ELECTRICAL SERVICE GENERAL NOTES:

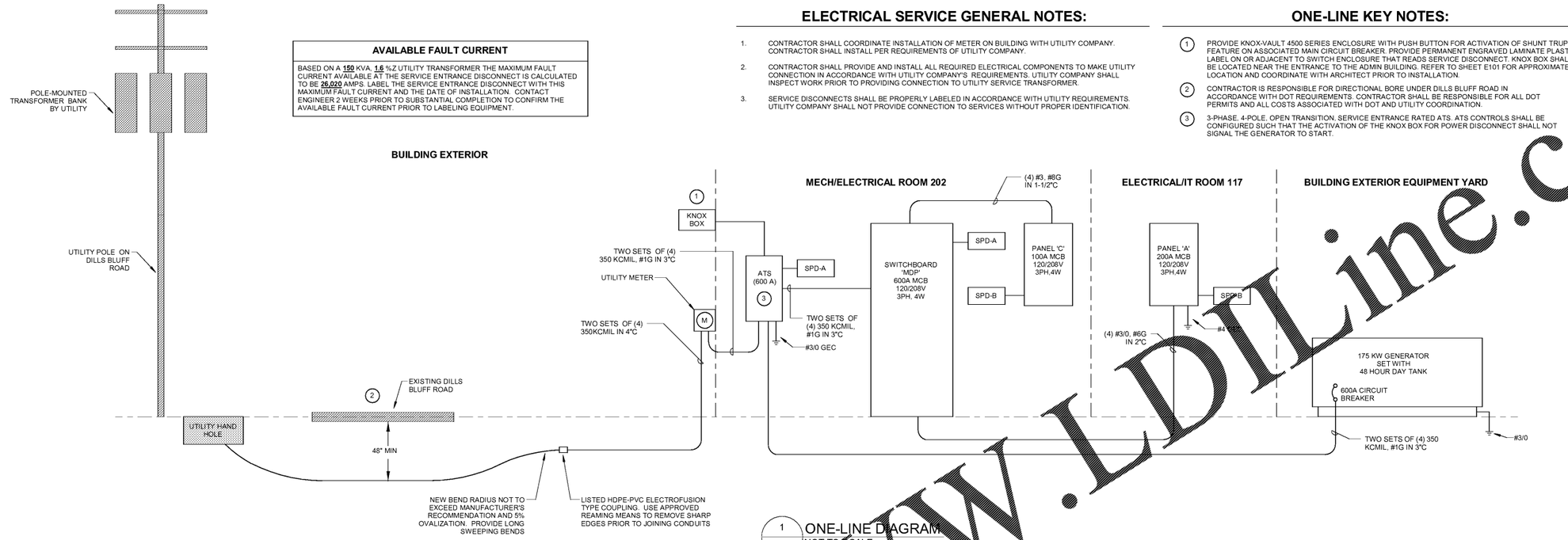
1. CONTRACTOR SHALL COORDINATE INSTALLATION OF METER ON BUILDING WITH UTILITY COMPANY. CONTRACTOR SHALL INSTALL PER REQUIREMENTS OF UTILITY COMPANY.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ALL REQUIRED ELECTRICAL COMPONENTS TO MAKE UTILITY CONNECTION IN ACCORDANCE WITH UTILITY COMPANY'S REQUIREMENTS. UTILITY COMPANY SHALL INSPECT WORK PRIOR TO PROVIDING CONNECTION TO UTILITY SERVICE TRANSFORMER.
3. SERVICE DISCONNECTS SHALL BE PROPERLY LABELED IN ACCORDANCE WITH UTILITY REQUIREMENTS. UTILITY COMPANY SHALL NOT PROVIDE CONNECTION TO SERVICES WITHOUT PROPER IDENTIFICATION.

