AT&T

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

AT&T SITE NAME: WIDEFIELD HIGH SCHOOL CO
AT&T SITE ID: COL02205
AT&T PACE NUMBER: MRUTH042458
AT&T FA CODE: 15312479
USID: 295097
NSB - MONOPOLE
LTE 1C/2C/3C/4C/5G NR 1SR

AMERICAN TOWER®

ATC SITE NAME: WIDEFIELD HIGH SCHOOL II
ATC SITE NUMBER: 370609
SITE ADDRESS: 527 WIDEFIELD DRIVE
COLORADO SPRINGS, CO 80911
(EL PASO COUNTY)

LOCATION MAP

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.tepgroup.net

AT&T SITE ID: COL02205
AT&T FA CODE: 15312479
AT&T PACE #: MRUTH042458
ATC #: 370609
WIDEFIELD HIGH SCHOOL II

527 WIDEFIELD DRIVE
COLORADO SPRINGS,
CO 80911
(EL PASO COUNTY)
EXISTING 119'-0"
MONOPOLE TOWER
NSB - LTE - 1C/2C/3C/4C/
5G NR 1SR

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	KT	PRELIMINARY	EGG
B	12-14-20	SDD	90% CONSTRUCTION	EGG
C	02-18-21	CAK	90% CONSTRUCTION	EGG
D	04-23-21	GV	100% CONSTRUCTION	EGG
1	12-13-21	SRZ	100% CONSTRUCTION	EGG

SEAL:

December 13, 2021

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:	REVISION:
T-1	1

TEP #: 177861.243634

*LATITUDE N 38° 45' 17.39" (38.75483°)
*LONGITUDE W 104° 43' 50.02" (-104.73056°)

*GROUND ELEV. (AMSL) = 5,795'±

*INFORMATION PROVIDED BY ATC

TOWER COORDINATES

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 AUTHORITES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING:

1. INTERNATIONAL BUILDING CODE (2018 EDITION)
2. INTERNATIONAL CODE COUNCIL
3. ANSI/TIA/EIA-222-H
4. NATIONAL ELECTRIC CODE (2020 EDITION)
5. LOCAL BUILDING CODE
6. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

AT&T SITE NAME:	WIDEFIELD HIGH SCHOOL CO	PROJECT DESCRIPTION:	COLLOCATION
AT&T SITE ID:	COL02205	TOWER TYPE:	119' MONOPOLE
FA:	15312479	JURISDICTION:	EL PASO COUNTY
PACE NUMBER:	MRUTH042458	LEASE AREA:	300 SQ FT
ATC SITE NAME:	WIDEFIELD HIGH SCHOOL II	CURRENT ZONING:	A-5
ATC SITE NUMBER:	370609	PROPERTY TAX SCHEDULE NUMBER:	6512300001

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 27603
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 27603
CONTACT: GRAHAM M. ANDRES, P.E.
PHONE: (919) 661-6351

PROPERTY OWNER:
NAME: WIDEFIELD SCHOOL DISTRICT NO 3
ADDRESS: 1820 MAIN ST
CITY, STATE, ZIP: COLORADO SPRINGS, CO 80911

PROJECT TEAM

SHEET:	DESCRIPTION:	REV
T-1	TITLE SHEET	1
T-2	GENERAL NOTES	0
C-1.1	SITE PLAN	1
C-1.2	COMPOUND DETAIL	0
C-2	EQUIPMENT & ANTENNA LAYOUTS	0
C-3	EXISTING AND FINAL ELEVATIONS	0
C-4	EQUIPMENT DETAILS	0
C-5	EQUIPMENT DETAILS	0
C-6	WIC SHELTER DETAILS	0
C-7	GENERATOR DETAILS	0
C-8	FOUNDATION DETAILS	0
E-1	ELECTRICAL PANEL & GROUNDING PLANS	0
E-2	ONE-LINE DIAGRAM	0
E-3	DC SYSTEM DETAILS	0
G-1	GROUNDING DETAILS	0
G-2	GROUNDING DETAILS	0

SHEET INDEX

POWER COMPANY:	COLORADO SPRINGS UTILITIES
CONTACT:	CUSTOMER SERVICE
PHONE:	(719) 448-4800
METER # NEAR SITE:	UNKNOWN
TELEPHONE COMPANY:	LEC UNASSIGNED
CONTACT:	UNKNOWN
PHONE:	UNKNOWN
PHONE # NEAR SITE:	UNKNOWN
PEDESTAL # NEAR SITE:	UNKNOWN

UTILITY INFORMATION

DESIGN PACKAGE BASED ON RF DATA SHEET
RFDS NAME: COL02205
REVISION: 1.00
ISSUED: 09/21/2020 5:43:37 P.M.
DATE UPDATED: 10/14/2020 11:33:08 A.M.

NUMBER OF SECTORS: 3
NUMBER OF ANTENNAS: 6
NUMBER OF TMAs: 0
NUMBER OF RRHs: 9
NUMBER OF FIBER/DC SQUIDS: 0
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 (3) SECTOR FRAMES
- INSTALL (6) ANTENNAS
- INSTALL (9) RRHs
- INSTALL (3) SQUIDS
- INSTALL (3) FIBER TRUNKS
- INSTALL (6) DC TRUNKS

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 AND DISCONNECT
- INSTALL FIBER BOX

NSB - MONOPOLE
LTE - 1C/2C/3C/4C/5G NR 1SR

SCOPE OF WORK

FROM COLORADO SPRINGS DOWNTOWN HEAD SOUTH ON I-25, TAKE EXIT 135 AND TURN LEFT ONTO S ACADEMY BLVD FOR .8 MILES, TAKE US 85 RAMP TO FOUNTAIN AND TAKE US 85 SOUTH FOR 1.4 MILES, TURN LEFT ONTO MAIN ST FOR .4 MILES, TURN RIGHT ONTO NORMAN DR. FOR .1 MILES, CONTINUE ONTO WIDEFIELD DR. FOR .3 MILES, TURN LEFT ONTO HACKBERRY DR. FOLLOW THE ROAD TOWARDS THE BACK ENTRANCE OF THE FOOTFIELD FIELD SITE WILL BE ON THE RIGHT.

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.

PCD FILE NO. PPR-21-034

GENERAL NOTES

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 NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT 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 ½" 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 OD 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 STATED.

G. ANTENNA AND COAXIAL CABLE GROUNDING:

2. ALL EXTERIOR #6 GREED GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE 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 306) 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. TIE 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.

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OFFICE: (480) 285-0036
www.tepgroup.net

AT&T SITE ID: COL02205
AT&T FA CODE: 15312479
AT&T PACE #: MRUTH042458
ATC #: 370609
WIDEFIELD HIGH SCHOOL II

527 WIDEFIELD DRIVE
COLORADO SPRINGS,
CO 80911
(EL PASO COUNTY)
EXISTING 119'-0"
MONOPOLE TOWER
NSB - LTE - 1C/2C/3C/4C/
5G NR 1SR

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	KT	PRELIMINARY	EGG
B	12-14-20	SDD	90% CONSTRUCTION	EGG
C	02-18-21	CAK	90% CONSTRUCTION	EGG
D	04-23-21	GV	100% CONSTRUCTION	EGG

SEAL:

April 23, 2021

SHEET TITLE:

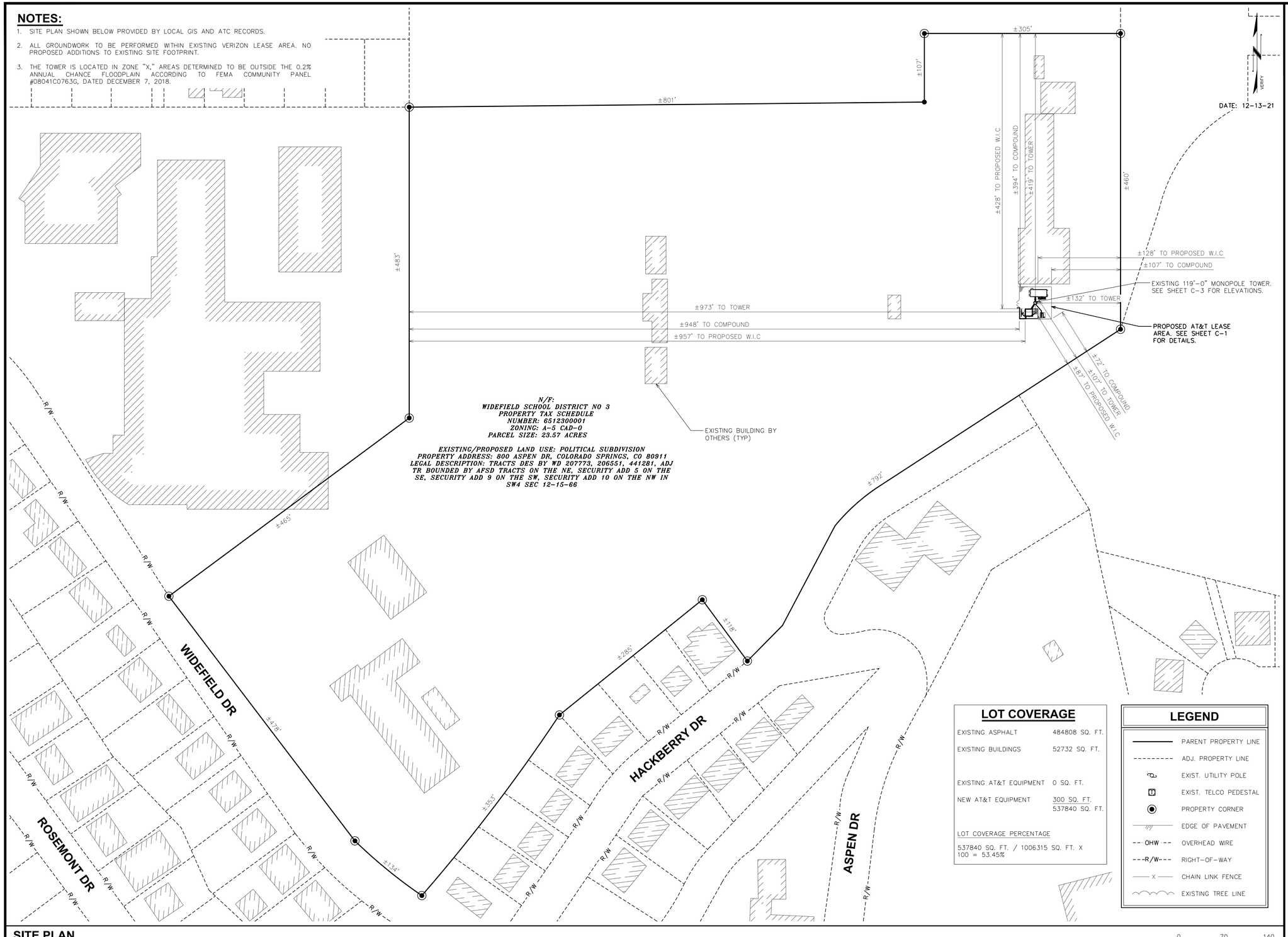
GENERAL NOTES

SHEET NUMBER:	REVISION:
T-2	0

TEP #: 177861.243634

NOTES:

1. SITE PLAN SHOWN BELOW PROVIDED BY LOCAL GIS AND ATC RECORDS.
2. ALL GROUNDWORK TO BE PERFORMED WITHIN EXISTING VERIZON LEASE AREA. NO PROPOSED ADDITIONS TO EXISTING SITE FOOTPRINT.
3. THE TOWER IS LOCATED IN ZONE "X," AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO FEMA COMMUNITY PANEL #08041C0763G, DATED DECEMBER 7, 2018.



LOT COVERAGE

EXISTING ASPHALT	484808 SQ. FT.
EXISTING BUILDINGS	52732 SQ. FT.
EXISTING AT&T EQUIPMENT	0 SQ. FT.
NEW AT&T EQUIPMENT	300 SQ. FT.
	537840 SQ. FT.

LOT COVERAGE PERCENTAGE

537840 SQ. FT. / 1006315 SQ. FT. X 100 = 53.45%

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

SITE PLAN
SCALE: 1" = 70'

0 70 140
SCALE IN FEET

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NSB - LTE - 1C/2C/3C/4C/
5G NR 1SR

ISSUED FOR:

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C	02-18-21	CAK	90% CONSTRUCTION	EGG
0	04-23-21	GV	100% CONSTRUCTION	EGG
1	12-13-21	SRZ	100% CONSTRUCTION	EGG

SEAL:

December 13, 2021

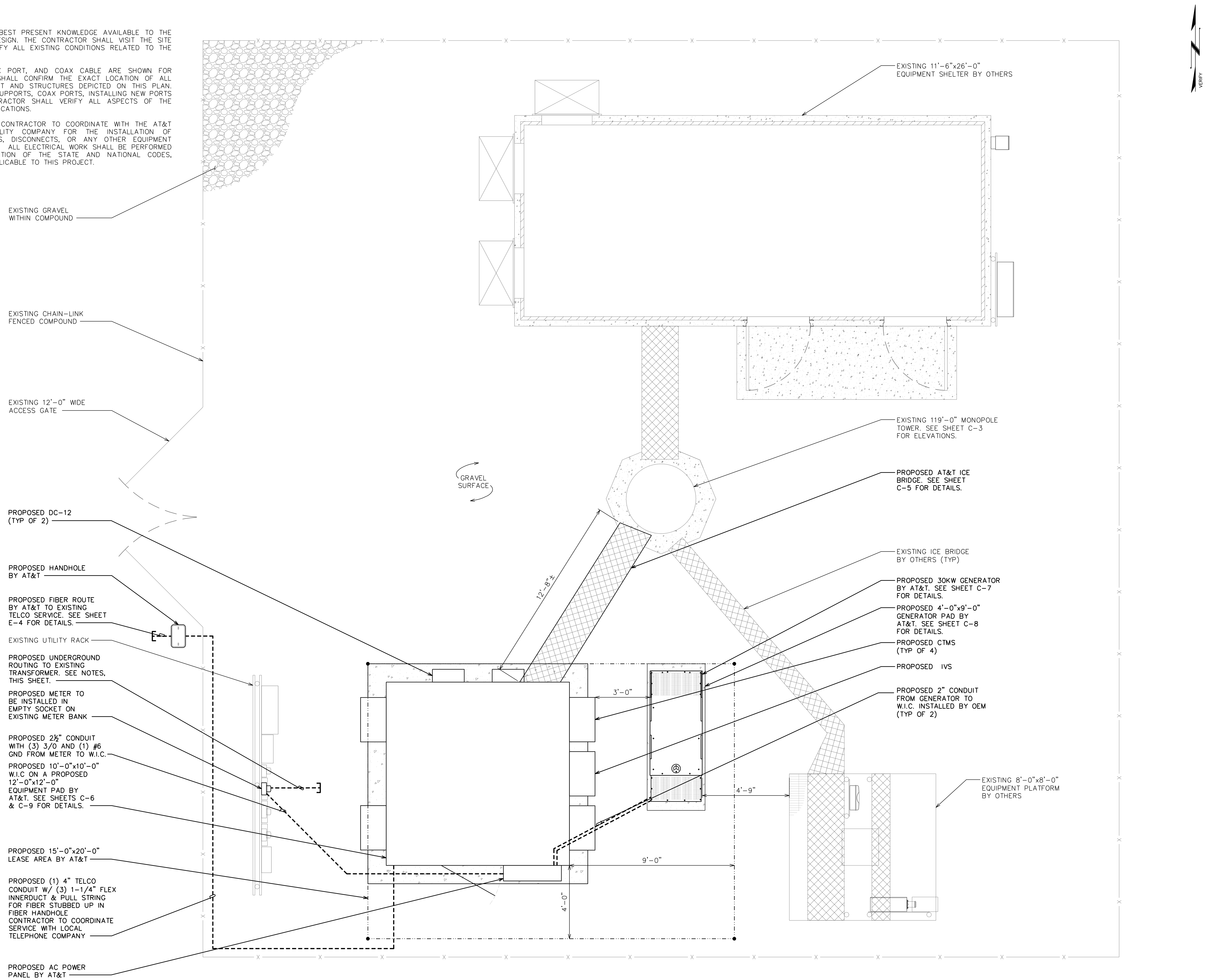
SHEET TITLE:
SITE PLAN

SHEET NUMBER:	REVISION:
C-1.1	1

TEP #: 177861.243634

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.



COMPOUND DETAIL

SCALE: 3/16" = 1'-0" (24x36)
SCALE: 3/32" = 1'-0" (11x17)

0 4 8
SCALE IN FEET

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C	02-18-21	CAK	90% CONSTRUCTION	EGG
0	04-23-21	GV	100% CONSTRUCTION	EGG

SEAL:

April 23, 2021

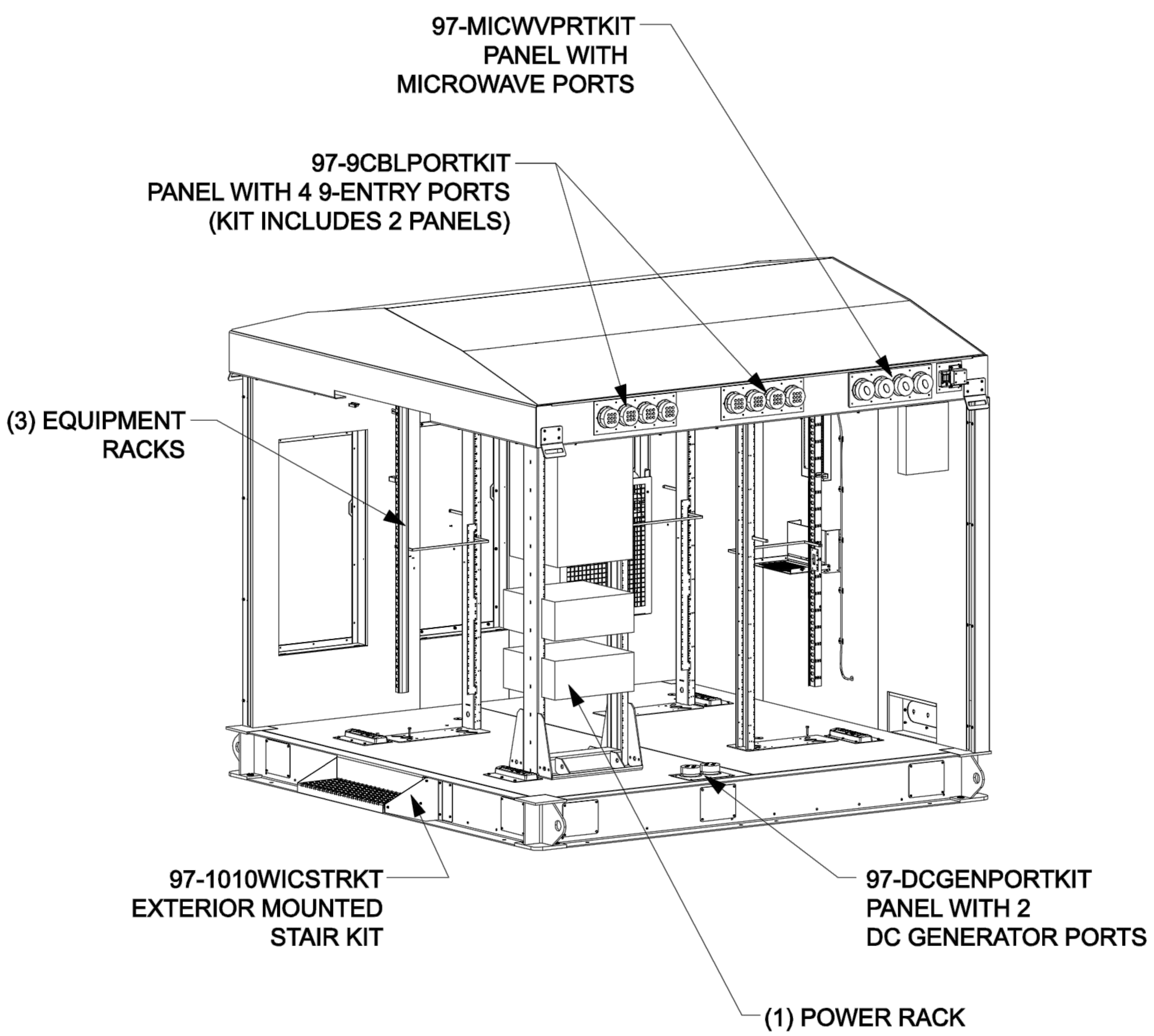
SHEET TITLE:

COMPOUND DETAIL

SHEET NUMBER: C-1.2

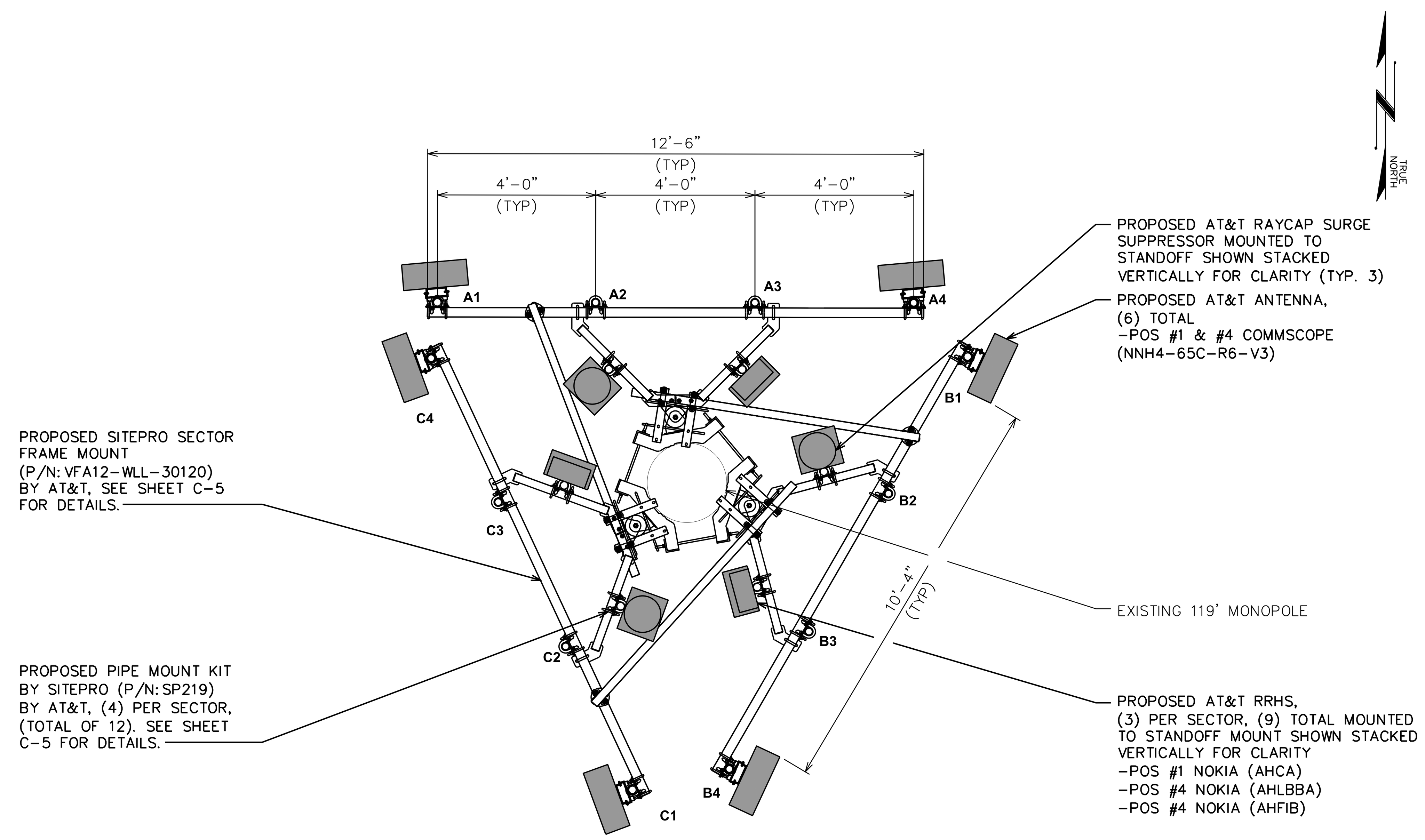
REVISION: 0

TEP #: 177861.243634



FINAL EQUIPMENT LAYOUT

SCALE: N.T.S.



FINAL ANTENNA LAYOUT

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

0 2 4
SCALE IN FEET

NOTE:

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

PROPOSED EQUIPMENT IN BOLD

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)	@ 100'-0"±	4'-0"	(6) 0.92" DC TRUNKS 6 AWG 6 (3) 0.39" FIBER TRUNKS (6) 2" CONDUITS	150'±	*(1) RAYCAP SQUID [DC9-48-60-24-8C-EV] *(1) NOKIA RRH [AIRSCALE TRI RRH 4T4R B12/14/29 370W AHLBBA] *(1) NOKIA RRH [AIRSCALE DUAL RRH 4T4R B25/66 320W AHFIB] *(1) NOKIA RRH [AIRSCALE RRH 4T4R B5 160W AHCA]
ALPHA	2	–	–				
ALPHA	3	–	–				
ALPHA	4	*COMMSCOPE (NNH4-65C-R6-V3)	@ 100'-0"±				
BETA	1	*COMMSCOPE (NNH4-65C-R6-V3)	@ 100'-0"±				*(1) RAYCAP SQUID [DC9-48-60-24-8C-EV] *(1) NOKIA RRH [AIRSCALE TRI RRH 4T4R B12/14/29 370W AHLBBA] *(1) NOKIA RRH [AIRSCALE DUAL RRH 4T4R B25/66 320W AHFIB] *(1) NOKIA RRH [AIRSCALE RRH 4T4R B5 160W AHCA]
BETA	2	–	–				
BETA	3	–	–				
BETA	4	*COMMSCOPE (NNH4-65C-R6-V3)	@ 100'-0"±				
GAMMA	1	*COMMSCOPE (NNH4-65C-R6-V3)	@ 100'-0"±				*(1) RAYCAP SQUID [DC9-48-60-24-8C-EV] *(1) NOKIA RRH [AIRSCALE TRI RRH 4T4R B12/14/29 370W AHLBBA] *(1) NOKIA RRH [AIRSCALE DUAL RRH 4T4R B25/66 320W AHFIB] *(1) NOKIA RRH [AIRSCALE RRH 4T4R B5 160W AHCA]
GAMMA	2	–	–				
GAMMA	3	–	–				
GAMMA	4	*COMMSCOPE (NNH4-65C-R6-V3)	@ 100'-0"±				

*OR SIMILAR
**CONTRACTOR TO REFER TO THE LATEST RFDS FOR FINAL CONFIGURATION

FINAL ANTENNA SCHEDULE

SCALE: N.T.S.

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ISSUED FOR:

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0	04-23-21	GV	100% CONSTRUCTION	EGG

SEAL:

April 23, 2021

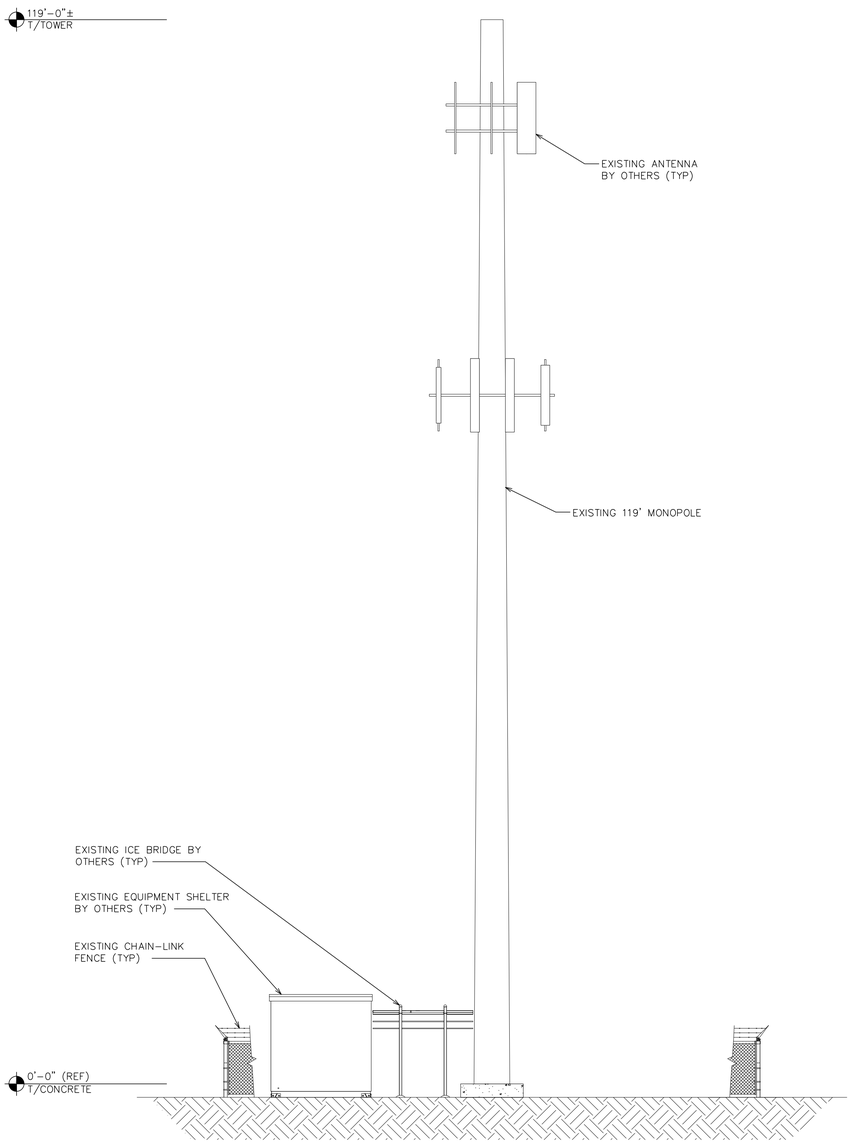
SHEET TITLE:
FINAL EQUIPMENT & ANTENNA LAYOUTS

SHEET NUMBER: C-2 **REVISION:** 0

TEP #: 177861.243634

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.



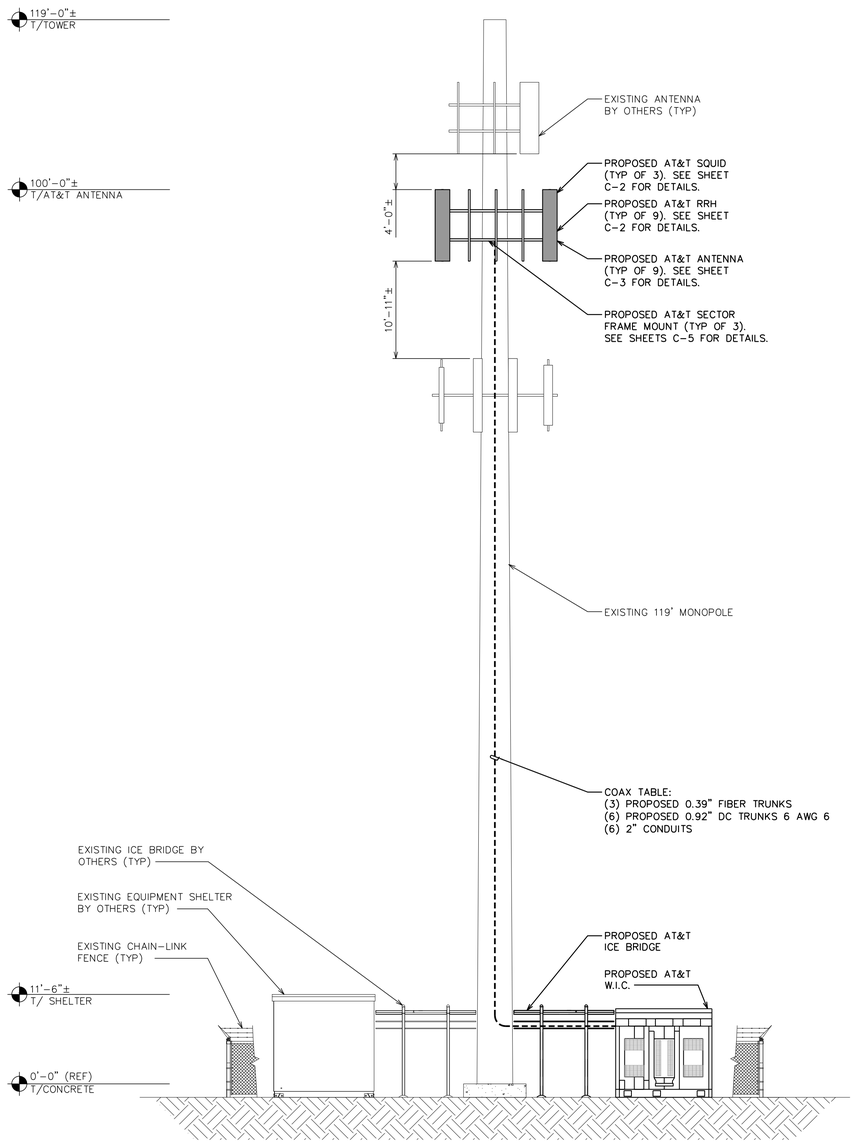
EXISTING TOWER ELEVATION

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

0 8 16
SCALE IN FEET

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.



FINAL TOWER ELEVATION

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

0 8 16
SCALE IN FEET

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WIDEFIELD HIGH SCHOOL II

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EXISTING 119'-0"
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5G NR 1SR

ISSUED FOR:

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0	04-23-21	GV	100% CONSTRUCTION	EGG

SEAL:

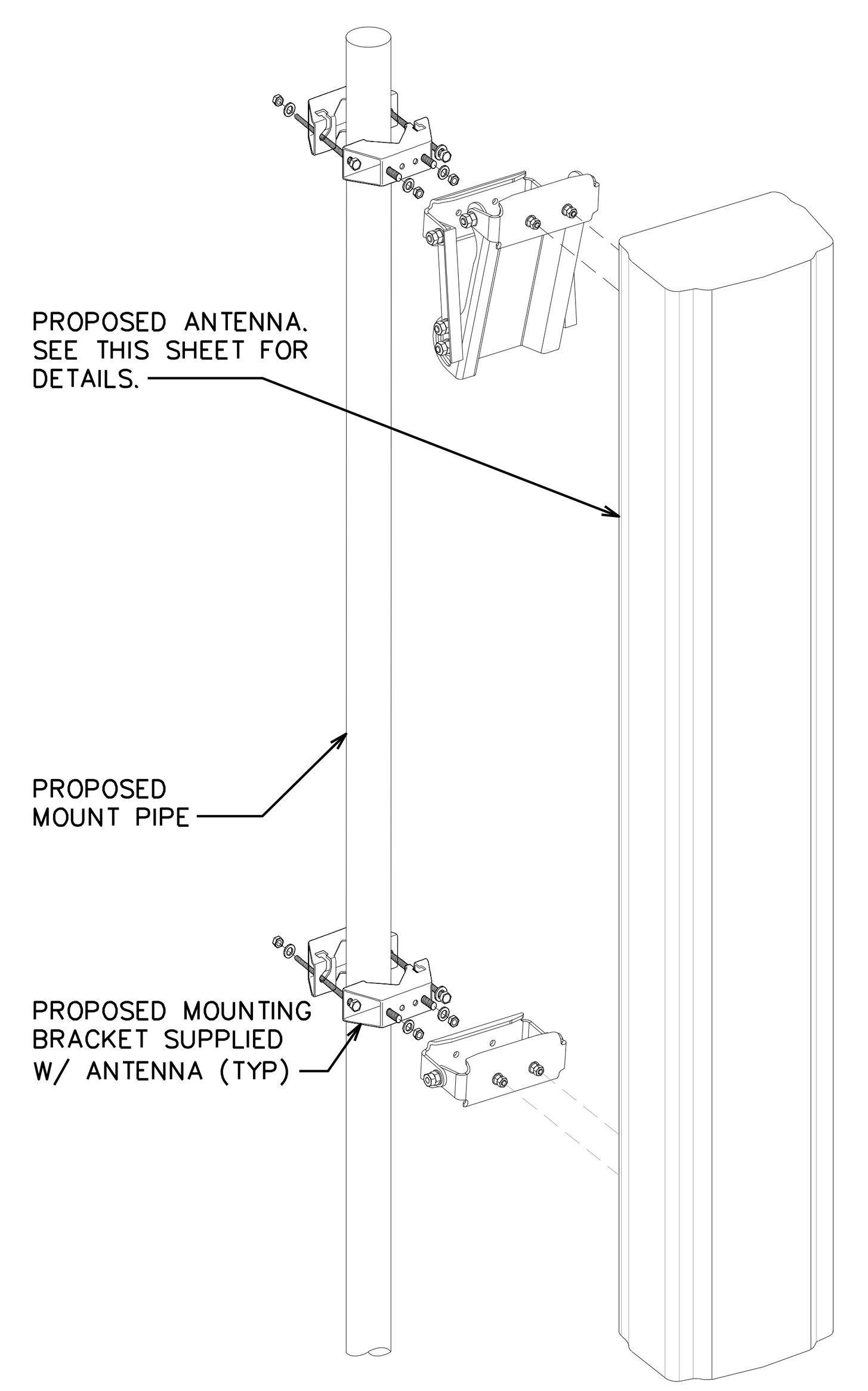
April 23, 2021

SHEET TITLE:
EXISTING AND FINAL ELEVATIONS

SHEET NUMBER:	REVISION:
C-3	0

TEP #: 177861.243634

ANTENNA



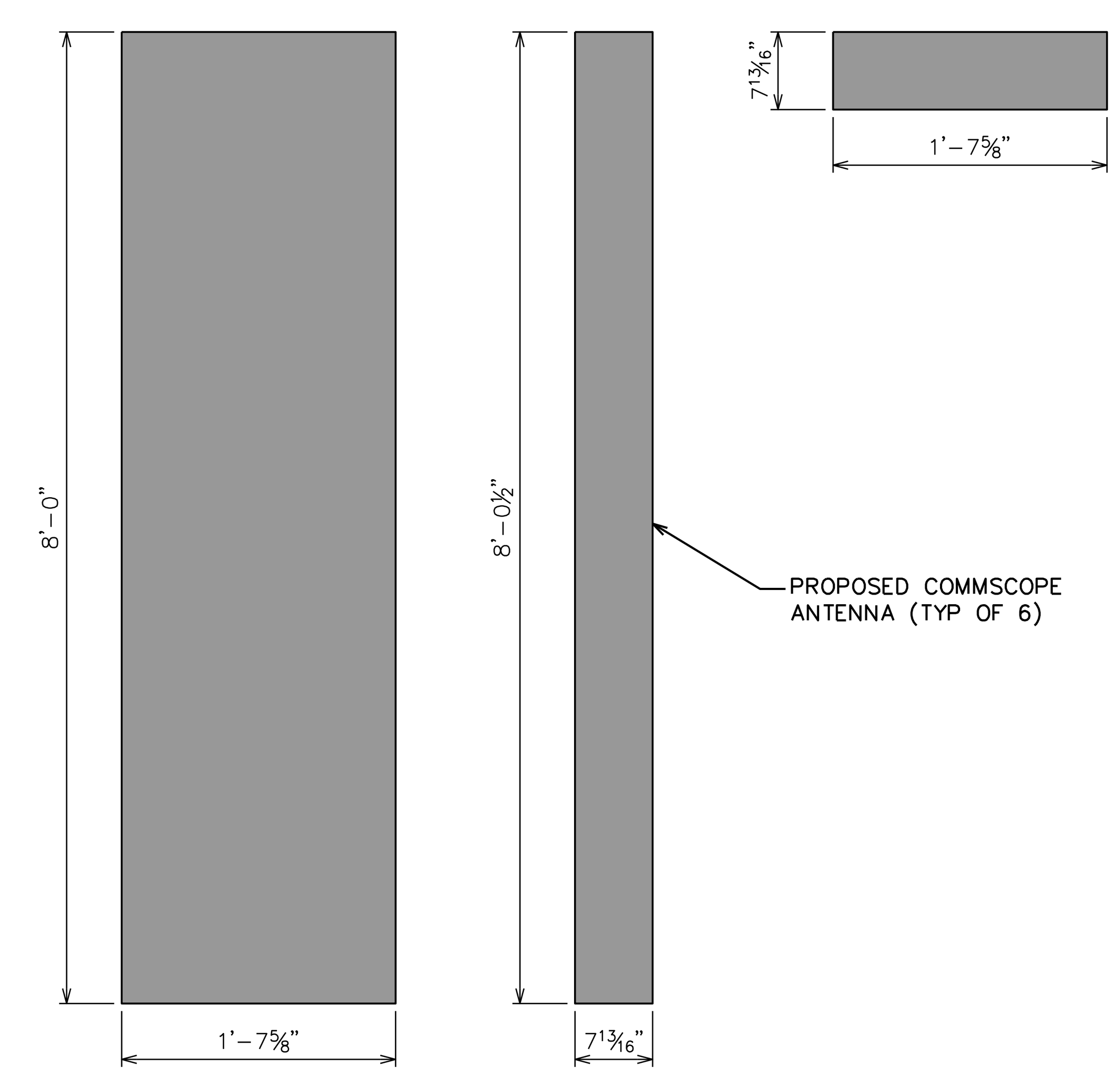
EQUIPMENT MOUNTING DETAIL

SCALE: N.T.S.

CELLMAX
CMA-UBTULBULBHH/6517/17/21/21

DIMENSIONS, HxWxD: 96" x 19.6" x 7.8"

WEIGHT, W/O PRE-MOUNTED BRACKETS: 102.5 lbs



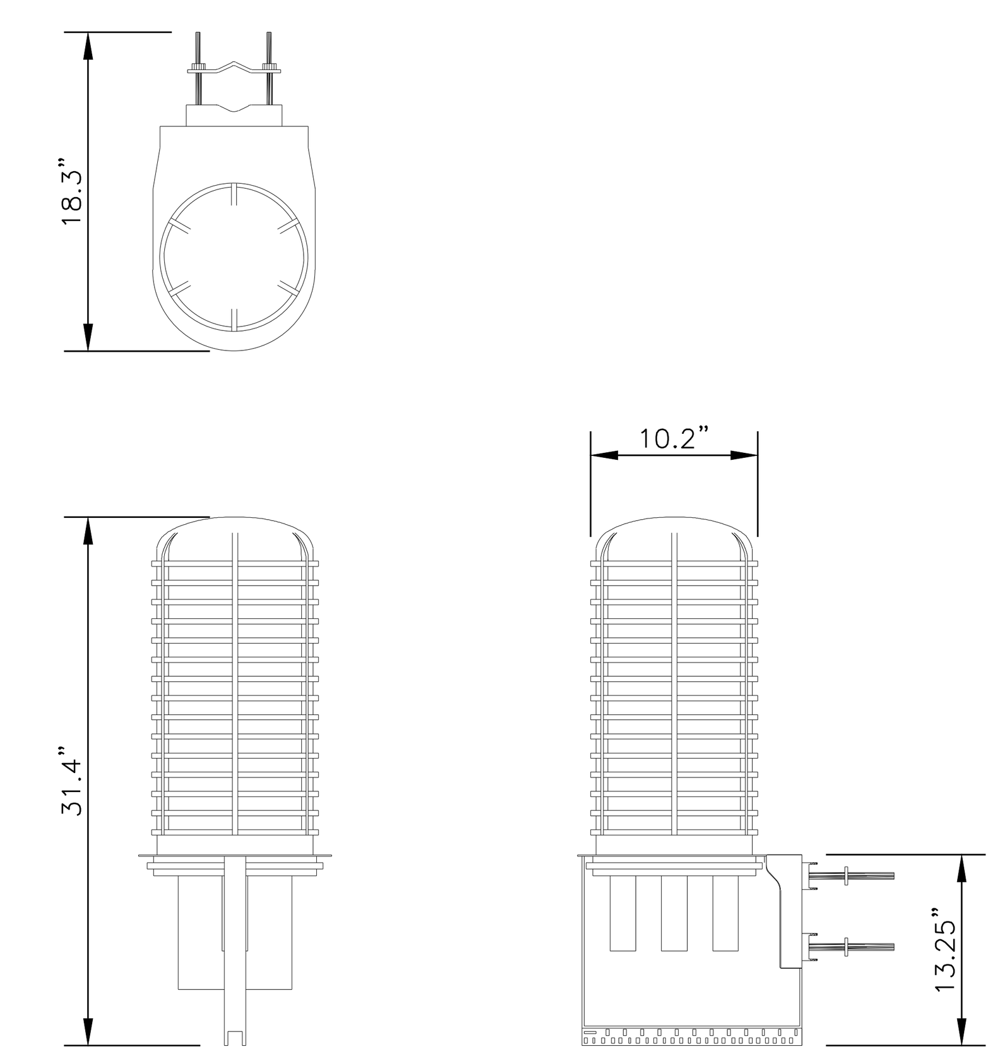
PROPOSED COMMSCOPE ANTENNA DETAIL

SCALE: N.T.S.

RAYCAP
DC9-48-60-24-8C-EV

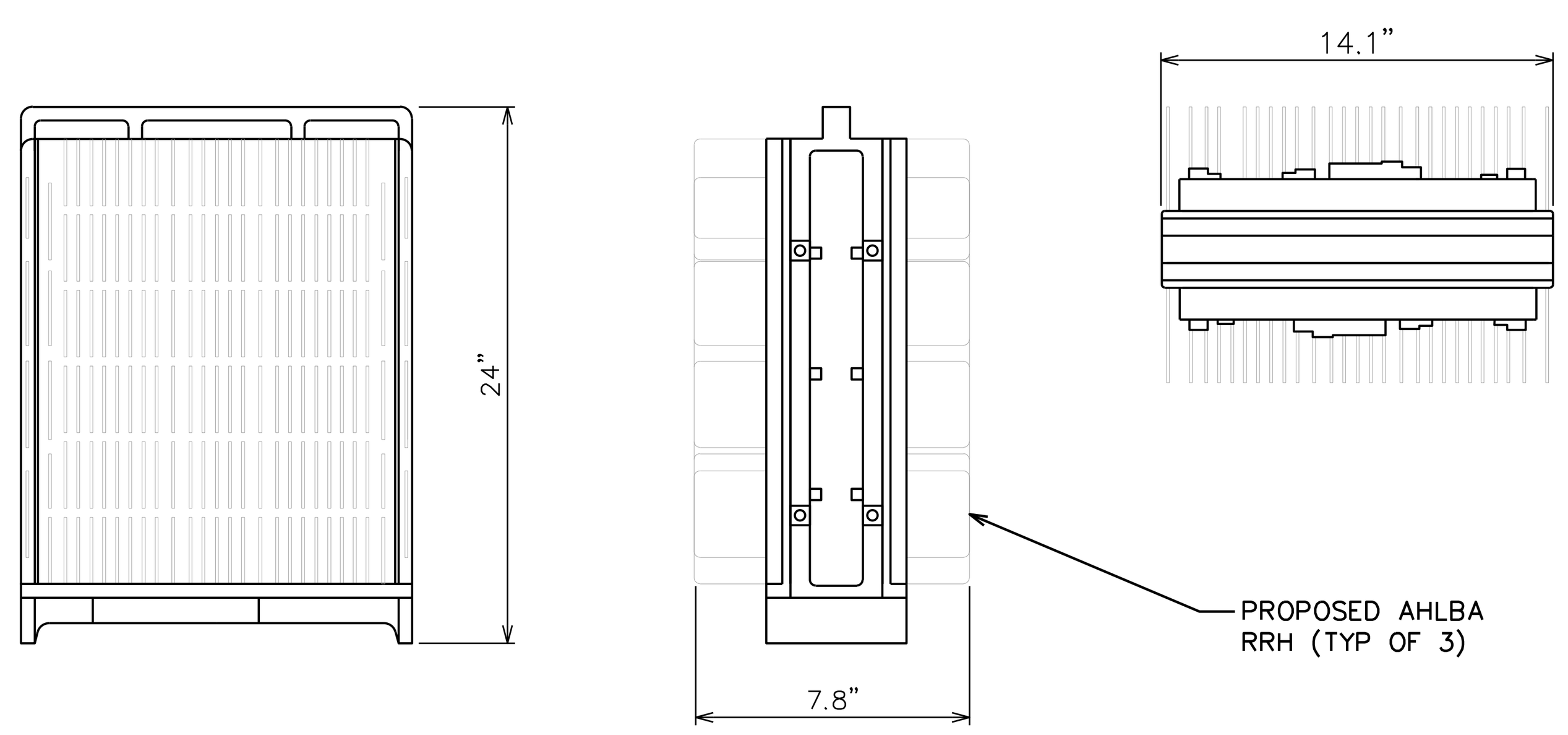
RAYCAP – DC9–48–60–24–8C–EV
SIZE: 31.4x18.3x10.2 IN.
WEIGHT: 16.0 LBS
NOMINAL OPERATING VOLTAGE: 48 VDC
VOLTAGE PROTECTION RATING: 400 V
WIND LOADING: 150 MPH SUSTAINED (105.7 LBS)
WIND LOADING: 195 MPH GUST (213.6 LBS)

CONTRACTOR TO USE "THREAD LUBRICANT" ON MOUNTING BOLTS DURING INSTALLATION



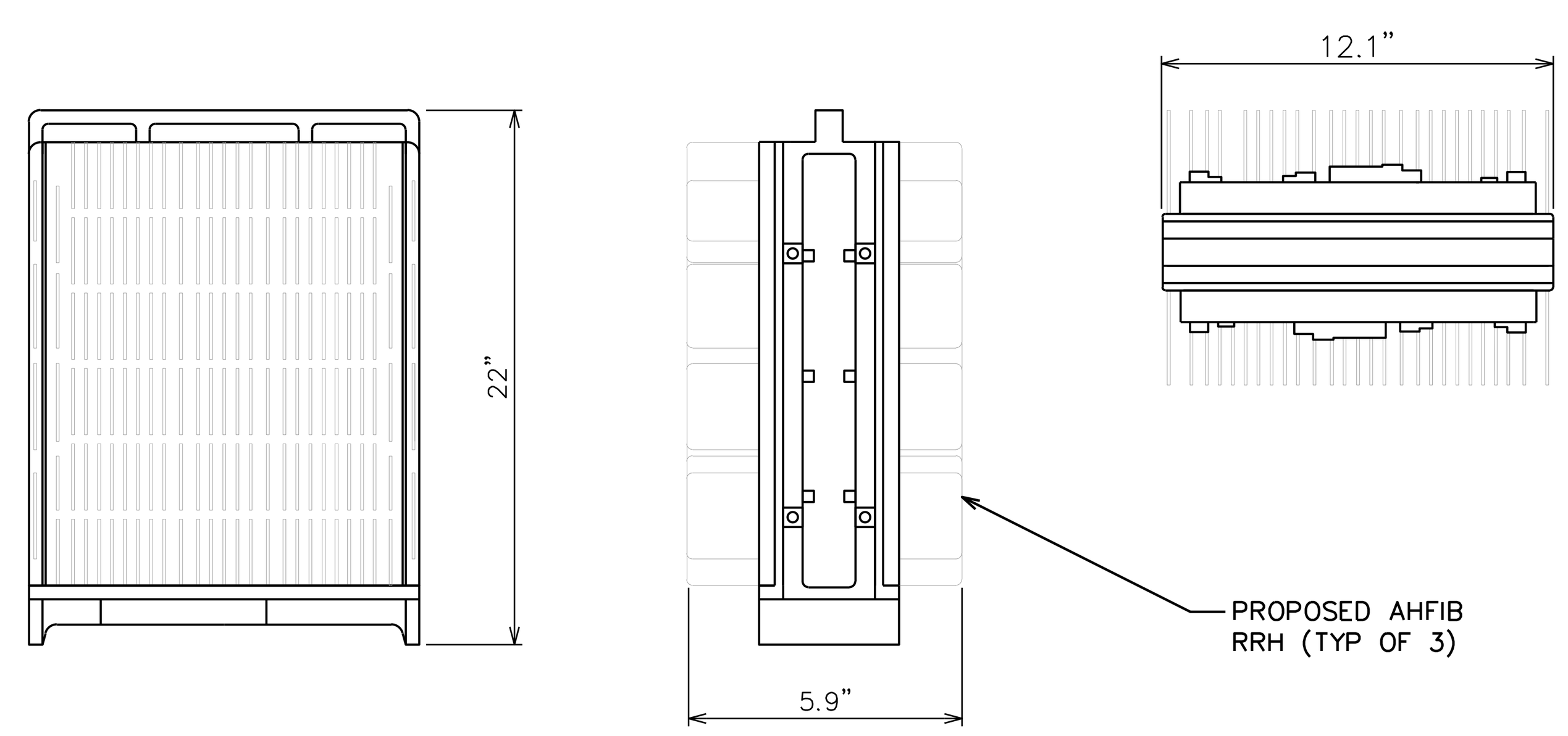
PROPOSED RAYCAP OVP DETAIL

SCALE: N.T.S.



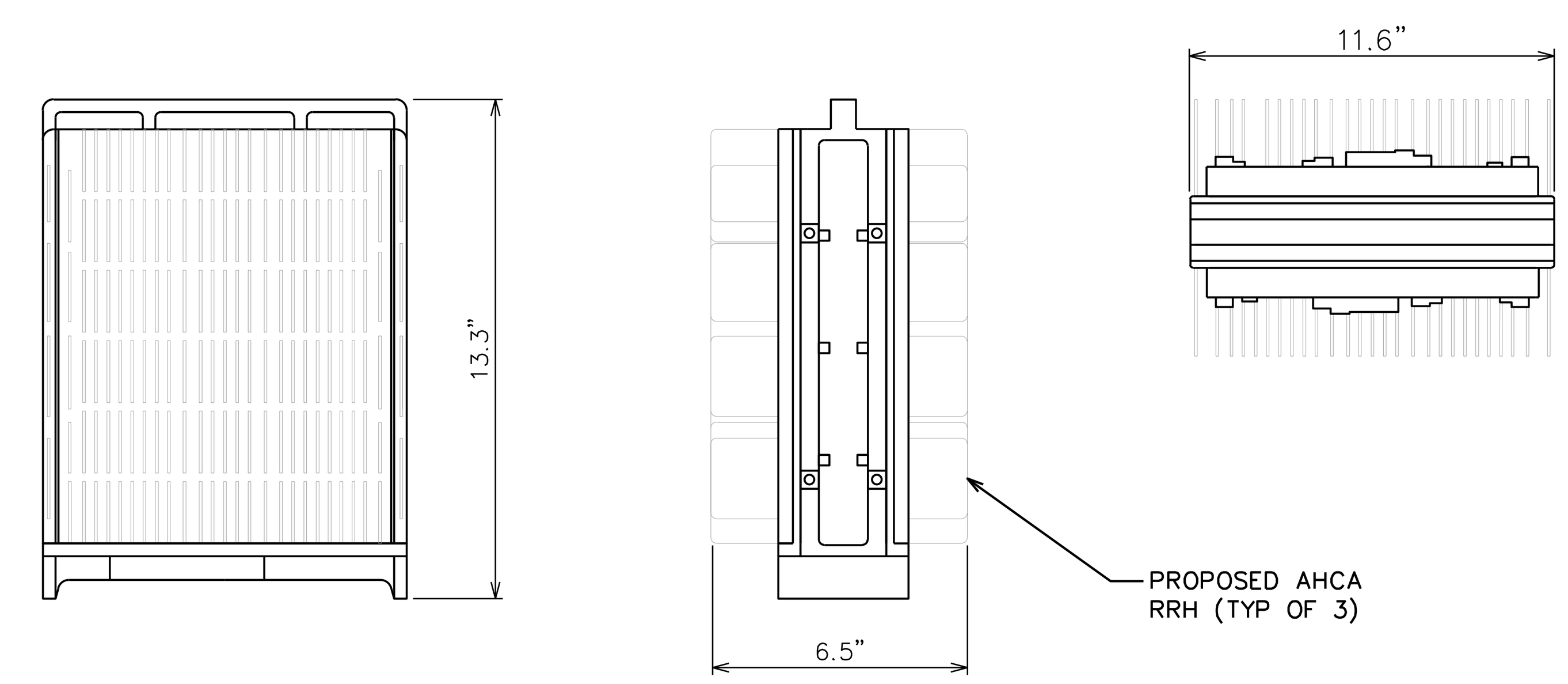
PROPOSED AHLBA RRH DETAIL

SCALE: N.T.S.



PROPOSED AHFIB RRH DETAIL

SCALE: N.T.S.



PROPOSED AHCA RRH DETAIL

SCALE: N.T.S.

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0	04-23-21	GV	100% CONSTRUCTION	EGG

SEAL:

April 23, 2021

SHEET TITLE:

EQUIPMENT DETAILS

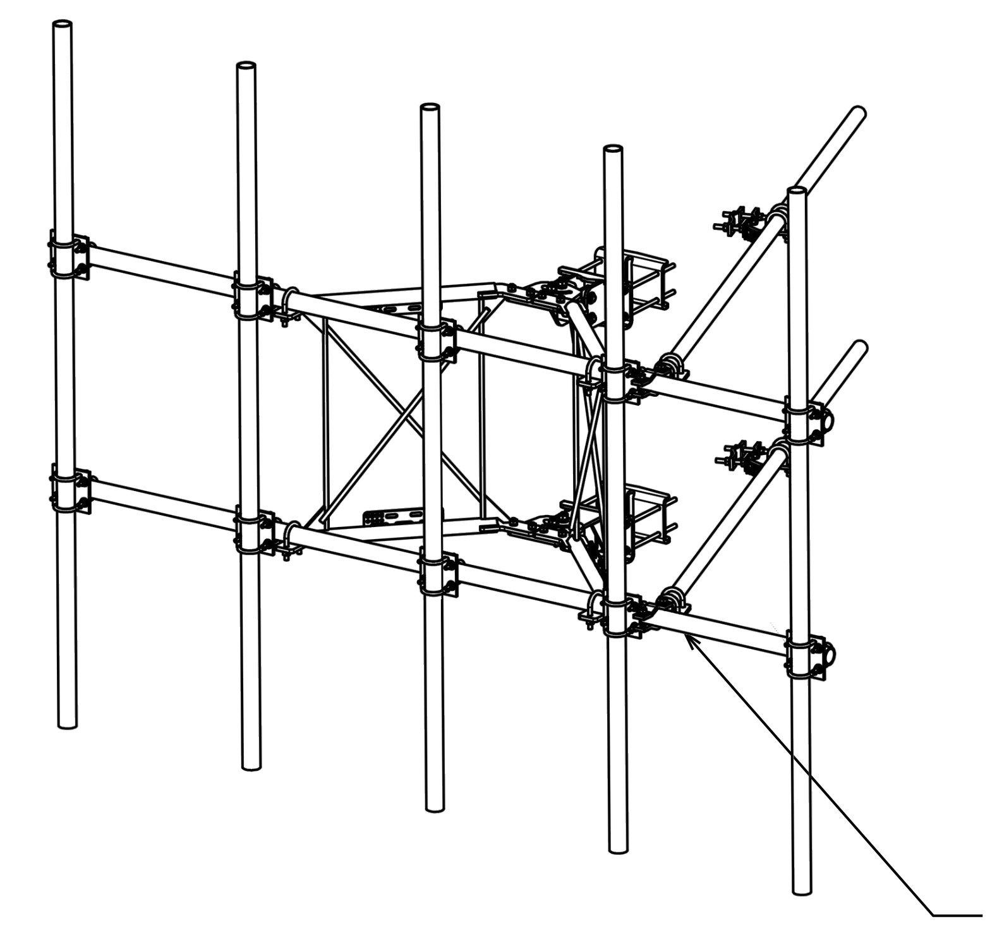
SHEET NUMBER: C-4

REVISION: 0

TEP #: 177861.243634

NOTE:

SECTOR FRAME TO ONLY HAVE 4 PIPES EACH.



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFAW	SUPPORT ARM		71.41	142.81
2	1	X-HDCAMTBW	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	X-VFAPL4	VFA-HD PIVOT PLATE	12 in	15.88	31.77
6	2	X-LCBP4	BENT BACKING PLATE	13 in	19.00	38.01
7	4	X-SPTB	SLIDING PIPE TIE 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	TIE 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, 5-3/4" CNTER TO CENTER CLAMP HALF	8 1/8 in	2.36	18.90
13	2	P2126	2-3/8" X 126" (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		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	2.79
22	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
23	8	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	8.00
24	2	G5807	5/8" x 7" HDG HEX BOLT GR5 FULL THREAD	7 in	0.70	1.41
25	1	G5806	5/8" x 6" HDG HEX BOLT GR5 FULL THREAD	6 in	0.62	0.62
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	A582114	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	1/8 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	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	35.45
33	20	X-UB1212	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

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	UPDATED BCAM VERSION 1 TO BCAM VERSION 2	SP1	CSL	7/2/2018

REVISION HISTORY

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 *(± 0.060")*

DESCRIPTION: 12' 6" HEAVY DUTY V-FRAME ASSEMBLY W/ 2 STIFF ARMS & MOUNT PIPES

SITE PRO 1 — A valmont COMPANY — Engineering Support Team: 1-888-753-7446 — Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX

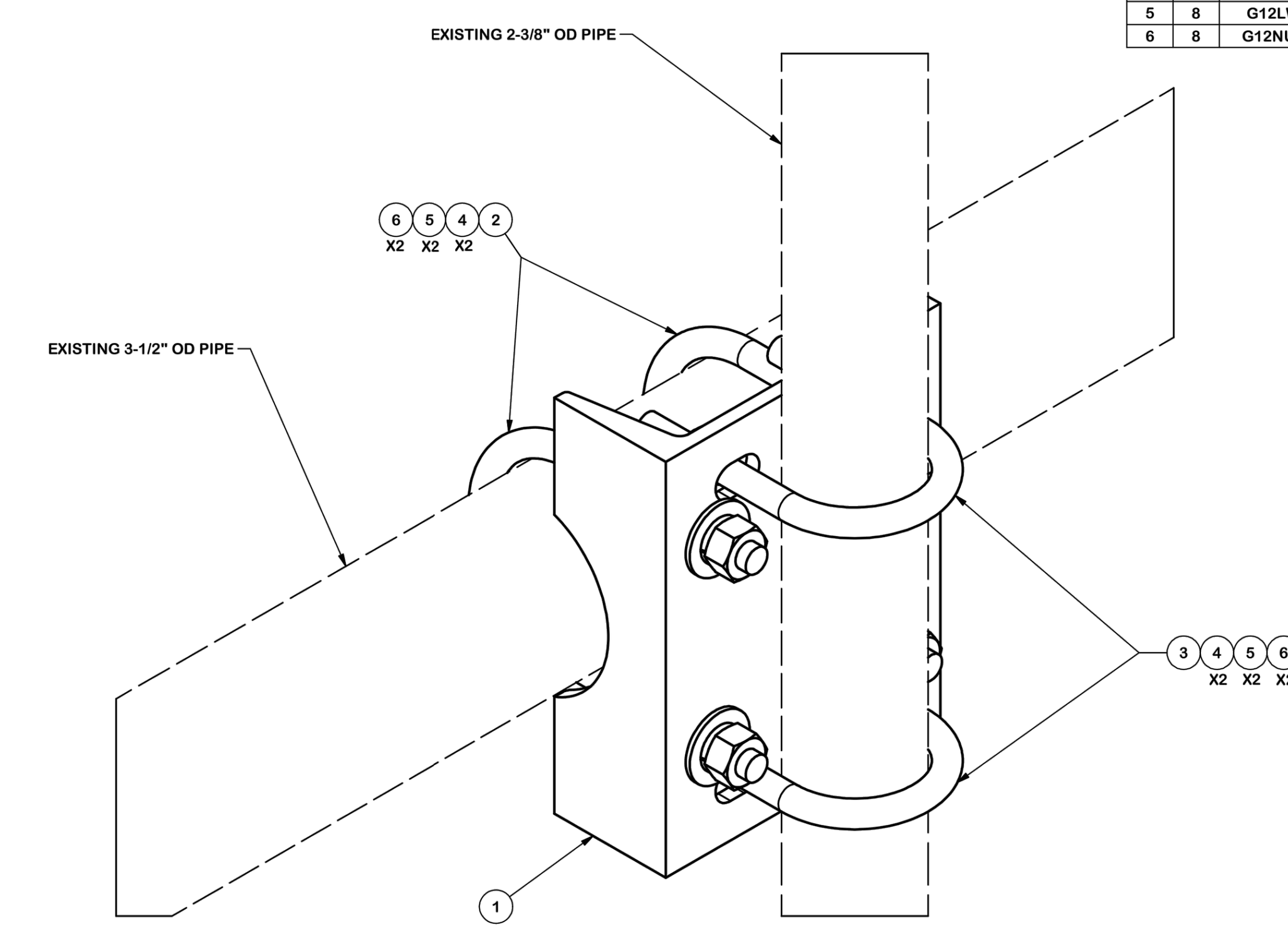
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
SP1	CSL 1/25/2017		VFA12-WLL-30120

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 5/3/2018	VFA12-WLL-30120

PAGE 1 OF 5

PROPOSED V-FRAME MOUNT DETAIL

SCALE: N.T.S.



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	X-SP219	SMALL SUPPORT CROSS PLATE	8 1/4 in	8.61	8.61
2	2	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.83	1.66
3	2	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	1.25
4	8	G12FW	1/2" HDG USS FLATWASHER		0.03	0.27
5	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
6	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	12.47

TOLERANCE NOTES

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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 *(± 0.060")*

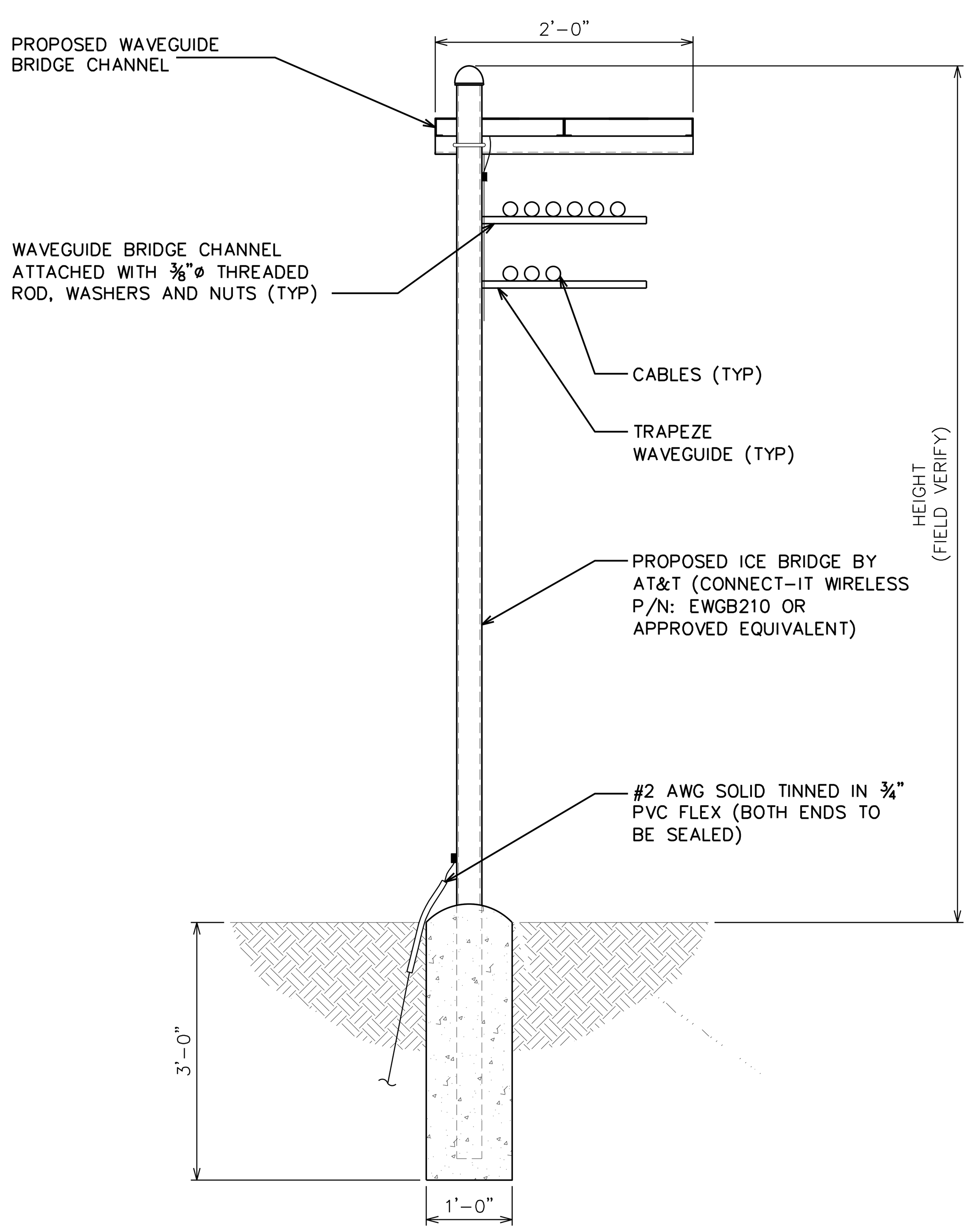
DESCRIPTION: PIPE MOUNT KIT

SITE PRO 1 — A valmont COMPANY — Engineering Support Team: 1-888-753-7446 — Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4518	KC8 6/26/2012		SP219

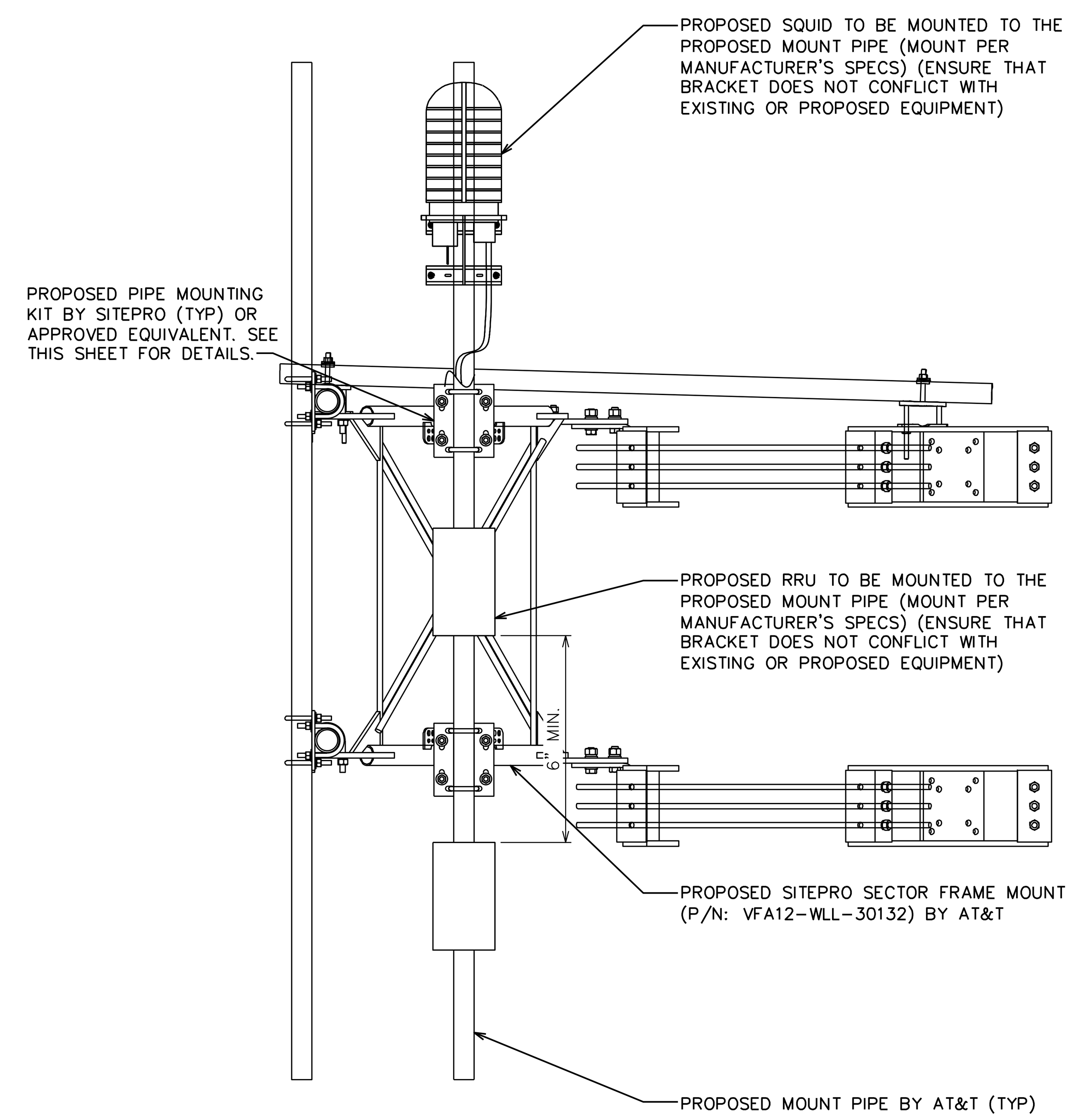
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	01	CUSTOMER	CEK 1/23/2013	SP219

PAGE 1 OF 1



PROPOSED ICE BRIDGE DETAIL

SCALE: N.T.S.



PROPOSED H-FRAME DETAIL

SCALE: N.T.S.

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.tepgroup.net

AT&T SITE ID: COL02205
AT&T FA CODE: 15312479
AT&T PACE #: MRUTH042458
ATC #: 370609
WIDEFIELD HIGH SCHOOL II

527 WIDEFIELD DRIVE
COLORADO SPRINGS, CO 80911
(EL PASO COUNTY)
EXISTING 119'-0" MONOPOLE TOWER
NSB - LTE - 1C/2C/3C/4C/ 5G NR 1SR

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	KT	PRELIMINARY	EGG
B	12-14-20	SDD	90% CONSTRUCTION	EGG
C	02-18-21	CAK	90% CONSTRUCTION	EGG
0	04-23-21	GV	100% CONSTRUCTION	EGG

SEAL:

April 23, 2021

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.

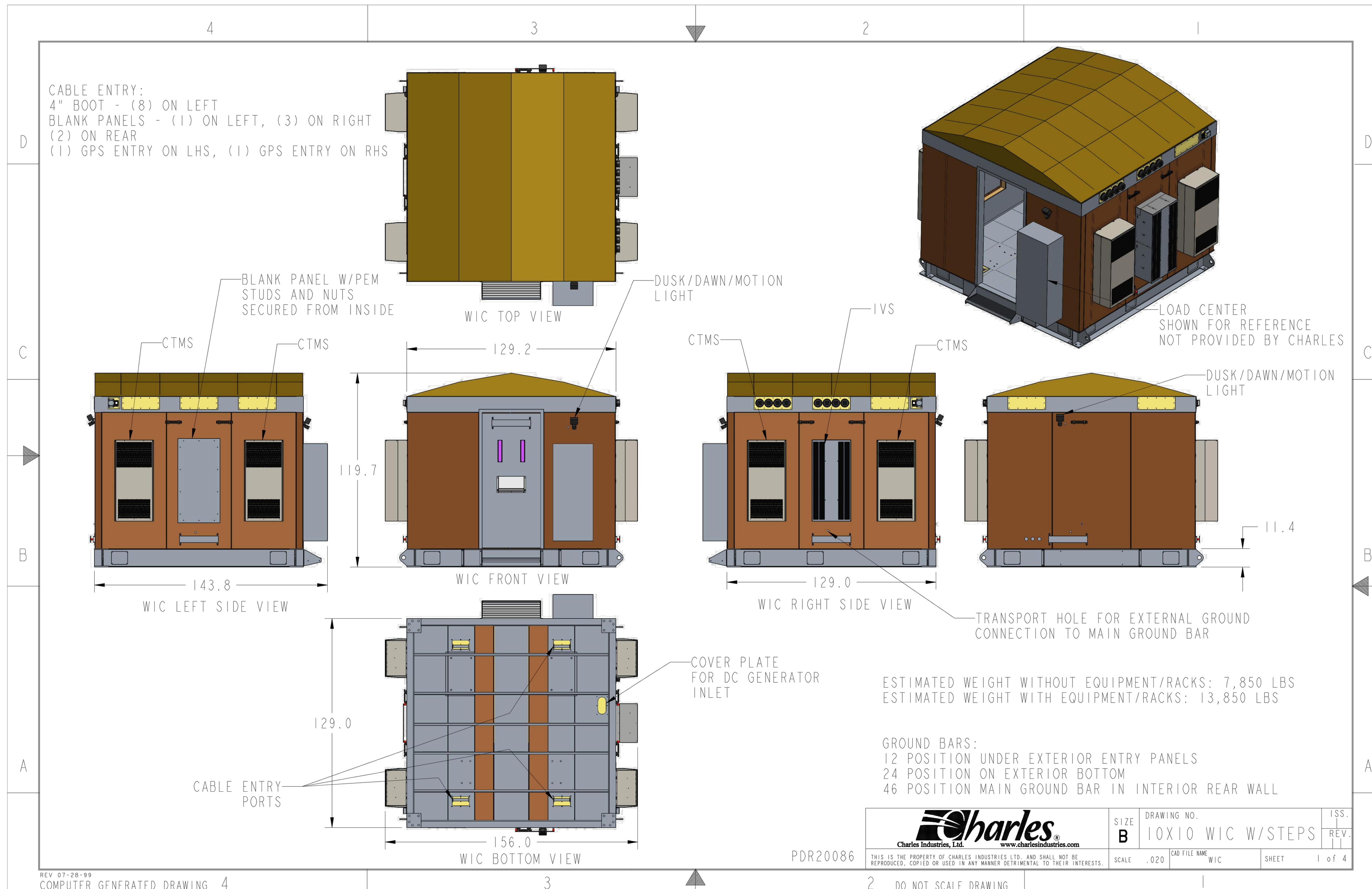
SHEET TITLE:

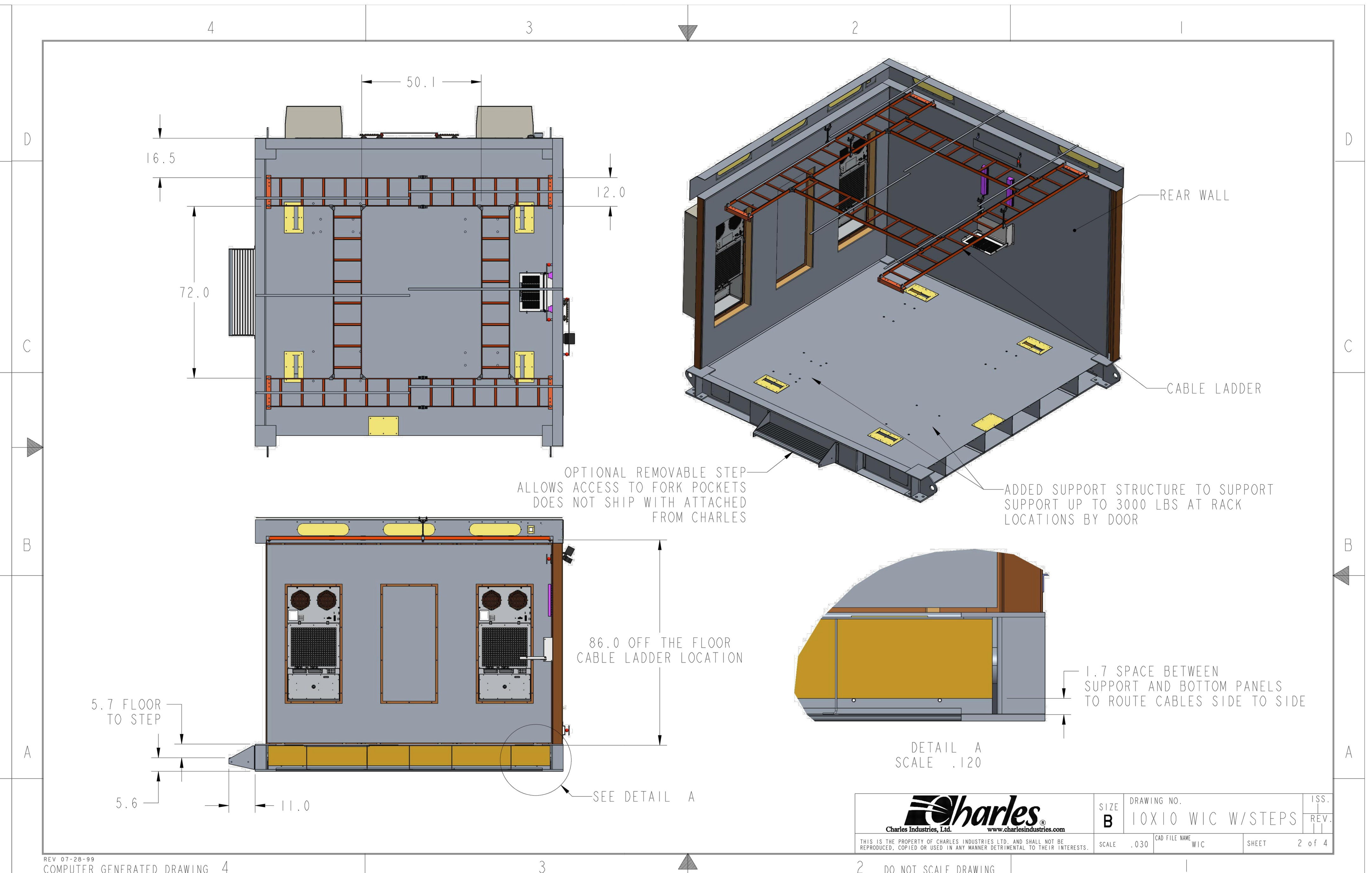
EQUIPMENT DETAILS

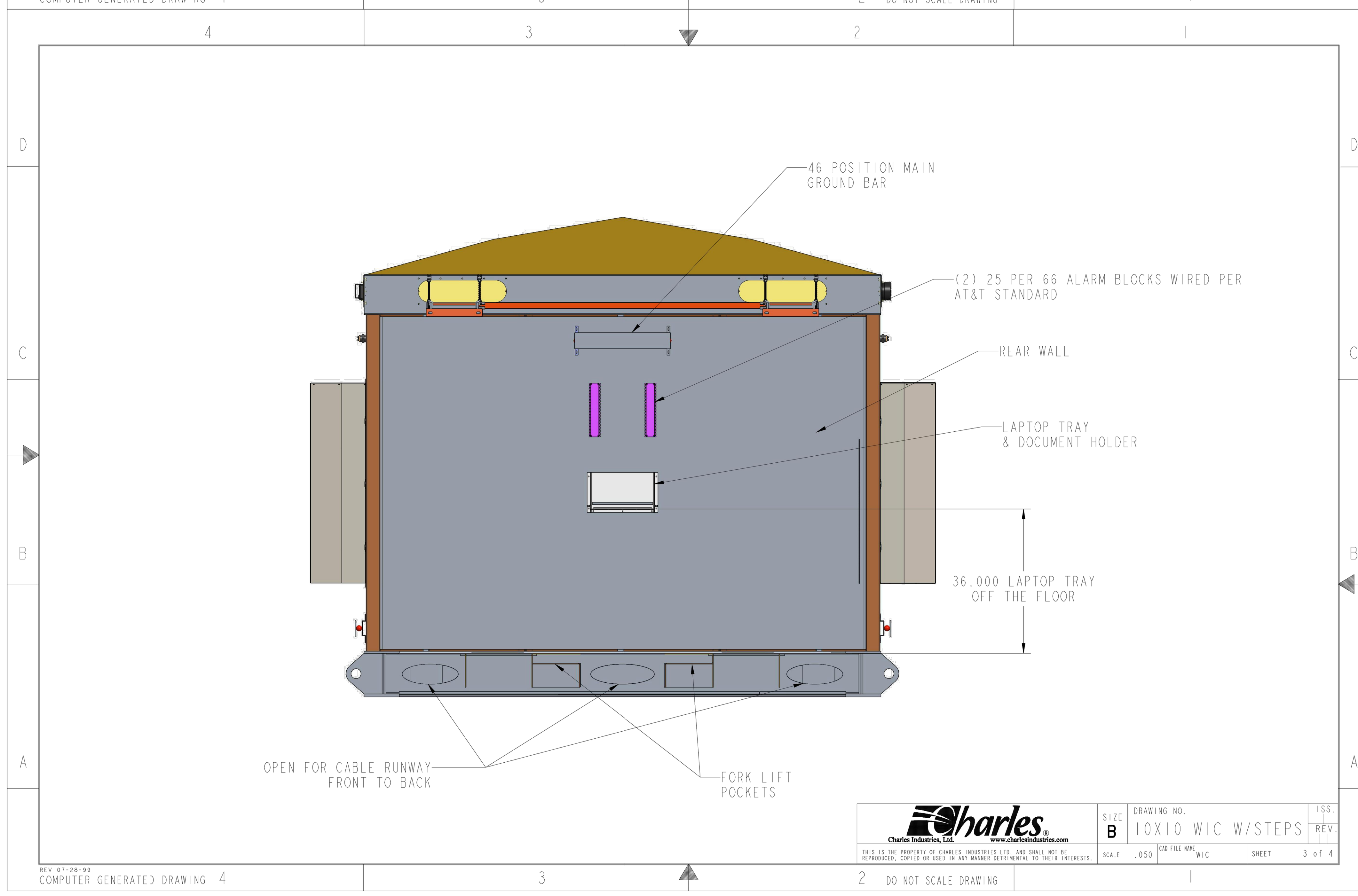
SHEET NUMBER: C-5

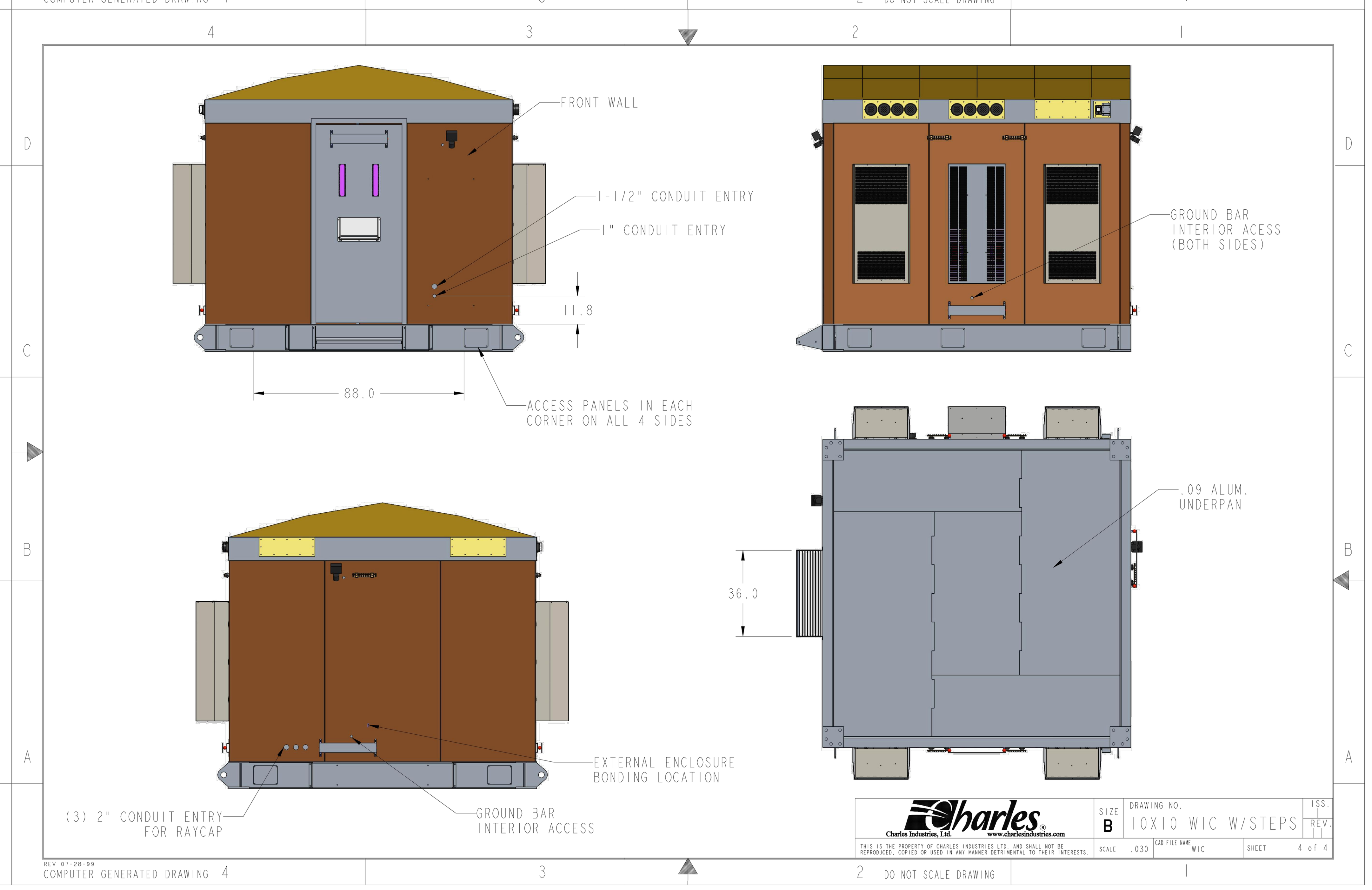
REVISION: 0

TEP #: 177861.243634









WIC SHELTER DETAIL

SCALE: N.T.S

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

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

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WIDEFIELD HIGH SCHOOL II

527 WIDEFIELD DRIVE
COLORADO SPRINGS, CO 80911
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ISSUED FOR:

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SEAL:

April 23, 2021

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SHEET TITLE:

WIC SHELTER DETAILS

SHEET NUMBER:	REVISION:
C-6	0

TEP #: 177861.243634

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

GENERAC INDUSTRIAL POWER

Standby Power Rating
30 kW, 38 kVA, 60 Hz

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

ISO 9001:2008 — USA Engineered & Built* (*Assembled in the USA using domestic and foreign parts)

*EPA Certified Prime ratings are not available in the US or its Territories

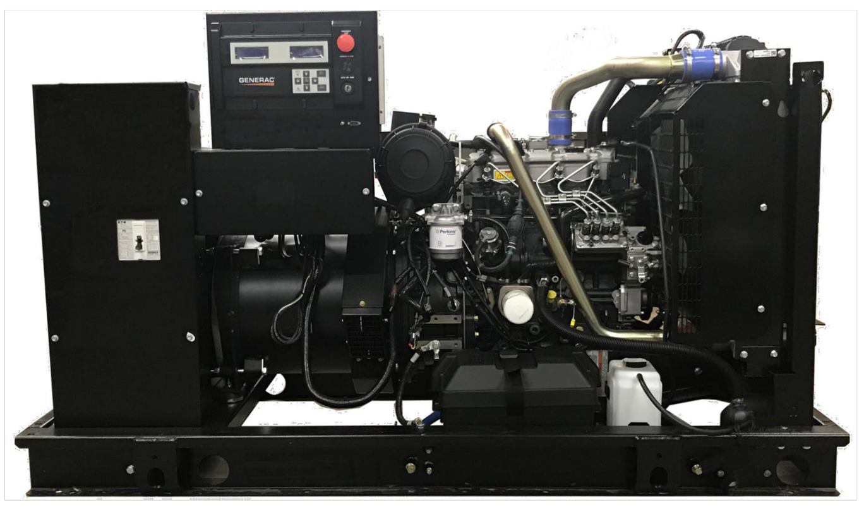
Image used for illustration purposes only

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.

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 GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed 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 Level
- 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/Sealed 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
- All Phase AC Voltage
- 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)

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

ELECTRICAL SYSTEM
- 10A UL Listed Battery Charger
- Battery Warmer

ALTERNATOR SYSTEM
- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating
- Permanent Magnet Excitation

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

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
- 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)
- 100 dB Alarm Horn
- Ground Fault Annunciation
- 120V GFCI and 240V Outlets
- Remote Communication - Modem
- 10A Engine Run Relay

FUEL TANKS (Size On Last Page)
- 8 in (203.2 mm) Fill Extension
- 13 in (330.2 mm) Fill Extension
- 19 in (482.6 mm) Fill Extension
- Overfill Protection Valve
- 5 Gallon Spill Box Return Hose
- 5 Gallon Spill Box
- Tank Risers
- Fuel Level Switch and Alarm
- 12' Vent System
- Fire Rated Stainless Steel Fuel Hose

ENGINEERED OPTIONS

ENGINE SYSTEM
- Coolant Heater Isolation Ball Valves
- Fluid Containment Pan

CONTROL SYSTEM
- Spare Inputs (x4) / Outputs (x4)
- Battery Disconnect Switch

ALTERNATOR SYSTEM
- 3rd Breaker System

GENERATOR SET
- Special Testing

FUEL TANKS
- UL2085 Tank
- Stainless Steel Tanks
- Special Fuel Tanks
- Vent Extensions

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

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Perkins
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	4
Type	In-Line
Displacement - in^3 (L)	135 (2.22)
Bore - in (mm)	3.3 (84)
Stroke - in (mm)	3.9 (100)
Compression Ratio	23.3:1
Intake Air Method	Turbocharged
Cylinder Head	Cast Iron
Piston Type	Aluminum
Crankshaft Type	Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	±0.5%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-Flow
Crankcase Capacity - qt (L)	11.2 (10.6)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Type	Pre-Lubed, Self Sealing
Fan Type	Pusher
Fan Speed - RPM	1,980
Fan Diameter - in (mm)	18 (457)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel #2
Fuel Specifications	ASTM
Fuel Filtering (Microns)	5
Fuel Inject Pump	Distribution Injection Pump
Fuel Pump Type	Engine Driven Gear
Injector Type	Mechanical
Fuel Supply Line - in (mm)	0.31 (7.9) ID
Fuel Return Line - in (mm)	0.2 (4.8) ID

Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K0035124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase)
Telephone Interference Factor (TIF)	< 50

Standard Excitation	Brushless
Bearings	Single Sealed
Coupling	Direct via Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SD030 | 2.2L | 30 kW
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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 (skVA)

skVA vs. Voltage Dip

277/480 VAC	30%	208/240 VAC	30%
K0035124Y21	61	K0035124Y21	46
K0040124Y21	76	K0040124Y21	58
K0050124Y21	98	K0050124Y21	75

FUEL CONSUMPTION RATES*

Fuel Pump Lift- ft (m)
3 (1)

Total Fuel Pump Flow (Combustion + Return) - gph (Lph)
16.6 (63)

Diesel - gph (Lph)

Percent Load	Standby
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 rates at 100% load.

COOLING

		Standby
Coolant Flow	gpm (Lpm)	14.9 (56.2)
Coolant System Capacity	gal (L)	2.5 (9.5)
Heat Rejection to Coolant	BTU/hr (kW)	128,638 (136)
Inlet Air	scfm (m^3/hr)	2,800 (4,757)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199280SSD	
Maximum Radiator Backpressure	in H_2O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power scfm (m^3/min)	88 (2.5)

ENGINE

		Standby
Rated Engine Speed	RPM	1,800
Horsepower at Rated kW**	hp	49
Piston Speed	ft/min (m/min)	1,181 (360)
BMEP	psi (kPa)	159 (1,096)

EXHAUST

		Standby
Exhaust Flow (Rated Output)	scfm (m^3/min)	296.6 (8.4)
Max. Allowable Backpressure (Post Turbocharger)	inHg (kPa)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	892 (478)

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

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical 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 0187500SSB
Prime - See Bulletin 0187510SSB

SD030 | 2.2L | 30 kW
INDUSTRIAL DIESEL GENERATOR SET
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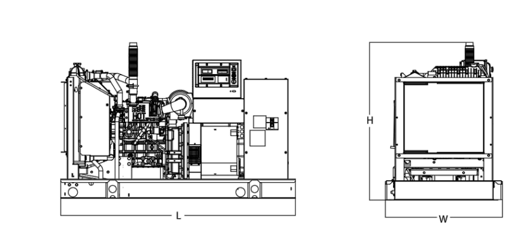
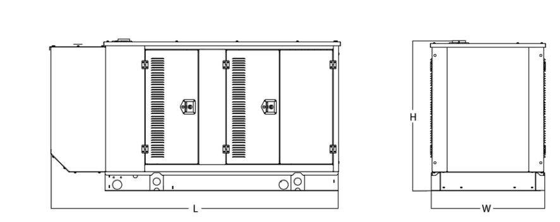
DIMENSIONS AND WEIGHTS*



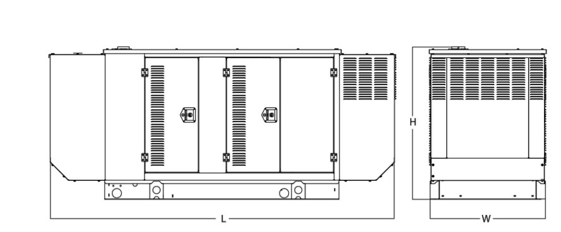
OPEN SET (Includes Exhaust Flex)

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	-	76.0 (1,930) x 37.4 (950) x 44.8 (1,138)	1,641 (745)
19	54 (204)	76.0 (1,930) x 37.4 (950) x 57.8 (1,468)	2,121 (963)
47	132 (501)	76.0 (1,930) x 37.4 (950) x 69.8 (1,773)	2,351 (1,067)
75	211 (799)	76.0 (1,930) 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)



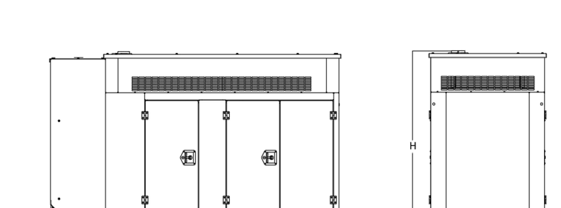
WEATHER PROTECTED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only: Steel	Aluminum
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)	372 (170)	241 (110)
19	54 (204)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)		
47	132 (501)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)		
75	211 (799)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)		
107	300 (1,136)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)		



LEVEL 1 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only: Steel	Aluminum
No Tank	-	112.5 (2,857) x 38.0 (965) x 49.5 (1,258)	505 (230)	338 (154)
19	54 (204)	112.5 (2,857) x 38.0 (965) x 62.5 (1,582)		
47	132 (501)	112.5 (2,857) x 38.0 (965) x 74.5 (1,893)		
75	211 (799)	112.5 (2,857) x 38.0 (965) x 86.5 (2,198)		
107	300 (1,136)	112.5 (2,857) x 38.0 (965) x 86.5 (2,198)		



LEVEL 2 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only: Steel	Aluminum
No Tank	-	94.8 (2,407) x 38.0 (965) x 61.1 (1,551)	510 (232)	341 (155)
19	54 (204)	94.8 (2,407) x 38.0 (965) x 74.1 (1,881)		
47	132 (501)	94.8 (2,407) x 38.0 (965) x 86.1 (2,186)		
75	211 (799)	94.8 (2,407) x 38.0 (965) x 98.1 (2,491)		
107	300 (1,136)	94.8 (2,407) x 38.0 (965) x 98.1 (2,491)		

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

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P: (262) 544-4811
Part No. 10000024842
Rev. B 08/27/18

SD030 2.2L 30kW GENERATOR DETAILS
SCALE: N.T.S

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AT&T SITE ID: COL02205
AT&T FA CODE: 15312479
AT&T PACE #: MRUTH042458
ATC #: 370609
WIDEFIELD HIGH SCHOOL II

527 WIDEFIELD DRIVE
COLORADO SPRINGS, CO 80911
(EL PASO COUNTY)
EXISTING 119'-0" MONOPOLE TOWER
NSB - LTE - 1C/2C/3C/4C/ 5G NR 1SR

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	KT	PRELIMINARY	EGG
B	12-14-20	SDD	90% CONSTRUCTION	EGG
C	02-18-21	CAK	90% CONSTRUCTION	EGG
0	04-23-21	GV	100% CONSTRUCTION	EGG

SEAL:

April 23, 2021

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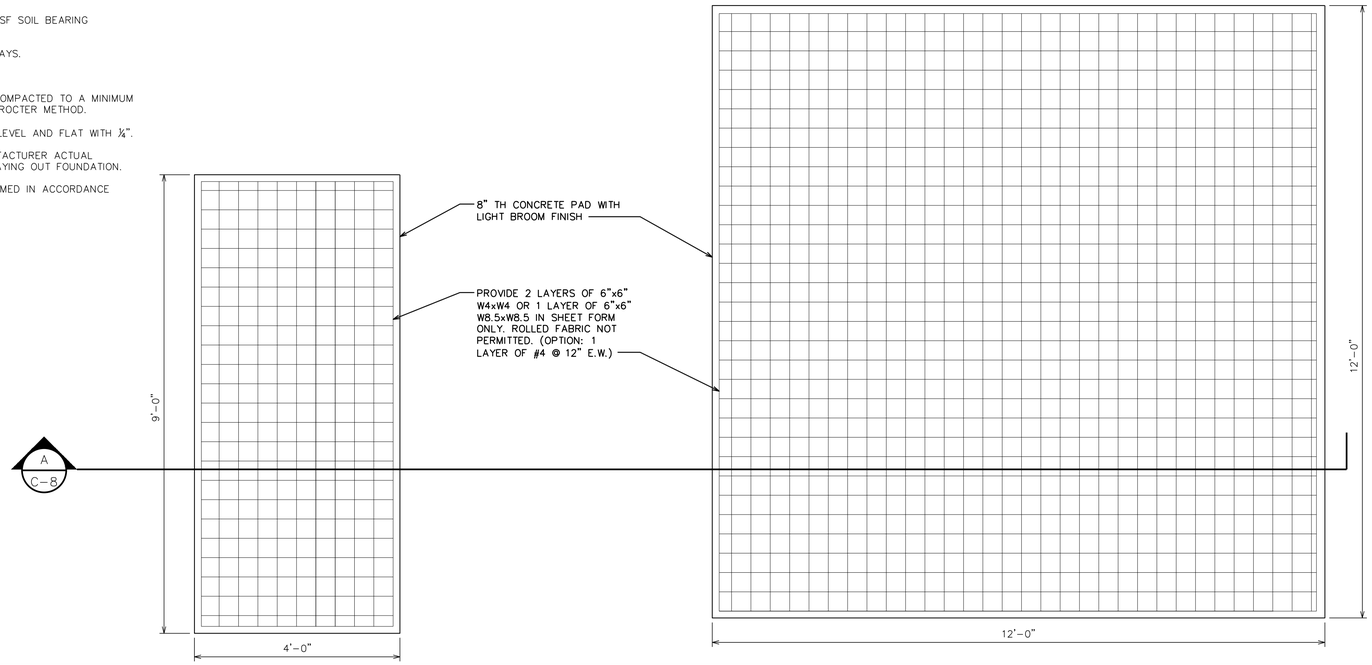
SHEET TITLE: GENERATOR DETAILS

SHEET NUMBER: C-7 **REVISION:** 0

TEP #: 177861.243634

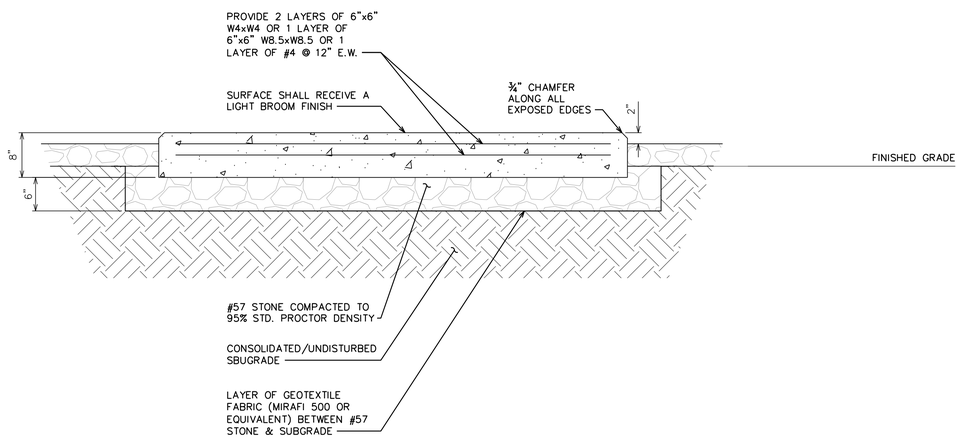
FOUNDATION NOTES:

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 ¼".
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 & GENERATOR FOUNDATION PLAN

SCALE: N.T.S



PAD SECTION

SCALE: N.T.S

A
C-8

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0	04-23-21	GV	100% CONSTRUCTION	EGG

SEAL:

COLORADO CERTIFICATE OF AUTHORIZATION 23272 PROFESSIONAL ENGINEER

April 23, 2021

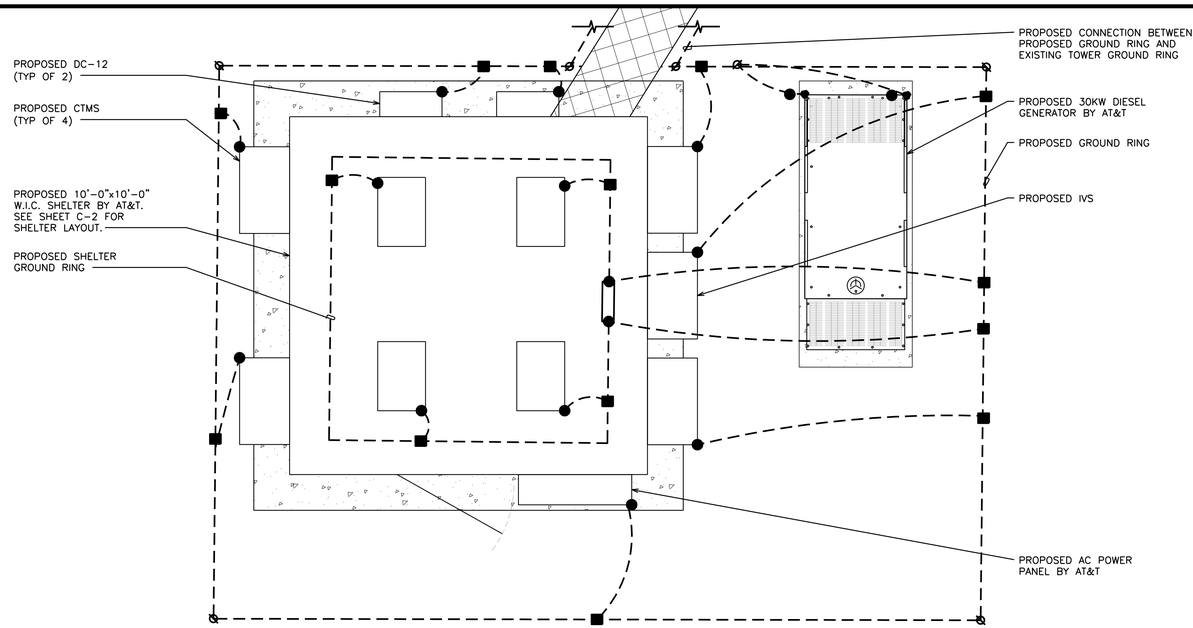
SHEET TITLE:

FOUNDATION DETAILS

SHEET NUMBER: **C-8**

REVISION: **0**

TEP #: 177861.243634



LEGEND	
■	EXOTHERMIC CONNECTION
●	MECHANICAL CONNECTION
▭	ANTENNA GROUND BAR
MGB	MASTER GROUND BAR

EQUIPMENT GROUNDING PLAN

SCALE:	½" = 1'-0" (24x36)
SCALE:	¼" = 1'-0" (11x17)

0 2 4
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.

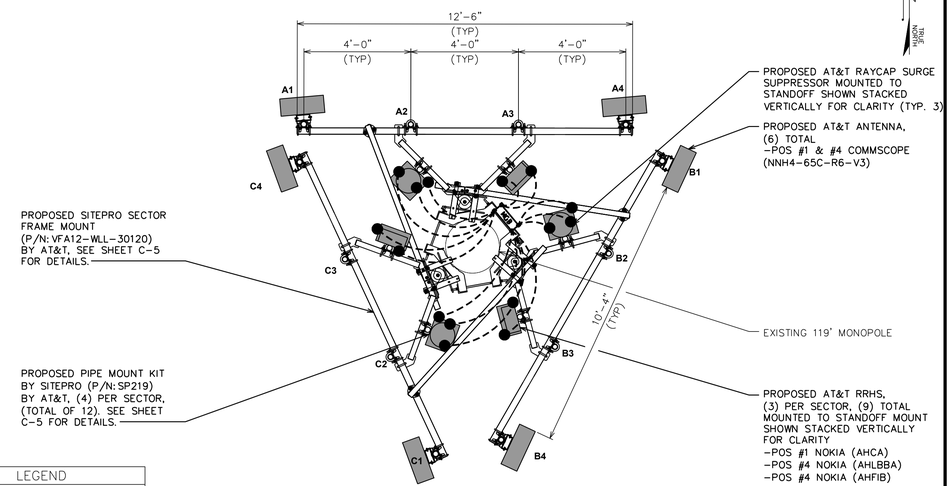
PROPOSED PANEL SCHEDULE

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	2570	–	20/1	650	–	GEN BATT CHARGER	26
27	BLANK	–	–	–	–	1000	20/1	–	1000	GEN BLOCK HEATER	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)					11210	9640					
CURRENT PER PHASE (A)					94	81					
PEAK TOTAL (VA)					11210	94	PEAK TOTAL (A)				
125% DEMAND (VA)					14013	117.5	125% DEMAND (A)				

PROPOSED A/C PANEL

SCALE: N.T.S.



LEGEND	
■	EXOTHERMIC CONNECTION
●	MECHANICAL CONNECTION
▭	ANTENNA GROUND BAR
MGB	MASTER GROUND BAR

ANTENNA GROUNDING PLAN

SCALE:	⅜" = 1'-0" (24x36)
SCALE:	3/16" = 1'-0" (11x17)

0 2 4
SCALE IN FEET

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5G NR 1SR

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B	12-14-20	SDD	90% CONSTRUCTION	EGG
C	02-18-21	CAK	90% CONSTRUCTION	EGG
D	04-23-21	GV	100% CONSTRUCTION	EGG

SEAL:

April 23, 2021

SHEET TITLE:
ELECTRICAL PANEL & GROUNDING PLANS

SHEET NUMBER:	REVISION:
E-1	0

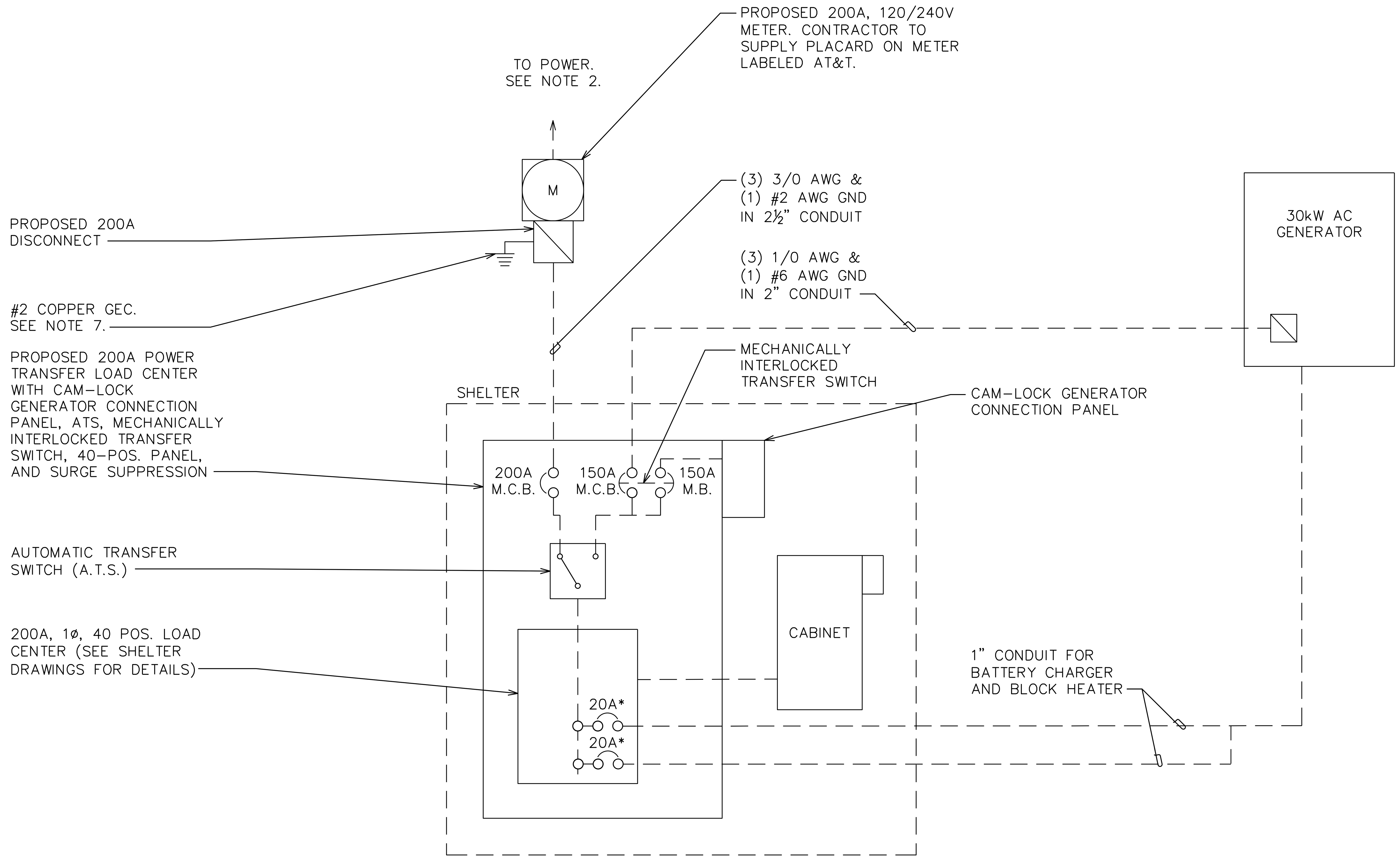
TEP #: 177861.243634

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY AVAILABLE FAULT CURRENT WITH POWER COMPANY AND ENSURE ALL ELECTRICAL EQUIPMENT IS SUITABLE FOR AVAILABLE FAULT CURRENT.
2. CONTRACTOR SHALL COORDINATE UTILITY SERVICES WITH LOCAL UTILITY COMPANIES. VERIFY ALL REQUIREMENTS WITH UTILITY COMPANY STANDARDS.
3. ONE-LINE DIAGRAM IS FOR SCHEMATIC PURPOSES ONLY AND IS NOT INDICATIVE OF THE ACTUAL EQUIPMENT LAYOUT.
4. CONTRACTOR SHALL LABEL METER SOCKET WITH SERVICE OWNER NAMEPLATE WITH ½" HEIGHT MINIMUM LETTERS.
5. ALL EQUIPMENT WILL HAVE A MINIMUM AIC OF 10 KA. CONTRACTOR TO DETERMINE AVAILABLE FAULT CURRENT BEFORE ENERGIZING EQUIPMENT. THE AMOUNT OF AVAILABLE FAULT CURRENT SHALL BE MARKED ON THE SERVICE EQUIPMENT PER NEC 110.24.
6. CONTRACTOR WILL NOTIFY UTILITY COMPANY OF CHANGES IN ELECTRICAL LOAD.

ONE-LINE DIAGRAM NOTES:

1. ELECTRICAL SERVICE SHALL BE 200A, 120/240V, 1ø, 3W.
2. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT, REFER TO VENDOR PRINTS PROVIDED BY EQUIPMENT MANUFACTURER.



*SIZE BREAKERS AND CONDUCTORS BASED ON MANUFACTURER SPECIFICATIONS

ELECTRICAL AC/DC SINGLE LINE DIAGRAM

SCALE: N.T.S.

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0	04-23-21	GV	100% CONSTRUCTION	EGG

SEAL:

PE.0051287

April 23, 2021

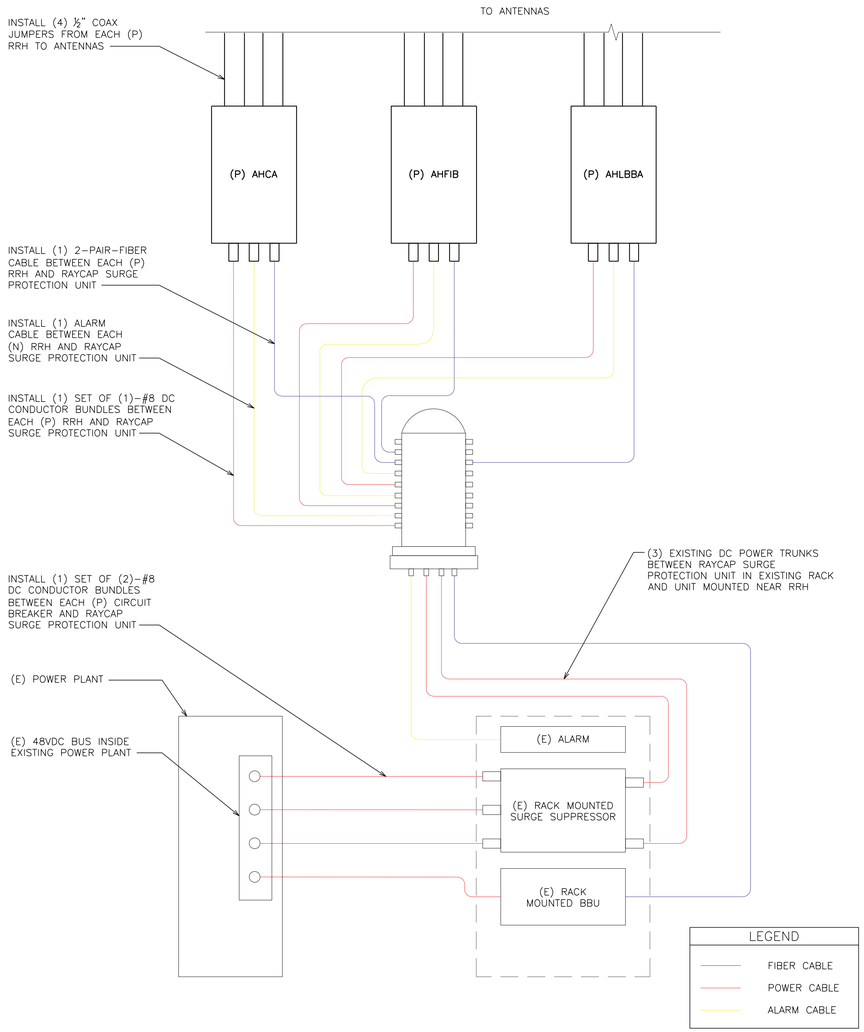
SHEET TITLE:

ONE-LINE DIAGRAM

SHEET NUMBER: E-2

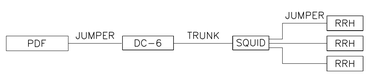
REVISION: 0

TEP #: 177861.243634



DC AND FIBER SYSTEM SCHEMATIC

SCALE: N.T.S.



CABLE LENGTH TABLE

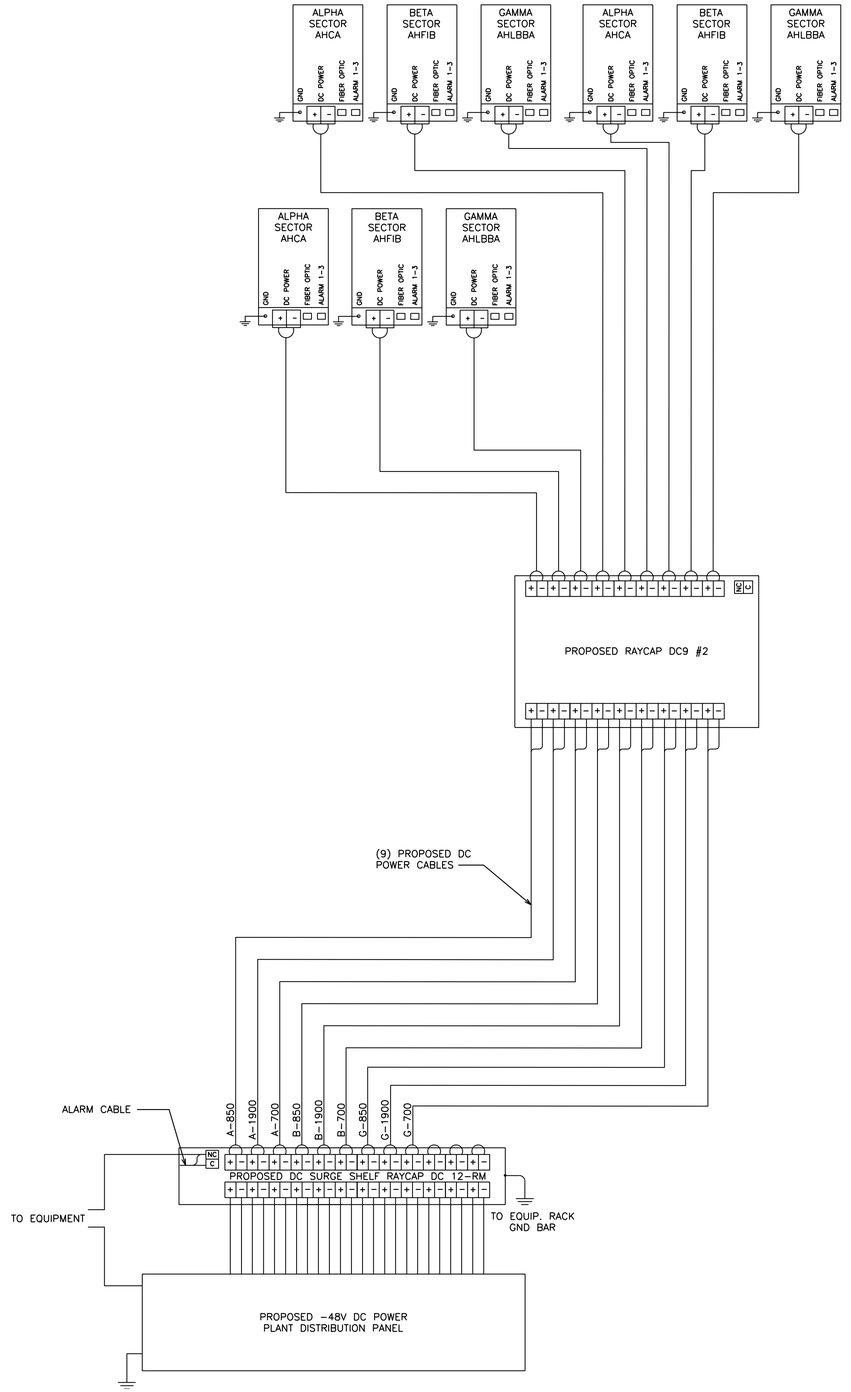
SECTOR	PDF	DISTANCE & CABLE TYPE		DC-6	DISTANCE & CABLE TYPE		SQUID	DISTANCE & CABLE TYPE		RRH	TOTAL CABLE LENGTH	FINAL VOLTAGE
ALPHA		20'	#8 AWG		145'	(2) #8 AWG		15'	#8 AWG		180'	40.6
BETA		20'	#8 AWG		145'	(2) #8 AWG		15'	#8 AWG		180'	40.6
GAMMA		20'	#8 AWG		145'	(2) #8 AWG		15'	#8 AWG		180'	40.6

CABLE COUNT

QTY	CABLE TYPE
1	FIBER TRUNKS
3	DC TRUNKS

LTE CONDUCTOR SIZES

SCALE: N.T.S.



DC WIRING DIAGRAM

SCALE: N.T.S.

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SEAL:

April 23, 2021

SHEET TITLE:

DC SYSTEM DETAILS

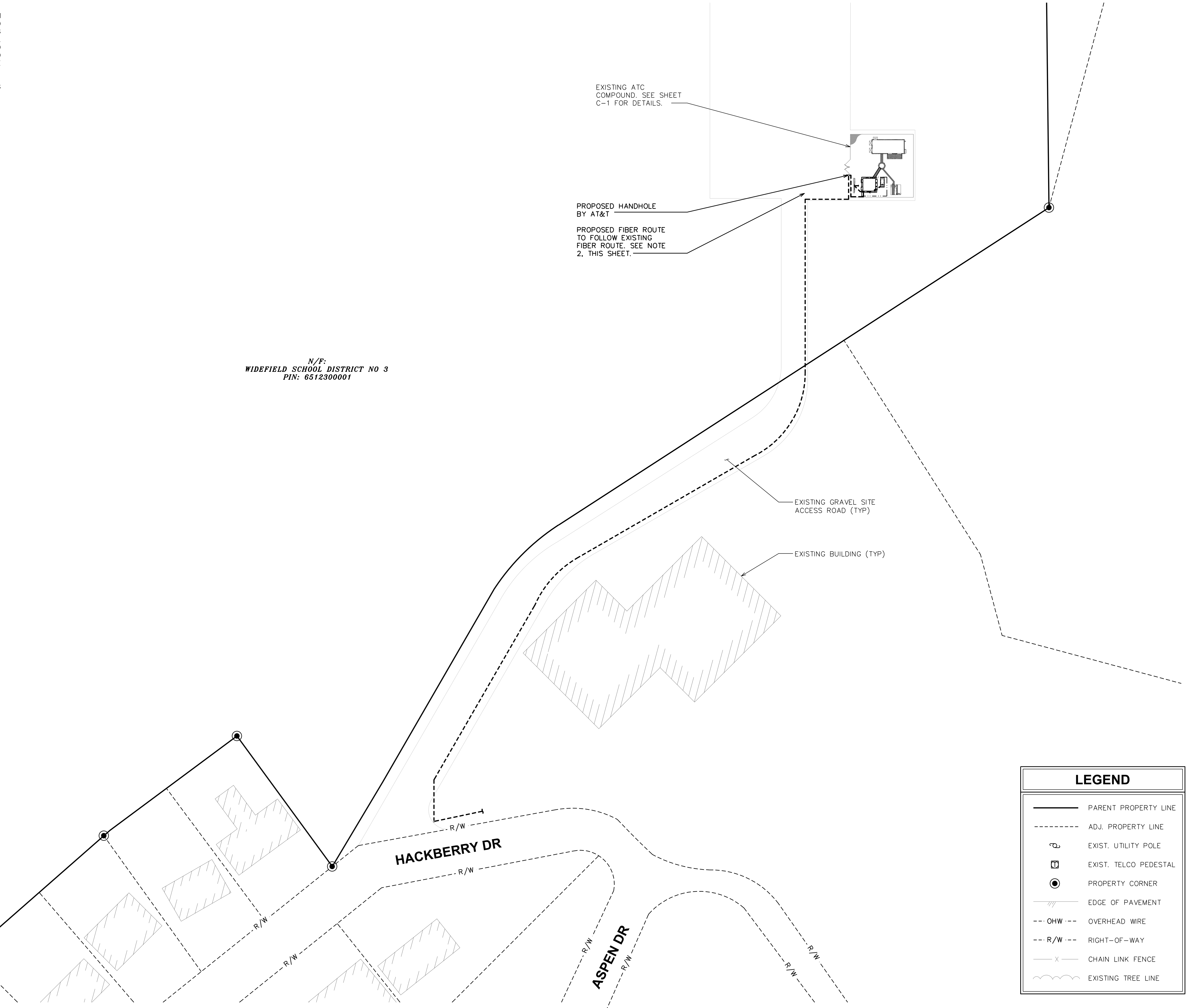
SHEET NUMBER: **E-3**

REVISION: **0**

TEP #: 177861.243634

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.



FIBER ROUTING PLAN

SCALE: 1" = 40'

SCALE: 1" = 40' (24x36)
SCALE: 1" = 80' (11x17)

0 40 80
SCALE IN FEET

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0	04-23-21	GV	100% CONSTRUCTION	EGG

SEAL:

COLORADO LICENSE SAMUEL O. ENGLISH PE.0051287 PROFESSIONAL ENGINEER

April 23, 2021

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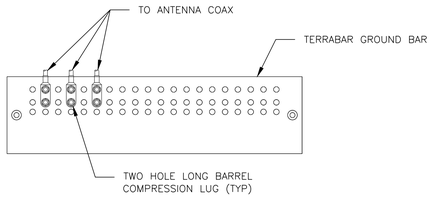
SHEET TITLE:
FIBER ROUTING PLAN

SHEET NUMBER: **E-4**
REVISION: **0**

TEP #: 177861.243634

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.

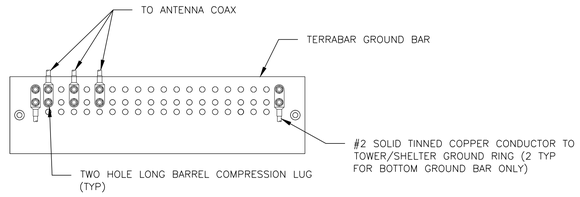


ANTENNA GROUND BAR DETAIL

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.

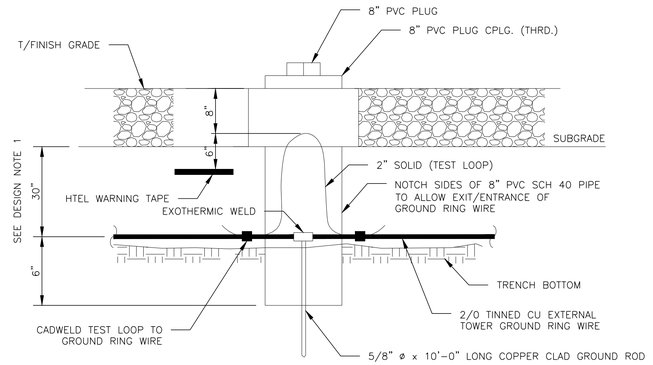


TOWER/SHELTER GROUND BAR DETAIL

SCALE: N.T.S.

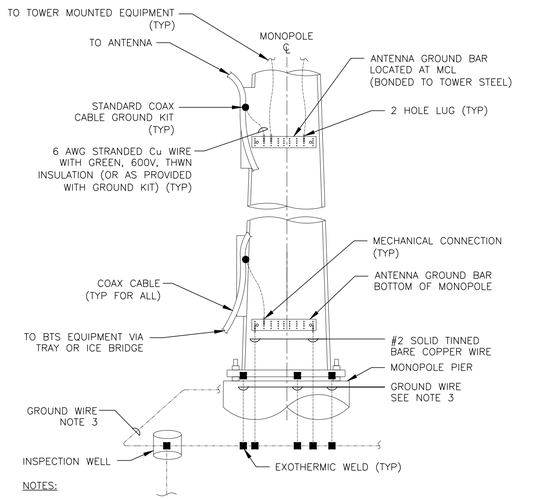
NOTES:

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.

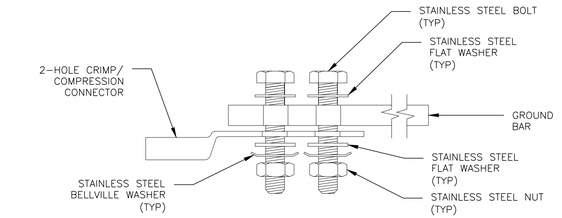


NOTES:

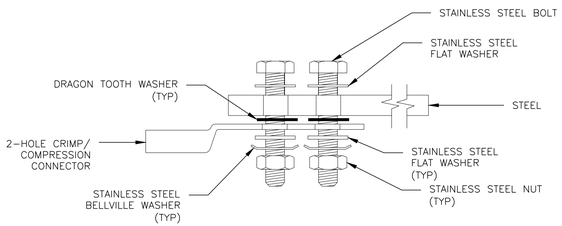
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF MONOPOLE, ANTENNA LOCATION AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET IN/ON THE POLE SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
2. ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF ANSI/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

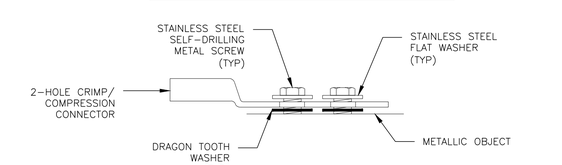
SCALE: N.T.S.



SINGLE CONNECTOR AT GROUND BARS



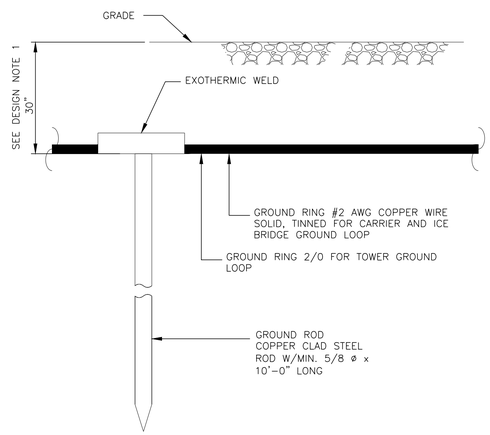
SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

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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AT&T PACE #: MRUTH042458
ATC #: 370609
WIDEFIELD HIGH SCHOOL II

527 WIDEFIELD DRIVE
COLORADO SPRINGS,
CO 80911
(EL PASO COUNTY)
EXISTING 119'-0"
MONOPOLE TOWER
NSB - LTE - 1C/2C/3C/4C/
5G NR 1SR

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	QA
A	11-23-20	KT	PRELIMINARY	EGG
B	12-14-20	SDD	90% CONSTRUCTION	EGG
C	02-18-21	CAK	90% CONSTRUCTION	EGG
D	04-23-21	GV	100% CONSTRUCTION	EGG

SEAL:

April 23, 2021

SHEET TITLE:

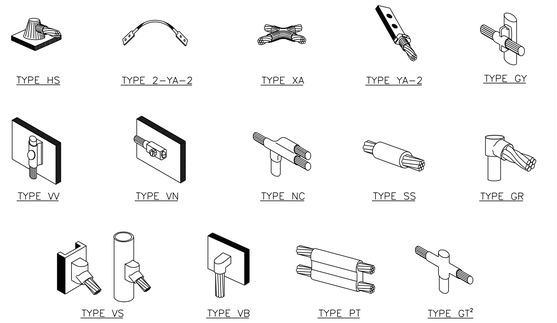
GROUNDING DETAILS

SHEET NUMBER:	REVISION:
G-1	0

TEP #: 177861.243634

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.



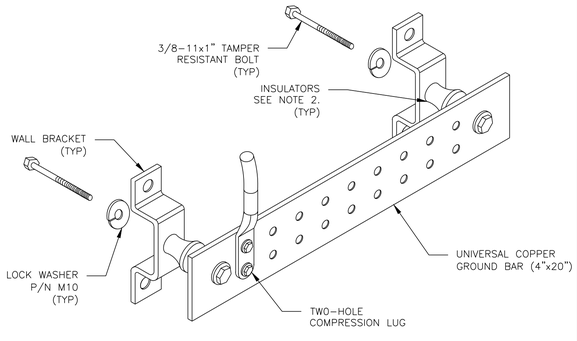
CADWELD GROUNDING CONNECTIONS

SCALE: N.T.S.

NOTES:

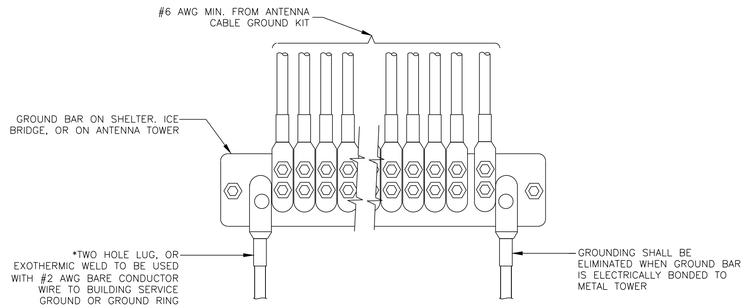
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.

2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.



GROUND BAR DETAIL

SCALE: N.T.S.

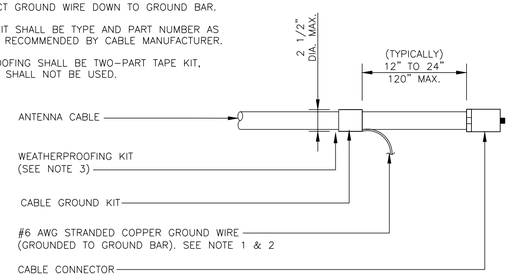


GROUNDWIRE INSTALLATION

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.

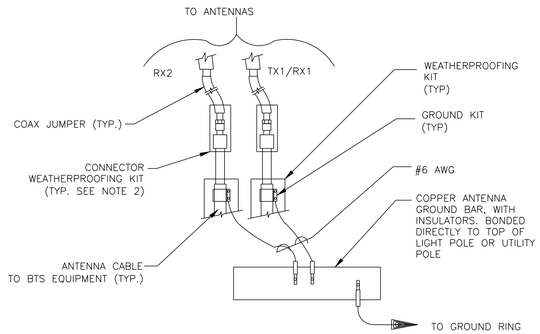


CABLE GROUND KIT CONNECTION

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.



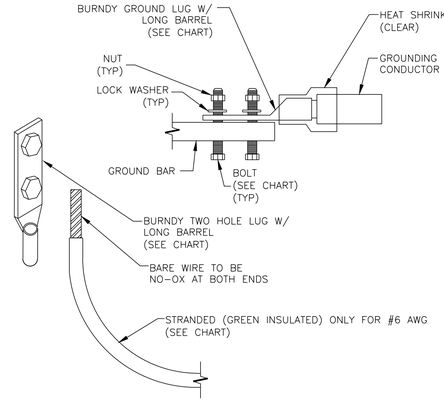
GROUND CABLE CONNECTION

SCALE: N.T.S.

NOTES:

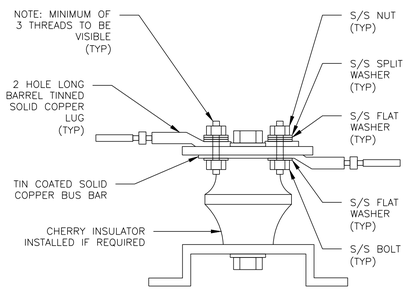
1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER,GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

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



MECHANICAL LUG CONNECTION

SCALE: N.T.S.



LUG DETAIL

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SEAL:

April 23, 2021

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GROUNDING DETAILS

SHEET NUMBER:	REVISION:
G-2	0

TEP #: 177861.243634