

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 ANS/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 ANS/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CD-STD-10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANS/ITIA-322 (LATEST EDITION).
5. ALL SITE WORK TO COMPLY WITH OAS-STD-10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE" AND LATEST VERSION OF ANS/ITIA-1019-A-2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
6. 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, 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 GROUNDING 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 THROUGH 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: AT&T 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° 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 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 THE 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 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.
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° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/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 SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIREWAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/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 SHIT 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 "AT&T"
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

Table with 3 columns: SYSTEM, CONDUCTOR, COLOR. It lists conductor color codes for systems 120/240V, 10, 120/208V, 30, and 277/480V, 30, as well as DC VOLTAGE. It also includes a section for APWA UNIFORM COLOR CODE with color-coded boxes for WHITE, PINK, RED, YELLOW, ORANGE, BLUE, PURPLE, and GREEN, each with a corresponding description.

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

ABBREVIATIONS:

Table listing abbreviations and their corresponding full names: ANT (ANTENNA), EX (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), SIA (SMART INTEGRATED DEVICE), TMA (TOWER MOUNTED AMPLIFIER), TYP (TYPICAL), UPTS (UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM), W.P. (WORK POINT).

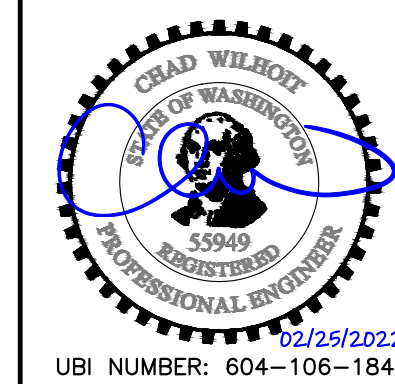


SD81

BU #: 856382 CLISE PARK-PSE

SOUTHEAST 39TH STREET AND 84TH AVENUE SOUTHEAST MERCER ISLAND, WA 98040

Table with 3 columns: REV, DATE, DESCRIPTION. It shows revision A on 12/17/21 for PRELIMS and revision 0 on 2/25/22 for FOR CONSTRUCTION.



DESIGNED: MSW DRAWN: MSW CHECKED: PWM

JOB #: 21CCA06M-0032

GENERAL NOTES

T-2

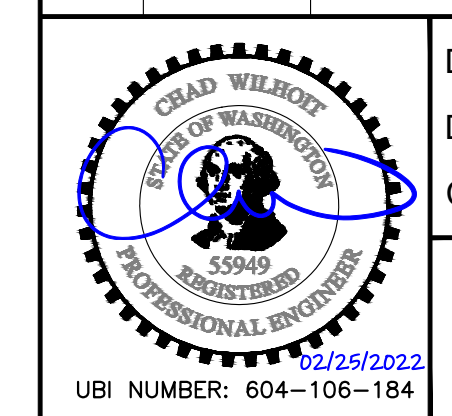


SD81

BU #: 856382
CLISE PARK-PSE

SOUTHEAST 39TH STREET AND 84TH AVENUE SOUTHEAST
MERCER ISLAND, WA 98040

REV	DATE	DESCRIPTION
A	12/17/21	PRELIMS
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DRAWN: MSW
CHECKED: PWM

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21CCA06M-0032

OVERALL SITE PLAN

C-1.1



SITE PLAN DISCLAIMER:
 PROPERTY LINES AND STRUCTURES HAVE BEEN DIGITIZED FROM JURISDICTIONAL GIS. CROWN CASTLE USA INC. HAS NOT COMPLETED A SITE SURVEY AND THEREFORE MAKES NO CLAIMS AS TO THE ACCURACY OF INFORMATION DEPICTED ON THIS SHEET.

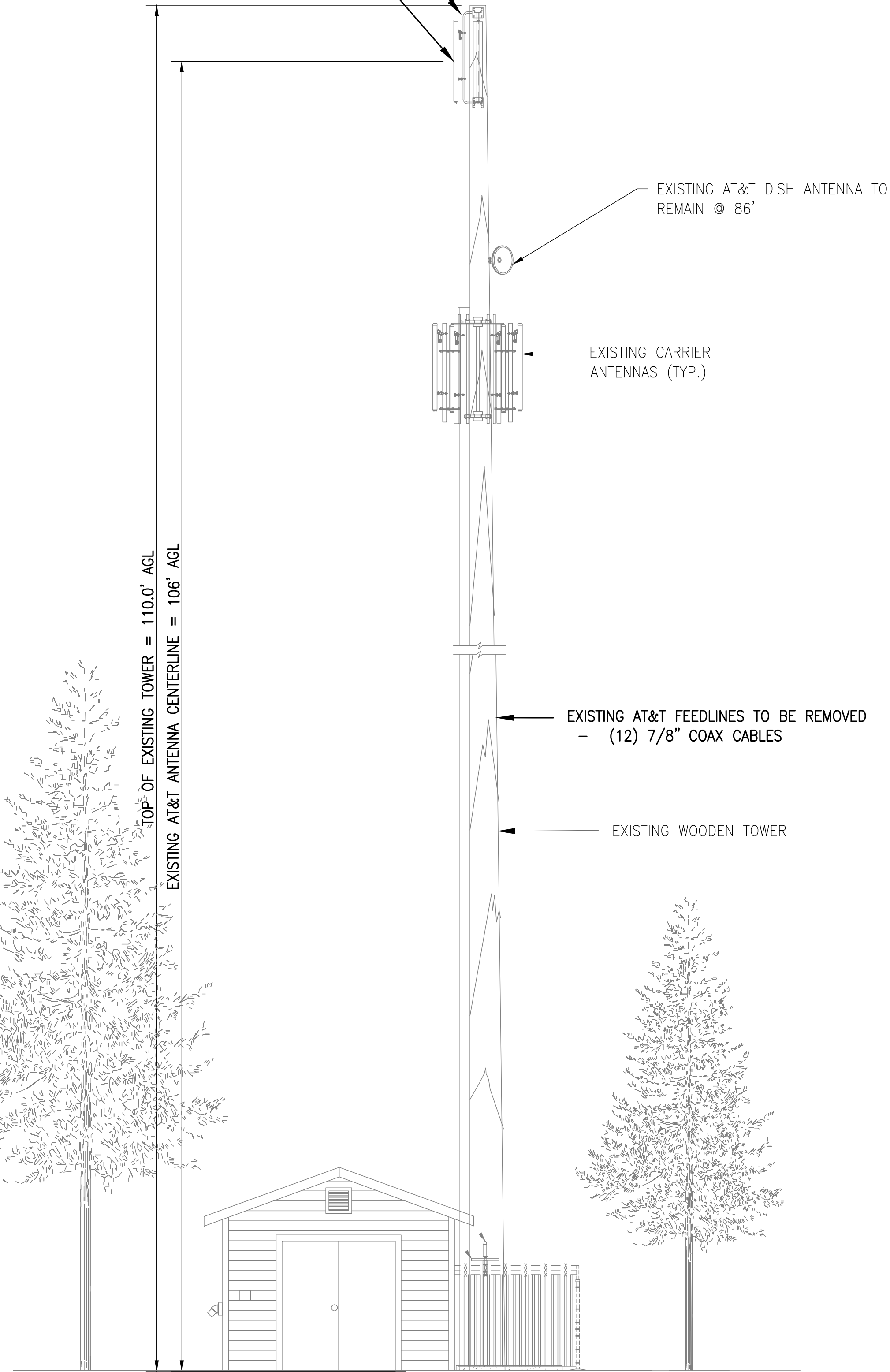
NOTES:

- CONTRACTOR TO VERIFY ALL ANTENNA TIP HEIGHTS DO NOT EXCEED BEACON BASE HEIGHT.

MOUNT ANALYSIS NOTES:

- THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
- CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
- ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.

EXISTING AT&T MOUNT TO BE REMOVED
 EXISTING AT&T EQUIPMENT TO BE REMOVED
 - (3) dB Spectra SPD2P6516XLH ANTENNAS
 - (6) TMAT192123B68-21 TMAs



EXISTING SOUTH ELEVATION
 NOT TO SCALE

PROPOSED STANDOFF MOUNT (P/N: SITE PRO 197-18) TO REPLACE THE EXISTING MOUNT PER THE MOUNT STRUCTURAL ANALYSIS (TOTAL OF 3, 1 PER SECTOR)
 - SEE MOUNT DESIGN DRAWINGS (BY OTHERS)

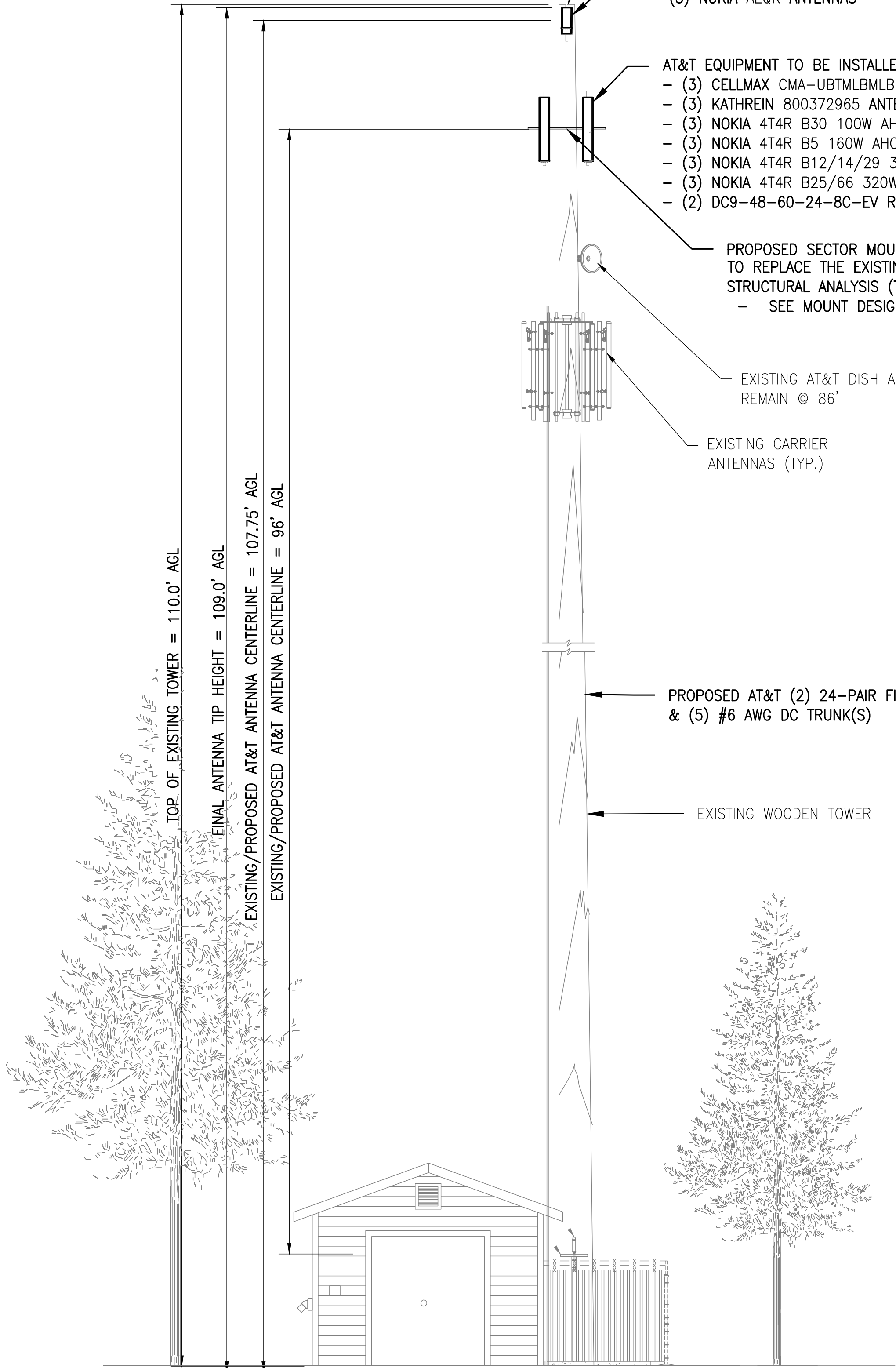
AT&T EQUIPMENT TO BE INSTALLED AT UPPER RAD
 - (3) NOKIA AEQK ANTENNAS

AT&T EQUIPMENT TO BE INSTALLED AT LOWER RAD
 - (3) CELLMAX CMA-UBTMLBLBH-6516-16-21-21 ANTENNAS
 - (3) KATHREIN 800372965 ANTENNAS
 - (3) NOKIA 4T4R B30 100W AHNA RRH
 - (3) NOKIA 4T4R B5 160W AHCA RRH
 - (3) NOKIA 4T4R B12/14/29 370W AHLBBA TRI RRH
 - (3) NOKIA 4T4R B25/66 320W AHFIB DUAL RRH
 - (2) DC9-48-60-24-8C-EV RAYCAP SQUID

PROPOSED SECTOR MOUNT (P/N: SITE PRO RMV-5-NP-S) TO REPLACE THE EXISTING MOUNT PER THE MOUNT STRUCTURAL ANALYSIS (TOTAL OF 3, 1 PER SECTOR)
 - SEE MOUNT DESIGN DRAWINGS (BY OTHERS)

EXISTING AT&T DISH ANTENNA TO REMAIN @ 86'

EXISTING CARRIER ANTENNAS (TYP.)

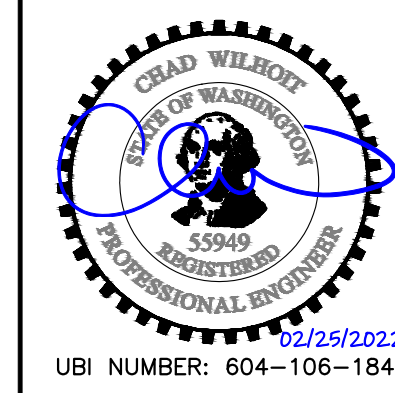


FINAL SOUTH ELEVATION
 NOT TO SCALE



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 BU #: 856382
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 MERCER ISLAND, WA 98040

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DESIGNED: MSW
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 21CCA06M-0032

EXISTING & FINAL ELEVATIONS



SD81

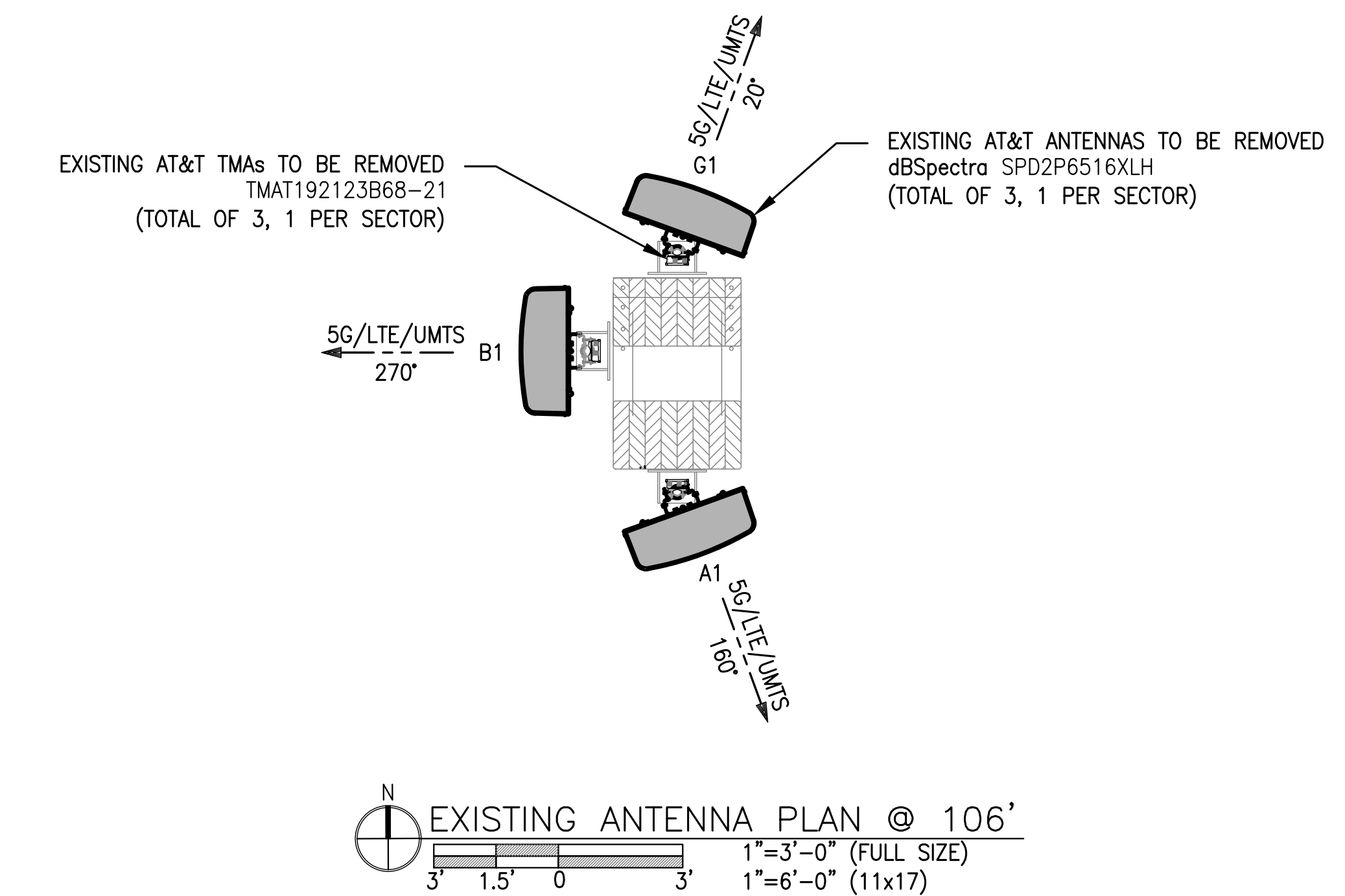
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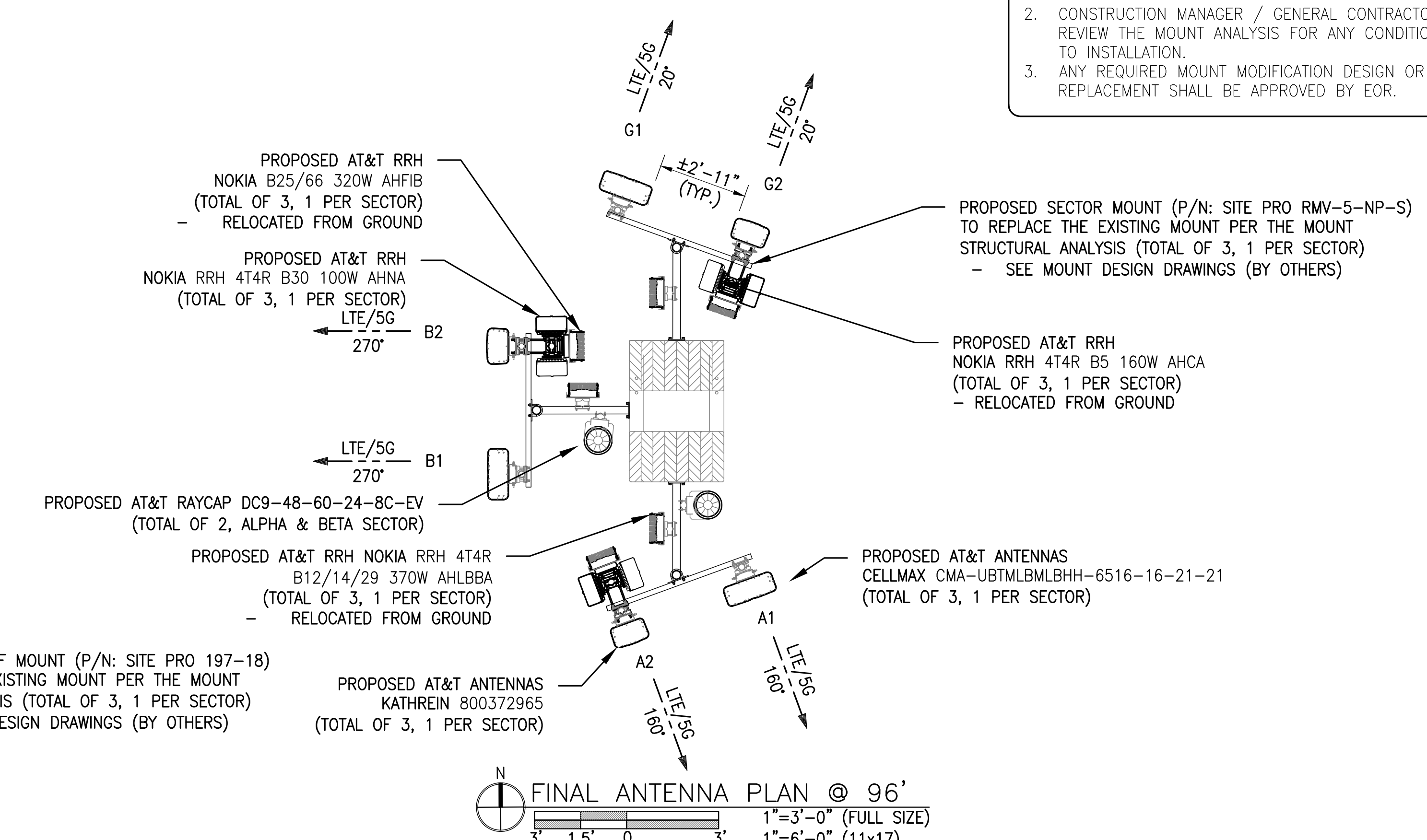
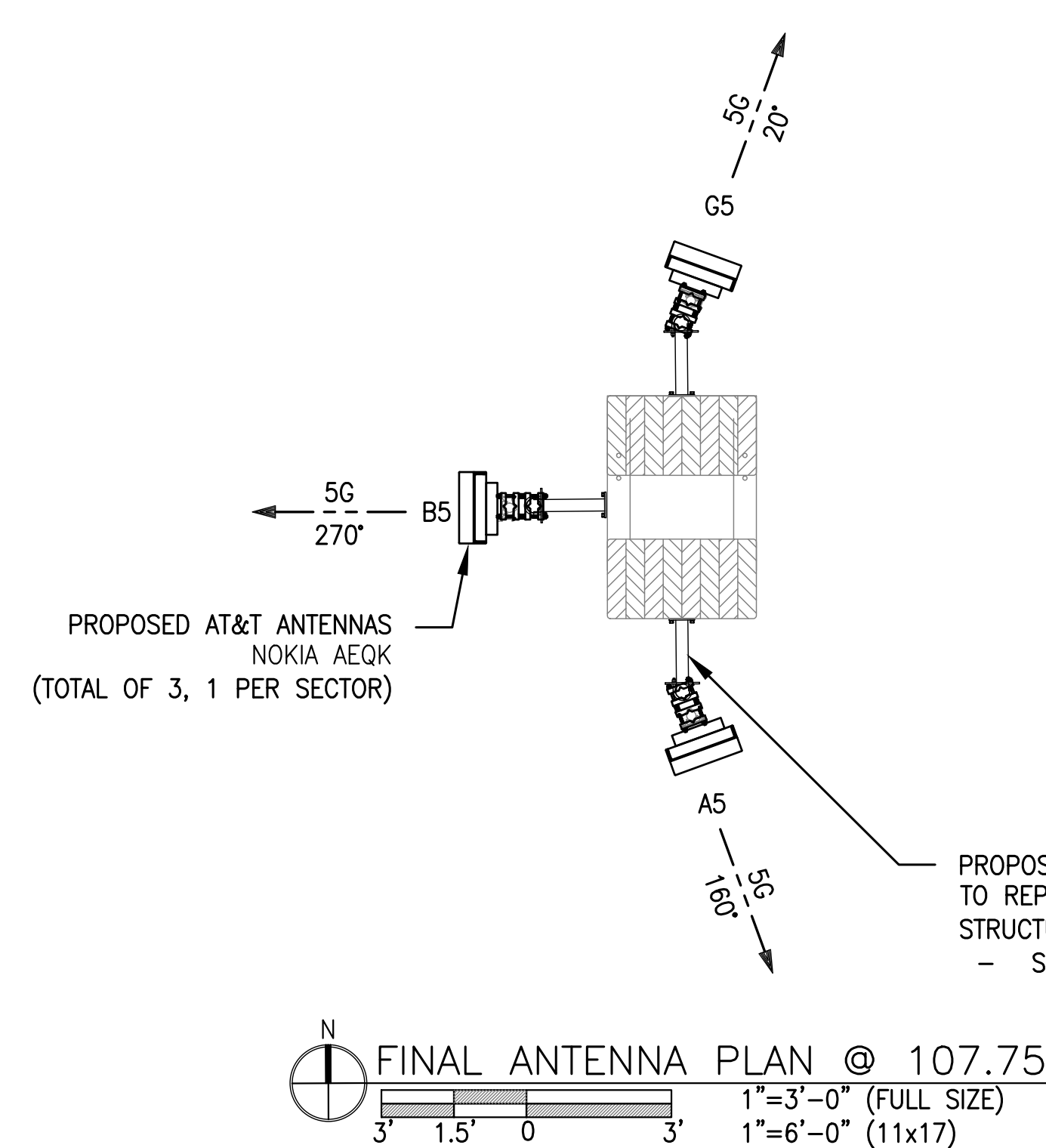
DESIGNED: MSW
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CHECKED: PWM

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21CCA06M-0032



- NOTES:**
- CONTRACTOR TO VERIFY ALL ANTENNA TIP HEIGHTS DO NOT EXCEED BEACON BASE HEIGHT.
- MOUNT ANALYSIS NOTES:**
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 - CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
 - ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.

