

## MECHANICAL EQUIPMENT SCHEDULE:

MF1 - MF2  
 RADIANT MANIFOLD: RADIANT PIPING DISTRIBUTION MANIFOLD WITH BRASS BODY, O-RING WASHERS, 176 DEG. F. MAX. OPERATING TEMPERATURE, 87 PSI MAX. OPERATING WATER PRESSURE, SUPPLY/RETURN SHUT-OFF BALL VALVE, AIR VENT, 24V ZONE VALVE ACTUATORS, FLOW CONTROL VALVE WITH FLOW INDICATOR, UNIONS, SUPPLY/RETURN TEMPERATURE GAUGES, MOUNTING BRACKETS, AND ALL COMPONENTS NECESSARY FOR COMPLETE OPERATION. PROVIDE 24V, 0.5 KVA TRANSFORMER AND COORDINATE WITH ELEC. CONTRACTOR. "REHAU" MODEL PRO-BALANCE

SYM	SIZE IN.	# LOOPS	# ZONES
MF1	1	9	3
MF2	1	11	9

BB  
 BASEBOARD UNIT: HOT WATER BASEBOARD ELEMENT WITH COVER WITH LENGTH AS INDICATED ON THE PLAN. THE LENGTH SHOWN IS FOR THE ACTIVE LENGTH OF THE ELEMENT. EACH UNIT SHALL COME COMPLETE WITH ALL ITEMS FOR A COMPLETE AND FUNCTIONAL SYSTEM INCLUDING FINNED ELEMENT, ENCLOSURE, EXPANSION CRADLES, SUPPORT BRACKETS, AND DAMPER VANE. SEE DRAWINGS FOR SUPPLY WATER TEMPERATURE AND BASEBOARD LENGTH REQUIREMENTS. MODEL BY "RUNTAL" MODEL UF

CP1  
 CIRCULATING PUMPS: INLINE CIRCULATING PUMP, BUILT-IN, STAINLESS STEEL IMPELLER, CAST IRON HEAD AND BASE, 232PST MAX OPERATING PRESSURE, 248 DEG. F. MAX OPERATING TEMPERATURE, ENCLOSED FAN COOLED MOTOR WITH INTEGRATED VFD, INTEGRATED PRESSURE SENSOR, CONTROL PANEL, AND BUILT IN THERMAL OVERLOAD SWITCH. PROVIDE ALL EQUIPMENT NECESSARY FOR COMPLETE OPERATION. "GRUNDFOS" MODEL MAGNA4 32-100  
 ELEC.: 240V/1PH/60HZ, AMPS = 1.2, WATTS = 180

CF1-CF2  
 CABINET EXHAUSTER: EXHAUSTER COMPLETE WITH DISCONNECT, BACKDRAFT DAMPER, WALL OR ROOF CAP, MOUNTING BRACKETS, CEILING GRILLE, AND ALL EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION. INCLUDE OCCUPANCY SENSOR INTEGRAL TO UNIT AND LITE ON GRILLE FACE. LIGHTS INCLUDED ARE TWO 18 WATTS CFL 3500 KELVIN, 10,000 LIFE HOURS. INCLUDE 4 WATT NIGHT LIGHT. MODEL BY "PANASONIC"  
 ELEC.: 120V/1PH/60HZ

SYM	MODEL NO.	CFM	ESP	FAN RPM	WATTS	AMPS	WT. LBS.	CONTROL
CF1	FV-05VQ5	50	0.1	731	11	0.1	11	SWITCH
CF2	FV-05VQ5	50	0.1	731	11	0.1	11	SWITCH

T  
 THERMOSTAT: 120V, HEAVY DUTY VALVE CONTROLLER. REMOVABLE SETPOINT KNOB AND LOCKING COVER TO PREVENT TAMPERING. SETPOINT TEMPERATURE RANGES FROM 50F TO 80F. MODEL BY "HONEYWELL"  
 MODEL NO. T4051A1003/U

