T-Mobile

Columbia County Building Department
Plans Reviewed for Code Compliance
State of Florida

T-MOBILE SITE NAME

9JKJ2254A

T-MOBILE SITE ID

#9JK2254A

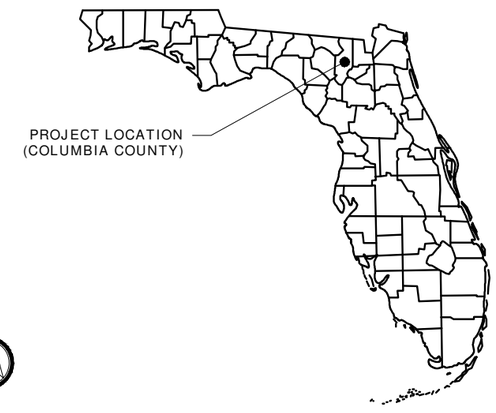
6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

PROPOSED COMMUNICATION FACILITY CO-LOCATE
ON A EXISTING 250' SELF SUPPORT TOWER

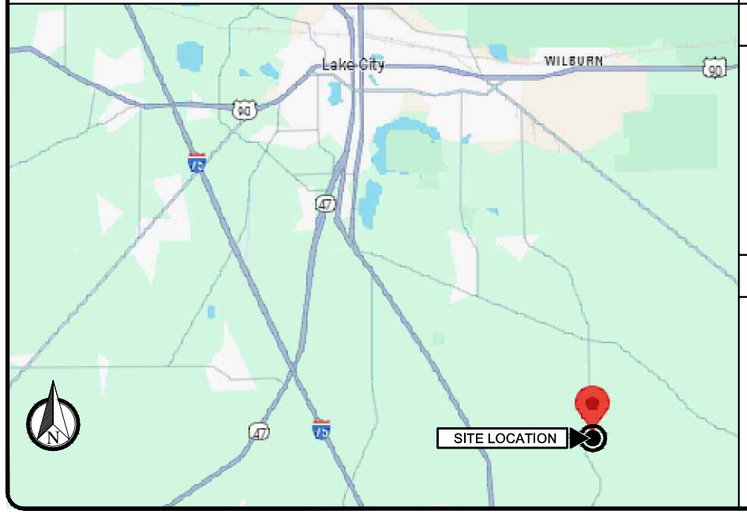
REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
B	03/24/25	REVISED PER COMMENTS
0	06/09/25	REVISED PER COMMENTS

PROJECT NO.:	25-5114
DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

LOCAL MAP



VICINITY MAP



PROPERTY SUMMARY

PARCEL ID
36-4S-17-09045-000

PROPERTY OWNER

BERTIE D. PURSLEY
6355 SE COUNTY ROAD 245
LAKE CITY, FL 32025

LATITUDE

30.10299722° N

LONGITUDE

-82.57415278° W

ZONING JURISDICTION

COLUMBIA COUNTY

DESIGN CRITERIA

DESIGN WIND SPEED: 120 MPH (ULTIMATE 3-SEC GUST)
EXPOSURE CATEGORY: C
RISK CATEGORY: II

CONTACTS

T-MOBILE SOUTH LLC.
7025 A.C SKINNER PARKWAY
JACKSONVILLE, FL 32256

SMW ENGINEERING GROUP, INC. PROJECT MANAGER:
13005 TELECOM PARKWAY N SUITE 102
TEMPLE TERRACE, FLORIDA 33637
OMAR RIVERA (407) 453-1740

PROJECT DESCRIPTION

1. THE WIRELESS COMMUNICATIONS FACILITY IS NOT INTENDED FOR HUMAN OCCUPANCY.
2. THIS FACILITY DOES NOT REQUIRE POTABLE WATER AND WILL NOT PRODUCE ANY SEWAGE.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. THE SCOPE OF WORK CONSISTS OF THE FOLLOWING:

INSTALLATION OF (6) NEW ANTENNAS
INSTALLATION OF (6) NEW RRUS
INSTALLATION OF (3) NEW ANTENNA MOUNT
INSTALLATION OF (1) NEW CONCRETE EQUIPMENT PAD
INSTALLATION OF (4) NEW TECH LIGHT
INSTALLATION OF (1) NEW GPS ANTENNA
INSTALLATION OF (2) NEW EQUIPMENT CABINETS
INSTALLATION OF (1) NEW WAVEGUIDE BRIDGE
INSTALLATION OF (2) NEW ELECTRICAL H-FRAME
INSTALLATION OF (1) NEW TELCO ENCLOSURE
INSTALLATION OF (1) NEW 200A. PPC ENCLOSURE
INSTALLATION OF (3) NEW HCS FIBER TRUNKS
INSTALLATION OF (1) NEW FIBER SPOOL BOX
INSTALLATION OF (1) VOLTAGE BOOSTER 6640

CODE COMPLIANCE

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

1. FLORIDA BUILDING CODE, 8TH EDITION (2023)
2. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70, NATIONAL ELECTRICAL CODE, 2020 EDITION.
3. TIA-222-H AND APPLICABLE STANDARDS.
4. LIFE SAFETY CODE NFPA-101-2021.
5. FLORIDA FIRE PREVENTION CODE, 8TH EDITION.
6. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 360-10 AND 341-10.
7. UNDERWRITERS LABORATORIES (U.L.) APPROVED ELECTRICAL PRODUCTS.
8. LOCAL JURISDICTIONAL REQUIREMENTS.
9. CITY/COUNTY ORDINANCES.

INDEX OF DRAWINGS

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
13005 TELECOM PARKWAY N SUITE 102
TEMPLE TERRACE, FLORIDA 33637
(813) 615-1422
CERTIFICATE OF AUTHORIZATION 33693

T-Mobile
7025 A.C. SKINNER PARKWAY
JACKSONVILLE, FL 32256

JEREMY D. SHARIT
LICENSE
No. 75137
STATE OF FLORIDA
PROFESSIONAL ENGINEER
06/09/25
JEREMY D. SHARIT PE FL LIC 75137

9JKJ2254A
#9JK2254A

6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME

TITLE SHEET

SHEET NUMBER

T1

1. FOR THE PURPOSES OF THESE CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:

   OWNER – T–MOBILE USA
   ENGINEER – SMW ENGINEERING GROUP, INC.
   CONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)

2. PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR SHALL VISIT THE JOB SITE IN ORDER TO (1) VERIFY ALL EXISTING CONDITIONS, (2) CONFIRM WHETHER ALL DIMENSIONS ARE AS SHOWN ON THE PLANS AND (3) CONFIRM WHETHER THE WORK MAY BE ACCOMPLISHED AS SHOWN. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER.

3. A 20–FOOT HORIZONTAL CLEARANCE DISTANCE SHALL BE MAINTAINED FROM ALL EXISTING POWER LINES.

4. THE CONTRACTOR'S USE OF A CONSTRUCTION STAGING AREA SHALL BE COORDINATED WITH THE OWNER WELL IN ADVANCE OF THE CONSTRUCTION START DATE.

5. LABOR, MATERIAL, TOOLS, EQUIPMENT, TRANSPORTATION AND TEMPORARY POWER SERVICES NECESSARY FOR AND INCIDENTAL TO COMPLETION OF ALL WORK SHALL BE PROVIDED AS INDICATED ON THE DRAWINGS AND/OR AS SPECIFIED HEREIN. LABOR AND MATERIALS SHALL BE FURNISHED AS REQUIRED FOR COMPLETE SYSTEMS, INCLUDING ALL ELEMENTS OBVIOUSLY OR REASONABLY INCIDENTAL TO A COMPLETE INSTALLATION, WHETHER OR NOT SPECIFICALLY INDICATED ON THE PLANS.

6. FOR TASKS REQUIRED TO BE PERFORMED BUT NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOT START WORK ON SUCH TASKS WITHOUT HAVING RECEIVED WRITTEN AUTHORIZATION FROM THE CONSTRUCTION MANAGER TO PROCEED.

7. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT UNLESS OTHERWISE INDICATED BY DIMENSIONS OR DETAILS. EXACT EQUIPMENT LOCATIONS MAY BE MODIFIED AS REQUIRED BY ACTUAL FIELD CONDITIONS. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE ENGINEER AND THE CONSTRUCTION MANAGER.

8. THE CONTRACTOR SHALL OBTAIN, PAY FOR AND DELIVER ALL REQUIRED PERMITS, CERTIFICATES OF INSPECTION, INCLUDING UTILITY CONNECTION FEES, ETC., REQUIRED BY THE AUTHORITIES HAVING JURISDICTION AND SHALL DELIVER SUCH DOCUMENTS TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE WORK.

9. THE CONTRACTOR'S OPERATIONS SHALL BE CONFINED TO AREAS OF NEW CONSTRUCTION.

10. ALL NECESSARY PROVISIONS SHALL BE MADE TO PROTECT EXISTING IMPROVEMENTS, PAVING, CURBS, GALVANIZED SURFACES, ETC, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO SAME RESULTING FROM THE CONSTRUCTION WORK. ALL DISTURBED AND DAMAGED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER UPON COMPLETION OF ALL WORK TO THE SATISFACTION OF THE CONSTRUCTION MANAGER.

11. THE FOLLOWING CLEANUP TASKS SHALL BE PERFORMED AS FOLLOWS: (1) ON A DAILY BASIS, KEEP THE GENERAL AREA CLEAN AND HAZARD FREE, REMOVING ALL WASTE, DEBRIS AND TRASH FROM THE SITE AND DISPOSING OF SAME IN A LEGAL MANNER. (2) UPON COMPLETION, LEAVE THE PREMISES IN A CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. (3) UPON COMPLETION, CONSTRUCTION AND CONSTRUCTION STAGING AREA SHALL BE LEFT IN AS GOOD OR BETTER CONDITION THAN PRIOR TO CONSTRUCTION.

12. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S RECOMMENDATIONS EXCEPT WHERE IT IS SPECIFICALLY INDICATED OTHERWISE IN THE CONTRACT DOCUMENTS OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.

13. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY HAVING JURISDICTION OVER THE PERFORMANCE OF THE WORK. MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AS WELL AS LOCAL AND STATE CODES, ORDINANCES AND APPLICABLE REGULATIONS.

14. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AT ALL TIMES, USING THE BEST SKILLS AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL OF THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK, INCLUDING CONTACT AND COORDINATION WITH THE CONSTRUCTION MANAGER AND WITH THE OWNER'S AUTHORIZED REPRESENTATIVE.

15. WITHIN TEN (10) WORKING DAYS AFTER PROJECT COMPLETION, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS–BUILT DRAWINGS, SWEEP TEST, CYLINDER TESTS, LIEN RELEASES, AND OTHER CLOSEOUT DOCUMENTATION AS REQUIRED BY THE OWNER. ALL SYSTEMS SHALL BE COMPLETELY ASSEMBLED, TESTED, ADJUSTED AND DEMONSTRATED TO BE READY FOR OPERATION PRIOR TO THE OWNER'S ACCEPTANCE.

1. THE APPROPRIATE UTILITY LOCATING SERVICES SHALL BE CONTACTED PRIOR TO THE START OF CONSTRUCTION IN ORDER TO VERIFY THE EXACT LOCATION OF ALL EXISTING UNDERGROUND UTILITIES.

2. THE INSTALLATION OF NEW UTILITIES SHALL BE COORDINATED WITH LOCAL AUTHORITIES.

3. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES. WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SUCH UTILITIES SHALL BE RELOCATED AS DIRECTED BY THE CONSTRUCTION MANAGER. EXTREME CAUTION SHALL BE USED WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES.

4. RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES THAT INTERFERE WITH THE EXECUTION OF THE WORK SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS THAT WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF THE LANDLORD AND/OR LOCAL UTILITIES.

6. DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION SHALL BE MINIMIZED.

7. ANY AREAS OF THE CONSTRUCTION SITE DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE. SUCH GRADING SHALL CAUSE SURFACE WATER TO FLOW AWAY FROM ANY EQUIPMENT SHELTER AND TOWER AREAS AND THE SOIL SHALL BE STABILIZED TO PREVENT EROSION. EROSION CONTROL MEASURES,IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

8. THE SUB–GRADE SHALL BE COMPACTED AND BROUGHT TO A UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

9. BACKFILL SHALL CONSIST OF CLEAN SAND FILL APPROVED FOR USE BY THE ENGINEER. NO UNAPPROVED MATERIAL WILL BE ALLOWED. CLEAN SAND FILL SHALL BE FREE OF ALL ROOTS, BOULDERS, OR OTHER DELETERIOUS MATERIAL.

10. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO EQUAL TO OR BETTER CONDITION THAN ORIGINAL.

11. SITE SIGNAGE SHALL BE PROVIDED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS FOR SUCH SIGNAGE AS MAY BE CONTAINED IN THESE DRAWINGS.

SITE WORK NOTES | 2

1. MATERIAL:
   A. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE LATEST EDITION OF THE AISC "STEEL CONSTRUCTION MANUAL".
   B. ALL STRUCTURAL STEEL WF BEAMS SHALL BE ASTM A992 AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
   C. ALL STRUCTURAL PLATES, ANGLES, AND CHANNELS SHALL BE ASTM A36 AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
   D. ALL TS MEMBERS SHALL BE ASTM A500 GRADE B (Fy=46ksi), AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
   E. ALL STRUCTURAL PIPE MEMBERS SHALL BE ASTM A500 GRADE B (Fy=42ksi), AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
   F. ALL NON_STRUCTURAL PIPE MEMBERS SHALL BE ASTM A53 GRADE B, AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.

2. DESIGN, FABRICATION, AND CONSTRUCTION OF ALL CONNECTIONS SHALL CONFORM TO AISC STEEL CONSTRUCTION MANUAL.

3. WELDING:
   A. ALL WELDS, WELDERS, AND WELD INSPECTIONS SHALL CONFORM TO THE REQUIREMENTS OF AWS D 1.1, LATEST REVISION.
   B. ALL WELDS SHALL BE MADE WITH E70XX LOW HYDROGEN ELECTRODES.
   C. ALL STEEL SHALL BE SPRAY GALVANIZED AFTER WELDING.

4. ALL BOLTS SHALL BE GALVANIZED ¾" DIAMETER, A325–N, UNLESS NOTED OTHERWISE AND TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC. SECURE NUT WITH LOCKING WASHER.

5. ANCHOR BOLTS SHALL CONFORM TO ASTM A307, UNLESS NOTED OTHERWISE.

6. THE CONTRACTOR/STEEL FABRICATOR SHALL LOCATE ANY REINFORCEMENT IN THE STRUCTURAL MEMBERS IN SUCH A MANNER SO THAT THERE WILL NOT BE CONFLICT WITH THE REINFORCEMENT WHEN INSTALLING ANCHORS. THE ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTION.

7. THE CONTRACTOR/STEEL FABRICATOR SHALL CONFORM TO THE MINIMUM EDGE DISTANCE REQUIREMENTS IN ACCORDANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION.

8. ALL STRUCTURAL STEEL SHALL BE FABRICATED TO FIT AT BOLTED CONNECTIONS WITHIN 1/16 INCH TOLERANCE. STRUCTURAL STEEL SHALL NOT BE FLAME CUT UNDER ANY CIRCUMSTANCES WITHOUT APPROVAL OF THE ENGINEER.

9. THE CONTRACTOR/STEEL FABRICATOR SHALL CAP OR SEAL ALL PIPES AS REQUIRED TO PREVENT RAINWATER INTRUSION.

10. THE CONTRACTOR/STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO ANY STEEL FABRICATION. AT THE CONTRACTOR'S OPTION, FIELD SPLICES MAY BE USED FOR ERECTION PURPOSES. IF FIELD SPLICES ARE USED, THE SHOP DRAWINGS SHALL INCLUDE ALL DETAILS FOR THE PROPOSED FIELD SPLICES.

11. AT THE CONTRACTOR'S OPTION, SHOP WELDS MAY BE USED INSTEAD OF FIELD WELDS.

12. SUBMIT ORIGINAL SHOP DRAWINGS, INCLUDING COMPLETE DETAILS, SCHEDULES OF FABRICATION AND ASSEMBLY, PROCEDURES, AND DIAGRAMS. INCLUDE DETAILS OF CUTS, CONNECTIONS, CAMBER, HOLE, AND OTHER PERTINENT DATA. INDICATE WELDS BY STANDARD AWS A2.1 AND A2.4 SYMBOLS, AND SHOW SIZE, LENGTH, AND TYPE OF WELD. PROVIDE SETTING DRAWINGS, TEMPLATES, AND DIRECTIONS FOR INSTALLATION OF ANCHOR BOLTS AND OTHER ANCHORAGES TO BE INSTALLED AS WORK OF OTHERS' SECTIONS.

REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
B	03/24/25	REVISED PER COMMENTS
0	06/09/25	REVISED PER COMMENTS

PROJECT NO.:	25–5114
DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
13005 TELECOM PARKWAY N SUITE 102
TEMPLE TERRACE, FLORIDA 33637
(813) 615–1422
CERTIFICATE OF AUTHORIZATION 33693

T-Mobile
7025 A.C. SKINNER PARKWAY
JACKSONVILLE, FL 32256

JEREMY D. SHARIT LICENSE No. 75137 STATE OF FLORIDA PROFESSIONAL ENGINEER
6/09/25
JEREMY D. SHARIT PE FL LIC 75137

9JKJ2254A
#9JK2254A

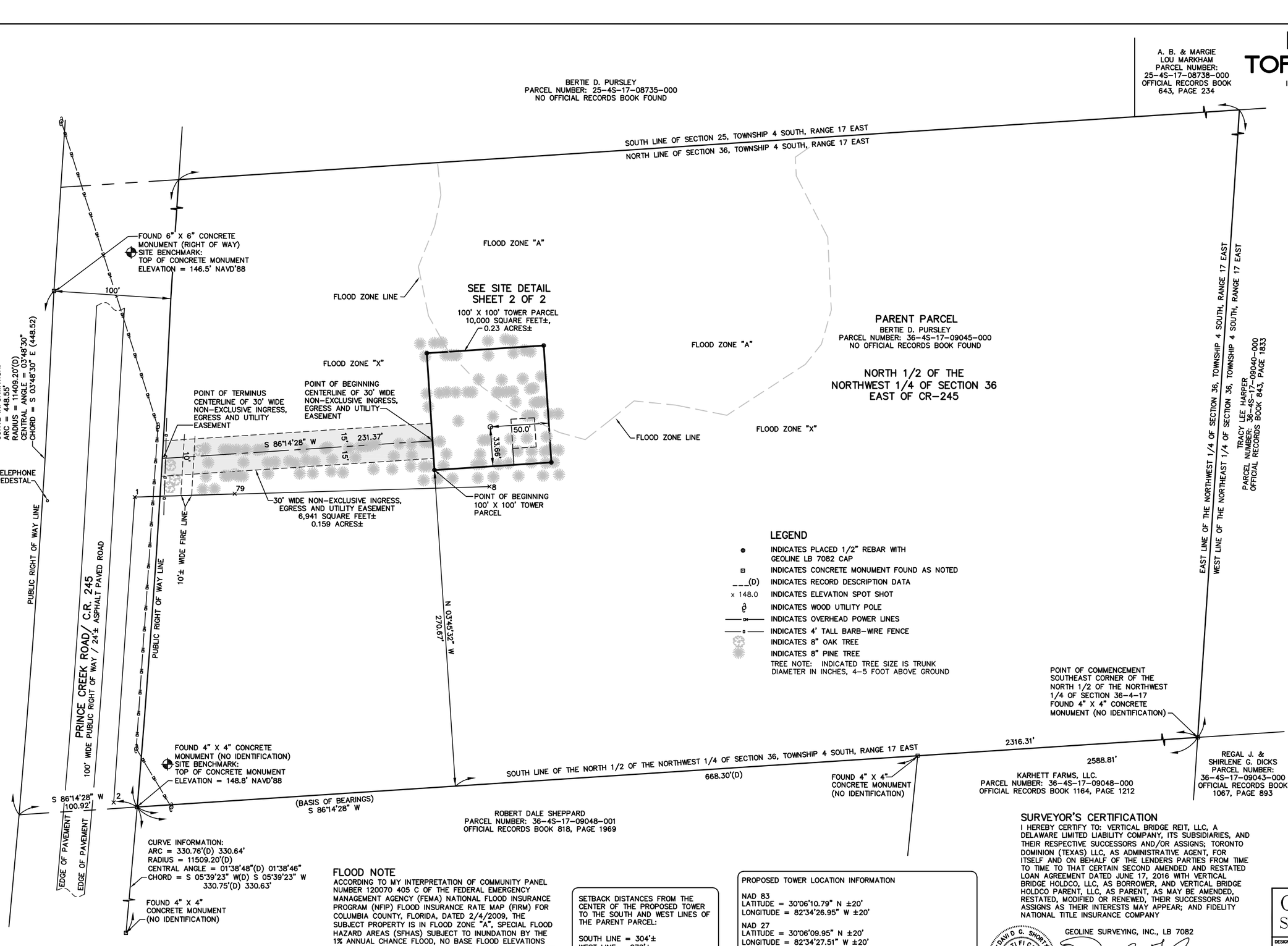
6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
GENERAL NOTES

SHEET NUMBER
G1

BOUNDARY AND TOPOGRAPHIC SURVEY

IN SECTION 36, TOWNSHIP 4 SOUTH, RANGE 17 EAST,
COLUMBIA COUNTY, FLORIDA
FOR: VERTICAL BRIDGE DEVELOPMENT, LLC



LEGEND

- INDICATES PLACED 1/2" REBAR WITH GEOLINE LB 7082 CAP
- INDICATES CONCRETE MONUMENT FOUND AS NOTED
- ___(D) INDICATES RECORD DESCRIPTION DATA
- x 148.0 INDICATES ELEVATION SPOT SHOT
- INDICATES WOOD UTILITY POLE
- —OH— INDICATES OVERHEAD POWER LINES
- —o— INDICATES 4' TALL BARB-WIRE FENCE
- INDICATES 8" OAK TREE
- INDICATES 8" PINE TREE

TREE NOTE: INDICATED TREE SIZE IS TRUNK DIAMETER IN INCHES, 4-5 FOOT ABOVE GROUND

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
SCALE: 24"X 36" SHEET 1" = 40'
SCALE: 11"X 17" SHEET 1" = 80'

N

SURVEYOR'S NOTES

1. BEARINGS HEREON ARE REFERENCED TO THE ASSUMED BEARING OF SOUTH 86°14'28" WEST ALONG THE SOUTH LINE OF THE NORTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 36, TOWNSHIP 4 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA, ALSO BEING THE SOUTH LINE OF THE PARENT PARCEL.

2. UNDERGROUND UTILITIES SHOWN HEREON ARE LIMITED TO AND ARE PER OBSERVED, ABOVEGROUND INDICATIONS SET BY OTHERS. NO SUB-SURFACE INVESTIGATION WAS PERFORMED BY THIS OFFICE.

3. THE BOUNDARY AND TOPOGRAPHIC SURVEY SHOWN HEREON IS BASED ON ACTUAL FIELD MEASUREMENTS AND OBSERVATIONS DATED FEBRUARY 22, 2018.

4. UNLESS NOTED OTHERWISE, ALL BEARINGS AND DISTANCES SHOWN HEREON ARE MEASURED (M).

5. REPRODUCTIONS OF THIS SKETCH ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

6. LATITUDE, LONGITUDE AND ELEVATIONS DEPICTED HEREON ARE BASED UPON GPS OBSERVATIONS MADE WITH A CHAMPION REAL TIME CORRECTED GPS SYSTEM.

7. ELEVATIONS DEPICTED HEREON ARE REFERENCED TO THE NAVD'88 DATUM.

8. SYMBOLS SHOWN HEREON ARE NOT TO SCALE.

9. THIS SURVEY WAS PREPARED WITH THE BENEFIT OF A COMMITMENT FOR TITLE INSURANCE. THIS OFFICE HAS NOT PERFORMED AN INDEPENDENT SEARCH OF THE PUBLIC RECORDS FOR EXISTING EASEMENTS, RIGHTS-OF-WAY, ABANDONMENTS, ZONING, SETBACKS OR DEED RESTRICTIONS.

10. THE VERIZON WIRELESS TOWER PARCEL AND THE ASSOCIATED 30 FOOT WIDE NON-EXCLUSIVE INGRESS, EGRESS AND UTILITY EASEMENT SHOWN IN THIS SURVEY LIE ENTIRELY WITHIN THE DESCRIBED PARENT PARCEL.

11. THE SURVEYOR HAS REVIEWED THE COMMITMENT FOR TITLE INSURANCE ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, ORDER NO. 30538684, WITH A DATE OF 12/12/2019. ALL PLOTTABLE MATTERS OF RECORD TITLE, EXCEPT LIENS AND/OR LEASES, IDENTIFIED IN THAT COMMITMENT FOR TITLE INSURANCE THAT ARE PERTINENT TO THE VERIZON WIRELESS TOWER PARCEL, AND ITS ACCESS AND UTILITY EASEMENTS, IF APPLICABLE, HAVE BEEN SHOWN OR NOTED ON THE SURVEY. THE SURVEYOR HAS RELIED UPON THE COMMITMENT FOR TITLE INSURANCE AND A VISUAL INSPECTION OF THE PROPERTY WITH RESPECT TO EASEMENTS, RIGHTS-OF-WAY, SETBACK LINES, AGREEMENTS, RESERVATIONS, AND OTHER SIMILAR MATTERS.

12. BASED UPON THE SUBJECT COMMITMENT FOR TITLE INSURANCE, THE EAST RIGHT-OF-WAY LINE OF PRINCE CREEK ROAD / COUNTY ROAD 245 (A PUBLIC RIGHT-OF-WAY) IS CONTIGUOUS WITH THE WESTERLY BOUNDARY OF THE PARENT PARCEL DESCRIBED IN THIS SURVEY. NO EASEMENTS OR OTHER RIGHTS OF THIRD PARTIES DISCLOSED BY THAT COMMITMENT FOR TITLE INSURANCE WOULD PRECLUDE ACCESS OVER THE PARENT PARCEL FROM THE VERIZON WIRELESS TOWER PARCEL TO THAT PUBLIC RIGHT-OF-WAY.

13. AT THE TIME OF THIS SURVEY, THERE WERE NO APPARENT ENCROACHMENTS OF IMPROVEMENTS LOCATED ON ADJOINING PARCELS ONTO THE SUBJECT TOWER PARCEL OR THE 30 FOOT WIDE NON-EXCLUSIVE INGRESS, EGRESS AND UTILITY EASEMENT, OR IMPROVEMENTS LOCATED ON THE SUBJECT TOWER PARCEL ONTO ADJOINING PARCELS.

FLOOD NOTE

ACCORDING TO MY INTERPRETATION OF COMMUNITY PANEL NUMBER 120070 405 C OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) NATIONAL FLOOD INSURANCE PROGRAM (NFIP) FLOOD INSURANCE RATE MAP (FIRM) FOR COLUMBIA COUNTY, FLORIDA, DATED 2/4/2009, THE SUBJECT PROPERTY IS IN FLOOD ZONE "A", SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD, NO BASE FLOOD ELEVATIONS DETERMINED." AND IN FLOOD ZONE "X", "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN".

SETBACK DISTANCES FROM THE CENTER OF THE PROPOSED TOWER TO THE SOUTH AND WEST LINES OF THE PARENT PARCEL:

SOUTH LINE = 304'±
WEST LINE = 278'±

PROPOSED TOWER LOCATION INFORMATION

NAD 83
LATITUDE = 30°06'10.79" N ±20'
LONGITUDE = 82°34'26.95" W ±20'

NAD 27
LATITUDE = 30°06'09.95" N ±20'
LONGITUDE = 82°34'27.51" W ±20'

GROUND ELEVATION AT BASE OF TOWER = 147.9'±3' NAVD88
GROUND ELEVATION AT BASE OF TOWER = 148.7'±3' NGVD29

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY TO: VERTICAL BRIDGE REIT, LLC, A DELAWARE LIMITED LIABILITY COMPANY, ITS SUBSIDIARIES, AND THEIR RESPECTIVE SUCCESSORS AND/OR ASSIGNS; TORONTO DOMINION (TEXAS) LLC, AS ADMINISTRATIVE AGENT, FOR ITSELF AND ON BEHALF OF THE LENDERS PARTIES FROM TIME TO TIME TO THAT CERTAIN SECOND AMENDED AND RESTATED LOAN AGREEMENT DATED JUNE 17, 2016 WITH VERTICAL BRIDGE HOLDCO, LLC, AS BORROWER, AND VERTICAL BRIDGE HOLDCO PARENT, LLC, AS PARENT, AS MAY BE AMENDED, RESTATED, MODIFIED OR RENEWED, THEIR SUCCESSORS AND ASSIGNS AS THEIR INTERESTS MAY APPEAR; AND FIDELITY NATIONAL TITLE INSURANCE COMPANY

DAVID G. SHORT CERTIFICATE No.5022 STATE OF FLORIDA PROFESSIONAL SURVEYOR & MAPPER

GEOLINE SURVEYING, INC., LB 7082

2/18/2020

DAVID G. SHORT
FLORIDA PROFESSIONAL SURVEYOR AND MAPPER
CERTIFICATE OF REGISTRATION NO. 5022

GEOLINE SURVEYING, INC.
Professional Land Surveyors
13430 NW 104th Terrace, Suite A
Alachua, Florida 32615
(386)418.0500 Fax:(386)462-9986
geoline@geolineinc.com

DESIGNED	KEITH BARTON	SCALE	AS SHOWN
DRAWN	KEITH BARTON	DATE	FEBRUARY 22, 2012
CHECKED	DAVID SHORT	PROJECT #	276-206

VERTICAL BRIDGE DEVELOPMENT, LLC EBENEZER SITE SITE NO. US-FL-5391, COLUMBIA COUNTY, FLORIDA

DRAWING # 276-206 | SHEET # 1 OF 2

REVISED 2/18/2020 CONVERTED SURVEY TO THE VERTICAL BRIDGE FORMAT, CONFIGURED AND DESCRIBED VERIZON WIRELESS EQUIPMENT LEASE AREA

BOUNDARY AND TOPOGRAPHIC SURVEY

IN SECTION 36, TOWNSHIP 4 SOUTH, RANGE 17 EAST,
COLUMBIA COUNTY, FLORIDA
FOR: VERTICAL BRIDGE DEVELOPMENT, LLC

COMMITMENT FOR TITLE INSURANCE REVIEW NOTE

I HAVE REVIEWED THE COMMITMENT FOR TITLE INSURANCE PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, ORDER NO. 30538684, WITH A DATE OF 12/12/2019, AND FIND AS FOLLOWS WITH RESPECT TO THE FOLLOWING EXCEPTIONS LISTED ON SCHEDULE B–II OF SAID COMMITMENT:

1. ANY DEFECT, LIEN, ENCUMBRANCE, ADVERSE CLAIM, OR OTHER MATTER THAT APPEARS FOR THE FIRST TIME IN THE PUBLIC RECORDS OR IS CREATED, ATTACHES, OR IS DISCLOSED BETWEEN THE COMMITMENT DATE AND THE DATE ON WHICH ALL OF THE SCHEDULE B, PART I–REQUIREMENTS ARE MET. NOT THE TYPE TO BE DEPICTED HEREON.

2. RIGHTS OR CLAIMS OF PARTIES IN POSSESSION NOT SHOWN BY THE PUBLIC RECORDS. NOT THE TYPE TO BE DEPICTED HEREON.

3. ANY ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATION, OR ADVERSE CIRCUMSTANCE AFFECTING THE TITLE THAT WOULD BE DISCLOSED BY AN ACCURATE AND COMPLETE LAND SURVEY OF THE LAND. AS DEPICTED HEREON.

4. EASEMENTS, OR CLAIMS OF EASEMENTS, NOT SHOWN BY THE PUBLIC RECORDS. NOT THE TYPE TO BE DEPICTED HEREON.

5. ANY LIEN, OR RIGHT TO A LIEN, FOR SERVICES, LABOR, OR MATERIAL HERETOFORE OR HEREAFTER FURNISHED, IMPOSED BY LAW AND NOT SHOWN BY THE PUBLIC RECORDS. NOT THE TYPE TO BE DEPICTED HEREON.

6. TAXES OR SPECIAL ASSESSMENTS WHICH ARE NOT SHOWN AS EXISTING LIENS BY THE PUBLIC RECORDS. NOT THE TYPE TO BE DEPICTED HEREON.

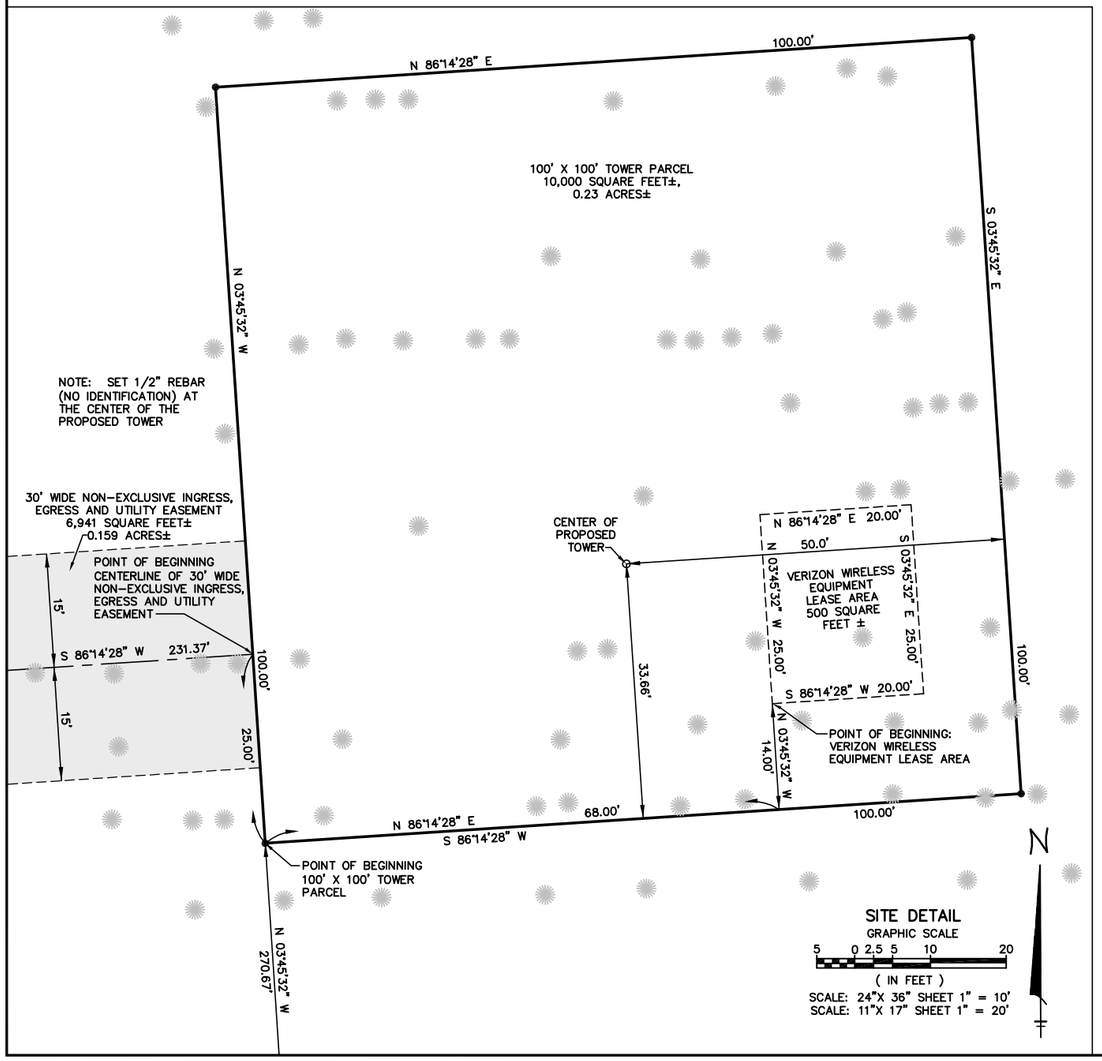
SPECIAL EXCEPTIONS:

7. TAXES FOR THE YEAR 2020 AND SUBSEQUENT YEARS, A LIEN NOT YET DUE AND PAYABLE. NOT THE TYPE TO BE DEPICTED HEREON.

8. TIMBER SALE CONTRACT DATED JUNE 24, 1993 BY AND BETWEEN ROGER C. PURSLEY & BERTIE D. PURSLEY, AS GRANTOR, AND DOCK T. SEAY, A CORPORATION, AS GRANTEE, RECORDED ON JUNE 24, 1993 IN OFFICIAL RECORD BOOK 0776, PAGE 1063; PUBLIC NOTICE OF TIMBER TRANSACTION RECORDED ON JUNE 29, 1993 IN OFFICIAL RECORD BOOK 0776, PAGE 1521. REFERENCES THE PARENT PARCEL. NOT THE TYPE TO BE DEPICTED HEREON.

9. RIGHT–OF–WAY EASEMENT IN FAVOR OF CLAY ELECTRIC COOPERATIVE, INC., A FLORIDA CORPORATION SET FORTH IN INSTRUMENT RECORDED ON JANUARY 4, 2011 IN OFFICIAL RECORD BOOK 1207, PAGE 1731. DOES NOT INCLUDE THE PARENT PARCEL. NOT DEPICTED HEREON.

10. TERMS AND CONDITIONS OF MEMORANDUM OF LAND LEASE AGREEMENT DATED JUNE 11, 2018 BY AND BETWEEN BERTIE D. PURSLEY, AND VERIZON WIRELESS PERSONAL COMMUNICATIONS LP D/B/A VERIZON WIRELESS, A DELAWARE LIMITED PARTNERSHIP, RECORDED ON JUNE 21, 2018 IN OFFICIAL RECORD BOOK 1362, PAGE 2405. REFERENCES THE SUBJECT TOWER PARCEL AND THE ASSOCIATED EASEMENT DEPICTED HEREON.



PROPERTY DESCRIPTIONS

PARENT PARCEL
(EXHIBIT "A", COMMITMENT FOR TITLE INSURANCE)

ALL THAT CERTAIN PARCEL OF LAND LYING AND BEING IN THE COUNTY OF COLUMBIA, AND STATE OF FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THE NORTH–HALF (N 1/2) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 36, TOWNSHIP 4 SOUTH, RANGE 17 EAST, CONTAINING 80 ACRES, MORE OR LESS.

LESS AND EXCEPT THAT PORTION OF PROPERTY CONVEYED TO LENVIL H. DICKS FROM ROGER C. PURSLEY AND BERTIE D. PURSLEY BY WARRANTY DEED DATED JANUARY 29, 1991 AND RECORDED JANUARY 30, 1991 IN DEED BOOK 0741, PAGE 0751.

LESS AND EXCEPT THAT PORTION OF PROPERTY CONVEYED TO ROBERT P. DICKS, JR. AND FRANCES F. DICKS FROM ROGER C. PURSLEY AND BERTIE D. PURSLEY BY DEED DATED JANUARY 29, 1991 AND RECORDED FEBRUARY 18, 1991 IN DEED BOOK 742, PAGE 11.

AND BEING A PORTION OF THE SAME PROPERTY CONVEYED TO ROGER C. PURSLEY AND BERTIE D. PURSLEY FROM JESSE F. PYLE AND MARGARET H. PYLE BY WARRANTY DEED DATED SEPTEMBER 4, 1951 AND RECORDED SEPTEMBER 6, 1951 IN DEED BOOK 79, PAGE 319; THE SAID ROGER C. PURSLEY, DEPARTED THIS EARTH ON OR ABOUT SEPTEMBER 15, 2009, LEAVING BERTIE D. PURSLEY HIS SURVIVING TENANT BY THE ENTIRETY.

TAX PARCEL NO. 36–4S–17–09045–000

TOWER PARCEL
(OFFICIAL RECORD BOOK 1362, PAGE 2405)

THAT PART OF THE NORTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 36, TOWNSHIP 4 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHEAST CORNER OF THE NORTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 36, TOWNSHIP 4 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA, THENCE SOUTH 86°14'28" WEST ALONG THE SOUTH LINE OF SAID NORTH 1/2 OF THE NORTHWEST 1/4 FOR 2316.31 FEET; THENCE NORTH 03°45'32" WEST FOR 270.67 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE NORTH 03°45'32" WEST FOR 100.00 FEET; THENCE NORTH 86°14'28" EAST ALONG A LINE PARALLEL WITH SAID SOUTH LINE FOR 100.00 FEET; THENCE SOUTH 03°45'32" EAST FOR 100.00 FEET; THENCE SOUTH 86°14'28" WEST ALONG A LINE PARALLEL WITH SAID SOUTH LINE FOR 100.00 FEET TO SAID POINT OF BEGINNING.

CONTAINING 10,000 SQUARE FEET (0.23 ACRES), MORE OR LESS.

30–FOOT WIDE NON–EXCLUSIVE INGRESS, EGRESS AND UTILITY EASEMENT
(OFFICIAL RECORD BOOK 1362, PAGE 2405)

THAT PART OF THE NORTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 36, TOWNSHIP 4 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA, LYING WITHIN 15 FEET OF BOTH SIDES OF A CENTERLINE, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHEAST CORNER OF THE NORTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 36, TOWNSHIP 4 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA, THENCE SOUTH 86°14'28" WEST ALONG THE SOUTH LINE OF SAID NORTH 1/2 OF THE NORTHWEST 1/4 FOR 2316.31 FEET; THENCE NORTH 03°45'32" WEST FOR 270.67 FEET TO THE SOUTHWEST CORNER OF A 100 FOOT BY 100 FOOT TOWER PARCEL; THENCE CONTINUE NORTH 03°45'32" WEST ALONG THE WEST LINE OF SAID TOWER PARCEL FOR 25.00 FEET TO THE POINT OF BEGINNING OF THE CENTERLINE OF THE HEREIN DESCRIBED 20 FOOT WIDE NON–EXCLUSIVE INGRESS, EGRESS AND UTILITY EASEMENT; THENCE SOUTH 86°14'28" WEST FOR 231.37 FEET TO AN INTERSECTION WITH THE EASTERLY RIGHT OF WAY LINE OF PRINCE CREEK ROAD / COUNTY ROAD 245 AND THE POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

CONTAINING 6,941 SQUARE FEET (0.159 ACRES), MORE OR LESS.

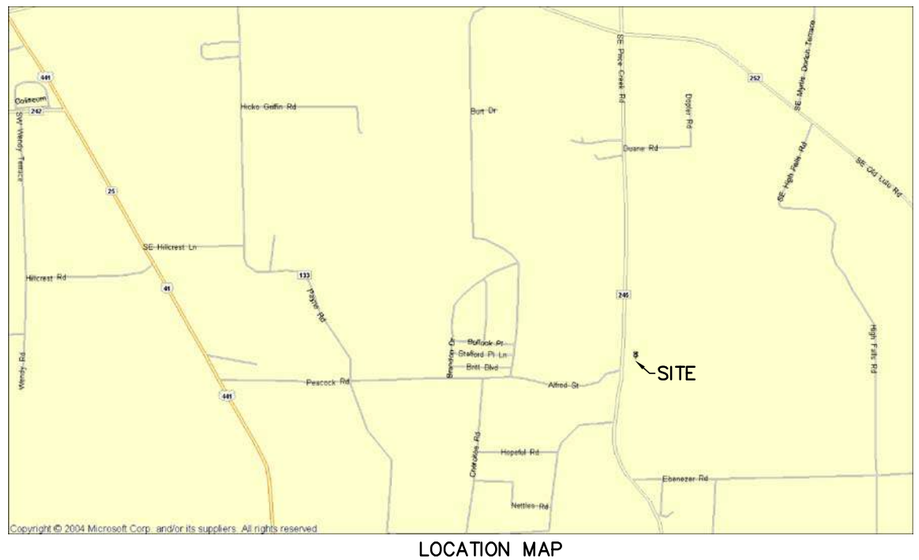
VERIZON WIRELESS EQUIPMENT LEASE AREA
(PREPARED BY GEOLINE SURVEYING, INC.)

THAT PART OF THE NORTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 36, TOWNSHIP 4 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHEAST CORNER OF THE NORTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 36, TOWNSHIP 4 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA, THENCE SOUTH 86°14'28" WEST ALONG THE SOUTH LINE OF SAID NORTH 1/2 OF THE NORTHWEST 1/4 FOR 2316.31 FEET; THENCE NORTH 03°45'32" WEST FOR 270.67 FEET TO THE SOUTHWESTERLY CORNER OF A TOWER PARCEL AS PER DESCRIPTION RECORDED IN OFFICIAL RECORD BOOK 1362, PAGE 2405 OF THE PUBLIC RECORDS OF SAID COLUMBIA COUNTY; THENCE NORTH 86°14'28" EAST ALONG THE SOUTHERLY LINE OF SAID TOWER PARCEL FOR 68.00 FEET; THENCE NORTH 03°45'32" WEST FOR 14.00 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE NORTH 03°45'32" WEST FOR 25.00 FEET; THENCE NORTH 86°14'28" EAST ALONG A LINE PARALLEL WITH SAID SOUTHERLY LINE FOR 20.00 FEET; THENCE SOUTH 03°45'32" EAST FOR 25.00 FEET; THENCE SOUTH 86°14'28" WEST ALONG A LINE PARALLEL WITH SAID SOUTHERLY LINE FOR 20.00 FEET TO SAID POINT OF BEGINNING.

CONTAINING 500 SQUARE FEET, MORE OR LESS.

VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

GEOLINE SURVEYING, INC.
Professional Land Surveyors
13430 NW 104th Terrace, Suite A
Alachua, Florida 32615
(386)418.0500 Fax:(386)462–9986
geoline@geolineinc.com

DESIGNED	KEITH BARTON	SCALE	AS SHOWN
DRAWN	KEITH BARTON	DATE	FEBRUARY 22, 2012
CHECKED	DAVID SHORT	PROJECT #	276–206

VERTICAL BRIDGE DEVELOPMENT, LLC EBENEZER SITE
SITE NO. US–FL–5391, COLUMBIA COUNTY, FLORIDA

DRAWING # 276–206 SHEET # 2 OF 2

AERIAL VIEW

SCALE AS NOTED | 1

REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
B	03/24/25	REVISED PER COMMENTS
0	06/09/25	REVISED PER COMMENTS

PROJECT NO.:	25-5114
DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
13005 TELECOM PARKWAY N SUITE 102
TEMPLE TERRACE, FLORIDA 33637
(813) 615-1422
CERTIFICATE OF AUTHORIZATION 33693

T-Mobile
7025 A.C. SKINNER PARKWAY
JACKSONVILLE, FL 32256

JEREMY D. SHARIT
LICENSE
No. 75137
STATE OF FLORIDA
PROFESSIONAL ENGINEER
06/09/25
JEREMY D. SHARIT PE FL LIC 75137

9JKJ2254A
#9JK2254A

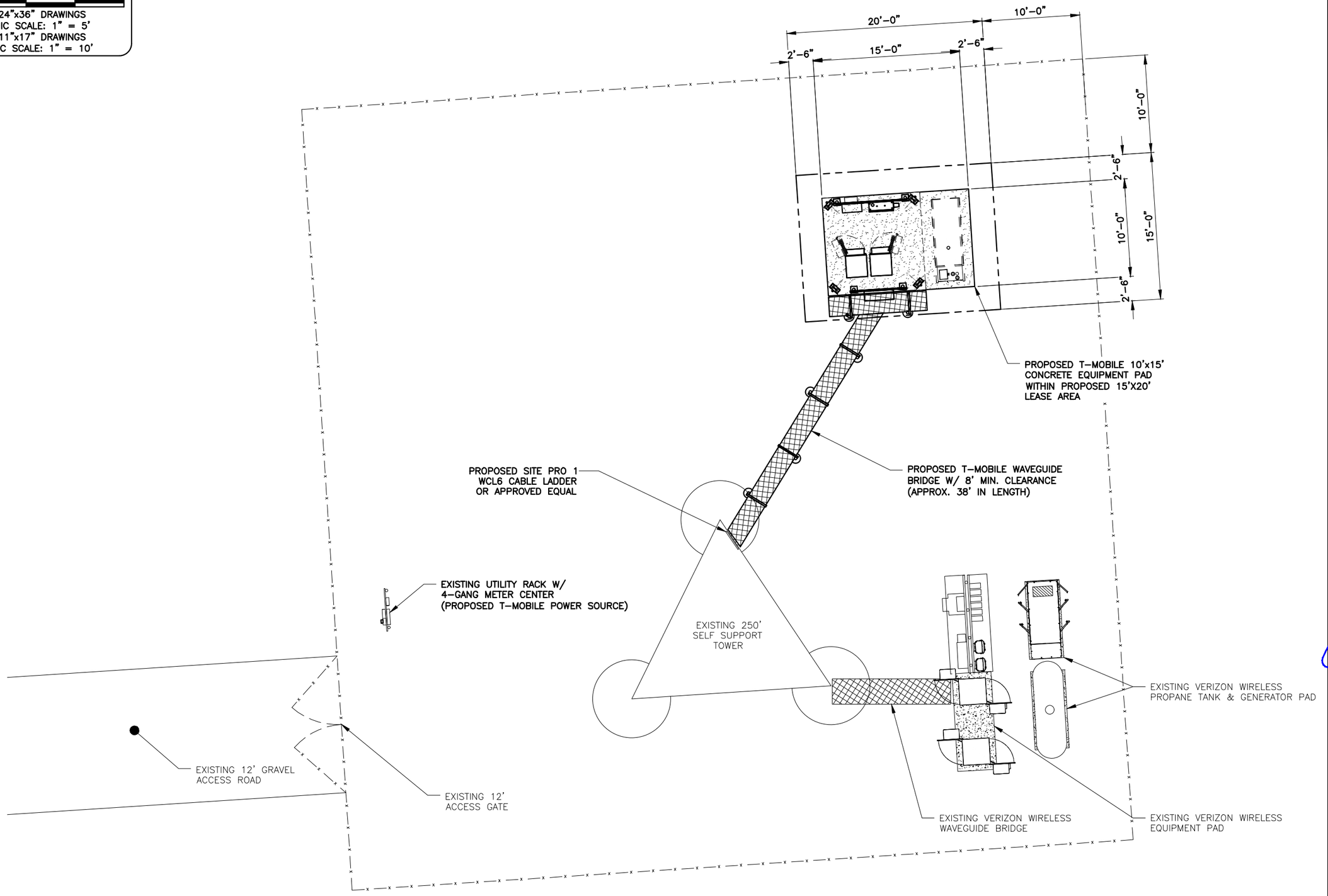
6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
AERIAL VIEW

SHEET NUMBER
C1

10' 0' 5' 10'

FOR 24"x36" DRAWINGS
GRAPHIC SCALE: 1" = 5'
FOR 11"x17" DRAWINGS
GRAPHIC SCALE: 1" = 10'



PROPOSED COMPOUND PLAN

SCALE AS NOTED | 1

REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
B	03/24/25	REVISED PER COMMENTS
0	06/09/25	REVISED PER COMMENTS

PROJECT NO.:	25-5114
DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
13005 TELECOM PARKWAY N SUITE 102
TEMPLE TERRACE, FLORIDA 33637
(813) 615-1422
CERTIFICATE OF AUTHORIZATION 33693

T-Mobile
7025 A.C. SKINNER PARKWAY
JACKSONVILLE, FL 32256

JEREMY D. SHARIT LICENSE No. 75137 STATE OF FLORIDA PROFESSIONAL ENGINEER
06/09/25
JEREMY D. SHARIT PE FL LIC 75137

9JKJ2254A
#9JK2254A

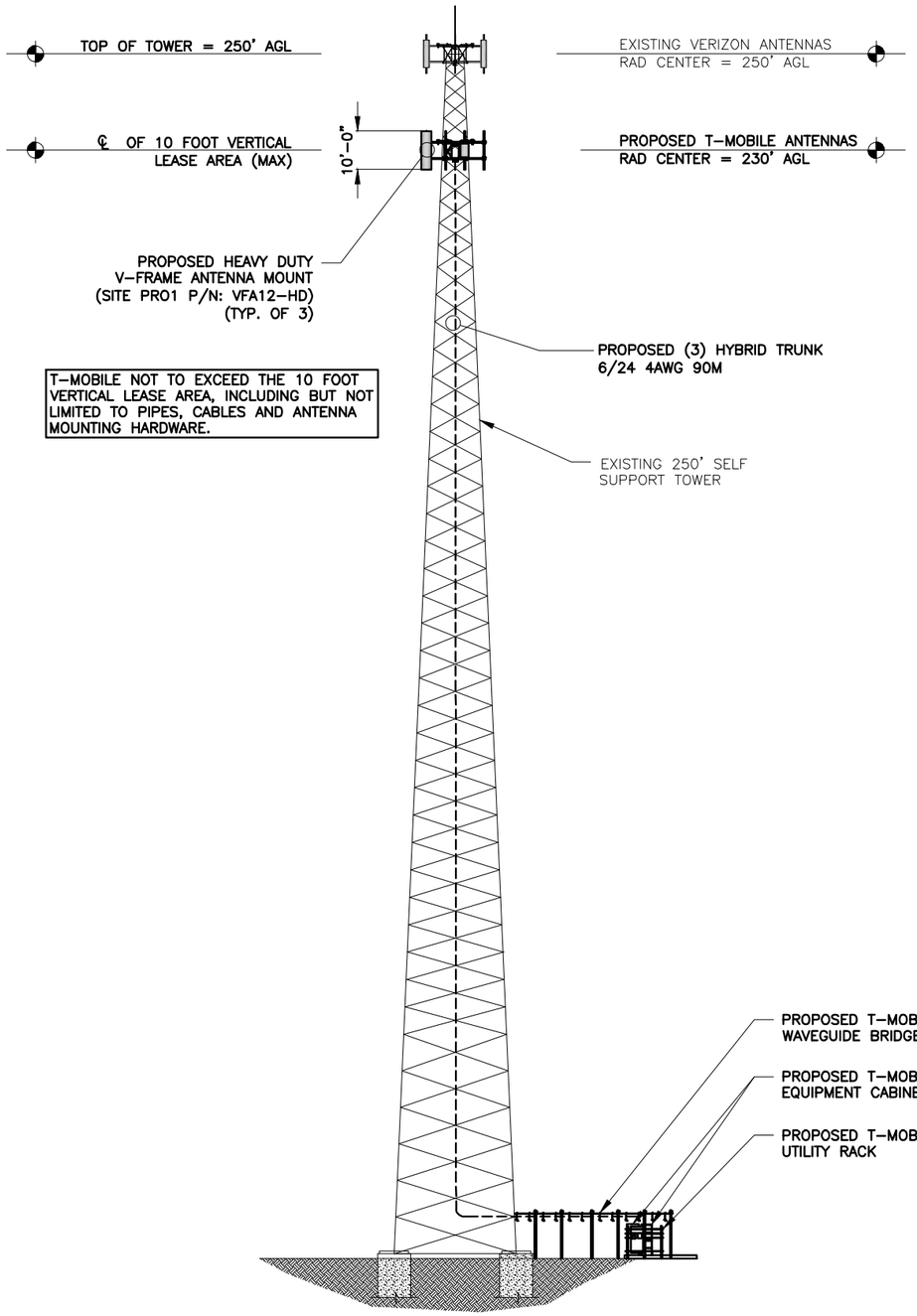
6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
PROPOSED COMPOUND PLAN

SHEET NUMBER
C2

32' 0' 16' 32'

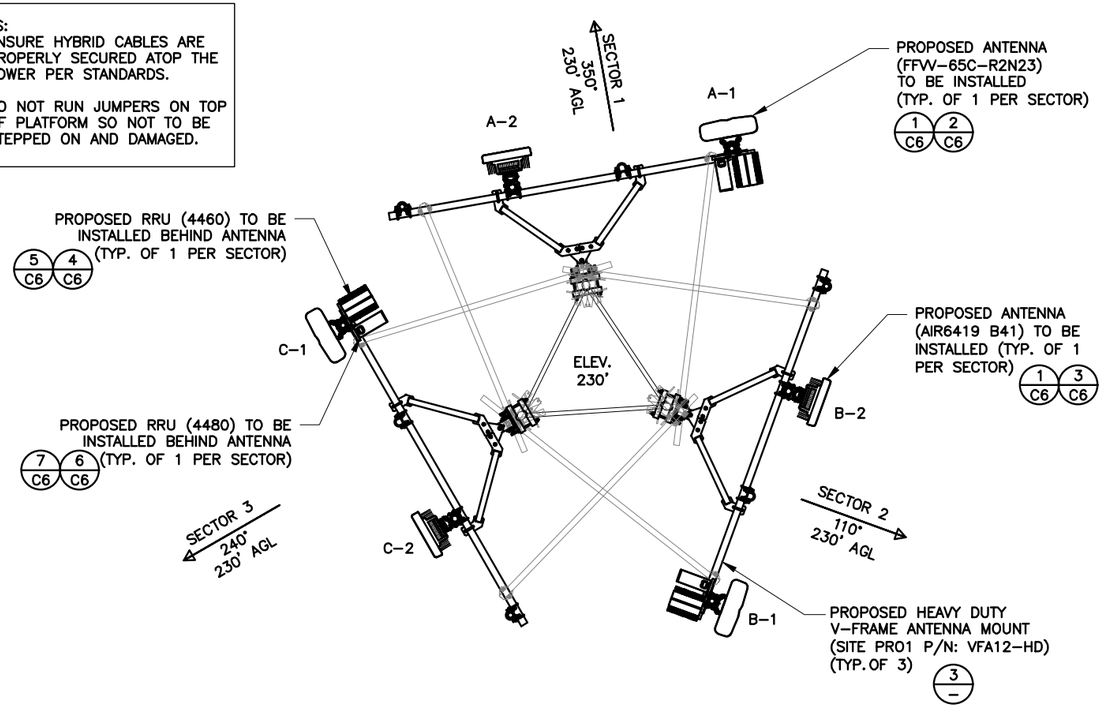
FOR 24"x36" DRAWINGS
GRAPHIC SCALE: 1/16" = 1'-0"
FOR 11"x17" DRAWINGS
GRAPHIC SCALE: 1/32" = 1'-0"



T-MOBILE NOT TO EXCEED THE 10 FOOT VERTICAL LEASE AREA, INCLUDING BUT NOT LIMITED TO PIPES, CABLES AND ANTENNA MOUNTING HARDWARE.

TOWER ELEVATION — SCALE AS NOTED | 1

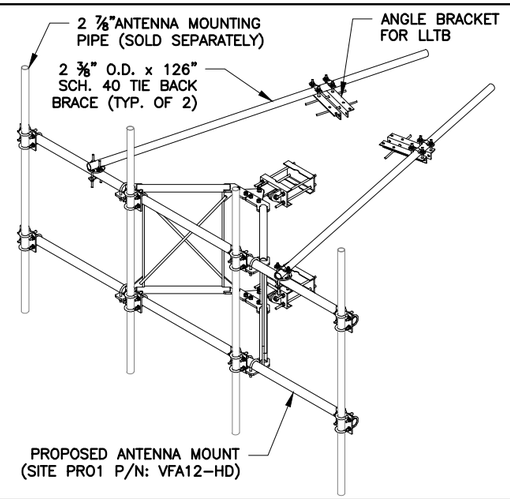
NOTES:
1. ENSURE HYBRID CABLES ARE PROPERLY SECURED ATOP THE TOWER PER STANDARDS.
2. DO NOT RUN JUMPERS ON TOP OF PLATFORM SO NOT TO BE STEPPED ON AND DAMAGED.



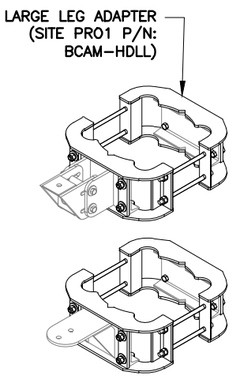
FINAL ANTENNA SCHEDULE

SECTOR	RAD	AZ	POS	ANTENNA	RRU MODEL	ANTENNA CABLE DESCRIPTION
ALPHA	230'	350°	A1	FFVV-65C-R2N23	4460 & 4480	(3) HYBRID TRUNK 6/24 4AWG 90M
			A2	AIR6419 B41	—	
BETA	230'	110°	B1	FFVV-65C-R2N23	4460 & 4480	
			B2	AIR6419 B41	—	
GAMMA	230'	240°	C1	FFVV-65C-R2N23	4460 & 4480	
			C2	AIR6419 B41	—	

PROPOSED ANTENNA LAYOUT — NTS | 2



PROPOSED MOUNT — NTS | 3



STAND-OFF DETAIL — NTS | 4

REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
B	03/24/25	REVISED PER COMMENTS
0	06/09/25	REVISED PER COMMENTS

PROJECT NO.:	25-5114
DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
13005 TELECOM PARKWAY N SUITE 102
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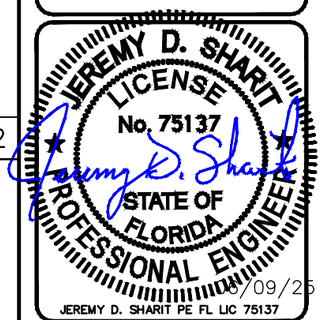
(813) 615-1422
CERTIFICATE OF AUTHORIZATION 33693

T-Mobile
7025 A.C. SKINNER PARKWAY
JACKSONVILLE, FL 32256



9JKJ2254A
#9JK2254A

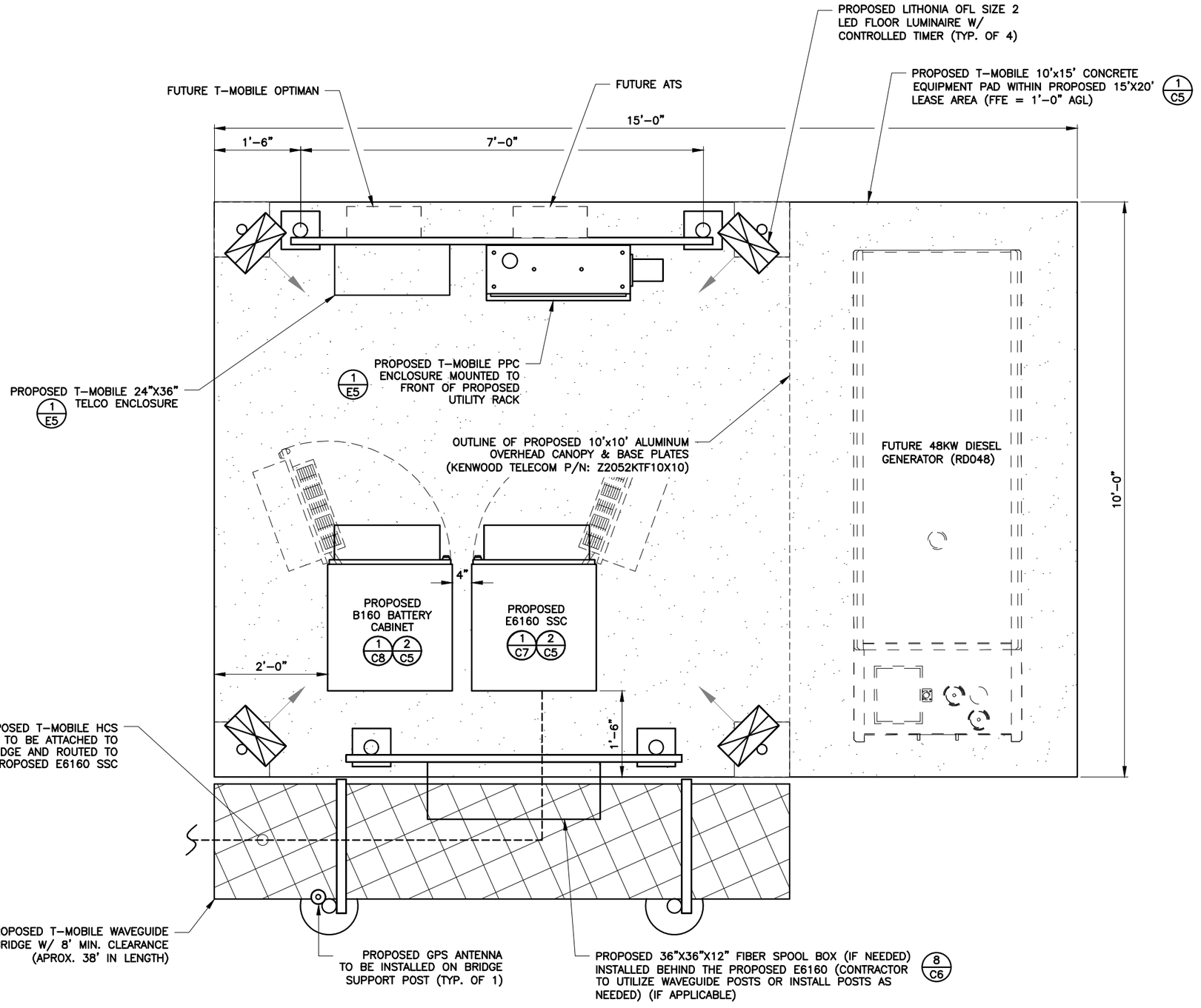
6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
TOWER ELEVATION & ANTENNA LAYOUT

SHEET NUMBER
C3

2' 0' 1' 2'

FOR 24"x36" DRAWINGS
GRAPHIC SCALE: 1" = 1'-0"
FOR 11"x17" DRAWINGS
GRAPHIC SCALE: 1/2" = 1'-0"



EQUIPMENT PLAN

SCALE AS NOTED | 1

REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
B	03/24/25	REVISED PER COMMENTS
0	06/09/25	REVISED PER COMMENTS

PROJECT NO.:	25-5114
DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
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CERTIFICATE OF AUTHORIZATION 33693

T-Mobile
7025 A.C. SKINNER PARKWAY
JACKSONVILLE, FL 32256

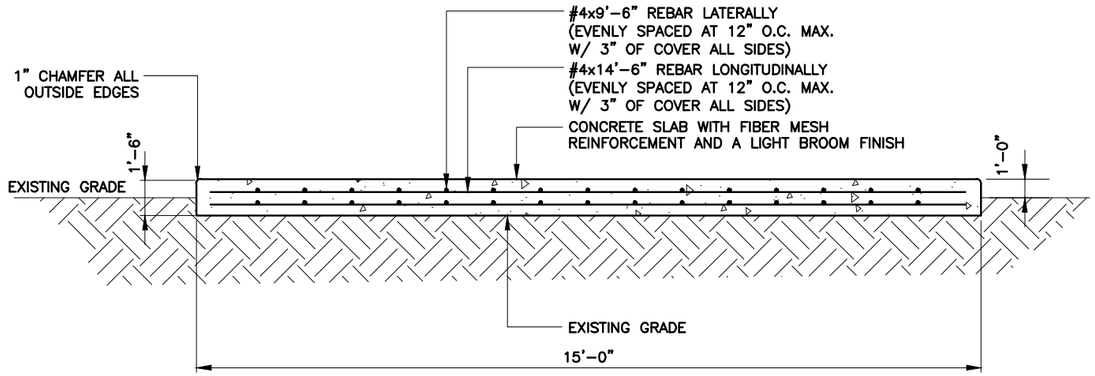
JEREMY D. SHARIT LICENSE No. 75137 STATE OF FLORIDA PROFESSIONAL ENGINEER
6/09/25
JEREMY D. SHARIT PE FL LIC 75137

9JKJ2254A
#9JK2254A

6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

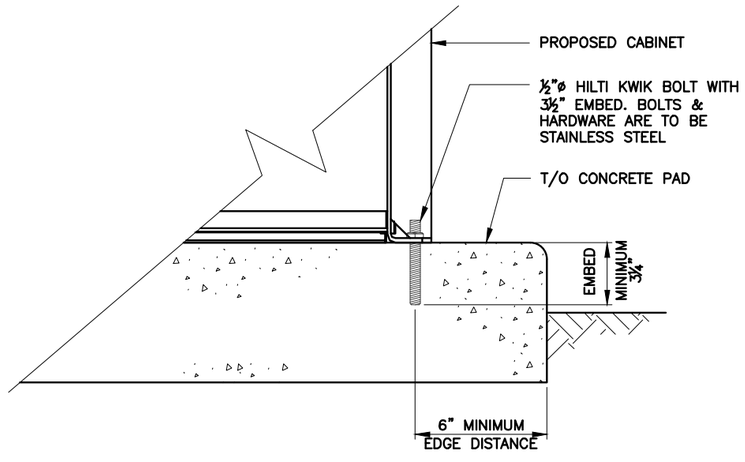
SHEET NAME
EQUIPMENT PLAN

SHEET NUMBER
C4



NOTES:
1. ALL CONCRETE TO HAVE A COMPRESSIVE STRENGTH OF fc'=3000 PSI WITH COMMERCIAL GRADE FIBER MESH REINFORCEMENT 1.5# PER CU. YARD
2. CONCRETE PAD IS DESIGNED TO BEAR ON 2000 PSF SOIL BEARING CAPACITY TO BE VERIFIED AT TIME OF EXCAVATION BY A SOILS ENGINEER REGISTERED IN THE STATE OF FLORIDA.

EQUIPMENT PAD FOUNDATION DETAIL — NTS | 1



CABINET MOUNTING DETAIL — NTS | 2

REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
B	03/24/25	REVISED PER COMMENTS
0	06/09/25	REVISED PER COMMENTS

PROJECT NO.:	25-5114
DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
13005 TELECOM PARKWAY N SUITE 102
TEMPLE TERRACE, FLORIDA 33637
(813) 615-1422
CERTIFICATE OF AUTHORIZATION 33693

T-Mobile
7025 A.C. SKINNER PARKWAY
JACKSONVILLE, FL 32256

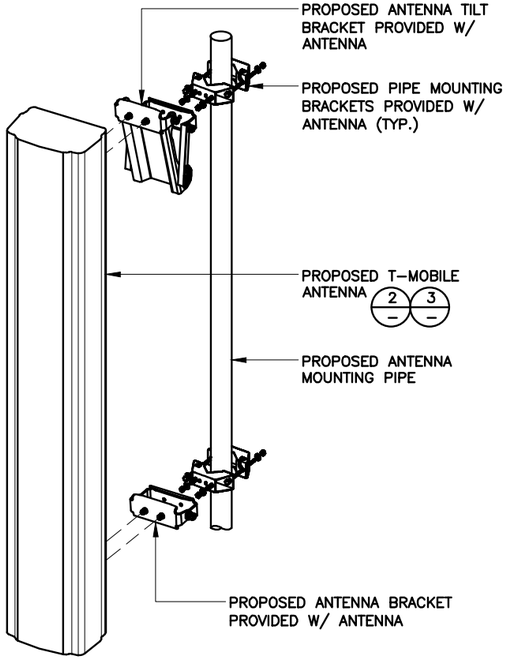
JEREMY D. SHARIT LICENSE No. 75137 STATE OF FLORIDA PROFESSIONAL ENGINEER
06/09/25
JEREMY D. SHARIT PE FL LIC 75137

9JKJ2254A
#9JK2254A

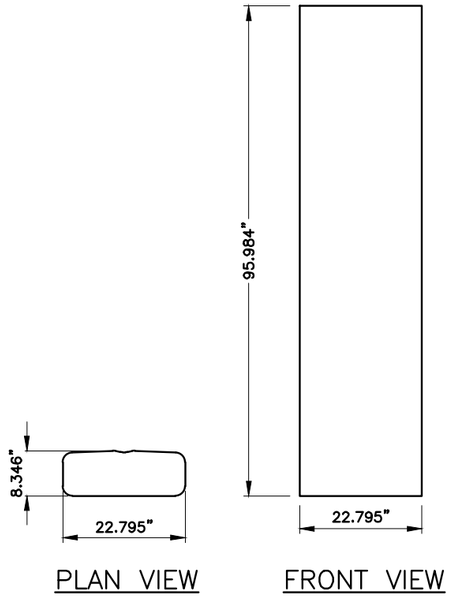
6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
EQUIPMENT PAD & CABINET ANCHORING DETAILS

SHEET NUMBER
C5

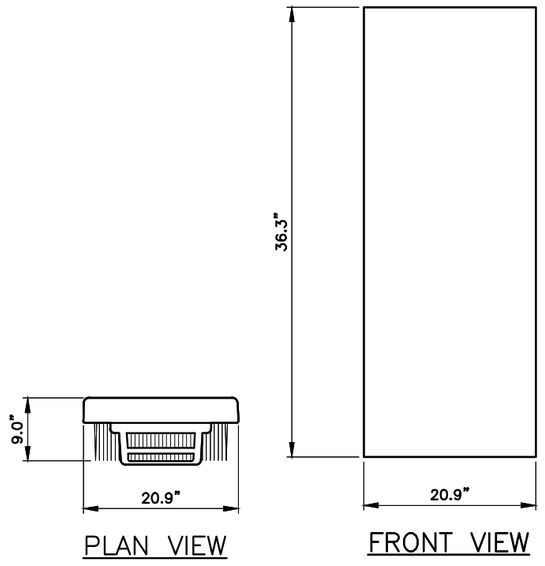


ANTENNA MOUNTING DETAIL NTS | 1



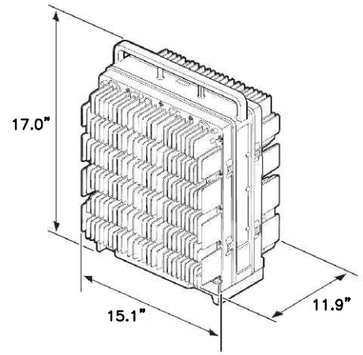
MODEL: COMMSCOPE FFVV-65C-R2N23
WEIGHT: 103.617 LBS

ANTENNA SPECS NTS | 2



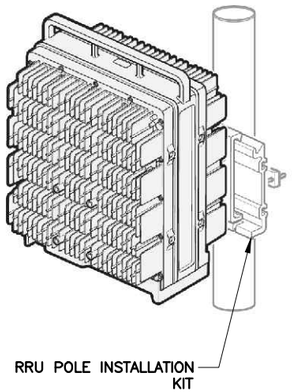
MODEL: AIR6419 B41
WEIGHT: 83.3 LBS

ANTENNA SPECS NTS | 3

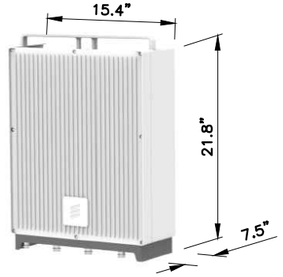


MODEL: RRU 4460
WEIGHT: 109 LBS

4460 RRU SPECS NTS | 4

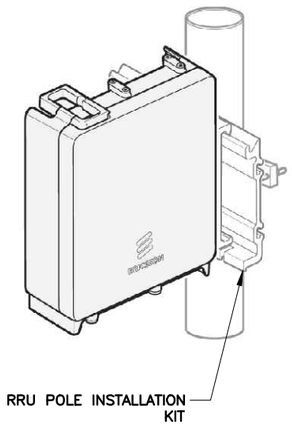


4460 RRU MOUNTING DETAIL NTS | 5

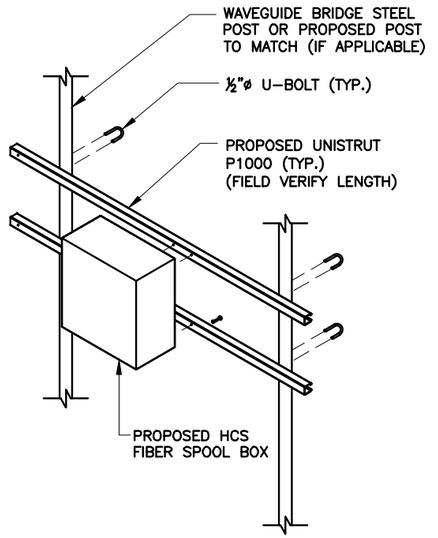


MODEL: RRU 4480
WEIGHT: 93 LBS

4480 RRU SPECS NTS | 6



4480 RRU MOUNTING DETAIL NTS | 7



FIBER SPOOL BOX DETAIL NTS | 8

REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
B	03/24/25	REVISED PER COMMENTS
0	06/09/25	REVISED PER COMMENTS

PROJECT NO.:	25-5114
DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
13005 TELECOM PARKWAY N SUITE 102
TEMPLE TERRACE, FLORIDA 33637
(813) 615-1422
CERTIFICATE OF AUTHORIZATION 33693

T-Mobile
7025 A.C. SKINNER PARKWAY
JACKSONVILLE, FL 32256

JEREMY D. SHARIT LICENSE No. 75137 STATE OF FLORIDA PROFESSIONAL ENGINEER
06/09/25
JEREMY D. SHARIT PE FL LIC 75137

9JKJ2254A
#9JK2254A

6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
DETAILS

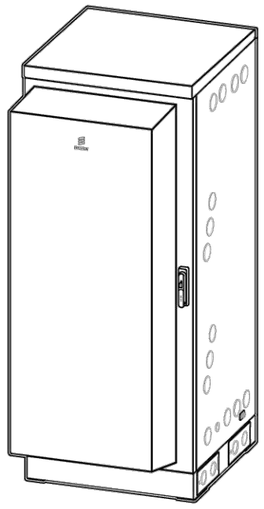
SHEET NUMBER
C6

MANUFACTURER:	ERICSSON
MODEL:	6160 SITE SUPPORT CABINET
WEIGHT:	295 LBS (WITHOUT EQUIPMENT)
DIMENSIONS:	25.6" x 33.5" x 63"

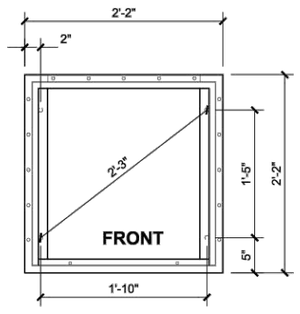
NOTE:

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

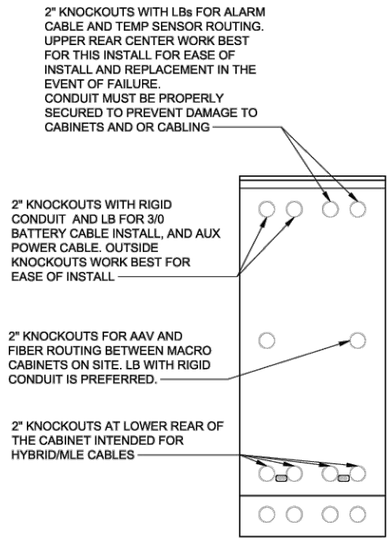
RACK ASSIGNMENT		
RACK	RU SLOT	DESCRIPTION
FULL RACK	1	RECTIFIER SHELF
	2	
	3	
	4	
	5	RECTIFIER
	6	
	7	FIBER BOX
	8	DCDU
	9	CSR/IXR-e
	10	
	11	1ST BASEBAND
	12	2ND BASEBAND
	13	3RD BASEBAND
	14	4TH BASEBAND
	15	5TH BASEBAND
	16	6TH BASEBAND
	17	7TH BASEBAND
	18	8TH BASEBAND
	19	
	20	LEGACY BASEBAND
	21	
	22	PSU 4813
	23	
	24	
	25	



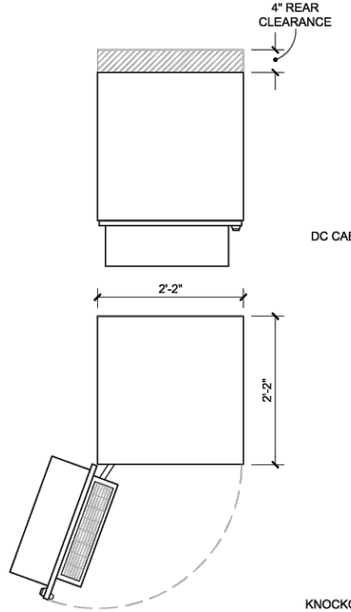
ISO VIEW



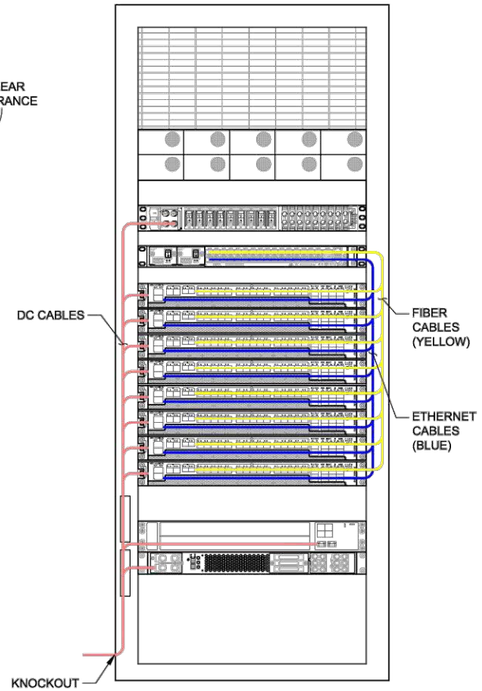
FRONT



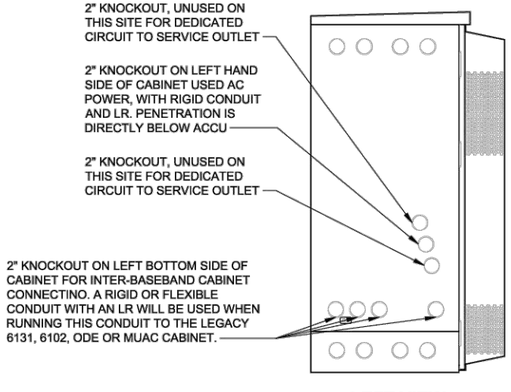
REAR VIEW



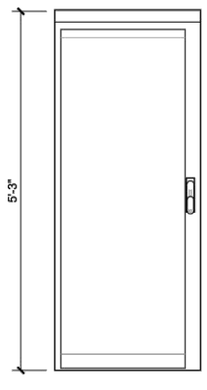
PLAN VIEW



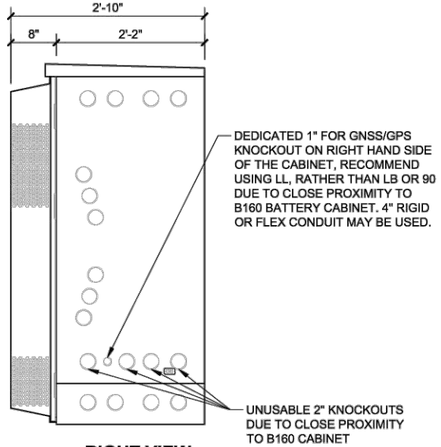
INTERNAL ROUTING



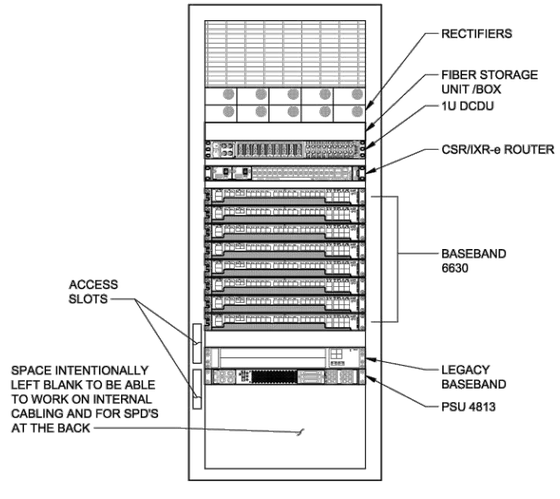
LEFT VIEW



FRONT VIEW



RIGHT VIEW



FRONT VIEW (OPEN)

SKU# 33953 - ERICSSON 6160 SITE SUPPORT CABINET | 1

22"x34" SCALE: N.T.S. | 11"x17" SCALE: N.T.S.

REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
B	03/24/25	REVISED PER COMMENTS
0	06/09/25	REVISED PER COMMENTS

PROJECT NO.:	25-5114
DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
13005 TELECOM PARKWAY N SUITE 102
TEMPLE TERRACE, FLORIDA 33637
(813) 615-1422
CERTIFICATE OF AUTHORIZATION 33693

T-Mobile

7025 A.C. SKINNER PARKWAY
JACKSONVILLE, FL 32256

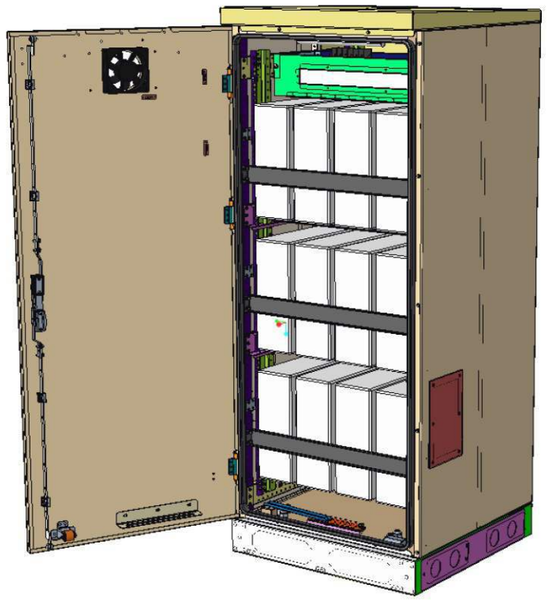
JEREMY D. SHARIT LICENSE No. 75137 STATE OF FLORIDA PROFESSIONAL ENGINEER
6/09/25
JEREMY D. SHARIT PE FL LIC 75137

9JKJ2254A
#9JK2254A

6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
CABINET DETAILS (1 OF 2)

SHEET NUMBER
C7



Capacity
- VRLA 12V: 100Ah / 150Ah / 170Ah / 190Ah / 210Ah
- Li-Ion: 24U 19" / 23"
- Sodium-Nickel: 3x FIAMM

Electrical specification
- DC Output: -48VDC/200A
- Battery breakers: 2x 125/2p
- Alarms: Door open, Climate failure, MCB Connection

Mechanical specification
- Weight: 134kg
- Dimensions: 63 x 26 x 26 in. (incl. Base frame)
- Base frame height: 6 in.
- Material: Galvanized steel (180g/m^2)
- Color: Powder paint NCS 2002-B
- Door: Front access
- Locking type: Pad lock / cylinder

Environmental specification
- Ingress protection: VRLA/Sodium IP44
Li-Ion IP55
- Relative humidity: 15-100%

Climate system
- Air Conditioner
  - Fan type: DC
  - Cooling capacity: 500W @L35/L35
- Convection cooling
  - Emergency fan

ERICSSON B160 CABINET

NTS | 1

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0	06/09/25	REVISED PER COMMENTS

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CHECKED BY:	O. RIVERA

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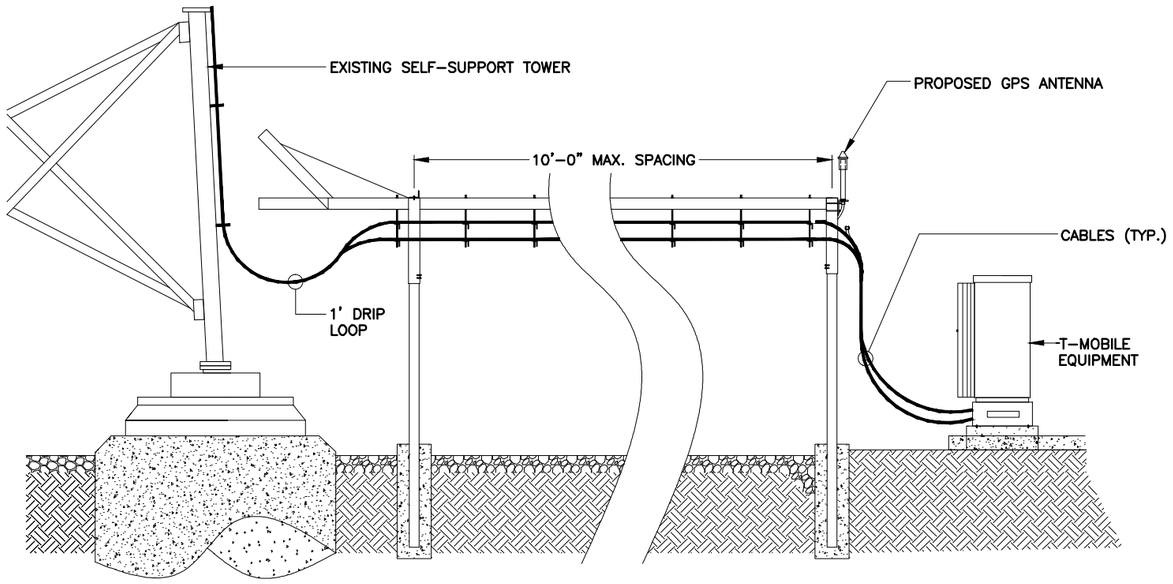
JEREMY D. SHARIT PE FL LIC 75137

9JKJ2254A
#9JK2254A

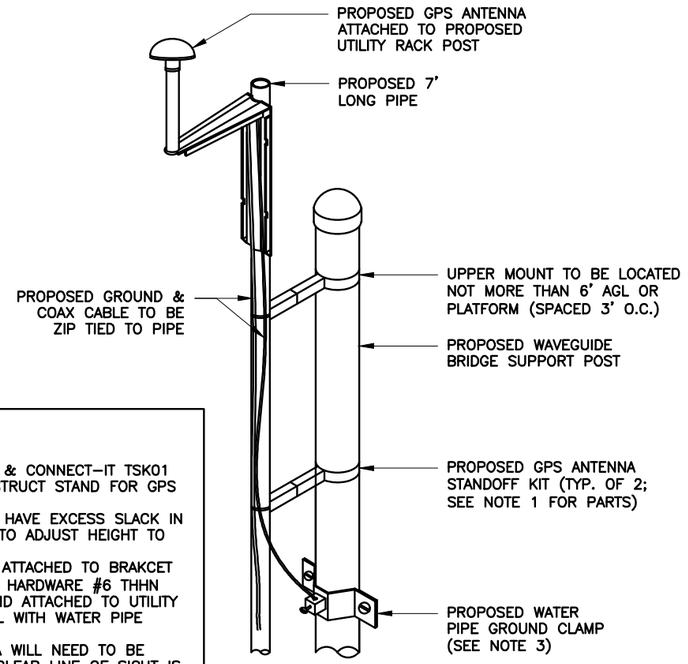
6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
CABINET DETAILS (2 OF 2)

SHEET NUMBER
C8



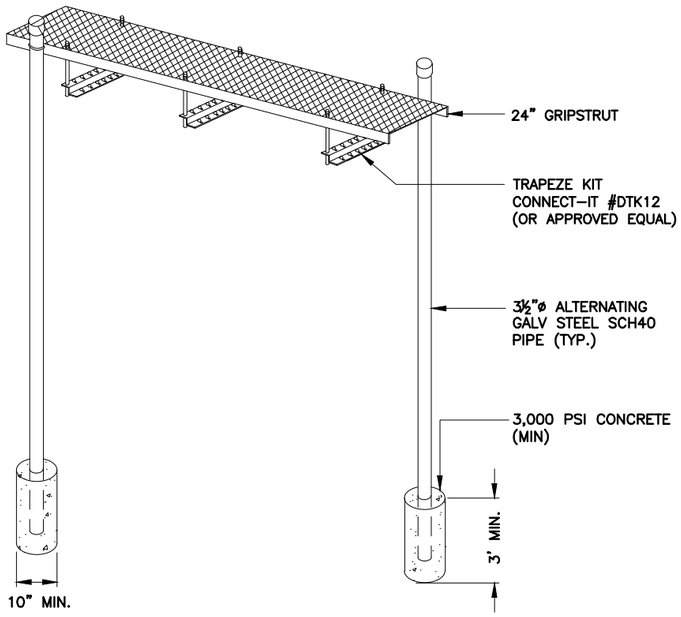
COAX BRIDGE ELEVATION (SIDE) (TYPICAL) NTS 1



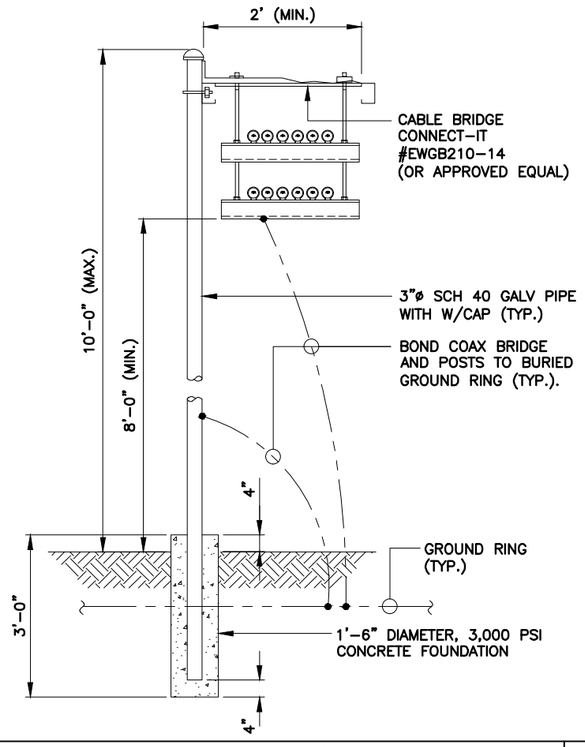
NOTES:

1. USE CONNECT-IT TSK34 & CONNECT-IT TSK01 STANDOFF KITS TO CONSTRUCT STAND FOR GPS PIPE MOUNT.
2. COAX & GROUND SHALL HAVE EXCESS SLACK IN ORDER FOR CELL TECH TO ADJUST HEIGHT TO SERVICE GPS ANTENNA.
3. GPS GROUND SHALL BE ATTACHED TO BRAKCET WITH ONE HOLE LUG SS HARDWARE #6 THHN STRANDED GREEN GROUND ATTACHED TO UTILITY RACK POST OR HANDRAIL WITH WATER PIPE GROUND CLAMPS
4. PROPOSED GPS ANTENNA WILL NEED TO BE POSITIONED SO THAT A CLEAR LINE OF SIGHT IS AVAILABLE TO THE SOUTHWEST SKY.

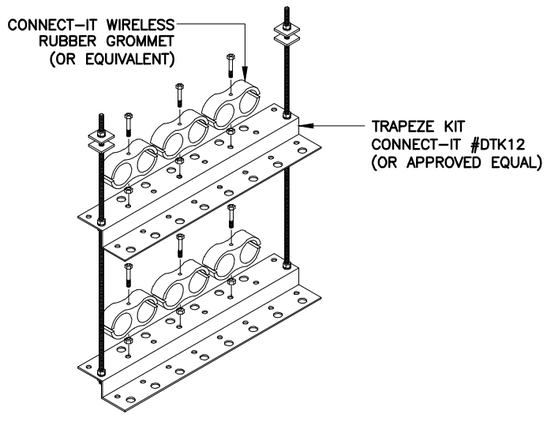
GPS ANTENNA MOUNTING DETAIL NTS 2



COAX BRIDGE AXONOMETRIC NTS 3



COAX BRIDGE CROSS-SECTION (TYPICAL) NTS 4



TRAPEZE KIT ISOMETRIC NTS 5

REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
B	03/24/25	REVISED PER COMMENTS
0	06/09/25	REVISED PER COMMENTS

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DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

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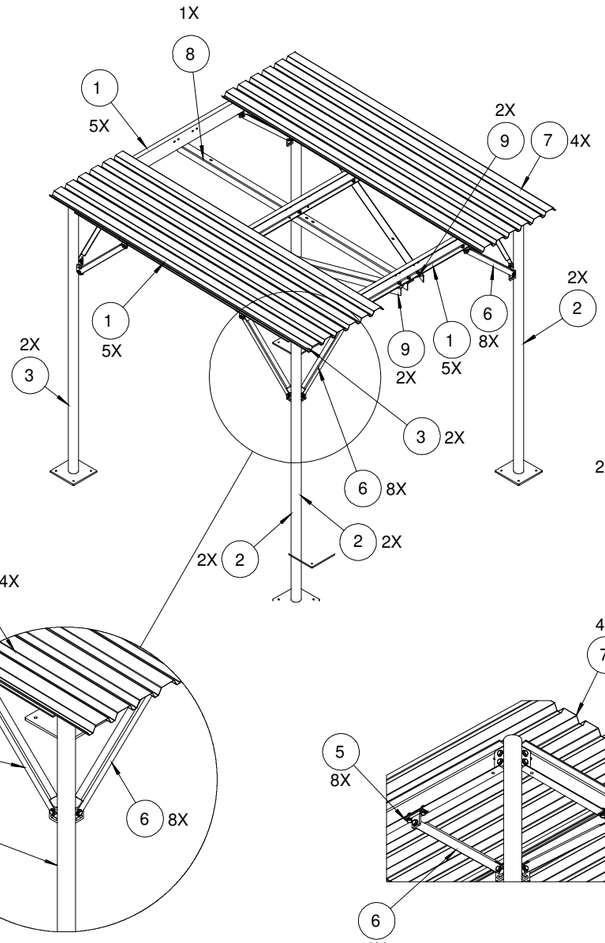
06/09/25
JEREMY D. SHARIT PE FL LIC 75137

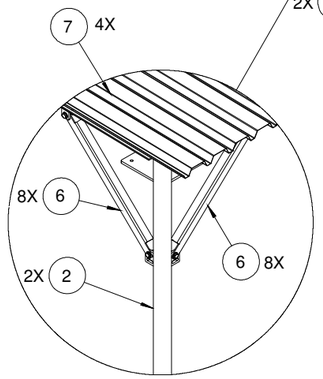
9JKJ2254A
#9JK2254A

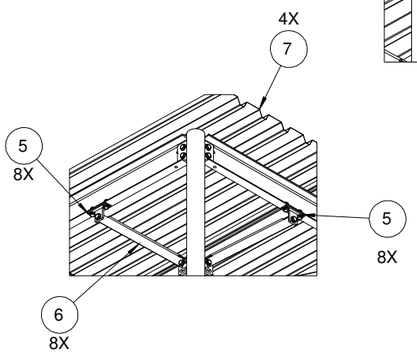
6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

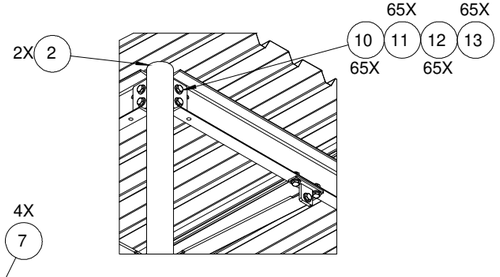
SHEET NAME
COAX MOUNTING DETAILS

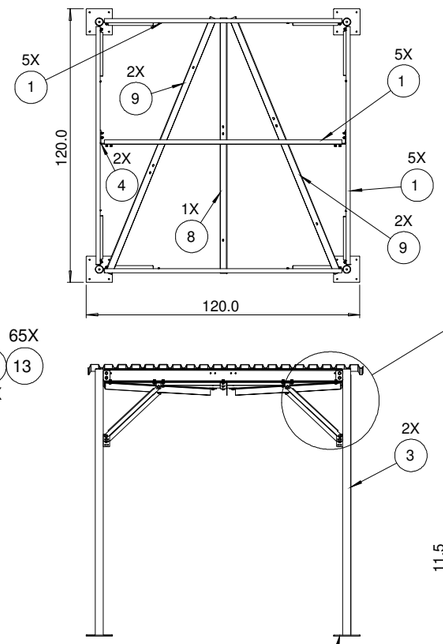
SHEET NUMBER
C9

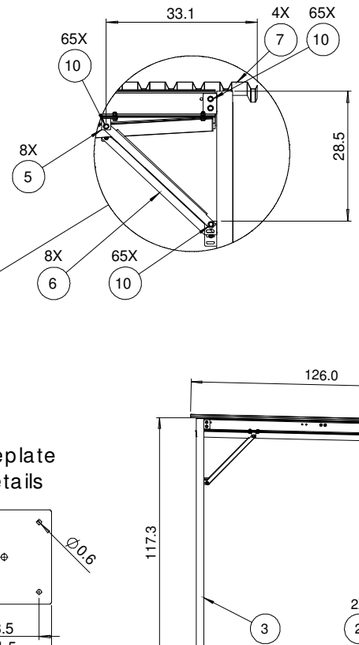




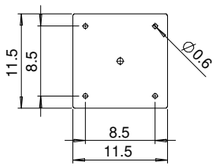


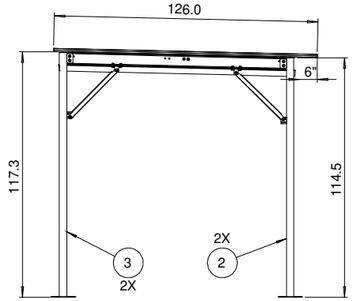






Baseplate Details





NOTE:
FOUR HILTI HVA CAPSULE ADHESIVE ANCHORS WITH 1/2" DIAMETER HILTI HAS ANCHOR ROD ASSEMBLIES INSTALLED INTO EXISTING CONCRETE PAD WITH A 4" EMBEDMENT AT EACH BASEPLATE. NO SUBSTITUTIONS. THE MINIMUM EDGE DISTANCE FROM CENTER OF ANCHOR BOLT TO EDGE OF CONCRETE SHALL BE 7-1/2"

KENWOOD TELECOM P/N: Z2052KTF

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	Z2052KTF-10	Canopy channel for FL - 10'	5
2	Z2052KTF3-01	Post leg for canopy, 114", 3.5" pipe, center plate	2
3	Z2052KTF3-02	Post leg for canopy, 116", 3.5" pipe, center plate	2
4	K1529KT-03	Connector angle	2
5	Z2052KT-04	Angle Mount, Canopy	8
6	Z2052KT-03	Mounting Angle, Canopy 2x2x3/16"	8
7	T3936KT126	B-deck, 36" x 10.5', 22ga, Galv (126")	4
8	Z2052KTF-06	Stablizer Angle - Center	1
9	Z2052KTFD-10	Stabilizer Angle, Diagonal, Canopy, 10'	2
10	H1026KT112GA3	Bolt, 1/2"x1-1/2" (A325) HH HDG	65
11	H3012KT12GSAE	Flat washer, hardened, 1/2", SAE, HDG	65
12	H3002KT12G	Lock washer, 1/2" HDG	65
13	H2002KT12GA3	Nut, hex heavy 1/2" HDG A325	65
14	H1072KT114-BW	Tek screw, 1/4"x1-1/4" w/bonded washer	200

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DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

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T-Mobile
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JACKSONVILLE, FL 32256

JEREMY D. SHARIT LICENSE No. 75137 STATE OF FLORIDA PROFESSIONAL ENGINEER
06/09/25
JEREMY D. SHARIT PE FL LIC 75137

9JKJ2254A
#9JK2254A

6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
CANOPY DETAILS

SHEET NUMBER
C10

Section 1 - Site Information

Site ID: 9JK2254A
Purpose: Scoping
Status: Approved
Version: 1
Project Type: Coverage Strategy
Approved:
Approved By:
Last Modified: 02/27/2025 2:01:30 PM
Last Modified By: Ernest.Shuman@T-Mobile.com

Site Name: 9JK2254A
Site Class: Tower Other
Site Type: Structure Non Building
Plan Year:
Market: JACKSONVILLE FL
Vendor: Ericsson
Landlord: Vertical Bridge

Latitude: 30.10299722
Longitude: -82.57415278
Address: TBD
City, State: TBD, FL
Region: SOUTH

RAN Template: 67E5D998E 6160 (LRP)		AL Template: 675998E_1xAIR+1OP ()		
Sector Count: 3	**Antenna Count:** 6	**Coax Line Count:** 0	**TMA Count:** 0	**RRU Count:** 6

Section 5 - RAN Equipment

Existing RAN Equipment

----- This section is intentionally blank. -----

Proposed RAN Equipment

Template: 67E5D998E 6160 (LRP)

Enclosure	1	2
Enclosure Type	B160	Enclosure 6160_v2 AC
Transport System		CSR IXRe V2 (Gen2)
Hybrid Cable System		Hybrid Trunk 6/24 4AWG 90m (x3) PSU 4813 vR4A (Kit)
Baseband		RP 6672: N600, N1900, N2100, N2500, L700, L1900 (RESTRICTED), L2100 (RESTRICTED)

RAN Scope of Work:

Sector 1 (Proposed) view from behind

Coverage Type	A - Outdoor Macro					
Antenna	1				2	
Antenna Model	FFVV-65C-R2N23 (Octo)				AIR_6419_B41 (Active Antenna - Massive MIMO)	
Azimuth	350				350	
M. Tilt	0				0	
RAD Center (ft.)	230				230	
Ports	P1	P2	P3	P4	P5	P6
Active Tech	N600 L700	N600 L700	N2100 N1900	N2100 N1900	N2500	N2500
Dark Tech						
Restricted Tech	L600	L600	L1900 L2100	L1900 L2100		
Decomm. Tech						
E. Tilt						
Cables	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)		
TMAs						
Diplexer / Combiners						
Radio	Radio 4480 B71+B85 (At Antenna)	Radio 4480 B71+B85 (At Antenna)	Radio 4460 B25+B66 (At Antenna)	Radio 4460 B25+B66 (At Antenna)		
Sector Equipment						

Unconnected Equipment:

Scope of Work:

*A dashed border indicates shared connected equipment. Any shared equipment, besides the first, is denoted with the SHARED keyword.

Sector 2 (Proposed) view from behind

Coverage Type	A - Outdoor Macro					
Antenna	1				2	
Antenna Model	FFVV-65C-R2N23 (Octo)				AIR_6419_B41 (Active Antenna - Massive MIMO)	
Azimuth	110				110	
M. Tilt	0				0	
RAD Center (ft.)	230				230	
Ports	P1	P2	P3	P4	P5	P6
Active Tech	L700 N600	L700 N600	N2100 N1900	N2100 N1900	N2500	N2500
Dark Tech						
Restricted Tech	L600	L600	L2100 L1900	L2100 L1900		
Decomm. Tech						
E. Tilt						
Cables	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)		
TMAs						
Diplexer / Combiners						
Radio	Radio 4480 B71+B85 (At Antenna)	Radio 4480 B71+B85 (At Antenna)	Radio 4460 B25+B66 (At Antenna)	Radio 4460 B25+B66 (At Antenna)		
Sector Equipment						

Unconnected Equipment:

Scope of Work:

*A dashed border indicates shared connected equipment. Any shared equipment, besides the first, is denoted with the SHARED keyword.

Sector 3 (Proposed) view from behind

Coverage Type	A - Outdoor Macro					
Antenna	1				2	
Antenna Model	FFVV-65C-R2N23 (Octo)				AIR_6419_B41 (Active Antenna - Massive MIMO)	
Azimuth	240				240	
M. Tilt	0				0	
RAD Center (ft.)	230				230	
Ports	P1	P2	P3	P4	P5	P6
Active Tech	L700 N600	L700 N600	N1900 N2100	N1900 N2100	N2500	N2500
Dark Tech						
Restricted Tech	L600	L600	L1900 L2100	L1900 L2100		
Decomm. Tech						
E. Tilt						
Cables	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)		
TMAs						
Diplexer / Combiners						
Radio	Radio 4480 B71+B85 (At Antenna)	Radio 4480 B71+B85 (At Antenna)	Radio 4460 B25+B66 (At Antenna)	Radio 4460 B25+B66 (At Antenna)		
Sector Equipment						

Unconnected Equipment:

Scope of Work:

*A dashed border indicates shared connected equipment. Any shared equipment, besides the first, is denoted with the SHARED keyword.

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PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

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6/09/25
JEREMY D. SHARIT PE FL LIC 75137

9JKJ2254A
#9JK2254A

6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
PROPOSED ANTENNA SCHEDULE (1 OF 1)

SHEET NUMBER
RF1

PROPOSED ANTENNA PLUMBING DIAGRAM WILL BE PROVIDED AT A LATER DATE

PROPOSED ANTENNA PLUMBING DIAGRAM | 1

COAX COLOR CODES

ALPHA	
BETA	
GAMMA	
DELTA	
EPSILON	
ZETA	

CHECKERED TECHNOLOGY COLOR CODES

	L2100
	L1900
	L700
	U2100
	U1900
	G1900

COAX COLOR CODE SCHEME | 2

REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
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9JKJ2254A
#9JK2254A

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LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
PROPOSED ANTENNA PLUMBING DIAGRAM

SHEET NUMBER
RF2

A – GENERAL

A1. ALL ELECTRICAL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (EDITION ADOPTED BY LOCAL JURISDICTION) AND APPLICABLE LOCAL CODES.

A2. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.

A3. ALL ELECTRICAL EQUIPMENT AND ACCESSORIES SHALL BE U.L. APPROVED OR LISTED.

A4. ALL POWER WIRING SHALL BE STRANDED COPPER, TYPE THHN/THHW, AND 90 DEGREES C RATED.

A5. GROUNDING ELECTRODE CONDUCTORS SHALL BE BARE, TIN COATED COPPER AND EQUIPMENT GROUND CONDUCTORS SHALL BE GREEN INSULATED, UNLESS OTHERWISE NOTED.

A6. ALL POWER WIRING SHALL BE INSTALLED IN GALVANIZED RIGID STEEL CONDUIT, PVC, OR FLEXIBLE LIQUIDTIGHT CONDUIT, AS INDICATED.

A7. CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY PERMIT FEES, AND SCHEDULE INSPECTIONS.

A8. CONTRACTOR SHALL APPLY FOR ELECTRICAL SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS, SERVICE ROUTING, AND METER SOCKET TYPE WITH LOCAL POWER COMPANY.

A9. CONTRACTOR SHALL APPLY FOR TELEPHONE SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS AND SERVICE ROUTING WITH TELEPHONE COMPANY.

A10. PROVIDE ALL LABOR AND MATERIAL DESCRIBED ON THIS DRAWING, AND ALL ITEMS INCIDENTAL TO COMPLETING AND PRESENTING THIS PROJECT AS FULLY OPERATIONAL.

A11. WHERE LONG POWER CABLE RUNS PREVAIL, CONTRACTOR SHALL CALCULATE THE VOLTAGE DROP AND SIZE WIRES AND CONDUIT ACCORDINGLY.

A12. WHERE TRANSFORMER IS REQUIRED FOR ELECTRICAL SERVICE, TRANSFORMER SECONDARY SHALL BE GROUNDED PER N.E.C., ARTICLE 250–26.

A13. REFER TO SITE SPECIFIC DWGS FOR ELEVATIONS.

A14. ALL ELECTRICAL DEVICES EXPOSED TO WEATHER SHALL BE OF RAINPROOF CONSTRUCTION AND SHALL REQUIRE WATER TIGHT CONDUIT HUBS. NEMA 3R TYPICAL

A15. CONTRACTOR SHALL COIL CABLES AT HANDHOLE WITH LENGTHS AS REQUIRED BY ELECTRICAL UTILITY FOR CONNECTION BY UTILITY.

A16. ALL UNDERGROUND SERVICE ENTRANCE POWER CABLES SHALL BE TYPE FOR SUCH USE. CONTRACTOR SHALL CALCULATE VOLTAGE DROP AND RE–SIZE CABLES PER NEC REQUIREMENTS FOR CABLE RUNS EXCEEDING 250 FEET.

B – POWER CABLE AND SERVICE

B1. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRING TO BTS AND VERIFY EXACT CONDUIT ROUTING. RACEWAY SYSTEM MATERIALS AND DEVICES FURNISHED SHALL BE IN ACCORDANCE WITH APPLICABLE STANDARDS OF ANSI, NEMA, AND UL. RACEWAY SYSTEM COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE N.E.C.

B2. CONTRACTOR SHALL SEAL AROUND ALL CONDUIT PENETRATIONS THROUGH WALLS, FLOORS AND ROOFS TO PREVENT MOISTURE PENETRATION OR VERMIN INFESTATION.

B3. CONDUCTORS RUNNING ALONG HORIZONTAL SURFACES (ROOF TOP OR SLAB) SHALL BE INSTALLED IN RIGID CONDUIT SUPPORTED ON ELECTRICAL CONDUIT SUPPORT.

B4. ALL VERTICAL RUNS OF POWER CABLE EXCEEDING 80 FEET IN LENGTH SHALL BE SUPPORTED PER N.E.C. ARTICLE 300 USING KELLEMS GRIPS OR ACCEPTABLE EQUAL CABLE SUPPORT SYSTEM.

B5. WHERE A SEPARATE ELECTRICAL SERVICE DROP IS ADDED, CONTRACTOR SHALL INSTALL PERMANENT SERVICE DISCONNECT OR GROUPING THEREOF, DENOTING ALL OTHER SERVICE ENTRANCES, LOCATION OF EACH AND THE AREAS SERVED BY EACH.

B6. WHERE ELECTRICAL POWER IS TO BE SUB–FED FROM AN EXISTING DISTRIBUTION SYSTEM, THE FOLLOWING SHALL APPLY:

- A) CONTRACTOR SHALL PERFORM LOAD TESTING TO DETERMINE MAXIMUM FEEDER DEMAND PER N.E.C. ARTICLE 220–35.
- B) CONTRACTOR SHALL VERIFY WHETHER EXISTING FEEDER CAPACITY EXCEEDS VALUE CALCULATED PER N.E.C. ARTICLE 220–35
- C) EACH BRANCH CIRCUIT PROTECTIVE DEVICE SHALL HAVE SAME INTERRUPTING RATING AS EQUIPMENT SUPPLYING IT.
- D) PREFERRED MEANS OF SUPPLY SHALL BE A BRANCH CIRCUIT PROTECTIVE DEVICE LOCATED IN EXISTING PANEL.
- E) IF A BRANCH CIRCUIT PROTECTIVE DEVICE CANNOT BE OBTAINED OR SPACE IS NOT AVAILABLE, A BRANCH CIRCUIT MAY BE TAPPED FROM EXISTING FEEDER CONDUCTORS USING AN INSTALLED 2–POLE FUSED DISCONNECT AND METER BASE PER N.E.C. ARTICLE 240–21 WITH TEN FOOT (10) MAXIMUM TAP CONDUCTORS. FUSED DISCONNECT SHALL BE LISTED SAME OR BETTER INTERRUPTING RATING AS EXISTING SOURCE OF SUPPLY.

C – RF (COAX) AND LOW VOLTAGE CABLE

C1. RF CABLES AND LOW VOLTAGE CABLING BETWEEN BTS, LNA OR TMA AND ANTENNA SHALL BE SUPPORTED USING ANDREW "SNAP–IN" HANGERS OR ACCEPTABLE EQUAL.

C2. RF CABLES AND LOW VOLTAGE CABLING BETWEEN BTS, LNA OR TMA AND ANTENNA SHALL BE ROUTED AS FOLLOWS:

- A) RUNNING ALONG HORIZONTAL SURFACES: USE WAVEGUIDE SUPPORTS OR BRIDGE KIT MOUNTED ON CONCRETE SLEEPERS.
- B) RUNNING ALONG VERTICAL TOWER FACE: WAVEGUIDE LADDER W/HANGERS OR KELLEMS GRIPS.
- C) RUNNING ALONG OR ADJACENT TO BTS PLATFORM: USE 12 X 3 OPEN OR COVERED ELECTRICAL LADDER TRAY.

D – IDENTIFICATION

D1. LOCATE NAMEPLATE, MARKING, OR OTHER IDENTIFICATION MEANS ON OUTSIDE EQUIPMENT OR BOX FRONT COVERS.

D2. PROVIDE NAMEPLATE ENGRAVED WITH EQUIPMENT DESIGNATION FOR EACH SAFETY SWITCH AND ALL OTHER ELECTRICAL CABINETS, ETC.

D3. DURING TRENCH BACK–FILLING FOR EACH UNDERGROUND ELECTRICAL, TELEPHONE, SIGNAL AND COMMUNICATIONS LINE, PROVIDE A CONTINUOUS UNDERGROUND WARNING TAPE TWELVE INCHES BELOW FINISHED GRADE.

REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
B	03/24/25	REVISED PER COMMENTS
0	06/09/25	REVISED PER COMMENTS

PROJECT NO.:	25–5114
DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

SMW ENGINEERING GROUP, INC.
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JEREMY D. SHARIT LICENSE No. 75137 STATE OF FLORIDA PROFESSIONAL ENGINEER

06/09/25

JEREMY D. SHARIT PE FL LIC 75137

9JKJ2254A
#9JK2254A

6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
ELECTRICAL NOTES

SHEET NUMBER
E1

A – GENERAL

A1. INSTALLATION OF GROUNDING ELECTRODE SYSTEM SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE AND WITH ALL BUILDING CODES OF AUTHORITIES HAVING JURISDICTION.

A2. GROUNDING CONDUCTORS SHALL BE #2 AWG TINNED SOLID BARE COPPER BELOW AND ABOVE GRADE, UNLESS OTHERWISE NOTED AND SHALL BE ROUTED IN A DOWNWARD PATH TOWARDS GROUND BARS.

A3. GROUNDING CONDUCTORS SHALL BE KEPT AS SHORT AND DIRECT AS POSSIBLE WITH MINIMUM BEND RADIUS OF 12 INCHES.

A4. ALL BELOW GRADE CONNECTIONS SHALL BE CADWELD TYPE CONNECTIONS AND ALL CONNECTIONS TO EQUIPMENT AND GROUND BARS SHALL BE 2–HOLE BRONZE COMPRESSION CONNECTORS UNLESS OTHERWISE NOTED.

A5. CONTRACTOR SHALL INSTALL NEW PCS GROUNDING SYSTEM PER SPECIFICATIONS AND INTERCONNECT NEW SYSTEMS TO ANY EXISTING GROUNDING SYSTEMS AS REQUIRED BY NFPA 70 AND 780 (THIS APPLIES TO ELECTRICAL POWER DISTRIBUTION GROUNDING SYSTEM, LIGHTNING PROTECTION GROUNDING SYSTEM, COAX CABLE GROUNDING SYSTEM AND ANY OTHER EXISTING GROUNDING SYSTEMS).

A6. GROUNDING CONDUCTORS SHALL BE BONDED TO CABLE SUPPORTS, ANTENNA FRAMES, AND ANY SUPPORT FRAMES OR RACKS USING CADWELD OR MECHANICAL CONNECTIONS.

A7. CONTRACTOR SHALL PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS, STAINLESS STEEL HARDWARE SHALL BE USED THROUGHOUT.

A8. GROUNDING CONDUCTORS EMBEDDED IN CONCRETE OR PENETRATING WALLS AND FLOORS SHALL BE ENCASED IN PVC CONDUIT. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTORS UNLESS REQUIRED BY LOCAL CODES OR OTHERWISE INDICATED ON DRAWINGS. CONTRACTOR SHALL SEAL AROUND ALL CONDUIT PENETRATIONS TO PREVENT MOISTURE PENETRATION AND VERMIN INFESTATION.

A9. CONTRACTOR SHALL BOND PCS GROUNDING SYSTEM VIA THE MASTER GROUND BAR TO ALL METAL OBJECTS WITHIN 12 FEET OF EQUIPMENT, CONDUIT AND CABLES.

A10. BONDING OF GROUNDED CONDUCTOR (NEUTRAL) AND GROUNDING CONDUCTOR SHALL BE AT SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250–28.

A11. CONTRACTOR SHALL VERIFY EXACT CONDUIT ROUTING FOR GROUNDING CONDUCTORS WHERE APPLICABLE.

A12. A GROUND LEAD IS REQUIRED ONLY FOR BTS SUPPORTED ON STEEL FRAME. AN ADDITIONAL GROUND LEAD IS REQUIRED IF CABLE TRAY IS USED.

A13. CONNECTIONS TO CGB SHALL BE ARRANGED IN THE FOLLOWING THREE GROUPS:

* SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO CABINET AND POWER PEDESTAL GROUND).
* SURGE ABSORBERS (GROUNDING ELECTRODE RING OR BUILDING STEEL).
* NON–SURGING OBJECTS (EGB GROUND IN BTS).

A14. DOUBLING OR STACKING OF ANY GROUNDING CONNECTIONS IS NOT ACCEPTABLE.

A15. ALL GROUND BARS SHALL BE INSTALLED WITH STAND OFF INSULATORS.

B – PREPARATION

B1. SURFACES: ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE FIELD INSPECTED TO ENSURE PROPER CONTACT. ALL GALVANIZED SURFACES ON WHICH GALVANIZING HAS BEEN REMOVED BY CUTTING, DRILLING, OR ANY OTHER OPERATION SHALL BE RE–GALVANIZED IN ACCORDANCE WITH ASTM A780 USING "ZINC RICH" COATING AS MANUFACTURED BY ZRC CHEMICAL PRODUCTS COMPANY (LOCATED IN QUINCY, MASSACHUSETTS), OR ACCEPTABLE EQUAL. NO WASHERS ARE ALLOWED BETWEEN ITEMS BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NON–OXIDIZING AGENT ("COPPER SHIELD") APPLIED PRIOR TO INSTALLATION.

B2. GROUND BAR: ALL COPPER GROUND BARS SHALL BE CLEANED, POLISHED AND A NON–OXIDIZING AGENT ("COPPER SHIELD") APPLIED. NO FINGER PRINTS OR DISCOLORED COPPER SHALL BE PERMITTED.

C – BUILDINGS

C1. ELECTRICAL CONTRACTOR SHALL PERFORM REQUIRED TESTING ON GROUNDING SYSTEM ONCE GROUNDING SYSTEM IS COMPLETELY CONSTRUCTED AND BEFORE SERVICE POWER AND GROUND IS CONNECTED (SEE NOTE T1 FOR TEST DESCRIPTION).

C2. A #4/0 AWG COPPER CONDUCTOR SHALL BE ROUTED FROM MASTER GROUND BAR AT BTS SITE TO MAIN METAL COLD WATER PIPE AND BONDED TO PIPE WITH BRONZE 2–HOLE PIPE CLAMP. CLAMP SHALL BE CONNECTED TO WATER PIPE WITHIN 5 FEET OF ENTRY OF PIPE INTO BUILDING WITH NO DEVICES BETWEEN ENTRY POINT AND CONNECTION AND SHALL COME IN CONTACT WITH PIPE FOR A MINIMUM DISTANCE OF 4 INCHES.

C3. METAL RACEWAYS, ENCLOSURES, FRAMES AND OTHER NON–CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT SHALL BE KEPT AT LEAST 6 FEET AWAY FROM LIGHTNING ROD CONDUCTORS OR THEY MUST BE BONDED TO LIGHTING ROD CONDUCTORS AT THE LOCATION WHERE SEPARATION DISTANCE IS LESS THAN 6 FEET.

C4. A MASTER GROUND BAR (MGB) SHALL BE INSTALLED NEAR BTS WITH BUILDING PRINCIPAL GROUND BAR (BPG) INSTALLED NEAR ENTRANCE OF MAIN METAL COLD WATER PIPE INTO BUILDING. A #4/0 AWG STRANDED COPPER DOWN CONDUCTOR (VERTICAL GROUND RISER) SHALL BE USED TO INTERCONNECT GROUND BARS.

C5. VERTICAL RISER SHALL CONSIST OF A #4/0 AWG (THWN) STRANDED COPPER CONDUCTOR INSIDE ¾" CONDUIT.

C6. CONTRACTOR SHALL BOND BUILDING PRINCIPAL GROUND BAR (BPG) NEAR MAIN METAL COLD WATER PIPE TO EXISTING BUILDING GROUND RING AS WELL AS TO MAIN METAL COLD WATER PIPE WITH #4/0 AWG (THWN) STRANDED COPPER CONDUCTOR.

C7. ANTENNA GROUND BARS (AGB) SHALL BE INSTALLED NEAR ANTENNAS AND SHALL BE BONDED TO MASTER GROUND BAR (MGB) WITH #2 AWG TINNED SOLID BARE COPPER CONDUCTOR.

C8. IF CODES REQUIRE VERTICAL RISER TO BE ISOLATED IN CONDUIT, PVC CONDUIT IS PREFERRED. IF METALLIC CONDUIT IS USED, GROUNDING BUSHINGS SHALL BE INSTALLED ON EACH END OF THE CONDUIT AND BONDED TO GROUND BARS USING #2 AWG (THWN) STRANDED COPPER CONDUCTORS WITH GREEN INSULATION.

D – LAND BUILDS AND CO–LOCATES

D1. THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS UNIFORMLY SPACED AROUND THE EQUIPMENT FOUNDATION AND AROUND THE PERIMETER OF THE TOWER FOUNDATION. THE GROUND RODS SHALL BE ⅝" X 10'–0" COPPER CLAD STEEL INTERCONNECTED WITH #2 SOLID TINNED BARE COPPER GROUND CONDUCTOR TO FORM A GROUND RING AT A DEPTH OF 30 INCHES BELOW THE SURFACE OF THE SOIL. A MINIMUM OF 1 FOOT AND A MAXIMUM OF 3 FEET CLEARANCES SHALL BE MAINTAINED FROM FOUNDATIONS. TOWER AND EQUIPMENT GROUND RINGS SHALL BE INTERCONNECTED WITH TWO GROUNDING CONDUCTORS OF EQUAL LENGTH AND MATERIALS.

D2. GROUND RODS SHALL BE BONDED TO GROUND RINGS AND INTERCONNECTING CONDUCTORS AT EQUAL INTERVALS OF APPROXIMATELY 10 FEET.

D3. WAVEGUIDE BRIDGE SHALL BE BONDED TO GROUND RINGS OR INTERCONNECTING CONDUCTORS WITH GROUNDING CONDUCTORS BONDED TO DIAGONALLY OPPOSED SUPPORT POSTS.

D4. GROUND BARS SHALL BE BONDED TO GROUND RING WITH SINGLE GROUNDING CONDUCTOR.

D5. BONDS TO ANTENNA MASTS, FENCE POSTS, WAVEGUIDE BRIDGE, TOWER STEEL (UNLESS PROHIBITED BY TOWER MANUFACTURER) AND THOSE BELOW GRADE SHALL BE EXOTHERMIC TYPE (CADWELD). ALL OTHER BONDS SHALL BE BRONZE 2–HOLE COMPRESSION FITTINGS UNLESS OTHERWISE NOTED.

D6. GROUNDING CONDUCTORS MAKING A TRANSITION FROM ABOVE TO BELOW GRADE SHALL BE INSULATED FROM EARTH CONTACT BY PASSING THROUGH PVC CONDUIT. THE CONDUIT SHALL EXTEND AT LEAST 6 INCHES ABOVE AND 12 INCHES BELOW GRADE LEVEL.

E – LIGHTNING PROTECTION

E1. IF EXISTING BUILDING HAS AN NFPA 780 AIR TERMINAL SYSTEM, EXISTING SYSTEM SHALL BE BONDED TO A GROUND BAR TO BOND THE EXISTING SYSTEM TO THE NEW SYSTEM. SHOULD THE EXISTING SYSTEM COME WITHIN 8 FEET OF ANTENNA STRUCTURES, EXISTING SYSTEM SHALL ALSO BE BONDED TO COAX GROUND BARS.

E2. IF SITE IS IN A HIGH RISK AREA AND ANTENNAS DO NOT FALL WITHIN EXISTING CONE OF PROTECTION FOR BUILDING, AIR TERMINALS SHALL BE INSTALLED AT ANTENNAS. A SINGLE AIR TERMINAL MAY BE USED WHEN TWO ANTENNAS ARE MOUNTED ON SAME STRUCTURE AND IT HAS BEEN DETERMINED THAT BOTH ANTENNAS WILL FALL WITHIN LIGHTNING CONE OF PROTECTION FOR SINGLE AIR TERMINAL.

T – GROUNDING REQUIREMENTS

T1. CONTRACTOR SHALL INSPECT AND TEST ANY NEW OR EXISTING T–MOBILE GROUNDING SYSTEM WITH A BIDDLE–MEGGER TESTER UTILIZING THE FALL OF POTENTIAL METHOD AND CONTACT CONSTRUCTION MANAGER IF RESISTANCE EXCEEDS 5 OHMS AND SHALL FIELD MODIFY GROUNDING SYSTEM AS NECESSARY TO ACHIEVE COMPLIANCE. TEST RESULTS AND CONCLUSIONS SHALL BE RECORDED FOR PROJECT CLOSE–OUT DOCUMENTATION.

T2. COAX CABLE OUTER CONDUCTORS (SHIELDS) SHALL BE GROUNDED USING COAX GROUNDING KITS AT A MINIMUM OF TWO POINTS, INCLUDING AT ANTENNA AND AT MASTER GROUND BAR. THE COAXIAL CABLE SHALL NOT EXCEED 100 FEET BETWEEN GROUNDING KITS.

T3. GROUNDING CONDUCTOR CONSISTING OF 2–#2 AWG TINNED SOLID BARE COPPER WIRE SHALL BE BONDED TO WAVEGUIDE ENTRY GROUND BAR USING CADWELD CONNECTIONS.

T4. COAX CABLE ENTERING A BUILDING SHALL BE GROUNDED WITH COAX GROUNDING KITS TO AN INSULATED COAX GROUND BAR WHICH SHALL BE INSTALLED ON THE OUTSIDE FACE OF THE BUILDING, BELOW THE CABLE ENTRY PORTS.

T5. WHEN COAX CABLES ENTER A BUILDING FROM A TOWER, THE COAX GROUND BAR AT THE BUILDING SHALL BE CONNECTED TO THE EXTERNAL GROUND RING USING 2–#2 AWG BARE TINNED SOLID COPPER ISOLATED IN PVC CONDUIT.

T6. WHEN COAX CABLES ENTER A BUILDING FROM A ROOF TOP, THE COAX GROUND BAR AT THE BUILDING SHALL BE CONNECTED TO THE MASTER GROUND BAR NEAR THE BTS USING #2 AWG STRANDED INSULATED COPPER CONDUCTOR (SEE BUILDINGS NOTES ON THIS DRAWING FOR CONNECTION TO PRINCIPLE GROUND BAR AND BUILDING GROUND).

REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
B	03/24/25	REVISED PER COMMENTS
0	06/09/25	REVISED PER COMMENTS

PROJECT NO.:	25–5114
DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

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JEREMY D. SHARIT LICENSE No. 75137 STATE OF FLORIDA PROFESSIONAL ENGINEER
6/09/25
JEREMY D. SHARIT PE FL LIC 75137

9JKJ2254A
#9JK2254A

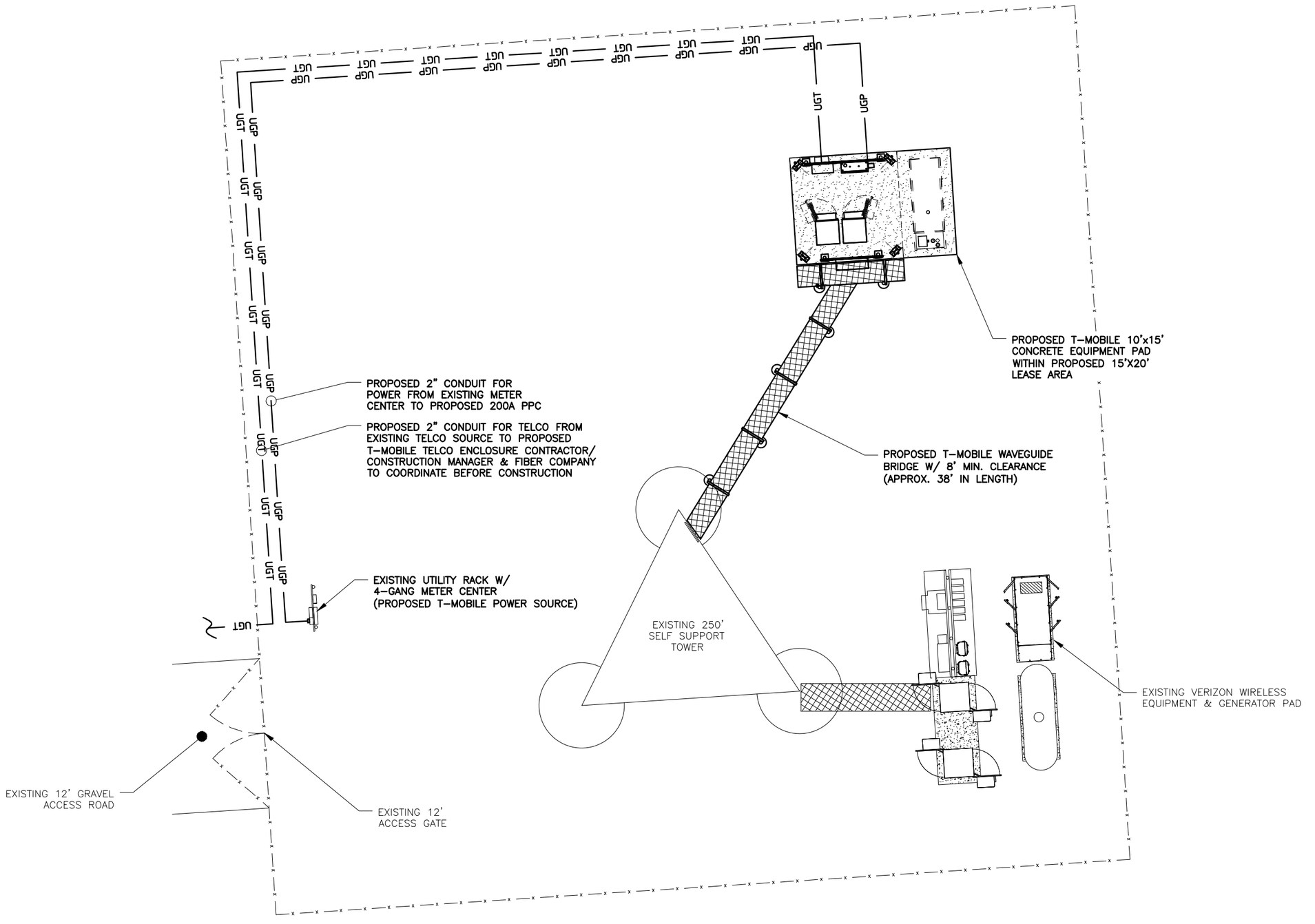
6295 SE COUNTY ROAD 245
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
GROUNDING NOTES

SHEET NUMBER
E2

10' 0' 5' 10'

FOR 24"x36" DRAWINGS
GRAPHIC SCALE: 1" = 5'
FOR 11"x17" DRAWINGS
GRAPHIC SCALE: 1" = 10'



OVERALL POWER & TELCO ROUTING PLAN

SCALE AS NOTED | 1

REV	DATE	DESCRIPTION
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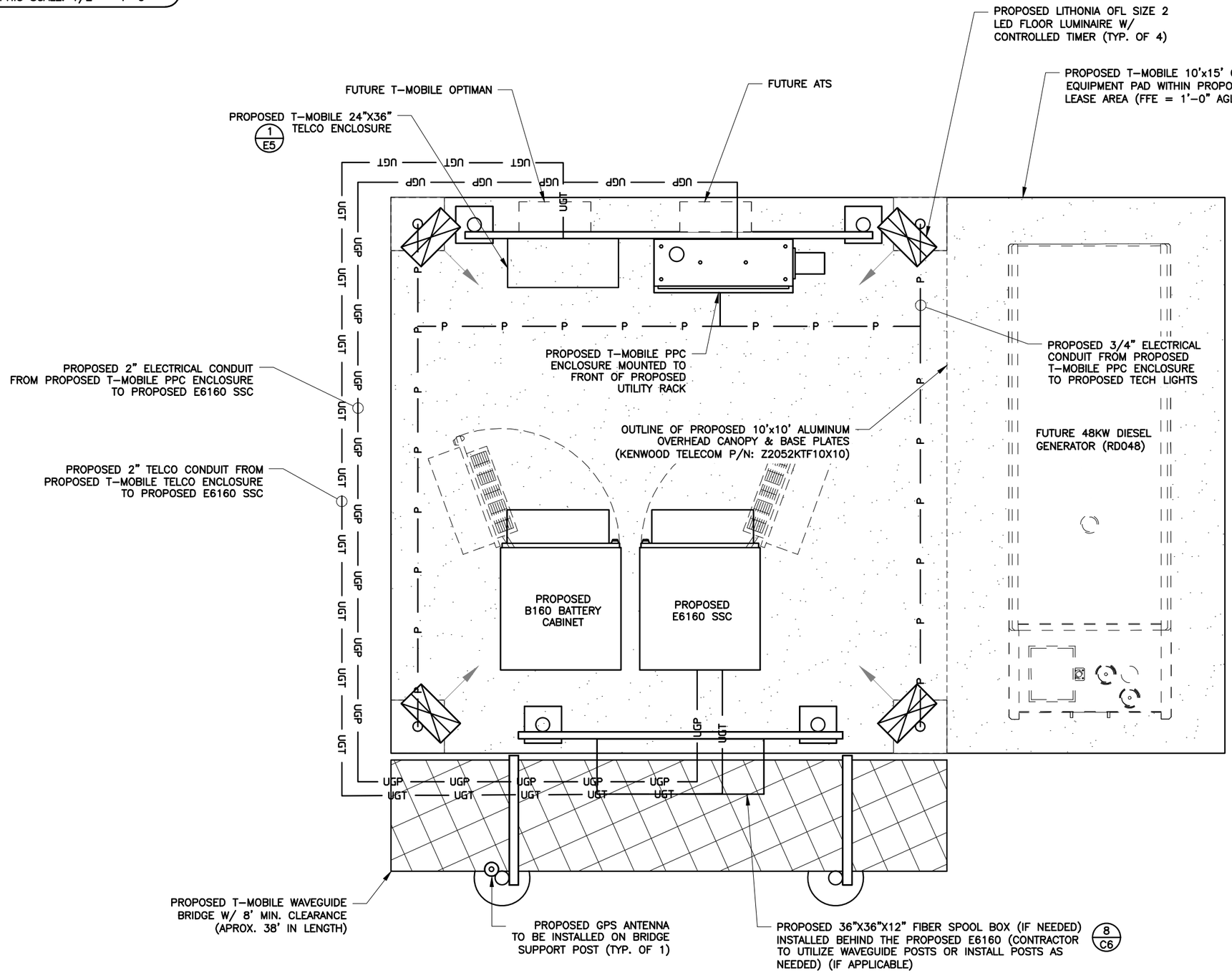
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
OVERALL POWER/TELCO ROUTING PLAN

SHEET NUMBER
E3

2' 0' 1' 2'

FOR 24"x36" DRAWINGS
GRAPHIC SCALE: 1" = 1'-0"
FOR 11"x17" DRAWINGS
GRAPHIC SCALE: 1/2" = 1'-0"



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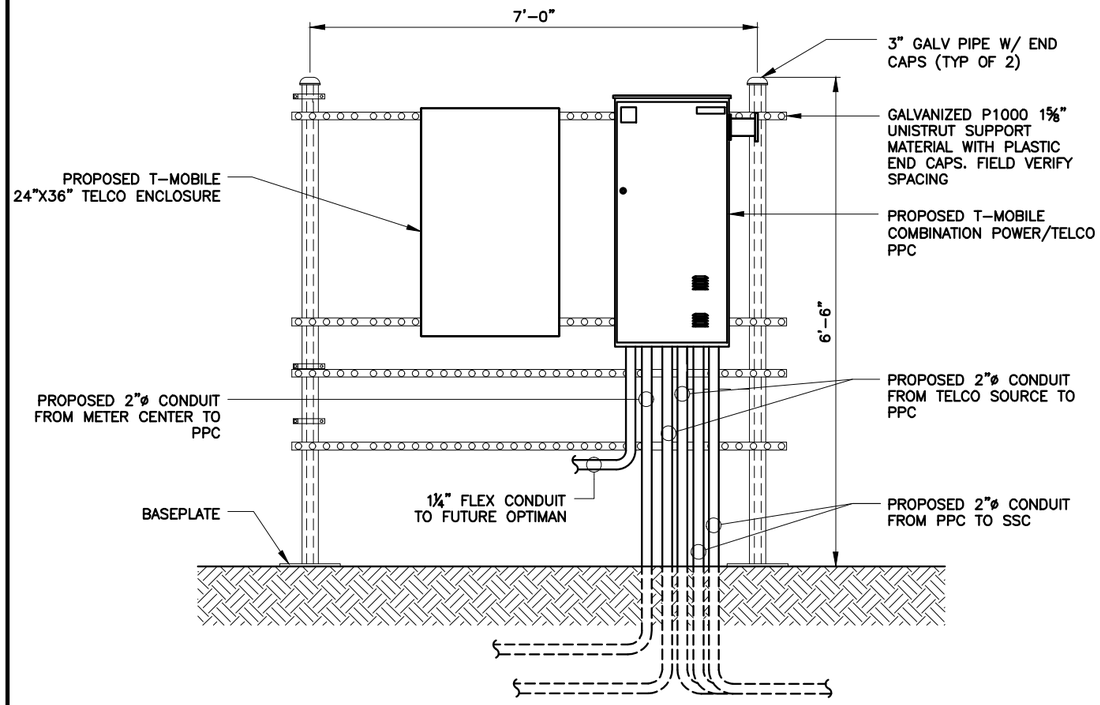
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
T-MOBILE POWER/TELCO ROUTING PLAN

SHEET NUMBER
E4

FRONT



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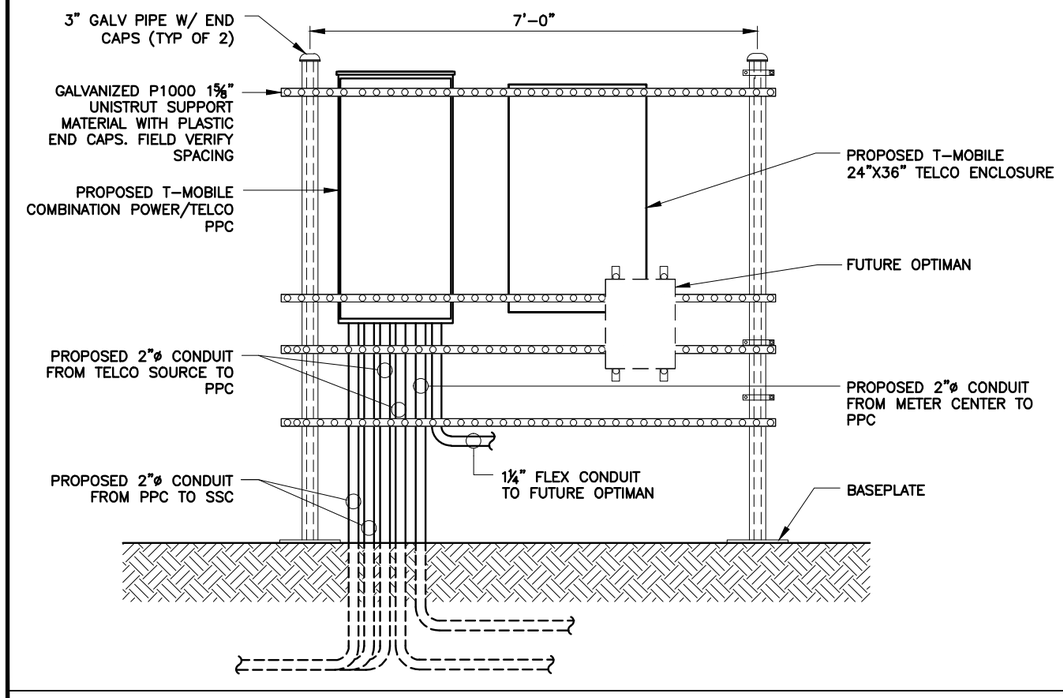
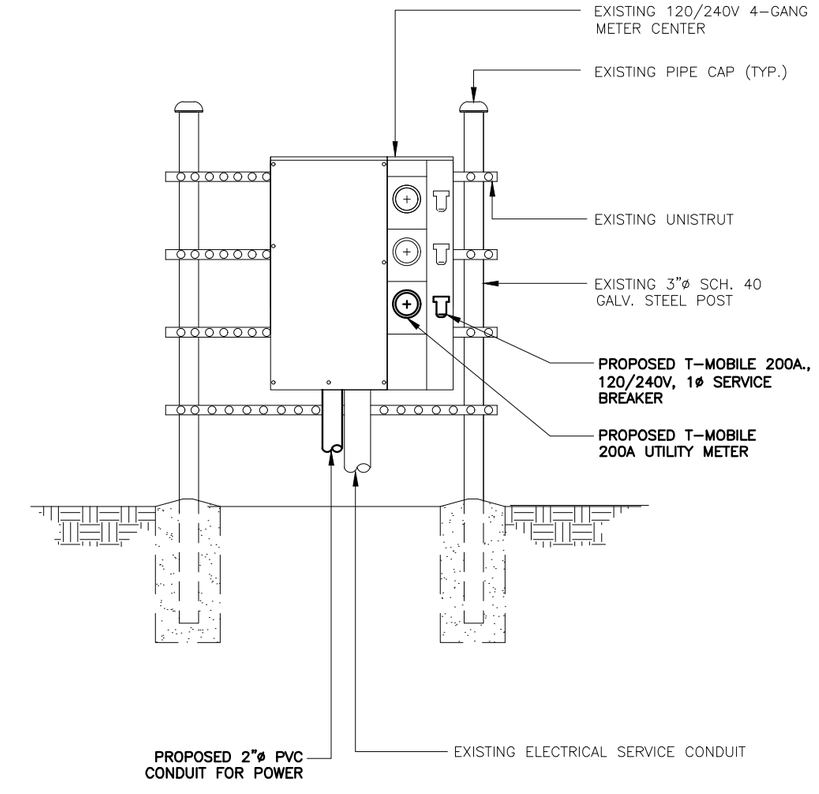


H-FRAME RISER DIAGRAM NTS 1



FRONT OF RISER DIAGRAM NTS 2

REV	DATE	DESCRIPTION
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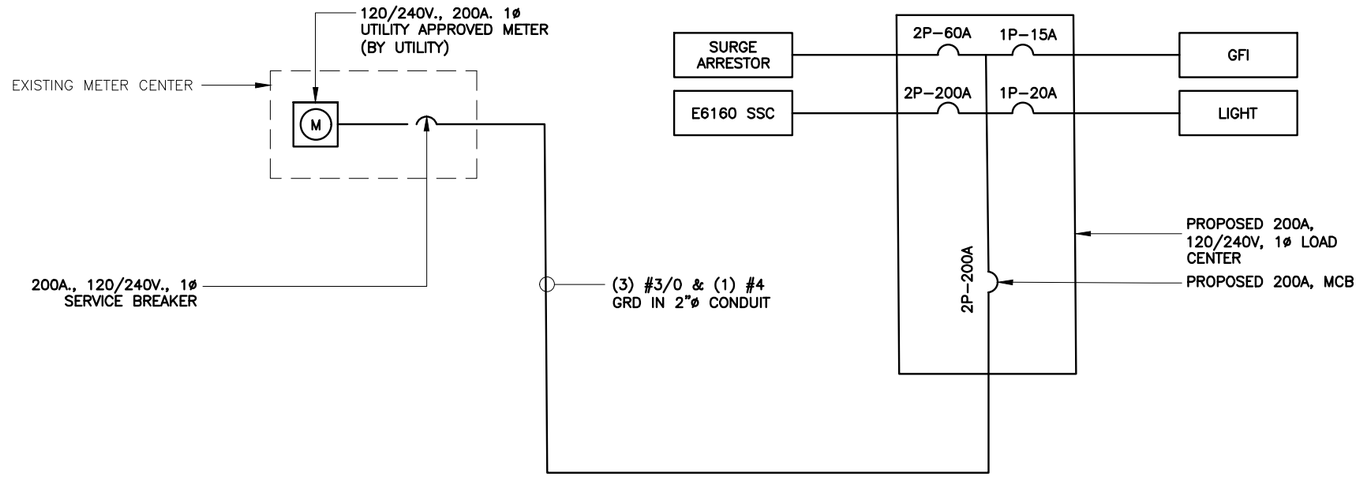
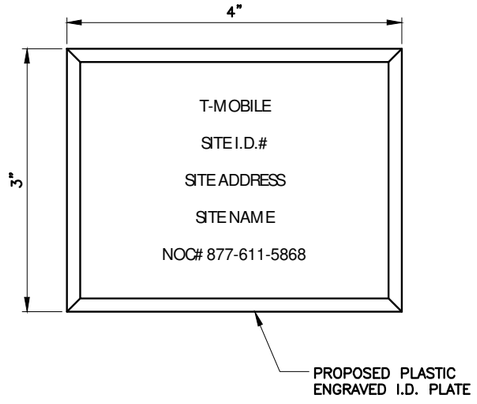
LAKE CITY, FLORIDA 32025
(COLUMBIA COUNTY)

SHEET NAME
RISER DIAGRAMS

SHEET NUMBER
E5



AC ONE-LINE DIAGRAM — NOT TO SCALE | 1



SITE ID PLATE (PROPOSED METER & PPC) — NTS | 2

PANEL NAME: T-MOBILE
LOCATION: H-FRAME

PANEL RATING 200 AMPS, 120/240 VOLTS, PHASE 1, WIRE 3

200 MCB RATING 200 AMP, MAIN LUG ONLY 65K AIC

CKT NO.	DESCRIPTION	KVA A	KVA B	AMP POLE	WIRE	GND	COND	COND	GND	WIRE	AMP POLE	KVA A	KVA B	DESCRIPTION	CKT NO.
1	SURGE ARRESTOR	0	-	60/2	(I)	(I)	(I)	(I)	#12	#12	15/1	0.18	-	GFI	2
3		-	0					3/4"	#12	#12	20/1	-	1.0	LIGHTS 1 & 2	4
5	E6160 SSC	11.5	-	200/2	(3) #3/0	#4	2"	-	-	-	-	-	-	SPACE	6
7								-	-	-	-	-	-	SPACE	8
9		-	11.5					-	-	-	-	-	-	SPACE	10
11								-	-	-	-	-	-	SPACE	12
13	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	14
15	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	16
17	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	18
19	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	20
21	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	22
23	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	24
SUB TOTAL KVA (CONT)		0	0									0	0	SUB TOTAL KVA (CONT)	
SUB TOTAL KVA (NON-CONT)		11.5	11.5									0.18	0	SUB TOTAL KVA (NON-CONT)	
TOTAL KVA NON-CONT + 125% CONT.		23.2						96.6						TOTAL AMPS	

(P) PROPOSED
(I) PREWIRED FROM MANUFACTURER

PANEL SCHEDULE | 3

REV	DATE	DESCRIPTION
A	02/24/25	PRELIM PLANS
B	03/24/25	REVISED PER COMMENTS
0	06/09/25	REVISED PER COMMENTS

PROJECT NO.:	25-5114
DRAWN BY:	J. ELIZONDO
PROJECT MANAGER:	O. RIVERA
CHECKED BY:	O. RIVERA

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
13005 TELECOM PARKWAY N SUITE 102
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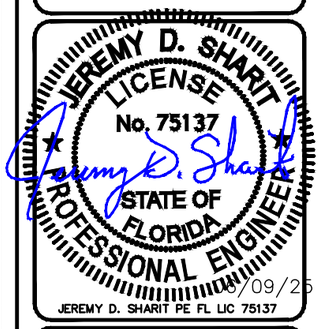
(813) 615-1422
CERTIFICATE OF AUTHORIZATION 33693

T-Mobile
7025 A.C. SKINNER PARKWAY
JACKSONVILLE, FL 32256



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6295 SE COUNTY ROAD 245
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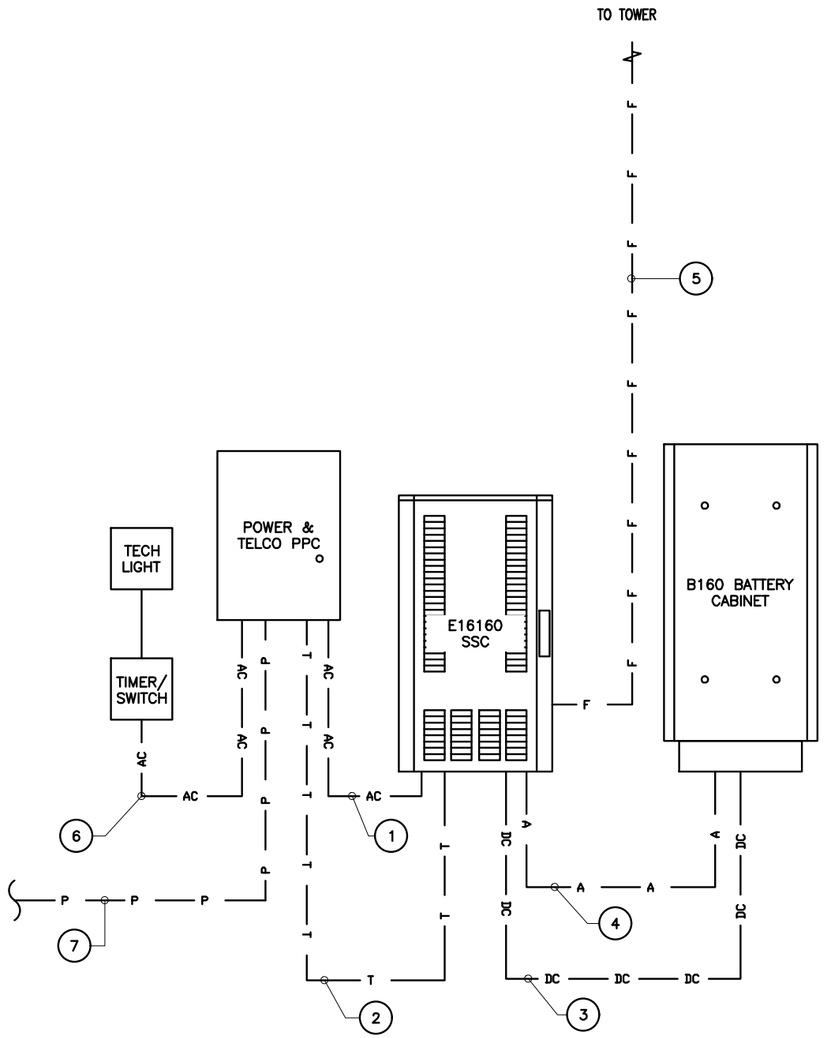
(COLUMBIA COUNTY)

SHEET NAME
ONE-LINE DIAGRAM
&
PANEL SCHEDULE

SHEET NUMBER
E6

SYM	TYPE	FROM	TO
1	2"ø CONDUIT W (3) #3/0 & (1) #4 GROUND	AC PANEL	E6160 SSC
2	(2)–1½"ø CONDUIT W/ TELCO CABLE	TELCO ENC.	E6160 SSC
3	1½"ø CONDUIT W/ DC CONDUCTORS	E6160 SSC	BATTERY CABINET
4	1"ø CONDUIT W/ (15) PAIR ALARM CABLE	BATTERY CABINET	E6160 SSC
5	HYBRID TRUNK CABLE	E6160 SSC	TOWER TOP
6	¾"ø CONDUIT W/ (2) #12 (1) #12 GROUND	AC PANEL	TECH LIGHT
7	2"ø PVC CONDUIT FOR POWER	SOURCE	AC PANEL



NOTES:

1. PROPOSED CONDUIT ROUTING IS SCHEMATIC ONLY, CONTRACTOR SHALL DETERMINE SUITABLE ROUTING IN THE FIELD.
2. PROPOSED CONDUIT SHALL BE GALVANIZED RIGID STEEL APART FROM PORTION ENTERING EQUIPMENT CABINET, WHICH SHALL BE FLEXIBLE LIQUID TIGHT CONDUIT.

CONDUIT ROUTING PLAN

NTS | 1

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JEREMY D. SHARIT LICENSE No. 75137 STATE OF FLORIDA PROFESSIONAL ENGINEER
6/09/25
JEREMY D. SHARIT PE FL LIC 75137

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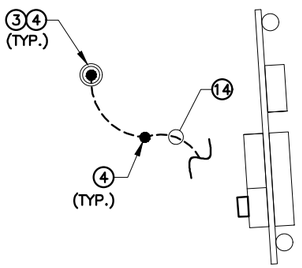
(COLUMBIA COUNTY)

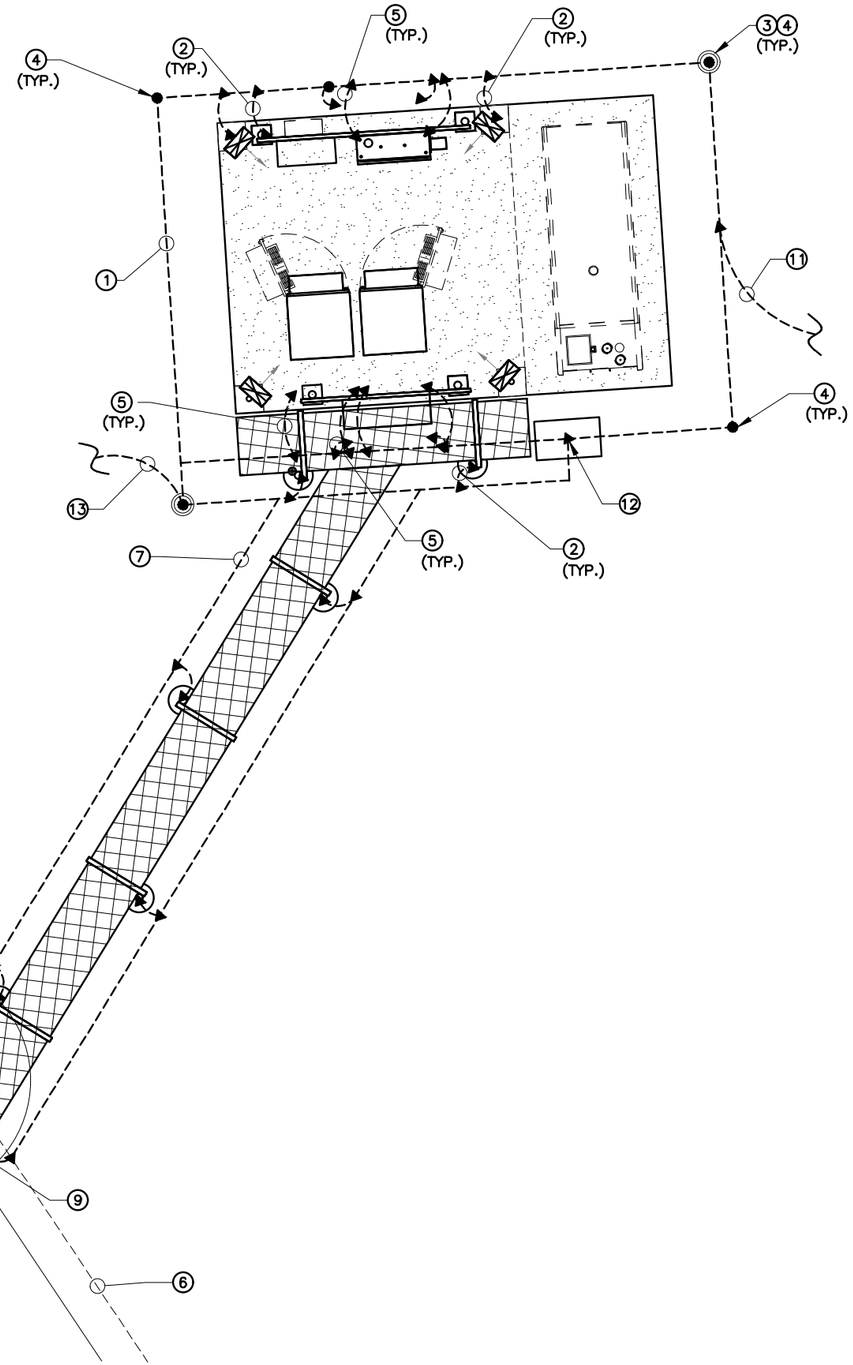
SHEET NAME
CONDUIT ROUTING PLAN

SHEET NUMBER
E7

4' 0' 2' 4'

FOR 24"x36" DRAWINGS
GRAPHIC SCALE: 3/8" = 1'-0"
FOR 11"x17" DRAWINGS
GRAPHIC SCALE: 3/16" = 1'-0"





GROUNDING KEY NOTES:

1. PROVIDE A #2 AWG SOLID BARE TINNED COPPER GROUND RING AROUND THE EQUIPMENT PAD. ALL EXTERIOR GROUNDING CONDUCTORS SHALL BE BURIED A MINIMUM OF 18" BELOW GRADE. THE GROUND RING SHALL BE INSTALLED 1'-0" AWAY FROM FOUNDATIONS (MINIMUM UNLESS SHOWN OTHERWISE ON DRAWINGS). WHERE REQUIRED DUE TO SOIL CONDITIONS AND THE PRESENCE OF ROCK, THE ROUTING OF THE GROUND RING MAY BE ADJUSTED (WITH APPROVAL FROM T-MOBILE). ALL BONDS TO THE BURIED GROUND RING SHALL BE WITH EXOTHERMIC WELDS.
2. BOND COAX BRIDGE, AND UTILITY RACK POSTS TO BURIED GROUND RING. EXOTHERMICALLY WELD A #2 AWG SOLID BARE TINNED COPPER CONDUCTOR TO EACH POST AT 12" ABOVE GRADE AND CONNECT TO THE BURIED GROUND RING. PROVIDE CONDUCTOR LENGTH AS REQUIRED TO MAKE CONNECTION.
3. PROVIDE 6" DIAMETER PVC INSPECTION SLEEVE WITH REMOVABLE COVER IN LOCATION SHOWN. SEE GROUND ROD INSPECTION WELL DETAIL, SHEET E9, FOR TYPICAL GROUND RING INSPECTION SLEEVE. NOTE: INSPECTION SLEEVE CAN BE USED AS A TEST WELL FOR GROUND WATER LEVEL INSPECTION AND GROUND RESISTANCE TESTING.
4. INSTALL ⅝" x 10' LONG COPPERCLAD STEEL GROUND RODS. SPACING BETWEEN RODS NOT TO EXCEED 16' (NONLINEAR). TYPICAL FOR ALL GROUND RODS SHOWN, UNLESS NOTED OTHERWISE. SEE GROUND ROD INSPECTION WELL DETAIL, SHEET E9. IF ROCK IS ENCOUNTERED, GROUND ROD MAY BE INSTALLED WITH A MAXIMUM VARIATION OF 30° FROM VERTICAL AND CONTRACTOR SHALL BE PREPARED TO CORE DRILL TO INSTALL GROUND RODS AND BACKFILL WITH GROUND ENHANCEMENT MATERIAL.
5. #2 AWG BARE, TINNED, SOLID COPPER CASE BOND
6. EXISTING TOWER GROUND RING
7. #2 AWG SOLID BARE TINNED COPPER FROM T-MOBILE GROUND RING TO TOWER GROUND RING. ALL EXTERIOR GROUNDING CONDUCTORS SHALL BE BURIED A MINIMUM OF 18" BELOW GRADE. THE GROUND RING SHALL BE INSTALLED 1'-0" AWAY FROM FOUNDATIONS (MINIMUM UNLESS SHOWN OTHERWISE ON DRAWINGS). ALL BONDS TO THE BURIED GROUND RING SHALL BE WITH EXOTHERMIC WELDS.
8. INSTALL GROUNDING CONDUCTOR(S) FROM THE BURIED GROUND RING FOR CONNECTION TO THE GROUND BAR AT BOTTOM OF TOWER. VERIFY EXACT LOCATION OF GROUNDING BAR AND PROPER CONDUCTOR LENGTH. EXOTHERMICALLY WELD (2) #2 AWG SOLID BARE TINNED COPPER GROUNDING CONDUCTOR (LENGTH AS REQUIRED) TO THE GROUND BAR. GROUNDING CONDUCTORS MUST BE HELD AWAY FROM TOWER BY USING STANDOFFS OR ROUTING THE CONDUCTORS IN FLEXIBLE PVC CONDUIT. COORDINATE LOCATION WITH T-MOBILE CONSTRUCTION MANAGER.
9. INSTALL GROUND BAR TO TOWER/WAVEGUIDE BRIDGE. EXOTHERMICALLY WELD (2) #2 AWG SOLID BARE TINNED COPPER GROUNDING CONDUCTORS BETWEEN MGB AND GROUND RING. SEE E9 FOR DETAILS.
10. #2 INSULATED/STRANDED ANTENNA AND COAX BOND
11. PROVIDE #2 AWG SOLID BARE TINNED COPPER WIRE TO ANY METAL WITHIN 6' OF PROPOSED GROUND RING.
12. BELOW GRADE GROUND WINDOW. SEE SHEET E9 FOR DETAILS
13. #2 AWG BOND TO FENCE GROUND RING (IF AVAILABLE) OR NEAREST FENCE POST
14. #2 AWG SERVICE GROUND CONDUCTOR, IN ¾" PVC CONDUIT

KEY
- ▼ BOND
- ● GROUND ROD
- ◉ INSPECTION WELL

PROPOSED GROUNDING PLAN

SCALE AS NOTED | 1

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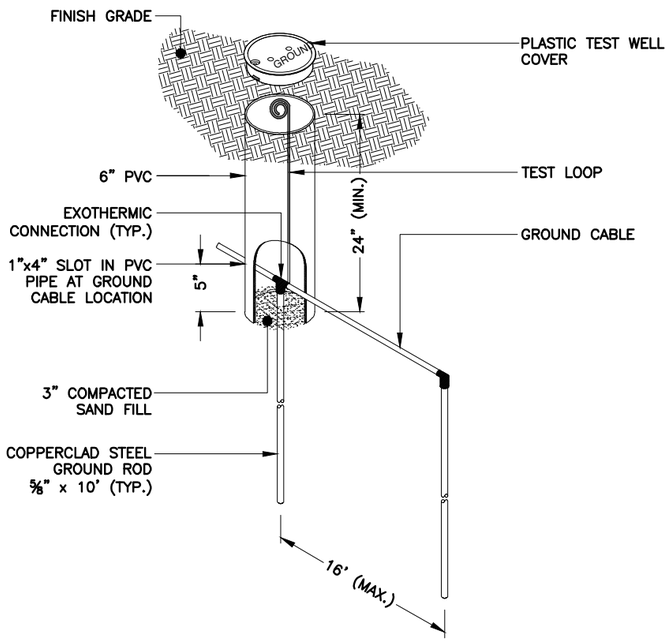
SHEET NAME
PROPOSED GROUNDING PLAN

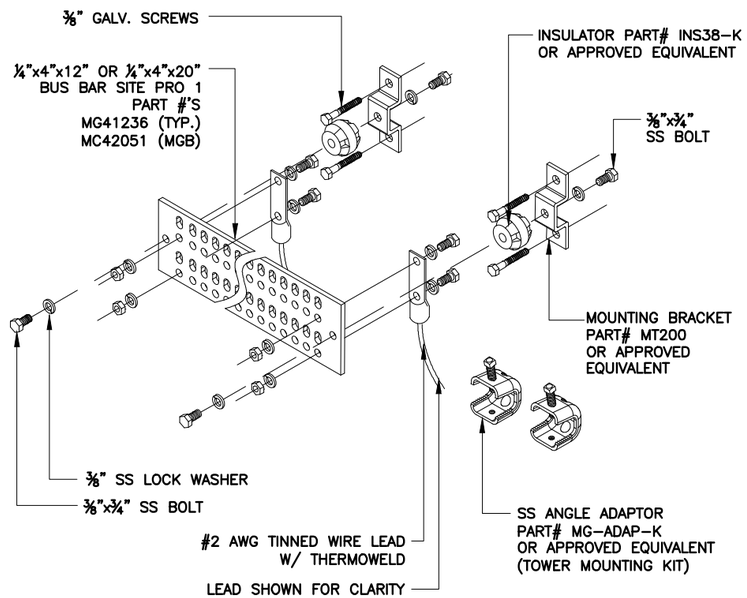
SHEET NUMBER
E8



NOTE:

ALL WORK SHALL CONFORM TO THE LOCAL BUILDING CODES. DEPTH MAY VARY.

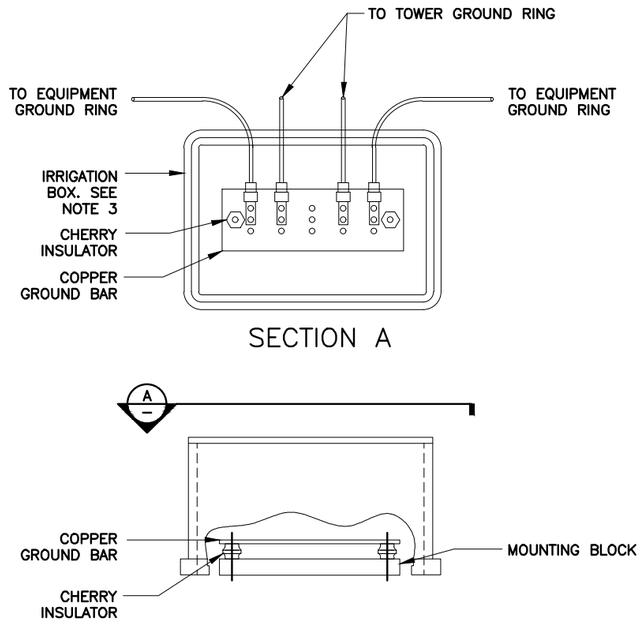
GROUND ROD INSPECTION WELL DETAIL NTS 1



NOTE:

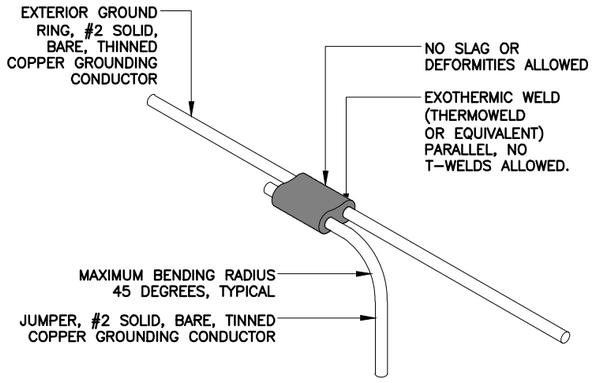
CONTRACTOR TO APPLY COPPERSHIELD OR NO-OX

TYPICAL GROUND BAR NTS 2

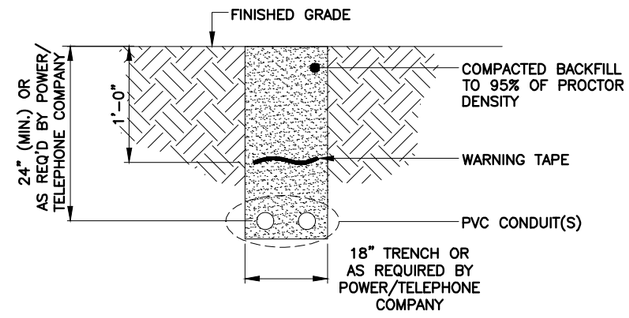


NOTES:
1. 4"X12"¼" SOLID COPPER BAR
2. (2) 3/8" CHERRY ISOLATORS SUPPORT BY 12"X14" MOUNTING BLOCK
3. PROVIDE IRRIGATION VALVE CONTROL BOX, WINDOW TO BE 17"X12"X9"
4. EXOTHERMIC WELDS
5. ALL COPPER BARS TO BE TINNED
6. ADD GRAVEL AROUND BLOCK

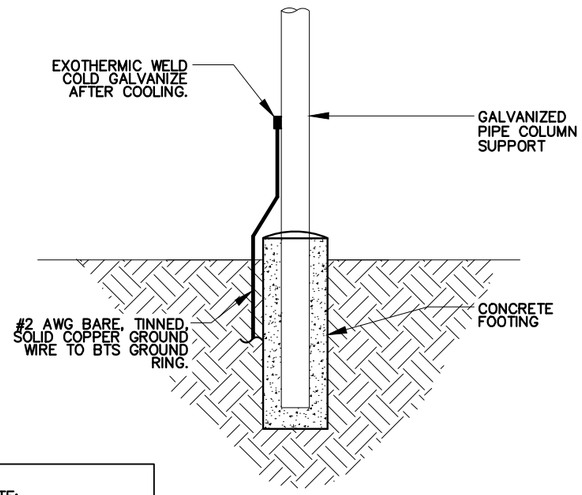
BELOW GRADE WINDOW NTS 3



EXOTHERMIC WELD DETAIL NTS 4



UTILITY TRENCH DETAIL NTS 5



NOTE:

FENCE POST SIMILAR

WAVEGUIDE POST BONDING DETAIL NTS 6

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SHEET NAME
GROUNDING DETAILS

SHEET NUMBER
E9