

ABBREVIATIONS

AAV	AUTOMATIC AIR VENT	INCL	INCLUDING
AC	AIR CONDITIONING UNIT	KV	KILOVOLT
AD	AIR DUCT	L	LOUVER
AHU	AIR HANDLING UNIT	LAT	LEAVING AIR TEMPERATURE
AP	ACCESS PANEL	LB	POUNDS
AVR	AVERAGE	LB/HR	POUNDS PER HOUR (LBS/HR)
B	BOILER	LD	LOAVERED DOOR (4X24 UNO)
BDD	BACK DRAFT DAMPER	LF	LINEAR FEET
BFD	BUILDING	LRA	LEAVING WATER TEMPERATURE
BOD	BOTTOM OF BEAM	LWT	LEAVING WATER TEMPERATURE
BOD	BOTTOM OF DUCT	MAN	MANUFACTURER
BTD	BRITISH THERMAL UNIT	MER	MISCELLANEOUS
BTU	CAPACITY	MIN	MOTOR OPERATED DAMPER
CAP	CAPACITY	MISC	MISCELLANEOUS
CD	CELLING DIFFUSER	MOD	MOTOR OPERATED DAMPER
CFM	CUBIC FEET PER MINUTE	MOTD	MOTOR OPERATED DAMPER
CFM	CUBIC FEET PER MINUTE	NEG	NEGATIVE
CH	CHILLER	NC	NORMALY CLOSED
CHWS	CHILLED WATER RETURN	NOT IN CONTRACT	NOT IN CONTRACT
CHWS	CHILLED WATER RETURN	NS	NON-INSULATED
CLG	CENTRAL	NS	NON-INSULATED
CO	CLEAN OUT	OA	OUTSIDE AIR INTAKE
CT	COOLING TOWER	OAI	OUTSIDE AIR INTAKE
CU	CONDENSING UNIT	OAT	OPPOSED AIR INTAKE
CWR	CONDENSER WATER RETURN	OBD	OPPOSED BLADE DAMPER
CWS	CONDENSER WATER SUPPLY	OC	ON CENTER
DB	DRY BULB	OZ	OUNCE
DIA	DIAMETER	PD	PUMP
DIF	DIFFERENTIAL	PEAF	PRESSURE DROP (SEE SCHEDULE)
DIR	DIRTY	PEAF	PRESSURE DROP (SEE SCHEDULE)
DN	DOWN	PH	PHASE
DX	DIRECT EXPANSION	POS	POSITIVE
EA	EACH	PRV	PRESSURE REDUCING VALVE
EAT	ENTERING AIR TEMPERATURE	PSI	POUNDS PER SQUARE INCH
EFF	EFFICIENCY	PTAC	PACKAGED TERMINAL AIR CONDITIONER
ELEC	ELECTRIC	PVC	POLYVINYL CHLORIDE
EQUIV	EQUIVALENT	Q	QUANTITY
ESP	EXPANSION TANK	R	RETURN
ETC	ETC	RAG	RETURN AIR GRILLE
EWT	ENTERING WATER TEMPERATURE	RBJ	RUN BETWEEN JOIST
EXT	EXTERNAL	RCP	REFLECTED CEILING PLAN
F	DEGREES FAHRENHEIT	RD	REQUIRED
FCU	FAN COIL UNIT	RETD	REQUIRED RETURN
FD	FLOOR DRAIN	RLA	RELATIVE HUMIDITY
FLEX	FULL LOAD AMPS	RMA	RATED LOAD AMPS
FLEX	FLEXIBLE	RPM	REOLUTIONS PER MINUTE
FLR	FLOOR	SA	STATIC PRESSURE
FPM	FEET PER MINUTE	SPC	SPECIFICATION
FPS	FEET PER SECOND	SQ	SQUARE
FRT	FRICITION	SS	STAINLESS STEEL
FT	FEET	STD	STANDARD
GA	GALLON	STC	SOUND TRANSMISSION COEFFICIENT
GALV	GALVANIZED	TEMP	TEMPERATURE
GENT	GENTLE	TR	TRANSPIRABLE
GPD	GALLONS PER DAY	TSP	TYPICAL
GPH	GALLONS PER HOUR	UH	UNOCCUPIED
GPM	GALLONS PER MINUTE	UNCC	UNOCCUPIED
GRS/LB	GRAMS PER POUND	V	VOLTS
H2O	WATER	VAV	VARIABLE AIR VOLUME UNIT
HB	HOSE BIBB	VEL	VELOCITY
HD	HEAD (SEE SCHEDULES)	VIR	VENTILATION
HP	HORSEPOWER	WIR	WIRE
HT	HEIGHT	W/O	WITHOUT
HTR	HEATER	WG	WATER GAUGE
HX	HEAT EXCHANGER	WG	WATER GAUGE
HZ	HERTZ	WWS	WIRE MESH SCREEN
ID	INTERNAL DIAMETER		
IN	INCHES		

SUMMARY OF WORK

- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS AS REQUIRED AND AS INDICATED ON THESE DRAWINGS AND NOTES. THIS WORK SHALL INCLUDE, BUT IS NOT LIMITED TO THE FOLLOWING:
- PERFORMANCE OF ALL WORK AS DESCRIBED ON PROPOSED CONTRACT DRAWINGS AND AS REFERRED TO IN THE SPECIFICATIONS AND NOTES AS APPLICABLE FOR EACH PARTICULAR CONSTRUCTION DISCIPLINE.
 - RESTORATION OF EXISTING SYSTEMS, DEVICES, FINISHES, ETC. DAMAGED OR ALTERED BY NEW WORK TO ACCEPTABLE CONDITION AS DETERMINED BY THE OWNER, ARCHITECT, AND/OR ENGINEER.
 - THE DRAWINGS INDICATE DIAGRAMMATICALLY THE EXTENT, GENERAL CHARACTER AND LOCATION OF THE WORK INCLUDED. OMISSIONS AND/OR CHANGES IN ELEVATION OF PIPING AND DUCTWORK DUE TO STRUCTURAL OR OTHER INTERFERENCES SHALL BE PROVIDED WITHOUT EXTRA COST. CONTRACTOR SHALL VERIFY AND EVALUATE ALL EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK.
 - COORDINATE WORK WITH THE PRIME CONTRACTOR TO MEET THE CONSTRUCTION SCHEDULE AND PHASING REQUIREMENTS.

BIDDING PROCEDURES

- SUBMISSION OF BID DIRECTLY OR INDIRECTLY IN CONNECTION WITH THIS WORK SHALL IMPLY THAT THE BIDDER HAS EXAMINED THE JOB SITE UNDER WHICH HE WILL BE OBLIGATED TO OPERATE SHOULD HE BE AWARDED THE WORK UNDER THIS CONTRACT. NO EXTRA CHARGE WILL BE ALLOWED FOR FAILURE OF ANY BIDDER TO EXAMINE THE SITE PRIOR TO BID.
- CONTRACTOR SHALL REVIEW CONSTRUCTION SCHEDULE AND EQUIPMENT LEAD TIMES AND INCLUDE IN HIS BID ALL QUICKSHIP CHARGES FOR ALL EQUIPMENT NEEDED TO MEET SCHEDULE.

MECHANICAL SYMBOL LEGEND

GENERAL	CONTROLS	PIPING, VALVES AND SPECIALTIES
EQUIPMENT TAG (A-TYPE, V-SYSTEM, Z-NUMBER)	THERMOSTAT OR TEMPERATURE SENSOR	CHILLED WATER SUPPLY
KEYED NOTES	HUMIDITY SENSOR	CHILLED WATER RETURN
DOOR GRILLE (24X24 UNO)	CARBON DIOXIDE SENSOR	HOT WATER SUPPLY
UNDERCUT DOOR (1" UNO)	DUCT MOUNTED SMOKE DETECTOR	HOT WATER RETURN
DRAWING REVISION INDICATOR	MOTORIZED CONTROL DAMPER	CONDENSER WATER SUPPLY
EXISTING TO REMAIN	DUCT PRESSURE SENSOR	CONDENSER WATER RETURN
EXISTING TO BE DEMOLISHED	ENERGY MANAGEMENT SYSTEM PANEL	REFRIGERANT PIPING
POINT OF CONNECTION		HOT GAS REFRIGERANT PIPING
AIR MOVING DEVICES AND COMPONENTS		CHILLED WATER SUPPLY
SUPPLY AIR FLOW	CHILLED WATER RETURN	HOT WATER SUPPLY
RETURN AIR FLOW	HOT WATER RETURN	CONDENSER WATER SUPPLY
SUPPLY AIR DIFFUSER	CONDENSER WATER RETURN	REFRIGERANT PIPING
RETURN AIR GRILLE	HOT GAS REFRIGERANT PIPING	CHILLED WATER SUPPLY
EXHAUST AIR GRILLE	CHILLED WATER RETURN	HOT WATER SUPPLY
SIDEWALL SUPPLY GRILLE	HOT WATER RETURN	CONDENSER WATER SUPPLY
SIDEWALL RETURN OR EXHAUST GRILLE	CONDENSER WATER RETURN	REFRIGERANT PIPING
ROOFTOP EXHAUST FAN	HOT GAS REFRIGERANT PIPING	CHILLED WATER SUPPLY
HVAC EQUIPMENT	CHILLED WATER RETURN	HOT WATER SUPPLY
SECTION SUPPLY DUCT	HOT WATER RETURN	CONDENSER WATER SUPPLY
SECTION RETURN DUCT	CONDENSER WATER RETURN	REFRIGERANT PIPING
SECTION EXHAUST DUCT	HOT GAS REFRIGERANT PIPING	CHILLED WATER SUPPLY
SECTION ROUND DUCT	CHILLED WATER RETURN	HOT WATER SUPPLY
FLEXIBLE DUCT	HOT WATER RETURN	CONDENSER WATER SUPPLY
DUCT SIZE IN INCHES, WIDTH X DEPTH (INSIDE)	CONDENSER WATER RETURN	REFRIGERANT PIPING
INTERNALLY LINED OR DOUBLE WALL DUCT	HOT GAS REFRIGERANT PIPING	CHILLED WATER SUPPLY
CHANGE OF ELEVATION (RAISE, DROP)	CHILLED WATER RETURN	HOT WATER SUPPLY
DUCTWORK ELBOW UP	HOT WATER RETURN	CONDENSER WATER SUPPLY
DUCTWORK ELBOW DOWN	CONDENSER WATER RETURN	REFRIGERANT PIPING
MITERED ELBOW	HOT GAS REFRIGERANT PIPING	CHILLED WATER SUPPLY
RADIUS ELBOW	CHILLED WATER RETURN	HOT WATER SUPPLY
TURNING VANES	HOT WATER RETURN	CONDENSER WATER SUPPLY
STANDARD BRANCH SUPPLY OR RETURN	CONDENSER WATER RETURN	REFRIGERANT PIPING
TRANSITION, CONCENTRIC	HOT GAS REFRIGERANT PIPING	CHILLED WATER SUPPLY
TRANSITION, ECCENTRIC	CHILLED WATER RETURN	HOT WATER SUPPLY
ACCESS DOOR	HOT WATER RETURN	CONDENSER WATER SUPPLY
ELECTRIC DUCT HEATER	CONDENSER WATER RETURN	REFRIGERANT PIPING
AIR FLOW STATION	HOT GAS REFRIGERANT PIPING	CHILLED WATER SUPPLY
FLEXIBLE CONNECTION	CHILLED WATER RETURN	HOT WATER SUPPLY
FIRE DAMPER	HOT WATER RETURN	CONDENSER WATER SUPPLY
SMOKE DAMPER (FS - FIRE/SMOKE DAMPER)	CONDENSER WATER RETURN	REFRIGERANT PIPING
RADIATION DAMPER	HOT GAS REFRIGERANT PIPING	CHILLED WATER SUPPLY
MANUAL DAMPER	CHILLED WATER RETURN	HOT WATER SUPPLY
	HOT WATER RETURN	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN	REFRIGERANT PIPING
	HOT GAS REFRIGERANT PIPING	CHILLED WATER SUPPLY
	CHILLED WATER RETURN	HOT WATER SUPPLY
	HOT WATER RETURN	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN	REFRIGERANT PIPING
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