VERIZON SITE NUMBER:	**5000965682**
PROJECT DESCRIPTION:	**TELECOMMUNICATIONS COLOCATION**
TOWER TYPE:	**250' SELF-SUPPORT**
SITE ADDRESS:	**4741 SW BIRLEY AVENUE LAKE CITY, FL 32024 (COLUMBIA COUNTY)**
JURISDICTION:	**COLUMBIA COUNTY**
AREA OF CONSTRUCTION:	**360± SQ FT. (LEASE AREA)**
CURRENT ZONING:	**RURAL RESIDENTIAL**
PARCEL #:	**20-4S-16-03077-008**

PROJECT INFORMATION

LATITUDE:	**N 30° 07' 33.91" (NAD 83)***
LONGITUDE:	**W 82° 43' 58.78" (NAD 83)***
GROUND ELEVATION:	**104' AMSL (NAVD 88)***

***INFORMATION PROVIDED BY VERIZON**

1-A CERTIFICATION

PLANS PREPARED FOR:

verizon

4700 EXCHANGE COURT, SUITE 100
BOCA RATON, FL 33431
(561) 995-5539

VZW SITE #: 5000965682
VZW SITE NAME: BIRLEY AVE

4741 SW BIRLEY AVENUE
LAKE CITY, FL 32024
(COLUMBIA COUNTY)

VERIZON WIRELESS WILL PEFORM THE FOLLOWING ON 250'-0" TALL CELL TOWER OWNED BY SBA TOWERS LLC:

- INSTALL 4'x10' CONCRETE GENERATOR PAD
- INSTALL 8'x10' CONCRETE EQUIPMENT PAD
- INSTALL 2' WIDE ICE BRIDGE
- INSTALL 10' WIDE H-FRAME WITH ILC, RRUs, AND FIBER BOX
- INSTALL EQUIPMENT CABINET & BATTERY CABINET
- INSTALL (2) HYBRID CABLES
- INSTALL (6) JMA WIRELESS ANTENNAS
- INSTALL (3) ERICSSON AIR6419 ANTENNAS
- INSTALL (1) 12 OVP RAYCAP
- INSTALL (3) ERICSSON 4490 RRUS
- INSTALL (3) ERICSSON 4890 RRUS

SCOPE OF WORK

SBA

8051 CONGRESS AVE
BOCA RATON, FL 33487
(800) 487-7483

SBA SITE ID: FL10961-A
SBA SITE NAME: BASS

PMI ACCESSED AT:	**https://pmi.vzwsmart.com**
SMART TOOL VENDOR PROJECT NUMBER:	**10264108**
VZW MDG NUMBER:	**5000965682**

***** PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT ANALYSIS REPORT**

CONTRACTOR PMI REQUIREMENTS

MOUNT MODIFICATION REQUIRED | **N**

VZW APPROVED SMART KIT VENDORS

REFER TO MOUNT MODIFICATION DRAWINGS PAGE FOR VZW SMART KIT APPROVED VENDORS

PLANS PREPARED BY:

TEP

326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

FL COA # 31011

REV	DATE	ISSUED FOR:
2	03-13-25	CONSTRUCTION
1	02-11-25	CONSTRUCTION
0	12-31-24	PRELIMINARY

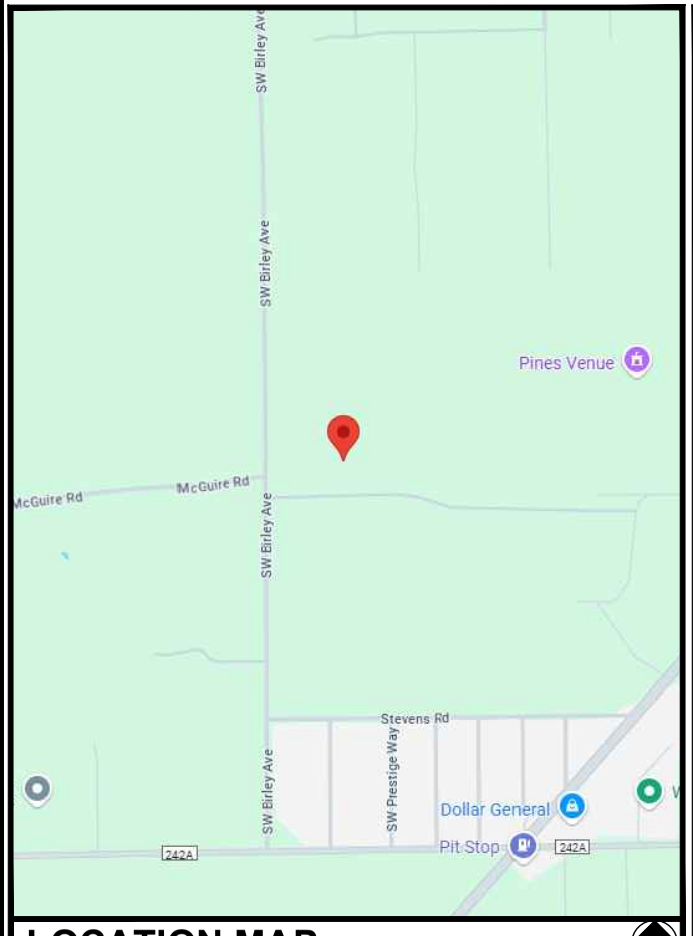
DRAWN BY: PVW | CHECKED BY: DAO

DIGITAL SEAL:
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JOSHUA H. CARDEN, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SEAL:
TEP OPCO, LLC — 31011
JOSHUA H. CARDEN — LICENSE — No 83511 — STATE OF FLORIDA — PROFESSIONAL ENGINEER
Digitally signed by Joshua H Carden
DN: cn=Joshua H Carden, c=US, o=TEP OPCO LLC, email=jcarden@tepgroup.net, l=Raleigh, st=NC
Date: 2025.03.13 14:55:58 -04'00'
March 13, 2025

SHEET NUMBER:	REVISION:
T-1	**2**

TEP#:274573.101.2037



LOCATION MAP

LESSEE:

NAME:	**VERIZON WIRELESS**
ADDRESS:	**4700 EXCHANGE COURT, SUITE 100**
CITY, STATE, ZIP:	**BOCA RATON, FL 33431**
CONTACT:	**JUSTIN DANAHY**
PHONE:	**(561) 995-5539**

TOWER OWNER:

NAME:	**SBA**
ADDRESS:	**8051 CONGRESS AVENUE**
CITY, STATE, ZIP:	**BOCA RATON, FL 33487**
CONTACT:	**CUSTOMER SERVICE**
PHONE:	**(800) 487- 7483**
SITE ID:	**FL10961-A**
SITE NAME:	**BASS**

CIVIL ENGINEER:

NAME:	**TEP OPCO, LLC**
ADDRESS:	**326 TRYON ROAD**
CITY, STATE, ZIP:	**RALEIGH, NC 27603-3530**
CONTACT:	**JOSHUA H. CARDEN, P.E.**
PHONE:	**(919) 661-6351**

ELECTRICAL ENGINEER:

NAME:	**TEP OPCO, LLC**
ADDRESS:	**326 TRYON ROAD**
CITY, STATE, ZIP:	**RALEIGH, NC 27603-3530**
CONTACT:	**JOSHUA H. CARDEN, P.E.**
PHONE:	**(919) 661-6351**

PROPERTY OWNER:

NAME:	**DURRANCE WILLIAM DAVID JR, DURRANCE CLAIRE D**
ADDRESS:	**4601 SW BIRLEY AVENUE**
CITY, STATE, ZIP:	**LAKE CITY, FL 32024**

SURVEYOR:

NAME:	**BROOKS & BROOKS, INC**
ADDRESS:	**720 ENERGY CENTER BOULEVARD, SUITE 503**
CITY, STATE, ZIP:	**NORTHPORT, ALABAMA 35473**
CONTACT:	**COPORATE OFFICE**
PHONE:	**(205) 752-5033**

CONTACT INFORMATION

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 THE LATEST EDITIONS OF THE FOLLOWING:

1. **2023 FLORIDA BUILDING CODE, 8TH EDITION**
2. **LOCAL BUILDING CODE**
3. **ANSI/TIA-222-H-2017**
4. **2020 NATIONAL ELECTRIC CODE**
5. **CITY/COUNTY ORDINANCES**

CODE COMPLIANCE

INFORMATION FOR DESIGN CRITERIA TAKEN BY MOUNT ANALYSIS REPORT BY VERIZON, DATED NOVEMBER 10, 2024:

1. **WIND SPEED = 118 M.P.H.**
2. **EXPOSURE CATEGORY = C**
3. **RISK CATEGORY = II**
4. **TOPOGRAPHIC CATEGORY = 1**

WIND SPEED CRITERIA

UTILITIES:

POWER COMPANY:	**UNKNOWN**
CONTACT:	**UNKNOWN**
PHONE:	**UNKNOWN**
POLE # NEAR SITE:	**UNKNOWN**
TELEPHONE COMPANY:	**UNKNOWN**
CONTACT:	**UNKNOWN**
PHONE:	**UNKNOWN**
PHONE # NEAR SITE:	**UNKNOWN**
PEDESTAL # NEAR SITE:	**UNKNOWN**

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-	SURVEY	-
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C-2	COMPOUND DETAIL	1
C-3	TOWER ELEVATION	1
C-3A	ANTENNA & COAX SCHEDULE	1
C-3B	PROPOSED ANTENNA LAYOUT	1
C-4	EQUIPMENT LAYOUT	1
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E-4C	OVERALL FIBER ROUTING PLAN	1
E-5	VERIZON H-FRAME DETAILS	1
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E-11	GROUNDING DETAILS II	1
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	APPENDIX - MOUNT SPECIFICATIONS	

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GENERAL NOTES:

1. ALL REFERENCES MADE TO LESSEE IN THESE DOCUMENTS SHALL BE CONSIDERED VERIZON WIRELESS OR ITS DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING TO HAVE SUFFICIENT EXPERIENCE AND ABILITY, IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF FLORIDA.
3. WORK SHALL BE COMPLETED IN ACCORDANCE WITH ANSI/TIA 222-H-2-2017 STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES, ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES AND THE THE 2023 FLORIDA BUILDING CODE, 8TH EDITION.
4. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
5. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
6. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
7. THE LESSEE SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL CONDITIONS PRIOR TO SUBMITTING THE PROPOSAL. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS (LATEST REVISION) SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATION. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LESSEE AND THE LESSEE'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE LESSEE AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.
8. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE LESSEE AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
9. THESE DOCUMENTS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. SAFETY, CARE OF ADJACENT PROPERTIES, AND COMPLIANCE WITH LOCAL, PROVINCIAL AND FEDERAL REGULATIONS REGARDING SAFETY, SHALL BE THE CONTRACTOR'S RESPONSIBILITY, AND THIS, PER THE INTERNATIONAL CODE – REGULATORS RESPECTING OCCUPATIONAL SAFETY & HEALTH THE SUCCESSFUL CONTRACTOR WILL SUBMIT HIS SAFETY MANUAL AT THE PROJECT SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
10. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE LESSEE'S PROJECT MANAGER.
11. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR/LESSEE. CONTRACTOR/LESSEE SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
12. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOF-ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFT MATERIAL SHALL BE REWORKED OR REPLACED.
13. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE LESSEE. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
14. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
15. ANY BUILDINGS ON THIS SITE ARE INTENDED TO SHELTER EQUIPMENT WHICH WILL ONLY BE PERIODICALLY MAINTAINED, AND ARE NOT INTENDED FOR HUMAN OCCUPANCY.
16. TEMPORARY FACILITIES FOR PROTECTION OF TOOLS AND EQUIPMENT SHALL CONFORM TO LOCAL REGULATIONS AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
17. RENTAL CHARGES, SAFETY, PROTECTION AND MAINTENANCE OF RENTED EQUIPMENT SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
18. THE CONTRACTOR AND ITS SUBCONTRACTORS SHALL CARRY LIABILITY INSURANCE IN THE AMOUNTS AND FORM IN ACCORDANCE WITH SPECIFICATIONS. CERTIFICATES DEMONSTRATING PROOF OF COVERAGE SHALL BE PROVIDED TO PRIOR TO THE START OF THE WORK ON THE PROJECT.
19. THE CONTRACTOR SHALL CONTACT ALL APPLICABLE UTILITY SERVICES TO VERIFY LOCATIONS OF EXISTING UTILITIES AND REQUIREMENTS FOR NEW UTILITY CONNECTIONS PRIOR TO EXCAVATING. CONTRACTOR WILL BE RESPONSIBLE TO ASSIST IN COORDINATING AND OBTAINING PRIMARY POWER TO THE SITE PRIOR TO TOWER ERECTION BEFORE PROJECT COMPLETION. (ON SITE VISITS WITH UTILITY COMPANY REPRESENTATIVES AS NECESSARY, ETC...)
20. THE CONTRACTOR SHALL GUARANTEE THE WORK PERFORMED ON THE PROJECT BY THE CONTRACTOR AND ANY OR ALL OF THE SUBCONTRACTORS WHO PERFORMED WORK FOR THE CONTRACTOR ON THIS PROJECT. THE GUARANTEE SHALL BE FOR A FULL YEAR FOLLOWING ISSUANCE OF THE FINAL PAYMENT OF HOLDBACK.
21. AWARDED CONTRACTOR WILL BE REQUIRED TO SIGN AND RETURN A COPY OF AN AWARD LETTER FOR THE LESSEE'S FILE.
22. CONTRACTOR WILL BE REQUIRED TO PROVIDE PROOF OF LICENSE TO PERFORM WORK IN JURISDICTION AT TIME OF BID AWARD.
23. CONTRACTOR WILL PROVIDE A CONSTRUCTION SCHEDULE PRIOR TO CONSTRUCTION STARTING AND WILL PROVIDE UPDATE/CHANGES (WITH EXPLANATIONS) TO THAT SCHEDULE WHEN/IF ITEMS ARE DELAYED OR PUSHED OUT.
24. CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE PROJECT MANAGERS WITH PHOTOS OF THE MAJOR CONSTRUCTION MILESTONES AS THEY OCCUR.
25. CONTRACTOR SHOULD BE PREPARED FOR RANDOM SAFETY INSPECTIONS AT ALL TIMES.
26. CONTRACTOR IS EXPECTED TO MAINTAIN PROPER WORKING CONDITIONS AND PROCEDURES PER LOCAL AND FEDERAL STANDARDS AT ALL TIMES.
27. CONTRACTOR WILL BE REQUIRED TO OBTAIN THE NECESSARY ELECTRICAL PERMITS AND INSPECTIONS AS REQUIRED BY JURISDICTION.
28. CONTRACTOR IS RESPONSIBLE FOR CONCRETE COMPRESSION TESTING.
29. CONTRACTOR IS RESPONSIBLE FOR GROUND MEG TESTING AND PROVIDING PROOF OF RESULT.
30. WHEN REQUESTED, PROVIDE 3 COPIES OF FABRICATION AND ERECTION DRAWINGS PRIOR TO FABRICATION. ALLOW UP TO 1 WEEK FOR REVIEW BY CONSULTANT.
31. IN ADDITION TO CONTRACTOR'S QUALITY CONTROL PROGRAM, INDEPENDENT TESTING AND INSPECTION MAY BE PERFORMED BY LESSEE OR LESSEE'S REPRESENTATIVE.
32. SUBMIT RED-LINES COPY OF CONSTRUCTION DRAWINGS UPON COMPLETION OF CONSTRUCTION HIGHLIGHTING CHANGES IN THE STAMPED AND SIGNED AS-BUILT CONDITION FROM SHOWN ON THE DRAWINGS.
33. CONTRACTOR WILL BE RESPONSIBLE FOR ALL GRADING AND FILL COMPACTION TESTING REQUIRED AS SET FORTH IN THE GEO TECHNOLOGICAL REPORT PROVIDED BY LESSEE.

CONCRETE:

1. ALL CONCRETE AND CONCRETE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE 2023 FLORIDA BUILDING CODE, 8TH EDITION.
2. THE CONTRACTOR SHALL TAKE SAMPLES OF THE CONCRETE POURED UNDER THE CONDITIONS OUTLINED IN THE THE 2023 FLORIDA BUILDING CODE, 8TH EDITION.
3. ANY FAILURE OF A CONCRETE TEST CYLINDER TO MEET THE SPECIFIED STRENGTH REQUIREMENTS MUST BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY. CORRECTIVE ACTION MUST BE APPROVED BY THE ENGINEER AND ALL RELATED COSTS SHALL BE AT THE CONTRACTOR'S EXPENSE.
4. THE MINIMUM 28-DAY COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE A MINIMUM OF 4,000 PSI (21 MPA), EXCEPT AS NOTED OR DIRECTED IN THE SOIL REPORT. THE CONCRETE, WHEN POURED, SHALL CONTAIN 7% AIR ENTRAINMENT WITH AN ALLOWABLE VARIATION OF +2%.
5. CONTRACTOR MUST TAKE SLUMP TEST AT LEAST ONCE FROM EACH TRANSIT MIXER AFTER A MINIMUM OF 5% CONCRETE LOAD HAD BEEN DISCHARGED. SLUMP, UNLESS NOTED OTHERWISE ON THE DRAWINGS, SHALL BE 75 MM (2.95 INCHES).
6. MIXED CONCRETE ON SITE (REMOTE AREAS) WITH THE CORRECT PROPORTION OF CEMENT, SAND, GRAVEL, AND AIR-ENTRAINING AGENT ALREADY ADDED, THE DRY PREMIX IS TO BE MIXED IN A CONCRETE BATCHER IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. BEFORE POURING CONCRETE, THE TRANSPORTING EQUIPMENT AND FORMS SHALL BE CLEANED AND ALL DEBRIS AND ICE SHALL BE REMOVED FROM PLACES TO BE OCCUPIED BY THE CONCRETE. ANY WATER THAT HAS ACCUMALATED IN THE FORMS SHALL BE REMOVED.
8. ALL CONCRETE SHALL BE VIBRATED AND WORKED AROUND THE REINFORCEMENTS, EMBEDDED FIXTURES AND INTO THE CORNERS OF THE FORMS. ANY EXCESS WATER THAT ACCUMALATES WHILE THE CONCRETE IS BEING POURED SHALL BE REMOVED.

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
BOCA RATON, FL 33431

PROJECT INFORMATION:

VZW SITE #: 5000965682
SITE NAME #: BIRLEY AVE

4741 SW BIRLEY AVENUE
LAKE CITY, FL 32024
(COLUMBIA COUNTY)

PLANS PREPARED BY:

TEP

326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net
FL COA # 31011

SEAL:

TEP OPCO, LLC 31011

JOSHUA H. CARDEN LICENSE No 83511 STATE OF FLORIDA PROFESSIONAL ENGINEER

February 11, 2025

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JOSHUA H. CARDEN, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

1	02-11-25	CONSTRUCITON
0	12-31-24	PRELIMINARY
REV	DATE	ISSUED FOR:

DRAWN BY: PVW | CHECKED BY: DAO

SHEET TITLE:

GENERAL NOTES

SHEET NUMBER: **N-1**

REVISION: 1

TEP#:274573.101 2037

CONCRETE (CONTINUED):

9. THE DESIGN ENGINEER SHALL RECEIVE A MINIMUM OF 24 HOURS NOTICE OF EVERY POUR.

10. THE CONCRETE IN FOUNDATIONS MUST BE POURED IN CONTINOUS POURS BETWEEN CONSTRUCTION JOINTS. NO CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON SITE SPECIFIC DRAWINGS WILL BE PERMITTED. THE CONTRACTOR SHALL PROVIDE EFFICIENT EQUIPMENT TO COMPLETE THE POURING OF EACH SECTION IN ONE CONTINOUS POUR.

11. ALL FRAMEWORK SHALL BE BUILT IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE SHALL BE THOROUGHLY BRACED AND PLUMBED SO THAT THE FINISHED CONCRETE WILL CONFORM TO THE SHAPES, LINES, GRADES, AND DIMENSIONS INDICATED ON THE SITE DRAWINGS.

12. FORMS AND SHORING SHALL NOT BE REMOVED UNTIL THE CONCRETE IS ADEQUATELY SET. THEIR REMOVAL SHALL BE DONE IN SUCH A MANNER AS TO ENSURE THE COMPLETE SAFETY OF THE STRUCTURE.

13. FORMS WHICH SUPPORT THE WEIGHT OF THE CONCRETE, OR OF SUPERIMPOSED LOADS, SHALL NOT BE REMOVED UNTIL THE CONCRETE IS STRONG ENOUGH TO CARRY ITS OWN WEIGHT, AND SUCH SUPERIMPOSED LOADS AS MAY BE PLACED UPON IT.

14. THE CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR AT LEAST 5 DAYS AFTER IT HAS BEEN POURED.

15. ALL SURFACES WHICH ARE NOT PROTECTED BY FORMS OR A SEALED WATERPROOF COATING SHALL BE KEPT MOIST BY CONTINOUS SPRINKLING, OR OTHER MEANS SUCH AS COVERING WITH MOIST SAND, SAWDUST, OR BURLAP.

16. WHERE NECESSARY, THE CONCRETE SHALL BE PROTECTED AGAINST THE WEATHER BY A FRAMED HOUSING, TARPAULINS, OR OTHER SUITABLE COVERING.

REINFORCING STEEL (REBAR):

1. REINFORCING STEEL SHALL MEET CODE AND BE PLACED ACCORDING TO THE APPLICABLE DRAWINGS. THE MINIMUM THICKNESS OF CONCRETE OVER THE STEEL SHALL BE AT LEAST 3".

2. ALL REINFORCEMENTS THAT ARE REQUIRED FOR A DAYS POUR ON CONCRETE SHALL BE SECURELY FIXED IN PLACE IN SUFFICIENT TIME TO PERMIT INSPECTION BEFORE CONCRETING BEGINS.

3. THE DESIGN ENGINEER SHALL BE GIVEN 24 HOURS NOTICE BEFORE THE CONCRETE IS TO BE POURED. FAILURE TO COMPLY MAY NECESSITATE, BUT NOT BE LIMITED TO, THE REMOVAL OF THE POURED CONCRETE AT THE CONTRACTOR'S EXPENSE.

GROUTING:

1. WHERE GROUT IS INDICATED ON THE DRAWINGS UNDER STRUCTURAL BASE PLATES, THIS SHALL BE A NON-SHRINK, NON-FERROUS TYPE. METHODS OF MIXING AND PLACING MUST BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

COLD WEATHER CONCRETING:

1. THE CONTRACTOR SHALL PROVIDE AND HAVE ON THE SITE READY FOR USE, ADEQUATE EQUIPMENT FOR HEATING CONCRETE MATERIALS AND PROTECTING FRESH CONCRETE DURING FREEZING OR NEAR FREEZING WEATHER CONDITIONS, ACCORDING TO THE FLORIDA UNIFORM STATEWIDE BUILDING CODE.

2. ALL CONCRETE MATERIALS, REBAR, FORMS, FILLERS, AND THE EARTH WITH WHICH THE CONCRETE IS TO COME INTO CONTACT WITH, SHALL BE FREE FROM FROST AND ICE.

3. WHENEVER THE SURROUNDING TEMPERATURE IS BELOW 39°F, ALL CONCRETE POURED IN THE FORMS SHALL HAVE A TEMPERATURE OF 68°F FOR 4 DAYS.

4. THE HOUSING, COVERING, OR OTHER PROTECTION USED FOR THE CURING SHALL REMAIN IN PLACE AND INTACT FOR AT LEAST 24 HOURS AFTER THE ARTIFICIAL HEATING IS DISCONTINUED.

5. SALT, CALCIUM CHLORIDE, OR OTHER CHEMICALS SHALL NOT BE USED IN THE CONCRETE MIX TO PREVENT THE WATER CONTENT FROM FREEZING.

GRADING:

1. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC...) ALL MATERIAL NOT SUITABLE FOR SUB GRADE IN ITS PRESENT STATE. IF THE MATERIAL, AFTER REWORKING, REMAINS UNSUITABLE THEN THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL AT HIS EXPENSE. ALL SUB GRADES SHALL BE PROOF ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFT MATERIAL SHALL BE REWORKED OR REPLACED.

2. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL DITCHES, PIPES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTABLE BY THE LESSEE. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURES IN OPERABLE CONDITION.

3. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE (1) YEAR FROM DATE OF ACCEPTANCE.

UTILITIES:

1. CONTRACTOR SHALL CONTACT A SUBSURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. LOCATION OF EXISTING SEWER, WATER LINES, GAS LINES, CONDUITS OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN ARE ONLY APPROXIMATELY CORRECT. CONTRACTOR ASSUMES SOLE RESPONSIBILITY FOR VERIFYING LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES (INCLUDING TEST PITS BY HAND IF NECESSARY) IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OF ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS, OR IF THERE APPEARS TO BE A CONFLICT.

2. CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY LESSEES AND CONSTRUCTION MANAGER.

3. DAMAGE BY THE CONTRACTOR TO UTILITIES OR PROPERTY OF OTHERS, INCLUDING EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE LESSEE. FOR GRASSES AREAS, SEED AND MULCH SHALL BE ACCEPTABLE.

4. THE CONTRACTOR SHALL COORDINATE WITH THE LESSEE THE REQUIREMENTS FOR AND LIMITS OF OVERHEAD AND/OR UNDERGROUND ELECTRICAL SERVICE.

5. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF NEW UNDERGROUND TELEPHONE SERVICE WITH THE TELEPHONE UTILITY AND THE LESSEE'S REQUIREMENTS.

6. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED AND TESTED SATISFACTORY PRIOR TO COMMENCING ANY PAVING OPERATIONS WHERE SUCH UTILITIES ARE WITHIN THE LIMITS OF PAVEMENT.

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
BOCA RATON, FL 33431

PROJECT INFORMATION:

VZW SITE #: 5000965682
SITE NAME #: BIRLEY AVE

4741 SW BIRLEY AVENUE
LAKE CITY, FL 32024
(COLUMBIA COUNTY)

PLANS PREPARED BY:

TEP

326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net
FL COA # 31011

SEAL:

TEP OPCO, LLC 31011

JOSHUA H. CARDEN LICENSE No 83511 STATE OF FLORIDA PROFESSIONAL ENGINEER

February 11, 2025

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REV	DATE	ISSUED FOR:
1	02-11-25	CONSTRUCITON
0	12-31-24	PRELIMINARY

DRAWN BY: PVW | CHECKED BY: DAO

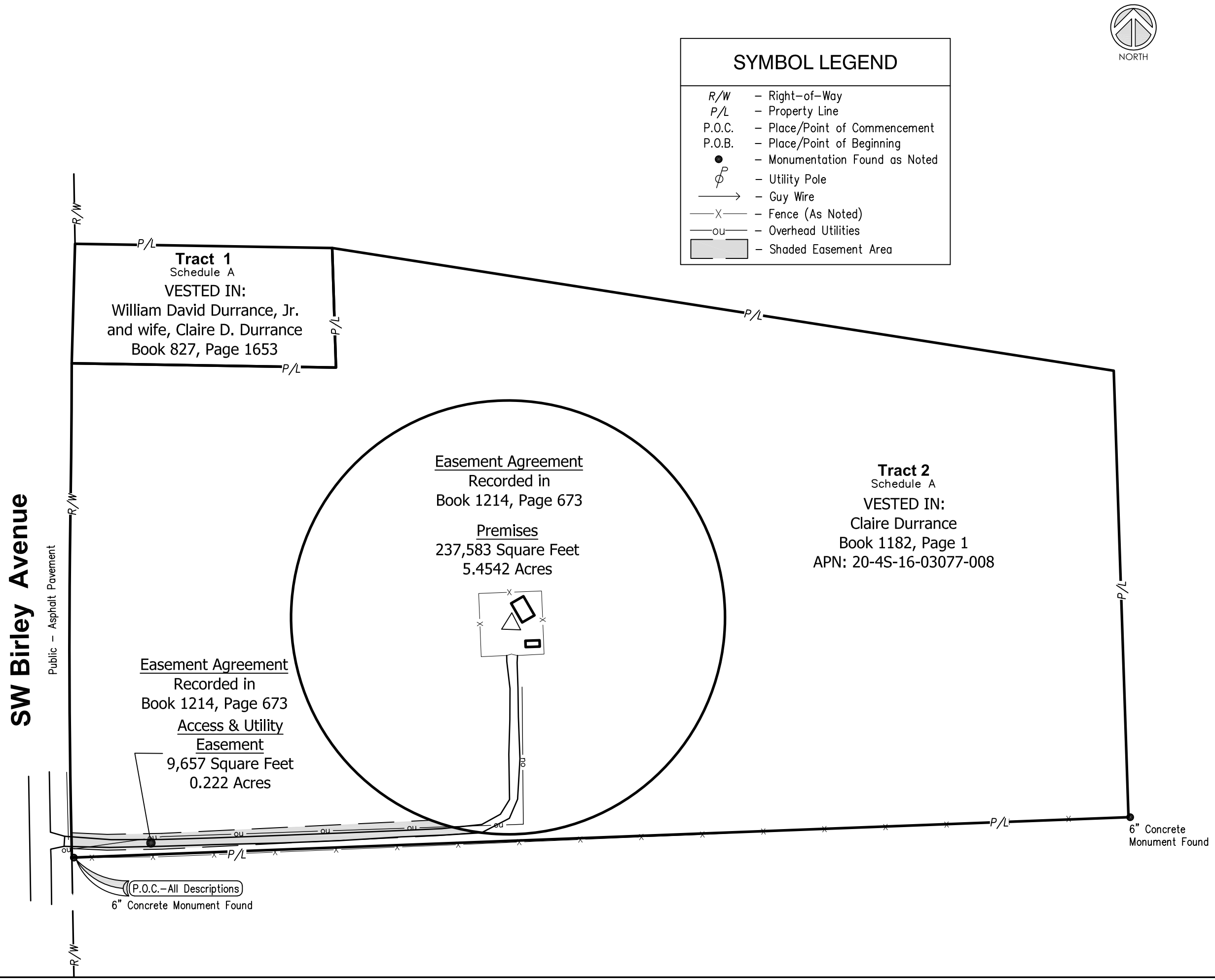
SHEET TITLE:

GENERAL NOTES

SHEET NUMBER: **N-2**

REVISION: 1

TEP#: 274573.101.2037



AS-BUILT SURVEY
4741 SW Birley Avenue
Lake City, Florida 32024

SITE ID#: FL10961-A
SITE NAME: Bass

SBA

SBA Network Services, LLC
8051 Congress Avenue
Boca Raton, FL 33487-1307

CERTA TOWER
SERVICES LLC
2926 State Road, #135
Cuyahoga Falls, OH 44223-1244
330.295.3673
orders@certasite.com
www.certasite.com

BM LAND, LLC
1721 COUNTY ROAD 617
ENTERPRISE, AL 36330
(334) 389-1817
MATHEWS8880@GMAIL.COM
#LB8113

Note: This survey does not represent a boundary survey of the parent parcel.

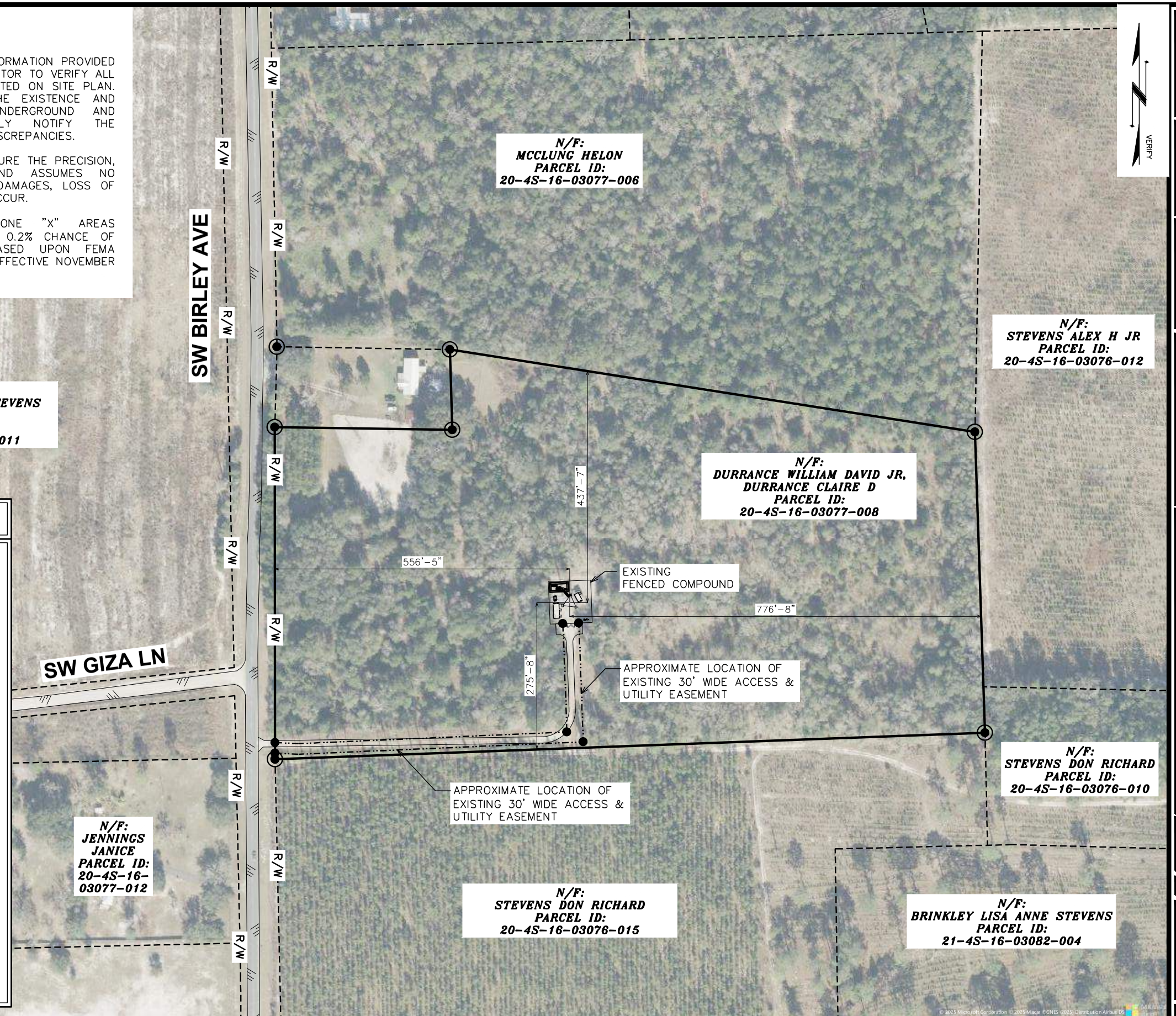
Drawn By: DLV | Scale: None
Date: 01.08.25 | Sheet: 3 of 5
Certa Project No. 2619

NOTES:

1. SITE PLAN SHOWN TAKEN FROM INFORMATION PROVIDED BY COLUMBIA COUNTY GIS. CONTRACTOR TO VERIFY ALL EXISTING INFORMATION IS AS INDICATED ON SITE PLAN. CONTRACTOR IS TO ESTABLISH THE EXISTENCE AND LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES.
2. TEP DOES NOT GUARANTEE, OR ENSURE THE PRECISION, ACCURACY OR CORRECTNESS AND ASSUMES NO RESPONSIBILITY OR LIABILITY FOR DAMAGES, LOSS OF REVENUE, OR INJURY THAT MIGHT OCCUR.
3. TOWER LOCATED IN FLOOD ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 0.2% CHANCE OF ANNUAL CHANCE FLOODPLAIN BASED UPON FEMA COMMUNITY PANEL #12023C0290D, EFFECTIVE NOVEMBER 02, 2018.

LEGEND

- EXIST. PROPERTY LINE
- ADJ. PROPERTY LINE
- EXIST. UTILITY POLE
- EXIST. LIGHT POLE
- EXIST. HYDRANT
- EXIST. TELCO PEDESTAL
- PROPERTY CORNER
- LEASE/EASE. CORNER
- ---200--- EXIST. CONTOUR LINE
- EDGE OF PAVEMENT
- ---OHW--- OVERHEAD WIRE
- ----G---- GAS LINE
- ---R/W--- RIGHT-OF-WAY
- ——X—— CHAIN LINK FENCE
- EXISTING TREE LINE



SITE PLAN

SCALE: 1" = 200'

0 200 400

SCALE IN FEET

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
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PROJECT INFORMATION:

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(COLUMBIA COUNTY)

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www.tepgroup.net
FL COA # 31011

SEAL:

TEP OPCO, LLC 31011

JOSHUA H. CARDEN
LICENSE
No 83511
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

March 13, 2025

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1	02-11-25	CONSTRUCITON
2	03-13-25	CONSTRUCITON

DRAWN BY: PVW | CHECKED BY: DAO

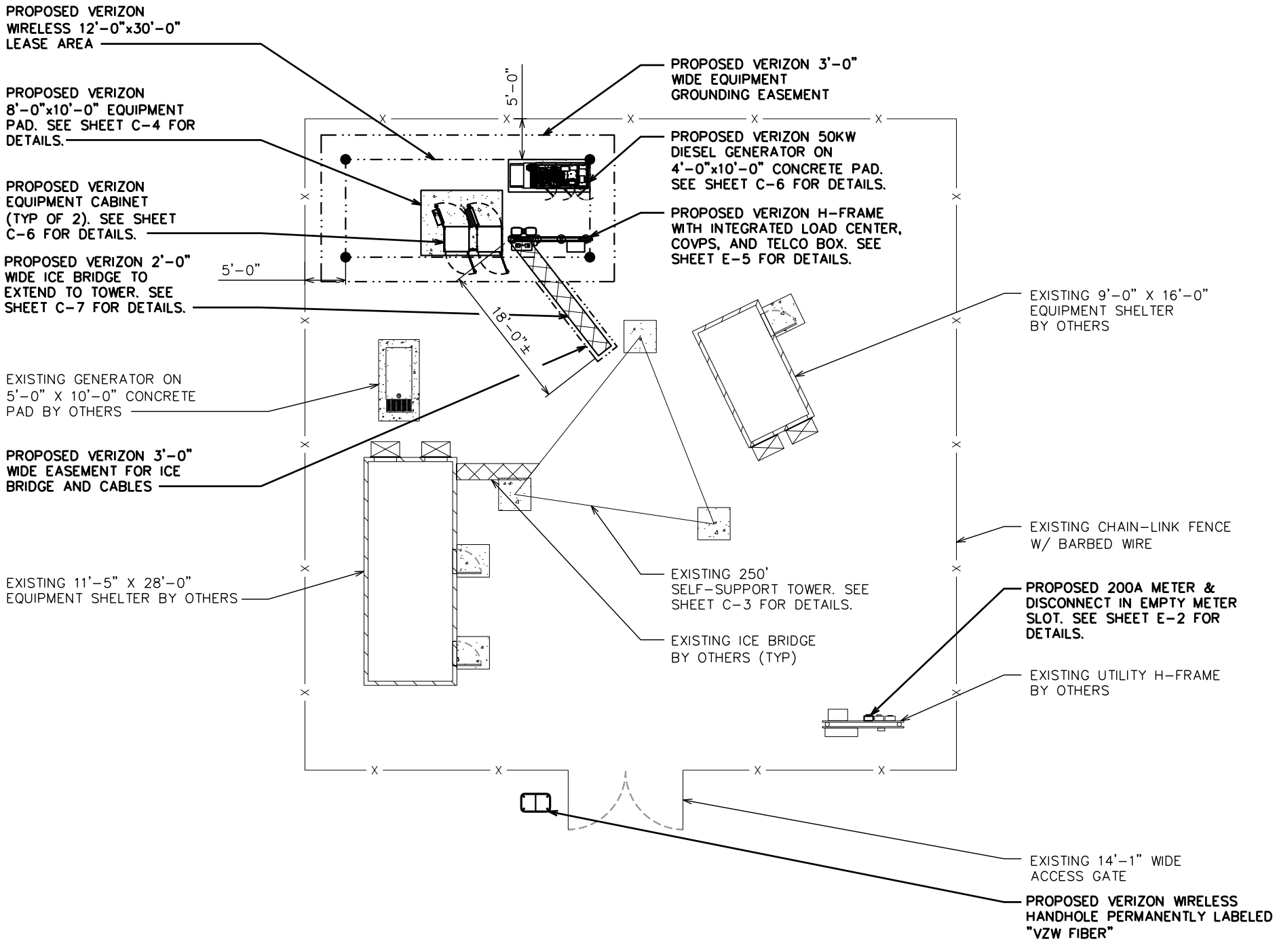
SHEET TITLE:

SITE PLAN

SHEET NUMBER: **C-1**

REVISION: **2**

TEP#:274573.1012037



COMPOUND DETAIL

SCALE: 1/16" = 1'-0"

0 16 32

SCALE IN FEET

VERIFY

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

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DRAWN BY: PVW | CHECKED BY: DAO

SHEET TITLE:

COMPOUND DETAIL

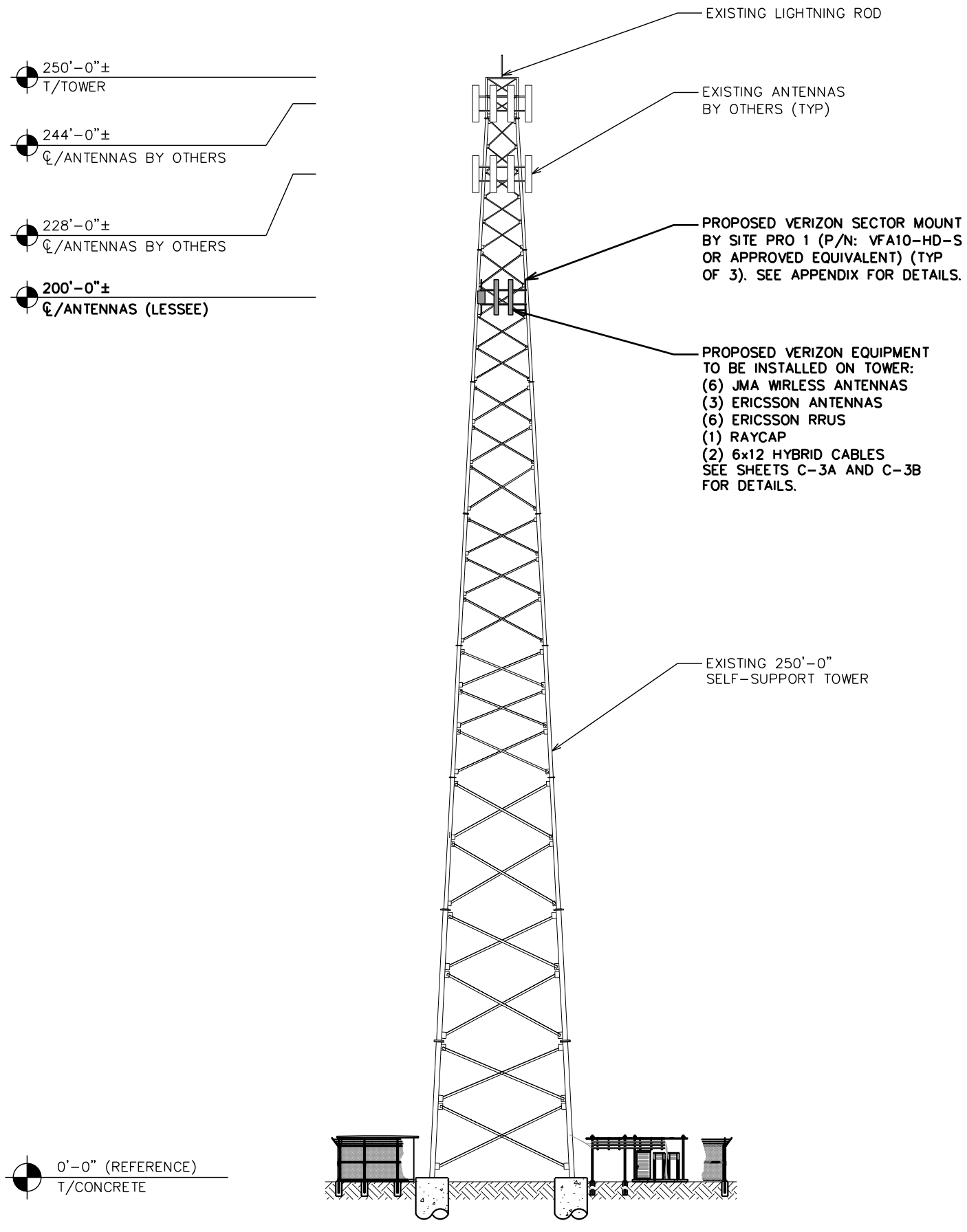
SHEET NUMBER: **C-2**

REVISION: 1

TEP#:274573.1012037

NOTES:

1. PROPOSED CABLES TO BE RUN AS PER SPECIFICATIONS OF PASSING STRUCTURAL ANALYSIS.
2. TOWER ELEVATION SHOWN FOR REFERENCE ONLY. VERIFY ACTUAL TOWER DESIGN & LOADING WITH TOWER DRAWINGS FROM MANUFACTURER AND/OR PASSING STRUCTURAL ANALYSIS PRIOR TO CONSTRUCTION.



TOWER ELEVATION

SCALE: 1" = 30'

0 30 60

SCALE IN FEET

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
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DRAWN BY: PVW | CHECKED BY: DAO

SHEET TITLE:

TOWER ELEVATION

SHEET NUMBER: **C-3**

REVISION: 1

TEP #:274573.1012037

NOTES:

1. THE ANTENNA LAYOUT ON SHEET C-3B IS A SCHEMATIC. THE CONTRACTOR SHALL VERIFY TOWER ORIENTATION AND FIELD COORDINATE REQUIRED ADJUSTMENTS TO ACHIEVE THE DESIRED ANTENNA AZIMUTHS.
2. ANTENNA CENTERLINE HEIGHT BASED ON TOP OF GRADE.
3. ALL ANTENNAS, CABLES, AND MOUNTS SHALL BE INSTALLED IN ACCORDANCE WITH THE STRUCTURAL ENGINEER'S RECOMMENDATIONS IN A MANNER CONSISTENT WITH THE PASSING STRUCTURAL ANALYSIS REPORT.
4. ALL INFORMATION ON THIS SHEET TO BE CONFIRMED WITH VERIZON RF DESIGN PRIOR TO INSTALLATION.
5. TEP DID NOT PERFORM A STRUCTURAL ANALYSIS ON THE MOUNT. IT IS THE CARRIER'S RESPONSIBILITY TO ENSURE MOUNT CAN SUPPORT PROPOSED LOADS.

PROPOSED ANTENNA & COAX SCHEDULE

POS.	SECTOR	USE	MANUFACTURER (MODEL #)	RAD CENTER	CABLE SIZE	AZIMUTH (TN)	CABLE LENGTH	MECH. D-TILT	ELEC. D-TILT	EQUIPMENT [MODEL #]	J-BOX (TOWER)
1	ALPHA	–	–	–		–		–	–	–	
2	ALPHA	700/850/1900 AWS/AWS3	JMA MX06FHG865-HG	℄ @ 200'-0"±		45°		**	**	ERICSSON 4490 RRU	
3	ALPHA	700/850/1900 AWS/AWS3	JMA MX06FHG865-HG	℄ @ 200'-0"±		45°		**	**	ERICSSON 4890 RRU	
4	ALPHA	L-SUB6 5G	ERICSSON AIR6419	℄ @ 200'-0"±		45°		**	**	ERICSSON AIR6419	
5	BETA	–	–	–		–		–	–	–	
6	BETA	700/850/1900 AWS/AWS3	JMA MX06FHG865-HG	℄ @ 200'-0"±	(2) 6x12 HYBRID CABLES	160°	265'±	**	**	ERICSSON 4490 RRU	(1) RAYCAP [12 OVP]
7	BETA	700/850/1900 AWS/AWS3	JMA MX06FHG865-HG	℄ @ 200'-0"±		160°		**	**	ERICSSON 4890 RRU	
8	BETA	L-SUB6 5G	ERICSSON AIR6419	℄ @ 200'-0"±		160°		**	**	ERICSSON AIR6419	
9	GAMMA	–	–	–		–		–	–	–	
10	GAMMA	700/850/1900 AWS/AWS3	JMA MX06FHG865-HG	℄ @ 200'-0"±		290°		**	**	ERICSSON 4490 RRU	
11	GAMMA	700/850/1900 AWS/AWS3	JMA MX06FHG865-HG	℄ @ 200'-0"±		290°		**	**	ERICSSON 4890 RRU	
12	GAMMA	L-SUB6 5G	ERICSSON AIR6419	℄ @ 200'-0"±		290°		**	**	ERICSSON AIR6419	

* CONTRACTOR TO VERIFY COAX/CABLE LENGTHS PRIOR TO CONSTRUCTION
** CONTRACTOR TO REFERENCE VERIZON ISSUED RFDS FOR MECH./ELEC. D-TILTS

ANTENNA & COAX SCHEDULE

SCALE: N.T.S.

PLANS PREPARED FOR:
SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon
4700 EXCHANGE COURT, SUITE 100
BOCA RATON, FL 33431

PROJECT INFORMATION:
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LAKE CITY, FL 32024
(COLUMBIA COUNTY)

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RALEIGH, NC 27603-3530
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FL COA # 31011

SEAL:
TEP OPCO, LLC 31011
JOSHUA H. CARDEN LICENSE No 83511 STATE OF FLORIDA PROFESSIONAL ENGINEER
February 11, 2025
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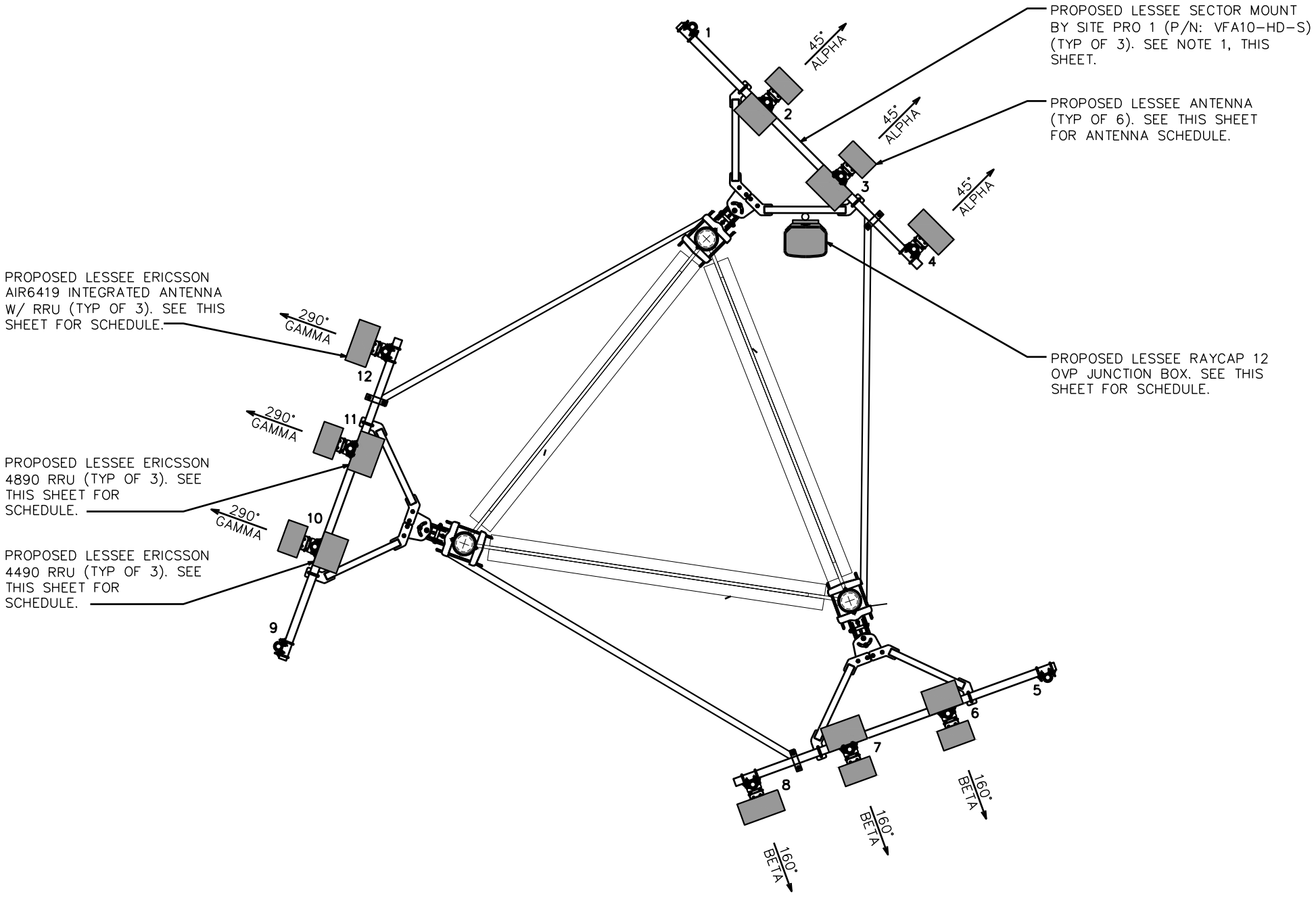
DRAWN BY: PVW | CHECKED BY: DAO

SHEET TITLE:
ANTENNA & COAX SCHEDULE

SHEET NUMBER: **C-3A**
REVISION: 1
TEP #: 274573.101 2037

NOTES:

1. TEP DID NOT ANALYZE MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY VERIZON LOADING.
2. SEE SHEET C-3A FOR PROPOSED ANTENNA SCHEDULE.
3. CONTRACTOR TO VERIFY PROPOSED LOADING WITH TOWER STRUCTURAL ANALYSIS PRIOR TO CONSTRUCTION.



TRUE NORTH

PROPOSED ANTENNA LAYOUT

SCALE: ¼" = 1'-0"

0 4 8

SCALE IN FEET

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
BOCA RATON, FL 33431

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SITE NAME #: BIRLEY AVE

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(COLUMBIA COUNTY)

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SHEET TITLE:

PROPOSED ANTENNA LAYOUT

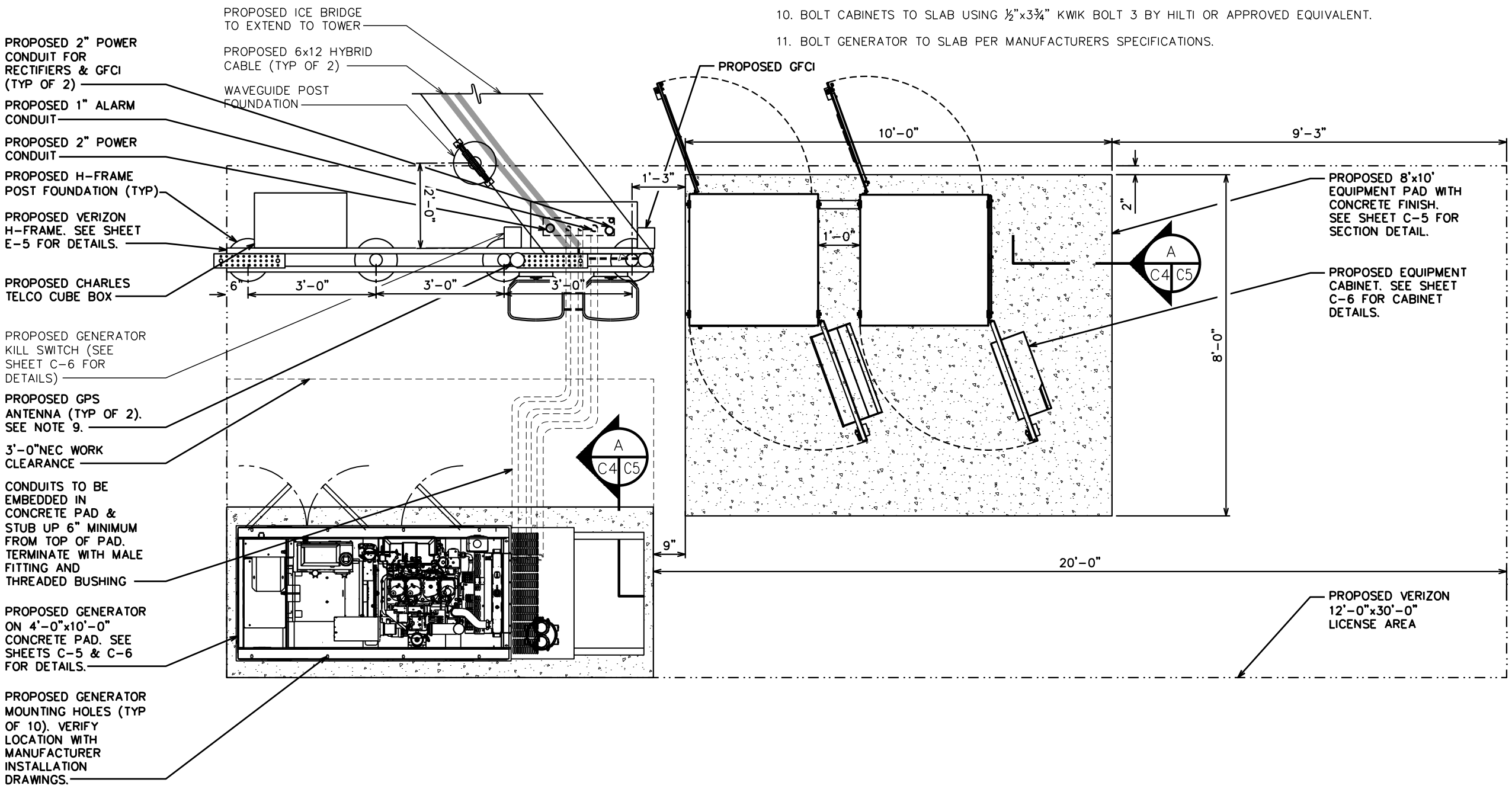
SHEET NUMBER: **C-3B**

REVISION: 1

TEP#:274573.101.2037

ROUTING NOTES:

1. REFER TO THE SITE PLAN FOR EQUIPMENT PAD LOCATIONS AND ORIENTATION.
2. RUN 2" FLEX TELCO CONDUIT FROM BOTTOM OF TELCO BOX TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.
3. RUN 2" FLEX POWER CONDUIT AND 1" FLEX ALARM CONDUIT FROM BOTTOM OF ILC TO SIDE OF RF CABINET WITH CHASE NIPPLES THROUGH FACTORY KNOCKOUTS.
4. RUN 2" FLEX FIBER CONDUIT FROM BOTTOM OF OVP TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.
5. RUN (1) 1½" FLEX POWER CONDUIT FOR EVERY (6) RRU CIRCUITS FROM BOTTOM OF OVP TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.
6. SUPPORT FLEX CONDUIT ON HORIZONTAL H-FRAME RAILS OR ON VERTICAL SITE STRUT SNT10 RAILS ADDED TO H-FRAME FOR CONDUIT/CABLE MANAGEMENT.
7. RUN HYBRID CABLE FOR TOWER MOUNTED RRU'S OVERHEAD ON TRAPEZE SUSPENDED FROM WAVE GUIDE BRIDGE. SWEEP DOWN ONTO H-FRAME RAILS, THEN LOOP UNDER OVP AND CONNECT TO BOTTOM OF OVP. ATTACH GROUND KITS TO HYBRID CABLE BEFORE LOOPING UNDER OVP, AND BOND TO TDSGA GROUND BAR AT BASE OF H-FRAME.
8. RUN COAX CABLE FOR GROUND MOUNTED RRU'S (IF USED) OVERHEAD ON TRAPEZE SUSPENDED FROM WAVE GUIDE BRIDGE. TERMINATE COAX ON ICE BRIDGE AND TRANSITION TO JUMPERS JUST BEFORE REACHING H-FRAME. ATTACH GROUND KITS TO COAX CABLE ON TOWER SIDE OF LAST ICE BRIDGE POST AND BOND TO TDSGA GROUND BAR NEAR TOP OF POST.
9. GPS ANTENNA TO BE MOUNTED TO STANDARD HEIGHT POST WITH EXTENDED MOUNTING PIPE, USING COMMSCOPE GPS-U MOUNTING KIT. MOUNT AS NEAR AS AS PRACTICAL TO RBA84 CABINET.
10. BOLT CABINETS TO SLAB USING ½"x3¾" KWIK BOLT 3 BY HILTI OR APPROVED EQUIVALENT.
11. BOLT GENERATOR TO SLAB PER MANUFACTURERS SPECIFICATIONS.



VERIZON EQUIPMENT LAYOUT

SCALE: ⅜" = 1'-0"

0 2 4

SCALE IN FEET

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
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SHEET TITLE:

EQUIPMENT LAYOUT

SHEET NUMBER: **C-4**

REVISION: 1

TEP #: 274573.1012037

FOUNDATION NOTES:

1. FOUNDATION DESIGN BASED ON 2,000 PSF SOIL BEARING CAPACITY.
2. CONCRETE SHALL BE MIN. 4,000 PSI AFTER 28 DAYS.
3. REINFORCING STEEL Fy = 60,000 PSI
4. ALL BACKFILL SHALL BE THOROUGHLY COMPACTED TO A MINIMUM OF 95% DENSITY USING THE MODIFIED PROCTOR METHOD.
5. SURFACE OF FINISHED SLAB SHALL BE LEVEL AND FLAT WITHIN 1/4".
6. CONTRACTOR SHALL VERIFY WITH MANUFACTURER ACTUAL DIMENSIONS OF CABINET PRIOR TO LAYING OUT FOUNDATION.
7. MAXIMUM SIZE OF CONCRETE AGGREGATE SHALL NOT EXCEED 1 INCH; SIZE SUITABLE FOR INSTALLATION METHOD UTILIZED; OR ONE-THIRD CLEAR DISTANCE BEHIND OR BETWEEN REINFORCING.
8. REINFORCEMENT SHALL BE DEFORMED AND CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60 UNLESS OTHERWISE NOTED.
9. WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.
10. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 3 INCHES UNLESS OTHERWISE NOTED.
11. CONCRETE COVER FROM TOP OF FOUNDATION TO ENDS OF VERTICAL REINFORCEMENT SHALL BE 3 INCHES MINIMUM.
12. FOUNDATION DESIGN ASSUMES FIELD INSPECTIONS WILL BE PERFORMED TO VERIFY THAT CONSTRUCTION MATERIALS, INSTALLATION METHODS, AND ASSUMED DESIGN PARAMETERS ARE ACCEPTABLE BASED ON CONDITIONS EXISTING AT THE SITE.
13. FOUNDATION DESIGN ASSUMED CONTINUOUS CONCRETE PLACEMENT WITHOUT CONSTRUCTION JOINTS.
14. WELDED WIRE FABRIC SHALL BE SUPPLIED IN FLAT SHEETS. (NOT ROLLED).
15. TEST CYLINDERS SHALL BE MOLDED AND LABORATORY CURED IN ACCORDANCE WITH ASTM C31. THREE CYLINDERS SHALL BE TAKEN FROM EACH DAY'S CONCRETE PLACEMENT. CYLINDERS SHALL BE TESTED IN ACCORDANCE WITH ASTM C39.
16. TOPS OF CONCRETE FOUNDATION MUST BE WITHIN 0.02" OF ELEVATION SPECIFIED BY THE CUSTOMER.

GENERAL STRUCTURAL NOTES:

SPECIFICATIONS / CODES:

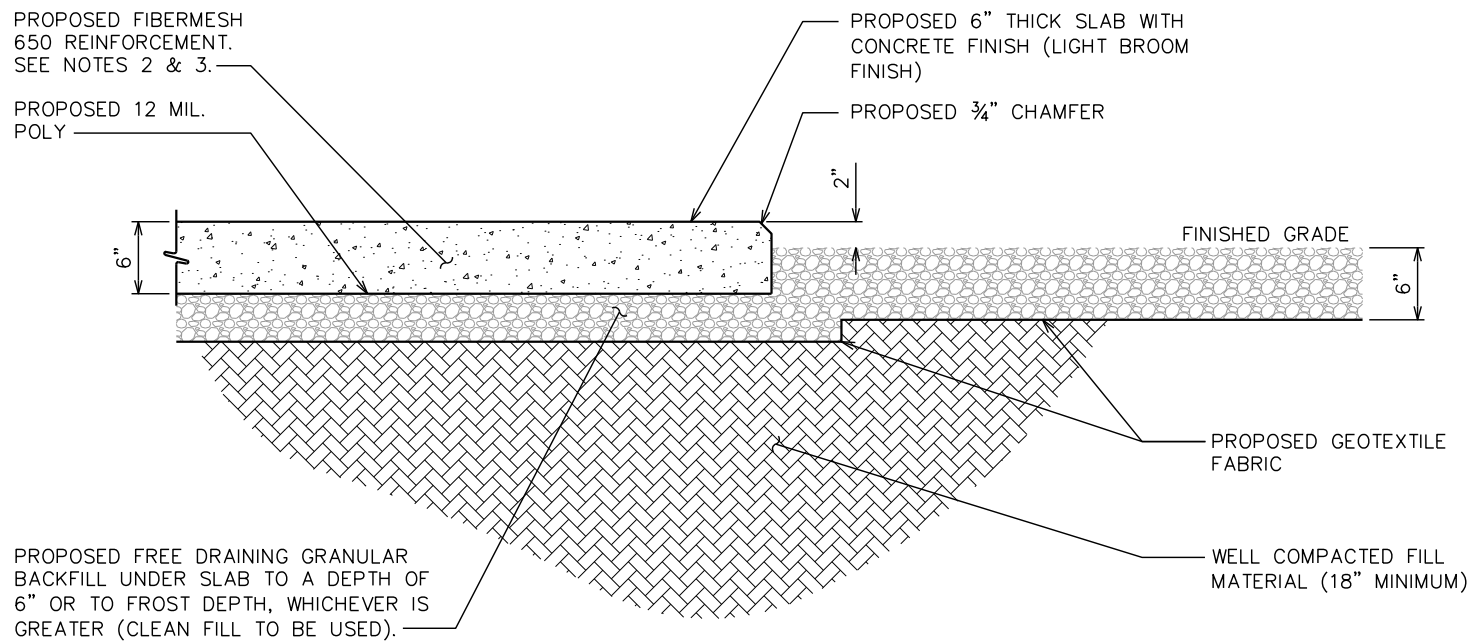
1. ALL CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE ACI CODE.
2. REINFORCING STEEL SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI), "MANUAL OF STANDARD PRACTICE".

FOUNDATION NOTES

SCALE: N.T.S.

NOTES:

1. FROST DEPTH FOR COLUMBIA COUNTY IS 0 INCHES.
2. APPLICATION RATE OF FIBERS SHALL BE DETERMINED BY THE READY MIX CONCRETE SUPPLIER.
3. THE CONCRETE SUPPLIER SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS FOR FIBERMESH APPLICATION INCLUDING THE MINIMUM APPLICATION RATE OF 3 LBS/YD^3.



EQUIPMENT FOUNDATION SECTION VIEW

SCALE: N.T.S.

A C4 C5

PLANS PREPARED FOR:

SBA

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verizon

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SHEET TITLE:

FOUNDATION NOTES & DETAILS

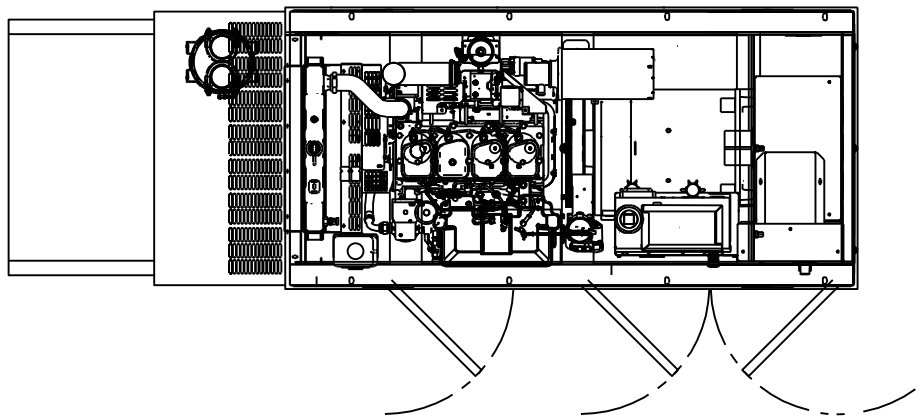
SHEET NUMBER: **C-5**

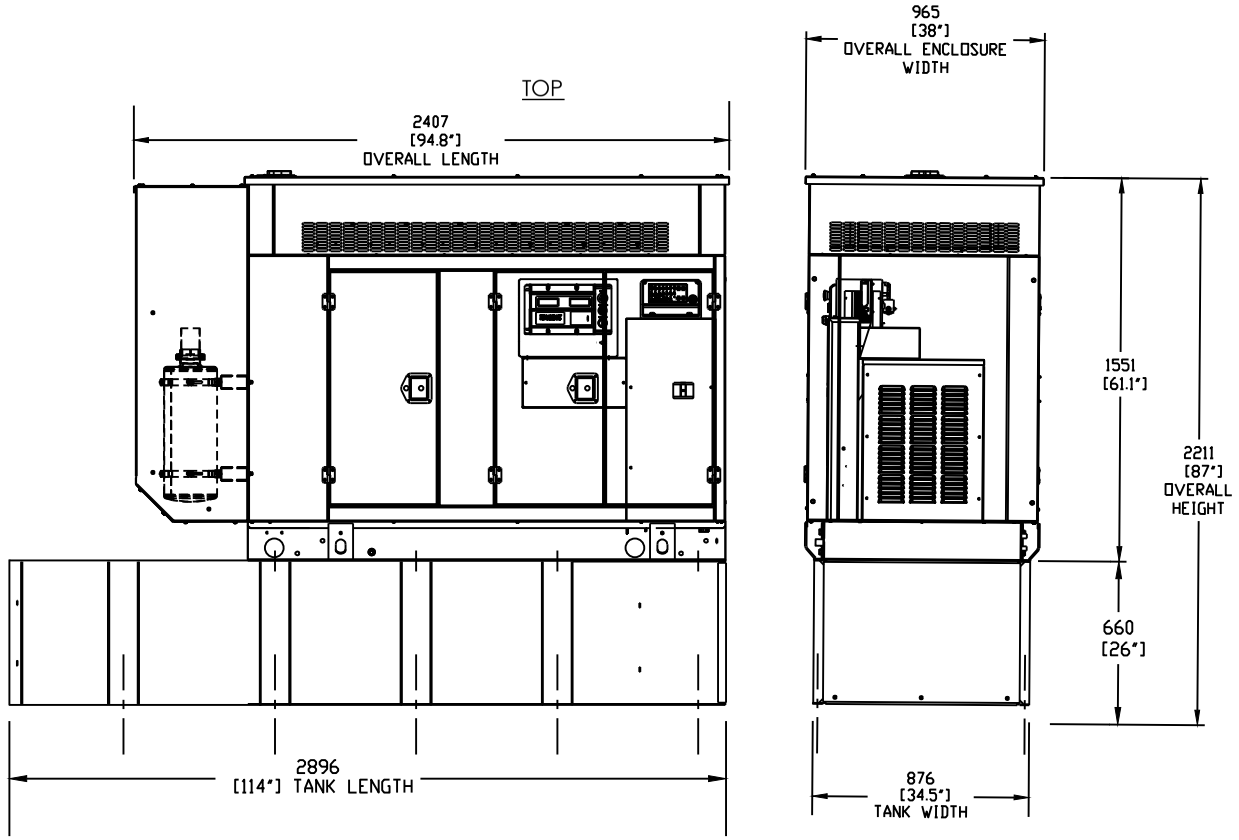
REVISION: 1

TEP#:274573.101.2037

NOTES:

1. 50KW INDUSTRIAL DIESEL GENERATOR BY GENERAC CO. CONTRACTOR TO VERIFY DIMENSIONS WITH MANUFACTURER.
2. ANCHOR GENERATOR FUEL TANK TO CONCRETE PAD PER MANUFACTURER'S SPECIFICATION.
3. BASE TANK SIZE SHALL BE 210 GALLON. CONTRACTOR TO VERIFY SIZE WITH CONSTRUCTION MANAGER BEFORE ORDERING OR INSTALLING THE GENERATOR.



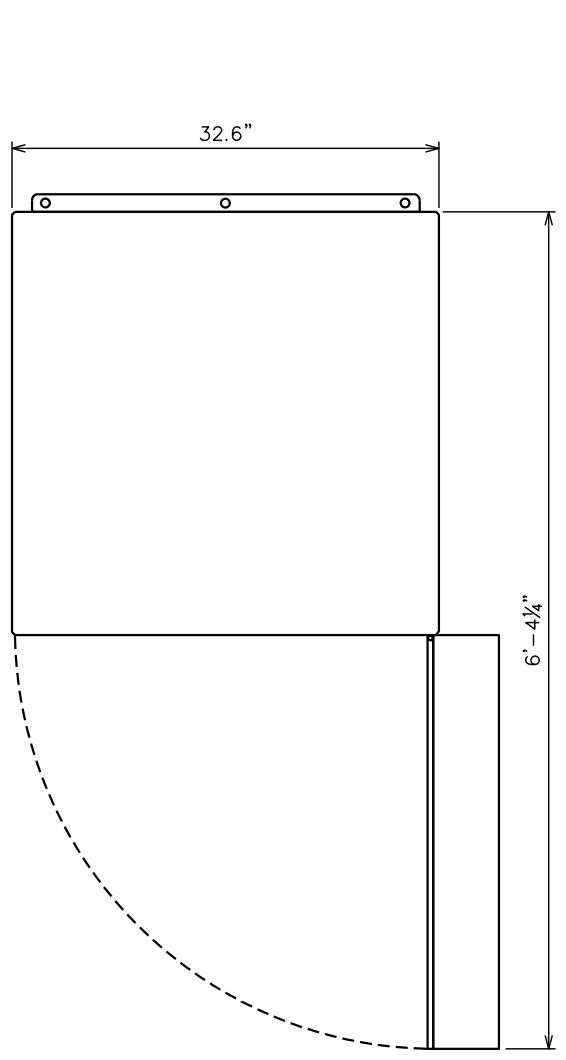


GENERATOR DETAILS

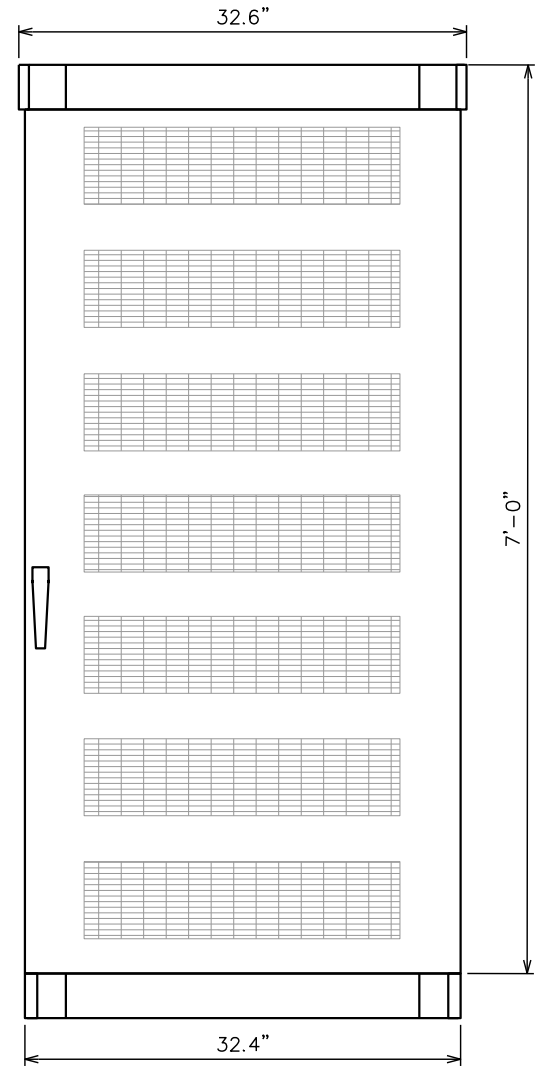
SCALE: N.T.S.

NOTES:

1. MOUNT USING ½"x3¾" KWIK BOLT 3 BY HILTI OR APPROVED EQUIVALENT.
2. DIMENSIONS SHOWN INCLUDE OUTDOOR ENCLOSURE.
3. CABINET WILL BE MOUNTED ON A 12" PLINTH FOR A TOTAL HEIGHT OF 8'-0".



PLAN VIEW



FRONT VIEW

RBA84 DETAILS

SCALE: N.T.S.

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
BOCA RATON, FL 33431

PROJECT INFORMATION:

VZW SITE #: 5000965682
SITE NAME #: BIRLEY AVE

4741 SW BIRLEY AVENUE
LAKE CITY, FL 32024
(COLUMBIA COUNTY)

PLANS PREPARED BY:

TEP

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FL COA # 31011

SEAL:

TEP OPCO, LLC 31011

JOSHUA H. CARDEN
LICENSE
No 83511
STATE OF FLORIDA
PROFESSIONAL ENGINEER

February 11, 2025

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0	12-31-24	PRELIMINARY

DRAWN BY: PVW | CHECKED BY: DAO

SHEET TITLE:

GENERATOR & EQUIPMENT CABINET DETAILS

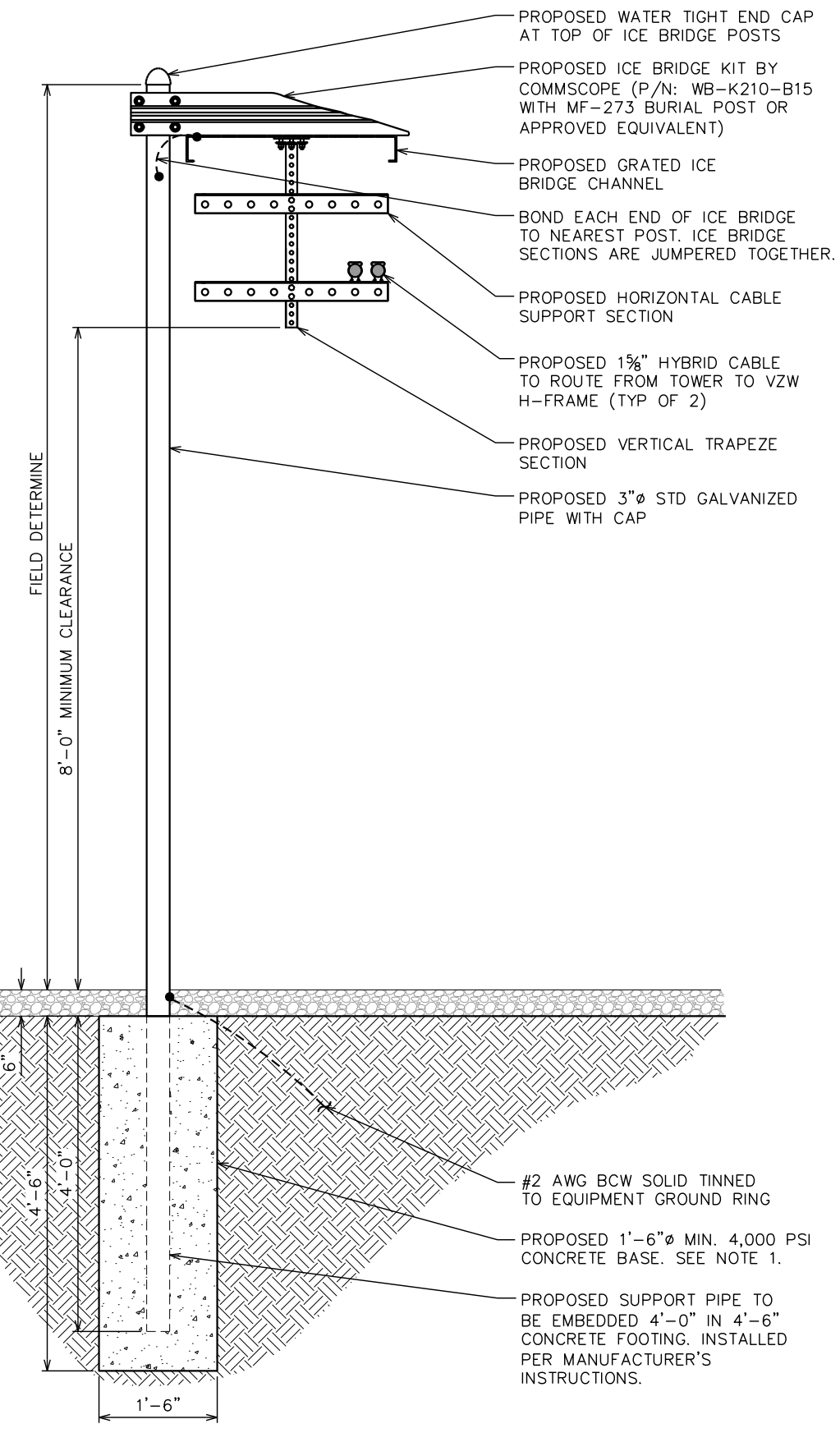
SHEET NUMBER: **C-6**

REVISION: 1

TEP #: 274573.1012037

NOTES:

1. TOP OF ICE BRIDGE POST FOUNDATION SHALL BE SET 6" BELOW TOP OF GRAVEL.
2. ADJUST POST FOOTING DEPTH WITHIN 15' OF TOWER TO ACCOMMODATE EXISTING TOWER FOUNDATION.
3. HEIGHT TO TOP OF ICE BRIDGE WILL BE FIELD VERIFIED, BUT WILL BE MAXIMUM 10'-10" ABOVE TOP OF GRAVEL.
4. ALL MATERIALS FURNISHED BY CONTRACTOR UNLESS OTHERWISE NOTED.



ICE BRIDGE DETAIL

SCALE: ½" = 1'-0"

0 2 4

SCALE IN FEET

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
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DRAWN BY: PVW | CHECKED BY: DAO

SHEET TITLE:

ICE BRIDGE DETAILS

SHEET NUMBER: **C-7**

REVISION: 1

TEP#:274573.101.2037

ELECTRICAL NOTES:

SCOPE:

1. PROVIDE LABOR, MATERIALS, INSPECTION, AND TESTING TO PROVIDE CODE COMPLIANCE FOR ELECTRIC, TELEPHONE, AND GROUNDING/LIGHTNING SYSTEMS.

CODES:

1. THE INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND CODES. THESE INCLUDE BUT ARE NOT LIMITED TO THE LATEST ADOPTED EDITIONS OF:
   A. THE NATIONAL ELECTRICAL SAFETY CODE
   B. THE NATIONAL ELECTRIC CODE – NFPA–70
   C. REGULATIONS OF THE SERVING UTILITY COMPANY
   D. LOCAL AND STATE AMENDMENTS
   E. THE INTERNATIONAL ELECTRIC CODE – IEC (WHERE APPLICABLE)
2. PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR.
3. AFTER COMPLETION AND FINAL INSPECTION OF THE WORK, THE OWNER SHALL BE FURNISHED A CERTIFICATE OF COMPLETION AND APPROVAL.

TESTING:

1. UPON COMPLETION OF THE INSTALLATION, OPERATE AND ADJUST THE EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS. THE TESTING SHALL BE DONE BY QUALIFIED PERSONNEL.

GUARANTEE:

1. IN ADDITION TO THE GUARANTEE OF THE EQUIPMENT BY THE MANUFACTURER, EACH PIECE OF EQUIPMENT SPECIFIED HEREIN SHALL ALSO BE GUARANTEED FOR DEFECTS OF MATERIAL OR WORKMANSHIP OCCURRING DURING A PERIOD OF ONE (1) YEAR FROM FINAL ACCEPTANCE OF THE WORK BY THE OWNER AND WITHOUT EXPENSE TO THE OWNER.
2. THE WARRANTEE CERTIFICATES & GUARANTEES FURNISHED BY THE MANUFACTURERS SHALL BE TURNED OVER TO THE OWNER.

UTILITY CO-ORDINATION:

1. CONTRACTOR SHALL COORDINATE WORK WITH THE POWER AND TELEPHONE COMPANIES AND SHALL COMPLY WITH THE SERVICE REQUIREMENTS OF EACH UTILITY COMPANY.

EXAMINATION OF SITE:

1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE JOB AND SHALL FAMILIARIZE HIMSELF WITH THE CONDITIONS AFFECTING THE PROPOSED ELECTRICAL INSTALLATION AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. FAILURE TO COMPLY WITH THE INTENT OF THIS SECTION WILL IN NO WAY RELIEVE THE CONTRACTOR OF PERFORMING THE WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM OR SYSTEMS.

CUTTING, PATCHING AND EXCAVATION:

1. COORDINATION OF SLEEVES, CHASES, ETC., BETWEEN SUBCONTRACTORS WILL BE REQUIRED PRIOR TO THE CONSTRUCTION OF ANY PORTION OF THE WORK. CUTTING AND PATCHING OF WALLS, PARTITIONS, FLOORS, AND CHASES IN CONCRETE, WOOD, STEEL OR MASONRY SHALL BE DONE AS PROVIDED ON THE DRAWINGS.
2. NECESSARY EXCAVATIONS AND BACKFILLING INCIDENTAL TO THE ELECTRICAL WORK SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWING.
3. SEAL PENETRATIONS THROUGH RATED WALLS, FLOORS, ETC., WITH APPROVED METHOD AS LISTED BY UL.

RACEWAYS / CONDUITS GENERAL:

1. CONDUCTORS SHALL BE INSTALLED IN LISTED RACEWAYS. CONDUIT SHALL BE RIGID STEEL, EMT, SCH40 PVC, OR SCH80PVC AS INDICATED ON THE DRAWINGS. THE RACEWAY SYSTEM SHALL BE COMPLETE COMPLETE BEFORE INSTALLING CONDUCTORS.
2. EXTERIOR RACEWAYS AND GROUNDING SLEEVES SHALL BE SEALED AT POINTS OF ENTRANCE AND EXIT. THE RACEWAY SYSTEM SHALL BE BONDED PER NEC.

EXTERIOR CONDUIT:

1. EXPOSED CONDUIT SHALL BE NEATLY INSTALLED AND RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. SUPPORTS AND MOUNTING HARDWARE SHALL BE HOT DIPPED GALVANIZED STEEL.
2. THE CONDUIT SHALL BE RIGID STEEL AT GRADE TRANSITIONS OR WHERE EXPOSED TO DAMAGE.
3. UNDERGROUND CONDUITS SHALL BE RIGID STEEL, SCH40 PVC, OR SCH80 PVC AS INDICATED ON THE DRAWINGS.
4. BURIAL DEPTH OF CONDUITS SHALL BE AS REQUIRED BY CODE FOR EACH SPECIFIC CONDUIT TYPE AND APPLICATION, BUT SHALL NOT BE LESS THAN THE FROST DEPTH AT THE SITE.
5. CONDUIT ROUTES ARE SCHEMATIC. CONTRACTOR SHALL FIELD VERIFY ROUTES BEFORE BID. COORDINATE ROUTE WITH WIRELESS CARRIER AND/OR BUILDING OWNER.

INTERIOR CONDUIT:

1. CONCEALED CONDUIT IN WALLS OR INTERIOR SPACES ABOVE GRADE MAY BE EMT OR PVC.
2. CONDUIT RUNS SHALL USE APPROVED COUPLINGS AND CONNECTORS. PROVIDE INSULATED BUSHING FOR ALL CONDUIT TERMINATIONS. CONDUIT RUNS IN A WET LOCATION SHALL HAVE WATERPROOF FITTINGS.
3. PROVIDE SUPPORTS FOR CONDUITS IN ACCORDANCE WITH NEC REQUIREMENTS. CONDUITS SHALL BE SIZED AS REQUIRED BY NEC.

EQUIPMENT:

1. DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.
2. CONTRACTOR SHALL VERIFY MAXIMUM AVAILABLE FAULT CURRENT AND COORDINATE INSTALLATION WITH THE LOCAL UTILITY BEFORE STARTING WORK. CONTRACTOR WILL VERIFY THAT EXISTING CIRCUIT BREAKERS ARE RATED FOR MORE THAN AVAILABLE FAULT CURRENT AND REPLACE AS NECESSARY.
3. NEW CIRCUIT BREAKERS SHALL BE RATED TO WITHSTAND THE MAXIMUM AVAILABLE FAULT CURRENT AS DETERMINED BY THE LOCAL UTILITY.

CONDUCTORS:

1. FURNISH AND INSTALL CONDUCTORS SPECIFIED IN THE DRAWINGS. CONDUCTORS SHALL BE COPPER AND SHALL HAVE TYPE THWN (MIN) (75° C) INSULATION, RATED FOR 600 VOLTS.
2. THE USE OF ALUMINUM CONDUCTORS SHALL BE LIMITED TO THE SERVICE FEEDERS INSTALLED BY THE UTILITY.
3. CONDUCTORS SHALL BE PROVIDED AND INSTALLED AS FOLLOWS:
   A. MINIMUM WIRE SIZE SHALL BE #12 AWG.
   B. CONDUCTORS SIZE #8 AND LARGER SHALL BE STRANDED. CONDUCTORS SIZED #10 AND #12 MAY BE SOLID OR STRANDED.
   C. CONNECTION FOR #10 AWG #12 AWG SHALL BE BY TWISTING TIGHT AND INSTALLING INSULATED PRESSURE OR WIRE NUT CONNECTIONS.
   D. CONNECTION FOR #8 AWG AND LARGER SHALL BE BY USE OF STEEL CRIMP–ON SLEEVES WITH NYLON INSULATOR.
3. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.

UL COMPLIANCE:

1. ELECTRICAL MATERIALS, DEVICES, CONDUCTORS, APPLIANCES, AND EQUIPMENT SHALL BE LABELED/LISTED BY UL OR ACCEPTED BY JURISDICTION (I.E., LOCAL COUNTY OR STATE) APPROVED THIRD PARTY TESTING AGENCY.

GROUNDING:

1. ELECTRICAL NEUTRALS, RACEWAYS AND NON–CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. THIS SHALL INCLUDE NEUTRAL CONDUCTORS, CONDUITS, SUPPORTS, CABINETS, BOXES, GROUND BUSSES, ETC. THE NEUTRAL CONDUCTOR FOR EACH SYSTEM SHALL BE GROUNDED AT A SINGLE POINT.
2. PROVIDE GROUND CONDUCTOR IN RACEWAYS PER NEC.
3. PROVIDE BONDING AND GROUND TO MEET NFPA 780 – "LIGHTNING PROTECTION" AS A MINIMUM.
4. PROVIDE GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS, AS REQUIRED BY THE NATIONAL ELECTRIC CODE, RADIO EQUIPMENT MANUFACTURERS, AND MOTOROLA R56 (AS APPLICABLE).

ABBREVIATIONS AND LEGEND

A	–	AMPERE
AFG	–	ABOVE FINISHED GRADE
ATS	–	AUTOMATIC TRANSFER SWITCH
AWG	–	AMERICAN WIRE GAUGE
BCW	–	BARE COPPER WIRE
BFG	–	BELOW FINISHED GRADE
BKR	–	BREAKER
C	–	CONDUIT
CKT	–	CIRCUIT
DISC	–	DISCONNECT
EGR	–	EXTERNAL GROUND RING
EMT	–	ELECTRIC METALLIC TUBING
FSC	–	FLEXIBLE STEEL CONDUIT
GEN	–	GENERATOR
GPS	–	GLOBAL POSITIONING SYSTEM
GRD	–	GROUND
IGB	–	ISOLATED GROUND BAR
IGR	–	INTERIOR GROUND RING (HALO)
KW	–	KILOWATTS
NEC	–	NATIONAL ELECTRIC CODE
PCS	–	PERSONAL COMMUNICATION SYSTEM
PH	–	PHASE
PNL	–	PANEL
PNLBD	–	PANELBOARD
PVC	–	RIGID NON–METALLIC CONDUIT
RGS	–	RIGID GALVANIZED STEEL CONDUIT
SW	–	SWITCH
TGB	–	TOWER GROUND BAR
UL	–	UNDERWRITERS LABORATORIES
V	–	VOLTAGE
W	–	WATTS
XFMR	–	TRANSFORMER
XMTR	–	TRANSMITTER

----E----	UNDERGROUND ELECTRICAL CONDUIT
----T----	UNDERGROUND TELEPHONE CONDUIT
	KILOWATT–HOUR METER
---------	UNDERGROUND BONDING AND GROUNDING CONDUCTOR
⌀	GROUND ROD
●	CADWELD
⊠	GROUND ROD WITH INSPECTION WELL

PLANS PREPARED FOR:

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verizon

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DRAWN BY: PVW | CHECKED BY: DAO

SHEET TITLE:

ELECTRICAL NOTES

SHEET NUMBER: **E-1**

REVISION: 1

TEP #: 274573.101 2037

NOTES:

1. ALL CONDUCTORS ARE TYPE THWN (75°C) COPPER.
2. MAXIMUM LENGTH OF RUN FOR RECTIFIER CIRCUITS IS 50-FT.
3. INTERSECT/GENERAC INTEGRATED LOAD CENTER INCLUDES 200A MAIN DISCONNECT AND TRANSFER SWITCH FOR PORTABLE OR PERMANENT GENERATOR.
4. RECTIFIER LOADS ARE CONSIDERED TO BE NON-CONTINUOUS.
5. IF ADDITIONAL FUTURE LOADS ARE ADDED WHICH CAUSE TOTAL DEMAND TO EXCEED GENERATOR BREAKER SIZE, BACKUP POWER SYSTEM SHALL BE EVALUATED AND UPGRADED AS NECESSARY.

200A 120/240V 1Ø 3W VERIZON POWER PANEL SCHEDULE

DEMAND FACTOR	LOAD SERVED	UNCOMPENSATED VOLT AMPERES L1 (VA)	UNCOMPENSATED VOLT AMPERES L2 (VA)	TRIP	CKT #	PHASE	CKT #	TRIP	UNCOMPENSATED VOLT AMPERES L1 (VA)	UNCOMPENSATED VOLT AMPERES L2 (VA)	LOAD SERVED	DEMAND FACTOR
100%	RECTIFIER #1	2204		30A	1	A	2	–	–		SPARE	–
			2204		3	B	4	–		–	SPARE	–
100%	RECTIFIER #2	2204		30A	5	A	6	–	–		SPARE	–
			2204		7	B	8	–		–	SPARE	–
100%	RECTIFIER #3	2204		30A	9	A	10	–	–		SPARE	–
			2204		11	B	12	–		–	SPARE	–
100%	RECTIFIER #4	2204		30A	13	A	14	–	–		SPARE	–
			2204		15	B	16	–		–	SPARE	–
100%	RECTIFIER #5	2204		30A	17	A	18	–	–		SPARE	–
			2204		19	B	20	–		–	SPARE	–
125%	GFCI REC. (VZW)/AREA LIGHTS	1200		20A	21	A	22	–	–		SPARE	–
125%	GEN. BLOCK HEATER		1200	20A	23	B	24	–		–	SPARE	–
125%	GEN. BATTERY CHARGER	500*		20A	25	A	26	–	–		SPARE	–
–	SPARE		–	–	27	B	28	–		–	SPARE	–
–	SPARE	–		–	29	A	30	–	–		SPARE	–
VOLT AMPS		12720	12220						–	–	VOLT AMPS	

L1 VOLT AMPERES	12720	12220 L2 VOLT AMPERES
L1 DEMAND VOLT AMPERES (INCLUDES DEMAND FACTOR)	13145	12520 L2 DEMAND VOLT AMPERES (INCLUDES DEMAND FACTOR)
L1 DEMAND AMPS	109.54	104.33 L2 DEMAND AMPS
	109.54	MAX DEMAND AMPS

CONNECTED GENERATOR LOAD

VOLT AMPS	12220	12220			–	–	VOLT AMPS
L1 VOLT AMPERES		12220	12220	L2 VOLT AMPERES			
L1 DEMAND VOLT AMPERES (INCLUDES DEMAND FACTOR)		12520	12520	L2 DEMAND VOLT AMPERES (INCLUDES DEMAND FACTOR)			
L1 DEMAND AMPS		104.33	104.33	L2 DEMAND AMPS			
		104.33		MAX DEMAND AMPS			

*GEN. BATTERY CHARGER LOAD IS 0 VA DURING GENERATOR OPERATION.

POWER PANEL SCHEDULE

SCALE: N.T.S.

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

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SHEET TITLE:

POWER PANEL SCHEDULE

SHEET NUMBER: **E-2**

REVISION: 1

TEP#:274573.101.2037

NOTES:

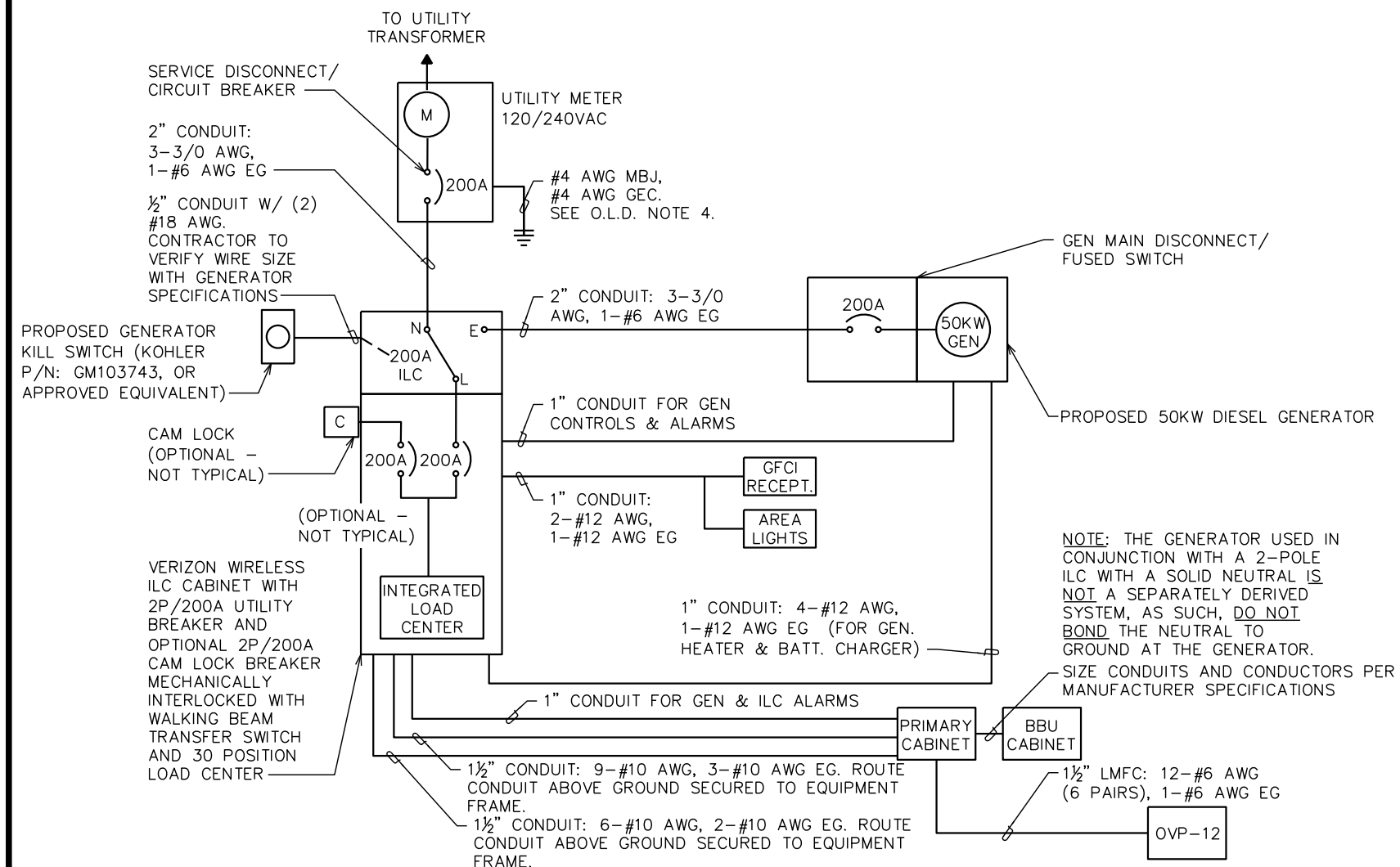
1. METER BASE FOR 200A, 120/240V, 1ø SERVICE WITH SERVICE ENTRANCE RATED CIRCUIT BREAKER TYPE DISCONNECT SWITCH. UTILITY COMPANY TO PROVIDE METER.
2. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT, REFER TO VENDOR PRINTS PROVIDED BY EQUIPMENT MANUFACTURER.
3. WHEN UTILITY COMPANY REQUIRES A SERVICE DISCONNECT OTHER THAN THE MAIN BREAKER IN POWER PANEL OF THE UTILITY CABINET, REMOVE BONDING JUMPER IN EQUIPMENT CABINETS AND BOND SERVICE DISCONNECT PER NEC REQUIREMENTS.
4. CONTRACTOR SHALL REVIEW AND COMPLY WITH MANUFACTURERS EQUIPMENT DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SHOWN.
5. CONTRACTOR SHALL OBTAIN THE MAXIMUM AVAILABLE FAULT CURRENT AT THE UTILITY SERVICE POINT FROM THE ELECTRIC COMPANY IN WRITING PRIOR TO ORDERING MATERIALS AND ENSURE THE EQUIPMENT WILL HAVE HIGHER RATING WITH A MIN VALUE OF 10,000A.
6. THE GROUNDED SERVICE CONDUCTOR SHALL BE GROUNDED AT THE SERVICE DISCONNECT ONLY.
7. DO NOT BOND THE NEUTRAL TO GROUND AT THE GENERATOR.
8. SIGNAGE MUST BE DISPLAYED ON DISCONNECT "OPENING THE EQUIPMENT DISCONNECT WILL CAUSE THE EMERGENCY GENERATOR TO START. TO REMOVE POWER ENTIRELY FROM EQUIPMENT, THE GENERATOR MUST BE TURNED OFF USING THE GENERATOR STOP SWITCH."

ONE-LINE DIAGRAM NOTES:

1. ELECTRICAL SERVICE SHALL BE 200A, 240/120V, 1ø, 3W.
2. METER BASE WITH MAIN CIRCUIT BREAKER (SUITABLE FOR USE AS SERVICE EQUIPMENT.)
3. UTILITY COMPANY TO INSTALL 200 AMP METER IN PROPOSED MULTI-METER BASE.
4. GROUNDING ELECTRODE CONDUCTOR IS SIZED FOR SINGLE 200A SERVICE ONLY. IF METER BANK SHARES A COMMON NEUTRAL /GROUND POINT, CONTRACTOR WILL INSTALL (1) 3/0 COPPER GEC INSTEAD.
5. COMPLY WITH MANUFACTURER SPECIFICATIONS REGARDING WIRING REQUIREMENTS.
6. INSTALL A 200A BREAKER BY VERIZON WIRELESS CONTRACTOR.
7. CONDUCTOR SIZES BASED ON TYPICAL CONFIGURATIONS. CONTRACTOR WILL VERIFY WITH MANUFACTURER SPECIFICATIONS BEFORE ORDERING OR INSTALLING PARTS.
8. WIRE COUNT IS BASED ON EQUIPMENT SPECIFICATIONS PROVIDED BY VERIZON WIRELESS.
9. NEUTRAL CONDUCTORS TO THE RECTIFIERS WERE LEFT OFF AT THE ADVICE OF VERIZON WIRELESS EQUIPMENT ENGINEER. CONTRACTOR TO VERIFY WIRING REQUIREMENTS WITH RECTIFIER MANUFACTURER SPECIFICATIONS.
10. EXISTING GROUNDING ELECTRODE CONDUCTOR & MAIN BONDING JUMPER. CONTRACTOR TO VERIFY EXISTENCE AND LOCATION.
11. CONDUCTOR SIZED BASED ON A MAXIMUM GENERATOR BREAKER RATING OF 200A.
12. FOR FIBER:

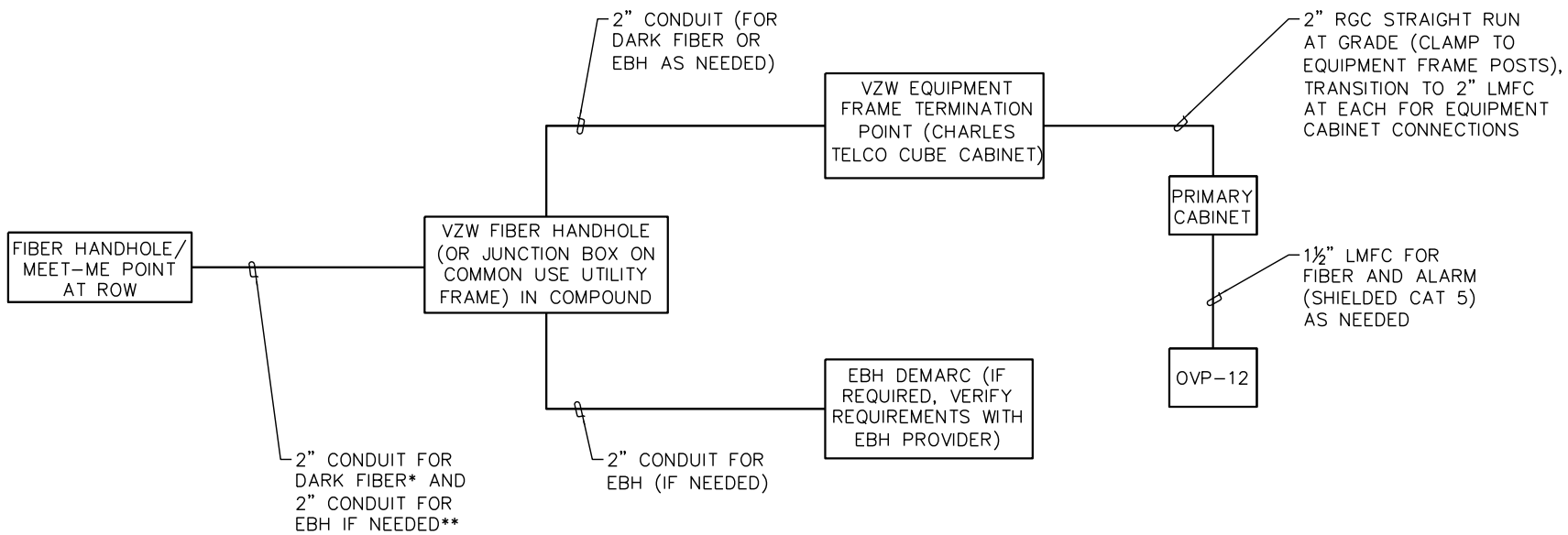
    * ADD (1) ADDITIONAL 2" CONDUIT FOR DARK FIBER (2 TOTAL) IF REQUIRED BY LOCAL MARKET FACILITIES, VERIFY PRIOR TO CONSTRUCTION. (ADD 2 PULL STRINGS TO EACH CONDUIT)

    ** VERIFY EBH REQUIREMENTS WITH TELCO PROVIDER PRIOR TO CONSTRUCTION. (ADD 2 PULL STRINGS TO EACH CONDUIT)



ELECTRICAL ONE-LINE DIAGRAM

SCALE: N.T.S.



FIBER ONE-LINE DIAGRAM

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SHEET TITLE:

ONE-LINE DIAGRAM

SHEET NUMBER: **E-3**

REVISION: 1

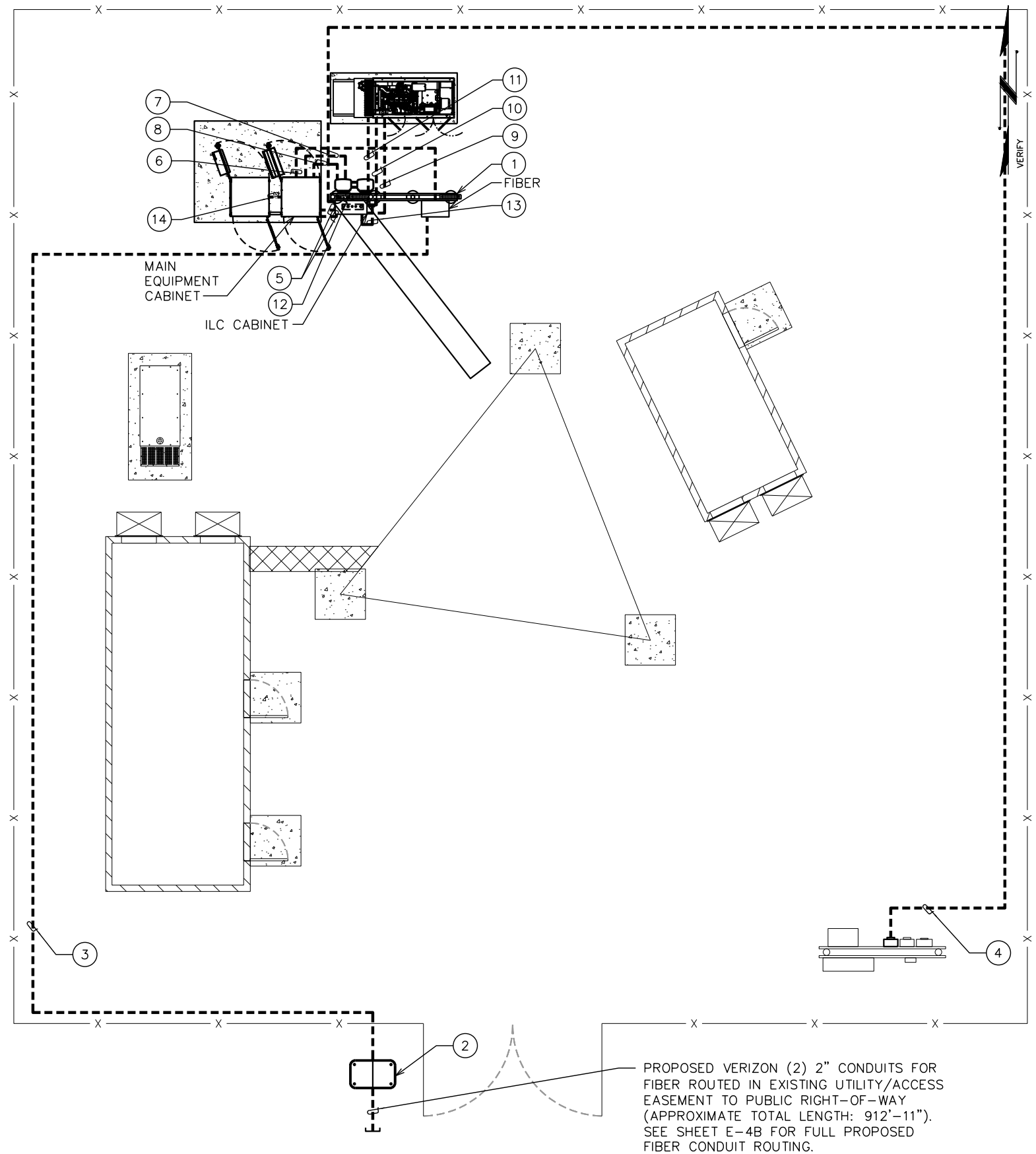
TEP #: 274573.1012037

LABEL LIST:

1. VERIZON H-FRAME. SEE SHEET E-6 FOR DETAILS.
2. PROPOSED VERIZON FIBER HANDHOLE PERMANENTLY LABELED "VZW FIBER"
3. (2)-2" PVC TELCO CONDUITS, EACH WITH PULL STRING. ALL CONDUITS SHALL UTILIZE LONG SWEEPS AT BENDS.
4. (1)-2" PVC CONDUIT FOR POWER
5. (1)-1½" CONDUIT FOR RECTIFIERS & GFCI
   (1)-1" CONDUIT FOR ALARM FROM ILC TO MAIN EQUIPMENT CABINET
6. (1)-2" TELCO CONDUIT FROM TELCO BOX TO MAIN EQUIPMENT CABINET
7. (1)-2" CONDUIT FOR FIBER FROM RAYCAP TO MAIN EQUIPMENT CABINET
8. (1)-1½" CONDUIT FOR EVERY (6) RRU CIRCUITS FOR POWER FROM RAYCAP TO MAIN EQUIPMENT CABINET
9. (1)-1" CONDUIT FOR GENERATOR HEATER & BATTERY CHARGER FROM ILC TO GENERATOR
10. (1)-1" CONDUIT FOR ALARM AND CONTROL WIRING FROM ILC TO GENERATOR
11. (1)-1½" CONDUIT FOR POWER FROM ILC TO GENERATOR
12. (1)-1" CONDUIT TO AREA LIGHTS FROM ILC
13. (1)-½" CONDUIT WITH KILL SWITCH WIRING FROM ILC TO GENERATOR KILL SWITCH (AS NECESSARY)
14. SIZE CONDUITS & CONDUCTORS FROM MAIN EQUIPMENT CABINET TO BBU CABINET PER MANUFACTURER SPECIFICATIONS.

NOTES:

1. AREA LIGHT LITHONIA HFR 250M SLWA DNA LP1 CONTROL VIA CONTRACTOR PROVIDED MANUAL TIMER SWITCH (WEATHERPROOF).
2. POWER AND TELCO CONDUITS RECEIVING CONDUCTORS BY OTHERS TO HAVE PULL ROPES.
3. ALL TELCO CONDUITS ARE TO BE STUBBED IN D-MARC LOCATION.
4. ALL POWER CONDUITS ARE TO BE TERMINATED AT THE METER CENTER.
5. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO TRENCHING. ANY DAMAGE CAUSED TO THE EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. ALL CONDUITS SHALL BE INSTALLED PRIOR TO FINISH GRADING, GEOFABRIC, AND STONE INSTALLATION.
7. CONTRACTOR SHALL INSTALL SWEEPS AT ALL CONDUIT DIRECTION CHANGES UNLESS NOTED OTHERWISE.
8. RUN CONDUITS FROM ILC TO GENERATOR UNDERGROUND AND STUB UP CONDUITS MINIMUM 6" HIGH INSIDE GENERATOR BASE AND TERMINATE WITH MALE ADAPTER AND THREADED BUSHING.
9. WHEN ALL RRUs ARE GROUND MOUNTED, OMIT OVPs AND RUN FIBER/POWER FROM RBA84 DIRECTLY TO RRUs.
10. FIBER BRIDGE CONDUIT TO BE LEFT AS 5' LONG CAPPED STUB CONDUIT WHEN NO EXISTING HANDHOLE IS PRESENT.
11. CONTRACTOR TO VERIFY WITH CM WHICH EXISTING HANDHOLE (IF ANY) BELONGS TO FIBER PROVIDER.
12. CONTRACTOR TO INSTALL (2) PULL ROPES IN EACH FIBER CONDUIT.



POWER AND TELCO PLAN

SCALE: 1" = 10'

0 10 20

SCALE IN FEET

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
BOCA RATON, FL 33431

PROJECT INFORMATION:

VZW SITE #: 5000965682
SITE NAME #: BIRLEY AVE

4741 SW BIRLEY AVENUE
LAKE CITY, FL 32024
(COLUMBIA COUNTY)

PLANS PREPARED BY:

TEP

326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net
FL COA # 31011

SEAL:

TEP OPCO, LLC 31011

JOSHUA H. CARDEN LICENSE No 83511 STATE OF FLORIDA PROFESSIONAL ENGINEER

February 11, 2025

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REV	DATE	ISSUED FOR:
1	02-11-25	CONSTRUCITON
0	12-31-24	PRELIMINARY

DRAWN BY: PVW | CHECKED BY: DAO

SHEET TITLE:

POWER & TELCO ROUTING PLAN

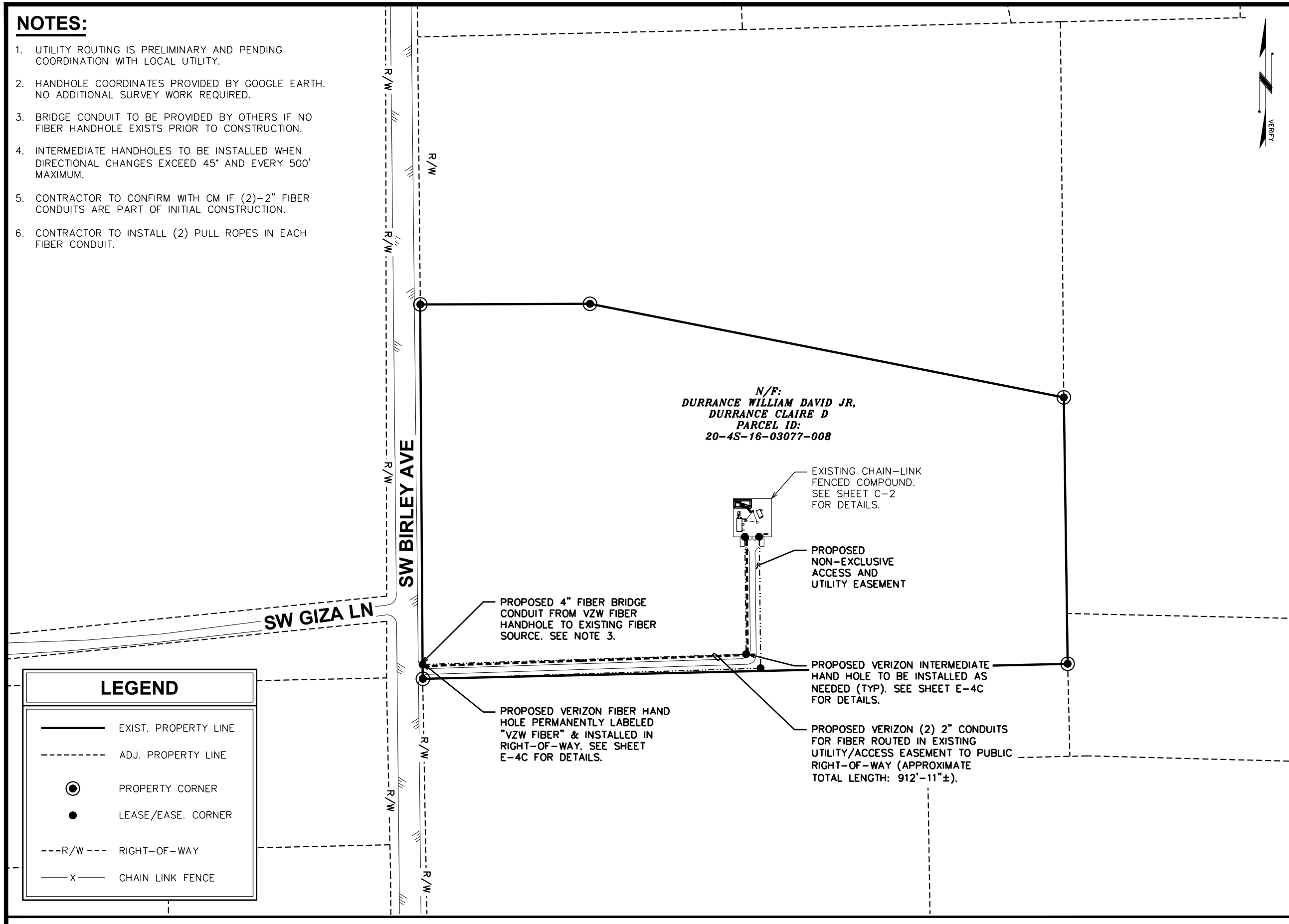
SHEET NUMBER: **E-4A**

REVISION: 1

TEP #: 274573.1012037

NOTES:

1. UTILITY ROUTING IS PRELIMINARY AND PENDING COORDINATION WITH LOCAL UTILITY.
2. HANDHOLE COORDINATES PROVIDED BY GOOGLE EARTH. NO ADDITIONAL SURVEY WORK REQUIRED.
3. BRIDGE CONDUIT TO BE PROVIDED BY OTHERS IF NO FIBER HANDHOLE EXISTS PRIOR TO CONSTRUCTION.
4. INTERMEDIATE HANDHOLES TO BE INSTALLED WHEN DIRECTIONAL CHANGES EXCEED 45° AND EVERY 500' MAXIMUM.
5. CONTRACTOR TO CONFIRM WITH CM IF (2)–2" FIBER CONDUITS ARE PART OF INITIAL CONSTRUCTION.
6. CONTRACTOR TO INSTALL (2) PULL ROPES IN EACH FIBER CONDUIT.



FIBER ROUTING PLAN

SCALE: 1" = 200'

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
BOCA RATON, FL 33431

PROJECT INFORMATION:

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SHEET TITLE:

OVERALL FIBER ROUTING PLAN

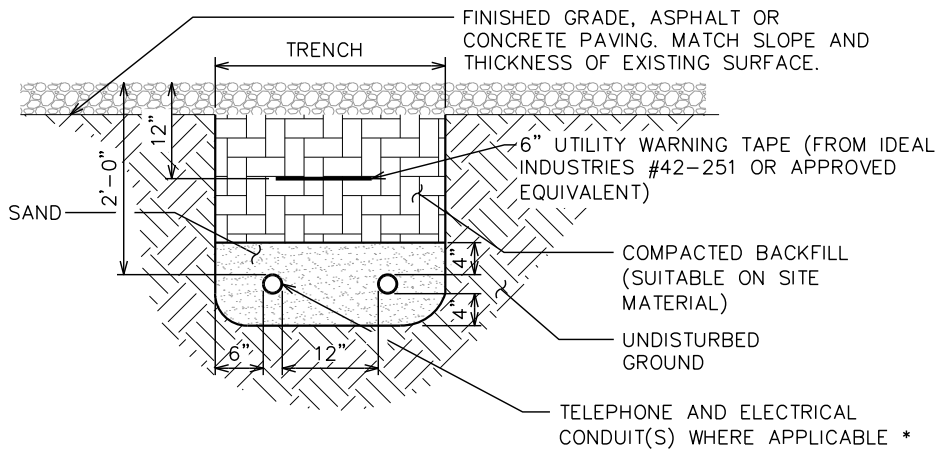
SHEET NUMBER: **E-4B**

REVISION: 1

TEP #: 274573.101.2037

NOTES:

1. ACTUAL SEPARATION OF CONDUITS TO BE DETERMINED BY SITE SPECIFIC REQUIREMENTS.
2. PROVIDE SCH40 PVC CONDUIT BELOW GRADE UNLESS OTHERWISE NOTED.
3. PROVIDE SCH80 PVC CONDUIT FOR INSTALLATIONS BELOW VEHICULAR TRAFFIC AREAS



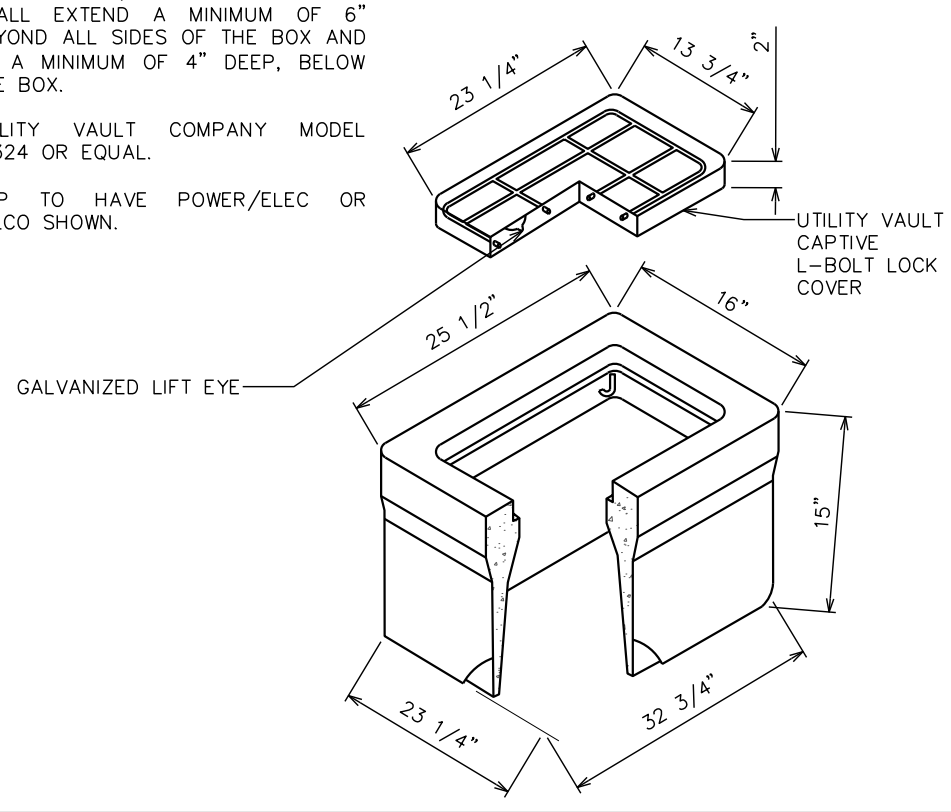
* SEPARATION DIMENSIONS TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS.

UNDERGROUND CONDUIT(S) TRENCH DETAIL

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. UTILITY VAULT COMPANY MODEL #1324 OR EQUAL.
3. CAP TO HAVE POWER/ELEC OR TELCO SHOWN.



TYPICAL PULL BOX

SCALE: N.T.S.

PLANS PREPARED FOR:

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BOCA RATON, FL 33487

verizon

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DRAWN BY: PVW | CHECKED BY: DAO

SHEET TITLE:

POWER & TELCO ROUTING DETAILS

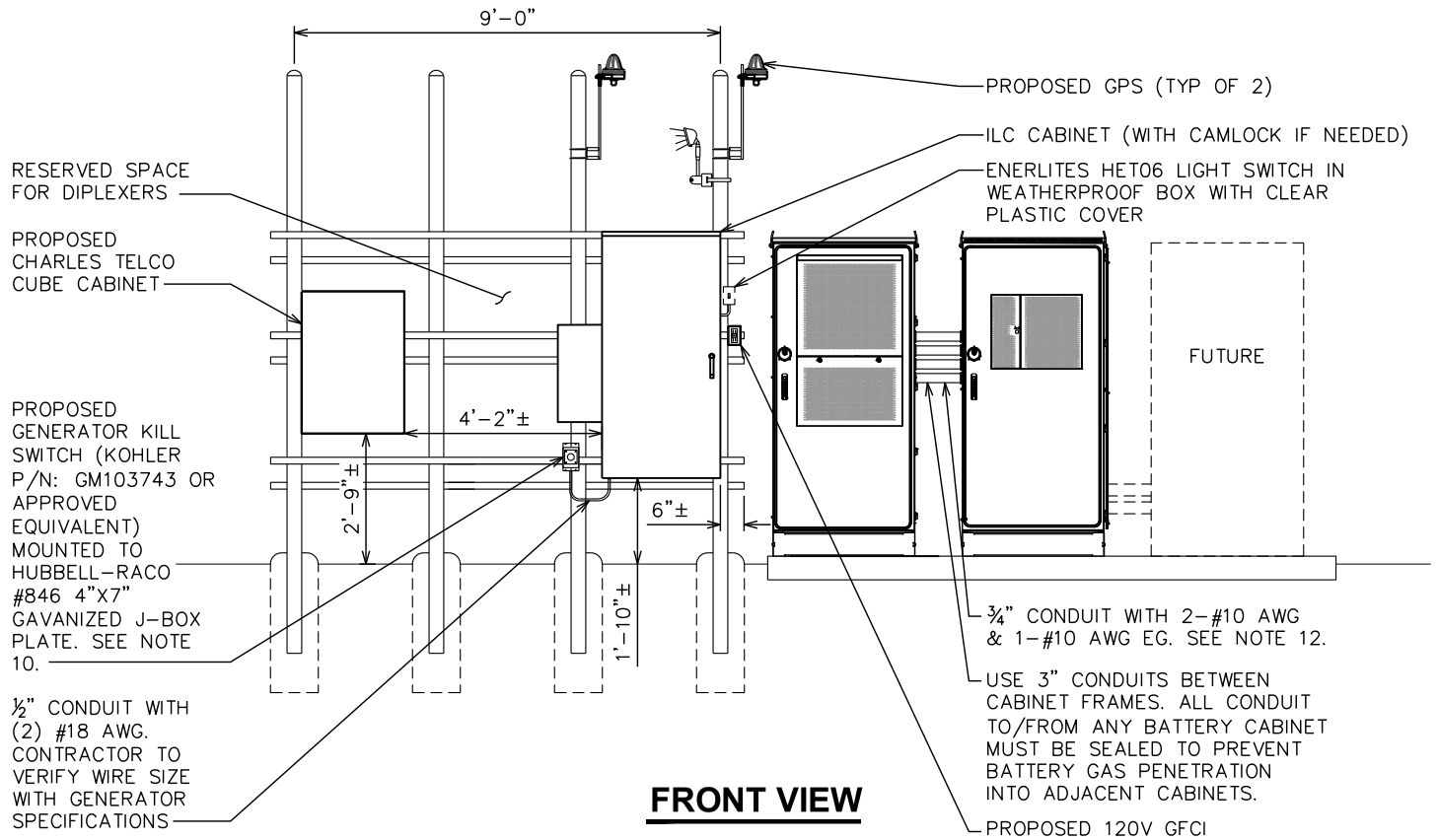
SHEET NUMBER: **E-4C**

REVISION: 1

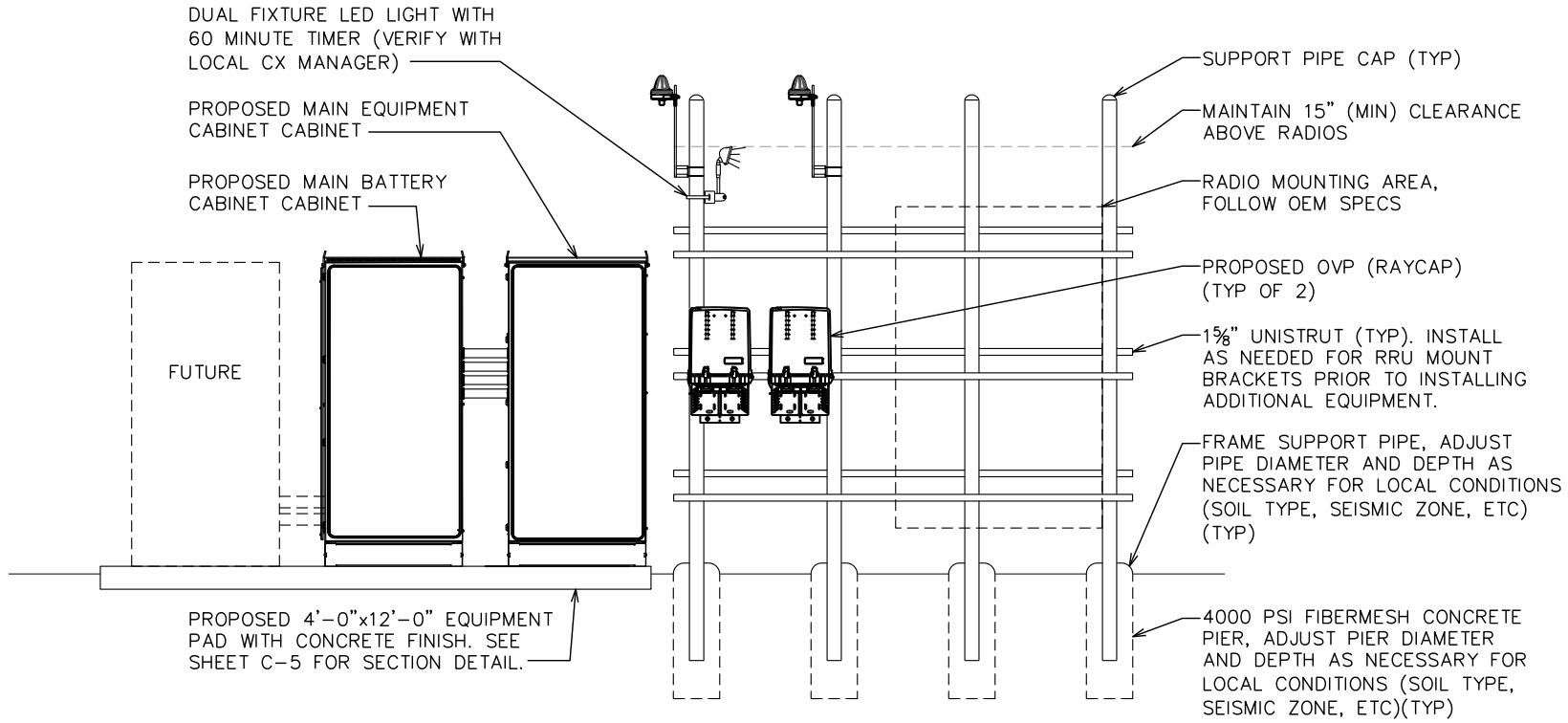
TEP #:274573.1012037

NOTES:

1. ALL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE, STATE BUILDING CODES AND THE LOCAL BUILDING CODES. ALL COMPONENTS SHALL BE U.L. LISTED.
2. REFER TO SHEET C-4 FOR EQUIPMENT LAYOUT AND EXACT LOCATION OF VERIZON H-FRAME.
3. CONTRACTOR TO COORDINATE WITH LOCAL UTILITY COMPANY FOR INSTALLATION OF NEW METER IN UTILITY H-FRAME.
4. COORDINATE EXACT LOCATION OF UNDERGROUND FEEDERS AND CIRCUITRY WITH THE OWNER.
5. CONTRACTOR SHALL COORDINATE EFFORTS WITH (LOCAL, ELECTRICAL) AUTHORITY HAVING JURISDICTION (AHJ) AND OTHER TRADES TO DETERMINE "FROST" LINE, AND TYPES OF RACEWAYS REQUIRED FOR INSTALLATION.
6. BOND ALL ELECTRICAL EQUIPMENT TO RACK.
7. DIMENSIONS SHOWN ARE APPROXIMATE AND MAY BE ALTERED IN THE FIELD AS APPROVED BY OWNER TO BETTER SUIT ACTUAL CONDITIONS OR EQUIPMENT RECEIVED.
8. FOR ANY METAL CONDUIT ENTERING AN ENCLOSURE WHERE A PRE-PUNCHED CONCENTRIC OR ECCENTRIC KNOCKOUT IS USED, THE CONTRACTOR SHALL ENSURE ADEQUATE BONDING BETWEEN THE METAL CONDUIT AND ENCLOSURE BY INSTALLING A BONDING JUMPER AROUND THE CONCENTRIC OR ECCENTRIC KNOCKOUT.
9. CONTRACTOR SHALL INSURE THAT NO OPERABLE DEVICE SHALL EXCEED 6'-6" TO CENTER LINE OF DEVICE.
10. GENERATOR STOP SWITCH TO BE FURNISHED BY LESSEE AND INSTALLED BY GC.
11. ILC TO BE FURNISHED BY VZW AND INSTALLED BY GC.
12. BREAKER AND CONDUCTOR SIZES BASED ON TYPICAL CONFIGURATIONS. CONTRACTOR WILL VERIFY WITH MANUFACTURER SPECIFICATIONS BEFORE ORDERING OR INSTALLING PARTS.



FRONT VIEW



REAR VIEW

VERIZON H-FRAME DETAILS

SCALE: N.T.S.

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
BOCA RATON, FL 33431

PROJECT INFORMATION:

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SHEET TITLE:

VERIZON H-FRAME DETAILS

SHEET NUMBER: **E-5**

REVISION: 1

TEP#: 274573.1012037

VERIZON GROUNDING NOTES:

1. THE GROUND RING SHALL CONSIST OF #2 AWG BARE SOLID TINNED COPPER (STC) CONDUCTOR, UNLESS NOTED OTHERWISE, BURIED AT 30" BELOW FINISHED GRADE (OR BELOW FROST LINE). LOCATE 24" MINIMUM AND 36" MAXIMUM FROM EQUIPMENT AREA. ALL CONNECTIONS SHALL BE MADE USING A PARALLEL TYPE EXOTHERMIC WELD, UNLESS NOTED OTHERWISE. WHERE THE GROUND RING DISTURBS EXISTING SITE GROUNDING, CONNECT GROUND RING TO EXISTING SITE CONDUCTORS SO AS TO MAINTAIN THE CONTINUITY OF THE EXISTING GROUND SYSTEM.

2. INSTALL GROUND RODS AS SHOWN AND AS REQUIRED. GROUND RODS TO BE COPPER CLAD STEEL, 5/8" DIAMETER AND 10FT IN LENGTH. SPACING BETWEEN GROUND RODS SHALL BE 10FT MINIMUM AND 15FT MAXIMUM. TOP OF GROUND ROD TO BE 30" MINIMUM BELOW GRADE (OR BELOW FROST LINE). BOND TOP OF GROUND ROD TO GROUND WIRE WITH EXOTHERMIC WELD. DO NOT EXOTHERMICALLY WELD ANYTHING TO GROUND ROD EXCEPT GROUND WIRE WHICH PASSES OVER TOP OF GROUND ROD.

3. EQUIPMENT AREA GROUND RING SHALL HAVE A MINIMUM OF 4 GROUND RODS, INSTALLED AT THE CORNERS OF THE GROUND RING PLUS ADDITIONAL RODS AS REQUIRED TO COMPLY WITH THE SPACING REQUIREMENTS.

4. EQUIPMENT AREA GROUND RING AND TOWER GROUND RING SHALL BE BONDED TOGETHER WITH TWO #2 STC GROUND LEADS, TYPICALLY ONE ON EACH SIDE OF ICE BRIDGE.

5. MINIMUM BEND RADIUS FOR #2 AWG GROUND WIRE IS 12", EXCEPT USE 24" FOR EQUIPMENT AREA GROUND RINGS.

6. GROUND ALL EXTERIOR EXPOSED METAL OBJECTS TO BURIED GROUND SYSTEM WITH #2 STC MECHANICALLY ATTACHED OR EXOTHERMICALLY WELDED TO OBJECTS AND EXOTHERMICALLY WELDED TO GROUND RING. USE TWO HOLE LUGS FOR CONNECTION TO FLAT METAL SURFACES. USE ONLY STAINLESS STEEL HARDWARE ON ALL MECHANICAL CONNECTIONS. CLEAN ALL SURFACES (AND STRIP PAINTED SURFACES) TO BARE BRIGHT METAL PRIOR TO MAKING GROUND CONNECTIONS. APPLY ANTI-OXIDE COMPOUND TO ALL MECHANICAL CONNECTIONS. APPLY ZINC RICH PAINT (COLD GALV.) TO ALL EXOTHERMIC WELDS, AND TO ANY METAL EXPOSED BY CLEANING, STRIPPING, GRINDING, CUTTING OR DRILLING.

7. ALL GROUNDING CONDUCTORS ABOVE GRADE SHALL BE RUN IN 3/4" FLEXIBLE PVC CONDUIT. CONDUIT SHALL BEGIN WITHIN 3/4" OF ABOVE GROUND CONNECTION POINT, SHALL EXTEND 24" BELOW GRADE MINIMUM, AND SHALL BE FILLED WITH SEALANT AT ABOVE GROUND CONNECTION POINT. SECURE CONDUIT EVERY 24" ON VERTICAL RUNS AND EVERY 36" ELSEWHERE WITH NON-METALLIC TIES.

8A. ON GUYED AND SELF SUPPORT TOWERS, MOUNT TOWER BOTTOM GROUND BAR ON DEDICATED POST DIRECTLY BELOW COAX CABLES COMING OFF TOWER. POST TO BE 3.5" OD GALVANIZED SCHEDULE 40 PIPE WITH GALVANIZED PIPE CAP. TOP OF POST TO BE 78" ABOVE GRADE. EMBED POST 30" MINIMUM IN 12" DIAMETER BY 36" DEEP MINIMUM CONCRETE FOOTING WITH TOP OF FOOTING 6" BELOW GRADE. IF TOWER FOUNDATION OBSTRUCTS AUGERED FOOTING, USE POST WITH 10" SQUARE GALVANIZED STEEL FLANGE PLATE WELDED TO BOTTOM AND BOLT FLANGE TO TOP OF CONCRETE TOWER FOOTING.

8B. ON MONOPOLE TOWERS, CLAMP TOWER BOTTOM GROUND BAR DIRECTLY TO TOWER. IF RUNNING COAX INSIDE MONOPOLE, CLAMP ONTO BOTTOM LIP OF EXIT PORT. IF BANDING COAX TO OUTSIDE OF TOWER, CLAMP ONTO STEEL ANGLE WHICH IS BANDED TO TOWER. BOND GROUND BAR TO TOWER GROUND RING WITH TWO #2 STC LEADS LUGGED TO GROUND BAR AND EXOTHERMICALLY WELDED TO GROUND RING.

9. AT EQUIPMENT AREA, INSTALL EXTERIOR GROUND BAR (THRU-BOLTED STYLE) AT BASE OF (2) INTERIOR H-FRAME POSTS AND AT TOP OF ICE BRIDGE POST WHICH IS NEAREST TO (BUT CLOSER TO TOWER THAN) THE COAX CABLE TERMINATION. MOUNT GROUND BAR TO H-FRAME POSTS AT 6" ABOVE GRAVEL AND TO ICE BRIDGE POST AT 6FT ABOVE GRAVEL.

10. ALL ICE BRIDGE SECTIONS ARE TO BE JUMPERED TOGETHER WITH #2 WIRE, EITHER BARE TINNED COPPER OR GREEN INSULATED STRANDED. ICE BRIDGE SHALL BE GROUNDED AT EACH END WITH #2 STC WIRE LUGGED TO ICE BRIDGE AND EXOTHERMICALLY WELDED TO UPPER PORTION OF NEAREST ICE BRIDGE POST. ICE BRIDGE SECTIONS ABOVE H-FRAME SHALL BE BONDED TO EACH OTHER WITH JUMPERS AT EACH END – THIS ASSEMBLY WILL BE CONSIDERED AS A SINGLE ICE BRIDGE SECTION FOR GROUNDING PURPOSES.

11. BOND EACH ICE BRIDGE POST, H-FRAME POST OR DEDICATED GROUNDING POST TO BURIED GROUNDING SYSTEM WITH #2 STC LEAD EXOTHERMICALLY WELDED TO POST BELOW TOP OF GRAVEL AND EXOTHERMICALLY WELDED TO GROUND RING. EACH POST TO HAVE SEPARATE GROUND LEAD DIRECTLY TO GROUND RING – DO NOT DAISY CHAIN POSTS TOGETHER.

12. BOND EACH RF CABINET TO EQUIPMENT GROUND RING WITH #2 AWG TINNED SOLID BARE COPPER CONDUCTOR LUGGED TO CABINET BODY AND EXOTHERMICALLY WELDED TO GROUND RING. LUG TO CABINET BODY USING LOCATION AT WHICH STUDS ON CABINET CHASSIS HAVE DIRECT GROUND WIRE CONNECTION TO CABINET INTERNAL GROUND BAR. RUN CONDUIT AND CONDUCTOR ACROSS BACK OF CABINET (DO NOT RUN TOWARDS NEAREST CORNER OF CABINET AND THEN BEND GROUND WIRE SHARPLY), TAKE SHORTEST PATH ACROSS CONCRETE PAD, THEN DOWN INTO GRAVEL AREA.

13. BOND EACH BATTERY CABINET (WHERE USED) TO GROUND RING WITH #2 AWG TINNED SOLID BARE COPPER CONDUCTOR LUGGED TO CABINET BODY AND EXOTHERMICALLY WELDED TO GROUND RING. RUN GROUND LEAD IN FLEX CONDUIT ALONG BACK OF CABINET, TAKE SHORTEST PATHACROSS CONCRETE PAD, THEN DOWN INTO GRAVEL AREA. CONNECT TWO HOLE LUG TO BACK OF CABINET AT FACTORY PROVIDED GROUNDING STUDS.

14. BOND GENERATOR TO GROUND RING WITH #2 STC MECHANICALLY FASTENED TO GENERATOR AND EXOTHERMICALLY WELDED TO GROUND RING. LOCATE GROUND LEADS AT TWO DIAGONALLY OPPOSITE CORNERS OF GENERATOR BY DRILLING AND BOLTING TWO HOLE LUG TO FINS ON GENERATOR BASE STRUCTURE. GROUND LEADS SHOULD TAKE SHORTEST PATH ACROSS CONCRETE PAD TO GRAVEL AREA, THEN CONTINUE TO GROUND RING.

15. WHERE PROPANE TANK IS INSTALLED TO FUEL GENERATOR, BOND PROPANE TANK TO GROUND RING WITH A SINGLE #2 STC CLAMPED TO FILLER PIPE OF PROPANE TANK AND EXOTHERMICALLY WELDED TO GROUND RING. GROUND LEAD SHOULD RUN TO TANK SUPPORT AND TAKE SHORTEST PATH ACROSS CONCRETE PAD TO GRAVEL AREA, THEN CONTINUE TO GROUND RING. IF PROPANE TANK FUEL LINE IS METALLIC AND CROSSES EQUIPMENT GROUND RING, BOND FUEL LINE TO EQUIPMENT GROUND RING WHERE THE TWO LINES CROSS WITH A SINGLE #2 STC CLAMPED TO FUEL LINE AND EXOTHERMICALLY WELDED TO GROUND RING.

16. BOND GPS ANTENNA AND GPS ANTENNA MOUNT TO TSDGA GROUND BAR AT BOTTOM OF H-FRAME POST WITH #2 GREEN INSULATED STRANDED GROUND WIRE. RUN GROUND WIRE DOWN ICE BRIDGE POST AND SECURE TO POST WITH NON-METALLIC TIES.

17. ANY METAL FENCE POST WITHIN 6FT OF A GROUNDED METAL OBJECT SHALL BE BONDED TO THE EQUIPMENT GROUND RING WITH #2 STC CLAMPED OR EXOTHERMICALLY WELDED TO THE POST AND EXOTHERMICALLY WELDED TO GROUND RING. ANY FENCE WITH METAL LINE POSTS WITHIN 6FT OF THE GROUND RING SHALL HAVE THE LINE POSTS BONDED TO THE GROUND RING WITH #2 STC WITH #2 STC CLAMPED OR EXOTHERMICALLY WELDED TO THE POST AND EXOTHERMICALLY WELDED TO GROUND RING AT 20FT MAXIMUM INTERVALS AS MEASURED ALONG THE LENGTH OF THE FENCE.

18. WHERE GROUND BASED RRU'S, RAYCAP OVP'S OR DIPLEXERS ARE INSTALLED AT THE EQUIPMENT AREA, BOND EACH COMPONENT TO NEAREST TDSGA GROUND BAR BELOW THE COMPONENT WITH #2 GREEN INSULATED STRANDED GROUND WIRE. SINGLE HOLE LUG OR RING TYPE CONNECTOR IS SUITABLE FOR CONNECTION TO GROUNDING STUD ON EACH COMPONENT.

19. NOTIFY VZW CM TO INSPECT GROUND RING BEFORE BACKFILLING. CONTRACTOR SHALL HIRE A 3RD PARTY TO PERFORM AN IEEE81 FALL OF POTENTIAL METHOD GROUND TEST. MAXIMUM ALLOWABLE RESISTANCE TO GROUND IS 5 OHMS. PROVIDE ADDITIONAL GROUND SYSTEM COMPONENTS AS REQUIRED TO ACHIEVE THIS VALUE.

20. REFER TO TOWER GROUNDING DIAGRAM AND NOTES FOR GROUND SYSTEM REQUIREMENTS ON THE TOWER.

21. GROUNDING OF ALL ELECTRICAL EQUIPMENT SHALL BE AS PER NEC, MUNICIPAL AND UTILITY COMPANY REQUIREMENTS.

GROUNDING NOTES

SCALE: N.T.S.

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
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PROJECT INFORMATION:

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DRAWN BY: PVW | CHECKED BY: DAO

SHEET TITLE:

GROUNDING NOTES

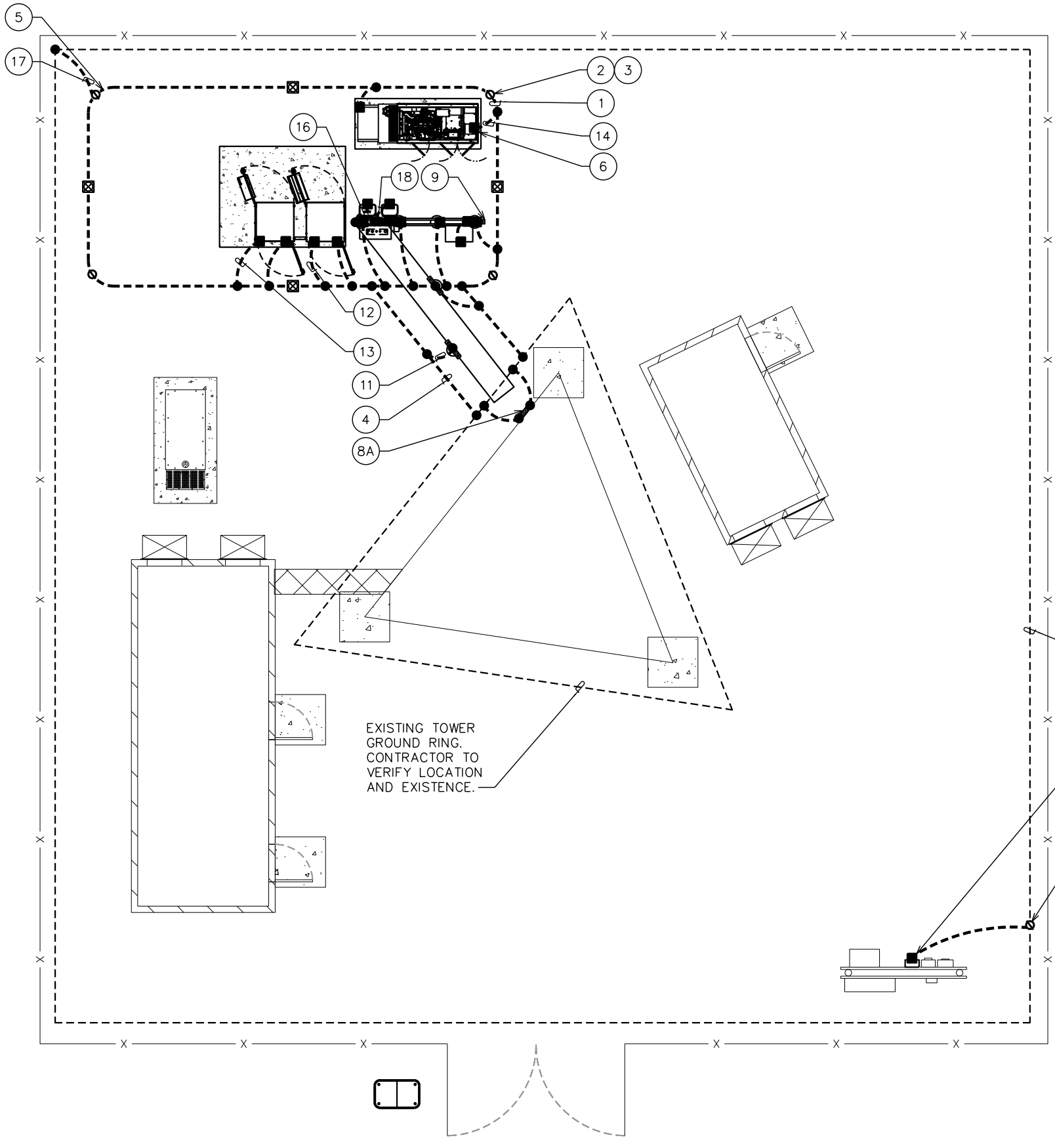
SHEET NUMBER: **E-6**

REVISION: 1

TEP#: 274573.101.2037

DRAWING NOTE:

SEE SHEET E-6 FOR ELECTRICAL GROUNDING NOTES & REQUIREMENTS.



VERIFY

LEGEND

●	CADWELL
⊘	GROUND ROD
■	LUG FOR EQUIPMENT GROUNDING
- - - - - - - -	GROUND RING
⊠	GROUND ROD WITH INSPECTION WELL
▬	GROUND BAR

EQUIPMENT GROUNDING PLAN

SCALE: 1" = 10'

0 10 20

SCALE IN FEET

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REV	DATE	ISSUED FOR:
1	02-11-25	CONSTRUCITON
0	12-31-24	PRELIMINARY

DRAWN BY: PVW | CHECKED BY: DAO

SHEET TITLE:

GROUNDING PLAN

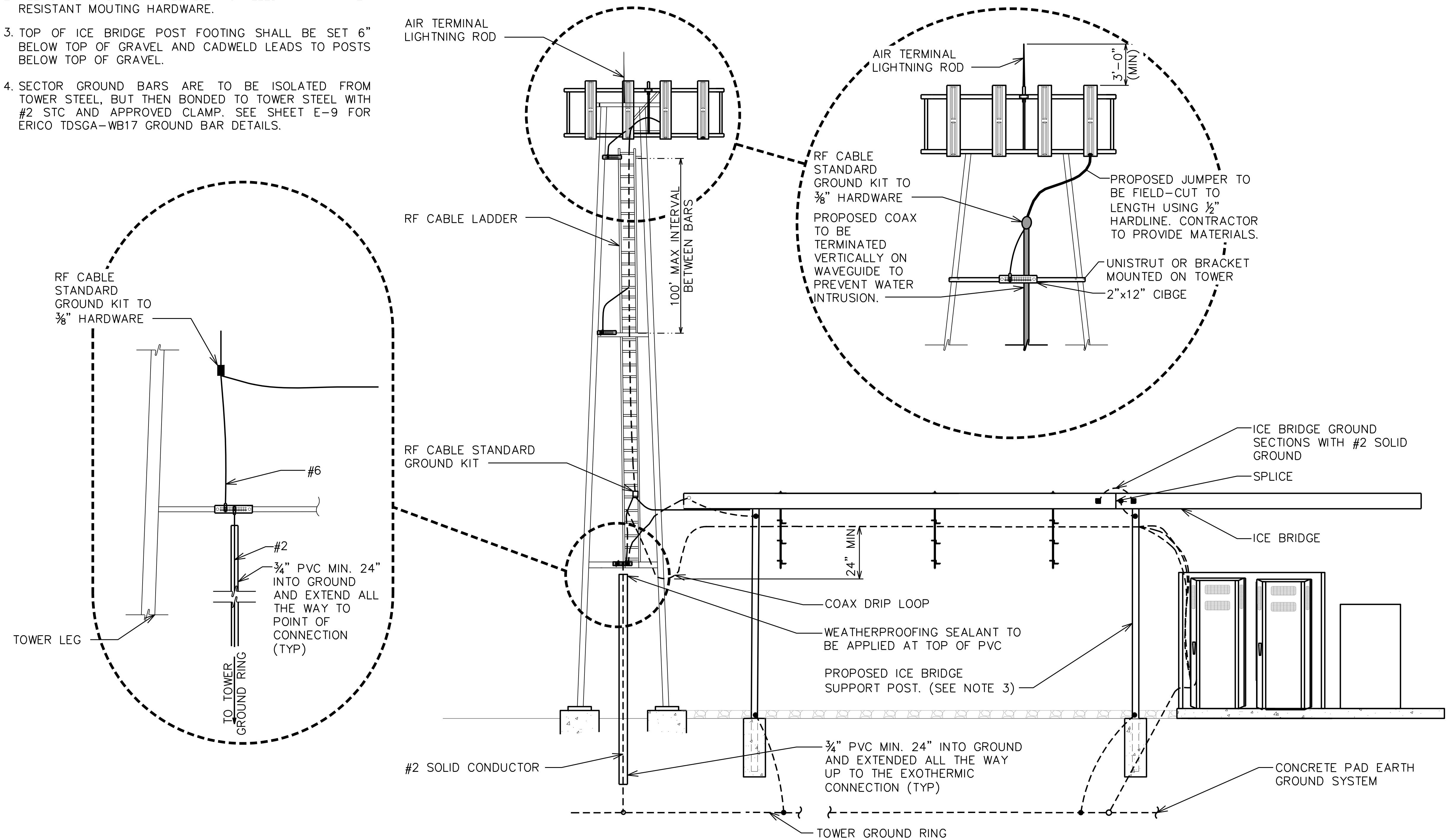
SHEET NUMBER: **E-7**

REVISION: 1

TEP #: 274573.1012037

NOTES:

1. MINIMUM BEND RADIUS OF #2 SOLID CONDUCTOR IS 12", EXCEPT MINIMUM FOR 24" FOR BUILDING OR TOWER GROUND RING.
2. ALL GROUND BARS SHALL BE INSTALLED WITH TAMPER RESISTANT MOUTING HARDWARE.
3. TOP OF ICE BRIDGE POST FOOTING SHALL BE SET 6" BELOW TOP OF GRAVEL AND CADWELD LEADS TO POSTS BELOW TOP OF GRAVEL.
4. SECTOR GROUND BARS ARE TO BE ISOLATED FROM TOWER STEEL, BUT THEN BONDED TO TOWER STEEL WITH #2 STC AND APPROVED CLAMP. SEE SHEET E-9 FOR ERICO TDSGA-WB17 GROUND BAR DETAILS.



ICE BRIDGE, COAX, STANCHION, AND TOWER GROUNDING DETAIL

SCALE: N.T.S.

PLANS PREPARED FOR:
SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon
4700 EXCHANGE COURT, SUITE 100
BOCA RATON, FL 33431

PROJECT INFORMATION:
VZW SITE #: 5000965682
SITE NAME #: BIRLEY AVE
4741 SW BIRLEY AVENUE
LAKE CITY, FL 32024
(COLUMBIA COUNTY)

PLANS PREPARED BY:
TEP
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net
FL COA # 31011

SEAL:
TEP OPCO, LLC 31011
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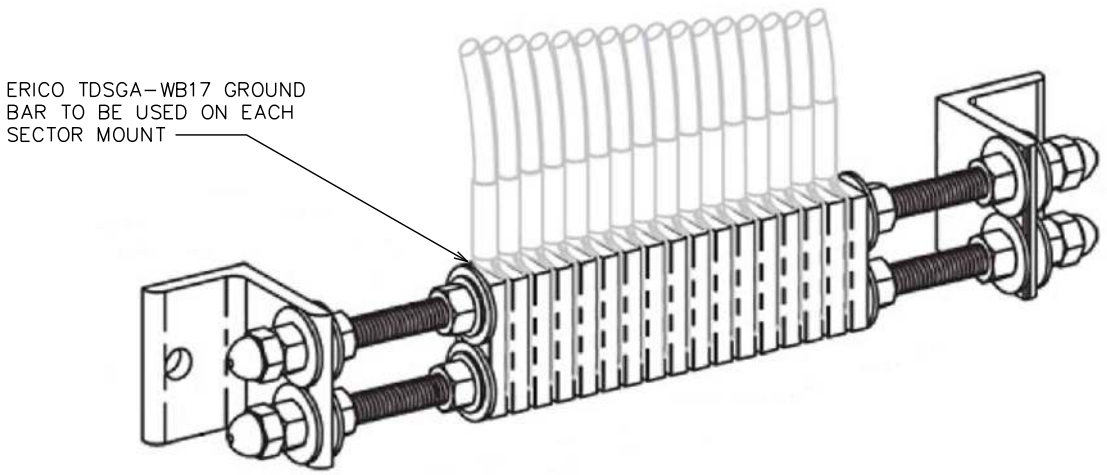
SHEET TITLE:
ICE BRIDGE & TOWER GROUNDING DETAIL

SHEET NUMBER: **E-8** REVISION: **1**
TEP#:274573.1012037

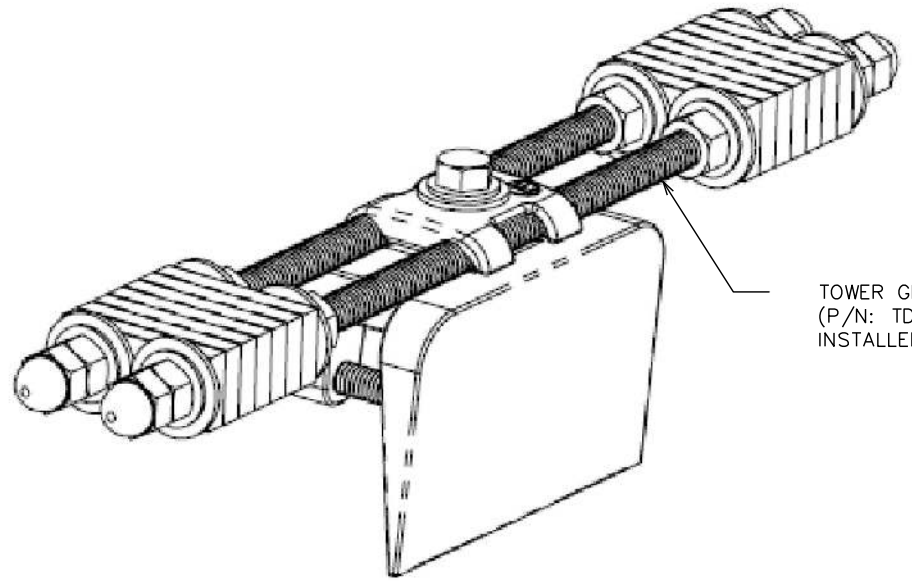
NOTES:

1. GROUND BAR SHALL BE SIZED TO ACCOMMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY
2. ALL GROUND BARS WILL BE ISOLATED FROM THE TOWER EXCEPT TOWER BOTTOM GROUND BAR ON MONOPOLES.
3. DRAWINGS SHOWN FOR REFERENCE ONLY AND MAY NOT REPRESENT FINAL CONFIGURATION.



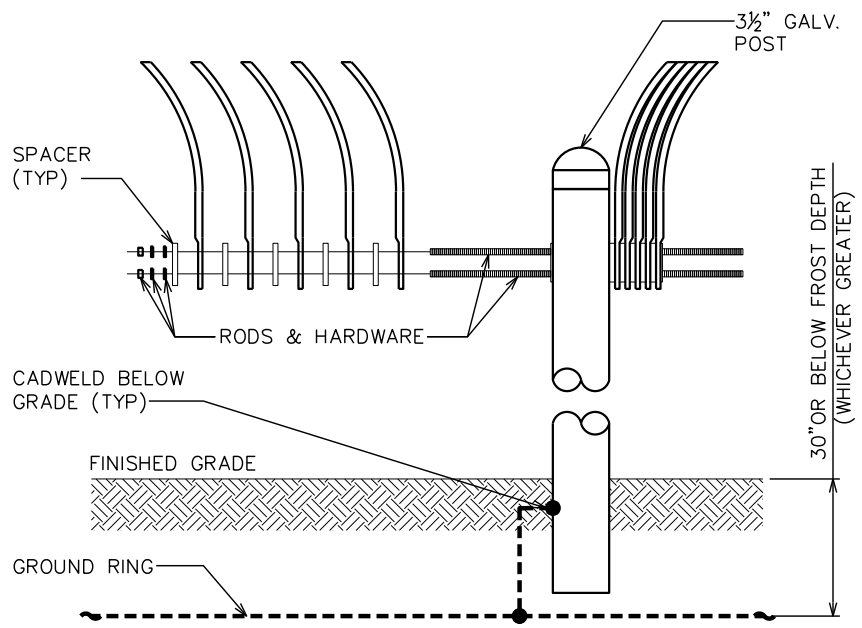
ERICO TDSGA-WB17 GROUND BAR

SCALE: N.T.S.



ERICO TDSGA-BC14 GROUND BAR

SCALE: N.T.S.



ERICO TDSGA-PA14 GROUND BAR

SCALE: N.T.S.

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SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
BOCA RATON, FL 33431

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SHEET TITLE:

GROUND BAR DETAILS

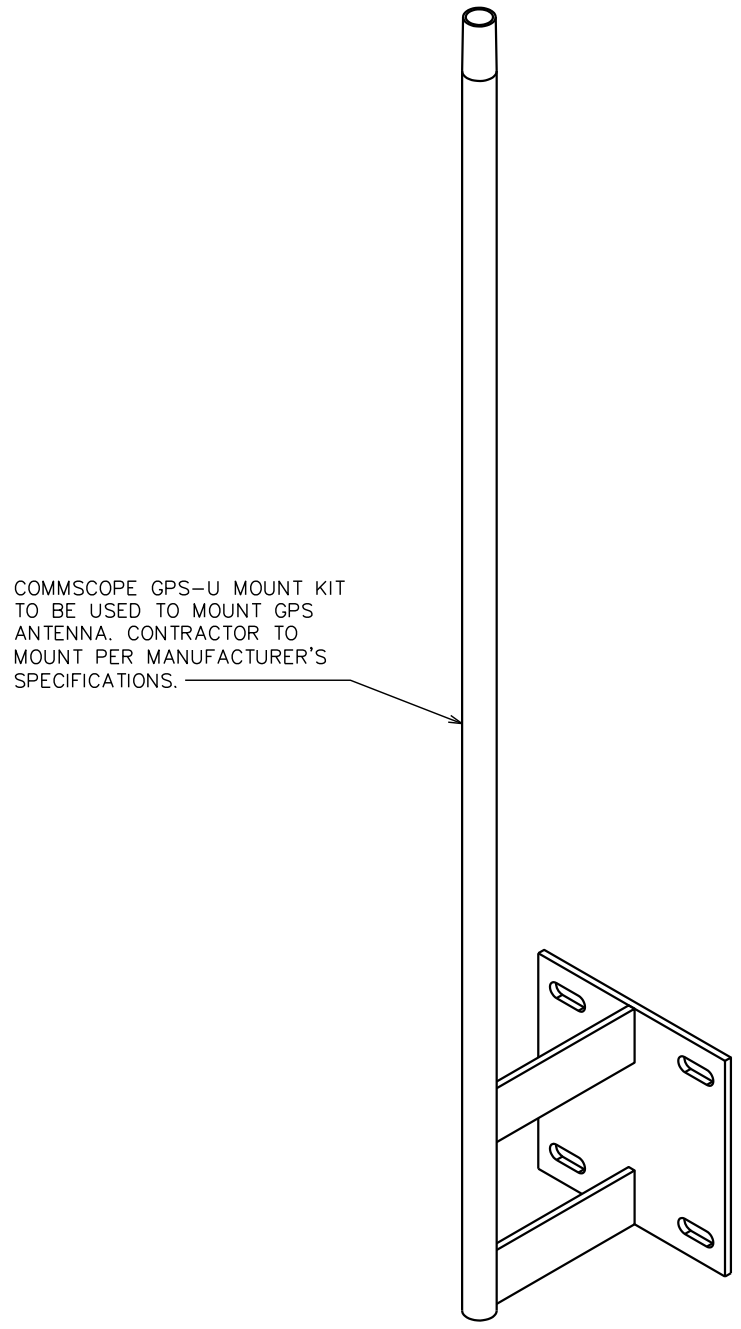
SHEET NUMBER: **E-9**

REVISION: 1

TEP #: 274573.1012037

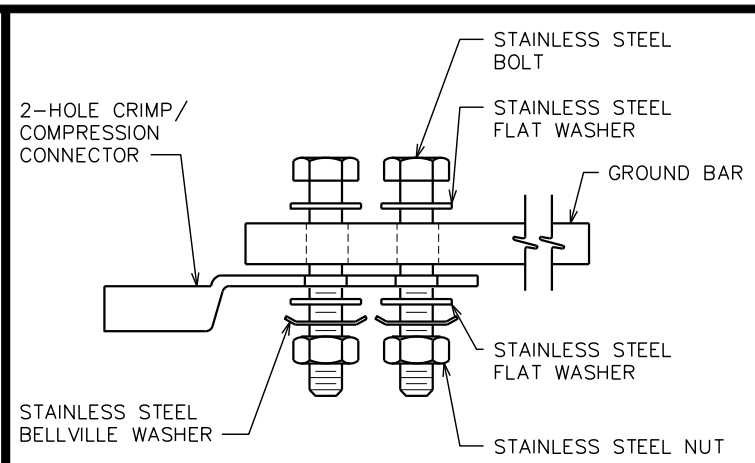
NOTES:

1. CONTRACTOR TO USE COMMSCOPE GPS-U MOUNT KIT TO MOUNT GPS ANTENNA. MOUNT PER MANUFACTURER'S SPECIFICATIONS.
2. EQUIPMENT INSTALLER IS RESPONSIBLE FOR INSTALLATION OF ANTENNA, MOUNTS, & COAX.
3. CONTRACTOR IS RESPONSIBLE FOR GPS MOUNTING PIPE, GROUND AND CLAMP AROUND THE MAST FOR THE GPS.

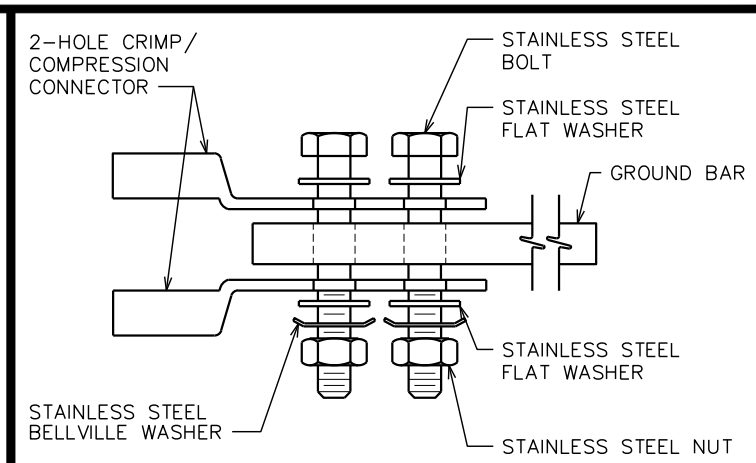


GPS MOUNT DETAIL

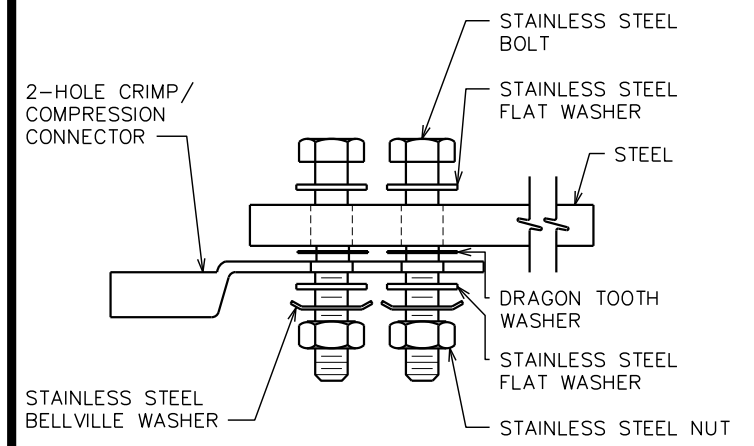
SCALE: N.T.S.



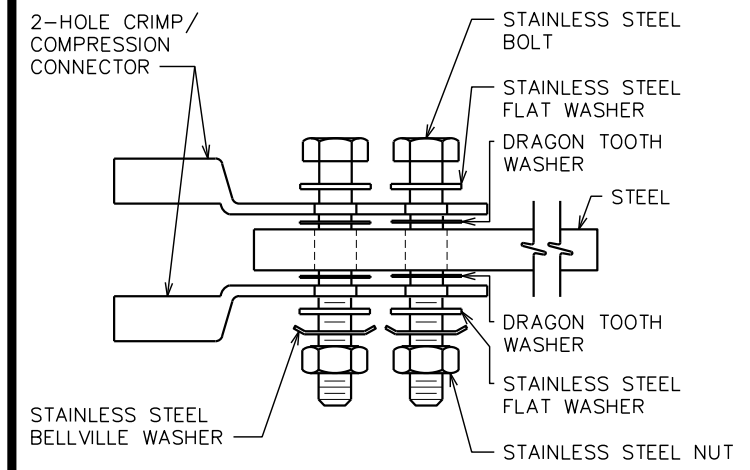
SINGLE CONNECTOR AT GROUND BARS



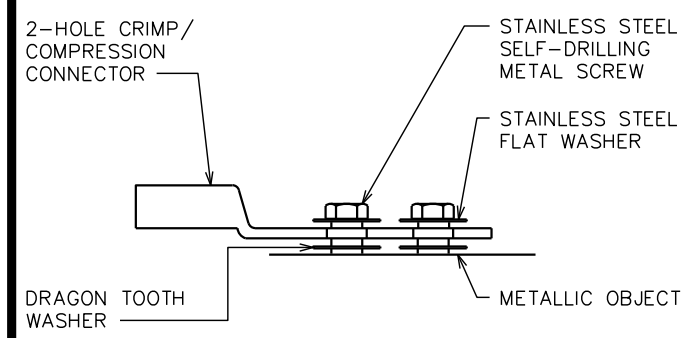
BACK TO BACK CONNECTOR AT GROUND BARS



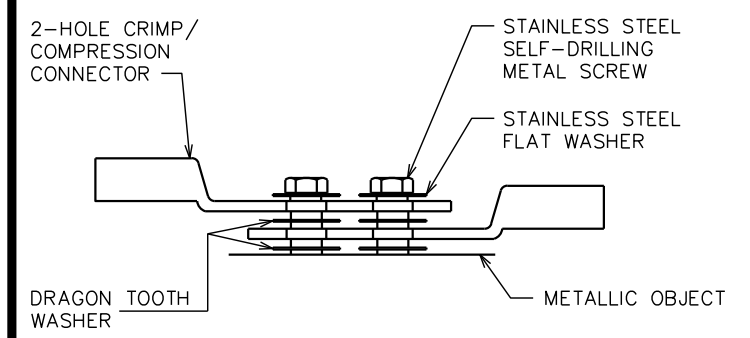
SINGLE CONNECTOR AT STEEL OBJECTS



BACK TO BACK CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS



BACK TO BACK CONNECTOR AT METALLIC/STEEL OBJECTS

NOTES:

1. CHOOSE BOLT LENGTH TO ALLOW A MIN. OF TWO THREADS EXPOSED.
2. BURNISH MOUNTING SURFACE TO REMOVE PAINT IN THE AREA OF THE CONNECTOR.
3. APPLY ANTI-OXIDANT COMPOUND TO MATING SURFACE OF CONNECTOR AND WIPE OFF EXCESS COMPOUND.
4. APPLY CLEAR HEAT SHRINK OVER ENTIRE LENGTH OF LABEL FOR PROTECTION. (REFER TO CONDUCTOR LABELS SECTION.)

CONNECTOR AND HARDWARE DETAIL

SCALE: N.T.S.

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
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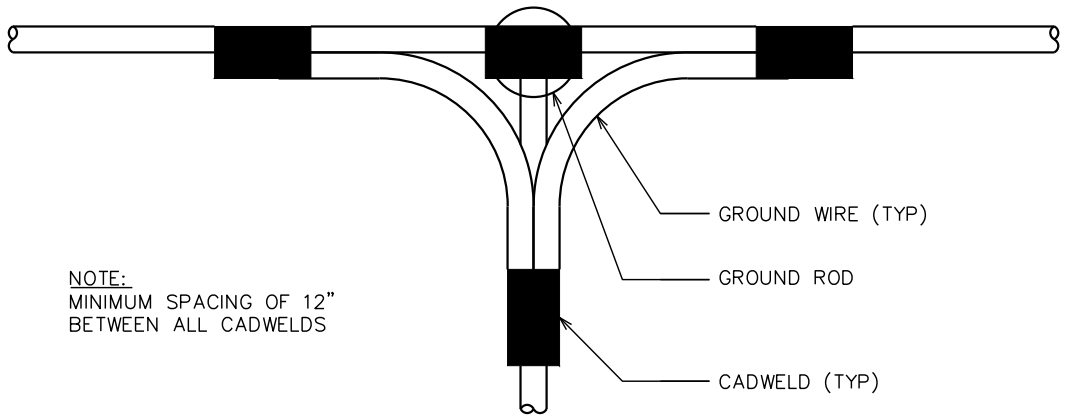
SHEET TITLE:

GROUNDING DETAILS I

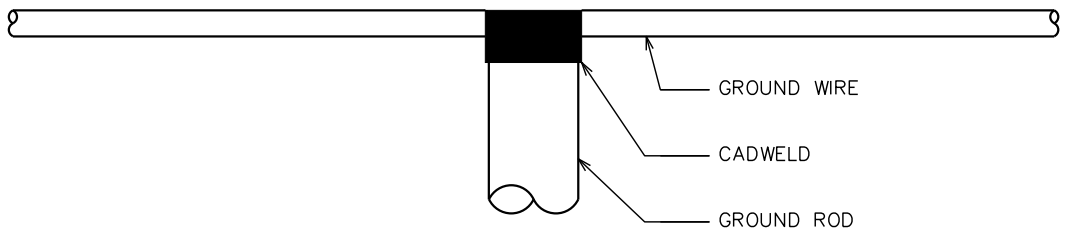
SHEET NUMBER: **E-10**

REVISION: 1

TEP #: 274573.1012037



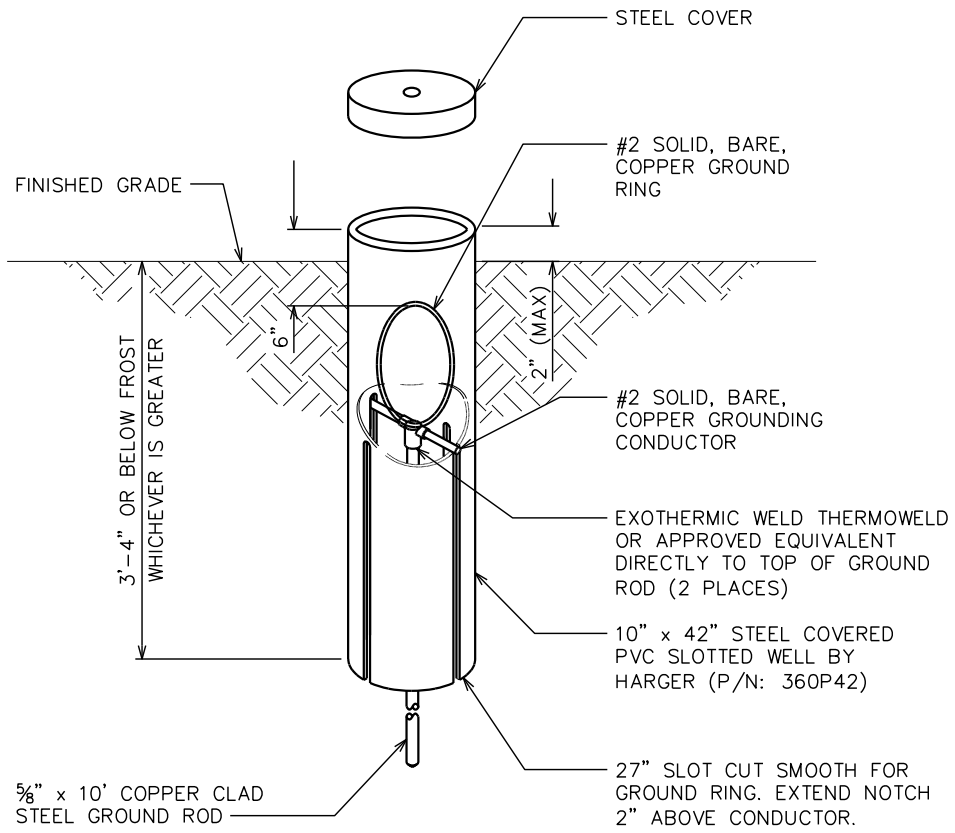
TOP VIEW



SIDE VIEW

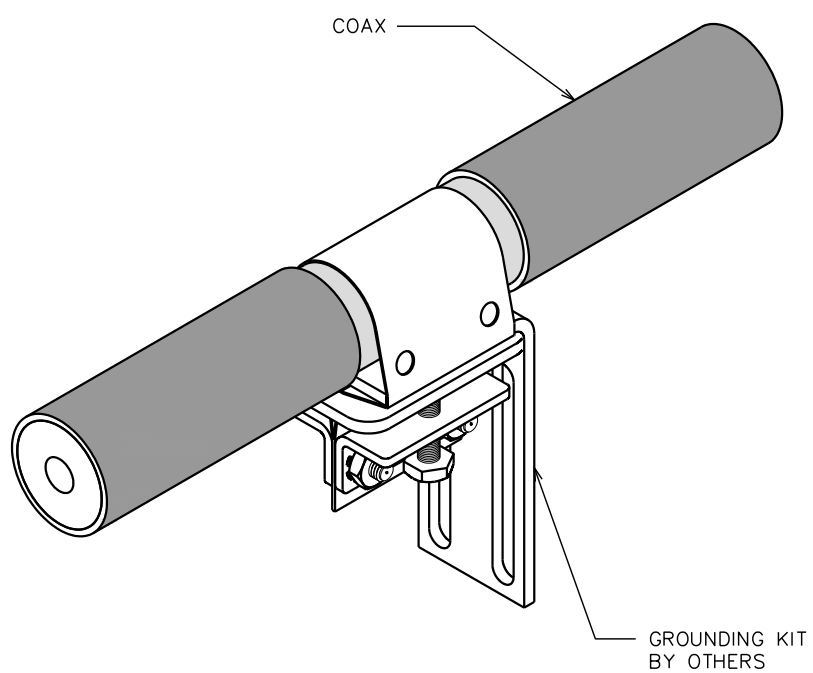
CADWELD GROUNDING DETAIL

SCALE: N.T.S.



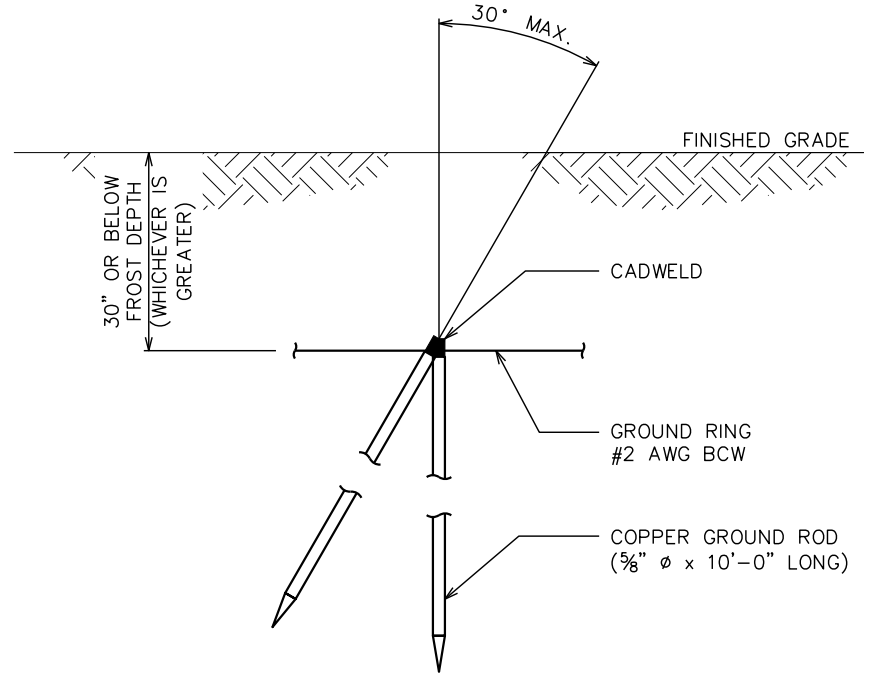
GROUND ROD WITH INSPECTION WELL

SCALE: N.T.S.



INTERIOR CABLE SHIELD

SCALE: N.T.S.



COPPER-CLAD STEEL GROUND ROD

SCALE: N.T.S.

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SBA

8051 CONGRESS AVENUE
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verizon

4700 EXCHANGE COURT, SUITE 100
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SHEET TITLE:

GROUNDING DETAILS II

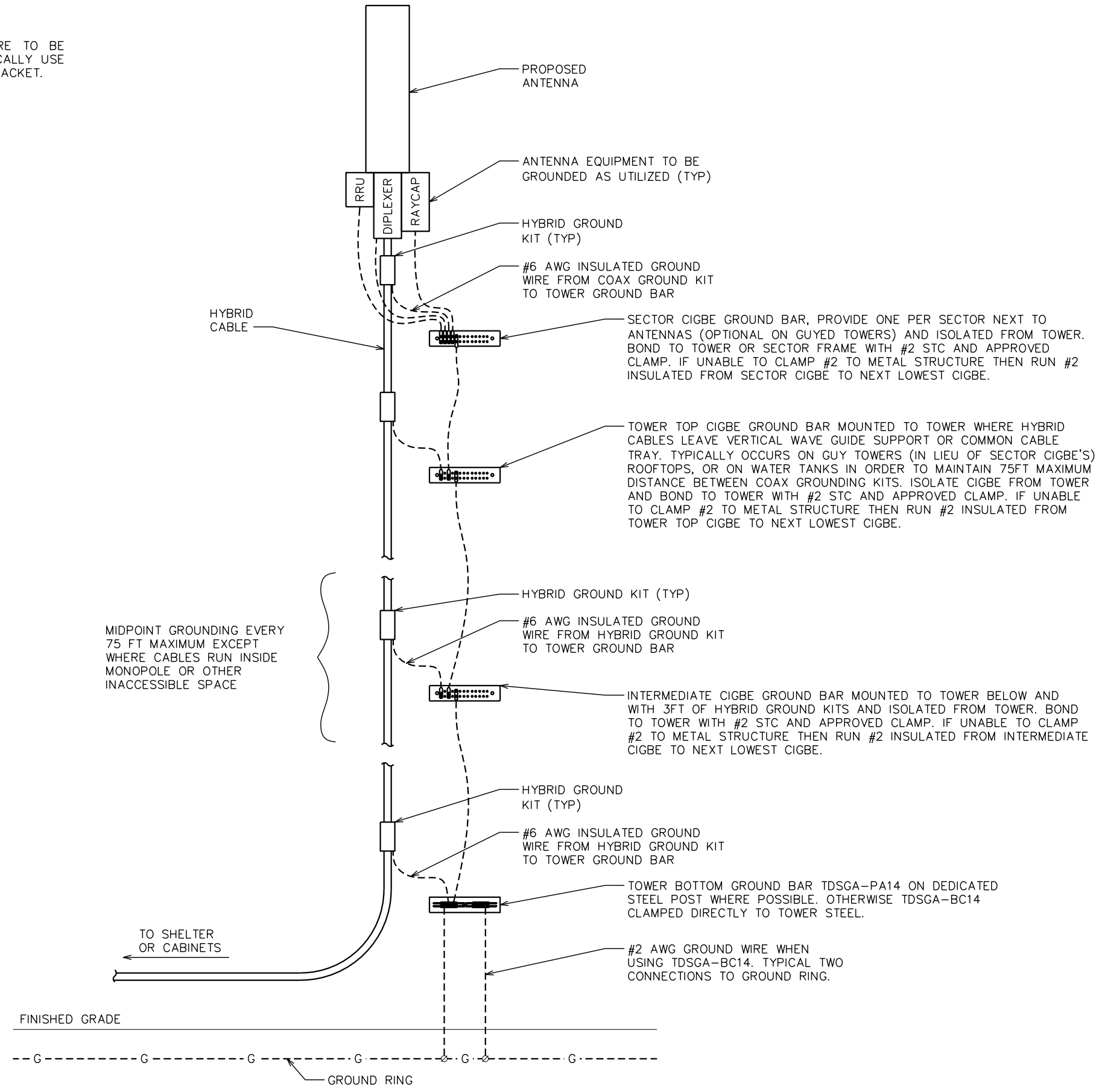
SHEET NUMBER: **E-11**

REVISION: 1

TEP #: 274573.1012037

NOTE:

ALL CIGBE GROUND BARS ON TOWER ARE TO BE ERICO TDSGA OR APPROVED EQUAL. TYPICALLY USE TDSGA-WB17 ISOLATED FROM UNISTRUT BRACKET.



CABLE/TOWER GROUNDING SCHEMATIC

SCALE: N.T.S.

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

4700 EXCHANGE COURT, SUITE 100
BOCA RATON, FL 33431

PROJECT INFORMATION:

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SITE NAME #: BIRLEY AVE

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(COLUMBIA COUNTY)

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SHEET TITLE:

CABLE/TOWER GROUNDING SCHEMATIC

SHEET NUMBER: **E-12**

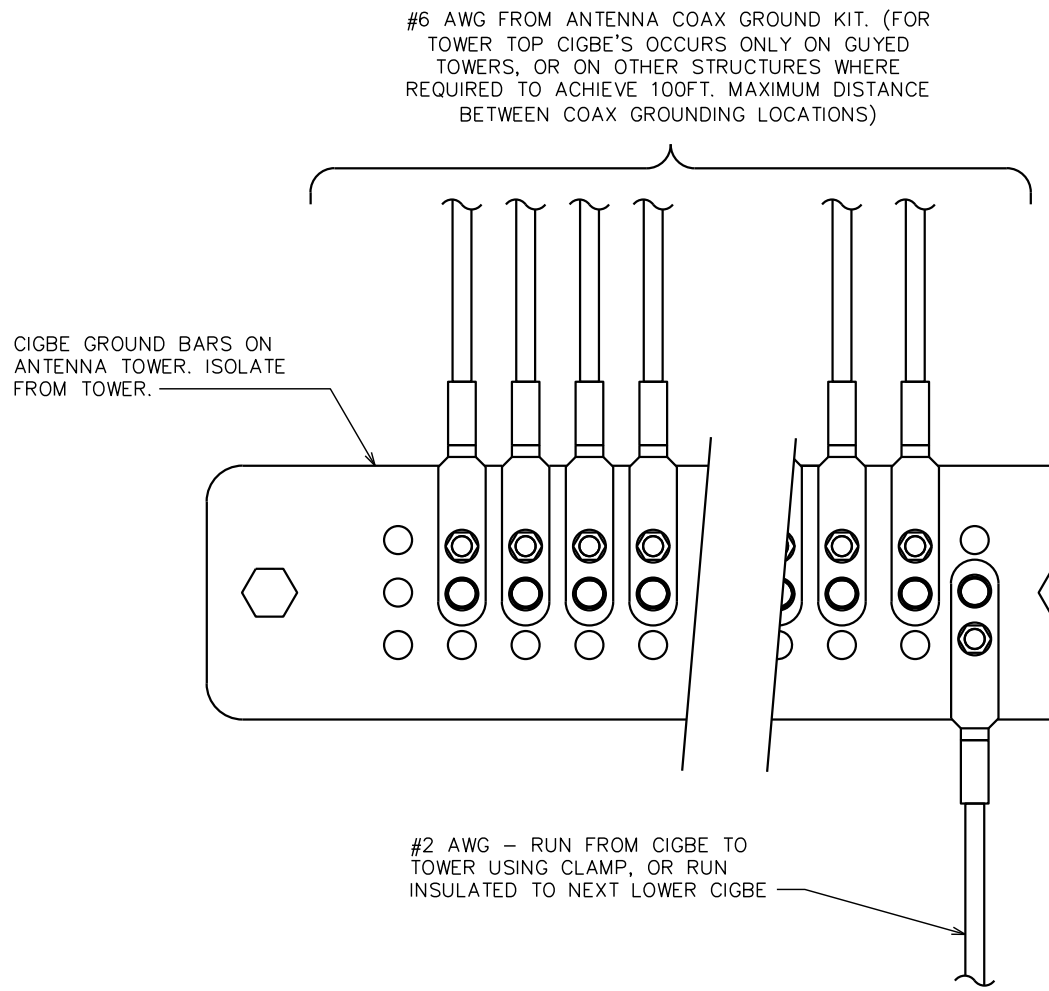
REVISION: 1

TEP #: 274573.1012037

NOTES:

1. ALL CIGBE GROUND BARS ON TOWER ARE TO BE ERICO TDSGA. TYPICALLY USE TDSGA-WB17 ISOLATED FROM UNISTRUT BRACKET.

2. IF CIGBE CANNOT BE BONDED DIRECTLY TO TOWER AND CANNOT BE CONNECTED TO TOWER WITH #2 AWG AND CLAMP (OR CADWELD), THEN RUN #2 BLACK INSULATED GROUND LEAD FROM CIGBE DOWN TO NEXT LOWER CIGBE. SECURE GROUND LEAD WITH NON-METALLIC TIES AT SAME SPACING AS COAX SUPPORTS.



ANTENNA GROUND WIRE INSTALLATION

SCALE: N.T.S.

PLANS PREPARED FOR:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

verizon

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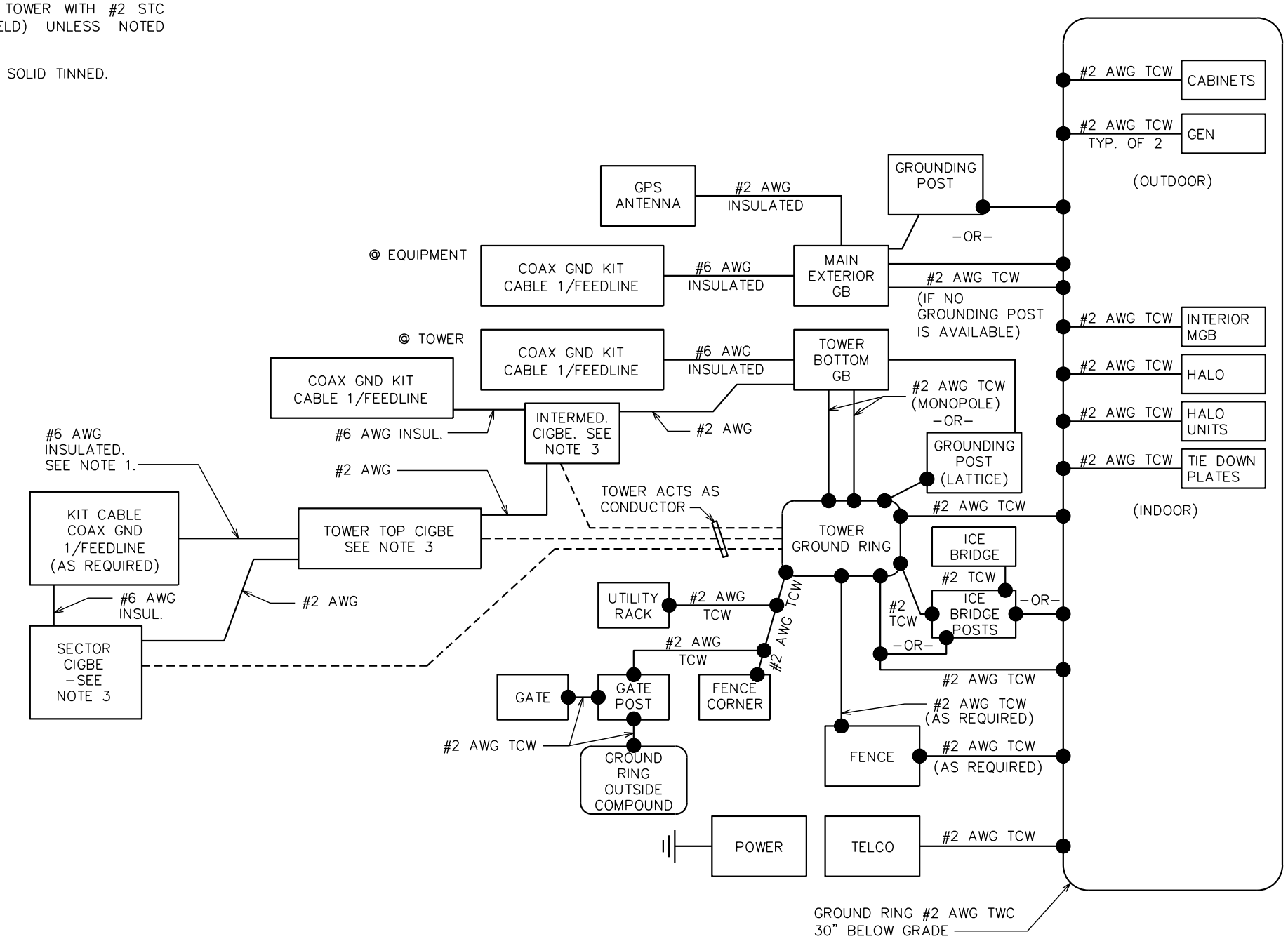
SHEET TITLE:

ANTENNA GROUND WIRE INSTALLATION

SHEET NUMBER:	REVISION:
E-13	1
	TEP #: 274573.1012037

NOTES:

1. CONNECT COAX GROUND KITS DIRECTLY TO TOWER TOP CIGBE ONLY AS NOTED ON ANTENNA GROUND WIRE INSTALLATION ON SHEET E-12.
2. FOR GROUNDING CONNECTIONS AND DETAILS, SEE SITE GROUNDING PLAN.
3. TOWER GROUND BARS WILL BE ISOLATED FROM TOWERS BUT BONDED TO TOWER WITH #2 STC AND CLAMP (OR CADWELD) UNLESS NOTED OTHERWISE.
4. ALL #2 AWG TCW MUST BE SOLID TINNED.



GROUNDING SYSTEM SINGLE LINE DIAGRAM

SCALE: N.T.S.

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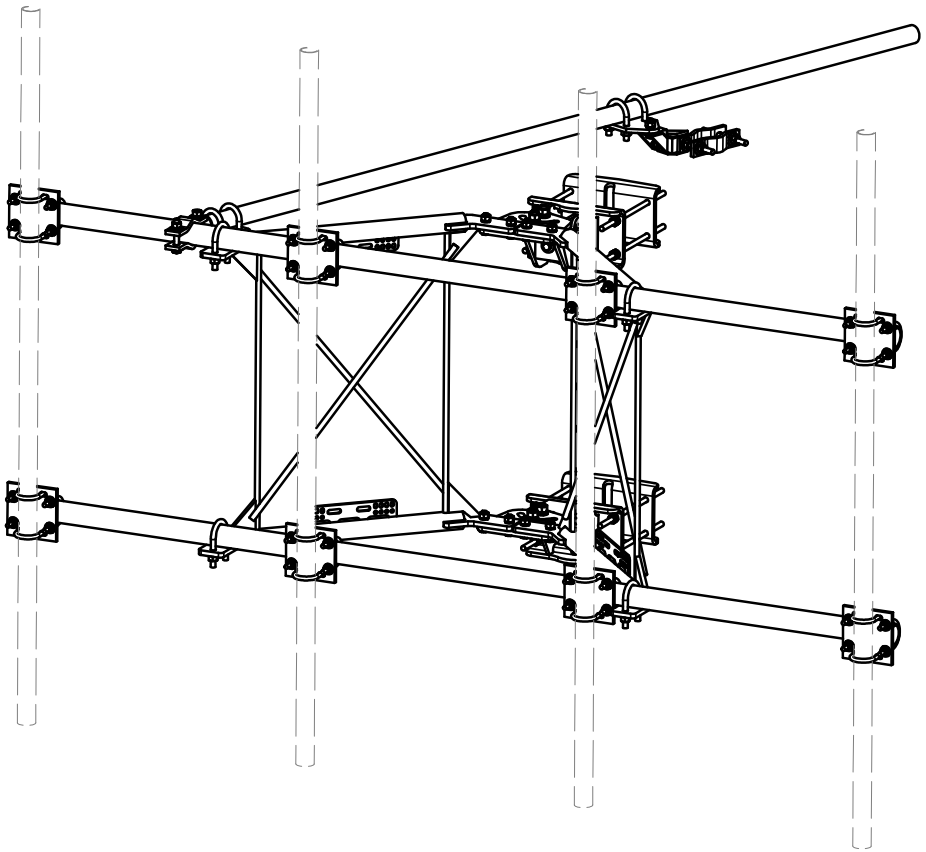
GROUNDING SYSTEM SINGLE LINE DIAGRAM

SHEET NUMBER: **E-14**

REVISION: 1

TEP #: 274573.1012037



PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFAW	SUPPORT ARM		71.41	142.81
2	1	X-HDCAMTBW	CLAMP WELDMENT FOR BCAM-HD		33.86	33.86
3	1	X-MHTPHD	MULTI-HOLE TAPER PLATE WELDMENT		36.24	36.24
4	2	X-VFAPL4	VFA-HD PIVOT PLATE	12 in	15.88	31.77
5	2	X-LCBP4	BENT BACKING PLATE	13 in	19.00	38.01
6	1	X-HDCAMSS	ANGLE ADJUSTMENT WELDMENT FOR BCAM-HD		16.39	16.39
7	2	X-SPTB	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.87	11.74
8	1	X-HDCAMSP	POSITIONING PLATE WELDMENT FOR BCAM-HD		2.58	2.58
9	2	X-TBCA	TIE BACK CLIP ANGLE		2.01	4.01
10	8	SCX2	CROSSOVER PLATE	7 in	4.80	38.37
11	2	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12 1/16 in	3.59	7.19
12	4	DCP	1/2" THICK, 5-3/4" CNTER TO CENTER CLAMP HALF	8 1/8 in	2.36	9.45
13	2	P30126	2-7/8" O.D. X 126" SCH. 40 PIPE	126 in	64.63	129.25
14	1	P2126	2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE	126 in	40.75	40.75
15	4	A34212	3/4" x 2-1/2" UNC HEX BOLT (A325)	2 1/2 in	0.48	1.92
16	4	G34FW	3/4" HDG USS FLATWASHER		0.06	0.24
17	4	G34LW	3/4" HDG LOCKWASHER		0.04	0.17
18	4	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	0.85
19	8	G58R-18	5/8" x 18" THREADED ROD (HDG.)		1.57	12.54
20	2	G58R-12	5/8" x 12" THREADED ROD (HDG.)		1.05	2.09
21	2	G58R-8	5/8" x 8" THREADED ROD (HDG.)		0.70	1.39
22	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
23	4	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	4.00
24	2	G5807	5/8" x 7" HDG HEX BOLT GR5 FULL THREAD	7 in	0.70	1.41
25	1	G5806	5/8" x 6" HDG HEX BOLT GR5 FULL THREAD	6 in	0.62	0.62
26	4	G5804	5/8" x 4" HDG HEX BOLT GR5		0.44	1.78
27	8	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	2.50
28	2	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	0.54
29	15	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	1.06
30	50	G58LW	5/8" HDG LOCKWASHER		0.03	1.30
31	53	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	6.88
32	32	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	23.64
33	16	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.60	9.56
34	64	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	2.18
35	64	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.89
36	64	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	4.58
					TOTAL WT. #	597.04

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REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
B	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	6/29/2018
A	UPDATED ANGLE CAILBRATING PROCEDURE PAGE 2		CEK	12/12/2017

REVISION HISTORY

DESCRIPTION
10' 6" HEAVY DUTY
V-FRAME ASSEMBLY
WITH ONE STIFF ARMS

SITE PRO 1 — A valmont COMPANY

Engineering Support Team: 1-888-753-7446

Locations:
New York, NY
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Los Angeles, CA
Plymouth, IN
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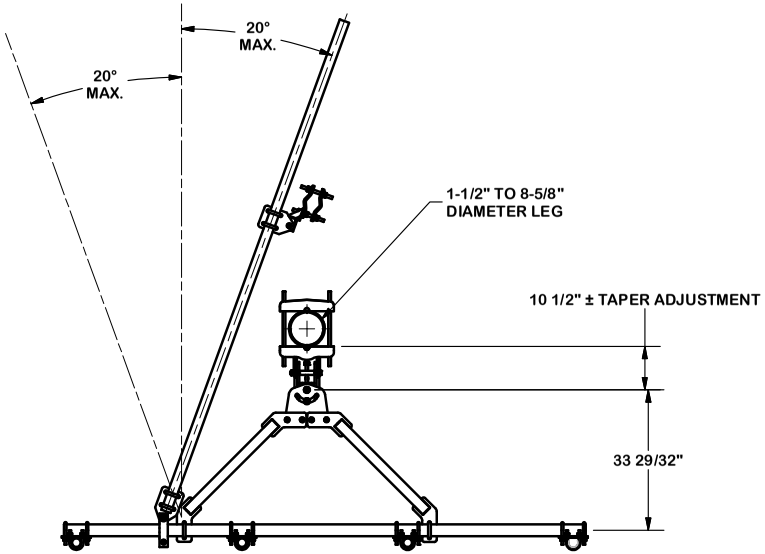
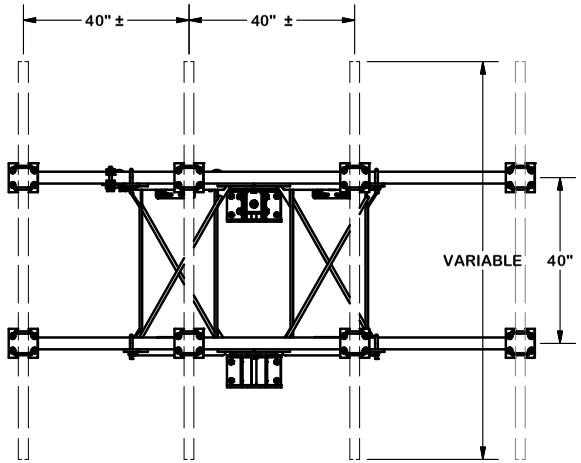
Dallas, TX

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	CEK 7/3/2017		VFA10-HD-S

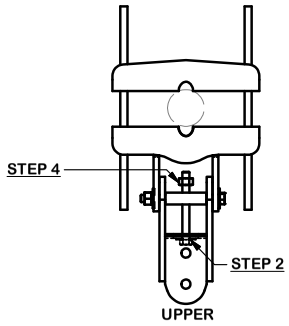
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 12/12/2017	VFA10-HD-S

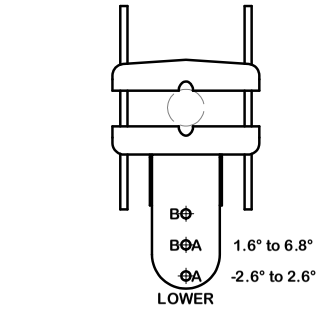


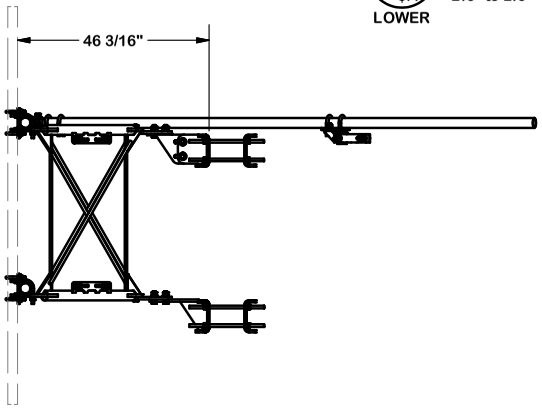


ANGLE CALIBRATING PROCEDURE:

1. MEASURE TOWER TAPER AND PICK LOWER BRACKET HOLE:
   - HOLE A = -2.6° TO 2.6°
   - HOLE B = 1.6° TO 6.8°
2. USE CALIBRATING BOLT TO ADJUST FRAME TO DESIRED TAPER
3. TORQUE LOCKING BOLTS TO 100 ft.-lbs.
4. ADVANCE LOCKING NUT TO POSITIONING PLATE, THEN TIGHTEN.







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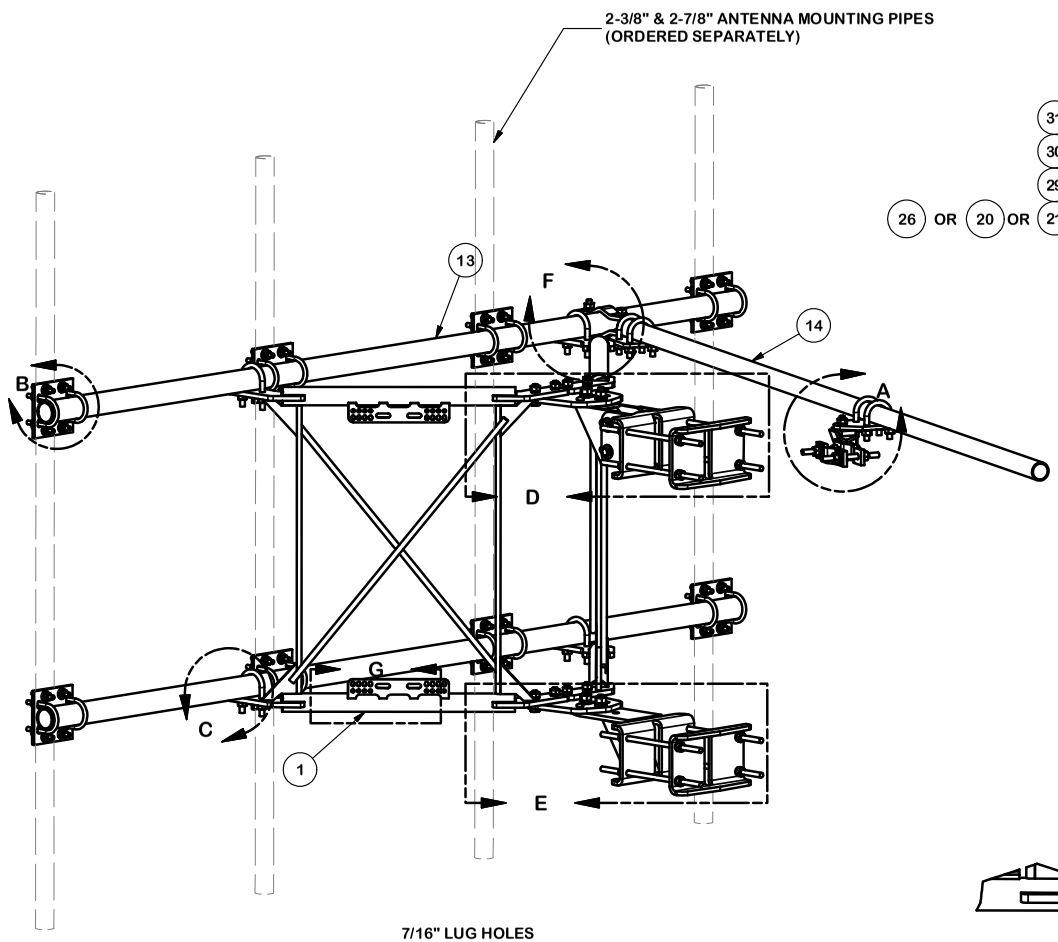

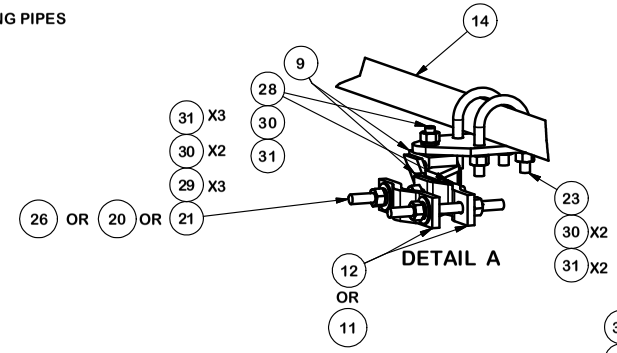

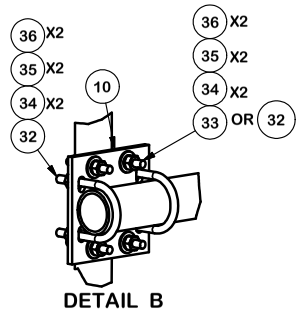

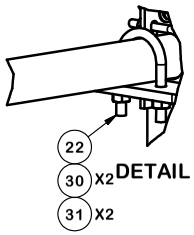

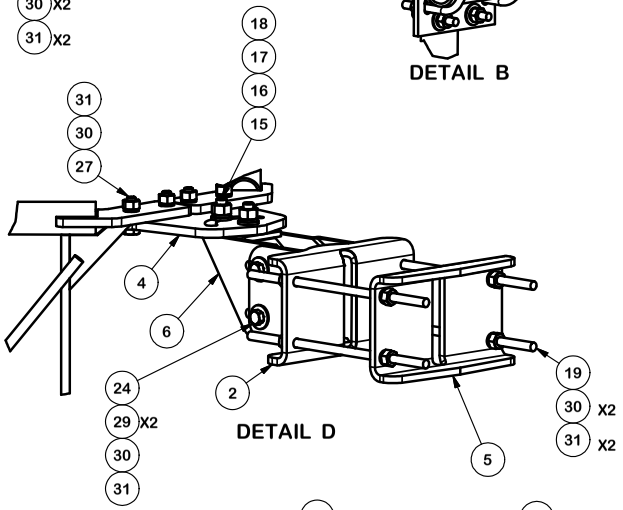

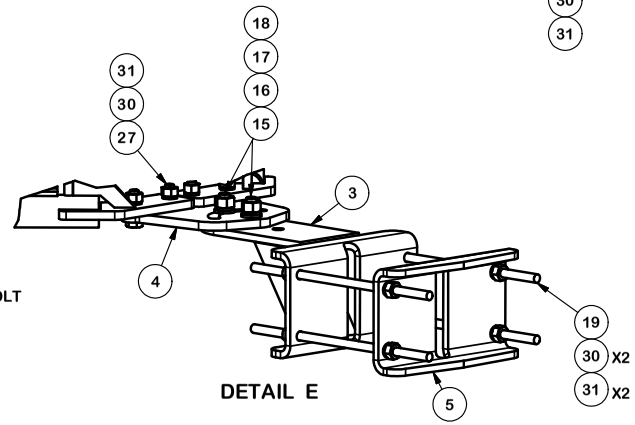

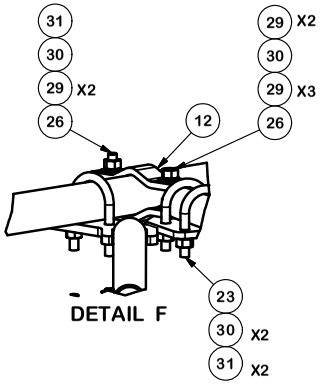

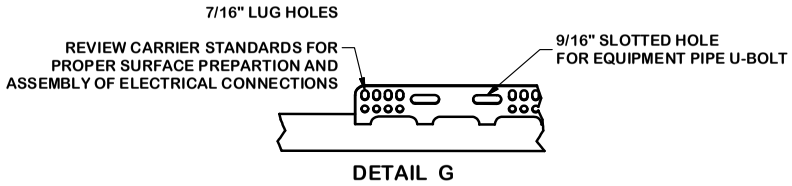

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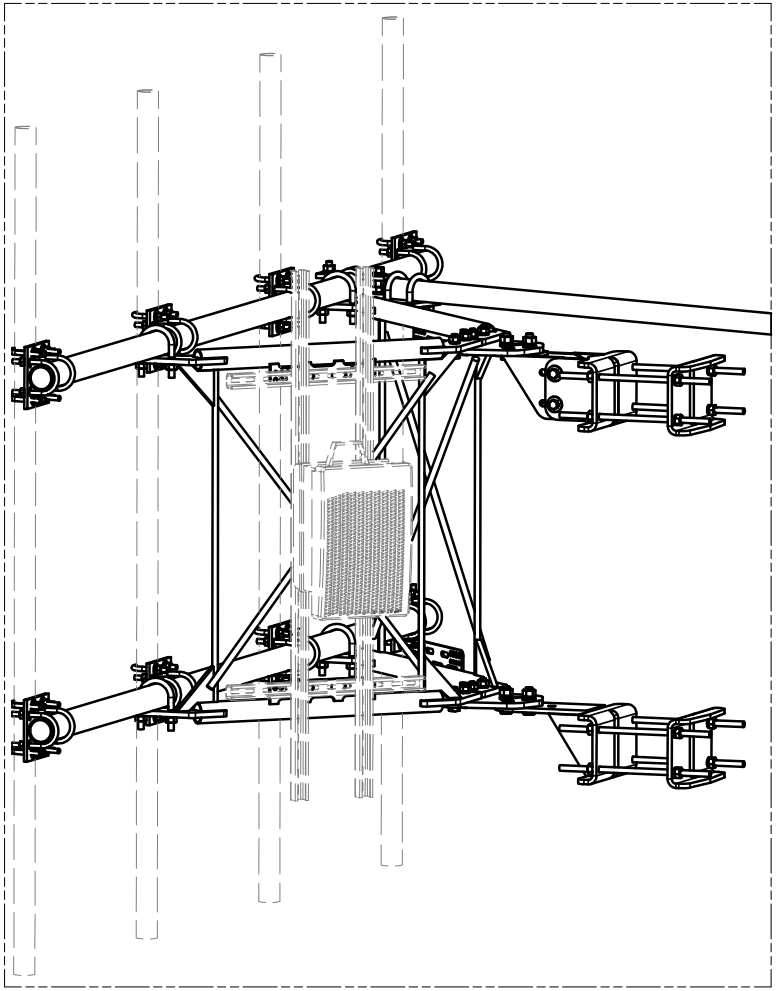
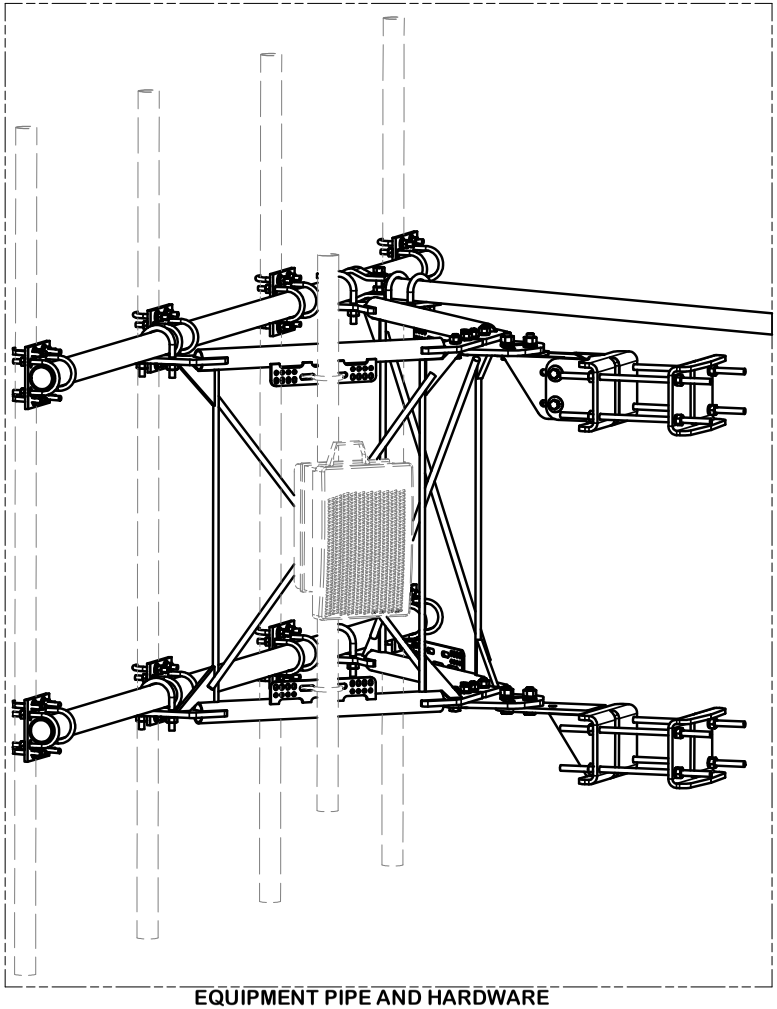


UNISTRUT AND HARDWARE
SOLD SEPARATELY.

REQUIRES 3/8" HARDWARE



EQUIPMENT PIPE AND HARDWARE
SOLD SEPARATELY.

REQUIRES 1/2" HARDWARE
AND 2-3/8" TO 4-1/2" O.D. PIPE

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