

**VERIZON SITE NUMBER: 418549** 

ISLANDER - A **VERIZON SITE NAME:** MONOPOLE

SITE TYPE:

150'-0" TOWER HEIGHT:

**BUSINESS UNIT #: 880416** 

**8477 SE 68TH STREET** SITE ADDRESS: MERCER ISLAND, WA 98040

Geattle Skin & Laser

COUNTY:

DATE

DATE

**JURISDICTION:** 

KING COUNTY

KING COUNTY

# **VERIZON 16543399**

VERIZON SIGNATURE BLOCK

CROWN CASTLE USA INC. SIGNATURE BLOCK

SITE ACQUISITION

CONSTRUCTION

MICROWAVE

**EQUIPMENT** 

SITE ACQUISITION

CONSTRUCTION

PROJECT MANAGER

UTILITY MANAGER

LANDLORD

RADIO

TELCO

**APPROVALS** 

SIGNATURE

SIGNATURE

#### SITE INFORMATION CROWN CASTLE USA INC. SEATTLE QWEST - SEA155 SITE NAME: SITE ADDRESS: 8477 SE 68TH STREET MERCER ISLAND, WA 98040 COUNTY: KING COUNTY MAP/PARCEL# **EXISTING** AREA OF CONSTRUCTION: LATITUDE: 47.54166667°/47° 32' 30.0" N LONGITUDE: -122.22361111°/122° 13' 25.0" W LAT/LONG TYPE: NAD83 142' GROUND ELEVATION: **CURRENT ZONING:** KING COUNTY **JURISDICTION:** OCCUPANCY CLASSIFICATION: U TYPE OF CONSTRUCTION: A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT FOR **HUMAN HABITATION** PROPERTY OWNER: PUGET SOUND ENERGY PO BOX 91269, BOT-01H BELLEVUE WA 98009-9269 TOWER OWNER: CROWN CASTLE

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 22"X34". CONTRACTOR SHALL VERIFY ALL PLANS AND XISTING 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.

**DRAWING INDEX** 

TITLE SHEET

SITE PLAN

**GENERAL NOTES** 

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GROUNDING PLAN

**GROUNDING DETAILS** 

**GROUNDING DETAILS** 

ATTACHED SDD MOD TOWER DESIGN BY OTHERS

EXISTING & NEW ELEVATION

CONFIGURATION DIAGRAM

ANTENNA PLANS & CABLE SCHEDULE

SHEET DESCRIPTION

SHEET#

# 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 (3) ANTENNAS
- REMOVE CONCEALMENT CANISTER
- INSTALL (3) ANTENNAS • INSTALL (3) PIPE TO PIPE MOUNT
- INSTALL (3) BIAST
- INSTALL (1) OVP
- INSTALL (3) RRUS 8843 • INSTALL (1) HYBRID CABLE
- INSTALL STRUCTURAL MODIFICATIONS PER STRUCTURAL MODIFICATION DESIGN BY TOWER ENGINEERING PROFESSIONALS DATED 12/12/2023
- ROUND SCOPE OF WORK:

## **CONTRACTOR PMI REQUIREMENTS**

PMI ACCESSED AT SMART TOOL VENDOR PROJECT NUMBER

ANALYSIS REPORT

VzW LOCATION CODE (PSLC)

\*\*\* PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT

418549

https://pmi.vzwsmart.com

MOUNT MODIFICATION REQUIRED

## **VzW APPROVED SMART KIT VENDORS**

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



LOCATION MAP

Children's Dance O Fake Mercer Island Storage Court of Mercer Island NO SCALE

DRIVING DIRECTIONS FROM VERIZON LOCAL OFFICE (3245 158TH AVENUE MS 231, BELLEVUE WA 98008): DEPART AND HEAD (NORTHEAST), TURN RIGHT, THEN IMMEDIATELY TURN RIGHT ONTO 158TH AVE SE, TURN RIGHT ONTO SE EASTGATE WAY, TAKE THE RAMP ON THE LEFT FOR I-90 WEST AND HEAD TOWARD SEATTLE, HEAD ON THE RAMP RIGHT AND FOLLOW SIGNS FOR ISLAND CREST WAY, TURN RIGHT ONTO SE 68TH ST, TURN LEFT, TURN LEFT, ARRIVE AT 8477 SE 68TH STREET, MERCER ISLAND, WA 98040.

## 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 2018 IBC BUILDING 2018 IMC **MECHANICAL** 2020 NEC ELECTRICAL

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS: TOWER ENGINEERING PROFESSIONALS DATED: 12/12/2023

MOUNT ANALYSIS: TBD DATED: TBD RFDS REVISION: N/A

DATED: 02/27/2023 ORDER ID: 640386 REVISION: 0

> CALL 3 WORKING DAYS BEFORE YOU DIG!

**JURISDICTIONAL APPROVAL:** 





IRVING, TEXAS 75038

**VERIZON SITE NUMBER: 418549** 

BU #: **880416 SEATTLE QWEST - SEA155** 8477 SE 68TH STREET MERCER ISLAND, WA 98040 EXISTING 150'-0" MONOPOLE

ISSUED FOR:						
REV	DATE	DRWN	DESCRIPTION	DES./QA		
Α	02/17/2023	RC	PRELIMINARY	AMT		
0	03/09/2023	RC	FINAL	AMT		
1	03/16/2023	RC	FINAL	AMT		
2	08/31/2023	RC	FINAL	AMT		
3	09/08/2023	RC	FINAL	AMT		
4	11/29/2023	RC	FINAL	AMT		
5	12/20/2023	RC	FINAL	AMT		



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

**SHEET NUMBER:** 

**REVISION:** 

USA INC. DISTRIC CONTACTS: KIARRA GALE - PROJECT MANAGER JON.ACEBAL@CROWNCASTLE.COM

**PROJECT TEAM** 

2000 CORPORATE DRIVE

3245 158TH AVENUE MS 231

**VERIZON WIRELESS** 

BELLEVUE, WA 98008

SEATTLE CITY LIGHT

CENTURYLINK

TRYLON A&E FIRM: 1825 W. WALNUT HILL LANE, SUITE 120

CARRIER/APPLICANT:

ELECTRIC PROVIDER:

TELCO PROVIDER:

CROWN CASTLE

IRVING, TEXAS 75038

1505 WESTLAKE AVENUE NORTH, SUITE 800 SEATTLE, WA 98109

KIARRA.GALE@CROWNCASTLE.COM JON ACEBAL - CONSTRUCTION MANAGER

• INSTALL (1) OVP

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."
- 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.
- . 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.

#### GENERAL NOTES:

- 1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY: CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
- CARRIER: VERIZON
  TOWER OWNER: CROWN CASTLE USA INC.
- 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.
- 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 CONTR<mark>ACTOR SHALL VISIT THE CELL SITE TO FAMILIAR</mark>IZE 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.
- 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.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
   CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S
- 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:

DESIGNATED LOCATION.

- 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.
   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
- CONCRETE EXPOSED TO FREEZE—THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER—TO—CEMENT RATIO (W/C) OF 0.45.
- ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:

- 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.

### **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—POTENTAL 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 STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

#### ELECTRICAL INSTALLATION NOTES:

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE
- FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
  2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED
- 2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKET 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.
  - . 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. VERYIFY AVAILABLE SHORT CIRCUIT CURRENT DOES
    NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT
    ADOPTED CODE PRE THE GOVERNING JURISDICTION.
- EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR—CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
- . ALL ELECTRÍCAL 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.
- . 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.
- 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.
- 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, ANSI/IEEE
- 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.
- 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 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 SPECMATE 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 DISTRICT FROM ENTERING. CONDUITS SHALL BE RIGHTLY 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
- 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 "VERIZON".
- 30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE						
SYSTEM	CONDUCTOR	COLOR				
	A PHASE	BLACK				
   120/240V, 1Ø	B PHASE	RED				
120/2400, 10	NEUTRAL	WHITE				
	GROUND	GREEN				
	A PHASE	BLACK				
	B PHASE	RED				
120/208V, 3Ø	C PHASE	BLUE				
	NEUTRAL	WHITE				
	GROUND	GREEN				
	A PHASE	BROWN				
	B PHASE	ORANGE OR PURPLE				
277/480V, 3Ø	C PHASE	YELLOW				
	NEUTRAL	GREY				
	GROUND	GREEN				
DC VOLTAGE	POS (+)	RED**				
DO VOLTAGE	NEG (-)	BLACK**				

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

FACILITY INTERFACE FRAME

LONG TERM EVOLUTION

NATIONAL ELECTRIC CODE

MASTER GROUND BAR

RADIO BASE STATION

REMOTE RADIO HEAD

REMOTE RADIO UNIT

REMOTE ELECTRIC TILT

RADIO FREQUENCY DATA SHEET

SMART INTEGRATED DEVICE

TOWER MOUNTED AMPLIFIER

UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM

GLOBAL POSITIONING SYSTEM

GLOBAL SYSTEM FOR MOBILE

ABBREVIATIONS:

GEN

GPS

GSM

LTE

MGB

MW

NEC

QTY

RBS

RET

RFDS

RRU

SIAD

TMA

TYP

UMTS

W.P.

RECT

ANTENNA EXISTING

GENERATOR

MICROWAVE

PROPOSED

QUANTITY

RECTIFIER

TYPICAL

WORK POINT

POWER PLANT

# PINK TEMPORARY SURVEY MARKINGS RED ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES

YELLOW GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS

ORANGE COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS

APWA UNIFORM COLOR CODE:

PROPOSED EXCAVATION

BLUE POTABLE WATER

PURPLE RECLAIMED WATER, IRRIGATION, AND SLURRY LINES

## SLURRY LINES

SEWERS AND DRAIN LINES

# Verizon 3245 158TH AVENUE MS 231

BELLEVUE, WA 98008

**JURISDICTIONAL APPROVAL:** 





1825 W. WALNUT HILL LANE, SUITE 120

IRVING, TEXAS 75038

VERIZON SITE NUMBER: 418549

[

BU #: **880416 SEATTLE QWEST - SEA155**8477 SE 68TH STREET
MERCER ISLAND, WA 98040
EXISTING 150'-0" MONOPOLE

		ISSU	ED FOR:	
REV	DATE	DRWN	DESCRIPTION	DES./
Α	02/17/2023	RC	PRELIMINARY	AM
0	03/09/2023	RC	FINAL	AM
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3	09/08/2023	RC	FINAL	AM
4	11/29/2023	RC	FINAL	AM

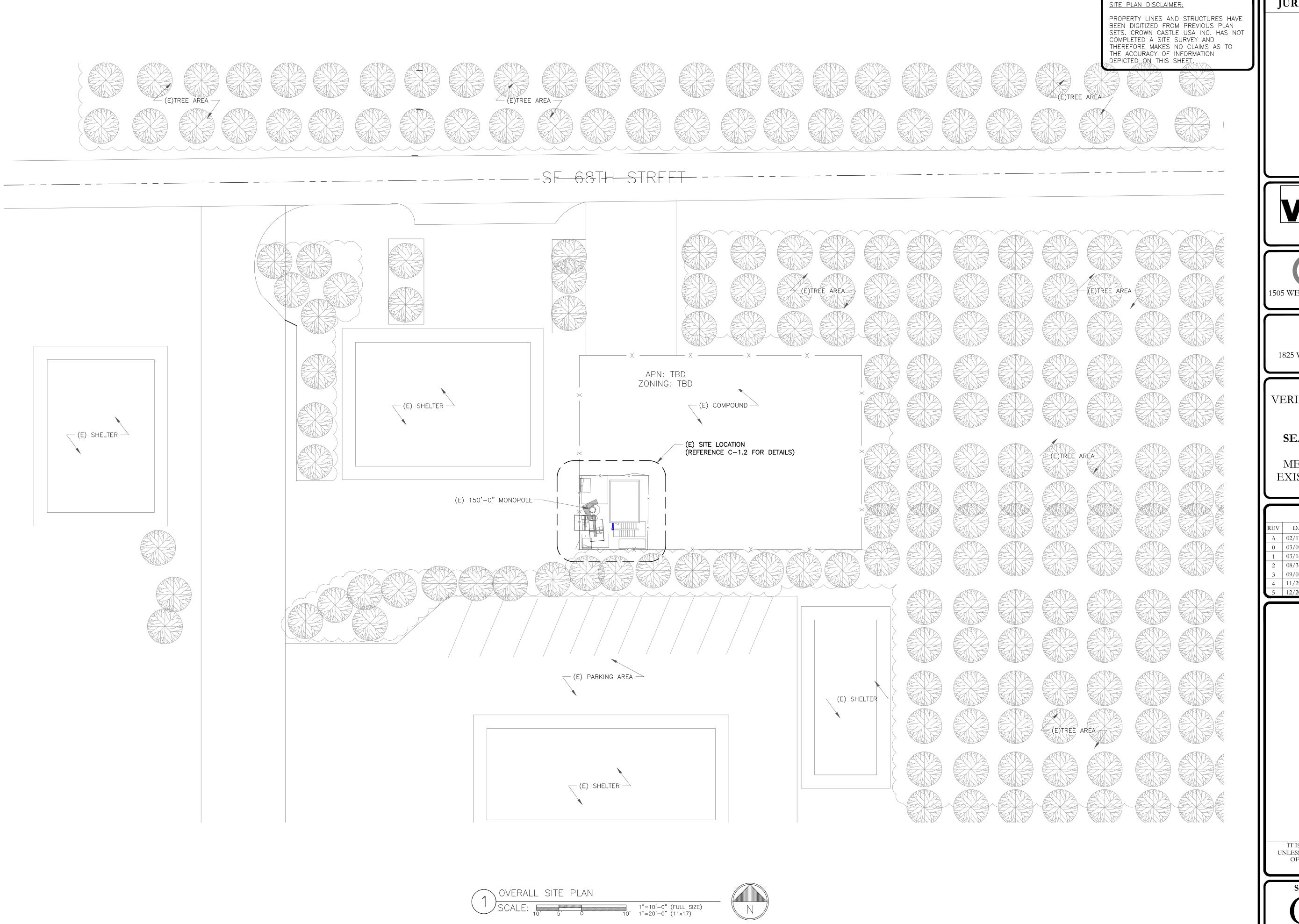


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SHEET NUMBER:

T-2

5



Verizon

3245 158TH AVENUE MS 231

CROWN

BELLEVUE, WA 98008

1505 WESTLAKE AVENUE NORTH, SUITE 800 SEATTLE, WA 98109



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

VERIZON SITE NUMBER: 418549

BU #: **880416 SEATTLE QWEST - SEA155**8477 SE 68TH STREET
MERCER ISLAND, WA 98040
EXISTING 150'-0" MONOPOLE

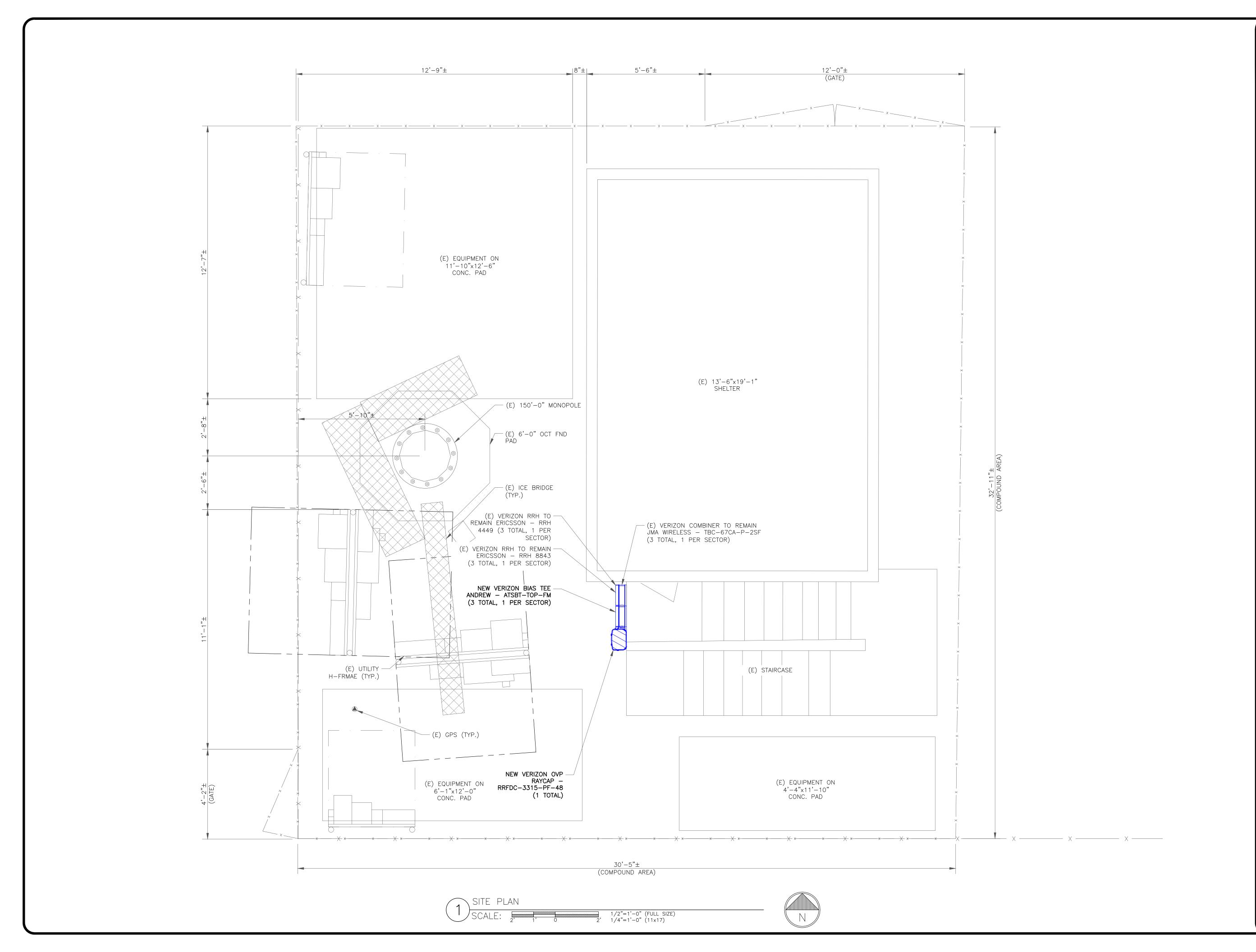
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REV	DATE	DRWN	DESCRIPTION	DES./QA		
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SHEET NUMBER:

E REVISION:





BELLEVUE, WA 98008

CROWN 1505 WESTLAKE AVENUE NORTH, SUITE 800 SEATTLE, WA 98109



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

VERIZON SITE NUMBER: 418549

BU #: **880416** SEATTLE QWEST - SEA155 8477 SE 68TH STREET

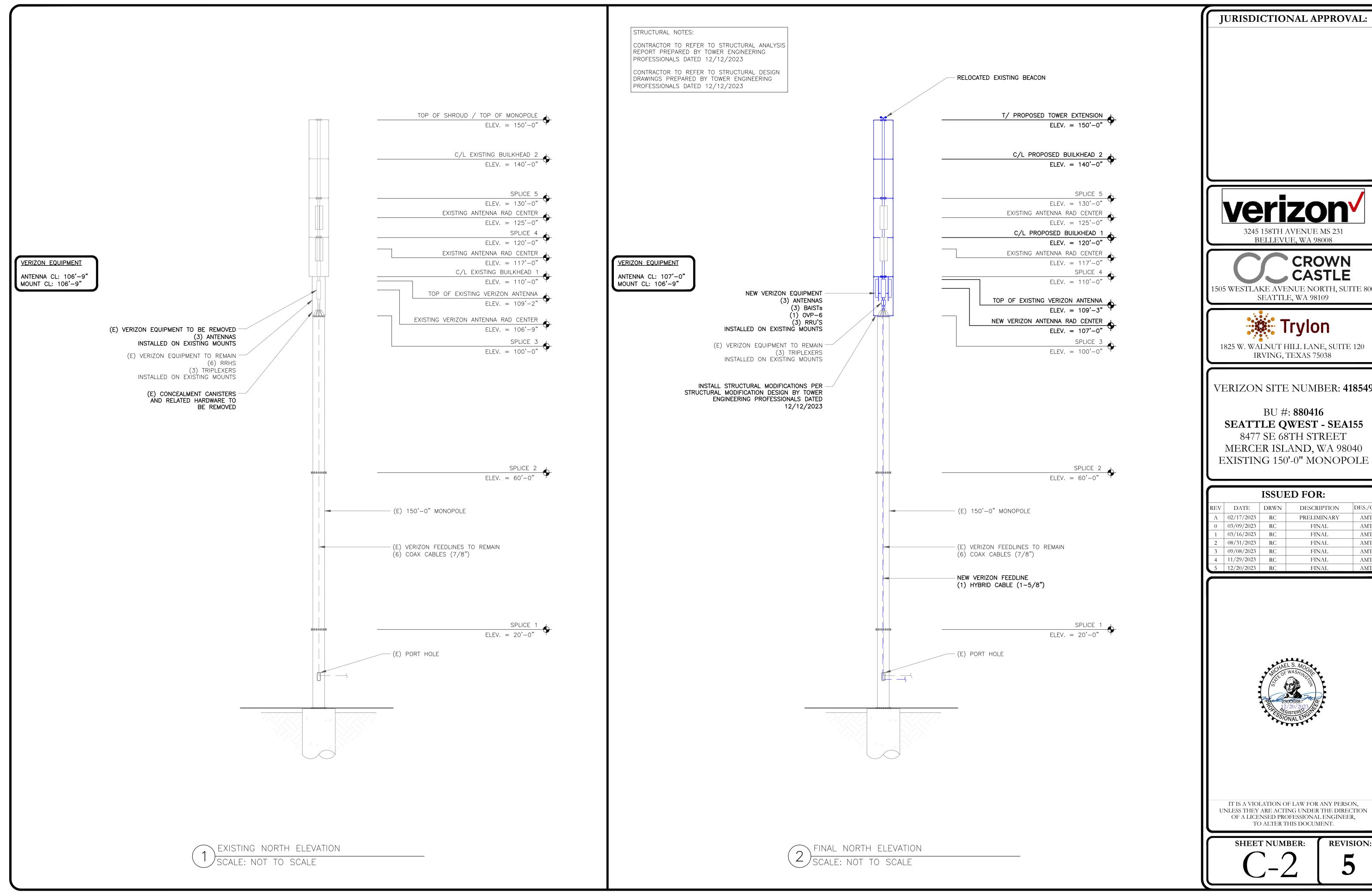
MERCER ISLAND, WA 98040 EXISTING 150'-0" MONOPOLE

	ISSUED FOR:						
REV	DATE	DRWN	DESCRIPTION	DES./QA			
Α	02/17/2023	RC	PRELIMINARY	AMT			
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SHEET NUMBER:







1505 WESTLAKE AVENUE NORTH, SUITE 800 SEATTLE, WA 98109



IRVING, TEXAS 75038

VERIZON SITE NUMBER: 418549

SEATTLE QWEST - SEA155 8477 SE 68TH STREET MERCER ISLAND, WA 98040

	ISSUED FOR:						
REV	DATE	DRWN	DESCRIPTION	DES./QA			
Α	02/17/2023	RC	PRELIMINARY	АМТ			
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						ANTENNA SCHEDULE				
SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE
ALPHA	A1	LTE700, LTE850, LTE1900, LTEAWS, LTEAWS3, 5G	107'-0"	290°	COMMSCOPE	NHHS4-65A-R3B	4°	4°/8°/8°/ 4°/4°/3°	EQUIPMENT ARE AT GROUND (1) JMA WIRELESS — TBC-67C-A-P-2SF (1) RRUS 8843	HYBRID
ВЕТА	B1	LTE700, LTE850, LTE1900, LTEAWS, LTEAWS3, 5G	107'-0"	110°	COMMSCOPE	NHHS4-65A-R3B	4°	4°/6°/6°/ 4°/4°/3°	EQUIPMENT ARE AT GROUND (1) JMA WIRELESS — TBC-67C-A-P-2SF (1) RRUS 8843	HYBRID
GAMMA	C1	LTE700, LTE850, LTE1900, LTEAWS, LTEAWS3, 5G	107'-0"	200°	COMMSCOPE	NHHS4-65A-R3B	4°	4°/8°/8°/ 4°/4°/3°	EQUIPMENT ARE AT GROUND (1) JMA WIRELESS — TBC-67C-A-P-2SF (1) RRUS 8843	HYBRID
	-			_					(1) RAYCAP - RRFDC-3315-PF-48	

CABLE SCHEDULE						
STATUS	CABLE TYPE	SIZE	QUANTITY			
EXISTING	COAX	7/8"	6			
NEW	HYBRID	6x12	1			
FIN	7					

BELLEVUE, WA 98008

JURISDICTIONAL APPROVAL:





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

VERIZON SITE NUMBER: 418549

BU #: **880416** SEATTLE QWEST - SEA155 8477 SE 68TH STREET MERCER ISLAND, WA 98040 EXISTING 150'-0" MONOPOLE

#### **ISSUED FOR:** REV DATE DRWN DESCRIPTION DES./QA 02/17/2023 RC PRELIMINARY AMT03/09/2023 RC FINAL FINAL 03/16/2023 RC AMT 08/31/2023 RC FINAL AMT 09/08/2023 RC FINAL 11/29/2023 RC FINAL AMTFINAL AMT 12/20/2023 RC

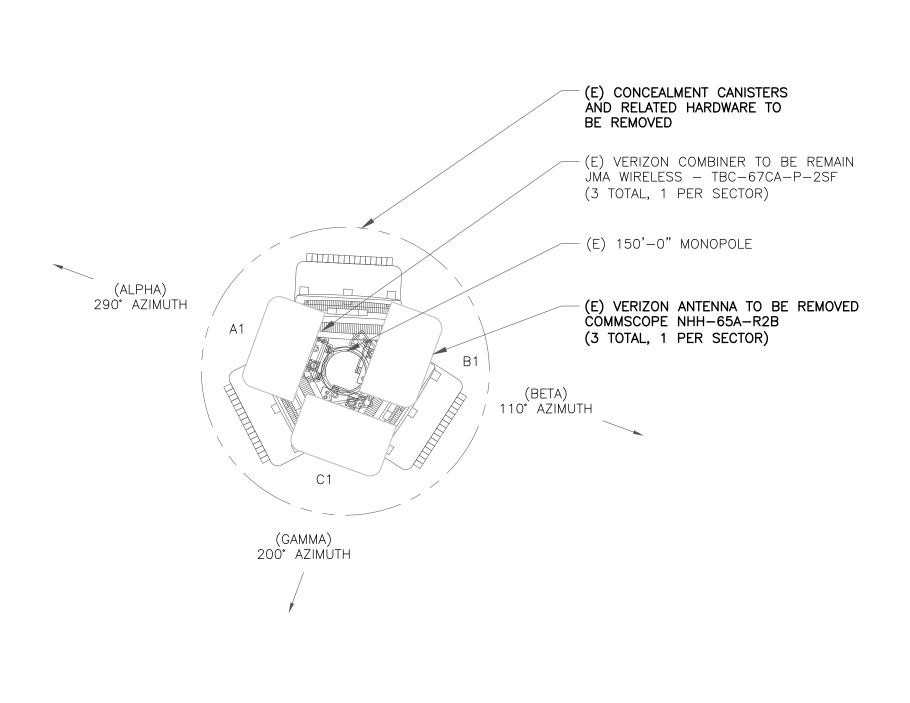


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SHEET NUMBER:

**REVISION:** 

ANTENNA AND CABLE SCHEDULE SCALE: NOT TO SCALE

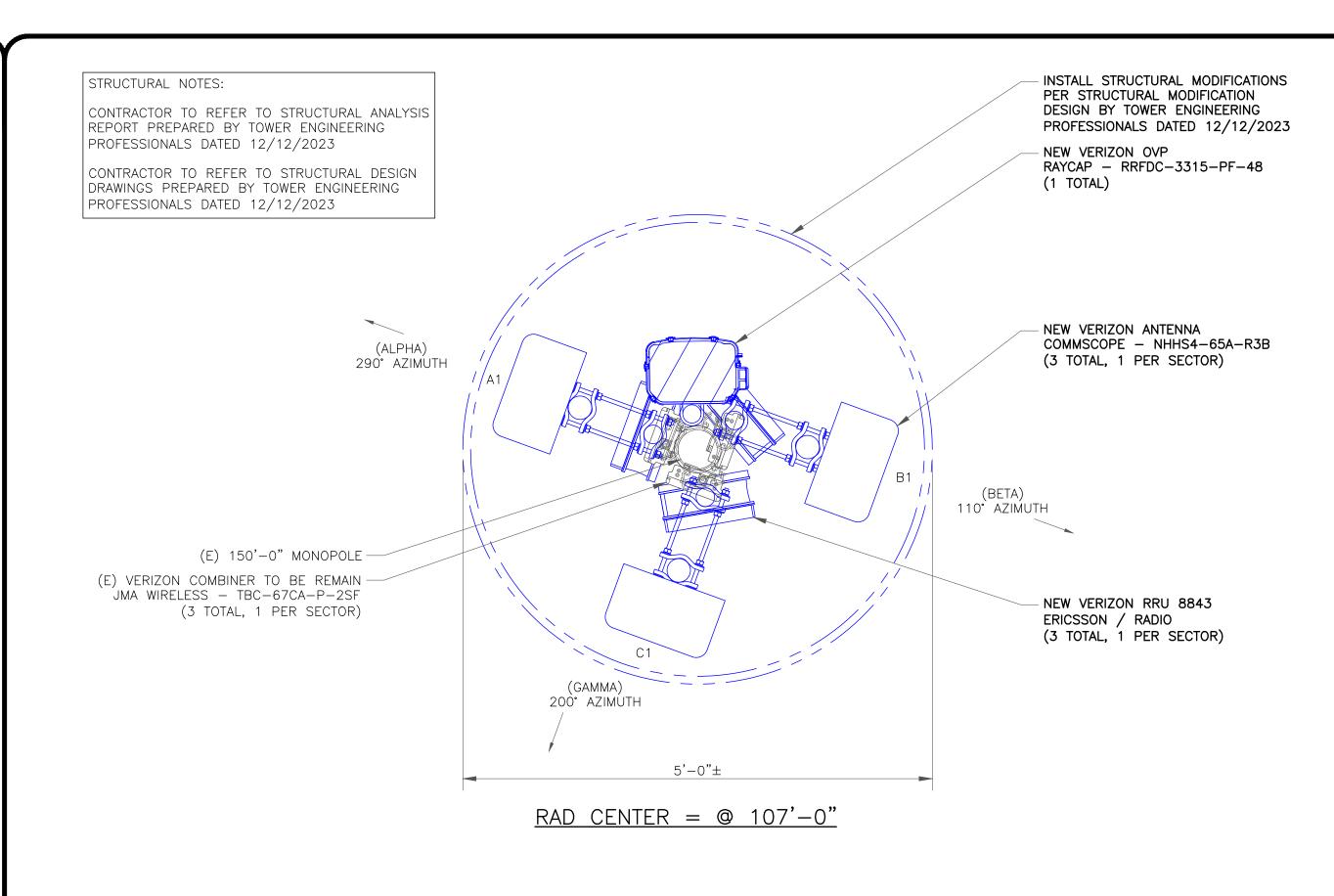


RAD CENTER = @ 105'-0"

