

GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, T-MOBILE "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 T-MOBILE 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 ANS/I/EA/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 T-MOBILE REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE 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 T-MOBILE 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 T-MOBILE 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 T-MOBILE 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 T-MOBILE 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 T-MOBILE REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE 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 T-MOBILE 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. WHEN THE PROJECT SCOPE REQUIRES THE USE OF THE SAFETY CLIMB, THE GENERAL CONTRACTOR SHALL ENSURE THE SAFETY CLIMB IS FREE OF OBSTRUCTIONS, NOT RUBBING ON OR TRAPPED BY ANY INSTALLED CUSTOMER EQUIPMENT, IS VISUALLY TAUT, MEETS MANUFACTURER INSTALLATION SPECIFICATIONS, AND IS FIRMLY SECURED AT ALL CABLE GUIDE LOCATIONS UPON PROJECT COMPLETION.
29. COMPLETION OF PROJECT SHALL NOT OBSTRUCT, TRAP, LOOSEN, OR OTHERWISE CAUSE FAILURE TO MEET MANUFACTURER INSTALLATION REQUIREMENTS FOR THE SAFETY CLIMB.
30. 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.
31. 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.
32. 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 T-MOBILE REP. ANY WORK FOUND BY THE T-MOBILE REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
33. 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.
34. T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE 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.
35. T-MOBILE 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 T-MOBILE 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 A185 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 T-MOBILE PROJECT MANAGER IN WRITING

SPECIAL CONSTRUCTION

ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:
 - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY T-MOBILE 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
 - B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND T-MOBILE 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 GREEN 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 T-MOBILE 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 4500 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 WORK SHALL BE PERFORMED BY ELECTRICAL 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 ATC. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. CONTRACTOR SHALL FIELD LOCATE ALL BELOW GRADE GROUNDING CABLES AND UTILITY LINES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF ALL UTILITIES AND GROUNDING 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.



THE USE AND PUBLICATION OF THESE DRAWINGS 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. 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 OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
△	FOR CONSTRUCTION	JXB	12/02/24
△			
△			
△			
△			

ATC SITE NUMBER:
372926
ATC SITE NAME:
ANGIER
T-MOBILE SITE NAME:
ATC 372926
SITE ADDRESS:
2135 JOHNSTON COUNTY ROAD
ANGIER, NC 27501



Digitally Signed: 2025-01-01



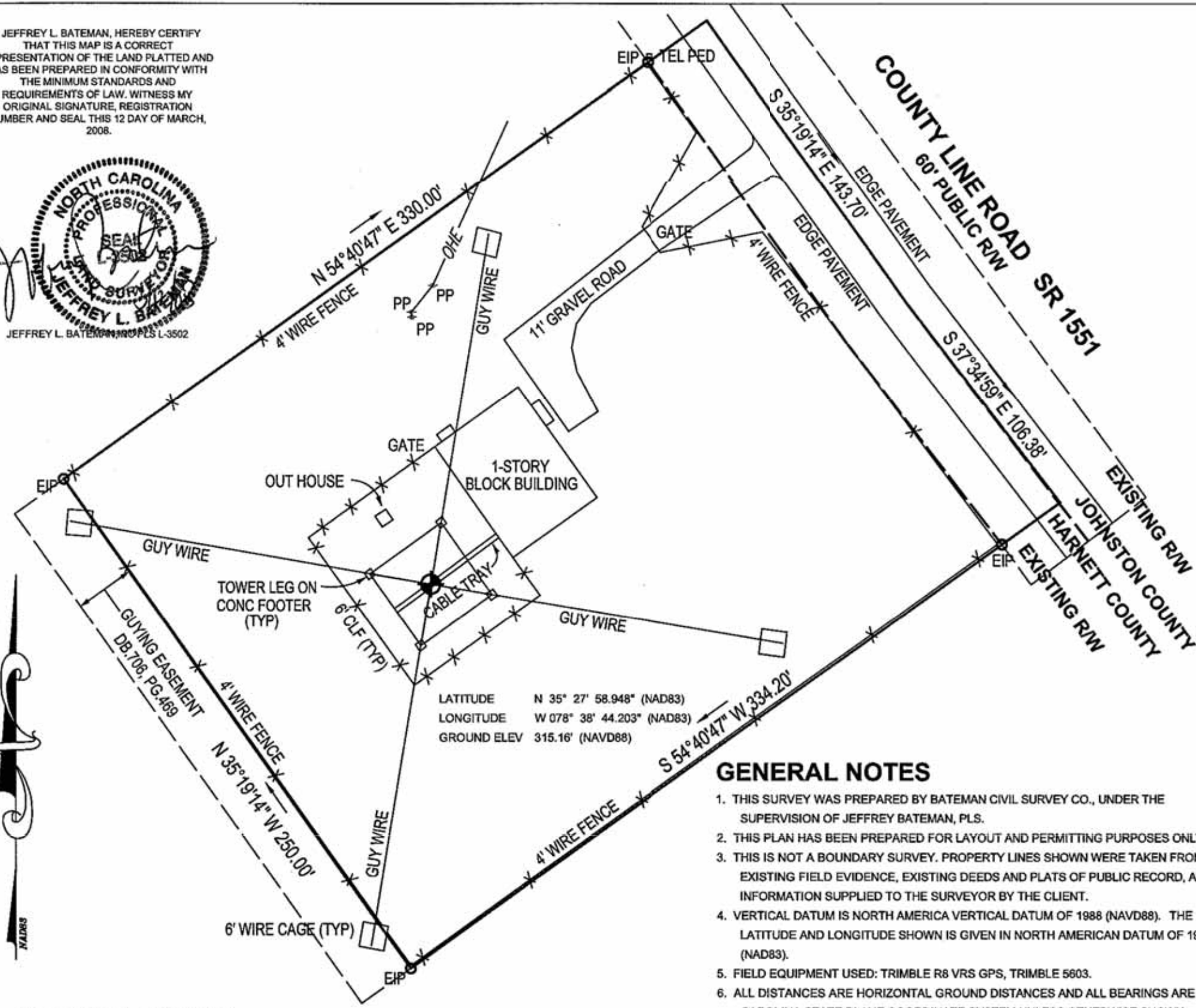
ATC PROJ. #:	14922080_D2
CUST. ID:	ATC 372926
CUST. #:	5RA1119A

GENERAL NOTES	
SHEET NUMBER: G-002	REVISION: 0

I, JEFFREY L. BATEMAN, HEREBY CERTIFY THAT THIS MAP IS A CORRECT REPRESENTATION OF THE LAND PLATTED AND HAS BEEN PREPARED IN CONFORMITY WITH THE MINIMUM STANDARDS AND REQUIREMENTS OF LAW. WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER AND SEAL THIS 12 DAY OF MARCH, 2008.



JEFFREY L. BATEMAN, PLS L-3502



LATITUDE N 35° 27' 58.948" (NAD83)
 LONGITUDE W 078° 38' 44.203" (NAD83)
 GROUND ELEV 315.16' (NAVD88)

GENERAL NOTES

1. THIS SURVEY WAS PREPARED BY BATEMAN CIVIL SURVEY CO., UNDER THE SUPERVISION OF JEFFREY BATEMAN, PLS.
2. THIS PLAN HAS BEEN PREPARED FOR LAYOUT AND PERMITTING PURPOSES ONLY.
3. THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES SHOWN WERE TAKEN FROM EXISTING FIELD EVIDENCE, EXISTING DEEDS AND PLATS OF PUBLIC RECORD, AND INFORMATION SUPPLIED TO THE SURVEYOR BY THE CLIENT.
4. VERTICAL DATUM IS NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88). THE LATITUDE AND LONGITUDE SHOWN IS GIVEN IN NORTH AMERICAN DATUM OF 1983 (NAD83).
5. FIELD EQUIPMENT USED: TRIMBLE R8 VRS GPS, TRIMBLE 5603.
6. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES AND ALL BEARINGS ARE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM UNLESS OTHERWISE SHOWN.
7. PROPERTY OWNER: VANGARD WIRELESS, L.P.
8. THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPEMENT REGULATIONS.

LEGAL DESCRIPTION

All that tract or parcel of land situate in the County of Harnett, State of North Carolina, and more particularly described as follows:

Beginning at a point in the center line of County Road, SR 1551, said point being located along center line of said road, N37°34'33.5"W, 153.00' from the center line intersection of SR 1551 and SR 1552, and runs thence S54°40'46.5"W, 334.20' to an iron; thence N35°19'13.5"W, 250.00' to an iron; thence N54°40'46.5"E, 330.00' to a point in the center line of County Road SR 1551, said point being located in the center line of said County Road SR 1551, S35°19'13.5"E, 130.00' from the intersection of the Northerly line of the 6.7 acre tract with center line of said road; thence with the center line of said road two lines; S35°19'13.5"E, 143.70', (2) S37°34'33.5"E, 106.40' to the point of Beginning, containing 1.899 acres, more or less,

Being the same tract or parcel of land conveyed to American Tower Management, Inc. from AT&T Corp., by Deed dated February 28, 2000 and recorded May 24, 2000 in Book 1419, Page 150, in the office of the Register of Deeds for Harnett County, North Carolina.

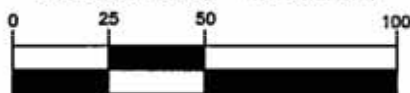
Being the same tract or parcel of land conveyed to John Fridley from American Tower Management, Inc., by Deed dated April 20, 2001 and recorded July 26, 2001 in Book 1525, Page 760 (Instrument #20010113561, in the Office of the Register of Deeds for Harnett County, North Carolina.

Being the same tract or parcel of land conveyed to Eastern Sky Ministries from John Fridley, by Deed dated March 29, 2002 and recorded April 18, 2002 in Book 1613, Page 427, in the office of the Register of Deeds for Harnett County, North Carolina.

Being the same tract or parcel of land which passed to Rita Fridley and John Fridley by inventory from John David Fridley as evidenced by Item (f) of inventory for Decedent's Estate filed with the Clerk of Superior Court of Union County, N.C. on May 10, 2007.

Being the same tract or parcel of land conveyed to Vanguard Wireless, L.P. from Rita Fridley and John Fridley, by Deed dated October 17, 2007 and recorded in Book Page in the office of the Register of Deeds for Chatham County, North Carolina.

GRAPHIC SCALE



1 inch = 50 ft.

SURVEY PREPARED FOR:
FIRST GROUP ENGINEERING INC.
 CONSULTING ENGINEERS
 5925 LAKESIDE BLVD., INDIANAPOLIS, INDIANA
 PH. (317) 290-9549 FAX (317) 290-9580



SURVEY PREPARED BY:
Bateman Civil Survey Co, PC
 200 N Main St, Holly Springs, NC 27540
 919.577.1090 fax 919.577.1081

ANGIER
 COUNTY LINE ROAD
 SR 1551
 HARNETT COUNTY, N.C.



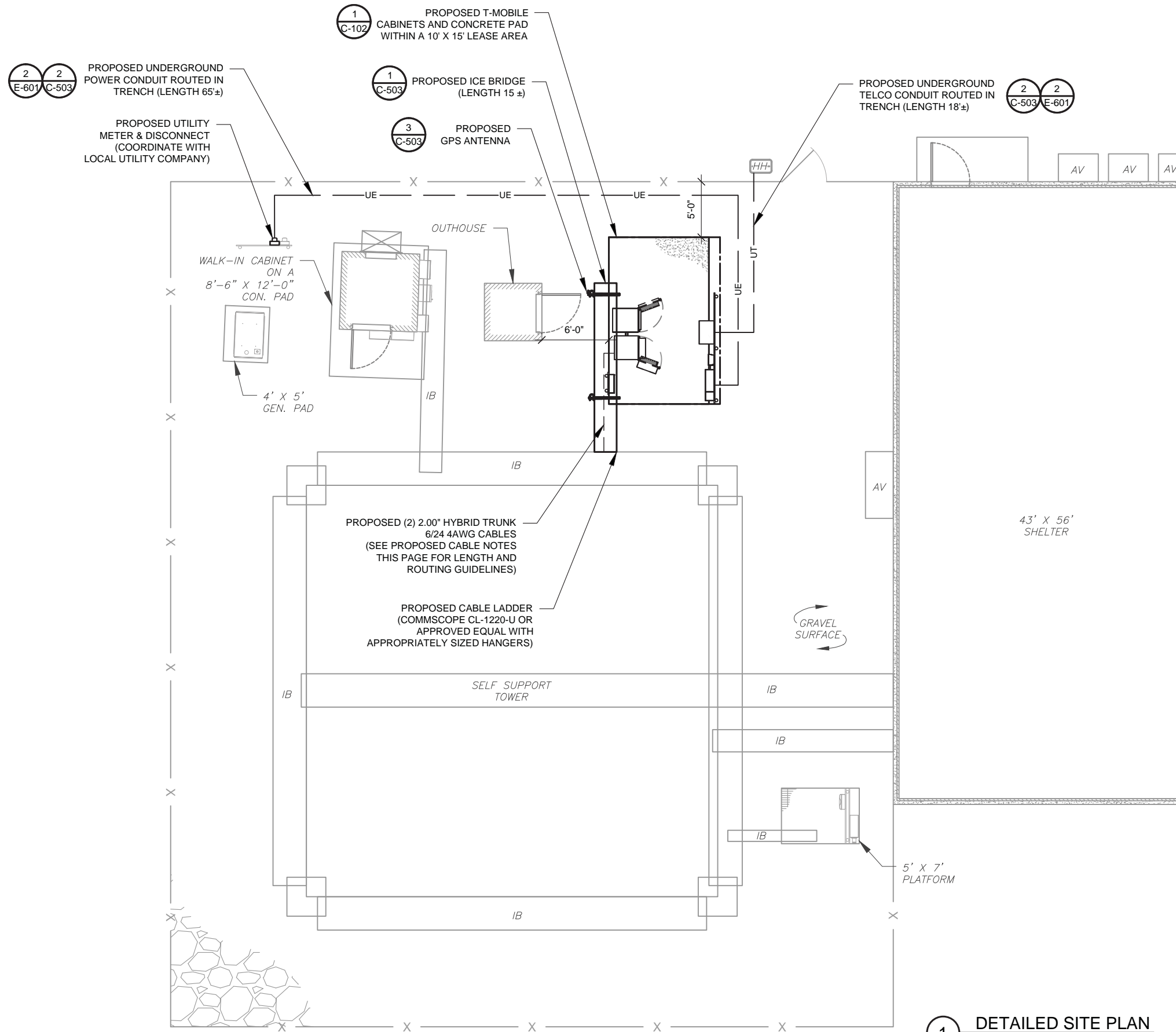
NO.	DATE	REVISIONS	BY	CHK	APP'D

DATE: 03/03/08 CHECKED BY: JLB DRAWN BY: JH

DukeNet Communications Services		
AS-BUILT SURVEY		
SITE NAME	DRAWING NUMBER	REV
ANGIER	AB1	0

SITE PLAN NOTES:

- 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.
- 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.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE 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.



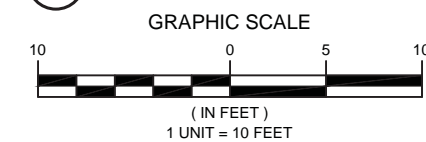
LEGEND

⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACLE
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
—	CHAINLINK FENCE

PROPOSED CABLE NOTES:

- ESTIMATED LENGTH OF PROPOSED CABLE IS **232'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES). CDS DEFER TO GREATEST CABLE LENGTH.
- ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).

1 DETAILED SITE PLAN



A.T. ENGINEERING SERVICES, PLLC
 1 FENTON MAIN
 SUITE 300
 CARY, NC 27511
 PHONE: (919) 468-0112
 P-1177

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JXB	12/02/24

ATC SITE NUMBER:
372926
 ATC SITE NAME:
ANGIER
 T-MOBILE SITE NAME:
ATC 372926
 SITE ADDRESS:
 2135 JOHNSTON COUNTY ROAD
 ANGIER, NC 27501



Digitally Signed: 2025-01-01



ATC PROJ. #:	14922080_D2
CUST. ID:	ATC.372926
CUST. #:	5RA1119A

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	0

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0	FOR CONSTRUCTION	JXB	12/02/24

ATC SITE NUMBER:

372926

ATC SITE NAME:

ANGIER

T-MOBILE SITE NAME:

ATC 372926

SITE ADDRESS:

2135 JOHNSTON COUNTY ROAD
 ANGIER, NC 27501

SEAL:



Digitally Signed: 2025-01-01



ATC PROJ. #: 14922080_D2

CUST. ID: ATC 372926

CUST. #: 5RA1119A

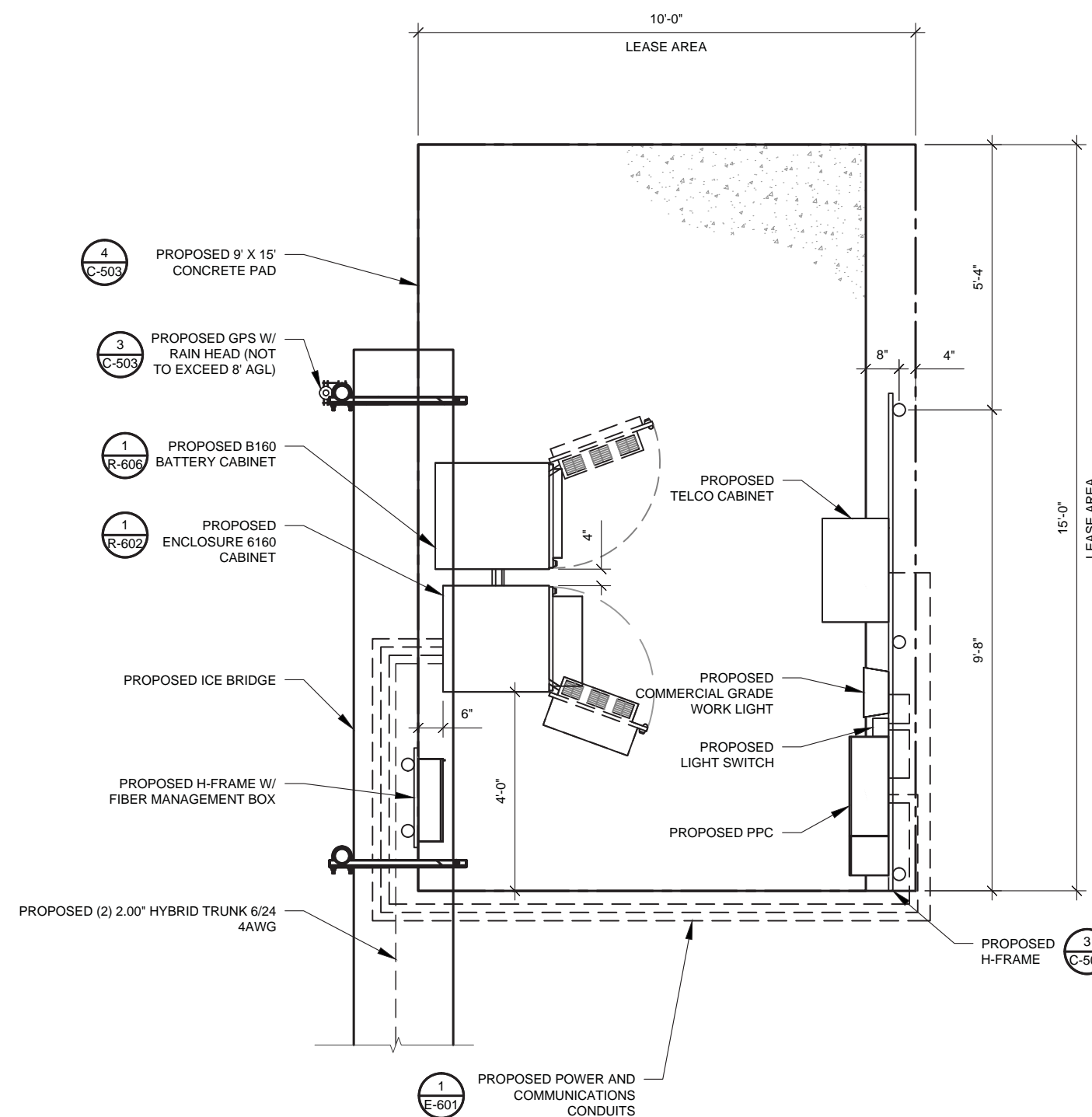
**DETAILED EQUIPMENT
 PLAN**

SHEET NUMBER:

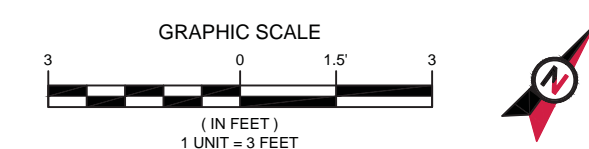
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REVISION:

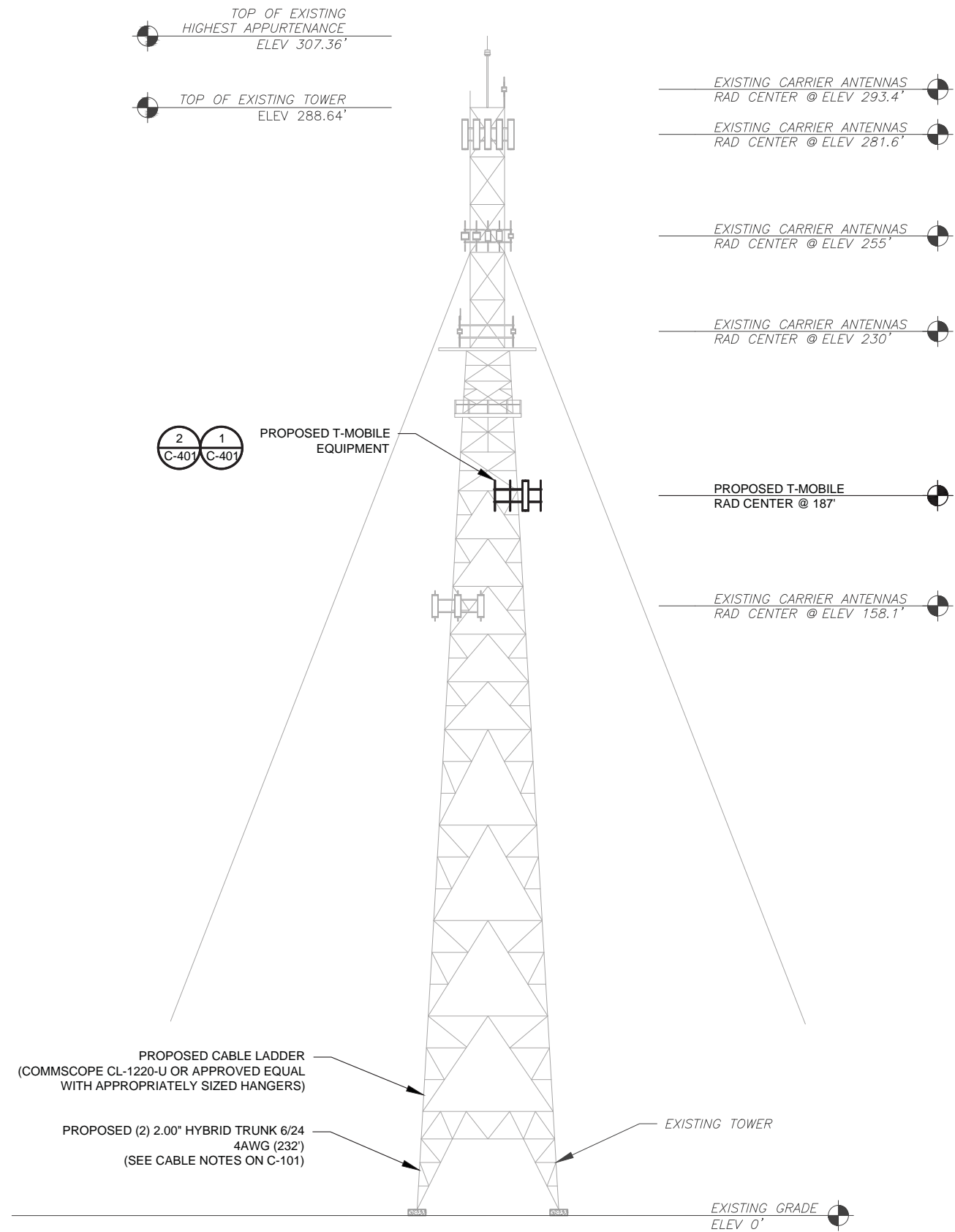
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1 PROPOSED GROUND EQUIPMENT LAYOUT



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1 TOWER ELEVATION
SCALE: N.T.S.

ALL ELEVATIONS REFLECT ABOVE GROUND LEVEL (A.G.L.)

- TOWER NOTE:**
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
 - WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
 - ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).
 - TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.

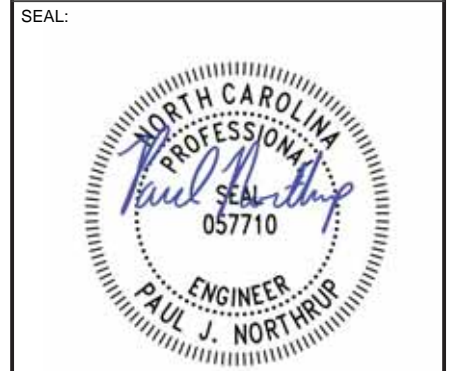


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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JXB	12/02/24
1	SHOW GUY WIRES	MNC	12/31/24

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372926
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ANGIER
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 ANGIER, NC 27501



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ATC PROJ. #: 14922080_D2
 CUST. ID: ATC 372926
 CUST. #: 5RA1119A

TOWER ELEVATION

SHEET NUMBER:
C-201
 REVISION:
1

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 SITE ADDRESS:
 2135 JOHNSTON COUNTY ROAD
 ANGIER, NC 27501

SEAL:



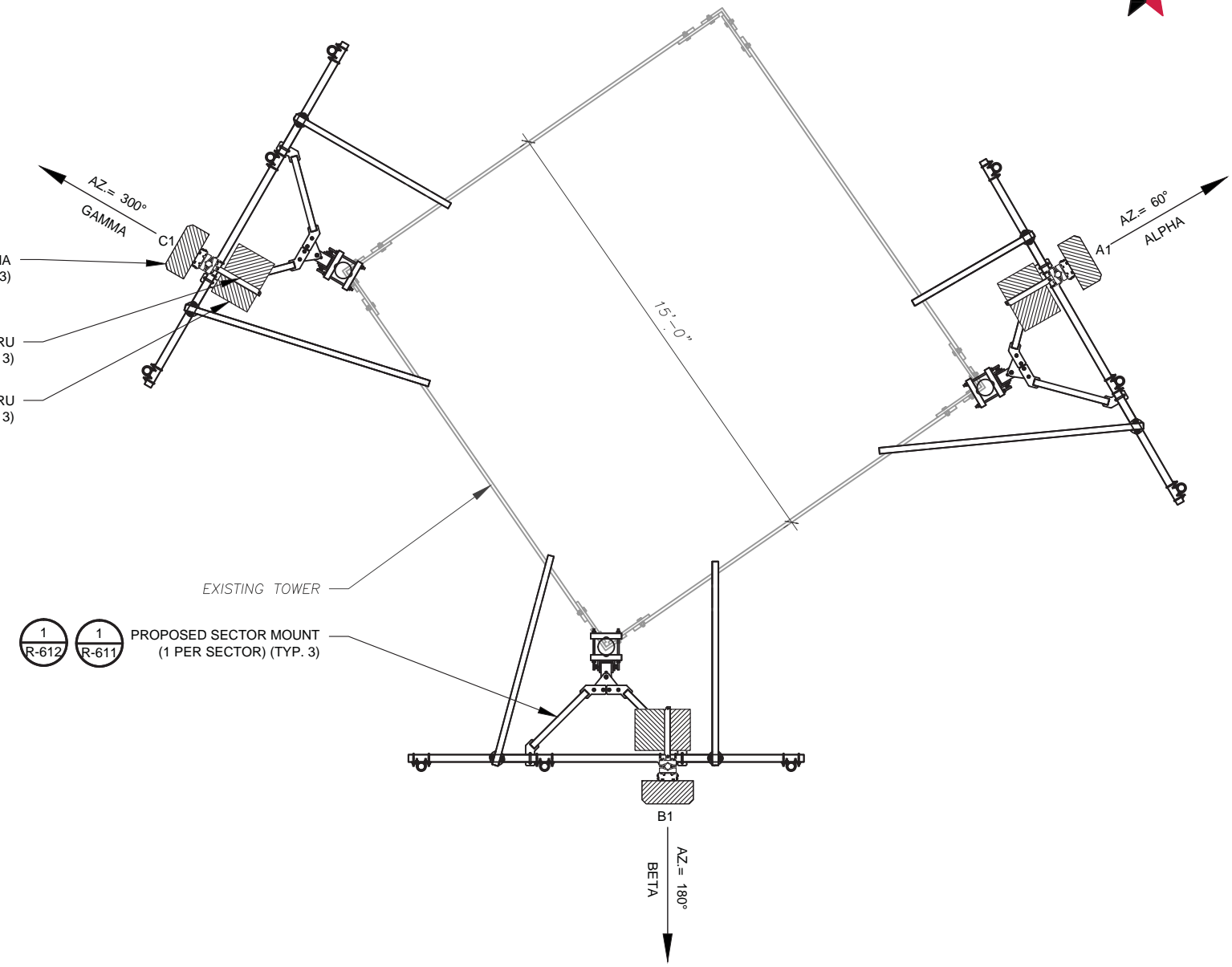
Digitally Signed: 2025-01-01



ATC PROJ. #:	14922080_D2
CUST. ID:	ATC 372926
CUST. #:	5RA1119A

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER: C-401	REVISION: 0
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- 1 C-501 PROPOSED APXVAALL24M-U-J20 ANTENNA (1 PER SECTOR) (TYP. 3)
- 2 C-501 PROPOSED RADIO 4460 B25+B66 RRU (1 PER SECTOR) (TYP. 3)
- 2 C-501 PROPOSED RADIO 4480 B71+B85A RRU (1 PER SECTOR) (TYP. 3)

- 1 R-612 PROPOSED SECTOR MOUNT (1 PER SECTOR) (TYP. 3)
- 1 R-611 PROPOSED SECTOR MOUNT (1 PER SECTOR) (TYP. 3)

1 FINAL ANTENNA PLAN
 SCALE: N.T.S.

FINAL ANTENNA/ COAX SCHEDULE						
SECTOR	ANT.	MODEL #	RAD CENTER	AZIMUTH	ADDITIONAL TOWER MOUNTED EQUIPMENT	CABLE DESCRIPTION
ALPHA	A1	APXVAALL24M-U-J20	187'	60°	RADIO 4480 B71+B85 RADIO 4460 B25+B66	(2) 2.00" HYBRID TRUNK 6/24 4AWG (232')
BETA	B1	APXVAALL24M-U-J20		180°	RADIO 4480 B71+B85 RADIO 4460 B25+B66	
GAMMA	C1	APXVAALL24M-U-J20		300°	RADIO 4480 B71+B85 RADIO 4460 B25+B66	

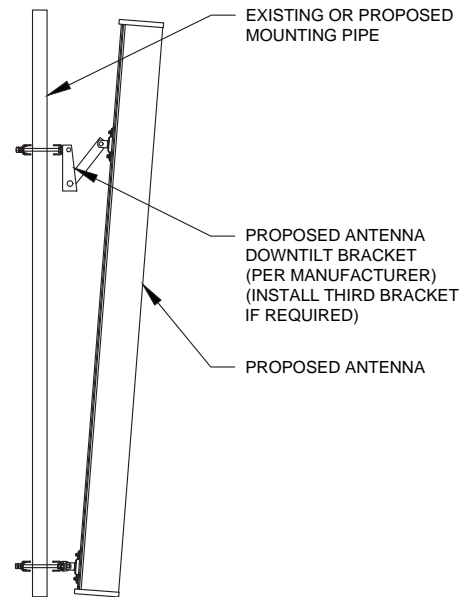
1. GC TO VERIFY THE FINAL RFDS MATCHES THE FINAL CONSTRUCTION DRAWINGS. GC TO NOTIFY ATC PM OF ANY DISCREPANCY PRIOR TO INSTALLING THE EQUIPMENT.
2. GC TO CAP ALL UNUSED PORTS.
3. GC TO CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.

2 ANTENNA SCHEDULE

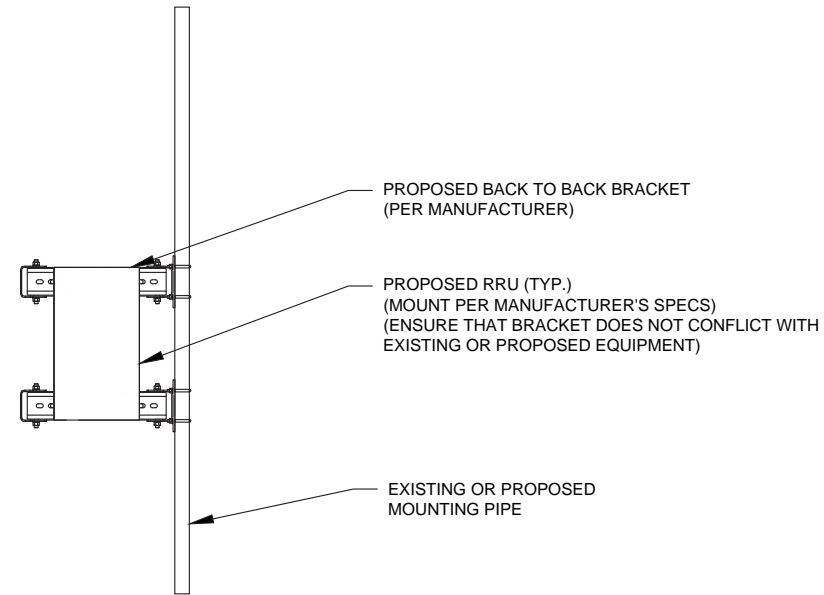
RF JUMPER LENGTH
MONOPOLE = 15'± GUYED / SELF SUPPORT = FACE WIDTH + 15'
REFER TO FINAL RFDS FOR TYPE AND QUANTITY

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EXISTING/PROPOSED MOUNTS AND/OR MOUNT MODIFICATIONS NOT SHOWN FOR CLARITY. REFER TO ANTENNA PLANS, MOUNT ANALYSES AND/OR MOUNT MODIFICATION DOCUMENTS FOR ADDITIONAL DETAIL.



1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



2 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



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0	FOR CONSTRUCTION	JXB	12/02/24

ATC SITE NUMBER:
372926
 ATC SITE NAME:
ANGIER
 T-MOBILE SITE NAME:
ATC 372926
 SITE ADDRESS:
 2135 JOHNSTON COUNTY ROAD
 ANGIER, NC 27501

SEAL:



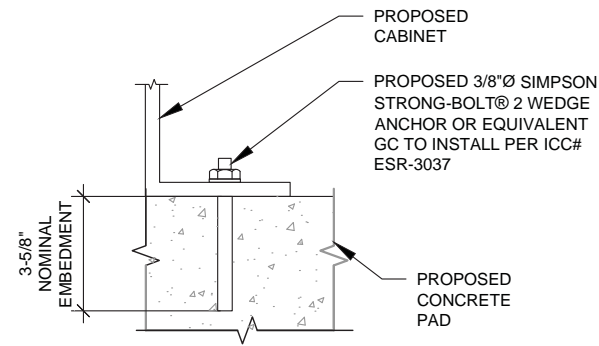
Digitally Signed: 2025-01-01



ATC PROJ. #: 14922080_D2
 CUST. ID: ATC 372926
 CUST. #: 5RA1119A

MOUNT DETAILS

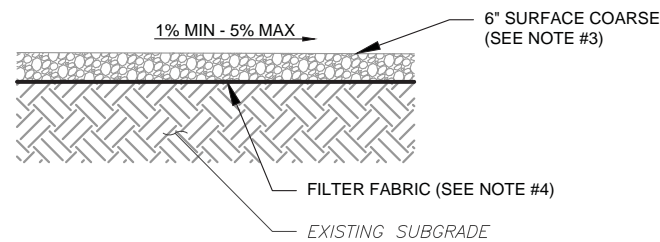
SHEET NUMBER: **C-501** REVISION: **0**



NOTE:

INSTALL SIMPSON STRONG-TIE® STRONG-BOLT® 2 WEDGE ANCHOR(S) STRICTLY PER INSTALLATION INSTRUCTIONS INCLUDED WITH PRODUCT OR FOUND ONLINE AT WWW.STRONGTIE.COM. PROPER INSTALLATION IS CRITICAL FOR FULL PERFORMANCE.

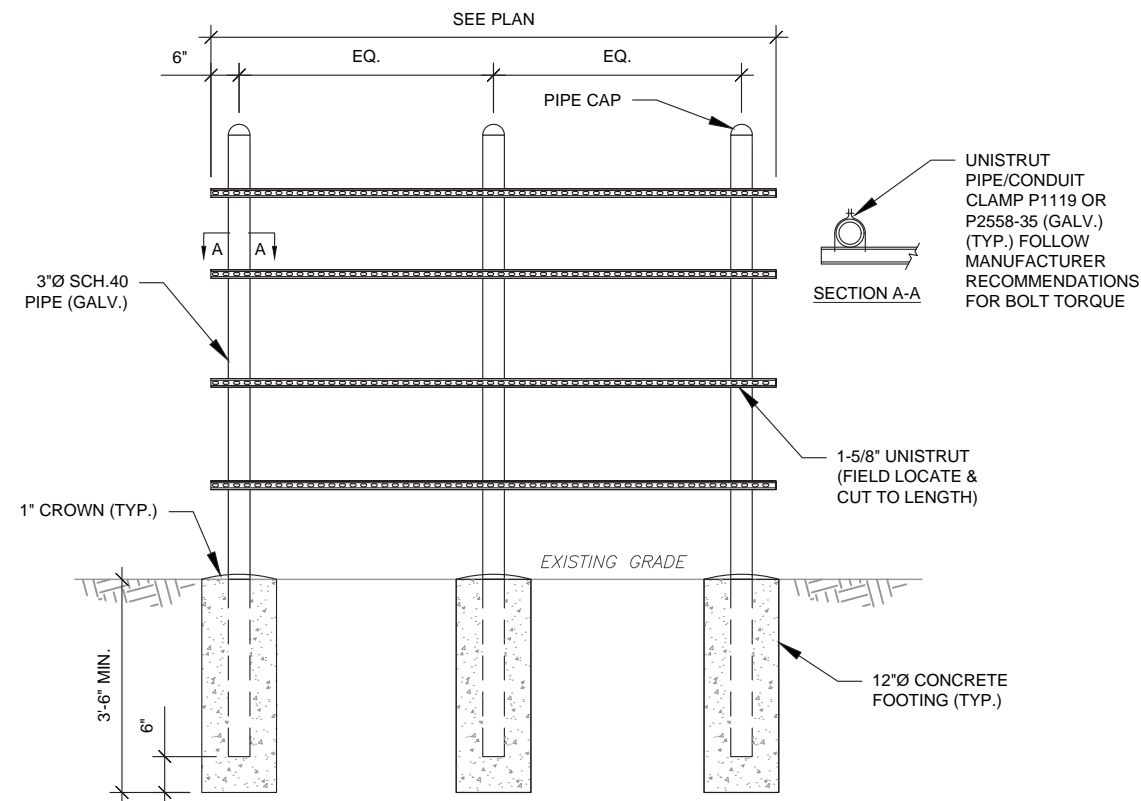
1 CABINET ATTACHMENT DETAIL
SCALE: N.T.S.



NOTES:

- CONTRACTOR TO CONTACT ALL UTILITIES FOR LOCATION OF UNDERGROUND SERVICES. SERVICE LOCATIONS TO BE CONFIRMED PRIOR TO CONSTRUCTION.
- REMOVE ALL UNSUITABLE OR DELETERIOUS MATERIAL AS REQUIRED. COMPACT UNDERLYING SOIL TO 90% OF MAXIMUM DENSITY. REPLACE REMOVED SOIL WITH 8" LIFTS OF GRANULAR "B" MATERIAL TO A DEPTH OF 4" BELOW PROPOSED GRADE. COMPACT TO MINIMUM 95% OF MAXIMUM DRY DENSITY ALL COMPACTION SHALL BE IN ACCORDANCE WITH THE MOST RECENT IBC. REVIEW WITH PROJECT MANAGER AND GEOTECH PRIOR TO CONSTRUCTION.
- SURFACE COARSE OF GRANULAR "A" MATERIAL SHALL CONSIST OF EVENLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL, WITH 100% PASSING THROUGH 3/4" SIEVE AND NOT MORE THAN 5% PASSING THROUGH #4 SIEVE.
- PROVIDE GEOTEXTILE FABRIC UNDER WASHED CHIPPED STONE COMPOUND UNLESS NOTED OTHERWISE. WOVEN GEOTEXTILE: US FABRICS: US 230 OR APPROVED EQUIVALENT. CONTRACTOR MAY SUBMIT DESIGN ALTERNATIVE AS OUTLINED IN THE AMERICAN TOWER MASTER SPECIFICATIONS.

2 COMPOUND CROSS SECTION
SCALE: N.T.S.



H-FRAME NOTES:

- IF IT IS NECESSARY TO EXTEND THE H-FRAME, AN ADDITIONAL POST WILL ALWAYS BE REQUIRED.
- PROPOSED UNISTRUTS TO BE FIELD CUT AND SHOULD NOT EXTEND MORE THAN 6 INCHES BEYOND THE LAST POST.
- SPRAY ENDS OF UNISTRUT WITH COLD GALVANIZING SPRAY PAINT, ALLOW TO DRY, THEN COVER WITH RUBBER PROTECTIVE CAPS FOR SAFETY.
- UNISTRUT TO BE CUT FLUSH WITH NO SHARP OR JAGGED EDGES.
- ALL PROPOSED HARDWARE TO BE MOUNTED PER MANUFACTURERS SPECS.

3 TYPICAL H-FRAME DETAIL
SCALE: N.T.S.



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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JXB	12/02/24

ATC SITE NUMBER:

372926

ATC SITE NAME:

ANGIER

T-MOBILE SITE NAME:

ATC 372926

SITE ADDRESS:

2135 JOHNSTON COUNTY ROAD
ANGIER, NC 27501

SEAL:



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ATC PROJ. #: 14922080_D2

CUST. ID: ATC 372926

CUST. #: 5RA1119A

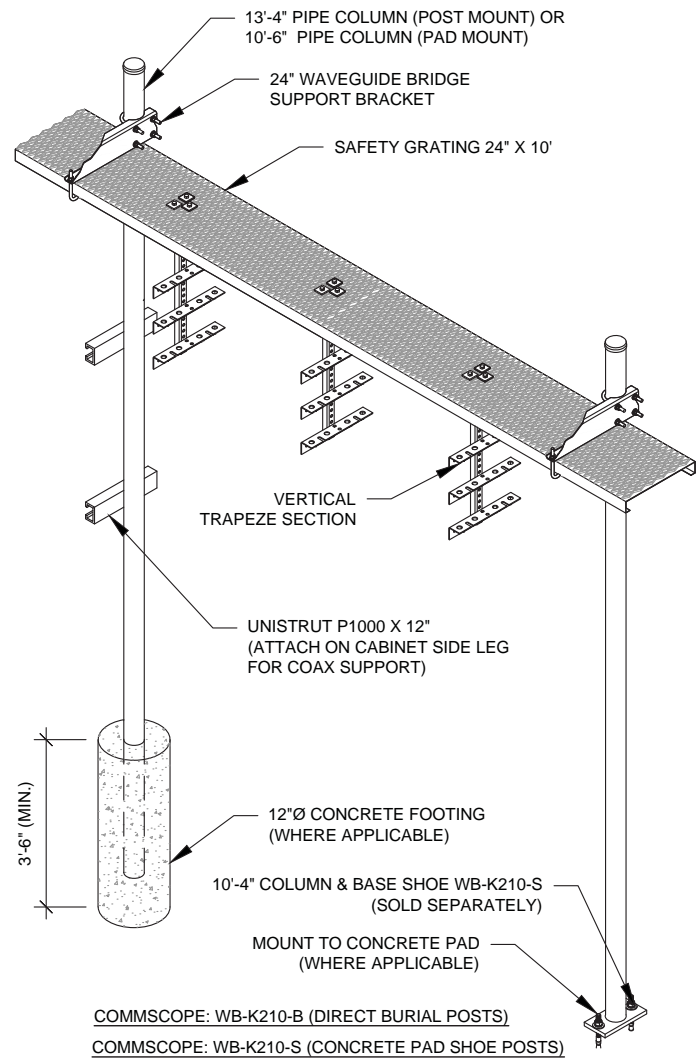
**CONSTRUCTION
DETAILS**

SHEET NUMBER:

C-502

REVISION:

0

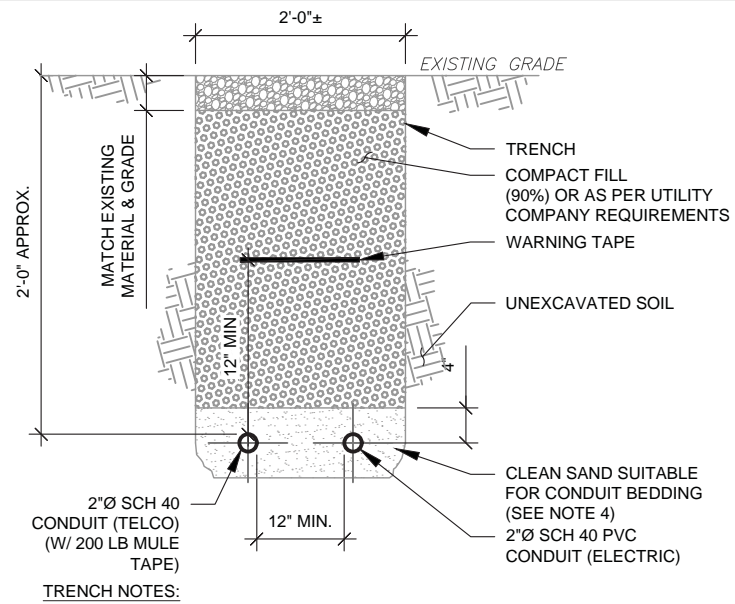


COMMSCOPE: WB-K210-B (DIRECT BURIAL POSTS)
COMMSCOPE: WB-K210-S (CONCRETE PAD SHOE POSTS)

CONSTRUCTION NOTE:

1. INSTALL ICE BRIDGE TO ALLOW 7 FEET CLEARANCE ABOVE GRADE TO LOWEST APPURTENANCE.
2. INSTALL PER MANUFACTURES SPECIFICATION.

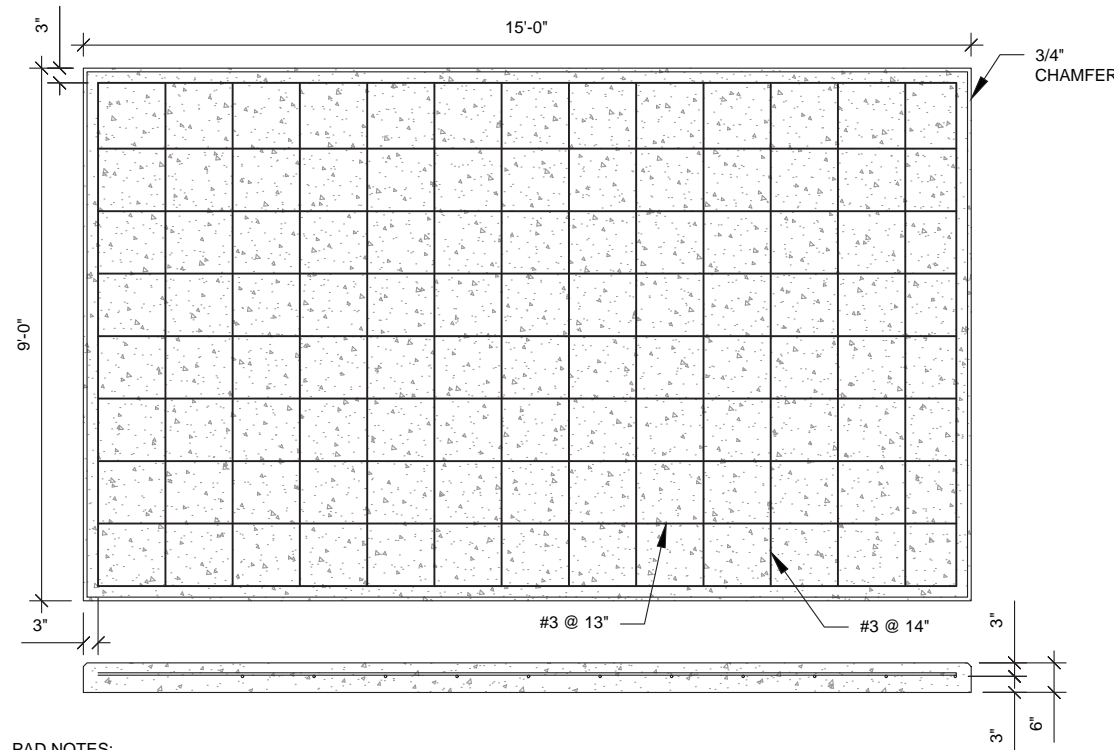
1 WAVEGUIDE BRIDGE KIT
SCALE: N.T.S.



TRENCH NOTES:

1. IF FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL, EXCAVATED MATERIAL MAY BE USED FOR BACKFILL.
2. IF NOT, PROVIDE CLEAN, COMPACTIBLE MATERIAL. COMPACT IN 8" LIFTS. REMOVE ANY LARGE ROCKS PRIOR TO BACKFILLING. CONTRACTOR TO VERIFY LOCATION OF EXISTING U/G UTILITIES PRIOR TO DIGGING.
3. IF CURRENT AS-BUILT DRAWINGS ARE NOT AVAILABLE CONTRACTOR SHALL HAND DIG U/G TRENCHING.
4. CONCRETE ENCASE CONDUIT WHEN TRENCHING UNDER SITE ACCESS ROAD.

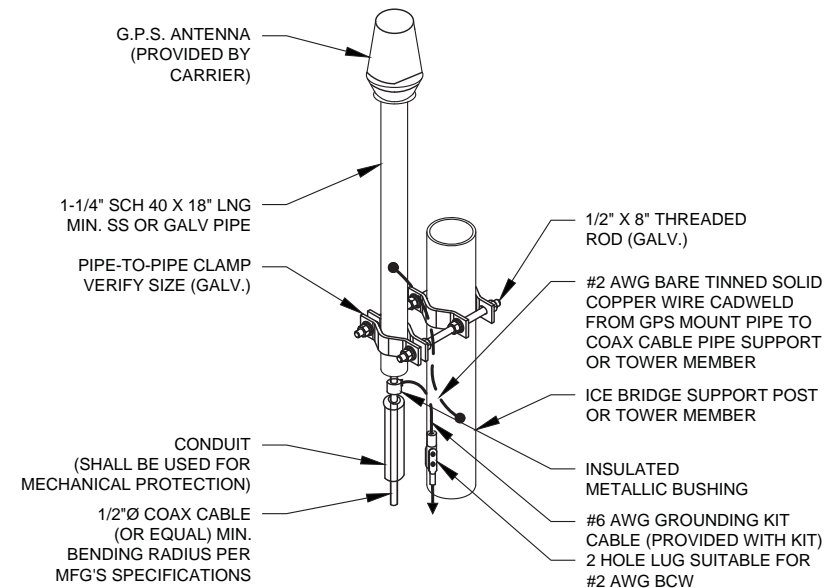
2 TELCO AND POWER CONDUIT JOINT TRENCH
SCALE: N.T.S.



PAD NOTES:

1. PADS SHALL BE PRE-CAST MATCHING THIS DESIGN WHERE ALLOWED BY LOCAL JURISDICTION.
2. REFER TO CONCRETE & REINFORCED STEEL NOTES ON SHEET G-002 & ATC SPEC 033000 FOR CAST-IN-PLACE PADS.

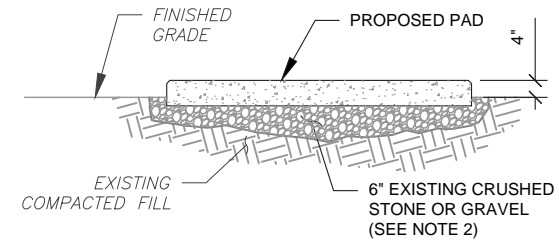
4 REINFORCED PAD LAYOUT
SCALE: N.T.S.



NOTE:

1. GPS SHALL BE PLACED WITH CLEAR SIGHT LINE TO THE SOUTHERN SKY.
2. CONTRACTOR TO SUPPLY COAX FOR GPS UNIT.

3 GPS ANTENNA ATTACHMENT DETAIL
SCALE: N.T.S.



PAD NOTES:

1. SUBGRADE AND FILL SHALL CONSIST OF CLEAN SOIL. DELETERIOUS MATERIAL AND ORGANICS SHALL BE REMOVED.
2. MECHANICALLY COMPACT FOOTPRINT OF PAD PLUS 2' PERIMETER.
3. USE GALVANIZED HILTI EXPANSION ANCHORS OR, APPROVED EQUAL, FOR EQUIPMENT ANCHORAGE.
4. FOR SIZE AND LOCATION OF ANCHORS AND OTHER REQUIREMENT, SEE EQUIPMENT VENDOR DRAWINGS.

5 GRAVEL PREPARATION
SCALE: N.T.S.

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JXB	12/02/24
1			
2			
3			
4			

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372926
ATC SITE NAME:
ANGIER
T-MOBILE SITE NAME:
ATC 372926
SITE ADDRESS:
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ANGIER, NC 27501

SEAL:



Digitally Signed: 2025-01-01



ATC PROJ. #: 14922080_D2
CUST. ID: ATC 372926
CUST. #: 5RA1119A







CONSTRUCTION DETAILS

SHEET NUMBER:
C-503
REVISION:
0

GROUNDING NOTES:

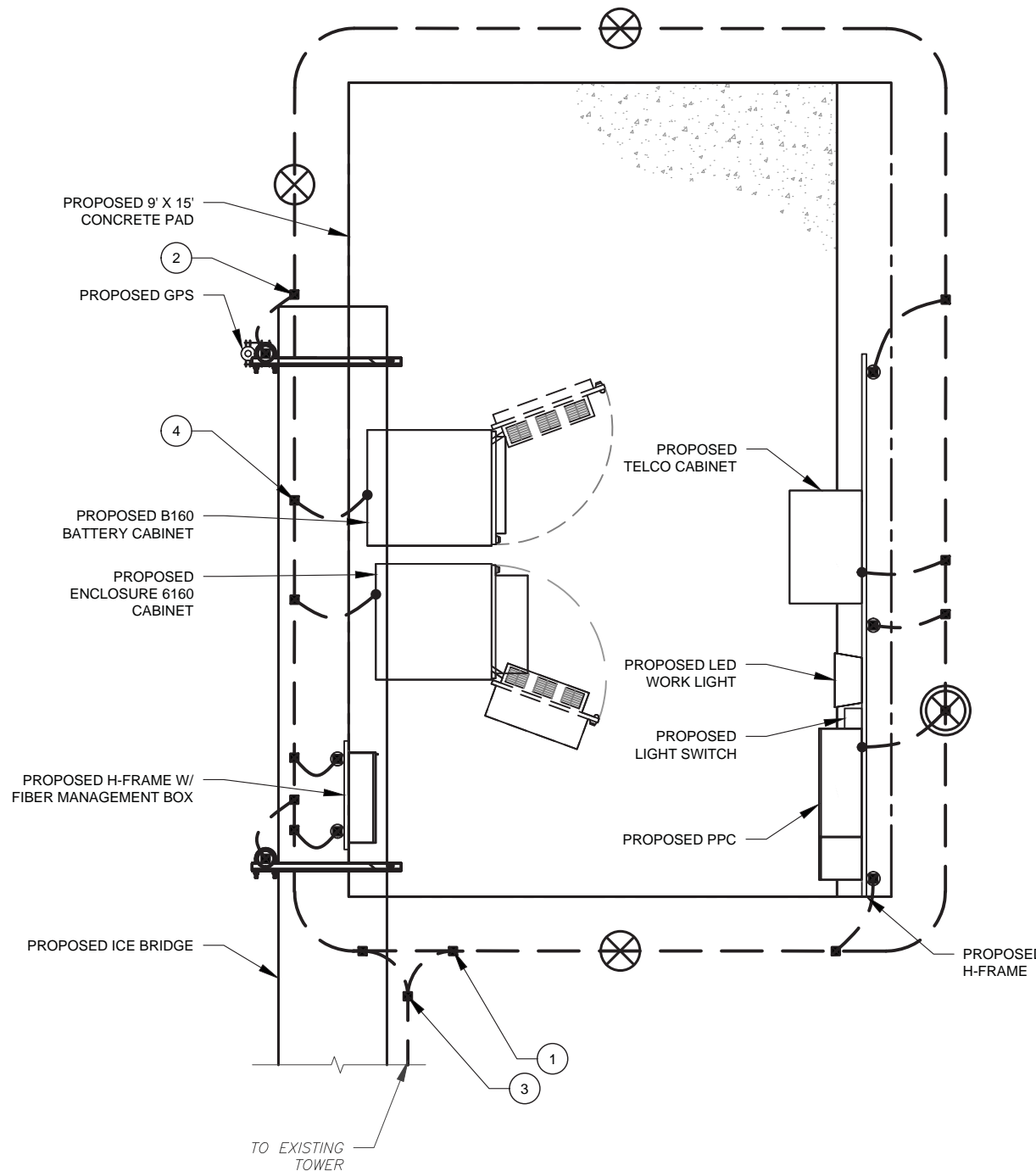
1. ALL EQUIPMENT ENCLOSURES, DEVICES AND CONDUITS SHALL BE GROUNDED TO CONFORM WITH THE LATEST REQUIREMENTS OF THE NEC BY THE INSTALLATION OF A SEPARATE, GREEN, INSULATED GROUND CONDUCTOR FOR ALL FEEDER AND BRANCH CIRCUITS. GROUND CONDUCTORS SHALL BE OF THE SIZE INDICATED ON THE DRAWINGS. GROUND CONDUCTORS SHALL BE CONTINUOUS IN LENGTH AND SHALL BE BONDED TO EACH ENCLOSURE THEY PASS THROUGH. CONDUIT SHALL NOT BE USED AS A GROUNDING CONDUCTOR.
2. GROUNDING CONDUCTORS SHALL:
 - A. BE #2 AWG SOLID BARE TINNED COPPER (SBTC) FOR ALL GROUNDING SYSTEM WIRE UNLESS OTHERWISE NOTED, OR OTHERWISE REQUIRED BY CODE.
 - B. BE MINIMUM 12" BEND RADIUS. KEEP NUMBER OF BENDS TO A MINIMUM.
 - C. AVOID LONG BONDING CONNECTION RUNS. MAKE DIRECT AS POSSIBLE. NOT HAVE ANY U-SHAPED RUNS.
 - D. BE IN NON-METALLIC CONDUIT ONLY, IF IN CONDUIT.
 - E. BE PLACED THROUGH NON-METALLIC SLEEVES IN FLOORS, WALLS, CEILINGS, ETC.
 - F. PROTECTED IN NON-METALLIC CONDUIT WHERE EXPOSED ABOVE GRADE.
2. INSTALL ALL GROUNDING RINGS AND RADIALS WITH CONDUCTIVE CEMENT, SANKOSHA AS DISTRIBUTED BY ELECTRIC MOTION COMPANY, INC., WINSTED, CT 06098, OR AS SPECIFICALLY INDICATED. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
3. GROUND RINGS SHALL BE:
 - A. MINIMUM 30" BELOW GRADE, OR BELOW FROST LINE WHICHEVER IS DEEPER.
 - B. MINIMUM 2" FROM FOUNDATIONS, FOOTINGS, OTHER GROUNDING SYSTEMS AND ALL CONDUCTIVE OBJECTS.
 - C. WITH MINIMUM 12" BEND RADIUS.
 - D. WITH ALL CONNECTIONS IN CONTACT WITH EARTH, BONDED BY EXOTHERMIC WELDING.
 - E. BONDED TO A SINGLE POINT GROUND (SPG) WITH A SINGLE WIRE AS INDICATED ON DRAWINGS.
4. GROUND RODS SHALL BE:
 - A. MINIMUM 5/8" DIAMETER.
 - B. MINIMUM 10' LONG.
 - C. COPPER-CLAD GALVANIZED STEEL OR STAINLESS STEEL.
 - D. PLACED IN UNDISTURBED SOIL AND BELOW THE FROST LINE.
 - E. INSTALLED WITH MINIMUM SEPARATION DISTANCE OF TWICE THE DEPTH OF THE ROD(S), OR AS INDICATED ON DRAWINGS.
 - F. MINIMUM TWO (2) RODS ON THE TOWER RING OR ONE (1) PER LEG WHICHEVER IS LARGER, MINIMUM FOUR (4) RODS ON EVERY EQUIPMENT BUILDING RING WITH ONE AT EACH CORNER OR AS INDICATED, MINIMUM ONE (1) ROD FOR POWER SERVICE GROUNDING ELECTRODE, AND MINIMUM ONE (1) ROD AT END OF EACH RADIAL.
5. CONDUCTIVE OBJECTS, SUCH AS FENCES, SHALL BE BONDED TO THE GROUNDING SYSTEM IF WITHIN 20' OF THE TOWER GROUNDING SYSTEM, OR 5' OF ANY OTHER GROUNDED COMPONENT.

GROUNDING PLAN LEGEND:

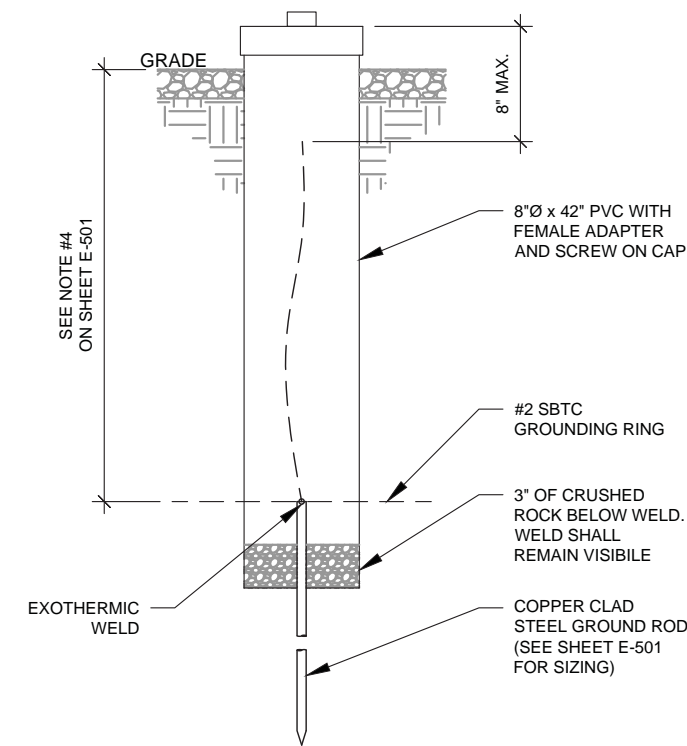
	EXISTING GROUND WIRE		5/8"Ø X 10' COPPER GROUND ROD
	GROUND WIRE		TEST WELL
	EXOTHERMIC WELD		
	MECHANICAL WELD		

GROUNDING KEYED NOTES:

- ① BOND TO TOWER GROUND RING
- ② #2 AWG BOND FROM VERTICAL H-FRAME AND ICE BRIDGE POST TO EXTERNAL GROUND RING (TYP. EVERY POST).
- ③ #2 AWG SBTC BOND FROM TOWER GROUND RING TO EQUIPMENT.
- ④ EQUIPMENT BOND TO GROUND RING (TYP.)



① **DETAILED GROUNDING PLAN**
SCALE: N.T.S.



② **TEST WELL DETAIL**
SCALE: N.T.S.



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REV.	DESCRIPTION	BY	DATE
①	FOR CONSTRUCTION	JXB	12/02/24


ATC SITE NUMBER:
372926

ATC SITE NAME:
ANGIER

T-MOBILE SITE NAME:
ATC 372926

SITE ADDRESS:
2135 JOHNSTON COUNTY ROAD
ANGIER, NC 27501

SEAL:



Digitally Signed: 2025-01-01

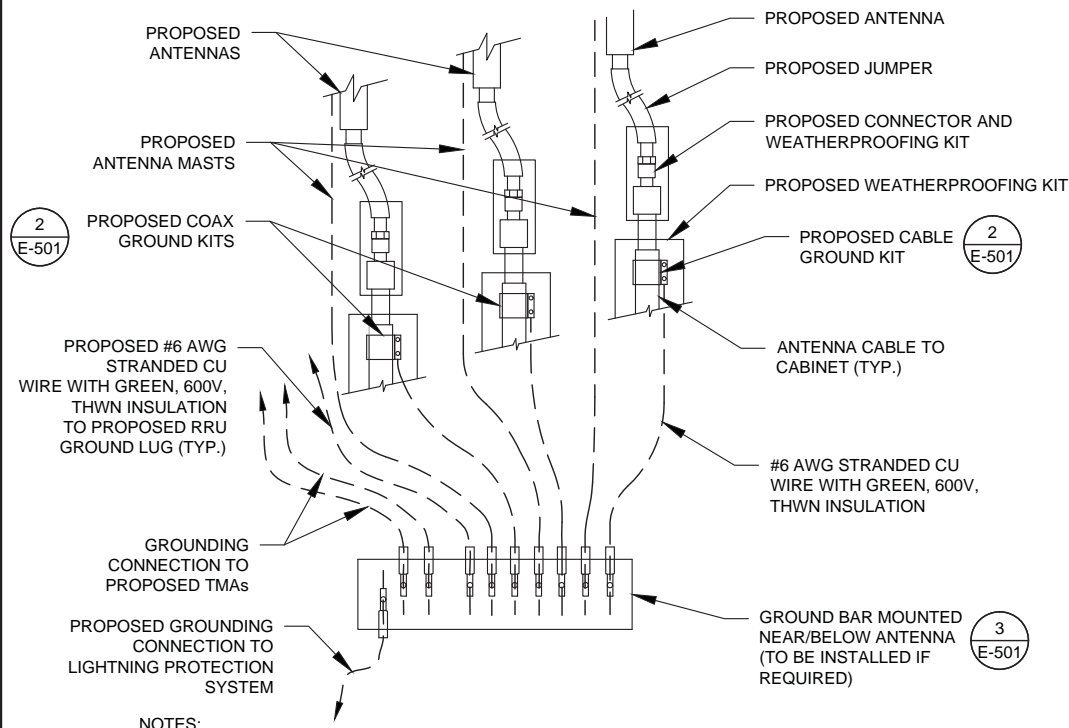


ATC PROJ. #: 14922080_D2
CUST. ID: ATC 372926
CUST. #: 5RA1119A

GROUNDING PLAN AND NOTES

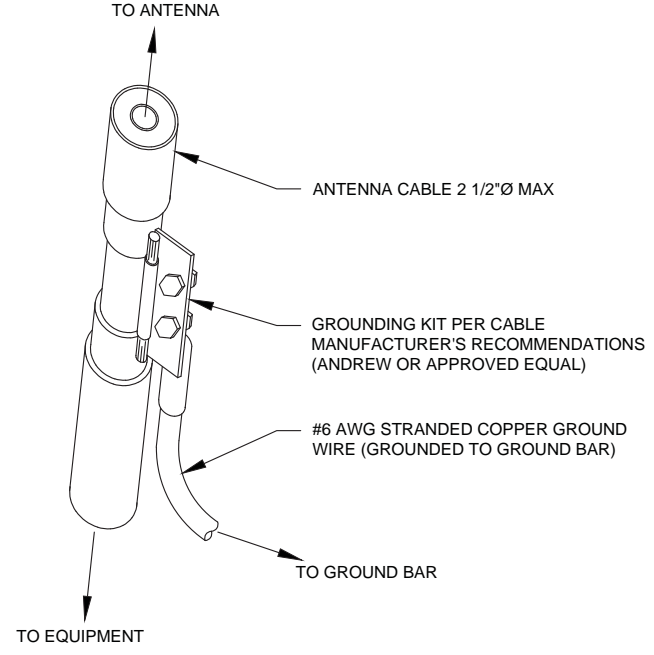
SHEET NUMBER: E-101	REVISION: 0
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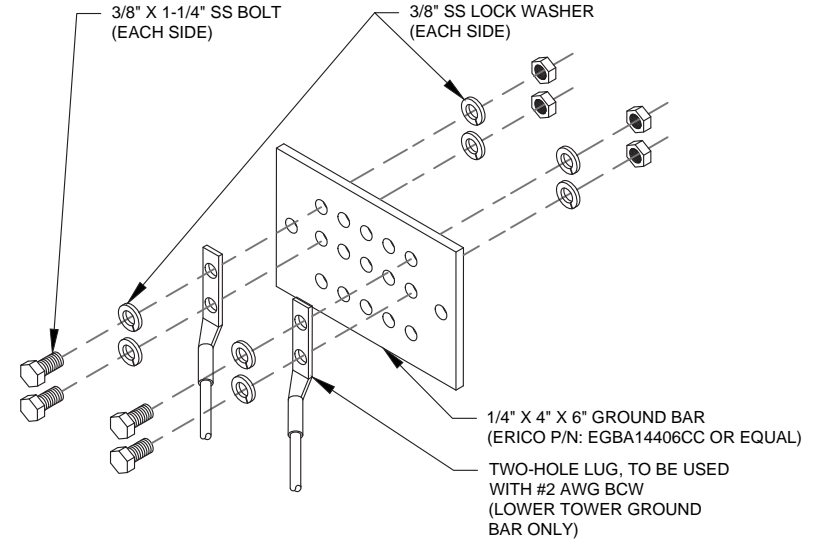
- NOTES:**
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
 2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH T-MOBILE GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



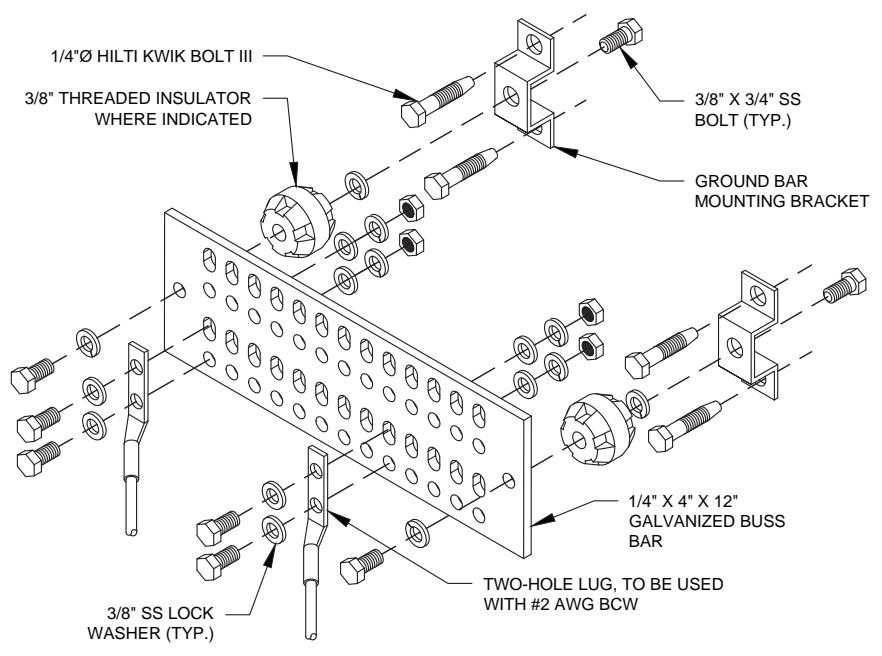
- GROUND KIT NOTES:**
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: N.T.S.



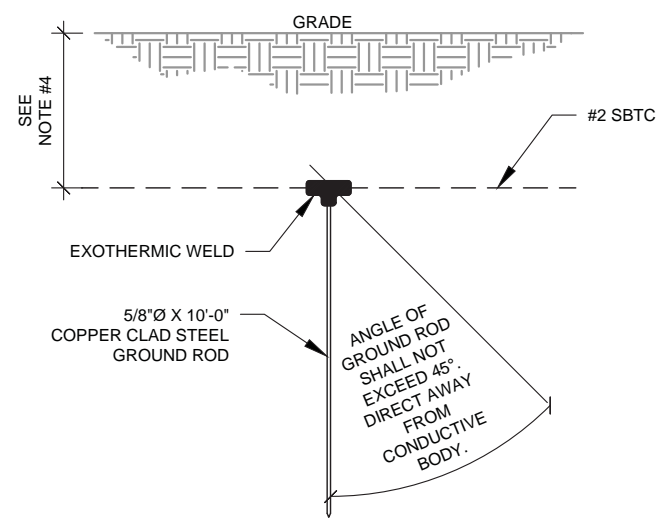
- GROUND BAR NOTES:**
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
 2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL
SCALE: N.T.S.



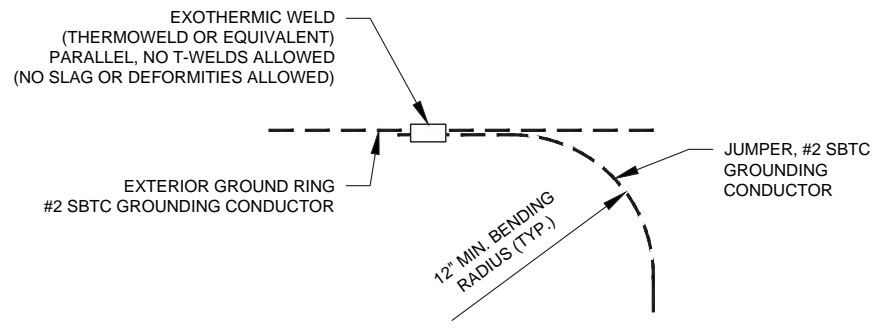
- GROUND BAR NOTES**
1. GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
 2. GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.

4 MAIN GROUND BAR DETAIL
SCALE: N.T.S.



- NOTES:**
1. SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS.
 2. COORDINATE UTILITY, LOCATE BEFORE DIGGING.
 3. CONDUIT TRENCHING DEPTHS AT 36" OR 6" BELOW FROST LINE, WHICHEVER IS GREATER.
 4. ALL RING AND RADIAL DEPTHS AT 30" OR 6" BELOW FROST LINE, WHICHEVER IS GREATER.

5 GROUND ROD DETAIL
SCALE: N.T.S.



6 TIE CONNECTION DETAIL
SCALE: N.T.S.

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ATC SITE NUMBER:
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SITE ADDRESS:
2135 JOHNSTON COUNTY ROAD
ANGIER, NC 27501

SEAL:

Digitally Signed: 2025-01-01



ATC PROJ. #:	14922080_D2
CUST. ID:	ATC 372926
CUST. #:	5RA1119A

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

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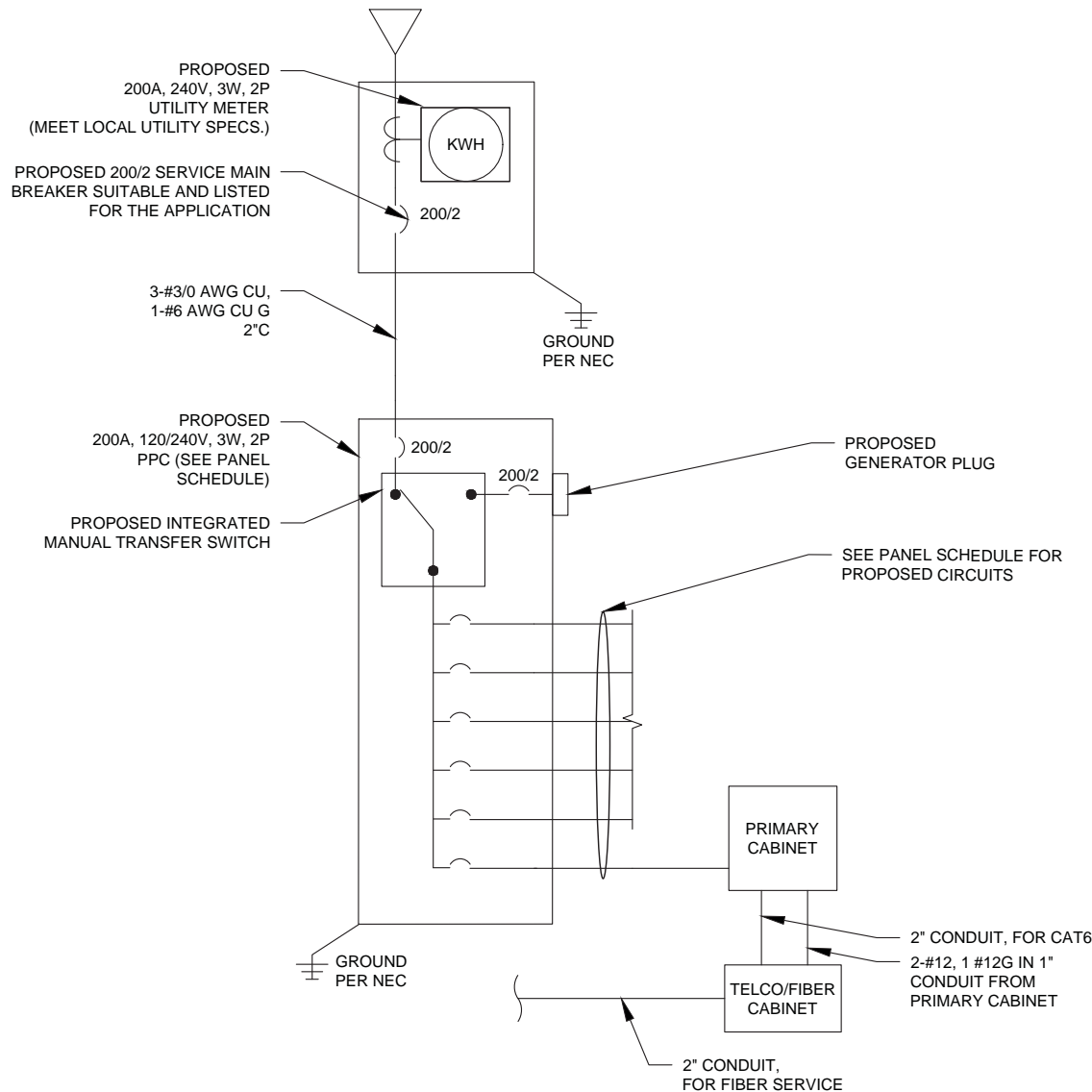
PANEL DESIGNATION: TMO		TYPE: LIGHTING & APPLIANCE	SYSTEM: 120/240V, 1Ø, 3W, 24 CKT	LOCATION: TMO LEASE EQUIPMENT AREA
		MOUNTING: SURFACE	MAIN BREAKER (MB): 200A	
		ENCLOSURE: NEMA 3R	MAIN BUS RATING: 225A	PANEL NOTES: PROPOSED
			MIN. A.I.C. RATING: N/A	

CONNECTED LOAD (kVA)	BRIEF DESCRIPTION	FEEDER OR BRANCH CIRCUIT						CIRC. NOTES	FEEDER OR BRANCH CIRCUIT						CONNECTED LOAD (kVA)	
		AMPS	POLES	WIRE	GND	COND.	POLE NO.		NO.	COND.	GND	WIRE	POLES	AMPS	A	B
0.01	SURGE	60	2	3-#6	#10	1"	1	2	1/2"	#12	2-#12	1	20	GFI	0.18	
0.01							3	4	1/2"	#12	2-#12	1	20	LIGHT	0.50	
7.50	ENCLOSURE 6160	150	2	2-#3/0	#6	2"	5	6	1/2"	#12	2-#12	1	20	AAV GFI	0.15	0.00
0.00							7	8							0.00	0.00
0.00							9	10							0.00	0.00
0.00							11	12							0.00	0.00
0.00							13	14							0.00	0.00
0.00							15	16							0.00	0.00
0.00							17	18							0.00	0.00
0.00							19	20							0.00	0.00
0.00							21	22							0.00	0.00
0.00							23	24							0.00	0.00
7.5							A	B	TOTAL						0.3	0.5
							7.8	8.0	15.9	CONNECTED LOAD (kVA)						
							7.8	8.0	15.9	DEMAND LOAD (kVA)						

DERATING FACTOR (80%) DEMANDLOAD SIZING: 83 AMPS

NOTE:
 1. ALL EQUIPMENTS' SHORT-CIRCUIT CURRENT RATING SHALL EXCEED AVAILABLE FAULT CURRENT PER UTILITY
 2. CONTRACTOR TO INSTALL HANDHOLES AT EVERY 3RD 90° TURN

1 PANEL SCHEDULE



2 ONE-LINE DIAGRAM

STANDARD CONDUIT USE TABLE			
CONDUIT TYPE	USE CASE	LOCATION	USE CASE EXAMPLE
RMC (METALLIC)	AC, DC COMM	ABOVE GROUND	ABOVE GROUND PPC TO SSC
PVC	AC POWER	UNDERGROUND	UNDERGROUND PPC TO SSC OR BACKHAUL TRANSPORT HUB TO SSC
LFMC	AC, DC, COMM	MAX 6' PER CONDUIT RUN, ABOVE GROUND ONLY	TIGHT LOCATIONS BETWEEN HUB AND CONDUIT BUT NOT TO BE USED WHERE IT CAN BE STEPPED ON
EMT	INDOOR AC, DC COMM	INDOOR NOT EXPOSED TO THE OUTDOOR ENVIRONMENT (MUST BE DRY)	CIRCUIT PANEL TO JUNCTION BOX
LFNC	GROUND WIRE	CONCEALING AND PROTECTING BTCW RISERS ONLY	GROUND RING TO MGB OR SSC

EXCEPTION CONDUIT USE TABLE			
CONDUIT TYPE	USE CASE	LOCATION	USE CASE EXAMPLE
EMT (NOT PREFERRED)	OUTDOOR DC, COMM	OUTDOOR WHEN USED WITH WATERTIGHT HUBS ONLY	BETWEEN EQUIPMENT AND BATTERY CABINET OR EQUIPMENT TO EQUIPMENT CABINETS FOR INTER CABINET CONNECTION
RMC NONMETALLIC (ALUMINUM)	OUTDOOR/INDOOR PER NEC GUIDLINES	ABOVE GROUND	MAY BE USED AS A LOWER COST ALTERNATIVE TO METALLIC RMC, MUST MEET OR EXCEED FEDERAL SPEC: WW-C-540C, UL-6A, ANSI C80.5, NEC 344.10 (A) ALLOWS THE USE OF EITHER ALUMINUM OR GALVANIZED FITTINGS

3 CONDUIT USE TABLES

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0	FOR CONSTRUCTION	JXB	12/02/24

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372926
 ATC SITE NAME:
ANGIER
 T-MOBILE SITE NAME:
ATC 372926
 SITE ADDRESS:
 2135 JOHNSTON COUNTY ROAD
 ANGIER, NC 27501

SEAL:

PAUL J. NORTHROP
 ENGINEER
 057710

Digitally Signed: 2025-01-01

ATC PROJ. #: 14922080_D2
 CUST. ID: ATC 372926
 CUST. #: 5RA1119A

PANEL SCHEDULE & ONE-LINE DIAGRAM

SHEET NUMBER:
E-601
 REVISION:
0

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Proposed RAN Equipment

Template: 67E998E 6160 (LRP)

Enclosure	1	2
Enclosure Type	B160	Enclosure 6160_v2 AC
Transport System		CSR IXRe V2 (Gen2)
Hybrid Cable System		Hybrid Trunk 6/24 4AWG 80m (x2)
Baseband		RP 6672 N600 N1900 N2100 L600 L1900 L2100

RAN Scope of Work:

Install: (2) HCS 6/24 4AWG 80m, (1) RP6672, (1) E6160, (1) B160, (1) IXR-e

① CABINET CONFIGURATION

SUPPLEMENTAL

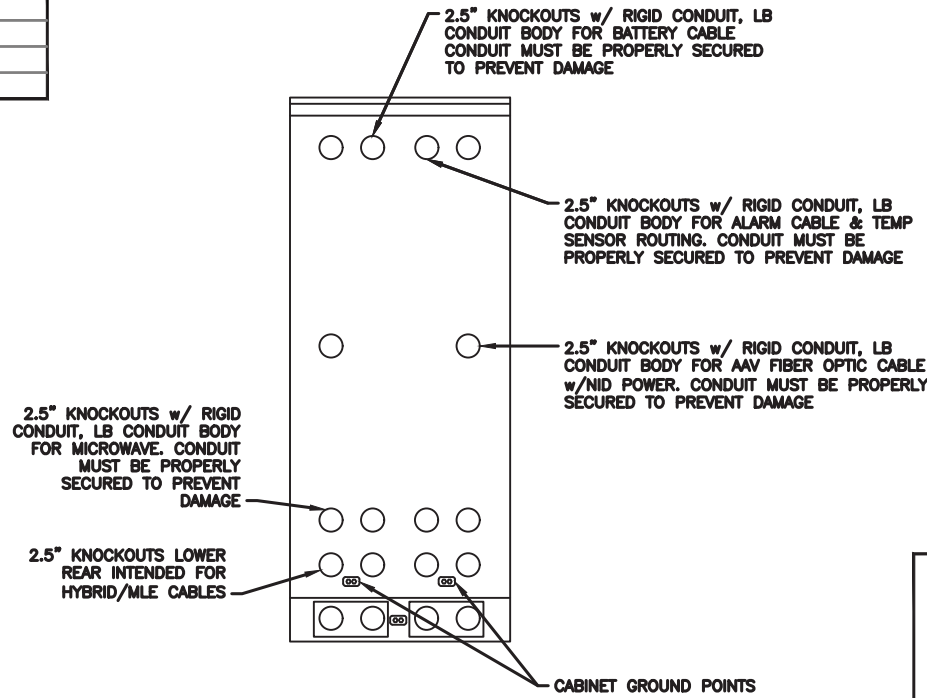
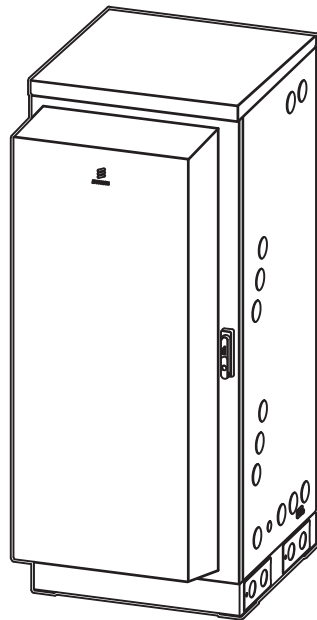
SHEET NUMBER: REVISION:

R-601

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NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

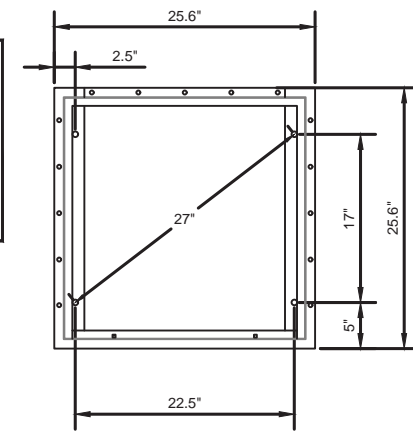
MANUFACTURER:	ERICSSON
MODEL:	6160 SITE SUPPORT CABINET
DIMENSIONS:	63" x 25.6" x 33.6" (H x W x D)
WEIGHT:	373 LBS



REAR VIEW

NOTE:

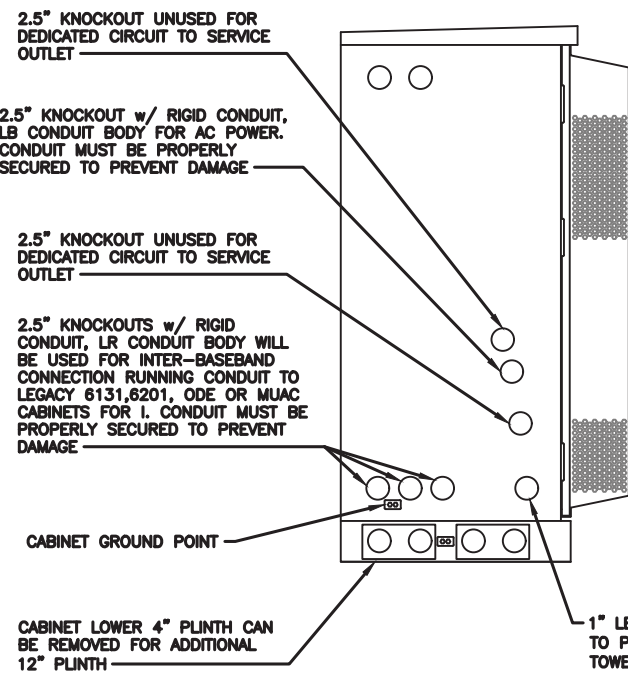
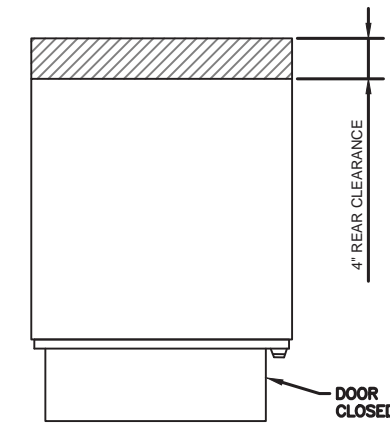
- CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS
- CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING



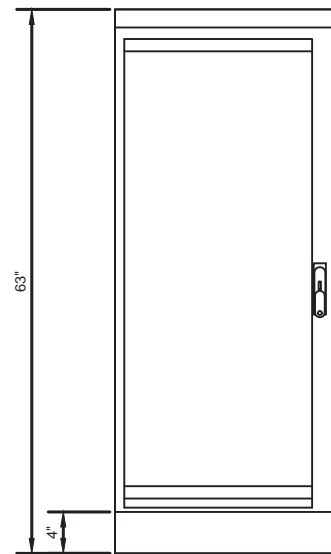
BOLT DOWN PATTERN

GROUNDING NOTE:

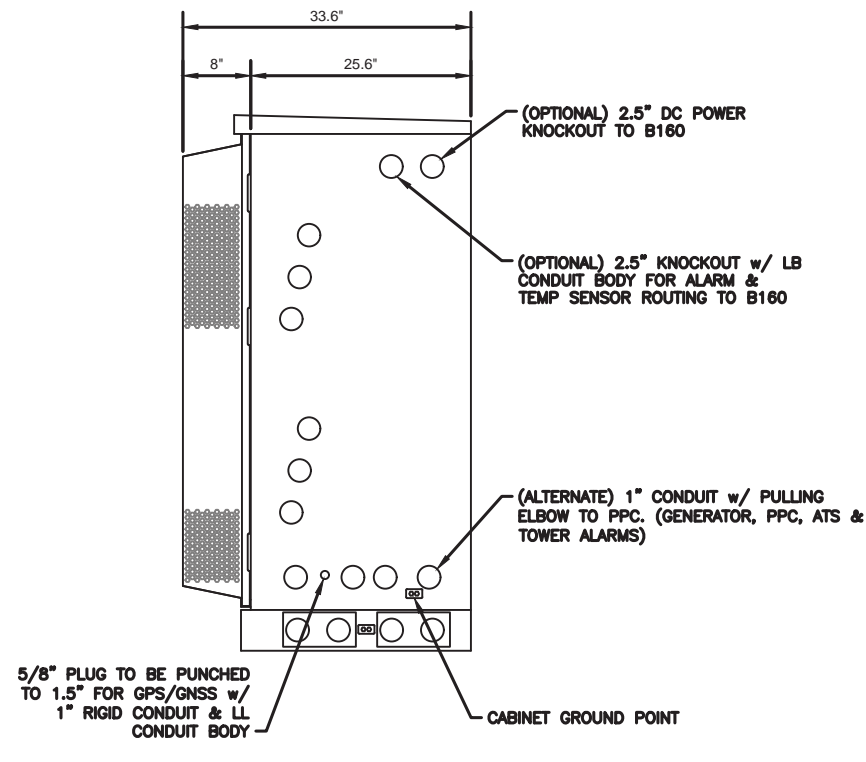
"CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED."



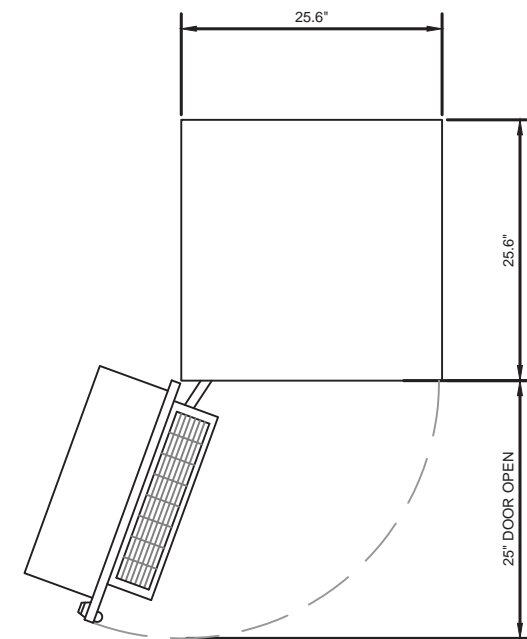
LEFT VIEW



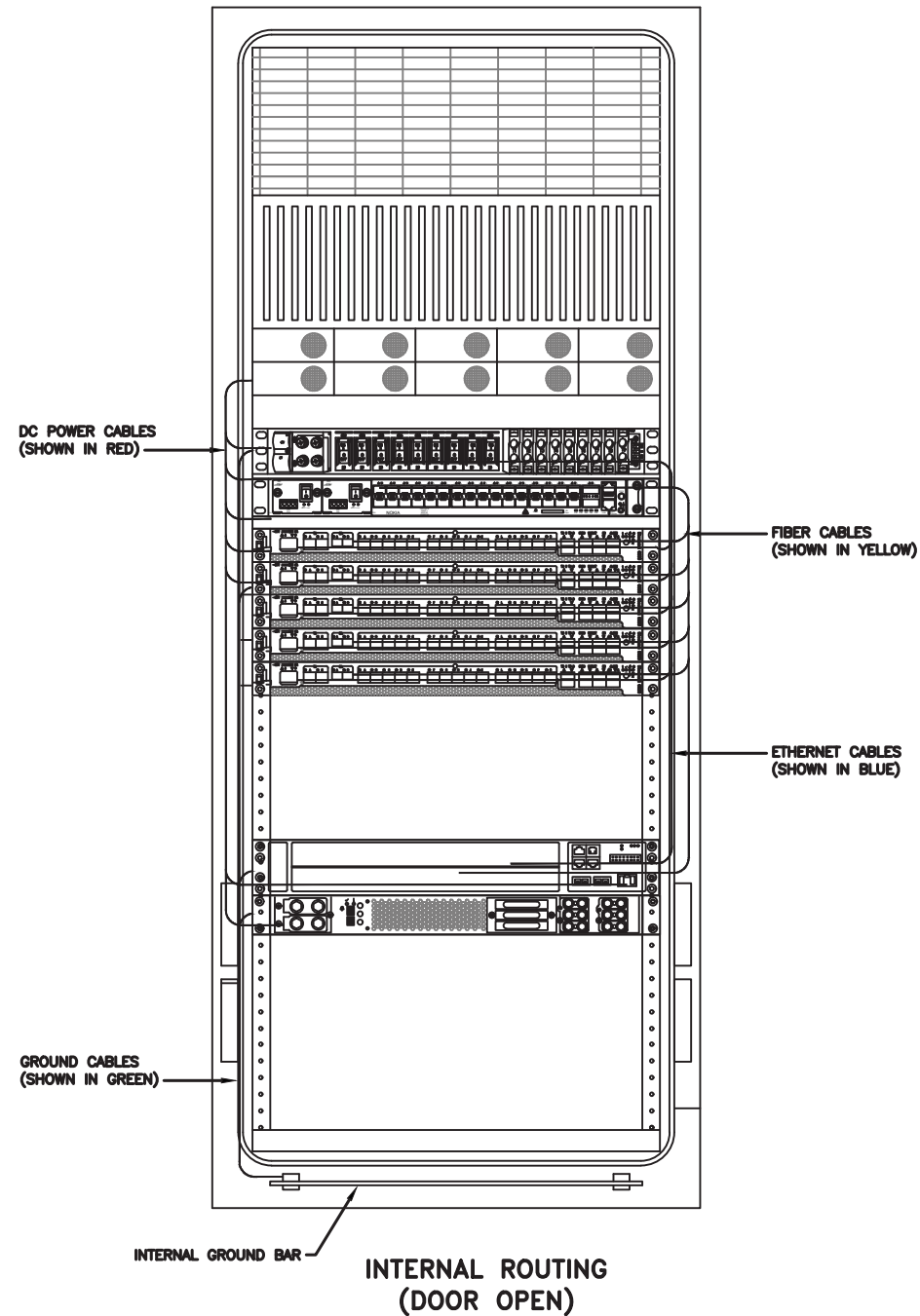
FRONT VIEW



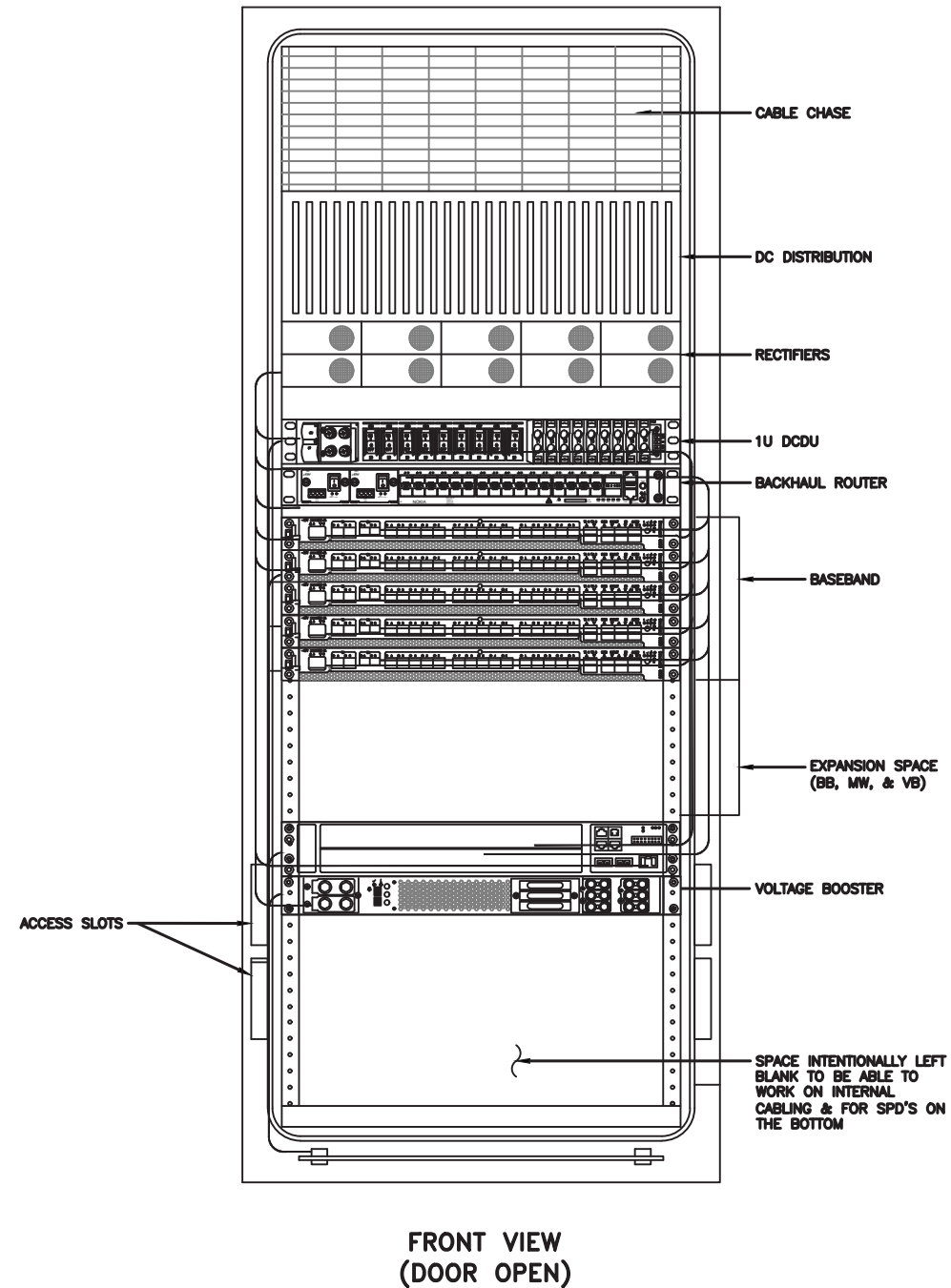
RIGHT VIEW



PLAN VIEW



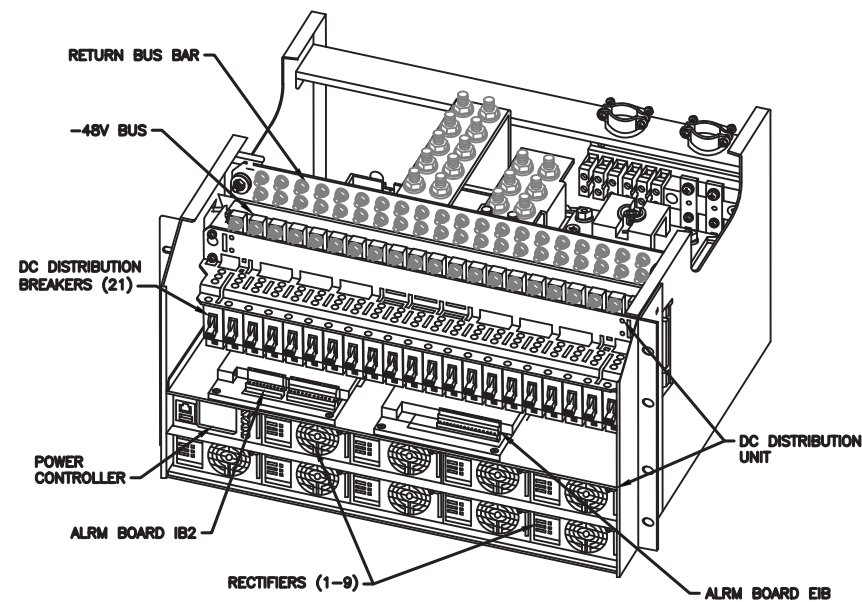
RACK ASSIGNMENTS	
RU SLOTS	DESCRIPTION
1	DC DISTRIBUTION
2	
3	
4	
5	RECTIFIER SHELF
6	
7	FIBER BOX
8	DCDU
9	BACKHAUL ROUTER
10	
11	1ST BASEBAND
12	2ND BASEBAND
13	3RD BASEBAND
14	4TH BASEBAND
15	5TH BASEBAND
16	EXPANSION
17	
18	
19	EXPANSION / LEGACY BASEBAND / VOLTAGE BOOSTER
20	
21	VOLTAGE BOOSTER
22	VOLTAGE BOOSTER
23	OPEN SPACE FOR SPD ACCESS
24	
25	



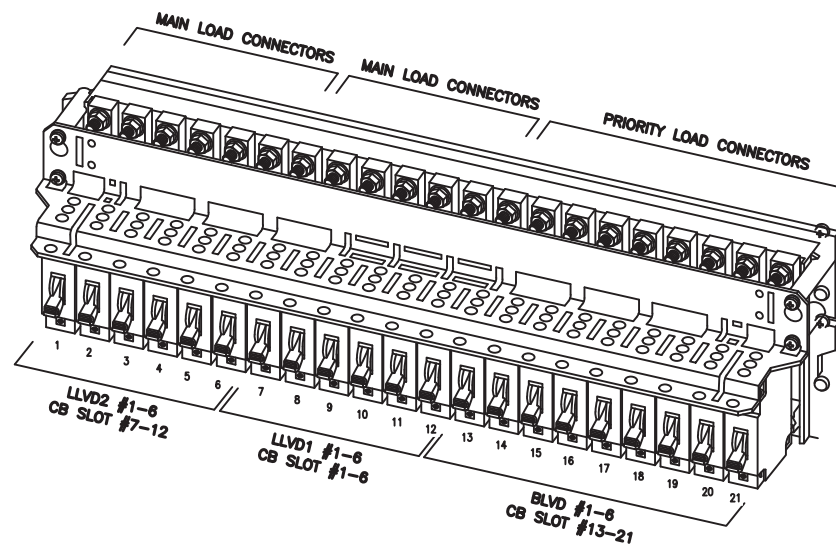
NOTE:
THIS IS FOR REFERENCE ONLY, CHECK
FOR SPECIFIC DETAIL IN T-MOBILE
CABINET SPECIFIC INSTALLATION GUIDES

Breaker Allocation for E6160				
CB SLOT	Ckt #	w/ DCU Prior to availability of the 4460 and 4480	w/ DCU Later Design Post-4460 and Post-4480	w/ DCU 4 and 6 Sector designs
1	1	Router PS-2*/Future		Radio 4460 B25/66 ζ-1
2	2	Future		Radio 4460 B25/66 ζ-2
3	LVD1	PSU 4813 feeding B25/66 α, β and γ (AIR 1641s)		PSU 4813 feeding B41-δ & B71/12-δ (Air 6449s and Radio 4480s)
4	47.0V			
5	5	PSU 4813 feeding B41 α, β and γ (Air 6449s)		
6	6			
7	LVD2	1	PSU 4813 feeding B71/12 α, β and γ (Radio 4449s)	PSU 4813 feeding B71/12 α, β and γ (Radio 4480s)
8		2		
9	45.1V	3	Future	Radio 4460 B25/66 δ-1
10		4	Future	Radio 4460 B25/66 δ-2
11		5	Future	Radio 4460 B25/66 ε-1
12		6	Future	Radio 4460 B25/66 ε-2
13	BLVD	1	Router PS-1	
14		2	Radio 4415 B25/66 α	Radio 4460 B25/66 α-1
15		3	Radio 4415 B25/66 β	Radio 4460 B25/66 α-2
16		4	Radio 4415 B25/66 γ	Radio 4460 B25/66 β-1
17		5	PSU 4813 feeding B2/25 α, β and γ (Radio 4424s)	Radio 4460 B25/66 β-2
18		6		Radio 4460 B25/66 γ-1
19		7	Future	Radio 4460 B25/66 γ-2
20		8	DCDU	
21		9	AAV	

Sector Identification
α = Alpha, β = Beta, γ = Gamma, δ = Delta, ε = Epsilon, ζ = Zeta



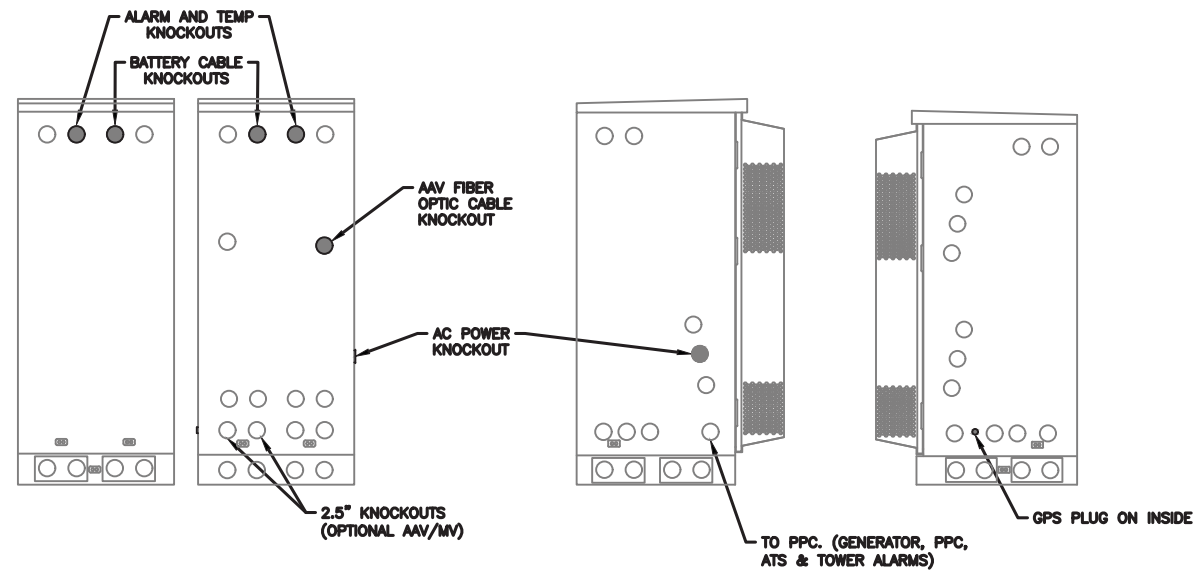
POWER SUBRACK



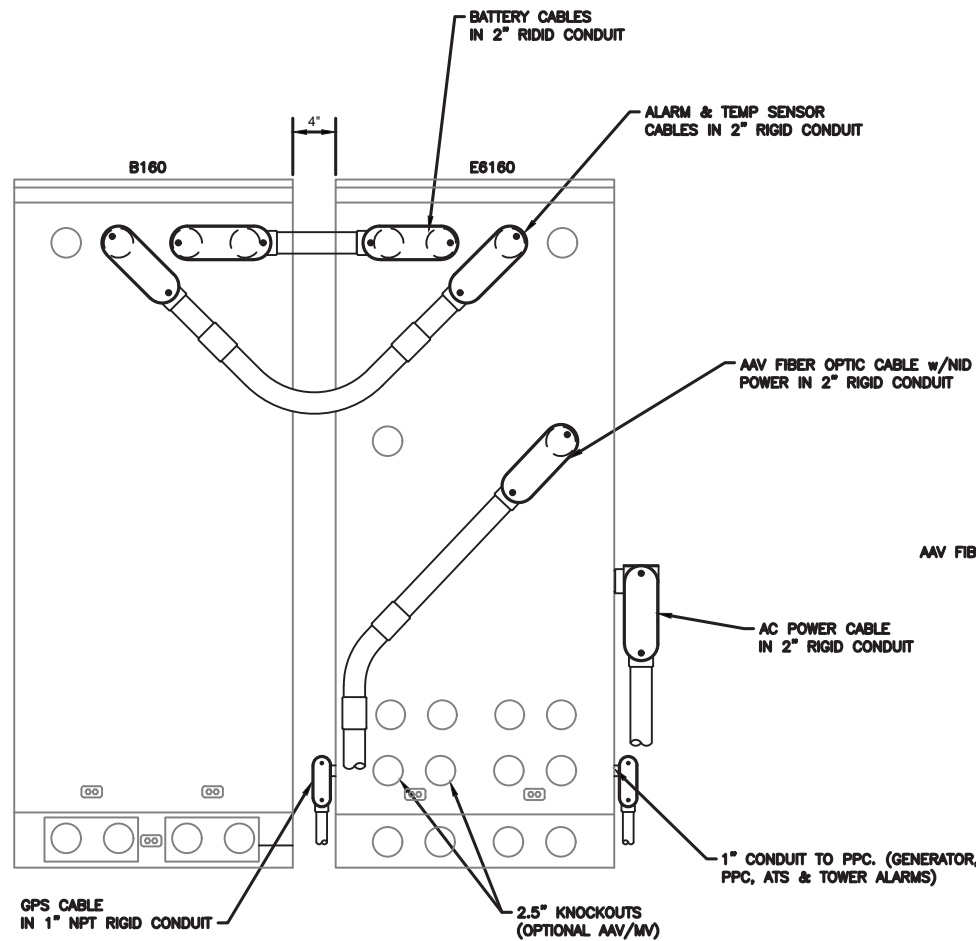
DC DISTRIBUTION

NOTE:

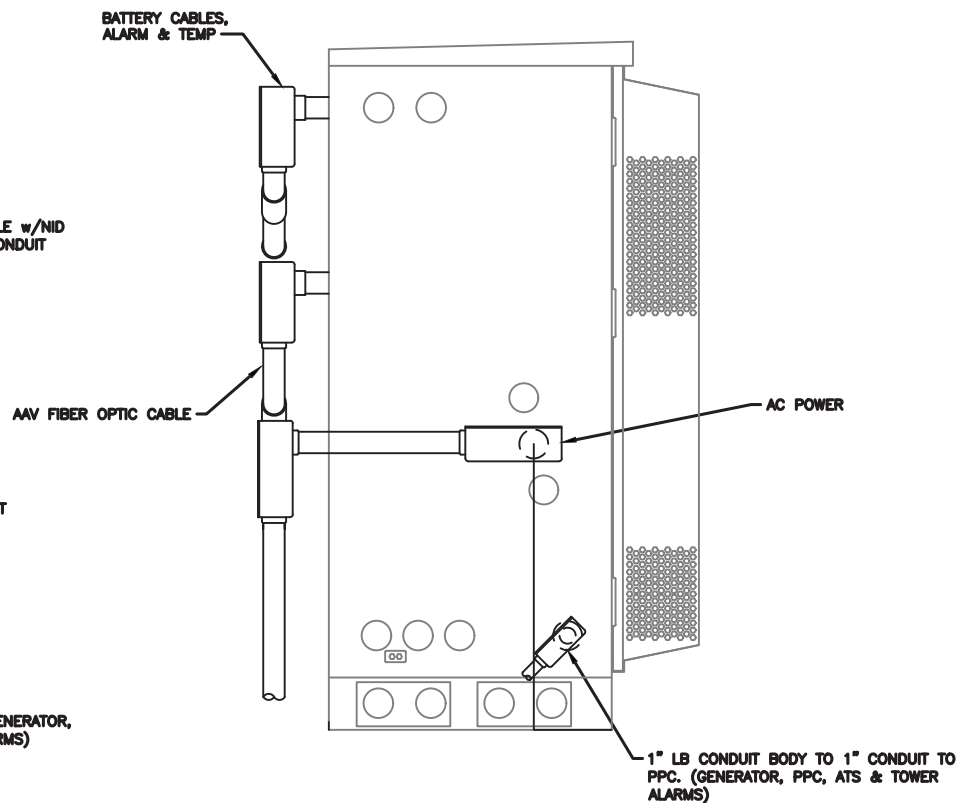
1. ALL CONDUIT AND FITTING ENTRANCES INTO CABINETS AND ENCLOSURES MUST UTILIZE MYERS OR EQUIVALENT HUBS OR SEALING WASHERS TO PREVENT WATER ENTRY/SEEPAGE INTO CABINETS AND ENCLOSURES.
2. (LIQUIDFLEX) FLEXIBLE METALLIC CONDUIT (LFMC) & ASSOCIATED FITTINGS CAN BE USED AS NEEDED BUT ONLY FOR TIGHT CONDUIT BENDS AND RUNS SUBJECT TO UL AND NEC LIMITATIONS. 6' MAX PER CONDUIT RUN.
3. POWER CONDUIT BODY ATTACHED WITH SHORT NIPPLE AND SEALING WASHER INSIDE & OUT. (FOR DOOR HOOD CLEARANCE)
4. PULLING ELBOWS MAY BE USED IN LIEU OF A CONDUIT BODIES WHEN CLEARANCE IS LIMITED.
5. ALL EXTERNAL ALARM CONDUITS ARE TO TERMINATE AT THE PPC WITH A SINGLE 1" ALARM CONDUIT TO THE 6160.
6. (DO NOT USE CHASE NIPPLES) CONDUIT SHOULD HAVE SEALING WASHERS INSIDE AND OUT w/ LOCK NUT AND CAP.



CONDUIT LOCATIONS

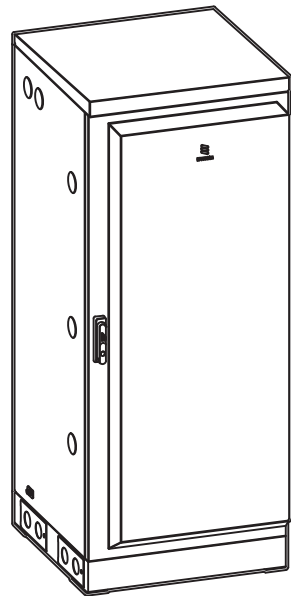


REAR VIEW



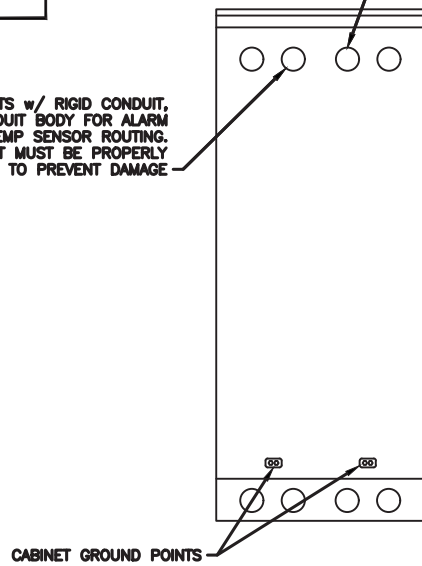
SIDE VIEW

MANUFACTURER:	ERICSSON
MODEL:	B160 BATTERY CABINET
DIMENSIONS:	63" x 25.6" x 29.5" (H x W x D)
WEIGHT:	295 LBS (WITHOUT BATTERIES)

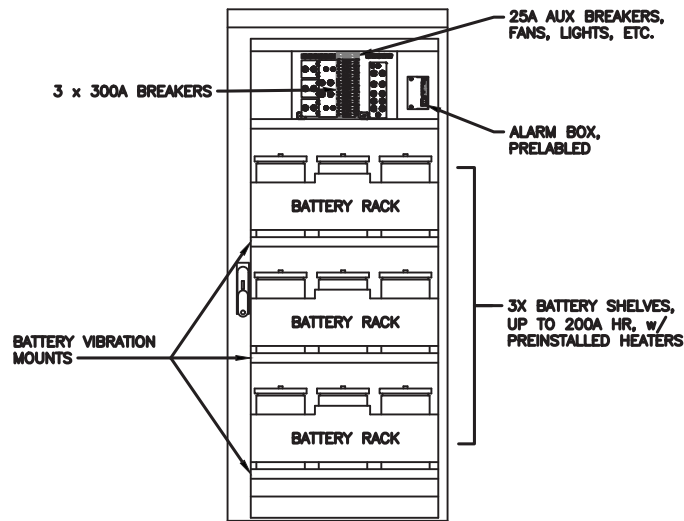


2.5" KNOCKOUTS w/ RIGID CONDUIT, LB CONDUIT BODY FOR ALARM CABLE & TEMP SENSOR ROUTING. CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE

2.5" KNOCKOUTS w/ RIGID CONDUIT, LB CONDUIT BODY FOR BATTERY CABLE CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE

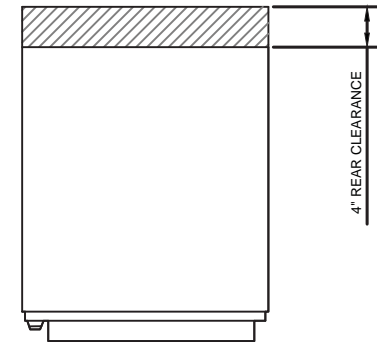


REAR VIEW



FRONT VIEW (DOOR OPEN)

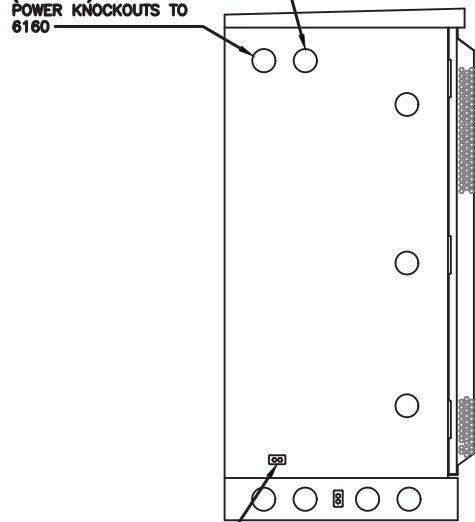
NOTE:
 • CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS
 • CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING



GROUNDING NOTE:
 "CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED."

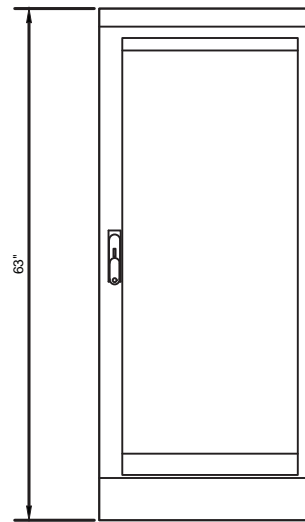
(OPTIONAL) 2.5" KNOCKOUTS FOR ALARM & TEMP SENSOR ROUTING TO 6160

(OPTIONAL) 2.5" DC POWER KNOCKOUTS TO 6160

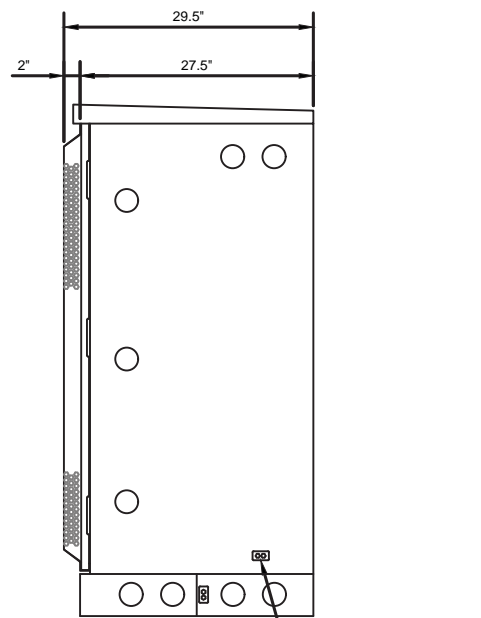


CABINET GROUND POINT

LEFT VIEW

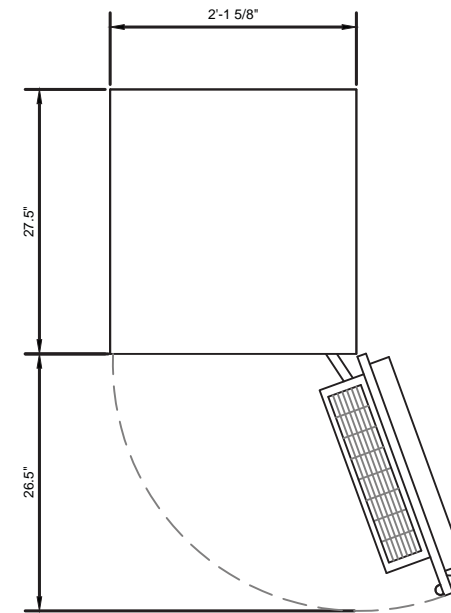


FRONT VIEW



CABINET GROUND POINT

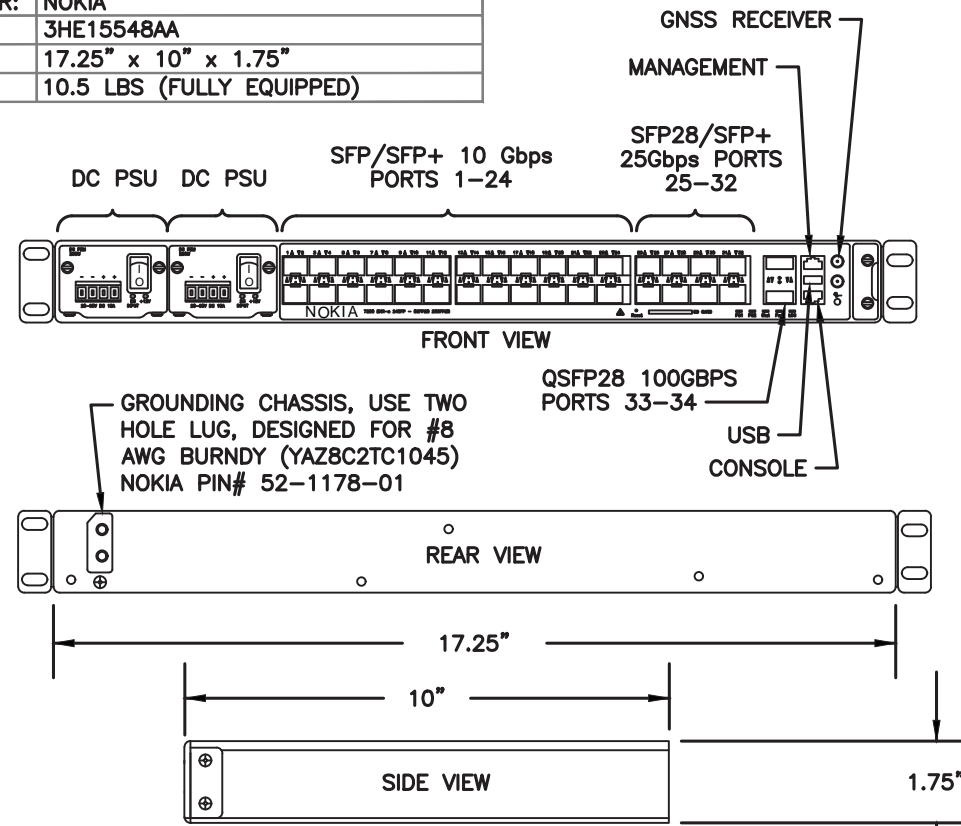
RIGHT VIEW



PLAN VIEW

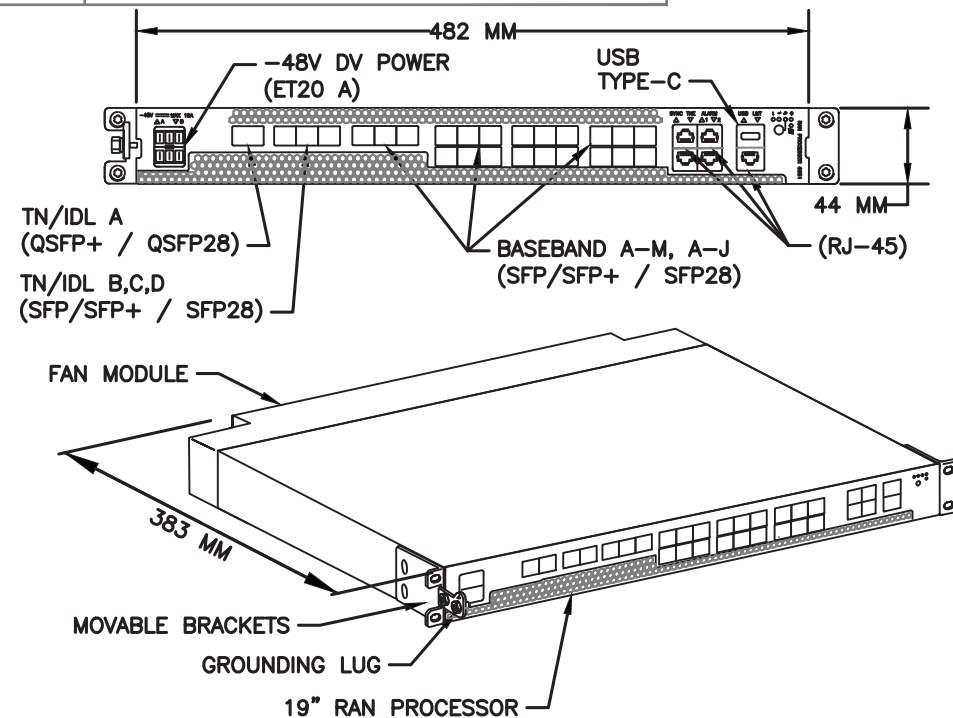
B160 ERICSSON SITE SUPPORT BATTERY CABINET

MANUFACTURER:	NOKIA
MODEL:	3HE15548AA
DIMENSIONS:	17.25" x 10" x 1.75"
WEIGHT:	10.5 LBS (FULLY EQUIPPED)



1 34097 - NOKIA 7250 IXR-e ROUTER w/ GNSS SCALE: N.T.S.

MANUFACTURER:	ERICSSON
MODEL:	6672 RAN PROCESSOR (KDU1370114/11)
DIMENSIONS:	44 MM X 482 MM X 383 MM (H" X W" X D")
WEIGHT:	8 KG



2 34916 - ERICSSON 6672 RAN PROCESSOR SCALE: N.T.S.

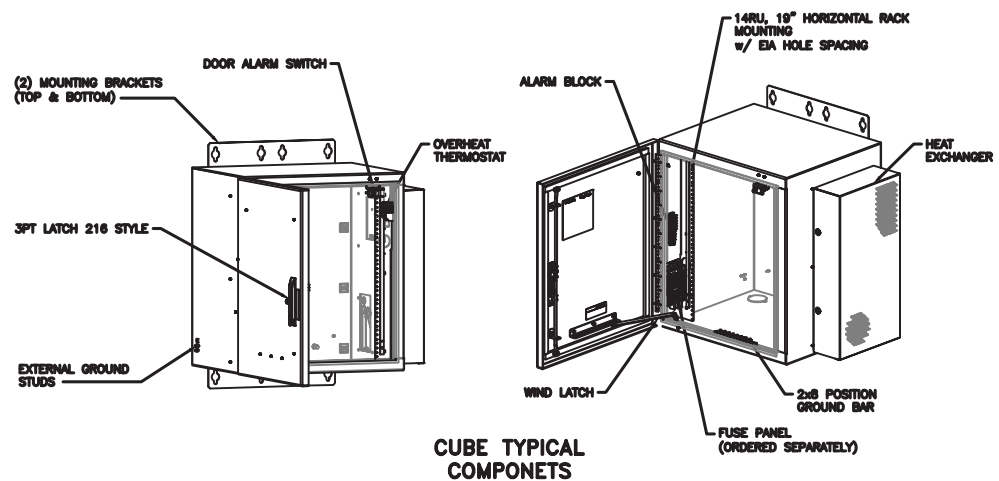
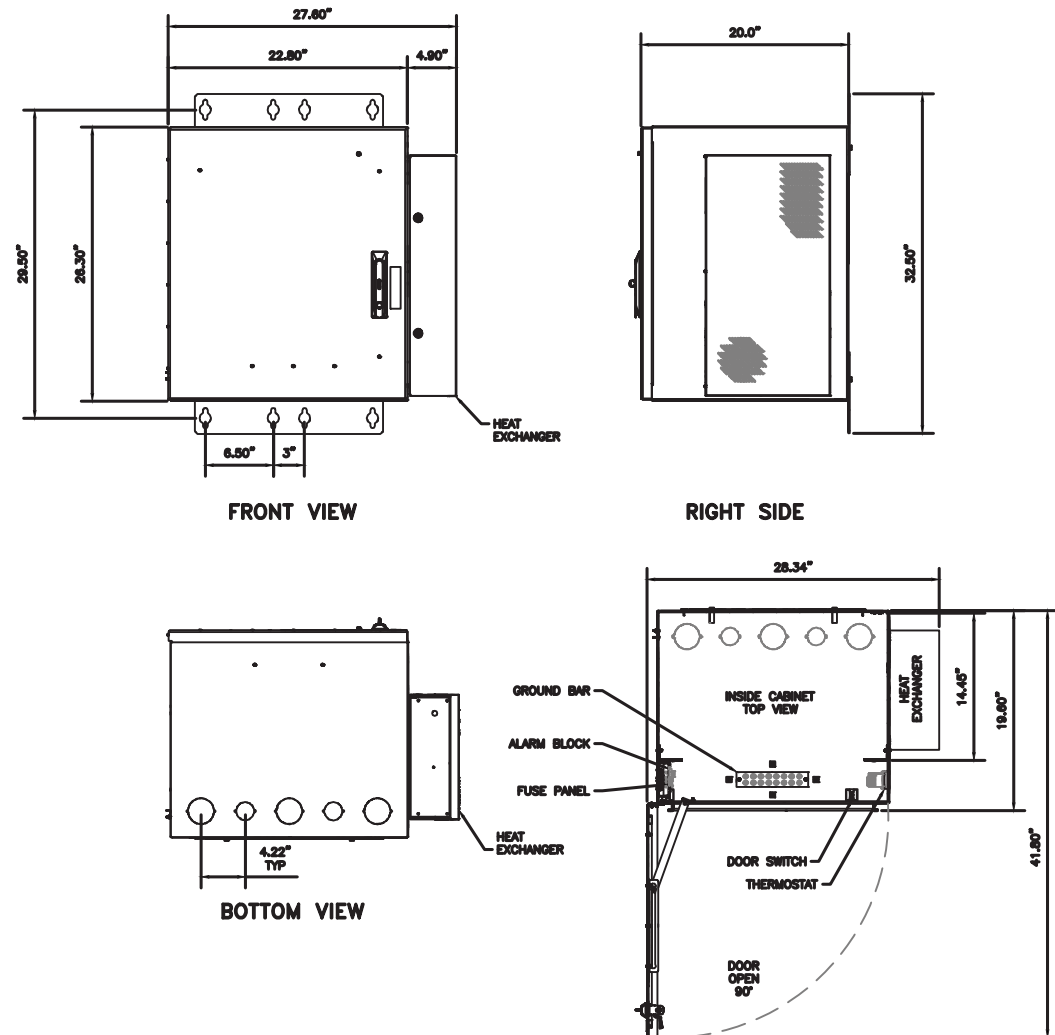
NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER: REVISION:

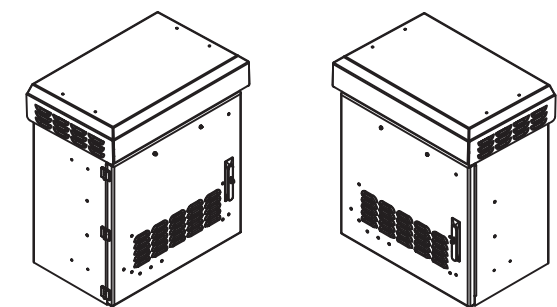
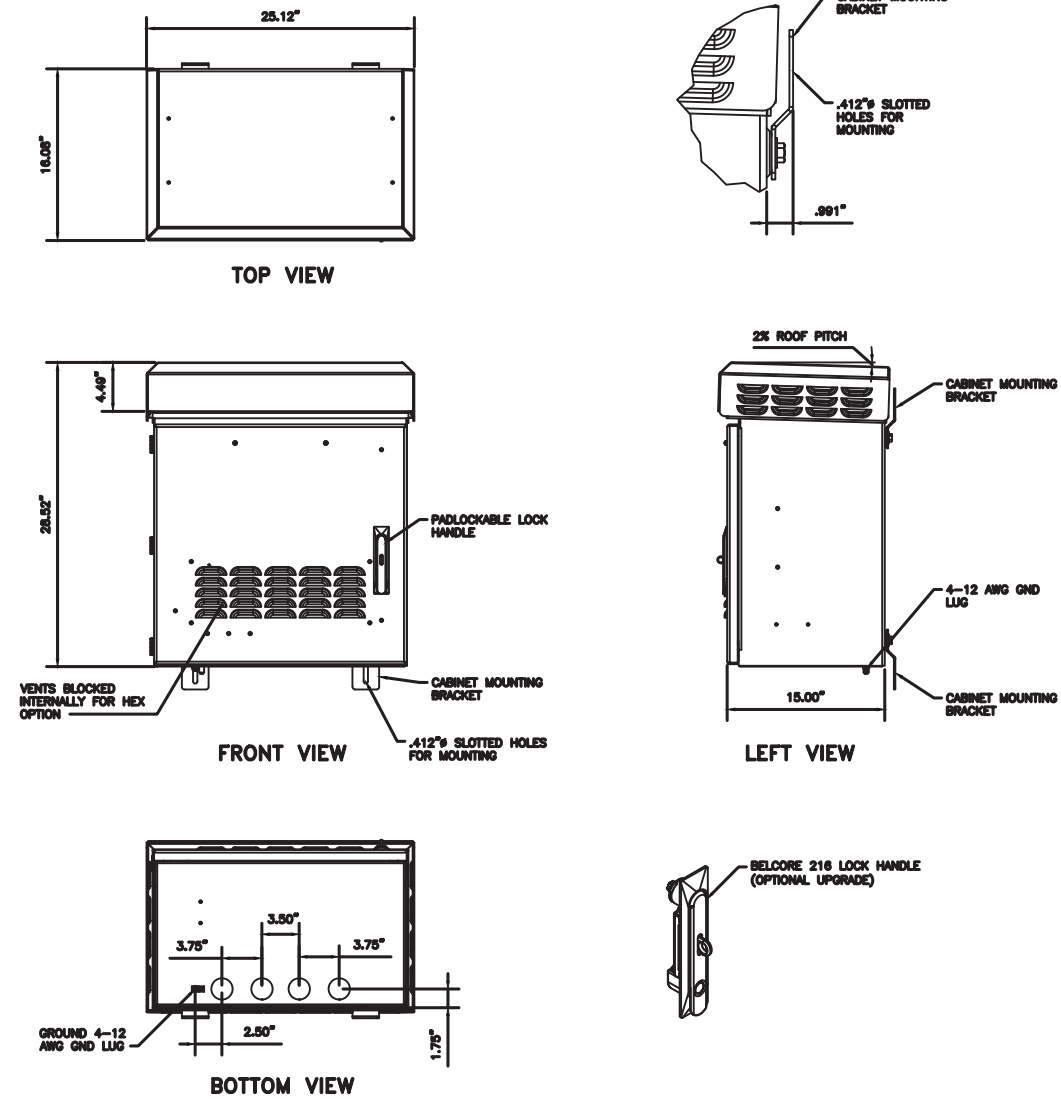
R-607 0

MANUFACTURER:	CHARLES	
MODEL:	LT-RL1003AB-A	
DIMENSIONS:	26.30" x 27.60" x 20.0" (H x W x D)	
WEIGHT:	90 LBS	
KITS & REPLACEMENT PARTS:	H- FRAME MOUNTING KIT:	97-001971-0
	POLE MOUNTING KIT:	97-CABPMTKIT
	PAD MOUNTING KIT w/ PLINTH:	97-002127-A
	OPTIONAL FUSE PANEL:	96-FSPNL4824V



1 34576 - CHARLES RL1003AB-A ENCLOSURE
SCALE: N.T.S.

MANUFACTURER:	RAYCAP	
MODEL#:	RANE-227116-T	
PARTS:	(1) SURGE PROTECTION DEVICE (STRIKESORB) (3) 30A, 4MM DIN RAIL TERMINAL BLOCK GND BUS BAR TERMINAL BLOCK END COVER (4) DIN RAIL END STOP	
DIMENSIONS:	28.52" x 25.12" x 16.08" (H x W x D)	
WEIGHT:	46.24 LBS (WITHOUT EQUIPMENT)	
MOUNTS:	STANDARD H-FRAME MOUNT (COMES WITH)	



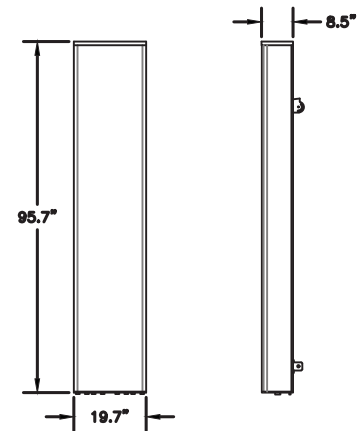
2 34603 - RAYCAP RANE-227116-T AAV ENCLOSURE
SCALE: N.T.S.

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

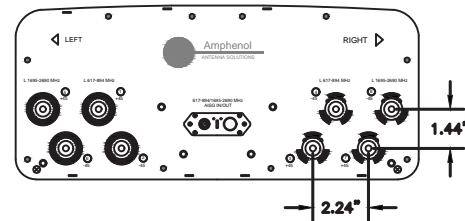
SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-608	0

MANUFACTURER:	AMPHENOL
MODEL:	APXVAALL24M-U-J20
DIMENSIONS:	95.7" x 19.7" x 8.5" (H x W x D)
WEIGHT:	86 LB
BAND:	MID BAND (5-8 PORT)
MOUNTING KIT:	APM40-5E BEAM TILT KIT & APM40-E10T (19.4 LBS) INCLUDED

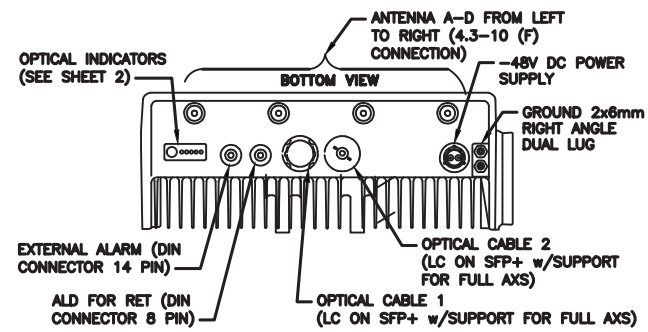
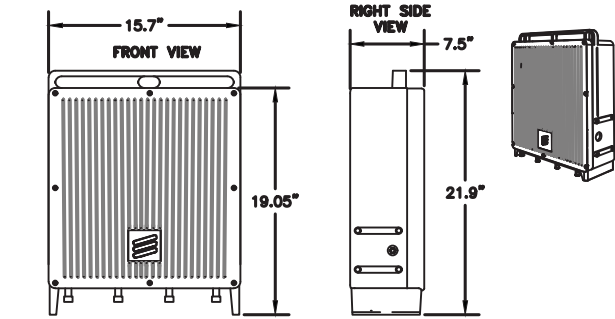


NOTE:
 • RF CONNECTORS(8 x 4.3-10 FEMALE)
 • ACU-X20 FIELD REPLACE RET INCLUDED



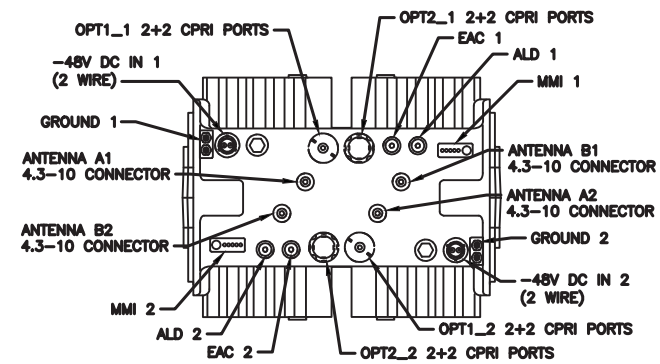
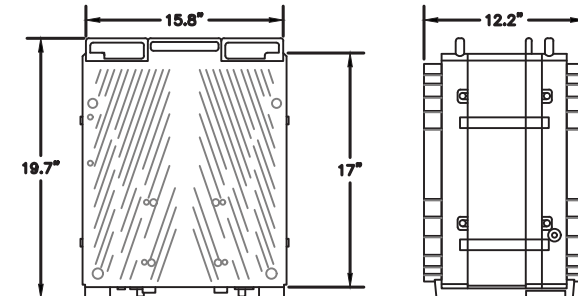
1 34877 - RFS APXVAALL24M-U-J20 SCALE: N.T.S.

MANUFACTURER:	ERICSSON
MODEL:	4480 RADIO (KRC 161 922/1)
DIMENSIONS:	21.9" x 15.7" x 7.5" (H x W x D)
MODEL BAND:	B71, B85 FOR NR AND LTE
WEIGHT:	81 LBS
BRACKET WEIGHT:	3.75 LBS (MULTI ERS #109 1973/2)



2 34372 - ERICSSON 4480 RADIO SCALE: N.T.S.

MANUFACTURER:	ERICSSON
MODEL:	4480 RADIO B2/25 B66 (KRC 161 912/3)
DIMENSIONS:	19.7" x 15.8" x 12.2" (H" x W" x D")
WEIGHT:	109 LBS
BRACKET WEIGHT:	4.8 LBS (ERS HEAVY #SXK1255983/1)



3 34373 - ERICSSON 4460 RADIO B2/25 B66 SCALE: N.T.S.

SUPPLEMENTAL

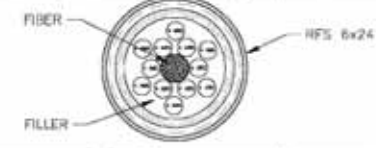
SHEET NUMBER: REVISION:

R-609

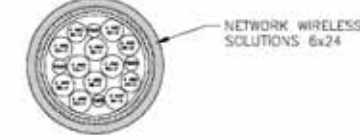
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NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

PARAMETER	VALUE
NOMINAL DIAMETER (INCHES)	2
CROSS-SECTION AREA (SQUARE INCHES)	3.13
JACKET COLOR	BLACK
WEIGHT/LINEAR FOOT (POUNDS)	2.55



PARAMETER	VALUE
NOMINAL DIAMETER (INCHES)	1.79
CROSS-SECTION AREA (SQUARE INCHES)	2.52
JACKET COLOR	BLACK
WEIGHT/LINEAR FOOT (POUNDS)	2.65

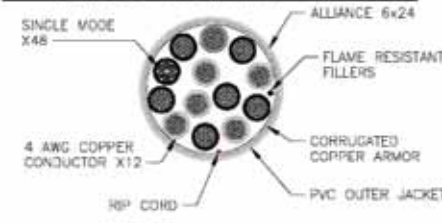


PARAMETER	VALUE
NOMINAL DIAMETER (INCHES)	1.76
CROSS-SECTION AREA (SQUARE INCHES)	2.43
JACKET COLOR	BLACK
WEIGHT/LINEAR FOOT (POUNDS)	2.29

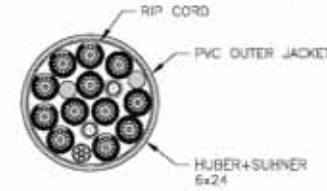


(6x24) HYBRID TRUNK CROSS SECTION
8.5" x 11" SCALE N.T.S. | 11" x 17" SCALE N.T.S. 1

PARAMETER	VALUE
NOMINAL DIAMETER (INCHES)	1.8
CROSS-SECTION AREA (SQUARE INCHES)	2.54
JACKET COLOR	BLACK
WEIGHT/LINEAR FOOT (POUNDS)	2.48



PARAMETER	VALUE
NOMINAL DIAMETER (INCHES)	1.62
CROSS-SECTION AREA (SQUARE INCHES)	2.04
JACKET COLOR	BLACK
WEIGHT/LINEAR FOOT (POUNDS)	2.39



(6x24) HYBRID TRUNK CROSS SECTION
8.5" x 11" SCALE N.T.S. | 11" x 17" SCALE N.T.S. 2

Cable Vendor	Cable Type	Nominal OD (in.)	C.S. Area (sq. in.)	Weight (lbs./ft)	onTop Breakout	MAX ENTITLEMENT
6 AWG 25' to 225' cable lengths						
Alliance	6x24 6AWG	1.46	1.67	1.61	16.36 x 9.30 x 5.79 (sq./in 152.15)	Nominal OD (in.) 1.55
CommScope	6x24 6AWG	1.55	1.89	1.71	19.37 x 10.83 x 5.12 (sq./in 235.07)	C.S. Area (sq./in.) 1.89
MWS	6x24 6AWG	1.48	1.72	1.61	15.95 x 10.20 x 3.21 (sq./in 162.69)	Weight (lbs./ft) 1.71
Ampheon	6x24 6AWG	1.46	1.67	1.65	19.37 x 10.83 x 5.12 (sq./in 209.78)	Pendant (sq/ft) 235.07
4 AWG 250' to 450' cable lengths						
Alliance	6x24 4AWG	1.8	2.54	2.48	16.36 x 9.30 x 5.79 (sq./in 152.15)	Nominal OD (in.) 1.8
CommScope	6x24 4AWG	1.76	2.43	2.4	19.37 x 10.83 x 5.12 (sq./in 235.07)	C.S. Area (sq./in.) 2.54
MWS	6x24 4AWG	1.79	2.52	2.65	15.95 x 10.20 x 3.21 (sq./in 162.69)	Weight (lbs./ft) 2.65
Ampheon	6x24 4AWG	1.71	2.3	2.55	19.37 x 10.83 x 5.12 (sq./in 209.78)	Pendant (sq/ft) 235.07
6x24						
6x24 Carister Breakout - OD x Length (in.)						
Alliance	6x24 4AWG	1.8	2.54	2.48	5.11 x 9.45 (c.s. Area 7.60)	Nominal OD (in.) 2
CommScope	6x24 4AWG	1.76	2.43	2.29	2.68 x 9.81 (c.s. Area 5.64)	C.S. Area (sq./in.) 3.13
RFS	6x24 4AWG	1.62	2.04	2.39	3.82 x 9.26 (c.s. Area 13.46)	Weight (lbs./ft) 2.65
MWS	6x24 4AWG	1.79	2.52	2.65	2.99 x 8.82 (c.s. Area 7.02)	Carister (sq/ft) 11.46
RFS	6x24 4AWG	2	3.13	2.55	2.88 x 9.72 (c.s. Area 6.51)	

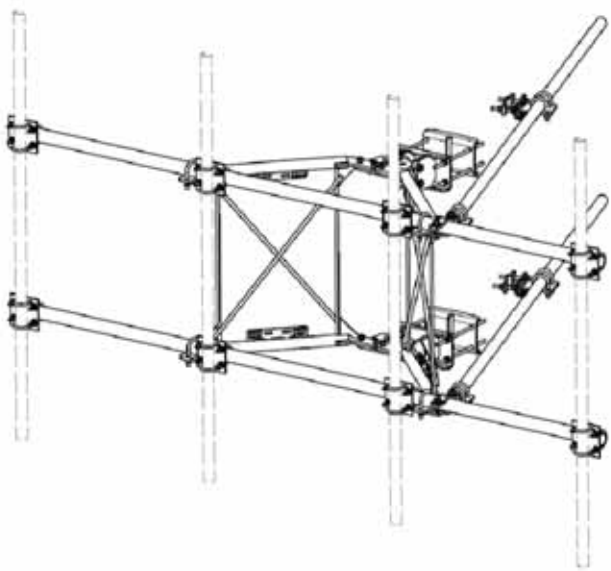
(6x24) HYBRID TRUNK ENTITLEMENT INFORMATION
8.5" x 11" SCALE N.T.S. | 11" x 17" SCALE N.T.S. 3

1 HYBRID TRUNK INFORMATION (6X24)
SCALE: N.T.S.

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER: R-610	REVISION: 0
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ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-WA2	SUPPORT ARM		71.21	142.42
2	1	K-HC-CAM-1	CLAMP WELDMNT FOR SCAM-1		21.96	21.96
3	1	K-WH-1	MULTI-HOLE TAPER PLATE WELDMNT		78.25	78.25
4	2	E-WA-1	VFA-10 PIVOT PLATE	12 in	14.88	29.77
5	2	K-LC-1	BENT BACKING PLATE	11 in	13.80	27.61
6	1	K-HC-CAM-2	ANGLE ADJUSTMENT WELDMNT FOR SCAM-2		14.39	14.39
7	4	K-0-1	SLIDING PIPE TR BACK PLATE	1 1/2 in	6.07	24.28
8	1	K-HC-CAM-3	POSITIONING PLATE WELDMNT FOR SCAM-3		2.53	2.53
9	4	K-T-1	TR BACK CLIP ANGLE		2.01	8.05
10	2	K-C-1	CROSSOVER PLATE	7 in	4.80	9.61
11	4	K-C-2	CLAMP HALF 1/2" THICK 11.43" LONG	11.43 in	3.50	14.01
12	2	K-C-3	1/2" THICK 6.35" CENTER TO CENTER CLAMP HALF	6.35 in	2.36	4.72
13	2	P-1	2.00" X 1.00" (2" SCH 40) GALVANIZED PIPE	126 in	43.75	87.50
14	2	P-2	2.00" X 1.00" (2" SCH 40) GALVANIZED PIPE	150 in	75.00	150.00
15	4	A-1	3/8" X 2.50" UNC HEX BOLT (A193)	2.52 in	6.88	27.52
16	4	G-1	1/2" HDG USS FLATWASHER		0.06	0.24
17	4	G-2	1/2" HDG LOCKWASHER		0.04	0.17
18	4	G-3	3/4" HDG HEAVY 2H HEX NUT		0.21	0.84
19	2	G-4	1/2" X 18" THREADED ROD (HDG)	18 in	6.40	12.80
20	4	G-5	1/2" X 12" THREADED ROD (HDG)		1.05	4.20
21	4	G-6	1/2" X 8" THREADED ROD (HDG)		0.70	2.80
22	4	K-L-1	1/2" X 3" X 1/4" S-1093 U-BOLT (HDG)		1.81	7.24
23	2	K-L-2	1/2" X 2.50" X 6-1/2" U-BOLT (HDG)		1.00	4.00
24	2	G-7	1/2" X 7" HDG HEX BOLT GR5 FULL THREAD	7 in	0.70	2.80
25	1	G-8	1/2" X 8" HDG HEX BOLT GR5 FULL THREAD	8 in	0.80	3.20
26	2	G-9	1/2" X 10" HDG HEX BOLT GR5		0.27	1.08
27	4	A-2	1/2" X 2-1/2" HDG A325 HEX BOLT	2.52 in	0.31	1.25
28	2	A-3	1/2" X 2-1/2" HDG A325 HEX BOLT	2.52 in	0.31	1.25
29	2	G-10	1/2" HDG USS FLATWASHER	18 in	0.07	1.26
30	2	G-11	1/2" HDG LOCKWASHER		0.03	1.22
31	2	G-12	1/2" HDG HEAVY 2H HEX NUT		0.21	0.82
32	2	K-L-3	1/2" X 3" X 1/4" S-1093 U-BOLT (HDG)		0.78	3.12
33	2	G-13	1/2" HDG USS FLATWASHER	18 in	0.07	1.26
34	2	G-14	1/2" HDG LOCKWASHER		0.03	1.22
35	2	G-15	1/2" HDG HEAVY 2H HEX NUT		0.21	0.82
36	2	G-16	1/2" HDG HEAVY 2H HEX NUT		0.21	0.82
				TOTAL WT #	738.06	

TOLERANCE NOTES
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
BARRIS, SHEARS AND GAS CUT EDGES (# 2 AMP)
DRILLED AND GAS CUT HOLES (# 2 AMP) - NO CORNING OF HOLES
LASER CUT EDGES AND HOLES (# 2 AMP) - NO CORNING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING (# 2 AMP)
ALL OTHER ASSEMBLY (# 2 AMP)

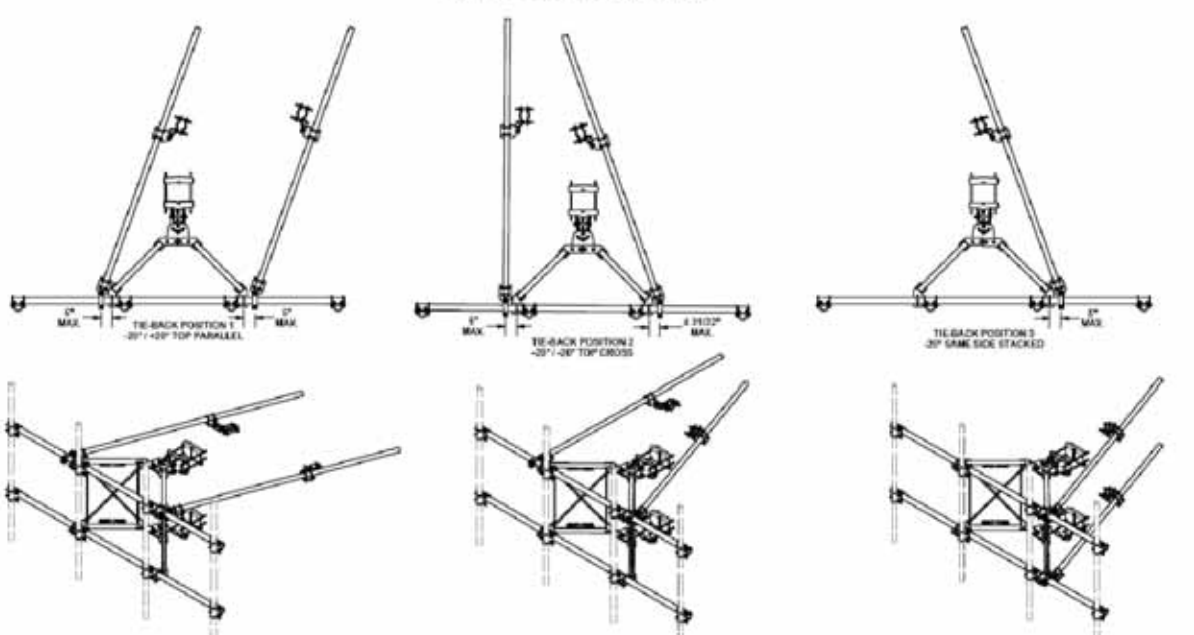
DESCRIPTION 12" 6" HEAVY DUTY V-FRAME ASSEMBLY WITH TWO STIFF ARMS

DATE 01/02/2017 **DESIGNED BY** CUSTOMER **CHECKED BY** BMC 12/13/2017

DRAWING SCALE **CHECKED BY** BMC 12/13/2017

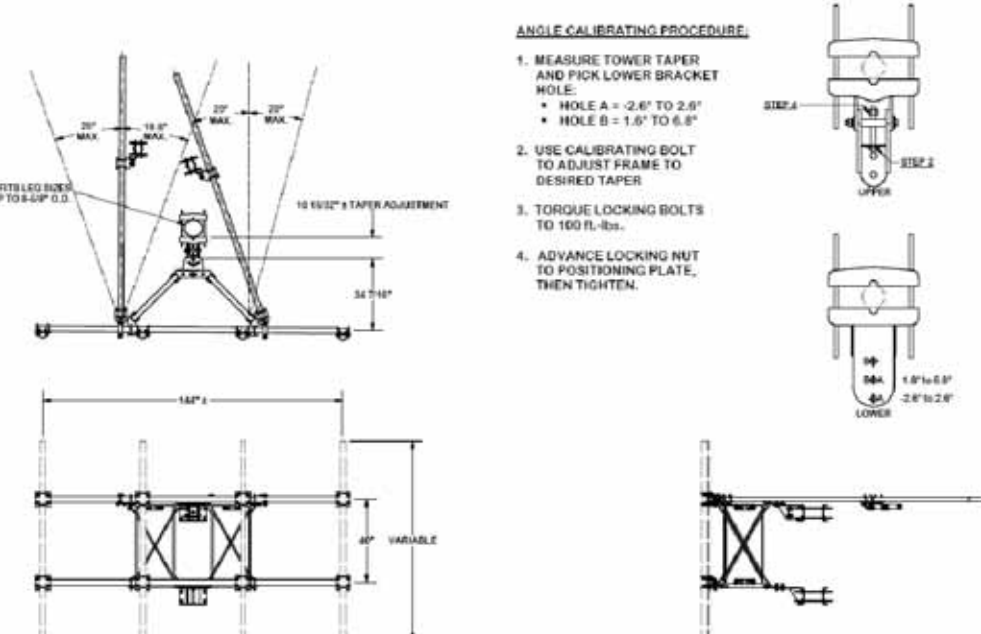
PART NO. VFA12-HD **REV** 02

TIE-BACK POSITIONS



ANGLE CALIBRATING PROCEDURE:

- MEASURE TOWER TAPER AND PICK LOWER BRACKET HOLE:
 • HOLE A = -2.6" TO 2.6"
 • HOLE B = 1.6" TO 6.8"
- USE CALIBRATING BOLT TO ADJUST FRAME TO DESIRED TAPER.
- TORQUE LOCKING BOLTS TO 160 ft.-lbs.
- ADVANCE LOCKING NUT TO POSITIONING PLATE, THEN TIGHTEN.



TOLERANCE NOTES
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
BARRIS, SHEARS AND GAS CUT EDGES (# 2 AMP)
DRILLED AND GAS CUT HOLES (# 2 AMP) - NO CORNING OF HOLES
LASER CUT EDGES AND HOLES (# 2 AMP) - NO CORNING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING (# 2 AMP)
ALL OTHER ASSEMBLY (# 2 AMP)

DESCRIPTION 12" 6" HEAVY DUTY V-FRAME ASSEMBLY WITH TWO STIFF ARMS

DATE 01/02/2017 **DESIGNED BY** CUSTOMER **CHECKED BY** BMC 12/13/2017

DRAWING SCALE **CHECKED BY** BMC 12/13/2017

PART NO. VFA12-HD **REV** 02

1 MOUNT SPECIFICATIONS

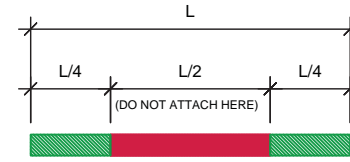
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SUPPLEMENTAL

SHEET NUMBER: R-611
REVISION: 0

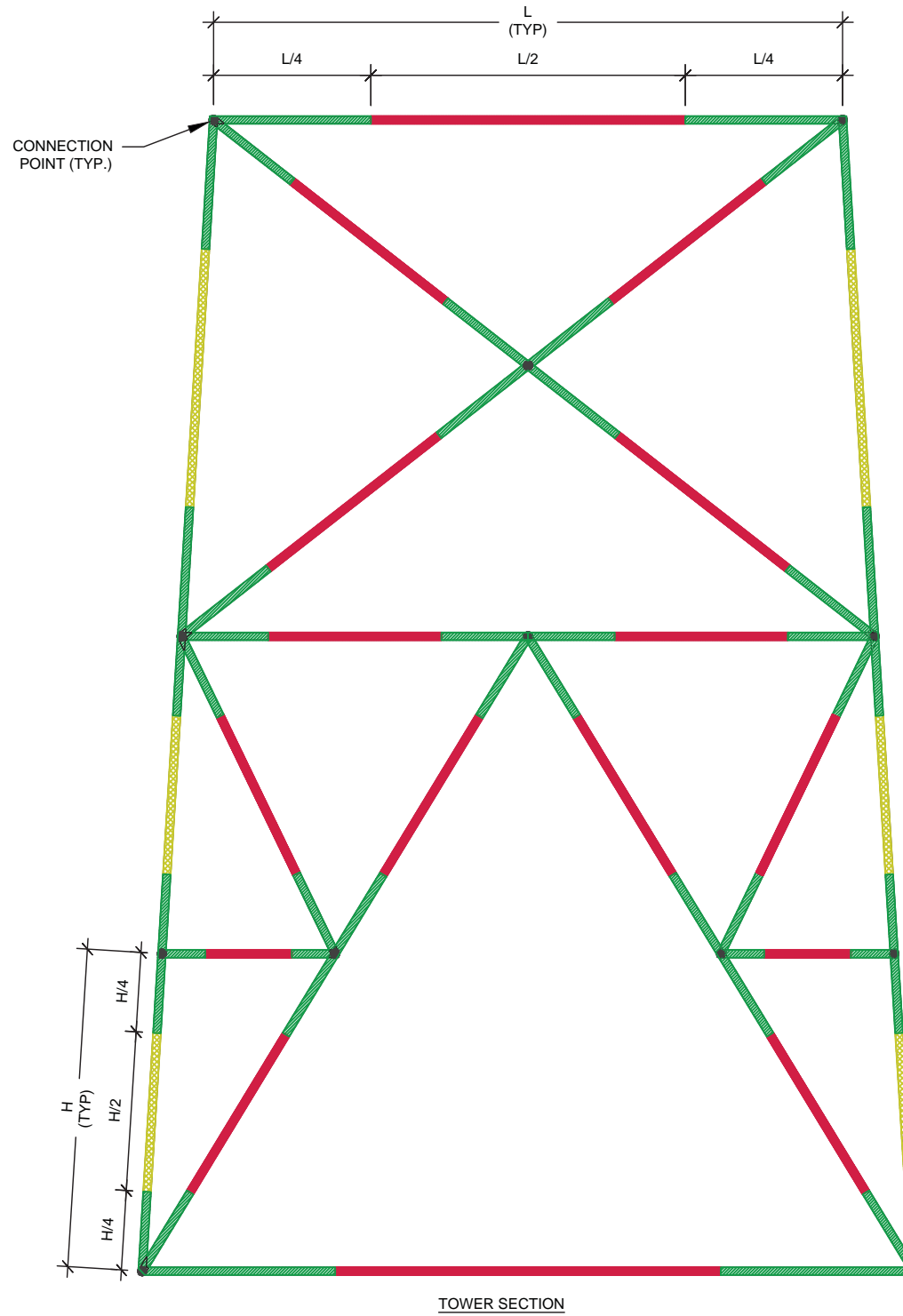
STIFF ARM LOCATION NOTES:

- TIE BACK SHALL BE CONNECTED PER MANUFACTURER SPECIFICATIONS. IF THE ANGLE OF ATTACHMENT DEVIATES FROM THE MANUFACTURER RANGES, A SITE SPECIFIC ANALYSIS THAT CONSIDERS THESE EFFECTS ON BOTH THE TOWER AND THE MOUNT WILL BE NEEDED.
- ACCEPTABLE STIFF ARM TO TOWER MEMBER ATTACHMENT LOCATIONS:
 - A) INTERIOR BRACING MEMBERS:
 - WITHIN 25% OF EITHER END OF THE MEMBER'S LENGTH.
 - B) TOWER LEGS:
 - WITHIN 25% OF EITHER END OF THE MEMBER'S LENGTH. IF ATTACHMENT IS NOT WITHIN 25% OF EITHER END OF THE MEMBERS LENGTH THEN ADJUST ATTACHMENT POINT TO MINIMIZE DISTANCE TO END OF MEMBER WHILE FOLLOWING MANUFACTURERS SPECIFICATIONS.



INTERIOR BRACING

- ACCEPTABLE ATTACHMENT REGION & FORCE
- ACCEPTABLE ATTACHMENT REGION & FORCE
- DO NOT ATTACH HERE



NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:

R-612

REVISION:

0