



AT&T

- SBA NOTES:
- 1. PRE-CONSTRUCTION MEETING REQUIRED WITH SBA RSM PRIOR TO ANY WORK.
  - 2. NO WORK ALLOWED WITHOUT A VALID NTP.
  - 3. ALL CONTRACTORS MUST BE AVETTA APPROVED WITH SBA.

FIVE POINTS  
FA SITE #15826570  
SBA ID #FL09335-A

1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

NSB  
COLOCATION ON EXISTING 380' GUYED TOWER

IWM# WSTFL0016393 / WSTFL0015453 / WSTFL0015478 / WSTFL0015528 / WSTFL0016058 / WSTFL0032327

LOCATION MAP



APPROVALS

PROPERTY OWNER	DATE
RF ENGINEER	DATE
CONSTRUCTION	DATE
SITE ACQUISITION	DATE
ZONING	DATE
NETWORK	DATE
OPERATIONS	DATE
CONTRACTOR	DATE

DESIGN CRITERIA

- FLORIDA BUILDING CODE (8TH EDITION) 2023
- ANSI/EIA/TIA-222-H (ALLOWED PER EXEMPTION #5 OF 1609.1.1)
- ASCE 7-22
- VULT = 119 MPH (ULTIMATE 3 SECOND GUST)
- RISK CATEGORY = II
- EXPOSURE = C
- IMPORTANCE FACTOR= 1.0
- NATIONAL ELECTRICAL CODE, 2020 EDITION (NFPA 70 2020)
- FLORIDA FIRE PREVENTION CODE, 8TH EDITION (2023)
- CONTRACTOR TO CONFIRM THAT THE SITE IS COMPLIANT WITH RF WARNING SIGNAGE & EMERGENCY SIGNAGE AS REQUIRED BY THE FEDERAL GUIDELINES CONTAINED WITH OET 65 BULLETIN & AS PER AT&T GUIDELINES

CONSTRUCTION NOTES

1. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
2. CONTRACTOR SHALL NOTIFY OWNER FOR ACCESS TO SITE.
3. THE SCOPE OF WORK FOR THIS PROJECT IS:
  - PROPOSED VERTIV 3-BAY WUC
  - PROPOSED GENERAC 20 KW DIESEL GENERATOR
  - PROPOSED 15'X20' AT&T EQUIPMENT LEASE AREA
  - PROPOSED (12) ANTENNAS @ 250' RAD
  - PROPOSED (12) RRUS
  - PROPOSED (2) RAYCAP DC9
  - PROPOSED (6) DC CABLES
  - PROPOSED (2) FIBER CABLES
  - PROPOSED (4) SABRE SECTOR MOUNTS @ 250' RAD
  - PROPOSED (1) SABRE UNIVERSAL QUAD MOUNT

CONTACTS

**APPLICANT:**  
NEW CINGULAR PCS, LLC.  
12150 RESEARCH PRWY  
ORLANDO, FL 32826

**TOWER OWNER:**  
SBA COMMUNICATIONS  
8051 CONGRESS AVENUE  
BOCA RATON FL, 33487

**ENGINEER:**  
GEN3 ENGINEERING, INC.  
27139 SEA BREEZE WAY  
WESLEY CHAPEL, FL 33544  
CONTACT: MARC P. MAIER, P.E.  
(352) 634-1643

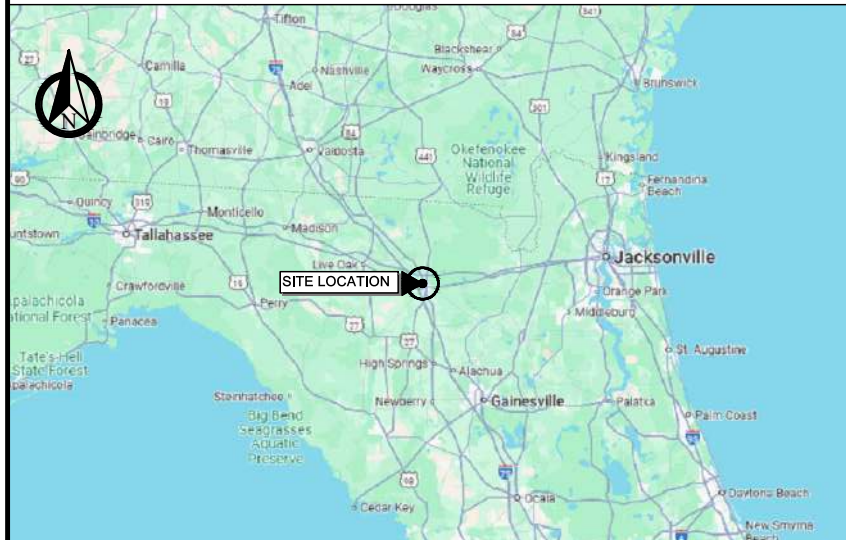
**ELECTRIC:**  
FLORIDA POWER AND LIGHT

**TELCO:**  
AT&T

INDEX OF DRAWINGS

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GR-3	GROUNDING DETAILS	
GR-4	GROUNDING DETAILS	

VICINITY MAP



PROJECT SUMMARY

SITE NAME: FIVE POINTS  
FA SITE NUMBER: 15826570  
COUNTY: COLUMBIA  
JURISDICTION: COLUMBIA COUNTY  
SITE COORDINATES: 30° 13' 35.2" N (30.226442°)  
82° 39' 07.8" W (-82.652164°)  
PROJECT INITIATIVE: COLOCATION  
STRUCTURE TYPE: GUYED TOWER  
TOWER HEIGHT: 380'-0" AGL  
ANTENNA C.L. HEIGHT: 250'-0" AGL  
PARCEL#: 18-3S-17-05048-005

DRIVING DIRECTIONS



PROJECT REFERENCES

1. THESE PLANS WERE COMPLETED PER NSB RFDS-7846 DATED 06/11/24. CONTRACTOR SHALL REQUEST CURRENT RFDS & WORKBOOK FROM CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
2. THESE PLANS WERE COMPLETE PER TOWER ENGINEERING PROFESSIONALS. MOUNT ANALYSIS REPORT DATED 05/16/24.

PROJECT INFORMATION

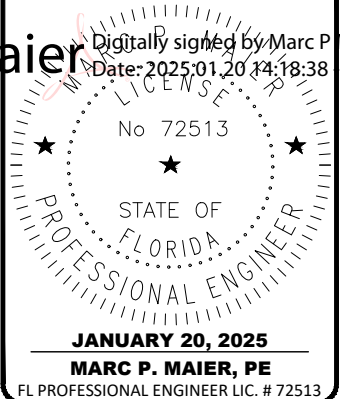
1. THIS IS AN UNMANNED FACILITY AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNALS FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
2. AT&T CERTIFIES THAT THIS EQUIPMENT FACILITY WILL BE SERVICED ONLY BY AT&T EMPLOYEES AND SUBCONTRACTORS AND THE WORK ASSOCIATED WITH ANY EQUIPMENT CANNOT BE PERFORMED BY HANDICAPPED PERSONS. THIS FACILITY WILL BE FREQUENTED ONLY BY SERVICE PERSONNEL FOR REPAIR PURPOSES ONLY.
3. NO POTABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.
4. NO WASTEWATER WILL BE GENERATED AT THIS LOCATION.
5. NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.

REV	DATE	DESCRIPTION
A	12/22/24	PRELIMINARY CDs REV "A"
B	01/20/25	PRELIMINARY CDs REV "B"
0	01/20/25	FINAL CDs ISSUED
1		
2		
3		
4		
5		
6		
7		
8		

GEN3 PROJECT#: 102411017	
DRAWN BY: YMK	CHECKED BY: MM



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**FA #15826570**  
**SBA ID #1200714**  
1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

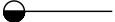



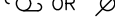





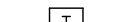
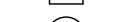


SHEET DESCRIPTION
TITLE SHEET
SHEET NUMBER
T-1




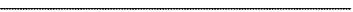





















GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ENGINEER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE CONSTRUCTION MANAGER OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE CONTRACTOR’S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THE PROJECT REQUIREMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWING/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR’S SPECIFICATION UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE. CONTRACTOR SHALL PROVIDE SERVICES FOR OFF LOADING AND PLACEMENT OF SWIC IN ACCORDANCE WITH MANUFACTURER’S LIFTING PROCEDURES.
8. THE CONTRACTOR SHALL MAINTAIN A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE. UPDATED WITH THE LATEST REVISIONS AND ADDENDA OR CLARIFICATIONS AVAILABLE FOR USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT. REDLINED AS–BUILTS ARE TO BE DELIVERED TO THE CLIENT AT CLOSEOUT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
15. FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (HANDICAPPED ACCESS NOT REQUIRED).
16. FACILITY HAS NO PLUMBING.
17. PRIOR TO OR UPON ENTERING INTO THE SITE COMPOUND, THE PERSONNEL ENTERING THE SITE AND THE SWIC ARE TO CONTACT THE SWITCH AND THE CLIENT NOC (IF APPLICABLE) INFORMING THEM OF THE FOLLOWING INFORMATION: WHO IS ENTERING THE SWIC AND WHAT COMPANY THEY ARE WITH, WHY THEY ARE ENTERING THE SWIC AND HOW LONG THEY PLAN TO BE AT THE SWIC.
18. UPON LEAVING THE SWIC, THE "SITE" PERSONNEL ARE TO CONTACT THE SWITCH AND CLIENT NOC INFORMING THEM OF DEPARTURE.
19. SHOULD THE SWIC ACCESS OCCUR WHILE THE SWITCH IS UNMANNED, THEN AT MINIMUM THE CLIENT NOC WILL BE NOTIFIED OF THE ABOVE INFORMATION.
20. ALL INSTALLATION DEBRIS AND TRASH SHALL BE REMOVED FROM THE SITE ON A DAILY BASIS. ANY EXPENSE THAT IS INCURRED BY CLIENT FOR TRASH REMOVAL WILL BE BACK–CHARGED TO THE SUBCONTRACTOR.
21. THE CONTRACTOR SHALL NOTIFY ENGINEER, WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE CONSTRUCTION MANAGER.
22. ALL ANTENNA OUTAGES MUST BE PLANNED AT A MINIMUM OF 24 HOURS IN ADVANCE. CONTRACTOR MUST CONTACT THE SWITCH AND THE NOC TO COORDINATE. IF THIS POLICY IS NOT ADHERED TO, THE CONTRACTOR WILL BE REMOVED FROM THE BIDDER’S LIST AND ANY OPPORTUNITY FOR FUTURE WORK.

A/C	AIR CONDITIONING
ADJ.	ADJUSTABLE
AFF	ABOVE FINISH FLOOR
APPROX.	APPROXIMATELY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWG	AMERICAN WIRE GAUGE
A	AMPERE
BTS	BASE TRANSMISSION STATION
BLDG.	BUILDING
BLK.	BLOCK
B/S	BUILDING STANDARD
CIGBE	GROUND BAR
CLG	CEILING
CLR.	CLEAR
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
C.F.C.I.	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
DBL.	DOUBLE
DIA., ∅	DIAMETER
DIAG.	DIAGONAL
DIM.	DIMENSION
DN	DOWN
DTL.	DETAIL
DWG.	DRAWING
E	EAST
EA.	EACH
EL., ELEV.	ELEVATION
ELECT.	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.W.	EACH WAY
EXIST.	EXISTING
EXT.	EXTERIOR
FIN.	FINISH
FLR	FLOOR
FT.	FOOT
GRC.	GALVANIZED RIGID CONDUIT
G. OR GRD.	GROUND
GA.	GAUGE
GALV.	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERATOR
HORIZ.	HORIZONTAL
HR	HOUR
HT.	HEIGHT
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
I.D.	INSIDE DIA.
IN.	INCH
INFO	INFORMATION
INSUL.	INSULATION
INT.	INTERIOR
KVA	KILOVOLTS–AMPERE
KW	KILOWATT
LB(S)	POUND(S)
MGB	MASTER GROUND BAR
MAX.	MAXIMUM
MECH.	MECHANICAL
MFR.	MANUFACTURER
MGR.	MANAGER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MTD.	MOUNTED
NEC	NATIONAL ELECTRICAL CODE
NEUT.	NEUTRAL
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NOC	NETWORK OPERATIONS CENTER
NPS	NOMINAL PIPE SIZE
N.T.S.	NOT TO SCALE
O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED
OC, o/c	ON CENTER
OPP	OPPOSITE
OD	OUTSIDE DIAMETER
OHP	OVERHEAD POWER
OHT	OVERHEAD TELEPHONE
OHU	OVERHEAD UTILITY LINES
PLYWD.	PLYWOOD
PR	PAIR
PH	PHASE
PVC	POLYVINYL CHLORIDE
PROJ	PROJECT
PROP	PROPERTY
PT	PRESSURE TREATED
RECPT.	RECEPTACLE

REQ'D	REQUIRED
RGS	RIGID GALVANIZED STEEL
R.O.	ROUGH OPENING
R.O.W.	RIGHT–OF–WAY
S	SOUTH
S.O.	SERVICE GRADE OIL RESISTANT
SHT	SHEET
SIM.	SIMILAR
SPEC.	SPECIFICATION
XXX.XX'	SPOT ELEVATION
SQ.	SQUARE
SF	SQUARE FOOT
SS	STAINLESS STEEL
STL.	STEEL
STRUCT.	STRUCTURAL
THRU	THROUGH
T.O.C.	TOP OF CONCRETE
T.O.M.	TOP OF MASONRY
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
VERT.	VERTICAL
VIF	VERIFY IN FIELD
V	VOLT
W	WEST
W	WIRE
W/	WITH
W/O	WITHOUT
W.P.	WEATHERPROOF
XFMR	TRANSFORMER
	MATCH LINE
	WORK POINT
	MECHANICAL BONDING CONNECTION
	EXOTHERMICALLY WELDED BONDING CONNECTION
	POWER POLE
	DISCONNECT SWITCH
	DOUBLE–THROW MANUAL TRANSFER SWITCH
	CIRCUIT BREAKER
	EMERGENCY GENERATOR RECEPTACLE
	TELCO PEDESTAL
	GROUND ROD
	GROUND ROD INSPECTION WELL
	REPRESENTS DETAIL NUMBER
	REF. DRAWING NUMBER

LEGEND	
	EXISTING CONTOUR LINE
	EXISTING CHAIN LINK FENCE
	EXISTING PROPERTY LINE
	EXISTING OVERHEAD UTILITIES
	EXISTING SANITARY SEWER LINE
	EXISTING STORM DRAIN LINE
	PROPOSED CONTOUR LINE
	PROPOSED CHAIN LINK FENCE
	PROPOSED LEASE AREA
	PROPOSED OVERHEAD UTILITIES
	PROPOSED UNDERGROUND TELCO

	NORTH ARROW
	ELEVATION
	SECTIONS & DETAILS
	BRICK
	CONCRETE
	EARTH
	GRAVEL
	STEEL
	METER
	GROUND
	REVISION
	KEYNOTE

REV	DATE	DESCRIPTION
A	12/22/24	PRELIMINARY CDs REV "A"
B	01/20/25	PRELIMINARY CDs REV "B"
0	01/20/25	FINAL CDs ISSUED
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GEN3 PROJECT#.: 102411017		
DRAWN BY:		CHECKED BY:
YMK		MM

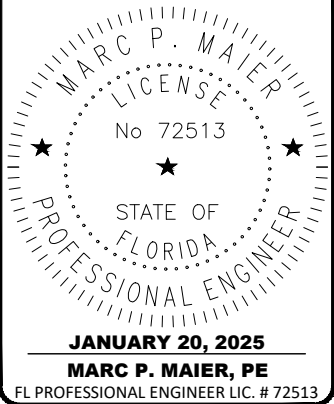


PREPARED BY:



27139 SEA BREEZE WAY  
WESLEY CHAPEL, FLORIDA 33544  
(813)917–2671  
COA # 35409

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LAKE CITY, FL 32055

SHEET DESCRIPTION

GENERAL NOTES,  
ABBREVIATIONS

SHEET NUMBER

GN-1

CIVIL SPECIFICATION NOTES

GENERAL NOTES:

1. ZONING REGULATIONS AND CONDITIONAL USE PERMITS:

A. CLIENT WILL SUBMIT FOR AND OBTAIN ALL ZONING AND CONDITIONAL USE PERMITS. SOME USE PERMITS MAY HAVE SPECIFIC REQUIREMENTS FOR THE SITE RELATED TO CONSTRUCTION, SUCH AS NOISE REGULATIONS, HOURS OF WORK, ACCESS LIMITATIONS, ETC. THE CONSTRUCTION MANAGER WILL INFORM THE CONTRACTOR OF THESE REQUIREMENTS AT THE PRE-BID MEETING OR AS SHOWN IN CONSTRUCTION DOCUMENTS.
2. CONFLICTS:

A. VERIFY ALL MEASUREMENTS AT THE SITE BEFORE ORDERING MATERIAL OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION WILL BE ALLOWED DUE TO DIFFERENCES BETWEEN ACTUAL DIMENSIONS OR DIMENSIONS SHOWN ON PLANS. SUBMIT NOTICE OF ANY DISCREPANCY IN DIMENSIONS OR OTHERWISE TO THE CONSTRUCTION MANAGER FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.  
  
B. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES OF CONDITIONS THAT MAY BE ENCOUNTERED, OR OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL THE REQUIREMENTS CONTRACT DOCUMENTS GOVERNING THE WORK.
3. PHOTOS:

A. PROVIDE PHOTOGRAPHIC EVIDENCE OF ALL FOUNDATION INSTALLATION, GROUNDING AND TRENCHING AFTER PLACEMENT OF UTILITIES PRIOR TO BACKFILL.

SITE PREPARATION:

1. CONTRACTOR’S SCOPE OF WORK:

A. PROTECTION OF EXISTING TREES, VEGETATION AND LANDSCAPING MATERIALS WHICH MIGHT BE DAMAGED BY CONSTRUCTION ACTIVITIES.  
  
B. TRIMMING OF EXISTING TREES AND VEGETATION AS REQUIRED FOR PROTECTION DURING CONSTRUCTION ACTIVITIES.  
  
C. CLEARING AND GRUBBING OF STUMPS, VEGETATION, DEBRIS, RUBBISH, DESIGNATED TREES, AND SITE IMPROVEMENTS.  
  
D. TOPSOIL STRIPPING AND STOCKPILING.  
  
E. TEMPORARY EROSION CONTROL, SILTATION CONTROL, AND DUST CONTROL CONFORMING TO LOCAL AND STATE REQUIREMENTS AS APPLICABLE.  
  
F. TEMPORARY PROTECTION OF ADJACENT PROPERTY, STRUCTURES, BENCHMARKS, AND MONUMENTS.  
  
G. PROTECTION AND TEMPORARY RELOCATION, STORAGE AND REINSTALLATION OF EXISTING FENCING AND OTHER SITE IMPROVEMENTS SCHEDULED FOR REUSE.  
  
H. REMOVAL AND LEGAL DISPOSAL OF CLEARED MATERIALS.
2. CONTRACTOR’S QUALITY ASSURANCE:

A. CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR CONTAINMENT OF SEDIMENT AND CONTROL OF EROSION ON SITE. ANY DAMAGE TO ADJACENT OR DOWNSTREAM PROPERTIES WILL BE CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.  
  
B. CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES. DO NOT ALLOW WATER TO STAND OR POND. ANY DAMAGE TO STRUCTURES OR WORK ON THE SITE CAUSED BY INADEQUATE MAINTENANCE OF DRAINAGE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND ANY COST ASSOCIATED WITH REPAIRS FOR SUCH DAMAGE WILL BE AT THE CONTRACTOR’S EXPENSE.  
  
C. CONTRACTOR SHALL PROPERLY DISPOSE ALL WASTE MATERIAL OFF-SITE OR AS DIRECTED BY THE CONSTRUCTION MANAGER AND IN ACCORDANCE WITH JURISDICTIONAL AUTHORITIES.
3. PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS WITHIN THE CONSTRUCTION DOCUMENTS):

A. MATERIALS USED FOR TREE PROTECTION, EROSION CONTROL, SILTATION.  
  
B. MATERIALS USED FOR DUST CONTROL AS SUITABLE FOR SPECIFIC SITE CONDITIONS.

EARTHWORK:

1. CONTRACTOR’S SCOPE OF WORK:

A. EXCAVATION, TRENCHING, FILLING, COMPACTION AND GRADING FOR STRUCTURES, SITE IMPROVEMENTS AND UTILITIES.  
  
B. MATERIALS FOR SUB-BASE, DRAINAGE FILL, FILL, BACKFILL AND GRAVEL FOR SLABS, PAVEMENTS AND IMPROVEMENTS.  
  
C. ROCK EXCAVATION WITHOUT BLASTING.  
  
D. SUPPLY OF ADDITIONAL MATERIALS FROM OFF-SITE AS REQUIRED.  
  
E. REMOVAL AND LEGAL DISPOSAL OF EXCAVATED MATERIALS AS REQUIRED.  
  
F. SITE GRADING.  
  
G. PLACEMENT AND COMPACTION OF FILL, SUBGRADE AND GRAVEL SURFACING.  
  
H. WHEN REQUIRED, CONSTRUCTION OF COMPOUND, ACCESS ROADS, FENCING AND ALL FOUNDATIONS.
2. CONTRACTOR’S QUALITY ASSURANCE:

A. COMPACTION: UNDER STRUCTURES, FOUNDATIONS, BUILDING SLABS, PAVEMENTS AND WALKWAYS 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 WITH PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.  
  
B. GRADING TOLERANCES OUTSIDE BUILDING LINES: LAWNS, UNPAVED AREAS AND WALKS, PLUS OR MINUS 1 INCH. UNDER PAVEMENTS, PLUS OR MINUS 1/2 INCH.  
  
C. GRADING TOLERANCE FOR FILL UNDER ALL CONCRETE APPLICATIONS: PLUS OR MINUS 1/2 INCH MEASURED WITH 10 FOOT STRAIGHTEDGE.  
  
D. CONTRACTOR MUST REFER TO THE GEOTECH REPORT FOR ALL COMPACTED FILL RECOMMENDATIONS. IF THE GEOTECH REPORT CONFLICTS WITH THE CONSTRUCTION DRAWINGS THEN STOP WORK AND CONTACT THE CLIENT AS SOON AS POSSIBLE.
3. PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS WITHIN CONSTRUCTION DOCUMENTS):

A. SUB BASE MATERIAL: GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE OR SLAG AND NATURAL OR CRUSHED SAND.  
  
B. WASHED MATERIAL: UNIFORMLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL, WITH 100 PERCENT PASSING A 1-1/2 INCH SIEVE AND NOT MORE THAN 5 PERCENT PASSING A NO. 4 SIEVE.  
  
C. GRADING MATERIAL: SATISFACTORY NATIVE OR IMPORTED MATERIALS CONTAINING ROCK OR GRAVEL NOT LARGER THAN 2 INCHES IN ANY DIMENSION. GRADING MATERIAL SHALL NOT INCLUDE DEBRIS, WASTE, FROZEN MATERIALS, AND OTHER UNSUITABLE MATERIALS. IMPORTED MATERIAL SHALL HAVE A FINES CONTENT OF NO MORE THAN 5 PERCENT.  
  
D. BACKFILL MATERIALS: SATISFACTORY NON-COHESIVE NATIVE OR IMPORTED SOIL MATERIALS FREE OF CLAY, DEBRIS, WASTE, AND OTHER UNSUITABLE MATERIALS. ROCK OR GRAVEL SHALL NOT EXCEED 4 INCHES IN ANY DIMENSION. IMPORTED MATERIAL SHALL HAVE A FINES CONTENT OF NO MORE THAN 5 PERCENT.  
  
E. GRAVEL MATERIAL: EVENLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL, WITH 100 PERCENT PASSING A 1-1/2 INCH SIEVE AND NOT MORE THAN 5 PERCENT PASSING A NO. 4 SIEVE.  
  
F. GEOTEXTILE FABRIC: TYPAR 3401 OR EQUIVALENT
4. CLEARING AND GRUBBING:

A. REMOVE ALL VEGETATION AND MATERIALS TO A MINIMUM DEPTH OF 6 INCHES. REMOVE STUMPS COMPLETELY UNDER FOUNDATIONS AND ROADWAY. DISPOSE OF CLEARING AND GRUBBING OFF-SITE, OR IN AN ON-SITE LOCATION APPROVED BY CONSTRUCTION MANAGER.
5. STRIPPING:

A. STRIP NOT LESS THAN 3 INCHES OF VEGETATION AND TOPSOIL FROM AREAS THAT WILL UNDERLAY GRAVEL, PAVEMENT, NEW STRUCTURES, OR NEW EMBANKMENTS. STOCKPILE STRIPPED TOPSOIL ON-SITE FOR REUSE IN FINAL LANDSCAPING.
6. COMMON WEEDING:

A. STERILIZE COMPOUND AREA WITH WEED KILLER/DEFOLIANT. THEN TREAT AREA WITH AN HERBICIDE SUCH AS PARQUET OR EQUIVALENT.
7. COMMON EXCAVATION:

A. EXCAVATE TO DEPTH, LINES, AND GRADES SHOWN ON THE PLANS OR AS OTHERWISE SPECIFIED.  
  
B. TEMPORARILY STOCKPILE ON-SITE EXCAVATION AT AN APPROVED LOCATION WITHIN THE WORK AREA UNTIL SITE GRADING IS COMPLETE. STOCKPILE SHALL NOT EXCEED 15 FEET IN HEIGHT.  
  
C. DISPOSE OF EXCESS EXCAVATION OFF-SITE. MATERIALS REMOVED FROM SITE MUST BE DISPOSED OF IN A LEGAL MANNER.

8. EMBANKMENT:

- A. CONSTRUCT EMBANKMENT TO THE LINES AND GRADES SHOWN ON THE DRAWINGS.  
  
B. CONSTRUCT EMBANKMENT FROM ON-SITE EXCAVATION MATERIALS. USE IMPORTED BACKFILL ONLY AFTER AVAILABLE ON-SITE EXCAVATION MATERIALS HAVE BEEN USED.  
  
C. CONSTRUCT IN LIFTS OF NOT MORE THAN 9 INCHES IN LOOSE DEPTH. THE FULL WIDTH OF THE CROSS SECTION SHALL BE BROUGHT UP UNIFORMLY.  
  
D. MATERIAL SHALL BE PLACED IN LAYERS AND SHALL BE NEAR OPTIMUM MOISTURE CONTENT BEFORE ROLLING TO OBTAIN THE PRESCRIBED COMPACTION. WETTING OR DRYING OF THE MATERIAL AND MANIPULATION TO SECURE A UNIFORM MOISTURE CONTENT THROUGHOUT THE LAYER MAY BE REQUIRED. SUCH OPERATIONS SHALL BE INCLUDED IN THE APPROPRIATE BID ITEM. SHOULD THE MATERIAL BE TOO WET TO PERMIT PROPER COMPACTION, REMOVE AND REPLACE FILL WITH MATERIAL IN CONFORMANCE WITH THESE SPECIFICATIONS. IT IS THE CONTRACTOR’S RESPONSIBILITY TO PROVIDE MATERIAL WITH AN ACCEPTABLE MOISTURE CONTENT.

- E. WHEN APPLICABLE, DO NOT PLACE FROZEN MATERIAL IN THE EMBANKMENT, AND DO NOT PLACE EMBANKMENT MATERIAL UPON FROZEN MATERIAL.  
  
F. BE RESPONSIBLE FOR THE STABILITY OF EMBANKMENTS AND REPLACE ANY PORTION WHICH HAS BECOME DISPLACED DUE TO THE CONTRACTOR’S OPERATIONS.  
  
G. START LAYERS IN THE DEEPEST PORTION OF THE FILL, AND AS PLACEMENT PROGRESSES, CONSTRUCT LAYERS APPROXIMATELY PARALLEL TO THE FINISHED GRADE LINE.  
  
H. ROUTE EQUIPMENT, BOTH LOADED AND EMPTY, OVER THE FULL WIDTH OF EMBANKMENT TO ENSURE UNIFORMITY OF MATERIAL PLACEMENT.  
  
I. COMPACT EMBANKMENT UNDERLYING NEW GRAVEL PAVING, FLOOR SLABS, AND STRUCTURES TO 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 WITH PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT. COMPACT NON-STRUCTURAL AREA EMBANKMENTS TO A MINIMUM OF 90 PERCENT OF ASTM D-1557.

9. SITE GRADING:

- A. USING ON-SITE EXCAVATION MATERIALS, SHAPE, TRIM, FINISH, AND COMPACT SURFACE AREAS TO CONFORM TO THE LINES, GRADES, AND CROSS SECTIONS SHOWN ON THE DRAWINGS OR AS DESIGNATED BY THE CONSTRUCTION MANAGER.  
  
B. GRADE SURFACES TO DRAIN AND ELIMINATE ANY PONDING OR EROSION.  
  
C. ELIMINATE WHEEL RUTS BY REGRADING.  
  
D. CONSTRUCT FINISHED SURFACE OF SITE GRADING AREAS WITHIN ONE INCH FROM SPECIFIED GRADE.

10. SUBGRADE PREPARATION:

- A. SHAPE TOP OF SUBGRADE TO THE LINES AND GRADES SHOWN ON THE DRAWINGS.  
  
B. MAINTAIN TOP OF SUBGRADE IN A FREE-DRAINING CONDITION.  
  
C. DO NOT STOCKPILE MATERIALS ON TOP OF SUBGRADE UNLESS AUTHORIZED BY CONSTRUCTION MANAGER.  
  
D. COMPACT THE TOP 6 INCHES OF SUBGRADE TO A 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.  
  
E. REMOVE AND REPLACE SOFT SOILS ON AREAS THAT "PUMP" OR DEFORM UNDER WEIGHT OF COMPACTION EQUIPMENT.  
  
F. CONSTRUCT TOP OF SUBGRADE WITHIN ONE INCH OF ESTABLISHED GRADE AND CROSS-SECTION.


11. GEOTEXTILE FABRIC:

- A. LAY GEOTEXTILE FABRIC OVER COMPACTED SUBGRADE AS PER CONSTRUCTION DOCUMENTS IN COMPOUND AND UNDER LENGTH OF ROAD (WHEN REQUIRED). LAP ALL JOINTS A MINIMUM OF 12 INCHES.


12. GRAVEL SURFACING:

- A. CONSTRUCT GRAVEL SURFACING AREAS USING CRUSHED AGGREGATE BASE AND FINISH COURSES AS SPECIFIED BY CONSTRUCTION MANAGER OR CONSTRUCTION DOCUMENTS.  
  
B. SPREAD GRAVEL AND RAKE TO A UNIFORM SURFACE.

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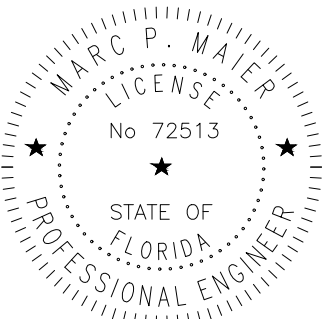
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PREPARED BY:



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COA # 35409

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JANUARY 20, 2025

MARC P. MAIER, PE

FL PROFESSIONAL ENGINEER LIC. # 72513

FIVE POINTS

FA #15826570

SBA ID #1200714

1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

SHEET DESCRIPTION

SPECIFICATIONS

SHEET NUMBER

SP-1



TRENCHING:

CONTRACTOR MUST NOTIFY "ONE-CALL" UTILITY LOCATING SERVICE THREE DAYS PRIOR TO CONSTRUCTION TO FLAG ALL UNDERGROUND UTILITIES.

1. MATERIALS:

A. FILL MATERIAL SHALL BE OBTAINED, TO THE MAXIMUM EXTENT POSSIBLE, FROM EXCAVATIONS ON-SITE. THE STRUCTURAL FILL SHOULD BE SAND AND SHALL BE APPROVED BY THE CONSTRUCTION MANAGER AND SHALL CONFORM TO LOCAL GOVERNING JURISDICTION AND UTILITY COMPANY REQUIREMENTS. THE FILL MATERIAL SHALL BE FREE FROM PERCEPTIBLE AMOUNTS OF WOOD, DEBRIS OR TOPSOIL AND SHALL NOT CONTAIN MARBLE OR OTHER ELEMENTS, WHICH TEND TO KEEP IT IN A PLASTIC STATE. MATERIALS DESIGNATED AS HAZARDOUS OR INDUSTRIAL BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA) ARE TO BE AVOIDED. THE FILL MATERIAL SHALL CONTAIN FINES SUFFICIENT TO FILL ALL VOIDS IN THE MATERIAL.

2. PIPE DETECTION AND IDENTIFICATION:

A. UTILIZING WARNING TAPE: ALL ELECTRIC SERVICE TRENCHES SHALL BE MARKED WITH WARNING TAPE.

3. TRENCH EXCAVATION:

A. DIG TRENCH TO LINES AND GRADES SHOWN ON THE PLANS OR AS DIRECTED BY CONSTRUCTION MANAGER.

B. TRENCH WIDTH SHALL BE SUFFICIENT TO ALLOW FOR SATISFACTORY CONSTRUCTION AND INSPECTION OF THE PROJECT, WITHOUT ENDANGERING OTHER CONSTRUCTION WORK OR ADJACENT FACILITIES.

C. DISPOSAL OF EXCESS AND UNSUITABLE EXCAVATION MATERIAL PROPERLY, AS DIRECTED BY CONSTRUCTION MANAGER.

D. USE HAND METHODS FOR EXCAVATION THAT CANNOT BE ACCOMPLISHED WITHOUT ENDANGERING EXISTING OR NEW STRUCTURES OR OTHER FACILITIES.

4. TRENCH PROTECTION:

A. PROVIDE MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO PROTECT TRENCHES AT ALL TIMES.

B. SHEETING AND BRACING: MEET OR EXCEED OSHA REQUIREMENTS.

5. BACKFILLING:

A. A PRELIMINARY EARTH RESISTIVITY TEST SHALL BE PERFORMED PRIOR TO BACKFILLING.

B. BACKFILL AND/OR BEDDING SHALL NOT BE PLACED IN A TRENCH UNTIL THE TRENCH WORK AND BACKFILL HAS BEEN INSPECTED AND APPROVED BY THE CLIENT. CONTRACTOR TO NOTIFY CLIENT'S CONSTRUCTION MANAGER AT LEAST 24 HOURS IN ADVANCE OF EXPECTED BACKFILL.

C. IF BACKFILL MATERIAL IS NOT SUITABLE (CONTAINS DEBRIS OR ROCK), REPLACE WITH A LOW RESISTANCE GROUND ENHANCEMENT MATERIAL.

D. WHENEVER CLIENT REQUIRES THE REMOVAL OF WET OR OTHERWISE UNSTABLE SUBGRADE FROM THE FILL MATERIAL PREVIOUSLY PLACED BY THE CONTRACTOR, THE CONTRACTOR SHALL BEAR THE COST OF ALL REMOVAL OF UNSTABLE SOIL AND WITH BACKFILLING OF THE TRENCH.

E. BACKFILL SHALL BE PLACED AND PACKED DOWN TIGHTLY TO ACHIEVE 95 PERCENT MAXIMUM DRY DENSITY AS OBTAINED THROUGH THE STANDARD PROCTOR METHOD (ASTM D-698).

F. FOLLOWING AN APPROVED INSPECTION, BACKFILL MATERIAL SHALL BE DEPOSITED IN THE TRENCH WITH HAND SHOVELS (NOT BY MEANS OF WHEELBARROWS, CARTS, TRUCKS, BULLDOZERS, OR SIMILAR EQUIPMENT) IN 4" LAYERS AND COMPACTED BY MECHANICAL TAMPERS UNTIL THE CONDUCTOR OR PIPE HAS A COVER OF NOT LESS THAN 12" THE REMAINDER OF THE BACKFILL MATERIAL SHALL THEN BE DEPOSITED IN THE TRENCH IN 8" LAYERS AND MECHANICALLY COMPACTED.

G. PROTECT CONDUIT FROM LATERAL MOVEMENT, DAMAGE FROM IMPACT OR UNBALANCED LOADING TO AVOID DISPLACEMENT OF CONDUIT AND/OR STRUCTURES. ANY SUBSEQUENT SETTLEMENT SHALL BE CONSIDERED THE RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY CORRECTED.

H. IF REQUIRED COMPACTION DENSITY HAS NOT BEEN OBTAINED, REMOVE THE BACKFILL FROM THE TRENCH OR STRUCTURE, REPLACE WITH APPROVED BACKFILL, AND RE-COMPACT AS SPECIFIED.

STRUCTURAL NOTES:

1. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH CONSTRUCTION.

2. THE GENERAL CONTRACTOR AND HIS SUB CONSULTANTS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK.

3. STRUCTURAL STEEL SHALL CONFORM TO SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, AISC 360-05 INCLUDING THE COMMENTARY AND THE AISC CODE OF STANDARD PRACTICE.

4. STRUCTURAL STEEL PLATES, ANGLES, AND CHANNELS SHALL CONFORM TO ASTM A36. STRUCTURAL STEEL PIPES SHALL CONFORM TO ASTM A53 GRADE B. STRUCTURAL STEEL BEAMS SHALL CONFORM TO ASTM A992, GRADE 50. ALL STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 GRADE B. ALL STRUCTURAL STEEL COMPONENTS AND FABRICATED ASSEMBLIES SHALL BE HOT DIP GALVANIZED-ASTM A123 AFTER FABRICATION. FIELD TOUCH UP WITH 3 COATS OF ZINC RICH PAINT ALL RAW EDGES AND/OR AREAS WHERE THE GALVANIZED FINISH HAS BEEN DISTURBED (ALL EXISTING AND NEW AREAS).

5. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS 01.1). STRUCTURAL WELDING CODE-STEEL WELD ELECTRODES SHALL BE E70XX. FIELD TOUCH UP WITH ZINC RICH PAINT (ALL EXISTING AND NEW AREAS) AFTER WELDING IS COMPLETE.

6. ALL THREADED STRUCTURAL FASTENERS FOR ANTENNA SUPPORT ASSEMBLIES SHALL CONFORM TO ASTM A307 OR ASTM A36. ALL STRUCTURAL FASTENERS FOR STRUCTURAL STEEL FRAMING SHALL CONFORM TO ASTM A325. FASTENERS SHALL BE 5/8 INCH MIN. UNLESS NOTED OTHERWISE, DIAMETER BEARING TYPE CONNECTIONS WITH THREADS EXCLUDED IN THE SHEAR PLANE. ALL EXPOSED FASTENERS, NUTS AND WASHERS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. CONCRETE EXPANSION ANCHORS SHALL BE HILTI KWIK BOLTS UNLESS OTHERWISE NOTED. ALL ANCHORS INTO CONCRETE SHALL BE STAINLESS STEEL.

7. ALL REINFORCING STEEL SHALL CONFORM TO ASTM 615 GRADE 60, DEFORMED BILLET STEEL BARS. WELDED WIRE FABRIC REINFORCING SHALL CONFORM TO ASTM A185.

8. CONCRETE FOR THE FOUNDATION PAD SHALL BE 4000 PSI NORMAL WEIGHT CONCRETE. CONCRETE STRENGTH SHALL BE VERIFIED BY CONCRETE CYLINDER TESTS (A MINIMUM SET OF FOUR CYLINDERS). PROVIDE 4 TO 6% AIR ENTRAINMENT FOR ALL CONCRETE SUBJECT TO FREEZE - THAW CYCLE.

9. MINIMUM CONCRETE COVER REINFORCEMENT SHALL BE 2" UNLESS NOTED OTHERWISE. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH SHALL HAVE A MINIMUM CONCRETE COVER OF 3".

10. CONTRACTOR SHALL COORDINATE ALL PENETRATIONS, CONDUIT, CHAMFERS, AND EMBEDDED ITEMS PRIOR TO CONCRETE PLACEMENT AND/OR STEEL ERECTION. CONTRACTOR SHALL VERIFY ALL SIZES AND LOCATIONS.

11. DO NOT IMPOSE SERVICE LOAD (i.e. FLOOR DEAD AND LIVE LOADS, BACKFILL. ETC.) UNTIL THE CONCRETE HAS REACHED ITS SPECIFIED MINIMUM COMPRESSIVE STRENGTH.

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

13. SOIL SHALL BE COMPACTED TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY TO A MINIMUM OF 2 FEET BELOW THE BOTTOM OF THE FOOTINGS, AND SHALL OBTAIN A 2000 PSF MINIMUM ALLOWABLE BEARING CAPACITY.



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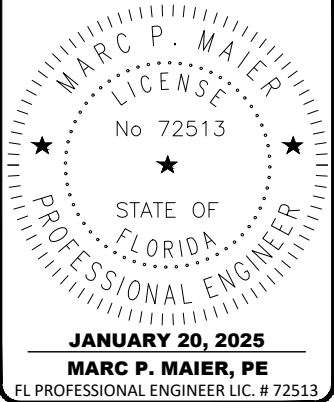
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1593 NORTH WEST COUNTY ROAD 25A  
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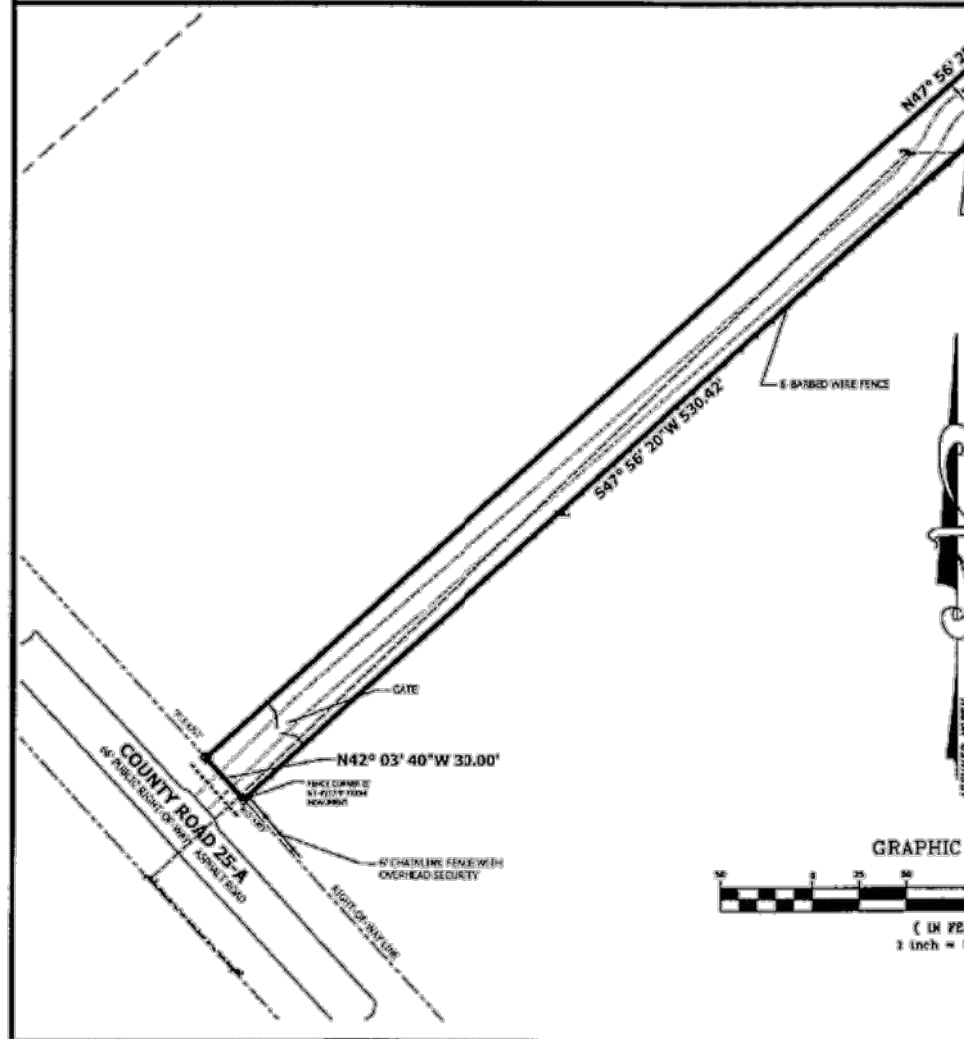
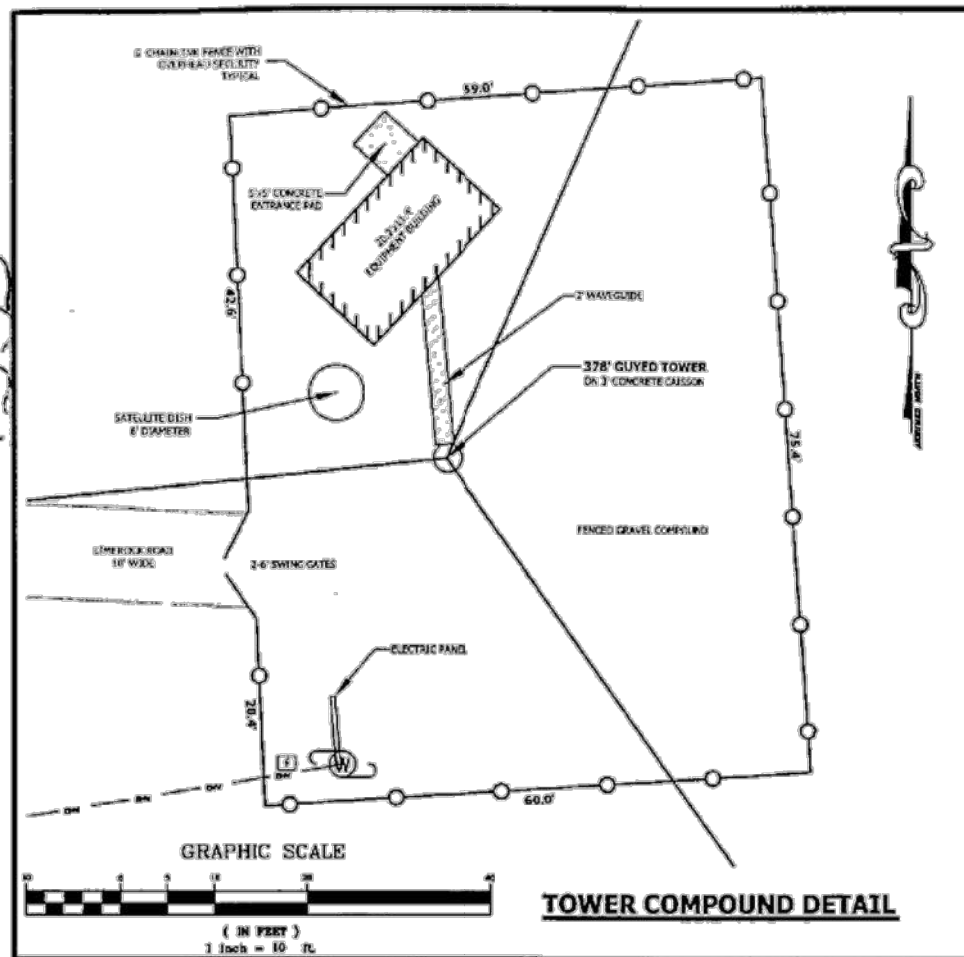
SPECIFICATIONS

SHEET NUMBER

SP-2

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9335



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PARCEL ID: 18-35-17-05048-009  
OWNER: HALL, MARLOU FRANCES  
(OFFICIAL RECORDS BOOK 817, PAGE 2251)

SUBJECT PARCEL  
PARCEL ID: 18-35-17-05048-005  
OWNER: TC FLORIDA TOWERS II, L.L.C.  
(OFFICIAL RECORDS BOOK 892, PAGE 1357)

PARCEL ID: 18-35-17-05048-006  
OWNER: REDDUD ENTERPRISES INC  
(OFFICIAL RECORDS BOOK 912, PAGE 111)

#### TOWER DATA (EXISTING GUYED TOWER)

NAD 83  
LATITUDE: 36° 13' 35.26" NORTH  
LONGITUDE: 82° 39' 07.80" WEST  
GROUND ELEVATION: 160' NAVD 1988 (AVERAGE)

MAXIMUM TOWER ELEVATION: 538'  
MAXIMUM TOWER HEIGHT: 378' AGL  
HIGHEST APPURTENANCE ELEVATION (ANTENNA): 554'  
HIGHEST APPURTENANCE HEIGHT (ANTENNA): 394' AGL

P.O.C.  
NE CORNER OF THE SW 1/4 OF SECTION 18,  
TOWNSHIP 3 SOUTH, RANGE 17 EAST.

P.O.B.  
FOUR 4"x4" CONCRETE MONUMENT  
STAMPED "102 1513"

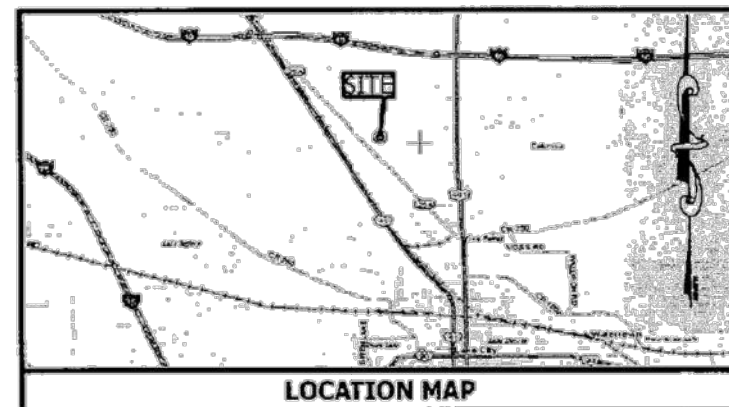
PARCEL ID: 18-35-17-05061-017  
OWNER: SHAW GLORIA WILSON  
(OFFICIAL RECORDS BOOK 459, PAGE 350)

PARCEL ID: 18-35-17-05061-003  
OWNER: MATHOW ANDY &  
(OFFICIAL RECORDS BOOK 1025, PAGE 2075)

PARCEL ID: 18-35-17-05061-004  
OWNER: EUBANKS MIKELL DALE  
(OFFICIAL RECORDS BOOK 775, PAGE 1091)

## BOUNDARY SURVEY

TELECOMMUNICATIONS FACILITY  
IN SECTION 18, TOWNSHIP 3 SOUTH, RANGE 17 EAST,  
COLUMBIA COUNTY, FLORIDA



#### LEGEND

- |   |   |        |                                 |
|---|---|--------|---------------------------------|
| □ | INDICATES 4"x4" CONCRETE MONUMENT FOUND<br>STAMPED AS SHOWN | P.O.C. | INDICATES POINT OF COMMENCEMENT |
| ○ | INDICATES POWER POLE  | P.O.B. | INDICATES POINT OF BEGINNING    |
| □ | INDICATES TELEPHONE PEDESTAL                                | ( )    | INDICATES RECORD DATA           |
| □ | INDICATES JUNCTION BOX                                      | — — —  | INDICATES OVERHEAD WIRES        |

#### SUBJECT PARCEL LEGAL DESCRIPTION (OFFICIAL RECORDS BOOK 892, PAGE 1357)

"COMMENCE AT THE NORTHEAST CORNER OF THE SW 1/4, SECTION 18, TOWNSHIP 3 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA AND RUN THENCE S 0°32'02" E ALONG THE EAST LINE OF SAID SW 1/4, 432.23 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE S 0°32'02" E ALONG SAID EAST LINE, 725.76 FEET; THENCE N 60°37'03" W, 541.48 FEET; THENCE S 47°56'20" W, 530.42 FEET TO THE NORTHEASTLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 25-A; THENCE N 42°03'40" W ALONG SAID NORTHEASTLY RIGHT-OF-WAY LINE, 30.00 FEET; THENCE N 47°56'20" E, 1183.50 FEET TO THE POINT OF BEGINNING, CONTAINING 4.50 ACRES, MORE OR LESS."

#### FLOOD ZONE NOTE

THE HEREON DESCRIBED PARCEL APPEARS TO LIE IN FLOOD ZONE AE BASED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY, COMMUNITY PANEL NUMBER 120186 0245 E DATED DECEMBER 6, 2000. FLOOD ZONE AE IS DEFINED AS "BASE FLOOD ELEVATIONS DETERMINED." BASE FLOOD ELEVATION = 10F.

#### SURVEYOR'S NOTES

- BEARINGS SHOWN HEREON ARE ASSUMED AND REFERENCED TO THE EAST LINE OF SOUTHWEST 1/4 OF SECTION 18, TOWNSHIP 3 SOUTH, RANGE 17 EAST, AS BEARING 500° 32' 02"E.
- THE BOUNDARY SURVEY SHOWN HEREON IS BASED ON ACTUAL FIELD MEASUREMENTS AND OBSERVATIONS DATED JUNE 9, 2006.
- THIS SURVEY MAP OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
- TOWER LATITUDE, LONGITUDE AND ELEVATION SHOWN HEREON WERE ESTABLISHED BY DIFFERENTIAL G.P.S. OBSERVATION AND MEET FAA "2-C" ACCURACY REQUIREMENTS.
- MEASURED BEARINGS AND DISTANCES WERE IN SUBSTANTIAL AGREEMENT WITH RECORD DATA UNLESS OTHERWISE NOTED.
- PARCEL IDENTIFICATION, OWNER, AND RECORDING INFORMATION WAS OBTAINED FROM THE COLUMBIA COUNTY PROPERTY APPRAISER.
- THE LANDS DESCRIBED IN DEED BOOK 69, PAGE 71 & DEED BOOK 242, PAGE 480 ENCOMPASS THE PARENT TRACT.
- THE LANDS DESCRIBED IN O.R. 909, PAGE 1188 & O.R. 909, PAGE 1207 & O.R. 921, PAGE 370 ARE THE SAME LANDS AS THE PARENT TRACT.

#### PLOTTABLE TITLE EXCEPTIONS

LAWYERS TITLE INSURANCE CORPORATION COMMITMENT NUMBER 10675167

EXCEPTION NUMBER	INSTRUMENT	COMMENT
7	DEED BOOK 69, PAGE 171	SEE NOTE 7
8	DEED BOOK 242, PAGE 480	SEE NOTE 7
9	O.R. 909, PAGE 1188 & O.R. 909, PAGE 1207 & O.R. 921, PAGE 370	SEE NOTE 8
10	O.R. 909, PAGE 1236 & O.R. 954, PAGE 354 & O.R. 1044, PAGE 2202 & O.R. 1045, PAGE 171	NOT PLOTTABLE

#### SURVEYOR'S CERTIFICATION

I, DYNAN GROUP INC., A FLORIDA CORPORATION, SEIGMAN, PREWITT & CIOELLO, P.A. AND LAWYERS TITLE INSURANCE CORPORATION, THE FOLLOWING: THIS SURVEYOR HAS RECEIVED AND REVIEWED THAT CERTAIN TITLE COMMITMENT NO. 10675167 ISSUED BY LAWYERS TITLE INSURANCE CORPORATION WOULD AN EFFECTIVE DATE OF MAY 31, 2006 WHICH PROPOSED TO INSURE THE LANDS DESCRIBED UNDER ITS SCHEDULE A. THIS SURVEYOR KNOWS OF HIS OWN KNOWLEDGE THAT THE LANDS DESCRIBED UNDER SAID SCHEDULE A OF THE TITLE COMMITMENT CONTAIN OR INCLUDE THE LANDS DESCRIBED IN AND DEPICTED ON THIS SURVEY. THIS SURVEYOR FURTHER KNOWS OF HIS OWN KNOWLEDGE THAT THE BASEMENTS OF RECORD AND UNRECORDED UNDER SCHEDULE B OF SAID TITLE COMMITMENT ENCOMPASS THE LANDS DESCRIBED ON THIS SURVEY, BUT SAID BASEMENTS WILL NOT INTERFERE WITH THE LOCATION OF THE PROPOSED INSURED LANDS, INCLUDING THE LEASED AREA AND ANY AND ALL ACCESS, UTILITY AND GUY WIRE BASEMENT PARCELS.

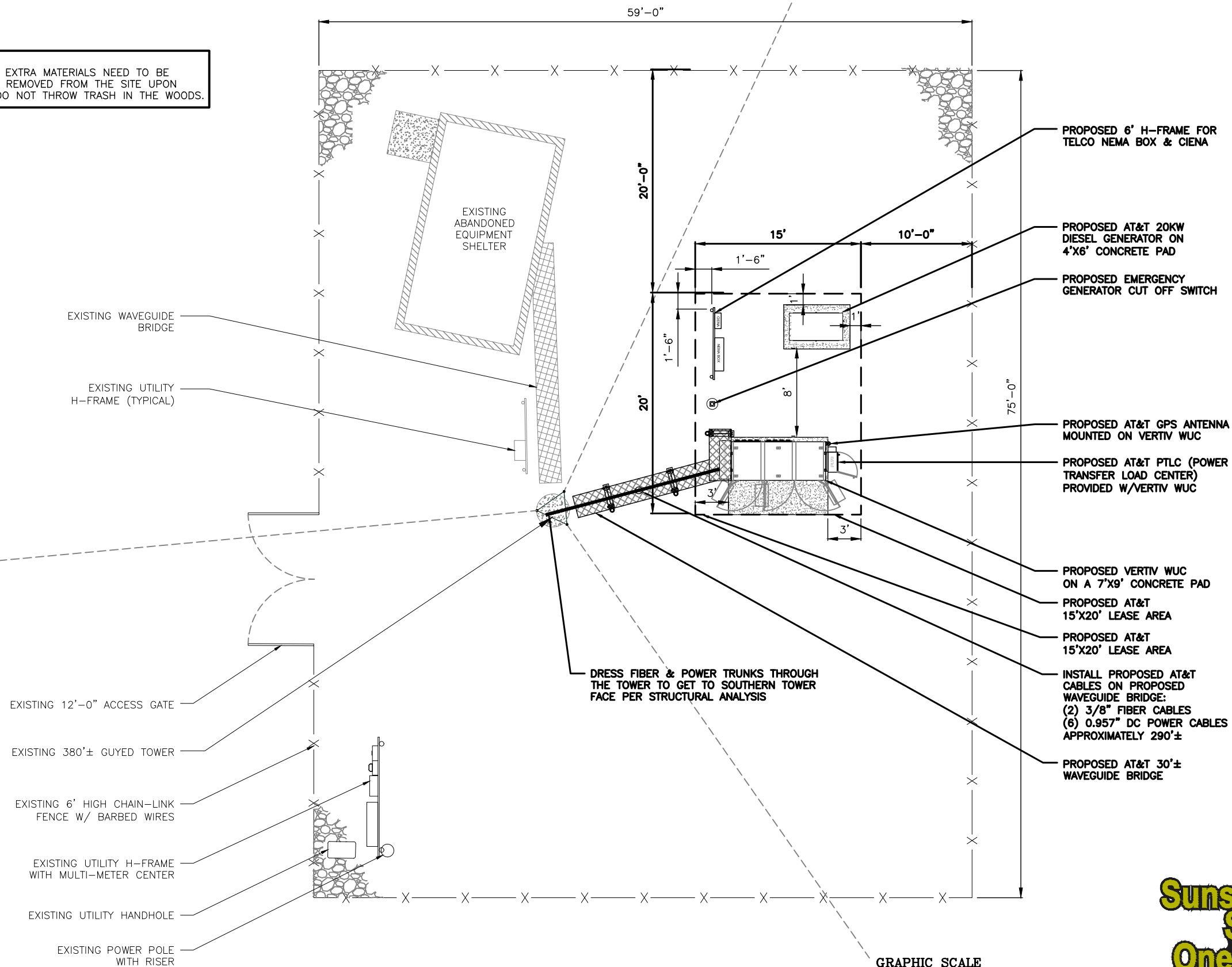


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CIVIL ENGINEERS AND LAND SURVEYORS  
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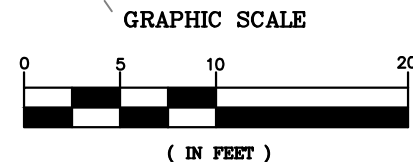
PROFESSIONAL SURVEYING & MAPPING CERTIFICATE OF AUTHORIZATION NO. 18 6782

BOOK/PAGE	NO. 17	SCALE	AS SHOWN
DRAWN	KAB - DWS	DATE	JUNE 9, 2006
CHECKED	DWS	PROJECT #	107-023-106
DRAWING #	107-023-106.DWG	SHEET #	1 OF 1

SBA NOTE:  
1. ALL TRASH AND EXTRA MATERIALS NEED TO BE PICKED UP AND REMOVED FROM THE SITE UPON COMPLETION. DO NOT THROW TRASH IN THE WOODS.



1 SITE PLAN  
C-2 SCALE: 1" = 10'-0"  
SCALE BASED ON 11"x17" ONLY



CALL FLORIDA 811  
ONE CALL - DIAL 811  
CALL 3 WORKING DAYS  
BEFORE YOU DIG  
1-800-638-4097

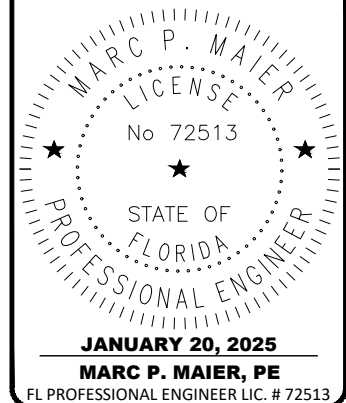
REV	DATE	DESCRIPTION
A	12/22/24	PRELIMINARY CDs REV "A"
B	01/20/25	PRELIMINARY CDs REV "B"
0	01/20/25	FINAL CDs ISSUED
1		
2		
3		
4		
5		
6		
7		
8		

GEN3 PROJECT#: 102411017  
DRAWN BY: YMK  
CHECKED BY: MM



PREPARED BY:  
**GEN ENGINEERING**  
27139 SEA BREEZE WAY  
WESLEY CHAPEL, FLORIDA 33544  
(813)917-2671  
COA # 35409

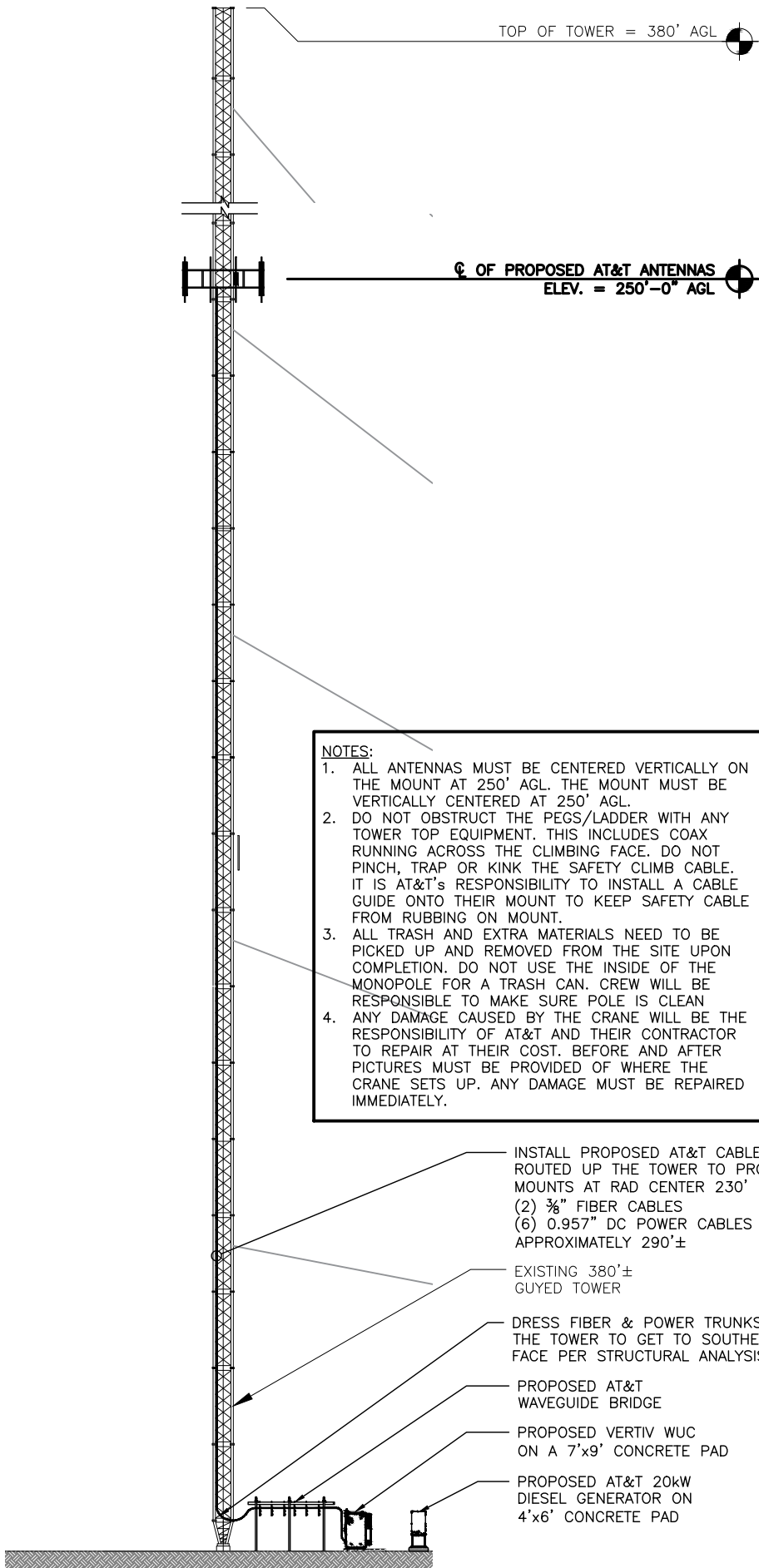
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**FIVE POINTS**  
**FA #15826570**  
**SBA ID #1200714**  
1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

SHEET DESCRIPTION  
**SITE PLAN**  
SHEET NUMBER  
**C-2**





- NOTES:
1. ALL ANTENNAS MUST BE CENTERED VERTICALLY ON THE MOUNT AT 250' AGL. THE MOUNT MUST BE VERTICALLY CENTERED AT 250' AGL.
  2. DO NOT OBSTRUCT THE PEGS/LADDER WITH ANY TOWER TOP EQUIPMENT. THIS INCLUDES COAX RUNNING ACROSS THE CLIMBING FACE. DO NOT PINCH, TRAP OR KINK THE SAFETY CLIMB CABLE. IT IS AT&T's RESPONSIBILITY TO INSTALL A CABLE GUIDE ONTO THEIR MOUNT TO KEEP SAFETY CABLE FROM RUBBING ON MOUNT.
  3. ALL TRASH AND EXTRA MATERIALS NEED TO BE PICKED UP AND REMOVED FROM THE SITE UPON COMPLETION. DO NOT USE THE INSIDE OF THE MONOPOLE FOR A TRASH CAN. CREW WILL BE RESPONSIBLE TO MAKE SURE POLE IS CLEAN
  4. ANY DAMAGE CAUSED BY THE CRANE WILL BE THE RESPONSIBILITY OF AT&T AND THEIR CONTRACTOR TO REPAIR AT THEIR COST. BEFORE AND AFTER PICTURES MUST BE PROVIDED OF WHERE THE CRANE SETS UP. ANY DAMAGE MUST BE REPAIRED IMMEDIATELY.

INSTALL PROPOSED AT&T CABLES  
ROUTED UP THE TOWER TO PROPOSED  
MOUNTS AT RAD CENTER 230'  
(2) 3/8" FIBER CABLES  
(6) 0.957" DC POWER CABLES  
APPROXIMATELY 290'±

EXISTING 380'±  
GUYED TOWER

DRESS FIBER & POWER TRUNKS THROUGH  
THE TOWER TO GET TO SOUTHERN TOWER  
FACE PER STRUCTURAL ANALYSIS

PROPOSED AT&T  
WAVEGUIDE BRIDGE

PROPOSED VERTIV WUC  
ON A 7'x9' CONCRETE PAD

PROPOSED AT&T 20kW  
DIESEL GENERATOR ON  
4'x6' CONCRETE PAD

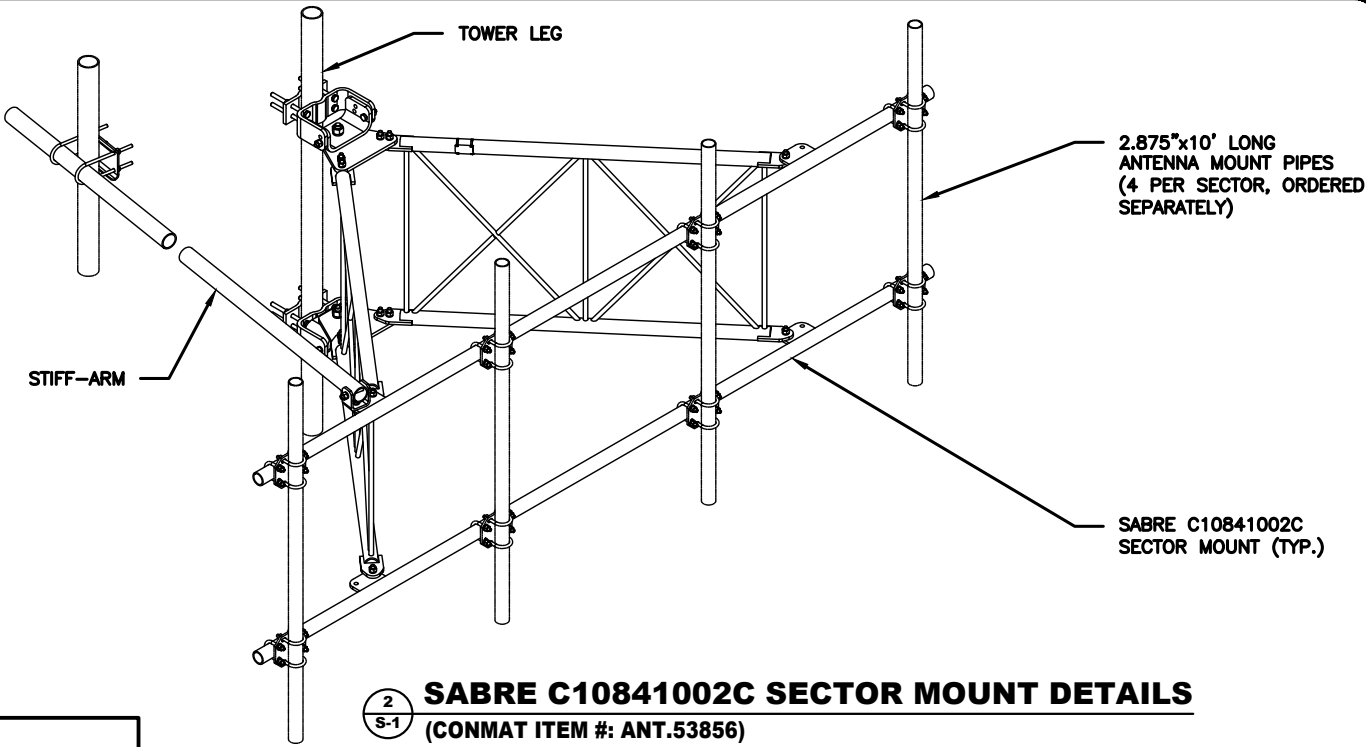
- NOTES:
1. REFER TO CURRENT RFDS FOR ADDITIONAL INFO.
  2. ADJUST ANTENNA MOUNTS AS NECESSARY TO ACHIEVE THE AZIMUTH SPECIFIED AND LIMIT RF SHADOWING.
  3. UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY.
  4. EXACT LOCATION OF DC-9 TO BE DETERMINED BY FIELD PERSONNEL.

INSTALL PROPOSED ERICSSON 4478 B14  
& 4890 B25/B66 FOR POSITION #1  
(2 PER SECTOR, 8 TOTAL)

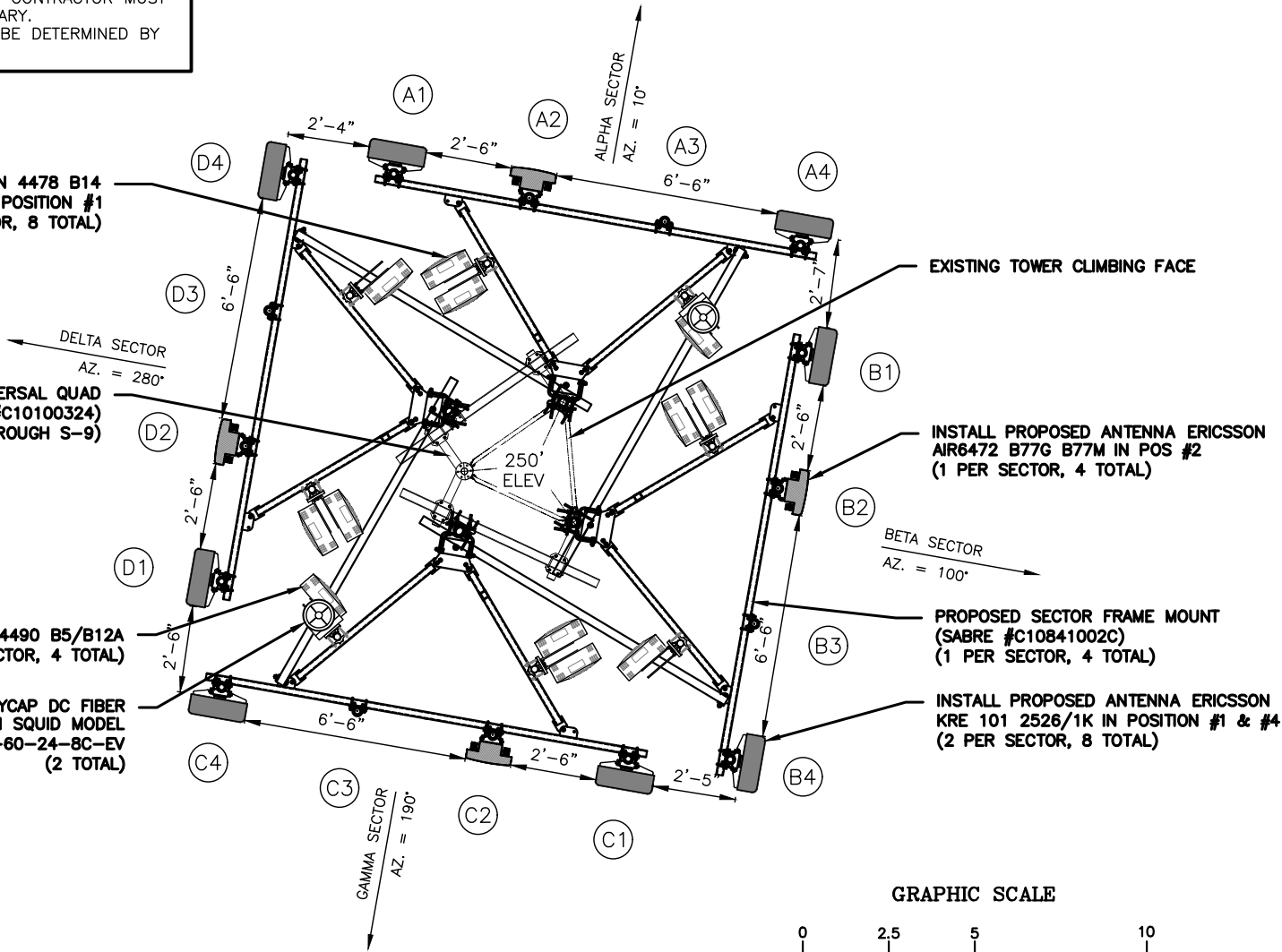
PROPOSED UNIVERSAL QUAD  
SECTOR MOUNT (SABRE #C10100324)  
(REFER TO SHEETS S-7 THROUGH S-9)

INSTALL PROPOSED ERICSSON 4490 B5/B12A  
FOR POSITION #4 (1 PER SECTOR, 4 TOTAL)

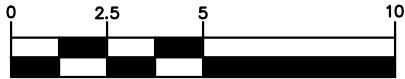
PROPOSED RAYCAP DC FIBER  
DEMARICATION SQUID MODEL  
#DC9-48-60-24-8C-EV  
(2 TOTAL)



**SABRE C10841002C SECTOR MOUNT DETAILS**  
(CONMAT ITEM #: ANT.53856)  
SCALE: N.T.S.



GRAPHIC SCALE



( IN FEET )

REV	DATE	DESCRIPTION
A	12/22/24	PRELIMINARY CDs REV "A"
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GEN3 PROJECT#: 102411017

DRAWN BY:  
YMK

CHECKED BY:  
MM

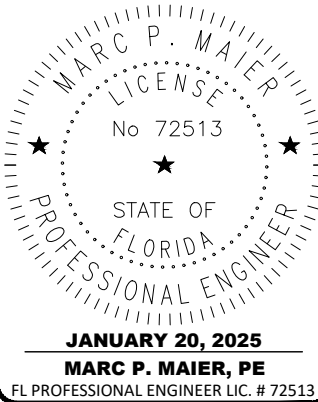


PREPARED BY:



27139 SEA BREEZE WAY  
WESLEY CHAPEL, FLORIDA 33544  
(813)917-2671  
COA # 35409

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**FIVE POINTS**  
**FA #15826570**  
**SBA ID #1200714**  
1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

SHEET DESCRIPTION

TOWER ELEVATION  
&  
ANTENNA ORIENTATION

SHEET NUMBER

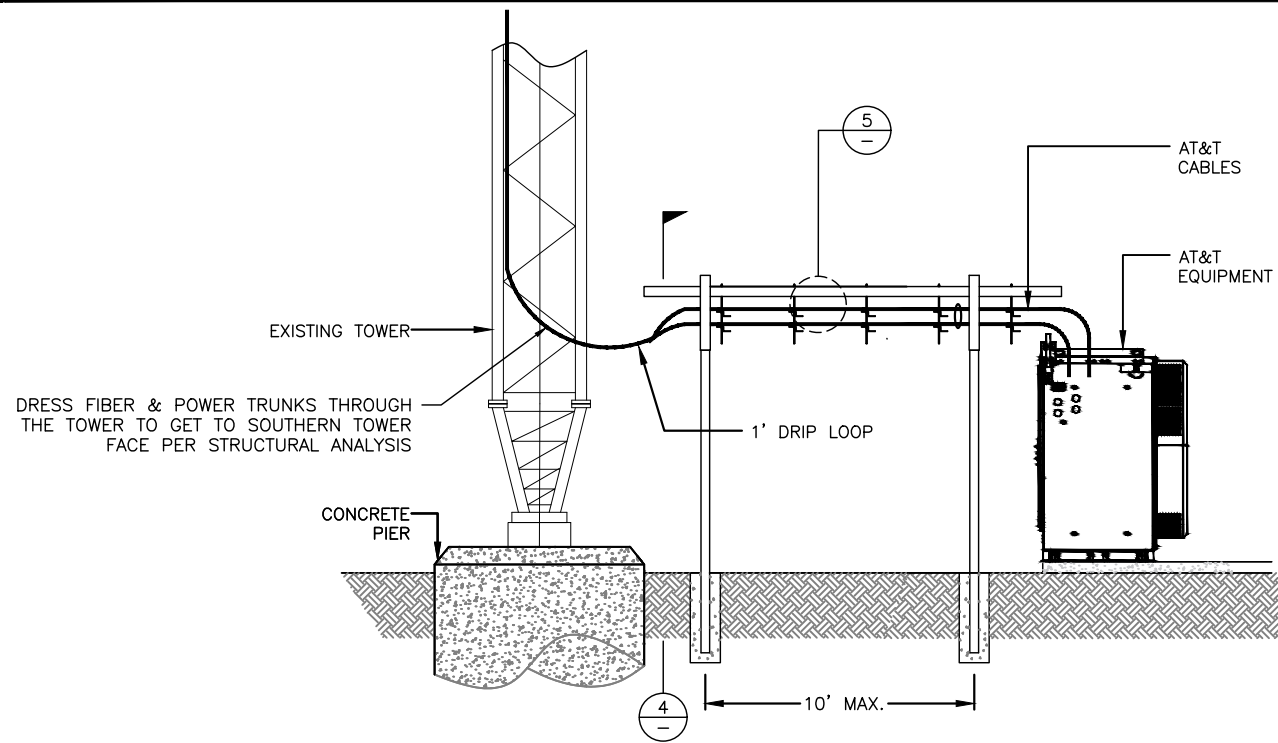
**S-1**

**TOWER ELEVATION**

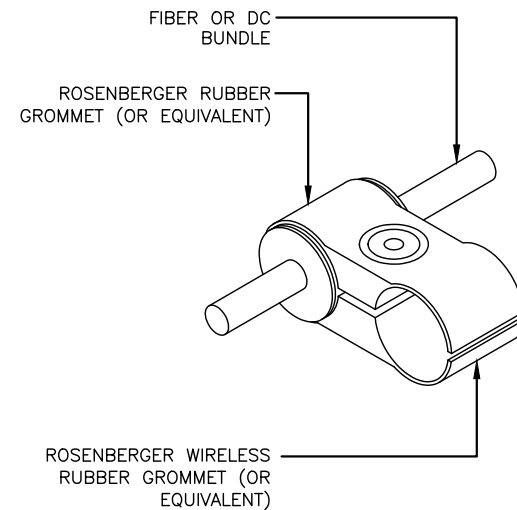
SCALE: N.T.S.

**PROPOSED ANTENNA CONFIGURATION DETAIL**

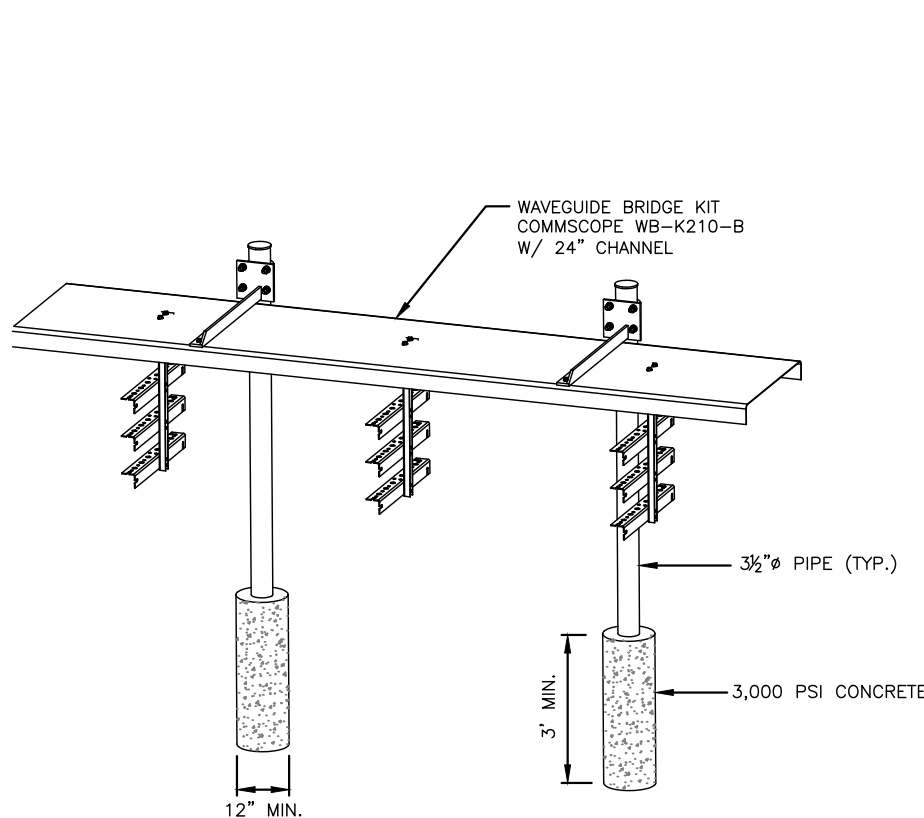
SCALE: 1" = 5'-0"



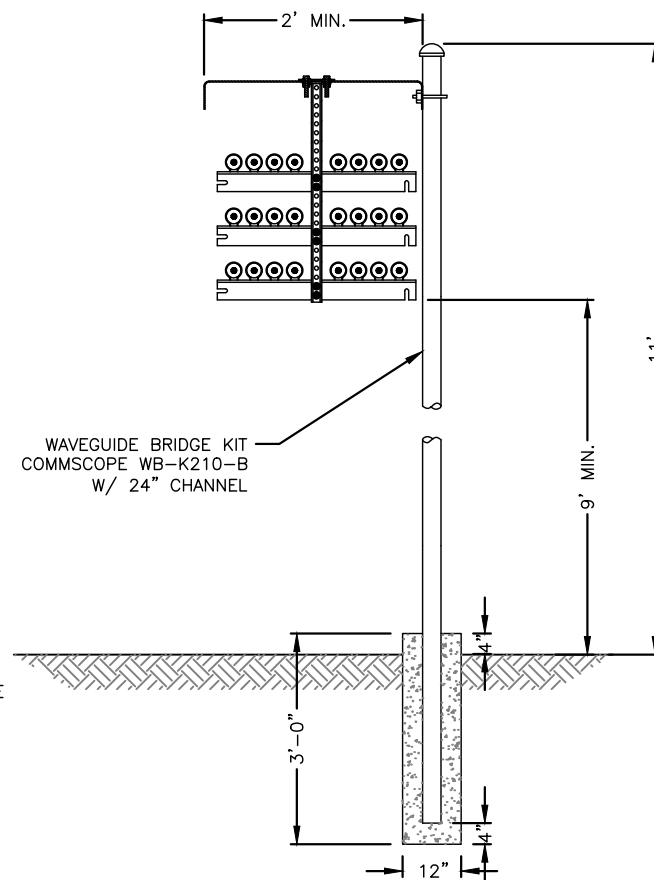
1  
S-2  
**COAX BRIDGE ELEVATION (SIDE)**  
SCALE: N.T.S.



2  
S-2  
**FIBER & DC CABLE MOUNTING DETAIL**  
SCALE: N.T.S.

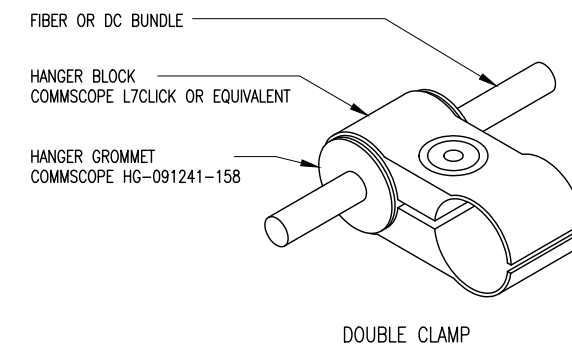


3  
S-2  
**COAX BRIDGE AXONOMETRIC**  
SCALE: N.T.S.



4  
S-2  
**COAX BRIDGE CROSS-SECTION**  
SCALE: N.T.S.

MISCELLANEOUS MATERIALS SCHEDULE		
DESCRIPTION	MODEL NUMBER	QUANTITY
HANGER BLOCK	L7CLICK	-
HANGER ADAPTER GROMMET	HG-091241-158	-
HOISTING GRIP	19256B	-
HOISTING GRIP	LUHG-38	-
GROUNDING KIT	-	-



- NOTES:
- REFER TO JSA DOCUMENTS FOR EXACT CABLE NUMBER AND MANUFACTURER SPECIFICATIONS FOR PROPER GROMMETS AND HANGER TO SUPPORT THE FIBER AND DC CABLE BUNDLES.
  - REFER TO STRUCTURAL ANALYSIS FOR EXACT CABLE ROUTING AND MOUNTING CONFIGURATION.

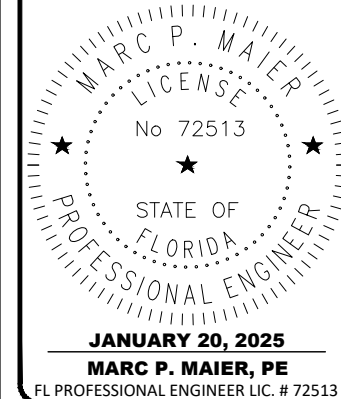
5  
S-2  
**HANGER ADAPTER GROMMET DETAILS**  
SCALE: N.T.S.

REV	DATE	DESCRIPTION
A	12/22/24	PRELIMINARY CDs REV "A"
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GEN3 PROJECT#: 102411017	
DRAWN BY: YMK	CHECKED BY: MM



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**FA #15826570**  
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1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

SHEET DESCRIPTION
MISCELLANEOUS DETAILS
SHEET NUMBER
<b>S-2</b>

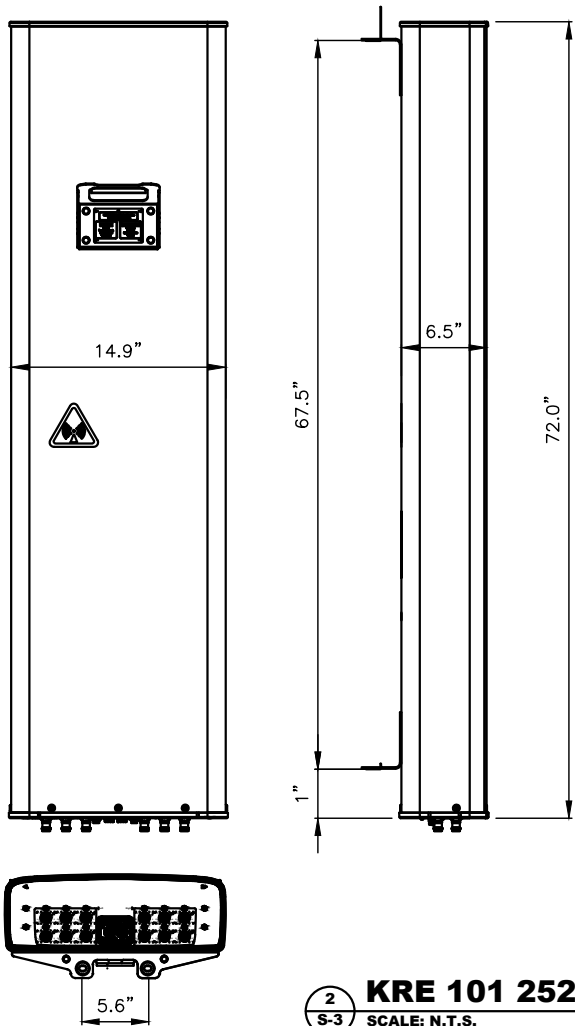




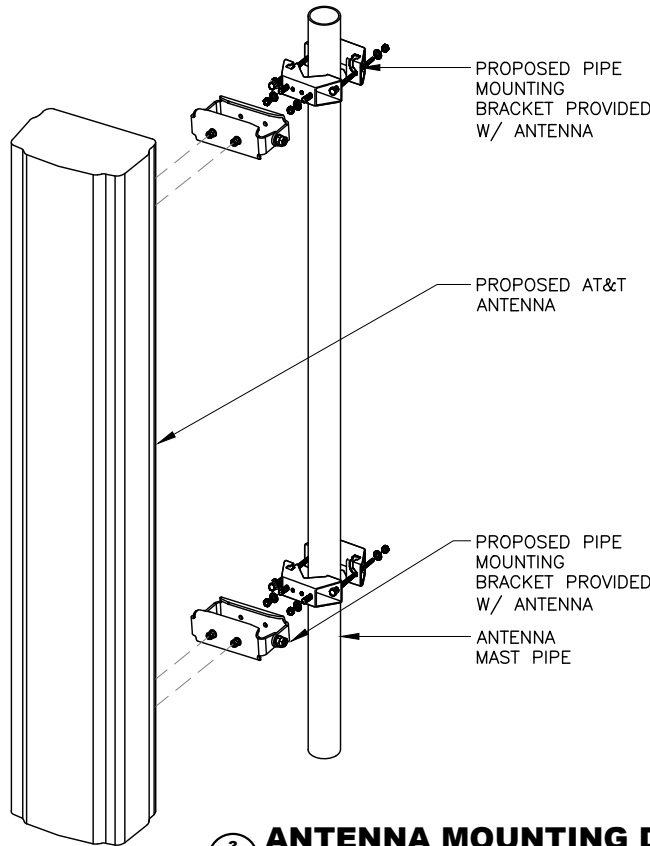
**AIR 6472 B77G B77M, Wide band**  
**Product Spec**

TRX Branches	64T64R
Antenna Elements	256
Antenna configuration	(4x1)x(4x8)
Operation band	B77G (3450-3550 MHz) + B77M (3840-3980 MHz)
IBW	530 MHz
TCBW	Max 200 MHz
Output Power	400 W (configurable for two bands in total, 4W/MHz PSD)
EIRP	80.8 dBm (same EIRP as from 400W with 192AE)
EIS	~0.8 dB better than 192AE
Weight	~ 42 kg
Size	~ 925Hx410Wx190D mm, 72 L
eCPRI link	2*25G
Operating Temperature	-40 to +55°C, passive cooling
Power Supply	-48VDC 3-wires, single connector
Power Consumption	~ 700W, ETSI Avg.

**1**  
**S-3** **ERICSSON AIR6472 B77G B77M**  
**SCALE: N.T.S.**

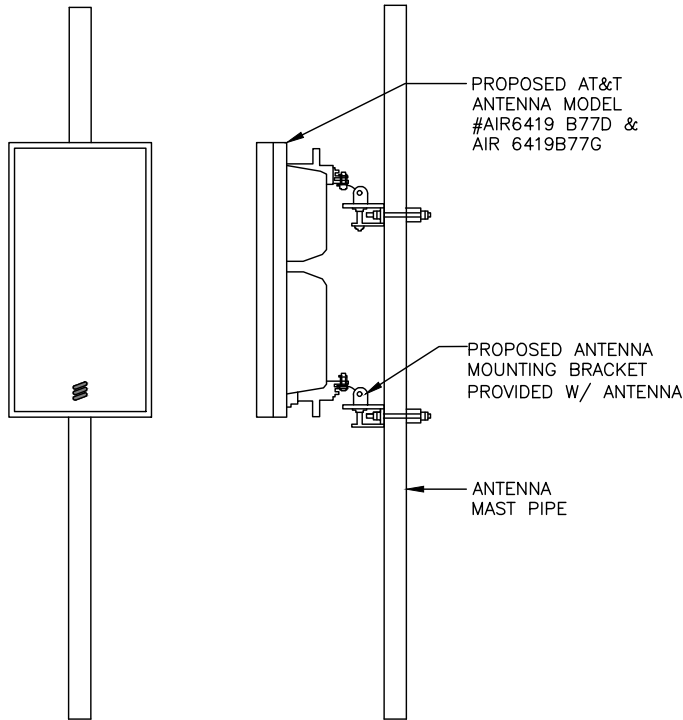


**2**  
**S-3** **KRE 101 2526/1K**  
**SCALE: N.T.S.**



**3**  
**S-3** **ANTENNA MOUNTING DETAIL**  
**SCALE: N.T.S.**

NOTES:  
1. IF ONLY (1) AIR ANTENNA IS PROPOSED, INSTALL AT THE CENTER OF THE MOUNT PIPE REFER TO LATEST RFDS DATA SHEET FOR DETAILS.



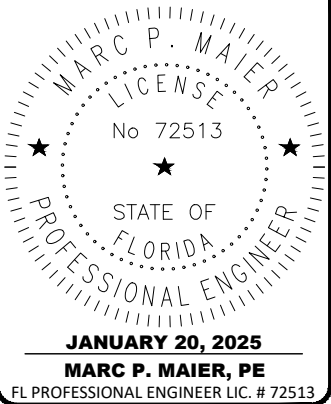
**4**  
**S-3** **AIR6472 ANTENNA MOUNTING DETAIL**  
**SCALE: N.T.S.**

REV	DATE	DESCRIPTION
A	12/22/24	PRELIMINARY CDs REV "A"
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0	01/20/25	FINAL CDs ISSUED
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GEN3 PROJECT#.: 102411017	
DRAWN BY: YMK	CHECKED BY: MM



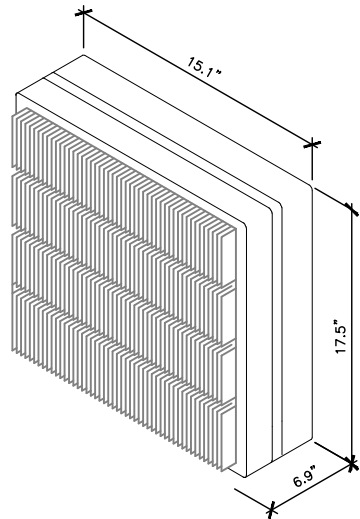
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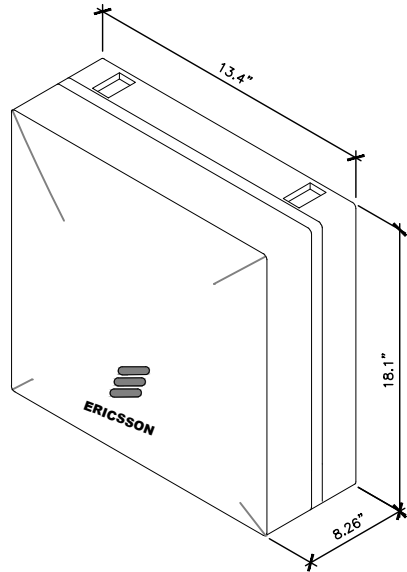
SHEET DESCRIPTION
MISCELLANEOUS DETAILS
SHEET NUMBER
<b>S-3</b>

ERICSSON RRUS-4890 B25/B66  
-DIMENSIONS (H x W x D):  
17.5" x 15.1" x 6.9" (INCLUDES SUNSHIELD)  
-WEIGHT: 68 LBS



1  
S-4 **RRUS 4890 B25/B66 DETAIL**  
SCALE: N.T.S.

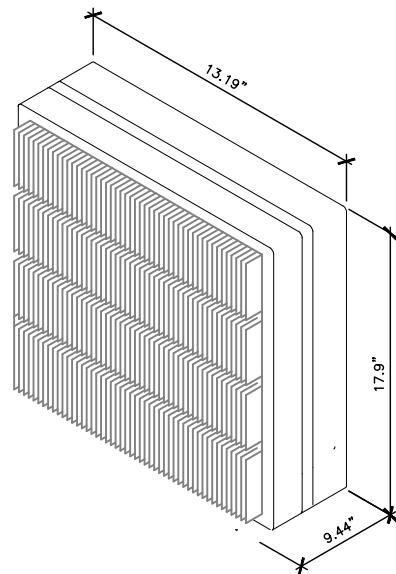
-DIMENSIONS (H x W x D):  
18.1" x 13.4" x 8.26" (INCLUDES SUNSHIELD)  
-WEIGHT: 59.4 LBS  
-B14 TX=758-768 MHZ  
-B14 RX=788-798 MHZ  
-BREAKER SIZE=25A, DC POWER CONSUMPTION = 650 W



NOTE:  
RRUS CAN ONLY BE  
PAINTED ON SOLAR SHIELD.

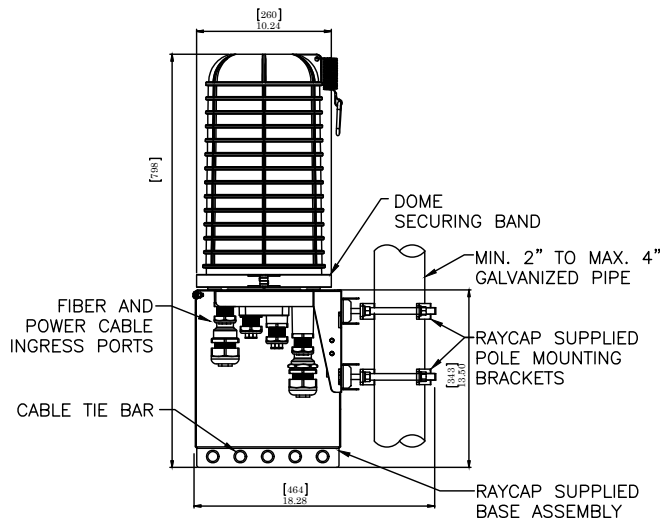
2  
S-4 **4478 B14 DETAIL**  
SCALE: N.T.S.

-DIMENSIONS (H x W x D):  
17.9" x 13.19" x 9.44" (INCLUDES SUNSHIELD)  
-WEIGHT: 71 LBS  
-B5 TX=869-894 MHZ, B12 TX=729-746 MHZ  
-B5 RX=824-849 MHZ, B12 RX=699-716 MHZ  
-BREAKER SIZE=2X25A, DC POWER CONSUMPTION = 1440 W



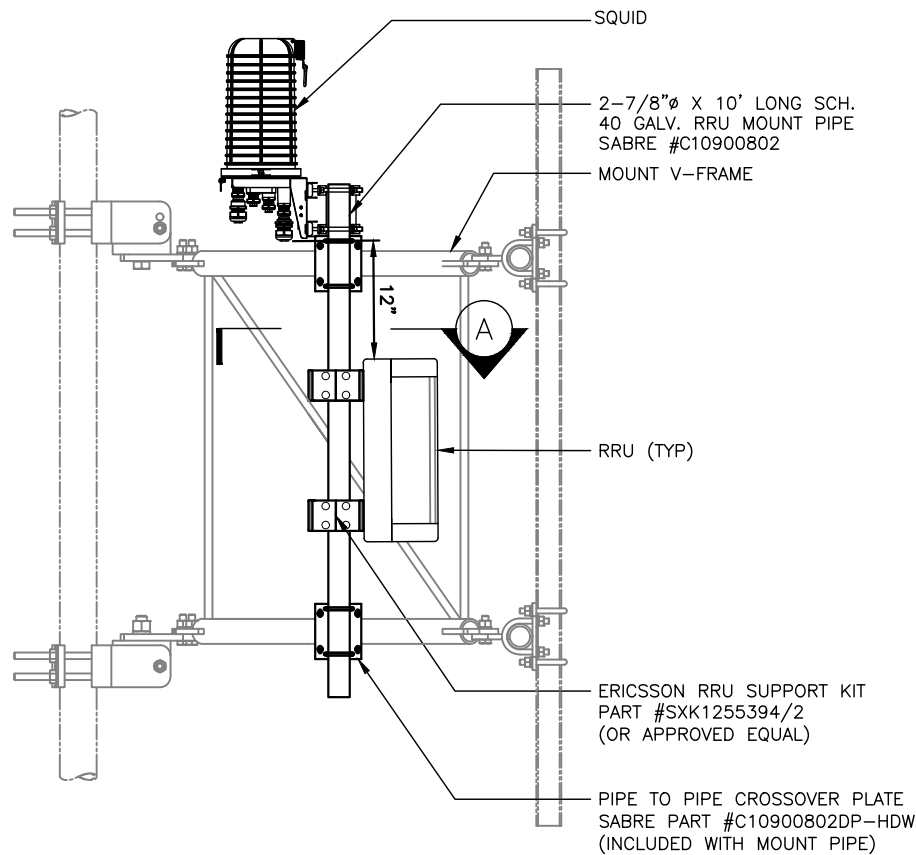
NOTE:  
RRUS CAN ONLY BE  
PAINTED ON SOLAR SHIELD.

3  
S-4 **RRUS 4490 B5/B12A DETAIL**  
SCALE: N.T.S.

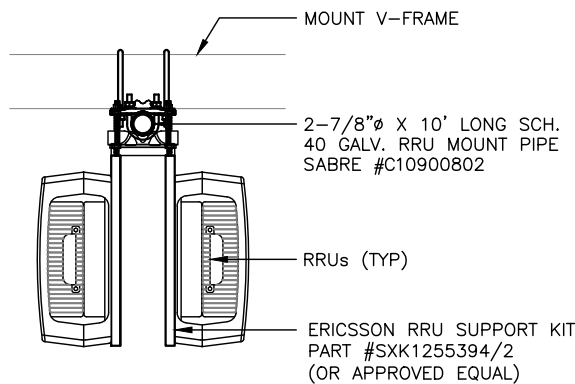


- NOTES:
1. UNIT SHALL BE MOUNTED AS PER MANUFACTURER'S RECOMMENDATIONS.
  2. CONTRACTOR SHALL TIGHTEN ALL BOLTS TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC.
  3. CONTRACTOR SHALL INSTALL RAYCAP DISTRIBUTION UNIT WITHIN 15 FEET FROM ALL RRH'S.

4  
S-4 **DC9-48-60-24-8C-EV MOUNT DETAIL**  
SCALE: N.T.S.



NOTE:  
DETAIL IS DIAGRAMMATIC. CONTRACTOR  
TO INSTALL RRU'S ON RRU MOUNT BEST  
SUITED FOR ANTENNA CONFIGURATION.



SECTION A

5  
S-4 **RRU MOUNTING DETAIL**  
SCALE: N.T.S.

REV	DATE	DESCRIPTION
A	12/22/24	PRELIMINARY CDs REV "A"
B	01/20/25	PRELIMINARY CDs REV "B"
0	01/20/25	FINAL CDs ISSUED
1		
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GEN3 PROJECT#: 102411017

DRAWN BY:  
YMK

CHECKED BY:  
MM

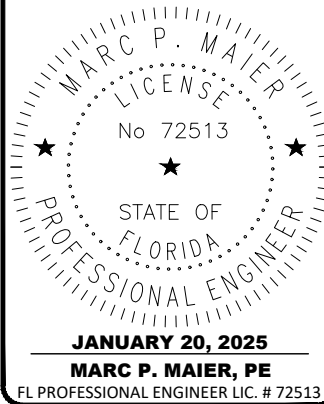


PREPARED BY:



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(813)917-2671  
COA # 35409

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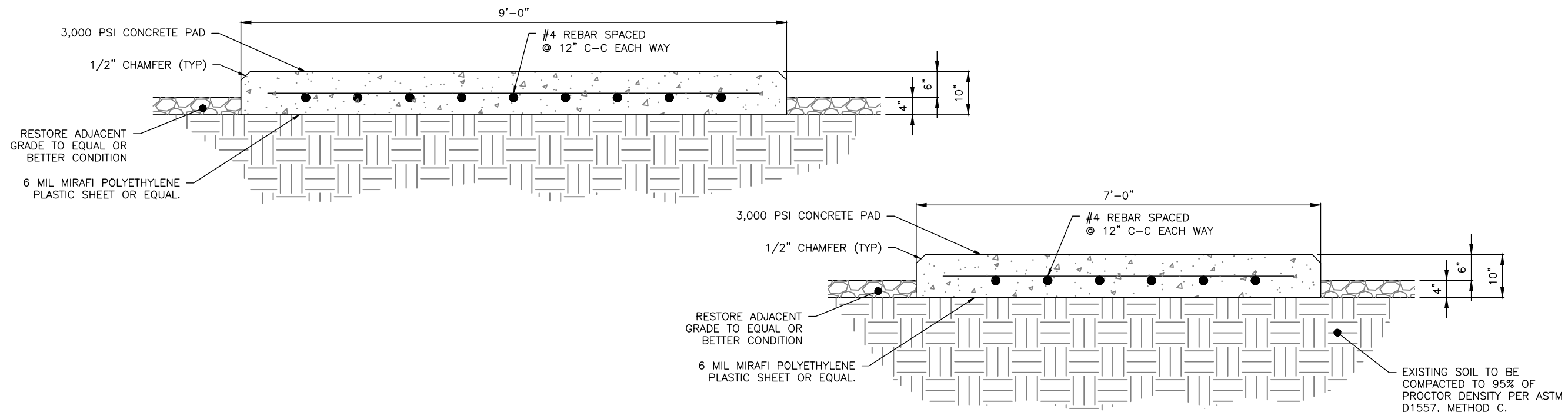
SHEET DESCRIPTION

MISCELLANEOUS  
DETAILS

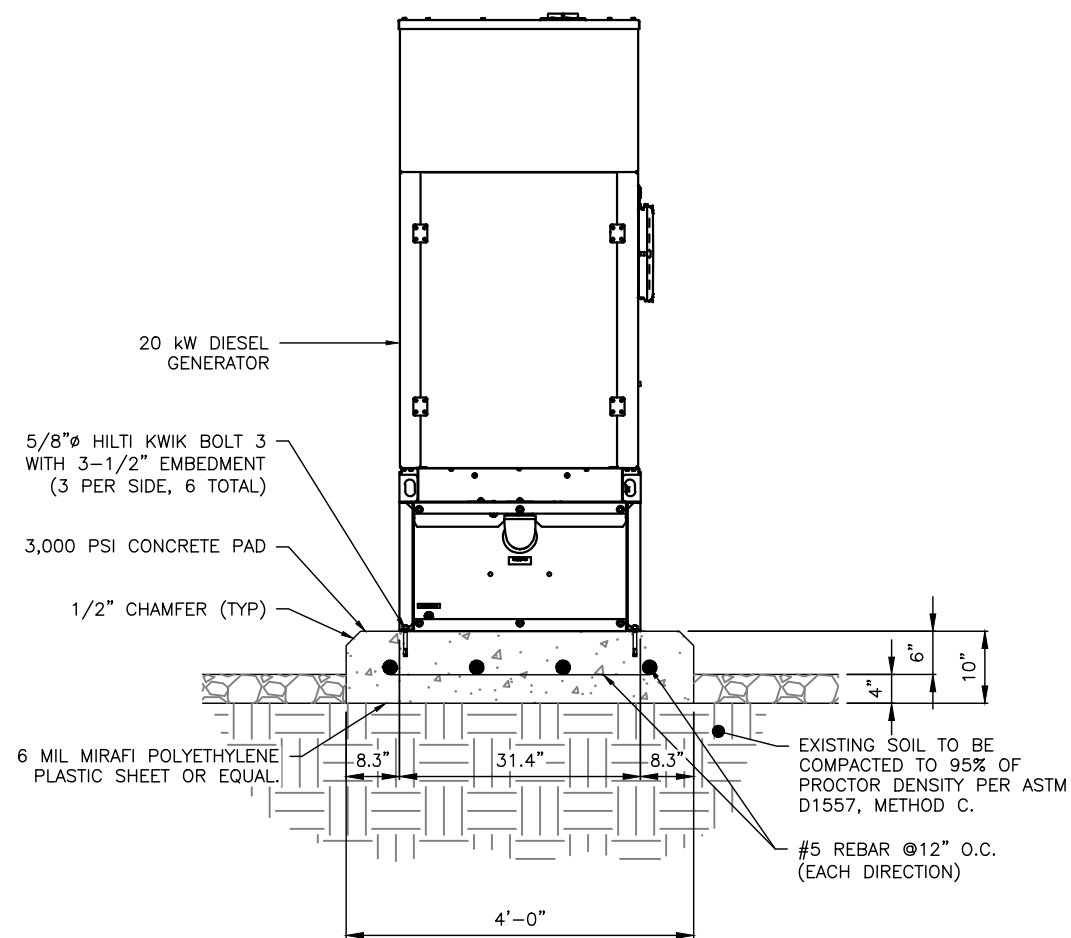
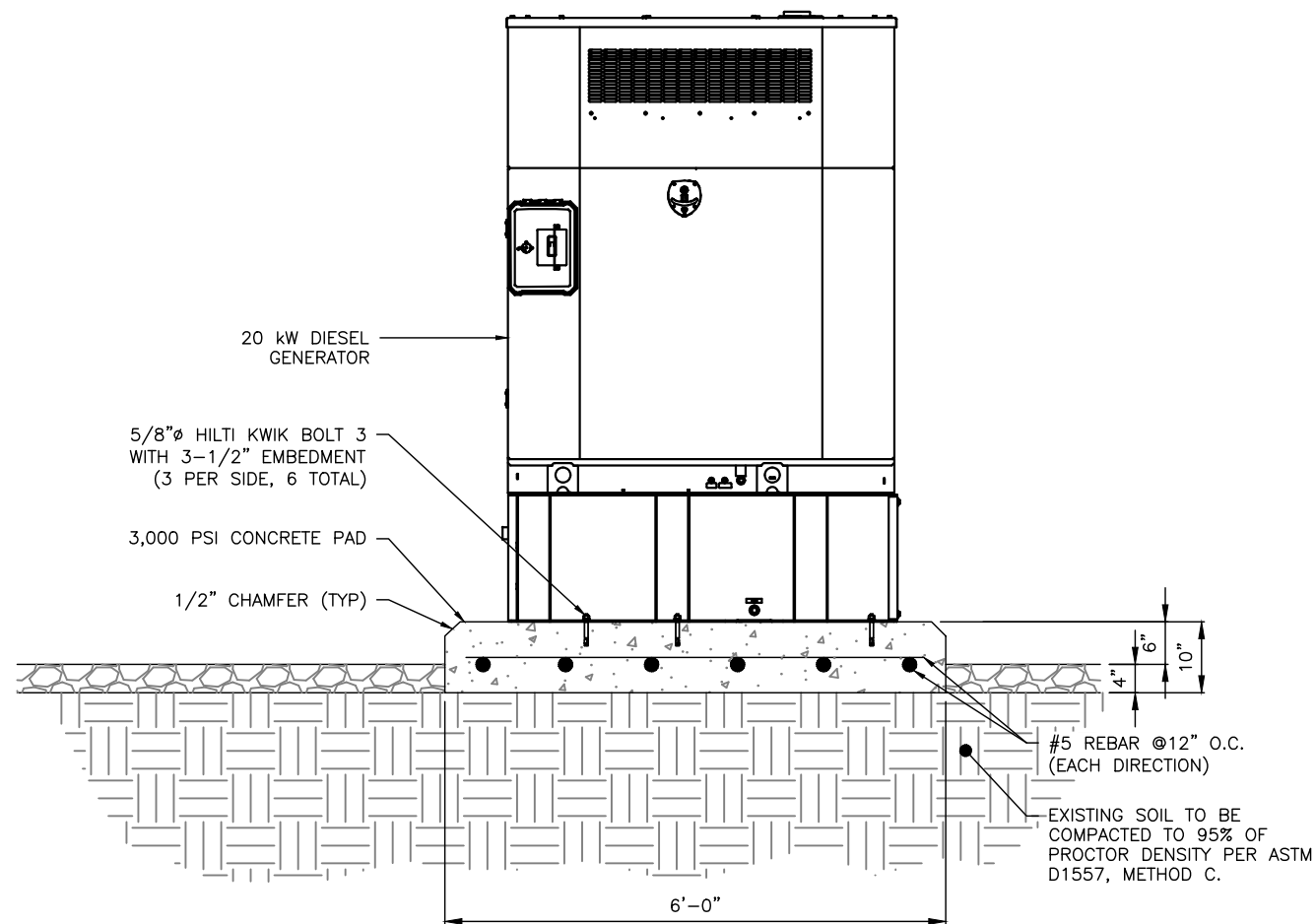
SHEET NUMBER

**S-4**





1 **WUC CONCRETE PAD DETAILS**  
S-5 SCALE: N.T.S.



2 **GENERATOR CONCRETE PAD DETAILS**  
S-5 SCALE: N.T.S.

REV	DATE	DESCRIPTION
A	12/22/24	PRELIMINARY CDs REV "A"
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GEN3 PROJECT#: 102411017

DRAWN BY:	CHECKED BY:
YMK	MM

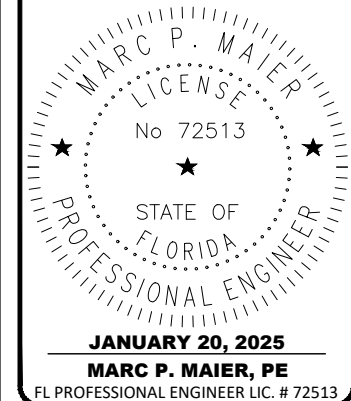


PREPARED BY:



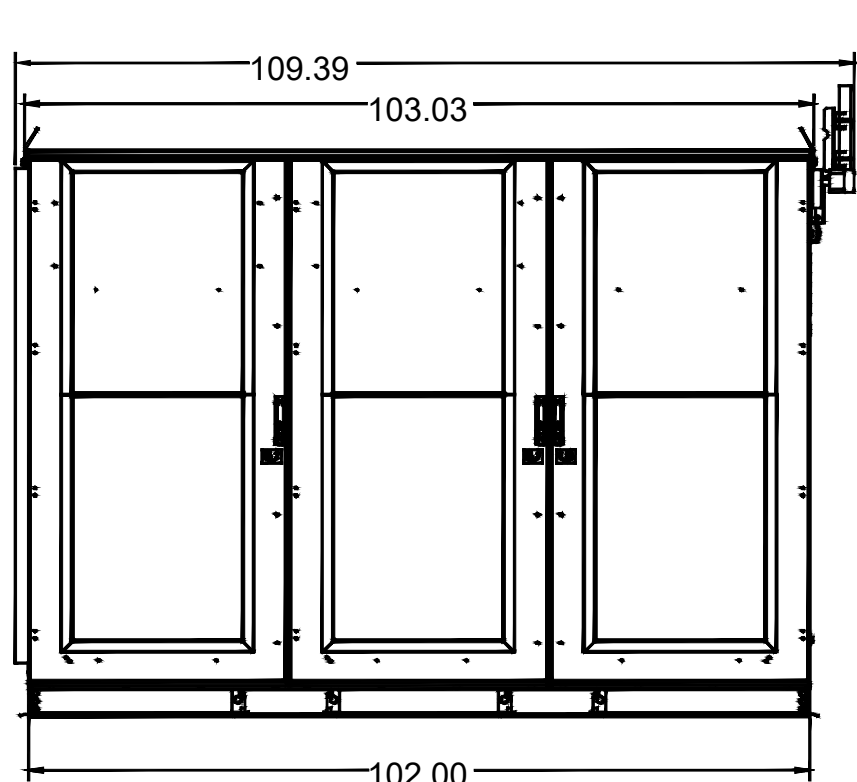
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(813)917-2671  
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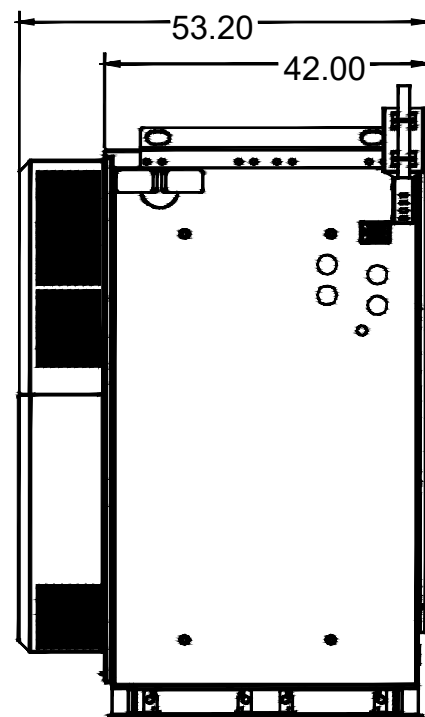


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1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

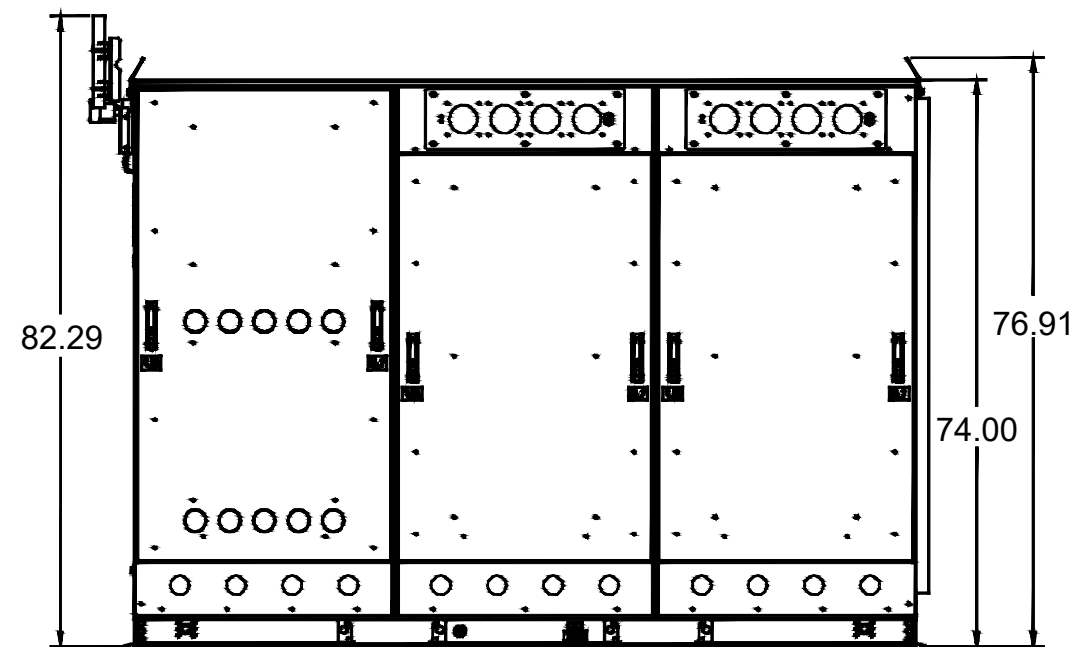
SHEET DESCRIPTION
SWIC FOUNDATION DETAILS
SHEET NUMBER
<b>S-5</b>



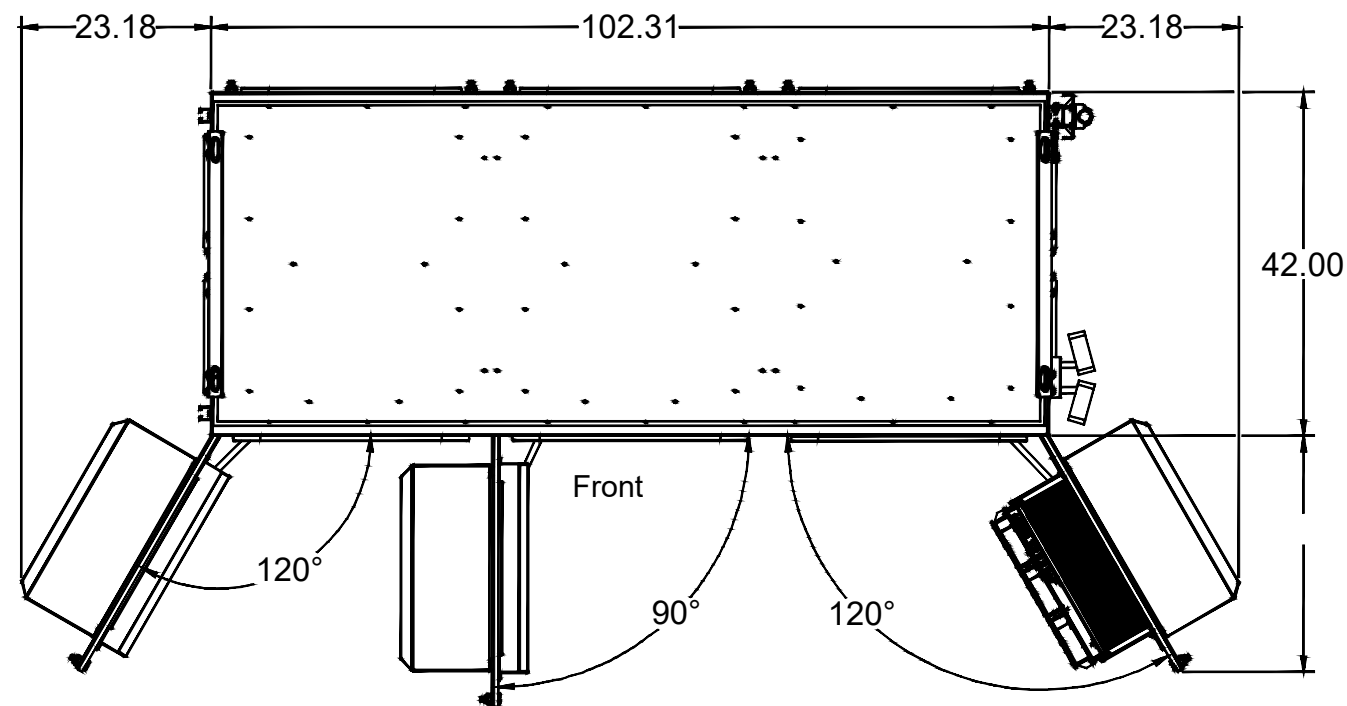
FRONT VIEW



SIDE VIEW



REAR VIEW



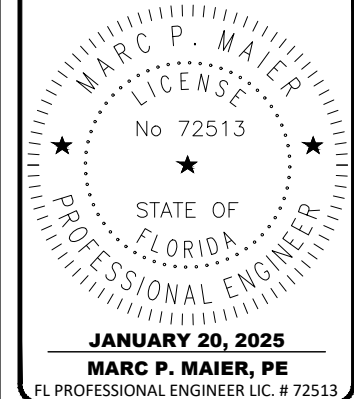
TOP VIEW

Note:  
1. All dimensions are in inches.

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DRAWN BY:		CHECKED BY:
YMK		MM



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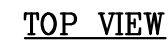
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**FA #15826570**  
**SBA ID #1200714**  
1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

SHEET DESCRIPTION  
VERTIV 3-BAY WUC  
DETAILS

SHEET NUMBER  
**S-6**







REV	DATE	DESCRIPTION
A	12/22/24	PRELIMINARY CDs REV "A"
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DRAWN BY:	CHECKED BY:
YMK	MM

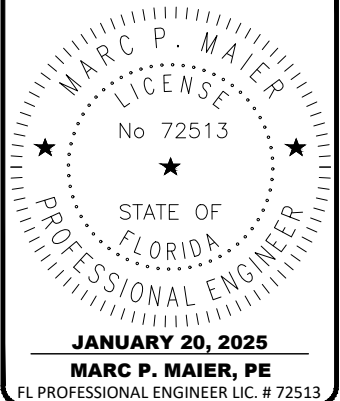


PREPARED BY:

**GEN**  
ENGINEERING

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**FIVE POINTS**  
**FA #15826570**  
**SBA ID #1200714**  
1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

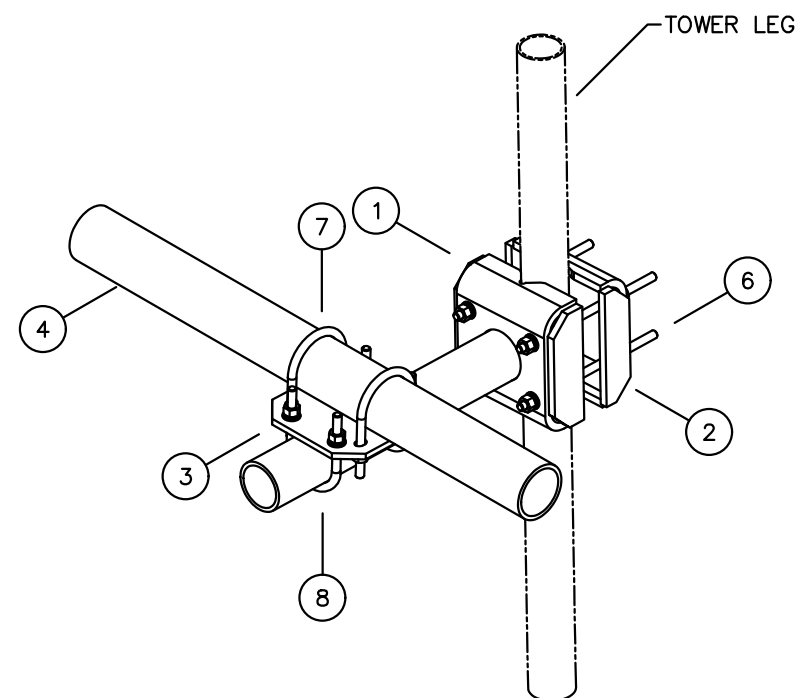
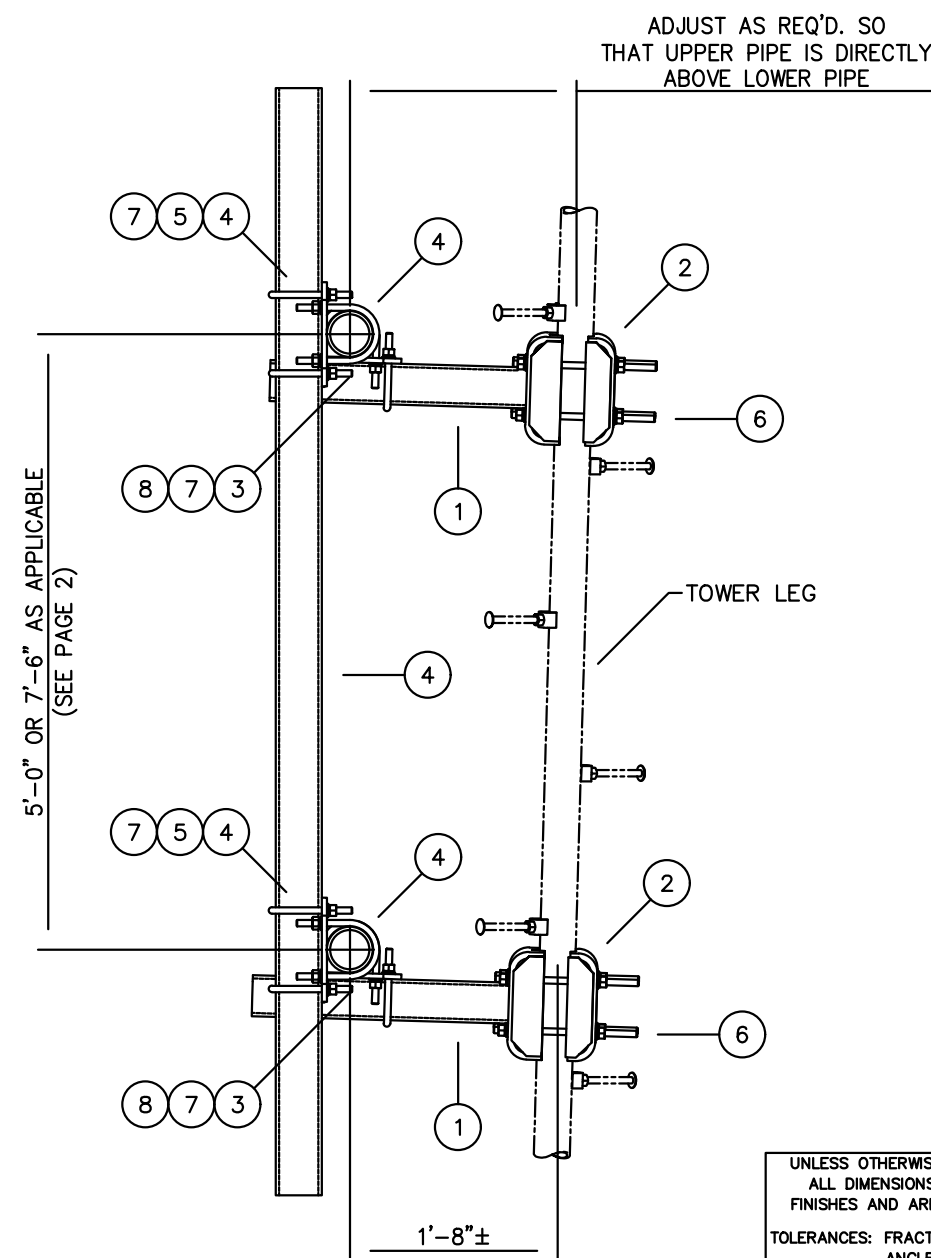
SHEET DESCRIPTION

**MISCELLANEOUS  
DETAILS**


SHEET NUMBER

**S-8**





ARM CONNECTION DETAIL  
TYPICAL 8 PLACES

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS INCLUDE FINISHES AND ARE IN INCHES				MATERIAL:				UNIVERSAL QUAD MOUNT FOR STRAIGHT OR TAPERED SELF SUPPORTING TOWER SECTIONS						
TOLERANCES: FRACTIONS ± 1/16" ANGLES ± 1/2 DEG. DECIMALS ± .010"				TOLERANCES DO NOT APPLY TO RAW MATERIAL										
						<div>CONFIDENTIAL</div> <div>This document and the information contained herein is the confidential trade secret property of Sabre Communications Corporation ("Sabre") and must not be reproduced, copied or used, in whole or in part, for any purpose without the prior written consent of Sabre.</div> <div>© 2020 Sabre Communications Corporation. All rights reserved.</div>				SIZE	DRAWING NO.		REV	
									B	C10100324		0		
								DATE	03/12/20					
								DRAWN BY	WRF					
								CHECKED BY	WMN			SCALE	PAGE	
												None	3 OF 3	
REV	DATE	DRW/CHK	DESCRIPTION											

REV	DATE	DESCRIPTION
A	12/22/24	PRELIMINARY CDs REV "A"
B	01/20/25	PRELIMINARY CDs REV "B"
0	01/20/25	FINAL CDs ISSUED
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GEN3 PROJECT#: 102411017	
DRAWN BY: YMK	CHECKED BY: MM

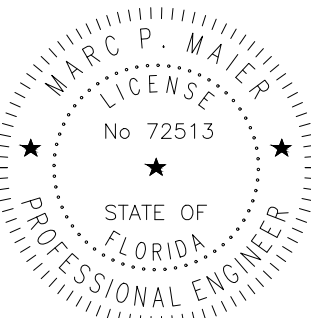
**AT&T**  
12150 RESEARCH PARKWAY  
ORLANDO, FL 32826

**smartlink**  
10 CHURCH CIRCLE  
ANNAPOLIS, MD 21401

PREPARED BY:

**GEN ENGINEERING**  
27139 SEA BREEZE WAY  
WESLEY CHAPEL, FLORIDA 33544  
(813)917-2671  
COA # 35409

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**JANUARY 20, 2025**  
**MARC P. MAIER, PE**  
FL PROFESSIONAL ENGINEER LIC. # 72513

**FIVE POINTS**  
**FA #15826570**  
**SBA ID #1200714**  
1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

SHEET DESCRIPTION  
**MISCELLANEOUS  
DETAILS**

SHEET NUMBER  
**S-9**

DC / FIBER DEMARCATION BOX									
RAYCAP DC FIBER DEMARCATION BOX			CABLES						NOTES
MOUNTING HEIGHT	MODEL	QTY	MODEL	SIZE	LENGTH PER				
					QTY	LINE			
250'-0"	DC9-48-60-24-BC-EV	2	ROSENBERGER (24) PAIR FIBER TRUNK	3/8"	2	290'-0"			
			(6)- #6 AWG TINNED COPPER CONDUCTORS	0.957"	6	290'-0"			

ANTENNA AND COAX SCHEDULE																										
SECTOR	ANTENNAS								CABLES						RRU						D/PLEXER/TRIPLEXER				TMA	
	AZ	RAD CENTER	ANTENNA		(QTY)	APPROXIMATE ANTENNA SPECS	OWN TILT		MODEL	SIZE	(QTY)	LENGTH/ LINE	COLOR CODE	MODEL	(QTY)	(QTY)	MODEL	TWR (QTY)	GRND (QTY)	MODEL	(QTY)					
			MAKE	MODEL			ELEC	MECH																		
ALPHA (A1)	10°	250'-0"	Ericsson	KRE 101 2556/ 1K	1	H=72.0" x W=19.2" x D=6.5"	-	-	- ROSENBERGER FIBER JUMPER (DC9 TO RRU) ROSENBERGER SINGLE PAIR DC CABLE (DC9 TO RRU) 1/2" COAX JUMPER (RRU TO ANTENNA)	- 3/8" 7/16" 1/2"	- 3 2 12	- 15'-0" 15'-0" 12'-0"	- 1 RED 1 RED 1 RED	- 4890 B25/B66 4478 B14 -	- 1 1 -	- - -	- -	- -	- -	- -	- -	- -				
ALPHA (A2)	10°	250'-0"	Ericsson	AIR6472 B77G/ B77M	1	H=36.3" x W=16.1" x D=7.5"	-	-	- ROSENBERGER FIBER JUMPER (DC9 TO RRU) ROSENBERGER SINGLE PAIR DC CABLE (DC9 TO RRU)	- 3/8" 7/16"	- 2 1	- 15'-0" 15'-0"	- 2 RED 2 RED	- -	- -	- -	- -	- -	- -	- -	- -	- -				
ALPHA (A4)	10°	250'-0"	Ericsson	KRE 101 2556/ 1K	1	H=72.0" x W=19.2" x D=6.5"	-	-	- ROSENBERGER FIBER JUMPER (DC9 TO RRU) ROSENBERGER SINGLE PAIR DC CABLE (DC9 TO RRU) 1/2" COAX JUMPER (RRU TO ANTENNA)	- 3/8" 7/16" 1/2"	- 2 1 4	- 15'-0" 15'-0" 12'-0"	- 4 RED 4 RED 4 RED	- 4490 B5/B12A -	- 1 -	- -	- -	- -	- -	- -	- -	- -				
BETA (B1)	100°	250'-0"	Ericsson	KRE 101 2556/ 1K	1	H=72.0" x W=19.2" x D=6.5"	-	-	- ROSENBERGER FIBER JUMPER (DC9 TO RRU) ROSENBERGER SINGLE PAIR DC CABLE (DC9 TO RRU) 1/2" COAX JUMPER (RRU TO ANTENNA)	- 3/8" 7/16" 1/2"	- 3 2 12	- 15'-0" 15'-0" 12'-0"	- 1 BLUE 1 BLUE 1 BLUE	- 4890 B25/B66 4478 B14 -	- 1 1 -	- -	- -	- -	- -	- -	- -	- -				
BETA (B2)	100°	250'-0"	Ericsson	AIR6472 B77G/ B77M	1	H=36.3" x W=16.1" x D=7.5"	-	-	- ROSENBERGER FIBER JUMPER (DC9 TO RRU) ROSENBERGER SINGLE PAIR DC CABLE (DC9 TO RRU)	- 3/8" 7/16"	- 2 1	- 15'-0" 15'-0"	- 2 BLUE 2 BLUE	- -	- -	- -	- -	- -	- -	- -	- -	- -				
BETA (B4)	100°	250'-0"	Ericsson	KRE 101 2556/ 1K	1	H=72.0" x W=19.2" x D=6.5"	-	-	- ROSENBERGER FIBER JUMPER (DC9 TO RRU) ROSENBERGER SINGLE PAIR DC CABLE (DC9 TO RRU) 1/2" COAX JUMPER (RRU TO ANTENNA)	- 3/8" 7/16" 1/2"	- 2 1 4	- 15'-0" 15'-0" 12'-0"	- 4 BLUE 4 BLUE 4 BLUE	- 4490 B5/B12A -	- 1 -	- -	- -	- -	- -	- -	- -	- -				
GAMMA (C1)	190°	250'-0"	Ericsson	KRE 101 2556/ 1K	1	H=72.0" x W=19.2" x D=6.5"	-	-	- ROSENBERGER FIBER JUMPER (DC9 TO RRU) ROSENBERGER SINGLE PAIR DC CABLE (DC9 TO RRU) 1/2" COAX JUMPER (RRU TO ANTENNA)	- 3/8" 7/16" 1/2"	- 3 2 12	- 15'-0" 15'-0" 12'-0"	- 1 GREEN 1 GREEN 1 GREEN	- 4890 B25/B66 4478 B14 -	- 1 1 -	- -	- -	- -	- -	- -	- -	- -				
GAMMA (C2)	190°	250'-0"	Ericsson	AIR6472 B77G/ B77M	1	H=36.3" x W=16.1" x D=7.5"	-	-	- ROSENBERGER FIBER JUMPER (DC9 TO RRU) ROSENBERGER SINGLE PAIR DC CABLE (DC9 TO RRU)	- 3/8" 7/16"	- 2 1	- 15'-0" 15'-0"	- 2 GREEN 2 GREEN	- -	- -	- -	- -	- -	- -	- -	- -	- -				
GAMMA (C4)	190°	250'-0"	Ericsson	KRE 101 2556/ 1K	1	H=72.0" x W=19.2" x D=6.5"	-	-	- ROSENBERGER FIBER JUMPER (DC9 TO RRU) ROSENBERGER SINGLE PAIR DC CABLE (DC9 TO RRU) 1/2" COAX JUMPER (RRU TO ANTENNA)	- 3/8" 7/16" 1/2"	- 2 1 4	- 15'-0" 15'-0" 12'-0"	- 4 GREEN 4 GREEN 4 GREEN	- 4490 B5/B12A -	- 1 -	- -	- -	- -	- -	- -	- -	- -				
DELTA (D1)	280°	250'-0"	Ericsson	KRE 101 2556/ 1K	1	H=72.0" x W=19.2" x D=6.5"	-	-	- ROSENBERGER FIBER JUMPER (DC9 TO RRU) ROSENBERGER SINGLE PAIR DC CABLE (DC9 TO RRU) 1/2" COAX JUMPER (RRU TO ANTENNA)	- 3/8" 7/16" 1/2"	- 3 2 12	- 15'-0" 15'-0" 12'-0"	- 1 YELLOW 1 YELLOW 1 YELLOW	- 4890 B25/B66 4478 B14 -	- 1 1 -	- -	- -	- -	- -	- -	- -	- -				
DELTA (D2)	280°	250'-0"	Ericsson	AIR6472 B77G/ B77M	1	H=36.3" x W=16.1" x D=7.5"	-	-	- ROSENBERGER FIBER JUMPER (DC9 TO RRU) ROSENBERGER SINGLE PAIR DC CABLE (DC9 TO RRU)	- 3/8" 7/16"	- 2 1	- 15'-0" 15'-0"	- 2 YELLOW 2 YELLOW	- -	- -	- -	- -	- -	- -	- -	- -	- -				
DELTA (D4)	280°	250'-0"	Ericsson	KRE 101 2556/ 1K	1	H=72.0" x W=19.2" x D=6.5"	-	-	- ROSENBERGER FIBER JUMPER (DC9 TO RRU) ROSENBERGER SINGLE PAIR DC CABLE (DC9 TO RRU) 1/2" COAX JUMPER (RRU TO ANTENNA)	- 3/8" 7/16" 1/2"	- 2 1 4	- 15'-0" 15'-0" 12'-0"	- 4 YELLOW 4 YELLOW 4 YELLOW	- 4490 B5/B12A -	- 1 -	- -	- -	- -	- -	- -	- -	- -				
TOTAL				12					TOTAL FIBER JUMPER				28	420'-0"		TOTAL		12	0	TOTAL		0	0	TOTAL	0	

\* ANTENNA AND COAX INFORMATION PROVIDED FROM THE LTE RFDS SHEET # 7846 V1.00 DATED 06/11/24  
\* CONTRACTOR TO VERIFY RF INFO WITH CLIENT PRIOR TO CONSTRUCTION.  
\* CABLE LENGTHS ARE APPROXIMATE AND MUST BE VERIFIED PRIOR TO CONSTRUCTION.  
\* ALL CABLES SHALL BE COLOR CODED AT TOP AND BOTTOM JUMPER AND AT TOP OF TOWER  
BOTTOM OF TOWER, AND INSIDE SWIC ON MAIN COAX.  
\* EACH MAIN COAX SHALL HAVE CORROSION PROOF "ID TAGS" INSTALLED INSIDE THE SWIC  
AT THE PORT AND AT THE ANTENNA.  
\* QUANTITIES GIVEN ARE TOTAL EXISTING AND PROPOSED.

REV	DATE	DESCRIPTION
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GEN3 PROJECT#: 102411017

DRAWN BY:	CHECKED BY:
YMK	MM



AT&T


12150 RESEARCH PARKWAY  
ORLANDO, FL 32826



smartlink

10 CHURCH CIRCLE  
ANNAPOLIS, MD 21401

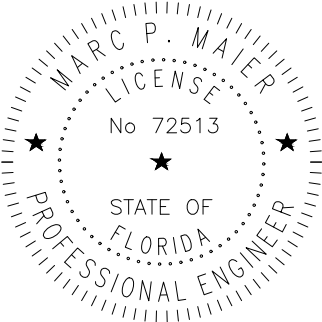
PREPARED BY:



GEN  
ENGINEERING

27139 SEA BREEZE WAY  
WESLEY CHAPEL, FLORIDA 33544  
(813)917-2671  
COA # 35409

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& SEALED BY MARC P. MAIER, P.E., FL  
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MARC P. MAIER  
LICENSE  
No 72513  
STATE OF  
FLORIDA  
PROFESSIONAL ENGINEER

JANUARY 20, 2025  
MARC P. MAIER, PE  
FL PROFESSIONAL ENGINEER LIC. # 72513

FIVE POINTS

FA #15826570

SBA ID #1200714

1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

SHEET DESCRIPTION

ANTENNA  
SCHEDULE

SHEET NUMBER

AN-1



ELECTRICAL SPECIFICATION NOTES

GENERAL NOTES:

1. OBTAIN PERMITS AND PAY FEES RELATED TO ELECTRICAL WORK PERFORMED ON THIS PROJECT. DELIVER COPIES OF ALL PERMITS TO CLIENT REPRESENTATIVE.
2. SCHEDULE AND ATTEND INSPECTIONS RELATED TO ELECTRICAL WORK REQUIRED BY JURISDICTION HAVING AUTHORITY. CORRECT AND PAY FOR ANY WORK REQUIRED TO PASS ANY FAILED INSPECTION.
3. ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM APPROVED BY CLIENT TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED 5 OHMS TO GROUND. THE COMPLETED SITE SHALL BE TESTED AND A REPORT SENT TO CLIENT REPRESENTATIVE.
4. REDLINED AS-BUILTS ARE TO BE DELIVERED TO CLIENT REPRESENTATIVE.
5. PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS IN THREE-RING BINDER.
6. FURNISH AND INSTALL THE COMPLETE ELECTRICAL SERVICE, CABLE TRAY, TELCO CONDUIT AND GROUNDING SYSTEMS.
7. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER, AND SHALL BE SUBJECT TO APPROVAL BY CLIENT REPRESENTATIVE.
8. CONDUCT A PRE-CONSTRUCTION SITE VISIT AND VERIFY EXISTING SITE CONDITIONS AFFECTING THIS WORK. REPORT ANY OMISSIONS OR DISCREPANCIES FOR CLARIFICATION PRIOR TO THE START OF CONSTRUCTION.
9. PROTECT ADJACENT STRUCTURES AND FINISHES FROM DAMAGE. REPAIR TO ORIGINAL CONDITION ANY DAMAGED AREA.
10. REMOVE DEBRIS ON A DAILY BASIS. DEBRIS NOT REMOVED IN A TIMELY FASHION WILL BE REMOVED BY OTHERS AND THE RESPONSIBLE SUBCONTRACTOR SHALL BE CHARGED ACCORDINGLY. REMOVAL OF DEBRIS SHALL BE COORDINATED WITH THE CLIENT’S REPRESENTATIVE. DEBRIS SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF LEGALLY. USE OF THE PROPERTY’S DUMPSTER IS PROHIBITED.
11. ALL CONSTRUCTION SHALL BE INSPECTED AND APPROVED BY LOCAL AUTHORITIES.
12. SIGNAL WIRING SHALL BE INSULATED #18 AWG. NO BX OR ROMEX CABLE IS PERMITTED.
13. WIRING DEVICES AND EQUIPMENT SHALL BE UL LISTED AND SPECIFICATION GRADE.
14. FUSES ARE NOT ALLOWED; CIRCUIT BREAKERS ONLY.
15. MATERIALS SHALL BE NEW AND CONFORM TO THE APPLICABLE STANDARDS ESTABLISHED FOR EACH ITEM BY THE ORGANIZATIONS LISTED BELOW:

– AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

– UNDERWRITER’S LABORATORY (UL)

– NATIONAL ELECTRICAL MANUFACTURING ASSOCIATION (NEMA)

– AMERICAN STANDARDS ASSOCIATION (ASA)

– NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
16. DESIGN AND INSTALLATION OF MATERIALS SHALL COMPLY WITH REGULATIONS OF:

– THE NATIONAL ELECTRICAL CODE (NFPA 70)

– THE NATIONAL ELECTRICAL SAFETY CODE (ANSI C-2)

– THE LIFE SAFETY CODE (NFPA 101)

– LIQUEFIED PETROLEUM GAS (NFPA 54 AND 58)

– LOCAL CODES
17. ALL CONDUIT CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NFPA 70), LATEST EDITION.

GROUNDING NOTES:

1. PROVIDE GROUNDING AND BONDING IN ACCORDANCE WITH CLIENT GROUNDING & BONDING PRACTICE UNLESS DIRECTED OTHERWISE BY DRAWINGS, NATIONAL ELECTRICAL CODE, OR AUTHORITIES HAVING JURISDICTION. THE ABOVE REFERENCED SPECIFICATIONS IS AN INTEGRAL PART OF THE DESIGN DOCUMENTS AN MUST BE STRICTLY ADHERED TO. WHERE CONFLICTS BETWEEN THIS SPECIFICATION, CODES, AND AUTHORITIES HAVING JURISDICTION ARISE, THE MOST STRINGENT SHALL GOVERN.
2. BUSS CONNECTORS SHALL BE 2-HOLE LONG BARREL TYPE COMPRESSION LUGS.
3. LUGS SHALL BE ATTACHED TO BUSSES USING BOLTS, NUTS AND DRAGON TOOTH WASHERS. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED.
4. SURFACE CONNECTIONS SHALL BE MADE TO BARE METAL. PAINTED SURFACES SHALL BE FILED TO ENSURE PROPER CONTACT. APPLY NON-OXIDIZING AGENT TO CONNECTIONS.
5. COPPER BUSSES SHALL BE CLEANED, POLISHED, AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED.
6. GROUND CONDUCTOR RUNS SHALL BE STRAIGHT AS POSSIBLE, WITH AN 8-INCH MINIMUM RADIUS FOR #6 CONDUCTORS AND 12” FOR #2 AND LARGER CONDUCTORS.
7. HARDWARE (I.E., NUTS BOLTS, WASHERS, ETC.) IS TO BE STAINLESS STEEL.
8. GROUND COAXIAL CABLES AT POINTS SHOWN ON GROUNDING RISER DIAGRAM WITH MANUFACTURER’S GROUNDING KITS.
9. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE (CADWELD) TO GROUND RING AND GROUND RODS. REMAINING GROUNDING CONNECTIONS SHALL BE MECHANICAL CONNECTIONS. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.
10. GROUND RING, COMPRISED OF #2 BARE TINNED SOLID RADIAL COPPER CONDUCTOR, SHALL HAVE A MINIMUM DISTANCE OF 24” FROM THE STRUCTURE AND BE BURIED A MINIMUM OF 30” BELOW GRADE.
11. CADWELD GROUND RODS TO GROUND RING. RODS TO BE 5/8” X 10’-0” COPPER CLAD STEEL WITH COPPER JACKET OF NOT LESS THAN 0.01 INCHES THICK. THE TOP OF GROUND ROD SHALL EXTEND NO MORE THAN 6 INCHES ABOVE THE BOTTOM OF THE TRENCH.
12. INTERCONNECT OUTDOOR EQUIPMENT GROUND RING AND TOWER GROUND RING WITH EXOTHERMIC WELD.
13. INSTALL GROUNDING KIT. BOND COAXIAL CABLE OUTER CONDUCTOR TO GROUNDING CONDUCTOR.
14. INSTALL GROUND RODS ON GROUND RING AT 16’ INTERVALS. INSTALL GROUND RODS TO FENCE POSTS AT 16’ INTERVALS.
15. ALL ELECTRICAL GROUNDING SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE LATEST EDITION OF NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780, APPROVED BY LOCAL AUTHORITY.
16. ALL GROUNDING CONNECTIONS SHALL BE COATED WITH AN ANTI-CORROSIVE AGENT SUCH AS "T & B KOPR SHIELD", "NO-OXY", "NOALOX" OR "PENETROX". VERIFY PRODUCT WITH PROJECT MANAGER.
17. GROUND WIRES SHALL BE #2 BARE TINNED SOLID COPPER FROM CONDUCTOR FOR BONDING CONNECTIONS UNLESS OTHERWISE NOTED ON PLANS.
18. DOCUMENT GROUND RING INSTALLATION AND CONNECTIONS WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PRESENT PHOTO ARCHIVE AT SITE "PUNCH LIST" WALK TO CLIENT REPRESENTATIVE.
19. THE ENTIRE SYSTEM SHALL BE GROUNDED USING LOCKNUTS AND BONDING NUTS ON CONDUITS AND PROPERLY BONDED GROUND CONDUCTORS. RECEPTACLES AND EQUIPMENT BRANCH CIRCUITS SHALL BE GROUNDED WITH A FULL-SIZED EQUIPMENT GROUNDING CONDUCTOR RUN IN THE CIRCUIT’S CONDUIT.

20. A RESISTANCE TO GROUND OF FIVE (5) OHMS OR LESS IS THE OBJECTIVE FOR THE EARTH GROUND SYSTEMS AT CELL SITES. CHEMICAL ENHANCERS, A WELL CASING OR A CUSTOM DESIGNED GROUND SYSTEM MAY BE USED TO MEET THIS OBJECTIVE. WHEN USING CHEMICAL ENHANCERS MANUFACTURER SPECIFICATIONS SHALL BE FOLLOWED.
21. ALL UNDERGROUND GROUND WIRE TO BE BURIED 30” DEEP.
22. ALL BURIED GROUND CONNECTIONS WILL BE MADE USING THE EXOTHERMIC WELD PROCESS.
23. ALL GROUND WIRES SHALL BE CONNECTED TO THE CIGBE USING TWO-HOLE CRIMP/COMPRESSION CONNECTORS.
24. AN APPROVED ANTI OXIDATION COMPOUND SHALL BE USED ON ALL EXTERNAL CONNECTIONS, EXCLUDING EXOTHERMIC WELDS, AND ON ALL EXTERNAL GROUND BARS. COAT ALL CONDUCTORS AND SURFACES PRIOR TO CONNECTION.
25. REFER TO SWIC MANUFACTURER AND CLIENT SPECS FOR INTERNAL GROUNDING DETAILS.
26. GROUND CONDUCTOR RUNS SHALL BE STRAIGHT AS POSSIBLE, WITH AN 8-INCH MINIMUM RADIUS FOR #6 CONDUCTORS AND 12” FOR #2 AND LARGER CONDUCTORS.
27. ALL POSTS TO BE BONDED UNDERGROUND VIA AN EXOTHERMIC WELD. PVC MIN. 6” INTO GROUND.
28. IF GROUNDED METALLIC OBJECTS ARE LESS THAN 6’ FROM A FENCE POST, THEN THE POST SHOULD BE GROUNDED TO THE GROUND RING.
29. ALL GROUND WIRES THAT ARE ROUTED ABOVE GROUND SHOULD BE INSTALLED IN 12” OF 3/4"Ø PVC ALL THE WAY TO THE WELD/BOND WITH 6” BELOW GRADE.
30. BOND THE SWIC FOUNDATION REBAR TO THE SWIC GROUND RING USING EITHER AN EXOTHERMIC WELD, A PREFABRICATED WELDED REBAR ASSEMBLY, UL APPROVED 2 BOLT PARALLEL CONNECTOR OR WIRE TIES. APPLY HEAT SHRINK OR ELECTRICAL INSULATING TAPE AROUND THE CONDUCTOR AS NECESSARY.
31. BOND ANY MISC. METAL OBJECTS TO GROUND RING VERIFY WITH CONSTRUCTION MANAGER
32. ALL ABOVE GROUND GROUND WIRES SHALL BE INSIDE FLEX CONDUIT AND SEALED WITH SILICONE.
33. IF TOWER IS GREATER THAN 200’ THEN CONTRACTOR IS TO INSTALL A GROUND BAR AT THE CENTER OF THE TOWER.

ELECTRICAL NOTES:

1. FOR EQUIPMENT SWIC INTERNAL WIRING, REFER TO CONCRETE SWIC SHOP DRAWINGS.
2. ALL ELECTRICAL CONNECTIONS IN DISCONNECTS, METERS AND AC PANELS NEED "NO-OXY", "NOALOX" OR "PENETROX" APPLIED. VERIFY PRODUCT WITH PROJECT MANAGER.

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DRAWN BY:		CHECKED BY:
YMK		MM

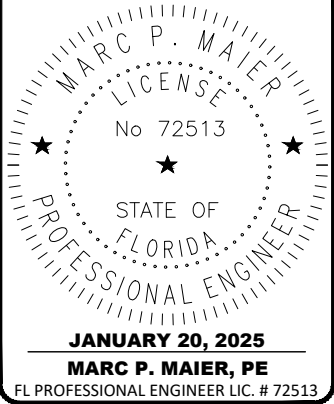


PREPARED BY:



27139 SEA BREEZE WAY  
WESLEY CHAPEL, FLORIDA 33544  
(813)917-2671  
COA # 35409

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED & SEALED BY MARC P. MAIER, P.E., FL LICENSE #72513 USING A DIGITAL SIGNATURE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED & SEALED & THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.



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LAKE CITY, FL 32055

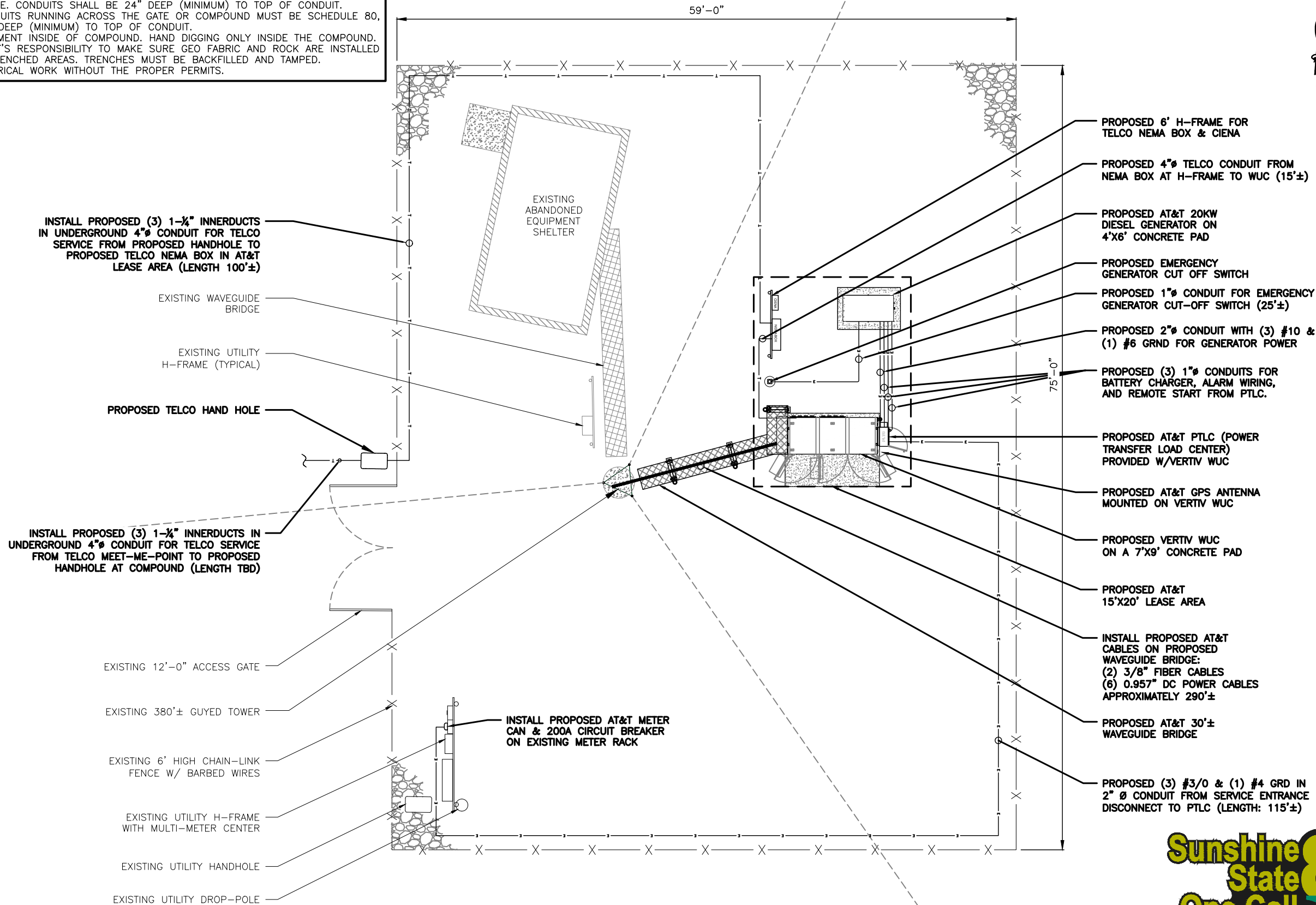
SHEET DESCRIPTION

ELECTRICAL  
NOTES

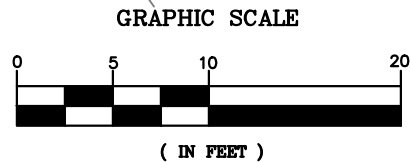
SHEET NUMBER

E-1

- NOTES:
1. ALL CONDUITS INSIDE THE COMPOUND MUST BE INSTALLED WITHIN 36" OF THE FENCE LINE. CONDUITS SHALL BE 24" DEEP (MINIMUM) TO TOP OF CONDUIT.
  2. ANY CONDUITS RUNNING ACROSS THE GATE OR COMPOUND MUST BE SCHEDULE 80, AND 36" DEEP (MINIMUM) TO TOP OF CONDUIT.
  3. NO EQUIPMENT INSIDE OF COMPOUND. HAND DIGGING ONLY INSIDE THE COMPOUND.
  4. IT IS AT&T'S RESPONSIBILITY TO MAKE SURE GEO FABRIC AND ROCK ARE INSTALLED IN THE TRENCHED AREAS. TRENCHES MUST BE BACKFILLED AND TAMPED.
  5. NO ELECTRICAL WORK WITHOUT THE PROPER PERMITS.



1  
E-2  
**UTILITY PLAN**  
SCALE: 1" = 10'-0"  
SCALE BASED ON 11"x17" ONLY



CALL FLORIDA 811  
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REV	DATE	DESCRIPTION
A	12/22/24	PRELIMINARY CDs REV "A"
B	01/20/25	PRELIMINARY CDs REV "B"
0	01/20/25	FINAL CDs ISSUED
1		
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8		

GEN3 PROJECT#: 102411017

DRAWN BY:  
YMK

CHECKED BY:  
MM

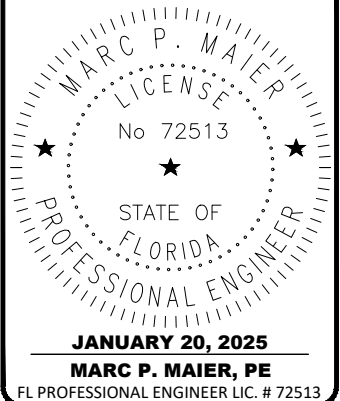


PREPARED BY:



27139 SEA BREEZE WAY  
WESLEY CHAPEL, FLORIDA 33544  
(813)917-2671  
COA # 35409

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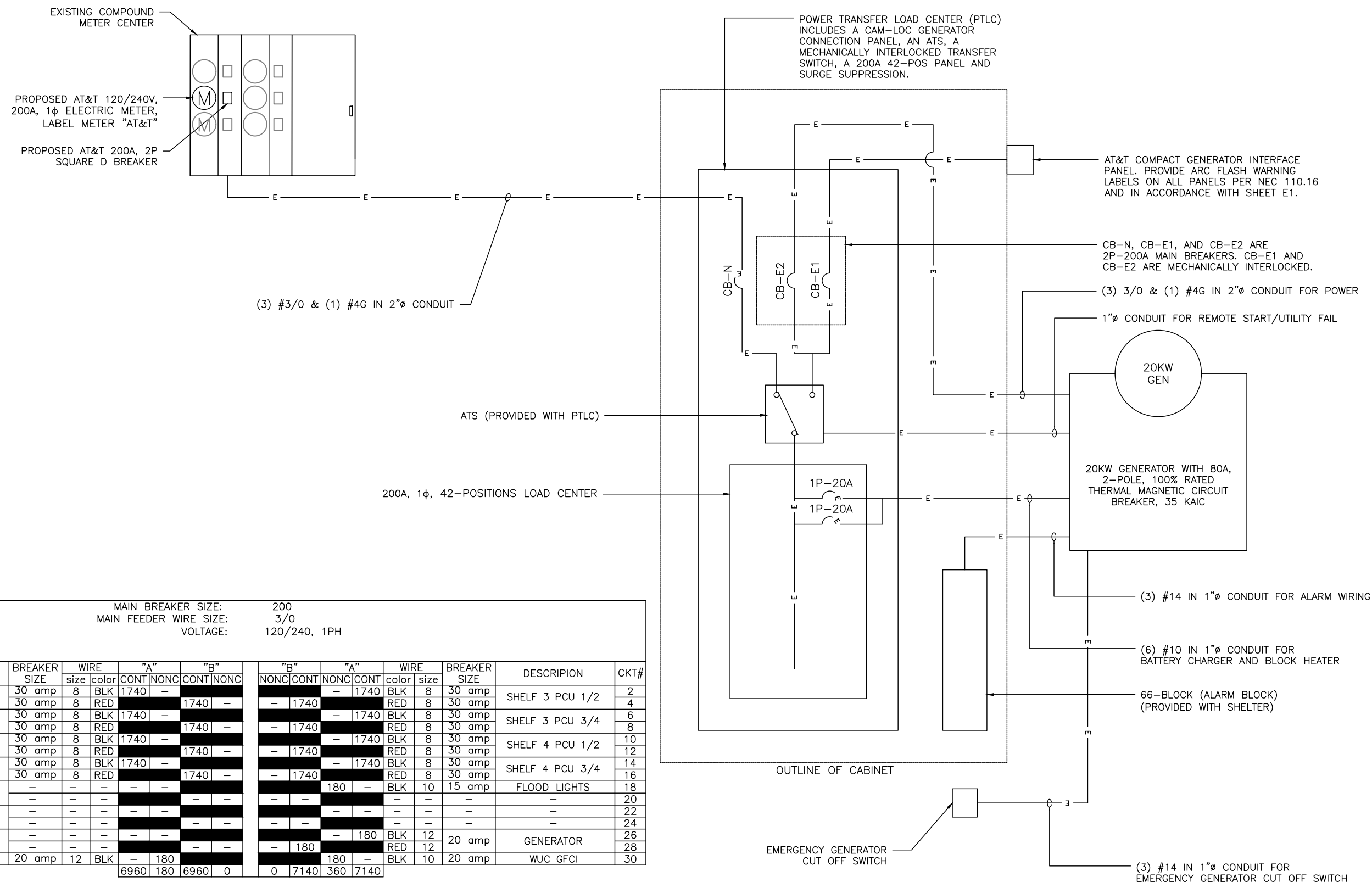
**FIVE POINTS**  
**FA #15826570**  
**SBA ID #1200714**  
1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

SHEET DESCRIPTION

UTILITY PLAN

SHEET NUMBER

**E-2**



MAIN BREAKER SIZE: 200  
MAIN FEEDER WIRE SIZE: 3/0  
VOLTAGE: 120/240, 1PH

CKT#	DESCRIPTION	BREAKER SIZE	WIRE		"A"		"B"		"B"		"A"		WIRE		BREAKER SIZE	DESCRIPTION	CKT#
			size	color	CONT	NONC	CONT	NONC	NONC	CONT	NONC	CONT	color	size			
1	SHELF 1 PCU 1/2	30 amp	8	BLK	1740	—	—	—	—	1740	—	1740	BLK	8	30 amp	SHELF 3 PCU 1/2	2
3		30 amp	8	RED	—	—	1740	—	—	1740	—	—	RED	8	30 amp		4
5	SHELF 1 PCU 3/4	30 amp	8	BLK	1740	—	—	—	—	—	—	1740	BLK	8	30 amp	SHELF 3 PCU 3/4	6
7		30 amp	8	RED	—	—	1740	—	—	1740	—	—	RED	8	30 amp		8
9	SHELF 2 PCU 1/2	30 amp	8	BLK	1740	—	—	—	—	—	—	1740	BLK	8	30 amp	SHELF 4 PCU 1/2	10
11		30 amp	8	RED	—	—	—	—	1740	—	—	—	RED	8	30 amp		12
13	SHELF 2 PCU 3/4	30 amp	8	BLK	1740	—	—	—	—	—	—	—	BLK	8	30 amp	SHELF 4 PCU 3/4	14
15		30 amp	8	RED	—	—	—	—	1740	—	—	—	RED	8	30 amp		16
17	—	—	—	—	—	—	—	—	—	—	180	—	BLK	10	15 amp	FLOOD LIGHTS	18
19		—	—	—	—	—	—	—	—	—	—	—	—	—	—		20
21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22
23		—	—	—	—	—	—	—	—	—	—	—	—	—	—		24
25	—	—	—	—	—	—	—	—	—	—	—	180	BLK	12	20 amp	GENERATOR	26
27		—	—	—	—	—	—	—	—	180	—	—	RED	12			28
29	PTLC RECEPTACLE	20 amp	12	BLK	—	180	—	—	—	—	180	—	BLK	10	20 amp	WUC GFCI	30
					6960	180	6960	0	0	7140	360	7140					

NOTE:  
1. THE PANEL SCHEDULE INDICATES THE MAXIMUM ANTICIPATED LOAD FROM THE INSTALLATION OF 16 RECTIFIER UNITS. COORDINATE WITH EQUIPMENT ENGINEER FOR ACTUAL QUANTITY OF RECTIFIERS REQUIRED AT THIS INSTALLATION.  
2. THIS INSTALLATION COMPLIES WITH NFPA 70 702.4 BY UTILIZING AN ENERGY MANAGEMENT SYSTEM (EMS) THAT CUTS POWER CONSUMPTION OF THE RECTIFIERS BY 50% UPON RECEIPT OF A POWER FAILURE ALARM.  
PROPOSED GENERATOR SIZE: 20 KW  
MAX REQUIRED POWER AT 50% RECTIFIER POWER DEMAND LOAD = 35.79 KW\*50% = 17.9 KW

PANEL USAGE DATE:	VA		
	CONT	NONC	TOTAL (1.25%cont+nonc)
A	14100	360	17985
B	14100	180	17805

SUMMARY:	VA	AMPS
TOTAL ALLOWED:	48000	200.0
TOTAL USED:	35790	149.1
REMAINING AVAILABLE:	12210	50.9

2  
E-3  
**PROPOSED PANEL SCHEDULE**  
SCALE: N.T.S.

1  
E-3  
**ELECTRICAL ONE-LINE DIAGRAM**  
SCALE: N.T.S.

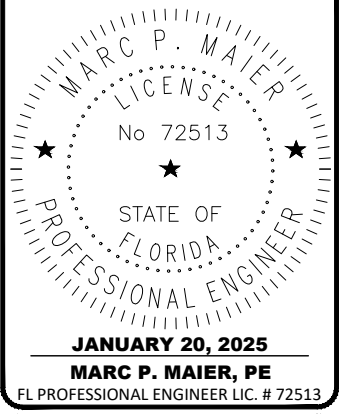
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GEN3 PROJECT#: 102411017

DRAWN BY:	CHECKED BY:
YMK	MM



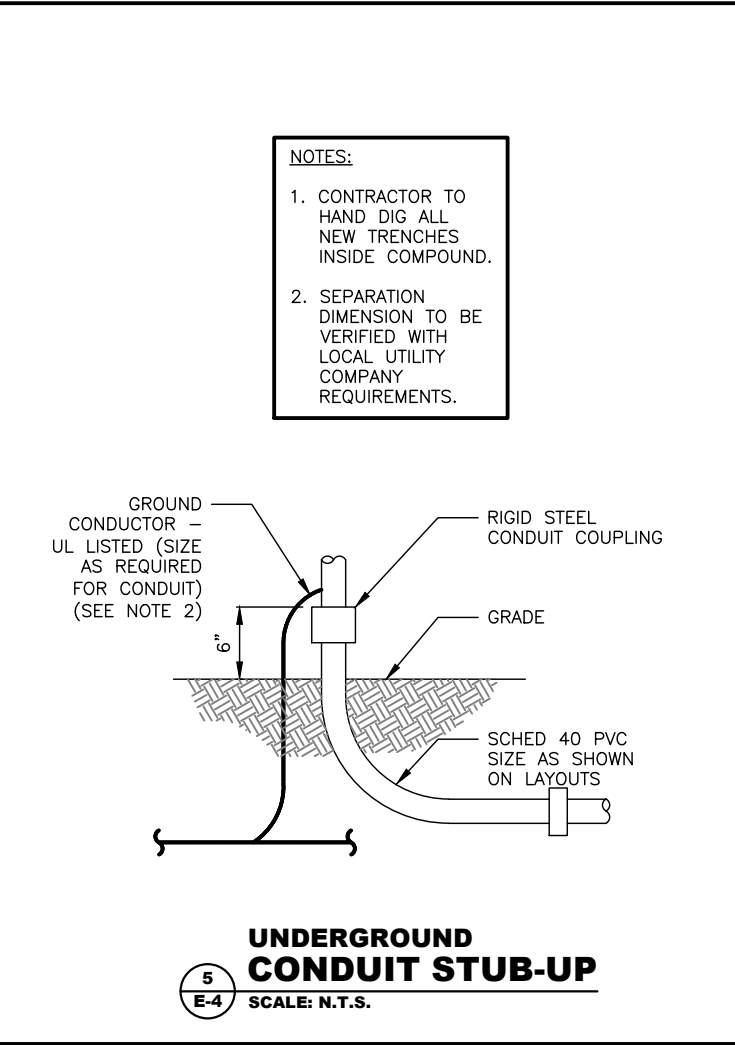
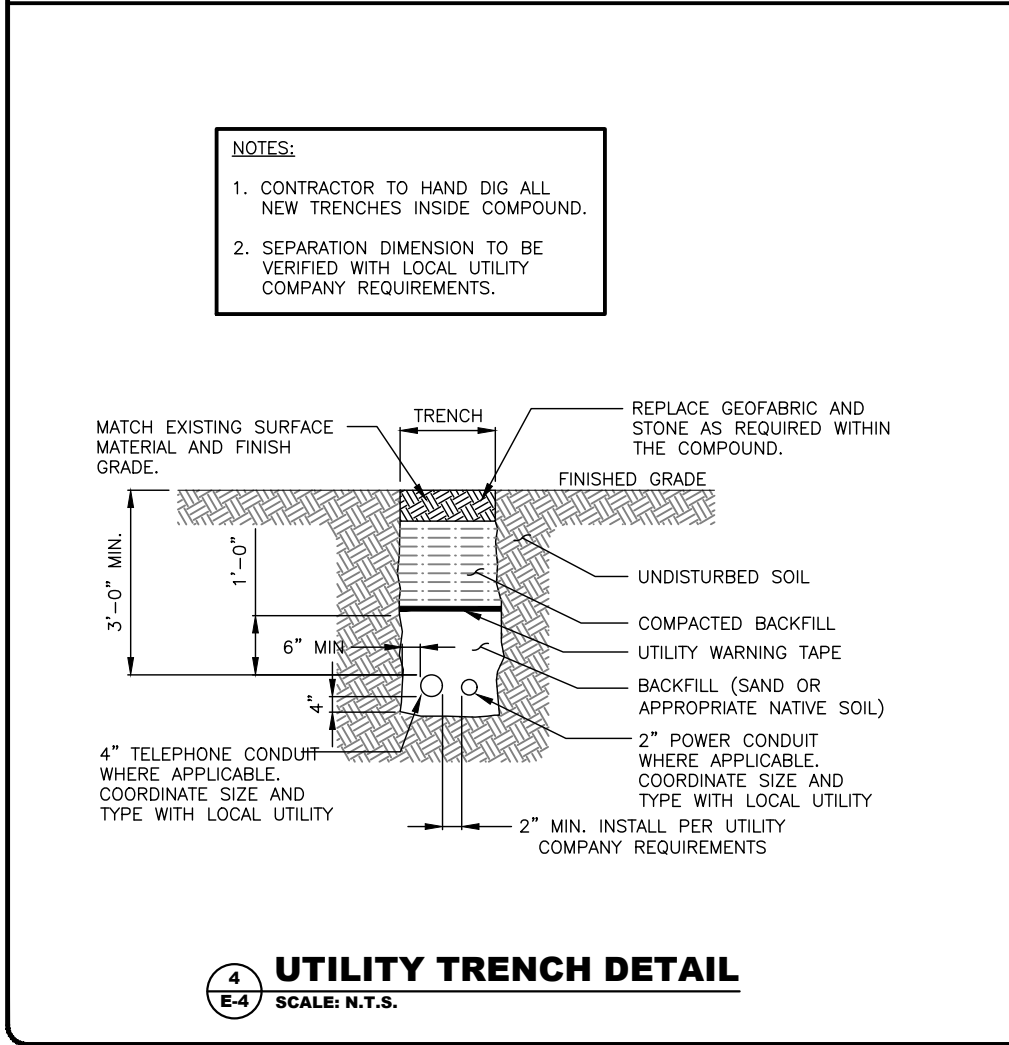
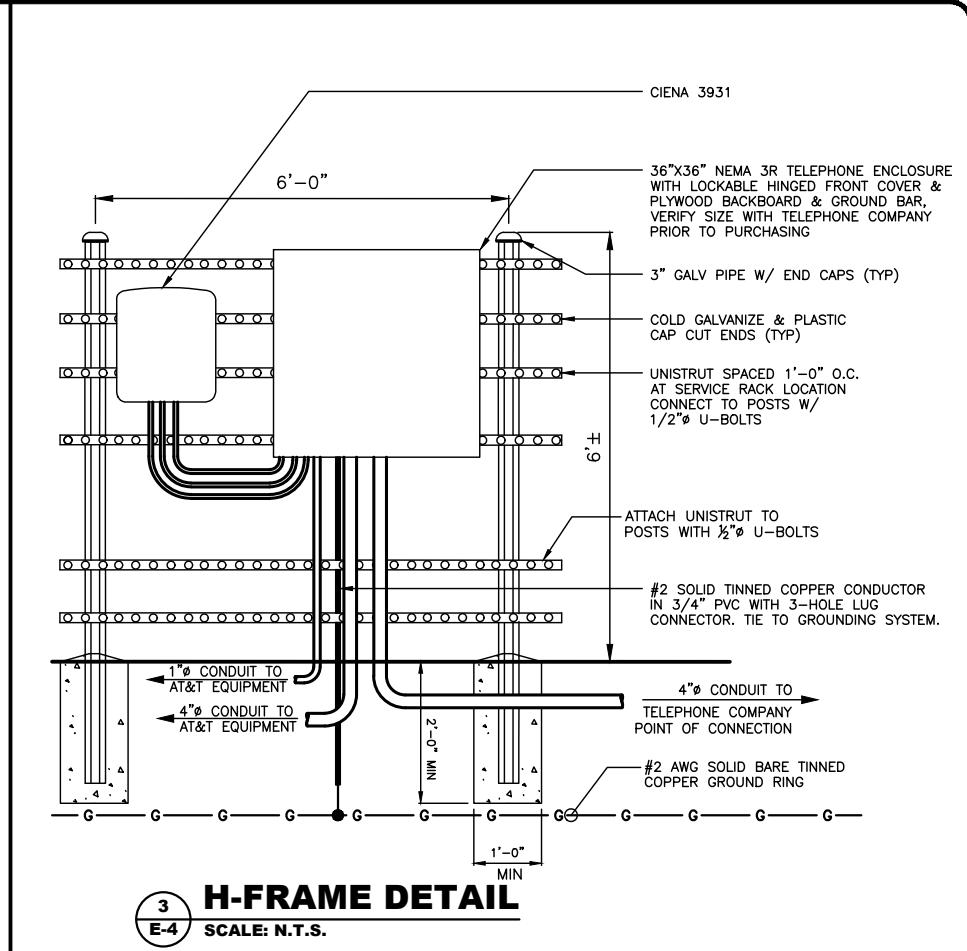
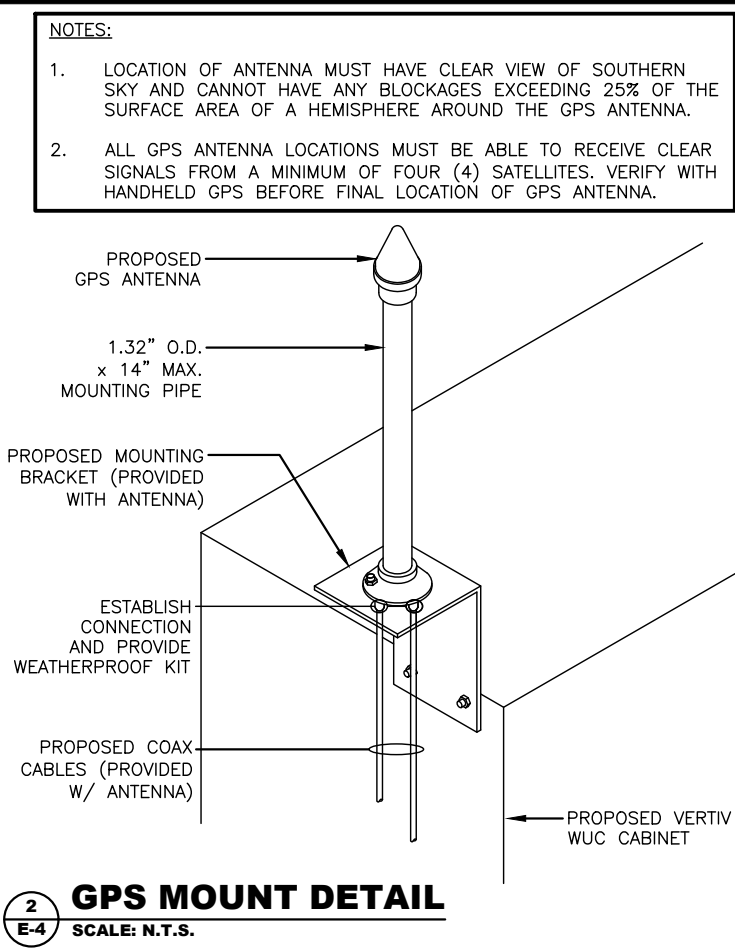
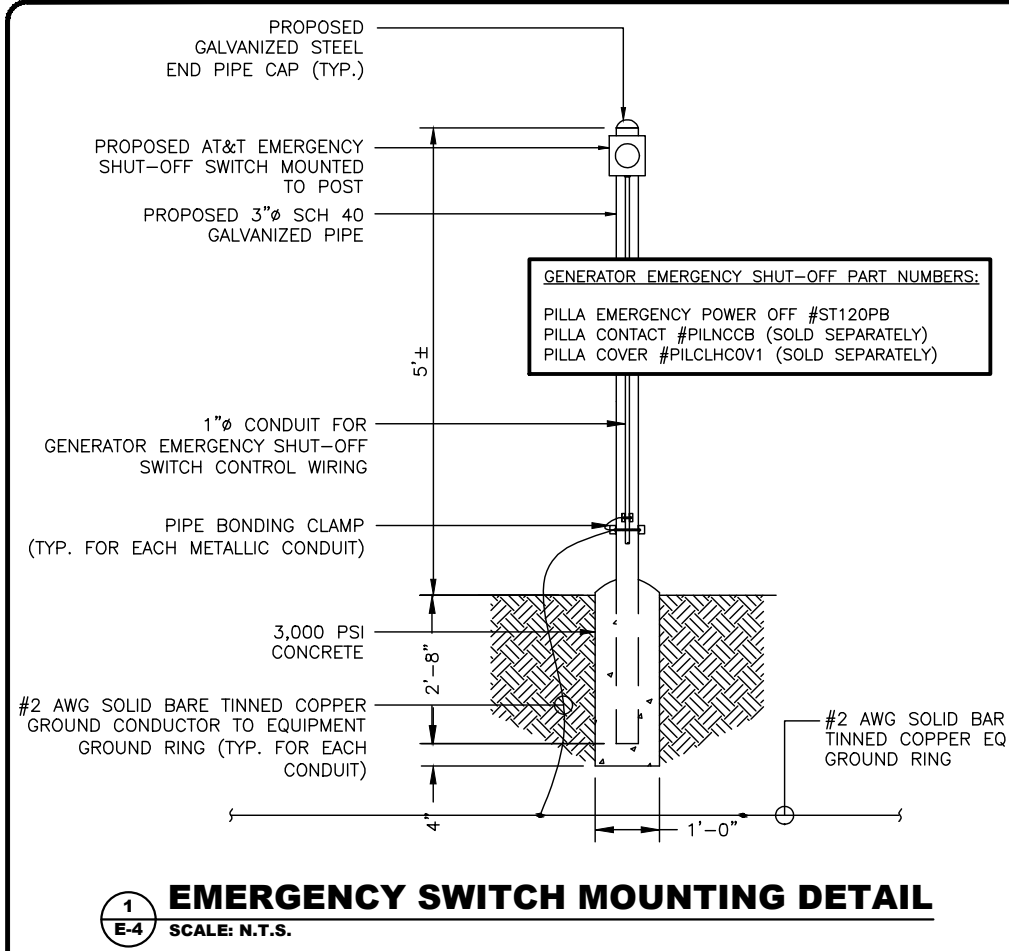
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**FIVE POINTS**  
**FA #15826570**  
**SBA ID #1200714**  
1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

SHEET DESCRIPTION
ELECTRICAL DETAILS
SHEET NUMBER
E-3



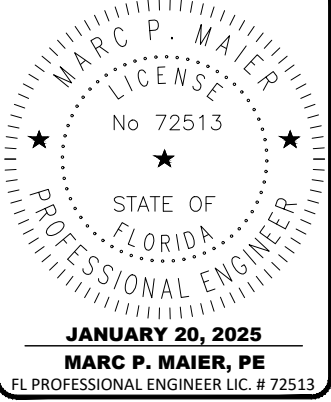


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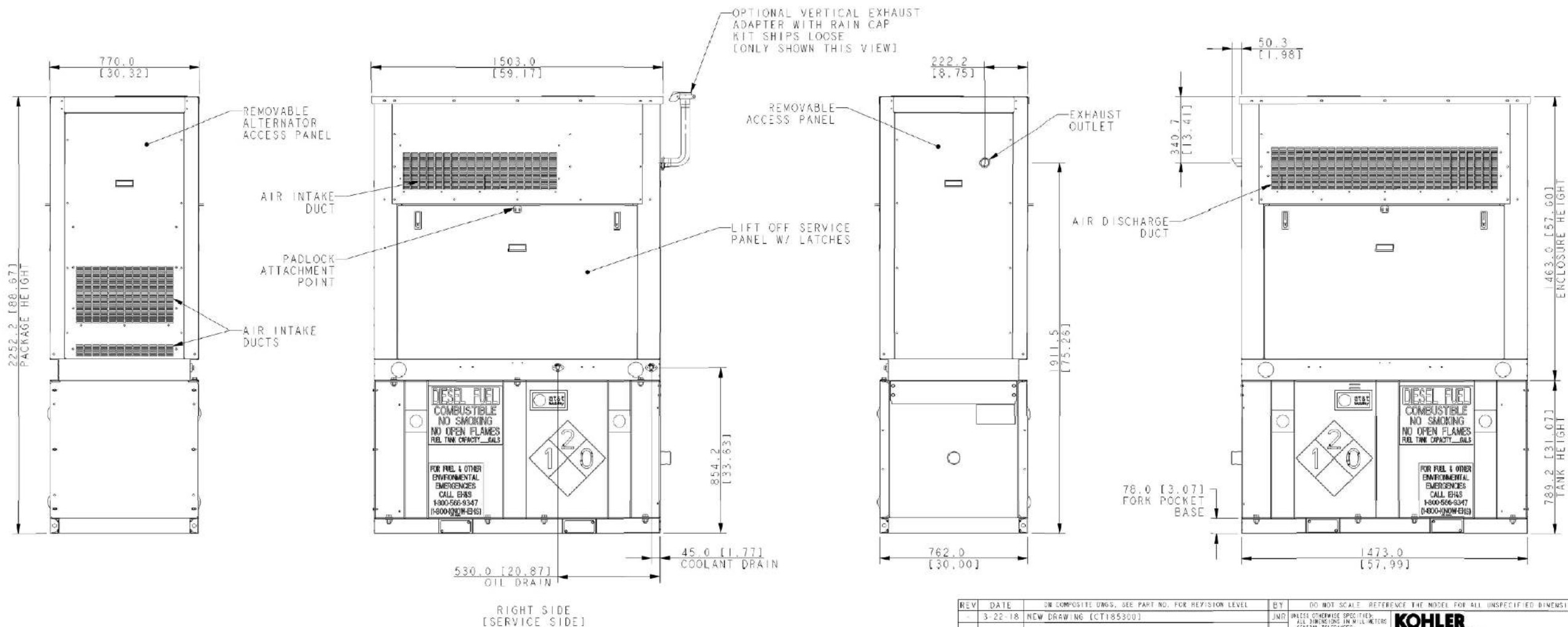
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1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

SHEET DESCRIPTION
ELECTRICAL DETAILS
SHEET NUMBER
E-4

- NOTES:
1. ALL SIDES OF THE GENERATOR ARE SERVICE ACCESSIBLE. RIGHT SIDE IS PRIMARY SERVICE SIDE.
  2. 6 AMP BATTERY CHARGER.
  3. 120VAC ENGINE BLOCK HEATER.
  4. 120VAC 80W BATTERY HEATER.
  5. GENERATOR MUST BE GROUNDED.
  6. SOUND ATTENUATED ENCLOSURE STANDARD WITH GENERATOR.
  7. MUST ALLOW FREE FLOW OF DISCHARGE AIR AND EXHAUST.
  8. MUST ALLOW FREE FLOW OF INTAKE AIR.
  9. BASE TANK REQUIRES ALL STUB-UPS TO BE IN THE REAR TANK STUB-UP AREA.
  10. TANK EQUIPPED WITH FIRE SAFETY VALVE ON FUEL SUPPLY LINE.
  11. IT IS THE RESPONSIBILITY OF THE INSTALLATION TECHNICIAN TO ENSURE THAT THE GENERATOR INSTALLATION COMPLIES WITH ALL APPLICABLE CODES, STANDARDS, AND REGULATIONS.
  12. GENERATOR IS INSTALLED ON A UL-142 RATED DOUBLE WALL SUBBASE FUEL TANK.



REV	DATE	OR COMPOSITE UNDS. SEE PART NO. FOR REVISION LEVEL	BY	DO NOT SCALE. REFERENCE THE MODEL FOR ALL UNSPECIFIED DIMENSIONS.
1	3-22-18	NEW DRAWING (CT185300)	JMR	UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS GENERAL TOLERANCES: FRACTIONAL ± 0.25 DECIMAL ± 0.13 SURFACE FINISH ANGLES ± 0.50° MAX
APPROVALS				<b>KOHLER</b> KOHLER, WISCONSIN 53044 THIS DRAWING IN DESIGN AND DETAIL IS KOHLER CO. PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH KOHLER CO. WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED. <b>DIMENSION PRINT, 20KW STD TANK, ENCL</b>
DESIGNED BY	JMR	3-22-18	SCALE: 1:1	
CHECKED BY	JMR	3-22-18	DATE	
APPROVED BY	LBD	3-22-18	DATE	

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GEN3 PROJECT#: 102411017

DRAWN BY:  
YMK

CHECKED BY:  
MM

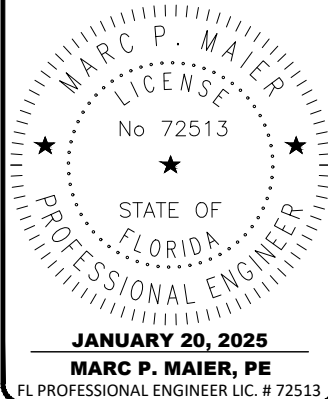


PREPARED BY:



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WESLEY CHAPEL, FLORIDA 33544  
(813)917-2671  
COA # 35409

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1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

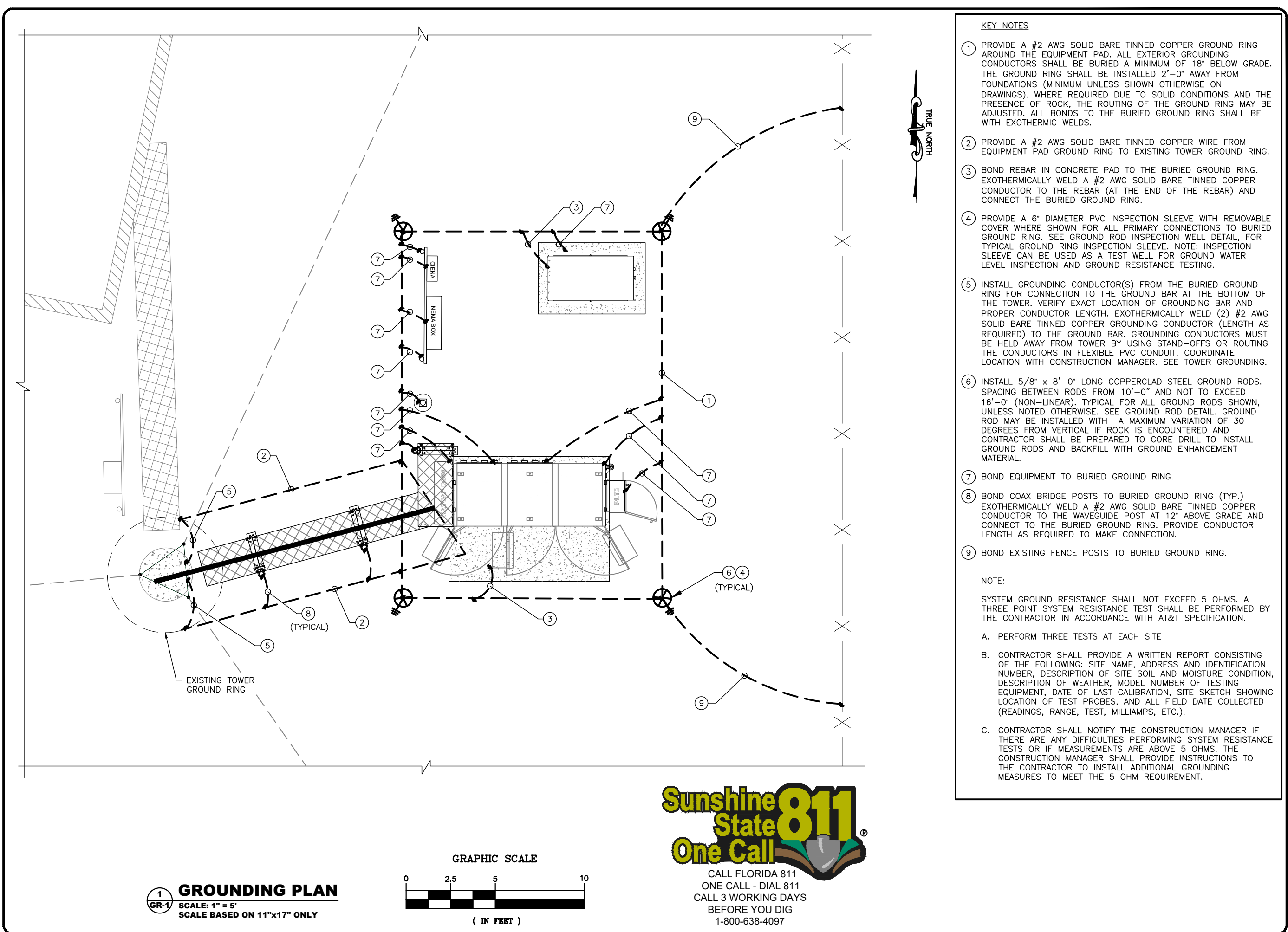
SHEET DESCRIPTION

**GENERATOR SPECIFICATIONS**

SHEET NUMBER

**E-5**





KEY NOTES

- 1 PROVIDE A #2 AWG SOLID BARE TINNED COPPER GROUND RING AROUND THE EQUIPMENT PAD. ALL EXTERIOR GROUNDING CONDUCTORS SHALL BE BURIED A MINIMUM OF 18" BELOW GRADE. THE GROUND RING SHALL BE INSTALLED 2'-0" AWAY FROM FOUNDATIONS (MINIMUM UNLESS SHOWN OTHERWISE ON DRAWINGS). WHERE REQUIRED DUE TO SOLID CONDITIONS AND THE PRESENCE OF ROCK, THE ROUTING OF THE GROUND RING MAY BE ADJUSTED. ALL BONDS TO THE BURIED GROUND RING SHALL BE WITH EXOTHERMIC WELDS.
- 2 PROVIDE A #2 AWG SOLID BARE TINNED COPPER WIRE FROM EQUIPMENT PAD GROUND RING TO EXISTING TOWER GROUND RING.
- 3 BOND REBAR IN CONCRETE PAD TO THE BURIED GROUND RING. EXOTHERMICALLY WELD A #2 AWG SOLID BARE TINNED COPPER CONDUCTOR TO THE REBAR (AT THE END OF THE REBAR) AND CONNECT THE BURIED GROUND RING.
- 4 PROVIDE A 6" DIAMETER PVC INSPECTION SLEEVE WITH REMOVABLE COVER WHERE SHOWN FOR ALL PRIMARY CONNECTIONS TO BURIED GROUND RING. SEE GROUND ROD INSPECTION WELL DETAIL, FOR TYPICAL GROUND RING INSPECTION SLEEVE. NOTE: INSPECTION SLEEVE CAN BE USED AS A TEST WELL FOR GROUND WATER LEVEL INSPECTION AND GROUND RESISTANCE TESTING.
- 5 INSTALL GROUNDING CONDUCTOR(S) FROM THE BURIED GROUND RING FOR CONNECTION TO THE GROUND BAR AT THE BOTTOM OF THE TOWER. VERIFY EXACT LOCATION OF GROUNDING BAR AND PROPER CONDUCTOR LENGTH. EXOTHERMICALLY WELD (2) #2 AWG SOLID BARE TINNED COPPER GROUNDING CONDUCTOR (LENGTH AS REQUIRED) TO THE GROUND BAR. GROUNDING CONDUCTORS MUST BE HELD AWAY FROM TOWER BY USING STAND-OFFS OR ROUTING THE CONDUCTORS IN FLEXIBLE PVC CONDUIT. COORDINATE LOCATION WITH CONSTRUCTION MANAGER. SEE TOWER GROUNDING.
- 6 INSTALL 5/8" x 8'-0" LONG COPPERCLAD STEEL GROUND RODS. SPACING BETWEEN RODS FROM 10'-0" AND NOT TO EXCEED 16'-0" (NON-LINEAR). TYPICAL FOR ALL GROUND RODS SHOWN, UNLESS NOTED OTHERWISE. SEE GROUND ROD DETAIL. GROUND ROD MAY BE INSTALLED WITH A MAXIMUM VARIATION OF 30 DEGREES FROM VERTICAL IF ROCK IS ENCOUNTERED AND CONTRACTOR SHALL BE PREPARED TO CORE DRILL TO INSTALL GROUND RODS AND BACKFILL WITH GROUND ENHANCEMENT MATERIAL.
- 7 BOND EQUIPMENT TO BURIED GROUND RING.
- 8 BOND COAX BRIDGE POSTS TO BURIED GROUND RING (TYP.) EXOTHERMICALLY WELD A #2 AWG SOLID BARE TINNED COPPER CONDUCTOR TO THE WAVEGUIDE POST AT 12" ABOVE GRADE AND CONNECT TO THE BURIED GROUND RING. PROVIDE CONDUCTOR LENGTH AS REQUIRED TO MAKE CONNECTION.
- 9 BOND EXISTING FENCE POSTS TO BURIED GROUND RING.

NOTE:  
SYSTEM GROUND RESISTANCE SHALL NOT EXCEED 5 OHMS. A THREE POINT SYSTEM RESISTANCE TEST SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH AT&T SPECIFICATION.

A. PERFORM THREE TESTS AT EACH SITE

B. CONTRACTOR SHALL PROVIDE A WRITTEN REPORT CONSISTING OF THE FOLLOWING: SITE NAME, ADDRESS AND IDENTIFICATION NUMBER, DESCRIPTION OF SITE SOIL AND MOISTURE CONDITION, DESCRIPTION OF WEATHER, MODEL NUMBER OF TESTING EQUIPMENT, DATE OF LAST CALIBRATION, SITE SKETCH SHOWING LOCATION OF TEST PROBES, AND ALL FIELD DATE COLLECTED (READINGS, RANGE, TEST, MILLIAMPS, ETC.).

C. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IF THERE ARE ANY DIFFICULTIES PERFORMING SYSTEM RESISTANCE TESTS OR IF MEASUREMENTS ARE ABOVE 5 OHMS. THE CONSTRUCTION MANAGER SHALL PROVIDE INSTRUCTIONS TO THE CONTRACTOR TO INSTALL ADDITIONAL GROUNDING MEASURES TO MEET THE 5 OHM REQUIREMENT.

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GEN3 PROJECT#: 102411017	
DRAWN BY: YMK	CHECKED BY: MM

12150 RESEARCH PARKWAY  
ORLANDO, FL 32826

10 CHURCH CIRCLE  
ANNAPOLIS, MD 21401

PREPARED BY:

27139 SEA BREEZE WAY  
WESLEY CHAPEL, FLORIDA 33544  
(813)917-2671  
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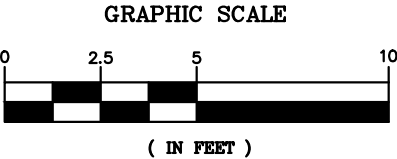
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JANUARY 20, 2025  
MARC P. MAIER, PE  
FL PROFESSIONAL ENGINEER LIC. # 72513

**FIVE POINTS**  
**FA #15826570**  
**SBA ID #1200714**  
1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

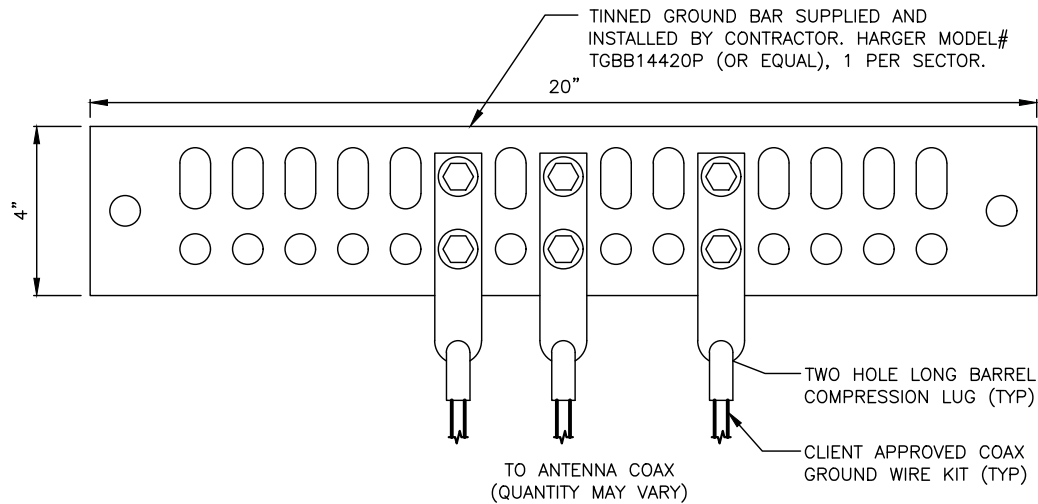
SHEET DESCRIPTION
GROUNDING PLAN
SHEET NUMBER
GR-1

1 **GROUNDING PLAN**  
GR-1  
SCALE: 1" = 5'  
SCALE BASED ON 11"x17" ONLY



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ONE CALL - DIAL 811  
CALL 3 WORKING DAYS  
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1-800-638-4097

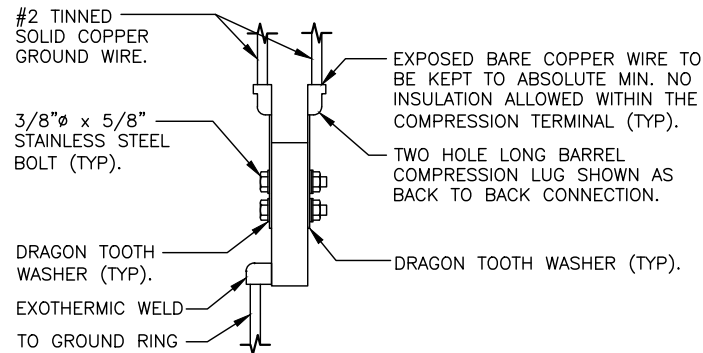




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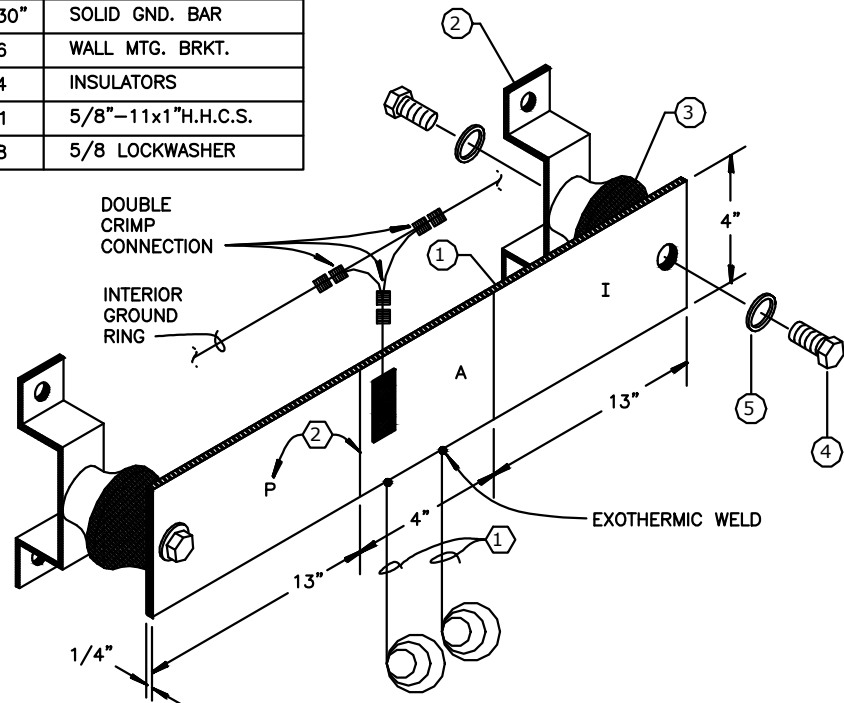
1. "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. CONTRACTOR TO INSTALL WITHIN 12" OF THE END OF COAX TO COAX JUMPER CONNECTION.
4. GROUND TMA USING A #6 SOLID TINNED CU WIRE W/TIN PLATED LONG BARREL COMPRESSION LUG.
5. GROUND BAR SHALL NOT BE ISOLATED FROM THE TOWER. MOUNT DIRECTLY TO TOWER STEEL.

1 ANTENNA GROUND BAR DETAIL  
GR-2 SCALE: N.T.S.



2 TYPICAL GROUND BAR CONNECTION DETAIL  
GR-2 SCALE: N.T.S.

NEWTON INSTRUMENT COMPANY, INC. BUTNER, N.C.			
NO.	REQ.	PART NO.	DESCRIPTION
1	1	1/4"x4"x30"	SOLID GND. BAR
2	2	A-6056	WALL MTG. BRKT.
3	2	3061-4	INSULATORS
4	4	3012-1	5/8"-11x1"H.H.C.S.
5	4	3015-8	5/8 LOCKWASHER



3 SHELTER GROUND BAR DETAIL  
GR-2 SCALE: N.T.S.

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

- CABLE ENTRY PORTS (HATCHPLATES) (#2)
- TELCO GROUND BAR (#2)
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
- CELL SITE +24V POWER SUPPLY RETURN BAR (#2)
- CELL SITE -48V POWER SUPPLY RETURN BAR (#2)

- GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
- RECTIFIER FRAMES
- ANTENNA SUPPRESSION

SECTION "A" - SURGE ABSORBERS

- INTERIOR GROUND RING (#2)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
- BUILDING STEEL (IF AVAILABLE) (#2)

SECTION "I" - ISOLATED GROUND ZONE

- ALL CELL SITE COMMUNICATIONS EQUIPMENT FRAMES.

DETAIL NOTES: O

- 1 EXOTHERMICALLY WELD #2 AWG BARE TINNED SOLID COPPER CONDUCTOR TO GROUND BAR. ROUTE CONDUCTOR TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
- 2 THE INSTALLER SHALL USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION ("P", "A", "I") WITH 1" HIGH LETTERS

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DRAWN BY:

YMK

CHECKED BY:

MM



12150 RESEARCH PARKWAY  
ORLANDO, FL 32826



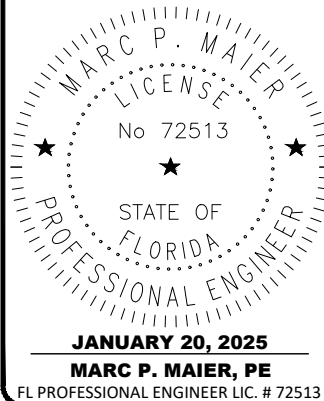
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FIVE POINTS

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SBA ID #1200714

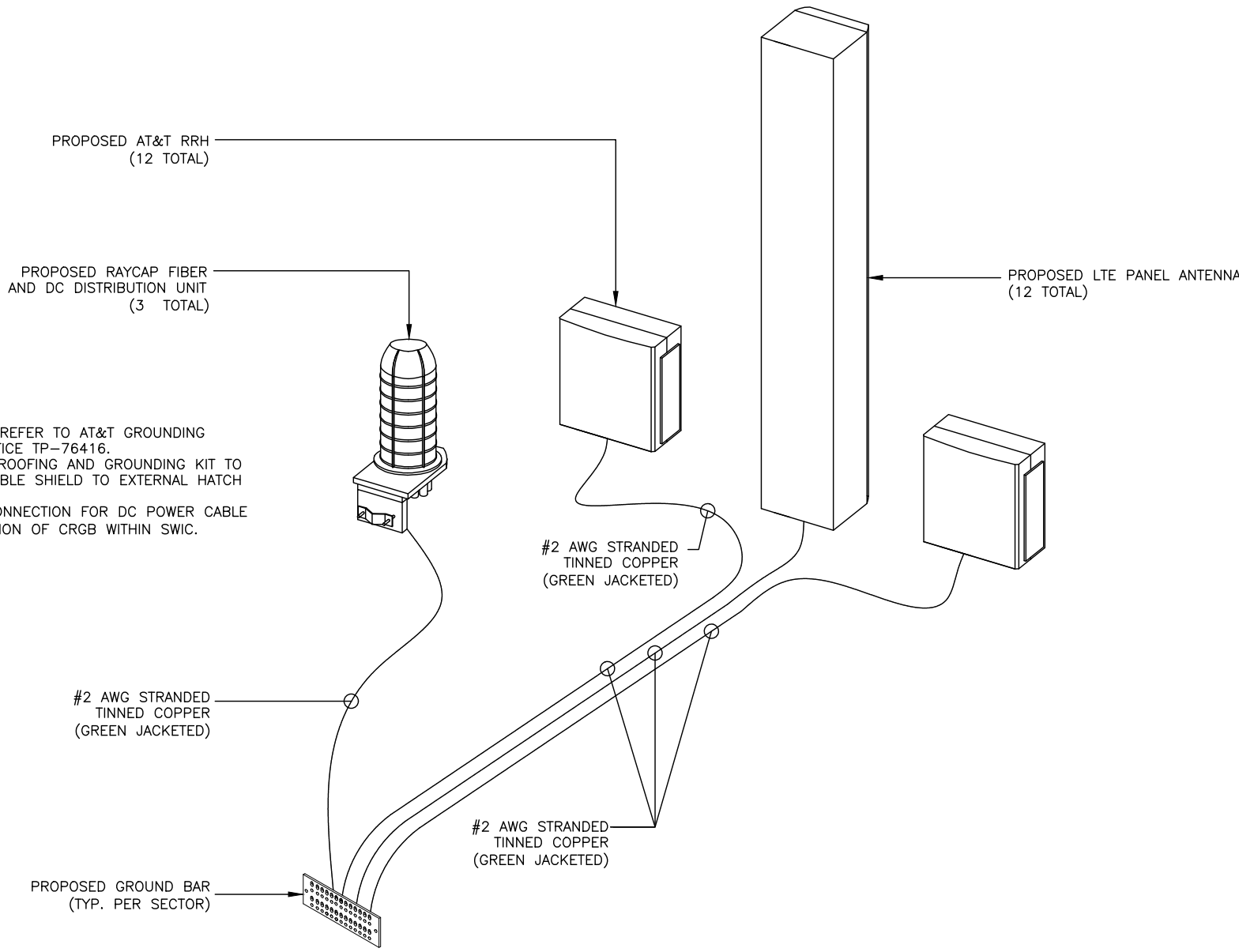
1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

SHEET DESCRIPTION

GROUNDING  
DETAILS

SHEET NUMBER

GR-2

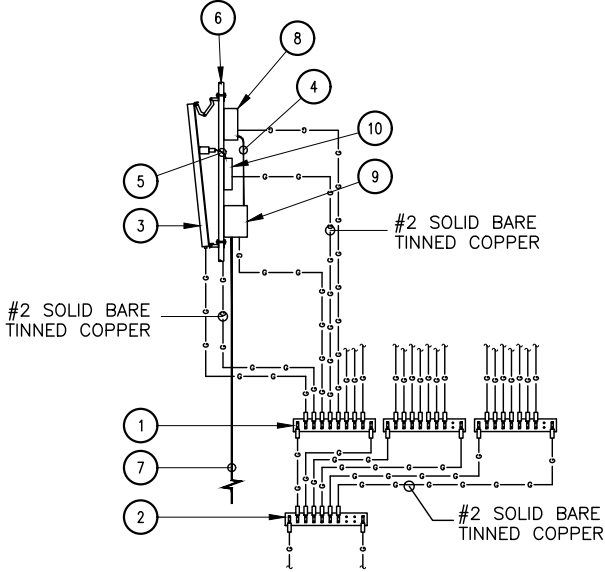


NOTES:

1. CONTRACTOR SHALL REFER TO AT&T GROUNDING AND BONDING PRACTICE TP-76416.
2. PROVIDE WEATHER PROOFING AND GROUNDING KIT TO BOND DC POWER CABLE SHIELD TO EXTERNAL HATCH PLATE GROUND BAR.
3. PROVIDE GROUND CONNECTION FOR DC POWER CABLE SHIELD TO "P" SECTION OF CRGB WITHIN SWIC.

KEYNOTE LEGEND:

1. SECTOR GROUND BAR (TYP).
2. COLLECTOR GROUND BAR.
3. NEW ANTENNA.
4. SINGLE PAIR FIBER & DC POWER.
5. JUMPER CABLE, 1/2" (TYP).
6. PIPE MOUNT.
7. DC POWER & FIBER TO RAYCAP UNIT.
8. REMOTE RADIO HEAD (RRH) (IF APPLICABLE).
9. DC6 RAYCAP SURGE SUPPRESSOR (IF APPLICABLE).
10. FILTER (IF APPLICABLE)



1. UTILIZE EXISTING AT&T GROUND BARS AND GROUNDING.
2. ADD GROUND BARS IF THERE ARE INSUFFICIENT LUG POSITIONS.
3. REFERENCE AT&T BONDING & GROUNDING PRACTICE TP76416.
4. ALL #2 COPPER TINNED WIRE NEEDS TO BE A SOLID WIRE IF GOING TO A BURIED GROUND RING

1 **GROUNDING DETAIL**  
GR-3 SCALE: N.T.S.

2 **ANTENNA GROUNDING SCHEMATIC**  
GR-3 SCALE: N.T.S.

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(813)917-2671  
COA # 35409

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JANUARY 20, 2025  
MARC P. MAIER, PE  
FL PROFESSIONAL ENGINEER LIC. # 72513

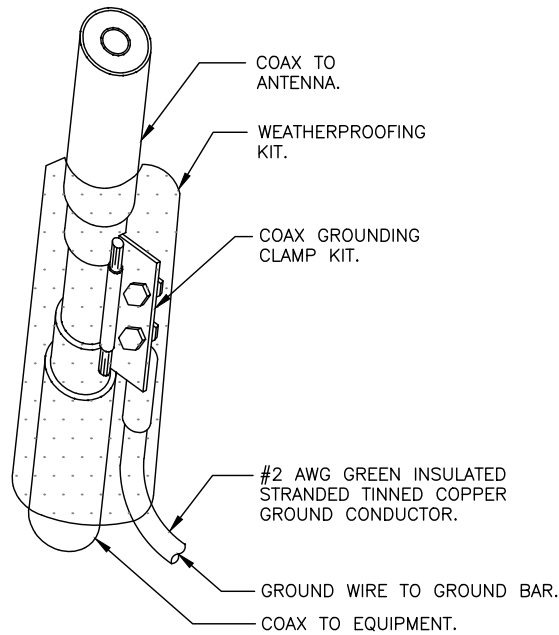
**FIVE POINTS**  
**FA #15826570**  
**SBA ID #1200714**  
1593 NORTH WEST COUNTY ROAD 25A  
LAKE CITY, FL 32055

SHEET DESCRIPTION

GROUNDING DETAILS

SHEET NUMBER

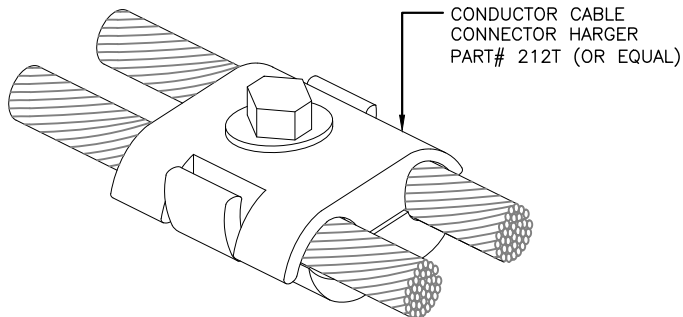
GR-3



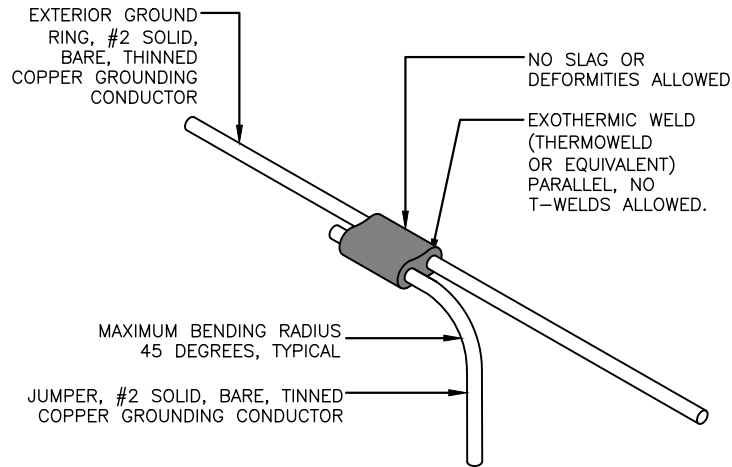
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND IN CABLE.
2. ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
3. 2-1/2" MAX FOR TX/RX ANTENNA CABLES.
4. 1-1/4" MAX FOR GPS ANTENNA CABLES.
5. INSTALL IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.

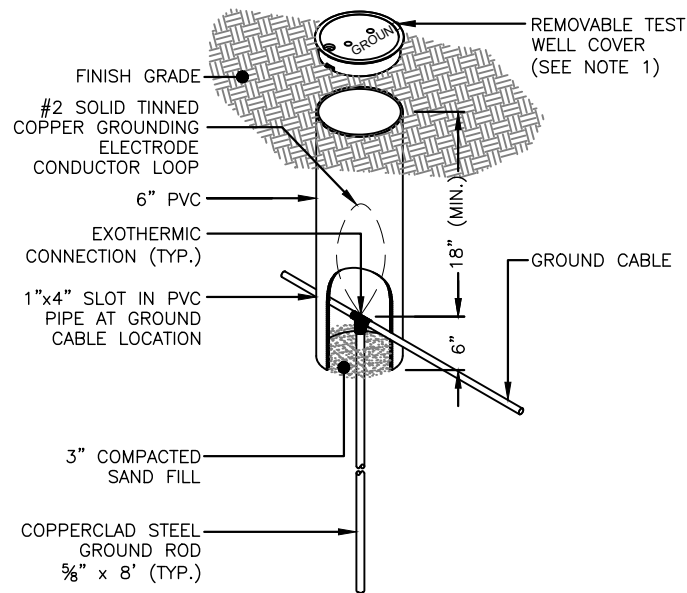
**1 COAX CABLE GROUND DETAIL**  
**GR-4 SCALE: N.T.S.**



**CONDUCTOR CABLE  
CONNECTOR ISOMETRIC**  
**3 GR-4 SCALE: N.T.S.**



**2 WELD CONNECTION DETAIL**  
**GR-4 SCALE: N.T.S.**



NOTES:

1. CONTRACTOR SHALL PROVIDE PRE-CAST CONCRETE INSPECTION WELL WITH CAST IRON TRAFFIC RATED LID WHEN WELL WILL BE IN AN AREA WHERE THEY CAN BE DAMAGED
2. ALL WORK SHALL CONFORM TO THE LOCAL BUILDING CODES. DEPTH MAY VARY.

**4 GROUND ROD INSPECTION WELL DETAIL**  
**GR-4 SCALE: N.T.S.**

REV	DATE	DESCRIPTION
A	12/22/24	PRELIMINARY CDs REV "A"
B	01/20/25	PRELIMINARY CDs REV "B"
0	01/20/25	FINAL CDs ISSUED
1		
2		
3		
4		
5		
6		
7		
8		

GEN3 PROJECT#: 102411017

DRAWN BY:

YMK

CHECKED BY:

MM

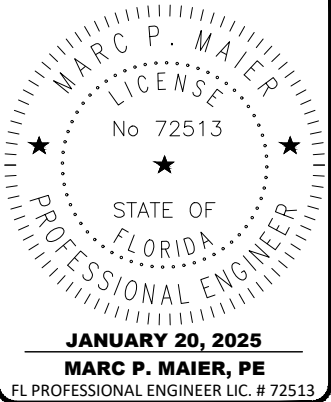


PREPARED BY:



27139 SEA BREEZE WAY  
WESLEY CHAPEL, FLORIDA 33544  
(813)917-2671  
COA # 35409

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SHEET DESCRIPTION

GROUNDING  
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**GR-4**