NOTE:
EQUIPMENT LAYOUT SHOWN IS BASED ON THE PREVIOUS CONSTRUCTION DRAWINGS DONE BY CROWN CASTLE DATED 12/20/19 AS WELL AS MOST RECENT AUDIT PHOTOS AND MEASUREMENTS. IF EQUIPMENT LAYOUT DIFFERS FROM WHAT IS SHOWN, CONTRACTOR TO CONTACT THE CONSTRUCTION MANAGER.



EXISTING & FINAL ANTENNA PLANS



SD81
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 MERCER ISLAND, WA 98040

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	CHECKED: PWM
	JOB #: 21CCA06M-0032

FINAL EQUIPMENT SCHEDULE (VERIFY WITH CURRENT RFDS)																	
POSITION	ANTENNA				RADIO				DIPLEXER		TMA		SURGE PROTECTION		CABLES		
	TECH.	STATUS/MANUFACTURER MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	LOCATION	QTY.	STATUS/MODEL	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	LENGTH
A1	LTE/5G	(P) CELLMAX CMA-UBTMLBMLBHH-6516-16-21-21	160°	96'	1	(E) RRH 4T4R B12/14/29 370W AHLBBA	TOWER	-	-	-	-	-	-	-	-	-	-
					1	(E) RRH 4T4R B25/66 320W AHFIB	TOWER	-	-	-	-	-	-	-	-	-	
A2	LTE/5G	(P) KATHREIN 800372965	160°	96'	1	(E) RRH 4T4R B5 160W AHCA	TOWER	-	-	-	-	-	-	-	-	-	-
					1	(P) RRH 4T4R B30 100W AHNA	TOWER	-	-	-	-	-	-	-	-	-	
A5	5G	(P) NOKIA AEQK	160°	107.75'	-	-	-	-	-	-	-	-	1	(P) DC9-48-60-24-8C-EV	1	(P) FIBER	140'-0"
					-	-	-	-	-	-	-	2	(P) #6 AWG DC	2	(P) #6 AWG DC	140'-0"	
BETA																	
B1	LTE/5G	(P) CELLMAX CMA-UBTMLBMLBHH-6516-16-21-21	270°	96'	1	(E) RRH 4T4R B12/14/29 370W AHLBBA	TOWER	-	-	-	-	-	-	-	-	-	-
					1	(E) RRH 4T4R B25/66 320W AHFIB	TOWER	-	-	-	-	-	-	-	-	-	
B2	LTE/5G	(P) KATHREIN 800372965	270°	96'	1	(E) RRH 4T4R B5 160W AHCA	TOWER	-	-	-	-	-	-	-	-	-	-
					1	(P) RRH 4T4R B30 100W AHNA	TOWER	-	-	-	-	-	-	-	-	-	
B5	5G	(P) NOKIA AEQK	270°	107.75'	-	-	-	-	-	-	-	-	1	(P) DC9-48-60-24-8C-EV	1	(P) FIBER	140'-0"
					-	-	-	-	-	-	-	3	(P) #6 AWG DC	3	(P) #6 AWG DC	140'-0"	
GAMMA																	
G1	LTE/5G	(P) CELLMAX CMA-UBTMLBMLBHH-6516-16-21-21	20°	96'	1	(E) RRH 4T4R B12/14/29 370W AHLBBA	TOWER	-	-	-	-	-	-	-	-	-	-
					1	(E) RRH 4T4R B25/66 320W AHFIB	TOWER	-	-	-	-	-	-	-	-	-	
G2	LTE/5G	(P) KATHREIN 800372965	20°	96'	1	(E) RRH 4T4R B5 160W AHCA	TOWER	-	-	-	-	-	-	-	-	-	-
					1	(P) RRH 4T4R B30 100W AHNA	TOWER	-	-	-	-	-	-	-	-	-	
G5	5G	(P) NOKIA AEQK	20°	107.75'	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:
 (E) - EXISTING
 (P) - PROPOSED

Voltage Drop Calculations														
Sector	Power Plant to DC-6 (Jumper)				DC-6 to Squid (Trunk)				Squid to RRH (Jumper)				Final Voltage (V)	Total Voltage Drop (%)
	Wire Size	Wire Length (ft)	R (Ω/kft)	Voltage Drop	Wire Size	Wire Length (ft)	R (Ω/kft)	Voltage Drop	Wire Size	Wire Length (ft)	R (Ω/kft)	Voltage Drop		
Alpha	8	15	0.7780	0.2334	6	110	0.4910	1.0802	8	15	0.7780	0.2334	46.45	3.22
Beta	8	15	0.7780	0.2334	6	110	0.4910	1.0802	8	15	0.7780	0.2334	46.45	3.22
Gamma	8	15	0.7780	0.2334	6	110	0.4910	1.0802	8	15	0.7780	0.2334	46.45	3.22

CABLE TOTALS			
5	DC	#6 AWG	140'-0"
2	FIBER	3/8"	140'-0"

NOTES:
 1. CALCULATIONS ARE BASED ON STRANDED, COPPER CONDUCTORS.
 2. RESISTANCE VALUES FOR CONDUCTORS ARE BASED ON TABLE 8 OF THE NEC, DIRECT-CURRENT RESISTANCE FOR CONDUCTORS.
 3. LENGTH SHOWN IS THE LENGTH ONE-WAY TO DEVICE.

NOTES:
 1. REFER TO FINAL RFDS FOR FINAL RF CONFIGURATION.
 2. RFDS ID 4303495 BEING USED.

FINAL ANTENNA & CABLE SCHEDULE

FINAL ANTENNA & CABLE SCHEDULE

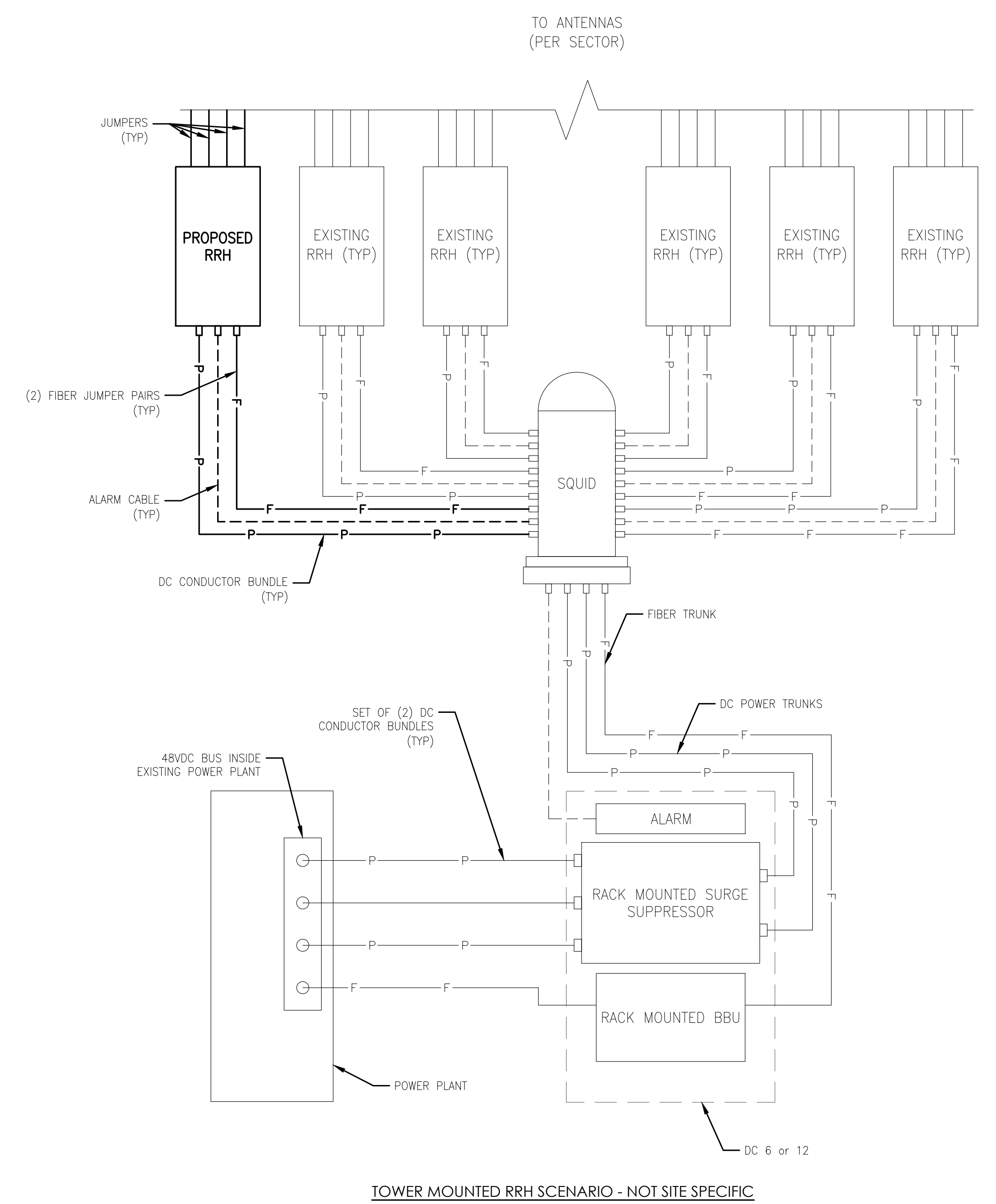
C-4



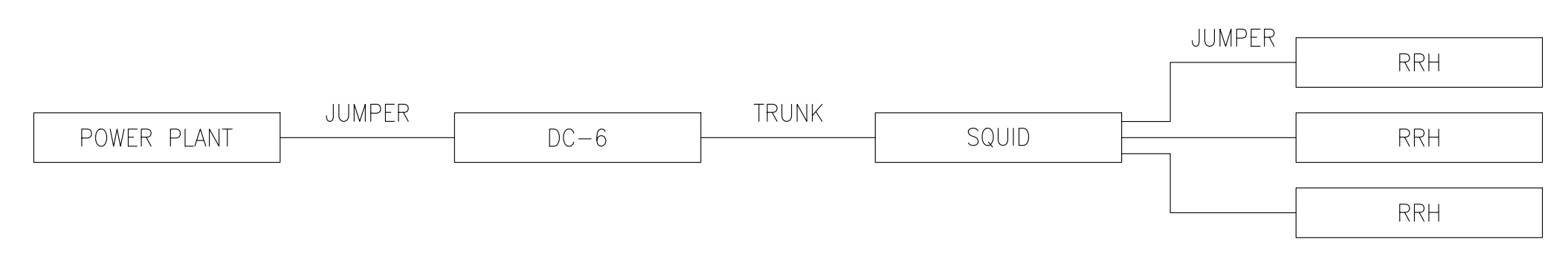
SD81

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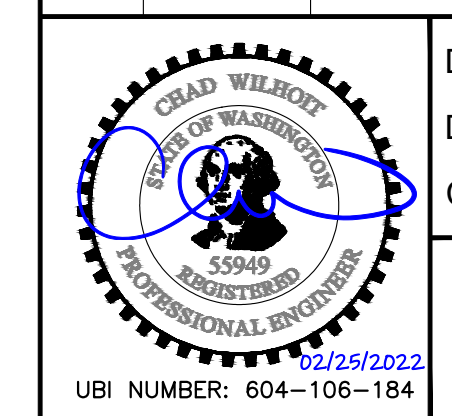


TOWER MOUNTED RRH SCENARIO - NOT SITE SPECIFIC



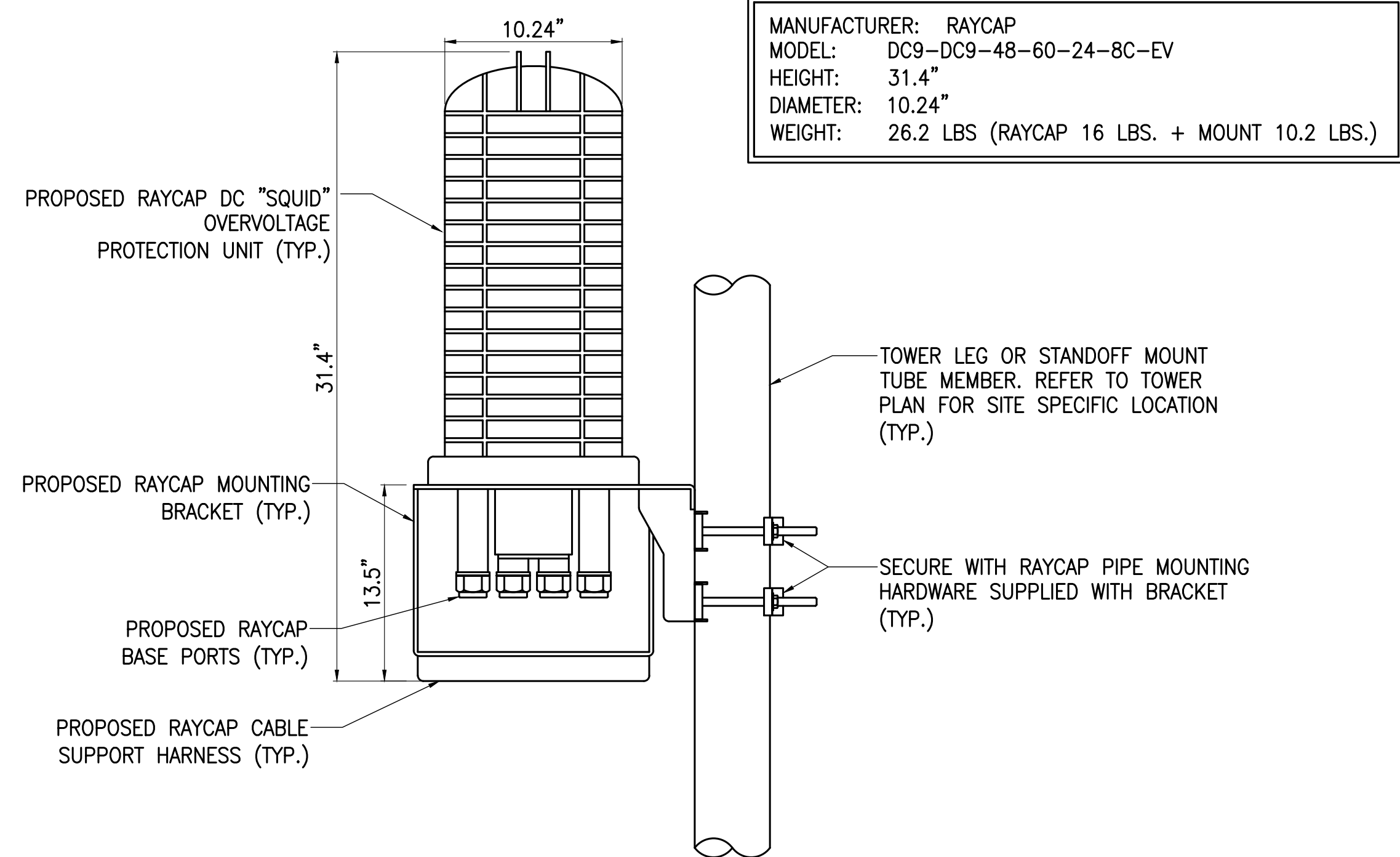
NOTES:
1. REFER TO CHART FOR CABLE QUANTITIES, SIZES, AND LENGTHS.

1 DC WIRING DIAGRAM (PROVIDED BY OTHERS)
SCALE: NOT TO SCALE



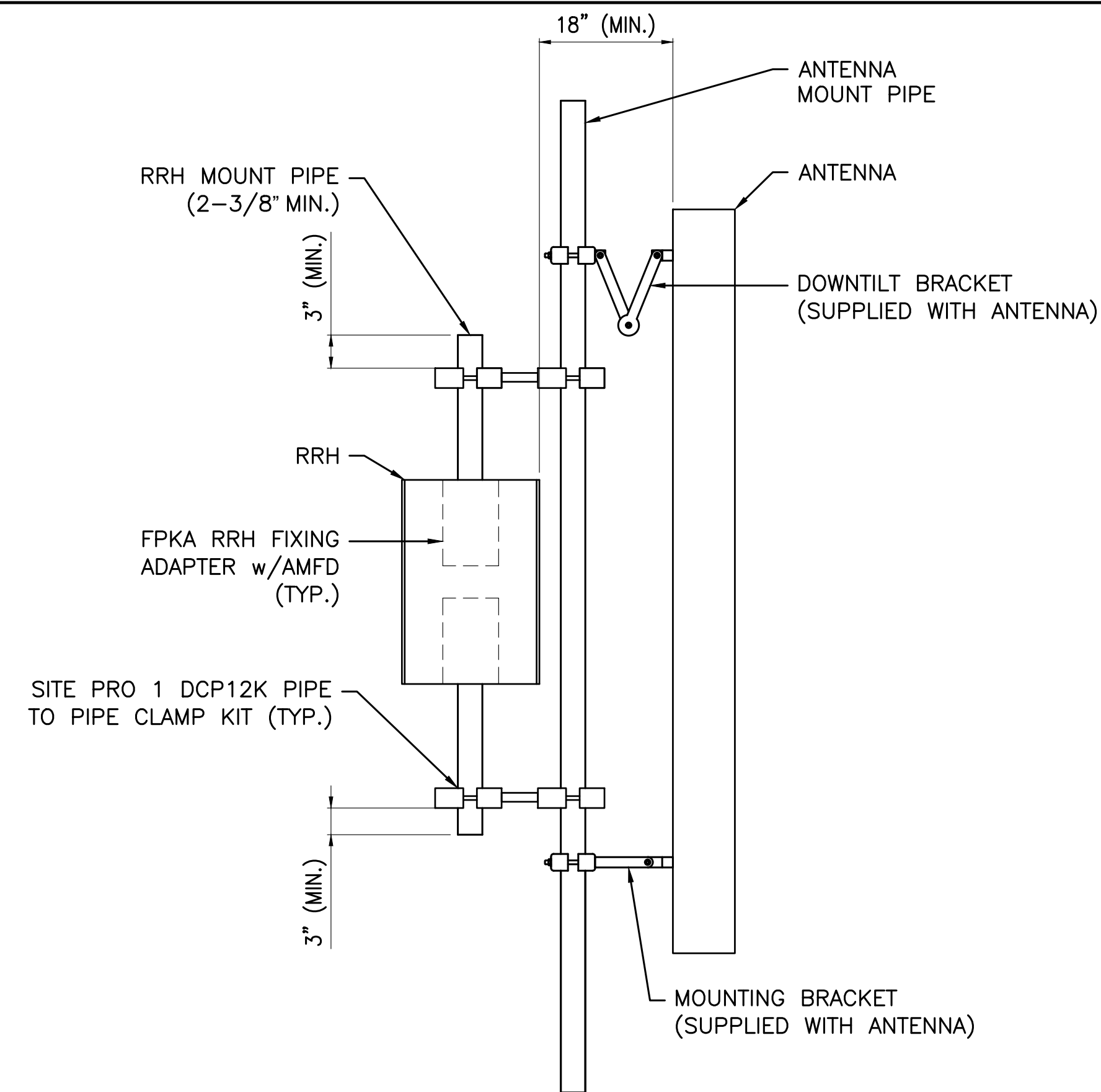
DESIGNED: MSW
DRAWN: MSW
CHECKED: PWM
JOB #:
21CCA06M-0032

ELECTRICAL WIRING DIAGRAM



MANUFACTURER: RAYCAP
 MODEL: DC9-DC9-48-60-24-8C-EV
 HEIGHT: 31.4"
 DIAMETER: 10.24"
 WEIGHT: 26.2 LBS (RAYCAP 16 LBS. + MOUNT 10.2 LBS.)

1 RAYCAP SQUID MOUNT DETAIL
 NOT TO SCALE



2 ANTENNA DETAIL
 NOT TO SCALE

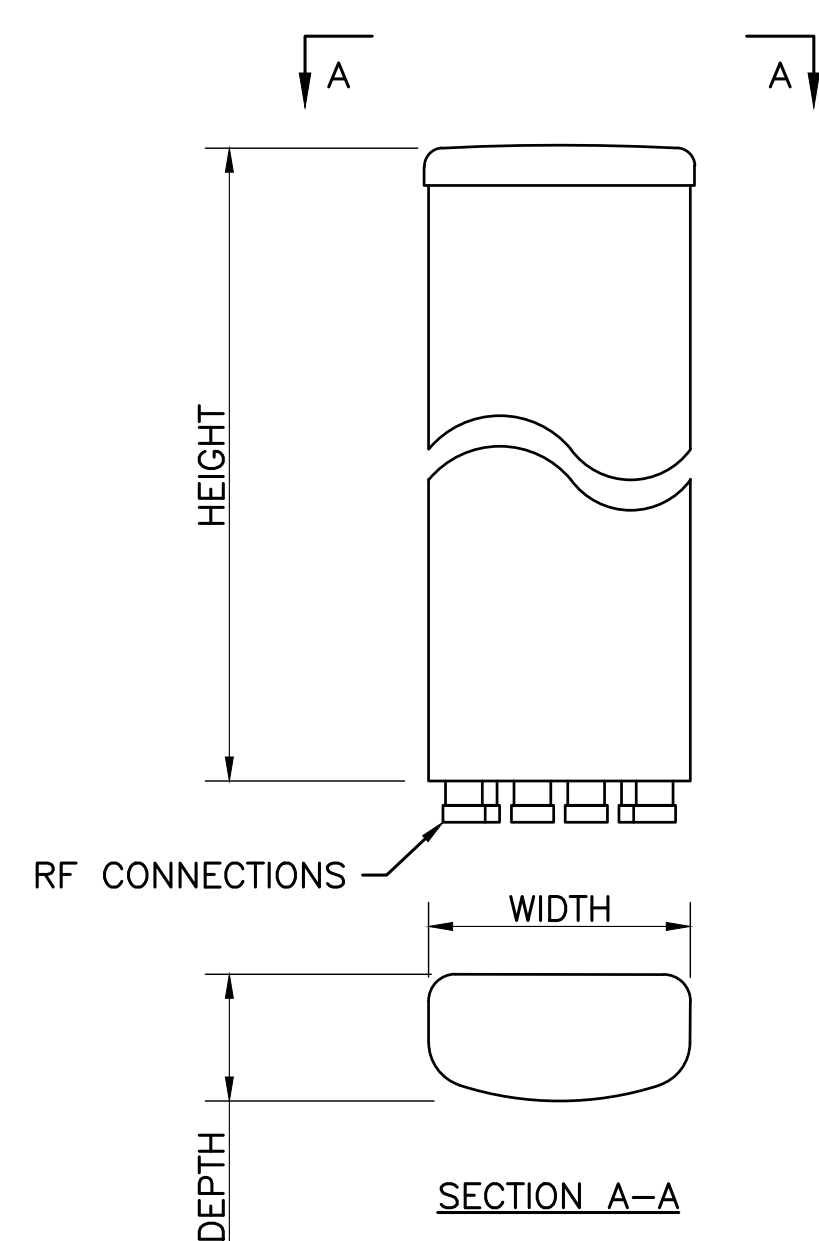


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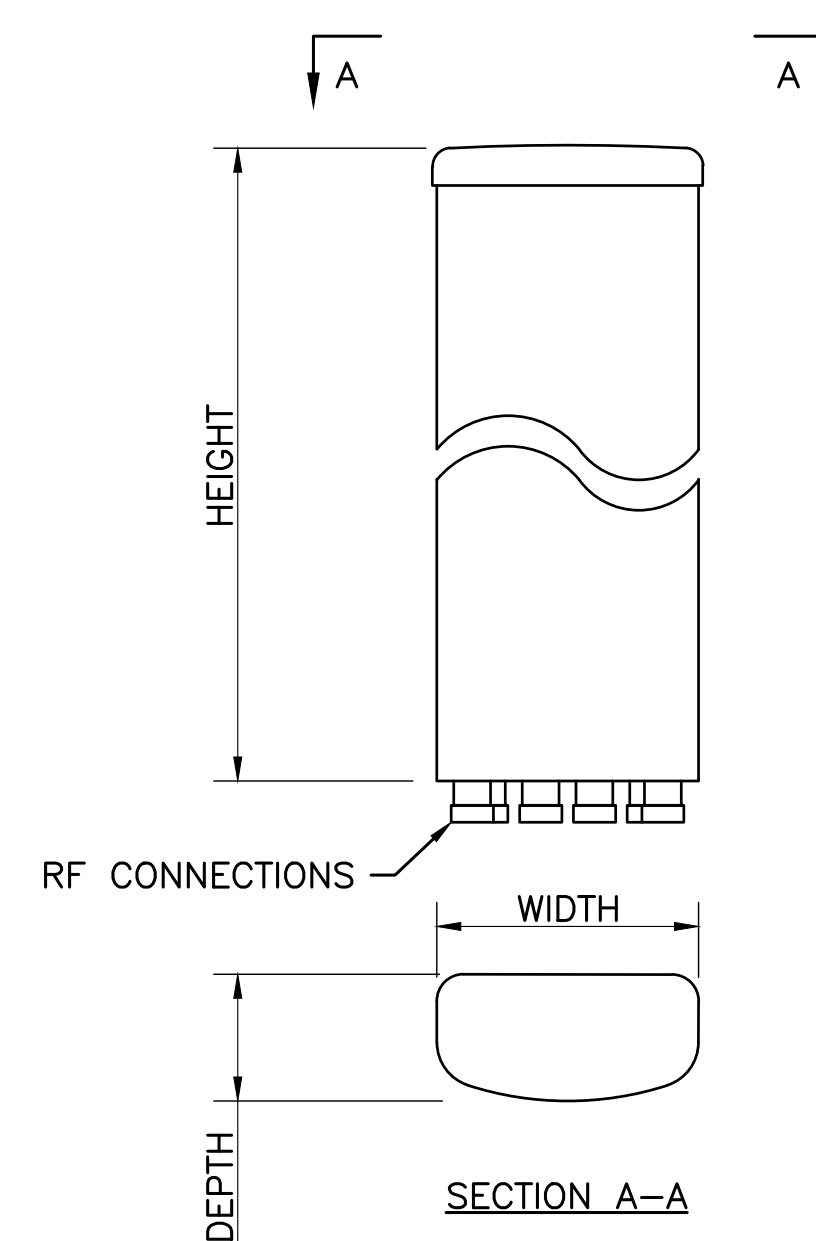
REV	DATE	DESCRIPTION
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MANUFACTURER: Cellmax
 MODEL: CMA-UBTMLBMLBHH-6516-16-21-21
 HEIGHT: 72.4" (1840 mm)
 WIDTH: 27.2" (690 mm)
 DEPTH: 7.7" (196 mm)
 WEIGHT: 85 lbs (38.6 kg)