ONE-LINE KEY NOTES:

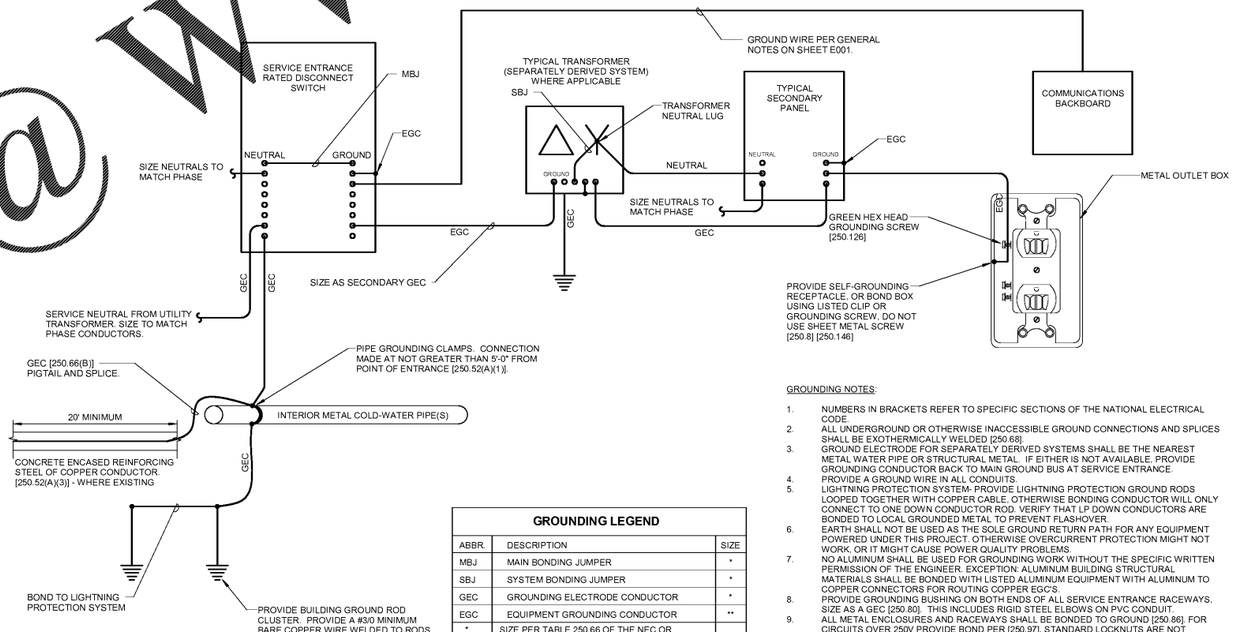
1. PROVIDE KNOX-VAULT 4500 SERIES ENCLOSURE WITH PUSH BUTTON FOR ACTIVATION OF SHUNT TRUP FEATURE ON ASSOCIATED MAIN CIRCUIT BREAKER. PROVIDE PERMANENT ENGRAVED LAMINATE PLASTIC LABEL ON OR ADJACENT TO SWITCH ENCLOSURE THAT READS SERVICE DISCONNECT. KNOX BOX SHALL BE LOCATED NEAR THE ENTRANCE TO THE ADMIN BUILDING. REFER TO SHEET E101 FOR APPROXIMATE LOCATION AND COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
2. CONTRACTOR IS RESPONSIBLE FOR DIRECTIONAL BORE UNDER DILLS BLUFF ROAD IN ACCORDANCE WITH DOT REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DOT PERMITS AND ALL COSTS ASSOCIATED WITH DOT AND UTILITY COORDINATION.
3. 3-PHASE, 4-POLE, OPEN TRANSITION, SERVICE ENTRANCE RATED ATS. ATS CONTROLS SHALL BE CONFIGURED SUCH THAT THE ACTIVATION OF THE KNOX BOX FOR POWER DISCONNECT SHALL NOT SIGNAL THE GENERATOR TO START.

AVAILABLE FAULT CURRENT

BASED ON A **150** KVA, **1.6** %Z UTILITY TRANSFORMER THE MAXIMUM FAULT CURRENT AVAILABLE AT THE SERVICE ENTRANCE DISCONNECT IS CALCULATED TO BE **26,020** AMPS. LABEL THE SERVICE ENTRANCE DISCONNECT WITH THIS MAXIMUM FAULT CURRENT AND THE DATE OF INSTALLATION. CONTACT ENGINEER 2 WEEKS PRIOR TO SUBSTANTIAL COMPLETION TO CONFIRM THE AVAILABLE FAULT CURRENT PRIOR TO LABELING EQUIPMENT.



1 E010 ONE-LINE DIAGRAM
NOT TO SCALE



GROUNDING LEGEND

ABBR.	DESCRIPTION	SIZE
MBJ	MAIN BONDING JUMPER	*
SBJ	SYSTEM BONDING JUMPER	*
GEC	GROUNDING ELECTRODE CONDUCTOR	*
EGC	EQUIPMENT GROUNDING CONDUCTOR	**
* **	SIZE PER TABLE 250.66 OF THE NEC OR 12.5% OF CONDUCTOR SIZE [250.28]. SIZE PER TABLE 250.122.	

