



161 INVERNESS DR W, 2ND FLOOR
ENGLEWOOD, CO 80112

AT&T SITE NAME: BLACK FOREST CO
AT&T SITE ID: COL02237
AT&T PACE NUMBER: MRUTH042457
AT&T FA CODE: 15312482
NSB - (SELF-SUPPORT TOWER)
LTE 1C/2C/3C/4C/5G NR 1SR
USID: 295098



AMERICAN TOWER®

ATC SITE NAME: BLACK FOREST
ATC SITE NUMBER: 302460
SITE ADDRESS: 4590 HODGEN RD
COLORADO SPRINGS, CO 80908
(EL PASO COUNTY)



LOCATION MAP



161 INVERNESS DR W, 2ND FLOOR
ENGLEWOOD, CO 80112



AMERICAN TOWER®
19100 VON KARMAN AVE
SUITE 200
IRVINE, CA 92612



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

AT&T SITE ID: COL02237
AT&T FA CODE: 15312482
AT&T PACE #: MRUTH042457
ATC #: 302460
BLACK FOREST

4590 HODGEN RD
COLORADO SPRINGS, CO 80908
(EL PASO COUNTY)

EXISTING 170'-0" W/ 20'
EXTENSION
SELF-SUPPORT TOWER
NSB - LTE - 1C/2C/3C/4C/5G NR
1SR

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	RRG	PRELIMINARY	EGG
B	12-10-20	CBM	90% CONSTRUCTION	EGG
C	02-17-21	BCL	90% CONSTRUCTION	EGG

SEAL:



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

SHEET TITLE:
TITLE SHEET

SHEET NUMBER: T-1
REVISION: C

TEP #: 85172.243629

*LATITUDE N 39° 4' 16.18" (39.07116°)
*LONGITUDE W 104° 44' 35.53" (-104.7432°)
*GROUND ELEV. (AMSL) = 7,625'±
*INFORMATION PROVIDED BY ATC

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

1. INTERNATIONAL BUILDING CODE (2015 EDITION)	4. NATIONAL ELECTRIC CODE (2017 EDITION)
2. INTERNATIONAL CODE COUNCIL	5. LOCAL BUILDING CODE
3. ANSI/TIA/EIA-222-H	6. CITY/COUNTY ORDINANCES

POWER COMPANY: MOUNTAIN VIEW ELECTRIC
CONTACT: CUSTOMER SERVICE
PHONE: (800) 388-9881
METER # NEAR SITE: 69 712 849

TELEPHONE COMPANY: CENTURY LINK
CONTACT: CUSTOMER SERVICE
PHONE: (800) 784-3414
PHONE # NEAR SITE: (719) 337-8124
PEDESTAL # NEAR SITE: UNKNOWN

I-25 EXIT 161, GO EAST ON HWY 105, SOUTH ON HWY 83, EAST ON HODGEN ROAD TO SITE.

TOWER COORDINATES

CODE COMPLIANCE

AT&T SITE NAME: BLACK FOREST CO	PROJECT DESCRIPTION: COLLOCATION
AT&T SITE ID: COL02237	TOWER TYPE: 170' SELF-SUPPORT TOWER W/ 20' TOWER EXTENSION
FA: 15312482	JURISDICTION: EL PASO COUNTY
PACE NUMBER: MRUTH042457	LEASE AREA: 300 SQ FT
ATC SITE NAME: BLACK FOREST	CURRENT ZONING: RR-5
ATC SITE NUMBER: 302460	

UTILITY INFORMATION

DESIGN PACKAGE BASED ON RF DATA SHEET
RFDS NAME: COL02237
REVISION: V1.00
ISSUED: 9/21/20 5:35:48 P.M.
DATE UPDATED: 10/14/2020 3:55:55 P.M.

NUMBER OF SECTORS: 3
NUMBER OF ANTENNAS: 6
NUMBER OF TMAs: 0
NUMBER OF RRHS: 9
NUMBER OF DC SQUIDS: 3
NUMBER OF FIBER TRUNK CABLES: 3
NUMBER OF DC TRUNK CABLES: 6
NUMBER OF RF CABLES: 0

RFDS DATA

THE PURPOSE OF THIS PROJECT IS AS FOLLOWS:

TOWER SCOPE OF WORK:

- INSTALL (6) ANTENNAS
- INSTALL (9) RRHS
- INSTALL (3) SQUIDS
- INSTALL (3) FIBER TRUNKS
- INSTALL (6) DC TRUNKS
- INSTALL (1) CABLE LADDER
- INSTALL (1) TOWER EXTENSION

GROUND SCOPE OF WORK:

- INSTALL (1) W.I.C. SHELTER PAD
- INSTALL (1) GENERATOR PAD
- INSTALL (1) W.I.C. SHELTER
- INSTALL (1) GENERATOR
- INSTALL (1) H-FRAME
- INSTALL METER
- INSTALL DISCONNECT
- INSTALL FIBER BOX

NSB - 170' SELF-SUPPORT TOWER
LTE - 1C/2C/3C/4C/5G NR 1SR

SCOPE OF WORK

DRIVING DIRECTIONS

JURISDICTIONAL APPROVAL

DO NOT SCALE DRAWINGS.

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

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.

Approved
By: Craig Dossey, Executive Director
Date: 04/19/2021
El Paso County Planning & Community Development

GENERAL NOTES

PROJECT INFORMATION

SITE CONSTRUCTION MANAGER:

NAME: AT&T
ADDRESS: 161 INVERNESS DR W, 2ND FLOOR
CITY, STATE, ZIP: ENGLEWOOD, CO 80112
CONTACT: REID POST
PHONE: (720) 838-4228

SITE APPLICANT:

NAME: AT&T
ADDRESS: 4393 S RIVERBOAT RD, 4TH FLOOR
CITY, STATE, ZIP: SALT LAKE CITY, UT 84123
CONTACT: JAN ROBINETTE
PHONE: (801) 201-4173

CIVIL ENGINEER:

NAME: TOWER ENGINEERING PROFESSIONALS
ADDRESS: 326 TRYON ROAD
CITY, STATE, ZIP: RALEIGH, NC 27803
CONTACT: GRAHAM M. ANDRES, P.E.
PHONE: (919) 661-6351

ELECTRICAL ENGINEER:

NAME: TOWER ENGINEERING PROFESSIONALS
ADDRESS: 326 TRYON ROAD
CITY, STATE, ZIP: RALEIGH, NC 27803
CONTACT: GRAHAM M. ANDRES, P.E.
PHONE: (919) 661-6351

PROPERTY OWNER:

NAME: AMERICAN TOWER ASSET SUB LLC
ADDRESS: 4590 HODGEN RD
CITY, STATE, ZIP: COLORADO SPRINGS, CO 80908

PROJECT TEAM

SHEET:	DESCRIPTION:	REV
T-1	TITLE SHEET	C
T-2	GENERAL NOTES	C
S-1	SITE SURVEY I	C
S-2	SITE SURVEY II	C
C-1	COMPOUND DETAIL	C
C-2	EQUIPMENT & ANTENNA LAYOUTS	C
C-3	EXISTING AND FINAL ELEVATIONS	C
C-4	EQUIPMENT DETAILS	C
C-5	EQUIPMENT DETAILS	C
C-6	WIC SHELTER DETAILS	C
C-7	GENERATOR DETAILS	C
C-8	FOUNDATION DETAILS	C
E-1	ELECTRICAL PANEL & GROUNDING PLANS	C
E-2	ONE-LINE DIAGRAM	C
E-3	DC SYSTEM DETAILS	C
E-4	FIBER ROUTING PLAN	C
G-1	GROUNDING DETAILS	C
G-2	GROUNDING DETAILS	C

SHEET INDEX

GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, AT&T "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
 - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
 - B. AC/TELCO INTERFACE BOX (PPC)
 - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
 - D. TOWERS, MONOPOLES
 - E. TOWER LIGHTING
 - F. GENERATORS & LIQUID PROPANE TANK
 - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
 - H. ANTENNAS (INSTALLED BY OTHERS)
 - I. TRANSMISSION LINE
 - J. TRANSMISSION LINE JUMPERS
 - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
 - L. TRANSMISSION LINE GROUND KITS
 - M. HANGERS
 - N. HOISTING GRIPS
 - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF AT&T TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE AT&T REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE AT&T REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE AT&T REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE AT&T CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE AT&T REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH ##### AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY AT&T MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH AT&T SPECIFICATIONS AND REQUIREMENTS.

24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO AT&T FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO AT&T SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.

26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

27. CONTRACTOR SHALL NOTIFY AT&T REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.

28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.

29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.

30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE AT&T REP. ANY WORK FOUND BY THE AT&T REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.

31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

32. AT&T FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE AT&T WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.

33. AT&T OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO AT&T OR THEIR ARCHITECT/ENGINEER.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
 - A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
 - B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
 - C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
 - D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
 - E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
 - A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
 - B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
 - C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
 - D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
 - E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.

F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.

G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

H. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.

I. ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND AT&T PROJECT MANAGER IN WRITING

SPECIAL CONSTRUCTION ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:
 - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY AT&T UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL AND
 - B. INSTALL ANTENNA AS INDICATE ON DRAWINGS AND AT&T SPECIFICATIONS.
 - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS
 - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT TEST.
 - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.

F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE NOTED.

G. ANTENNA AND COAXIAL CABLE GROUNDING:

2. ALL EXTERIOR #6 GREED GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPICE WEATHERPROOFING KIT #221213 OR EQUAL.
3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

CONCRETE AND REINFORCING STEEL NOTES:

1. DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CONFORM TO THE LATEST EDITIONS OF ALL APPLICABLE CODES INCLUDING: ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", ACI 117 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS", AND ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
2. MIX DESIGN SHALL BE APPROVED BY AT&T REP PRIOR TO PLACING CONCRETE.
3. CONCRETE SHALL BE NORMAL WEIGHT, 6 % AIR ENTRAINED (+/- 1.5%) WITH A SLUMP RANGE OF 3-6" AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI UNLESS OTHERWISE NOTED.
4. THE FOLLOWING MATERIALS SHALL BE USED:

PORTLAND CEMENT:	ASTM C150, TYPE 2
REINFORCEMENT:	ASTM A185, PLAIN STEEL WELDED WIRE FABRIC
REINFORCEMENT BARS:	ASTM A615, GRADE 60, DEFORMED
NORMAL WEIGHT AGGREGATE:	ASTM C33
WATER:	ASTM C 94/C 94M
WELDED WIRE FABRIC:	ASTM A185
ADMIXTURES:	
-WATER-REDUCING AGENT:	ASTM C 494/C 494M, TYPE A
-AIR-ENTERING AGENT:	ASTM C 260/C 260M
-SUPERPLASTICIZER:	ASTM C494, TYPE F OR TYPE G
-RETARDING:	ASTM C 494/C 494M, TYPE B
5. MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE NO LESS THAN 3".
6. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE IN ACCORDANCE WITH ACI 301 SECTION 4.2.4, UNLESS NOTED OTHERWISE.
7. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL, OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR APPROVAL FROM AN ATC ENGINEER WHEN DRILLING HOLES IN CONCRETE.
8. ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDARD AS REFERENCED IN "METHOD 1" OF ACI 301.
9. DO NOT WELD OR TACK WELD REINFORCING STEEL.
10. ALL DOWELS, ANCHOR BOLTS, EMBEDDED STEEL, ELECTRICAL CONDUITS, PIPE SLEEVES, GROUNDS AND ALL OTHER EMBEDDED ITEMS AND FORMED DETAILS SHALL BE IN PLACE BEFORE START OF CONCRETE PLACEMENT.

11. REINFORCEMENT SHALL BE COLD BENT WHENEVER BENDING IS REQUIRED.

12. DO NOT PLACE CONCRETE IN WATER, ICE, OR ON FROZEN GROUND.

13. FOR COLD-WEATHER (ACI 308) AND HOT-WEATHER (ACI 301M) CONCRETE PLACEMENT, CONFORM TO APPLICABLE ACI CODES AND RECOMMENDATIONS. IN EITHER CASE, MATERIALS CONTAINING CHLORIDE, CALCIUM, SALTS, ETC. SHALL NOT BE USED. PROTECT FRESH CONCRETE FROM WEATHER FOR 7 DAYS, MINIMUM.

14. ALL CONCRETE SHALL HAVE A "SMOOTH FORM FINISH."

15. SPLICING OF REINFORCEMENT IS PERMITTED ONLY AT LOCATIONS SHOWN IN THE CONTRACT DRAWINGS OR AS ACCEPTED BY THE ENGINEER. UNLESS OTHERWISE SHOWN OR NOTED REINFORCING STEEL SHALL BE SPLICED TO DEVELOP ITS FULL TENSILE CAPACITY (CLASS A) IN ACCORDANCE WITH ACI 318.

16. DETAILING OF REINFORCING STEEL SHALL CONFORM TO "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315).

17. ALL SLAB CONSTRUCTION SHALL BE CAST MONOLITHICALLY WITHOUT HORIZONTAL CONSTRUCTION JOINTS, UNLESS SHOWN IN THE CONTRACT DRAWINGS.

18. LOCATION OF ALL CONSTRUCTION JOINTS ARE SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, CONFORMANCE WITH ACI 318, AND ACCEPTANCE OF THE ENGINEER. DRAWINGS SHOWING LOCATION OF DETAILS OF THE PROPOSED CONSTRUCTION JOINTS SHALL BE SUBMITTED WITH REINFORCING STEEL PLACEMENT DRAWINGS.

19. SPLICES OF WWF AT ALL SPLICED EDGES, SHALL BE SUCH THAT THE OVERLAP MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH FABRIC SHEET IS NOT LESS THAN THE SPACING OF THE CROSS WIRE PLUS 2 INCHES, NOR LESS THAN 6".

20. BAR SUPPORTS SHALL BE ALL-GALVANIZED METAL WITH PLASTIC TIPS.

21. ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE TO PREVENT DISPLACEMENT BY CONSTRUCTION TRAFFIC OR CONCRETE. THE WIRE SHALL BE OF SUFFICIENT STRENGTH FOR INTENDED PURPOSE, BUT NOT LESS THAN NO. 18 GAUGE.

22. SLAB ON GROUND: COMPACT STRUCTURAL FILL TO 95% DENSITY AND THEN PLACE 6" GRAVEL BENEATH SLAB.

ELECTRICAL NOTES:

1. ELECTRICAL DESIGN SHALL BE PERFORMED BY ELECTRICAL CONTRACTOR. STRUCTURAL DESIGN SHALL BE PERFORMED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL ENSURE THAT ALL WORK COMPLIES WITH ALL APPLICABLE LOCAL AND STATE CODES AND NATIONAL ELECTRICAL CODE.
2. ALL SUGGESTED ELECTRICAL ELEMENTS (SUCH AS BREAKER SIZES, WIRE SIZES, CONDUITS SIZES ARE FOR ZONING PURPOSES ONLY. IT IS THE RESPONSIBILITY TO OF THE ELECTRICAL CONTRACTOR TO CONFIRM COMPLIANCE WITH LOCAL ELECTRICAL CODES AND PASS ALL APPLICABLE AND NECESSARY INSPECTIONS. IN SOME EVENTS, IT MAY BE NECESSARY TO PERFORM AN ELECTRICAL LOAD STUDY TO VERIFY THE CAPACITY OF THE EXISTING SERVICE. THIS IS NOT THE RESPONSIBILITY OF CONCORDIA. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. CONTRACTOR SHALL FIELD LOCATE ALL BELOW GRADE GROUND LINES AND UTILITY LINES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF ALL UTILITIES AND GROUND LINES THAT MAY BECOME DISTURBED OR CONFLICTING IN THE COURSE OF CONSTRUCTION.

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.



AT&T SITE ID: COL02237
AT&T FA CODE: 15312482
AT&T PACE #: MRUTH042457
ATC #: 302460
BLACK FOREST

4590 HODGEN RD
COLORADO SPRINGS, CO 80908
(EL PASO COUNTY)

EXISTING 170'-0" W/ 20'
EXTENSION
SELF-SUPPORT TOWER
NSB - LTE - 1C/2C/3C/4C/5G NR
1SR

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	RRG	PRELIMINARY	EGG
B	12-10-20	CBM	90% CONSTRUCTION	EGG
C	02-17-21	BCL	90% CONSTRUCTION	EGG

SEAL:

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SHEET TITLE:

GENERAL NOTES

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

TEP #: 85172.243629

NOTE:

SHOWN BELOW WAS PROVIDED BY AMERICAN TOWER CORPORATION AND IS FOR REFERENCE ONLY.

PROJECT SUMMARY

FIELD SURVEY DATE: 11/19/2020
 SITE ADDRESS: 4590 HODGEN ROAD, COLORADO SPRINGS, COLORADO 80908-3006
 PARENT PARCEL INFORMATION: AMERICAN TOWER ASSET SUB, LLC
 OWNER: AMERICAN TOWER ASSET SUB, LLC
 OWNER ADDRESS: P.O. BOX 72399, ATLANTA, GEORGIA 31139-0997
 PIN (ASSESSOR SCHEDULE NO.): 610000508
 RECORDED AS INSTRUMENT NO. 207124618
 TOTAL AREAS: ATC FEE PARCEL AS PROVIDED: 53,981.29 SQ FT OR 1.2392 ACRES
 ATC FEE PARCEL AS SURVEYED: 53,980.29 SQ FT OR 1.2391 ACRES
 GEOGRAPHIC COORDINATES OF TOWER: LATITUDE: 39°04'16.17" N, LONGITUDE: 104°44'35.5" W
 VERTICAL DATUM: NAVD 1988, HORIZONTAL DATUM: NAD83
 GROUND ELEVATION: 7678.91
 BEARINGS AND COORDINATES ARE BASED ON COLORADO STATE PLANE AT GROUND, CENTRAL ZONE, FROM GPS OBSERVATION.
 FLOODPLAIN: PER THE FEMA FLOODPLAIN MAPS, THE SITE IS LOCATED IN AN AREA DESIGNATED AS ZONE X, AND IS NOT IN A SPECIAL FLOOD HAZARD AREA. COMMUNITY PANEL NUMBER: 8041C03050, DATED: 12/07/2018
 ENCROACHMENT STATEMENT: AT THE TIME OF THIS SURVEY, NO VISIBLE ENCROACHMENTS WERE EVIDENT ONTO OR BEYOND THE ATC FEE PARCEL, AND THE ATC FEE PARCEL DID NOT ENCROACH OUTSIDE THE DESCRIBED BOUNDARY.

SURVEYOR'S NOTES

- THERE IS DIRECT ACCESS TO THE ATC FEE PARCEL FROM HODGEN ROAD, A PUBLIC RIGHT-OF-WAY; THEREFORE, AN ACCESS EASEMENT IS NOT NECESSARY.
- THE LOCATIONS OF ALL UTILITIES SHOWN ON THE SURVEY ARE FROM VISIBLE SURFACE EVIDENCE ONLY.
- AT THE TIME OF THIS SURVEY THERE WAS NO OBSERVABLE SURFACE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WITHIN RECENT MONTHS.
- AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF THE SUBJECT PROPERTY BEING USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.
- AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT CHANGES IN STREET RIGHT-OF-WAY LINES EITHER COMPLETED OR PROPOSED, AND AVAILABLE FROM THE CONTROLLING JURISDICTION.
- AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.
- THIS SURVEY WAS PREPARED TO SHOW THE INTERESTS OF AMERICAN TOWER CORPORATION AND IMPROVEMENTS PROXIMAL TO SAID INTERESTS.
- ALL CALLS ARE MEASURED UNLESS OTHERWISE NOTED.
- UNLESS OTHERWISE SPECIFIED, UTILITY POLES DID NOT IDENTIFY OWNERSHIP.
- AT THE TIME OF SURVEY, THERE WAS NO VISIBLE EVIDENCE OF UTILITIES OUTSIDE THE ATC FEE PARCEL OR PUBLIC RIGHT-OF-WAY SERVING THE ATC FEE PARCEL. THEREFORE, UNABLE TO PROVIDE AN AS SURVEYED UTILITY EASEMENT DESCRIPTION.

