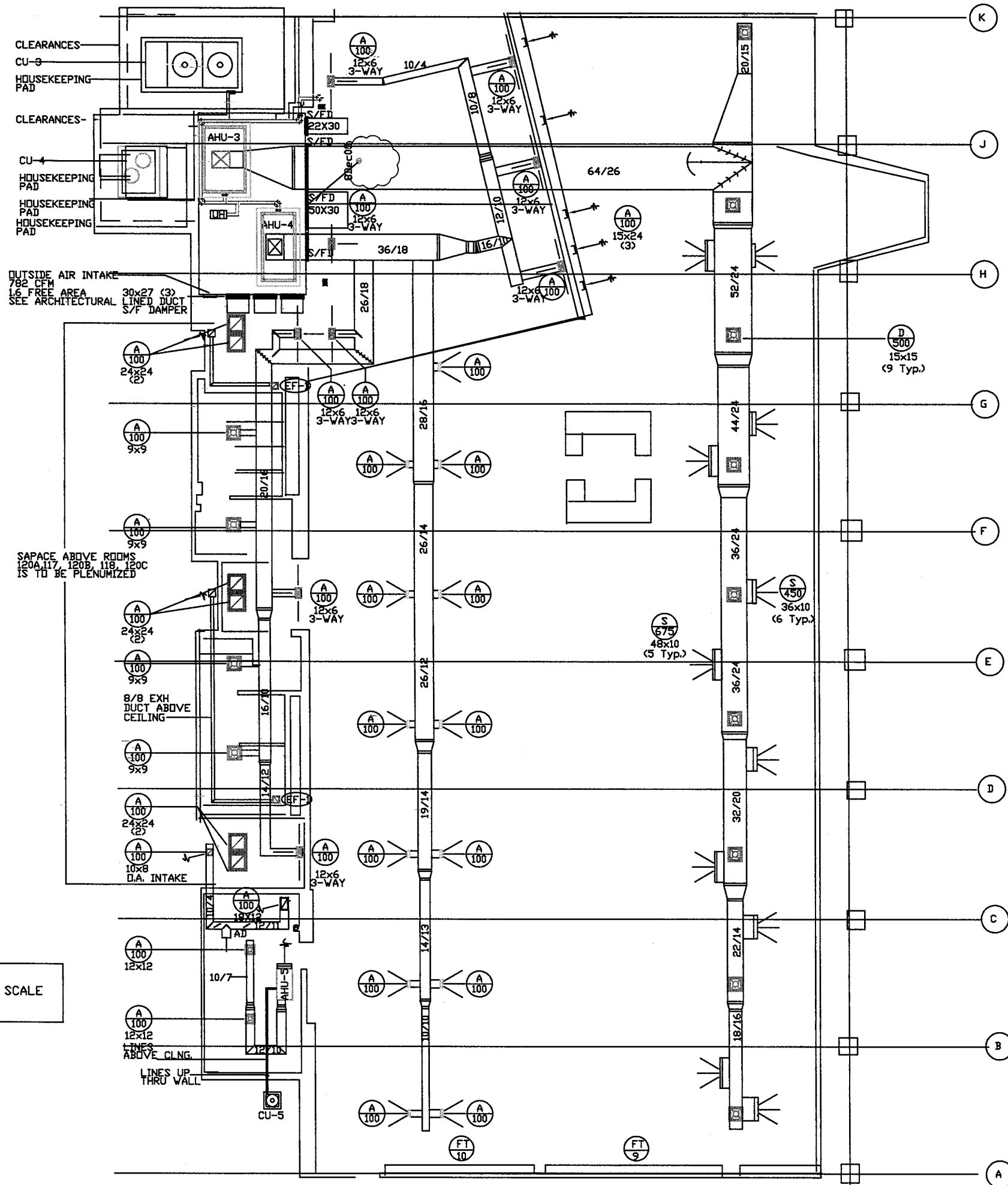


NOTE: ALL DUCT DIMENSIONS ARE INSIDE, CLEAR OPENING.  
DUCT SHALL BE LINED W/1' FIBERGLASS DUCT LINER.  
INCREASE OUTSIDE DIMENSIONS ACCORDINGLY.

