NEW EMERGENCY GENERATOR FOR: GREENEVILLE TOWN HALL AND POLICE DEPARTMENT

GREENEVILLE, TN 37743

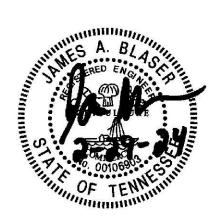
FEBRUARY 29, 2024

LIST OF DRAWINGS:

E-1 ELECTRICAL PLAN
E-2 ONE-LINE DIAGRAM, DETAILS, & LEGEND
E-3 ELECTRICAL SPECIFICATIONS

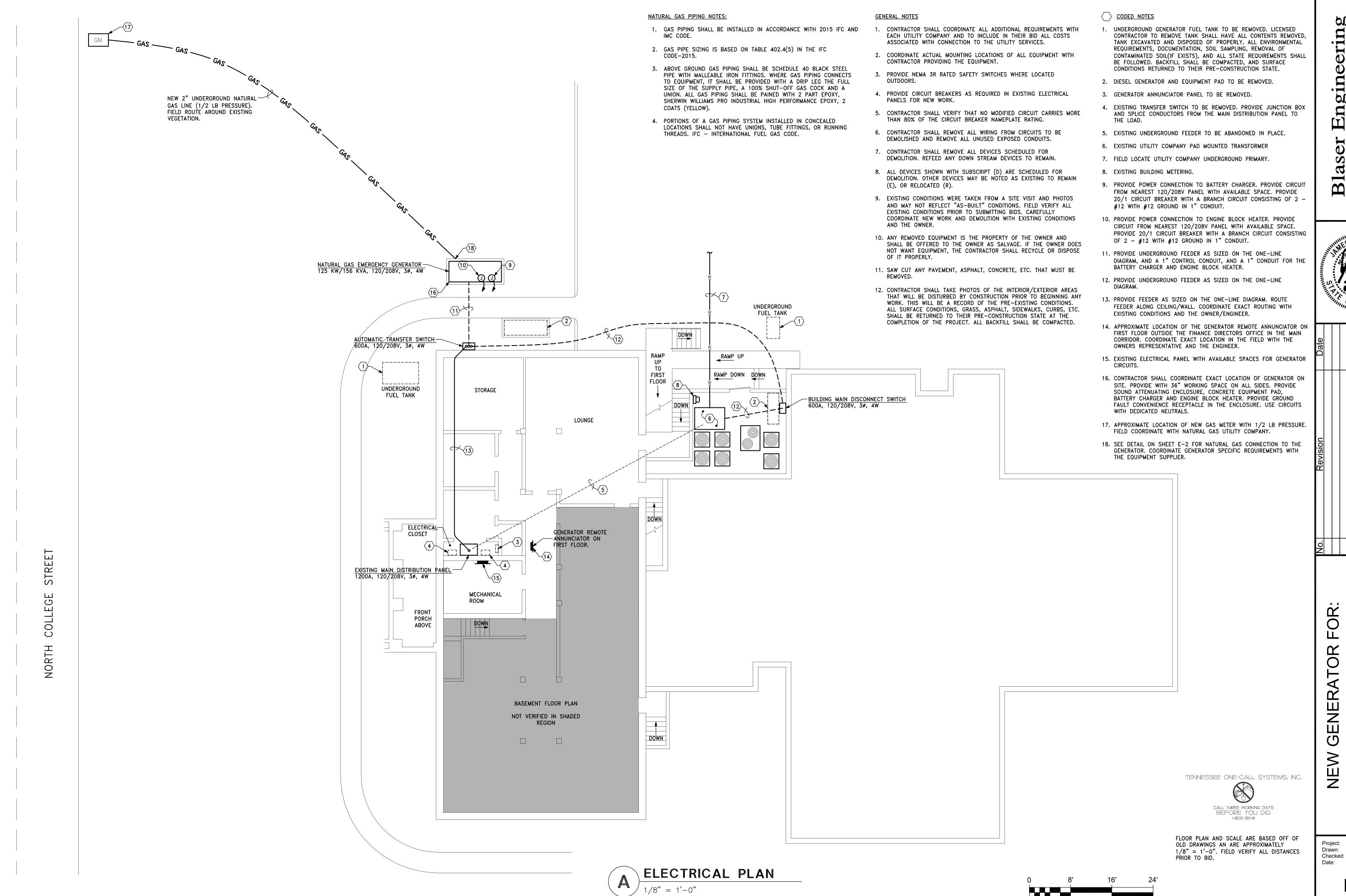
APPLICABLE CODES:

INTERNATIONAL BUILDING CODE, 2012 EDITION INTERNATIONAL FUEL GAS CODE, 2012 EDITION NATIONAL ELECTRIC CODE, NFPA 70, 2017 EDITION



Blaser Engineering

398 Moore Street Bristol, VA 24201 Phone: (423) 349-8380



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23-148 JAB 02-29-2024

 $\frac{\text{GRAPHIC SCALE}}{1/8" = 1'-0"}$

Floor or Wall Assembly — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 32 in.
 Metallic Sleeve — (Optional) Nom 32 in. diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. above floor or beyond both surfaces of wall.

2A. Sheet Metal Sleeve — (Optional) Max 6 in. diam, min 26 ga galv steel provided with a 26 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. below the bottom of the deck and a max of 1 in. above the top surface of the concrete floor.

2B. Sheet Metal Sleeve — (Optional) - Max 12 in. diam, min 24 ga galv steel provided with a 24 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. below the bottom of the deck and a max of 1 in. above the top surface of the concrete floor.

3. Through-Penetrant — One metallic pipe, tube or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. Penetrant may be installed with continuous point contact. Penetrant to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic penetrants may be used:

sides of floor or wall assembly. The following types and sizes of metallic penetrants may A. Steel Pipe — Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe. B. Iron Pipe — Nom 30 in. diam (or smaller) cast or ductile iron pipe.

C. Copper Pipe — Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.

D. Copper Tubing — Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing. E. Conduit — Nom 6 in. diam (or smaller) steel conduit.

F. Conduit — Nom 4 in. diam (or smaller) steel electrical metallic tubing (EMT).

1. Firestop System — The firestop system shall consist of the following:

A. Packing Material — Min 4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a

A. Packing Material — Min 4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or sleeve or from both surfaces of wall or sleeve as required to accommodate the required thickness of fill material.

B. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. thickness of fill material applied within the annulus, flush

with top surface of floor or sleeve or with both surfaces of wall or sleeve. At the point or continuous contact locations between penetrant and concrete or sleeve, a min 1/4 in. diam bead of fill material shall be applied at the concrete or sleeve/ pipe penetrant interface on the top surface of floor and on both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant

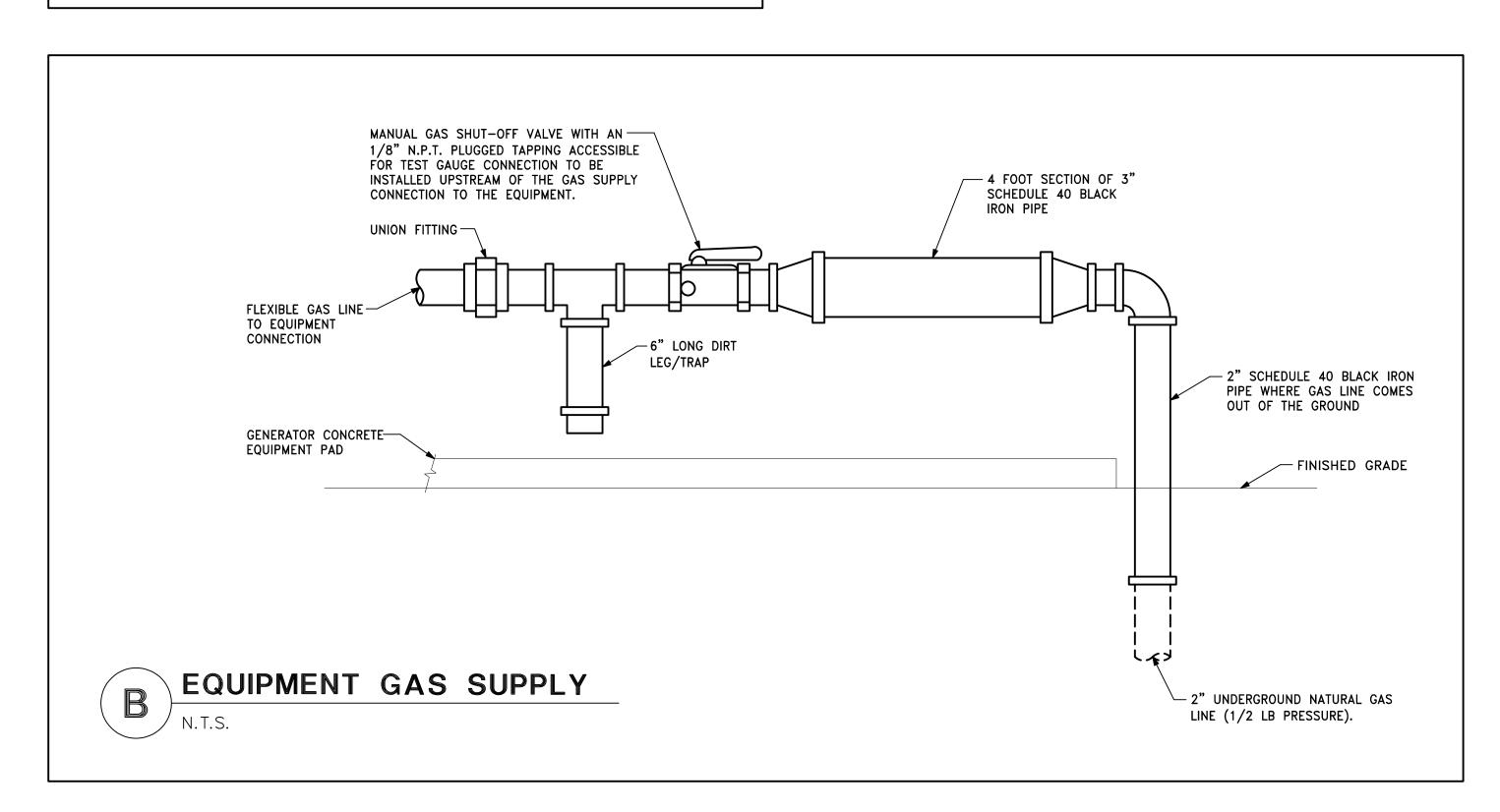
*Bearing the UL Classification Mark

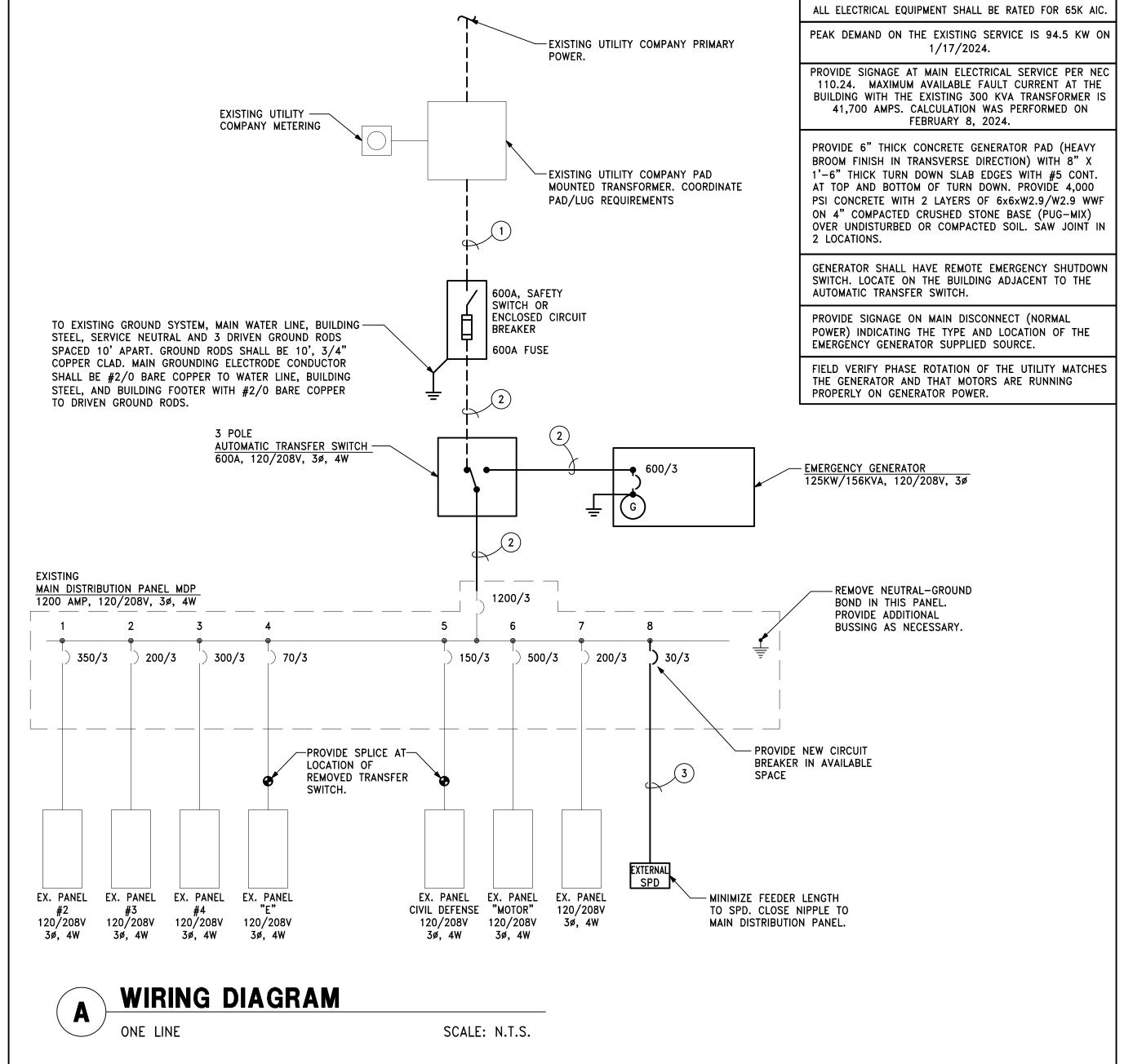
Hilti Firestop Systems

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EQUALS BY STI, OR OTHERS

	SYMBOLS LIST FOR PLANS	
	 SOME SYMBOLS MAY NOT BE USED. MOUNTING HEIGHTS ARE TO TOP. 	
SYMBOL	DESCRIPTION	MOUNTING HEIGHT UNLESS NOTED OTHERWISE
₩P	"WR" RATED DUPLEX RECEPTACLE, WEATHERPROOF IN USE COVER AND GROUND FAULT INTERRUPTER	18"
∯ GF	DUPLEX RECEPTACLE, GROUND FAULT INTERRUPTER	18"
①; ① ^F	JUNCTION BOX, CEILING OR WALL MOUNTED; RECESSED FLOOR MOUNTED	SEE DRAWINGS
□ 60/45/3 NF	SAFETY SWITCH (SWITCH SIZE, FUSE SIZE, NO. OF POLES -AS NOTED) "NF" DENOTES NONFUSED, PROVIDE 3R ENCLOSURES WHERE LOCATED OUTDOORS. PROVIDE FINAL CONNECTIONS TO EQUIPMENT.	60"
P1P1	PANELBOARD: SURFACE MOUNTED, FLUSH MOUNTED PANEL DESIGNATION AS SHOWN	72"
	DISTRIBUTION PANELBOARD	72"
o	CONDUIT, RISER UP	
	CONDUIT, RISER DOWN	
∕ ·−·≺	LOW VOLTAGE WIRING IN CONDUIT	
/~	CONDUIT ROUTED UNDER FLOORSPACE OR UNDERGROUND	
P1-1	HOME RUN TO PANELBOARD AS NOTED; CIRCUITS MAY SHARE CONDUITS BACK TO PANELBOARD WHERE ALLOWED BY THE NEC. ALL CIRCUITS SHALL HAVE DEDICATED NEUTRALS. CROSS LINES INDICATE THE NUMBER OF CONDUCTORS WHERE MORE THAN 2 PLUS THE GROUND.	
<u></u>	FLEXIBLE METAL CONDUIT OR LIQUID-TIGHT FLEXIBLE METAL CONDUIT	





	FEEDER SCHEDULE								
NOTE NUMBER	FEEDER AMPS	NUMBER OF SETS	PHASE WIRES QUANTITY – SIZE	NEUTRAL WIRE QUANTITY — SIZE	GROUND SIZE	CONDUIT SIZE PER SET	COMMENTS/REMARKS		
1	600	2	3 - #350 MCM	1 - #350 MCM	-	3"	SERVICE ENTRANCE		
2	600	2	3 - #350 MCM	1 — #350 MCM	#1	3"	-		
3	30	1	3 – #8	1 – #8	#8	1"	MINIMIZE LENGTH		

FEEDERS BASED ON COPPER CONDUCTORS; SUBSTITUTION OF CODE SIZED ALUMINUM CONDUCTORS FOR PANEL FEEDERS IS ALLOWED BASED ON FEEDER AMPS IN THE SCHEDULE

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NEW GENERATOR FOR:
FINEVILLE TOWN F

Project: 23-148
Drawn: JAB
Checked: JAB
Date: 02-29-2024

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plotted: 2/29/2024 10:42:16 AM file: 23148 ELECTRICAL.DWG

REFERENCE

A. REFER TO INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SPECIAL CONDITIONS, DIVISION 1 - GENERAL REQUIREMENTS, FOR SPECIFIC REQUIREMENTS, RESPONSIBILITIES AND METHODS RELATING TO ELECTRICAL

2. DESCRIPTION

A. FURNISH ALL MATERIALS, LABOR, TOOLS AND EQUIPMENT TO COMPLETE AND LEAVE READY FOR OPERATION ALL ELECTRICAL SYSTEMS AS CALLED FOR IN THESE SPECIFICATIONS OR SHOWN ON THE DRAWINGS AND ANY AND ALL DETAILS ESSENTIAL TO COMPLETE THE WORK.

QUALITY

