AD	AREA DRAIN	INSUL	INSULATION
A.F.F.	ABOVE FINISHED FLOOR	INV	INVERT
AFMS	AIR FLOW MEASURING STATION	KW	KILOWATT
AHU	AIR HANDLING UNIT	LAT	LEAVING AIR TEMPERATURE
ANB	ACID NEUTRALIZING BASIN	LAV	LAVATORY
AP	ACCESS PANEL	LWT	LEAVING WATER TEMPERATURE
ARCH	ARCHITECT	мвн	BTU PER HOUR (THOUSANDS)
AS	AIR SEPARATOR	MCF	THOUSAND CUBIC FEET
BD	BUTTERFLY DAMPER	МН	MANHOLE
B/G	BELOW GRADE	NC	NOISE CRITERIA OR NORMALLY CLOSED
BTU	BRITISH THERMAL UNIT	NEG	NEGATIVE
BWV	BACKWATER VALVE	NIC	NOT IN CONTRACT
CCF	HUNDRED CUBIC FEET	NO	NORMALLY OPEN
CFH	CUBIC FEET PER HOUR	NTS	NOT TO SCALE
CFM	CUBIC FEET PER MINUTE	OA	OUTSIDE AIR
CL	CENTER LINE	OBD	OPPOSED BLADE DAMPER
CLG	CEILING	ORD	OVERFLOW ROOF DRAIN
CO	CLEAN OUT	PD	PRESSURE DROP OR DIFFERENCE
CONTR	CONTRACTOR	PE	PNEUMATIC-ELECTRIC
CONV	CONVECTOR	PLBG	PLUMBING
CUH	CABINET UNIT HEATER		PRESSURE REDUCING VALVE OR
CW	COLD WATER	PRV	POWER ROOF VENTILATOR
DB	DECIBEL	PSIA	POUNDS/SQ INCH ABSOLUTE
DF	DRINKING FOUNTAIN		POUNDS/SQ INCH GAUGE
	DIAMETER	PSIG	POLY VINYL CHLORIDE
DIA		PVC	
DIFF	DIFFUSER	RA	RETURN AIR
DISCH	DISCHARGE	RCP	REINFORCED CONCRETE PIPE
DMPR	DAMPER	RD	ROOF DRAIN
DN	DOWN	RECIRC	RECIRCULATING
DR	DRAIN	REG	REGISTER
DS	DOWNSPOUT	RET	RETURN
DWG	DRAWING	RH	RELATIVE HUMIDITY
EAT	ENTERING AIR TEMPERATURE	RHT	REHEAT
EDR	EQUIVALENT DIRECT RADIATION	RHC	REHEAT COIL
EP	ELECTRIC-PNEUMATIC	RHW	RECIRCULATED HOT WATER
EWC	ELECTRIC FREDMATIC  ELECTRIC WATER COOLER	RM	ROOM
EWC	ENTERING WATER TEMPERATURE	RPM	REVOLUTIONS PER MINUTE
EXH	EXHAUST	RPZ	REDUCED ZONE BACKFLOW PREVENTER
EXP	EXPANSION	SA	SUPPLY AIR
F	FAHRENHEIT	SAN	SANITARY
FC	FAN COIL	SCFM	CFM, STANDARD CONDITIONS
FC0	FLOOR CLEAN OUT	SD	SMOKE DAMPER
FD	FIRE DAMPER OR FLOOR DRAIN	SP	STATIC PRESSURE
FFD	FUNNEL FLOOR DRAIN	SPECS	SPECIFICATIONS
FHC	FIRE HOSE CABINET	SUP	SUPPLY
FHR	FIRE HOSE RACK	SQ	SQUARE
FLR	FLOOR	STM	STEAM
FLEX	FLEXIBLE	TD	TEMPERATURE DIFFERENCE OR TRENCH DR.
FM	FIRE MAIN	TEMP	TEMPERATURE  TEMPERATURE
FPM	FEET PER MINUTE	TONS	TONS OF REFRIGERATION
FPS FPS	FEET PER SECOND	T-STAT	
			THERMOSTAT
FS	FLOOR SINK	TYP	TYPICAL
FT	FEET OR FOOT	UB	UP-BLAST
F&T	FLOAT AND THERMOSTATIC	UG	UNDERGROUND
FTG	FOOTING	UH	UNIT HEATER
FTR	FINNED TUBE RADIATION	UR	URINAL
FV	FACE VELOCITY	V	SANITARY VENT
GA	GAUGE	VAV	VARIABLE AIR VOLUME
GAL	GALLON	VD	VOLUME DAMPER
GPH	GALLONS PER HOUR	VEL	VELOCITY
GPM	GALLONS PER MINUTE	VFD	VARIABLE FREQUENCY DRIVE
GR	GRILLE	VOL	VOLUME
GW	GREASE WASTE	VTR	SANITARY VENT THRU ROOF
HB	HOSE BIBB	W	SANITARY WASTE
HD	HEAD	W/	WITH
HOA	HANDS-OFF-AUTOMATIC	w/ w/o	WITH
		· · · · · · · · · · · · · · · · · · ·	
HTG	HEATING	WC	WATER CLOSET
HTR	HEATER	WCO	WALL CLEAN OUT
HVAC	HEATING, VENTILATING	WH	WALL HYDRANT
	AND AIR CONDITIONING	WTR	WATER
HYD	HYDRANT		
GCO	GRADE CLEANOUT		
HW	HOT WATER		
	I	1	