NOTE: DRAWING NOT TO SCALE



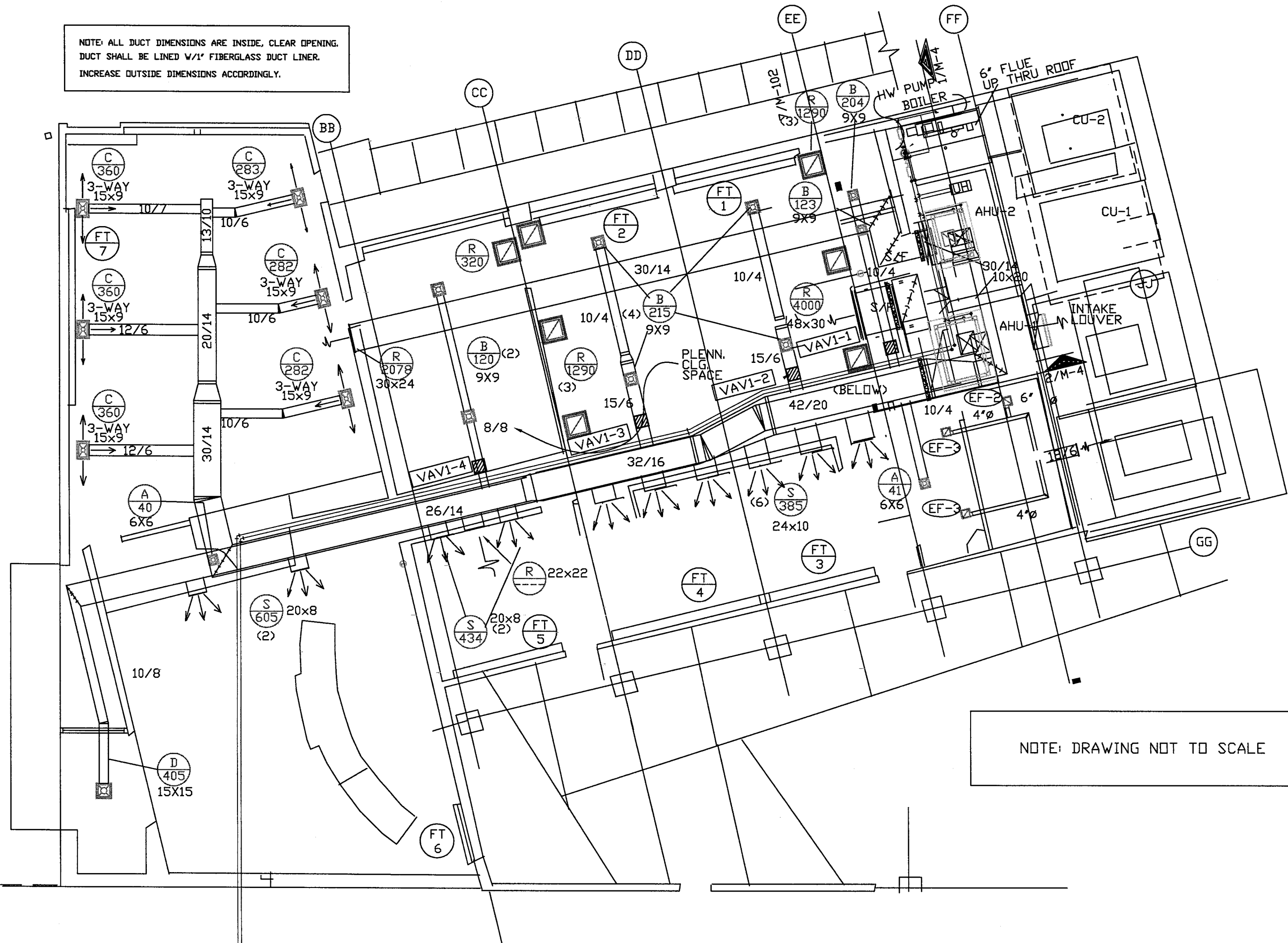
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NOTE: ALL DUCT DIMENSIONS ARE INSIDE, CLEAR OPENING.  
 DUCT SHALL BE LINED W/1" FIBERGLASS DUCT LINER.  
 INCREASE OUTSIDE DIMENSIONS ACCORDINGLY.



