

GRILLES, REGISTERS AND DIFFUSER SCHEDULE

ITEM	MANUFACTURER	MODEL	TYPE	AIR PATTERN	MAX NECK VELOCITY	PANEL SIZE (INCHES)	NECK SIZE (INCHES)	CFM RANGE	MOUNTING	REMARKS
S-1	METALAIR	5500-85	SUPPLY	4 WAY	400	---	9x9	101-225	CEILING	SEE NOTES 1 & 2
S-2	METALAIR	V4004	SUPPLY	---	400	---	16x8	226-300	DUCT	SEE NOTES 2
S-3	METALAIR	V4004	SUPPLY	---	400	---	14x10	301-625	WALL	SEE NOTES 1 & 2
S-4	METALAIR	5500-85	SUPPLY	4 WAY	400	---	9x9	101-225	CEILING	SEE NOTES 1 & 3
R-1	METALAIR	RHD	RETURN	---	400	---	12x6	0-200	CEILING	SEE NOTES 1 & 2
R-2	METALAIR	RHD	RETURN	---	400	---	18x18	501-750	CEILING/WALL	SEE NOTES 1 & 2
R-3	METALAIR	RHD	RETURN	---	400	---	12x6	0-200	CEILING/WALL	SEE NOTES 1 & 2
R-4	METALAIR	RHD	RETURN	---	400	---	12x6	0-200	CEILING	SEE NOTES 1 & 3
E-1	METALAIR	RHD	EXHAUST	---	400	---	12x6	0-200	CEILING/WALL	SEE NOTES 1 & 2

- NOTES:
- GRILLES, REGISTERS AND DIFFUSERS SHALL BE FURNISHED WITHOUT DAMPERS.
 - GRILLES, REGISTERS AND DIFFUSERS SHALL BE FURNISHED WITH OPTIONAL ALUMINUM FINISH.
 - GRILLES, REGISTERS AND DIFFUSERS SHALL BE FURNISHED WITH STANDARD WHITE FINISH.

LOUVER SCHEDULE

ITEM	TYPE	MFR.	MODEL NUMBER	CFM	DIMENSIONS (INCHES)			MIN FREE AREA (SQ FT)	REMARKS
					HEIGHT	WIDTH	DEPTH		
L-1	INTAKE	GREENHECK	ESJ-601	3635	42	48	6	7.5	
L-2	EXHAUST	GREENHECK	ESJ-601	2,410 (BOTTOM)	14 (TOP) 12 (BOTTOM)	38 (TOP) 72 (BOTTOM)	6	(TOP) (BOTTOM)	SEE NOTE 1

- NOTES:
- TWO SECTION ROUND LOUVER, 48" x 4" DEEP OVERALL DIMENSIONS, 3,310 CFM TOTAL.
 - ALL LOUVERS TO HAVE KYNAR 500 FINISH, COLOR TO MATCH PELLA WINDOW COLOR BRICK RED, FINAL APPROVAL BY ARCHITECT.

PIPE AND FITTING SCHEDULE

SERVICE	SIZE	TEST PSI	PIPE		FITTINGS		REMARKS
			TYPE	SCHEDULE	TYPE	SCHEDULE	
HEATING WATER SUPPLY & RETURN	UP TO 2"	200	CUL	STD	CUS	STD	
HEATING WATER SUPPLY & RETURN	2 1/2" & LARGER	200	CUS	STD	CUS	STD	SEE NOTE 3
RELIEF VALVE DISCHARGE	ALL	200	CUL	STD	CUS	STD	

VALVE SCHEDULE

SERVICE	SIZE	GATE	GLOBE	TYPE			REMARKS
				CHECK	BALL	PLUG	
HEATING WATER SUPPLY & RETURN	UP TO 2"	---	---	CVT	BVT	---	SEE NOTE 2
HEATING WATER SUPPLY & RETURN	2 1/2" & LARGER	---	---	---	---	BTRF	

INSULATION SCHEDULE

SERVICE	SIZE	TYPE	THICKNESS	REMARKS
HEATING WATER SUPPLY & RETURN	ALL	H11	1 1/2"	SEE NOTE 2
FRESH AIR AND EXHAUST DUCTWORK	ALL	H51	1 1/2"	SEE NOTE 1
BOILER BREECING	ALL	H41	2"	
REFRIGERANT COLD PIPING	ALL	H61	1"	W/UV PROTECTIVE COATING

