

X:\GFD (Vails Gate Fire Dept)\GFD2020\10 Vails Gate FD New Firehouse\G2-BM-CADD\Construction\G2020-00 - Mechanical Schedules.dwg Last Modified: Jul 15, 2022 - 12:52pm By: jngara

HEATING HOT WATER BOILERS

EQUIPMENT NO.	LOCATION	RATEF GROSS INPUT (MBH)	RATED GROSS OUTPUT (MBH)	GAS (%)	PERFORMANCE/ CONSTRUCTION REQUIREMENTS							BASIS OF DESIGN INFORMATION							NOTES		
					WATER DATA				GAS DATA			BOILER VENT SIZE (IN)	MANUFACTURER	MODEL NO.	NOMINAL DIMENSIONS (L x W x H)	WEIGHT (LBS.)	ELECTRICAL DATA				
					FLOW RATE (GPM)	MAX RATED PRESS. (PSIG)	INLET TEMP. (DEG. F)	OUTLET TEMP. (DEG. F)	CFH	MIN PRESSURE (IN. W.C.)	MAX PRESSURE (IN. W.C.)						VOLTAGE	FLA		MCA	MOC
BL-1 & BL-2	MECHANICAL ROOM	800	768.8	96.1	45.3	80	114	150	800	4	13.5	6	RIELO	ARRAY 800	29.5 x 52.5 x 53.5	926	115V/1	15.5	16	20	1-7

- NOTES:
1. ASME RELIEF VALVE – SET AT 50 PSI
2. SINGLE POINT POWER FEED.
3. PROVIDE MULTIPLE LOW WATER CUTOFFS.
4. PROVIDE INTERLOCKS FOR GAS DETECTION AND BREAK GLASS STATION
5. PROVIDE CONDENSATE TRAP AND TRANSPARENT NEUTRALIZATION KIT.
6. PROVIDE MAINTENANCE KIT FOR EACH BOILER.
7. OUTSIDE AIR TEMPERATURE SENSOR.
8. CONTROLLED BY BMS

HEATING HOT WATER PUMPS

EQMT. NO.	LOCATION	SYSTEM SERVED	PERFORMANCE/CONSTRUCTION REQUIREMENTS					BASIS OF DESIGN INFORMATION					REMARKS
			WORKING FLUID	FLOW RATE (GPM)	TOTAL HEAD (FT.)	HP	PUMP SPEED (RPM)	MNF	MODEL NO.	NOMINAL DIMENSIONS L x W x H	NOMINAL OPERATING WEIGHT (LBS.)	VOLTS/ PHASE	
HHWP-1&2	MECHANICAL ROOM	BUILDING HW HEAT	WATER	70	65	3.0	1,760	TACO	SKV-1506D-A-2P-PD	22x10x30	246	208/3	1-9
HHWP-3&4	MECHANICAL ROOM	RADIANT FLOOR	WATER	28	40	0.9	-	TACO	VR15H	10x7x15.5	226	208/1	2,4-6,8-10
HHWP-5&6	MECHANICAL ROOM	UNIT HEATERS	WATER	20	35	0.6	-	TACO	VR15M	10x7x15	226	208/1	2,4-6,8-10

- NOTES:
1. OPEN DRIP PROOF MOTOR
2. ANSI CLASS 125
3. MANUFACTURER TO PROVIDE DISCONNECT SWITCH.
4. MANUFACTURER PROVIDED VFD.
5. SELF SENSING
6. INTERLOCK WITH BMS
7. PROVIDE WITH BASE STAND AND SUPPLEMENTAL STEEL AS REQUIRED
8. PROVIDE SD020015-5 SUCTION DIFFUSER
9. PROVIDE MPV 015-4 MULTIPURPOSE VALVE
10. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECT SWITCH

AIR/DIRT SEPARATORS

EQMT. NO.	LOCATION	SYSTEM SERVED	PERFORMANCE REQUIREMENTS		BASIS OF DESIGN INFORMATION				NOTES
			FLOW RATE (GPM)	MAX. PD (FT. H2O)	MNF	MODEL NO.	NOMINAL DIMENSION DIA. x H	NOMINAL OPERATING WEIGHT (LBS.)	
ADS-1	BOILER ROOM	HOT WATER LOOPS	118	1.07	TACO	4904AD-125	12 x 25	75	1-2

- NOTES:
1. AIR VENT
2. BLOW DOWN PIPED TO DRAIN

EXPANSION TANKS

EQUIPMENT NO.	LOCATION	SYSTEM SERVED	PERFORMANCE/CONSTRUCTION REQUIREMENTS			BASIS OF DESIGN INFORMATION					REMARKS
			SYSTEM DATA			MNF	MODEL NO.	NOMINAL DIMENSION DIA. x H	TANK VOLUME (GAL.)	SHIPPING WEIGHT (LBS.)	
			ESTIMATED VOLUME (GAL.)	MAX. OPERATING PRESS. RANGE (PSIG)	MAX. OPERATING TEMP. RANGE (°F)						
ET-1	BOILER ROOM	HOT WATER	500	17-47	40-150	TACO	CA140-150	16 x 40.5	37	195	1

- NOTES:
1. CHARGE OF EXPANSION TANK SHALL BE ADJUSTED TO MATCH THE PRESSURE AT THE POINT WHERE THE TANK IS CONNECTED TO THE PIPING.

FIN TUBE RADIATOR

EQMT. NO.	AREA SERVED	TOTAL CAPACITY (MBH)	PERFORMANCE / CONSTRUCTION REQUIREMENTS							REMARKS	
			HEATING COIL DATA					MNF	MODEL NO.		NOMINAL DIMENSIONS L"xW"xH"
			HOT WATER COIL								
			BTU/FT	PIPE DIA	FINS/FT	FIN DIMS W" x H"	GPM				
FTR-116-1	116 MEETING	5.2	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	10' x 5.25" 12"	1-2
FTR-116-2	116 MEETING	5.2	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	10' x 5.25" 12"	1-2
FTR-116-3-1	116 MEETING	4.1	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	8' x 5.25" 12"	1-2
FTR-116-3-2	116 MEETING	4.1	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	8' x 5.25" 12"	1-2
FTR-116-4	116 MEETING	9.3	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	16' x 5.25" 12"	1-2
FTR-116-5	116 MEETING	8.3	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	16' x 5.25" 12"	1-2
FTR-120-1	120 READY ROOM	4.1	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	8' x 5.25" 12"	1-2
FTR-120-2	120 READY ROOM	2.1	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	4' x 5.25" 12"	1-2
FTR-202-1	202 CONFERENCE	5.2	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	10' x 5.25" 12"	1-2
FTR-202-2	202 CONFERENCE	5.2	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	10' x 5.25" 12"	1-2
FTR-203A-1	COMPANY ROOM 203A	6.2	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	12' x 5.25" 12"	1-2
FTR-203A-2	COMPANY ROOM 203A	6.2	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	12' x 5.25" 12"	1-2
FTR-203A-3	COMPANY ROOM 203A	3.1	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	6' x 5.25" 12"	1-2
FTR-203A-4	COMPANY ROOM 203A	2.1	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	4' x 5.25" 12"	1-2
FTR-203A-5	COMPANY ROOM 203A	1.5	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	3' x 5.25" 12"	1-2
FTR-206-1	TRAINING ROOM 206	6.2	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	12' x 5.25" 12"	1-2
FTR-206-2	TRAINING ROOM 206	2.1	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	4' x 5.25" 12"	1-2
FTR-206-3	TRAINING ROOM 206	2.6	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	5' x 5.25" 12"	1-2
FTR-206-4	TRAINING ROOM 206	2.6	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	5' x 5.25" 12"	1-2
FTR-210-1	CORRIDOR 210	10.3	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	20' x 5.25" 12"	1-2
FTR-210-2	CORRIDOR 210	5.2	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	10' x 5.25" 12"	1-2
FTR-212	211 OFFICE	4.1	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	8' x 5.25" 12"	1-2
FTR-213	212 OFFICE	4.1	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	8' x 5.25" 12"	1-2
FTR-214	213 OFFICE	2.6	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	5' x 5.25" 12"	1-2
FTR-215	214 OFFICE	3.1	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	6' x 5.25" 12"	1-2
FTR-216	215 OFFICE	3.1	516	3/4"	50	4.25 X 4.25	2.5	MODINE	S012	6' x 5.25" 12"	1-2

- NOTES:
1. PROVIDE ALL CORNER SECTIONS, END PANELS, SUPPORTS AND ACCESSORIES AS REQUIRED TO PROVIDE CONTINUOUS ENCLOSE.
2. PROVIDE SPACE MOUNTED THERMOSTAT AND CONTROL VALVE (Cv = 4.6 MINIMUM).

WALL MOUNTED ELECTRIC HEATERS

EQMT. NO.	LOCATION	PERFORMANCE/ CONSTRUCTION REQUIREMENTS					BASIS OF DESIGN INFORMATION				NOTES
		FLOW (CFM)	TOTAL CAPACITY (MBH)	HEATING COIL DATA			MNF	MODEL NO.	NOMINAL DIMENSIONS L" x W" x H"	NOMINAL OPERATING WEIGHT (LBS.)	
				ELECTRIC DATA							
				VOLTS/PHASE	TOTAL KW	AMPS					
WEH-112	112 VENDOR DROPOFF	100	5.1	208/1	1.5	7.2	QMARK / MARLEY	AWH4404F*	16 x 4 x 19.5	25	1-3

- NOTES:
1. BUILT IN THERMOSTAT.
2. MANUFACTURER PROVIDED DISCONNECT SWITCH
3. FIELD WIRED FOR HALF WATTAGE, COORDINATE WITH 'E' AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.

GAS DETECTION SYSTEM

EQMT. NO.	LOCATION	SYSTEM SERVED	BASIS OF DESIGN INFORMATION				REMARKS
			MNF	MODEL NO.	NOMINAL DIMENSIONS L" x W" x H"	VOLTAGE / PHASE	
GDS-1	MECHANICAL ROOM	BOILERS BL-1, BL-2	RKI BEACON	410A (4 CHANNEL)	10.5 x 6.5 x 14	120/1	1-7

- NOTES:
1. INCLUDE TWO CHANNEL DIGITAL CONTROLLER IN NEMA 4 ENCLOSURE FOR WALL MOUNT.
2. LED DISPLAY FOR LEL AND CO.
3. INCLUDE COMBUSTIBLE GAS SENSOR AND CARBON MONOXIDE SENSOR.
4. PROVIDE CONFIGURABLE ALARM OUTPUTS WITH ISOLATION RELAYS FOR INTERLOCK WITH BOILER AND FACP.
5. PROVIDE PANEL MOUNTED AUDIBLE ALARM AND SILENCING SWITCH
6. PROVIDE ALARM HORN WITH STROBE.
7. PROVIDE STARTUP, TEST AND CALIBRATION REPORT

RADIANT FLOOR MANIFOLDS

EQMT. NO.	AREA SERVED	FLOOR AREA SERVED [FT²]	PERFORMANCE/CONSTRUCTION REQUIREMENTS							NOTES
			TOTAL CAPACITY (BTU/HR)	HEATING COIL DATA			MNF	MODEL NO.	NOMINAL DIMENSIONS L"xW"xH"	
				HOT WATER COIL						
				EWI (°F)	GPM	CIRCUITS				
RFM-1	APPARATUS ROOM	2429	99621	123.6	9.7	10	UPONOR	A2721002	28 x 3.5 x 14.5	1-5
RFM-2	APPARATUS ROOM	2503	102663	123.6	10	10	UPONOR	A2721002	28 x 3.5 x 14.5	1-5
RFM-3	APPARATUS ROOM	266	8902	123.6	0.9	2	UPONOR	A2720202	11 x 3.5 x 14.5	1-5
RFM-4	APPARATUS ROOM	805	25634	123.6	2.4	4	UPONOR	A2720402	15 x 3.5 x 14.5	1-5
RFM-5	APPARATUS ROOM	260	6376	123.6	0.6	2	UPONOR	A2720202	11 x 3.5 x 14.5	1-5
RFM-6	APPARATUS ROOM	217	6973	123.6	0.7	2	UPONOR	A2720202	11 x 3.5 x 14.5	1-5
RFM-7	APPARATUS ROOM	229	6320	123.6	0.6	2	UPONOR	A2720202	11 x 3.5 x 14.5	1-5

- NOTES:
1. MANIFOLD TO BE CONSTRUCTED OF STAINLESS STEEL.

CABINET UNIT HEATERS

EQMT NO.	LOCATION	CONFIGURATION	BASIS OF DESIGN INFORMATION										NOTES				
			FAN DATA			TOTAL CAPACITY (MBH)	AIR DATA		HEATING COIL DATA								
			FLOW (CFM)	HP	VOLTS/ PHASE		ENT. DB TEMP. (DEG. F)	LVG. DB TEMP. (DEG. F)	WATER								
									ENT. TEMP. (DEG. F)	LVG. TEMP. (DEG. F)	FLOW (GPM)	MAX. P.D. (FT. H2O)					
CUH-A	STAIR A	STANDALONE CABINET	280	0.03	115V/1	10.2	70	98	150	122.1	1.5	0.20	MODINE	C 0030	44 x 9.5 x 25	90	1,2
CUH-B	STAIR B	CEILING MOUNTED	280	0.03	115V/1	10.2	70	98	150	122.1	1.5	0.20	MODINE	CW 0035	44 x 9.5 x 25	100	2,3
CUH-126	VESTIBULE 126	CEILING MOUNTED	280	0.03	115V/1	10.2	70	98	150	122.1	1.5	0.20	MODINE	CW 0035	44 x 9.5 x 25	100	2,3

- NOTES:
1. UNIT MOUNTED THERMOSTAT.
2. MANUFACTURER PROVIDED UNIT MOUNTED DISCONNECT SWITCH.
3. REMOTE MOUNTED THERMOSTAT

HOT WATER UNIT HEATERS

EQUIPMENT NO.	AREA SERVED	BASIS OF DESIGN															NOTES				
		FAN DATA		TOTAL CAPACITY (MBH)	AIR DATA				HEATING COIL DATA				ELECTRIC DATA			MNF		MODEL NO.	NOMINAL DIMENSIONS L"xW"xH"	NOMINAL OPERATING WEIGHT (LBS.)	MAX MOUNTING HEIGHT (FT)
		FLOW (CFM)	RPM		EAT (°F)	LAT (°F)	THROW (FT)	FPM	HOT WATER COIL			VOLTS/ PHASE	AMPS	HP							
UH-1 THRU 4	APPARATUS ROOM	3,240	1,075	69.7	60	80	53	870	150	120	4.8	ΔP (T.W.C.)	115/1	4.6	1/3	MODINE	HC 16SSB01SA	29.5 x 19 x 26.5	92	25	1-5