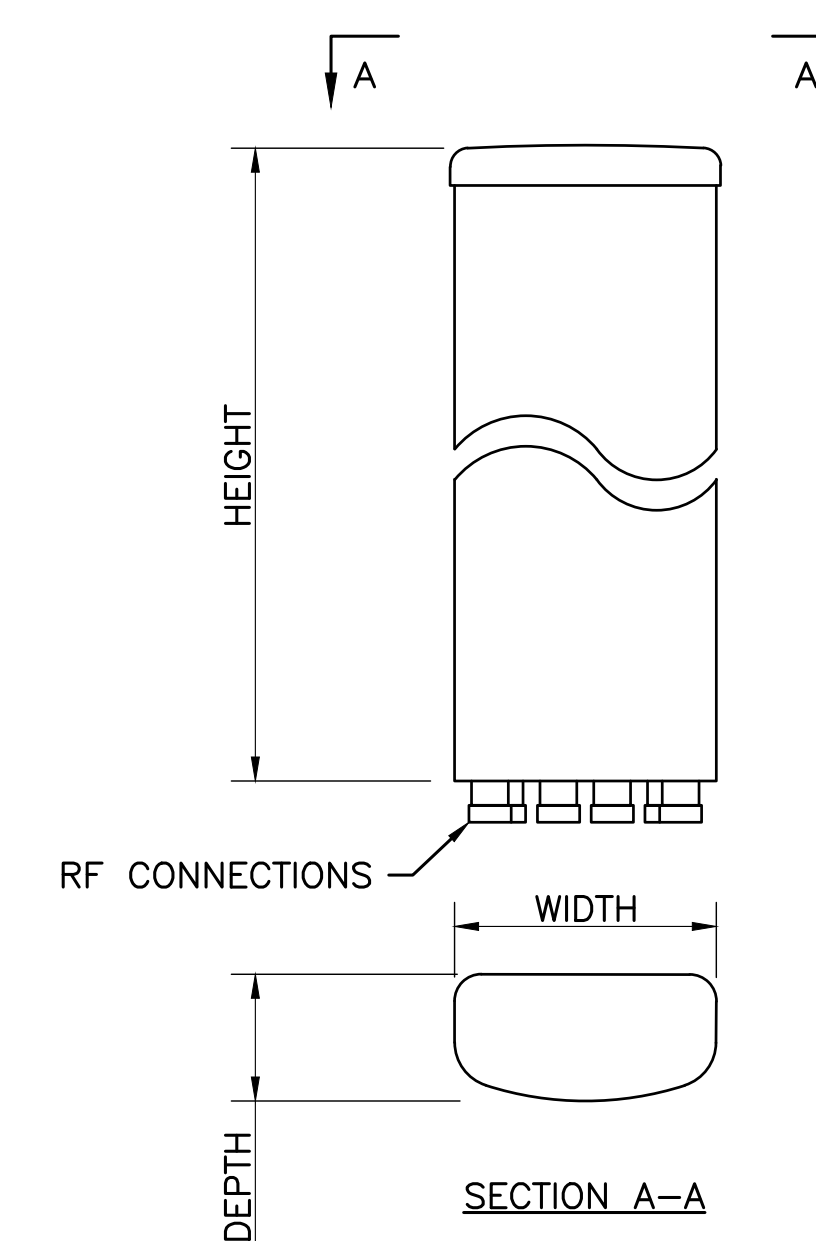
3 Cellmax CMA-UBTMLBMLBHH-6516-16-21-21
 NOT TO SCALE

MANUFACTURER: Kathrein
 MODEL: 800372965
 HEIGHT: 77.9" (1978 mm)
 WIDTH: 14.9" (378 mm)
 DEPTH: 6.5" (164 mm)
 WEIGHT: 74.5 lbs (33.8 kg)

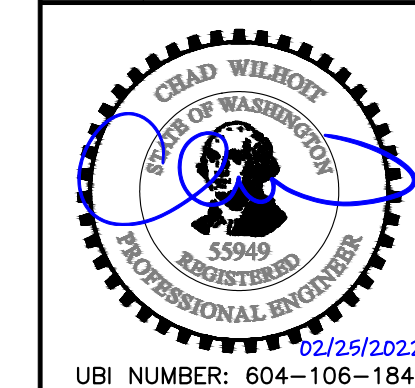


4 Kathrein 800372965
 NOT TO SCALE

MANUFACTURER: Nokia
 MODEL: Aircscale AEQK MAA n77
 HEIGHT: 29.5" (750 mm)
 WIDTH: 17.7" (450 mm)
 DEPTH: 9.5" (242 mm)
 WEIGHT: 99.2 lbs (45 kg)



5 Nokia Aircscale AEQK MAA n77
 NOT TO SCALE

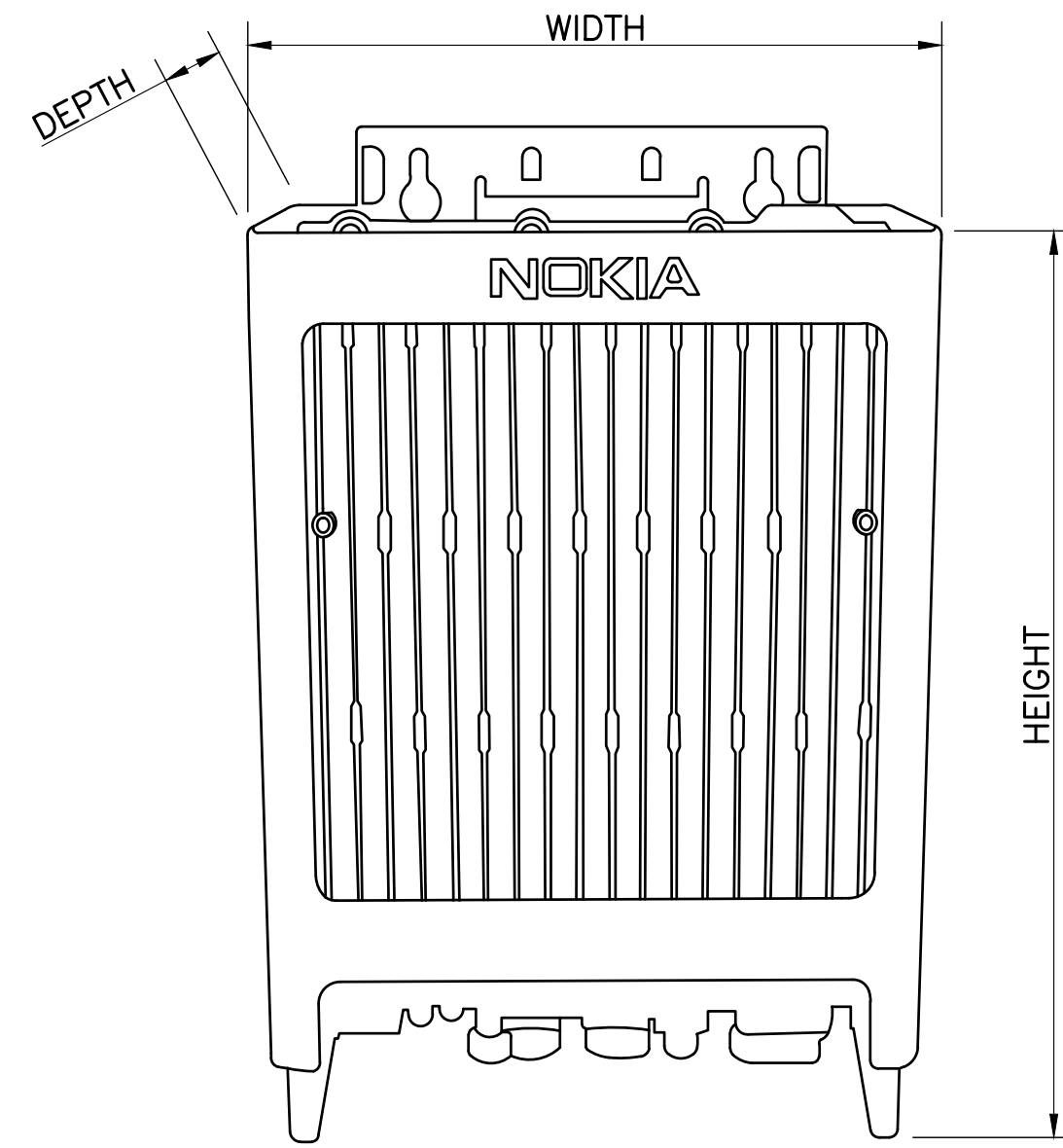


DESIGNED: MSW
 DRAWN: MSW
 CHECKED: PWM
 JOB #:
 21CCA06M-0032

**EQUIPMENT
 DETAILS**

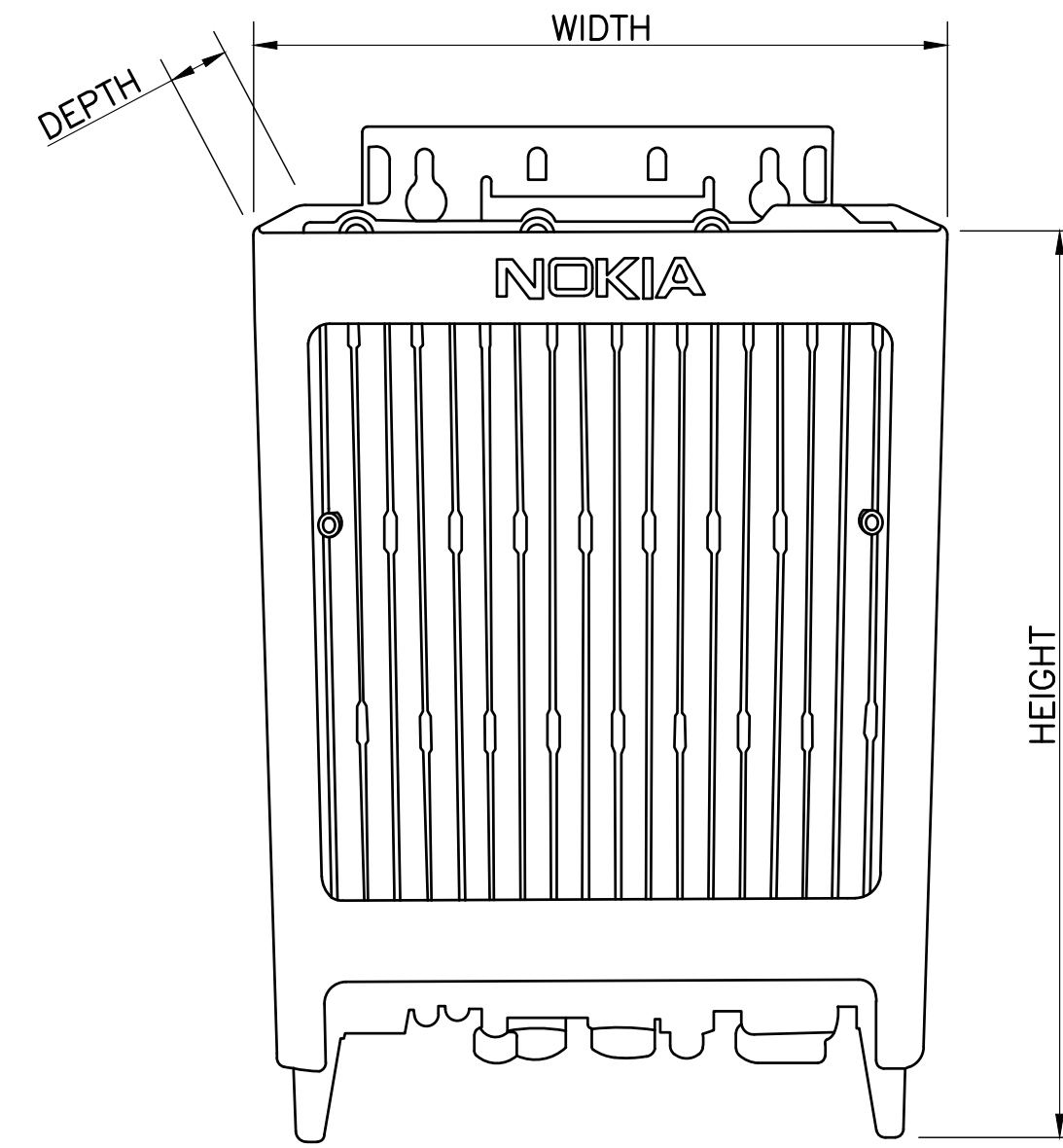
C-6

MANUFACTURER: NOKIA
 MODEL: AHNA (AIRSCALE 4T4R B30)
 HEIGHT: 16.83" (427.5 mm)
 WIDTH: 12.76" (324 mm)
 DEPTH: 7.21" (183 mm)
 WEIGHT: 39 lbs (17.7 kg)



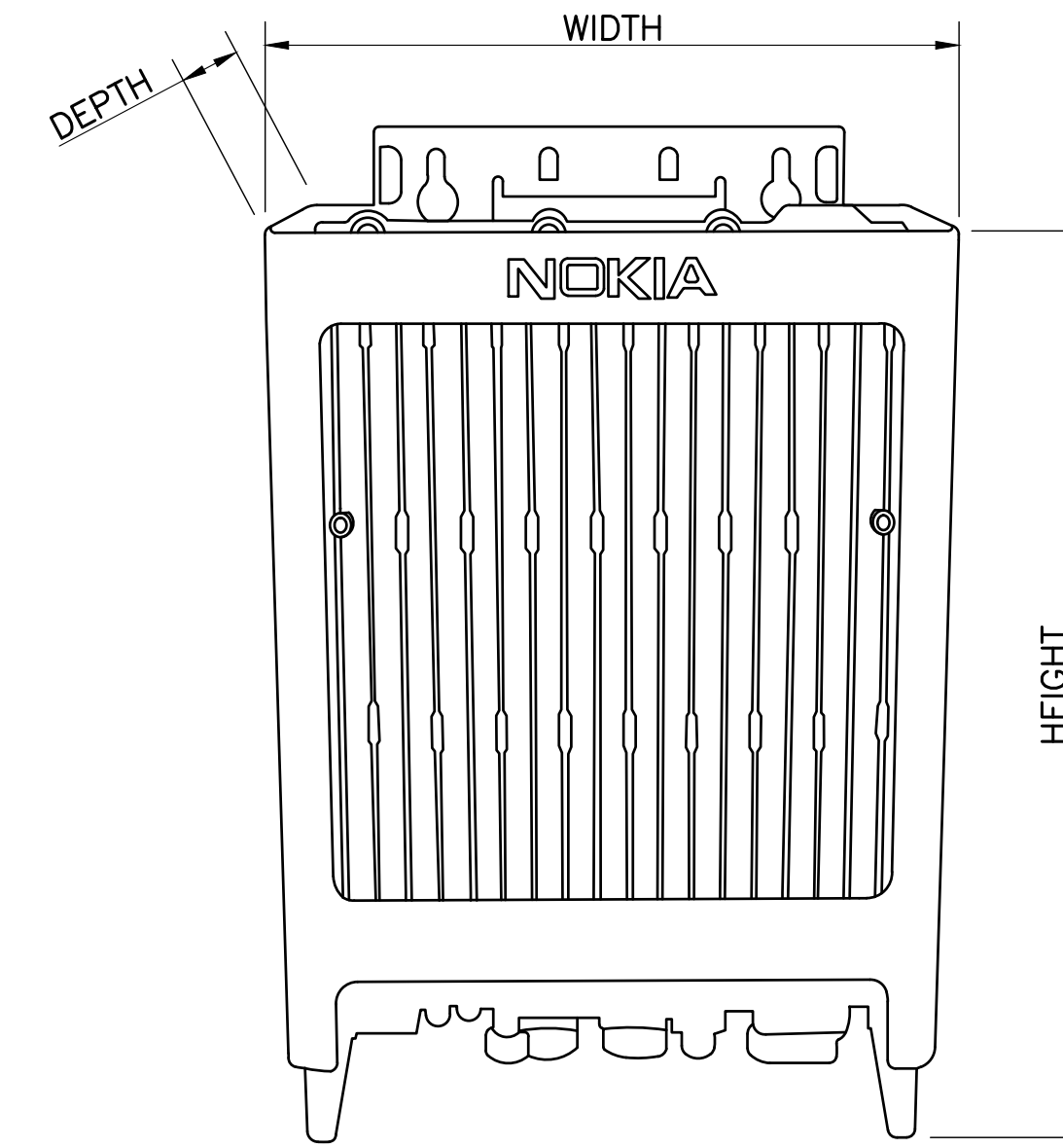
1 - NOKIA AHNA (AIRSCALE 4T4R B30)
 - NOT TO SCALE

MANUFACTURER: NOKIA
 MODEL: AHCA (AIRSCALE 4T4R B5)
 HEIGHT: 13.3" (337 mm)
 WIDTH: 11.6" (295 mm)
 DEPTH: 6.5" (165 mm)
 WEIGHT: 36.8 lbs (16.7 kg)



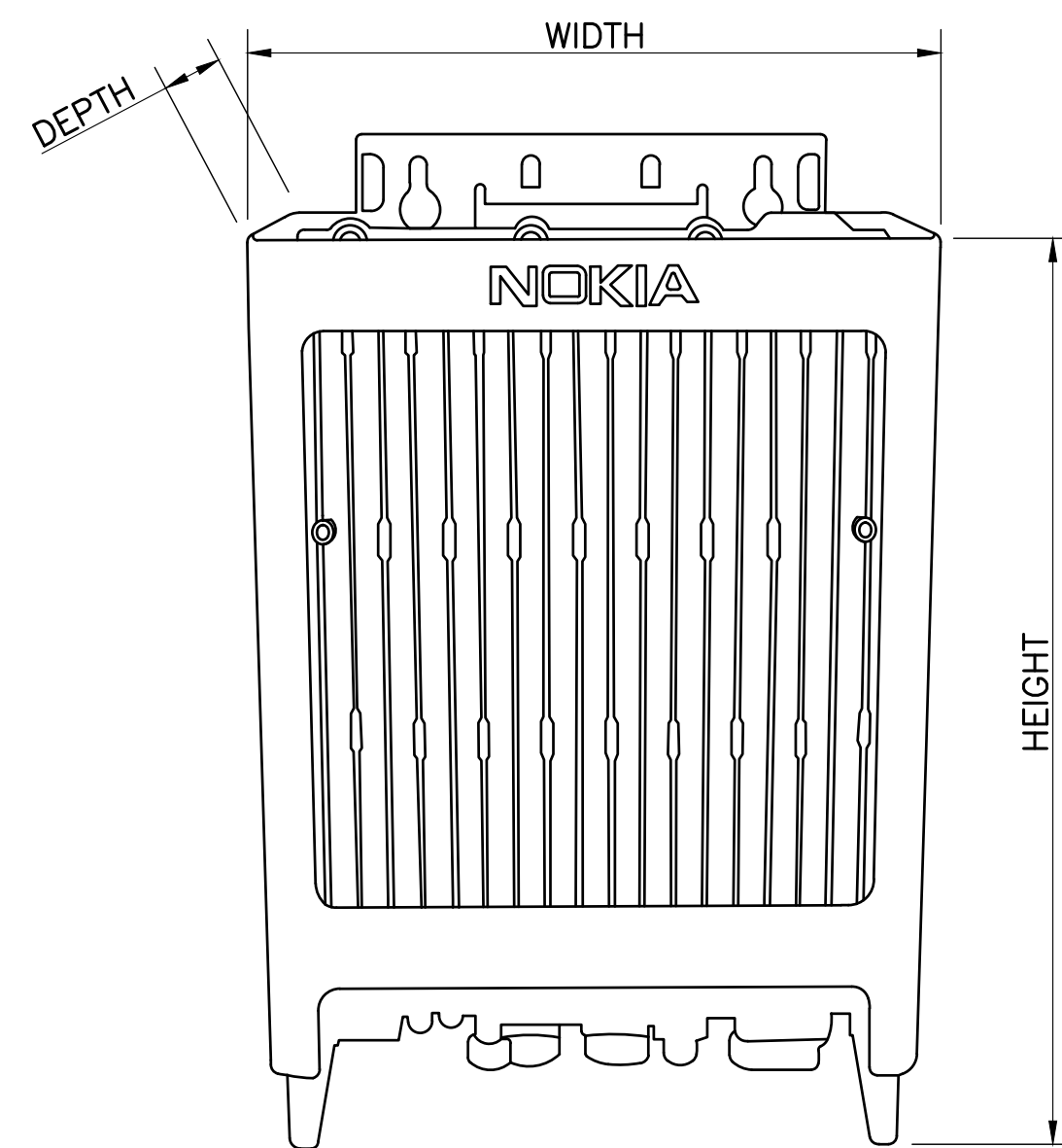
2 - NOKIA AHCA (AIRSCALE 4T4R B5)
 - NOT TO SCALE

MANUFACTURER: NOKIA
 MODEL: AHLBBA (AIRSCALE B29-B12-B14)
 HEIGHT: 24.01" (609.9 mm)
 WIDTH: 14.09" (357.9 mm)
 DEPTH: 7.83" (199 mm)
 WEIGHT: 101.4 lbs (46 kg)



3 - NOKIA AHLBBA (AIRSCALE B29-B12-B14)
 - NOT TO SCALE

MANUFACTURER: NOKIA
 MODEL: AHFIB (AIRSCALE 4T4R B25 B66)
 HEIGHT: 22.1" (559 mm)
 WIDTH: 12.1" (307 mm)
 DEPTH: 5.9" (150 mm)
 WEIGHT: 66.1 lbs (30 kg)



