

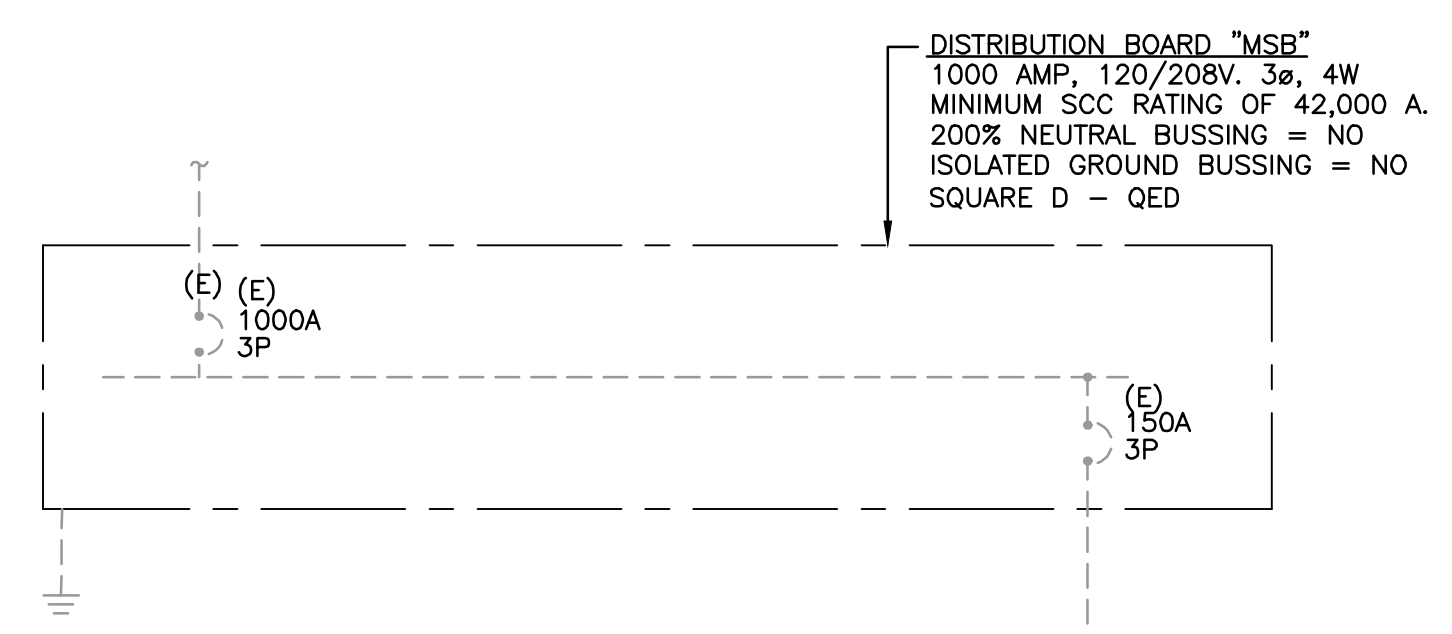
FEEDER SCHEDULE

FEEDER	CONDUIT AND CONDUCTORS	LOAD (A)	DISTANCE (FT)	V.D. (%)	AVAIL. FAULT CURRENT (A)	NOTES
MSB-1A	(E)4"C. 4#500KCMIL & 1#3 GRD	(120A)	375'	1.16	<10K	TO (E)PULLBOX "PBA"
MSB-1B	2"C. 4#2/O & 1#6 GRD	(120A)	160'	1.86	<10K	
MSB-1C	2"C. 4#2/O & 1#6 GRD	(120A)	125'	1.45	<10K	
MSB-2	1-1/2" C. 3#1/O & 1#8 GRD	65	25	.2	<10K	TAP SHALL NOT EXCEED 25'-0" CEC 240.21(B)(C)

GENERAL FEEDER SCHEDULE NOTES:

