



**SITE NUMBER: SF03115A**  
**SITE NAME: SF115 BURLINGAME HWY 101**  
**1761 ADRIAN RD**  
**BURLINGAME, CA 94010**  
**COUNTY: SAN MATEO**

**ENGINEERING**

2013 CALIFORNIA BUILDING CODE  
 2013 CALIFORNIA ELECTRICAL CODE  
 2013 INTERNATIONAL BUILDING CODE  
 2013 NATIONAL ELECTRICAL CODE  
 TIA/EIA-222-G-2 OR LATEST EDITION  
 LOCAL BUILDING/PLANNING CODE

**GENERAL NOTES**

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

**SITE INFORMATION**

**PROPERTY OWNER:** PUBLIC STORAGE  
**ADDRESS:** PROP. VI  
 P.O. BOX 25025  
 GLENDALE, CA 91221-5025

**APPLICANT:** T-MOBILE USA  
**ADDRESS:** 1855 GATEWAY BOULEVARD, STE. 900  
 CONCORD, CA 94520

**LATITUDE:** 37° 35' 57.732" N (37.5993700)

**LONGITUDE:** 122° 06' 35.601" W (-122.37655600)

**LAT/LONG TYPE:** NAD 83

**GROUND ELEVATION:** ±8.5' AMSL

**APN #:** 025-169-200

**ZONING JURISDICTION:** CITY OF BURLINGAME

**CURRENT ZONING:** IHEA-HEAVY INDUSTRIAL

**PROPOSED USE:** UNMANNED TELECOMMUNICATIONS FACILITY

**TELEPHONE:** AT#T

**POWER:** PG&E

**PROJECT TEAM**

**SITE ACQUISITION MANAGER:** MODUS, INC.  
 149 NATOMA ST. 3RD FLOOR  
 SAN FRANCISCO, CA 94105  
 CONTACT: NICOLE SAPUTO  
 PHONE: (925) 360-4960  
 EMAIL: nsaputo@modus-corp.com

**ENGINEER:** ZALZALI & ASSOCIATES INC.  
 dba ALL STATES ENGINEERING & SURVEYING  
 23675 BIRTCHE DR.  
 LAKE FOREST, CA 92630  
 OFFICE: (949) 273-0996  
 PRINCIPAL: WISSAM ZALZALI (C-71655)  
 CELL: (949) 609-9559  
 PM: KRISTIAN MARSHALL  
 CELL: (949) 690-7975  
 EMAIL: krystian@zalzali.com

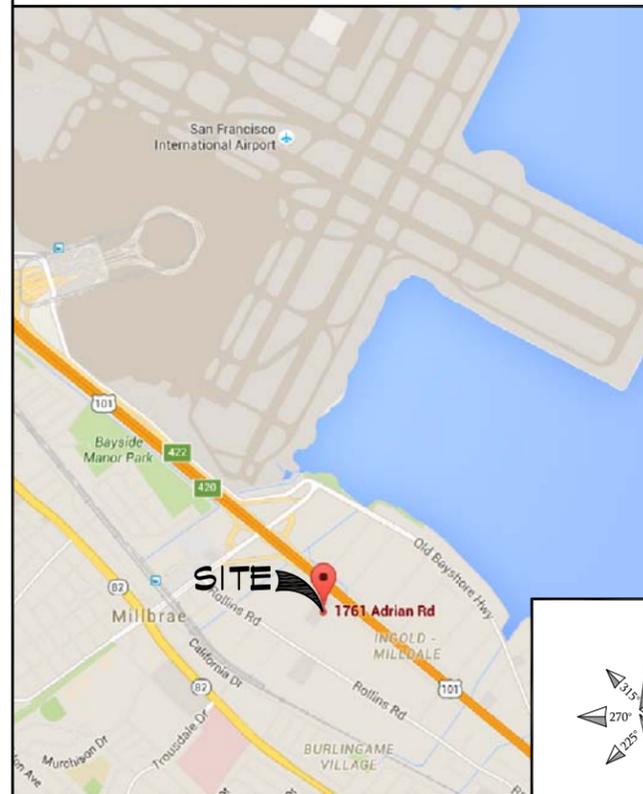
**CONSTRUCTION MANAGER:** T-MOBILE USA  
 1855 GATEWAY BLVD, 9TH FLOOR  
 CONCORD, CA 94520  
 CONTACT: JASON KEY  
 PHONE: (916) 801-4924  
 EMAIL: Jason.Key5@T-Mobile.com

**RF ENGINEER:** T-MOBILE USA  
 SAN FRANCISCO / SACRAMENTO MARKETS  
 CONTACT: JOSE HERNANDEZ  
 EMAIL: Jose.Hernandez313@T-Mobile.com

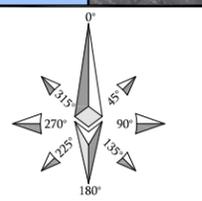
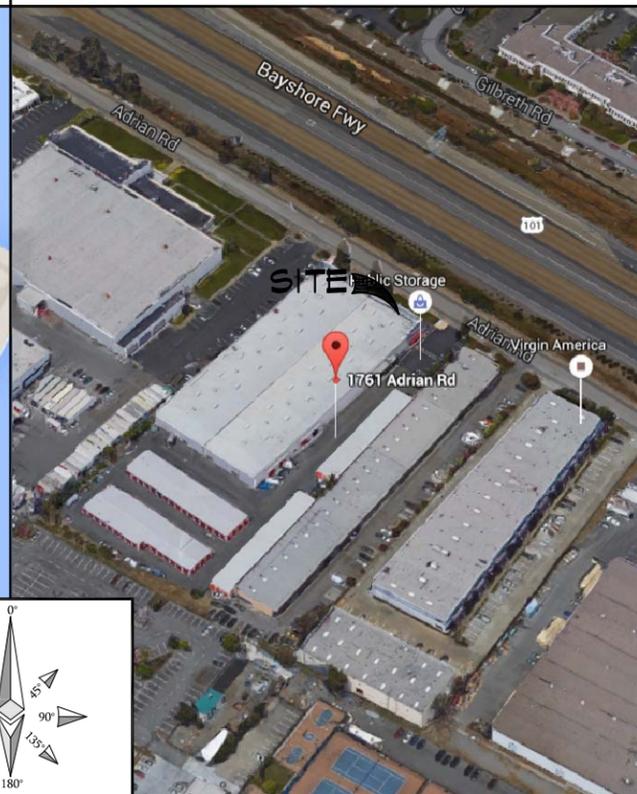
**LAND USE PLANNER:** MODUS, INC.  
 149 NATOMA ST. 3RD FLOOR  
 SAN FRANCISCO, CA 94105  
 CONTACT: LAUREL FERGUSON  
 PHONE: (916) 342-0298  
 EMAIL: lferguson@modus-corp.com

**LOCATION MAPS**

**VICINITY MAP**



**LOCAL MAP**



**DRIVING DIRECTIONS**

DIRECTIONS FROM T-MOBILE CONCORD OFFICE:  
 HEAD SOUTHEAST ON GATEWAY BLVD. TAKE THE 1ST RIGHT ONTO CLAYTON RD. MERGE ONTO CA-242 S TOWARD OAKLAND. MERGE ONTO I-680 S VIA THE EXIT ON THE LEFT. TAKE THE EXIT ONTO CA-24, TOWARD OAKLAND/LAFAYETTE. TAKE THE EXIT ONTO I-580 W. TAKE THE EXIT 19 A ON THE LEFT TO MERGE ONTO I-80 W. MERGE ONTO US-101 S. TAKE EXIT 420 FOR MILLBRAE AVE. TURN RIGHT AT THE MILLBRAE AVE THEN TURN LEFT AT ROLLINS ROAD. THEN TURN LEFT AT ADRIAN ROAD AND THE BUILDING IS ON THE RIGHT.

1761 ADRIAN RD, BURLINGAME, CA 94010

**RFDS VERSION 2 DATE: 07/31/2015**

**CONSTRUCTION DRAWINGS**

IF USING 11"x17" PLOT, DRAWINGS WILL BE HALF SCALE

**PROJECT DESCRIPTION**

T-MOBILE WIRELESS PROPOSES TO MODIFY AN EXISTING WIRELESS COMMUNICATION SITE. THE SCOPE WILL CONSIST OF THE FOLLOWING:

- INSTALL (6) 8'-0" ANTENNAS ON NEW MAST
- INSTALL (3) NEW RRUS-11s MOUNTED BEHIND NEW ANTENNAS
- UTILIZE EXISTING FIBER AND DC CABLES FOR L700

**DRAWING INDEX**

SHEET NO:	SHEET TITLE
T-1	TITLE SHEET
GN-1	GENERAL NOTES
GN-2	GENERAL NOTES
GS-1	GENERAL SIGNAGE
A-1	SITE PLAN
A-2	ROOF PLAN & EQUIPMENT LAYOUT PLAN
A-3	ANTENNA LAYOUT & SCHEDULE
A-4	ELEVATIONS
A-5	ELEVATIONS
D-1	DETAILS
E-1	ELECTRICAL PLAN
G-1	GROUNDING SCHEMATIC & GROUNDING DETAILS
G-2	GROUNDING DETAILS

**APPROVALS**

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS & AUTHORIZE THE SUBCONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT & MAY IMPOSE CHANGES OR MODIFICATIONS.

T-MOBILE RF ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_  
 T-MOBILE OPERATIONS: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SITE ACQUISITION: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CONSTRUCTION MANAGER: \_\_\_\_\_ DATE: \_\_\_\_\_  
 PROPERTY OWNER: \_\_\_\_\_ DATE: \_\_\_\_\_  
 ZONING: \_\_\_\_\_ DATE: \_\_\_\_\_  
 PROJECT MANAGER: \_\_\_\_\_ DATE: \_\_\_\_\_

**DO NOT SCALE DRAWINGS**

SUBCONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS & FIELD CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



149 NATOMA ST. 3RD FLOOR  
 SAN FRANCISCO, CA 94105



23675 BIRTCHE DRIVE  
 LAKE FOREST, CA 92630  
 PHONE: (949) 273-0996

PROJECT NO: SF03115A  
 DRAWN BY: NB  
 CHECKED BY: DW

REV	DATE	DESCRIPTION	
B	12/28/2015	100% CD'S FOR REVIEW	NB
A	12/10/2015	90% CD'S FOR REDLINE	NB/SS



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.

SF03115A  
 SF115 BURLINGAME HWY 101  
 1761 ADRIAN ROAD  
 BURLINGAME, CA 94010  
 L700 PROJECT

SHEET TITLE  
 TITLE SHEET

SHEET NUMBER  
**T-1**

**GENERAL CONSTRUCTION NOTES**

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL BUILDING CODE, THE LATEST EDITION AND ALL OTHER APPLICABLE CODES AND ORDINANCES.
- CONTRACTOR SHALL CONSTRUCT SITE IN ACCORDANCE WITH THESE DRAWINGS AND CONSTRUCTION SPECIFICATIONS 80-TII96-1 REV H. THE SPECIFICATION IS THE RULING DOCUMENT AND ANY DISCREPANCIES BETWEEN THE SPECIFICATION AND THESE DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION
- CONTRACTOR SHALL VISIT THE JOB SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OF FIELD CONDITIONS
- PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT AND APPURTENANCES, AND LABOR NECESSARY TO EFFECT ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS. OWNER PROVIDED MATERIALS WILL INCLUDE THE FOLLOWING, UNLESS NOTED OTHERWISE:
  - TRANSMITTER
  - RF FILTER
  - MFTS RACK
  - AUXILIARY EQUIPMENT IN MFTS RACK
  - PUMP ASSEMBLY
  - HEAT EXCHANGER
  - HOSE AND HOSE MANIFOLDS (ANY COPPER OR STEEL SECTIONS PROVIDE BY CONTRACTOR)
  - UHF ANTENNA AND MOUNTING BRACKETS, GPS ANTENNAS AND KU ANTENNAS
  - UHF COAX AND HANGERS
  - 480-208 & 208-400 ELECTRICAL TRANSFORMERS (RE: E-2 FOR SPECIALIZED TRANSFORMERS PROVIDED BY CONTRACTOR)
  - AUTOMATIC TRANSFER SWITCH AND GENERATOR
  - EQUIPMENT SHELTER (SHELTERS FURNISHED IN FACTORY W/ HVAC EQUIPMENT AND ELECTRICAL DISTRIBUTION PANEL)
  - INTEGRATED LOAD CENTER
- DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE WORK.
- DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
- CONTRACTOR SHALL RECEIVE CLARIFICATION IN WRITING, AND SHALL RECEIVE IN WRITING AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST CONSTRUCTION SKILLS AND ATTENTION. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS.
- CONTRACTOR SHALL COORDINATE HIS WORK WITH THE SUPERINTENDENT OF BUILDINGS & GROUNDS AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.
- INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SURFACES, EQUIPMENT, IMPROVEMENTS, PIPING ETC. AND IMMEDIATELY REPAIR ANY DAMAGE THAT OCCURS DURING CONSTRUCTION.
- IN DRILLING HOLES INTO CONCRETE WHETHER FOR FASTENING OR ANCHORING PURPOSES, OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, PIPE RUNS, ETC., MUST BE CLEARLY UNDERSTOOD THAT REINFORCING STEEL SHALL NOT BE DRILLED INTO, CUT OR DAMAGED UNDER ANY CIRCUMSTANCES (UNLESS NOTED OTHERWISE). LOCATIONS OF REINFORCING STEEL ARE NOT DEFINITELY KNOWN AND THEREFORE MUST BE SEARCHED FOR BY APPROPRIATE METHODS AND EQUIPMENT.
- REPAIR ALL EXISTING WALL SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND IN WITH ADJACENT SURFACES.
- SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH U.L. LISTED AND FIRE CODE APPROVED MATERIALS.
- KEEP CONTRACT AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.
- MINIMUM BEND RADIUS OF ANTENNA CABLES SHALL BE IN ACCORDANCE WITH CABLE MANUFACTURERS RECOMMENDATIONS.
- 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 APPLICABLE REGULATORY AUTHORITIES
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION SHALL BE IN CONFORMANCE WITH JURISDICTIONAL OR STATE AND LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL AND COORDINATED WITH LOCAL REGULATORY AUTHORITIES.
- ALL CONSTRUCTION IS TO ADHERE TO T-MOBILE'S INTEGRATED CONSTRUCTION STANDARDS UNLESS CALIFORNIA CODE IS MORE STRINGENT.
- THE INTENT OF THE PLANS AND SPECIFICATIONS IS TO PERFORM THE CONSTRUCTION IN ACCORDANCE WITH THE CALIFORNIA BUILDING STANDARDS CODE, TITLES 19 AND 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE APPROVED PLANS AND SPECIFICATIONS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE JURISDICTION BEFORE PROCEEDING WITH THE WORK.

