

LOUVERS AND HOODS											
MARK	MODEL NO.	SERVICE	CFM	THROAT SIZE	FREE AREA	VELOCITY FPM	SPD IN W/C	TYPE	FRAME	MOUNTING HEIGHT	REMARKS
L-1	RUSKIN ELF50SDMP	INTAKE	20,656	11480	30.9 SF	666	.05'	STATIONARY DRAINABLE	CHANNEL	SEE ARCH/STRUCT	SEE (1-6) BELOW
L-2	RUSKIN ELF50SDMP	EXHAUST	20,656	11480	30.9 SF	666	.05'	STATIONARY DRAINABLE	CHANNEL	SEE ARCH/STRUCT	SEE (1-6) BELOW

1) BAKED ENAMEL FINISH (COLOR BY ARCHITECT) 2) FABRICATE 24" DEEP PLENUM WITH MDTGGA DUCTIMATE MOISTURE DRAIN PIPED TO THE NEAREST FLOOR DRAIN WITH PVC. 3) CONFIRM MOUNTING HEIGHT .80' BELOW STRUCTURE AS HIGH AS POSSIBLE. 4) PROVIDE TAMCO 8000SC MOTORIZED DAMPERS WITH LOW-LEAK INSULATED PARALLEL BLADES AND THERMAL BREAK. 5) SILL EXTENSION 6) INCLUDE TWO-POSITION 120V ACTUATORS FOR CONTROL WIRED BY EC.

ENERGY RECOVERY VENTILATORS															
MARK	MODEL NO.	SUPPLY FAN				RETURN FAN				CONTROLS	WT LBS	REMARKS			
		CFM	ESP	HP	MCA	CFM	ESP	HP	MCA				VOLTS	MCA	VOLTS
ERV-1	RENEWARE HEX3XV	2255	1.5'	5.0	35.9	208 3PH	2400	1.5'	5.0	35.9	208 3PH	4.0	120 1PH	750	SEE (1-7) BELOW
ERV-2	RENEWARE HEX2XVH	1690	1.5'	2.0	15.0	208 3PH	1890	1.5'	2.0	15.0	208 3PH	4.0	120 1PH	450	SEE (1-7) BELOW ALTERNATE 1

1) SEE HEAT EXCHANGER SCHEDULE FOR PERFORMANCE INFORMATION. 2) DOUBLE WALL INSULATED CONSTRUCTION. 3) PROVIDE SUPPLY AND EXHAUST FILTER SECTION WITH 2' FILTERS. 4) MOUNTED ISOLATION DAMPERS ON BOTH AIR STREAMS. 5) ONCE-ARD VFD BOTH AIR STREAMS WITH HOA. 6) 24V TRANSFORMER CONTROL RELAY. 7) INTERLOCK OPERATION WITH CORRESPONDING HRU TO RUN UNIT IN THE OCCUPIED MODE.

AIR-TO-AIR HEAT EXCHANGERS															
MARK	MODEL NO.	TYPE	SUPPLY (SUMMER)			EXHAUST (SUMMER)			SUPPLY (WINTER)			EXHAUST (WINTER)			REMARKS
			CFM	EAT	LAT	CFM	EAT	LAT	CFM	EAT	LAT	CFM	EAT	LAT	
ERV-1	RENEWARE GS + J	FIXED PLATE ENTHALPIC	2255	90°F	80°F	2400	75°F	-	2255	-20°F	44°F	2400	70°F	-	NONE
ERV-2	RENEWARE GS + J	FIXED PLATE ENTHALPIC	1690	95°F	80°F	1890	75°F	-	1690	-20°F	44°F	1890	70°F	-	ALTERNATE 1

VRV HEAT RECOVERY UNITS															
MARK	MODEL NO.	NOMINAL SIZE	CONN RATIO	COOLING		HEATING		REFRIGERANT PIPING			ELECTRICAL		REMARKS		
				EAT	SMBH	EAT	HMHB	TYPE	LIQ	SUC	HILO	MCA		VOLTS	RUN A
HRU-1	DAIKIN REYQ18RTJU	14 TONS	128.8%	95°F	172.0	35°F	148.4	410A	3/4	1-1/8	7/8	81.9	208 3PH	41.8	SEE (1-6) BELOW
HRU-2	DAIKIN REYQ18RTJU	14 TONS	112.5%	95°F	164.8	35°F	147.8	410A	5/8	1-1/8	7/8	81.9	208 3PH	41.8	SEE (1-6) BELOW

