DUCTWORK, AIR DISTRIBUTION

	SINGLE	DOUBLE
RECTANGULAR DUCT	12x6	12x6
ROUND DUCT	6Ø	6Ø
FLAT OVAL DUCT	12/6	12/6
DUCT WITH ACOUSTIC LINING		
SUPPLY GRILLE OR REGISTER		
RETURN/EXHAUST GRILLE OR REGISTER		
CEILING DIFFUSER - SQUARE/ROUND SIMILAR) (FLOW ARROWS INDICATE DIRECTION OF THROW FOUR MAY FLOW IF NO ARROWS SHOWN)		
RETURN/EXHAUST GRILLE OR REGISTER		
SUPPLY DUCT UP		
SUPPLY DUCT DOWN		
RETURN/EXHAUST DUCT UP		
RETURN/EXHAUST DUCT DOWN		
CHANGE OF ELEVATION RISE(R) DROP(D)	R	R
TRANSITION - RECTANGULAR OR ROUND		
TRANSITION - RECTANGULAR TO ROUND		
BRANCH DUCT - STANDARD(45° ENTRY)		
BRANCH DUCT WITH SPLITTER	SD	SD
BRANCH DUCT WITH AIR EXTRACTOR	AE	AE
BRANCH DUCT, STRAIGHT LATERAL, ROUND		
BRANCH DUCT, STRAIGHT TEE, ROUND		
BRANCH DUCT, LO-LOSS TEE, ROUND		
BRANCH DUCT, CONICAL TEE, ROUND		
BRANCH DUCT, CONICAL TEE, FLEX TAKE OFF, SPIN-IN COLLAR W/ DAMPER		

FLEXIBLE DUCT	
WATERTIGHT DUCT	
CONTROL DAMPER (MOD OR MVD)	MOD / MOD
SAFETY DAMPER (FDR OR SDR)	FDR / FDR
SQUARE ELBOW WITH TURNING VANES	
FLEXIBLE DUCT CONNECTION	

PIPING - GENERAL

DIRECTION OF FLOW	
DIRECTION OF SLOPE DOWN	
PIPE TURNING UP	
PIPE TURNING DOWN	
BRANCH CONNECTION - TOP	
BRANCH CONNECTION - BOTTOM	
BRANCH CONNECTION - SIDE	
PIPE ANCHOR	PA
PIPE ALIGNMENT GUIDE	
SERVICE VALVE (GATE, BALL OR BUTTERFLY)	
GLOBE VALVE	
CHECK VALVE	
BALANCING COCK	
UNION	
VALVE IN RISER	
PIPE CAP OR BLIND FLANGE	
OUTLETS (G, A, V, OX, CW, HW)	

EXPANSION JOINT	EJ
PRESSURE REDUCING VALVE	
PRESSURE RELIEF VALVE	R
PRESSURE GAUGE	
THERMOMETER	
FLEXIBLE PIPE CONNECTION OR JOINT	
STRAINER	
CLEANOUT PLUG	CO OR CO
FLOOR CLEANOUT	CO
WALL CLEANOUT	CO
FLOW SWITCH	FS
PRESSURE SWITCH	PS

PIPING - HVAC

STEAM (NUMBER DENOTES PRESSURE)	Ø
STEAM CONDENSATE RETURN (SCR)	Ø
BOILER BLOWDOWN	BBD
PUMPED CONDENSATE	PC
COLD WATER	
DRIP STATION	DS
THERMOSTATIC TRAP	T
FLOAT AND THERMOSTATIC TRAP	F
BUCKET TRAP	B
HEATING WATER SUPPLY	HWS
HEATING WATER RETURN	HWR
CHILLED WATER SUPPLY	CWS
CHILLED WATER RETURN	CWR
CONDENSER WATER SUPPLY	C
CONDENSER WATER RETURN	CR
CONDENSATE DRAIN	D
CONTROL VALVE (2-WAY)	
CONTROL VALVE (3-WAY)	
AUTOMATIC FLOW CONTROL VALVE	
CALIBRATED BALANCING VALVE	
TRIPLE DUTY VALVE (PUMP DISCHARGE)	
PRESSURE/TEMPERATURE FITTING	
REFRIGERANT SUCTION	RS
REFRIGERANT DISCHARGE	RD
REFRIGERANT LIQUID	RL
HEAT PUMP WATER SUPPLY	HPS
HEAT PUMP WATER RETURN	HPR
DUAL TEMP SUPPLY	DTS
DUAL TEMP RETURN	DTR