**ELECTRICAL NOTES**

- ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ANY/ALL ELECTRICAL WORK INDICATED. ANY/ALL CONSTRUCTION SHALL BE IN ACCORDANCE W/DRAWINGS AND ANY/ALL APPLICABLE SPECIFICATIONS. IF ANY PROBLEMS ARE ENCOUNTERED BY COMPLYING WITH THESE REQUIREMENTS, CONTRACTOR SHALL NOTIFY 'CONSTRUCTION MANAGER' AS SOON AS POSSIBLE, AFTER THE DISCOVERY OF THE PROBLEMS, AND SHALL NOT PROCEED WITH THAT PORTION OF WORK, UNTIL THE 'CONSTRUCTION MANAGER' HAS DIRECTED THE CORRECTIVE ACTIONS TO BE TAKEN.
- ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ANY/ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATION INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. ALL EXISTING CONDITIONS OF ELECTRICAL EQUIP., LIGHT FIXTURES, ETC., THAT ARE PART OF THE FINAL SYSTEM, SHALL BE VERIFIED BY THE CONTRACTOR, PRIOR TO THE SUBMITTING OF HIS BID. FAILURE TO COMPLY WITH THIS PARAGRAPH WILL IN NO WAY RELIEVE CONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND ALL CODES AND LOCAL ORDINANCES OF THE LOCAL POWER & TELEPHONE COMPANIES HAVING JURISDICTION AND SHALL INCLUDE BUT NOT BE LIMITED TO:
  - NATIONAL FIRE CODES
  - UL - UNDERWRITERS LABORATORIES
  - NEC - NATIONAL ELECTRICAL CODE
  - NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
  - OSHA - OCCUPATIONAL SAFETY AND HEALTH ACT
  - SBC - STANDARD BUILDING CODE
- DO NOT SCALE ELECTRICAL DRAWINGS, REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, AND CONFIRM WITH 'CONSTRUCTION MANAGER' ANY SIZES AND LOCATIONS WHEN NEEDED.
- EXISTING SERVICES: CONTRACTOR SHALL NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.
- CONTRACTOR SHALL PAY FOR ANY/ALL PERMITS, FEES, INSPECTIONS AND TESTING. CONTRACTOR IS TO OBTAIN PERMITS AND APPROVED SUBMITTALS PRIOR TO THE WORK BEGINNING OR ORDERING EQUIPMENT.
- THE TERM "PROVIDE" USED IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL.
- CONTRACTOR SHALL CONFIRM WITH LOCAL UTILITY COMPANY ANY/ALL REQUIREMENTS SUCH AS THE: LUG SIZE RESTRICTIONS, CONDUIT ENTRY, SIZE OF TRANSFORMERS, SCHEDULED DOWNTIME FOR THE OWNERS' CONFIRMATION, ETC... ANY/ALL CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, PRIOR TO BEGINNING ANY WORK.
- MINIMUM WIRE SIZE SHALL BE #12 AWG, NOT INCLUDING CONTROL WIRING, UNLESS NOTED OTHERWISE. ALL CONDUCTORS SHALL BE COPPER WITH THIN INSULATION.
- OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.
- IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF THE CONSTRUCTION. CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
- ELECTRICAL SYSTEM SHALL BE AS COMPLETELY AND EFFECTIVELY GROUNDED, AS REQUIRED BY SPECIFICATIONS, SET FORTH BY T-MOBILE.
- ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS, WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND SUBJECT TO REGULATORY INSPECTION AND APPROVAL BY CONSTRUCTION MANAGER.
- ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
- CONTRACTOR SHALL GUARANTEE ANY/ALL MATERIALS AND WORK FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.
- THE CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ANY ADDITIONAL CHARGE AND SHALL INCLUDE THE REPLACEMENT OR THE REPAIR OF ANY OTHER PHASE OF THE INSTALLATION, WHICH MAY HAVE BEEN DAMAGED THEREIN.
- ADEQUATE AND REQUIRED LIABILITY INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LOSS AND ANY/ALL PROPERTY DAMAGE FOR THE DURATION OF WORK.
- PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES AND DEVICES FOR ALL OUTLETS AS INDICATED.
- DITCHING AND BACK FILL: CONTRACTOR SHALL PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES INCLUDING EXCAVATION AND BACKFILLING AND COMPACTION. REFER TO NOTES AND REQUIREMENTS 'EXCAVATION, AND BACKFILLING.
- MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SHALL APPEAR ON THE LIST OF U.L. APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE NEC, NEMA AND IECE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURES CATALOG INFORMATION OF ANY/ALL LIGHTING FIXTURES, SWITCHES AND ALL OTHER ELECTRICAL ITEMS FOR APPROVAL BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
- ANY CUTTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR WORK AND PERFORMED TO THE SATISFACTION OF THE 'CONSTRUCTION MANAGER' UPON FINAL ACCEPTANCE.
- THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES. ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- DISCONNECT SWITCHES SHALL BE H.P. RATED HEAVY-DUTY, QUICK-MAKE AND QUICK-BREAK ENCLOSURES, AS REQUIRED BY EXPOSURE TYPE.
- ALL CONNECTIONS SHALL BE MADE WITH A PROTECTIVE COATING OF AN ANTI-OXIDE COMPOUND SUCH AS "NO-OXIDE A" BY DEARBORNE CHEMICAL CO. COAT ALL WIRE SURFACES BEFORE CONNECTING. EXPOSED COPPER SURFACES, INCLUDING GROUND BARS, SHALL BE TREATED - NO SUBSTITUTIONS.
- RACEWAYS: CONDUIT SHALL BE SCHEDULE 40 PVC MEETING OR EXCEEDING NEMA TC2 - 1990. CONTRACTOR SHALL PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 200 LBS TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 2 FT. RADIUS. RGS CONDUITS WHEN SPECIFIED, SHALL MEET UL-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT. COAT ALL THREADS WITH 'BRITZ ZINC' OR 'GOLD GALV'.
- SUPPORT OF ALL ELECTRICAL WORK SHALL BE AS REQUIRED BY NEC.

- CONDUCTORS: CONTRACTOR SHALL USE 98% CONDUCTIVITY COPPER WITH TYPE THIN INSULATION, 800 VOLT, COLOR CODED. USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING NO. 8 AWG. USE STRANDED CONDUCTORS FOR WIRE ABOVE NO. 8 AWG.
- CONNECTORS FOR POWER CONDUCTORS: CONTRACTOR SHALL USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR NO. 10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR NO. 8 AWG AND LARGER.
- SERVICE: 240/120V, SINGLE PHASE, 3 WIRE CONNECTION AVAILABLE FROM UTILITY COMPANY. OWNER OR OWNERS AGENT WILL APPLY FOR POWER.
- TELEPHONE SERVICE: CONTRACTOR SHALL PROVIDE EMPTY CONDUITS WITH PULL STRINGS AS INDICATED ON DRAWINGS.
- ELECTRICAL AND TELCO RACEWAYS TO BE BURIED A MINIMUM OF 2' DEPTH.
- CONTRACTOR SHALL PLACE TWO LENGTHS OF WARNING TAPE AT A DEPTH OF 12" BELOW GROUND AND DIRECTLY ABOVE ELECTRICAL AND TELCO SERVICE CONDUITS. CAUTIONS TAPE TO READ "CAUTION BURIED ELECTRIC" OR "BURIED TELECOMM".
- ALL BOLTS SHALL BE STAINLESS STEEL

**GROUNDING NOTES**

- COMPRESSION CONNECTIONS (2), 2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUNDING BAR. ROUTE CONDUCTORS TO BURIED GROUNDING RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
- EC SHALL USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P", "A", "N", "I") WITH 1" HIGH LETTERS.
- ALL HARDWARE 1/8-8 STAINLESS STEEL, INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING. ALL HARDWARE SHALL BE STAINLESS STEEL 3/8 INCH DIAMETER OR LARGER.
- FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
- NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUNDING BAR AND BOLTED ON THE BACK SIDE.
- NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION, AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
- WHEN THE SCOPE OF WORK REQUIRES THE ADDITION OF A GROUNDING BAR TO AN EXISTING TOWER, THE SUBCONTRACTOR SHALL OBTAIN APPROVAL FROM THE TOWER OWNER PRIOR TO MOUNTING THE GROUNDING BAR TO THE TOWER.
- ALL ELECTRICAL AND GROUNDING AT THE CELL SITE SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780 (LATEST EDITION), AND MANUFACTURER.

**ADDITIONAL NOTES:**

- ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL GROUNDING INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.
- GROUND ALL ANTENNA BASES, FRAMES, CABLE RUNS, AND OTHER METALLIC COMPONENTS USING #2 GROUND WIRES AND CONNECT TO SURFACE MOUNTED GROUND BUS BARS AS SHOWN. FOLLOW ANTENNA AND BTS MANUFACTURER'S PRACTICES FOR GROUNDING REQUIREMENTS. GROUND COAX SHIELD AT BOTH ENDS USING MANUFACTURERS PRACTICES. ALL UNDERGROUND WATER PIPES, METAL CONDUITS AND GROUNDS THAT ARE A PART OF THIS SYSTEM SHALL BE BONDED TOGETHER.
- ALL GROUND CONNECTIONS SHALL BE #2 AWG U.N.O. ALL WIRES SHALL BE COPPER THIN/THIN. ALL GROUND WIRE SHALL BE SOLID TIN COATED OR STRANDED GREEN INSULATED WIRE.
- CONTRACTOR TO VERIFY AND TEST GROUND TO SOURCE, 5 OHMS MAXIMUM. PROVIDE SUPPLEMENT GROUNDING RODS AS REQUIRED TO ACHIEVE SPECIFIED OHMS READING. GROUNDING AND OTHER OPTIONAL TESTING WILL BE WITNESSED BY THE T-MOBILE REPRESENTATIVE.
- NOTIFY ARCHITECT/ENGINEER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.
- BARE GROUNDING CONDUCTOR SHALL BE HARD DRAWN TINNED COPPER SIZES AS NOTED ON PLAN.
- ALL HORIZONTALLY RUN GROUNDING CONDUCTORS SHALL BE INSTALLED MINIMUM 12" BELOW GRADE/FROST-LINE IN TRENCH, U.N.O., AND BACK FILL SHALL BE COMPACTED AS REQUIRED BY ARCHITECT.
- ALL GROUND CONDUCTORS SHALL BE RUN AS STRAIGHT AND SHORT AS POSSIBLE, WITH A MINIMUM 12" BENDING RADIUS NOT LESS THAN 90 DEGREES.
- ALL SUPPORT STRUCTURES, CABLE CHANNEL WAYS OR WIRE GUIDES SHALL BE BONDED TO GROUND SYSTEM AT A POINT NEAREST THE MAIN GROUNDING BUS "MGB" (OR DIRECTLY TO GROUND-RING).
- ACCEPTABLE CONNECTIONS FOR GROUNDING SYSTEM SHALL BE:
  - BURNDY, HY-GRADE U.L. LISTED CONNECTORS FOR INDOOR USE OR AS APPROVED BY T-MOBILE PROJECT MANAGER.
  - CADWELD, EXOTHERMIC WELDS (WELDED CONNECTIONS).
  - TWO -(2) HOLE TINNED COPPER COMPRESSION (LONG BARREL) FITTINGS (BUS BAR CONNECTIONS).
- ALL CRIMPED CONNECTIONS SHALL HAVE EMBOSSED MANUFACTURER'S DIEMARK VISIBLE AT THE CRIMP (RESULTING FROM USE OF PROPER CRIMPING DEVICES).
- PRIOR TO ANY LUG-BUSSBAR CONNECTIONS, THE BUSSBAR SHALL BE CLEANED BY USE OF 'SCOTCH-BRITE' OR PLAIN STEEL WOOL AS TO REMOVE ALL SURFACE OXIDATION AND CONTAMINANTS. A COATING OF 'NO-OX-ID' SHALL BE APPLIED TO THE CONNECTION SURFACES.
- ALL CONNECTION HARDWARE SHALL BE TYPE 316 SS (NOT ATTRACTED TO MAGNETS).
- THE GROUND RING SHALL BE INSTALLED 24" MINIMUM BEYOND ANY BUILDING DRIP LINE.
- ELECTRICAL SERVICE EQUIPMENT GROUNDING SHALL COMPLY WITH NEC, ARTICLE 250-82 AND SHALL BOND ALL EXISTING AND NEW GROUNDING ELECTRODES. NEW GROUNDING ELECTRODE SHALL INCLUDE BUT NOT LIMITED TO GROUND RODS, GROUND RING IF SERVICE IS WITHIN THE RADIO EQUIPMENT LOCATION, BUILDING STEEL IF APPLICABLE, COLD WATER CONNECTIONS MUST BE MADE ON THE STREET SIDE OF MAIN SHUT-OFF VALVE.



