



VERIZON SITE NUMBER: 300189 **BUSINESS UNIT #:** 877196
VERIZON SITE NAME: MURPHY AVENUE - BATTAGLIA RANCH A - C **SITE ADDRESS:** 13145 MURPHY AVE
SITE TYPE: MONOPOLE **COUNTY:** SANTA CLARA **JURISDICTION:** COUNTY OF SANTA CLARA
TOWER HEIGHT: 35'-0" MODIFIED TO 50'-0" **VERIZON FUZE PROJECT#:** 16119501

verizon
 3245 158TH AVENUE MS 231
 BELLEVUE, WA 98008

CROWN CASTLE
 4301 HACIENDA DRIVE, SUITE 410
 PLEASANTON, CA 94588

TOWER ENGINEERING PROFESSIONALS
 4710 E ELWOOD ST, STE 9
 PHOENIX, AZ 85040
 OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189
BU #: 877196
101 AUTO REPAIR
 13145 MURPHY AVE
 SAN MARTIN, CA 95046
 EXISTING 35'-0" MODIFIED
 TO 50'-0" MONOPOLE

SITE INFORMATION	
CROWN CASTLE USA INC. SITE NAME:	101 AUTO REPAIR
SITE ADDRESS:	13145 MURPHY AVE SAN MARTIN, CA 95046
COUNTY:	SANTA CLARA
MAP/PARCEL #:	82537039
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	37° 5' 6.61"
LONGITUDE:	-121° 36' 4.79"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	285 FT
CURRENT ZONING:	RR-5A
JURISDICTION:	COUNTY OF SANTA CLARA
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	II-C
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	SUMNER LEASING LLC 13145 MURPHY AVE SAN MARTIN, CA 95046
TOWER OWNER:	CROWN CASTLE 14301 HACIENDA DR SUITE 104 PLEASANTON, CA 94588
CARRIER/APPLICANT:	VERIZON WIRELESS 3245 158TH AVENUE MS 231 BELLEVUE, WA 98008
ELECTRIC PROVIDER:	PACIFIC GAS & ELECTRIC (800) 743-5000
TELCO PROVIDER:	TBD

DRAWING INDEX	
SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	PARCEL PLAN
C-1.2	EXISTING COMPOUND PLAN
C-1.3	PROPOSED COMPOUND PLAN
C-2	TOWER ELEVATION
C-3	ANTENNA PLANS
C-4	EQUIPMENT SCHEDULES
C-5.1-C-5.6	EQUIPMENT DETAILS
E-1	ELECTRICAL DETAILS
E-2	ELECTRICAL DETAILS
G-1	GROUNDING DETAILS
G-2	GROUNDING DETAILS

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

LOCATION MAP

DRIVING DIRECTIONS FROM VERIZON LOCAL OFFICE (VERIZON, 6965 CAMINO ARROYO, GILROY, CA 95020)
 HEAD SOUTH TOWARD CAMINO ARROYO. TURN RIGHT. TURN LEFT TOWARD CAMINO ARROYO. TURN LEFT TOWARD CAMINO ARROYO. TURN LEFT ONTO CAMINO ARROYO. USE THE 3RD FROM THE LEFT LANE TO TURN LEFT AT THE 1ST CROSS STREET ONTO CA-152 W. TURN RIGHT TO MERGE WITH US-101 N. FOLLOW US-101 N TO E SAN MARTIN AVE IN SAN MARTIN. TAKE EXIT 362 FROM US-101 N. MERGE WITH US-101 N. TAKE EXIT 362 FOR SAN MARTIN AVE. CONTINUE ON E SAN MARTIN AVE. DRIVE TO MURPHY AVE. TURN LEFT ONTO E SAN MARTIN AVE. TURN LEFT ONTO MURPHY AVE. DESTINATION WILL BE ON THE RIGHT.

APPROVALS	
SIGNATURE	DATE
_____	_____
_____	_____
_____	_____
_____	_____

CONTRACTOR PMI REQUIREMENTS	
PMI ACCESSED AT	https://pmi.vxwsmart.com
SMART TOOL VENDOR	
PROJECT NUMBER	16119501
VzW LOCATION CODE (PSLC)	300189
*** PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT ANALYSIS REPORT	

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

APPLICABLE CODES/REFERENCE DOCUMENTS

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

CODE TYPE	CODE
BUILDING	2019 CBC/2018 IBC
MECHANICAL	2019 CMC/2018 IMC
ELECTRICAL	2019 CEC/2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS: BLACK & VEATCH CORP.
 DATED: 08/23/2021

MOUNT ANALYSIS: BY OTHERS
 DATED:

RFDS REVISION: 1
 DATED: 05/13/2021

ORDER ID: 582266
 REVISION: 1

CALL CALIFORNIA ONE CALL (800) 227-2600
 CALL 3 WORKING DAYS BEFORE YOU DIG!

PROJECT DESCRIPTION

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

TOWER SCOPE OF WORK:

- INSTALL (9) ANTENNAS
- INSTALL (6) RADIOS
- INSTALL (1) OVP BOX
- INSTALL (3) DUAL ANTENNA BRACKETS
- INSTALL (1) COMPACT MOUNT
- INSTALL (1) MOUNT ADAPTER
- INSTALL 15' TOWER EXTENSION

GROUND SCOPE OF WORK:

- INSTALL (1) VERIZON 10'-0" X 7'-0" CONCRETE PAD
- INSTALL (1) VERIZON 11'-0" X 7'-0" CONCRETE PAD
- INSTALL (1) VERIZON RF CABINET
- INSTALL (1) VERIZON BATTERY CABINET
- INSTALL (1) VERIZON GPS ANTENNA
- INSTALL (2) VERIZON SERVICE LIGHTS
- INSTALL (1) VERIZON H-FRAME
- INSTALL (1) VERIZON FIBER DISTRIBUTION BOX
- INSTALL (1) VERIZON H-FRAME MOUNTED ATS
- INSTALL (1) VERIZON H-FRAME MOUNTED PPC
- INSTALL (3) VERIZON 1-5/8" HYBRID LINE (SHARED)
- INSTALL (1) VERIZON DUS41 UNIT WITHIN RF CABINET
- INSTALL (1) VERIZON 2" CONDUIT FOR POWER
- INSTALL (2) VERIZON 4" CONDUIT FOR HYBRID
- INSTALL (1) VERIZON 30KW GENERATOR
- REMOVE EXISTING CURB

PROJECT TEAM

A&E FIRM: TOWER ENGINEERING PROFESSIONALS
 4710 E ELWOOD ST, STE 9
 PHOENIX, AZ 85040
 OFFICE: (480) 285-0036

CROWN CASTLE USA INC. DISTRICT CONTACTS:

---- - PROJECT MANAGER

 ---- - CONSTRUCTION MANAGER

SABRINA LANCASTER
 SABRINA.LANCASTER@CROWN CASTLE.COM

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ
2	08/31/22	ORG	CONSTRUCTION	JFJ
3	11/17/22	KRS	CONSTRUCTION	JFJ

11/17/22

Dan A. Reidenbach, P.E.
 Professional Engineer License: #92372

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

SHEET NUMBER: T-1 **REVISION:** 3

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

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

GREENFIELD GROUNDING NOTES:

- ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
- THE CONTRACTOR SHALL PERFORM IEEE FALL-OFF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
- THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
- METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
- EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
- APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 FT. OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
- GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
- ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
- BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 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:

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

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

ELECTRICAL INSTALLATION NOTES:

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

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

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

APWA UNIFORM COLOR CODE:

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

ABBREVIATIONS:

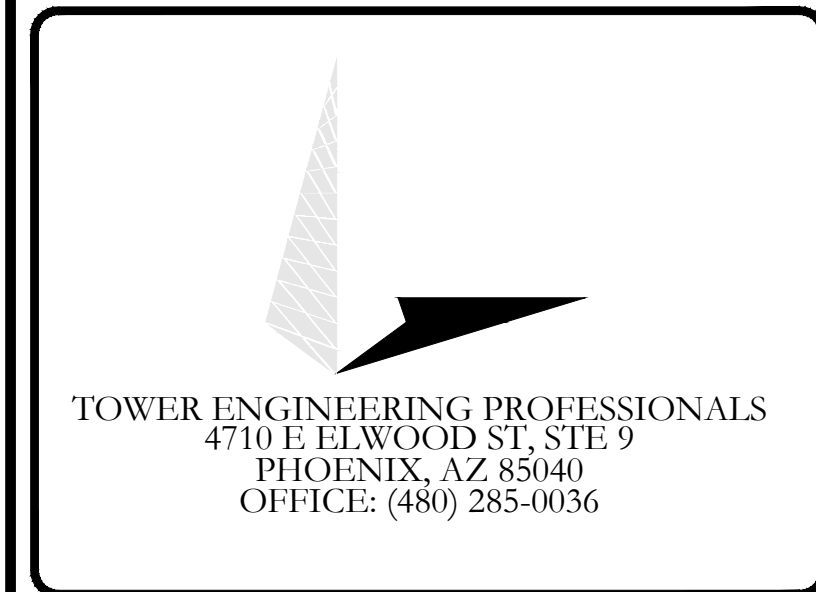
- ANT ANTENNA
- (E) EXISTING
- FIF FACILITY INTERFACE FRAME
- GEN GENERATOR
- GPS GLOBAL POSITIONING SYSTEM
- GSM GLOBAL SYSTEM FOR MOBILE
- LTE LONG TERM EVOLUTION
- MGB MASTER GROUND BAR
- MW MICROWAVE
- (N) NEW
- NEC NATIONAL ELECTRIC CODE
- (P) PROPOSED
- PP POWER PLAN
- QTY QUANTITY
- RECT RECTIFIER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



3245 158TH AVENUE MS 231
BELLEVUE, WA 98008



4301 HACIENDA DRIVE, SUITE 410
PLEASANTON, CA 94588



TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

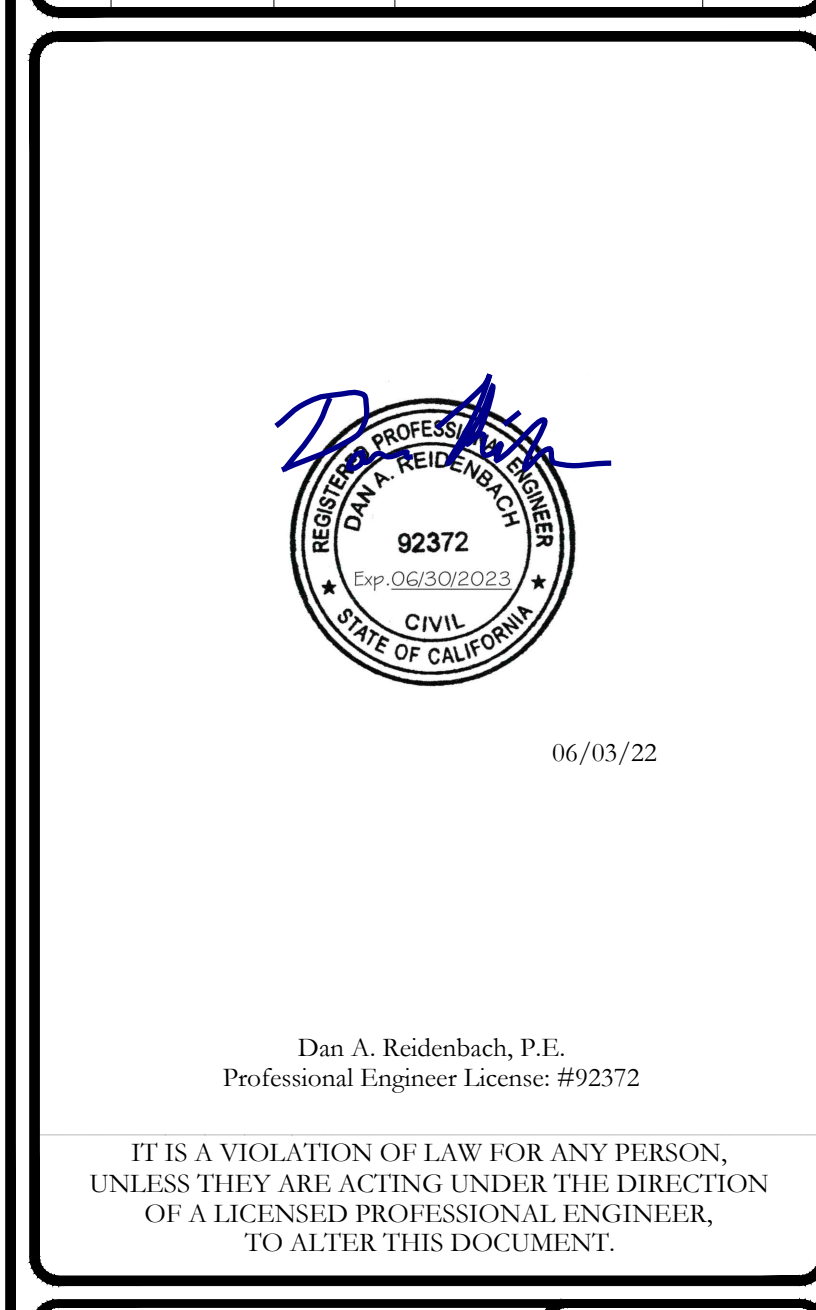
BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/09/21	KBA	PRELIMINARY	GVM
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ



Dan A. Reidenbach, P.E.
Professional Engineer License: #92372

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

SHEET NUMBER:
T-2

REVISION:
1

SITE PLAN DISCLAIMER:
 PROPERTY LINES AND STRUCTURES HAVE BEEN DIGITIZED FROM PREVIOUS PLAN SETS OR FROM ASSESSORS MAPS. 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

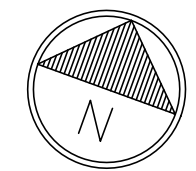


20' NON EXCLUSIVE ACCESS & UTILITY EASEMENT DESCRIPTION (AS SURVEYED)
 A 20.00 FOOT WIDE EASEMENT FOR INGRESS, EGRESS, PARKING, TURNAROUND PURPOSES & UTILITIES, OVER A PORTION OF LOT 64, AS SHOWN UPON THE MAP ENTITLED, "SAN MARTIN RANCH MAP NO. 2", FILED FOR RECORD IN THE OFFICE OF THE COUNTY RECORDER OF SANTA CLARA COUNTY, STATE OF CALIFORNIA, ON JANUARY 27, 1893 IN BOOK G OF MAPS AT PAGE 39, LYING 10.00 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:
 COMMENCING AT THE SOUTHEASTERLY MOST CORNER OF SAID LOT 64, THENCE ON AND ALONG THE SOUTHERLY LINE OF SAID LOT 64, S 66° 51' 48" W, A DISTANCE OF 59.67 FEET; THENCE LEAVING SAID SOUTHERLY LINE, N 23° 08' 12" W, A DISTANCE OF 10.00 FEET TO THE POINT OF BEGINNING.
 COURSE 1) THENCE N 66°51'48" E, A DISTANCE OF 59.67 FEET TO THE WESTERLY RIGHT OF WAY LINE OF MURPHY AVENUE, A PUBLIC STREET, AND THE TERMINUS OF THIS DESCRIPTION.
 CONTAINING 1,193 SQUARE FEET (0.0274 ACRES), MORE OR LESS.

EXISTING LEASE NO.1 DESCRIPTION:
 A PORTION OF LOT 64, AS SHOWN UPON THE MAP ENTITLED, "SAN MARTIN RANCH MAP NO. 2", FILED FOR RECORD IN THE OFFICE OF THE COUNTY RECORDER OF SANTA CLARA COUNTY, STATE OF CALIFORNIA, ON JANUARY 27, 1893 IN BOOK G OF MAPS AT PAGE 39, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWED:
 COMMENCING AT THE SOUTHEASTERLY MOST CORNER OF SAID LOT 64, THENCE ON AND ALONG THE SOUTHERLY LINE OF SAID LOT 64, S 66° 51' 48" W, A DISTANCE OF 59.67; THENCE CONTINUING S 66° 51' 48" W, A DISTANCE OF 31.50 FEET; THENCE N 23° 08' 12" W, A DISTANCE OF 12.00 FEET TO THE POINT OF BEGINNING:
 COURSE 1) THENCE CONTINUING N 23° 08' 12" W, A DISTANCE OF 7.00 FEET;
 COURSE 2) THENCE N 66° 51' 48" E, A DISTANCE OF 11.00 FEET;
 COURSE 3) THENCE S 23° 08' 12" E, A DISTANCE OF 7.00 FEET
 COURSE 4) THENCE S 66° 51' 48" W, A DISTANCE OF 11.00 FEET TO THE POINT OF BEGINNING.
 CONTAINING 77 SQUARE FEET (0.02 ACRES), MORE OR LESS.

EXISTING LEASE NO.2 DESCRIPTION:
 A PORTION OF LOT 64, AS SHOWN UPON THE MAP ENTITLED, "SAN MARTIN RANCH MAP NO. 2", FILED FOR RECORD IN THE OFFICE OF THE COUNTY RECORDER OF SANTA CLARA COUNTY, STATE OF CALIFORNIA, ON JANUARY 27, 1893 IN BOOK G OF MAPS AT PAGE 39, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWED:
 COMMENCING AT THE SOUTHEASTERLY MOST CORNER OF SAID LOT 64, THENCE ON AND ALONG THE SOUTHERLY LINE OF SAID LOT 64, S 66° 51' 48" W, A DISTANCE OF 59.67; THENCE CONTINUING S 66° 51' 48" W, A DISTANCE OF 20.50 FEET TO THE POINT OF BEGINNING:
 COURSE 1) THENCE CONTINUING S 66° 51' 48" W, A DISTANCE OF 11.00 FEET;
 COURSE 2) THENCE N 23° 08' 12" W, A DISTANCE OF 7.00 FEET;
 COURSE 3) THENCE N 66° 51' 48" E, A DISTANCE OF 11.00 FEET;
 COURSE 4) THENCE S 23° 08' 12" E, A DISTANCE OF 7.00 FEET TO THE POINT OF BEGINNING.
 CONTAINING 77 SQUARE FEET (0.02 ACRES), MORE OR LESS.

1 PARCEL PLAN
 SCALE: 1"=30'-0" (FULL SIZE)
 1"=60'-0" (11x17)



verizon
 3245 158TH AVENUE MS 231
 BELLEVUE, WA 98008

CROWN CASTLE
 4301 HACIENDA DRIVE, SUITE 410
 PLEASANTON, CA 94588

TOWER ENGINEERING PROFESSIONALS
 4710 E ELWOOD ST, STE 9
 PHOENIX, AZ 85040
 OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189
BU #: 877196
101 AUTO REPAIR
 13145 MURPHY AVE
 SAN MARTIN, CA 95046
 EXISTING 35'-0" MODIFIED
 TO 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/09/21	KBA	PRELIMINARY	GVM
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ

DAN A. REIDENBACH, P.E.
 92372
 Exp: 06/30/2023
 CIVIL
 STATE OF CALIFORNIA
 06/03/22
 Dan A. Reidenbach, P.E.
 Professional Engineer License: #92372
 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.

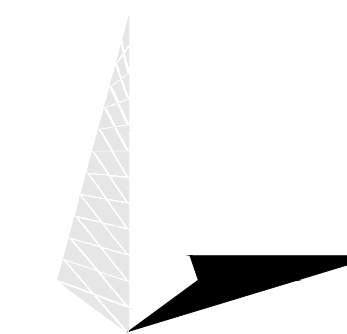
SHEET NUMBER:
C-1.1
REVISION:
1

verizon

3245 158TH AVENUE MS 231
BELLEVUE, WA 98008

CROWN CASTLE

4301 HACIENDA DRIVE, SUITE 410
PLEASANTON, CA 94588



TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/09/21	KBA	PRELIMINARY	GVM
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ
2	08/31/22	ORG	CONSTRUCTION	JFJ

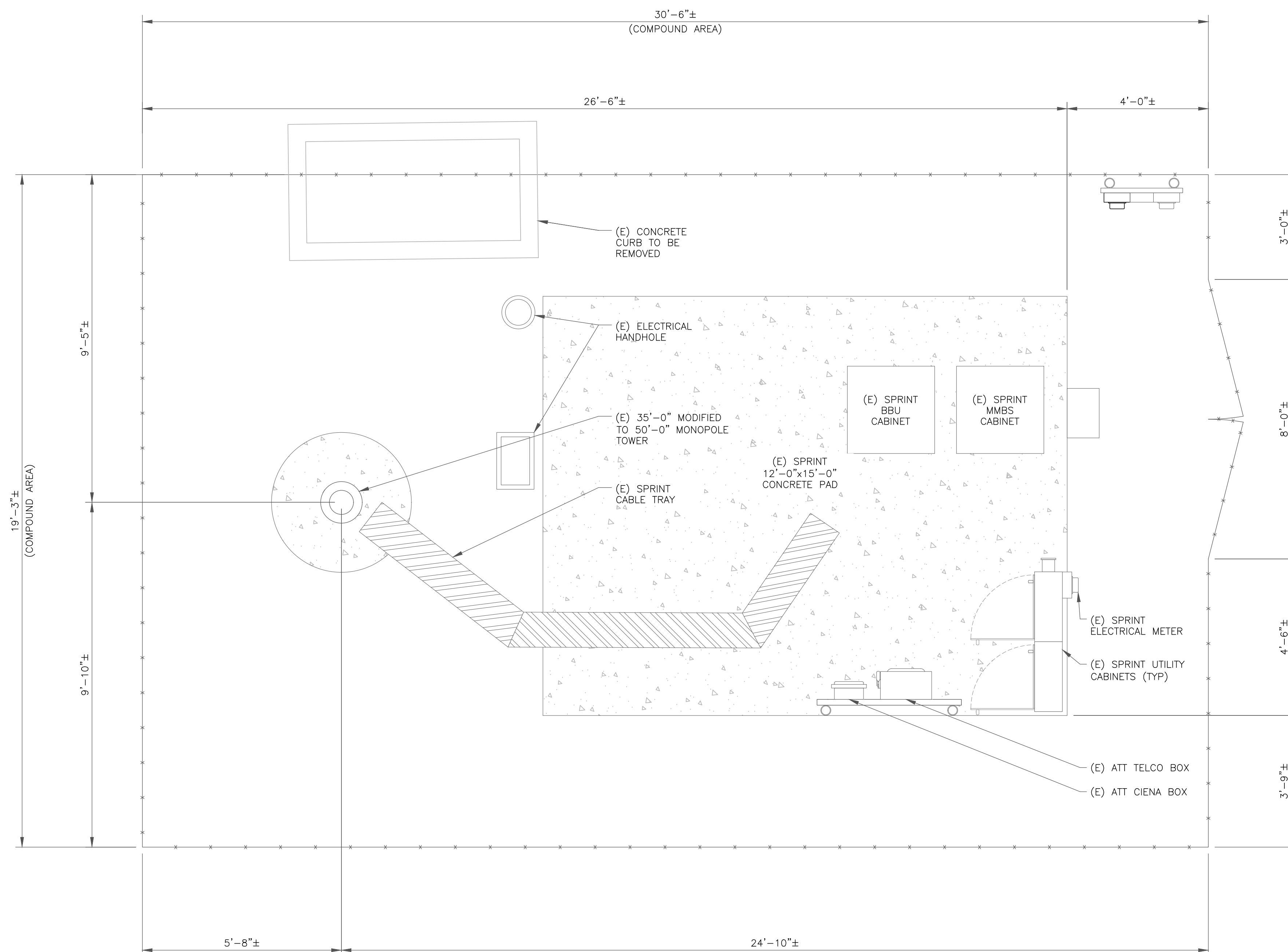


08/31/22

Dan A. Reidenbach, P.E.
Professional Engineer License: #92372

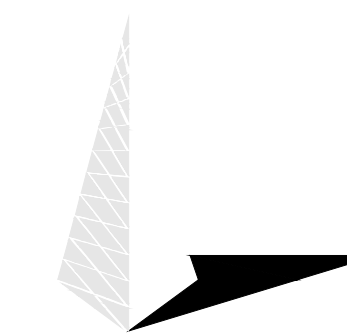
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

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



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





VERIZON SITE NUMBER:
300189

BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DWG./QA
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ
2	08/31/22	ORG	CONSTRUCTION	JFJ
3	11/17/22	KRS	CONSTRUCTION	JFJ