PIPING - SPECIAL

COMPRESSED AIR	A
GAS	G
FUEL OIL SUPPLY	FOS
FUEL OIL RETURN	FOR
GLYCOL SUPPLY	GS
GLYCOL RETURN	GR

MISCELLANEOUS

CONNECT NEW TO EXISTING	
ELECTRIC THERMOSTAT (OR SENSOR)	T
PNEUMATIC THERMOSTAT	T
DIAMETER	Ø
FLAT OVAL	
HUMIDISTAT	H
FAN SPEED SWITCH	S
DUCT-MOUNTED SMOKE DETECTOR	SMD
PIPE AND DUCT RISER REFERENCE	S-SUPPLY DUCT; R-RETURN DUCT; E-EXHAUST DUCT; H-H/C WATER PIPING — H / I — RISER NO.
AQUASTAT	
GAS COCK	
BACKFLOW PREVENTOR	BPP
NEW WORK	
EXISTING TO REMAIN	
EXISTING TO BE REMOVED	

ABBREVIATIONS

AAV	AUTOMATIC AIR VENT	MAV	MANUAL AIR VENT
AD	ACCESS DOOR	MBH	BTU PER HOUR (THOUSANDS)
AE	AIR EXTRACTOR	MOD	MOTOR OPERATED DAMPER
AFCV	AUTOMATIC FLOW CONTROL VALVE	MPR	MEDIUM PRESSURE STEAM RETURN
APD	AIR PRESSURE DROP, IN. WG.	MPS	MEDIUM PRESSURE STEAM SUPPLY
AQ	AQUASTAT	MVD	MANUAL VOLUME DAMPER
ATD	AIR TRANSFER DUCT	NC	NOISE CRITERIA
BG	BOTTOM GRILLE		
BHP	BRAKE HORSEPOWER		
BOD	BOTTOM OF DUCT	OED	OPEN END DUCT
BR	BOTTOM REGISTER	OFD	OVERFLOW DRAIN
BTU	BRITISH THERMAL UNIT	OA	OUTSIDE AIR
BTUH	BRITISH THERMAL UNIT/HOUR	OBD	OPPOSED BLADE DAMPER
		OT	OVERRIDE TIMER
CAD	CEILING ACCESS DOOR	OTCP	OPEN TO CEILING PLENUM
CD	CEILING DIFFUSER,CONDENSATE DRAIN		
CFM	CUBIC FEET PER MINUTE		
CG	CEILING GRILLE	PIV	POST INDICATOR VALVE
CO	CLEANOUT	PRV	PRESSURE REDUCING VALVE
CR	CEILING REGISTER	PSI	POUNDS PER SQUARE INCH
CRD	CEILING RADIATION DAMPER		
CW	COLD WATER	RA	RETURN AIR
CWR	CHILLED WATER RETURN	RC	RAIN CONDUCTOR
CWS	CHILLED WATER SUPPLY	RD	ROOF DRAIN
		RH	RELATIVE HUMIDITY
DAD	DUCT ACCESS DOOR	RPM	REVOLUTIONS PER MINUTE
DB	DRY BULB °F , DEGIBEL		
DG	DOOR GRILLE	SA	SUPPLY AIR
DWD	DOUBLE WALLED DUCT	SD	SHOWER DRAIN, SPLITTER DAMPER, STORM DRAIN
EA	EXHAUST AIR		
EAT	ENTERING AIR TEMPERATURE	SDR	SMOKE DAMPER
ESA	EQUIPMENT SERVICE AREA	SMD	SMOKE DETECTOR
EWT	ENTERING WATER TEMPERATURE	SP	STATIC PRESSURE
		SS	SANITARY SEWER
FD	FLOOR DRAIN	S/S	STAINLESS STEEL
FDR	FIRE DAMPER	SV	SERVICE VALVE
FG	FLOOR GRILLE	SW	SWITCH
FR	FROM		
FSDR	FIRE/SMOKE DAMPER	TC	TIME CLOCK
		TEMP	TEMPERATURE
GAL	GALLON	TD	TEMPERATURE DIFFERENTIAL
GPD	GALLONS PER DAY	TG	TOP GRILLE,TRANSFER GRILLE
GPH	GALLONS PER HOUR	TR	TOP REGISTER, TONS OF REFRIGERATION
GPM	GALLONS PER MINUTE	T'STAT	THERMOSTAT
HB	HOSE BIBB	UC	DOOR UNDERCUT
HP	HORSEPOWER		
HPR	HIGH PRESSURE STEAM RETURN	V	VOLT, VENT
HPS	HIGH PRESSURE STEAM SUPPLY	VAC	VACUUM
HW	HOT WATER	VAV	VARIABLE AIR VOLUME
HWR	HEATING/HOT WATER RETURN	VTR	VENT THROUGH ROOF
HWS	HEATING WATER SUPPLY		
HZ	FREQUENCY (CYCLES/SECOND)	W	WASTE, WATTS
		WB	WET BULB, °F
KW	KILOWATT	WG	WATER GAUGE (FEET OR INCHES)
KWH	KILOWATT HOUR	WH	WALL HYDRANT
		WHA	WATER HAMMER ARRESTOR
LAT	LEAVING AIR TEMPERATURE	WPD	WATER PRESSURE DROP, FT. WG.
LB/HR	POUNDS PER HOUR	WS	WATER STOP
LD	LINEAR DIFFUSER	WTD	WATER TEMPERATURE DROP, °F
LG	LINEAR GRILLE	WTR	WATER TEMPERATURE RISE, °F
LR	LINEAR RETURN	WWM	WOVEN WIRE MESH
LWT	LEAVING WATER TEMPERATURE	Z	ZONE

THESE SYMBOLS AND ABBREVIATIONS ARE MECHANICAL DEPARTMENT STANDARDS AND MAY NOT NECESSARILY BE APPLICABLE TO OR APPEAR ON THESE DRAWINGS. HOWEVER, WHEREVER THESE SYMBOLS DO OCCUR ON THE DRAWINGS, THE ITEM SHALL BE PROVIDED AND INSTALLED. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL SYMBOLS AND ABBREVIATIONS.

HVAC LEGEND

FAN POWERED AIR TERMINAL UNITS :

MARK	INLET DIA., IN.	PRIMARY AIR, CFM MAX.	PRIMARY AIR, CFM MIN.	MAX. INLET SP, IN.	FAN CFM	FAN HP	FAN ESP	HEATING COIL MBH	HEATING COIL GPM	HEATING COIL WPD	ARRANGEMENT
FPU-1	10	900	300	Ø.21	900	Ø.5	Ø.3	24.1	1.9	1.0	SERIES
FPU-2	10	900	300	Ø.21	900	Ø.5	Ø.3	24.1	1.9	1.0	SERIES
FPU-3	10	700	235	Ø.20	700	Ø.33	Ø.3	26.8	1.8	1.0	SERIES
FPU-4	8	640	245	Ø.30	640	Ø.33	Ø.3	25.4	1.7	1.0	SERIES
FPU-5	8	470	145	Ø.15	470	Ø.33	Ø.3	20.6	1.4	1.0	SERIES
FPU-6	5	200	150	Ø.10	200	Ø.125	Ø.3	10.2	Ø.7	1.0	SERIES
FPU-7	5	230	100	Ø.05	230	Ø.125	Ø.3	11.1	Ø.8	1.0	SERIES
FPU-8	8	585	200	Ø.25	585	Ø.333	Ø.3	23.3	1.6	1.0	SERIES
FPU-9	8	625	225	Ø.25	625	Ø.333	Ø.3	24.1	1.7	1.0	SERIES
FPU-10	8	625	225	Ø.25	625	Ø.333	Ø.3	24.1	1.7	1.0	SERIES
FPU-11	5	140	100	Ø.10	140	Ø.125	Ø.3	9.7	Ø.7	1.0	SERIES
FPU-12	5	200	150	Ø.10	200	Ø.125	Ø.3	10.2	Ø.7	1.0	SERIES
FPU-13	6	300	100	Ø.10	300	Ø.125	Ø.3	11.7	Ø.8	1.0	SERIES
FPU-14	5	200	150	Ø.10	200	Ø.125	Ø.3	10.2	Ø.7	1.0	SERIES
FPU-15	6	300	100	Ø.10	300	Ø.125	Ø.3	11.7	Ø.8	1.0	SERIES
FPU-16	6	300	100	Ø.10	300	Ø.125	Ø.3	11.7	Ø.8	1.0	SERIES
FPU-17	6	300	100	Ø.10	300	Ø.125	Ø.3	11.7	Ø.8	1.0	SERIES
FPU-18	6	250	100	Ø.10	250	Ø.125	Ø.3	11.7	Ø.8	1.0	SERIES
FPU-19	5	200	150	Ø.10	200	Ø.125	Ø.3	10.2	Ø.7	1.0	SERIES

NOTE:
1. VOLTAGE/PHASE = 277/1.

AIR TERMINAL UNITS :

MARK	INLET DIA., IN.	SUPPLY AIR, CFM MAX.	SUPPLY AIR, CFM MIN.	MAX. INLET SP, IN.	HEATING MBH	HEATING GPM	TYPE
ATU-1	4	100	100	Ø.Ø2	5.1	Ø.5	CAV
ATU-2	4	100	100	Ø.Ø2	5.1	Ø.5	CAV
ATU-3	4	100	100	Ø.Ø2	5.1	Ø.5	CAV

NOTES:
1. CAPACITIES BASED ON: 180°F ENT, 55°F EAT, 1.5 FT. WPD.
2. ALL COIL RUNOUTS 3/4" EXCEPT WHERE NOTED OTHERWISE.
3. TYPES: CONSTANT AIR VOLUME (CAV) OR VARIABLE AIR VOLUME (VAV).

EXPANSION TANKS :

MARK	SYSTEM	TANK STORAGE CAPACITY, GAL.	MIN. ACCEPT. CAPACITY, GAL.	TANK DIMENSION IN. HEIGHT	TANK DIMENSION IN. DIAMETER
ET-C	COOLING WTR	7.8	2.5	20.0	12
ET-H	HEATING WTR	21.7	11.3	29.5	16.25

FANS :

MARK	SYSTEM	ACTUAL CFM	SP IN. WG	MAXIMUM TIP SPEED-FPM	HP	DRIVE	TYPE
F-1	MISC EXHAUST	250	Ø.25	2850	Ø.161	DIRECT	ILC
F-2	MISC EXHAUST	225	Ø.25	2730	Ø.161	DIRECT	ILC
F-3	MISC EXHAUST	450	Ø.25	3640	Ø.161	DIRECT	ILC
RF-1	AHU-1 RETURN FAN	6600	Ø.75	1560	3.0	BELT	SWSI

NOTES:
1. VOLTAGE/PHASE: FANS F-1, F-2, F-3 = 120/1; RF-1 = 480/3.
2. FAN TYPES: ILC = INLINE CENTRIFUGAL; SWSI = SINGLE WIDTH SINGLE INLET CENTRIFUGAL

ROOF VENTS :

MARK	LOCATION	SERVICE	CFM	MAX SP IN. H2O	THROAT FREE AREA SQ. FT.
RV-1	SEE PLANS	EXHAUST	800	Ø.10	1.12
RV-2	SEE PLANS	INTAKE	1000	Ø.10	1.45

AIR COOLED SCROLL CHILLER :

MARK	TONS	COMPRESSOR INPUT, KW	EVAPORATOR GPM	EVAPORATOR MAX. PD, FT.	EVAPORATOR LWT°F	MINIMUM CAPACITY %
ACC-1	48.4	53.9	90	8.0	43.0	25

NOTE:
1. VOLTAGE/PHASE = 480/3.
2. UNIT SHALL OPERATE DOWN TO MINIMUM FLOW OF 60.0 GPM.