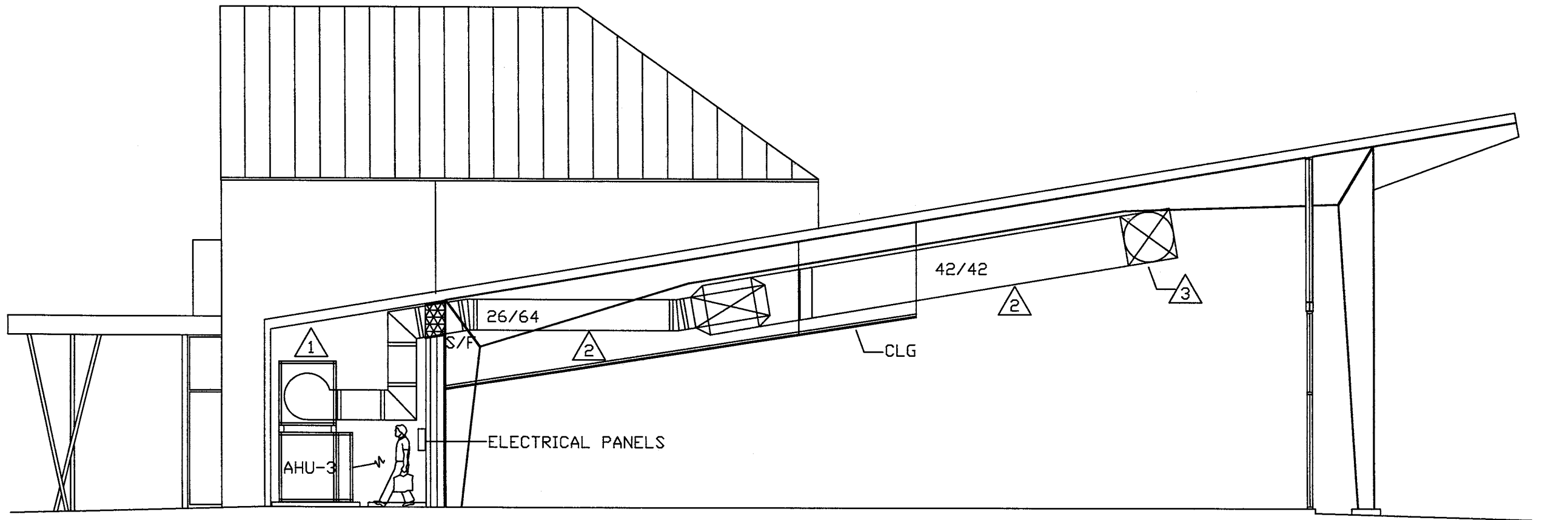
NOTE: DRAWING NOT TO SCALE

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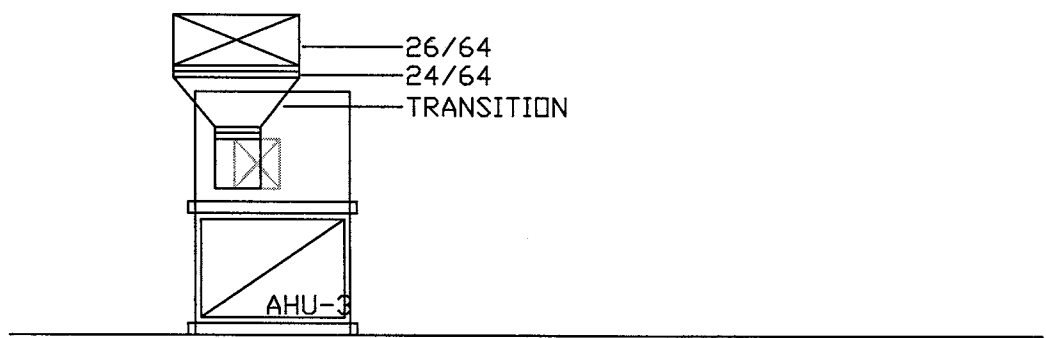
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① MECHANICAL ROOM SECTION  
NO SCALE



② MECHANICAL ROOM SECTION  
NO SCALE

-NOTE: NOT TO SCALE

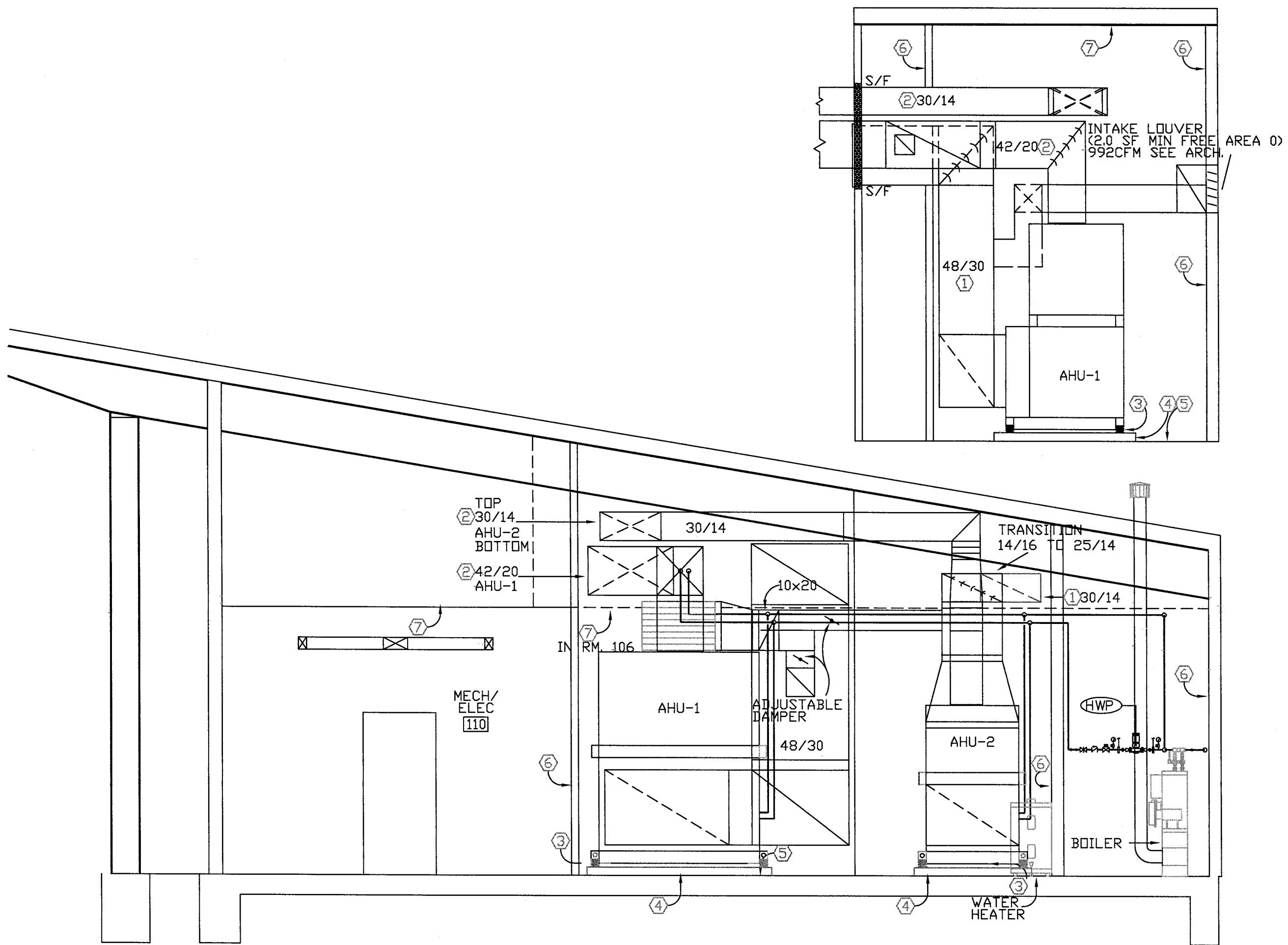
- ① PROVIDE VERTICAL UNIT WITH BOTTOM HORIZONTAL DISCHARGE
- ② REROUTE & RESIZE DUCTWORK AS SHOWN AND REQUIRED
- ③ CHANGE PERIMETER DUCT FROM RECTANGULAR TO ROUND
- ④ COORDINATE LAYOUT & INSTALLATION WITH OTHER DISCIPLINES AND COMPLY WITH WORKING AND CODE REQUIREMENTS