	PLUMBING	Pl	_UMBING/PIPING		DUCTWORK
AV — AV —	ACID VENT — BELOW GRADE  ACID VENT — ABOVE GRADE	<b>——</b> •	ELBOW DOWN CLEANOUT	<b>←</b>	SUPPLY AIR RETURN AIR
- AW-	→ ACID WASTE - BELOW GRADE	3	PIPE CAP	<b>-</b>	EXHAUST AIR
AW	— ACID WASTE — ABOVE GRADE	o	ELBOW UP	<b>—</b>	LINED DUCTWORK
DI	<ul><li>DEIONIZED WATER</li><li>DOMESTIC COLD WATER</li></ul>		TEE, OUTLET UP TEE, OUTLET DOWN		STANDARD BRANCH, NO SPLITTER -
	- DOMESTIC HOT WATER	<del></del>	CONNECTION, BOTTOM	TT 1	SUPPLY FLOW TO RIGHT — RETURN/EXHAUST FLOW TO LEFT
180 —	<ul> <li>DOMESTIC HOT WATER (TEMP. INDICATED)</li> <li>DOMESTIC RECIRCULATING HOT WATER</li> </ul>	<u> </u>			BELLMOUTH WITH BALANCING DAMPER
HARD —	- HARD COLD WATER	T	CONNECTION, TOP		FLEXIBLE DUCT
	OVERFLOW STORM DRAIN — BELOW GRADE		ECCENTRIC REDUCER		FLEXIBLE DOCI
OSD RO	<ul><li>OVERFLOW STORM DRAIN - ABOVE GRADE</li><li>REVERSE OSMOSIS WATER</li></ul>		CONCENTRIC REDUCER  FLEXIBLE CONNECTION		TURNING VANES
<b>-</b> V-	SANITARY VENT — BELOW GRADE		EXPANSION JOINT	<del></del>	FLEXIBLE CONNECTION
V	<ul><li>SANITARY VENT − ABOVE GRADE</li><li>SANITARY WASTE − BELOW GRADE</li></ul>	×	PIPE ANCHOR ALIGNMENT GUIDE		TEARBLE GOTTNEGTTON
	— SANITARY WASTE — BELOW GRADE		CHECK VALVE		MANUAL VOLUME DAMPER
- SDT	SOIL DRAINAGE TILE	<b>──</b>	SHUTOFF VALVE	→ MD	MOTORIZED DAMPER
SOFT ————————————————————————————————————	<ul><li>SOFTENED COLD WATER (SCW)</li><li>SOFTENED HOT WATER</li></ul>		PLUG VALVE  COMBINATION BALANCE VALVE AND	• FD	
TW	TEMPERED WATER	<del></del>	AND FLOW METER		FIRE DAMPER & ACCESS PANEL
	STORM DRAIN - BELOW GRADE		STRAINER	→ SD	SMOKE DAMPER & ACCESS PANEL
SD	<ul><li>STORM DRAIN – ABOVE GRADE</li><li>WELL WATER</li></ul>		STRAINER W/BLOWDOWN VALVE AND CAP	● FSD	COMBINATION FIRE/SMOKE DAMPER
	- EXISTING PLUMBING TO REMAIN	&_	PRESSURE REDUCING VALVE		& ACCESS PANEL
	EXISTING PLUMBING TO REMOVED	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	(SETTING AS NOTED, PSI)  AUTOMATIC CONTROL VALVE, 2-WAY		SUPPLY GRILLE OR REGISTER