A. CONTRACTOR SHALL PROVIDE WORK OF HIGHEST QUALITY, CONFORMING TO THE ACCEPTED PRACTICES AND STANDARDS OF THE TRADES INVOLVED. FURTHER DEFINITION OF QUALITY IS GIVEN BY VARIOUS LAWS, CODES, STANDARDS AND REGULATIONS.

- A. ALL WORK SHALL BE IN COMPLIANCE WITH ALL APPLICABLE STATE
- B. ALL EQUIPMENT SHALL BE PROPERLY RATED FOR THE SEISMIC ACTIVITY ZONE FOR WHICH IT IS INSTALLED.

5. CONTRACT DRAWINGS

A. DRAWINGS ARE SCHEMATIC AND SHOW APPROXIMATE LOCATIONS AND EXTENT OF WORK. EXACT LOCATIONS MUST BE COORDINATED WITH OTHER TRADES AND VERIFIED IN THE FIELD. THE RIGHT IS RESERVED TO RELOCATE ANY ELEMENT UP TO TEN (10) FEET AT NO INCREASE IN COST PROVIDED THE CONTRACTOR IS NOTIFIED BEFORE COMMENCEMENT OF WORK.

6. PERMITS, FEES AND NOTICES

A. UNLESS OTHERWISE EXCLUDED IN THE CONTRACT DOCUMENTS, EACH CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND GOVERNMENTAL FEES, LICENSES AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF HIS WORK.

GUARANTEE

A. CONTRACTOR SHALL GUARANTEE HIS WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.

8. EXAMINATION OF SITE

 CONTRACTOR SHOULD VISIT THE SITE OF THE PROPOSED PROJECT. CERTAIN EXISTING CONDITIONS MAY AFFECT THE MANNER OR SEQUENCE OF THE PERFORMANCE OF THE WORK.

9. RECORD DRAWINGS

A. CONTRACTOR SHALL MAINTAIN AT THE JOB SITE, ONE COPY OF THE DRAWINGS WHICH SHALL BE USED EXCLUSIVELY FOR RECORDING ANY INSTALLATION DEVIATION FROM THE CONTRACT DRAWINGS. SUBMIT DRAWINGS TO ARCHITECT UPON COMPLETION OF PROJECT.

10. CUTTING AND PATCHING

A. EACH CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING REQUIRED FOR HIS OWN WORK. WORK MUST BE ACCOMPLISHED IN A PATCH TO MATCH ADJACENT SURFACE CONSTRUCTION.

11. TESTS

A. THE CONTRACTOR SHALL BEAR ALL COSTS OF SUCH INSPECTIONS, TESTS OR APPROVALS, AS REQUIRED BY LOCAL AUTHORITIES.

12. SUBMITTALS

A. MATERIALS AND EQUIPMENT INSTALLED IN THIS WORK SHALL MEET ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND NO MATERIALS OR EQUIPMENT SHALL BE ORDERED UNTIL SUBMITTALS ARE REVISED AND APPROVED BY THE ARCHITECT OR ENGINEER.

B. REQUIRED SUBMITTALS INCLUDE:

1) WIRING DEVICES AND PLATES

LIGHTING FIXTURES LIGHTING CONTROLS & OCCUPANCY SENSORS

TIME CLOCK, PHOTO ELECTRIC CONTROLS, AND CONTACTORS

CIRCUIT BREAKER PANELBOARD, SWITCHBOARDS, & SAFETY SWITCHES

SURGE SUPPRESSION DEVICE (SPD) 7) FIRE ALARM SYSTEM / VOICE ANNUNCIATION PANEL

SECTION 26 05 19 CONDUCTORS AND CONNECTORS

1. FURNISH AND INSTALL ALL ELECTRICAL CONDUCTORS FOR FEEDERS, BRANCH

2. ALL WIRE SHALL BE UL LISTED COPPER, 600 VOLT RATED.

3. ALL WIRE SHALL BE STRANDED IN SIZES #8 AND LARGER.

4. WIRE SHALL BE TYPE THHN/THWN.

5. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.

CIRCUIT WIRING, AND SYSTEM WIRING.

