

REVIEWED
By Kisha Snipes at 4:11 pm, May 21, 2020



SITE NAME: 368-336
FA LOCATION CODE: 10065432
ATC SITE NUMBER: 280360

GENERATOR PROJECT
30KW GENERAC DIESEL GENERATOR
200A GENERAC ATS

101 CYPRESS DR
SPRING LAKE, NC 28390

RAMAKER & ASSOCIATES, INC.
100% EMPLOYEE-OWNED
855 Community Dr, Sauk City, WI 53583
608-643-4100 www.Ramaker.com
Sauk City, WI • Willmar, MN
Woodcliff Lake, NJ • Bayamon, PR



PREPARED FOR:
GENERAL DYNAMICS
Information Technology, Inc.
GENERAL DYNAMICS
235 HEMBREE PARK DR, SUITE 100
ROSWELL, GA 30076

Certification & Seal:
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Carolina.



James R. Skowronski 4/27/2020
James R. Skowronski Date:

MARK	DATE	DESCRIPTION
ISSUE	FINAL	DATE ISSUED 04/27/2020

PROJECT TITLE:
368-336
FA ID # 10065432

PROJECT INFORMATION:
101 CYPRESS DR
SPRING LAKE, NC 28390

SHEET TITLE:
TITLE SHEET

SCALE: NONE

PROJECT NUMBER: 46310
SHEET NUMBER: T-1

VICINITY MAP

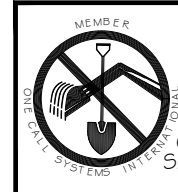


AERIAL VIEW OF SITE



SCOPE OF WORK

ADD STANDBY GENERATOR, ASSOCIATED CONCRETE PAD, AND UTILITY EQUIPMENT TO EXISTING AT&T EQUIPMENT AREA. THERE WILL BE NO CHANGE IN THE SIZE OR HEIGHT OF THE TOWER OR ANTENNAS.



TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN NORTH CAROLINA
NORTH CAROLINA ONE-CALL CENTER
811 OR 1-800-632-4949

GENERAL ASSEMBLY OF NORTH CAROLINA IN AN ACT TO PROMOTE THE SAFE PLACEMENT OF SUBSURFACE INSTALLATIONS, SECTION 1, CHAPTER 87 REQUIRES MIN. 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE

APPLICABLE BUILDING CODE & STANDARDS

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

- INTERNATIONAL BUILDING CODE 2015
- NATIONAL ELECTRIC CODE 2014
- AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION
- TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL TOWER AND ANTENNA SUPPORTING STRUCTURES
- TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

PROJECT INFORMATION

PROJECT MANAGER:
TIM JAMES
MARKET LEAD
GENERAL DYNAMICS WIRELESS SERVICES
235 HEMBREE PARK DR, SUITE 100
ROSWELL, GA 30076
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ENGINEER:
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SAUK CITY, WI 53583
PH.: (608) 643-4100
FAX: (608) 643-7999
CONTACT: TYLER BEATTY
EMAIL: tbeatty@ramaker.com

APPLICANT INFORMATION:
AT&T MOBILITY
7150 STANDARD DR
HANOVER, MD 21076

SITE DATA:
SITE NAME: 368-336
FA NUMBER: 10065432

PROPERTY OWNER:
ANGELO & KELLEY HASAPIS
CYPRESS DR
SPRING LAKE, NC 28390

ADDRESS:
101 CYPRESS DR
SPRING LAKE, NC 28390

COUNTY: HARNETT

LAT.: 35.290555°
LONG.: -78.986388°

GROUND ELEVATION: 279 FT AMSL

DO NOT SCALE DRAWINGS:
CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO THE CLIENT IS STRICTLY PROHIBITED.

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SIGNATURE BLOCK

MARK	DATE	DESCRIPTION
AT&T MGR.	DATE	
GENERAL DYNAMICS CONSTRUCTION MGR.	DATE	
SITE ACQUISITION	DATE	

NOTES TO SUBCONTRACTOR:

1. ALL SUB-CONTRACTORS ARE TO SIGN INTO THE LL AND AT&T NOC'S ALONG WITH GD'S APENATE APP 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. THE GENERAL SUBCONTRACTOR MUST VERIFY ALL DIMENSIONS, CONDITIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH ACCEPTED CONSTRUCTION PRACTICES.
4. IT IS THE INTENTION OF THESE DRAWINGS TO SHOW THE COMPLETED INSTALLATION. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, TIES, FORM WORK, ETC. IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL ORDINANCES, TO SAFELY EXECUTE ALL WORK AND SHALL BE RESPONSIBLE FOR SAME. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES.
5. THE SUBCONTRACTOR SHALL USE ADEQUATE NUMBER OF SKILLED WORKMAN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHOD NEEDED FOR PROPER PERFORMANCE OF THE WORK.
6. CONSTRUCTION SUBCONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION SUBCONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION SUBCONTRACTOR FURTHER AGREES TO INDEMNIFY AND HOLD DESIGN ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT.
7. SITE GROUNDING SHALL COMPLY WITH AT&T WIRELESS SERVICES TECHNICAL SPECIFICATIONS FOR FACILITY GROUNDING FOR CELL SITE STANDARDS, LATEST EDITION, AND COMPLY WITH AT&T TOWERS GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN. GROUNDING SHALL BE COMPLETED BEFORE ERECTION OF TOWER.
8. ALL WORK SHALL COMPLY WITH OSHA AND STATE SAFETY REQUIREMENTS. PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION AND UTILITIES SHALL BE ESTABLISHED PRIOR TO FOUNDATION INSTALLATION, IF TEMPORARY LIGHTING AND MARKING IS REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION (FAA), IT IS THE SUBCONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE NECESSARY LIGHTS AND NOTIFY THE PROPER AUTHORITIES IN THE EVENT OF A PROBLEM.
9. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL CODES OR ORDINANCES. THE MOST STRINGENT CODE WILL APPLY IN THE CASE OF DISCREPANCIES OR DIFFERENCES IN THE CODE REQUIREMENTS.
10. ANY DAMAGE TO THE ADJACENT PROPERTIES WILL BE CORRECTED AT THE SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE LANDOWNER AND THE ENGINEER.
11. THE COMPLETE BID PACKAGE INCLUDES THESE CONSTRUCTION DRAWINGS ALONG WITH THE SPECIFICATIONS. SUBCONTRACTOR IS RESPONSIBLE FOR REVIEW OF TOTAL BID PACKAGE PRIOR TO BID SUBMITTAL..
12. SUBCONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES WITHIN CONSTRUCTION LIMITS PRIOR TO CONSTRUCTION.
13. THE SUBCONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON THE SITE AT ALL TIMES. SILT AND EROSION CONTROL SHALL BE MAINTAINED ON THE DOWNSTREAM SIDE OF THE SITE AT ALL TIMES. ANY DAMAGE TO ADJACENT PROPERTIES WILL BE CORRECTED AT THE SUBCONTRACTOR'S EXPENSE.
14. CLEARING OF TREES AND VEGETATION ON THE SITE SHOULD BE HELD TO A MINIMUM. ONLY THE TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES SHALL BE REMOVED. ANY DAMAGE TO THE PROPERTY OUTSIDE THE LEASED PROPERTY SHALL BE REPAIRED BY THE SUBCONTRACTOR.
15. ALL SUITABLE BORROW MATERIAL FOR BACK FILL OF THE SITE SHALL BE INCLUDED IN THE BID. EXCESS TOPSOIL AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF OFF SITE AT LOCATIONS APPROVED BY GOVERNING AGENCIES PRIOR TO DISPOSAL.
16. SEEDING AND MULCHING OF THE SITE WILL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER COMPLETION OF THE SITE DEVELOPMENT. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAIN AN ADEQUATE COVER OF VEGETATION OVER THE SITE FOR A ONE YEAR PERIOD.
17. PERMITS: THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES, ETC.
18. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES, SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DRAWINGS WHICH SHALL BE TURNED OVER TO THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT.
19. THE PLANS SHOW SOME KNOWN SUBSURFACE STRUCTURES, ABOVE GROUND STRUCTURES AND/OR EXISTING UTILITIES BELIEVED TO BE IN THE WORKING AREA. IT IS THE RESPONSIBILITY OF THE SUBCONTRACTOR TO VERIFY ALL UTILITIES, PIPELINES AND OTHER STRUCTURES SHOWN OR NOT SHOWN ON THESE PLANS. THE SUBCONTRACTOR SHALL CONTACT THE LOCAL JURISDICTION'S DIGGER'S HOTLINE BEFORE DIGGING OR DRILLING. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AND ENGINEER AT THE SUBCONTRACTOR'S EXPENSE.

GENERAL NOTES:

1. THIS PROPOSAL IS FOR THE ADDITION OF A NEW GENERATOR ON A CONCRETE PAD TO AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY CONSISTING OF AN EQUIPMENT SHELTER AND TOWER.

2. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE.
3. THE PROPOSED FACILITY IS UNMANNED AND IS NOT FOR HUMAN HABITAT. (NO HANDICAP ACCESS IS REQUIRED)
4. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH BY AT&T TECHNICIANS.
5. OUTDOOR STORAGE AND SOLID WASTE CONTAINERS ARE NOT PROPOSED.
6. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
7. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY THE CONSTRUCTION OPERATION.
8. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTION REQUIRED FOR CONSTRUCTION.
9. SUBCONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.

ELECTRICAL NOTES:

A. GENERAL

1. COORDINATE LOCATION AND POWER REQUIREMENTS OF ALL EQUIPMENT WITH AT&T AND EQUIPMENT SUPPLIER PRIOR TO INSTALLATION.
2. COORDINATE LOCATION AND REQUIREMENTS FOR ELECTRICAL AND TELEPHONE SERVICES WITH THE PROPERTY REPRESENTATIVE, AT&T AND UTILITY COMPANIES. ROUTING OF CONDUITS MAY BE MODIFIED TO MEET SITE REQUIREMENTS. EXACT CONDUIT ROUTING TO BE DETERMINED IN THE FIELD.
3. ALL WIRING AND EQUIPMENT SHOWN ON ELECTRICAL SHEETS SHALL BE FURNISHED AND INSTALLED UNDER ELECTRICAL PORTION OF CONTRACT UNLESS OTHERWISE NOTED
4. UNINTERRUPTED ELECTRICAL SERVICE FOR EXISTING EQUIPMENT SHALL BE MAINTAINED DURING THE INSTALLATION OF THE WORK DESCRIBED UNDER THESE DOCUMENTS. TEMPORARY EQUIPMENT, CABLES AND WHATEVER ELSE IS NECESSARY SHALL BE PROVIDED AS REQUIRED TO MAINTAIN ELECTRICAL SERVICE. TEMPORARY SERVICE FACILITIES, IF REQUIRED AT ANY TIME, SHALL NOT BE DISCONNECTED OR REMOVED UNTIL NEW SERVICE EQUIPMENT IS IN PROPER OPERATION. IF ANY SERVICE OR SYSTEM MUST BE INTERRUPTED, THE CONTRACTOR SHALL REQUEST PERMISSION IN WRITING STATING THE DATE, TIME, ETC. THE SERVICE WILL BE INTERRUPTED AND THE AREAS AFFECTED. THIS REQUEST SHALL BE MADE IN SUFFICIENT TIME FOR PROPER ARRANGEMENTS TO BE MADE. WRITTEN PERMISSION SHALL BE OBTAINED FROM THE OWNER BEFORE INTERRUPTING ELECTRICAL SERVICE.
5. COORDINATE NEW WORK WITH OTHER TRADES AND VERIFY EXISTING CONDITIONS TO AVOID INTERFERENCE. IN CASE OF INTERFERENCE, AT&T'S REPRESENTATIVE WILL DECIDE WHICH WORK IS TO BE RELOCATED, REGARDLESS OF WHICH WAS FIRST INSTALLED.
6. THE INSTALLATION MUST COMPLY WITH NEC AND ALL FEDERAL, STATE AND LOCAL RULES AND REGULATIONS.
7. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT UNLESS OTHERWISE DEFINED BY DIMENSIONS OR DETAILS. EXACT EQUIPMENT LOCATIONS AND RACEWAY ROUTING SHALL BE GOVERNED BY ACTUAL FIELD CONDITIONS AND/OR DIRECTIONS FROM AT&T'S REPRESENTATIVE.
8. CONTRACTOR SHALL PAY ALL PERMITS AND FEES REQUIRED.
9. ALL MATERIALS SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE STANDARDS REFERENCED BELOW:
 - a. ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE)
 - b. ASTM (AMERICAN SOCIETY FOR TESTING MATERIALS)
 - c. ETL (ELECTRICAL TESTING LABORATORY)
 - d. ICEA (INSULATED CABLE ENGINEERS ASSOCIATION)
 - e. IEEE (INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS)
 - f. MBFU (NATIONAL BOARD OF FIRE UNDERWRITERS)
 - g. NESC (NATIONAL ELECTRICAL SAFETY CODE)
 - h. NEMA (NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION)
 - i. NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)
 - j. UL (UNDERWRITER'S LABORATORY)

10. CONTRACTOR SHALL REVIEW PLANS, DETAILS AND SPECIFICATIONS IN DETAIL AND ADJUST WORK TO CONFORM WITH ACTUAL SITE CONDITIONS SO THAT ELECTRICAL DEVICES AND EQUIPMENT WILL BE LOCATED AND READILY ACCESSIBLE. QUANTITIES LISTED IN MATERIAL LISTS ON THE DRAWINGS ARE FOR INFORMATION ONLY. THE CONTRACTOR SHALL PROVIDE HIS OWN TAKEOFF FOR MATERIAL QUANTITY AND TYPES BASED ON ACTUAL SITE CONDITIONS, IN ADDITION, CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS TO INSTALL EQUIPMENT FURNISHED BY AT&T OR ITS SUPPLIERS. ALL ITEMS NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE DRAWINGS, BUT WHICH ARE OBVIOUSLY NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION, SHALL BE INCLUDED.

11. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) AT&T'S REPRESENTATIVE OF ANY CONFLICTS 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.
12. ALL FLOORS WHERE PENETRATIONS ARE REQUIRED IN BUILDING ARE TO BE CORE DRILLED AND THEN FIREPROOFED.

B. WIRING/CONDUIT

1. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR AS REQUIRED BY CODE SUCH THAT NO MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (380 DEGREES TOTAL) EXIST IN A CONDUIT RUN.

2. ALL POWER AND CONTROL/INDICATION WIRING SHALL BE TYPE THHN/THWN 800V RATED 75 DEGREES CELSIUS, UNLESS NOTED OTHERWISE.
3. SCHEDULE 80 PVC CONDUIT SHALL BE USED ABOVE GROUND, WHERE ABOVE GRADE IS DEFINED AS THE GROUND OF THE TURN-UP
4. BELL END OR TERMINAL ADAPTER MUST BE INSTALLED ON END OF PVC CONDUIT PER NEC 352.46. 300.4 F, (3)
5. CONDUIT BENDS SHALL BE MADE IN ACCORDANCE WITH NEC TABLE 346-10. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 1/2" MINIMUM INSIDE SWEEPS FOR ALL CONDUITS 2" OR LARGER.
6. POWER WIRING SIZE SHALL NOT BE SMALLER THAN #12 AWG.
7. ALL WIRING SHALL BE COPPER. ALUMINUM WILL NOT BE ACCEPTABLE ALL POWER CIRCUITS SHALL CONTAIN A GROUND WIRE.
8. PHASE MARKINGS TO BE USED AT POWER CONDUCTOR TERMINATIONS.
9. CONTRACTOR SHALL ENSURE INTEGRITY IS MAINTAINED WHEN INSTALLING CONDUIT AND WIRING.
10. INSTALL PULL STRING IN ALL CONDUIT.

11. FOR ROOFTOP INSTALLS AND BUILD-OUTS, CONDUITS INSIDE BUILDING AND ON ROOF SHALL BE RGS, UNLESS OTHERWISE NOTED. FOR RAW LAND SITES AND CO-LOCATES, PVC SCHEDULE 80 SHALL BE UTILIZED UNLESS NOTED OTHERWISE.
12. MAINTAIN MINIMUM 1'-0" VERTICAL AND 1'-0" HORIZONTAL SEPARATIONS FROM ANY MECHANICAL GAS PIPING.
13. ALL WIRING ROUTED IN PLENUM TO BE RATED OR IN METALLIC FLEX (LIQUIDITE) CONDUIT.

C. EQUIPMENT

1. EQUIPMENT/PARTS CONNECTED TO EXISTING PANELS, DUCTS, ETC. SHALL MATCH THE CHARACTERISTICS (AC, V, A) OF THAT EQUIPMENT.
2. ALL ELECTRICAL EQUIPMENT OUTSIDE SHALL BE NEMA OR 3R RATED.

D. GROUNDING

1. ALL GROUND CONNECTIONS TO BUILDING SHALL BE MADE USING TWO-HOLE CONNECTORS. PROVIDE STAINLESS STEEL BOLTS AND LOCK WASHERS ON ALL MECHANICAL GROUND CONNECTIONS.
2. ALL EQUIPMENT SURFACES TO BE BONDED TO GROUNDING SYSTEM SHALL BE STRIPPED OF ALL PAINT AND DIRT. CONNECTIONS TO VARIOUS METALS SHALL BE OF A TYPE AS TO CAUSE A GALVANIC OR CORROSIVE REACTION. AREA SHALL BE REPAINTED FOLLOWING BONDING.
3. ANY METALLIC ITEM WITHIN 6' OF GROUND CONDUCTORS MUST BE CONNECTED TO THE GROUNDING SYSTEM.
4. EXTERIOR, ABOVE GRADE GROUND CONNECTIONS SHALL BE FURNISHED WITH A LIBERAL PROTECTIVE COATING OF ANTI-OXIDE COMPOUND.
5. ALL MATERIALS AND LABOR REQUIRED FOR THE GROUNDING SYSTEM AS INDICATED ON THE PLANS AND DETAILS, AND AS DESCRIBED HEREIN SHALL BE FURNISHED BY THIS CONTRACTOR UNLESS OTHERWISE NOTED.
6. EXACT LOCATION OF GROUND CONNECTION POINTS SHALL BE DETERMINED IN FIELD. ADJUST LOCATIONS INDICATED ON PLANS ACCORDING TO ACTUAL EQUIPMENT LOCATIONS TO KEEP THE GROUND CONNECTION CABLES AS SHORT AS PRACTICAL.
7. PROVIDE ALL ELECTRICAL SYSTEM AND EQUIPMENT GROUNDS AS REQUIRED BY THE CURRENT EDITION OF THE NATIONAL ELECTRIC CODE (1999) AND THE CURRENT EDITION OF THE NATIONAL ELECTRICAL SAFETY CODE. BONDING JUMPERS WITH APPROVED GROUND FITTINGS SHALL BE INSTALLED AT ALL RACEWAYS, EQUIPMENT ENCLOSURES, PULL BOXES, ETC. TO MAINTAIN GROUND CONTINUITY WHERE REQUIRED BY CODE.
8. ALL EQUIPMENT GROUND CONDUCTORS SHALL BE TIN COATED, #2 AWG COPPER UNLESS NOTED OTHERWISE ON THE DRAWINGS.
9. PROVIDE PRE AND POST GROUND TEST RESULTS, USING CLAMP-ON TESTER. TEST RESULTS SHALL BE PHOTOS WITH DIGITAL TIME AND GPS STAMPED/EMBEDDED.

E. INSPECTION/DOCUMENTATION

1. THE CONTRACTOR, UPON COMPLETION OF HIS WORK, SHALL PROVIDE AS-BUILT DRAWINGS. INFORMATION SHOULD BE GIVEN TO THE GENERAL CONTRACTOR FOR INCLUSION IN FINAL AS-BUILT SURVEY DOCUMENTS TO BE GIVEN TO THE OWNER.
2. CONTRACTOR SHALL SUPPLY DOCUMENTATION ATTESTING TO THE COMPLETE GROUND SYSTEM'S RECEPTIVITY (MAX. 5 OHMS).
3. AN ELECTRICAL INSPECTION SHALL BE MADE BY AND INSPECTING AGENCY APPROVED BY AT&T'S REPRESENTATIVE. CONTRACTOR SHALL COORDINATE ALL INSPECTIONS AND OBTAIN POWER COMPANY APPROVAL.
4. CONTRACTOR SHALL HAVE ATS AND GENERATOR RELAY INSTALLATION AND CONNECTIONS INSPECTED BY OTHERS TO ENSURE THAT UL LISTING FOR THAT EQUIPMENT IS NOT VOIDED.



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 608-643-4100 www.Ramaker.com
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PREPARED FOR:



CONSULTANT:
GENERAL DYNAMICS
 Information Technology, Inc.
 GENERAL DYNAMICS
 235 HEMBREE PARK DR, SUITE 100
 ROSWELL, GA 30076

Certification & Seal:
 I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Carolina.



James R. Skowronski: 4/27/2020 Date:

MARK	DATE	DESCRIPTION
ISSUE PHASE	FINAL	DATE ISSUED 04/27/2020

PROJECT TITLE:
 368-336
 FA ID # 10065432

PROJECT INFORMATION:
 101 CYPRESS DR
 SPRING LAKE, NC 28390

SHEET TITLE:
 GENERAL NOTES

SCALE: NONE

PROJECT NUMBER	46310
SHEET NUMBER	N-1



PREPARED FOR:



CONSULTANT:
GENERAL DYNAMICS
 Information Technology, Inc.
 GENERAL DYNAMICS
 235 HEMBREE PARK DR, SUITE 100
 ROSWELL, GA 30076

Certification & Seal:
 I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Carolina.



