

MECHANICAL LEGEND AND ABBREVIATIONS

ABBREVIATIONS - MECHANICAL	
ABV	ABOVE
AC	AIR CONDITIONING UNIT
ACC	AIR COOLED CONDENSER
ACD	AUTOMATIC CONTROL DAMPER
AD	ACCESS DOOR
AHU	AIR HANDLING UNIT
AL	ACOUSTICAL LINING
ARCH	ARCHITECTURAL
ATC	AUTOMATIC TEMPERATURE CONTROL
B	BOILER
BD	BALANCING DAMPER
BDD	BACK DRAFT DAMPER
BMS	BUILDING MANAGEMENT SYSTEM
BO	BLANK OFF
BHP	BRAKE HORSE POWER
BTU	BRITISH THERMAL UNIT
CC	COOLING COIL
CD	CEILING DIFFUSER
CFF	CAP FOR FUTURE
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CH	CHILLER
CO	CLEAN OUT
COMP	COMPRESSOR
CONV	CONVECTOR
CR	CEILING REGISTER
CT	COOLING TOWER
CW	CONDENSING UNIT
CW	CONDENSER WATER
DF	DUCT FURNACE
DA	DIAMETER
DN	DOWN
DRV	CLOTHES DRYER EXHAUST
DX	DIRECT EXPANSION
(E)	EXISTING TO REMAIN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
ECH	ELECTRIC CABINET HEATER
EC	EVAPORATIVE CONDENSER
EDB	ENTERING DRY BULB
EF	EXHAUST FAN
EFF	EFFICIENCY
ELEV	ELEVATOR
EHC	ELECTRIC HEATING COIL
EUH	ELECTRIC UNIT HEATER
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
F	DEGREES FAHRENHEIT
F	FILTER
F	FURNISHED BY OTHERS
FC	FLEXIBLE CONNECTION (DUCT OR PIPE)
FCC	FIRE CONTROL CENTER
FCU	FAN COIL UNIT
FD	FUSIBLE LINK FIRE DAMPER W/ DUCT ACCESS DOOR
FXH	FUME HOOD EXHAUST
FLR	FLOOR
FLA	FULL LOAD AMPS
PB	FAN POWERED BOX
FPI	FMS PER INCH
FRE	FIRE RATED ENCLOSURE
FSD	COMBINATION FIRE AND SMOKE DAMPER
FT	FEET
FTR	FIN TUBE RADIATOR
GLY	GLYCOL
GPM	GALLONS PER MINUTE
GPS	GLYCOL PUMP SUPPLY
GX	GENERAL EXHAUST
H	HUMIDIFIER
HC	HEATING COIL
HTP	HEAT PUMP
HP	HORSE POWER
HR	HOUR
HRIU	HEAT RECOVERY UNIT
HTW	HEATWHEEL
HV	HEATING AND VENTILATING UNIT
HW	HOT WATER
HX	HEAT EXCHANGER
ID	INSIDE DIMENSION
IDEC	INDIRECT EVAPORATIVE COOLER
KW	KILOWATT
KWH	KILOWATT HOURS
KX	KITCHEN EXHAUST
KRX	KITCHEN RANGE HOOD EXHAUST (RESIDENTIAL)
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LD	LINEAR DIFFUSER (CEILING, WALL, SILL OR FLOOR)
LRA	LOCK ROTOR AMPS
LWS	LOUVER WITH WIRE SCREEN
LWT	LEAVING WATER TEMPERATURE
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MCC	MOTOR CONTROL CENTER

