



SITE NUMBER: 36075
SITE NAME: LEE'S SUMMIT #1B
SITE TYPE: GUYED TOWER
TOWER HEIGHT: 479'-0"

SITE ADDRESS: 2200 LOWENSTEIN
LEE'S SUMMIT , MO 64081
COUNTY: JACKSON

SITE INFORMATION

IF USING 11"X17" PLOT, DRAWINGS WILL BE HALF SCALE

SITE ADDRESS:

2200 LOWENSTEIN
LEE'S SUMMIT , MO 64081

COUNTY:

JACKSON

SITE NUMBER:

36075

AMERICAN TOWER
DISTRICT :

MST

STRUCTURE HEIGHT' :

479'-0"

LATITUDE:

38.93324444

LONGITUDE:

- 94.41758056

LAT/LONG TYPE:

NAD83

GROUND ELEVATION:

± 981' AMSL

TOWER OWNER:

ATC

CUSTOMER INFORMATION

COMPANY:

WISPER ISP, LLC

ADDRESS:

9711 FUESSER RD
MASCOUTAH, IL 62258

CUSTOMER SITE NAME:

LEE'S SUMMIT #1B

CONTACT NAME:

DAN RYAN

CONTACT MAIL:

DRYAN@WISPERISP.COM

PHONE:

(618) 979-6679

PROJECT TEAM:

CONSTRUCTION MANAGER:

SITE ACQUISITION:

NAME: AJ BEERS

NAME: DAN RYAN

PHONE: (618) 407-3342

PHONE: (618) 979-6679

MAIL: ABEERS@WISPERISP.COM

MAIL: DRYAN@WISPERISP.COM

TOWER OWNER CONTACT:

NAME: AMERICAN TOWER

PHONE: 919-466-0112

MAIL: 3500 REGENCY PARKWAY,
SUTTE 100 CARY, NC 27518

PROJECT DESCRIPTION

THESE DRAWINGS DEPICT AN EXISTING SELF SUPPORTED TOWER WITH ANTENNA INSTALLATION TO PROVIDE HIGH SPEED INTERNET SERVICE IN RURAL AREAS.

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GROUNDING DETAILS

GENERAL NOTES

THE FACILITY IS NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS NEW.

APPROVALS:

PRINT NAME

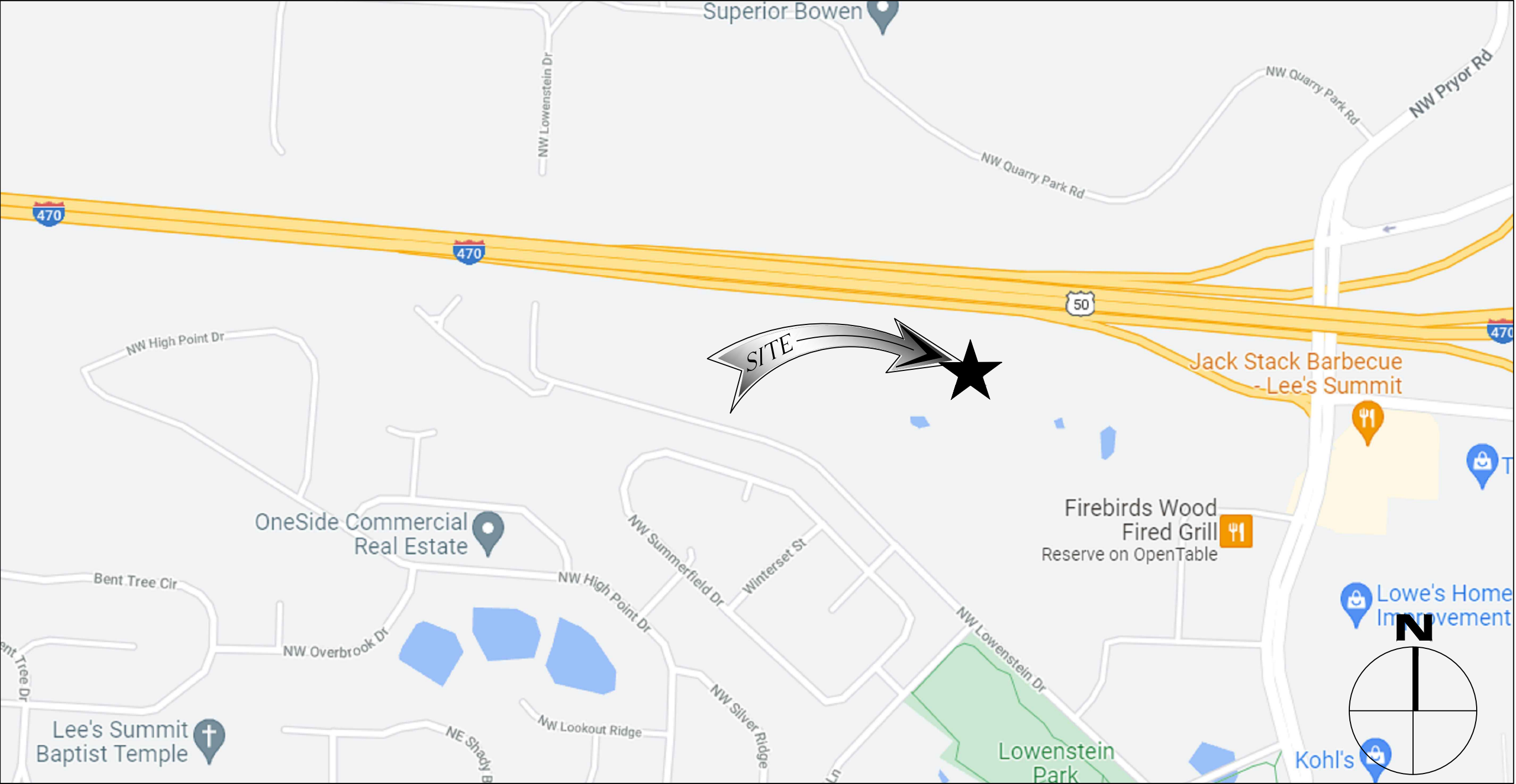
SIGNATURE

DATE

LANDLORD

CONST. MGR

PROJECT MGR



DRIVING DIRECTIONS

FROM: LEE'S SUMMIT MUNICIPAL AIRPORT
TO: 2200 LOWENSTEINLEES SUMMIT, MO 64081

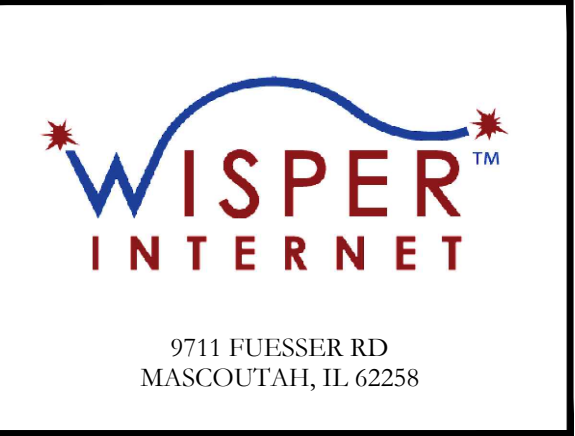
HEAD WEST ON NE DOUGLAS ST LEES SUMMIT RD
TURN LEFT TO STAY ON NE DOUGLAS ST
TURN RIGHT ONTO THE I-470 W RAMP
TAKE EXIT 7B FOR MO-350 W/ BLUEPKWY TOWARD RAYTOWN / PRYOR RD
KEEP RIGHT FOLLOW SIGNS FOR PRYOR RD
USE THE LEFT 2 LANES TO TURN LEFT ONTO NW PRYOR RD
TURN RIGHT TO STAY ON NW PRYOR RD
DESTINATION WILL BE ON RIGHT SIDE

END: 2200 LOWENSTEINLEES SUMMIT, MO 64081

THE UTILITIES SHOWN HEREIN ARE FOR THE CONTRACTORS CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER/SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL THE UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO THE (B) UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

APPLICABLE CODES

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
2011 NATIONAL ELECTRICAL CODE
2012 INTERNATIONAL BUILDING CODE
2012 INTERNATIONAL MECHANICAL CODE
2012 INTERNATIONAL PLUMBING CODE
2012 LIFE SAFETY CODE (NFPA 101) 2012 INTERNATIONAL FIRE CODE
CITY AND/OR COUNTY ORDINANCES
LOCAL BUILDING CODE(S) ANSI EIA/TIA 222-G



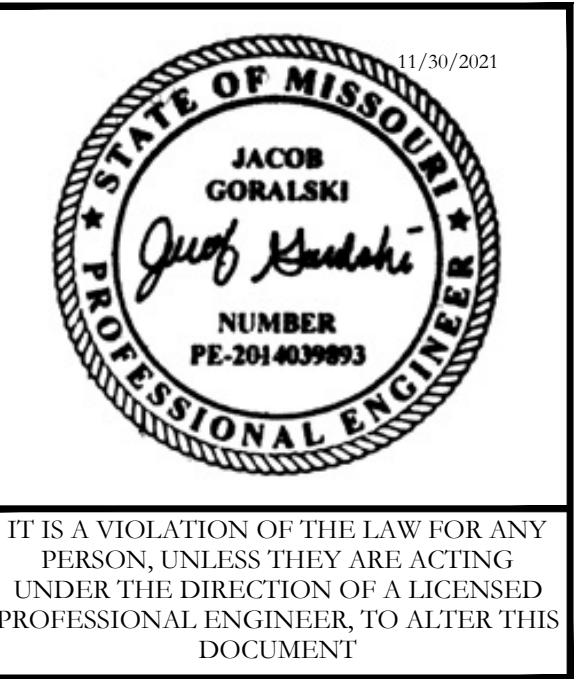
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CHECKED BY: VJ

REVISIONS				
NO	DATE	DESCRIPTION	INITIAL	
0	11/25/21	ANTENNA ADDITION	FLEX	
NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET				

36075

2200 LOWENSTEIN, LEE'S SUMMIT , MO 64081



SHEET TITLE

TITLE SHEET

SHEET NUMBER

G-001

GENERAL CONSTRUCTION NOTES:

1.

OWNER FURNISHED MATERIALS, "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 TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3.

ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH CCI 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 REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE REP PRIOR TO PROCEEDING.
13.

EACH CONTRACTOR SHALL COOPERATE WITH THE 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 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 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 CROWN CASTLE (CCI) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20.

CONTRACTOR SHALL FURNISH AND CROWN CASTLE (CCI) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21.

PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH 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 REP TO

DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.

23.

CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH SPECIFICATIONS AND REQUIREMENTS.
24.

CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25.

ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO 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 REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
28.

CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
29.

THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
30.

ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE REP. ANY WORK FOUND BY THE 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.

FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE 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.

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 OR THEIR ARCHITECT/ENGINEER.
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 ¼" 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 PROJECT MANAGER IN WRITING

SPECIAL CONSTRUCTION

ANTENNA INSTALLATION NOTES:

1.

WORK INCLUDED:
- A.

ANTENNA AND COAXIAL CABLES ARE FURNISHED BY UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OD COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL AND
- B.

INSTALL ANTENNA AS INDICATE ON DRAWINGS AND SPECIFICATIONS.
- C.

INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS
- D.

INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT TEST.
- E.

CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
- F.

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

ANTENNA AND COAXIAL CABLE GROUNDING:

2.

ALL EXTERIOR #6 GREED GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
3.

ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

CONCRETE AND REINFORCING STEEL NOTES:

1.

DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CONFORM TO THE LATEST EDITIONS OF ALL APPLICABLE CODES INCLUDING: ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", ACI 117 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS", AND ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
2.

MIX DESIGN SHALL BE APPROVED BY 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 CCI 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:

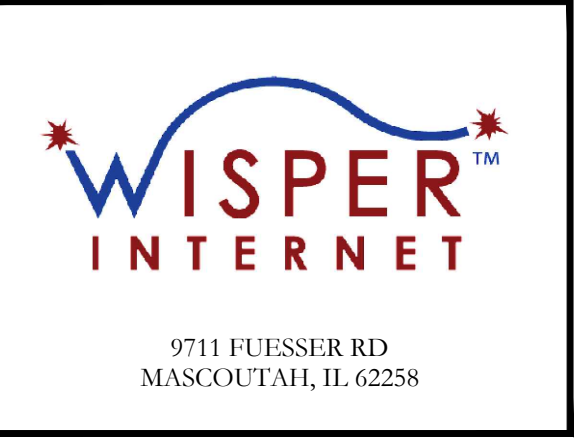
1.

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 CCI. 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.

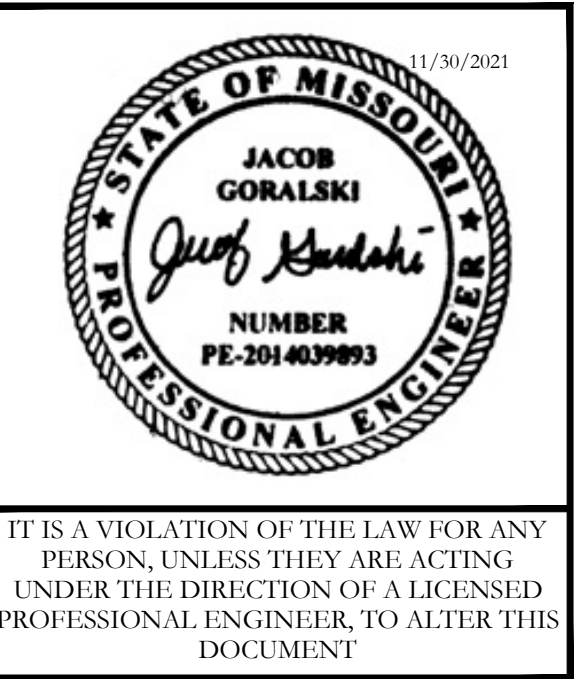
ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO CCI ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH CCI ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM CCI ENGINEERING SHALL BE THE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



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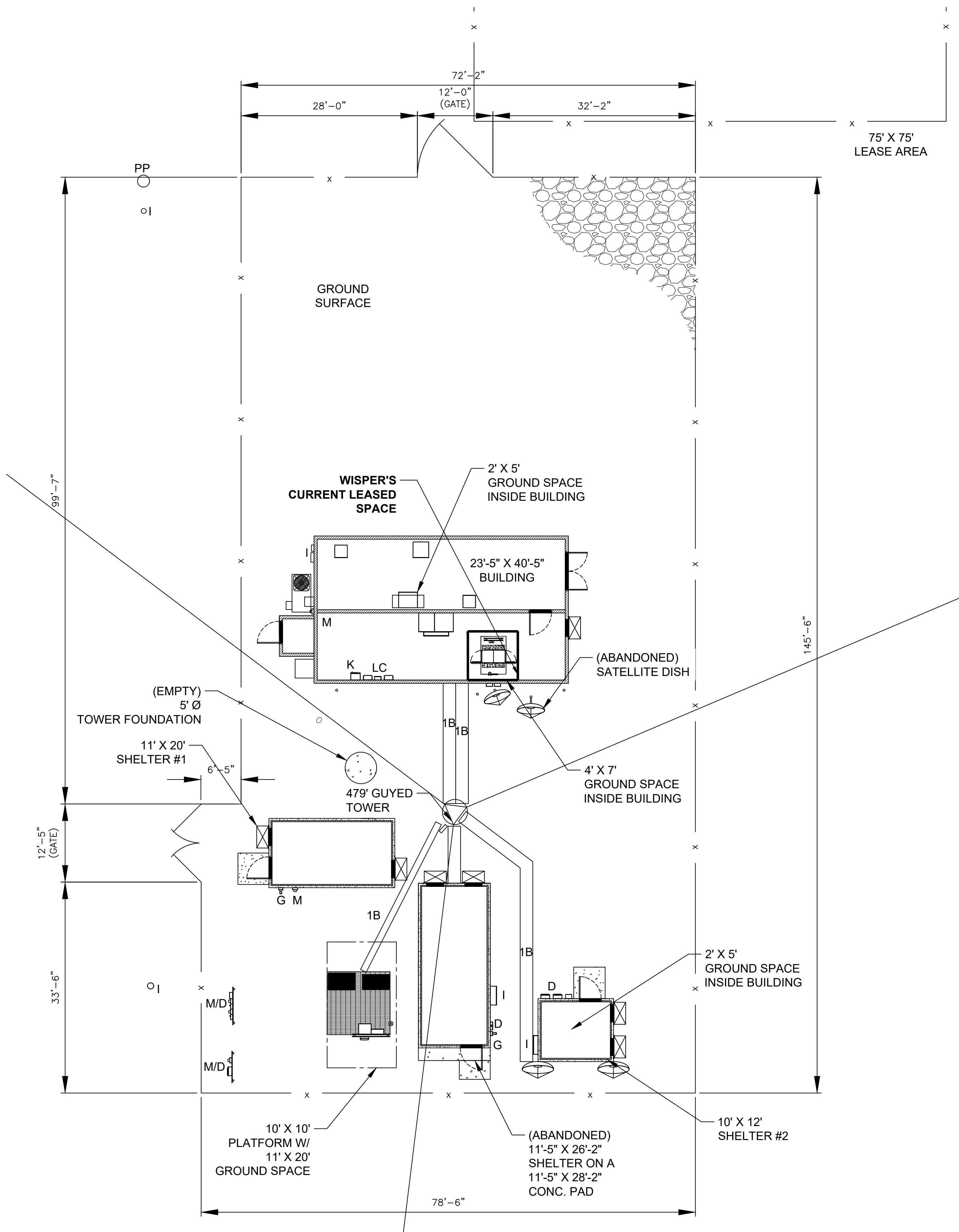
REVISIONS			
NO	DATE	DESCRIPTION	INITIAL
0	11/25/21	ANTENNA ADDITION	FLEX
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SHEET TITLE
GENERAL NOTES

SHEET NUMBER
G-002



NOTE: THIS SITE PLAN WAS GENERATED FROM CROWN CASTLE TOWER SITE PLAN AND LIMITED SITE MEASUREMENTS, WITHOUT THE USE OF A SURVEY. PROPERTY LINES, RIGHT-OF-WAYS, POWER AND TELCO UTILITY POINT CONNECTIONS/ROUTES AND EASEMENT LOCATIONS SHOWN ON THESE PLANS ARE ESTIMATED. ALL ITEMS AND DIMENSIONS SHOULD BE VERIFIED IN THE FIELD.

22"x34" SCALE: 3/4" = 1'-0"
11"x17" SCALE: 3/8" = 1'-0"



TRUE NORTH
North to be determined by site survey (if possible).

ENLARGED SITE PLAN

1



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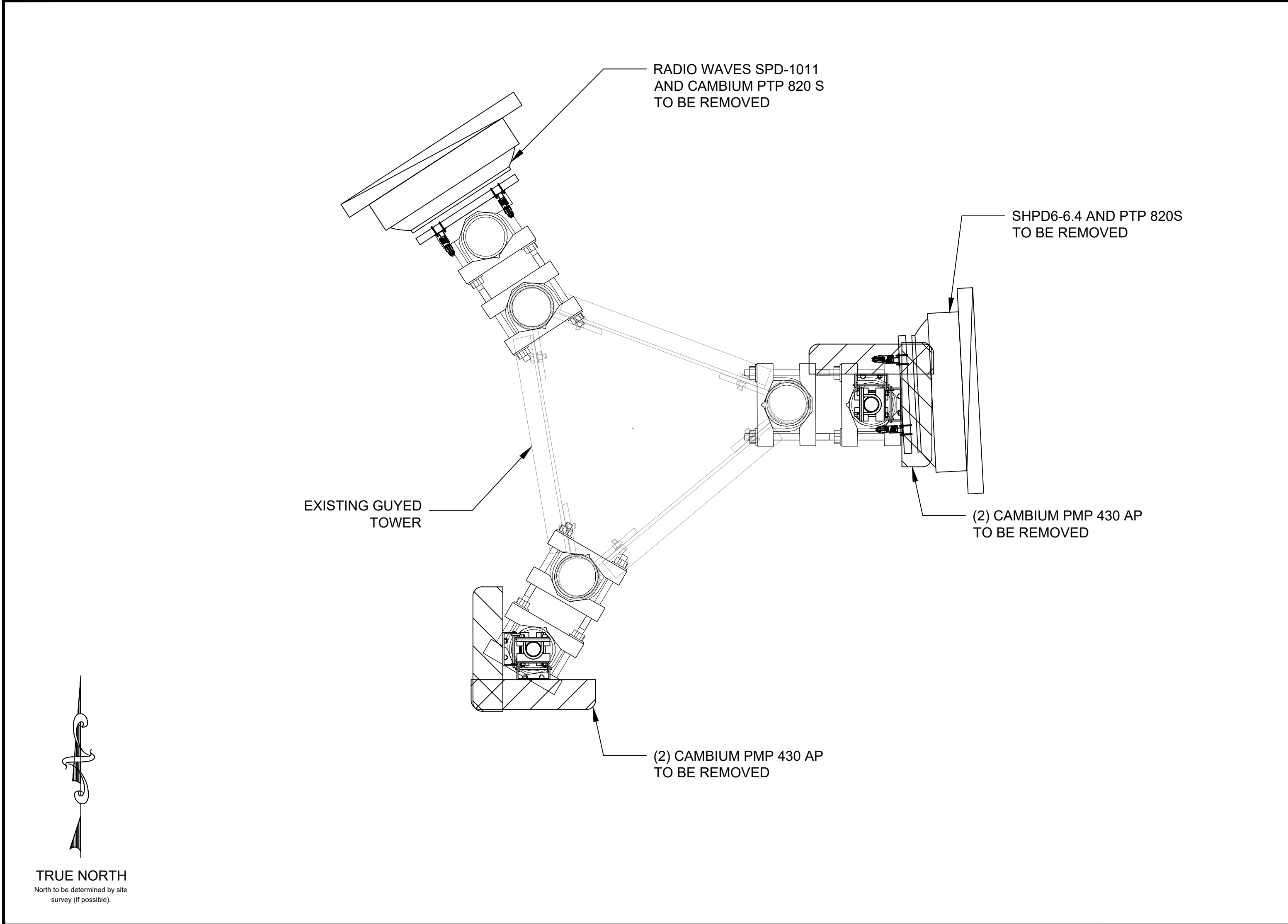
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SHEET TITLE

ENLARGED SITE PLAN

SHEET NUMBER

C-101

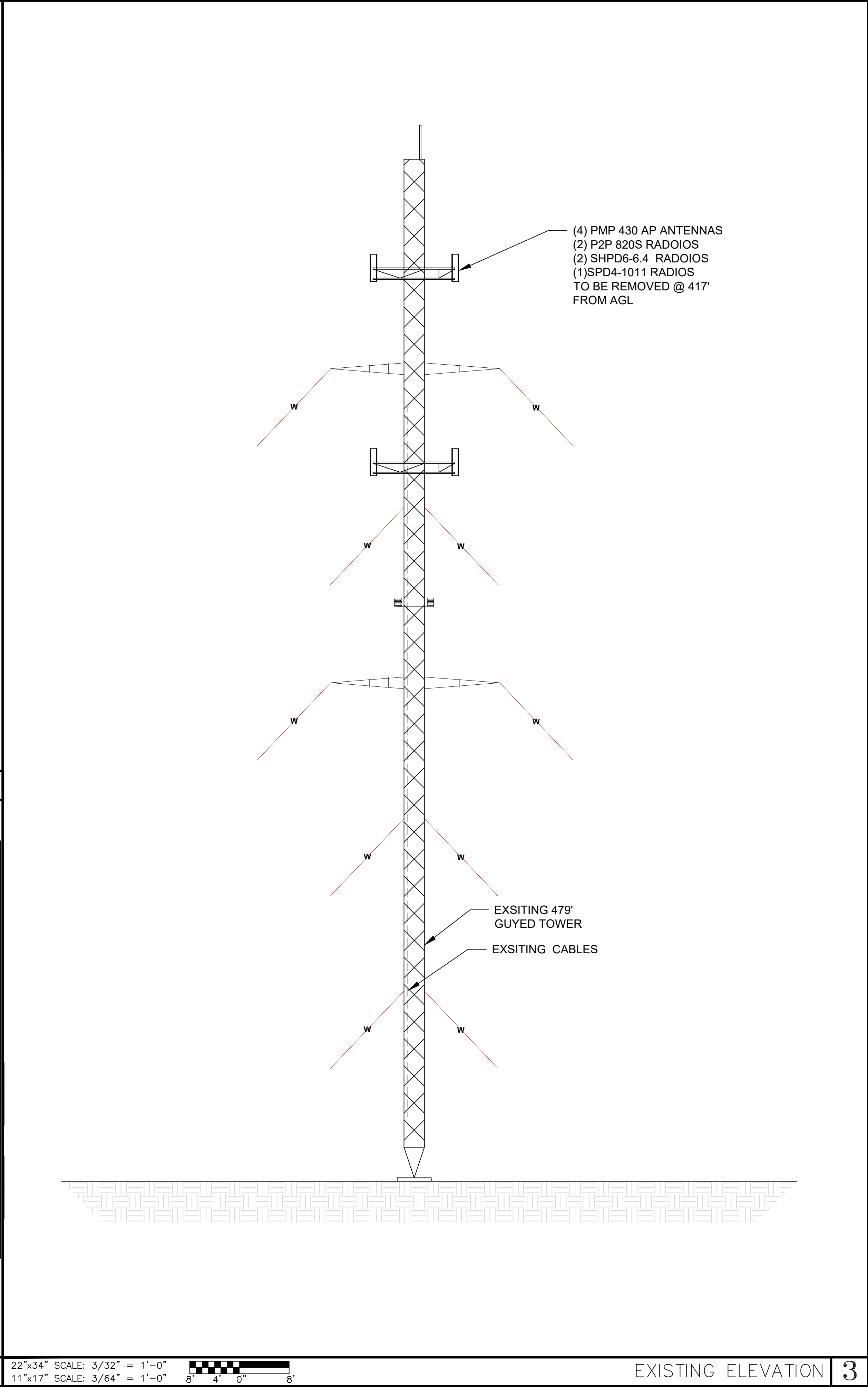


22"x34" SCALE: 3/4" = 1'-0"
11"x17" SCALE: 3/8" = 1'-0"
1" 6" 0" 1"

WISPER EQUIPMENT REMOVAL 1

ANTENNA SUMMARY							
NO	ANTENNA MANUFACTURER	ANTENNA MODEL	AZIMUTH	RAD CENTER	TME TYPE	TME MANUFACTURE	TME MODEL
1	CAMBIUM NETWORKS	PMP 430 AP	0°	417'-0"	-	-	-
2	CAMBIUM NETWORKS	PMP 430 AP	90°	417'-0"	-	-	-
3	CAMBIUM NETWORKS	PMP 430 AP	180°	417'-0"	-	-	-
4	CAMBIUM NETWORKS	PMP 430 AP	270°	417'-0"	-	-	-
5	RADIO WAVES	SHPD6-6.4	104°	417'-0"	-	-	-
6	CAMBIUM NETWORKS	PTP 820S	104°	417'-0"	-	-	-
7	CAMBIUM NETWORKS	PTP 820S	344°	417'-0"	-	-	-
8	RADIO WAVES	SPD4-1011	344°	417'-0"	-	-	-

WISPER EQUIPMENT REMOVAL 2



22"x34" SCALE: 3/32" = 1'-0"
11"x17" SCALE: 3/64" = 1'-0"
8" 4" 0" 8"

EXISTING ELEVATION 3

WISPER
INTERNET

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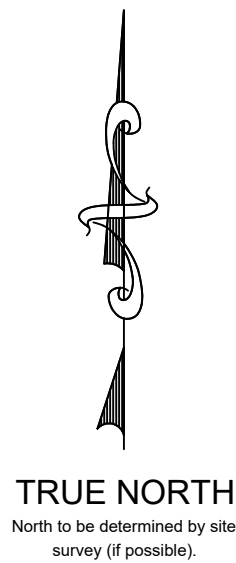
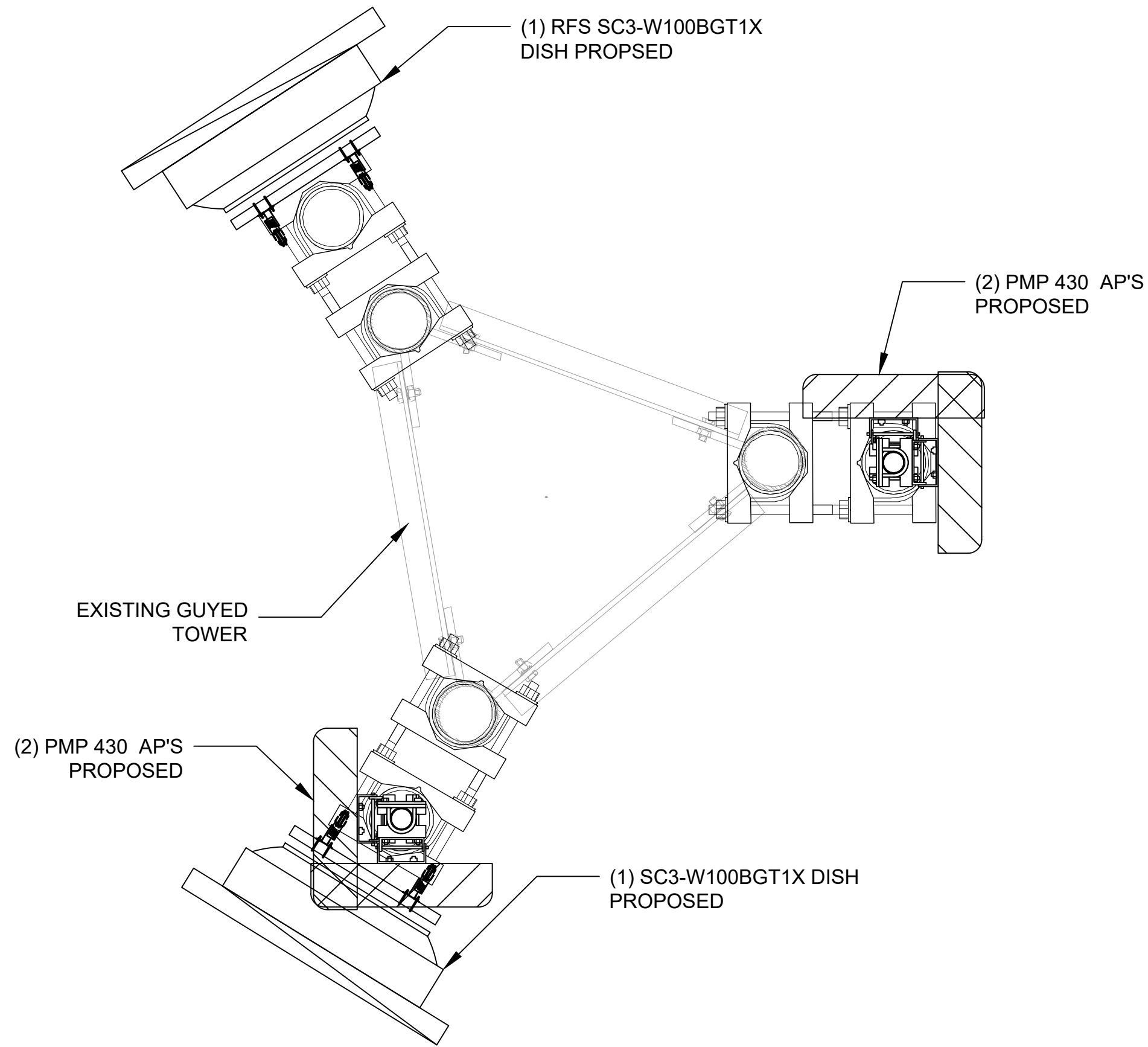
11/30/2021

STATE OF MISSOURI
JACOB GORALSKI
Professional Engineer
NUMBER PE-2014039893

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SHEET TITLE
ANTENNA LAYOUT PLANS &
ARCHITECTURAL ELEVATIONS

SHEET NUMBER
C-202



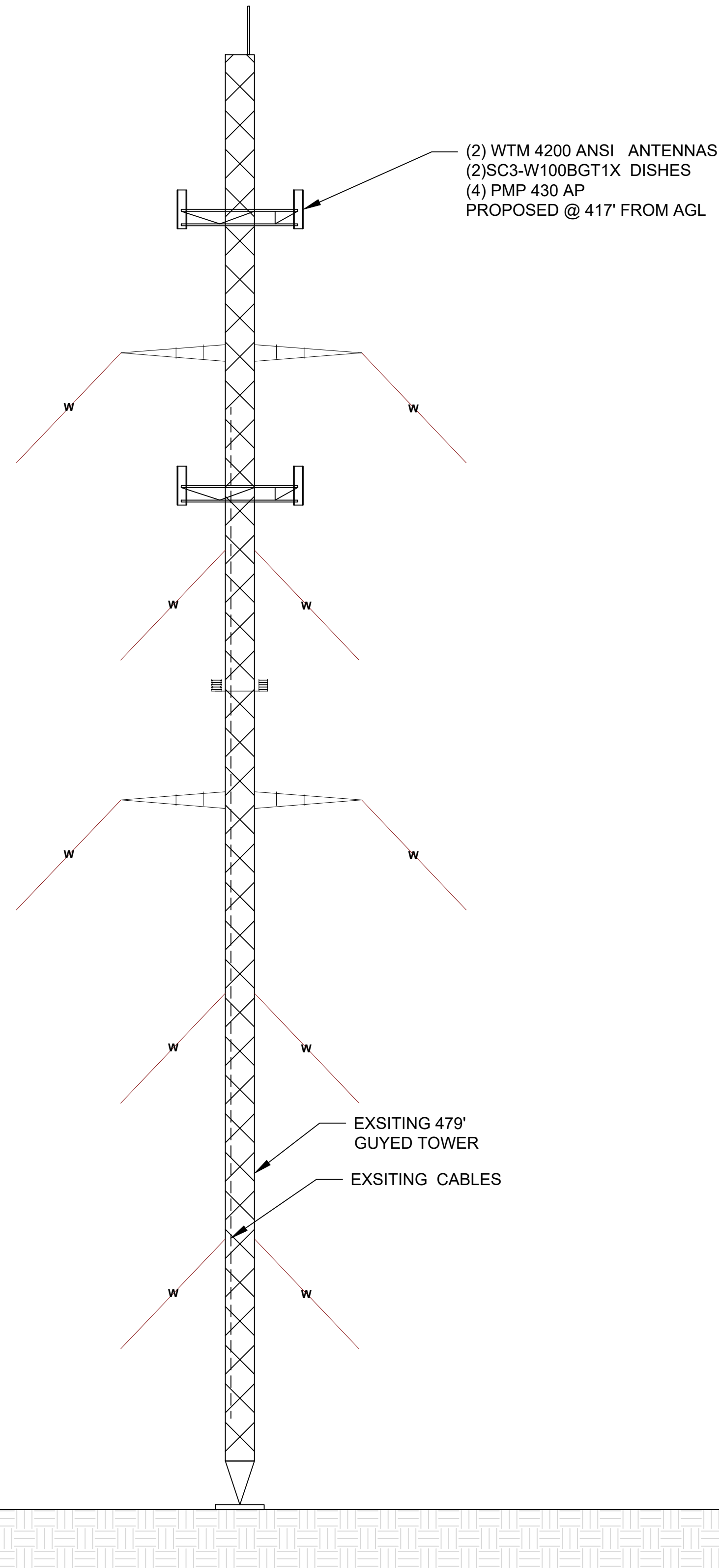
22"x34" SCALE: 3/4" = 1'-0"
11"x17" SCALE: 3/8" = 1'-0"



WISPER EQUIPMENT INSTALL 1

ANTENNA SUMMARY

NO	ANTENNA MANUFACTURER	ANTENNA MODEL	AZIMUTH	RAD CENTER	TME TYPE	TME MANUFACTURE	TME MODEL
1	AVIAT NETWORKS	WTM 4200 ANSI	188°	417'-0"	-	-	-
2	AVIAT NETWORKS	WTM 4200 ANSI	344°	417'-0"	-	-	-
3	RFS	SC3-W100BGT1X	188°	417'-0"	-	-	-
4	RFS	SC3-W100BGT1X	344°	417'-0"	-	-	-
5	CAMBIUM NETWORKS	PMP 430 AP'S	0°	417'-0"	-	-	-
6	CAMBIUM NETWORKS	PMP 430 AP'S	90°	417'-0"	-	-	-
7	CAMBIUM NETWORKS	PMP 430 AP'S	180°	417'-0"	-	-	-
8	CAMBIUM NETWORKS	PMP 430 AP'S	270°	417'-0"	-	-	-



22"x34" SCALE: 3/32" = 1'-0"
11"x17" SCALE: 3/64" = 1'-0"



WISPER EQUIPMENT INSTALL 2

FINAL ELEVATION 3

WISPER
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REVISIONS

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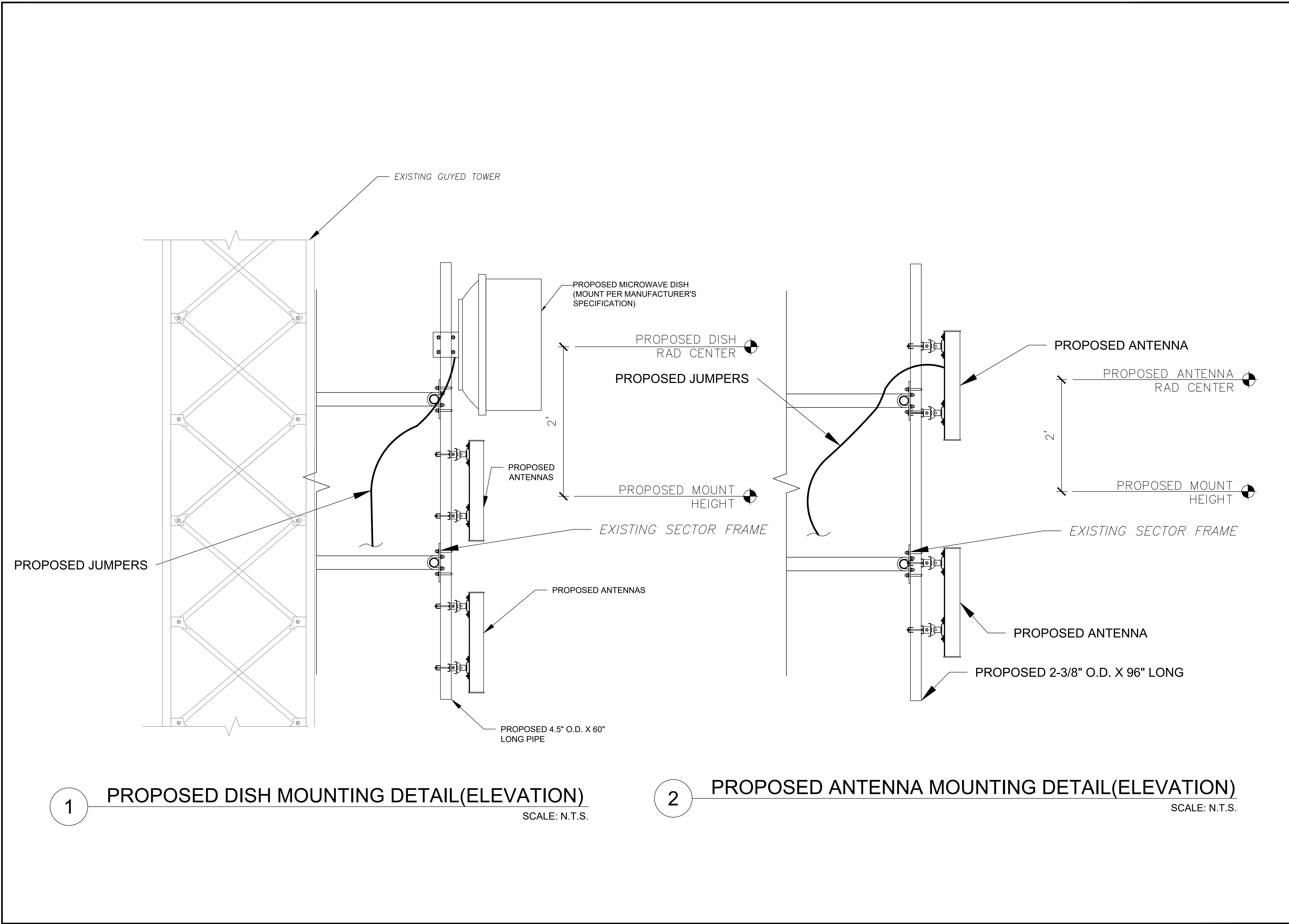


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SHEET TITLE
ANTENNA LAYOUT PLANS &
ARCHITECTURAL ELEVATIONS

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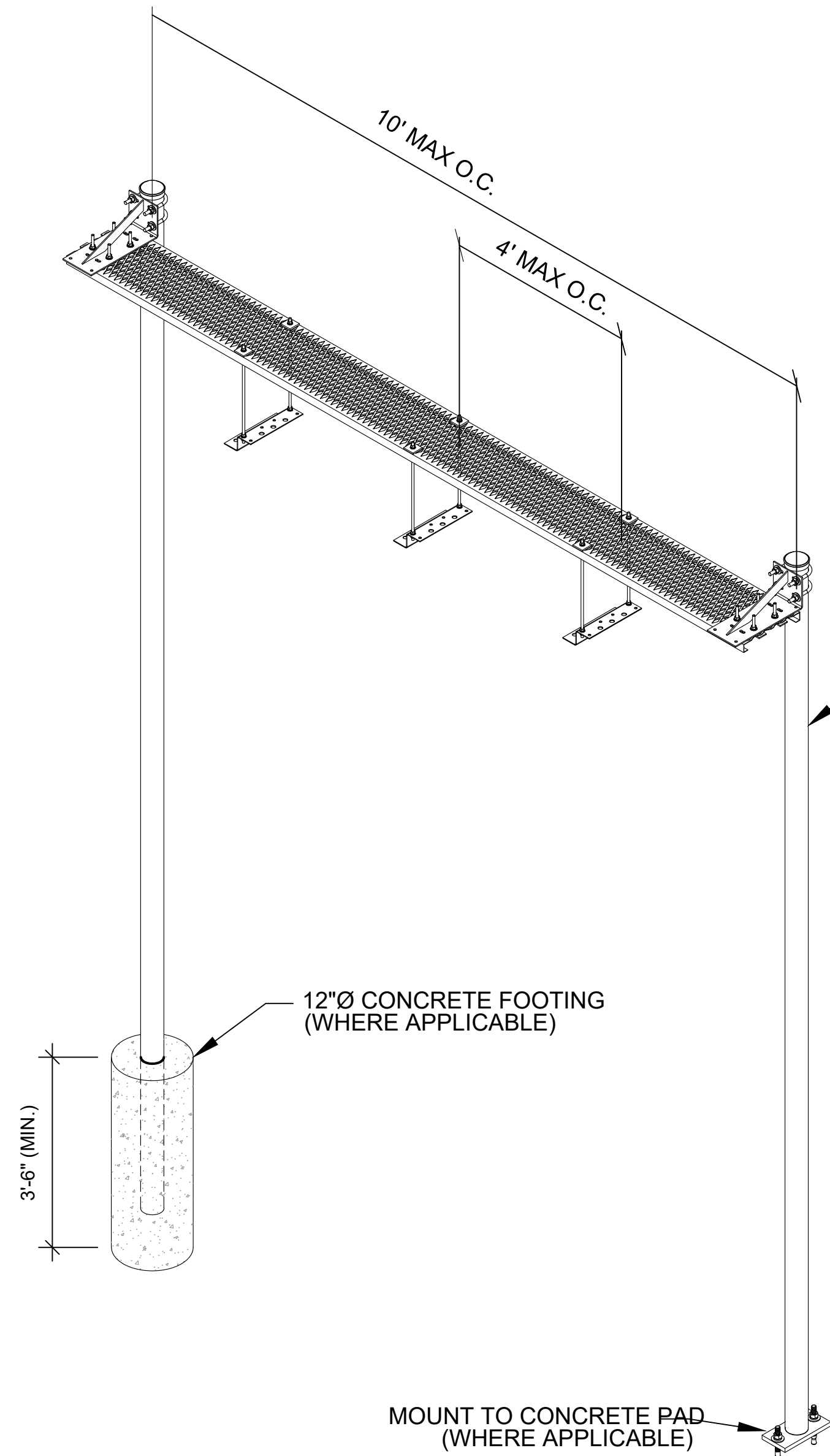
11/30/2021

STATE OF MISSOURI
JACOB GORALSKI
Professional Engineer
NUMBER
PE-2014039893

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SHEET TITLE
CONSTRUCTION DETAILS

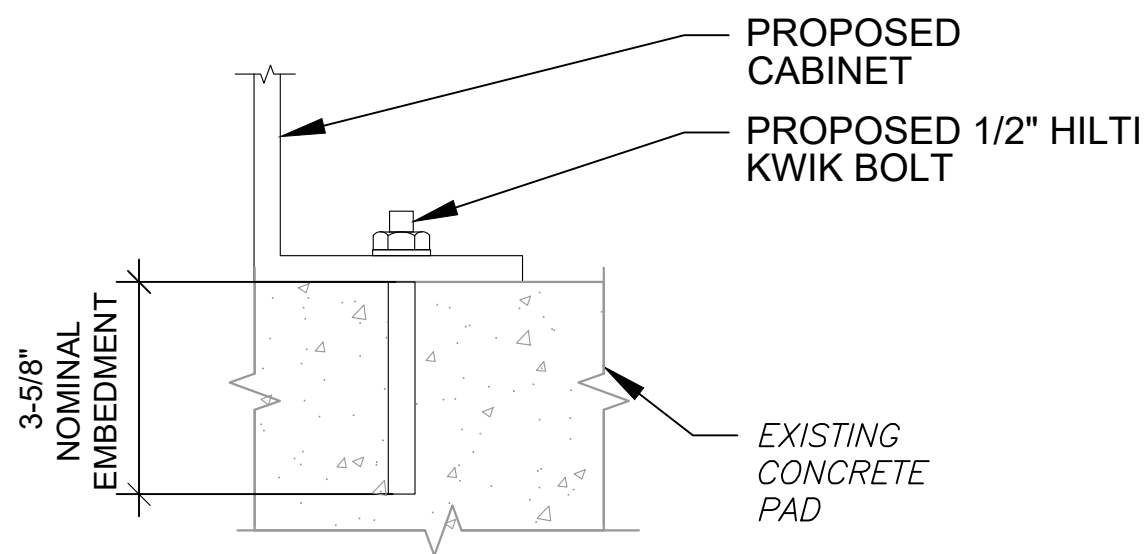
SHEET NUMBER
C-501



CONSTRUCTION NOTE:
1. INSTALL ICE BRIDGE TO ALLOW 7 FEET CLEARANCE ABOVE GRADE TO LOWEST APPURTENANCE.

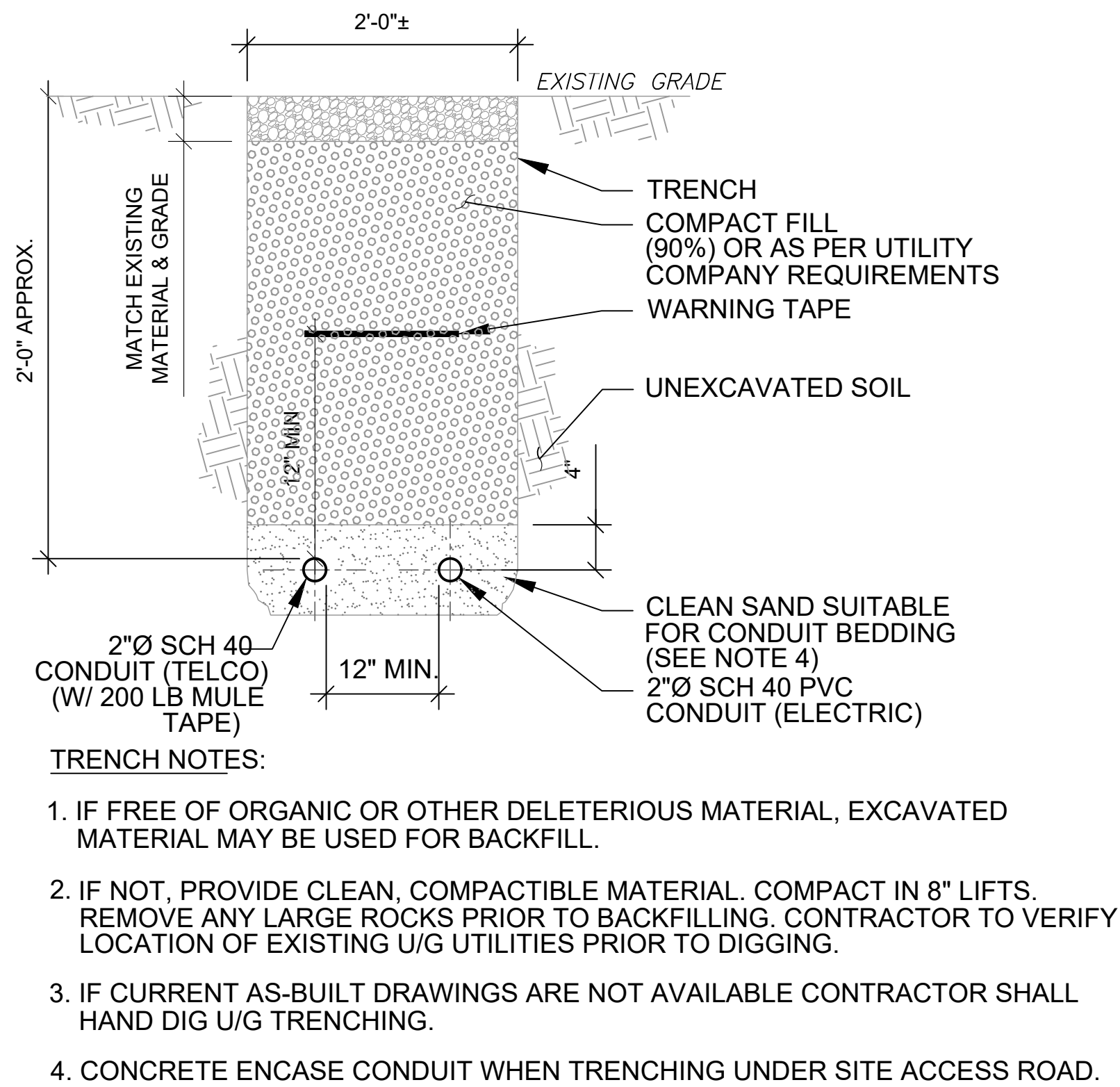
1 WAVEGUIDE BRIDGE KIT
SCALE: N.T.S.

PROPOSED SITE PR0
7" ICE BRIDGE
P/N: IB7D-C

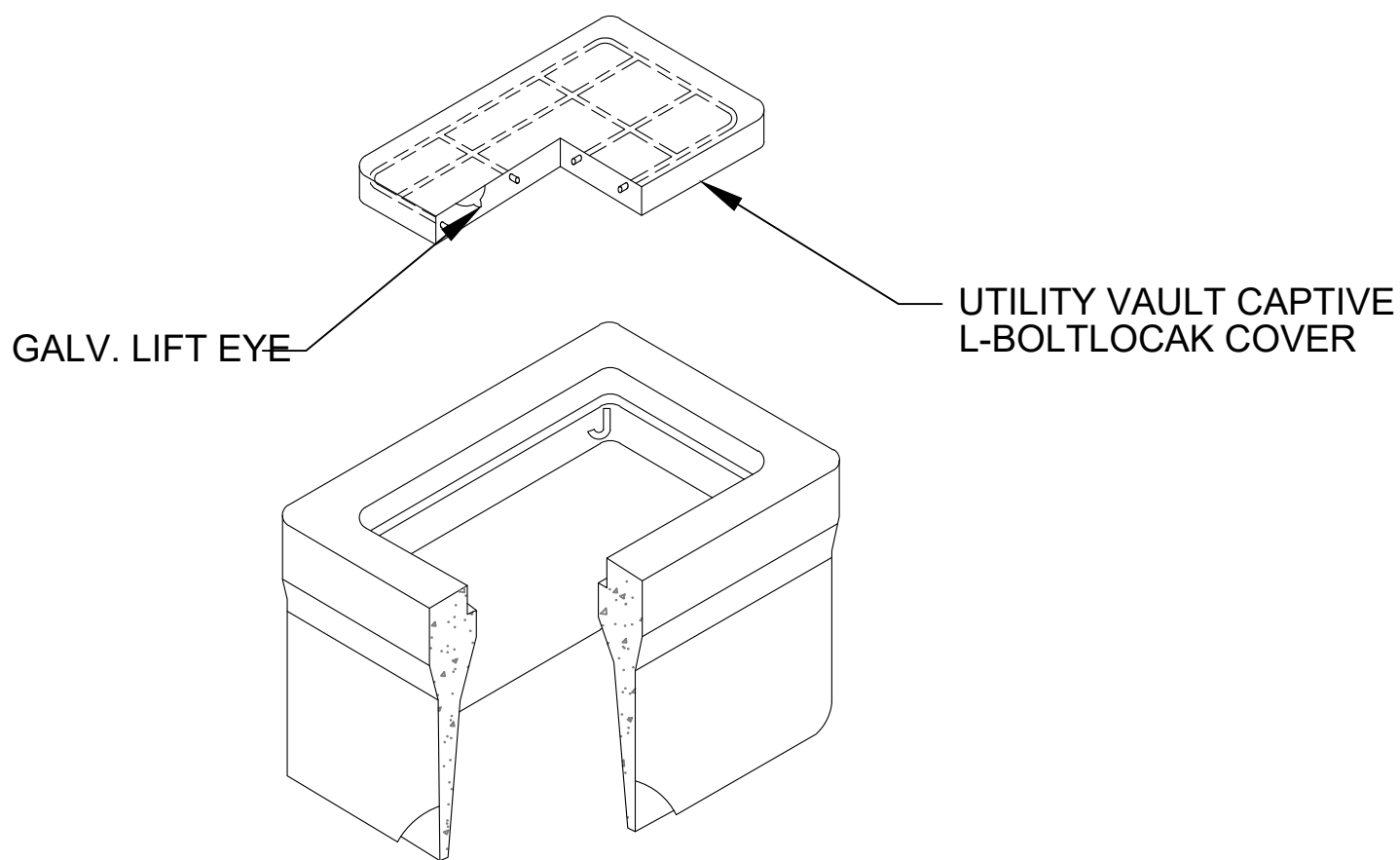


NOTE:
INSTALL HILTI KWIK BOLT ANCHORS STRICTLY PER INSTALLATION INSTRUCTIONS INCLUDED WITH PRODUCT OR FOUND ONLINE AT WWW.US.HILTI.COM. PROPER INSTALLATION IS CRITICAL FOR FULL PERFORMANCE.

3 CABINET ATTACHMENT DETAIL
SCALE: NOT TO SCALE



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



NOTES:
1. INSTALL ON 3/4" AGGREGATE WHICH SHALL EXTEND A MINIMUM OF 6" BEYOND ALL SIDES OF THE BOX AND BE A MINIMUM OF 4" DEEP, BELOW THE BOX.
2. SIZED APPROPRIATELY FOR THE APPLICATION PER NEC.
3. CAP TO HAVE POWER/ELEC OR TELCO SHOWN.

4 TYPICAL PULL BOX
SCALE: NOT TO SCALE

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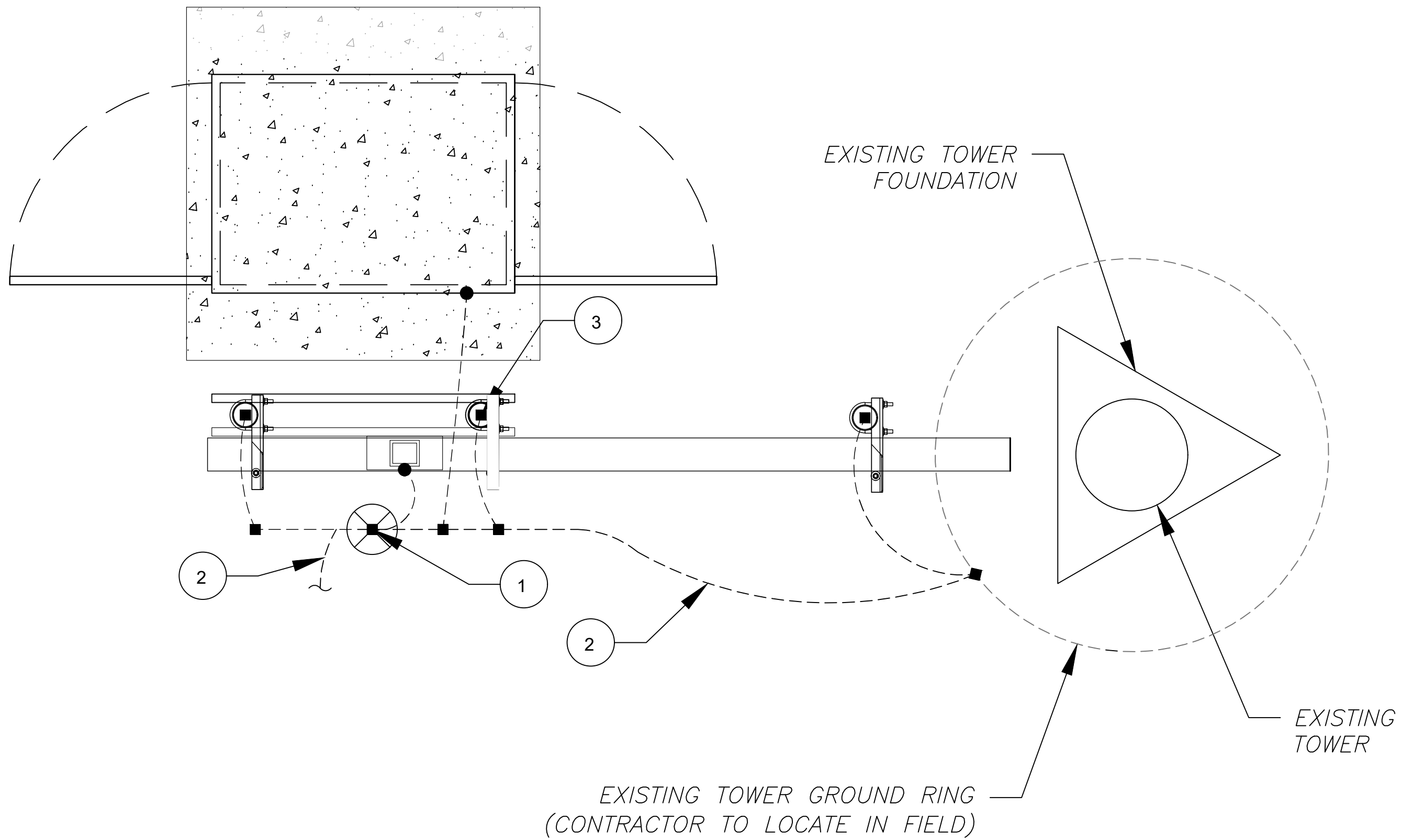
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CONSTRUCTION DETAILS

SHEET NUMBER

C-502



GROUNDING PLAN LEGEND:	
-----	GROUND WIRE
————	GROUND BAR
■	EXOTHERMIC WELD
●	MECHANICAL CONNECTION
⊗	COPPER GROUND ROD


GROUNDING KEYED NOTES:

- 15/8Ø" X 10 FT GROUND ROD.
- GROUNDING CONDUCTOR BETWEEN EXISTING GROUND RING AND GROUND RING AND ATTACH TO CABINET WITH A MECHANICAL CONNECTION.
- #2 AWG SBTC BOND FROM ICE BRIDGE AND H-FRAME POSTS TO GROUNDING (TYP. EVERY POST).


1

DETAILED GROUNDING PLAN

SCALE: NOT TO SCALE



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11/30/2021
JACOB GORALSKI
Jacob Goralski
NUMBER
PE-2014039893
PROFESSIONAL ENGINEER

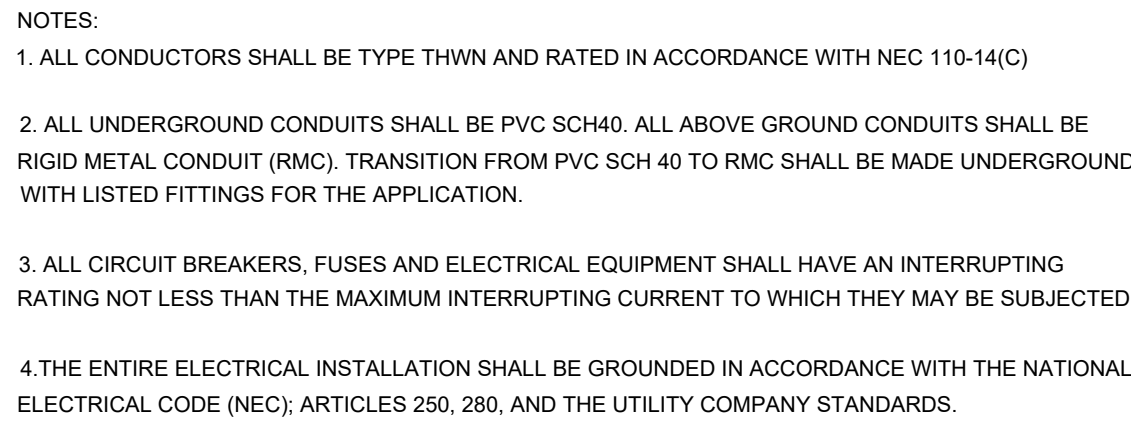
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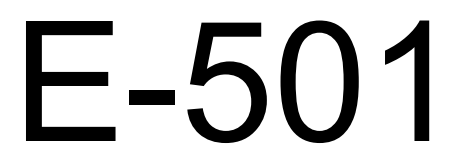
GROUNDING LAYOUT

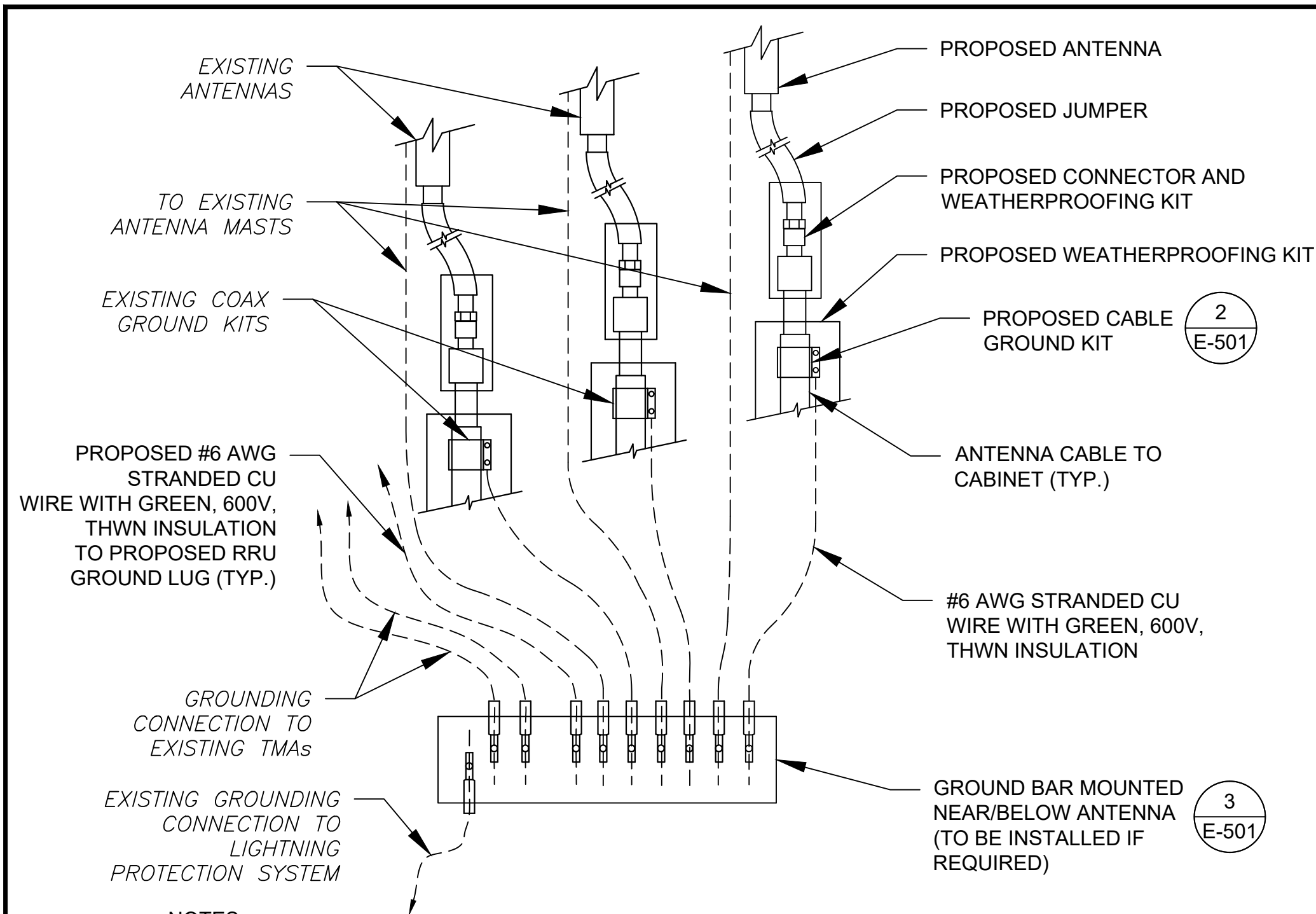
SHEET NUMBER

E-101



2 ELECTRICAL PANEL SCHEDULE

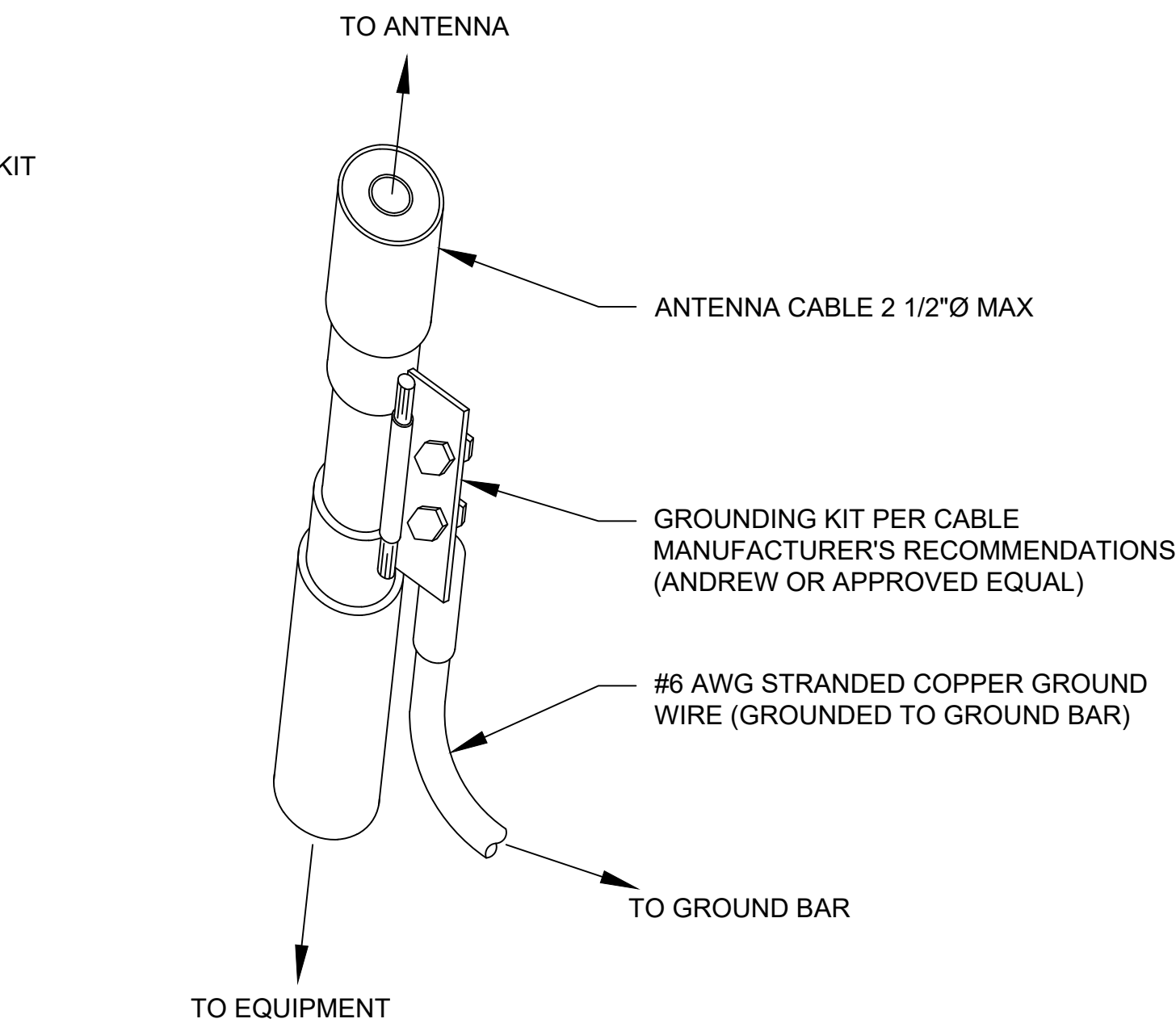




NOTES:

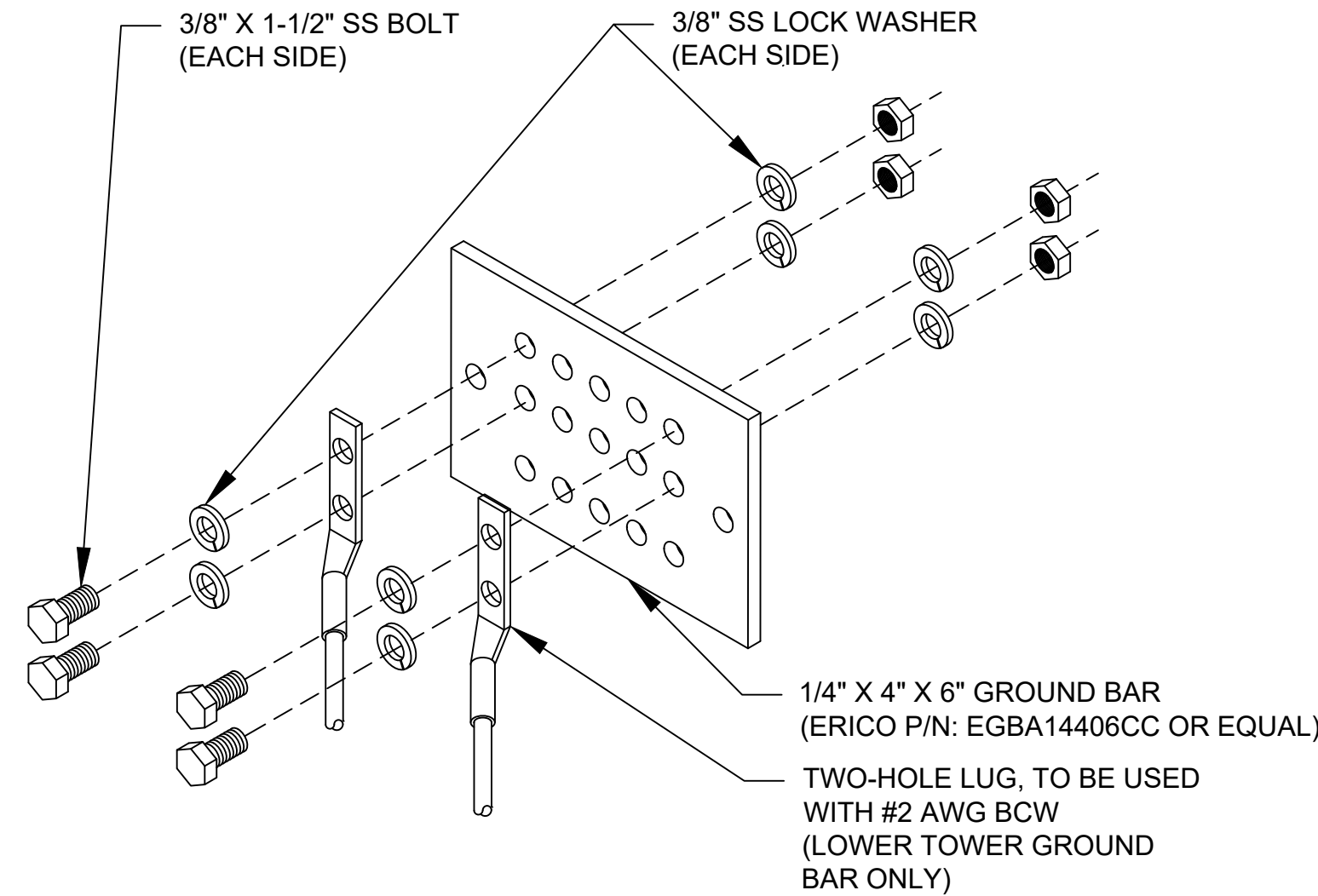
- THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
- SITE GROUNDING SHALL COMPLY WITH GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH 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:
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

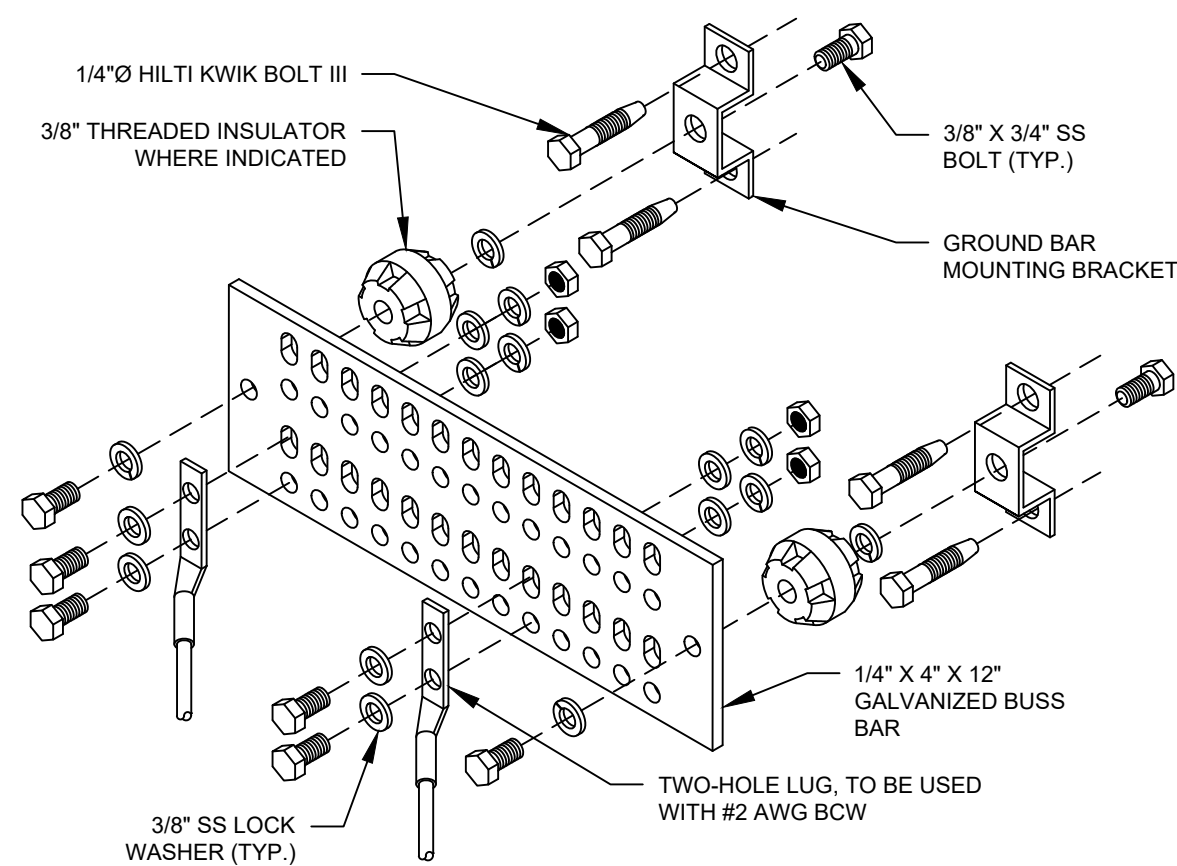
2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: N.T.S.



GROUND BAR NOTES:

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

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



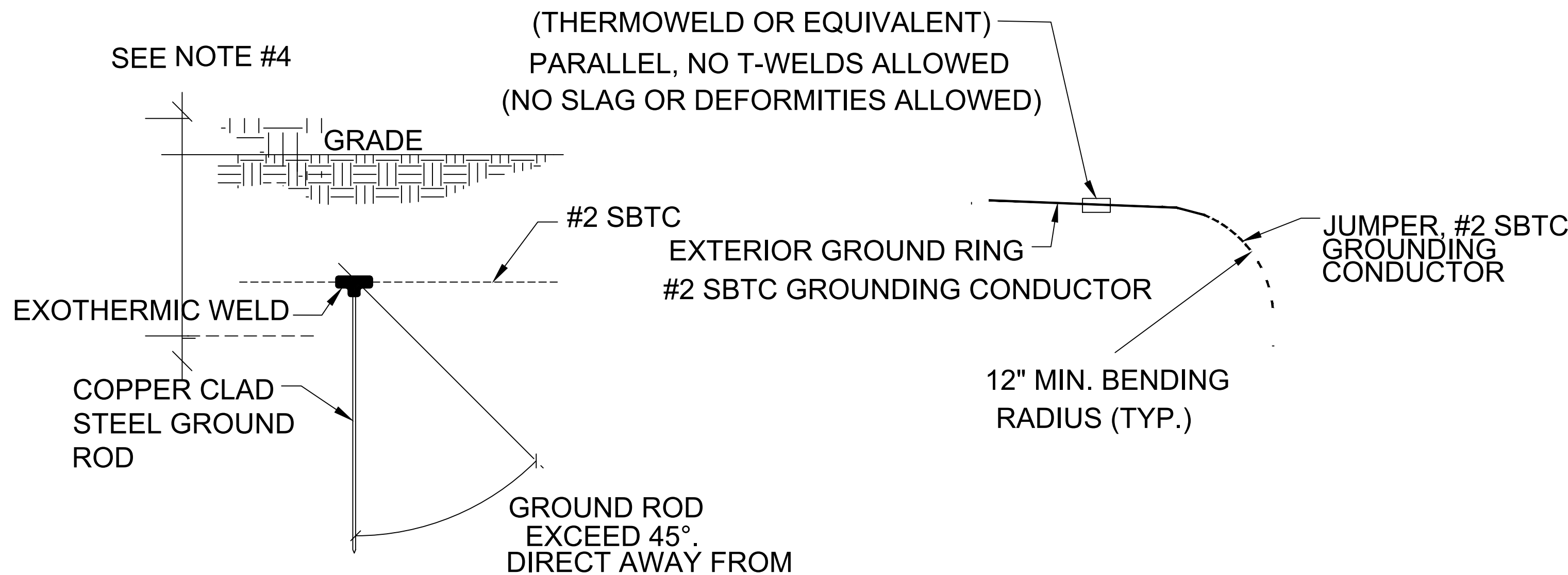
GROUND BAR NOTES:

- GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
- 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.

GROUNDING NOTES:

- UNDERGROUND AND OVERHEAD UTILITY LENGTHS TO BE DETERMINED FROM SITE PLAN.
- SEE ELECTRICAL SPECIFICATIONS SECTION 16000 FOR ALL ELECTRICAL AND GROUNDING INSTALLATION REQUIREMENTS.
- FOR ORIENTATION OF SITE LAYOUT SEE SITE PLAN, DRAWING.
- UDA CABINET FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.
- GROUND KITS PROVIDED BY OWNER SHALL BE RETROFITTED TO ACCOMMODATE 2 HOLE LUG CONNECTION AND APPROPRIATE LENGTH.
- CONTRACTOR RESPONSIBLE TO PROVIDE OWNER CERTIFICATION OF RESISTIVITY TESTING.
- GROUND RODS TO BE INSTALLED AT 10' CENTERS.
- ALL GROUND LEADS TO BE SLEEVED IN 3/4" SCHEDULE 40 PVC CONDUIT AND SEALED W/ SILICONE.
- GROUND BARS SUPPLIED BY OWNER AND INSTALLED BY CONTRACTOR.
- ALL BENDS IN GROUNDING SYSTEM MUST BE SMOOTH AND WELL ROUNDED AND MAINTAIN BENDING RADIUS.
- SEE SITE PLAN FOR COAXIAL ROUTING THIS SHEET IS INTENDED FOR GROUNDING CLARITY ONLY AND IS SCHEMATIC IN DETAIL.
- GROUND KITS SHALL BE INSTALLED BETWEEN 8"-18" OF ALL CONNECTORS.
- TOWER FOUNDATION DESIGN BY OWNER, INSTALLED BY CONTRACTOR.
- ADDITIONAL GROUND KITS TO BE PLACED AT 100' WHEN ANTENNA CENTERLINE IS 200' OR ABOVE.
- ALL CONDUITS TO BE SEALED W/ SILICONE TO PROVIDE A WATER TIGHT SEAL.



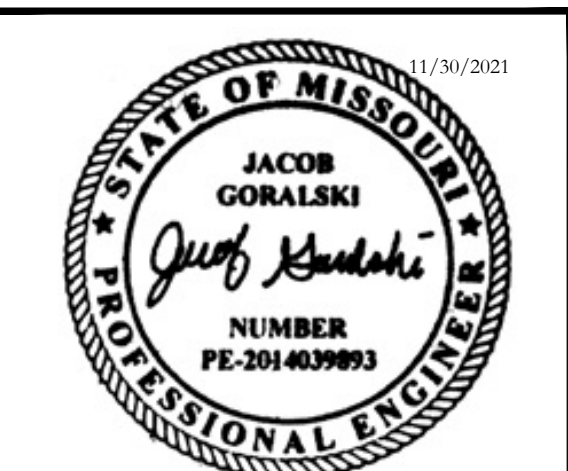
5 GROUND ROD DETAIL
SCALE: N.T.S.

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

REVISIONS				
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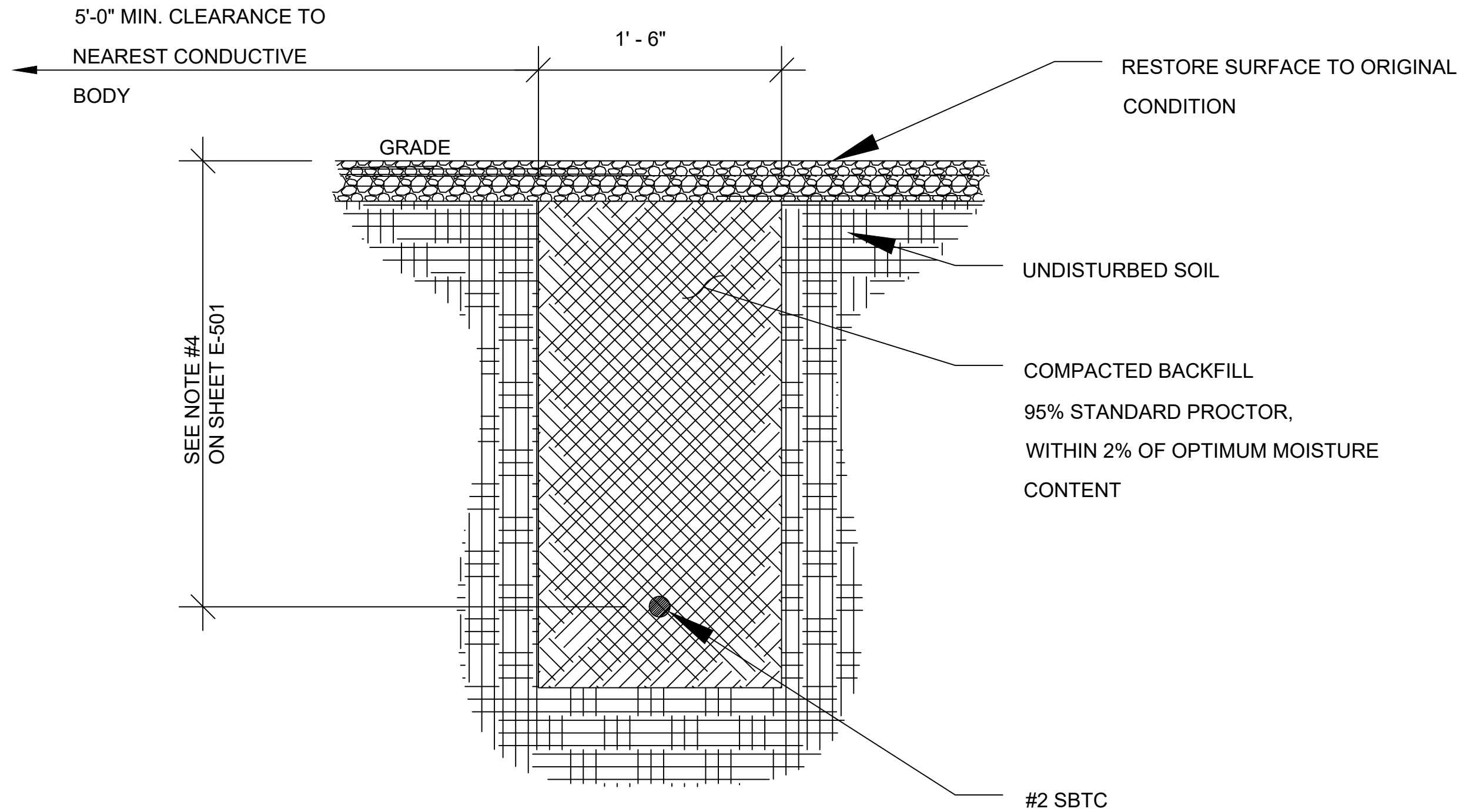
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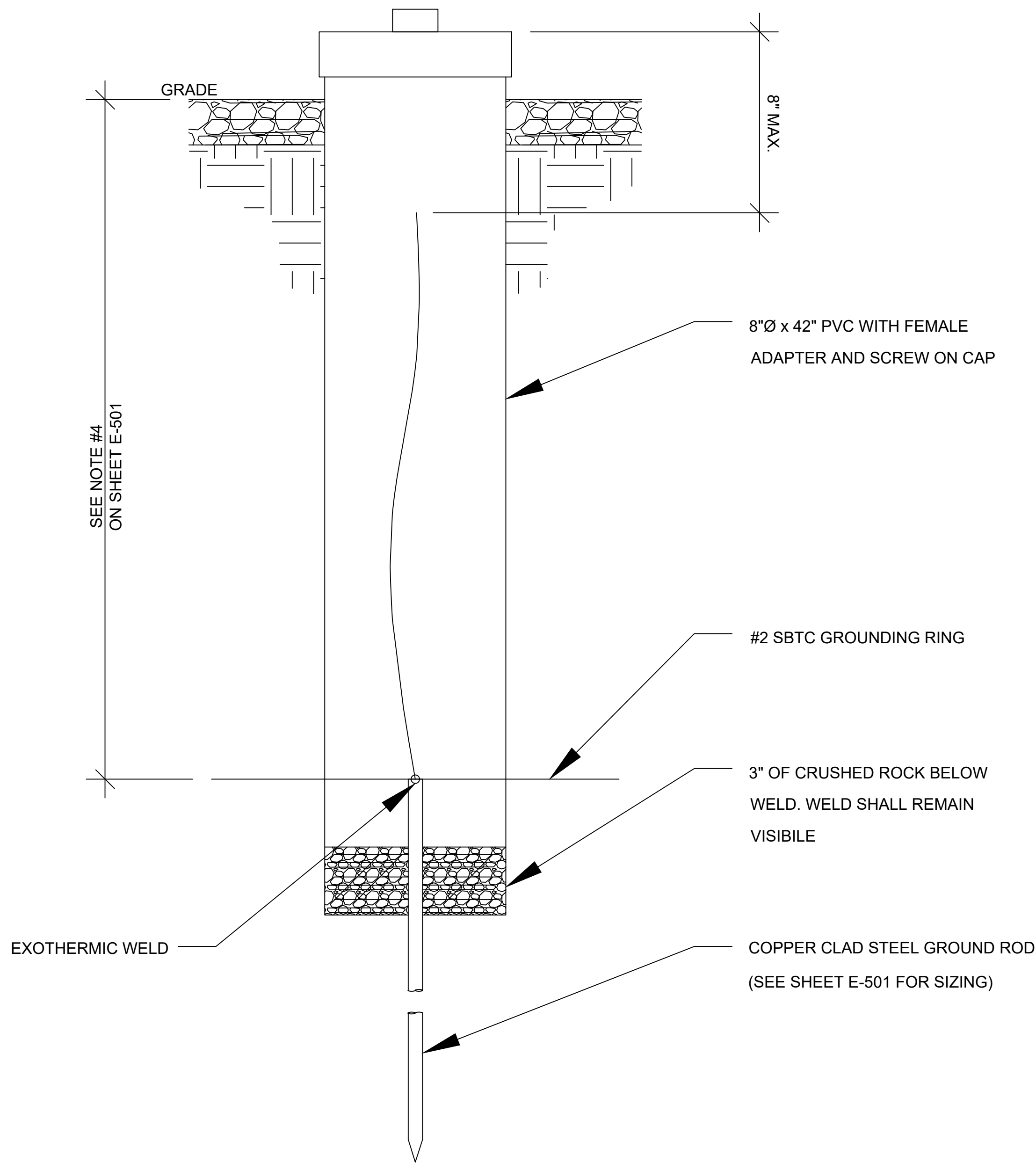
SHEET NUMBER
E-502



1

GROUND CONNECTION TRENCH DETAIL (STD.)

SCALE: N.T.S.



2

TEST WELL DETAIL

SCALE: N.T.S.

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GROUNDING DETAILS

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E-503