



2024 5G NR RADIO

SITE NUMBER: COL06256
SITE NAME: ZOD\_CTF\_ALLTEL\_CO04\_DEERMOUNTAIN
USID: 122016
SITE ADDRESS: 2084 COUNTY ROAD 27A, COTOPAXI, CO 81223
FA CODE: 101419418

PAGE NUMBER: MRUTH064431 MRUTH066731 MRUTH066021 MRUTH064875 MRUTH065528 MRUTH066328 MRUTH065939
JOB SCOPE: LTE 1C RRH SWAP 5G NR 1DR-2 SOFTWARE CARRIER 5G NR RRH SWAP 5G NR 1SR CBAND 5G NR 1SR CBAND 5G NR SOFTWARE RRH SWAP SITE OVERLAY.LTE.2ND CARRIER



1100 E. WOODFIELD ROAD, SUITE 500 SCHAUMBURG, ILLINOIS 60173 TEL: 847-908-8400 www.fullerton-us.com

Table with 4 columns: REV, DATE, DESCRIPTION, BY. Row 1: A 05/30/24 90% REVIEW PD. Row 2: O 06/25/24 FINAL UL.

I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.



SITE NAME: ZOD\_CTF\_ALLTEL\_CO04\_DEERMOUNTAIN

SITE NUMBER: COL06256

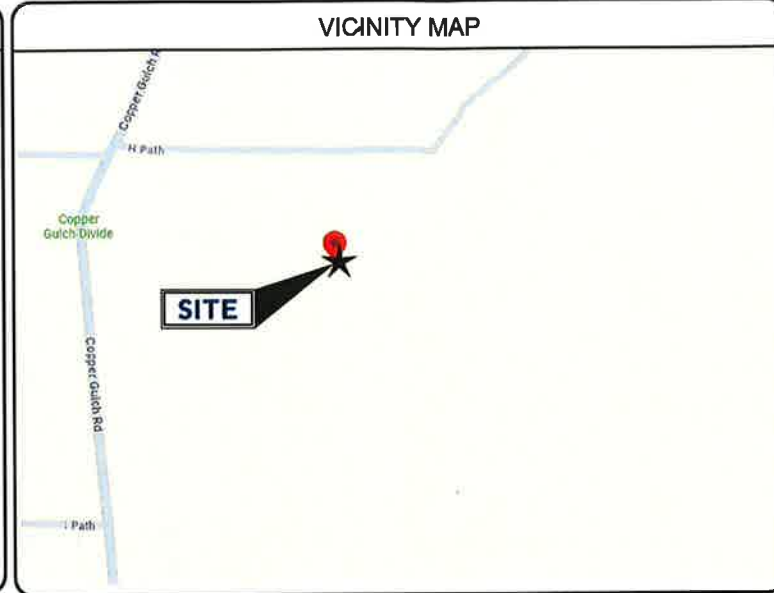
FA NUMBER: 10149418

SITE ADDRESS: 2084 COUNTY ROAD 27A, COTOPAXI, CO 81223

SHEET NAME: TITLE SHEET

SHEET NUMBER: T-1

PROJECT INFORMATION section containing site name, applicant, structure owner, A&E firm, contact, construction, occupancy type, use group, and ADA compliance details.



PROJECT DESCRIPTION section including project scope, existing tower equipment to be removed, existing ground equipment to be removed, new ground equipment to be installed, and new tower equipment to be installed.

GENERAL NOTES section stating the facility is unmanned and not for human habitation, and providing instructions on scaling drawings.



SHEET INDEX table listing sheets T-1 through MM-3 with descriptions and revision numbers.

CODE COMPLIANCE section listing applicable codes: 2018 International Building Code, 2023 National Electrical Code, 2021 International Mechanical Code, and 2021 International Fire Code.

DIRECTIONS section providing directions to the site from the ATT TUALATIN OFFICE.

SCAN QR CODE FOR LINK TO SITE LOCATION MAP section featuring the Colorado 811 logo and a QR code.

APPROVALS section with signature lines and dates for AT&T (CM), SMARTLINK (PM), RF ENGINEER, SITE ACQUISITION, and LANDLORD.

**GENERAL:**

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING ALL LAWS, REGULATIONS, AND RULES SET FORTH BY FEDERAL, STATE, AND LOCAL AUTHORITIES WITH JURISDICTION OVER THE PROJECT. THIS RESPONSIBILITY IS IN EFFECT REGARDLESS OF WHETHER THE LAW, ORDINANCE, REGULATION OR RULE IS MENTIONED IN THESE SPECIFICATIONS.
2. ALL WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS, PROJECT SPECIFICATIONS, AND THE CONSTRUCTION CONTRACT DOCUMENTS.
3. THE CONTRACTOR SHALL HAVE AND MAINTAIN A VALID CONTRACTOR'S LICENSE FOR THE LOCATION IN WHICH THE WORK IS TO BE PERFORMED. FOR JURISDICTIONS THAT LICENSE INDIVIDUAL TRADES, THE TRADESMAN OR SUBCONTRACTOR PERFORMING THOSE TRADES SHALL BE LICENSED.
4. FOLLOW ALL APPLICABLE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND STATE LAW AS DEFINED IN THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT.
5. PRIOR TO THE SUBMISSION OF THE BID, THE CONTRACTOR SHALL VISIT THE JOB SITE, VERIFY ALL DIMENSIONS AND BECOME FAMILIAR WITH THE FIELD CONDITIONS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER.
6. DRAWING PLANS SHALL NOT BE SCALED.
7. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK NOT CLEARLY IDENTIFIED ON THE DRAWINGS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE PROJECT MANAGER.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS UNLESS SPECIFICALLY OTHERWISE NOTED.
9. ALL MEANS AND METHODS OF CONSTRUCTION DEALING WITH TOWER CONSTRUCTION AND SAFETY, STEEL ERECTION, EXCAVATIONS, TRENCHING, SCAFFOLDING, FORMWORK, ELECTRICAL, AND WORK IN CONFINED SPACES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. WHEN THE CONTRACTOR ACTIVITIES IMPEDE OR OBSTRUCT TRAFFIC FLOW, CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL DEVICES, SIGNS, AND FLAGMEN IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, DOT AND LOCAL REQUIREMENTS.
11. THE CONTRACTOR SHALL COORDINATE SITE ACCESS AND SECURITY WITH THE PROPERTY OWNER AND THE PROJECT MANAGER PRIOR TO CONSTRUCTION.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH UTILITIES.
13. THE CONTRACTOR SHALL CALL THE LOCAL PUBLIC UTILITY LOCATING PROVIDER (811) A MINIMUM OF THREE BUSINESS DAYS PRIOR TO EXCAVATING IN THE PUBLIC RIGHT OF WAY.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING PRIVATE UTILITIES.
15. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY UTILITIES OR FACILITIES IT DEEMS NECESSARY TO COMPLETE THE WORK. THIS INCLUDES, BUT IS NOT LIMITED TO WATER, SEWER, POWER, TELEPHONE, HEAT, LIGHTING OR SECURITY.
16. WHEN EXCAVATING IN THE AREA OF EXISTING UTILITIES, THE CONTRACTOR SHALL USE REASONABLE CARE IN PROTECTING SUCH UTILITIES. CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER IMMEDIATELY OF ANY CONFLICTS BETWEEN EXISTING UTILITIES AND PROPOSED CONSTRUCTION.
17. DAMAGE TO PUBLIC OR PRIVATE UTILITIES SHALL BE REPORTED TO THE PROJECT MANAGER AND THE OWNER OF THE UTILITY IMMEDIATELY. ANY DAMAGE RESULTING FROM CONTRACTORS NEGLIGENCE OR FAILURE TO ACT WITH DUE REGARD SHALL BE REPAIRED AT CONTRACTORS EXPENSE.
18. UNLESS OTHERWISE NOTED ON THE PLANS, CONTRACTOR SHALL ASSUME ALL SURFACE FEATURES SUCH AS BUT NOT LIMITED TO BUILDINGS, PAVEMENTS, LANDSCAPING FEATURES, PLANTS, ETC. ARE TO BE SAVED AND PROTECTED FROM DAMAGE. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SITE CONDITIONS AND UPON COMPLETION OF WORK REPAIR BACK TO ORIGINAL CONDITIONS ANY DAMAGE THAT OCCURRED DURING CONSTRUCTION.
19. KEEP THE CONSTRUCTION SITE CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. LEAVE PREMISES IN CLEAN CONDITION AND SHALL BE SUBJECT TO APPROVAL BY THE PROPERTY OWNER AND THE PROJECT MANAGER.
20. THE CONTRACTOR SHALL PROVIDE ON-SITE TRASH RECEPTACLES FOR COLLECTION OF NON-TOXIC DEBRIS. ALL TRASH SHALL BE COLLECTED ON A DAILY BASIS.
21. ALL TOXIC AND ENVIRONMENTALLY HAZARDOUS SUBSTANCES SHALL BE USED AND DISPOSED OF IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS. UNDER NO CIRCUMSTANCES SHALL RINSING OR DUMPING OF THESE SUBSTANCES OCCUR ON-SITE.
22. UNLESS NOTED OTHERWISE, CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS NECESSARY FOR CONSTRUCTION.
23. THE PROJECT MANAGER MAY RETAIN THE SERVICES OF A TESTING LABORATORY TO PERFORM QUALITY ASSURANCE TESTING ON VARIOUS PORTIONS OF THE CONTRACTORS WORK. WHEN REQUESTED, THE CONTRACTOR SHALL INFORM THE TESTING LABORATORY AND ASSIST THEM IN COMPLETING TESTS.
24. THE CONTRACTOR SHALL MAINTAIN AND SUPPLY THE PROJECT MANAGER WITH AS-BUILT PLANS UPON COMPLETION OF THE PROJECT.

**ELECTRIC:**

1. THE CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE WITH ALL GOVERNING STATE, COUNTY AND LOCAL CODES AND OSHA REQUIREMENTS.
2. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES.
3. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS AND TRANSPORTATION FOR A COMPLETE AND PROPERLY OPERATIVE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS.
4. THE CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY PERMIT AND INSPECTION FEES, AND BE RESPONSIBLE FOR SCHEDULING INSPECTIONS WITH THE AUTHORITY HAVING JURISDICTION.
5. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, IEEE, NEMA AND NFPA.
6. ALL MATERIALS SHALL BE U.L LISTED.
7. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT.
8. MATERIALS SHALL MEET WITH APPROVAL OF THE AUTHORITY HAVING JURISDICTION.
9. THE CONTRACTOR SHALL PERFORM ALL VERIFICATION OBSERVATIONS TEST, AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND STARTING CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE PROJECT MANAGER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
10. THE CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF THE TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR.
11. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUND TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO THE PROJECT MANAGER.
12. ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, ETC. SHALL BE TURNED OVER TO THE PROJECT MANAGER AT JOB COMPLETION.
13. POST-INSTALLATION, ANY WORK, MATERIAL OR EQUIPMENT FOUND TO BE FAULTY SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
14. PROVIDE THE PROJECT MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS-INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS AND CIRCUITS.
15. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS NOTING USE FUNCTION.
16. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANEL BOARD, PULL BOX, J-BOX, SWITCH BOX, ETC.
17. ALL CONDUIT INSTALLED SHALL BE SURFACE MOUNTED OR DIRECT BURIAL UNLESS OTHERWISE NOTED.
18. ALL CONDUIT SHALL HAVE A PULL WIRE, ROPE OR MULE TAPE PER PROJECT MANAGER.
19. ALL CONDUCTORS SHALL BE COPPER.
20. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C.
21. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
22. PENETRATIONS IN FIRE RATED WALLS SHALL BE FIRE STOPPED TO MATCH ORIGINAL RATING.
23. BX OR ROMEX CABLE IS NOT PERMITTED.
24. ALL ELECTRICAL/FIBER ENCLOSURES, JUNCTION BOXES, CONDUIT KNOCKOUTS, RACEWAYS, ETC. SHALL BE RODENT-PROOF.
25. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.

