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MISCELLANEOUS ABBREVIATIONS

ABV	ABOVE	IME	INSULATED METAL ENCLOSURE
APPROX	APPROXIMATELY	IN	INCHES
AUTO	AUTOMATIC	INCL	INCLUDED
AV	AUTOMATIC AIR VENT	INSUL	INSULATION
AD	ACCESS DOOR	INTERL	INTERLOCK
AFID	ABOVE FINISHED FLOOR	INV	INVERT
AFMID	AIR FLOW MEASURING DEVICE	IER	INVERTED ECCENTRIC REDUCER
AP	ACCESS PANEL	IVS	ISOLATION VALVE STATION
ATC	AUTOMATIC TEMPERATURE CONTROL	LTG	LIGHTING
AWT	AVERAGE WATER TEMPERATURE	LAT	LEAVING AIR TEMPERATURE
BLDG	BUILDING	LDB	LEAVING DRY BULB
BLV	BELOW	LI	LINEAR FEET
BC	BALANCING COCK	LSDC	LINEAR SUPPLY DIFFUSER CEILING
BDD	BACKDRAFT DAMPER	LWB	LEAVING WET BULB
		LWT	LEAVING WATER TEMPERATURE
CAP	CAPACITY	MAX	MAXIMUM
CFH	CUBIC FEET / HOUR	MECH	MECHANICAL
CHK V	CHECK VALVE	MFR	MANUFACTURER
CHWS	CHILLED WATER SUPPLY	MIN	MINIMUM
CHWR	CHILLED WATER RETURN	MTD	MOUNTED
CHWS&R	CHILLED WATER SUPPLY/RETURN	MTR	METAL
CLG	CEILING	MTL	MOTOR
CLG MTD	CEILING MOUNTED	MAT	MIXED AIR TEMPERATURE
COL	COLUMN	MAV	MANUAL AIR VENT
CONC	CONCRETE	MBH	ONE THOUSAND BTU/HOUR
CONN	CONNECTION	MOD	MOTOR OPERATED DAMPER
CONTR	CONTRACTOR	MH	MANHOLE
CONT	CONTINUE	MER	MECHANICAL EQUIPMENT ROOM
CONV	CONVECTOR	NTS	NOT TO SCALE
CORR	CORRIDOR	NA	NOT APPLICABLE
CFM	CUBIC FEET PER MINUTE	OPER	OPERATED
CO	CLEANOUT	OPNG	OPENING
CO	CONTROL VALVE	OA	OUTSIDE AIR
CV	CONTROL VALVE	OD	OPPOSED BLADE DAMPER
DB	DRY BULB	OS&Y	OUTSIDE SCREW AND YOKE
DHW	DOMESTIC HOT WATER	PC	PLUMBING CONTRACTOR
DCW	DOMESTIC COLD WATER	PRD	PRESSURE DIFFERENTIAL VALVE
DIFF	DIFFUSERS	PRD	PUMP DISCHARGE
DISCH	DISCHARGE	PS	PRESSURE GAUGE WITH COCK
DN	DOWN	PRV	PRESSURE REDUCING VALVE
DND	DRAIN	PT	PRESSURE TAP
DPR	DRAIN	REQD	REQUIRED
DWG	DRAWING	RET	RETURN
DX	DIRECT EXPANSION	REX	RETURN EXISTING
		RM	ROOM
EA	EXHAUST AIR	RA	RETURN AIR
EMER	EMERGENCY	RL	RELIEF AIR
EQUIP	EQUIPMENT	SCH	SCHEDULE
EXH	EXHAUST	SA	SUPPLY AIR
ETR	EXISTING TO REMAIN	SHT	SHEET
EAT	ENTERING AIR TEMPERATURE	SHT MTL	SHEET METAL
EAC	ELECTRICAL CONTRACTOR	STL	STEEL
EDB	ENTERING DRY BULB	STR	STRAINER
EWB	ENTERING WET BULB	SD	SMOKE DAMPER
EWI	ENTERING WATER TEMPERATURE	SP	STATIC PRESSURE
EX	EXISTING	SPS	STATIC PRESSURE SENSOR
		TA	THROWAWAY
FLG C	FLANGE CONNECTION	TD	TRIPLE DUTY VALVE
FLR	FLOOR	TEMP	TEMPERATURE
FRM	FROM	TRM	THERMOMETER
FT HD	FEET OF HEAD	TRANS	TRANSITION
FAT	FINAL AIR TEMPERATURE	TYP	TYPICAL
FC	FLEXIBLE CONNECTION	TSTAT	THERMOSTAT
FD	FIRE DAMPER	TCV	TEMPERATURE CONTROL VALVE
SFD	SMOKE/FIRE DAMPER	TR	TEMPERATURE RISE
FLR DR	FLOOR DRAIN	TV	TURNING VANES
		UC	UNDERCUT
GA	GAUGE	V	VALVE
GL V	GLOBE VALVE	VFD	VOLUME CONTROL DAMPER
GRAV	GRAVITY	VFS	VENTURI FLOW STATION
GC	GENERAL CONTRACTOR	WB	WET BULB
GPM	GALLONS PER MINUTE	WFMD	WATER FLOW MEASURING DEVICE
GV	GATE VALVE	WG	WATER GAUGE
		WTD	WATER TEMPERATURE DROP
HC	HEATING CONTRACTOR	WI	WITH
HP	HORSE POWER	W/O	WITHOUT
HPD	HIGH PRESSURE DRIP		
HTG	HEATING		
HV	HIGH VELOCITY		
HWR	HOT WATER RETURN		
HWS	HOT WATER SUPPLY		
HWS&R	HOT WATER SUPPLY AND RETURN		

