

NOTES

MOUNT: FLUSH

120/208

3-PHASE, 4W

LOCATION: MANAGERVAULT RM 104

PANEL

LUGS: LB

CAPACITY: 125A

INT CAP: 14KA

DEMAND LOAD: 46A

AV. FAULT: 10.7KA

NOTES

CKT	LTG	REC	HVAC	MISC	NP	DESCRIPTION	AMP POLE	Φ	AMP POLE	DESCRIPTION	LTG	REC	HVAC	MISC	NP	CKT	
G	1		0.40			RTU RECEPT. (GR/VP)	20	1	A	15	1			0.85		2	C
	3		1.10			NATURAL FREEZER	20	1	B	20	1			0.54		4	L
	5		1.10			NATURAL FREEZER	20	1	C	20	1			0.54		6	L
	7		1.10			NATURAL FREEZER	20	1	A	20	1			0.54		8	L
	9		1.10			NATURAL FREEZER	20	1	B	20	1			0.54		10	L
	11		1.10			NATURAL COOLER	20	1	C	20	1			0.54		12	
	13		1.10			NATURAL COOLER	20	1	A	20	1			0.54		14	
	15					SPARE	20	1	B	20	1			0.50		16	
	17		0.54			FRONT P.O.S. RECEPT.	20	1	C	20	1			0.40		18	L
	19		0.54			BOPIS UNIT - FRONT CASH	20	1	A	20	1			0.54		20	L
	21					SPARE	20	1	B	20	1			0.54		22	
	23		0.54			BOPIS CLOSET RECEPT.	20	1	C	20	1			0.54		24	
	25					SPARE	20	1	A	20	1			0.54		26	
	27					SPARE	20	1	B	20	1			0.54		28	
	29					SPARE	20	1	C	20	1			0.54		30	
	31					SPARE	20	1	A	20	1			0.54		32	
	33					SPARE	20	1	B	20	1			0.54		34	
	35		0.60			POWER DROP #7 - FRONT POS	20	1	C	20	1			0.54		36	
	37					SPARE	20	1	A	20	1			0.54		38	
	39					AUTO DOOR	20	1	B	20	1			0.85		40	L*
L	41		0.35			FRONT SERVICE RECEPT.	20	1	C	20	1			0.72		42	G

PHASE BALANCE

Φ

LOAD

%

RECEPTACLE

16.8 KVA

0.6 KVA

HVAC

25 KVA

0.6 KVA

MISC

0.5 KVA

0.6 KVA

NP

0.6 KVA

DEMAND

13.4 KVA

0.7 KVA

2.5 KVA

0.6 KVA

DEMAND FORMULA

LOAD X 125% NEC 210.19 CONTINUOUS

10KVA + 50% REMAINDER NEC 220.44

LOAD X 80% (USED IBCAIN CALCULATION)

LOAD X 100% NEC 210.19 NON-CONT.

0 NONCOINCIDENTAL LOADS NEC 220.60

TOTAL LOAD

CONNECTED

DEMAND

26.1 KVA

16.6KVA

55.9A

46.0A

FILENAME:

PS 14K_CS_2025_Panel1.104

REQUIRED FEATURES:

A. ALUMINUM BUSSING, COPPER GROUND

B. PROVIDE MTH ISOLATED GROUND BUS

NOTES		MOUNT: FLUSH					120/208		3-PHASE, 4W		PANEL		MC		CAPACITY: 225A			INT CAP: 14KA			NOTES	
LOCATION: HOLDING ROOM 122										LUGS:		FLO		DEMAND LOAD: 57A			AV. FAULT: 10.7KA					
CTKT	LTG	REC	HVAC	MISC	NP	DESCRIPTION		AMP	POLE Φ	AMP	POLE	DESCRIPTION		LTG	REC	HVAC	MISC	NP	CKT			
G	1	0.54				REC FISH PREP		20	1	A	15	EXHAUST FAN EFJ-1 (20 BHP)							2	C		
G	3		0.80			POWER DROP #5 - SH. ANIMAL		20	1	B	20	POWER DROP #2 - LG. AQUA					0.80	4				
G	5			1.50		EUI-1		20	2	C	20	POWER DROP #1 - BETTA					0.80	6				
G	7		A	1.50				20	1	A	20	POWER DROP #3 - SING3					0.80	8				
G	9			1.50		EUI-2		20	2	B	20	POWER DROP #4 - REP. FEED.					0.80	10				
G	11			1.50				20	2	C	20	POWER DROP #3 - PLANT					0.80	12				
G	13			0.80		POWER DROP #4 - REPTILE		20	1	A	20	POWER DROP #2 - LG. AQUA					0.80	14				
G	15		0.54			FISH AREA FREEZER		20	1	B	20	ASSOC. RES. - VENDING				1.00			16			
G	17			0.80		POWER DROP #8 - BIRD		20	1	C	20	ASSOC. RES. - VENDING				1.00			18			
G	19			0.40		MORORIZED DAMPER #1 & #2		20	1	A	20	ASSOC. RES. - FRIDGE				0.57			20		G	
G	21		0.72			HOLDING RM. #1 GR RECEIPT.		20	1	B	20	ASSOC. RES. - COUNT. RECEIPT.				0.54			22		G	
G	23		0.72			HOLDING RM. #2 GR RECEIPT.		20	1	C	20	ASSOC. RES. - MICROWAVE				1.30			24			
G	25		0.40			RECEIPT. FISH QUOT.		20	1	A	20	ASSOC. RES. RECEIPT.				0.30			26			
G	27		0.54			FISH PREP. FRIDGE		20	1	B	20	SPARE							28			
G	29		0.54			TURTLE TANK RECEIPT.		20	1	C	20	FISH FILTRATION RECEIPT.				0.54			30		G	
G	31		0.54			ADDITIONS GR RECEIPT.		20	1	A	20	FISH FILTRATION RECEIPT.				0.54			32		G	
G	33		0.54			RECEIPT. - ADDITIONS		20	1	B	20	FISH FILTRATION RECEIPT.				0.54			34		G	
G	35					SPARE		20	1	C	20	FISH FILTRATION RECEIPT.				0.54			36			
G	37					SPARE		20	1	A	20	FISH FILTRATION RECEIPT.				0.54			38		G	
G	39		0.40			RTU RECEIPT. (GR/FW)		20	1	B	20	FISH FILTRATION RECEIPT.				0.54			40		G	
G	41		0.54			COLUMN RECEIPT. - SALES		20	1	C	20	FISH FILTRATION RECEIPT.				0.54			42		G	
PHASE BALANCE								CONNECTED		DEMAND		DEMAND FORMULA						TOTAL LOAD				
A		LOAD		%		RECEPTACLE		0.9 KVA		12.3 KVA		LOAD X 125% NEC 210.19 CONTINUOUS						CONNECTED		DEMAND		
B		8.6 KVA		30%		HVAC		14.5 KVA		12.3 KVA		10KVA + 50% REMAINDER NEC 220.41						25.9 KVA		20.5KVA		
B		9.3 KVA		32%		MISC		1.3 KVA		1.9 KVA		LOAD X 80% (USED MCA IN CALCULATION)						80.4A		56.8A		
C		11.1 KVA		38%		NP		6.0 KVA		0.0 KVA		LOAD X 100% NEC 210.19 NON-CONT.						FILENAME:				
REQUIRED FEATURES:																						
A. ALUMINUM BUSSING, COPPER GROUND																						
B. PROVIDE WITH ISOLATED GROUND BUS																						

NOTES	MOUNT: FLUSH						120/208						3-PHASE, 4W						PANEL GA						CAPACITY: 225A						INT CAP: 14KA						NOTES
	LOCATION: DRYING AREA 115												LUGS: MLO						DEMAND LOAD: 45A						AV. FAULT: 10.7KA												
	CKT	LTO	REC	HVAC	MISC	NP	DESCRIPTION	AMP	POLE	Φ	AMP	POLE	DESCRIPTION	LTO	REC	HVAC	MISC	NP	CKT																		
G	1		1.26				DRIVER RECEPT.	15	1	A	20	1	SALON RECEPT.		0.84					2	G																
G	3		1.26				DRIVER RECEPT.	15	1	B	20	1	SALON RECEPT.		0.84					4	G																
G	5		1.26				DRIVER RECEPT.	15	1	C	20	1	SALON RECEPT.		0.84					6	G																
G	7		1.26				DRIVER RECEPT.	15	1	A	20	1	SALON RECEPT.		0.84					8	G																
G	9		1.26				DRIVER RECEPT.	15	1	B	20	1	SPARE							10																	
G	11						SPARE	20	1	C	20	1	SPARE							12																	
	13		0.36				BUZZER	20	1	A	20	1	SPARE							14																	
G	15		1.26				MOBILE DRIVER RECEPT.	20	1	B	20	1	MOBILE DRIVER RECEPT.		1.26					16	G																
	17						SPARE	20	1	C	20	1	SPARE							18																	
G	19		1.26				MASTER BLASTER RECEPT.	30	1	A	20	1	SPARE							20																	
G	21		1.26				MASTER BLASTER RECEPT.	30	1	B	20	1	SALON CHECKIN I.G. RECEPT.		0.54					22	L																
	23						SPARE	20	1	C	20	1	SALON CHECKIN I.G. RECEPT.		0.54					24	L																
	25						SPARE	20	1	A	20	1	SALON CHECKIN I.G. RECEPT.		0.54					26	L																
	27						SPARE	20	1	B	20	1	SALON CHECKIN I.G. RECEPT.		0.54					28	L																
	29						SPARE	20	1	C	20	1	SALON CHECKIN RECEPT.		0.54					30																	
	31						SPARE	20	1	A	20	1	SPARE							32																	
	33						SPARE	20	1	B	20	1	HALLWAY RECEPT.		0.30					34																	
	35						SPARE	20	1	C	15	1	WASH. DOOR OPER. & CALL SYS.				1.10			36																	
	37						SPARE	20	1	A	20	1	WASHROOM GFI RECEPT.		0.85					38	G																
G	39		0.40				RTU RECEPT. (GFI/WP)	20	1	B	20	1	DRINKING FOUNTAIN: SW-1		0.85					40	G																
	41						SPARE	20	1	C	20	1								42																	
PHASE BALANCE							LOAD TYPE	CONNECTED				DEMAND	DEMAND FORMULA				TOTAL LOAD																				
Φ							LIGHTING	0.5 KVA				0.5 KVA	LOAD X 125% NEC 210.19 CONTINUOUS				CONNECTED	DEMAND																			
A							RECEPTACLE	26.2 KVA				15.1 KVA	10KVA + 50% REMAINDER NEC 220.44				21.3 KVA	16.2KVA																			
B							7.2 KVA	34%	HVAC	0.0 KVA				0.0 KVA	LOAD X 80% (USED MICA IN CALCULATION)				58.6A	44.9A																	
C							9.8 KVA	46%	MISC	1.1 KVA				1.1 KVA	LOAD X 100% NEC 210.19 NON-CONT.				FILENAME:																		
D							4.3 KVA	20%	NP	0.0 KVA				0.0 KVA	0 NONCOINCIDENTAL LOADS NEC 220.60				PS 14K_CS_2025_Panel Load																		
REQUIRED FEATURES:																																					
A. ALUMINUM BUSSING, COPPER GROUND																																					
B. PROVIDE WITH ISOLATED GROUND BUS																																					