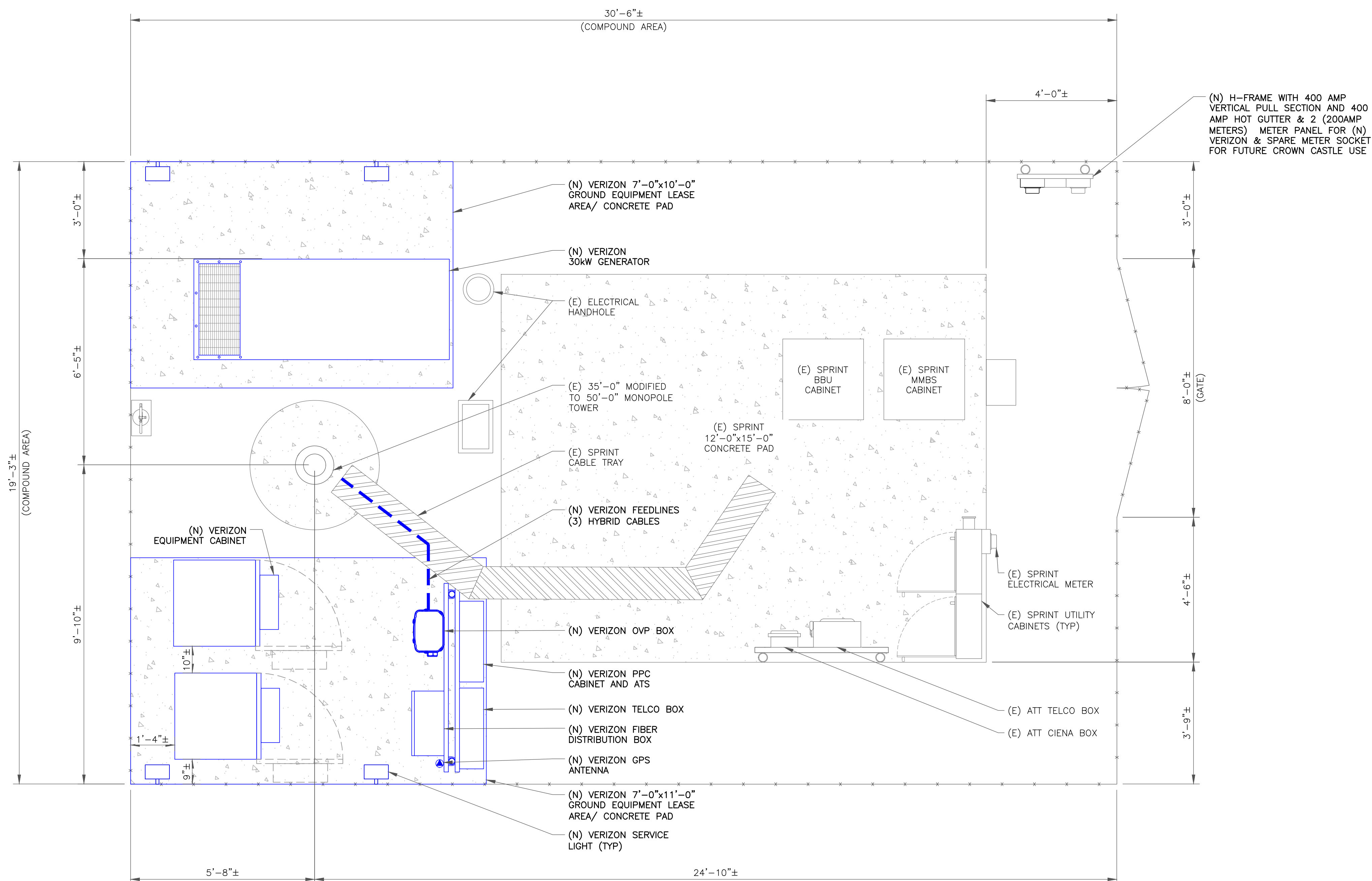


11/17/22

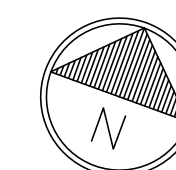
Dan A. Reidenbach, P.E.
Professional Engineer License: #92372

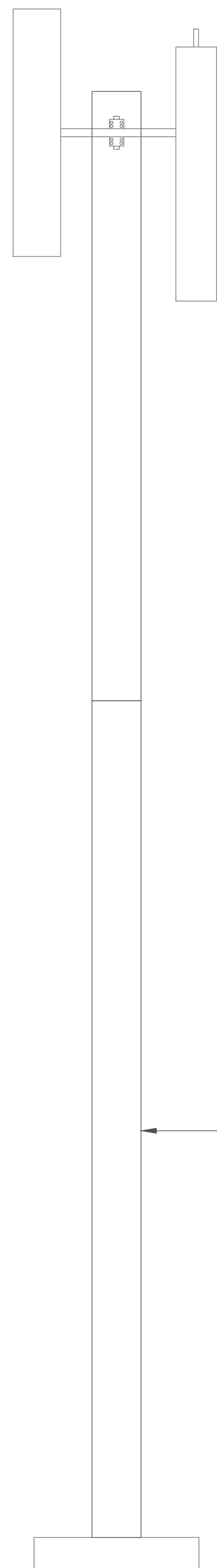
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER: **C-1.3** REVISION: **3**



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





1 EXISTING TOWER ELEVATION
 SCALE: 3/8"=1'-0" (FULL SIZE)
 3/16"=1'-0" (11x17)

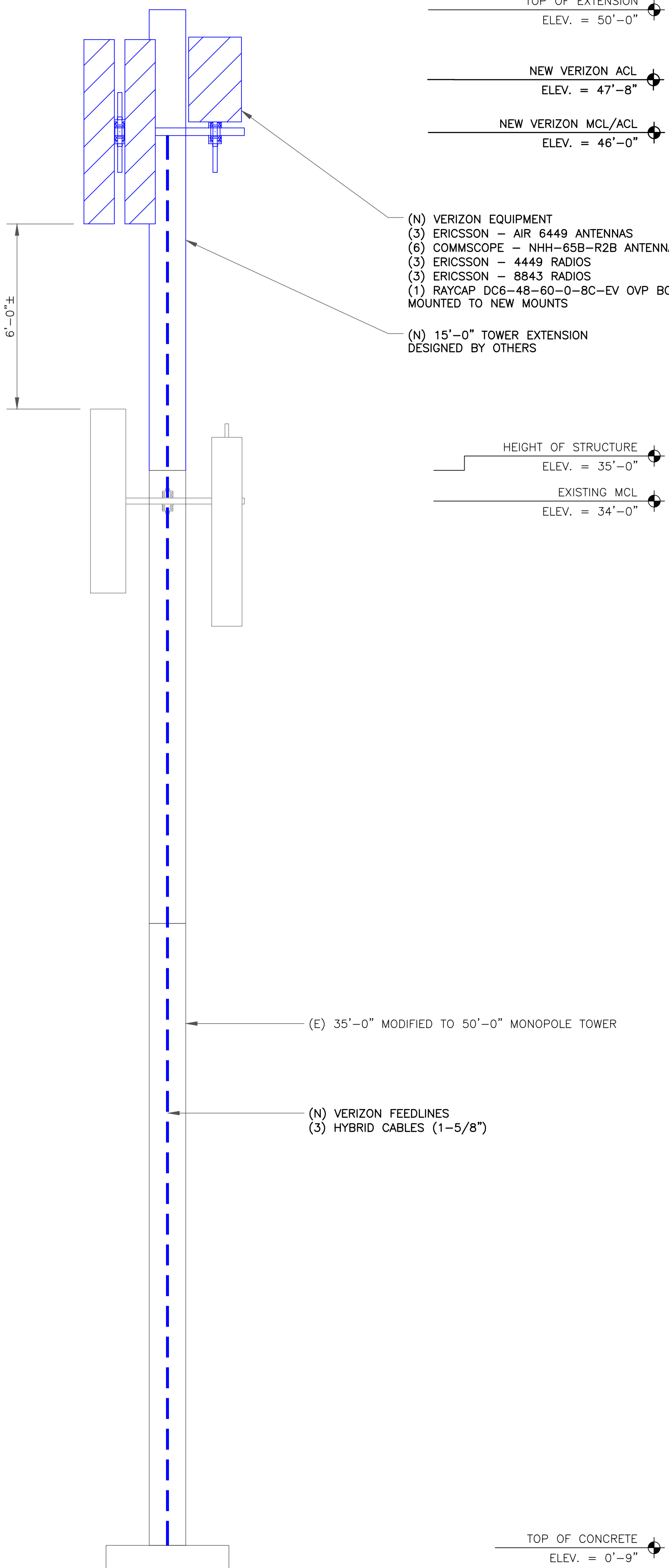
HEIGHT OF STRUCTURE
 ELEV. = 35'-0"
 EXISTING MCL
 ELEV. = 34'-0"

VERIZON EQUIPMENT
 ANTENNA CL: 46'-0",
 47'-8"
 MOUNT CL: 46'-0"

INSTALLER NOTES:
 1. EXISTING AND PROPOSED ANTENNA/EQUIPMENT POSITIONING SHOWN PER RFDS. FIELD CONDITIONS MAY VARY.
 2. CONTRACTOR TO PAINT PROPOSED ANTENNAS AND EQUIPMENT TO MATCH EXISTING WITH RF TRANSPARENT, UV RESISTANT PAINT.

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

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



2 NEW TOWER ELEVATION
 SCALE: 3/8"=1'-0" (FULL SIZE)
 3/16"=1'-0" (11x17)

TOP OF EXTENSION
 ELEV. = 50'-0"
 NEW VERIZON ACL
 ELEV. = 47'-8"
 NEW VERIZON MCL/ACL
 ELEV. = 46'-0"

HEIGHT OF STRUCTURE
 ELEV. = 35'-0"
 EXISTING MCL
 ELEV. = 34'-0"

- (N) VERIZON EQUIPMENT
- (3) ERICSSON - AIR 6449 ANTENNAS
- (6) COMMScope - NHH-65B-R2B ANTENNAS
- (3) ERICSSON - 4449 RADIOS
- (3) ERICSSON - 8843 RADIOS
- (1) RAYCAP DC6-48-60-0-8C-EV OVP BOX MOUNTED TO NEW MOUNTS
- (N) 15'-0" TOWER EXTENSION DESIGNED BY OTHERS

(E) 35'-0" MODIFIED TO 50'-0" MONOPOLE TOWER
 (N) VERIZON FEEDLINES
 (3) HYBRID CABLES (1-5/8")

TOP OF CONCRETE
 ELEV. = 0'-9"

verizon
 3245 158TH AVENUE MS 231
 BELLEVUE, WA 98008

CROWN CASTLE
 4301 HACIENDA DRIVE, SUITE 410
 PLEASANTON, CA 94588

TOWER ENGINEERING PROFESSIONALS
 4710 E ELWOOD ST, STE 9
 PHOENIX, AZ 85040
 OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
 SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
 TO 50'-0" MONOPOLE

ISSUED FOR:

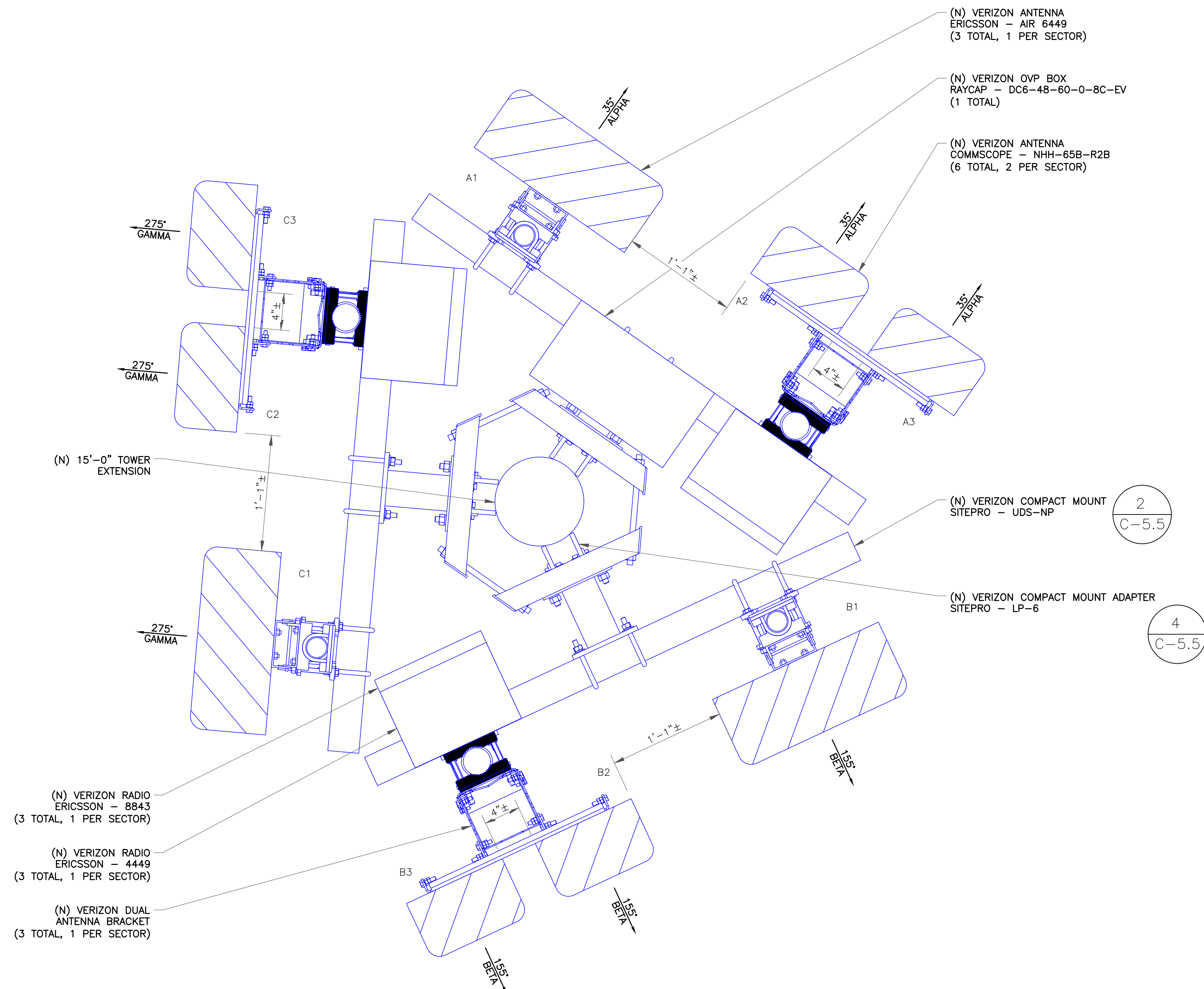
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/09/21	KBA	PRELIMINARY	GVM
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ
2	08/31/22	ORG	CONSTRUCTION	JFJ

08/31/22

Dan A. Reidenbach, P.E.
 Professional Engineer License: #92372

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: **C-2** REVISION: **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.

- NOTES:
1. REFERENCE C-4 FOR FINAL EQUIPMENT SCHEDULE.
 2. REFERENCE C-5.1 THRU C-5.5 FOR NEW EQUIPMENT SPECIFICATIONS.
 3. CONTRACTOR TO VERIFY ALL ANTENNA TIP HEIGHTS DO NOT EXCEED BEACON BASE HEIGHT.
 4. TOWER DOES NOT HAVE CLIMBING FACILITIES. MANLIFT REQUIRED FOR ELEVATED WORK.
 5. NEW EQUIPMENT TO BE PAINTED WITH RF TRANSPARENT, UV RESISTANT, OUTDOOR RATED PAINT TO MATCH EXISTING.

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

3245 158TH AVENUE MS 231
BELLEVUE, WA 98008

4301 HACIENDA DRIVE, SUITE 410
PLEASANTON, CA 94588

TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

ISSUED FOR:

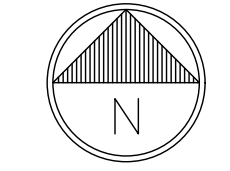
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/09/21	KBA	PRELIMINARY	GVM
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ
2	08/31/22	ORG	CONSTRUCTION	JFJ

08/31/22

Dan A. Reidenbach, P.E.
Professional Engineer License: #92372

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.

1 NEW ANTENNA PLAN
SCALE: 0 6 1' 1-1/2"=1'-0" (FULL SIZE) 3/4"=1'-0" (11x17)



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

ANTENNA/RRH SCHEDULE									
SECTOR	STATUS	ANTENNA MANUFACTURER	ANTENNA MODEL	ANTENNA CENTERLINE	AZIMUTH	MECHANICAL DOWNTILTS	ELECTRICAL DOWNTILTS	TOWER EQUIPMENT MANUFACTURER	TOWER EQUIPMENT QTY/MODEL
A1	NEW	ERICSSON	AIR 6449	47'-8"	35°	*	*	RAYCAP	(1) DC6-48-60-0-8C-EV
A2	NEW	COMMSCOPE	NHH-65B-R2B	46'-0"	35°	*	*	ERICSSON	(1) RADIO 4449
A3	NEW	COMMSCOPE	NHH-65B-R2B	46'-0"	35°	*	*	ERICSSON	(1) RADIO 8843
B1	NEW	ERICSSON	AIR 6449	47'-8"	155°	*	*	-	-
B2	NEW	COMMSCOPE	NHH-65B-R2B	46'-0"	155°	*	*	ERICSSON	(1) RADIO 4449
B3	NEW	COMMSCOPE	NHH-65B-R2B	46'-0"	155°	*	*	ERICSSON	(1) RADIO 8843
C1	NEW	ERICSSON	AIR 6449	47'-8"	275°	*	*	-	-
C2	NEW	COMMSCOPE	NHH-65B-R2B	46'-0"	275°	*	*	ERICSSON	(1) RADIO 4449
C3	NEW	COMMSCOPE	NHH-65B-R2B	46'-0"	275°	*	*	ERICSSON	(1) RADIO 8843

NOTE - NEW ANTENNA/EQUIPMENT SHOWN IN BOLD

* - CONTRACTOR TO REFERENCE MOST RECENT RFDS FOR MECHANICAL AND ELECTRICAL DOWNTILTS

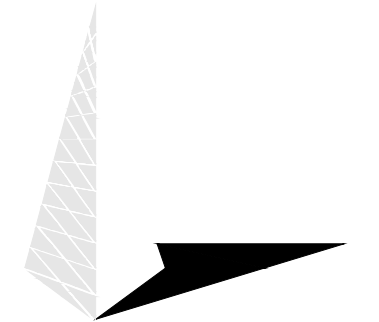
CABLE SCHEDULE				
STATUS	CABLE TYPE	SIZE	LENGTH	QTY
NEW	HYBRID	1-5/8"	96'-0"±	3
TOTAL CABLE QTY:				3

verizon

3245 158TH AVENUE MS 231
BELLEVUE, WA 98008

CROWN CASTLE

4301 HACIENDA DRIVE, SUITE 410
PLEASANTON, CA 94588



TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

BU #: **877196**
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/09/21	KBA	PRELIMINARY	GVM
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ
2	08/31/22	ORG	CONSTRUCTION	JFJ



08/31/22

Dan A. Reidenbach, P.E.
Professional Engineer License: #92372

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:

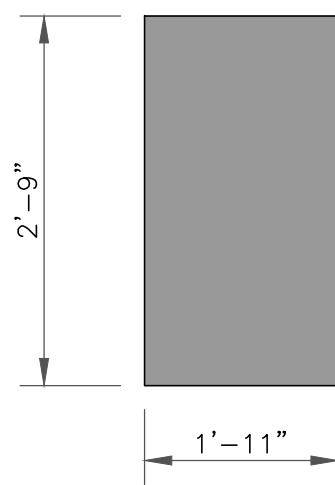
C-4

REVISION:

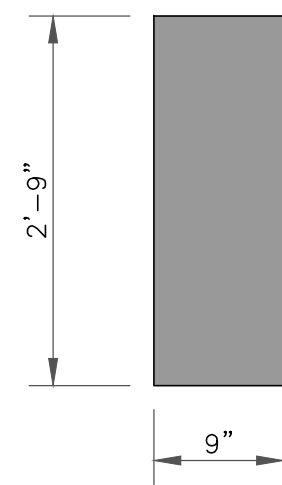
2

1 VERIZON TOWER EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE

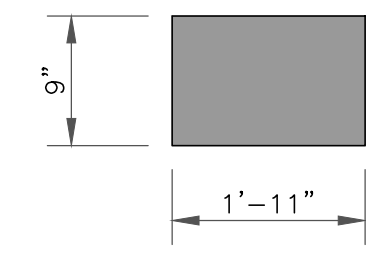
FRONT



SIDE



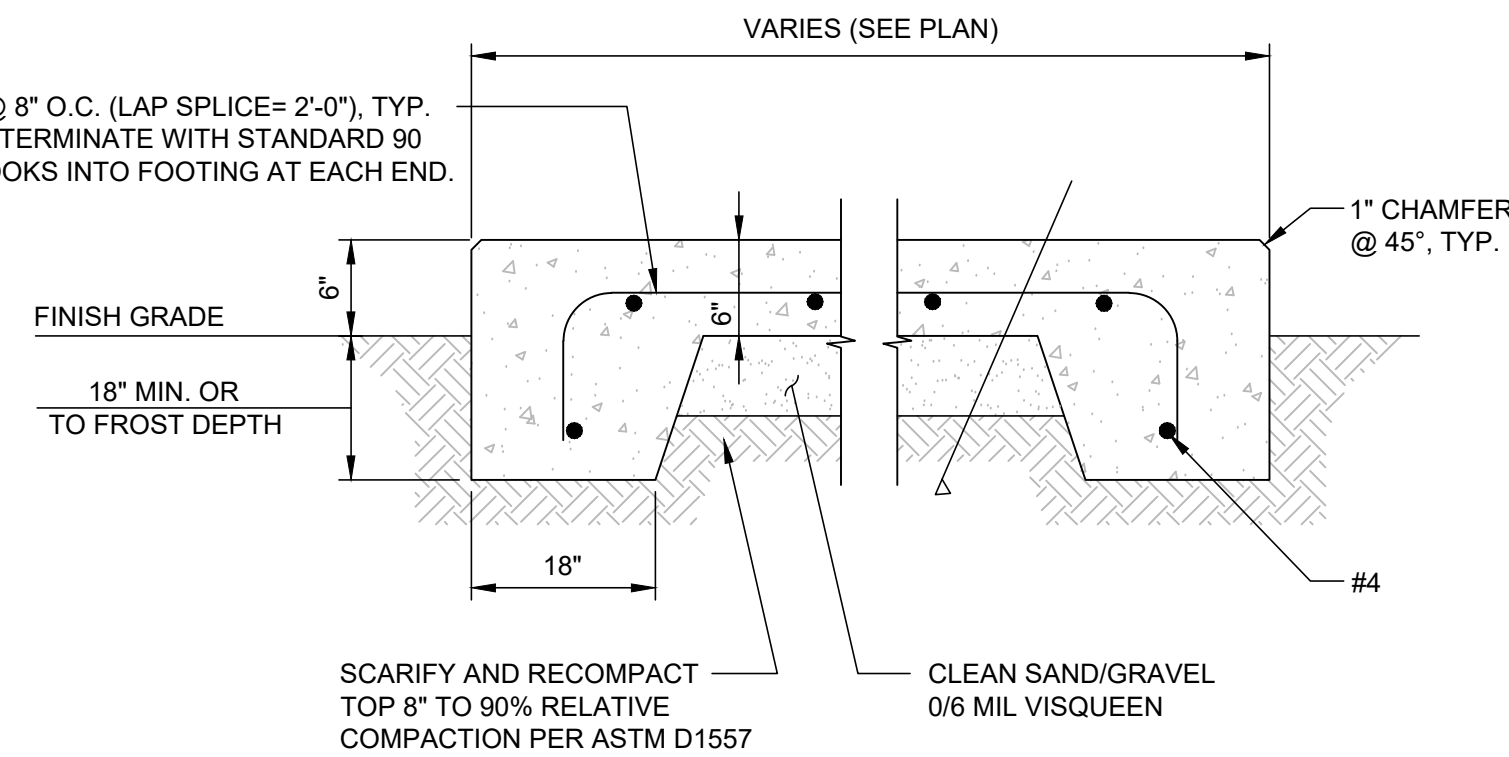
TOP



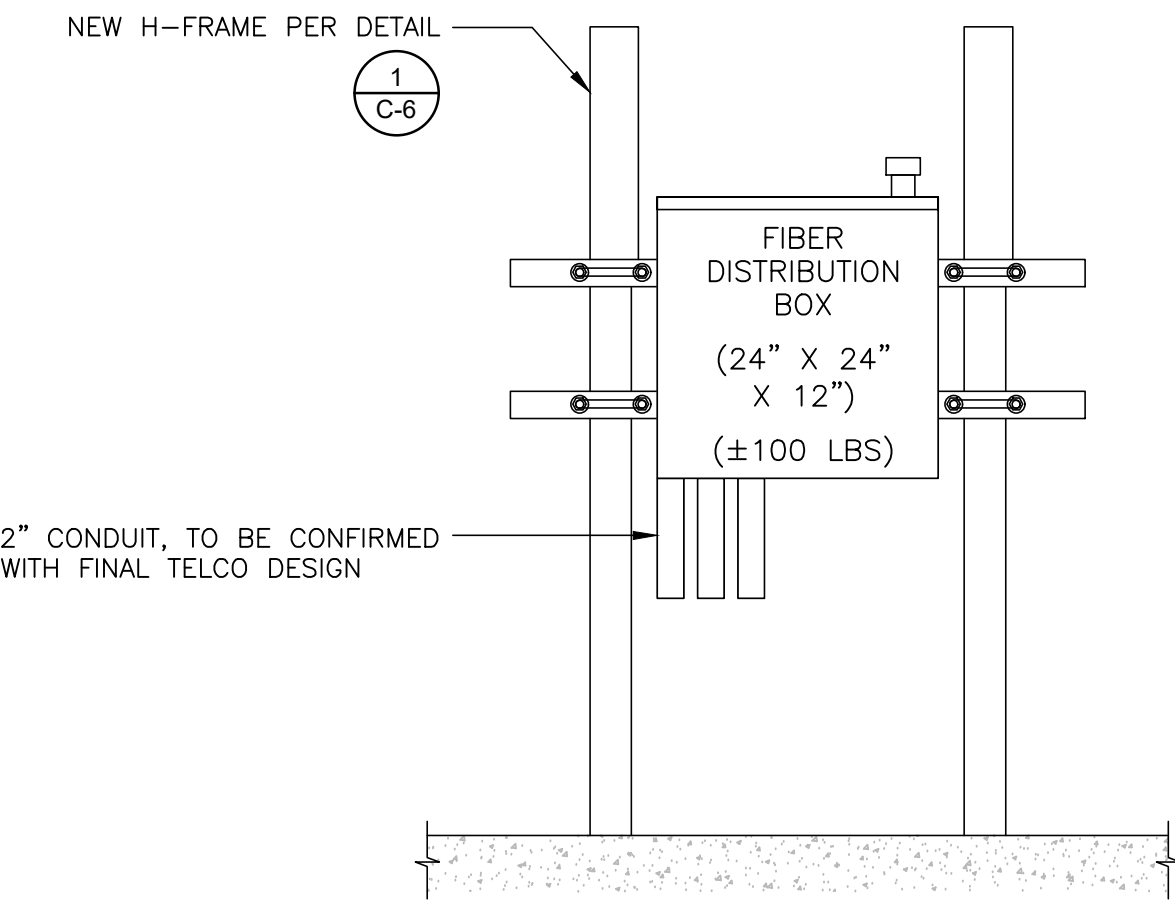
NEW ERICSSON / AIR 6449 ANTENNA (TYP OF 3)

1 ERICSSON / AIR 6449
SCALE: NOT TO SCALE

#4 REBAR @ 8" O.C. (LAP SPLICE= 2'-0"), TYP. EACH WAY. TERMINATE WITH STANDARD 90 DEGREE HOOKS INTO FOOTING AT EACH END.