1) INSTALL A SINGLE RIGID-WIRE CONTROL SYSTEM WITHOUT MANAGER CENTRAL CONTROLLER, WEB BROWSER CONTROL AND WAGO I/O MODULE FOR EACH ERV SCHEDULE CONTROL. 2) SELECT HIGH STATIC FAN FOR DUCTED EXHAUST. 3) UNITS REQUIRE SINGLE POINT ELECTRICAL CONNECTIONS. 4) MODULATING INVERTER COMPRESSORS. 5) AUTO CHANGE OVER. 6) 10 YR PART WARRANTY ALL COMPONENTS OF THE SYSTEM.

VRV FAN COIL UNITS																
MARK	MODEL NO.	SYSTEM	UNIT CONFIG	FAN		COOLING		HEATING		PIPING			ELECTRICAL		OSA CFM	REMARKS
				SCFM	ESP	EDB	EWB	SMBH	EAT	HMHB	LIQ	GAS	MCA	VOLTS		
FC-1	DAIKIN FXM20PBEVU	HRU-1	CEILING CONCEALED	1100	0.55'	76°F	65°F	19.8	62°F	36.6	3/8"	5/8"	1.8	208 1PH	300	SEE (1-8) BELOW
FC-2	DAIKIN FXM20PBEVU	HRU-1	CEILING CONCEALED	635	0.55'	76°F	65°F	12.9	62°F	23.3	1/4"	1/2"	1.6	208 1PH	140	SEE (1-8) BELOW
FC-3	DAIKIN FXM20PBEVU	HRU-1	CEILING CONCEALED	635	0.55'	76°F	65°F	12.9	62°F	23.3	1/4"	1/2"	1.6	208 1PH	140	SEE (1-8) BELOW
FC-4	DAIKIN FXM20PBEVU	HRU-1	CEILING CONCEALED	635	0.55'	76°F	65°F	12.9	62°F	23.3	1/4"	1/2"	1.6	208 1PH	140	SEE (1-8) BELOW
FC-5	DAIKIN FXM20PBEVU	HRU-1	CEILING CONCEALED	635	0.55'	76°F	65°F	12.9	62°F	23.3	1/4"	1/2"	1.6	208 1PH	140	SEE (1-8) BELOW
FC-6	DAIKIN FXM20PBEVU	HRU-1	CEILING CONCEALED	450	0.55'	76°F	65°F	8.1	62°F	15.8	1/4"	1/2"	1.4	208 1PH	170	SEE (1-8) BELOW
FC-7	DAIKIN FXM20PBEVU	HRU-1	CEILING CONCEALED	690	0.55'	76°F	65°F	15.7	62°F	31.4	3/8"	5/8"	1.8	208 1PH	280	SEE (1-8) BELOW
FC-8	DAIKIN FXM20PBEVU	HRU-1	CEILING CONCEALED	690	0.55'	76°F	65°F	15.7	62°F	31.4	3/8"	5/8"	1.8	208 1PH	220	SEE (1-8) BELOW
FC-9	DAIKIN FXM20PBEVU	HRU-1	CEILING CONCEALED	690	0.55'	76°F	65°F	15.7	62°F	31.4	3/8"	5/8"	1.8	208 1PH	280	SEE (1-8) BELOW
FC-10	DAIKIN FXM20PBEVU	HRU-1	CEILING CONCEALED	690	0.55'	76°F	65°F	15.7	62°F	31.4	3/8"	5/8"	1.8	208 1PH	220	SEE (1-8) BELOW
FC-11	DAIKIN FXM20PBEVU	HRU-1	CEILING CONCEALED	450	0.55'	76°F	65°F	8.1	62°F	15.8	3/8"	5/8"	1.4	208 1PH	225	SEE (1-8) BELOW
FC-12	DAIKIN FXM20PBEVU	HRU-2	CEILING CONCEALED	1380	0.55'	76°F	65°F	30.1	62°F	62.9	3/8"	5/8"	3.4	208 1PH	520	SEE (1-8) BELOW ALTERNATE 1
FC-13	DAIKIN FXM20PBEVU	HRU-2	CEILING CONCEALED	560	0.55'	76°F	65°F	10.0	62°F	19.2	1/4"	1/2"	1.5	208 1PH	100	SEE (1-8) BELOW ALTERNATE 1
FC-14	DAIKIN FXM20PBEVU	HRU-2	CEILING CONCEALED	560	0.55'	76°F	65°F	10.0	62°F	19.2	1/4"	1/2"	1.5	208 1PH	100	SEE (1-8) BELOW ALTERNATE 1
FC-15	DAIKIN FXM20PBEVU	HRU-2	CEILING CONCEALED	690	0.55'	76°F	65°F	15.7	62°F	31.4	3/8"	5/8"	1.8	208 1PH	100	SEE (1-8) BELOW ALTERNATE 1
FC-16	DAIKIN FXM20PBEVU	HRU-2	CEILING CONCEALED	1100	0.55'	76°F	65°F	19.8	62°F	36.6	3/8"	5/8"	2.8	208 1PH	380	SEE (1-8) BELOW ALTERNATE 1
FC-17	DAIKIN FXM20PBEVU	HRU-2	CEILING CONCEALED	500	0.55'	76°F	65°F	10.0	62°F	19.2	1/4"	1/2"	1.5	208 1PH	100	SEE (1-8) BELOW ALTERNATE 1
FC-18	DAIKIN FXM20PBEVU	HRU-2	CEILING CONCEALED	450	0.55'	76°F	65°F	8.1	62°F	15.7	1/4"	1/2"	1.4	208 1PH	170	SEE (1-8) BELOW ALTERNATE 1
FC-19	DAIKIN FXM20PBEVU	HRU-2	CEILING CONCEALED	1100	0.55'	76°F	65°F	19.8	62°F	36.6	3/8"	5/8"	2.8	208 1PH	220	SEE (1-8) BELOW ALTERNATE 1

