MECHANICAL ABBREVIATION LIST

(THIS IS A MASTER LIST. NOT ALL ABBREVIATIONS MAY APPEAR ON DRAWINGS.)

AABC	AMERICAN AIR BALANCE COUNCIL
ACD	AUTOMATIC CONTROL DAMPER
AFF	ABOVE FINISH FLOOR
AP	ACCESS PANEL
AUTO	AUTOMATIC
AHU (AH)	AIR HANDLING UNIT
AD	ACCESS DOOR
APD	AIR PRESSURE DROP
AF	AIR FOIL
AFMS	AIR FLOW MEASURING STATION
ACU (AC)	AIR CONDITIONING UNIT
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
B	BOILER
BHP	BRAKE HORSE POWER
BTU	BRITISH THERMAL UNIT
BOS	BOTTOM OF STEEL
BOD	BOTTOM OF DUCT
BMS	BUILDING MANAGEMENT SYSTEM
BI	BACKWARD INCLINE
°C	DEGREES CELSIUS
CFM	CUBIC FEET PER MINUTE
CFH	CUBIC FEET PER HOUR
CH	CHILLER
CU	CONDENSING UNIT
CT	COOLING TOWER
CV	CONSTANT VOLUME
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
CWP	CONDENSER WATER PUMP
CHWP	CHILLED WATER PUMP
CF	CHEMICAL POT FEEDER
CC	COOLING COIL
CD	CEILING DIFFUSER
COND	CONDENSER
COP	COEFFICIENT OF PERFORMANCE
D	DEMOLISH
DIFF	DIFFUSER
DB	DRY BULB TEMPERATURE
dB	DECIBEL
DDC	DIRECT DIGITAL CONTROL
DDCFP	DIRECT DIGITAL CONTROL FIELD PANEL
DC	DIRECT CURRENT
DIA (ø)	DIAMETER
DN	DOWN
DX	DIRECT EXPANSION
DS	DUCT SUMP
DOP	DISPERSED OIL PARTICULATE
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
E	EXISTING
EAT	ENTERING AIR TEMPERATURE
EFF	EFFICIENCY
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EC	EVAPORATIVE COOLER
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
EER	ENERGY EFFICIENCY RATIO
EMI	ELECTROMAGNETIC INTERFERENCE
FCU (FC)	FAN COIL UNIT
°F	DEGREES FAHRENHEIT
FB	FAN POWERED BOX UNIT
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET
FM	FLOW METER
FLA	FULL LOAD AMPS
FBC	FLORIDA BUILDING CODE
FPC	FLORIDA PLUMBING CODE
FMC	FLORIDA MECHANICAL CODE
FEC	FLORIDA ENERGY CODE
GA	GAUGE
GAL	GALLONS
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
GPH	GALLONS PER HOUR
GR	GRILLE
GBS	GALVANIZED BIRD SCREEN
GEF	GENERAL EXHAUST FAN
HD	HEAD
HP	HORSE POWER
HR	HOUR
HZ	HERTZ
HOA	HAND OFF AUTO
HWP	HOT WATER PUMP
HX	HEAT EXCHANGER
HC	HEATING COIL
IN (")	INCH
IBC	INTERNATIONAL BUILDING CODE
IMC	INTERNATIONAL MECHANICAL BUILDING CODE
IPC	INTERNATIONAL PLUMBING BUILDING CODE
IH	INTAKE HOOD
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
MOCP	MAXIMUM OVER CURRENT PROTECTION
MCC	MOTOR CONTROL CENTER
MIN	MINIMUM
MA	MIXED AIR
MERV	MINIMUM EFFICIENCY REPORTING VALUE
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
NEC	NATIONAL ELECTRIC CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NPT	NATIONAL PIPE TAPER
OED	OPEN END DUCT
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
PH	PHASE
PA	PRESSURE AVAILABLE
PRV	PRESSURE REDUCING VALVE
PSI	POUND PER SQUARE INCH
PSIA	POUND PER SQUARE INCH ABSOLUTE
PSIG	POUND PER SQUARE INCH GAUGE
PCF	POUND PER CUBIC FOOT
PD	PRESSURE DROP
POS	PROVIDE BY OTHER SECTION
P	PUMP
PCU	POLLUTION CONTROL UNIT
PPM	PARTS PER MILLION
RPM	REVOLUTIONS PER MINUTE
RH	RELATIVE HUMIDITY
RTU	ROOF TOP UNIT
REFR	REFRIGERANT
RFI	RADIO FREQUENCY INTERFERENCE
SD	SMOKE DAMPER
SP	STATIC PRESSURE
SS	STAINLESS STEEL
SQ FT (Φ)	SQUARE FEET
SEF	SMOKE EXHAUST FAN
SF	SUPPLY FAN
SH	STATIC HEAD
SOV	SHUT-OFF VALVE
TF	TRANSFER FAN
TEMP (T)	TEMPERATURE
TAB	TESTING AND BALANCING
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
TD	TEMPERATURE DIFFERENCE
TDH	TOTAL DEVELOPED HEAD
TU	TERMINAL UNIT
TCP	TEMPERATURE CONTROL PANEL
TEL	TOTAL EQUIVALENT LENGTH
UMC	UNIFORM MECHANICAL CODE
UPC	UNIFORM PLUMBING CODE
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UV	ULTRA VIOLET
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER (MANUAL)
VFD	VARIABLE FREQUENCY DRIVE
V	VOLT
VEL	VELOCITY
W	WATT
WB	WET BULB TEMPERATURE
WG	WATER GAUGE
WMS	WIRE MESH SCREEN
WC	WATER COLUMN
WP	WATER PRESSURE
WPD	WATER PRESSURE DROP
WSHP (WHP)	WATER SOURCE HEAT PUMP
WT	WEIGHT

