## **LEGEND**

PITCH DOWN

PLUG VALVE

PRD - PRESSURE RELIEF DAMPER

REDUCER - CONCENTRIC

RETURN AIR

SD ■ SMOKE DAMPER

STRAINER

SUPPLY AIR DUCT

HEAT RECOVERY, STEAM)

SWITCH WITH PILOT LIGHT

TAKE - OFF FROM TOP OF PIPE

TAKE - OFF FROM BOTTOM OF PIPE

TEMPERATURE SENSOR

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PRESSURE GAUGE

PRESSURE REDUCING VALVE

PRESSURE RELIEF VALVE

A 10'-0" FL/D RADIATION I.D. ( TYPE A, 10'-0" FINNED LENGTH, 10,000 BTU/HR) WITH DAMPER

REDUCER - ECCENTRIC

RETURN PIPING (HEATING WATER, CHILLED WATER

SECTION I.D. ( SECTION A SHOWN ON DWG. MH101)

SUPPLY PIPING (HEATING WATER, CHILLED WATER

HEAT RECOVERY, CONDENSATE RETURN)

A 10'-0" FL RADIATION I.D. ( TYPE A, 10'-0" FINNED LENGTH, 10,000 BTU/HR) WITHOUT DAMPER

				<u></u> _	LOLIND
AC	AIR CONDITIONING UNIT	FD	FIRE DAMPER	R/D	RADIATION WITH DAMPER
ACC	AIR COOLED CONDENSER	FL	FINNED LENGTH OF RADIATION	RCHWP	RESET CHILLED WATER PUMP
ACCU	AIR COOLED CONDENSING UNIT	FM	FLOW METER	RCHWR	RESET CHILLED WATER RETURN
ACV	AUTOMATIC CONTROL VALVE	FOR	FUEL OIL RETURN	RCHWS	RESET CHILLED WATER SUPPLY
AD	ACCESS DOOR	FOS	FUEL OIL SUPPLY	REF	RETURN/EXHAUST FAN
ΑE	AIR EXTRACTOR	FPT	FREEZE PROTECTION THERMOSTAT	RET	RETURN
AFF	ABOVE FINISHED FLOOR	FR	FLOOR REGISTER	RF	RETURN AIR FAN
AFG	ABOVE FINISHED GRADE	FS	FLOW SWITCH	RH	REHEAT COIL
AHU	AIR HANDLING UNIT	F&T	FLOAT & THERMOSTATIC TRAP	RHWP	RESET HOT WATER PUMP
ALD	ACOUSTICALLY LINED DUCT	GCR	GRID CORE REGISTER	RHWR	RESET HOT WATER RETURN
ATC	AUTOMATIC TEMPERATURE CONTROL	GPM	GALLONS PER MINUTE	RHWS	RESET HOT WATER SUPPLY
BBU	BOILER BURNER UNIT	НС	HEATING COIL	RPM	REVOLUTIONS PER MINUTE
BD	BAROMETRIC DAMPER	HE	HEAT EXCHANGER	RR	RETURN REGISTER
BDD	BACKDRAFT DAMPER	HEDV	HOSE END DRAIN VALVE	S	SWITCH
CBD	COUNTERBALANCED BACKDRAFT DAMPER	HEF	HIGH EFFICIENCY FILTER BANK	SA	SOUND ATTENUATOR
CC	COOLING COIL	HPCR	HIGH PRESSURE CONDENSATE RETURN ( OVER 30 PSIG)	SCV	SELF - CONTAINED CONTROL VALVE
CD	CEILING DIFFUSER	HPS	HIGH PRESSURE STEAM ( OVER 30 PSIG)	SD	SMOKE DAMPER
CDR	CONDENSATE DRAIN ( AHU, FC, ETC.)	HRC	HEAT RECOVERY COIL	SDR	SINGLE DEFLECTION REGISTER
CDRP	CONDENSATE DRAIN PUMP ( AHU, FC, ETC.)	HRP	HEAT RECOVERY PUMP	SF	SUPPLY FAN
CG	CEILING GRILLE	HRR	HEAT RECOVERY RETURN	SG	SUPPLY GRILLE
CFM	CUBIC FEET PER MINUTE	HRS	HEAT RECOVERY SUPPLY	SP	STATIC PRESSURE
СН	CHILLER UNIT	HUM	HUMIDIFIER	SS	STAINLESS STEEL
CHWP	CHILLED WATER PUMP	HWP	HEATING WATER PUMP	SUP	SUPPLY
CHWR	CHILLED WATER RETURN	HWR	HEATING WATER RETURN	SV	SOLENOID VALVE
CHWS	CHILLED WATER SUPPLY	HWS	HEATING WATER SUPPLY	TC	TIME CLOCK
СО	CLEANOUT	HV	HEATING & VENTILATING UNIT	TID	THERMALLY INSULATED DUCT
С	CONVECTOR	LD	LINEAR DIFFUSER	TD	TRANSFER DUCT
CPD	CONDENSATE PUMP DISCHARGE	LG	LINEAR GRILLE	TF	TRANSFER FAN
CR	CONDENSATE RETURN	LPCR	LOW PRESSURE CONDENSATE RETURN ( 0-15 PSIG)	TG	TRANSFER GRILLE
СТ	COOLING TOWER	LPS	LOW PRESSURE STEAM ( 0-15 PSIG)	TR	TEMPERATURE RISE
CUH	CABINET UNIT HEATER	LSGV	LOCK SHIELD GATE VALVE	π	THERMOSTATIC TRAP
CW	COLD WATER	MAN/LS	MANUAL CONTROL FROM LIGHT SWITCH	UH	UNIT HEATER
CWP	CONDENSER WATER PUMP	MAN/SS	MANUAL CONTROL WITH VARIABLE SPEED SWITCH	VAV	VARIABLE AIR VOLUME BOX
CWR	CONDENSER WATER RETURN	MBH	1000 BRITISH THERMAL UNITS PER HOUR	VB	VACUUM BREAKER
CWS	CONDENSER WATER SUPPLY	MCC	MOTOR CONTROL CENTER	VD	VOLUME DAMPER
D	CONDENSATE DRAIN	MD	MOTORIZED DAMPER	VF	VENTILATION FAN
D&D	DROP AND DRIP	MPCR	MEDIUM PRESSURE CONDENSATE RETURN ( 16 - 30 PSIG)	WC	WATER COLUMN
DDR	DOUBLE DEFLECTION REGISTER	MPS	MEDIUM PRESSURE STEAM ( 16 - 30 PSIG)	WG	WALL GRILLE
DEF	DEFLECTION	MS	MAGNETIC STARTER	<b>W</b> R <del>├</del> {	WALL REGISTER
DH <b>W</b> EF	DOMESTIC HOT WATER	OA OED	OUTSIDE AIR	₹ <del>`</del>	ACOUSTICALLY LINED DUCT
EG	EXHAUST FAN	OED OS&Y	OPEN ENDED DUCT	— <u>∞</u> — ———	ACV Z WAY
ER	EXHAUST GRILLE	PD	OUTSIDE SCREW & YOKE GATE VALVE	τ —∞—	ACV 3 - WAY
EXH	EXHAUST REGISTER	PU PH	PRESSURE DROP	 BDD <b>=</b>	BALANCE VALVE
FC	EXHAUST	PRD	PREHEAT COIL	<u>-</u>	BACKDRAFT DAMPER
FCU	FLEXIBLE CONNECTOR	PRV	PRESSURE RELIEF DAMPER  PRESSURE RELIEF DAMPER	_ <del>*</del>	CAP — PIPE  CHECK VALVE
100	FAN COIL UNIT	1 1/4	PRESSURE REDUCING VALVE		CHECK VALVE

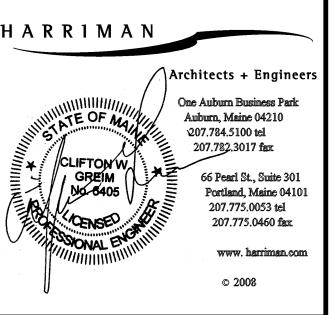
-\\$-	COMBINATION BALANCING, FLOW MEASURING & TIGHT SHUT-OFF VALVE	ψ	THERMOMETER
$\boxtimes$	DUCT SECTION - SUPPLY	<u> </u>	THERMOMETER WELL
	DUCT SECTION - RETURN/EXHAUST	E = 189	DUCT MOUNTED SMOKE DETECTOR (BY DIVISION 16)
	DUCT TURNING VANES	$\bigcirc$	THERMOSTAT
— <b>■</b> FD	FIRE DAMPER (1 1/2 HOUR RATED)	Ос	THERMOSTAT COOLING
—■FD (3 HR)	FIRE DAMPER (3 HOUR RATED)	Фн	THERMOSTAT HEATING
□~~	FLEXIBLE DUCT	Ōn -	THERMOSTAT - NIGHT
	FLOAT & THERMOSTATIC TRAP	Фн∕с	THERMOSTAT - HEATING/COOLING
—₩—	ISOLATION VALVE	—[]—	THERMOSTATIC TRAP
<b>–</b> ō–	GLOBE VALVE	<b>©</b> ⊤	TIMER SWITCH
$\oplus$	HUMIDISTAT	<del> </del>	UNION
H9	HUMIDITY SENSOR	$\mathbb{S}_{V}$	VARIABLE SPEED SWITCH W/OFF "POSITION"
<b>—⋈—</b>	LOCKSHIELD GATE VALVE	VD <b>=</b>	VOLUME DAMPER
	LOUVER		S (SUPPLY) R (RETURN)
$-\!$	MANUAL AIR VENT		E ( EXHAUST ) T ( TRANSFER ) SUPPLY DIFFUSER ( TYPE 2 )
MD=	MOTORIZED DAMPER	<b>↓↓</b>	DIFFUSER DESCRIPTION (SEE REG., GRILLES & DIFF SCHEDULE )
S <sub>o/u</sub>	OCCUPIED/UNOCCUPIED SWITCH	S2 4	QUANTITY
\$	OS&Y GATE VALVE	400	400 CFM EA
<u>+</u>	PETCOCK FOR GAUGE CONNECTION	_	1 400 OT WELLA
<del></del>	PIPE ANCHOR		
<del>-=-</del>	PIPE GUIDE		

## GENERAL NOTES

- THE CONTRACTOR SHALL VISIT THE BUILDING SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS, AND TO TAKE MEASUREMENTS AS NECESSARY FOR COMPLETION OF THE WORK ASSOCIATED WITH THE DESIGN INTENT OF THESE CONTRACT DOCUMENTS.
- COORDINATE WORK OF MECHANICAL SUBCONTRACTOR WITH WORK OF OTHER TRADES.
- DUCTWORK, PIPING AND EQUIPMENT ARE INDICATED DIAGRAMMATICALLY. FIELD—VERIFY LOCATIONS.
- 4. PRIOR TO FABRICATING DUCTWORK, COORDINATE WITH OTHER TRADES TO ENSURE THAT THE DUCTWORK CAN BE INSTALLED WITH THE INDICATED SIZES AND LOCATIONS. FIELD-VERIFY EXISTING DUCT SIZES AND CONDITIONS. SUBMIT ANY DISCREPANCIES OR PROPOSED CHANGES.
- 5. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR LOCATIONS OF CEILING DIFFUSERS AND REGISTERS.
- PROVIDE VOLUME DAMPERS SO THAT EVERY REGISTER, GRILLE, AND DIFFUSER (SUPPLY, RETURN, AND EXHAUST) CAN BE INDIVIDUALLY BALANCED. VERIFY INSTALLATION OF EXISTING VOLUME DAMPERS AT EACH BRANCH IN EXISTING SUPPLY DUCT. PROVIDE ADDITIONAL VOLUME DAMPERS WHERE REQUIRED.
- 7. LOCATE VOLUME DAMPERS AS FAR AWAY FROM REGISTERS, GRILLES, AND DIFFUSERS AS POSSIBLE TO MINIMIZE NOISE. LOCATE TO BE UNOBSTRUCTED AND EASILY ACCESSIBLE FOR TESTING AND BALANCING. LOCATE ABOVE ACCESSIBLE SUSPENDED CEILINGS WHEREVER POSSIBLE. WHERE VOLUME DAMPERS MUST BE LOCATED ABOVE GYPBOARD CEILINGS, PROVIDE ACCESS PANELS AS SPECIFIED AND NOTIFY THE ARCHITECT VERBALLY AND IN WRITING OF SUCH LOCATIONS. OBTAIN PERMISSION FROM THE ARCHITECT BEFORE INSTALLING ACCESS PANELS.
- 8. DUCT ELBOWS SHALL BE LONG-RADIUS TYPE (THROAT RADIUS EQUAL TO OR GREATER THAN DUCT WIDTH IN THE PLANE OF THE TURN) WHEREVER SPACE ALLOWS. IF SPACE IS NOT ADEQUATE, PROVIDE MITERED ELBOWS WITH TURNING VANES.
- 9. PROVIDE 16 GAUGE SINGLE-THICKNESS TURNING VANES AT MITERED DUCT ELBOWS. VANE EDGES (LEADING AND TRAILING) SHALL BE TANGENTIAL TO AIRFLOW.
- 10. FLEXIBLE DUCTWORK IS NOT ALLOWED IN NEGATIVE PRESSURE SYSTEMS. DO NOT USE FLEXIBLE DUCTWORK IN RETURN AND EXHAUST SYSTEMS.
- 11. FLEXIBLE DUCT LENGTHS SHALL NOT EXCEED 5'-0".
- 12. PAINT DUCTWORK VISIBLE THRU CEILING OPENINGS, DUCT OPENINGS, AND REGISTERS, GRILLES AND DIFFUSERS WITH BLACK PAINT IN ACCORDANCE WITH SECTION 09900 -
- 13. PIPING INDICATED IN OUTSIDE WALLS SHALL BE RUN ON THE WARM SIDE OF BUILDING INSULATION AND VAPOR BARRIER. BUILDING INSULATION BEHIND SUCH PIPING SHALL BE CONTINUOUS, WITHOUT JOINTS OR GAPS.
- 14. PIPING SHALL BE CONCEALED EXCEPT IN MECHANICAL ROOMS AND AS INDICATED. WHERE PIPES DROP IN BLOCK WALLS, PROVIDE 1/2" THICK INSULATION MINIMUM. 15. SEAL DUCTWORK AND PIPING THRU MECHANICAL ROOM
- ASSEMBLIES, WITH FIRESTOPPING MATERIAL AS SPECIFIED. 16. MOUNT THERMOSTATS AND TEMPERATURE AND HUMIDITY

FLOORS AND PARTITIONS, AND THRU FIRE-RATED

- SENSORS AT 48 INCHES AFF TO CENTERLINE OF ITEM. PROVIDE ELECTRICAL WALL BOX ATTACHED TO FRAMING.
- 17. WHERE THERMOSTATS/TEMPERATURE SENSORS ARE LOCATED NEAR LIGHT SWITCHES, INSTALL SO THAT LIGHT SWITCHES ARE NEARER THE DOOR JAMBS. THE INTENT IS TO LOCATE THERMOSTATS/ TEMPERATURE SENSORS SO THEY WILL NOT INTERFERE WITH ACCESSIBILITY OF LIGHT SWITCHES.
- 18. COORDINATE LOCATION OF NEW ROOFTOP EQUIPMENT, LOCATED ON EXISTING ROOF, WITH EXISTING ROOF STRUCTURE.
- 19. VERIFY EXISTING DUCT SIZES PRIOR TO FABRICATION OF NEW DUCTWORK. IF DISCREPANCIES EXIST, NOTIFY THE ENGINEER.



Project Title MAINE MEDICAL CENTER HVAC LAB **RENOVATIONS** PORTLAND, MAINE

HA Project No.	08101
Key Plan	

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**Drawing Title** 

**MECHANICAL** LEGEND AND NOTES

PA / PE: CG

Drawing Number

Drawn By: **MED**