1) LISTED CAPACITIES DERATED 15% FOR 4800 FT ELEV. 2) COORDINATE CONDENSATE PIPING WITH PLUMBING CONTRACTOR. 3) BUILT-IN CONDENSATE PUMP. 4) PIPING/CONDENSATE IN RIGID TUBING TO MECHANICAL ROOM FLOOR DRAIN, MOP BASIN, BRANCH TAIL PIECE OR THE GROUND. 5) 10-YEAR WARRANTY ON COMPRESSOR AND ALL PARTS. 6) PROVIDE NAVIGATION STYLE REMOTE THERMOSTAT. 7) INSTALL BRANCH SELECTOR BOXES WHERE SHOWN ON THE DRAWINGS. 8) COORDINATE BRANCH SELECTOR BOX POWER REQUIREMENTS WITH THE EC.

REFRIGERANT BRANCH SELECTOR BOXES											
MARK	SYSTEM	HEAT PUMP(S)	MODEL NO.	CONN COOLG MBH	CONN HEATG MBH	VOLTS	MCA	REMARKS			
BS-1	HRU-1	SUBBASEMENT	DAIKIN BSQ307VJ	22.2	31.4	208 1PH	0.1	BASE BID, FULL PORT BALL VALVES UP AND DOWN STREAM, SEE MFR			
BS-2	HRU-1	BASEMENT	DAIKIN BSQ547VJ	76.0	108.3	208 1PH	0.6	BASE BID, FULL PORT BALL VALVES UP AND DOWN STREAM, SEE MFR			
BS-3	HRU-1	1st FLOOR	DAIKIN BSQ547VJ	100.2	141.5	208 1PH	0.6	BASE BID, FULL PORT BALL VALVES UP AND DOWN STREAM, SEE MFR			
BS-4	HRU-2	2nd FLOOR	DAIKIN BSQ4547VJ	100.3	140.9	208 1PH	0.4	ALTERNATE #1, FULL PORT BALL VALVES UP AND DOWN STREAM, SEE MFR			
BS-5	HRU-2	2nd FLOOR	DAIKIN BSQ4547VJ	75.2	106.2	208 1PH	0.4	ALTERNATE #1, FULL PORT BALL VALVES UP AND DOWN STREAM, SEE MFR			