- ALL FEEDERS SHOWN, UNLESS SPECIFICALLY NOTED OTHERWISE, ARE PRESUMED TO BE ROUTED IN METAL RACEWAYS. IF P.V.C. CONDUITS ARE UTILIZED, THE CONTRACTOR SHALL PROVIDE AN EQUIPMENT GROUND PER CEC TABLE 250.122 OR, WHERE REQUIRED, PROVIDE A MAIN BONDING JUMPER PER TABLE 250.66 AND INCREASE THE CONDUIT SIZE ACCORDINGLY.
- LOADS INDICATED WITH " () " REPRESENT WORST CASE LOAD IN AMPS.
- DISTANCE SHOWN IS FOR DESIGN PURPOSES ONLY. IT IS NOT A MATERIAL TAKEOFF.
- VOLTAGE DROP VALUE INDICATED IS AT THE END OF THE FEEDER.
- AVAILABLE FAULT CURRENT VALUE AT THE END OF THE FEEDER INDICATED. CALCULATIONS ARE BASED UPON INITIAL VALUES RECEIVED FROM THE SERVING UTILITY AND THE LENGTH AND IMPEDANCE OF THE FEEDER. THE SHORT CIRCUIT CURRENT RATING, EQUIPMENT BUS BRACING, AND/OR AMP INTERRUPTING CURRENT OF EQUIPMENT CONNECTED ON THE LOAD SIDE OF THE FEEDER SHALL BE GREATER THAN THE AVAILABLE FAULT CURRENT.

NOTE:
 EXISTING ELECTRICAL SERVICE HAS BEEN INVESTIGATED AND FOUND TO HAVE ADEQUATE CAPACITY FOR THE PROPOSED LOAD ADDITION SHOWN ON THESE PLANS. SITE PROJECT INSPECTOR IS TO WITNESS AND VERIFY GROUNDING TESTS.



GENERAL SINGLE LINE DIAGRAM NOTES:

- ALL SWITCHGEAR SHALL BE SQUARE D OR EQUAL BY CUTLER-HAMMER, RSE-SIERRA, G.E., SIEMENS, OR Z-POWER AND DISTRIBUTION.
- ALL ITEMS DEPICTED ON THE SINGLE LINE DRAWINGS SHALL BE ASSUMED AS NEW U.O.N.
- ALL OVERCURRENT DEVICES IN AN INDIVIDUAL PIECE OF EQUIPMENT SHALL HAVE AN IAC RATING EQUAL TO THE OVERALL RATING OF THE EQUIPMENT-SERIES RATING OF DEVICES WITHIN A PIECE OF EQUIPMENT IS NOT ALLOWED. SEE SPECIFICATIONS FOR MORE INFORMATION.
- SERIES RATED DEVICES SHALL HAVE BEEN INVESTIGATED BY U.I. IN COMBINATION WITH THE END USE EQUIPMENT AND IN THE EQUIPMENT IN WHICH THESE DEVICES ARE USED AND SHALL BE MARKED WITH A SERIES RATING. ALL EQUIPMENT SHALL BE MARKED IN ACCORDANCE WITH NEC (OR CEC-WHERE ADOPTED) REQUIREMENTS. SEE SPECIFICATIONS FOR MORE INFORMATION. WHERE SERIES RATINGS ARE ALLOWED, THE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD TO INDICATE A SERIES COMBINATION RATING WHICH SHALL BE READILY VISIBLE AND STATE THE FOLLOWING:
 CAUTION - SERIES COMBINATION SYSTEM RATED AT ??,???, AMPERES. USE ONLY IDENTIFIED REPLACEMENT COMPONENTS IN THIS SYSTEM.

- WHERE ??,??? REPRESENTS AVAILABLE FAULT CURRENT. SEE SPECIFICATIONS FOR PLACARD REQUIREMENTS.
- ALL TERMINATIONS AND ENCLOSURES SHALL BE RATED FOR USE WITH 75 DEGREE CELSIUS CONDUCTORS.
 - ALL SERVICE ENTRANCE EQUIPMENT RATED AT 400A OR GREATER SHALL BE PROVIDED WITH A BACKFEED-RATED, SOLID STATE MAIN OVERCURRENT DEVICE AND BUSSING RATED AT 100% OPERATION (1000A/54in. FOR CU, 750A/54in. FOR AL). NO HEAT RISE RATED BUSSING ALLOWED. NON-SERVICE ENTRANCE SWITCHBOARDS AND DISTRIBUTION BOARDS LARGER THAN 600A SHALL BE PROVIDED WITH BUSSING RATED FOR 100% OPERATION - SEE SPECIFICATION FOR CIRCUIT BREAKER REQUIREMENTS. ALL NON-SERVICE ENTRANCE SWITCHBOARDS AND DISTRIBUTION BOARD MAIN OVERCURRENT DEVICES SHALL BE BACKFEED-RATED. BACKFEED RATINGS SHALL COMPLY WITH NEC, OR CEC WHERE ADOPTED, 710.15 (E) AND 705.12(B)(4). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING CIRCUIT BREAKERS.
 - PROVIDE CIRCUIT BREAKER ARC ENERGY REDUCTION MAINTENANCE SWITCHING PER NEC, OR CEC WHERE ADOPTED, 240.87(B)(3) FOR ANY CIRCUIT BREAKER, 1200A FRAME AND LARGER. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - ALL SWITCHBOARDS AND DISTRIBUTION BOARDS SHALL HAVE:
 - TIN-PLATED ALUMINUM BUSSING WITH RECTANGULAR CROSS SECTION. HORIZONTAL AND VERTICAL BUSSING SHALL BE FULL LENGTH AND SHALL HAVE PROVISIONS FOR FUTURE EXTENSIONS. ALL BUSSING SHALL HAVE MINIMUM WITHSTAND RATING EQUAL TO THE AVAILABLE FAULT CURRENT INDICATED. ALL VERTICAL AND HORIZONTAL BUSSING SHALL BE RATED AT FULL CAPACITY IN ALL SWITCHBOARD AND DISTRIBUTION BOARD SECTIONS. PROVIDE 100% NEUTRAL BUSSING MINIMUM UNLESS OTHERWISE NOTED. PROVIDE FULL LENGTH GROUND BUS AND, WHERE INDICATED ON PLANS, ISOLATED GROUND BUSSING. PROVIDE REAR WIRE WAY IN ALL SWITCHBOARD SECTIONS.
 - LUGS SUITABLE FOR USE WITH COPPER OR ALUMINUM CONDUCTORS LISTED FOR USE WITH 75 DEGREE CELSIUS AMPACITY CONDUCTORS.
 - PERMANENT PLACARD(S) MARKED PER THE SPECIFICATIONS AND PER NEC (OR CEC-WHERE ADOPTED) SECTIONS 225.37, 230.2(E), 690.56, 692.56, 700.7, 701.7, 702.7, AND 705.10 AND IFC (OR GFC - WHERE ADOPTED) SECTION 608.2.6.1. DENOTING THE PRESENCE OF ADDITIONAL SERVICES, PHOTOVOLTAIC SYSTEMS, FUEL CELLS, EMERGENCY, STATIONARY BATTERY STORAGE SYSTEMS, OR STAND-BY POWER SOURCES AS APPLICABLE.
 - CONTRACTOR SHALL SUBMIT SWITCHBOARD SHOP DRAWINGS TO THE SERVING UTILITY FOR APPROVAL PRIOR TO FABRICATION. CONTRACTOR SHALL SECURE CONFIRMATION THAT THE PROPOSED SWITCHBOARD COMPLIES WITH ELECTRIC UTILITY COMPANY REGULATIONS.
 - CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PER THE SPECIFICATIONS FOR SWITCHBOARDS, DISTRIBUTION BOARDS, TRANSFORMERS, PANEL BOARDS, AND ALL OTHER DEVICES SHOWN ON THE SINGLE LINE, PRIOR TO FABRICATION.
 - ALLOWABLE DIMENSIONS IN MAIN ELECTRICAL ROOM ARE A CRITICAL COORDINATION ITEM. CONTRACTOR SHALL PROVIDE 1/4" = 1'-0" SCALE DRAWINGS WITH SWITCHGEAR SUBMITTALS SHOWING THAT ALL PROPOSED EQUIPMENT WILL FIT IN THE SPACE PROVIDED. SUBMITTALS WITHOUT THIS DRAWING SHALL BE REJECTED AS INCOMPLETE.
 - UNLESS SPECIFICALLY SHOWN AS (E), (R), (ER), (D), EXISTING OR NON-BOLD, ALL ELECTRICAL DEVICES SHOWN ARE NEW.
 - WHERE REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION OR WHERE A NEW GROUND FAULT PROTECTIVE DEVICE IS BEING INSTALLED, A GROUND FAULT SYSTEM TEST SHALL BE CONDUCTED BY AN INDEPENDENT TESTING AGENCY PER NEC (OR CEC-WHERE ADOPTED) 250.95(C). THE GROUND FAULT SYSTEM TEST SHALL BE PERFORMED IN THE PRESENCE OF THE LOCAL AUTHORITY HAVING JURISDICTION. VERIFICATION OF DEVICE SETTINGS PER THE POWER SYSTEMS STUDY SPECIFICATION SHALL BE PERFORMED BY THE SAME INDEPENDENT TESTING AGENCY. THE GROUND FAULT TEST RESULTS SHALL BE DELIVERED TO THE ENGINEER OF RECORD. DURING THE CONSTRUCTION PHASE OF THE PROJECT ALL NEW GROUND FAULT RELAYS SHALL BE SET AT THE LOWEST AVAILABLE TIME DELAY AND PICK-UP SETTINGS.
 - SEE POWER SYSTEMS STUDY SPECIFICATION FOR ADDITIONAL REQUIREMENTS. ALL REQUIRED POWER SYSTEMS STUDIES MUST BE COMPLETED AND SUBMITTED WITH ELECTRICAL POWER DISTRIBUTION EQUIPMENT SUBMITTAL. FAILURE TO DO SO WILL PREVENT THE ENGINEER FROM EFFECTIVELY EVALUATING THE SUBMITTAL AND SHALL RESULT IN REJECTION OF THE ELECTRICAL POWER DISTRIBUTION EQUIPMENT SUBMITTAL AS INCOMPLETE.