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### AIR HANDLING UNIT SCHEDULE

MARK	(AHU-1)	(AHU-2)	(AHU-3)	(AHU-4)	(AHU-5)	
DESCRIPTION	-	-	-	-	-	
TOTAL CFM	8064	1927	10562	6174	525	
D.A. CFM (MIN-MAX)	542	450	332	450	180	
AREA SERVED	ADMIN AREA	MYG RM 103	NE STACK AREA	SW STACK AREA	MTG RM 119	
EXT. S.P. #	1.75	1.75	2.00	2.00	1.25	
COOLING COIL	TYPE	DX	DX	DX	DX	
	EDB (*F)	76.12	80.87	76.02	77.03	86.39
	LVB (*F)	63.19	65.84	62.89	63.54	68.95
	MAX FACE VEL (FPM)	510	510	510	510	-
	AIR P.D.(IN)	.80	.80	.80	.80	-
	MIN. MBH TOTAL	198.8	71.9	249.6	163.4	16.6
	MIN. MBH SENS.	182.1	53.1	237.5	145.4	12.8
FAN	MAX RPM	896	1434	746	1078	-
	FAN MOTOR H.P. (MAX)	7.5	3.0	15	7.5	-
(VOLT/PHASE)	208/3	208/3	208/3	208/3	208/1	
HEATING COIL	TYPE	HOT WATER	HOT WATER	HOT WATER	HOT WATER	ELECTRIC
	ENT AIR (F)	65.6	42	71.58	61.57	-
	MIN. MBH	88.5	35.0	87.8	57.0	11.5
	COIL FLOW GPM	8.8	3.5	8.8	5.7	-
	ELEC. VOLT/PH	-	-	-	-	208/1
KW	-	-	-	-	5	
REFERENCE	39L SIZE 18	39L SIZE 6	39L SIZE 25	39L SIZE 15	FA4ANF018	
MFG.	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	
WT. OF UNIT (LB)	799	322	943	713	92	
SIZE L-W-H	41' - 65' - 85'	25' - 46' - 53'	49' - 77' - 101'	37' - 65' - 77' 42"	11/16' - 22-1/16' - 14-5/16'	

\* EXTERNAL STATIC PRESSURE INCLUDES SYSTEM LOSSES ONLY, AND EXCLUDES LOSSES DUE TO ITEMS IN UNIT ITSELF (COILS, CASINGS, DAMPERS, CLEAN FILTERS, ETC.)

NOTES:

1. PROVIDE WITH THROWAWAY FILTERS.
2. PROVIDE WITH SINGLE POWER POINT.
3. PROVIDE WITH THERMOSTAT, REFER TO "GENERAL MECHANICAL NOTES".
4. PROVIDE PROPER DRAINAGE FROM UNIT.
5. FILTERS SHALL BE FARR 30/30 PLEATED TYPE WITH ASHRAE EFFIC. OF 30%, MAX. INT. SP. .25.
6. TOTAL AMPERAGE IS FOR SINGLE - POINT CONNECTION OR ELECTRIC HEAT STRIP AND AIR HANDLER
7. PROVIDE SPRING TYPE VIBRATION ISOLATOR VMC CE-121 OR EQUAL.

### VAV TERMINAL SCHEDULE

VAV DESIGNATION	MANUFACTURER	MAXIMUM AIRFLOW (CFM)	MAXIMUM AIRFLOW (CFM)	INLET SIZE	PRESSURE DROP (IN. W.C.)
VAV 1-1	TITUS	327	0	8"	0.15"
VAV 1-2	TITUS	430	0	8"	0.26
VAV 1-3	TITUS	430	0	8"	0.26
VAV 1-4	TITUS	240	0	6"	0.21

NOTE: ALL VAV TERMINALS SHALL BE COOLING ONLY, BYPASS TYPE BOXES.

### FAN SCHEDULE

MARK	TYPE	MANUFACTURER AND MODEL	SERVICE	CFM	S.P. (\" W.G.)	WATTS	V/PH	MAX. SONES	DRIVE	CONTROL	NOTES
(F1)	CEILING	BREIDERT BF 200T	RM 108	150	.1	115W	120/1	6.0	DIRECT	BALANCE TO 150 CFM	ALL
(F2)	CEILING	BREIDERT BF 100S	RM 107	100	.1	80W	120/1	6.0	DIRECT	BALANCE TO 85 CFM	ALL
(F3)	CEILING	BREIDERT BF 100S	RM 110	100	.1	80W	120/1	6.0	DIRECT	BALANCE TO 50 CFM	ALL

NOTES: 1. PROVIDE WITH BACKDRAFT DAMPER, ROOF CAP, BIRD SCREEN AND TRANSITION DUCT AS REQUIRED.

2. PROVIDE WITH METAL CEILING GRILLE.
3. PROVIDE ELECTRONIC SPEED CONTROL FOR AIR BALANCE. MOUNT SWITCH ABOVE CLG. OUTSIDE OF FAN.
4. PROVIDE INTERLOCK WITH ROOM LIGHTS.