6. ALL 120 VOLT CIRCUITS OVER 75 FEET IN LENGTH SHALL HAVE ALL OF THE CONDUCTORS UPSIZED ONE WIRE SIZE. (I.E. ALL #12 AWG WILL BECOME #10 AWG)

7. ALL CONDUCTORS ARE TO BE IDENTIFIED, BRANCH CIRCUITS AND FEEDERS BY COLOR CODING AS FOLLOWS:

> 120/208V PHASE A - BLACK PHASE B - RED PHASE C - BLUE NEUTRAL - WHITE GROUND - GREEN

- 8. THE COLOR CODING ON #6 AND SMALLER CONDUCTORS SHALL BE CONTINUOUS IN LENGTH. NO TAPING. PAINTING OR OTHER MEANS OF CODING WILL BE ACCEPTABLE. THE COLOR CODING ON #4 AND LARGER CONDUCTORS SHALL BE IN THE FORM OF COLORED TAPE VISIBLE AT EACH POINT OF ACCESS OR VIEW. COLOR CODING SHALL CONFORM TO THE REQUIREMENTS OF NEC ARTICLE 200.6.
- 9. FOR #10 AND SMALLER BRANCH CIRCUIT AND FIXTURE CONDUCTOR SPLICES, USE "LIVE SPRING", PRESSURE CABLE CONNECTORS LISTED FOR 600 VOLT (1000 VOLT WHEN ENCLOSED IN FIXTURE OR SIGN).
- 10. FOR TERMINAL CONNECTIONS ON COPPER, NO. 8 OR LARGER, OR WHERE MULTIPLE CONNECTIONS ARE MADE TO ONE TERMINAL, USE SOLDERLESS LUGS, MECHANICAL TYPE AS NECESSARY.
- 11. FOR SPLICES ON CONDUCTORS LARGER THAN #10, COMPRESSION TYPE BARREL SPLICES SHALL BE USED.

SECTION 26 05 26 GROUNDING

1. GROUNDING OF THE ELECTRICAL SYSTEM SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

2. METAL ENCLOSURES, CABLE TRAYS, OR RACEWAYS FOR CONDUCTORS OR EQUIPMENT SHALL BE GROUNDED.

3. EXPOSED NONCURRENT-CARRYING METAL PARTS OF FIXED EQUIPMENT LIKELY TO BECOME ENERGIZED SHALL BE GROUNDED.

4. BONDING SHALL BE PROVIDED AND CONFORM TO ALL REQUIREMENTS OF NEC ARTICLE 250 PART V.

5. ALL RACEWAYS SHALL CONTAIN A GROUNDING CONDUCTOR.

SECTION 26 05 33 PANELBOARDS, WIRING DEVICES, AND PLATES

1. THE FOLLOWING ARE THE ONLY APPROVED MANUFACTURERS FOR SAFETY SWITCHES:

A. SQUARE D

B. SIEMENS

C. EATON D. ABB/GENERAL ELECTRIC

2. PANELBOARDS:

A. PROVIDE UPDATED PANEL DIRECTORY CARDS REFLECTING THE CHANGES MADE IN THESE DOCUMENTS.

3. WIRING DEVICE:

A. DEVICES SHALL BE "SPECIFICATION" GRADE AND TAMPER RESISTANT.

B. RECEPTACLES SHALL BE 20 AMP; HAVE GROUNDING TERMINAL AND SHALL BE "SELF-GROUNDING".

C. DEVICES SHALL BE WHITE IN COLOR, OR AS SELECTED BY THE ARCHITECT.

D. PLATES SHALL BE SAME MANUFACTURER AS DEVICES AND SHALL BE 0.04" THICK BRUSHED STAINLESS STEEL.

4. SAFETY SWITCHES:

A. SHALL BE OF FUSIBLE AND OF HEAVY DUTY CONSTRUCTION.

B. PROVIDE NEMA 3R RATED SWITCHES OUTDOORS

C. PROVIDE FUSING AS SHOWN ON THE EQUIPMENT NAMEPLATE.

SECTION 26 05 33.13 RACEWAYS, FITTINGS, AND SUPPORTS

1. ALL CONDUCTORS SHALL BE ENCLOSED IN A CONTINUOUS GROUNDED RACEWAY SYSTEM.

2. ALL CONDUITS SHALL BE RUN WITH-IN THE WALL CAVITY. AREAS WHERE CONCEALED CONDUITS ARE NOT POSSIBLE SHALL BE APPROVED BY THE ARCHITECT PRIOR TO ANY WORK PROCEEDING.

3. ALL CONDUITS SHALL BE RIGID HEAVY WALL GALVANIZED STEEL, UNLESS NOTED BELOW, MINIMUM 3/4 INCH TRADE SIZE.

4. EMT MAY BE USED AS FOLLOWS:

- A. IN INTERIOR PARTITIONS INSIDE BUILDING
- B. ABOVE SUSPENDED CEILINGS INSIDE BUILDING EXPOSED ABOVE 9 FOOT A.F.F. INSIDE BUILDING (EXCEPT HAZARDOUS LOCATIONS) IN UNFINISHED AREAS.
- 5. INTERMEDIATE GALVANIZED STEEL CONDUIT MAY BE USED IN LIEU OF RIGID STEEL CONDUIT WITHIN THE BUILDING INTERIOR.
- 6. MC CABLE MAY BE USED AS FOLLOWS:
- A. TYPE "MC" CABLE MAY BE USED FOR CONCEALED BRANCH CIRCUIT WIRING IN DRY LOCATIONS (IN WALLS OR ABOVE CEILINGS) BETWEEN LIGHTING FIXTURES, OR POWER OUTLETS. HOMERUNS, MULTI-WIRE BRANCH CIRCUITS, AND CIRCUIT RUNS WITH - MULTIPLE CIRCUITS SHALL OCCUR IN CONDUIT. CONVERSION FROM "MC" CABLE TO CONDUIT SHALL OCCUR WITHIN 10 FEET OF FIRST UTILIZATION DEVICE CONNECTION TO CIRCUIT.
- B. THREE CONDUCTOR, THHN/THWN INSULATED, ALUMINUM OR GALVANIZED STEEL INTERLOCKED ARMOR TYPE MC POWER CABLE FOR USE IN CIRCUITS NOT EXCEEDING 600 VOLTS PHASE TO PHASE AT CONDUCTOR TEMPERATURES OF 90°C IN DRY LOCATIONS FOR NORMAL OPERATION.
- C. CABLE ASSEMBLY SHALL INCLUDE FULL-SIZE GROUNDING CONDUCTOR, AND FULL-SIZE ISOLATED GROUNDING CONDUCTOR (IF APPLICABLE). WITH SUITABLE FILLERS AND BINDER TAPE WITH ANTI-SHORT BUSHINGS.
- D. TYPE "MC" CABLE SHALL BE OF THE SINGLE CIRCUIT TYPE ONLY.

7. FLEXIBLE STEEL CONDUIT (UP TO THREE FEET IN LENGTH) SHALL BE USED FOR CONNECTIONS TO MOTORS, VIBRATING EQUIPMENT, AND CONNECTIONS FOR WHICH RIGID, IMC, OR EMT CONDUIT IS NOT APPLICABLE. FLEXIBLE STEEL CONDUIT UP TO SIX FEET IN LENGTH SHALL BE USED FOR CONNECTIONS TO LIGHTING FIXTURES. A GREEN GROUNDING CONDUCTOR SHALL BE INSTALLED IN EACH FLEXIBLE CONDUIT. ALL RUNS SHALL BE TERMINATED IN INSULATED FLEXIBLE CONDUIT FITTINGS. MINIMUM SIZE TO BE 1/2 INCH.

8. LIQUID TIGHT FLEXIBLE STEEL CONDUIT (UP TO THREE FEET IN LENGTH) AND APPROPRIATE FITTINGS SHALL BE USED FOR CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT IN AREAS EXPOSED TO THE WEATHER OR LIKELY TO BECOME

9. ELECTRICAL NONMETALLIC TUBING, TYPE ENT IS NOT PERMITTED.

10. PVC CONDUIT MAY ONLY BE USED UNDERGROUND OUTSIDE THE BUILDING OR UNDER CONCRETE SLABS ON GRADE WITHIN THE BUILDING. CONDUITS AND ELBOWS TURNING UP INTO THE BUILDING SPACE SHALL BE RIGID STEEL. PROVIDE EXPANSION FITTINGS WHERE EMERGING FROM UNDERGROUND, BUILDING EXPANSION JOINTS, AND OTHER AREAS TO ACCOMMODATE FOR THERMAL EXPANSION OF THE PVC CONDUIT.

11. FLEXIBLE CONDUIT OR TYPE MC CABLE MAY BE USED TO CONNECT OUTLETS INSTALLED WITHIN BUILT UP CASEWORK.

12. CONDUITS LARGER THAN ONE INCH SHALL HAVE GROUNDING TYPE BUSHINGS.

13. ALL CONDUIT AND EMT FITTINGS SHALL BE DIE CAST ZINC OR GALVANIZED STEEL. CONNECTORS AND COUPLINGS SHALL BE THREADED, COMPRESSION OR SETSCREW TYPE, CONCRETE TIGHT. CONDUIT BODIES SHALL BE MALLEABLE IRON, THREADED FOR HEAVYWALL CONDUIT AND COMPRESSION OR SETSCREW TYPE FOR EMT. WITH CADMIUM FINISH AND CADMIUM PLATED SHEET STEEL COVERS. PROVIDE NEOPRENE COVER GASKETS FOR CONDUIT BODY COVERS EXPOSED TO THE WEATHER.

14. OUTLETS. JUNCTION. PULL BOXES. ETC. WHEN OVERHEAD SHALL BE INDEPENDENTLY SUPPORTED AND SHALL NOT DEPEND UPON CONDUIT FOR SUPPORT. WHERE RUN IS NOT SUPPORTED BY SLABS, WALLS, ETC., USE GALVANIZED PIPE STRAPS, TRAPEZE HANGERS, BEAM CLAMPS, CHANNEL AND FITTINGS, ETC. SUPPORT WITHIN 3' OF EACH OUTLET BOX, JUNCTION BOX, CABINET OR FITTING. SUPPORT AT LEAST EVERY 10 FEET.

SECTION 26 21 16 UNDERGROUND ELECTRICAL SERVICE

UNDERGROUND RACEWAYS SHALL BE SCHEDULE 40 PVC OR RIGID STEEL CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE.

2. UN-ENCASED UNDERGROUND RACEWAYS TO BE IDENTIFIED WITH 6-INCH WIDE PLASTIC IMPRINTED TAPE. COLOR AND WORDING TO IDENTIFY UNDERGROUND

3. ALL UNDERGROUND RACEWAYS TO BE BURIED A MINIMUM OF 30 INCHES BELOW GRADE. INCOMING UTILITY SERVICES TO BE BURIED PER UTILITY COMPANY

4. SECONDARY CONDUCTORS SHALL RUN IN SECONDARY CONDUITS FROM THE BUILDING MAIN DISCONNECT TO THE TRANSFORMER PAD. COORDINATE REQUIRED LUGS, AND TERMINATIONS WITH THE UTILITY COMPANY.

5. COORDINATE UTILITY OUTAGE WITH THE OWNER'S REPRESENTATIVE. OUTAGE SHALL MINIMIZE THE DISRUPTION TO THE OWNERS OPERATIONS.

6. CONTRACTOR SHALL COORDINATE ALL ADDITIONAL REQUIREMENTS WITH EACH UTILITY COMPANY AND TO INCLUDE IN THEIR BID ALL COSTS ASSOCIATED WITH CONNECTION TO THE UTILITY SERVICES. ITEMIZE AS A SEPARATE LINE ITEM ON THE BID FORM.

SECTION 26 32 00 DIESEL EMERGENCY GENERATOR

EMERGENCY GENERATOR AND ALL COMPONENTS SHALL BE UL LISTED AND LABELED, MANUFACTURED IN ACCORDANCE WITH APPLICABLE ANSI AND NEMA STANDARDS, AND IN ACCORDANCE WITH APPLICABLE CODES.

2. MANUFACTURERS SHALL BE CATERPILLAR, CUMMINS, KOHLER, OR EQUAL.

3. THE GENERATOR DESIGN IS BASED ON A NATURAL GAS CAT DG125 WITH SR500 ALTERNATOR WITH THE PEAK LOADS LISTED ON THE ONE-LINE DIAGRAM. IT SHALL PROVIDE 125KW/156KVA OPERATING AT 120/2080V, 3 PHASE, 60 HZ, 0.8 PF, WHILE OPERATING AT THE SITE AMBIENT CONDITIONS. EQUALS SHALL BE SIZED TO OPERATE WITH THE SAME LOADS AT SITE AMBIENT CONDITIONS.

EMERGENCY GENERATOR SHALL BE SIGNALED TO START BY EACH AUTOMATIC TRANSFER SWITCH AND SHALL REACH STABLE VOLTAGE AND FREQUENCY AND PICK-UP LOAD WITHIN 10 SECONDS AFTER LOSS OF NORMAL POWER; PER NEC 700.12.

ENGINE SHALL BE STATIONARY INTERNAL COMBUSTION, 1800 RPM, LIQUID COOLED, TURBO CHARGED, AIR COOLED, DIESEL FUELED.

GOVERNOR SHALL BE ISOCHRONOUS ELECTRONIC PROVIDING VOLTAGE REGULATION BETWEEN + 2.0 PERCENT AND 0% DEVIATION IN FREQUENCY REGULATION.

7. COOLING SYSTEM SHALL CONSIST OF ENGINE MOUNTED RADIATOR AND PUSHER TYPE BLOWER FAN, WATER PUMP, THERMOSTAT, SHROUD, DUCT ADAPTER FLANGE, WATER

FILTER. PROVIDE 50% CONCENTRATION OF ETHYLENE GLYCOL. 8. STARTING SYSTEM SHALL BE 12 OR 24 VDC ELECTRIC WITH LEAD ACID BATTERIES OF

SHALL BE COMPLETE WITH BATTERY RACK, CABLES AND CLAMPS. BATTERY CHARGING SYSTEM SHALL CONSIST OF 24 VDC, ENGINE MOUNTED ALTERNATOR, AND 120 VOLT AUTOMATIC CURRENT LIMITING BATTERY CHARGER. CHARGER SHALL FEATURE OVERLOAD PROTECTION, DC AMMETER AND VOLTMETER, FUSE, FLOAT/EQUALIZE SWITCH, 2% VOLTAGE REGULATION. CHARGER SHALL BE CAPABLE OF FULLY RECHARGING

CAPACITY TO PROVIDE 90 SECONDS OF CRANKING POWER AT -20 DEGREES F. SYSTEM

THE BATTERIES WITHIN 24 HOURS. 10. THERMOSTATICALLY CONTROLLED, ENGINE JACKET WATER HEATER SHALL BE PROVIDED WITH UNIT, CONNECTED THROUGH OIL PRESSURE SWITCH FOR AUTOMATIC CUT-OUT

DURING ENGINE OPERATION. 11. POSITIVE DISPLACEMENT, MECHANICAL FULL PRESSURE LUBRICATION OIL PUMP, FULL FLOW OIL FILTERS WITH REPLACEABLE ELEMENTS, OIL COOLER, PRESSURE RELIEF VALVE, DIPSTICK OIL LEVEL INDICATOR, AND OIL DRAIN VALVE WITH HOSE EXTENSION.