- NOTES:
- PROVIDE FOIL FACED INSULATION ON ALL UNEXPOSED DUCTWORK. PROVIDE VINYL FACED INSULATION ON ALL EXPOSED DUCTWORK IN MECHANICAL ROOM. ALL EXPOSED SUPPLY DUCT IN EXHIBIT 101 IS UNINSULATED.
 - REFER TO SPECIFICATIONS FOR PIPE, FITTINGS, VALVE AND INSULATION TYPES.
 - HEATING WATER SUPPLY & RETURN PIPING FOR 2 1/2" & LARGER PIPE SIZES AT CONTRACTOR'S OPTION CAN BE TYPE S1, SCHEDULE 40, BLACK STEEL WITH WELDED JOINTS OR ROLL GROOVE STEEL PIPE, SCHEDULE 10 WITH TYPE MJ MECHANICAL JOINT.
 - ACTUAL PIPING AT 3-WAY VALVE SHALL DEPEND ON MANUFACTURER'S WRITTEN INSTRUCTIONS.

ABBREVIATIONS

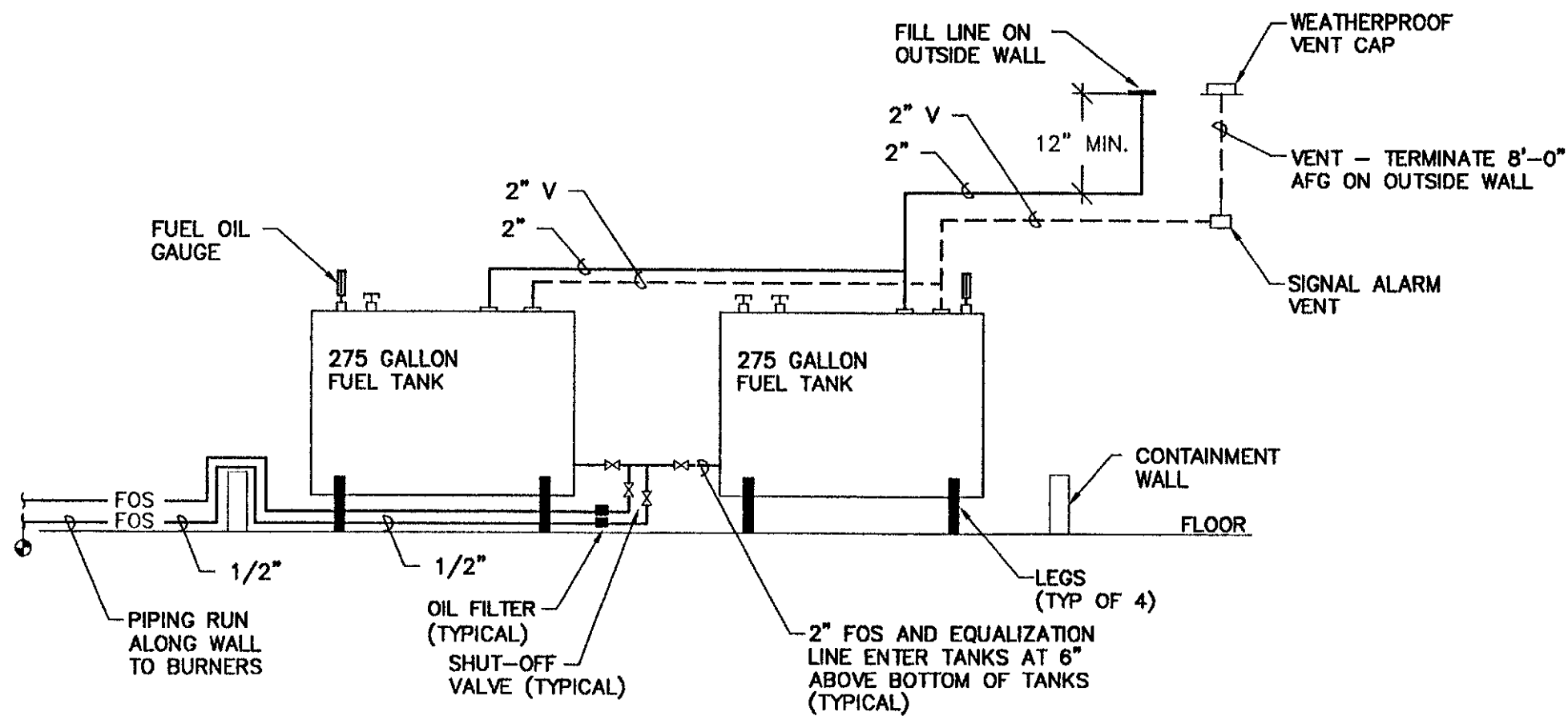
ALL ABBREVIATIONS SHOWN MAY NOT APPLY

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
B	BOILER
BDD	BACKDRAFT DAMPER
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CU	CONDENSING UNIT
DB	DRY BULB
DSD	DUCT SMOKE DETECTOR
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EWI	ENTERING WATER TEMPERATURE
FD	FIRE DAMPER
FPM	FEET PER MINUTE
GPM	GALLONS PER MINUTE
HRU	HEAT RECOVERY UNIT
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
L	LOUVER
LAT	LEAVING AIR TEMPERATURE
LF	LINEAR FEET
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSAND BTU/HOUR
MOD	MOTOR OPERATED DAMPER
NTS	NOT TO SCALE
OA	OUTDOOR AIR
PD	PRESSURE DROP
PRV	PRESSURE REDUCING VALVE
R	RETURN
RA	RETURN AIR
S	SUPPLY
SA	SUPPLY AIR
SCFM	STANDARD CFM
SF	SQUARE FEET
TG	TRANSFER GRILLE
UH	UNIT HEATER
VD	VOLUME DAMPER
WB	WET BULB

