

File Name: M:\Radian Architecture\12523.00 Optimum Care - Sugar Land\Elect\12523.00 REVIT ELECTRICAL.rvt
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208Y120V 3PH 4W full size neutral w/copper ground bus																																						
PANEL "L3M"																																						
Copper Bus Rating 150 AMP Mains Rating (M.L.O.) 150 AMP 1 run of #4@10, 1 #6 G, 3" C Feeder Ampacity = 150A					<table border="0"> <tr><td>X</td><td>MCB</td><td>New</td><td>Panel</td></tr> <tr><td>X</td><td>MLO</td><td></td><td>Isolated Ground Bus</td></tr> <tr><td>X</td><td>Feed Thru Lugs</td><td>SEE PLAN</td><td>Location</td></tr> <tr><td>X</td><td>Shunt-Trip MCB</td><td>Flush</td><td>Mounting</td></tr> <tr><td></td><td>A.I.C.</td><td>1</td><td>Enclosure (NEMA)</td></tr> </table>					X	MCB	New	Panel	X	MLO		Isolated Ground Bus	X	Feed Thru Lugs	SEE PLAN	Location	X	Shunt-Trip MCB	Flush	Mounting		A.I.C.	1	Enclosure (NEMA)	<table border="0"> <tr><td>1</td><td>22 KA</td><td>A.I.C.</td><td>Enclosure (NEMA)</td></tr> </table>					1	22 KA	A.I.C.	Enclosure (NEMA)
X	MCB	New	Panel																																			
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	A.I.C.	1	Enclosure (NEMA)																																			
1	22 KA	A.I.C.	Enclosure (NEMA)																																			
LOAD DESCRIPTION	TYPE	LOAD KVA	LOAD AMP	WIRE/CONDUIT SIZE (Note 1)	TRIPPOLE (Note 2)	CKT # (Note 2)	PH # (Note 2)	CKT # (Note 2)	TRIPPOLE (Note 2)	WIRE/CONDUIT SIZE (Note 1)	LOAD AMP	LOAD KVA	TYPE	LOAD DESCRIPTION																								
CU-17	C	2.4	23.5	2#8, 1#10G, 3/4" C (Note 3)	40 IZ	1	A	2	20 IZ	2#12, 1#12G, 1/2" C	10.0	1.20	MIS	AQUARIUM 117A																								
**23.5 FLA-Disc30A2P240VNFN3R	C	2.4	23.5	2#8, 1#10G, 3/4" C (Note 3)	40 IZ	3	B	4	20 IZ	2#12, 1#12G, 1/2" C	10.0	1.20	MIS	WASHER 141A																								
CU-18	C	2.4	23.5	2#8, 1#10G, 3/4" C (Note 3)	40 IZ	5	C	6	30 IZ	2#10, 1#10G, 1/2" C	20.0	2.1	MIS	DRYER																								
**23.5 FLA-Disc30A2P240VNFN3R	C	2.4	23.5	2#8, 1#10G, 3/4" C (Note 3)	40 IZ	7	A	8	30 IZ	**30A-125/250V-3P-4W-G, NEMA 14-30R	20.0	2.1	MIS																									
CU-19	C	2.7	26.2	2#8, 1#10G, 3/4" C (Note 3)	40 IZ	9	B	10	20 IZ	2#12, 1#12G, 1/2" C	10.0	1.20	MT	FOUNTAIN																								
**26.2 FLA-Disc30A2P240VNFN3R	C	2.7	26.2	2#8, 1#10G, 3/4" C (Note 3)	40 IZ	11	C	12	20 IZ	2#12, 1#12G, 1/2" C	10.0	1.20	MT	FOUNTAIN																								
CU-20	C	1.7	16.8	2#10, 1#10G, 1/2" C (Note 3)	25 IZ	13	A	14	20 IZ	2#12, 1#12G, 1/2" C	5.2	0.62	MT	EF-22,23,24,25,26,27,28																								