James R. Skowronski 4/27/2020
 Date:

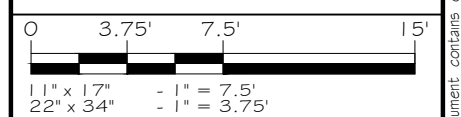
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PROJECT TITLE:

368-336
 FA ID # 10065432

PROJECT INFORMATION:
 101 CYPRESS DR
 SPRING LAKE, NC 28390

SHEET TITLE:
 SITE PLAN



PROJECT NUMBER: 46310
 SHEET NUMBER: A-1

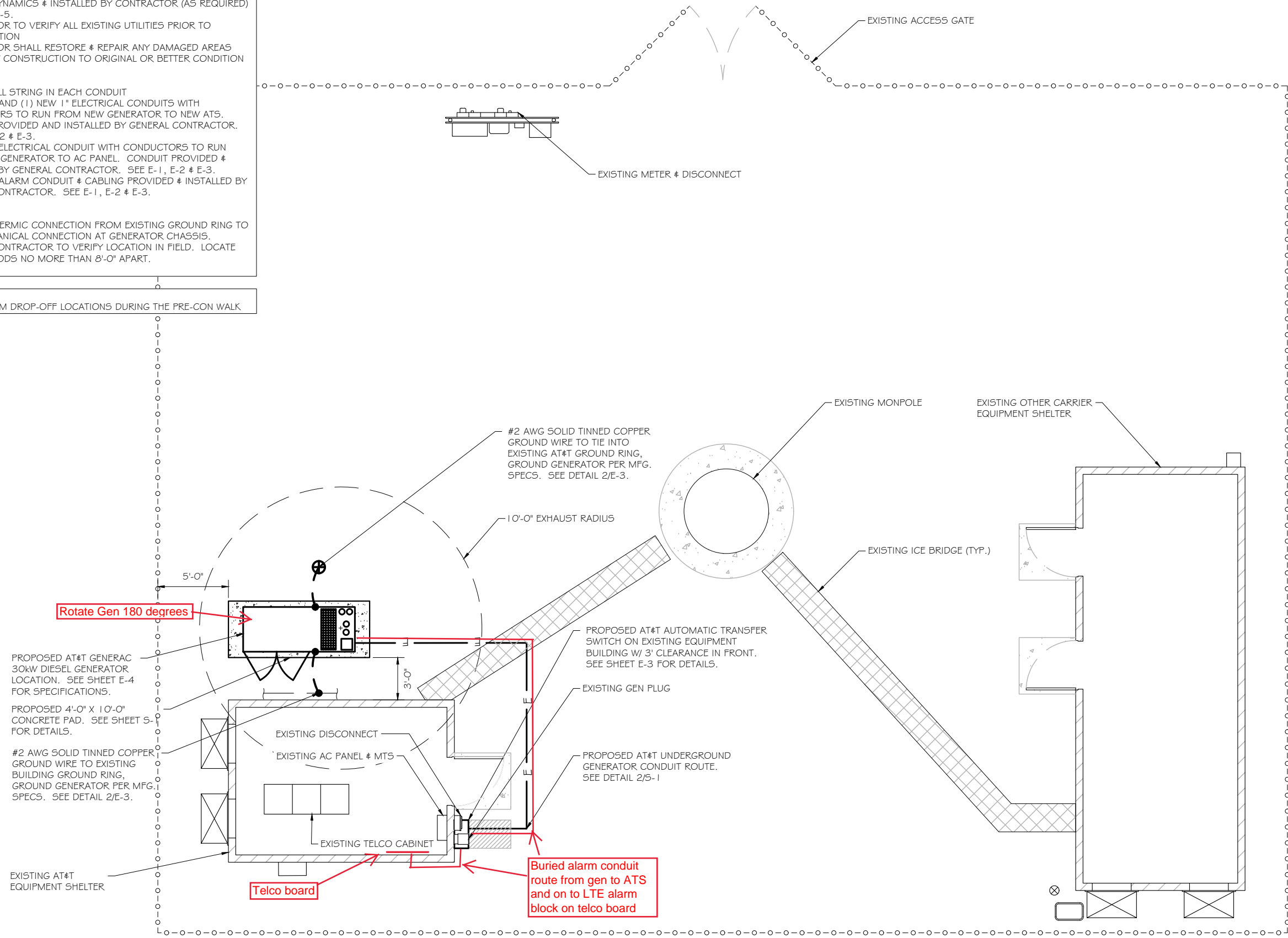
SCOPE OF WORK DETAILS

- GENERAL:
- NEW GENERAC DIESEL GENERATOR PROVIDED BY GENERAL DYNAMICS & INSTALLED BY GENERAL CONTRACTOR, SEE E-4.
 - NEW 4'-0" X 10'-0" CONCRETE PAD PROVIDED & INSTALLED BY GENERAL CONTRACTOR (AS REQUIRED) SEE S-1
 - NEW GENERAC AUTOMATIC TRANSFER SWITCH PROVIDED BY GENERAL DYNAMICS & INSTALLED BY CONTRACTOR (AS REQUIRED) SEE E-3 & E-5.
 - CONTRACTOR TO VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION
 - CONTRACTOR SHALL RESTORE & REPAIR ANY DAMAGED AREAS CAUSED BY CONSTRUCTION TO ORIGINAL OR BETTER CONDITION

- CONDUITS:
- INSTALL PULL STRING IN EACH CONDUIT
 - (1) NEW 2" AND (1) NEW 1" ELECTRICAL CONDUITS WITH CONDUCTORS TO RUN FROM NEW GENERATOR TO NEW ATS. CONDUIT PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. SEE E-1, E-2 & E-3.
 - (1) NEW 1" ELECTRICAL CONDUIT WITH CONDUCTORS TO RUN FROM NEW GENERATOR TO AC PANEL. CONDUIT PROVIDED & INSTALLED BY GENERAL CONTRACTOR. SEE E-1, E-2 & E-3.
 - (1) NEW 1" ALARM CONDUIT & CABLING PROVIDED & INSTALLED BY GENERAL CONTRACTOR. SEE E-1, E-2 & E-3.

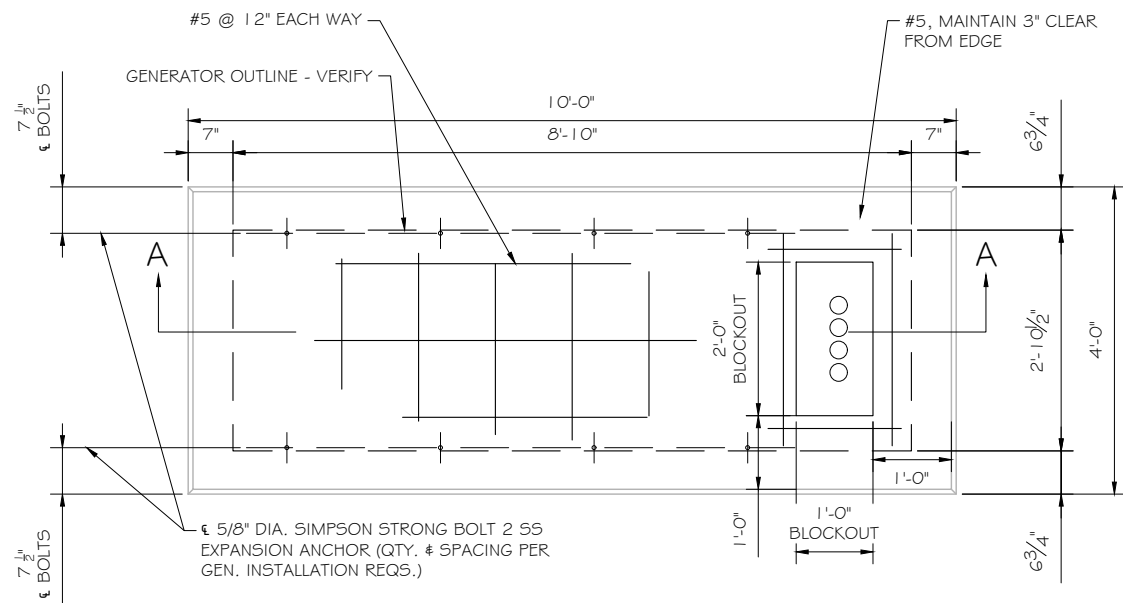
- GROUNDING:
- NEW EXOTHERMIC CONNECTION FROM EXISTING GROUND RING TO NEW MECHANICAL CONNECTION AT GENERATOR CHASSIS. GENERAL CONTRACTOR TO VERIFY LOCATION IN FIELD. LOCATE GROUND RODS NO MORE THAN 8'-0" APART.

NOTE:
 VERIFY ALL ALARM DROP-OFF LOCATIONS DURING THE PRE-CON WALK

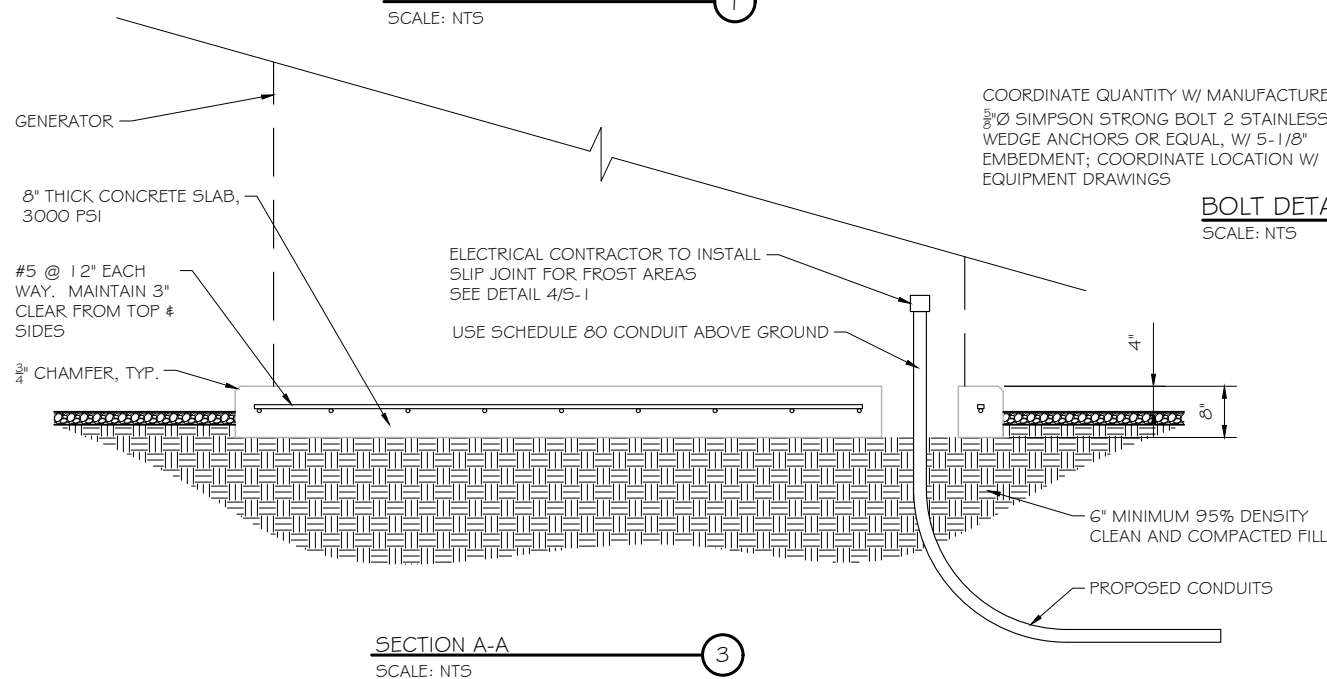


SITE PLAN
 SCALE: 1" = 7.5'

