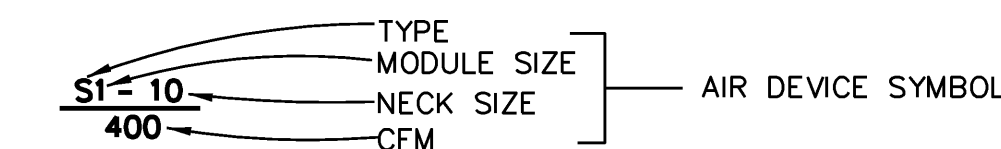
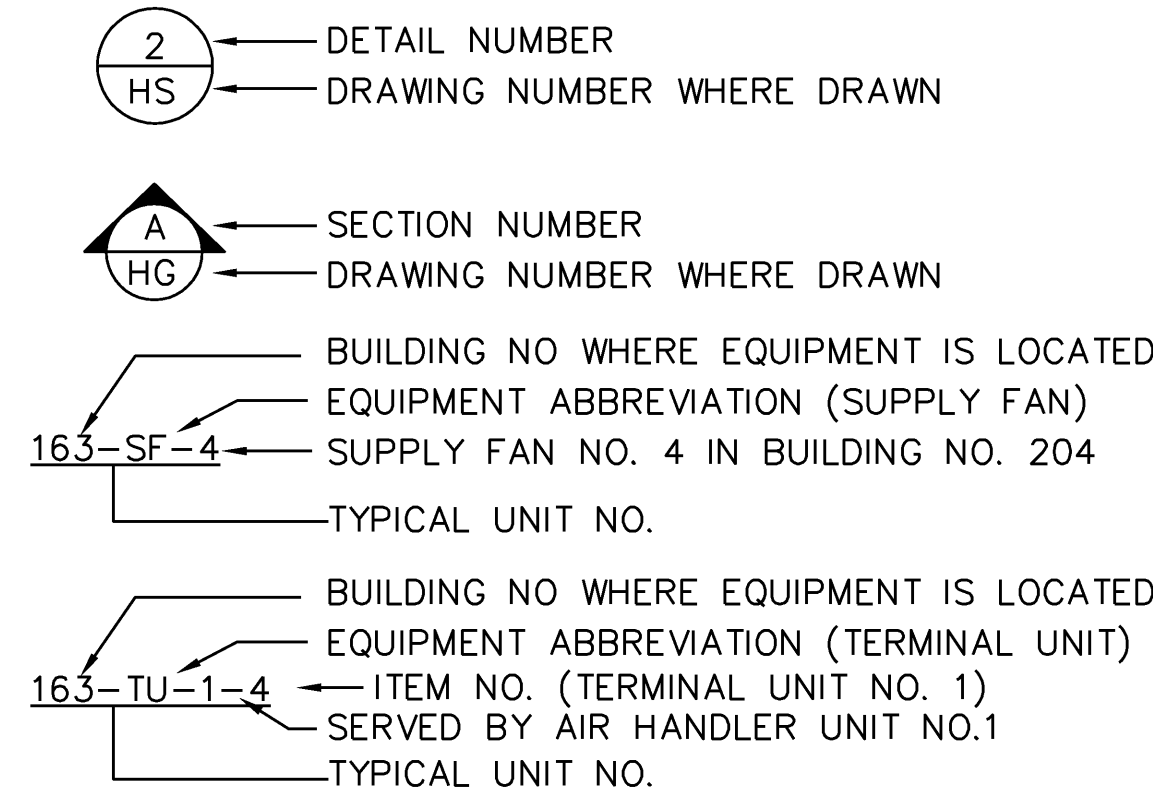


three inches = one foot  
one and one half inches = one foot  
one inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one eighth inch = one foot  
one eighth inch = one foot

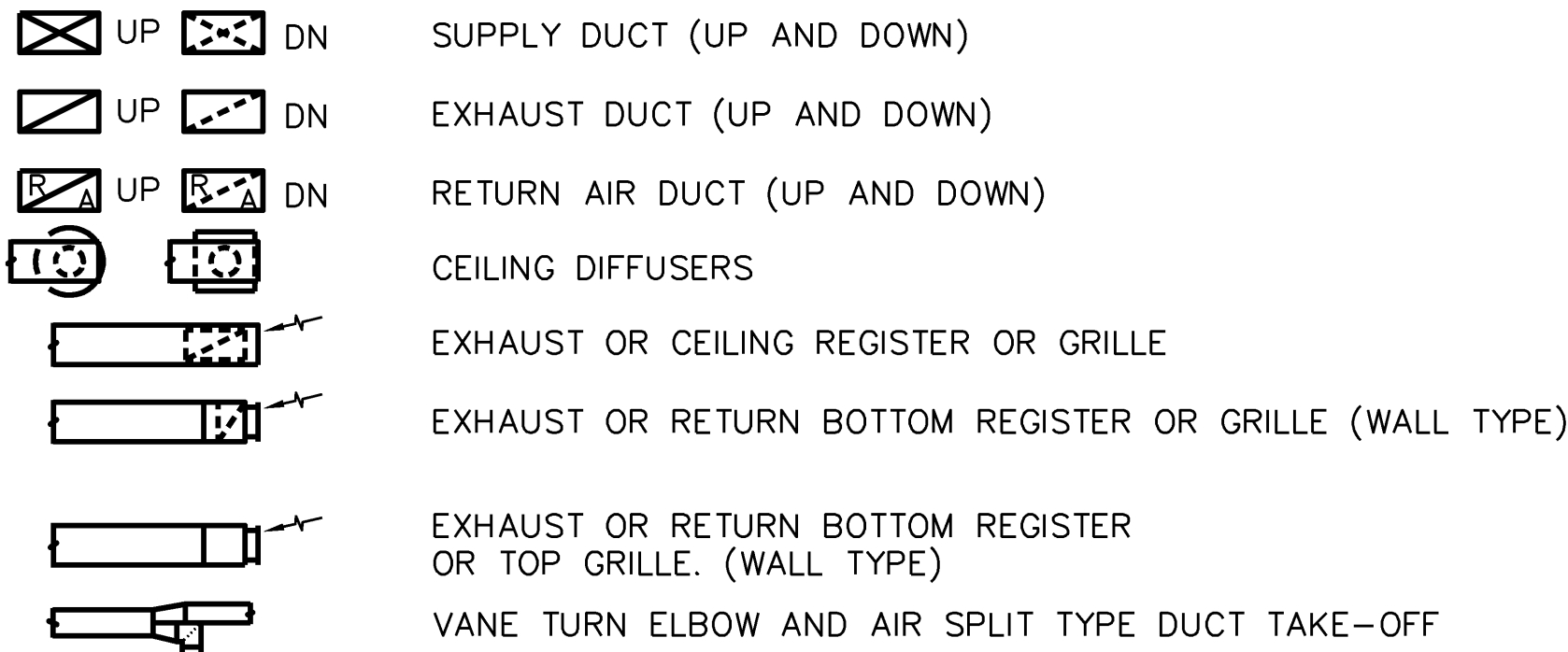
ABBREVIATIONS

A/E	ARCHITECT / ENGINEER	MAT	MIXED AIR TEMPERATURE
AAV	AUTOMATIC AIR VENT	MAV	MANUAL AIR VENT
ACCH	AIR-COOLED CHILLER	MBH	1000 BTUH
ACCU	AIR-COOLED CONDENSING UNIT	MERV	MINIMUM EFFICIENCY REPORTING VALUE
ACU	AIR CONDITIONING UNIT	MPR	MEDIUM PRESSURE RETURN (STEAM CONDENSATE)
ACD	AUTOMATIC CONTROL DAMPER,MODULATING	MPS	MEDIUM PRESSURE STEAM
ACD-TP	AUTOMATIC CONTROL DAMPER,TWO POSITION	NA	NOT APPLICABLE
AD	ACCESS DOOR	NC	NOISE CRITERIA
AF	AFTER FILTER	NC	NORMALLY CLOSED
AFCV	AIR FLOW CONTROL VALVE	NO	NORMALLY OPEN
AFF	ABOVE FINISHED FLOOR	NTS	NOT TO SCALE
AFMD	AIR FLOW MEASURING DEVICE	OA	OUTSIDE AIR
AHU	AIR-HANDLING UNIT	OAI	OUTSIDE AIR INTAKE
AP	ACCESS PANEL	OR	OPERATING ROOM
APD	AIR PRESSURE DROP	P	PUMP
AS	AIR SEPARATOR	PC	PUMPED CONDENSATE
BD	BUTTERFLY DAMPER	PD	PRESSURE DROP
BDD	BACKDRAFT DAMPER	PF	PRE-FILTER
BFP	BACKFLOW PREVENTER	PHC	PREHEAT COIL
BHP	BRAKE HORSEPOWER	PRS	PRESSURE REGULATING (VALVE) STATION
BTU	BRITISH THERMAL UNIT	PRV	PRESSURE REGULATING VALVE
BTUH	BRITISH THERMAL UNIT PER HOUR	PSI	POUNDS PER SQUARE INCH
C	CENTIGRADE (CELCIUS)	RA	RETURN AIR
CC	COOLING COIL	RAT	RETURN AIR TEMPERATURE
CCD	COOLING COIL CONDENSATE DRAIN	RCU	RECIPROCATING CHILLER UNIT
CD	CEILING DIFFUSER	RF	RETURN FAN
CFM	CUBIC FEET PER MINUTE	RH	RELATIVE HUMIDITY
CG	CEILING GRILLE	RHC	REHEAT COIL
CHP	CHILLED WATER PUMP	RPM	REVOLUTIONS PER MINUTE
CHR	CHILLED WATER RETURN	RV	RELIEF VALVE
CHS	CHILLED WATER SUPPLY	SA	SUPPLY AIR
CI	CAST IRON	SAD	SOUND ATTENUATING DEVICE
CO	CLEAN OUT	SAT	SUPPLY AIR TEMPERATURE
COP	COEFFICIENT OF PERFORMANCE	SD	SMOKE DETECTOR
CP	CONDENSATE PUMP	SDPR	SMOKE DAMPER
CR	CEILING REGISTER	SEN	SENSIBLE HEAT
CSG	CLEAN STEAM GENERATOR	SF	SUPPLY FAN
CU	CONDENSING UNIT	SH	STEAM HUMIDIFIER
CV	CONSTANT VOLUME	SP	STATIC PRESSURE