<b>A</b> A	ECHANICAL DIDING				RETURN OR EXHAUST GRILLE
	ECHANICAL PIPING	<b></b>	AUTOMATIC CONTROL VALVE, 3—WAY		OR REGISTER
BF	<ul><li>BOILER FEED</li><li>CHILLED WATER SUPPLY</li></ul>	<del>\$</del> ^ \$\dots\$	AUTOMATIC AIR VENT MANUAL AIR VENT		SUPPLY DUCT UP, POSITIVE PRESSURE
——CWR	— CHILLED WATER RETURN	34	PRESSURE RELIEF/SAFETY VALVE		RETURN DUCT UP, NEGATIVE PRESSURE
10#A	COMPRESSED AIR (PSI INDICATED)	<b>X</b>	(SETTING AS NOTED, PSI)		METONIN DUCT OF, INEGATIVE PRESSURE
CD	<ul><li>CONDENSATE DRAIN</li><li>CONDENSER WATER SUPPLY</li></ul>	—————————————————————————————————————	DRAIN VALVE  BALL VALVE		EXHAUST DUCT UP, NEGATIVE PRESSURE
—— CR ——	— CONDENSER WATER RETURN	——————————————————————————————————————	BUTTERFLY VALVE		SUPPLY DUCT DOWN, POSITIVE PRESSUR
FOS —	<ul><li>FUEL OIL SUPPLY</li><li>FUEL OIL RETURN</li></ul>		DIAPHRAGM VALVE GLOBE ANGLE VALVE		- Correl Boor Bonn, Fooming Friedom
FOV —					RETURN DUCT DOWN, NEGATIVE PRESSURE
FOF —	- FUEL OIL FILL		O. S. & Y. VALVE		EXHAUST DUCT DOWN, NEGATIVE PRESSUR
GS	<ul><li>GLYCOL SUPPLY</li><li>GLYCOL RETURN</li></ul>	—— <b>M</b> Ţ <b>M</b> ——	REDUCED PRESSURE ZONE BACKFLOW PREVENTER		
HRS —	- HEAT RECOVERY SUPPLY		. SOLENOID VALVE		SUPPLY DIFFUSER/REGISTER BLANKOFF INDICATED DARK
HRR—	- HEAT RECOVERY RETURN		FLOW LIMITING VALVE		RETURN GRILLE/REGISTER
HWS——	<ul><li>HEATING WATER SUPPLY</li><li>HEATING WATER RETURN</li></ul>		REFRIGERANT SIGHT GLASS GLOBE VALVE	<u> </u>	·
LV	- LABORATORY VACUUM	&	GAS PRESSURE REGULATOR VALVE		EXHAUST GRILLE/REGISTER
LA	— LABORATORY AIR	<u>Ø</u>	BACKWATER VALVE REFRIGERANT DRYER	4 1 2	LINEAR DIFFUSER (SLOTS/DIRECTIONS)
LPG 2#G	<ul><li>LIQUIFIED PETROLEUM GAS</li><li>NATURAL GAS (PSI INDICATED)</li></ul>		FLOW DIRECTION		
—— PV ———	PLANT VACUUM	$\overline{}$	FLOW DIRECTION WITH PITCH		CONCENTRIC DUCT TRANSITION
PC PADS	<ul><li>PUMPED CONDENSATE</li><li>RADIATION WATER SUPPLY</li></ul>	8	DUPLEX STRAINER		ECCENTRIC DUCT TRANSITION
RADR —	RADIATION WATER RETURN		PIPE UNION	<b>P</b> "N"	DUCT CONSTRUCTION PRESSURE CLASS—