**16.8 FLA-Disc30A2P240VNFN3R	C	1.7	16.8	2#10, 1#10G, 1/2" C (Note 3)	25 IZ	15	B	16	20 IZ	2#12, 1#12G, 1/2" C	3.0	0.36	R	EXTERIOR RECS (2)																								
CU-16	C	3.6	34.2	2#8, 1#10G, 3/4" C (Note 3)	50 IZ	17	C	18	20 IZ	2#12, 1#12G, 1/2" C	4.5	0.54	R	EQPT RECS																								
**34.2 FLA-Disc30A2P240VNFN3R	C	3.6	34.2	2#8, 1#10G, 3/4" C (Note 3)	50 IZ	19	A	20	20 IZ	2#12, 1#12G, 1/2" C	4.2	0.50	MIS	BAS																								
FCU-17.34HP-Disc30A2P240VNFN3R	MT	1.7	13.8	2#12, 1#12G, 3/4" C	20 IZ	21	B	22	20 IZ	2#12, 1#12G, 1/2" C	2.1	0.25	MIS	DAMPER																								
FCU-18.34HP-Disc30A2P240VNFN3R	MT	1.7	13.8	2#12, 1#12G, 3/4" C	20 IZ	23	C	24	20 IZ	2#12, 1#12G, 1/2" C	5.0	0.59	L	MECHL LIGHTING																								
FCU-19.34HP-Disc30A2P240VNFN3R	MT	1.7	13.8	2#12, 1#12G, 3/4" C	20 IZ	25	A	26	20 IZ					SPARE																								
FCU-20.34HP-Disc30A2P240VNFN3R	MT	1.7	13.8	2#12, 1#12G, 3/4" C	20 IZ	27	B	28	20 IZ	2#12, 1#12G, 1/2" C	2.1	0.25	MIS	FIRE ALARM PANEL																								
FCU-25.34HP-Disc30A2P240VNFN3R	MT	1.7	13.8	2#12, 1#12G, 3/4" C	20 IZ	29	C	30	20 IZ					SPARE																								
MAF-2.12HP-Disc30A2P240VNFN3R	MT	1.2	9.8	2#12, 1#12G, 3/4" C	20 IZ	31	A	32	20 IZ					SPARE																								
KEF-2.34HP-Disc30A2P240VNFN3R	MT	1.7	13.8	2#12, 1#12G, 3/4" C	20 IZ	33	B	34	20 IZ					SPARE																								
GENERATOR LTG	MIS	0.05	0.5	2#12, 1#12G, 1/2" C	20 IZ	35	C	36	20 IZ					SPACE																								
GENERATOR CHARGING	MIS	0.25	2.1	2#12, 1#12G, 1/2" C	20 IZ	37	A	38	60 IZ	4#6, 1#10G, 1 1/4" C	0.0	0.0	MIS	SPD (Externally Mounted Surge-Protective Device)																								
GENERATOR HEATER	MIS	1.2	11.5	2#10, 1#10G, 1/2" C (Note 3)	30 IZ	39	B	40	20 IZ		0.0	0.0	MIS	***																								
2.4KW-Disc30A2P240VNFN3R	MIS	1.2	11.5	2#10, 1#10G, 1/2" C (Note 3)	30 IZ	41	C	42	20 IZ		0.0	0.0	MIS	*																								

PANEL "L3M" LOAD ANALYSIS

LOAD DESCRIPTION	TYPE	DEMAND FACTOR	LOAD (KVA)		NEC CALCULATION REFERENCE
			CONNECTED	CALCULATED	
LIGHTING	L	1.25	0.6	0.7	125% of connected loads
RECEPTACLES	R	1	0.9	0.9	
COOLING LOADS	C	1	25.8	25.8	Cooling loads larger than heating
HEATING LOADS (non-coincident w/cooling)	H				
MOTOR	MT	1	14.1	14.1	
MISC. NON-CONTINUOUS LOADS	MIS	1	10.3	10.3	
2% LARGEST MOTOR (1.7 KVA)		0.25		0.4	
TOTAL LOAD (KVA)			51.7 KVA	52.3 KVA	
TOTAL LOAD (AMP AVG)			143.6 AMP	145.1 AMP	Calc Amps: P1A=150A, P1B=143A, P1C=150A, Neut=12A

208Y120V 3PH 4W full size neutral w/copper ground bus																																						