4 - NOKIA AHFIB (AIRSCALE 4T4R B25 B66)
 - NOT TO SCALE

5 - NOT USED
 - NOT TO SCALE

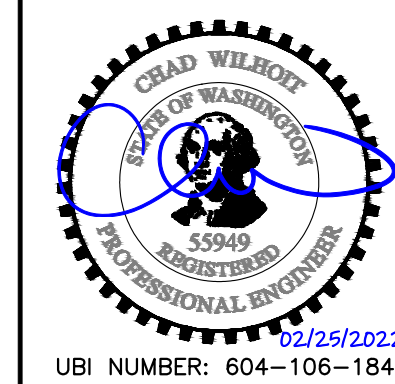
6 - NOT USED
 - NOT TO SCALE



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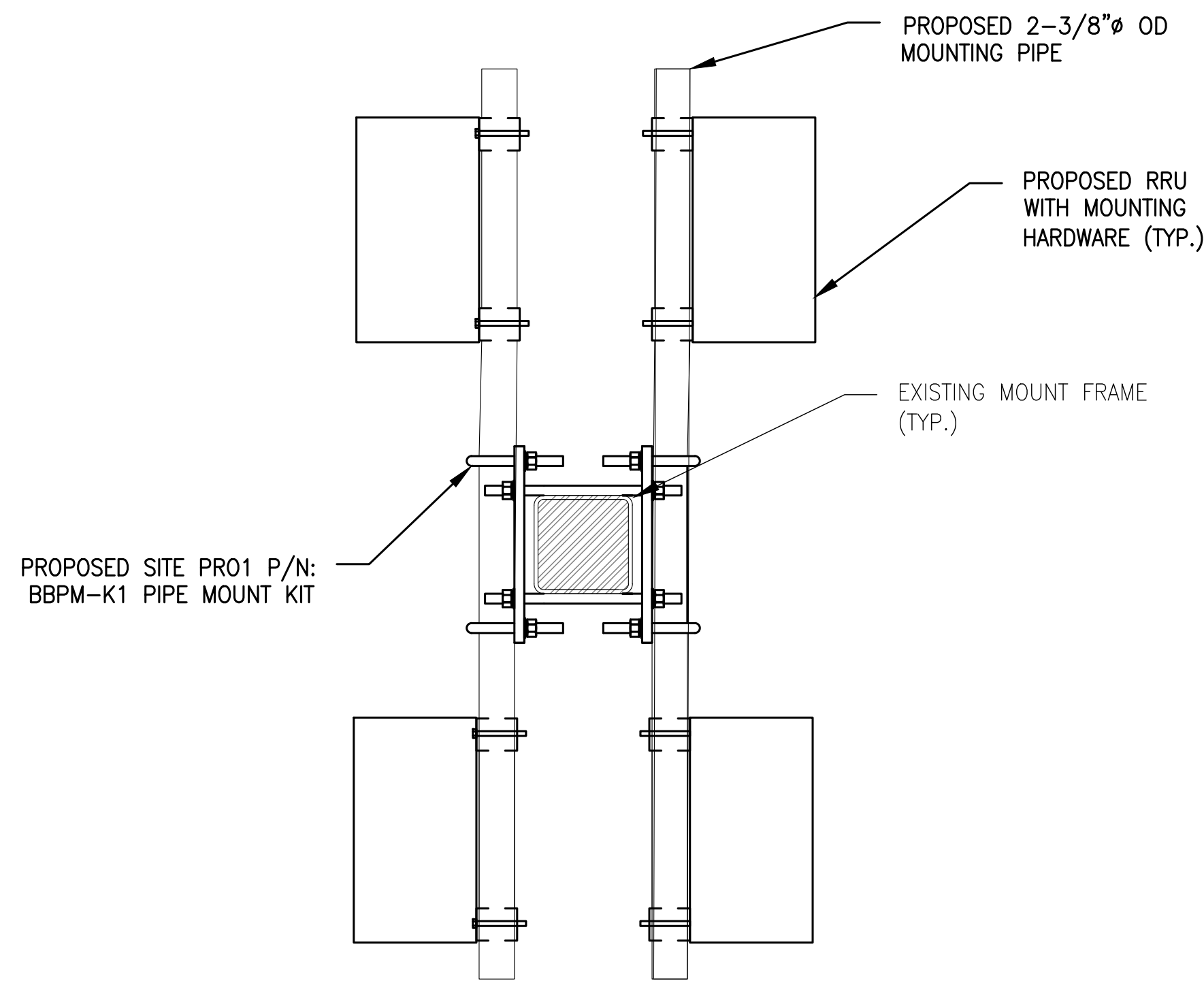


DESIGNED: MSW
 DRAWN: MSW
 CHECKED: PWM

JOB #:
 21CCA06M-0032

**EQUIPMENT
 DETAILS**

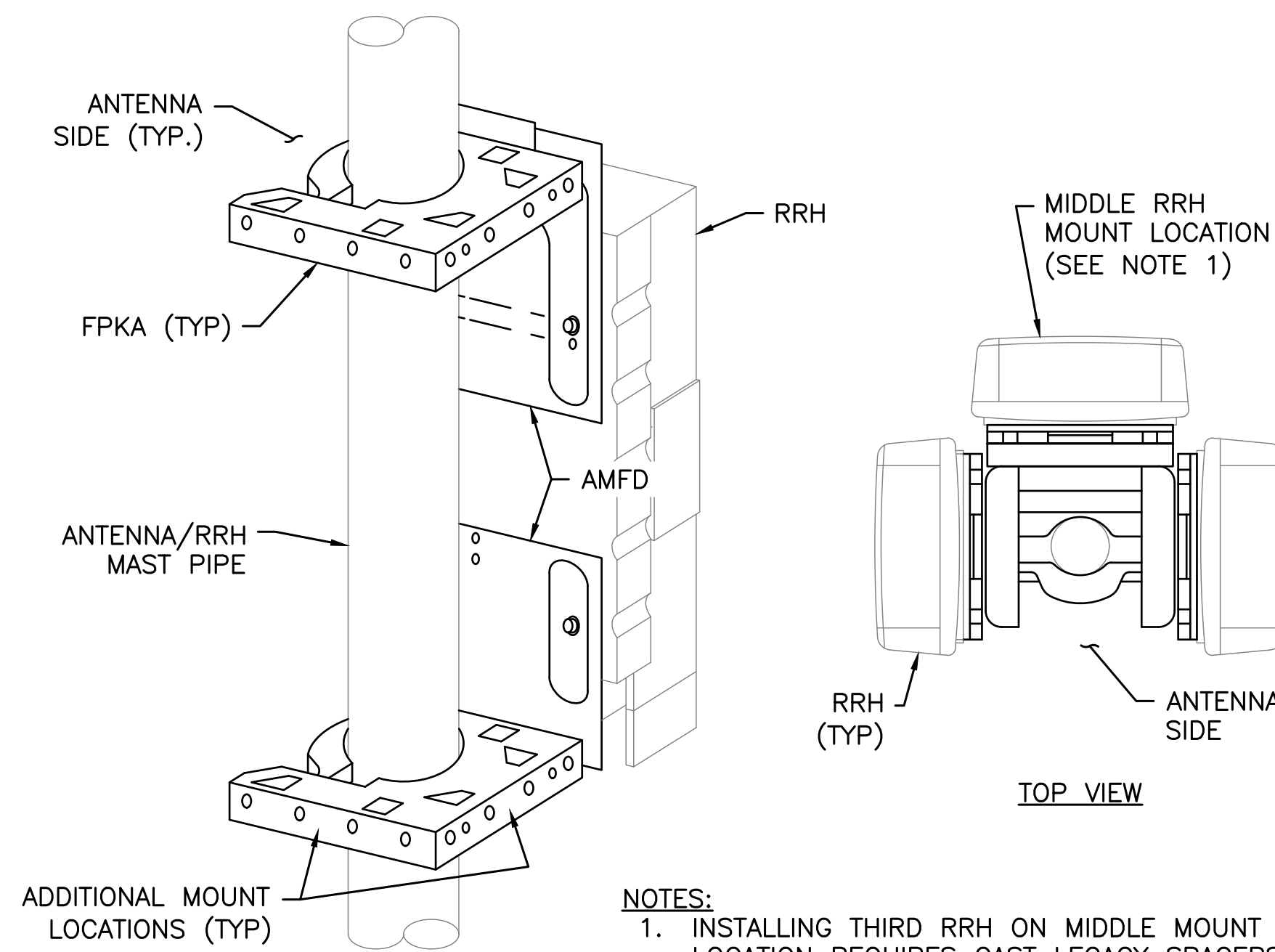
C-7



1 RRH MOUNTING AT MOUNT FRAME
NOT TO SCALE

4 NOT USED
NOT TO SCALE

MANUFACTURER: Nokia
MODEL: 474293A, 19US806081A20A
MAX FPKA SUPPORTED WEIGHT: 352.7 lbs (160 kg)

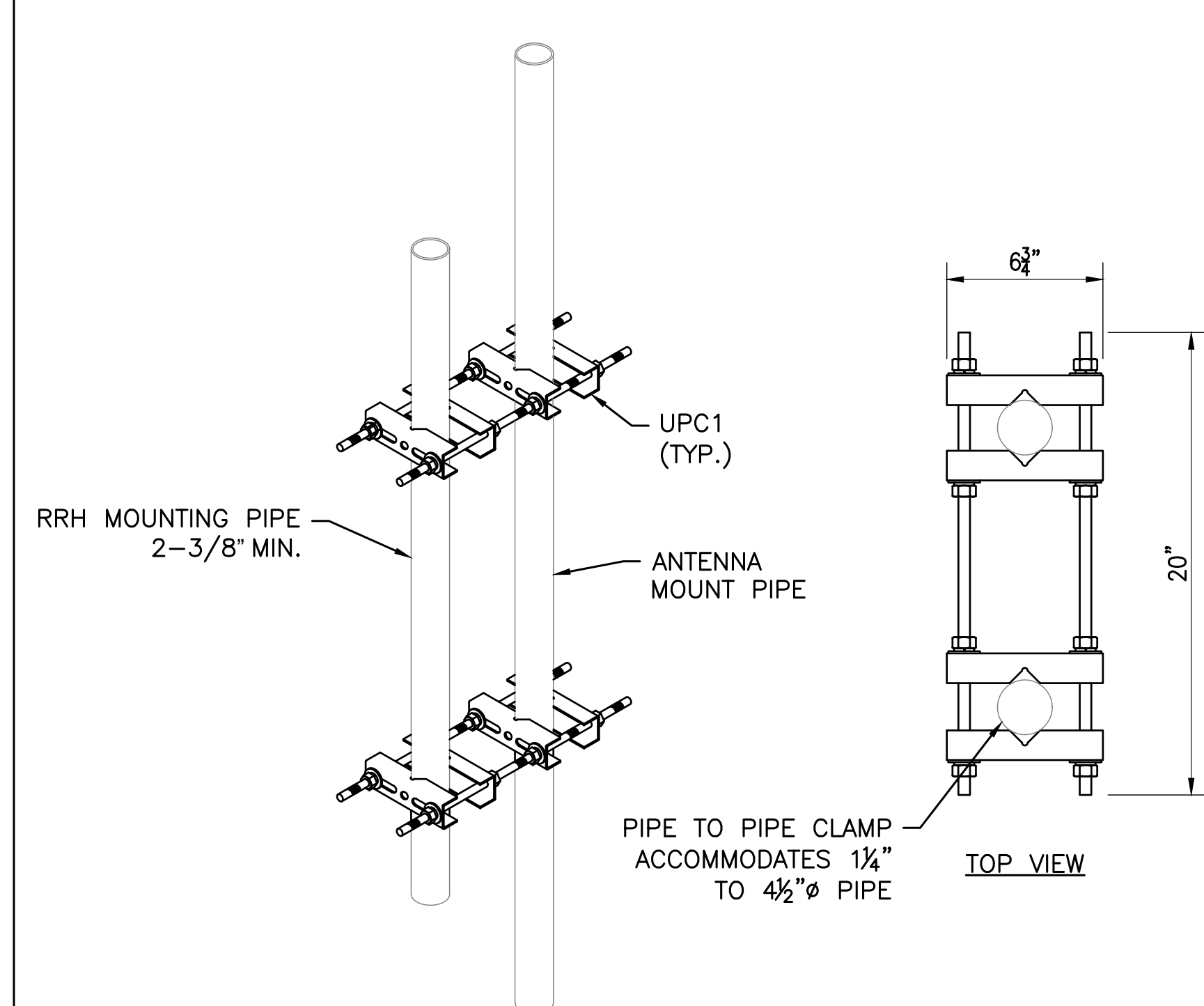


NOTES:
1. INSTALLING THIRD RRH ON MIDDLE MOUNT LOCATION REQUIRES CAST LEGACY SPACERS.
2. ADDITIONAL RRHs NOT SHOWN IN ISO VIEW FOR CLARITY.

2 NOKIA FPKA - AMFD AirScale 2 FPKx Fixing Adapter
NOT TO SCALE

5 NOT USED
NOT TO SCALE

MANUFACTURER: Site Pro 1
MODEL: DCP12K
WEIGHT: 27.01 lbs (12.3kg)



3 Site Pro 1 DCP12K - Pipe To Pipe Clamp
NOT TO SCALE

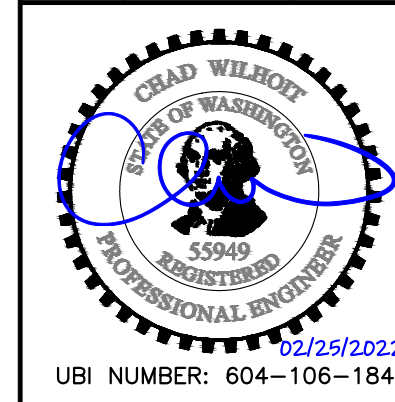
6 NOT USED
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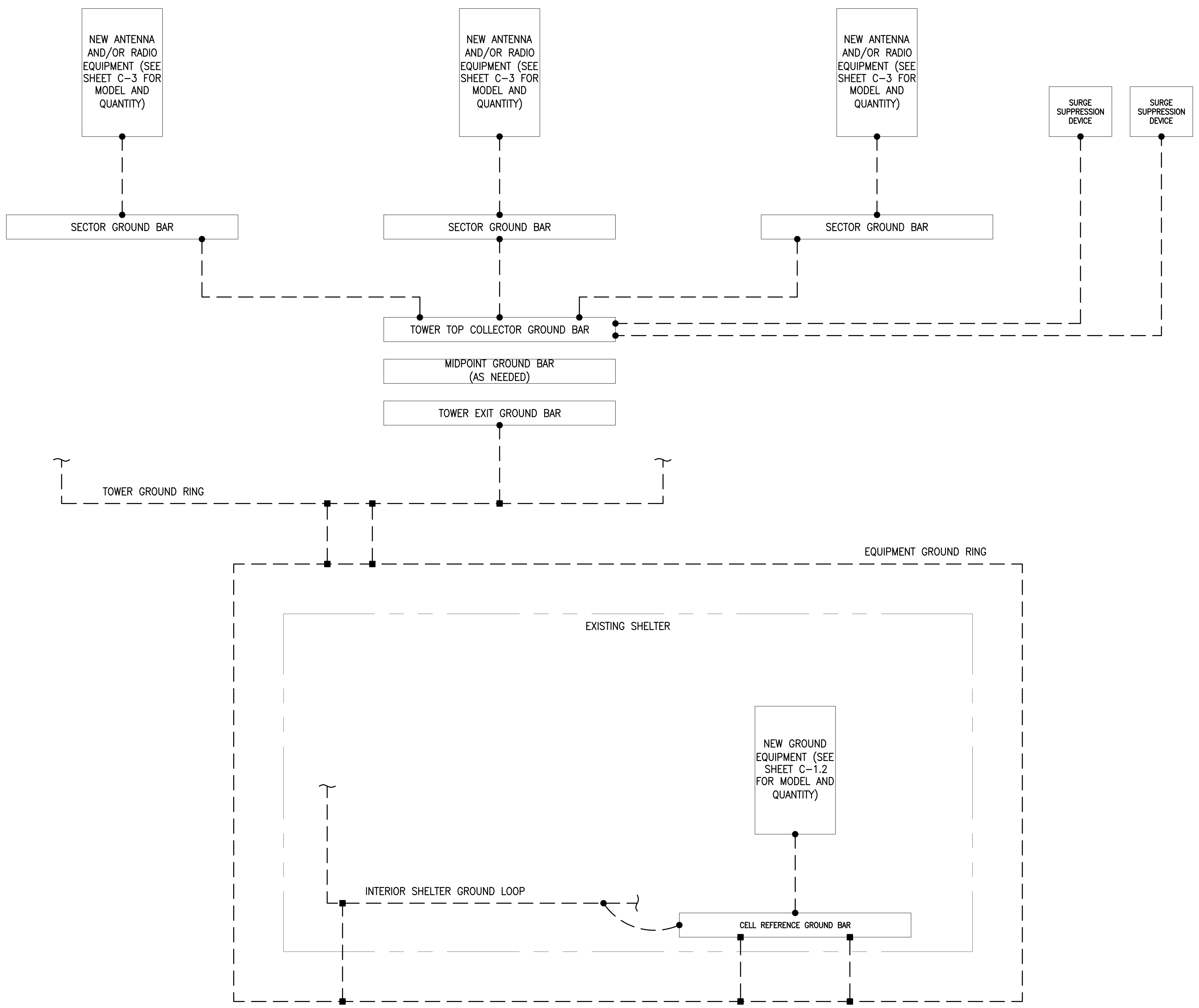
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DESIGNED: MSW
DRAWN: MSW
CHECKED: PWM

JOB #:
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EQUIPMENT DETAILS



GROUNDING SCHEMATIC

GROUNDING PLAN LEGEND:

---	GROUND WIRE	⊙	COPPER GROUND ROD
■	EXOTHERMIC WELD	⊗	GROUND ROD W/ TEST WELL
●	MECHANICAL CONNECTION		

CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUITS (ATT-TP-76416 7.6.7).

HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CELL SITE REFERENCE GROUND BAR MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS.

EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE (ATT-TP-76416 7.6.7.2).

DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICES CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR PER TP76300 SECTION H 6 AND TP76416 FIGURE 7-11 REQUIREMENTS.



SD81

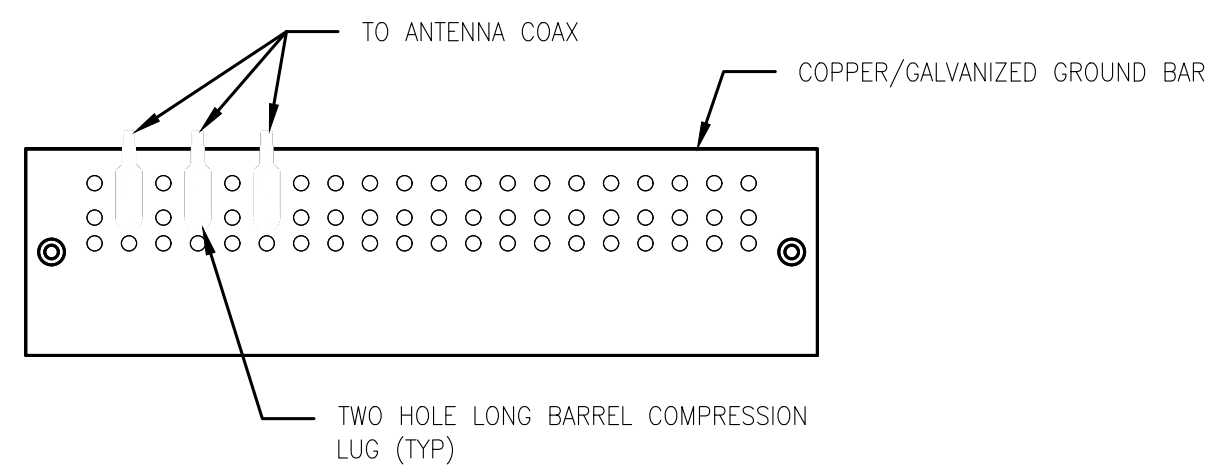
BU #: 856382
CLISE PARK-PSE

SOUTHEAST 39TH STREET AND 84TH AVENUE SOUTHEAST
MERCER ISLAND, WA 98040

REV	DATE	DESCRIPTION
A	12/17/21	PRELIMS
0	2/25/22	FOR CONSTRUCTION

	DESIGNED: MSW DRAWN: MSW CHECKED: PWM JOB #: 21CCA06M-0032
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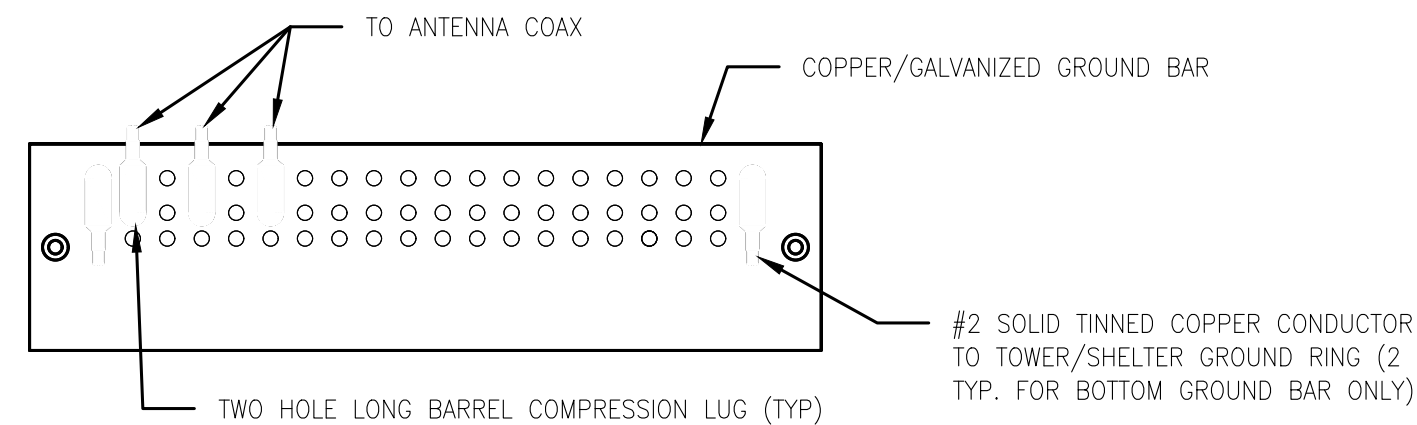
GROUNDING SCHEMATIC



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

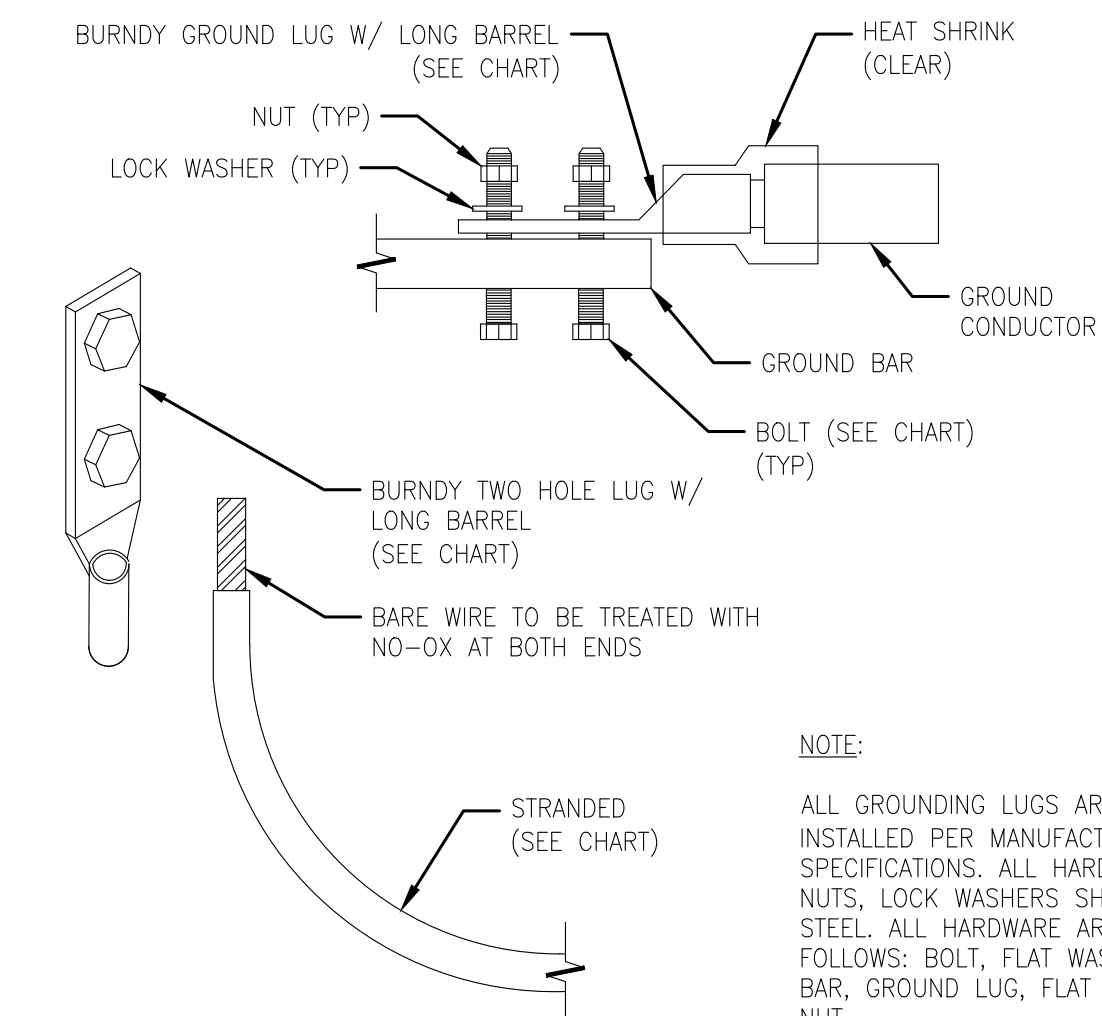


NOTES:

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

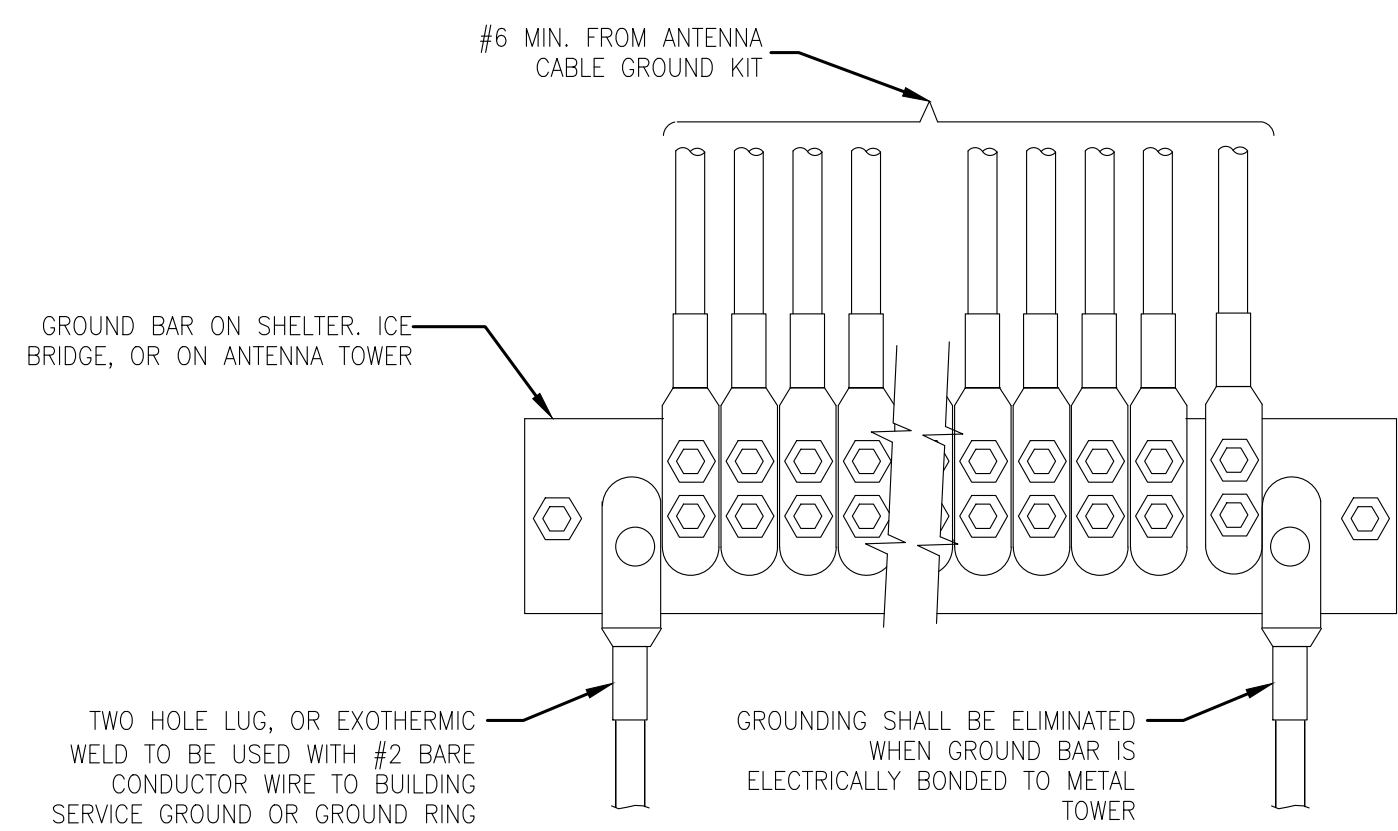
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



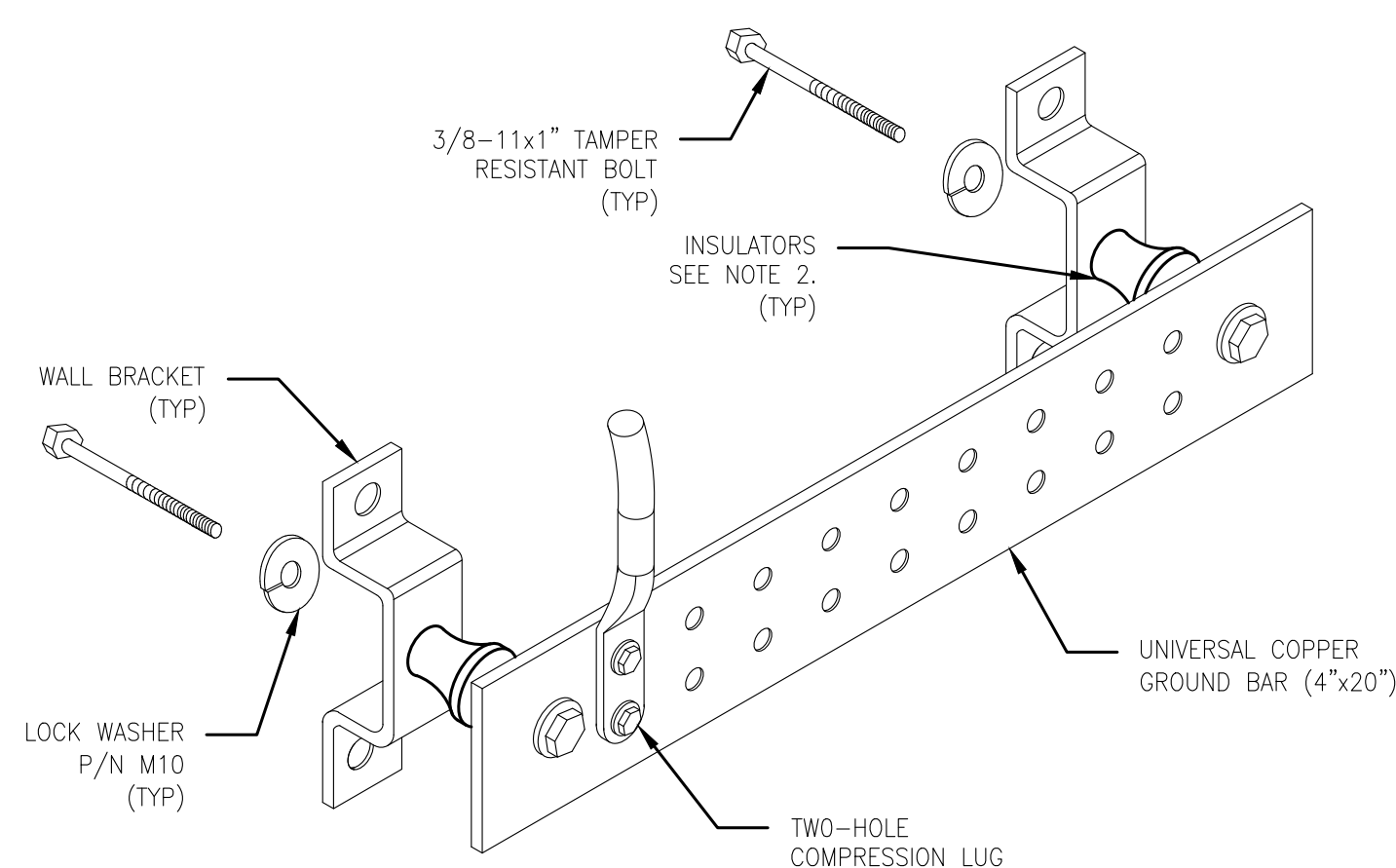
NOTE:

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



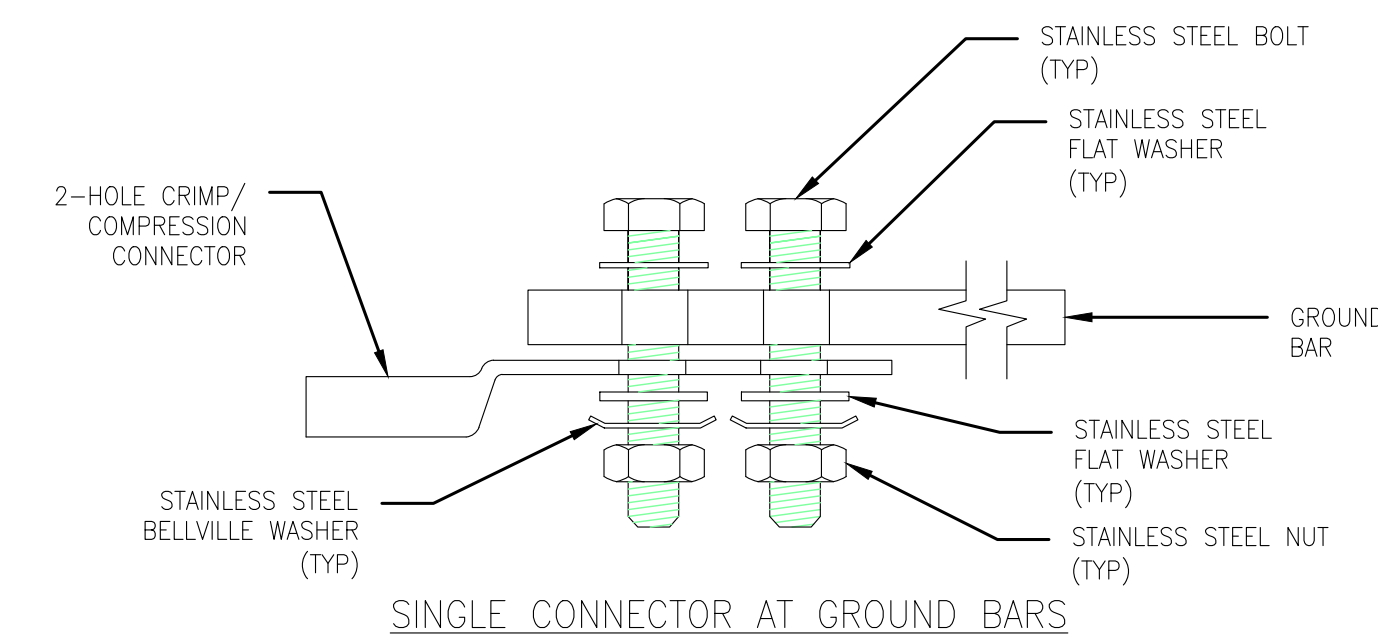
4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



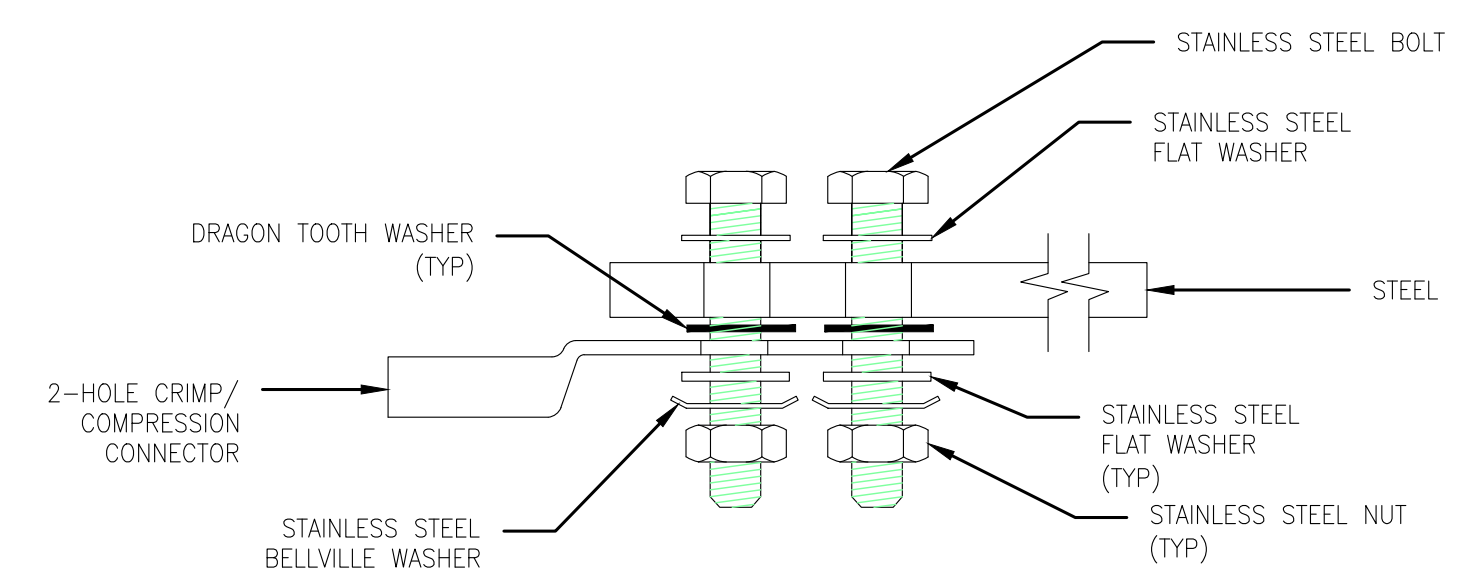
NOTES:

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.

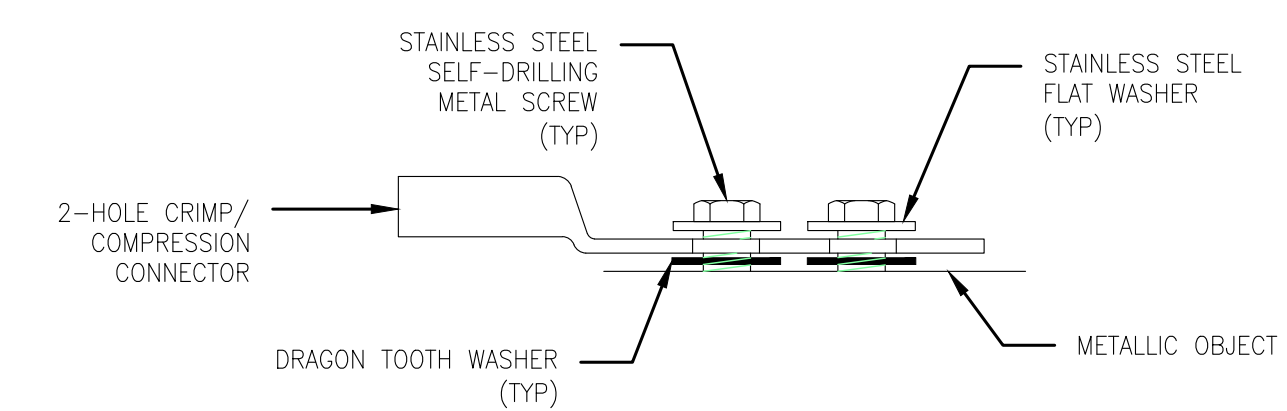
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

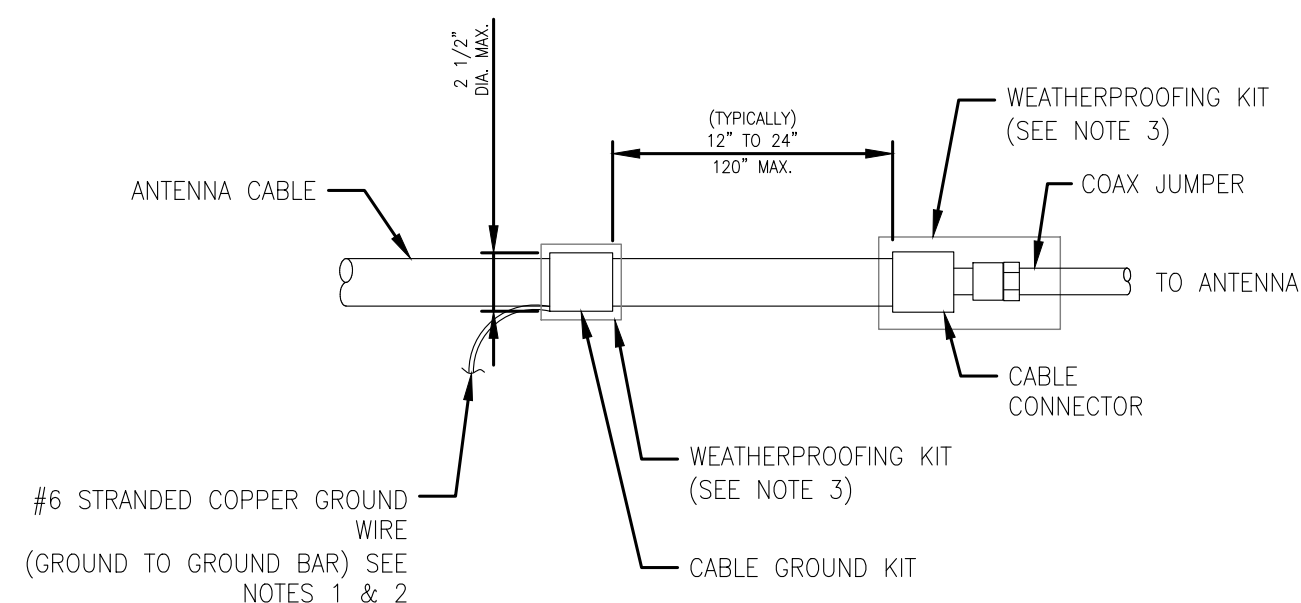


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

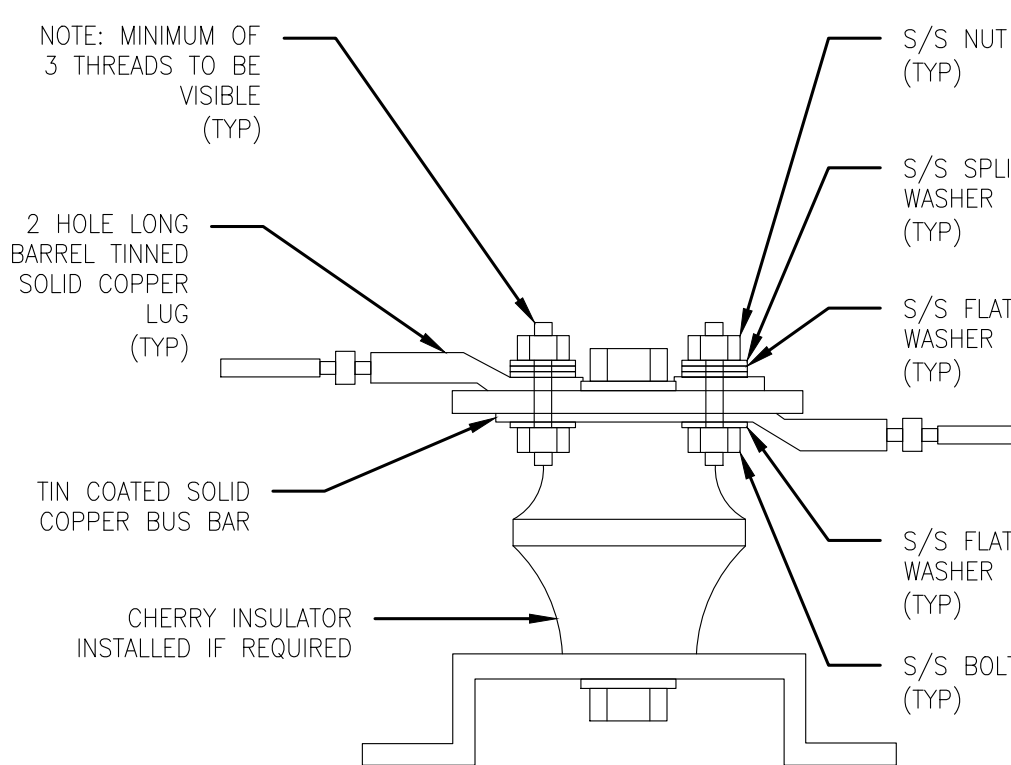
8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



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

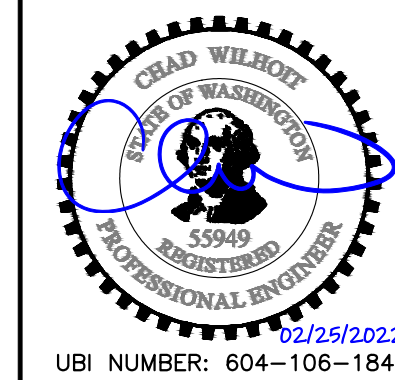


SD81

BU #: 856382
CLISE PARK-PSE

SOUTHEAST 39TH STREET AND 84TH AVENUE SOUTHEAST
MERCER ISLAND, WA 98040

REV	DATE	DESCRIPTION
A	12/17/21	PRELIMS
0	2/25/22	FOR CONSTRUCTION



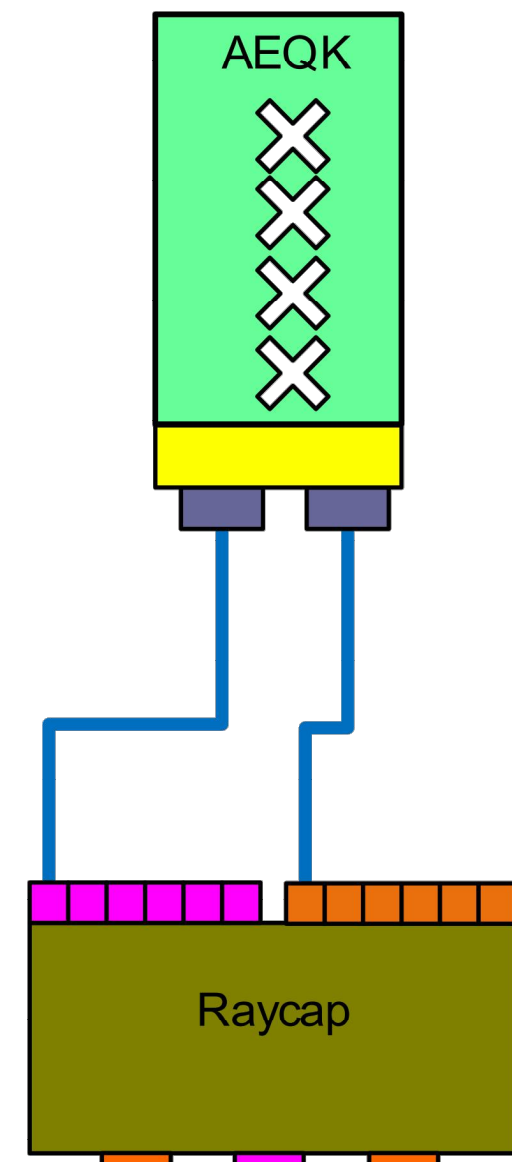
DESIGNED: MSW
DRAWN: MSW
CHECKED: PWM

JOB #:
21CCA06M-0032

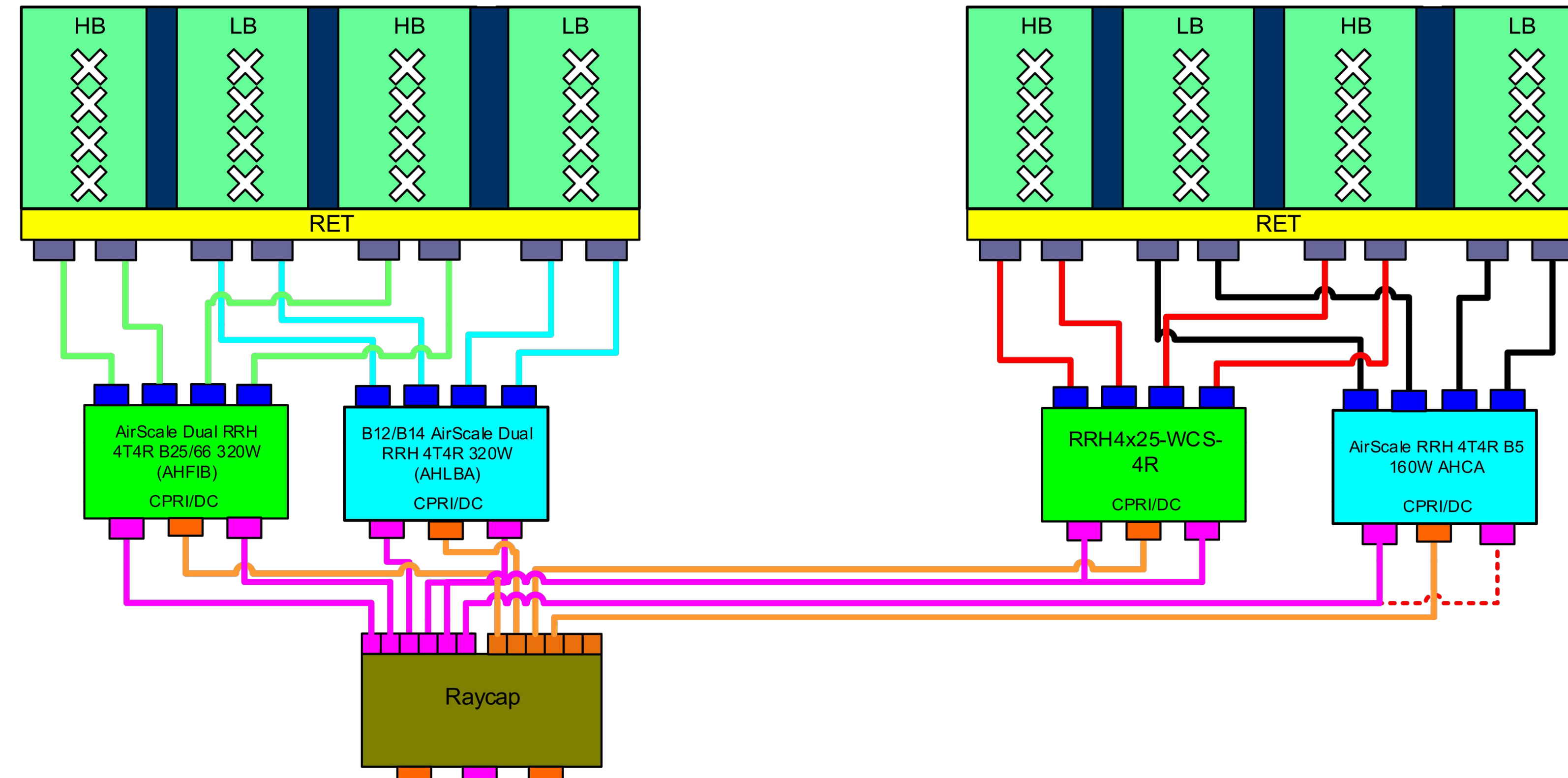
GROUNDING DETAILS

G-2

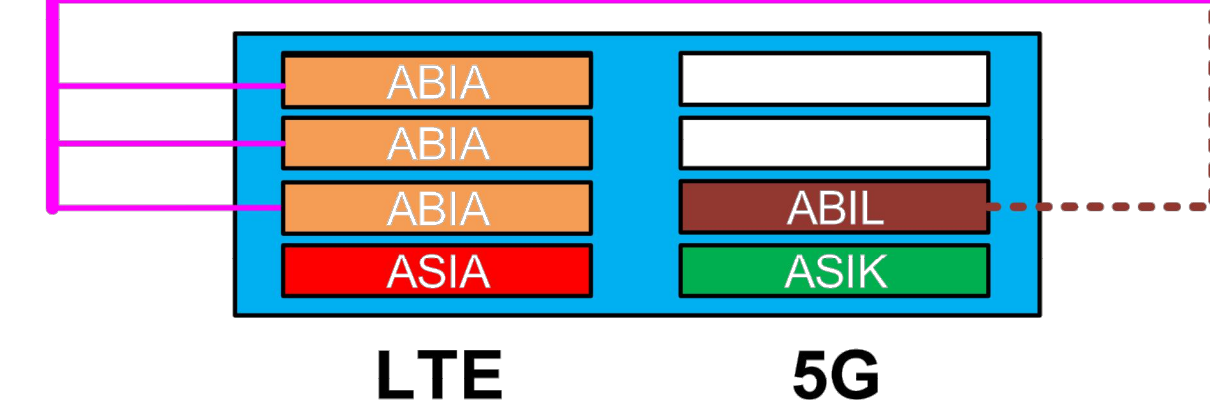
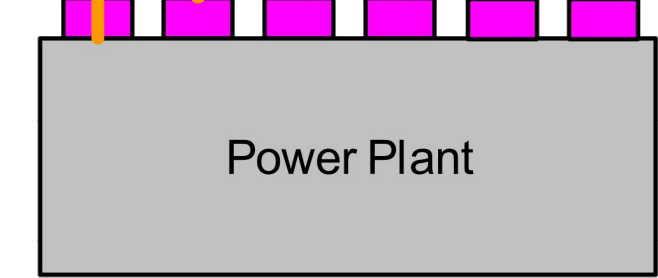
TOP RC



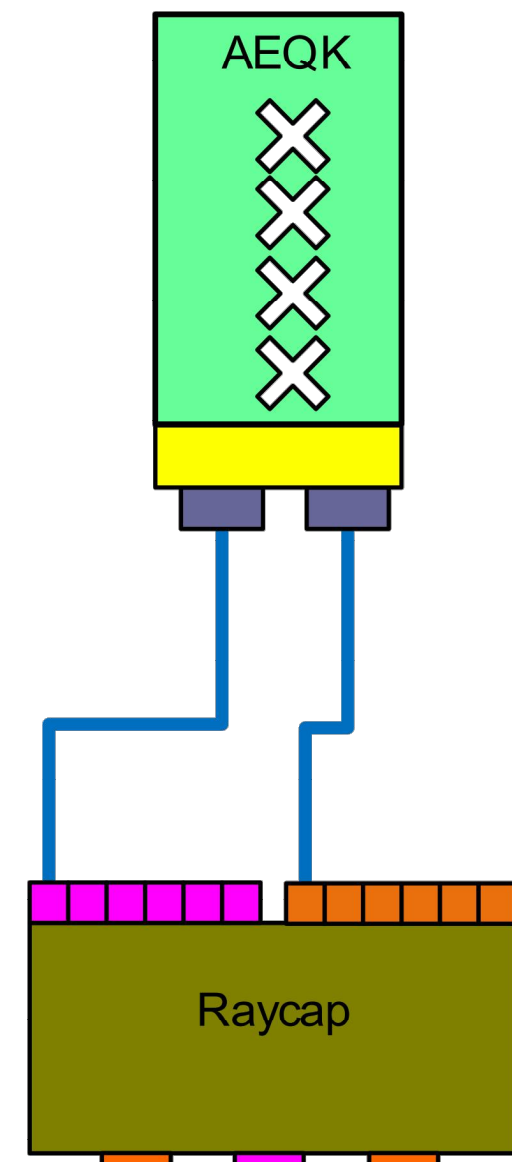
BOTTOM RC



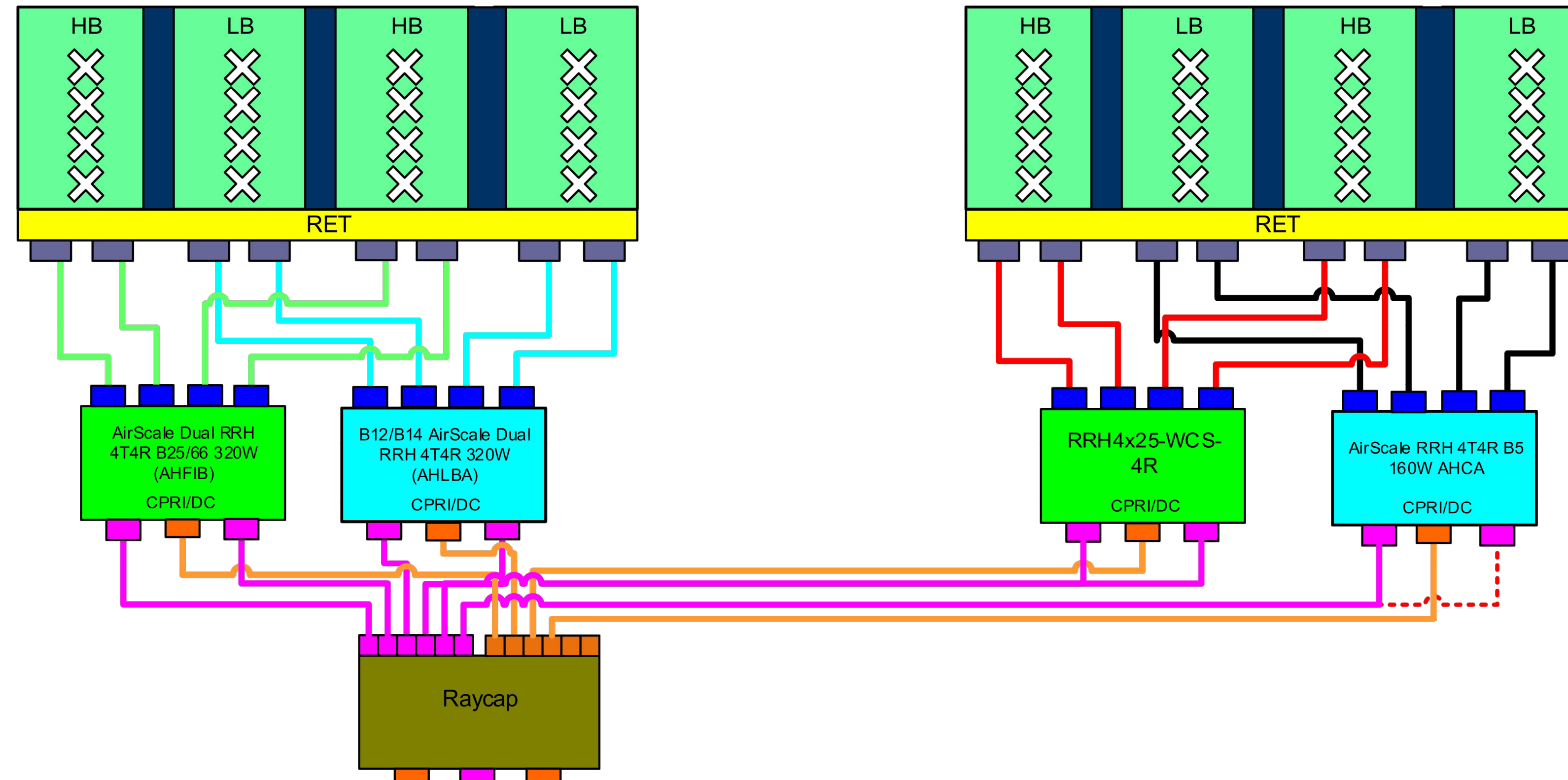
----- Hatch -----



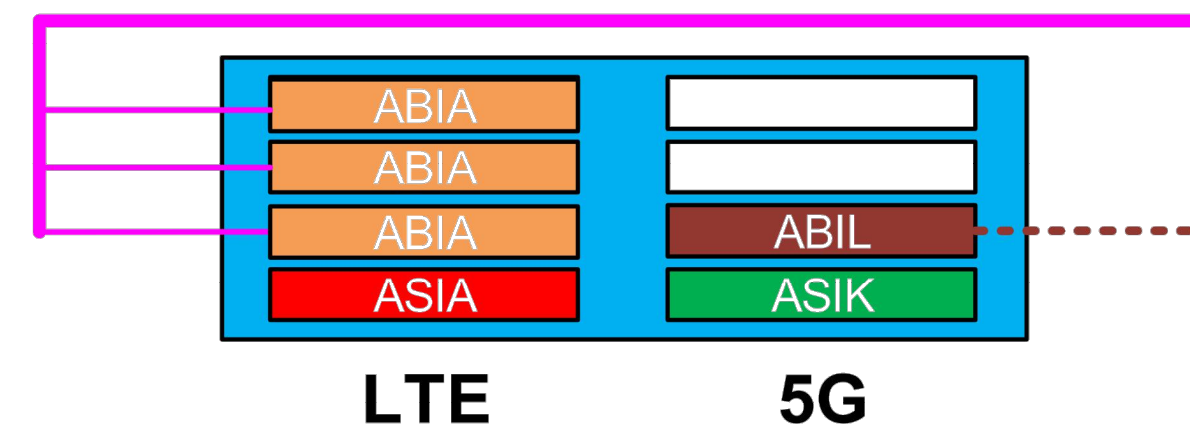
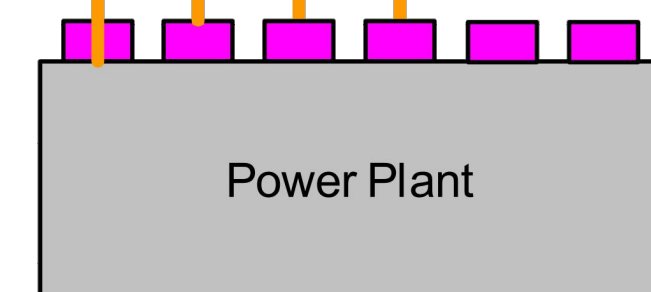
TOP RC

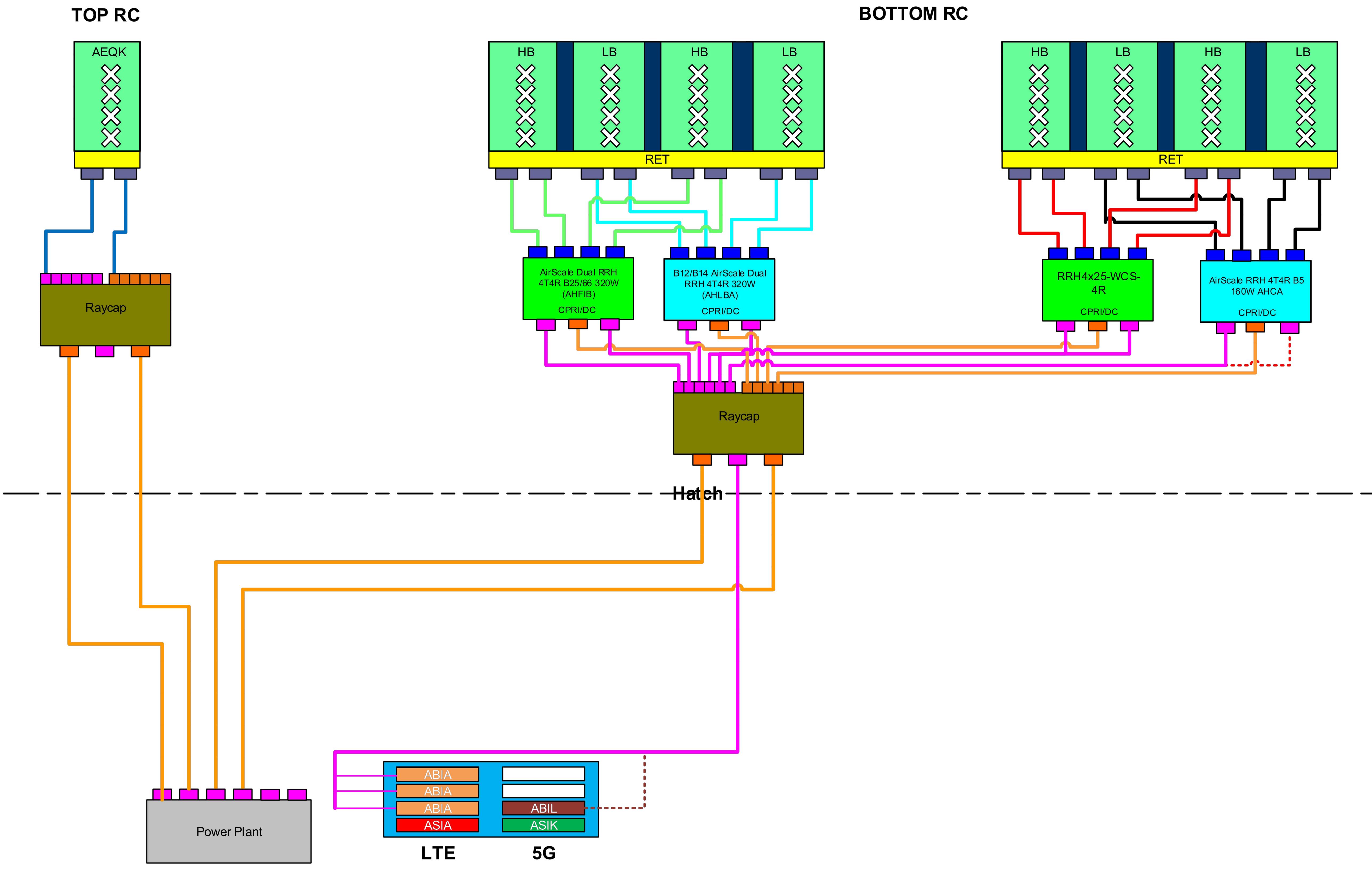


BOTTOM RC



----- Hatch -----





MOUNT DESIGN DRAWINGS

SITE NAME:

CLISE PARK-PSE

CROWN CASTLE BU NUMBER:

856382

SITE ADDRESS:

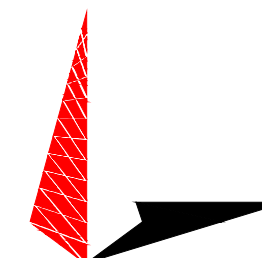
**SOUTHEAST 39TH STREET AND 84TH AVENUE SOUTHEAST
MERCER ISLAND, WA 98040
(KING COUNTY)
N47°34'32.18", W122°13'36.26"**

PLANS PREPARED FOR:

CROWN CASTLE

2055 S. STEARMAN DRIVE
CHANDLER, AZ 85286

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603
OFFICE: (919) 661-6351
www.tepgroup.net

MODIFICATION PROVISIONS

THE MODIFICATIONS DEPICTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE STRUCTURAL MODIFICATION ANALYSIS REPORT COMPLETED BY TEP, JOB NO.: 233674.620977 DATED NOVEMBER 12, 2021 (REV 0).

ATTENTION ALL CONTRACTORS, ANYTIME YOU ACCESS A CROWN SITE FOR ANY REASON YOU ARE TO CALL THE CROWN NOC UPON ARRIVAL AND DEPARTURE, DAILY AT 800-788-7011.

QUALIFIED ENGINEERING SERVICES ARE AVAILABLE FROM TEP TO ASSIST CONTRACTORS IN CLASS IV RIGGING PLAN REVIEWS. FOR REQUESTED QUALIFIED ENGINEERING SERVICES, CONTACT TEP FOR QUOTE AT RIGGING@TEPGROUP.NET

INDEX OF SHEETS

NO.	SHEET TITLE	REV
T-1	TITLE SHEET	0
N-1	PROJECT NOTES I	0
N-2	PROJECT NOTES II	0
S-1	ELEVATION DETAILS	0
S-2	PROPOSED MOUNT DETAILS I	0
S-3	PROPOSED MOUNT DETAILS II	0

PROJECT INFORMATION

TOWER HEIGHT: 110-FT
MOUNT HEIGHT: 106-FT & 96-FT
MOUNT TYPE: PROPOSED STANDOFF & T-ARM MOUNTS

ORDER NO.: 565233 REV. 2

DESIGN BUILDING CODE: 2018 IBC
DESIGN STANDARD: TIA-222-H

PROJECT TEAM

CCI MODIFICATION PROJECT MANAGER:

NAME CROWN CASTLE
CONTACT HOLLY BOELHAUF
PHONE (206) 336-3217
EMAIL HOLLY.BOELHAUF@CROWNCastle.COM

ENGINEERING FIRM PROJECT MANAGER:

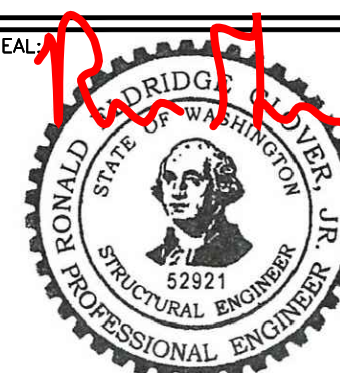
NAME TOWER ENGINEERING PROFESSIONALS, INC.
CONTACT RYAN W. TSCHETTER, P.E.
PHONE (480) 750-9063
EMAIL PHX_STRUCTURES@TEPGROUP.NET

SAFETY CLIMB: 'LOOK UP'



THE INTEGRITY OF THE WIRE ROPE SAFETY CLIMB SYSTEM SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER REINFORCEMENTS AND EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF ANY WIRE ROPE SAFETY CLIMB 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, OR IMPACT TO THE ANCHORAGE POINTS IN ANY WAY. ANY COMPROMISED SAFETY CLIMB MUST BE REPORTED TO YOUR CROWN POC FOR RESOLUTION, INCLUDING EXISTING CONDITIONS.

SEAL:



Electronic Copy November 12, 2021

0	11-12-21	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: NAM CHECKED BY: RWT

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:	REVISION:
T-1	0
TEP#233674.620977	

GENERAL NOTES:

- ALL REFERENCES TO THE OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED CROWN CASTLE OR ITS DESIGNATED REPRESENTATIVE.
- ALL WORK PRESENTED ON THESE DESIGN DRAWINGS MUST BE COMPLETED BY THE GENERAL CONTRACTOR (GC) UNLESS NOTED OTHERWISE. THE GC MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE GC IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF WASHINGTON.
- WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE 2018 INTERNATIONAL BUILDING CODE.
- UNLESS SHOWN OR NOTED OTHERWISE ON THE DESIGN DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
- ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
- ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE DESIGN DRAWINGS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER OF RECORD (EOR) PRIOR TO INSTALLATION. THE GC SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
- THE GC SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE GC IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
- ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE GC SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
- ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE GC. THE GC WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
- IF APPLICABLE, ALL CONCRETE WORK SHALL COMPLY TO LOCAL CODES AND THE ACI 318-14, "BUILDING REQUIREMENTS FOR STRUCTURAL CONCRETE".
- 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE GC MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
- ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
- ALL DIMENSIONS SHALL BE VERIFIED WITH THE DESIGN DRAWINGS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE EOR IMMEDIATELY IF ANY DISCREPANCIES ARE DISCOVERED. THE OWNER SHALL HAVE A SET OF APPROVED DESIGN DRAWINGS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.
- THE CLIMBING FACILITIES, SAFETY CLIMB AND ALL PARTS THEREOF SHALL NOT BE IMPEDED, MODIFIED, OR ALTERED WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE OWNER AND EOR. ALL ALTERATIONS TO A SAFETY CLIMB'S ORIGINAL MANUFACTURER'S CONFIGURATION MUST BE DESIGNED BY THE EOR. IF THE GC FINDS THAT THE CLIMBING FACILITIES ARE IMPEDED, EITHER DURING BIDDING, DURING PRE-FABRICATION MAPPING, OR WHILE ON-SITE, THE GC SHALL CONTACT THE OWNER AND EOR TO DETERMINE A METHOD OF RESOLUTION.
- ANY WORK PERFORMED WITHOUT A PREFABRICATION MAPPING IS DONE AT THE RISK OF THE GC AND/OR FABRICATOR.
- IF DURING THE COURSE OF A FOUNDATION MODIFICATION, THE GC ENCOUNTERS EXISTING CONDUIT LOCATED WITHIN THE CONFINES OF THE EXISTING OR PROPOSED FOUNDATION CONCRETE, AND THIS CONDUIT IS NOT IN A LOCATION THAT IS SPECIFIED WITHIN THESE DESIGN DRAWINGS, THE GC SHALL IMMEDIATELY CONTACT THE EOR FOR GUIDANCE BEFORE PROCEEDING WITH THE INSTALLATION OF THE PROPOSED FOUNDATION MODIFICATIONS. IF CONDUIT IS TO BE INSTALLED THROUGH THE EXISTING FOUNDATION OR PROPOSED FOUNDATION MODIFICATION AND HASN'T BEEN SPECIFIED WITHIN THESE DESIGN DRAWINGS THEN THE GC SHALL IMMEDIATELY CONTACT THE EOR FOR GUIDANCE PRIOR TO PROCEEDING WITH THE INSTALLATION OF THE PROPOSED FOUNDATION MODIFICATIONS.

ATTENTION

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 GC 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 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 THE ANSI/TIA-322 (LATEST EDITION).

STRUCTURAL STEEL NOTES:

- THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC STEEL CONSTRUCTION MANUAL, LOAD AND RESISTANCE FACTOR DESIGN (LRFD), 15TH EDITION.
- UNLESS OTHERWISE NOTED, ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS: STRUCTURAL STEEL:
 - ANGLE: ASTM A572-50
 - PIPE/TUBE: ASTM A500-46
 - PLATE: ASTM A572-50
 - SOLID ROD: ASTM A36
 - ALL BOLTS, ASTM A325 TYPE I GALVANIZED HIGH STRENGTH BOLTS.
 - ALL U-BOLTS, ASTM A193 GRADE B7
 - ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
 - ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
- ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL, LRFD, 15TH EDITION.
- HOLES SHALL NOT BE FLAME CUT THROUGH STEEL UNLESS APPROVED BY THE ENGINEER.
- HOT-DIP GALVANIZE ALL ITEMS UNLESS OTHERWISE NOTED, AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING: ASTM A123, ASTM, A153/A153M OR ASTM A653/A653M, G90, AS APPLICABLE. ADDITIONALLY, ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
- REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTED MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED, WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLICS IN STICK OR PASTED; SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL. AFTER REPAIR, STEEL SHALL BE REPAINTED TO MATCH EXISTING FINISH (IF APPLICABLE).
- A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.

WELDING NOTES:

- ALL WELDING SHALL BE IN ACCORDANCE WITH THE AWS D1.1/D1.1M: 2010 "STRUCTURAL WELDING CODE-STEEL".
- ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS.
- CONTRACTOR SHALL RETAIN AN AWS CERTIFIED WELD INSPECTOR TO PERFORM VISUAL INSPECTIONS ON FIELD WELDS. A LETTER AND REPORT SHALL BE ISSUED TO THE CONTRACTOR. CONTRACTOR SHALL SUBMIT LETTER AND REPORT TO TOWER ENGINEERING PROFESSIONALS.
- GRIND THE SURFACE ADJACENT TO THE WELD FOR A DISTANCE OF 2" MINIMUM ALL AROUND. GRIND THE SURFACE OF THE ROD TO BE INSTALLED FOR A DISTANCE OF 2" MINIMUM ALL AROUND THE AREA TO BE WELDED. ENSURE BOTH AREAS ARE 100% FREE OF ALL GALVANIZING. SURFACES TO BE WELDED SHALL BE FREE FROM SCALE, SLAG, RUST, MOISTURE, GREASE OR ANY OTHER FOREIGN MATERIAL THAT WOULD PREVENT PROPER WELDING.
- DO NOT WELD IF THE TEMPERATURE OF THE STEEL IN THE VICINITY OF THE WELD AREA IS BELOW 0°F. THE MINIMUM PREHEAT AND INTERPASS TEMPERATURE REQUIREMENTS SHALL COMPLY WITH SECTION 3.5.1 AND TABLE 3.2 OF THE AWS D1.1/D1.1M:2010.
- DO NOT WELD ON WET OR FROST-COVERED SURFACES & PROVIDE ADEQUATE PROTECTION FROM HIGH WINDS.
- FOR ALL WELDING, USE 70 KSI LOW HYDROGEN ELECTRODES. ELECTRODES SHALL BE APPROPRIATE FOR THE WELDING POSITION REQUIRED TO MAKE THE JOINT.
- AFTER FINAL INSPECTION, THE AREA OF THE WELDS, THE INSTALLATION AND ALL SURFACES DAMAGED BY WELDING OF GRINDING SHALL RECEIVE A COLD-GALVANIZED COATING. THIS COATING SHALL BE APPLIED BY BRUSH. THE GALVANIZING COMPOUND SHALL CONTAIN A MINIMUM OF 95% ± PURE ZINC. THE FINISHED COATING SHALL BE A MINIMUM THICKNESS OF 3 MILS.
- FOR MONOPOLE TOWERS FULL PENETRATION WELDS IN THE VICINITY OF THE BASE OF THE TOWER ARE REQUIRED TO BE 100% NDE INSPECTED BY ULTRASONIC TESTING (UT) IN ACCORDANCE WITH AWS D1.1.
- FOR MONOPOLE TOWERS PARTIAL PENETRATION AND FILLET WELDS IN THE VICINITY OF THE BASE OF THE TOWER ARE REQUIRED TO BE 50% NDE INSPECTED BY MAGNETIC PARTICLE (MT) IN ACCORDANCE WITH AWS D1.1.
- PROVIDE WELDS ALL AROUND OR ADD SEAL WELDS WHERE STRUCTURAL WELDS ARE NOT SPECIFIED.

PLANS PREPARED FOR:

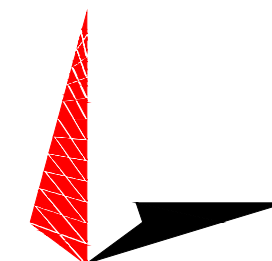
CROWN CASTLE

2055 S. STEARMAN DRIVE
CHANDLER, AZ 85286

PROJECT INFORMATION:

CLISE PARK-PSE
BU #: 856382
SOUTHEAST 39TH STREET
AND 84TH AVENUE SOUTHEAST
MERCER ISLAND, WA 98040
(KING COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL



Electronic Copy November 12, 2021

0	11-12-21	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: NAM CHECKED BY: RWT

SHEET TITLE:

PROJECT NOTES I

SHEET NUMBER: N-1	REVISION: 0 TEP#:233674.620977
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BOLT TIGHTENING PROCEDURE:

1. UNLESS OTHERWISE NOTED, ALL BOLTED CONNECTIONS SHALL BE BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1 OF THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS, LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. ALL SNUG TIGHT BOLTS SHALL BE INSTALLED WITH A NUT-LOCKING DEVICE OR MECHANISM SUCH AS, BUT NOT LIMITED TO, LOCK NUTS, LOCK WASHERS, OR PALNUTS, TO PREVENT LOOSENING.

2. WHEN SPECIFIED IN THE DRAWINGS, CONNECTION BOLTS SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8.2.1 OF THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS, LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS PARAPHRASED AS FOLLOWS:

8.2.1 TURN-OF-THE-NUT TIGHTENING

BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1, UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED BELOW. DURING THE TIGHTENING OPERATION THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT IN A MANNER THAT WILL MINIMIZE RELAXATION OF PREVIOUSLY PRETENSIONED BOLTS.

3. PRE-TENSIONED BOLTS AS SPECIFIED ON THE DRAWINGS SHALL BE TIGHTENED IN ACCORDANCE WITH AISC - "TURN OF THE NUT" METHOD, USING THE CHART BELOW.

BOLT LENGTHS UP TO AND INCLUDING FOUR DIA.

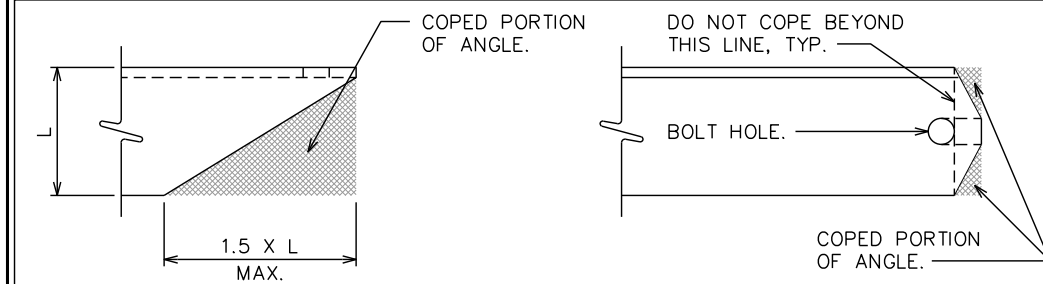
1/2"	BOLTS UP TO AND INCLUDING 2.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
5/8"	BOLTS UP TO AND INCLUDING 2.5 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3/4"	BOLTS UP TO AND INCLUDING 3.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
7/8"	BOLTS UP TO AND INCLUDING 3.5 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1"	BOLTS UP TO AND INCLUDING 4.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT

BOLT LENGTHS OVER FOUR DIA. BUT NOT EXCEEDING EIGHT DIA.

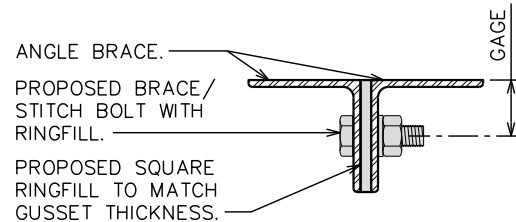
1/2"	BOLTS 2.25 TO 4.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
5/8"	BOLTS 2.75 TO 5.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3/4"	BOLTS 3.25 TO 6.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
7/8"	BOLTS 3.75 TO 7.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1"	BOLTS 4.25 TO 8.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT

4. ALL ONE-SIDED BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

ALLOWABLE ANGLE COPE



SECTION AT CENTER AND STITCH CONNECTION

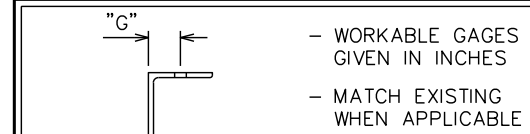


NOTE:

ALL STITCH WASHERS ARE TO BE NEW ASTM A36 MATERIAL AND BE OF EQUAL SIZE TO THE ANGLE LEG HEIGHT. THICKNESS TO MATCH EXISTING GUSSET/LEG THICKNESS.

WORKABLE GAGES

LEG	4	3 1/2	3	2 1/2	2	1 3/4
G	2	1 3/4	1 1/2	1 1/4	1	7/8



NOMINAL HOLE DIMENSIONS

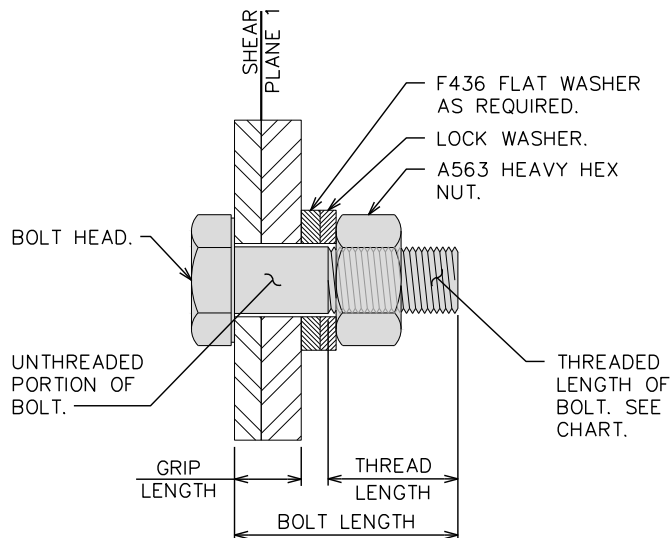
BOLT DIAMETER	STANDARD HOLE	SHORT SLOT
1/2	9/16	9/16 X 1 1/16
5/8	1 1/16	1 1/16 X 7/8
3/4	1 3/16	1 3/16 X 1
7/8	1 5/16	1 5/16 X 1 1/8
1	1 1/16	1 1/16 X 1 5/16

1. DIMENSIONS GIVEN IN INCHES.
2. ALL PROPOSED HOLES SHALL BE DRILLED OR PUNCHED.

BOLT DETAILS

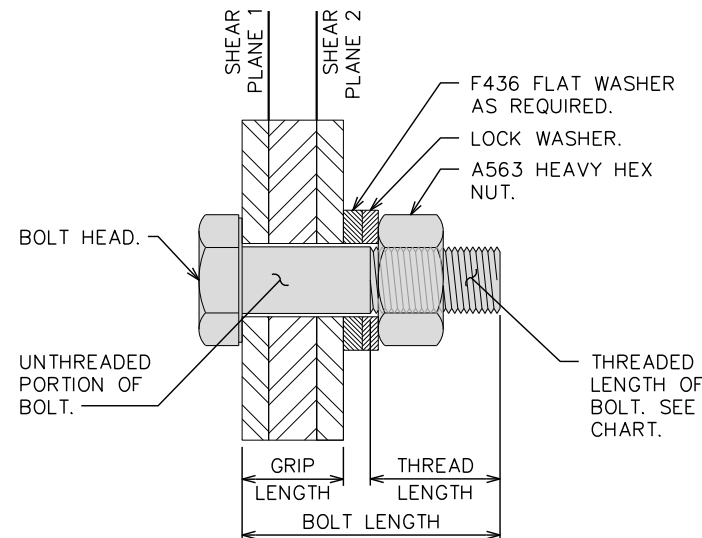
SINGLE SHEAR CONNECTIONS:

A325-X BOLT:
UNTHREADED LENGTH OF BOLT PASSES THROUGH SHEAR PLANE.



DOUBLE SHEAR CONNECTIONS:

A325-X BOLT:
UNTHREADED LENGTH OF BOLT PASSES THROUGH SHEAR PLANES.

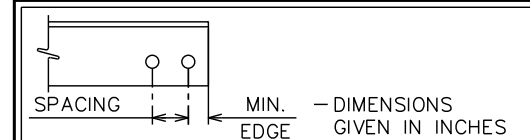


BOLT THREADS

BOLT DIAMETER	THREAD LENGTH
1/2"Ø	1"
5/8"Ø	1 1/4"
3/4"Ø	1 3/8"
7/8"Ø	1 1/2"
1"Ø	1 3/4"
1 1/8"Ø	2"
1 1/4"Ø	2"

BOLT EDGE AND SPACING

BOLT DIAMETER	MIN. EDGE	SPACING
1/2	7/8	1 1/2
5/8	1 1/8	1 7/8
3/4	1 1/4	2 1/4
7/8	1 1/2	2 5/8
1	1 3/4	3



PLANS PREPARED FOR:

CROWN CASTLE

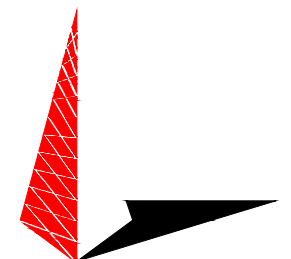
2055 S. STEARMAN DRIVE
CHANDLER, AZ 85286

PROJECT INFORMATION:

CLISE PARK-PSE

BU #: 856382
SOUTHEAST 39TH STREET
AND 84TH AVENUE SOUTHEAST
MERCER ISLAND, WA 98040
(KING COUNTY)

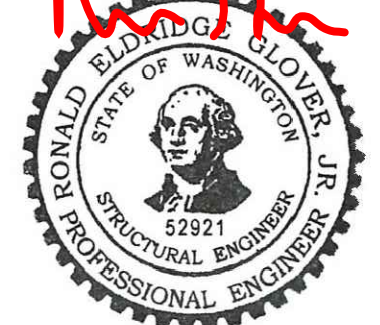
PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
RALEIGH, NC 27603
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



Electronic Copy November 12, 2021

0 11-12-21 MODIFICATION DRAWINGS
REV DATE ISSUED FOR:

DRAWN BY: NAM CHECKED BY: RWT

SHEET TITLE:

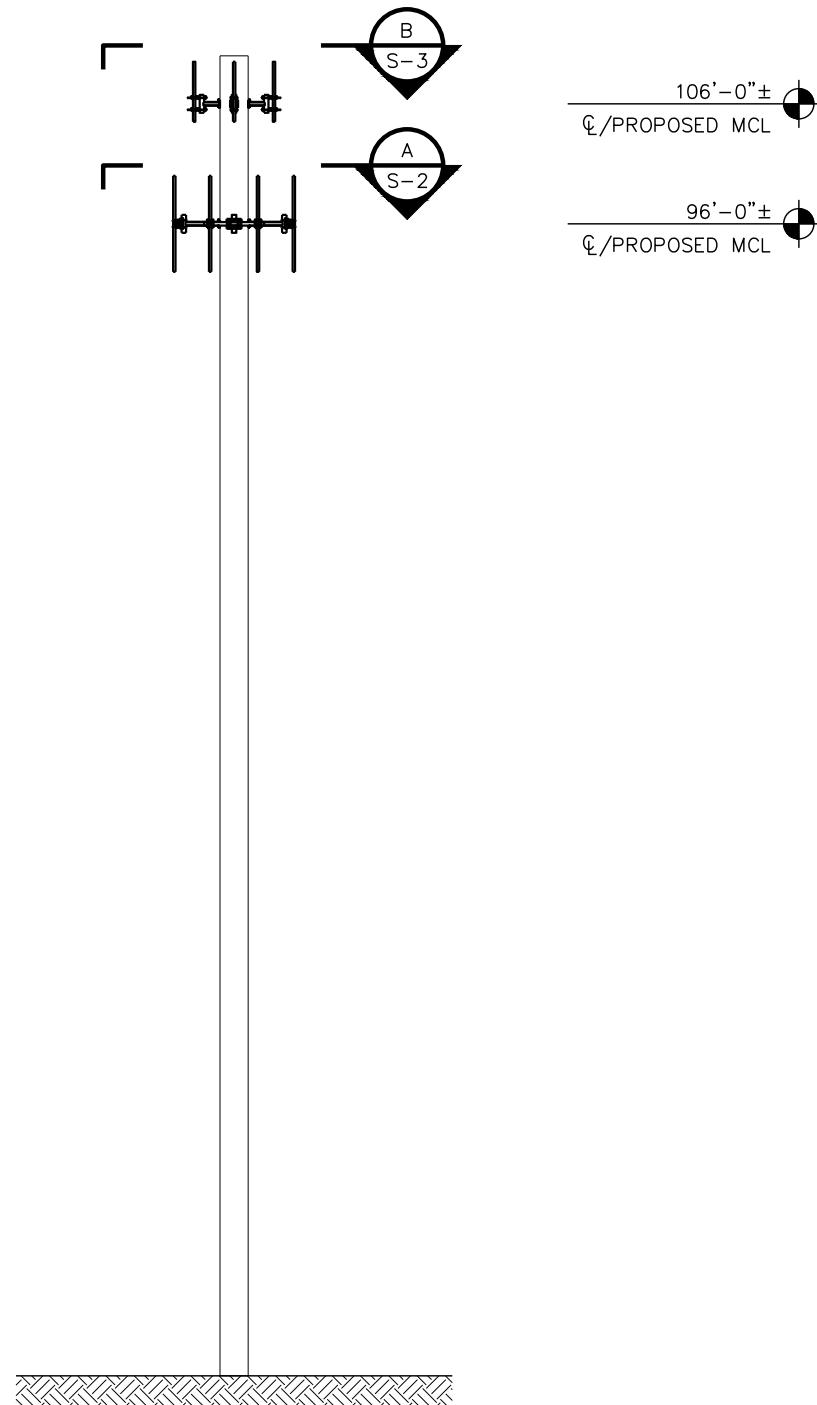
PROJECT NOTES II

SHEET NUMBER: REVISION:

N-2

0

TEP#: 233674.620977

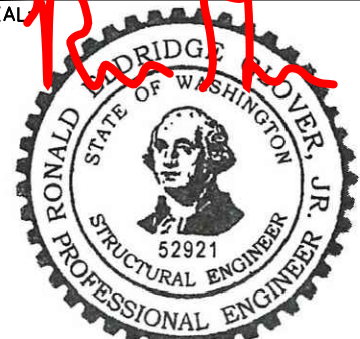


PLANS PREPARED FOR:
CROWN CASTLE
 2055 S. STEARMAN DRIVE
 CHANDLER, AZ 85286

PROJECT INFORMATION:
CLISE PARK-PSE
BU #: 856382
 SOUTHEAST 39TH STREET
 AND 84TH AVENUE SOUTHEAST
 MERCER ISLAND, WA 98040
 (KING COUNTY)

PLANS PREPARED BY:

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 RALEIGH, NC 27603
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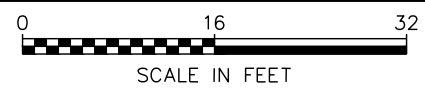
0	11-12-21	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: NAM CHECKED BY: RWT

SHEET TITLE:
ELEVATION DETAILS

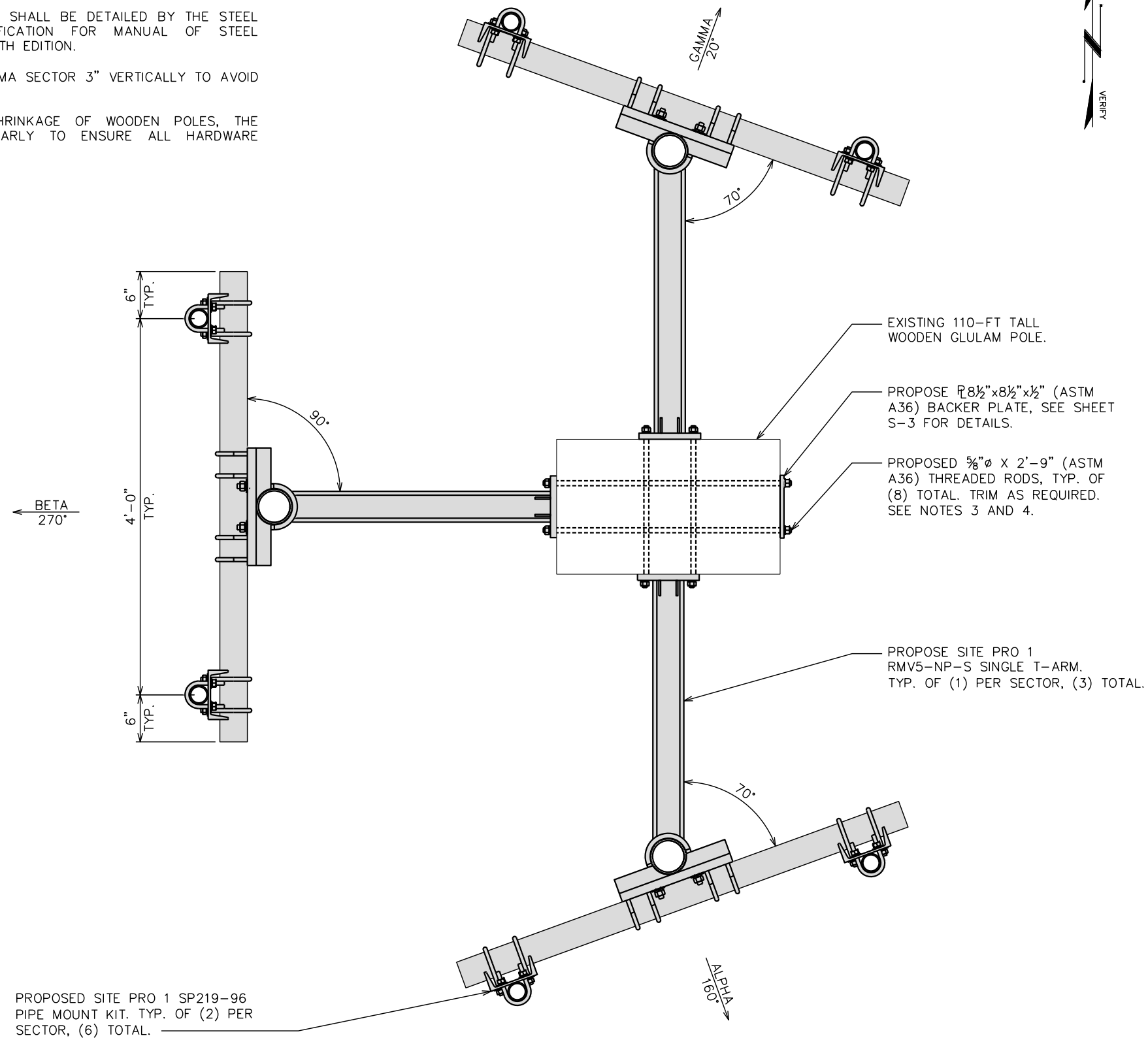
SHEET NUMBER: **S-1** REVISION: **0**
 TEP#: 233674.620977

ELEVATION
 SCALE: 1/6" = 1'-0"



NOTES:

1. PRIOR TO FABRICATION AND INSTALLATION, CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES GIVEN. AVERAGE LENGTH AND QUANTITIES PROVIDED ARE FOR QUOTING PURPOSES ONLY, AND SHALL NOT BE USED FOR FABRICATION.
2. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH THE AISC SPECIFICATION FOR MANUAL OF STEEL CONSTRUCTION, LOAD AND RESISTANCE FACTOR DESIGN, 13TH EDITION.
3. CONTRACTOR TO STAGGER BETA SECTOR AND ALPHA/GAMMA SECTOR 3" VERTICALLY TO AVOID INTERFERENCE OF THE CONNECTION HARDWARE.
4. DUE TO THE HIGHER AMOUNT OF EXPANSION AND SHRINKAGE OF WOODEN POLES, THE CONNECTION HARDWARE SHOULD BE INSPECTED REGULARLY TO ENSURE ALL HARDWARE REMAINS PROPERLY TIGHTENED.