—— RL ——	REFRIGERANT LIQUID		PIPE FLANGE		IFICATION (INCHES WATER AS NOTED) "N" INDICATES NEGATIVE PRESSURE
RS	<ul><li>REFRIGERANT SUCTION</li><li>REFRIGERANT HOT GAS BYPASS</li></ul>		PUMP		RECTANGULAR-TO-ROUND DUCT TRANSITION
RHS -	- REHEAT WATER SUPPLY		PRESSURE GAUGE W/ PIGTAIL & PETCOCK		EXISTING DUCT TO REMAIN
RHR ——	— REHEAT WATER RETURN — PEMOTE PADIATOR SURPLY	<b> </b>	THERMOMETER		
	<ul><li>REMOTE RADIATOR SUPPLY</li><li>REMOTE RADIATOR RETURN</li></ul>		DDECCUDE /TEMPERATURE TECT COST		EXISTING DUCT TO BE REMOVED
——SHWS——	- SECONDARY HEATING WATER SUPPLY	<del></del>	PRESSURE/TEMPERATURE TEST PORT	55	SUPPLY TROFFER
SHWR————————————————————————————————————	<ul><li>SECONDARY HEATING WATER RETURN</li><li>SNOW MELT SUPPLY</li></ul>		STEAM TRAP (TYPE INDICATED)		
SMR	SNOW MELT SOFFET		FLOW MEASURING STATION		VAV BOX
10#STM	STEAM SUPPLY (PSI INDICATED)  STEAM RETURN (PSI INDICATED)	GPM	(FLOW INDICATED)		VAV BOX W/ REHEAT COIL
10#R	STEAM RETURN (PSI INDICATED)     EXISTING PIPING TO REMAIN	FS	FLOW SWITCH		
	EXISTING PIPING TO REMOVED	<b>□</b> PS	PRESSURE SWITCH		REHEAT COIL
			3	DN UP	DUCT OFFSETS
		<u> </u>	SHOCK ABSORBER		
			ELBOW		
			TEE		ANNIOTATIONI
		⊖	FLOOR DRAIN		ANNOTATION
			FLOOR SINK	QU, TYF	ANTITY E
			FLOOR TROUGH - TRENCH DRAIN	(2)A/10"ø <del></del>	LLE SIZE/ GRILLE, REGISTER & FUSER NECK DIFFUSER IDENTIFICATION
	CONTROLS	wн <del>+ </del> нв <del>+ </del>	WALL HYDRANT HOSE BIBB	SIZ	
		—ф	FLOOR CLEANOUT	CFI	M EACH
_ <b></b> _	AQUA STAT	<u>—</u> ф	GRADE CLEANOUT	(X)	— DETAIL NUMBER
 ®	HUMIDISTAT OR SPACE R.H. SENSOR REFRIGERANT SENSOR		WALL CLEANOUT CEILING CLEANOUT	X -	— SHEET NUMBER
<u> </u>	SMOKE DETECTOR		GAS COCK VALVE	$\frac{x}{x}$	— SECTION NUMBER — SHEET NUMBER
	SPACE TEMPERATURE SENSOR	•	ROOF DRAIN		
<u>s</u>	CTATIC DECCLIDE CENCOS	•	LUCOURT BLU VII	/ \ \ \	ECHIENKENT DESIGNATION
<b>⑤</b> P	STATIC PRESSURE SENSOR THERMOSTAT	© ( )	DRAIN ABOVE	X	— EQUIPMENT DESIGNATION — EQUIPMENT NUMBER
			CATCH BASIN		