ABBREVIATIONS - MECHANICAL	
MFG	MANUFACTURER
MFS	MAXIMUM FUSE SIZE
MIN	MINIMUM
MJA	MAKE UP AIR UNIT
MOC	MAXIMUM OVERCURRENT PROTECTION
(N)	NEW
NC	NORMALLY CLOSED
NFA	NET FREE AREA
NC	NOT IN THIS CONTRACT
NK	NECK
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR INTAKE
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIMENSION
P	PUMP
PD	PRESSURE DROP
PHC	PRE-HEAT COIL
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH (GAUGE)
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
(R)	EXISTING TO BE RELOCATED
RA	RETURN AIR
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
CT	COOLING TOWER
SA	SUPPLY AIR
SAD	SEE ARCHITECTURAL DRAWINGS
SD	SMOKE DAMPER
SF	SUPPLY FAN
SED	SEE ELECTRICAL DRAWINGS
SENS	SENSIBLE
SM	SHEET METAL
SP	STATIC PRESSURE
STP	STAR PRESSURIZATION
SQFT	SQUARE FEET
ST	SOUND TRAP
SX	SMOKE EXHAUST
TF	TRANSFER FAN
TRD	TRANSFER DUCT
TRG	TRANSFER GRILLE
TX	TOILET EXHAUST
TY	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
VAR	VARIABLE
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
V	DEGREES FAHRENHEIT
V	VARIABLE FREQUENCY DRIVE
VX	VAPOR HOOD EXHAUST
W	WITH
WB	WET BULB
WG	WATER GAUGE
WMS	WIRE MESH SCREEN
WO-SIZE	WALL OPENING - (SIZE)
(X)	EXISTING TO BE DEMOLISHED
(300)	CUBIC FEET OR AIR PER MINUTE OR GALLONS PER MINUTE

PIPING LEGEND	
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	GLYCOL SUPPLY
	GLYCOL RETURN
	HIGH TEMPERATURE HOT WATER SUPPLY ( ° F )
	HIGH TEMPERATURE HOT WATER RETURN ( ° F )
	MEDIUM TEMPERATURE HOT WATER SUPPLY ( ° F )
	MEDIUM TEMPERATURE HOT WATER RETURN ( ° F )
	HOT WATER SUPPLY
	HOT WATER RETURN
	REFRIGERANT LIQUID PIPING
	REFRIGERANT SUCTION PIPING
	REFRIGERANT SAFETY VALVE RELIEF LINE
	HOT GAS PIPING
	ARROW INDICATES DIRECTION OF FLOW

PIPING LEGEND (CONTINUED)	
	PITCH PIPE DOWN IN DIRECTION OF ARROW
	PIPE ANCHOR
	PIPE GUIDE
	EXPANSION COMPENSATOR
	EXPANSION LOOP (SIZE ASB)
	FLEXIBLE BALL JOINT EXPANSION COMPENSATOR
	CONCENTRIC REDUCER (INCREASER)
	ECCENTRIC REDUCER (INCREASER)
	UNION
	CAPPED PIPE WITH SHUT-OFF VALVE
	Y-TYPE STRAINER WITH HOSE END BLOW OFF VALVE
	Y-TYPE STRAINER
	BASKET TYPE STRAINER
	DUPLEX STRAINER
	ELBOW TURNED UP
	ELBOW TURNED DOWN
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	SLOPED CHANGE IN PIPE ELEVATION
	FLEXIBLE CONNECTION
	SHUT-OFF VALVE
	AUTOMATIC FLOW CONTROL VALVE (NUMBERS INDICATES GPM)
	CALIBRATED BALANCE VALVE (NUMBERS INDICATES GPM)
	GLOBE VALVE
	CHECK VALVE
	AUTOMATIC THREE-WAY CONTROL VALVE (PNEUMATIC OPERATOR SHOWN)
	AUTOMATIC TWO-WAY CONTROL VALVE (PNEUMATIC OPERATOR SHOWN)
	AUTOMATIC THREE-WAY CONTROL VALVE (ELECTRIC OPERATOR SHOWN)
	AUTOMATIC THREE-WAY CONTROL VALVE (ELECTRIC OPERATOR SHOWN)
	RELIEF VALVE
	ANGLE RELIEF VALVE
	PRESSURE REDUCING VALVE (PRV)
	LUBRICATED PLUG VALVE
	LOCKSHIELD GLOBE VALVE
	SOLENOID VALVE
	BUTTERFLY VALVE (MANUAL)
	BUTTERFLY VALVE (MOTORIZED)
	BALL VALVE
	INLINE PUMP