WASTE WATER PUMP											
MARK	MODEL NO.	FLOW GPM	WPD FT HD	PUMP TYPE	FLUID MEDIA	MOTOR HP	VOLTS	PIPE SIZE	AREA SERVED	CONTROL	REMARKS
SP-1	LIBERTY PUMPS SPAC-457	45	10	EFFLUENT	GREY WATER	1/2	120 1PH	2"	SIB BARBENT	FLOAT SWITCH	SEE (1-5) BELOW

1) SUPPLY PRE-PACKAGED SYSTEM WITH VERTICAL MAGNETIC FLOAT AND 32" WIDE 1" DEEP POLYETHYLENE PIT AND COVER. 2) 3-YEAR WARRANTY. 3) CHECK VALVE AND SHUT OFF VALVE BY MC. 4) ADD EXTENSION RINGS AS REQD TO MAKE FLUSH WITH FINISH FLOOR. 5) NIGHT EYE ALARM-EYE.

EXHAUST FANS											
MARK	MODEL NO.	AREA SERVED	BLOWER			MOTOR			CONTROL	REMARKS	
			ACFM	ESP	HP	DRIVE	TYPE	HP			VOLTS
EF-1	COOK GN-642	ELEVATOR ROOM	400	.25'	1500	DIRECT	IN LINE	110W	120 1PH	BACK DRAFT	SEE (1-5) BELOW

1) SEAL ALL DUCT PENETRATIONS WITH A FIRE SAFE CAULK. 2) PREWIRED FAN SPEED CONTROLLER. 3) SUPPORT WITH VIBRATION ISOLATION. 4) PREWIRED DISCONNECT. 5) 120V COOLING STAT.

PLUMBING FIXTURES											
MARK	FIXTURE	MFR, MODEL & DESCRIPTION	CONNECTIONS				MOUNTING HEIGHT				
			CW	HW	DRAIN	VENT					
WC-1	FLOOR MOUNT STD WATER CLOSET	KOHLER WELLCOMME MODEL K-4350-96, FLOOR MOUNT, 14.79" RM HT, TOP SPUD, BISQUE OPEN FRONT SEAT, SLOAN ROYAL MODEL 111 SF5M FLUSHMETER, BATTERY POWERED, SENSOR OPERATED, INFRARED UNIT, 1.6 GPF.	1"	-	4"	2"	15" RM HT				
WC-2	FLOOR MOUNT ADA WATER CLOSET	KOHLER HIGHLINE MODEL K-4405-96, FLOOR MOUNT, 17.125" RM HT, TOP SPUD, BISQUE OPEN FRONT SEAT, SLOAN ROYAL MODEL 111 SF5M FLUSHMETER, BATTERY POWERED, SENSOR OPERATED, INFRARED UNIT, 1.6 GPF.	1"	-	4"	2"	17.0" RM HT				
UR-1	WALL MOUNT ADA URINAL	KOHLER DARFIELD MODEL K-9224-T-36, WALL HUNG, TOP SPUD, BISQUE, WITH STRAINER, SLOAN ROYAL MODEL 188 SF5M FLUSHMETER, BATTERY POWERED, SENSOR OPERATED, INFRARED UNIT, 1.0 GPF.	3/4"	-	2"	1-1/2"	24" RM HT				
UR-2	WALL MOUNT ADA URINAL	KOHLER DARFIELD MODEL K-9224-T-36, WALL HUNG, TOP SPUD, BISQUE, WITH STRAINER, SLOAN ROYAL MODEL 188 SF5M FLUSHMETER, BATTERY POWERED, SENSOR OPERATED, INFRARED UNIT, 1.0 GPF.	3/4"	-	2"	1-1/2"	15" RM HT				
LV-1	DOUBLE SINK CONSOLES ADA LAVATORY	RENOVATOR SUPPLY, INC. ITEM ID #12106 WHITE GRADE A VITREOUS CHINA CONSOLE DOUBLE SINK SINK/LEG, WALL MOUNT, 8" CENTERS, KOHLER (2) ARTIFACT FAUCET AND HANDLES, POLISHED CHROME, MODEL K-2255 AND K-8096-84, WITH DEARBORN BRASS LAVAGUARD INSULATION KIT AND CHROME OFFSET GRID STRAINER.	1/2"	1/2"	2"	1-1/2"	34" RM HT				
LV-2	WALL MOUNT ADA LAVATORY	AMERICAN STANDARD LUCERNE MODEL 0555.012, WALL-HUNG, 4" CENTERS, WITH BACKSPASH DELTA FAUCET MODEL 22C-541, SINGLE LEVER CENTERSET, OFFSET GRID DRAIN, WITH TRUEBRO LAVAGUARD INSULATION KIT.	1/2"	1/2"	2"	1-1/2"	PER ARCHITECT				
DF-1	ADA WATER COOLER	ELKAY MODEL EZ27LUMSK, ELECTRIC COOLER, TWO LEVEL, BARRIER FREE FRONT SIDE TOUCH CONTROL, BOTTLE FILLING STATION, INSTANT SERVICE VALVE BENEATH CABINET.	1/2"	-	2"	1-1/2"	31" RM HT				
LT-1	LAUNDRY TUB	FAT MODEL FL-1, MOLDED STONE, SINGLE BASIN, STEEL ANGLE LEGS, FAT FAUCET MODEL A-1, DECK TYPE, SOLIDS INTERCEPTOR Z180.	3/4"	3/4"	3"	1-1/2"	FLOOR				
MB-1	MOP BASIN	FAT MODEL MSB-24X, MOLDED STONE BASIN, DELTA FAUCET MODEL 28C2-383, WALL MOUNT WITH INTEGRAL CHECK STOPS, VACUUM BREAKER, HOSE AND BRACKET.	3/4"	3/4"	3"	1-1/2"	FLOOR MOUNT				