CW	COLD WATER (POTABLE)	SPS	STATIC PRESSURE SENSOR
D	DAMPER - AUTOMATIC	SS	STAINLESS STEEL
DB	DECIBELS	T & PCV	TEMPERATURE AND PRESSURE CONTROL VALVE
D <sub>b</sub>	DRY-BULB TEMPERATURE	TAB	TESTING, ADJUSTING, BALANCE
DDC	DIRECT DIGITAL CONTROLS	TD	TEMPERATURE DIFFERENCE
DEG	DEGREE	TP	TRAP
DF	DIFFUSER	TSP	TOTAL STATIC PRESSURE
DIA	DIAMETER	TSTAT	THERMOSTAT
DP	DEW POINT TEMPERATURE	TU	TERMINAL UNIT
DPS	DIFFERENTIAL PRESSURE SENSOR	UH	UNIT HEATER
EA	EXHAUST AIR	V	VALVE
EAT	ENTERING AIR TEMPERATURE	VAV	VARIABLE AIR VOLUME
ECC	ENGINEERING CONTROL CENTER	VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
EDH	ELECTRIC DUCT HEATER	VFD	VARIABLE FREQUENCY DRIVE
EER	ENERGY EFFICIENCY RATIO	W <sub>b</sub>	WET-BULB (TEMPERATURE)
EF	EXHAUST FAN	WF	WATER FILTER
EH	EXHAUST HOOD	WFMD	WATER FLOW MEASURING DEVICE
EMD	END OF MAIN DRIP (STEAM)	WPD	WATER PRESSURE DROP
ER	EXISTING REGISTER		
ESP	EXTERNAL STATIC PRESSURE		
ET	EXPANSION TANK		
EWT	ENTERING WATER TEMPERATURE		
EX	EXISTING		
EX. REL.	EXISTING RECOATED		
F	FAHRENHEIT		
F&T	FLOAT AND THERMOSTATIC		
F/SDPR	COMBINATION FIRE SMOKE DAMPER		
FC	FLEXIBLE CONNECTION		
FCU	FAN COIL UNIT		
FD	FLOOR DRAIN		
FD	FIRE DAMPER		
FF	FINAL FILTER		
FM	FLOW METER		
FFM	FEET PER MINUTE		
FS	FLOW SWITCH		
FSTAT	FREEZESTAT		
GPM	GALLONS PER MINUTE		
H&CW	HOT & COLD WATER		
HB	HOSE BIBB		
HC	HEATING COIL		
HOA	HAND/OFF/AUTOMATIC		
HP	HORSEPOWER		
HSTAT	HUMIDISTAT		
HWC	HOT WATER COIL		
HWR	HEATING HOT WATER RETURN		
HWS	HEATING HOT WATER SUPPLY		
I/O	INPUT/OUTPUT		
IAQ	INDOOR AIR QUALITY		
IBT	INVERTED BUCKET TRAP		
IN WG	INCH WATER GAUGE		
LAT	LEAVING AIR TEMPERATURE		
LB/HR	POUNDS PER HOUR		
LPR	LOW PRESSURE RETURN (STEAM CONDENSATE)		
LH	LATENT HEAT		
LPRC	LOW PRESSURE STEAM RETURN (CLEAN)		
LPS	LOW PRESSURE STEAM		
LPSC	LOW PRESSURE STEAM (CLEAN)		
LWT	LEAVING WATER TEMPERATURE		

DRAWING SYMBOLS



DUCTWORK SYMBOLS



LIMIT OF DEMOLITION

CONNECT NEW DUCT TO EXISTING DUCT

INCLINED RISE, IN DIRECTION OF AIR FLOW

INCLINED DROP, IN DIRECTION OF AIR FLOW

FLEXIBLE CONNECTION

VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)

VANED ELBOW (SHORT RADIUS)

STANDARD RADIUS ELBOW (R=W)

NEW DUCT - WIDTH X DEPTH

EXISTING DUCT TO REMAIN

EXISTING DUCT TO BE REMOVED

LOUVER

FLEXIBLE DUCTWORK (INSULATED)

DUCT WITH SOUND LINER

MANUAL VOLUME DAMPER

FIRE DAMPER

SMOKE DAMPER

FIRE/SMOKE DAMPER

STAINLESS STEEL DUCT

DUCT DETECTOR (BY ELECTRICAL)

MOTORIZED DAMPER

MANUAL SPLITTER DAMPER

STANDARD BRANCH SUPPLY OR RETURN, NO SPLITTER (45° TAP)

PIPING SYMBOLS

GRAVITY CONDENSATE RETURN

HIGH PRESSURE STEAM (60 PSIG AND ABOVE)

HIGH PRESSURE STEAM CONDENSATE RETURN

MEDIUM PRESSURE STEAM (16 PSIG THRU 59 PSIG)

MEDIUM PRESSURE STEAM CONDENSATE RETURN

LOW PRESSURE STEAM (15 PSIG AND BELOW)

LOW PRESSURE STEAM CONDENSATE RETURN

VACUUM STEAM CONDENSATE RETURN

CONDENSATE PUMP DISCHARGE

VENT LINE

HOT WATER HEATING SUPPLY

HOT WATER HEATING RETURN

CHILLED WATER SUPPLY

CHILLED WATER RETURN

MAKE-UP WATER

DRAIN LINE

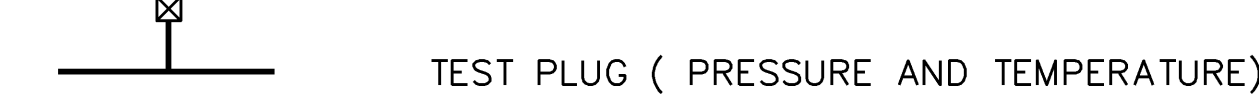
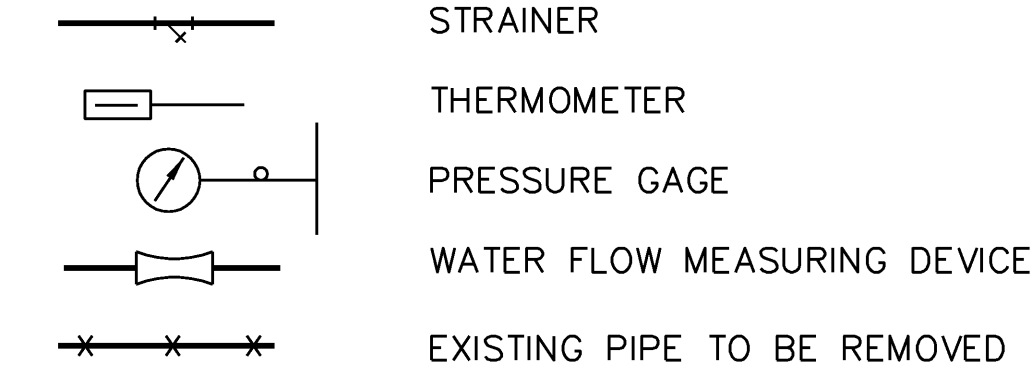
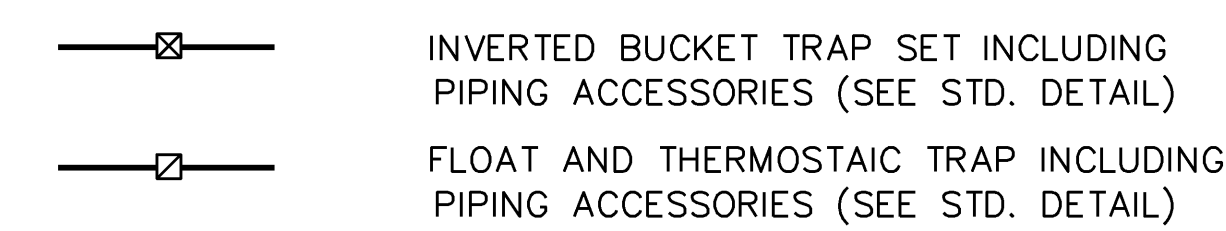
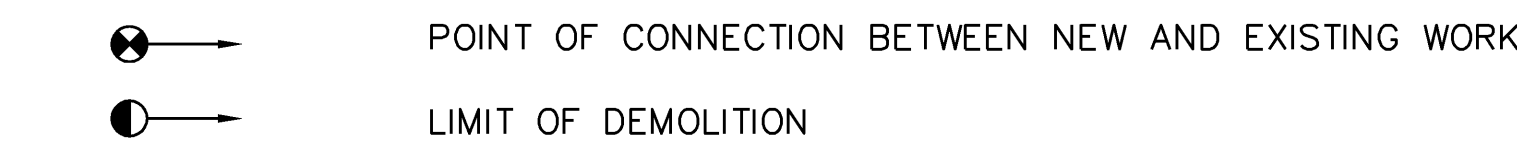
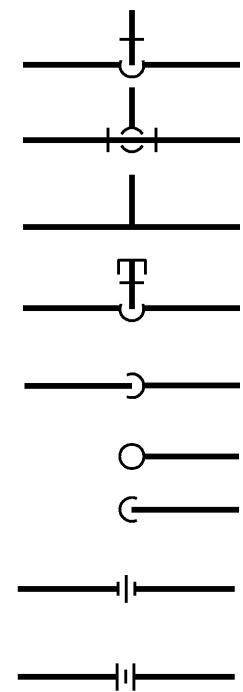
DIRECTION OF PIPE PITCH (DOWN)

DIRECTION OF FLOW

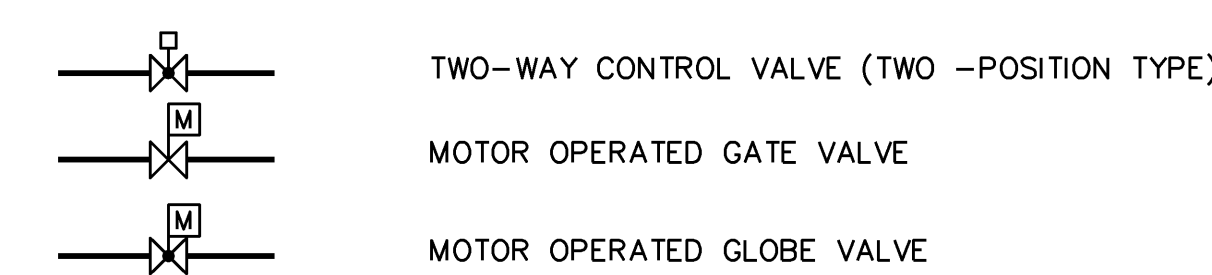
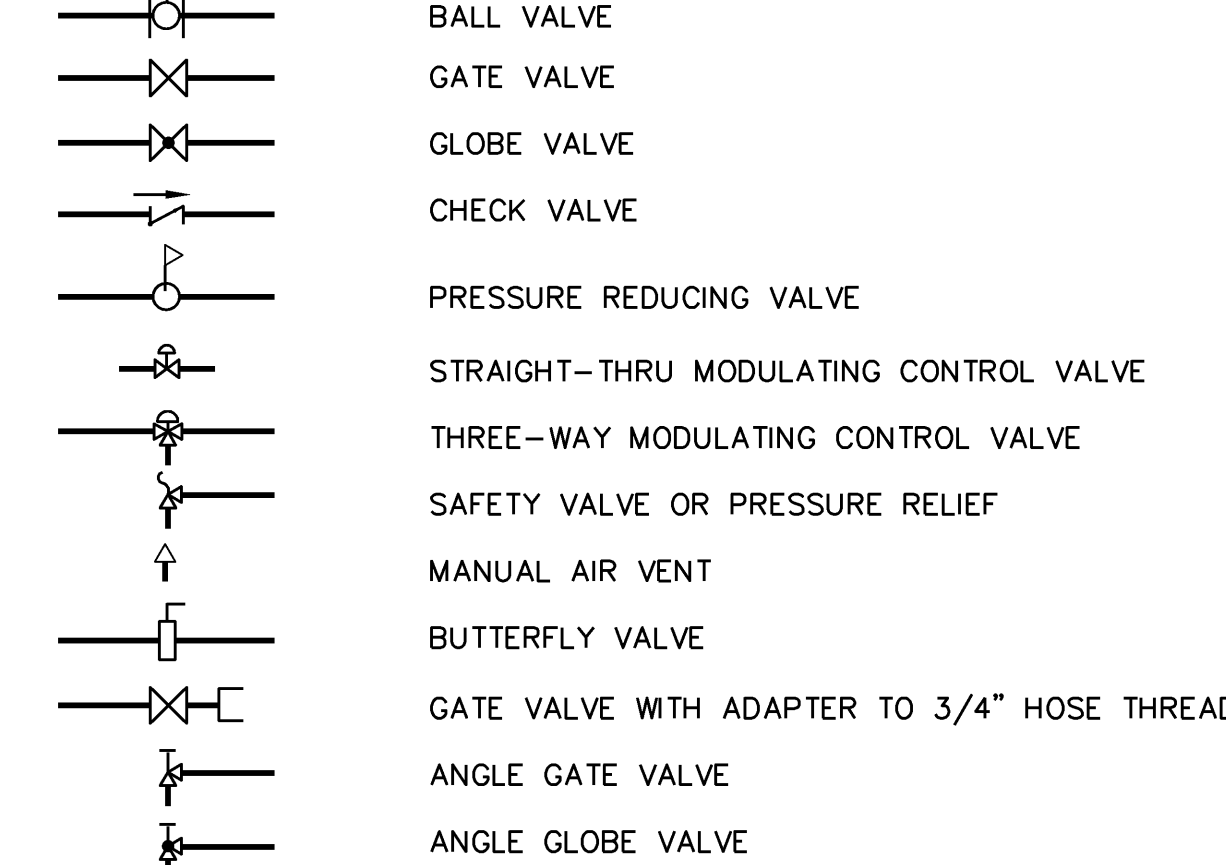
ANCHOR

REDUCER OR INCREASER

ECCENTRIC REDUCER



VALVES

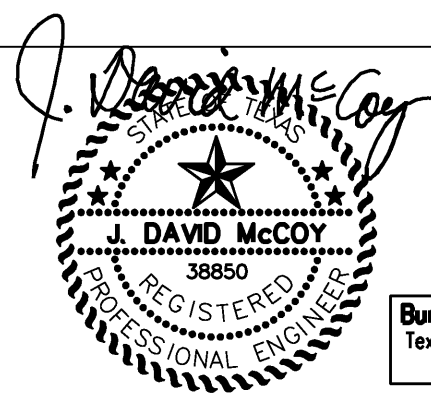


GENERAL NOTES

- ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE HARD SUSPENDED CEILING.
- THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED. DUCT SIZES ARE NET INSIDE DIMENSIONS.
- ACCESS PANELS IN HARD SUSPENDED CEILINGS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. ACCESS PANELS SHALL BE FURNISHED AND INSTALLED UNDER THE ARCHITECTURAL SPECIFICATIONS.
- TOTAL STATIC PRESSURE NOTED IN THE SCHEDULES INCLUDES DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC.
- FOR TYPICAL STEAM AND WATER PIPING CONNECTIONS TO EQUIPMENT, SEE STANDARD EQUIPMENT DETAILS.
- DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
- WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE TO PROVIDE COUNTER FLOW BETWEEN WATER AND AIR.
- WALL TYPE EXHAUST REGISTERS NOTED AS "BR" ON DRAWINGS ARE TO BE INSTALLED WITH BOTTOM ELEVATION OF REGISTER AT 7" [175mm] ABOVE FINISHED FLOOR.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.
- ALL PIPE PENETRATIONS THRU SLABS REQUIRING A HOLE GREATER THAN THREE INCHES IN DIAMETER SHALL BE SLEEVED. SEE ARCHITECTURAL DETAIL.

SCHEMATIC DESIGN SUBMISSION	08/02/10
DESIGN DEVELOPMENT SUBMISSION	09/03/10
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Revisions	Date

CONSULTANTS:



12/16/11

Burns, DeLatté & McCoy, Inc.  
Texas Registered Engineering Firm  
F-5855

ARCHITECT/ENGINEERS:

WILSON ARCHITECTURAL GROUP

5051 WESTHEIMER, SUITE 800 HOUSTON, TEXAS 77056 TELEPHONE (713) 921-9714

MEP ENGINEERS  
STRUCTURAL ENGINEERS  
FIRE PROTECTION ENGINEERS  
CIVIL ENGINEERS  
BURNS DeLATTÉ AND McCoy, INC.  
PINNACLE STRUCTURAL  
PROTECTION DEVELOPMENT INC.  
BREWER AND ESCALANTE

Drawing Title  
ABBREVIATION, SYMBOLS  
AND GENERAL NOTES

Approved Project Director

Project Title  
BUILDING 11 ADDITION AND  
INTERIOR RENOVATIONS

Location  
WACO, TEXAS

Date  
19 DEC 2011

Checked  
JDM

Drawn  
PHJ

Project Number  
674A4-COI-516

Building Number  
11

Drawing Number  
11  
MH001

Dwg. of

Office of  
Construction  
and Facilities  
Management