EXISTING ANTENNA PLAN

SCALE: NOT TO SCALE



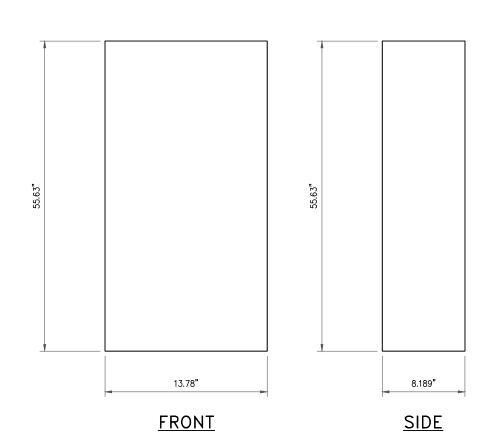


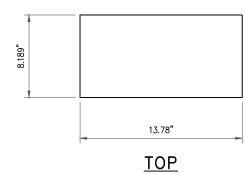
FINAL ANTENNA PLAN

SCALE: NOT TO SCALE

PANEL ANTENNA (COMMSCOPE-NHHS4-65A-R3B)

DIMENSIONS, HxWxD: 55.63"x13.78"x8.189" WEIGHT, W/O BRACKETS: 50.706 lbs





NHHS4-65A-R3B ANTENNA DETAIL SCALE: NOT TO SCALE

## ATSBT-TOP-FM-4G



#### Top Smart Bias Tee

- Reduces cable and site lease costs by eliminating the need for AISG home run cables
- Weatherproof AISG connectors Intuitive schematics simplify and ensure proper installation
- Enhanced lightning protection plus grounding stud for additional surge protection
- 7-16 DIN female connector (BTS)
- 7-16 DIN male connector (ANT) Operates at 10-30 Vdc AISG 1.1 and 2.0 compliant

Product Classification

Product Type RET bias tee

General Specifications **AISG Input Connector** 8-pin DIN Female 7-16 DIN Male Antenna Interface Antenna Interface Signal RF | dc Blocked 7-16 DIN Female BTS Interface BTS Interface Signal AISG data | RF | dc Color **EU Certification** 

Smart Bias Tee Type Dimensions

Insertion Loss, typical

Grounding Lug Thread Size

Height 143 mm | 5.63 in Width 94 mm | 3.701 in Depth 50 mm | 1.969 in

Electrical Specifications

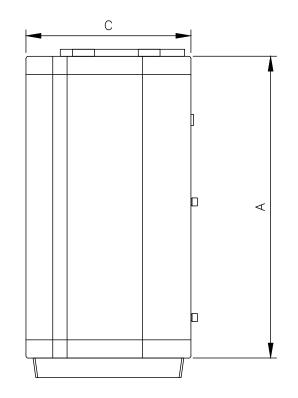
3rd Order IMD -158 dBc 3rd Order IMD Test Method Two +43 dBm carriers

Electromagnetic Compatibility (EMC) CFR 47 Part 15, Subpart B, Class B | EN 55022, Class B | ICES-003 Issue 4 CAN

NANDREW / ATSBT-TOP-FM BIAS TEE DETAIL SCALE: NOT TO SCALE

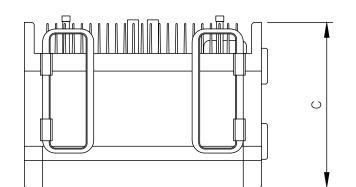
10-30 V Top

ERICSSON	MANUFACTURER:		
RRUS 8843	MODEL NO.:		
TOTAL WEIGHT :	DIMENSIONS:		
- TOTAL WEIGHT :	18.0"	А	
70.0"	13.2"	В	
70.0"	9.4"	С	

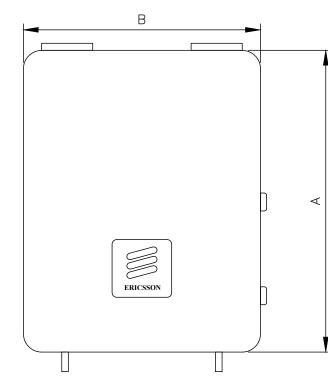




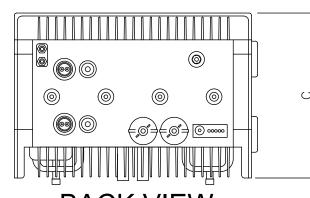
– NEW ANTENNA







FRONT VIEW



**BACK VIEW** 

\ ERICSSON - RADIO 8843 DETAIL SCALE: NOT TO SCALE

# BELLEVUE, WA 98008

JURISDICTIONAL APPROVAL:





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

VERIZON SITE NUMBER: 418549

BU #: **880416** 

SEATTLE QWEST - SEA155

8477 SE 68TH STREET MERCER ISLAND, WA 98040 EXISTING 150'-0" MONOPOLE

	ISSUED FOR:					
REV	DATE	DRWN	DESCRIPTION	DES./QA		
A	02/17/2023	RC	PRELIMINARY	AMT		
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**SHEET NUMBER:** 

**REVISION:** 

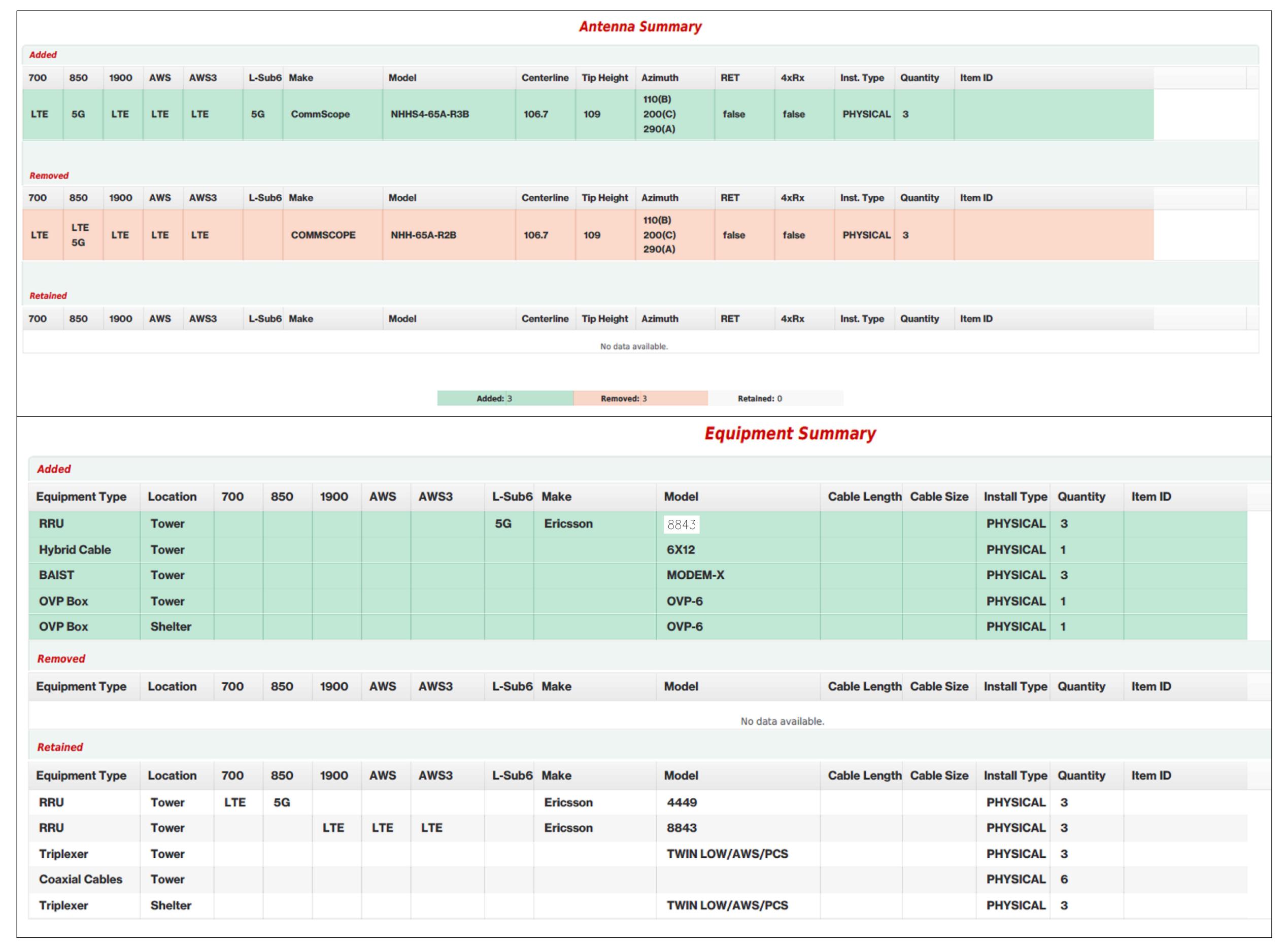
MOUNTING BRACKET (SUPPLIED W/ ANTENNA) ANTENNA -MOUNTING PIPE INSTALLER NOTE: 1. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE. - MOUNTING BRACKET (SUPPLIED W/ ANTENNA)

5 ANTENNA MOUNTING DETAIL SCALE: NOT TO SCALE



PERFECT VISION PV-BC-35-14 PIPE TO PIPE MOUNT

SCALE: NOT TO SCALE













VERIZON SITE NUMBER: 418549

BU #: **880416 SEATTLE QWEST - SEA155**8477 SE 68TH STREET
MERCER ISLAND, WA 98040
EXISTING 150'-0" MONOPOLE

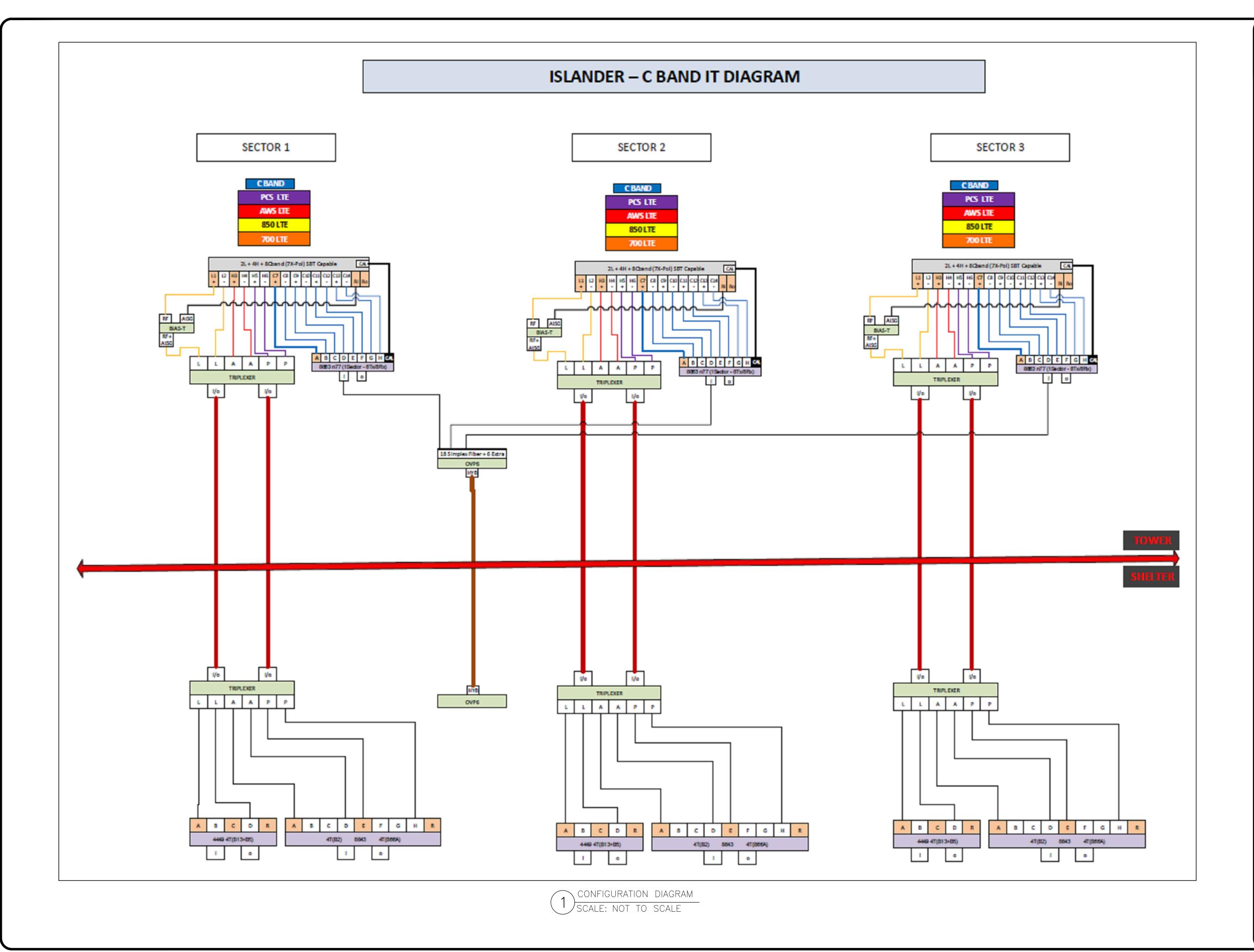
	ISSUED FOR:						
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SHEET NUMBER:

MBER: REVISION: 5





CROWN

BELLEVUE, WA 98008

1505 WESTLAKE AVENUE NORTH, SUITE 800 SEATTLE, WA 98109



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

VERIZON SITE NUMBER: 418549

BU #: **880416 SEATTLE QWEST - SEA155**8477 SE 68TH STREET
MERCER ISLAND, WA 98040

EXISTING 150'-0" MONOPOLE

$\bigcap$	ISSUED FOR:						
REV	DATE	DRWN	DESCRIPTION	DES./QA			
Α	02/17/2023	RC	PRELIMINARY	AMT			
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4	11/29/2023	RC	FINAL	AMT			

5 | 12/20/2023 | RC

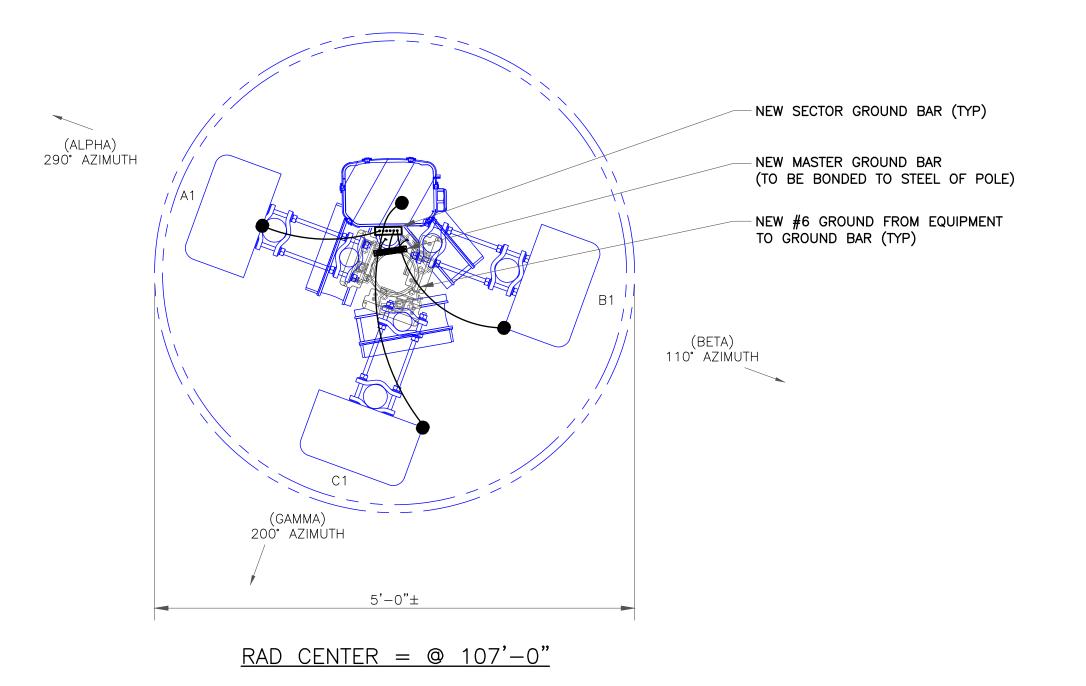


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SHEET NUMBER:

ET NUMBER:

ER: REVISION: 5





BELLEVUE, WA 98008





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

VERIZON SITE NUMBER: 418549

BU #: **880416 SEATTLE QWEST - SEA155** 8477 SE 68TH STREET

MERCER ISLAND, WA 98040 EXISTING 150'-0" MONOPOLE

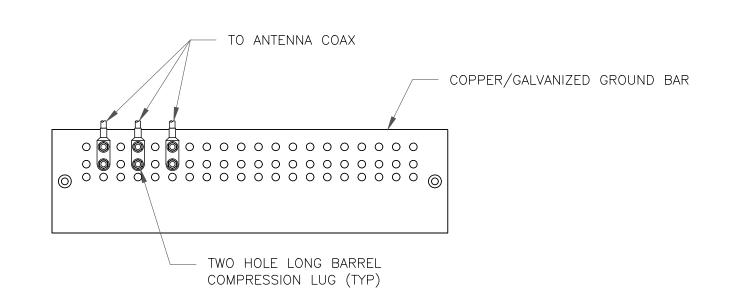
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SHEET NUMBER:

G-1

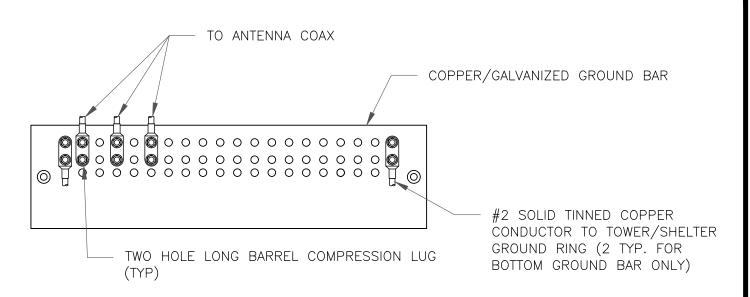


#### NOTES:

- 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 ANTENNA MOUNT STEEL.

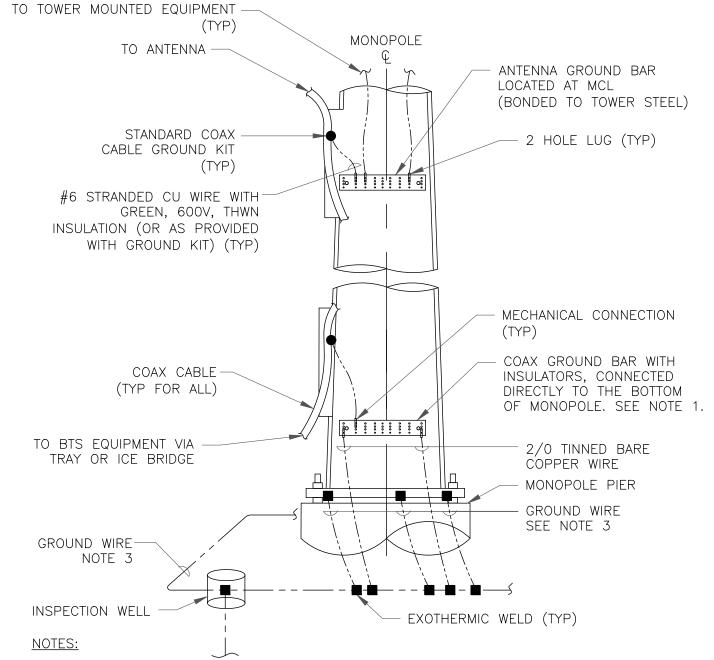


SCALE: NOT TO SCALE



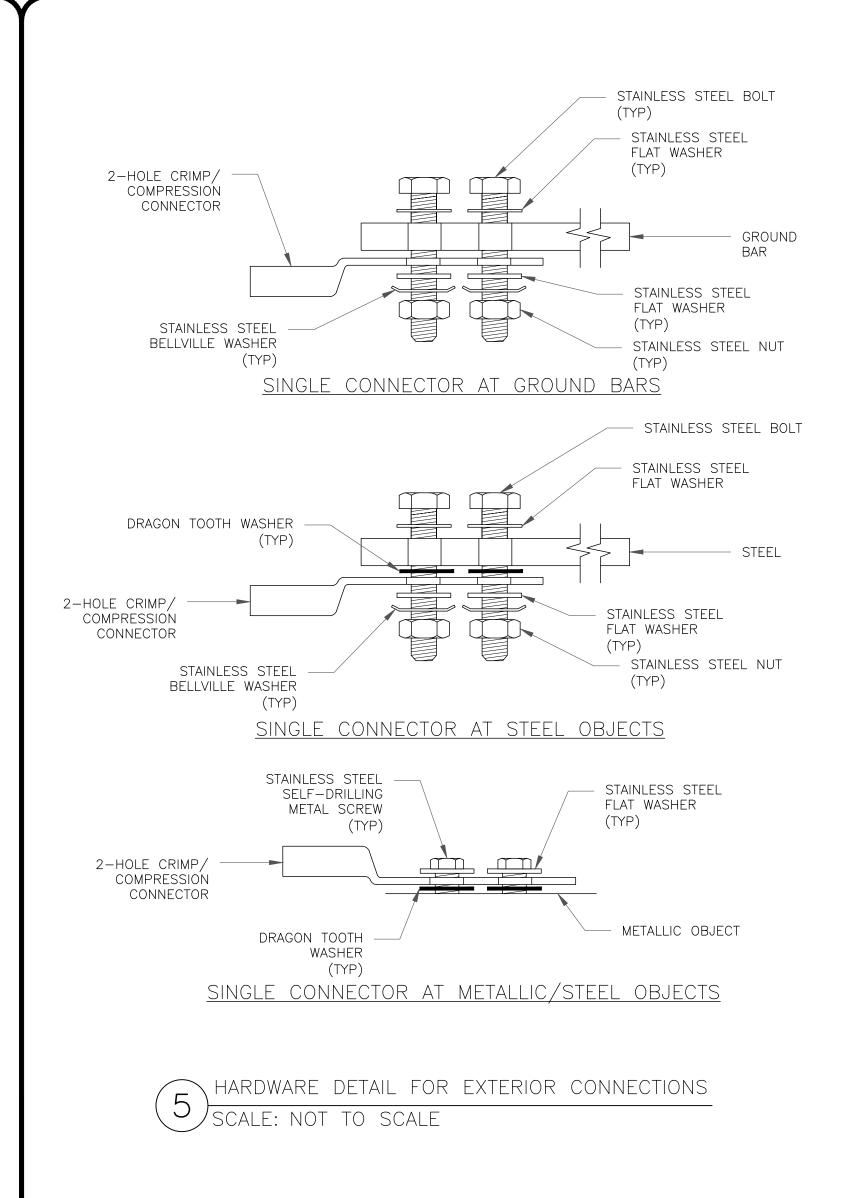
- 1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
- 2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
- 3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

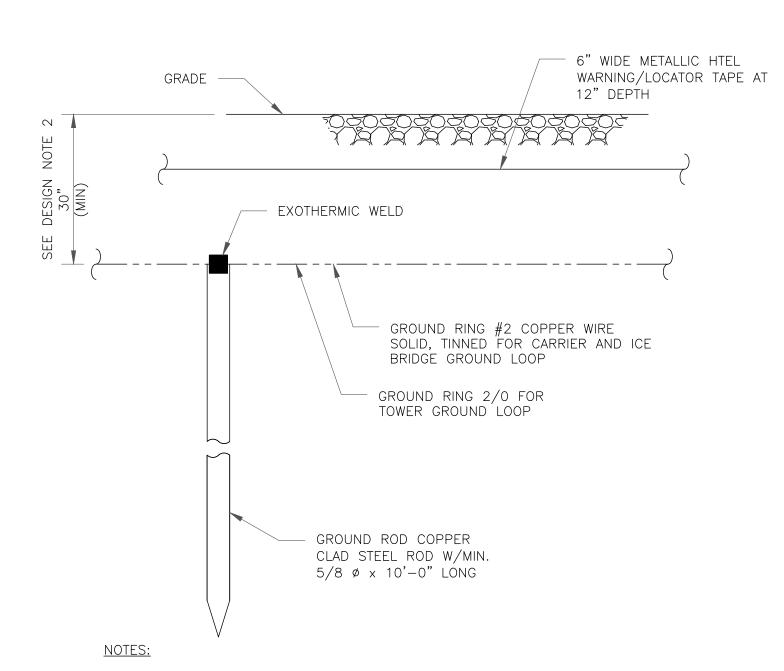




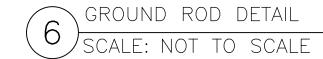
- 1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
- 2. ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE USA INC. TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
- 3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.

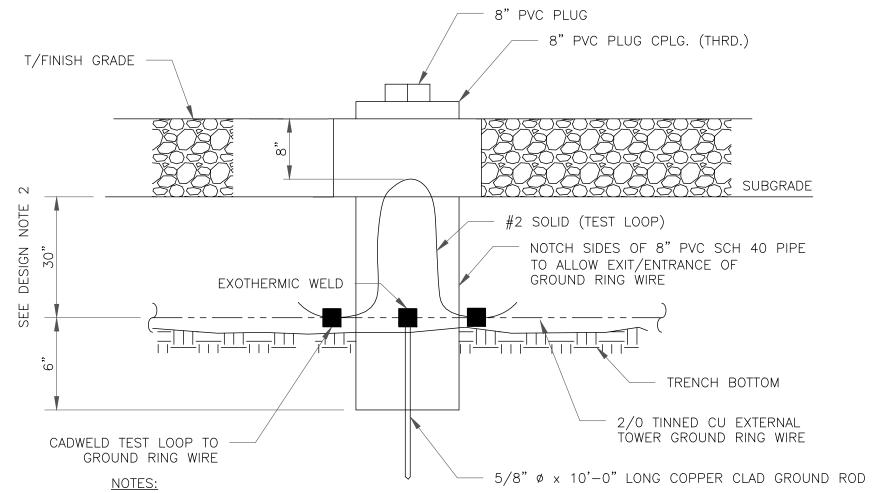






- 1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE
- 2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)





1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE

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**JURISDICTIONAL APPROVAL:** 

**CROWN CASTLE** 1505 WESTLAKE AVENUE NORTH, SUITE 800 SEATTLE, WA 98109



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

VERIZON SITE NUMBER: 418549

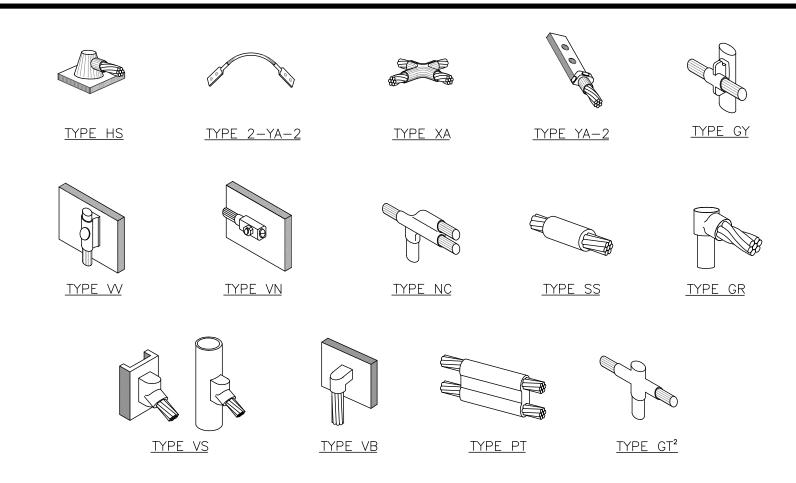
BU #: **880416 SEATTLE QWEST - SEA155** 8477 SE 68TH STREET MERCER ISLAND, WA 98040 EXISTING 150'-0" MONOPOLE

ISSUED FOR:						
REV	DATE	DRWN	DESCRIPTION	DES./QA		
Α	02/17/2023	RC	PRELIMINARY	AMT		
0	03/09/2023	RC	FINAL	AMT		
1	03/16/2023	RC	FINAL	AMT		
2	08/31/2023	RC	FINAL	AMT		
3	09/08/2023	RC	FINAL	AMT		
4	11/29/2023	RC	FINAL	AMT		
5	12/20/2023	RC	FINAL	AMT		



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.

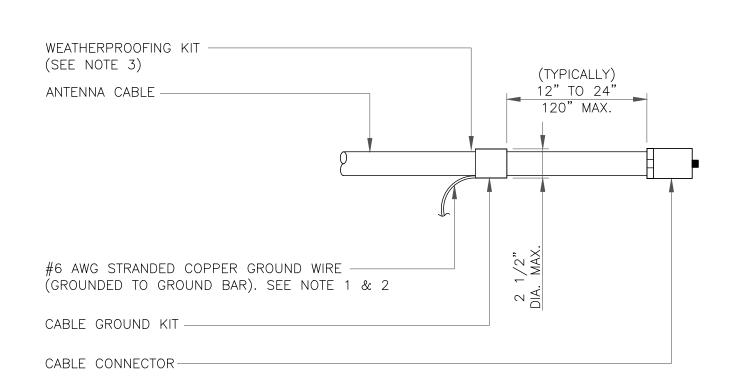
**SHEET NUMBER:** 



### NOTE:

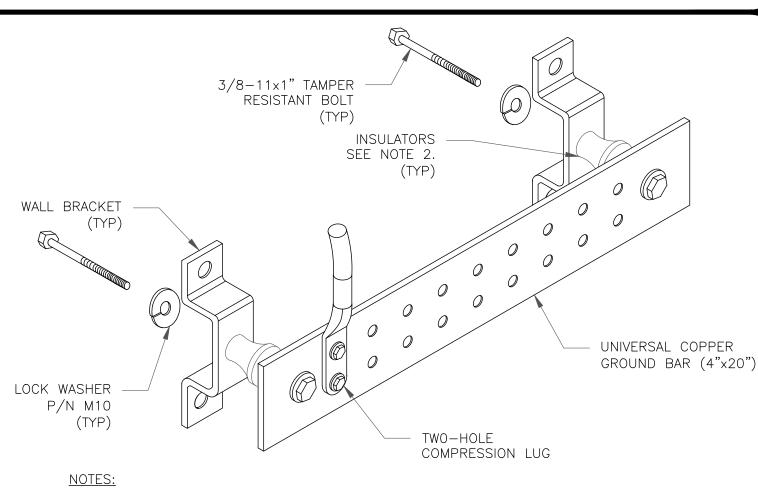
- 1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC
- MOLDS TO BE USED FOR THIS PROJECT. 2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

## CADWELD GROUNDING CONNECTIONS CALE: NOT TO SCALE



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

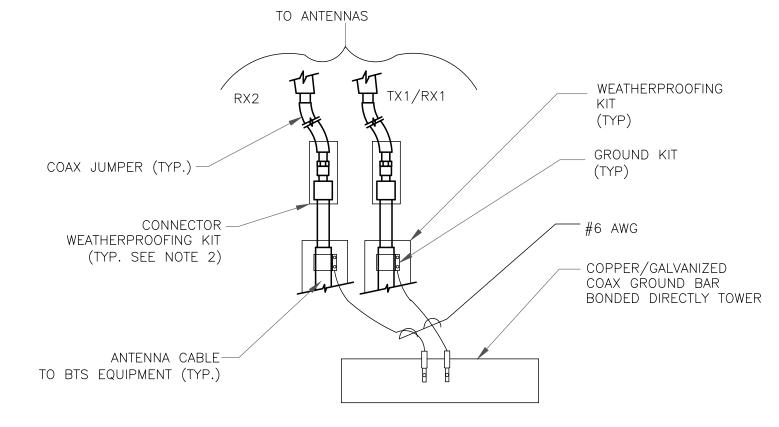
CABLE GROUND KIT CONNECTION SCALE: NOT TO SCALE



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.

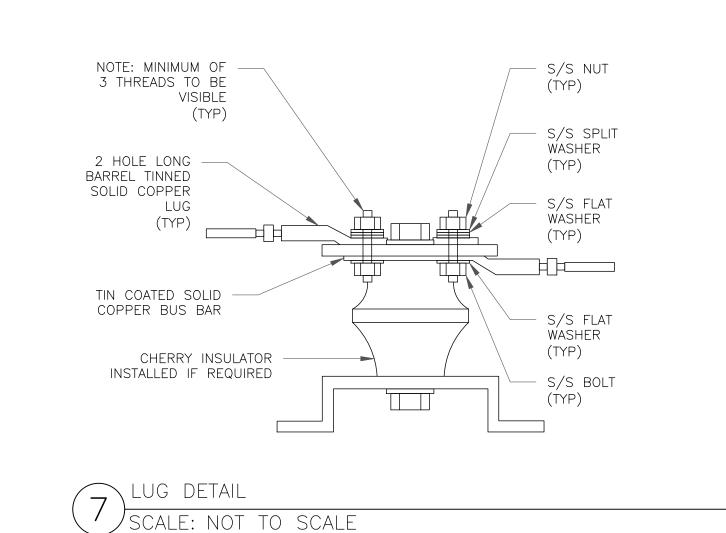
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

GROUND BAR DETAIL SCALE: NOT TO SCALE

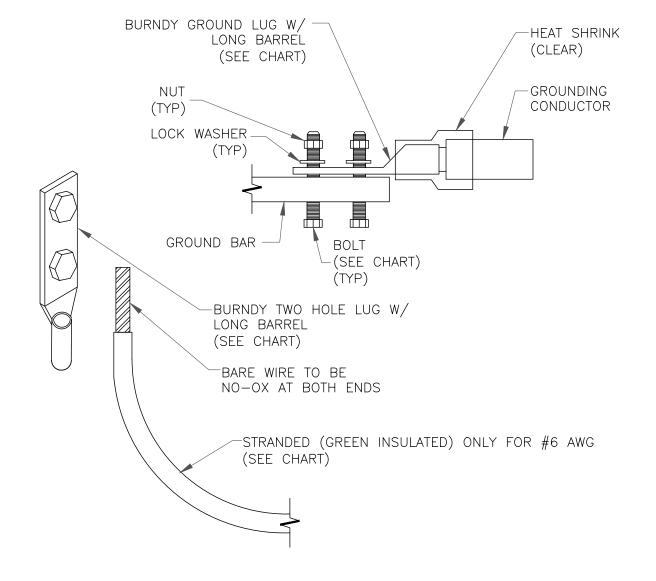


- 1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
- 2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE

GROUND CABLE CONNECTION SCALE: NOT TO SCALE



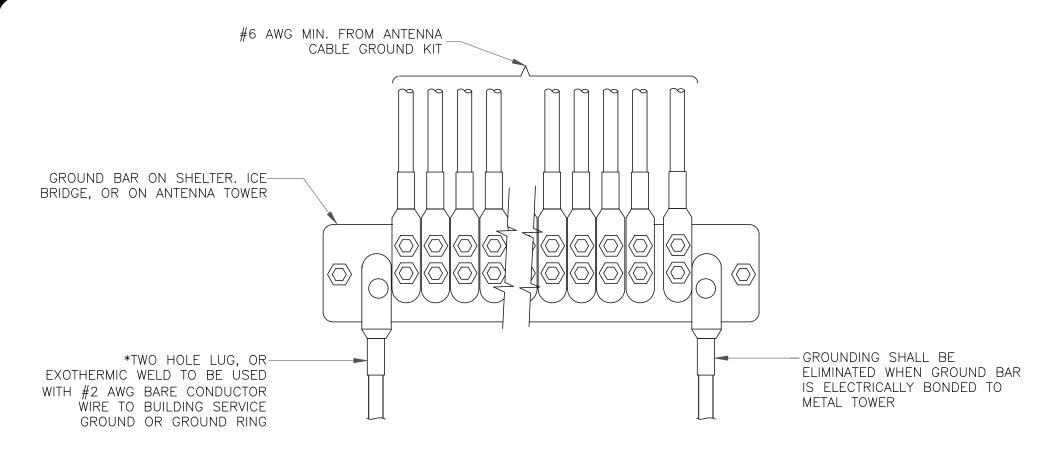




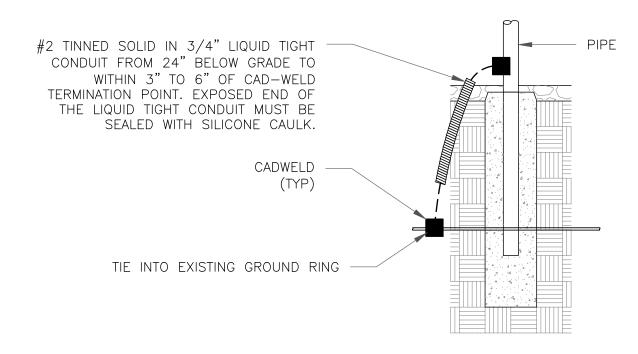
### NOTES:

1. 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.

MECHANICAL LUG CONNECTION SCALE: NOT TO SCALE



GROUNDWIRE INSTALLATION SCALE: NOT TO SCALE



TRANSITIONING GROUND DETAIL

SCALE: NOT TO SCALE

# 3245 158TH AVENUE MS 231

BELLEVUE, WA 98008

JURISDICTIONAL APPROVAL:





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

VERIZON SITE NUMBER: 418549

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**SHEET NUMBER:** 

## STRUCTURAL DESIGN DRAWINGS

SITE NAME

**SEATTLE QWEST - SEA155** 

**CROWN CASTLE BU NUMBER:** 

880416

SITE ADDRESS:

# 8477 SE 68TH STREET MERCER ISLAND, WA 98040 (KING COUNTY) N 47°32'30.00", W 122°13'25.00"

INDEX OF CHEETO

HOT WORK INCLUDED					
NA	BASE GRINDING ONLY				
NA	BASE WELDING (AND GRINDING)				
NA	AERIAL GRINDING ONLY				
NA	AERIAL WELDING (AND GRINDING)				

#### **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.: 151934.904269 DATED DECEMBER 12, 2023 (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

#### **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, 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.

INDEX OF SHEETS					
SHEET TITLE	REV				
TITLE SHEET	0				
MI CHECKLIST AND NOTES	0				
GENERAL NOTES	0				
PROJECT NOTES	0				
TOWER ELEVATION AND MODIFICATION SCHEDULE	0				
CONCEALMENT INSTALLATION DETAILS	0				
	SHEET TITLE  TITLE SHEET  MI CHECKLIST AND NOTES  GENERAL NOTES  PROJECT NOTES  TOWER ELEVATION AND MODIFICATION SCHEDULE				

#### PROJECT INFORMATION

TOWER HEIGHT: 150-

TOWER MANUFACTURER: ROHN

CCI DOCUMENT: 2030383

WORK ORDER NO.: 2271772 ORDER NO.: 640386 REV. 5

DESIGN BUILDING CODE: 2021 WASHINGTON STATE BUILDING CODE

DESIGN STANDARD: TIA-222-H

#### **PROJECT TEAM**

#### **CCI MODIFICATION PROJECT MANAGER:**

NAME CROWN CASTLE CONTACT WESLEY POWER PHONE (678) 259-2265

EMAIL WESLEY.POWER@CROWNCASTLE.COM

#### **ENGINEERING FIRM PROJECT MANAGER:**

NAME TOWER ENGINEERING PROFESSIONALS, INC. CONTACT RHETT PARK, P.E.

PHONE (919) 661-6351 EMAIL CMRP@TEPGROUP.NET

PLANS PREPARED FOR: **CROWN CASTLE** PLANS PREPARED BY: **TOWER ENGINEERING PROFESSIONALS** 326 TRYON ROAD RALEIGH, NC 27603 OFFICE: (919) 661-6351 www.tepgroup.net 12-12-23 MODIFICATION DRAWINGS DATE ISSUED FOR: REV DRAWN BY: CHECKED BY: RTP SHEET TITLE: **TITLE SHEET** 

SHEET NUMBER:

REVISION:

TEP#: 151934.90426

X EOR APPROVED SHOP  NA FABRICATION INSPECT  NA FABRICATOR CERTIFIES  NA MATERIAL TEST REPO  NA FABRICATOR NDE INSI  NA NDE OF MONOPOLE B  X PACKING SLIPS  ADDITIONAL TESTING AND INSPECT  NA CONCRETE COMP. STR  TEST  NA EARTHWORK: SOIL CO  NA EARTHWORK: BEARING	CON_SOW_1000	A LETTER FROM THE FABRICATOR, STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THE CONTRACT DOCUMENTS, SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  OF A CWI SHALL INSPECT ALL WELDING PERFORMED ON STRUCTURAL MEMBERS DURING FABRICATION. A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  OF MATERIAL TEST REPORTS SHALL BE PROVIDED FOR MATERIAL USED AS REQUIRED PER SECTION 9.2.5 OF CED-SOW-10007. MTRS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  OF CRITICAL SHOP WELDS THAT REQUIRE TESTING ARE NOTED ON THESE CONTRACT DRAWINGS. A CERTIFIED NDT INSPECTOR SHALL PERFORM NON-DESTRUCTIVE EXAMINATION AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  A NDE OF THE POLE TO BASE PLATE CONNECTION IS REQUIRED AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA FABRICATION INSPECT  NA FABRICATOR CERTIFIES  NA MATERIAL TEST REPO  NA FABRICATOR NDE INSI  NA NDE OF MONOPOLE B  X PACKING SLIPS  ADDITIONAL TESTING AND INSPECT  NA FOUNDATION INSPECT  NA CONCRETE COMP. STR  TEST  NA EARTHWORK: SOIL CO	CON_SOW_1000	ONCE THE PRE-MODIFICATION MAPPING IS COMPLETE AND PRIOR TO FABRICATION, THE CONTRACTOR SHALL PROVIDE DETAILED ASSEMBLY DRAWINGS AND/OR SHOP DRAWINGS ALONG WITH EOR FIF FORM DETAILING ANY CHANGES FROM THE ORIGINAL DESIGN TO THE EOR FOR REVIEW AND APPROVAL.  A LETTER FROM THE FABRICATOR, STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THE CONTRACT DOCUMENTS, SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  A CWI SHALL INSPECT ALL WELDING PERFORMED ON STRUCTURAL MEMBERS DURING FABRICATION. A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  MATERIAL TEST REPORTS SHALL BE PROVIDED FOR MATERIAL USED AS REQUIRED PER SECTION 9.2.5 OF CED-SOW-10007. MTRS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  CRITICAL SHOP WELDS THAT REQUIRE TESTING ARE NOTED ON THESE CONTRACT DRAWINGS. A CERTIFIED NDT INSPECTOR SHALL PERFORM NON-DESTRUCTIVE EXAMINATION AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  A NDE OF THE POLE TO BASE PLATE CONNECTION IS REQUIRED AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
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NA FABRICATOR CERTIFIED  NA MATERIAL TEST REPO  NA FABRICATOR NDE INSI  NA NDE OF MONOPOLE B  X PACKING SLIPS  ADDITIONAL TESTING AND INSPECT  NA CONCRETE COMP. STR  TEST  NA EARTHWORK: SOIL CO	CON_SOW_1006	SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  A CWI SHALL INSPECT ALL WELDING PERFORMED ON STRUCTURAL MEMBERS DURING FABRICATION. A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  MATERIAL TEST REPORTS SHALL BE PROVIDED FOR MATERIAL USED AS REQUIRED PER SECTION 9.2.5 OF CED-SOW-10007. MTRS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  CRITICAL SHOP WELDS THAT REQUIRE TESTING ARE NOTED ON THESE CONTRACT DRAWINGS. A CERTIFIED NDT INSPECTOR SHALL PERFORM NON-DESTRUCTIVE EXAMINATION AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  A NDE OF THE POLE TO BASE PLATE CONNECTION IS REQUIRED AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
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NA FABRICATOR NDE INSI  NA NDE OF MONOPOLE B  X PACKING SLIPS  ADDITIONAL TESTING AND INSPECT  NA FOUNDATION INSPECT  NA CONCRETE COMP. STR TEST  NA EARTHWORK: SOIL CO  NA EARTHWORK: BEARING	CED-SOW-1006 CED-STD-1006 ASE PLATE ENG-SOW-1000 CON-SOW-1000	THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  CRITICAL SHOP WELDS THAT REQUIRE TESTING ARE NOTED ON THESE CONTRACT DRAWINGS. A CERTIFIED NDT INSPECTOR SHALL PERFORM NON-DESTRUCTIVE EXAMINATION AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  A NOE OF THE POLE TO BASE PLATE CONNECTION IS REQUIRED AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA NDE OF MONOPOLE B  X PACKING SLIPS  ADDITIONAL TESTING AND INSPECT  NA FOUNDATION INSPECT  NA CONCRETE COMP. STR TEST  NA EARTHWORK: SOIL CO	CED-STD-1006  ASE PLATE ENG-SOW-1003  CON-SOW-1006	ESP EXAMINATION AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.  A NDE OF THE POLE TO BASE PLATE CONNECTION IS REQUIRED AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X PACKING SLIPS  ADDITIONAL TESTING AND INSPECT  NA  NA FOUNDATION INSPECT  NA CONCRETE COMP. STR TEST  NA EARTHWORK: SOIL CO  NA EARTHWORK: BEARING	CON-SOW-1000	MI REPORT.
NA FOUNDATION INSPECT  NA CONCRETE COMP. STR  TEST  NA EARTHWORK: SOIL CO  NA EARTHWORK: BEARING		PACKING/SHIPPING LIST FOR ALL MATERIAL USED DURING CONSTRUCTION OF THE MODIFICATION
NA FOUNDATION INSPECTION  NA CONCRETE COMP. STR TEST  NA EARTHWORK: SOIL CO  NA EARTHWORK: BEARING	TIONS:	
NA FOUNDATION INSPECTION  NA CONCRETE COMP. STETEST  NA EARTHWORK: SOIL CO		
NA CONCRETE COMP. STR TEST  NA EARTHWORK: SOIL CO  NA EARTHWORK: BEARING		
NA CONCRETE COMP. STR TEST  NA EARTHWORK: SOIL CO  NA EARTHWORK: BEARING	1	CONSTRUCTION
NA TEST  NA EARTHWORK: SOIL CO  NA EARTHWORK: BEARING	ONS CED-SOW-1014	A VISUAL OBSERVATION OF THE EXCAVATION AND REBAR SHALL BE PERFORMED BEFORE PLACING THE CONCRETE. A VISUAL OBSERVATION OF THE REBAR SHALL BE PERFORMED BEFORE PLACING THE EPOXY. A SEALED WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA EARTHWORK: BEARING	RENGTH AND SLUMP CED-SOW-1014	THE CONCRETE MIX DESIGN, SLUMP TEST, AND COMPRESSIVE STRENGTH TESTS SHALL BE PROVIDED AS PART OF THE FOUNDATION REPORT.
	MPACTION CED-SOW-1014	FOUNDATION SOIL COMPACTION SHALL BE INSPECTED AND APPROVED BY AN APPROVED FOUNDATION INSPECTOR AND RESULTS INCLUDED AS PART OF THE FOUNDATION REPORT.
NA MODODUE (BOOK AND	G CAPACITY CED-SOW-1014	FOUNDATION SUB-GRADES SHALL BE INSPECTED AND APPROVED BY AN APPROVED FOUNDATION INSPECTOR AND RESULTS INCLUDED AS PART OF THE FOUNDATION REPORT.
NA MICROPILE/ROCK AND	HOR CED-SOW-1014	MICROPILES/ROCK ANCHORS SHALL BE INSPECTED BY THE FOUNDATION INSPECTION VENDOR AND SHALL BE INCLUDED AS PART OF THE FOUNDATION INSPECTION REPORT, ADDITIONAL TESTING AND/OR INSPECTION REQUIREMENTS ARE NOTED IN THESE CONTRACT DOCUMENTS AND GENERAL NOTES PAGE TWO.
NA POST-INSTALLED AND VERIFICATION	CON-SOW-1000 CON-FRM-1035	
NA BASE PLATE GROUT	/ERIFICATION ENG-STD-1032	THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE MI INSPECTOR THAT CERTIFIES THAT THE GROUT WAS REMOVED AND/OR INSTALLED IN ACCORDANCE WITH CROWN REQUIREMENTS FOR INCLUSION IN THE MI REPORT.
NA ELEPHANT ARMOR	OPS-SOW-103	PHOTOS SHALL BE SUBMITTED IN ACCORDANCE WITH SECTION 6 FOR INCLUSION IN THE MI REPORT
NA FIELD CERTIFIED WELD	CED-SOW-1006 CED-STD-1006	
NA FIELD NDE	CON-STD-1015 CON-SOW-1000	
X ON-SITE COLD GALVA	NIZING VERIFICATION CON-STD-1014	
NA TENSION TWIST AND F	PLUMB CON-STD-1026	THE GENERAL CONTRACTOR SHALL PROVIDE A REPORT IN ACCORDANCE WITH APPLICABLE STANDARDS DOCUMENTING TENSION TWIST AND PLUMB.
X TOWER PLUMB DELIVE	RABLES CON-SOW-1000	THE CONTRACTOR SHALL PROVIDE WRITTEN AND PHOTOGRAPHIC DOCUMENTATION TO THE MI INSPECTOR VERIFYING THE TOWER PLUMB CONDITION SEE REQUIREMENTS ON GENERAL NOTES SHEET PAGE TWO
X CANISTER DRAWINGS	CON-SOW-1000	THE CONTRACTOR SHALL SUBMIT A LEGIBLE COPY OF ANY FINAL FABRICATION OR PARTS DRAWINGS PROVIDED BY THE CANISTER VENDOR
X GC AS-BUILT DRAWIN	GS CON-SOW-1000	THE GENERAL CONTRACTOR SHALL SUBMIT A LEGIBLE COPY OF THE ORIGINAL DESIGN DRAWINGS EITHER STATING "INSTALLED AS DESIGNED" OR NOTING ANY CHANGES THAT WERE REQUIRED AND APPROVED BY THE ENGINEER OF RECORD. EOR/RFI FORMS APPROVING ALL CHANGES SHALL BE SUBMITTED
ADDITIONAL TESTING AND INSPECT	TIONS:	
NA		
		POST-CONSTRUCTION
X CONSTRUCTION COMPI	LIANCE LETTER CON-SOW-1000 CON-FRM-1035	A LETTER FROM THE GENERAL CONTRACTOR STATING THAT THE WORKMANSHIP WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THESE CONTRACT DRAWINGS
NA POST-INSTALLED AND	CHOR ROD PULL TESTS CED-PRC-1011	POST-INSTALLED ANCHOR RODS SHALL BE TESTED BY A CROWN APPROVED PULL TEST INSPECTOR AND A REPORT SHALL BE PROVIDED INDICATING TESTING RESULTS.
X PHOTOGRAPHS	CON-SOW-1000	PHOTOGRAPHS SHALL BE SUBMITTED TO THE MI. PHOTOS SHALL DOCUMENT ALL PHASES OF THE CONSTRUCTION. THE PHOTOS SHALL BE ORGANIZED IN A MANNER THAT EASILY IDENTIFIES THE EXACT LOCATION OF THE PHOTO.
NA BOLT HOLE INSTALLAT	TION VERIFICATION CON-SOW-1000	THE MI INSPECTOR SHALL VERIFY THE HOLE SIZE AND CONDITION OF 10% OF ALL NON PRE-TENSIONED BOLTS INSTALLED AS PART OF THE MODIFICATION. THE MI REPORT SHALL CONTAIN THE COMPLETED BOLT INSTALLATION VERIFICATION REPORT, INCLUDING THE SUPPORTING PHOTOGRAPHS.
X PUNCH LIST DEVELOP CORRECTION DOCUMEN		
X MI INSPECTOR RECOR		THE MI INSPECTOR SHALL OBSERVE AND REPORT ANY DISCREPANCIES BETWEEN THE CONTRACTOR'S REDLINE DRAWING AND THE ACTUAL COMPLETED
ADDITIONAL TESTING AND INSPEC		V INSTALLATION.
NA	D DRAWING(S) CON-SOW-1000	

**MODIFICATION INSPECTION NOTES:** 

#### **GENERAL**

THE MI IS AN ON-SITE VISUAL AND HANDS-ON INSPECTION OF TOWER MODIFICATIONS INCLUDING A REVIEW OF CONSTRUCTION REPORTS AND ADDITIONAL PERTINENT DOCUMENTATION PROVIDED BY THE GENERAL CONTRACTOR (GC), AS WELL AS ANY INSPECTION DOCUMENTS PROVIDED BY 3RD PARTY INSPECTORS. THE MI IS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS; IN ACCORDANCE WITH APPLICABLE CROWN STANDARDS; AND AS DESIGNED BY THE ENGINEER OF RECORD (EOR)

NO DOCUMENT, CODE OR POLICY CAN ANTICIPATE EVERY SITUATION THAT MAY ARISE. ACCORDINGLY, THIS CHECKLIST IS INTENDED TO SERVE AS A SOURCE OF GUIDING PRINCIPLES IN ESTABLISHING GUIDELINES FOR MODIFICATION INSPECTION.

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, AND THE MI INSPECTOR DOES NOT TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES. THE MI INSPECTOR SHALL INSPECT AND NOTE CONFORMANCE/NONCONFORMANCE AND PROVIDE TO THE CROWN POINT OF CONTACT (CROWN POC) FOR EVALUATION.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PURCHASE ORDER (PO) IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN THE GC AND/OR INSPECTOR SHALL CONTACT THE CROWN POINT OF CONTACT (CROWN POC).

REFER TO CROWN CON-SOW-10007, "MODIFICATION INSPECTION", FOR FURTHER DETAILS AND REQUIREMENTS.

#### SERVICE LEVEL COMMITMENT

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING AN MI REPORT:

- THE GC SHALL PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
  THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
  WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE.
- WHEN THE MI TO HAVE ANY MINOR DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

#### **REQUIRED PHOTOS**

BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
  PHOTOGRAPHS DURING THE REINFORCEMENT PHOTOGRAPHS DURING THE
  CONSTRUCTION/ERECTION AND INSPECTION
  RAW MATERIALS
  PHOTOS OF ALL CRITICAL DETAILS
  FOUNDATION MODIFICATIONS MODIFICATION

- FOUNDATION MOUDIFICATIONS
   WELD PREPARATION
   BOLT INSTALLATION
   FINAL INSTALLED CONDITION
   SURFACE COATING REPAIR
   POST CONSTRUCTION PHOTOGRAPHS
  - FINAL INFIELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN ONLY FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

THIS IS NOT A COMPLETE LIST OF REQUIRED PHOTOS, FOR A COMPLETE LIST OF PHOTOS SEE CROWN DOCUMENT # CED-SOW-10007.

#### NOTE:

X DENOTES A DOCUMENT NEEDED FOR THE PMI REPORT
NA DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PMI REPORT

PLANS PREPARED FOR:

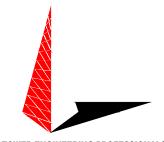
#### **CROWN CASTLE**

PROJECT INFORMATION:

**SEATTLE - SEA155** BU #: 880416

8477 SE 68TH STREET MERCER ISLAND, WA 98040 (KING COUNTY)

PLANS PREPARED BY:



#### **TOWER ENGINEERING PROFESSIONALS**

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DRAWN BY: RTP CHECKED BY:

0	12-12-23	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

SHEET TITLE:

#### MI CHECKLIST **AND NOTES**

SHEET NUMBER:

**N**-'

REVISION:

TEP#: 151934.90426

THE MI CHECKLIST SHALL BE REVIEWED PRIOR TO THE START OF CONSTRUCTION. ALL PARTIES TO THE MODIFICATION SHALL UNDERSTAND CROWN REQUIREMENTS AND INSPECTION/DOCUMENTATION THAT IS APPLICABLE TO THE SCOPE OF WORK THEY ARE PERFORMING. ERRORS ON THE MI CHECKLIST SHALL BE BROUGHT TO THE ATTENTION OF THE CROWN POC AND EOR AS SOON AS POSSIBLE.

#### **GENERAL NOTES:**

- The General Contractor (GC) shall reference CON-STD-10159, "Tower Modification Construction Specifications", as a continuation of the following General Notes. The GC shall keep a printed or electronic copy of this document with the Structural Design Drawings (SDD) at all times, in a location accessible to all Contractor Personnel, and shall ensure that all Contractor Personnel are aware of the information enclosed within the General Notes and CON-STD-10159.
- 2. The Contract Documents are the property of Crown Castle (Crown). They are provided to the GC and its Lower Tier Contractors and material suppliers for the limited purpose of use in completing the Work for this Site, and shall be kept in strict confidence and not disclosed to any third parties. The Contract Documents shall not be used for any other purpose whatsoever without the prior written consent of Crown.
- 3. Detail drawings, including notes and tables, shall govern over general notes and typical details. Contact the Crown Point of Contact (POC) and Engineer of Record (EOR) for clarification as needed.
- 4. Do not scale drawings.
- 5. Any Work performed without a prefabrication mapping is done at the risk of the GC and/or fabricator. All dimensions of existing structural elements are assumed based on the available documentation and are preliminary until field—verified by the GC, unless noted otherwise (UNO). Where discrepancies are found, GC shall contact the Crown POC and EOR through RFI.
- 6. For this analysis and modification, the tower has been assumed to be in good condition without any structural defects, UNO. If the GC discovers any indication of an existing structural defect, contact the Crown POC and EOR immediately.
- 7. 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, "Rigging Program", 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).
- 8. Hoisting grips used for feed line installation shall follow manufacturer guidelines for maximum installed spacing intervals and pull load capacity restrictions.
- 9. The structural integrity of the modification design extends to the complete condition only. The GC must be cognizant that the removal of any structural component of an existing tower has the potential to cause the partial or complete collapse of the structure. All necessary precautions must be taken to ensure structural integrity, including, but not limited to, engineering assessment of construction stresses with installation maximum wind speed and/or temporary bracing and shoring.
- 10. Aerial and underground utilities and facilities may or may not be shown on the drawings. The GC shall take every precaution to preserve and protect these items, which may include aerial or underground power lines, telephone lines, water lines, sewer lines, cable television facilities, pipelines, structures and other public and private improvements within or adjacent to the work area. The responsibility for determining the actual on—site location of these items shall rest exclusively with the GC.
- All manufacturer's hardware assembly instructions shall be followed, UNO. Conflicting notes shall be brought to the attention of the EOR and the Crown POC.

12. The GC shall fabricate all required items per the materials specified below, UNO on the detail drawing sheets. If the GC finds for any component that the materials have not been clearly specified, the GC shall submit an RFI to the EOR to confirm the required material.

All structural elements shall be new and shall conform to the following requirements, UNO:

#### Monopoles:

-Structural shapes ASTM A572 Grade 65 and plates: (FY = 65 KSI)
-Welding electrodes, SMAW: E80XX
-Welding electrodes, FCAW: E8XT-XX
-Welding electrodes, GMAW: ER80S-X

#### Self-Support and Guyed Towers:

-Structural shapes ASTM A572 Grade 50 and plates: (FY = 50 KSI)
-Welding electrodes, SMAW: E70XX
-Welding electrodes, FCAW: E7XT-XX
-Welding electrodes, GMAW: ER70S-X

#### All tower types:

-Steel anale: ASTM A572 Grade 50 (FY = 50 KSI) -Solid rod: ASTM A36 (FY = 36 KSI) -Pipe/tube (round): ASTM A500 Grade C (FY = 46 KSI) -Pipe/tube (square): ASTM A500 Grade C (FY = 50 KSI) ASTM F3125 Grade A325 Type 1 -Rolts -U-bolts: ASTM A307 Grade A. OR SAE J429 Grade 2 ASTM A563 Grade DH -Nuts: ASTM F436 Type 1 -Washers: -Guy wires: ASTM A475 Grade EHS -Bridge strand: ASTM A586 Grade 1

- 13. After fabrication, hot—dip galvanize all steel items, UNO. Galvanize per ASTM A123, ASTM A153/A153M, OR ASTM A653 G90, as applicable. ASTM A490 bolts shall not be hot—dip galvanized, but shall instead be coated with Magni 565 or EOR approved equivalent, per ASTM F2833.
- 14. Contractor Personnel shall not drill holes in any new or existing structural members, other than those drilled holes shown on structural drawings, without the approval of the EOR.
- 15. For a list of Crown-approved cold galvanizing compounds, refer to OPS-STD-10149, "Tower Protective Coatings Guidelines".
- 16. All exposed structural steel as the result of this scope of Work including welds (after final inspection of the weld by the CWI), field drilled holes, and shaft interiors (where accessible), shall be cleaned and two (2) coats cold galvanizing shall be applied by brush in accordance with OPS-STD-10149, "Tower Protective Coatings Guidelines". Photo documentation is required to be submitted to the MI Inspector.
- 17. If removal of existing modifications is required per the modification scope, the GC shall clean and cold galvanize any existing empty bolt holes, UNO. If additional unexpected, oversized, or slotted holes are found, the GC shall contact the EOR and Crown POC for guidance prior to proceeding with the modifications.
- 18. All Work involving base plate grout scope items or resulting in disturbance of base plate grout shall reference ENG-STD-10323, "Base Plate Grout", and shall follow any Base Plate Grout Removal notes contained herein.