FAN COIL UNIT :

MARK	NOM. CFM	FAN HP(WATTS)	COOLING COIL CAPACITY, MBH TOTAL	COOLING COIL SENS.	COOLING COIL GPM	COOLING COIL MAX. WPD, FT.	COOLING COIL RUNOUT IN.	HEATING COIL CAP. MBH	HEATING COIL GPM	HEATING COIL MAX WPD, FT.	HEATING COIL RUNOUT IN.
FC-1	1060	(430)	19.9	14.7	3.5	3.6	1.0	35.8	1.4	11.1	Ø.75
FC-2	420	(220)	33.4	22.4	5.6	9.7	1.0	---	---	---	---

NOTES:
1. COOLING CAPACITIES BASED ON 75°F DB, 63°F WB EAT, 45°F ENT.
2. HEATING CAPACITIES BASED ON 180°F ENT AND 70°F EAT.
3. ALL CONDENSATE DRAIN LINES SHALL BE 3/4" UNLESS OTHERWISE INDICATED.
4. VOLTAGE/PHASE = 120/1.

SPLIT SYSTEM AIR CONDITIONING UNITS :

MARK	AC-1	AC-2
SERVES	TELECOM	ELEV EQUIP
SUPPLY FAN		
TOTAL AIR, CFM	520	520
OUTSIDE AIR, CFM	---	---
EXT. STATIC PRESS., IN. WG.	---	---
MAXIMUM HORSEPOWER	---	---
COOLING COIL		
TOTAL, MBH	17.5	17.5
SEER	20.0	20.0
ELECTRICAL (VOLTAGE/PHASE)	208/1	208/1
AMPS	7.1	7.1

NOTES:
1. COOLING CAPACITIES BASED ON 95°F OAT.
2. PROVIDE INDOOR UNITS WITH INTEGRAL CONDENSATE PUMP. PIPE DISCHARGE TO LOCATIONS AS SHOWN ON PLANS.

DIFFUSERS, REGISTERS, AND GRILLES :

MARK	LOCATION USED	SERVICE	FRAME STYLE	DESCRIPTION
CD	SEE PLANS	SUPPLY	LAY-IN	ALUMINUM, PERFORATED FACE W/ SQUARE NECK AND 24x24 MODULE, W/OBD
CD-R	SEE PLANS	RETURN	LAY-IN	ALUMINUM, PERFORATED FACE W/ SQUARE NECK AND 24x24 MODULE
CR	SEE PLANS	RET/EXH	SURFACE	EXTRUDED ALUMINUM W/HORIZONTAL VANES, W/OBD
LSD	SEE PLANS	SUPPLY	SURFACE	ALUMINUM LINEAR SLOT DIFFUSER W/INSULATED PLENUM

NOTES:
1. SEE FLOOR PLANS FOR AIR PATTERN DIRECTIONS.
2. ALL DIFFUSERS, REGISTERS & GRILLES SHALL BE FURNISHED WITH WHITE FINISH.

CONDENSATE RETURN PUMP:

MARK	RECEIVER CAPACITY, GAL.	NO. OF PUMPS	GPM	DISCH. PRESS. PSIG	RPM	HP	VOLTAGE/PHASE
CDP-1	13.5	2	9.0	40.0	3450	1.0	480/3

WALL HEATER :

MARK	HEATING CAPACITY KW	HEATING CAPACITY MBH	VOLTAGE/ PHASE
WH-1	4.0	13.6	277/1

NOTES:
1. MOUNT HEATER 12" ABOVE FINISH FLOOR TO BOTTOM OF UNIT.
2. THE SYMBOLS (R) AND (S) AFTER UNIT MARK INDICATE RECESSED OR SURFACE MOUNTED UNIT.

CONVERTOR :

MARK	GPM	WATER TEMP, °F IN.	WATER TEMP, °F OUT	MAXIMUM WPD, FT.	STEAM INPUT LB/HR	STEAM INPUT PRESS. @ VALVEPSIG
C-1	80	150	180	1.0	1270	15.0

NOTES:
1. CAPACITIES BASED ON Ø.Ø1 FOULING FACTOR.

PUMPS :

MARK	SYSTEM	GPM	HEAD, FT. WG.	HP	SIZE	TYPE
HWP-1 (3)	HEATING	80	65	5.0	2x2x9½	ILC
CWP-1 (3)	COOLING	90	70	5.0	2BC	BMC

NOTES:
1. VOLTAGE/PHASE = 480/3.
2. PUMP TYPES: ILC = INLINE CENTRIFUGAL, BMC = BASE MOUNTED CENTRIFUGAL
3. TWO PUMPS REQUIRED. PUMP RPM = 1750.

AIR SEPARATORS :

MARK	LOCATION	GPM	INLET/OUTLET SIZE,IN.	MAXIMUM WPD, FT.	PERCENT AIR ELIMINATION	BUILT-IN STRAINER
AS-C	MECH - 6102	90	3/3	Ø.5	92	NO
AS-H	MECH - 6102	80	3/3	Ø.4	95	NO

AIR HANDLING UNIT :

MARK	AHU-1
SUPPLY FAN	
TOTAL AIR, CFM	7100
OUTSIDE AIR, CFM	1050
EXT. STATIC PRESS., IN. WG.	2.5
MAXIMUM HORSEPOWER	10.0
PREHEAT COIL	
CAPACITY, MBH	165.1
EAT, °F	62.2
MAXIMUM APD, IN.	Ø.Ø6
GPM	11.0
MAXIMUM WPD, FT.	Ø.4
RUNOUTS, IN.	1.25
COOLING COIL	
TOTAL, MBH	250.4
SENSIBLE, MBH	182.9
EAT, °DB	77.2
°WB	64.9
LAT, °DB	53.0
°WB	52.9
MAXIMUM APD, IN.	Ø.10
GPM	41.6 (4)
MAXIMUM WPD, FT.	3.6
RUNOUTS, IN.	2.5
FILTERS, TYPE	2" PLEATED MEDIA/18" BAG
EFFICIENCY, MERV	8/13

NOTES:
1. CAPACITIES BASED ON: COOLING: 45°F ENT, 12°F WTR, 500 FPM MAXIMUM FACE VELOCITY; HEATING: 180°F ENT, 30°F WTD.
2. SUPPLY FAN EXTERNAL PRESSURE INCLUDES FILTER LOADING.
3. VOLTAGE/PHASE = 480/3.
4. PROVIDE AUTOMATIC FLOW CONTROL VALVE (AFCV) SET FOR 60 GPM FOR INITIAL OPERATION WITHOUT FUTURE LOAD. AFCV TO BE REPLACED FOR DESIGN FLOW AFTER FUTURE BUILDING ADDITION.