MECHANICAL SYMBOL LEGEND

(THIS IS A MASTER LEGEND, NOT ALL SYMBOLS MAY APPEAR ON DRAWING)

ABBR	SYMBOL	DESCRIPTION
		SHEET NOTE
		REVISION NUMBER
	--ø	ROUND DUCTWORK (INCHES)
		OVAL DUCTWORK (INCHES)
	--/--	RECTANGLE DUCTWORK (INCHES)
SA		SUPPLY AIR
RA		RETURN AIR
EA		EXHAUST AIR
OA		OUTSIDE AIR
		SUPPLY AIR DUCT UP
		SUPPLY AIR DUCT DOWN
		RETURN AIR DUCT UP
		RETURN AIR DUCT DOWN
		EXHAUST AIR DUCT UP
		EXHAUST AIR DUCT DOWN
		OUTSIDE AIR DUCT UP
		OUTSIDE AIR DUCT DOWN
AD		ACCESS DOOR
		SIDEWALL
		AIR FLOW DIRECTION
		LINED DUCTWORK
		SINGLE LINE RIGID DUCT
		SINGLE LINE RIGID DUCT WITH 1½" ACOUSTICAL LINER
		DOUBLE LINE RIGID DUCT
		DOUBLE LINE RIGID DUCT WITH 1½" ACOUSTICAL LINER
FD	F	FUSIBLE LINK FIRE DAMPER
DD	DD	DUCT MOUNTED SMOKE DETECTOR
FSD	FS	COMBINATION FIRE/SMOKE DAMPER
	M	MOTORIZED DAMPER
MVD		MANUAL VOLUME DAMPER
		MVD WITH REMOTE CEILING OPERATOR
OBD		OPPOSED BLADE DAMPER
BDD	BDD	BACKDRAFT DAMPER
CHS	—CHS—	CHILLED WATER SUPPLY
CHR	—CHR—	CHILLED WATER RETURN
HS	—HS—	HOT WATER SUPPLY
HR	—HS—	HOT WATER RETURN
D	—D—	DRAIN
ICW	—ICW—	INDUSTRIAL COLD WATER
CS	—CS—	CONDENSER WATER SUPPLY
CR	—CR—	CONDENSER WATER RETURN
LPS	—LPS—	LOW PRESSURE STEAM SUPPLY
LPR	—LPR—	LOW PRESSURE STEAM RETURN
HPS	—HPS—	HIGH PRESSURE STEAM SUPPLY
HPR	—HPR—	HIGH PRESSURE STEAM RETURN
RL	—RL—	REFRIGERANT LIQUID
RS	—RS—	REFRIGERANT SUCTION
PD	—PD—	PUMPED DRAIN
S	—S—	HYDRONIC LOOP SUPPLY
R	—R—	HYDRONIC LOOP RETURN
		CONTROL VALVE (2-WAY, 3-WAY)
SOV		SHUT-OFF VALVE
		THROTTLING VALVE
		BALANCING VALVE
		CHECK VALVE
		RELIEF VALVE
		STRAINER WITH BLOWDOWN VALVE
		FLEXIBLE PIPE CONNECTION
		UNION
AV		AIR VENT
		DUCT OR PIPE TRANSITION
PG		PRESSURE GAUGE
TH		THERMOMETER
TW		TEST WELL (PETE'S PLUG)
	FS	FLOW SWITCH
		PIPE DOWN
		PIPE UP
		PIPE TEE UP
		PIPE TEE DOWN
		ANCHOR
		GUIDE
		FLOW ARROW
	T	THERMOSTAT
	S	SPACE TEMPERATURE SENSOR W/ PLUG-IN PORT
	C	CARBON DIOXIDE SENSOR
		POINT OF CONNECTION TO EXISTING
		POINT OF DISCONNECTION FROM EXISTING