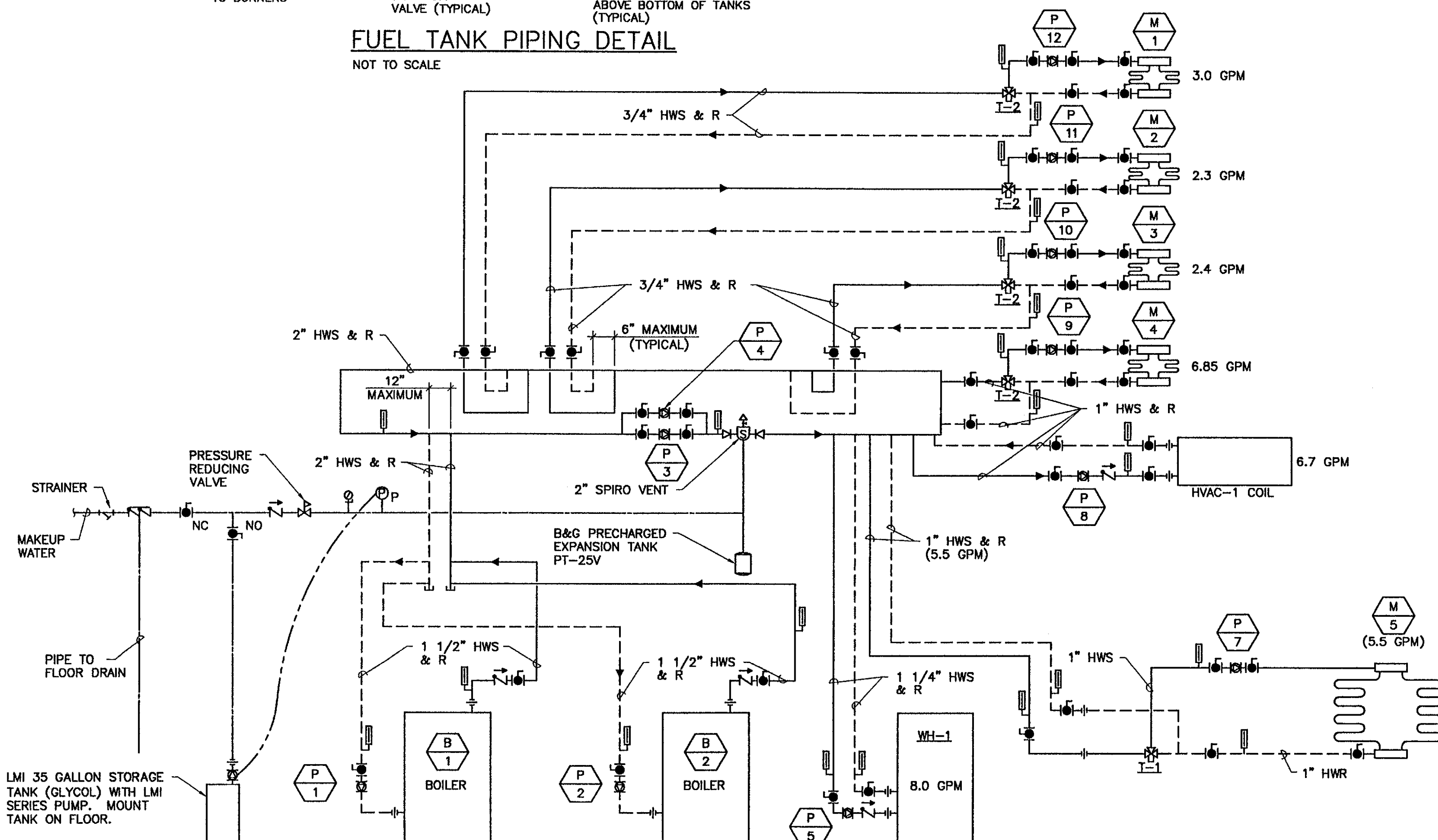
HVAC LEGEND

SYMBOLS

— CD —	CONDENSATE DRAIN
— FOS —	FUEL OIL SUPPLY
— FOR —	FUEL OIL RETURN
— HWS —	HOT WATER SUPPLY
— HWR —	HOT WATER RETURN
⊖	THERMOSTAT
⊖ _H	THERMOSTAT(HEATING)
⊖ _C	THERMOSTAT(COOLING)
⊖ _{H/C}	THERMOSTAT(HEATING/COOLING)
⊖ _{SP}	SWITCH W/PILOT
⊖	SWITCH
⊖ _{SS}	SPEED SWITCH
⊖ _{PS}	PRESSURE SWITCH
—	FLEXIBLE CONNECTION
—	PIPE DROP
—	BOTTOM CONNECTION/TURN AWAY
—	TOP CONNECTION/TURN TOWARDS
—	DIRECTION OF FLOW
— X —	PIPE ANCHOR
—	UNION (SCREWED)
—	REDUCER, CONCENTRIC
—	CAP OR PLUG
—	GATE VALVE
—	BALL VALVE
—	GLOBE VALVE
—	CHECK VALVE
—	CONTROL VALVE (2-WAY)
—	CONTROL VALVE (3-WAY)
—	PRESSURE REDUCING VALVE
—	PRESSURE RELIEF VALVE
