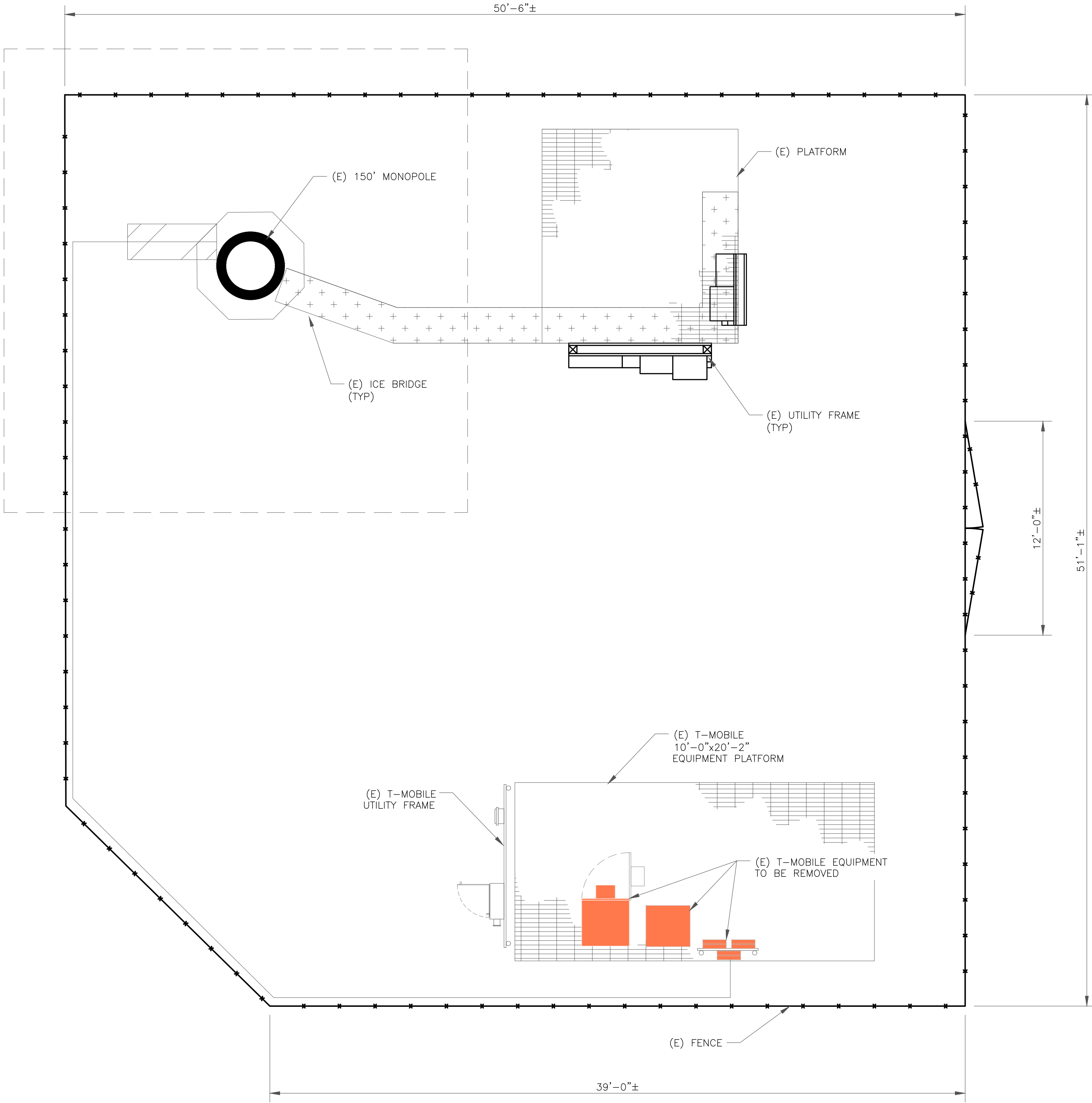
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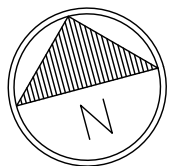
T-2

REVISION:

1



1 SITE PLAN
SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)



T-MOBILE SITE NUMBER:
DN04252A

BU #: **855798**
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SHEET NUMBER:

C-1.1

REVISION:

1

EQUIPMENT LEGEND:

EXISTING

TO BE RELOCATED/REMOVED

NEW

INSTALLER NOTE:
AMIAs ARE TO BE INSTALLED INTERNALLY IN THE 600A SSC CABINET. IF NO 600A SSC CABINET IS ON SITE, AMIAs ARE TO BE SUBSTITUTED WITH AMOBs. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING APPROPRIATE LOCATION WITHIN T-MOBILE LEASE AREA FOR AMOB MOUNTING AND PROVIDE TO CONSTRUCTION MANAGER. AMOB LOCATIONS MUST BE APPROVED BY CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

T-Mobile

CROWN CASTLE

RAMAKER
employee-owned
(608) 643-4100 www.ramaker.com
RAMAKER PROJECT #: 54074

T-MOBILE SITE NUMBER:
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BU #: 855798
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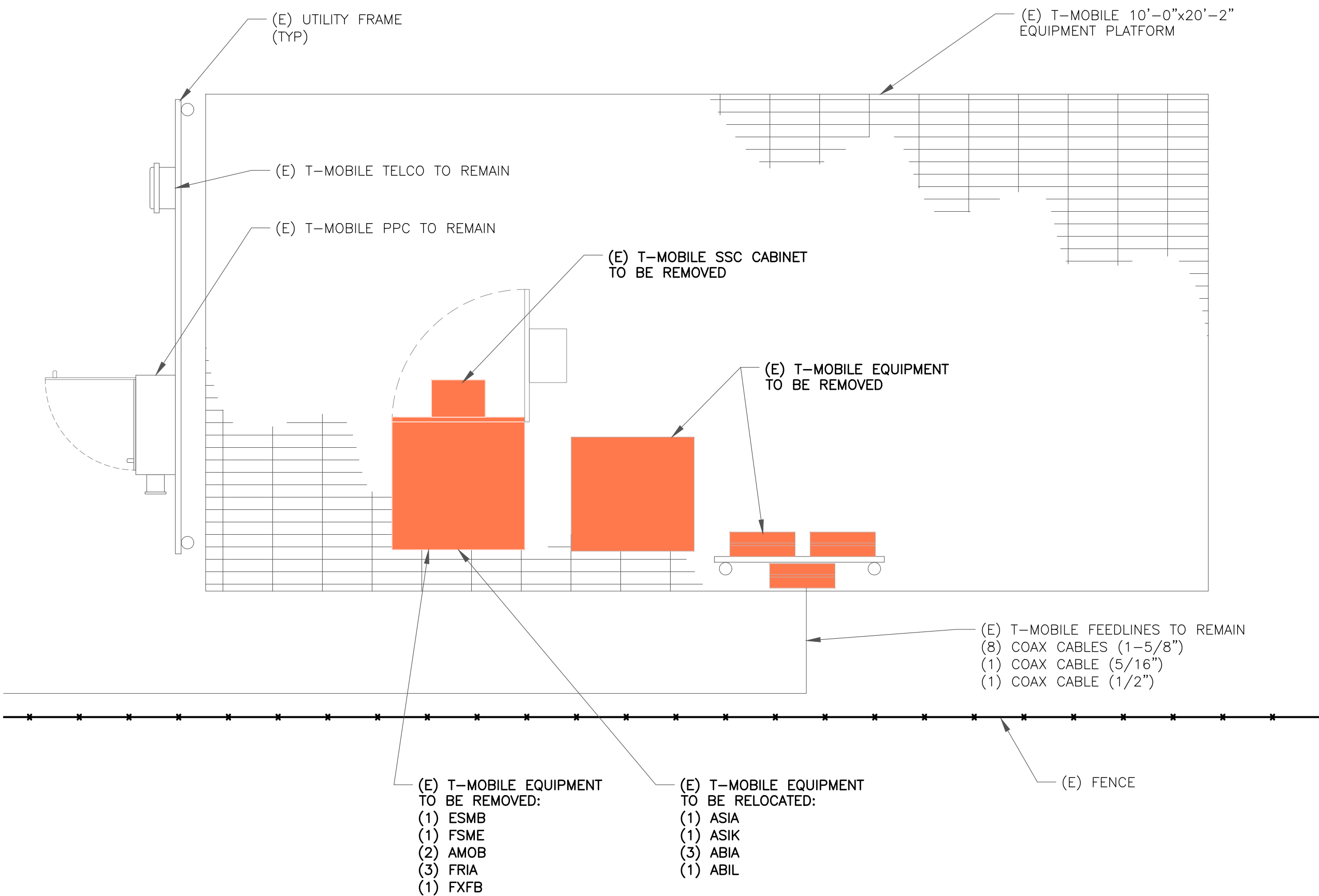
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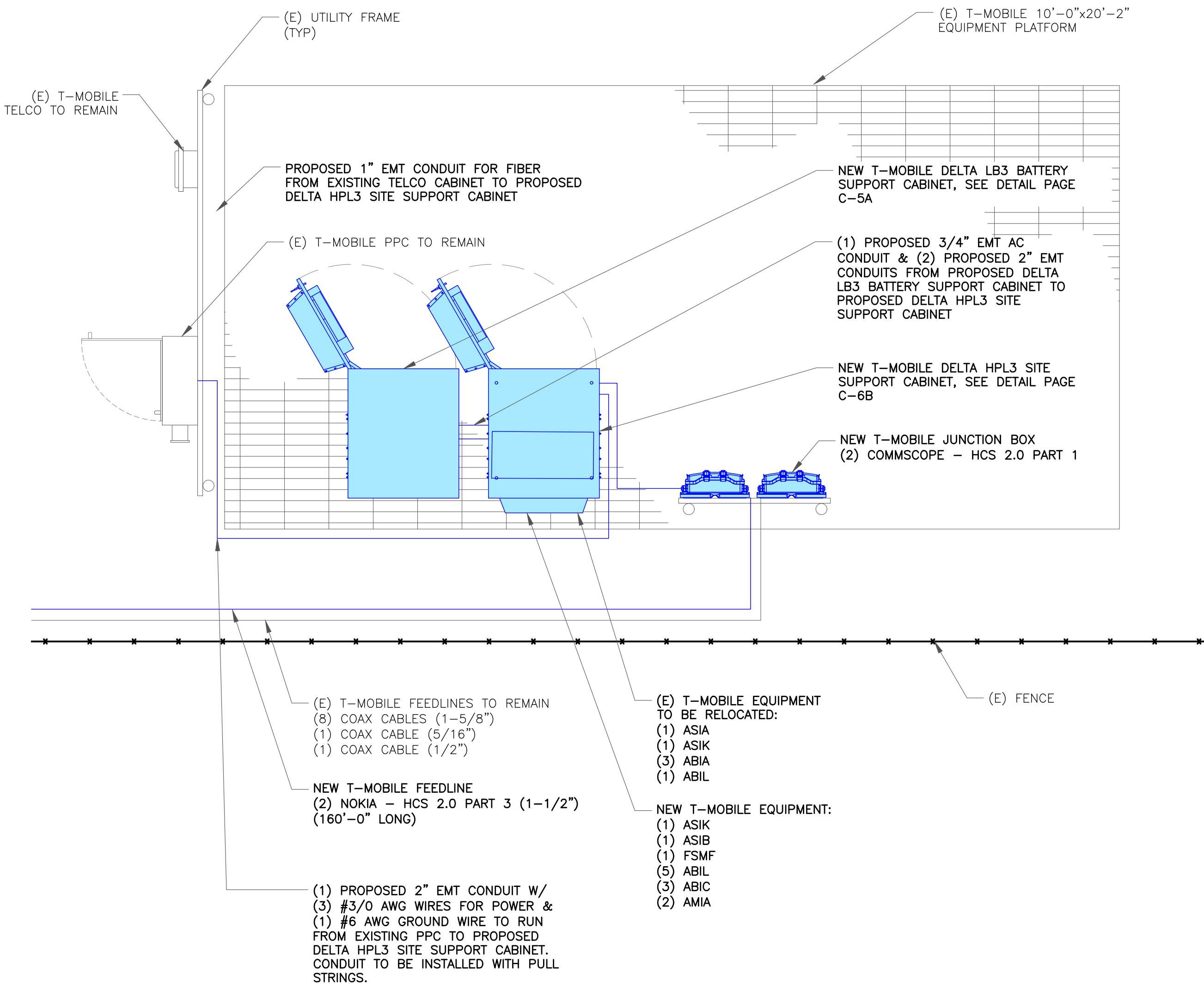
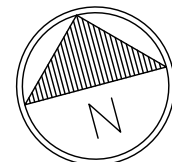
C-1.2

REVISION:

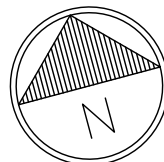
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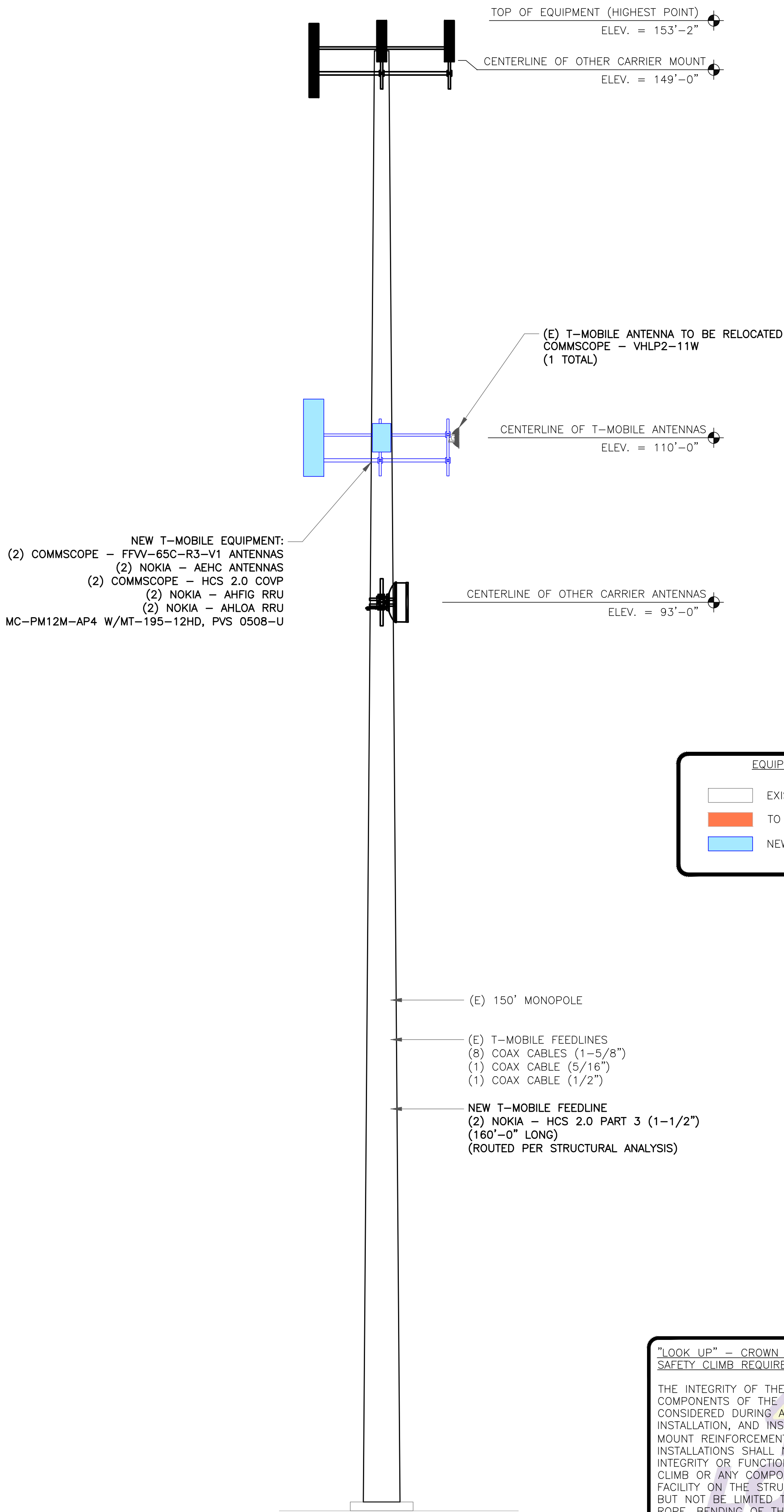


1 EXISTING EQUIPMENT PLAN
SCALE: 1"=1'-0" (FULL SIZE)
1/2"=1'-0" (11x17)



2 FINAL EQUIPMENT PLAN
SCALE: 1"=1'-0" (FULL SIZE)
1/2"=1'-0" (11x17)





1 FINAL ELEVATION
SCALE: NOT TO SCALE

NEW T-MOBILE EQUIPMENT:
(2) COMMSCOPE - FFV-65C-R3-V1 ANTENNAS
(2) NOKIA - AEHC ANTENNAS
(2) COMMSCOPE - HCS 2.0 COVP
(2) NOKIA - AHFIG RRU
(2) NOKIA - AHLOA RRU
MC-PM12M-AP4 W/MT-195-12HD, PVS 0508-U

(E) T-MOBILE ANTENNA TO BE RELOCATED
COMMSCOPE - VHLP2-11W
(1 TOTAL)

CENTERLINE OF T-MOBILE ANTENNAS
ELEV. = 110'-0"

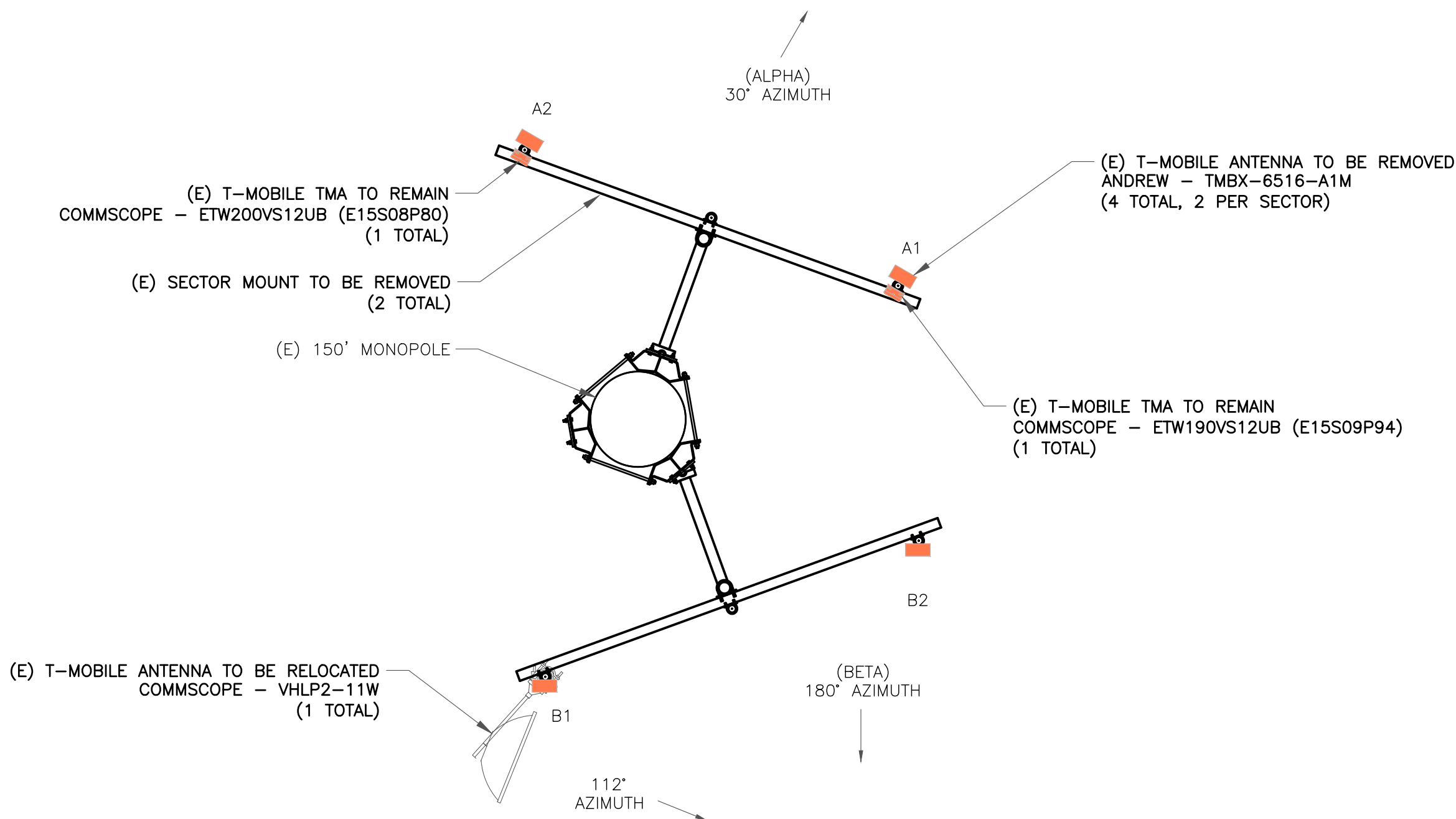
CENTERLINE OF OTHER CARRIER ANTENNAS
ELEV. = 93'-0"

EQUIPMENT LEGEND:

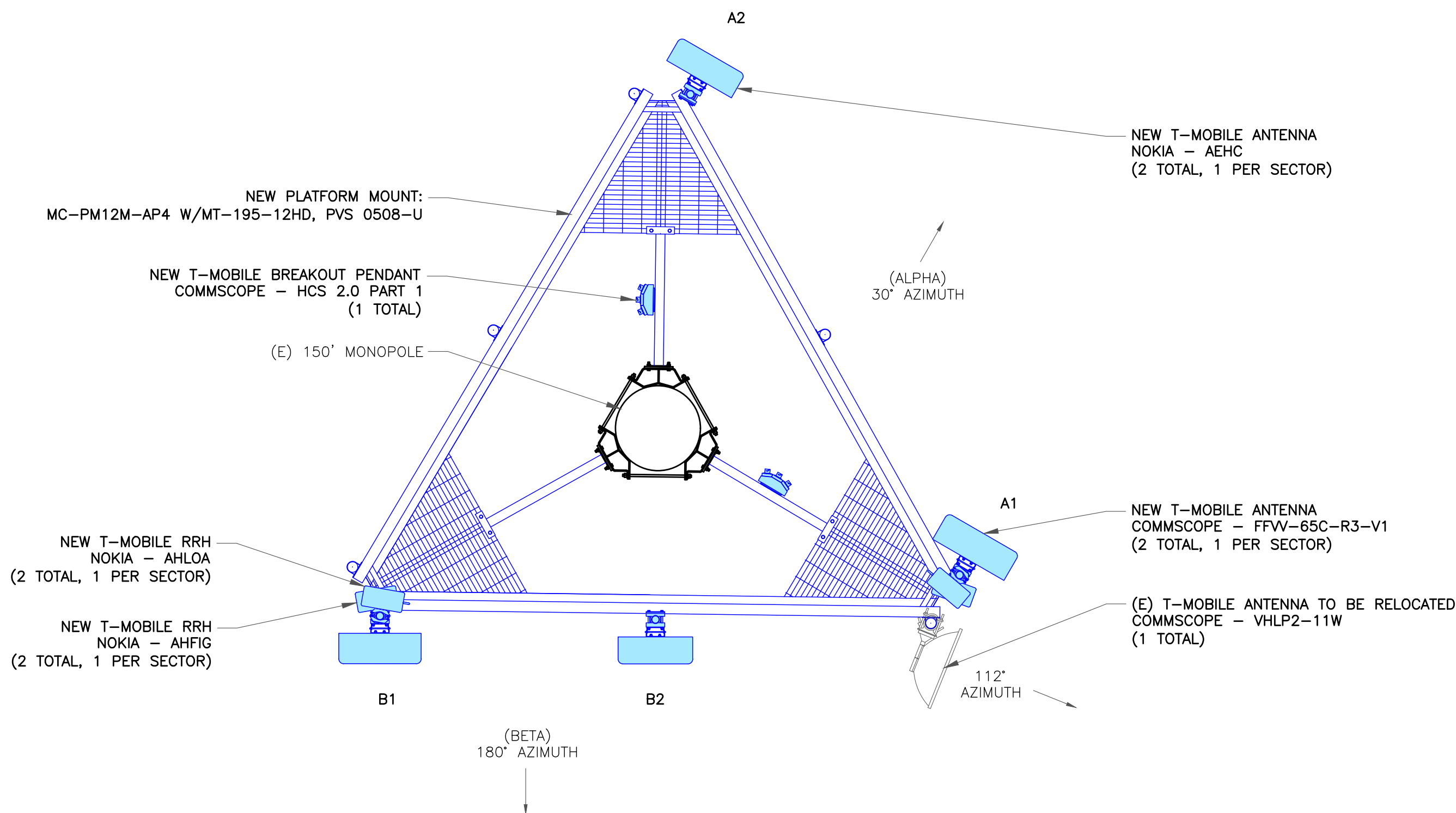
- EXISTING
- TO BE RELOCATED/REMOVED
- NEW

"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.



2 EXISTING ANTENNA PLAN
SCALE: NOT TO SCALE



3 FINAL ANTENNA PLAN
SCALE: NOT TO SCALE

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RAMAKER PROJECT #: 54074

T-MOBILE SITE NUMBER:
DN04252A

BU #: 855798
SUNVIEW RV PARK

10410 STATE HIGHWAY 115
IVYWILD, CO 80926

EXISTING 150' MONOPOLE

ISSUED FOR:

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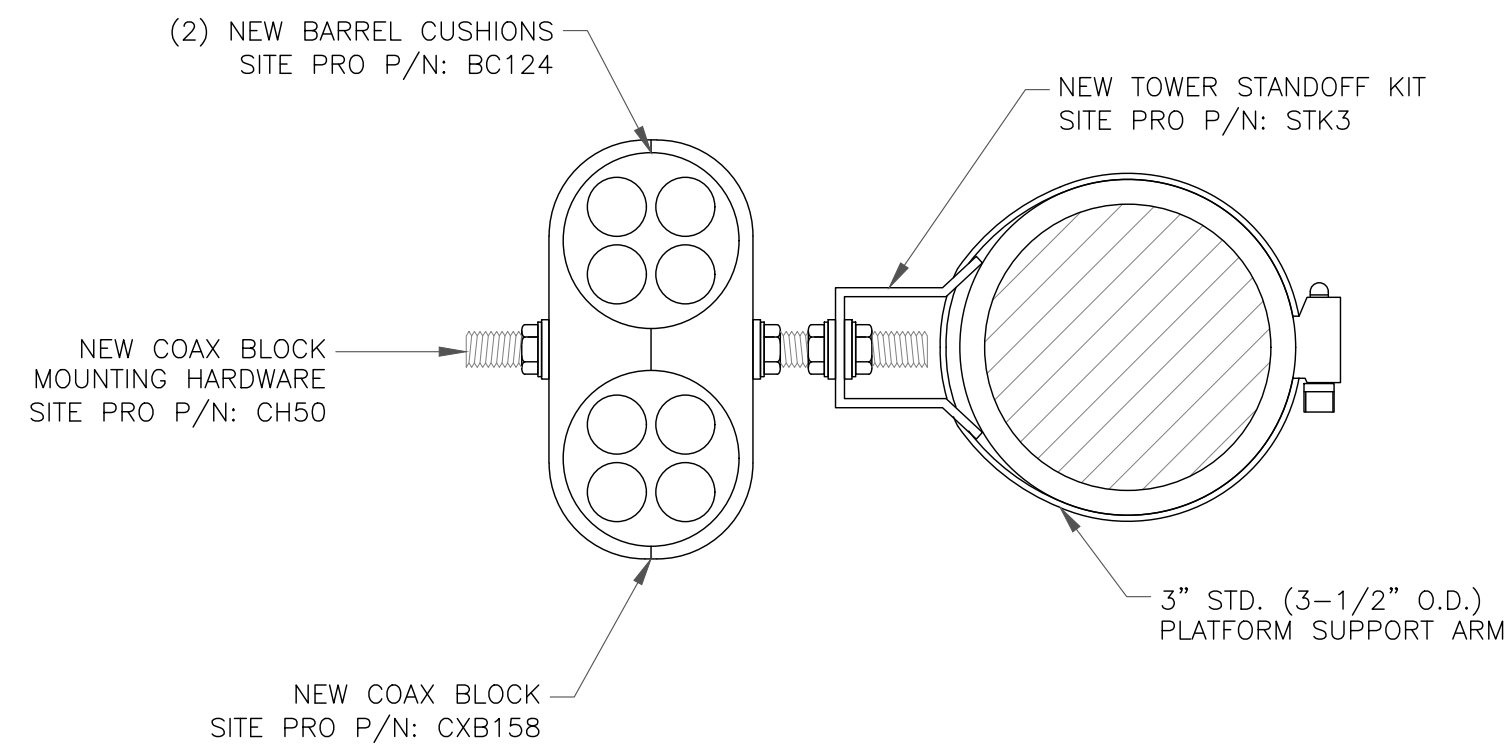
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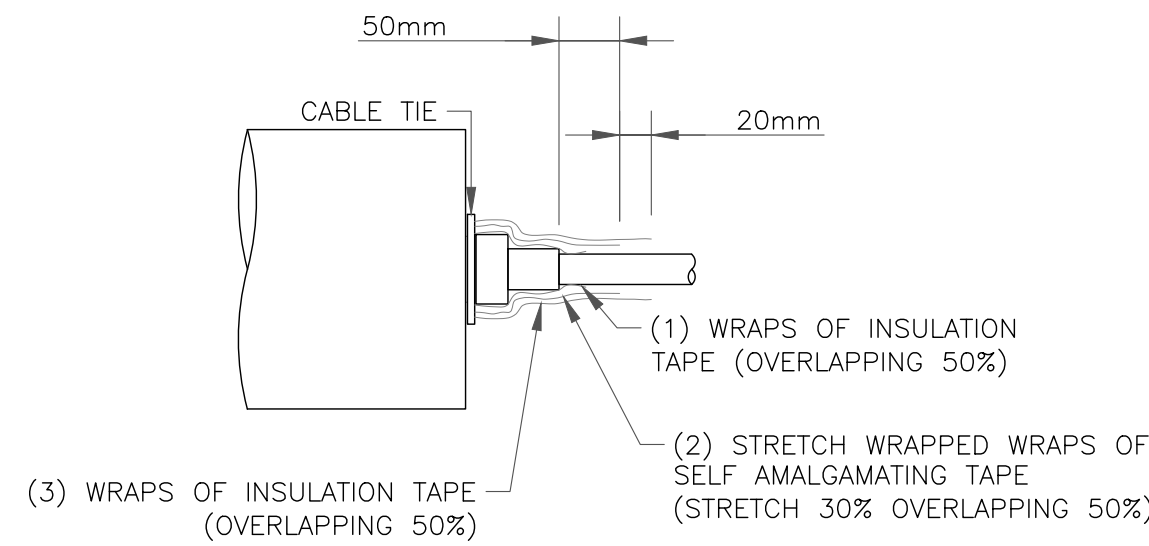
C-2

REVISION:

1



1 RF JUMPER DETAIL
SCALE: NOT TO SCALE



2 RF JUMPER CONNECTION
SCALE: NOT TO SCALE

Coax Color Coding

- Antennas will be labeled (back of antenna view) Right to left 1 - X ports
- Coax/jumper lines will be identified by sector color and by number of bands around the coax/jumper

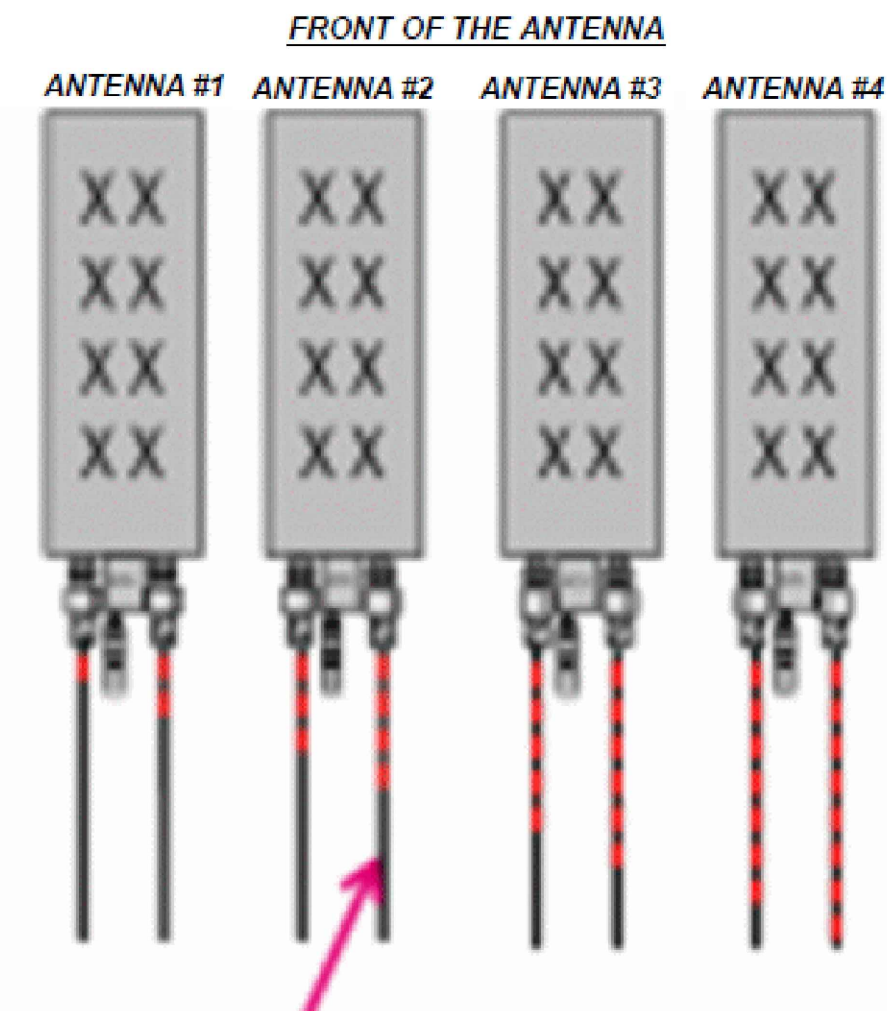
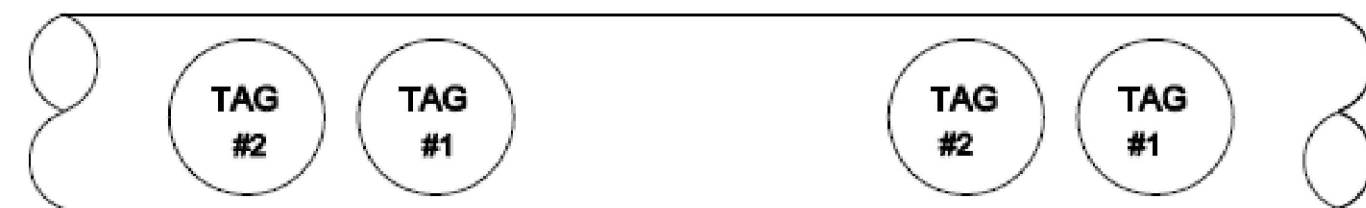
SECTOR A	RED
SECTOR B	GREEN
SECTOR C	BLUE
SECTOR D	YELLOW
SECTOR E	WHITE
SECTOR F	PURPLE
LMU	BROWN + SECTOR COLOR BANDS (1 & 2)
FIBER ID	GRAY
UNUSED COAX	PINK
MICROWAVE	ORANGE
DWE T-1'S + GPS DOWNLINK CABLE	ID W/LABEL MAKER

COLOR CODING NOTES:

color	GSM
color	UMTS 1900
color	UMTS AWS
color	LTE
color	FIBER CABLE

METALLIC TAG NOTES:

- TWO METALLIC TAGS SHALL BE ATTACHED AT EACH END OF EVERY CABLE LONGER THAN (3) THREE FEET
- CABLE LESS THAN (3) THREE FEET WILL HAVE TWO METALLIC TAGS ATTACHED AT THE CENTER OF THE CABLE
- TAGS WILL BE FASTENED WITH STAINLESS STEEL ZIP TIES APPROPRIATE FOR CABLE DIAMETER.
- STANDARDIZED METALLIC TAG KIT WILL BE ASSEMBLED WITH TAGS ALREADY ENGRAVED TO ACCOMMODATE ALL CONFIGURATIONS.



EXAMPLE: COAX WITH FOUR BANDS OF RED TAPE WILL REPRESENT ALPHA SECTOR AND THE 4TH PORT OF ANTENNA

ANTENNA AND COAXIAL CABLE SCHEDULE

- ALL ANTENNAS SHALL BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR SHALL COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH RF ENGINEER. ANTENNA DOWNTILT SHALL BE SET AND VERIFIED BY A SMART LEVEL.
- CONTRACTOR SHALL INSTALL COLOR CODE RINGS ON EACH OF THE HYBRID CABLES AND JUMPER CABLES WITH UV RESISTANT TAPE. ALL CABLE SHALL BE MARKED AT TOP AND BOTTOM WITH 2" COLOR TAPE OR STENCIL TAG. COLOR TAPE MAY BE OBTAINED FROM GRAYBAR ELECTRONICS.

3 NOT USED
SCALE: NOT TO SCALE

4 COAX COLOR CODING
SCALE: NOT TO SCALE

INSTALLER NOTE:
JUMPERS TO BE TORQUED TO 221.27 IN/LBS

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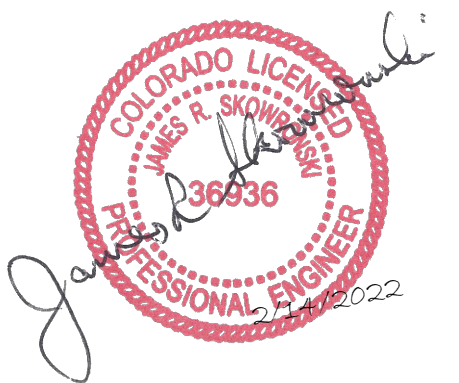
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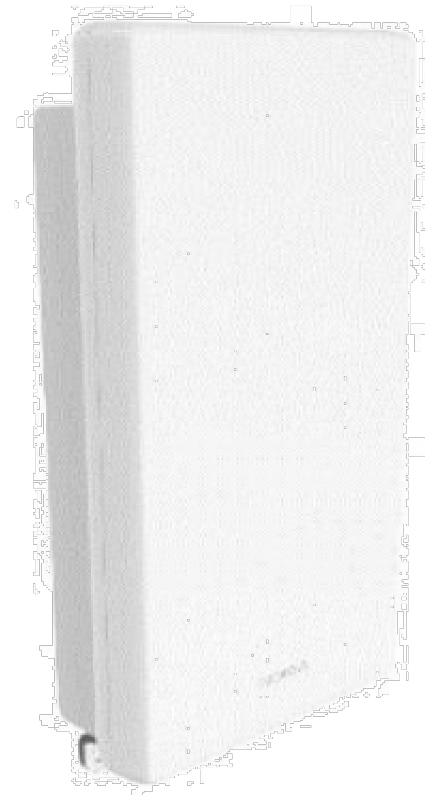
REVISION:

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COMMSCOPE PANEL ANTENNA
MODEL NUMBER: FFV-65C-R3-V1
DIMENSIONS: 95.90" (HEIGHT) X 25.20"
(WIDTH) X 9.30" (DEPTH)
WEIGHT: 124.60 LBS.

1 COMMSCOPE ANTENNA
SCALE: NOT TO SCALE



NOKIA ANTENNA
MODEL NUMBER: AEHC
DIMENSIONS: 35.43" (HEIGHT) X 22.83"
(WIDTH) X 8.26" (DEPTH)
WEIGHT: 99.20 LBS.

2 NOKIA ANTENNA
SCALE: NOT TO SCALE



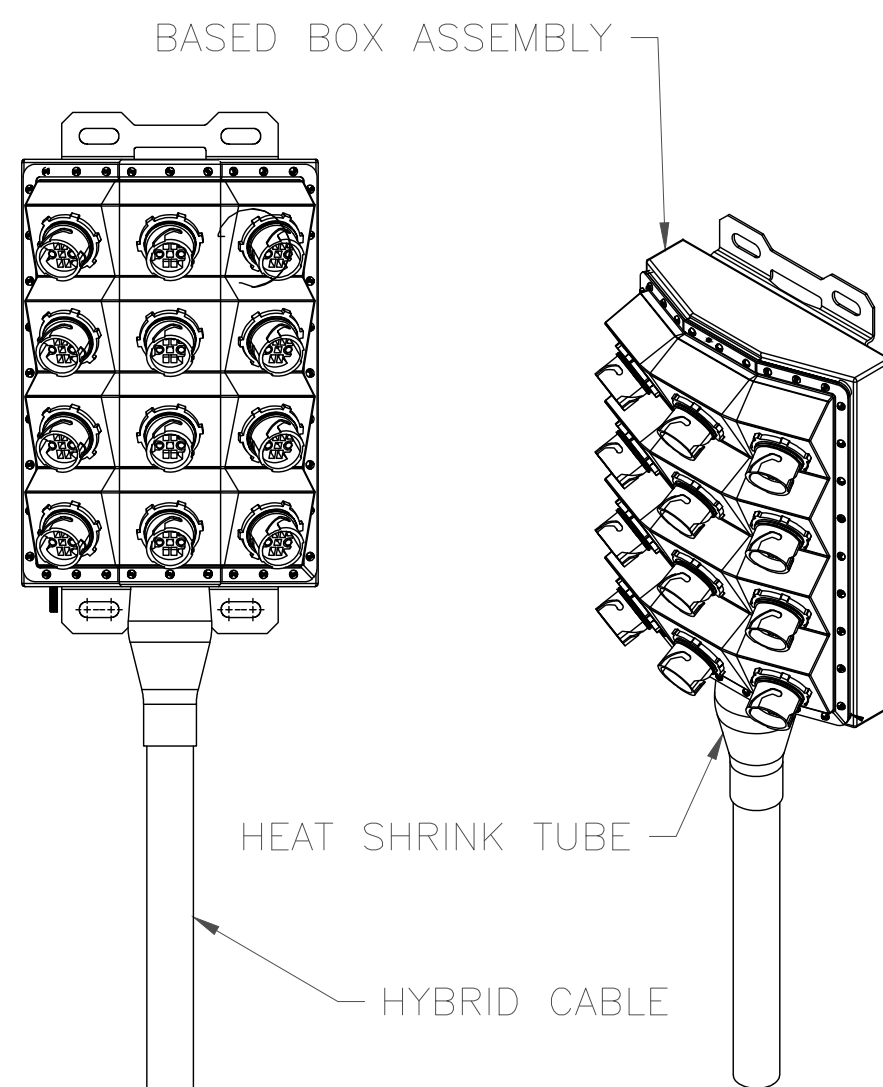
NOKIA RRH
MODEL NUMBER: AHFIG
DIMENSIONS: 28.74" (HEIGHT) X 15.35" (WIDTH) X 9.45" (DEPTH)
WEIGHT: 88.19 LBS.

3 NOKIA RRH
SCALE: NOT TO SCALE



NOKIA RRH
MODEL NUMBER: AHLOA
DIMENSIONS: 22.05" (HEIGHT) X 12.13" (WIDTH) X 7.44" (DEPTH)
WEIGHT: 83.80 LBS.

4 NOKIA RRH
SCALE: NOT TO SCALE

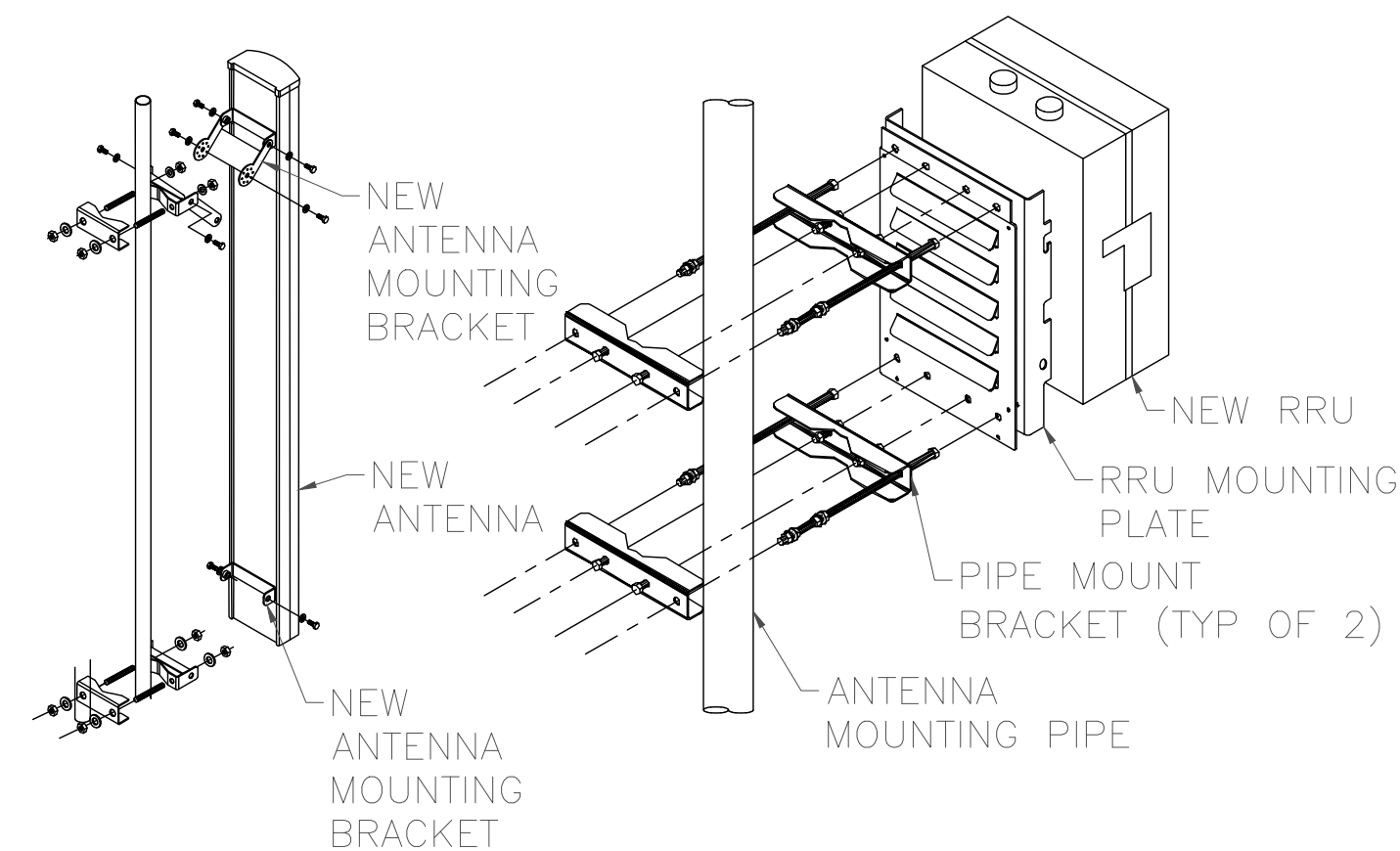


COMMSCOPE JUNCTION BOX
MODEL NUMBER: HCS 2.0 PART 1
DIMENSIONS: 14.00" (HEIGHT) X 16.00"
(WIDTH) X 8.00" (DEPTH)
WEIGHT: 23.5 LBS.

5 COMMSCOPE - HCS 2.0 PART 3
SCALE: NOT TO SCALE

INSTALLER NOTES:

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



NOTE:
ALL PIPES BRACKETS AND
MISCELLANEOUS HARDWARE
TO BE GALVANIZED UNLESS
NOTED OTHERWISE

6 ANTENNA & RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

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COLORADO LICENSE
JAMES R. SCHWARTZ
36836
PROFESSIONAL ENGINEER
03/02/2022

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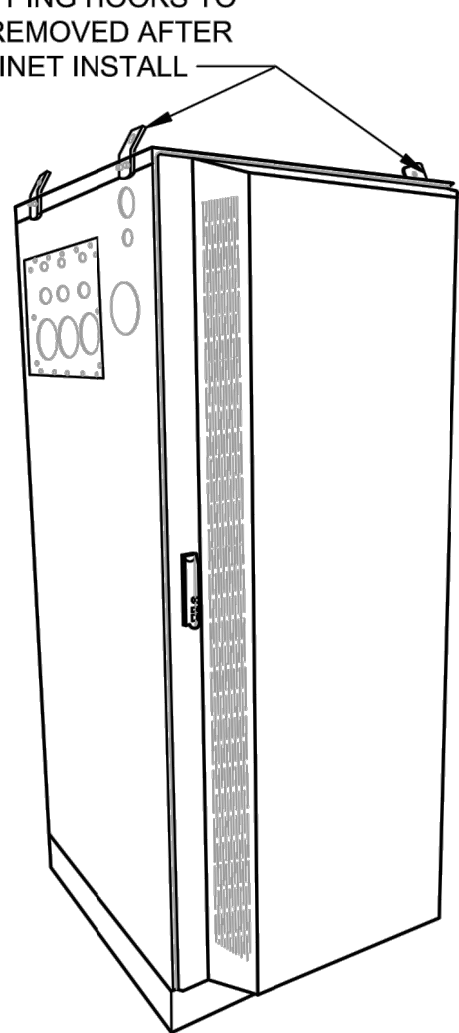
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MANUFACTURER: DELTA
MODEL: HPL3 SITE SUPPORT CABINET
WEIGHT: 551 LBS (WITHOUT EQUIPMENT)
DIMENSIONS: 30.0"x35.0"x72.0"

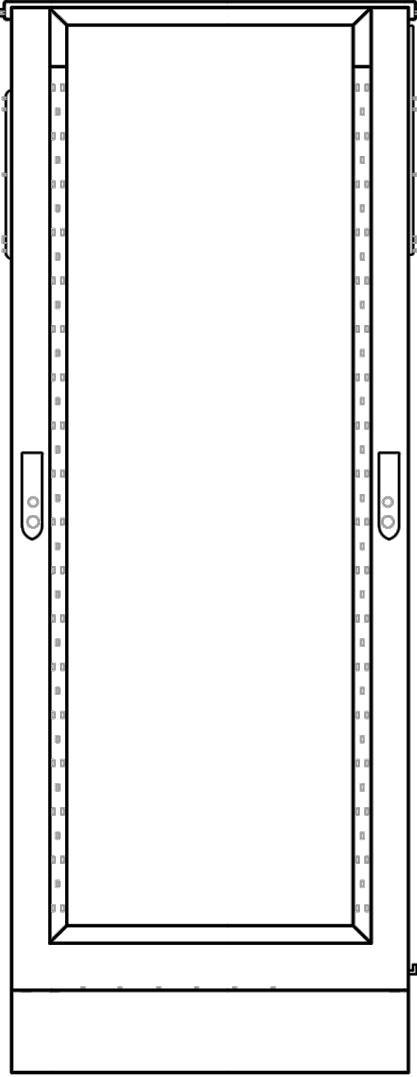
- NOTE:
- CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL KNOCKOUTS THROUGH
 - CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND/OR CABLING

RACK ASSIGNMENT		
RU SLOT	DESCRIPTION	DESCRIPTION
27		CSR - SAR/SAS
26		
25	AIRSCALE	
24		
23		
22	FIBER MUX	
21		AIRSCALE
20		
19		
18	FIBER MUX	
17		AIRSCALE
16		
15		
14	FIBER MUX	
13		AIRSCALE
12		
11		
10	FIBER MUX	
9		LEGACY BASEBAND
8		
7		
6		
5		LEGACY BASEBAND
4		
3		
2		
1		LEGACY BASEBAND

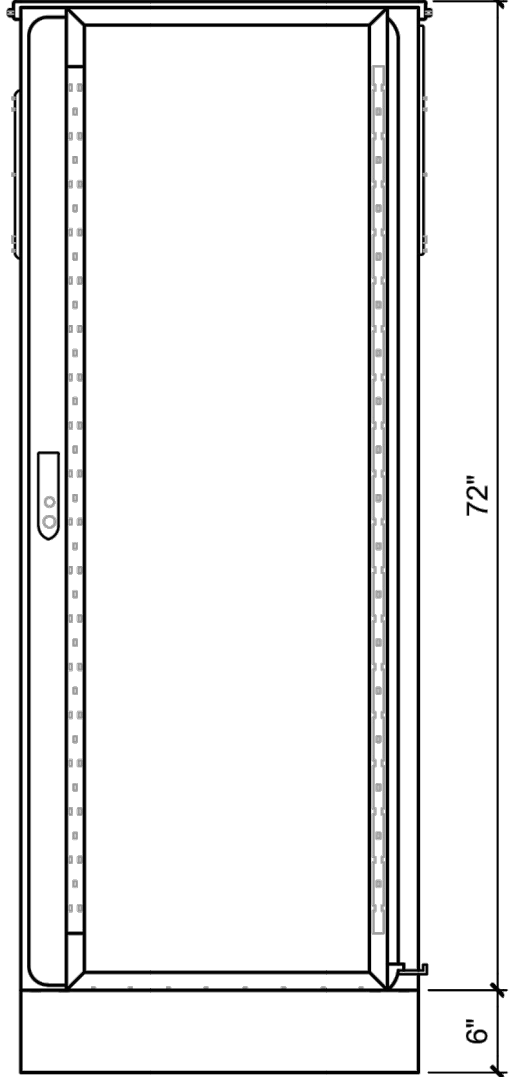
SHIPPING HOOKS TO BE REMOVED AFTER CABINET INSTALL



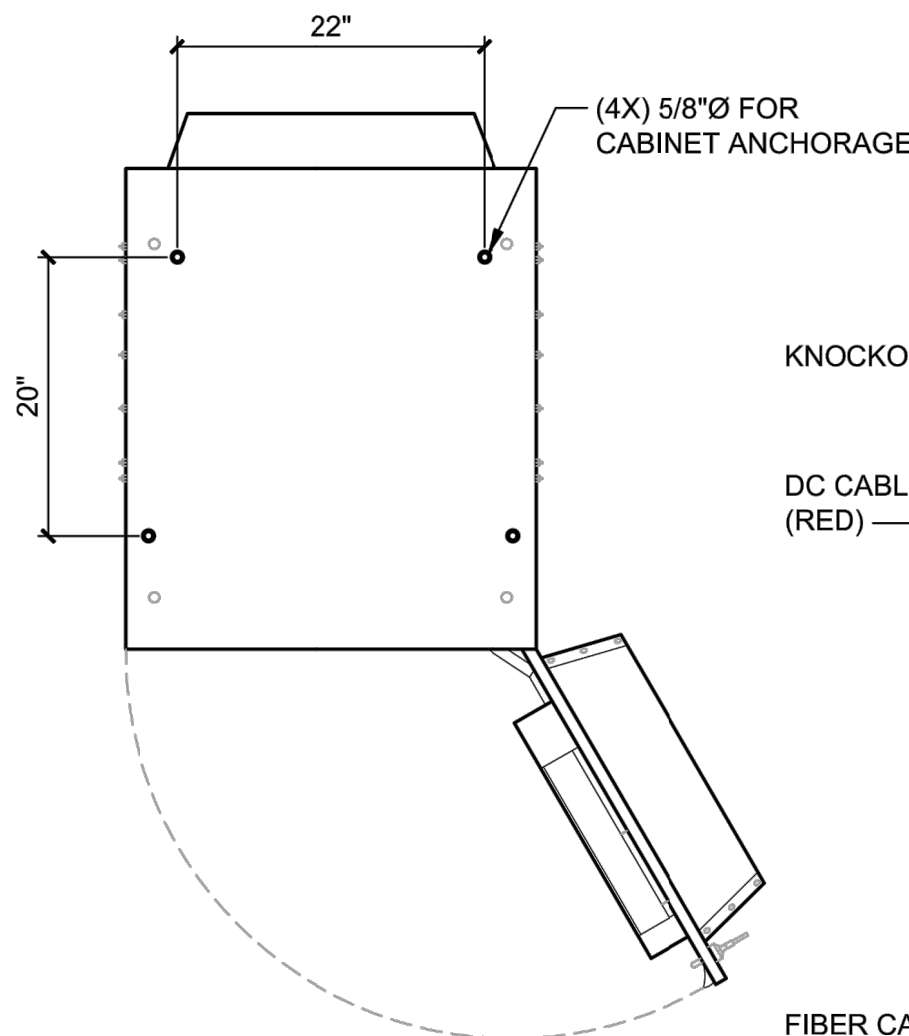
ISO VIEW N.T.S.



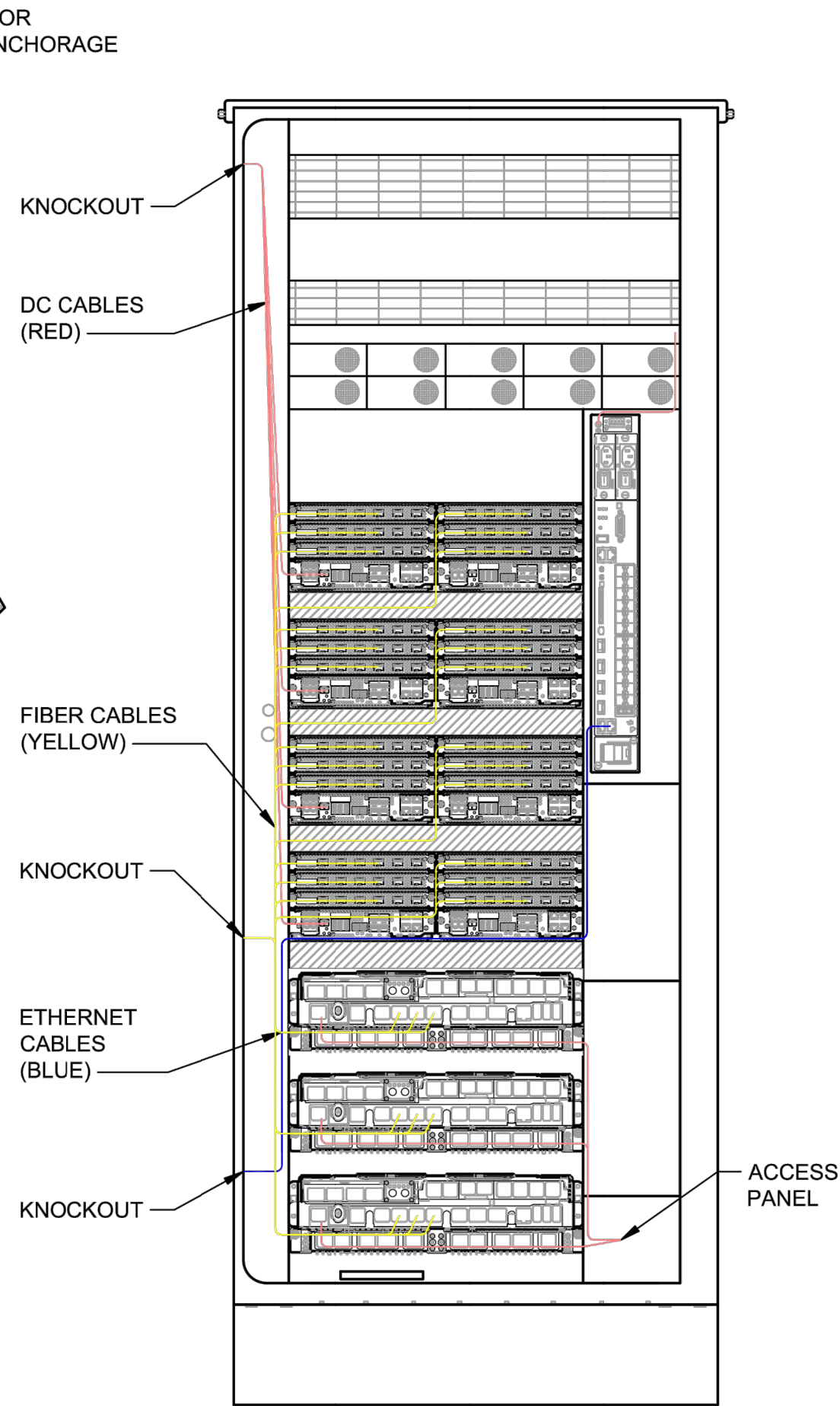
REAR VIEW



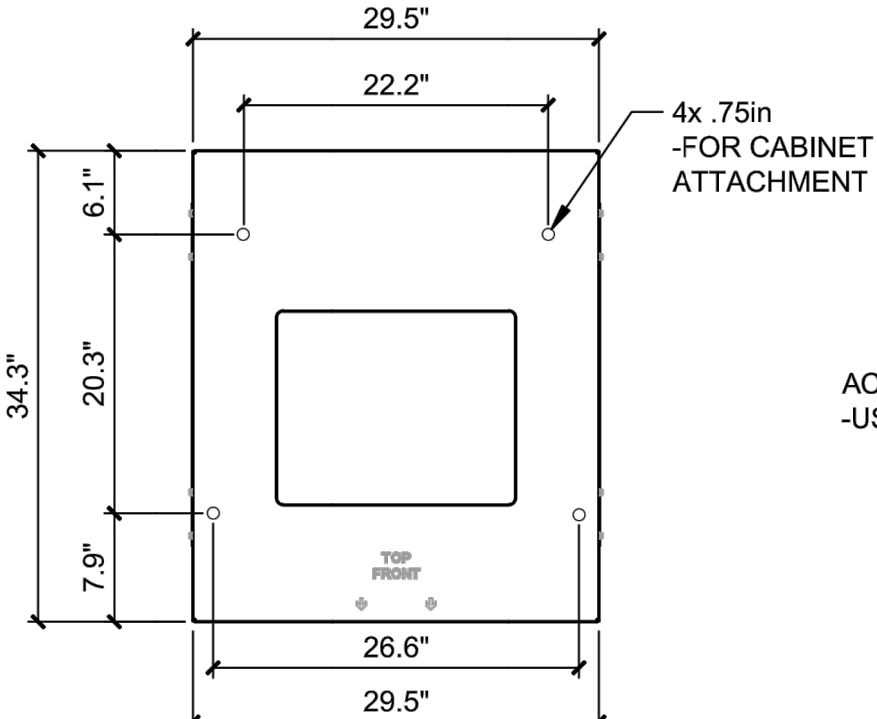
FRONT VIEW



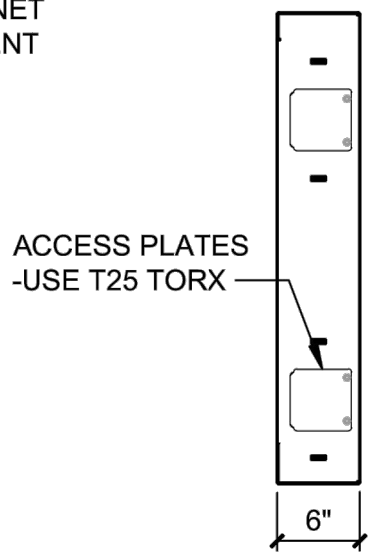
PLAN VIEW



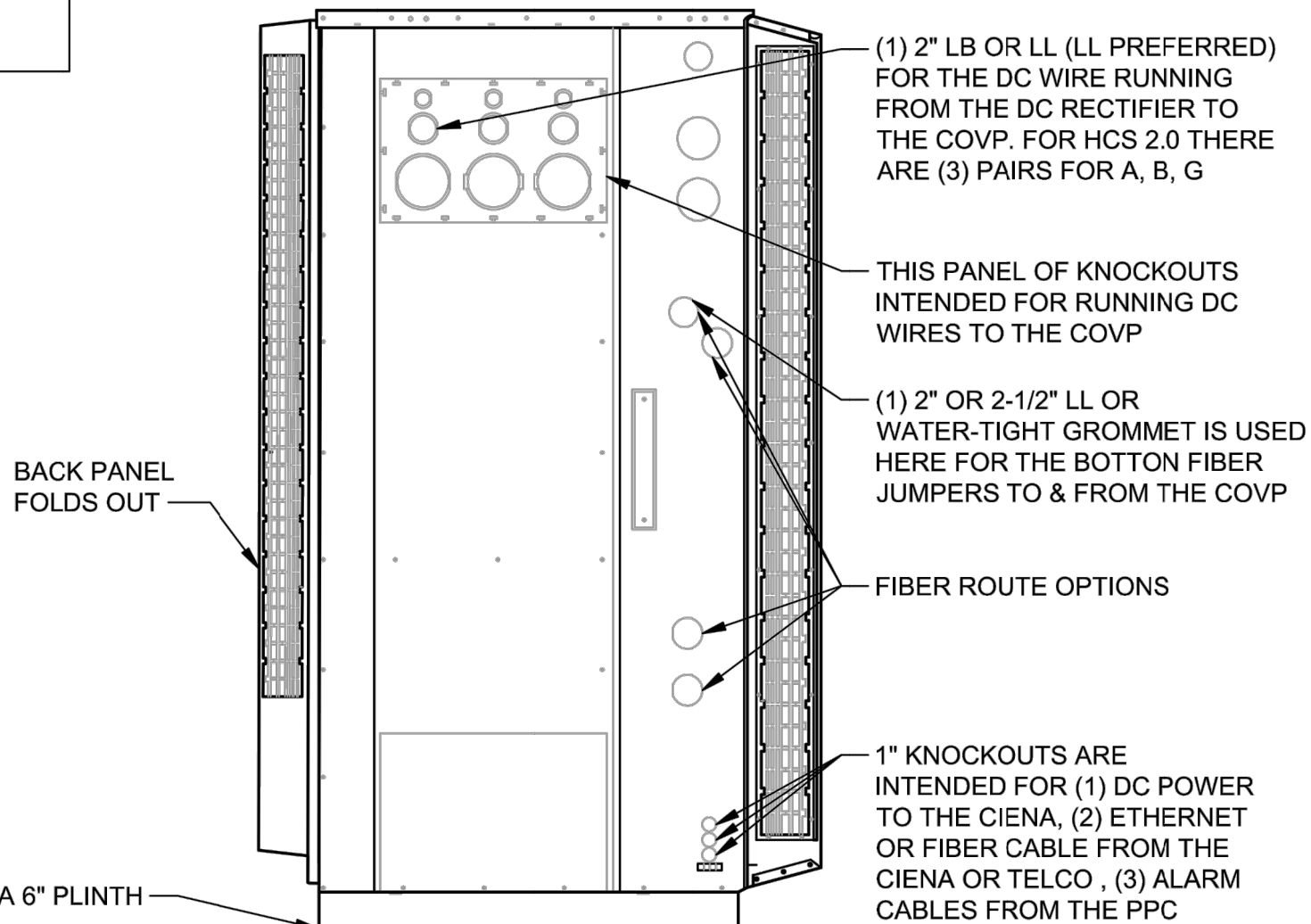
INTERNAL ROUTING



SKU# 33554 DELTA 6in PLINTH PLAN VIEW



SKU# 33554 DELTA 6in PLINTH SIDE VIEW



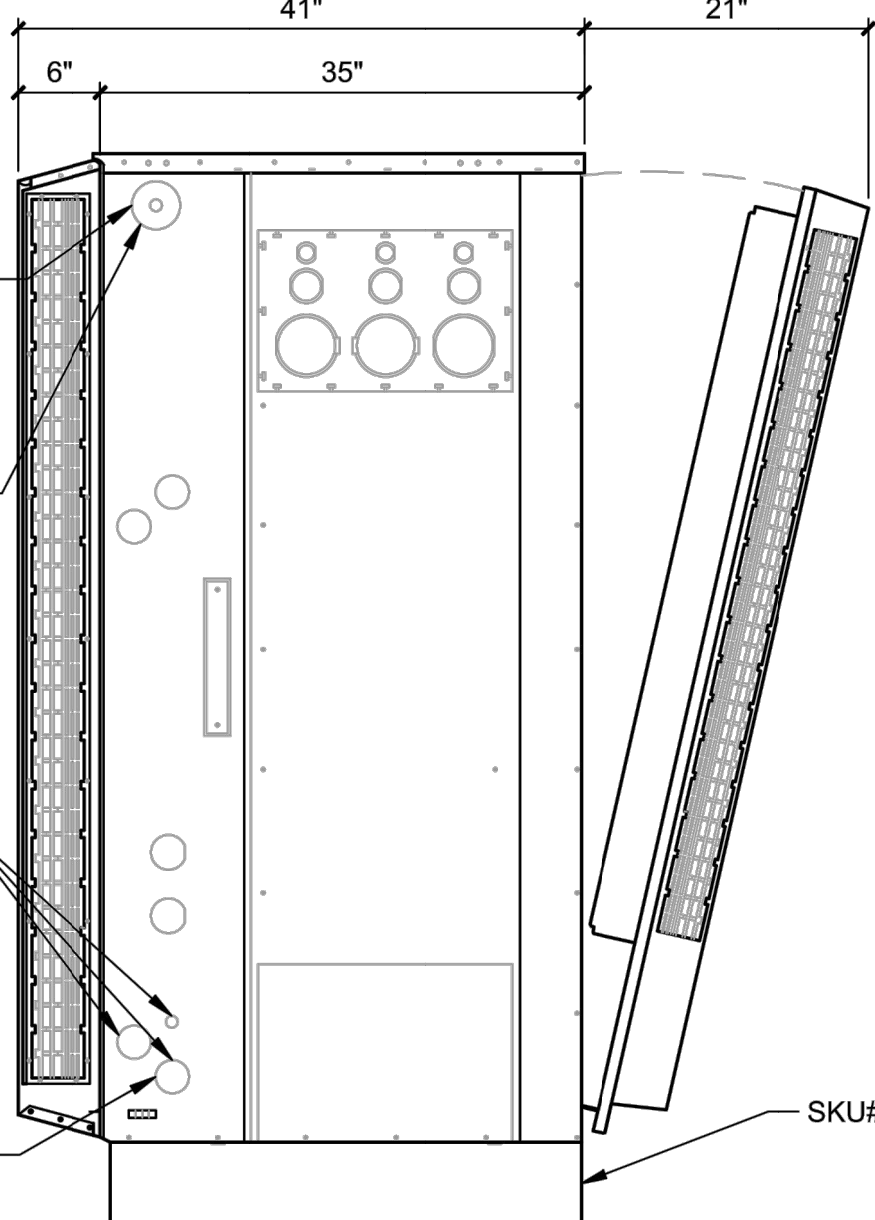
LEFT VIEW

BATTERY CABLE ROUTE KNOCKOUT. WITH THE FIXED LENGTH OF BATTERY CABLE PROVIDED, THIS IS THE ONLY KNOCKOUT YOU CAN USE.

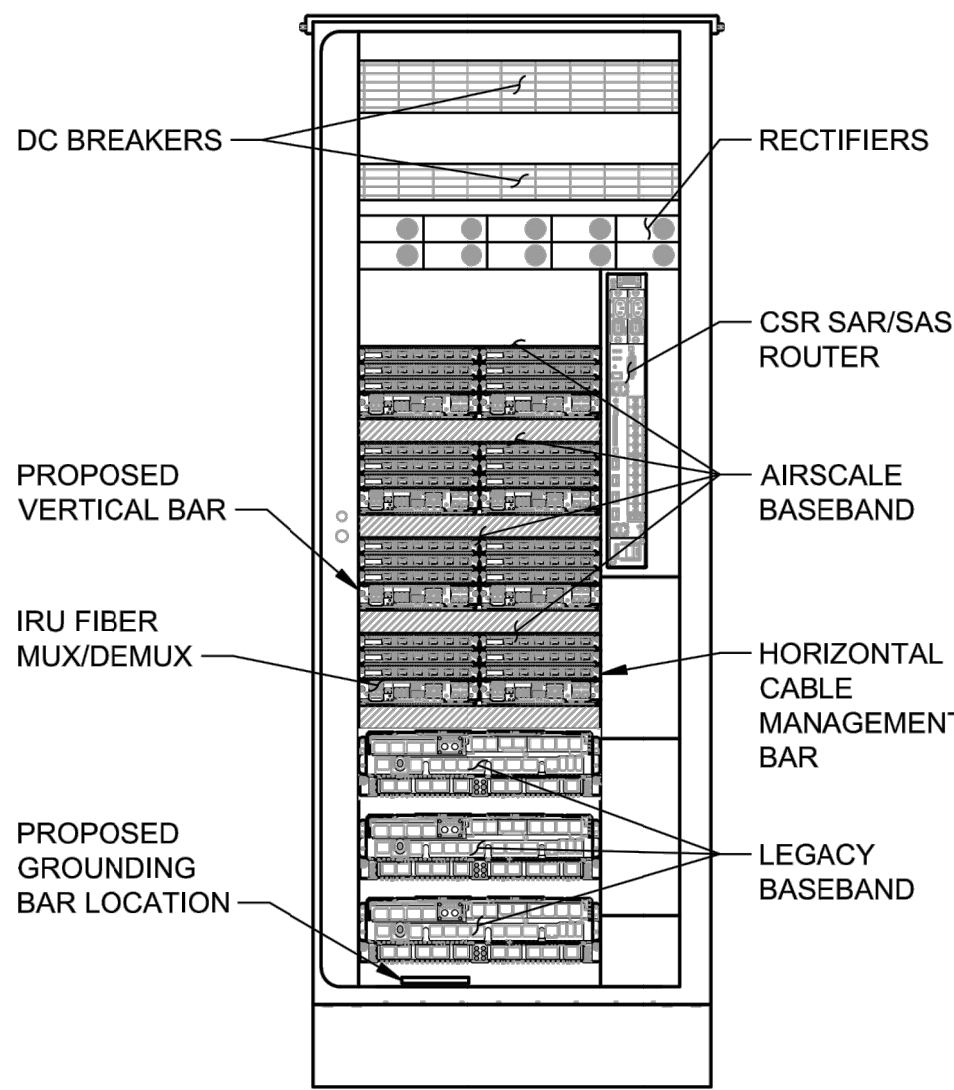
(1) 4" RIGID CONDUIT (WATER-TIGHT) FOR ROUTING BATTERY CABLES TO THE RECTIFIER.

INTENDED FOR AC INPUT WIRES FROM PPC

(1) 2" LL IS USED FROM A FLEXIBLE TO RIGID CONDUIT THAT RUNS ALL THE WAY TO THE PPC FOR AC WIRES THAT TERMINATES TO THE CABINETS AC TERMINALS



RIGHT VIEW



FRONT VIEW (OPEN)

SKU# 33929 - DELTA HPL3 SITE SUPPORT CABINET

22"x34" SCALE: N.T.S.

11"x17" SCALE: N.T.S.

1

T-Mobile

CROWN CASTLE

RAMAKER
employee-owned
(608) 643-4100 www.ramaker.com
RAMAKER PROJECT #: 54074

T-MOBILE SITE NUMBER:
DN04252A

BU #: 855798
SUNVIEW RV PARK

10410 STATE HIGHWAY 115
IVYWILD, CO 80926

EXISTING 150' MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	2/9/2022	DJG	FINAL	JMO
1	03/02/2022	AMW	MA UPDATE	JMO

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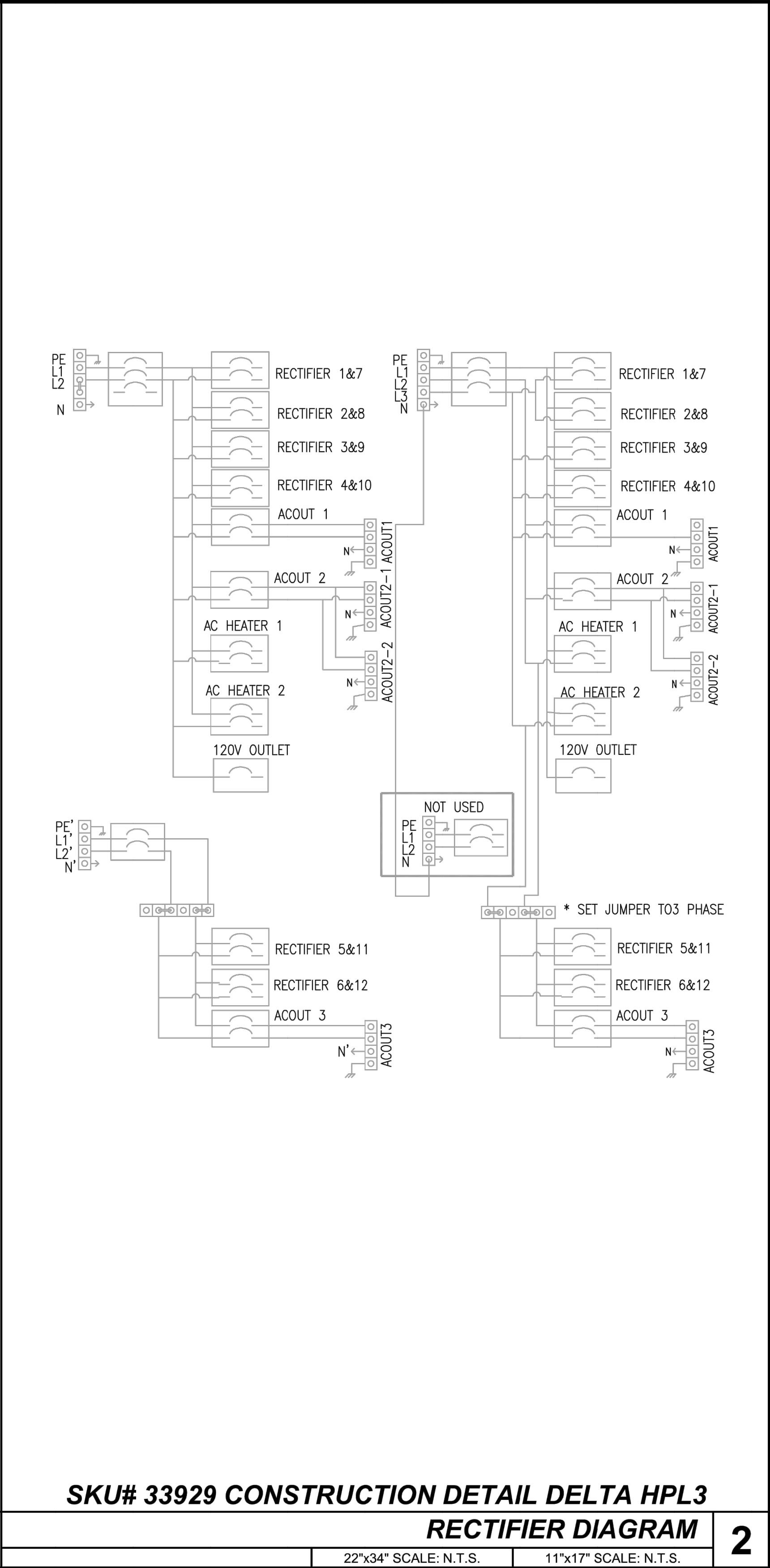
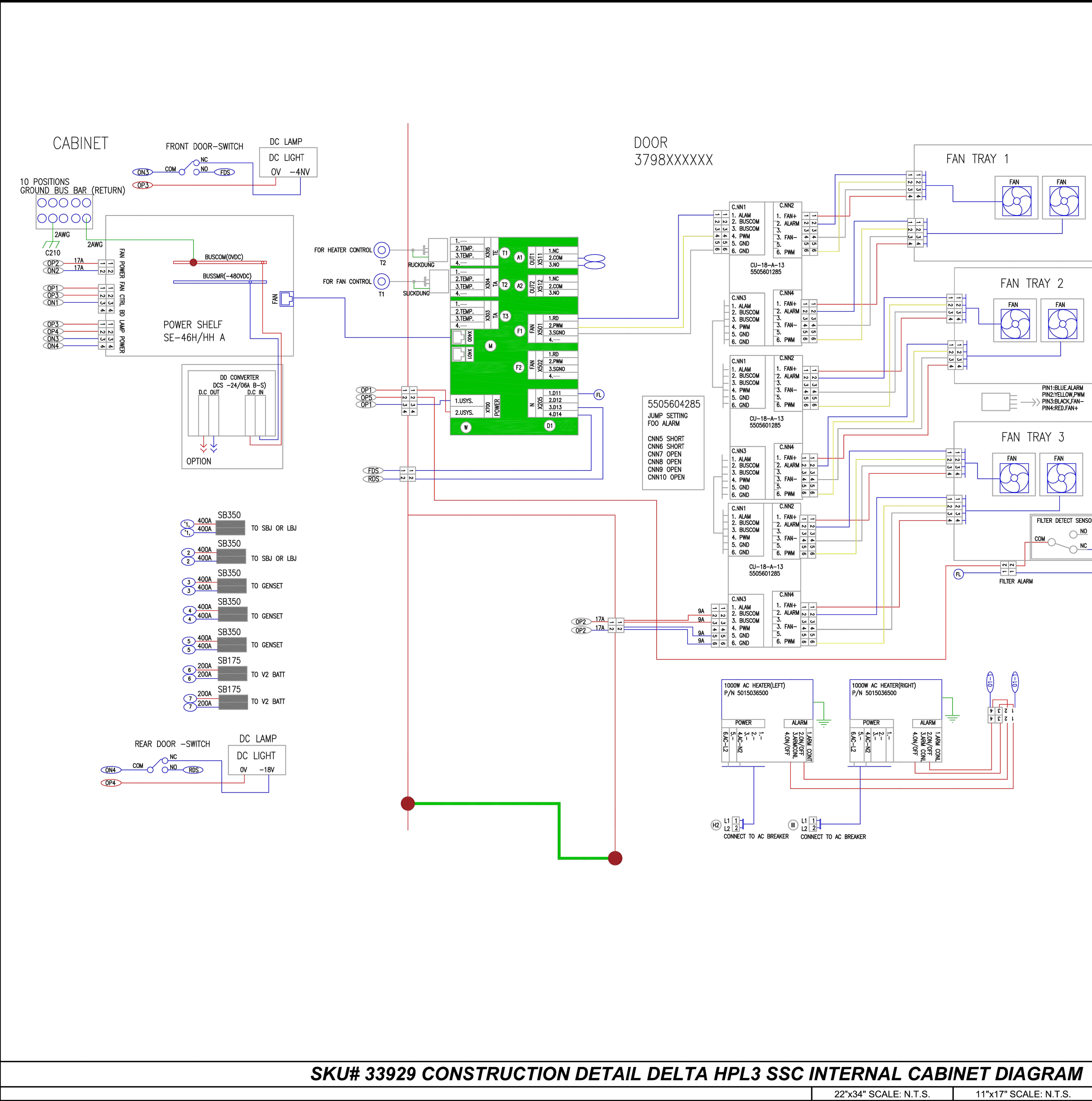
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SHEET NUMBER:

C-5A

REVISION:

1



SKU# 33929 CONSTRUCTION DETAIL DELTA HPL3 SSC INTERNAL CABINET DIAGRAM

1

22"x34" SCALE: N.T.S. 11"x17" SCALE: N.T.S.

SKU# 33929 CONSTRUCTION DETAIL DELTA HPL3

RECTIFIER DIAGRAM

2

22"x34" SCALE: N.T.S. 11"x17" SCALE: N.T.S.

T-Mobile

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employee-owned
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SHEET NUMBER:

C-5B

REVISION:

1

T-MOBILE SITE NUMBER:
DN04252A

BU #: 855798
SUNVIEW RV PARK

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IVYWILD, CO 80926

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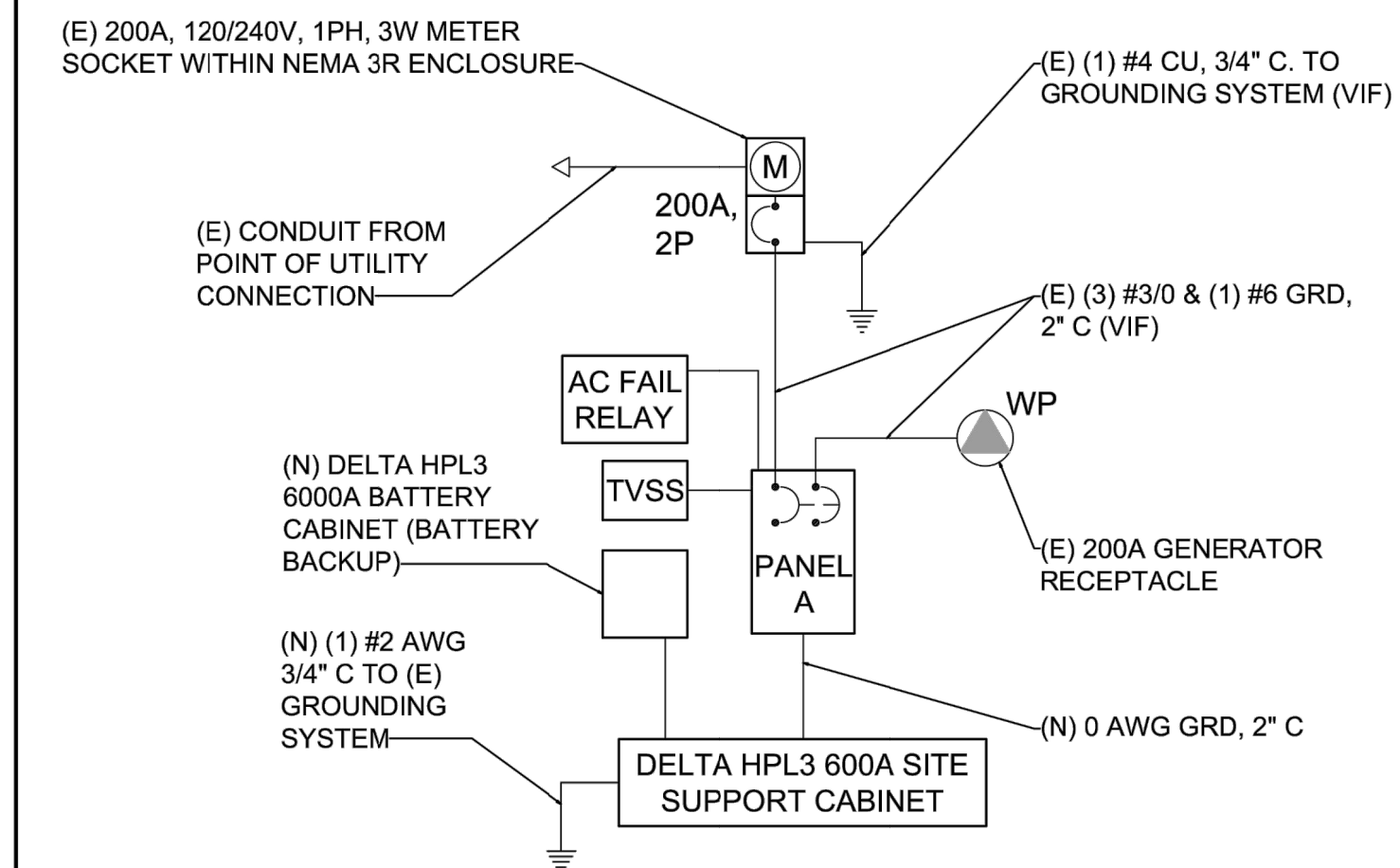
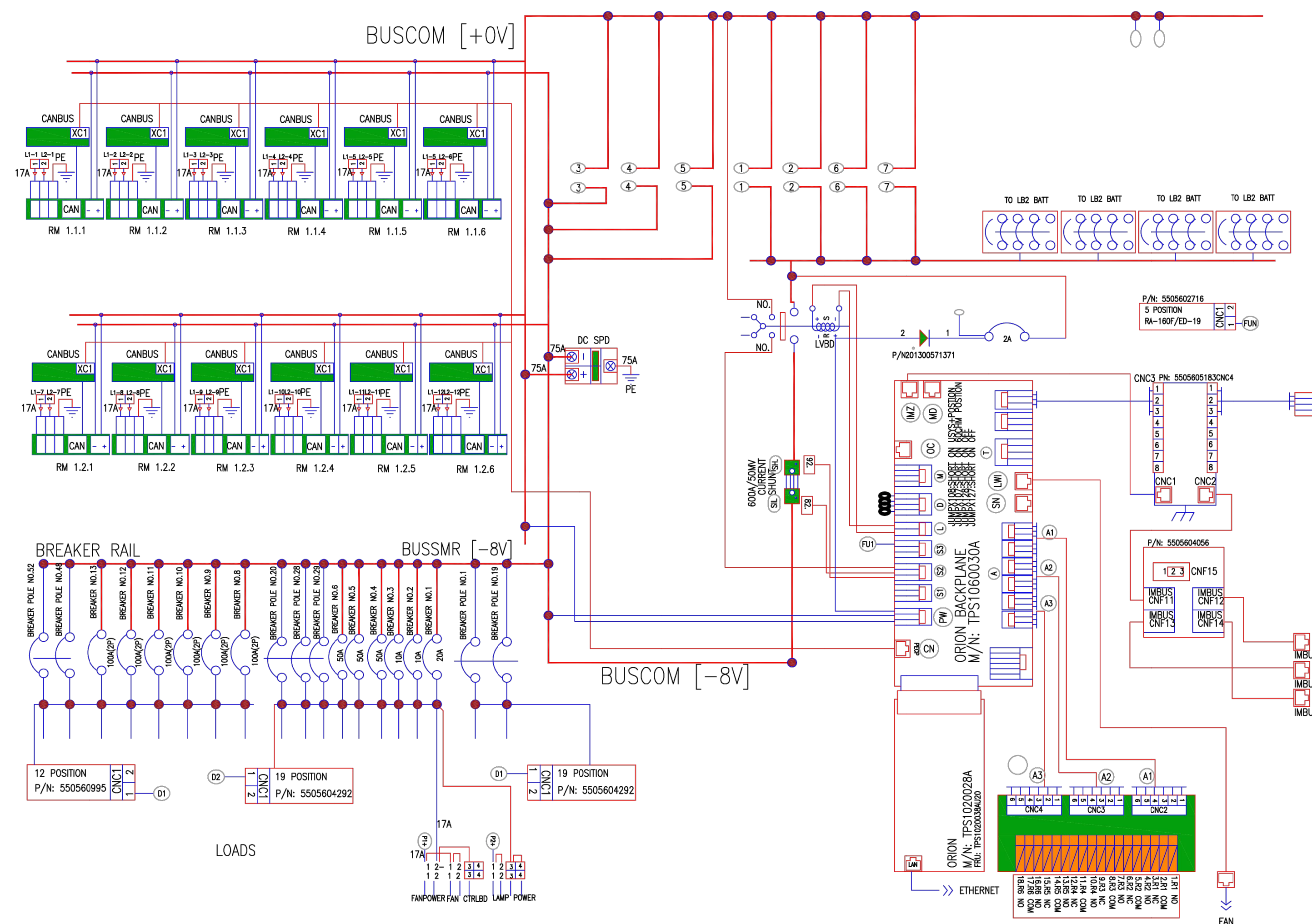
SHEET NUMBER:

C-5C

REVISION:

1

NOTE:
DIAGRAMS PROVIDED ARE PER
MANUFACTURER INSTALLATION GUIDE



SKU# 33929 CONSTRUCTION DETAIL DELTA HPL3 SSC DC BREAKER WIRING DIAGRAM

1

22"x34" SCALE: N.T.S. 11"x17" SCALE: N.T.S.

SKU# 33929 CONSTRUCTION DETAIL DELTA HPL3 SSC

TYP. ONE LINE DIAGRAM

2

22"x34" SCALE: N.T.S. 11"x17" SCALE: N.T.S.

T-MOBILE SITE NUMBER:
DN04252A

BU #: 855798
SUNVIEW RV PARK

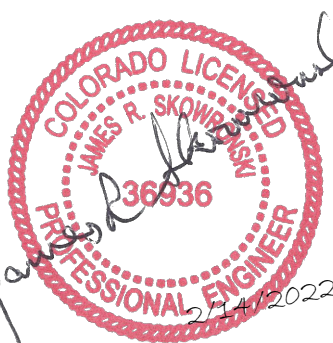
10410 STATE HIGHWAY 115
IVYWILD, CO 80926

EXISTING 150' MONOPOLE

ISSUED FOR:

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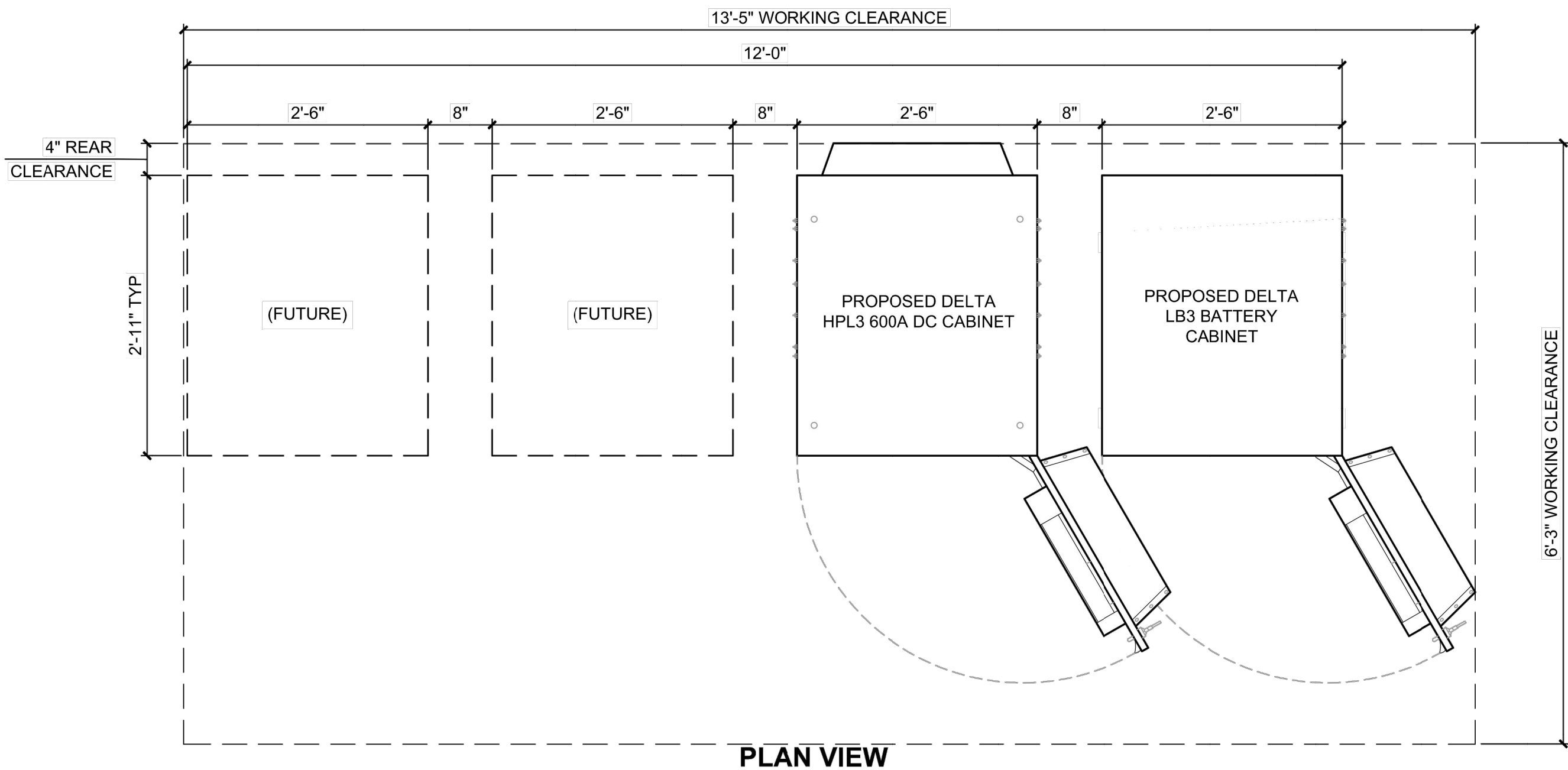
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SHEET NUMBER:

C-6A

REVISION:

1

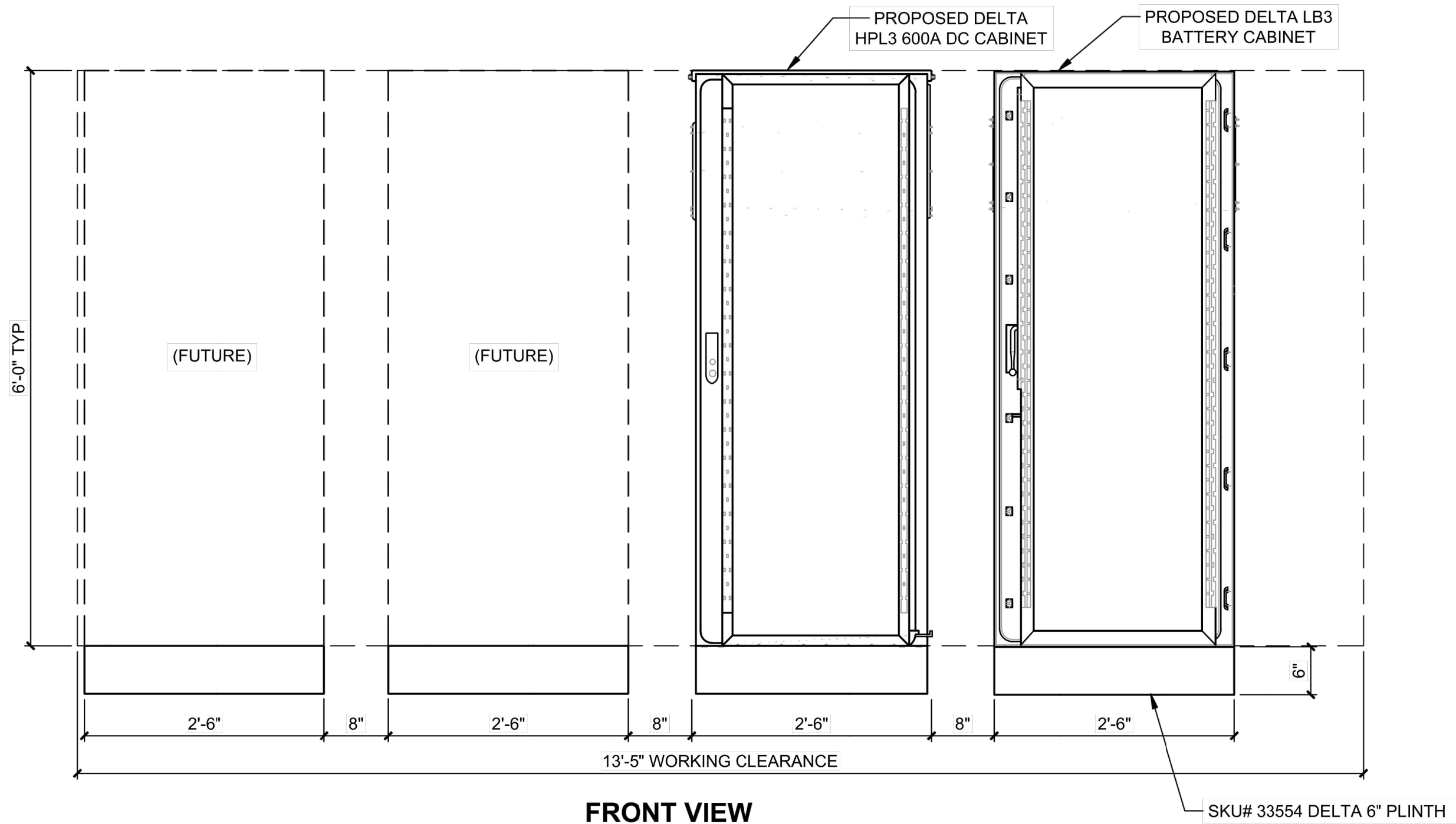
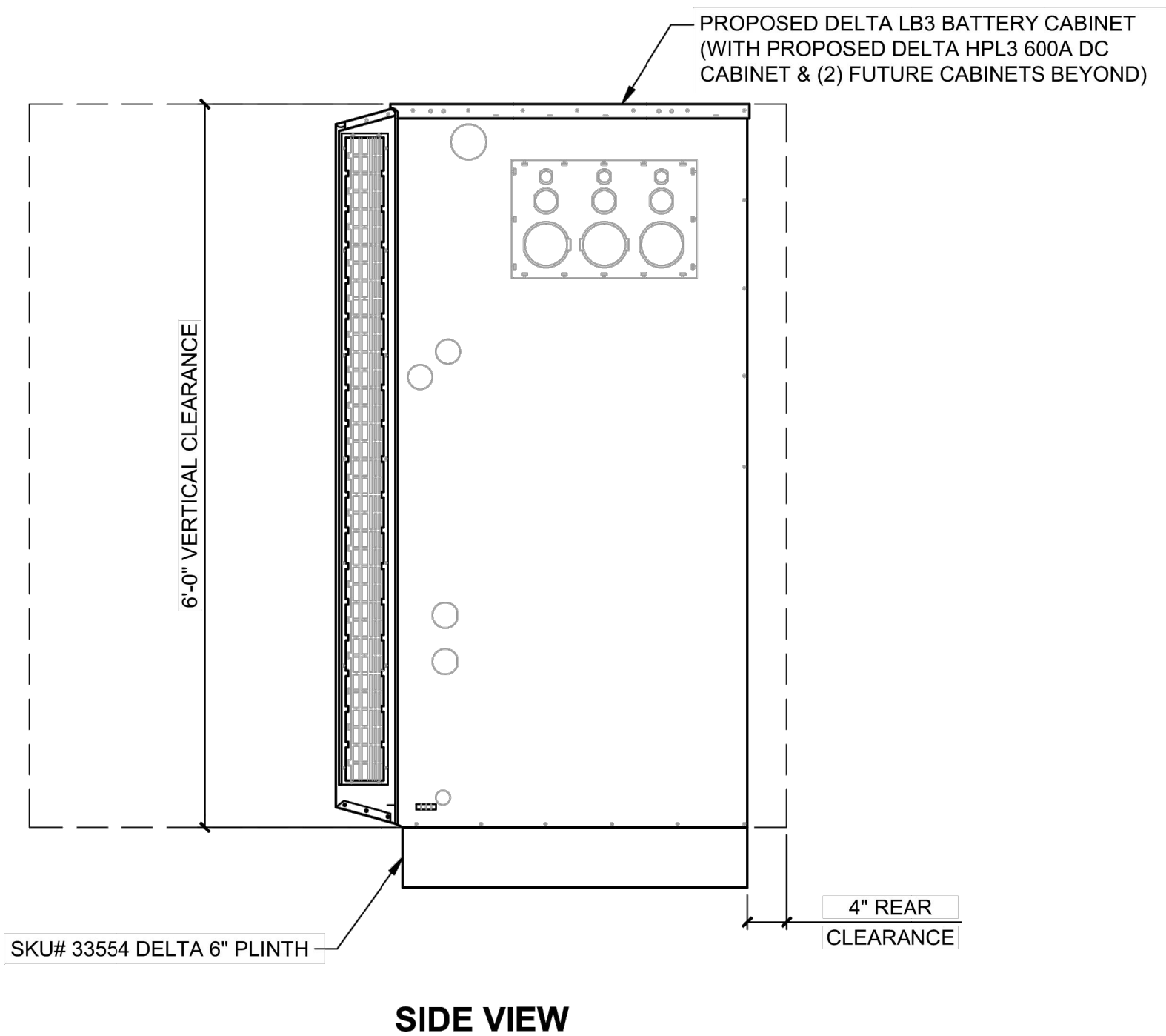


SKU# 33932 CONSTRUCTION DETAIL - DELTA LB3 BATTERY SUPPORT CABINET LAYOUT

1

22"x34" SCALE: N.T.S.

11"x17" SCALE: N.T.S.



SKU# 33932 CONSTRUCTION DETAIL - DELTA LB3 BATTERY SUPPORT CABINET LAYOUT

2

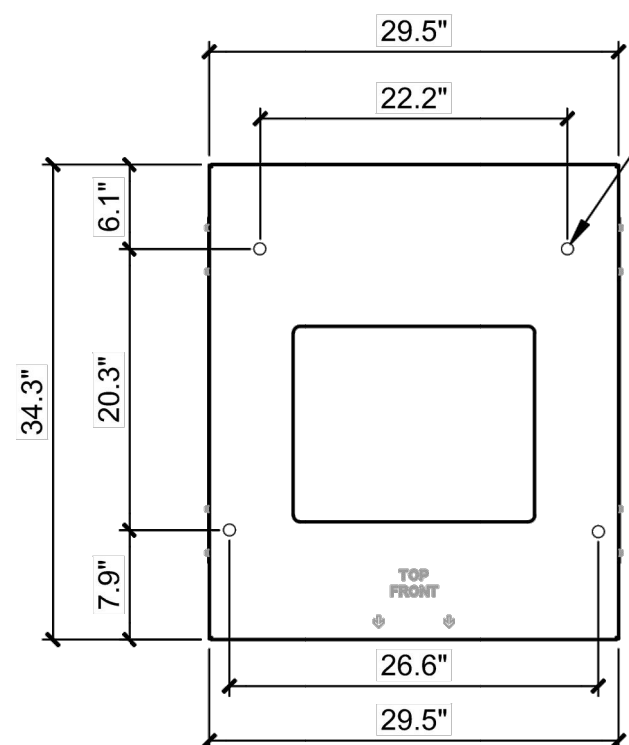
22"x34" SCALE: N.T.S.

11"x17" SCALE: N.T.S.

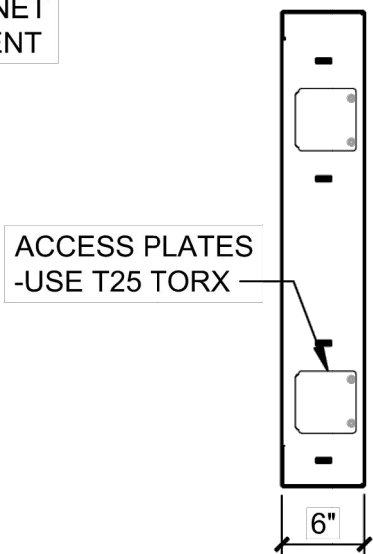
MANUFACTURER: DELTA
MODEL: LB3 BATTERY SUPPORT CABINET
WEIGHT: 509 LBS (WITHOUT EQUIPMENT)
DIMENSIONS: 30.0"x35.0"x72.0"

NOTE:

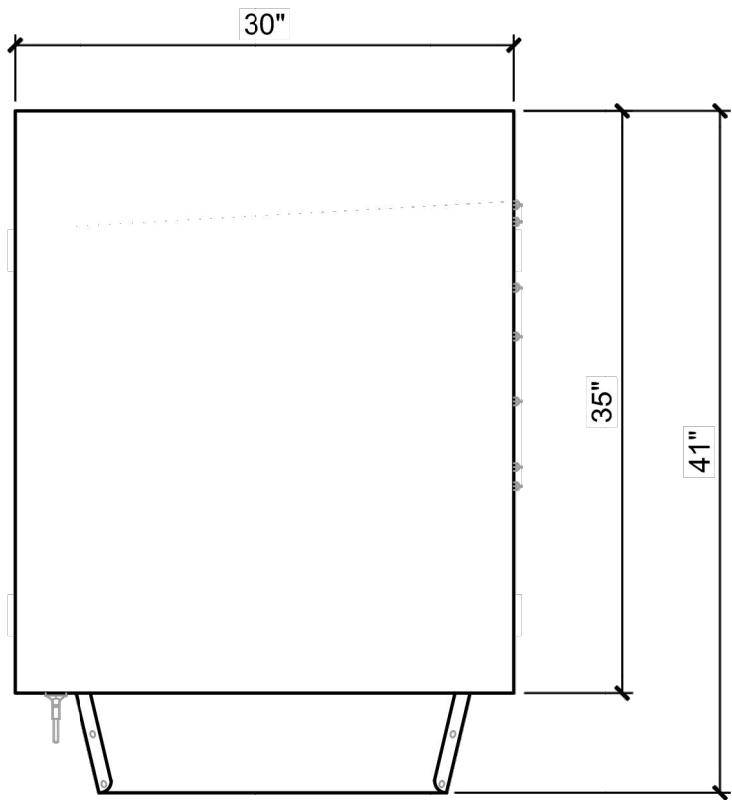
- CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL KNOCKOUTS THROUGH
- CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND/OR CABLING



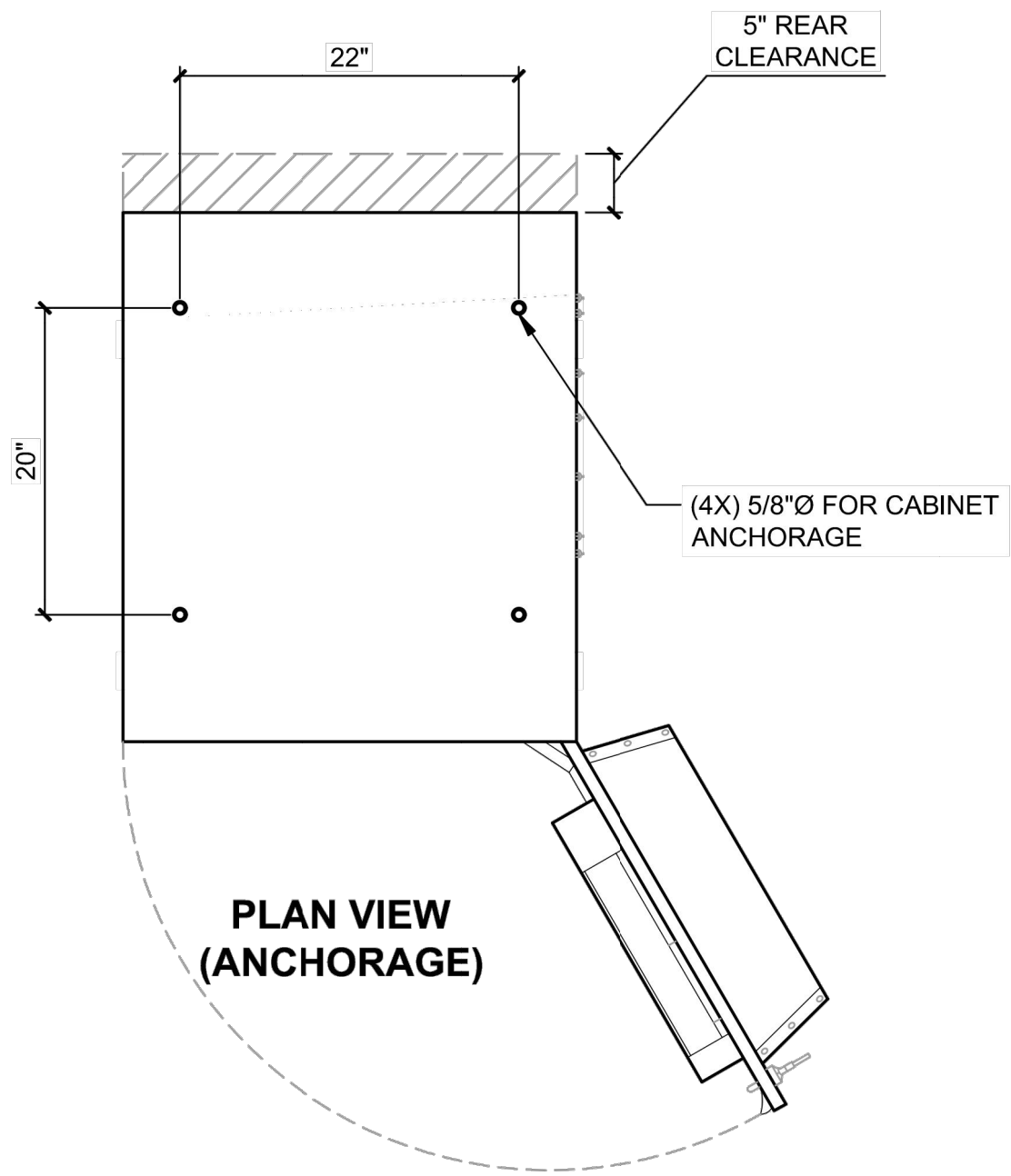
SKU# 33554 DELTA 6in PLINTH
PLAN VIEW



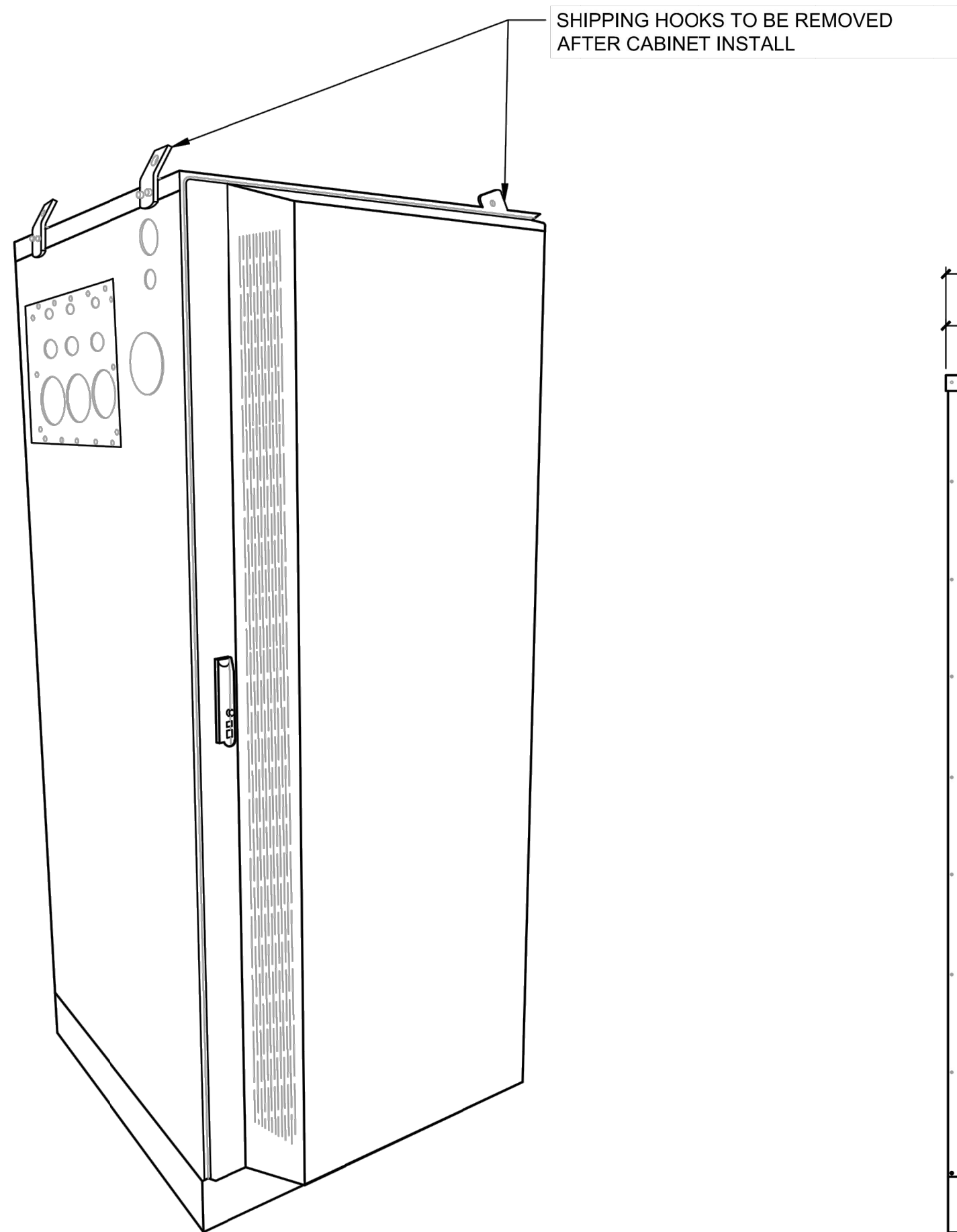
SKU# 33554 DELTA 6IN PLINTH
SIDE VIEW



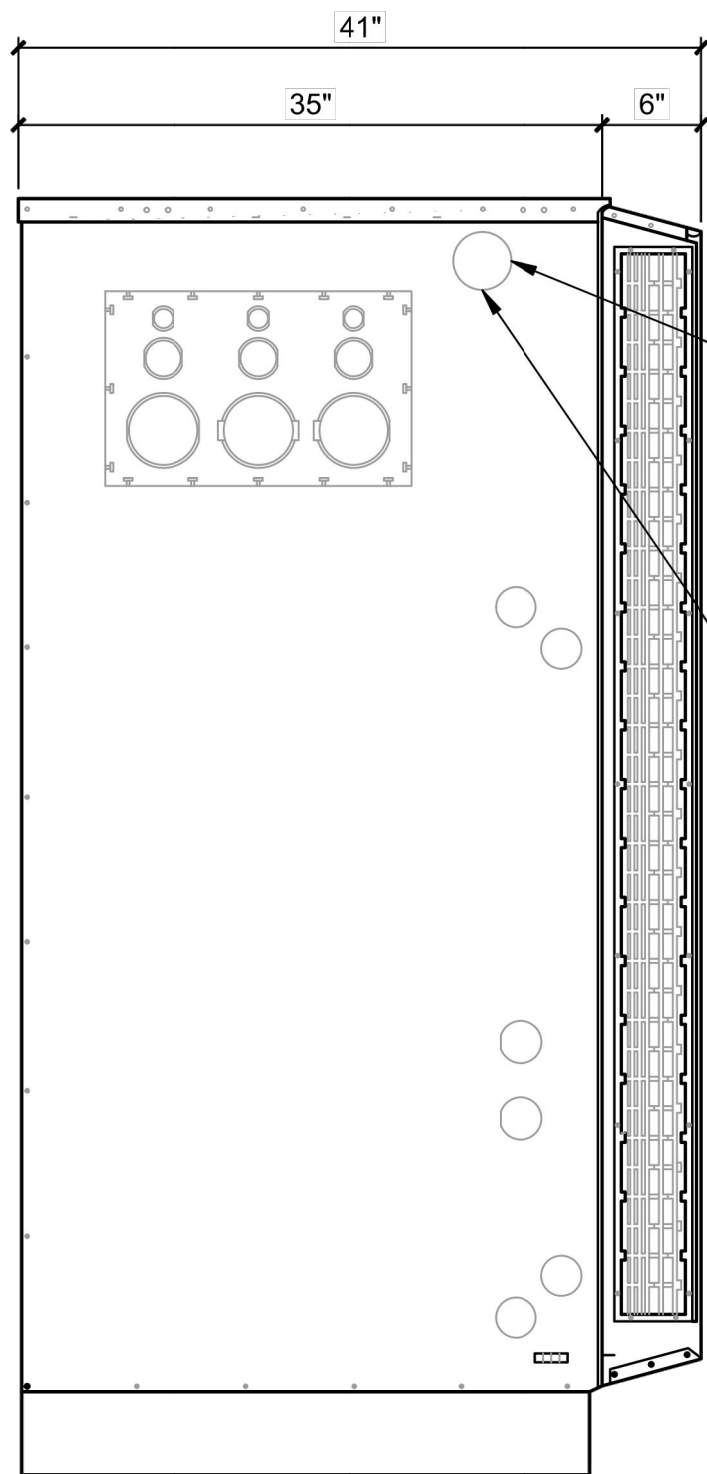
PLAN VIEW



PLAN VIEW
(ANCHORAGE)

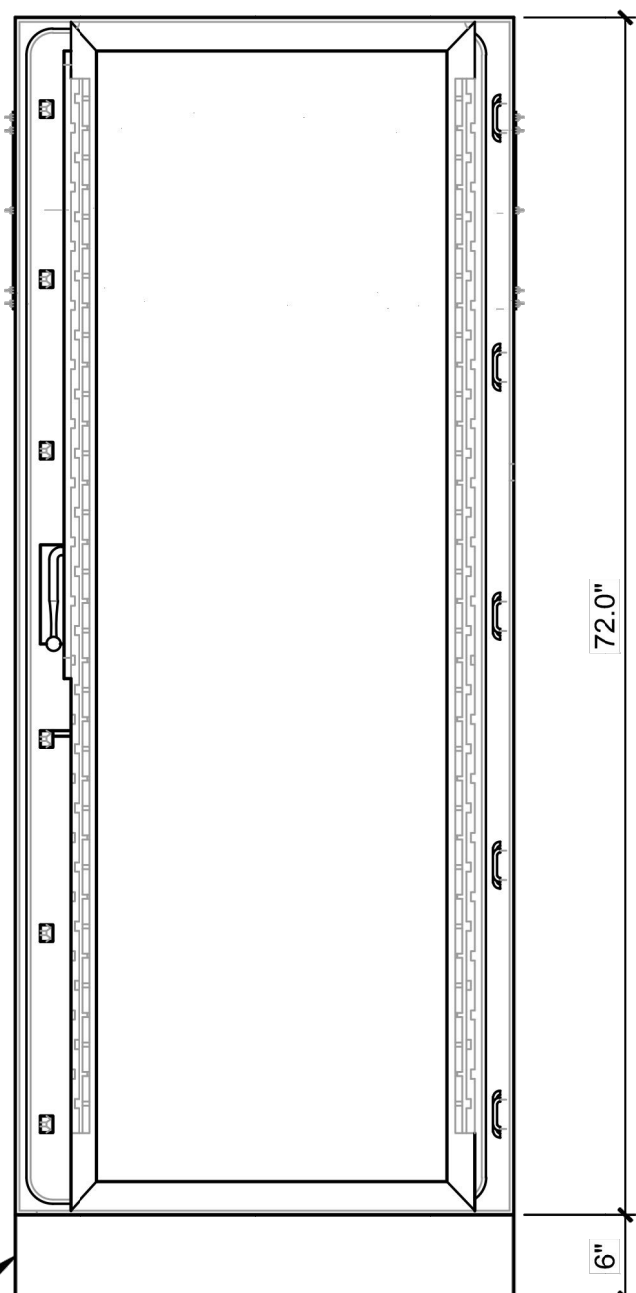


ISO VIEW
N.T.S.

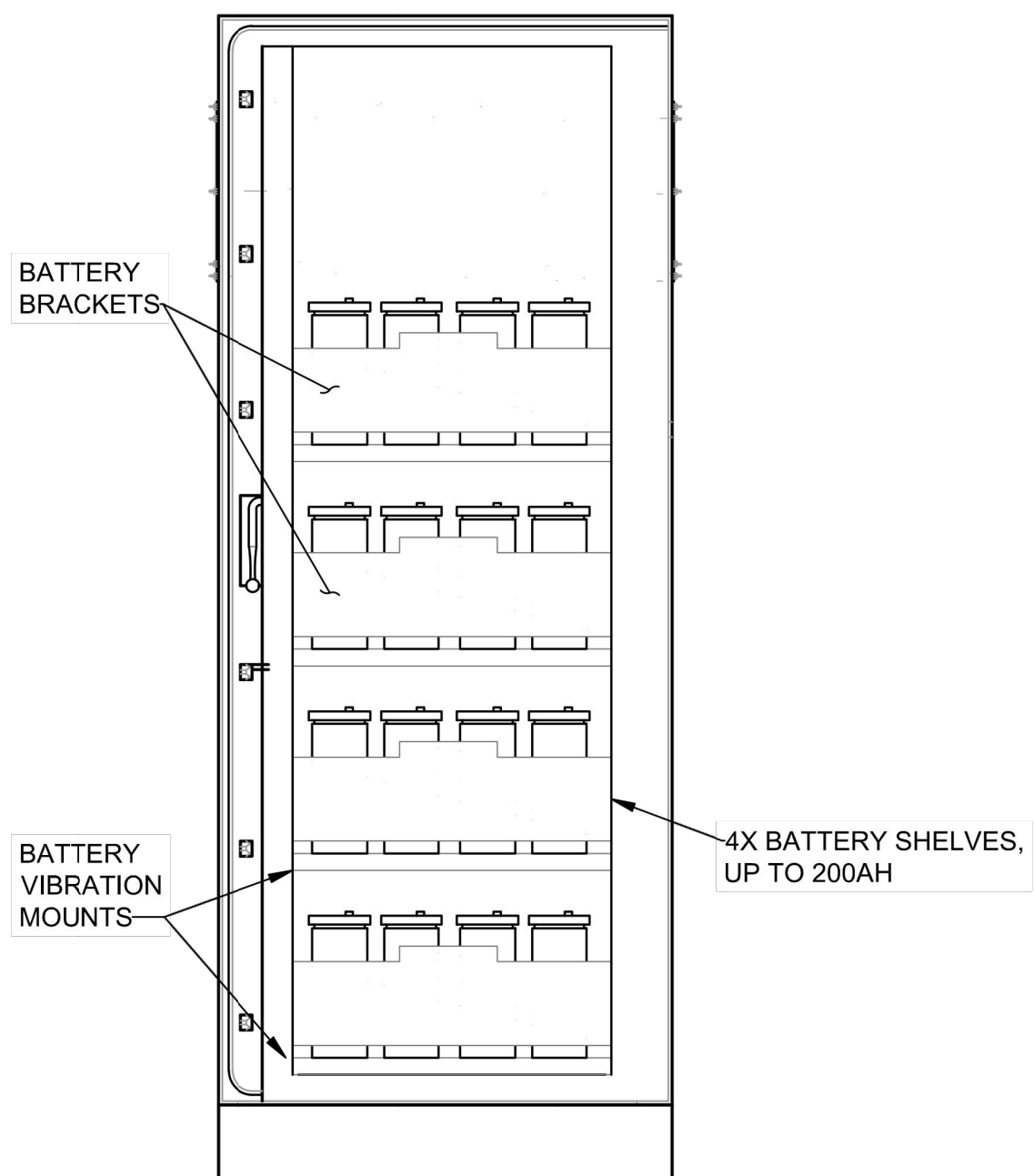


LEFT VIEW

SKU# 33554 DELTA 6" PLINTH



FRONT VIEW



FRONT VIEW
(OPEN)

SKU# 33932 - DELTA LB3 BATTERY SUPPORT CABINET

22"x34" SCALE: N.T.S.

11"x17" SCALE: N.T.S.

1

T-Mobile

CROWN
CASTLE

RAMAKER
employee-owned
(608) 643-4100 www.ramaker.com
RAMAKER PROJECT #: 54074

T-MOBILE SITE NUMBER:
DN04252A

BU #: 855798
SUNVIEW RV PARK

10410 STATE HIGHWAY 115
IVYWILD, CO 80926

EXISTING 150' MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	2/9/2022	DJG	FINAL	JMO
1	03/02/2022	AMW	MA UPDATE	JMO

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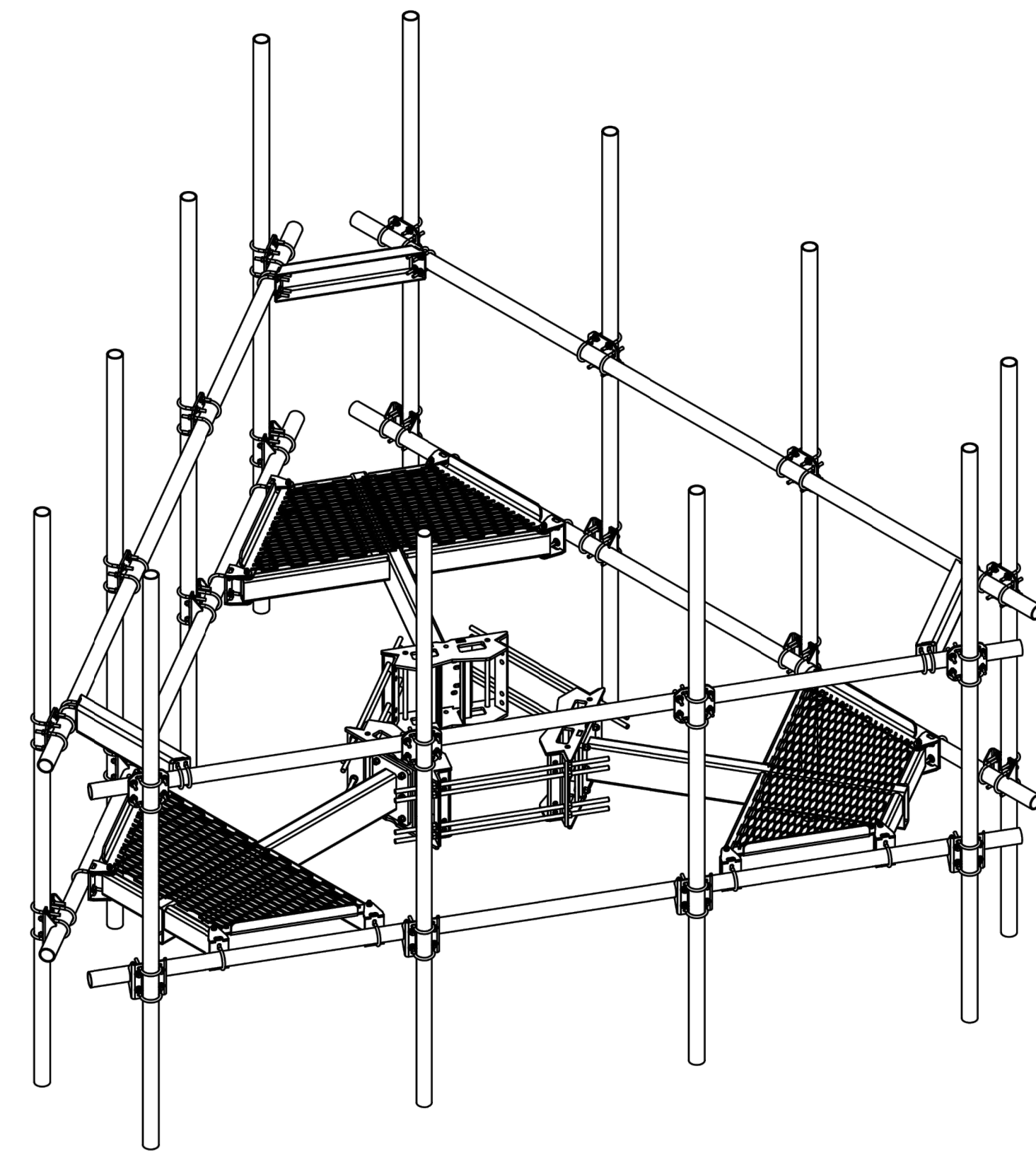
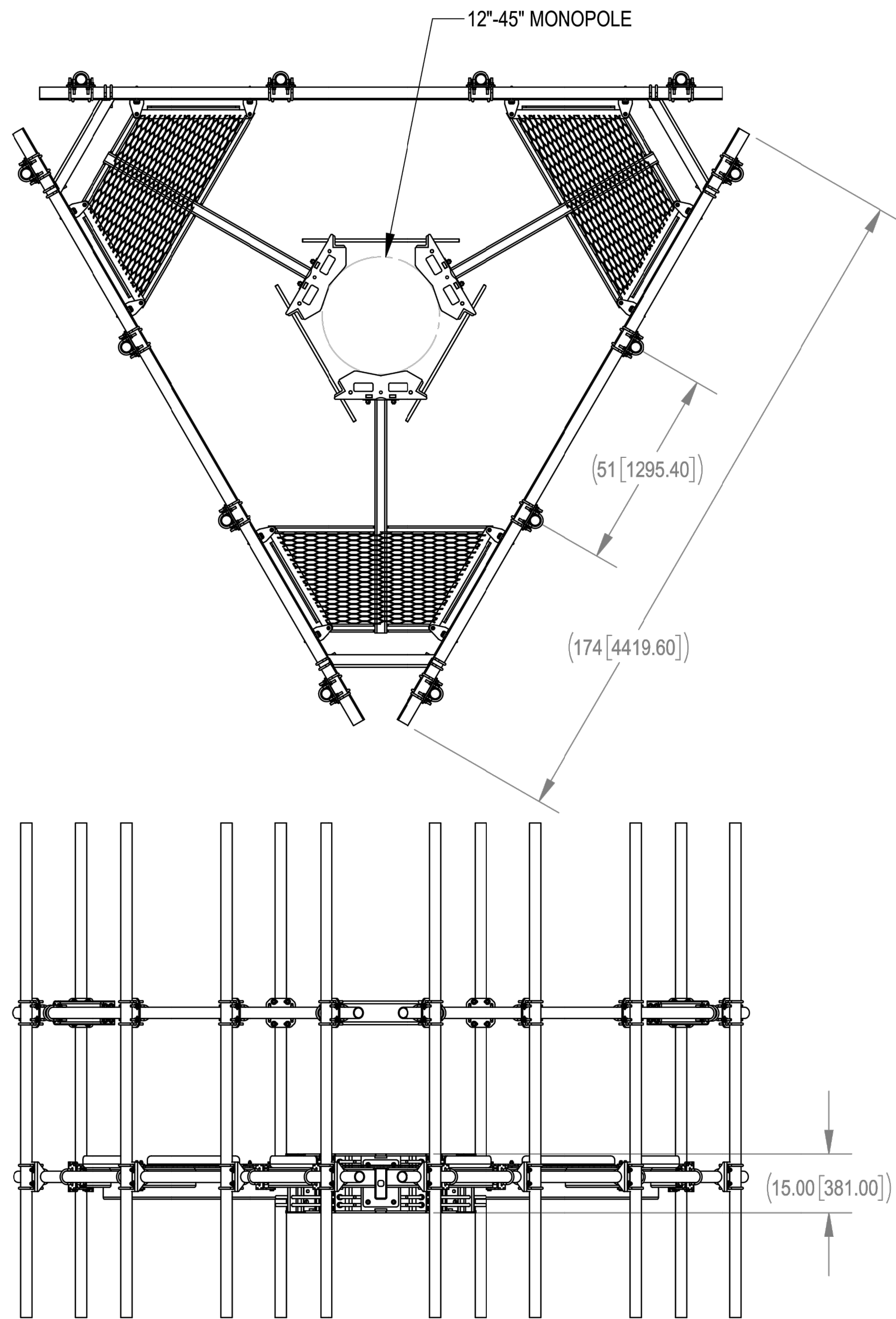
C-6B

REVISION:

1

NOTES:

- 1.0 GENERAL
- 1.1 ALL METRIC DIMENSIONS ARE IN BRACKETS
- 1.2 FOR PATENTS, SEE WWW.CS-PAT.COM
- 2.0 DESIGN NOTES
- 2.1 USE DRAWING MC-RMHD-1245-3 TO ASSEMBLE RING MOUNT
- 3.0 MANUFACTURING/SPECIAL REQUIREMENTS
- 4.0 TEST
- 5.0 PACKAGING



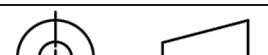
MC-PM14M-12C-126 SHOWN FOR REFERENCE

PART #	DESCRIPTION	HARDWARE KIT	PIPE BUNDLE	STEEL BUNDLE
MC-PM10M-BC	ATLAS MONOPOLE PLATFORM, 10' FACE PIPE, w/ 2.88" TOP RAIL, NO ANT PIPE	MCPMC-HK10	PB0610K	MCPM-SB40
MC-PM10M-12C-96	ATLAS MONOPOLE PLATFORM, 10' FACE PIPE, w/ 2.88" TOP RAIL, (12) 2.88" X 96" ANT PIPE	MCPMC-HK10	PB0610K1208K	MCPM-SB40
MC-PM10M-12C-126	ATLAS MONOPOLE PLATFORM, 10' FACE PIPE, w/ 2.88" TOP RAIL, (12) 2.88" X 126" ANT PIPE	MCPMC-HK10	PB1810K	MCPM-SB40
MC-PM12M-BC	ATLAS MONOPOLE PLATFORM, 12' FACE PIPE, w/ 2.88" TOP RAIL, NO ANT PIPE	MCPMC-HK12	PB0612K	MCPM-SB60
MC-PM12M-12C-96	ATLAS MONOPOLE PLATFORM, 12' FACE PIPE, w/ 2.88" TOP RAIL, (12) 2.88" X 96" ANT PIPE	MCPMC-HK12	PB0612K1208K	MCPM-SB60
MC-PM12M-12C-126	ATLAS MONOPOLE PLATFORM, 12' FACE PIPE, w/ 2.88" TOP RAIL, (12) 2.88" X 126" ANT PIPE	MCPMC-HK12	PB0612K1210K	MCPM-SB60
MC-PM14M-BC	ATLAS MONOPOLE PLATFORM, 14' FACE PIPE, w/ 2.88" TOP RAIL, NO ANT PIPE	MCPMC-HK12	PB0614K	MCPM-SB60
MC-PM14M-12C-96	ATLAS MONOPOLE PLATFORM, 14' FACE PIPE, w/ 2.88" TOP RAIL, (12) 2.88" X 96" ANT PIPE	MCPMC-HK12	PB0614K1208K	MCPM-SB60
MC-PM14M-12C-126	ATLAS MONOPOLE PLATFORM, 14' FACE PIPE, w/ 2.88" TOP RAIL, (12) 2.88" X 126" ANT PIPE	MCPMC-HK12	PB0614K1210K	MCPM-SB60



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REVISIONS				
REV.	ECN	DESCRIPTION	BY	DATE
A	8000044190	INITIAL RELEASE	ES1081	12/17/20

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES INTERPRET PER ANSI Y 14.5M-1984		NAME	DATE	MC-PM-C CO-LOCATION PLATFORM SERIES					
	CE	ES1081	12/17/20						
	RW	ES1081	12/17/2020						
	RV								
	AD	ROGHANSON	12/28/2020	SCALE 1:32DOCUMENT NO. MC-PM-C					
	RE	BCROSS	01/05/2021						
	ECN	008000044190							
	SIZE	WORK AREA	24	MODEL			DRAWING		
C		VERSION	STATUS	REVISION	VERSION	STATUS	REVISION		
		01	RE	A	01	RE			



T-MOBILE SITE NUMBER:
DN04252A

BU #: 855798
SUNVIEW RV PARK

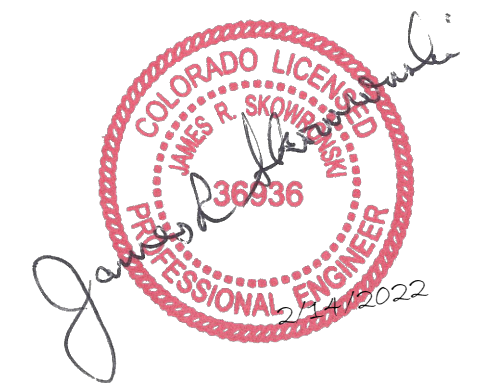
10410 STATE HIGHWAY 115
IVYWILD, CO 80926

EXISTING 150' MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	2/9/2022	DJG	FINAL	JMO
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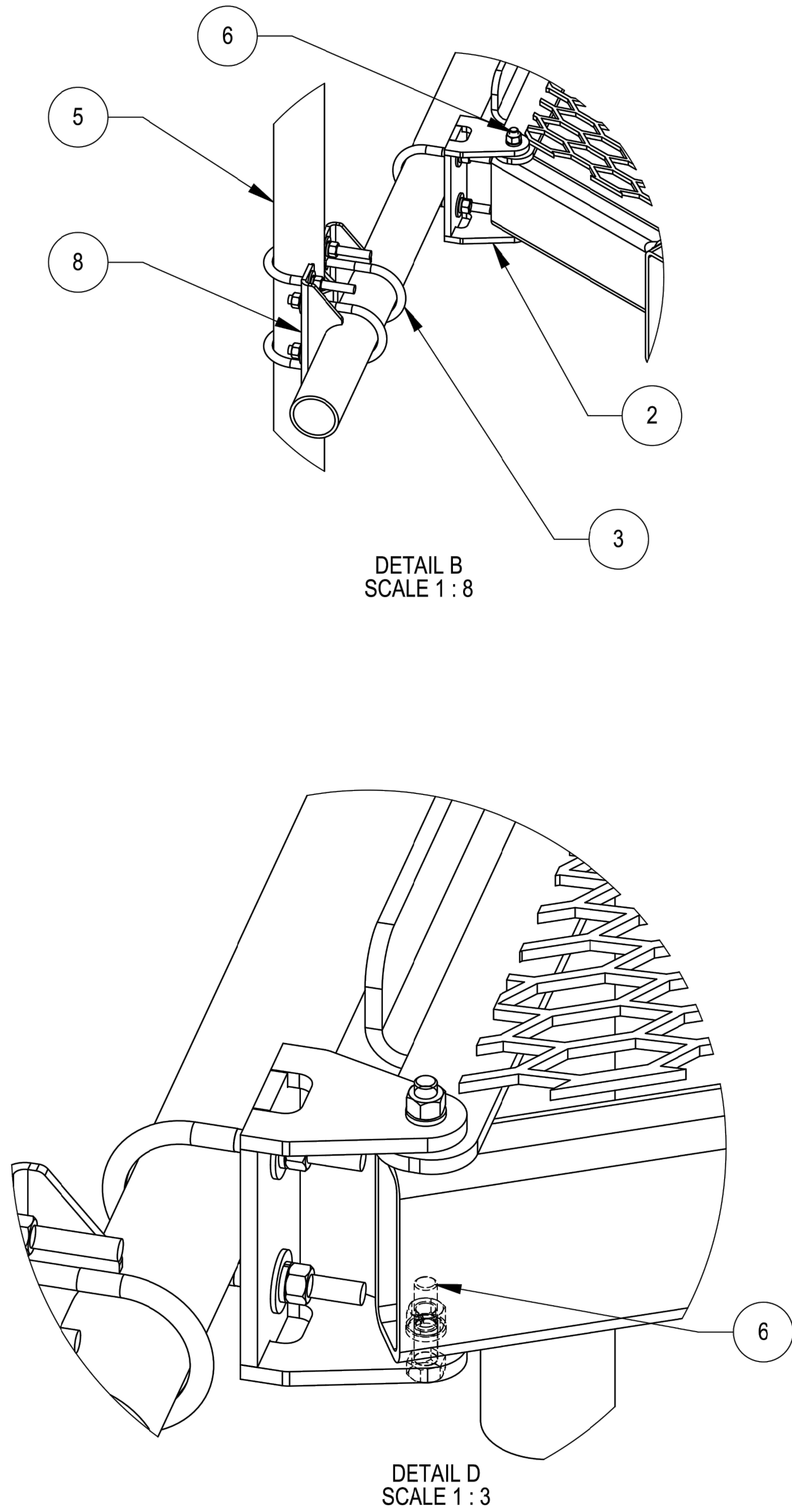
SHEET NUMBER:

C-7A

REVISION:

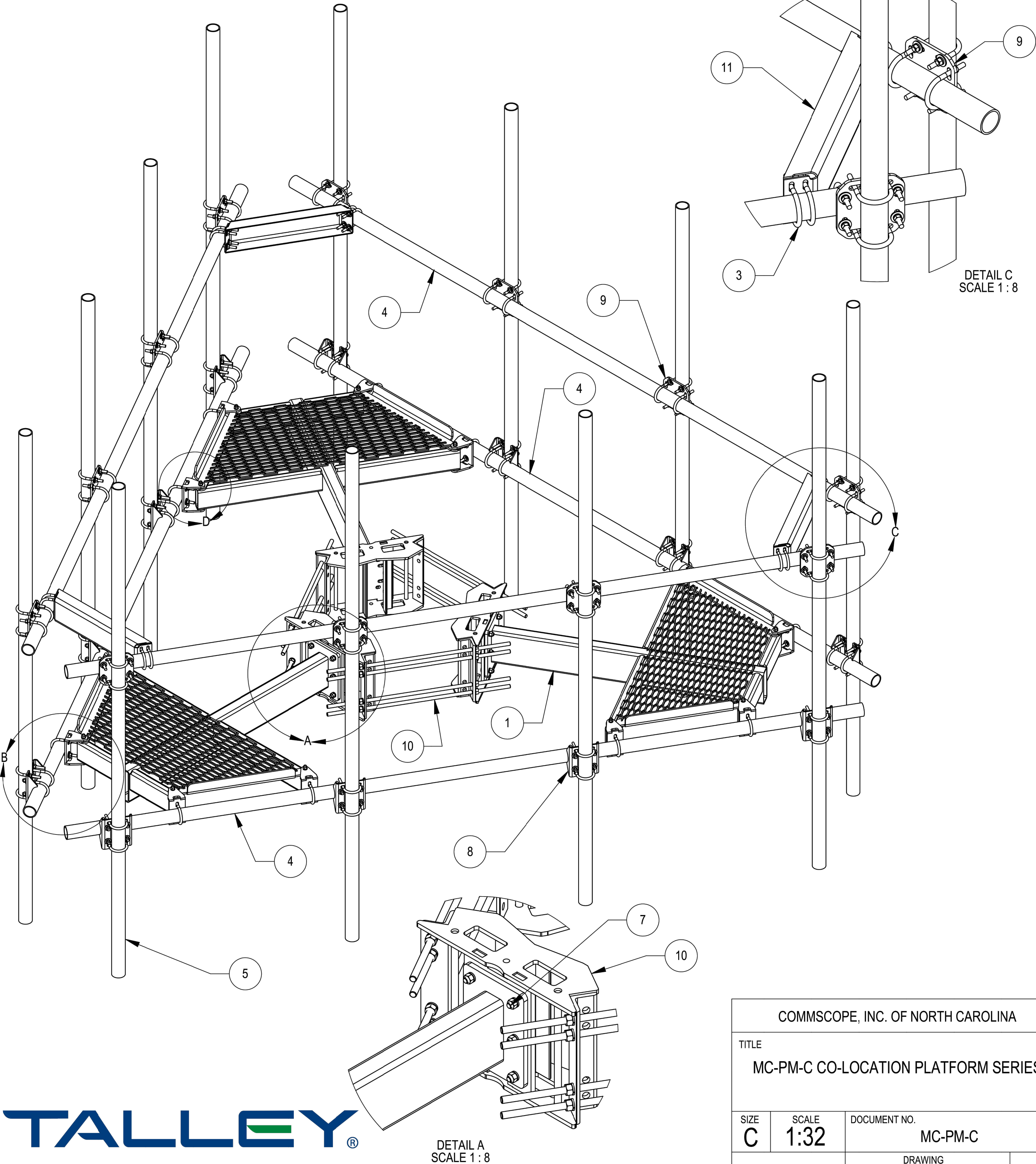
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NOTES:



MC-PM14M-12C-126 SHOWN FOR REFERENCE

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MCPM-1000-00	WELDMENT, CO-LOCATION PLATFORM; 60"	3
2	MCPM-2000-00	BRACKET, PIPE MOUNTING	12
3	GUB-4352	1/2" X 3" X 5-1/4" GALV U-BOLT	72
4	MT-546-174	PIPE GALV, 2-7/8 X 174, SCH40	6
5	MT-546-126	2.875" O.D X 126" PIPE	12
6	GB-04205	1/2" X 2" GALV BOLT KIT	24
7	GB-0522A	5/8" X 2-1/4" GALV BOLT KIT (A325)	18
8	MT21703	PLATE, SADDLE PIPE MOUNTING	12
9	XP-2525	CROSSOVER PLATE KIT, 2-7/8 OD X 2-7/8 OD	12
10	MC-RMHD-1245-3	3 SECTOR RING MOUNT, 12"-45" POLE	1
11	MT19525	CORNER WELDMENT FOR MT-195	3



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DETAIL A
SCALE 1 : 8

COMMScope, INC. OF NORTH CAROLINA			
TITLE			
MC-PM-C CO-LOCATION PLATFORM SERIES			
SIZE	SCALE	DOCUMENT NO.	
C	1:32	MC-PM-C	
		DRAWING	SHEET
VERSION	STATUS	REVISION	
01	RE		2 OF 3

T-Mobile

CROWN CASTLE

RAMAKER
employee-owned
(608) 643-4100 www.ramaker.com
RAMAKER PROJECT #: 54074

T-MOBILE SITE NUMBER:
DN04252A

BU #: 855798
SUNVIEW RV PARK

10410 STATE HIGHWAY 115
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ISSUED FOR:

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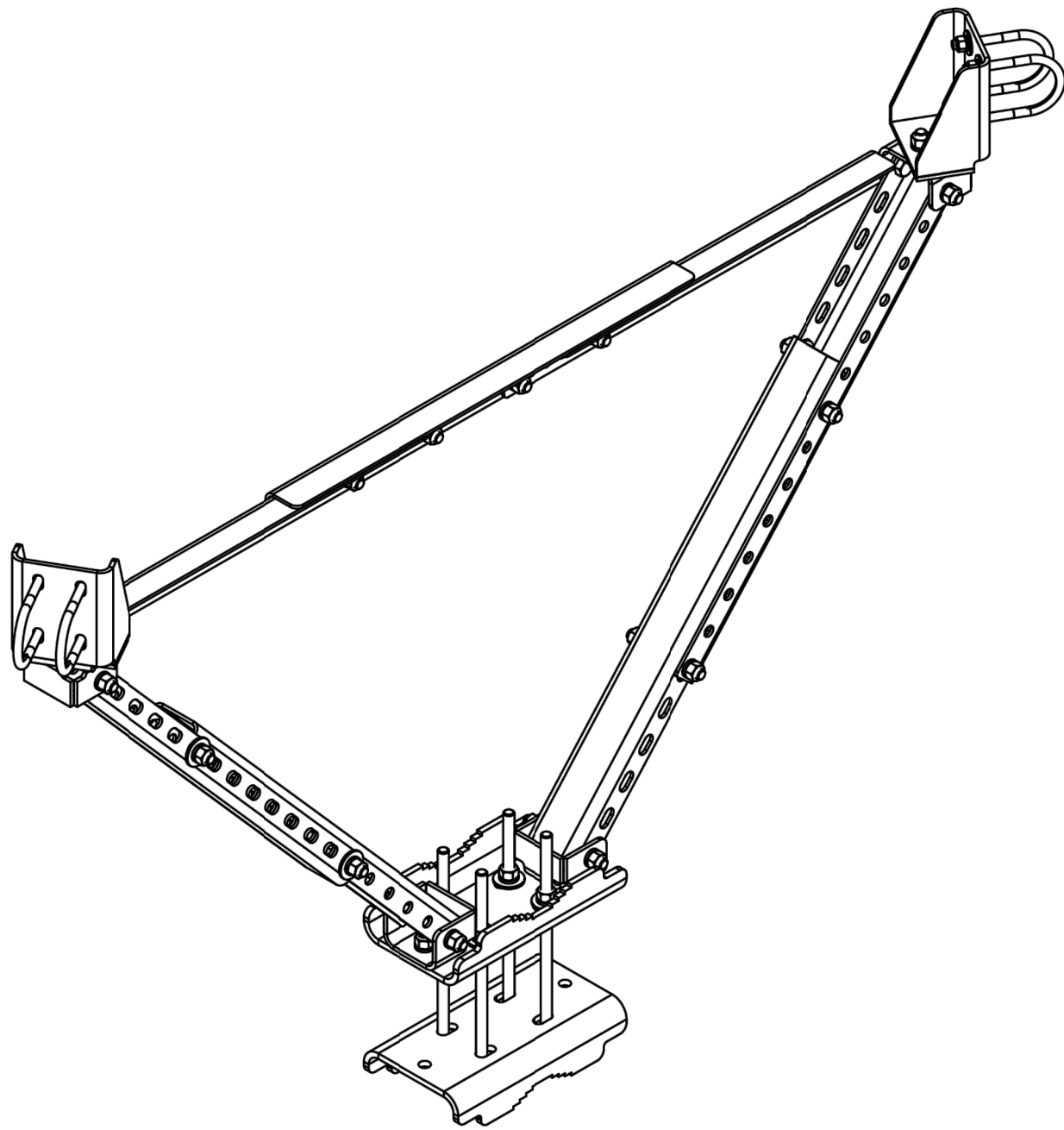
SHEET NUMBER:

C-7B

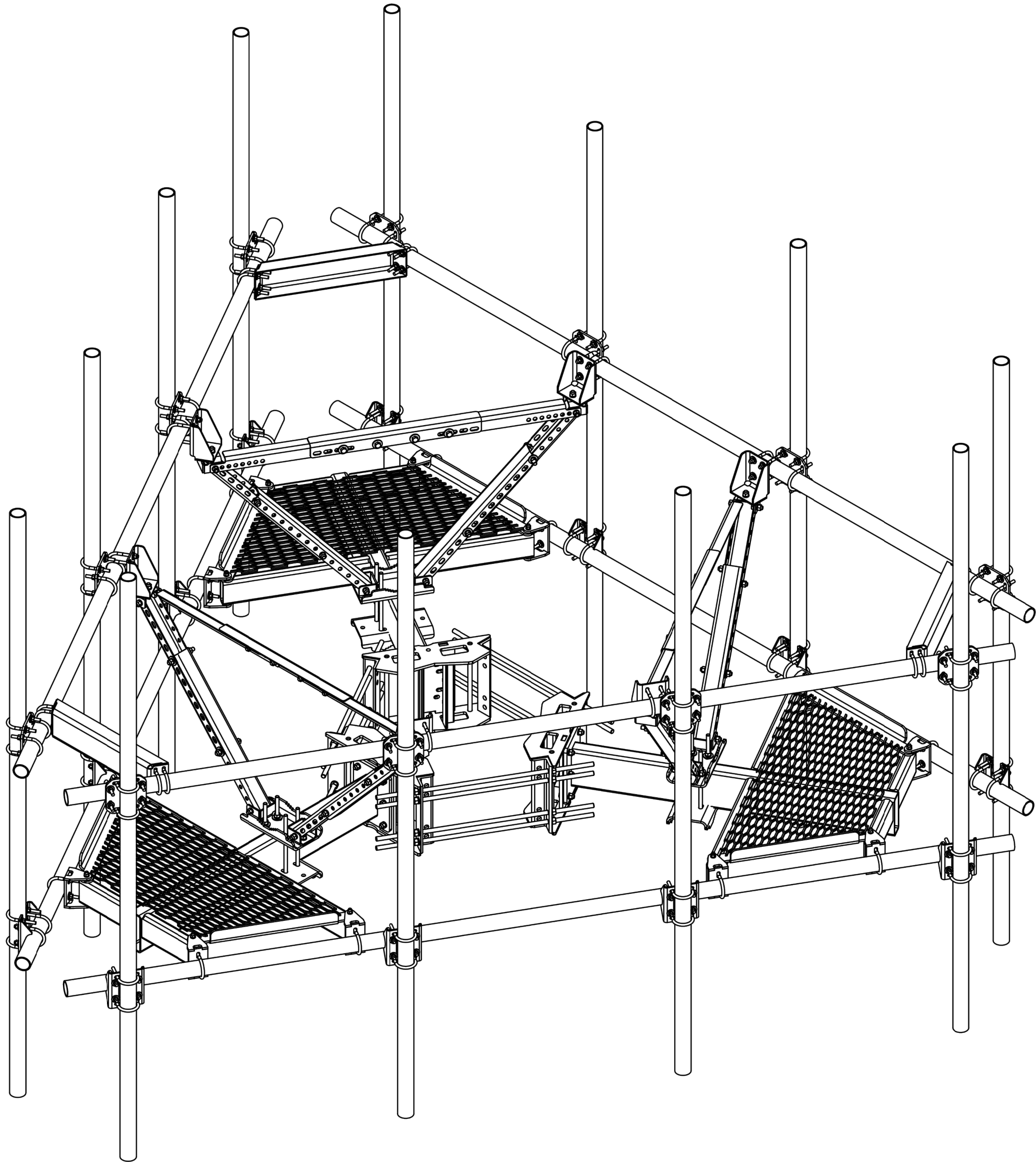
REVISION:

1

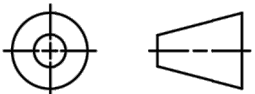
NOTES:



PVS-050B-U SHOWN FOR REFERENCE



MC-PM14M-12C-126 WITH PVS-050B-U INSTALLED
SHOWN FOR REFERENCE

COMMScope, INC. OF NORTH CAROLINA				
TITLE MC-PM-C CO-LOCATION PLATFORM SERIES				
SIZE C	SCALE 1:32	DOCUMENT NO. MC-PM-C		
		DRAWING		
		VERSION 01	STATUS RE	REVISION SHEET 3 OF 3

T-Mobile

CROWN
CASTLE

RAMAKER
employee-owned
(608) 643-4100 www.ramaker.com
RAMAKER PROJECT #: 54074

T-MOBILE SITE NUMBER:
DN04252A

BU #: 855798
SUNVIEW RV PARK

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IVYWILD, CO 80926

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ISSUED FOR:

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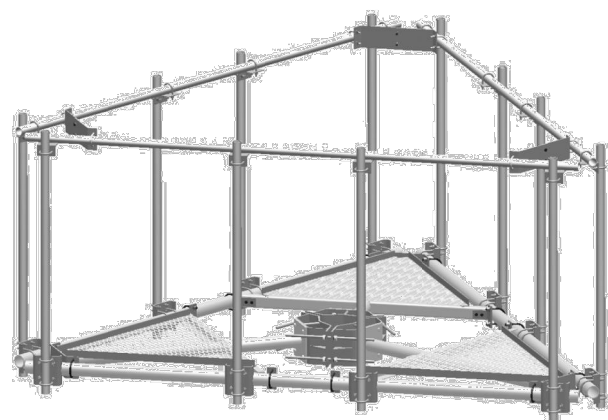
SHEET NUMBER:

C-7C

REVISION:

1

MT-195-12



Upper Support Rail Kit for co-location platforms, 12 ft face

Product Classification

Product Type Support rail kit

General Specifications

Sectors, quantity 3

Dimensions

Height 185.42 mm | 7.3 in

Face Width 3.81 m | 12.5 ft

Width 3810 mm | 150 in

Material Specifications

Material Type Hot dip galvanized steel

Packaging and Weights

Included Crossover angles (12) | Hardware | Rail

Packaging quantity 1

Weight, net 108.998 kg | 240.3 lb

Regulatory Compliance/Certifications

Agency **Classification**
ISO 9001:2015 Designed, manufactured and/or distributed under this quality management system



Included Products

- XA-1919 - Crossover Angle, 1.9 in to 1.9 in OD
- XA-1920 - Crossover Angle, 1.9 in to 2.38 in OD
- XA-2020 - Crossover Angle, 2-3/8 in to 2-3/8 in



T-MOBILE SITE NUMBER:
DN04252A

BU #: 855798
SUNVIEW RV PARK

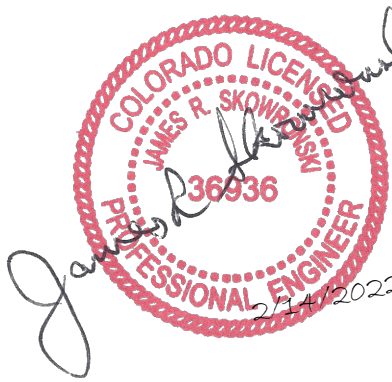
10410 STATE HIGHWAY 115
IVYWILD, CO 80926

EXISTING 150' MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	2/9/2022	DJG	FINAL	JMO
1	03/02/2022	AMW	MA UPDATE	JMO

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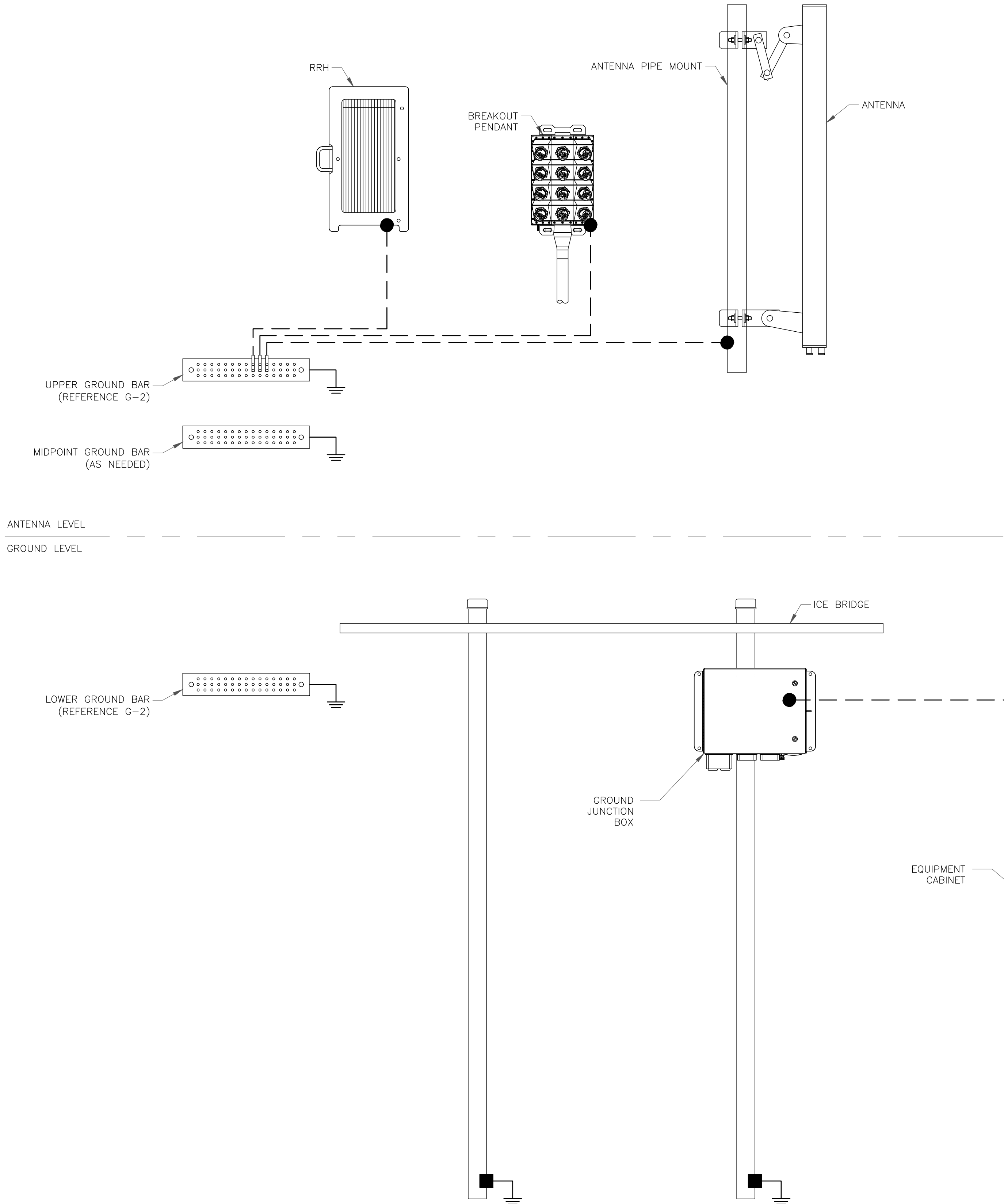
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SHEET NUMBER:

C-7D

REVISION:

1



GROUNDING PLAN LEGEND:

- — — #6 STRANDED COPPER WITH GREEN INSULATION GROUND WIRE
- · — #2 STRANDED COPPER WITH GREEN INSULATION GROUND WIRE
- · · — #2 BARE, SOLID, TINNED COPPER GROUND WIRE
- EXOTHERMIC WELD
- MECHANICAL CONNECTION
- ⊙ COPPER GROUND ROD
- ⊗ GROUND ROD W/ TEST WELL

NOTE:
SEE FINAL EQUIPMENT PLAN FOR NEW EQUIPMENT REQUIRING GROUNDING. CONTRACTOR TO VERIFY EXISTING EQUIPMENT GROUNDING IN FIELD. CONTRACTOR TO VERIFY IN FIELD AND INSTALL ANY MISSING T-MOBILE GROUND BARS ON SITE.




RAMAKER
employee-owned
(608) 643-4100 www.ramaker.com
RAMAKER PROJECT #: 54074

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SUNVIEW RV PARK

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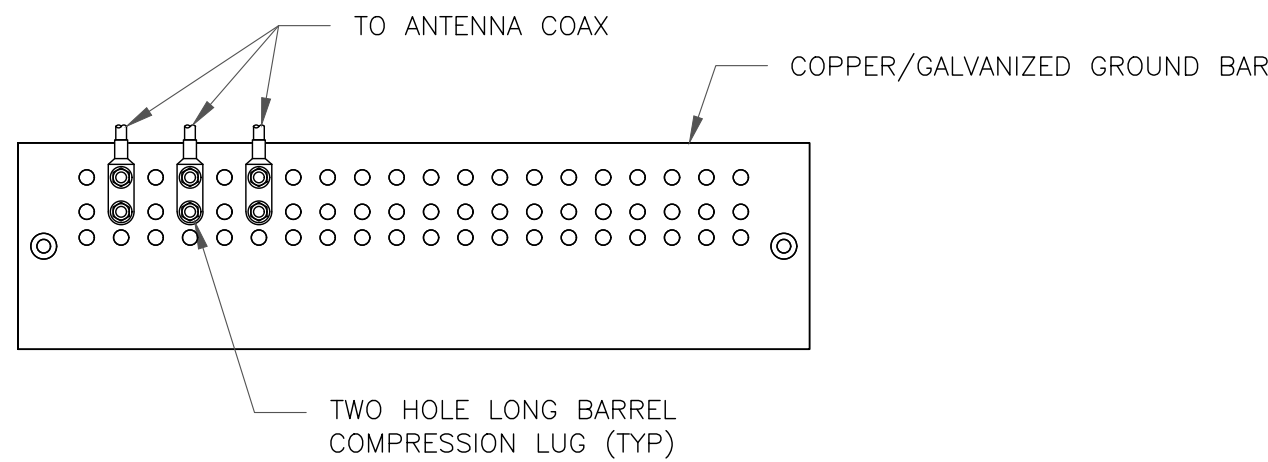
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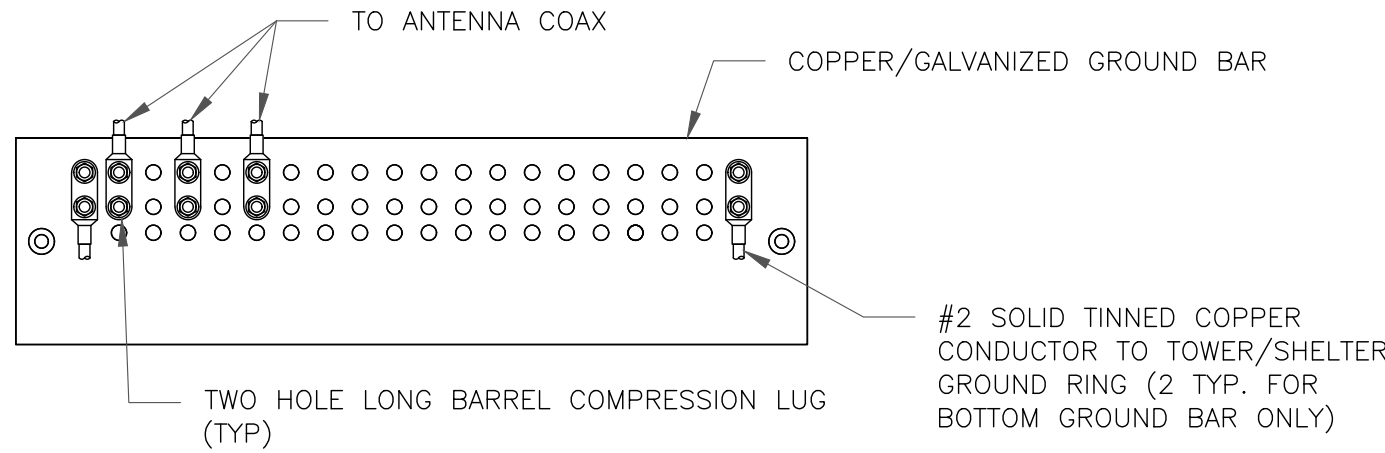
1



NOTES:

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL.

