

VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: MCGRATH MN
 ATC SITE NUMBER: 416547
 CARRIER SITE NAME: A1O0297A
 CARRIER SITE NUMBER: A1O0297A
 SITE ADDRESS: 20101 STATE HWY 18
 MCGRATH, MN 56350-4571



LOCATION MAP

**T-MOBILE COVERAGE STRATEGY NSD COLOCATION PLAN
 56790EAH_SR_T CONFIGURATION**



49030 Pontiac Trail, Suite 100
 Wixom, Michigan 48393
 PHONE: (248) 705-9212

REV.	DESCRIPTION	BY	DATE
△	PRELIM	RC	06/06/23
△	FINAL CD	RC	06/13/23
△			
△			
△			

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SEAL:

CONSISTENT WITH APPLICABLE LICENSING LAWS THIS SEAL CERTIFIES THAT THE ARCHITECTURAL DESIGN WORK WAS PREPARED EITHER PERSONALLY BY ME OR UNDER MY IMMEDIATE AND DIRECT SUPERVISION AND CONTROL.



DATE DRAWN:	06/13/2023
ATC JOB NO:	14504872
CUSTOMER ID:	A1O0297A
CUSTOMER NAME:	A1O0297A

TITLE SHEET

SHEET NUMBER:
G-001
 REVISION:
0

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX									
<p>ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.</p> <ol style="list-style-type: none"> 2018 INTERNATIONAL BUILDING CODE (2018 IBC) 2020 NATIONAL ELECTRIC CODE (2020 NEC) 2020 MINNESOTA STATE BUILDING CODE CITY/COUNTY ORDINANCES 	<p><u>SITE ADDRESS:</u> 20101 STATE HWY 18 MCGRATH, MN 56350-4571 COUNTY: AITKIN</p> <p><u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 46.21592927 LONGITUDE: -93.2635649 GROUND ELEVATION: 1281' AMSL</p>	<p>THE PROPOSED PROJECT INCLUDES INSTALLING EQUIPMENT CABINETS ON A PROPOSED CONCRETE PAD INSIDE A 10'-0" X 15'-0" GROUND SPACE WITHIN THE EXISTING COMPOUND, AND INSTALLING NEW EQUIPMENT AND MOUNTS ON THE EXISTING TOWER.</p>	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:					
	<p><u>PROJECT TEAM</u></p> <table border="0"> <tr> <td><u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801</td> <td><u>APPLICANT:</u> T-MOBILE</td> </tr> <tr> <td><u>ARCHITECT (COORDINATING PROFESSIONAL):</u> PETER LICHOWSKI, AIA 49030 PONTIAC TRAIL, SUITE 100, WIXOM, MI 48393 PH: (248) 705-9212</td> <td><u>PLANNING / APPLICANT'S REPRESENTATIVE:</u> THE DERNA GROUP 22431 ANTONIO PARKWAY SUITE B160-234 RANCHO SANTA MARGARITA, CA 92688 CONTACT: RACHEL BRUIN PHONE: (805) 215-9444 EMAIL: RBRUIN@DERNAGRP.COM</td> </tr> <tr> <td><u>PROPERTY OWNER:</u> - 20101 STATE HWY 18 MCGRATH, MN 56350-4571</td> <td></td> </tr> </table>		<u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801	<u>APPLICANT:</u> T-MOBILE	<u>ARCHITECT (COORDINATING PROFESSIONAL):</u> PETER LICHOWSKI, AIA 49030 PONTIAC TRAIL, SUITE 100, WIXOM, MI 48393 PH: (248) 705-9212	<u>PLANNING / APPLICANT'S REPRESENTATIVE:</u> THE DERNA GROUP 22431 ANTONIO PARKWAY SUITE B160-234 RANCHO SANTA MARGARITA, CA 92688 CONTACT: RACHEL BRUIN PHONE: (805) 215-9444 EMAIL: RBRUIN@DERNAGRP.COM	<u>PROPERTY OWNER:</u> - 20101 STATE HWY 18 MCGRATH, MN 56350-4571		PROJECT NOTES	E-101	CONDUIT ROUTING	0
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		<ol style="list-style-type: none"> THE FACILITY IS UNMANNED. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. HANDICAP ACCESS IS NOT REQUIRED. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7). 	E-501	GROUNDING DETAILS	0	06/13/2023	RC					
		PROJECT LOCATION DIRECTIONS	E-601	PANEL SCHEDULE	0	06/13/2023	RC					
		EXIT INTERSTATE 35 WEST ON TO CNTY HWY 23. TAKE 23 FOR ROUGHLY A HALF MILE UNTIL IT ENDS AND TAKE A RIGHT ON TO HWY 18. STAY ON 18 IT WILL TURN LEFT AFTER A MILE. THEN CONTINUE ON 18 FOR ABOUT 30 MILES TOWER WILL BE AT ADDRESS ON LEFT	R-601	SUPPLEMENTAL								
			R-602	SUPPLEMENTAL								
			R-603	SUPPLEMENTAL								
			R-604	SUPPLEMENTAL								
			R-605	SUPPLEMENTAL								
			R-606	SUPPLEMENTAL								



Know what's below.
 Call before you dig.

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 ANSII/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 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. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE 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.
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. 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.
33. 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 A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
 - A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.

- B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
- C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
- D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
- E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
- F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
- G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/8" 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 AND
 - B. INSTALL ANTENNA AS INDICATE 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 GREED GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPICE WEATHERPROOFING KIT #221213 OR EQUAL.
3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

CONCRETE AND REINFORCING STEEL NOTES:

1. DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CONFORM TO THE LATEST EDITIONS OF ALL APPLICABLE CODES INCLUDING: ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", ACI 117 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS", AND ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
2. MIX DESIGN SHALL BE APPROVED BY 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 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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REV.	DESCRIPTION	BY	DATE
A	PRELIM	RC	06/06/23
0	FINAL CD	RC	06/13/23

ATC SITE NUMBER:

416547

ATC SITE NAME:

MCGRATH MN

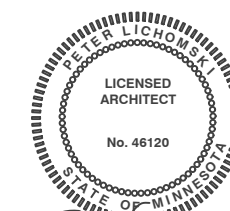
T-MOBILE SITE NAME:

A100297A

SITE ADDRESS:

20101 STATE HWY 18
MCGRATH, MN 56350-4571

SEAL:



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DATE DRAWN:	06/13/2023
ATC JOB NO:	14504872
CUSTOMER ID:	A100297A
CUSTOMER NAME:	A100297A

GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

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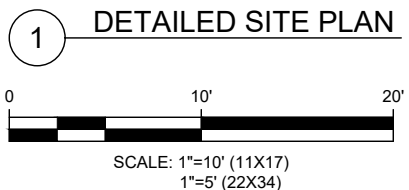
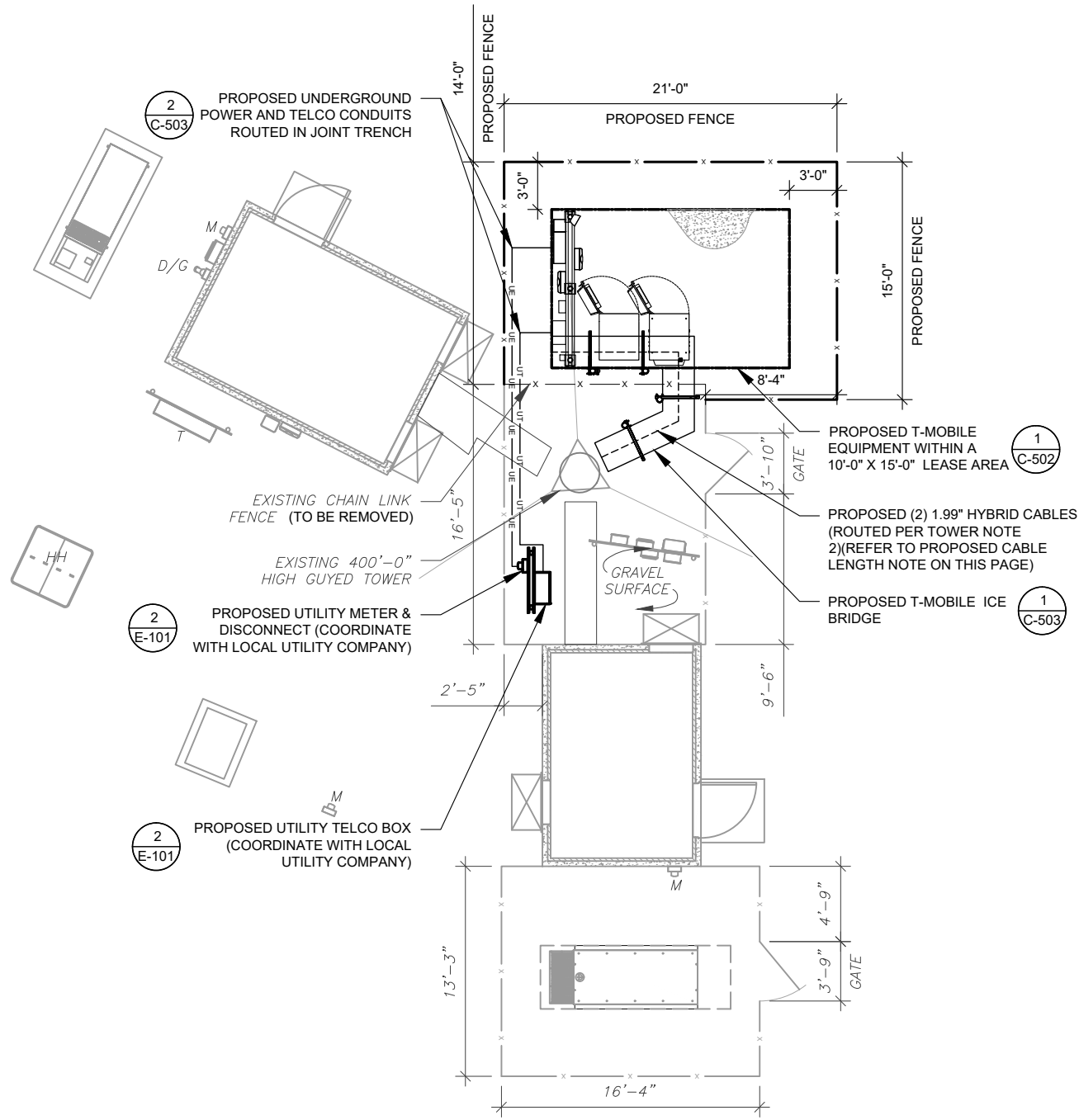
SITE PLAN NOTES:

- 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.

NOTE: TRENCHING NOT TO EXCEED 1' WHEN PARALLEL TO FENCE.

LEGEND	
⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
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
x	CHAINLINK FENCE

- PROPOSED CABLE LENGTH:**
- ESTIMATED LENGTH OF PROPOSED CABLE IS **465'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE EQUIPMENT LOCATION 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).



LAB
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REV.	DESCRIPTION	BY	DATE
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ATC SITE NUMBER:
416547
 ATC SITE NAME:
MCGRATH MN
 T-MOBILE SITE NAME:
A100297A
 SITE ADDRESS:
 20101 STATE HWY 18
 MCGRATH, MN 56350-4571

SEAL:

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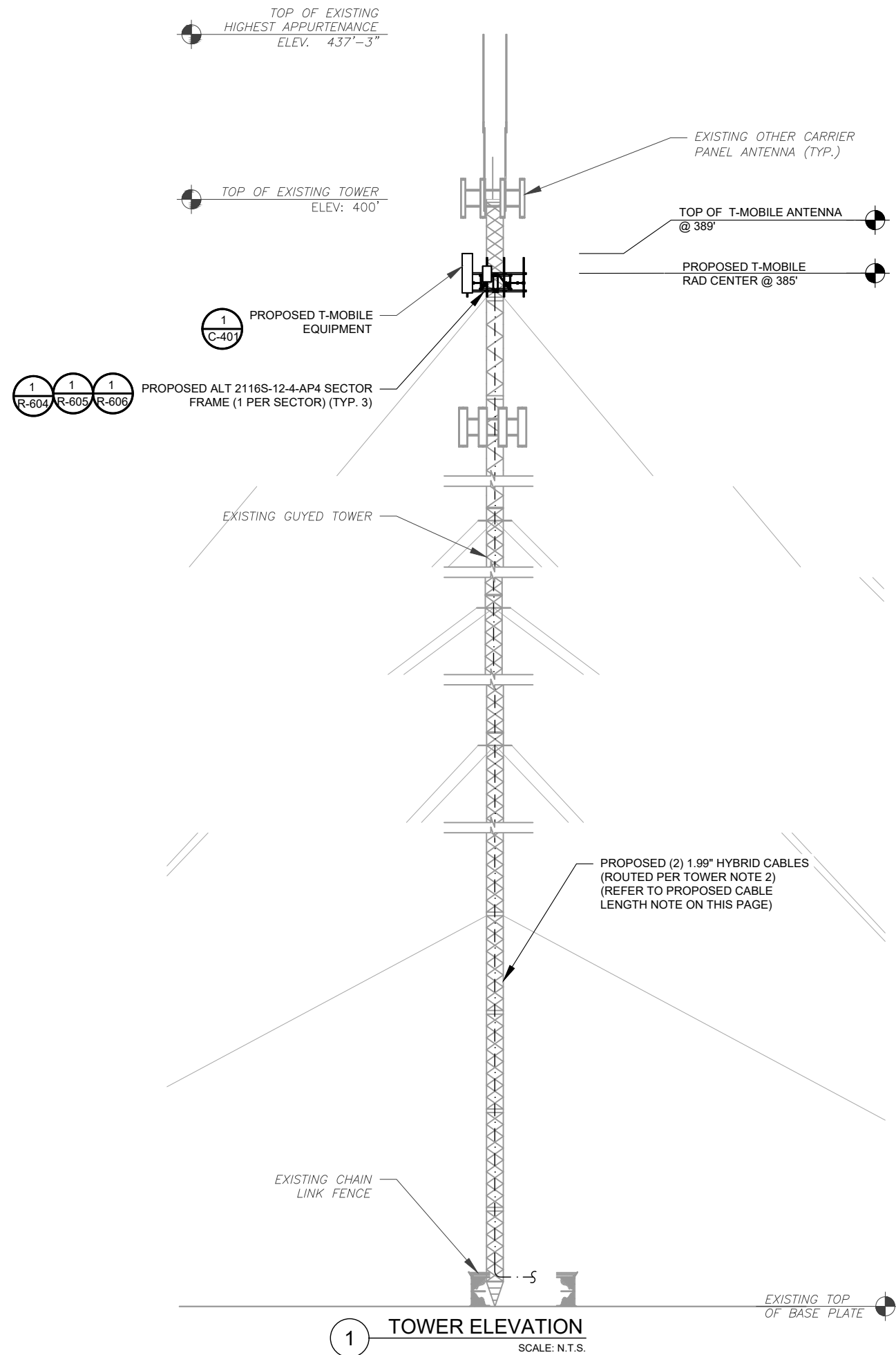


DATE DRAWN:	06/13/2023
ATC JOB NO:	14504872
CUSTOMER ID:	A100297A
CUSTOMER NAME:	A100297A

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	0

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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 ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

1 TOWER ELEVATION
SCALE: N.T.S.



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CUSTOMER NAME:	A100297A

TOWER ELEVATION	
SHEET NUMBER: C-201	REVISION: 0

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SEAL:



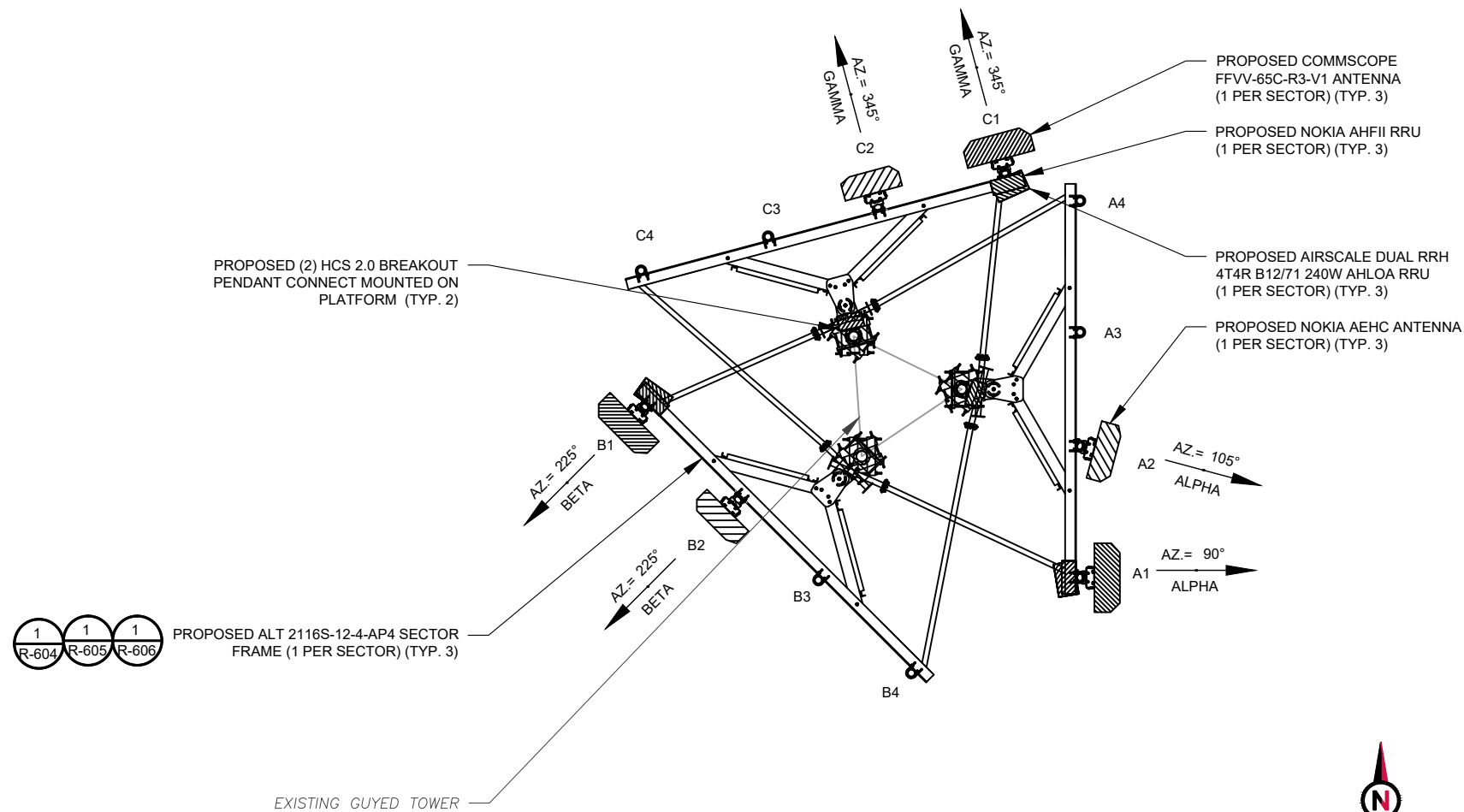
Peter Lichomski
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CUSTOMER NAME:	A100297A

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-401	0



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

FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY					NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	385°	90°	A1	COMMSCOPE - FFVV-65C-R3-V1	L600/L700/N600/L1900 /L2100/ LAWS3 /N1900/N2100	0,2/2/2/2	ADD	NOKIA-AHLOA, NOKIA-AHFII	ADD
		105°	A2	NOKIA AEHC	N2500	0,2	ADD	-	-
		-	A3	-	-	-	-	-	-
		-	A4	-	-	-	-	-	-
BETA	385°	225°	B1	COMMSCOPE - FFVV-65C-R3-V1	L600/L700/N600/L1900 /L2100/ LAWS3 /N1900/N2100	0,2/2/2/2	ADD	NOKIA-AHLOA, NOKIA-AHFII	ADD
		-	B2	NOKIA AEHC	N2500	0,2	ADD	-	-
		-	B3	-	-	-	-	-	-
		-	B4	-	-	-	-	-	-
GAMMA	385°	345°	C1	COMMSCOPE - FFVV-65C-R3-V1	L600/L700/N600/L1900 /L2100/ LAWS3 /N1900/N2100	0,2/2/2/2	ADD	NOKIA-AHLOA, NOKIA-AHFII	-
		-	C2	NOKIA AEHC	N2500	0,2	ADD	-	ADD
		-	C3	-	-	-	-	-	-
		-	C4	-	-	-	-	-	-

- CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
- CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.

CABLE LENGTHS FOR JUMPERS
FIBER DISTRIBUTION/OVP TO RRU: 15'
RRU TO COMBINER: 10'
COMBINER TO ANTENNA: 10'

2 ANTENNA SCHEDULE

PROPOSED FIBER DISTRIBUTION/OVP BOX		PROPOSED CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
(2) HELIAX FIBERFEED 12 RRU PENDANT CONNECT	ADD	-	(2) 1.99"	ADD



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SITE ADDRESS:

20101 STATE HWY 18
MCGRATH, MN 56350-4571

SEAL:



Peter Lichoms

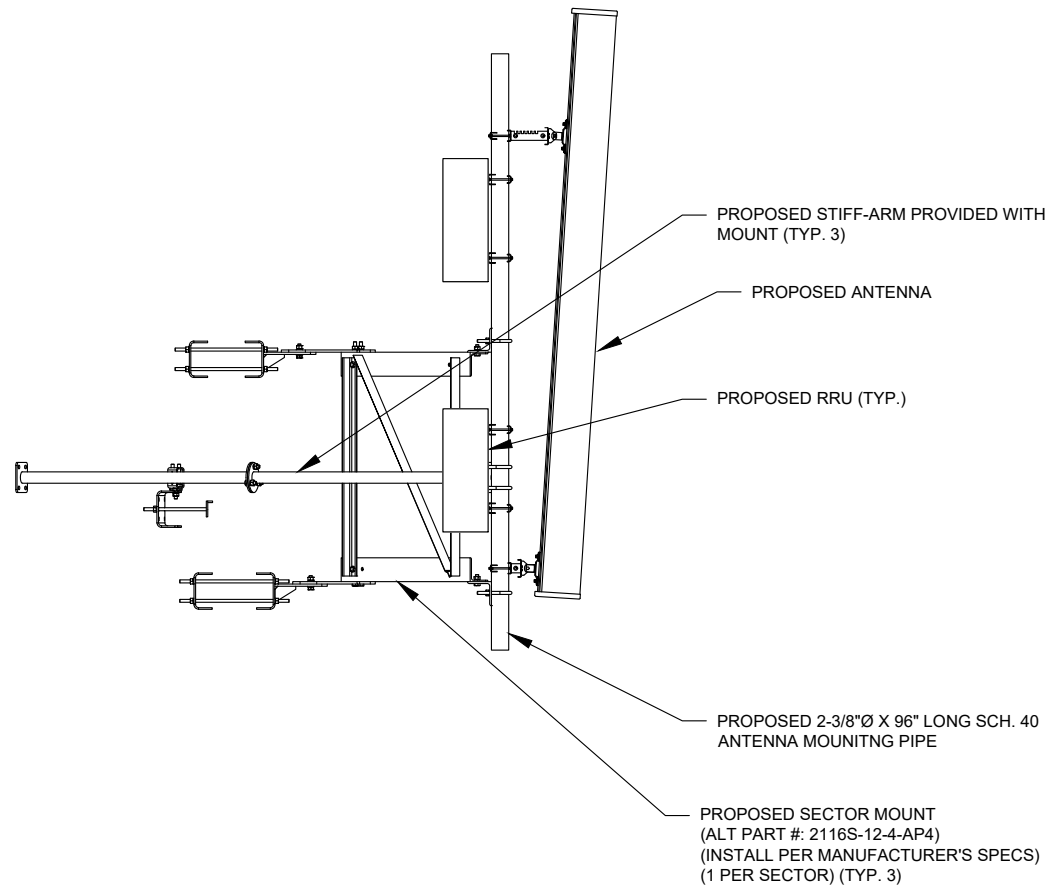
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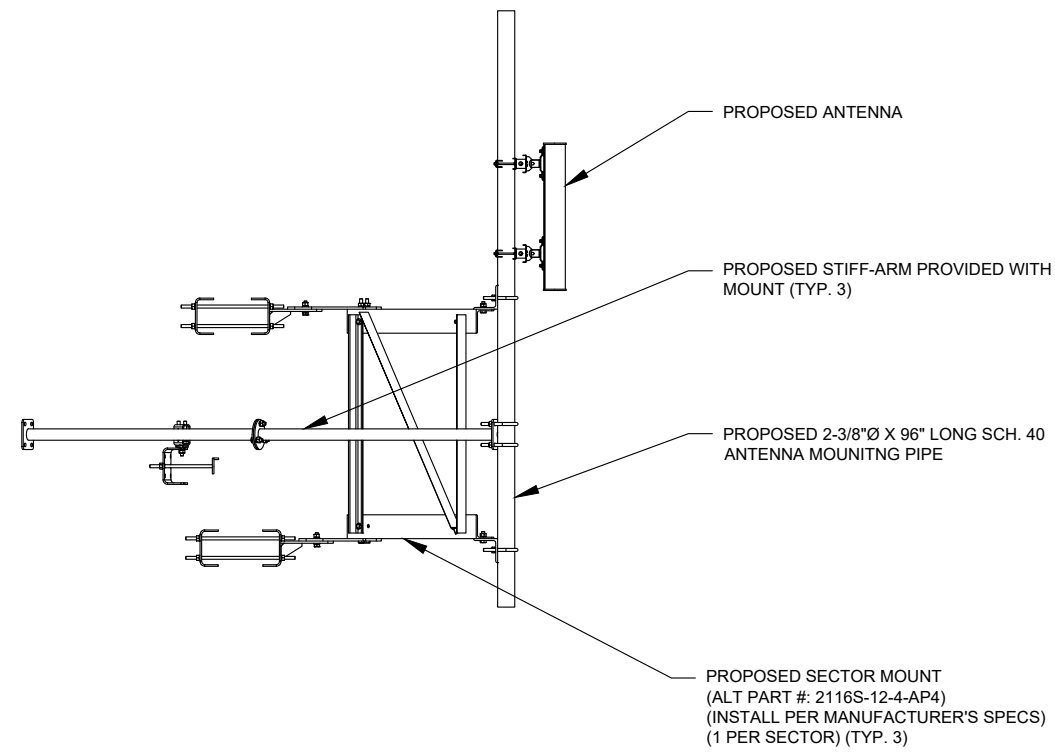
DATE DRAWN:	06/13/2023
ATC JOB NO:	14504872
CUSTOMER ID:	A100297A
CUSTOMER NAME:	A100297A

MOUNT DETAILS

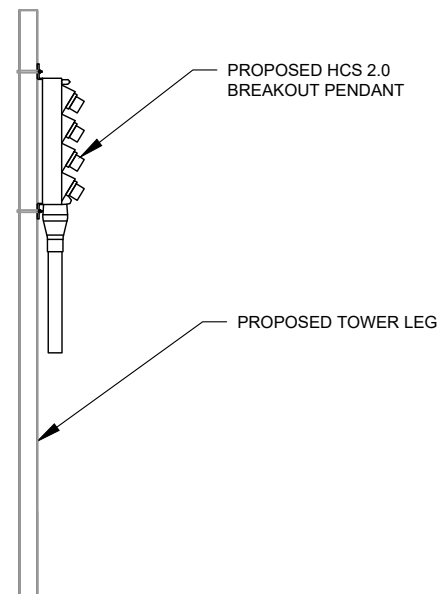
SHEET NUMBER:	REVISION:
C-501	0



1 PROPOSED ANTENNA MOUNTING DETAIL (ELEVATION)
SCALE: NOT TO SCALE



2 PROPOSED ANTENNA MOUNTING DETAIL (ELEVATION)
SCALE: NOT TO SCALE



3 PROPOSED HCS2.0 MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



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ATC SITE NUMBER:

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ATC SITE NAME:

MCGRATH MN

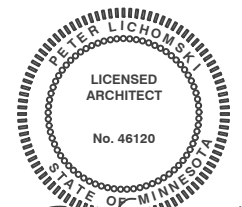
T-MOBILE SITE NAME:

A100297A

SITE ADDRESS:

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MCGRATH, MN 56350-4571

SEAL:



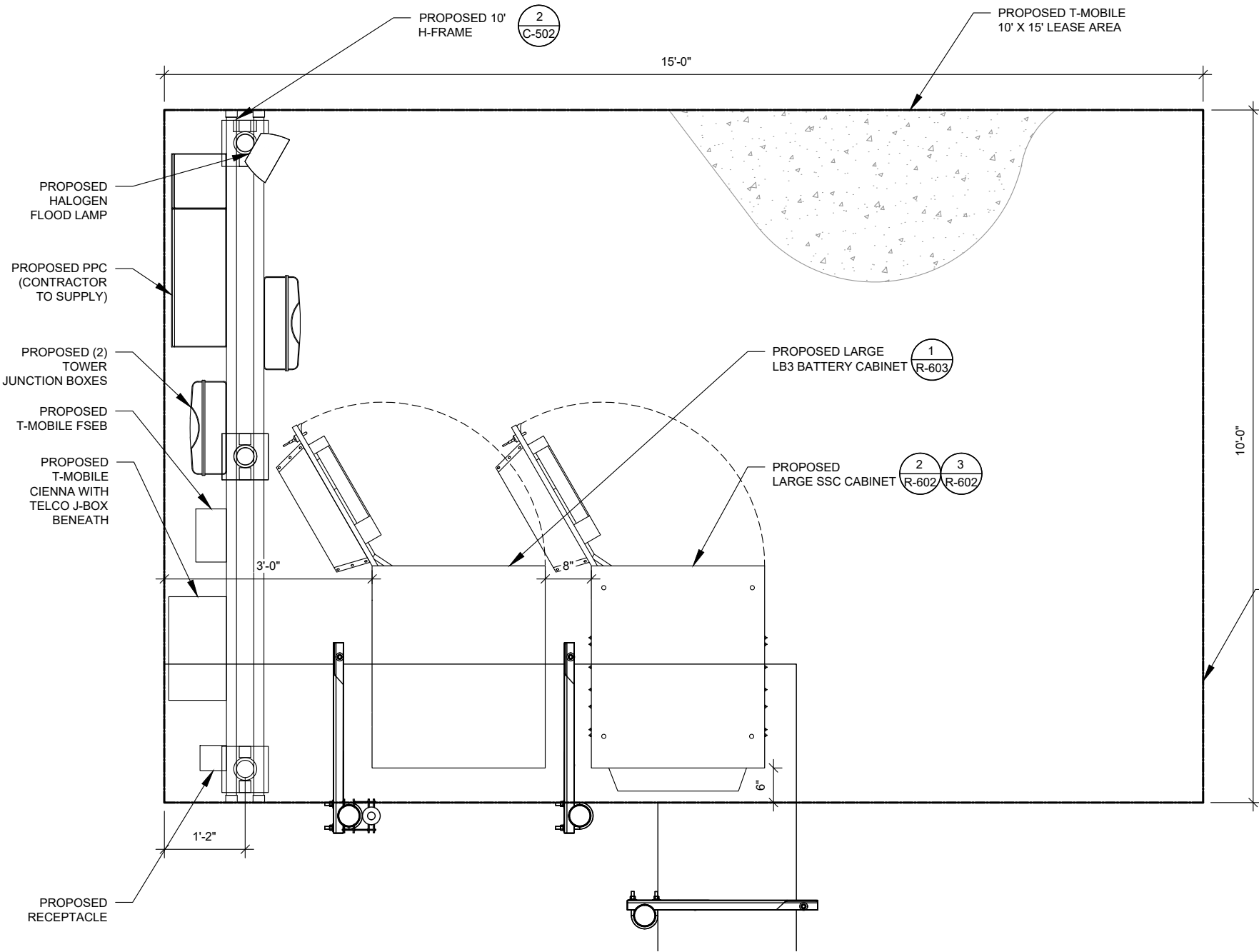
CONSISTENT WITH APPLICABLE LICENSING LAWS THIS SEAL CERTIFIES THAT THE ARCHITECTURAL DESIGN WORK WAS PREPARED EITHER PERSONALLY BY ME OR UNDER MY IMMEDIATE AND DIRECT SUPERVISION AND CONTROL.



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CUSTOMER ID:	A100297A
CUSTOMER NAME:	A100297A

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-502	0

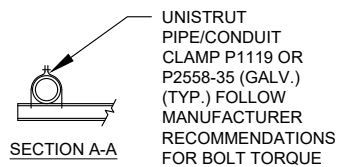


NOTE:
1. CABINETS SHALL BE ORIENTED AND INSTALLED EXACTLY AS SHOWN

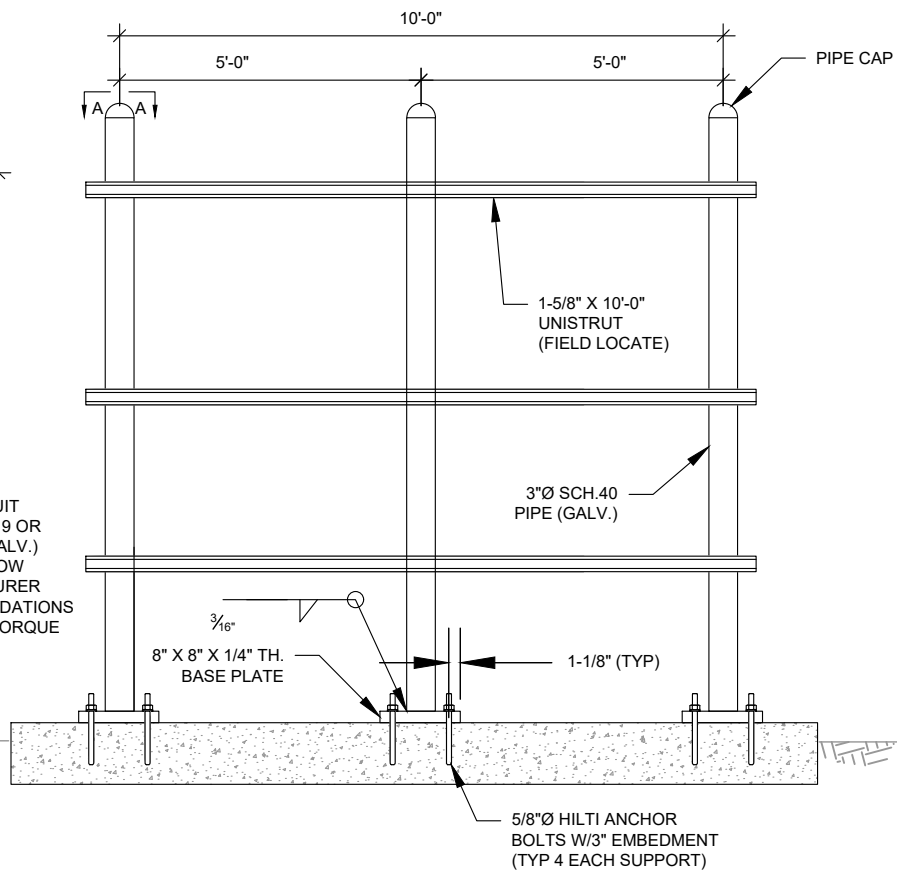
1 DETAILED EQUIPMENT LAYOUT
SCALE: NOT TO SCALE

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.

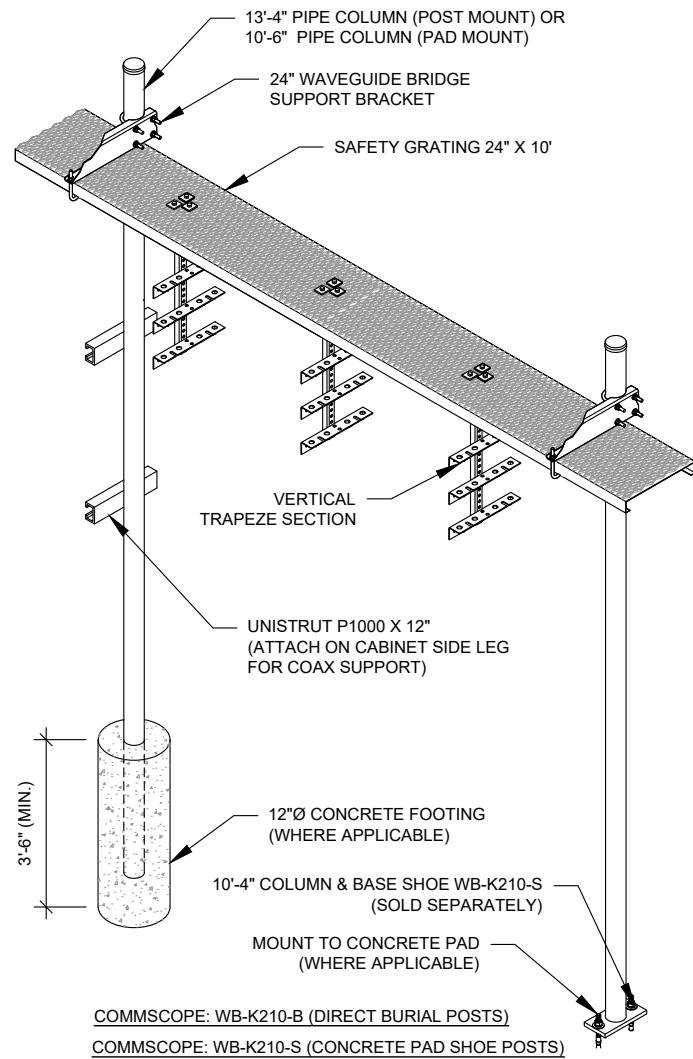


EXISTING GRADE



2 TYPICAL H-FRAME DETAIL
SCALE: NOT TO SCALE

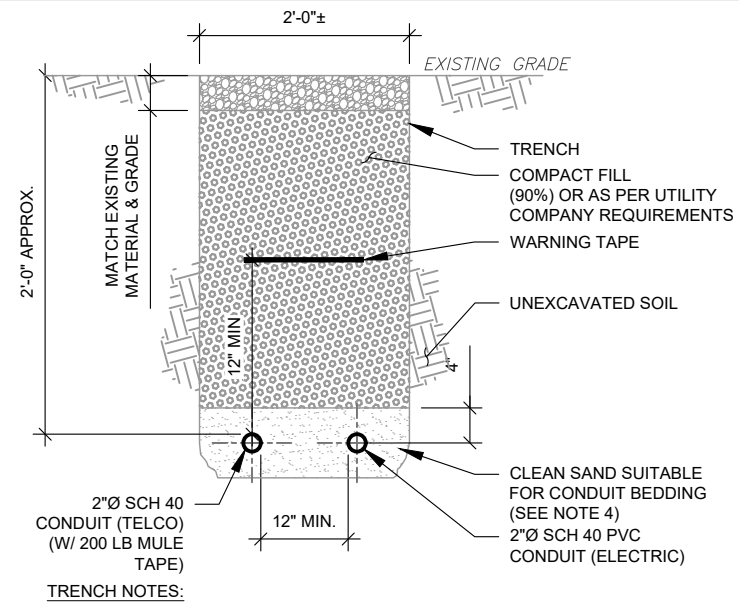
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CONSTRUCTION NOTE:

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

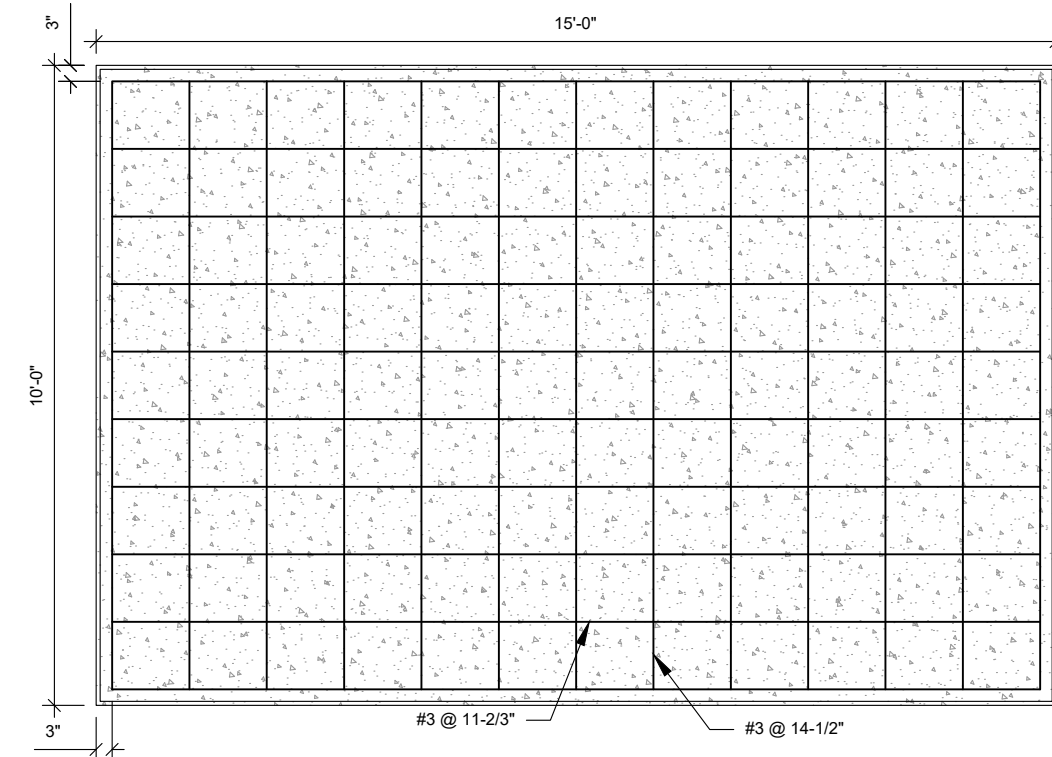
1 WAVEGUIDE BRIDGE KIT
SCALE: NOT TO SCALE



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.

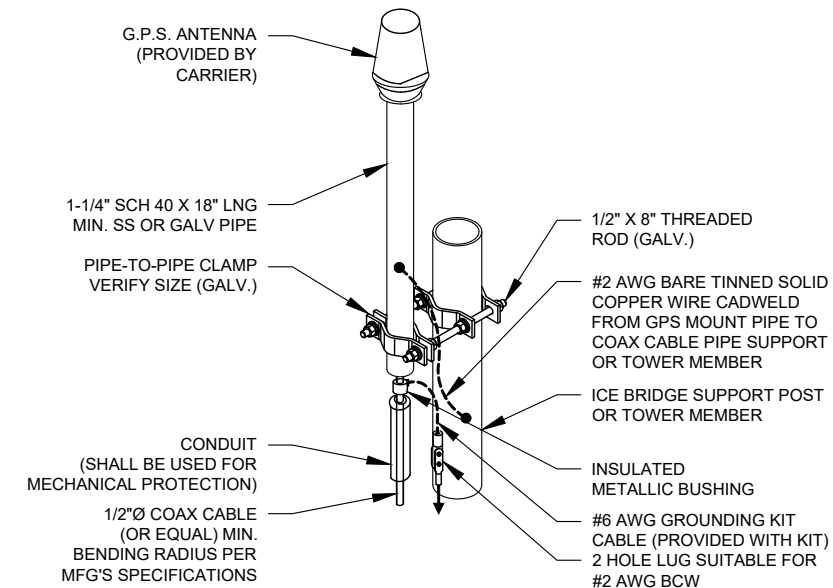
2 TELCO AND POWER CONDUIT JOINT TRENCH
SCALE: N.T.S.



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.

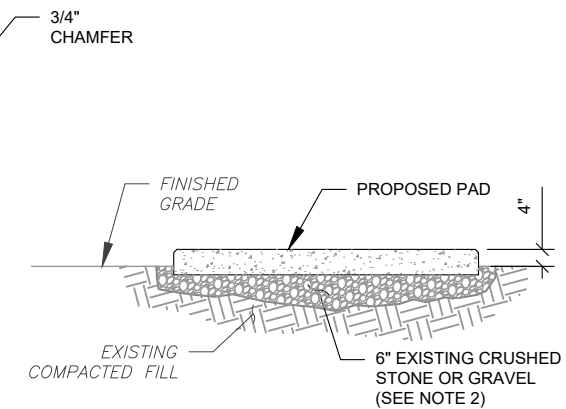
4 REINFORCED PAD LAYOUT
SCALE: NOT TO SCALE



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: NOT TO SCALE



PAD NOTES:

1. SUBGRADE AND FILL SHALL CONSIST OF CLEAN SOIL. DELETRIOUS 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: NOT TO SCALE



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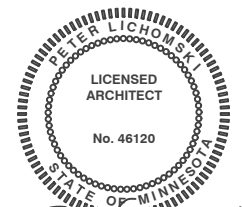
T-MOBILE SITE NAME:

A100297A

SITE ADDRESS:

20101 STATE HWY 18
MCGRATH, MN 56350-4571

SEAL:



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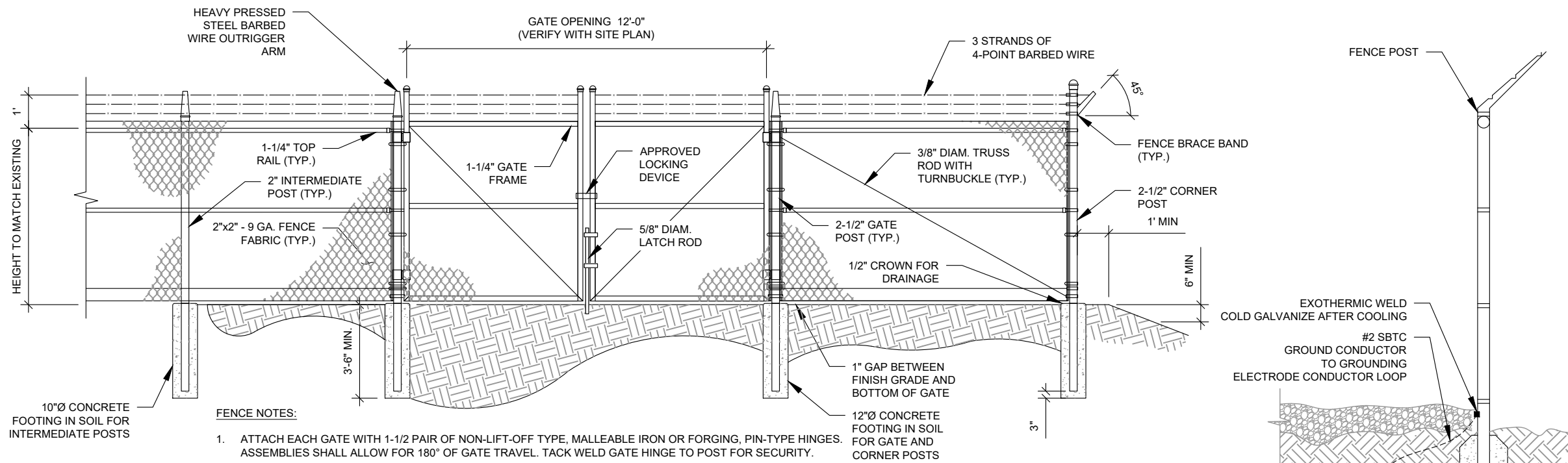


DATE DRAWN:	06/13/2023
ATC JOB NO:	14504872
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CUSTOMER NAME:	A100297A

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-503	0

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FENCE NOTES:

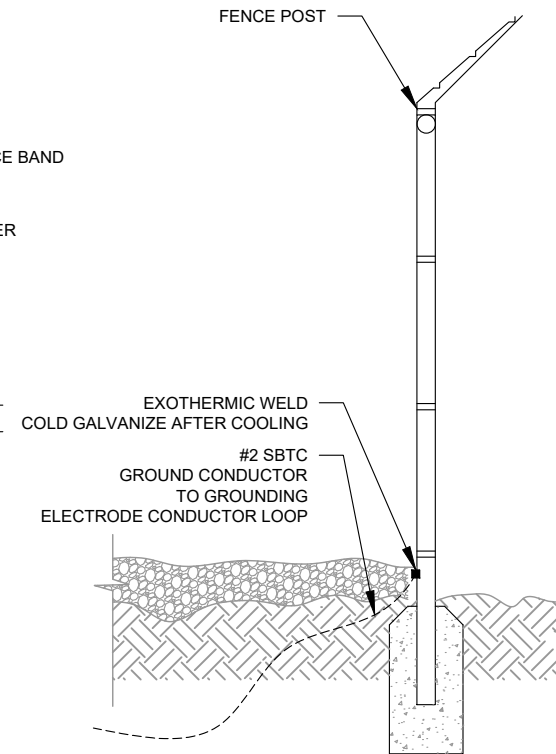
1. ATTACH EACH GATE WITH 1-1/2 PAIR OF NON-LIFT-OFF TYPE, MALLEABLE IRON OR FORGING, PIN-TYPE HINGES. ASSEMBLIES SHALL ALLOW FOR 180° OF GATE TRAVEL. TACK WELD GATE HINGE TO POST FOR SECURITY.
2. POSTS NOT TO EXCEED A MAXIMUM SEPARATION OF 10 FEET.

AMERICAN TOWER CONSTRUCTION SPECIFICATION:

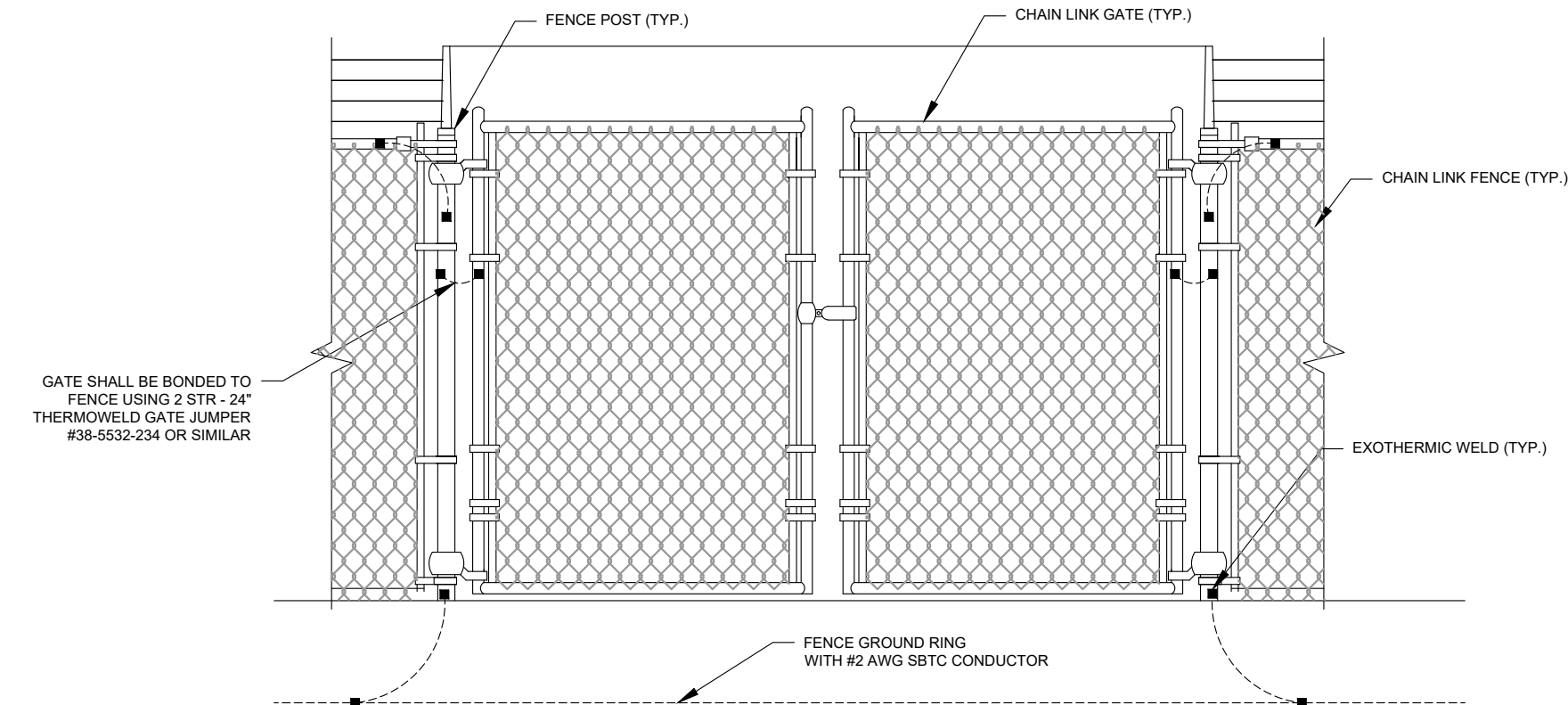
1. DIVISION 32 EXTERIOR IMPROVEMENTS SECTION 0323113 FOR CHAIN LINK FENCE AND GATES

10"Ø CONCRETE FOOTING IN SOIL FOR INTERMEDIATE POSTS

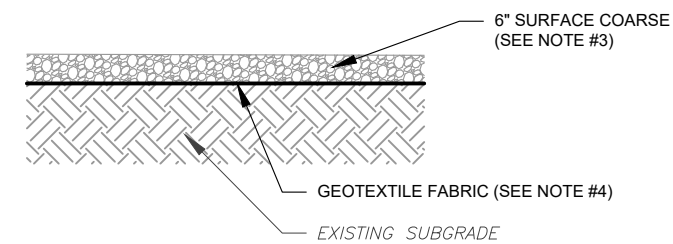
1 GATE AND FENCE DETAIL
SCALE: N.T.S.



2 FENCE GROUNDING DETAIL
SCALE: N.T.S.



3 GATE AND FENCE GROUNDING DETAIL
SCALE: N.T.S.



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

NOTES:

1. CONTRACTOR TO CONTACT ALL UTILITIES FOR LOCATION OF UNDERGROUND SERVICES. SERVICE LOCATIONS TO BE CONFIRMED PRIOR TO CONSTRUCTION.
2. 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 2006 IBC. REVIEW WITH PROJECT MANAGER AND GEOTECH PRIOR TO CONSTRUCTION.
3. SURFACE COARSE OF GRANULAR "A" MATERIAL SHALL CONSIST OF EVENLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL, WITH 100% PASSING THROUGH 1 1/2" SIEVE AND NOT MORE THAN 5% PASSING THROUGH #4 SIEVE. COMPACT TO 95% OF MAXIMUM DRY DENSITY.
4. PROVIDE GEOTEXTILE FABRIC UNDER WASHED CHIPPED STONE COMPOUND UNLESS NOTED OTHERWISE. WOVEN GEOTEXTILE: APPROVED PRODUCTS ARE US FABRICS: US 200 AND TENCATE: 160N. CONTRACTOR MAY SUBMIT DESIGN ALTERNATIVE AS OUTLINED IN THE AMERICAN TOWER CONSTRUCTION SPECIFICATIONS.



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MCGRATH, MN 56350-4571

SEAL:



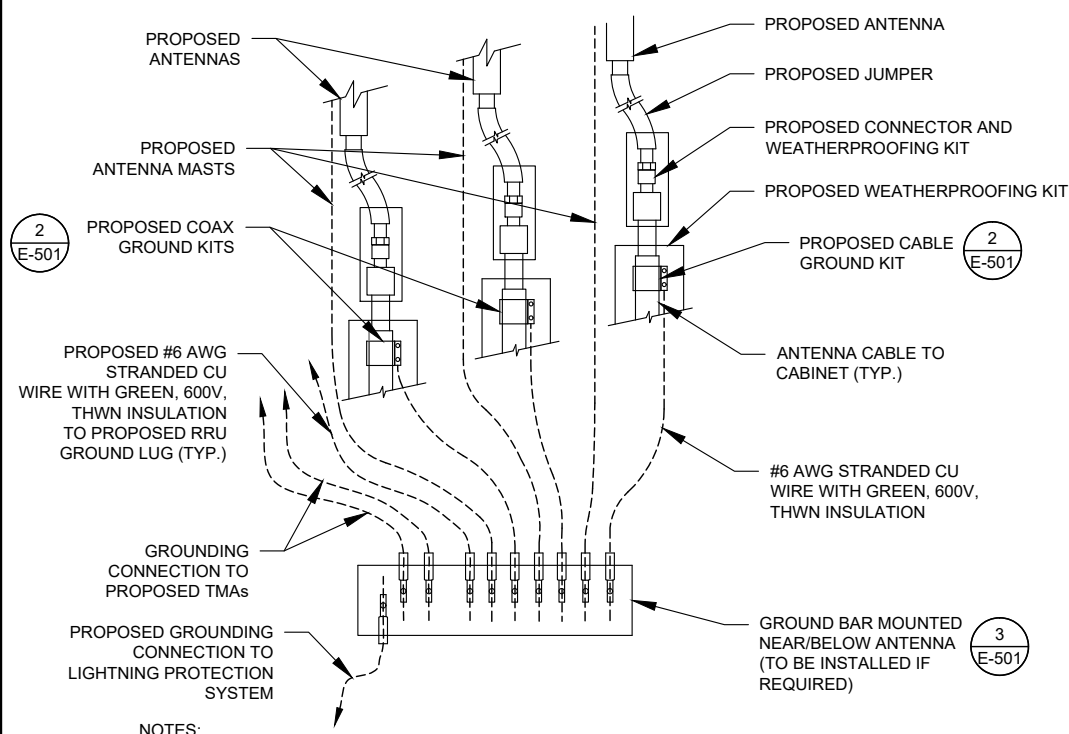
Peter Lichomski
CONSISTENT WITH APPLICABLE LICENSING LAWS THIS SEAL CERTIFIES THAT THE ARCHITECTURAL DESIGN WORK WAS PREPARED EITHER PERSONALLY BY ME OR UNDER MY IMMEDIATE AND DIRECT SUPERVISION AND CONTROL.



DATE DRAWN:	06/13/2023
ATC JOB NO:	14504872
CUSTOMER ID:	A100297A
CUSTOMER NAME:	A100297A

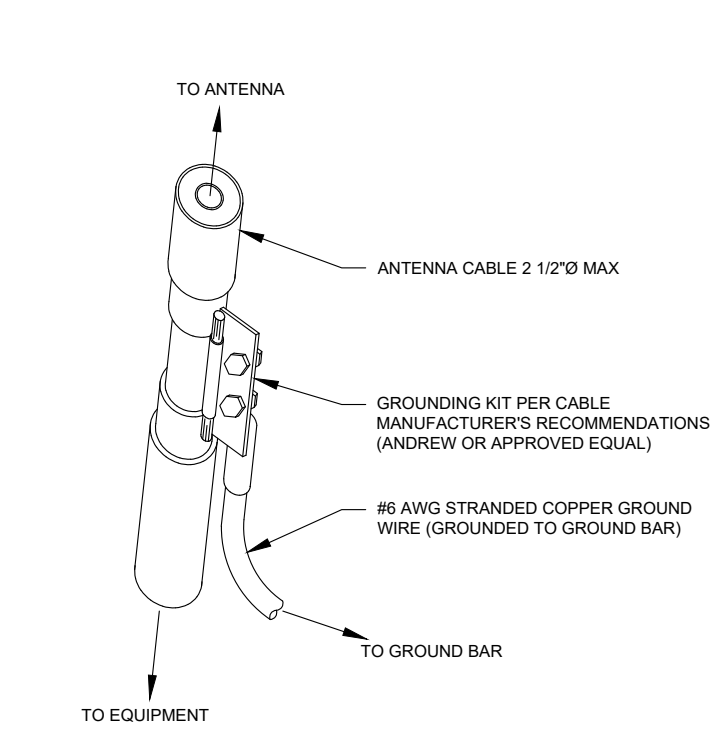
FENCE DETAILS

SHEET NUMBER:	REVISION:
C-504	0



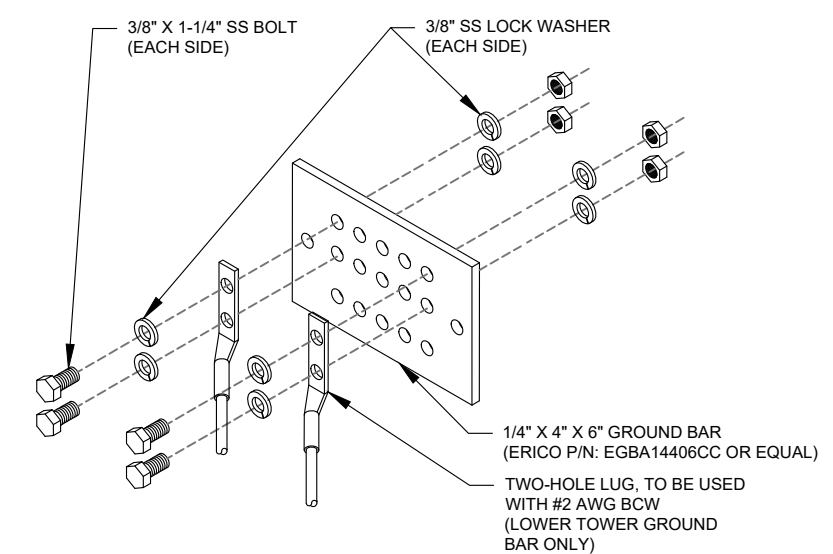
- NOTES:**
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
 2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE 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.



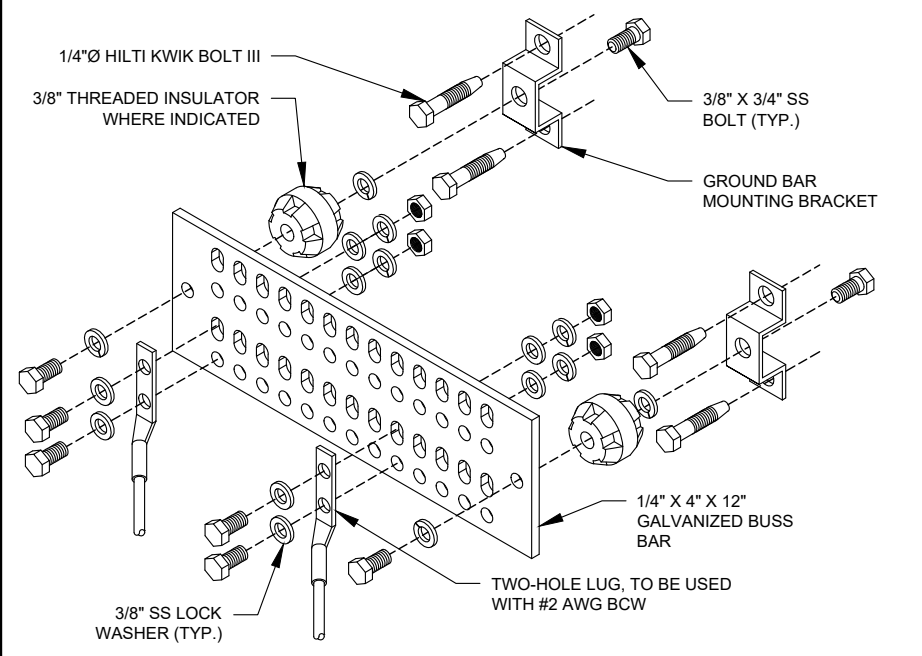
- GROUND KIT NOTES:**
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

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



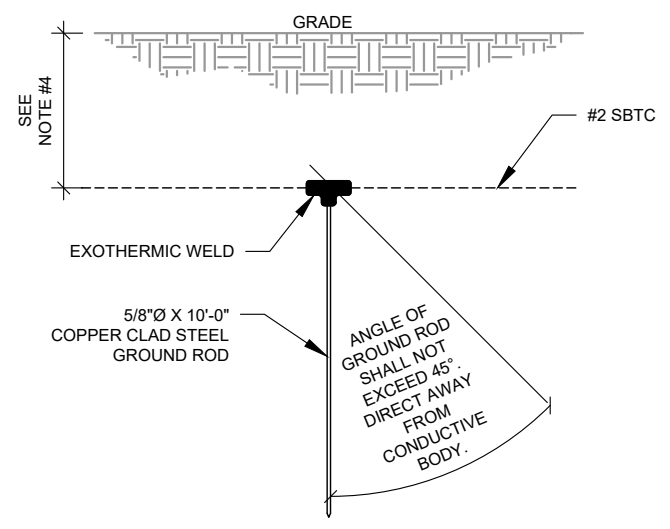
- GROUND BAR NOTES:**
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
 2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

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



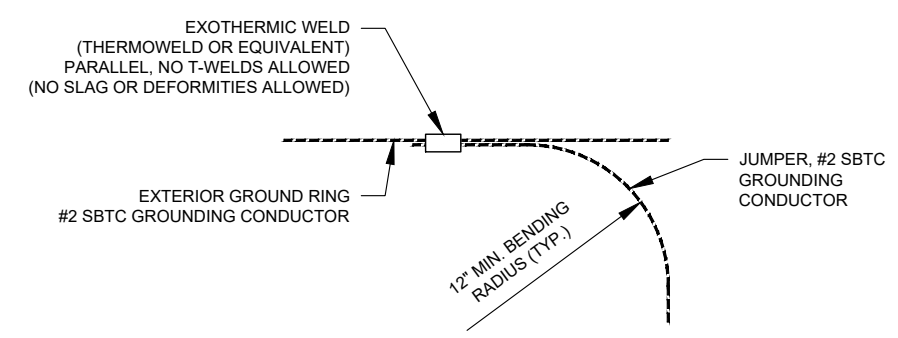
- GROUND BAR NOTES**
1. GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
 2. GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.

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\"/>

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



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



49030 Pontiac Trail, Suite 100
Wixom, Michigan 48393
PHONE: (248) 705-9212

REV.	DESCRIPTION	BY	DATE
A	PRELIM	RC	06/06/23
O	FINAL CD	RC	06/13/23

ATC SITE NUMBER:
416547

ATC SITE NAME:
MCGRATH MN

T-MOBILE SITE NAME:
A100297A

SITE ADDRESS:
20101 STATE HWY 18
MCGRATH, MN 56350-4571

SEAL:

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DATE DRAWN:	06/13/2023
ATC JOB NO:	14504872
CUSTOMER ID:	A100297A
CUSTOMER NAME:	A100297A

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

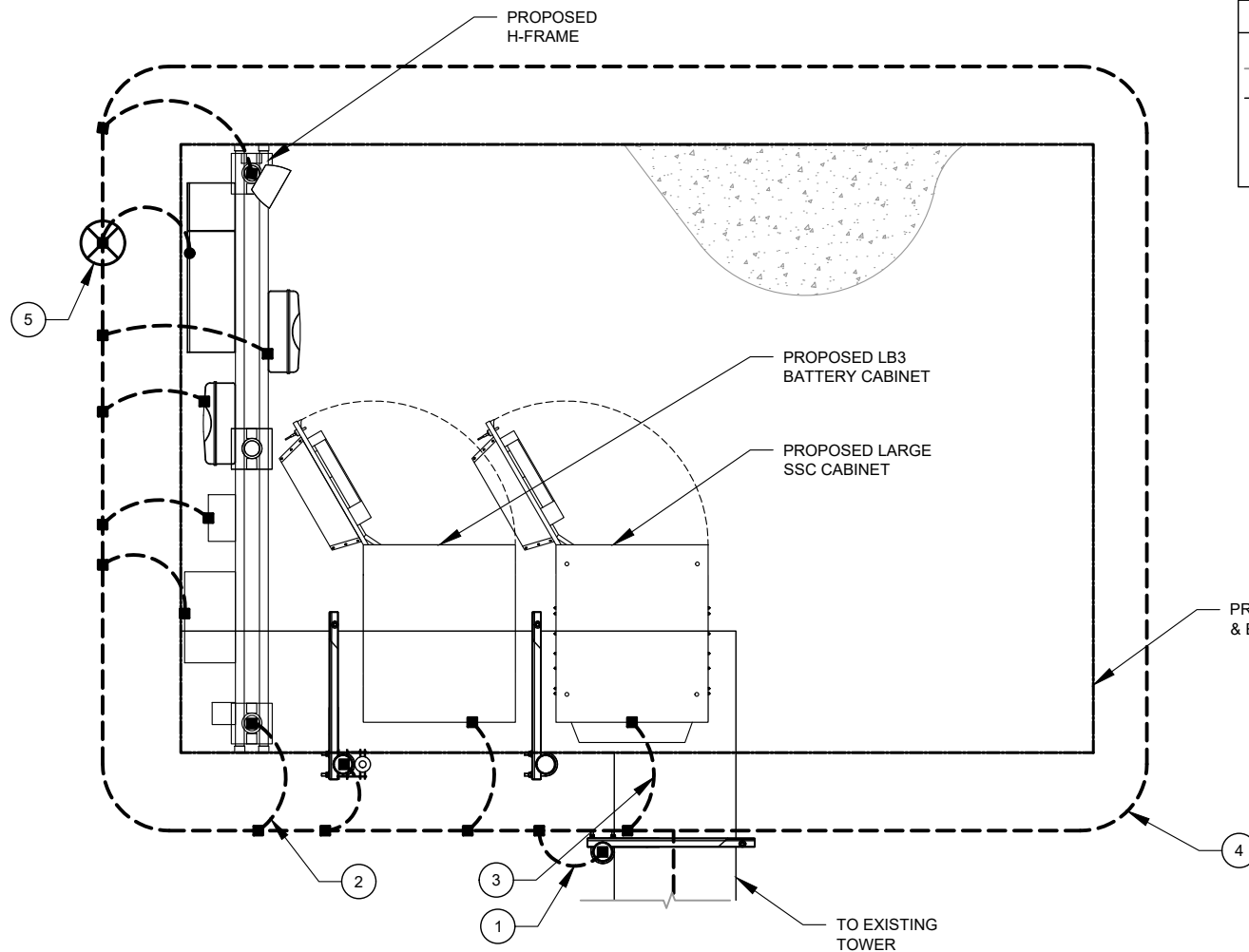
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GROUNDING NOTES:

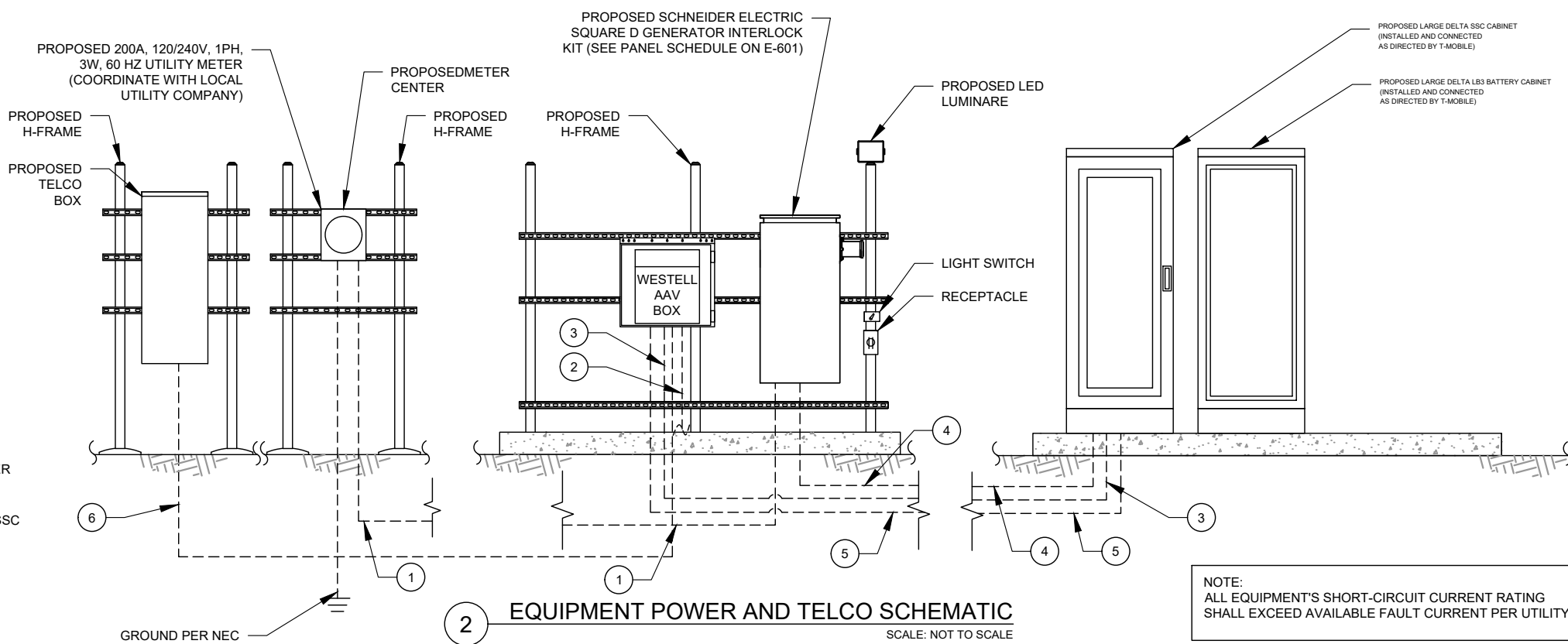
- ALL EQUIPMENT ENCLOSURES, DEVICES AND CONDUITS SHALL BE GROUNDED TO CONFORM WITH THE LATEST REQUIREMENTS OF THE NEC BY THE INSTALLATION OF A SEPARATE, GREEN, INSULATED GROUND CONDUCTOR FOR ALL FEEDER AND BRANCH CIRCUITS. GROUND CONDUCTORS SHALL BE OF THE SIZE INDICATED ON THE DRAWINGS. GROUND CONDUCTORS SHALL BE CONTINUOUS IN LENGTH AND SHALL BE BONDED TO EACH ENCLOSURE THEY PASS THROUGH. CONDUIT SHALL NOT BE USED AS A GROUNDING CONDUCTOR.
- GROUNDING CONDUCTORS SHALL:
 - BE #2 AWG SOLID BARE TINNED COPPER (SBTC) FOR ALL GROUNDING SYSTEM WIRE UNLESS OTHERWISE NOTED, OR OTHERWISE REQUIRED BY CODE.
 - BE MINIMUM 12" BEND RADIUS. KEEP NUMBER OF BENDS TO A MINIMUM.
 - AVOID LONG BONDING CONNECTION RUNS. MAKE DIRECT AS POSSIBLE.
 - NOT HAVE ANY U-SHAPED RUNS.
 - BE IN NON-METALLIC CONDUIT ONLY, IF IN CONDUIT.
 - BE PLACED THROUGH NON-METALLIC SLEEVES IN FLOORS, WALLS, CEILINGS, ETC.
 - PROTECTED IN NON-METALLIC CONDUIT WHERE EXPOSED ABOVE GRADE.
- 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.
- GROUND RINGS SHALL BE:
 - MINIMUM 30" BELOW GRADE, OR BELOW FROST LINE WHICHEVER IS DEEPER.
 - MINIMUM 2' FROM FOUNDATIONS, FOOTINGS, OTHER GROUNDING SYSTEMS AND ALL CONDUCTIVE OBJECTS.
 - WITH MINIMUM 12" BEND RADII.
 - WITH ALL CONNECTIONS IN CONTACT WITH EARTH, BONDED BY EXOTHERMIC WELDING.
 - BONDED TO A SINGLE POINT GROUND (SPG) WITH A SINGLE WIRE AS INDICATED ON DRAWINGS.
- GROUND RODS SHALL BE:
 - MINIMUM 5/8" DIAMETER.
 - MINIMUM 10' LONG.
 - COPPER-CLAD GALVANIZED STEEL OR STAINLESS STEEL.
 - PLACED IN UNDISTURBED SOIL AND BELOW THE FROST LINE.
 - INSTALLED WITH MINIMUM SEPARATION DISTANCE OF TWICE THE DEPTH OF THE ROD(S), OR AS INDICATED ON DRAWINGS.
 - 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.
- 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.

EQUIPMENT POWER NOTES:

- 2" CONDUIT W/ 3-#3/0 CU, (1) #6 AWG G, PPC POWER.
- 2" CONDUIT FOR TELCO FEEDER SERVICE TO TELCO SOURCE PER UTILITY WITH MULE TAPE.
- 2-#12, 1 #12G IN 3/4" CONDUIT FROM TELCO CABINET TO LARGE SSC CABINET.
- 3-#1/0, 1-#6 IN 2" CONDUIT.
- 2" CONDUIT, FOR CAT6.
- 2" TELCO CONDUIT FROM TELCO CABINET TO TELCO BOX.



1 DETAILED GROUNDING PLAN
SCALE: NOT TO SCALE



2 EQUIPMENT POWER AND TELCO SCHEMATIC
SCALE: NOT TO SCALE

GROUNDING PLAN LEGEND:

---	EXISTING GROUND WIRE	⊗	COPPER GROUND ROD
---	GROUND WIRE	⊗	TEST WELL
■	EXOTHERMIC WELD		
●	MECHANICAL WELD		

GROUNDING KEYED NOTES:

- BOND TO TOWER GROUND RING.
- #2 AWG BOND FROM VERTICAL H-FRAME AND ICE BRIDGE POST TO EXTERNAL GROUND RING (TYP. EVERY POST).
- #2 AWG SBTC BOND FROM EQUIPMENT GROUND RING TO EQUIPMENT.
- EQUIPMENT BOND TO GROUND RING (TYP.).
- 5/8" X 10 FT GROUND ROD.

NOTE:
ALL EQUIPMENT'S SHORT-CIRCUIT CURRENT RATING SHALL EXCEED AVAILABLE FAULT CURRENT PER UTILITY



LAB
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Wixom, Michigan 48393
PHONE: (248) 705-9212

REV.	DESCRIPTION	BY	DATE
A	PRELIM	RC	06/06/23
B	FINAL CD	RC	06/13/23

ATC SITE NUMBER:
416547
ATC SITE NAME:
MCGRATH MN
T-MOBILE SITE NAME:
A100297A
SITE ADDRESS:
20101 STATE HWY 18
MCGRATH, MN 56350-4571

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DATE DRAWN:	06/13/2023
ATC JOB NO:	14504872
CUSTOMER ID:	A100297A
CUSTOMER NAME:	A100297A

GROUNDING DETAILS & ELECTRICAL SCHEMATIC

SHEET NUMBER: E-101	REVISION: 0
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REV.	DESCRIPTION	BY	DATE
△ A	PRELIM	RC	06/06/23
△ 0	FINAL CD	RC	06/13/23
△			
△			
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ATC SITE NUMBER:

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DATE DRAWN:	06/13/2023
ATC JOB NO:	14504872
CUSTOMER ID:	A100297A
CUSTOMER NAME:	A100297A

PANEL SCHEDULE

SHEET NUMBER:	REVISION:
E-601	0

PANEL DESIGNATION: TMO		TYPE: LIGHTING & APPLIANCE		SYSTEM: 120/240V, 1Ø, 3W, 20 CKT		LOCATION: TMO LEASE EQUIPMENT AREA	
MOUNTING: SURFACE		ENCLOSURE: NEMA 3R		MAIN BREAKER (MB): 200A		PANEL NOTES: PROPOSED	
				MAIN BUS RATING: 200A			
				MIN. A.I.C. RATING: N/A			

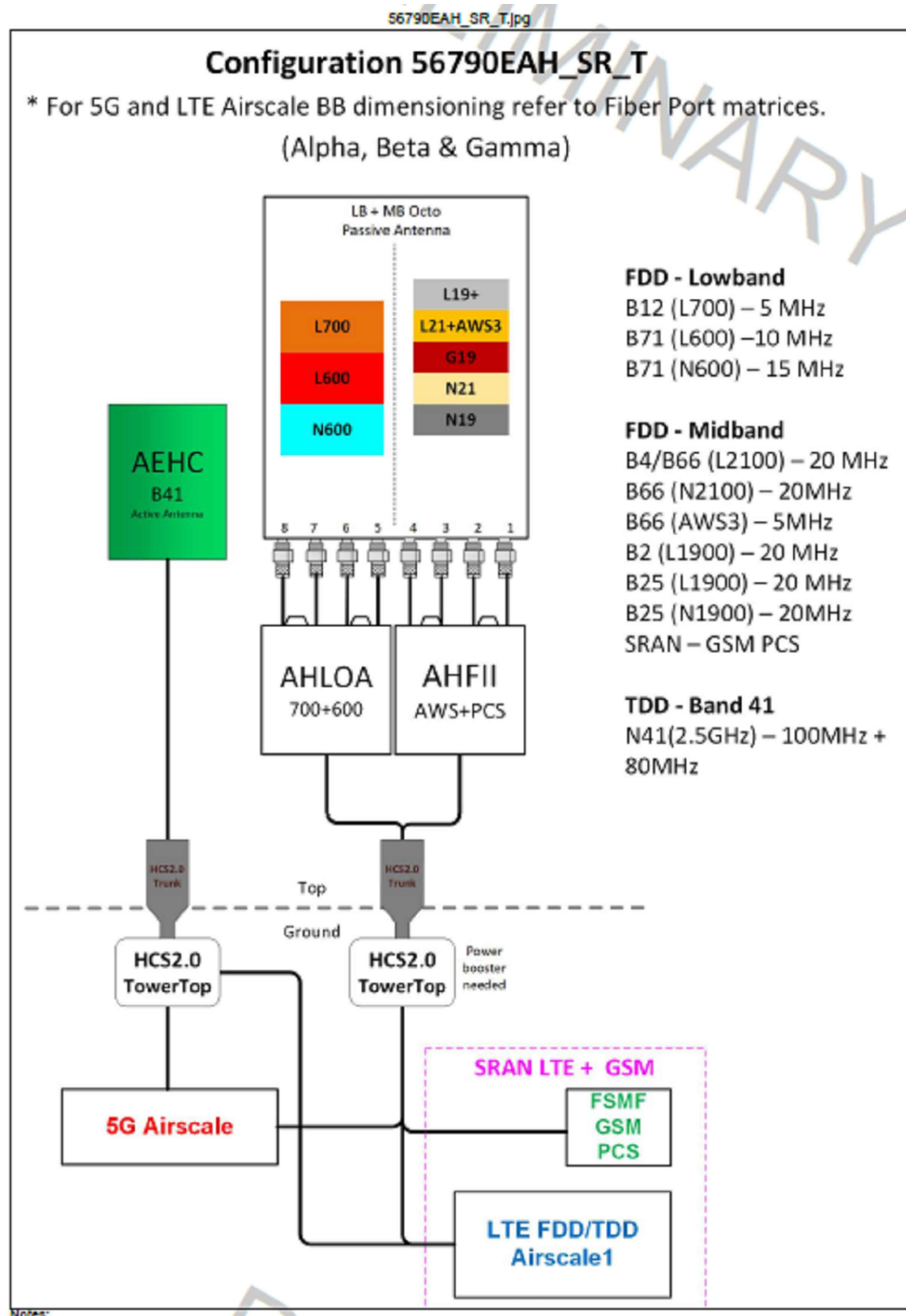
CONNECTED LOAD (kVA)		BRIEF DESCRIPTION	FEEDER OR BRANCH CIRCUIT					CIRC. NOTES	POLE NO.	FEEDER OR BRANCH CIRCUIT					CIRC. NOTES	POLE NO.	CONNECTED LOAD (kVA)											
A	B		BREAKER	CIRCUIT							CIRCUIT			BREAKER			A	B										
AMPS	POLES	WIRE	GND	COND.				COND.	GND	WIRE	POLES	AMPS																
7.50		ENCLOSURE 6160	150	2	3-#1/0	#6	2"	1							2	1/2"	#12	2-#12	1	20	RECEPTACLE	0.18						
	7.50							3												4	1/2"	#12	2-#12	1	20	LIGHT		0.50
0.01								SURGE	60	2	3-#6	#10	1"	5						6	1/2"	#12	2-#12	1	20	AAV GFCI RECEPTACLE	0.18	
	0.01	7																	8								0.00	
0.00		9																		10								0.00
	0.00							11						12									0.00					
0.00								13						14									0.00					
	0.00							15						16									0.00					
0.00								17						18									0.00					
	0.00							19						20									0.00					
7.5	7.5														A	B	TOTAL											
															7.9	8.0	15.9	CONNECTED LOAD (kVA)										
															7.9	8.0	15.9	DEMAND LOAD (kVA)										
															DERATING FACTOR (80%)		DEMANDLOAD SIZING: 83 AMPS											

1 PANEL SCHEDULE SCALE: N.T.S.

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Proposed RAN Equipment				
Template: 56790EAH_SR_T				
Enclosure	1	2	3	4
Enclosure Type	Tower Top Mount (Nokia)	Delta HPL3 600A Site Support Cabinet	Ancillary Equipment (Nokia)	Delta LB3 Battery Cabinet (4 strings)
Radio	AHFII (x3) N1900 N2100 (DARK) L1900 L2100 LAWS3	AHLOA (x3) N600 L600 L700		
Baseband		ASIA L600 L700 L1900 L2100 LAWS3	ASIL (x2)	
Hybrid Cable System			425' HCS 2.0 Trunk -12#4AWG 24 SM FIBER PR (x2)	
Baseband Submodule		ABIA (x3) L600 L700 L1900 L2100 LAWS3	ABIL (x3) N600 N1900 N2100 (DARK) ABIO N2500	
Baseband Subrack		AMIA (x2)		
Transport System		CSR IXRe V2 (Gen2)		
Junction Box			Nokia HCS 2.0 Tower Junction Box (x2)	
RAN Scope of Work:				
11-15-22: RFDS Created				

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE



2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

SUPPLEMENTAL

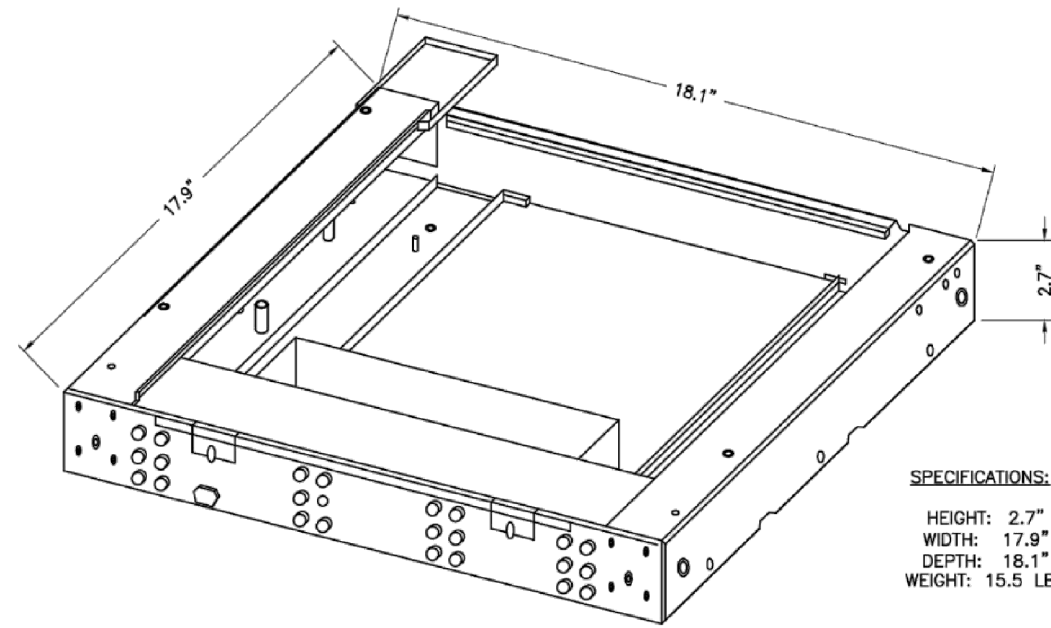
SHEET NUMBER:

R-601

REVISION:

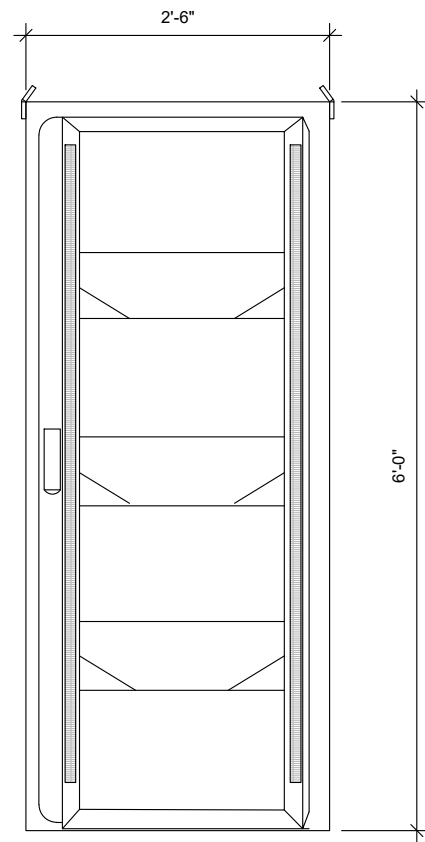
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NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

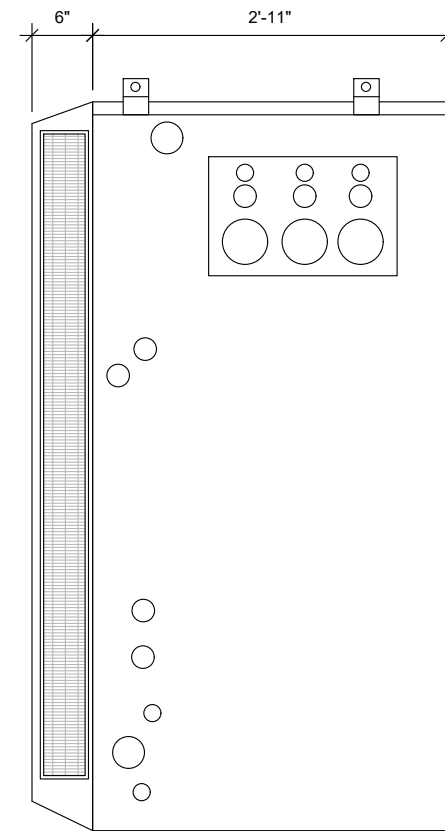


SPECIFICATIONS:
 HEIGHT: 2.7"
 WIDTH: 17.9"
 DEPTH: 18.1"
 WEIGHT: 15.5 LBS

1 **NOKIA FMFA PLINTH DETAIL**
 SCALE: NOT TO SCALE



2 **LARGE DELTA SSC CABINET (FRONT VIEW)**
 SCALE: NOT TO SCALE



3 **LARGE DELTA SSC CABINET (SIDE VIEW)**
 SCALE: NOT TO SCALE

SUPPLEMENTAL

SHEET NUMBER: R-602	REVISION: 0
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Large Battery 3 Cabinet

Product Features

Compact design for battery strings:

- Direct air cooling solution
- Supports four strings of -48V VRLA batteries up to 210Ah
- 600A rated bus bar with 200A breaker per string
- Bulk Input / Output with ability to daisy chain cabinets
- Front to Front Air Flow
- Corrosion resistant aluminum construction
- Powder coated high gloss finish
- Designed to meet GR-487

www.deltaww.com



Specifications

Model LB3 (Large Battery 3 Cabinet)

1. General	
Construction	Aluminium enclosure
Dimensions (W x H x D)	30 x 72 x 35 in. (381 x 1829x 889mm), Depth with Door: 41.2 in. (1047mm)
Weight	~540 lbs (~245kg) (without batteries)
Internal rack dimension	4 battery trays to support up to 4 strings 210Ah batteries
Mounting options	Pad-mount, plinth option
Finish	Polyester Power Paint (Tan)
Safety	UL Listed , IEC / EN 60950
2. Environment	
Operating temperature	-40°C to +50°C (-40°F to +122°F) with solar load
Protection class	IP55 designed to GR-487
Acoustics	65dBA
Humidity (relative)	95%, non-condensing (Max.)
3. Thermal Management	
Cooling Equipment:	Direct Air Cooling
Heating Equipment:	Forced air heating (1) 1000W AC heaters
4. Equipment	
Cable entry	Knock-out plate on each upper side wall Additional knockouts each side
Door latch	3 point latching, 5/16 nut driver tool, pad-locking capability
Primary ground	10 double-hole 1/4"-20 threaded holes on 5/8" center ground bar
Lifting Ears	4 Lifting Tabs
Plinth	Optional 6" plinth available AC Load Center: 30A heater breaker Left or Right side AC entry options AC Surge Protection (option) DC Load Center: 600A bulk feed bus bar (4) 200A bolt in battery breakers (4) 2-hole lug landings,(2 output/2 input from second battery cabinet) Temp Probes Battery Trays: (4) battery trays (4) -48V battery strings (210Ah max each) Connection kit: (1) DC 10A Breaker supplied (install onto HPL3 Power Cabinet) LED interior cabinet light (2) DC powered Axial fans with (1) F5 Filters
Standard equipment	Door intrusion alarm (1) 1000W AC powered heaters
5. Ordering information	
Cabinet	ESOF015-ECV04 Large Battery 3 (LB3) Cabinet
Plinth, 6"	37993318816900-S Plinth for V1/V2, HPL2, HPL3, LB2 and LB3

*All specifications are subject to change without prior notice.

Delta Group Website:
www.deltaww.com

Product Website:
www.deltapowersolutions.com

United States of America & Canada:
Delta Electronics (USA) Inc.
2925 E. Plano Parkway
Plano, TX (Texas) 75074

Sales and Orders:
DEUSTPS.Sales@deltaww.com
DEUSTPS.Orders@deltaww.com

Field Support:
1-877-DELTA-08 option 3
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DEUSTPS.Support@deltaww.com

Installation Services:
DEUSTPS.Services@deltaww.com

RMA:
DEUSTPS.RMA@deltaww.com



SUPPLEMENTAL

SHEET NUMBER:
R-603

REVISION:
0

- MAXIMUM MOUNT HEIGHT: 400 ft.
- MAXIMUM ULTIMATE WIND SPEED, NO ICE: 180 mph (3-SECOND GUST)
- MAXIMUM DESIGN WIND SPEED, NO ICE: 140 mph (3-SECOND GUST)
- MAXIMUM DESIGN WIND SPEED, WITH ICE: 60 mph (3-SECOND GUST)
- STRUCTURE CLASS: I or II
- EXPOSURE CATEGORY: B or C
- TOPOGRAPHIC CATEGORY: I
- MAXIMUM DESIGN ICE THICKNESS: 1"
- GUST EFFECT FACTOR, Gh: 1.0
- WIND DIRECTION PROBABILITY FACTOR, Kd: 0.95

1. ALT FABRICATION MOUNT 2116S-12-4-96 IS CLASSIFIED AS M2350R(2700)-4[6] BASED ON THE TIA-5053 MOUNTING SYSTEM CLASSIFICATION STANDARD.
NOTE: MAXIMUM OF 4 PIPES EVENLY SPACED.
2. ITEM 16, FLAT WASHERS, TO BE INSTALLED AGAINST SLOTS ON ITEMS 2 AND 6.
3. INSTALL THE CENTER PIVOT BOLT/NUT/WASHER ASSEMBLY AT THE TOP AND BOTTOM TOWER LEG BRACKET WITH THE DESIRED TOWER TAPER THEN PARTIALLY TIGHTEN. ROTATE THE SECTOR FRAME TO DESIRED AZIMUTH POSITION. INSTALL OUTER (2) BOLT/NUT/WASHER THROUGH THE CURVED SLOTS IN ITEM 3 AT THE TOP AND BOTTOM.
4. TO ACHIEVE POSTED WIND RATING, FULLY TIGHTEN ALL (6) AZIMUTH PIVOT POINT BOLTS BY TURNING NUTS 1/3 PAST "SNUG TIGHT" CONDITION AS DEFINED BY AISC 9TH EDITION ASD AFTER FINAL AZIMUTH POSITIONING.
5. AZIMUTH ROTATION: $\pm 60^\circ$ ON CENTER LINE OF TOWER LEG.
6. MIN. MAX. TOWER LEG SIZE:
ROUND LEG - 1-1/2" OD TO 8" OD
90° ANGLE LEG - 2-1/2" X 2-1/2" TO 8" X 8"
60° ANGLE LEG - 2-1/2" X 2-1/2" TO 11" TIP TO TIP

PART NO. 2116S-12-4-96

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	4	7000-2116R-2-2	VERTICAL, FAN TRUSS, L1-3/4" X 3/16"
2	2	7000-2116R-2-3	TAPER BRACKET
3	2	7000-2116R-2-5	DIAGONAL, FAN TRUSS, L1-3/4" X 3/16"
4	4	7000-2116S-4	CHORD, FAN TRUSS, L4" X 1/4"
5	2	7000-2116S-12	MAIN FACE CHORD, L4" X 5/16"
6	2	7000-2120-TB	WELDMENT, TOWER LEG BRACKET, UNIVERSAL
7	2	7000-2120-TB.1	TAPER BRACKET LEG ADAPTOR
8	2	7000-2120-AA.2	BACKPLATE, ANGLE LEG ADAPTER,
9	2	7000-2120-KD.2	SWAY BAR CLAMP ASSEMBLY
10	2	7000-2120-KD.3	CLAMP ANGLE 1/4" X 3" X 14"
11	2	7000-2120-KD.42	1.9"OD X 42" SWAY BAR WELDMENT
12	2	7000-2120-KD.84	1.9"OD X 84" SWAY BAR WELDMENT
13	86	4650G-BULK	NUT, 1/2" HEX, A563 GALV
14	92	4754G-BULK	WASHER, 1/2" RGLR LOCK, GALV
15	12	4375G-13	1/2" X 13" ALL THREAD
16	12	4750G-BULK	WASHER, 1/2" NARROW, GALV
17	14	4455G	BOLT, 1/2" X 2" LG HEX, A325 GLAV.
18	22	4454G-BULK	1/2" X 1-1/2" A325 GLAV. HEX BOLT
19	12	4499-2G	1/2" GALV U-BOLT FOR 2-7/8"OD
20	4	2126-96	2-7/8" OD X 96" GALV PIPE

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11/5/2019

FINISH: HDG | WEIGHT: 739.84

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800-950-7960
FAX 940-465-2817
www.altfabrication.com
sales@altfabrication.com

122 Leesley Lane
Argyle, Texas
76226

APPROVALS	DATE
DRAWN SF	11/05/19
CHECKED	
ENGINEER	
ISSUED	

TITLE:	12' SECTOR FRAME S-SERIES
DWG. NO.	2116S-12-4-96
REV.	A
SCALE: NTS	DO NOT SCALE DRAWING SHEET: 1 OF 3

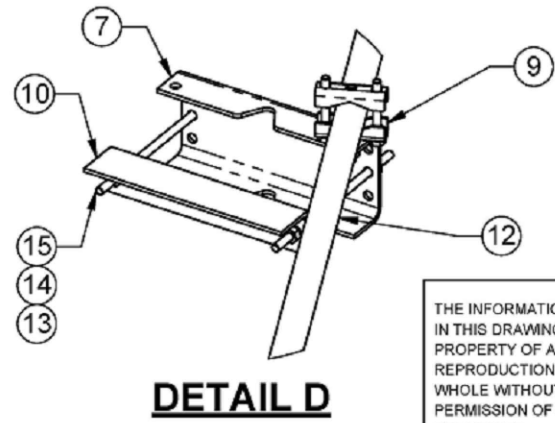
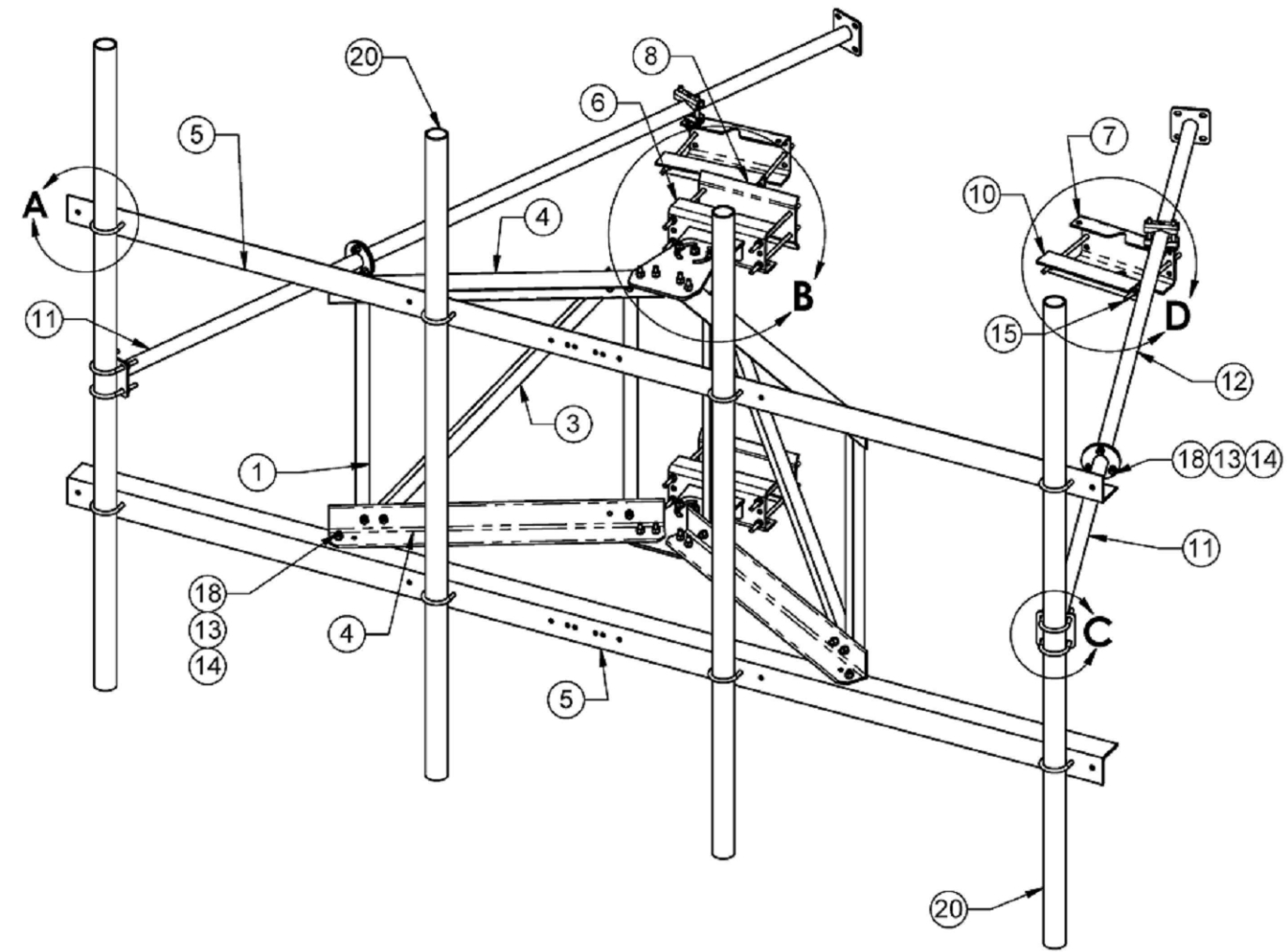
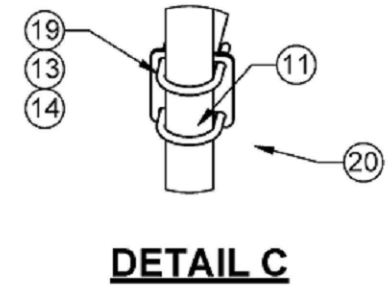
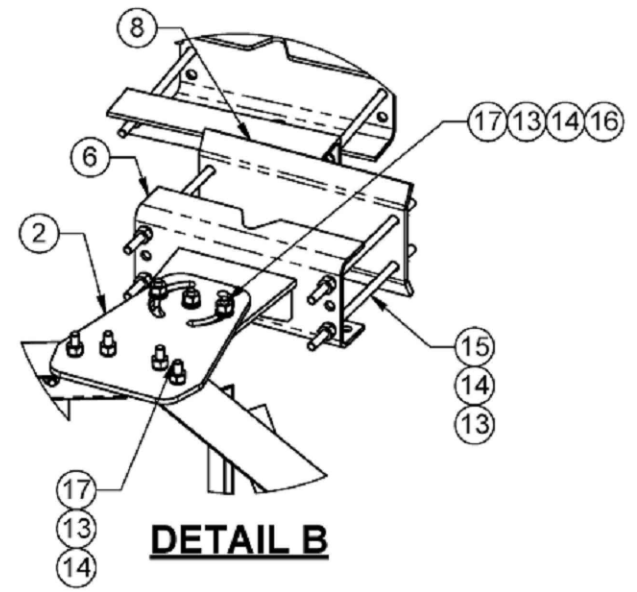
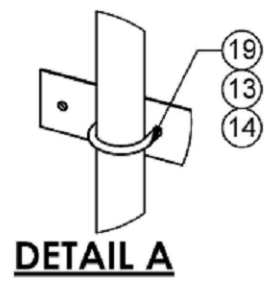
SUPPLEMENTAL

SHEET NUMBER: **R-604** | REVISION: **0**

1 ANTENNA MOUNT

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PART NO. 2116S-12-4-96



THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ALT. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF ALT IS PROHIBITED.		800-950-7960 FAX 940-465-2817 www.altfabrication.com sales@altfabrication.com	122 Leesley Lane Argyle, Texas 76226
		TITLE: 12' SECTOR FRAME S-SERIES	
11/5/2019	DWG. NO. 2116S-12-4-96	REV. A	
FINISH: HDG	WEIGHT: 739.84	SCALE: NTS	DO NOT SCALE DRAWING SHEET: 2 OF 3

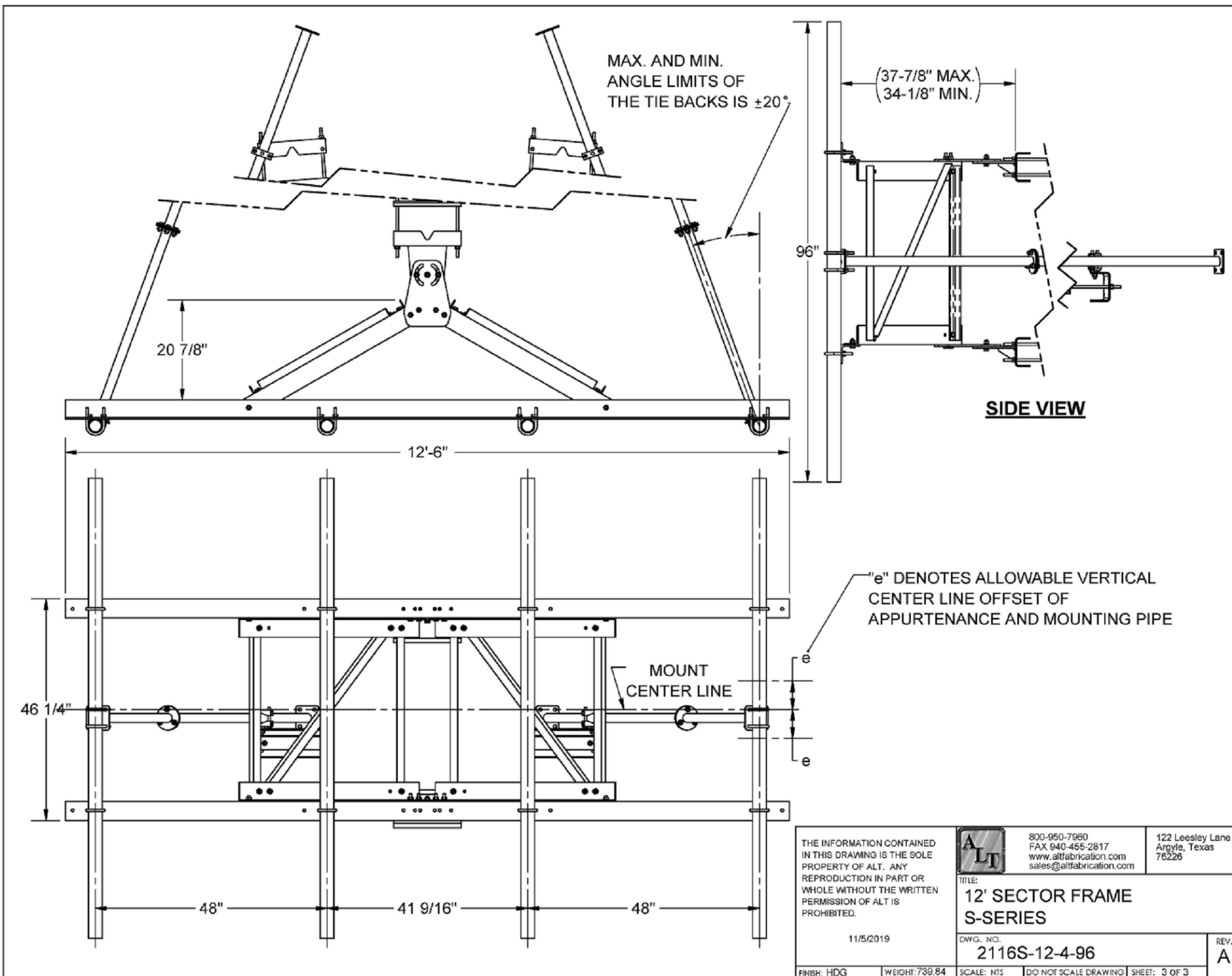
1 ANTENNA MOUNT

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SUPPLEMENTAL

SHEET NUMBER: R-605	REVISION: 0
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PART NO. 2116S-12-4-96



1 ANTENNA MOUNT

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SUPPLEMENTAL	
SHEET NUMBER: R-606	REVISION: 0