**SITE WORK:**

1. BEFORE STARTING GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND SEDIMENT CONTROL MEASURES. THE WORK AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUCH CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE WELL DRAINED AT ALL TIMES.
2. PERFORM ALL SURVEY, LAYOUT, STAKING AND MARKING TO ESTABLISH AND MAINTAIN ALL LINES, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF THE WORK.
3. LOCATE AND CLEARLY FLAG TREES, VEGETATION AND EXISTING SITE CONDITIONS TO REMAIN UNDISTURBED DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL COORDINATE WITH PROJECT MANAGER TO ESTABLISH INSPECTIONS AND APPROVAL PROCESS FOR ALL SITE WORK.
5. EXCAVATION AND STRUCTURAL BACKFILL FOR TOWER AND EQUIPMENT FOUNDATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. CONTRACTOR IS REQUIRED TO OBTAIN A COPY OF THE REPORT PRIOR TO CONSTRUCTION.
6. SUITABLE NON-STRUCTURAL BACKFILL: EXCAVATED INORGANIC MATERIAL, COHESIVE AND NON-COHESIVE MATERIALS, INCLUDING GRAVEL, SAND, SILT, CLAY, AND COMBINATIONS THEREOF FREE FROM REFUSE, FROZEN LUMPS, STONES OR ROCKS LARGER THAN 3 INCHES.
7. UNSUITABLE BACKFILL: TOP SOIL, HIGH AND MODERATELY PLASTIC SILTS AND CLAY, MATERIAL CONTAINING REFUSE, FROZEN LUMPS, DEMOLISHED BITUMINOUS MATERIAL, VEGETATIVE MATTER, WOOD, STONES IN EXCESS OF 3 INCHES.
8. CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE AND ONLY THE IMMEDIATE SURROUNDINGS NECESSARY TO COMPLETE THE WORK. REMOVE THE FOLLOWING MATERIALS TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE ORIGINAL GROUND SURFACE: TREES, BRUSH, ROOTS, STUMPS, RUBBISH AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA.
9. CLEAR, GRUB, STRIP AND EXCAVATE FOR THE ACCESS ROAD AND TOWER COMPOUND TO THE LINES AND GRADES INDICATED ON THE DRAWINGS. SCARIFY TO A DEPTH OF 6 INCHES AND PROOF-ROLL ALL DEPRESSIONS, SOFT PLACES AND OTHER DEFECTS SHALL BE FILLED AND COMPACTED WITH SUITABLE FILL.
10. ALL MATERIALS AND DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS SHALL BE REMOVED FROM THE SITE AND DISPOSED PROPERLY. BURNING IS NOT PERMITTED.
11. GEOTEXTILE FABRIC SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS.
12. REMOVE ALL FORMWORK RESULTING FROM CONCRETE CONSTRUCTION PRIOR TO BACKFILL.
13. ALL SUITABLE FILL MATERIAL SHALL BE INSTALLED IN HORIZONTAL LAYERS NOT EXCEEDING A LOOSE DEPTH OF 9 INCHES AND SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY PER THE MODIFIED PROCTOR TEST, ASTM D1557.
14. WHEN SOFT, YIELDING OR OTHERWISE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED AT THE REQUIRED TRENCH BOTTOM ELEVATION, OVER-EXCAVATE THE TRENCH TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE REQUIRED ELEVATION AND BACKFILL WITH GRANULAR BEDDING MATERIAL.
15. UTILIZE SUITABLE FILL MATERIALS RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILL, ACCESS ROAD, SITE GRADING AND FOR THE REPLACEMENT OF REMOVED UNSUITABLE MATERIALS.
16. PERFORM ALL FINISHED GRADING TO PROVIDE SMOOTH, EVEN SURFACE AND SUBSURFACE DRAINAGE OF THE ENTIRE AREA WITHIN THE LIMITS OF CONSTRUCTION. GRADING SHALL BE COMPATIBLE WITH ALL SURROUNDING TOPOGRAPHY AND STRUCTURES.



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REV	DATE	DESCRIPTION	BY
A	05/30/24	90% REVIEW	PD
0	06/25/24	FINAL	UL

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SITE NUMBER:  
COL06256

FA NUMBER:  
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SITE ADDRESS  
2084 COUNTY ROAD 27A,  
COTOPAXI, CO 81223

SHEET NAME  
GENERAL  
NOTES

SHEET NUMBER  
GN-I

Property of AT&T  
**Authorized Personnel Only**

In case of an emergency, or prior to performing maintenance on this site, call 800-638-2822 and reference cell site number  
 FA # \_\_\_\_\_



GATE/SHELTER/CABINET DOOR SIGN SCALE: N.T.S. 1

**DANGER**


**NO TRESPASSING**

**NOTICE**

**AUTHORIZED PERSONNEL ONLY BEYOND THIS POINT**

FENCED COMPOUND SIGN SCALE: N.T.S. 2 DOOR/EQUIPMENT SIGN SCALE: N.T.S. 3

**CAUTION**




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

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

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

RF CAUTION SIGN SCALE: N.T.S. 6

**WARNING**



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

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

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

RF DANGER SIGN SCALE: N.T.S. 4

**NOTICE**




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

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

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

RF NOTICE SIGN SCALE: N.T.S. 7

**WARNING**



AT&T operates antennas at this site.

**In The Striped Area** you are entering an area where radio frequency (RF) fields exceed the FCC Occupational Exposure Limits.

Failure to follow safety guidelines for working in an RF environment could result in serious injury.

Contact AT&T at 800-638-2822, option 9 and 3, and follow their instructions prior to performing maintenance or repairs within the striped area.

Warning Sign 700-04-000, 121 10/01/00

RF WARNING SIGN SCALE: N.T.S. 5

**INFORMATION**

Federal Communications Commission  
 Tower Registration Number  
**1042282**

Posted in accordance with Federal Communications Commission rules on antenna tower registration 47CFR 17.4 (g)

FCC ASR SIGNAGE SCALE: N.T.S. 8

**INFORMATION**

AT&T Mobility operates telecommunications antennas at this location. Remain at least 3 feet away from any antenna and obey all posted signs.

Contact the owner(s) of the antenna(s) before working closer than 3 feet from the antenna(s).

Contact AT&T Mobility at 800-638-2822 prior to performing any maintenance or repairs near AT&T Mobility antennas.

This is Site USID # \_\_\_\_\_  
 Contact the management office if this door/hatch/gate is found unlocked.

**INFORMACION**

En esta propiedad se ubican antenas de telecomunicaciones operadas por AT&T Mobility. Favor mantener una distancia de no menos de 3 pies y obedecer todos los avisos.

Comuníquese con el propietario o los propietarios de las antenas de trabajar o caminar de menos de 3 pies de la antena.

Comuníquese con AT&T Mobility 800-638-2822 antes de realizar cualquier mantenimiento o reparaciones cerca de las antenas de AT&T Mobility.

Esta es la estación base número USID # \_\_\_\_\_  
 Favor comunicarse con la oficina de la administración del edificio si este puerta o compuerta se encuentra sin cerrando.

Smart 1200 04/01/02

**INFORMATION**

**ACTIVE ANTENNAS ARE MOUNTED**

ON THE OUTSIDE FACE OF THIS BUILDING  
 BEHIND THIS PANEL  
 ON THIS STRUCTURE

**STAY BACK A MINIMUM OF 3 FEET FROM THESE ANTENNAS**

Contact AT&T Mobility at 800-638-2822 and follow their instructions prior to performing any maintenance or repairs closer than 3 feet from the antennas.

This is AT&T Mobility site USID# \_\_\_\_\_

IN-2A-AL-128 AT&T Mobility

INFORMATION SIGNS SCALE: N.T.S. 9



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SHEET NAME  
 SIGNAGE

SHEET NUMBER  
**GN-2**



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SHEET NAME  
SITE PLAN

SHEET NUMBER  
C-1

PROJECT# 2024.0042.0000

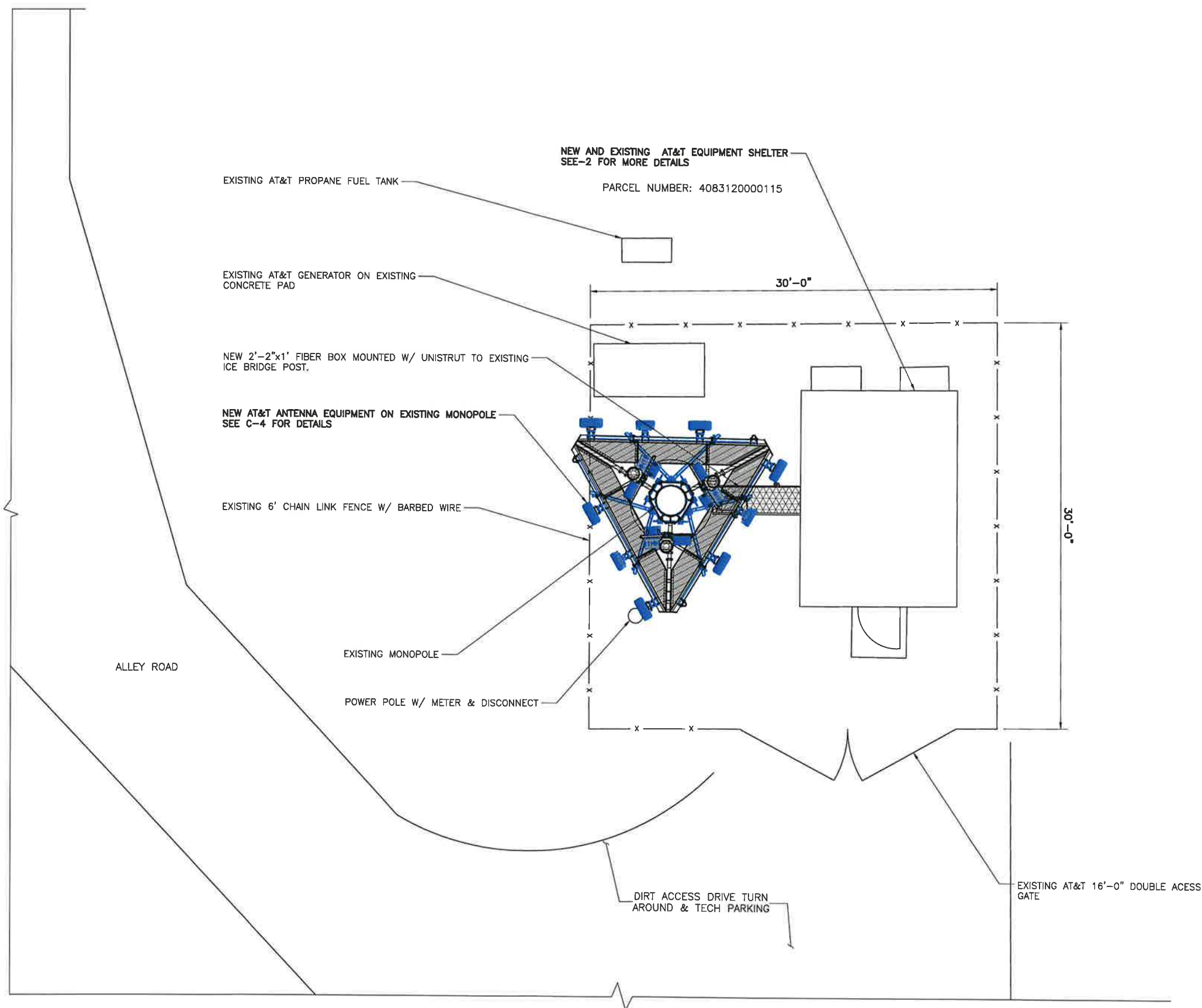
### ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGL	ABOVE GROUND LEVEL
AMSL	ABOVE MEAN SEA LEVEL
APPROX	APPROXIMATE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BBU	BASE BAND UNIT
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CND	CONDUIT
CRAN	CENTRALIZED RAN
C-RAN	CLOUD RAN
DWG	DRAWING
FT	FOOT(FEET)
EGB	EQUIPMENT GROUND BAR
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ELEV	ELEVATION
EQUIP	EQUIPMENT
(E)	EXISTING
EXT	EXTERIOR
FND	FOUNDATION
F	FIBER
GA	GAUGE
GALV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE COMMUNICATION
LTE	LONG TERM EVOLUTION
MAX	MAXIMUM
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MIMO	MULTIPLE IN MULTIPLE OUT
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
PPC	POWER PROTECTION CABINET
PL	PROPERTY LINE
RAN	RADIO ACCESS NETWORK
RBS	RADIO BASED STATION
RRH	REMOTE RADIO HEAD
RGS	RIGID GALVANIZED STEEL
IN	INCH(ES)
INT	INTERIOR
LB(S), #	POUND(S)
SF	SQUARE FOOT
STL	STEEL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELE-COMMUNICATION SYSTEM
VIF	VERIFY IN FIELD
W/	WITH
XFMR	TRANSFORMER

### SYMBOLS

	REVISION
	WORK POINT
	UTILITY POLE
	BRICK
	COMPRESSED STONE
	CONCRETE
	EARTH
	GRAVEL
	MASONRY
	STEEL
	CENTERLINE
	PROPERTY LINE
	LEASE LINE
	EASEMENT LINE
	FENCE
	CHAINLINK
	WOOD
	WROUGHT IRON
	ELECTRIC
	OVERHEAD
	UNDERGROUND
	FIBER
	OVERHEAD
	UNDERGROUND
	TELEPHONE
	OVERHEAD
	UNDERGROUND
	DCPOWER
	SECTION REFERENCE