ZONING INFORMATION

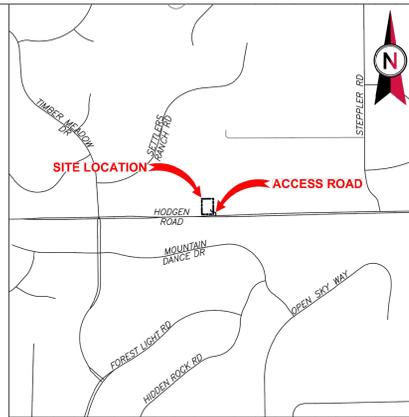
ZONING INFORMATION NOT PROVIDED AT TIME OF SURVEY.
 CONTACT: EL PASO COUNTY PLANNING AND DEVELOPMENT, 2860 INTERNATIONAL CIRCLE, SUITE 110, COLORADO SPRINGS, COLORADO 80910, (719) 520-6300

LEGAL DESCRIPTIONS

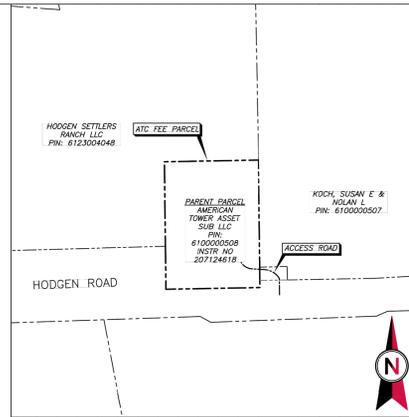
ATC FEE PARCEL - AS PROVIDED (PER QUITCLAIM DEED RECORDED 09/25/2007 AS INSTRUMENT NO. 207124618):
 A PARCEL OF LAND BEING A PORTION OF THE SOUTHWEST ONE-QUARTER OF SECTION 23, TOWNSHIP 11 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO MORE PARTICULARLY DESCRIBED AS FOLLOWS:
 COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 23; THENCE SOUTH 89°25'33" WEST ALONG THE SOUTH LINE OF THE SOUTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER OF SAID SECTION 23 A DISTANCE OF 1338.64 FEET TO THE SOUTHWEST CORNER OF THE SOUTHWEST ONE-QUARTER OF SAID SECTION 23; THENCE NORTH 00°14'39" WEST ALONG THE EAST LINE OF THE SOUTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER OF SAID SECTION 23 A DISTANCE OF 30.00 FEET TO THE TRUE POINT OF BEGINNING; SAID POINT BEING ON THE NORTH RIGHT-OF-WAY LINE OF HODGEN ROAD AS DESCRIBED IN BOOK 571 AT PAGE 419 OF SAID EL PASO COUNTY RECORDS; THENCE SOUTH 89°25'33" WEST ALONG THE NORTH RIGHT-OF-WAY OF SAID HODGEN ROAD A DISTANCE OF 200.06 FEET; THENCE NORTH 00°13'03" WEST A DISTANCE OF 269.91 FEET; THENCE NORTH 89°26'09" EAST A DISTANCE OF 199.91 FEET TO A POINT ON THE EAST LINE OF THE SOUTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER OF SAID SECTION 23; THENCE SOUTH 01°14'59" EAST ALONG THE EAST LINE OF THE SOUTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER OF SECTION 23 A DISTANCE OF 269.94 FEET TO THE TRUE POINT OF BEGINNING.
 CONTAINING 53,981 SQUARE FEET OR 1.2392 ACRES MORE OR LESS.
 ATC FEE PARCEL - AS SURVEYED:
 A PARCEL OF LAND WITHIN THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER (SW1/4 SE1/4) OF SECTION 23, TOWNSHIP 11 SOUTH, RANGE 66 WEST OF THE SIXTH P.M., EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
 COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 23; THENCE NORTH 89°25'33" WEST ALONG THE SOUTH LINE OF SAID SECTION 23, 4015.64 FEET TO THE SOUTHWEST CORNER OF SAID SW1/4 SE1/4; THENCE NORTH 48°43'30" EAST A DISTANCE OF 30.00 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE FOR HODGEN ROAD AND THE POINT OF BEGINNING; THENCE SOUTH 89°26'09" WEST ALONG SAID RIGHT-OF-WAY, 200.06 FEET; THENCE NORTH 00°13'03" WEST, 199.91 FEET; THENCE SOUTH 01°14'59" EAST, 269.94 FEET TO THE POINT OF BEGINNING.
 CONTAINING A TOTAL CALCULATED AREA OF 53,980.29 SQUARE FEET OR 1.2391 ACRES, MORE OR LESS.
 (NOTE: THE FEE PARCEL AS SURVEYED IS THE SAME AS THE PROVIDED, EXCEPT ITS POSITION HAS BEEN CALCULATED FROM THE FOUND MONUMENT AT THE SOUTHWEST CORNER OF SECTION 23, T11S-66W, RATHER THAN THE SOUTHWEST CORNER OF SAID SECTION. THE PARCEL HAS BEEN ROTATED COUNTER-CLOCKWISE 00°28'29" BASED ON OBSERVED BEARINGS ALONG THE SOUTH LINE OF SECTION 23. TOTAL AREA IS CALCULATED IN CAD.)

NOTES CORRESPONDING TO TITLE COMMITMENT

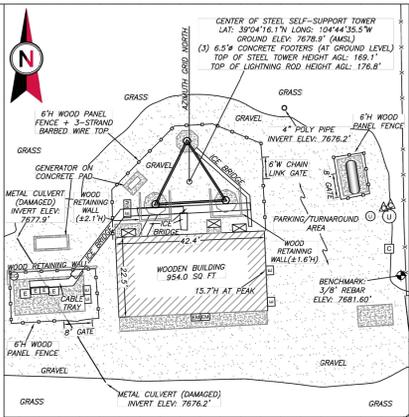
SURVEY PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT.



1 VICINITY MAP



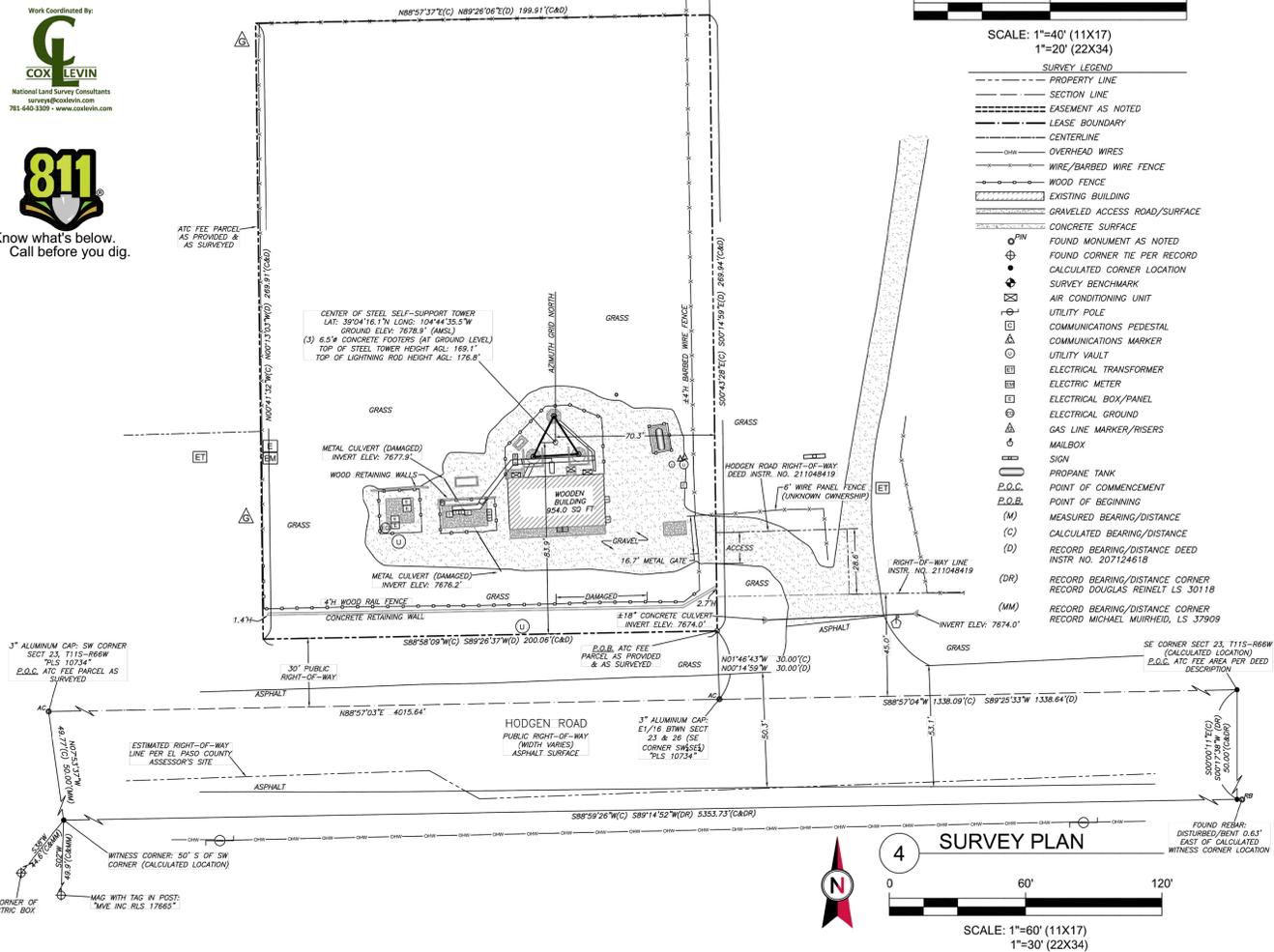
2 PARENT PARCEL



3 COMPOUND DETAIL



Know what's below. Call before you dig.



4 SURVEY PLAN

AMERICAN TOWER
ATC TOWER SERVICES, INC.
 3500 REGENCY PARKWAY, SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 FAX: (919) 466-5415

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OR SERVICE ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER. THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF AMERICAN TOWER WHETHER OR NOT THE PROJECT IS EXECUTED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

PRELIM	HH	11/30/2020
CLIENT COMMENTS	HH	12/07/2020

ATC SITE NUMBER:
302460
 ATC SITE NAME:
BLACK FOREST
 SITE ADDRESS:
 4590 HODGEN ROAD
 COLORADO SPRINGS, COLORADO
 80908-3006

SURVEY CERTIFICATE:
 THIS IS TO CERTIFY THAT ARROW SURVEY GROUP, INC., AT THE REQUEST AND FOR THE EXCLUSIVE USE OF AMERICAN TOWER CORP. AND NAME OF TITLE COMPANY, HAS PERFORMED THIS AS-BUILT SURVEY OF THE ATC LEASE AREA, FROM THE RECORD SOURCES AND ACTUAL FIELD SURVEY ON 11/19/2020 IN ACCORDANCE WITH THE MINIMUM STANDARDS OF PROPERTY BOUNDARY SURVEYS. ALL LINEAR AND ANGULAR VALUES SHOWN ARE BASED UPON DEED OR RECORD INFORMATION UNLESS OTHERWISE NOTED.

DATE OF PLAT: 12/07/2020
 NAME: JASON D. LEVANEN
 CO LICENSE NO. 38159

Arrow
 Survey Group, Inc.
 Sheridan, WY 82801 (307) 751-7543

DRAWN BY: HH
 APPROVED BY: JL
 DATE DRAWN: 12/07/2020
 ATC JOB NO: 302460

AS-BUILT/TITLE & BOUNDARY PLAN
 SHEET NUMBER: **V-101**
 REVISION: **1**

AT&T
 161 INVERNESS DR W, 2ND FLOOR
 ENGLEWOOD, CO 80112

AMERICAN TOWER
 19100 VON KARMAN AVE
 SUITE 200
 IRVINE, CA 92612

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

AT&T SITE ID: COL02237
AT&T FA CODE: 15312482
AT&T PACE #: MRUTH042457
ATC #: 302460
BLACK FOREST

4590 HODGEN RD
COLORADO SPRINGS, CO 80908
(EL PASO COUNTY)

EXISTING 170'-0" W/ 20'
EXTENSION
SELF-SUPPORT TOWER
NSB - LTE - 1C/2C/3C/4C/5G NR
1SR

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	RRG	PRELIMINARY	EGG
B	12-10-20	CBM	90% CONSTRUCTION	EGG
C	02-17-21	BCL	90% CONSTRUCTION	EGG

SEAL:

PRELIMINARY
 DO NOT BE USED FOR CONSTRUCTION

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SHEET TITLE:
SITE SURVEY I

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

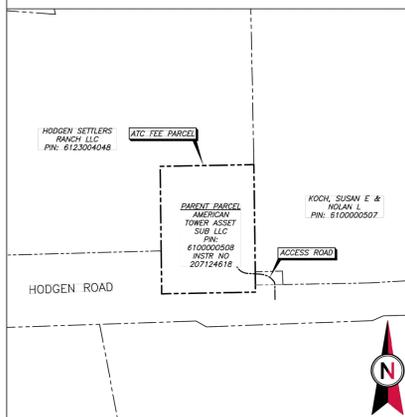
TEP #: 85172.243629

NOTE:

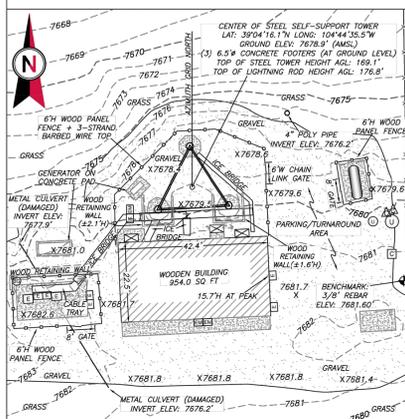
SHOWN BELOW WAS PROVIDED BY AMERICAN TOWER CORPORATION AND IS FOR REFERENCE ONLY.

PROJECT SUMMARY

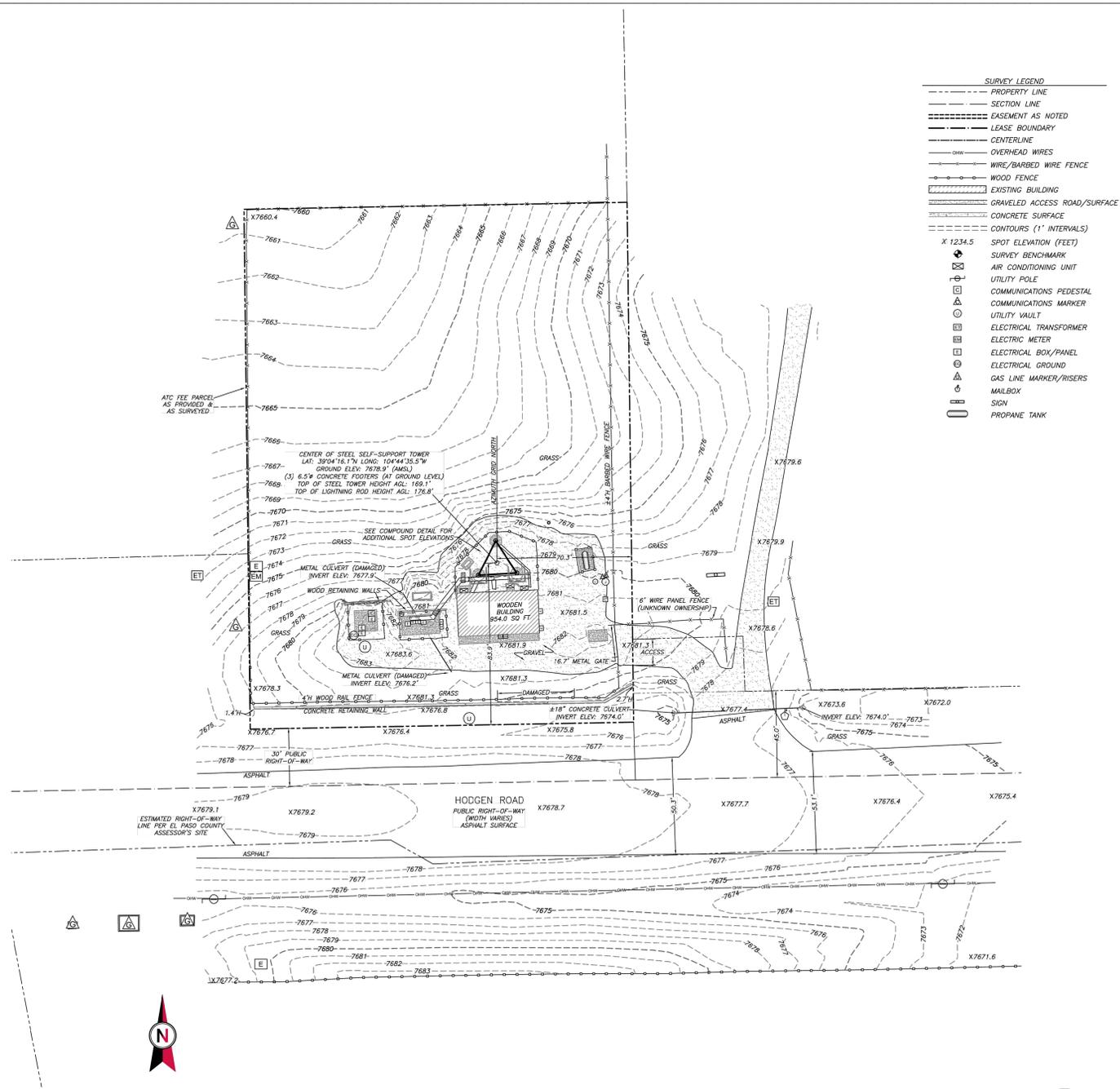
FIELD SURVEY DATE: 11/19/2020
 SITE ADDRESS: 4590 HODGEN ROAD
 COLORADO SPRINGS, COLORADO 80908-3008
 PARENT PARCEL INFORMATION
 OWNER: AMERICAN TOWER ASSET SUB, LLC
 OWNER ADDRESS: P.O. BOX 72399
 ATLANTA, GEORGIA 31139-0597
 PIN (ASSESSOR SCHEDULE NO.): 8100000508
 RECORDED AS INSTRUMENT NO. 207124618
 TOTAL AREAS
 ATC FEE PARCEL AS PROVIDED: 53,861 SQ FT OR 1.23924 ACRES
 ATC FEE PARCEL AS SURVEYED: 53,860.29 SQ FT OR 1.2389 ACRES
 GEOGRAPHIC COORDINATES OF TOWER:
 LATITUDE: 39°04'16.1" N LONGITUDE: 104°44'35.5" W
 VERTICAL DATUM: NAVD 1988 HORIZONTAL DATUM: NAD83
 GROUND ELEVATION: 7678.9'
 BEARINGS AND COORDINATES ARE BASED ON COLORADO STATE PLANE AT GROUND, CENTRAL ZONE, FROM GPS OBSERVATION.
 FLOODPLAIN:
 PER THE FEMA FLOODPLAIN MAPS, THE SITE IS LOCATED IN AN AREA DESIGNATED AS ZONE X, AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.
 COMMUNITY PANEL NUMBER: 68041C0305G
 DATED: 12/07/2018
 ENCROACHMENT STATEMENT
 AT THE TIME OF THE SURVEY, NO VISIBLE ENCROACHMENTS WERE EVIDENT ONTO OR BEYOND THE ATC FEE PARCEL, AND THE ATC FEE PARCEL DID NOT ENCROACH OUTSIDE THE DESCRIBED BOUNDARY.



1 PARENT PARCEL



2 COMPOUND DETAIL



3 EXISTING CONDITIONS PLAN

- SURVEY LEGEND**
- PROPERTY LINE
 - SECTION LINE
 - EASEMENT AS NOTED
 - LEASE BOUNDARY
 - CENTERLINE
 - OVERHEAD WIRES
 - WIRE/BARBED WIRE FENCE
 - WOOD FENCE
 - EXISTING BUILDING
 - GRAVELED ACCESS ROAD/SURFACE
 - CONCRETE SURFACE
 - CONTOURS (1' INTERVALS)
 - X 1234.5 SPOT ELEVATION (FEET)
 - ⊕ SURVEY BENCHMARK
 - ⊕ AIR CONDITIONING UNIT
 - ⊕ UTILITY POLE
 - ⊕ COMMUNICATIONS PEDESTAL
 - ⊕ COMMUNICATIONS MARKER
 - ⊕ UTILITY VAULT
 - ⊕ ELECTRICAL TRANSFORMER
 - ⊕ ELECTRIC METER
 - ⊕ ELECTRICAL BOX/PANEL
 - ⊕ ELECTRICAL GROUND
 - ⊕ GAS LINE MARKER/RISERS
 - ⊕ MAILBOX
 - ⊕ PROPANE TANK

AMERICAN TOWER
ATC TOWER SERVICES, INC.
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
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PRELIM	HH	11/30/2020
CLIENT COMMENTS	HH	12/07/2020

ATC SITE NUMBER:
302460
 ATC SITE NAME:
BLACK FOREST
 SITE ADDRESS:
 4590 HODGEN ROAD
 COLORADO SPRINGS, COLORADO
 80908-3006

SURVEY CERTIFICATE:
 THIS IS TO CERTIFY THAT ARROW SURVEY GROUP, INC., AT THE REQUEST AND FOR THE EXCLUSIVE USE OF AMERICAN TOWER CORP. AND NAME OF TITLE COMPANY, HAS PERFORMED THIS AS-BUILT SURVEY OF THE ATC LEASE AREA, FROM THE RECORD SOURCES AND ACTUAL FIELD SURVEY ON 11/19/2020 IN ACCORDANCE WITH THE MINIMUM STANDARDS OF PROPERTY BOUNDARY SURVEYS. ALL LINEAR AND ANGULAR VALUES SHOWN ARE BASED UPON DEED OR RECORD INFORMATION UNLESS OTHERWISE NOTED.

DATE OF PLAT: 12/07/2020
 NAME: JASON D. LEVANEN
 CO LICENSE NO. 38159

Arrow
 Survey Group, Inc.
 Sheridan, WY 82801 (307)751-7543

DRAWN BY:	HH
APPROVED BY:	JL
DATE DRAWN:	12/07/2020
ATC JOB NO:	302460

EXISTING CONDITIONS AND TOPOGRAPHIC PLAN

SHEET NUMBER:	REVISION:
V-102	1

Work Coordinated By:
COX LEVIN
 National Land Survey Consultants
 781-640-3309 • www.coxlevin.com

811
 Know what's below.
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AT&T
 161 INVERNESS DR W, 2ND FLOOR
 ENGLEWOOD, CO 80112

AMERICAN TOWER
 19100 VON KARMAN AVE
 SUITE 200
 IRVINE, CA 92612

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

AT&T SITE ID: COL02237
AT&T FA CODE: 15312482
AT&T PACE #: MRUTH042457
ATC #: 302460
BLACK FOREST

4590 HODGEN RD
COLORADO SPRINGS, CO 80908
(EL PASO COUNTY)

EXISTING 170'-0" W/ 20'
EXTENSION
SELF-SUPPORT TOWER
NSB - LTE - 1C/2C/3C/4C/5G NR
1SR

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	RRG	PRELIMINARY	EGG
B	12-10-20	CBM	90% CONSTRUCTION	EGG
C	02-17-21	BCL	90% CONSTRUCTION	EGG

SEAL:

PRELIMINARY
 DO NOT USE FOR CONSTRUCTION

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SHEET TITLE:
SITE SURVEY II

SHEET NUMBER:	REVISION:
S-2	C

TEP #: 85172.243629

NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE AT&T REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.
4. UTILITY COORDINATION PENDING.