PANEL "K2"																																						
Copper Bus Rating 100 AMP Mains Rating (M.L.O.) 100 AMP 1 run of #4@10, 1 #6 G, 3" C Feeder Ampacity = 200A					<table border="0"> <tr><td>X</td><td>MCB</td><td>New</td><td>Panel</td></tr> <tr><td></td><td>MLO</td><td></td><td>Isolated Ground Bus</td></tr> <tr><td></td><td>Feed Thru Lugs</td><td>SEE PLAN</td><td>Location</td></tr> <tr><td></td><td>Shunt-Trip MCB</td><td>Flush</td><td>Mounting</td></tr> <tr><td></td><td>A.I.C.</td><td>1</td><td>Enclosure (NEMA)</td></tr> </table>					X	MCB	New	Panel		MLO		Isolated Ground Bus		Feed Thru Lugs	SEE PLAN	Location		Shunt-Trip MCB	Flush	Mounting		A.I.C.	1	Enclosure (NEMA)	<table border="0"> <tr><td>1</td><td>10 KA</td><td>A.I.C.</td><td>Enclosure (NEMA)</td></tr> </table>					1	10 KA	A.I.C.	Enclosure (NEMA)
X	MCB	New	Panel																																			
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1	10 KA	A.I.C.	Enclosure (NEMA)																																			
LOAD DESCRIPTION	TYPE	LOAD KVA	LOAD AMP	WIRE/CONDUIT SIZE (Note 1)	TRIPPOLE (Note 2)	CKT # (Note 2)	PH # (Note 2)	CKT # (Note 2)	TRIPPOLE (Note 2)	WIRE/CONDUIT SIZE (Note 1)	LOAD AMP	LOAD KVA	TYPE	LOAD DESCRIPTION																								
RANGE RECL (SHUT TRIP)	R	0.18	1.5	2#12, 1#12G, 1/2" C	20 IZ	1	A	2	20 IZ	2#12, 1#12G, 1/2" C	7.1	0.85	K	FREEZER																								
SOLENOID POWER	MIS	0.15	1.3	2#12, 1#12G, 1/2" C	20 IZ	3	B	4	20 IZ	2#12, 1#12G, 1/2" C	7.1	0.85	K	FREEZER																								
SUPPRESSION SYSTEM	MIS	0.15	1.3	2#12, 1#12G, 1/2" C	20 IZ	5	C	6	20 IZ	2#12, 1#12G, 1/2" C	5.4	0.65	K	REFRIGERATOR																								
SPARE					20 IZ	7	A	8	20 IZ	2#12, 1#12G, 1/2" C	5.4	0.65	K	REFRIGERATOR																								
DISH WASHER	K	1.80	15.0	2#12, 1#12G, 1/2" C	20 IZ	9	B	10	20 IZ	2#12, 1#12G, 1/2" C	3.0	0.36	K	KITCHEN RECEPTACLES																								
DISH WASHER	K	1.80	15.0	2#12, 1#12G, 1/2" C	20 IZ	11	C	12	20 IZ	2#12, 1#12G, 1/2" C	3.0	0.36	K	KITCHEN RECEPTACLES																								
SPARE					20 IZ	13	A	14	20 IZ	2#12, 1#12G, 1/2" C	3.0	0.36	K	KITCHEN RECEPTACLES																								
SPARE					20 IZ	15	B	16	20 IZ	2#12, 1#12G, 1/2" C	3.0	0.36	K	KITCHEN RECEPTACLES																								
SPARE					20 IZ	17	C	18	20 IZ	2#12, 1#12G, 1/2" C	3.0	0.36	K	KITCHEN RECEPTACLES																								
SPARE					20 IZ	19	A	20	20 IZ	2#12, 1#12G, 1/2" C	3.0	0.36	K	KITCHEN RECEPTACLES																								
SPARE					20 IZ	21	B	22	20 IZ	2#12, 1#12G, 1/2" C	3.0	0.36	K	KITCHEN RECEPTACLES																								
SPARE					20 IZ	23	C	24	20 IZ	2#12, 1#12G, 1/2" C	2.1	0.25	MIS	PC																								
SPARE					20 IZ	25	A	26	20 IZ					SPARE																								
SPARE					20 IZ	27	B	28	20 IZ					SPARE																								
SPARE					20 IZ	29	C	30	20 IZ					SPARE																								
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PANEL "K2" LOAD ANALYSIS

LOAD DESCRIPTION	TYPE	DEMAND FACTOR	LOAD (KVA)		NEC CALCULATION REFERENCE
			CONNECTED	CALCULATED	
RECEPTACLES	R	1	0.2	0.2	
MISC. NON-CONTINUOUS LOADS	MIS	1	0.6	0.6	
KITCHEN LOADS	K	0.65	9.1	5.9	NEC2011 Art. 220.56
TOTAL LOAD (KVA)			9.9 KVA	6.7 KVA	
TOTAL LOAD (AMP AVG)			27.3 AMP	18.5 AMP	Calc Amps: P1A=25A, P1B=15A, P1C=21A, Neut=15A

Relay Panel Summary					
OPTIMUM CARE, HOUSTON TX					
Relay Panel	1-Pole Qty	3-Pole Qty	Total Poles	Relay Panel Size	LCD catalog number (or approved equal)
RP1	4		4	8	LCD # GR1408L1 / 8 DTC MODEM (8 relays)
RP2	3	1	6	8	LCD # GR1408L1 / 8 DTC MODEM (8 relays)
RP3	2		2	8	LCD # GR1408L1 / 8 DTC MODEM (8 relays)

Relay Panel Load Schedule											
OPTIMUM CARE, HOUSTON TX											
Relay Panel	Relay #	Loads Served (Zone Name)	Area Served	Zone	Elec Panel	Circuit Controlled	Time On	Time Off	Flash	Override	1-Pole
RP3	1	EXTERIOR LTG	EXT	B31	L3A	3P	8:00PM	7:00AM	N	N	1
RP3	3	LIGHTING 117B	INT	B31	L3A	22	9:00AM	11:PM	Y	Y	1
RP3	4	FANS	INT	B32	L3A	24	9:00AM	11:PM	N	Y	1
RP4	3	LIGHTING 177A	INT	B41	L4A	22	8:00AM	11:00PM	Y	Y	1
RP4	4	FANS	INT	B42	L4A	24	9:00AM	11:00PM	Y	Y	1

208Y120V 3PH 4W full size neutral w/copper ground bus																																						
PANEL "L3A"																																						
Copper Bus Rating 225 AMP Mains Rating (M.L.O.) 225 AMP 1 run of #4@10, 1 #4 G, 3 1/2" C Feeder Ampacity = 230A					<table border="0"> <tr><td>X</td><td>MCB</td><td>New</td><td>Panel</td></tr> <tr><td>X</td><td>MLO</td><td></td><td>Isolated Ground Bus</td></tr> <tr><td>X</td><td>Feed Thru Lugs</td><td>SEE PLAN</td><td>Location</td></tr> <tr><td>X</td><td>Shunt-Trip MCB</td><td>Flush</td><td>Mounting</td></tr> <tr><td></td><td>A.I.C.</td><td>1</td><td>Enclosure (NEMA)</td></tr> </table>					X	MCB	New	Panel	X	MLO		Isolated Ground Bus	X	Feed Thru Lugs	SEE PLAN	Location	X	Shunt-Trip MCB	Flush	Mounting		A.I.C.	1	Enclosure (NEMA)	<table border="0"> <tr><td>1</td><td>22 KA</td><td>A.I.C.</td><td>Enclosure (NEMA)</td></tr> </table>					1	22 KA	A.I.C.	Enclosure (NEMA)
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LOAD DESCRIPTION	TYPE	LOAD KVA	LOAD AMP	WIRE/CONDUIT SIZE (Note 1)	TRIPPOLE (Note 2)	CKT # (Note 2)	PH # (Note 2)	CKT # (Note 2)	TRIPPOLE (Note 2)	WIRE/CONDUIT SIZE (Note 1)	LOAD AMP	LOAD KVA	TYPE	LOAD DESCRIPTION																								
EXTERIOR REC (2)	R	0.36	3.0	2#12, 1#12G, 1/2" C	20 IZ	1	A	2	20 IZ	2#12, 1#12G, 1/2" C	6.0	0.72	MIS	TV REC (2) 120B																								
GF RR (2) 122A	R	0.36	3.0	2#12, 1#12G, 1/2" C	20 IZ	3	B	4	20 IZ	2#12, 1#12G, 1/2" C	3.0	0.36	MIS	TV REC (1) 127B																								
BEDROOM REC (4) 123A	R	0.72	6.0	2#12, 1#12G, 1/2" C	20 IZ	5	C	6	20 IZ	2#12, 1#12G, 1/2" C	6.0	0.72	MIS	TV REC (2) 116B																								
GF & (3) REC 123A	R	0.72	6.0	2#12, 1#12G, 1/2" C	20 IZ	7	A	8	20 IZ	2#12, 1#12G, 1/2" C	6.0	0.72	MIS	TV REC (2) 128B																								
BEDROOM REC (2) 127A	R	0.36	3.0	2#12, 1#12G, 1/2" C	20 IZ	9	B	10	20 IZ	2#12, 1#12G, 1/2" C	6.0	0.72	MIS	GREAT ROOM TV REC (2) 117B																								
BEDROOM REC (4) 116A	R	0.72	6.0	2#12, 1#12G, 1/2" C	20 IZ	11	C	12	20 IZ	2#12, 1#12G, 1/2" C	4.2	0.50	MIS	PCS (2) 117B & 126B																								
GF RR (2) 115A	R	0.36	3.0	2#12, 1#12G, 1/2" C	20 IZ	13	A	14	20 IZ	2#12, 1#12G, 1/2" C	7.3	0.88	L	LIGHTING 124B																								
BEDROOM REC (4) 126A	R	0.72	6.0	2#12, 1#12G, 1/2" C	20 IZ	15	B	16	20 IZ	2#12, 1#12G, 1/2" C	0.6	0.10	L	LIGHTING 126B																								
BEDROOM REC (4) 126A	R	0.72	6.0	2#12, 1#12G, 1/2" C	20 IZ	17	C	18	20 IZ	2#12, 1#12G, 1/2" C	0.6	0.10	L	LIGHTING 126B																								
GREAT ROOM REC (6) 117A	R	1.08	9.0	2#12, 1#12G, 1/2" C	20 IZ	19	A	20	20 IZ	2#12, 1#12G, 1/2" C	9.8	1.16	L	LIGHTING 137B																								
GREAT ROOM REC (5) 117A	R	0.90	7.5	2#12, 1#12G, 1/2" C	20 IZ	21	B	22	20 IZ	2#12, 1#12G, 1/2" C	4.4	0.53	L	LIGHTING 117B																								
GREAT ROOM REC (2) 117A	R	0.36	3.0	2#12, 1#12G, 1/2" C	20 IZ	23	C	24	20 IZ	2#12, 1#12G, 1/2" C	7.5	0.90	M	FANS																								
GREAT ROOM REC (2) 117A	R	0.36	3.0	2#12, 1#12G, 1/2" C	20 IZ	25	A	26	20 IZ					SPARE																								
CORRIDOR REC (4) 118A	R	0.72	6.0	2#12, 1#12G, 1/2" C	20 IZ	27	B	28	20 IZ					SPARE																								
CONVENIENCE REC (2) 125A	R	0.36	3.0	2#12, 1#12G, 1/2" C	20 IZ	29	C	30	20 IZ					SPARE																								
GF & (2) REC 110A	R	0.36	3.0	2#12, 1#12G, 1/2" C	20 IZ	31	A	32	20 IZ					SPACE																								
EXTERIOR REC (2)	R	0.36	3.0	2#12, 1#12G, 1/2" C	20 IZ	33	B	34	20 IZ					SPACE																								
EXTERIOR REC (2)	R	0.36	3.0	2#12, 1#12G, 1/2" C	20 IZ	35	C	36	20 IZ																													