- 19. If scope of modification involves bark removal or installation, the GC shall reference CED-SOW-10265, "Tree Concealment for Monopoles", as well as CED-STD-10395, "Installation Guidelines for Bark Surfaces".
- 20. If scope of modification involves concealment components including branching, the GC shall reference CED-CAT-10398, "Monopole Concealed Decorative Structures (CDS) Approved Components". All new branch installations require tethering.
- 21. If scope of modification involves cathodic protection, the GC shall reference CED-SOW-10397, "Cathodic Protection Installation, Replacement, and Enhancement".
- 22. All tower grounding affected by the Work shall be repaired or replaced in accordance with OPS-STD-10090, "Tower Grounding", and OPS-BUL-10133, "Grounding Repair Recommendation".
- 23. If scope of modification requires removal or covering of tower ID tag, the tag must be replaced.
- 24. Any hardware removed from the existing tower shall be replaced with new hardware of equal size and quality, UNO. No existing fasteners shall be reused.
- 25. All joints using ASTM A325 or A490 bolts, U-bolts, V-bolts, and threaded rods shall be snug tightened, UNO.
- 26. A nut locking device shall be installed on all proposed and/or replaced snug tightened ASTM A325 or A490 bolts, U-bolts, V-bolts, and threaded rods.
- 27. All joints are bearing type connections UNO. If no bolt length is given in the Bill of Materials, the connection may include threads in the shear planes, and the GC is responsible for sizing the length of the bolt.
- 28. Blind bolts shall be installed per the installation specifications on the corresponding Approved Fastener sheets contained in CON-CAT-10300, "Monopole Standard Drawings and Approved Reinforcement Components".
- 29. If ASTM A325 or A490 bolts, and/or threaded rods are specified to be pre-tensioned, these shall be installed and tightened to the pretensioned condition according to the requirements of the RCSC Specification for Structural Joints Using ASTM High Strength Bolts.
- 30. 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.

PLANS PREPARED FOR:

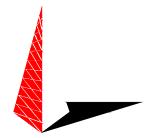
#### **CROWN CASTLE**

PROJECT INFORMATION:

#### SEATTLE - SEA155 BU #: 880416

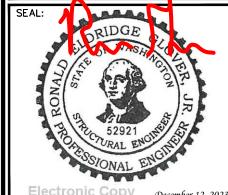
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#### **TOWER ENGINEERING PROFESSIONALS**

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lectronic Copy December 12, 2023

REV	DATE	ISSUED FOR:
0	12-12-23	MODIFICATION DRAWINGS

DRAWN BY: RTP | CHECKED BY: CDC

SHEET TITLE:

**GENERAL NOTES** 

SHEET NUMBER:

REVISION:

TEP#: 151934.904269

**N-2** 

#### **TOWER PLUMB REQUIREMENTS:**

- CHECK OF VERTICAL ALIGNMENT AND LEVEL OF BASE TOWER AND CANISTER ASSEMBLY SECTIONS FOR CONFORMANCE TO A PLUMB CONDITION IN ACCORDANCE WITH ANSI/TIA-222-H STANDARDS. PLUMB CONDITION IS TO BE DOCUMENTED WITH THE PROPER NOTES AND PICTURES TO PROVE, AT MINIMUM, THE FOLLOWING:
  - 1.1. DEFLECTION CALCULATIONS PER ANSI/TIA-222-H STANDARDS
  - 1.2. MINIMUM AND MAXIMUM (I.E. HOT AND COLD) SURFACE TEMPERATURE READINGS ON BASE MONOPOLE
  - 1.3. TIME OF DAY MEASURE WAS TAKEN (E.G. DAWN, NOON, DUSK)
  - 1.4. PICTURES OF A LEVEL OR DIGITAL INCLINOMETER MEASURED AT A MINIMUM OF (3) EQUIDISTANT LOCATIONS AROUND THE BASE PLATE TO PROVE LEVEL CONDITIONS
  - 1.5. AZIMUTH OR MONOPOLE FLAT NUMBER OF THE DIRECTION OF THE OUT-OF-PLUMB DEFLECTION

PLANS PREPARED FOR:

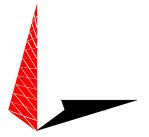
#### **CROWN CASTLE**

PROJECT INFORMATION:

#### **SEATTLE - SEA155** BU #: 880416

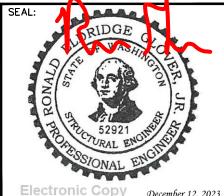
8477 SE 68TH STREET MERCER ISLAND, WA 98040 (KING COUNTY)

PLANS PREPARED BY:



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December 12, 2023

0	12-12-23	MODIFICATION DRAWINGS

DRAWN BY: RTP CHECKED BY:

SHEET TITLE:

#### **PROJECT NOTES**

SHEET NUMBER:

**N-3** 

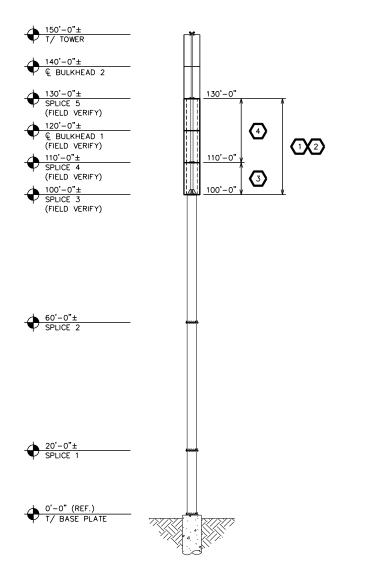
REVISION:

TEP#: 151934.904269

MANUFACTURER POLE SPECIFICATIONS					
TAPER:	-				
BASE PLATE STEEL (Fy):	ASTM A36 (36 KSI)				
ANCHOR RODS:	1 1/2"ø ASTM A354				

MANUFACTURER SHAFT SECTION DATA
---------------------------------

SHAFT SECTION	SECTION SHAPE	SECTION LENGTH	SECTION THICKNESS	SECTION GRADE	FLANGE PLATE GRADE	LAP SPLICE		CROSS FLATS SECTION (IN.)	
SECTION	SHAPE	(FT.)	(IN.)	Fy (KSI)	Fy (KSI)	(IN.)	TOP	воттом	
1	ROUND	20.00	0.4320	35	50	-	6.625	6.625	
2	ROUND	20.00	0.5000	35	50	-	8.625	8.625	
3	ROUND	10.00	0.5000	42	50	-	8.625	8.625	
4	ROUND	40.00	0.3750	42	36	-	36.000	36.000	
5	ROUND	40.00	0.3750	42	36	-	36.000	36.000	
6	ROUND	20.00	0.3750	42	36	_	36.000	36.000	
	NOTE: DIMENSIONS SHOWN DO NOT INCLUDE GALVANIZING TOLERANCES								



MODIFICATION SCHEDULE							
MODIFICATION DESCRIPTION	ELEVATION (FT.)	SHEET					
REMOVE EXISTING CONCEALMENT CANISTERS AND BULKHEAD ATTACHMENTS.	100.00 - 130.00	S-2					
INSTALL PROPOSED UNVENTED AND VENTED CONCEALMENT CANISTERS AND BULKHEAD ATTACHMENTS. CONCEALMENT CANISTERS TO BE INSTALLED PER CROWN DOC: CON-PRC-10127.	100.00 - 130.00	S-2					
(1) NEW 60" NOMINAL DIAMETER VENTED CONCEALMENT ASSEMBLIES SHALL BE PROVIDED BY APPROVED VENTED CANISTER VENDOR. REFERENCE ITB EMAIL FOR MORE INFORMATION.	100.00 - 110.00	S-2					
(2) NEW 60" NOMINAL DIAMETER UNVENTED CONCEALMENT ASSEMBLIES SHALL BE PROVIDED BY APPROVED UNVENTED CANISTER VENDOR. REFERENCE ITB EMAIL FOR MORE INFORMATION.	110.00 - 130.00	S-2					
PAINT PROPOSED MODIFICATIONS TO MATCH TOWER SHAFT.	_	-					
CONTRACTOR TO PLUMB TOWER PER SECTION 13.3.3 OF ANSI/TIA-222-H.	-	_					
CROWN CASTLE WILL CONTRACT WITH A THIRD PARTY VENDOR TO PERFORM THE MODIFICATION INSPECTION. THE CONTRACTOR SHALL COORDINATE THE INSPECTION WITH THE MODIFICATION INSPECTOR AND CROWN CASTLE PROJECT MANAGER. SEE SHEET N-1 FOR DETAILS.	-	-					
	MODIFICATION DESCRIPTION  REMOVE EXISTING CONCEALMENT CANISTERS AND BULKHEAD ATTACHMENTS.  INSTALL PROPOSED UNVENTED AND VENTED CONCEALMENT CANISTERS AND BULKHEAD ATTACHMENTS.  CONCEALMENT CANISTERS TO BE INSTALLED PER CROWN DOC: CON-PRC-10127.  (1) NEW 60" NOMINAL DIAMETER VENTED CONCEALMENT ASSEMBLIES SHALL BE PROVIDED BY APPROVED VENTED CANISTER VENDOR. REFERENCE ITB EMAIL FOR MORE INFORMATION.  (2) NEW 60" NOMINAL DIAMETER UNVENTED CONCEALMENT ASSEMBLIES SHALL BE PROVIDED BY APPROVED UNVENTED CANISTER VENDOR. REFERENCE ITB EMAIL FOR MORE INFORMATION.  PAINT PROPOSED MODIFICATIONS TO MATCH TOWER SHAFT.  CONTRACTOR TO PLUMB TOWER PER SECTION 13.3.3 OF ANSI/TIA-222-H.  CROWN CASTLE WILL CONTRACT WITH A THIRD PARTY VENDOR TO PERFORM THE MODIFICATION INSPECTION. THE CONTRACTOR SHALL COORDINATE THE INSPECTION WITH THE MODIFICATION INSPECTOR AND CROWN CASTLE	MODIFICATION DESCRIPTION  REMOVE EXISTING CONCEALMENT CANISTERS AND BULKHEAD ATTACHMENTS.  100.00 - 130.00  INSTALL PROPOSED UNVENTED AND VENTED CONCEALMENT CANISTERS AND BULKHEAD ATTACHMENTS.  100.00 - 130.00  (1) NEW 60" NOMINAL DIAMETER VENTED CONCEALMENT ASSEMBLIES SHALL BE PROVIDED BY APPROVED  VENTED CANISTER VENDOR. REFERENCE ITB EMAIL FOR MORE INFORMATION.  (2) NEW 60" NOMINAL DIAMETER UNVENTED CONCEALMENT ASSEMBLIES SHALL BE PROVIDED BY APPROVED  UNVENTED CANISTER VENDOR. REFERENCE ITB EMAIL FOR MORE INFORMATION.  (2) NEW 60" NOMINAL DIAMETER UNVENTED CONCEALMENT ASSEMBLIES SHALL BE PROVIDED BY APPROVED  UNVENTED CANISTER VENDOR. REFERENCE ITB EMAIL FOR MORE INFORMATION.  PAINT PROPOSED MODIFICATIONS TO MATCH TOWER SHAFT.  CONTRACTOR TO PLUMB TOWER PER SECTION 13.3.3 OF ANSI/TIA-222-H.  CROWN CASTLE WILL CONTRACT WITH A THIRD PARTY VENDOR TO PERFORM THE MODIFICATION INSPECTION.  THE CONTRACTOR SHALL COORDINATE THE INSPECTION WITH THE MODIFICATION INSPECTION.					

#### NOTES:

- 1. PRIOR TO FABRICATION AND INSTALLATION, CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES GIVEN. LENGTH AND QUANTITIES PROVIDED ARE FOR QUOTING PURPOSES ONLY, AND SHALL NOT BE USED FOR FABRICATION.
- 2. FOR PARTS NOT DETAILED WITHIN THE DRAWING AND STARTING WITH "CCI-", SEE THE FOLLOWING CATALOG FOR DETAILS: CON-CAT-10300, MONOPOLE STANDARD DRAWINGS AND APPROVED REINFORCEMENT COMPONENTS.

PLANS PREPARED FOR:

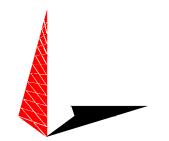
**CROWN CASTLE** 

PROJECT INFORMATION:

SEATTLE - SEA155 BU #: 880416

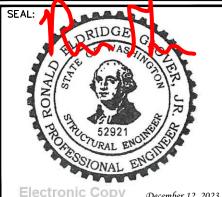
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PLANS PREPARED BY:



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Энестон 12, 2023

O 12-12-23 MODIFICATION DRAWINGS
REV DATE ISSUED FOR:

DRAWN BY: RTP CHECKED BY: CD

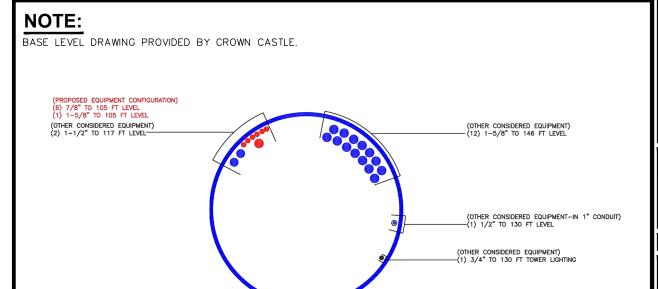
SHEET TITLE:

TOWER ELEVATION AND MODIFICATION SCHEDULE

SHEET NUMBER:

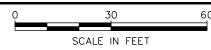
REVISION:

S-1 TEP#: 151934.90426



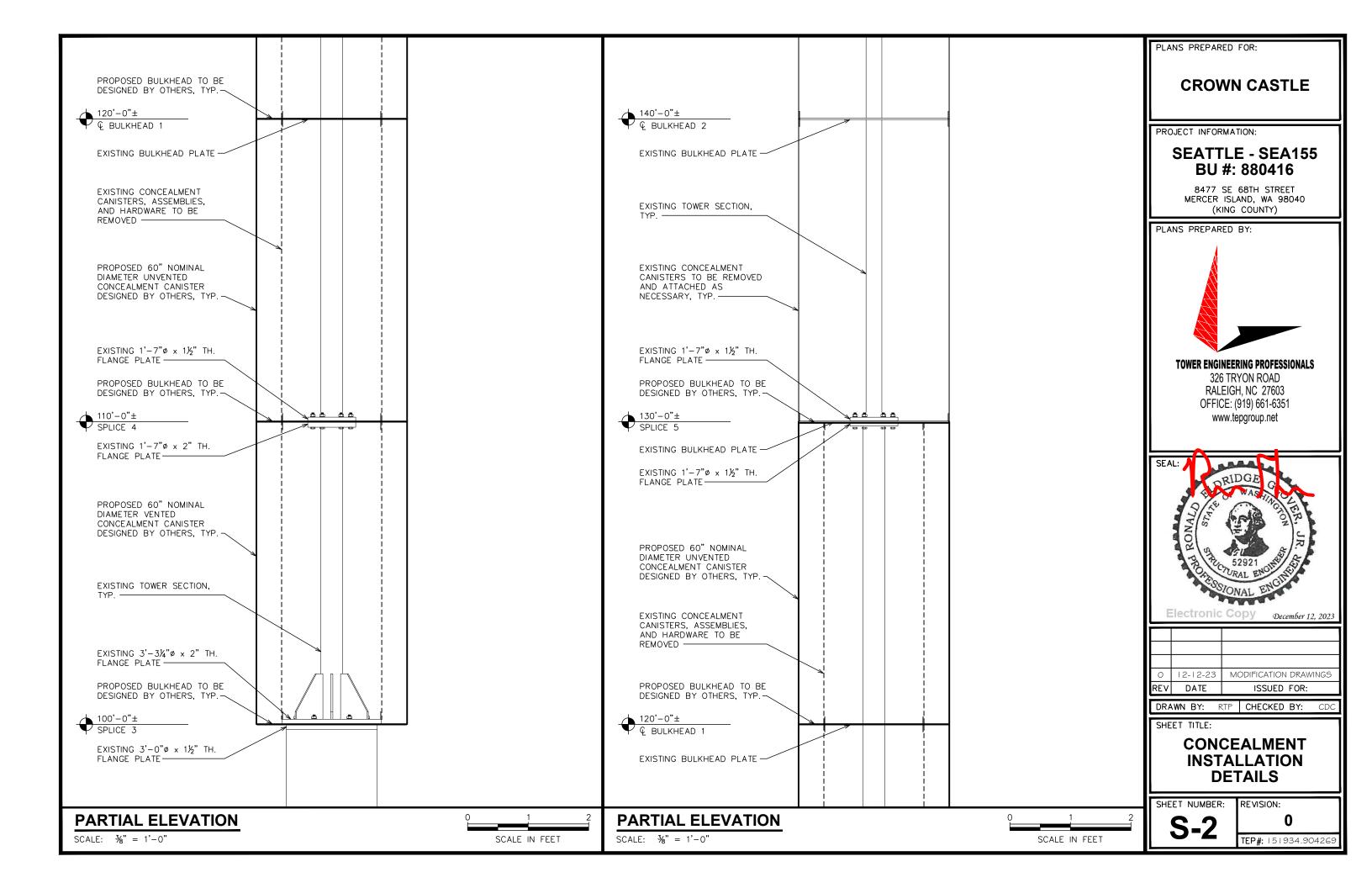
**TOWER ELEVATION** 

SCALE: 1" = 30'-0"

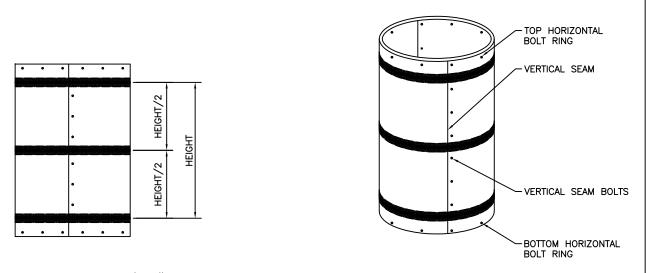


BASE LEVEL DRAWING

SCALE: N.T.S.