2 CONCRETE PAD
SCALE: NOT TO SCALE

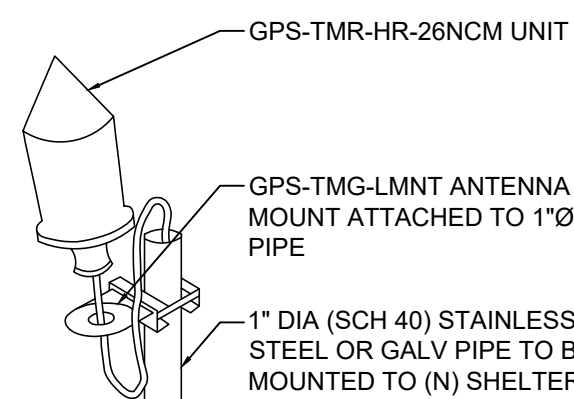


3 FIBER DISTRIBUTION BOX ON H-FRAME
SCALE: NOT TO SCALE

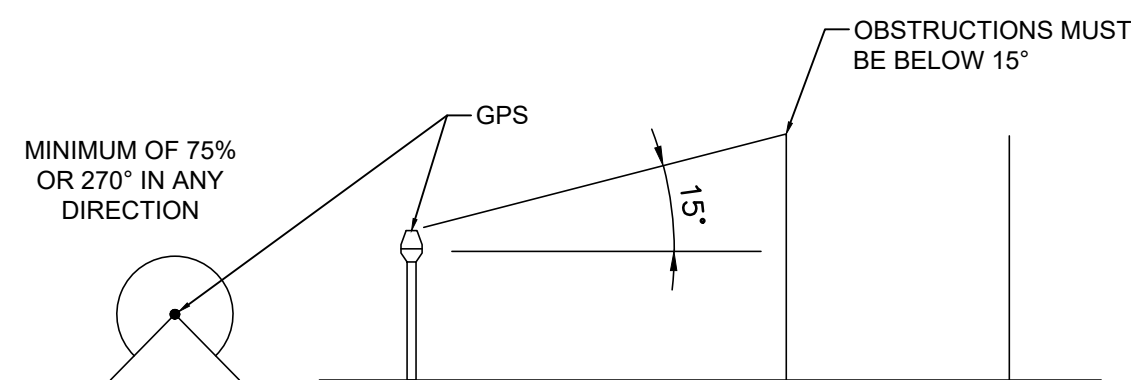
NOTE:
1. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1"Ø, SCH. 40, GALVANIZED S.S. STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQ'D LENGTH USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. A HACK SAW SHALL NOT BE USED. THE CUT PIPE END SHALL BE DEBARRED.

2. IT IS CRITICAL THAT THE GPS ANTENNA IS MOUNTED SUCH THAT IT IS WITHIN 2 DEGREES OF VERTICAL AND THE BASE OF THE ANTENNA IS WITHIN 2" OF LEVEL.

3. DO NOT SWEEP TEST GPS ANTENNA.



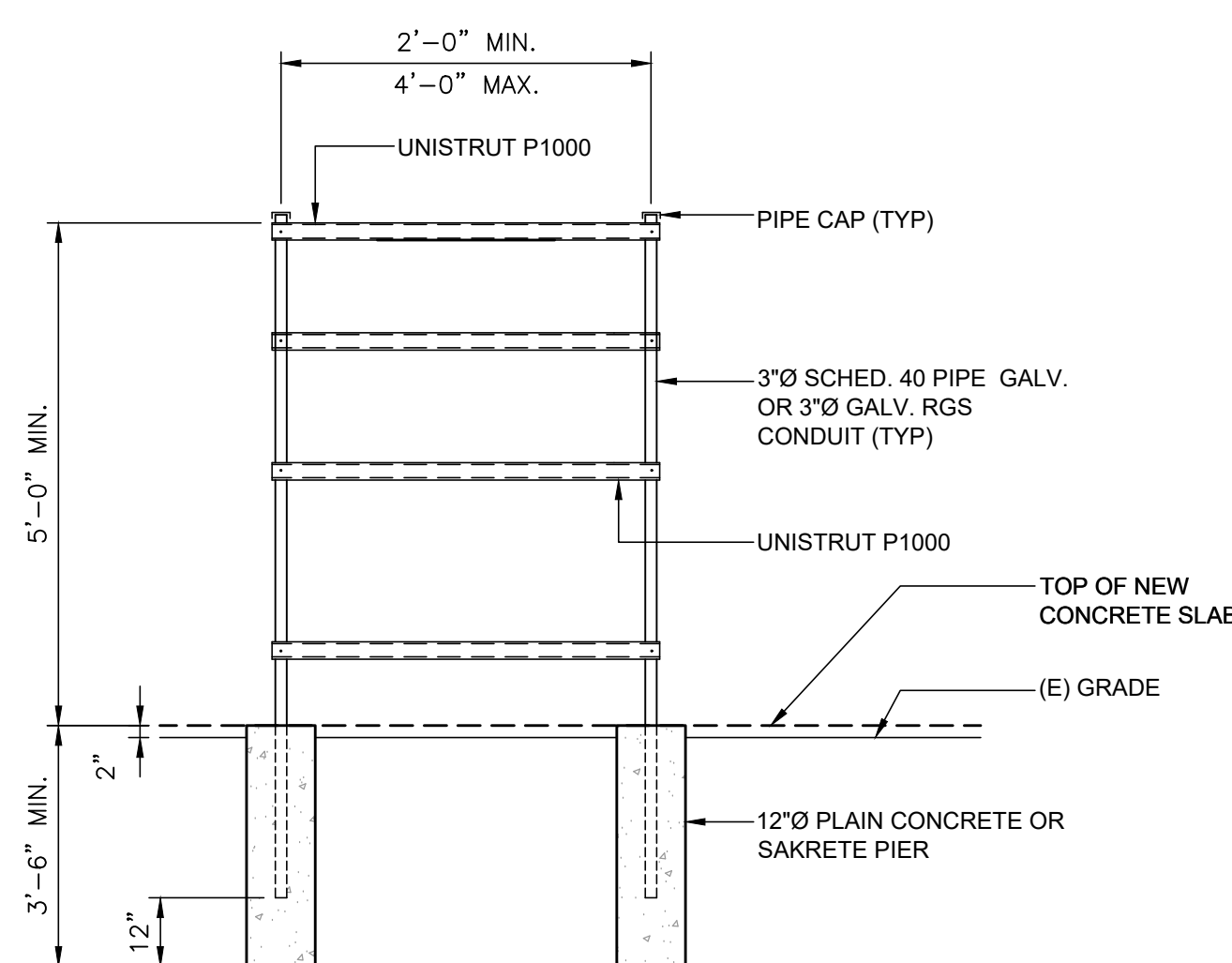
SPECIFICATIONS	
HEIGHT	5"
WIDTH	3.2"
WEIGHT	0.6 LBS



4 GPS DETAIL
SCALE: NOT TO SCALE

NOTES:

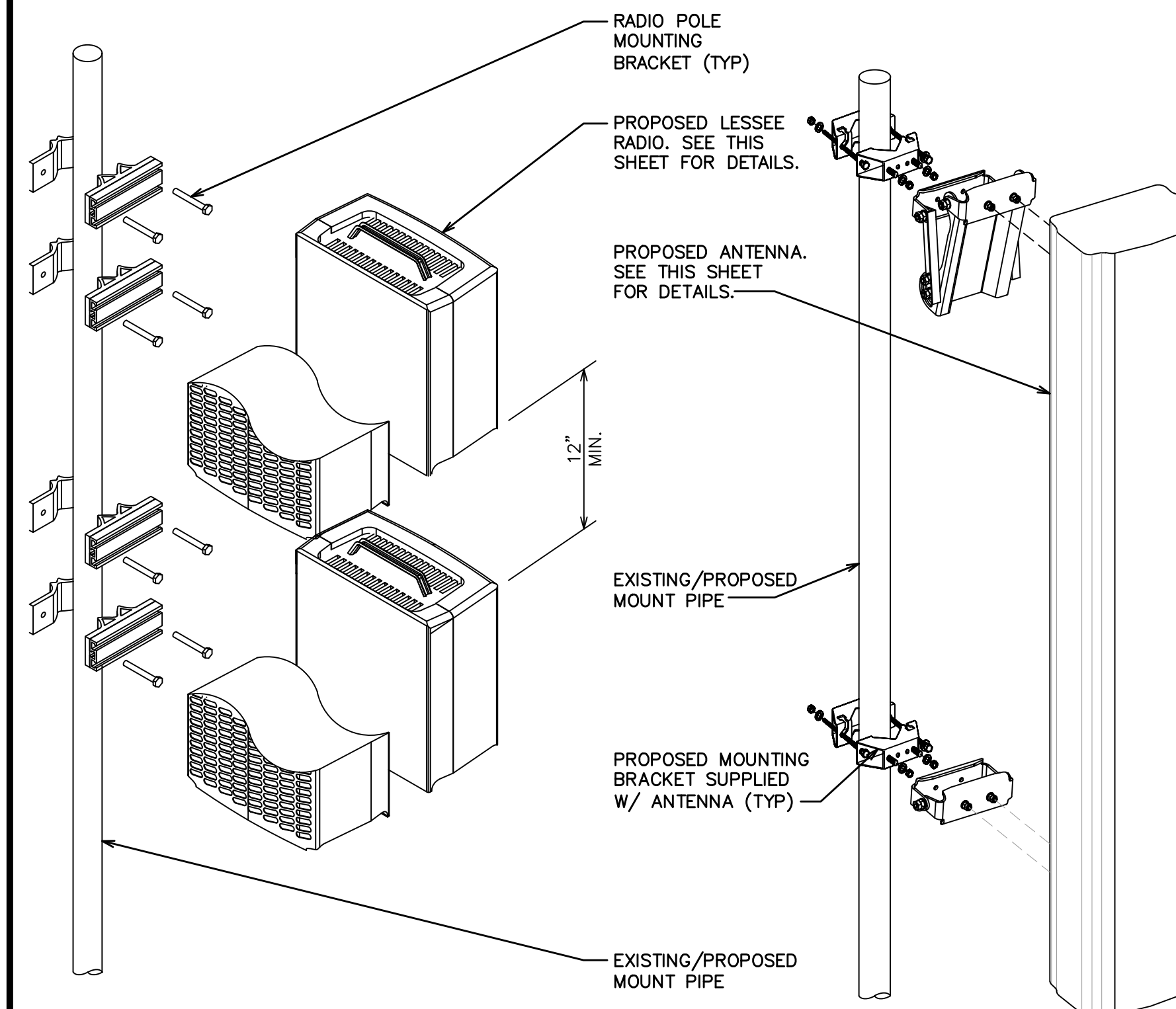
- ALL CONCRETE MUST HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI @ 28 DAYS.
- IF UTILITY FRAME NEEDS TO BE LONGER, ADD ANOTHER PIPE/S BETWEEN OUTER POSTS.
- TOP OF NEW CAISSONS TO BE FLUSH AT TOP OF NEW CONCRETE PAD, IF APPLICABLE.



5 H-FRAME DETAIL
SCALE: NOT TO SCALE

RADIO

ANTENNA



6 EQUIPMENT MOUNTING DETAIL
SCALE: NOT TO SCALE

verizon

3245 158TH AVENUE MS 231
BELLEVUE, WA 98008

CROWN CASTLE

4301 HACIENDA DRIVE, SUITE 410
PLEASANTON, CA 94588

TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/09/21	KBA	PRELIMINARY	GVM
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ



06/03/22

Dan A. Reidenbach, P.E.
Professional Engineer License: #92372

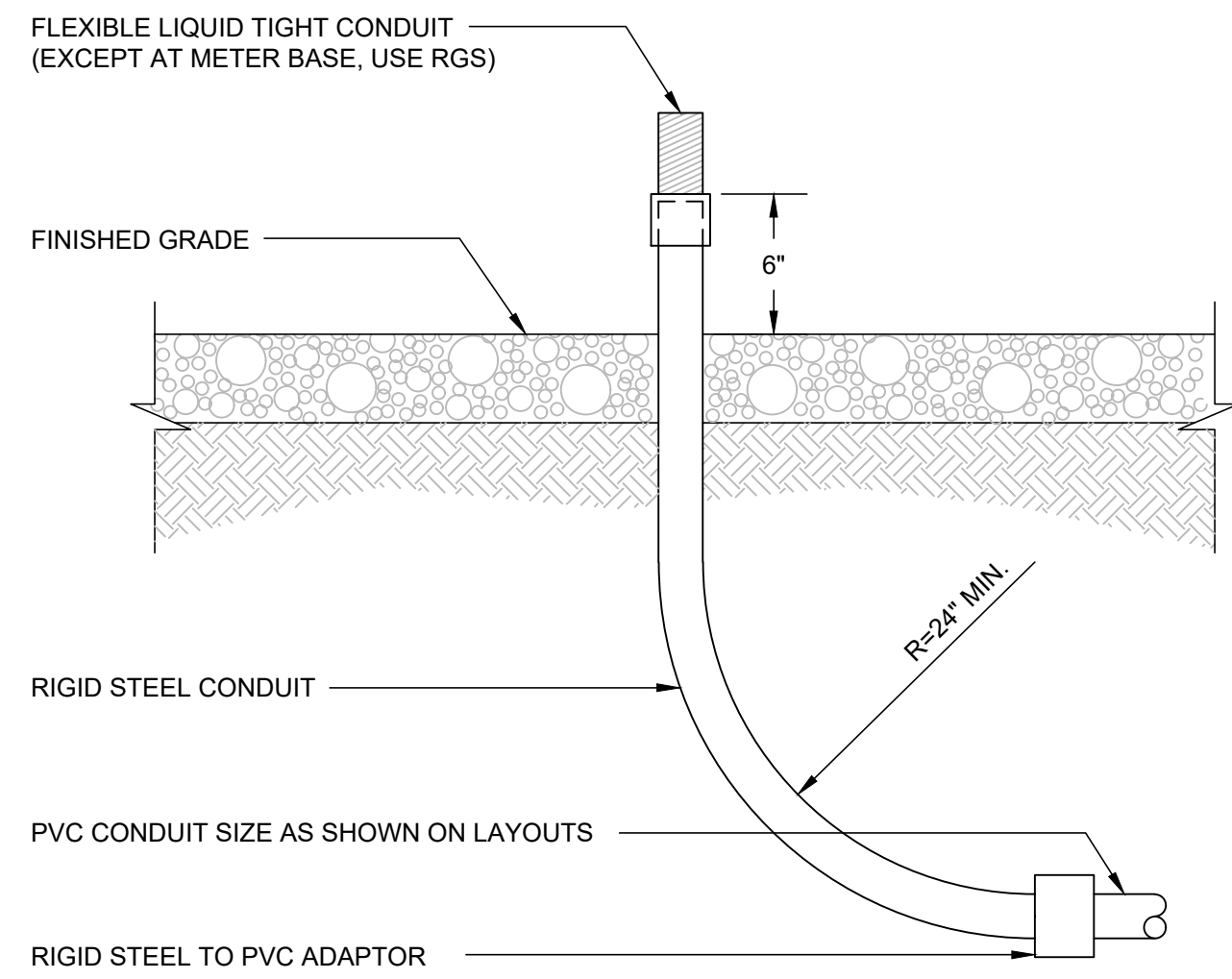
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:

C-5.1

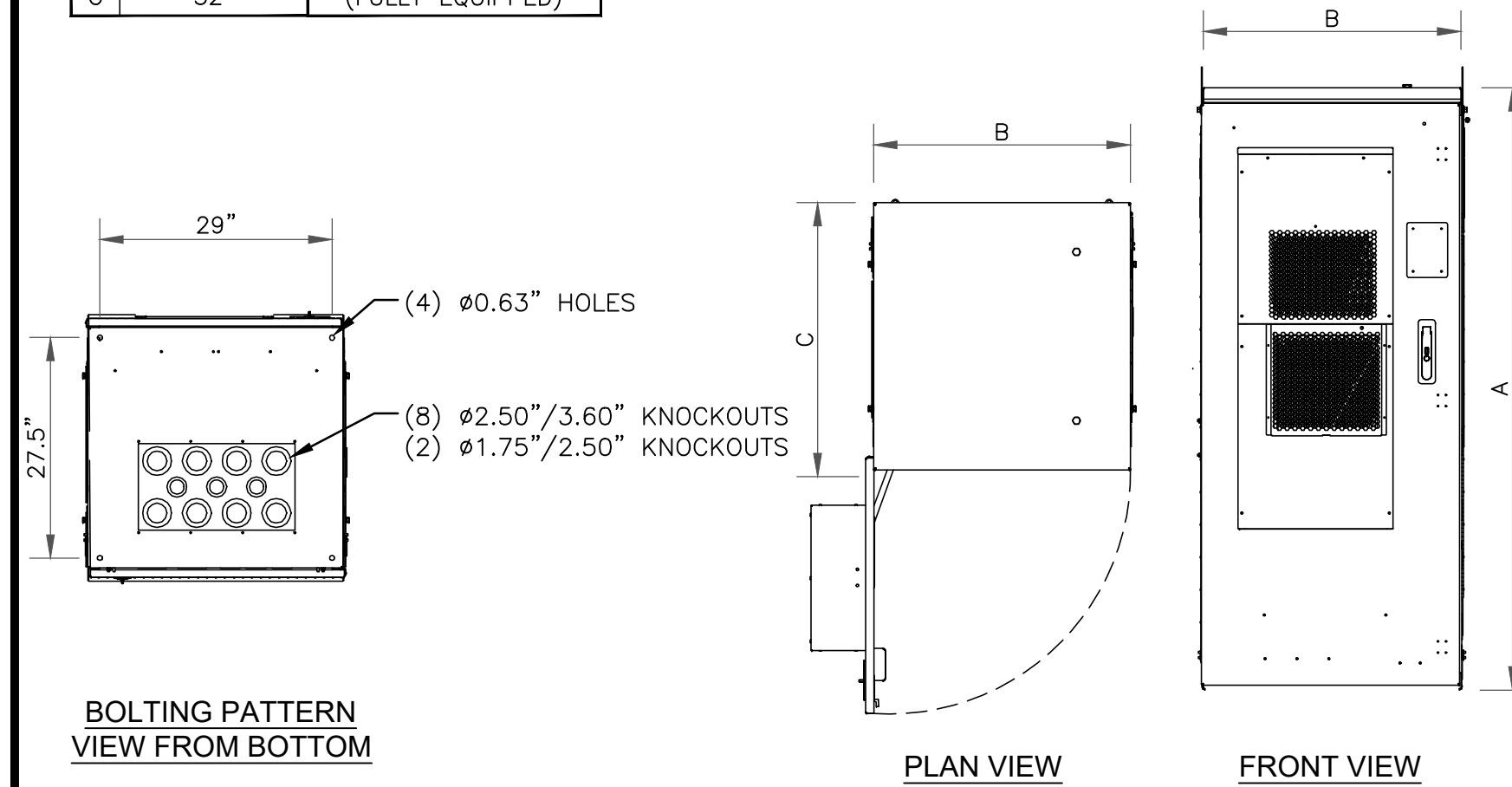
REVISION:

1

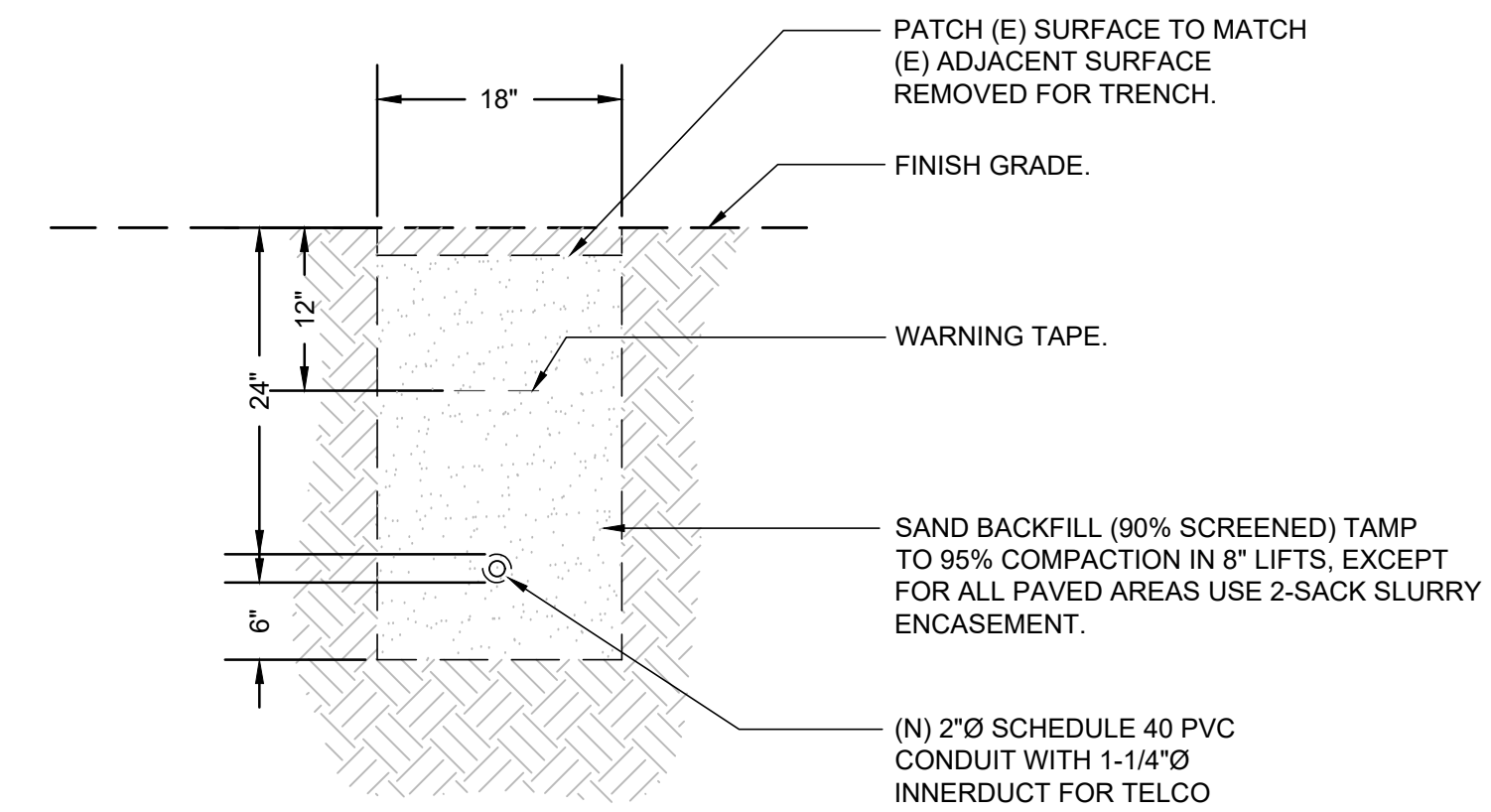


1 CONDUIT SNUB-UP DETAIL
SCALE: NOT TO SCALE

MANUFACTURER:	CHARLES
MODEL NO.:	CUBE-PM63915XXX
DIMENSIONS:	UNIT WEIGHT:
A 74"	±490 LBS (CABINET ONLY)
B 32"	±1800 LBS
C 32"	(FULLY EQUIPPED)



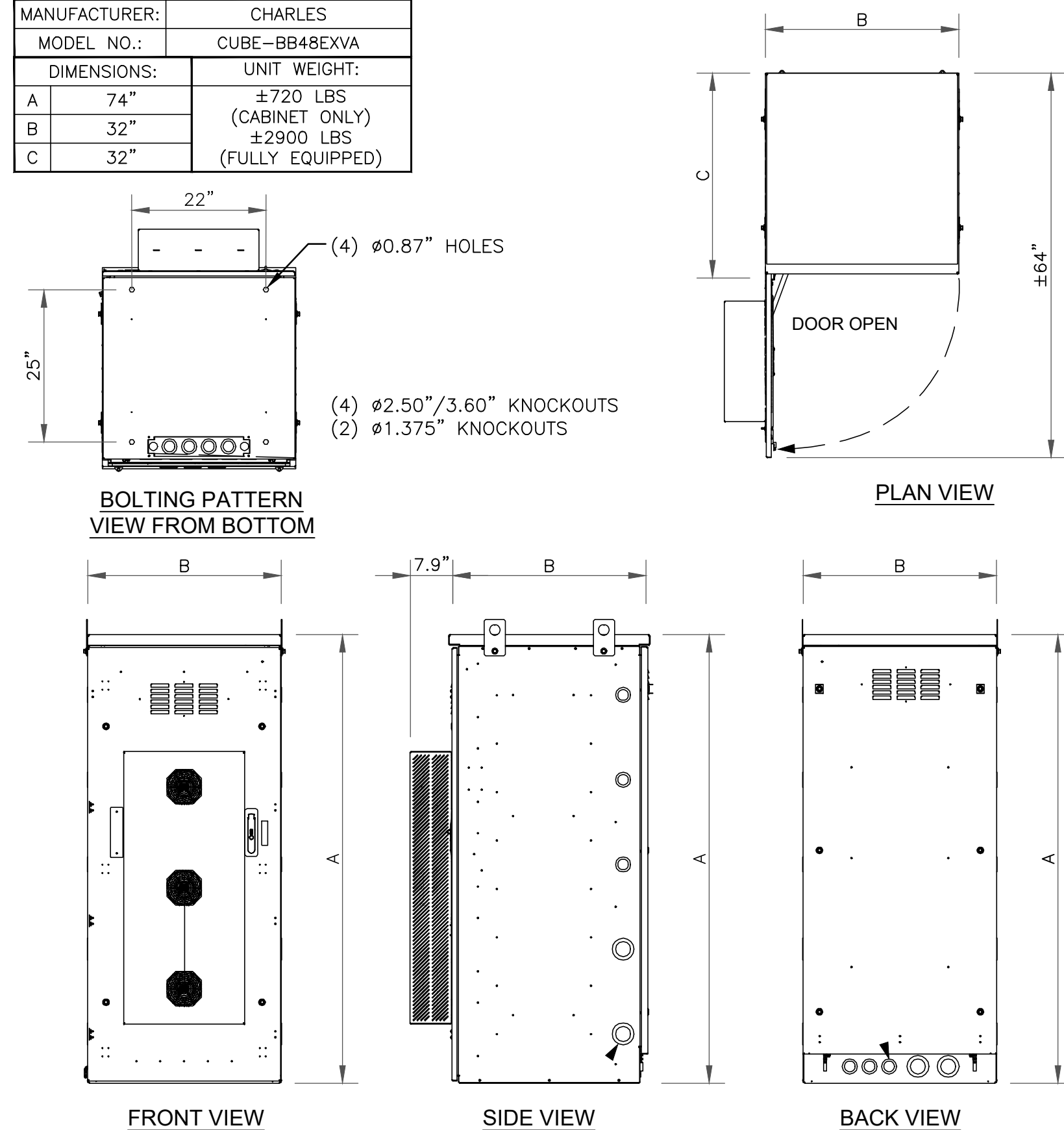
2 CHARLES CUBE PM63915XXX CABINET
SCALE: NOT TO SCALE



