APPLICABLE CODES

ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:

1. 2020 FLORIDA BUILDING CODE, 7TH EDITION
2. ANSI/TIA-222-H, ASCE 7-16
3. FLORIDA FIRE PREVENTION CODE, 7TH EDITION (2020)
4. 2017 NATIONAL ELECTRICAL CODE (NFPA 70-2017)

IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH THE CURRENT APPLICABLE BUILDING CODES. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

SITE INFORMATION

APPLICANT:	**AT&T TOWER ASSET GROUP** 575 MOROSGO DR. ATLANTA, GA 30324-3300
TOWER OWNER:	**SBA** **8051 CONGRESS AVENUE** **BOCA RATON, FL 33487**
LATITUDE:	30° 07' 33.90" N (30.126086)
LONGITUDE:	082° 43' 58.77" W (-82.732994)
LAT/LONG TYPE:	NAD-83
EXISTING ZONING:	N/A
PROPOSED PROJECT AREA:	NO INCREASE IN S.F.
TYPE OF CONSTRUCTION:	TYPE V-B
OCCUPANCY GROUP:	U
JURISDICTION:	CITY OF LAKE CITY

PROJECT TEAM

CLIENT REPRESENTATIVE (NATIONAL):
MASTEC NETWORK SOLUTIONS
3443 AIRPORT RD
SACRAMENTO, CA 95834
CONTACT: CLEON MITCHELL
EMAIL: CLEON.MITCHELL@MASTEC.COM

CONSTRUCTION:
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EMAIL: GREG.HOLSEN@MASTEC.COM

ENGINEERING (NATIONAL):
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1151 SE CARY PARKWAY, STE. 101
CARY, NC 27518
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SITE ACQUISITION (NATIONAL):
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HOOVER, AL 35244
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SCOPING ENGINEER (NATIONAL):
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2189 PARKWAY LAKE DR.
HOOVER, AL 35244
CONTACT: DAVID ROGERS
EMAIL: DAVID.ROGERS@MASTEC.COM

at&t
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AT&T SITE ID: SW LAKE CITY
FA#: 10152022

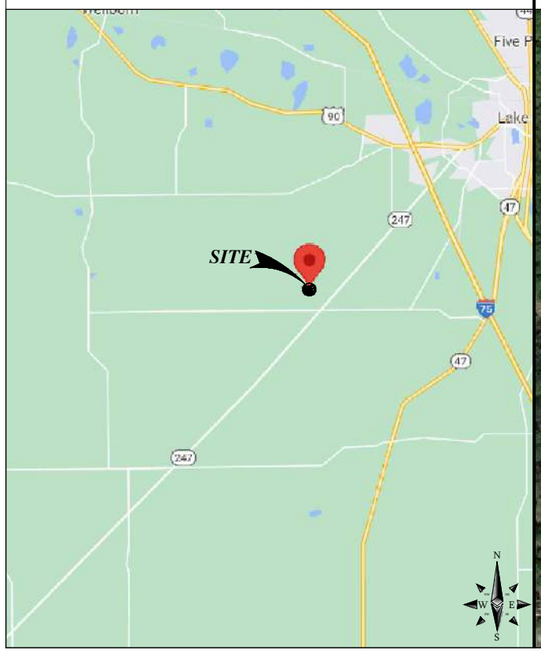
SW LAKE CITY

4741 SOUTHWEST BIRLEY AVENUE,
LAKE CITY, FL 32024

GENERATOR PROJECT

LOCATION MAP

VICINITY MAP



LOCAL MAP

PROJECT DESCRIPTION

AT&T MOBILITY PROPOSES TO MODIFY AN EXISTING UNMANNED WIRELESS COMMUNICATIONS FACILITY. THIS MODIFICATION WILL CONSIST OF THE FOLLOWING:

TOWER SCOPE OF WORK
- NO TOWER WORK

GROUND SCOPE OF WORK
- REMOVE (E) ATS/CAM LOC
- INSTALL (1) 50kW GENERAC STANDBY DIESEL GENERATOR (GENERAC SD050) INSTALLED ON TOP OF A BASE FUEL TANK ON (E) CONCRETE PAD
- INSTALL (1) 200A ATS/CAM LOC (#RXGW20SHA3)
- INSTALL ATS ALARM RELAY

DRAWING INDEX

SHEET NO:	SHEET TITLE
T-1	TITLE SHEET
GN-1	GENERAL NOTES
A-0	EQUIPMENT LAYOUT
E-1	ELECTRICAL PLAN
E-2	EQUIPMENT & CONDUIT DETAILS
E-3	LOAD CALCULATIONS & ONE LINE DIAGRAM
E-4	ALARM DETAILS
G-1	GROUNDING DETAILS

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS & AUTHORIZE THE SUBCONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT & MAY IMPOSE CHANGES OR MODIFICATIONS.

_____ DATE: _____

SITE ACQUISITION _____ DATE: _____

CONSTRUCTION MANAGER _____ DATE: _____

SCALE

THE DRAWING SCALES SHOWN IN THIS SET REPRESENT THE CORRECT SCALE ONLY WHEN THESE DRAWINGS ARE PRINTED IN A 11"X17" OR 24"X36" FORMAT.

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CALL 3 WORKING DAYS
BEFORE YOU DIG!

811

RAPHAEL MOHAMED
LICENSE
No. 82846
STATE OF FLORIDA
PROFESSIONAL ENGINEER

4/26/2023

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
4/24/2023	CONSTRUCTION	0	RM
4/26/2023	CONSTRUCTION	1	RM

DRAWN BY: JG
CHECKED BY: KL
APPROVED BY: RM

PREPARED FOR:
at&t

PREPARED BY:
MasTec Network Solutions
1151 SE CARY PARKWAY, SUITE 101
CARY, NC 27518

FA NUMBER:
10152022

SITE NAME:
SW LAKE CITY

SITE ADDRESS:
4741 SOUTHWEST BIRLEY AVENUE,
LAKE CITY, FL 32024

TOWER OWNER ID:
SBA

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

GENERAL NOTES:

1. ALL SUB-CONTRACTORS ARE TO SIGN INTO THE LL AND AT&T NOC'S ALONG WITH BEFORE THE START OF WORK AND END OF WORK EACH DAY. THE AT&T LOGBOOK MUST ALSO BE SIGNED EACH DAY ON SITE.
2. ALL ORIGINAL PERMITS MUST BE POSTED ON SITE BEFORE WORK CAN COMMENCE. ALL PERMITS ARE REQUIRED TO BE IN A NOTICEABLE LOCATION FOR REVIEW BY THE PERMITTING JURISDICTION.
3. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
   CARRIER: AT&T
   TOWER OWNER: SBA
4. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
5. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
6. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
7. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
8. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF MASTEC NETWORK SOLUTIONS.
9. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
10. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
11. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
12. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
13. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
14. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
15. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
16. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL (FOR CAST IN PLACE OPTION):

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
   #4 BARS AND SMALLER .... 40 ksi
   #5 BARS AND LARGER .... 60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH........3"
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 BARS AND LARGER........2"
   #5 BARS AND SMALLER........1-1/2"
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
   SLAB AND WALLS........3/4"
   BEAMS AND COLUMNS........1-1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

GREENFIELD GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 1/2" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
   4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
   4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED. VERYIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "AT&T".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

RAPHAEL MOHAMED
LICENSE
No. 82846
STATE OF FLORIDA
PROFESSIONAL ENGINEER

4/26/2023

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
4/24/2023	CONSTRUCTION	0	RM
4/26/2023	CONSTRUCTION	1	RM

DRAWN BY: JG
CHECKED BY: KL
APPROVED BY: RM

PREPARED FOR:

at&t

PREPARED BY:

MasTec
Network Solutions
1151 SE CARY PARKWAY, SUITE 101
CARY, NC 27518

FA NUMBER:
10152022

SITE NAME:
SW LAKE CITY

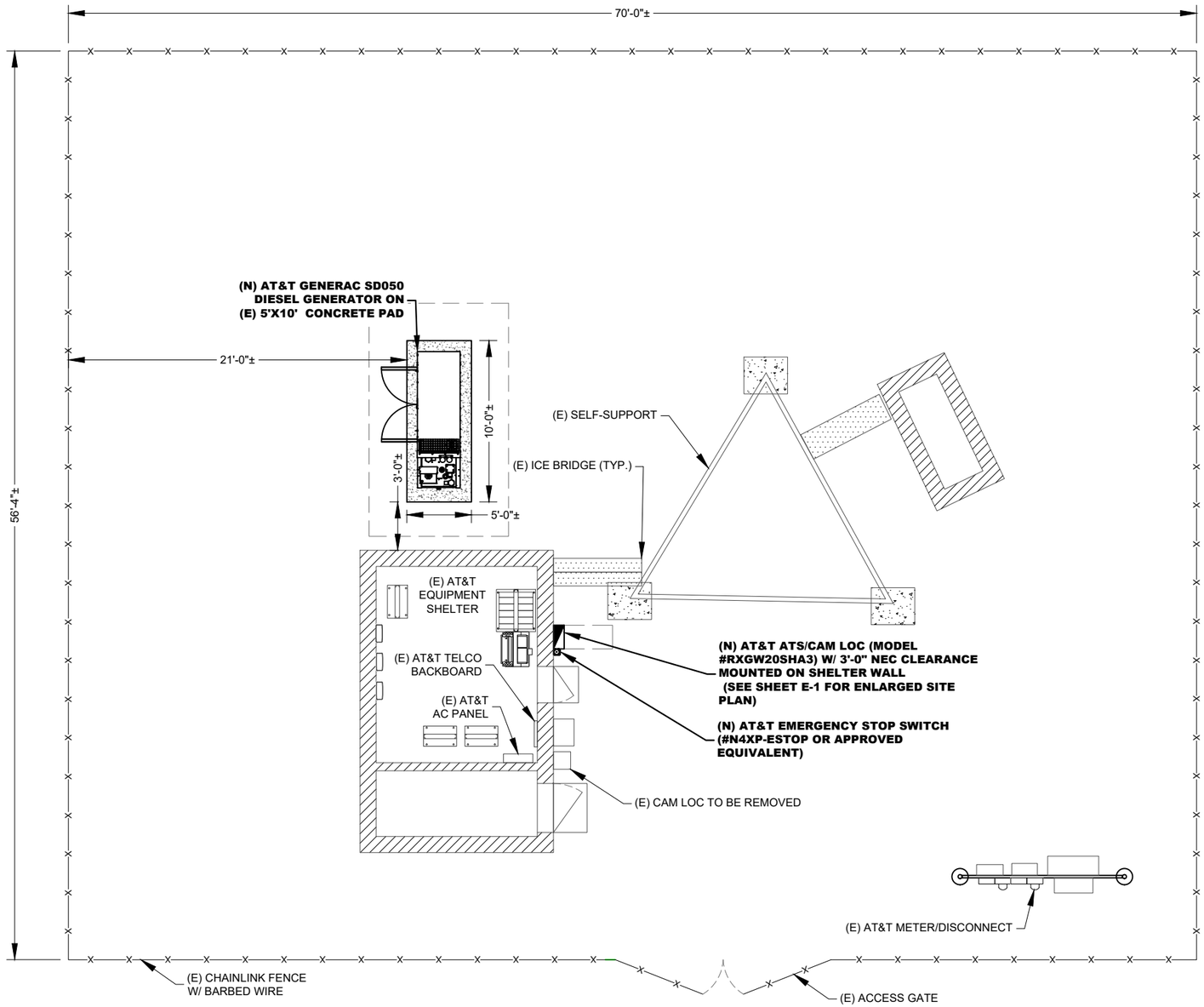
SITE ADDRESS:
4741 SOUTHWEST BIRLEY AVENUE,
LAKE CITY, FL 32024

TOWER OWNER ID:
SBA

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-1

NOTE
THESE DRAWINGS WERE PRODUCED WITHOUT THE BENEFIT OF A CURRENT LAND SURVEY. ALL PROPERTY LINES, EASEMENTS, SETBACKS, AND EXISTING CONDITIONS ARE APPROXIMATE AND SHALL BE VERIFIED PRIOR TO START OF CONSTRUCTION.



0 8' 16'
1"=8'-0"

EQUIPMENT LAYOUT
11"x17" SCALE: 1"=8'-0"
24"x36" SCALE: 1"=4'-0"

RAPHAEL MOHAMED
LICENSE
No. 82846
STATE OF FLORIDA
PROFESSIONAL ENGINEER

4/26/2023

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
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4/26/2023	CONSTRUCTION	1	RM

DRAWN BY: JG
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APPROVED BY: RM

PREPARED FOR:
at&t

PREPARED BY:
MasTec Network Solutions
1151 SE CARY PARKWAY, SUITE 101
CARY, NC 27518

FA NUMBER:
10152022

SITE NAME:
SW LAKE CITY

SITE ADDRESS:
4741 SOUTHWEST BIRLEY AVENUE,
LAKE CITY, FL 32024

TOWER OWNER ID:
SBA

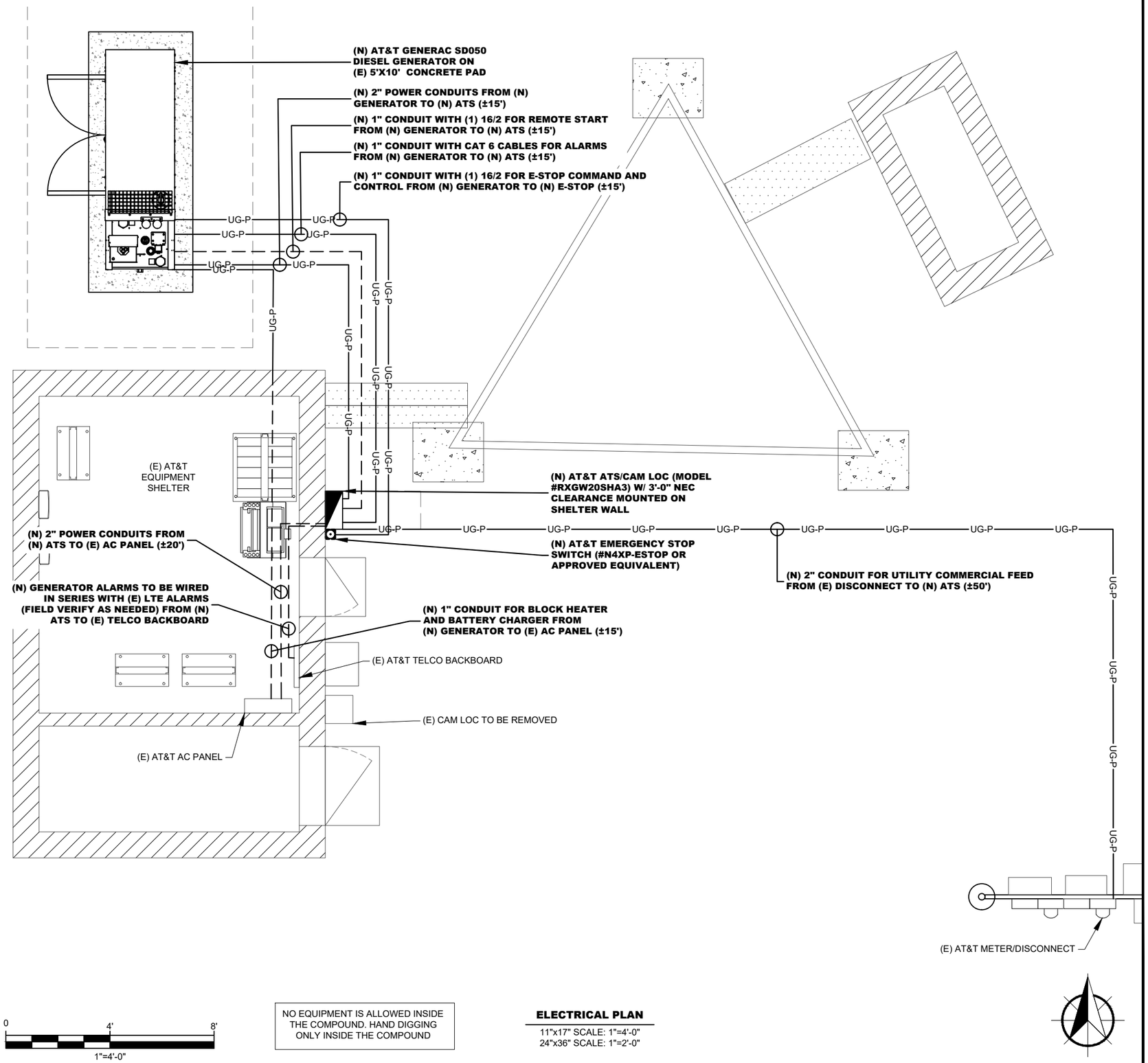
SHEET TITLE
EQUIPMENT LAYOUT

SHEET NUMBER
A-0

NOTES AND SPECIFICATIONS

1. ALL ELECTRICAL WORK SHALL COMPLY WITH NEC, STATE, AND LOCAL CODES.
2. CONTRACTOR SHALL OBTAIN OWNER/TENANT SPECIFICATIONS AND REVIEW FOR ADDITIONAL DETAILS AND REQUIREMENTS THAT MAY NOT BE SHOWN IN THESE DRAWINGS. CONTRACTOR SHALL COMPLY WITH ANY ADDITIONAL OWNER/TENANT SPECIFICATIONS AND REQUIREMENTS.
3. CONTRACTOR SHALL COORDINATE WITH THE ELECTRIC UTILITY FOR THE EXACT TRANSFORMER LOCATION, METERING REQUIREMENTS, AND SERVICE ROUTING. CONTRACTOR SHALL COORDINATE WITH THE TELEPHONE UTILITY FOR THE EXACT TELEPHONE REQUIREMENTS AND SERVICE ROUTING.
4. PRIOR TO PURCHASING EQUIPMENT, THE CONTRACTOR SHALL CONTACT THE ELECTRIC COMPANY AND OBTAIN IN WRITING THE MAXIMUM AVAILABLE FAULT CURRENT AT THE UTILITY SERVICE POINT. THE CONTRACTOR SHALL ENSURE ALL ELECTRICAL EQUIPMENT, CIRCUIT BREAKERS, DISCONNECTS, FUSES, AND PANELBOARDS HAVE A FAULT CURRENT INTERRUPTING RATING GREATER THAN THE AVAILABLE FAULT CURRENT. IN NO CASE SHALL THE FAULT CURRENT INTERRUPTING RATING BE LESS THAN 10,000 AMPS.
5. CONTRACTOR TO PROVIDE 2–200 LB TEST POLYETHYLENE PULL CORDS SECURELY FASTENED AT EACH END OF POWER AND TELCO CONDUIT. PROVIDE CAPS ON END OF UNUSED CONDUIT.
6. CONTRACTOR TO PROVIDE A REBAR MARKER WITH AT LEAST 2 FEET EXPOSED ABOVE GRADE AND PAINTED BRIGHT ORANGE TO INDICATE LOCATION OF CONDUIT CAPPED BELOW GRADE.
7. PRIOR TO TRENCHING CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITIES. CONTRACTOR SHALL REPAIR AT CONTRACTOR'S EXPENSE ANY DAMAGE TO EXISTING UTILITIES.
8. CONTRACTOR TO VERIFY EXACT ROUTING OF POWER AND TELCO CONDUIT WITH LOCAL UTILITIES AND OWNER/TENANT. ENSURE ALL CONDUIT STUB–UPS ACCOMMODATE EQUIPMENT REQUIREMENTS.
9. UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC UNLESS NOTED OTHERWISE. USE SCHEDULE 80 PVC UNDER ROADS.
10. CONDUIT RUNS SHALL HAVE A CONTINUOUS SLOPE DOWNWARDS AND AWAY FROM THE EQUIPMENT TO ALLOW WATER TO FLOW AWAY FROM THE EQUIPMENT AND SHELTER. EXCAVATE TRENCHES ALONG STRAIGHT LINES PRIOR TO INSTALLING CONDUIT TO ACCOMMODATE ADJUSTING THE ELEVATION, AS NEEDED.
11. CONDUIT ENTERING EQUIPMENT SHALL BE SEALED WITH A SEALANT THAT IS IDENTIFIED FOR USE WITH THE CABLE/CONDUCTOR INSULATION, SHIELDING, ETC.
12. THE OWNER SHALL FURNISH AND THE CONTRACTOR SHALL INSTALL ADDITIONAL SIGNAGE TO BE LOCATED AT THE COMPOUND FENCE. CONTRACTOR SHALL COORDINATE WITH OWNER/TENANT CONSTRUCTION MANAGER FOR PLACEMENT OF SIGNAGE.
13. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES TO THE LANDSCAPING AREA.
14. CONTRACTOR TO ENSURE A MIN. 3' CLEARANCE IN FRONT OF ELECTRICAL PANELS PER NEC.
15. ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES AND EQUIPMENT SHALL BE LABEL TESTED BY AN APPROVED THIRD PARTY TESTING AGENCY.

CONDUCTOR COLOR CODE		
SYSTEM	CONDUCTOR	COLOR
120/240V, 1ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
	GROUND	GREEN
120/208V, 3ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
277/480V, 3ø	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
DC VOLTAGE	POS (+)	RED**
	NEG (–)	BLACK**
	* SEE NEC 210.5(C)(1) AND (2) ** POLARITY MARKED AT TERMINATION	



NO EQUIPMENT IS ALLOWED INSIDE THE COMPOUND. HAND DIGGING ONLY INSIDE THE COMPOUND

ELECTRICAL PLAN

11"x17" SCALE: 1"=4'-0"
24"x36" SCALE: 1"=2'-0"

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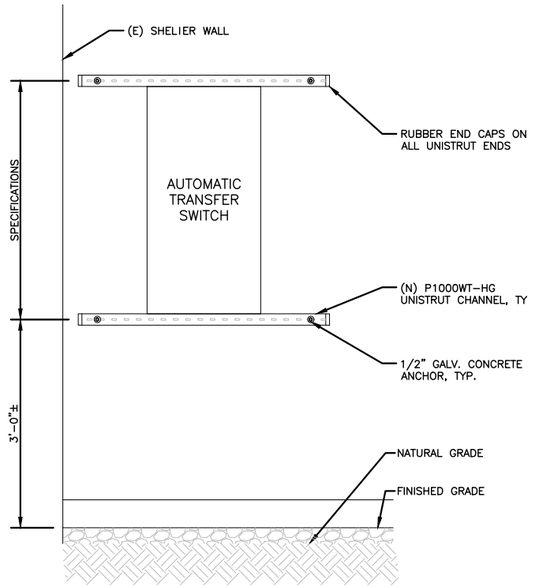
SHEET TITLE
ELECTRICAL PLAN

SHEET NUMBER
E-1



WALL MOUNT ELEVATION

SCALE: NONE | 5

U.L. SYSTEM NO. C-AJ-1150
CONDUIT THROUGH BEARING WALL SIMILAR TO U.L. DESIGN NO. U902
F RATING = 3 HR
T RATING = 0 HR

A. FLOOR OR WALL ASSEMBLY : MINIMUM 4-1/2" THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAMETER OF OPENING IS 4". (SEE CONCRETE BLOCKS CATZ) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

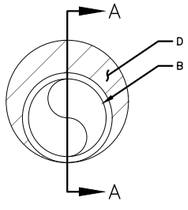
B. THROUGH PENETRATIONS : ONE METALLIC PIPE OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE ANNULAR SPACE SHALL BE MINIMUM 0". (POINT CONTACT) TO MAXIMUM 1-3/8". THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR CONDUITS MAY BE USED:
   a. STEEL PIPE-NOMINAL 6" DIAMETER (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL PIPE
   b. IRON PIPE-NOMINAL 6" DIAMETER (OR SMALLER) CAST OR DUCTILE IRON PIPE.
   c. CONDUIT - NOMINAL 4" DIAMETER (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR NOMINAL 3-1/2" DIAMETER (OR SMALLER) STEEL CONDUIT.

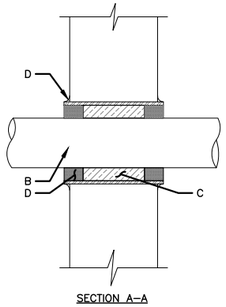
C. PACKING MATERIAL: MINIMUM 6" THICKNESS OF MIN 4.0 PCF MINERAL WOOL BATTING INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

D. FILL, VOID, OR CAVITY MATERIAL*: SEALANT: MINIMUM 1/4" THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR AND WITH BOTH SURFACES OF WALL. AT THE POINT CONTACT LOCATION BETWEEN PIPE AND CONCRETE, A MINIMUM 1/2" DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE CONCRETE/PIPE INTERFACE ON THE TOP SURFACE OF FLOOR AND ON BOTH SURFACES OF WALL. W-RATING APPLIES ONLY WHEN CP601S OR CP604 SEALANT IS USED.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. : CP601S, CP604, CP606, OR FS-ONE SEALANT.

* BEARING THE UL CLASSIFICATION MARK





SECTION A-A

INSTALLER NOTES:

1. IF EXISTING CONSTRUCTION VARIES FROM THIS DETAIL, AN EQUAL 3-HR U.L. PENETRATION APPROPRIATE FOR THE EXISTING WALL TYPE SHALL BE CONSTRUCTED
2. GC SHALL USE NON-SHRINKING CAULK TO WEATHERSEAL ALL PENETRATIONS INTO OR THRU SHELTER WALL.

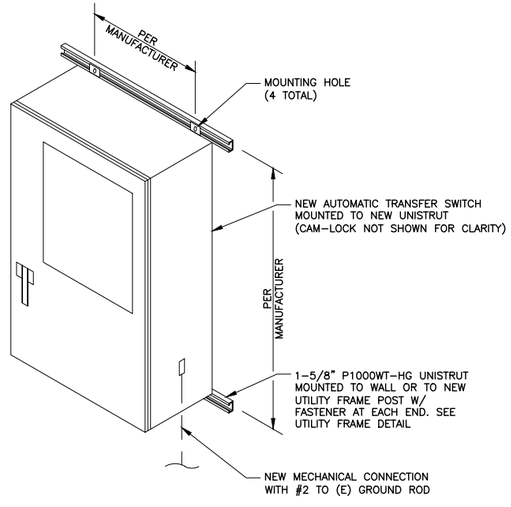
OUTER WALL PENETRATION DETAIL

SCALE: NONE | 6

UNISTRUT WALL ATTACHMENT:

WALL CONSTRUCTION TYPE	FASTENER	ANCHOR SPACING
WOOD STUD	3/8" DIA. LAG SCREW	16"
CONCRETE BLOCK (HOLLOW)	-	8"
CONCRETE BLOCK (SOLID)	3/8"ø SIMPSON TITEN HD ANCHOR MINIMUM EMBEDMENT 2-3/4"	24"

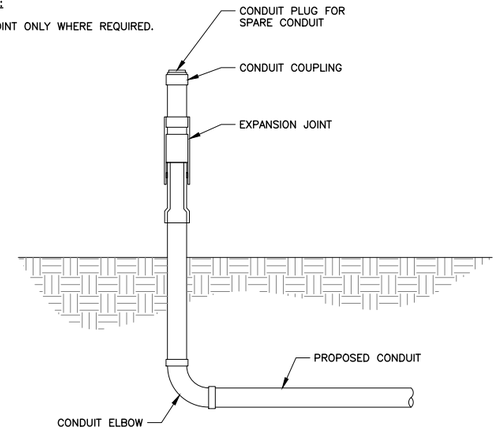
NOTES:
1. USE GALVANIZED OR STAINLESS STEEL HARDWARE FOR WALL MOUNT AND CONNECTION OF CHANNELS.
2. GC SHALL USE NON-SHRINKING CAULK TO WEATHER SEAL ALL PENETRATIONS INTO OR THROUGH SHELTER WALL.
3. MINIMUM (3) ANCHORS TO BE USED FOR EACH CHANNEL.



ATS MOUNTING DETAIL

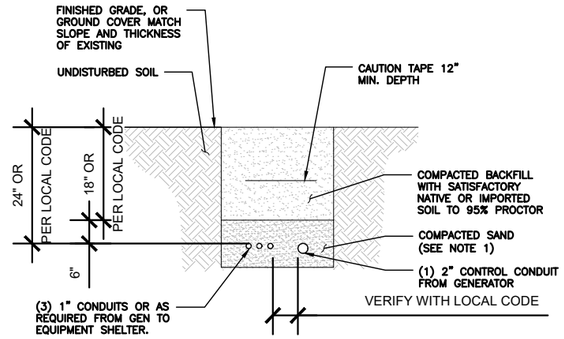
SCALE: NONE | 4

INSTALLER NOTE:
INSTALL SLIP JOINT ONLY WHERE REQUIRED.



SLIP JOINT DETAIL

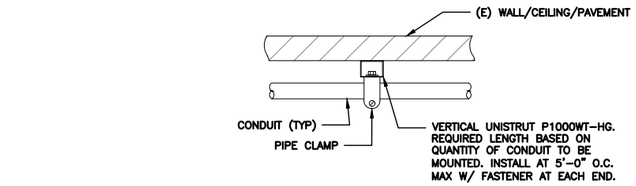
SCALE: NONE | 3

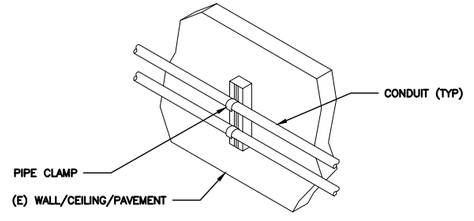


NOTES:
- SEPARATION DIMENSIONS TO BE VERIFIED WITH LOCAL UTILITY CO. REQUIREMENTS.
- PROVIDE PVC CONDUIT BELOW GRADE EXCEPT AS NOTED BELOW.
- PROVIDE RGS CONDUIT AND ELBOWS AT STUB UP LOCATIONS IF REQUIRED.
- INSTALL UTILITY PULLBOXES PER NEC IF REQUIRED.
- FOLLOW MINIMUM COVER REQUIREMENTS PER NEC 300-5
- GENERAL CONTRACTOR TO MAKE SURE GEO FABRIC AND ROCKS ARE INSTALLED IN THE AREAS TRENCHED. TRENCHES NEED TO BE BACKFILLED AND TAMPED

TRENCH DETAIL

SCALE: NONE | 2





CONDUIT WALL MOUNT DETAIL

SCALE: NONE | 1

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SHEET TITLE
EQUIPMENT & CONDUIT DETAILS

SHEET NUMBER
E-2

-48V PRIMARY VOLTAGE DC PLANT SPECIFIED				
+24VDC EQUIPMENT LOAD:	20 WATTS	=	1 AMPS	at +24V
-48VDC EQUIPMENT LOAD:	10557 WATTS	=	156 AMPS	at -48V
-58VDC EQUIPMENT LOAD:	0 WATTS	=	0 AMPS	at -58V
1 AMPS (36 Watts) AT PRIMARY 48V REQUIRED TO SUPPORT 24V DC CONVERTER SYSTEM				
TOTAL PRIMARY 48V LOAD:	10593 WATTS	=	157 AMPS	at -48V

(DC PLANT CONFIGURATION CAN BE REVIEWED ON DC PLANT WORKSHEET)		
DC PLANT: Emerson STD -48V NS701 w/CONV. SHELF NEQ.15237		
-48V RECTIFIERS REQUIRED (N+1):	5	
-48V RECTIFIER SLOTS:	12	
CONV. TYPE: DC CONVERTER SHELF INCLUDED		
+24V CONVERTERS REQUIRED:	2	
+24V COVERTER SLOTS:	8	
ESTIMATED BATTERY RESERVE TIME		
2 180 AH 48V STRINGS =	2.65	HOURS (ON SITE GENERATOR - 2 HOUR MINIMUM)

SITE GENERATOR CAPACITY REQUIRED:	38	KW
ON SITE GENERATOR CAPACITY:	30	KW
GENSET UPGRADE INDICATED		

RECOMMENDED ENVIRO SYSTEM:	3-TONS COOLING
SPECIFIED ENVIROMENTAL SYSTEM:	10-TONS
ESTIMATE SUFFICIENT HVAC CAPACITY	

LOAD CALCULATIONS

SCALE: NONE

1

PROPOSED (2) 1P-20A BREAKERS IN POSITIONS 26 AND 28

PANELBOARD DIRECTORY - 120/240 V - 200 AMP

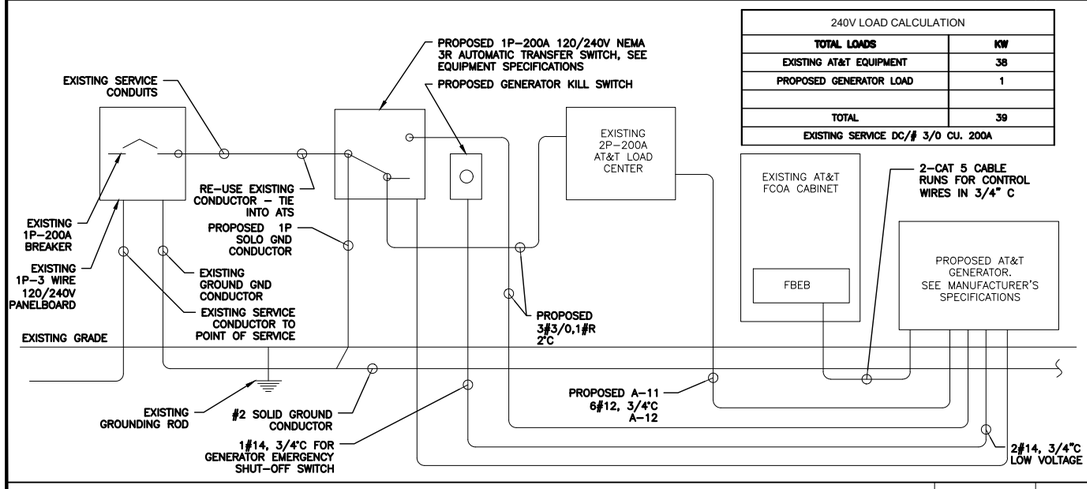
1	RECTIFIER 1	2	HVAC 1
3		4	
5	RECTIFIER 2	6	HVAC 2
7		8	
9	RECTIFIER 3	10	SPARE
11		12	
13	RECTIFIER 4	14	INTERIOR RECPT
15		16	INTERIOR LIGHTS
17	RECTIFIER 5	18	EXTERIOR LIGHTS
19		20	GFCI/BLOCK HEATER/BATT CHARGER/BAT T WARMER

21	RECTIFIER 6	22	SPARE
23		24	SPARE
25	RECTIFIER 7	26	NEW BREAKER
27		28	NEW BREAKER
29	RECTIFIER 8	30	SPARE
31		32	SPARE
33	RECTIFIER 9	34	SPARE
35		36	SPARE
37	RECTIFIER 10	38	SPARE
39		40	SPARE
41	EXTERIOR RECEPTACLE	42	SPARE

EXISTING PANELBOARD

SCALE: NONE

3



240V LOAD CALCULATION	
TOTAL LOADS	KW
EXISTING AT&T EQUIPMENT	38
PROPOSED GENERATOR LOAD	1
TOTAL	39
EXISTING SERVICE DC/# 3/0 CU. 200A	

ELECTRICAL RISER DIAGRAM

SCALE: NONE

4

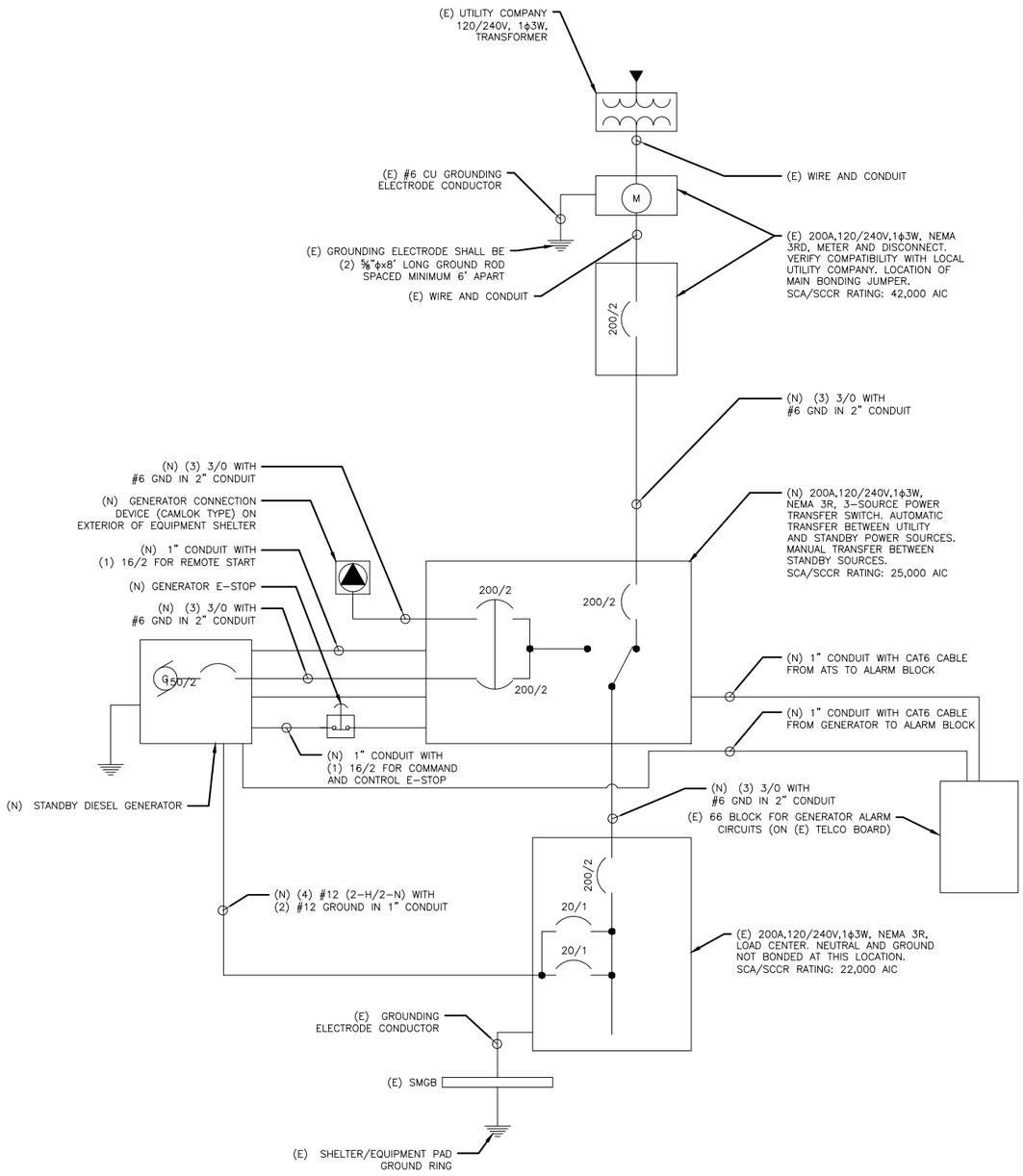
NOTES:
1. ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THHW, THWN, THWN-2, XHHW, OR XHHW-2 UNLESS NOTED OTHERWISE.
2. CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
3. ALL GROUND AND BONDING PER THE NEC.
4. INSTALL ATS ALARM RELAY

INSTALLER NOTE:

CONTRACTOR TO VERIFY EXISTING LOAD PANEL AND INSTALL NEW 20A BREAKER FOR BLOCK HEATER AND NEW 20A BREAKER FOR BATTERY CHARGER (IF REQUIRED).

INSTALLER NOTE:

1. THE GENERATOR SIZE HAS BEEN DETERMINED BY AT&T BASED ON AN INTERNAL LOAD ANALYSIS OF THEIR EQUIPMENT. THE GENERATOR SIZE WAS PROVIDED AS PART OF THE SCOPING ANALYSIS. AT&T SHALL BE RESPONSIBLE FOR ENSURING THAT THEIR SYSTEM CONFIGURATION DOES NOT EXCEED THE MANUFACTURER POWER RATING OF THE SPECIFIED GENERATOR.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING A SPOT READING OF THE PANEL AT PEAK OPERATING HOURS TO VERIFY THE AT&T PANEL SCHEDULE CALCULATIONS ARE NOT EXCEEDED IN THE EVENT THE READING EXCEEDS THE CALCULATED PANEL SCHEDULE LOADS, RECORD THE READING AND CONSULT AT&T ENGINEERING MANAGER PRIOR TO PROCEEDING WITH GENERATOR INSTALLATION.



ONE LINE DIAGRAM

SCALE: NONE

5

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LOAD CALCULATIONS & ONE LINE DIAGRAM

SHEET NUMBER
E-3

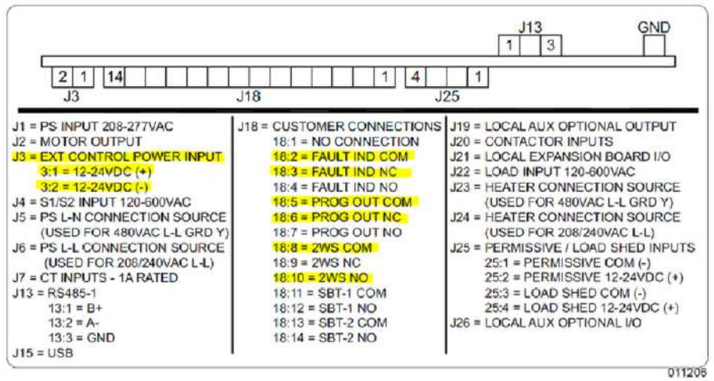
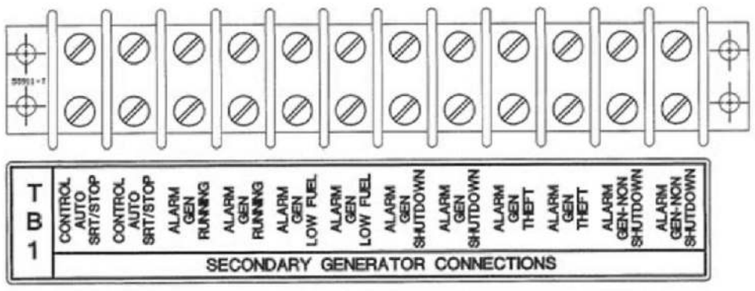


Figure 4-8. Customer Connections Diagram



ATS ALARM WIRING | SCALE: NONE | 1

GENERATOR ALARM IDENTIFICATION CHART	
NAME	DESCRIPTION
CF	CRITICAL FAILURE
FL	FUEL LEAK OVERFILL
GR	GENERATOR RUNNING
FL	LOW FUEL
MAF	MAJOR FAULT
MF	MINOR FAULT
FL	GEN FUEL LEAK TANK WHT/SLATE
NOTE: CONTRACTOR TO LABEL WIRES W/ P-TOUCH OR SIMILAR LABELS ONLY. ABSOLUTELY NO HANDWRITTEN LABELS.	

ALARM REQUIREMENTS
AT&T REQUIRES FOUR ALARMS CONFIRMED WORKING: NORMALLY CLOSED VOLT-FREE CONTACT FOR:
1. GENERATOR RUN
2. GENERATOR FAIL
3. LOW FUEL
4. FUEL LEAK
5. RBS GENERATOR MJ

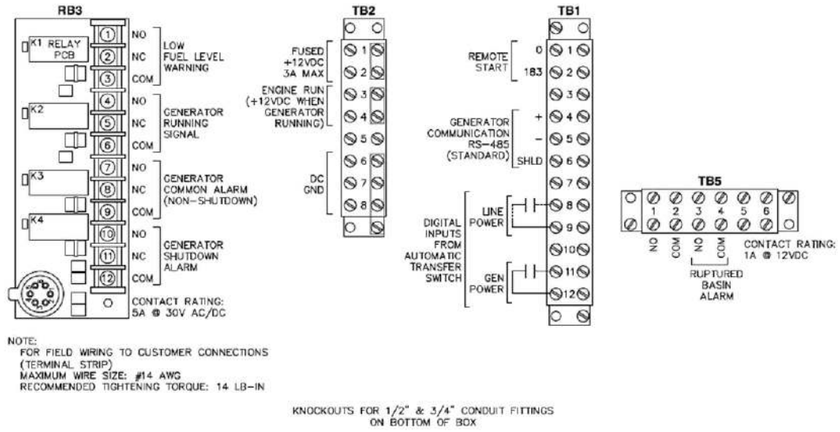
COLOR CODE
GENERATOR:
A. CABLE – (2) CAT6
B. COLOR CODE
1. GENERATOR RUN – ALARM PORT #14 (ORANGE & WHITE)
2. GENERATOR FAIL – ALARM PORT #15 (BLUE & WHITE)
3. LOW FUEL – ALARM (PORT P32) ON I/O BOARD (GREEN & WHITE)
4. FUEL LEAK – P32 ON I/O BOARD) (BROWN & WHITE)

AUTOMATIC TRANSFER SWITCH
A. CABLE – cat6e
B. COLOR CODE
1. COMMERCIAL POWER FAIL IF REQUIRED (BLUE WHITE)
2. TRANSFER SWITCH POSITION (BROWN WHITE)

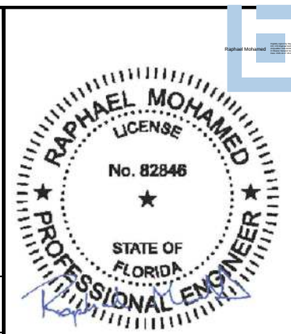
CAM LOCK ALARM
A. CABLE – cat6e
B. COLOR CODE
1. PORTABLE GENERATOR RUNNING (ORANGE WHITE) (IF REQUIRED)

ALARM DETAILS

SCALE: NONE | 3



KOHLER GENERATOR ALARM WIRING | SCALE: NONE | 2



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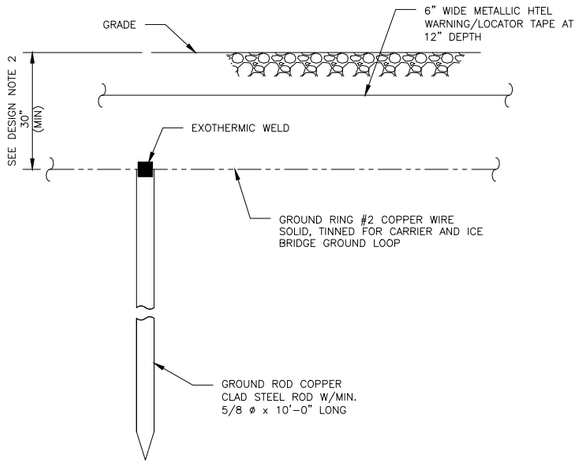


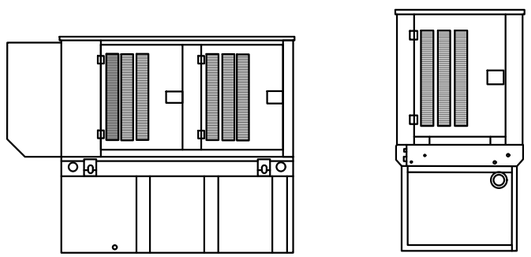
NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

GROUND ROD DETAIL

SCALE: NONE

3



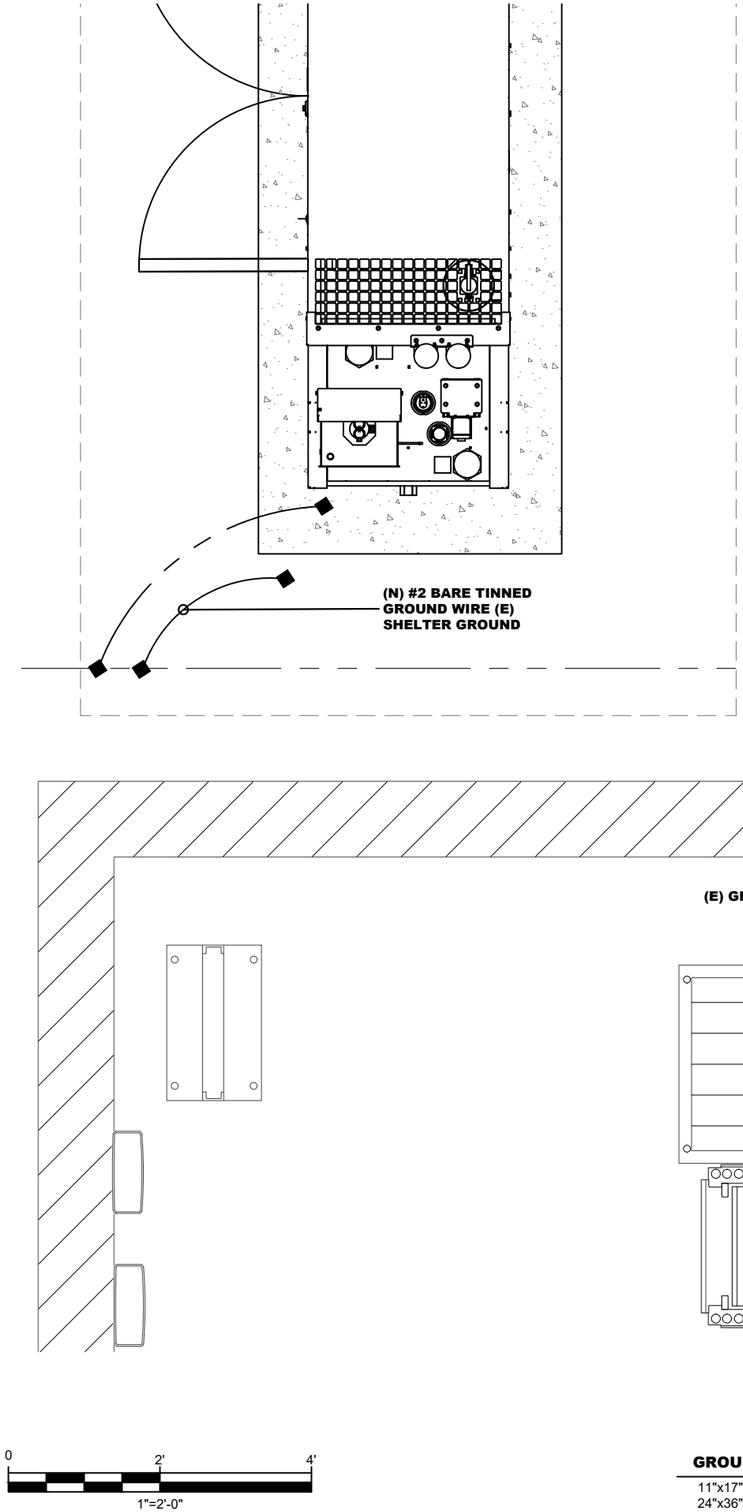
WEATHER PROTECTED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Steel Weight Minimum - lbs (kg)	Steel Weight Maximum - lbs (kg)	Aluminum Weight Min. - lbs (kg)	Aluminum Weight Maximum - lbs (kg)
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)	2,158 (979)	2,286 (1,037)	1,935 (878)	2,965 (1,345)
12	54 (204)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)	2,638 (1,197)	2,766 (1,255)	2,415 (1,096)	3,445 (1,563)
30	132 (499)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)	2,868 (1,301)	2,996 (1,359)	2,645 (1,200)	3,675 (1,667)
44	190 (719)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)	3,077 (1,396)	3,205 (1,454)	2,854 (1,295)	3,884 (1,762)
49	211 (799)	106.0 (2,692) x 38.0 (965) x 99.0 (2,516)	4,316 (1,958)	4,572 (2,074)	3,870 (1,755)	5,930 (2,690)
69	300 (1,136)	94.8 (2,409) x 38.0 (965) x 90.0 (2,287)	3,140 (1,424)	3,268 (1,482)	2,917 (1,323)	3,947 (1,790)

GENERATOR DETAIL

SCALE: NONE

2



GROUNDING PLAN

11"x17" SCALE: 1"=2'-0"
24"x36" SCALE: 1"=1'-0"

RAPHAEL MOHAMED LICENSE No. 82846 STATE OF FLORIDA PROFESSIONAL ENGINEER

4/26/2023

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
4/24/2023	CONSTRUCTION	0	RM
4/26/2023	CONSTRUCTION	1	RM

DRAWN BY:	JG
CHECKED BY:	KL
APPROVED BY:	RM

PREPARED FOR:

at&t

PREPARED BY:

MasTec Network Solutions
1151 SE CARY PARKWAY, SUITE 101
CARY, NC 27518

FA NUMBER:
10152022

SITE NAME:
SW LAKE CITY

SITE ADDRESS:
4741 SOUTHWEST BIRLEY AVENUE, LAKE CITY, FL 32024

TOWER OWNER ID:
SBA

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-1

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

Standby Power Rating
50 kW, 63 kVA, 60 Hz

Prime Power Rating*
45 kW, 56 kVA, 60 Hz

ISO 9001:2008

USA ENGINEERED & BUILT*

*Assembled in the USA using domestic and foreign parts

*EPA Certified Prime ratings are not available in the US or its Territories

Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

- UL2200, UL6200, UL1236, UL142
- CSA C22.2
- BS5514 and DIN 6271
- SAE J1349
- NFPA 37, 70, 99, 110
- NEC700, 701, 702, 708
- ISO 3046, 7637, 8528, 9001
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41
- IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

Powering Ahead

For over 50 years, Generac has provided innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Silencer (Enclosed Units Only)

Fuel System

- Fuel Lockoff Solenoid
- Primary Fuel Filter

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene Glycol Antifreeze
- 120 VAC Coolant Heater

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- 12 Leads (3-Phase, Non 600V)
- Class H Insulation Material
- Vented Rotor
- 2/3 Pitch
- Skewed Stator
- Auxiliary Voltage Regulator Power Winding
- Brushless Excitation
- Sealed Bearing
- Automated Manufacturing (Winding, Insertion, Lacing, Varnishing)
- Rotor Dynamically Spin Balanced
- Full Load Capacity Alternator
- Protective Thermal Switch

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Only)
- Silencer of Heat Shield

ENCLOSURE (If Selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuated Enclosures)
- Gasketed Doors
- Stamped Air-Intake Louvers
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

FUEL TANKS (If Selected)

- UL 142/ULC S-601
- Double Wall Construction
- Vents
- Sloped Top
- Sloped Bottom
- Factory Pressure Tested - 2 psi
- Rupture Basin Alarm
- Fuel Level
- Check Valve In Supply and Return Lines
- RhinoCoat™- Textured Polyester Powder Coat Paint
- Stainless Steel Hardware

CONTROL SYSTEM

Digital H Control Panel- Dual 4x20 Display

Program Functions

- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable Logic Controller
- RS-232/485 Communications
- All Phase Sensing Digital Voltage Regulator
- 2-Wire Start Capability
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/Sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus® Protocol
- Predictive Maintenance Algorithm
- Sealed Boards
- Password Parameter Adjustment Protection
- Single Point Ground
- 16 Channel Remote Trending
- 0.2 msec High Speed Remote Trending
- Alarm Information Automatically Annunciated on the Display

Full System Status Display

- Power Output (kW)
- Power Factor
- kW Hours, Total, and Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency

Alarms and Warnings

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Overspeed
- Battery Voltage
- Alarms and Warnings Time and Date Stamped
- Snap Shots of Key Operation Parameters During Alarms and Warnings
- Alarms and Warnings Spelled Out (No Alarm Codes)

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

CONFIGURABLE OPTIONS

ENGINE SYSTEM

- ○ Engine Coolant Heater
- ○ Oil Heater
- ○ Industrial Silencer (Open Set)
- ○ Air Filter Restriction Indicator
- ○ Fan and Belt Guards (Enclosed Units Only)

FUEL SYSTEM

- ○ Flexible Fuel Lines
- ○ Primary Fuel Filter

ELECTRICAL SYSTEM

- ○ 10A UL Listed Battery Charger
- ○ Battery Warmer

ALTERNATOR SYSTEM

- ○ Alternator Upsizing
- ○ Anti-Condensation Heater
- ○ Tropical Coating
- ○ Permanent Magnet Excitation

GENERATOR SET

- ○ 8 Position Load Center

CIRCUIT BREAKER OPTIONS

- ○ Main Line Circuit Breaker
- ○ 2nd Main Line Circuit Breaker
- ○ Shunt Trip and Auxiliary Contact
- ○ Electronic Trip Breakers

ENCLOSURE

- ○ Weather Protected Enclosure
- ○ Level 1 Sound Attenuated
- ○ Level 2 Sound Attenuated
- ○ Level 2 Sound Attenuated with Motorized Dampers
- ○ Steel Enclosure
- ○ Aluminum Enclosure
- ○ Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- ○ AC/DC Enclosure Lighting Kit
- ○ Door Open Alarm Switch
- ○ Pad Vibration Isolator
- ○ Enclosure Heater

WARRANTY (Standby Gensets Only)

- ○ 2 Year Extended Limited Warranty
- ○ 5 Year Limited Warranty
- ○ 5 Year Extended Limited Warranty
- ○ 7 Year Extended Limited Warranty
- ○ 10 Year Extended Limited Warranty

CONTROL SYSTEM

- ○ NFPA 110 Compliant 21-Light Remote Annunciator
- ○ Remote Relay Assembly (8 or 16)
- ○ Oil Temperature Sender with Alarm
- ○ Remote E-Stop (Break Glass-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Flush Mount)
- ○ Remote Communication - Modem
- ○ 10A Engine Run Relay
- ○ Ground Fault Indication and Protection Functions
- ○ 100 dB Alarm Horn
- ○ 120V GFCI and 240V Outlets

FUEL TANKS (Size On Last Page)

- ○ 8 in (203.2 mm) Fill Extension
- ○ 13 in (330.2 mm) Fill Extension
- ○ 19 in (482.6 mm) Fill Extension
- ○ Overfill Protection Valve
- ○ Vent Extensions
- ○ Tank Risers
- ○ Fuel Drop Tube
- ○ Return Hose
- ○ 90% Fuel Level Alarm

ENGINEERED OPTIONS

ENGINE SYSTEM

- ○ Coolant Heater Ball Valves
- ○ Fluid Containment Pan

CONTROL SYSTEM

- ○ Spare Inputs (x4) / Outputs (x4)
- ○ Battery Disconnect Switch

ALTERNATOR SYSTEM

- ○ 3rd Breaker System

GENERATOR SET

- ○ Special Testing
- ○ IBC Seismic Certification

TANKS

- ○ UL2085 Tank
- ○ Stainless Steel Tanks

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

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GENERAC® | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Generac
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	4
Type	In-Line
Displacement - in^3 (L)	207.48 (3.4)
Bore - in (mm)	3.86 (98)
Stroke - in (mm)	4.45 (113)
Compression Ratio	18.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head	Cast Iron OHV
Piston Type	Aluminum
Crankshaft Type	Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow Cartridge
Crankcase Capacity - qt (L)	7.4 (7)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Type	Pre-Lubed, Self Sealing
Fan Type	Pusher
Fan Speed - rpm	2,250
Fan Diameter - in (mm)	560 (22)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel #2
Fuel Specifications	ASTM
Fuel Filtering (microns)	10
Fuel Inject Pump	Bosch (VE)
Fuel Pump Type	Engine Driven Gear
Injector Type	Pintel - 2,100 psi (14,479 kPa)
Fuel Supply Line - in (mm)	0.312 (7.92) NPT
Fuel Return Line - in (mm)	0.312 (7.92) NPT

Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K0050124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase)
Telephone Interference Factor (TIF)	< 50

Standard Excitation	Synchronous Brushless
Bearings	Single Sealed Cartridge
Coupling	Direct via Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

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GENERAC® | INDUSTRIAL POWER

OPERATING DATA

POWER RATINGS

		Standby
Single-Phase 120/240 VAC @1.0pf	50 kW	Amps: 208
Three-Phase 120/208 VAC @0.8pf	50 kW	Amps: 173
Three-Phase 120/240 VAC @0.8pf	50 kW	Amps: 150
Three-Phase 277/480 VAC @0.8pf	50 kW	Amps: 75
Three-Phase 346/600 VAC @0.8pf	50 kW	Amps: 60

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip

277/480 VAC	30%	208/240 VAC	30%
K0050124Y21	98	K0050124Y21	75
K0060124Y21	124	K0060124Y21	95

FUEL CONSUMPTION RATES*

Fuel Pump Lift - ft (m)
3 (1)

Total Fuel Pump Flow (Combustion + Return) - gph (Lph)
3.6 (13.5)

Diesel - gph (Lph)

Percent Load	Standby
25%	1.3 (4.9)
50%	2.3 (8.7)
75%	3.3 (12.5)
100%	4.3 (16.4)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Coolant Flow	gpm (Lpm)	12.2 (46)
Coolant System Capacity	gal (L)	2.5 (9.5)
Heat Rejection to Coolant	BTU/hr (kW)	135,900 (39.8)
Inlet Air	scfm (m^3/hr)	7,500 (212)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Ambient Temperature (Before Derate)	See Bulletin No. 0199280SSD	
Maximum Radiator Backpressure	in H_2O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power - scfm (m^3/min)	166 (4.7)

ENGINE

		Standby
Rated Engine Speed	RPM	1,800
Horsepower at Rated kW**	hp	86
Piston Speed	ft/min (m/min)	1,335 (406.9)
BMEP	psi (kPa)	169 (1,165)

EXHAUST

		Standby
Exhaust Flow (Rated Output)	scfm (m^3/min)	448 (12.7)
Max. Allowable Backpressure	inHg (kPa)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	1,044 (562)

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.
Standby - See Bulletin 0187500SSB
Prime - See Bulletin 0187510SSB

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

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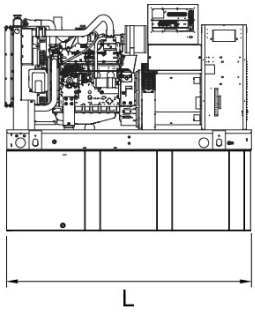
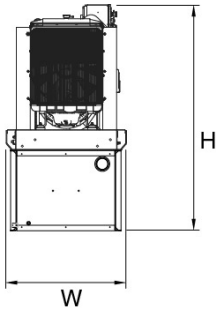
GENERAC® | INDUSTRIAL POWER

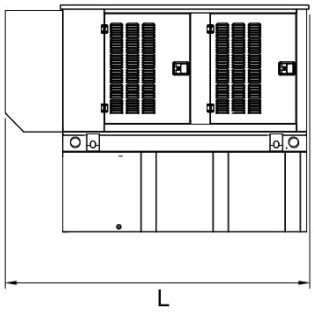
DIMENSIONS AND WEIGHTS*

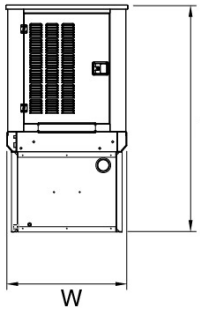




OPEN SET (Includes Exhaust Flex)

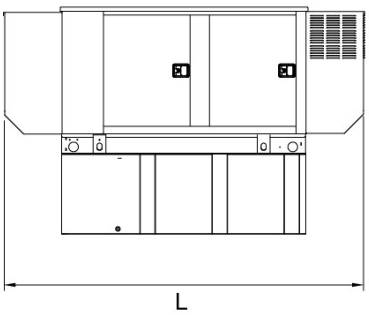
Run Time Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Minimum Weight - lbs (kg)	Maximum Weight - lbs (kg)
No Tank	-	76.7 (1,948) x 37.4 (950) x 45.2 (1,147)	1,710 (776)	1,836 (833)
12	54 (204)	76.7 (1,948) x 37.4 (950) x 58.2 (1,477)	2,190 (993)	2,316 (932)
30	132 (499)	76.7 (1,948) x 37.4 (950) x 70.2 (1,782)	2,420 (1,098)	2,546 (979)
44	190 (719)	76.7 (1,948) x 37.4 (950) x 82.2 (2,087)	2,629 (1,192)	2,755 (1,022)
49	211 (799)	106.0 (2,692) x 37.4 (950) x 71.2 (1,807)	2,634 (1,192)	2,760 (1,023)
69	300 (1,136)	92.9 (2,360) x 37.4 (950) x 85.7 (2,176)	2,692 (1,221)	2,818 (1,035)

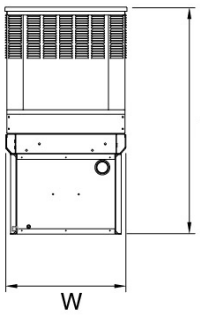




WEATHER PROTECTED ENCLOSURE

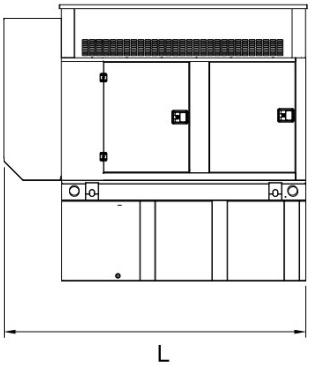
Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Steel Weight Minimum - lbs (kg)	Steel Weight Maximum - lbs (kg)	Aluminum Weight Minimum - lbs (kg)	Aluminum Weight Maximum - lbs (kg)
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)	2,158 (979)	2,286 (1,037)	1,935 (878)	2,965 (1,345)
12	54 (204)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)	2,638 (1,197)	2,766 (1,255)	2,415 (1,096)	3,445 (1,563)
30	132 (499)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)	2,868 (1,301)	2,996 (1,359)	2,645 (1,200)	3,675 (1,667)
44	190 (719)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)	3,077 (1,396)	3,205 (1,454)	2,854 (1,295)	3,884 (1,762)
49	211 (799)	106.0 (2,692) x 38.0 (965) x 99.0 (2,516)	4,316 (1,958)	4,572 (2,074)	3,870 (1,755)	5,930 (2,690)
69	300 (1,136)	94.8 (2,409) x 38.0 (965) x 90.0 (2,287)	3,140 (1,424)	3,268 (1,482)	2,917 (1,323)	3,947 (1,790)

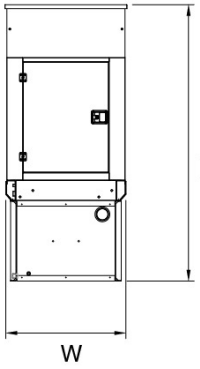




LEVEL 1 SOUND ATTENUATED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Steel Weight Minimum - lbs (kg)	Steel Weight Maximum - lbs (kg)	Aluminum Weight Minimum - lbs (kg)	Aluminum Weight Maximum - lbs (kg)
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)	2,158 (979)	2,286 (1,037)	1,935 (878)	2,965 (1,345)
12	54 (204)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)	2,638 (1,197)	2,766 (1,255)	2,415 (1,096)	3,445 (1,563)
30	132 (499)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)	2,868 (1,301)	2,996 (1,359)	2,645 (1,200)	3,675 (1,667)
44	190 (719)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)	3,077 (1,396)	3,205 (1,454)	2,854 (1,295)	3,884 (1,762)
49	211 (799)	106.0 (2,692) x 38.0 (965) x 99.0 (2,516)	4,316 (1,958)	4,572 (2,074)	3,870 (1,755)	5,930 (2,690)
69	300 (1,136)	94.8 (2,409) x 38.0 (965) x 90.0 (2,287)	3,140 (1,424)	3,268 (1,482)	2,917 (1,323)	3,947 (1,790)





LEVEL 2 SOUND ATTENUATED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Steel Weight Minimum - lbs (kg)	Steel Weight Maximum - lbs (kg)	Aluminum Weight Minimum - lbs (kg)	Aluminum Weight Maximum - lbs (kg)
No Tank	-	94.8 (2,409) x 38 (965) x 70.1 (1,780)	2,389 (1,084)	2,517 (1,142)	2,035 (923)	2,163 (981)
12	54 (204)	94.8 (2,409) x 38 (965) x 62.5 (1,588)	2,638 (1,197)	2,766 (1,255)	2,415 (1,095)	3,445 (1,563)
30	132 (499)	94.8 (2,409) x 38 (965) x 74.5 (1,893)	2,868 (1,301)	2,996 (1,359)	2,645 (1,200)	3,675 (1,667)
44	190 (719)	94.8 (2,409) x 38 (965) x 86.5 (2,198)	3,077 (1,396)	3,205 (1,454)	2,854 (1,295)	3,884 (1,762)
49	211 (799)	106.0 (2,692) x 38 (965) x 99 (2,516)	4,316 (1,958)	4,572 (2,074)	3,870 (1,755)	5,930 (2,690)
69	300 (1,136)	94.8 (2,409) x 38 (965) x 110.6 (2,809)	3,371 (1,529)	3,499 (1,587)	3,017 (1,368)	3,145 (1,427)

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

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