1855 GATEWAY BLVD., 9th FLOOR  
CONCORD, CA 94520



149 NATOMA ST. 3RD FLOOR  
SAN FRANCISCO, CA 94105

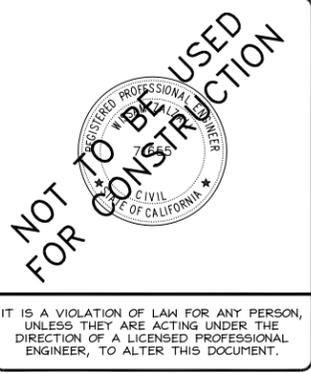


23675 BIRTCHE DRIVE  
LAKE FOREST, CA 92630  
PHONE: (949) 273-0996

PROJECT NO:	SF03115A
DRAWN BY:	NB
CHECKED BY:	DW

REV	DATE	DESCRIPTION	
B	12/28/2015	100% CD'S FOR REVIEW	NB
A	12/10/2015	90% CD'S FOR REDLINE	NB/SS

**NOT FOR CONSTRUCTION**



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.

SF03115A  
SF115 BURLINGAME HWY 101  
1761 ADRIAN ROAD  
BURLINGAME, CA 94010  
L700 PROJECT

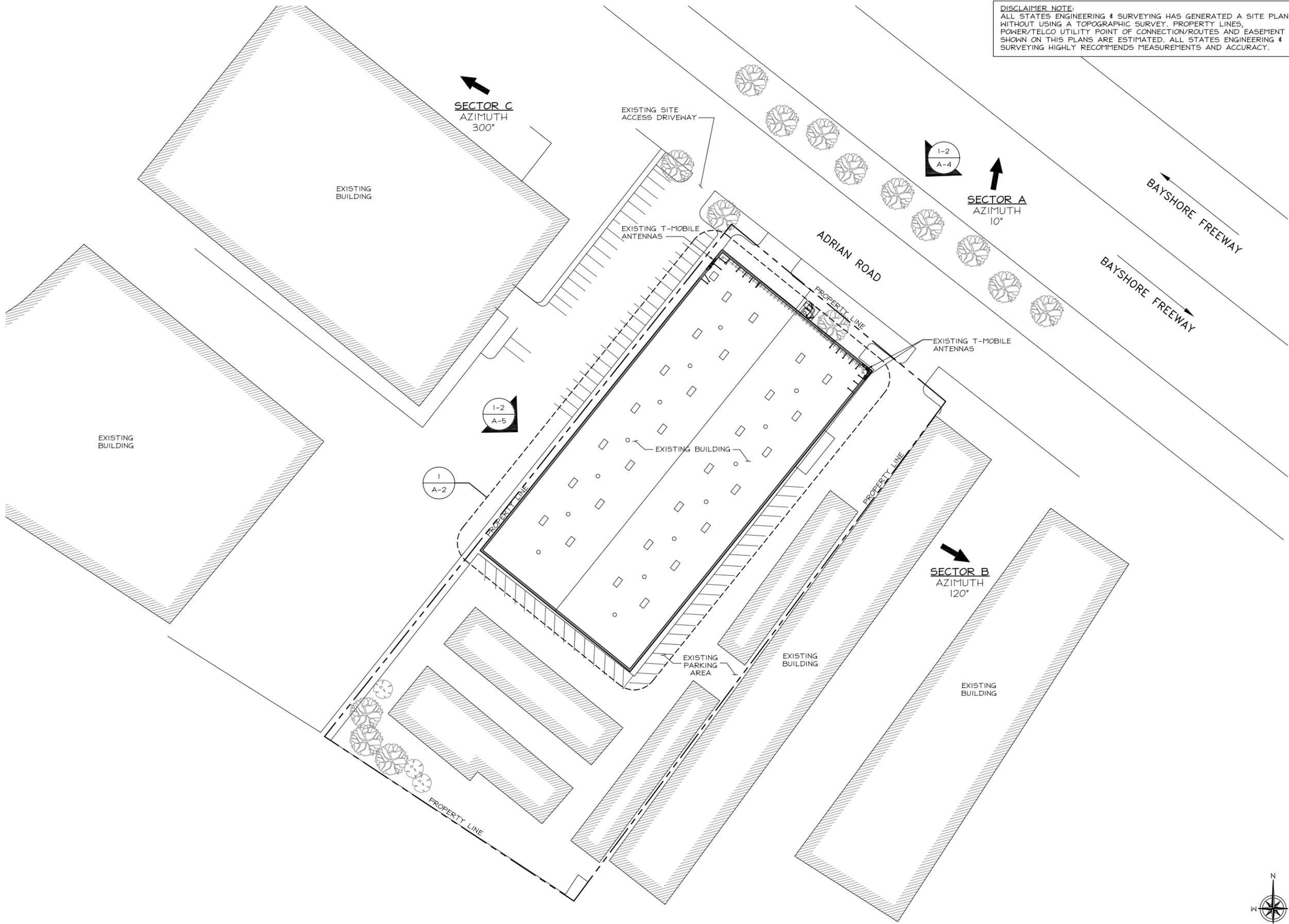
SHEET TITLE  
**GENERAL NOTES**

SHEET NUMBER  
**GN-1**





**DISCLAIMER NOTE:**  
 ALL STATES ENGINEERING & SURVEYING HAS GENERATED A SITE PLAN WITHOUT USING A TOPOGRAPHIC SURVEY. PROPERTY LINES, POWER/TELCO UTILITY POINT OF CONNECTION/ROUTES AND EASEMENT SHOWN ON THIS PLANS ARE ESTIMATED. ALL STATES ENGINEERING & SURVEYING HIGHLY RECOMMENDS MEASUREMENTS AND ACCURACY.



**T-Mobile**  
 1855 GATEWAY BLVD., 9th FLOOR  
 CONCORD, CA 94520

**m**  
 149 NATOMA ST. 3RD FLOOR  
 SAN FRANCISCO, CA 94105

**Z ALL STATES**  
 ENGINEERING & SURVEYING  
 A ZALZALI & ASSOCIATES COMPANY  
 23675 BIRTCHEER DRIVE  
 LAKE FOREST, CA 92630  
 PHONE: (949) 273-0996

PROJECT NO: SF03115A  
 DRAWN BY: NB  
 CHECKED BY: DW

REV	DATE	DESCRIPTION	
B	12/28/2015	100% CD'S FOR REVIEW	NB
A	12/10/2015	90% CD'S FOR REDLINE	NB/SS

**NOT TO BE USED FOR CONSTRUCTION**

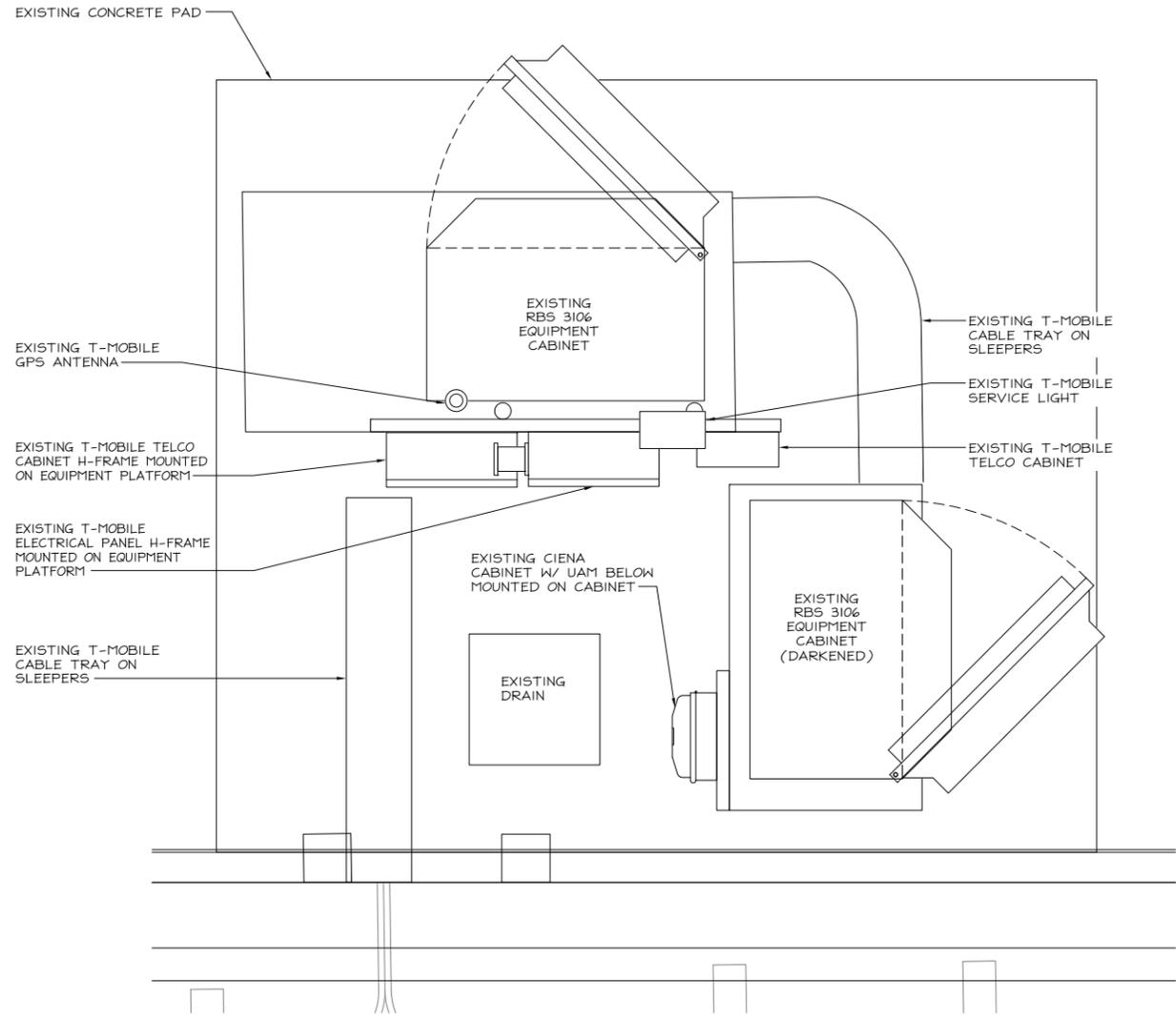
REGISTERED PROFESSIONAL ENGINEER  
 CIVIL  
 STATE OF CALIFORNIA

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.

SF03115A  
 SF115 BURLINGAME HWY 101  
 1761 ADRIAN ROAD  
 BURLINGAME, CA 94010  
 L700 PROJECT

SHEET TITLE  
 SITE PLAN

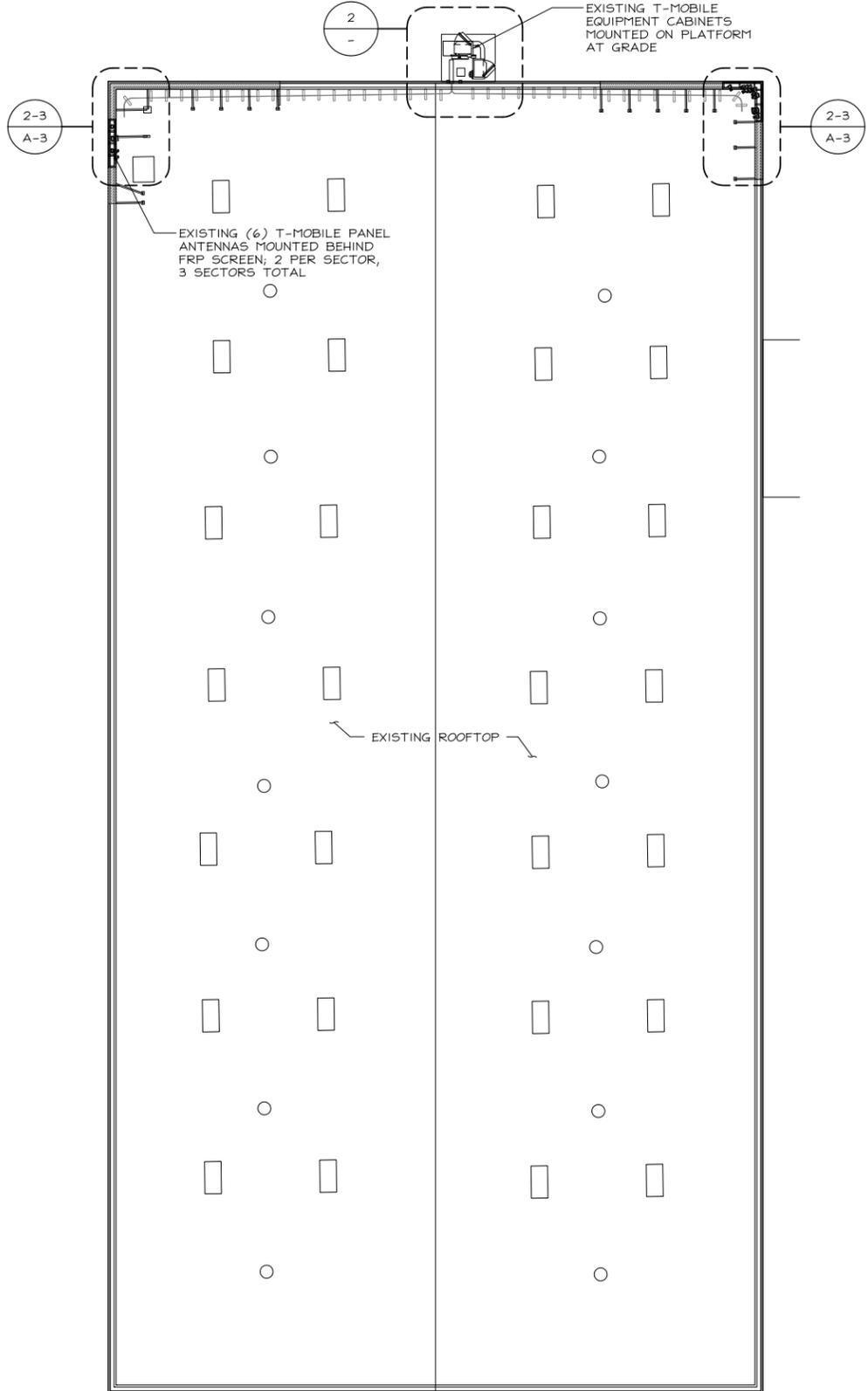
SHEET NUMBER  
**A-1**



**EQUIPMENT LAYOUT PLAN**

24"x36" SCALE: 3/4" = 1'-0"  
 11"x17" SCALE: 3/8" = 1'-0"  
 1" = 6" 0"