SITE PLAN



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

**NOTES:**  
 1. PRIOR TO INSTALLATION OF ERICSSON EQUIPMENT, REMOVE RELATED NOKIA AT&T MACRO TOWER/BBU EQUIPMENT



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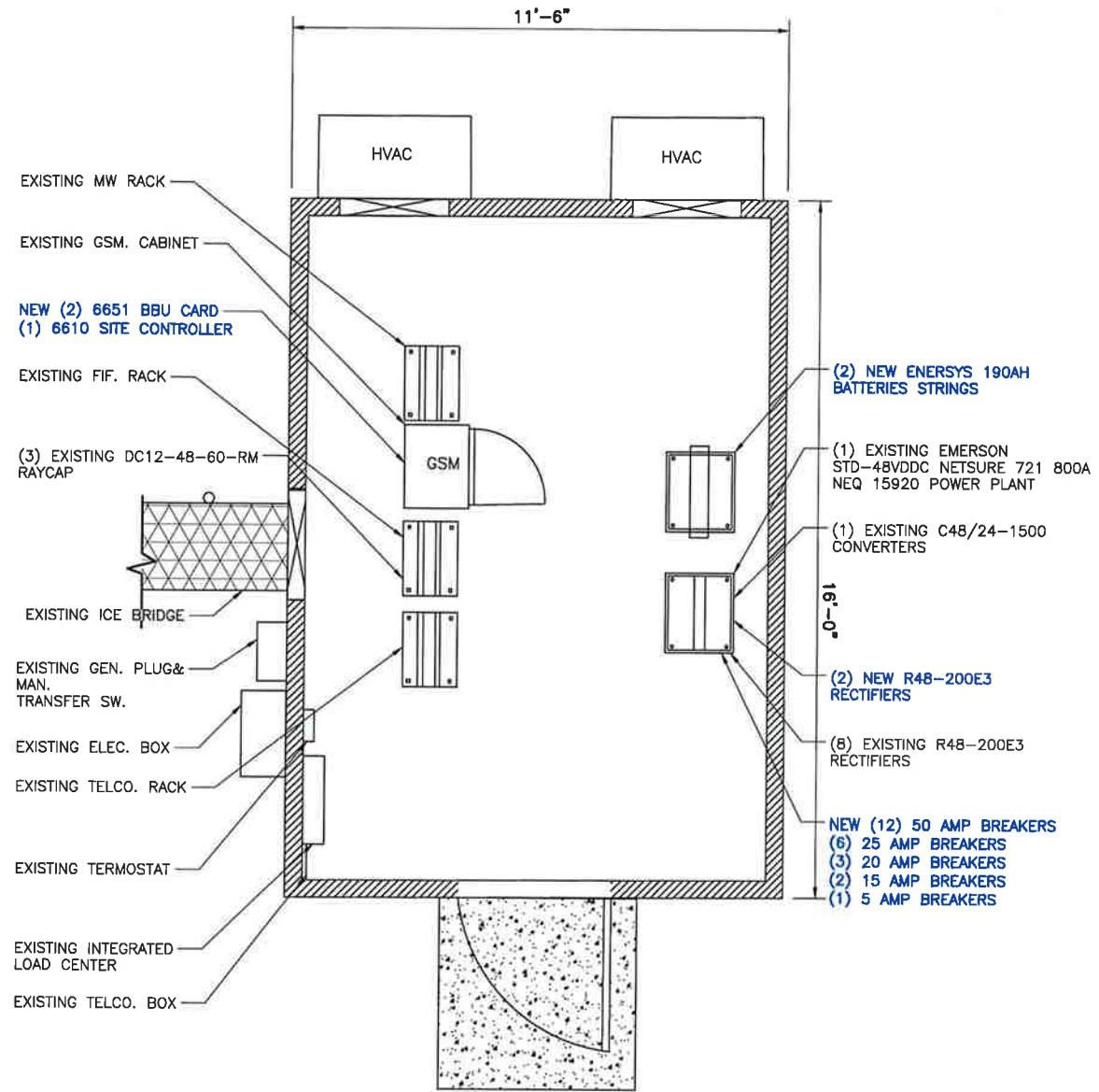
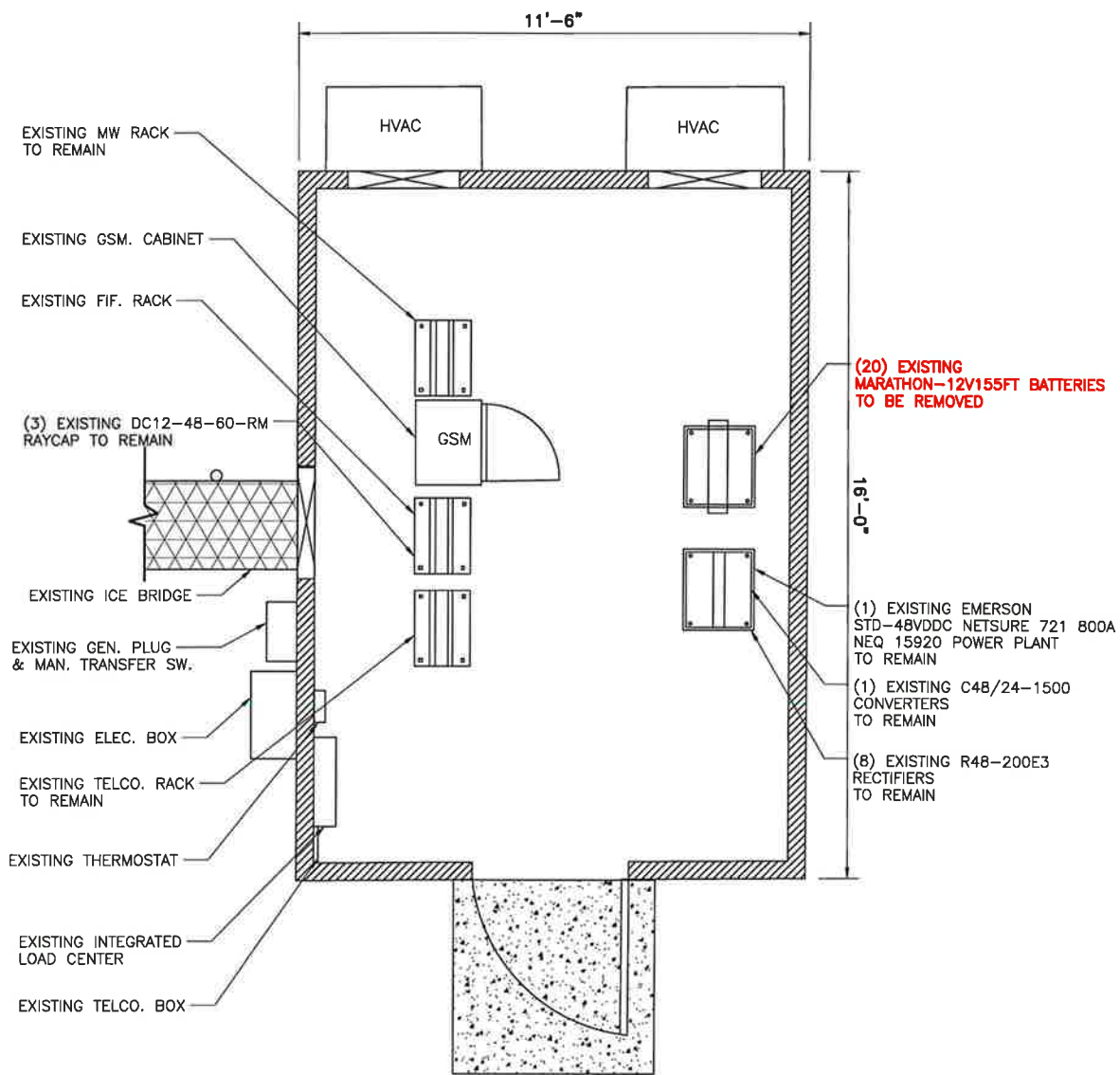
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**EQUIPMENT PLAN**

SHEET NUMBER  
**C-2**



EQUIPMENT PLAN

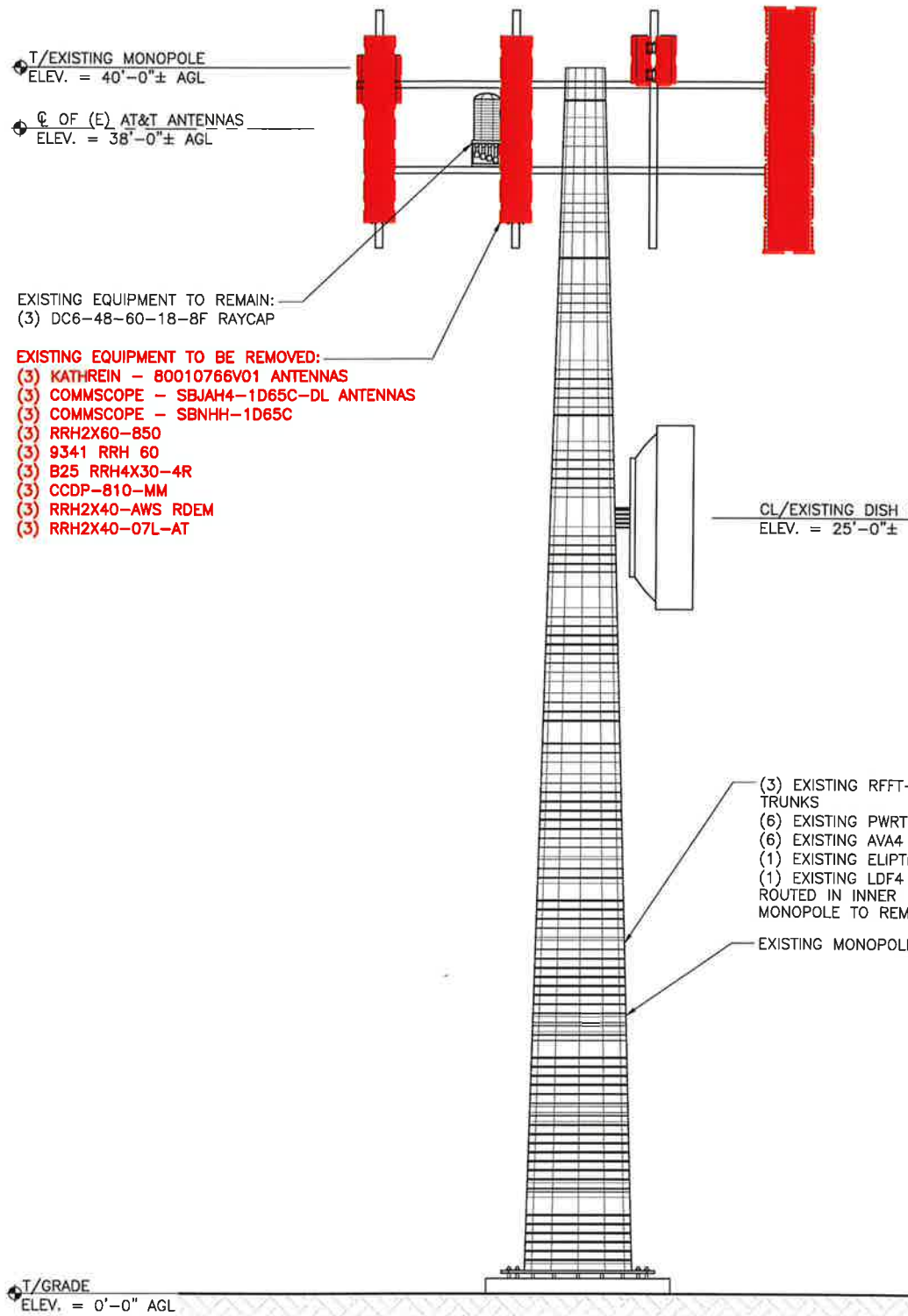


SCALE: 1/4" = 1'-0" 1

FINAL EQUIPMENT PLAN



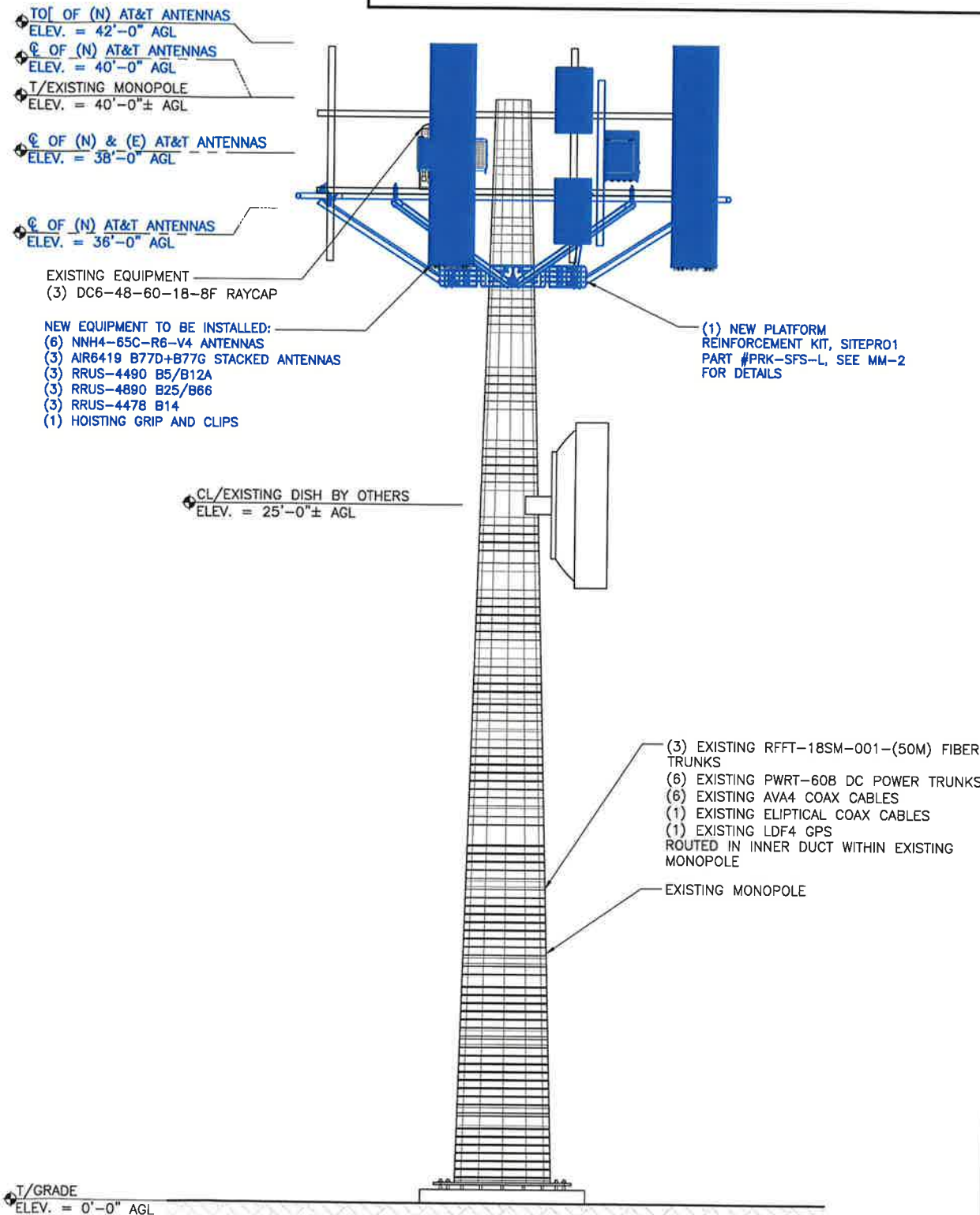
SCALE: 1/4" = 1'-0" 2



EXISTING ELEVATION



SCALE: 3/16" = 1'-0" 1



FINAL ELEVATION



SCALE: 3/16" = 1'-0" 2

**NOTES:**

- 2 FEET MINIMUM SEPARATION BETWEEN ALL ANTENNAS
- 16" VERTICAL SEPARATION BETWEEN STACKED DOD AND C-BAND ANTENNAS
- PRIOR TO INSTALLATION OF ERICSSON EQUIPMENT, REMOVE RELATED NOKIA AT&T MACRO TOWER/BBU EQUIPMENT
- CALCULATIONS FOR THE STRUCTURE AND ANTENNA MOUNTS WERE PREPARED BY OTHERS AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE TO SUPPORT THE NEW EQUIPMENT
- CABLES NOT SHOWN FOR CLARITY