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FOUNDATION PLAN
 SCALE: NTS



SECTION A-A
 SCALE: NTS

DOUBLE WALL FUEL TANK BASE SPECIFICATION

REF: ATT 30KW GENERATOR PACKAGE
 UL REGISTRATION NUMBER: MH18459
 U.L. 142 DOUBLE WALL FUEL TANK BASE SPECIFICATION
 FUEL TANK BASE CONSTRUCTION:

- BE CONSTRUCTED IN ACCORDANCE WITH UNDERWRITERS LABORATORIES STANDARD UL-142. BE CONSTRUCTED IN ACCORDANCE WITH FLAMMABLE & COMBUSTIBLE LIQUIDS CODE, NFPA 30; THE STANDARD FOR INSTALLATION & USE OF STATIONARY COMBUSTIBLE ENGINE & GAS TURBINES, NFPA 37; AND THE STANDARD FOR EMERGENCY & STANDBY POWER SYSTEMS, NFPA 110.
- ANCHORS MINIMUM (4) @ 5/8" FOR GEN-SET MOUNTING

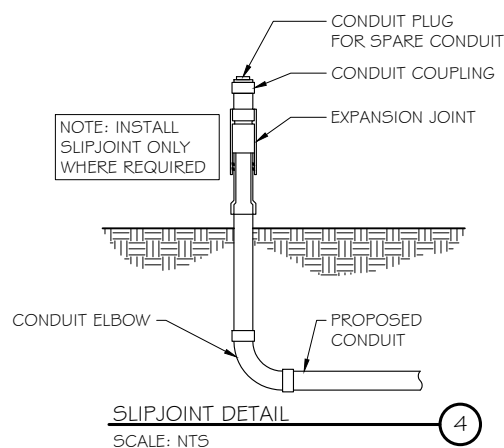
SUB BASE TANK TESTING: PRIMARY TANK & SECONDARY CONTAINMENT BASIN SECTIONS SHALL BE PRESSURIZED AT 3-5 PSI AND LEAK-CHECKED TO ENSURE INTEGRITY OF SUB BASE WELD SEAMS PER UL-142 STANDARDS

FUEL FILL: 5 GALLON SPILL CONTAINMENT WITH ALARM

- 40% REMAINING FOR ALARM
- 20% REMAINING FOR SHUT-DOWN

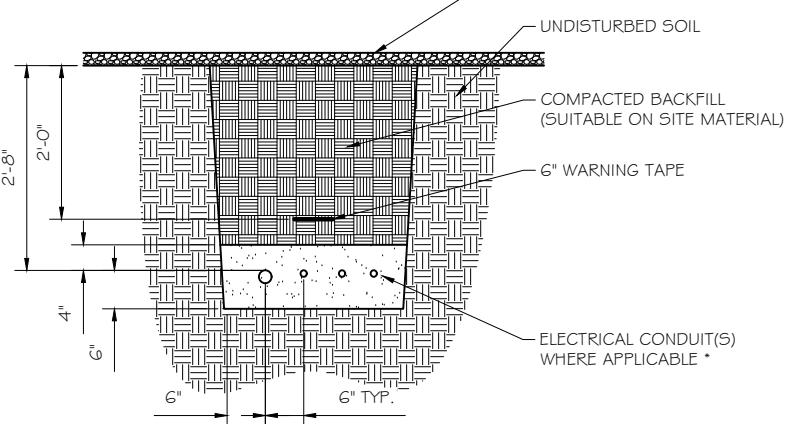
FACTORY PRE-SET AT 95% FULL FOR ALARM

FUEL CONTAINMENT BASIN: SUB BASE TANK SHALL INCLUDE A WELDED STEEL CONTAINMENT BASIN, SIZED AT A MINIMUM OF 110% OF THE TANK CAPACITY TO PREVENT ESCAPE OF FUEL INTO THE ENVIRONMENT IN THE EVENT OF A TANK RUPTURE. A FUEL CONTAINMENT BASIN LEAK DETECTOR SWITCH SHALL BE PROVIDED.



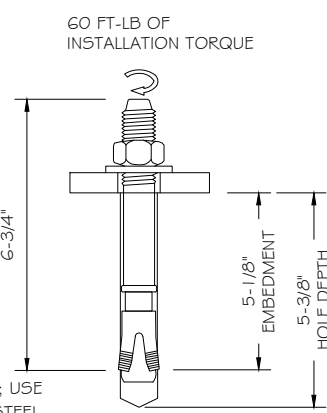
SLIPJOINT DETAIL
 SCALE: NTS

NOTE:
 VERIFY WIRE AND CONDUIT QUANTITY & SIZES WITH GENERATOR MAKE & MODEL # PRIOR TO INSTALLATION. VERIFY ELECTRICAL REQUIREMENTS WITH LOCAL UTILITY PROVIDER.



* SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS

- NOTES:
- PROVIDE PVC CONDUIT BELOW GRADE EXCEPT AS NOTED BELOW.
 - PROVIDE RGS CONDUIT AND ELBOWS AT STUB UP LOCATIONS (I.E. SERVICE POLE, BTS EQUIPMENT, ETC.)
 - INSTALL UTILITY PULLBOXES PER NEC.



BOLT DETAIL
 SCALE: NTS

STRUCTURAL GENERAL NOTES

- GENERAL CONDITIONS
 - DESIGN & CONSTRUCTION OF ALL WORK SHALL CONFORM TO LOCAL BUILDING CODES, ACI 318-11. IN CASE OF CONFLICT BETWEEN THE CODES, STANDARDS, REGULATIONS, SPECIFICATIONS, GENERAL NOTES AND/OR MANUFACTURER'S REQUIREMENTS, USE THE MOST STRINGENT PROVISIONS.
 - IT IS THE EXPRESS INTENT OF PARTIES INVOLVED IN THIS PROJECT THAT THE CONTRACTOR OR SUBCONTRACTOR OR INDEPENDENT CONTRACTOR OR THE RESPECTIVE EMPLOYEES SHALL EXCULPATE THE ARCHITECT, THE ENGINEER, TECH. CONSTRUCTION MANAGER, THE OWNER, & THEIR AGENTS FROM ANY LIABILITY WHATSOEVER & HOLD THEM HARMLESS AGAINST LOSS, DAMAGES, LIABILITY OR ANY EXPENSE ARISING IN ANY MATTER FROM THE WRONGFUL OR NEGLIGENT ACT, OR FAILURE TO CARRY METHODS, TECHNIQUES OR PROCEDURES OR FAILURE TO CONFORM TO THE STATE SCAFFOLDING ACT IN CONNECTIONS WITH THE WORK.
 - DO NOT SCALE DRAWINGS
 - VERIFY ALL EQUIPMENT MOUNTING DIMENSIONS PER MANUFACTURER DRAWINGS
 - DESIGN LOADS ARE (GENERAC):

LIVE LOAD	: 100 PSF
EQUIPMENT SIZE	: 889.1" H, 106" W, 38" D
WEIGHT WITH WOODEN SHIPPING SKID	
ENCLOSED GENERATOR	: 3974 LBS
- FOR DESIGN & ANALYSIS OF THE FOUNDATION, THE MINIMUM NET SOIL BEARING CAPACITY SHALL BE ASSUMED TO BE 2000 PSF.
- CONCRETE
 - MEET OR EXCEED THE FOLLOWING CODES & STANDARDS:

DESIGN	: ACI 318-11
CONSTRUCTION	: ACI 301
DETAILING	: CRSI MANUAL OF STANDARD PRACTICE
REINF. STEEL	: ASTM A 615 GRADE 60, DEFORMED
MIXING	: ASTM C 94. READY MIX CONCRETE
AIR ENTRAINMENT	: ACI 318 AND ASTM C-260
AGGREGATE	: ASTM C 33 AND C 330 (FOR LIGHT WEIGHT)
 - CONCRETE STRENGTH AT 28 DAYS SHALL BE 4000 PSI MINIMUM
 - DO NOT FIELD BEND OR WELD TO GRADE 60 REINFORCED STEEL
 - PROVIDE AIR ENTRAINMENT CONCRETE WITH AIR CONTENT OF 5 TO 7% FOR ALL CONCRETE EXPOSED TO EARTH OR WEATHER.
 - MAXIMUM AGGREGATE SIZE: 3/4"
 - DO NOT USE IN ADMIXTURE, WATER OR OTHER CONSTITUENTS OF CONCRETE WHICH HAS CALCIUM CHLORIDE.
 - MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS SHOWN ON PLAN.
- FOUNDATION & EXCAVATION NOTES
 - SLAB SHALL BE CONSTRUCTED UPON UNDISTURBED, NATURAL SUBGRADE OR COMPACTED GRANULAR FILL WITH AN ASSUMED MINIMUM NET ALLOWABLE BEARING CAPACITY OF 1800 PSF.
 - ALL ORGANIC AND/OR OTHER UNSUITABLE MATERIAL SHALL BE REMOVED FROM FOUNDATION & SLAB SUBGRADE & BACKFILL AREAS, & THEN BACKFILLED WITH ACCEPTABLE GRANULAR FILL COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT (ASTM D1557).
 - THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY WATER, FROST, OR ICE FROM PENETRATING ANY FOOTING OR STRUCTURAL SUBGRADE BEFORE & AFTER PLACING OF CONCRETE, AND UNTIL SUCH CONCRETE HAS FULLY CURED.

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PREPARED FOR:

CONSULTANT:
GENERAL DYNAMICS
 Information Technology, Inc.
 GENERAL DYNAMICS
 235 HEMBREE PARK DR, SUITE 100
 ROSWELL, GA 30076

Certification & Seal:
 I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Carolina.