**2**



24"x36" SCALE: 1" = 20'-0"  
 11"x17" SCALE: 1" = 40'-0"  
 20' 10' 0" 20' 1

**ROOF PLAN**

**T-Mobile**  
 1855 GATEWAY BLVD., 9th FLOOR  
 CONCORD, CA 94520

**m**  
 149 NATOMA ST. 3RD FLOOR  
 SAN FRANCISCO, CA 94105

**Z ALL STATES**  
 ENGINEERING & SURVEYING  
 A ZALZALI & ASSOCIATES COMPANY  
 23675 BIRTCHE DRIVE  
 LAKE FOREST, CA 92630  
 PHONE: (949) 273-0996

PROJECT NO: SF03115A  
 DRAWN BY: NB  
 CHECKED BY: DW

REV	DATE	DESCRIPTION	
B	12/28/2015	100% CD'S FOR REVIEW	NB
A	12/10/2015	90% CD'S FOR REDLINE	NB/SS

**NOT TO BE USED FOR CONSTRUCTION**

REGISTERED PROFESSIONAL ENGINEER  
 CIVIL  
 STATE OF CALIFORNIA

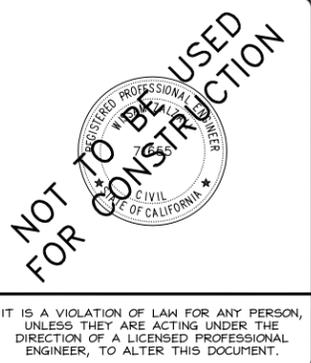
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SF03115A  
 SF115 BURLINGAME HWY 101  
 1761 ADRIAN ROAD  
 BURLINGAME, CA 94010  
 L700 PROJECT

SHEET TITLE  
**ROOF PLAN & EQUIPMENT LAYOUT PLAN**

SHEET NUMBER  
**A-2**

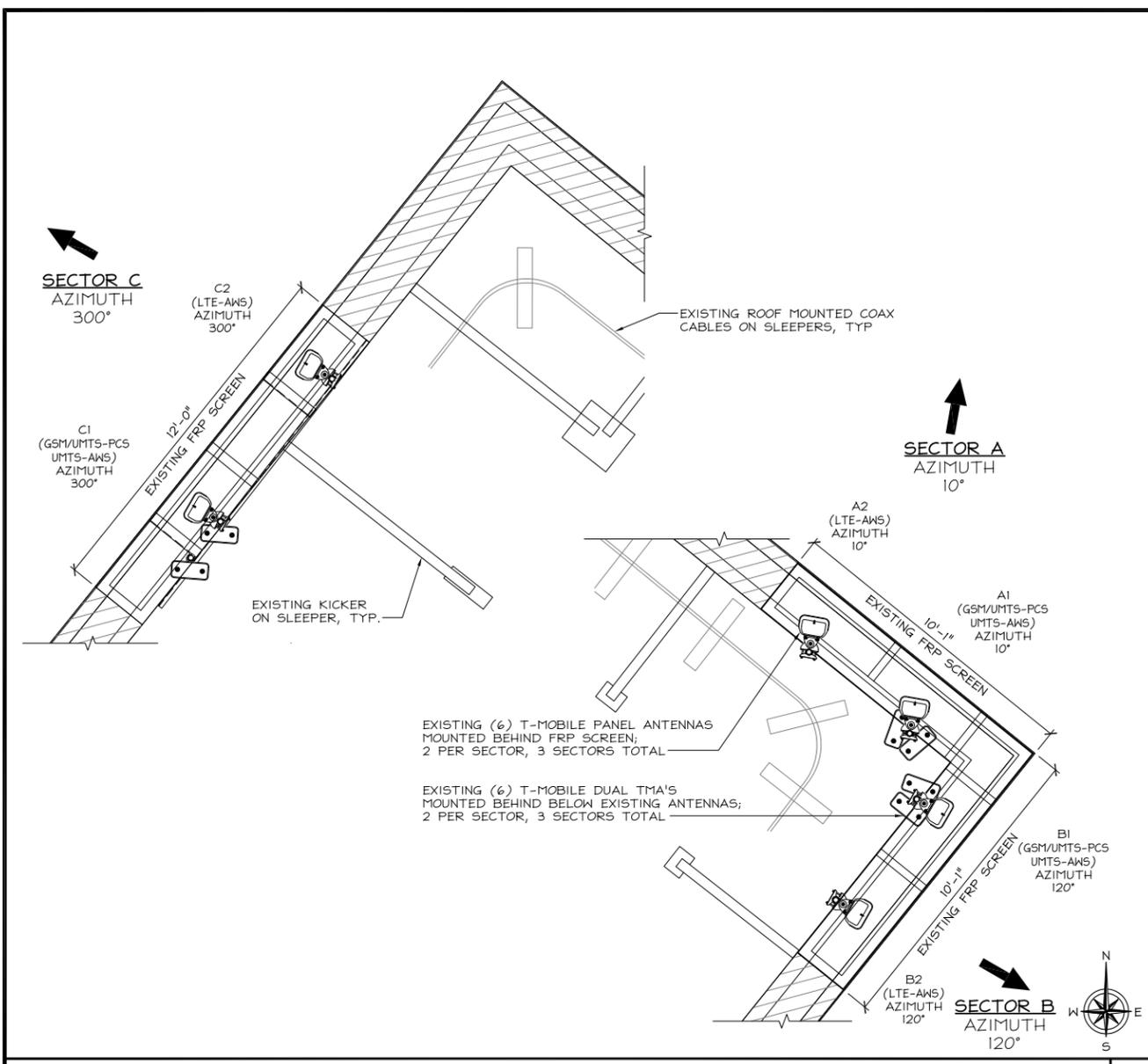
REV	DATE	DESCRIPTION	
B	12/28/2015	100% CD'S FOR REVIEW	NB
A	12/10/2015	90% CD'S FOR REDLINE	NB/SS



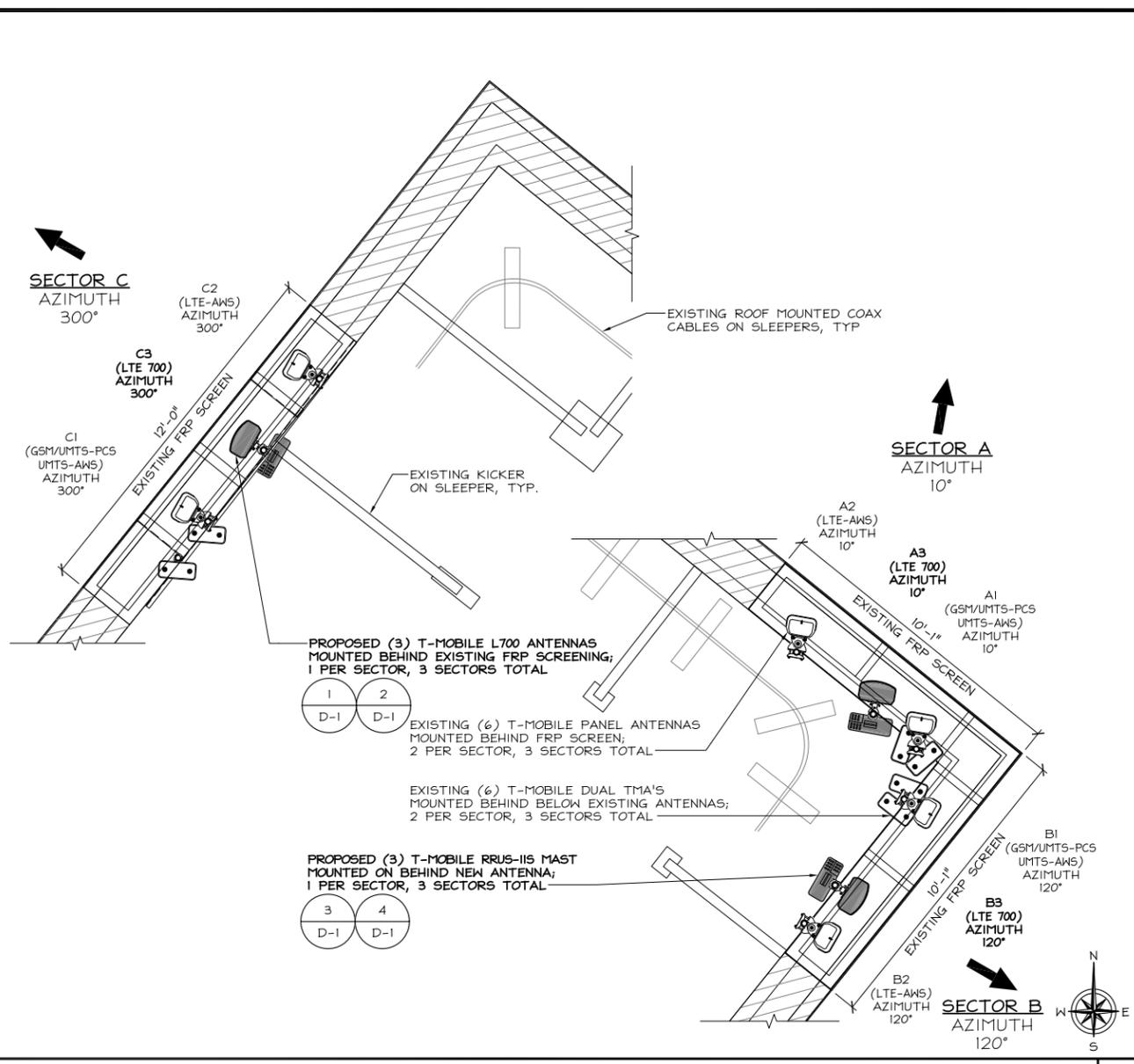
SF03115A  
SF115 BURLINGAME HWY 101  
1761 ADRIAN ROAD  
BURLINGAME, CA 94010  
L700 PROJECT

SHEET TITLE  
ANTENNA LAYOUT  
& SCHEDULE

SHEET NUMBER  
**A-3**



**EXISTING ANTENNA LAYOUT** 24"x36" SCALE: 3/8" = 1'-0" 11"x17" SCALE: 3/16" = 1'-0" **3**



**PROPOSED ANTENNA LAYOUT** 24"x36" SCALE: 3/8" = 1'-0" 11"x17" SCALE: 3/16" = 1'-0" **2**

**NOTES TO CONTRACTOR:**

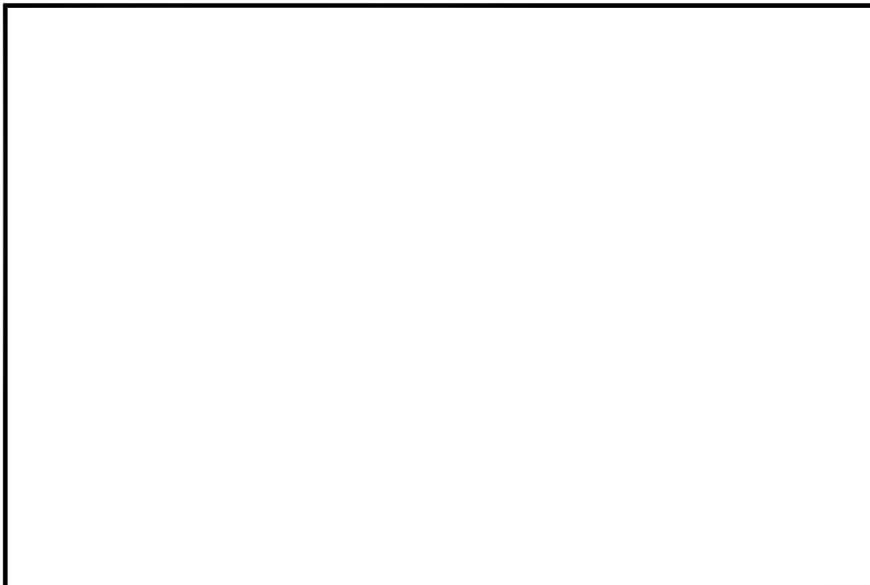
- CONTRACTOR IS TO REFER TO T-MOBILE'S MOST CURRENT RADIO FREQUENCY DATA SHEET (RFDS) PRIOR TO CONSTRUCTION
- CABLE LENGTHS WERE DETERMINED BASED ON VISUAL INSPECTION DURING SITE-WALK. CONTRACTOR TO VERIFY ACTUAL LENGTH DURING PRE-CONSTRUCTION WALK