PROPOSED PLAN VIEW - 96FT LEVEL: SECTION

SCALE: 3/4" = 1'-0"



PLANS PREPARED FOR:

CROWN CASTLE

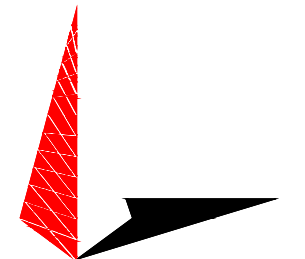
2055 S. STEARMAN DRIVE
CHANDLER, AZ 85286

PROJECT INFORMATION:

CLISE PARK-PSE

BU #: 856382
SOUTHEAST 39TH STREET
AND 84TH AVENUE SOUTHEAST
MERCER ISLAND, WA 98040
(KING COUNTY)

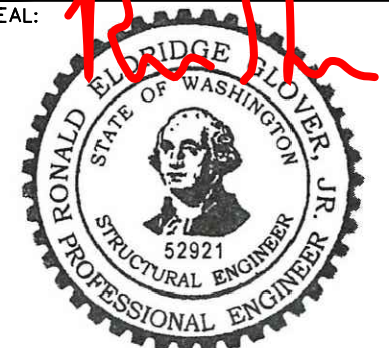
PLANS PREPARED BY:



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SEAL:



Electronic Copy November 12, 2021

0	11-12-21	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: NAM CHECKED BY: RWT

SHEET TITLE:

PROPOSED MOUNT DETAILS I

SHEET NUMBER: REVISION:

S-2

0

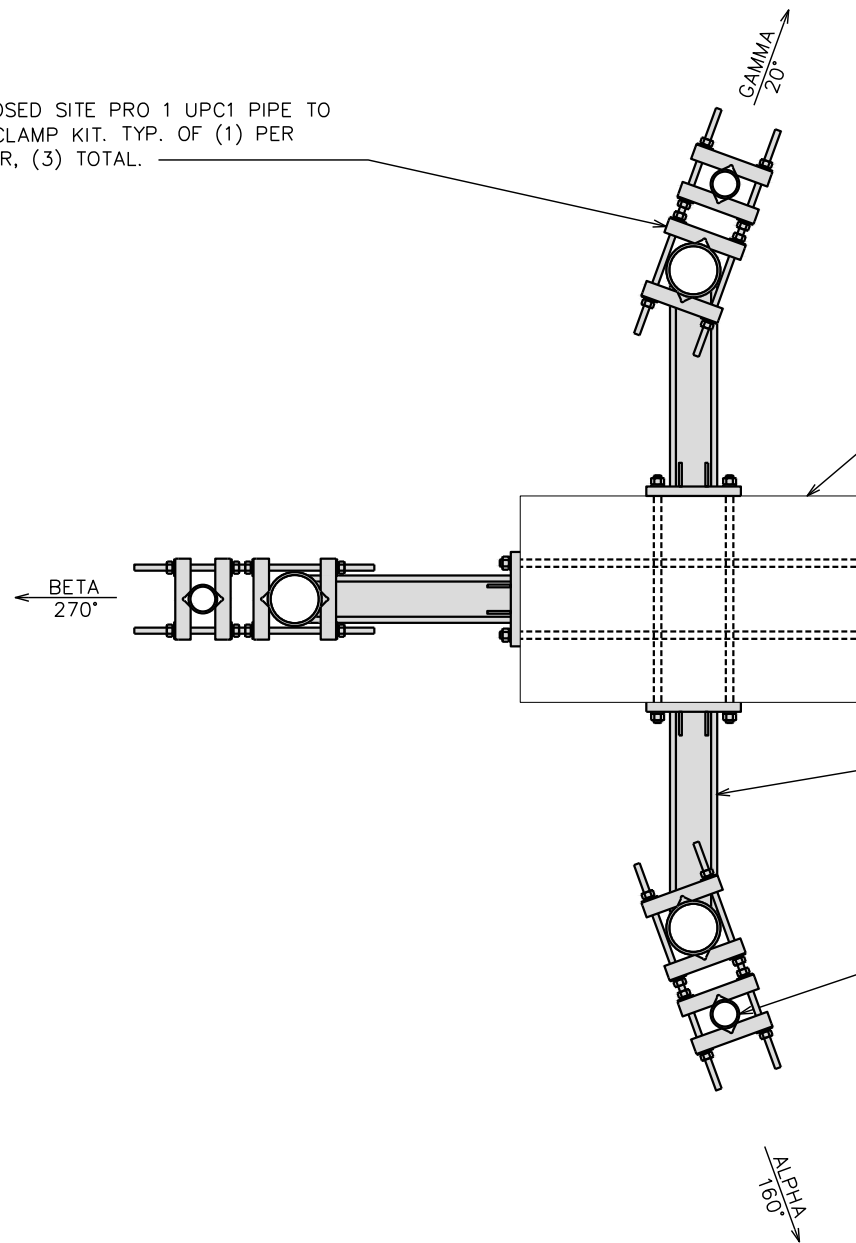
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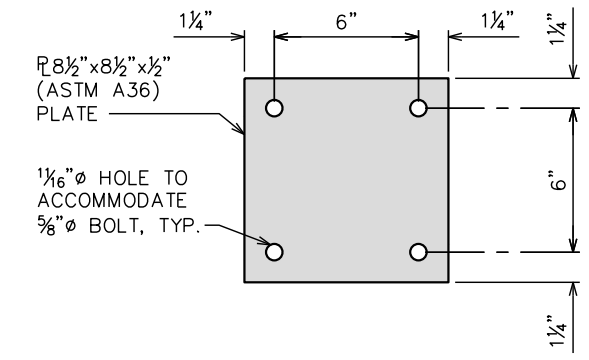
1. PRIOR TO FABRICATION AND INSTALLATION, CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES GIVEN. AVERAGE LENGTH AND QUANTITIES PROVIDED ARE FOR QUOTING PURPOSES ONLY, AND SHALL NOT BE USED FOR FABRICATION.
2. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH THE AISC SPECIFICATION FOR MANUAL OF STEEL CONSTRUCTION, LOAD AND RESISTANCE FACTOR DESIGN, 15TH EDITION.
3. CONTRACTOR TO STAGGER BETA SECTOR AND ALPHA/GAMMA SECTOR 3" VERTICALLY TO AVOID INTERFERENCE OF THE CONNECTION HARDWARE.
4. DUE TO THE HIGHER AMOUNT OF EXPANSION AND SHRINKAGE OF WOODEN POLES, THE CONNECTION HARDWARE SHOULD BE INSPECTED REGULARLY TO ENSURE ALL HARDWARE REMAINS PROPERLY TIGHTENED.



PROPOSED SITE PRO 1 UPC1 PIPE TO PIPE CLAMP KIT. TYP. OF (1) PER SECTOR, (3) TOTAL.



- EXISTING 110-FT TALL WOODEN GLULAM POLE.
- PROPOSE $\text{PL}8\frac{1}{2} \times 8\frac{1}{2} \times \frac{1}{2}$ (ASTM A36) BACKER PLATE, SEE SHEET S-3 FOR DETAILS.
- PROPOSED $\frac{5}{8} \text{"} \phi \times 2'-9"$ (ASTM A36) THREADED RODS, TYP. OF (8) TOTAL. TRIM AS REQUIRED. SEE NOTES 3 AND 4.
- PROPOSE SITE PRO 1 SV197-18 STANDOFF MOUNT. TYP. OF (1) PER SECTOR, (3) TOTAL.
- PROPOSE 2 SCH. 40 $\times 5'-0"$ (ASTM A53-B-35) MOUNT PIPE. TYP. OF (1) PER SECTOR, (3) TOTAL.



BACKER PLATE DETAIL

SCALE: 1-1/2" = 1'-0"

PROPOSED PLAN VIEW - 106FT LEVEL: SECTION B

SCALE: 3/4" = 1'-0"



PLANS PREPARED FOR:

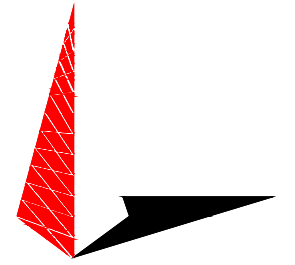
CROWN CASTLE

2055 S. STEARMAN DRIVE
CHANDLER, AZ 85286

PROJECT INFORMATION:

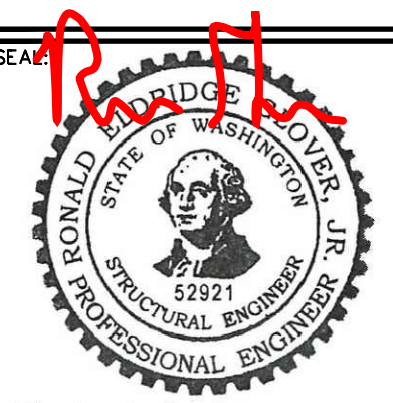
CLISE PARK-PSE
BU #: 856382
SOUTHEAST 39TH STREET
AND 84TH AVENUE SOUTHEAST
MERCER ISLAND, WA 98040
(KING COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL



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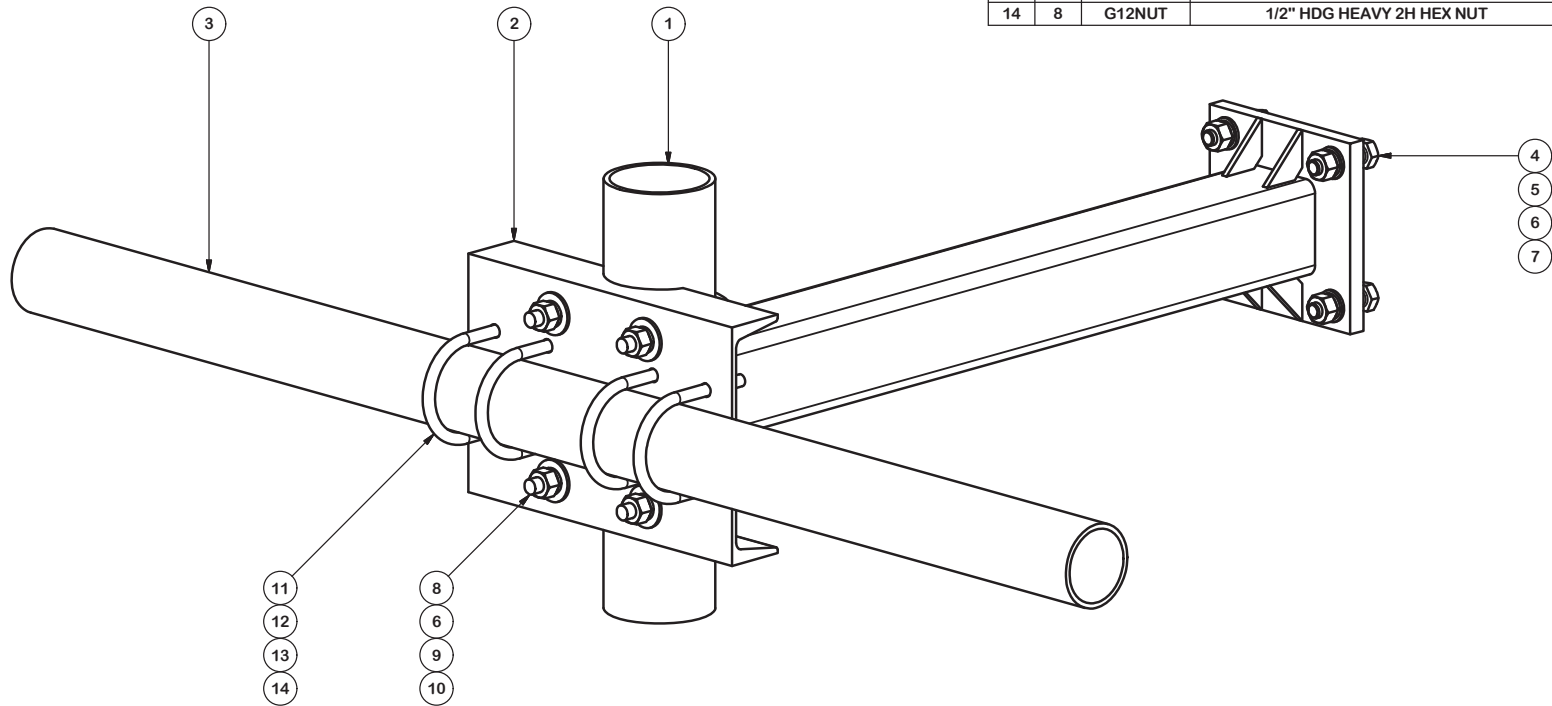
0	11-12-21	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: NAM CHECKED BY: RWT

SHEET TITLE:
PROPOSED MOUNT DETAILS II

SHEET NUMBER: S-3	REVISION: 0
TEP#: 233674.620977	

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	X-SV197-36	SUPPORT ARM WELDMENT - 36"		67.93	67.93
2	1	X-SP216	LARGE SUPPORT CROSS PLATE		22.08	22.08
3	1	P360	3-1/2" X 60" (3" SCH 40) GALVANIZED PIPE	60 in	40.25	40.25
4	4	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2 3/4 in	0.36	1.42
5	4	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.14
6	8	G58LW	5/8" HDG LOCKWASHER		0.03	0.21
7	4	A58NUT	5/8" HDG A325 HEX NUT		0.13	0.52
8	2	X-UB5458	5/8" X 4-5/8" X 7" X 3" U-BOLT (HDG.)		1.54	3.07
9	4	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	0.28
10	4	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	0.52
11	4	X-UB1358	1/2" X 3-5/8" X 5-1/2" X 3" U-BOLT (HDG.)		0.77	3.09
12	8	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	0.27
13	8	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.11
14	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	140.46



TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$)
 DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING ($\pm 0.030"$)
 ALL OTHER ASSEMBLY ($\pm 0.060"$)

PROPRIETARY NOTE:
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION
**MONOPOLE SINGLE T-ARM
 WITHOUT ANTENNA MOUNTING PIPES
 AND HARDWARE (5' FACE)**

CPD NO. SP1	DRAWN BY CSL	4/5/2018	ENG. APPROVAL 3RD PARTY
CLASS 87	SUB 02	DRAWING USAGE CUSTOMER	CHECKED BY BMC
		6/14/2018	



Engineering Support Team:
 1-888-753-7446

Locations:
 New York, NY
 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 Salem, OR
 Dallas, TX

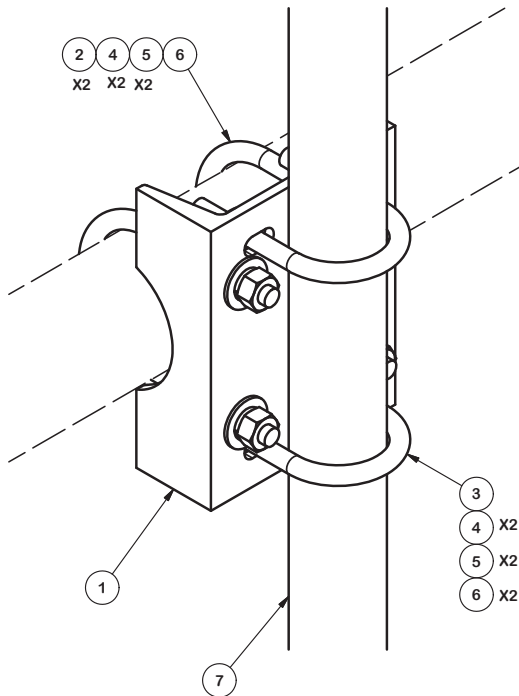
PART NO. RMV5-NP-S	1 OF 1
DWG. NO. RMV5-NP-S	

2-3/8" O.D. VERTICAL MOUNTING PIPES

ASSEMBLY "A"	PART NO. "B"	PART DESCRIPTION	LENGTH "C"	UNIT WT. "D"	NET WT. "E"	TOTAL WEIGHT
SP219-63	P263	2-3/8" DIA X 63" SCH 40 GALVANIZED PIPE	63"	20.18	20.18	32.65
SP219-72	P272	2-3/8" DIA X 63" SCH 40 GALVANIZED PIPE	72"	23.07	23.07	35.54
SP219-84	P284	2-3/8" DIA X 63" SCH 40 GALVANIZED PIPE	84"	26.91	26.91	39.38
SP219-96	P296	2-3/8" DIA X 63" SCH 40 GALVANIZED PIPE	96"	30.76	30.76	43.23
SP219-126	P2126	2-3/8" DIA X 10'-6" SCH 40 GALVANIZED PIPE	126"	40.37	40.37	52.84

PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	X-SP219	SMALL SUPPORT CROSS PLATE	8.250 in	8.61	8.61
2	2	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.26	0.51
3	2	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.26	0.51
4	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
5	8	G12LW	1/2" HDG LOCKWASHER	.125	0.01	0.11
6	8	G12FW	1/2" HDG USS FLATWASHER	0.095	0.03	0.27
7	1	"B"	2-3/8" O.D. VERTICAL MOUNTING PIPES	"C"	"D"	"E"



FINISH:
HOT DIP GALVANIZED.

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$)
 DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING ($\pm 0.030"$)
 ALL OTHER ASSEMBLY ($\pm 0.060"$)

PROPRIETARY NOTE:
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DESCRIPTION
PIPE MOUNT KITS

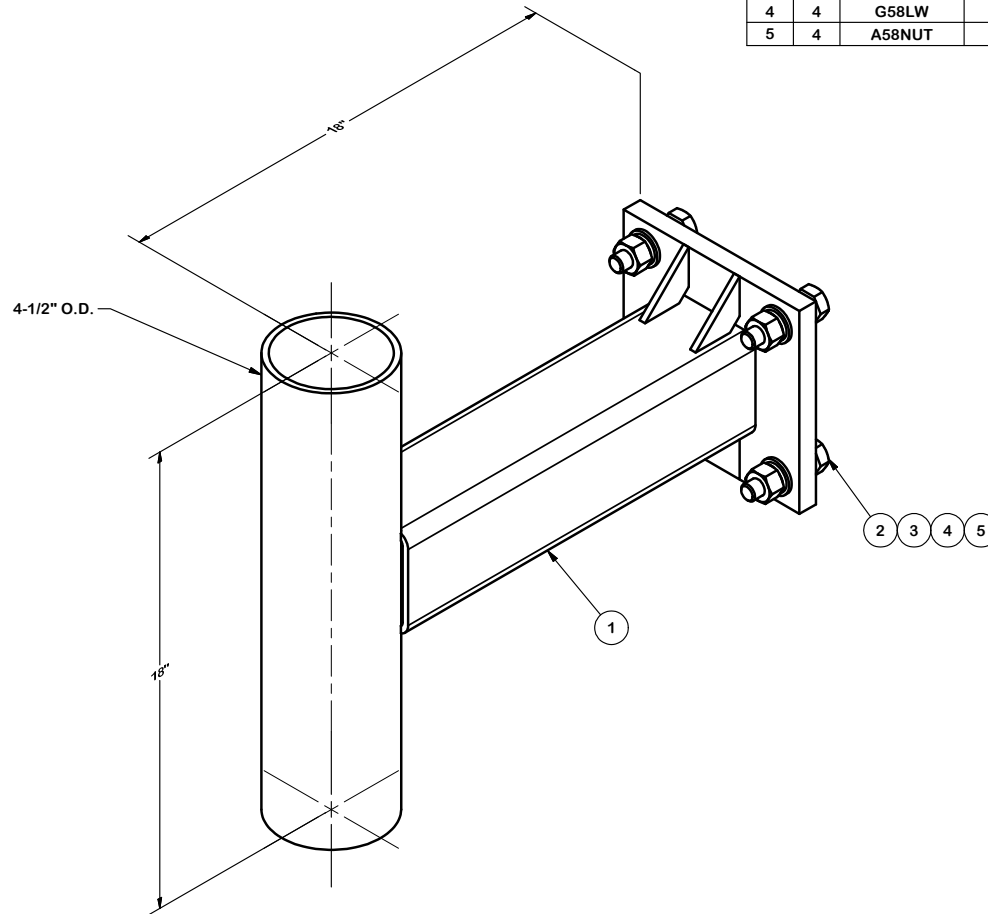
SITE PRO 1
 Engineering Support Team:
 1-888-753-7446
 Locations:
 New York, NY
 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 Salem, OR
 Dallas, TX

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	UPDATED DRAWING, MADE NEW DRAWING FOR SP219-xxxH		CEK	1/25/2016

CPD NO.	DRAWN BY	ENG. APPROVAL
	KC8 8/8/2012	
CLASS	SUB	DRAWING USAGE
81	01	CUSTOMER

PART NO.	DWG. NO.
SEE ASSEMBLY "A"	SP219-xxx

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	X-SV197-18	SUPPORT ARM WELDMENT - 18"		45.74	45.74
2	4	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT		0.36	1.42
3	4	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.14
4	4	G58LW	5/8" HDG LOCKWASHER		0.03	0.10
5	4	A58NUT	5/8" HDG A325 HEX NUT		0.13	0.52
TOTAL WT. #						47.92



TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
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 DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING ($\pm 0.030"$)
 ALL OTHER ASSEMBLY ($\pm 0.060"$)

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DESCRIPTION
 18"
 SUPPORT
 ARM

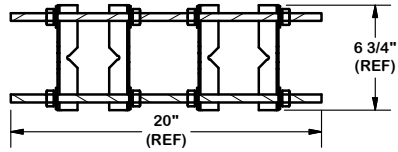
CPD NO. 4470	DRAWN BY CEK 4/14/2011	ENG. APPROVAL
CLASS 81	SUB 01	DRAWING USAGE CUSTOMER
CHECKED BY BMC 4/14/2011		



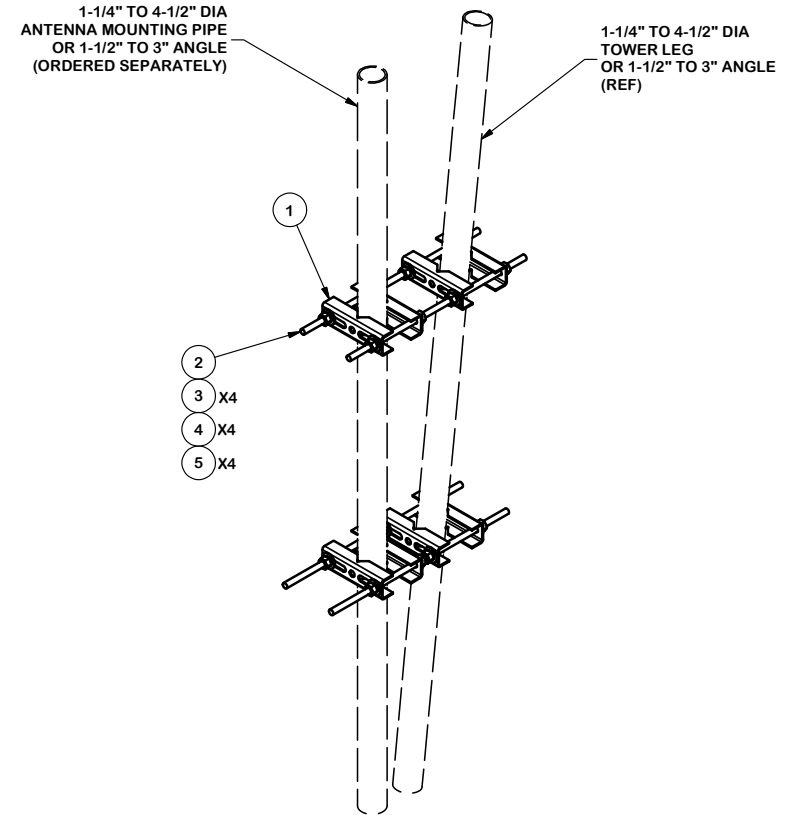
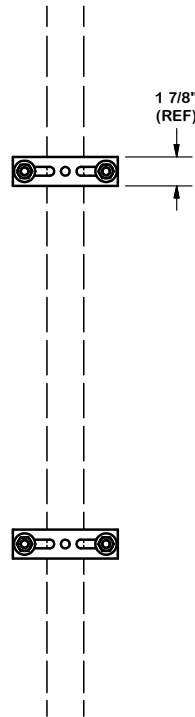
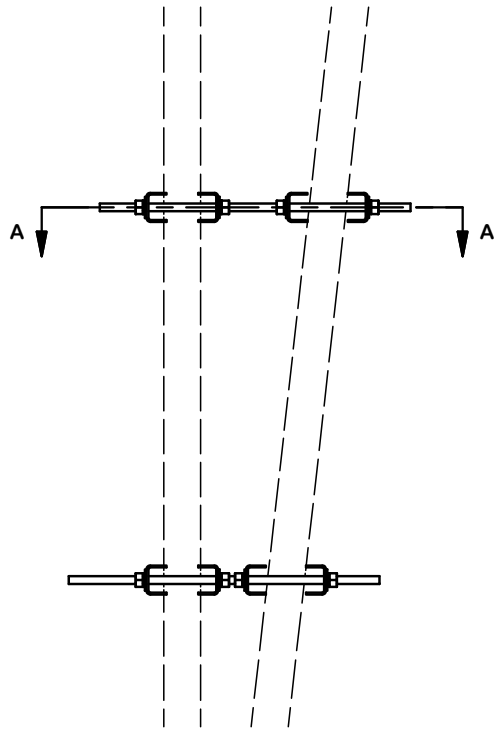
Locations:
 New York, NY
 Atlanta, GA
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Engineering
 Support Team:
 1-888-753-7446

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SECTION A-A



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	8	X-UPC1	SMALL PIPE TO PIPE BRACKET		0.85	6.79
2	4	G12R-20	1/2" x 20" THREADED ROD (HDG.)	20 in	3.23	12.91
3	16	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.14
4	16	G12LW	1/2" HDG LOCKWASHER		0.01	0.22
5	16	G12FW	1/2" HDG USS FLATWASHER		0.03	0.54
TOTAL WT. #						13.45

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$)
 DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING ($\pm 0.030"$)
 ALL OTHER ASSEMBLY ($\pm 0.060"$)

PROPRIETARY NOTE:
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION
 UNIVERSAL PIPE-TO-PIPE
 CLAMP SET
 FOR SMALL PIPES (1-1/4" TO 4-1/2")

SITE PRO 1
 A valmont COMPANY
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A	REDRAWN IN INV. UPDATED VIEWS & TABLE	KC8	8/20/2012
REV	DESCRIPTION OF REVISIONS	CPD	BY DATE
REVISION HISTORY			

CPD NO. 4448	DRAWN BY CEK 3/13/2009	ENG. APPROVAL
CLASS 81	SUB 01	DRAWING USAGE CUSTOMER
CHECKED BY CEK 2/18/2013		

PART NO. UPC1	1 OF 1
DWG. NO. UPC1	