12. DRY TYPE AIR CLEANER WITH REPLACEABLE ELEMENT.

13. FUEL SYSTEM SHALL INCLUDE A MECHANICAL, POSITIVE DISPLACEMENT FUEL PUMP, FUEL/WATER SEPARATOR, FILTERS, SOLENOID AND SHUTOFF VALVES. PROVIDE WIRE REINFORCED FLEXIBLE FUEL LINES AT ENGINE.

14. EXHAUST SYSTEM SHALL PROVIDE A CRITICAL GRADE SILENCER, INCLUDING STAINLESS STEEL FLEXIBLE EXHAUST FITTINGS, PROPERLY SIZED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.

15. ENGINE/GENERATOR SHALL BE MOUNTED ON A STEEL BASE WITH 95% SPRING TYPE VIBRATION ISOLATORS.

16. ENGINE SHALL BE CAPABLE OF SINGLE STEP LOAD PICK-UP OF 100% NAMEPLATE KW WITH-IN 10 SECONDS

18. ENCLOSURE - PROVIDE A WEATHER PROOF SOUND ATTENUATED ENCLOSURE, RATED FOR A MINIMUM OF 120 MPH. APPROXIMATELY 75 dB AT 23 FEET.

19. ALTERNATOR: 19.1. THE ALTERNATOR SHALL BE PGM EXCITATION SYSTEM, 4 POLE / 12 LEAD ALTERNATOR.

19.2. THE AUTOMATIC VOLTAGE REGULATOR SHALL BE TEMPERATURE COMPENSATED, SOLID-STATE DESIGN.

MAINLINE CIRCUIT BREAKERS SHALL BE MOLDED CASE BREAKERS WITH ELECTRONIC TRIP RATED AT 100% OF NAMEPLATE RATING AND SIZED AS SHOWN ON THE DRAWINGS. CIRCUIT BREAKER SHALL HAVE AN INTERRUPTING RATING ADEQUATE FOR THE EMERGENCY GENERATOR. BREAKER SHALL HAVE A SHUNT TRIP OPERATOR WIRED THROUGH ENGINE SAFETY SHUTDOWNS.

20. INSTRUMENT PANEL AND CONTROL

20.1. INSTRUMENT PANEL SHALL BE MOUNTED ON THE GENERATOR WITH VIBRATION ISOLATORS AND HAVE THE FOLLOWING FUNCTIONS AND DISPLAYS:

PANEL ILLUMINATION LAMP WITH ON/OFF SWITCH ENGINE OIL PRESSURE GAUGE 20.1.2.

COOLANT TEMPERATURE GAUGE 20.1.3. 20.1.4. DC VOLTMETER BATTERY CHARGING AMMETER

AC AMMETER

20.1.9.

20.1.20.

20.1.6. RUNNING TIME METER **VOLTAGE ADJUSTING RHEOSTAT** 20.1.7. 20.1.8. AC VOLTMETER

20.1.10. FREQUENCY METER PHASE SELECTOR SWITCH FOR VOLTMETER AND AMMETER OVERCRANK SHUTDOWN INDICATING LAMP OVERSPEED SHUTDOWN INDICATING LAMP 20.1.13.

20.1.14. LOW OIL PRESSURE 20.1.15. HIGH ENGINE TEMPERATURE SHUTDOWN INDICATING LAMP 20.1.16. LOW OIL PRESSURE SHUTDOWN INDICATING LAMP

LOW ENGINE TEMPERATURE INDICATING LAMP CONTROLS SWITCH - NOT IN AUTOMATIC POSITION - INDICATING LAMP 20.1.18. HIGH ENGINE TEMPERATURE PRE-ALARM INDICATING LAMP

BATTERY CHARGER MALFUNCTION INDICATING LAMP

BATTERY LOW VOLTAGE INDICATING LAMP 20.1.21. LAMP TEST SWITCH 20.1.22. AUXILIARY ALARM CONTACT 20.1.23. 20.1.24. ALARM SILENCE SWITCH

LOW FUEL PRESSURE INDICATING LAMP

20.2. INSTRUMENT PANEL SHALL CONTROL THE EMERGENCY GENERATOR IN THE FOLLOWING 10. THE TRANSFER SWITCH SHALL BE SERVICED BY A LOCAL SERVICE ORGANIZATION THA

20.2.1. RUN/STOP/AUTO CONTROL TOGGLE SWITCH

15 SECOND CRANK/RESET - 75 SECOND LOCKOUT CRANKING CYCLE ENGINE LOCKOUT DUE TO OVERCRANK, OVERSPEED, LOW OIL PRESSURE, HIGH ENGINE TEMPERATURE, OR REMOTE MANUAL STOP.

21. REMOTE ANNUNCIATOR SHALL HAVE THE FOLLOWING FEATURES:

FLUSH MOUNTED LOCATED WHERE SHOWN ON THE DRAWINGS HARD WIRED, WIRELESS VERSIONS ARE NOT ACCEPTABLE

21.3. NORMAL POWER AVAILABLE INDICATOR LIGHT EMERGENCY GENERATOR RUNNING INDICATOR LIGHT 21.4. 21.5. HIGH BATTERY VOLTAGE INDICATOR LIGHT

LOW BATTERY VOLTAGE INDICATOR LIGHT NORMAL BATTERY VOLTAGE INDICATOR LIGHT

BATTERY CHARGER MALFUNCTION INDICATOR LIGHT 21.9. ALARM HORN SILENCE SWITCH

21.10. ALARM HORN 21.11. LIGHT TEST SWITCH

21.12. OVERCRANK SHUTDOWN INDICATOR LIGHT

21.13. LOW ENGINE TEMPERATURE INDICATOR LIGHT 21.14. HIGH ENGINE TEMPERATURE PRE-ALARM INDICATOR LIGHT 21.15. HIGH ENGINE TEMPERATURE INDICATOR LIGHT

21.16. LOW OIL PRESSURE - PRE ALARM INDICATOR LIGHT 21.17. LOW OIL PRESSURE INDICATOR LIGHT

21.18. OVERSPEED SHUTDOWN INDICATOR LIGHT 21.19. LOW FUEL LEVEL INDICATOR LIGHT

21.20. CONTROL SWITCH NOT IN AUTO POSITION INDICATOR LIGHT 21.21. EMERGENCY GENERATOR SUPPLYING LOAD INDICATOR LIGHT

22. LOAD TEST 22.1. WITH EMERGENCY GENERATOR IN A "COLD START" CONDITION AND LOAD BANKS EQUAL TO 100% OF EMERGENCY GENERATOR CAPACITY CONNECTED AND DISTRIBUTED EQUALLY TO THE LOAD SIDE OF ALL AUTOMATIC TRANSFER SWITCHES, INITIATE A NORMAL POWER FAILURE BY OPENING THE NORMAL POWER DISCONNECTING MEANS FEEDING THE EMERGENCY BRANCH.

OBSERVE AND RECORD THE TIME-DELAY ON START. OBSERVE AND RECORD THE CRANKING TIME UNTIL STARTING OCCURS. OBSERVE AND RECORD THE TIME REQUIRED TO ACHIEVE OPERATING SPEED.

OBSERVE AND RECORD THE VOLTAGE AND FREQUENCY OVERSHOOT. OBSERVE AND RECORD THE TIME REQUIRED TO ACHIEVE STEADY STATE CONDITION WITH ALL TRANSFER SWITCHES ON EMERGENCY.

OBSERVE AND RECORD THE VOLTAGE, FREQUENCY AND AMPERES. OBSERVE AND RECORD THE OIL PRESSURE, COOLANT TEMPERATURE, BATTERY CHARGE RATE AT 5-MINUTE INTERVALS. CONTINUE TEST FOR A DURATION OF TWO HOURS, SWITCHING LOAD BANK SETTINGS WHERE

POSSIBLE AND CAUSING AUTOMATIC TRANSFER SWITCHES TO TRANSFER ON AND OFF THE EMERGENCY GENERATOR. RECORD EFFECTS ON VOLTAGE AND FREQUENCY. RESTORE NORMAL POWER AND OBSERVE AND RECORD THE TIME DELAY ON RE-TRANSFER TO NORMAL FOR EACH SWITCH, AND THE COOL DOWN PERIOD ON THE EMERGENCY

PERMIT EMERGENCY GENERATOR TO COOL FOR 5 MINUTES. SET ALL AUTOMATIC TRANSFER SWITCH-DELAYS TO MINIMUM, SO THAT ALL LOADS WILL TRANSFER AS ONE STEP. OPEN THE NORMAL POWER DISCONNECTING MEANS FEEDING THE EMERGENCY BRANCH.

OBSERVE AND RECORD DATA LISTED IN PARAGRAPHS 3 THRU 8 ABOVE INITIALLY AND EVERY 15 MINUTES FOR A DURATION OF 2 HOURS. IF THIS TEST IS ABORTED FOR ANY REASON. RESTART FROM PARAGRAPH 20.11 ABOVE.

22.14. AFTER TEST COMPLETION, RESET ALL AUTOMATIC TRANSFER SWITCH DELAYS, SUCH THAT

22.15. DISCONNECT LOAD BANKS AND CONNECT BUILDING LOAD AS SHOWN ON THE DRAWINGS.

MINIMUM VOLTAGE DIP IS ACHIEVED.

SOLENOID-DRIVEN MECHANISM.

23. PROVIDE WITH 5 YEAR COMPREHENSIVE WARRANTY. 24. PROVIDE GENERATOR STARTUP SERVICES WITH OWNER DEMONSTRATION AND TRAINING.

SECTION 26 36 23 AUTOMATIC TRANSFER SWITCHES

1. MANUFACTURERS SHALL BE CATERPILLAR, CUMMINS, KOHLER, EATON, ASCO, OR EQUAL. 2. DESIGN BASED ON CAT AUTOMATIC TRANSFER SWITCH WITH ATC-300+ CONTROLLER IN A NEMA 3R ENCLOSURE

QUALIFICATIONS: 3.1. THE MANUFACTURER OF THIS EQUIPMENT SHALL HAVE PRODUCED SIMILAR EQUIPMENT FOR A MINIMUM PERIOD OF 10 YEARS. WHEN REQUESTED BY THE ENGINEER, AN ACCEPTABLE LIST OF INSTALLATIONS WITH SIMILAR EQUIPMENT SHALL BE PROVIDED DEMONSTRATING COMPLIANCE WITH THIS REQUIREMENT.

3.2. MAIN CONTACTS SHALL BE RATED FOR 600 VOLTS AC MINIMUM. 3.3. TRANSFER SWITCHES SHALL BE RATED TO CARRY 100 PERCENT OF RATED CURRENT CONTINUOUSLY IN THE ENCLOSURE SUPPLIED, IN AMBIENT TEMPERATURES OF -40 TO +60 DEGREES C, RELATIVE HUMIDITY UP TO 95% (NON-CONDENSING), AND ALTITUDES UP TO 10,000 FEET. 3.4. TRANSFER SWITCH EQUIPMENT SHALL HAVE WITHSTAND AND CLOSING RATINGS (WCR) IN RMS SYMMETRICAL AMPERES GREATER THAN OR EQUAL TO THE AVAILABLE

FAULT CURRENTS SHOWN FOR THE MAIN DISTRIBUTION PANEL. THE TRANSFER

SWITCH AND ITS UPSTREAM PROTECTION SHALL BE COORDINATED. THE TRANSFER

WITH DOUBLE THROW CONSTRUCTION, AND OPERATED BY A MOMENTARILY ENERGIZED

SWITCH EQUIPMENT SHALL BE THIRD PARTY LISTED AND LABELED FOR USE WITH THE SPECIFIC PROTECTIVE DEVICE(S) INSTALLED IN THE APPLICATION. 4. CONSTRUCTION: 4.1. TRANSFER SWITCHES SHALL BE ELECTRICALLY OPERATED AND MECHANICALLY HELD

4.2. THE SWITCH SHALL BE POSITIVELY LOCKED AND UNAFFECTED BY MOMENTARY OUTAGES TO MAINTAIN POSITIVE CONTACT PRESSURE. 4.3. ALL MAIN CONTACTS SHALL BE SILVER COMPOSITION.

4.4. DESIGNS UTILIZING COMPONENTS OF MOLDED-CASE CIRCUIT BREAKERS, CONTACTORS, OR PARTS THEREOF, WHICH ARE NOT INTENDED FOR CONTINUOUS DUTY, REPETITIVE SWITCHING OR TRANSFER BETWEEN TWO ACTIVE POWER SOURCES, ARE NOT ACCEPTABLE. 4.5. TRANSFER SWITCHES SHALL BE 3-POLE WITH A SOLID NEUTRAL SIZED TO CARRY

100% OF THE CURRENT DESIGNATED ON THE SWITCH RATING. 4.6. OUTDOOR MOUNTED SWITCHES SHALL BE IN A NEMA 3R ENCLOSURE. 4.7. ALL STANDARD DOOR MOUNTED SWITCHES AND INDICATING LED'S SHALL BE INTEGRATED INTO A FLUSH MOUNTED INTERFACE MEMBRANE IN THE ENCLOSURE DOOR FOR EASY VIEWING AND REPLACEMENT. INTERFACE PANEL SHALL HAVE A

MANUAL LOCKING FEATURE TO PREVENT UNAUTHORIZED TAMPERING. CONTROL: 5.1. EACH TRANSFER SWITCH SHALL BE PROVIDED WITH A 20 CHARACTER LCD DISPLAY

AND 4 BUTTON KEYPAD FOR VIEWING AND SETTING OF OPERATIONAL PARAMETERS.

5.2. THE TRANSFER SWITCH CONTROL SYSTEM SHALL BE CONFIGURABLE IN THE FIELD FOR OPERATING VOLTAGE, FREQUENCY, TRANSFER OPERATING MODE. TRANSFER SWITCH VOLTAGE SENSORS SHALL:

6.1. MONITOR ALL PHASES OF THE NORMAL AND EMERGENCY SERVICE FOR OVER, UNDER, UNBALANCED VOLTAGE CONDITIONS AND PHASE ROTATION. 6.2. MONITOR ALL PHASES OF THE NORMAL SERVICE AND EMERGENCY SERVICE FOR LOSS OF A SINGLE PHASE.

6.3. MONITOR ALL PHASES OF THE NORMAL SERVICE AND EMERGENCY SERVICE FOR

OVER OR UNDER FREQUENCY CONDITIONS. THE TRANSFER SWITCH SHALL BE CONFIGURABLE TO CONTROL THE OPERATION TIME

7.3. RE-TRANSFER TO NORMAL POWER, AUTOMATICALLY BYPASSED IF EMERGENCY

DELAYS OF THE FOLLOWING: 7.1. OVERRIDE MOMENTARY NORMAL SOURCE OUTAGES AND DELAY ENGINE START SIGNALS. 7.2. TRANSFER TO EMERGENCY SOURCE.