ANTENNA	TECHNOLOGY		ANTENNA MODEL		ANTENNA AZIMUTH		RAD CENTER		TRANSMISSION LINE		
	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXIST	PROP	LENGTH	PART NUMBER	
SECTOR A	A1	GSM/UMTS-PCS UMTS-AWS	GSM/UMTS-PCS UMTS-AWS	ERICSSON AIR21 B2A/B4P	ERICSSON AIR21 B2A/B4P	10°	10°	29'-0"	29'-0"	±85'	EXISTING 2x9 FCS # (2) 7/8" COAX CABLES
	A2	LTE-AWS	LTE-AWS	ERICSSON AIR21 B4A/B2P	ERICSSON AIR21 B4A/B4P	10°	10°	29'-0"	29'-0"	±85'	EXISTING 2x9 FCS CABLES
	A3	-	LTE 700MHz	-	RFS APXVF18-C-A20	-	10°	-	29'-0"	±85'	UTILIZE EXISTING FCS CABLES + ADD NEW 1/2" COAX CABLES
SECTOR B	B1	GSM/UMTS-PCS UMTS-AWS	GSM/UMTS-PCS UMTS-AWS	ERICSSON AIR21 B2A/B4P	ERICSSON AIR21 B2A/B4P	120°	120°	29'-0"	29'-0"	±85'	EXISTING 2x9 FCS # (2) 7/8" COAX CABLES
	B2	LTE-AWS	LTE-AWS	ERICSSON AIR21 B4A/B2P	ERICSSON AIR21 B4A/B4P	120°	120°	29'-0"	29'-0"	±85'	EXISTING 2x9 FCS CABLES
	B3	-	LTE 700MHz	-	RFS APXVF18-C-A20	-	120°	-	29'-0"	±85'	UTILIZE EXISTING FCS CABLES + ADD NEW 1/2" COAX CABLES
SECTOR C	C1	GSM/UMTS-PCS UMTS-AWS	GSM/UMTS-PCS UMTS-AWS	ERICSSON AIR21 B2A/B4P	ERICSSON AIR21 B2A/B4P	300°	300°	29'-0"	29'-0"	±85'	EXISTING 2x9 FCS # (2) 7/8" COAX CABLES
	C2	LTE-AWS	LTE-AWS	ERICSSON AIR21 B4A/B2P	ERICSSON AIR21 B4A/B4P	300°	300°	29'-0"	29'-0"	±85'	EXISTING 2x9 FCS CABLES
	C3	-	LTE 700MHz	-	RFS APXVF18-C-A20	-	300°	-	29'-0"	±85'	UTILIZE EXISTING FCS CABLES + ADD NEW 1/2" COAX CABLES

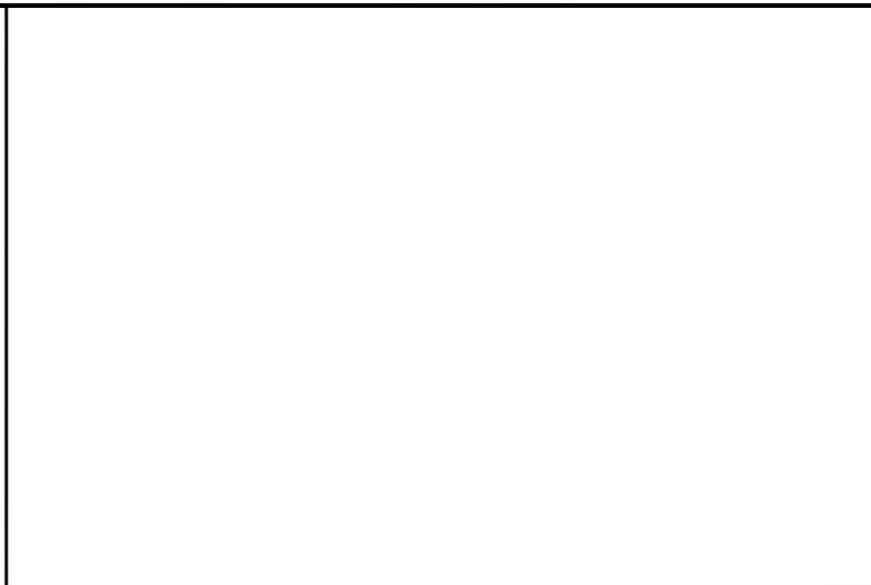
ANTENNA	RRU TYPE	QTY.	RRU LOCATION (DISTANCE FROM ANTENNA)	RRU MINIMUM CLEARANCES			DC CABLE		
				(E)(N)	ABOVE	BELOW	SIDES	LENGTH	AWG
SECTOR A	A1	-	-	-	-	-	-	-	
	A2	-	-	-	-	-	-	-	
	A3	ERICSSON RRU5011B2 LTE (700MHz)	1	±10'-0"	16"	8"	8"	±85'	8
SECTOR B	B1	-	-	-	-	-	-	-	
	B2	-	-	-	-	-	-	-	
	B3	ERICSSON RRU5011B2 LTE (700MHz)	1	±10'-0"	16"	8"	8"	±85'	8
SECTOR C	C1	-	-	-	-	-	-	-	
	C2	-	-	-	-	-	-	-	
	C3	ERICSSON RRU5011B2 LTE (700MHz)	1	±10'-0"	16"	8"	8"	±85'	8



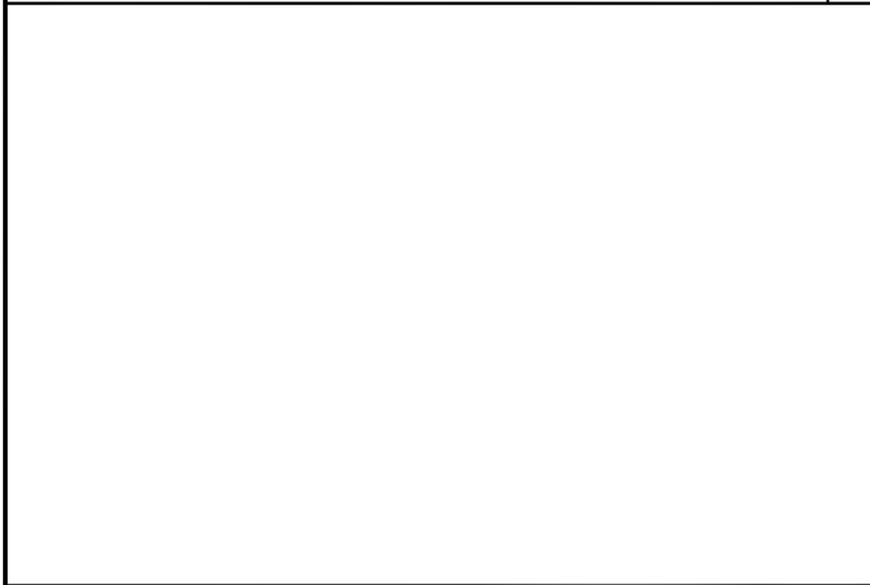
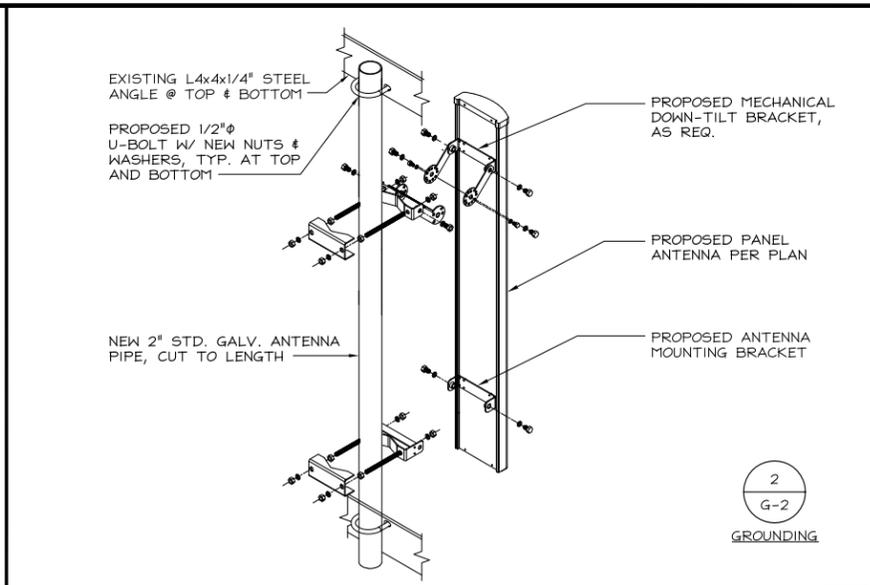




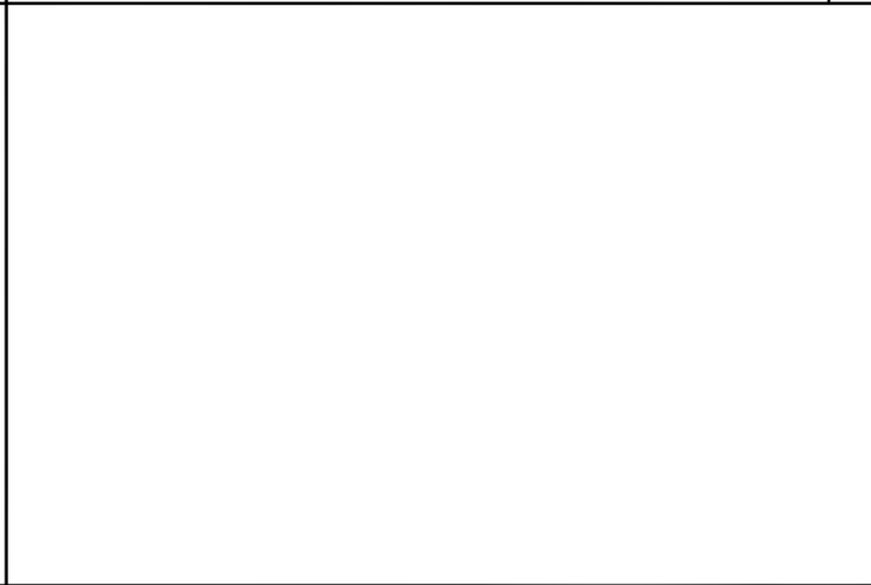
NOT USED 24"x36" SCALE: NTS 11"x17" SCALE: NTS 9



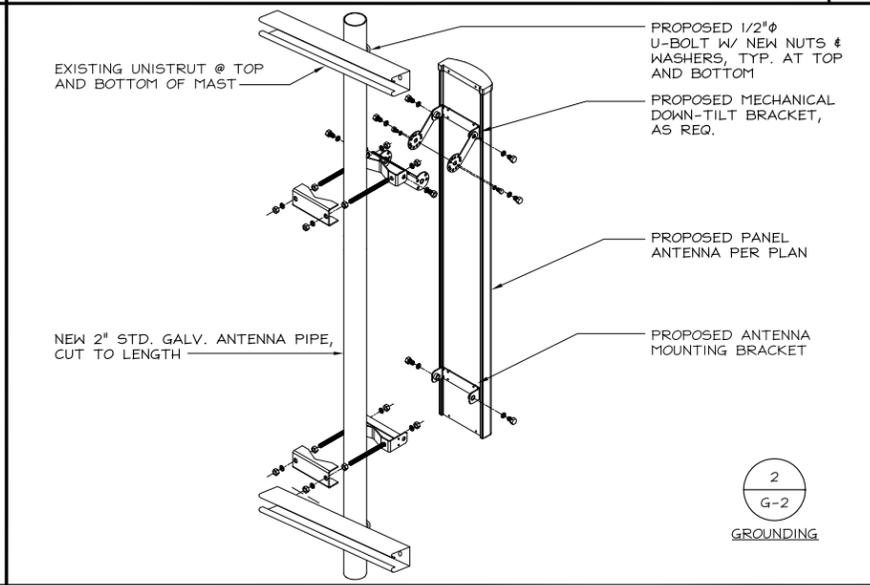
NOT USED 24"x36" SCALE: NTS 11"x17" SCALE: NTS 6



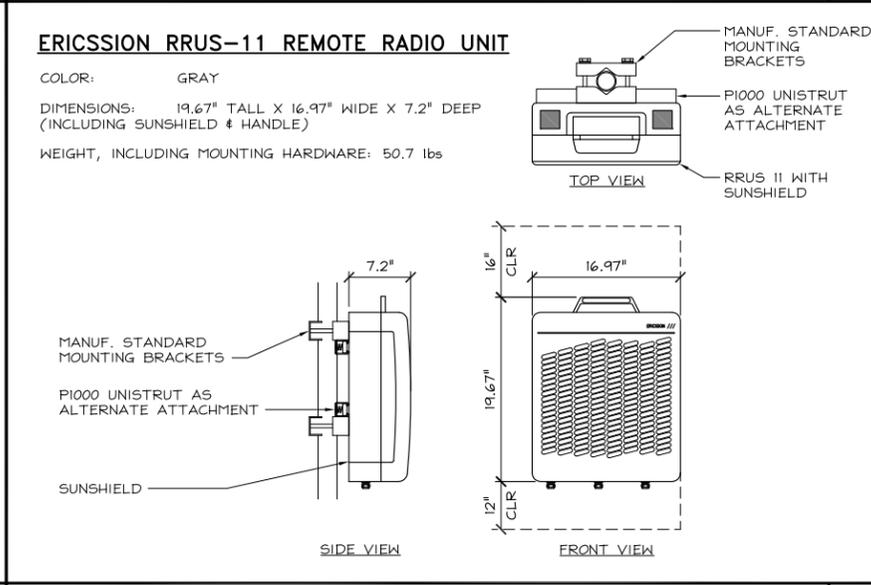
NOT USED 24"x36" SCALE: NTS 11"x17" SCALE: NTS 8