James R. Skowronski 4/27/2020 Date:

MARK	DATE	DESCRIPTION
ISSUE	FINAL	DATE ISSUED 04/27/2020

PROJECT TITLE:
 368-336
 FA ID # 10065432

PROJECT INFORMATION:
 101 CYPRESS DR
 SPRING LAKE, NC 28390

SHEET TITLE:
 FOUNDATION DETAILS

SCALE: NONE

PROJECT NUMBER 46310
 SHEET NUMBER 5-1

DIAGRAM CIRCUIT SCHEDULE

NO.	FROM	TO	WIRES	GROUND	CONDUIT SIZE	FUNCTION
1	NORMAL POWER SOURCE	AUTOMATIC TRANSFER SWITCH	(3) 3/0	(1) #4	2"	NORMAL POWER FEEDER TO ATS (CUT BACK EXISTING)
2	AUTOMATIC TRANSFER SWITCH	LOAD CENTER	(3) 3/0	(1) #4	2"	POWER FEEDER FROM ATS TO PANEL
3	GENERATOR	AUTOMATIC TRANSFER SWITCH	(3) 3/0	(1) #4	2"	EMERGENCY POWER FEEDER TO ATS
4	AUTOMATIC TRANSFER SWITCH	GENERATOR	(2) #10	(1) #10	1"	START CIRCUIT
5	LOAD CENTER (DISTRIBUTION CENTER)	GENERATOR, ATS	(2) #12 (2) #12 (2) #12	(1) #12 (1) #12 (1) #12	1" 1" 1"	CIRCUIT FOR GENERATOR BLOCK HEATER & BATTERY HEATER CIRCUIT FOR BATTERY CHARGER CIRCUIT FOR ATS
6	GENERATOR	AUTOMATIC TRANSFER SWITCH	1 2-PAIR 24 AWG OR 2EA G-PAIR CAT5	N/A	1"	ALARM CABLES (1) 1 2 PAIR 24 AWG. PROVIDE 24" OF SLACK CABLE. FINAL PUNCH DOWN IS BY AT&T TECH. LABEL ALL WIRES
7	AUTOMATIC TRANSFER SWITCH	ALARM BLOCK	1 2-PAIR 24 AWG OR 2EA G-PAIR CAT5	N/A	1"	ALARM CABLES (1) 1 2 PAIR 24 AWG (RUN TO PURCELL CABINET & INTO ALARM BOX). PROVIDE 24" OF SLACK CABLE. FINAL PUNCH DOWN IS BY AT&T TECH. LABEL ALL WIRES

CIRCUIT DETAIL
 SCALE: NTS



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

COLOR CODE
 GENERATOR:

- A. CABLE - CAT5 CABLE ONLY
 B. COLOR CODE
1. GENERATOR RUNNING - BROWN / BROWN & WHITE
 2. CRITICAL FAULT - GREEN / GREEN & WHITE
 3. MINOR FAULT - BLUE / BLUE & WHITE
 4. LOW FUEL - ORANGE / ORANGE & WHITE
 5. FUEL LEAK - BROWN / BROWN & WHITE (FROM 2ND CAT5 CABLE)

NOTE: FOR SITES IN NORTH CAROLINA OR SOUTH CAROLINA, SEE E-1.1 FOR ADDITIONAL ALARM DETAILS

AUTOMATIC TRANSFER SWITCH (IF APPLICABLE)

- A. CABLE - CAT5
 B. COLOR CODE
1. COMMERCIAL POWER - ORANGE POWER FAIL / ORANGE & WHITE POWER FAIL (FROM 3RD CAT5 CABLE IN ATS)

NOTE: ALL ALARMS ARE NORMALLY OPEN UNLESS NOTED

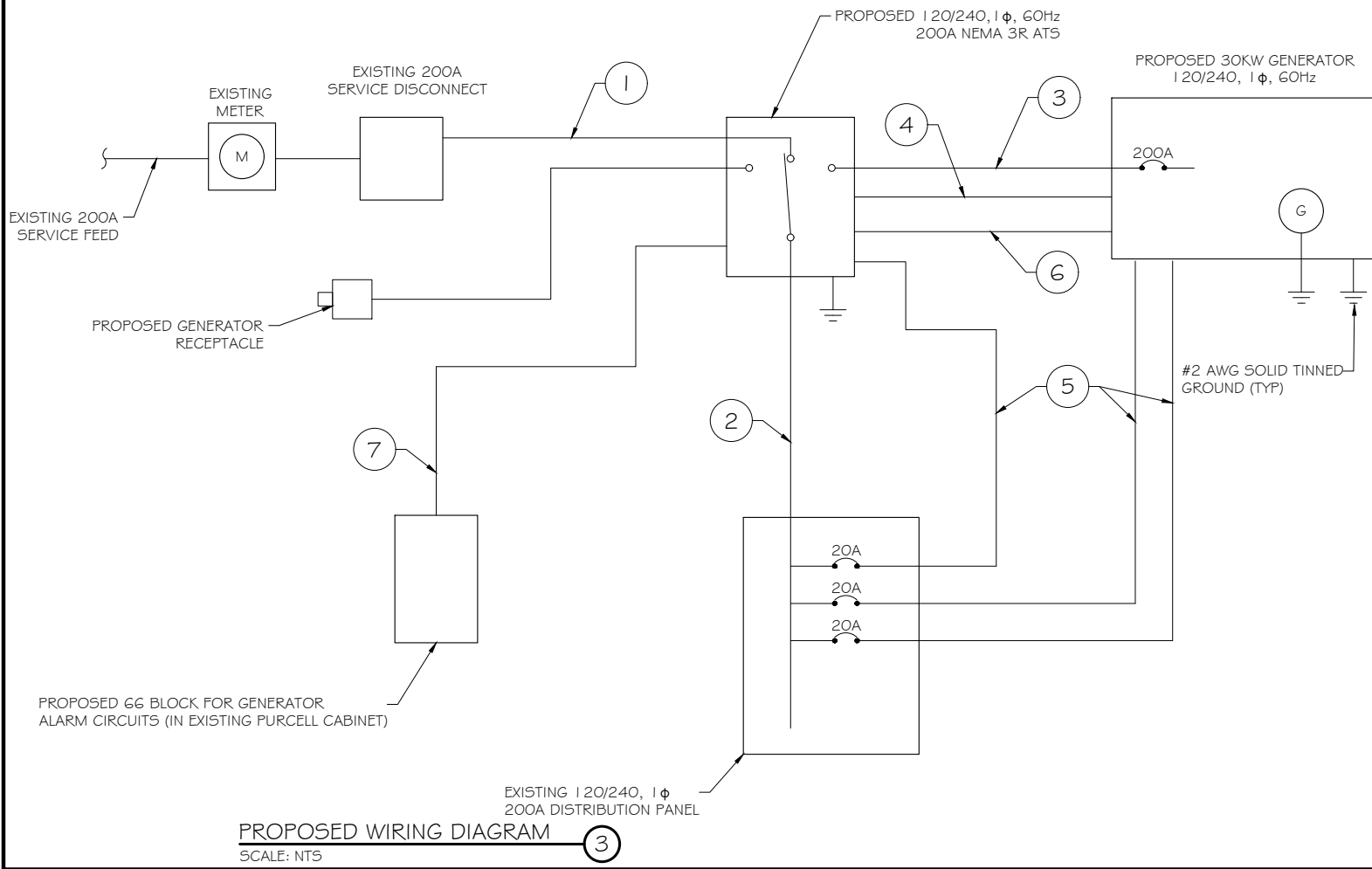
GENERATOR ALARM IDENTIFICATION CHART

NAME	DESCRIPTION
CF	CRITICAL FAILURE
FL	FUEL LEAK / OVERFILL
GR	GENERATOR RUNNING
LF	LOW FUEL
MAF	MAJOR FAULT
MF	MINOR FAULT (PRE-ALARMS)

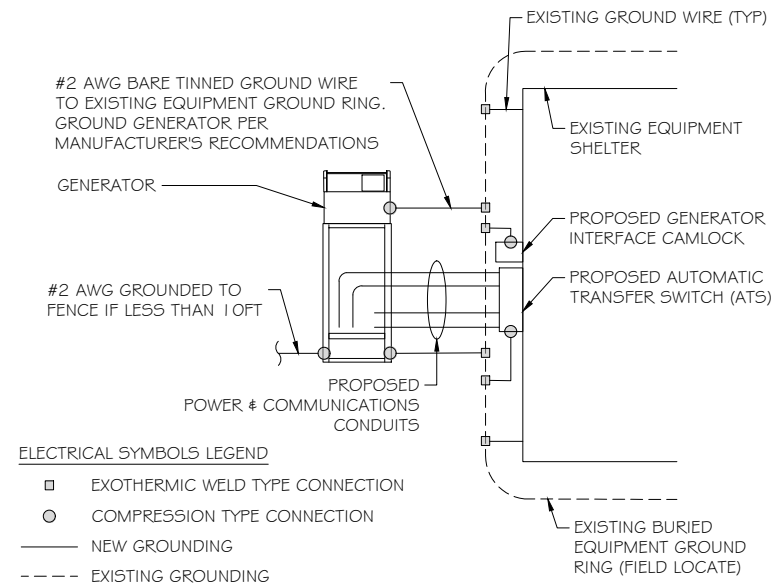
NOTE: CONTRACTOR TO LABEL WIRES W/ P-TOUCH OR SIMILAR LABELS ONLY. ABSOLUTELY NO HANDWRITTEN LABELS.

ALARM WIRING IDENTIFICATION CHART

SCALE: NTS



PROPOSED WIRING DIAGRAM
 SCALE: NTS



GROUNDING PLAN
 SCALE: NTS



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 ROSWELL, GA 30076

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James R. Skowronski
 Date: 4/27/2020

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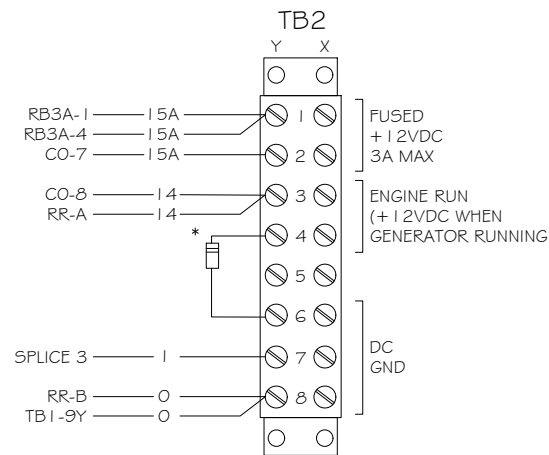
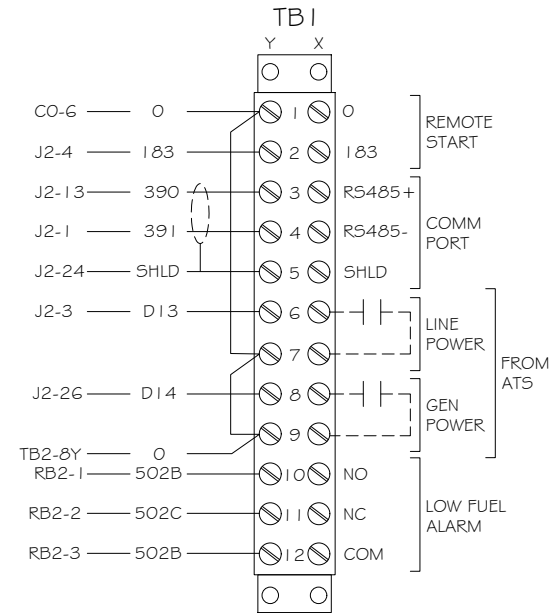
PROJECT TITLE:
 368-336
 FA ID # 10065432

