HVAC PHASING REQUIREMENTS

1. AS DEFINED FOR THESE PHASING REQUIREMENTS HVAC SERVICES SHALL INCLUDE, SUPPLY AIR, RETURN AIR, EXHAUST AIR, OUTSIDE (VENTILATION) AIR, AIR FILTRATION, HEATING HOT WATER SUPPLY AND RETURN, COOLING CHILLED WATER SUPPLY AND RETURN, OPERATION OF DIRECT EXPANSION HEATING AND COOLING SYSTEMS, STEAM AND STEAM CONDENSATE, COOLING COIL CONDENSATE REMOVAL, AND AUTOMATED TEMPERATURE CONTROL SYSTEMS.
2. ANY REQUIRED SHUTDOWN OF ANY HVAC SERVICES TO ANY SPACES STILL OCCUPIED BY THE STAFF AND PATIENTS IN BUILDING 1 SHALL BE APPROVED IN ADVANCE BY THE CONTRACTING OFFICER (CO) AND / OR CONTRACTING OFFICER'S REPRESENTATIVE (COR).
3. REQUEST FOR SHUTDOWN SHALL BE SUBMITTED IN ADVANCE AS REQUIRED BY THE CONSTRUCTION CONTRACT. THE REQUEST SHALL INCLUDE THE ESTIMATED TIME (LENGTH) OF THE SHUTDOWN AND A COMPLETE DETAILED WORK PLAN INDICATING WHAT WORK IS TO BE COMPLETED DURING THE SHUTDOWN. WORK SHALL NOT BE SCHEDULED AND SHALL NOT BEGIN UNTIL IT IS APPROVED IN WRITING BY THE CO OR COR.

GENERAL NOTES

1. THESE MECHANICAL DRAWINGS ARE DIAGRAMMATIC ONLY AND ARE NOT TO BE SCALED. THE CONTRACTOR SHALL VISIT THE JOB SITE BEFORE WORK BEGINS TO VERIFY ALL DIMENSIONS. NOTIFY THE ENGINEER OF ANY CONFLICTS.
2. COORDINATE DUCT ROUTING AND EQUIPMENT LOCATIONS WITH PLUMBING AND ELECTRICAL INSTALLATIONS AND WITH BUILDING STRUCTURAL MEMBERS. OFFSET DUCTS AND SHIFT EQUIPMENT AS REQUIRED TO AVOID CONFLICTS. PROVIDE LAYOUT DRAWINGS AS SPECIFIED.
3. COORDINATE LOCATIONS OF CEILING REGISTERS AND DIFFUSERS WITH LIGHTING LAYOUT AND REFLECTED CEILING PLAN.
4. DUCT SIZES INDICATED ARE CLEAR INSIDE DIMENSIONS REQUIRED. WHERE DUCT LINER OCCURS, INCREASE SHEET METAL DUCT SIZES TO ACCOMMODATE LINER.
5. REFER TO ELECTRICAL DRAWINGS FOR VOLTAGE REQUIREMENTS OF ALL EQUIPMENT.
6. SUPPORT ALL DUCTS, PIPING, AND EQUIPMENT FROM PRIMARY BUILDING STRUCTURAL MEMBERS. PROVIDE ADDITIONAL STRUCTURAL MEMBERS WHERE NECESSARY TO ACCOMPLISH THIS REQUIREMENT.
7. THE TEST AND BALANCE CONTRACTOR SHALL BE A SUB-CONTRACTOR TO THE PRIME CONTRACTOR AND NOT A SUB-CONTRACTOR TO THE MECHANICAL CONTRACTOR. TAB CONTRACTOR SHALL REVIEW AND APPROVE CONTRACTOR'S LAYOUT DRAWINGS. (DESIGN REVIEW)
8. WET EXHAUST SYSTEM AND STEAM AND CONDENSATE RETURN DESIGN CONTAINED HEREIN FOR CLEANING AND STERILIZATION EQUIPMENT IS BASED ON THE EQUIPMENT CUT SHEETS PROVIDED WITH THE BID DOCUMENTS. IF THE MAKE, MODEL OR QUANTITY OF EQUIPMENT VARIES AT TIME OF CONSTRUCTION THE CONTRACTOR MOST HAVE THE DESIGN EVALUATED AND MODIFIED AS NEEDED BY A LICENSED MECHANICAL ENGINEER TO ENSURE THE DESIGN MATCHES THE ACTUAL EQUIPMENT BEING PROVIDED.
9. VENTILATION, STEAM, AND STEAM CONDENSATE HOOK UP TO CLEANING AND STERILIZATION EQUIPMENT SHALL BE PER THE SPECIFIC REQUIREMENTS PROVIDED BY THE MANUFACTURER OF THE ACTUAL EQUIPMENT PROVIDED ON THE PROJECT.
10. MRI QUENCH VENT, MRI HEAT EXCHANGER CHILLER PIPING AND INSTALLATION, AND HVAC TO MRI AND CT SCAN ROOMS AND CONTROL ROOMS IS BASED ON BASIS OF DESIGN IMAGING EQUIPMENT AVAILABLE FOR PLANNING DURING THE DESIGN PHASE OF THIS PROJECT. PRIOR TO INSTALLATION CONTRACTOR SHALL CONFIRM THE ACTUAL MAKE AND MODEL OF IMAGING EQUIPMENT BEING PROVIDED AND ADJUST DESIGN INSTALLATION TO SUIT THE ACTUAL EQUIPMENT TO BE USED.