### BOILER SCHEDULE

MARK	(BLR-)
TYPE	FULLY CONDENSING
SERVICE	HEATING
MAX. PRESS (PSI)	160
MIN. OUTPUT (MBH)	322
MAX. INPUT (MBH)	395
MOTOR H.P.	-
PRESS DROP FT H2O	70
VOLTS - PHASE	120 VOLT- SINGLE PHASE
GAS	NATURAL GAS
FLUE	6" DIA
EMISSION LEVEL:	CO LESS THAN 100 PPM, NOX LESS THAN 15PPM
MINIMUM EFFICIENCY	95.6% @ 80F INLET, 108F OUTLET
REF:	GMI 400
MFG.	GASMASTER INDUSTRIES INC.
WEIGHT. Lbs.	378

NOTES:

1. MAKE UP WATER PRESSURE REDUCING VALVE SHALL BE SET TO DELIVER 25 PSIG WATER PRESSURE TO SYSTEM AND RELIEF VALVE SHALL BE SET AT 75 PSIG.
2. BOILER TO BE PROVIDED WITH GAS TRAIN WHICH WILL OPERATE WITH A NATURAL GAS INLET PRESSURE OF 7-14" W.C.
3. BOILER SHALL BE TESTED & APPROVED BY THE STATE OF TEXAS PRIOR TO ACCEPTANCE.

### AIR DEVICE SCHEDULE

MARK	SIZE	DESCRIPTION	CFM RANGE
A	6"x6"	CEILING DIFFUSER	≤ 100
B	9"x9"	CEILING DIFFUSER	≤ 225
C	12"x12"	CEILING DIFFUSER	≤ 400
D	15"x15"	CEILING DIFFUSER	≤ 750
S	AS LISTED	SIDEWALL REGISTER	AS LISTED
R	AS LISTED	RETURN REGISTER	AS LISTED
L	AS LISTED	LINEAR GRILL	AS LISTED

NOTES:

1. ALL AIR DEVICES TO BE TITUS.
2. TYPES "S&R" HAVE A ROTATING VANE BALANCING FACTOR OF 0.81 FT<sup>2</sup> / FT<sup>2</sup> WITH FRONT LOUVERS @ 22 1/2" DEFLECTION.

### PUMP SCHEDULE

MARK	(P1)	(P2)
SERVICE	HOT WATER	HOT WATER
TYPE	IN LINE	IN LINE
DESIGN HEAD (FT)	78	30
SIZE (IN)	8.75	5.80
MIN. EFFICIENCY (%)	30	40
SHUT-OFF HEAD (FT)		
CAPACITY (GPM)	33	3.0
MOTOR SIZE (HP)	3	1/2 HP
MOTOR SPEED (RPM)	1760	1760
VOLTS-PHASE	208/3	120/1
STARTER DATA		
REF:	VL-2095	C4S
MFG:	PACO	PACO
NOTES:	1,2,3	ALTERNATE BID #1

1. PROVIDE PIPE SUPPORT AS REQUIRED.
2. PROVIDE VIBRATION ISOLATION AS REQUIRED.
3. PROVIDE W/STARTER: SIZE AS REQUIRED BY MOTOR

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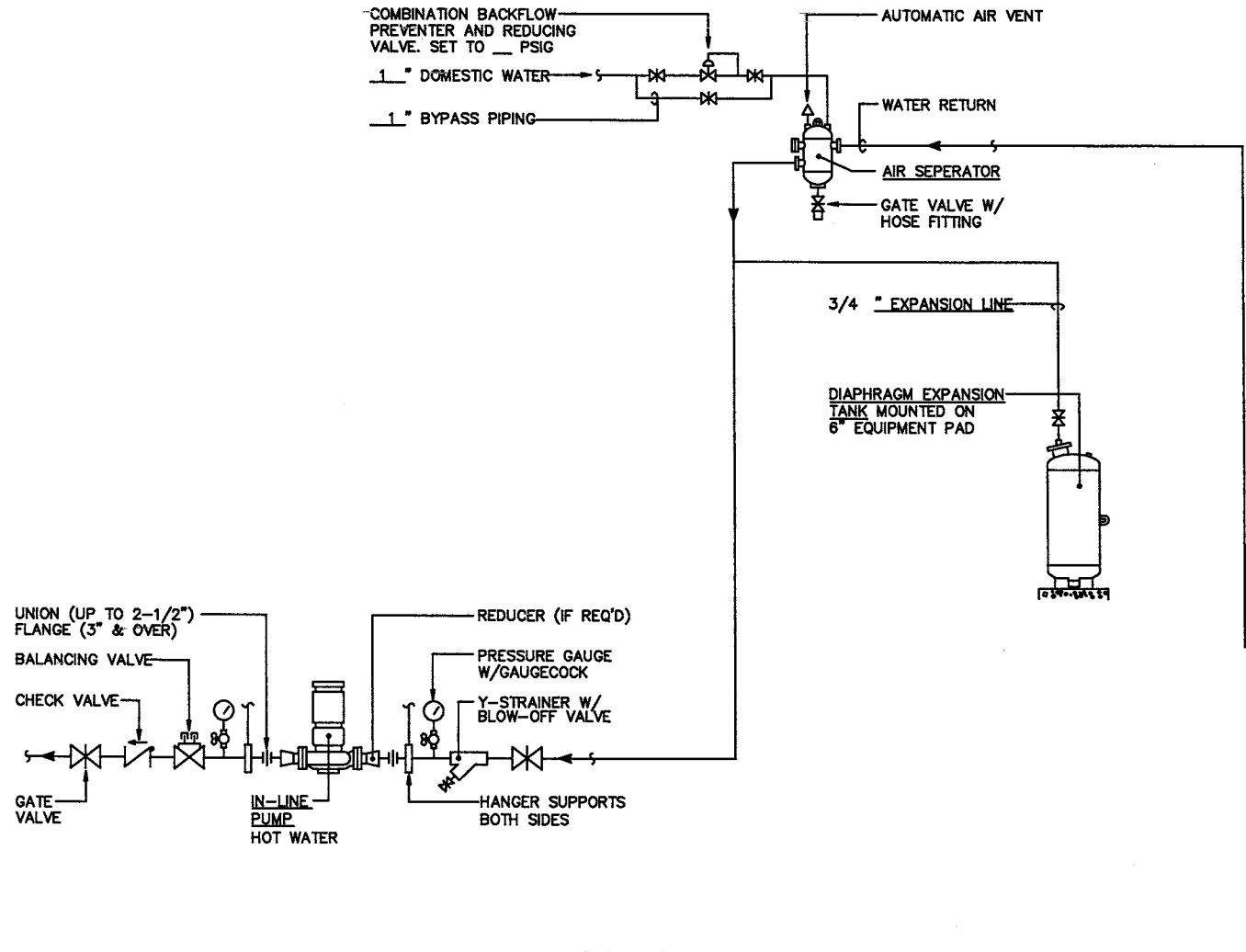
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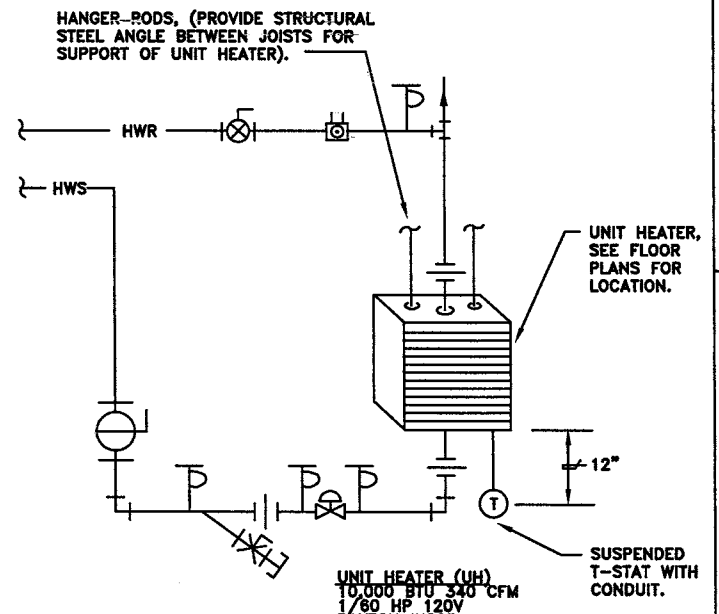
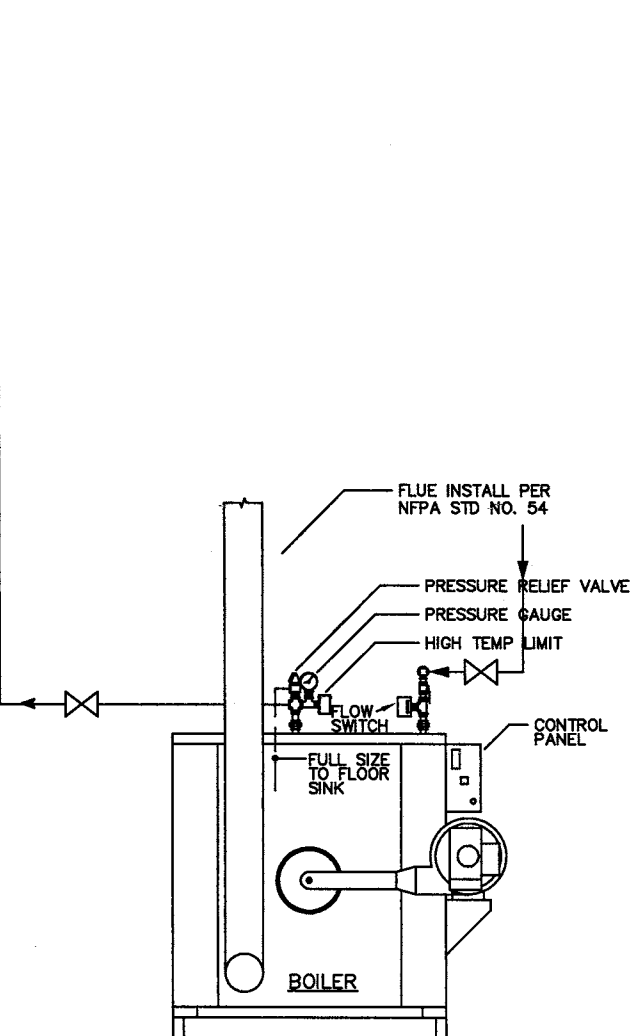
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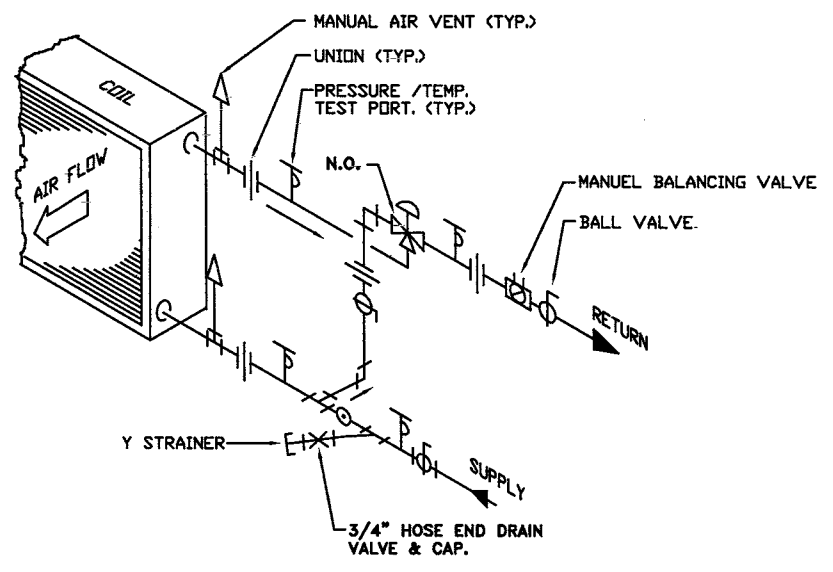
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6 CONNECTION DTL NOT TO SCALE

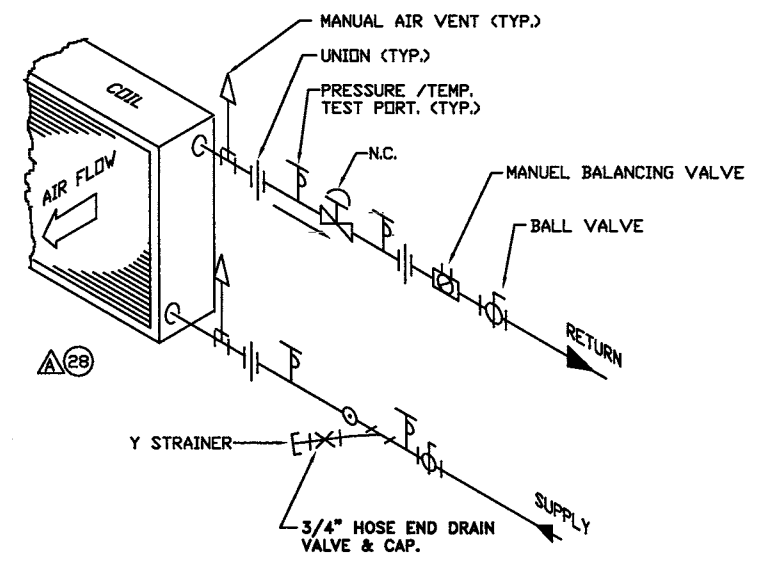


2 HOT WATER UNIT HEATER DETAIL NOT TO SCALE



NOTE:  
SEE PLAN FOR MAIN PIPE SIZE  
COIL CONNECTIONS TO BE FULL  
SIZE PIPE ALL COILS FOR COUNTER  
FLOW WATER-TO AIR HEAT EXCHANGE.

3 NORMALLY OPEN 3-WAY VALVE - HOT WATER COIL DETAIL NOT TO SCALE



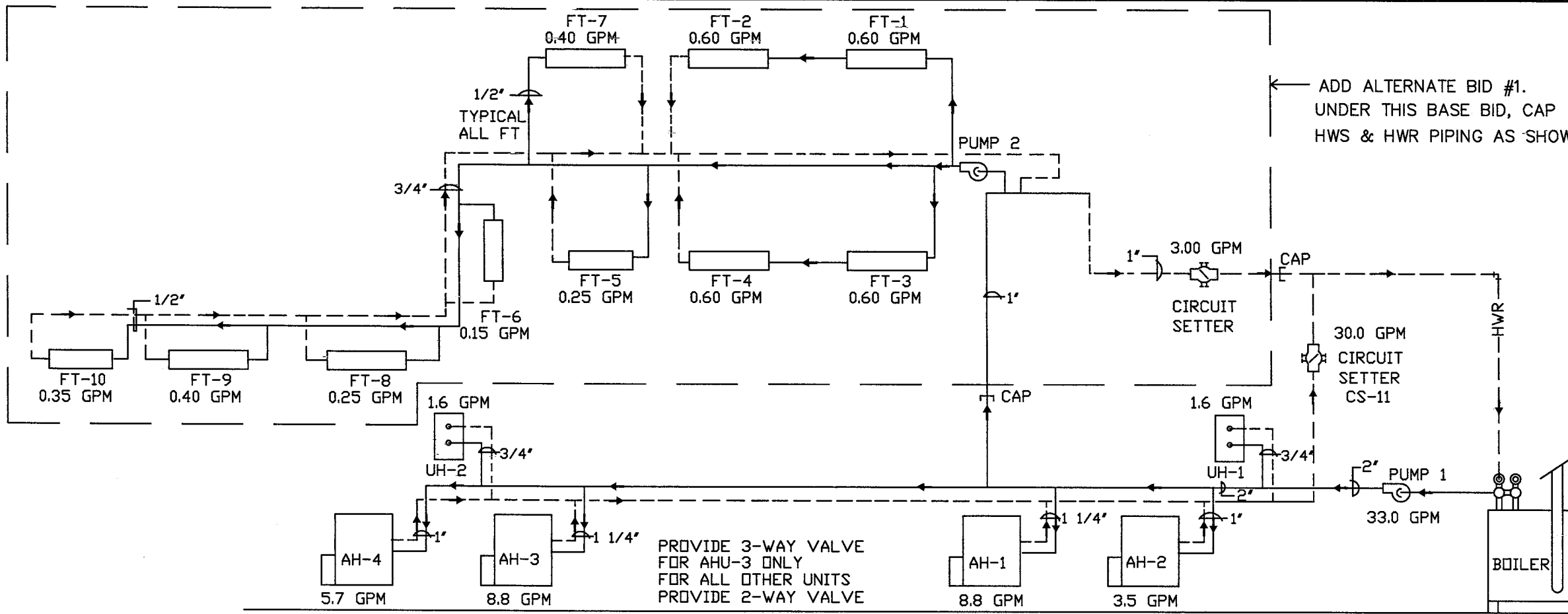
NOTE:  
SEE PLAN FOR MAIN PIPE SIZE  
COIL CONNECTIONS TO BE FULL  
SIZE PIPE ALL COILS FOR COUNTER  
FLOW WATER-TO AIR HEAT EXCHANGE.

4 2-WAY VALVE COIL DETAIL NOT TO SCALE

BALANCE VALVE SCHEDULE		
VALVE SIZE	MFGR	MODEL #
1/2"	B&G	CS050
3/4"	B&G	CS075
1"	B&G	CS100
1 1/4"	B&G	CS125
1 1/2"	B&G	CS150
2"	B&G	CS200

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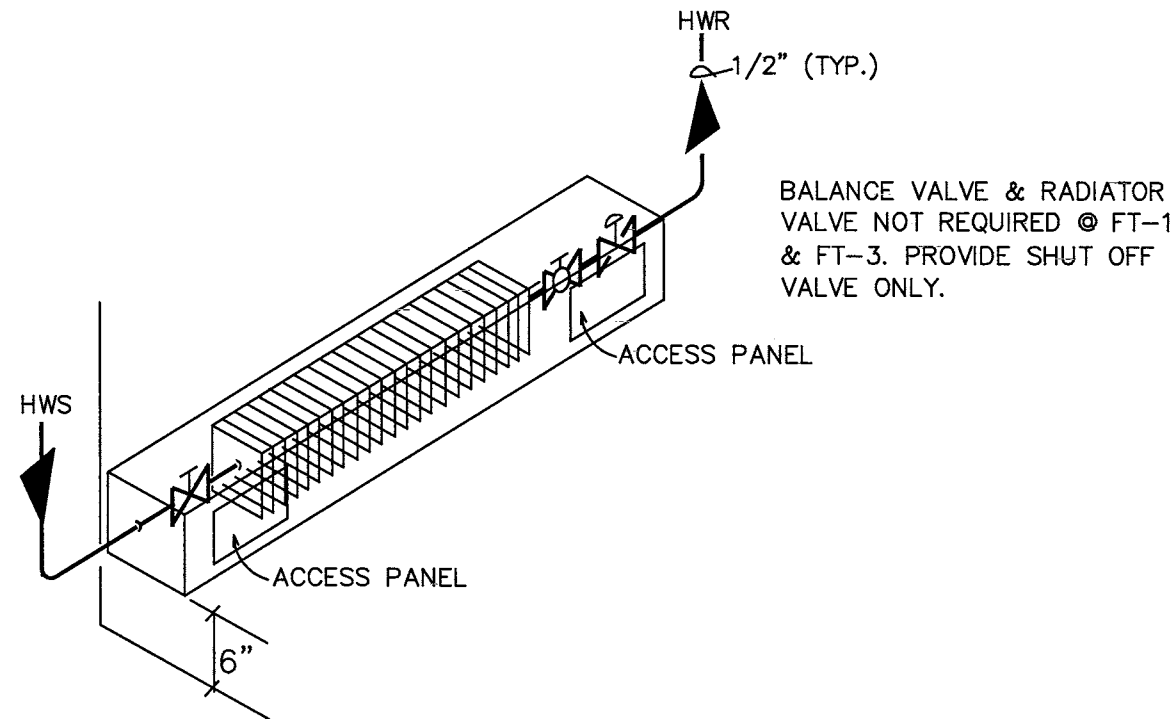
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1 PIPING SCHEMATIC  
NOT TO SCALE

FINNED TUBE RADIATION SCHEDULE						
PLAN MARK	HTG. CAP (MBH)	ELEMENT SIZE	ENCLOSURE LENGTH (2)	TRIM	FLOW (GPM)	COLOR
FT-1	3.0	6'-0"	12'-0"	END CAP	0.60	NOTE 5
FT-2	3.0	6'-0"	12'-0"	END CAP	0.60	NOTE 5
FT-3	2.5	5'-0"	10'-0"	END CAP	0.60	NOTE 5
FT-4	3.5	7'-0"	14'-0"	END CAP	0.60	NOTE 5
FT-5	2.5	5'-0"	10'-0"	END CAP	0.25	NOTE 5
FT-6	1.5	3'-0"	6'-0"	END CAP	0.15	NOTE 5
FT-7	4.0	8'-0"	16'-0"	END CAP	0.40	NOTE 5
FT-8	2.5	6'-0"	12'-0"	END CAP	0.25	NOTE 5
FT-9	4.0	10'-0"	21'-0"	END CAP	0.40	NOTE 5
FT-10	3.5	9'-0"	18'-0"	END CAP	0.35	NOTE 5

- NOTES: 1. FINNED TUBE RADIATION/ENCLOSURE BASED ON VULCAN DURA VANE, SINGLE ELEMENT W/ 3 1/2" ALUM. FIN. 3/4" COPPER PIPE.
2. ALL ENCLOSURE LENGTHS ARE APPROXIMATE. M.C. TO VERIFY LENGTH & PROVIDE END TRIM REQUIREMENTS.
3. PROVIDE ACCESS PANEL FOR SUPPLY SHUT OFF VALVE & ACCESS PANEL RETURN BALANCING VALVE & SELF CONTAINED RADIATOR CONTROL VALVE.
4. PROVIDE TYPE "A" VULCAN DURA VANE CONTINUOUS BACK PLATE FOR ENCLOSURE / END CAPS.
5. COLOR TO BE SELECTED BY ARCHITECT. PROVIDE STANDARD COLOR CHART W/SUBMITTAL.



FINNED TUBE RADIATION SCHEMATIC (ALT. BID #1)

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