

HVAC LEGEND	
SYMBOL	DESCRIPTION
[Symbol]	F.D. FIRE DAMPER AS REQUIRED
[Symbol]	S.D. SMOKE DAMPER AS REQUIRED
[Symbol]	ZONE DAMPER
[Symbol]	INLINE EXHAUST FAN
[Symbol]	EXHAUST FAN GRILLE
[Symbol]	RETURN AIR GRILLE
[Symbol]	SUPPLY AIR DIFFUSER
[Symbol]	LINEAR SUPPLY AIR DIFFUSER
[Symbol]	WALL SUPPLY AIR DIFFUSER
[Symbol]	DUCTED WALL RETURN AIR GRILLE
[Symbol]	VERTICAL STACKABLE HEAT PUMP
[Symbol]	VERTICAL HEAT PUMP UNIT
[Symbol]	HORIZONTAL HEAT PUMP UNIT
[Symbol]	WALL MOUNTED DUCTLESS SPLIT SYSTEM
[Symbol]	CONDENSING BOILER WITH POWER VENT
[Symbol]	SUPPLY AND RETURN AIR DUCT FROM ABOVE
[Symbol]	THERMOSTAT
[Symbol]	TEMPERATURE SENSOR
[Symbol]	ELECTRIC WALL MOUNTED CABINET HEATER WITH INTEGRAL THERMOSTAT
[Symbol]	RECESSED WALL MOUNTED HEAT PUMP W/ REMOTE THERMOSTAT
[Symbol]	EXHAUST FAN

- MECHANICAL NOTES:**
- MECHANICAL WORK SHALL CONFORM TO ALL LOCAL, STATE, AND FEDERAL STANDARDS, CODES, AND GUIDELINES.
  - SIGNIFICANT DESIGN ALTERATIONS, ADDITIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN PROFESSIONAL BEFORE PROCEEDING.
  - THE H.V.A.C. CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE MECHANICAL SYSTEM INSTALLATION WITH ALL TRADES INCLUDING ELECTRICAL, ARCHITECTURAL, STRUCTURAL, AND PLUMBING.
  - DIFFUSERS TO BE TYPE SHOWN ON PLANS WITH DIRECTIONAL LOUVERS AND INTEGRAL DAMPERS. ALL DIFFUSERS IN RESIDENTIAL UNITS TO BE CEILING MOUNTED WITH DIRECTIONAL LOUVERS AND INTEGRAL DAMPERS OF APPROPRIATE SIZE AS DETERMINED BY THE DESIGN PROFESSIONAL. ALL DIFFUSERS IN HARD CEILING TO HAVE INTEGRAL DAMPERS ACCESSIBLE FROM THE INTERIOR SPACE SERVED.
  - ALL BRANCH SUPPLY RUN OUTS TO DIFFUSERS AND EXHAUST DUCT RUN OUTS SHALL HAVE MANUAL BALANCING DAMPERS. DAMPERS SHALL BE LOCATED ABOVE ACCESSIBLE CEILING OR AN ACCESS PANEL SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.
  - THERMOSTAT WIRING TO BE CONCEALED IN WALLS OR EMT.
  - A CHAMFERED INSULATION STRIP TO BE PROVIDED AT ALL VERTICAL TRANSITIONS THROUGH THE ROOF.
  - H.V.A.C. UNITS SHALL BE FROM CARRIER, LENNOX, TRANE, YORK, REZNOR, MODINE OR OTHER APPROVED BY THE GENERAL CONTRACTOR.
  - PROVIDE ULL APPROVED THROUGH FLOOR PENETRATIONS AT RATED FLOOR/CEILING, ROOF/CEILING AND WALL ASSEMBLIES AS REQUIRED BY CODE.
  - NO FLEXIBLE DUCT SHALL BE ALLOWED IN RESIDENTIAL UNITS. MAXIMUM 8' OF FLEXIBLE DUCT ALLOWED FOR CONNECTIONS IN COMMON AREA ACOUSTICAL CEILING. NO FLEXIBLE DUCT TO BE ALLOWED AT HARD CEILING.
  - ROOF TOP UNITS TO BE INSTALLED WITH INSULATED CURB. PROVIDE MINIMUM FRESH AIR AS REQUIRED BY CODE FOR AREA SERVED.
  - SUPPLY AND RETURN DUCT WORK IS TO BE GALVANIZED SHEET METAL, INSULATED EXCEPT FOR THE FOLLOWING: ALL EXHAUST DUCTWORK SHALL BE ALUMINUM CONSTRUCTION (NET ENVIRONMENTS); ALL POOL DUCTWORK TO BE STAINLESS STEEL. KITCHEN EXHAUST DUCTWORK SHALL BE STAINLESS STEEL.
  - GUESTROOM BATHROOM VENTILATION SHALL BE WITH ROOF MOUNTED EXHAUST FAN, COMMON DUCTWORK AND SINGLE ROOF DISCHARGE WITH A VENTILATION RATE OF 35 C.F.M. PER BATHROOM WITH THE FAN WIRED TO THE ELECTRICAL PANEL. COMMON AREA BATHROOMS TO HAVE VENTILATION AT A RATE OF 75 C.F.M. PER TOILET/RINNAL FIXTURE. RESIDENTIAL DWELLING UNITS TO HAVE INDIVIDUAL CEILING MOUNTED COMBINATION LIGHT AND FAN UNITS DIRECTLY DUCTED THROUGH THE ROOF AT A RATE OF 75 C.F.M. PER TOILET FIXTURE OR INDIVIDUAL SWITCHES.
  - ALL ROOF PENETRATIONS TO BE LOCATED 20' DISTANCE FROM EAVES TO MINIMIZE VISIBILITY.
  - ALL RETURNS TO BE DUCTED.
  - ALL PENETRATIONS THROUGH FLOOR SHALL OCCUR ADJACENT TO COLUMNS OR EXTERIOR WALLS.
  - MECHANICAL CONTRACTOR SHALL PROVIDE COMBUSTIBLE AND NON-COMBUSTIBLE THROUGH PENETRATIONS AT ALL FIRE RATED ASSEMBLIES IN ACCORDANCE WITH THE FIRE RESISTANCE DIRECTORY FOR EACH TYPE OF THROUGH PENETRATION AND PROVIDE SPECIFIC U.L. #S). PROVIDE FIRE DAMPERS AND SMOKE DAMPERS AS REQUIRED BY CODE. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE RATED SHAFTS AND WALL ASSEMBLIES.
  - ALL HEATING SYSTEMS TO BE FIRED WITH GAS FUEL UNLESS NOTED OTHERWISE.
  - SPRINKLER ROOM TO BE HEATED WITH ELECTRIC WALL UNIT HEATERS WITH INTEGRAL THERMOSTAT.
  - ROOF TOP H.V.A.C. UNITS TO BE EQUIPPED WITH OUTSIDE AIR INTAKE DAMPERS, ECONOMIZERS AND PROGRAMMABLE THERMOSTATS TO BE MICRO ELECTRONIC TYPE WITH NIGHT SETBACK CAPABILITY, AUTO SWITCHING FROM HEAT AND COOL AND PROGRAMMABLE FAN SETTINGS. RESIDENTIAL UNITS TO HAVE ZONE CONTROLS FOR EACH ROOM WITH BY-PASS DAMPER.
  - ALL LOW VOLTAGE H.V.A.C. WIRING TO BE CONCEALED IN WALL OR CEILING CAVITIES.
  - ALL EQUIPMENT SHALL HAVE AN INTEGRAL MOTOR STARTER OR BE PROVIDED WITH A SEPARATE MOTOR STARTER.
  - PROVIDE ELEVATOR SHAFT VENTILATION WITH INTEGRAL MOTORIZED DAMPER ACTIVATED BY SMOKE DETECTION AS REQUIRED BY CODE.
  - PROVIDE CLIMATE CONTROL FOR ELEVATOR MACHINE ROOM TO PREVENT OVERHEATING OF ELEVATOR EQUIPMENT AS REQUIRED BY CODE.
  - ALL AIR SYSTEMS SHALL BE FULLY BALANCED AND TEST RESULTS SHALL BE RECORDED AND SUBMITTED AS SHOP DRAWINGS.
  - MECHANICAL CONTRACTOR TO COORDINATE THERMOSTAT/SENSOR LOCATIONS WITH ARCHITECTURAL DRAWINGS TO AVOID HIGHLY VISIBLE LOCATIONS AND ACCENT WALLS. WHERE FEASIBLE DEVICES SHALL BE STACKED VERTICALLY OVER EACH OTHER.

ROOF TOP HVAC UNITS			
UNIT		VOLT/PHASE	NOTES
RTU - K	7 1/2 TON	480V 3P	PROGRAMMABLE THERMOSTAT WITH NIGHT SETBACK, INSULATED CURB, DUCTED DISTRIBUTION, AUTO SWITCH FROM HEAT TO COOL. TYPICAL OF THESE UNITS, PROVIDE ECONOMIZERS
RTU - BAR	5 TON		
RTU - DI	4 TON		
RTU - D2	7 1/2 TON		
RTU - CR	1 1/2 TON		
RTU - HA	3 TON	480V 3P	ZONE CONTROL FOR INDIVIDUAL ROOMS WITH PROGRAMMABLE THERMOSTAT, INSULATED CURB, DUCTED DISTRIBUTION, AUTO SWITCH FROM HEAT TO COOL, BY-PASS DAMPER, TYPICAL OF THESE UNITS, PROVIDE ECONOMIZERS.
RTU - BA	8 TON		
RTU - 1 1/2	1 1/2 TON		
RTU - RC1	1 1/2 TON		
RTU - RC2	1 1/2 TON		
RTU - HG	6 TON	480V 3P	PROGRAMMABLE THERMOSTAT WITH NIGHT SETBACK, INSULATED CURB, DUCTED DISTRIBUTION, AUTO SWITCH FROM HEAT TO COOL. TYPICAL OF THESE UNITS, PROVIDE ECONOMIZERS