LEGEND

DEMOLITION PLANS		NEW WORK PLANS CONTINUED	
	EXISTING DUCT, PIPING OR EQUIPMENT TO BE REMOVED	P.S.I.G.	POUNDS PER SQUARE INCH – GAUGE
	EXISTING DUCT, PIPING OR EQUIPMENT TO BE RELOCATED	PRESS.	PRESSURE
	EXISTING DUCT, PIPING OR EQUIP. TO REMAIN	P.D.	PRESSURE DROP
NEW WORK PLANS		R.A.	RETURN AIR
	NEW DUCT, PIPING OR EQUIPMENT	R.P.M.	REVOLUTIONS PER MINUTE
	EXISTING DUCT, PIPING OR EQUIPMENT TO BE RELOCATED	SEER	SEASONAL ENERGY EFFICIENCY RATIO
	EXISTING DUCT, PIPING OR EQUIPMENT TO REMAIN	SF.	SQUARE FEET
	POINT OF CONNECTION/SCOPE OF WORK	S.A.	SUPPLY AIR
24X12	DUCT SIZE: FIRST DIMENSION IS SIDE DRAWN	TEMP.	TEMPERATURE
20X12	DUCT SECTION, POSITIVE	T.E.	TOP ELEVATION
20X12	DUCT SECTION, NEGATIVE	UC	UNDERCUT DOOR 3/4" MINIMUM
	FLEXIBLE DUCT CONNECTION	VAV	VARIABLE AIR VOLUME
	SQUARE ELBOW WITH TURNING VANES	WTD	WATER TEMPERATURE DROP
	RADIUS ELBOW WITH TURNING VANES	W.	WATT
	CHANGE OF ELEVATION, ARROW INDICATES DIRECTION OF DROP	WT.	WEIGHT
	DUCTWORK WITH 1" ACOUSTICAL LINER	W.P.D.	WATER PRESSURE DROP
	TRANSITION	WBT	WET BULB TEMPERATURE
MVD	MANUAL VOLUME DAMPER		AIR FLOW
AVD	AUTOMATIC (MOTORIZED) VOLUME DAMPER		CONCRETE
AP	ACCESS DOORS, VERTICAL OR HORIZONTAL		THERMOMETER
SD	DUCT MOUNTED SMOKE DETECTOR	FPB-1	TEMPERATURE SENSOR W/INDICATED EQUIPMENT CONTROLLER
SD	SMOKE DETECTOR	FPB-1	DIFF. PRESSURE SENSOR W/INDICATED EQUIPMENT CONTROLLER
AP FD	FIRE DAMPER AND SLEEVE	FPB-1	HUMIDITY SENSOR W/INDICATED EQUIPMENT CONTROLLER
	RIGID ROUND DUCTWORK	ATV	ATMOSPHERIC VENT
FOB	RECTANGULAR DUCTWORK TRANSITION – FLAT ON BOTTOM	CD	CONDENSATE DRAIN PIPING
FOT	RECTANGULAR DUCTWORK TRANSITION – FLAT ON TOP	CWS/CWR	CHILLED WATER RETURN/ CHILLED WATER SUPPLY
	FLEXIBLE DUCT	HWR/HWS	HOT WATER RETURN/ HOT WATER SUPPLY
24X12	DUCT SIZE: FIRST DIMENSION IS HORIZONTAL	MPS	STEAM – (30 PSI)
	SINGLE LINE DUCTWORK WITH TRANSITION	C120	STEAM CONDENSATE (120 PSI)
	DUCT END CAP	C30	STEAM CONDENSATE (30 PSI)
MVD	MANUAL VOLUME DAMPER	C15	STEAM CONDENSATE (15 PSI)
	SQUARE TO ROUND TRANSITION	H	HUMIDIFICATION LINE