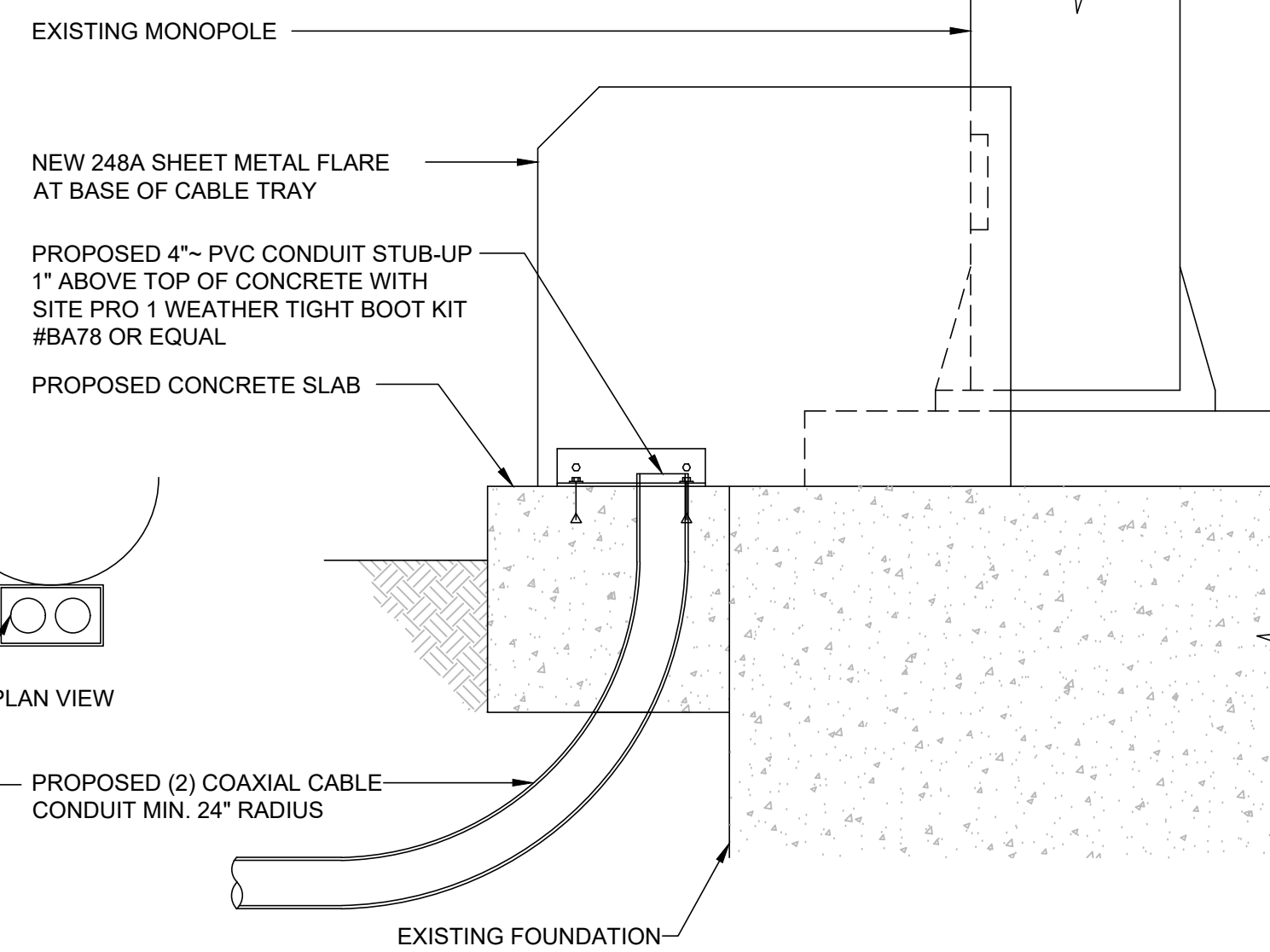
NOTES:
1. ALL DIMENSIONS SHOWN ARE MINIMUM CLEAR.
2. ELECTRICAL CONTRACTOR TO INCLUDE REMOVAL OF SPOILS.

3 TELECO TRENCH DETAIL
SCALE: NOT TO SCALE

MANUFACTURER:	CHARLES
MODEL NO.:	CUBE-BB48EXVA
DIMENSIONS:	UNIT WEIGHT:
A 74"	±720 LBS (CABINET ONLY)
B 32"	±2900 LBS
C 32"	(FULLY EQUIPPED)



4 CHARLES CUBE BB48EXVA
SCALE: NOT TO SCALE



5 CONDUIT/TOWER STUB UP DETAIL
SCALE: NOT TO SCALE

MANUFACTURER:	SAFT
MODEL NO.:	TLX100-8
HEIGHT:	10"
WIDTH:	4.13"
DEPTH:	15.69"
WEIGHT:	42.2LBS
VOLTAGE:	9.6V (8 HR TO 1.45 VPC @ 20' C)
ELECTROLYTE CONTENT:	1.92 GAL
NOMINAL CAPACITY:	97 AH
RATED CAPACITY:	103 AH
BATTERY TYPE:	NICKEL-CADMIUM

6 BATTERY DETAIL
SCALE: NOT TO SCALE

verizon

3245 158TH AVENUE MS 231
BELLEVUE, WA 98008

CROWN CASTLE

4301 HACIENDA DRIVE, SUITE 410
PLEASANTON, CA 94588

TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/09/21	KBA	PRELIMINARY	GVM
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ



06/03/22

Dan A. Reidenbach, P.E.
Professional Engineer License: #92372

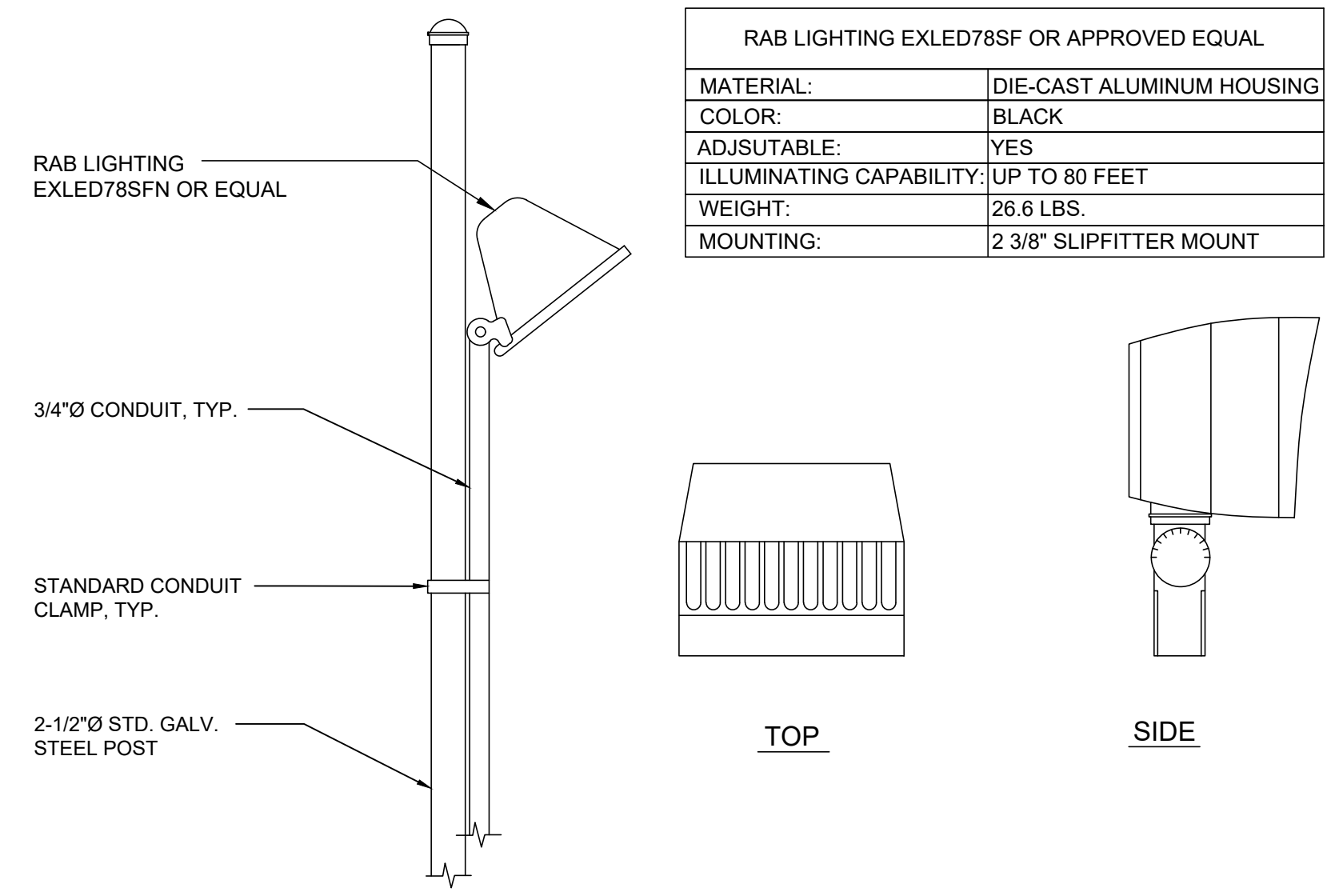
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

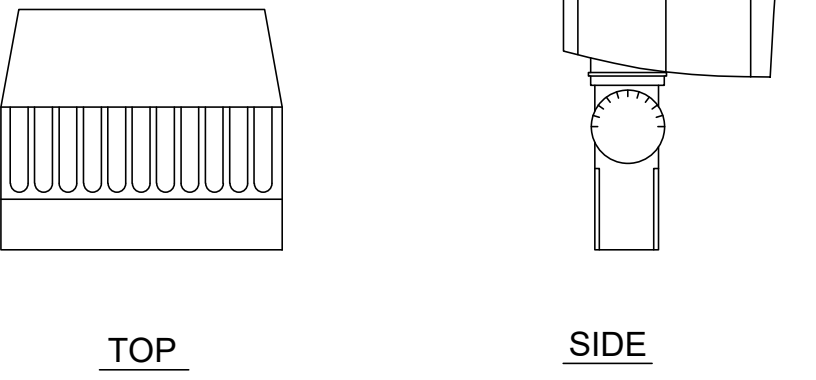
C-5.2

REVISION:

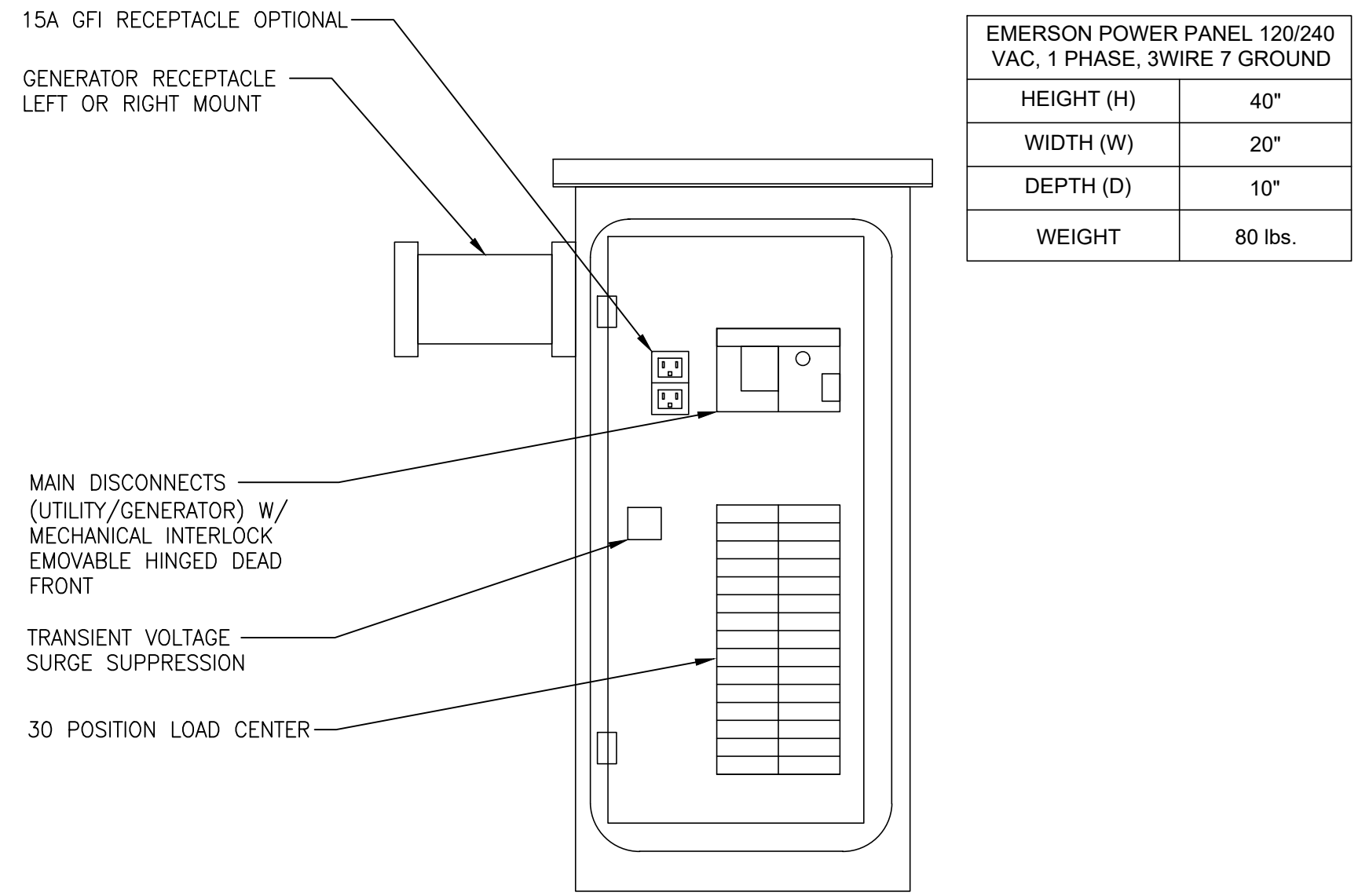
1



RAB LIGHTING EXLED78SF OR APPROVED EQUAL	
MATERIAL:	DIE-CAST ALUMINUM HOUSING
COLOR:	BLACK
ADJUSTABLE:	YES
ILLUMINATING CAPABILITY:	UP TO 80 FEET
WEIGHT:	26.6 LBS.
MOUNTING:	2 3/8" SLIPFITTER MOUNT

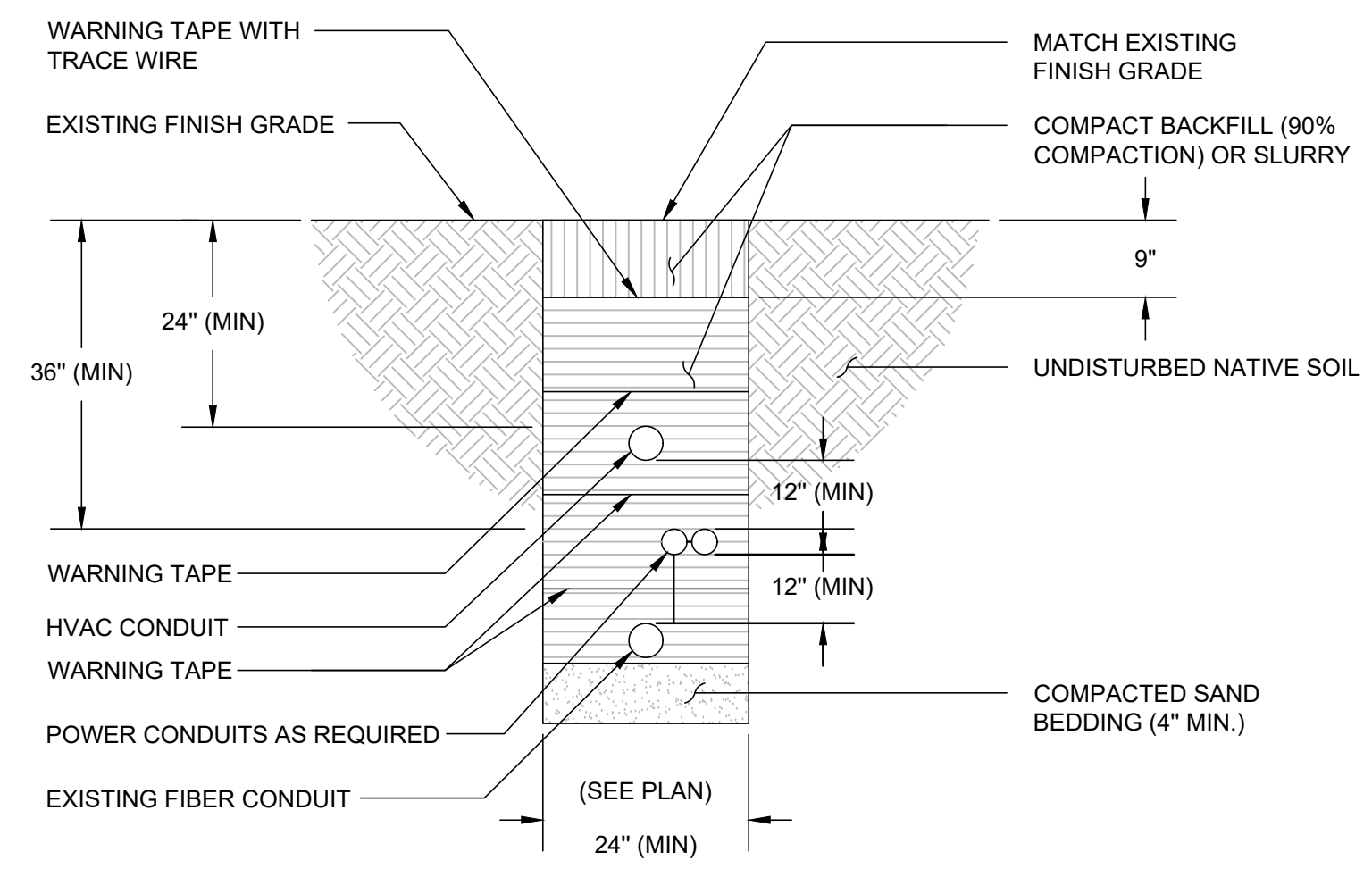


1 SERVICE LIGHT DETAIL
SCALE: NOT TO SCALE



EMERSON POWER PANEL 120/240 VAC, 1 PHASE, 3WIRE 7 GROUND	
HEIGHT (H)	40"
WIDTH (W)	20"
DEPTH (D)	10"
WEIGHT	80 lbs.

2 EMERSON CAC-A75201090 POWER PANEL OR APPROVED EQUAL
SCALE: NOT TO SCALE



3 TRENCH DETAIL
SCALE: NOT TO SCALE

NOTICE

Radio frequency fields beyond this point may exceed the FCC general public exposure limit.

Obey all posted signs and site guidelines for working in radio frequency environments.

In accordance with Federal Communications Commission rules on radio frequency emissions 47 CFR 1.1307(b)

CAUTION

Beyond this point: Radio frequency fields at this site may exceed FCC rules for human exposure.

For your safety, obey all posted signs and site guidelines for working in radio frequency environments.

In accordance with Federal Communications Commission rules on radio frequency emissions 47 CFR 1.1307(b)

WARNING

Beyond this point: Radio frequency fields at this site exceed the FCC rules for human exposure.

Failure to obey all posted signs and site guidelines for working in radio frequency environments could result in serious injury.

In accordance with Federal Communications Commission rules on radio frequency emissions 47 CFR 1.1307(b)

WARNING

THIS FACILITY CONTAINS
CORROSIVE LIQUID
TOXIC LIQUID
CLASS 1 WATER REACTIVE LIQUID

DANGER

HAZARDOUS MATERIAL STORAGE AREA

4 SIGNAGE DETAIL
SCALE: NOT TO SCALE

verizon

3245 158TH AVENUE MS 231
BELLEVUE, WA 98008

CROWN CASTLE

4301 HACIENDA DRIVE, SUITE 410
PLEASANTON, CA 94588

TOWER ENGINEERING PROFESSIONALS

4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

ISSUED FOR:

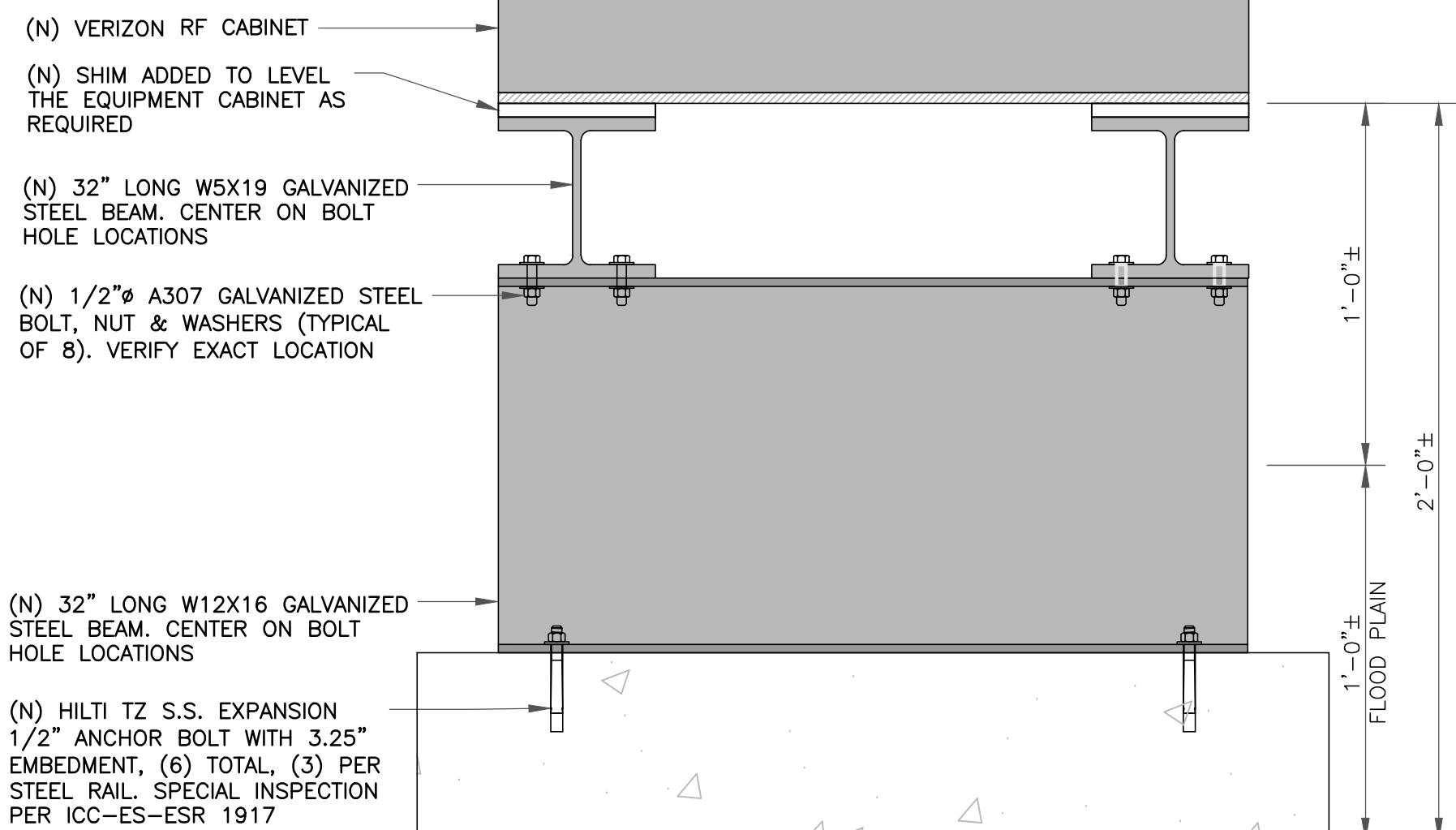
REV	DATE	DRWN	DESCRIPTION	DES./QA
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ
2	08/31/22	ORG	CONSTRUCTION	JFJ
3	11/17/22	KRS	CONSTRUCTION	JFJ

11/17/22

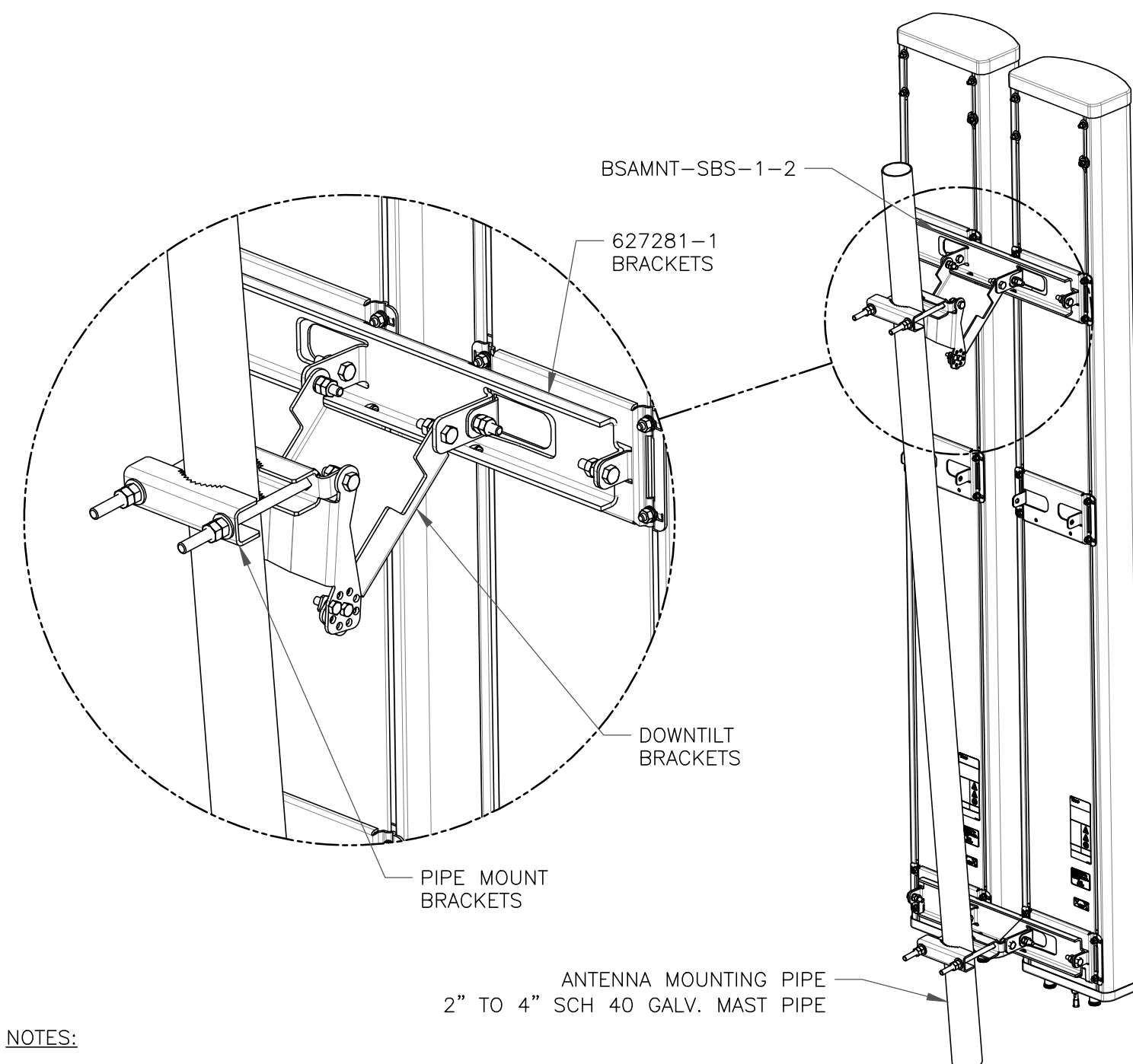
Dan A. Reidenbach, P.E.
Professional Engineer License: #92372

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.

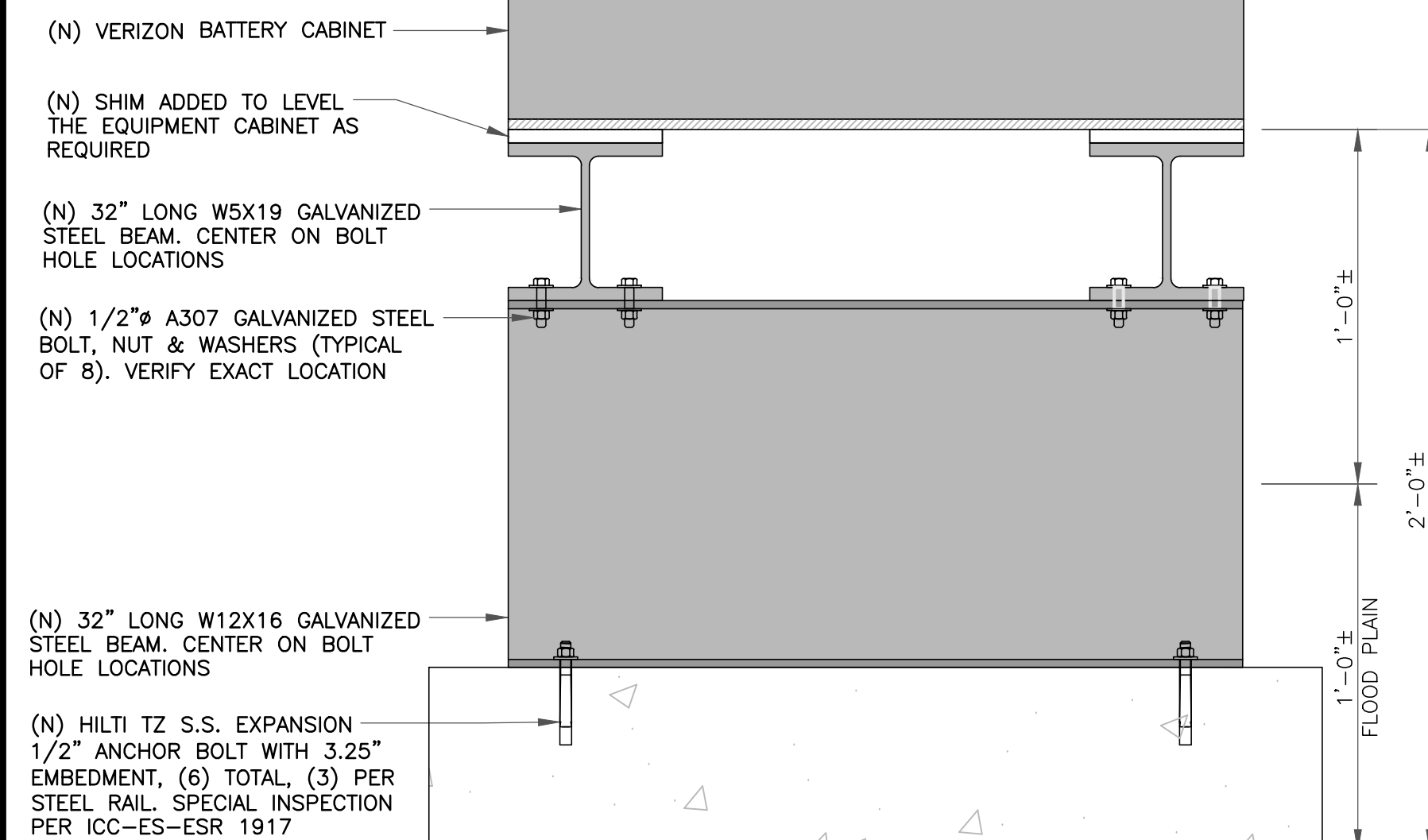
SHEET NUMBER: C-5.3	REVISION: 3
------------------------	----------------



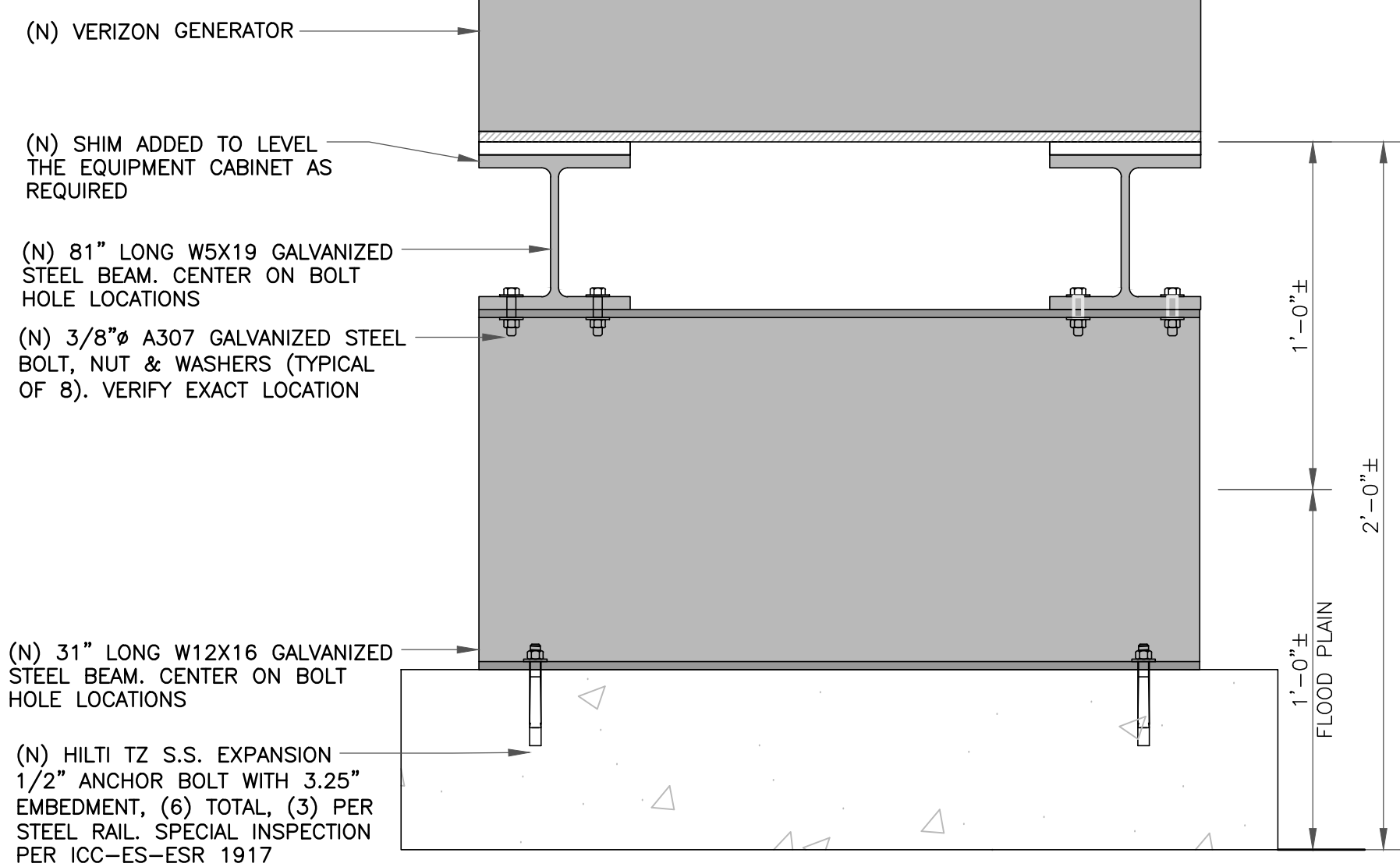
1 RF CABINET MOUNTING
SCALE: NOT TO SCALE



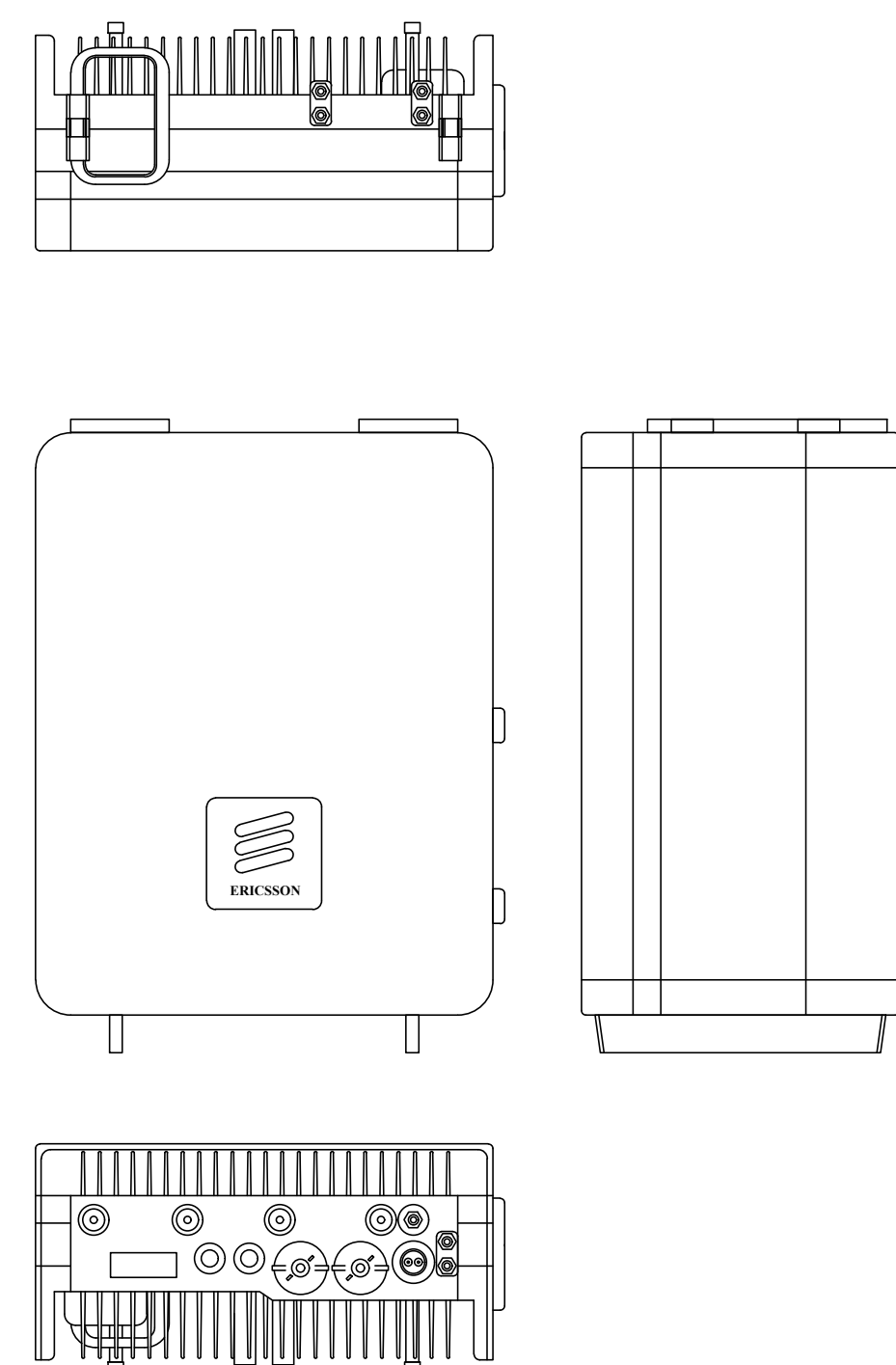
2 COMMSCOPE - BSAMNT-SBS-1-2
SCALE: NOT TO SCALE



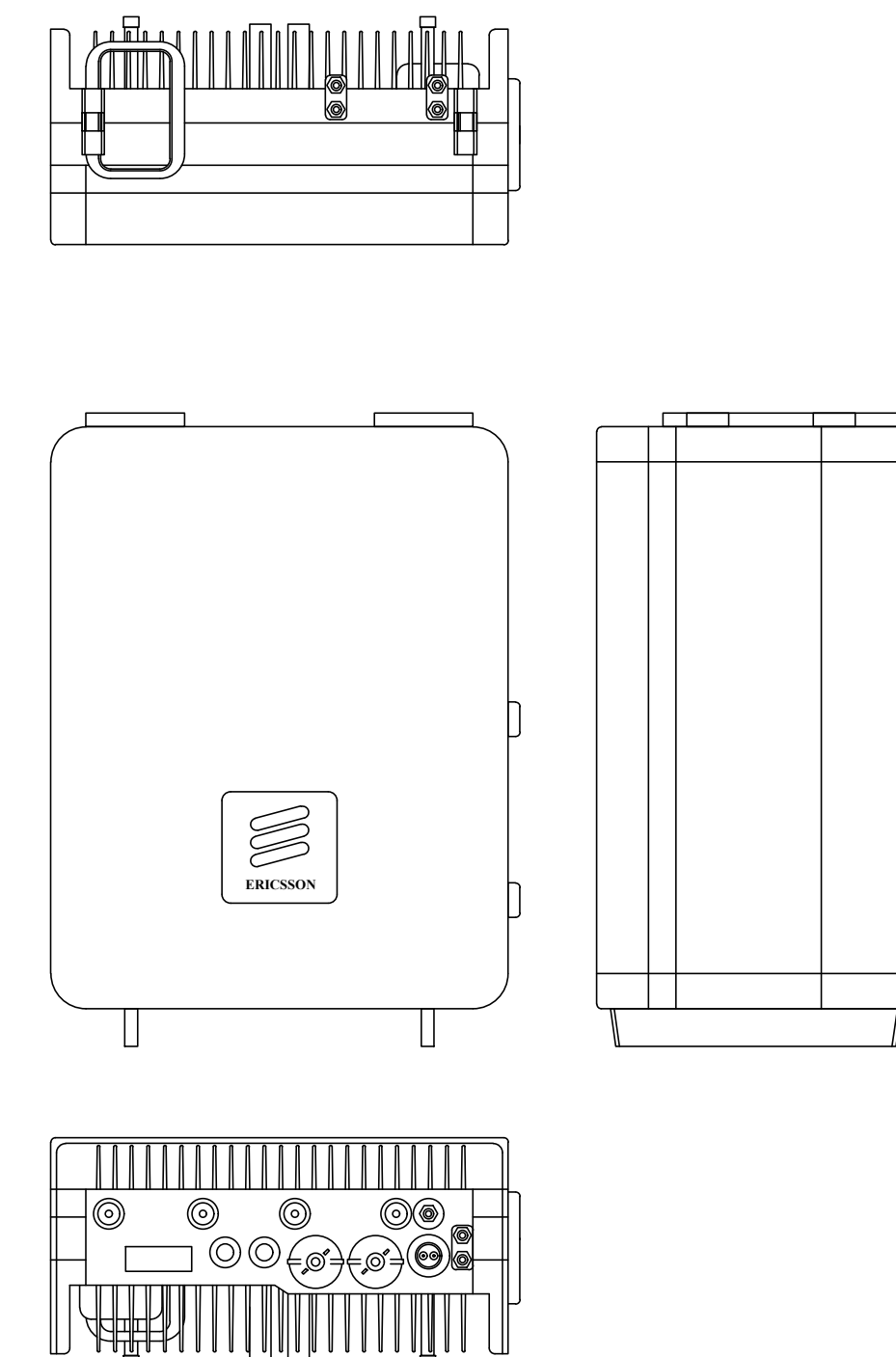
3 BATTERY CABINET MOUNTING
SCALE: NOT TO SCALE



4 GENERATOR MOUNTING
SCALE: NOT TO SCALE



5 RADIO 4449
SCALE: NOT TO SCALE



6 RADIO 8843
SCALE: NOT TO SCALE

verizon

3245 158TH AVENUE MS 231
BELLEVUE, WA 98008

CROWN CASTLE

4301 HACIENDA DRIVE, SUITE 410
PLEASANTON, CA 94588

TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/09/21	KBA	PRELIMINARY	GVM
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ

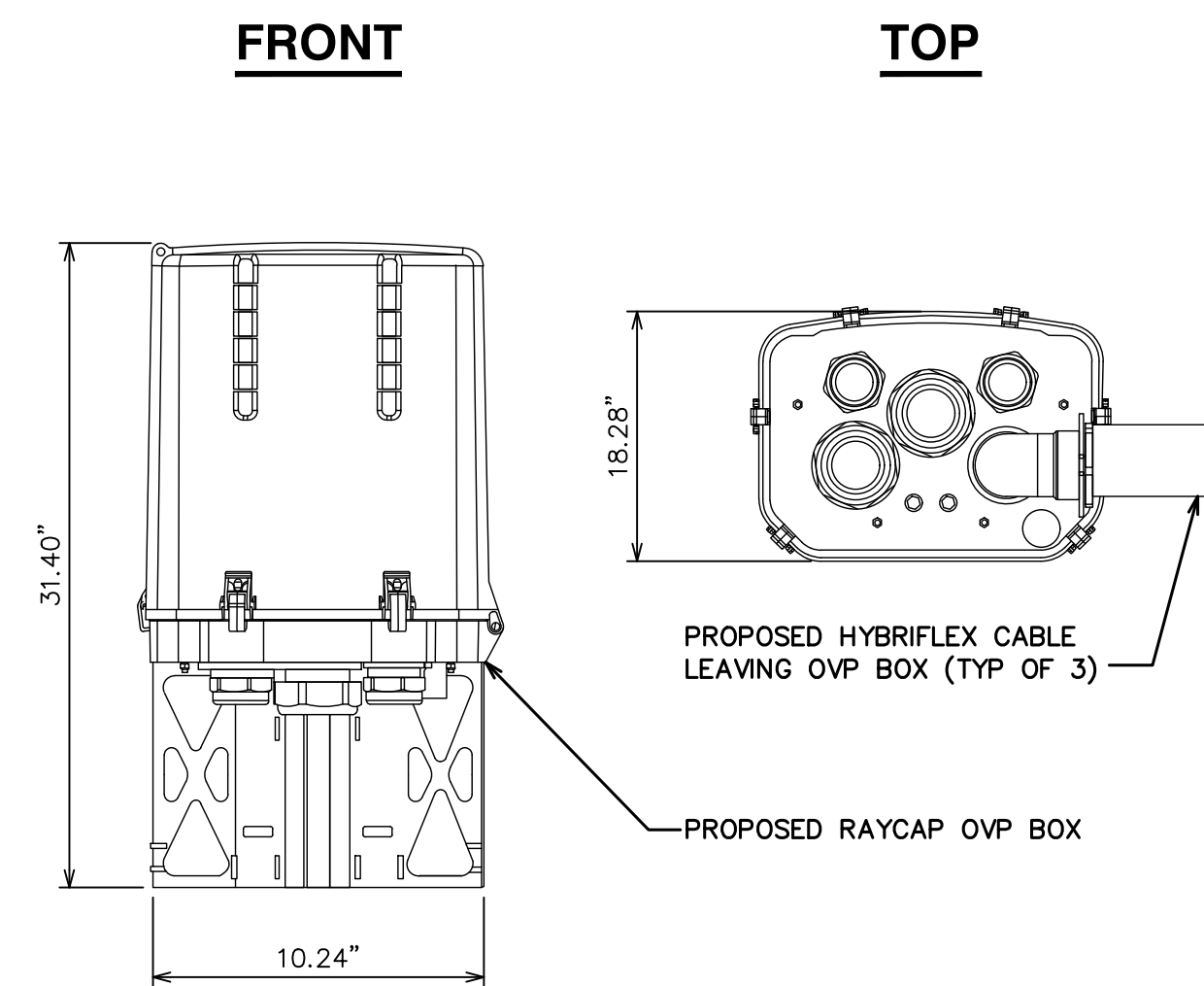


06/05/22

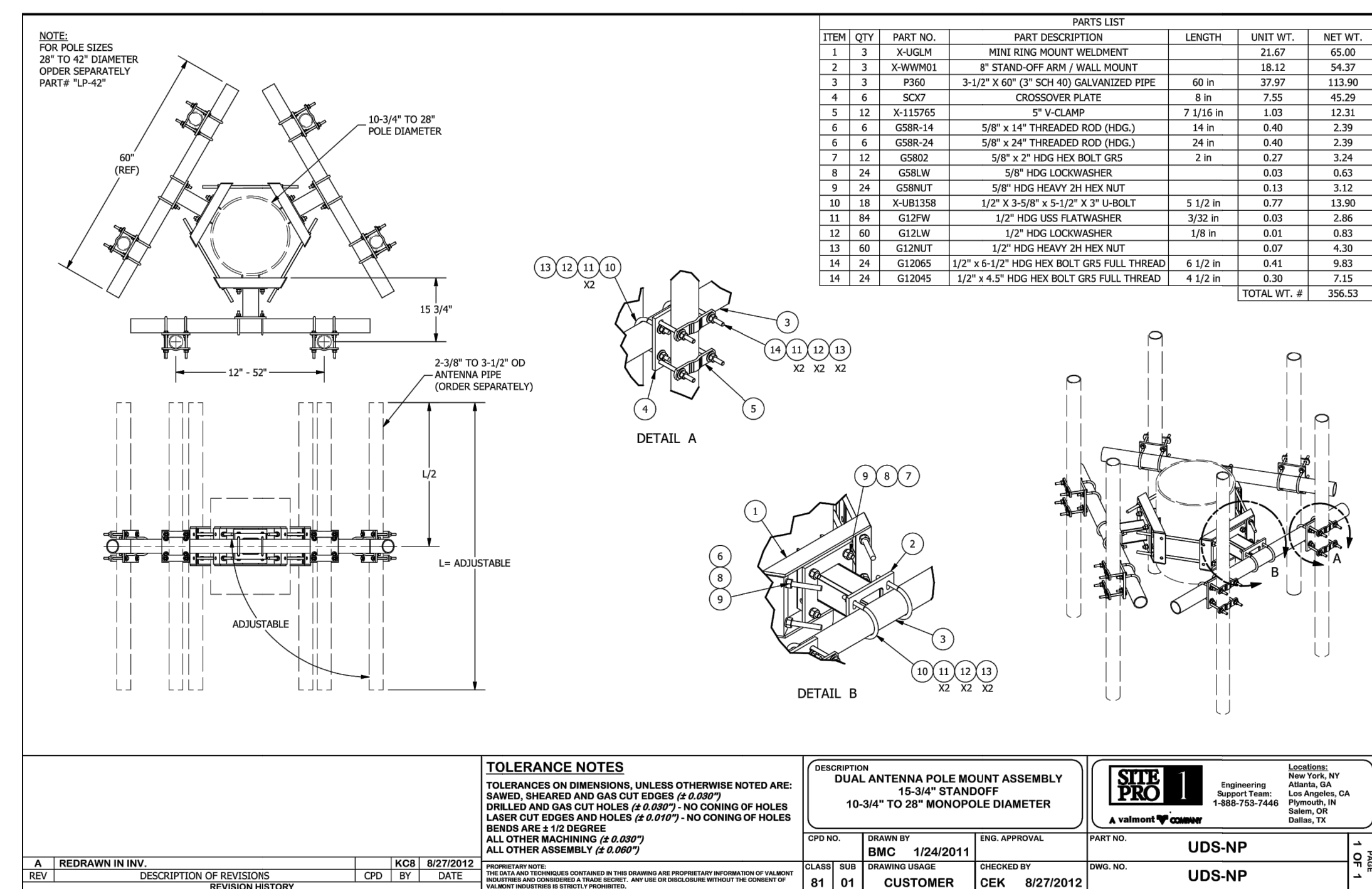
Dan A. Reidenbach, P.E.
Professional Engineer License: #92372

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.

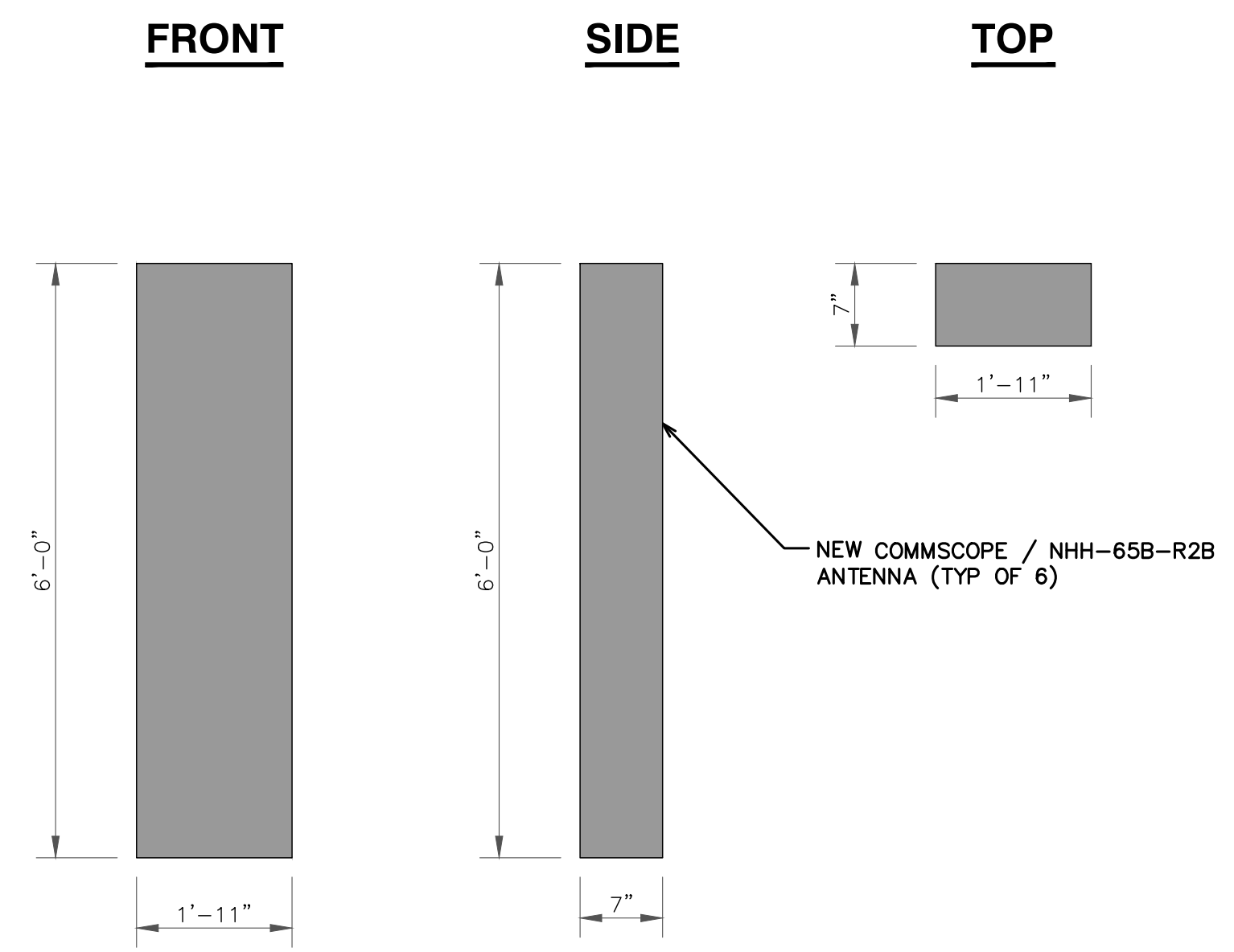
SHEET NUMBER: **C-5.4** REVISION: **1**



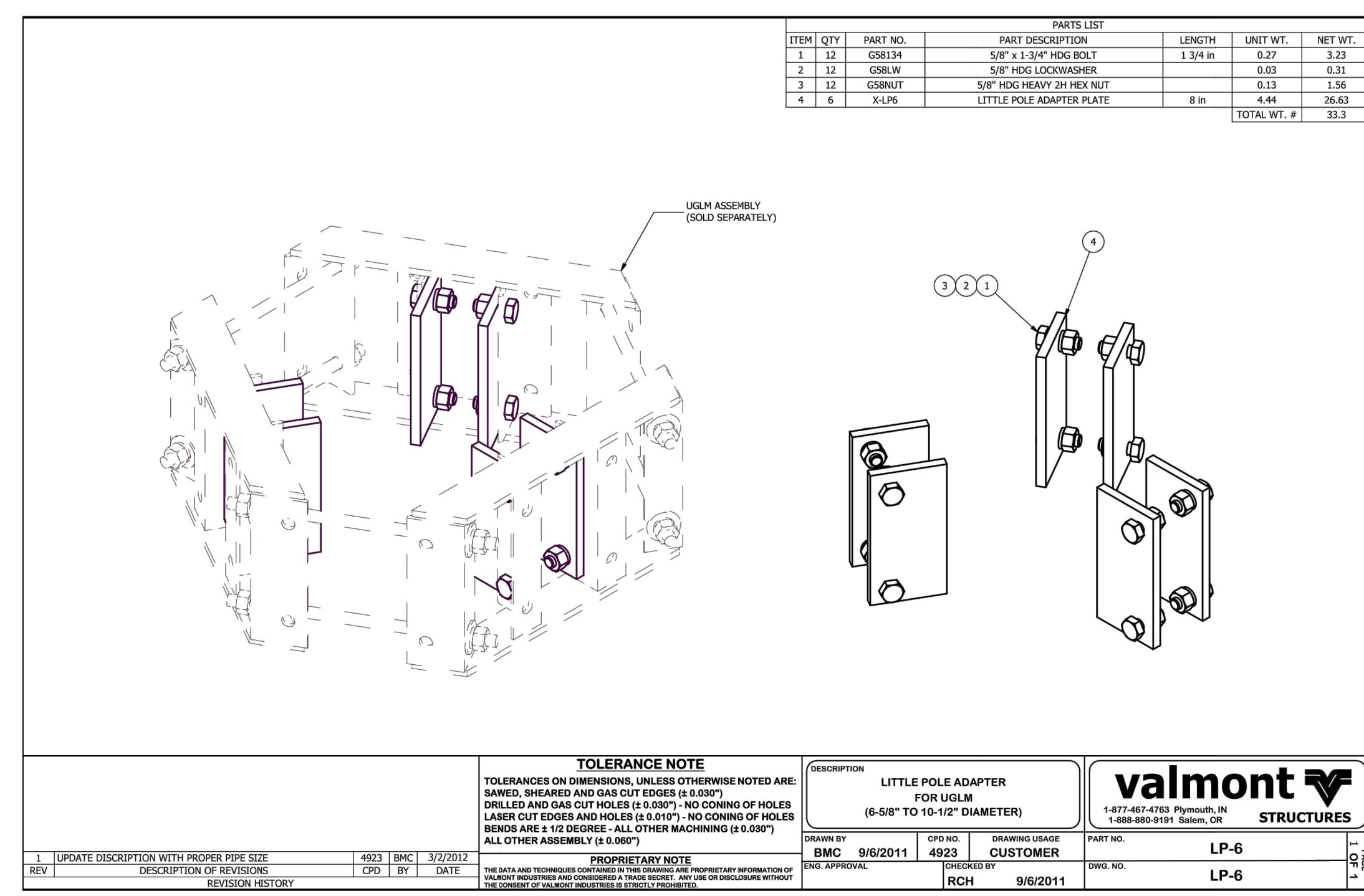
1 RAYCAP - DC6-48-60-0-8C-EV
SCALE: NOT TO SCALE



2 COMPACT MOUNT DETAIL
SCALE: NOT TO SCALE



3 COMMSCOPE - NHH-65B-R2B
SCALE: NOT TO SCALE



4 COMPACT MOUNT ADAPTER DETAIL
SCALE: NOT TO SCALE

verizon
3245 158TH AVENUE MS 231
BELLEVUE, WA 98008

CROWN CASTLE
4301 HACIENDA DRIVE, SUITE 410
PLEASANTON, CA 94588

TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/09/21	KBA	PRELIMINARY	GVM
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ
2	08/31/22	ORG	CONSTRUCTION	JFJ

08/31/22

Dan A. Reidenbach, P.E.
Professional Engineer License: #92372

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: **C-5.5** REVISION: **2**

ELECTRICAL DETAILS NOTES:

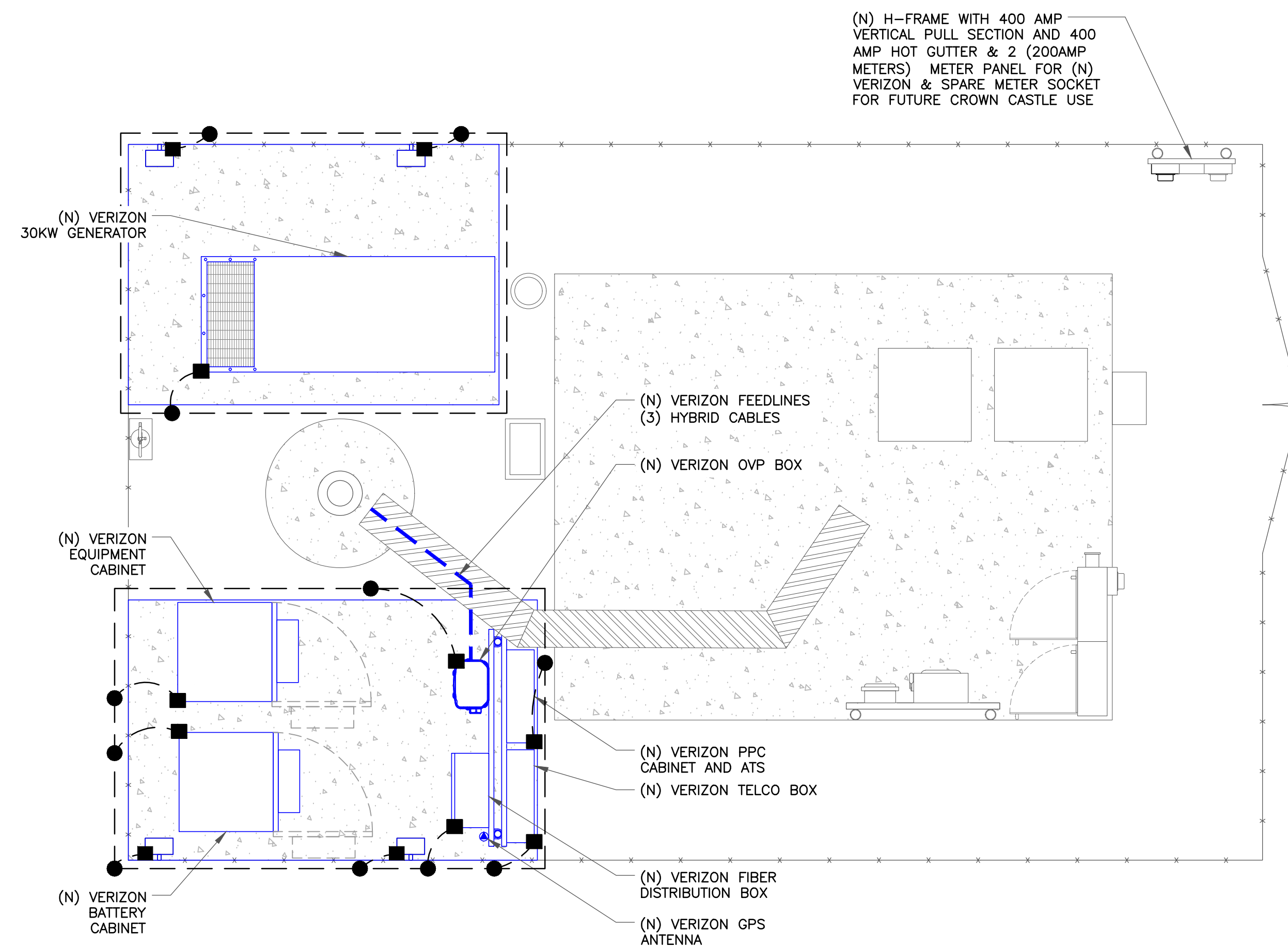
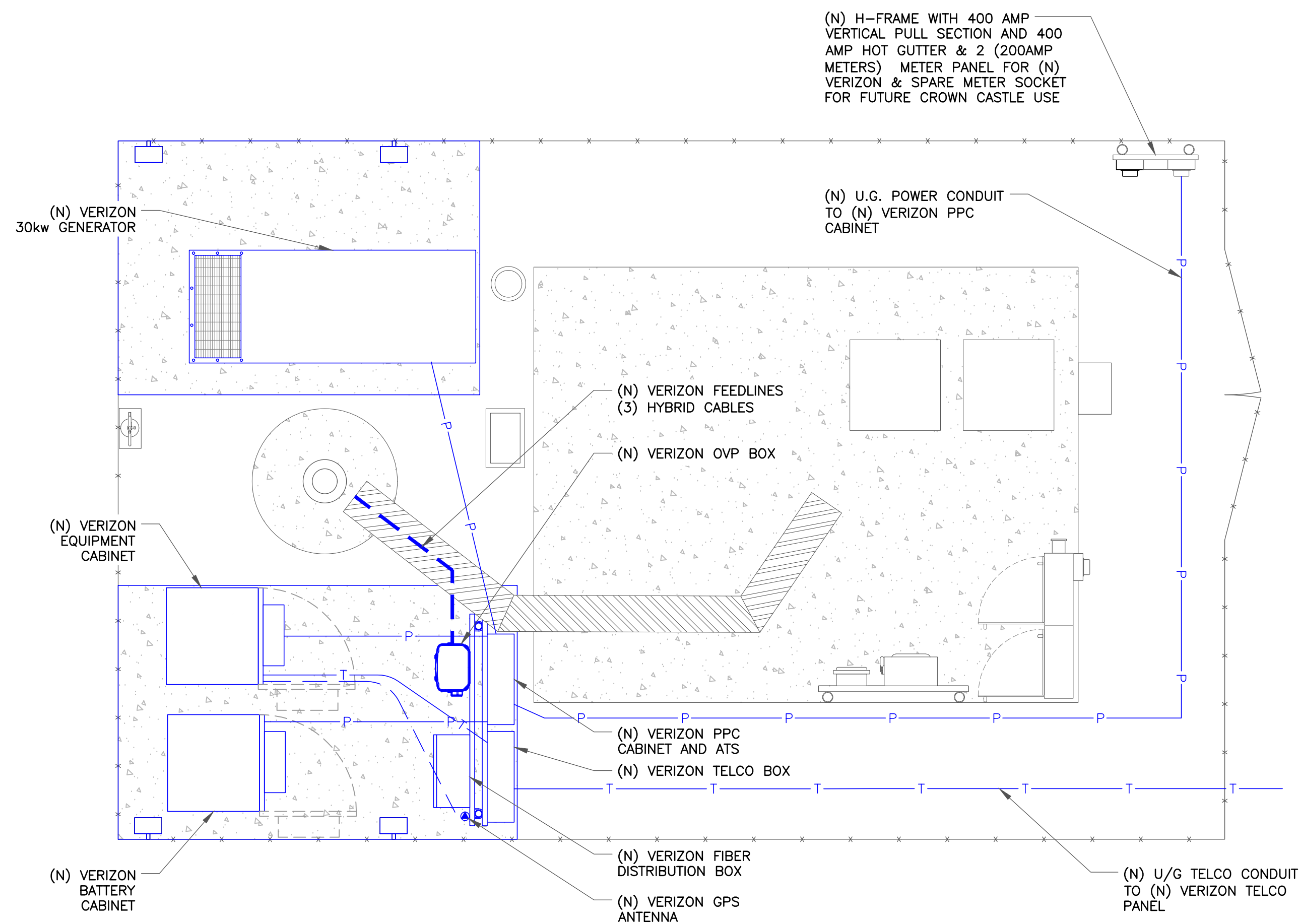
1. EXISTING EQUIPMENT LAYOUT WAS MADE USING INFORMATION PROVIDED BY CROWN CASTLE. CONTRACTOR TO VERIFY ALL EXISTING INFORMATION IS AS INDICATED ON SITE PLAN. CONTRACTOR IS TO ESTABLISH THE EXISTENCE AND LOCATION OF ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES.
2. CONTRACTOR TO ENSURE THAT ALL T-MOBILE EQUIPMENT IS INSTALLED INSIDE T-MOBILE'S LEASE AREA, INCLUDING BUT NOT LIMITED TO, EQUIPMENT CABINETS, UTILITY CABINETS, H-FRAMES, ETC.
3. CONTRACTOR TO VERIFY THAT ALL T-MOBILE EQUIPMENT IS INSTALLED TO MEET THE WORKING CLEARANCE REQUIREMENTS OF NEC 110.26

ELECTRICAL DETAILS NOTES:

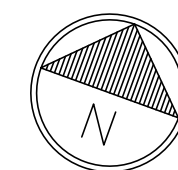
1. EXISTING EQUIPMENT LAYOUT WAS MADE USING INFORMATION PROVIDED BY CROWN CASTLE. CONTRACTOR TO VERIFY ALL EXISTING INFORMATION IS AS INDICATED ON SITE PLAN. CONTRACTOR IS TO ESTABLISH THE EXISTENCE AND LOCATION OF ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES.
2. CONTRACTOR TO ENSURE THAT ALL T-MOBILE EQUIPMENT IS INSTALLED INSIDE T-MOBILE'S LEASE AREA, INCLUDING BUT NOT LIMITED TO, EQUIPMENT CABINETS, UTILITY CABINETS, H-FRAMES, ETC.
3. CONTRACTOR TO VERIFY THAT ALL T-MOBILE EQUIPMENT IS INSTALLED TO MEET THE WORKING CLEARANCE REQUIREMENTS OF NEC 110.26
4. CONTRACTOR TO VERIFY CONDITION AND LOCATION OF ALL EXISTING GROUNDING EQUIPMENT PRIOR TO CONSTRUCTION. TEP DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, GROUND RINGS, GROUND RODS, AND GROUND BARS.

LEGEND

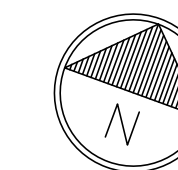
- MECHANICAL CONNECTION
- EXOTHERMIC CONNECTION
- ▭ ANTENNA GROUND BAR
- ⊞ MASTER GROUND BAR



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



2 PROPOSED GROUNDING PLAN
SCALE: 3/4"=1'-0" (FULL SIZE)
3/8"=1'-0" (11x17)

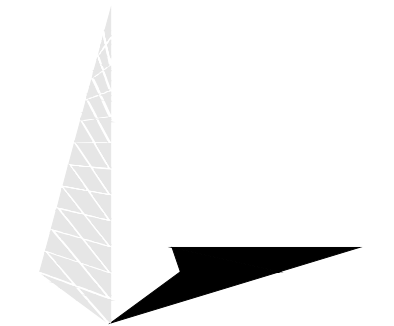


verizon

3245 158TH AVENUE MS 231
BELLEVUE, WA 98008

CROWN CASTLE

4301 HACIENDA DRIVE, SUITE 410
PLEASANTON, CA 94588



TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ
2	08/31/22	ORG	CONSTRUCTION	JFJ
3	11/17/22	KRS	CONSTRUCTION	JFJ



11/17/22

Mark Quakenbush, P.E.
Professional Engineer License: #23287

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:

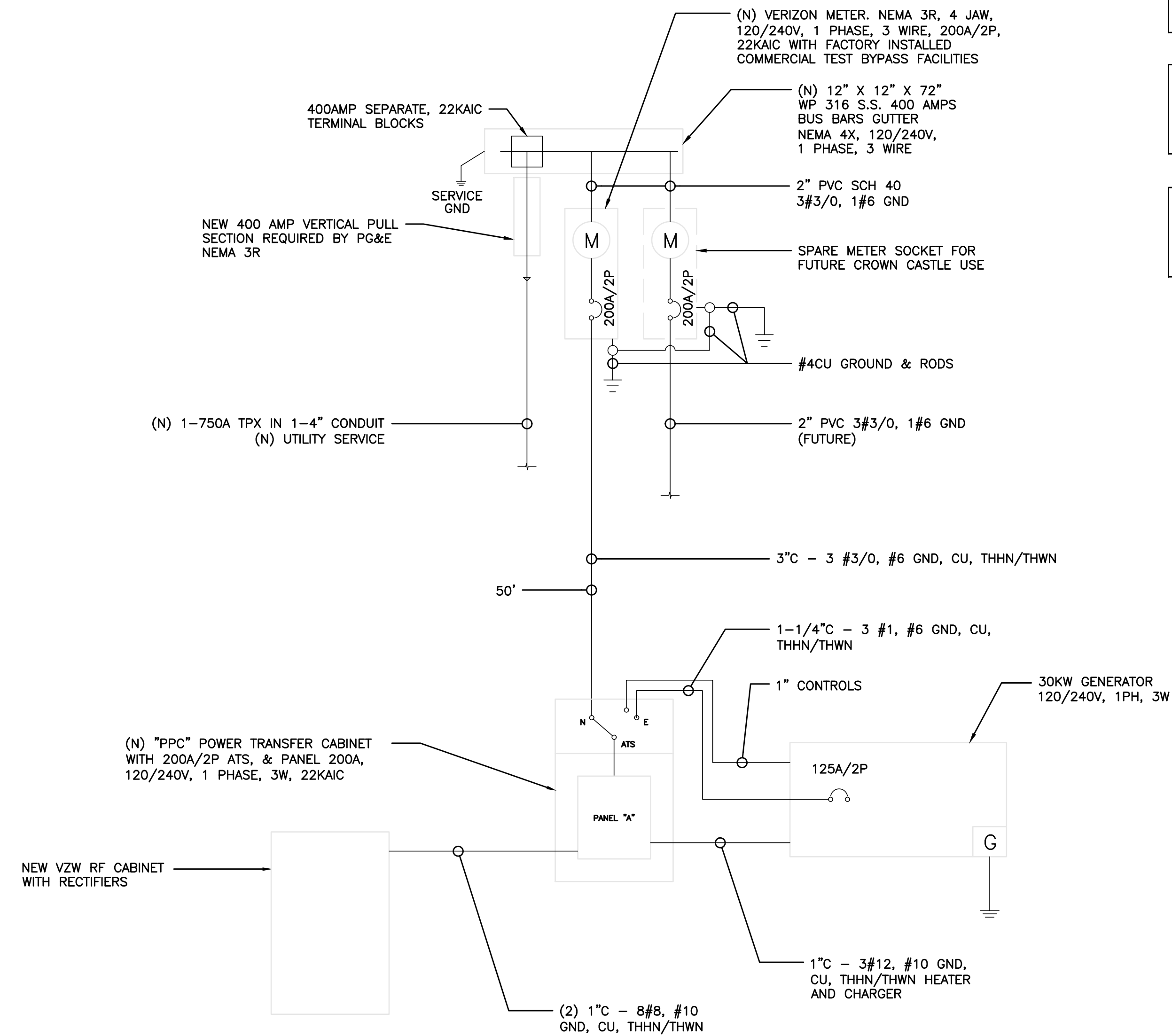
E-1

REVISION:

3

AC POWER PANEL (EXSITING)											
120/240 VOLTS 1 PHASE			3 WIRE SURFACE MOUNTED				200A, 2 POLE MAIN BREAKER				
NO.	LOAD SERVED	OA VA	OB VA	AMP / POLE	L1	L2	AMP / POLE	OA VA	OB VA	LOAD SERVED	NO.
1	SPARE (OFF)	0	-	15/2	-	-	50/2	0	-	SPARE (OFF)	2
3	SPARE (OFF)	-	0	-	-	-	-	-	0	-	4
5	SPARE (OFF)	0	-	15/2	1000	-	20/1	1000	-	BATTERY CHARGER	6
7	SPARE (OFF)	-	0	-	-	1000	20/1	-	1000	HEATER	8
9	RECEPTACLE	180	-	20/1	180	-	30/2	0	-	SURGE SUPPRESSOR	10
11	LIGHT	-	75	20/1	-	75	-	-	0	-	12
13	RECTIFIER	1000	-	30/2	2000	-	30/2	1000	-	RECTIFIER	14
15	RECTIFIER	-	1000	-	-	2000	-	-	1000	-	16
17	RECTIFIER	1000	-	30/2	2000	-	30/2	1000	-	RECTIFIER	18
19	RECTIFIER	-	1000	-	-	2000	-	-	1000	-	20
21	RECTIFIER	1000	-	30/2	2000	-	30/2	1000	-	RECTIFIER	22
23	RECTIFIER	-	1000	-	-	2000	-	-	1000	-	24
25	RECTIFIER	1000	-	30/2	2000	-	30/2	1000	-	RECTIFIER	26
27	RECTIFIER	-	1000	-	-	2000	-	-	1000	-	28
29	SPARE (OFF)	0	-	50/2	-	-	-	-	-	BLANK	30
31	SPARE (OFF)	-	0	-	-	-	-	-	-	BLANK	32
33	BLANK	-	-	-	-	-	-	-	-	BLANK	34
35	BLANK	-	-	-	-	-	-	-	-	BLANK	36
37	BLANK	-	-	-	-	-	-	-	-	BLANK	38
39	BLANK	-	-	-	-	-	-	-	-	BLANK	40
41	BLANK	-	-	-	-	-	-	-	-	BLANK	42
PHASE TOTALS (VA):					9180	9075					
CURRENT PER PHASE (A):					76.5	75.6					
PANEL TOTAL (VA):					18255						

DC -48V FEEDER CABLING CHART			
CALCULATIONS ARE BASE ON WORST CASE FULL LOAD AMPS AT 104A -48VDC, NOT EXCEEDING 3% VOLTAGE DROP. IF FIELD CONDITIONS ARE DIFFERENT THAN INDICATED, CONTACT ENGINEER FOR REVISED CALCULATIONS.			
DISTANCE FROM FUEL CELL TO EQUIP. CABINET.	-48V, DC SINGLE CABLE	-48V, DC PARALLEL CABLE	CONDUIT SIZE
1'-70'	1-#1/0 CU. AWG		1-1/4"
71'-90'	1-#2/0 CU. AWG		1-1/2"
91'-110'	1-#3/0 CU. AWG		1-1/2"
111'-140'	1-#4/0 CU. AWG		2"
141'-175'		2-#2/0 CU. AWG	2"



NOTE: #6 COPPER WIRE AND GREATER SHALL BE (COPPER) THWN WIRE OR (COPPER) XHHW.

NOTE: PRIOR TO RUNNING CONDUIT ROUTE - CONTRACTOR SHALL CONTACT THE T-MOBILE PROJECT MANAGER AND VERIFY THE EQUIPMENT CABINET LAYOUT CONFIGURATION AND ROUTE CONDUITS ACCORDINGLY.

NOTE: PRE-CONSTRUCTION MEETING AND ELECTRICAL EASEMENT REQUIRED.

NOTE: CONTRACTOR SHALL TAG EACH CIRCUIT CONDUCTOR AT EACH J-BOX, OUTLET, SWITCH, ETC. WITH THE CIRCUITS IDENTIFICATION.

NOTE: CONTRACTOR SHALL TAG EACH CIRCUIT CONDUCTOR AT EACH J-BOX, OUTLET, SWITCH, ETC. WITH THE CIRCUITS IDENTIFICATION.

NOTE: PROPOSED CONDUCTORS FROM PPC TO SSC CABINET EXCLUDE NEUTRAL CONDUCTOR AT THE DIRECTION OF T-MOBILE.

NOTE: ALL EQUIPMENT SHOWN IN THE ONE-LINE DIAGRAM AND PANEL SCHEDULE IN THESE DRAWINGS IS EXISTING UNLESS NOTED OTHERWISE. ONLY NEW CONDUIT AND CONDUCTORS ARE SHOWN ON ONE-LINE DIAGRAM FOR CLARITY.

NOTE: CONTRACTOR TO VERIFY THAT EXISTING EQUIPMENT HAS A MINIMUM OR GREATER AIC RATING OF THE LISTED FAULT CURRENT AND REPLACE IF INSUFFICIENT.

3245 158TH AVENUE MS 231
BELLEVUE, WA 98008

4301 HACIENDA DRIVE, SUITE 410
PLEASANTON, CA 94588

TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

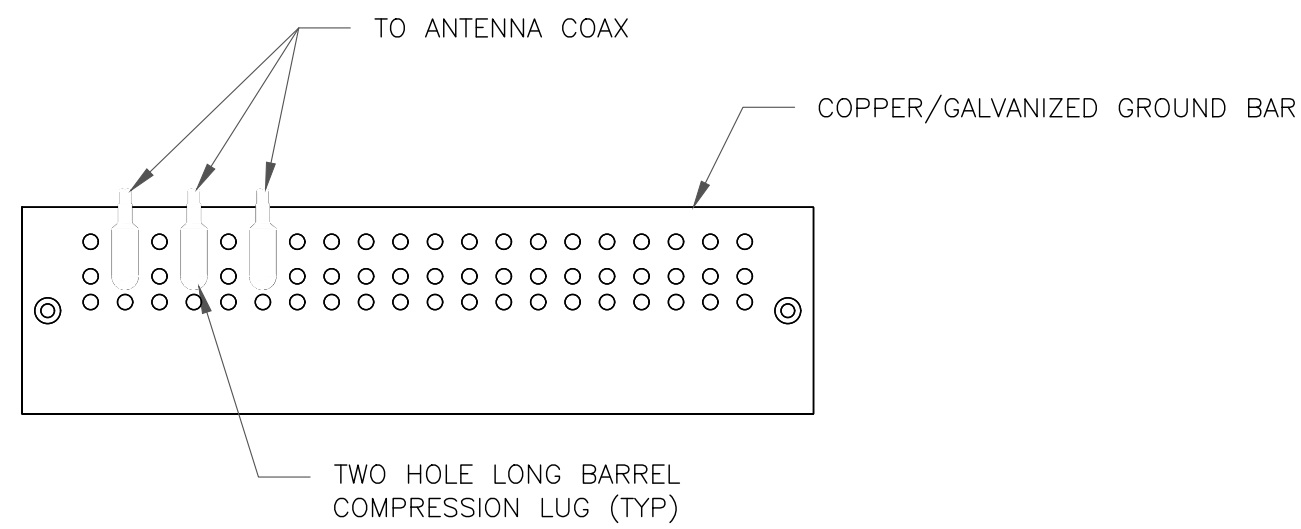
ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ
1	06/03/22	ORG	CONSTRUCTION	JFJ
2	08/31/22	ORG	CONSTRUCTION	JFJ
3	11/17/22	KRS	CONSTRUCTION	JFJ

11/17/22

Mark Quakenbush, P.E.
Professional Engineer License: #23287

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.

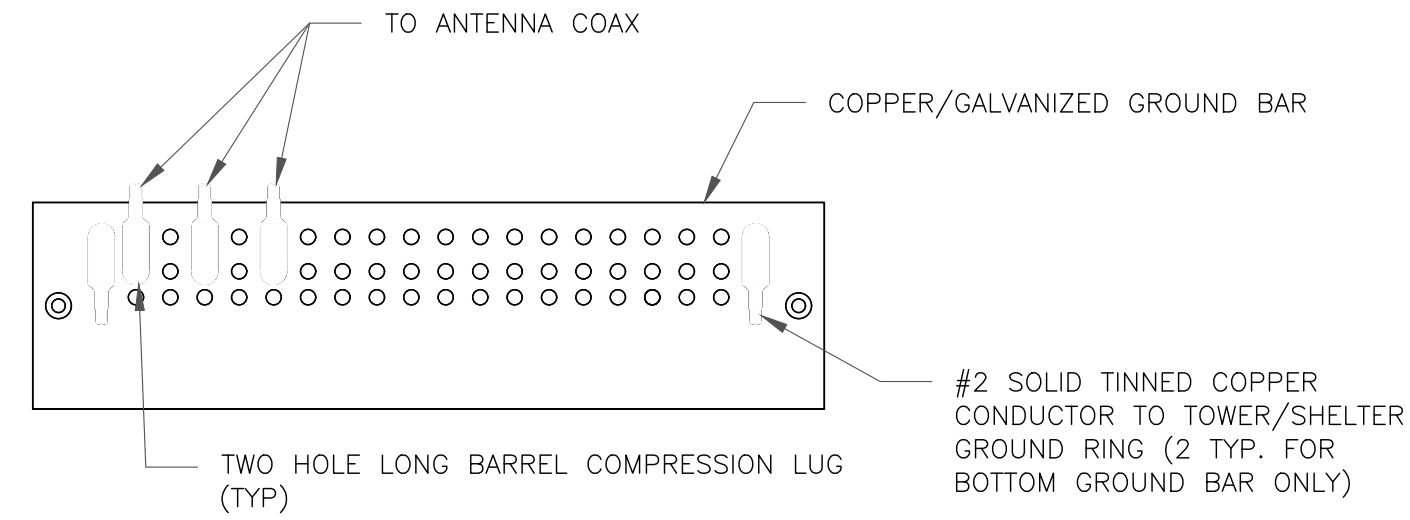
SHEET NUMBER: E-2	REVISION: 3
-----------------------------	-----------------------



NOTES:

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

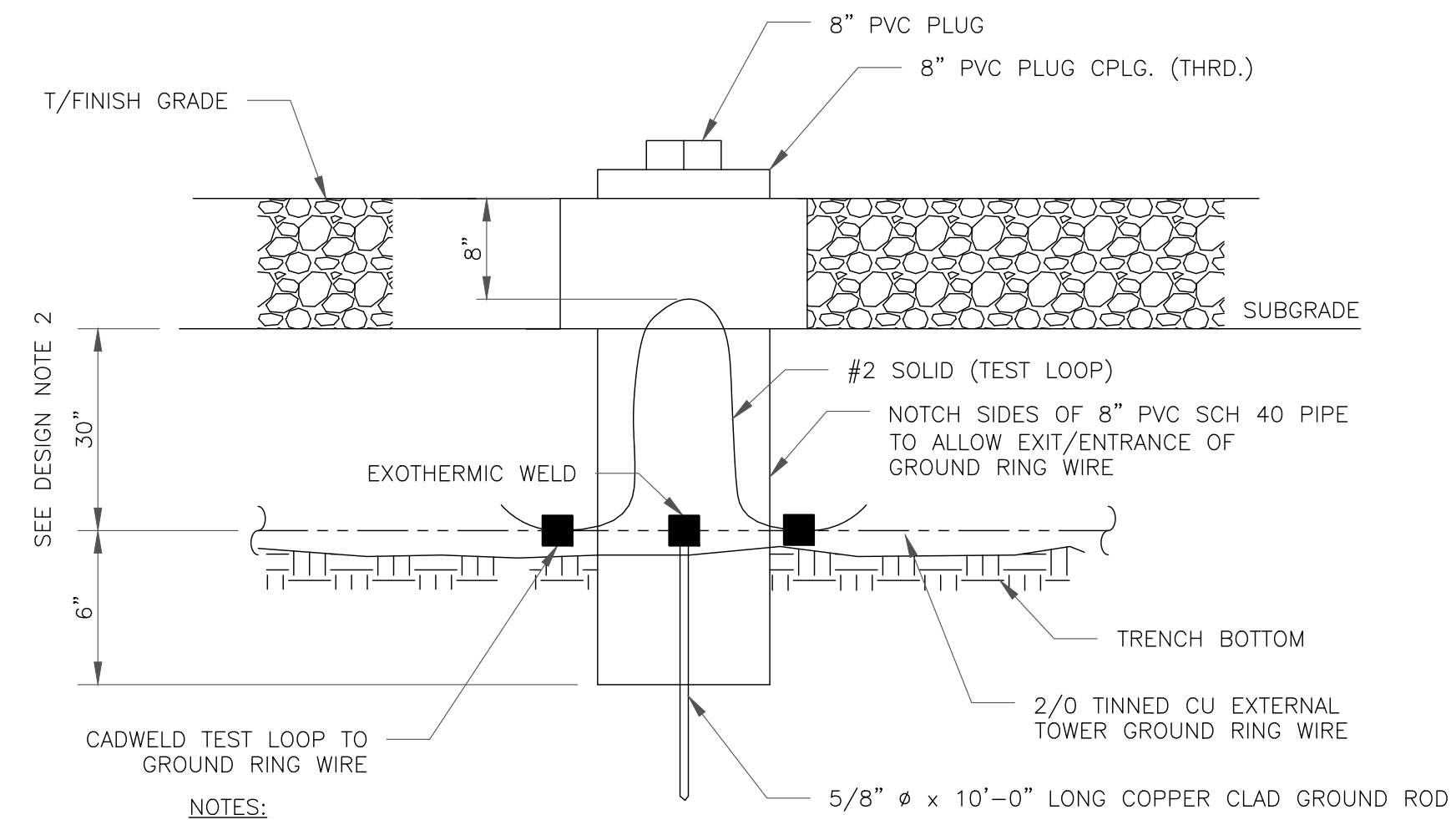
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

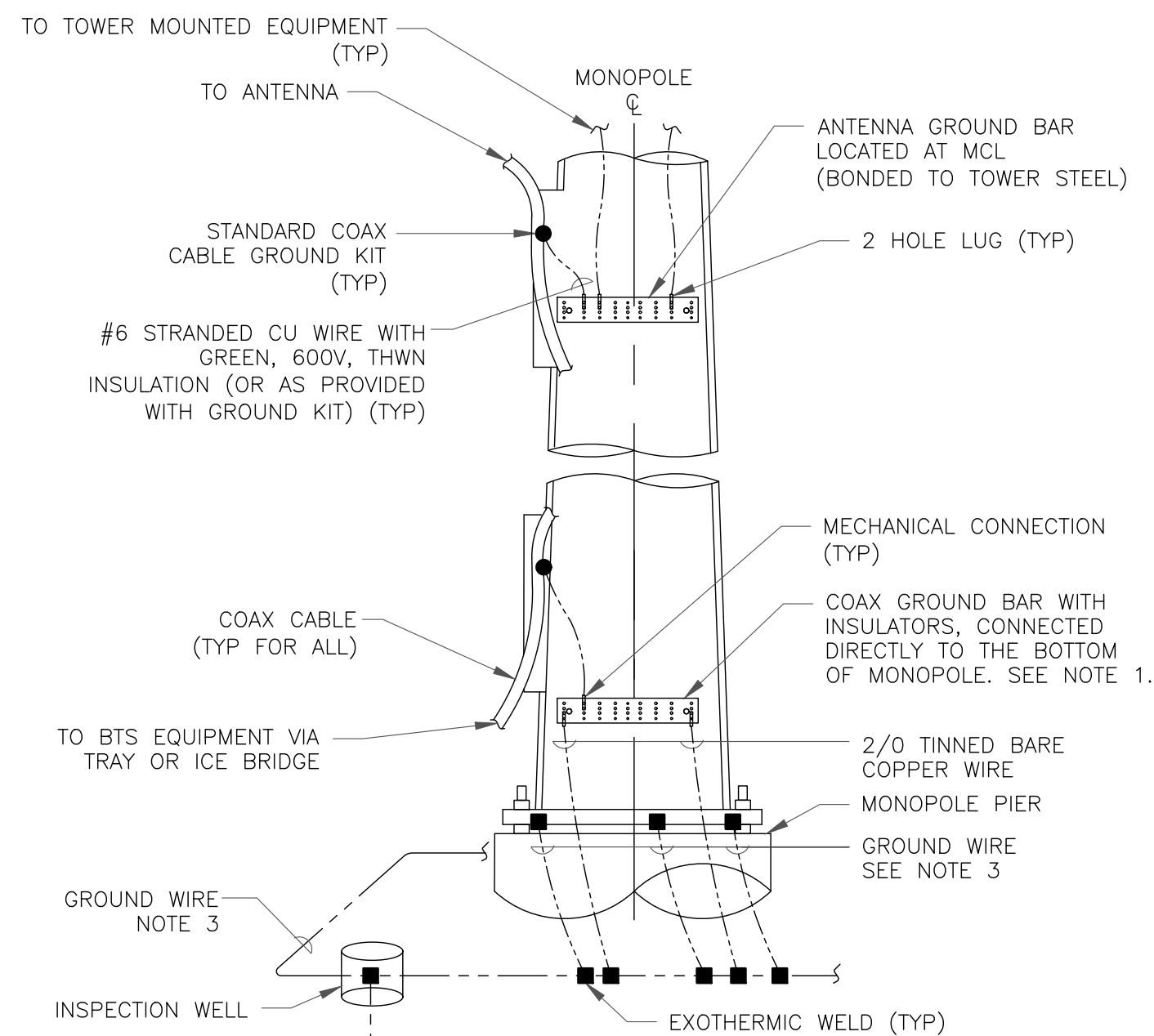
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

- GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
- 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)

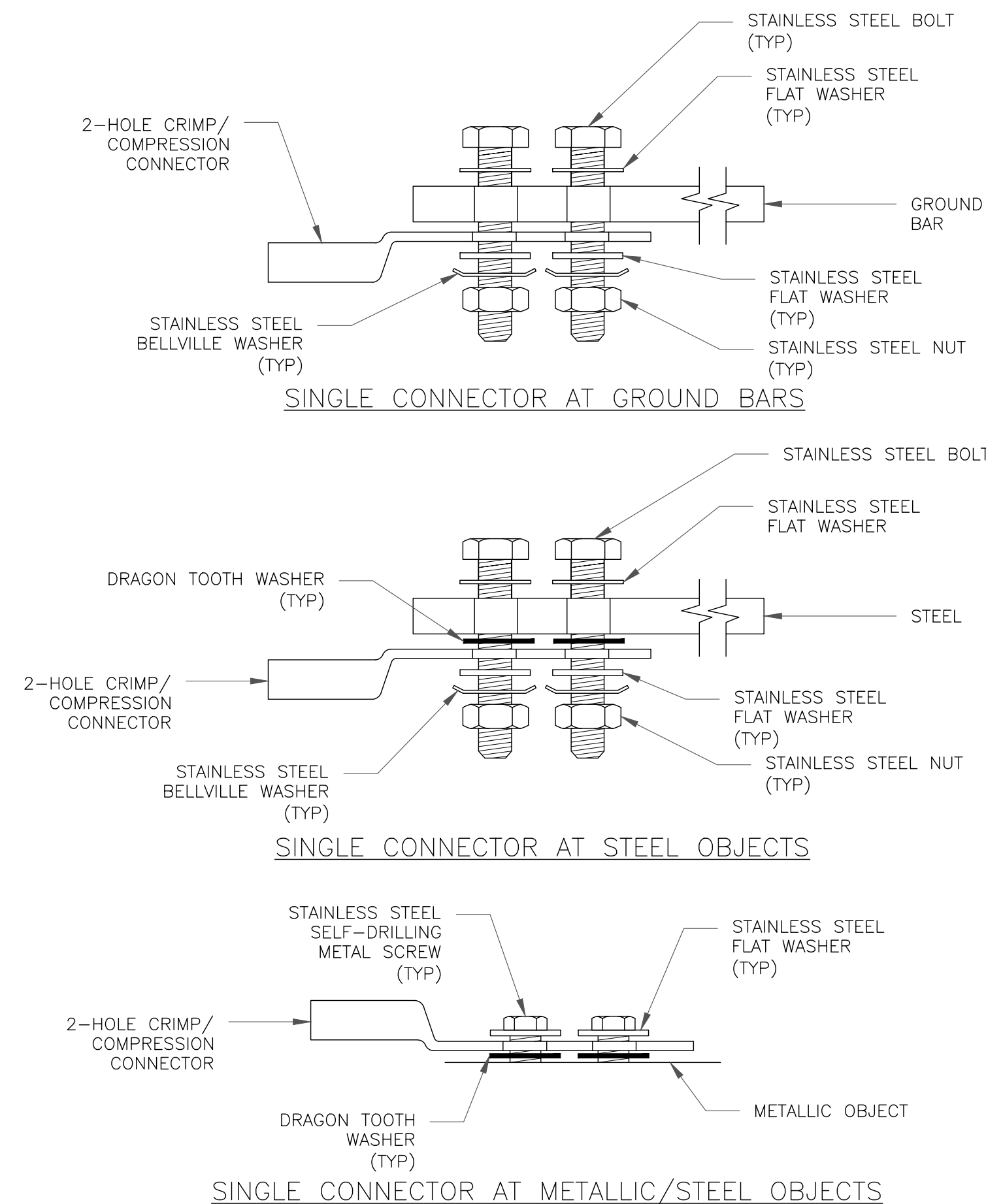
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



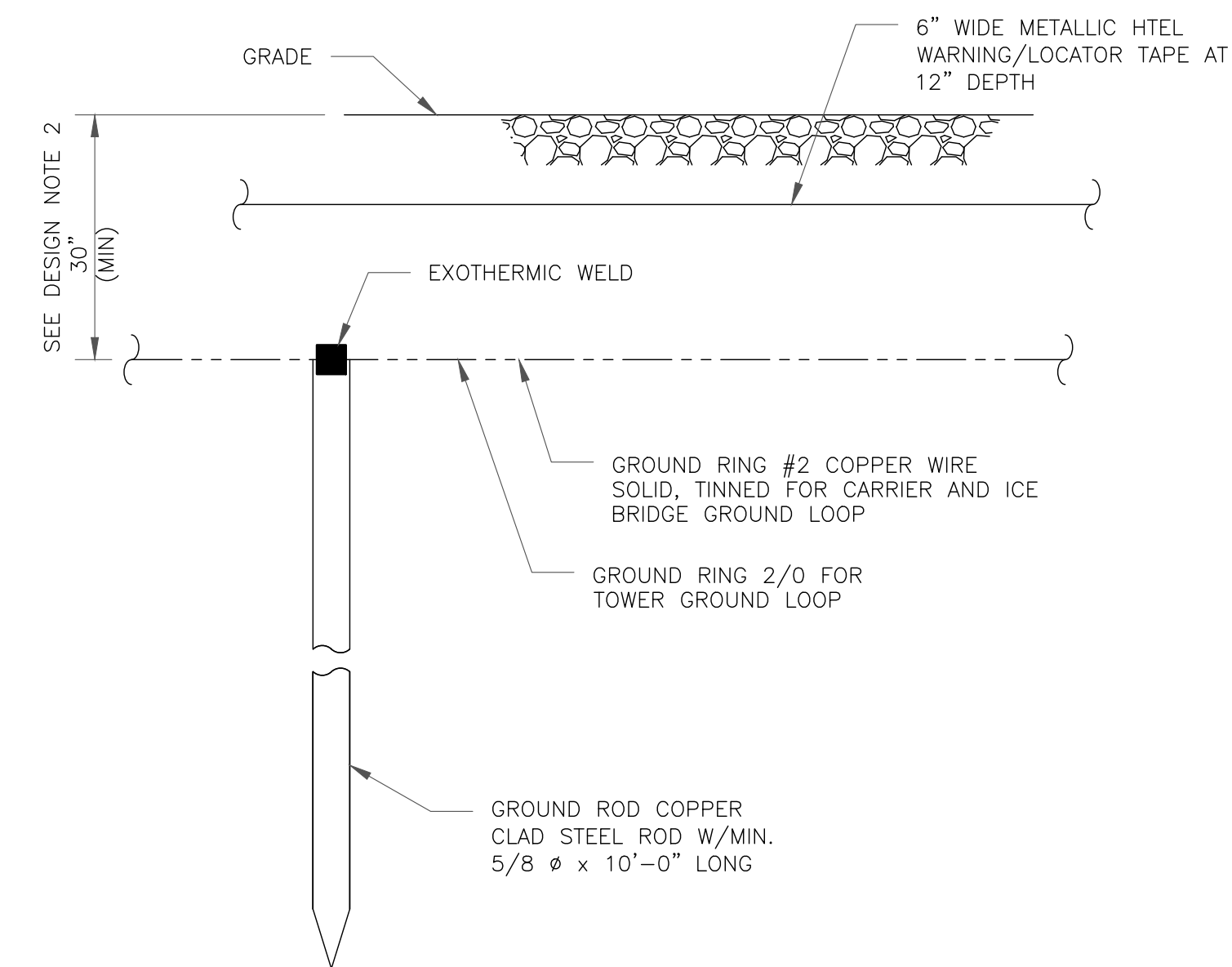
NOTES:

- 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.
- 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.
- ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.

4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

- GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
- 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)

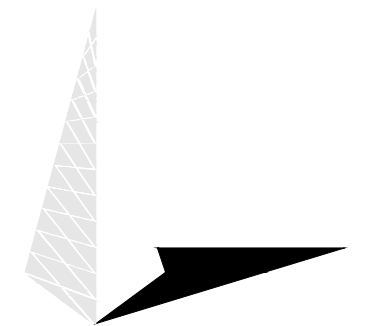
6 GROUND ROD DETAIL
SCALE: NOT TO SCALE



3245 158TH AVENUE MS 231
BELLEVUE, WA 98008



4301 HACIENDA DRIVE, SUITE 410
PLEASANTON, CA 94588



TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/09/21	KBA	PRELIMINARY	GVM
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ



03/09/22

Mark Quakenbush, P.E.
Professional Engineer License: #23287

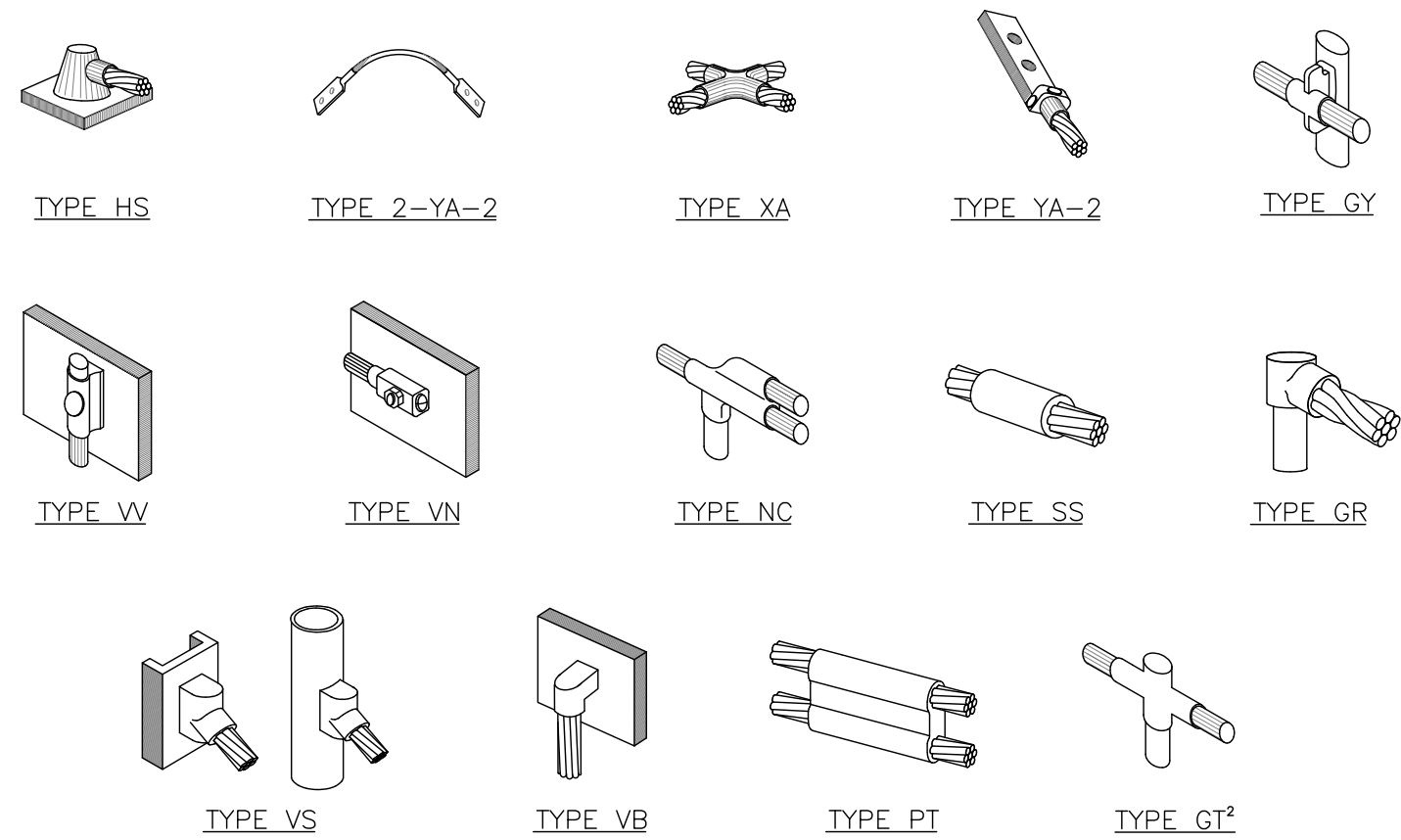
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

G-1

REVISION:

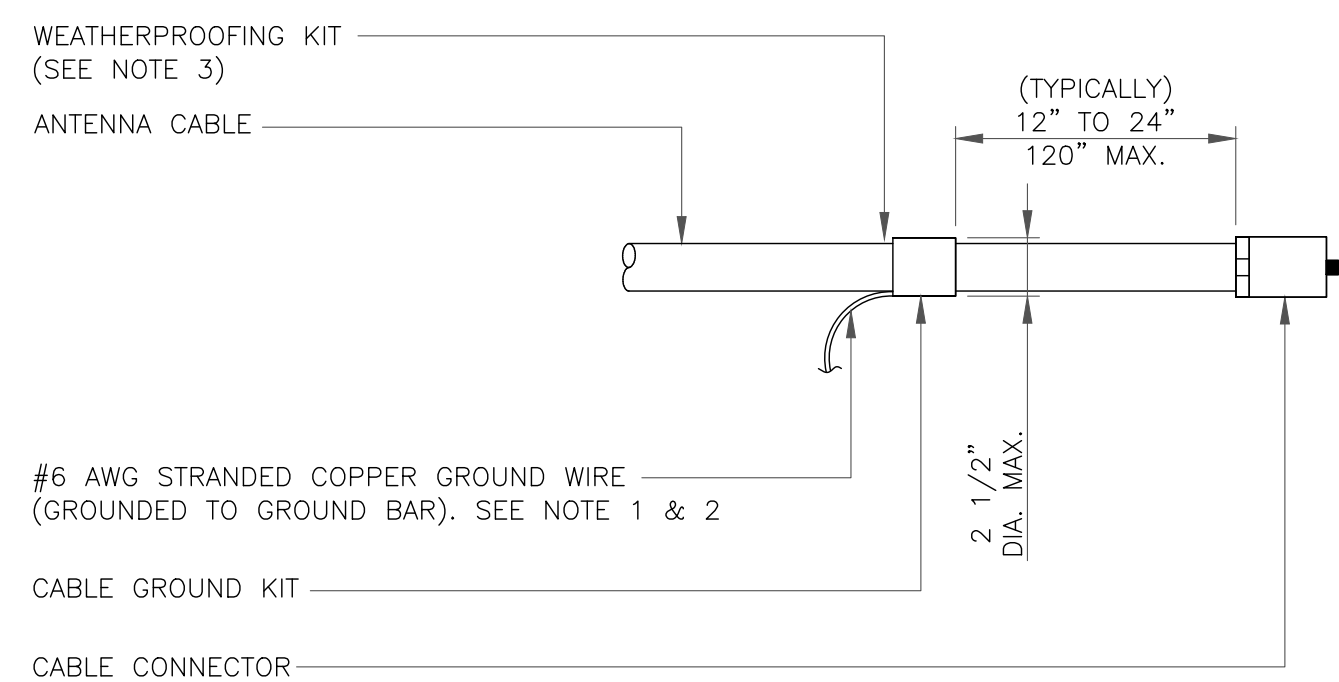
0



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.

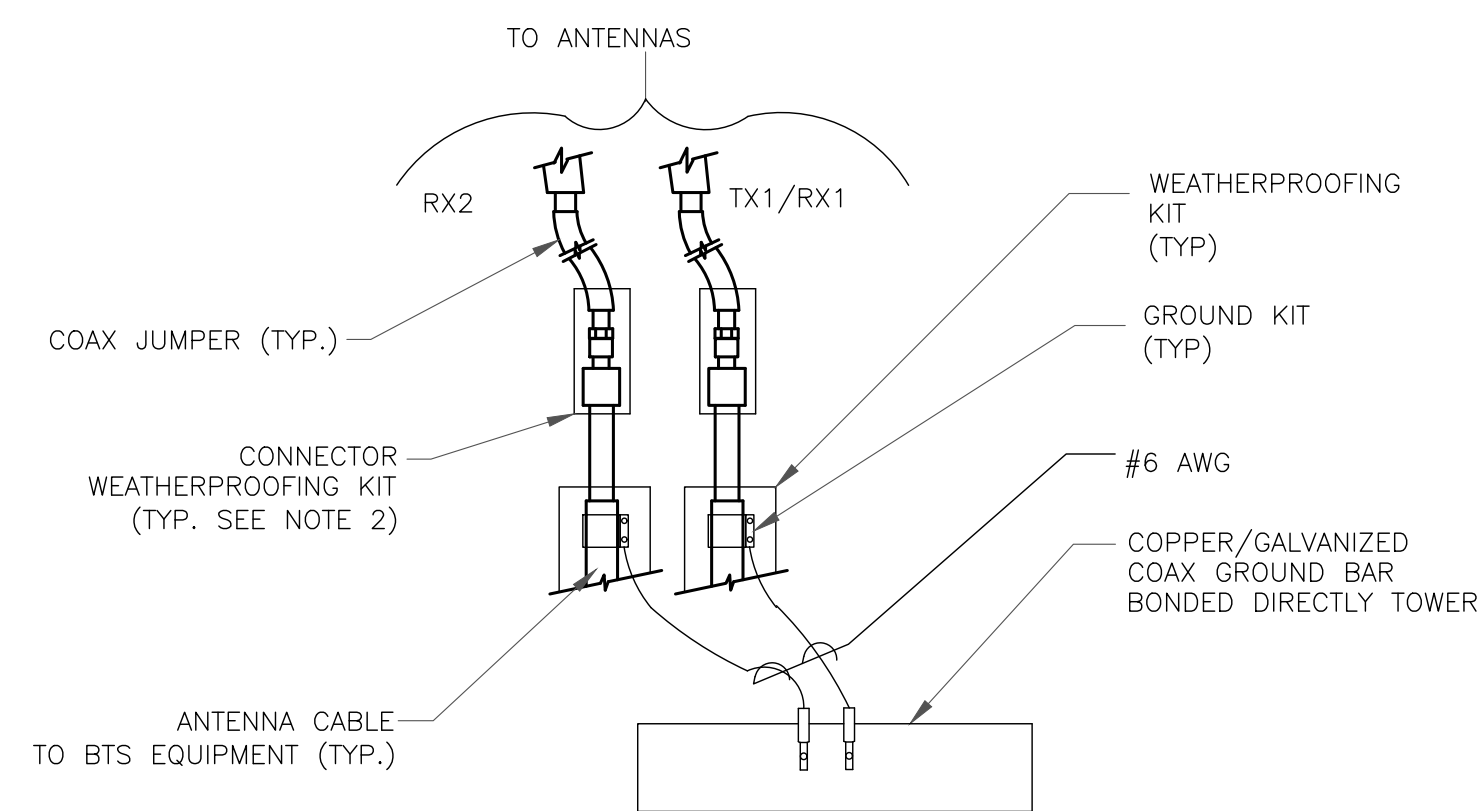
1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE



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.

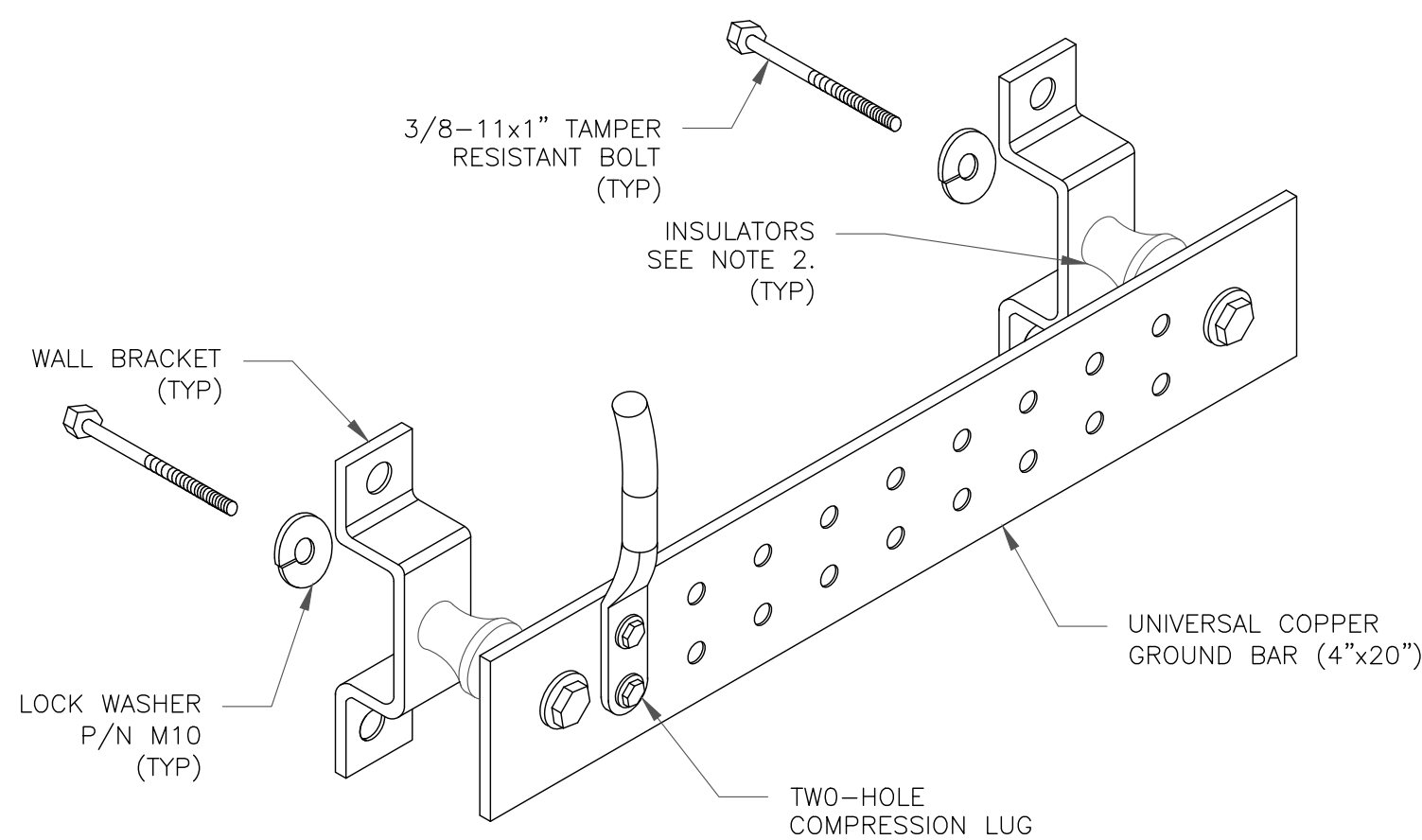
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



NOTES:

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 USED.

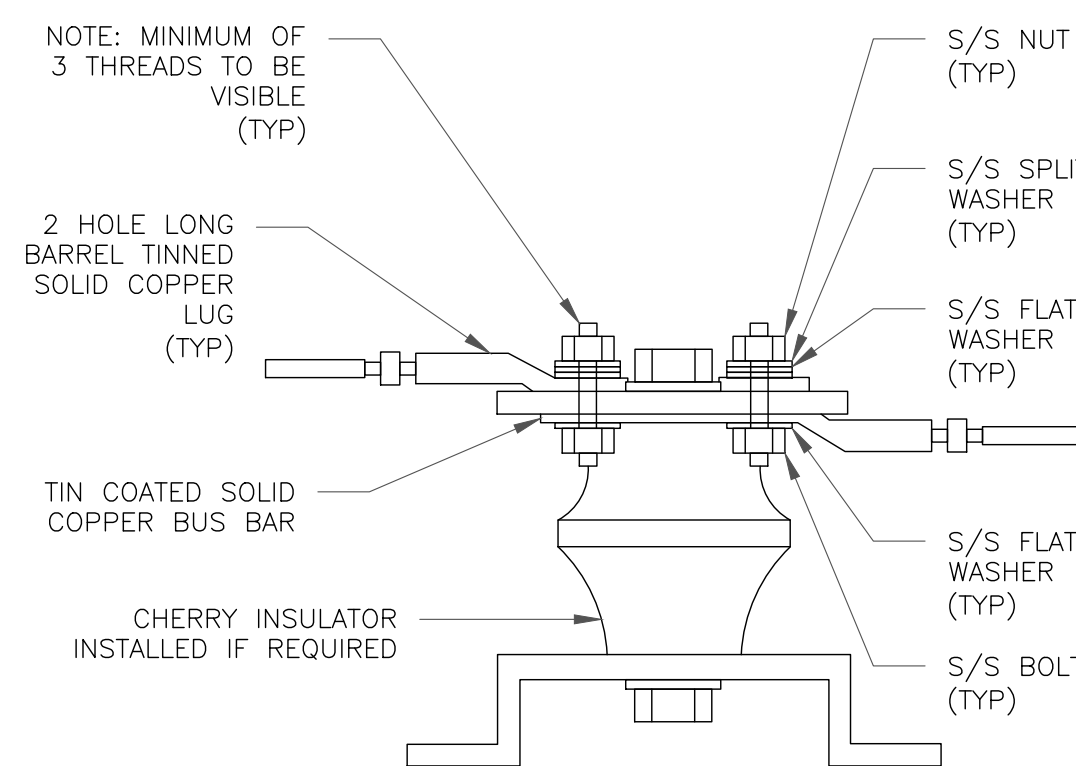
4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



NOTES:

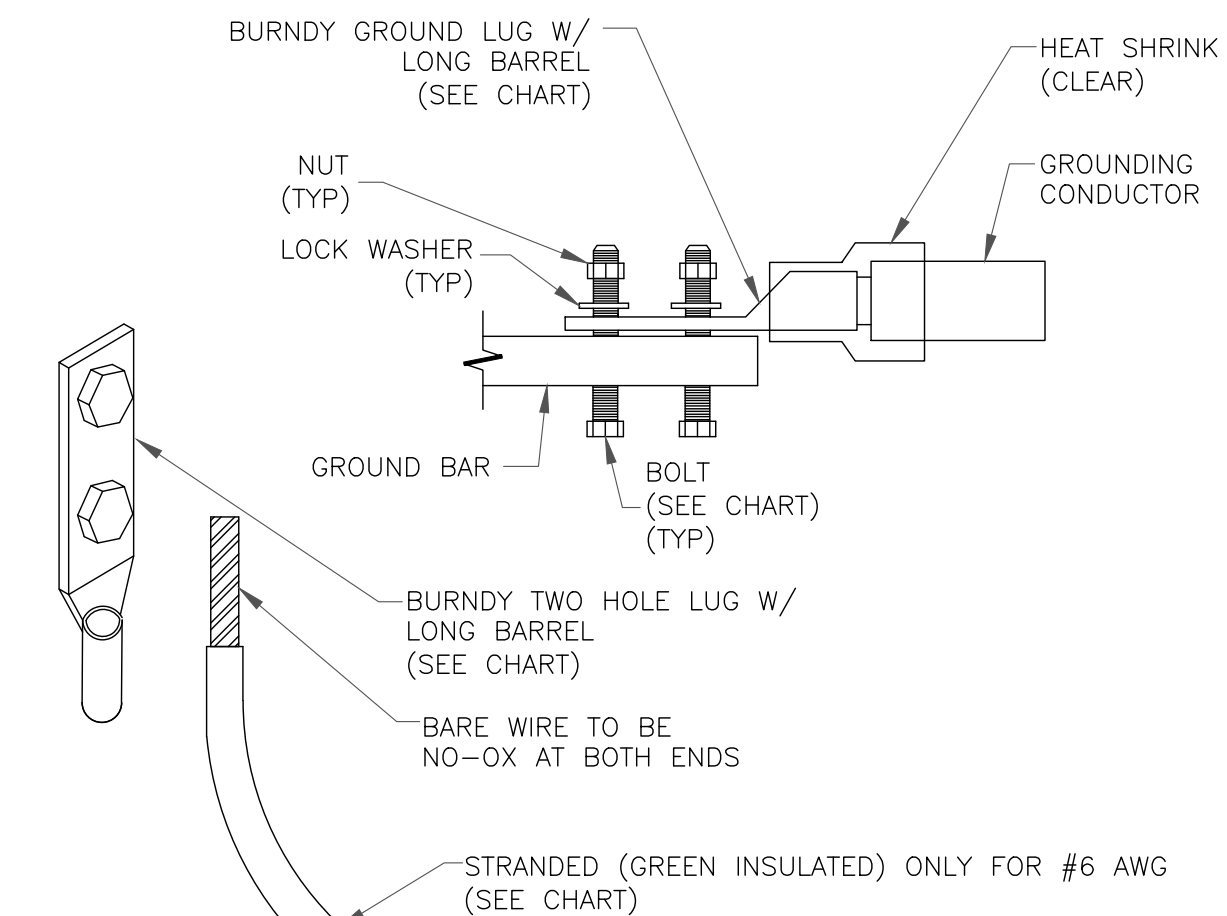
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION. CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR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

6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE

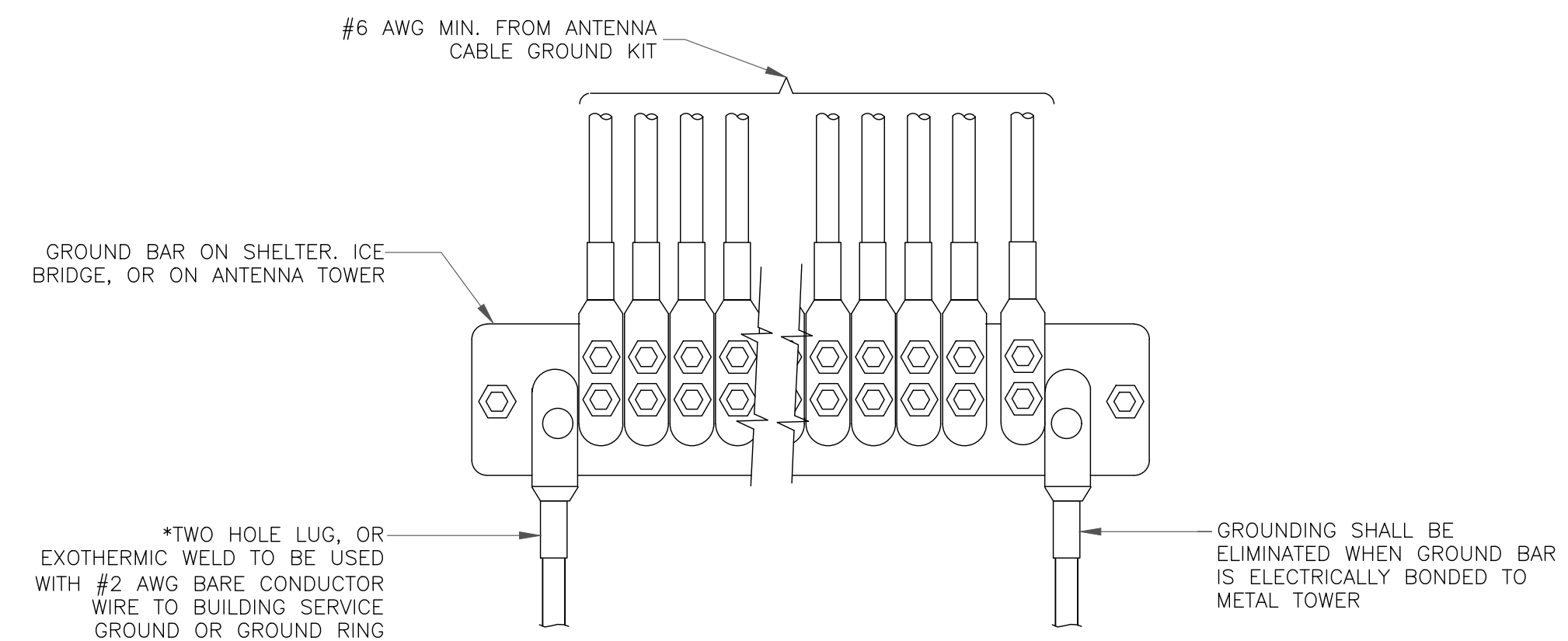
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



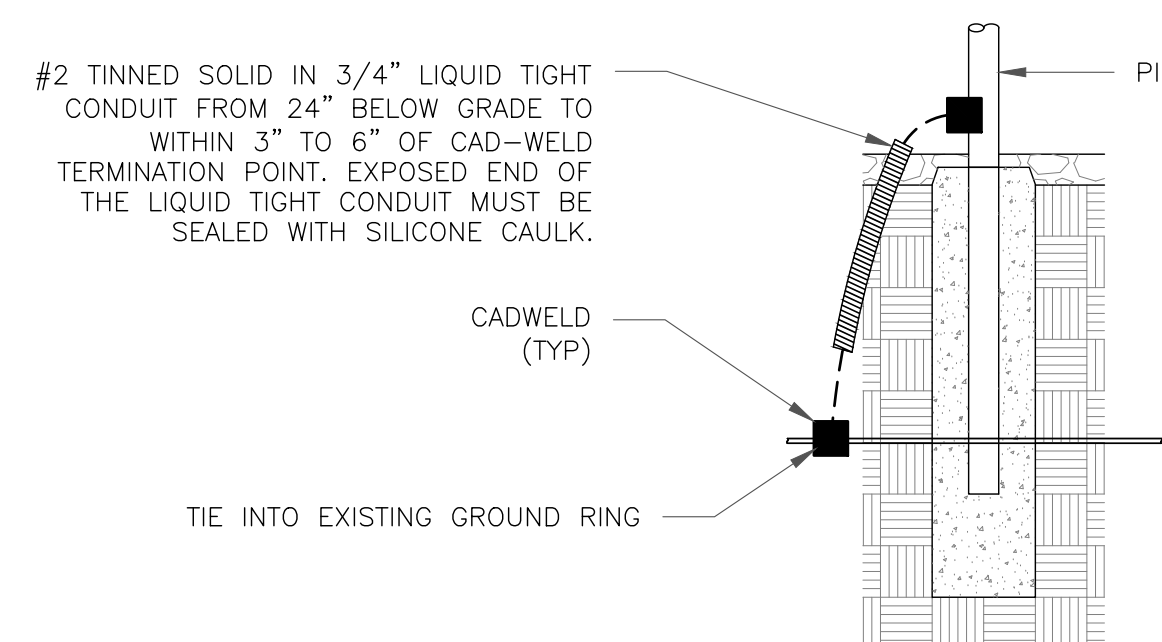
NOTES:

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.

2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

verizon
3245 158TH AVENUE MS 231
BELLEVUE, WA 98008

CROWN CASTLE
4301 HACIENDA DRIVE, SUITE 410
PLEASANTON, CA 94588

TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036

VERIZON SITE NUMBER:
300189

BU #: 877196
101 AUTO REPAIR

13145 MURPHY AVE
SAN MARTIN, CA 95046

EXISTING 35'-0" MODIFIED
TO 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/09/21	KBA	PRELIMINARY	GVM
B	10/21/21	GVM	PRELIMINARY	JFJ
0	03/09/22	DRS	CONSTRUCTION	JFJ

Professional Engineer Seal
MARK QUAKENBUSH, P.E.
ELECTRICAL ENGINEER
STATE OF CALIFORNIA
25287

03/09/22

Mark Quakenbush, P.E.
Professional Engineer License: #23287

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:
G-2

REVISION:
0