—	TEMPERATURE—PRESSURE RELIEF VALVE
—	BALANCING VALVE
—	PLUG COCK
—	STRAINER
—	THERMOMETER
—	PRESSURE GAUGE WITH COCK
—	AIR VENT
—	PUMP
—	VOLUME DAMPER
—	BACKDRAFT DAMPER
—	MOTOR OPERATED DAMPER
—	FIRE DAMPER
—	SUPPLY/FRESH AIR
—	RETURN/EXHAUST AIR
—	FLEXIBLE DUCTWORK
—	SUPPLY DUCT SECTION
—	RETURN DUCT SECTION
—	EXHAUST DUCT SECTION
—	SUPPLY ROUND DUCT SECTION
—	RETURN ROUND DUCT SECTION
—	EXHAUST ROUND DUCT SECTION
—	SUPPLY DIFFUSER
—	RETURN REGISTER OR GRILLE
—	EXHAUST REGISTER OR GRILLE
—	EQUIPMENT TYPE
—	EQUIPMENT NUMBER
—	REGISTER, DIFFUSER OR GRILLE DESIGNATION
—	CFM



FUEL TANK PIPING DETAIL
NOT TO SCALE



BOILER PIPING SCHEMATIC
NOT TO SCALE

EQUIPMENT SCHEDULE:

- B-1 BOILER: WEIL-MCLAIN GOLD PACKAGED W60-5, 152,000 MBH IBR WATER RATING, NO. 2 FUEL OIL WITH TACO 007 CIRCULATOR, BACK DRAFT DAMPER, STANDARD EQUIPMENT, 120V/1 ϕ /60 HZ.
- B-2 BOILER: WEIL-MCLAIN SAME AS B-1.
- CU-1 & CU-2 CONDENSING UNIT: CARRIER 38TXA060, 60.14 MBH TC, AT 48F SST, & 95F EAC CONDENSER 208/230V/1 ϕ /60HZ.
- HRU-1 HEAT RECOVERY UNIT: DES CHAMPS LABS ZDUCT MODEL MZ-1370 900 CFM EXHAUST AIR AT 0.75" ESP, 1000 CFM OUTSIDE AIR AT 0.50" ESP, 3/4" HP SUPPLY & EXHAUST FAN MOTORS, 230V/1 ϕ /60HZ. PROVIDE WITH SUPPLY & EXHAUST FILTERS, DAMPERS, INTEGRAL ELECTRIC CONTROLS, TRAVERSING DEFROST CONTROL AND PREMIUM EFFICIENCY MOTORS. HEAT EXCHANGER EFFICIENCY NOMINAL 75%.
- HVAC-1 AIR HANDLING UNIT: CARRIER 39M08, 3635 CFM AT 3.125 IN TSP, 5HP, 230V/1 ϕ , PREMIUM EFFICIENCY MOTOR, HOT WATER HEATING COIL 2 ROW, 8 FPI, HC, 5/8" TUBES, 7.5 SF, 159 MBH, 6.7 GPM, 0.2 FT WPD, 0.17 IN APD, EWT 180.0° F, LWT 129.7° F, EAT 45° F, LAT 85.0° F, 30% PG, COOLING COIL 6 ROWS, 11 FPI, SPLIT HALF CIRCUIT, 1/2" TUBES, 1.18 TONS/CIRC, EA 80/67, 112.6 TC, 89 SC, BFP 0.0742, 0.81 APD, LA 57.6/56.7, 2" DOUBLE WALL UNIT CASING WITH TOP FRONT DISCHARGE, COMBINATION FILTER MIXING BOX WITH LOW LEAK DAMPERS TOP AND BACK WITH 2" PLEATED THROW AWAY FILTERS.
- P-1 TACO 007 17 GPM, 4 FT. HD. FURNISH WITH BOILER. 1/25 HP, 120V/1 ϕ /60 HZ.
- P-2 SAME AS P-1
- P-3 TACO 0013, 35 GPM, 6 FT. HD., 1/8 HP, 120V/1 ϕ /60 HZ.
- P-4 SAME AS P-3
- P-5 TACO 007, 8.0 GPM, 7 FT. HD., 1/25 HP, 120V/1 ϕ /60 HZ.
- P-6 NUMBER NOT USED.
- P-7 TACO 007, 5.5 GPM, 8.0 FT. HD., 1/25 HP, 120V/1 ϕ /60 HZ.
- P-8 TACO 007, 6.7 GPM, 7.0 FT. HD., 1/8 HP, 120V/1 ϕ /60 HZ.
- P-9 TACO 007, 6.85 GPM, 12.0 FT. HD., 1/8 HP, 120V/1 ϕ /60 HZ.
- P-10 TACO 007, 2.4 GPM, 8.0 FT. HD., 1/8 HP, 120V/1 ϕ /60 HZ.
- P-11 TACO 007, 2.3 GPM, 12.0 FT. HD., 1/8 HP, 120V/1 ϕ /60 HZ.
- P-12 TACO 007, 3.0 GPM, 8.0 FT. HD., 1/8 HP, 120V/1 ϕ /60 HZ.
- RF-1 RETURN/EXHAUST FAN: GREENHECK BSQ-140-7, 2150 CFM @ 0.625 TSP, 3/4 HP, 230V/1 ϕ /60HZ, 1,400 RPM, R-4 DRIVE.
- T-1 TEMPERING VALVE: WIRSBO A5401112, 1", 80F TO 160F, SET AT 135F.
- T-2 TEMPERING VALVE: SAME AS T-1, SET AT 115F
- SF-1 COMBUSTION AIR FAN: TJERNLUND INFORCER POWERED INTAKE COMBUSTION AIR FAN MODEL PAI-3, 115V/1 ϕ , 60 HZ, 1.26 AMPS WITH INTAKE HOOD. INTERLOCK TO OPERATE WHEN BOILER RUNS.
- SF-2 SAME AS SF-1



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REVISIONS

PROJECT

DERBY
WELCOME
CENTER
PROJECT #191-01(8)

NEW FACILITY

DERBY
VERMONT

DATE: 01/01/02

SCALE: AS NOTED

CHECKED:

PROJECT NO: 2008

MECHANICAL LEGEND, & DETAILS SCHEDULES

M1.1