GENERAL NOTES

1. FOR GENERAL ABBREVIATIONS, SEE SHEET A0.0.
2. DUCTWORK INSTALLATION, CONNECTIONS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST APPLICABLE SMACNA STANDARDS.
3. EQUIPMENT INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
4. DUCT DIMENSIONS INDICATED ARE ACTUAL SHEET METAL SIZES. (WHERE ACOUSTIC LINING IS INDICATED (IF SHOWN), THE DUCT SIZES WERE ADJUSTED TO COMPENSATE FOR THE LINING).
5. DUCTWORK AND PIPING LAYOUTS ARE SCHEMATIC. ALL DROPS, RISES, OR OFFSETS REQUIRED BUT NOT SHOWN SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
6. DUCT CONNECTIONS TO SIDE WALL OR DUCT MOUNTED REGISTERS AND GRILLES SHALL BE WITH RIGID DUCT. DUCT CONNECTIONS TO CEILING-MOUNTED DIFFUSERS, REGISTERS, AND GRILLES MAY BE WITH RIGID OR FLEXIBLE DUCT (CONTRACTOR OPTION). PROVIDE ELBOWS AND TRANSITION SECTIONS AS REQUIRED TO ELIMINATE CRIMPING FLEXIBLE DUCT SECTIONS. PROVIDE SMOOTH BENDS IN FLEXIBLE DUCT SECTIONS.
7. DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING PRESSURE CLASSIFICATIONS, AND SHALL BE SEALED IN ACCORDANCE WITH SMACNA SEAL CLASS "A". VAV UNIT AHU-1 SUPPLY: +4" ALL OTHER SUPPLY DOWNSTREAM OF AIR TERMINAL UNITS, RETURN AND EXHAUST: ± 1"
8. DUCT CONNECTIONS TO ALL AIR HANDLING UNITS, INCLUDING FAN POWERED AIR TERMINAL UNITS, ETC, SHALL BE MADE USING FLEXIBLE DUCT CONNECTION. ALSO, PROVIDE FLEXIBLE DUCT CONNECTIONS WHERE DUCTWORK CROSSES BUILDING EXPANSION JOINTS.
9. LOCATE CEILING AIR DIFFUSERS, REGISTERS AND GRILLES IN THE CENTER OF 2'x2' AND AT THE QUARTER POINT OF 2' X 4' ACOUSTICAL TILE CEILING MODULES UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE ARCHITECTURAL REFLECTED CEILING PLANS.
10. PIPING AND EQUIPMENT HANGERS SHALL BE SPACED IN A SYSTEMATIC RANDOM PATTERN AS REQUIRED TO ELIMINATE OVERLOADING INDIVIDUAL STRUCTURAL MEMBERS. THE ESTIMATED WEIGHT ASSIGNED TO PIPE AND EQUIPMENT HANGERS SHALL BE DETERMINED BY THE MECHANICAL CONTRACTOR AND SUBMITTED TO THE GENERAL CONTRACTOR FOR REVIEW, COORDINATION AND APPROVAL PRIOR TO INSTALLATION. THIS REQUIREMENT APPLIES TO ALL MECHANICAL WORK, INCLUDING PLUMBING AND FIRE PROTECTION.
11. HEATING/COOLING DESIGN CONDITIONS: BECKLEY, WV
    WINTER - 6°F OAT, 75°F INDOORS
    SUMMER - 92° DB/75° WB OAT; 75°F, 50% RH INDOORS.
12. ALL PIPE AND DUCT PENETRATIONS THRU FIRE-RATED WALLS OR FLOOR ASSEMBLIES, SHALL BE IN ACCORDANCE WITH AN APPROVED UL AND FIRESTOP SYSTEM FOR THE CONDITIONS ENCOUNTERED AS DEFINED IN THE UL BUILDING MATERIALS DIRECTORY.
13. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATED WALLS AND FLOOR ASSEMBLIES. WHERE DUCTWORK PENETRATES A RATED ASSEMBLY HAVING A RATING GREATER THAN 1 HOUR, A UL LISTED FIRE DAMPER WILL BE REQUIRED. USE APPROVED FIRE CAULK WHERE PIPING PENETRATES RATED ASSEMBLIES.
14. FIRE DAMPERS LOCATED IN FIRE RATED ASSEMBLIES ARE ADDRESSED ON THESE DRAWINGS IN THE DIRECTION OF ENTERING AIRFLOW.

SCHEDULES

Revisions:	Date

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Drawing Title: LEGEND, ABBREVIATIONS AND EQUIPMENT SCHEDULES - HVAC	Project Title: Adult Day Care Building; VA Medical Center; Comm No. 10110.00	Project Number: VA246-P-0568	Office of Construction and Facilities Management
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