7.4. ENGINE COOL DOWN AND SHUTDOWN. 8. PROVIDE WITH 2 PROGRAMMABLE INPUTS, AND OUTPUT AUXILIARY CONTACTS.

9. THE MANUFACTURER OF THE TRANSFER SWITCH SHALL MAINTAIN SERVICE PARTS INVENTORY AT A CENTRAL LOCATION WHICH IS ACCESSIBLE TO THE SERVICE LOCATION 24 HOURS PER DAY, 365 DAYS PER YEAR.

SOURCE FAILS AND NORMAL SOURCE IS ACCEPTABLE.

IS TRAINED AND FACTORY CERTIFIED IN BOTH GENERATOR SET AND TRANSFER SWITCH SERVICE. THE SUPPLIER SHALL MAINTAIN AN INVENTORY OF CRITICAL REPLACEMENT PARTS AT THE LOCAL SERVICE ORGANIZATION, AND IN SERVICE VEHICLES. THE SERVICE ORGANIZATION SHALL BE ON CALL 24 HOURS PER DAY, 365 DAYS PER

11. PROVIDE WITH 5 YEAR COMPREHENSIVE WARRANTY.

SECTION 26 43 13 SURGE SUPPRESSION

 SPD UNITS AND ALL COMPONENTS SHALL BE DESIGNED, MANUFACTURED, AND TESTED IN ACCORDANCE WITH THE LATEST APPLICABLE UL STANDARD (ANSI/UL 1449 3RD

THE MANUFACTURER SHALL BE ISO 9000 CERTIFIED AND HAVE PRODUCED SIMILAR ELECTRICAL EQUIPMENT FOR A MINIMUM PERIOD OF FIVE (5) YEARS.

3. ELECTRICAL REQUIREMENTS:

3.1. MAXIMUM CONTINUOUS OPERATING VOLTAGE (MCOV) SHALL NOT BE LESS THAN

125% OF THE SYSTEM OPERATING VOLTAGE. 3.2. THE SUPPRESSION SYSTEM SHALL INCORPORATE THERMALLY PROTECTED METAL-OXIDE VARISTORS (MOVS) AS THE CORE SURGE SUPPRESSION COMPONENT

FOR THE SERVICE ENTRANCE AND ALL OTHER DISTRIBUTION LEVELS. 3.3. PROTECTION MODES - THE SPD MUST PROTECT ALL MODES OF THE ELECTRICAL SYSTEM. THE REQUIRED PROTECTION MODES ARE L-N, L-G, L-L, N-G

SYSTEM SHALL HAVE A 20KA IN RATING REGARDLESS OF THEIR TYPE OR VOLTAGE. SPDS HAVING AN IN LESS THAN 20KA SHALL BE REJECTED. ANSI/UL 1449 3RD EDITION VOLTAGE PROTECTION RATING (VPR) — THE MAXIMUM

ANSI/UL 1449 3RD EDITION VPR FOR THE DEVICE SHALL NOT EXCEED THE

NOMINAL DISCHARGE CURRENT (IN) - ALL SPDS APPLIED TO THE DISTRIBUTION

FOLLOWING: MODES L-N; L-G; N-G 700

6.1. THE SPD SHALL BE MAINTENANCE FREE AND SHALL NOT REQUIRE ANY ANY USER INTERVENTION THROUGHOUT ITS LIFE.

6.2. THE UNIT SHALL INCLUDE A HIGH-PERFORMANCE EMI/RFI NOISE REJECTION FILTER. NOISE ATTENUATION FOR ELECTRIC LINE NOISE SHALL BE UP TO 50 DB FROM 10 KHZ TO 100 MHZ.

6.3. THE SPD SHALL PROVIDE THE FOLLOWING INTEGRAL MONITORING OPTIONS: 6.3.1. UNIT SHALL HAVE A GREEN / RED SOLID-STATE INDICATOR LIGHT THAT REPORTS THE STATUS OF THE PROTECTION ON EACH PHASE. 6.3.2. THE SPD MUST INCLUDE FORM C DRY CONTACTS (ONE NO AND ONE NC) FOR

REMOTE ANNUNCIATION OF ITS STATUS. BOTH THE NO AND NC CONTACTS SHALL CHANGE STATE UNDER ANY FAULT CONDITION. 6.3.3. SPD SHALL CONTAIN AN AUDIBLE ALARM THAT WILL BE ACTIVATED UNDER ANY FAULT CONDITION. THERE SHALL ALSO BE AN AUDIBLE ALARM SILENCE BUTTON USED TO SILENCE THE AUDIBLE ALARM AFTER IT HAS BEEN ACTIVATED.

6.3.4. SPD SHALL BE EQUIPPED WITH AN LCD DISPLAY THAT INDICATES TO THE USER

HOW MANY SURGES HAVE OCCURRED. ONGOING SURGE COUNT SHALL BE STORED IN NON-VOLATILE MEMORY.

6.4. SAFETY REQUIREMENTS: 6.4.1. THE SPD SHALL MINIMIZE POTENTIAL ARC FLASH HAZARDS BY CONTAINING NO USER SERVICEABLE / REPLACEABLE PARTS AND SHALL BE MAINTENANCE FREE. SPDS CONTAINING ITEMS SUCH AS REPLACEABLE MODULES, REPLACEABLE FUSES, OR REPLACEABLE BATTERIES SHALL NOT BE ACCEPTED. SPDS REQUIRING ANY

MAINTENANCE OF ANY SORT SUCH AS PERIODIC TIGHTENING OF CONNECTIONS SHALL NOT BE ACCEPTED. 6.4.2. SPDS DESIGNED TO INTERFACE WITH THE ELECTRICAL ASSEMBLY VIA CONDUCTORS SHALL REQUIRE NO USER CONTACT WITH THE INSIDE OF THE UNIT. SUCH UNITS

SHALL HAVE ANY REQUIRED CONDUCTORS BE FACTORY INSTALLED.

6.5. SYSTEM APPLICATION: 6.5.1. ALL SPDS SHALL BE TESTED AND DEMONSTRATE SUITABILITY FOR APPLICATION WITHIN ANSI/IEEE C62.41 CATEGORY C, B, AND A ENVIRONMENTS. 6.5.2. MINIMUM SURGE CURRENT CAPACITY BASED ON ANSI/IEEE C62.41. DEVICE IS

CAPABLE OF WITHSTANDING AS FOLLOWS:

CATEGORY APPLICATION

SERVICE ENTRANCE LOCATIONS 150 KA 75 KA (MAIN DISTRIBUTION PANEL) SPD TYPE - ALL SPDS INSTALLED ON THE LINE SIDE OF THE SERVICE ENTRANCE DISCONNECT SHALL BE TYPE 1 SPDS. ALL SPDS INSTALLED ON THE LOAD SIDE OF

THE SERVICE ENTRANCE DISCONNECT SHALL BE TYPE 1 OR TYPE 2 SPDS. THE MANUFACTURER SHALL PROVIDE A FULL FIVE (5) YEAR WARRANTY FROM THE DATE OF SHIPMENT AGAINST ANY SPD PART FAILURE WHEN INSTALLED IN COMPLIANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND ANY APPLICABLE NATIONAL OR

PER PHASE PER MODE

LOCAL CODE.

END OF SPECIFICATIONS

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23-148 Project: Drawn: JAB Checked: JAB Date: 02-29-2024