TW  
 TWO-WAY ZONE VALVE: PRESSURE INDEPENDENT CHARACTERIZED ZONE CONTROL VALVE. VALVE SHALL BE CONSTRUCTED OF FORGED BRASS BODY RATED AT NO LESS THAN 250 PSI, STAINLESS STEEL BALL AND STEM, FEMALE NPT UNION ENDS, DUAL EPDM LUBRICATED O-RINGS AND A BRASS CHARACTERIZING DISC. THE CONTROL VALVE SHALL REQUIRE NO MAINTENANCE AND SHALL NOT INCLUDE REPLACEABLE CARTRIDGES. ACTUATORS SHALL BE MFT TYPE AND SIZED FOR TORQUE REQUIRED FOR VALVE CLOSE-OFF PRESSURE AND SHALL BE DIRECTLY COUPLED TO THE VALVE BODY. MODEL BY "BELIMO" MODEL PIQCV.  
 ELEC.: 120VAC

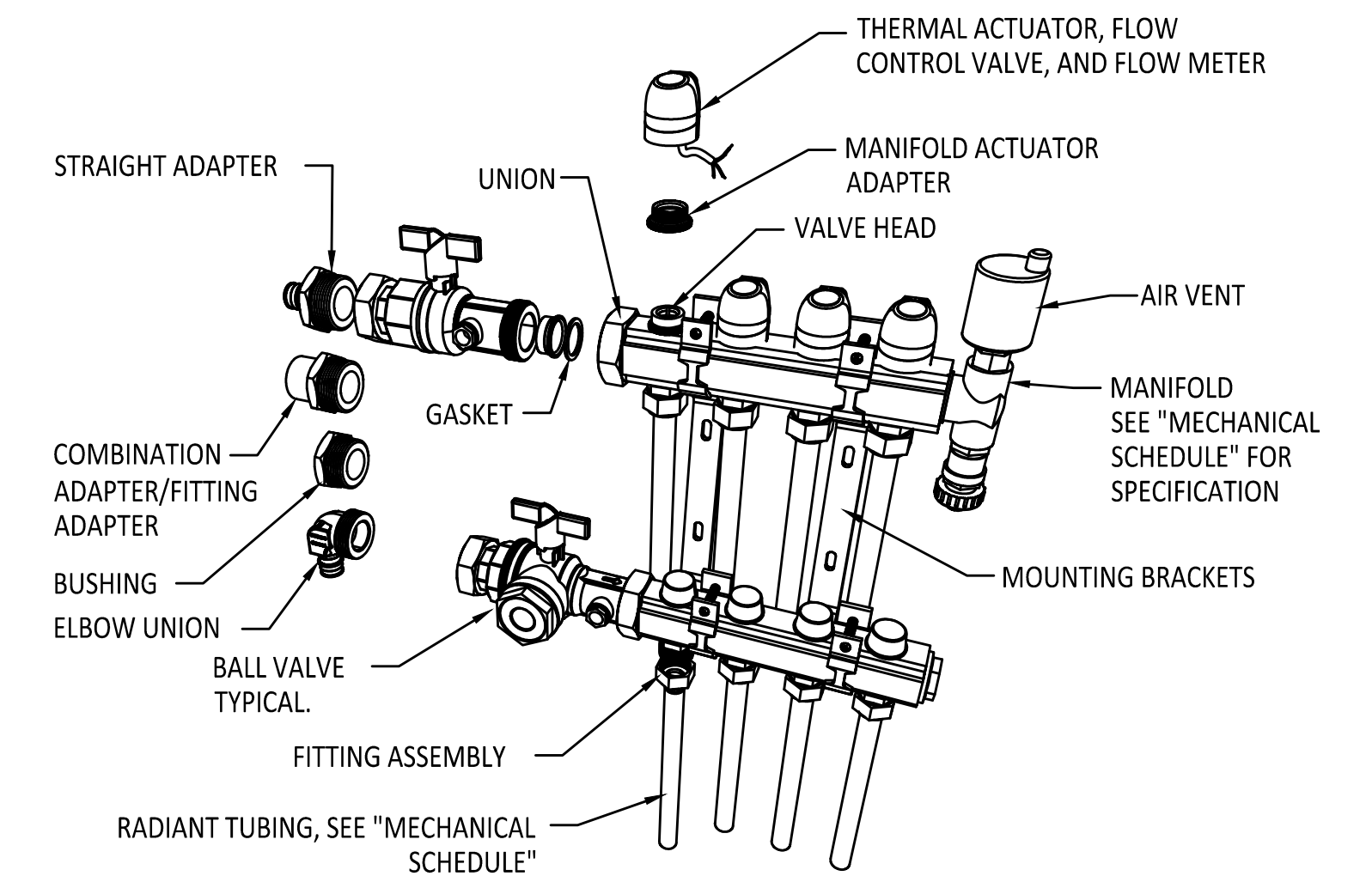
TTW  
 THREE-WAY VALVE: STAINLESS STEEL SPRING-RETURN VALVE, MODULATING, 120V ACTUATOR, AND END SWITCHES. SIZE VALVE TO MATCH EXISTING PIPE SIZE RANGING FROM APPROXIMATELY 1/2" TO 1". PROVIDE ALL EQUIPMENT NECESSARY FOR COMPLETE OPERATION. MODEL BY "BELIMO"  
 MODEL NO. B322 WITH LF120 US.