A1 / 24X12 / FROM	GRILLE DESIGNATION	LS/LR	LOOP WATER SUPPLY/RETURN
	SIDEWALL DIFFUSER		DROPPING OR RISING PIPE
	CEILING SUPPLY DIFFUSER		PIPE SLEEVE THROUGH WALL
	CEILING RETURN OR EXHAUST REGISTER		CONCENTRIC PIPE REDUCER
	EMERGENCY AIR SYSTEM OFF BUTTON		ECCENTRIC PIPE REDUCER
AFF.	ABOVE FINISHED FLOOR		PITCH OF PIPE ARROW SHOWS DIRECTION OF DROP
B.E.	BOTTOM ELEVATION		INTERMEDIATE ANCHOR
CAP.	CAPACITY		MAIN ANCHOR
C.F.M.	CUBIC FEET PER MINUTE		EXPANSION JOINT
dB.	DECIBEL		EXPANSION LOOP
°F	DEGREES FAHRENHEIT		FLEXIBLE CONNECTOR
DX	DIRECT EXPANSION		BOTTOM CONNECTION FITTING
db/wb	DRY BULB/WET BULB		TOP CONNECTION FITTING
EFF.	EFFICIENCY		ELBOW TURNED UP
ELEC.	ELECTRICAL		ELBOW TURNED DOWN
EER	ENERGY EFFICIENCY RATIO		GATE VALVE
E.A.T./L.A.T.	ENTERING AIR TEMP/LEAVING AIR TEMP		GATE ANGLE VALVE
ENT./LVG.	ENTERING/LEAVING		GLOBE VALVE
E.W.T./L.W.T.	ENTERING WATER TEMP/LEAVING WATER TEMP		GLOBE ANGLE VALVE
E.A.	EXHAUST AIR		BALL VALVE
E.S.P.	EXTERNAL STATIC PRESSURE		BUTTERFLY VALVE
FT.	FEET		PLUG VALVE
F.P.M.	FEET PER MINUTE		CHECK SWING GATE VALVE
FRIC.	FRICTION		BALANCING VALVE
GAL.	GALLON(S)		AUTOMATIC FLOW BALANCING VALVE
G.P.M.	GALLONS PER MINUTE		PRESSURE REDUCING VALVE
HDT	HORIZONTAL DRAW THRU		RELIEF VALVE
HP.	HORSEPOWER	AAV	AUTOMATIC AIR VENT
IN.	INCHES	MAV	MANUAL AIR VENT
IN. W.G. / FT. W.G.	INCHES WATER GAUGE / FEET WATER GAUGE		STRAINER
IPLV	INTEGRATED PART LOAD VALUE		BLOW OFF STRAINER
KW.	KILOWATTS		STEAM TRAPS
MNFR	MANUFACTURER		2 WAY CONTROL VALVE
MAX.	MAXIMUM		3- WAY CONTROL VALVE
MBH	BTUH x 1000		ELECTRIC MOTOR VALVE ACTUATOR
MIN.	MINIMUM		ELECTRIC VALVE ACTUATOR
MIN. EFF.	MINIMUM EFFICIENCY		PNEUMATIC VALVE ACTUATOR
N.C.	NORMALLY CLOSED		SCREWED UNION
N.O.	NORMALLY OPEN		FLANGED CONNECTION
NO. #	NUMBER		VENTURI FLOWMETER
OPER.	OPERATING		PRESSURE GAUGE AND COCK
OZ	OUNCE(S)		GAUGE COCK
O.A.	OUTDOOR AIR		THERMOMETER
%	PERCENT		PRESSURE/TEMPERATURE PLUG
LB/HR	POUNDS PER HOUR		PUMP
			VALVE IN VERTICAL PIPE

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