7670 SOUTH CHESTER ST.  
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TEL: 847-908-8400  
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O	06/25/24	FINAL	UL

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SITE NAME  
ZOD\_CTF\_ALLTEL\_CO04\_DEERMOUNTAIN

SITE NUMBER:  
COL06256

FA NUMBER:  
10149418

SITE ADDRESS  
2084 COUNTY ROAD 27A,  
COTOPAXI, CO 81223

SHEET NAME  
ELEVATIONS

SHEET NUMBER  
C-3



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SITE NAME  
ZOD\_CTF\_ALLTEL\_C004\_DEERMOUNTAIN

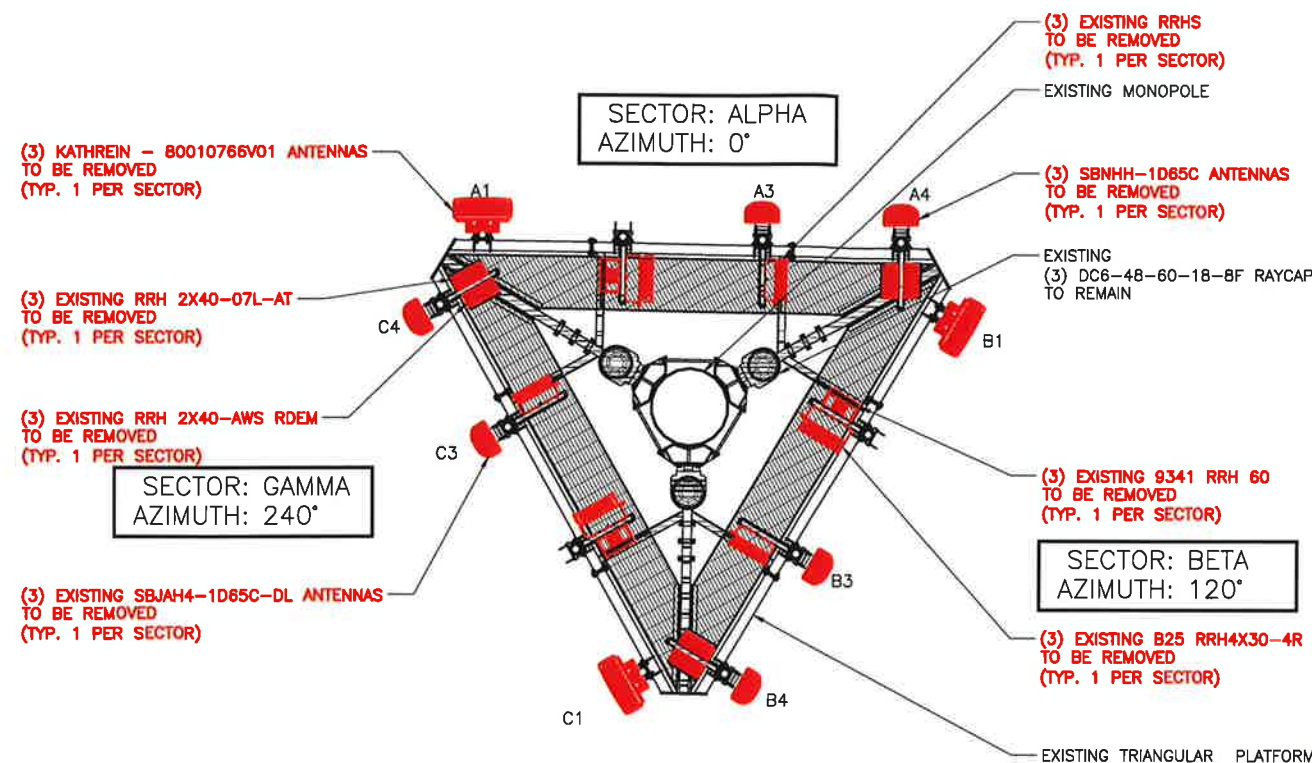
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COL06256

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COTOPAXI, CO 81223

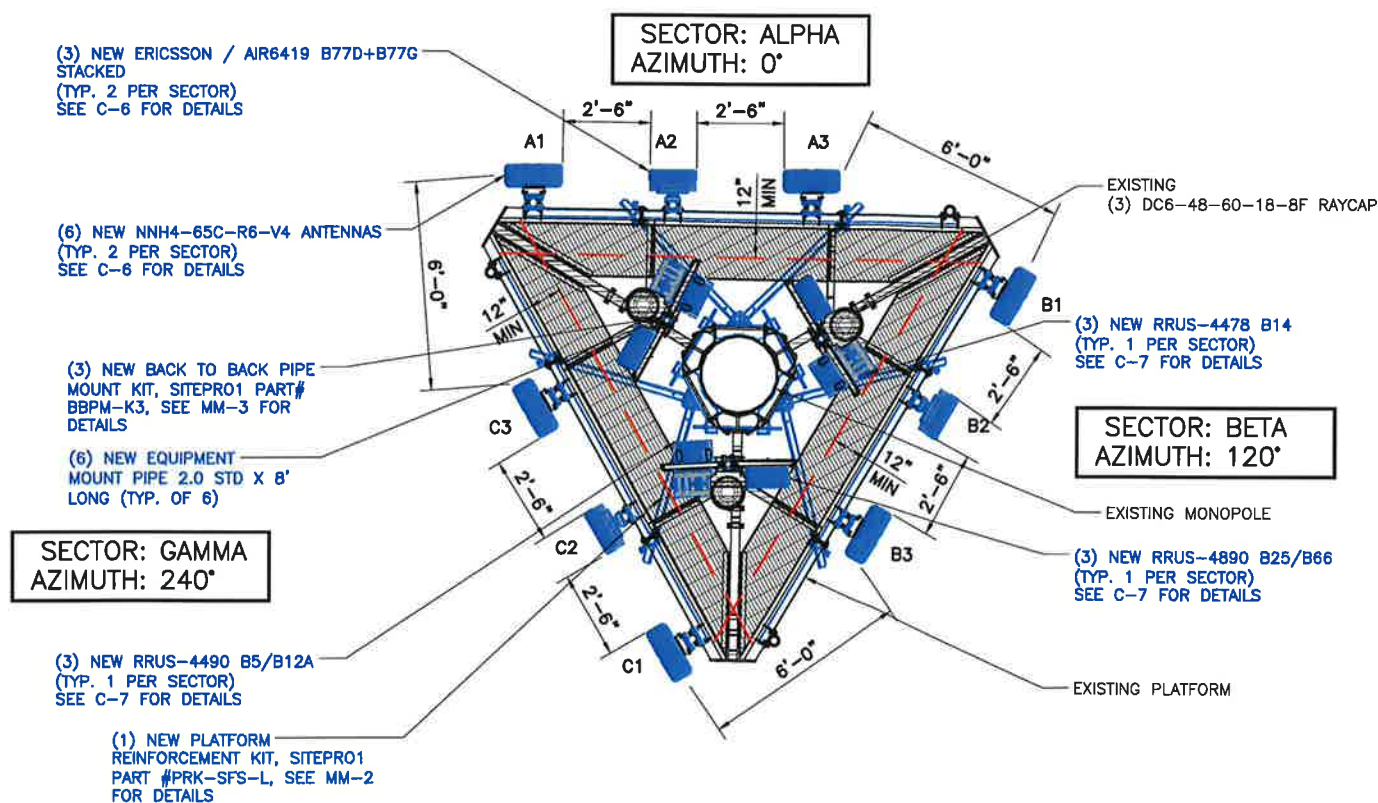
SHEET NAME  
ANTENNA  
PLANS

SHEET NUMBER  
C-4



EXISTING ANTENNA PLAN

0 1' 2' 4' 8' SCALE: 3/16" = 1'-0" 1



- NOTES:**
- 2 FEET MINIMUM SEPARATION BETWEEN ALL ANTENNAS
  - 16" VERTICAL SEPARATION BETWEEN STACKED DOD AND C-BAND ANTENNAS
  - PRIOR TO INSTALLATION OF ERICSSON EQUIPMENT, REMOVE RELATED NOKIA AT&T MACRO TOWER/BBU EQUIPMENT
  - 12" MINIMUM HORIZONTAL SEPARATION BETWEEN ANTENNA MOUNTING FRAME AND ALL RRUS AND ANCILLARY EQUIPMENT
  - FINAL MOUNTING ARRANGEMENT AND DETAILS PER MOUNT MODIFICATION DRAWINGS PREPARED BY B+T GROUP DATED 6/20/24.

FINAL ANTENNA PLAN

0 1' 2' 4' 8' SCALE: 3/16" = 1'-0" 2



FINAL ANTENNA SCHEDULE

SECTOR	ANTENNA POSITION	ANTENNA MAKE/MODEL	RAD CENTER	AZIMUTH	M-TILT	E-TILT	RRH MAKE/MODEL	DIPLEXER/SQUID	FEEDLINE	FEEDLINE LENGTH
ALPHA	1	(E) 80010766V01	38'	0°	-	-	-	(E) (1) DC6-48-60-18-8F SURGE SUPPRESSOR	(E) (1) FEEDER CABLES / (E) (2) POWER TRUNKS / (E) (3) COAX CABLES	65'
	2	-	-	-	-	-	(E) 9341 RRH 60 RRH (E) B25 RRH4X30-4R RRH	-	-	-
	3	(E) SBJAH4-1D65C-DL	38'	0°	-	-	(E) RRH	-	-	-
	4	(E) SBNHH-1D65C	38'	0°	-	-	(E) RRH 2X40-07L-AT (E) RRH 2X40-AWS RDEM	-	-	-
BETA	1	(E) 80010766V01	38'	120°	-	-	-	(E) (1) DC6-48-60-18-8F SURGE SUPPRESSOR	(E) (1) FEEDER CABLES / (E) (2) POWER TRUNKS / (E) (3) COAX CABLES	65'
	2	-	-	-	-	-	(E) 9341 RRH 60 RRH (E) B25 RRH4X30-4R RRH	-	-	-
	3	(E) SBJAH4-1D65C-DL	38'	120°	-	-	(E) RRH	-	-	-
	4	(E) SBNHH-1D65C	38'	120°	-	-	(E) RRH 2X40-07L-AT (E) RRH 2X40-AWS RDEM	-	-	-
GAMMA	1	(E) 80010766V01	38'	240°	-	-	-	(E) (1) DC6-48-60-18-8F SURGE SUPPRESSOR	(E) (1) FEEDER CABLES / (E) (2) POWER TRUNKS / (E) (2) COAX CABLES	65'
	2	-	-	-	-	-	(E) 9341 RRH 60 RRH (E) B25 RRH4X30-4R RRH	-	-	-
	3	(E) SBJAH4-1D65C-DL	38'	240°	-	-	(E) RRH	-	-	-
	4	(E) SBNHH-1D65C	38'	240°	-	-	(E) RRH 2X40-07L-AT (E) RRH 2X40-AWS RDEM	-	-	-

FINAL ANTENNA SCHEDULE

SECTOR	ANTENNA POSITION	ANTENNA MAKE/MODEL	RAD CENTER	AZIMUTH	M-TILT	E-TILT	RRH MAKE/MODEL	DIPLEXER/SQUID	FEEDLINE	FEEDLINE LENGTH
ALPHA	1	(N) NNH4-65C-R6-V4	38'	0°	-	-	(N) (1) 4490 B5/B12A	(E) (1) DC6-48-60-18-8F SURGE SUPPRESSOR	(E) (1) FEEDER CABLES / (E) (2) POWER TRUNKS / (E) (3) COAX CABLES	65'
	2	(N) AIR6419 B77D+ (N) AIR6419 B77G STACKED	40' 36'	0°	-	-	-	-	-	-
	3	(N) NNH4-65C-R6-V4	38'	0°	-	-	(N) (1) 4890 B25/B66 / (N) (1) 4478 B14	-	-	-
	4	-	-	-	-	-	-	-	-	-
BETA	1	(N) NNH4-65C-R6-V4	38'	120°	-	-	(N) (1) 4490 B5/B12A	(E) (1) DC6-48-60-18-8F SURGE SUPPRESSOR	(E) (1) FEEDER CABLES / (E) (2) POWER TRUNKS / (E) (3) COAX CABLES	65'
	2	(N) AIR6419 B77D+ (N) AIR6419 B77G STACKED	40' 36'	120°	-	-	-	-	-	-
	3	(N) NNH4-65C-R6-V4	38'	120°	-	-	(N) (1) 4890 B25/B66 / (N) (1) 4478 B14	-	-	-
	4	-	-	-	-	-	-	-	-	-
GAMMA	1	(N) NNH4-65C-R6-V4	38'	240°	-	-	(N) (1) 4490 B5/B12A	(E) (1) DC6-48-60-18-8F SURGE SUPPRESSOR	(E) (1) FEEDER CABLES / (E) (2) POWER TRUNKS / (E) (2) COAX CABLES	65'
	2	(N) AIR6419 B77D+ (N) AIR6419 B77G STACKED	40' 36'	240°	-	-	-	-	-	-
	3	(N) NNH4-65C-R6-V4	38'	240°	-	-	(N) (1) 4890 B25/B66 / (N) (1) 4478 B14	-	-	-
	4	-	-	-	-	-	-	-	-	-

FINAL ANTENNA & CABLE CONFIGURATION

SCALE: N.T.S. 1



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SITE NUMBER:  
COL06256

FA NUMBER:  
10149418

SITE ADDRESS  
2084 COUNTY ROAD 27A,  
COTOPAXI, CO 81223

SHEET NAME  
ANTENNA &  
CABLE  
CONFIGURATION

SHEET NUMBER  
C-5





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SHEET NAME  
EQUIPMENT  
DETAILS - I

SHEET NUMBER  
C-6

**ERICSSON – AIR6419 B77D**  
MASSIVE MIMO MID-BAND  
WEIGHT W/ HARDWARE 55.4 Lbs

ANTENNA SPEC SCALE: N.T.S. 1

Pole	Circular	Square	90° Angle
Minimum outer dimension	Ø76 mm	50 × 50 mm	50 × 50 mm
Maximum outer dimension	Ø114 mm	80 × 80 mm	80 × 80 mm

**ERICSSON – AIR 6419 B77D MOUNT**  
BRACKET SUPPORTING AIR WITH TILTING +/-20 DEGREE AND RIGHT/LEFT 30 DEGREE

ANTENNA SPEC SCALE: N.T.S. 2

**ERICSSON – AIR6419 B77G**  
MASSIVE MIMO MID-BAND  
WEIGHT W/ HARDWARE 55.4 Lbs

ANTENNA SPEC SCALE: N.T.S. 3

Pole	Circular	Square	90° Angle
Minimum outer dimension	Ø76 mm	50 × 50 mm	50 × 50 mm
Maximum outer dimension	Ø114 mm	80 × 80 mm	80 × 80 mm

**ERICSSON – AIR 6419 B77G MOUNT**  
BRACKET SUPPORTING AIR WITH TILTING +/-20 DEGREE AND RIGHT/LEFT 30 DEGREE

ANTENNA SPEC SCALE: N.T.S. 4

**NH4-65C-R6-V4**

FREQUENCY RANGE: 698-960 MHZ, 1695-2690 MHZ  
WEIGHT: 160 LBS

ANTENNA SPEC SCALE: N.T.S. 5

**ERICSSON – B2B SXK 1255394/2**  
UNIVERSAL B2B BRACKET

HEIGHT: 3.15"  
WIDTH: 14.17"  
DEPTH: 18.90"  
WEIGHT: 23 Lbs

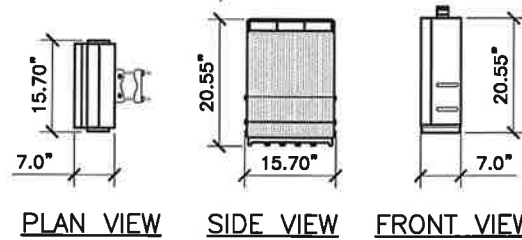
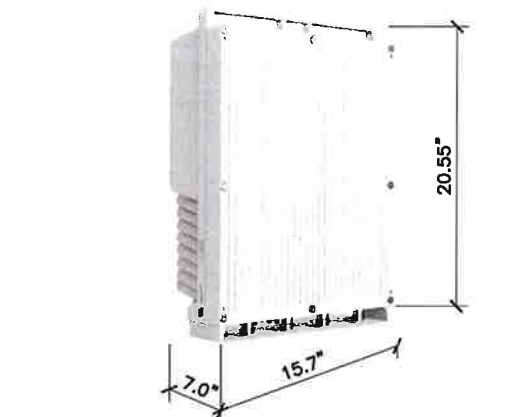
B2B SXK 1255394/2 SCALE: N.T.S. 6

NEW ANTENNA  
INSTALL NEW PIPE 2.5 STD WITH CROSSOVER PLATES FOR ROUND MEMBERS OR 1/2" DIA U-BOLTS FOR FLAT MEMBERS  
NEW RF JUMPER(S) FROM RRU TO ANTENNA

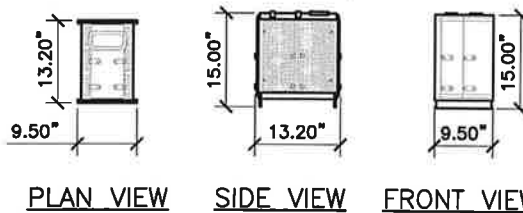
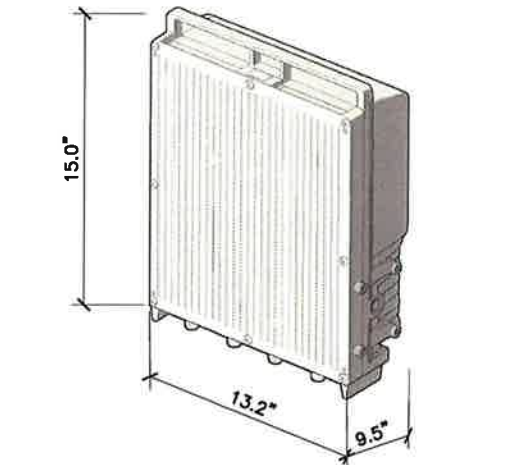
ANTENNA SCHEMATIC SCALE: N.T.S. 7

NEW AIR6449 B77D C-BAND ANTENNA  
INSTALL NEW PIPE 2.5 STD WITH CROSSOVER PLATES FOR ROUND MEMBERS OR 1/2" DIA U-BOLTS FOR FLAT MEMBERS  
(2) NEW FIBER AND (1) DC POWER JUMPERS FROM RAYCAP UNIT TO EACH ANTENNA  
NEW AIR6419 B77G DoD ANTENNA

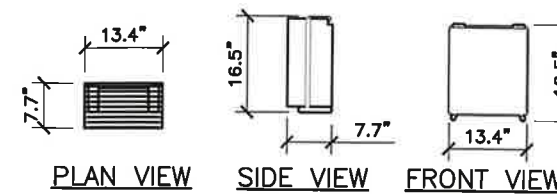
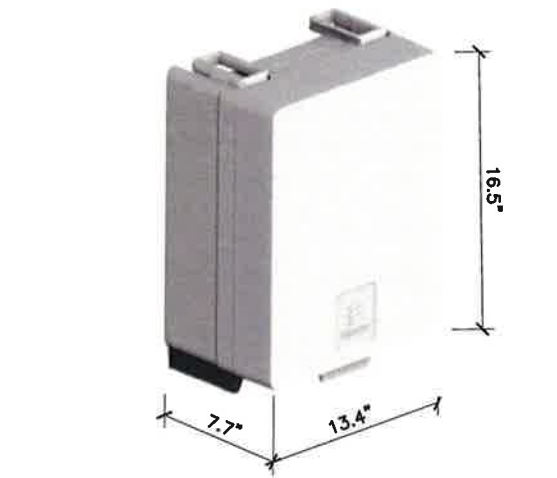
ANTENNA SCHEMATIC SCALE: N.T.S. 8



**ERICSSON – RADIO 4490 B5/B12**  
 DUAL BAND REMOTE RADIO  
 TOTAL WEIGHT 65 Lbs



**ERICSSON – RADIO 4890 B25/B66**  
 TOTAL WEIGHT 75 Lbs



**ERICSSON – RRU 4478 B14**  
 FREQUENCY RANGE TX 758-768 MHz  
 RX 768-798 MHz  
 TOTAL WEIGHT 59.4 Lbs



**ERICSSON 6651**  
 DIMENSIONS: (DXHXW) 16" X 3" X 19"  
 WEIGHT 22 LBS



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RRU SPEC SCALE: N.T.S. 1

RRU SPEC SCALE: N.T.S. 2

RRU SPEC SCALE: N.T.S. 3

ERICSSON 6651 SPEC SCALE: N.T.S. 4



**ERICSSON 6610 SITE CONTROLLER**  
 DIMENSIONS: (DXHXW) 1.57" X 5.51" X 1.26"  
 WEIGHT 0.28 LBS



**XP SERIES CROSSOVER PLATE**  
**COMMSCOPE XP-2020**  
 2-3/8" OD TO 2-3/8" OD ROUND MEMBERS  
 WEIGHT 10 Lbs



**CO SERIES CROSSOVER PLATE**  
**COMMSCOPE CO-100**  
 JOINS TWO 1-1/2" OD TO 3-1/2" OD ROUND MEMBERS  
 WEIGHT 16 Lbs

ERICSSON 6610 SPEC SCALE: N.T.S. 5

CROSSOVER PLATE DETAIL SCALE: N.T.S. 6

CROSSOVER PLATE DETAIL SCALE: N.T.S. 7

HOISTING GRIP DETAIL - MONOPOLE OUTSIDE SCALE: N.T.S. 8



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SHEET NAME  
**EQUIPMENT  
 DETAILS - II**

SHEET NUMBER  
**C-7**

# Vertiv™ eSure™ Rectifier

R48-2000e3



## Benefits

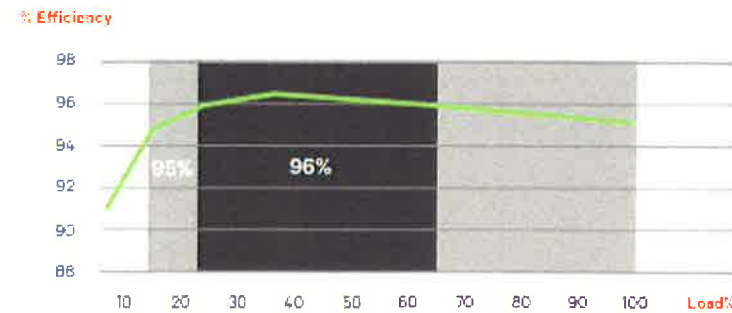
- Optimize the amount of energy delivered and reduce power consumption with over 96% efficiency.
- Increase space for revenue generating equipment with modules that pack more power in a small space with high power density.
- Facilitate easy maintenance, expansion and system changes with hot swappable capabilities.
- Enjoy increased reliability and active load sharing with Digital Signal Processing (DSP) which translates into fewer components and optimized operation.
- Appreciate the flexibility to utilize in a variety of applications with a wide input voltage range of 85 VAC to 300 VAC and full power output at temperatures from -40°C to +65°C.

*In addition to reducing power consumption and lowering operating cost, eSure™ high-efficiency rectifiers offer superior performance and uncompromised reliability.*

## Description

The 2000 watt high-efficiency eSure rectifier (model R48-2000e3) converts standard AC supply voltages into stable nominal -48 VDC voltage that is adjustable to application needs. This constant power rectifier designed with the latest patented switch-mode technology, uses DSP (Digital Signal Processing) for efficient operation.

The R48-2000e3 can be connected in parallel with other rectifiers and converters to support a variety of telecom applications. Unified remote management and control of the power system is enabled when combined with a Vertiv™ controller.



R48-2000e3 Efficiency Curve at 250 VAC Nominal



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DETAILS - III

SHEET NUMBER  
C-8



# Battery Range Summary



The outstanding PowerSafe<sup>®</sup> SBS Front Terminal battery further extends the technical leadership of PowerSafe<sup>®</sup> SBS batteries range. PowerSafe<sup>®</sup> SBS Front Terminal batteries 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.

### 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

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<sup>®</sup> SBS batteries the perfect solution for the challenging operating conditions of today's telecommunication networks.

PowerSafe<sup>®</sup> 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<sup>®</sup> SBS Front Terminal batteries.



Visit us at [www.enersys.com](http://www.enersys.com)

### Construction

- Utilizes 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: 88°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 806. Please see our SDS for complete details at [www.enersys.com](http://www.enersys.com)
- Complies with Telcordia<sup>®</sup> SR-4228, Network Equipment Building System (NEBS<sup>™</sup>) Criteria Levels
- The management systems governing the manufacture of this product are ISO 9001 and ISO 14001 certified

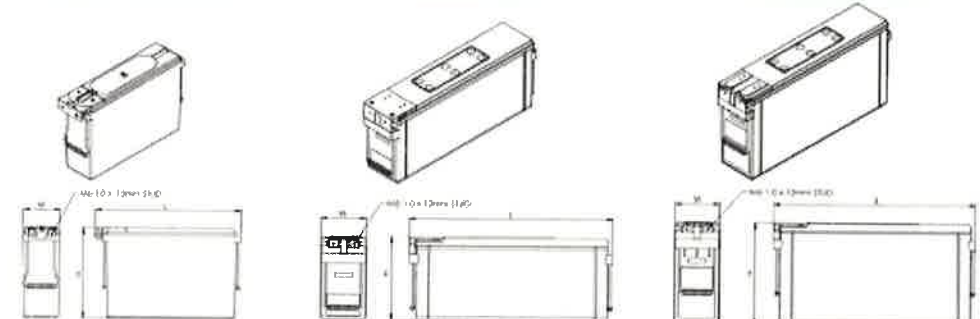
### General Specifications

Battery Type	# of Cells	Nominal Voltage (V)	Nominal Capacity (Ah)		Nominal Dimensions			Typical Weight (kg)	Short Circuit Current (Amps)	Internal Resistance (mΩ)	Terminals	Electrolyte (1.30 S.G.)		Pure Acid (1.250)		Lead Weight (per bloc)									
			20hr Rate @ 25°C	10hr Rate @ 25°C	Length	Width	Height					Volume (per bloc)	Weight (per bloc)	Volume (per bloc)	Weight (per bloc)										
SBS B8F	6	12	31	31	11.5	30.3	3.8	97	6.26	150	22.7	10.3	1270	10.0	M6 M	0.37	1.42	4.05	1.84	0.11	0.40	1.01	0.73	18.0	7.08
SBS B10F	6	12	38	38	11.5	30.3	3.8	97	7.24	184	28.2	12.8	1300	9.0	M6 M	0.48	1.88	5.10	2.33	0.13	0.51	2.04	0.83	17.7	8.03
SBS B14F	6	12	62	62	11.5	30.3	3.8	97	10.4	264	62.0	19.1	1800	7.0	M6 M	0.78	2.95	8.40	3.83	0.22	0.83	3.39	1.32	28.8	13.4
SBS C11F	6	12	92	91	16.4	41.7	4.1	105	10.1	296	61.8	27.9	2300	8.5	M6 M	1.28	4.85	13.9	6.30	0.38	1.38	5.80	2.49	43.4	19.7
SBS 100F	6	12	100	100	19.4	38.8	4.3	108	11.3	287	71.8	32.6	2210	5.8	M6 M	1.34	5.09	14.8	6.80	0.38	1.43	5.77	2.82	48.7	23.5
SBS 112F	6	12	112	112	22.1	56.1	4.9	125	8.98	228	90.4	41.0	2900	6.0	M6 M	1.71	6.48	18.5	8.41	0.48	1.82	7.35	3.54	56.8	25.8
SBS 145F	6	12	145	145	17.8	45.2	6.8	172	9.37	238	105	47.6	4100	3.0	M6 M	2.25	8.51	24.3	11.0	0.63	2.38	9.80	4.38	72.4	32.8
SBS 165F	6	12	165	165	17.8	45.2	6.8	172	10.8	276	119	52.6	3700	2.3	M6 M	2.40	9.27	28.5	12.0	0.84	2.62	9.72	4.41	76.7	34.9
SBS 170F	6	12	170	170	22.1	56.1	4.9	125	11.1	283	118	52.5	3800	3.5	M6 M	2.60	7.32	25.4	11.5	0.58	2.23	6.89	4.05	82.0	37.2
SBS 190F	6	12	190	190	22.1	56.1	4.9	125	12.4	316	132	60.0	3880	3.2	M6 M	2.34	8.86	28.8	13.1	0.85	2.69	10.1	4.88	95.8	43.4

SBS B8F - B14F, SBS C11F

SBS 100F - 112F

SBS 145F, 165F - 190F



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#11-08 Gateway East Building  
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Tel: +65 6916 4800

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1100 E. WOODFIELD ROAD, SUITE 500  
SCHAUMBURG, ILLINOIS 60173  
TEL: 847-908-8400  
[www.fullerton-us.com](http://www.fullerton-us.com)

REV	DATE	DESCRIPTION	BY
A	05/30/24	90% REVIEW	PD
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I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.



SITE NAME

ZOD\_CTF\_ALLTEL\_CO04\_DEERMOUNTAIN

SITE NUMBER:  
COL06256

FA NUMBER:  
10149418

SITE ADDRESS  
2084 COUNTY ROAD 27A,  
COTOPAXI, CO 81223

SHEET NAME  
BATTERY  
DETAILS

SHEET NUMBER  
C-9

Region: W  
 Market: CO/UT/WY/MT/SO, ID  
 FA: 10149418  
 USID: 122018  
 Location Name: ZOD\_CTF\_ALLTEL\_CO04\_DEERMOUNTAIN  
 Date Calc Completed: 4/19/2024  
 Completed By: Smartlink  
 PACE JOB ID: MWOR24344

Job Description: Nokia to EEI RRU Swap

Field Notes:

SITE DATA INPUT WORKSHEET - INDOOR SITE POWER ESTIMATE TOOL

**-48V PRIMARY VOLTAGE DC PLANT SPECIFIED**

+24VDC EQUIPMENT LOAD: 0 WATTS = 0 AMPS at +24V  
 -48VDC EQUIPMENT LOAD: 14764 WATTS = 274 AMPS at -48V  
 -8VDC EQUIPMENT LOAD: 0 WATTS = 0 AMPS at -8V  
 NO SECONDARY 24V LOADS - DC CONVERTER SYSTEM NOT REQUIRED  
**TOTAL PRIMARY 48V LOAD: 14764 WATTS = 274 AMPS at -48V**

(DC PLANT CONFIGURATION CAN BE REVIEWED ON DC PLANT WORKSHEET)

DC PLANT: Emerson STD -48VDC NetSure 721 Plant 800A NEQ.15920

-48V RECTIFIERS REQUIRED (R+1): 10  
 -48V RECTIFIER SLOTS: 24

CONV. TYPE: UNIVERSAL SLOTS - RIGHT 3 RECT SLOTS/SHELF CAN BE USED FOR CONV  
 +24V CONVERTERS REQUIRED: 0 (NO DC CONVERTERS REQUIRED)  
 +24V SLOTS: 12 (NO DC CONVERTERS REQUIRED)

ESTIMATED BATTERY RESERVE TIME  
 2190 AH 48V @ 20% = 2.01 HOURS (ON-SITE GENERATOR - 2 HOUR MINIMUM)

ESTIMATED SITE MAX AC LOAD (AMPS): 168.46 AMPS  
 ESTIMATE 200A SERVICE SUFFICIENT

ESTIMATED CAPACITY REQUIRED: 36 KW  
 ON-SITE AC GENERATOR CAPACITY: 35 KW  
 GENSET UPGRADE INDICATED

RECOMMENDED ENVRO SYSTEM: 3-TONS COOLING  
 SPECIFIED ENVIRONMENTAL SYSTEM: 10-TONS  
 ESTIMATE SUFFICIENT HVAC CAPACITY

STEP 1: ENTER QUANTITIES OF EQUIPMENT & DC OPERATING VOLTAGE

STEP 2: ENTER DC PLANT TYPE FROM DROP-DOWN MENU:  
 (GENERIC +24V or -48V DC PLANT CAN BE SELECTED FOR MANY MANUFACTURERS DC PLANT)  
 Emerson STD -48VDC NetSure 721 Plant 800A NEQ.15920  
 -48V PRIMARY DC PLANT SPECIFIED  
 (DC PLANT CONFIGURATION CAN BE REVIEWED ON DC PLANT WORKSHEET)

STEP 2A: THIS STEP ONLY SHOWN IF "GENERIC" DC PLANT PLANT TYPE HAS BEEN SELECTED.

STEP 2B: THIS STEP ONLY SHOWN IF TYCO OPS2424 DC PLANT PLANT TYPE HAS BEEN SELECTED.

STEP 3: DO YOU WANT TO CONFIGURE A STANDARD STAND-ALONE DC CONVERTER SYSTEM?  N  
 NOTE: IF YOU SELECT "Y" ANY INTEGRATED DC PLANT CONVERTER OPTIONS WILL BE BYPASSED

STEP 4: ENTER INDOOR SITE BUILDING/SHELTER DATA:  
 (Square footage used for Interior AC Lighting LOAD calculation)  
 SELECT SITE ENCLOSURE TYPE & SIZE: 11' 5" x 10' SHELTER

STEP 5: ENTER SITE HVAC SYSTEM DATA:

Type	Rate	QTY
HVAC	5	2

ARE THERE SITE HVAC HEATING UNITS?  N  
 TOTAL SPECIFIED SITE HVAC: 10-TONS ESTIMATED HVAC REQUIREMENT: 3-TONS COOLING

IF NextGen with Gen Control is selected USER NEEDS TO VERIFY GENERATOR RUN ALARM IS WIRED THROUGH SMART CONTROLLER.  
 DC LOADS FOR SHELTER ENVIRONMENTAL SYSTEMS ARE AUTOMATICALLY ADDED TO THE DC PLANT LOAD

STEP 6: ENTER SITE STATIONARY GENERATOR DATA:  
 DOES SITE HAVE A STATIONARY GENERATOR?  Y AC or DC: AC GENERATOR SIZE (KW): 35  
 ESTIMATED CAPACITY REQUIRED: 36 KW GENSET CAPACITY EXCEEDED

STEP 7: ENTER SITE BATTERY CONFIGURATION DATA:  
 SELECT SINGLE STRING BATTERY CAPACITY (AH): 190  
 SPECIFY TOTAL QUANTITY OF BATTERY STRINGS: 2  
 TOTAL SITE BATTERY CAPACITY (AH): 380  
 NOTE: STANDARD BATTERY CAPACITY HAS BEEN SPECIFIED  
 NOTE: 12 VOLT MONOBLOCK BATTERIES - 4 batteries per -48V String  
 ESTIMATED BATTERY RESERVE TIME: 2.0 HOURS (SITE GENSET)

- SITES WITH STATIONARY GENSETS  
 - Equipped with Veriv DC Plant (NEQ.20068) equipped with 200 amp Battery disconnect breakers shall receive no greater than 2 shelves of 180 AH batteries.  
 - All other locations with legacy DC plants (typically equipped with battery disconnect breakers <200 amps) shall receive no greater than 3 shelves of 180 AH batteries

- ALL SITES WITHOUT A STATIONARY GENSET  
 - Shall be engineered with 4 hours of battery reserve.

QTY	IN/OUT	Equipment	VOLTAGE	WATTS	QTY	IN/OUT	Equipment	VOLTAGE	WATTS
0		Ericsson LTE RB56001 BBU - 1 DU	48	0	0		ALU 9020 LTE BBU (max. 3 GENs)	48	0
0		Ericsson LTE RB56001 BBU - 2 DU	48	0	0		Nokia F804 Chassis (LTE-AMA, ASNO, ABUX)	48	0
0		Ericsson WCDMA RB56001 - 1 DUW	48	0	0		Nokia F804 Chassis (5G-AMA, ASNO, ABUX)	48	0
0		Ericsson LTE RB56001 BBU - IDUS	48	0	0		Nokia F804 Chassis (C-RAN,AMA, ASLX, ASO-C)	48	0
0		Ericsson LTE RB56001 BBU - 2DU	48	0					
0		Ericsson XMM	48	0					
0		Ericsson LTE RB55216	48	0					
0		PE14 PSM Card	48	0					
0		6630 BBU Card	48	0					
0		6648 BBU Card	48	0					
0		6675 BBU Card	48	0					
2		6651 BBU Card	48	0					
0		6673 FlexCard	48	564					
0		6674 BBU Card	48	0					
1		6610 Site Controller	48	0					

QTY	IN/OUT	USER SPECIFIED DC EQUIPMENT	VOLTAGE	WATTS
0		Andrew 12 module mpa FRAME	24	0
0		Andrew 135 Watt Module	24	0
0		Powerwave 12 module mpa FRAME	24	0
0		Powerwave 80 Watt Module	24	0
0		Powerwave 120 Watt Module	24	0
0		Powerwave 180 Watt Module	24	0
0		CCI 125 Watt OAB SCPA Module	24	0
0		CCI 125 Watt DAG SCPA Module	24	0

TOTAL USER SPECIFIED WATTS: 0  
 TOTAL +24V (27V) AMPS: 0  
 TOTAL -48V (54V) AMPS: 0  
 TOTAL -8V (8V) AMPS: 0

QTY	IN/OUT	Radio Heads	VOLTAGE	WATTS
0		2X40 (L7)	48	0
0		2x40 (B20)	48	0
0		2X40 (J8)	48	0
0		2X40 (J9)	48	0
0		2X40 (L2)	48	0
0		2X40 (L1)	48	0
0		2X40 (L3)	48	0
0		2X40 (L4)	48	0
0		XC30 B25 (L9)	48	0
0		XC45 B60a (L2)	48	0
0		Flex D14 FRDI	48	0
0		AirScale ES AHCA	48	0
0		AirScale ES AHNA	48	0
0		AirScale (Micro) B25 AHFB	48	0
0		AirScale (Micro) B66 AHFB	48	0
0		AirScale Dual Band B25/65 AHFB	48	0
0		AirScale Dual Band B12/14 AHLBA	48	0
0		AirScale Dual Band B52/9 AHFB	48	0
0		AirScale AAS 39 GHz AEWB	48	0
0		AirScale Triband B12/14/20 AH BBA	48	0
0		AirScale Band 77 AZQW	48	0
0		AirScale MAA n77 AEOQ	48	0
0		AirScale MAA n77 AEOQ	48	0
0		AirScale MAA n78 AEOQ	48	0
0		AirScale n77 AZQW	48	0
0		AirScale (Micro) n77 AWHQW	48	0
0		AirScale n77 AZQW	48	0
0		AirScale DB B25/65 AHFB	48	0
0		AirScale DB MAA n77/3.45 GHz AQOQA	48	0



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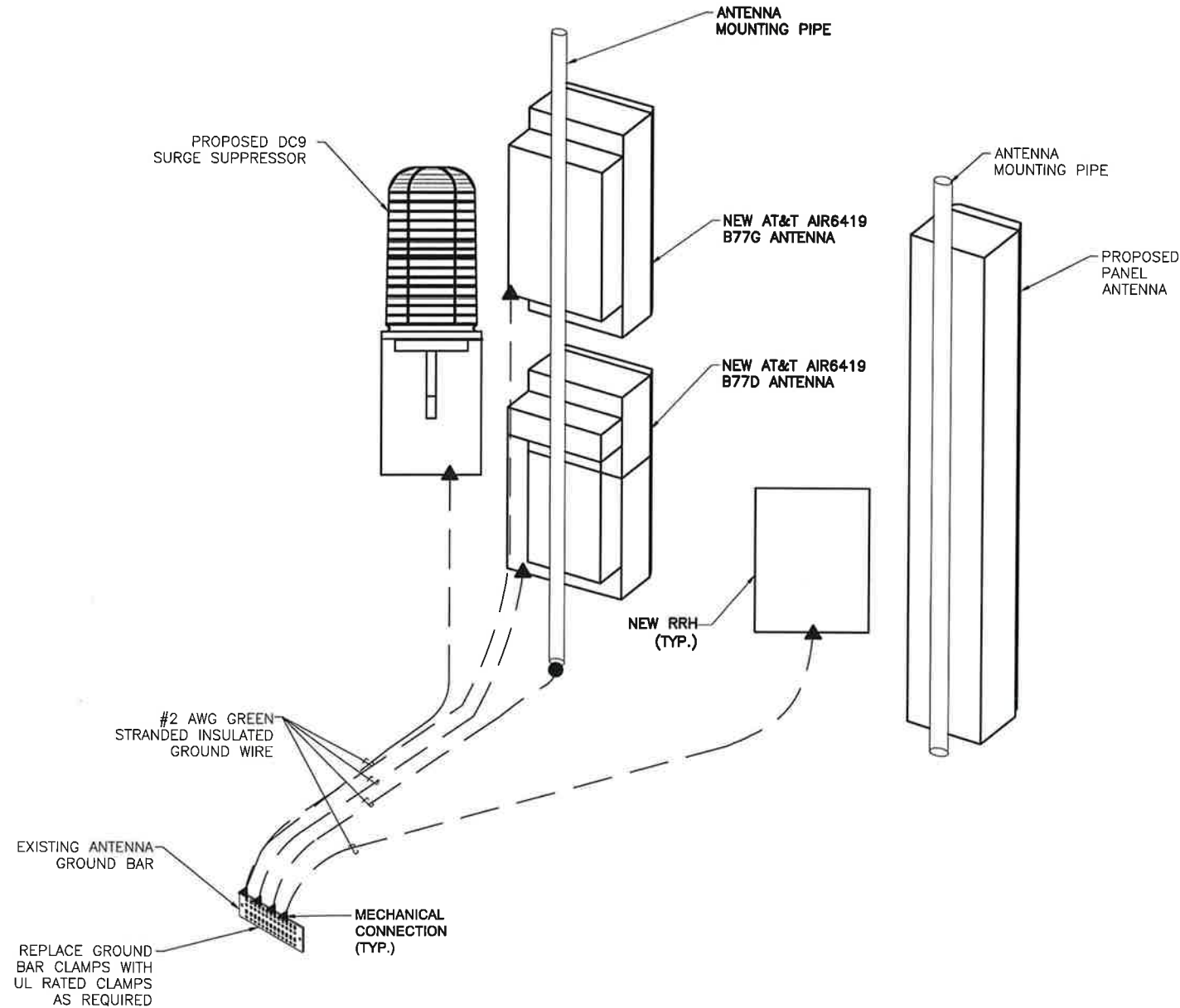
SITE ADDRESS  
 2084 COUNTY ROAD 27A,  
 COTOPAXI, CO 81223

SHEET NAME  
 POWER AUDIT

SHEET NUMBER  
 C-10

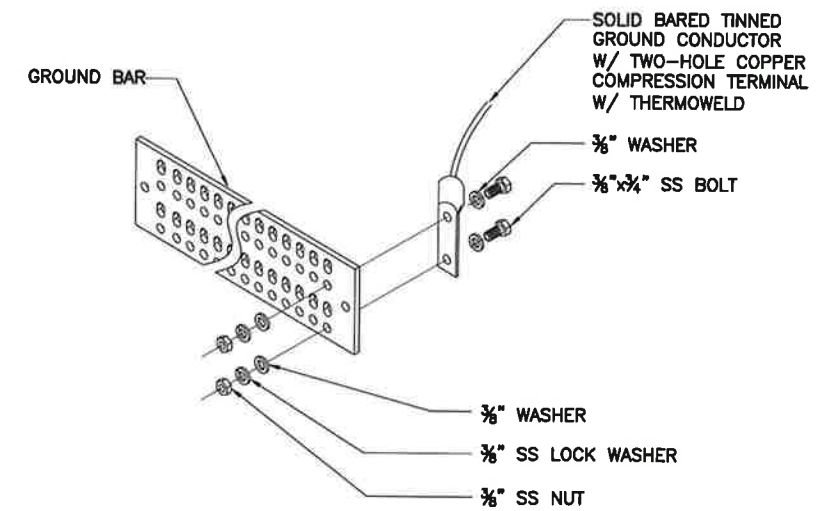
**SYMBOL LEGEND:**

- EXOTHERMIC CONNECTION
- ▲ MECHANICAL CONNECTION



**NOTES:**

1. CONTRACTOR SHALL REFER TO AT&T GROUNDING AND BONDING PRACTICE TP-76416. ALL EXOTHERMIC CADWELDS SHALL BE PERFORMED BY CERTIFIED TECHNICIAN.
2. PROVIDE WEATHER PROOFING AND GROUNDING KIT TO BOND DC POWER CABLE SHIELD TO MASTER GROUND BAR AT EQUIPMENT.
3. CONTRACTOR SHALL USE THEFT RESISTANT GROUND WIRES AND BARS WHEN FEASIBLE.
4. CONTRACTOR SHALL MAINTAIN A 12" MINIMUM GROUND WIRE BEND RADIUS.
5. GROUND LUGS, HEATSHRINK AND CLAMPS DEVICES SHALL COMPLY WITH AT&T GROUNDING AND BONDING PRACTICE TP-76416.



**NOTES:**

1. UTILIZE EXISTING AT&T GROUND BARS AND GROUNDING.
2. ADD GROUND BARS IF THERE ARE INSUFFICIENT LUG POSITIONS.
3. REFERENCE AT&T BONDING & GROUNDING PRACTICE TP76416.

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S. 2



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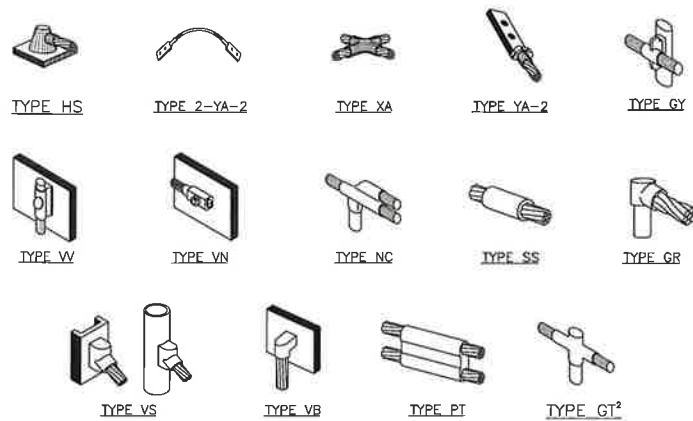
SHEET NAME  
GROUNDING  
DETAILS I

SHEET NUMBER  
G-1

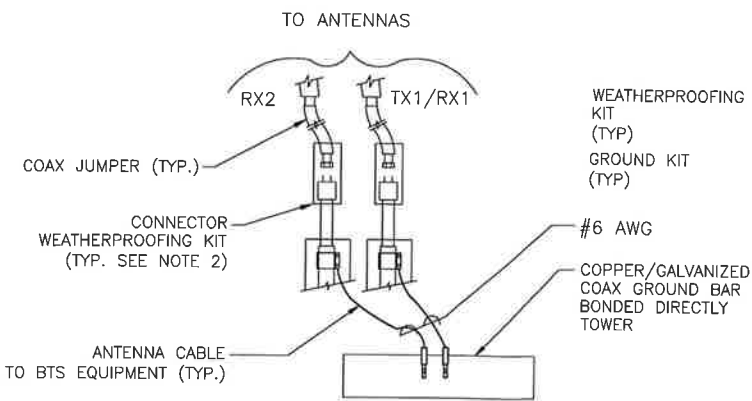
ANTENNA GROUNDING SCHEMATIC

SCALE: N.T.S. 1 NOT USED

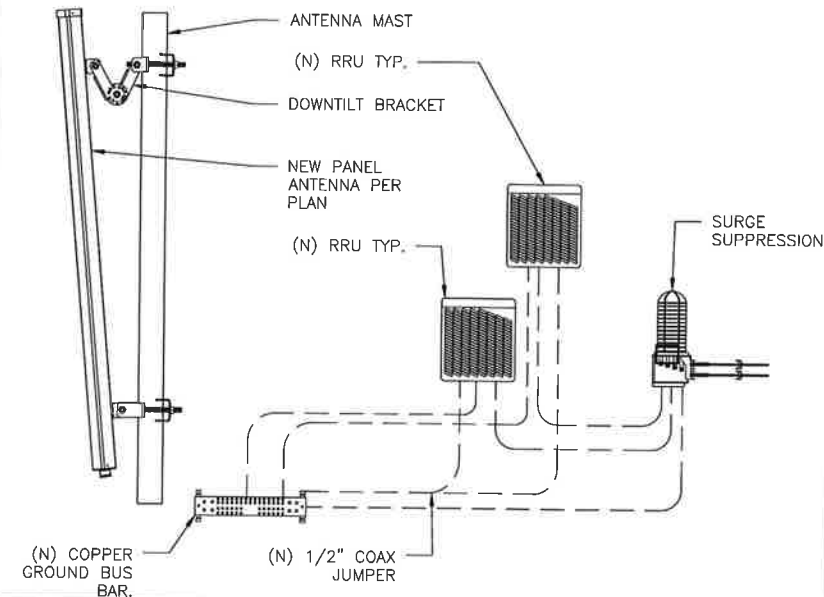
SCALE: N.T.S. 3



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.



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.



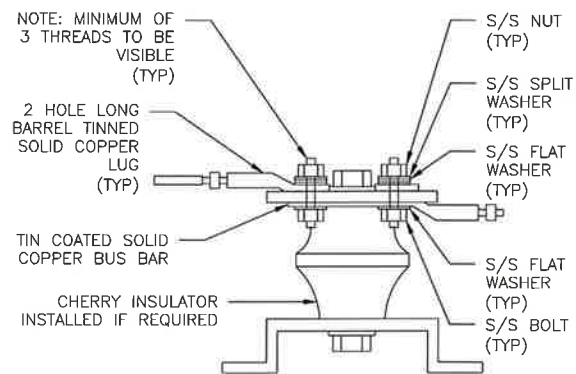
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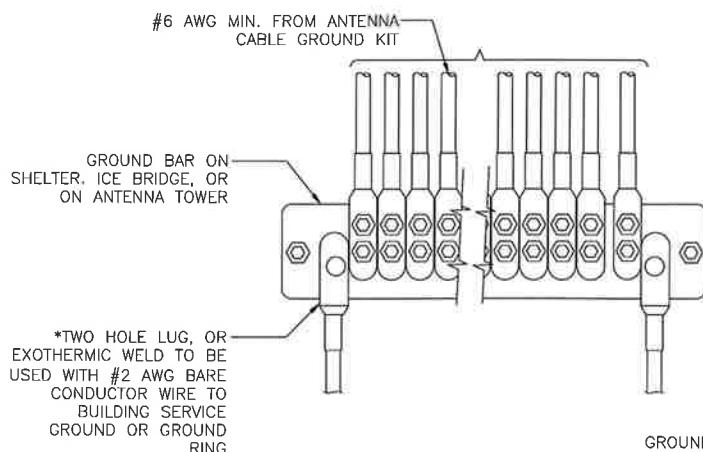
CADWELD GROUNDING CONNECTIONS

SCALE: N.T.S. 1



GROUNDING WIRE CONNECTION

SCALE: N.T.S. 4



GROUNDING SHALL BE ELIMINATED WHEN GROUND BAR IS ELECTRICALLY BONDED TO METAL TOWER

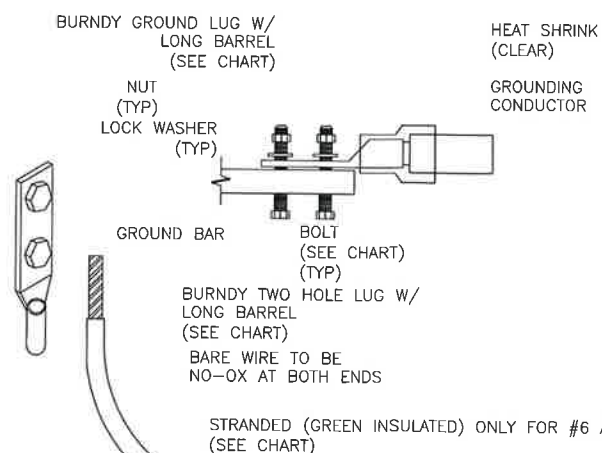
GROUNDWIRE INSTALLATION

SCALE: N.T.S. 5

GROUND CABLE CONNECTION

SCALE: N.T.S. 2

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



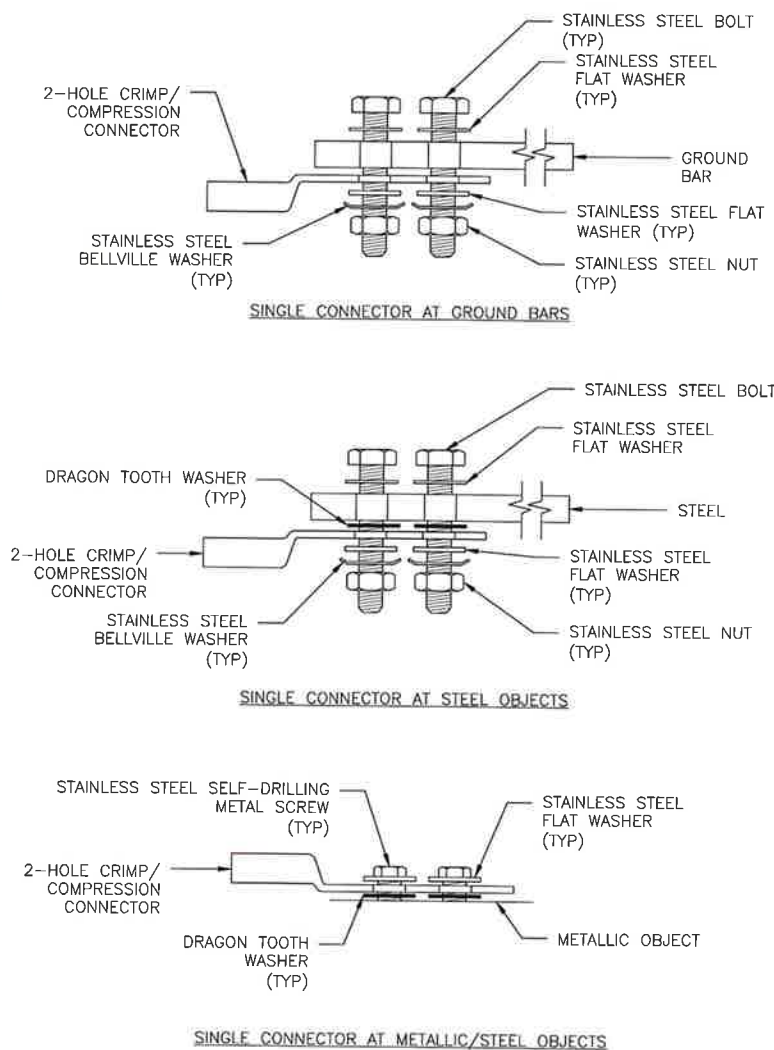
NOTES:  
 1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

MECHANICAL LUG CONNECTION

SCALE: N.T.S. 6

GROUNDING DETAIL

SCALE: N.T.S. 3



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 2084 COUNTY ROAD 27A,  
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SHEET NAME  
 GROUNDING  
 DETAILS II

SHEET NUMBER

G-2

HARDWARE DETAIL FOR EXTERIOR CONNECTIONS

SCALE: N.T.S. 7







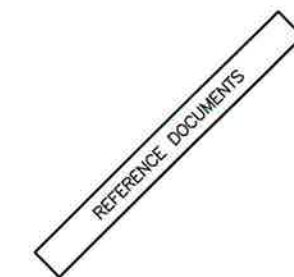
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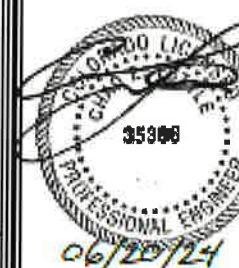
SHEET NAME  
MOUNT  
MODIFICATION  
DRAWINGS

SHEET NUMBER  
MM-2



ZOD\_CTF\_ALLTEL\_CO04  
DEER MOUNTAIN  
2084 COUNTY ROAD 27A  
COTOPAXI, CO 81223  
PREMOUNT  
EXISTING PLATFORM  
AT 47.0'

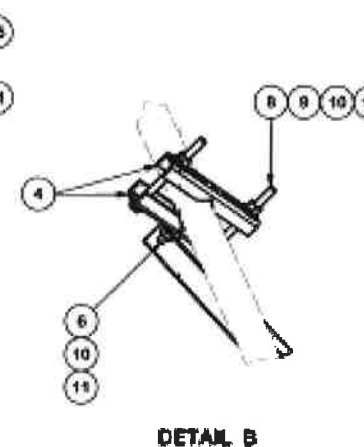
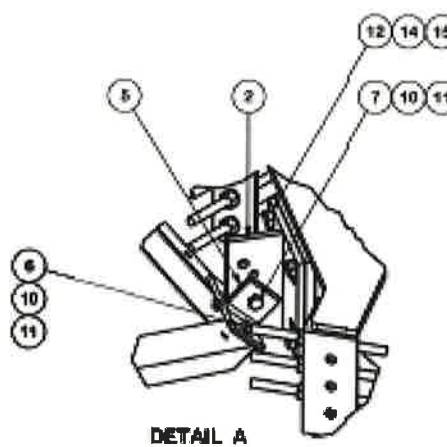
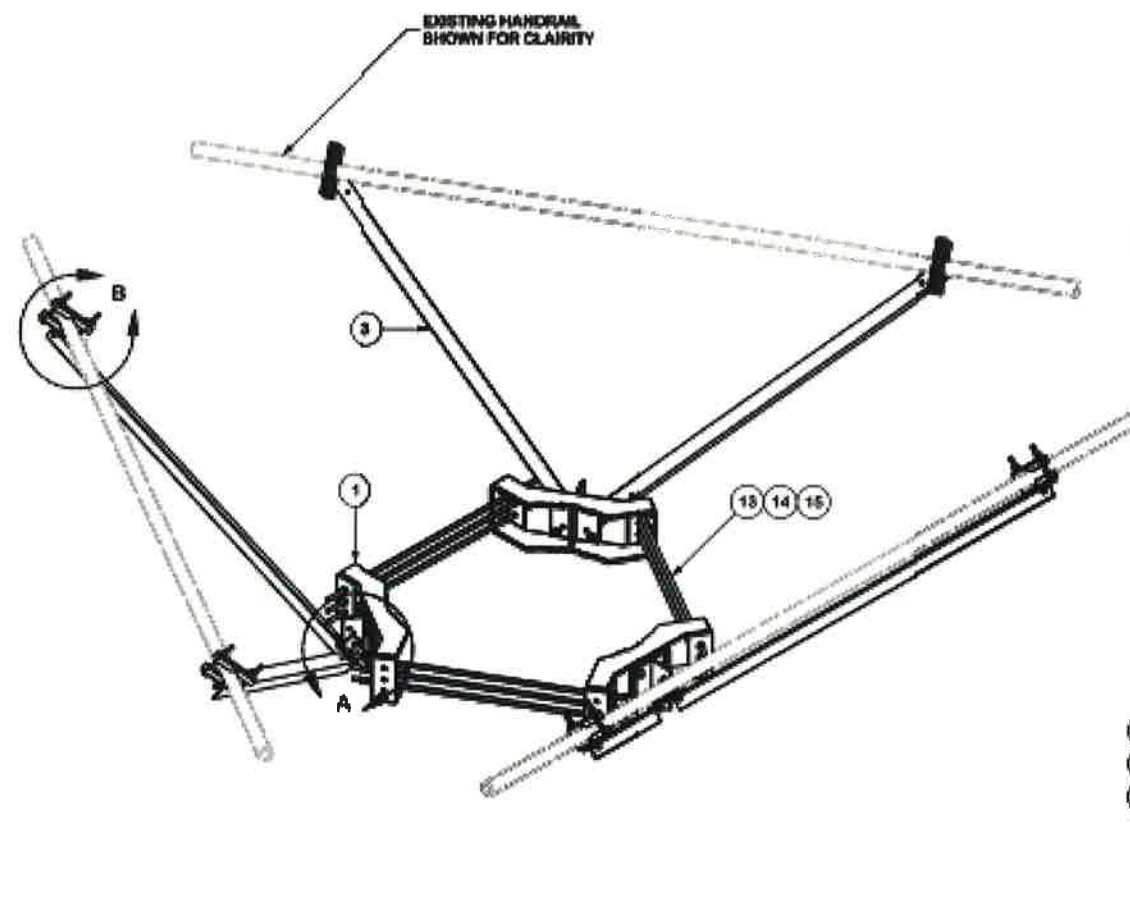
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CHECKED BY: LA  
ISSUED FOR:  
REV DATE BY DESCRIPTION  
0 06/25/24 PAB CONSTRUCTION



SCALE: AS SHOWN  
DATE: 06/25/24

SHEET NUMBER: S2  
REVISION: 0

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	LIMIT WT.	NET WT.
1	3	X-LWRM	RING MOUNT WELDMENT		68.61	206.42
2	3	X-TBW	T-BRACKET WELDMENT		13.60	40.60
3	6	X-25-4924	DIAGONAL ANGLE - SITE PRO 1	72 in	19.71	118.24
4	12	X-STU	STIFF ARM CHANNEL BRACKET	8 1/2 in	1.37	16.46
5	6	SHCM-T	CHAIN MOUNT TIGHTENER BRACKET	3 in	1.85	11.15
6	12	G12112	1/2" x 1-1/2" HDG HEX BOLT GR5	112 in	0.15	1.77
7	3	G12212	1/2" x 2-1/2" HDG HEX BOLT GR5	2 1/2 in	0.20	0.61
8	12	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	4.91
9	24	G12FW	1/2" HDG USB FLATWASHER	3/32 in	0.03	0.82
10	27	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.35
11	27	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.93
12	12	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	3.75
13	9	G58R-24	5/8" x 24" THREADED ROD (HDG.)	24 in	0.40	3.59
13	9	G58R-48	5/8" x 48" THREADED ROD (HDG.)	48 in	0.40	3.59
14	30	G58LW	5/8" HDG LOCKWASHER		0.03	0.78
15	30	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	3.05
TOTAL WT. #					642.04	



**TOLERANCE NOTES**  
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")  
DRILLED AND GAS CUT HOLES (± 0.030") - NO COING OF HOLES  
LASER CUT EDGES AND HOLES (± 0.010") - NO COING OF HOLES  
BENDS ARE ± 1/2 DEGREE  
ALL OTHER MACHINING (± 0.030")  
ALL OTHER ASSEMBLY (± 0.040")

DESCRIPTION  
HANDRAIL REINFORCEMENT KIT (LONG)



DATE: 06/25/24	DRAWN BY: C8LS	2/23/2017	ENG. APPROVAL: SRD	PART NO.: PRK-SFS-L
CLASS: 81	SCALE: 02	DRWING USAGE: SHOP	CHECKED BY: BMC	DATE: 6/8/2017
PROPERTY NOTE: THIS DWT & THE TECHNOLOGIES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF SCS SOFTWARE AND SHOULD BE KEPT IN STRICT CONFIDENCE. NO UNAUTHORIZED REPRODUCTION OR DISSEMINATION IS PERMITTED.			SHEET NO.: PRK-SFS-L	

17042004\_C04\_C02\_002.dwg - 06/25/24 - 10:00 AM - 10/25/24 - 10:00 AM - 10/25/24 - 10:00 AM



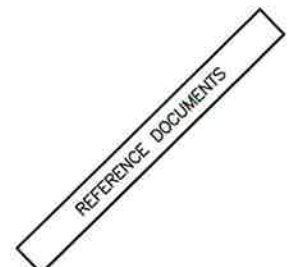
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DRAWINGS

SHEET NUMBER  
MM-3



ZOD\_CTF\_ALLTEL\_CO04  
DEER MOUNTAIN  
2084 COUNTY ROAD 27A  
COTOPAXI, CO 81223  
PROMONT  
BUILDING MATERIALS  
AT 11/24

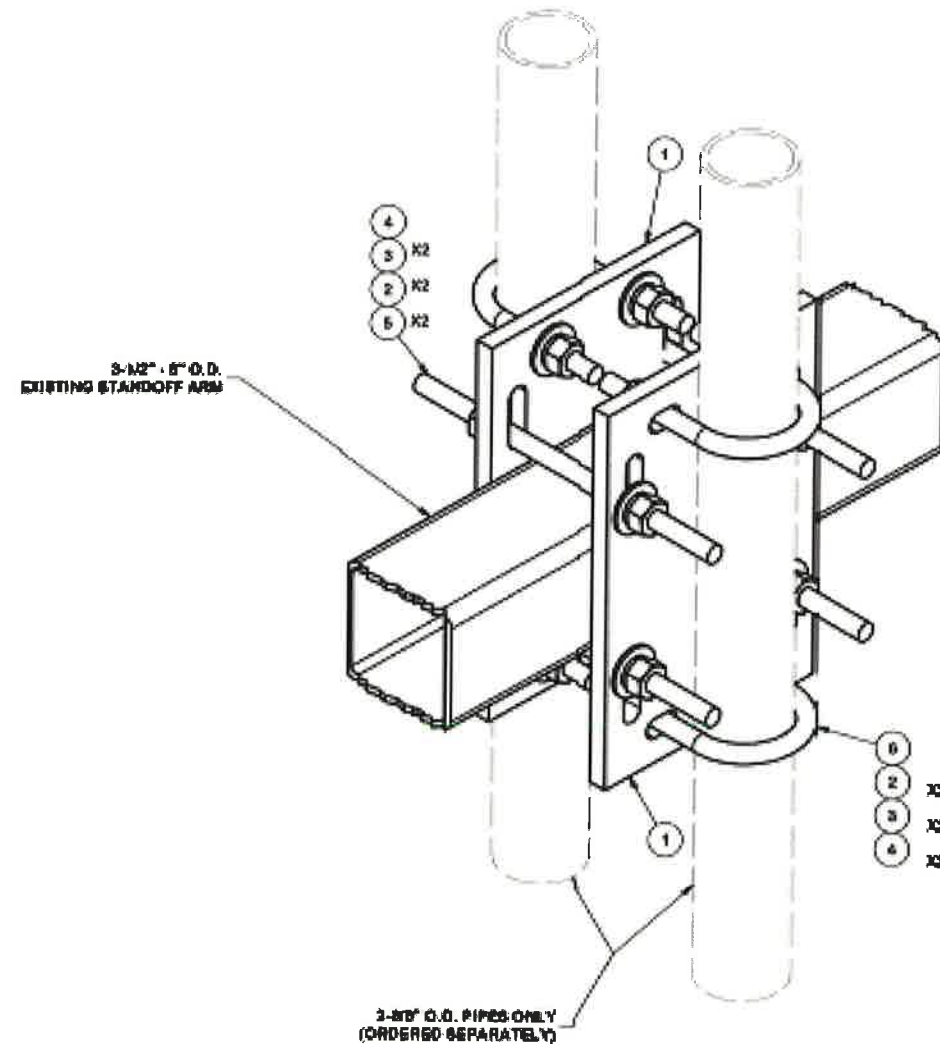
PROJECT NO. 2706256-0000  
CHECKED BY: LA

REV	DATE	ISSUED FOR
0	06/25/24	FOR CONSTRUCTION



SHEET NUMBER: S3  
REVISION: 0

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	SCW6	CROSSOVER PLATE	11 in	10.62	21.23
2	16	G12FW	1/2" HDG USS FLATWASHER		0.03	0.54
3	16	G12LW	1/2" HDG LOCKWASHER		0.01	0.22
4	16	G12NUT	1/2" HDG HEAVY ZHHEX NUT		0.07	1.14
5	4	G12R-10	1/2" x 10" THREADED ROD (HDG.)		3.23	12.91
6	4	K-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.60	2.63
					TOTAL WT. #	38.67



**TOLERANCE NOTES**  
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
SAWED, SHEARED AND GAS-CUT EDGES (+/- 0.005")  
DRILLED AND GAS CUT HOLES (+/- 0.005") - NO CONING OF HOLES  
LASER CUT EDGES AND HOLES (+/- 0.010") - NO CONING OF HOLES  
BENDS ARE ± 1/2 DEGREE  
ALL OTHER MACHINING (+/- 0.005")  
ALL OTHER ASSEMBLY (+/- 0.005")

DESCRIPTION  
BACK TO BACK  
PIPE MOUNT  
3-1/2" PIPES



DESIGNED BY CEK 4/28/2013	ENG. APPROVAL	PART NO. BBPM-K3
CHECKED BY CUSTOMER	CHECKED BY BMC 4/26/2013	DWG. NO. BBPM-K3

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