



PARCEL NUMBER: 12-3S-17-04927-000

LOCATION MAP



MAP DATA © 2022 GOOGLE

AERIAL MAP



MAP DATA © 2022 GOOGLE

APPROVALS

PENDING APPROVAL OF THE JURISDICTION, THE FOLLOWING PARTIES HAVE REVIEWED THE DESIGN WITHIN THEIR FUNCTIONAL RESPONSIBILITIES AND HAVE APPROVED THIS PROJECT FOR CONSTRUCTION. CONTRACTORS MAY NOT START CONSTRUCTION WITHOUT A NOTICE TO PROCEED (NTP).

	PRINT NAME	SIGNATURE	DATE
LANDLORD			
PRECON. MGR			
DEVELOP. MGR			
CONST. INSP.			
A&E MGR			
RF ENGINEER			
OPERATIONS			
ZONING REP			
UTILITIES			

CITY SWITCH II-A

NEW SITE BUILD

SITE NAME/NUMBER

OTTER BAY / FLC014

COLUMBIA COUNTY

SITE ADDRESS

612 NE CLYDE VARNES

LAKE CITY, FL 32055

FA NUMBER

15123847

PACE JOB NUMBER

MRTFL001205

RFDS NOTES

THESE CONSTRUCTION DRAWINGS ARE BASED ON RF DATA SHEET (RFDS) DATED 03/22/2020. CONTRACTOR SHALL CONFIRM WITH AT&T ON THE LATEST RFDS PRIOR TO CONSTRUCTION.

Sunshine811

\*\*\* CAUTION \*\*\*

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

FOR EMERGENCIES CALL: 911

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FOR REFERENCE ONLY	
TOWER AND FOUNDATION DESIGN DATED (PENDING)	

PROPERTY SUMMARY	
PROJECT DATA:	
SITE NAME	: OTTER BAY
SITE NUMBER	: FLC014
SITE ADDRESS	: 612 NE CLYDE VARNES LAKE CITY, FL 32055
JURISDICTION	: COLUMBIA COUNTY
PARCEL NUMBER	: 12-3S-17-04927-000
SITE DATA:	
LATITUDE	: 30° 14' 26.04" N (30.240567°) (NAD83)
LONGITUDE	: 82° 34' 15.45" W (-82.570958°) (NAD83)
GROUND ELEVATION	: 148.3 FT. (NAVD 88)
PROPOSED TOWER TYPE	: SELF SUPPORT TOWER
PROPOSED TOWER HEIGHT	: 305 FT.
ANTENNA RAD CENTER	: 300 FT.
CONSTRUCTION AREA	: 10,000± SQ. FT.
DESIGN DATA:	
NOMINAL WIND SPEED	: 91 (3 SECOND GUST)
ULTIMATE WIND SPEED	: 118 MPH (3 SECOND GUST)
RISK CATEGORY	: II
EXPOSURE CATEGORY	: C
ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH 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 FOLLOWING CODES:	
CONSTRUCTION CODES:	
1. 2020 FLORIDA BUILDING CODE, BUILDING, 7TH EDITION	
2. 2020 FLORIDA BUILDING CODE, RESIDENTIAL, 7TH EDITION	
3. FLORIDA FIRE PREVENTION CODE: SEVENTH EDITION, 2020	
4. 2020 FLORIDA BUILDING CODE, PLUMBING, 7TH EDITION	
5. 2020 FLORIDA BUILDING CODE, MECHANICAL, 7TH EDITION	
6. 2020 FLORIDA BUILDING CODE, FUEL GAS, 7TH EDITION	
7. NATIONAL ELECTRICAL CODE: 2017 EDITION	
8. 2020 FLORIDA BUILDING CODE, ENERGY CONSERVATION, 7TH EDITION	
9. STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES (TIA-222-H)	

IgniteWireless

CITY SWITCH II-A

WT GROUP

FLC014

OTTER BAY

612 NE CLYDE VARNES  
LAKE CITY, FL 32055

WT Group

Engineering • Design • Consulting

WT GROUP

Engineering with Precision, Pace and Passion

2875 Pratum Avenue | Hoffman Estates, IL 60182

T: 224.293.6333 | F: 224.293.6444

wengineering.com

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JEFF S. GUTOWSKY

LICENSE

No 63185

STATE OF FLORIDA

PROFESSIONAL ENGINEER

EXPIRES: 02/28/23

SIGNED: 06/13/22

REVISIONS

REV.	ISSUED FOR	DATE	BY
D	REVISION	12/17/20	JTB
E	REVISION	01/26/22	JTB
0	FINAL	02/10/22	KLO
1	REVISION	03/31/22	KLO
2	REVISION	05/05/22	JTB
3	REVISION	05/20/22	KLO
4	REVISION	06/03/22	KLO
5	REVISION	06/09/22	KLO
A	REVISION	06/13/22	KLO

AQUATIC \ DESIGN & PROGRAM MANAGEMENT

CIVIL \ TELECOMMUNICATION \ MECHANICAL

PLUMBING \ ELECTRICAL \ LAND SURVEYING

ACCESSIBILITY CONSULTING \ STRUCTURAL

CHECK: JKR

DRAWN: JTB

JOB: 2001869T

T-1

TITLE SHEET





GENERAL ELECTRIC PROVISION (CONT.):

26. CONDUIT

- A. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3
- B. ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTING SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
- C. FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE, SEAL TIGHT FLEXIBLE CONDUIT. ALL CONDUIT SHALL HAVE FULL SIZE EQUIPMENT GROUND WIRE.
- D. CONDUIT RUNS SHALL BE SURFACE MOUNTED IN CEILINGS OR WALLS UNLESS INDICATED OTHERWISE. CONDUIT INDICATED SHALL RUN PARALLEL OR AT RIGHT ANGLES TO CEILING, FLOOR OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH THE OWNER PRIOR TO INSTALLING. NO HORIZONTAL CONDUITS SHALL BE BELOW 7'-6" A.F.F. NO BX OR ROMEX CABLE IS PERMITTED.
- E. PARALLEL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 (UNLESS NOTED OTHERWISE) AT A MINIMUM DEPTH OF 30" BELOW GRADE - STACKED UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 (UNLESS NOTED OTHERWISE) AT A MINIMUM DEPTH OF 24" BELOW GRADE.
- F. ABOVE GROUND CONDUIT SHALL BE P.V.C. SCHEDULE 80 (UNLESS NOTED OTHERWISE).

27. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
28. CONTRACTOR TO PROVIDE DAILY UPDATES TO PM UNTIL FINAL ELECTRICAL SERVICE IS EFFECTED.
29. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUND TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.
30. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR.

GROUNDING STANDARDS:

1.0 DEFINITIONS

AGB:	ANTENNA GROUND BAR
AWG:	AMERICAN WIRE GAUGE
CADWELDING:	AN EXOTHERMIC WELDING PROCESS WHICH CREATES POSITIVE CONTACT OF GROUNDING CONDUCTORS
EMT:	ELECTRICAL METAL TUBING (LIGHT GAUGE METALLIC CONDUIT)
MGB:	MASTER GROUND BAR
PVC:	POLYVINYL CHLORIDE CONDUIT
RFI:	RADIO FREQUENCY INTERFERENCE
TGB:	TOWER GROUND BAR
THWN:	LETTER TYPE DESIGNATION FOR CONDUCTOR INSULATION THAT IS MOISTURE AND HEAT RESISTANT THERMOPLASTIC WITH A MAXIMUM OPERATING TEMPERATURE OF 75 DEGREES CELSIUS OR 167 DEGREES FAHRENHEIT
T/I:	TENANT IMPROVEMENT

2.0 BACKGROUND

2.1 AREAS OF CONCERN

WHEN DESIGNING A GROUNDING SYSTEM FOR A MOBILE RADIO FACILITY THERE ARE FOUR INTERRELATED AREAS OF CONCERN. THE BASIC OBJECTIVE FOR EACH IS:

1. LIGHTNING PROTECTION -TO MAINTAIN ALL EQUIPMENT AT THE SAME POTENTIAL DURING A LIGHTNING IMPULSE.
2. RFI FOR NOISE INDUCTION CONTROL -TO ESTABLISH THE LOWEST POSSIBLE IMPEDANCE AMONG ALL EQUIPMENT.
3. ELECTROSTATIC CONTROL -TO REDUCE ELECTROSTATIC DISCHARGE PROBLEMS.
4. PERSONNEL SAFETY -TO MAINTAIN A MINIMUM VOLTAGE DIFFERENCE BETWEEN ANY TWO METALLIC OBJECTS WHICH PERSONNEL MIGHT CONTACT SIMULTANEOUSLY.

GROUNDING STANDARDS (CONT.):

2.2 A/C GROUNDING

IN THIS GROUNDING SYSTEM THE A/C SERVICE GROUND SHALL BE KEPT ISOLATED FROM THE EQUIPMENT FRAME WORK AND LIGHTNING PROTECTION GROUND SYSTEMS EXCEPT FOR ONE SPECIFIC POINT. THIS POINT IS THE MAIN GROUNDING POINT OF THE SYSTEM. THIS WOULD TYPICALLY BE CONNECTING THE A/C SERVICE GROUND AT THE COMMERCIAL POWER RISER POLE DISCONNECT/METER BASE TO THE EXTERNAL GROUND RING. ALL GROUNDING CONNECTIONS INSIDE OF CABINETS SHALL BE SCRAPPED TO BARE METAL AND COATED WITH NOALOX.

2.3 LIGHTNING CONSIDERATIONS

LIGHTNING DAMAGE OCCURS FROM EITHER INDUCTION OR FROM AN ACTUAL DIRECT STRIKE TO THE BUILDING, USUALLY TAKEN THROUGH THE TOWER AND/OR ANTENNAS. STRIKES TO OTHER NEARBY OBJECTS INDUCE HIGH ENERGY INTO POWER OR TELEPHONE CABLES ENTERING THE BUILDING. THIS TYPE OF EFFECT HISTORICALLY CAUSES MOST OF THE DAMAGE TO THE BUILDING AND ITS CONTENTS.

3.0 STATION GROUNDING SYSTEM

3.1 MATERIALS

1. #2 AWG, BARE SOLID TINNED COPPER WIRE, FOR ALL EXTERIOR CONDUCTORS AND TOWER GROUND BAR CONDUCTORS OR AS OTHERWISE SPECIFIED. GROUNDS TO THE LNAS SHALL BE NO. 6 STANDARD GREEN INSULATED JUMPERS. THE GROUND WIRE TO THE MGB SHALL BE GREEN JACKETED STRANDED #2 TINNED WIRE BURNDY CONNECTED TO THE BUSS BAR AND CONNECTED TO THE GROUND RING ON A GROUND ROD.
2. #2 AWG, INSULATED STRANDED COPPER CABLE IS ACCEPTABLE FOR INTERIOR GROUND BAR CONDUCTORS ON TENANT IMPROVEMENT SITES.
3. 5/8" X 10" GROUND RODS OF SOLID COPPER, STAINLESS STEEL OR COPPER CLAD HIGH STRENGTH STEEL.
4. ABOVE GRADE CONNECTIONS SHALL BE BURNDY HYGROUND COMPRESSION. BELOW GRADE CONNECTIONS SHALL BE AN APPROVED EXOTHERMIC WELD FOR BONDING AS SPECIFIED.
5. XIT OR ADVANCED GROUNDING ELECTRODE (AGE), ALL CHEMICAL GROUND RODS SHALL BE UL APPROVED.
6. SOLID COPPER PLATES OF MINIMUM 3'X3'X1/4" SIZE AS SPECIFIED.
7. NOALOX OR APPROVED EQUAL CONDUCTIVE MEDIUM MATERIAL SHALL BE USED IN ALL MECHANICAL CONNECTIONS.
8. #2 AWG STRANDED INSULATED (GREEN) FOR ALL INTERNAL EQUIPMENT GROUNDING.
9. MECHANICAL FASTENERS (I.E., DOUBLE LUGS, SPLIT BOLTS PARALLEL CONNECTORS) SHALL BE BRONZE, BRASS, COPPER OR STAINLESS STEEL AND HAVE NOALOX BETWEEN CONDUCTOR AND CONNECTION.
10. BOLTS, NUTS AND SCREWS USED TO FASTEN MECHANICAL CONNECTORS SHALL BE STAINLESS STEEL WITH STAR TYPE STAINLESS STEEL LOCK WASHERS.
11. ALL LUG TUBE FASTENERS SHALL PROVIDE TWO HOLES TO ALLOW A DOUBLE BOLT CONNECTION.

3.2 MASTER GROUND BAR (MGB)

THE PURPOSE OF THE MASTER GROUND BAR IS TO GROUND THE BTS AND ANY OTHER METALLIC OBJECTS AROUND THE BTS. IF AN MGB IS NOT PROVIDED WITH THE BTS, THE MGB SHALL BE AS FOLLOWS: THE MGB IS A COPPER BAR MEASURING 4"W X 24"L X 1/4" LOCATED AS CLOSE TO THE BTS AS POSSIBLE. THE MGB SHALL HAVE A MINIMUM NUMBER OF (28) 3/8" HOLES. GROUND BAR SHALL BE SUPPORTED BY MOUNTING BRACKETS WITH INSULATOR STANDOFFS. (2) #2 TINNED SHALL BE MECHANICALLY ATTACHED (2-HOLE COMPRESSION LUG 3/8" HOLES, 1" CENTER TO CENTER SPACING) TO THE MGB AND DOWN LEADS THEN TAKEN THROUGH CONDUIT TO THE GROUND RING. THIS CONDUCTOR SHALL BE KEPT SEPARATE AND ISOLATED UNTIL TERMINATING AT THE MAIN GROUNDING POINT, (I.E. EXTERIOR GROUND RING OR BUILDING STEEL).

3.3 ANTENNA GROUND BAR (AGB)

THE PURPOSE OF THE ANTENNA GROUND BAR IS PRIMARILY FOR LIGHTNING PROTECTION. COAXIAL CABLE IS USUALLY THE ONLY ITEM GROUNDED TO THIS BAR. HOWEVER IT IS ACCEPTABLE TO BOND EXTERIOR; CABLE TRAY, WAVE GUIDE PORTS AND CANTILEVERED WAVE GUIDE BRIDGES TO THE AGB. THE AGB IS A COPPER BAR MEASURING 4"W X 24"L X 1/4". THERE SHALL BE TWO AGBS, ONE LOCATED AT THE TOP OF THE TOWER AT THE START OF THE VERTICAL RUN OF COAX, THE OTHER AT THE BOTTOM OF THE VERTICAL RUN OF COAX BEFORE IT MAKES ITS BEND. (IF THE TOWER IS OVER 200' THERE SHALL BE A THIRD AGB LOCATED AT HE MIDDLE OF THE TOWER) THE AGB SHALL HAVE A MINIMUM OF (28) 3/8" HOLES. GROUND BARS SHALL BE SUPPORTED BY MOUNTING BRACKETS WITH INSULATOR STANDOFFS. USE #2 AWG SOLID TINNED WIRE W/ 2-HOLE SHORT BARREL COMPRESSION LUGS 3/8" HOLES, 1" CENTER TO CENTER SPACING). THIS CONDUCTOR SHALL BE KEPT SEPARATE AND ISOLATED UNTIL TERMINATING AT THE MAIN GROUNDING POINT (I.E. EXTERIOR GROUND RING, OR BUILDING STEEL).

GROUNDING STANDARDS (CONT.):

3.4 SURGE ARRESTOR GROUND BAR

THE PURPOSE OF THE SURGE ARRESTOR GROUND BAR IS FOR LIGHTING PROTECTION. THE SURGE ARRESTOR GROUND BAR IS A BENT (3" X 3" ) X 1/4" X 24" COPPER BAR. IT IS LOCATED ON THE WAVEGUIDE BRIDGE SUPPORT CLOSEST TO THE EQUIPMENT. ONE FACE OF THE BAR SHALL HAVE A MINIMUM OF (28) 3/8" DIA. HOLES. HOLES SHALL BE IN PAIRS THAT ARE 1" CENTER TO CENTER. THE OTHER FACE SHALL HAVE 3/8" DIA. HOLES AS REQUIRED TO ATTACH AND GROUND COAXIAL SURGE ARRESTORS. THE GROUND BAR SHALL BE SUPPORTED BY MOUNTING BRACKETS WITH INSULATOR STANDOFFS.

3.5 GROUND ROD AND GROUND RING PLACEMENT

THE OUTSIDE GROUND RING SHALL BE PLACED AROUND THE BTS AT A DISTANCE OF TWO (2) FEET FROM THE BTS AT A DEPTH OF 2'-6" OR 6" BELOW THE FROST LINE, WHICHEVER IS DEEPER. RODS SHALL BE DRIVEN TO A DEPTH SUCH THAT THE TOP OF THE RODS IS AT THE LEVEL OF THE GROUND RING CONDUCTOR. THE RODS SHALL BE PLACED MINIMALLY ALONG THE RING AT THE FOLLOWING LOCATIONS:

- A. BELOW THE AREA OF THE INTERNAL MASTER GROUND BAR FOR CONNECTION TO THE MGB.
- B. BELOW THE UTILITY RACK FOR CONNECTION TO THE MAIN BUILDING COMMERCIAL POWER DISCONNECT.
- C. BELOW THE CORNERS OF THE BTS.
- D. AS REQUIRED TO ACHIEVE A RECOMMENDED SPACING OF TWENTY (20) FEET BETWEEN GROUND RODS ALONG THE RING PERIMETER.
- E. AS REQUIRED ALONG THE RING PERIMETER TO ACHIEVE 5 OHMS OR LESS RESISTANCE WHEN TESTED.
- F. TWO RODS LOCATED ON OPPOSITE SIDES AT EACH TOWER LEG OR MONOPOLE.
- G. ONE ROD LOCATED BENEATH EACH END OF THE WAVE GUIDE BRIDGE OR CABLE TRAY.
- H. ONE ROD LOCATED ADJACENT TO THE STANDBY GENERATOR, AND IF SEPARATED BY MORE THAN TEN (10) FEET, ONE LOCATED ADJACENT TO THE FUEL TANK.
- I. ONE ROD LOCATED AT THE BASE OF THE TOWER FOR THE TGB.

3.6 TOWER GROUNDING

ALL MONOPOLES SHALL HAVE TWO GROUND RODS (MINIMUM). ALL OTHER TOWERS SHALL HAVE TWO GROUND RODS PLACED AT THE BASE OF EACH TOWER LEG. EACH MONOPOLE OR TOWER LEG SHALL BE BONDED TO THE SYSTEM VIA TWO #2 BARE TINNED SOLID COPPER CONDUCTORS. BURNDY CONNECT THE CONDUCTORS TO ONLY STRUCTURAL BASE PLATES OR LUGS OR EARS AS MAY BE PROVIDED. NO BURNDY CONNECTIONS SHALL BE MADE TO THE VERTICAL WALLS OF THE STRUCTURE. NEVER GROUND TO HOLLOW LEG MEMBERS.

3.7 ANTENNA GROUNDING

EACH ANTENNA COAXIAL CABLE SHALL TYPICALLY BE GROUNDED AT THREE POINTS USING A HARD-SHELL COAXIAL CABLE KIT FROM THE MANUFACTURER OF THE ANTENNA CABLE. A TYPICAL INSTALLATION SHALL BE AS FOLLOWS:

- A. THE FIRST GROUND CONNECTION SHALL OCCUR AS CLOSE TO THE ANTENNA AS POSSIBLE. BELOW THE FIRST POINT THE COAX CABLE BEGINS TO RUN VERTICAL DOWN THE TOWER. THIS GROUND SHALL TERMINATE DIRECT TO THE TOP AGB. ON A T/I, GROUND TO THE AGB AT THE ANTENNA MOUNTS.
- B. THE SECOND GROUND SHALL BE MADE AT THE BOTTOM OF THE VERTICAL RUN OF THE COAXIAL CABLE AS IT TURNS OUT AWAY FROM THE TOWER TOWARDS THE BTS. THIS GROUND SHALL BE TERMINATED AT THE TGB. THE TGB SHALL HAVE TWO (2) LEADS OF #2 AWG BARE TINNED SOLID COPPER WIRE, AND SHALL TERMINATE AT THE TOWER GROUND RING. THESE SHALL BE ENCASED IN PVC PIPE.
- C. THE THIRD GROUND SHALL BE ON THE SURGE ARRESTOR. GROUND TO BE ATTACHED TO THE CABLE ON STRAIGHT RUNS (NOT WITHIN BENDS) AND BE WEATHERPROOFED PER THE MANUFACTURER'S SPECIFICATIONS. THE SURGE ARRESTORS SHALL BE GROUNDED TO THE GROUND BAR. THE SAGB SHALL HAVE TWO (2) LEADS OF #2 AWG BARE TINNED SOLID COPPER WIRE, AND SHALL TERMINATE AT THE TOWER GROUND RING. THESE SHALL BE ENCASED IN PVC PIPE.

GROUNDING STANDARDS (CONT.):

3.8 PERIMETER FENCE GROUNDING

- A. ALL FENCE CORNER AND END POSTS (MINIMUM OF TWO) SHALL HAVE ONE #2 SOLID TINNED COPPER GROUND WIRE CONNECTED TO A 5/8" X 10' SOLID COPPER CLAD GROUND ROD NEXT TO THE POST. THESE POSTS SHALL BE CONNECTED TO THE GROUND RING WITH A #2 SOLID TINNED COPPER GROUND WIRE AND INTERMEDIATE GROUND RODS IF THE DISTANCE FROM THE POST TO THE GROUND RING EXCEEDS 10 FEET. IN NO CASE SHALL ANY PORTION OF THE SAME FENCE REMAIN DISCONNECTED FROM THE GROUND RING.
- B. GATE POSTS SHALL BE GROUNDED TO EACH OTHER TO ENSURE THE ENTIRE FENCE HAS ELECTRICAL CONTINUITY. CONNECTIONS SHALL BE DRILL AND TAP WITH BURNDY TYPE KC22 TO THE POST WITH A #2 AWG BARE SOLID TINNED COPPER WIRE.
- C. GATES SHALL BE BONDED TO GATE POSTS WITH A 18" BRAIDED STRAP TYPE BD18G92. THE CONNECTIONS SHALL BE BURNDY 2-HOLE LUGS (3/8" HOLES, 1" CENTER TO CENTER) BOLTED THROUGH EACH POST.
- D. ALL DOWN LEADS TO EARTH WILL BE ENCASED IN 3/4 INCH PVC NON-METALLIC AND SEALED WITH SILICONE.

3.9 GENERATOR FUEL TANK GROUNDING

THE GENERATOR FUEL TANK, IF REQUIRED, SHALL BE CONNECTED IN AT LEAST ONE PLACE TO THE MAIN EXTERIOR GROUND RING. #2 AWG BARE SOLID TINNED COPPER WIRE SHALL BE BURNDY CONNECTED TO ONE SUPPORT LEG OF THE FUEL TANK AND EXOTHERMIC WELD TO THE NEAREST EXTERIOR GROUND RING/GROUND ROD.

3.10 EQUIPMENT ROOM GROUNDING

THE MASTER GROUND BAR (MGB) SERVES AS THE COLLECTION POINT FOR THE BTS AS WELL AS ALL INTERIOR NON-ELECTRICAL GROUNDED METAL MATERIALS (HVAC GRILLS, DOOR FRAMES/DOORS, TELCO BOARD, UNISTRUTS, CABLE TRAYS, ALARM JUNCTION BOX, ETC.,) SHALL BE GROUNDED WITH #6 AWG STRANDED (GREEN) GROUND WIRES WITH INDIVIDUAL RUNS BACK TO THE MGB. (THE CABLE TRAY, DOOR/FRAME AND UNISTRUT MAY BE JUMPERED TOGETHER AND HAVE A SINGLE GROUND WIRE CONNECTION TO THE MGB.)

3.11 WALL PENETRATIONS SLEEVES

INSTALL PER CONSTRUCTION DRAWINGS.

3.12 A/C COMMERCIAL POWER GROUNDING CONNECTIONS

AT THE ON-SITE RISER POLE LOCATION OR UNDERGROUND SERVICE ENTRANCE LOCATION, THE A/C SERVICE SHALL BE MECHANICALLY BONDED TO THE A/C SERVICE ENTRANCE GROUND AS SPECIFIED BY THE NATIONAL ELECTRIC CODE, ARTICLE 250, AND/OR APPROPRIATE LOCAL CODES. A SEPARATE GROUND ROD SHALL BE PROVIDED AT THIS POINT, AND SHALL BE CONNECTED TO THE EXTERIOR GROUND RING. A SEPARATE A/C SERVICE GROUND AND NEUTRAL SHALL THEN BE ROUTED TO AND CONNECTED TO THE MAIN DISCONNECT INSIDE THE BUILDING OR AS REQUIRED BY LOCAL AUTHORITY.

3.13 GENERATOR RECEPTACLE GROUNDING

THE GENERATOR RECEPTACLE (HUBBLE PLUG) SHALL BE GROUNDED TO THE EGR.

3.14 COAX BRIDGE / CABLE TRAY GROUNDING

BOND THE COAX BRIDGE OR CABLE TRAY TO THE AGB WITH #2 SOLID TINNED GROUND WIRE. THESE CONNECTIONS SHALL BE DOUBLE LUG BOLTED / SCREWED MECHANICAL CONNECTIONS WITH STAR LOCK WASHERS AND NOALOX. ALL BRIDGE SPLICES SHALL HAVE JUMPERS OF #2 SOLID WITH COMPRESSION LUGS.

3.15 EXOTHERMIC WELD & BURNDY CONNECTION

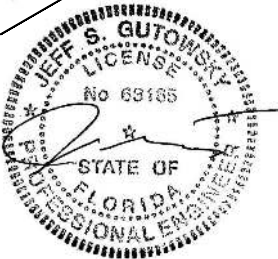
EXOTHERMIC WELDS AND BURNDY CONNECTIONS SHALL BOND ALL UNDERGROUND AND DAMP LOCATION CONNECTIONS, SHELTER SKID GROUNDS, TOWER OR MONOPOLE GROUNDS, FENCING CORNER AND GATE POSTS, ANTENNA GROUND BARS, (AGB) SURGE ARRESTER GROUND BAR, AND THE MASTER GROUND BAR (MGB). MECHANICAL CONNECTIONS SHALL BE TYPICALLY USED TO BOND ALL INTERIOR EQUIPMENT, COAX CABLE BRIDGES AND COAXIAL CABLE GROUND KITS. ALL LUG TYPE MECHANICAL CONNECTORS TO THE MGB OR AGB SHALL BE TWO HOLE TYPE CONNECTED WITH STAINLESS STEEL BOLTS AND NUTS WITH STAINLESS STEEL LOCK WASHERS AND NOALOX ON EITHER SIDE OF THE BUSS BAR.

3.16 CHEMICAL GROUND RODS

CHEMICAL GROUND RODS SHALL NOT BE INSTALLED ON GROUND RING INSTALLATIONS WITH NORMAL SOIL. CHEMICAL GROUND RODS SHALL BE INSTALLED ONLY FOR SPECIAL DESIGN APPLICATIONS THAT REQUIRE SINGLE POINT GROUNDING DUE TO SPECIFIC SITE CONDITIONS.



CITY SWITCH II-A



EXPIRES: 02/28/23    SIGNED: 06/13/22

REVISIONS

REV.	ISSUED FOR	DATE	BY
D	REVISION	12/17/20	JTB
E	REVISION	01/26/22	JTB
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AQUATIC \ DESIGN & PROGRAM MANAGEMENT  
CIVIL \ TELECOMMUNICATION \ MECHANICAL  
PLUMBING \ ELECTRICAL \ LAND SURVEYING  
ACCESSIBILITY CONSULTING \ STRUCTURAL



CHECK: JKR

DRAWN: JTB

JOB: 2001869T

T-3

GENERAL NOTES



### 3.17 TENANT IMPROVEMENT SITE GROUNDING

### 3.18 LIMITS OF BEND RADIUS

### 3.19 BONDING PREPARATION & FINISH

### 3.20 TESTING

### 3.21 SPECIAL CONDITIONS

### 3.22 EXTERNAL GROUND RING

### 3.23 GROUND RODS (REPLACEMENT)

### 3.24 ROCK WITH SOME OR NO SOIL COVER

A. A COMBINATION OF SHORT GROUND RODS MAY BE USED WITH 3" SQUARE 1/4" COPPER PLATES. A MINIMUM OF TWO PLATES SHOULD BE USED AND SHOULD REPLACE GROUND RODS ON AN EQUIVALENCY OF TWO GROUND ROD LENGTHS PER COPPER PLATE. THE COPPER PLATE SHOULD BE PLACED IN A MINIMUM 3" BENTONITE BASE AND COVERED WITH 3" OF BENTONITE FILL PRIOR TO BACKFILL.

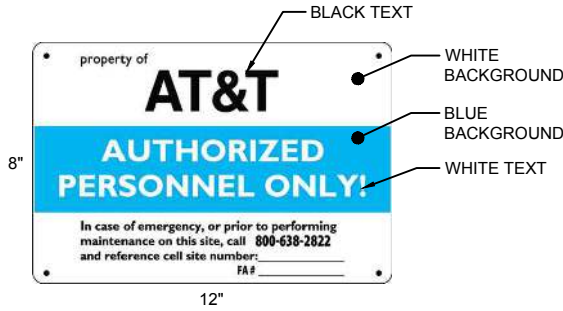
B. AN ACTIVE TYPE CHEMICAL ROD SYSTEM MAY BE USED. THIS IS AN ENGINEERING JUDGMENT AND SHOULD BE USED ONLY WHERE NECESSARY, DUE TO EXPENSE. IN ALL CASES, THE STANDARD PRACTICES OUTLINED IN THIS DOCUMENT SHOULD BE FOLLOWED TO THE EXTENT THAT IS APPLICABLE, AND SHOULD BE MODIFIED AS TO THE QUANTITY OF GROUND RODS AND CONDUCTOR SIZE ONLY AS RECOMMENDED BY THE MANUFACTURER OF THE GROUND ROD SYSTEM.

C. A SYSTEM UTILIZING CORED SHAFTS, STANDARD GROUND RODS ON A TYPICAL LAYOUT, WITH A BENTONITE (CLAY) BACKFILL. IN THIS CASE EACH GROUND ROD SHOULD BE TESTED INDIVIDUALLY, AND EACH ROD SHOULD HAVE AN ACCESS BOX PLACED FOR FUTURE TESTING.

- A. HIGH RISE BUILDINGS PRESENT A UNIQUE PROBLEM IN GROUNDING. A FACILITY INVESTIGATION SHOULD BE MADE INTO THE STRUCTURE OF THE BUILDING, AND AS TO THE POSSIBLE PRESENCE OF AN EXISTING LIGHTNING PROTECTION SYSTEM. IF ONE IS IN PLACE AND APPEARS ADEQUATE IN DESIGN, IT WILL BE NECESSARY TO CONNECT THE ANTENNA SYSTEM TO THE EXISTING SYSTEM, WITH A TEST TO THE SYSTEM AFTER INSTALLATION TO ENSURE THAT IT HAS NOT CAUSED THE SYSTEM TO EXCEED 5 OHMS.
- B. STRUCTURAL STEEL BUILDINGS: IF THE BUILDING IS BUILT OF STRUCTURAL STEEL, IT MAY BE POSSIBLE TO GROUND THE ANTENNAS TO THE BUILDING SITE. IT IS PREFERABLE TO GROUND THE ANTENNAS AND THE SITE TO A DIRECT EARTH CONNECTION, BY USE OF SEPARATE DOWN LEADS OF CONSIDERABLE SIZE (250 MCM OR LARGER) COMING FROM GROUND BUSS BARS TO COLLECT THE GROUND INPUT, AND RUN DOWN A VERTICAL SHAFT OR STAIRWELL TO A PATTERN OF NO LESS THAN FOUR GROUND RODS. WHERE PRACTICAL, THE BUILDING STEEL SHOULD BE BONDED TO THE GROUND RING WITH A SEPARATE LEAD TO THE GROUND ROD FIELD.
- C. A SYSTEM STRUCTURAL CONCRETE BUILDINGS ARE MORE DIFFICULT TO GROUND PROPERLY. THE ANTENNAS SHOULD BE GROUNDED TO A SEPARATE BUSS BAR AND DOWN LEAD WHERE THE COAXIAL CABLES ENTER THE BUILDING. THE DOWN LEAD SHOULD BE RUN IN A SIMILAR FASHION AS IN THE STRUCTURAL STEEL EQUIPMENT ROOM. THE DOWN LEADS SHOULD BE PROTECTED IN CONDUIT AND SHOULD BE INSTALLED AS FAR APART AS IS PRACTICAL FROM EACH OTHER. THE SEPARATE DOWN LEADS SHOULD NOT CONTACT EACH OTHER UNTIL CONNECTION WITH THE FIRST GROUND ROD.

# T-4

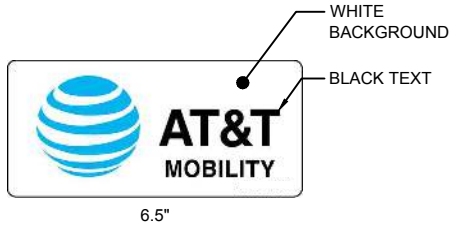
## GENERAL NOTES



WHITE/BLUE BACKGROUND, WHITE/BLACK LETTERING  
MOUNTING LOCATION: WALK IN CABINET OR TENANT IMPROVEMENT ROOM DOOR. IF OUTDOOR CABINET SITE PLACE ON END CABINET CLOSEST TO SITE ACCESS POINT. PLACE ON GENERATOR  
QUANTITY: 1 TO 2

## 1 PROPERTY OF AT&T

SCALE: NONE



WHITE BACKGROUND, BLACK LETTERING  
MOUNTING LOCATION: OUTDOOR EQUIPMENT CABINET AND GENERATOR  
QUANTITY: 1 PER CABINET OR GENERATOR

## 2 AT&T IDENTIFICATION SIGN

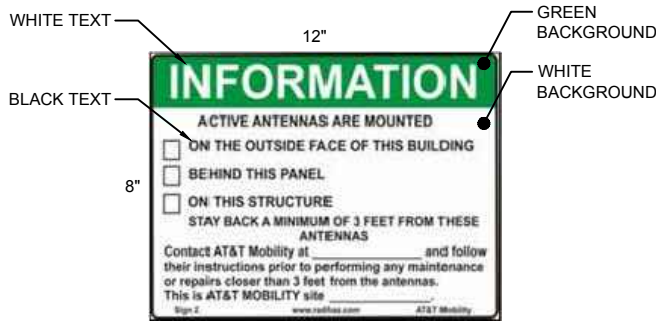
SCALE: NONE



WHITE/GREEN BACKGROUND, WHITE/BLACK LETTERING  
MOUNTING LOCATION: GATE & BASE OF TOWER  
QUANTITY: 2

## 3 FCC REGISTRATION SIGN

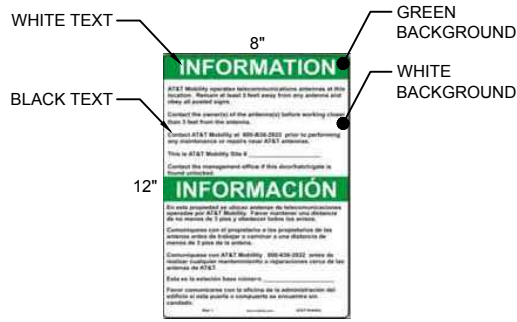
SCALE: NONE



WHITE/GREEN BACKGROUND, WHITE/BLACK LETTERING  
MOUNTING LOCATION: GATE & BASE OF TOWER  
QUANTITY: 2

## 4 RF EXPOSURE INFORMATION SIGN

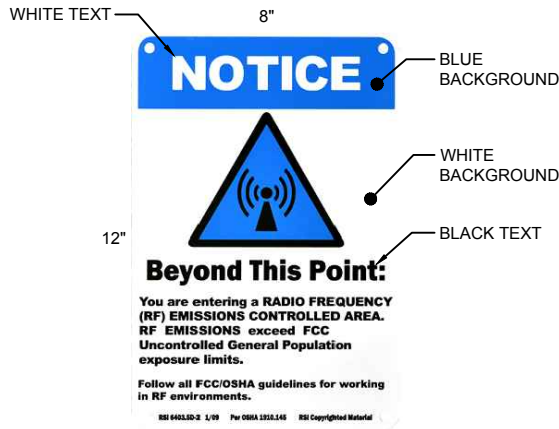
SCALE: NONE



WHITE/GREEN BACKGROUND, WHITE/BLACK LETTERING  
MOUNTING LOCATION: GATE & BASE OF TOWER  
QUANTITY: 2

## 5 RF EXPOSURE INFORMATION SIGN

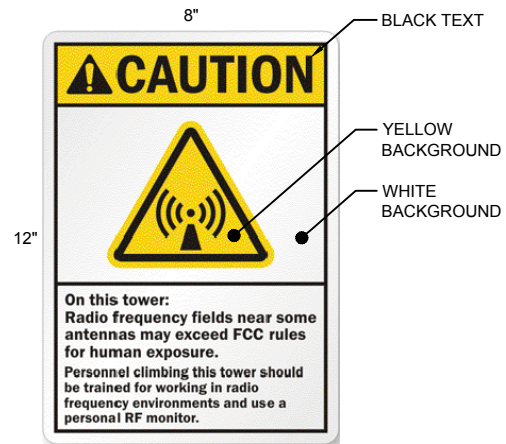
SCALE: NONE



WHITE/BLUE BACKGROUND, BLACK/WHITE LETTERING  
MOUNTING LOCATION: GATE & BASE OF TOWER  
QUANTITY: 2

## 6 RF EXPOSURE NOTICE SIGN

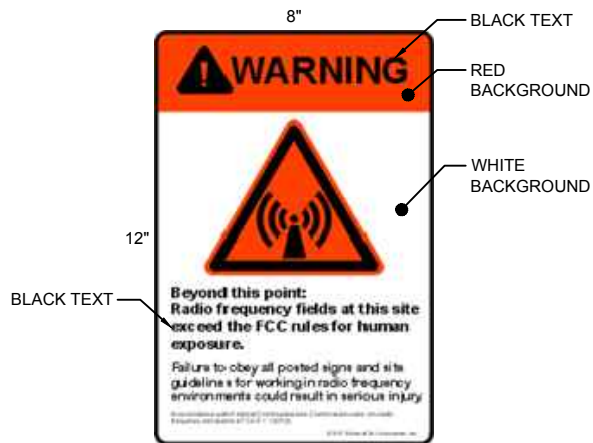
SCALE: NONE



WHITE/YELLOW BACKGROUND, BLACK LETTERING  
MOUNTING LOCATION: BASE OF TOWER  
QUANTITY: 1

## 7 RF EXPOSURE CAUTION SIGN

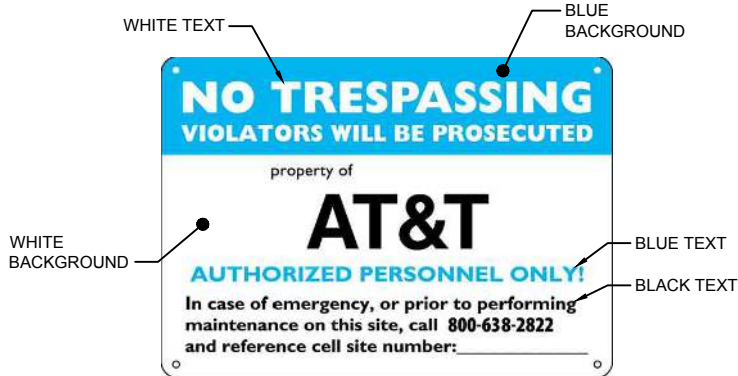
SCALE: NONE



WHITE/RED BACKGROUND, BLACK LETTERING  
MOUNTING LOCATION: GATE & BASE OF TOWER  
QUANTITY: 2

## 8 RF EXPOSURE WARNING SIGN

SCALE: NONE



WHITE/BLUE BACKGROUND, WHITE/BLACK/BLUE LETTERING  
MOUNTING LOCATION: WALK IN CABINET OR TENANT IMPROVEMENT ROOM  
QUANTITY: 1

## 9 NO TRESPASSING SIGN

SCALE: NONE



WHITE BACKGROUND, BLACK LETTERING  
MOUNTING LOCATION: WALK IN CABINET DOOR  
QUANTITY: 1 PER CABINET

## 10 AUTHORIZATION FOR RADIO EQUIPMENT SIGN

SCALE: NONE

### SIGNAGE NOTES:

- SIGNS SHALL BE FABRICATED FROM CORROSION RESISTANT PRESSED METAL AND PAINTED WITH LONG LASTING UV RESISTANT COATING.
- SIGNS (EXCEPT WHERE NOTED OTHERWISE) SHALL BE MOUNTED TO THE TOWER, GATE AND FENCE USING A MINIMUM OF 9 GAUGE ALUMINUM WIRE, HOG RINGS (FENCE) OR BRACKETS, WHERE NECESSARY. BRACKETS SHALL BE OF SIMILAR METAL AS THE STRUCTURE TO AVOID GALVANIC CORROSION
- ADDITIONAL E911 ADDRESS AND FCC REGISTRATION SIGNS SHALL BE MOUNTED AT EACH ACCESS ROAD GATE LEADING TO THE COMPOUND AS WELL AS ON THE COMPOUND GATE ITSELF.
- AT&T SITE # AND EMERGENCY CONTACT SIGNS SHALL BE MOUNTED ON THE EQUIPMENT CABINET WITH PERMANENT SET ADHESIVE. TWO SIDED TAPE SHALL BE UTILIZED AT EACH CORNER ON THE BACKSIDE TO AID PLACEMENT UNTIL THE ADHESIVE SET
- SIGNS NEED NOT BE PLACED IF ACCURATE AND APPROPRIATE SIGNAGE ALREADY EXISTS.

FLC014  
OTTER BAY  
612 NE CLYDE VARNES  
LAKE CITY, FL 32055

EXPIRES: 02/28/23    SIGNED: 06/13/22

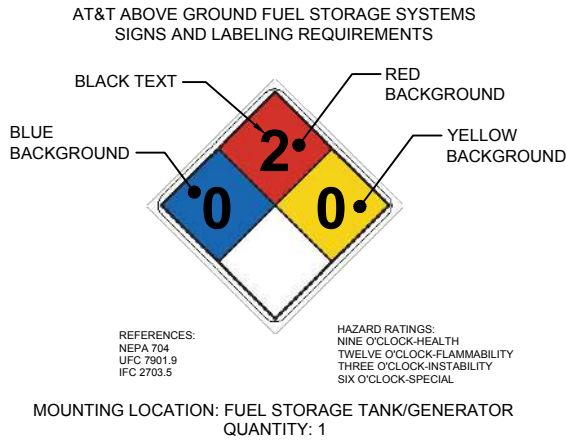
REV.	ISSUED FOR	DATE	BY
D	REVISION	12/17/20	JTB
E	REVISION	01/26/22	JTB
0	FINAL	02/10/22	KLO
1	REVISION	03/31/22	KLO
2	REVISION	05/05/22	JTB
3	REVISION	09/20/22	KLO
4	REVISION	06/03/22	KLO
5	REVISION	06/09/22	KLO
6	REVISION	06/13/22	KLO

AQUATIC \ DESIGN & PROGRAM MANAGEMENT  
CIVIL \ TELECOMMUNICATION \ MECHANICAL  
PLUMBING \ ELECTRICAL \ LAND SURVEYING  
ACCESSIBILITY CONSULTING \ STRUCTURAL

CHECK: JKR  
DRAWN: JTB  
JOB: 2001869T

T-5  
SITE SIGNAGE





## 1 HAZARDOUS MATERIAL

SCALE: NONE



WHITE/RED BACKGROUND, WHITE/BLACK LETTERING  
MOUNTING LOCATION: DIESEL GENERATOR  
QUANTITY: 1

## 3 COMBUSTIBLE SIGN

SCALE: NONE



YELLOW BACKGROUND, BLACK LETTERING  
MOUNTING LOCATION: GATE & BASE OF TOWER  
QUANTITY: 2

## 2 EMERGENCY SIGN

SCALE: NONE



WHITE/RED BACKGROUND, WHITE/BLACK LETTERING  
MOUNTING LOCATION: PROPANE GENERATOR  
QUANTITY: 1

## 4 COMBUSTIBLE SIGN

SCALE: NONE



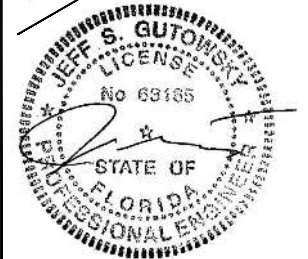
WHITE/RED BACKGROUND, WHITE/BLACK LETTERING  
MOUNTING LOCATION: NATURAL GAS GENERATOR  
QUANTITY: 1

## 5 COMBUSTIBLE SIGN

SCALE: NONE

### SIGNAGE NOTES:

- SIGNS SHALL BE FABRICATED FROM CORROSION RESISTANT PRESSED METAL AND PAINTED WITH LONG LASTING UV RESISTANT COATING.
- SIGNS (EXCEPT WHERE NOTED OTHERWISE) SHALL BE MOUNTED TO THE TOWER, GATE AND FENCE USING A MINIMUM OF 9 GAUGE ALUMINUM WIRE, HOG RINGS (FENCE) OR BRACKETS, WHERE NECESSARY. BRACKETS SHALL BE OF SIMILAR METAL AS THE STRUCTURE TO AVOID GALVANIC CORROSION
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- SIGNS NEED NOT BE PLACED IF ACCURATE AND APPROPRIATE SIGNAGE ALREADY EXISTS.



EXPIRES: 02/28/23    SIGNED: 06/13/22

REVISIONS			
REV.	ISSUED FOR	DATE	BY
D	REVISION	12/17/20	JTB
E	REVISION	01/26/22	JTB
0	FINAL	02/10/22	KLO
1	REVISION	03/31/22	KLO
2	REVISION	05/05/22	JTB
3	REVISION	05/20/22	KLO
4	REVISION	06/03/22	KLO
5	REVISION	06/09/22	KLO
A	REVISION	06/13/22	KLO

AQUATIC \ DESIGN & PROGRAM MANAGEMENT  
CIVIL \ TELECOMMUNICATION \ MECHANICAL  
PLUMBING \ ELECTRICAL \ LAND SURVEYING  
ACCESSIBILITY CONSULTING \ STRUCTURAL



CHECK: JKR

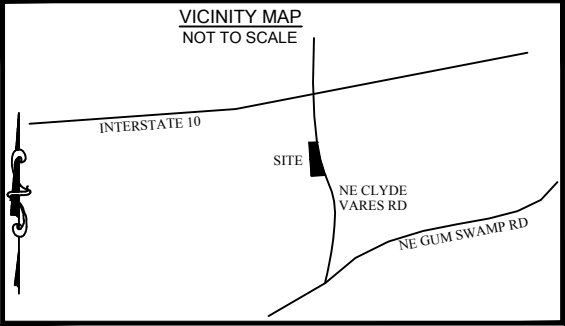
DRAWN: JTB

JOB: 2001869T

T-6

SITE SIGNAGE

SITE SIGNAGE		1
SCALE: NONE		



## PROPOSED TOWER CENTER

LATITUDE N 030° 14' 26.04" (NAD83)  
LONGITUDE W 082° 34' 15.45" (NAD83)  
GROUND ELEVATION 148.3' (NAVD88)

REPORT OF TITLE  
OLD REPUBLIC NATIONAL TITLE INSURANCE  
COMPANY  
COMMITMENT # 01-20071720-01T  
COMMITMENT DATE 06/30/2020 AT 7:00 A.M.  
PROPOSED INSURED:

THIS COMMITMENT DOES NOT REPUBLISH ANY COVENANT, CONDITION, RESTRICTION, OR LIMITATION CONTAINED IN ANY DOCUMENT REFERRED TO IN THIS COMMITMENT TO THE EXTENT THAT THE SPECIFIC COVENANT, CONDITION, RESTRICTION, OR LIMITATION VIOLATES STATE OR FEDERAL LAW BASED ON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, GENDER IDENTITY, HANDICAP, FAMILIAL STATUS, OR NATIONAL ORIGIN.

THE POLICY WILL NOT INSURE AGAINST LOSS OR DAMAGE RESULTING FROM THE TERMS AND PROVISIONS OF ANY LEASE OR EASEMENT IDENTIFIED IN SCHEDULE A, AND WILL INCLUDE THE FOLLOWING EXCEPTIONS UNLESS CLEARED TO THE SATISFACTION OF THE COMPANY:

- 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 A MATTER OF SURVEY)
- 2.FACTS WHICH WOULD BE DISCLOSED BY A COMPREHENSIVE SURVEY OF THE PREMISES HEREIN DESCRIBED.  
(AS SHOWN ON SURVEY)
- 3.RIGHTS OR CLAIMS OF PARTIES IN POSSESSION.  
(NOT A MATTER OF SURVEY)
- 4.MECHANICS', CONTRACTORS' OR MATERIAL MEN'S LIENS AND LIEN CLAIMS, IF ANY, WHERE NO NOTICE THEREOF APPEARS OF RECORD.  
(NOT A MATTER OF SURVEY)
- 5.ANY CHANGES IN TITLE OCCURRING SUBSEQUENT TO THE EFFECTIVE DATE OF THIS COMMITMENT AND PRIOR TO THE DATE OF ISSUANCE OF THE TITLE POLICY.  
(AS SHOWN ON SURVEY)
- 6.DELETING ANY COVENANT, CONDITION OR RESTRICTION INDICATING A PREFERENCE, LIMITATION OR DISCRIMINATION BASED ON RACE, COLOR, RELIGION, SEX, HANDICAP, FAMILIAL STATUS OR NATIONAL ORIGIN TO THE EXTENT SUCH MATTERS VIOLATE 42 USC 3604(C)  
(NO A MATTER OF SURVEY)
- 7.QUANTITY OF ACREAGE/SQUARE FOOTAGE AS SET FORTH IN SCHEDULE A, IF ANY.  
(AS SHOWN ON SURVEY)
- 8.TAXES AND SPECIAL ASSESSMENTS FOR CURRENT TAX YEAR AND ALL SUBSEQUENT YEARS.  
(NOT A MATTER OF SURVEY)

### GENERAL NOTES

1. THIS SURVEY WAS PREPARED BY BATEMAN CIVIL SURVEY CO., UNDER THE SUPERVISION OF JEFFREY L. BATEMAN, PSM.
2. THIS PLAN HAS BEEN PREPARED FOR LAYOUT AND PERMITTING PURPOSES ONLY.
3. THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES SHOWN WERE TAKEN FROM EXISTING FIELD EVIDENCE, EXISTING DEEDS AND PLATS OF PUBLIC RECORD, AND INFORMATION SUPPLIED TO THE SURVEYOR BY THE CLIENT
4. VERTICAL DATUM IS (NAVD88) , THE LATITUDE, LONGITUDE AND STATE PLANE COORDINATES(FLORIDA NORTH), IF SHOWN, ARE GIVEN IN NORTH AMERICAN DATUM OF 1983 (NAD83).
5. FIELD EQUIPMENT USED: TRIMBLE TOTAL STATION, TRIMBLE VRS.
6. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES AND ALL BEARINGS ARE FLORIDA STATE PLANE COORDINATE SYSTEM (NORTH) UNLESS OTHERWISE SHOWN.
7. PROPERTY OWNER: CLYDE F. VARNES - 535 NE CLYDE VARNES ROAD, LAKE CITY, FLORIDA 32055.
8. ALL EQUIPMENT AND IMPROVEMENTS ARE LOCATED WITHIN THE LEASE AREA.
9. THE PROPERTY LIES IN ZONE "X" AND ZONE "A", PER NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP 12023C0305D , DATED: NOVEMBER 2, 2018.
10. PROPERTY INFORMATION DERIVED FROM COLUMBIA COUNTY GIS.
11. TITLE REPORT PROVIDED BY WT GROUP.
12. DUE TO THE SITE SPECIFIC TERRAIN, THIS SURVEY WAS PERFORMED WITH AN OPEN TRAVERSE AND NO ANGULAR ERROR CAN BE MATHEMATICALLY CALCULATED.
13. THE TITLE COMMITMENT PROVIDED BY WT GROUP HAS BEEN REVIEWED AND SHOWN HEREON.
14. NO WETLANDS ON LEASE AREA PER NATIONAL WETLAND INVENTORY.

THE GREEN PIECE ENGINEERING +  
ENVIRONMENT  
5001-12 CHANDLERS WHARF  
CHRISTIANSTED, VI 00820  
LB8296



**Bateman Civil Survey Co, PC**  
2524 Reliance Ave. Apex, NC 27539  
Phone: 919.577.1080 Fax: 919.577.1081  
NCBLS FIRM # C-2378

**WT Group**  
2675 Pratum Avenue  
Hoffman Estates, IL, 60192  
(224) 293-6333

**APPLICANT:**  
CITYSWITCH II-A, LLC  
1900 CENTURY PLACE NE, SUITE 320  
ATLANTA, GA 30345

**LAND OWNER:**  
CLYDE F. VARNES  
535 CLYDE VARNES ROAD  
LAKE CITY, FLORIDA 32055

DRAWN BY: SF  
CHECKED BY:  
DRAWING DATE: 09-18-2020



I, JEFFREY L. BATEMAN, HEREBY CERTIFY TO  
WT GROUP &  
OLD REPUBLIC NATIONAL TITLE INSURANCE  
COMPANY  
THAT THIS MAP IS A CORRECT REPRESENTATION OF  
THE LAND PLATTED AND HAS BEEN PREPARED IN  
CONFORMITY WITH THE MINIMUM STANDARDS AND  
REQUIREMENTS OF LAW. WITNESS MY ORIGINAL  
SIGNATURE, REGISTRATION NUMBER AND SEAL THIS  
25 DAY OF  
SEPTEMBER, 2020.

JEFFREY L. BATEMAN  
FLORIDA LICENSE # 4884

REVISIONS	DESCRIPTION		CHANGED TOWER HEIGHT TO 305'						
	NO.	DATE	1						
		10-02-20							

FA NUMBER - 15123847  
PACE JOB NUMBER -  
MRTFL001205  
OTTER BAY CELL SITE  
535 CLYDE VARNES ROAD  
LAKE CITY, FLORIDA  
32055

DATE OF SURVEY: 09/18/2020
BCSC JOB # 200473
SHEET TITLE: SURVEY
SHEET NUMBER 1 OF 3





### SURVEYED LEGAL DESCRIPTIONS

#### 30' WIDE LESSEE NON-EXCLUSIVE ACCESS & UTILITY RIGHTS OF WAY DESCRIPTION

COMMENCING AT THE NORTHWEST CORNER OF THE SE $\frac{1}{4}$  OF THE SW $\frac{1}{4}$  OF SECTION 12, TOWNSHIP 3 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA, THENCE S 07°34'32" E 156.55' FEET TO A POINT, THENCE S88°52'28"E 100.00 FEET TO A POINT, THENCE S01°07'32"W 35.00 FEET TO A POINT, SAID POINT BEING THE POINT OF BEGINNING OF THE 30' WIDE LESSEE NON-EXCLUSIVE ACCESS & UTILITY RIGHTS OF WAY, THENCE S88°52'28"E 16.07 FEET TO A POINT ON THE WESTERN RIGHT OF WAY OF NE CLYDE VARNES ROAD (60' PUBLIC RIGHT OF WAY), THENCE WITH SAID WESTERN RIGHT OF WAY S01°25'42"W 30.00 FEET TO A POINT, THENCE LEAVING SAID WESTERN RIGHT OF WAY N88°52'28"W 15.91 FEET TO A POINT, THENCE N01°07'32"W 30.00 FEET TO THE POINT AND PLACE OF BEGINNING, SAID 30' WIDE LESSEE NON-EXCLUSIVE ACCESS & UTILITY RIGHTS OF WAY CONTAINS 480 SQUARE FEET, MORE OR LESS.

#### 100' X 100' LESSEE LAND SPACE DESCRIPTION

COMMENCING AT THE NORTHWEST CORNER OF THE SE $\frac{1}{4}$  OF THE SW $\frac{1}{4}$  OF SECTION 12, TOWNSHIP 3 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA, THENCE S 07°34'32" E 156.55 FEET TO A POINT, SAID POINT BEING THE POINT OF BEGINNING OF THE 100'X100' LESSEE LAND SPACE, THENCE S88°52'28"E 100.00 FEET TO A POINT, THENCE S01°07'32"W 100.00 FEET TO A POINT, THENCE N88°52'28"W 100.00 FEET TO A POINT, THENCE N01°07'32"E 100.00 FEET TO THE POINT AND PLACE OF BEGINNING CONTAINING 10,000 SQUARE FEET, MORE OR LESS.

	CONCRETE MONUMENT FOUND
	CALCULATED POINT
POB	POINT OF BEGINNING
R/W	RIGHT OF WAY
BWF	BARBED WIRE FENCE
	TELEPHONE PEDESTAL
	SPEED LIMIT SIGN

U.S. FOREST SERVICE  
NO DEED FOUND  
PARCEL 12-3S-17-04925-000  
227 N BROHOUGH STREET  
SUITE 4061  
TALLAHASSEE, FL 32301  
USE CODE: FORREST, PA  
ZONED: CSV PER COLUMBIA  
COUNTY GIS

CLYDE F. VARNES  
D.B. 260, PG. 158  
D.B. 364, PG. 33  
D.B. 803, PG. 1041  
PARCEL 12-3S-17-04927-000  
535 CLYDE VARNES ROAD  
LAKE CITY, FLORIDA 32055  
USE CODE: IMPROVED A  
ZONED A-2 PER COLUMBIA  
COUNTY GIS

THOMAS M. WHIGHAM  
CHERYL L. WHIGHAM  
D.B. 1331, PG. 2709  
PARCEL 12-3S-17-04926-003  
4781 GUM SWAMP ROAD  
LAKE CITY, FLORIDA 32055  
USE CODE: SINGLE FAMILY  
ZONED :A-2 PER COLUMBIA  
COUNTY GIS

JENNIFER L. ROSADO  
D.B. 1072, PG. 2477  
PARCEL 12-3S-17-04926-004  
530 SE PUTNAM STREET  
LAKE CITY, FLORIDA 32055  
USE CODE: MOBILE HOME  
ZONED: A-2 PER COLUMBIA  
COUNTY GIS

HARRY J. GUERRY  
PATRICIA L. HARRY  
D.B. 803, PG. 1041  
PARCEL 12-3S-17-04926-000  
4843 NE GUM SWAMP ROAD  
LAKE CITY, FLORIDA 32055  
USE CODE: TIMBERLAND  
ZONED: A-2 PER COLUMBIA  
COUNTY GIS

THE GREEN PIECE ENGINEERING +  
ENVIRONMENT  
5001-12 CHANDLERS WHARF  
CHRISTIANSTED, VI 00820  
LB8296

LINE TABLE		
LINE#	DIRECTION	LENGTH
L1	S88° 52' 28"E	100.00'
L2	S01° 07' 32"W	100.00'
L3	N88° 52' 28"W	100.00'
L4	N01° 07' 32"E	100.00'
L5	S88° 52' 28"E	16.07'
L6	S01° 25' 42"W	30.00'

LINE TABLE		
LINE#	DIRECTION	LENGTH
L7	N88° 52' 28"W	15.91'
L8	S07° 34' 32"E	156.55'
L9	N87° 03' 54"E	105.44'
L10	N87° 03' 54"E	35.71'
L11	N87° 03' 58"E	60.17'
L12	N87° 03' 53"E	211.60'



**BCSC**  
BATEMAN CIVIL SURVEY COMPANY

**Bateman Civil Survey Co, PC**  
2524 Reliance Ave. Apex, NC 27539  
Phone: 919.577.1080 Fax: 919.577.1081  
NCBLS FIRM # C-2378

WT Group

2675 Pratum Avenue  
Hoffman Estates, IL, 60192  
(224) 293-6333

APPLICANT:

CITYSWITCH II-A, LLC  
1900 CENTURY PLACE NE, SUITE 320  
ATLANTA, GA 30345

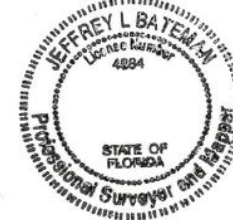
LAND OWNER:

CLYDE F. VARNES  
535 CLYDE VARES ROAD  
LAKE CITY, FLORIDA 32055

DRAWN BY: SF  
CHECKED BY:  
DRAWING DATE:09-18-2020

I, JEFFREY L. BATEMAN, HEREBY CERTIFY TO  
WT GROUP &  
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COMPANY  
THAT THIS MAP IS A CORRECT REPRESENTATION OF  
THE LAND PLATTED AND HAS BEEN PREPARED IN  
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SIGNATURE, REGISTRATION NUMBER AND SEAL THIS  
25 DAY OF  
SEPTEMBER, 2020.

JEFFREY L. BATEMAN  
FLORIDA LICENSE # 4884



Abby Butler

[illegible]

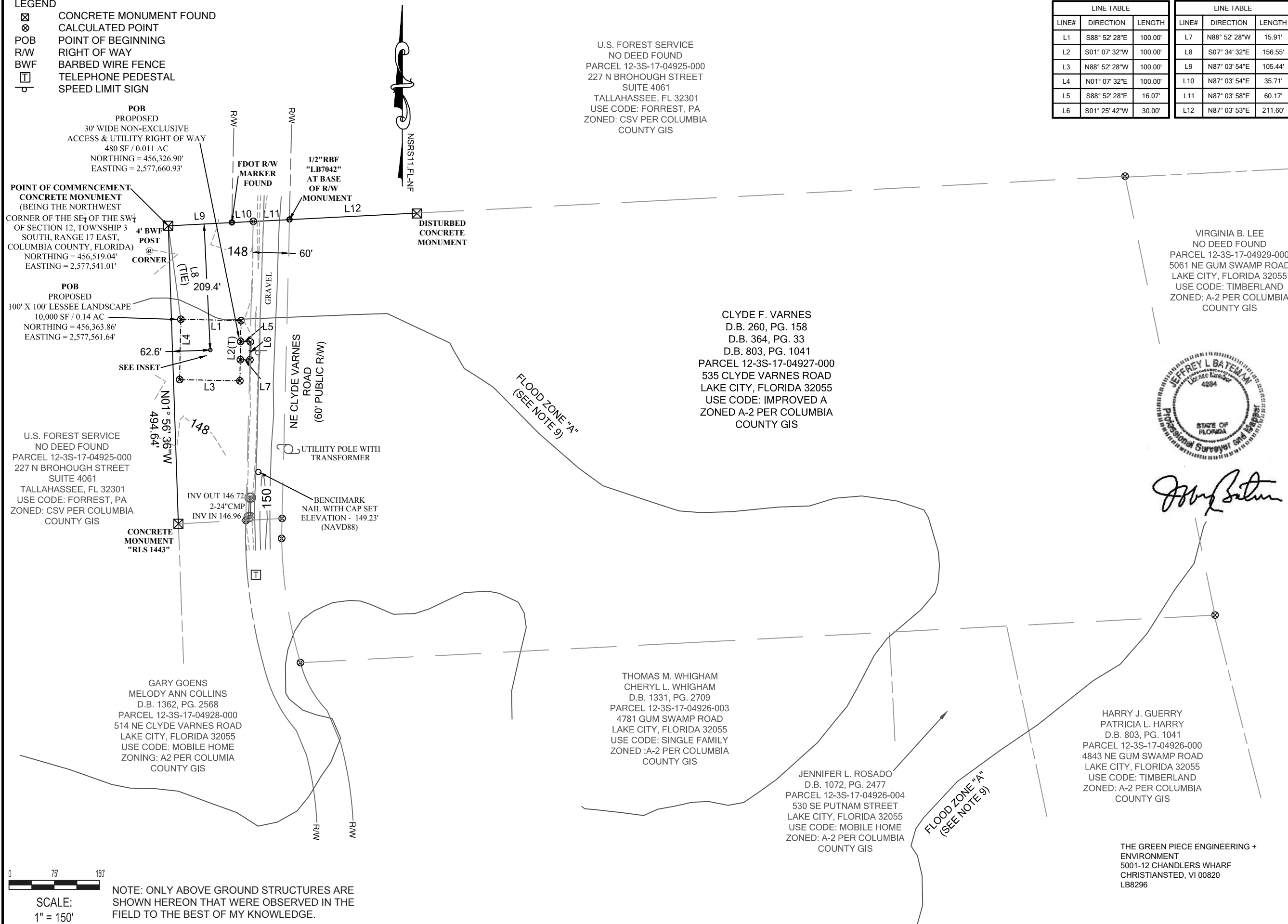
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OTTER BAY CELL SITE  
535 CLYDE VARNES ROAD  
LAKE CITY, FLORIDA  
32055

DATE OF SURVEY: 09/18/2020





BCSC JOB # 200473

**SHEET TITLE: SURVEY**

SHEET NUMBER 2 OF 3





	CONCRETE MONUMENT FOUND
	CALCULATED POINT
POB	POINT OF BEGINNING
R/W	RIGHT OF WAY
BWF	BARBED WIRE FENCE
	TELEPHONE PEDESTAL
	SPEED LIMIT SIGN

THE GREEN PIECE ENGINEERING  
+ ENVIRONMENT  
5001-12 CHANDLERS WHARF  
CHRISTIANSTED, VI 00820  
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APPLICANT:

CITYSWITCH II-A, LLC  
1900 CENTURY PLACE NE, SUITE 320  
ATLANTA, GA 30345

LAND OWNER:

CLYDE F. VARNES  
535 CLYDE VARES ROAD  
LAKE CITY, FLORIDA 32055

DRAWN BY: SF  
CHECKED BY:  
DRAWING DATE:09-18-2020

I, JEFFREY L. BATEMAN, HEREBY CERTIFY TO  
WT GROUP &  
OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY  
THAT THIS MAP IS A CORRECT REPRESENTATION OF  
THE LAND PLATTED AND HAS BEEN PREPARED IN  
CONFORMITY WITH THE MINIMUM STANDARDS AND  
REQUIREMENTS OF LAW. WITNESS MY ORIGINAL  
SIGNATURE, REGISTRATION NUMBER AND SEAL THIS 25  
DAY OF  
SEPTEMBER, 2020.

JEFFREY L. BATEMAN  
FLORIDA LICENSE # 4884



Abby Sutton

[illegible]

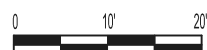
FA NUMBER - 15123847  
PACE JOB NUMBER -  
MRTFL001205  
OTTER BAY CELL SITE  
535 CLYDE VARNES ROAD  
LAKE CITY, FLORIDA  
32055

DATE OF SURVEY: 09/18/2020

BCSC JOB # 200473

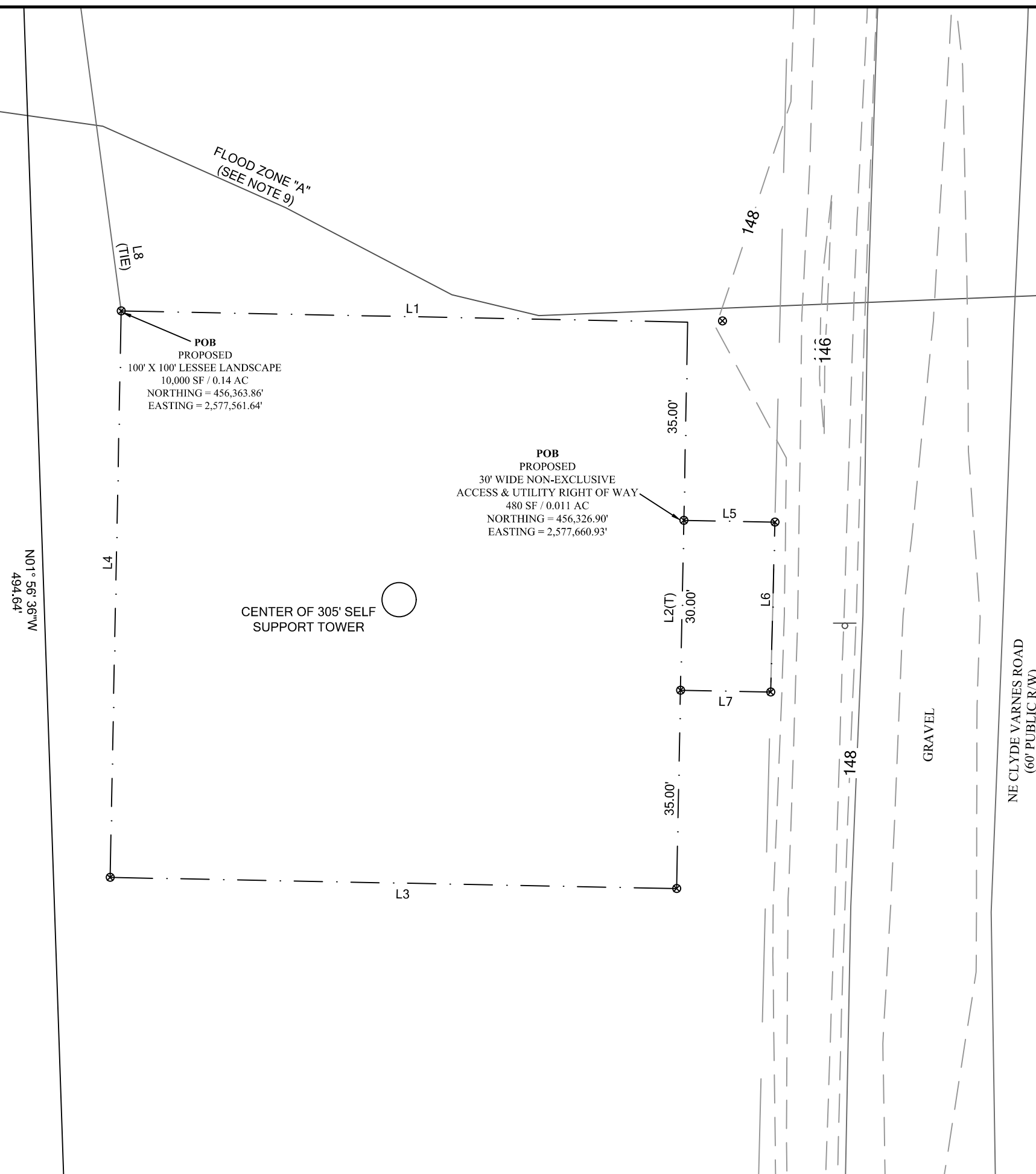
SHEET TITLE: SURVEY

SHEET NUMBER 3 OF 3

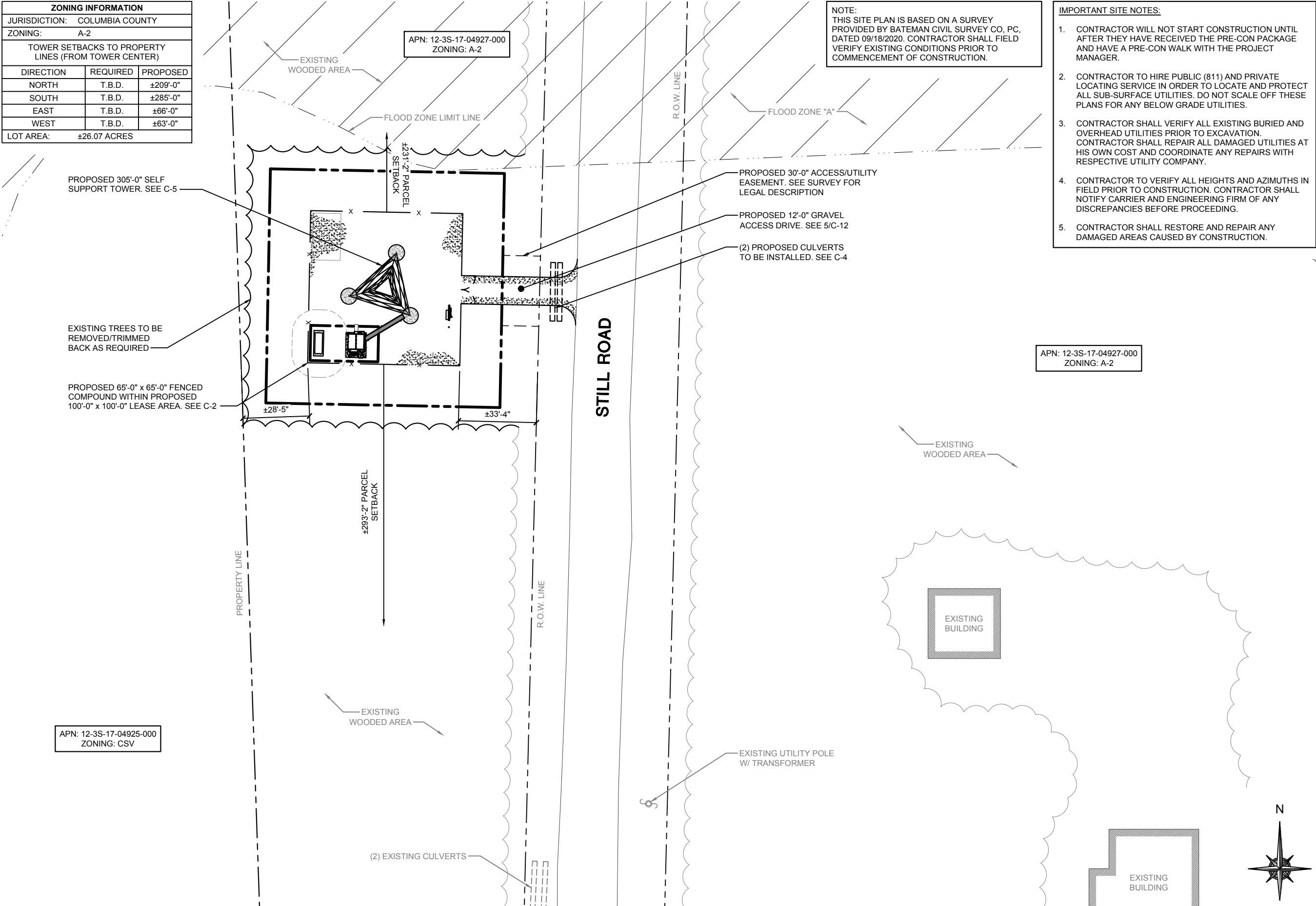


SCALE:  
1" = 20'

NOTE: ONLY ABOVE GROUND STRUCTURES ARE SHOWN HEREON THAT WERE OBSERVED IN THE FIELD TO THE BEST OF MY KNOWLEDGE.



ZONING INFORMATION		
JURISDICTION:	COLUMBIA COUNTY	
ZONING:	A-2	
TOWER SETBACKS TO PROPERTY LINES (FROM TOWER CENTER)		
DIRECTION	REQUIRED	PROPOSED
NORTH	T.B.D.	±209'-0"
SOUTH	T.B.D.	±285'-0"
EAST	T.B.D.	±66'-0"
WEST	T.B.D.	±63'-0"
LOT AREA:	±26.07 ACRES	



CITY SWITCH II-A

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OTTER BAY

612 NE CLYDE VARNES

LAKE CITY, FL 32055

EXPIRES: 02/28/23

SIGNED: 06/13/22

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PLUMBING \ ELECTRICAL \ LAND SURVEYING

ACCESSIBILITY CONSULTING \ STRUCTURAL

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DRAWN: JTB

JOB: 2001869T

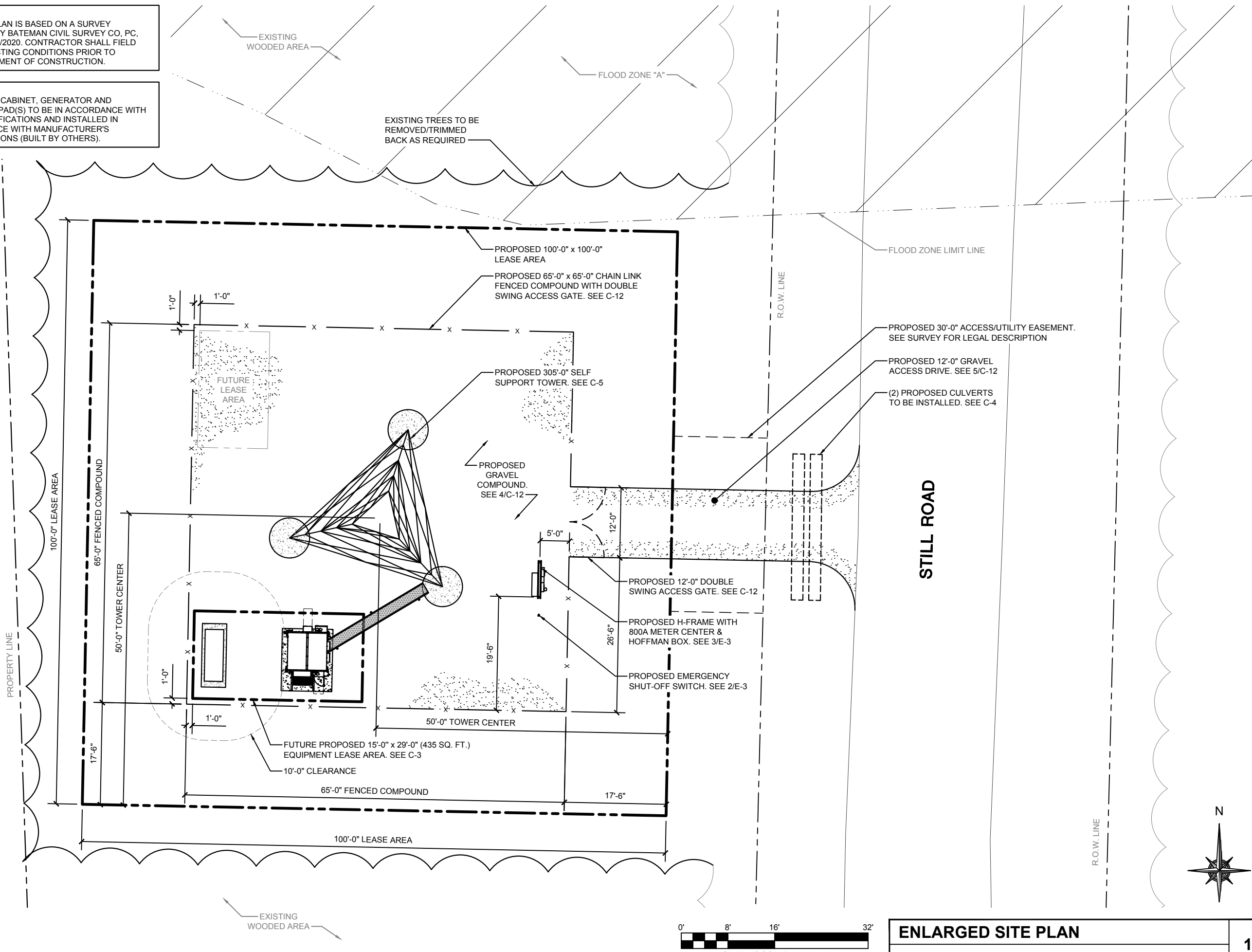
C-1

OVERALL SITE PLAN



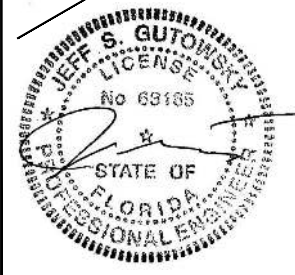
NOTE:  
THIS SITE PLAN IS BASED ON A SURVEY PROVIDED BY BATEMAN CIVIL SURVEY CO, PC, DATED 09/18/2020. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

NOTE:  
EQUIPMENT CABINET, GENERATOR AND CONCRETE PAD(S) TO BE IN ACCORDANCE WITH AT&T SPECIFICATIONS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS (BUILT BY OTHERS).



**ENLARGED SITE PLAN**

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



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DRAWN: JTB  
JOB: 2001869T

**C-2**  
ENLARGED SITE PLAN

**CITY SWITCH II-A**

**IgniteWireless**

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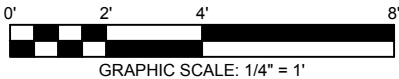
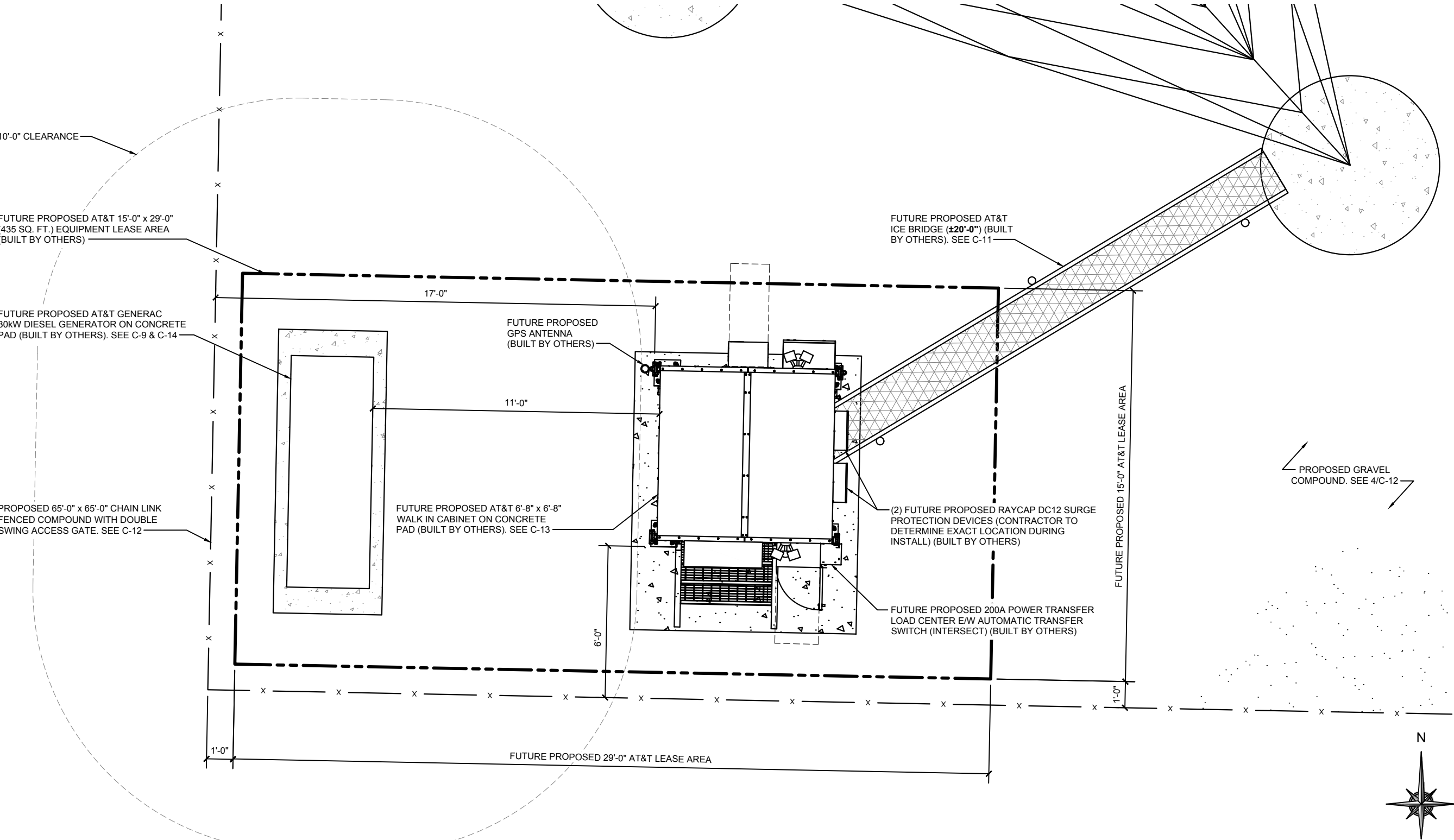
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NOTE:  
W-T'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL EVALUATION OF THE EQUIPMENT CONCRETE PAD(S). NEW EQUIPMENT SHOWN ON THIS PLAN HAVE NOT BEEN EVALUATED TO VERIFY THE CONCRETE PAD(S) HAVE THE CAPACITY TO ADEQUATELY SUPPORT THE CABINETS/EQUIPMENT/SHELTER. PRIOR TO ANY EQUIPMENT INSTALLATION, A STRUCTURAL EVALUATION OF THE EQUIPMENT CONCRETE PAD(S), INCLUDING ALL EQUIPMENT CABINET SUPPORT BRACING & HARDWARE SHALL BE PERFORMED.

NOTE:  
EQUIPMENT CABINET, GENERATOR AND CONCRETE PAD(S) TO BE IN ACCORDANCE WITH AT&T SPECIFICATIONS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS (BUILT BY OTHERS).



EQUIPMENT PLAN

SCALE: 1/4" = 1'-0"

1



IgniteWireless

CITY SWITCH II-A

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Group

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LAKE CITY, FL 32055

JEFF S. GUTOWSKY

PROFESSIONAL ENGINEER

STATE OF FLORIDA

License No. 69185

EXPIRES: 02/28/23

SIGNED: 06/13/22

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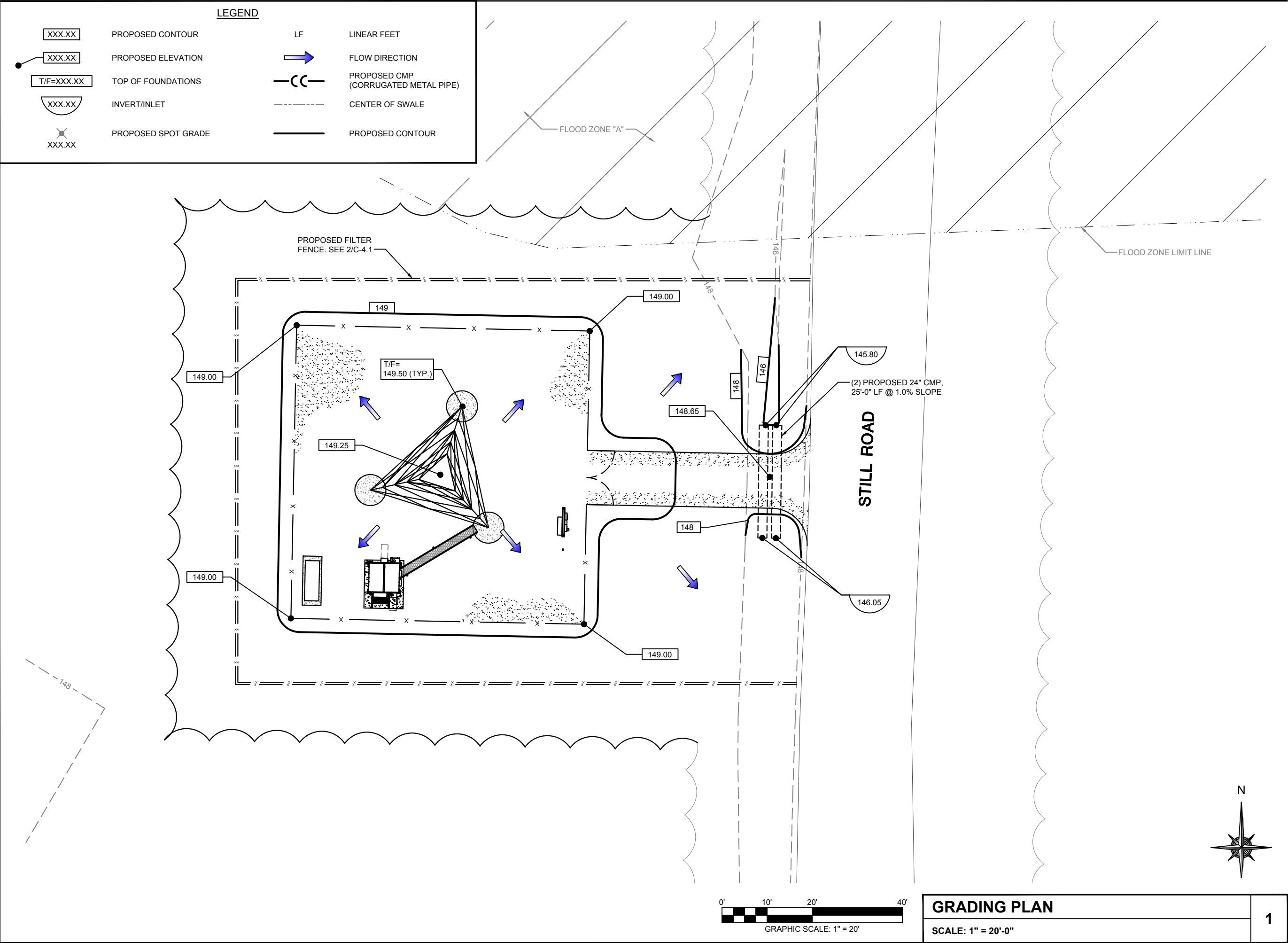
DRAWN: JTB



JOB: 2001869T

C-3

EQUIPMENT PLAN



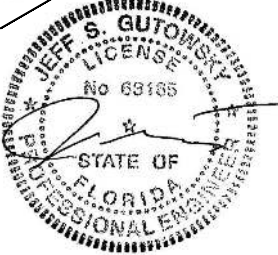




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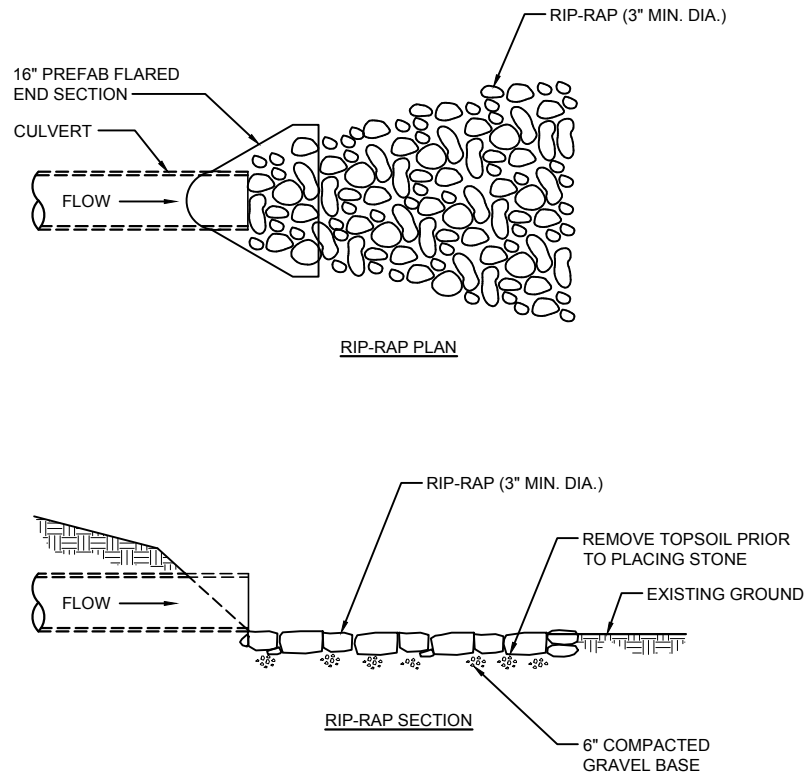
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DRAWN: JTB  
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**C-4**  
GRADING PLAN



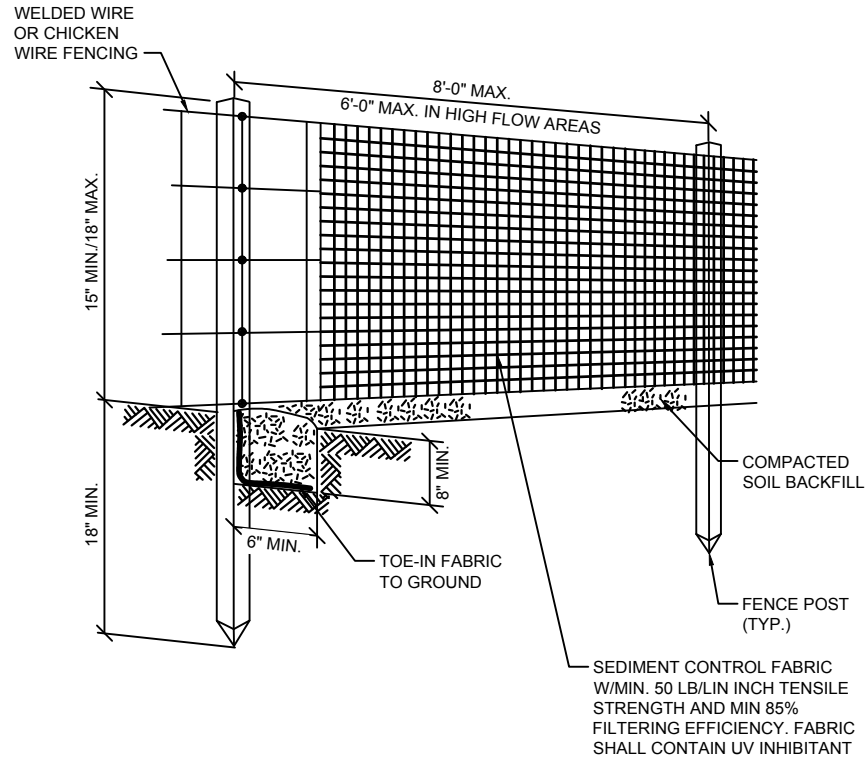
RIP-RAP DETAIL

SCALE: NONE

1

SILT FENCE NOTES:

1. CONSTRUCT THE SILT FENCE OF FILTER CLOTH WITH A MINIMUM TENSILE STRENGTH OF 50 LB/LIN INCH.
2. SILT FENCE HEIGHT SHALL BE A MINIMUM OF 15 INCHES ABOVE GROUND HEIGHT, BUT SHALL NOT EXCEED 18 INCHES.
3. CONSTRUCT SILT FENCE OF A CONTINUOUS ROLL CUT THE LENGTH OF THE BARRIER TO AVOID JOINTS. FABRIC TO BE FASTENED SECURELY TO FENCE POSTS WITH 1 INCH STAPLES OR TIE WIRES.
4. SUPPORT FABRIC WITH WOVEN WIRE MESH 14.5 GAUGE, 6" MAX. MESH OPENING. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH 1 INCH STAPLES OR TIE WIRES.
5. POSTS FOR SEDIMENT FENCES SHALL BE 4 INCH DIAMETER PINE, 2 INCH DIAMETER OAK OR 1.33 LB/LINEAR FOOT STEEL. MINIMUM LENGTH SHALL BE 4 FEET. POSTS SHALL BE SPACED NO MORE THAN 8 FEET APART AND THEY SHALL BE DRIVEN INTO THE GROUND A MINIMUM OF 18 INCHES.
6. EXCAVATE A TRENCH APPROXIMATELY 6 INCHES WIDE AND 8 INCHES DEEP ALONG THE PROPOSED LINE OF POSTS AND UP SLOPE FROM THE BARRIER. BACKFILL THE TRENCH WITH COMPACTED SOIL OR GRAVEL PLACED OVER THE FILTER FABRIC.
7. DO NOT ATTACH FILTER FABRIC TO EXISTING FENCES, TREES, ETC.
8. REMOVE FENCING FOLLOWING STABILIZATION OF SLOPES AND ALL DISTURBED AREAS.



SILT FENCE DETAIL

SCALE: NONE

2

NOT USED

SCALE: NONE

3

NOT USED

SCALE: NONE

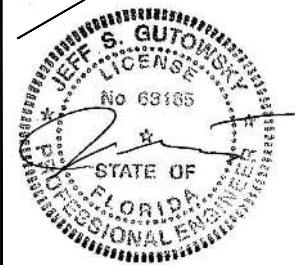
4



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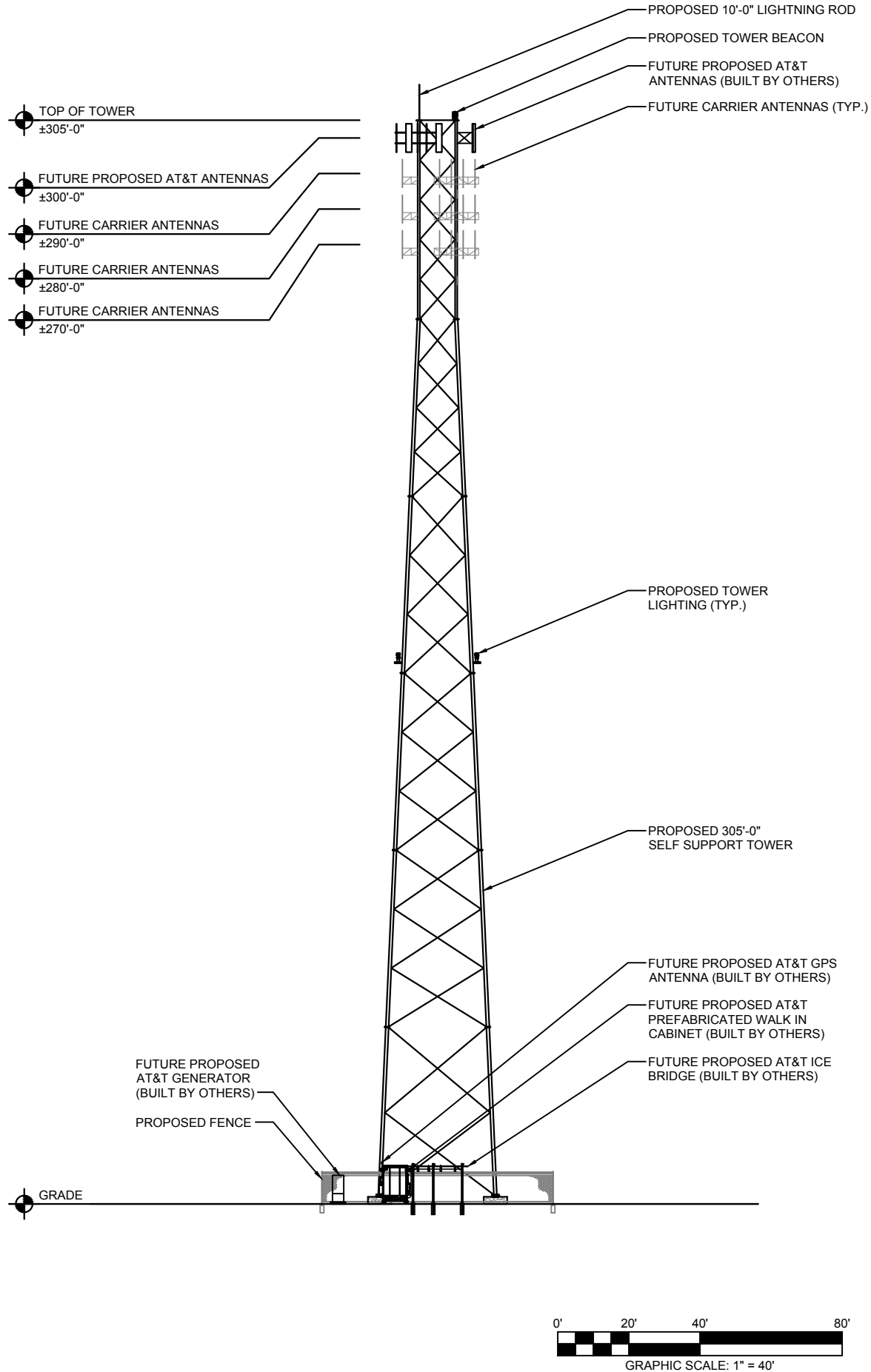
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**C-4.1**

GRADING DETAILS



- NOTES:
1. AZIMUTHS SHOWN ARE MEASURED CLOCKWISE FROM TRUE NORTH.
  2. ANTENNA MOUNTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
  3. STRUCTURE SHOWN IS SCHEMATIC IN NATURE. INSTALL SECTOR MOUNTS WITH ENOUGH STAND-OFF FROM TOWER SO THAT SECTORS DO NOT OVERLAP.
  4. RF DATA SHOWN IN THESE PLANS WAS ACCURATE AT THE TIME OF ISSUE, DATED 07/09/2019. IN THE EVENT THE DATA SHOWN IN THESE PLANS IS IN CONFLICT WITH THE CURRENT RF DESIGN PLAN (RFDS), THE RFDS WILL SUPERCEDE THESE PLANS.
  5. THE CONTRACTOR IS TO VERIFY THAT THE CURRENT RFDS IS USED FOR ALL ANTENNA TYPES AND ALIGNMENT INFORMATION.



NOTE:  
W-T'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL EVALUATION OF THIS TOWER OR STRUCTURE. NEW ANTENNAS AND EQUIPMENT SHOWN ON THIS PLAN HAVE NOT BEEN EVALUATED TO VERIFY THE TOWER OR STRUCTURE HAS THE CAPACITY TO ADEQUATELY SUPPORT THESE ANTENNAS. PRIOR TO ANY ANTENNA OR EQUIPMENT INSTALLATION, A STRUCTURAL EVALUATION OF THE TOWER OR STRUCTURE, INCLUDING ALL ANTENNA MOUNTING SYSTEMS & HARDWARE SHALL BE PERFORMED.

NOTE:  
A STRUCTURAL ANALYSIS OF THE ANTENNA MOUNT HAS BEEN COMPLETED BY GEOSTRUCTURAL ON 05/31/2022. THE LOCATION AND MOUNTING OF THE ANTENNAS SHOWN IN THE STRUCTURAL ANALYSIS SHALL SUPERSEDE THESE DRAWINGS.

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**C-5**  
TOWER ELEVATION

NOTE:  
W-T'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL EVALUATION OF THIS TOWER OR STRUCTURE. NEW ANTENNAS AND EQUIPMENT SHOWN ON THIS PLAN HAVE NOT BEEN EVALUATED TO VERIFY THE TOWER OR STRUCTURE HAS THE CAPACITY TO ADEQUATELY SUPPORT THESE ANTENNAS. PRIOR TO ANY ANTENNA OR EQUIPMENT INSTALLATION, A STRUCTURAL EVALUATION OF THE TOWER OR STRUCTURE, INCLUDING ALL ANTENNA MOUNTING SYSTEMS & HARDWARE SHALL BE PERFORMED.

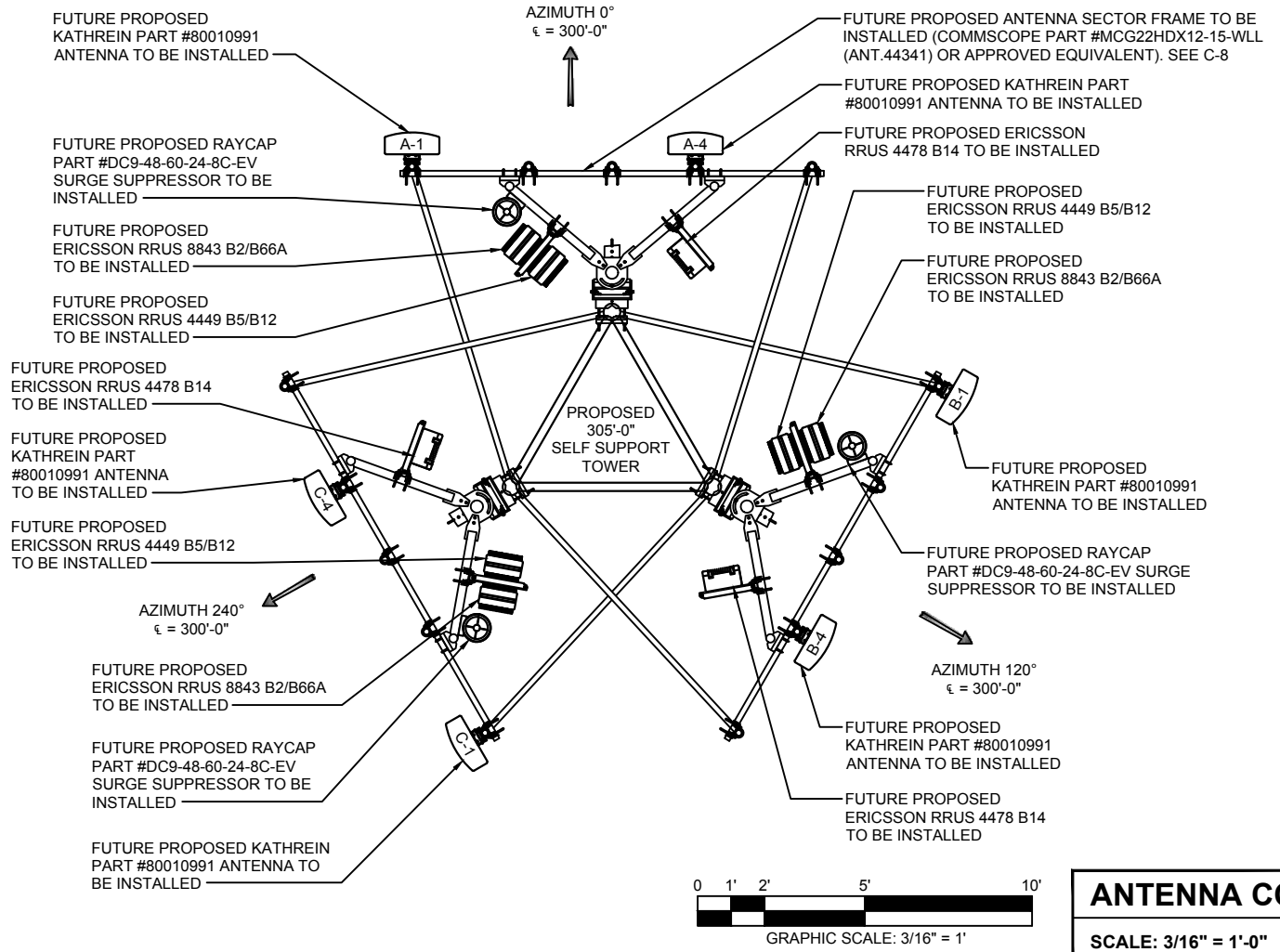
NOTE:  
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NOTE:  
CABLE COUNTS ARE TOTALS AND NOT INDICATIVE OF SPECIFIC POSITIONS. CONTRACTOR TO FIELD VERIFY QUANTITIES AND SIZES OF EXISTING CABLES.

NOTE:  
ANTENNAS & RRU'S TO BE CENTERED VERTICALLY ON MOUNT FACE.

NOTE:  
RAYCAP SURGE SUPPRESSOR CAN BE MOUNTED TO THE TOWER LEG, ANTENNA FRAME, OR ANTENNA PIPE. EXACT MOUNTING LOCATION TO BE DETERMINED BY THE CONSTRUCTION MANAGER.

ANTENNA & CABLE SCHEDULE															
ANTENNA POSITION	SECTOR	RAD CENTER		ANTENNA MAKE/MODEL	QUANTITY	PORT NUMBER	ELECTRICAL TILT	AZIMUTH	RRU MAKE/MODEL	QUANTITY	SURGE PROTECTION	QUANTITY	COAX/ CABLE	QUANTITY	
A-1	ALPHA	±300'-0"	LTE 1900 LTE 700-850	KATHREIN 80010991	1	1/2/3/4 5/6/7/8 9/10/11/12	2/2/2/2 4/4/4/4 -/-/-	0°	ERICSSON RRUS 4449 B5/B12 ERICSSON RRUS 8843 B2/B66A	2	RAYCAP DC9-48-60-24-8C-EV	1	4 AWG DC POWER  24 PR .39" FIBER	6  3	
A-2			-	-	-	-	-		-						
A-3			-	-	-	-	-		-						
A-4			LTE AWS LTE 700	KATHREIN 80010991	1	1/2/3/4 5/6/7/8 9/10/11/12	2/2/2/2 4/4/4/4 -/-/-		ERICSSON RRUS 4478 B14	1					
A-5			-	-	-	-	-		-						
B-1	BETA	±300'-0"	LTE 1900 LTE 700-850	KATHREIN 80010991	1	1/2/3/4 5/6/7/8 9/10/11/12	2/2/2/2 4/4/4/4 -/-/-	120°	ERICSSON RRUS 4449 B5/B12 ERICSSON RRUS 8843 B2/B66A	2	RAYCAP DC9-48-60-24-8C-EV	1			
B-2			-	-	-	-	-		-						
B-3			-	-	-	-	-		-						
B-4			LTE AWS LTE 700	KATHREIN 80010991	1	1/2/3/4 5/6/7/8 9/10/11/12	2/2/2/2 4/4/4/4 -/-/-		ERICSSON RRUS 4478 B14	1					
B-5			-	-	-	-	-		-						
C-1	GAMMA	±300'-0"	LTE 1900 LTE 700-850	KATHREIN 80010991	1	1/2/3/4 5/6/7/8 9/10/11/12	2/2/2/2 4/4/4/4 -/-/-	240°	ERICSSON RRUS 4449 B5/B12 ERICSSON RRUS 8843 B2/B66A	2	RAYCAP DC9-48-60-24-8C-EV	1			
C-2			-	-	-	-	-		-						
C-3			-	-	-	-	-		-						
C-4			LTE AWS LTE 700	KATHREIN 80010991	1	1/2/3/4 5/6/7/8 9/10/11/12	2/2/2/2 4/4/4/4 -/-/-		ERICSSON RRUS 4478 B14	1					
C-5			-	-	-	-	-		-						
				TOTAL	6					9			3		9



ANTENNA CONFIGURATION

SCALE: 3/16" = 1'-0"

1

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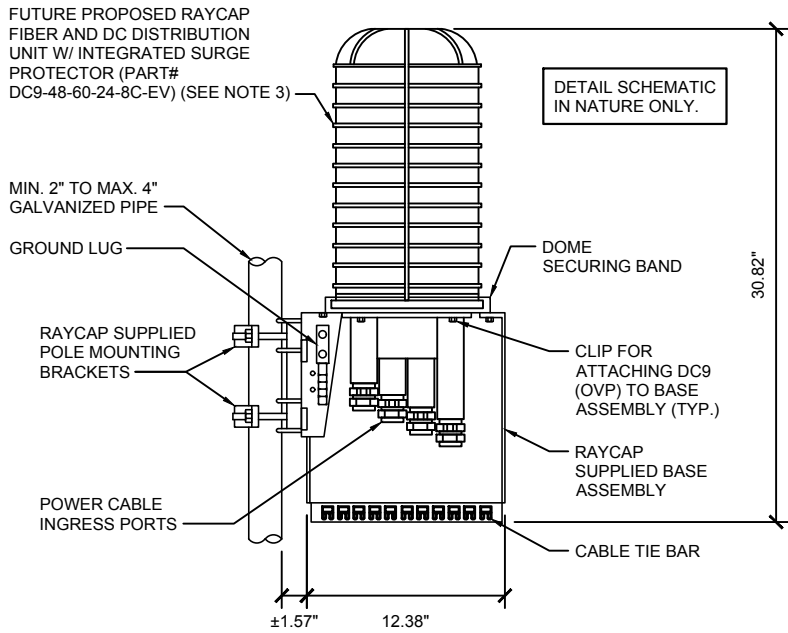
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CHECK: JKR  
DRAWN: JTB  
JOB: 2001869T

C-6  
ANTENNA CONFIGURATION  
& SCHEDULE





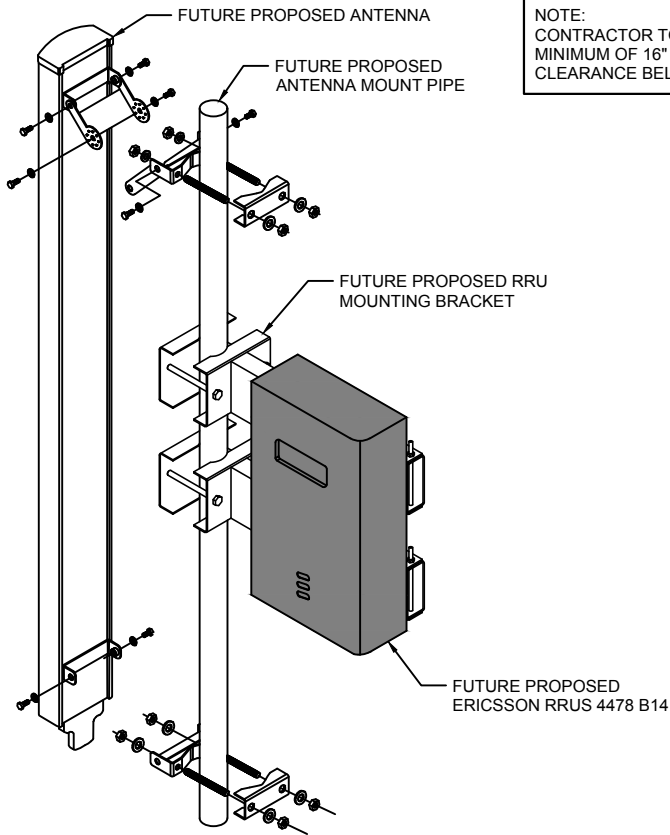
NOTES:

1. UNIT SHALL BE MOUNTED AS PER MANUFACTURER'S RECOMMENDATIONS.
2. CONTRACTOR SHALL TIGHTEN ALL BOLTS TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC.
3. CONTRACTOR SHALL INSTALL RAYCAP DISTRIBUTION UNIT WITHIN 15 FEET FROM ALL RRU'S

DC9 MOUNTING DETAIL

SCALE: NONE

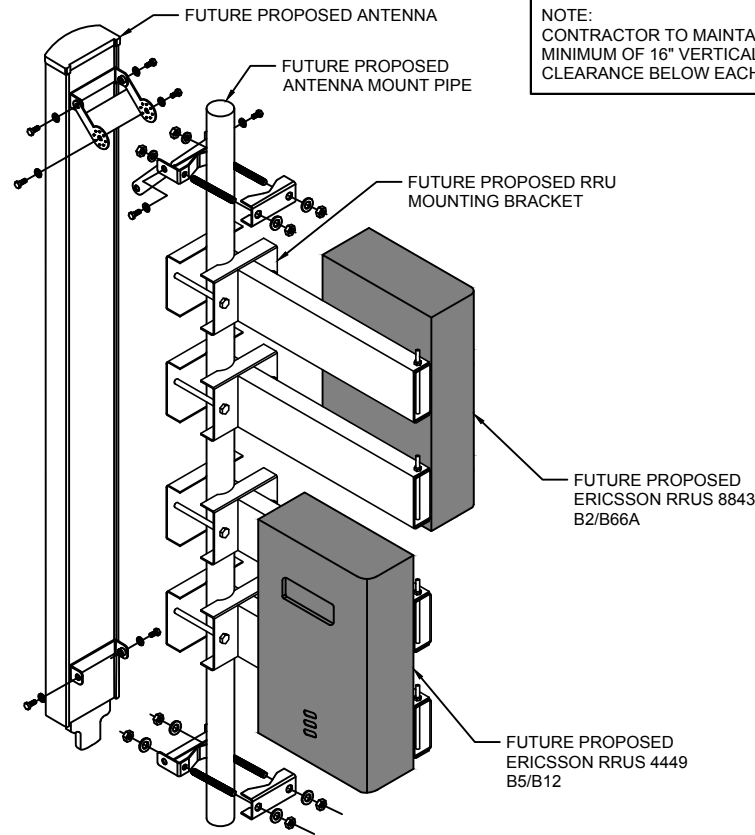
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ANTENNA AND RRU MOUNTING DETAILS

SCALE: NONE

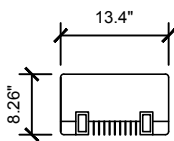
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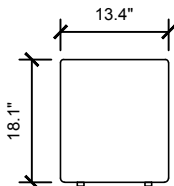
ANTENNA AND RRU MOUNTING DETAILS

SCALE: NONE

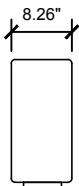
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PLAN VIEW



FRONT VIEW



SIDE VIEW

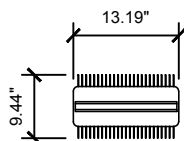
MANUFACTURER:  
MODEL #:  
DIMENSIONS (WxDxH):  
RRU WEIGHT:

ERICSSON  
RRUS 4478 B14  
13.4"x8.26"x18.1"  
59.4 lbs

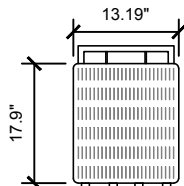
RRUS 4478 B14 SPECS

SCALE: NONE

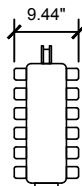
4



PLAN VIEW



FRONT VIEW



SIDE VIEW

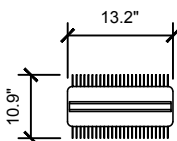
MANUFACTURER:  
MODEL #:  
DIMENSIONS (WxDxH):  
RRU WEIGHT:

ERICSSON  
RRUS 4449 B5/B12  
13.19"x9.44"x17.9"  
71.0 lbs

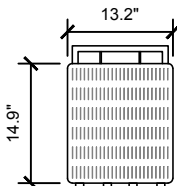
RRUS 4449 B5/B12 SPECS

SCALE: NONE

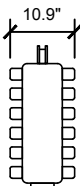
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PLAN VIEW



FRONT VIEW



SIDE VIEW

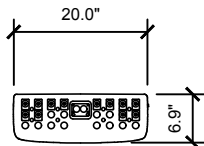
MANUFACTURER:  
MODEL #:  
DIMENSIONS (WxDxH):  
RRU WEIGHT:

ERICSSON  
8843 B2/B66A  
13.2"x10.9"x14.9"  
72.0 lbs

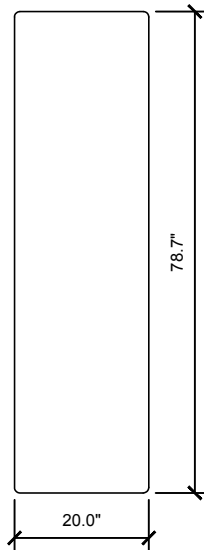
RRUS 8843 B2/B66A

SCALE: NONE

6



PLAN VIEW



FRONT VIEW

MANUFACTURER:  
MODEL #:  
DIMENSIONS (WxDxH):  
ANTENNA WEIGHT:

KATHREIN  
80010991  
20.0"x6.9"x78.7"  
100.9 lbs

ANTENNA SPECS

SCALE: NONE

7

NOT USED

SCALE: NONE

8

CITY SWITCH II-A

IgniteWireless

FLC014

OTTER BAY

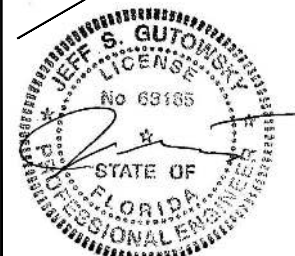
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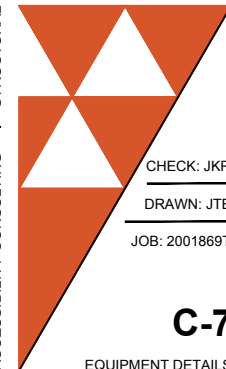


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ACCESSIBILITY CONSULTING \ STRUCTURAL



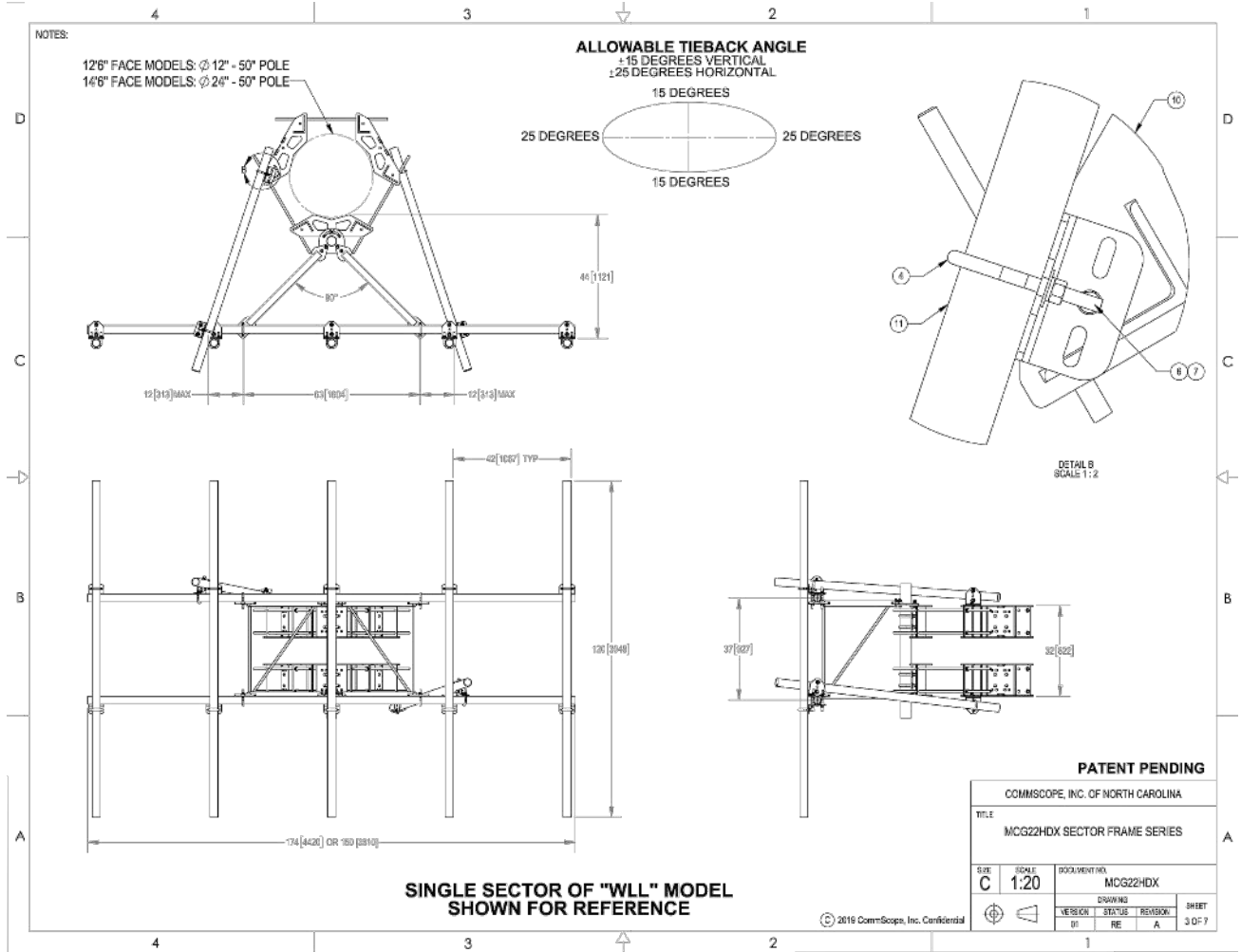
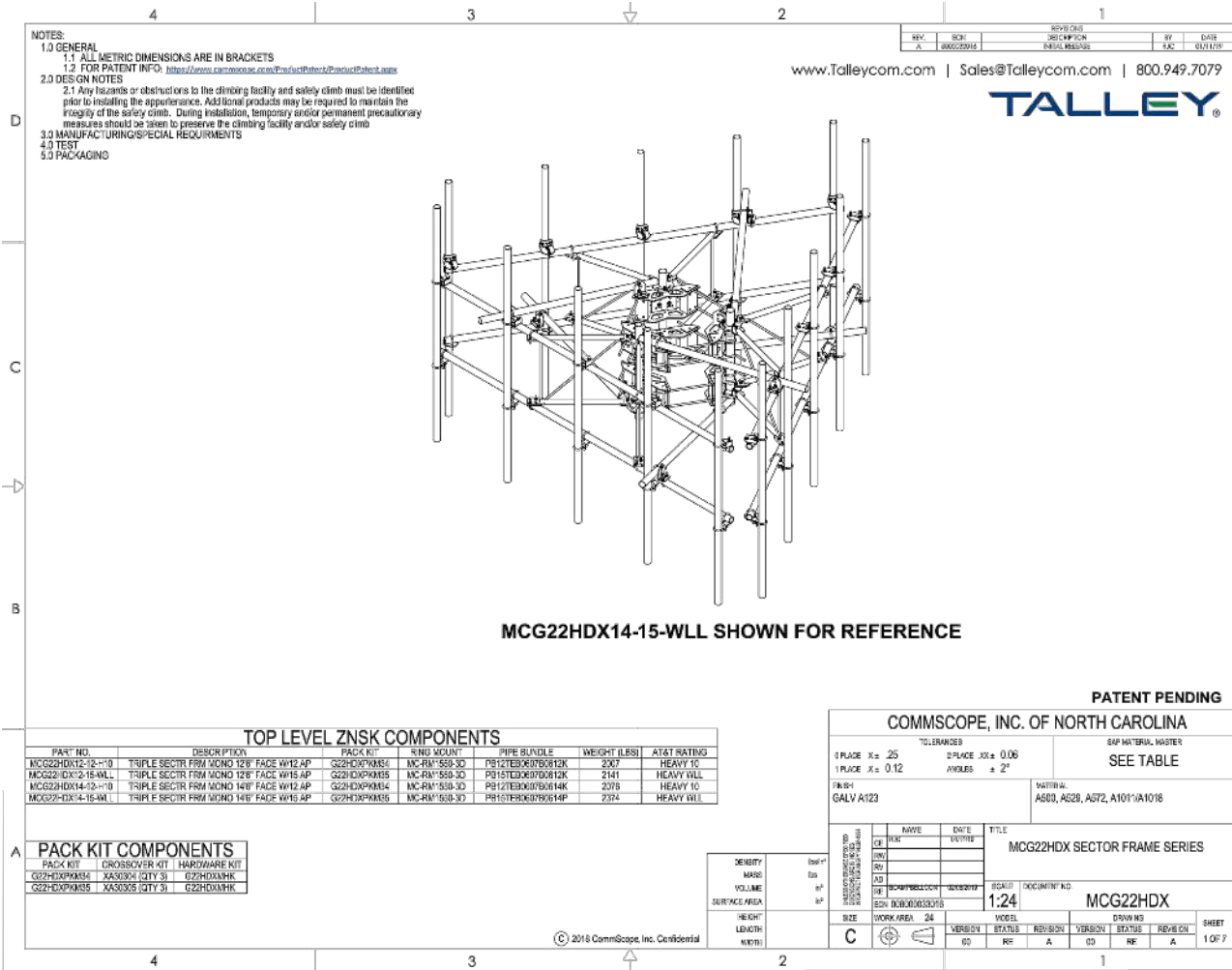
CHECK: JKR

DRAWN: JTB

JOB: 2001869T

C-7

EQUIPMENT DETAILS




FOR REFERENCE ONLY


ANTENNA MOUNT DETAIL

SCALE: NONE

1



**CITY SWITCH II-A**



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**OTTER BAY**  
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**JEFF S. GUTOWSKY**  
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STATE OF FLORIDA  
PROFESSIONAL ENGINEER

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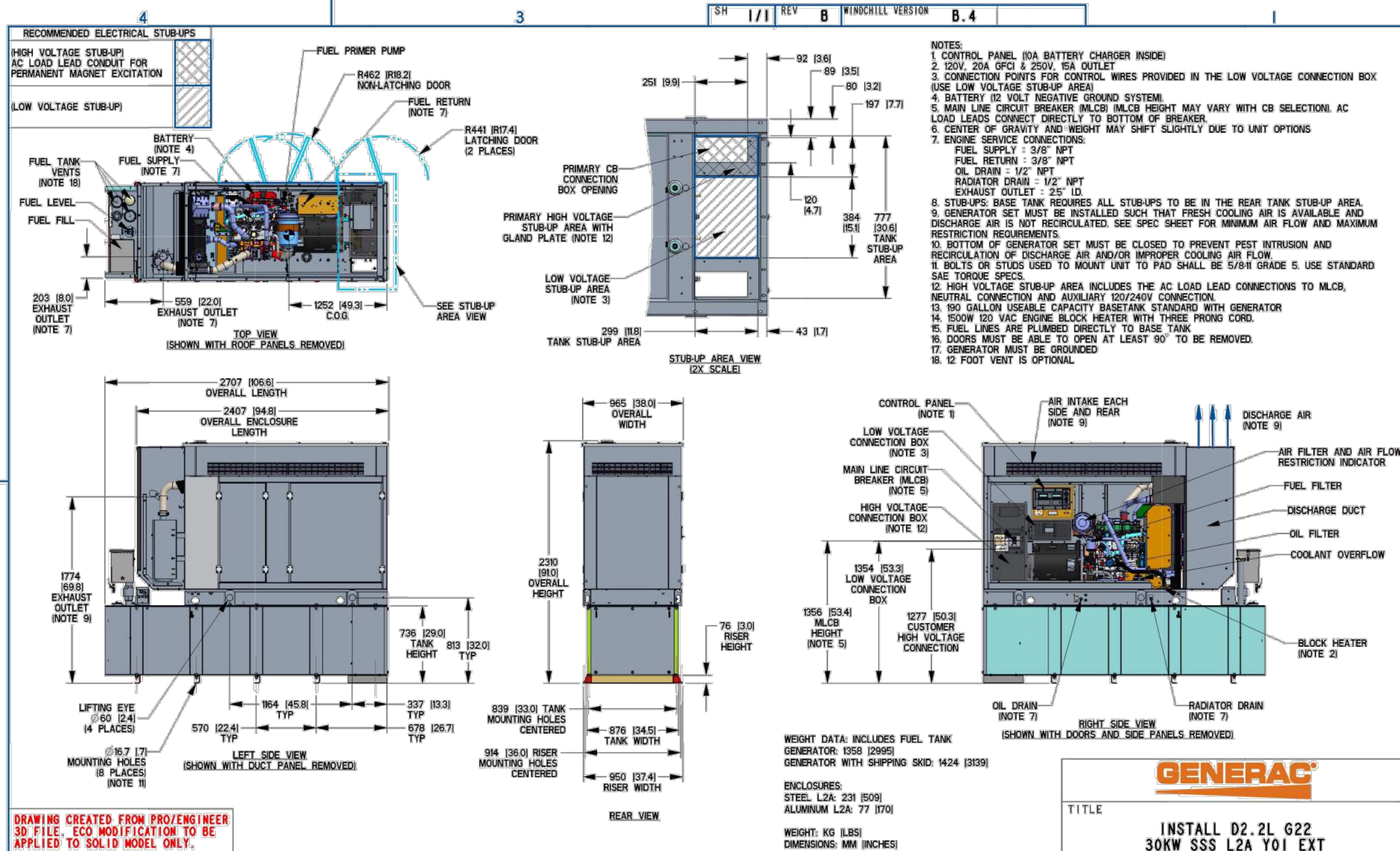
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**C-8**  
EQUIPMENT DETAILS






# INSTALLATION DRAWING

## GENERATOR SPECIFICATIONS

SCALE: NONE

1



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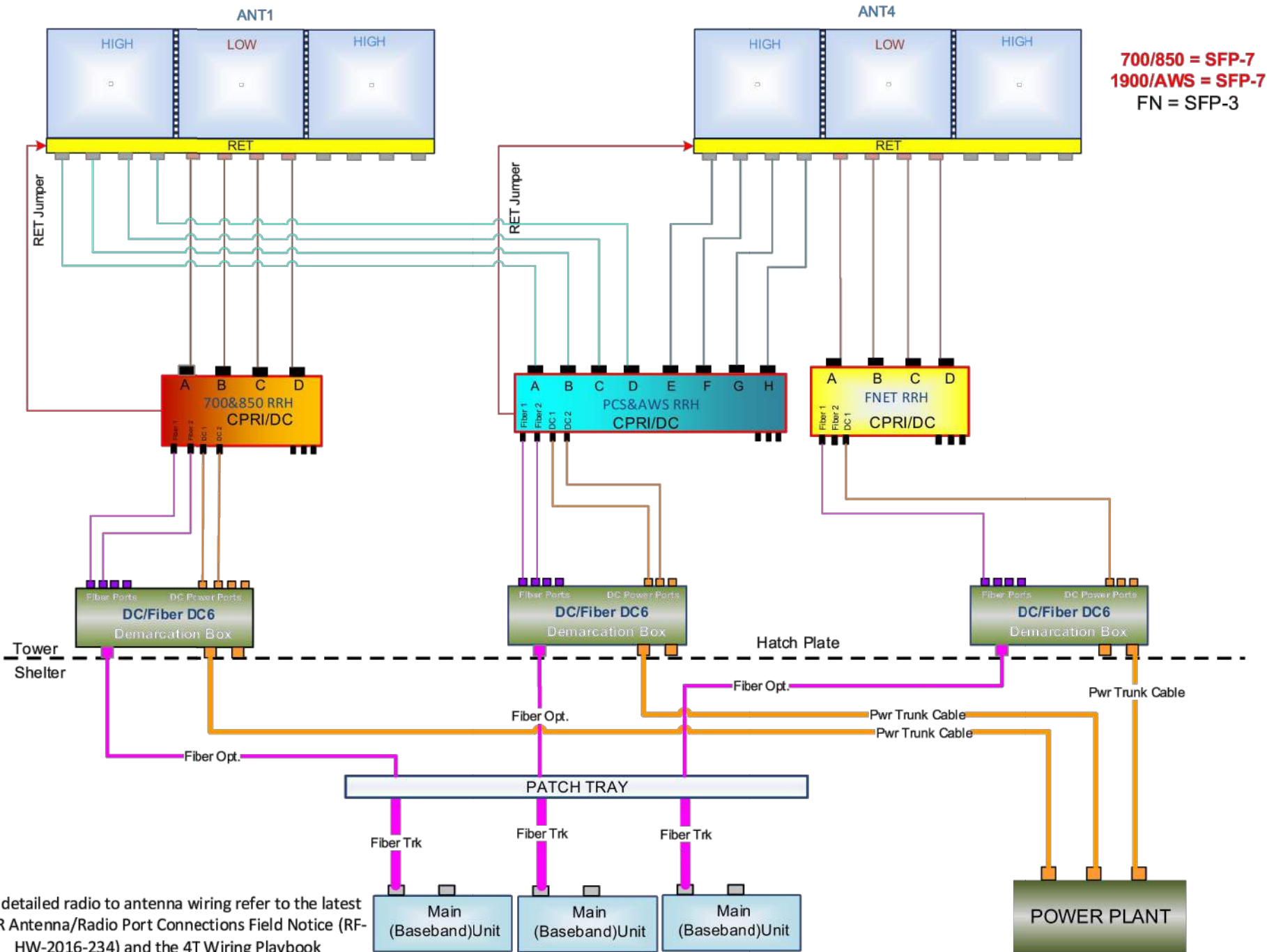
C-9

EQUIPMENT DETAILS



- NOTES:
1. PLUMBING DIAGRAM IS TYPICAL FOR ALL SECTORS.
  2. VERIFY CONFIGURATION AT PRE-CONSTRUCTION MEETING WITH TURFING VENDOR. RFDS ALWAYS TAKES PRECEDENCE BUT CONFIRM WITH TURFING VENDOR AND END USER PRIOR TO INSTALLATION IF DISCREPANCY EXISTS.

Diagram - Sector	A	Diagram File Name - NFL_LTE 5C_2x12PORTS KATHRIEN_2xDB 5G NR RRU_NO WCS.vsd			
Atoll Site Name -	FNL03179	Location Name -	FNL03179 OTTER BAY	Market -	JACKSONVILLE-PANHANDLE
				Market Cluster -	NORTH FLORIDA
Comments:					



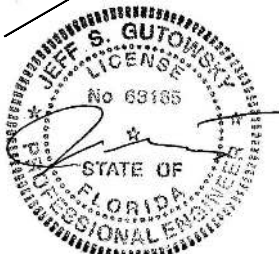
PLUMBING DIAGRAM

SCALE: NONE

1



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C-10

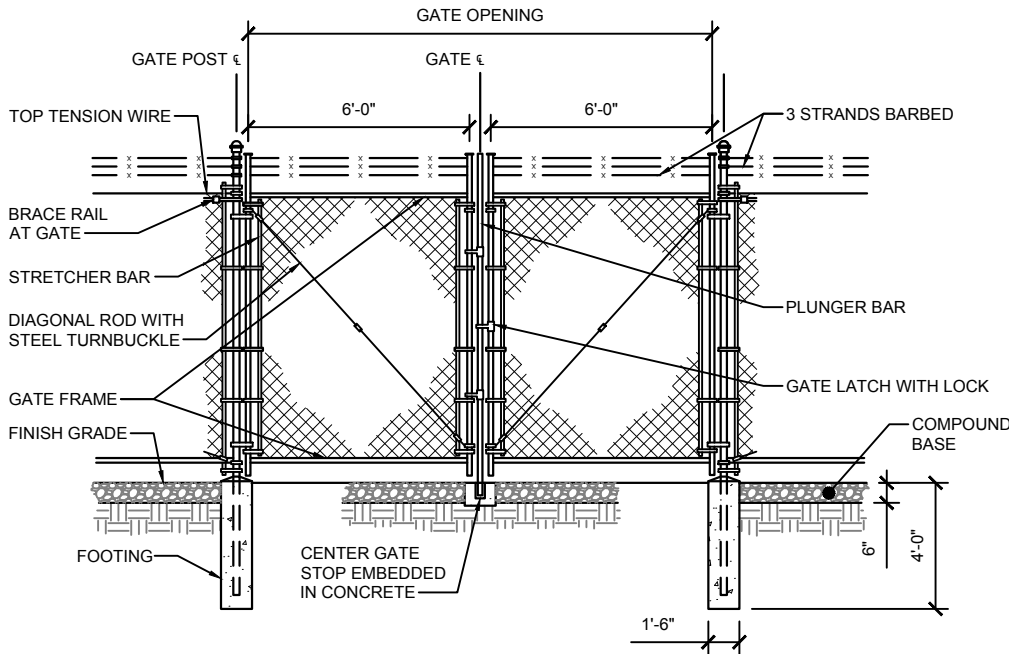
PLUMBING DIAGRAM



FENCE NOTES:

(INSTALL FENCING PER ASTM F-567, SWING GATES PER ASTM F- 900)

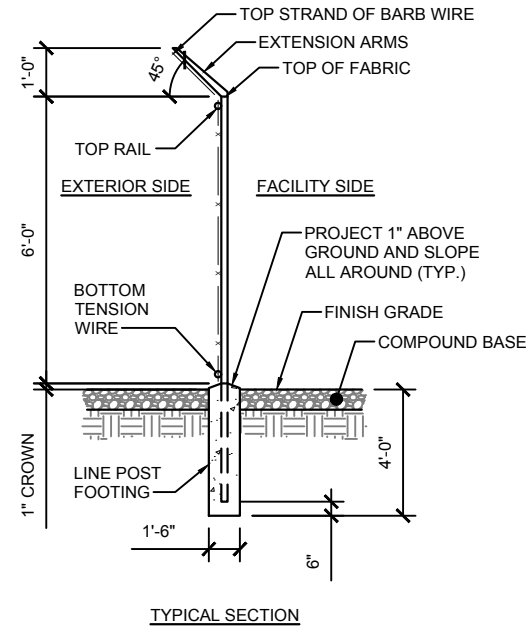
- GATE POST: 3-1/2" DIA. SCHEDULE 40 PER ASTM-F 1083
- CORNER AND TERMINAL OR PULL POST: 3" DIA. SCHEDULE 40 PER ASTM-F 1083
- LINE POST: 2" DIA. SCHEDULE 40 PIPE PER ASTM-F 1083
- GATE FRAME: 1-1/2" DIA. SCHEDULE 40 PIPE PER ASTM-F 1083
- TOP RAIL AND BRACE RAIL: 1-1/2" DIA. SCHEDULE 40 PIPE PER ASTM-F 1083
- FABRIC: 9 GA. CORE WIRE SIZE 2" MESH, CONFORMING TO ASTM-A392
- TIE WIRE: MINIMUM 9 GA. GALVANIZED STEEL AT POSTS AND RAILS A SINGLE WRAP OF FABRIC TIE AND AT TENSION WIRE BY HOG RINGS SPACED MAXIMUM 24" INTERVALS
- TENSION WIRE: 6 GA. GALVANIZED STEEL
- BARBED WIRE DOUBLE STRAND 12-1/2" GA. TWISTED WIRE TO MATCH WITH FABRIC 14 GA., 4 PT. BARBS SPACED ON APPROXIMATELY 5" CENTERS
- GATE LATCH: 1-3/8" O.D. PLUNGER ROD WITH MUSHROOM TYPE CATCH AND LOCK, KEYED ALIKE FOR ALL SITES IN A GIVEN MTA
- COMPLY WITH ANY LOCAL ORDINANCES REQUIRING PERMITS FOR PLACEMENT OF BARBED WIRE
- HEIGHT = 6' VERTICAL AND 1' BARBED WIRE VERTICAL DIMENSION
- WARNING SIGNS USING THE INTERNATIONAL SYMBOL OF ELECTRICAL SHOCK HAZARD SHALL BE FURNISHED AND INSTALLED ON THE EXTERIOR OF ALL SIDES OF THE MAIN PERIMETER FENCE AND THE GATE. ADDITIONALLY, SIGNS SHALL BE FURNISHED AND INSTALLED THAT STATE "NO TRESPASSING" IN ENGLISH. THE SIGNS SHALL BE IMPERVIOUS TO WEATHERING AND BE MOUNTED TO AVOID EASE OF REMOVAL BY VANDALS.



DOUBLE SWING GATE DETAIL

SCALE: NONE

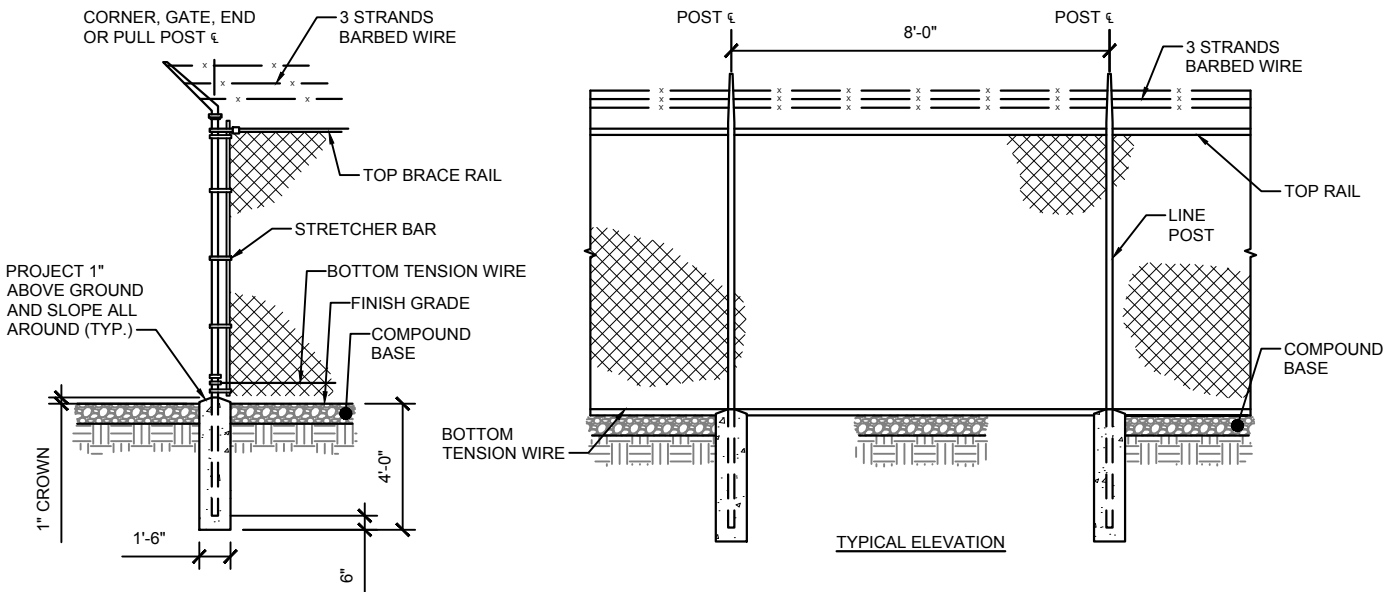
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WOVEN WIRE FENCE DETAIL

SCALE: NONE

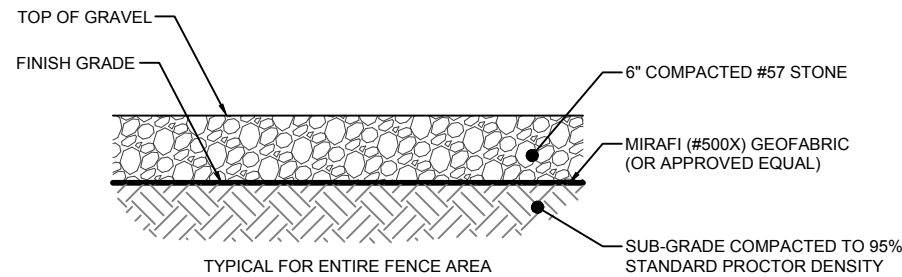
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WOVEN WIRE CORNER, GATE, END OR PULL POST DETAIL

SCALE: NONE

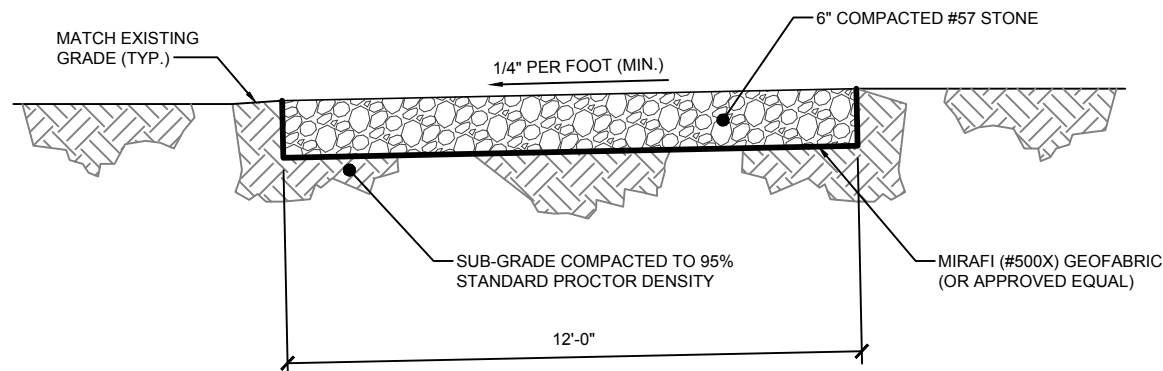
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COMPOUND BASE DETAIL

SCALE: NONE

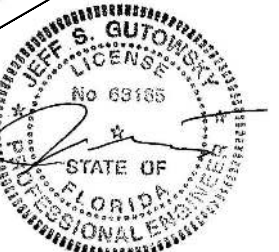
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ACCESS DRIVE DETAIL

SCALE: NONE

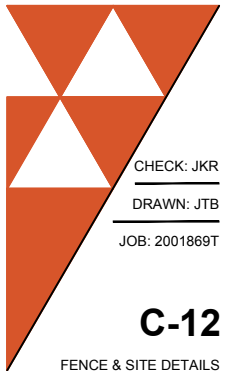
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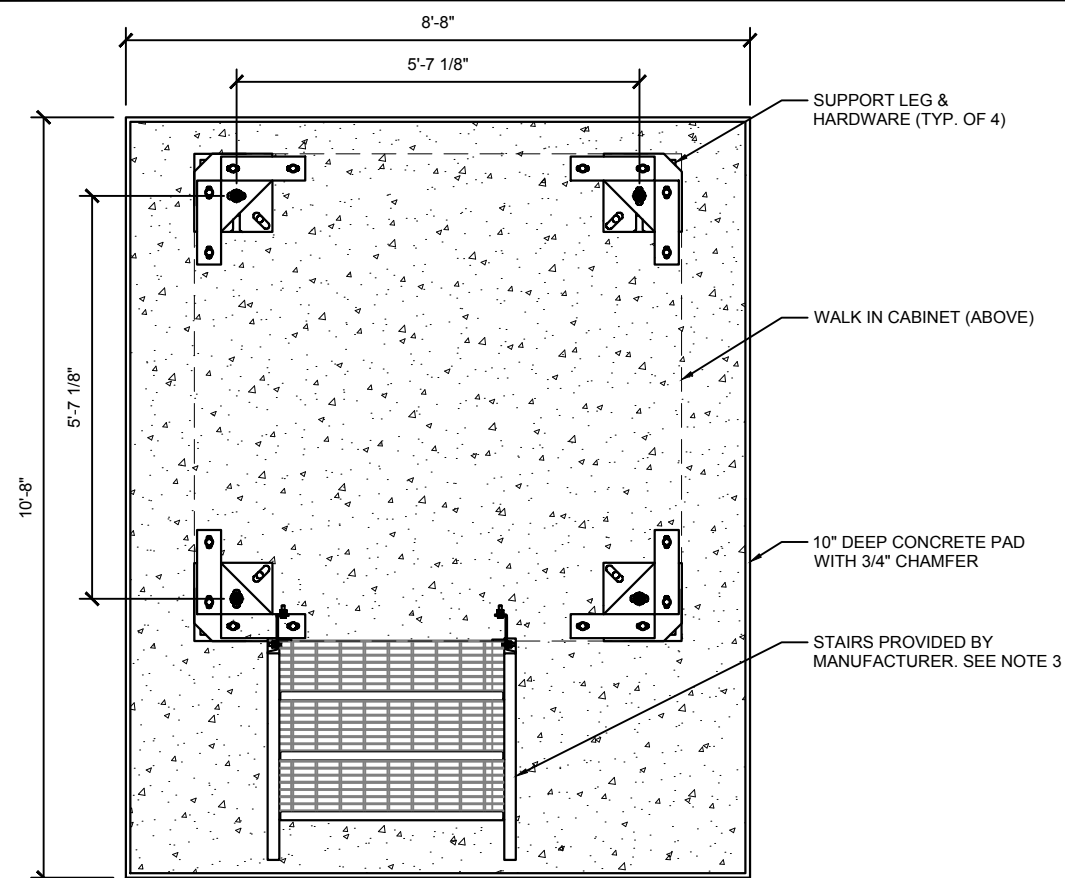


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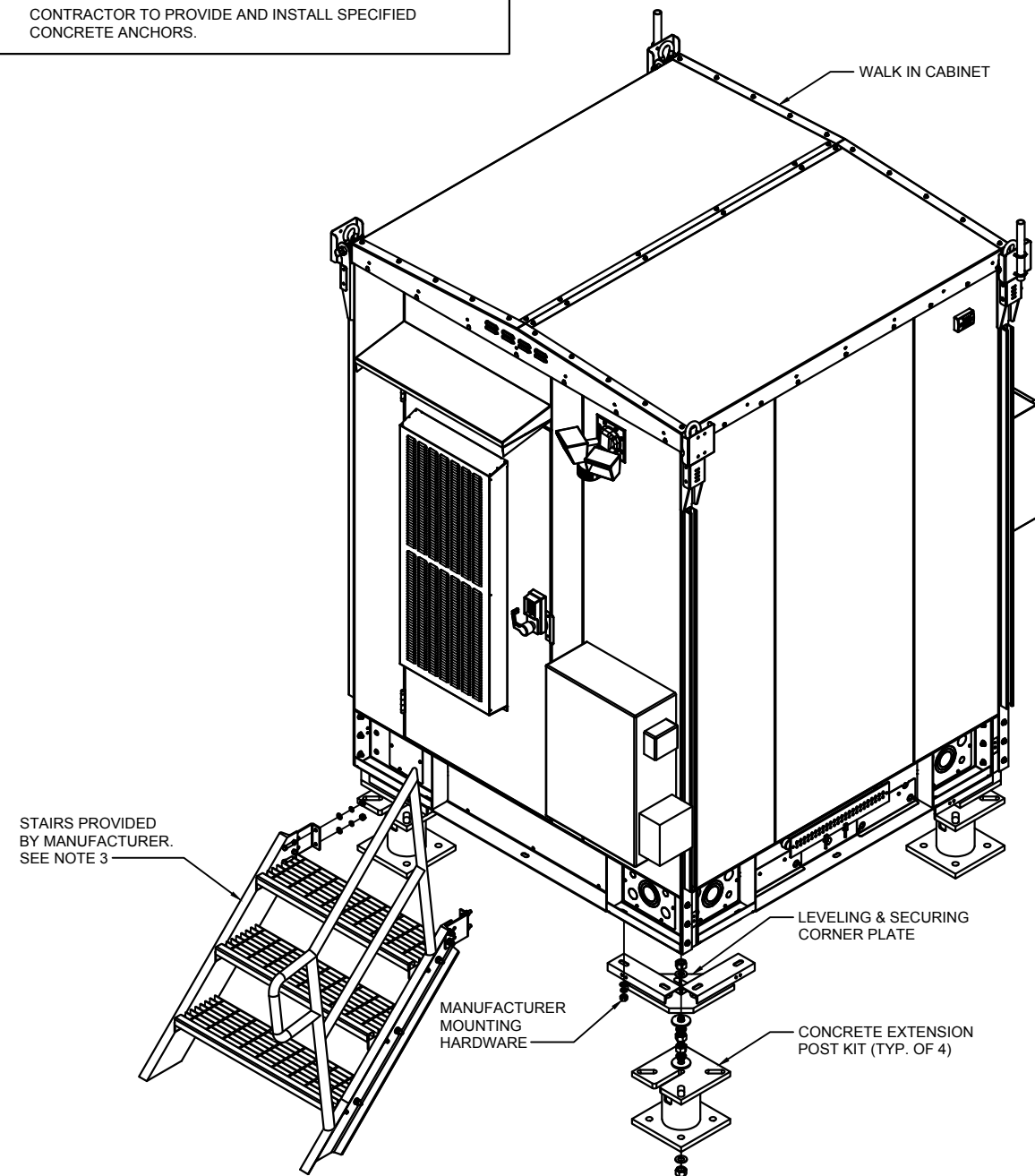
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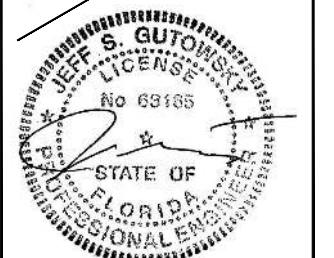




- WALK IN CABINET NOTES:

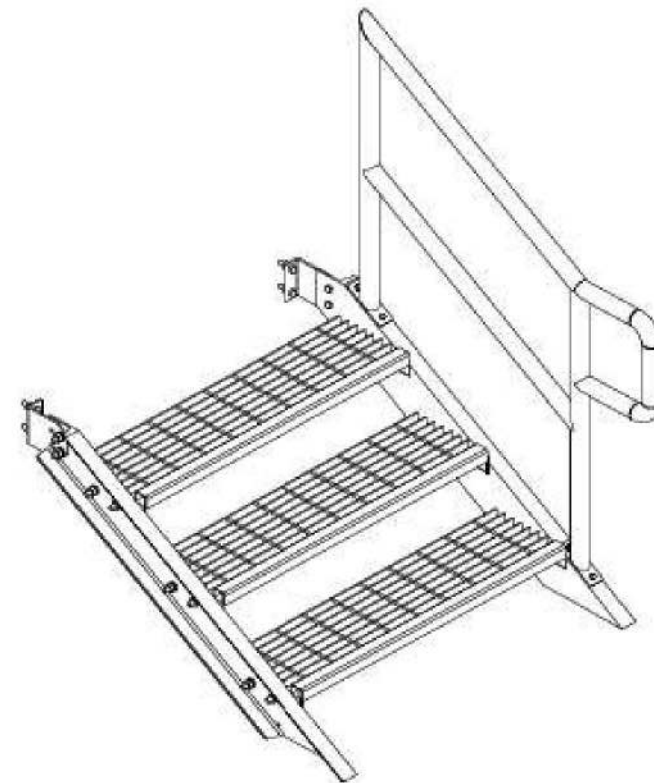
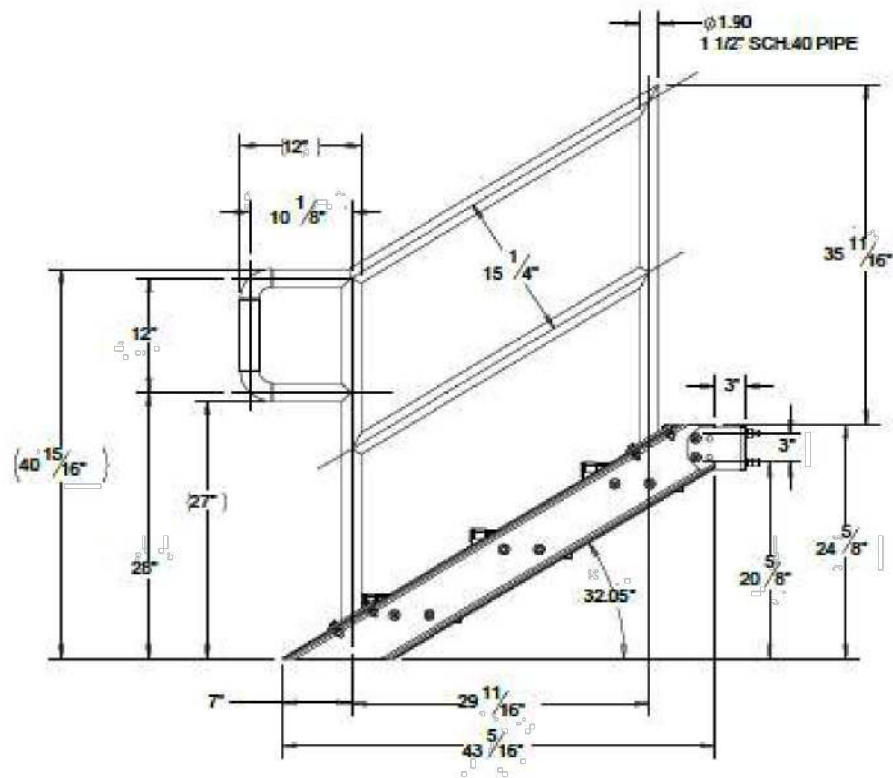
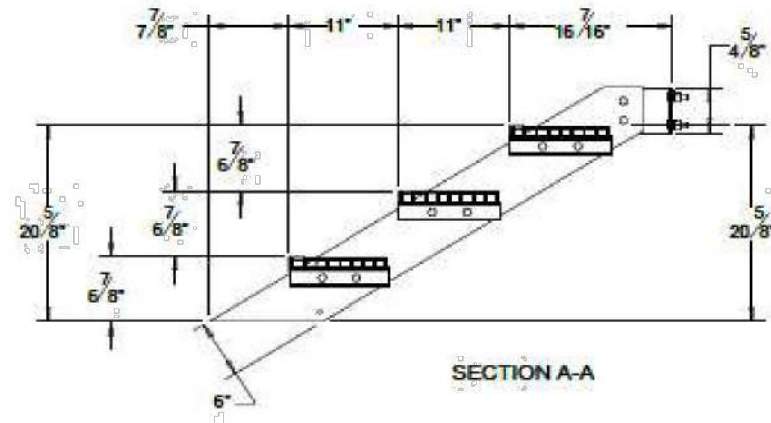
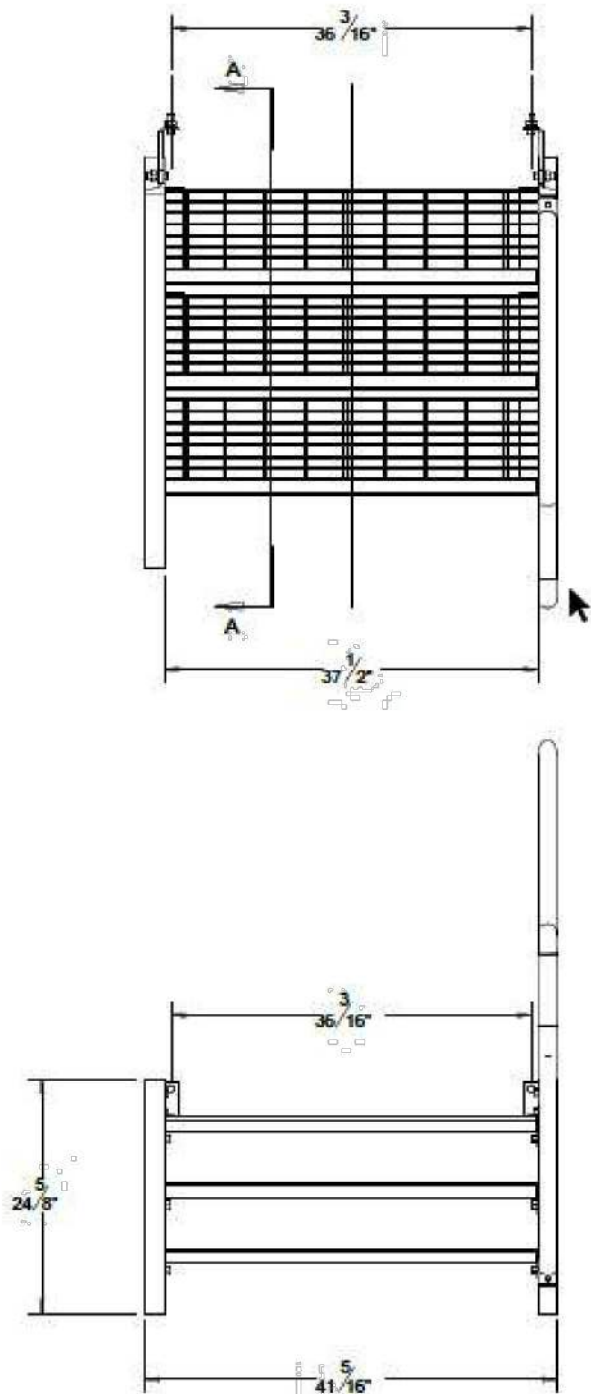


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SWIC STEP DETAIL

SCALE: NONE

1

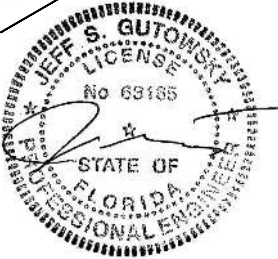


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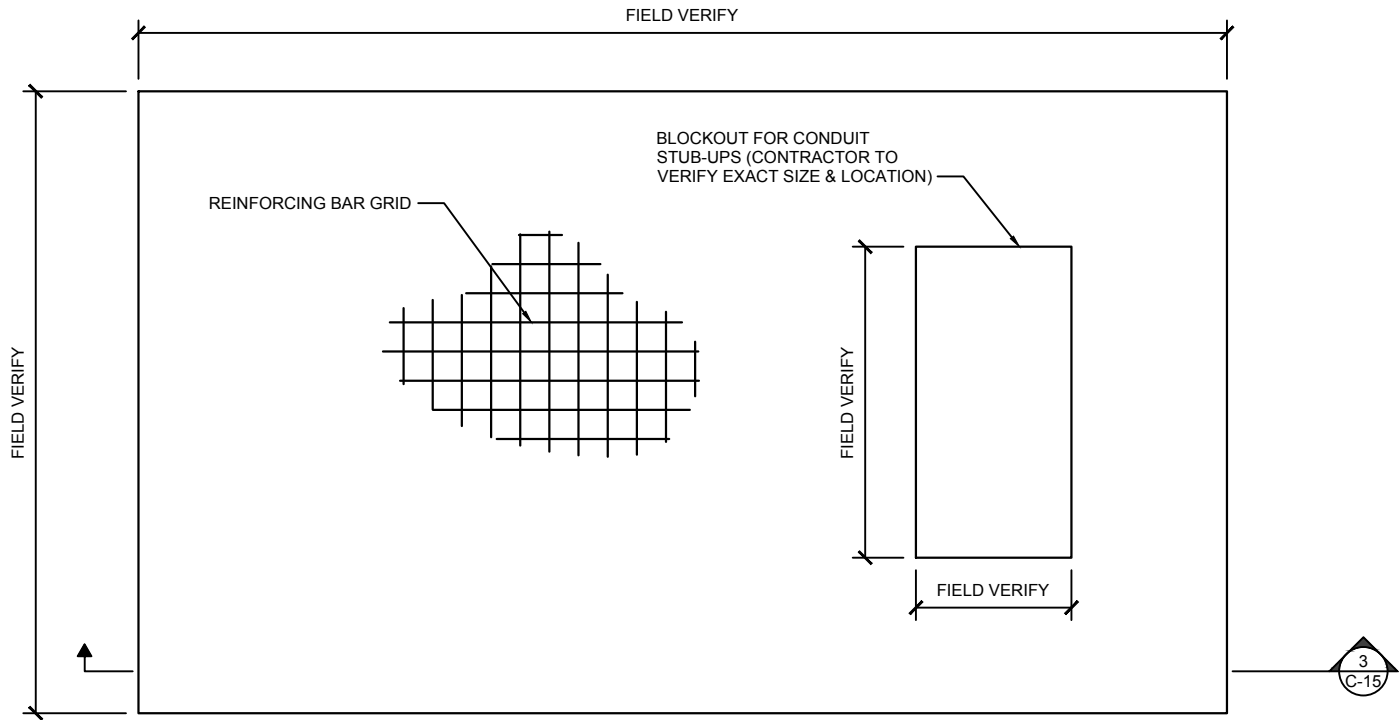
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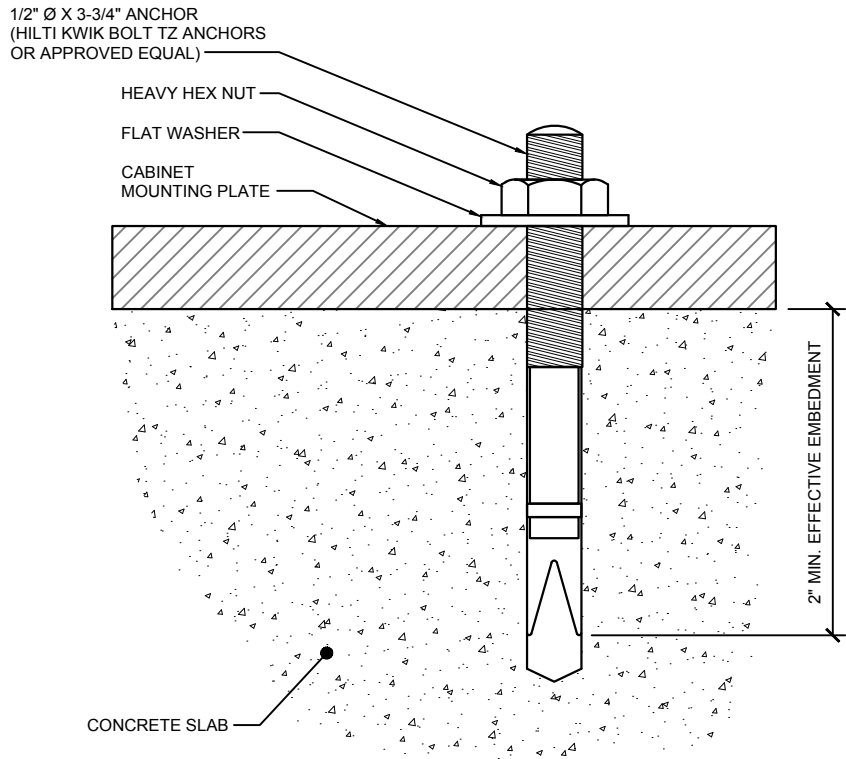
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SWIC STEP DETAIL



GENERATOR SLAB DETAIL

SCALE: NONE

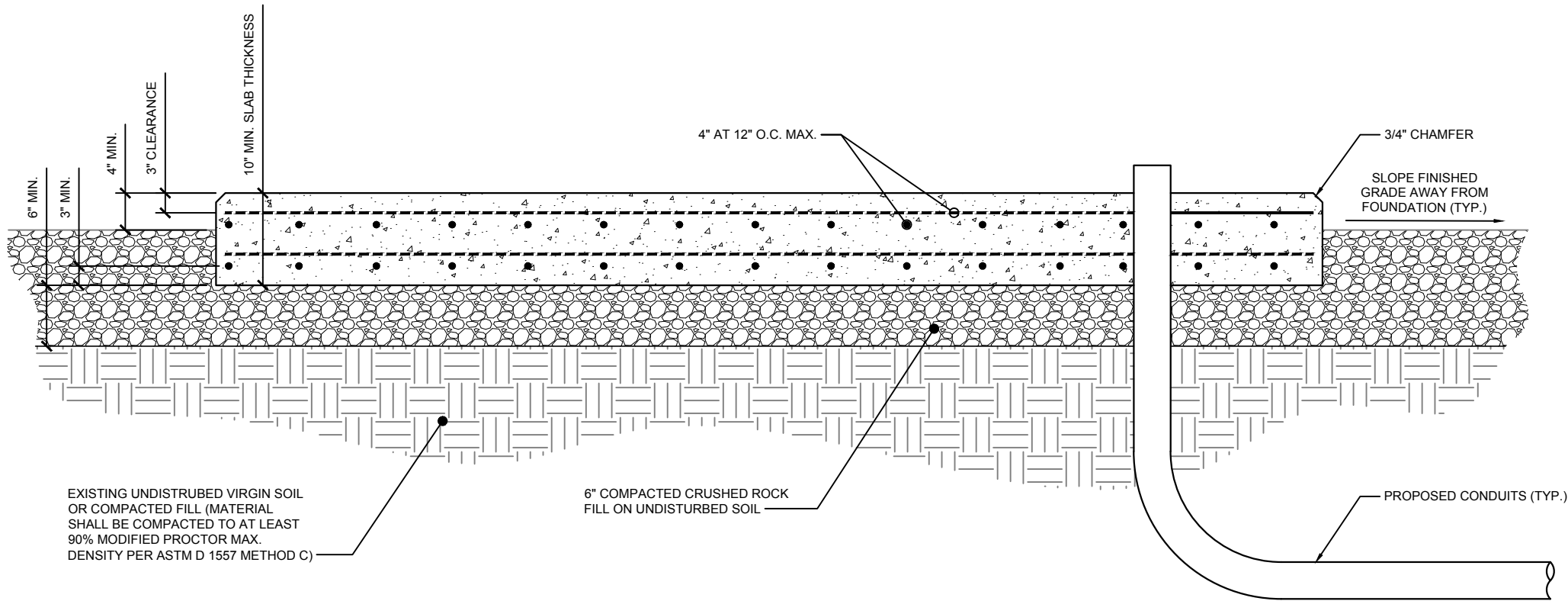
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ANCHOR DETAIL

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2



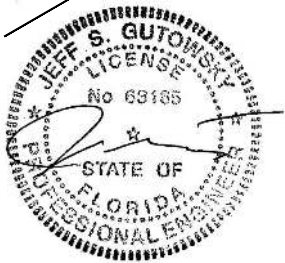
GENERATOR SLAB SECTION

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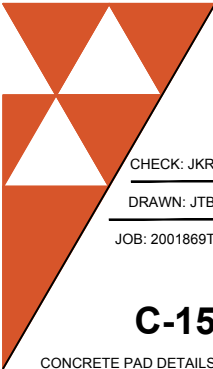
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CONCRETE PAD DETAILS

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10'-0" CLEARANCE

PROPOSED H-FRAME WITH  
800A METER CENTER &  
HOFFMAN BOX. SEE 3/E-3

PROPERTY LINE

R.O.W. LINE

STILL ROAD

R.O.W. LINE

PROPOSED 30'-0" ACCESS/UTILITY  
EASEMENT. SEE SURVEY FOR  
LEGAL DESCRIPTION

PROPOSED UNDERGROUND FIBER  
CONDUIT(S) WITH PULL STRINGS FROM  
R.O.W. TO PROPOSED HOFFMAN BOX.  
CONTRACTOR TO VERIFY IN FIELD WITH  
LOCAL UTILITY COMPANY. SEE 1/E-3

PROPOSED UNDERGROUND ELECTRIC  
CONDUIT(S) & WIRE FROM R.O.W. TO  
PROPOSED METER CENTER.  
CONTRACTOR TO VERIFY IN FIELD WITH  
LOCAL UTILITY COMPANY. SEE 1/E-3

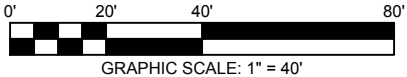
EXISTING UTILITY POLE  
W/ TRANSFORMER

OHW

OHW

OHW

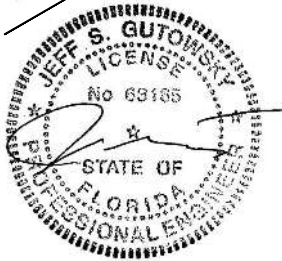
EXISTING OVERHEAD  
UTILITY LINE



GRAPHIC SCALE: 1" = 40'

UTILITY ROUTING  
PENDING UTILITY  
WALK

VOLTAGE DROP FROM EXISTING R.O.W. TO METER CENTER (800A)			
LENGTH OF RUN	WIRE SIZE	VOLTAGE DROP (VOLTS)	PERCENTAGE OF VOLTAGE
±50'-0"	(2) RUNS OF (3) 600 MCM	1.02 V	0.43%



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CHECK: JKR

DRAWN: JTB

JOB: 2001869T

E-1  
UTILITY PLAN

WT GROUP

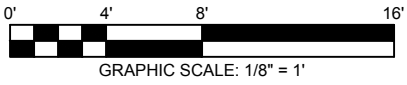
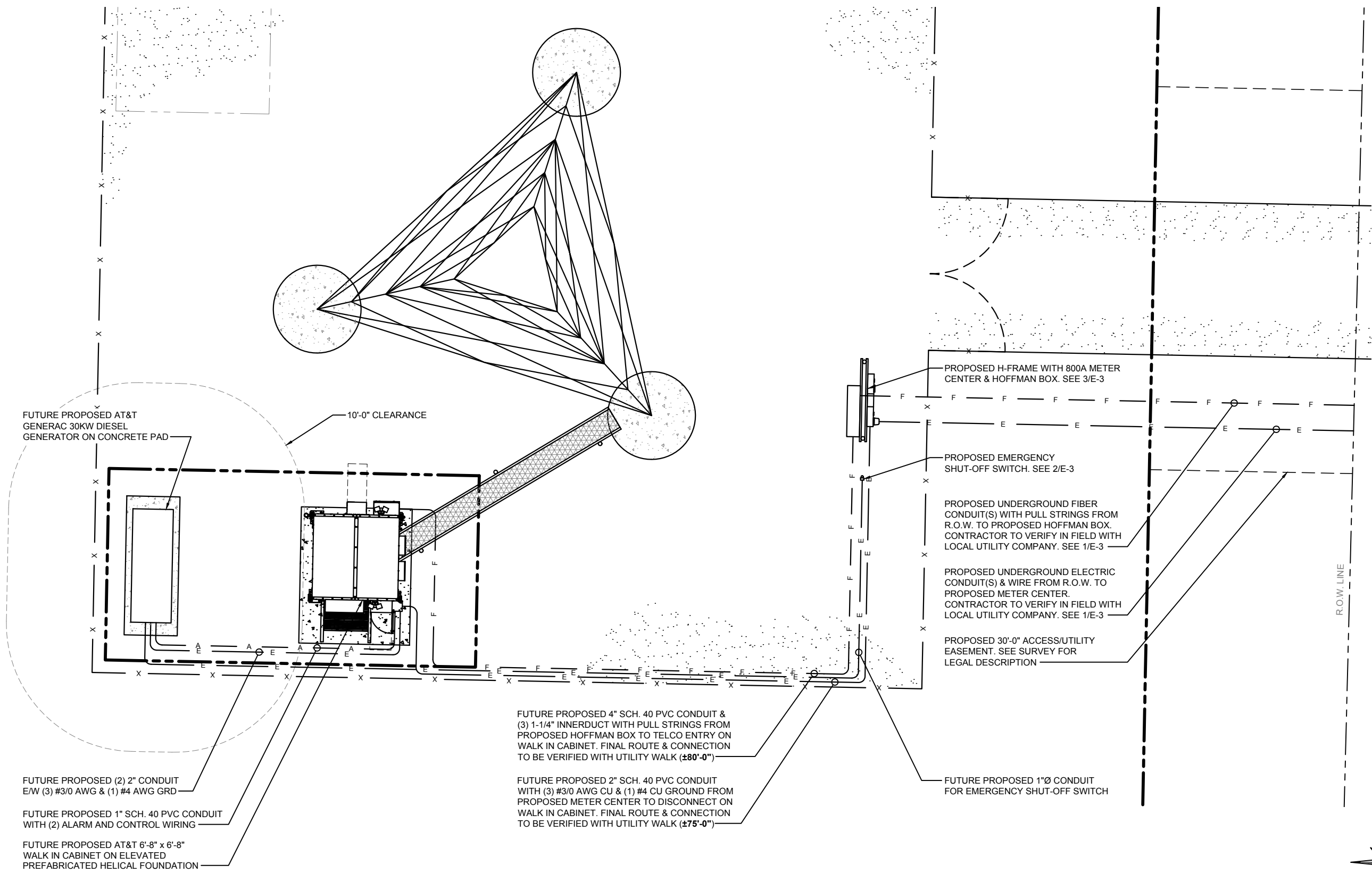
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NOTE:  
UNDERGROUND CONDUITS SHALL BE  
SCHEDULE 40 PVC UNLESS NOTED  
OTHERWISE. USE RGS FOR ELBOWS  
AND RISERS




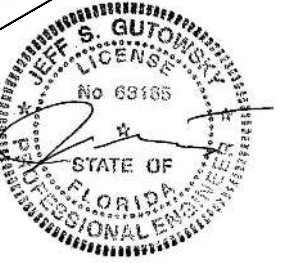
**ENLARGED UTILITY PLAN**

SCALE: 1/8" = 1'-0"

1



**CITY SWITCH II-A**



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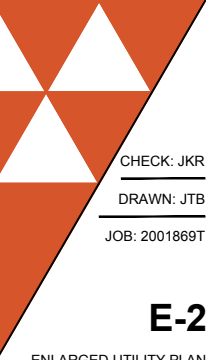
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**E-2**  
ENLARGED UTILITY PLAN

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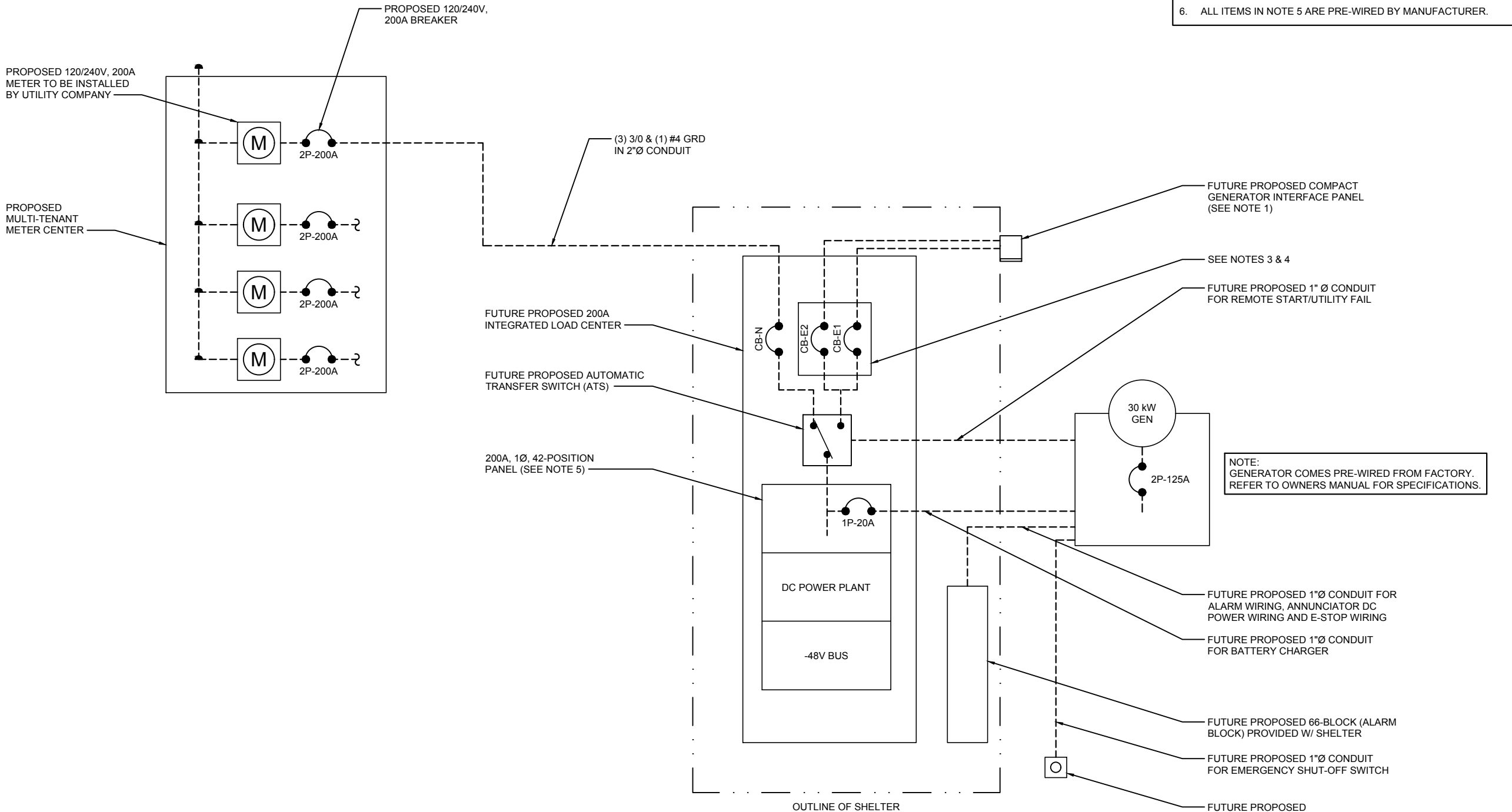




- 3





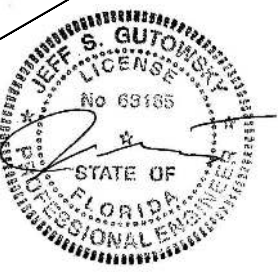




- NOTES:
1. PROVIDE ARC FLASH WARNING LABELS ON ALL PANELS PER NEC 110.16.
  2. PROVIDE EQUIPMENT IDENTIFICATION LABELS PER NEC 225.37.
  3. CB-N AND CB-E1 ARE 2P-200A MAIN BREAKERS.
  4. CB-E1 IS MECHANICALLY INTERLOCKED.
  5. POWER TRANSFER LOAD CENTER (PTLC) INCLUDES A CAM-LOC GENERATOR CONNECTION PANEL, AND MTS, A MECHANICALLY INTERLOCKED TRANSFER SWITCH, A 200A 42-POS PANEL AND SURGE SUPPRESSION.
  6. ALL ITEMS IN NOTE 5 ARE PRE-WIRED BY MANUFACTURER.

NOTE:  
GENERATOR COMES PRE-WIRED FROM FACTORY.  
REFER TO OWNERS MANUAL FOR SPECIFICATIONS.






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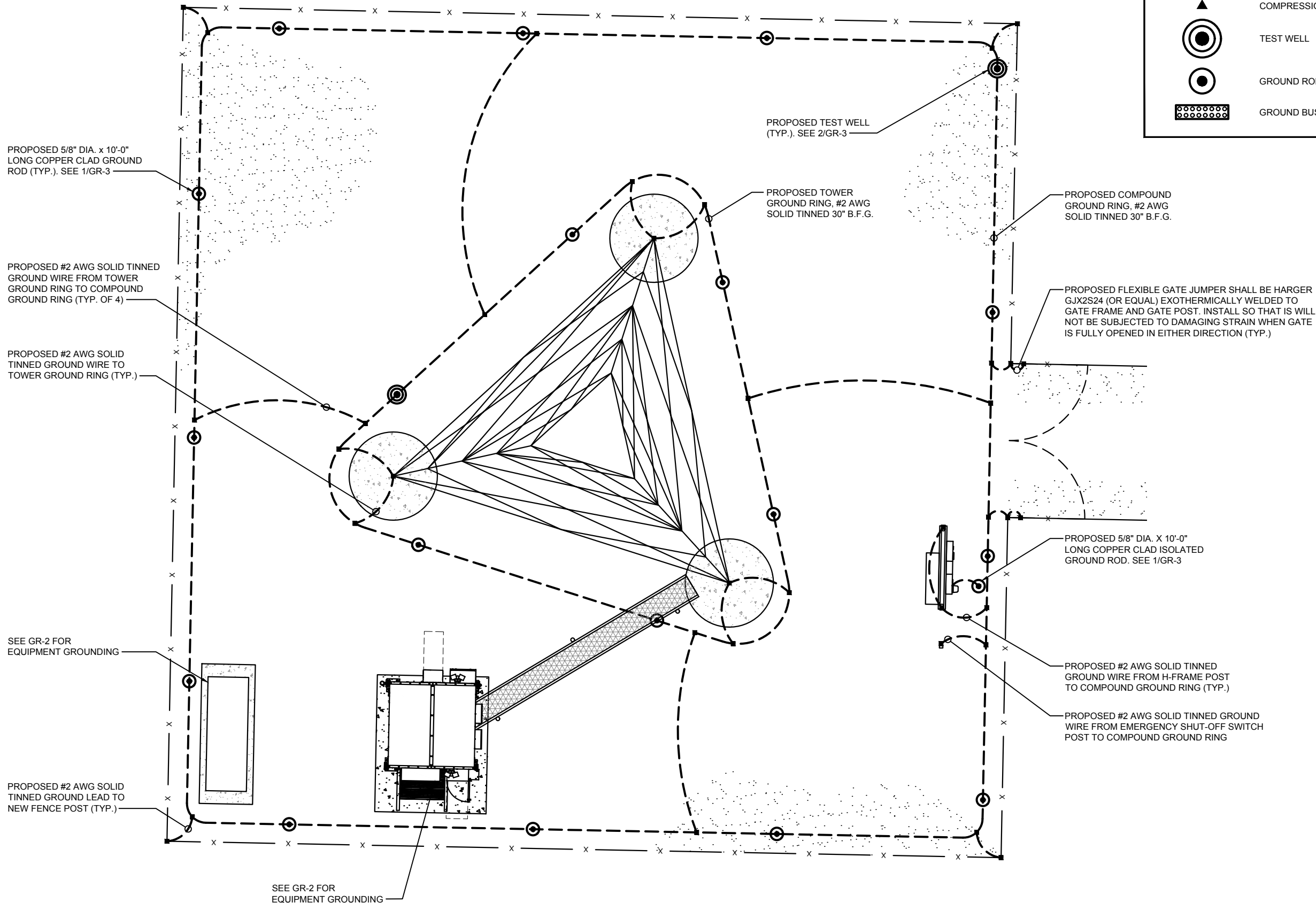
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E-4  
ONE LINE DIAGRAM

NOTE:  
GROUNDING IS FOR REFERENCE ONLY. SOIL  
CONDITIONS SPECIFIED IN GEOTECHNICAL REPORT  
SHALL BE REFERRED TO PRIOR TO CONSTRUCTION  
& MATERIAL ORDER. FINAL GROUNDING SYSTEM  
RESISTANCE TO BE UNDER 5 OHM'S.



LEGEND

GROUNDING WIRE

EXOTHERMIC WELD

MECHANICAL CONNECTION

COMPRESSION FITTING

TEST WELL

GROUND ROD

GROUND BUS BAR

IgniteWireless

CITY SWITCH II-A

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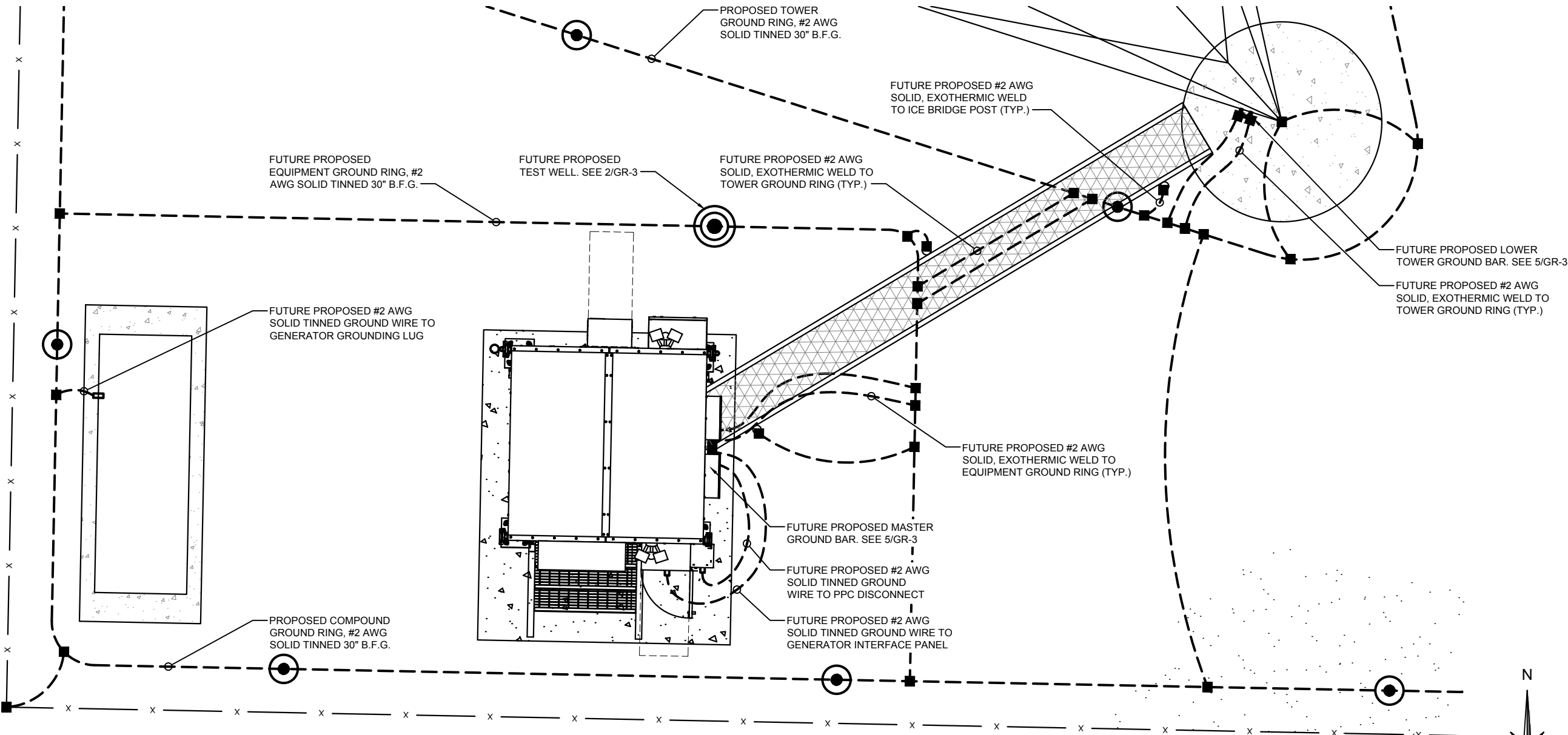
GR-1

GROUNDING PLAN

NOTE:  
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& MATERIAL ORDER. FINAL GROUNDING SYSTEM  
RESISTANCE TO BE UNDER 5 OHM'S.

LEGEND

- GROUNDING WIRE
- EXOTHERMIC WELD
- MECHANICAL CONNECTION
- COMPRESSION FITTING
- TEST WELL
- GROUND ROD
- GROUND BUS BAR



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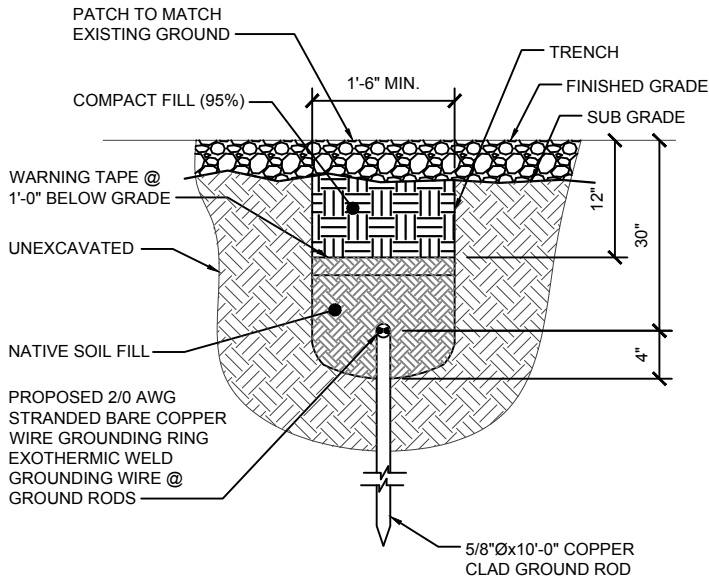
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**GR-2**  
EQUIPMENT  
GROUNDING PLAN

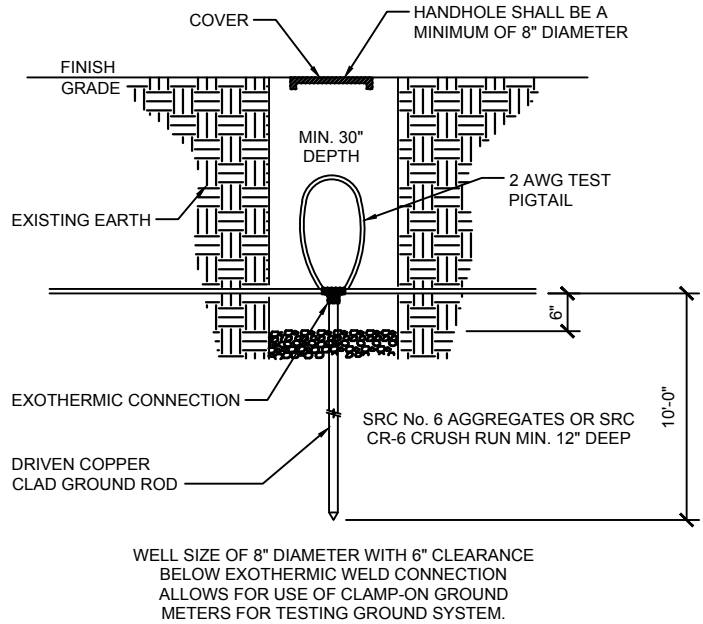




GROUND ROD DETAIL

SCALE: NONE

1

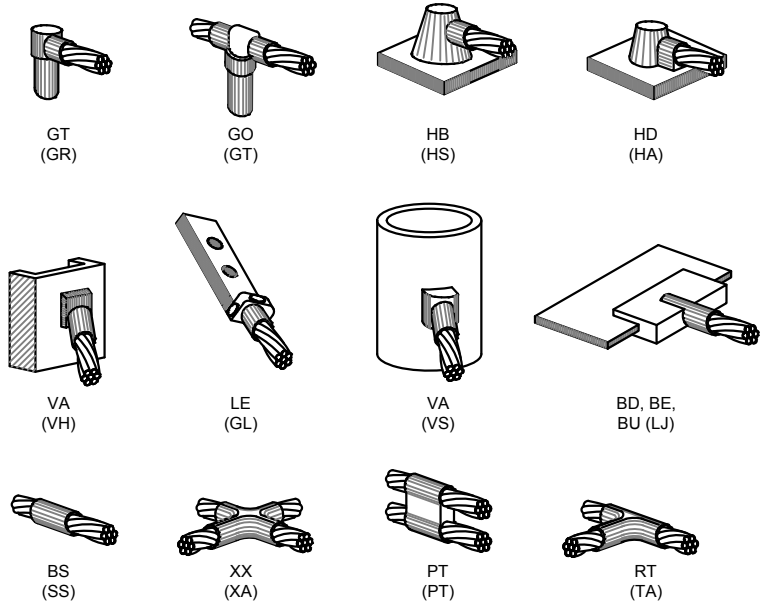


TEST WELL DETAIL

SCALE: NONE

2

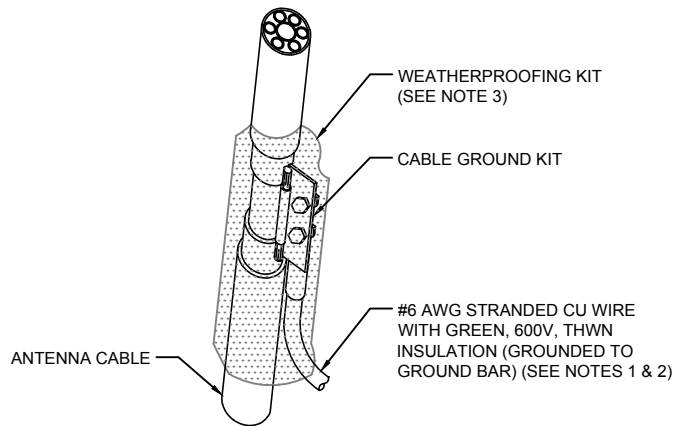
NOTE:  
THE FOLLOWING SYMBOLS SHOWN ARE HARGER ULTRAWELD  
EXOTHERMIC CONNECTIONS WITH PART NUMBERS BELOW.  
THESE CONNECTIONS MAY BE CROSS-REFERENCED WITH  
CADWELD CONNECTIONS WHICH ARE SHOWN IN PARENTHESES



EXOTHERMIC WELD TYPES

SCALE: NONE

3



NOTES:

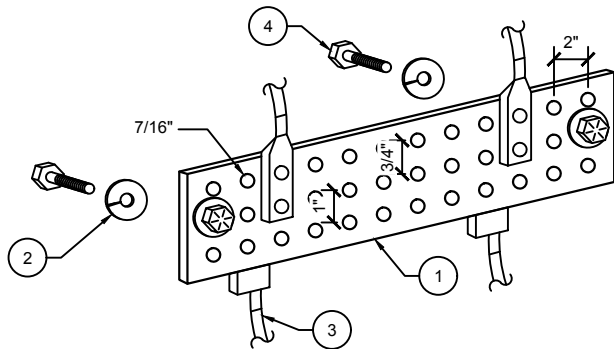
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
- GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
- WEATHERPROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

CONNECTION OF GROUND KIT TO ANTENNA CABLE

SCALE: NONE

4

NOTE:  
ALL EXTERIOR GROUNDING WIRE IS  
#2 SOLID BARE TINNED COPPER.



LEGEND:

- COPPER GROUND BAR (TINNED), 1/4"X 4"X 20"
  - 5/8" LOCKWASHERS, H.K. PORTER OR APPROVED EQUIVALENT.
  - #2 TWO HOLE LONG BARREL COMPRESSION LUG BY BURNDY OR APPROVED EQUIVALENT. CONTRACTOR SHALL EXOTHERMICALLY WELD ALL CONNECTIONS TO EXTERIOR GROUND BARS. MECHANICAL CONNECTIONS WILL ONLY BE ALLOWED INSIDE WALK IN CABINET AND FOR COAX GROUNDING CONNECTIONS.
  - 5/8-11 X 1" HHCS BOLTS, H.K. PORTER OR APPROVED EQUIVALENT.
- \* APPLY A NO-OXIDATION COMPOUND BEHIND AND ON ALL CONNECTIONS TO GROUND BUSS BAR.

GROUND BAR DETAIL

SCALE: NONE

5

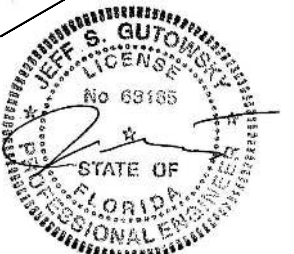
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SCALE: NONE

6

IgniteWireless

CITY SWITCH II-A



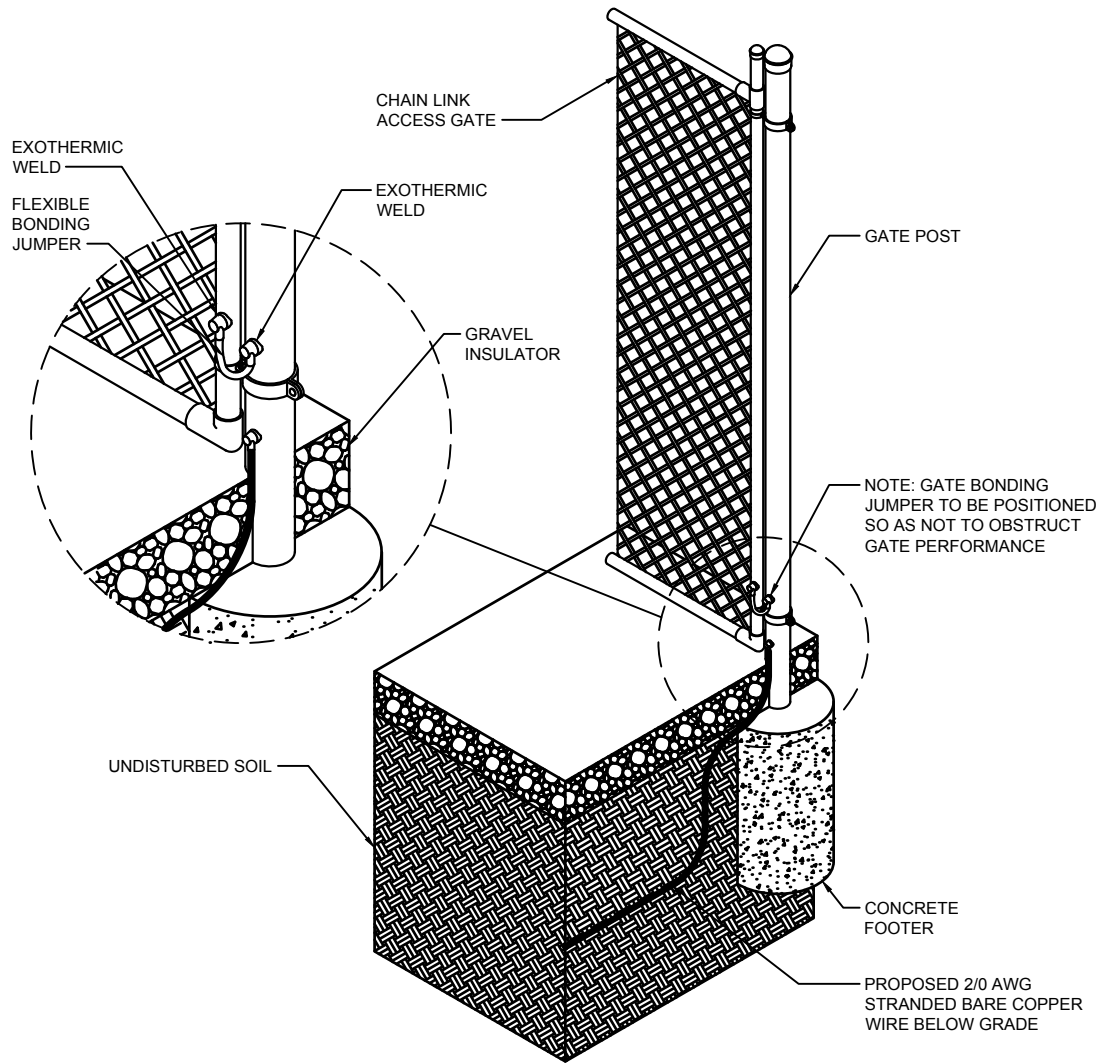
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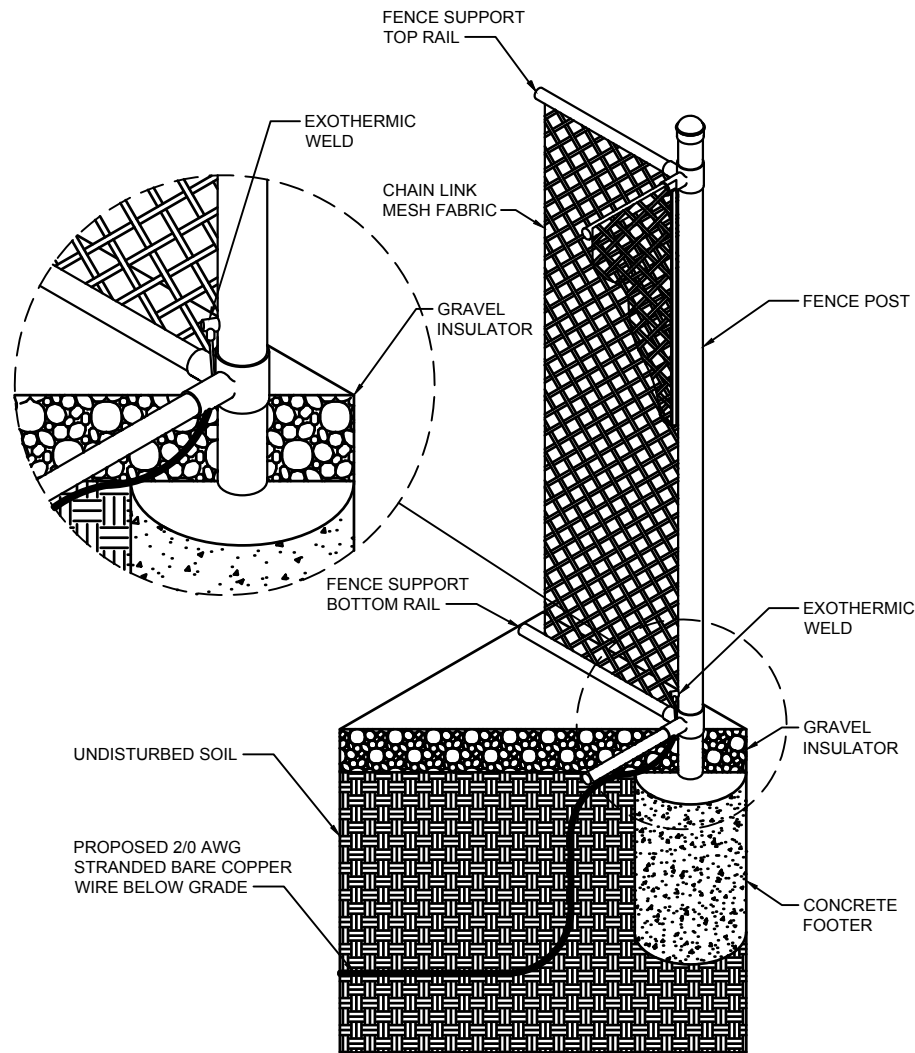
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GR-3  
GROUNDING DETAILS



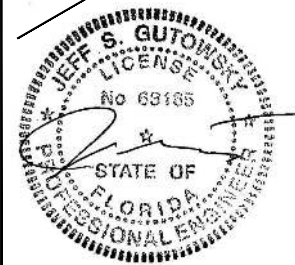
NOTE:  
ALL EXTERIOR GROUNDING WIRE IS  
#2 SOLID BARE TINNED COPPER.



## FENCE AND GATE GROUNDING DETAIL

SCALE: NONE

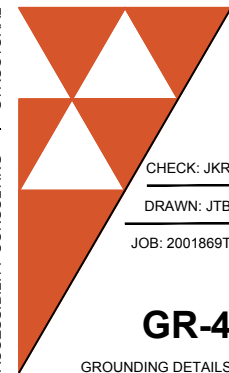
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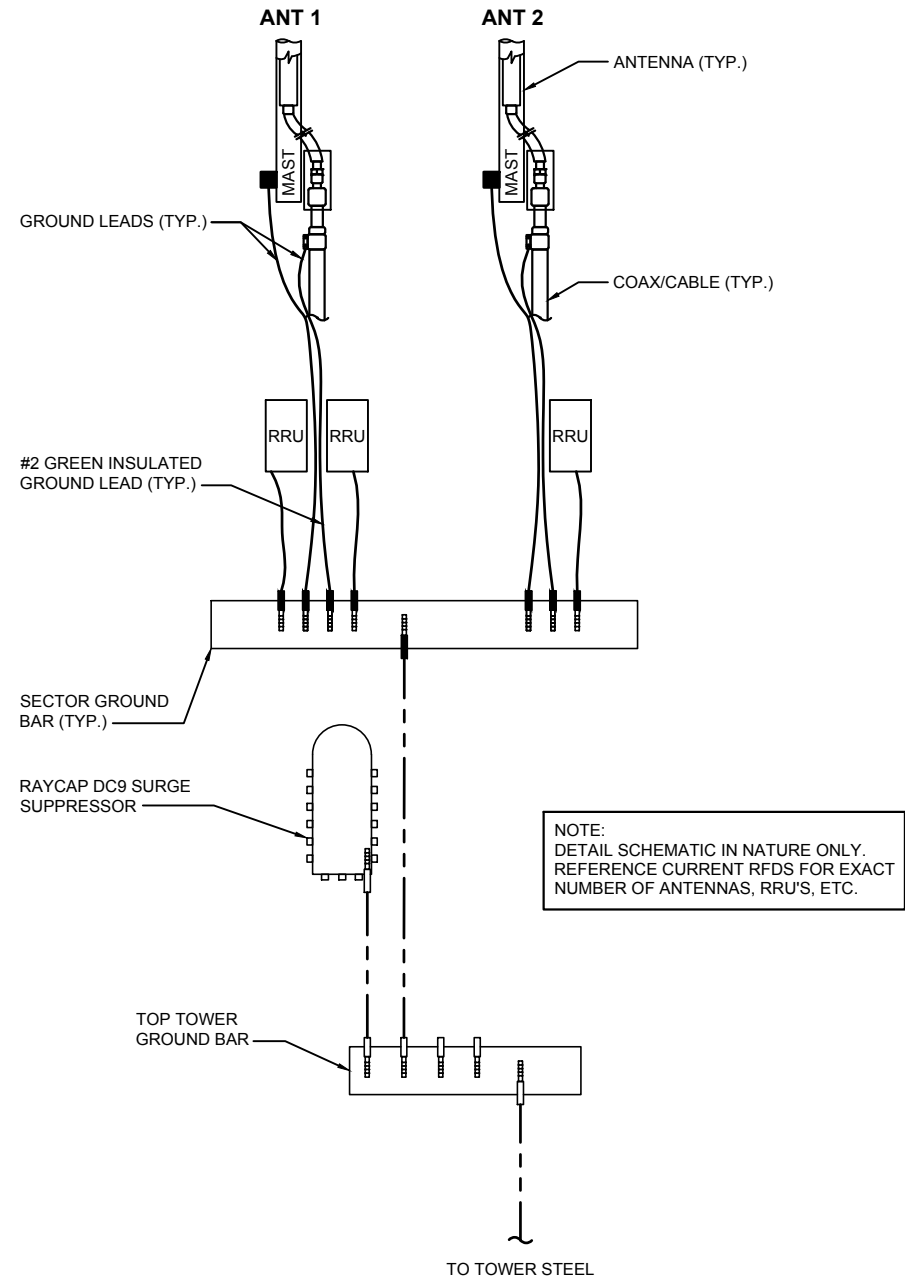
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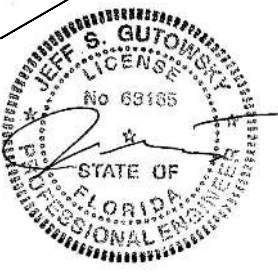
GROUNDING DETAILS



<b>ANTENNA GROUNDING DIAGRAM</b>	<b>1</b>
SCALE: NONE	


<b>NOT USED</b>	<b>2</b>
SCALE: NONE	

**CITY SWITCH II-A**



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**GR-5**  
GROUNDING DETAILS

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