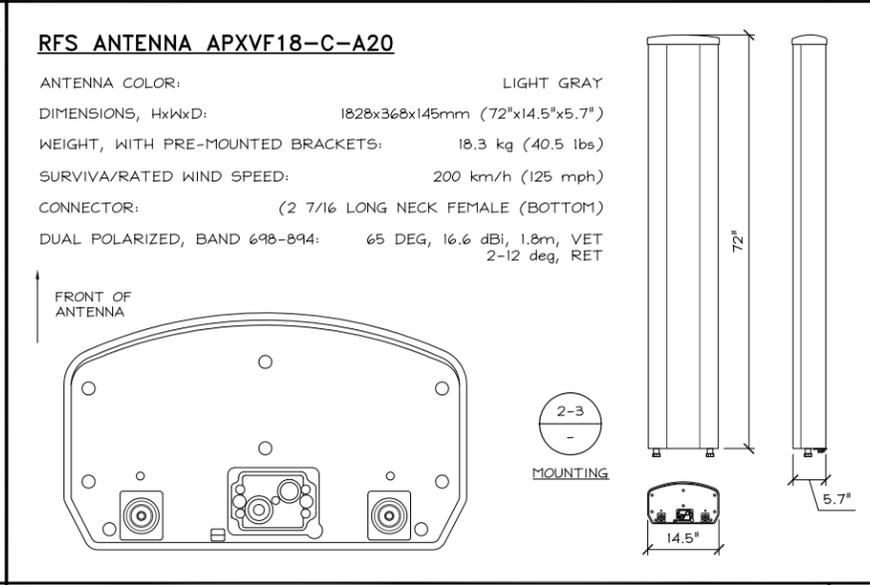
NOT USED 24"x36" SCALE: NTS 11"x17" SCALE: NTS 5



NOT USED 24"x36" SCALE: NTS 11"x17" SCALE: NTS 7



ERICSSON RRUS-11 REMOTE RADIO UNIT 24"x36" SCALE: NTS 11"x17" SCALE: NTS 4

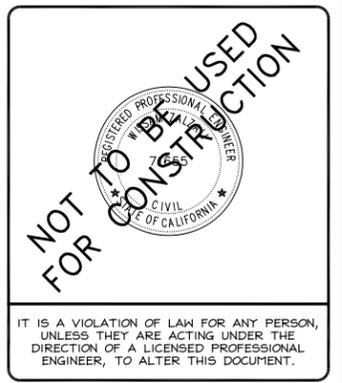


ANTENNA SPECIFICATION 24"x36" SCALE: NTS 11"x17" SCALE: NTS 1



PROJECT NO: SF03115A  
DRAWN BY: NB  
CHECKED BY: DW

REV	DATE	DESCRIPTION	
B	12/28/2015	100% CD'S FOR REVIEW	NB
A	12/10/2015	90% CD'S FOR REDLINE	NB/SS



SF03115A  
SF115 BURLINGAME HWY 101  
1761 ADRIAN ROAD  
BURLINGAME, CA 94010  
L700 PROJECT

SHEET TITLE  
DETAILS

SHEET NUMBER  
**D-1**

NOTES:

- SUBCONTRACTOR SHALL PROVIDE #200AMP, SINGLE PHASE, 120/240 VAC, 60HZ SERVICE FOR T-MOBILE SITE.
- SUBCONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY BEFORE THE START OF CONSTRUCTION. POWER AND TELEPHONE CONDUIT SHALL BE PROVIDED AND INSTALLED PER UTILITY REQUIREMENTS
- FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO DRAWINGS PROVIDED BY PPC MANUFACTURER.
- ALL SERVICE EQUIPMENT AND INSTALLATIONS SHALL COMPLY WITH THE N.E.C. AND UTILITY COMPANY AND LOCAL CODE REQUIREMENTS
- SUBCONTRACTOR SHALL INSTALL 36" OF FLEX CONDUIT WITH ALL CONDUIT FITTINGS (NUTS, REDUCING BUSHINGS, ELBOWS, COUPLINGS, ETC.) NECESSARY FOR CONNECTION TO THE BTS CABINET
- SUBCONTRACTOR SHALL PROVIDE ELECTRICAL SERVICE EQUIPMENT WITH FAULT CURRENT RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT FROM THE POWER UTILITY
- POWER, CONTROL AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT, SHALL BE SINGLE CONDUCTOR (#14 AWG AND LARGER), 600V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED
- CUT, COIL AND TAPE A 10 FOOT PIGTAIL FROM END OF FLEX CONDUIT FOR TERMINATING.
- SUBCONTRACTOR SHALL FURNISH AND INSTALL A 16"x16"x6" NEMA 3R ENCLOSURE WITH INTERNAL 5/8" THICK PLYWOOD BACKBOARD. SUBCONTRACTOR SHALL COORDINATE WITH LOCAL TELCO UTILITY PRIOR TO PROCURING AND INSTALLATION OF ENCLOSURE AND COMPONENTS. SUBCONTRACTOR SHALL FURNISH AND INSTALL SURGE PROTECTION DEVICES (BY: ATLANTIC SCIENTIFIC; ZONE BARRIER SERIES; PART NO. 90700 WITH MOUNTING DIN RAIL PART NO. 21607). BOND SURGE PROTECTION DEVICE RAIL TO THE ENCLOSURE WITH #6 AWG INSULATED WIRE. BOND ENCLOSURE TO THE SITE GROUND RING OR BAR WITH #2 AWG COPPER WIRE

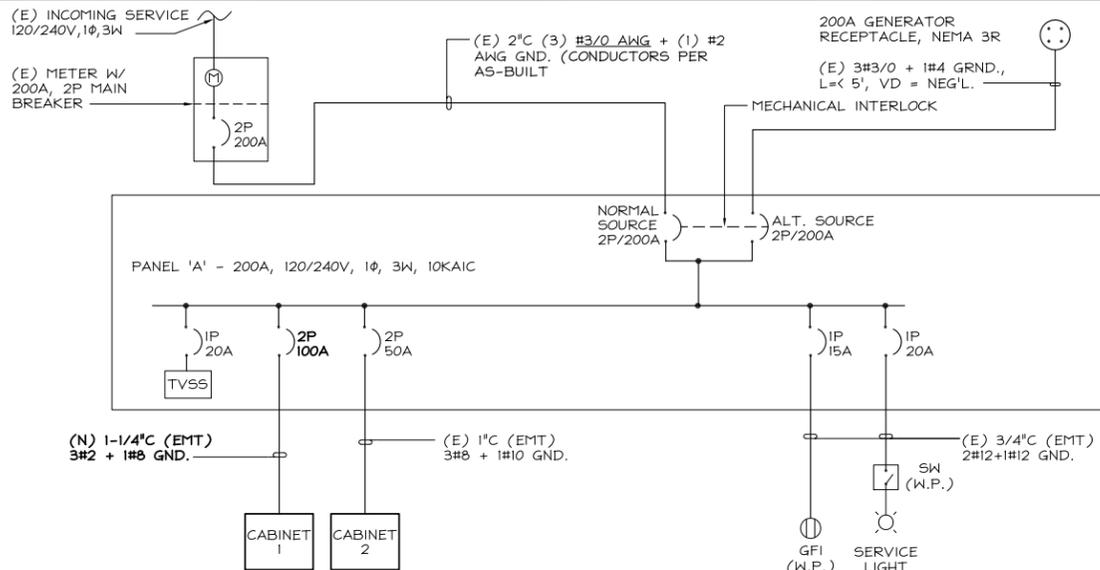
MI = MECHANICAL INTERLOCK  
 RU = RELAY TO MONITOR UTILITY POWER  
 RGI = RELAY TO MONITOR GENERATOR #1 POWER

ELECTRICAL NOTES:

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND ALL APPLICABLE LOCAL CODES.
- SERVICE TO EQUIPMENT CABINETS SHALL BE 120/240VAC, 200A, 1-PHASE.
- SUBCONTRACTOR SHALL CALL DIG ALERT AT 1-800-227-2600 FOR UNDERGROUND UTILITY MARKOUT PRIOR TO CONSTRUCTION.
- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL CONDUCTORS SHALL BE THWN, COPPER 600V. 75° C; U.G. CONDUCTORS SHALL BE WET-RATED
- REFER TO PANEL SCHEDULE PROVIDED BY SHELTER MANUFACTURER FOR CIRCUIT ARRANGEMENT & WIRING CONNECTION.
- LIGHTING INSIDE SHELTER WILL BE DESIGNED & INSTALLED BY SHELTER MANUFACTURER.
- TITLE 24 FOR LIGHTING SHALL BE PROVIDED BY SHELTER MANUFACTURER.
- ALL WORK TO COMPLY WITH NFPA 70E AND OSHA TITLE 29

NOTES

4



ONE LINE DIAGRAM

3

PROPOSED PANEL SCHEDULE

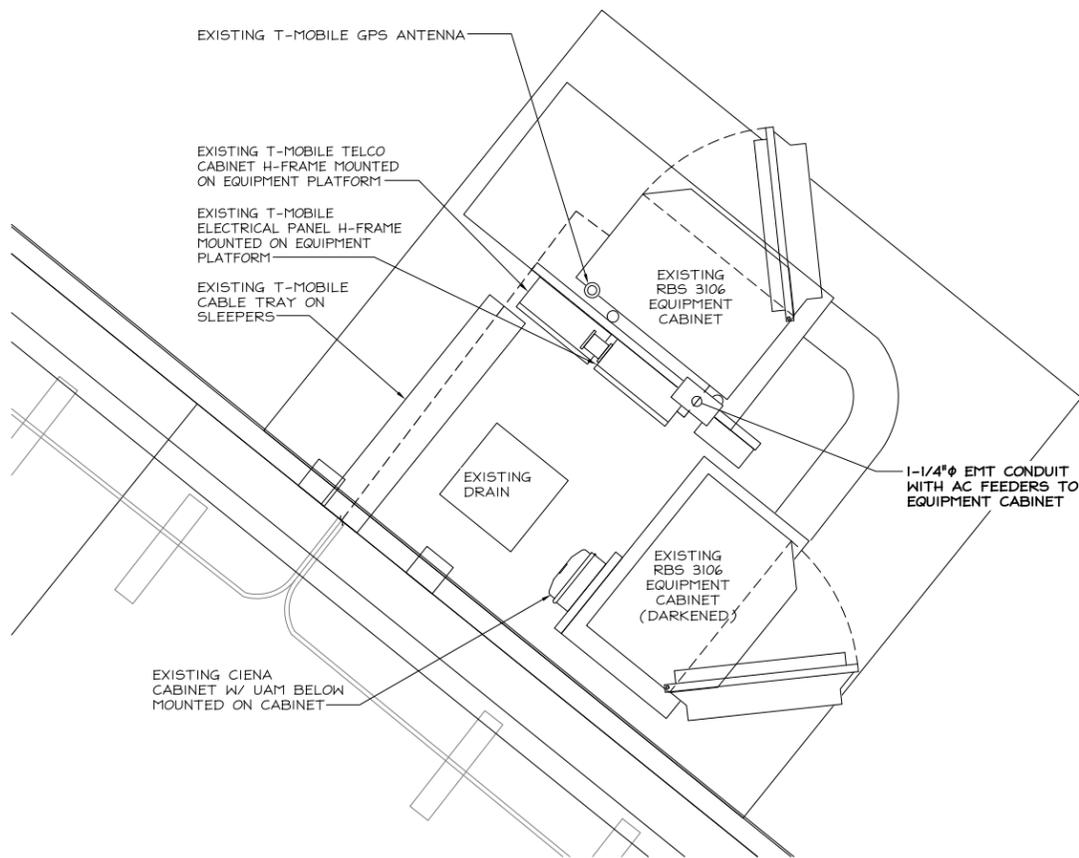
PANEL 'A'																	
SITE NAME: SF03115A-SF115 BURLINGAME HWY 101		VOLTAGE: 120/240 V		PHASE: 1		WIRE: 3		MAIN BREAKER: 200 AMP		BUSS RATING: 225 AMP		LOCATION:					
CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	USAGE FACTOR	PHASE A VA	PHASE B VA	PHASE C VA	USAGE FACTOR	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT	
1	TVSS	30	2	ON			0	0	0			ON	1	20	MCPA1	2	
3	GFI	15	1	ON	800	1.25	1000	0	0	1.25	7920	ON	1	20	MCPA2	4	
7	BTS	50	2	ON			0	0	0	1.25	3450	ON	2	60	RBS 6131	6	
9	SPACE						0	0	0	1.25	300	ON	1	20	LIGHT	10	
11	SPACE						0	0	0						SPACE	12	
PHASE A TOTAL VA		11275		PHASE B TOTAL VA		9900		TOTAL KVA		21.18		TOTAL AMPS		88.23		NOTES:	
1. CIRCUITS 11-30 ARE ALL 'SPACE' WITH KNOCKOUT INTACT 2. ALL LOADS ARE COUNTED AS LCL/MCL (DESIGN TO 100% CAPACITY-OK) 3. UNUSED BREAKERS SHALL BE MARKED 'SPARE' & SWITCHED 'OFF'																	

EXISTING PANEL SCHEDULE

PANEL 'A'																	
SITE NAME: SF03115A-SF115 BURLINGAME HWY 101		VOLTAGE: 120/240 V		PHASE: 1		WIRE: 3		MAIN BREAKER: 200 AMP		BUSS RATING: 225 AMP		LOCATION:					
CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	USAGE FACTOR	PHASE A VA	PHASE B VA	PHASE C VA	USAGE FACTOR	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT	
1	TVSS	30	2	ON			0	0	0			ON	1	20	MCPA1	2	
3	GFI	15	1	ON	800	1.25	1000	0	0	1.25	3450	ON	1	20	MCPA2	4	
7	BTS	50	2	ON			0	0	0	1.25	3450	ON	2	60	RBS 6131	6	
9	SPACE						0	0	0	1.25	300	ON	1	20	LIGHT	10	
11	SPACE						0	0	0						SPACE	12	
PHASE A TOTAL VA		5688		PHASE B TOTAL VA		4313		TOTAL KVA		10.00		TOTAL AMPS		41.67		NOTES:	
1. CIRCUITS 11-30 ARE ALL 'SPACE' WITH KNOCKOUT INTACT 2. ALL LOADS ARE COUNTED AS LCL/MCL (DESIGN TO 100% CAPACITY-OK) 3. UNUSED BREAKERS SHALL BE MARKED 'SPARE' & SWITCHED 'OFF'																	

PANEL SCHEDULE

2



ELECTRICAL PLAN

24"x36" SCALE: 3/8" = 1'-0"  
 11"x17" SCALE: 3/16" = 1'-0"



1



1855 GATEWAY BLVD., 9th FLOOR  
 CONCORD, CA 94520



149 NATOMA ST. 3RD FLOOR  
 SAN FRANCISCO, CA 94105



23675 BIRTCHE DRIVE  
 LAKE FOREST, CA 92630  
 PHONE: (949) 273-0996

PROJECT NO: SF03115A

DRAWN BY: NB

CHECKED BY: DW

REV	DATE	DESCRIPTION	BY
B	12/28/2015	100% CD'S FOR REVIEW	NB
A	12/10/2015	90% CD'S FOR REDLINE	NB/SS

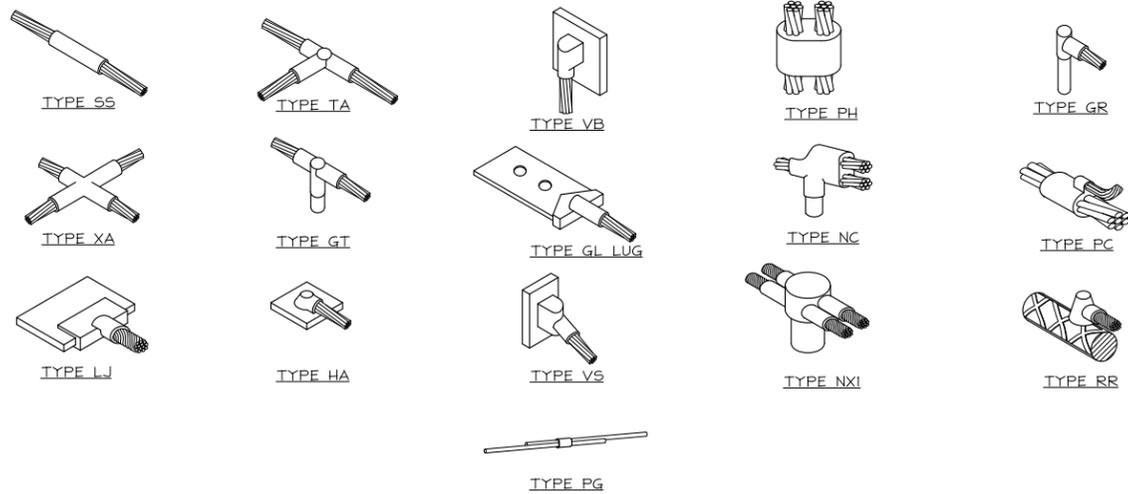


IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SF03115A  
 SF115 BURLINGAME HWY 101  
 1761 ADRIAN ROAD  
 BURLINGAME, CA 94010  
 L700 PROJECT

SHEET TITLE  
 ELECTRICAL PLAN

SHEET NUMBER  
**E-1**



1. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL GROUNDING INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.
2. GROUND ALL ANTENNA BASES, FRAMES, CABLE RUNS, AND OTHER METALLIC COMPONENTS USING #2 GROUND WIRES AND CONNECT TO SURFACE MOUNTED GROUND BUS BARS AS SHOWN. FOLLOW ANTENNA AND BTS MANUFACTURER'S PRACTICES FOR GROUNDING REQUIREMENTS. GROUND COAX SHIELD AT BOTH ENDS USING MANUFACTURER'S PRACTICES. ALL UNDERGROUND WATER PIPES, METAL CONDUITS AND GROUNDS THAT ARE A PART OF THIS SYSTEM SHALL BE BONDED TOGETHER.
3. ALL GROUND CONNECTIONS SHALL BE #2 AWG U.N.O. ALL WIRES SHALL BE COPPER THIN/THIN. ALL GROUND WIRE SHALL BE SOLID TIN COATED OR STRANDED GREEN INSULATED WIRE.
4. CONTRACTOR TO VERIFY AND TEST GROUND TO SOURCE, 5 OHMS MAXIMUM. PROVIDE SUPPLEMENTAL GROUNDING RODS AS REQUIRED TO ACHIEVE SPECIFIED OHMS READING. GROUNDING AND OTHER OPTIONAL TESTING WILL BE WITNESSED BY THE T-MOBILE REPRESENTATIVE.
5. NOTIFY ARCHITECT/ENGINEER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.
6. BARE GROUNDING CONDUCTOR SHALL BE HARD DRAWN TINNED COPPER SIZES AS NOTED ON PLAN.
7. ALL HORIZONTALLY RUN GROUNDING CONDUCTORS SHALL BE INSTALLED MINIMUM 12" BELOW GRADE/FROST-LINE IN TRENCH, U.N.O., AND BACK FILL SHALL BE COMPACTED AS REQUIRED BY ARCHITECT.
8. ALL GROUND CONDUCTORS SHALL BE RUN AS STRAIGHT AND SHORT AS POSSIBLE, WITH A MINIMUM 12" BENDING RADIUS NOT LESS THAN 90 DEGREES.
9. ALL SUPPORT STRUCTURES, CABLE CHANNEL WAYS OR WIRE GUIDES SHALL BE BONDED TO GROUND SYSTEM AT A POINT NEAREST THE MAIN GROUNDING BUS "MGB" (OR DIRECTLY TO GROUND-RING).
10. ACCEPTABLE CONNECTIONS FOR GROUNDING SYSTEM SHALL BE:
  - a. BURNDY, HY-GRADE U.L. LISTED CONNECTORS FOR INDOOR USE OR AS APPROVED BY T-MOBILE PROJECT MANAGER.
  - b. CADWELD, EXOTHERMIC WELDS (WELDED CONNECTIONS).
  - c. TWO (2) HOLE TINNED COPPER COMPRESSION (LONG BARREL) FITTINGS (BUS BAR CONNECTIONS).
11. ALL CRIMPED CONNECTIONS SHALL HAVE EMBOSSED MANUFACTURER'S DIEMARK VISIBLE AT THE CRIMP (RESULTING FROM USE OF PROPER CRIMPING DEVICES).
12. PRIOR TO ANY LUG-BUSSBAR CONNECTIONS, THE BUSSBAR SHALL BE CLEANED BY USE OF "SCOTCH-BRITE" OR PLAIN STEEL WOOL AS TO REMOVE ALL SURFACE OXIDATION AND CONTAMINANTS. A COATING OF "NO-OX-ID" SHALL BE APPLIED TO THE CONNECTION SURFACES.
13. ALL CONNECTION HARDWARE SHALL BE TYPE 316 SS (NOT ATTRACTED TO MAGNETS).
14. THE GROUND RING SHALL BE INSTALLED 24" MINIMUM BEYOND ANY BUILDING DRIP LINE.
15. ELECTRICAL SERVICE EQUIPMENT GROUNDING SHALL COMPLY WITH NEC, ARTICLE 250-82 AND SHALL BOND ALL EXISTING AND NEW GROUNDING ELECTRODES. NEW GROUNDING ELECTRODE SHALL INCLUDE BUT NOT LIMITED TO GROUND RODS, GROUND RING IF SERVICE IS WITHIN THE RADIO EQUIPMENT LOCATION, BUILDING STEEL IF APPLICABLE, COLD WATER CONNECTIONS MUST BE MADE ON THE STREET SIDE OF MAIN SHUT-OFF VALVE.



**GROUNDING NOTES**

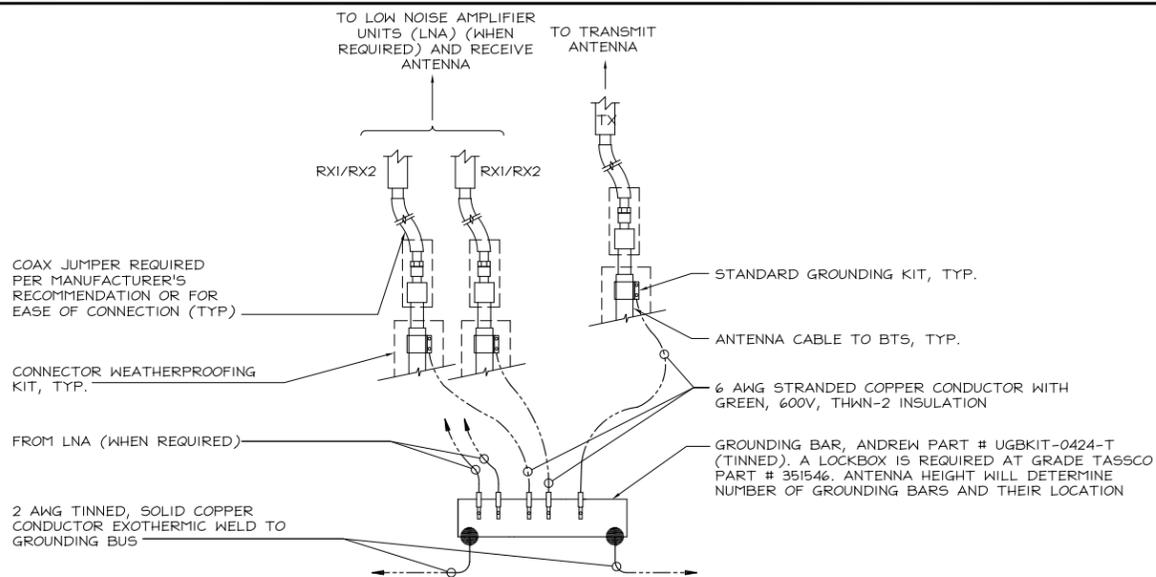
24"x36" SCALE: NTS  
11"x17" SCALE: NTS

**2**

**TYPICAL CADWELD TYPES**

24"x36" SCALE: NTS  
11"x17" SCALE: NTS

**5**



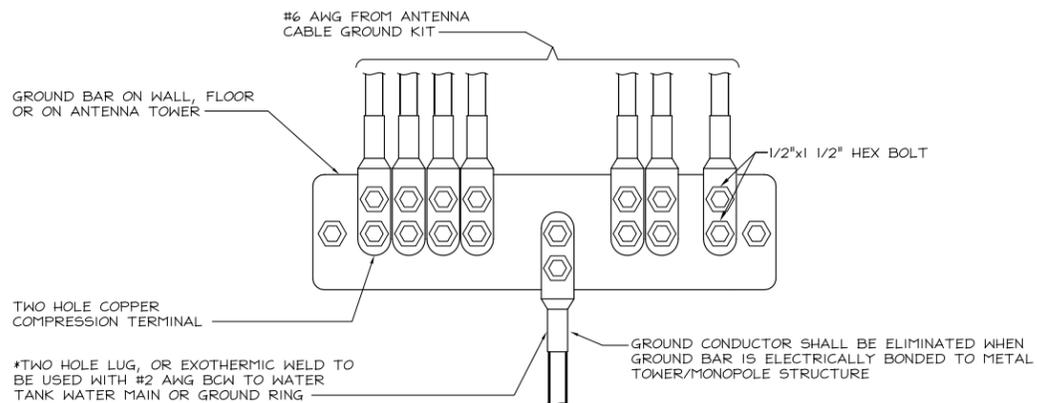
**GROUNDING BAR CONNECTION**

24"x36" SCALE: NTS  
11"x17" SCALE: NTS

**4**

**NOTES:**

1. "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS AND TO BE APPLIED PRIOR TO ADDING HARDWARE.

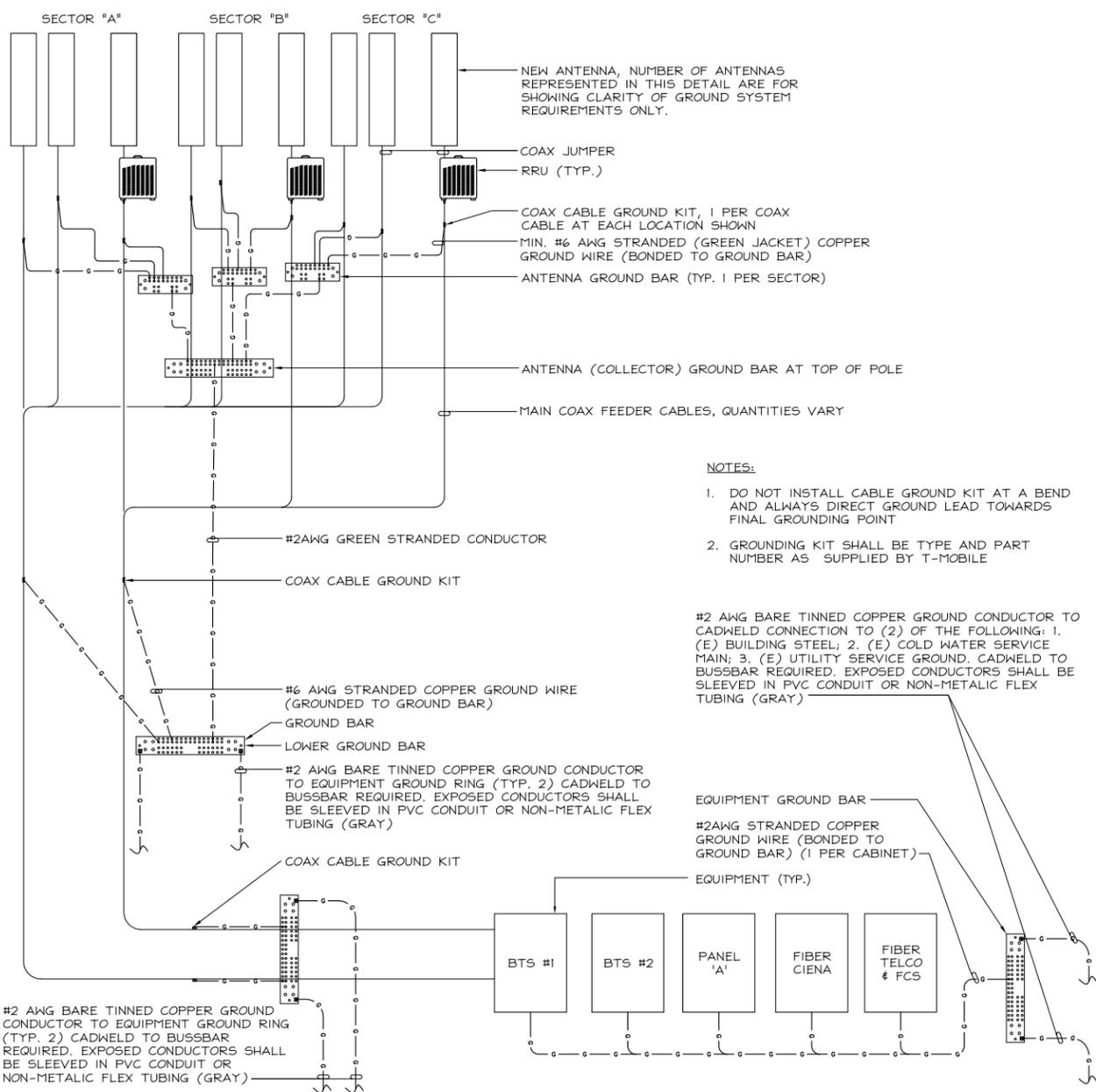


\* \_ GROUND BARS AT THE BOTTOM OF TOWERS/MONOPOLES SHALL ONLY USE EXOTHERMIC WELDS.

**WIRE TO GROUND BAR CONNECTION**

24"x36" SCALE: NTS  
11"x17" SCALE: NTS

**3**



**NOTES:**

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND LEAD TOWARDS FINAL GROUNDING POINT
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED BY T-MOBILE

#2 AWG BARE TINNED COPPER GROUND CONDUCTOR TO CADWELD CONNECTION TO (2) OF THE FOLLOWING: 1. (E) BUILDING STEEL; 2. (E) COLD WATER SERVICE MAIN; 3. (E) UTILITY SERVICE GROUND. CADWELD TO BUSSBAR REQUIRED. EXPOSED CONDUCTORS SHALL BE SLEEVED IN PVC CONDUIT OR NON-METALLIC FLEX TUBING (GRAY)

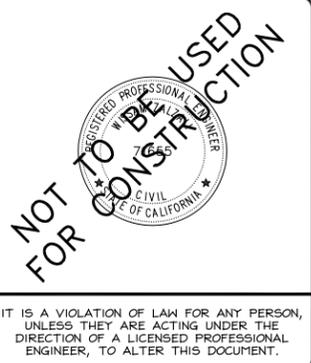
**COAX CABLE GROUNDING SCHEMATIC DIAGRAM**

24"x36" SCALE: NTS  
11"x17" SCALE: NTS

**1**

PROJECT NO: SF03115A  
DRAWN BY: NB  
CHECKED BY: DW

REV	DATE	DESCRIPTION	BY
B	12/28/2015	100% CD'S FOR REVIEW	NB
A	12/10/2015	90% CD'S FOR REDLINE	NB/SS



SF03115A  
SF115 BURLINGAME HWY 101  
1761 ADRIAN ROAD  
BURLINGAME, CA 94010  
L700 PROJECT

SHEET TITLE  
**GROUNDING SCHEMATIC & GROUNDING DETAILS**

SHEET NUMBER  
**G-1**

**T-Mobile**  
 1855 GATEWAY BLVD., 9th FLOOR  
 CONCORD, CA 94520



149 NATOMA ST. 3RD FLOOR  
 SAN FRANCISCO, CA 94105



23675 BIRTCHE DRIVE  
 LAKE FOREST, CA 92630  
 PHONE: (949) 273-0996

PROJECT NO: SF03115A

DRAWN BY: NB

CHECKED BY: DW

REV	DATE	DESCRIPTION	BY
B	12/28/2015	100% CD'S FOR REVIEW	NB
A	12/10/2015	90% CD'S FOR REDLINE	NB/SS

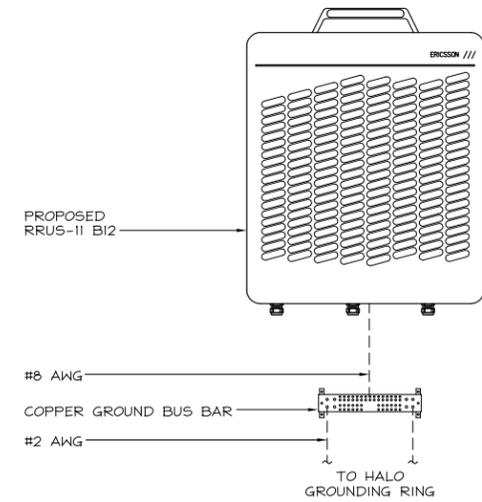


IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SF03115A  
 SF115 BURLINGAME HWY 101  
 1761 ADRIAN ROAD  
 BURLINGAME, CA 94010  
 L700 PROJECT

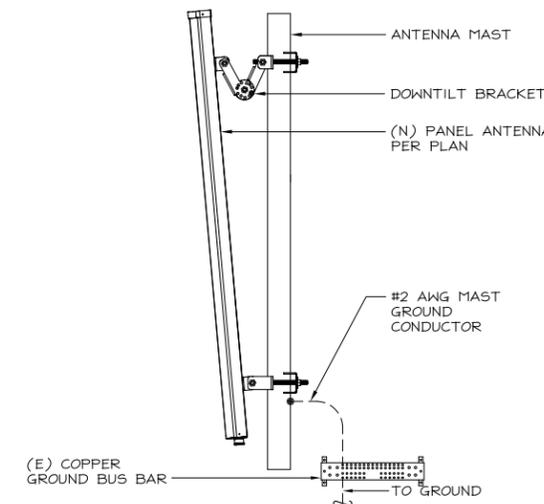
SHEET TITLE  
**GROUNDING DETAILS**

SHEET NUMBER  
**G-2**



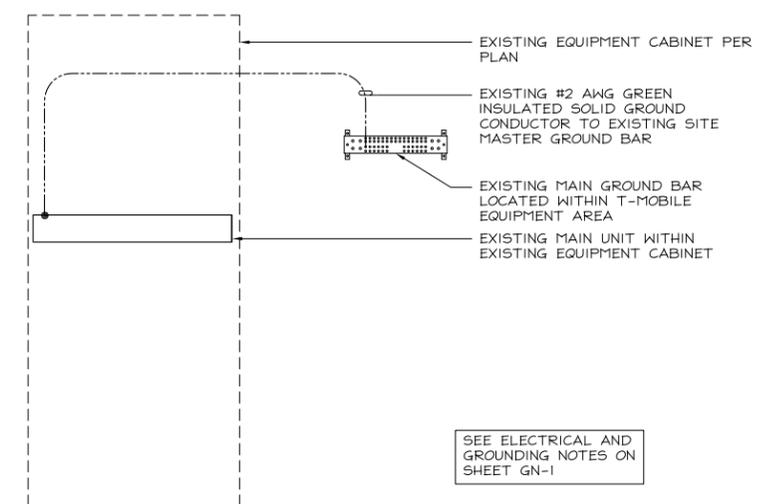
**6 RRU GROUNDING DETAIL**

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS



**5 ANTENNA/RRU GROUNDING**

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS

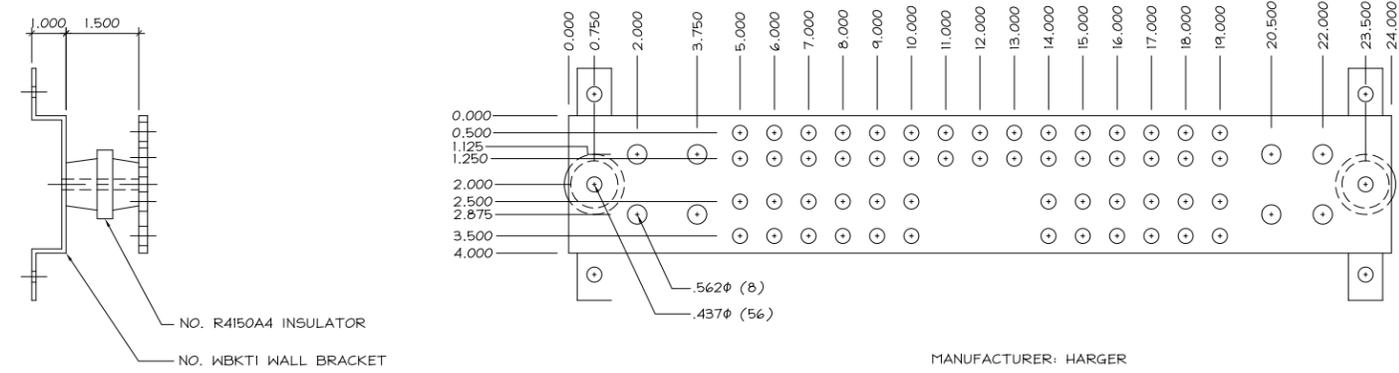


**4 EQUIPMENT GROUNDING DETAIL**

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS

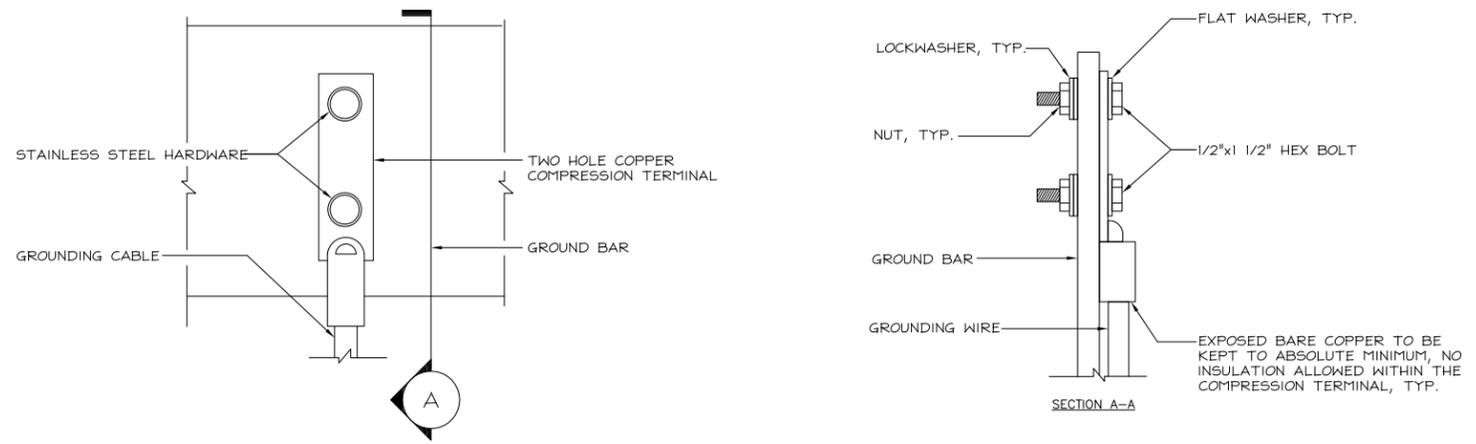
**NOT USED**

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS



**24" GROUND BAR**

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS



**TYPICAL GROUND BAR CONNECTION**

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS

- NOTES:
- "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.
  - OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS AND TO BE APPLIED PRIOR TO ADDING HARDWARE.

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS