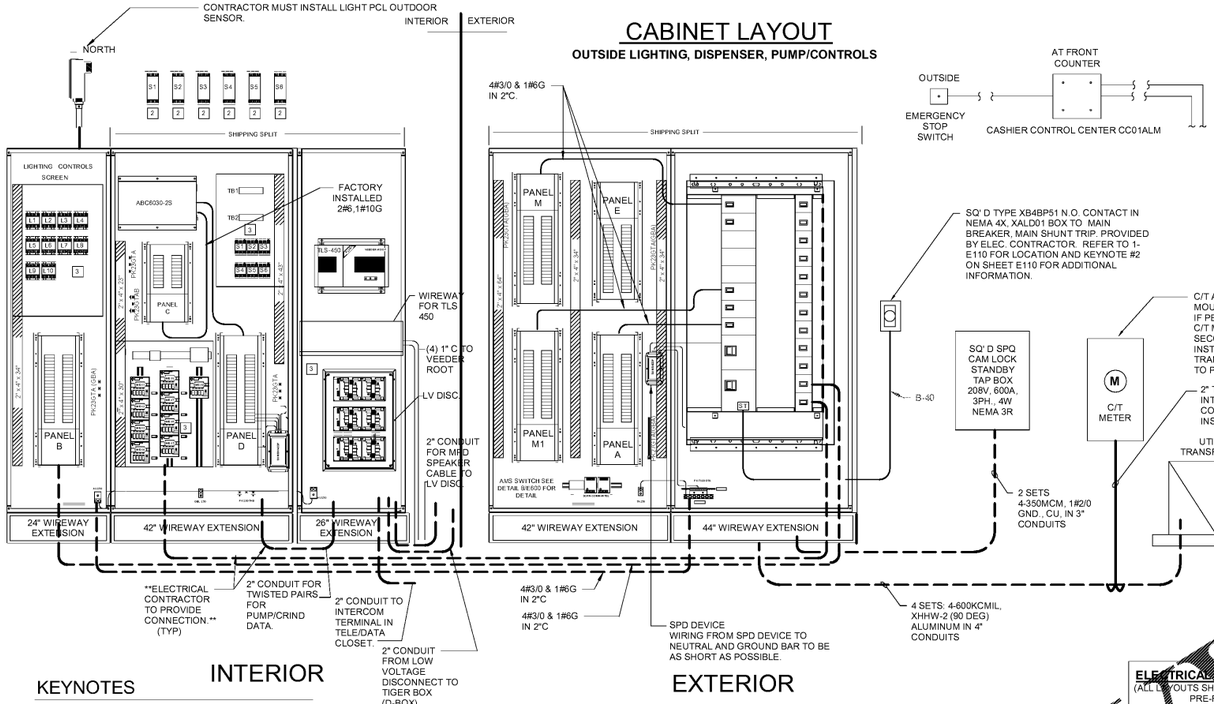
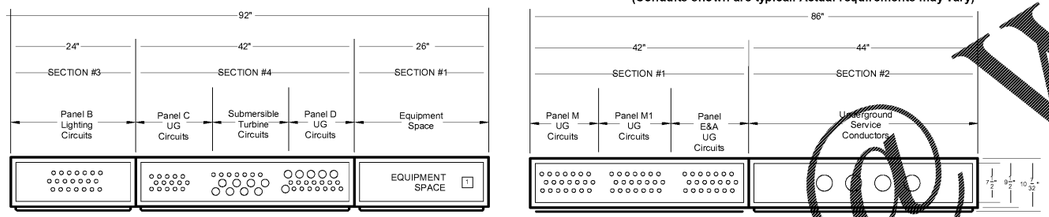
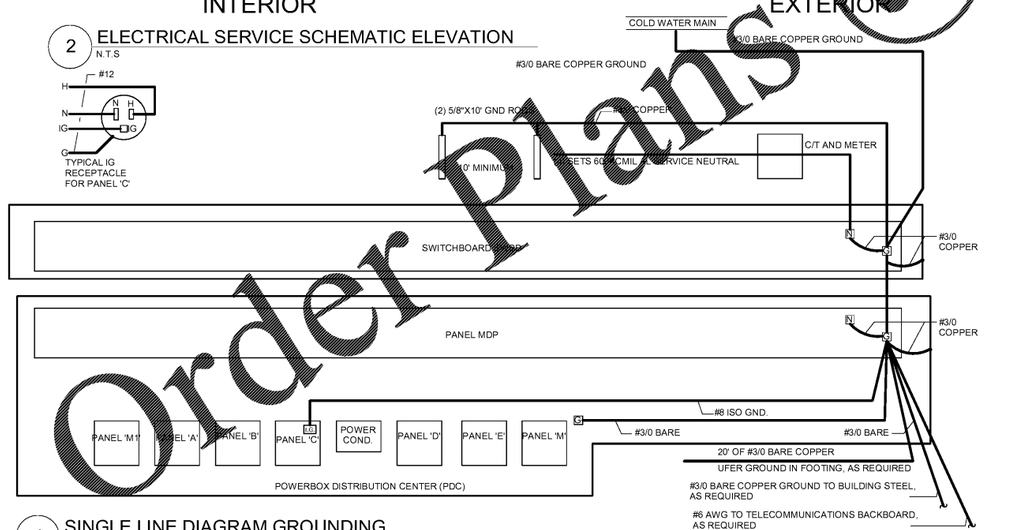


KEYNOTES

1. ROUTE LOW VOLTAGE SPEAKER WIRES THROUGH 26" WIREWAY UP TO LOW VOLTAGE DISCONNECT.
2. ROUTE 3#10 & 1#10G IN 3/4" C FROM PANEL D UP TO VARIABLE FREQUENCY CONTROLLER (VFC). ROUTE 3#10 & 1#10G IN 3/4" C FROM VFC TO SUBMERSIBLE TURBINE PUMPS.

TYPICAL UNDERGROUND CONDUIT ENTRY LOCATIONS
(Conduits shown are typical. Actual requirements may vary)





ELECTRICAL SERVICE SCHEMATIC NOTES

(ALL LAYOUTS SHALL BE COORDINATED WITH SQUARE D PRE-FABRICATED ASSEMBLY)

1. THE SQUARE D IPaCS ELECTRICAL DISTRIBUTION AND CONTROL PANEL IS INSTALLED BY THE ELECTRICAL CONTRACTOR AND FURNISHED BY THE OWNER OR AS SPECIFIED.
   1.1. THIS CONTROL PANEL INCLUDES ALL SQUARE D PANELBOARDS, BREAKERS, LIGHTING CONTROLS, DISPENSER AND SUBMERSIBLE PUMP CONTROLS, PILOT LIGHTS, SWITCHES, TERMINAL STRIPS AND POWER CONDITIONING DEVICES WHICH ARE PREINSTALLED AND INTERNALLY PREWIRED.
   1.2. THE ENCLOSURE MATERIAL IS 1/8" ALUMINUM.
   1.3. THE ENTIRE BOTTOM OF CABINET IS OPEN EXCEPT FOR A 1" FLANGE ON EACH SECTION.
   1.4. THE ENTIRE TOP OF CABINET IS SOLID. HOLES CAN BE KNOCKED OUT FOR CONDUIT ENTRY EVERYWHERE EXCEPT WHERE CABINETS JOIN TOGETHER.
2. THE METER CABINET, AND PULL SECTION EQUIPMENT LOCATED OUTSIDE THE BUILDING IS NOT PART OF THE SQUARE D IPaCS SYSTEM IF APPLICABLE.

MAIN DISTRIBUTION PANEL: MDP

Location: DRY GOODS RECEIVING 109 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 65,000 SERIES RATED
Supply From: | **Phase...** 3 | **Mains Type:** MCB 100% RATED
Mounting: PRE-FABRICATED | **Wires:** 4 | **Mains Rating:** 1200 A
Enclosure: PRE-FABRICATED | **MCB Rating:** 1200 A

Notes	CKT	Circuit Description	Circuit Information	Trip	Poles	A	B	C
	1					12129 VA		
CT	2	RTU-1	3#1, & 1#6GND., IN 1-1/2" CONDUIT	110 A	3		12129 VA	
	3							12129 VA
	4					12129 VA		
CT	5	RTU-2	3#1, & 1#6GND., IN 1-1/2" CONDUIT	110 A	3		12129 VA	
	6							12129 VA
	7					6366 VA		
CT	8	RTU-3	3#6, & 1#8GND., IN 1" CONDUIT	60 A	3		6366 VA	
	9							6366 VA
--	10	SPACE	--	--	--	0 VA		
--	11	SPACE	--	--	--		0 VA	
--	12	SPACE	--	--	--			0 VA
	13							
	14	PROVISION FOR LIFT STATION	-	100	3		0 VA	
	15							0 VA
	16					0 VA		
	17	SPD	3#10, & 1#10GND., IN 3/4" CONDUIT	60 A	3		0 VA	
	18							0 VA
	19					19394 VA		
P	20	PANEL M	4#3/0, & 1#6GND., INTERNALLY PRE-WIRED FACTORY INSTALLED	200 A	3		19064 VA	
	21							20186 VA
	22					19786 VA		
P	23	PANEL M1	4#3/0, & 1#6GND., INTERNALLY PRE-WIRED FACTORY INSTALLED	200 A	3		19171 VA	
	24							17100 VA
	25					6437 VA		
P	26	PANEL A	4#3/0, & 1#6GND., INTERNALLY PRE-WIRED FACTORY INSTALLED	200 A	3		8854 VA	
	27							6992 VA
	28					8373 VA		
	29	PANEL B	4#3/0, & 1#6GND., INTERNALLY PRE-WIRED FACTORY INSTALLED	200 A	3		5649 VA	
	30							7452 VA
	31					13025 VA		
	32	PANEL D	4#3/0, & 1#6GND., INTERNALLY PRE-WIRED FACTORY INSTALLED	200 A	3		11453 VA	
	33							10513 VA
	34					22206 VA		
	35	PANEL E	4#3/0, & 1#6GND., INTERNALLY PRE-WIRED FACTORY INSTALLED	200 A	3		21000 VA	
	36							18169 VA
	37					0 VA		
	38	GENERATOR CONNECTION BOX	(2) SETS 4#350KCMIL, & 1#2/0GND., IN 3" CONDUIT (KIRK KEY INTERLOCK)	600 A	3		0 VA	
	39							0 VA
--	40	SPACE	--	--	--	0 VA		
--	41	SPACE	--	--	--		0 VA	
	42							0 VA
	43	MAIN BREAKER	REFER TO ELETRICAL SERVICE SCHEMATIC ELEVATION FOR SERVICE CONDUCTORS	1200 A	3	0 VA		
	44						0 VA	
--	45	ERMS SMART CELL	--	--	--			0 VA
--	46	ERMS SMART CELL	--	--	--	0 VA		
--	47	ERMS SMART CELL	--	--	--		0 VA	
--	48	ERMS SMART CELL	--	--	--			0 VA
--	49	SPACE	--	--	--	0 VA		
--	50	SPACE	--	--	--		0 VA	
--	51	SPACE	--	--	--			0 VA
--	52	SPACE	--	--	--	0 VA		
--	53	SPACE	--	--	--		0 VA	
--	54	SPACE	--	--	--			0 VA
						Total Load: 119843 VA	115812 VA	111034 VA
						Total Amps: 1005 A	971 A	925 A

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	104537 VA	100.00%	104537 VA		
Lighting	25334 VA	125.00%	31668 VA	**Total Conn. Load:**	346689 VA
Power	38185 VA	100.00%	38185 VA	**Total Est. Demand:**	292982 VA
Receptacle	16796 VA	79.77%	13398 VA	**Total Conn. Current:**	962 A
Kitchen Equipment	161836 VA	65.00%	105193 VA	**Total Est. Demand Current:**	813 A

Notes:

NOTES FOR THIS DRAWING

1. THE POWERWALL DISTRIBUTION CENTER (PDC) IS INSTALLED BY THE ELECTRICAL CONTRACTOR AND FURNISHED BY THE OWNER THIS CONTROL PANEL INCLUDES ALL SQUARE 'D' PANELBOARDS, BREAKERS, LIGHTING CONTRACTORS, CONTROLS, DISPENSER, AND SUBMERSIBLE PUMP CONTROLS. PILOT LIGHTS, SWITCHES, TERMINAL STRIPS, AND PANEL 'C' POWER CONDITIONER ARE PREINSTALLED AND INTERNALLY PREWIRED ALL CIRCUIT BREAKERS, LIGHTING CONTROLS WITH BYPASS SWITCHES, DISPENSER AND SUBMERSIBLE PUMP CONTROLS, AND REMOTE EMERGENCY STOP CONTROLS ARE PREWIRED TO TERMINAL STRIPS AT THE TOP OR BOTTOM OF THE PDC. ALL NEUTRAL BARS AND GROUND BARS ARE FURNISHED WITH THE SYSTEM. A SPECIAL ISOLATED GROUND BAR IS FURNISHED WITH PANEL 'C'. REFER TO PDC SHOP DRAWINGS FOR TERMINATION POINTS.
2. CASHIER CONTROL CENTER (CONTAINS EMERGENCY STOPS, RESET SWITCH, ALARMS AND LIGHTING OVERRIDE SWITCH), AUXILIARY EMERGENCY STOPS, AND LIGHT SENSOR ARE FURNISHED WITH PDC, INSTALLED BY THE ELECTRICAL CONTRACTOR.
3. ANY DISCREPANCY BETWEEN THESE DOCUMENTS AND THE SHOP DRAWINGS MUST IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD.
4. ELECTRICAL CONTRACTOR SHALL BALANCE THE LOAD ON EACH PHASE LEG USING THE UNUSED "AREA LIGHTS", "CANOPY LIGHTS", AND BUILDING SIGNAGE CIRCUITS (STAYING WITHIN SIMILAR BUILDING FUNCTIONS).
5. DISCONNECT SWITCHES ARE NOTED AS SIZE/FUSES (EXAMPLE: 60/40 IS 60 AMP FUSED DISCONNECT SWITCH WITH 40 AMP FUSES).
6. WIRE SIZE OF BRANCH CIRCUITS SHALL BE MINIMUM #12 AWG, BUT NO LESS THAN PERMITTED BY THE NEC FOR SPECIFIED OVERCURRENT PROTECTION.
7. ALL FEEDER CONDUCTORS NOT INTERNAL TO THE INTEGRATED PACKAGE SHOULD BE SHOWN AS DASHED, AND WIRING SHOWN DASHED IS NOT INSTALLED BY POWERWALL, AND SIZED PER NEC, BASE ON ORIGINATING BREAKER SEE APPROPRIATE PANELBOARD SCHEDULES.
8. THE PDC IS UL LISTED. STANDARD ASSEMBLY IS 65,000 AIC SERIES RATED WITH FEEDER BREAKER. EC SHALL VERIFY AVAILABLE FAULT CURRENT AND SERVICE CHARACTERISTICS WITH LOCAL ELECTRIC UTILITY COMPANY PRIOR TO ORDERING PDC.
9. THE PDC WILL BE SHIPPED IN SECTIONS ON A PALLET & BOLTED TOGETHER AT THE JOBSITE. COORDINATE WITH THE GENERAL CONTRACTOR.
10. ELECTRICAL CONTRACTOR MUST TERMINATE ALL CONTROLLED BRANCH CIRCUITS FOR LIGHTING AND FUEL CABINET. BRANCH CIRCUITS FOR UNCONTROLLED LOADS CONNECT DIRECTLY TO RESPECTIVE CIRCUIT EQUIPMENT & CONTROL WIRING AT THE TERMINAL STRIPS AT THE TOP OR BOTTOM OF THE POWERWALL BREAKERS IN THE PANELS.
11. LOCATE OUTDOOR LIGHT SENSOR ON ROOF FACING NORTH. LIGHT SENSOR CONTROL WIRING IS FURNISHED AS PART OF THE POWERWALL PACKAGE. AIM SENSOR EYE AWAY FROM ARTIFICIAL LIGHT SOURCES. INSTALL IN ACCORDANCE WITH SHOP DRAWINGS.
12. SUBMERSIBLE PUMP POWER WIRING MUST BE #10AWG. A SEPARATE #10 AWG GROUNDING CONDUCTOR MUST BE RUN FROM EACH PUMP TO PANEL 'D' GROUND BAR.
13. CIRCUIT BREAKERS FOR FLOOR RECEPTACLES SHALL BE GFI.
14. ALL BRANCH CIRCUITS FOR PANEL 'C' LOADS SHALL INCLUDE A GROUNDING CONDUCTOR AND AN ISOLATED GROUNDING CONDUCTOR, WHICH SHALL BE CONNECTED TO THE PANEL 'C' ISOLATED GROUND BAR.
15. A VARIETY OF MAIN GROUNDING METHODS ARE INDICATED. METHOD(S) SHALL BE IN ACCORDANCE WITH LOCAL REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL PERFORM A FALL OF POTENTIAL TEST, IN ACCORDANCE WITH IEEE STD. 81, TO ENSURE A MAXIMUM EARTH GROUND RESISTANCE OF 25 OHMS AS REQUIRED BY THE NEC.
16. PROVIDE 3/4" RIGID CONDUIT FROM PDC TO EACH SUBMERSIBLE TURBINE PUMP. PROVIDE WIRING IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
17. PROVIDE ALL WIRING FOR TANK MONITORING SYSTEM. WIRING SHALL BE CONTINUOUS WITH NO SPLICES. DO NOT SHARE CONDUITS WITH OTHER WIRING SYSTEMS.
18. (1) 3/4" RIGID CONDUIT TO EACH TANK GAUGE MANHOLE
19. (1) 3/4" RIGID CONDUIT TO ALL INTERSTITIAL MONITORS
20. (1) 1" RIGID CONDUIT TO EACH STP MANHOLE IN TANK SLAB
21. PROVIDE ALL WIRING FOR DISTRIBUTION BOX AND GAS CONSOLE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
22. E.C. SHALL PROVIDE LABELS ON ELECTRICAL EQUIPMENT PER NEC 110.16 AND LOCAL JURISDICTION REQUIREMENTS.
23. ELECTRICAL CONTRACTOR (EC) SHALL PROVIDE AN OUTDOOR EMERGENCY BUTTON TO KILL ALL BUILDING POWER. EC SHALL PROVIDE SHUNT TRIP KIT MA1-1021 FOR 1200/3P MAIN BREAKER. PROVIDE WEATHERPROOF EMERGENCY REMOTE CUTOFF SWITCH KNOX #KS-2P SPST KEYED PER LOCAL FIRE DEPARTMENT REQUIREMENTS. POWER FROM CKT B-40. PROVIDE PERMANENT SIGN "EMERGENCY POWER DISCONNECT 1 OF 1". LOCATE ON OUTSIDE OF BUILDING PER AUTHORITIES' DIRECTION.
24. PROVIDE KIRK-KEY INTERLOCK BETWEEN MAIN BREAKER AND 600A SPARE (GENERATOR) BREAKER. ONLY ONE BREAKER SHALL BE CAPABLE OF BEING ENERGIZED AT ANY GIVEN TIME.
25. WIRING OF HVAC UNITS POWER, SMOKE DETECTION, AND CONTROL WIRING BY ELECTRICAL CONTRACTOR.

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