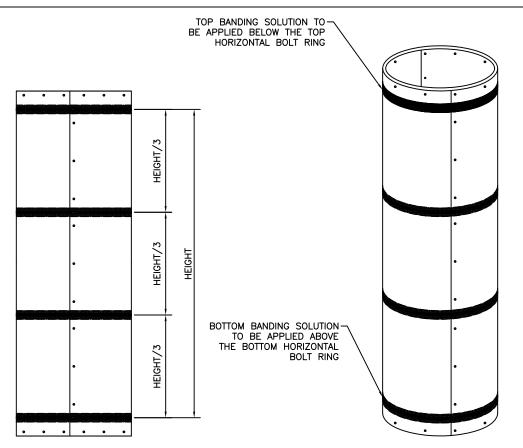


#### CONCEALMENT REINFORCEMENT SOLUTION - PARTS LIST MANUFACTURER DESCRIPTION SIZE PRODUCT NO. (1) USA STRAPPING WOVEN POLYESTER STRAPPING 3/4"x250 FT. COIL 2700-34 3/4" SIZE (2) MCNETT GEAR AID DUAL-ADJUST BUCKLE 80355 (3) 3M SCOTCH BI-DIRECTIONAL FILAMENT TAPE 2.95"x54.7 YD. ROLI 8959 (4) RUST-OLEUM GLOSS CLEAR SPRAY 249117 12 OZ.



≤ 10'-0" CONCEALMENT COVER LEVEL HEIGHT

NOT TO SCALE



> 10'-0" CONCEALMENT COVER LEVEL HEIGHT

NOT TO SCALE

#### GENERAL:

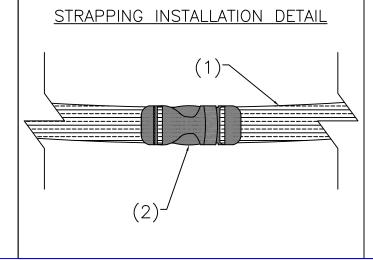
- 1.) THE REINFORCEMENT SOLUTION IS ONLY TO BE APPLIED TO VERTICALLY-FASTENED MULTI-PANEL OR "SECTORIZED" CONCEALMENT COVERS. SOLID ONE-PIECE CONCEALMENT COVERS ARE NOT TO BE TREATED WITH THIS SOLUTION. CONCEALMENT COVERS THAT HAVE UNDERGONE CROWN-SPECIFIED WIND TESTING AND HAVE BEEN APPROVED BY CROWN ARE NOT REQUIRED TO BE TREATED WITH THE BANDING SOLUTION. SEE CON-PRC-10127 FOR A LIST OF APPROVED CONCEALMENT COVERS.
- 2.) FOR CONCEALMENT COVER LEVELS MEASURING 10 FT. IN HEIGHT OR LESS, (3) EQUALLY-SPACED BANDING APPLICATIONS ARE TO BE INSTALLED AT THE TOP, MID-SPAN, AND BOTTOM REGIONS. FOR LEVELS GREATER THAN 10 FT. IN HEIGHT, (4) EQUALLY-SPACED BANDING APPLICATIONS ARE TO BE INSTALLED, AT THE TOP, UPPER MIDDLE, LOWER MIDDLE, AND BOTTOM REGIONS.
- 3.) FOR CONCEALMENT COVERS OF ALL HEIGHTS, THE TOP BANDING APPLICATION IS TO BE POSITIONED DIRECTLY BELOW THE TOP CONCEALMENT COVER HORIZONTAL BOLT RING AND THE BOTTOM BANDING APPLICATION DIRECTLY ABOVE THE BOTTOM HORIZONTAL BOLT RING.
- 4.) BANDING APPLICATION SHALL NOT COVER ANY VERTICAL OR HORIZONTAL FASTENERS.

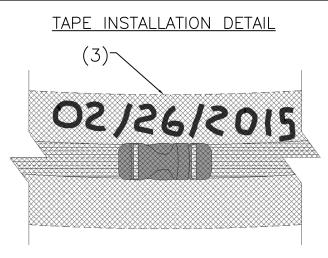
#### INSTALLATION:

- 1.) STRAPPING IS TO BE LOOPED AROUND THE CONCEALMENT COVER AND EACH CUT END OF THE STRAPPING FED AROUND A CROSS BAR ON EACH END OF THE DUAL-ADJUST BUCKLE.
- 2.) STRAPPING IS TO BE HAND-TIGHTENED USING THE BUCKLE SUCH THAT THE STRAPPING LIES FLAT, UNTWISTED, AND SQUARE TO THE CONCEALMENT COVER.
- 3.) AT LEAST (2) CONTINUOUS LAYERS OF 3M 8959 TAPE ARE TO BE APPLIED ON TOP OF THE TIGHTENED STRAPPING SUCH THAT NO TAIL OF THE STRAPPING IS SHOWING OUTSIDE THE LAYERS OF TAPE.
- 4.) THE CURRENT DATE IS TO BE MARKED WITH PERMANENT INK ON THE TOP LAYER OF TAPE TO RECORD INSTALLATION DATE.
- 5.) ENSURE THAT THE SURFACE OF THE CANISTER IS FREE FROM OIL, GREASE, SOIL, DIRT, AND OTHER FOREIGN MATTER. THE SURFACE SHALL BE CLEAN, DRY AND SMOOTH TO RECEIVE THE STRAPPING AND THE TAPE.
- 6.) 3M 8959 TAPE SHALL BE TACKED DOWN BY APPLYING (2) COATS OF NON-YELLOWING CLEAR COAT SPRAY OVER THE TAIL END OF THE TAPE AFTER IT IS SECURELY TAPED DOWN. SECOND COAT SHALL BE APPLIED ONCE THE FIRST COAT IS DRY TO TOUCH.

PAINTING 3M 8959 TAPE [IF REQUIRED]:

- 1.) AFTER FULL INSTALLATION OF THE THE REINFORCEMENT SOLUTION, THE TAPE SHALL BE COATED TO MATCH THE COLOR OF THE EXISTING CONCEALMENT CANISTER
- 1.1) AS AN EXAMPLE, IF THE EXISTING CONCEALMENT CANISTER IS WHITE, PAINTING WOULD NOT BE REQUIRED SINCE THE TAPE COLOR IS ALSO WHITE. HOWEVER, IF THE CANISTER IS BLACK, PAINT THE TAPE TO MATCH THE CANISTER COLOR.
- 2.) PAINT SHALL BE APPLIED WITH A BRUSH FOR A CLEAN EDGE ON THE TAPE. SPRAY PAINT IS PERMISSIBLE PROVIDED THAT PAINTER'S TAPE IS UTILIZED TO AVOID PAINTING THE CANISTER. SECOND COAT SHALL BE APPLIED AFTER THE FIRST COAT IS DRY. THE SHEEN OF THE PAINT SHALL MATCH THE CANISTER
- 3.) THE INSTALLATION DATE SHALL BE MARKED ON TOP OF THE COATED SURFACE.





2000 CORPORATE DRIVE CANONSBURG PA, 15317

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	DESCRIPTION	CONCEALMENT SOLUTION	CONCEALMENT SOLUTION	CONCEALMENT SOLUTION	06/29/20 ADDED SUBSTITUTE FOR HURRICANE TAPE		REMOVED HURRICANE TAPE AND EDITED NOTE 1		
REVISIONS	NO. DATE	02/08/15	02/04/16	71/60/10	06/29/20	06/29/20	07/31/23		
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DRAWN BY: AOS
CHECKED BY:
DRAWING DATE: 07/31/23

SHEET TITLE

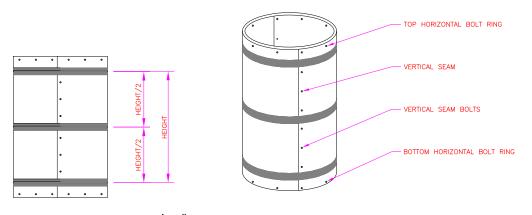
TYPE

SHEET NUMBER

CON-PRC-10127

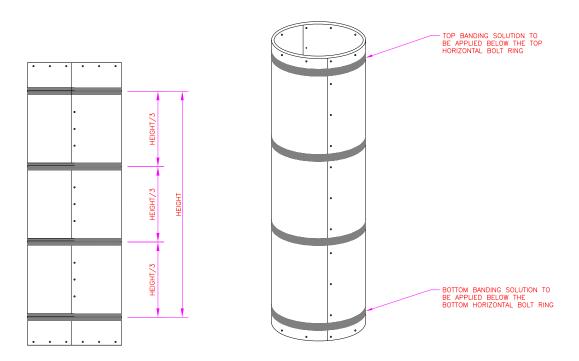
CROWN CASTLE CONCEALMENT REINFORCEMENT SOLUTION

PARTS LIST (MATERIAL PRICING GUIDE VENDOR PART #: CC-TWOTAPE-KIT)							
NO.	MANUFACTURER	DESCRIPTION	SIZE	PRODUCT NO.			
(1)	3M SCOTCH	BL DIRECTIONAL FILAMENT TAPE	"2.95"x57.7 YD. ROLL	8959			
(2)	GORILLA GLUE COMPANY	WHITE GORILLA TAPE	(2) 1.88" x 30 YD. ROLLS	6025001			



\( \leq \) 10'-0" CONCEALMENT COVER LEVEL HEIGHT

 \( \text{NOT TO SCALE} \)



> 10'-0" CONCEALMENT COVER LEVEL HEIGHT

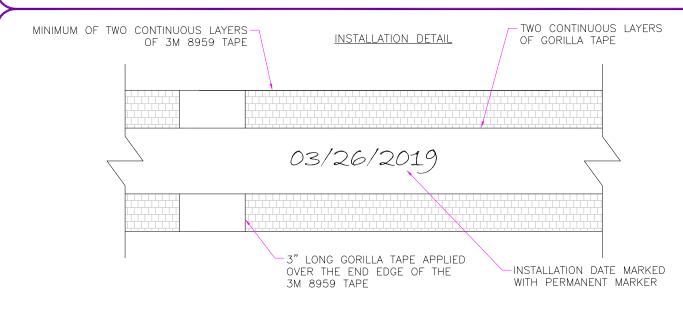
NOT TO SCALE

#### NOTE

- 1.) THE REINFORCEMENT SOLUTION IS ONLY TO BE APPLIED TO VERTICALLY—FASTENED MULTI—PANEL OR "SECTORIZED" CONCEALMENT COVERS. SOLID ONE—PIECE CONCEALMENT COVERS ARE NOT TO BE TREATED WITH THIS SOLUTION. CONCEALMENT COVERS THAT HAVE UNDERGONE CROWN—SPECIFIED WIND TESTING AND HAVE BEEN APPROVED BY CROWN ARE NOT REQUIRED TO BE TREATED WITH THE BANDING SOLUTION. SEE CON—PRC—10127 FOR A LIST OF APPROVED CONCEALMENT COVERS.
- 2.) FOR CONCEALMENT COVER LEVELS MEASURING 10 FT. IN HEIGHT OR LESS, (3) EQUALLY—SPACED BANDING APPLICATIONS ARE TO BE INSTALLED AT THE TOP, MID—SPAN, AND BOTTOM REGIONS. FOR LEVELS GREATER THAN 10 FT. IN HEIGHT, (4) EQUALLY—SPACED BANDING APPLICATIONS ARE TO BE INSTALLED, AT THE TOP, UPPER MIDDLE, LOWER MIDDLE, AND BOTTOM REGIONS.
- 3.) FOR CONCEALMENT COVERS OF ALL HEIGHTS, THE TOP BANDING APPLICATION IS TO BE POSITIONED DIRECTLY BELOW THE TOP CONCEALMENT COVER HORIZONTAL BOLT RING AND THE BOTTOM BANDING APPLICATION DIRECTLY ABOVE THE BOTTOM HORIZONTAL BOLT RING.
- 4.) BANDING APPLICATION SHALL NOT COVER ANY VERTICAL OR HORIZONTAL FASTENERS.

#### INSTALLATION:

- 1.) ENSURE THAT THE SURFACE OF THE CANISTER IS FREE FROM OIL, GREASE, SOIL, DIRT, AND OTHER FOREIGN MATTER. THE SURFACE SHALL BE CLEAN, DRY AND SMOOTH TO RECEIVE THE TAPES.
- 2.) AT LEAST (2) CONTINUOUS LAYERS OF 3M 8959 TAPE ARE TO BE APPLIED FIRST ON TOP OF THE CONCEALMENT CANISTER.
- 3.) APPLY A 3" LONG GORILLA TAPE VERTICALLY TO TAPE DOWN THE END EDGE OF THE 3M 8959 TAPE PRIOR TO STEP 4.
- 4.) APPLY AT LEAST (2) CONTINUOUS LAYERS OF GORILLA TAPE OVER THE 3M 8959 TAPE.
- 5.) THE CURRENT DATE IS TO BE MARKED WITH PERMANENT MARKER ON THE TOP LAYER OF TAPE TO RECORD THE INSTALLATION DATE. PAINTING TAPES [IF REQUIRED]:
- 1.) AFTER FULL INSTALLATION OF THE THE REINFORCEMENT SOLUTION, THE TAPES SHALL BE COATED TO MATCH THE COLOR OF THE EXISTING CONCEALMENT CANISTER.
  - 1.1) AS AN EXAMPLE, IF THE EXISTING CONCEALMENT CANISTER IS WHITE, PAINTING WOULD NOT BE REQUIRED SINCE THE TAPES ARE ALSO WHITE. HOWEVER, IF THE CANISTER IS BLACK, PAINT THE TAPES TO MATCH THE CANISTER COLOR.
- 2.) PAINT SHALL BE APPLIED WITH A BRUSH FOR A CLEAN EDGE. SPRAY PAINT IS PERMISSIBLE PROVIDED THAT PAINTER'S TAPE IS UTILIZED TO AVOID PAINTING THE CANISTER. SECOND COAT SHALL BE APPLIED AFTER THE FIRST COAT IS DRY. THE SHEEN OF THE PAINT SHALL MATCH THE CANISTER.
- 3.) THE INSTALLATION DATE SHALL BE MARKED ON TOP OF THE COATED SURFACE.



**DRAWN BY: AOS** 

**CHECKED BY:** 

**DRAWING DATE: 07/31/2023** 