EQUIPMENT TAG ABBREVIATIONS

ACC	AIR COOLED CHILLER	FT	FINNED TUBE RADIATION
ACCU	AIR COOLED CONDENSING UNIT	FCU	FAN COIL UNIT
ACCUM	ACCUMULATOR	FCB	FAN POWERED BOX
AHU	AIR HANDLING UNIT	FU	FURNACE
ASHP	AIR SOURCE HEAT PUMP		
		GIV	GRAVITY INTAKE VENTILATOR
B	BOILER	GRV	GRAVITY ROOF VENTILATOR
BB	BASEBOARD HEATER		
BD	BAROMETRIC DAMPER	H	HUMIDIFIER
BDD	BACK DRAFT DAMPER	HC	HOT WATER HEATING COIL
		HUH	HORIZONTAL UNIT HEATER
CC	CHILLED WATER COOLING COIL		
CD	CONDENSATE DRAIN	RG	RETURN GRILLE
CIRC	CIRCULATOR	RR	RETURN REGISTER
CMR	COMPRESSOR	RAG	RETURN AIR GRILLE
CONV	CONVECTOR	RCP	RADIANT CEILING PANEL
CP	CONDENSATE PUMP	RTU	ROOF TOP UNIT
CUH	CABINET UNIT HEATER		
		SF	SUPPLY FAN
DC	DRY COOLER	SSAC	SPLIT SYSTEM AIR CONDITIONING UNIT
		SSDC	SECURITY SUPPLY DIFFUSER CEILING
EF	EXHAUST FANS	SSEF	SECURITY SMOKE EXHAUST FAN
ERW	EXHAUST REGISTER	SSGC	SECURITY SUPPLY GRILLE CEILING
ERW	EXHAUST REGISTER WALL	SSGW	SECURITY SUPPLY GRILLE WALL
ET	EXPANSION TANK	SLSD	SUPPLY LINEAR SLOT DIFFUSER
ECUH	ELECTRIC CABINET UNIT HEATER		
EUH	ELECTRIC UNIT HEATER	P	PUMP
EWI	ELECTRIC WALL HEATER	PTAC	PACKAGED TERMINAL AIR CONDITIONING UNIT
EVAP	EVAPORATOR		
		UH	UNIT HEATER
		UV	UNIT VENTILATOR
		UCD	UNDER CUT DOOR
		VAV	VARIABLE AIR VOLUME

PIPELINE ABBREVIATIONS

SYMBOLS	DESCRIPTION
— CD —	CONDENSATE DRAIN LINE
— CTD —	COOLING TOWER DRAIN LINE
— CHWS —	CHILLED WATER SUPPLY
— CHWR —	CHILLED WATER RETURN
— CWS —	CONDENSER WATER SUPPLY
— CWR —	CONDENSER WATER RETURN
— HWHS —	HOT WATER HEATING SUPPLY
— HWHR —	HOT WATER HEATING RETURN
— LPS —	LOW PRESSURE STEAM SUPPLY
— LPCR —	LOW PRESSURE CONDENSATE RETURN
— MPS —	MEDIUM PRESSURE STEAM SUPPLY
— MPCR —	MEDIUM PRESSURE CONDENSATE RETURN
— HPS —	HIGH PRESSURE STEAM SUPPLY
— HPCR —	HIGH PRESSURE CONDENSATE RETURN
— PC —	PUMPED CONDENSATE
— HRS —	ENERGY (HEAT) RECOVERY SUPPLY
— HRR —	ENERGY (HEAT) RECOVERY RETURN
— RL —	REFRIGERANT LINE
— RS —	REFRIGERANT SUCTION
— NAME —	PIPE TO BE REMOVED
— NAME —	EXISTING PIPING TO REMAIN

PIPELINE SYMBOLS

	BALL VALVE
	GATE VALVE
	BUTTERFLY VALVE
	GLOBE VALVE
	PLUG VALVE
	RELIEF VALVE
	ECCENTRIC REDUCER
	INVERTED ECCENTRIC REDUCER
	STRAINER
	UNION
	THERMOMETER
	ORIFICE UNION
	PRESSURE GAUGE
	WATER FLOW MEASURING DEVICE (VENTURI FLOW STATION)
	BALANCING COCK
	PRESSURE TAP
	PRESSURE REDUCING VALVE
	TWO-WAY MODULATING CONTROL VALVE
	THREE-WAY MODULATING CONTROL VALVE
	SAFETY VALVE OR PRESSURE RELIEF
	AUTOMATIC AIR VENT
	MANUAL AIR VENT
	TWO-WAY CONTROL VALVE (TWO POSITION TYPE)
	MOTORIZED VALVE
	AQUASTAT
	FUNNEL DRAIN
	PIPING TURNED UP
	PIPING TURNED DOWN
	TEE - OUTLET UP
	TEE - OUTLET
	SIDE CONNECTION
	CAPPED OUTLET
	DIRECTION OF FLOW
	PIPE BREAK (SINGLE LINE)
	FLEXIBLE CONNECTION
	BACKFLOW PREVENTION DEVICE

HVAC SYMBOLS

DOUBLE LINE SHEETMETAL SYMBOLS	DESCRIPTION
	RECTANGULAR SUPPLY, RETURN OR RELIEF DUCT WIDTH (SHOWN)XDEPTH
	OVAL SUPPLY, RETURN OR RELIEF DUCT WIDTH (SHOWN)XDEPTH
	ROUND SUPPLY, RETURN OR DUCT W/TURNING VANES (DUCT WIDTH OVER 18")
	DUCT W/TURNING VANES. SHALL BE USED ON ALL RECTANGULAR ELBOWS UNLESS NOTED OTHERWISE
	RADIUS ELBOW (DUCT WIDTH 17" AND LOWER)
	CONICAL SPIN-IN FITTING
	BOOT CONNECTION WITH MANUAL VD (ARROW INDICATES AIR FLOW DIRECTION)
	RETURN AIR DUCT UP
	SUPPLY DUCT UP
	EXHAUST AIR DUCT UP
	RETURN AIR DUCT DN
	EXHAUST AIR DUCT DN
	MANUAL VOLUME CONTROL DAMPER (VD)
	RISE/DROP IN DUCTWORK (ARROW SHOWS DIRECTION OF DROP)
	DUCT/SPACE STATIC PRESSURE SENSOR
	WALL SWITCH
	DUCT/WALL TEMPERATURE SENSOR, ELECTRIC
	DUCT MOUNTED SMOKE DETECTOR PROVIDED BY EC, INSTALLED BY HC
	MOTORIZED DAMPER
	BACKDRAFT DAMPER
	FIRE DAMPER AT FIRE WALL (PROVIDE ACCESS PANEL IN DUCT AND CEILING)
	SMOKE DAMPER/DETECTOR BY E.C. DAMPER BY H.C.
	COMBINATION FIRE/SMOKE DAMPER
	FIRE DAMPER IN VERTICAL DUCT THRU FLOOR OR HORIZONTAL DUCT ABOVE CEILING (PROVIDE ACCESS PANEL IN DUCT AND WALL OR CEILING)
	ACCESS DOOR ON BOTTOM OF DUCT (HINGED & GASKETED)
	ACCESS DOOR ON SIDE OF DUCT (HINGED & GASKETED)
	SUPPLY AIR DIFFUSER
	SUPPLY AIR REGISTER
	EXHAUST REGISTER
	EXHAUST/RETURN AIR REGISTER (DUCT OR WALL)
	SUPPLY AIR REGISTER (DUCT OR WALL)

SINGLE LINE - SHEETMETAL SYMBOLS

	DUCT SIZE (WIDTH X DEPTH)
	ROUND DUCT SIZE (DIAMETER)
	FLEXIBLE DUCT (DIAMETER SIZE)
	SUPPLY DUCT CROSS SECTION UP
	SUPPLY DUCT CROSS SECTION DN
	RETURN CROSS SECTION UP
	RETURN CROSS SECTION DN
	EXHAUST CROSS SECTION UP
	SQUARE ELBOW WITH TURNING VANES
	RADIUS TURN ELBOW
	DUCT END CAP

HVAC GENERAL NOTES

- NOT ALL SYMBOLS ARE NECESSARILY USED.
- COORDINATE FINAL LOCATIONS OF DIFFUSERS AND GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLANS.
- DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR TO FIELD VERIFY DUCT AND PIPE ROUTING AND COORDINATE INTERFERENCE BETWEEN TRADES PRIOR TO INSTALLATION.
- ROOF OPENINGS, FLASHING, AND COUNTER FLASHING BY GENERAL CONTRACTOR. LOCATION OF OPENINGS BY HEATING CONTRACTOR.
- DUCTWORK TO BE INSTALLED TIGHT TO UNDERSIDE OF STRUCTURE ABOVE UNLESS NOTED OTHERWISE.
- PROVIDE ALL MATERIALS, EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED, AND AS REQUIRED BY CODE.
- CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY. CONTRACTOR SHALL BE RESPONSIBLE TO FIELD SURVEY ACTUAL SITE CONDITIONS AND ACCOMMODATE ACTUAL SITE CONDITIONS AS PART OF SCOPE OF WORK AT NO COST TO OWNER.
- INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, APPLICABLE BUILDING, STATE, AND LOCAL CODES, SEISMIC REQUIREMENTS, ENERGY CODES, AND INSURANCE UNDERWRITER REQUIREMENTS.
- COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, AND ELECTRICAL WORK, ETC. SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.
- MAINTAIN A MINIMUM OF 6'-8" CLEARANCE TO UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, SUPPORTS, ETC., THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
- ALL TESTS SHALL BE COMPLETED AND ACCEPTED BY THE INSPECTOR BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED.
- LOCATE ALL TEMPERATURE, PRESSURE AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH A STRAIGHT SECTION OF PIPE OR DUCT UPSTREAM AND DOWNSTREAM, AS RECOMMENDED BY THE MANUFACTURER FOR ACCURACY.
- TESTING ADJUSTING AND BALANCING (TAB) AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCING COUNCIL (AABC), THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB), OR THE TESTING, ADJUSTING AND BALANCING BUREAU (TABB). TAB FIRM SHALL HAVE A MINIMUM OF 5 YEARS EXPERIENCE ON SIMILAR PROJECTS. PERFORM TAB IN ACCORDANCE WITH THE REQUIREMENTS OF THE TAB PROCEDURAL STANDARD RECOMMENDED BY THE TAB TRADE ASSOCIATION THAT APPROVED THE TAB FIRM'S QUALIFICATIONS.
- WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCTS OF A SINGLE MANUFACTURER SHALL BE USED.
- COORDINATE ALL FINAL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCTWORK AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCTWORK AND PIPING DIMENSIONS BEFORE FABRICATION.
- ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE, DIVISION 16 OF THE SPECIFICATIONS, ALL LOCAL CODES, AND OWNER'S INSURANCE UNDERWRITER REQUIREMENTS.
- WHEN MECHANICAL WORK (HVAC, PLUMBING, FIRE PROTECTION, CONTROLS, ETC.) IS SUBCONTRACTED BY THE MC, IT SHALL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY FOR COORDINATING SUBCONTRACTORS AND THEIR ASSOCIATED SCOPE OF WORK. WHEN DISCREPANCIES ARISE PERTAINING TO WHICH SUBCONTRACTOR PROVIDES A PARTICULAR ITEM OF THE MECHANICAL CONTRACT OR WHICH SUBCONTRACTOR PROVIDES FINAL CONNECTIONS FOR A PARTICULAR ITEM OF THE MECHANICAL CONTRACT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE MECHANICAL CONTRACTOR AND HIS DECISION SHALL BE FINAL.
- THE LOCATIONS AND SIZES OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS AND SIZES NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS SHALL BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS.
- PLAN DRAWINGS AND SECTION CUTS WHICH SPECIFICALLY IDENTIFY SERVICE ROUTE OFFSETS, ELEVATION CHANGES, OBSTRUCTIONS, ACCESS DOORS, BALANCING DEVICES, ETC. ARE SHOWN FOR CLARITY WHERE SPECIFIC KNOWN CONDITIONS EXIST. MECHANICAL CONTRACTOR SHALL COORDINATE EQUIPMENT, DUCTWORK, AND PIPING ROUTINGS WITH ALL OTHER TRADES. REQUIREMENTS NOT SPECIFICALLY IDENTIFIED SHALL NOT BE INTERPRETED AS EXCLUSION FROM CONTRACTOR'S SCOPE OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ACTUAL SITE CONDITIONS AND SHALL INCLUDE SUCH CONDITIONS IN SCOPE OF WORK AT NO ADDITIONAL COST TO THE OWNER.
- ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND SUPPORT OF MECHANICAL WORK AS SHOWN IN DETAILS FOR PIPING, DUCTWORK AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE ACCESS DOORS AND PANELS AS SPECIFIED FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE, BALANCE, ADJUST, MAINTAIN, AND/OR INSPECT DAMPERS, VALVES, SMOKE DETECTORS, CONTROLS, AND OTHER CONCEALED MECHANICAL EQUIPMENT. ACCESS PANELS SHALL BE GIVEN TO THE GENERAL CONTRACTOR FOR INSTALLATION. ACCESS PANEL LOCATIONS SHALL BE COORDINATED WITH ALL DISCIPLINES.
- ALL EQUIPMENT, PIPING, DUCTWORK, ETC. SHALL BE SUPPORTED AS DETAILED, SPECIFIED AND AS REQUIRED TO PROVIDE A VIBRATION FREE INSTALLATION.
- ALL OPENINGS IN FIRE RATED WALLS AND SMOKE PARTITIONS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE FIRE STOPPED WITH APPROVED FIRESTOPPING MATERIALS.
- REFER TO TYPICAL DETAILS FOR DUCTWORK, PIPING AND EQUIPMENT INSTALLATION.
- UNLESS OTHERWISE SHOWN, LOCATE ALL ROOM THERMOSTATS 48" (CENTER LINE) ABOVE FINISHED FLOOR IN ACCORDANCE WITH ADA REQUIREMENTS. NOTIFY THE ENGINEER OF ANY ROOMS WHERE THE ABOVE LOCATION CAN NOT BE MAINTAINED OR WHERE THERE IS A QUESTION ON LOCATION. COORDINATE FINAL LOCATIONS WITH OWNER.
- LOCATE ALL MECHANICAL EQUIPMENT (VAV BOXES, CABINET HEATERS, UNIT HEATERS, ETC.) FOR UNOBSTRUCTED ACCESS TO UNIT ACCESS PANELS, FILTERS, CONTROLS AND VALVING. DO NOT LOCATE FAN POWERED VAV BOXES ABOVE LIGHTING FIXTURES.
- PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS (SUPPLY, RETURN AND EXHAUST) CONNECTED TO FANS AND OTHER EQUIPMENT WHICH REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE INDICATED.
- ALL LOUVERS SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR (UNLESS OTHERWISE NOTED). GENERAL CONTRACTOR SHALL COORDINATE SIZES, LOCATIONS, AND CONNECTIONS WITH MECHANICAL CONTRACTOR. DUCTWORK CONNECTIONS TO LOUVERS SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.
- PROVIDE AN AIR VENT AT THE HIGH POINT OF EACH DROP IN HYDROMEC WATER PIPING SYSTEMS. ALL PIPING SHALL SLOPE TO LOW POINTS. PROVIDE HOSE END DRAIN VALVES AT THE BOTTOM OF ALL RISERS AND LOW POINTS.
- INSTALL PIPING SO THAT ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES, AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
- ALL ISOLATION VALVES SHALL BE IN A LOCATION AND ELEVATION WHICH ALLOWS FOR EQUIPMENT AND BRANCH PIPING REMOVAL, WHILE MAINTAINING SERVICE UPSTREAM OF THE ISOLATION VALVE.
- ALL BALANCING VALVES AND ISOLATION VALVES USED TO ADJUST FLOW RATES SHALL BE PROVIDED WITH POSITION INDICATORS AND MAXIMUM ADJUSTABLE STOPS (MEMORY STOPS).
- ALL ISOLATION VALVES (EXCEPT CONTROL VALVES), STRAINER, AND PIPING SPECIALTIES AND STRAINERS SHALL BE FULL LINE SIZE BEFORE REDUCING SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS.
- MECHANICAL JOINTS SUCH AS UNIONS, FLANGES, OR THREADED FITTINGS SHALL BE INSTALLED AT EACH EQUIPMENT CONNECTION, ON BYPASSES, AT FLOOR PENETRATIONS, AT CONTROL DEVICES, AND IN LONG PIPE RUNS (100 FEET OR MORE) TO PERMIT DISASSEMBLY FOR ALTERATION AND REPAIRS.

FULLY SPRINKLERED BID DOCUMENTS

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Drawing Title

HVAC SYMBOLS, ABBREVIATIONS AND GENERAL NOTES

Approved: Project Director

Project Title

BUILDING 9 - SECOND FLOOR RENOVATION

Location: 1400 Blackhorse Hill Road
Coatesville, PA 19320

Date

05 / 12 / 14

Checked

SPL

Drawn

SPL

Project Number

542-13-105

Building Number

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Drawing Number

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Dwg. 79 of 125

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