AT&T SITE ID: COL02237
AT&T FA CODE: 15312482
AT&T PACE #: MRUTH042457
ATC #: 302460
BLACK FOREST

4590 HODGEN RD
COLORADO SPRINGS, CO 80908
(EL PASO COUNTY)

EXISTING 170'-0" W/ 20' EXTENSION
SELF-SUPPORT TOWER
NSB - LTE - 1C/2C/3C/4C/5G NR 1SR

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	RRG	PRELIMINARY	EGG
B	12-10-20	CBM	90% CONSTRUCTION	EGG
C	02-17-21	BCL	90% CONSTRUCTION	EGG

SEAL:

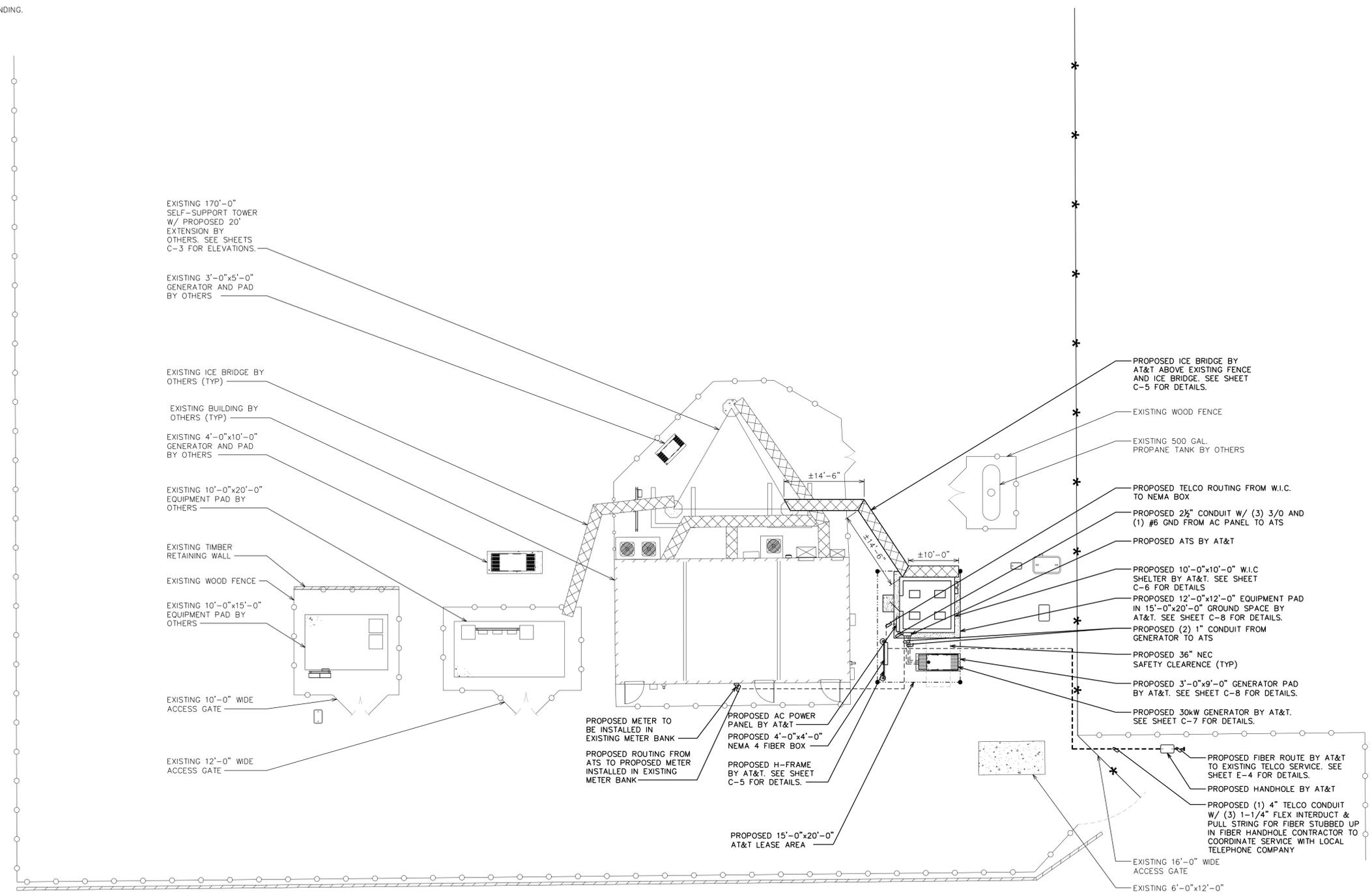


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SHEET TITLE:
COMPOUND DETAIL

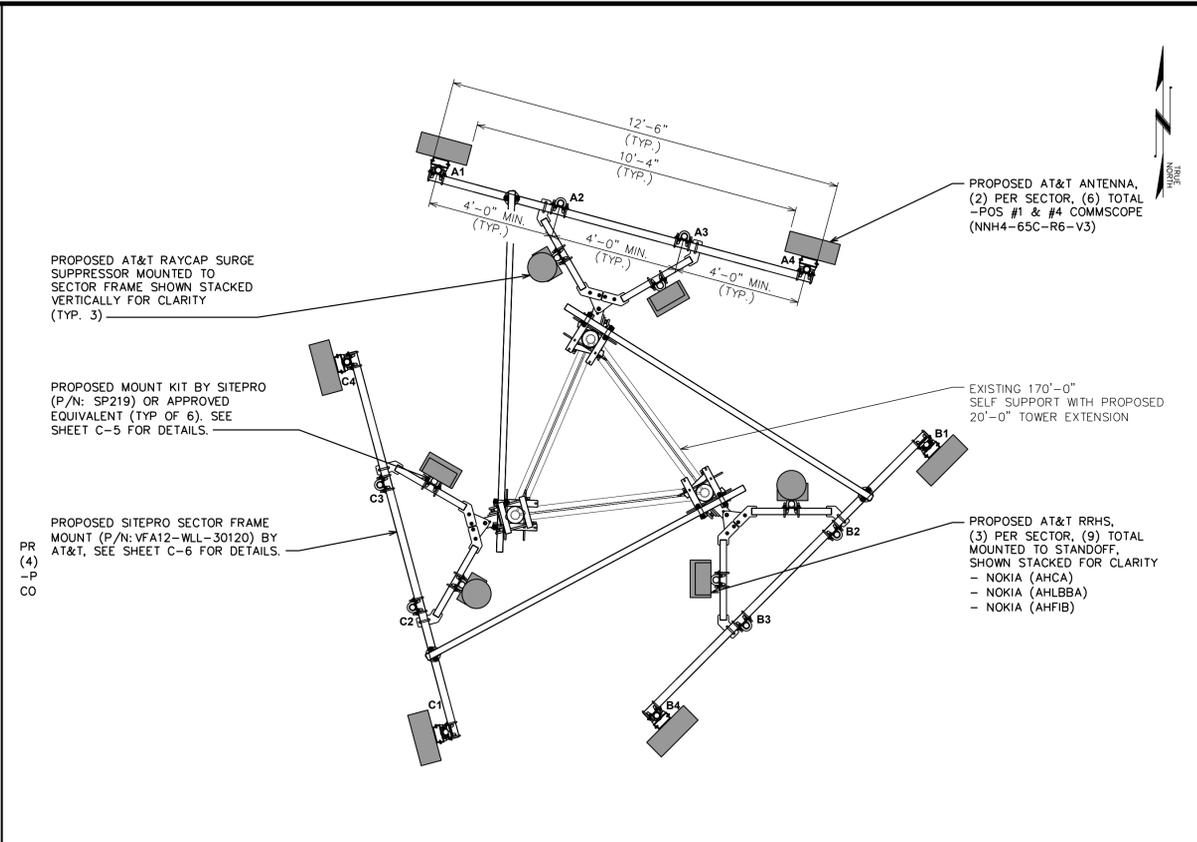
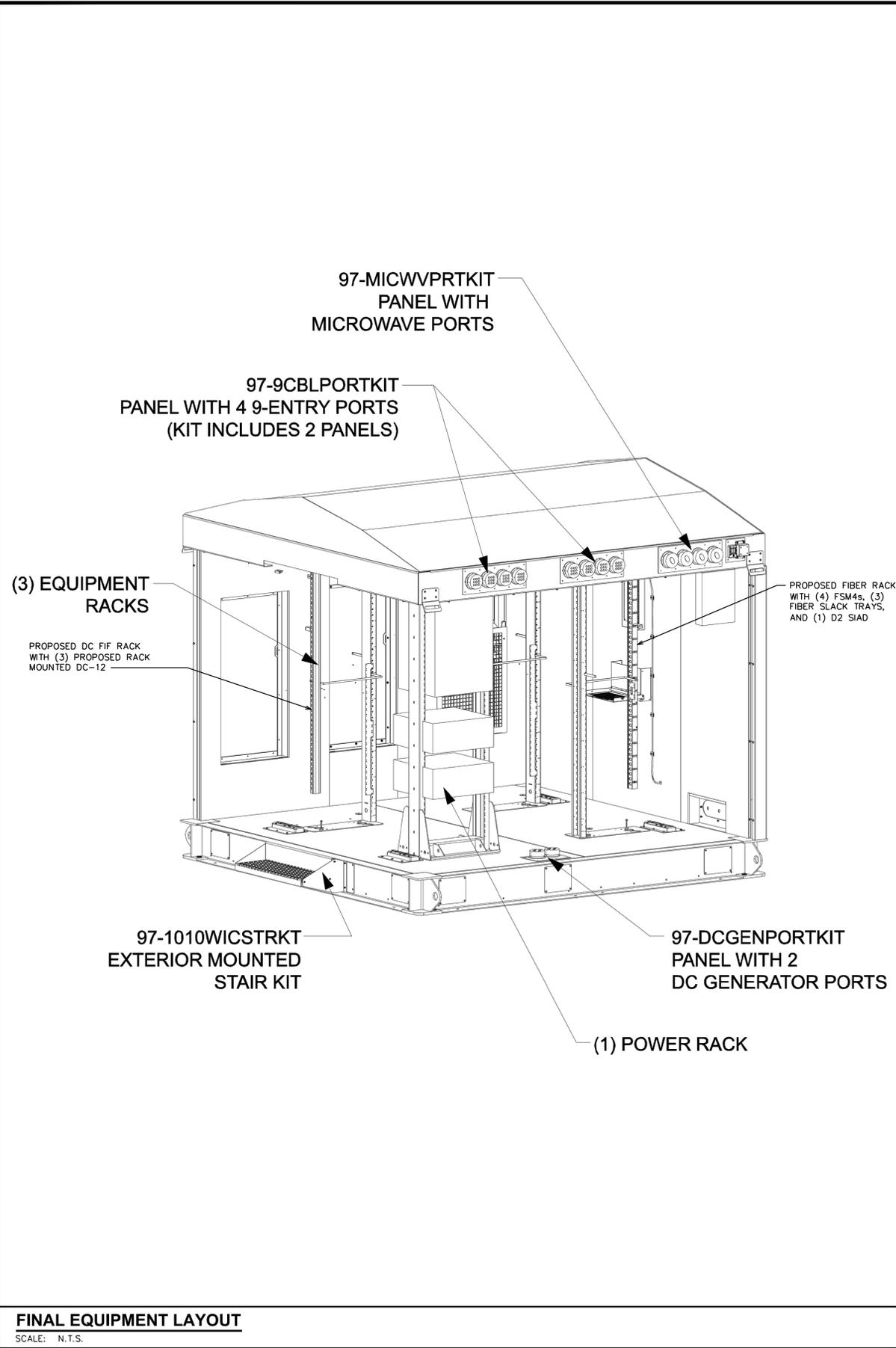
SHEET NUMBER: **C-1** **REVISION:** **C**

TEP #: 85172.243629



COMPOUND DETAIL

SCALE: 1" = 10' (24x36)
 SCALE: 1" = 20' (11x17)
 SCALE IN FEET



FINAL ANTENNA LAYOUT

SCALE: 3/8" = 1'-0" (24x36)
SCALE: 7/16" = 1'-0" (11x17)

0 2 4
SCALE IN FEET

NOTE:
SCHEDULE EQUIPMENT SHOULD BE REFERENCED OFF RFDS LISTED ON SHEET T-1.

FINAL ANTENNA/FEEDLINE SCHEDULE							
SECTOR	POS.	MANUFACTURER (MODEL #)	ANTENNA TIP HEIGHT	ANTENNA POSITION SEPARATION	CABLE SIZE	CABLE LENGTH	SQUID/RRH/TMA/DIPLEXER [MODEL #]
ALPHA	1	COMMSCOPE *(NNH4-65C-R6-V3)	190'-0"±	4'-0"	(3) 0.39" FIBER TRUNKS (6) 6 AWG 6 0.92" DC TRUNKS	285'±	(1) RAYCAP SQUID [DC9-48-60-24-8C-EV] *(1) NOKIA RRH [AIRSCALE DUAL RRH 4T4R B25/66 320W AHFIB]
ALPHA	2	-	-				*(1) NOKIA RRH [AIRSCALE TRI RRH 4T4R B12/14 370W AHLBBA]
ALPHA	3	-	-				*(1) NOKIA RRH [AIRSCALE DUAL RRH 4T4R B5 160W AHCA]
ALPHA	4	COMMSCOPE *(NNH4-65C-R6-V3)	190'-0"±				(1) RAYCAP SQUID [DC9-48-60-24-8C-EV] *(1) NOKIA RRH [AIRSCALE DUAL RRH 4T4R B25/66 320W AHFIB]
BETA	1	COMMSCOPE *(NNH4-65C-R6-V3)	190'-0"±				*(1) NOKIA RRH [AIRSCALE TRI RRH 4T4R B12/14 370W AHLBBA]
BETA	2	-	-				*(1) NOKIA RRH [AIRSCALE DUAL RRH 4T4R B5 160W AHCA]
BETA	3	-	-				(1) RAYCAP SQUID [DC9-48-60-24-8C-EV] *(1) NOKIA RRH [AIRSCALE DUAL RRH 4T4R B25/66 320W AHFIB]
BETA	4	COMMSCOPE *(NNH4-65C-R6-V3)	190'-0"±				*(1) NOKIA RRH [AIRSCALE TRI RRH 4T4R B12/14 370W AHLBBA]
GAMMA	1	COMMSCOPE *(NNH4-65C-R6-V3)	190'-0"±				*(1) NOKIA RRH [AIRSCALE DUAL RRH 4T4R B5 160W AHCA]
GAMMA	2	-	-				(1) RAYCAP SQUID [DC9-48-60-24-8C-EV] *(1) NOKIA RRH [AIRSCALE DUAL RRH 4T4R B25/66 320W AHFIB]
GAMMA	3	-	-				*(1) NOKIA RRH [AIRSCALE TRI RRH 4T4R B12/14 370W AHLBBA]
GAMMA	4	COMMSCOPE *(NNH4-65C-R6-V3)	190'-0"±				*(1) NOKIA RRH [AIRSCALE DUAL RRH 4T4R B5 160W AHCA]

*OR APPROVED EQUIVALENT
**CONTRACTOR TO REFER TO THE RFDS FOR FINAL CONFIGURATION

FINAL ANTENNA SCHEDULE
SCALE: N.T.S.

161 INVERNESS DR W, 2ND FLOOR
ENGLEWOOD, CO 80112

19100 VON KARMAN AVE
SUITE 200
IRVINE, CA 92612

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

AT&T SITE ID: COL02237
AT&T FA CODE: 15312482
AT&T PACE #: MRUTH042457
ATC #: 302460
BLACK FOREST

4590 HODGEN RD
COLORADO SPRINGS, CO 80908
(EL PASO COUNTY)

EXISTING 170'-0" W/ 20'
EXTENSION
SELF-SUPPORT TOWER
NSB - LTE - 1C/2C/3C/4C/5G NR
1SR

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	RRG	PRELIMINARY	EGG
B	12-10-20	CBM	90% CONSTRUCTION	EGG
C	02-17-21	BCL	90% CONSTRUCTION	EGG

SEAL:

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

SHEET TITLE:
FINAL EQUIPMENT & ANTENNA LAYOUTS

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

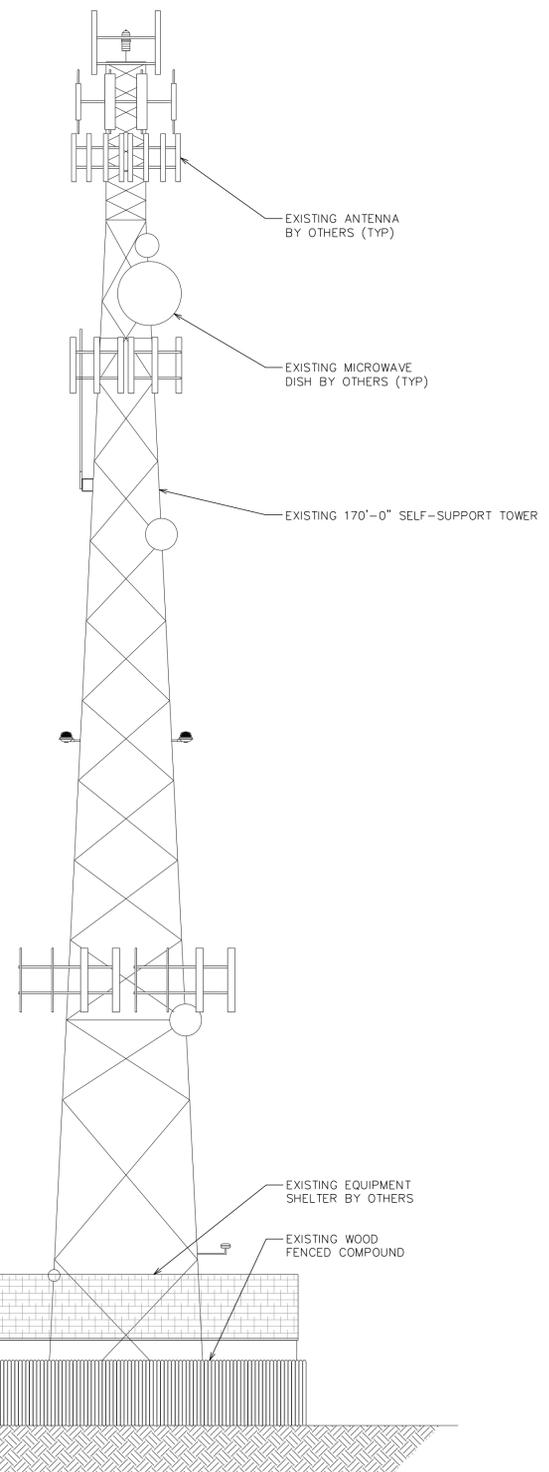
TEP #: 85172.243629

FINAL EQUIPMENT LAYOUT
SCALE: N.T.S.

NOTE:

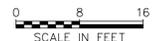
TOWER ELEVATION IS FOR SCHEMATIC PURPOSES ONLY. TEP DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO ANTENNA HEIGHTS, ANTENNA AZIMUTHS, AND MOUNT CONFIGURATIONS.