1 ANTENNA GROUND BAR DETAIL
SCALE: NOT TO SCALE

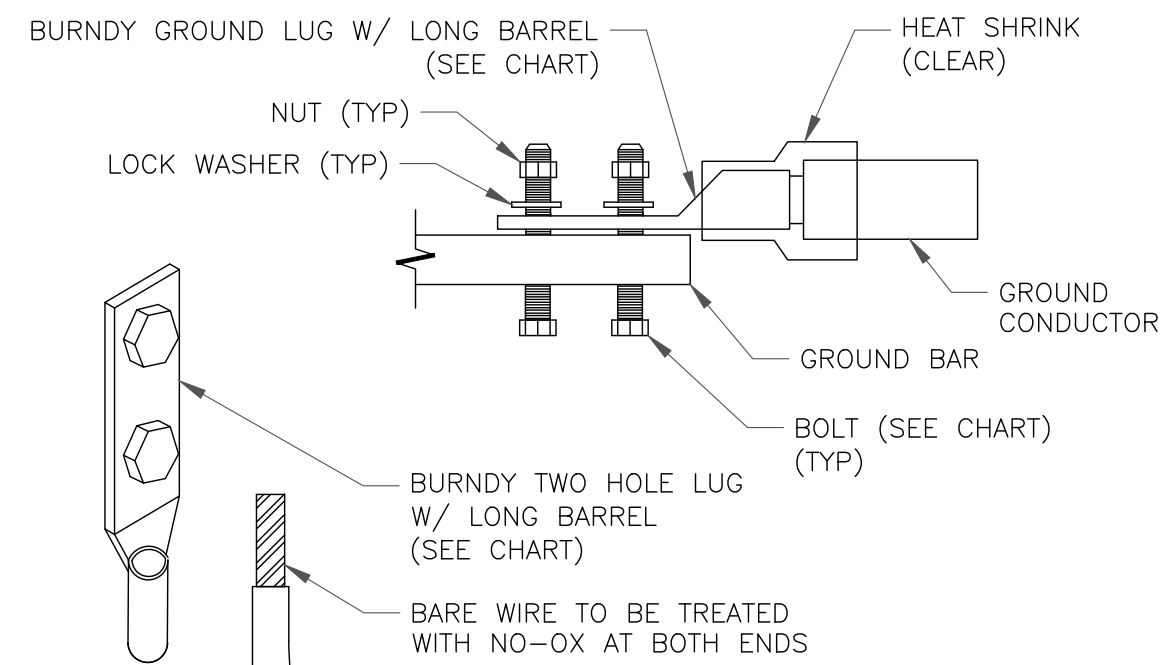


NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE

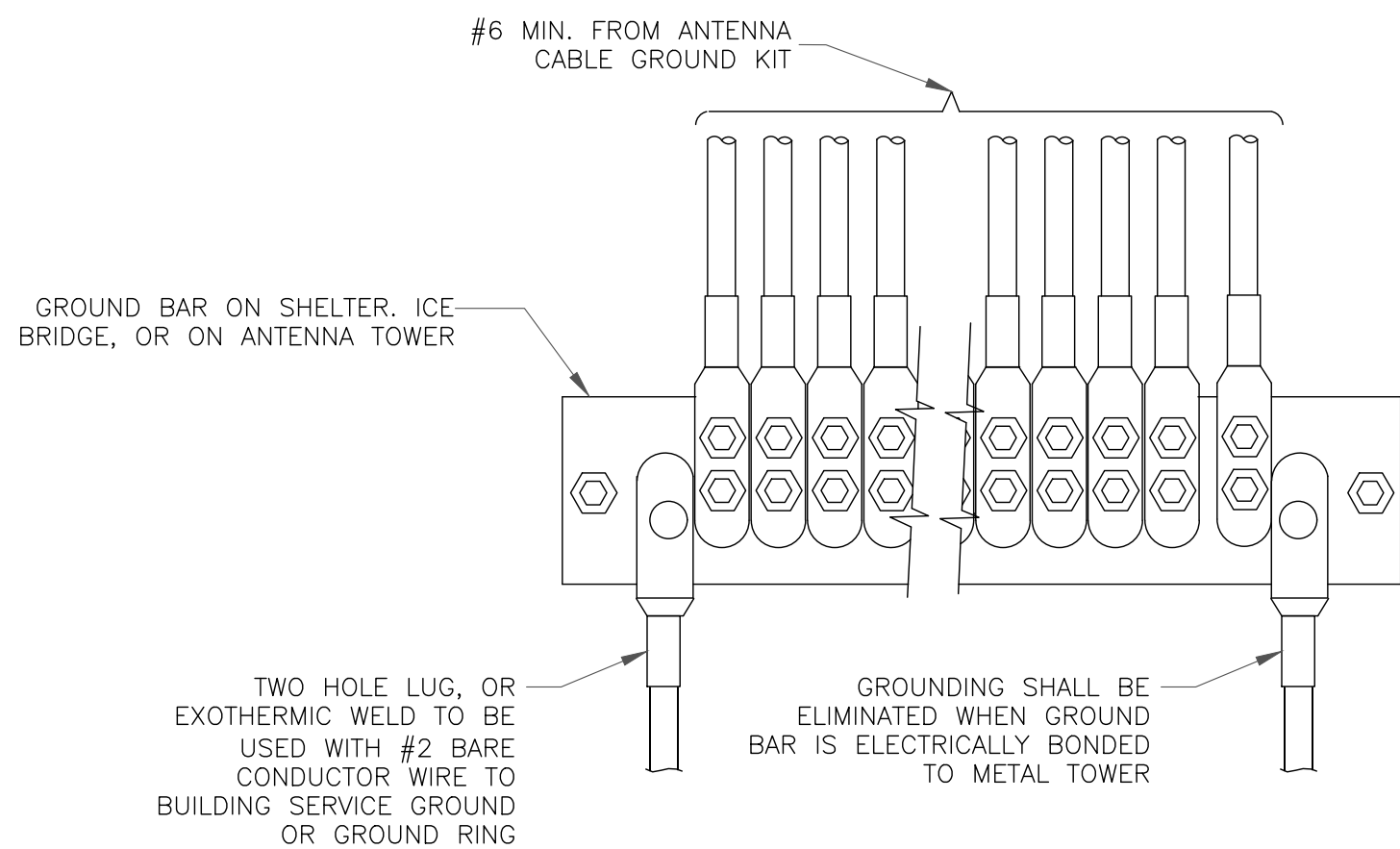
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



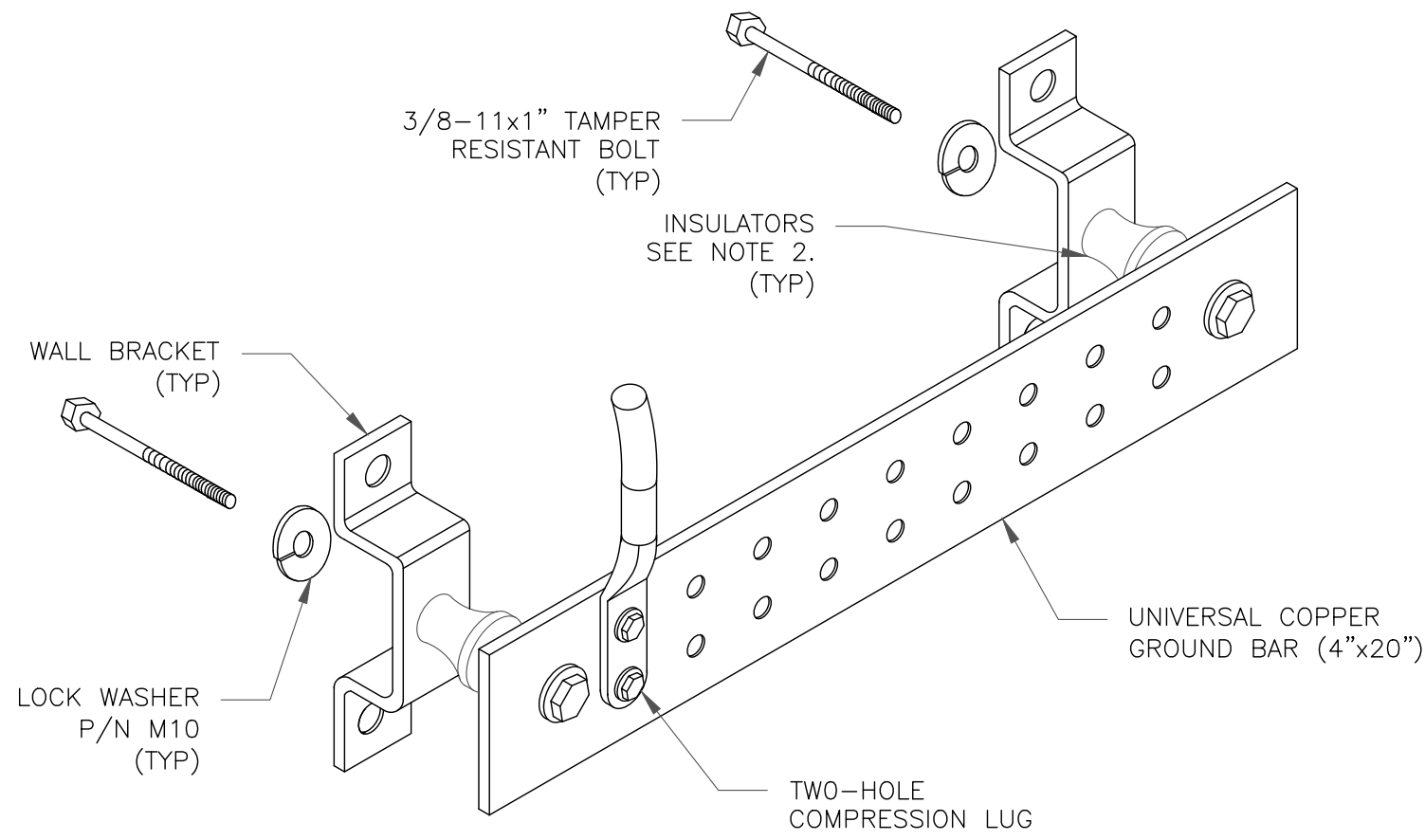
NOTE:

ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

3 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



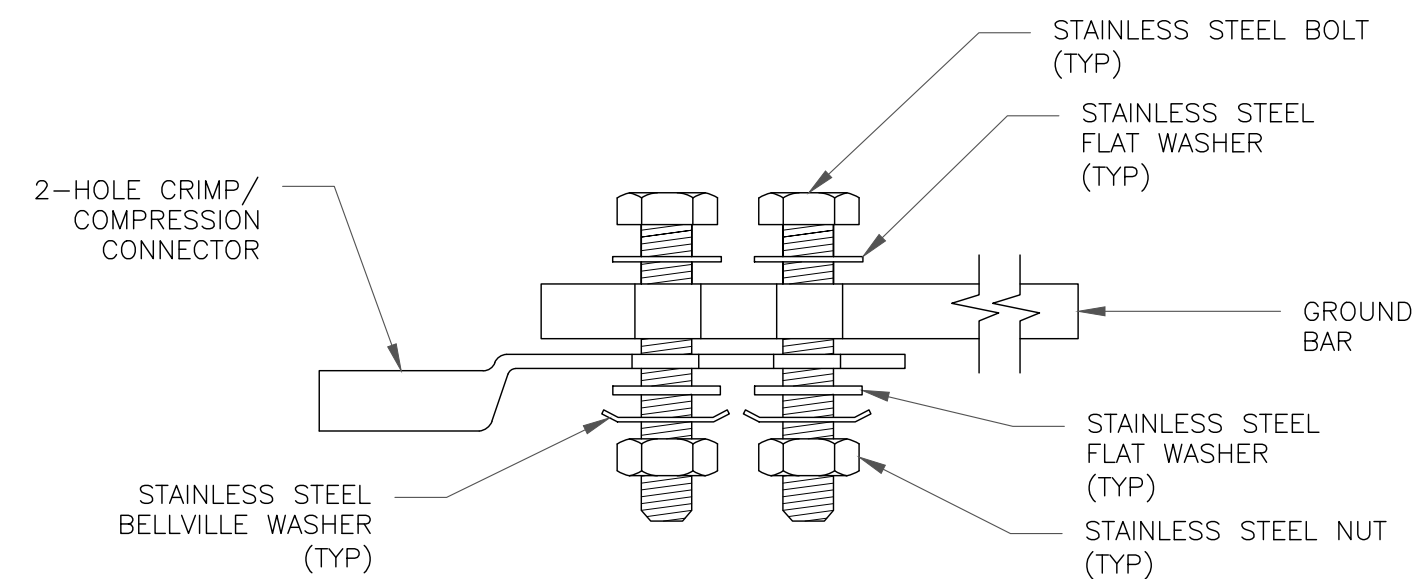
4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



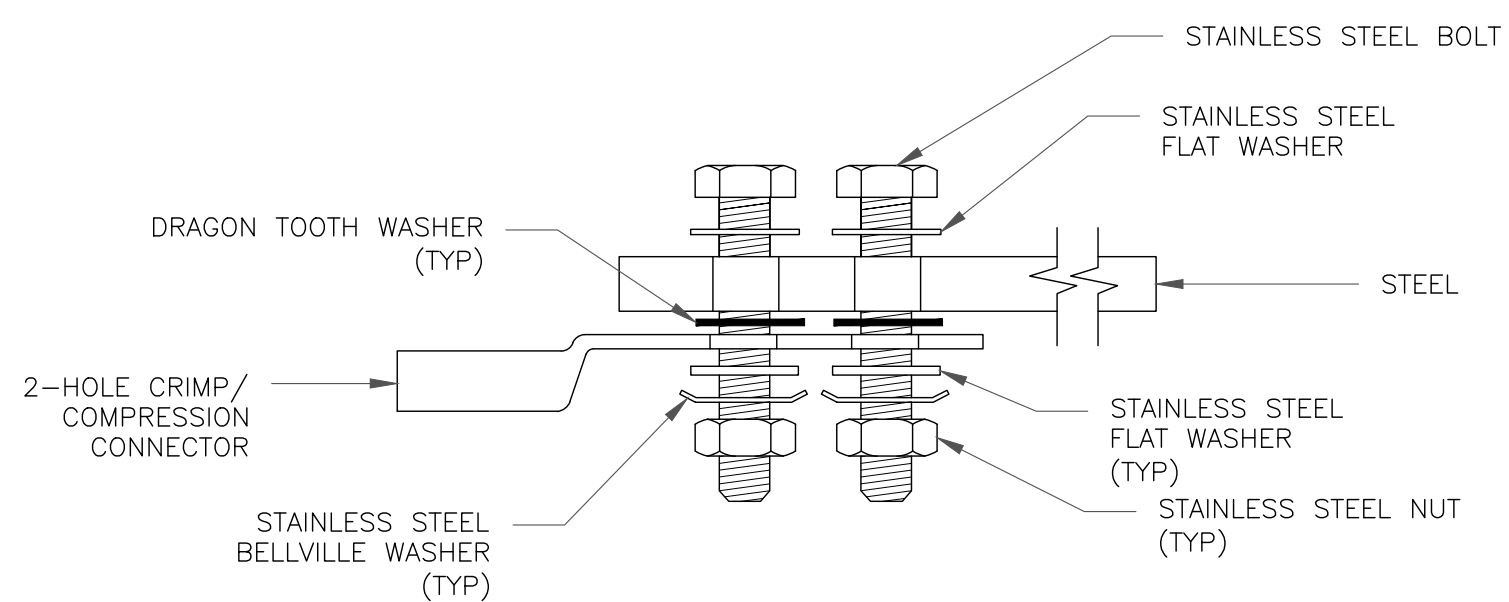
NOTES:

1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL. USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

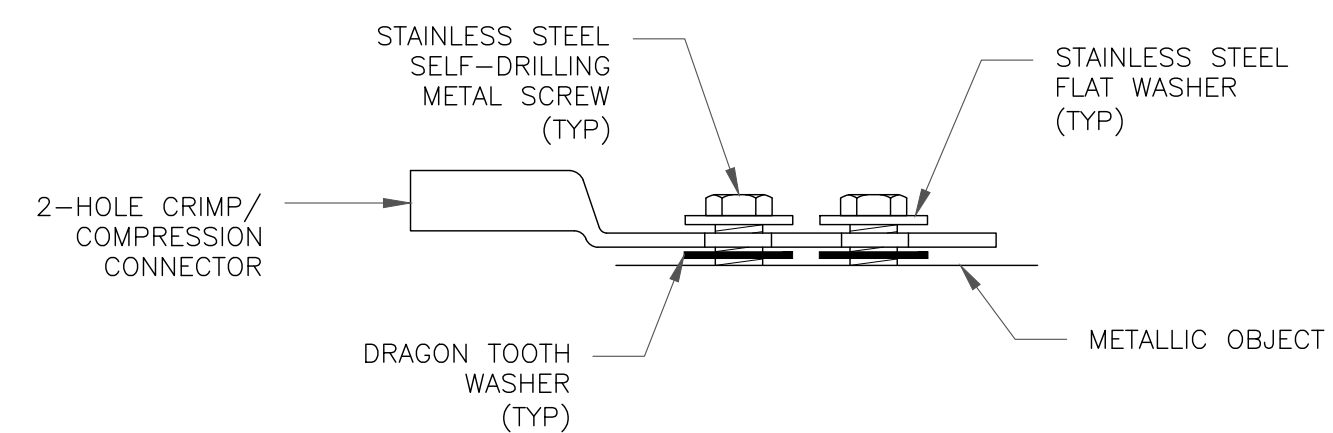
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



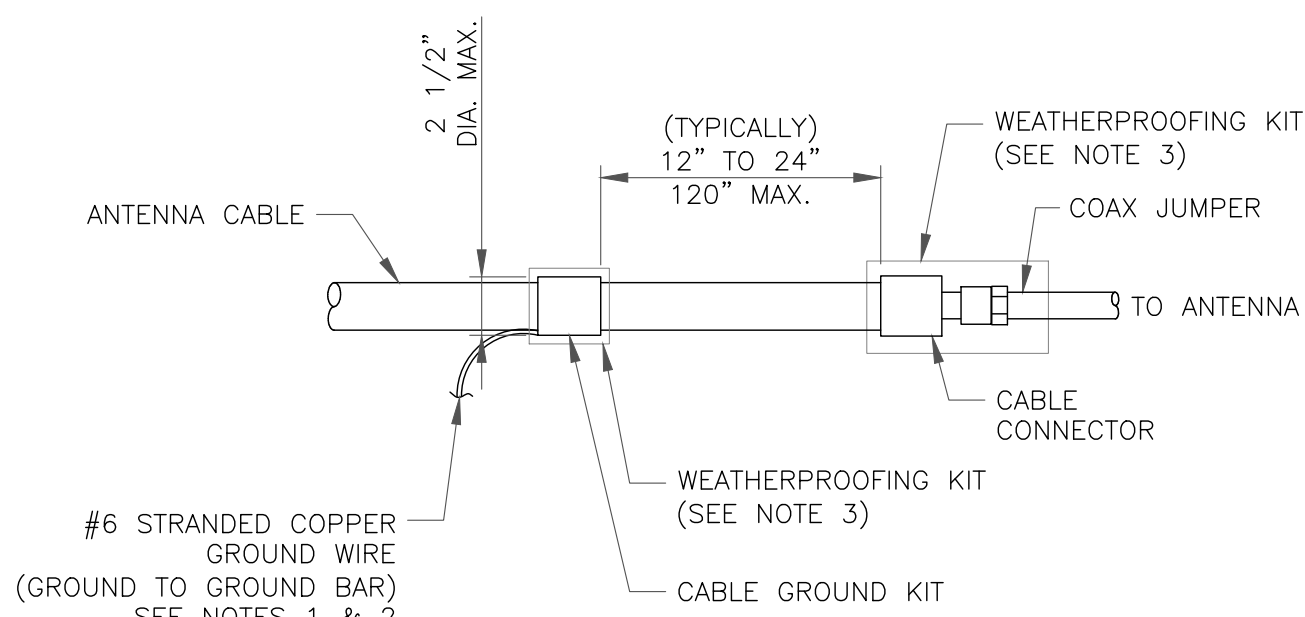
SINGLE CONNECTOR AT GROUND BARS



SINGLE CONNECTOR AT STEEL OBJECTS



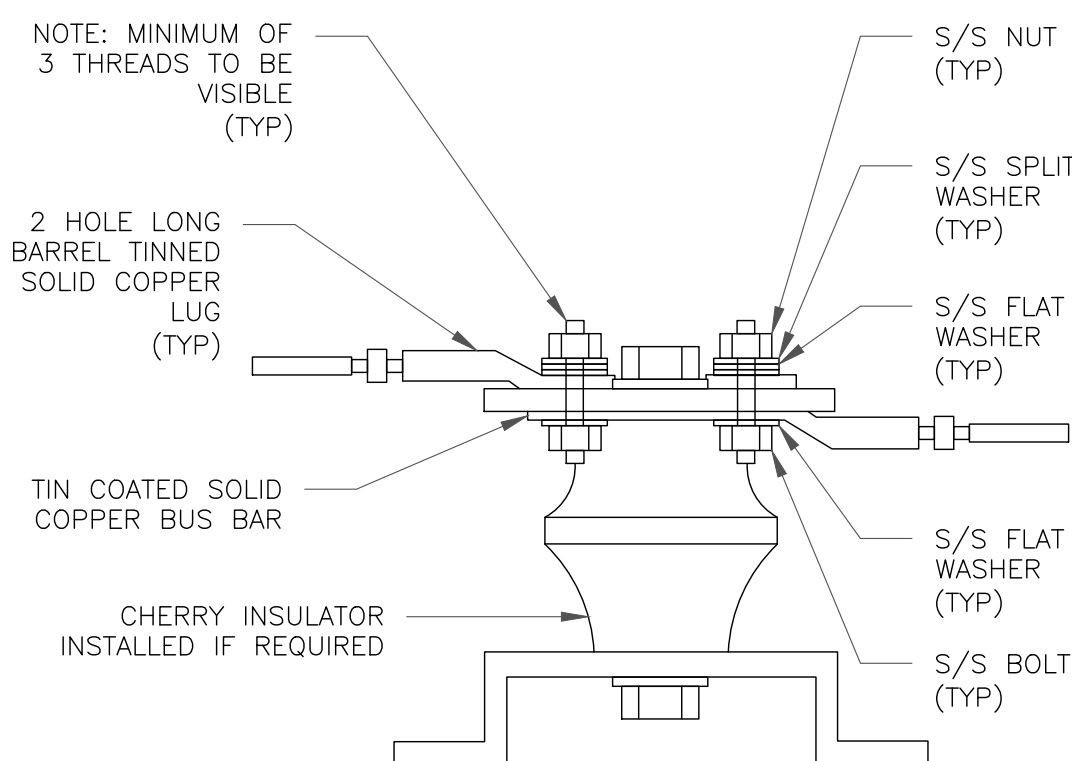
SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS



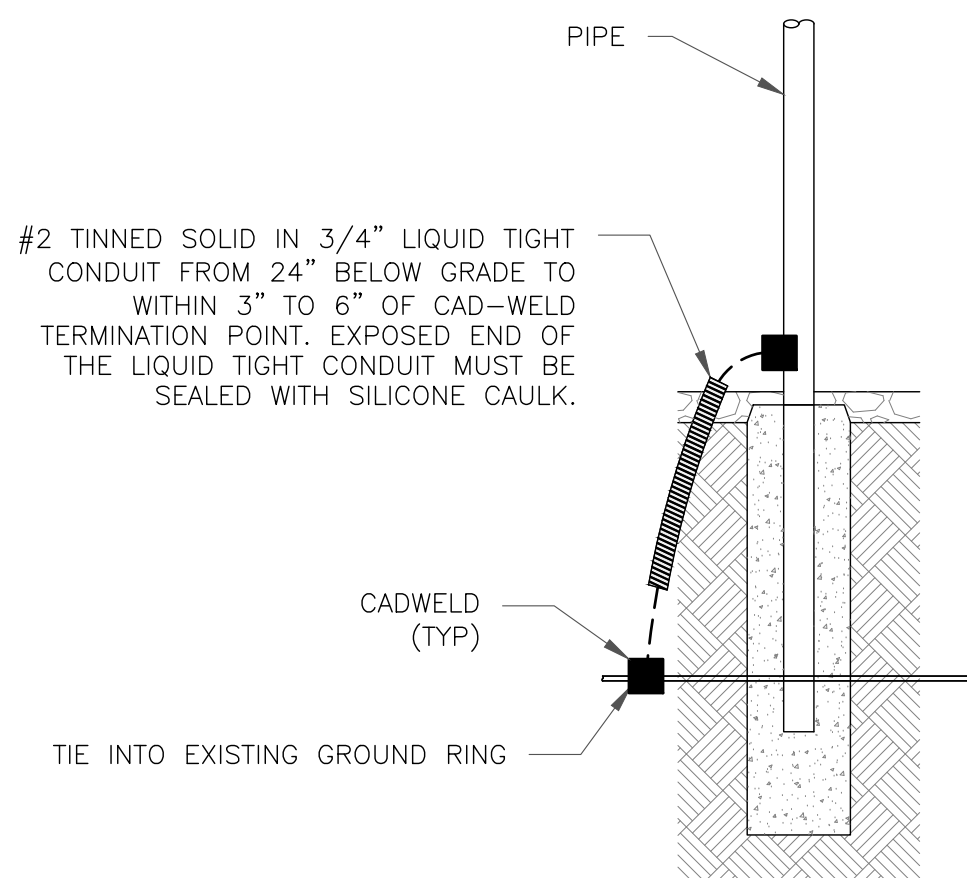
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

9 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE

T-Mobile

CROWN CASTLE



RAMAKER
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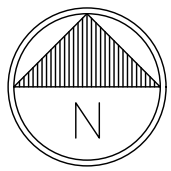
G-2

REVISION:

1



1 SITE PLAN
SCALE: 1" = 50'-0" (FULL SIZE)
1" = 100'-0" (11x17)



T-Mobile

CROWN CASTLE
1 CITY PLACE DRIVE, SUITE 490
ST. LOUIS, MO 63141

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