HVAC			MECHANICAL LEGEND	
SYMBOL		DESCRIPTION	SYMBOL	TEXT SYMBOLS
DOUBLE	SINGLE		SYMBOL	DESCRIPTION
		RETURN DUCTWORK UP		MECHANICAL KEYED NOTES
		SUPPLY DUCTWORK UP		PIPE LEADER LINE FOR SIZES
		EXHAUST DUCTWORK UP		POINT OF CONNECTION
		ROUND DUCTWORK UP		POINT OF DISCONNECTION
		RETURN DUCTWORK DOWN		EQUIPMENT DESIGNATION
		SUPPLY DUCTWORK DOWN		AIR DEVICE DESIGNATION
		EXHAUST DUCTWORK DOWN		REVISION DELTA
		ROUND DUCTWORK DOWN		RECTANGULAR DUCTWORK SIZING
		TRANSITION RECTANGULAR TO RECTANGULAR OR TRANSITION ROUND TO ROUND		ROUND DUCTWORK SIZING
		TRANSITION RECTANGULAR TO ROUND		RETURN AIR FLOW
		DUCTWORK ROUTED BELOW OTHER DUCTWORK		SUPPLY AIR FLOW
		CAPPED DUCTWORK		EXHAUST AND RETURN AIR FLOW
		EXISTING DUCTWORK		THERMOSTAT
		DUCTWORK TO BE REMOVED	<b>PIPING</b>	
		DUCT WITH INTERNAL LINING	SYMBOL	DESCRIPTION
		FIRE SMOKE DAMPER		EXISTING PIPING
		MOTORIZED BALANCING DAMPER		PIPING TO BE REMOVED
		MANUAL BALANCING DAMPER		HWS - HOT WATER SUPPLY PIPING
		BACKDRAFT DAMPER		HWR - HOT WATER RETURN PIPING
		CONICAL TAP		CWS - COLD WATER SUPPLY PIPING
		RECTANGULAR TAP		CWR - COLD WATER RETURN PIPING
		FLEXIBLE DUCT		CHWS - CHILLED WATER SUPPLY PIPING
		SQUARE SUPPLY AIR DIFFUSER		CHWR - CHILLED WATER RETURN PIPING
		ROUND SUPPLY AIR DIFFUSER		CTS - COOLING TOWER SUPPLY PIPING
		RETURN AIR GRILLE		CTR - COOLING TOWER RETURN PIPING
		CEILING SLOT SUPPLY AIR DIFFUSER		SS - STEAM SUPPLY PIPING
		SIDEWALL RETURN/SUPPLY AIR REGISTER		SR - STEAM CONDENSATE RETURN PIPING
		FLOOR RETURN/SUPPLY AIR REGISTER		C - CONDENSATE PIPING
		ACCESS PANEL		DR - EQUIPMENT DRAIN PIPING
		HUMIDIFIER		RO - REVERSE OSMOSIS WATER PIPING
				V - VENT PIPING

NOTE: THIS SYMBOLS LEGEND IS A GENERAL REPRESENTATION OF DEVICES USED. SOME PROJECTS MAY NOT UTILIZE ALL SYMBOLS REPRESENTED. COORDINATE ALL SYMBOLS FROM PLANS.

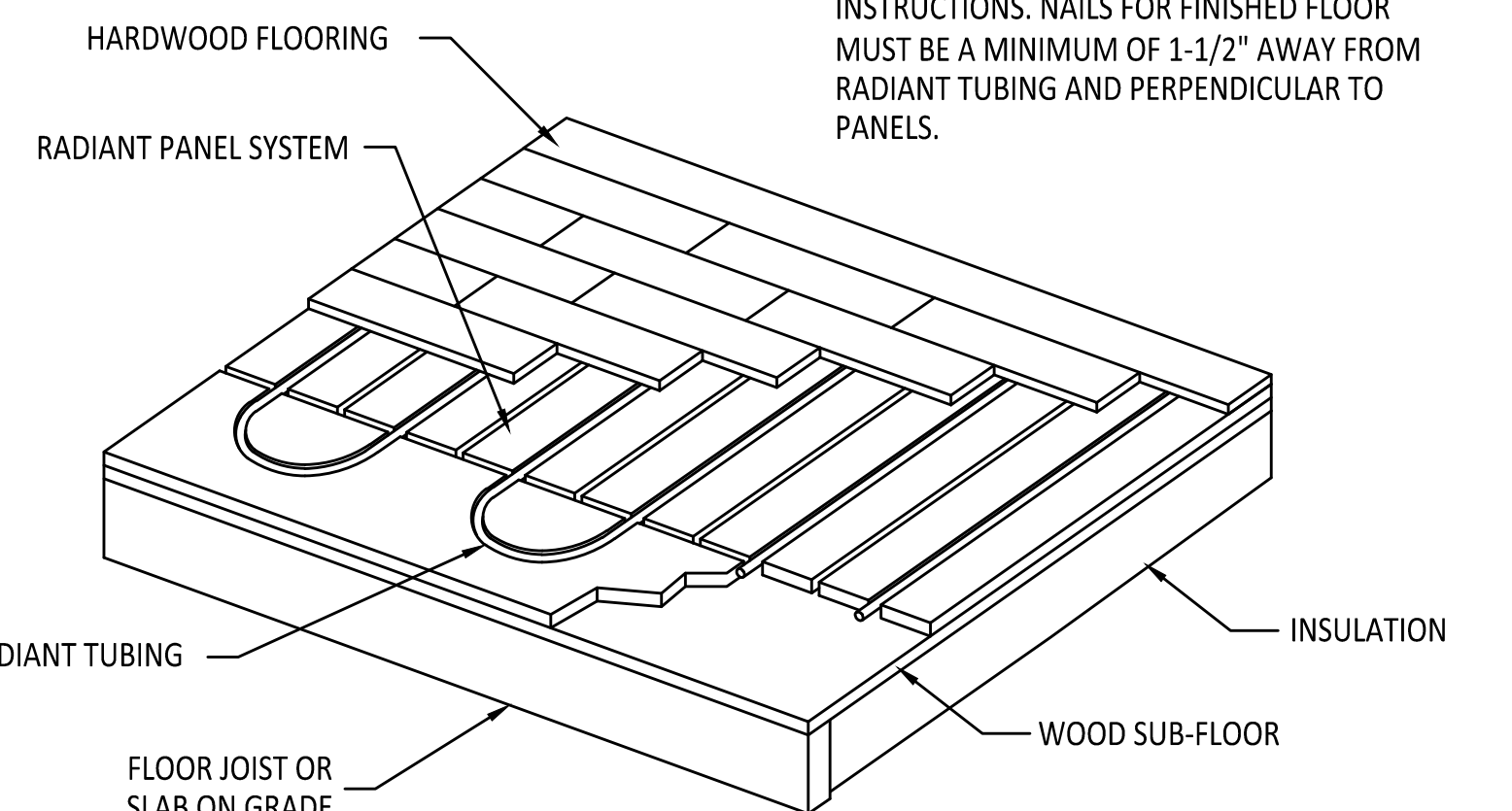
## GENERAL PROJECT NOTES:

- PROVIDE AND INSTALL ALL MATERIAL AND EQUIPMENT AS REQUIRED BY UPC, UMC, SMACNA, NFPA, LIFE SAFETY CODE, GAS CODE, AND ALL OTHER LOCAL CODES AND ORDINANCES THAT APPLY WHETHER SHOWN ON THE DRAWINGS OR NOT. WHERE THERE IS A DISCREPANCY BETWEEN THE CODES OR ORDINANCES AND THE DRAWINGS, THE MORE STRINGENT APPLICATION SHALL APPLY.
- LAYOUT AND INSTALL COMPLETE AND FUNCTIONAL MECHANICAL SYSTEMS, INCLUDING TEMPORARY CUTOFF OF EXISTING UTILITIES, AND ALL CUTTING, PATCHING, AND REPAIR ASSOCIATED WITH INSTALLING THE SYSTEMS.
- PROVIDE A TESTING AND BALANCING (T&B) AGENCY. THE T&B AGENCY SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING SHEAVES, BALANCING DAMPERS, AND ALL EQUIPMENT NECESSARY TO PROVIDE PLUS OR MINUS 10% OF CFM REQUIRED AT EACH TERMINAL UNIT.
- PROVIDE AND INSTALL ALL MECHANICAL EQUIPMENT, TRANSFORMERS, RELAYS, AND OTHER ELEMENTS NECESSARY FOR A COMPLETE OPERATING SYSTEM. COMPLETE ALL 24 VOLT CONTROL WIRING AND EQUIPMENT TO THE ABOVE. ALL LINE VOLTAGE WIRING TO THE ABOVE SHALL BE COMPLETED BY THE ELECTRICAL CONTRACTOR.
- COORDINATE ALL PROPOSED ROOF PENETRATIONS WITH GENERAL CONTRACTOR AND ARCHITECT AND RELOCATE IF NECESSARY. COORDINATE WITH GENERAL CONTRACTOR/ARCHITECT/OWNER.
- PROVIDE ONE UNION AT ALL VALVES.
- INSTALL CONDENSATE AND OVERFLOW PIPING FROM ALL MECHANICAL EQUIPMENT DRAIN POINTS. EXTEND AND TERMINATE PER UMC/UPC.
- INSULATE ALL DUCTWORK AND REFRIGERANT PIPING PER THE NM ENERGY CODE. PROVIDE ALUMINUM JACKET ON ALL EXTERIOR REFRIGERANT PIPING.
- PROVIDE FUSIBLE LINK FIRE DAMPER AT ALL FIRE RATED WALL PENETRATIONS. SIZE DAMPER TO MATCH GRILLE SIZE AND RATING TO BE EQUAL TO WALL PENETRATION LOCATION. COORDINATE WITH ENGINEER FOR AREAS THAT CAN BE OMITTED.



