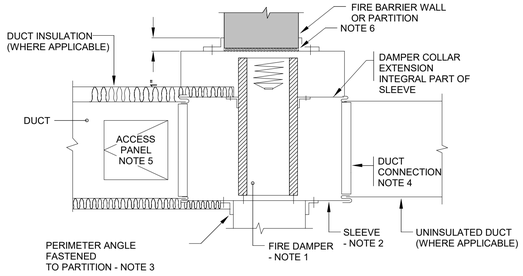
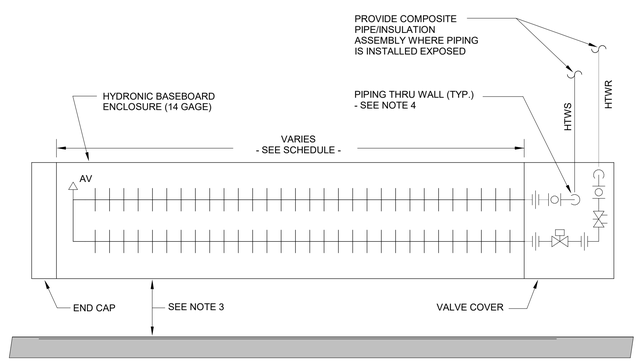


NOTES:

1. A VERTICAL DAMPER IS SHOWN. HORIZONTAL DAMPER INSTALLATION IS SIMILAR. FOLLOW DAMPER MANUFACTURER'S INSTRUCTIONS, INCLUDING FASTENER OPTIONS AND GAGES FOR SLEEVE AND PERIMETER ANGLES. FIRE DAMPERS MUST BE INSTALLED IN THE PARTITION OR FLOOR AND NOT OUTSIDE THE PENETRATION.
2. GALVANIZED SLEEVE: GAGE NOT LESS THAN CONNECTING DUCT. FASTEN SLEEVE TO DAMPER FRAME AND TO PERIMETER ANGLES.
3. PERIMETER ANGLES: GALVANIZED STEEL, NOT LESS THAN 1-1/2"x1-1/2"x 14 GAGE. PROVIDE 1" MINIMUM OVERLAP OF OPENING ON ALL FOUR (4) SIDES.
4. BREAKAWAY DUCT CONNECTION: CONTRACTOR'S OPTION OF TYPES PER SMACNA LPDS, FIG. 2-13
5. ACCESS PANELS: SIZE AND LOCATION TO PERMIT SERVICING THE FUSIBLE LINK OR LINKS.
6. PROVIDE 1/4" TO 1/2" CLEARANCE ON HEIGHT AND WIDTH. FILL OPEN SPACE WITH ROCK WOOL FIRESTOP FIBER.

FIRE DAMPER INSTALLATION DETAIL



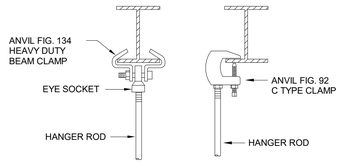
NOTES:

1. FURNISH AND INSTALL WALL BRACKETS, HANGERS, END CAPS, ACCESSORIES, ETC. AS REQUIRED FOR A COMPLETE INSTALLATION. PROVIDE FULL CENTER TRIM WHERE TWO OR MORE BASEBOARD SECTIONS ARE CONNECTED IN SERIES.
2. MODIFY DETAIL AS REQ'D TO SUIT ALTERNATE PIPING ARRANGEMENTS OF FIN-TUBE RADIATION - SEE MECHANICAL PLANS FOR PIPE SIZES AND LAYOUT.
3. MOUNT AT HEIGHT (TYP. 3 INCHES) AS INDICATED IN MANUF'S INSTALLATION INSTRUCTIONS UNLESS INDICATED OTHERWISE ON MECHANICAL PLANS.
4. PIPING SHALL BE INSTALLED CONCEALED IN WALL IN ALL FINISHED AREAS.

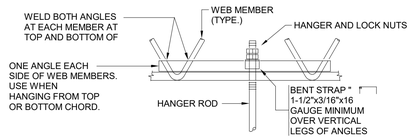
LEGEND:

	HIGH TEMPERATURE WATER SUPPLY (HTWS)		UNION
	HIGH TEMPERATURE WATER RETURN (HTWR)		BALL VALVE
	CIRCUIT BALANCING VALVE (CBV)	AV	AUTOMATIC AIR VENT
	TWO-WAY MODULATING CONTROL VALVE		

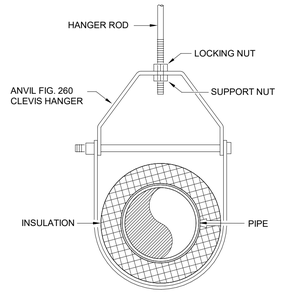
TYPICAL FINNED TUBE RADIATION DETAIL



STEEL BEAM

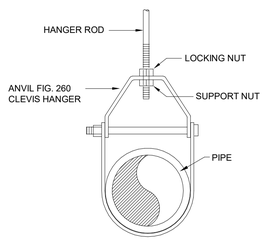


STEEL JOIST



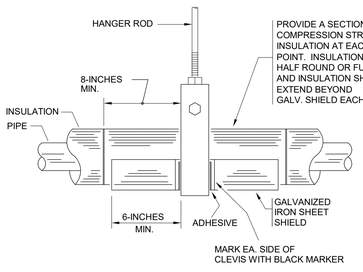
CLEVIS HANGER

- PIPE WITH EXTERNAL INSULATION -



CLEVIS HANGER

- PIPE WITH NO INSULATION -



CLEVIS HANGER

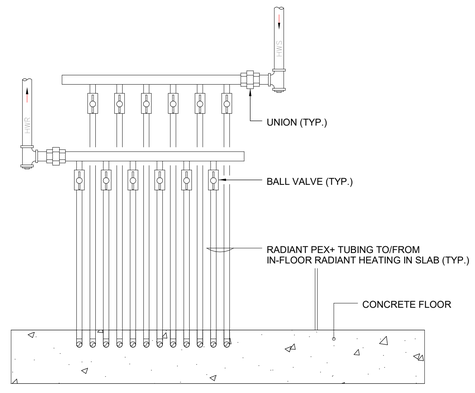
- PIPE WITH EXTERNAL INSULATION -

DECK

NOTES:

1. SEE SPECIFICATIONS FOR HANGER SPACING AND ROD SIZES.

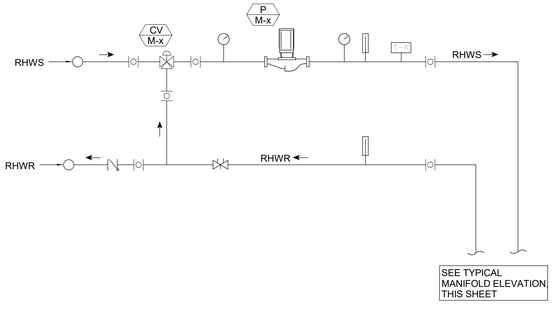
PIPE SUPPORT DETAILS



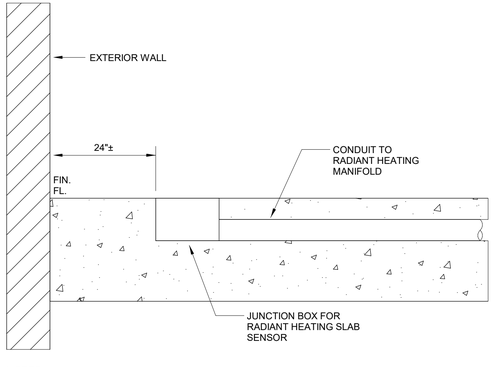
NOTE:

DETAIL SHOWN FOR TYPICAL MANIFOLD ARRANGEMENT. TAKE-OFF QUANTITIES VARY.

TYPICAL MANIFOLD ELEVATION



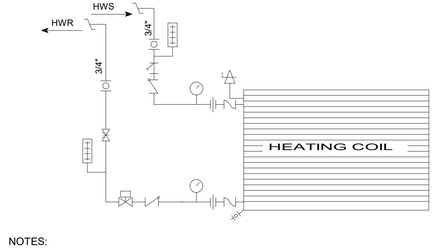
TYPICAL MANIFOLD PIPING DETAIL



NOTES:

1. TC SHALL FURNISH AND INSTALL JUNCTION BOX (JB) AND CONDUIT WITH PULL STRING PRIOR TO PLACEMENT OF CONCRETE. COORDINATE REQUIRED SIZE OF JB WITH MC AND SLAB SENSOR SUBMITTAL.
2. ENSURE THAT SLAB SENSOR PLACEMENT IS COORDINATED WITH PROPOSED INSTALLATION OF MILLWORK AND CABINETRY.

RADIANT SLAB SENSOR DETAIL



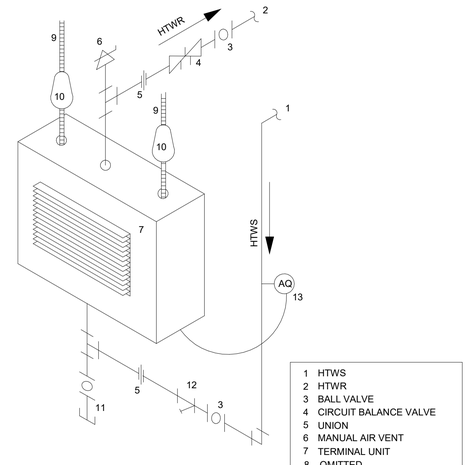
NOTES:

1. REFER TO PIPING PLAN FOR SIZES.
2. PIPE COIL(S) TO ALLOW REMOVAL FROM DUCT.

LEGEND:

	FLEXIBLE CONNECTION		TWO-WAY CONTROL VALVE
	UNION		STRAINER
	BALL VALVE		PRESSURE GAUGE
	CIRCUIT BALANCING VALVE		TEMPERATURE GAUGE
	MANUAL AIR VENT		CHECK VALVE

IN-DUCT HEATING COIL PIPING DETAILS



HYDRONIC UNIT HEATER DETAIL

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DATE: 06/21/2023
DRAWN BY: AOS
SCALE: N.T.S.
REVIEWED BY: TJH
PROJECT NO.: 20-2006
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MECHANICAL DETAILS

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