HURRICANE RESTRAINT REQUIREMENTS

ALL ROOF MOUNTED EQUIPMENT MUST ADHERE TO CURRENT HURRICANE ZONE CODE REQUIREMENTS, SPECIFICALLY 2007 FLORIDA BUILDING CODE SECTION 1522.

SHEET INDEX

ISSUE: 08-08-2011 PERMIT SET

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•	M0.2	MECHANICAL SPECIFICATIONS
•	M0.3	MECHANICAL SCHEDULES
•	M1.1	MECHANICAL DEMOLITION FLOOR PLAN - LEVEL ONE
•	M1.2	MECHANICAL DEMOLITION FLOOR PLAN - LEVEL TWO
•	M2.1	MECHANICAL FLOOR PLAN - LEVEL ONE
•	M2.2	MECHANICAL FLOOR PLAN - LEVEL TWO
•	M3.1	MECHANICAL TEMPERATURE CONTROL ZONE PLAN - LEVEL ONE
•	M3.2	MECHANICAL TEMPERATURE CONTROL ZONE PLAN - LEVEL TWO
•	M6.0	MECHANICAL DETAILS

MECHANICAL GENERAL NOTES

1. EXISTING DUCTWORK AND EQUIPMENT TO REMAIN IS SHOWN LIGHT. NEW DUCTWORK, PIPING AND EQUIPMENT IS SHOWN HEAVY. EXISTING DUCTWORK AND EQUIPMENT TO BE REMOVED IS SHOWN CROSSHATCHED.
2. ARCHITECTURAL DRAWINGS SHALL BE REVIEWED FOR PROJECT SCOPE AND AREA OF WORK. WORK SHALL INCLUDE DEMOLITION AND REMOVAL OF EXISTING MECHANICAL SYSTEMS AS REQUIRED. MECHANICAL SYSTEMS IN EXISTING WALLS SHALL BE REMOVED AND CAPPED AS REQUIRED. RECONNECT EXISTING DUCTWORK NOT IN DEMOLITION AREA AS REQUIRED TO MAINTAIN A COMPLETE AND OPERABLE SYSTEM.
3. THE OWNER OR TENANT RESERVES FIRST CHOICE TO KEEP EXISTING EQUIPMENT AND MATERIALS PER OWNER/TENANT LEASE AGREEMENT. COORDINATE WITH OWNER/TENANT AND DELIVER DESIGNATED EQUIPMENT AND MATERIALS REMOVED UNDER THIS CONTRACT TO DESIGNATED STORAGE AREA.
4. UNLESS NOTED OTHERWISE, FLEXIBLE DUCTS TO TERMINAL UNITS, DIFFUSERS AND GRILLES SHALL BE SAME SIZE AS NECK.
5. LENGTH OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO 5'-0" MAXIMUM HORIZONTAL RUN WITH ONLY ONE 90° BEND. SECURE FLEXIBLE DUCTWORK WITH SCREWS AND DRAWBANDS.
6. DUCT SIZES INDICATED ARE NET INSIDE CLEAR DIMENSIONS.
7. PROVIDE GEAR OPERATED CEILING OPERATORS FOR INACCESSIBLE MANUAL VOLUME DAMPERS. OPERATOR SHALL BE EQUAL TO YOUNG REGULATOR WITH CEILING ESCUTCHEON AND COVER PLATE. COORDINATE EXACT LOCATION OF COVER PLATE WITH ARCHITECT.
8. ITEM DESIGNATIONS INDICATED ARE FOR PURPOSES OF THESE DOCUMENTS ONLY. CONTRACTOR SHALL VERIFY WITH OWNER ACTUAL "TAGGING" INFORMATION TO BE PROVIDED FOR EACH ITEM OF MECHANICAL EQUIPMENT PRIOR TO NAMEPLATE ORDER RELEASE.
9. THE MECHANICAL DETAILS SHALL BE CONSIDERED AS A PART OF THE CONTRACT DOCUMENTS. THESE DETAILS SHALL BE INCORPORATED INTO THE ASSOCIATED WORK AND PROVIDE GENERAL GUIDANCE AS TO THE INSTALLATION INTENT WHETHER REFERENCED TO OR NOT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY COMPONENTS FOR A COMPLETE INSTALLATION AND ENSURE THAT ALL INSTALLATIONS ARE IN ACCORDANCE WITH THE EQUIPMENT'S LISTING AND THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
10. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR ACTUAL LOCATION OF GRILLES, DIFFUSERS AND ACCESS PANELS IN CEILING. COORDINATE DIFFUSER BORDER TYPES WITH CEILING TYPE SCHEDULED IN ARCHITECTURAL REFLECTED CEILING PLANS.
11. TURNING VANE RUNNERS SHALL HAVE A VANE IN EVERY SLOT IN STRICT CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS AND SMACNA DUCT CONSTRUCTION STANDARDS.
12. FIELD VERIFY FIT OF DUCTWORK AND PIPING PRIOR TO FABRICATION.
13. REFER TO EQUIPMENT DRAWINGS, SPECIFICATIONS AND SHOP DRAWINGS FOR CONNECTION REQUIREMENTS TO EQUIPMENT.
14. MANUAL VOLUME DAMPERS AND VALVES ON INSULATED DUCTWORK AND PIPING SHALL HAVE EXTENDED STEMS TO ALLOW FOR THE INSULATION THICKNESS. PROVIDE MINIMUM 12" LONG RED RIBBON LOCATOR ON VOLUME DAMPER AND VALVE HANDLES.
15. EQUIPMENT START-UP SHALL BE BY MANUFACTURER'S AUTHORIZED REPRESENTATIVE.
16. SEISMIC RESTRAINTS SHALL BE PROVIDED PER THE 2007 FLORIDA BUILDING CODE, AND THE SMACNA SEISMIC RESTRAINT MANUAL - GUIDELINES FOR MECHANICAL SYSTEMS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE PROPOSED RESTRAINTS, STRUCTURAL ATTACHMENT METHODS, AND RESTRAINT LOCATIONS TO THE ARCHITECT FOR REVIEW AND APPROVAL. THE SUBMITTED DOCUMENTS SHALL BE PREPARED AND STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE IN THE STATE OF FLORIDA.
17. INSTALL SENSORS AND THERMOSTATS AT MOUNTING HEIGHT 48" ABOVE FINISHED FLOOR IN ACCORDANCE WITH ADA REQUIREMENTS. COORDINATE EXACT LOCATION IN FIELD WITH GENERAL CONTRACTOR AND ARCHITECT.

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DRAWING ISSUE LOG:

SHEET INDEX, LEGEND, ABBREVIATIONS, & GENERAL NOTES

A COMMERCIAL TENANT IMPROVEMENT FOR

UNIVERSITY OF PHOENIX - WEST PALM BEACH, FL (REMODEL)

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