PIPING LEGEND (CONTINUED)	
	DIRT POCKET
	REFRIGERANT EXPANSION VALVE
	SIGHT GLASS
	VALVE IN VERTICAL
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	THERMOMETER
	PIPE SENSOR WELL (THERMOMETER)
	PRESSURE GAUGE AND COCK
	PRESSURE GAUGE WITH LOOP
	TEMPERATURE-PRESSURE TEST FITTING
	CENTER LINE
	HEAT TRACED PIPING
	PIPE SLEEVE
	BEAM PENETRATION
	PIPE CAP
	PIPE BLIND FLANGE

DUCTWORK LEGEND	
	DUCT SPLIT WITH SPLIT SIZE
	RADIUS ELBOW
	ELBOW WITH TURNING VANES
	RECTANGULAR BRANCH TAKEOFF WITH BALANCING DAMPER
	RECTANGULAR SUPPLY DUCT UP
	RECTANGULAR SUPPLY DUCT DOWN
	RECTANGULAR RETURN OR EXHAUST DUCT UP
	RECTANGULAR RETURN OR EXHAUST DUCT DOWN
	ROUND DUCT, UP
	ROUND DUCT, DOWN
	BEAM PENETRATION
	SLOPING RISE IN DUCTWORK
	SLOPING DROP IN DUCTWORK
	DUCT SIZE (CLEAR INSIDE DIMENSION) FIRST FIGURE INDICATES PLAN SIZE
	ROUND DUCT DIAMETER SIZE (CLEAR INSIDE DIMENSION)
	OVAL DUCT SIZE
	SIDE, TOP OR BOTTOM DUCT ACCESS DOOR
	DUCT LINING (DUCT SIZE NOTED INDICATES INSIDE DIMENSIONS)
	RECTANGULAR OR SQUARE TO ROUND OR OVAL TRANSITION
	FLEXIBLE CONNECTION

DUCTWORK LEGEND (CONTINUED)	
	DUCT ENDCAP
	FLEXIBLE DUCT
	DUCT COIL WITH ACCESS DOOR
	VOLUME DAMPER IN DUCT
	AUTOMATIC CONTROL DAMPER
	FUSIBLE LINK FIRE DAMPER WITH DUCT ACCESS DOOR
	SMOKE DAMPER WITH DUCT ACCESS DOOR
	COMBINATION FIRE AND SMOKE DAMPER WITH DUCT ACCESS DOOR
	BACK DRAFT DAMPER WITH DUCT ACCESS DOOR
	LINEAR DIFFUSER
	LINEAR DIFFUSER WITH PLENUM
	CEILING DIFFUSER
	CEILING DIFFUSER WITH FLEXIBLE DUCT CONNECTION
	RETURN/EXHAUST REGISTER OR GRILLE
	RETURN/EXHAUST REGISTER OR GRILLE WITH FLEXIBLE DUCT CONNECTION
	FIRE RATED ENCLOSED DUCT
	TRANSFER GRILLES ON BOTH SIDES OF PARTITION OR WALL (SIZE)
	WALL OPENING ABOVE HUNG CEILING (SIZE)
	SUPPLY REGISTER WITH AIR OUTLET DEVICE DESIGNATION
	RETURN OR EXHAUST REGISTER OR GRILLE WITH AIR INLET DEVICE DESIGNATION
	TERMINAL UNIT WITHOUT HEATING COIL
	FAN POWERED TERMINAL UNIT WITHOUT HEATING COIL
	UNDERFLOOR FAN TERMINAL UNIT WITHOUT HEATING COIL
	DOUBLE-SIDED AIR LIGHT FIXTURE TROFFER
	SINGLE-SIDED AIR LIGHT FIXTURE TROFFER

MISCELLANEOUS	
	DIFFERENTIAL PRESSURE SENSOR
	DIFFERENTIAL PRESSURE SENSOR
	DIFFERENTIAL PRESSURE SWITCH
	NEW WORK
	EXISTING WORK
	EXISTING WORK TO BE REMOVED
	POINT OF NEW CONNECTION TO EXISTING WORK
	OVAL
	DIAMETER
	UNDERCUT DOOR
	RISER DESIGNATION
	SECTION DESIGNATION
	DETAIL DESIGNATION
	EQUIPMENT DESIGNATION

MISCELLANEOUS	
	TERMINAL DESIGNATION
	FIRE SMOKE & FIRE SMOKE DAMPER DESIGNATION
	AIR OUTLET/INLET DEVICE DESIGNATION
	LINEAR DIFFUSER DEVICE DESIGNATION
	KEYNOTE
	DRAWING REVISION DESIGNATION WITH NUMBERS

MISCELLANEOUS	
	DUCT ENDCAP
	FLEXIBLE DUCT
	DUCT COIL WITH ACCESS DOOR
	VOLUME DAMPER IN DUCT
	AUTOMATIC CONTROL DAMPER
	FUSIBLE LINK FIRE DAMPER WITH DUCT ACCESS DOOR
	SMOKE DAMPER WITH DUCT ACCESS DOOR
	COMBINATION FIRE AND SMOKE DAMPER WITH DUCT ACCESS DOOR
	BACK DRAFT DAMPER WITH DUCT ACCESS DOOR
	LINEAR DIFFUSER
	LINEAR DIFFUSER WITH PLENUM
	CEILING DIFFUSER
	CEILING DIFFUSER WITH FLEXIBLE DUCT CONNECTION
	RETURN/EXHAUST REGISTER OR GRILLE
	RETURN/EXHAUST REGISTER OR GRILLE WITH FLEXIBLE DUCT CONNECTION
	FIRE RATED ENCLOSED DUCT
	TRANSFER GRILLES ON BOTH SIDES OF PARTITION OR WALL (SIZE)
	WALL OPENING ABOVE HUNG CEILING (SIZE)
	SUPPLY REGISTER WITH AIR OUTLET DEVICE DESIGNATION
	RETURN OR EXHAUST REGISTER OR GRILLE WITH AIR INLET DEVICE DESIGNATION
	TERMINAL UNIT WITHOUT HEATING COIL
	FAN POWERED TERMINAL UNIT WITHOUT HEATING COIL
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	DOUBLE-SIDED AIR LIGHT FIXTURE TROFFER
	SINGLE-SIDED AIR LIGHT FIXTURE TROFFER

MECHANICAL SHEET LIST	
SHEET NUMBER	SHEET NAME
M0.01	MECHANICAL LEGENDS AND ABBREVIATIONS
M0.02	MECHANICAL GENERAL NOTES AND VENTILATION CALCULATION
M0.03	MECHANICAL SCHEDULES
M0.04	MECHANICAL SCHEDULES
M0.05	MECHANICAL SCHEDULES
M0.06	MECHANICAL SCHEDULES
M0.07	MECHANICAL SCHEDULES
M0.08	HVAC LOAD CALCULATION
M0.09	HVAC LOAD CALCULATION
M0.10	HVAC LOAD CALCULATION
M0.11	HVAC LOAD CALCULATION
M0.12	HVAC LOAD CALCULATION
M0.13	HVAC LOAD CALCULATION
M0.14	HVAC LOAD CALCULATION
M0.15	ENERGY CODE COMPLIANCE REPORT
M1.00	MECHANICAL SITE PLAN - SNOW MELT
M2.2A.01	TOWER A - LVL. 8 MECHANICAL DUCT PLAN
M2.2A.02	TOWER A - LVL. P2 MECHANICAL DUCT PLAN
M2.2A.11	TOWER A - LVL. 1 MECHANICAL DUCT PLAN
M2.2A.12	TOWER A - LVL. 2 MECHANICAL DUCT PLAN
M2.2A.13	TOWER A - LVL. 3 MECHANICAL DUCT PLAN
M2.2A.14	TOWER A - LVL. 4 MECHANICAL DUCT PLAN
M2.2A.15	TOWER A - LVL. 5 MECHANICAL DUCT PLAN
M2.2A.16	TOWER A - LVL. 6 MECHANICAL DUCT PLAN
M2.2A.17	TOWER A - ROOF MECHANICAL DUCT PLAN
M2.2A.18	TOWER A - ROOF MECHANICAL DUCT PLAN
M2.2B.01	TOWER B - LVL. 8 MECHANICAL DUCT PLAN
M2.2B.02	TOWER B - LVL. P2 MECHANICAL DUCT PLAN
M2.2B.03	TOWER B - LVL. P1 MECHANICAL DUCT PLAN
M2.2B.11	TOWER B - LVL. 1 MECHANICAL DUCT PLAN
M2.2B.12	TOWER B - LVL. 2 MECHANICAL DUCT PLAN
M2.2B.13	TOWER B - LVL. 3 MECHANICAL DUCT PLAN
M2.2B.14	TOWER B - LVL. 4 MECHANICAL DUCT PLAN
M2.2B.15	TOWER B - LVL. 5 MECHANICAL DUCT PLAN
M2.2B.16	TOWER B - LVL. 6 MECHANICAL DUCT PLAN
M2.2B.17	TOWER B - ROOF MECHANICAL DUCT PLAN
M2.2B.18	TOWER B - ROOF MECHANICAL DUCT PLAN
M2.2C.01	TOWER C - LVL. P1 MECHANICAL DUCT PLAN
M2.2C.11	TOWER C - LVL. 1 MECHANICAL DUCT PLAN
M2.2C.12	TOWER C - LVL. 2 MECHANICAL DUCT PLAN
M2.2C.13	TOWER C - LVL. 3 MECHANICAL DUCT PLAN
M2.2C.14	TOWER C - LVL. 4 MECHANICAL DUCT PLAN
M2.2C.15	TOWER C - LVL. 5 MECHANICAL DUCT PLAN
M2.2C.16	TOWER C - LVL. 6 MECHANICAL DUCT PLAN
M2.2C.17	TOWER C - LVL. 7 MECHANICAL DUCT PLAN
M2.2C.18	TOWER C - LVL. 8 MECHANICAL DUCT PLAN
M2.2C.19	TOWER C - ROOF MECHANICAL DUCT PLAN
M2.4.A	ENLARGED MECHANICAL PLAN - UNIT A
M2.4.B	ENLARGED MECHANICAL PLAN - UNIT B
M2.4.C	ENLARGED MECHANICAL PLAN - UNIT C
M2.4.D	ENLARGED MECHANICAL PLAN - UNIT D
M2.4.E	ENLARGED MECHANICAL PLAN - UNIT E
M2.4.F	ENLARGED MECHANICAL PLAN - UNIT F
M2.4.G	ENLARGED MECHANICAL PLAN - UNIT G
M2.4.H	ENLARGED MECHANICAL PLAN - UNIT H
M2.4.I	ENLARGED MECHANICAL PLAN - UNIT I
M2.4.J	ENLARGED MECHANICAL PLAN - UNIT J
M2.4.K	ENLARGED MECHANICAL PLAN - UNIT K
M2.4.L	ENLARGED MECHANICAL PLAN - UNIT L
M2.4.M	ENLARGED MECHANICAL PLAN - UNIT M
M2.4.N	ENLARGED MECHANICAL PLAN - UNIT N
M2.4.O	ENLARGED MECHANICAL PLAN - UNIT O
M2.4.P	ENLARGED MECHANICAL PLAN - UNIT P
M2.4.Q	ENLARGED MECHANICAL PLAN - UNIT Q
M2.4.R	ENLARGED MECHANICAL PLAN - UNIT R
M3.2A.01	TOWER A - LVL. 8 MECHANICAL PIPING PLAN
M3.2A.02	TOWER A - LVL. P2 MECHANICAL PIPING PLAN
M3.2A.11	TOWER A - LVL. 1 MECHANICAL PIPING PLAN
M3.2A.12	TOWER A - LVL. 2 MECHANICAL PIPING PLAN
M3.2A.13	TOWER A - LVL. 3 MECHANICAL PIPING PLAN
M3.2A.14	TOWER A - LVL. 4 MECHANICAL PIPING PLAN
M3.2A.15	TOWER A - LVL. 5 MECHANICAL PIPING PLAN
M3.2A.16	TOWER A - LVL. 6 MECHANICAL PIPING PLAN
M3.2A.17	TOWER A - ROOF MECHANICAL PIPING PLAN
M3.2A.18	TOWER A - ROOF MECHANICAL PIPING PLAN
M3.2B.01	TOWER B - LVL. P2 MECHANICAL PIPING PLAN
M3.2B.02	TOWER B - LVL. P1 MECHANICAL PIPING PLAN
M3.2B.03	TOWER B - LVL. P1 MECHANICAL PIPING PLAN
M3.2B.11	TOWER B - LVL. 1 MECHANICAL PIPING PLAN
M3.2B.12	TOWER B - LVL. 2 MECHANICAL PIPING PLAN
M3.2B.13	TOWER B - LVL. 3 MECHANICAL PIPING PLAN
M3.2B.14	TOWER B - LVL. 4 MECHANICAL PIPING PLAN
M3.2B.15	TOWER B - LVL. 5 MECHANICAL PIPING PLAN
M3.2B.16	TOWER B - LVL. 6 MECHANICAL PIPING PLAN
M3.2B.17	TOWER B - LVL. 7 MECHANICAL PIPING PLAN
M3.2B.18	TOWER B - ROOF MECHANICAL PIPING PLAN
M3.2C.01	TOWER C - LVL. P1 MECHANICAL PIPING PLAN
M3.2C.11	TOWER C - LVL. 1 MECHANICAL PIPING PLAN
M3.2C.12	TOWER C - LVL. 2 MECHANICAL PIPING PLAN
M3.2C.13	TOWER C - LVL. 3 MECHANICAL PIPING PLAN
M3.2C.14	TOWER C - LVL. 4 MECHANICAL PIPING PLAN
M3.2C.15	TOWER C - LVL. 5 MECHANICAL PIPING PLAN
M3.2C.16	TOWER C - LVL. 6 MECHANICAL PIPING PLAN
M3.2C.17	TOWER C - LVL. 7 MECHANICAL PIPING PLAN
M3.2C.18	TOWER C - LVL. 8 MECHANICAL PIPING PLAN
M3.2C.19	TOWER C - ROOF MECHANICAL PIPING PLAN
M4.01	MECHANICAL ENLARGED PLANS
M4.02	MECHANICAL ENLARGED PLANS
M4.03	MECHANICAL ROOFTOP VIEWS - TOWER A
M4.04	MECHANICAL ROOFTOP VIEWS - TOWER B
M4.05	MECHANICAL ROOFTOP VIEWS - TOWER C
M4.06	MECHANICAL SECTIONS - GAS-FIRED BOILER VENT
M4.07	MECHANICAL SECTIONS - GAS-FIRED BOILER VENT
M5.01	MECHANICAL DETAILS
M5.02	MECHANICAL DETAILS
M5.03	MECHANICAL DETAILS
M5.04	MECHANICAL DETAILS
M5.05	MECHANICAL DETAILS
M5.06	MECHANICAL DETAILS
M5.07	MECHANICAL DETAILS
M5.08	MECHANICAL CONTROL DIAGRAM
M5.09	MECHANICAL CONTROL DIAGRAM
M5.10	MECHANICAL CONTROL DIAGRAM
M5.11	MECHANICAL CONTROL DIAGRAM
M5.12	MECHANICAL CONTROL DIAGRAM
M5.13	MECHANICAL CONTROL DIAGRAM
M6.01A	MECHANICAL AIR RISER DIAGRAM - TOWER A
M6.01B	MECHANICAL AIR RISER DIAGRAM - TOWER B
M6.01C	MECHANICAL AIR RIS