NOTES	MOUNT: WPVRLUS 120/208						3PHASE, 4W		PANEL LA		CAPACITY: 225A		INT CAP: 14KA		NOTES		
	LOCATION: RECEIVING AREA 117						LUGS:		DEMAND LOAD:		100A		AV. FAULT: 10.7KA				
	CKT	LTG	REC	HVAC	MISC	NP	DESCRIPTION	AMP	POLE	POLE	DESCRIPTION	LTG	REC	HVAC		MISC	NP
	C	1	0.85				AQUARIUM	20	1	A	20				0.35	2	L
	C	3		0.87			EXHAUST FAN EF-4 (96 BHP)	15	1	B	20			1.10		4	C
		5					SPARE	20	1	C	20				0.35	6	L
		7					SPARE	20	1	A	20						8
		9					SPARE	20	1	B	20				0.85	10	L
		11					SPARE	20	1	C	20						12
C/G		13	0.80				SPECIALTY AREA LIGHTING	20	1	A	20						14
		15			0.36		CP-1 EMS ELECTRONICS	20	1	B	20						16
	L	17			0.36		CP-1 EMS OUTPUTS	20	1	C	20						18
	G	19	0.54				EXTERIOR RECEPTACLE	20	1	A	20				0.35		20
		21					SPARE	20	1	B	20			0.54		22	C
	C	23					FRONT SIGNAGE (PETS MART)	20	1	C					2.40	24	
	C	25	0.90				SIDE SIGNAGE (PETS MART)	20	1	B	20	3	2		2.40	26	
	C	27	0.90				SIDE SIGNAGE (PETS MART)	20	1	B	20	1			0.35	28	
	C	29	0.90				REAR SIGNAGE (PETS MART)	20	1	C	20	1					30
		31					SPARE	20	1	A	20					32	
	C	33	0.84				LIGHTS - NIGHT LIGHTS	20	1	B	20			0.45		34	L
	C	35	1.60				LIGHTING - SALES	20	1	C	20	1		0.45		36	L
	C	37	1.10				LIGHTING - SALES	20	1	A	20					38	
	C	39	1.10				LIGHTING - SALES	20	1	B	20	1				40	
	C	41	1.60				LIGHTING - SALES	20	1	C						42	
	C	43	1.60				LIGHTING - SALES	20	1	A	15	2				44	G
	C	45	1.60				LIGHTING - SALES	20	1	B	20	1				46	
		47					SPARE	20	1	C	20	1				48	
		49					SPARE	20	1	A	20			0.35		50	C
	C	51	1.10				LIGHTS - SALON/BATHING/WHISPOOMS	20	1	B	20	1		0.35		52	C
	C	53	0.60				LIGHTING - RECEIVING	20	1	C	20	1		0.35		54	C
	C	55	0.36				LIGHTS - OFFICE/STAFF	20	1	A	20	1				56	
	C	57	0.70				LIGHTING - FISHADOPTION	20	1	B	20	1				58	
U*		59	1.60				LIGHTING - EMERG. EXIT	20	1	C	20	1				60	
PHASE BALANCE								LOAD TYPE		DEMAND		DEMAND FORMULA		TOTAL LOAD			
								LIGHTING		14.6 KVA		LOAD X 125% NEC 210.19 CONTINUOUS		CONNECTED		DEMAND	
Ø		LOAD		%		RECEPTACLE		4.0 KVA		4.0 KVA		10KVA + 50% REMAINER NEC 220.44		32.7 KVA		35.9KVA	
A		9.3 KVA		28%		HVAC		2.0 KVA		1.6 KVA		LOAD X 80% (USED MAIN IN CALCULATION)		90.7A		95.7A	
B		11.1 KVA		34%		MISC		12.1 KVA		12.1 KVA		LOAD X 100% NEC 210.19 NON-CONT.				FILENAME:	
C		12.3 KVA		38%		NP		0.0 KVA		0.0 KVA		0 NONCOINCIDENTAL LOADS NEC 220.60				PS 14K_CS_2021_Panel Loads.xlsx	
REQUIRED FEATURES: A ALUMINUM BUSSING, COPPER GROUND B. PROVIDE WITH ISOLATED GROUND BUS																	

NOTES	MOUNT: PVVRPLUS 347/600						3-PHASE, 4W		PANEL		MDP		CAPACITY: 400A				- INT CAP-: 60KA				NOTES
	LOCATION: RECEIVING 117						LUGS: MCB				DEMAND LOAD: 182A				AV. FAULT: 29 KA						
	CKT	LTO	REC	HVAC	MISC	NP	DESCRIPTION	AMP	POLE	Φ	AMP	POLE	DESCRIPTION	LTO	REC	HVAC	MISC	NP	CKT		
H	1			4.2			RTU-1 (6 TONS)	15	3	A	B	15	3	RTU-2 (4 TONS)		3.5			2	H	
				4.2							C	C						3.5			
				3.5														5.9			
H				3.5			RTU-3 (5 TONS)	15	3	A	B	20	3	RTU-4 (7.5 TONS)		5.9			4	H	
				4.2							C	C						5.9			
				5.9							A	A						4.2			
H	5			4.2			RTU-5 (6 TONS)	15	3	A	B	20	3	RTU-6 (7.5 TONS)		5.9			6	H	
				4.2							C	C						5.9			
				5.9							A	A						4.2			
H	7			5.9			RTU-7 (7.5 TONS)	20	3	B	B	15	3	RTU-8 (5 TONS)		4.2			8	H	
				4.2							C	C						4.2			
				5.9														4.2			
	9			4.2			WH-1	15	3	A	B	15	3	WH-2		4.2			10		
				4.2							C	C						4.2			
				4.2														4.2			
	11				0.7		DOCK LEVELLER	15	3	A	B	15	3	SPARE					12		
					0.7						C	C									
					0.7																
	13	3.9	17.3	2.1	6.4	1.5	XFMR: T1 RATED 150.0 KVA LOAD 103 KVA	200	3	A	A	15	3	VERIS WATT TRANS-DUCER (WVT) / PHASE LOSS MON (PLM)					14		
		5.3	21.0	2.0	7.4	1.5					B	B									
		5.4	17.2	0.0	9.1	3.0					C	C									
	15						SPACE					3		SPACE					16		
	17						400A FRAME MOBILE GEN BREAKER W/ MECH INTERLOCK & AUX. SW	400	3	A	A	3		DEDICATED SPACE					18		
											B	B									
											C	C									
PHASE BALANCE						LOAD TYPE		DEMAND		DEMAND FORMULA		TOTAL LOAD									
						LIGHTING		14.6 KVA		16.3 KVA		LOAD X 125% CEC 9-104 CONTINUOUS		CONNECTED		DEMAND					
Φ						LOAD		%		RECEPTACLE		55.5 KVA		32.7 KVA		10KVA + 50% REMAINDER		241.9 KA 188.7KVA			
A						77.5 KVA		32%		HVAC		140.9 KVA		112.7 KVA		LOAD X 80% (USED MCAIN CALCULATION)		232.8A 181.5A			
B						83.4 KVA		34%		MISC		25.0 KVA		25.0 KVA		LOAD X 100% CEC 8-104 NON-CONT.		FILENAME:			
C						81.0 KVA		33%		NP		6.0 KVA		0.0 KVA		0 NONCOINCIDENTAL LOADS		PS 14K_CS_2025_Panel Load			
REQUIRED FEATURES: A. ALUMINUM BUSSING, COPPER GROUND B. SERVICE ENTRANCE RATED C. MCB TO BE PROVIDED WITH MECHANICAL KIRK-KEY INTERLOCKED WITH MOBILE GENERATOR. D. BREAKERS FOR RTU'S ARE TO BE "HACR" RATED.																					

[illegible]

PANEL LEGEND NOTES:	
L	PROVIDE BREAKER W/ HANDLE "LOCK-ON" DEVICE
C	CIRCUIT THROUGH CONTactor PANEL FOR ENERGY MANAGEMENT CONTROL – SEE SHEET EM2
G	G.F.C.I. CIRCUIT BREAKER
E	EMS LIGHTING CONTACTOR COIL POWER CIRCUIT
H	BREAKER SHALL BE HACR RATED
*	PAINT BREAKER RED

GENERAL NOTE:

ELECTRICAL CONTRACTOR SHALL EITHER PROVIDE MULTI-POLE CIRCUIT BREAKERS OR HANDLE TIES FOR ALL CIRCUIT BREAKERS IN PANELBOARDS WITH MULTI-WIRE CIRCUITS IN ACCORDANCE WITH CSA C22.1-21 AND LATER. ELECTRICAL CONTRACTOR SHALL EXECUTE MEANS AND METHODS IN ACCORDANCE WITH APPLICABLE SECTION(S) OF O.E.S.C. AND THE LOCAL AUTHORITY HAVING JURISDICTION. ALL 120V LED LIGHTS SHALL HAVE DEDICATED NEUTRALS, SHARING NEUTRALS IS NOT ALLOWED.

ELECTRIC UNIT HEATER SCHEDULE (EUH):						
MARK	MANUFACTURER	MODEL #	ELECTRICAL DATA			NOTES
			VOLTAGE	PHASE	HZ KW	
EUH-1	QMARK	EFF-4004A	208V	1Ø	60 1.5KW	PROVIDE EFF-TBAR T-BAR MOUNTING, HONEYWELL HT520021029 THERMOSTAT CONNECTED W/ MD-1 & 40VA 120-24V TRANSFORMER FOR CONTROL WIRING.
EUH-2	QMARK	EFF-4004A	208V	1Ø	60 1.5KW	PROVIDE EFF-TBAR T-BAR MOUNTING, HONEYWELL HT520021029 THERMOSTAT CONNECTED W/ MD-2 & 40VA 120-24V TRANSFORMER FOR CONTROL WIRING.

- ELECTRICIAN TO OBTAIN FROM NATIONAL VENDOR, NO SUBSTITUTIONS.
- INSTALL PER MANUFACTURERS INSTRUCTION.
- MOUNT IN CEILING.
- FACTORY INSTALLED DISCONNECT SWITCH.

MARK	EQUIPMENT SERVED	LOAD	VOLT/ PHASE	FED BY	DISC. BY	MCA	MOCPD	FEEDER
RTU-1	ROOFTOP UNIT	12.47KVA	600V/3Ø	MDP	MC	12	15	3 #10 + GND- 3/4"
RTU-2	ROOFTOP UNIT	10.39KVA	600V/3Ø	MDP	MC	11	15	3 #10 + GND- 3/4"
RTU-3	ROOFTOP UNIT	10.39KVA	600V/3Ø	MDP	MC	11	15	3 #10 + GND- 3/4"
RTU-4	ROOFTOP UNIT	17.67KVA	600V/3Ø	MDP	MC	17	20	3 #10 + GND- 3/4"
RTU-5	ROOFTOP UNIT	10.39KVA	600V/3Ø	MDP	MC	11	15	3 #10 + GND- 3/4"
RTU-6	ROOFTOP UNIT	12.47KVA	600V/3Ø	MDP	MC	12	15	3 #10 + GND- 3/4"
RTU-7	ROOFTOP UNIT	17.67KVA	600V/3Ø	MDP	MC	17	20	3 #10 + GND- 3/4"
RTU-8	ROOFTOP UNIT	12.47KVA	600V/3Ø	MDP	MC	11	15	3 #10 + GND- 3/4"
WH-1	WATER HEATER	12.47KVA	600V/3Ø	MDP	MC	12	15	3 #10 + GND- 3/4"
WH-2	WATER HEATER	12.47KVA	600V/3Ø	MDP	MC	12	15	3 #10 + GND- 3/4"

MECHANICAL EQUIPMENT GENERAL NOTES:

- MOCPO TO BE AS PER MANUFACTURERS' RECOMMENDATIONS.
- PROVIDE NON-FUSED LOCAL DISCONNECT SWITCH RATED AT 14 KAIC. CONDUIT SHALL PENETRATE ROOF INSIDE CURB.
- PROVIDE WEATHERPROOF 120V GFI CONVENIENCE OUTLET ON ROOF CURB, CIRCUIT AS INDICATED.
- CONTRACTOR TO CONFIRM EXACT POWER REQUIREMENTS WITH MECHANICAL EQUIPMENT SHOP DRAWINGS PRIOR TO ORDERING ELECTRICAL DISTRIBUTION EQUIPMENT.
- CONTRACTOR TO CONFIRM NAMEPLATE DATA PRIOR TO CONNECTIONS.

DESIGNER NOTE:
ON A PROJECT SPECIFIC BASIS, IF EXTERIOR TRANSFORMER IS SHARED WITH ADJACENT TRANSFORMER, THE MCB OF EXTERIOR TRANSFORMER TO BE DISCONNECTED WITH CIVILIAN DEVELOPER. THE MCB OF EXTERIOR TRANSFORMER WILL CHANGE AND/OR WILL NOT REMAIN WITH NO EXTERIOR DISCONNECT.

DESIGNER NOTE:
ADJUST POLE QUANTITY TO SUIT PROJECT. PROVIDE AT LEAST 10% SPARE BREAKERS (WHERE POSSIBLE), TYPICAL FOR ALL PANELS.

DESIGNER NOTE: (TYPICAL FOR ALL RTU'S)
ADD NOTIFICATION FOR CONTRACTOR TO CONFIRM EXACT POWER REQUIREMENTS IN MECH EQUIP. DRAWINGS AND/OR NAMEPLATE DATA PRIOR TO SHOP ORDERING NATIONAL VENDOR ELECTRICAL DISTRIBUTION EQUIPMENT.