## SHEET INDEX

- M000 MECHANICAL TITLE SHEET
- M100 MECHANICAL SPECIFICATIONS
- M101 MECHANICAL SPECIFICATIONS
- M200 LEVEL TWO HVAC DEMOLITION PLAN
- M201 LEVEL TWO HVAC PLAN
- M500 MECHANICAL DETAILS
- ME01 MECHANICAL/ELECTRICAL SCHEDULES
- P201 LEVEL TWO PLUMBING PLAN, PLUMBING RISERS, SCHEDULES, FIRE PROTECTION

## GENERAL NOTES

- A. INSTALL VOLUME DAMPER IN DUCT TAKE-OFF TO EACH DIFFUSER, GRILLE, AND REGISTER.
- B. ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.
- C. IN GENERAL, ALL PIPING AND DUCTWORK SHALL BE RUN CONCEALED IN SUSPENDED CEILING SPACES AND IN SHAFTS PROVIDED UNLESS NOTED OR INDICATED
- D. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL SLEEVES AND/OR OPENINGS WHERE REQUIRED TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOOR SLABS, WALLS, BRIDGING AND BEAMS, EXCEPT WHERE OTHERWISE INDICATED. PENETRATION SEALANT RATING TO MATCH STRUCTURE RATING.
- E. VERIFY ALL DUCT CONNECTION SIZES TO FANS AND COILS.

OTHERWISE.

- F. COOPERATE WITH THE OTHER TRADES TO ELIMINATE ANY CONFLICTS BETWEEN PIPING, DUCTWORK, STRUCTURAL, ELECTRICAL WORK, ETC.
- G. DIFFUSER, REGISTER, AND SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED WITH LIGHT FIXTURE LOCATIONS AND SHALL BE IN ACCORDANCE WITH CEILING PATTERNS AS SHOWN ON ARCHITECTURAL REFLECTED CEILING PLANS.
- H. ALL SQUARE DIFFUSERS SHALL HAVE THE AIR VOLUME EQUALLY IN FOUR DIRECTIONS UNLESS INDICATED OTHERWISE.
- I. MECHANICAL CONTRACTOR TO VERIFY RATINGS OF ALL WALLS WITH ARCHITECTURAL DRAWINGS AND SEAL PIPE PENETRATIONS TO MATCH THE WALL RATINGS.

J. VERIFY ALL EXISTING DUCT CONNECTION SIZES.

- K. MECHANICAL CONTRACTOR TO PROVIDE COORDINATION PLANS FOR HVAC, DIFFUSER, REGISTER, FIRE PROTECTION, ETC. ALL WORK SHALL BE IN ACCORDANCE WITH THE CEILING PATTERNS AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLANS.
- L. RUNOUTS TO VAV BOXES SHALL BE THE SAME SIZE AS THE INLET TO THE BOX.
- M. RUNOUTS TO DIFFUSERS SHALL BE THE SAME SIZE AS
- THE DIFFUSERS NECK SIZE.

N.	PROVIDE ISOLATION VALVES ON BRANCH PIPING TAKE
	OFFS FROM THE DOMESTIC WATER AND NATURAL GAS
	PIPING MAINS IF SHOWN ON DRAWING OR NOT.

FIRE PROTECTION				
——F——	FIRE PROTECTION			
—— DFP ——	FIRE PROTECTION (DRY SYSTEM)			
<del></del>	POST INDICATOR VALVE (PIV)			
—————————————————————————————————————	FIRE HYDRANT WITH SHUTOFF VALVE			
FDVC	RECESSED FIRE DEPT CABINET			
FDVC	SURFACE MTD FIRE DEPT CABINET			
8	FIRE PROTECTION RISER			
Ø	UPRIGHT SPRINKLER HEAD W/GUARD			
•	PENDANT SPRINKLER HEAD			
0	UPRIGHT SPRINKLER HEAD			
٥	SIDEWALL SPRINKLER HEAD			
	BUTTERFLY VALVE W/TAMPER SWITCH			
	DETECTOR CHECK W/BYPASS METER			
9,0	GRADE FIRE DEPT CONNECTION			
U	FLUSH FIRE DEPT CONNECTION			
FDV <b>X=3</b>	FIRE DEPT VALVE W/CAP AND CHAIN			
<b>\bar{\bar{\bar{\bar{\bar{\bar{\bar{</b>	O. S. & Y VALVE W/ TAMPER SWITCH			
	DRYPIPE VALVE			
	PREACTION VALVE			



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PROJECT:



EXECUTIVE OFFICE LAYOUT 191 RIVERSIDE PORTLAND, MAINE

DATE:	ISSUED FOR:
11.12.07	90% REVIEW
11.16.07	PERMIT
11.28.07	ADDENDUM #1
•	

SH EET TITLE :

MECHANICAL TITLE **SHEET** 

SHEET NO.: