

1. GENERAL

1.1 Description

- .1 Provide panelboards for 347/600 and 120/208 volt branch circuit distribution as indicated on schedules shown on the drawings, complete with all items listed.
- .2 Construct panelboards to CSA Standards, apply CSA approval labels.
- .3 Panelboards to be manufactured by Cutler Hammer, Schneider or approved equivalent.
- .4 Supply shop drawings on all panelboards, switchboards and CDPs.

2. PRODUCTS

2.1 Materials

- .1 Tub: CSA code gauge galvanized steel, reversible top and bottom, finish painted ANSI 61 grey enamel or as specified in Section 16010 - Electrical General Requirements.
- .2 Mains: Copper, ampere ratings as shown, solderless lug connectors sized for cables in panels, bolt-on connectors for all main breakers and branch circuit breakers. Provide lockout capability for main breaker in each panel.
- .3 Neutral Bars: Same ampere ratings as mains, solderless lugs for connections.
- .4 Front shields to cover breaker assembly and neutral bars, leaving wiring gutters accessible when fronts removed.
- .5 Front Covers, Doors: CSA code gauge galvanized steel, with doors, concealed hinges, combination locks and latches, interior plastic covered circuit directory cardholders, concealed mounting screws, finish painted, same size as tubs where surface mounted, overlapping trim with wall gaskets where flush mounted.
- .6 Locks, Keys: All locks keyed alike.
- .7 Branch Circuit Breakers: Thermal magnetic with "ON", "OFF" and "TRIPPED" positions, single, two and three pole as required; ampere ratings as required; bolt-on line connections, solderless lug load connections; common trip for two and three pole; rated 240 volt 10,000 amps symmetrical short circuit interrupting capacity in 120/208 volt panelboards; rated 600 volts, 14,000 amps, symmetrical short circuit interrupting capacity in 347/600 volt panelboards.
- .8 Spaces: Stamp out spaces, install removable fillers where breaker spaces are shown.
- .9 Ground Fault Circuit Interrupters: Breakers having both 5 ma ground fault sensitivity and over current protection, of the amperage rating indicated, shall be installed in the

panelboards where required. Wire each ground fault breaker with a separate neutral conductor wired through the interrupter to the ground bus.

- .10 Panelboards will be sized and supplied with 15% minimum spare single pole breakers and 10% minimum spare space in each panelboard.

2.2 Acceptable Products:

- .1 Cutler Hammer
- .2 Scheider

3. EXECUTION

3.1 Mounting

- .1 Provide supports independent of conduits. Match trim and door heights on adjacent panelboards. Coordinate mounting heights with fire hose cabinets and other equipment as instructed by the Contract Administrator.

3.2 Wiring

- .1 Install branch circuit wiring in neat bundles at sides of wiring gutters, with wires to branch breakers horizontal.

3.3 Identification

- .1 Provide lamacoid plate securely and permanently attached to the exterior of each panelboard door showing panelboard designation, voltage and source of feed. Name plate to be in accordance with Section 16010 – Electrical General Requirements. Label to be size 5.
- .2 For all ground fault breakers, provide a sign indicating that circuits are so protected and that equipment should be tested regularly.

3.4 Branch Circuit Directory

- .1 Provide typed directory identifying all branch circuits. Directory to indicate device and location.

3.5 Keys

- .1 Provide 3 keys to City.

END OF SECTION

PANEL SCHEDULE										
Panel C										
DESCRIPTION	LOAD	BKR	CCT	A	B	C	CCT	BKR	LOAD	DESCRIPTION
Flow Meter DU-061-FIT	100W	15A	1	*			2	15A	100W	Flow Meter DU-063-FIT
Flow Meter DU-062-FIT	100W	15A	3		*		4	15A	100W	Flow Meter DU-064-FIT
Flow Meter DU-065-FIT	100W	15A	5			*	6	15A	1000W	UV MASRTER PLC
Flow Meter DU-066-FIT	100W	15A	7	*			8	15A	1000W	UV MASRTER PLC
HVAC CONTOLLER	100W	15A	9		*		10	15A		Spare
Spare		15A	11			*	12	15A		Spare
Spare		15A	13	*			14	15A		Spare
Spare		15A	15		*		16	15A		Spare
Spare		15A	17			*	18	15A		Spare
Space			19	*			20			Space
Space			21		*		22			Space
Space			23			*	24			Space
Space			25	*			26			Space
Space			27		*		28			Space
Space			29			*	30			Space
Space			31	*			32			Space
Space			33		*		34			Space
Space			35			*	36			Space
Space			37	*			38			Space
Space			39		*		40			Space
Space			41			*	42			Space

Voltage: 120/208/3 PH/ 4 Wire

Feeder: 4/C #3 Teck

Mains: 225A

Main Breaker: N/A

Location: North Mezz.

Power Source: Transformer LV-3

Mounting: Wall Surface

PANEL SCHEDULE										
PANEL 100										
DESCRIPTION	LOAD	BKR	CCT	A	B	C	CCT	BKR	LOAD	DESCRIPTION
30kVA Transformer	30kW	40A	1	*			2	15A	1.5HP	Motorized Valve Actuator 1
600-120/208V		3P	3		*		4	3P		FCV-1
			5			*	6			3/C #12 Teck
Motorized Valve Actuator 2	1.5HP	15A	7	*			8	15A	1.5HP	Motorized Valve Actuator 3
FCV-2		3P	9		*		10	3P		FCV-3
3/C #12 Teck			11			*	12			3/C #12 Teck
Motorized Valve Actuator 4	1.5HP	15A	13	*			14	15A	1.5HP	Motorized Valve Actuator 5
FCV-4		3P	15		*		16	3P		3/C #12 Teck
3/C #12 Teck			17			*	18			
Motorized Valve Actuator 6	1.5HP	15A	19	*			20	40A	30kW	Panel C Transformer
FCV-6		3P	21		*		22	3P		30kVA 600-120/208
3/C #12 Teck			23			*	24			3/C #8 Teck
AHU-1	67FLA	80A	25	*			26	80A	67FLA	AHU-2
		3P	27		*		28	3P		
			29			*	30			
CON-1	128FLA	150A	31	*			32	150A	128FLA	CON-2
		3P	33		*		34	3P		
			35			*	36			
Space			37	*			38			Space
			39		*		40			
			41			*	42			

Voltage: 600V/3 Phase

Feeder: 3-1/C #500MCM Teck

Mains: 400A

Main Breaker: N/A

Location: North Mezz.

Power Source: 5kV 600A Load Break Switch

Mounting: Wall Surface

PANEL SCHEDULE										
CDP-1										
DESCRIPTION	LOAD	BKR	CCT	A	B	C	CCT	BKR	LOAD	DESCRIPTION
UV CPP-11	213kW	300A	1	*			2	300A	213kW	UV CPP-12
		3P	3		*		4	3P		
			5			*	6			
UV CPP-21		300A	7	*			8	300A	213kW	UV CPP-22
		3P	9		*		10	3P		
			11			*	12			
UV CPP-23	213kW	300A	13	*			14	300A	213kW	UV-CPP-24
		3P	15		*		16	3P		
			17			*	18			
			19	*			20			
			21		*		22			
			23			*	24			
			25	*			26			
			27		*		28			
			29			*	30			
			31	*			32			
			33		*		34			
			35			*	36			
			37	*			38			
			39		*		40			
			41			*	42			

Voltage: 600/3 Phase

Feeder: 2000A Bus

Mains: 2000A

Main Breaker: N/A

Location: North Mezz.

Power Source: 5kV Vacuum Breaker via 2000kVA
 Transformer

Mounting: Floor

Panel to be complete with integrated TVSS