



T-MOBILE SITE NUMBER:LA13105A

T-MOBILE SITE NAME:LA3105 MCDONALD 20FLAG

SITE TYPE:MONOPOLE

TOWER HEIGHT:50'-0"

BUSINESS UNIT #:825148

SITE ADDRESS:6565 EDINGER AVE
HUNTINGTON BEACH, CA 92647

COUNTY:ORANGE

JURISDICTION:CITY OF HUNTINGTON BEACH

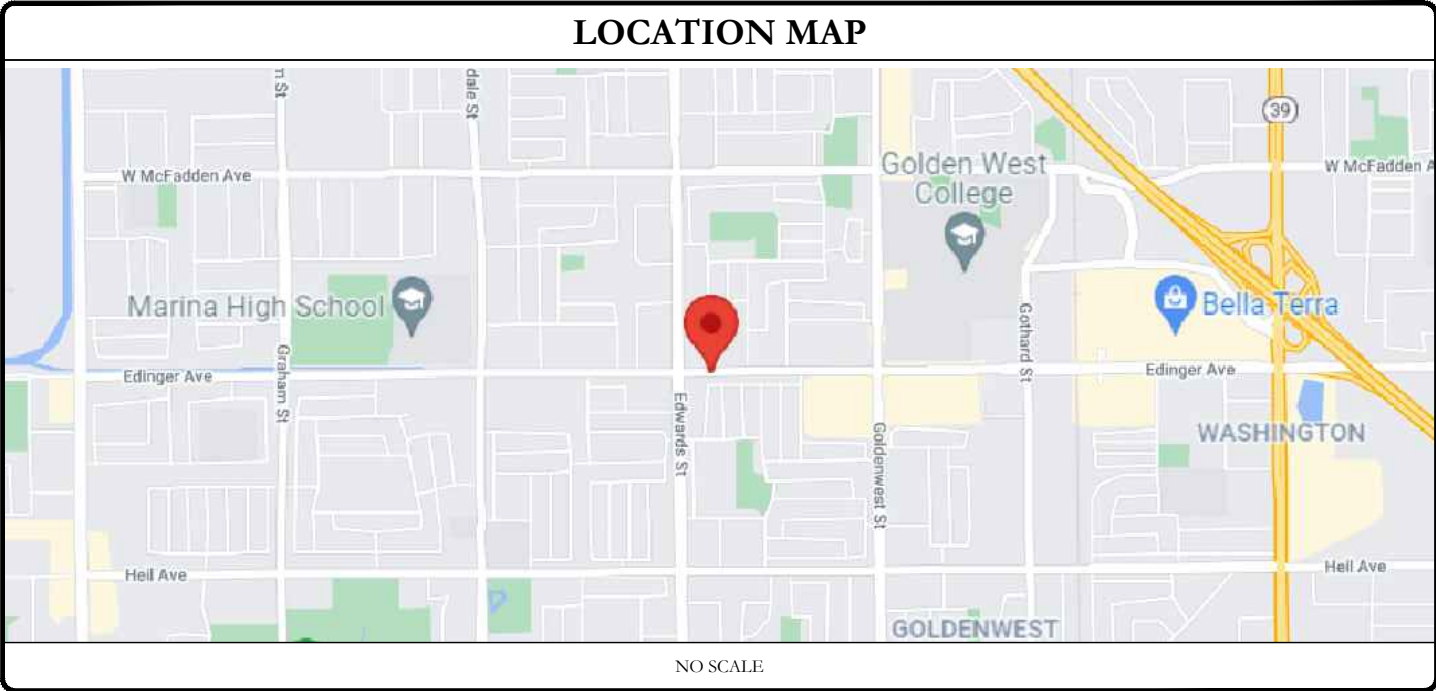
T-MOBILE ANCHOR SITE CONFIGURATION: 67E5D998E P6230

SITE INFORMATION	
CROWN CASTLE USA INC. SITE NAME:	LA3105 MCDONALD 20FLAG
SITE ADDRESS:	6565 EDINGER AVE HUNTINGTON BEACH, CA 92647
COUNTY:	ORANGE
MAP/PARCEL #:	145-313-27
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	33° 43' 48.74"
LONGITUDE:	-118° 0' 50.71"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	15 FT
CURRENT ZONING:	C - G GENERAL COMERCIAL
JURISDICTION:	CITY OF HUNTINGTON BEACH
OCCUPANCY CLASSIFICATION:U	
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	MCDONALDS CORPORATION 2619 CASELLA WAY SAN RAMON, CA 94583
TOWER OWNER:	CROWN CASTLE 200 SPECTRUM CENTER DRIVE, SUITE 1700 & 1800 IRVINE, CA 92618
CARRIER/APPLICANT:	T-MOBILE 2008 MCGAW AVENUE IRVINE, CA 92614
ELECTRIC PROVIDER:	SOUTHERN CALIFORNIA EDISON (800) 655-4555
TELCO PROVIDER:	VERIZON CALIFORNIA (877) 596-7577

PROJECT TEAM	
A&E FIRM:	KIMLEY-HORN & ASSOCIATES, INC. 3875 EMBASSY PKWY, SUITE 280 AKRON, OH 44333 KEVIN.CLEMENTS@KIMLEY-HORN.COM
CROWN CASTLE USA INC. DISTRICT CONTACTS:	200 SPECTRUM CENTER DRIVE, SUITE 1700 & 1800 IRVINE, CA 92618

DRAWING INDEX	
SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-0	OVERALL PARCELL PLAN
C-1.1	OVERALL SITE PLAN
C-1.2	SITE PLAN & ENLARGED SITE PLAN
C-2.1	EXISTING & FINAL ELEVATIONS
C-2.2	EXISTING & PROPOSED ANTENNA PLANS
C-3	ANTENNA & CABLE SCHEDULE
C-4	PLUMBING DIAGRAM
C-5	EQUIPMENT SPECS
C-6	BATTERY SPECS
C-7	POWER 6230 SPECS
C-8	EQUIPMENT SPECS
E-1	AC PANEL SCHEDULES & ONE LINE DIAGRAM
G-1	ANTENNA GROUNDING DIAGRAM
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.	

PROJECT DESCRIPTION
THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.
TOWER SCOPE OF WORK: - REMOVE (6) ANTENNAS - REMOVE (12) RRHs - REMOVE (3) TMAs - REMOVE (12) 1-5/8" COAX CABLES - INSTALL (6) ANTENNAS - INSTALL (6) RRHs - INSTALL (3) 1-3/8" HYBRID CABLE
GROUND SCOPE OF WORK: - REMOVE (1) PB6 6500 - REMOVE (1) RBS 6201 - INSTALL (1) 19" RACK - INSTALL (2) RP 6651 - INSTALL (1) POWER 6230 - INSTALL (1) CSR IXRE V2 - RELOCATE (1) BB 6630
NOTE: PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.



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	2025 CALIFORNIA BUILDING CODE (CBC)/2024 IBC
MECHANICAL	2025 CALIFORNIA MECHANICAL CODE (CMC)/2024 UMC
ELECTRICAL	2025 CALIFORNIA ELECTRICAL CODE (CEC)/2023 NEC
REFERENCE DOCUMENTS:	
STRUCTURAL ANALYSIS:	N/A
DATED:	
MOUNT ANALYSIS:	N/A
DATED:	
RFDS REVISION:	7
DATED:	09/22/22
ORDER ID:	530570
REVISION:	3

APPROVALS		
APPROVAL	SIGNATURE	DATE
PROPERTY OWNER OR REP.		
LAND USE PLANNER		
T-MOBILE		
OPERATIONS		
RF		
NETWORK		
BACKHAUL		
CONSTRUCTION MANAGER		
THE PARTIES ABOVE HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL CONSTRUCTION DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY CHANGES AND MODIFICATIONS THEY MAY IMPOSE.		

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN CASTLE

200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

Kimley»Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK

LICENSED PROFESSIONAL ENGINEER
ERIC J. EMBICK
C 94589
CIVIL
STATE OF CALIFORNIA

06/30/26
Exp. 03/31/27

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:
8



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



CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

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

GREENFIELD GROUNDING NOTES:

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

GENERAL NOTES:

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

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

ELECTRICAL INSTALLATION NOTES:

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

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

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

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
OSM	GLOBAL SYSTEM FOR MOBILE
LTE	LONG TERM EVOLUTION
MGB	MASTER GROUND BAR
MW	MICROWAVE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
(P)	PROPOSED
PP	POWER PLANT
QTY	QUANTITY
RECT	RECTIFIER
RBS	RADIO BASE STATION
RET	REMOTE ELECTRIC TILT
RFDS	RADIO FREQUENCY DATA SHEET
RRU	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

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

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614



Kimley»Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK



06/30/26

Exp. 03/31/27

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:

8

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



2008 MCGAW AVENUE
IRVINE, CA 92614



200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618



421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: **825148**
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK



06/30/26
Exp. 03/31/27

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-0	REVISION: 8
-----------------------------	-----------------------



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

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN CASTLE

200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

Kimley»Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK

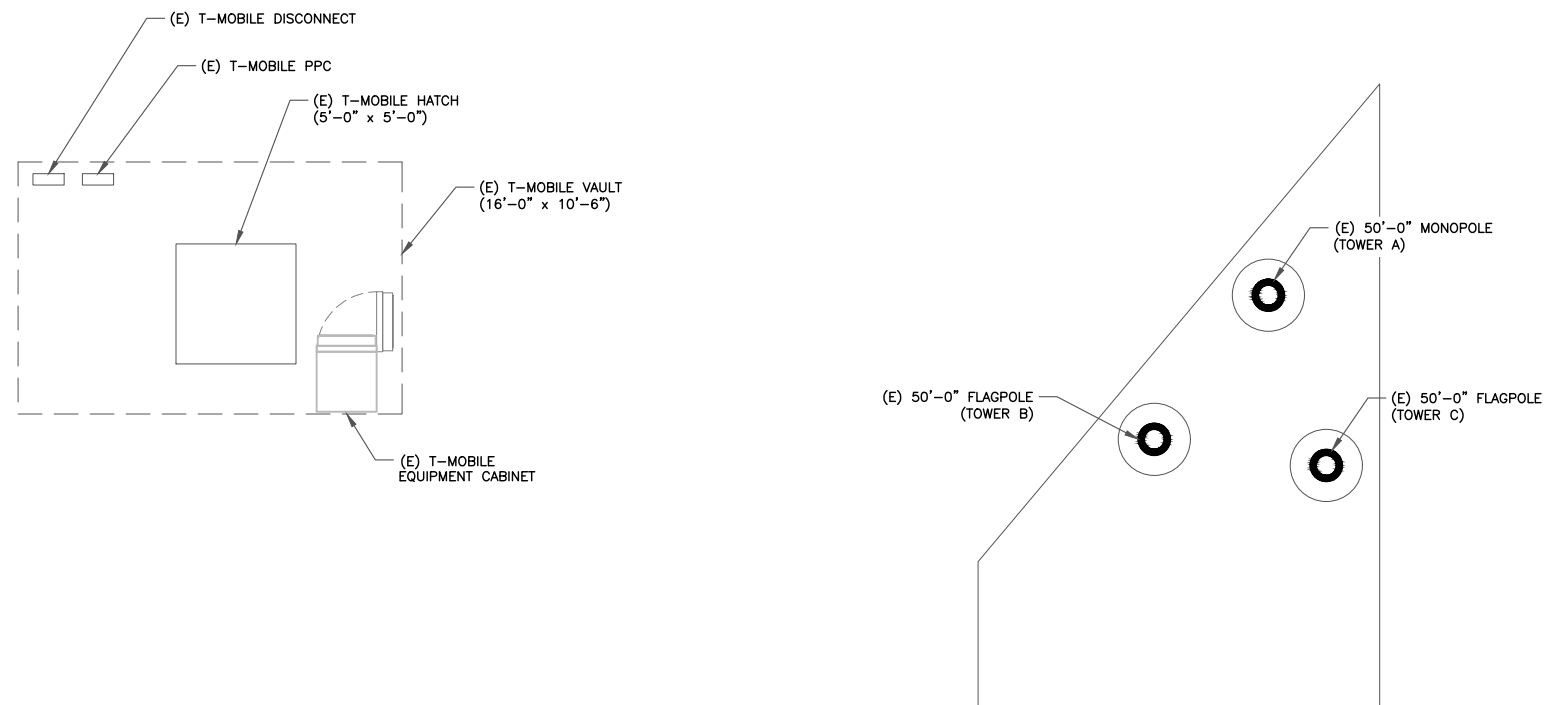
LICENSED PROFESSIONAL ENGINEER
ERIC J. EMBICK
C 94589
CIVIL
STATE OF CALIFORNIA

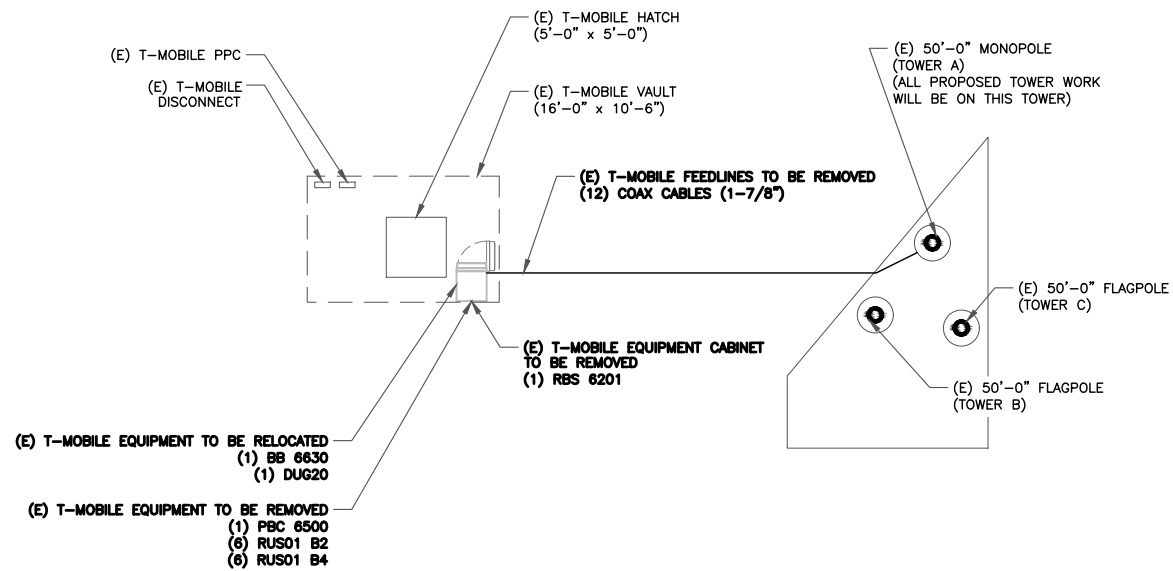
06/30/26
Exp. 03/31/27

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.

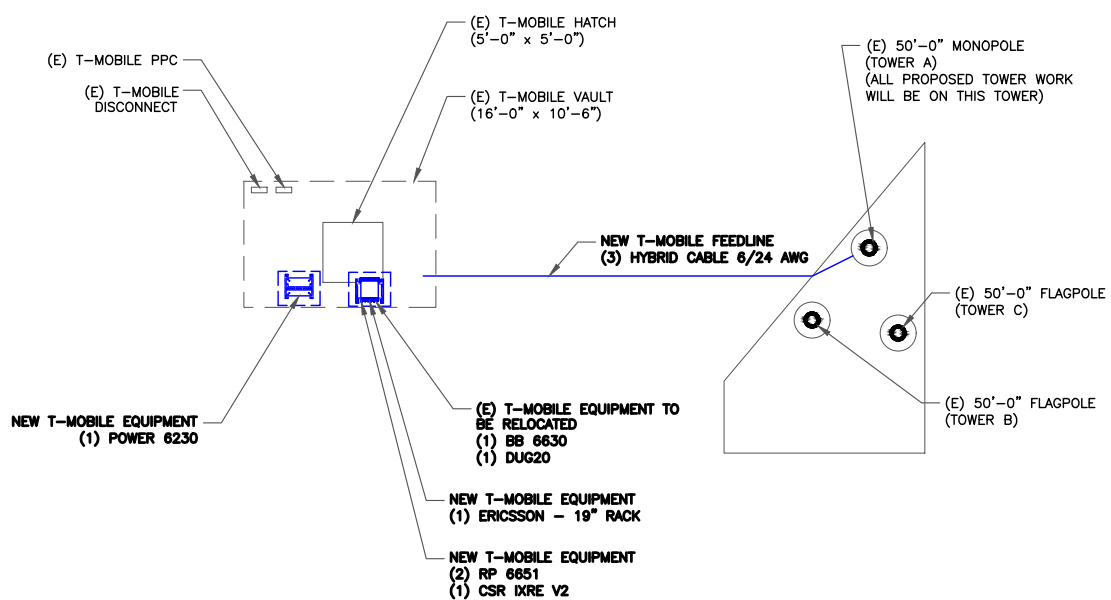
SHEET NUMBER:
C-1.1

REVISION:
8





1 EXISTING SITE PLAN
SCALE: 1/8"=1'-0" (FULL SIZE)
1/16"=1'-0" (11x17)



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



NOTES:

THE POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGES IS TO BE PERFORMED BY OTHERS AND IS SHOWN HERE FOR REFERENCE PURPOSES ONLY. T-MOBILE IS SOLELY RESPONSIBLE FOR THE ELECTRICAL POWER DESIGN.

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN CASTLE

200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

Kimley»Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK



06/30/26

Exp. 03/31/27

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:

8

ANY AND ALL TOWER MOUNTED EQUIPMENT MUST NOT TRAP OR INTERFERE W/ EXISTING SAFETY CLIMB

EXISTING T-MOBILE EQUIPMENT TO BE REMOVED
(6) ANTENNAS
(15) DIPLEXERS
(12) RRUS



TIP OF EXISTING FLAG POLE BALL
ELEV. = 51'-6"
TOP OF EXISTING CANISTER
ELEV. = 50'-0"

EXISTING PANEL ANTENNAS
ACL = 47'-0"

EXISTING PANEL ANTENNAS
ACL = 37'-0"

(E) 50'-0" MONOPOLE

NEW T-MOBILE FEEDLINE
(3) HYBRID CABLE (1-5/8")

15 FT AMSL

BOTTOM OF TOWER
ELEV. = 1'-0"

1 FINAL ELEVATION
SCALE: 1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (11x17)

PROPOSED CANISTER AND MATERIAL TO BE PAINTED COLOR CODE SW 7006 "EXTRA WHITE"

ANY AND ALL TOWER MOUNTED EQUIPMENT MUST NOT TRAP OR INTERFERE W/ EXISTING SAFETY CLIMB

NEW T-MOBILE EQUIPMENT
(3) ANTENNAS - ERICSSON - AIR6419 B41

NEW T-MOBILE EQUIPMENT
(3) ANTENNAS - COMMScope - FFV4 - 65B-R6

NEW T-MOBILE 50# CONCEALMENT SHROUD.
CANISTER TO BE MADE FROM 1/4" FRP.

NEW T-MOBILE EQUIPMENT
(3) RRHs - ERICSSON - 4460 B25+B66

NEW T-MOBILE EQUIPMENT
(3) RRHs - ERICSSON - 4460 B71+B85

50# CANISTER

4'-0"
NEW CONCEALMENT CANISTER
(BY OTHERS)

8'-1"
NEW CONCEALMENT CANISTER
(BY OTHERS)

8'-1"
NEW CONCEALMENT CANISTER
(BY OTHERS)

TIP OF EXISTING FLAG POLE BALL
ELEV. = 55'-8"

TOP OF NEW CANISTER
ELEV. = 54'-2"

PROPOSED PANEL ANTENNAS
ACL = 52'-2"

PROPOSED PANEL ANTENNAS
ACL = 46'-2"

PROPOSED RRH
ACL = 40'-0"

PROPOSED RRH
ACL = 36'-0"

(E) 50'-0" MONOPOLE

NEW T-MOBILE FEEDLINE
(3) HYBRID CABLE (1-5/8")

15 FT AMSL

BOTTOM OF TOWER
ELEV. = 1'-0"

1 FINAL ELEVATION
SCALE: 1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (11x17)

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN CASTLE

200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

Kimley»Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK



06/30/26
Exp. 03/31/27

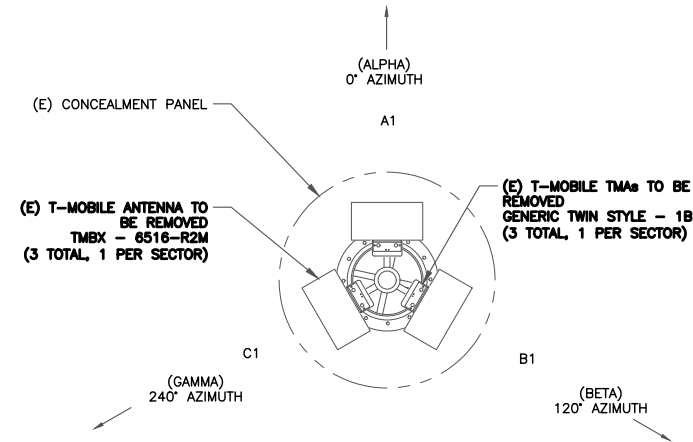
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

C-2.1

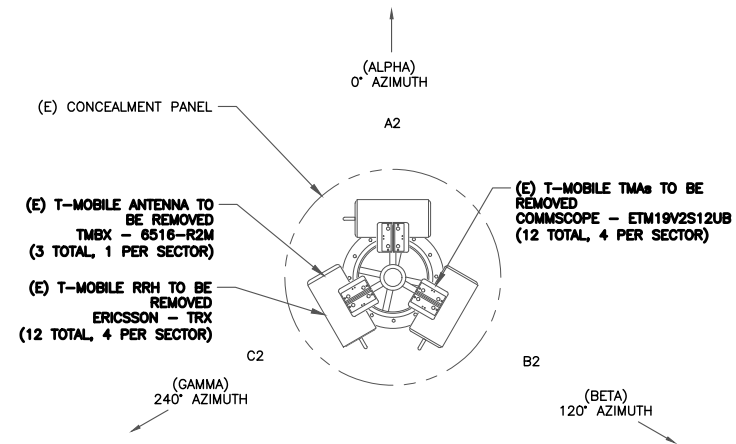
REVISION:

8



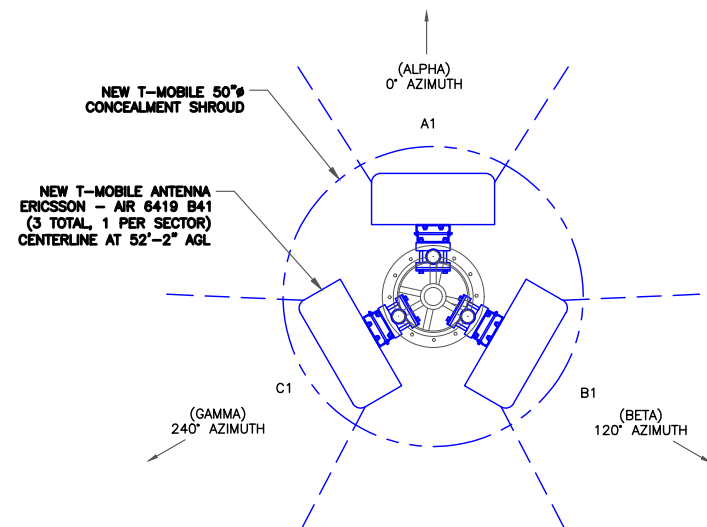
1 EXISTING ANTENNA LAYOUT @ AGL 47'-0"

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



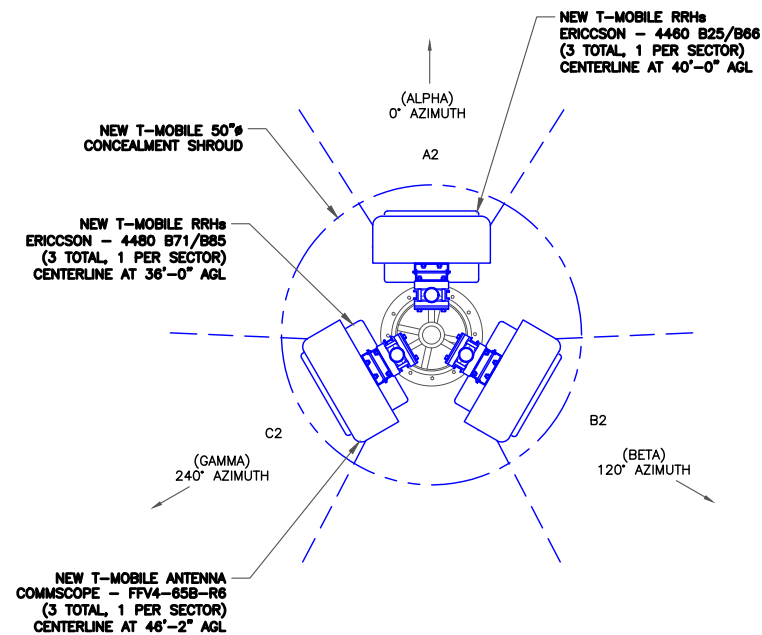
2 EXISTING ANTENNA LAYOUT @ AGL 38'-0"

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



3 FINAL ANTENNA LAYOUT @ AGL 52'-2"

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



4 FINAL ANTENNA LAYOUT @ AGL 46'-2"

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



T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN
CASTLE

200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

Kimley»Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK



06/30/26
Exp. 03/31/27

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-2.2

REVISION:

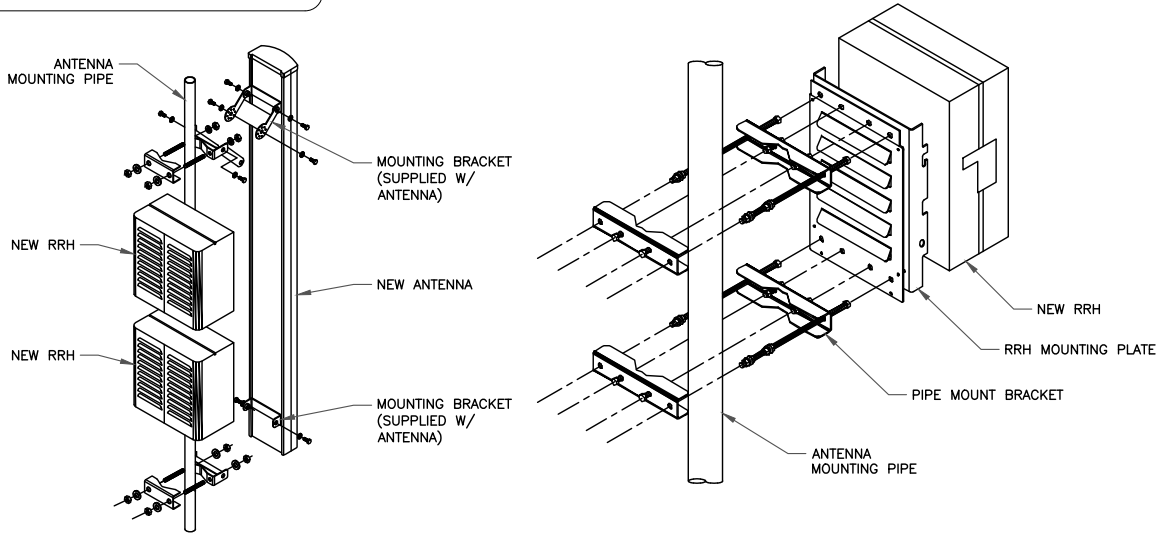
8

ANTENNA SCHEDULE												
SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	JUMPER TYPE	JUMPER LENGTH	FEEDLINE TYPE
ALPHA	A1	N2500	52'-2"	0°	ERICSSON	AIR 6419 B41	0°	2°	-	JUMPER SUREFLEX 4.3-10 TO 4.3-10 2F 5M OUTDOORCON-LCD W COVER	10FT 5M	HYBRID (SHARED)
ALPHA	A2	L600/700/1900/2100 N600/G1900/N1900	46'-2"	0°	COMMScope	FFV4 - 65B - R6	0°	2°	(1) ERICSSON - RRUS 4480 B71/B85 (1) ERICSSON - RRUS 4460 B25/B66	2F 5M OUTDOORCON-LCD W COVER	5M	(1) 6/24 4 AWG HYBRID
BETA	B1	N2500	52'-2"	120°	ERICSSON	AIR 6419 B41	0°	2°	-	JUMPER SUREFLEX 4.3-10 TO 4.3-10 2F 5M OUTDOORCON-LCD W COVER	10FT 5M	HYBRID (SHARED)
BETA	B2	L600/700/1900/2100 N600/G1900/N1900	46'-2"	120°	COMMScope	FFV4 - 65B - R6	0°	2°	(1) ERICSSON - RRUS 4480 B71/B85 (1) ERICSSON - RRUS 4460 B25/B66	2F 5M OUTDOORCON-LCD W COVER	5M	(1) 6/24 4 AWG HYBRID
GAMMA	C1	N2500	52'-2"	240°	ERICSSON	AIR 6419 B41	0°	2°	-	JUMPER SUREFLEX 4.3-10 TO 4.3-10 2F 5M OUTDOORCON-LCD W COVER	10FT 5M	HYBRID (SHARED)
GAMMA	C2	L600/700/1900/2100 N600/G1900/N1900	46'-2"	240°	COMMScope	FFV4 - 65B - R6	0°	2°	(1) ERICSSON - RRUS 4480 B71/B85 (1) ERICSSON - RRUS 4460 B25/B66	2F 5M OUTDOORCON-LCD W COVER	5M	(1) 6/24 4 AWG HYBRID

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE

INSTALLER NOTES:

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



2 ANTENNA WITH RRHs MOUNTING DETAIL
SCALE: NOT TO SCALE

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN CASTLE
200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

KimleyHorn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK



06/30/26
Exp. 03/31/27

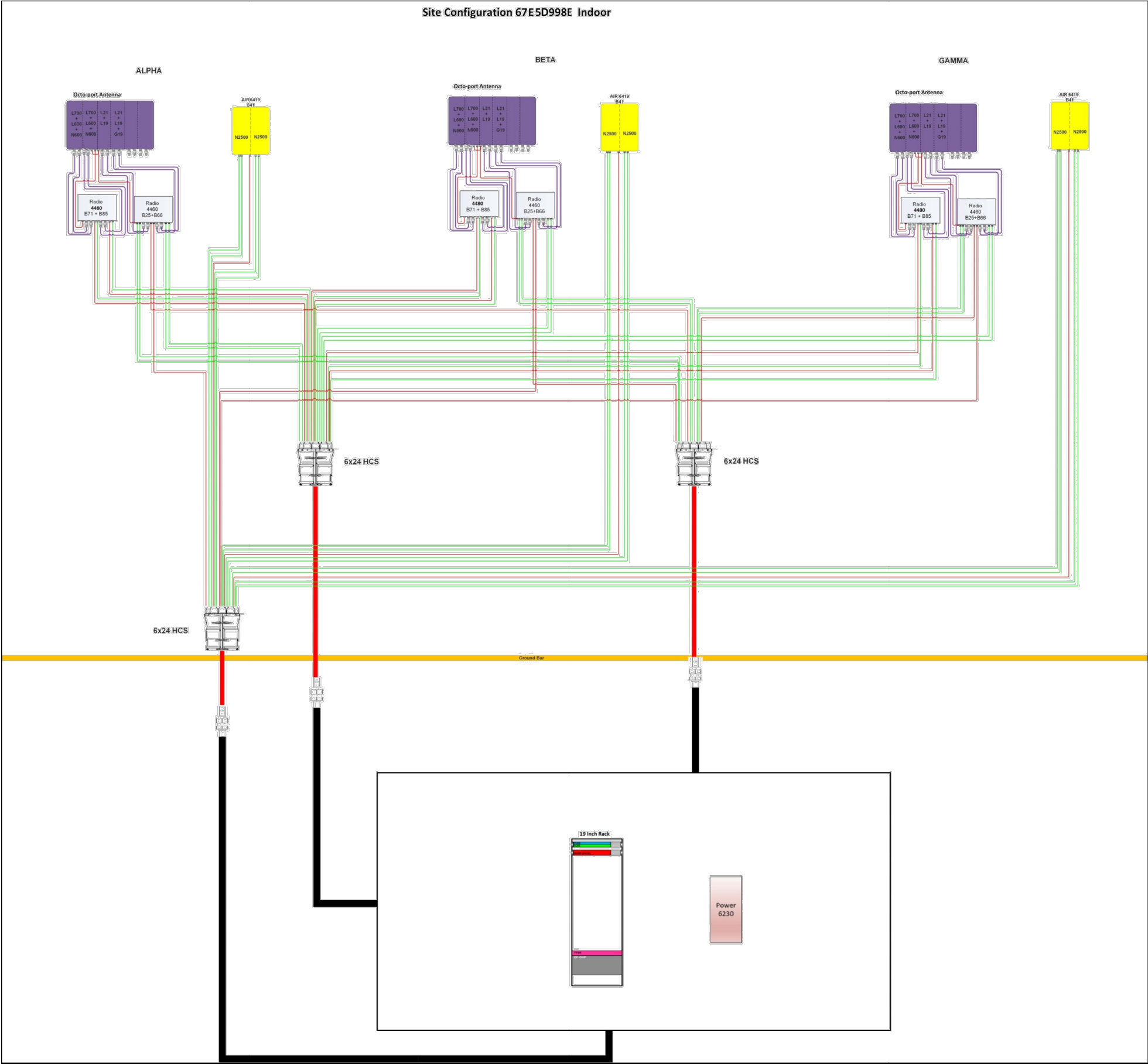
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

C-3

REVISION:

8



1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN CASTLE
200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

Kimley»Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK

**FOR
REFERENCE
ONLY**

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:

8

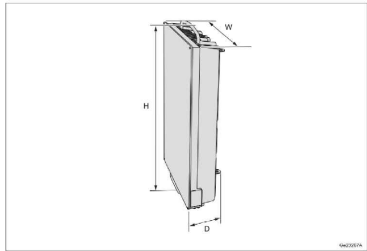


Figure 2 AIR Dimensions

Table 8 AIR Dimensions

AIR Unit Type	Height (H) × Width (W) × Depth (D)
AIR 6419 B40	929 × 506 × 208 mm ⁽¹⁾
AIR 6419 B41	871 × 506 × 203 mm ⁽¹⁾
AIR 6419 B42	796 × 408 × 186 mm ⁽²⁾

(1) Dimensions without protrusions: 852 × 506 × 160 mm

(2) Dimensions without protrusions: 717 × 408 × 140 mm

AIR 6419 B41	Vertical Beamwidth	38±3°	38±3°
	Horizontal Beamwidth	28±2°	28±2°
	Digital Downlink	Fixed 6°	Fixed 6°
	Vertical Beam Pointing Error	±1°	±1°
	Horizontal Beam Pointing Direction	8±1°	8±1°
	ERP (Typical)	2 × 66 dBm	1 × 71.5 dBm
	Vertical Side Lobe Suppression	12 dB	12 dB
	Front to Back Ratio	—	—
	Beam Parallelity	±18 dB	n/a

Table 9 AIR Weight

AIR Unit Type	Unit Weight ⁽¹⁾	Mounting Kit Weight	
		SXX 109 2015/1	SXX 109 2016/1
AIR 6419 B40	29.5 kg	4.4 kg	5.2 kg
AIR 6419 B41	29.5 kg	4.4 kg	5.2 kg
AIR 6419 B42	20.0 kg	4.4 kg	5.2 kg

(1) The weight is given with ±5% accuracy.

Unit (DC Powered)	Output Power	Maximum Load Current at -50 V DC	Maximum Allowed Fuse Rating ⁽¹⁾
AIR 6419 B40	320 W	50 A	—
AIR 6419 B41	320 W	48 A	50 A
AIR 6419 B42	320 W	48 A	50 A

AIR 6419 B41	Vertical Beamwidth	38±3°	38±3°
	Horizontal Beamwidth	45±5°	45±5°
	Digital Downlink	Fixed 6°	Fixed 6°
	Vertical Beam Pointing Error	±1°	±1°
	Horizontal Beam Pointing Direction	8±5°	8±5°
	ERP (Typical)	2 × 64 dBm	1 × 67 dBm
	Vertical Side Lobe Suppression	12 dB	12 dB
	Front to Back Ratio	—	—
	Beam Parallelity	±18 dB	n/a

1 ERICSSON – AIR 6419 B41
SCALE: NOT TO SCALE

FFV4-65B-R6



12-port sector antenna, 4x 617-894 and 8x 1695–2690 MHz, 65° HPBW, 6x RET

General Specifications

Antenna Type	Sector
Band	Multiband
Color	Light gray
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Performance Note	Outdoor usage Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN

Radome Material	Fiberglass, UV resistant
Radiator Material	Aluminum Low loss circuit board
Reflector Material	Aluminum
RF Connector Interface	4.3-10 Female
RF Connector Location	Bottom
RF Connector Quantity, high band	8
RF Connector Quantity, low band	4
RF Connector Quantity, total	12

Remote Electrical Tilt (RET) Information

RET Hardware	CommRET v2
RET Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	1 female 1 male
Input Voltage	10–30 Vdc
Internal RET	High band (4) Low band (2)
Power Consumption, idle state, maximum	1 W
Power Consumption, normal conditions, maximum	8 W

FFV4-65B-R6



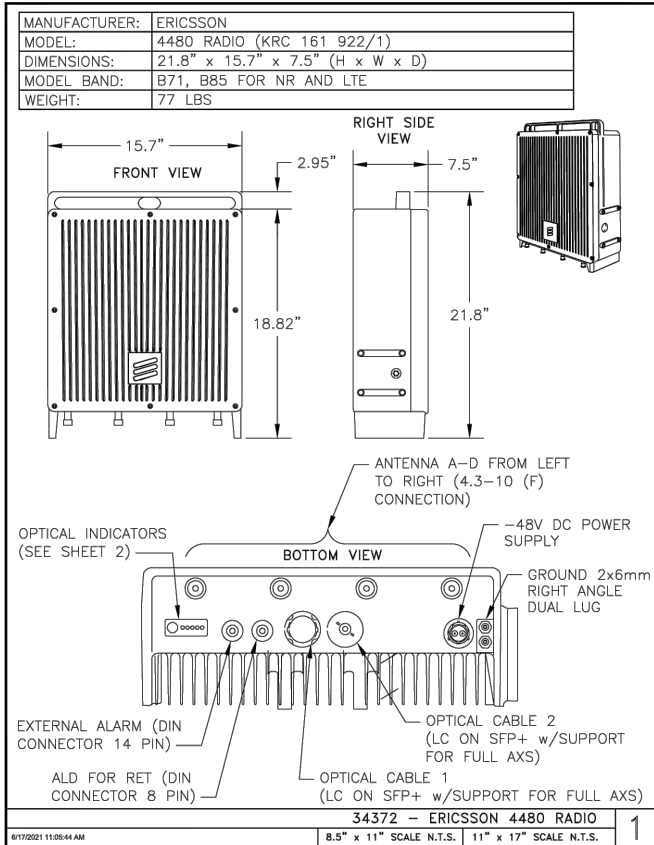
Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1695 – 2690 MHz 617 – 894 MHz
Polarization	±45°
Total Input Power, maximum	1,400 W @ 50 °C 900 W @ 50 °C

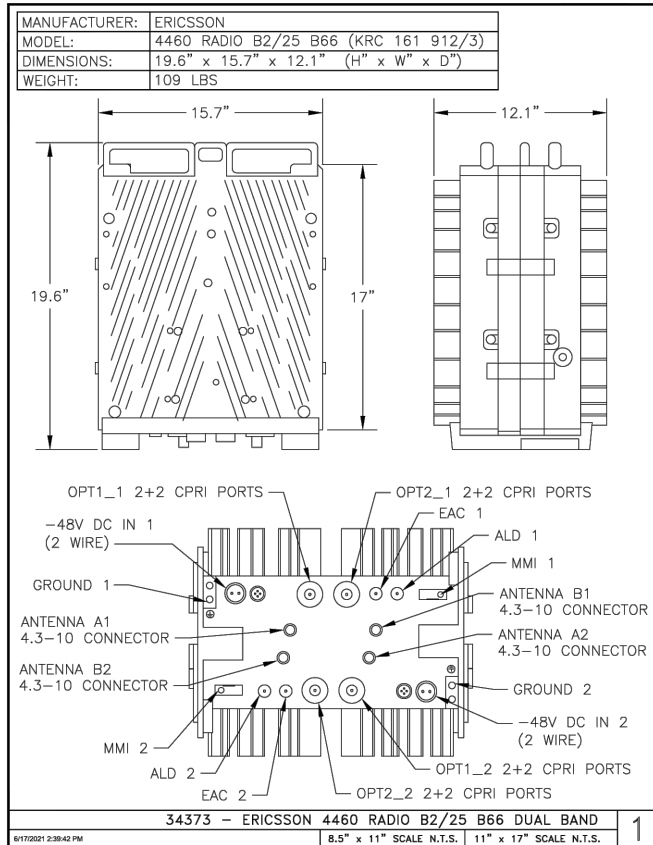
Electrical Specifications

Frequency Band, MHz	617–698	698–894	1695–1880	1850–1990	1920–2200	2300–2500	2500–2690
Gain, dBi	14	14.7	17.2	17.9	18.3	18.4	18.4
Beamwidth, Horizontal, degrees	68	59	64	62	61	56	54
Beamwidth, Vertical, degrees	14.6	12.4	5.6	5.3	5	4.4	4.2
Beam Tilt, degrees	2–14	2–14	2–12	2–12	2–12	2–12	2–12
USLS (First Lobe), dB	17	16	20	20	20	19	21
Front-to-Back Ratio at 180°, dB	29	29	34	34	34	30	27
Isolation, Cross Polarization, dB	25	25	25	25	25	25	25
Isolation, Inter-band, dB	25	25	25	25	25	25	25
VSWR Return loss, dB	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0

2 COMMSCOPE – FFV4 – 65B – R6
SCALE: NOT TO SCALE



3 ERICSSON – 4480 B71/B85
SCALE: NOT TO SCALE



4 ERICSSON – 4460 B25/B66
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN CASTLE

200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

Kimley»Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK

FOR
REFERENCE
ONLY

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

REVISION:

8



PowerSafe®
SBS Front Terminal

Telecommunications

NEBS™ Compliant*

Battery Range Summary

The PowerSafe® SBS Front Terminal battery further extends the technical leadership of the PowerSafe SBS battery range. PowerSafe SBS Front Terminal monoblocs retain the benefits of Thin Plate Pure Lead (TPPL) technology such as long life, high energy density and superior shelf life. They also deliver exceptional cyclic performance in both float and fast charge applications, even in the hottest and harshest operating environments.

Where conventional Valve Regulated Lead Acid (VRLA)/ Absorbed Glass Mat (AGM) batteries struggle to cope with harsh conditions and frequent power outages, cutting edge TPPL technology makes PowerSafe SBS batteries the perfect solution for the challenging operating conditions of today's telecommunication networks.

PowerSafe SBS batteries are designed to the highest quality standards, with a unique manufacturing process providing superior energy and power, high performance and proven reliability. There is no substitute for PowerSafe SBS Front Terminal batteries.



Features and Benefits

- Capacity range 31-190Ah
- 12V monobloc configurations
- Multiple string configurations available
- Two year shelf life
- SR-4228 compliant
- Proven long service life
- High energy density and cycling capability



Visit us at www.enersys.com

RESERVE
POWER

*NEBS™ Compliant (SR-4228)
Includes the following: SBS 80F, SBS 81F, SBS 81NF, SBS C1F, SBS 100F, SBS 110F, SBS 145F, SBS 149F, SBS 170F and SBS 190F.

Publication No: US-SBSF-RS-4B June 2016

Construction

- Utilises TPPL technology. Thin positive grids are produced from high purity lead using a unique manufacturing process to maximize corrosion resistance and service life while increasing energy density.
- Separators are AGM made from high purity, superior quality fibers. The electrolyte is absorbed within the AGM, preventing acid spills in case of accidental damage.
- Electrolyte is produced from extremely high purity acid to reduce self-discharge rates and float currents
- Container and cover made from flame retardant UL94-V0 material, highly resistant to shock and vibration.
- Front terminal batteries use tin-plated copper terminals.
- Self-regulating one way pressure relief valves prevent ingress of atmospheric oxygen

Installation and Operation

- Space efficient footprint
- VRLA design, reduces maintenance requirements
- Lifting handles for easy handling
- Greater than 10 year life expectancy in float service at 77°F (25°C)
- TPPL technology provides increased active material surface area which yields increased energy density.
- Operating temperature:
-40°F (-40°C) to 122°F (50°C)
Recommended temperature:
68°F (20°C) to 86°F (30°C)

Standards

- Approved as non-hazardous cargo for ground, sea and air transportation in accordance with US DOT Regulation 49 and ICAO & IATA Packing Instruction 808. Please see our SDS for complete details at www.enersys.com
- Complies with Telcordia® SR-4228, Network Equipment Building System (NEBS™) Criteria Levels
- The management systems governing the manufacture of this product are ISO 9001:2008 and ISO 14001:2004 certified

General Specifications

		Nominal Capacity		Nominal Voltage		Dimensions		Weight		Electrical		Environmental		Safety											
Model	Capacity	10 Hr Rate	20 Hr Rate	10 Hr Rate	20 Hr Rate	Width	Height	Typical Weight	Short Circuit Current	Internal Resistance	Terminal	Voltage	Weight	Weight	Weight										
SBS	Capacity	10 Hr Rate	20 Hr Rate	10 Hr Rate	20 Hr Rate	Width	Height	Typical Weight	Short Circuit Current	Internal Resistance	Terminal	Voltage	Weight	Weight	Weight										
SBS 80F	6	12	31	31	11.9	303	330	97.0	6.28	159	227	10.3	120	100	MEM	0.37	1.42	4.05	1.96	0.11	0.40	1.61	0.73	1.56	7.08
SBS 81NF	6	12	38	38	11.9	303	330	97.0	7.24	186	262	12.8	120	100	MEM	0.40	1.86	5.1	1.52	0.13	0.51	2.06	0.93	17.7	6.03
SBS 81NF	6	12	92	92	11.9	303	330	97.0	18.4	294	420	31.1	180	180	MEM	0.70	2.95	8.4	3.58	0.22	0.83	3.35	1.52	29.6	13.4
SBS C1F	6	12	92	91	16.4	417	410	105	10.1	236	616	27.9	230	5.50	MEM	1.28	4.85	13.9	5.50	0.36	1.36	5.50	2.49	43.4	19.7
SBS 100F	6	12	100	100	15.6	385	430	108	11.3	267	719	32.6	220	5.50	MEM	1.34	5.08	14.6	6.80	0.38	1.43	5.77	2.62	49.7	22.5
SBS 110F	6	12	112	112	22.1	81	430	125	9.88	220	904	41.9	230	5.50	MEM	1.71	6.40	10.5	8.41	0.49	1.82	7.35	3.34	96.8	25.8
SBS 145F	6	12	145	145	17.6	452	630	172	9.37	230	106	47.6	430	3.90	MEM	2.25	8.33	24.3	11.9	0.63	2.39	9.65	4.38	72.4	32.9
SBS 149F	6	12	165	165	17.6	452	677	172	10.8	274	117	52.8	370	2.30	MEM	2.45	9.27	26.5	12.0	0.64	2.42	9.72	4.41	82.7	37.5
SBS 170F	6	12	170	170	22.1	81	430	125	11.1	283	116	52.5	340	4.00	MEM	2.69	7.92	22.7	10.9	0.59	2.23	8.89	4.08	82.0	37.2
SBS 190F	6	12	190	190	22.1	81	430	125	12.4	376	132	60.0	380	3.30	MEM	2.34	8.85	25.3	11.5	0.66	2.45	10.1	4.56	95.8	43.4

**Reference values are for reference only and not intended to represent an Official Value or Baseline measurement



SBS 80F - 81NF
SBS C1F

SBS 100F - 112F

SBS 145E 149F - 190F



www.enersys.com

Publication No: US-SBSF-RS-4B June 2016

1 BATTERY DETAIL
SCALE: NOT TO SCALE



DANGER

LEAD ACID BATTERIES

CORROSIVE LIQUIDS (ELECTROLYTE)
ENERGIZED ELECTRICAL CIRCUITS

NO SMOKING

INSTALLER NOTE:
THE SIGNAGE IS TO BE PLACED ON THE BATTERY CABINET.

2 BATTERY SIGNAGE
SCALE: NOT TO SCALE

T-Mobile
2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN
CASTLE
200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

Kimley»Horn
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK

FOR
REFERENCE
ONLY

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-6

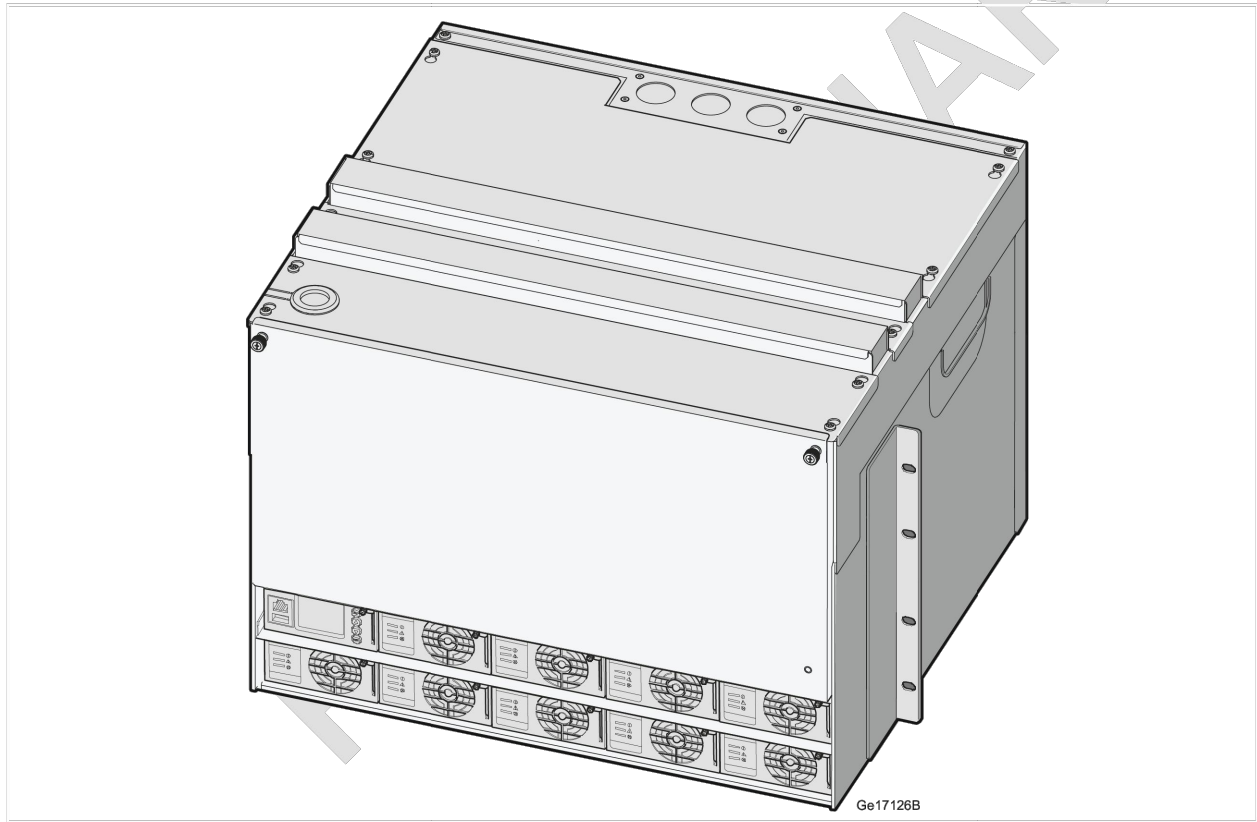
REVISION:

8

Power Description

Power 6230

Description



3

Technical Data

This section describes the physical characteristics, environmental data, and the power supply of the enclosure.

3.1

Dimensions

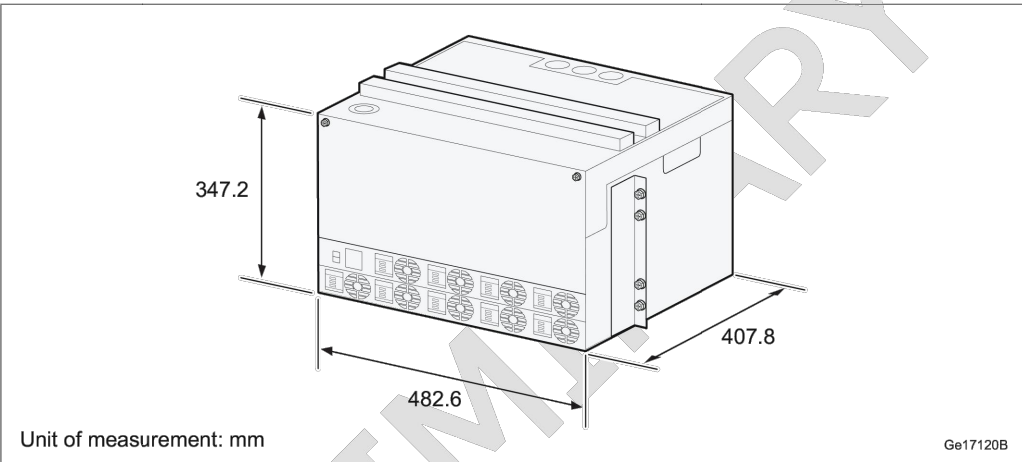


Figure 1 Power 6230 dimensions

Table 1 Dimensions, Weight, and Color

Dimensions	
Height (A)	347.20 mm
Width (B)	482.6 mm
Depth (C)	407.80 mm
Weight	24 kg
Color	Gray Reference number: NCS S 2002-B (RAL 7035)

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN
CASTLE

200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

KimleyHorn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK

FOR
REFERENCE
ONLY

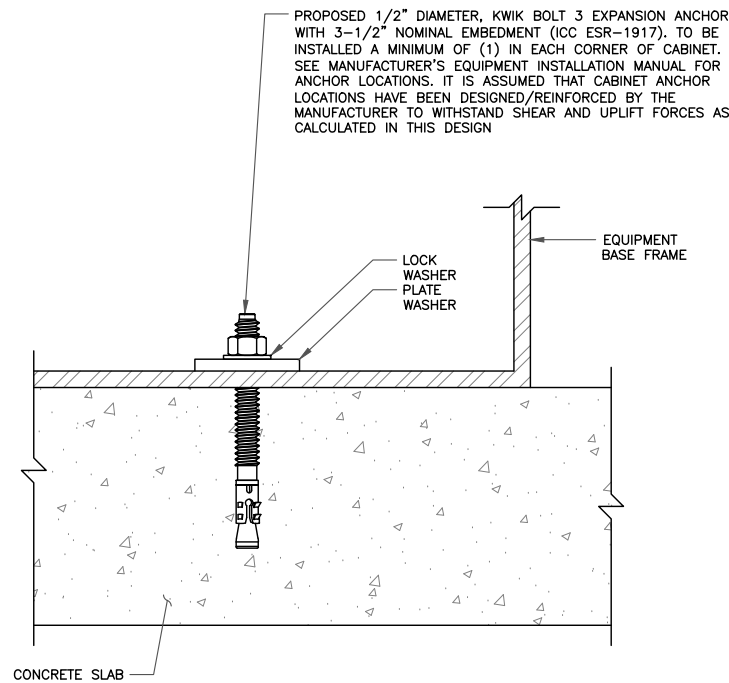
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

C-7

REVISION:

8



1 CABINET ANCHOR DETAIL
SCALE: NOT TO SCALE

2 NOT USED
SCALE: NOT TO SCALE

3 NOT USED
SCALE: NOT TO SCALE

4 NOT USED
SCALE: NOT TO SCALE

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN
CASTLE
200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

Kimley»Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK



06/30/26
Exp. 03/31/27

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-8

REVISION:

8

VOLTAGE		120/240V			AIC RATING		65,000 AMPS								
MAIN BREAKER		200 AMP			BUSS RATING		200 AMPS								
MOUNT		INSIDE PPC ENCLOSURE			NEUTRAL BAR		YES								
ENCLOSURE TYPE		NEMA 3R			GROUND BAR		YES								
PANEL STATUS		EXISTING			N TO GROUND BOND		YES								
PHASE, WIRES		SINGLE, 3			INTERNAL TVSS		TBD								
CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	USAGE FACTOR	PHASE A VA	PHASE B VA	USAGE FACTOR	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT
1	DEHUMIDIFIER	15	1	ON	1440	1.25	2300		1.25	400	ON	1	20	LIGHTS	2
3	SUMP PUMP	15	1	ON	1440	1.25		1980	1.00	180	ON	1	15	GFCI	4
5	MICROPROCESSOR	20	2	ON	1920	1.25	7200		1.25	3840	ON	2	40	PBC 6500	6
7	CONTROL	20	2	ON	1920	1.25		7200	1.25	3840	ON	2	40	(to be removed)	8
9	EVAP #1	15	1	ON	1440	1.25	3600		1.25	1440	ON	1	15	EVAP#2	10
11	A/C #1	40	2	ON	3840	1.25		4800	1.25	0	ON	2	40	A/C #2	12
13		40	2	ON	3840	1.25	4800		1.25	0	ON	2	40		14
15	RECTIFIER #1	30	2	ON	2880	1.25		7200	1.25	2880	ON	2	30	RECTIFIER #2	16
17	(To be removed)	30	2	ON	2880	1.25	7200		1.25	2880	ON	2	30	(to be removed)	18
19	RECTIFIER #3	30	2	ON	2880	1.25		7200	1.25	2880	ON	2	30	RECTIFIER #4	20
21	(To be removed)	30	2	ON	2880	1.25	7200		1.25	2880	ON	2	30	(to be removed)	22
23	RECTIFIER #5	30	2	ON	2880	1.25		7200	1.25	2880	ON	2	30	RECTIFIER #6	24
25	(To be removed)	30	2	ON	2880	1.25	7200		1.25	2880	ON	2	30	(to be removed)	26
27	BTS A (to be removed)	20	1	ON	1920	1.25			1.25	1920	ON	1	20	BTS C (to be removed)	28
29	BTS B (to be removed)	20	1	ON	1920	1.25		4800	1.25	1920	ON	1	20	BTS D (to be removed)	30

OVERALL LOAD SUMMARY	
TOTAL SERVICE LOAD kVA	79.88
AMPS	332.83

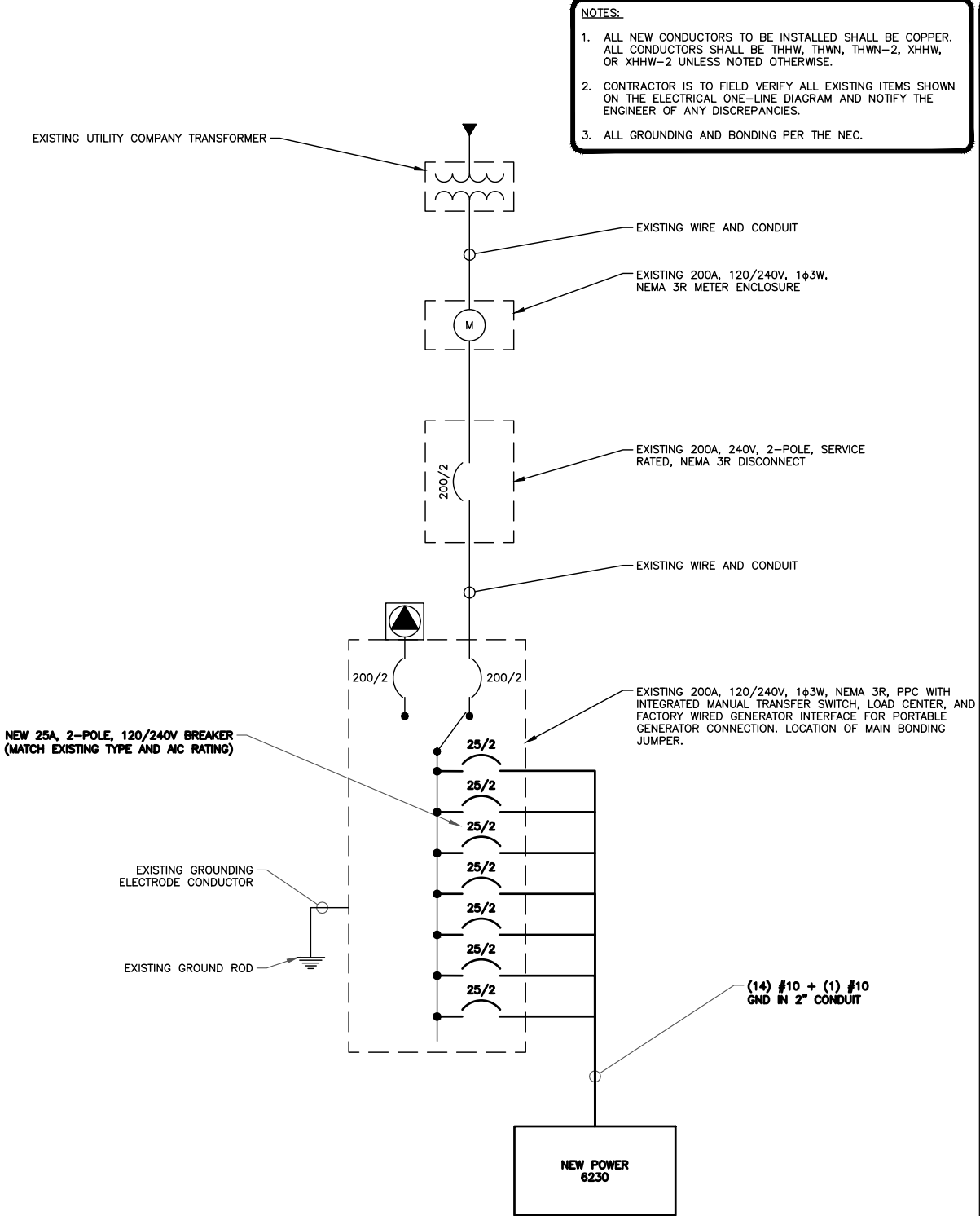
1 EXISTING PANEL SCHEDULE
SCALE: NOT TO SCALE

VOLTAGE		120/240V			AIC RATING		10,000 AMPS								
MAIN BREAKER		200 AMP			BUSS RATING		200 AMPS								
MOUNT		INSIDE PPC ENCLOSURE			NEUTRAL BAR		YES								
ENCLOSURE TYPE		NEMA 3R			GROUND BAR		YES								
PANEL STATUS		EXISTING			N TO GROUND BOND		YES								
PHASE, WIRES		SINGLE, 3			INTERNAL TVSS		TBD								
CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	USAGE FACTOR	PHASE A VA	PHASE B VA	USAGE FACTOR	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT
1	DEHUMIDIFIER	15	1	ON	1440	1.25	2300		1.25	400	ON	1	20	LIGHTS	2
3	SUMP PUMP	15	1	ON	1440	1.25		1980	1.00	180	ON	1	15	GFCI	4
5	MICROPROCESSOR	20	2	ON	1920	1.25	2580		1.00	180	ON	1	15	OUTLET	6
7	CONTROL	20	2	ON	1920	1.25		2400	1.25	0	N/A	1	---	EMPTY	8
9	EVAP #1	15	1	ON	1440	1.25	3600		1.25	1440	ON	1	15	EVAP#2	10
11	A/C #1	40	2	ON	3840	1.25		4800	1.25	0	ON	2	40	A/C #2	12
13		40	2	ON	3840	1.25	4800		1.25	0	ON	2	40		14
15	POWER 6230	25*	2	ON	1400	1.25		3500	1.25	1400	ON	2	25*	POWER 6230	16
17		25*	2	ON	1400	1.25	3500		1.25	1400	ON	2	25*		18
19	POWER 6230	25*	2	ON	1400	1.25		3500	1.25	1400	ON	2	25*	POWER 6230	20
21		25*	2	ON	1400	1.25	3500		1.25	1400	ON	2	25*		22
23	POWER 6230	25*	2	OFF	0	1.25		1750	1.25	1400	ON	2	25*	POWER 6230	24
25		25*	2	OFF	0	1.25	1750		1.25	1400	ON	2	25*		26
27	POWER 6230	25*	2	OFF	0	1.25		1750	1.25	1400	ON	2	25*	POWER 6230	28
29		25*	2	OFF	0	1.25	1750		1.25	1400	ON	2	25*		30

OVERALL LOAD SUMMARY	
TOTAL SERVICE LOAD kVA	43.46
AMPS	181.08

* =NEW 25A BREAKER

2 NEW PANEL SCHEDULE
SCALE: NOT TO SCALE



3 ONE LINE DIAGRAM
SCALE: NOT TO SCALE

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN CASTLE

200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

Kimley»Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK

LICENSED PROFESSIONAL ENGINEER
ERIC J. EMBICK
C 94589
CIVIL
STATE OF CALIFORNIA

06/30/26
Exp. 03/31/27

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: **8**

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN
CASTLE

200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

Kimley»Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK

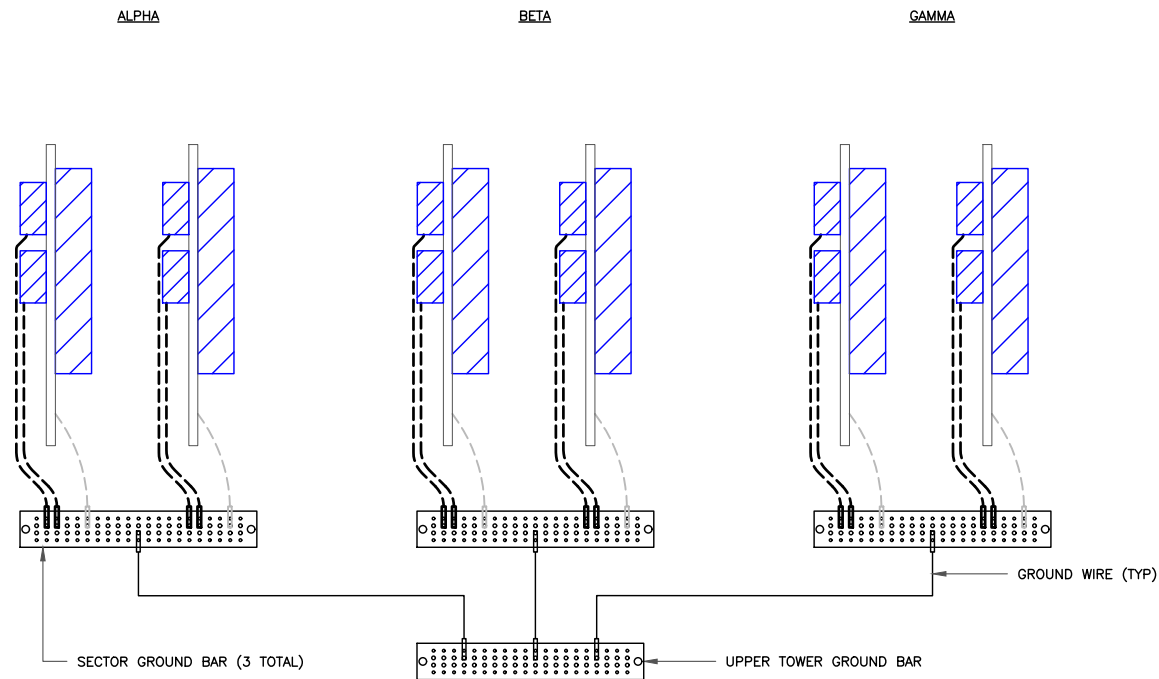
LICENSED PROFESSIONAL ENGINEER
ERIC J. EMBICK
C 94589
CIVIL
STATE OF CALIFORNIA

06/30/26
Exp. 03/31/27

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.