- 174'-0"±
T/APPERTENANCE
- 170'-0"±
T/TOWER

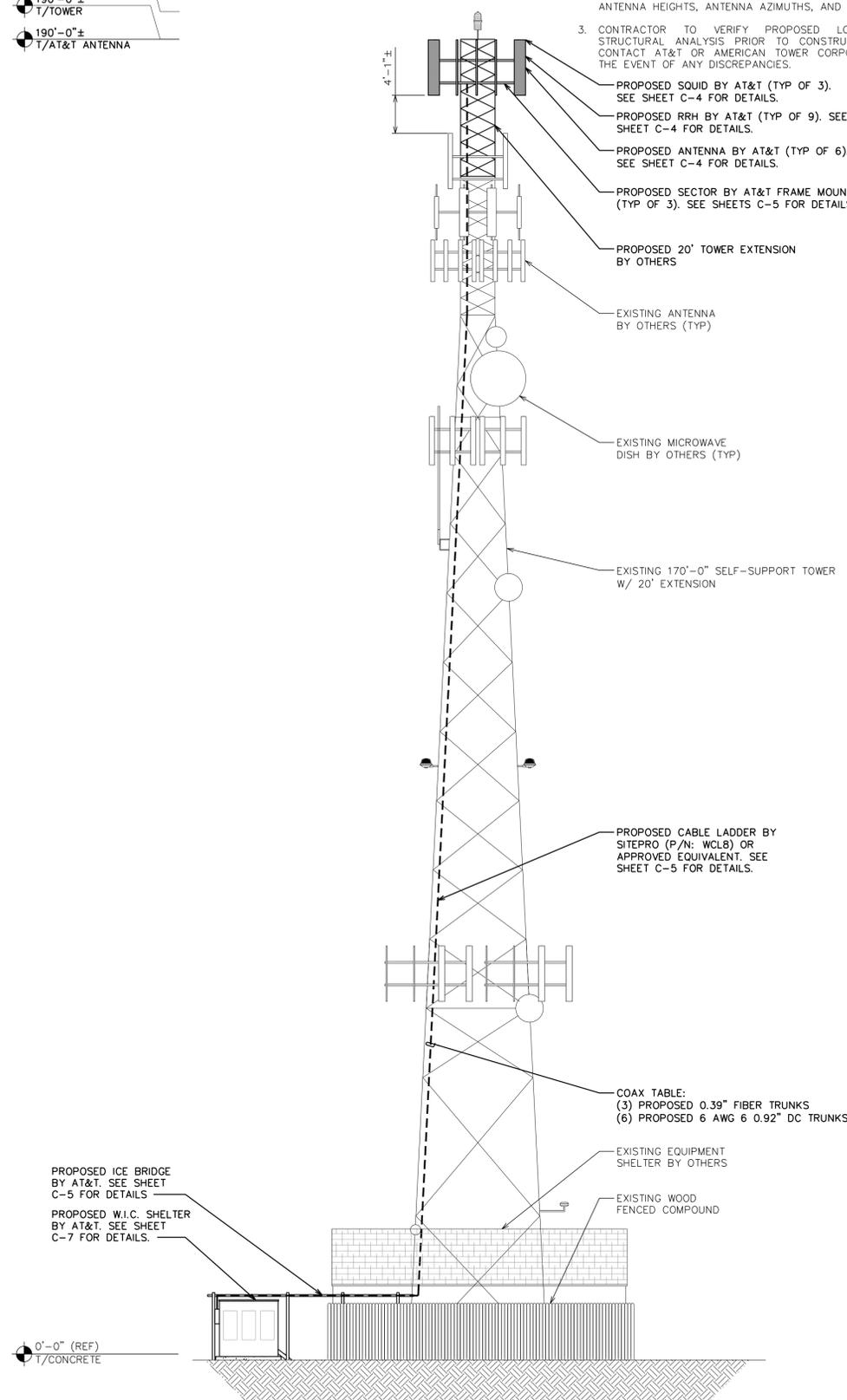


EXISTING TOWER ELEVATION

SCALE: 3/32" = 1'-0" (24x36)
SCALE: 3/64" = 1'-0" (11x17)



- 194'-0"±
T/APPERTENANCE
- 190'-0"±
T/TOWER
- 190'-0"±
T/AT&T ANTENNA



FINAL TOWER ELEVATION

SCALE: 3/32" = 1'-0" (24x36)
SCALE: 3/64" = 1'-0" (11x17)



NOTES:

1. PROPOSED CABLES TO BE ROUTED PER SPECIFICATIONS OF PASSING STRUCTURAL ANALYSIS.
2. TOWER ELEVATION IS FOR SCHEMATIC PURPOSES ONLY. TEP DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO ANTENNA HEIGHTS, ANTENNA AZIMUTHS, AND MOUNT CONFIGURATIONS.
3. CONTRACTOR TO VERIFY PROPOSED LOADING WITH PASSING STRUCTURAL ANALYSIS PRIOR TO CONSTRUCTION. CONTRACTOR TO CONTACT AT&T OR AMERICAN TOWER CORPORATION IMMEDIATELY IN THE EVENT OF ANY DISCREPANCIES.

161 INVERNESS DR W, 2ND FLOOR
ENGLEWOOD, CO 80112

19100 VON KARMAN AVE
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IRVINE, CA 92612

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

AT&T SITE ID: COL02237
AT&T FA CODE: 15312482
AT&T PACE #: MRUTH042457
ATC #: 302460
BLACK FOREST

4590 HODGEN RD
COLORADO SPRINGS, CO 80908
(EL PASO COUNTY)

EXISTING 170'-0" W/ 20'
EXTENSION
SELF-SUPPORT TOWER
NSB - LTE - 1C/2C/3C/4C/5G NR
1SR

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	RRG	PRELIMINARY	EGG
B	12-10-20	CBM	90% CONSTRUCTION	EGG
C	02-17-21	BCL	90% CONSTRUCTION	EGG

SEAL:

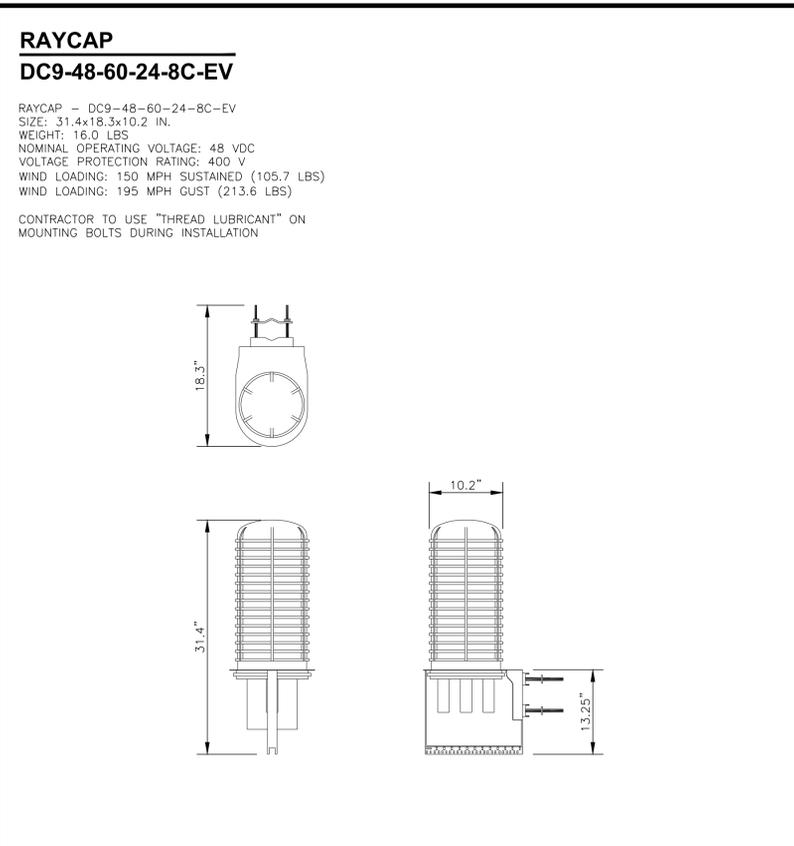
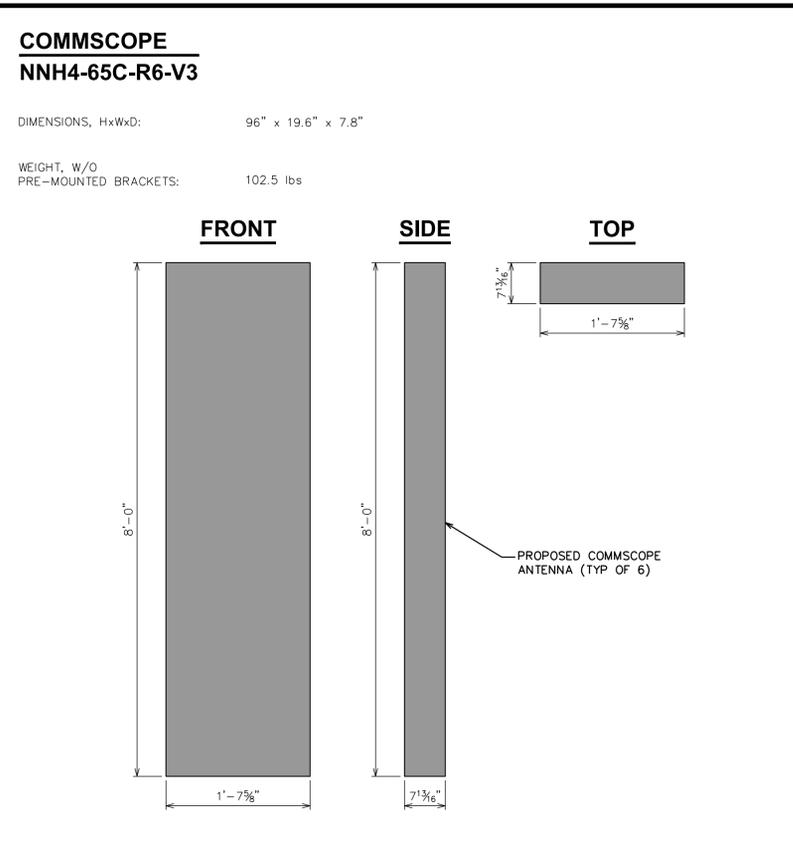
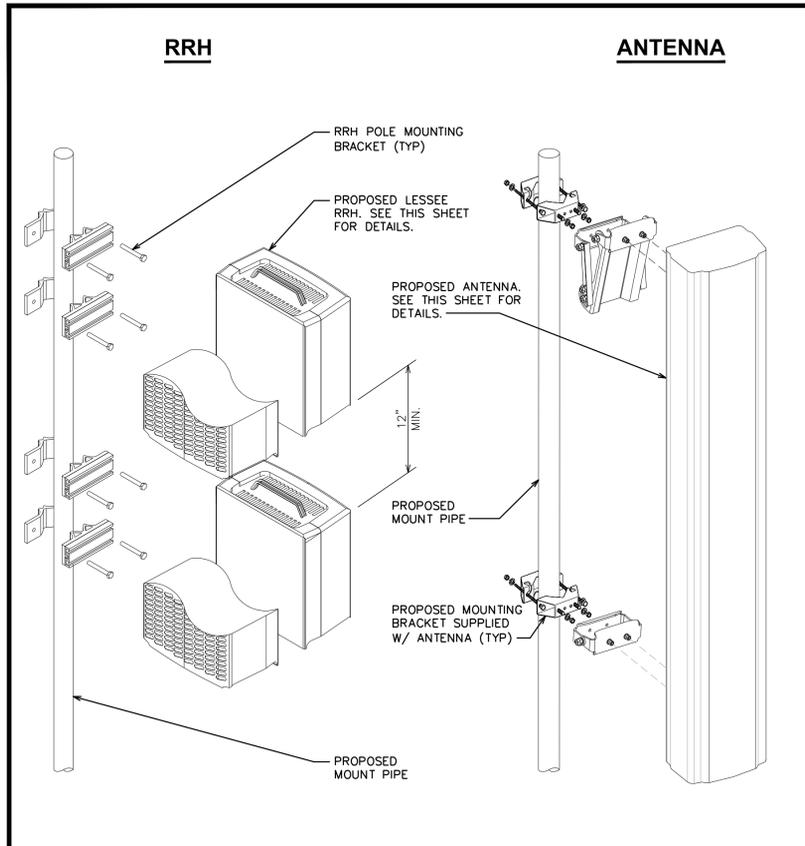
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET TITLE:
EXISTING AND FINAL ELEVATIONS

SHEET NUMBER:
C-3

REVISION:
C

TEP #: 85172.243629



AT&T SITE ID: COL02237
AT&T FA CODE: 15312482
AT&T PACE #: MRUTH042457
ATC #: 302460
BLACK FOREST

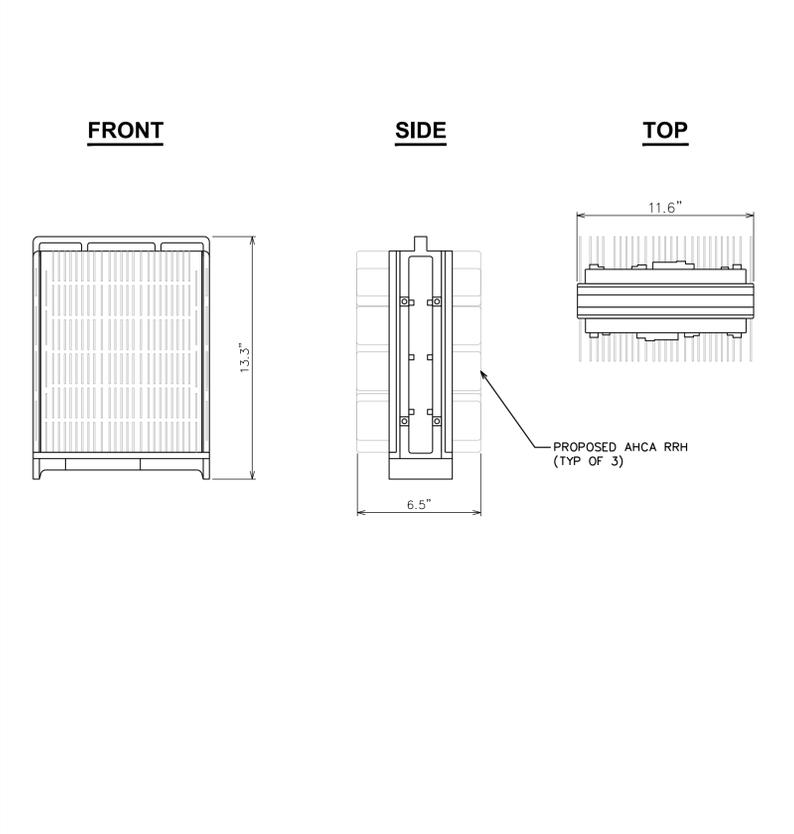
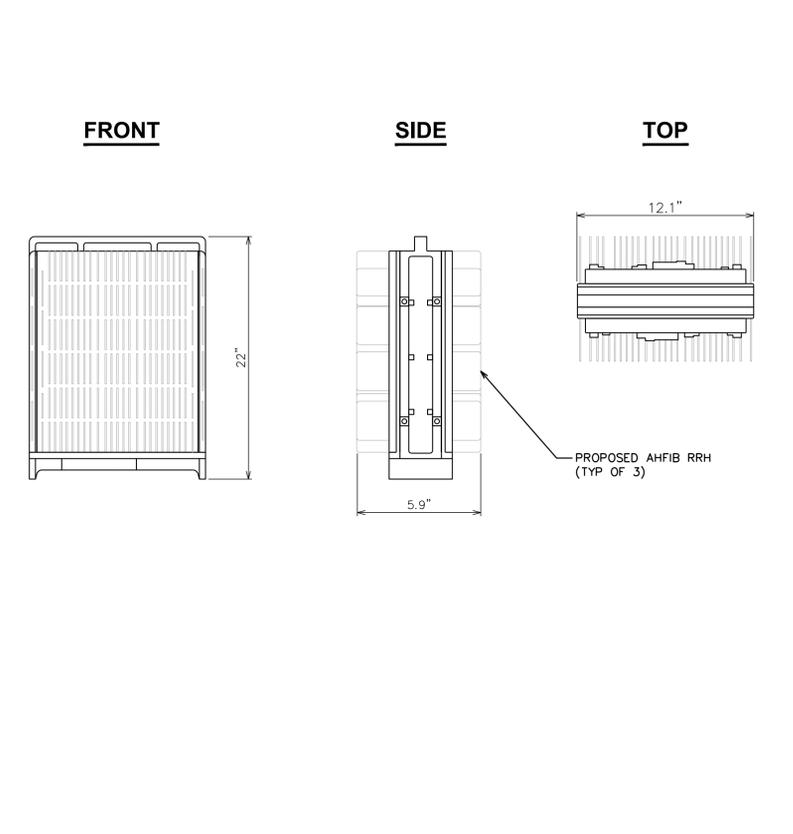
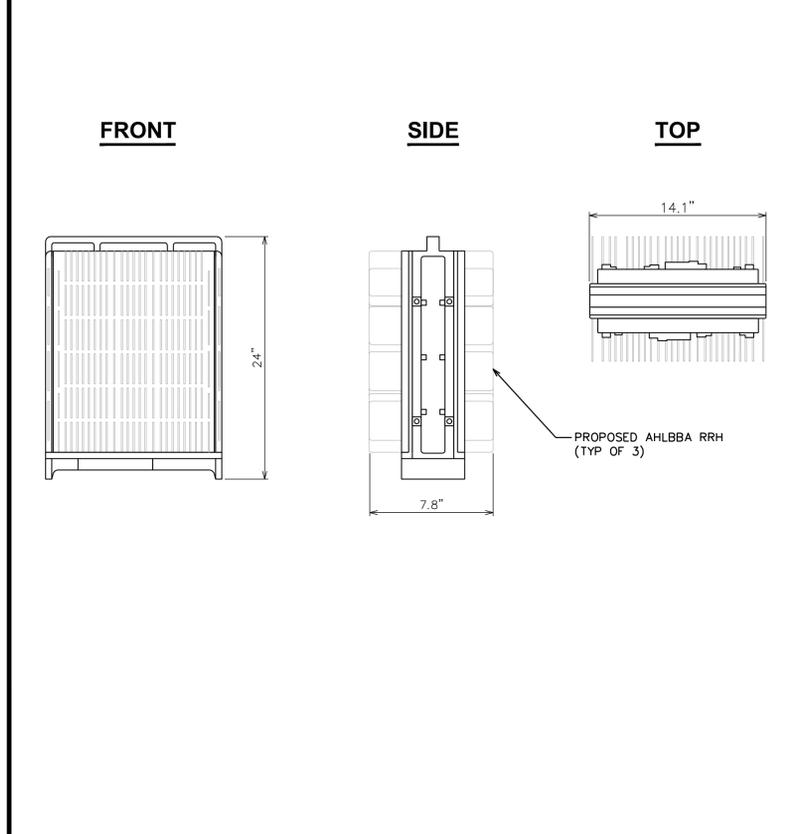
4590 HODGEN RD
COLORADO SPRINGS, CO 80908
(EL PASO COUNTY)

EXISTING 170'-0" W/ 20' EXTENSION
SELF-SUPPORT TOWER
NSB - LTE - 1C/2C/3C/4C/5G NR 1SR

EQUIPMENT MOUNTING DETAIL
SCALE: N.T.S.

PROPOSED COMMSCOPE ANTENNA DETAIL
SCALE: N.T.S.

PROPOSED RAYCAP OVP DETAIL
SCALE: N.T.S.



PROPOSED AHLBBA RRH DETAIL
SCALE: N.T.S.

PROPOSED AHFIB RRH DETAIL
SCALE: N.T.S.

PROPOSED AHCA RRH DETAIL
SCALE: N.T.S.

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	RRG	PRELIMINARY	EGG
B	12-10-20	CBM	90% CONSTRUCTION	EGG
C	02-17-21	BCL	90% CONSTRUCTION	EGG

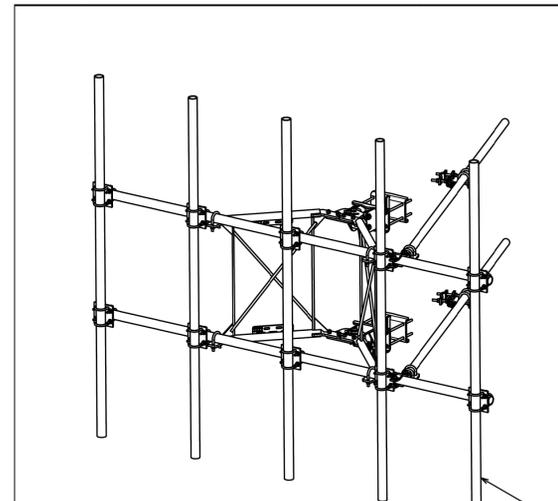
SEAL:

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

SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER: **C-4** **REVISION:** **C**

TEP #: 85172.243629



ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	XVFAW	SUPPORT ARM	71.41	142.81	
2	1	X-HDCAMTW	CLAMP WELDMENT FOR BCAM-HD	33.86	33.86	
3	1	X-MHTPHD	MULTI-HOLE TAPER PLATE WELDMENT	36.24	36.24	
4	1	X-HDCAMSS	ANGLE ADJUSTMENT WELDMENT FOR BCAM-HD	16.39	16.39	
5	2	XVFA4L	VFA-HD PIVOT PLATE	13 in	15.88	31.77
6	2	X-LCBP4	BENT BACKING PLATE	13 in	19.00	38.01
7	4	X-SPTB	SLIDING PIPE THE BACK PLATE	5 1/2 in	5.87	23.49
8	1	X-HDCAMSP	POSITIONING PLATE WELDMENT FOR BCAM-HD	2.58	2.58	
9	4	X-TBCA	THE BACK CLIP ANGLE	2.01	8.02	
10	10	SCX2	CROSSOVER PLATE	7 in	4.80	47.96
11	4	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12 1/16 in	3.59	14.37
12	8	DCP	1/2" THICK, 5.34" CENTER TO CENTER CLAMP HALF	8 1/8 in	2.36	18.90
13	2	P2126	2-3/8" X 126" (2-1/2" SCH. 40) GALVANIZED PIPE	126 in	40.75	81.50
14	2	P30150	2-7/8" X 150" (2-1/2" SCH. 40) GALVANIZED PIPE	150 in	76.94	153.87
15	4	A34212	3/4" X 2-1/2" UNC HEX BOLT (A325)	2 1/2 in	0.48	1.92
16	4	G34FW	3/4" HDG USS FLATWASHER	2 1/2 in	0.06	0.24
17	4	G34LW	3/4" HDG LOCKWASHER		0.04	0.17
18	4	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	0.85
19	8	G58R-18	5/8" X 18" THREADED ROD (HDG.)		1.57	12.54
20	4	G58R-12	5/8" X 12" THREADED ROD (HDG.)		1.05	4.18
21	4	G58R-8	5/8" X 8" THREADED ROD (HDG.)		0.70	2.78
22	4	X4UBS300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
23	8	X4UBS258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	8.00
24	2	G590T	5/8" X 7" HDG HEX BOLT GR5 FULL THREAD	7 in	0.70	1.41
25	1	G590S	5/8" X 6" HDG HEX BOLT GR5 FULL THREAD	6 in	0.52	0.82
26	8	G5804	5/8" X 4" HDG HEX BOLT GR5		0.44	3.55
27	4	G5802	5/8" X 2" HDG HEX BOLT GR5		0.27	1.08
28	8	A32514	5/8" X 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	2.50
29	25	G58FW	5/8" HDG USS FLATWASHER	1 1/8 in	0.07	1.76
30	66	G58LW	5/8" HDG LOCKWASHER		0.03	1.72
31	71	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	9.22
32	48	X4UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	35.45
33	20	X4UB1212	1/2" X 2-1/2" X 4-1/2" X 2" GALV U-BOLT		0.66	13.13
34	80	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	2.73
35	80	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	1.11
36	80	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	5.73
37	5	P30120	2-7/8" X 120" (2-1/2" SCH. 40) GALVANIZED PIPE	120 in	58.07	290.33
				TOTAL WT. #		1055.41

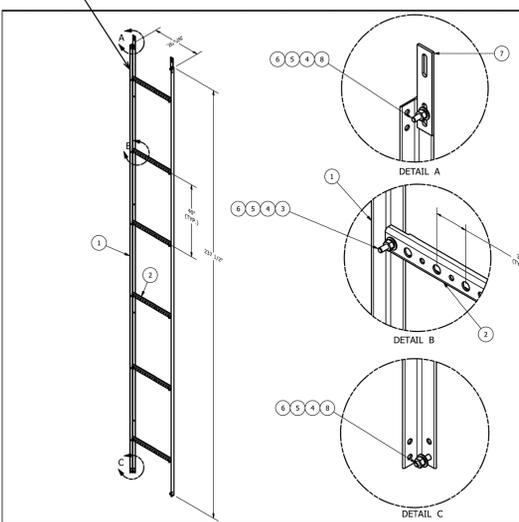
PROPOSED SITEPRO SECTOR FRAME MOUNT (P/N: VFA12-WLL-30120) BY AT&T

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 CONING OF HOLES
 LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
 BENDS ARE ± 1/2 DEGREE
 ALL OTHER MACHINING (± 0.030")
 ALL OTHER ASSEMBLY (± 0.030")

DESCRIPTION	12 6" HEAVY DUTY V-FRAME ASSEMBLY W/ 2 STIFF ARMS & MOUNT PIPES	LOCATION: New York, NY Atlanta, GA Los Angeles, CA Phoenix, AZ Plymouth, MI Dallas, TX
DATE	1/25/2017	
DESIGNED BY	CSL	
CHECKED BY	CUSTOMER	
DATE	5/3/2018	
PART NO.	VFA12-WLL-30120	
DWG. NO.	VFA12-WLL-30120	

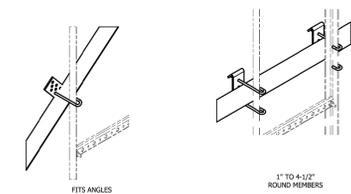
PROPOSED CABLE LADDER BY SITEPRO (P/N: WCL8) OR APPROVED EQUIVALENT



ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-WCL	20' GALVANIZED ANGLE	237 1/2 in	30.31	60.62
2	8	HSD	8 RUN W/ WELDLESS BRACKET		2.20	16.19
3	32	G3802	3/8" X 2" HDG HEX BOLT GR5		0.09	1.05
4	16	G38FW	3/8" HDG USS FLATWASHER		0.01	0.19
5	16	G38LW	3/8" HDG LOCKWASHER		0.01	0.11
6	16	G38NUT	3/8" HDG HEAVY 2H HEX NUT		0.03	0.54
7	2	SPLICE	SPLICE FOR GRIP STRUT	7 3/8 in	0.53	1.05
8	4	G38L12	3/8" X 1-1/2" HDG HEX BOLT GR5		0.07	0.28
				TOTAL WT. #		80.03

UNIVERSAL LADDER ATTACHMENT KIT

P/N: CLK-U (SOLD SEPARATELY) USE AT LEAST 2 KITS PER 20' SECTION



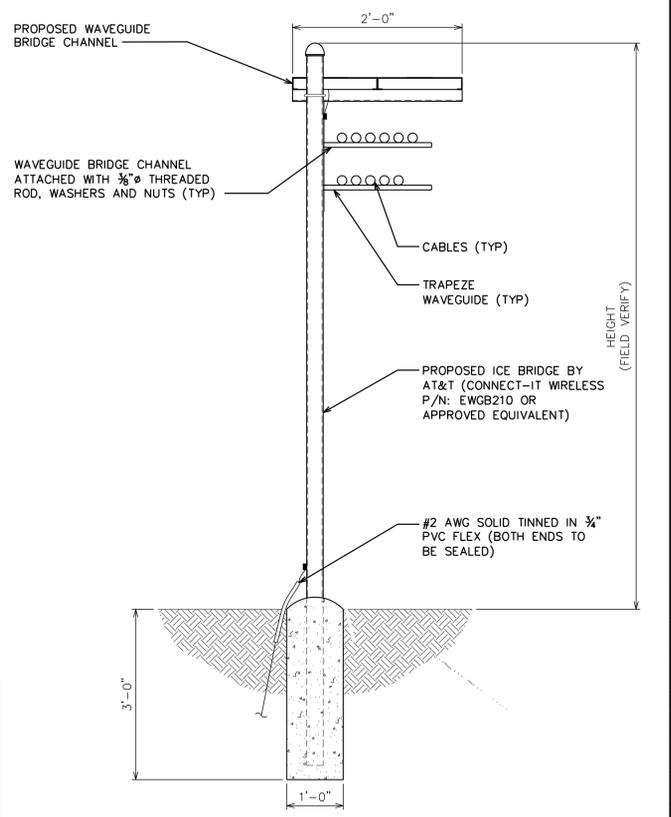
TOLERANCE NOTE

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

DESCRIPTION	8 RUN CABLE LADDER	LOCATION: New York, NY Atlanta, GA Los Angeles, CA Phoenix, AZ Plymouth, MI Dallas, TX
DATE	1/17/2012	
DESIGNED BY	CEK	
CHECKED BY	CUSTOMER	
DATE	1/17/2012	
PART NO.	WCL8	
DWG. NO.	WCL8	

PROPOSED V-FRAME MOUNT DETAIL

SCALE: N.T.S.

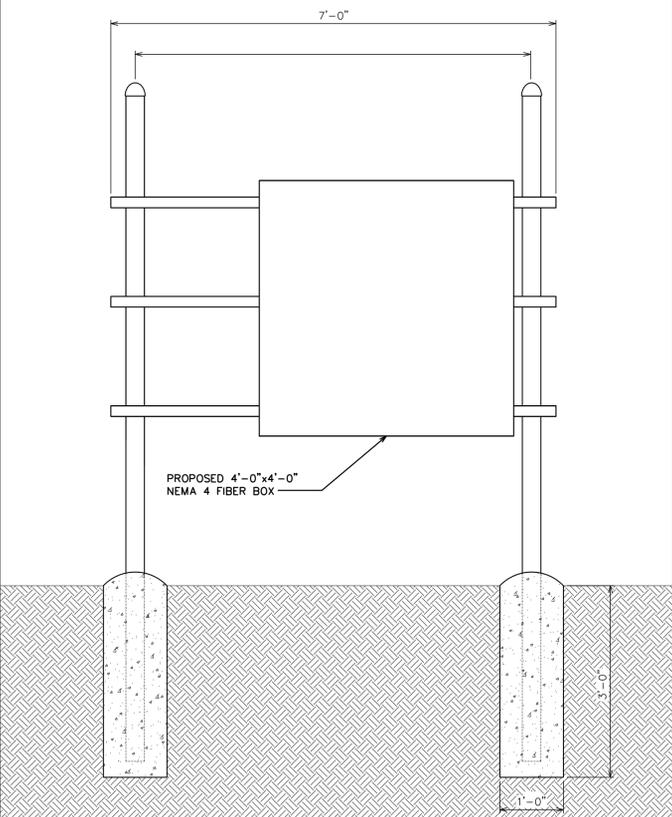


PROPOSED ICE BRIDGE DETAIL

SCALE: N.T.S.

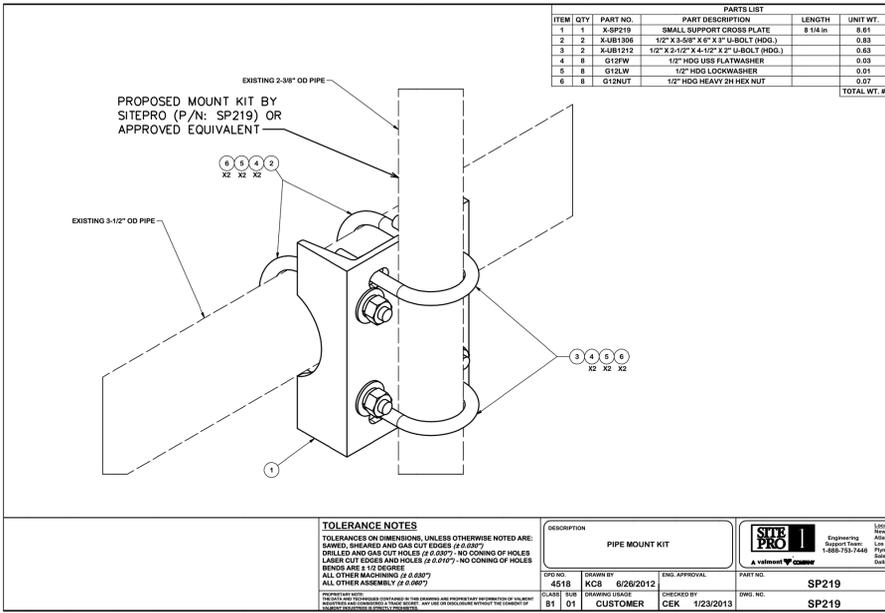
PROPOSED CABLE LADDER DETAIL

SCALE: N.T.S.



PROPOSED H-FRAME DETAIL

SCALE: N.T.S.



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 CONING OF HOLES
 LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
 BENDS ARE ± 1/2 DEGREE - ALL OTHER MACHINING (± 0.030")
 ALL OTHER ASSEMBLY (± 0.030")

DESCRIPTION	PIPE MOUNT KIT	LOCATION: New York, NY Atlanta, GA Los Angeles, CA Phoenix, AZ Plymouth, MI Dallas, TX
DATE	6/26/2012	
DESIGNED BY	KCB	
CHECKED BY	CUSTOMER	
DATE	1/23/2013	
PART NO.	SP219	
DWG. NO.	SP219	

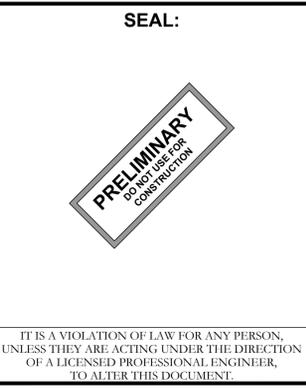


AT&T SITE ID: COL02237
AT&T FA CODE: 15312482
AT&T PACE #: MRUTH042457
ATC #: 302460
BLACK FOREST

4590 HODGEN RD
COLORADO SPRINGS, CO 80908
(EL PASO COUNTY)

EXISTING 170'-0" W/ 20' EXTENSION
SELF-SUPPORT TOWER
NSB - LTE - 1C/2C/3C/4C/5G NR 1SR

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	RRG	PRELIMINARY	EGG
B	12-10-20	CBM	90% CONSTRUCTION	EGG
C	02-17-21	BCL	90% CONSTRUCTION	EGG



SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER:
C-5

REVISION:
C

TEP #: 85172.243629



161 INVERNESS DR W, 2ND FLOOR
ENGLEWOOD, CO 80112



AMERICAN TOWER
19100 VON KARMAN AVE
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4590 HODGEN RD
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EXISTING 170'-0" W/ 20'
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NSB - LTE - 1C/2C/3C/4C/5G NR
1SR

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	RRG	PRELIMINARY	EGG
B	12-10-20	CBM	90% CONSTRUCTION	EGG
C	02-17-21	BCL	90% CONSTRUCTION	EGG

SEAL:



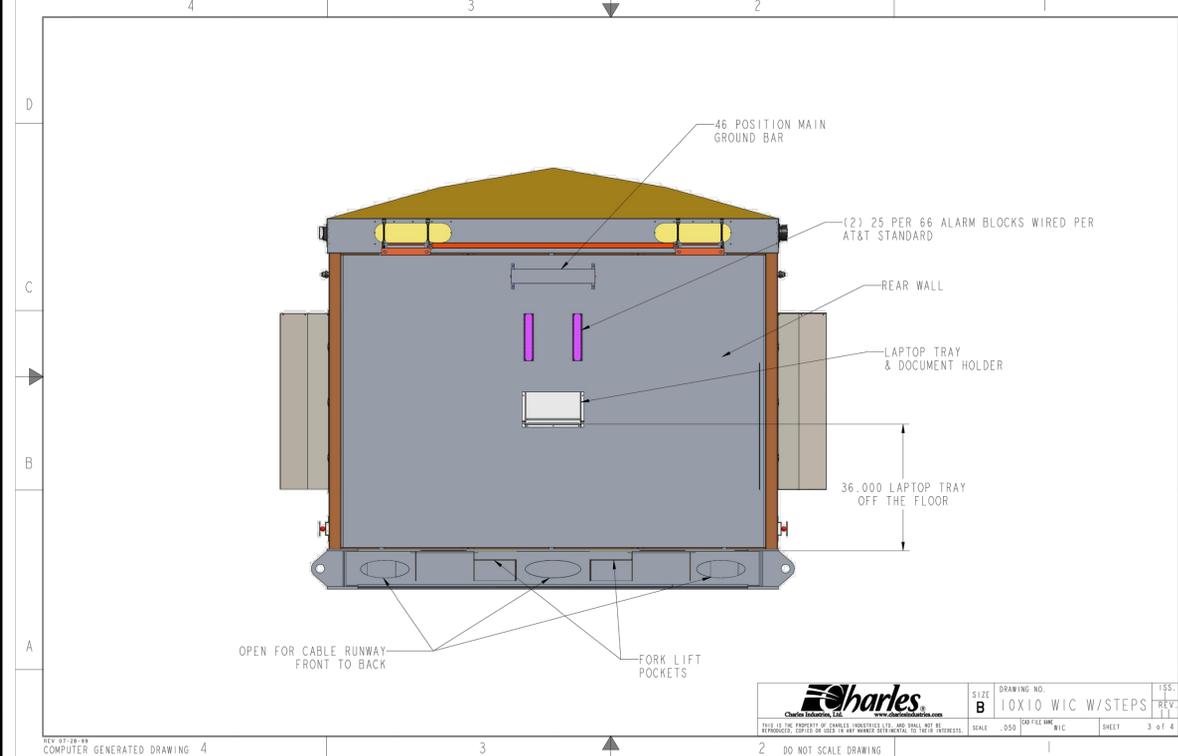
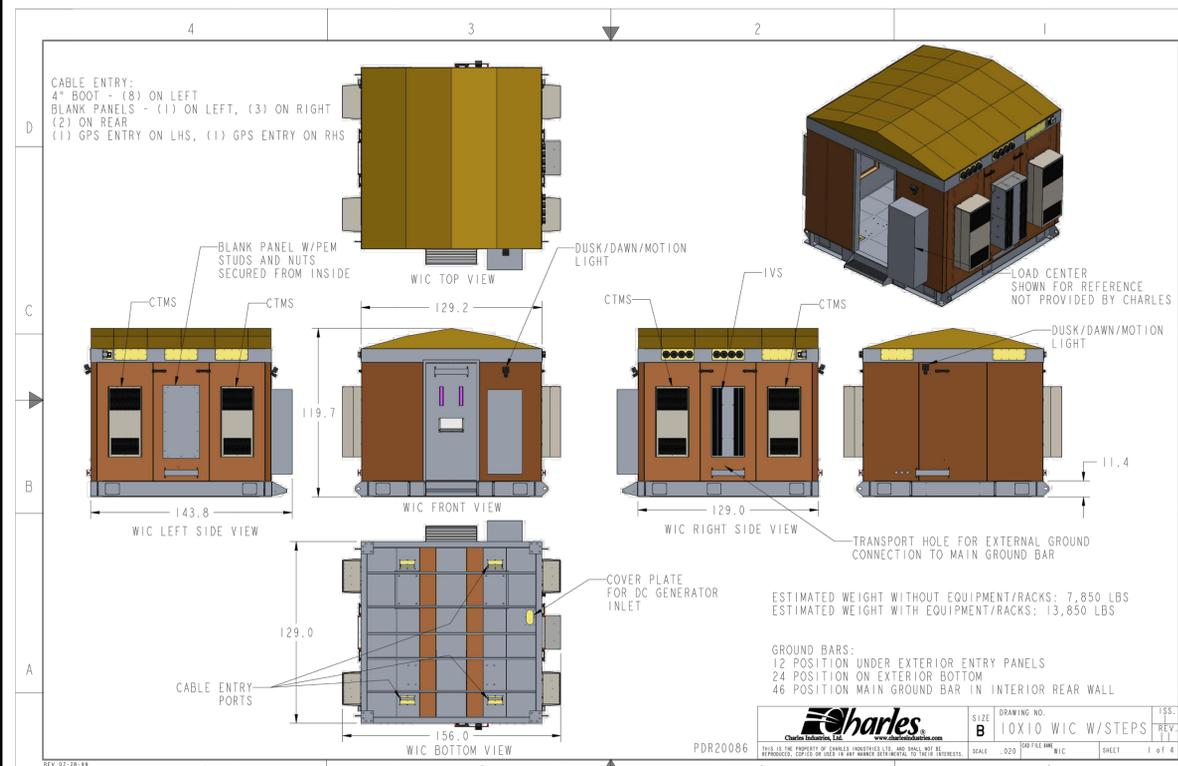
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SHEET TITLE:
EQUIPMENT DETAILS

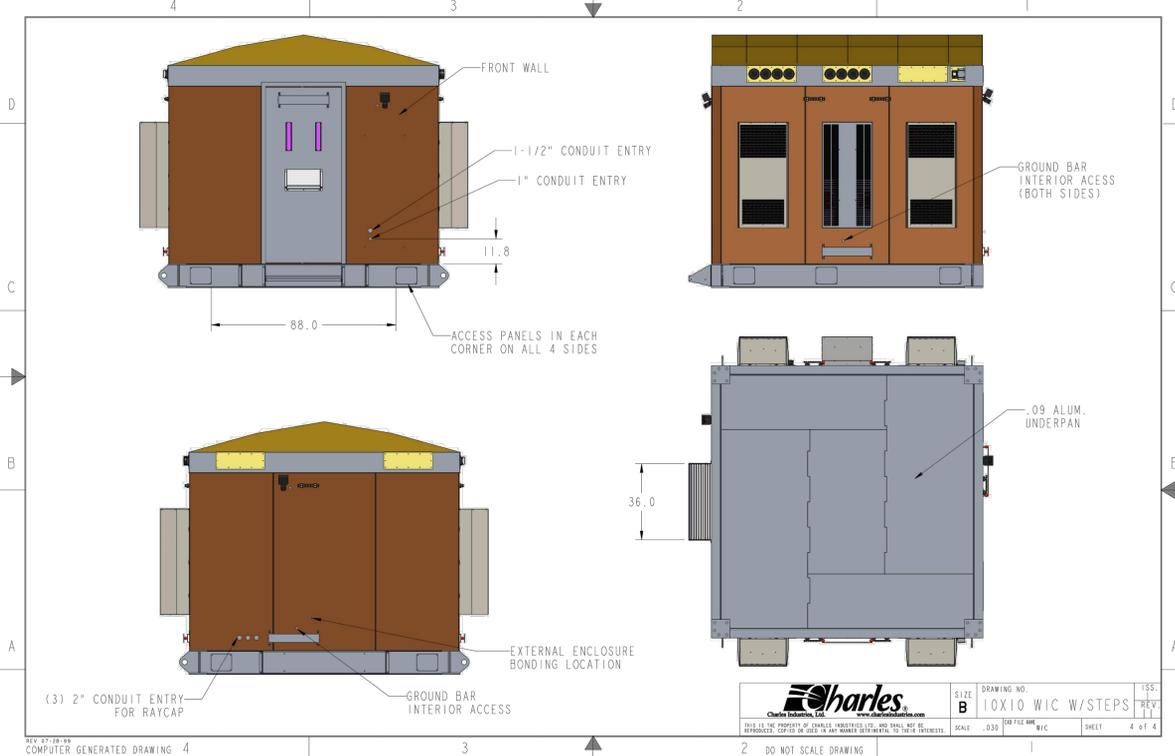
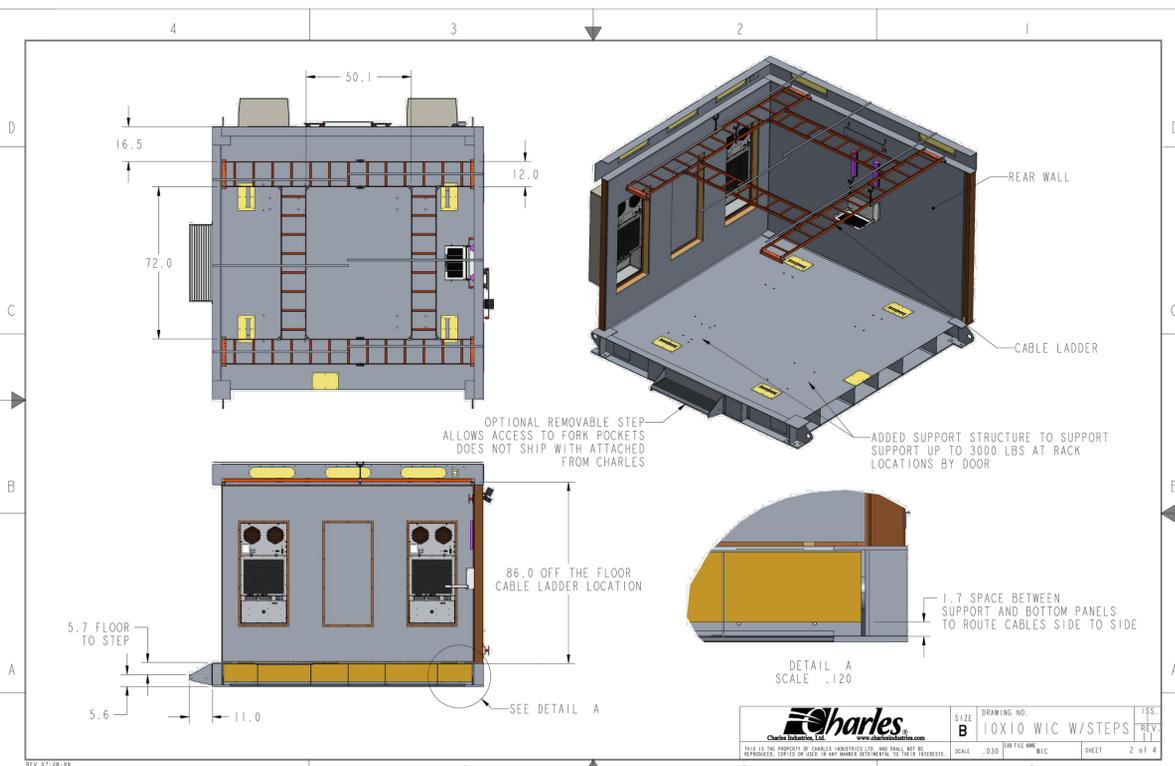
SHEET NUMBER:
C-6

REVISION:
C

TEP #: 85172.243629



WIC SHELTER DETAIL
SCALE: N.T.S



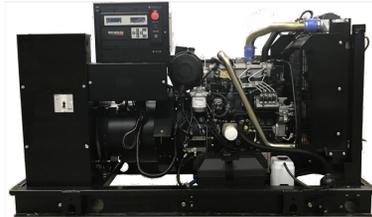
WIC SHELTER DETAIL
SCALE: N.T.S

SD030 | 2.2L | 30 kW
INDUSTRIAL DIESEL GENERATOR SET
EPA Certified Stationary Emergency



Standby Power Rating
30 kW, 38 kVA, 60 Hz

Prime Power Rating*
27 kW, 34 kVA, 60 Hz



ISO 9001
ULSA
*EPA Certified Prime ratings are not available in the US or its Territories
Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

- UL2200, UL508, UL489, UL142
- CSA C22.2
- BS5514 and DIN 6271
- SAE J1349
- NFPA 37, 70, 99, 110
- NEC700, 701, 702, 708
- ISO 3046, 7637, 8528, 9001
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41

Powering Ahead

For over 50 years, Generac has provided innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SPEC SHEET

SD030 | 2.2L | 30 kW
INDUSTRIAL DIESEL GENERATOR SET
EPA Certified Stationary Emergency



STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Silencer (Enclosed Unit Only)
- Engine Coolant Heater

- Fuel System**
- Fuel Lockoff Solenoid
 - Primary Fuel Filter

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene Glycol Antifreeze

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- UL2200 GENproect™
- Class H Insulation Material
- 2/3 Pitch
- Shrouded Stator
- Brushless Excitation
- Sealed Bearing
- Rotor Dynamically Spin Balanced
- Amortisseur Winding (3-Phase Only)
- Full Load Capacity Alternator
- Protective Thermal Switch

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Unit Only)

ENCLOSURE (If Selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
 - High-Performance Sound-Absorbing Material (Sound Attenuation Enclosures)
 - Gasketed Doors
 - Stamped Air-Intake Louvers
 - Upward Facing Discharge Hoods (Radiator and Exhaust)
 - Stainless Steel Lift Off Door Hinges
 - Stainless Steel Lockable Handles
 - RhinoCoat™ - Textured Polyester Powder Coat Paint
- FUEL TANKS (If Selected)**
- UL 142/ULC S601
 - Double Wall
 - Normal and Emergency Vents
 - Sloped Top
 - Sloped Bottom
 - Factory Pressure Tested
 - Rupture Basin Alarm
 - Fuel Levels
 - Check Valve in Supply and Return Lines
 - RhinoCoat™ - Textured Polyester Powder Coat Paint
 - Stainless Steel Hardware

CONTROL SYSTEM



Digital H Control Panel- Dual 4x20 Display

Program Functions

- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable Logic Controller
- RS-232/485 Communications
- All Phase Sensing Digital Voltage Regulator
- 2-Wire Start Capability
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/Gasketed Connectors

audible Alarms and Shutdowns

- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus™ Protocol
- Predictive Maintenance Algorithm
- Sealed Boards
- Password Parameter Adjustment Protection
- Single Point Ground
- 16 Channel Remote Trending
- 0.2 msec High Speed Remote Trending
- Alarm Information Automatically Annunciated on the Display

Full System Status Display

- Power Output (kW)
- Power Factor
- kW Hours, Total, and Last Run
- Real/Reactive/Apparent Power
- Isochronous Governor Control
- All Phase Currents

Oil Pressure

- Coolant Temperature
 - Coolant Level
 - Engine Speed
 - Battery Voltage
 - Frequency
- Alarms and Warnings**
- Oil Pressure
 - Coolant Temperature
 - Coolant Level
 - Engine Overspeed
 - Battery Voltage
 - Alarms and Warnings: Time and Date Stamped
 - Snap Shots of Key Operation Parameters During Alarms and Warnings
 - Alarms and Warnings Spelled Out (No Alarm Codes)

SPEC SHEET

SD030 | 2.2L | 30 kW
INDUSTRIAL DIESEL GENERATOR SET
EPA Certified Stationary Emergency



CONFIGURABLE OPTIONS

ENGINE SYSTEM

- Oil Heater
- Critical Silencer (Open Set Only)
- Radiator Stone Guard
- Level 1 Fan and Belt Guards (Open Set Only)

FUEL SYSTEM

- NPT Flexible Fuel Line
- 10k UL Listed Battery Charger
- Battery Warmer

ALTERNATOR SYSTEM

- Alternator Upgrading
- Air-Conditioning Heater
- Tropical Coating
- Permanent Magnet Excitation

GENERATOR SET

- Extended Factory Testing
- 8 Position Load Center
- Pad Vibration Isolation

ENGINEERED OPTIONS

ENGINE SYSTEM

- Coolant Heater Isolation Ball Valves
- Fluid Containment Pan

CONTROL SYSTEM

- Spare Inputs (4) / Outputs (4)
- Battery Disconnect Switch

CIRCUIT BREAKER OPTIONS

- Main Line Circuit Breaker
- 2nd Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breakers

ENCLOSURE

- Weather Protected Enclosure
- Level 1 Sound Attenuation
- Level 2 Sound Attenuation with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- AC/DC Enclosure Lighting Kit
- Door Alarm Switch
- Enclosure Heater
- Damper Alarm Contacts

WARRANTY (Standby Gensets Only)

- 2 Year Extended Limited Warranty
- 5 Year Limited Warranty
- 5 Year Extended Limited Warranty
- 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

CONTROL SYSTEM

- NFPA 110 Compliant 21-Light Remote Annunciator
- Remote Relay Assembly (8 or 16)
- Oil Temperature Indication and Alarm
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- Ground Fault Annunciation
- 120V (GFCI) and 240V Outlets
- Remote Communication - Modem
- 100 dB Alarm Horn
- 12" Vent System
- 10A Engine Run Relay

FUEL TANKS (See On Last Page)

- 8 in. (203.2 mm) Fill Extension
- 15 in. (381.2 mm) Fill Extension
- 19 in. (482.6 mm) Fill Extension
- Overflow Protection Valve
- 5 Gallon Spill Box Return Hose
- 5 Gallon Spill Box
- Tank Risers
- Fuel Level Switch and Alarm
- Fire Rated Stainless Steel Fuel Hose

ALTERNATOR SYSTEM

- 3rd Breaker System

GENERATOR SET

- Special Testing

FUEL TANKS

- Coolant Heater Isolation Ball Valves
- Stainless Steel Tanks
- Special Fuel Tanks
- Vent Extensions

SPEC SHEET

SD030 | 2.2L | 30 kW
INDUSTRIAL DIESEL GENERATOR SET
EPA Certified Stationary Emergency



APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General		Cooling System	
Make	Perkins	Cooling System Type	Closed Recovery
EPA Emissions Compliance	Stationary Emergency	Water Pump Type	Pre-Lubed, Self Sealing
EPA Emissions Reference	See Emission Data Sheet	Fan Type	Pusher
Cylinder #	4	Fan Speed - RPM	1,800
Type	In-Line	Fan Diameter - in (mm)	18 (457)
Displacement - in³ (L)	135 (2.22)	Fuel System	
Bore - in (mm)	3.3 (84)	Fuel Type	Ultra Low Sulfur Diesel Fuel #2
Stroke - in (mm)	3.9 (100)	Fuel Specifications	ASTM
Compression Ratio	23.3:1	Fuel Filtration (Microns)	5
Intake Air Method	Turbocharged	Fuel Inject Pump	Distribution Injection Pump
Cylinder Head	Cast Iron	Fuel Pump Type	Engine Driven Gear
Piston Type	Aluminum	Injector Type	Mechanical
Crankshaft Type	Forged Steel	Fuel Supply Line - in (mm)	0.31 (7.9) ID
		Fuel Return Line - in (mm)	0.2 (4.8) ID
Engine Governing			
Governor	Electronic Isochronous	Engine Electrical System	
Frequency Regulation (Steady State)	±0.5%	System Voltage	12 VDC
Lubrication System			
Oil Pump Type	Gear	Battery Charger Alternator	Standard
Oil Filter Type	Full-Flow	Battery Size	See Battery Index 019197038Y
Crankcase Capacity - qt (L)	11.2 (10.6)	Battery Voltage	12 VDC
		Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model		Standard Excitation	
Model	K0035124Y21	Excitation	Brushless
Poles	4	Bearings	Single Sealed
Field Type	Revolving	Excitation	Direct via Flexible Disc
Insulation Class - Rotor	H	Load Capacity - Standby	100%
Insulation Class - Stator	H	Prototype Short Circuit Test	Yes
Total Harmonic Distortion	<5% (3-Phase)	Voltage Regulator Type	Digital
Telephone Interference Factor (TIF)	< 50	Number of Sensed Phases	All
		Regulation Accuracy (Steady State)	±0.25%

SPEC SHEET

SD030 | 2.2L | 30 kW
INDUSTRIAL DIESEL GENERATOR SET
EPA Certified Stationary Emergency



OPERATING DATA

POWER RATINGS

Standby			
Single-Phase 120/240 VAC @1.0pf	30 kW	Amps: 125	
Three-Phase 120/208 VAC @0.8pf	30 kW	Amps: 104	
Three-Phase 120/240 VAC @0.8pf	30 kW	Amps: 90	
Three-Phase 277/480 VAC @0.8pf	30 kW	Amps: 45	
Three-Phase 346/600 VAC @0.8pf	30 kW	Amps: 36	

MOTOR STARTING CAPABILITIES (kW)

kVA vs. Voltage Dip	277/480 VAC	30%	208/240 VAC	30%
K0035124Y21	61	K0035124Y21	46	
K0040124Y21	78	K0040124Y21	58	
K0050124Y21	98	K0050124Y21	75	

FUEL CONSUMPTION RATES*

Fuel Pump Lift- ft (m)	Diesel - gph (Lph)	
	Percent Load	Standby
3 (1)	25%	1.0 (3.7)
	50%	1.4 (5.2)
	75%	2.0 (7.5)
	100%	2.8 (10.5)

* Fuel supply installation must accommodate fuel consumption rate at 100% load.

COOLING

Standby	
Coolant Flow	gpm (Lpm)
Coolant System Capacity	gal (L)
Heat Rejection to Coolant	BTU/hr (kW)
Inlet Air	scfm (m³/hr)
Maximum Operating Ambient Temperature	°F (°C)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0192293830
Maximum Radiator Backpressure	in H₂O (kPa)

COMBUSTION AIR REQUIREMENTS

Standby	
Flow at Rated Power scfm (m³/min)	80 (2.5)

ENGINE

Standby		EXHAUST	
Rated Engine Speed	RPM	Exhaust Flow (Rated Output)	scfm (m³/min)
Nonpower at Rated kW**	hp	Max. Allowable Backpressure (Post Turbocharger)	inHg (kPa)
Piston Speed	ft/min (m/min)	Exhaust Temp (Rated Output)	°F (°C)
BMEP	psi (kPa)		

** Refer to "Emissions Data Sheet" for maximum BHP for EPA and SCAQMD permitting purposes.

Derate - Operational characteristics consider maximum ambient conditions. Derate factors may apply under physical site conditions. Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards. Standby - See Bulletin 0187500388
Prime - See Bulletin 0187510388

SPEC SHEET

SD030 | 2.2L | 30 kW
INDUSTRIAL DIESEL GENERATOR SET
EPA Certified Stationary Emergency



DIMENSIONS AND WEIGHTS*

OPEN SET (Includes Exhaust Flex)

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	75.0 (1,300)	37.4 (950) x 44.8 (1,138)	1,641 (745)
19	54 (204)	75.0 (1,800) x 37.4 (950) x 57.8 (1,468)	2,121 (963)
47	132 (501)	75.0 (1,800) x 37.4 (950) x 69.8 (1,773)	2,351 (1,067)
75	211 (799)	75.0 (1,800) x 37.4 (950) x 81.8 (2,078)	2,560 (1,162)
107	300 (1,136)	92.9 (2,360) x 37.4 (950) x 81.8 (2,078)	2,623 (1,190)

WEATHER PROTECTED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	94.8 (2,409)	38.0 (965) x 49.5 (1,258)	372 (170)
19	54 (204)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)	505 (230)
47	132 (501)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)	505 (230)
75	211 (799)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)	505 (230)
107	300 (1,136)	94.8 (2,409) x 38.0 (965) x 98.5 (2,498)	505 (230)

LEVEL 1 ACOUSTIC ENCLOSURE

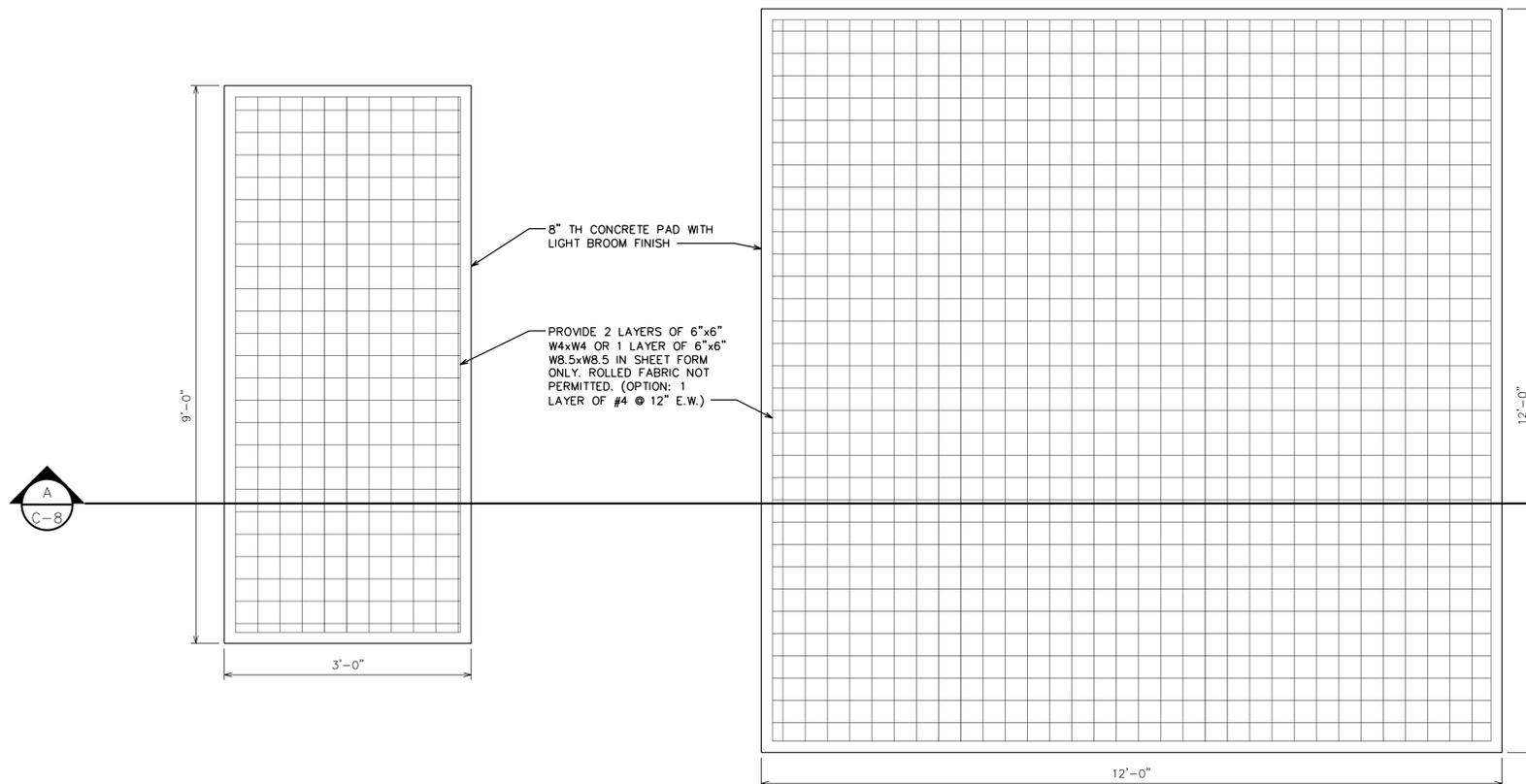
Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	112.5 (2,857)	38.0 (965) x 62.5 (1,588)	505 (230)
19	54 (204)	112.5 (2,857) x 38.0 (965) x 82.5 (2,093)	510 (232)
47	132 (501)	112.5 (2,857) x 38.0 (965) x 94.5 (2,398)	510 (232)
75	211 (799)	112.5 (2,857) x 38.0 (965) x 106.5 (2,698)	510 (232)
107	300 (1,136)	112.5 (2,857) x 38.0 (965) x 118.5 (2,998)	510 (232)

LEVEL 2 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	94.8 (2,409)	38.0 (965) x 61.1 (1,551)	510 (232)
19	54 (204)	94.8 (2,409) x 38.0 (965) x 74.1 (1,881)	510 (232)
47	132 (501)	94.8 (2,409) x 38.0 (965) x 86.1 (2,181)	

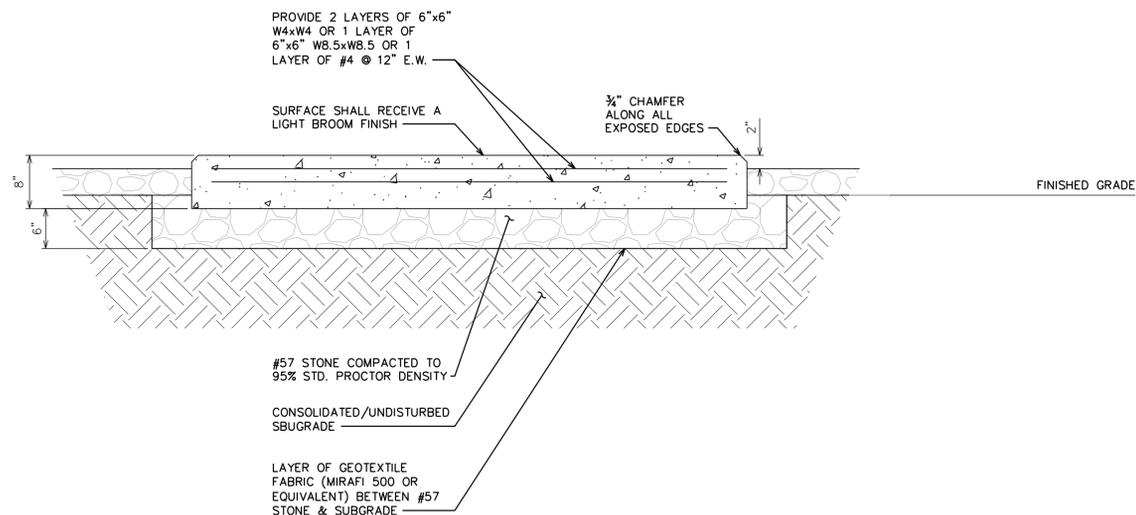
FOUNDATION NOTES:

1. FOUNDATION DESIGN BASED ON 2,000 PSF SOIL BEARING CAPACITY.
2. CONCRETE SHALL BE 4,000 PSI @ 28 DAYS.
3. REINFORCING STEEL Fy = 60,000 PSI.
4. ALL BACKFILL SHALL BE THOROUGHLY COMPACTED TO A MINIMUM OF 95% DENSITY USING THE MODIFIED PROCTER METHOD.
5. SURFACE OF FINISHED SLAB SHALL BE LEVEL AND FLAT WITH 1/4".
6. CONTRACTOR SHALL VERIFY WITH MANUFACTURER ACTUAL DIMENSIONS OF EQUIPMENT PRIOR TO LAYING OUT FOUNDATION.
7. ALL CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACI 318-11.



WIC SHELTER & GENERATOR FOUNDATION PLAN

SCALE: N.T.S



PAD SECTION

SCALE: N.T.S



161 INVERNESS DR W, 2ND FLOOR
ENGLEWOOD, CO 80112



AMERICAN TOWER
19100 VON KARMAN AVE
SUITE 200
IRVINE, CA 92612



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

AT&T SITE ID: COL02237
AT&T FA CODE: 15312482
AT&T PACE #: MRUTH042457
ATC #: 302460
BLACK FOREST

4590 HODGEN RD
COLORADO SPRINGS, CO 80908
(EL PASO COUNTY)

EXISTING 170'-0" W/ 20'
EXTENSION
SELF-SUPPORT TOWER
NSB - LTE - 1C/2C/3C/4C/5G NR
1SR

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	RRG	PRELIMINARY	EGG
B	12-10-20	CBM	90% CONSTRUCTION	EGG
C	02-17-21	BCL	90% CONSTRUCTION	EGG

SEAL:



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SHEET TITLE:
FOUNDATION DETAILS

SHEET NUMBER:
C-8

REVISION:
C

TEP #: 85172.243629



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ENGLEWOOD, CO 80112



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SUITE 200
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SEAL:



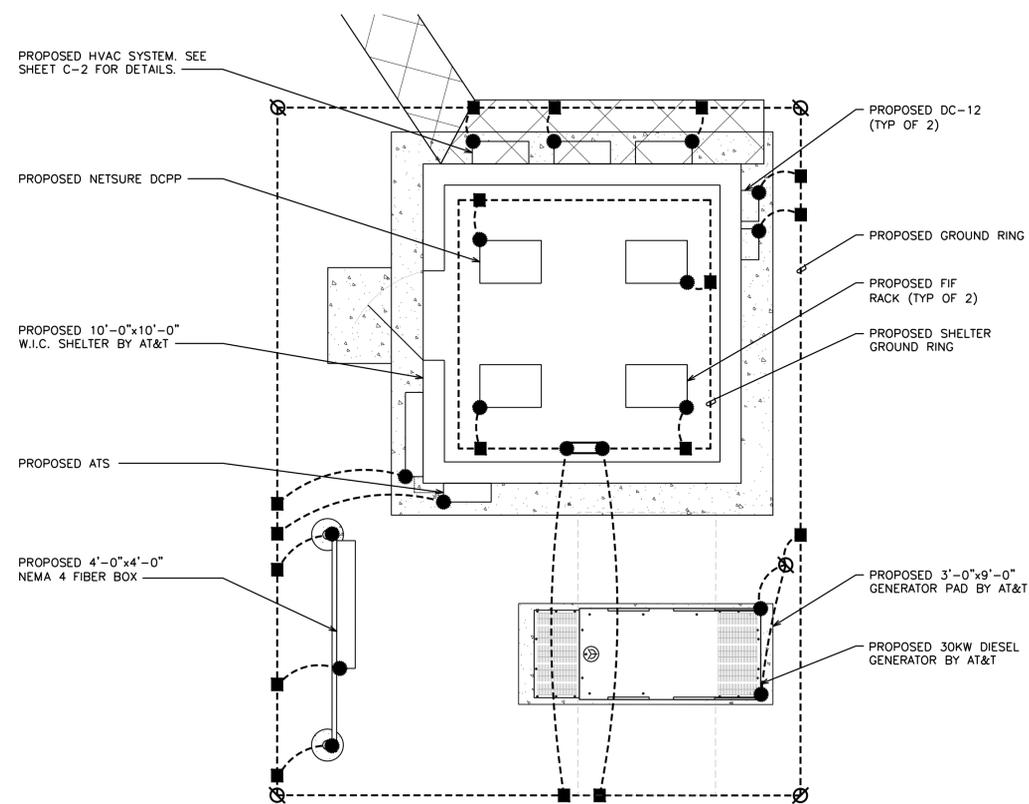
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SHEET TITLE:
ELECTRICAL PANEL &
GROUNDING PLANS

SHEET NUMBER: REVISION:

E-1 C

TEP #: 85172.243629



LEGEND

■	EXOTHERMIC CONNECTION
●	MECHANICAL CONNECTION
▭	ANTENNA GROUND BAR
⊞	MASTER GROUND BAR

EQUIPMENT GROUNDING PLAN

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

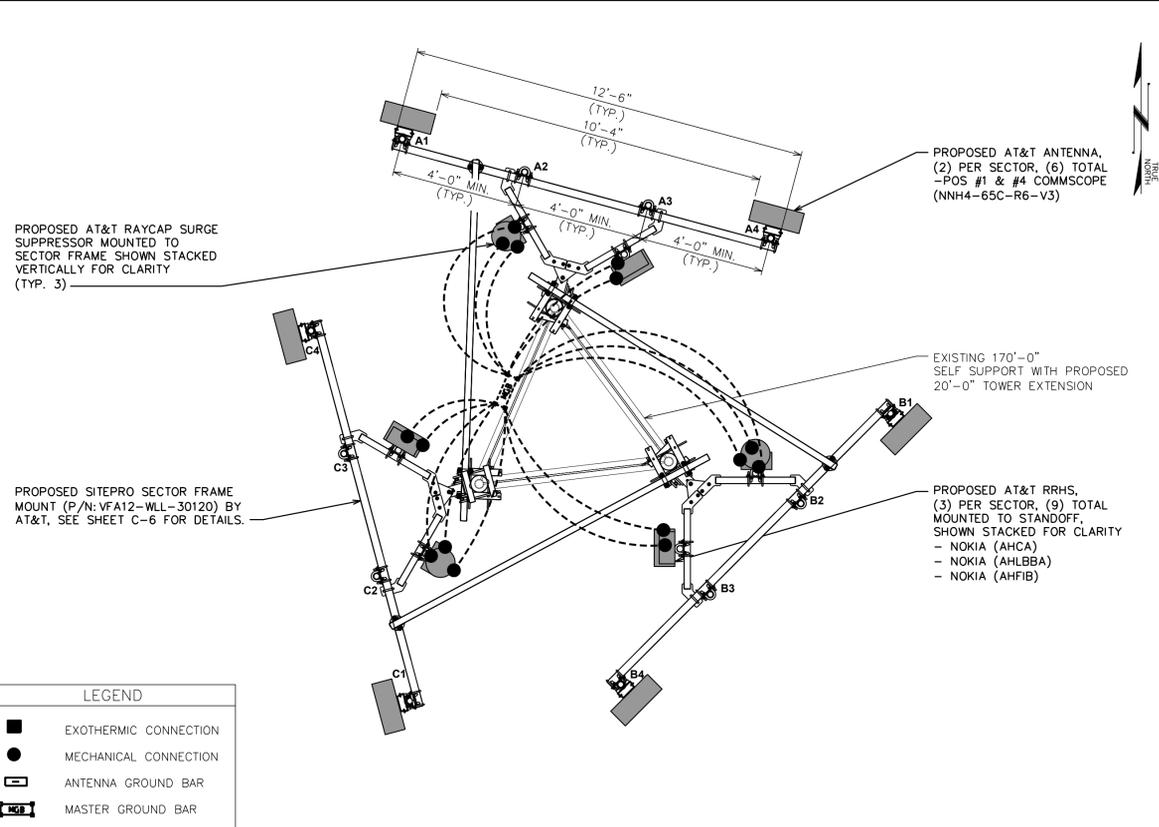
NOTE:

PROPOSED PANEL SCHEDULE VALUES WERE CALCULATED BASED ON MAXIMUM PULL FROM EACH CONNECTED BREAKER. ACTUAL VALUES WILL VARY BASED ON SITE CONDITIONS.

PROPOSED PANEL SCHEDULE											
120/240 VOLTS 1 PHASE				3 WIRE SURFACE MOUNTED				225A, 2 POLE MAIN BREAKER			
NO.	LOAD SERVED	ØA VA	ØB VA	AMP/ POLE	L1	L2	AMP/ POLE	ØA VA	ØB VA	LOAD SERVED	NO.
1	RECTIFIERS #1 & #2	2880	-	30/2	5760	-	30/2	2880	-	RECTIFIERS #3 & 4	2
3		-	2880	-	-	5760	-	-	2880		4
5	RECTIFIERS #5 & 6	2880	-	30/2	2880	-	30/2	0	-	SPARE/OFF	6
7		-	2880	-	-	2880	-	-	0		8
9	SPARE/OFF	0	-	30/2	0	-	30/2	0	-	SPARE/OFF	10
11		-	0	-	-	0	-	-	0		12
13	SPARE/OFF	0	-	30/2	0	-	30/2	0	-	SPARE/OFF	14
15		-	0	-	-	0	-	-	0		16
17	SPARE/OFF	0	-	30/2	0	-	30/2	0	-	SPARE/OFF	18
19		-	0	-	-	0	-	-	0		20
21	SPARE/OFF	0	-	30/2	0	-	30/2	0	-	SPARE/OFF	22
23		-	0	-	-	0	-	-	0		24
25	AC UNIT #1	1920	-	20/1	1920	-	-	-	-	BLANK	26
27	BLANK	-	-	-	-	0	-	-	-	BLANK	28
29	BLANK	-	-	-	-	0	-	-	-	BLANK	30
31	BLANK	-	-	-	-	0	-	-	-	BLANK	32
33	BLANK	-	-	-	-	0	-	-	-	BLANK	34
35	BLANK	-	-	-	-	0	-	-	-	BLANK	36
37	BLANK	-	-	-	-	0	-	-	-	BLANK	38
39	BLANK	-	-	-	-	0	-	-	-	BLANK	40
PHASE TOTALS (VA)					10560	8640					
CURRENT PER PHASE (A)					88	72					
PEAK TOTAL (VA)					10560	88	PEAK TOTAL (A)				
125% DEMAND (VA)					13200	110	125% DEMAND (A)				

PROPOSED A/C PANEL

SCALE: N.T.S.



LEGEND

■	EXOTHERMIC CONNECTION
●	MECHANICAL CONNECTION
▭	ANTENNA GROUND BAR
⊞	MASTER GROUND BAR

ANTENNA GROUNDING PLAN

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



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EXISTING 170'-0" W/ 20'
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NSB - LTE - 1C/2C/3C/4C/5G NR
1SR

ISSUED FOR:

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SHEET TITLE:
ONE-LINE DIAGRAM

SHEET NUMBER: REVISION:

E-2

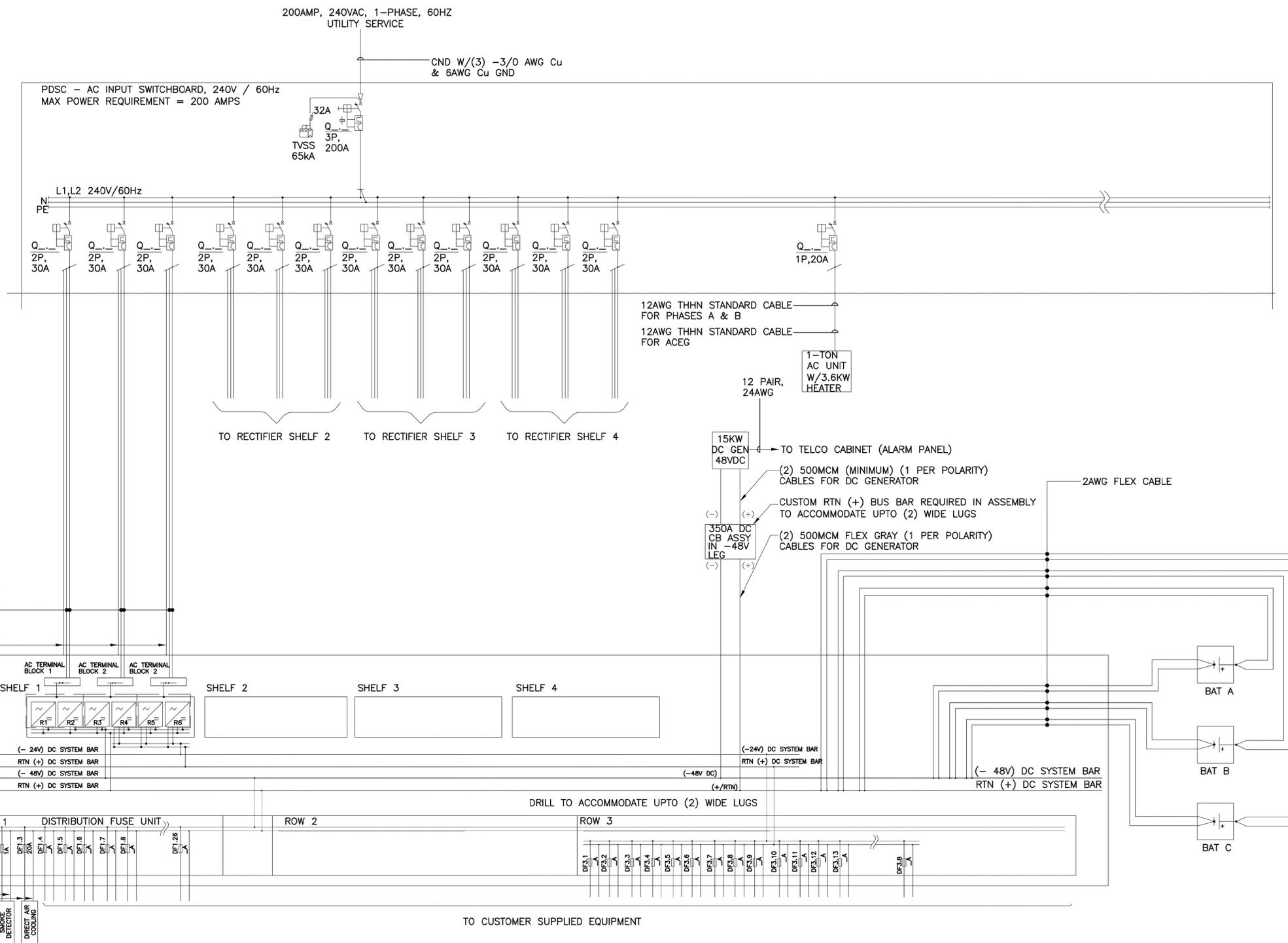
C

TEP #: 85172.243629

SYMBOLS

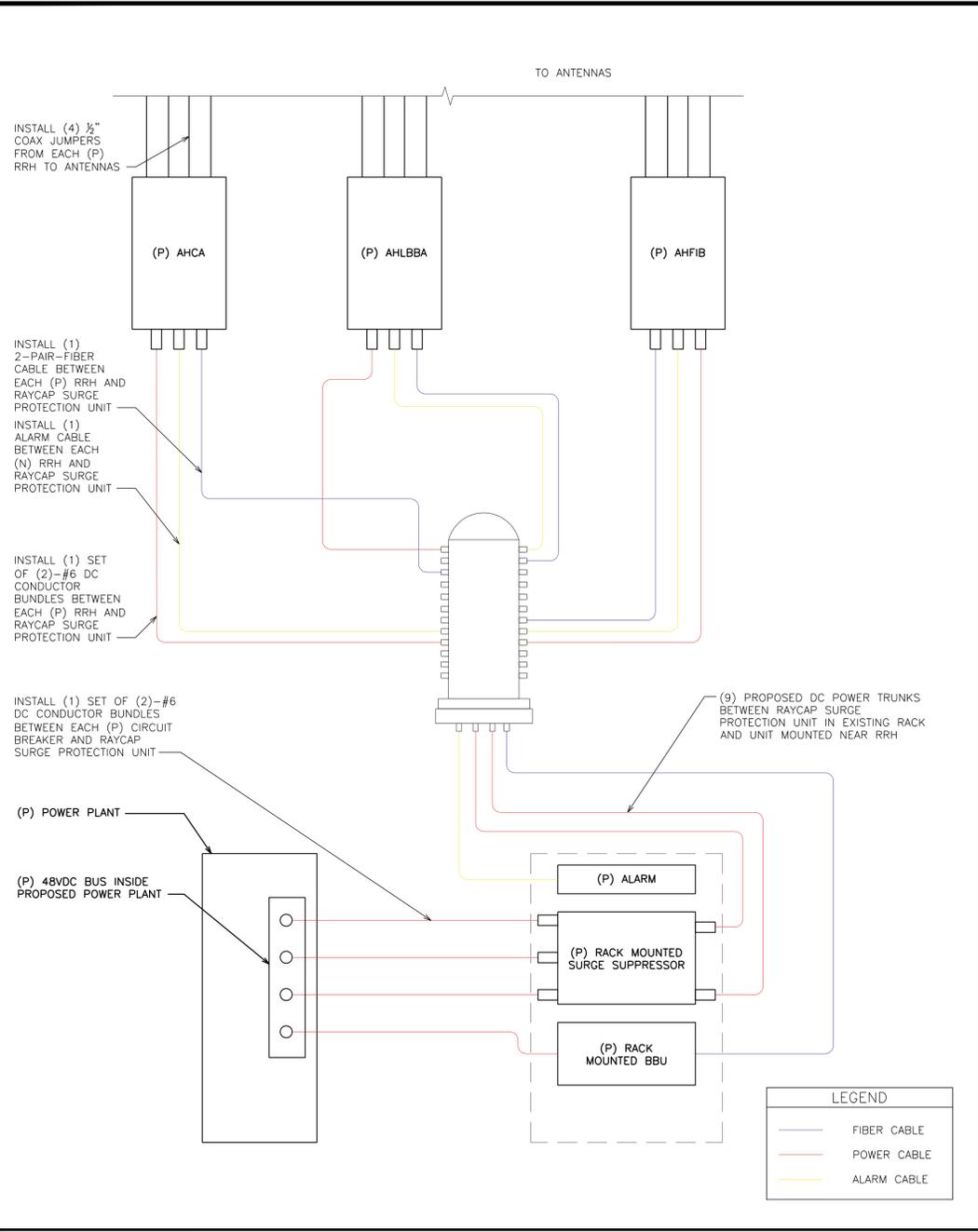
	MOTOR CIRCUIT BREAKERS WITH MECHANICAL INTERLOCK
	MINIATURE CIRCUIT BREAKER (MCB)
	MOLDED CASE CIRCUIT BREAKER (MCCB)
	CIRCUIT BREAKER WITH RESIDUAL CURRENT DEVICE COMBINATION (RCD)
	CONTACTOR WITH AUXILIARY CONTACTS
	SHUNT TRIP RELAY
	AUXILIARY CONTACT 1A&1B (N.O.&N.C.)
	LIGHT SWITCH-3 WAY (MULTIPLE LAMPS ON/OFF)

NOTE:
L1,L2,L3 - PHASES 1, 2 & 3 (LIVE)
N - NEUTRAL
PE - PROTECTIVE EARTH (EQUIPMENT GROUNDING CONDUCTOR)



ELECTRICAL AC/DC SINGLE LINE DIAGRAM

SCALE: N.T.S.



DC AND FIBER SYSTEM SCHEMATIC

SCALE: N.T.S.

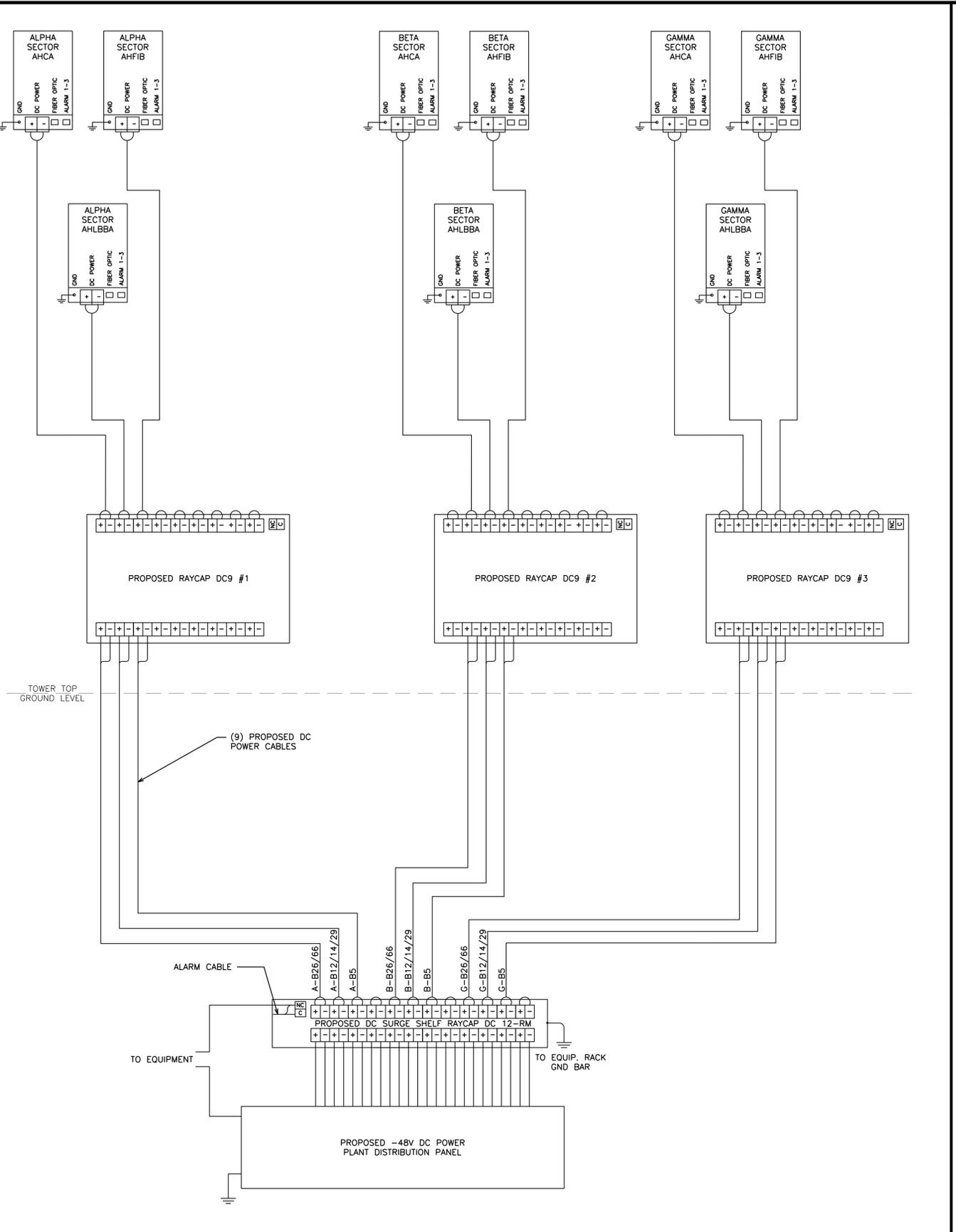
PDF JUMPER DC-6 TRUNK SQUID JUMPER RRH

CABLE LENGTH TABLE					
SECTOR	PDF	DISTANCE & CABLE TYPE	DISTANCE & CABLE TYPE	DISTANCE & CABLE TYPE	RRH
ALPHA	20'	#6 AWG	DC-6 285' (2) #6 AWG	SQUID 15' #6 AWG	RRH
BETA	20'	#6 AWG	DC-6 285' (2) #6 AWG	SQUID 15' #6 AWG	RRH
GAMMA	20'	#6 AWG	DC-6 285' (2) #6 AWG	SQUID 15' #6 AWG	RRH
					TOTAL CABLE LENGTH
					320'
					FINAL VOLTAGE
					38.1

CABLE COUNT	
QTY	CABLE TYPE
3	FIBER TRUNK
6	DC TRUNKS

LTE CONDUCTOR SIZES

SCALE: N.T.S.



DC WIRING DIAGRAM

SCALE: N.T.S.

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C	02-17-21	BCL	90% CONSTRUCTION	EGG

SEAL:

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SHEET TITLE:
DC SYSTEM DETAILS

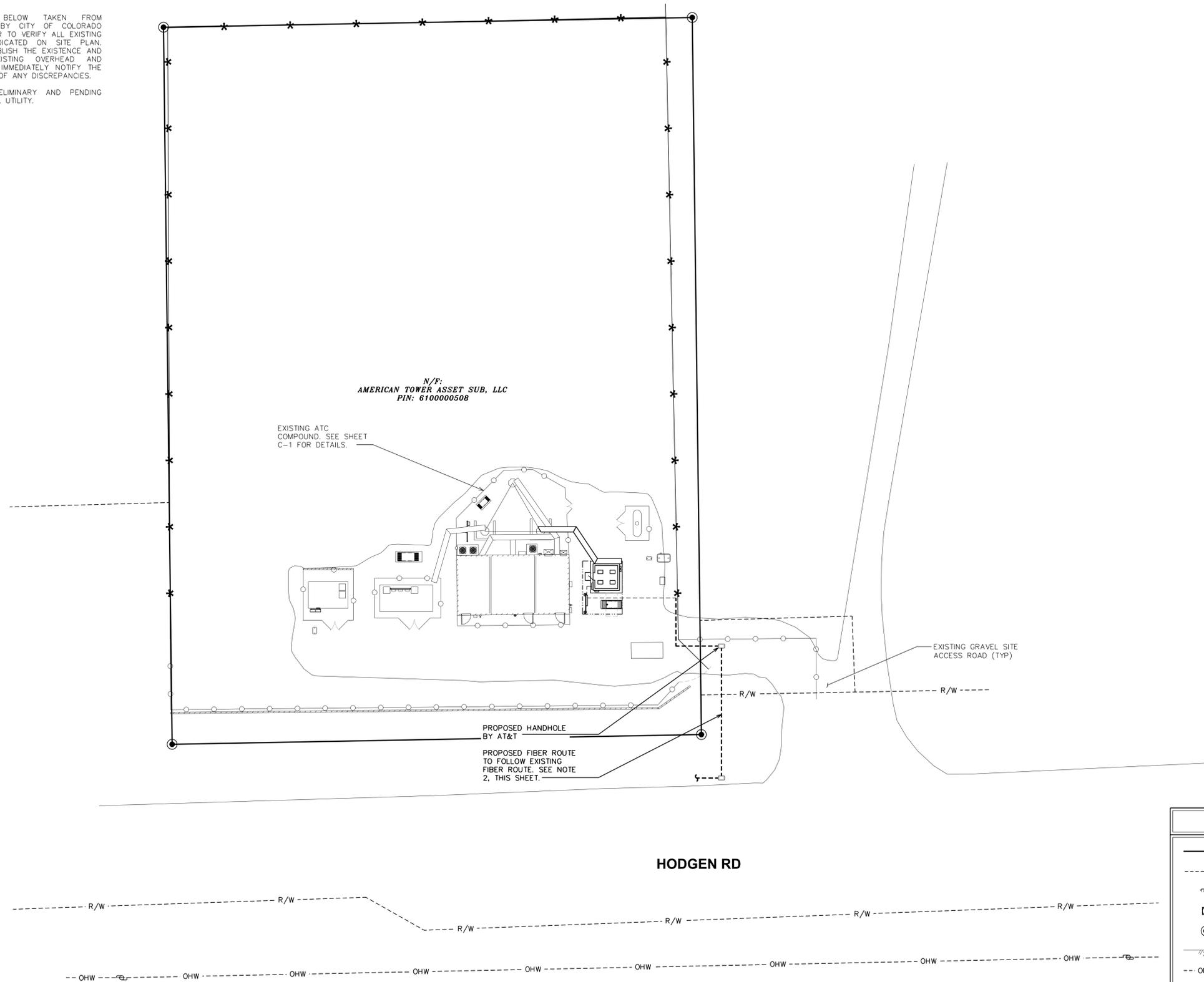
SHEET NUMBER:
E-3

REVISION:
C

TEP #: 85172.243629

NOTES:

1. SITE PLAN SHOWN BELOW TAKEN FROM INFORMATION PROVIDED BY CITY OF COLORADO SPRINGS GIS. CONTRACTOR TO VERIFY ALL EXISTING INFORMATION IS AS INDICATED ON SITE PLAN. CONTRACTOR IS TO ESTABLISH THE EXISTENCE AND LOCATION OF ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES.
2. UTILITY ROUTING IS PRELIMINARY AND PENDING COORDINATION WITH LOCAL UTILITY.



LEGEND

- PARENT PROPERTY LINE
- - - - - ADJ. PROPERTY LINE
- ⊙ EXIST. UTILITY POLE
- ⊞ EXIST. TELCO PEDESTAL
- PROPERTY CORNER
- EDGE OF PAVEMENT
- - OHW - - OVERHEAD WIRE
- - R/W - - RIGHT-OF-WAY
- x - CHAIN LINK FENCE
- ~ ~ ~ EXISTING TREE LINE

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AT&T SITE ID: COL02237
AT&T FA CODE: 15312482
AT&T PACE #: MRUTH042457
ATC #: 302460
BLACK FOREST

4590 HODGEN RD
COLORADO SPRINGS, CO 80908
(EL PASO COUNTY)

EXISTING 170'-0" W/ 20'
EXTENSION
SELF-SUPPORT TOWER
NSB - LTE - 1C/2C/3C/4C/5G NR
1SR

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	RRG	PRELIMINARY	EGG
B	12-10-20	CBM	90% CONSTRUCTION	EGG
C	02-17-21	BCL	90% CONSTRUCTION	EGG

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SHEET TITLE:
FIBER ROUTING PLAN

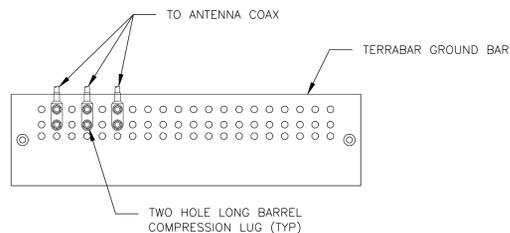
SHEET NUMBER:
E-4

REVISION:
C

TEP #: 85172.243629

NOTES:

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

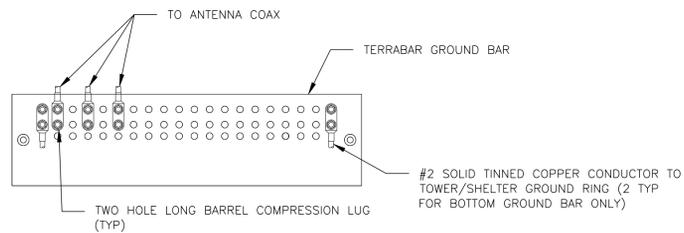


ANTENNA GROUND BAR DETAIL

SCALE: N.T.S.

NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. INSTALL GROUND BARS AT 75 FT. INTERVAL MAXIMUM.
4. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

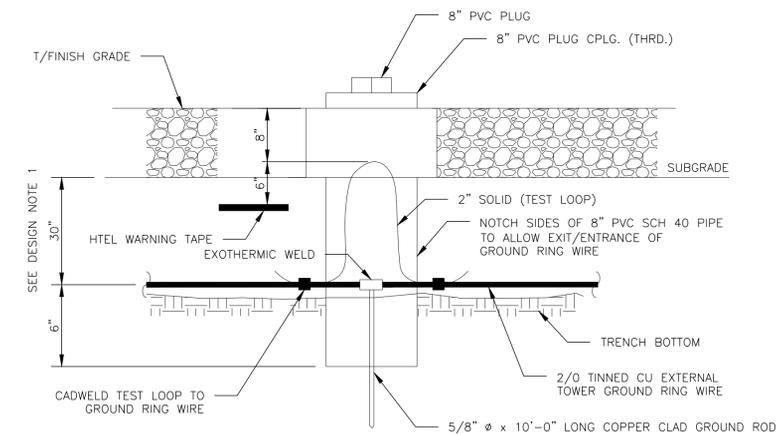


TOWER/SHELTER GROUND BAR DETAIL

SCALE: N.T.S.

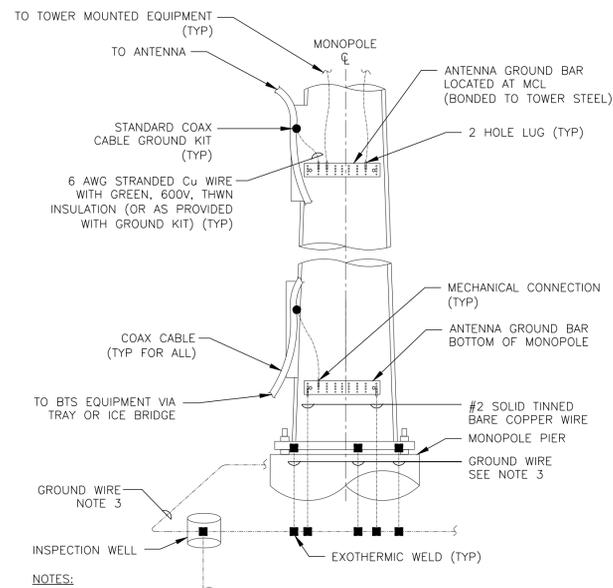
NOTES:

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



TEST WELL DETAIL

SCALE: N.T.S.

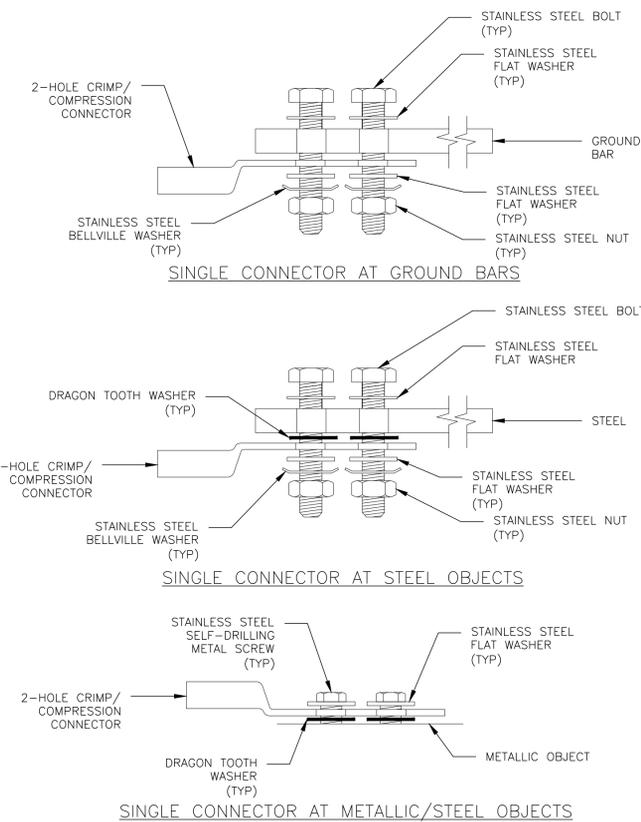


NOTES:

1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF MONOPOLE, ANTENNA LOCATION AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET IN/ON THE POLE SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
2. ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF ANS/TIA 222 AND NFPA 780. FOR TOWERS BEING BUILT TO REV G OF THE STANDARD, THE WIRE SIZE OF THE BURIED GROUND RING AND CONNECTIONS BETWEEN THE TOWER AND THE BURIED GROUND RING SHALL BE 2/0 AWG. STRANDED IN ADDITION, THE MINIMUM LENGTH OF THE GROUND RODS SHALL BE INCREASED FROM 8 FEET TO 10 FEET.

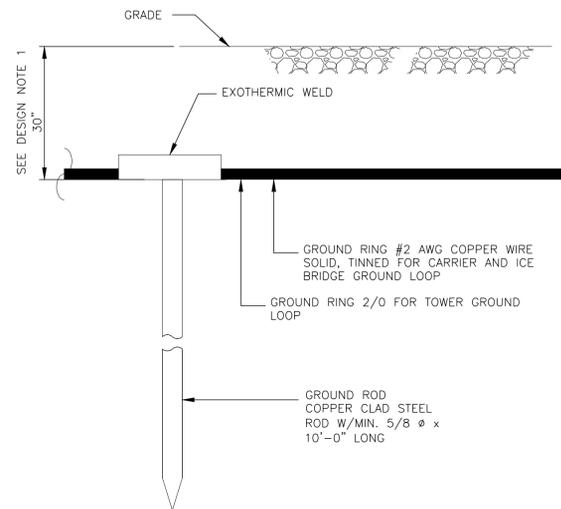
TYPICAL ANTENNA CABLE GROUNDING

SCALE: N.T.S.



HARDWARE DETAIL FOR EXTERIOR CONNECTIONS

SCALE: N.T.S.



NOTES:

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

GROUND ROD

SCALE: N.T.S.



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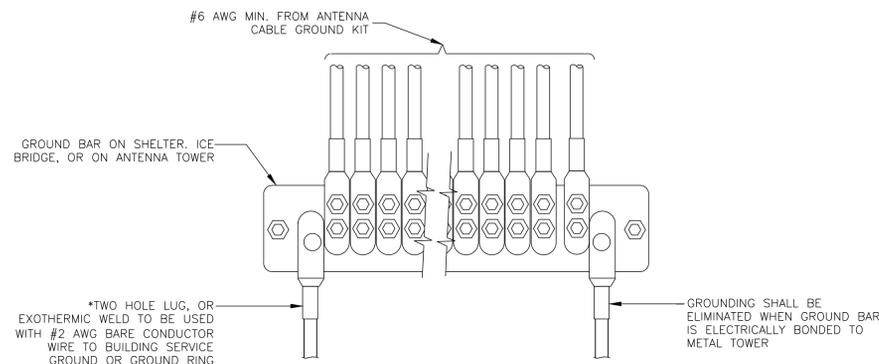
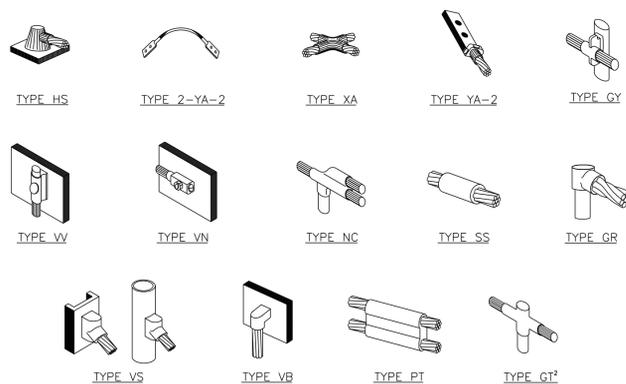
SHEET TITLE:
GROUNDING DETAILS

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

TEP #: 85172.243629

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.

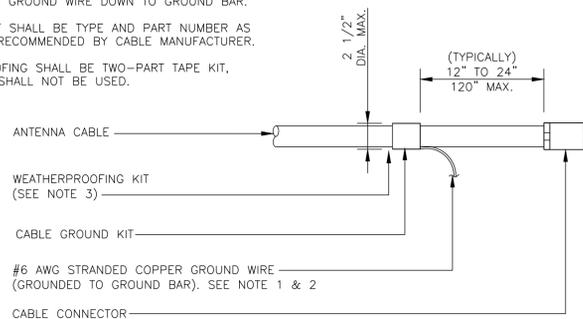


GROUNDWIRE INSTALLATION

SCALE: N.T.S.

NOTES:

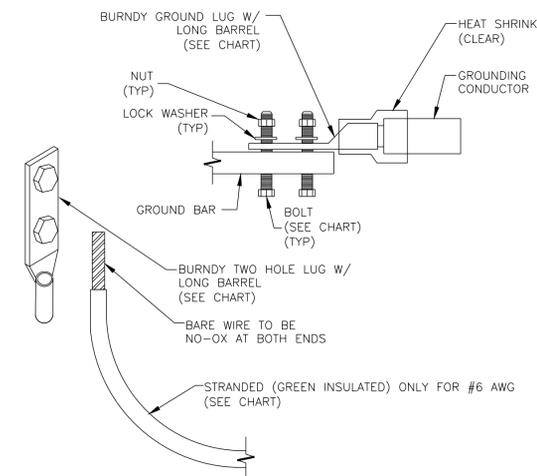
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.



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.

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

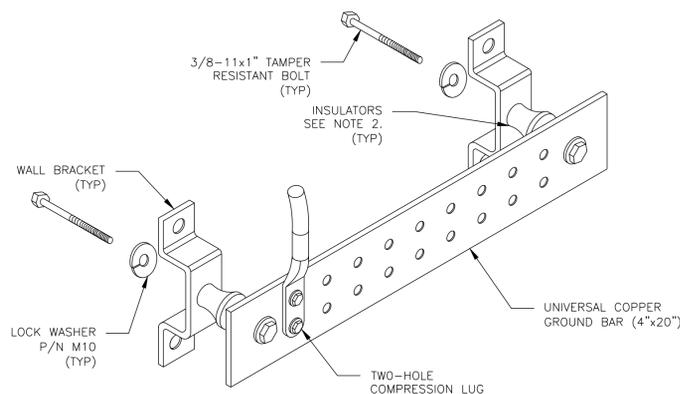


CADWELD GROUNDING CONNECTIONS

SCALE: N.T.S.

NOTES:

1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-ST0-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL. USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.



GROUND BAR DETAIL

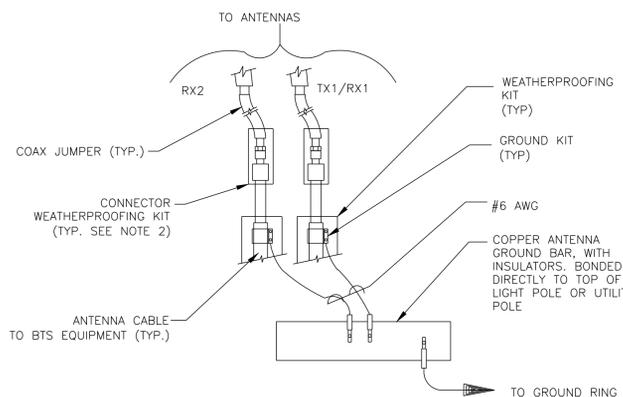
SCALE: N.T.S.

CABLE GROUND KIT CONNECTION

SCALE: N.T.S.

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.

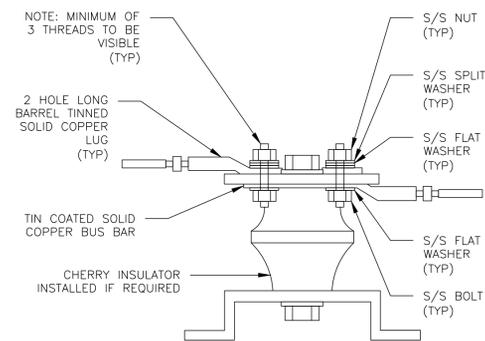


GROUND CABLE CONNECTION

SCALE: N.T.S.

MECHANICAL LUG CONNECTION

SCALE: N.T.S.



LUG DETAIL

SCALE: N.T.S.



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SHEET TITLE:
GROUNDING DETAILS

SHEET NUMBER:
G-2

REVISION:
C

TEP #: 85172.243629