TYPICAL RELO PANEL

MOUNTING	SURFACE	DOUBLE LUG	NO	VOLTS	120/240	MAIN	100A
NEMA 3R	YES	200% NEUTRAL	NO	PHASE	1	BUS	125A
FEED THRU	NO	IG BUS	NO	W/RE	2	10,000	10,000
LOCATION	A	B					
(E) INT LIGHTS	310			20/1	1	2	60/2
(E) SPARE				20/1	3	4	---
(E) EXT. LIGHTS	75	1		20/1	5	6	20/1
(E) REC. CONTROLLED	190			20/1	7	8	20/1
(E) REC. UNCONTROLLED	190			20/1	9	10	20/1
(E) REC - GFCI	190			20/1	11	12	20/1
	A= 6925 VA					B= 6120 VA	
	PHASE A LCL= 1536 VA					PHASE B LCL= 1440 VA	
	PHASE A W/LCL= 6361 VA					PHASE B W/LCL= 7560 VA	
	TOTAL VA= 12945					TOTAL VA W/LCL= 15921	
						AMP'S= 66	
						HIGH PHASE AMP'S= 70	

SPECIFIC PANEL SCHEDULE NOTES:

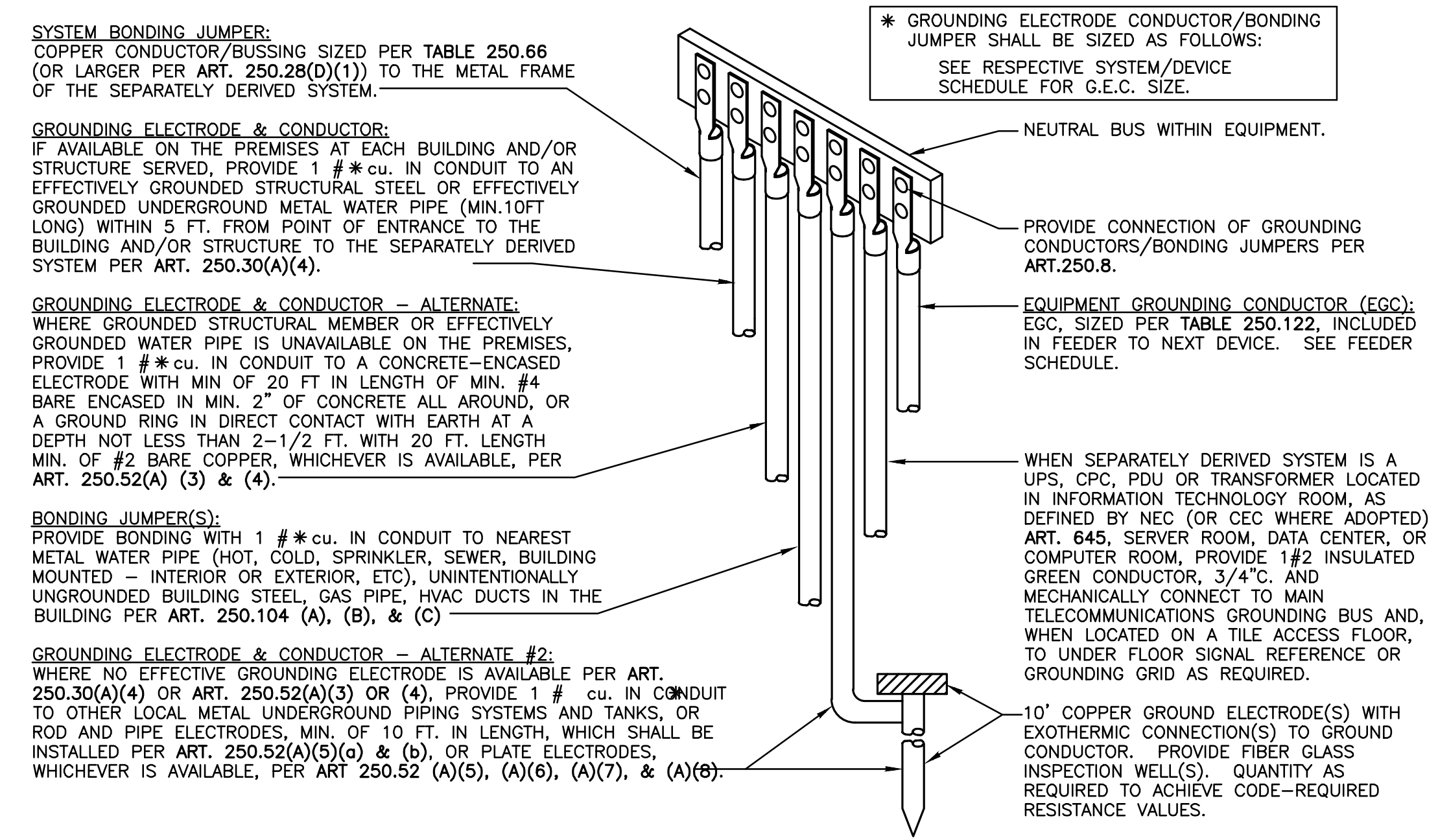
- "A" PROVIDE LOCK-ON DEVICE.
- "B" PROVIDE PERMANENT LOCK-OFF DEVICE THAT SHALL REMAIN IN PLACE WITH OR WITHOUT THE LOCK INSTALLED, PER NEC, OR CEC WHERE ADOPTED, SECTION 110.25.
- "C" PROVIDE SHUNT TRIP DEVICE.
- "D" PROVIDE GFCI TYPE DEVICE.
- "E" PROVIDE A RED CIRCUIT BREAKER.
- "F" PROVIDE A NEW BREAKER TO MATCH THE EXISTING IN PANEL.
- "G" EXISTING BREAKER WITH NEW LOAD.
- "H" PROVIDE AFCI TYPE DEVICE COMPLYING WITH NEC, OR CEC WHERE ADOPTED, 210.12(A),(B),(C).

SINGLE LINE DISTRIBUTION DIAGRAM
 SCALE: N.T.S.



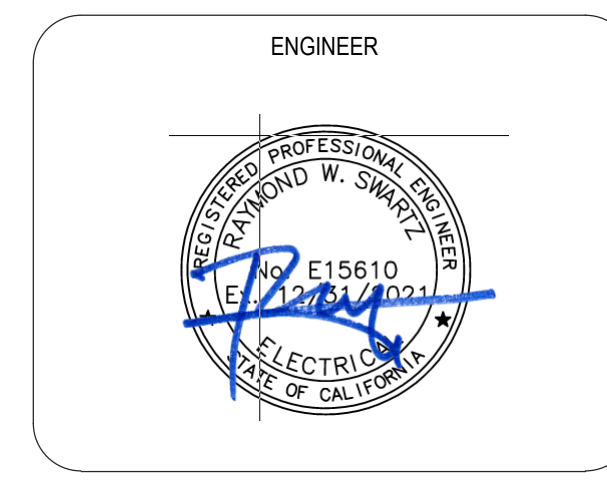
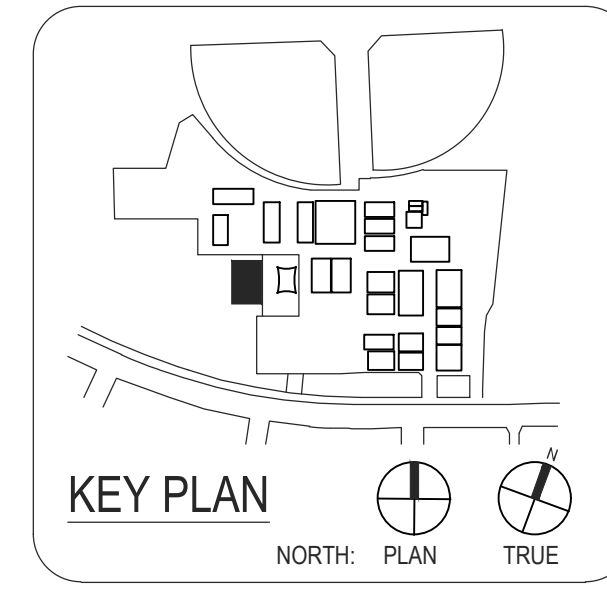
SPECIFIC SINGLE LINE NOTES:

- PROVIDE NEW OVERCURRENT PROTECTIVE DEVICE(S) COMPATIBLE WITH EXISTING ELECTRICAL DISTRIBUTION EQUIPMENT. IAC AND WITHSTAND RATINGS MATCHING EXISTING OCPD RATINGS OR DISTRIBUTION EQUIPMENT WITHSTAND RATINGS - WHICHEVER IS HIGHER.
- EXISTING CONDUIT AND CONDUCTORS, THE CONTRACTOR SHALL INTERCEPT THE EXISTING CONDUCTORS AND EXTEND AS REQUIRED.
- CONNECT TO RELOCATABLE BUILDING PANEL PER MANUFACTURER'S REQUIREMENTS.



SEPARATELY DERIVED SYSTEM (SDS) GROUNDING DETAIL
 SCALE: N.T.S. (OCPD PART OF SDS)

Wedge worth ES Portable Relocation



CLIENT: HACIENDA LA PUENTE USD

DATE: 10/12/2021 PROJECT NUMBER: #####

DRAWING HISTORY

No.	Description	Date

CONSTRUCTION DOCUMENTS

SINGLE LINE DIAGRAM