## RADIANT HEATING MANIFOLD DETAIL

SCALE: NOT TO SCALE



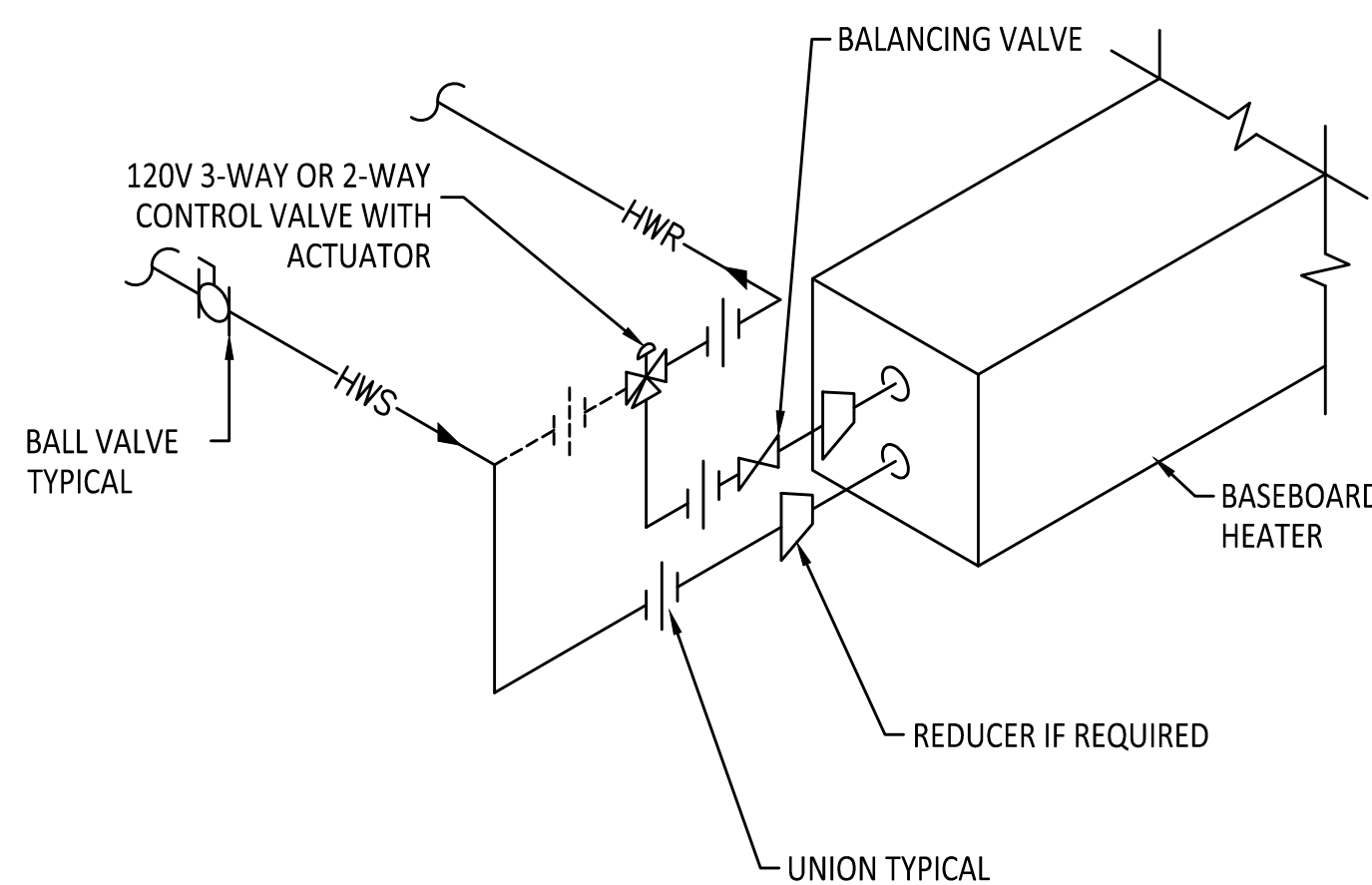
## RADIANT PANELS OVER WOOD JOIST WITH WOOD FLOORING DETAIL

SCALE: NOT TO SCALE



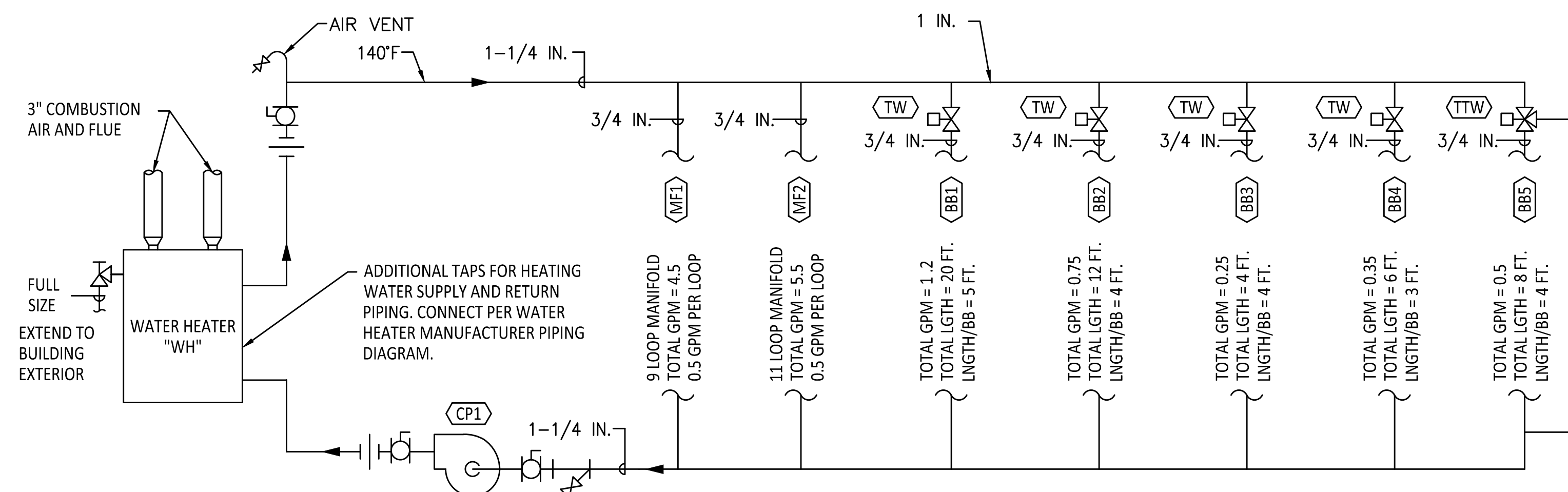
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MD	PD	ED	PM
PROJECT #:			



## BASEBOARD HEATER DETAIL

SCALE: NOT TO SCALE



## SNOW MELT PIPING DIAGRAM

SCALE: NOT TO SCALE