PROJECT INFORMATION:
 101 CYPRESS DR
 SPRING LAKE, NC 28390

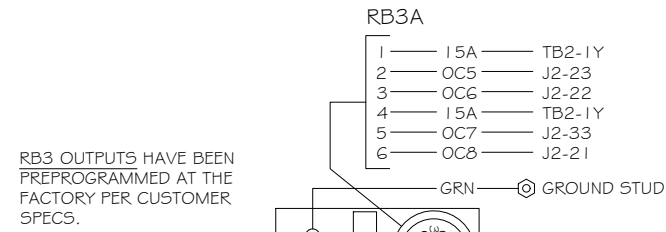
SHEET TITLE:
 WIRING DETAILS

SCALE: NONE

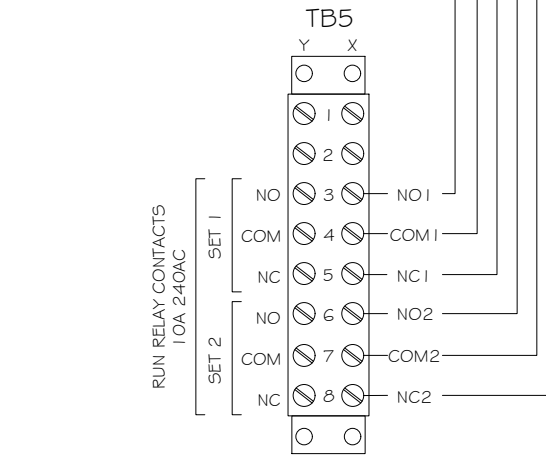
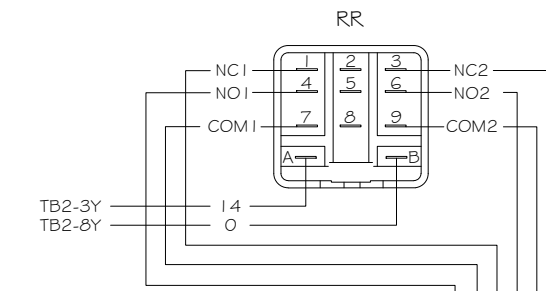
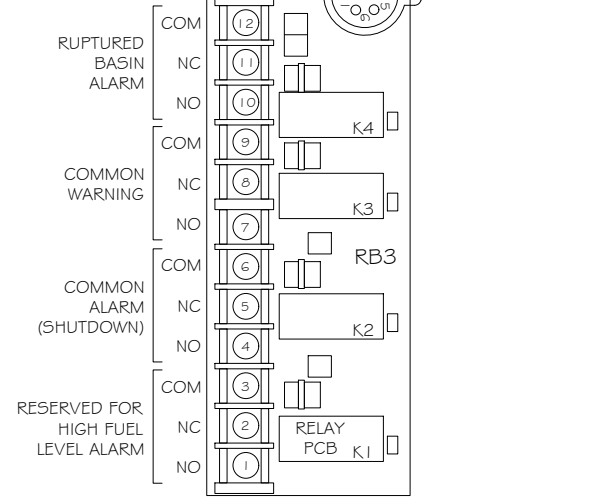
PROJECT NUMBER 46310
 SHEET NUMBER E-1



*NOTE: ENSURE LINE OF DIODE (CATHODE) IS CLOSEST TO TB2-4X FOR CORRECT POLARIZATION



RB3 OUTPUTS HAVE BEEN PREPROGRAMMED AT THE FACTORY PER CUSTOMER SPECS.



PREPARED FOR:



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PROJECT TITLE:
368-336
FA ID # 10065432

PROJECT INFORMATION:
 101 CYPRESS DR
 SPRING LAKE, NC 28390

SHEET TITLE:
ALARM DETAILS

SCALE: NONE

PROJECT NUMBER 46310
 SHEET NUMBER E-1.1

AC Distribution Panel - Layout Diagram									
Breaker Position	Breaker Type	On/Off	Size	Circuit Label	Breaker Position	Breaker Type	On/Off	Size	Circuit Label
1	2P	ON	30	CONTROLLER	2	2P	ON	40	HVAC #1
3					4				
5	2P	ON	30	RECTIFIER #1	6	2P	ON	40	HVAC #2
7					8				
9	2P	ON	30	RECTIFIER #2	10				
11					12				
13	2P	ON	30	RECTIFIER #3	14	1P	ON	20	INT. RECEPTACLES
15					16	1P	ON	20	INTERIOR LIGHTS
17	2P	ON	30	RECTIFIER #4	18	1P	ON	20	EXTERIOR LIGHTS
19					20	1P	ON	20	ATS
21	2P	ON	30	RECTIFIER #5	22	1P	ON	20	BLOCK HEATER
23					24	1P	ON	20	BATTERY CHARGER
25	2P	ON	30	RECTIFIER #6	26				
27					28				
29	2P	ON	30	RECTIFIER #7	30				
31					32				
33	2P	ON	30	RECTIFIER #8	34				
35					36				
37					38				
39					40				
41	1P	ON	20	EXT. RECEPTACLES	42				

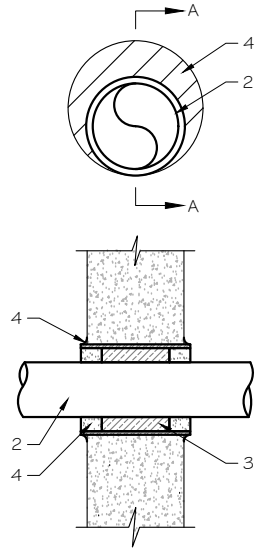
PROPOSED 20A BREAKERS FOR ATS, BLOCK HEATER AND BATTERY CHARGER ON NEW AT&T GENERATOR

EXISTING PANEL SCHEDULE
SCALE: NTS

NOTE:
CONTRACTOR TO LABEL WIRES WITH P-TOUCH OR SIMILAR LABELS ONLY. ABSOLUTELY NO HANDWRITTEN LABELS.

*CONTRACTOR TO UTILIZE NEXT AVAILABLE IN SEQUENCE SINGLE BREAKER POSITION FOR GENERATOR, BATTERY CHARGER, BATTERY HEATER AND BLOCK HEATER

NOTE:
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.

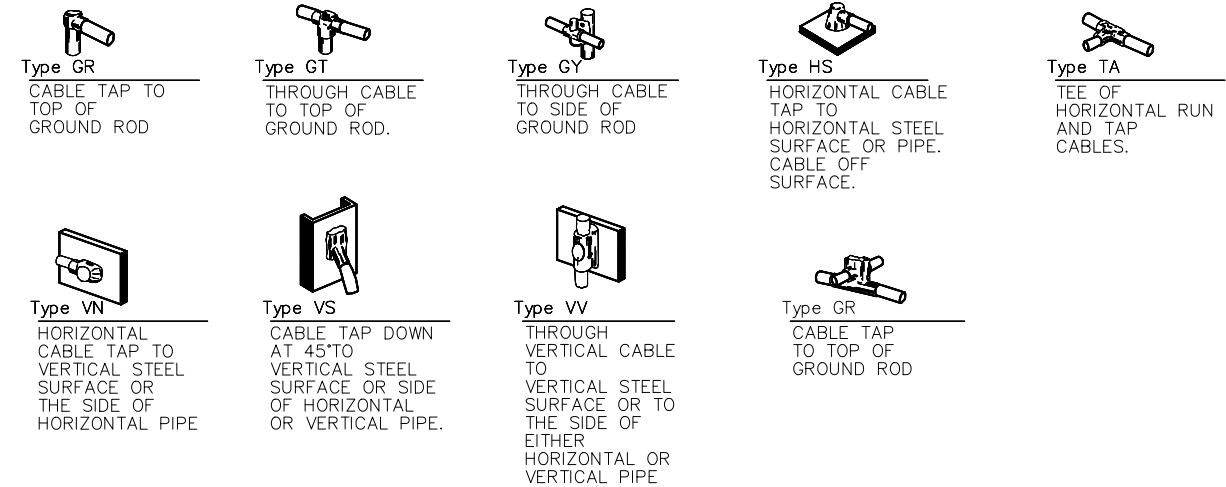


U.L. SYSTEM NO. C-AJ-1150
CONDUIT THROUGH BEARING WALL SIMILAR TO U.L. DESIGN NO. U902
F RATING = 3 HR
T RATING = 0 HR

- 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.
- 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:
 - STEEL PIPE-NOMINAL 6" DIAMETER (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL PIPE.
 - IRON PIPE-NOMINAL 6" DIAMETER (OR SMALLER) CAST OR DUCTILE IRON PIPE.
 - CONDUIT - NOMINAL 4" DIAMETER (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR NOMINAL 3- 1/2" DIAMETER (OR SMALLER) STEEL CONDUIT.
- 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.
- 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 CP6015 OR CP604 SEALANT IS USED.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. : CP6015, CP604, CP606, OR FS-ONE SEALANT.
* BEARING THE UL CLASSIFICATION MARK

OUTER WALL PENETRATION DETAIL (IF APPLICABLE)
SCALE: NTS



CADWELD DETAILS
SCALE: NTS

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James R. Skowronski 4/27/2020 Date:
James R. Skowronski

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ISSUE	FINAL	DATE ISSUED 04/27/2020

PROJECT TITLE:
368-336
FA ID # 10065432

PROJECT INFORMATION:
101 CYPRESS DR
SPRING LAKE, NC 28390

SHEET TITLE:
PANEL AND PENETRATION DETAILS

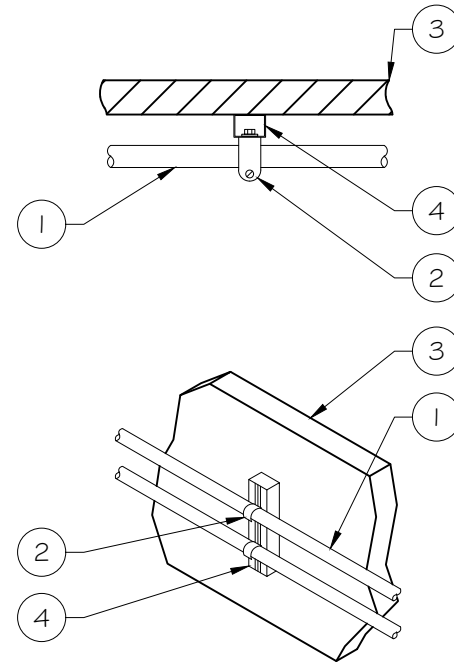
SCALE: NONE

PROJECT NUMBER 46310
SHEET NUMBER E-2

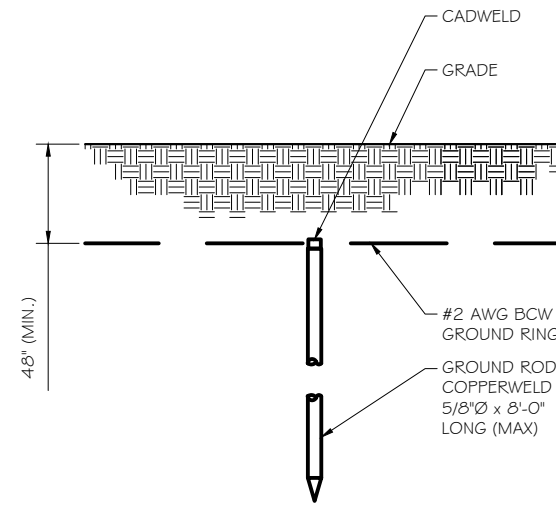
- 1 CONDUIT (TYP)
- 2 BUTTERFLY CLAMP AS REQUIRED
- 3 EXISTING WALL/CEILING
- 4 VERTICAL "UNISTRUT" P1000 T' SERIES LENGTH BASED ON NUMBER OF CONDUIT TO BE MOUNTED

WALL CONSTRUCTION TYPE	USE
HOLLOW	3/8" DIA. TOGGLE BOLT
HOLLOW, AT STUD	3/8" DIA. LAG SCREW
CONCRETE BLOCK (HOLLOW)	3/8" DIA. HILTI HY-20 WITH SCREEN, MINIMUM EMBEDMENT 2-1/2"
CONCRETE (SOLID)	3/8" DIA. HILTI HY-150 WITH SCREEN, MINIMUM EMBEDMENT 2-1/2"

NOTE: USE GALVANIZED OR STAINLESS STEEL HARDWARE FOR WALL MOUNT & CONNECTIONS OF CHANNELS SPACE UNITS @ 5'-0" O.C. LENGTH OF RUN



CONDUIT WALL MOUNT
 SCALE: NTS

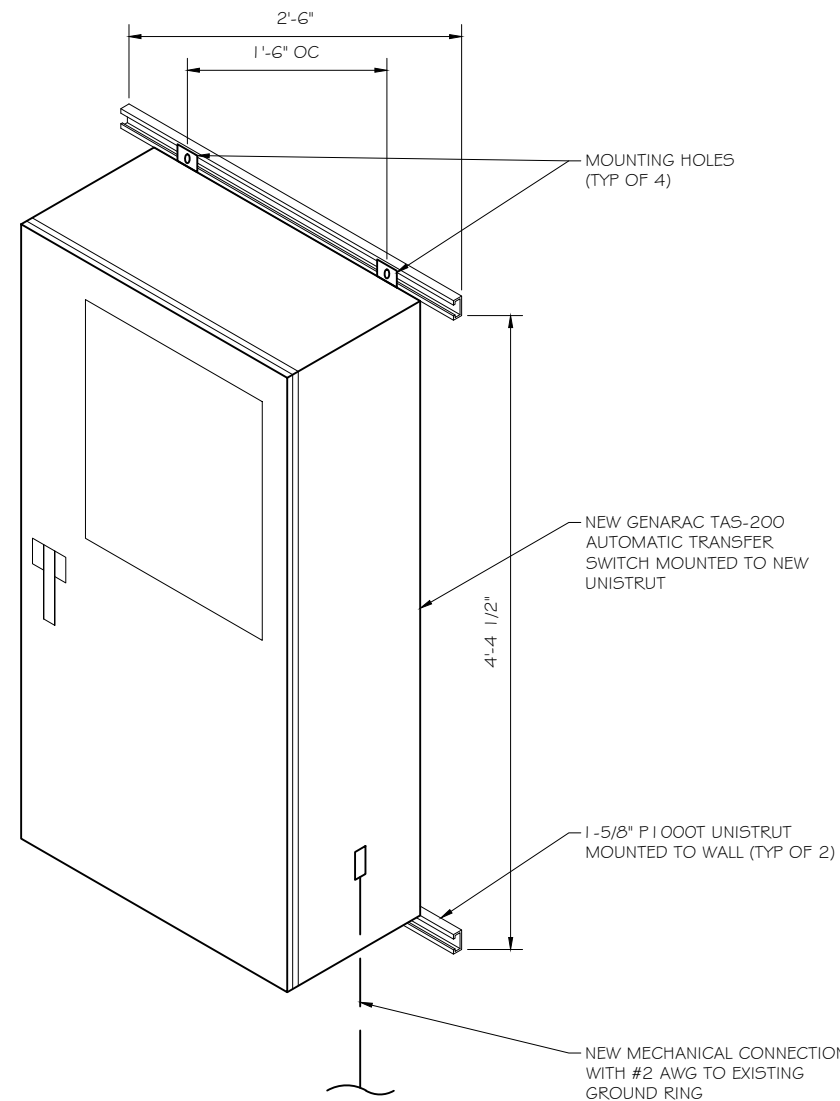


GROUND ROD DETAIL
 SCALE: NTS

- NOTE:
- GROUND RODS MAY BE:
 - COPPER CLAD STEEL
 - SOLID COPPER
 - GROUND RODS SHALL HAVE A MAXIMUM SPACING TWICE THE LENGTH OF ROD
 - SEE RESISTIVITY REPORT FOR VERIFICATION AS AVAILABLE
 - A LARGER CONDUCTOR SHALL BE REQUIRED IN AREAS HIGHLY PRONE TO LIGHTNING AND/OR AREAS WITH HIGHLY ACIDIC SOIL
 - GROUND RODS INSTALLED WITHIN CLOSE PROXIMITY TO TOWER OR WHEN SOIL IS AT OR BELOW 2,000 OHM-CM, SHALL BE GALVANIZED TO PREVENT GALVANIC CORROSION OF TOWER, (SEE ANSI/TIA-EIA-222-G)
 - PROVIDE (1) GROUND LEAD TO EACH SIDE OF THE GENERATOR

WALL CONSTRUCTION TYPE	USE
HOLLOW	3/8" DIA. TOGGLE BOLT
HOLLOW, AT STUD	3/8" DIA. LAG SCREW
CONCRETE BLOCK (HOLLOW)	7/16" DIA. HILTI HY-20 WITH SCREEN MINIMUM EMBEDMENT 2-1/2"
CONCRETE (SOLID)	7/16" DIA. HILTI HY-150 WITH SCREEN MINIMUM EMBEDMENT 2-1/2"

- NOTE:
- USE GALVANIZED OR STAINLESS STEEL HARDWARE FOR WALL MOUNT AND CONNECTION OF CHANNELS
 - GC SHALL USE NON-SHRINKING CAULK TO WEATHER SEAL ALL PENETRATIONS INTO OR THROUGH SHELTER WALL



GENERAC ATS MOUNTING DETAIL
 SCALE: NTS

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 James R. Skowronski Date: 4/27/2020

MARK	DATE	DESCRIPTION

ISSUE PHASE: FINAL DATE ISSUED: 04/27/2020

PROJECT TITLE:
 368-336
 FA ID # 10065432

PROJECT INFORMATION:
 101 CYPRESS DR
 SPRING LAKE, NC 28390

SHEET TITLE:
 ATS, CONDUIT & GROUND ROD
 DETAILS

SCALE: NONE

PROJECT NUMBER: 46310
 SHEET NUMBER: E-3

SD030 | 2.2L | 30 kW
INDUSTRIAL DIESEL GENERATOR SET
 EPA Certified Stationary Emergency



Standby Power Rating
 30 kW, 38 kVA, 60 Hz

Prime Power Rating*
 27 kW, 34 kVA, 60 Hz

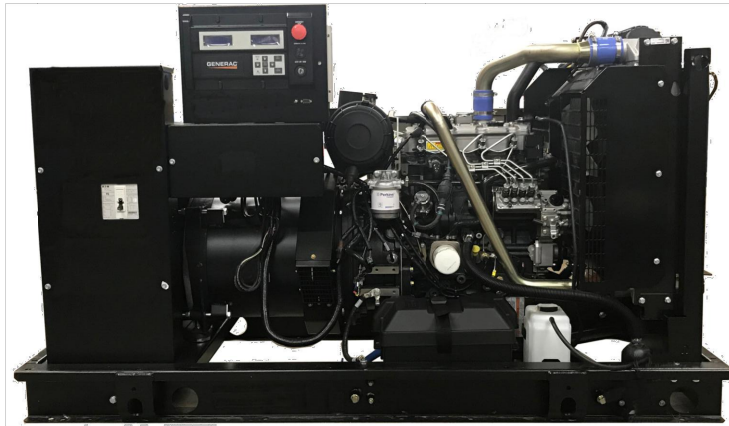


Image used for illustration purposes only



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

Codes and Standards

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

- UL2200, UL508, UL489, 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

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.

SD030 | 2.2L | 30 kW
INDUSTRIAL DIESEL GENERATOR SET
 EPA Certified Stationary Emergency



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 Unit Only)
- Engine Coolant Heater

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

Electrical System

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

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Brushless Excitation
- Sealed Bearing
- Rotor Dynamically Spin Balanced
- Amortisseur Winding (3-Phase Only)
- 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 Unit Only)

ENCLOSURE (If Selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuation 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 S601
- Double Wall
- Normal and Emergency Vents
- Sloped Top
- Sloped Bottom
- Factory Pressure Tested
- 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)

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 368-336
 FA ID # 10065432

PROJECT INFORMATION:
 101 CYPRESS DR
 SPRING LAKE, NC 28390

SHEET TITLE:
 GENERAC 30KW GENERATOR SPECIFICATIONS

SCALE: NONE

PROJECT NUMBER 46310
 SHEET NUMBER E-4

SPEC SHEET

1 of 6

SPEC SHEET

2 of 6

SD030 | 2.2L | 30 kW
INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency



CONFIGURABLE OPTIONS

ENGINE SYSTEM

- Oil Heater
- Critical Silencer (Open Set Only)
- Radiator Stone Guard
- Level 1 Fan and Belt Guards (Open Set Only)

FUEL SYSTEM

- NPT Flexible Fuel Line

ELECTRICAL SYSTEM

- 10A UL Listed Battery Charger
- Battery Warmer

ALTERNATOR SYSTEM

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

GENERATOR SET

- Extended Factory Testing
- 8 Position Load Center
- Pad Vibration Isolation

ENGINEERED OPTIONS

ENGINE SYSTEM

- Coolant Heater Isolation Ball Valves
- Fluid Containment Pan

CONTROL SYSTEM

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

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 Attenuation
- Level 2 Sound Attenuation
- Level 2 Sound Attenuation with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- AC/DC Enclosure Lighting Kit
- Door Alarm Switch
- Enclosure Heater
- Damper Alarm Contacts

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

ALTERNATOR SYSTEM

- 3rd Breaker System

GENERATOR SET

- Special Testing

CONTROL SYSTEM

- NFPA 110 Compliant 21-Light Remote Annunciator
- Remote Relay Assembly (8 or 16)
- Oil Temperature Indication and 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)
- 100 dB Alarm Horn
- Ground Fault Annunciation
- 120V GFCI and 240V Outlets
- Remote Communication - Modem
- 10A Engine Run Relay

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
- 5 Gallon Spill Box Return Hose
- 5 Gallon Spill Box
- Tank Risers
- Fuel Level Switch and Alarm
- 12' Vent System
- Fire Rated Stainless Steel Fuel Hose

FUEL TANKS

- UL2085 Tank
- Stainless Steel Tanks
- Special Fuel Tanks
- Vent Extensions

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APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Perkins
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	4
Type	In-Line
Displacement - in ³ (L)	135 (2.22)
Bore - in (mm)	3.3 (84)
Stroke - in (mm)	3.9 (100)
Compression Ratio	23.3:1
Intake Air Method	Turbocharged
Cylinder Head	Cast Iron
Piston Type	Aluminum
Crankshaft Type	Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	±0.5%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-Flow
Crankcase Capacity - qt (L)	11.2 (10.6)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Type	Pre-Lubed, Self Sealing
Fan Type	Pusher
Fan Speed - RPM	1,980
Fan Diameter - in (mm)	18 (457)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel #2
Fuel Specifications	ASTM
Fuel Filtering (Microns)	5
Fuel Inject Pump	Distribution Injection Pump
Fuel Pump Type	Engine Driven Gear
Injector Type	Mechanical
Fuel Supply Line - in (mm)	0.31 (7.9) ID
Fuel Return Line - in (mm)	0.2 (4.8) ID

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	K0035124Y21
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	Brushless
Bearings	Single Sealed
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%

SPEC SHEET

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SPEC SHEET

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SD030 | 2.2L | 30 kW
INDUSTRIAL DIESEL GENERATOR SET
 EPA Certified Stationary Emergency



OPERATING DATA

POWER RATINGS

	Standby
Single-Phase 120/240 VAC @1.0pf	30 kW Amps: 125
Three-Phase 120/208 VAC @0.8pf	30 kW Amps: 104
Three-Phase 120/240 VAC @0.8pf	30 kW Amps: 90
Three-Phase 277/480 VAC @0.8pf	30 kW Amps: 45
Three-Phase 346/600 VAC @0.8pf	30 kW Amps: 36

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip			
277/480 VAC	30%	208/240 VAC	30%
K0035124Y21	61	K0035124Y21	46
K0040124Y21	76	K0040124Y21	58
K0050124Y21	98	K0050124Y21	75

FUEL CONSUMPTION RATES*

Fuel Pump Lift- ft (m)	Diesel - gph (Lph)	
	Percent Load	Standby
3 (1)	25%	1.0 (3.7)
	50%	1.4 (5.2)
	75%	2.0 (7.5)
Total Fuel Pump Flow (Combustion + Return) - gph (Lph)	100%	2.8 (10.5)
		16.6 (63)

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

COOLING

	Standby
Coolant Flow	gpm (Lpm) 14.9 (56.2)
Coolant System Capacity	gal (L) 2.5 (9.5)
Heat Rejection to Coolant	BTU/hr (kW) 128,638 (136)
Inlet Air	scfm (m³/hr) 2,800 (4,757)
Maximum Operating Ambient Temperature	°F (°C) 122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199280SSD
Maximum Radiator Backpressure	in H ₂ O (kPa) 0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

Standby	
Flow at Rated Power scfm (m³/min)	88 (2.5)

ENGINE

	Standby
Rated Engine Speed	RPM 1,800
Horsepower at Rated kW**	hp 49
Piston Speed	ft/min (m/min) 1,181 (360)
BMEP	psi (kPa) 159 (1,096)

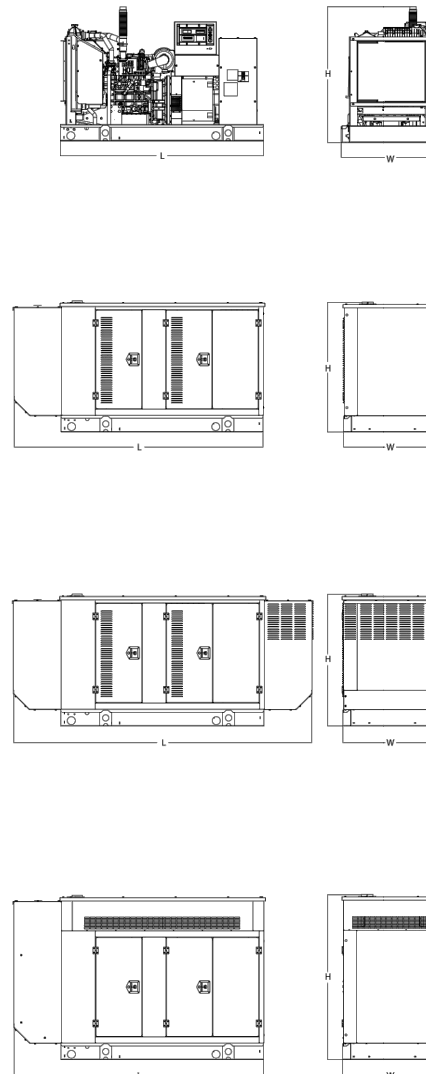
** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

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

SD030 | 2.2L | 30 kW
INDUSTRIAL DIESEL GENERATOR SET
 EPA Certified Stationary Emergency



DIMENSIONS AND WEIGHTS*



OPEN SET (Includes Exhaust Flex)

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	-	76.0 (1,930) x 37.4 (950) x 44.8 (1,138)	1,641 (745)
19	54 (204)	76.0 (1,930) x 37.4 (950) x 57.8 (1,468)	2,121 (963)
47	132 (501)	76.0 (1,930) x 37.4 (950) x 69.8 (1,773)	2,351 (1,067)
75	211 (799)	76.0 (1,930) x 37.4 (950) x 81.8 (2,078)	2,560 (1,162)
107	300 (1,136)	92.9 (2,360) x 37.4 (950) x 81.8 (2,078)	2,623 (1,190)

WEATHER PROTECTED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)		
19	54 (204)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)	372 (170)	241 (110)
47	132 (501)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)		
75	211 (799)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)		
107	300 (1,136)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)		

LEVEL 1 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	112.5 (2,857) x 38.0 (965) x 49.5 (1,258)		
19	54 (204)	112.5 (2,857) x 38.0 (965) x 62.5 (1,582)	505 (230)	338 (154)
47	132 (501)	112.5 (2,857) x 38.0 (965) x 74.5 (1,893)		
75	211 (799)	112.5 (2,857) x 38.0 (965) x 86.5 (2,198)		
107	300 (1,136)	112.5 (2,857) x 38.0 (965) x 86.5 (2,198)		

LEVEL 2 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	94.8 (2,407) x 38.0 (965) x 61.1 (1,551)		
19	54 (204)	94.8 (2,407) x 38.0 (965) x 74.1 (1,881)	510 (232)	341 (155)
47	132 (501)	94.8 (2,407) x 38.0 (965) x 86.1 (2,186)		
75	211 (799)	94.8 (2,407) x 38.0 (965) x 98.1 (2,491)		
107	300 (1,136)	94.8 (2,407) x 38.0 (965) x 98.1 (2,491)		

* 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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Part No. 10000024842
 Rev. B 08/27/18

SPEC SHEET

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 GENERAC 30KW GENERATOR SPECIFICATIONS

SCALE: NONE

PROJECT NUMBER 46310
 SHEET NUMBER E-4.2



SPEC SHEET

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**TTS Series
Switches**
**200 Amps
600 VAC**

GENERAC | **INDUSTRIAL
POWER**

TAS200
200A Automatic Transfer Switch

TAS200
TAS200

1 of 3 2 of 3

The Generac TAS200 Automatic Transfer Switch

Flexibility for multiple application installations

Multiple generator support with 3 source panel

Designed with a 6 inch touch screen controller for improved user interface

Camlock functionality for mobile generator sources



Image used for illustration purposes only.

Features

- **STEEL CONSTRUCTION**
- **NEMA 3R ENCLOSURE WITH HINGED "PADLOCKING" DOORS**
- **STAINLESS STEEL HARDWARE**
- **CAMLOCK "QUICK CONNECT" CAPABILITY**
- **OPERATIONAL STATUS VIEW VIA 6 INCH TOUCH SCREEN**
- **TEST FUNCTION - FAST TEST & NORMAL TEST**
- **UL1008 LISTED - FOR EMERGENCY SYSTEMS**

Optional Features

- **EXTENDED WARRANTY**
- **THREE-PHASE VOLTAGE CONFIGURATIONS**

Codes and Standards

Generac products are designed to the following standards:



UL1008,
UL508,
UL50,
CSA C22.2 No. 178



NEC 700, 701 and 702



NEMA 250

Application and Engineering Data

Cabinet Specifications	
Dimensions	24"W x 12"D x 48"H
Weight	210 lbs.
Construction	Single Chamber with Main Door
	Steel
	UL Type / NEMA 3R Rated
	Powder Coat Finish for Corrosion Resistance
	C-UL-US Listed - Automatic Transfer Switch
	Stainless Steel Hardware
Mounting Options	3-Point Latching System with Pad-Lockable Handles
	Wall
Installed	H-frame
	Pre-wired alarm terminal strip

Electrical Specifications	
Voltage/Phase/Amps	120/240 Single-Phase, 200A 120/208 3-Phase, 200A 120/240 3-Phase, 200A
Breaker	Eaton 200 amp Utility Breaker Eaton 200 amp Generator Breaker
Maximum RMS Symmetrical Fault Current - Amps	25k AIC Rated
Protective Device Continuous Rating (Max) Amp	200
Input to Generator	350MCM - #6 AWG
Output to Site	350MCM - #6 AWG
Generator Annunciator Connector	Deutsch DTM04-12PA-L012
Alarm Terminal Board	Generator Run Alarm
	Generator Fail - Shutdown Alarm
	Generator Fail - Non Shutdown Alarm
	Low Fuel Alarm
	Generator Theft Alarm
	AC Utility Fail Alarm

Camlock Component	
Camlock Component	Shipped loose for multiple installation options
Dimensions	9" W x 9.4" D x 24.25" H
200A Camlock Generator Connection	Single-Phase: Black L1, Red L2, White-Neutral, Green-Ground
	3-Phase: Black L1, Red L2, Blue L3, White-Neutral, Green-Ground
	Uses 4 CH E1016 Male Connectors
	Mating Connector - CH E1016 Female



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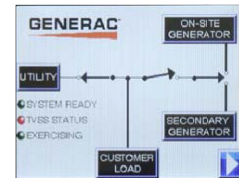
PROJECT NUMBER 46310
SHEET NUMBER E-5

TTS Control Systems

TAS200

3 of 3

Touch Screen Interface



INDICATORS AND BUTTONS

<ul style="list-style-type: none"> System Ready indicator Standby Operating indicator Utility Available indicator GEN/UTIL Switch Position indicator TVSS status 	<ul style="list-style-type: none"> Normal Test button Fast Test button Return to Normal button Reset button Exercising indicator
---	---

DETAILS SCREEN

<p>System Settings:</p> <ul style="list-style-type: none"> System Voltage/Phases: <ul style="list-style-type: none"> 120/240V single phase (standard) 120/208V three phase (optional) 120/240V three phase (optional) Utility Fail Monitor: <ul style="list-style-type: none"> Under Voltage: 75-95% of nominal voltage Over Voltage: 105%-125% of nominal voltage Pickup (hysteresis): fixed at 5 volts Delay time: 0-60s Utility Interrupt Delay: 0-60s Return to Utility Timer: 1-30 minutes Transfer: <ul style="list-style-type: none"> In-phase, or Time-Delay-Neutral at 0.0-10.0s in 1 second increments 	<p>Exercise Settings:</p> <ul style="list-style-type: none"> Time of day Day of week Exercise: <ul style="list-style-type: none"> Exercise with/without load Exercise once every 1, 2, or 4 weeks. Exercise time-of-day Exercise day of week Exercise duration: 15-30 minutes
	<p>Screen Settings:</p> <ul style="list-style-type: none"> Brightness & Contrast button Screen Calibration button Startup/Clean screen
	<p>Diagnostics:</p> <ul style="list-style-type: none"> Digital I/O bits status Voltage A/D readings
<p>Engine Settings:</p> <ul style="list-style-type: none"> Engine Warm-up timer: 0-20 minutes Generator Load Accept: <ul style="list-style-type: none"> Time-Delay-Neutral at 0.0-10.0s in 1 second increments Voltage: 85-95% of nominal Frequency: 85-95% of nominal Engine Minimum Run Timer: 5-30 minutes Engine Cooldown Timer: 0-20 minutes 	<p>Mimic Diagram:</p> <ul style="list-style-type: none"> System Ready Transfer switch position Utility available Standby available Maintenance/Auto switch position Generator source TS position TVSS status

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