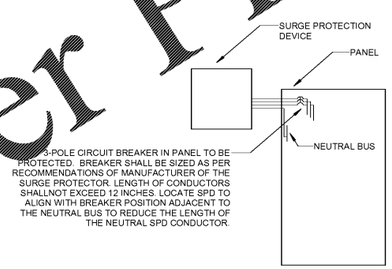
2 E010 GROUNDING DETAIL
NOT TO SCALE

GROUNDING NOTES:

1. NUMBERS IN BRACKETS REFER TO SPECIFIC SECTIONS OF THE NATIONAL ELECTRICAL CODE.
2. ALL UNDERGROUND OR OTHERWISE INACCESSIBLE GROUND CONNECTIONS AND SPLICES SHALL BE EXOTHERMICALLY WELDED [250.68].
3. GROUND ELECTRODE FOR SEPARATELY DERIVED SYSTEMS SHALL BE THE NEAREST METAL WATER PIPE OR STRUCTURAL METAL. IF EITHER IS NOT AVAILABLE, PROVIDE GROUNDING CONDUCTOR BACK TO MAIN GROUND BUS AT SERVICE ENTRANCE.
4. PROVIDE A GROUND WIRE IN ALL CONDUITS.
5. LIGHTNING PROTECTION SYSTEM- PROVIDE LIGHTNING PROTECTION GROUND RODS LOOPED TOGETHER WITH COPPER CABLE. OTHERWISE BONDING CONDUCTOR WILL ONLY CONNECT TO ONE DOWN CONDUCTOR ROD. VERIFY THAT LP DOWN CONDUCTORS ARE BONDED TO LOCAL GROUNDED METAL TO PREVENT FLASHOVER.
6. EARTH SHALL NOT BE USED AS THE SOLE GROUND RETURN PATH FOR ANY EQUIPMENT POWERED UNDER THIS PROJECT. OTHERWISE OVERCURRENT PROTECTION MIGHT NOT WORK, OR IT MIGHT CAUSE POWER QUALITY PROBLEMS.
7. NO ALUMINUM SHALL BE USED FOR GROUNDING WORK WITHOUT THE SPECIFIC WRITTEN PERMISSION OF THE ENGINEER. EXCEPTION: ALUMINUM BUILDING STRUCTURAL MATERIALS SHALL BE BONDED WITH LISTED ALUMINUM EQUIPMENT WITH ALUMINUM TO COPPER CONNECTORS FOR ROUTING COPPER EGC'S.
8. PROVIDE GROUNDING BUSHING ON BOTH ENDS OF ALL SERVICE ENTRANCE RACEWAYS, SIZE AS A GEC [250.80]. THIS INCLUDES RIGID STEEL ELBOWS ON PVC CONDUIT.
9. ALL METAL ENCLOSURES AND RACEWAYS SHALL BE BONDED TO GROUND [250.86]. FOR CIRCUITS OVER 250V PROVIDE BOND PER [250.97]. STANDARD LOCKNUTS ARE NOT ACCEPTABLE.
10. PROVIDE EGC CONNECTED TO ANY JUNCTION BOX WHERE SPLICE IS MADE [250.148].
11. PROVIDE BOND TO EXPOSED METAL ON ALL MOTORS, PUMPS, AND LIGHTING FIXTURES PER [250.112].

SURGE PROTECTION DEVICE (SPD) SCHEDULE

SPD ID	LOCATION TYPE	SURGE CURRENT RATING	SURGE COUNTER	VISUAL & AUDIBLE ALARM	NETWORK MONITORING	ENCLOSURE
SPD-A	TYPE 1	kA / mode	YES	YES	NO	NEMA 1
SPD-B	TYPE 1	kA / mode	YES	YES	NO	NEMA 1



3 E010 SURGE SUPRESSION INSTALLATION & SCHEDULE
NOT TO SCALE

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SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No.29529 04/03/17 DAVID A WILLS JR.

△	Revision Date	Description

Town of James Island

James Island Town Hall

1122/1126 Dills Bluff Road
Charleston, SC.

Project Number:	15169-00
Checked By:	DAW
Drawn By:	MCG
Date:	04/03/17
Scale:	12" = 1'-0"

E010

ELECTRICAL ONE-LINE DIAGRAM

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