FAN SCHEDULE			
UNIT	CFM	VOLT/PHASE	NOTES
EF - RR	450	115V IP	PROVIDE ROOFTOP VENTILATION UNIT, POWER OFF OF CORRIDOR LIGHTS OF THESE UNITS
EF - KH	6,000	208V 3P	PROVIDE ROOFTOP VENTILATION UNIT, INTERCONNECT WITH KITCHEN EQUIPMENT
EF - DN	800	120V IP	PROVIDE ROOFTOP VENTILATION UNIT, INTERCONNECT WITH DISHWASHER EQUIPMENT
EF - M	75	115V IP	PROVIDE CEILING VENTILATION UNIT, POWER OFF OF ROOM LIGHT MOTION SENSOR THIS UNIT
EF - W	75	115V IP	PROVIDE CEILING VENTILATION UNIT, POWER OFF OF ROOM LIGHT MOTION SENSOR THIS UNIT
EF - EL	50	115V IP	PROVIDE CEILING VENTILATION UNIT, POWER OFF OF ROOM THERMOSTAT TO TRANSFER COOL AIR FROM SURROUNDING LOBBY AREA TO ELECTRICAL ROOM
EF - PT	250	120V IP	PROVIDE ROOFTOP VENTILATION UNIT, INTERCONNECT WITH DISHWASHER EQUIPMENT
EF - TR	50	120V IP	PROVIDE WALL MOUNTED VENTILATION UNIT, POWER FROM ELECTRICAL PANEL
EF - ET	75	115V IP	PROVIDE CEILING VENTILATION UNIT, POWER OFF OF ROOM LIGHT MOTION SENSOR THIS UNIT
EF - I	305	115V IP	PROVIDE ROOFTOP VENTILATION UNIT, POWER FROM ELECTRICAL PANEL. PROVIDE CONTINUOUS VENTILATION AT 35 CFM PER GUESTROOM
EF - 2	105	115V IP	
EF - 3	140	115V IP	
EF - 4	140	115V IP	
EF - 5	140	115V IP	
EF - 6	105	115V IP	
EF - 7	105	115V IP	
EF - 8	105	115V IP	
EF - 9	105	115V IP	
EF - 10	105	115V IP	
EF - 11	140	115V IP	
EF - 12	140	115V IP	
EF - 13	140	115V IP	
EF - 14	140	115V IP	
EF - 15	140	115V IP	
EF - 16	105	115V IP	
EF - 17	140	115V IP	
EF - 18	140	115V IP	
EF - 19	140	115V IP	
EF - 20	105	115V IP	
EF - 21	140	115V IP	
EF - 22	140	115V IP	
EF - 23	140	115V IP	
EF - 24	140	115V IP	
EF - 25	140	115V IP	
EF - 26	140	115V IP	
EF - 27	140	115V IP	
EF - 28	140	115V IP	
EF - 29	140	115V IP	
EF - 30	140	115V IP	
EF - 31	140	115V IP	
EF - 32	140	115V IP	
EF - 33	140	115V IP	

UNIT HEATERS			
UNIT	BTU'S	VOLT/PHASE	NOTES
UH-SP	2,000	240V IP	WALL MOUNTED ELECTRIC HEATER WITH INTEGRAL THERMOSTAT

PTAC UNITS			
UNIT	HEAT/COOLING	VOLT/PHASE	NOTES
PTAC1	14,580/11,700 (BTU/H)	208V IP 15A	GAS FIRED, WHITE ARCHITECTURAL GRILLE & CONDENSATE DRAIN KIT
PTAC2	16,000/16,000 (BTU/H)	208V IP 15A	

POOL ROOM EQUIPMENT		
UNIT	SIZE	NOTES
DH-1 (POOL ROOM DEHUMIDIFIER)	T.B.D.	PROVIDE GAS AND ELECTRICAL CONNECTIONS AS REQUIRED
PH-1 (POOL HEATER)	T.B.D.	
PU-1 (POOL HEATER PUMP)	T.B.D.	

**DEHUMIDIFICATION SYSTEM (MINIMUM DESIGN REQUIREMENTS):**

- A DEHUMIDIFICATION SYSTEM TO BE INSTALLED WITHIN THE POOL AREA.
- DEHUMIDIFICATION SYSTEM TO BE PROVIDED WITH OUTSIDE FRESH AIR INTAKE AND MECHANICAL EXHAUST.
- THE SYSTEM SHALL MAINTAIN THE POOL AREA TO THE FOLLOWING MINIMUM DESIGN CRITERIA:
  - AIR TEMPERATURE: 82°F
  - POOL WATER TEMPERATURE: 80°F
  - HUMIDITY: 45% (RELATIVE HUMIDITY)
  - AIR TEMPERATURE RANGE: ± 3° DEGREES
  - POOL WATER TEMPERATURE RANGE: ± 2 DEGREES
  - HUMIDITY RANGE: ± 50% AT INACTIVE PERIODS AND 65% AT ACTIVE PERIODS

MAKE-UP AIR UNIT SCHEDULE						
UNIT	CFM	INPUT (MBH)	OUTPUT (MBH)	COOLING	VOLT/PHASE	NOTES
MAU-K	5,100	500	500	N/A	480V 3P	DIRECT-FIRED
MAU-RC1	600	12	12	1 1/2 TONS	480V 3P	DIRECT-FIRED
MAU-RC2	600	12	12	1 1/2 TONS	480V 3P	DIRECT-FIRED
MAU-HG	2,400	12	12	6 TONS	480V 3P	DIRECT-FIRED

DUCTLESS SPLIT SYSTEM SCHEDULE			
UNIT	VOLT/PHASE	NOTES	
DSP-CP	1 TON	115V IP	TO PROVIDE COOLING ONLY WITH REMOTE THERMOSTAT
DSP-PP	2 TON	115V IP	TO PROVIDE COOLING ONLY WITH REMOTE THERMOSTAT
DSP-TK	2 TON	115V IP	TO PROVIDE COOLING ONLY WITH REMOTE THERMOSTAT
DSP-EM	1 TON	115V IP	TO PROVIDE COOLING ONLY WITH REMOTE THERMOSTAT
DSP-REM	1 TON	115V IP	TO PROVIDE COOLING ONLY WITH REMOTE THERMOSTAT

BOILER SCHEDULE					
UNIT	TYPE	INPUT (MBH)	STORAGE CAPACITY	VOLT/PHASE	NOTES
B-1	CONDENSING	1,000	250 GAL.	115V IP	GAS, DIRECT-FIRED, PVI POWER VT
B-2	CONDENSING	1,000	250 GAL.	115V IP	GAS, DIRECT-FIRED, PVI POWER VT

WATER SOURCE HEAT PUMP SCHEDULE						
UNIT	AREA SERVED	TYPE	COOLING LOAD (Tons)	HEATING LOAD (BTU/H)	VOLT/PHASE	NOTES
HP - ST1	STAIR 1	WALL	1 1/2	4,000	208V IP	WATER TO AIR HEAT PUMP
HP - ST2	STAIR 2	WALL	1 1/2	4,000		
HP - RLB	RESIDENCE LB.	CEILING	1 1/2	4,000		
HP - BR	E. BREAKROOM	VERT.	1	12,000	208V 3P	WATER TO AIR HEAT PUMP
HP - CR1	CORRIDOR	VERT.	1 1/2	4,000		
HP - CR2	CORRIDOR	VERT.	1 1/2	4,000		
HP - L	LAUNDRY	VERT.	3	17,000		
HP - F	FITNESS	HORIZ.	2	17,000		
HP - MT1	MEETINGS	HORIZ.	2 1/2	17,500	208V IP	WATER TO AIR HEAT PUMP
HP - MT2	MEETINGS	HORIZ.	2 1/2	17,500		
HP - GR1	GUESTROOMS	HORIZ.	3/4	12,000		
HP - GR2	GUESTROOMS	VERT.	3/4	12,000		
HP - GR3	GUESTROOMS	HORIZ.	1	14,000		
HP - ST1B	STAIR 1	CEILING	1/2	N/A		
HP - ST2B	STAIR 2	CEILING	1/2	N/A		

REVISION SCHEDULE		DATE	BY
	REVISION DESCRIPTION		

**OPECHEE**  
CONSTRUCTION CORPORATION  
11 CORPORATE DRIVE, BELMONT NH 03220  
PHONE (603) 337-2690 FAX (603) 337-9191

**HVAC LEGENDS AND NOTES**

PROJECT: **Hotel, Restaurant, & Portside Residences** Portland ME

DATE: 08-18-10  
SCALE: As Shown  
DRAWN BY: dwb

**M8**  
SHEET:

