

HVAC CONTROLS SEQUENCES:

APARTMENT SPLIT SYSTEM - HEAT PUMP SYSTEMS (HP & AHU SYSTEMS)

1. THE RESPECTIVE HEAT PUMP UNIT SHALL CYCLE ON/OFF BY A PROGRAMMABLE THERMOSTAT TO MAINTAIN A ROOM SET POINT (COOLING) 74°F. (HEATING) 70°F (ADJUSTABLE).

AMENITY SPLIT SYSTEM HEAT PUMP SYSTEMS (HP & AHU SYSTEMS)

1. THE AIR HANDLER SHALL OPERATE DURING OCCUPIED HOURS. THE RESPECTIVE HEAT UNIT SHALL CYCLE ON/OFF BY A PROGRAMMABLE THERMOSTAT TO MAINTAIN A ROOM SET POINT (COOLING) 74°F. (HEATING) 70°F.
2. DURING UNOCCUPIED TIMES, THE AIR HANDLER MAY BE OVERRIDDEN THROUGH THE PROGRAMMABLE THERMOSTAT.
3. THE TWO POSITION MOTORIZED O/A DAMPER IN THE OUTDOOR AIR DUCT SHALL BE ENERGIZED BY THE AIR HANDLER FAN THAT IT SERVES. FAN ENERGIZED, DAMPER SHALL BE OPEN. FAN DE-ENERGIZED, DAMPER SHALL CLOSE. DAMPER SHALL FAIL OPEN.
4. ALL CORRIDOR AHU'S HAVE A RETURN AIR FIRE/SMOKE DETECTOR IN THE RETURN AIR GRILLE TO SHUT-DOWN THE UNIT IN EVENT OF FIRE OR SMOKE. THE FIRE-SMOKE DAMPER SHALL HAVE TO BE RESET TO MAKE ITS RESPECTIVE AHU OPERABLE.

ELECTRIC UNIT HEATER SYSTEMS (UH & WH SYSTEMS)

1. THE UNIT HEATER SHALL OPERATE DURING ALL HOURS BASED ON SPACE HEATING TEMPERATURE. THE HEATER SHALL BE SET AT 55 DEGREES F (ADJUSTABLE) BY ITS UNIT MOUNTED THERMOSTAT. TEMPERATURE BELOW 55 DEGREES, HEATER ON. TEMPERATURE ABOVE 55 DEGREES, HEATER OFF.

MECHANICAL SYSTEMS, SERVICE AND EQUIPMENT

METHOD OF COMPLIANCE:

- PRESPECTIVE PERFORMANCE ENERGY COST BUDGET

CLIMATE ZONE	3
THERMAL ZONE	A
WINTER DRY BULB	18.0
SUMMER DRY BULB	84.0
INTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	70
SUMMER DRY BULB	74
RELATIVE HUMIDITY	55
BUILDING HEATING LOAD	? MBH
BUILDING COOLING LOAD	? MBH

MECHANICAL SPACE CONDITIONING SYSTEM

UNITARY	
DESCRIPTION OF UNIT	SEE EQUIPMENT SCHEDULES
HEATING EFFICIENCY	SEE EQUIPMENT SCHEDULES
COOLING EFFICIENCY	SEE EQUIPMENT SCHEDULES
HEAT OUTPUT OF UNIT	SEE EQUIPMENT SCHEDULES
COOLING OUTPUT OF UNIT	SEE EQUIPMENT SCHEDULES

BOILER	
TOTAL BOILER OUTPUT, IF OVER SIZED STATE REASON	SEE EQUIPMENT SCHEDULES
CHILLER	
TOTAL CHILLER OUTPUT, IF OVER SIZED STATE REASON	SEE EQUIPMENT SCHEDULES

LIST EQUIPMENT EFFICIENCIES	
SEE EQUIPMENT SCHEDULES	
EQUIP SCHEDULES w/ MOTORS (MECHANICAL SYSTEMS)	
MOTOR HORSEPOWER	SEE EQUIPMENT SCHEDULES
NUMBER OF PHASES	SEE EQUIPMENT SCHEDULES
MINIMUM EFFICIENCY	SEE EQUIPMENT SCHEDULES
MOTOR TYPE	SEE EQUIPMENT SCHEDULES
# OF POLES	SEE EQUIPMENT SCHEDULES

GENERAL NOTES

1. IN PREPARATION OF THESE PLANS, THE ENGINEER HAS USED CERTAIN ABBREVIATIONS, CONVENTIONS, AND SYMBOLS, THE MEANING OF WHICH ARE ILLUSTRATED AND EXPLAINED WITHIN THE LEGEND.
2. PLANS ARE DIAGRAMMATIC ONLY. THEY ARE INTENDED TO INDICATE CAPACITY, SIZE, LOCATION, DIRECTION, AND GENERAL ARRANGEMENT, BUT NOT EXACT DETAILS OF CONSTRUCTION. THE FACT THAT ONLY CERTAIN FEATURES OF THE INSTALLATION ARE INDICATED MUST NOT BE TAKEN TO MEAN THAT OTHER FEATURES WILL NOT BE REQUIRED.
3. COORDINATE WITH THE OTHER TRADES TO INSURE THAT EACH TRADE SHALL HAVE SUFFICIENT SPACE TO INSTALL THEIR EQUIPMENT (DUCTWORK, PIPING, ELECTRICAL WORK, ETC.).
4. IN GENERAL, ALL PIPING AND DUCTWORK SHALL BE RUN IN THE CEILING SPACE UNLESS NOTED OR INDICATED OTHERWISE.
5. VERIFY ALL DIMENSIONS FROM ARCHITECTURAL PLANS AND FIELD DIMENSIONS.
6. DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS.
7. ALL RISES AND DROPS IN PIPING AND DUCTWORK MAY NOT NECESSARILY HAVE BEEN SHOWN. CONTRACTOR TO VERIFY.
8. PROVIDE ALL STRUCTURAL MEMBERS, SUPPORT BRACKETS, FLASHING, HARDWARE, ETC. REQUIRED TO INSTALL A COMPLETE SYSTEM.
9. DIFFUSERS AND REGISTER LOCATIONS SHALL BE COORDINATED WITH LIGHT FIXTURE AND OTHER CEILING DEVICE LOCATIONS. FIELD VERIFY.
10. MOUNT ALL THERMOSTATS AND/OR SENSORS AT 44 INCHES TO CENTERLINE OF DEVICE ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED. GO TO COORDINATE THERMOSTAT LOCATIONS WITH ARCHITECT/OWNER PRIOR TO INSTALLATION.
11. ALL DUCTWORK SHALL BE SEALED TIGHT TO MEET A MAXIMUM OF 2 PERCENT AIR LEAKAGE.
12. PROVIDE LOCKABLE, CLEAR, LEXAN COVERS OVER ALL CONTROLLERS AND THERMOSTATS LOCATED IN PUBLIC ACCESSIBLE AREAS.
13. ALL MECHANICAL WORK SHALL FOLLOW ALL LOCAL MECHANICAL CODES.
14. THE MECHANICAL CONTRACTOR AND/OR GENERAL CONTRACTOR SHALL CREATE A DRYER EXHAUST DUCT LENGTH "AS-BUILT" MATRIX FOR THE DRYER LENGTH INSTALLATION FOR EACH APARTMENT UNIT TYPE BEFORE DRYWALL IS INSTALLED. THE MATRIX SHALL INDICATE SHALL INCLUDE NUMBER OF 45 AND 90 DEGREE ELBOWS AND THE EQUIVALENT LENGTH OF THE DRYER EXHAUST DUCTWORK.
15. TOILET AND DRYER EXHAUST SHALL MAINTAIN A MINIMUM OF 10 LINEAR FEET FROM ANY OUTSIDE AIR INTAKE CAP LOCATION.

MECHANICAL SYMBOLS LEGEND

	CEILING SUPPLY DIFFUSER
	CEILING RETURN GRILLE
	CEILING EXHAUST GRILLE
	CEILING EXHAUST FAN
	IN-LINE EXHAUST FAN
	DYNAMIC FIRE DAMPER STYLE 'B' FIRE DAMPER STYLE 'CR' FIRE DAMPER FOR ROUND DUCTS
	DYNAMIC SMOKE DAMPER
	COMBINATION DYNAMIC FIRE/SMOKE DAMPER
	DUCT SMOKE DETECTOR
	RETURN/EXHAUST DUCT TURNING DOWN
	RETURN/EXHAUST DUCT TURNING UP
	SUPPLY DUCT TURNING DOWN
	SUPPLY DUCT TURNING UP
	EXISTING DUCT
	TRANSFER OPENING IN WALL ABOVE CEILING
	3/4" UNDERCUT BELOW DOOR
	RADIANT DAMPER (RD)
	CONNECT TO EXISTING
	SIDE WALL SUPPLY GRILLE
	SIDE WALL RETURN GRILLE
	AIR DEVICE TYPE AND SIZE AIR FLOW CFM
	THERMOSTAT
	REFRIGERANT PIPING (LINE SET)
	CONDENSATE DRAIN PIPING
	PIPE TURNING UP
	PIPE TURNING DOWN
	2 POSITION MOTORIZED DAMPER
	MANUAL VOLUME DAMPER

ABBREVIATIONS

A	AMPERES
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
BHP	BRAKE HORSEPOWER
BTUH	BRITISH THERMAL UNIT PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CD	CONDENSATE DRAIN
CU	CONDENSING UNIT
DB	DRY BULB
DN	DOWN
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EL	ELEVATION
EXH	EXHAUST
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
FB	FILTER BOX
FD	FIRE DAMPER
FLEX	FLEXIBLE
FLR OR FL	FLOOR
FPI	FINS PER INCH
FFM	FEET PER MINUTE
GALV	GALVANIZED
HP	HORSEPOWER
KW	KILOWATT
LBS	POUNDS
MAX	MAXIMUM
MBH	THOUSAND BTUH
MIN	MINIMUM
OA	OUTSIDE AIR
RA	RETURN AIR AND/OR ROOM AIR
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
TEMP	TEMPERATURE
TYP	TYPICAL
UC	UNDERCUT
VD	MANUAL VOLUME DAMPER
V	VOLTS
WB	WET BULB
Ø	ROUND
OBD	OPPOSED BLADE DAMPER
SQFT	SQUARE FEET
TAD	TRANSFER AIR DUCT

GENERAL SYMBOLS

	PLAN OR DETAIL NO. SHEET NUMBER
	KEYED NOTE TO PLAN
	REVISION NUMBER
	NORTH ARROW