FIXTURES AND FAUCETS WHICH ARE EQUAL IN CONSTRUCTION, FUNCTION, PERFORMANCE, AND APPEARANCE WILL BE ACCEPTED AS EQUAL. SHALL BE OF ONE MFR UNLESS NOTED. 1) WALL MOUNT FIXTURES SHALL BE INSTALLED WITH FLOOR MOUNTED CONCEALED ARM TYPE CARRIER SUPPORTS WITHIN THE WALLS. 2) EXPOSED ACCESSORIES SHALL INCLUDE CHROME PLATED BRASS P-TRAPS AND EXTENSIONS, QUARTER-TURN WEDGE STOPS, AND BRASS/STAINLESS STEEL SUPPLY LINES. 3) ALL WALL PENETRATIONS SHALL BE FINISHED WITH CHROME PLATED SCOTCHBOARDS. 4) COORDINATE RIM ELEVATIONS AND MOUNTING HEIGHTS WITH ARCHITECTURAL ELEVATIONS AND REQUEST WRITTEN CLARIFICATION WHERE SPECIFICATIONS DIFFER.

PLUMBING ACCESSORIES											
MARK	FIXTURE	MFR, MODEL & DESCRIPTION	CONNECTIONS				MOUNTING HEIGHT				
			CW	HW	DRAIN	VENT					
FD	FLOOR DRAIN	JAY R SMITH SERIES 2005, ROUND TOP, WITH FLASHING COLLAR AND NICKEL BRONZE ADJUSTABLE STRAINER, PRECISE LOCATIONS AS PER ARCHITECT. (2" SIDE UNLQ.)	-	-	2"	1-1/2"	FLOOR				
FS	FLOOR SINK	JAY R SMITH SERIES 3420, ACID RESISTANT COATED, 6" DEEP, 12" SQUARE TOP WITH 1/2" ARC GRATE, PRECISE LOCATIONS AS PER ARCHITECT. (2" SIDE UNLQ.)	-	-	3"	1-1/2"	FLOOR				
WH	WALL HYDRANT	JAY R SMITH SERIES 5900T, RECESSED, QUARTER-TURN, NON-FREEZE, WITH VACUUM BREAKER AND LOOSE KEY STOP, COLOR BY ARCHITECT	3/4"	-	-	-	EXISTING LOCATION				
SS	SPRINKLER SUPPLY	WOODFORD MODEL 32, COMBINATION CASTING, FREEZE-FREE, WITH LOOSE KEY STOP, SLEEVE EXTERIOR WALL AND CALK SEAL PENETRATION.	1"	-	-	-	12" AFF				
FCO	FLOOR CLEAN-OUT	JAY R SMITH 4020 SERIES, ROUND ADJUSTABLE NICKEL BRONZE TOP.	-	-	LINE	-	FLOOR				
WCO	WALL CLEAN-OUT	JAY R SMITH 4630 SERIES, NO-HUB TEE WITH STAINLESS STEEL COVER.	-	-	LINE	-	18" AFF				
GCO	EXTERIOR CLEAN-OUT	JAY R SMITH 4220 SERIES, ROUND CONCRETE ENCASED CAST IRON COVER.	-	-	LINE	-	GRADE				
HB	HOSE BIBB	JAY R SMITH SERIES 3673, WITH ANTI-SIPHON VACUUM BREAKER, SECURE FIRMLY WITHIN WALL OR EXPOSED ON WALL WITH UNISTRUT.	3/4"	-	-	-	24" AFF				