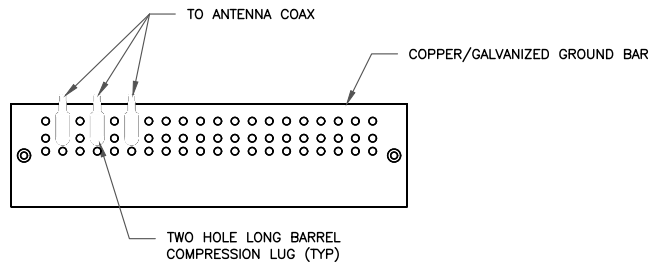
SHEET NUMBER:
G-1

REVISION:
8



NOTE:
ALL NEW GROUNDS TO BE #6 STRANDED
COPPER WITH GREEN INSULATION UNLESS
NOTED OTHERWISE.

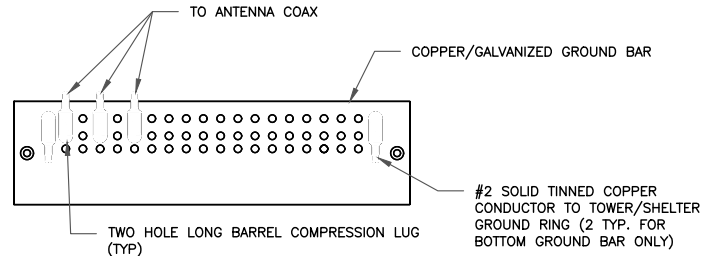
1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



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.

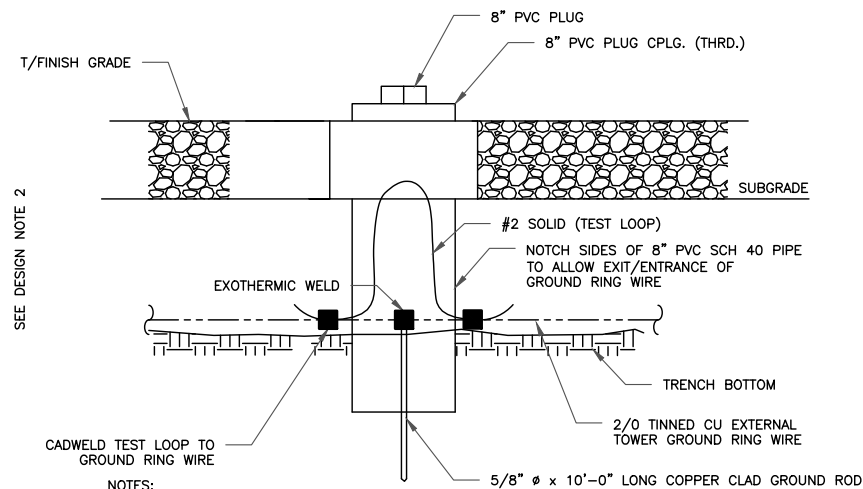
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

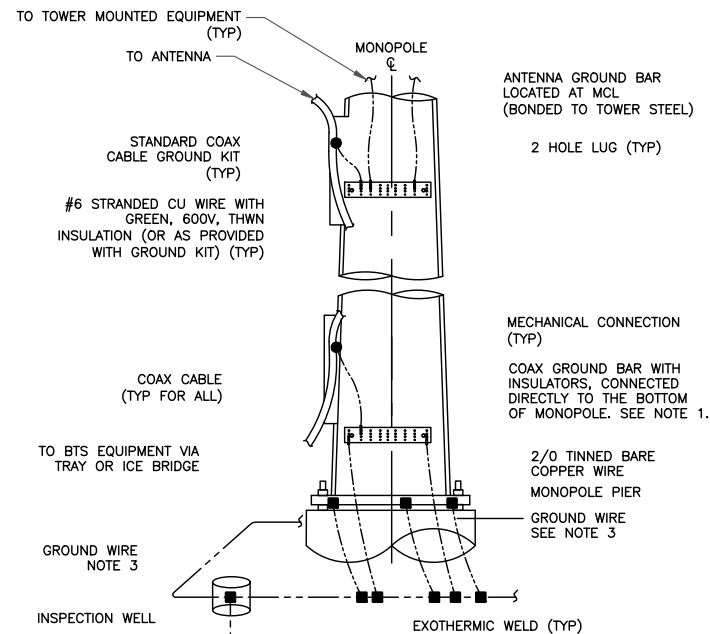
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

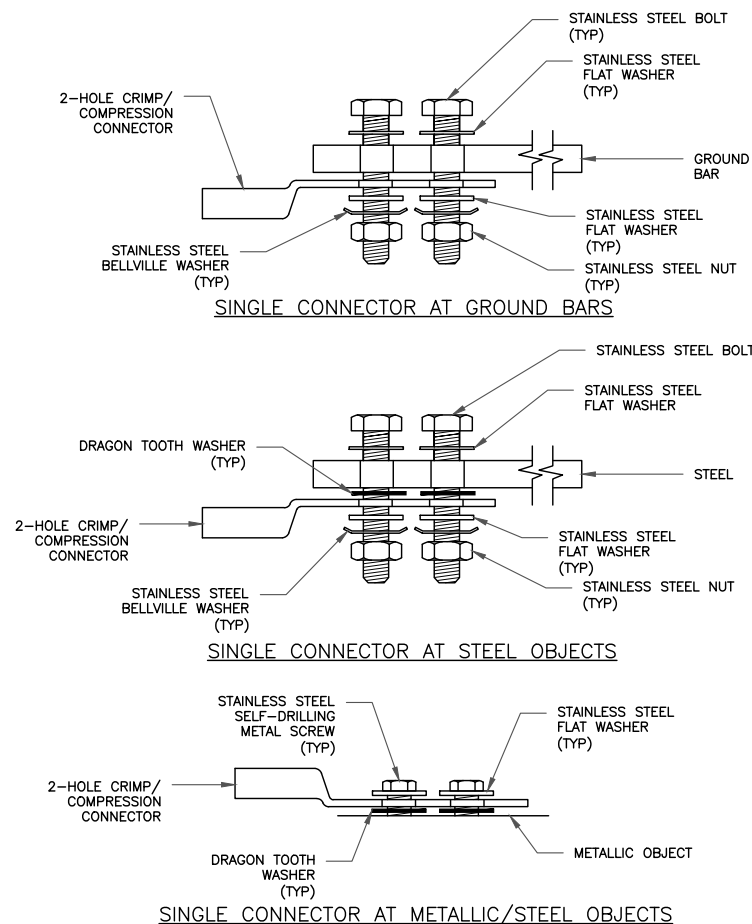
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



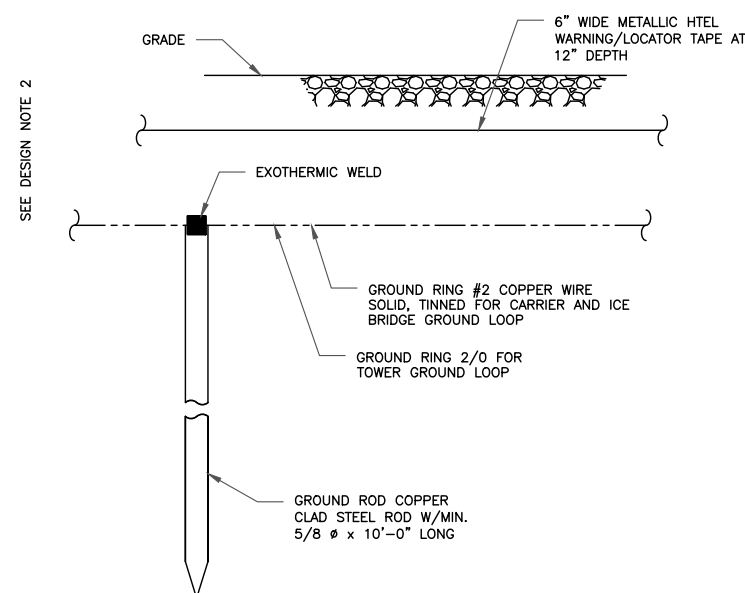
NOTES:

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.

4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

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

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN
CASTLE

200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

Kimley»Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK



06/30/26
Exp. 03/31/27

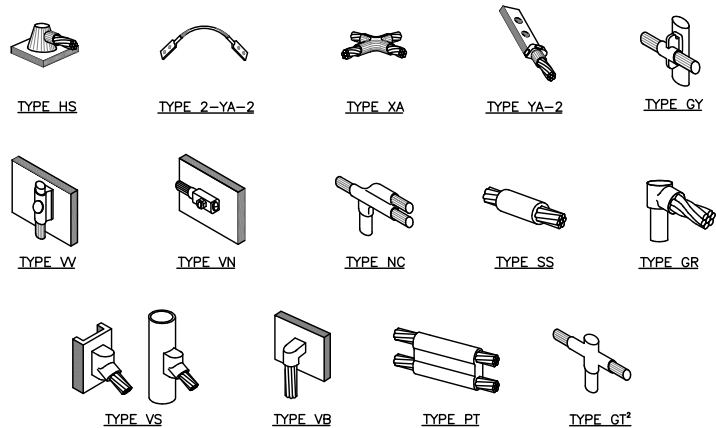
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

G-2

REVISION:

8



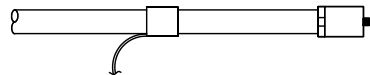
- NOTE:
1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
 2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

1 CADWELD GROUNDING CONNECTIONS

SCALE: NOT TO SCALE

WEATHERPROOFING KIT
(SEE NOTE 3)

ANTENNA CABLE



#6 AWG STRANDED COPPER GROUND WIRE
(GROUNDED TO GROUND BAR). SEE NOTE 1 & 2

CABLE GROUND KIT

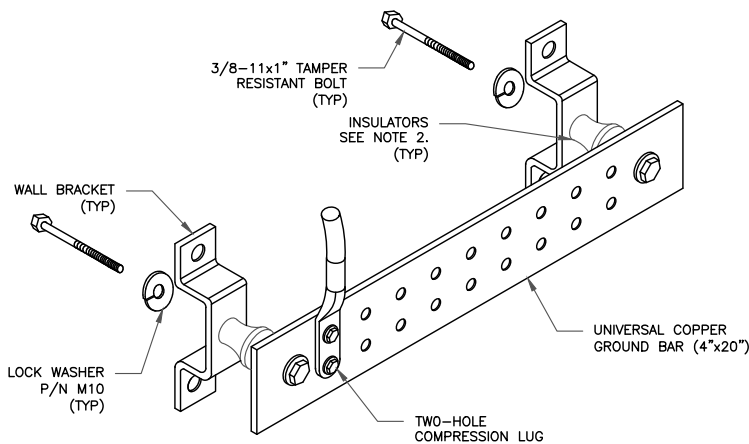
CABLE CONNECTOR

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

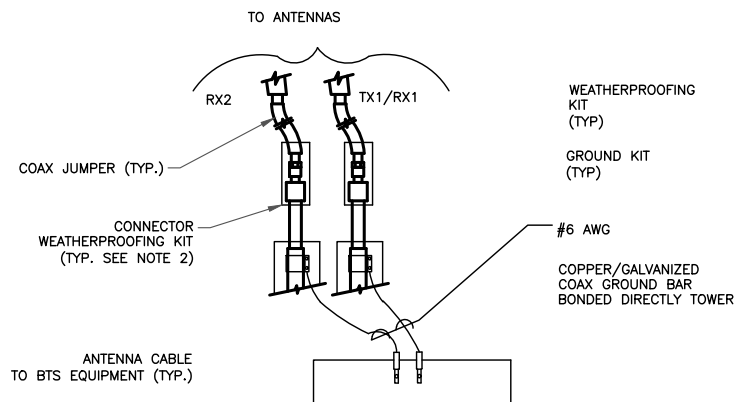


NOTES:

1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY GAS-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

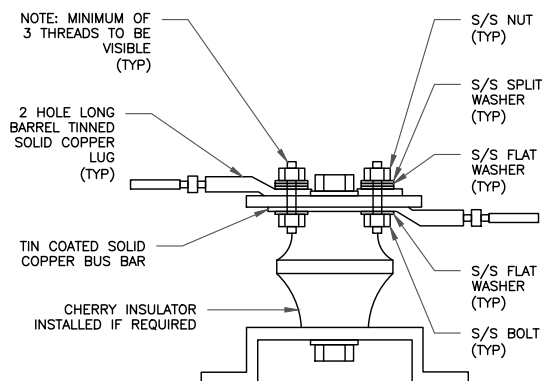


NOTES:

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

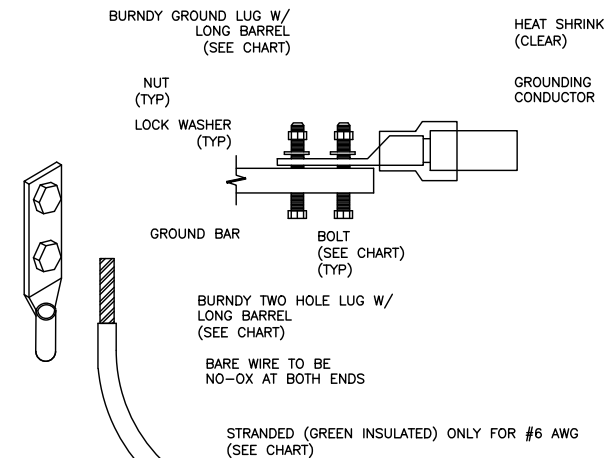
SCALE: NOT TO SCALE



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

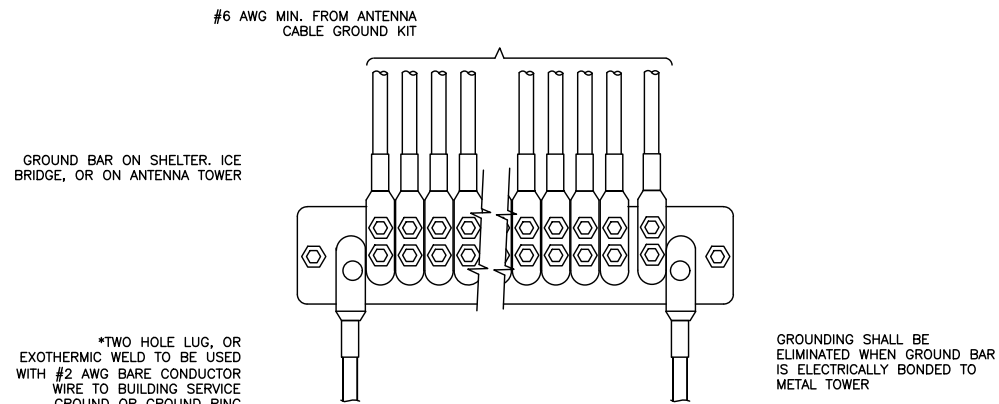


NOTES:

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.

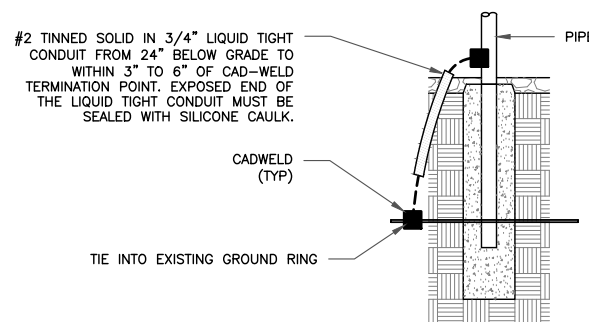
2 MECHANICAL LUG CONNECTION

SCALE: NOT TO SCALE



5 GROUNDWIRE INSTALLATION

SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL

SCALE: NOT TO SCALE

T-Mobile

2008 MCGAW AVENUE
IRVINE, CA 92614

CROWN CASTLE

200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

Kimley Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

T-MOBILE SITE NUMBER:
LA13105A

BU #: 825148
LA3105 MCDONALD 20FLAG

6565 EDINGER AVE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/26/21	STR	CONSTRUCTION	MCK
1	02/04/22	DRD	REVISED PER CLIENT	MCK
2	03/15/22	DRD	REVISED PER CLIENT	MCK
3	12/12/23	DMW	REVISED PER CLIENT	MCK
4	06/05/23	DMW	REVISED PER CLIENT	MCK
5	08/05/23	DMW	REVISED PER CLIENT	MCK
6	03/21/25	DMW	REVISED PER CLIENT	MCK
7	01/22/26	DMW	REVISED PER CLIENT	MCK
8	06/30/26	DMW	REVISED PER CLIENT	MCK



06/30/26
Exp. 03/31/27

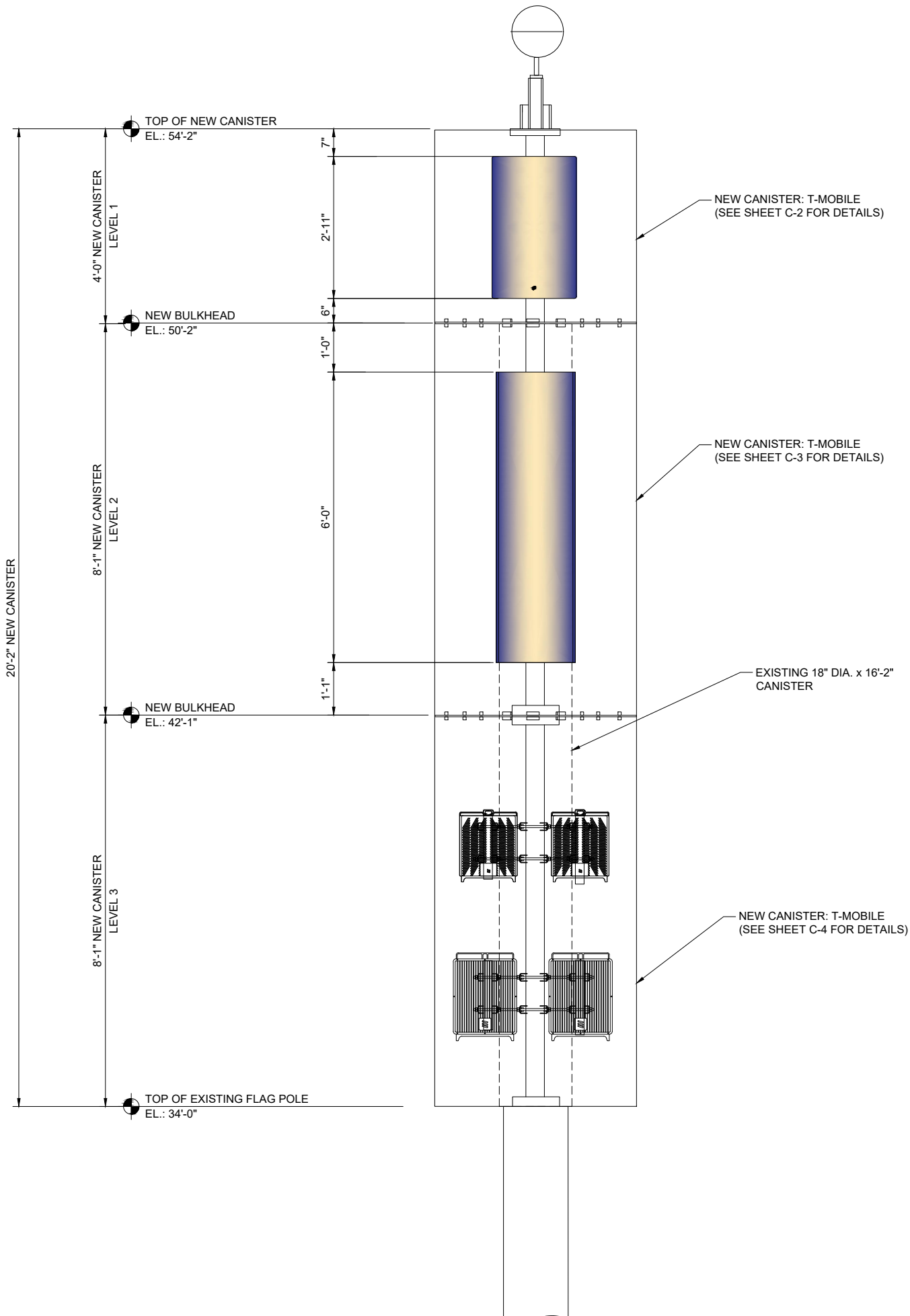
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

G-3

REVISION:

8



- RESULTS SUMMARY:**
- ADD NEW CANISTER ON THE TOP OF EXISTING CANISTER
 - MODIFY EXISTING CANISTER FROM 18" TO 50"
 - CHANGE THE RAD CENTER OF THE AIR 6419 B41 ANTENNAS FROM 47' TO 52'-2".
 - CHANGE THE RAD CENTER OF THE FFV4-65B-R6 ANTENNAS FROM 37' TO 46'-2".

FIT UP NOTES		
CANISTER LEVEL 1 (NEW)	SPINE DIAMETER (IN.)	4.5"
	NEW CANISTER DIAMETER (IN.)	50"
	SUGGESTED ANTENNA MOUNT	UTSM
CANISTER LEVEL 2 (NEW)	SPINE DIAMETER (IN.)	4.5"
	EXISTING CANISTER DIAMETER (IN.)	18"
	CANISTER UPSIZE REQUIRED	YES
	NEW CANISTER DIAMETER (IN.)	50"
CANISTER LEVEL 3 (NEW)	SUGGESTED ANTENNA MOUNT	UTSM
	SPINE DIAMETER (IN.)	4.5"
	EXISTING CANISTER DIAMETER (IN.)	18"
	CANISTER UPSIZE REQUIRED	YES
	NEW CANISTER DIAMETER (IN.)	50"
	SUGGESTED RADIO MOUNT	UTSM

EQUIPMENT KEY							
MOUNT CL	QTY.	MANUFACTURE	MODEL	TYPE	SIZE HxWxD (lbs)	RAD CENTER	STATUS
F.V.	3	ERICSSON	AIR 6419 B41	PANEL	34.49"x19.92"x7.99" (81.84)	52'-2"	NEW
F.V.	3	COMMSCOPE	FFV4-65B-R6	PANEL	72"x19.50"x7.80" (96.80)	46'-2"	NEW
F.V.	3	ERICSSON	4460	RADIO	17.0"x15.1"x11.9" (109)	40'-0"	NEW
F.V.	3	ERICSSON	4480	RADIO	17.9"x10.6"x13.2" (71)	36'-0"	NEW

- NOTES:**
1. CONTRACTOR TO FIELD DRILL NEW HOLES IN PROPOSED MOUNTS FOR MOUNT-ANTENNA CONNECTION AS NECESSARY.
 2. ANTENNA JUMPERS HAVE NOT BEEN CONSIDERED IN THIS CANISTER FIT CHECK.
 3. RRU's & TMA's ATTACHMENT METHOD TO THE SPINE IS LEFT TO THE CONTRACTOR, PLEASE CONTACT EOR FOR CONSULTING AS NECESSARY.
 4. THIS CANISTER FIT CHECK IS DEPENDENT ON THE LISTED EXISTING SPINE DIAMETER MATCHING THE DIAMETER MEASURED IN THE FIELD. IF THESE DIMENSIONS DIFFER THE EOR IS TO BE CONTACTED IMMEDIATELY.



REVISIONS				
REV.	DATE	BY	DESCRIPTION	QA
0	12/13/23	TJ	ISSUED FOR CONSTRUCTION	JFS
1	02/06/24	TJ	REVISION	JFS

BBU# 825148
LA3105 MCDONALDS
6561 EDINGER AVENUE
HUNTINGTON BEACH, CA 92647
EXISTING 50'-2"
FLAG POLE
SGS# : 2403028

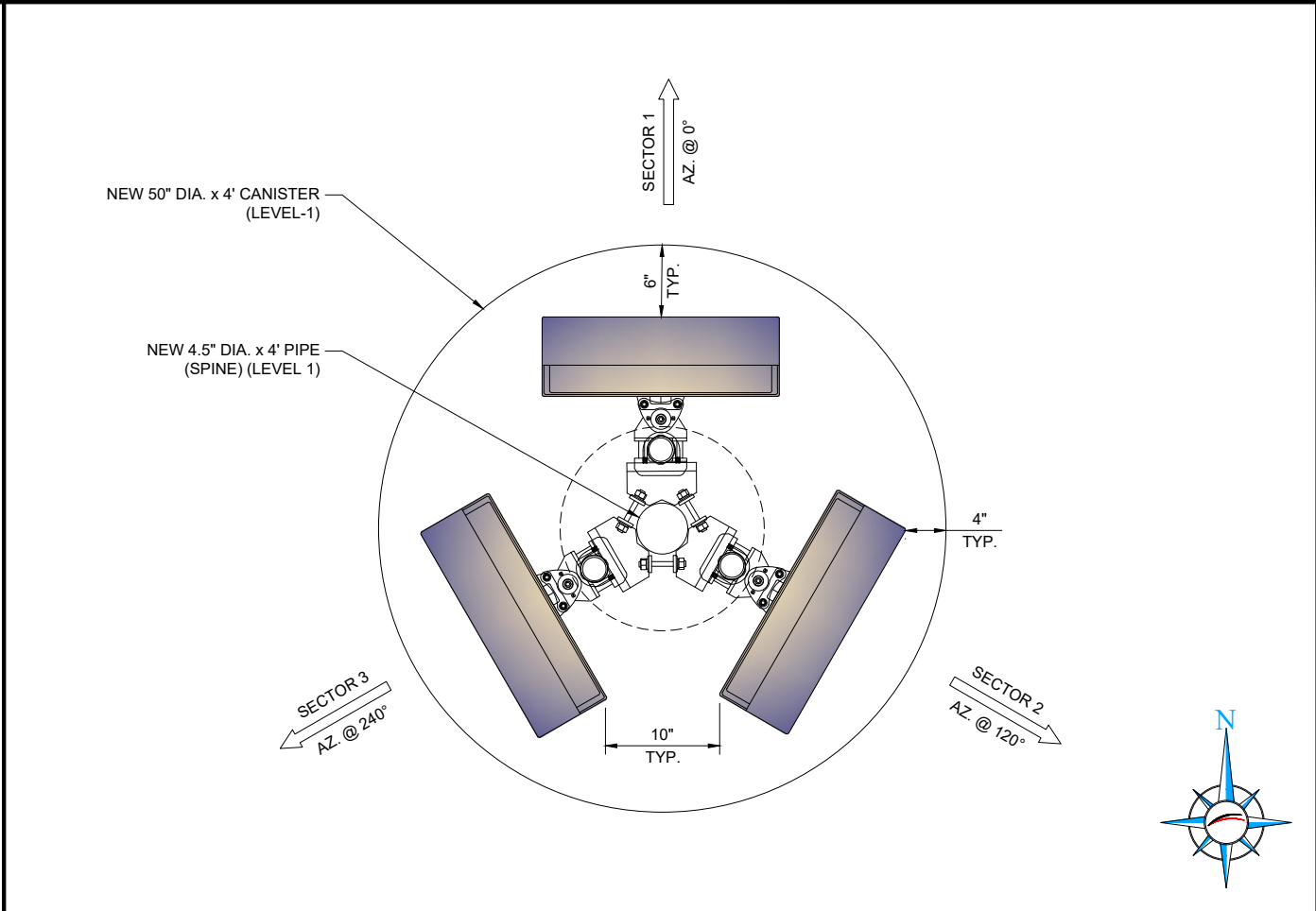
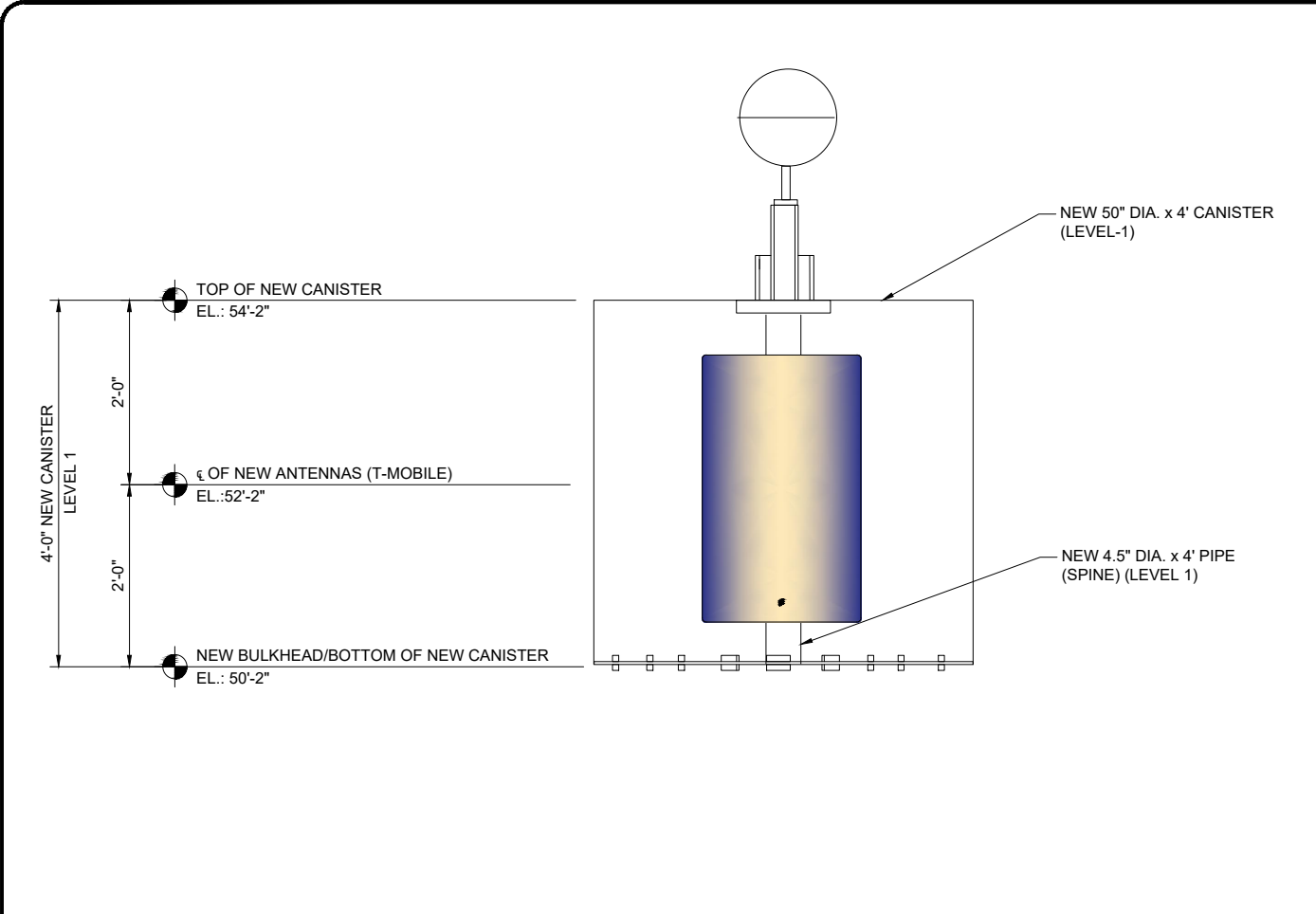
SHEET TITLE

OVERALL ELEVATION

SHEET NUMBER	REVISION
C-1	1

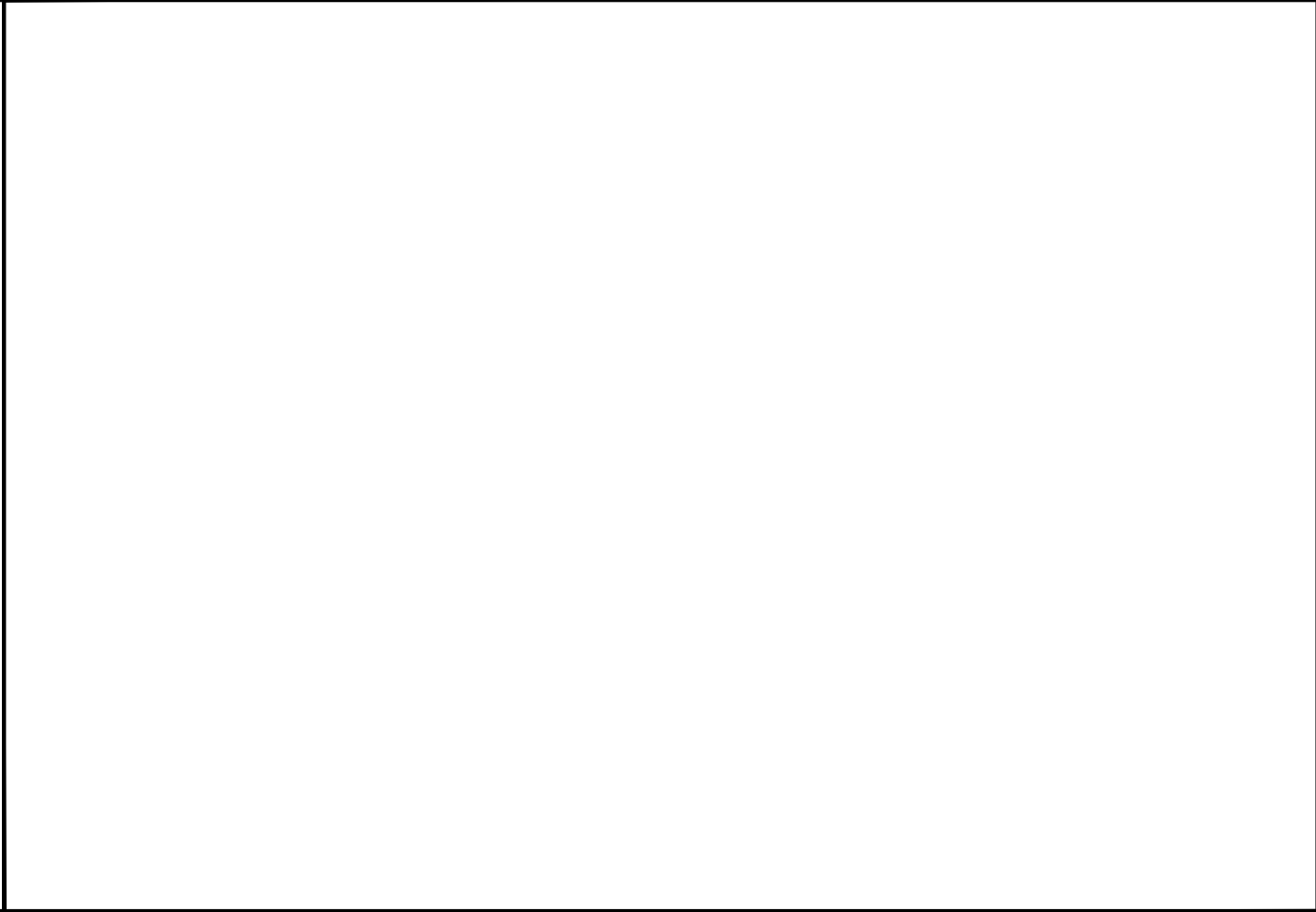
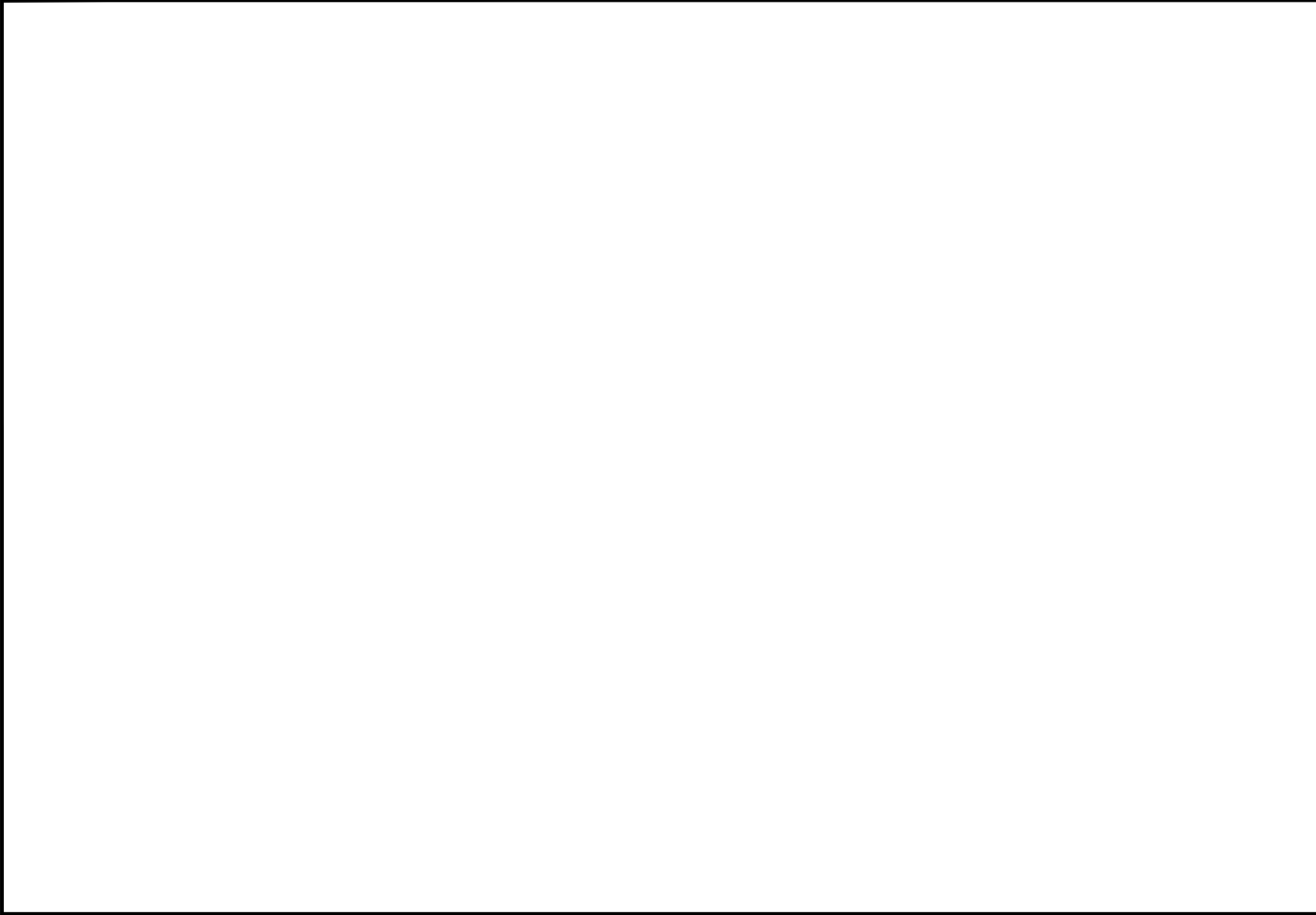
PROPOSED CANISTER LAYOUT - ELEVATION VIEW

SCALE: 3/8" = 1'-0" (11x17)



CANISTER DETAIL - ELEVATION VIEW (LEVEL 1) SCALE: 1/2" = 1'-0" (11x17) 1

ANTENNA DETAIL - PLAN VIEW @ 52'-2" SCALE: 3/4" = 1'-0" (11x17) 2



NOT USED 3

NOT USED 4

14708 CUSTER RD., SUITE 102
OMAHA, NE 68138
(844) 886-9377

REVISIONS				
REV.	DATE	BY	DESCRIPTION	QA
0	12/13/23	TJ	ISSUED FOR CONSTRUCTION	JFS
1	02/06/24	TJ	REVISION	JFS

BBU# 825148

LA3105 MCDONALDS

6561 EDINGER AVENUE
HUNTINGTON BEACH, CA
92647

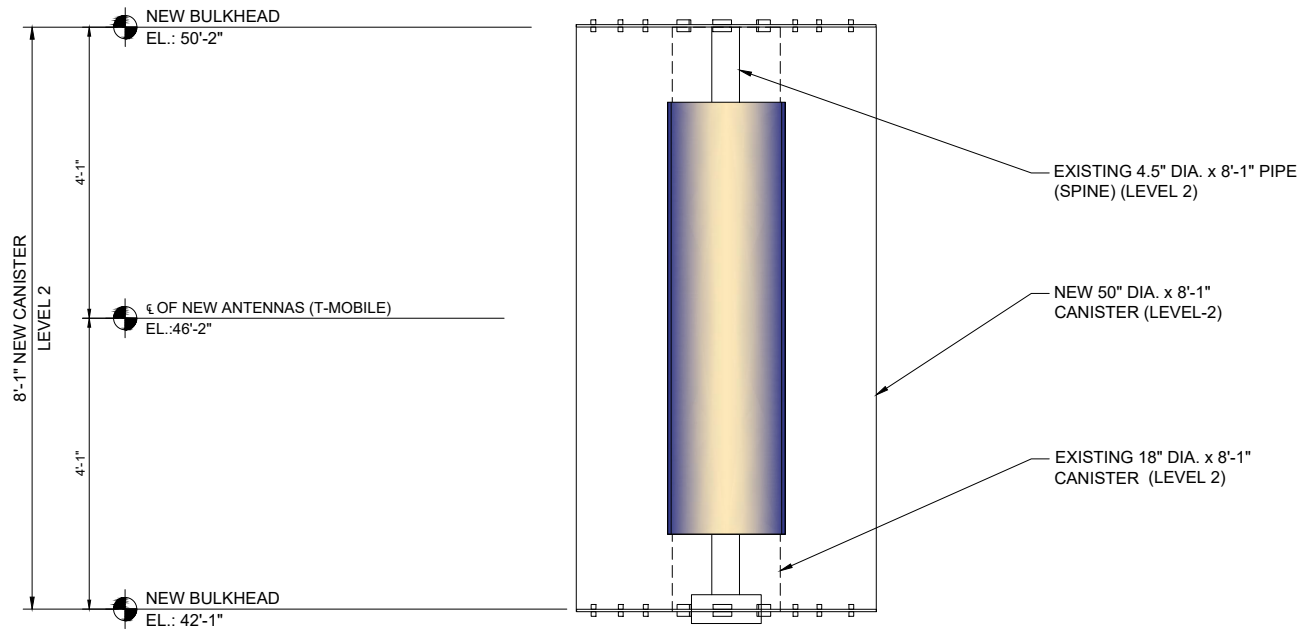
EXISTING 50'-2"
FLAG POLE

SGS# : 2403028

SHEET TITLE

CANISTER FIT
UP DETAILS -
LEVEL 1

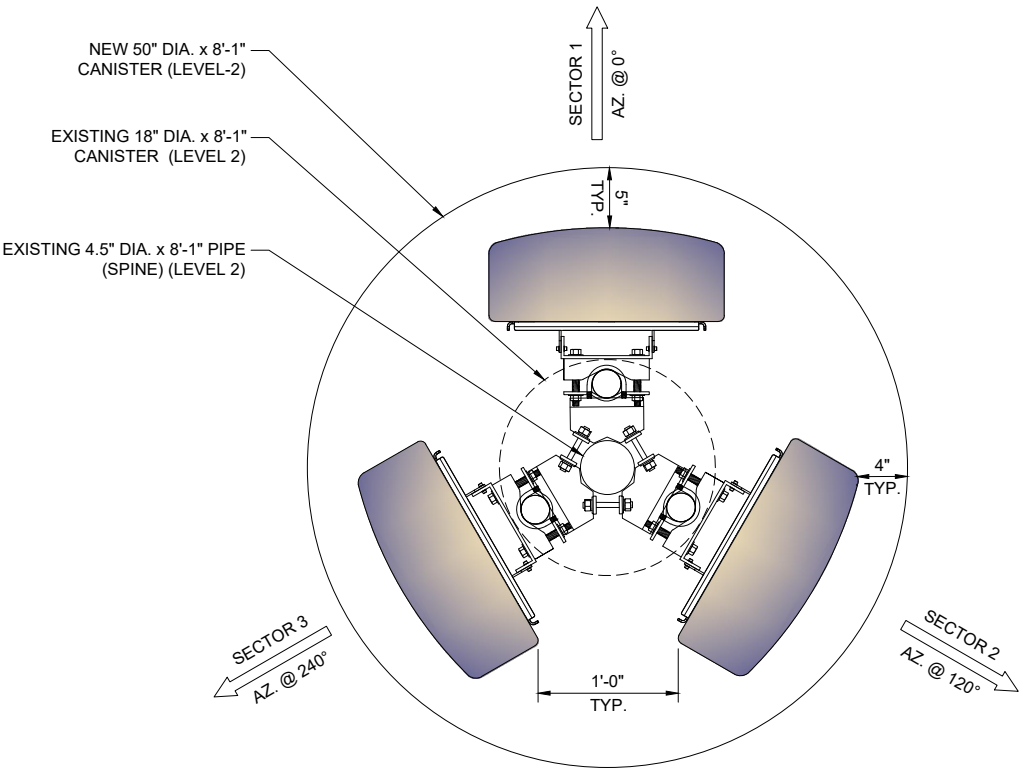
SHEET NUMBER	REVISION
C-2	1



CANISTER DETAIL - ELEVATION VIEW (LEVEL 2)

SCALE: 3/8" = 1'-0" (11x17)

1



ANTENNA DETAIL - PLAN VIEW @ 46'-2"

SCALE: 3/4" = 1'-0" (11x17)

2

NOT USED

3

NOT USED

4

T-Mobile

CROWN CASTLE

SGS

14708 CUSTER RD., SUITE 102
OMAHA, NE 68138
(844) 886-9377

REVISIONS				
REV.	DATE	BY	DESCRIPTION	QA
0	12/13/23	TJ	ISSUED FOR CONSTRUCTION	JFS
1	02/06/24	TJ	REVISION	JFS

BBU# 825148
LA3105 MCDONALDS
6561 EDINGER AVENUE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-2"
FLAG POLE

SGS# : 2403028

SHEET TITLE

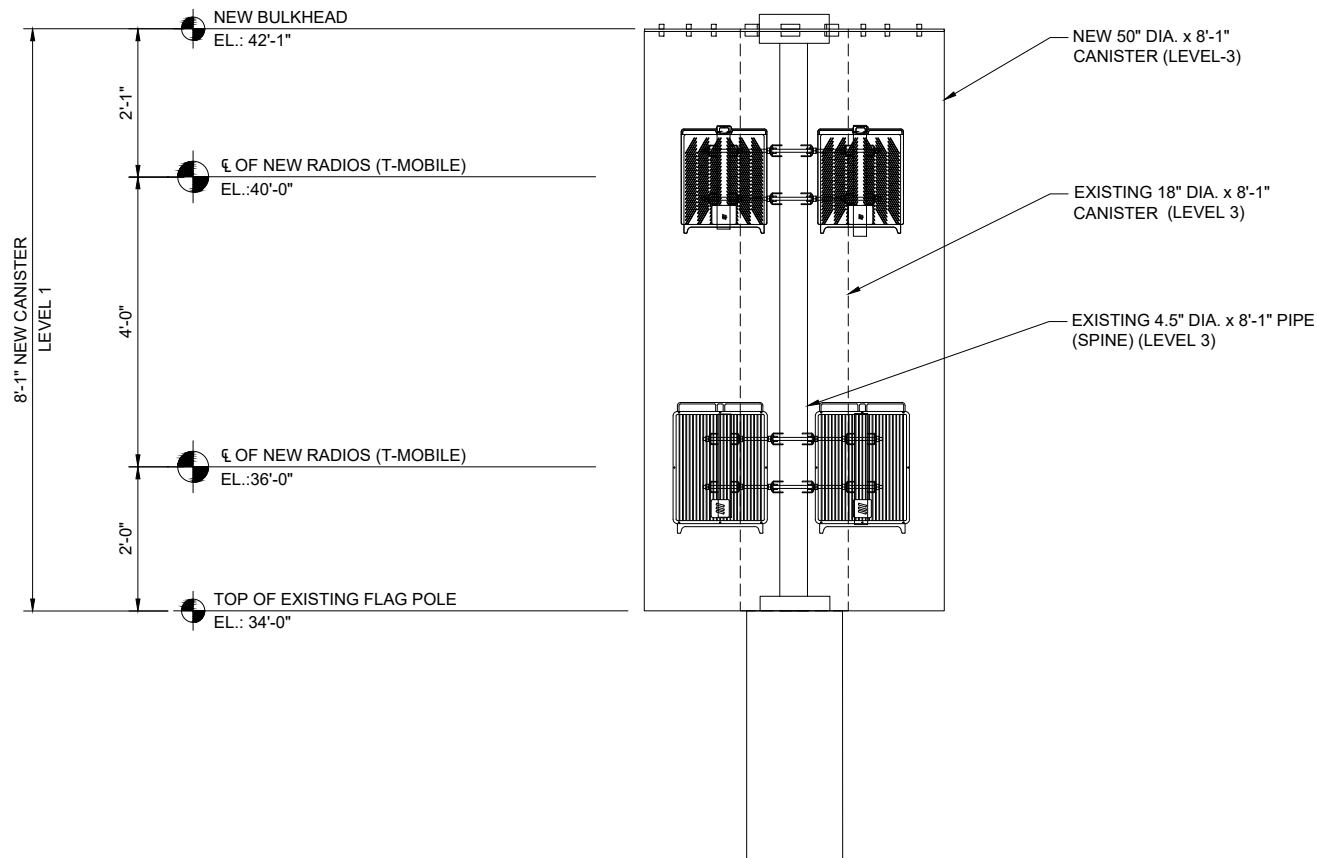
CANISTER FIT
UP DETAILS -
LEVEL 2

SHEET NUMBER

C-3

REVISION

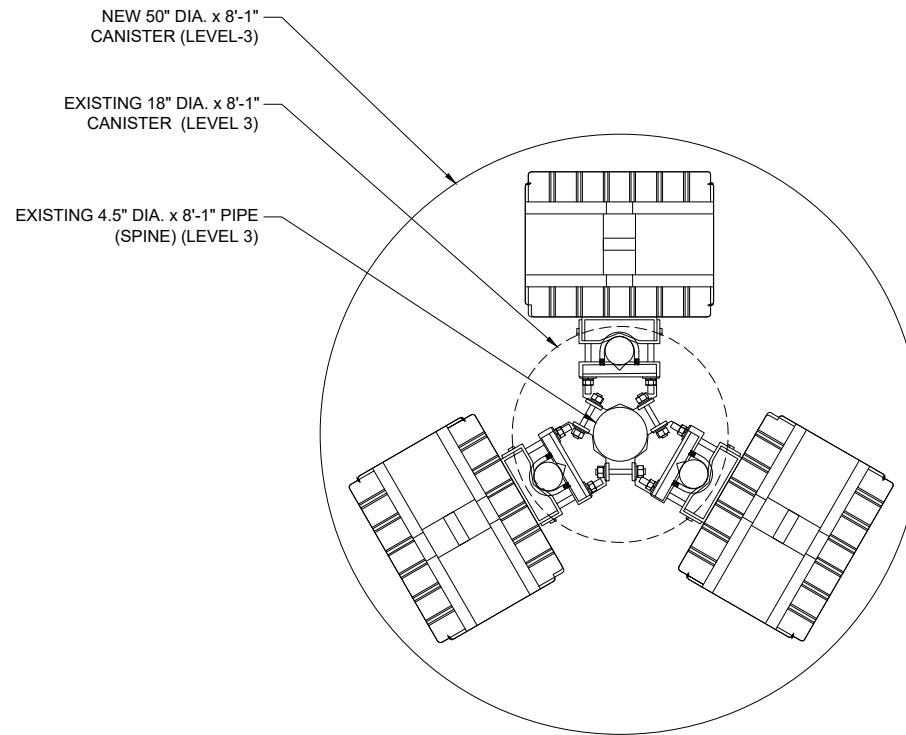
1



CANISTER DETAIL - ELEVATION VIEW (LEVEL 3)

SCALE: 3/8" = 1'-0" (11x17)

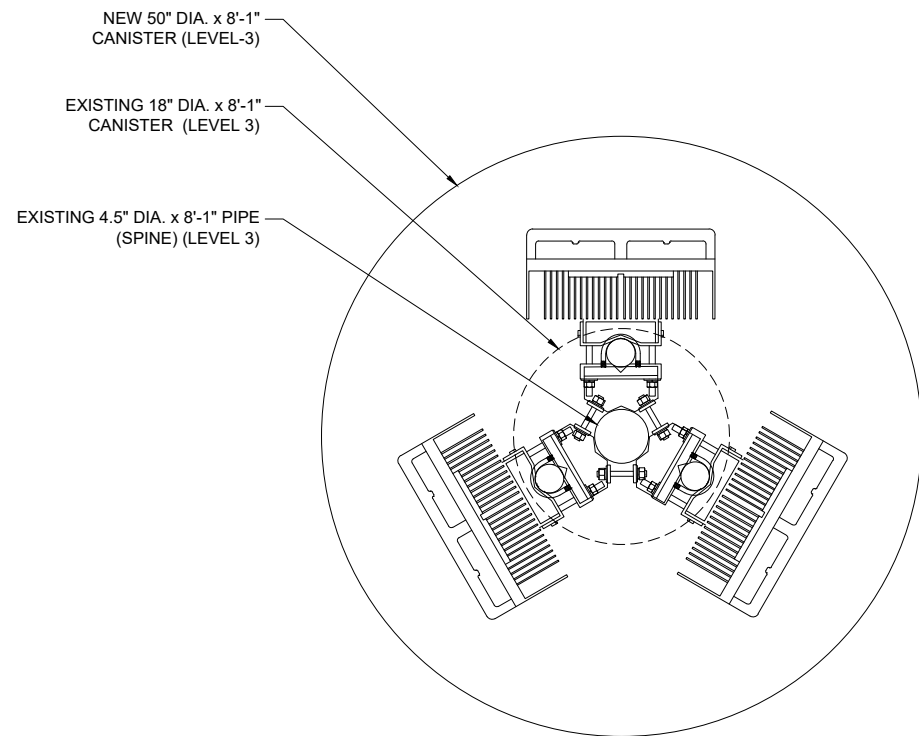
1



RADIO DETAIL - PLAN VIEW @ 40'-0"

SCALE: 3/4" = 1'-0" (11x17)

2



RADIO DETAIL - PLAN VIEW @ 36'-0"

SCALE: 3/4" = 1'-0" (11x17)

3

NOT USED

T-Mobile

CROWN CASTLE

SGS

14708 CUSTER RD., SUITE 102
OMAHA, NE 68138
(844) 886-9377

REVISIONS

REV.	DATE	BY	DESCRIPTION	QA
0	12/13/23	TJ	ISSUED FOR CONSTRUCTION	JFS
1	02/06/24	TJ	REVISION	JFS

BBU# 825148

LA3105 MCDONALDS

6561 EDINGER AVENUE
HUNTINGTON BEACH, CA
92647

EXISTING 50'-2"
FLAG POLE

SGS# : 2403028

SHEET TITLE

CANISTER FIT
UP DETAILS -
LEVEL 3

SHEET NUMBER

C-4

REVISION

1

STRUCTURAL DESIGN DRAWINGS

SITE NAME:

LA3105 MCDONALDS 20"FLAG

CROWN CASTLE BU NUMBER:

825148

SITE ADDRESS:

**6561 EDINGER AVE.
HUNTINGTON, CA 92647
(ORANGE COUNTY)
N 33°43'48.74", W 118°00'50.71"**

HOT WORK INCLUDED

NA	BASE GRINDING ONLY
X	BASE WELDING (AND GRINDING)
NA	AERIAL GRINDING ONLY
X	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.: 72745.954268 DATED MAY 22, 2024 (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 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

NO.	SHEET TITLE	REV
T-1	TITLE SHEET	0
N-1	MI CHECKLIST AND NOTES	0
N-2	GENERAL NOTES	0
N-3	PROJECT NOTES	0
S-1	TOWER ELEVATION AND MODIFICATION SCHEDULE	0
S-2	BASE SECTION DETAILS	0
S-3	ANCHOR BOLT REINFORCEMENT DETAILS	0
S-4	CONCEALMENT INSTALLATION DETAILS I	0
S-5	CONCEALMENT INSTALLATION DETAILS II	0
S-6	CONCEALMENT INSTALLATION DETAILS III	0

PROJECT INFORMATION

TOWER HEIGHT:	54-FT
TOWER MANUFACTURER:	CEM-TEC CORPORATION AND LARSON CAMOFLAUGE CCI DOCUMENT: 6534360
WORK ORDER NO.:	2299717
ORDER NO.:	530570 REV. 6
DESIGN BUILDING CODE:	2022 CALIFORNIA BUILDING CODE
DESIGN STANDARD:	TIA-222-H

PROJECT TEAM

CCI MODIFICATION PROJECT MANAGER:

NAME CROWN CASTLE
CONTACT MICHAEL YOAKUM
PHONE (713) 570-3067
EMAIL MICHAEL.YOAKUM@CROWNCastle.COM

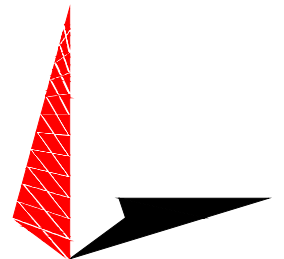
ENGINEERING FIRM PROJECT MANAGER:

NAME TOWER ENGINEERING PROFESSIONALS, INC.
CONTACT RHETT T. PARK, P.E.
PHONE (919) 661-6351
EMAIL CMRP@TEPGROUP.NET

PLANS PREPARED FOR:

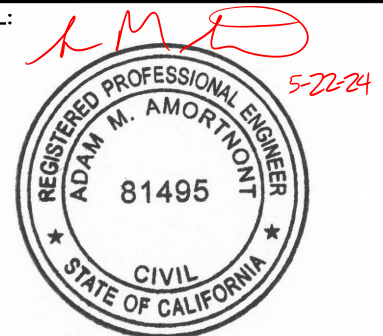
CROWN CASTLE

PLANS PREPARED BY:



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

SEAL:



Electronic Copy

May 22, 2024

0	05-22-24	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: EAJ CHECKED BY: RTP

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:	REVISION:
T-1	0
TEP#:	72745.954268

CON-FRM-10354 MI CHECKLIST			
REQUIRED	REPORT ITEM	APPLICABLE CROWN DOC	BRIEF DESCRIPTION
PRE-CONSTRUCTION			
X	EOR APPROVED SHOP DRAWINGS	CON-SOW-10007	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 RFI FORM DETAILING ANY CHANGES FROM THE ORIGINAL DESIGN TO THE EOR FOR REVIEW AND APPROVAL.
X	FABRICATION INSPECTION	CON-SOW-10007	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.
X	FABRICATOR CERTIFIED WELD INSPECTION	CON-SOW-10007 CED-STD-10069	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.
X	MATERIAL TEST REPORTS (MTR)	CON-SOW-10007	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.
X	FABRICATOR NDE INSPECTION REPORT	CED-SOW-10066 CED-STD-10069	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.
X	NDE OF MONOPOLE BASE PLATE	ENG-SOW-10033	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	CON-SOW-10007	PACKING/SHIPPING LIST FOR ALL MATERIAL USED DURING CONSTRUCTION OF THE MODIFICATION
ADDITIONAL TESTING AND INSPECTIONS:			
NA			
CONSTRUCTION			
NA	FOUNDATION INSPECTIONS	CED-SOW-10144	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	CONCRETE COMP. STRENGTH AND SLUMP TEST	CED-SOW-10144	THE CONCRETE MIX DESIGN, SLUMP TEST, AND COMPRESSIVE STRENGTH TESTS SHALL BE PROVIDED AS PART OF THE FOUNDATION REPORT.
NA	EARTHWORK: SOIL COMPACTION	CED-SOW-10144	FOUNDATION SOIL COMPACTION SHALL BE INSPECTED AND APPROVED BY AN APPROVED FOUNDATION INSPECTOR AND RESULTS INCLUDED AS PART OF THE FOUNDATION REPORT.
NA	EARTHWORK: BEARING CAPACITY	CED-SOW-10144	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 ANCHOR	CED-SOW-10144	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.
X	POST-INSTALLED ANCHOR ROD VERIFICATION	CON-SOW-10007 CON-FRM-10358	POST INSTALLED ANCHOR ROD VERIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH CROWN REQUIREMENTS AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	BASE PLATE GROUT VERIFICATION	ENG-STD-10323	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-10331	PHOTOS SHALL BE SUBMITTED IN ACCORDANCE WITH SECTION 6 FOR INCLUSION IN THE MI REPORT
X	FIELD CERTIFIED WELD INSPECTION	CED-SOW-10066 CED-STD-10069	A CROWN APPROVED CERTIFIED WELD INSPECTOR SHALL INSPECT AND TEST FIELD WELDS, FOLLOWING ALL PROCEDURES SPECIFIED IN CROWN STANDARD DOCUMENTS APPLICABLE TO WELD INSPECTIONS. A REPORT SHALL BE PROVIDED. NDE OF FIELD WELDS SHALL BE PERFORMED AS REQUIRED BY CROWN STANDARDS AND CONTRACT DOCUMENTS. THE NDE REPORT SHALL BE INCLUDED IN THE CWI REPORT.
X	FIELD NDE	CON-STD-10159 CON-SOW-10007	A NDE OF THE FIELD WELDS IN ACCORDANCE WITH CON-STD-10159 AND ANY ADDITIONAL NDE REQUIREMENTS NOTED IN THESE DESIGN DOCUMENTS
X	ON-SITE COLD GALVANIZING VERIFICATION	CON-STD-10149 CON-FRM-10358	THE GENERAL CONTRACTOR SHALL PROVIDE WRITTEN AND PHOTOGRAPHIC DOCUMENTATION TO THE MI INSPECTOR VERIFYING THAT ANY ON-SITE COLD GALVANIZING WAS APPLIED PER MANUFACTURER SPECIFICATIONS AND APPLICABLE STANDARDS.
X	TENSION TWIST AND PLUMB	CON-STD-10261	THE GENERAL CONTRACTOR SHALL PROVIDE A REPORT IN ACCORDANCE WITH APPLICABLE STANDARDS DOCUMENTING TENSION TWIST AND PLUMB.
X	TOWER PLUMB DELIVERABLES	CON-SOW-10007	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-10007	THE CONTRACTOR SHALL SUBMIT A LEGIBLE COPY OF ANY FINAL FABRICATION OR PARTS DRAWINGS PROVIDED BY THE CANISTER VENDOR
X	GC AS-BUILT DRAWINGS	CON-SOW-10007	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 INSPECTIONS:			
NA			
POST-CONSTRUCTION			
X	CONSTRUCTION COMPLIANCE LETTER	CON-SOW-10007 CON-FRM-10358	A LETTER FROM THE GENERAL CONTRACTOR STATING THAT THE WORKMANSHIP WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THESE CONTRACT DRAWINGS
X	POST-INSTALLED ANCHOR ROD PULL TESTS	CED-PRC-10119	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-10007	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 INSTALLATION VERIFICATION REPORT	CON-SOW-10007	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 DEVELOPMENT AND CORRECTION DOCUMENTATION	CON-PRC-10283 CON-FRM-10285	FINAL PUNCH LIST INDICATING ALL NONCONFORMANCE(S) IDENTIFIED AND THE FINAL RESOLUTION/APPROVAL.
X	MI INSPECTOR RECORD DRAWING(S)	CON-SOW-10007	THE MI INSPECTOR SHALL OBSERVE AND REPORT ANY DISCREPANCIES BETWEEN THE CONTRACTOR'S REDLINE DRAWING AND THE ACTUAL COMPLETED INSTALLATION.
ADDITIONAL TESTING AND INSPECTIONS:			
NA			

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.

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 DURING 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 MODIFICATION
 - CONSTRUCTION/ERECTION AND INSPECTION
 - RAW MATERIALS
 - PHOTOS OF ALL CRITICAL DETAILS
 - FOUNDATION MODIFICATIONS
 - 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

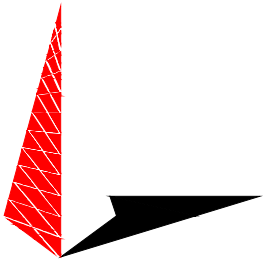
PLANS PREPARED FOR:

CROWN CASTLE

PROJECT INFORMATION:

LA3105 MCDONALDS
20"FLAG
BU #: 825148
6561 EDINGER AVE.
HUNTINGTON BEACH, CA 92647
(ORANGE COUNTY)

PLANS PREPARED BY:



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

SEAL:



Electronic Copy

May 22, 2024

O	05-22-24	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: EAJ | CHECKED BY: RTP

SHEET TITLE:

MI CHECKLIST
AND NOTES

SHEET NUMBER: N-1	REVISION: 0 TEP#: 72745.954268
----------------------	--------------------------------------

GENERAL NOTES:

1. 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.
11. 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 angle:		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)
-Bolts:		ASTM F3125 Grade A325 Type 1
-U-bolts:		ASTM A307 Grade A, OR SAE J429 Grade 2
-Nuts:		ASTM A563 Grade DH
-Washers:		ASTM F436 Type 1
-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.

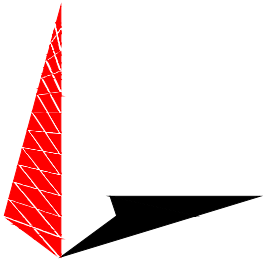
PLANS PREPARED FOR:

CROWN CASTLE

PROJECT INFORMATION:

LA3105 MCDONALDS
20"FLAG
BU #: 825148
6561 EDINGER AVE.
HUNTINGTON BEACH, CA 92647
(ORANGE COUNTY)

PLANS PREPARED BY:



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

SEAL:



Electronic Copy

May 22, 2024

O	05-22-24	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: EAJ | CHECKED BY: RTP

SHEET TITLE:

GENERAL NOTES

SHEET NUMBER:

N-2

REVISION:

0

TEP#: 72745.954268

BASE PLATE GROUT REMOVAL NOTES:

- 1. THE GC SHALL BEGIN THIS PROCEDURE AS EARLY AS POSSIBLE DURING THE MODIFICATION PROCESS SO THAT IF ISSUES ARISE, THEY CAN BE RESOLVED WITHIN THE ANTICIPATED MODIFICATION TIMELINE.
- 2. IF ANY DETERIORATED GROUT EXISTS, BEGIN AT THIS LOCATION. REMOVE DETERIORATED GROUT AND THE GROUT AROUND THE NEAREST ONE OR TWO ANCHOR RODS TO FULLY EXPOSE THE LEVELING NUT. IF THE GC DISCOVERS THAT A HALF NUT OR JAM NUT WAS USED AS A LEVELING NUT, OR IF NO LEVELING NUT IS PRESENT, IMMEDIATELY CONTACT CED AND THE CROWN POC (TYPICALLY THE MOD PM) FOR A RESOLUTION. DO NOT REMOVE ANY ADDITIONAL GROUT UNTIL DIRECTED TO BY CROWN.
- 3. OTHERWISE, CHECK THE LEVELING NUT FOR TIGHTNESS IN ACCORDANCE WITH SECTION 7.2.3 OF ENG-STD-10323 "BASE PLATE GROUT". IF SEVERE CORROSION / MATERIAL LOSS IS FOUND OR CORROSION EXISTS TO THE POINT WHERE THE LEVELING NUT IS UNABLE TO BE TIGHTENED WHEN OBVIOUSLY LOOSE, IMMEDIATELY NOTIFY THE CROWN POC (TYPICALLY THE MOD PM). REFERENCE ENG-BUL-10114 "RUST CLASSIFICATION"FOR EXAMPLES OF MATERIAL LOSS. DO NOT REMOVE ANY ADDITIONAL GROUT UNTIL DIRECTED TO BY CROWN.
- 4. IN THE EVENT THAT SEVERE CORROSION IS NOT ENCOUNTERED, AND BEING SURE TO CHECK EACH ANCHOR ROD FOR CORROSION PER ENG-BUL-10114 "RUST CLASSIFICATION", REMOVE ALL EXISTING BASEPLATE GROUT WHILE CHECKING EACH LEVELING NUT FOR TIGHTNESS IN ACCORDANCE WITH SECTION 7.2.3 OF ENG-STD-10323 "BASE PLATE GROUT".
- 5. CONSISTENT WITH SECTION 7.2.4 OF ENG-STD-10323 "BASE PLATE GROUT", HAND TOOL CLEAN TO SSPC-SP2 AND SOLVENT CLEAN TO SSPC-SP1, ALL EXPOSED STRUCTURAL STEEL ELEMENTS, INCLUDING ANCHOR RODS, LEVELING NUTS, AND UNDERSIDE OF BASE PLATE TO THE GREATEST EXTENT POSSIBLE. ENSURE THAT ALL OLD GROUT IS REMOVED TO ALLOW COLD GALVANIZING TO ADHERE TO THE STEEL.
- 6. APPLY BY BRUSH TWO COATS OF A CROWN-APPROVED COLD-GALVANIZING COMPOUND TO ALL EXPOSED STRUCTURAL STEEL ELEMENTS BENEATH THE BASE PLATE, AND ALLOW CURING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. A LIST OF CROWN-APPROVED DIRECT APPLICATION COLD-GALVANIZING COMPOUNDS CAN BE FOUND IN ENG-STD-10149 "TOWER PROTECTIVE COATINGS GUIDELINES" SECTION 2.1.1.
- 7. THE GC SHALL PROVIDE PHOTOS OF EACH ANCHOR ROD WITH LEVELING NUT AFTER CLEANING BUT BEFORE COLD-GALVANIZATION, AND ALSO AGAIN AFTER COLD-GALVANIZATION, FOR INCLUSION IN THE MI REPORT.

TOWER PLUMB REQUIREMENTS:

- 1. 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

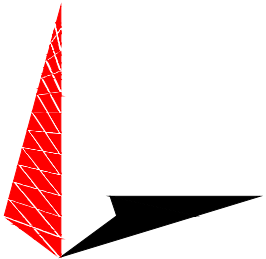
PLANS PREPARED FOR:

CROWN CASTLE

PROJECT INFORMATION:

LA3105 MCDONALDS
20"FLAG
BU #: 825148
6561 EDINGER AVE.
HUNTINGTON BEACH, CA 92647
(ORANGE COUNTY)

PLANS PREPARED BY:



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

SEAL:



Electronic Copy May 22, 2024

O	05-22-24	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

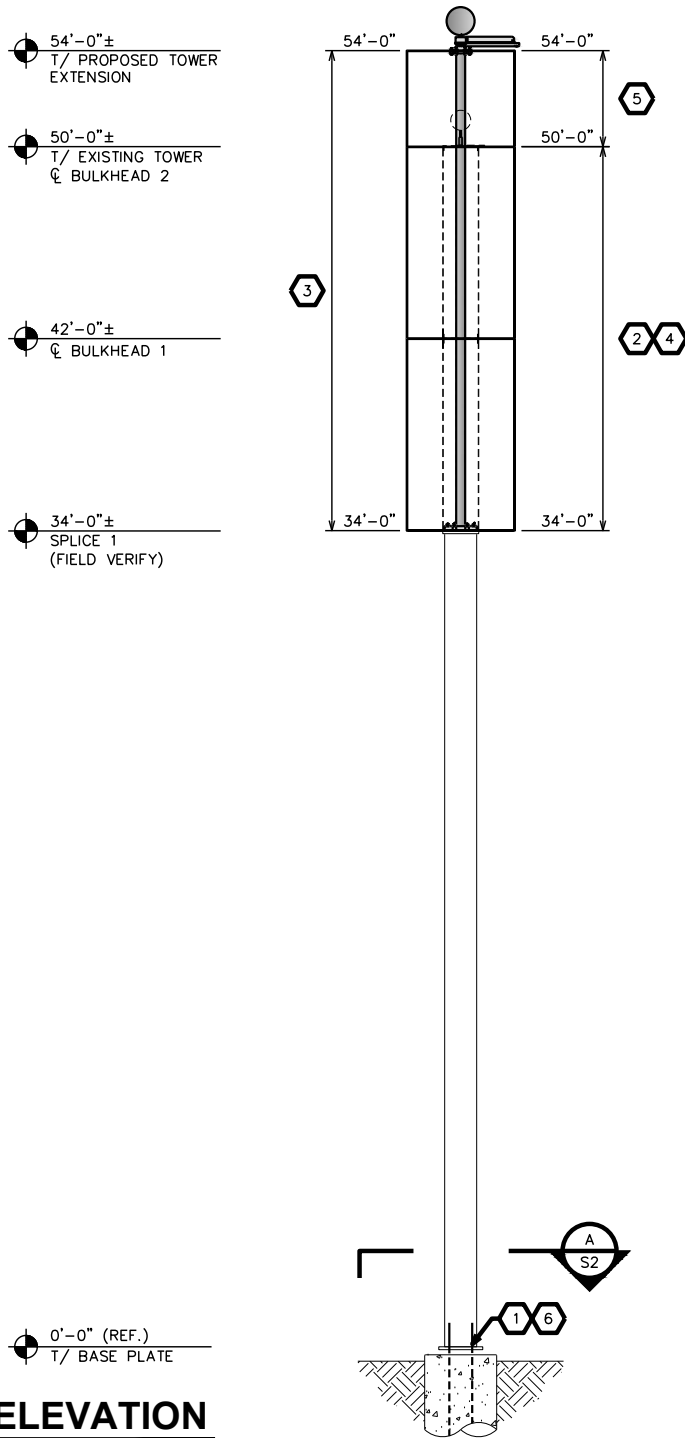
DRAWN BY: EAJ CHECKED BY: RTP

SHEET TITLE:

PROJECT NOTES

SHEET NUMBER: N-3	REVISION: 0 TEP#: 72745.954268
----------------------	--------------------------------------

MANUFACTURER POLE SPECIFICATIONS								
TAPER:		-						
BASE PLATE STEEL (Fy):		ASTM A36 (36 KSI)						
ANCHOR RODS:		1 1/4"Ø ASTM A36						
MANUFACTURER SHAFT SECTION DATA								
SHAFT SECTION	SECTION SHAPE	SECTION LENGTH (FT.)	SECTION THICKNESS (IN.)	SECTION GRADE Fy (KSI)	FLANGE PLATE GRADE Fy (KSI)	LAP SPLICE (IN.)	DIAMETER ACROSS FLATS OR OF ROUND SECTION (IN.)	
							TOP	BOTTOM
1	ROUND	20.00	0.7500	35	50	-	5.563	5.563
2	ROUND	34.00	0.2500	42	36	-	16.000	16.000
NOTE: DIMENSIONS SHOWN DO NOT INCLUDE GALVANIZING TOLERANCES								

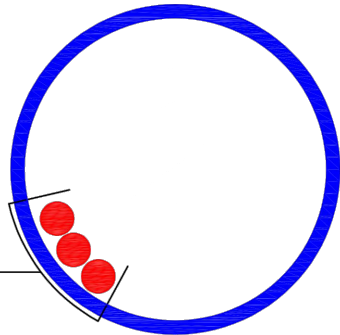


TOWER ELEVATION
SCALE: 1/8" = 1'-0"

MODIFICATION SCHEDULE			
NO.	MODIFICATION DESCRIPTION	ELEVATION (FT.)	SHEET
1	INSTALL PROPOSED ANCHOR BOLT REINFORCEMENT.	0.00	S-2 AND S-3
2	REMOVE EXISTING TOWER SECTION, CONCEALMENT CANISTERS, AND BULKHEAD ATTACHMENTS.	34.00 - 50.00	S-4
3	INSTALL PROPOSED TOWER SECTION, UNVENTED AND VENTED CONCEALMENT CANISTERS, AND BULKHEAD ATTACHMENTS. CONCEALMENT CANISTERS TO BE INSTALLED PER CROWN DOC: CON-PRC-10127.	34.00 - 54.00	S-4 THROUGH S-6
4	(2) NEW 50" NOMINAL DIAMETER VENTED CONCEALMENT ASSEMBLIES SHALL BE PROVIDED BY APPROVED VENTED CANISTER VENDOR. REFERENCE ITB EMAIL FOR MORE INFORMATION.	34.00 - 50.00	S-4
5	(1) NEW 50" NOMINAL DIAMETER UNVENTED CONCEALMENT ASSEMBLIES SHALL BE PROVIDED BY APPROVED UNVENTED CANISTER VENDOR. REFERENCE ITB EMAIL FOR MORE INFORMATION.	50.00 - 54.00	S-4
6	REMOVE EXISTING BASE PLATE GROUT. SEE BASE PLATE GROUT REMOVAL NOTES FOR DETAILS.	-	-
7	CONTRACTOR SHALL PERFORM A REBAR SCAN TO LOCATE EXISTING REINFORCING BARS PRIOR TO DRILLING TO ENSURE PROPER FIT UP.	-	-
8	CONTRACTOR TO PLUMB TOWER PER SECTION 13.3.3 OF ANSI/TIA-222-H.	-	-
9	PAINT PROPOSED MODIFICATIONS TO MATCH TOWER SHAFT.	-	-
10	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.	-	-
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.			

NOTE:
BASE LEVEL DRAWING PROVIDED BY CROWN CASTLE.

(PROPOSED EQUIPMENT CONFIGURATION)
(2) 1-5/8" TO 37 FT LEVEL
(1) 1-5/8" TO 47 FT LEVEL



BASE LEVEL DRAWING
SCALE: N.T.S.

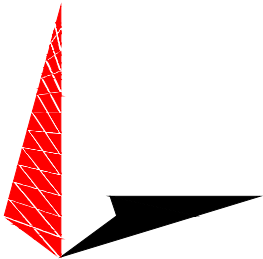
PLANS PREPARED FOR:

CROWN CASTLE

PROJECT INFORMATION:

**LA3105 MCDONALDS
20"FLAG
BU #: 825148**
6561 EDINGER AVE.
HUNTINGTON BEACH, CA 92647
(ORANGE COUNTY)

PLANS PREPARED BY:



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

SEAL:



Electronic Copy

May 22, 2024

O	05-22-24	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: EAJ | CHECKED BY: RTP

SHEET TITLE:

**TOWER ELEVATION
AND MODIFICATION
SCHEDULE**

SHEET NUMBER:

S-1

REVISION:

0

TEP#: 72745.954268

ATTENTION

0° REF. WAS ASSUMED TO BE ALIGNED WITH NORTH. FIELD VERIFY BASE PLATE ORIENTATION PRIOR TO INSTALLATION. CONTACT TOWER OWNER AND ENGINEER OF RECORD SHOULD ANY DISCREPANCIES ARISE.

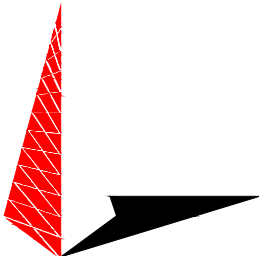
PLANS PREPARED FOR:

CROWN CASTLE

PROJECT INFORMATION:

LA3105 MCDONALDS
20"FLAG
BU #: 825148
6561 EDINGER AVE.
HUNTINGTON BEACH, CA 92647
(ORANGE COUNTY)

PLANS PREPARED BY:



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

SEAL:



Electronic Copy May 22, 2024

O	05-22-24	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: EAJ CHECKED BY: RTP

SHEET TITLE:

BASE SECTION
DETAILS

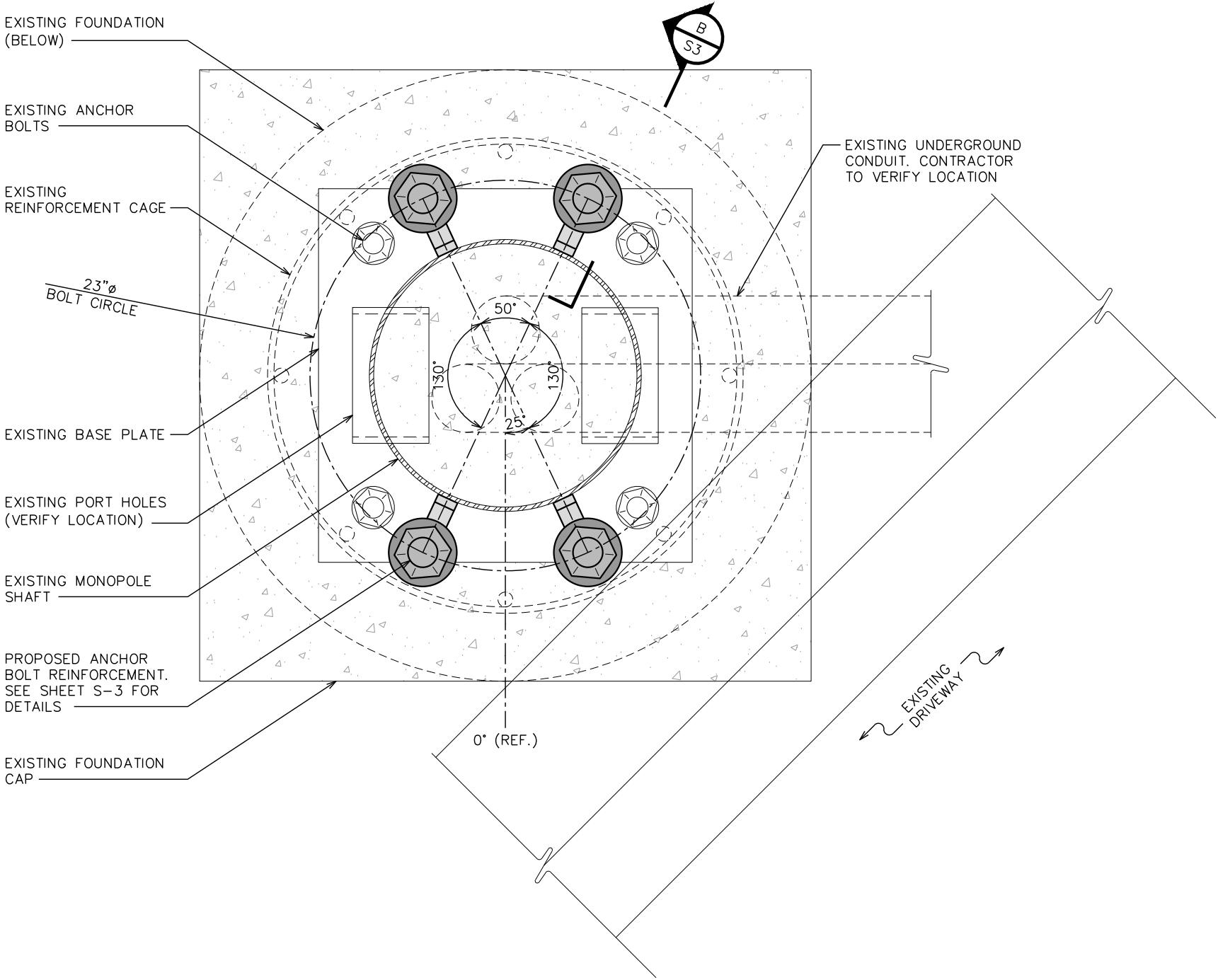
SHEET NUMBER:

S-2

REVISION:

0

TEP#: 72745.954268

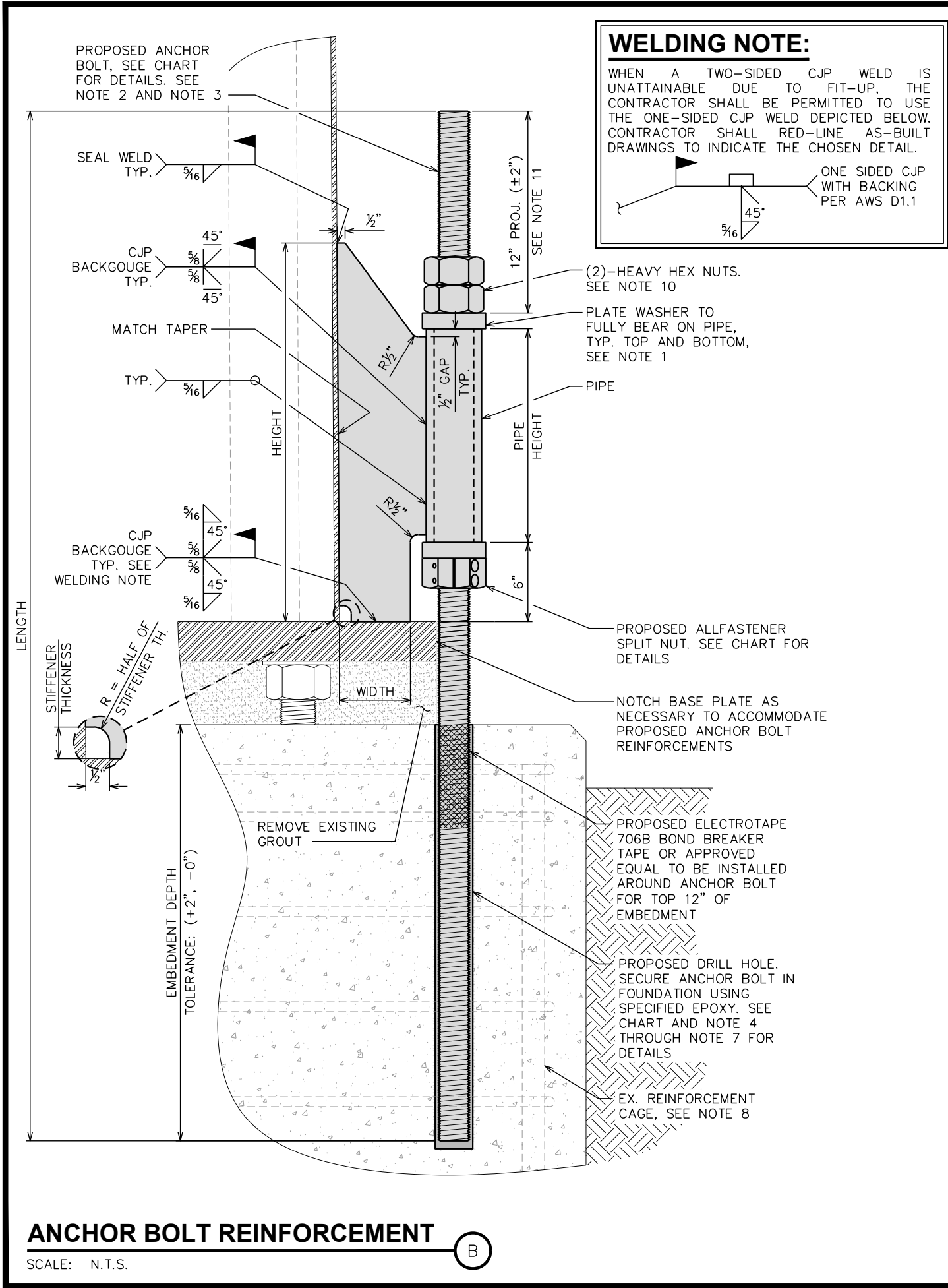


SECTION

SCALE: 1½" = 1'-0"

A

0 1 2
SCALE IN FEET



- NOTES**
1. PLATE WASHER SHALL FULLY BEAR ON PIPE.
 2. REFERENCE CON-CAT-10300 (CURRENT VERSION) FOR ANCHOR ROD DIMENSIONS.
 3. RODS SHALL BE GALVANIZED FROM THE TOP OF THE PROJECTION TO 15" BELOW THE SURFACE OF THE CONCRETE, AT A MINIMUM.
 4. CORED HOLES SHALL BE MECHANICALLY ROUGHENED USING A CARBIDE HOLE ROUGHENER OR EQUIVALENT. BRUSHING WITH A NYLON OR WIRE BRUSH SHALL BE USED IN THE PROCESS OF HOLE CLEANING, BUT DOES NOT SATISFY THE HOLE ROUGHENING REQUIREMENT.
 5. FOLLOW EPOXY MANUFACTURER'S RECOMMENDATIONS FOR HOLE CLEANING.
 6. ALL HOLES SHALL BE DRY PRIOR TO PLACING EPOXY.
 7. FOLLOW EPOXY MANUFACTURER'S RECOMMENDATIONS REGARDING HANDLING OF THREADED ROD AND EPOXY, AS WELL AS ALL INSTALLATION INSTRUCTIONS AND REQUIREMENTS.
 8. TAKE ALL MEASUREMENTS NECESSARY TO AVOID DAMAGING EXISTING REINFORCING BARS DURING CORING OPERATIONS. NOTIFY EOR IMMEDIATELY IF EXISTING REINFORCING BARS ARE ENCOUNTERED AND INTERFERE WITH PLACEMENT OF NEW ANCHORS. MINOR ADJUSTMENT TO PROPOSED LOCATION OF NEW ANCHORS MAY BE REQUIRED. CONTRACTOR MAY BATTER ANCHORS UP TO 1" TOWARD CENTER OF TOWER TO AVOID INTERFERENCES.
 9. IF BASE PLATE GROUT REPAIR IS REQUIRED FOR ANCHOR ROD INSTALLATION, SEE ENG-STD-10323: BASE PLATE GROUT, FOR PROCEDURES AND RECOMMENDED MANUFACTURERS. CONTRACTOR SHALL DETERMINE THE QUANTITY REQUIRED.
 10. ONCE ALL RESIN AND GROUT HAVE CURED, NEW ANCHOR ROD REINFORCING SHALL BE TARGET TENSIONED TO THE VALUE LISTED IN THE TABLE ON THIS SHEET. SEE CED-PRC-10119: PULL-OUT TESTING POST-INSTALLED ANCHOR RODS, FOR SPECIFICATIONS. AFTER ANCHOR BOLT LOAD TESTING IS COMPLETE, INSTALL FIRST NUT TO SNUG TIGHT PLUS 1/4 TURN BEFORE INSTALLING SECOND NUT.
 11. CONTRACTOR SHALL VERIFY THAT A PULL TEST IS ABLE TO BE PERFORMED USING THE ANCHOR ROD PROJECTION SHOWN.
 12. WHEN COMPLETED WITH EPOXY INSTALLATION, THE TOP OF THE EPOXY SHALL BE EQUAL TO OR HIGHER THAN THE TOP OF THE FOUNDATION, SUCH THAT WATER IS NOT ABLE TO COLLECT IN THE ANNULAR AREA AROUND THE EXPOSED PORTION OF THE ANCHOR ROD.

ANCHOR BRACKET	
DESCRIPTION	MEASUREMENT
HEIGHT	2'-0"
WIDTH	1 $\frac{3}{4}$ "
STIFFENER THICKNESS	1 $\frac{1}{4}$ "
MATERIAL	ASTM A572-65
TOTAL QUANTITY	4
DESCRIPTION	MEASUREMENT
PIPE SIZE	3 XXS
PIPE MATERIAL	ASTM A53-B-35
PIPE HEIGHT	1'-3"

ACCESSORIES	
DESCRIPTION	MEASUREMENT
ALLFASTENERS SPLIT NUT	2SPN134M
TOTAL QUANTITY	4

ANCHOR BOLT		
DESCRIPTION	MEASUREMENT	
PART NO.	CCI-AR-0175	
ANCHOR BOLT DIA.	1¾"	
TOTAL QUANTITY	4	
MATERIAL	ASTM A193 GR. B7	
DRILL HOLE DIAMETER	2"	
TARGET TENSION	111 KIPS	
EPOXY	ALLFASTENERS AF35LVE	HILTI HIT-RE 500 V3
EMBEDMENT	5'-0"	5'-6"
LENGTH	8'-6"	9'-0"

ACCESSORIES	
DESCRIPTION	MEASUREMENT
HEAVY HEX NUT	1 $\frac{3}{4}$ "
MATERIAL	ASTM A563
TOTAL QUANTITY	8
DESCRIPTION	MEASUREMENT
PLATE WASHER	PL4"O.D.x1 $\frac{1}{4}$ " (1 $\frac{1}{8}$ " DIA. HOLE)
MATERIAL	ASTM A572-65
TOTAL QUANTITY	8

PLANS PREPARED FOR:

CROWN CASTLE

PROJECT INFORMATION:

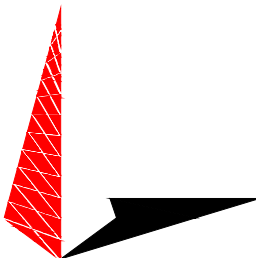
LA3105 MCDONALDS

20"FLAG

BU #: 825148

6561 EDINGER AVE.
HUNTINGTON BEACH, CA 92647
(ORANGE COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

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

SEAL:



Electronic Copy

May 22, 2024

O	05-22-24	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: EAJ CHECKED BY: RTP

SHEET TITLE:

**ANCHOR BOLT
REINFORCEMENT
DETAILS**

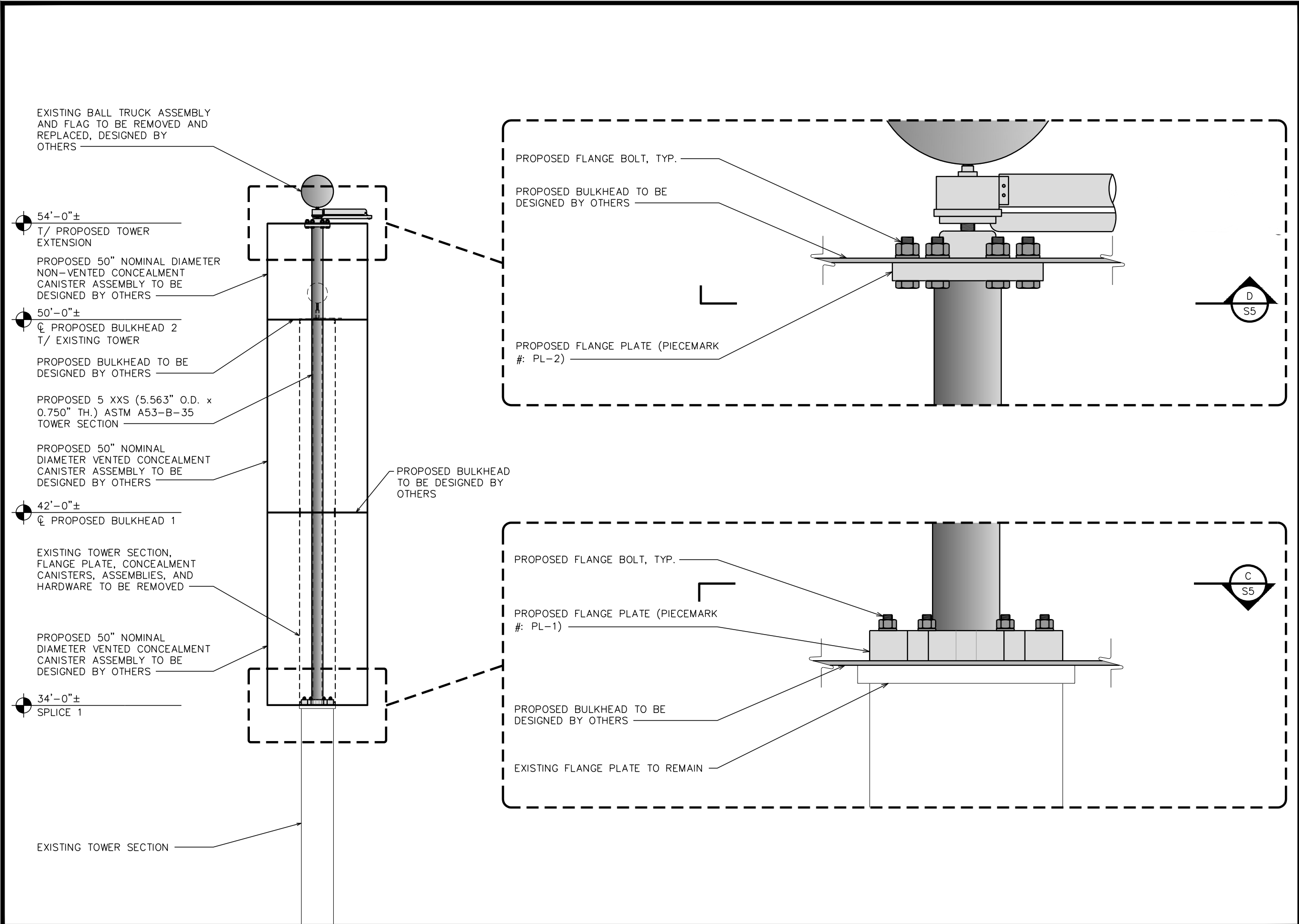
SHEET NUMBER:

S-3

REVISION:

0

TEP#: 72745.954268



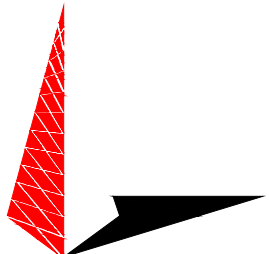
PLANS PREPARED FOR:

CROWN CASTLE

PROJECT INFORMATION:

LA3105 MCDONALDS
20" FLAG
BU #: 825148
6561 EDINGER AVE.
HUNTINGTON BEACH, CA 92647
(ORANGE COUNTY)

PLANS PREPARED BY:


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

SEAL:


Electronic Copy May 22, 2024

0	05-22-24	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: EAJ | CHECKED BY: RTP

SHEET TITLE:

**CONCEALMENT
INSTALLATION
DETAILS I**

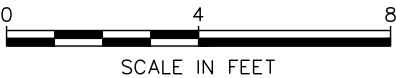
SHEET NUMBER: **S-4**

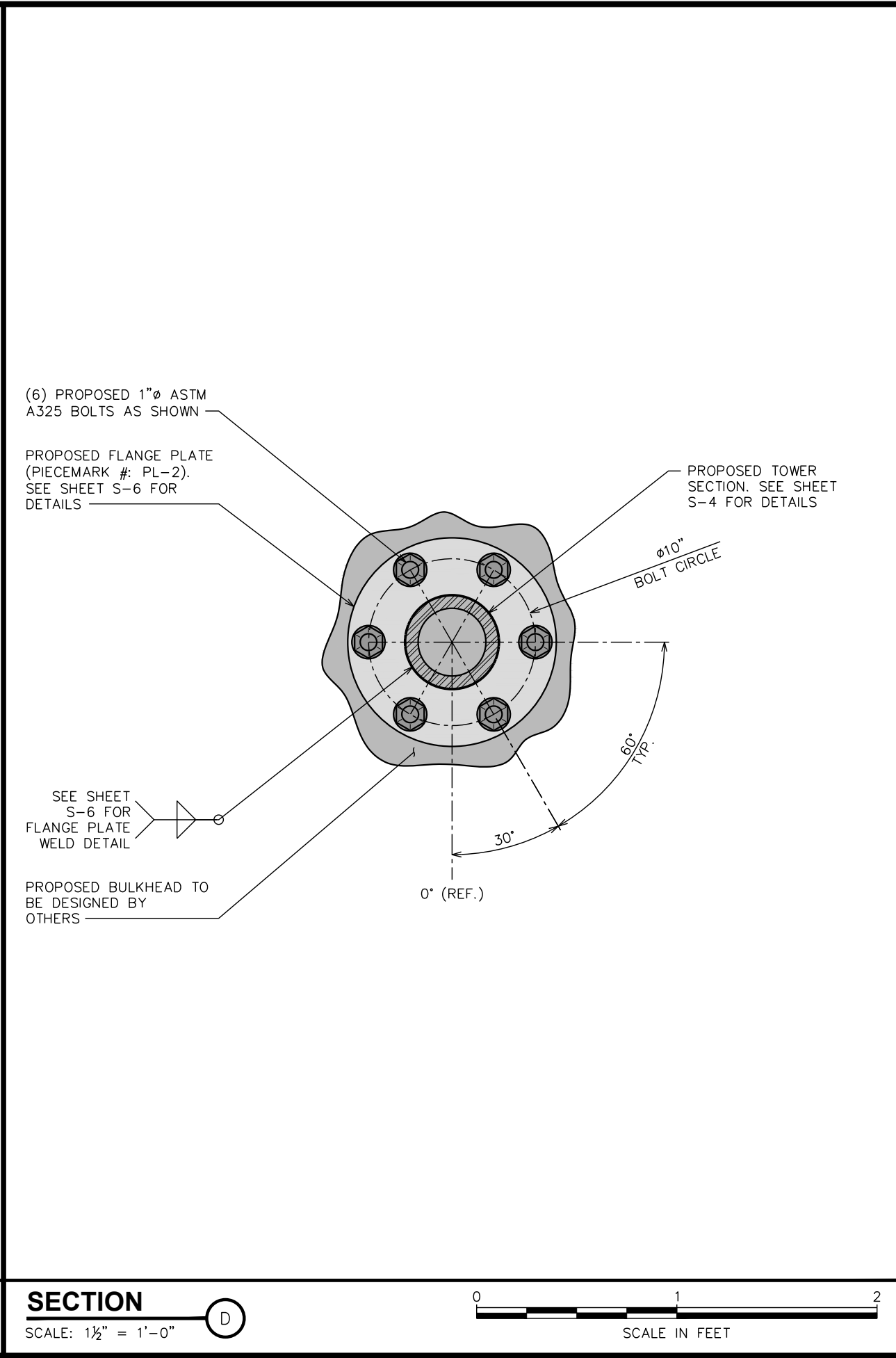
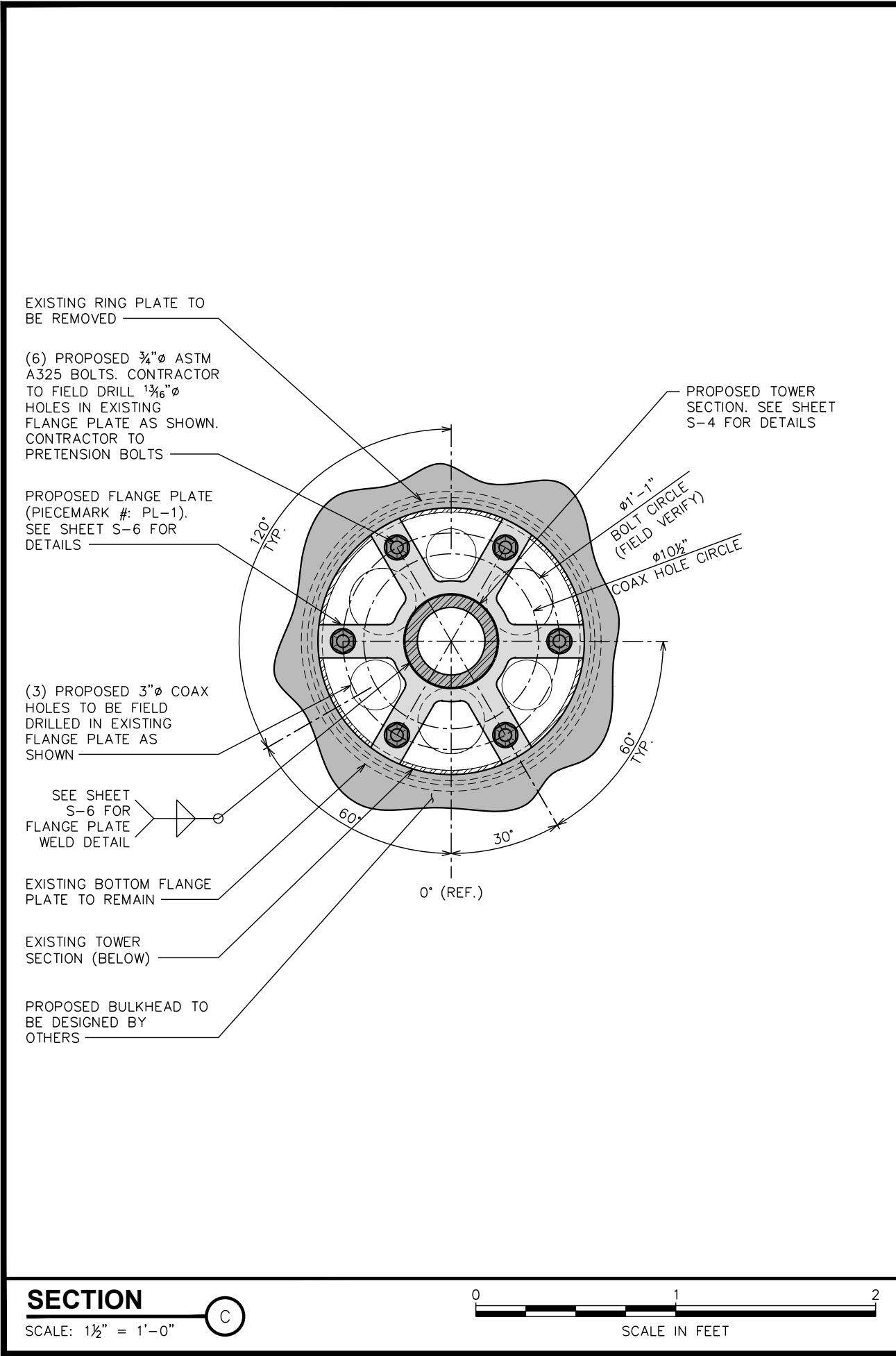
REVISION: **0**

TEP#: 72745.954268

PARTIAL ELEVATION

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





PLANS PREPARED FOR:

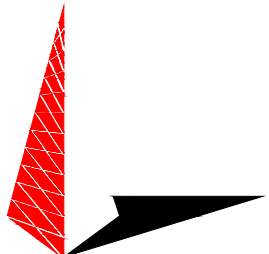
CROWN CASTLE

PROJECT INFORMATION:

**LA3105 MCDONALDS
20"FLAG
BU #: 825148**

6561 EDINGER AVE.
HUNTINGTON BEACH, CA 92647
(ORANGE COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

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

SEAL:



Electronic Copy May 22, 2024

REV	DATE	ISSUED FOR:
0	05-22-24	MODIFICATION DRAWINGS

DRAWN BY: EAJ CHECKED BY: RTP

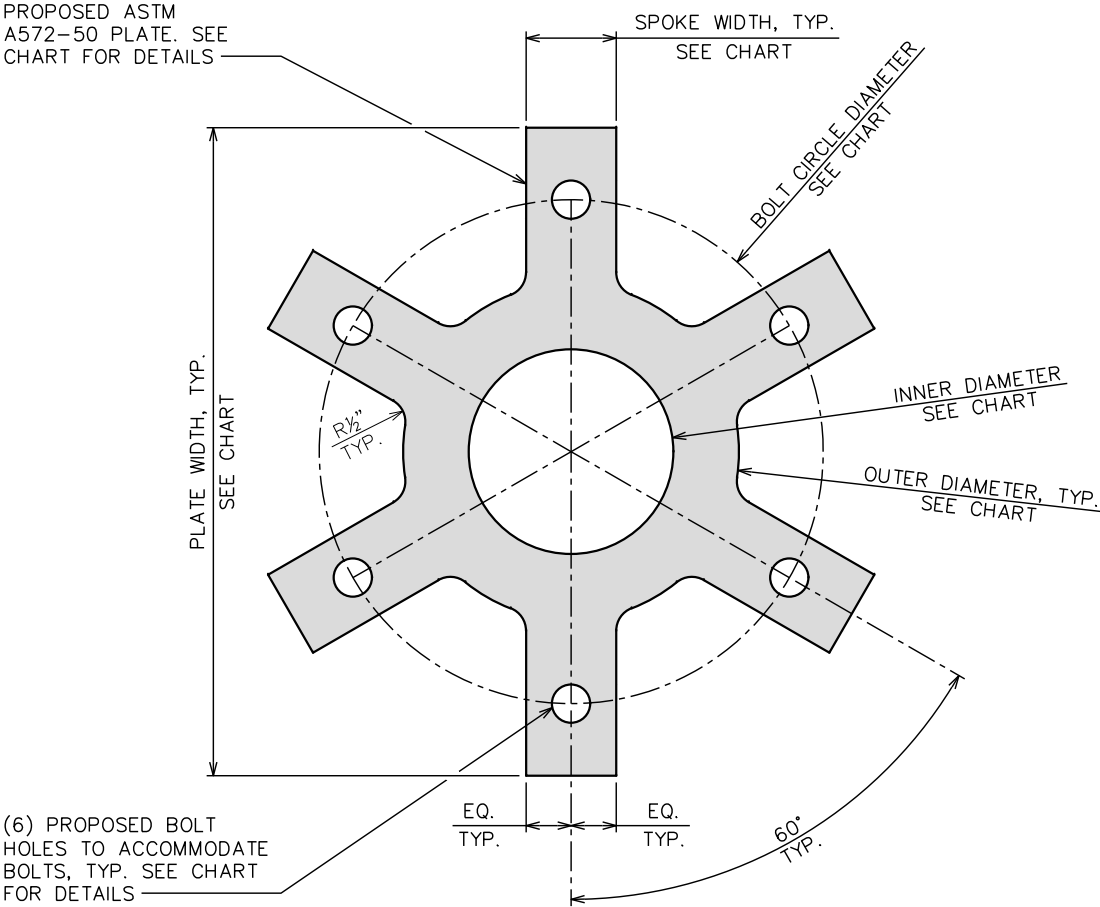
SHEET TITLE:

**CONCEALMENT
INSTALLATION
DETAILS II**

SHEET NUMBER: **S-5** REVISION: **0**

TEP#: 72745.954268

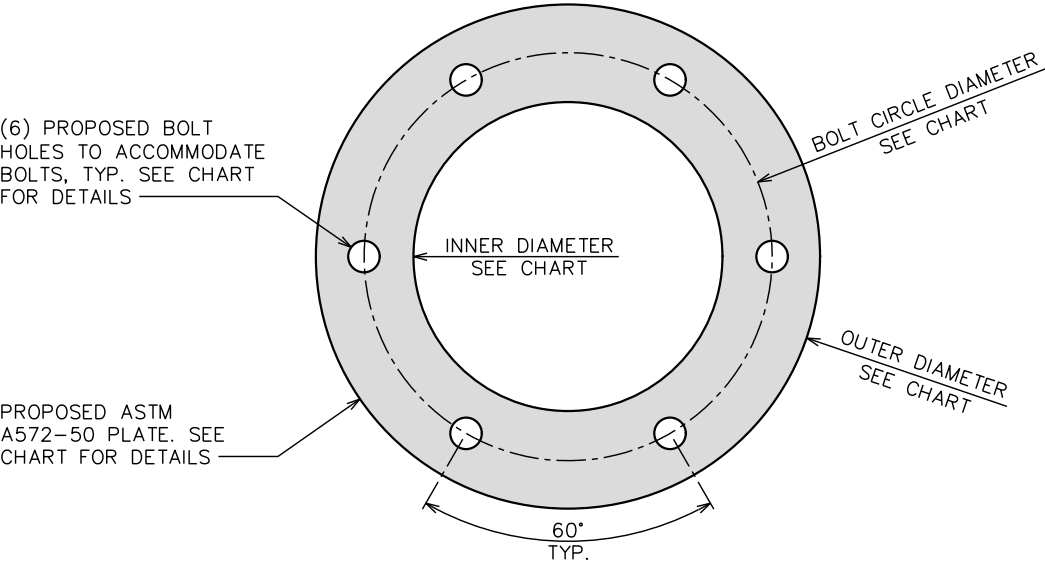
FLANGE PLATE								
PIECEMARK #	QUANTITY	INNER DIAMETER	OUTER DIAMETER	PLATE WIDTH	BOLT CIRCLE DIAMETER	BOLT HOLE DIAMETER	SPOKE WIDTH	PLATE THICKNESS
PL-1	1	5 1/16"	7 1/4"	1'-4"	1'-1"	1 3/16"	2"	2 1/2"



PIECEMARK #: PL-1

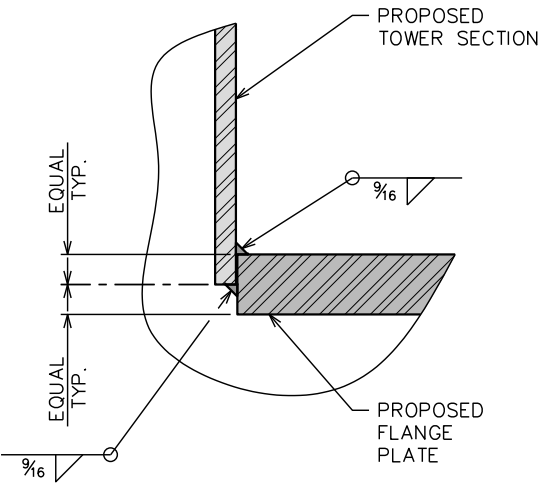
SCALE: N.T.S.

FLANGE PLATE						
PIECEMARK #	QUANTITY	OUTER DIAMETER	INNER DIAMETER	PLATE THICKNESS	BOLT CIRCLE DIAMETER	BOLT HOLE DIAMETER
PL-2	1	1'-0 1/2"	5 1/16"	1 1/4"	10"	1 1/16"



PIECEMARK #: PL-2

SCALE: N.T.S.



FLANGE WELD DETAIL

SCALE: N.T.S.

PLANS PREPARED FOR:

CROWN CASTLE

PROJECT INFORMATION:

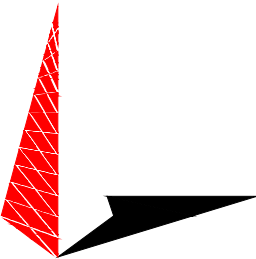
LA3105 MCDONALDS

20" FLAG

BU #: 825148

6561 EDINGER AVE.
HUNTINGTON BEACH, CA 92647
(ORANGE COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
RALEIGH, NC 27603

OFFICE: (919) 661-6351

www.tepgroup.net

SEAL:



Electronic Copy

May 22, 2024

0	05-22-24	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: EAJ CHECKED BY: RTP

SHEET TITLE:

**CONCEALMENT
INSTALLATION
DETAILS III**

SHEET NUMBER:

S-6

REVISION:

0

TEP#: 72745.954268