LV	TEMP LIMITING VALVE	POWERS E48 UNDER LAY OR L485 WITH LINE SIZE CONNECTIONS FOR GROUPS. ASSE 1070, LEAD-FREE, ALL SINKS AND LAVATORIES (SHOWN OR NOT) UNLESS NOTED OTHERWISE.	VARIABLES	VARIABLES	-	-	UNDER SINK				
TS	TRAP SEAL	JAY R SMITH SERIES 2902, ASSE 1072 BARRIER TYPE, FLOOR DRAIN TRAP SEALER, ALL FLOOR DRAINS UNLESS NOTED OTHERWISE.	VARIABLES	VARIABLES	-	-	PER MFR				
SA	SHOCK ARRESTOR	PRECISION PLUMBING PRODUCTS SC SERIES, COPPER WITH BRASS PISTON, SIZED AND INSTALLED PER MFR. PROVIDE ACCESS DOORS WHERE REQD.	VARIABLES	VARIABLES	-	-	PER MFR				
AC	APPLIANCE CONNECTION	GUY GREY MODEL MB-1, WHITE POWDER COAT METAL BOX WITH BOTTOM OR TOP 1/4" TURN SERVICE STOP AS REQD. CONFIRM INSTALLATION HEIGHT.	1/2"	-	-	-	PER MFR				
AD	ACCESS DOOR	PRECISION PLUMBING PRODUCTS D OR F SERIES, PRIMED STEEL WITH CYLINDER LOCK, 12" X 12" MIN SIZE, FIRE RATED WHERE REQD. ONE TO GO FOR INSTALLATION IN WALLS OR CEILING FOR ACCESS TO DEVICES AS NEEDED (WHETHER SHOWN OR NOT).	-	-	-	-	FIELD LOCATE				

1) ACCESSORIES OF SIMILAR SIZE, MATERIAL, CONSTRUCTION, AND PURPOSE AS MANUFACTURED BY SMITH, JOGAM, WADE, WATTS, ZURN, WOODFORD, AND OTHERS ARE ACCEPTABLE.

ELECTRIC HEATERS											
MARK	MODEL NO.	WATTS	TYPE	ACFM	RISE	STAGES	VOLTS	SIZE	CONTROL	MOUNTING HEIGHT	REMARKS
ERV-EH-1	RENEWARE EK-SERIES	10 kW	DUCT HEATER	2255	15' F	TWO	208 3PH	2014	DUCT STAT	SUPPLY DUCT	SEE (1-5) BELOW
ERV-EH-2	RENEWARE EK-SERIES	8 kW	DUCT HEATER	1600	15' F	TWO	208 3PH	2012	DUCT STAT	SUPPLY DUCT	SEE (1-5) BELOW ALTERNATE 1
UH-1	RAYWALL UH SERIES	30 kW	UNIT HEATER	1350	70' F	TWO	208 3PH	2417	T-STAT	CEILING	SEE (5-9) BELOW
UH-2	RAYWALL UH SERIES	30 kW	UNIT HEATER	1350	70' F	TWO	208 3PH	2417	T-STAT	CEILING	SEE (5-9) BELOW
UH-3	RAYWALL UH SERIES	30 kW	UNIT HEATER	1350	70' F	TWO	208 3PH	2417	T-STAT	CEILING	SEE (5-9) BELOW
UH-4											