



**NOTIFICACIÓN NÚM. I
SUBASTA FORMAL
NÚM. CEE-2026-08**

**PARA LA CONTRATACIÓN DE SERVICIOS DE MANTENIMIENTO PARA
LAS UNIDADES DE AIRES EN EL EDIFICIO ADMINISTRATIVO Y DE
OPERACIONES ELECTORALES DE LA COMISIÓN ESTATAL DE
ELECCIONES DE PUERTO RICO (CEE)**

Asunto: Planos del Sistema de Aires Acondicionados

Se notifica a los licitadores interesados en participar en la subasta de referencia lo siguiente:

1. Se incluye los planos del sistema de aire acondicionado del edificio Administrativo y de Operaciones Electorales de la Comisión Estatal de Elecciones.
 - a. Edificio Administrativo de la CEE.
 - b. Edificio Operaciones Electorales de la CEE.

Todos los demás términos, condiciones y especificaciones permanecen sin alterar.

Walles E. Hernández López
Miembro en Propiedad/ Secretaria
Junta de Subastas

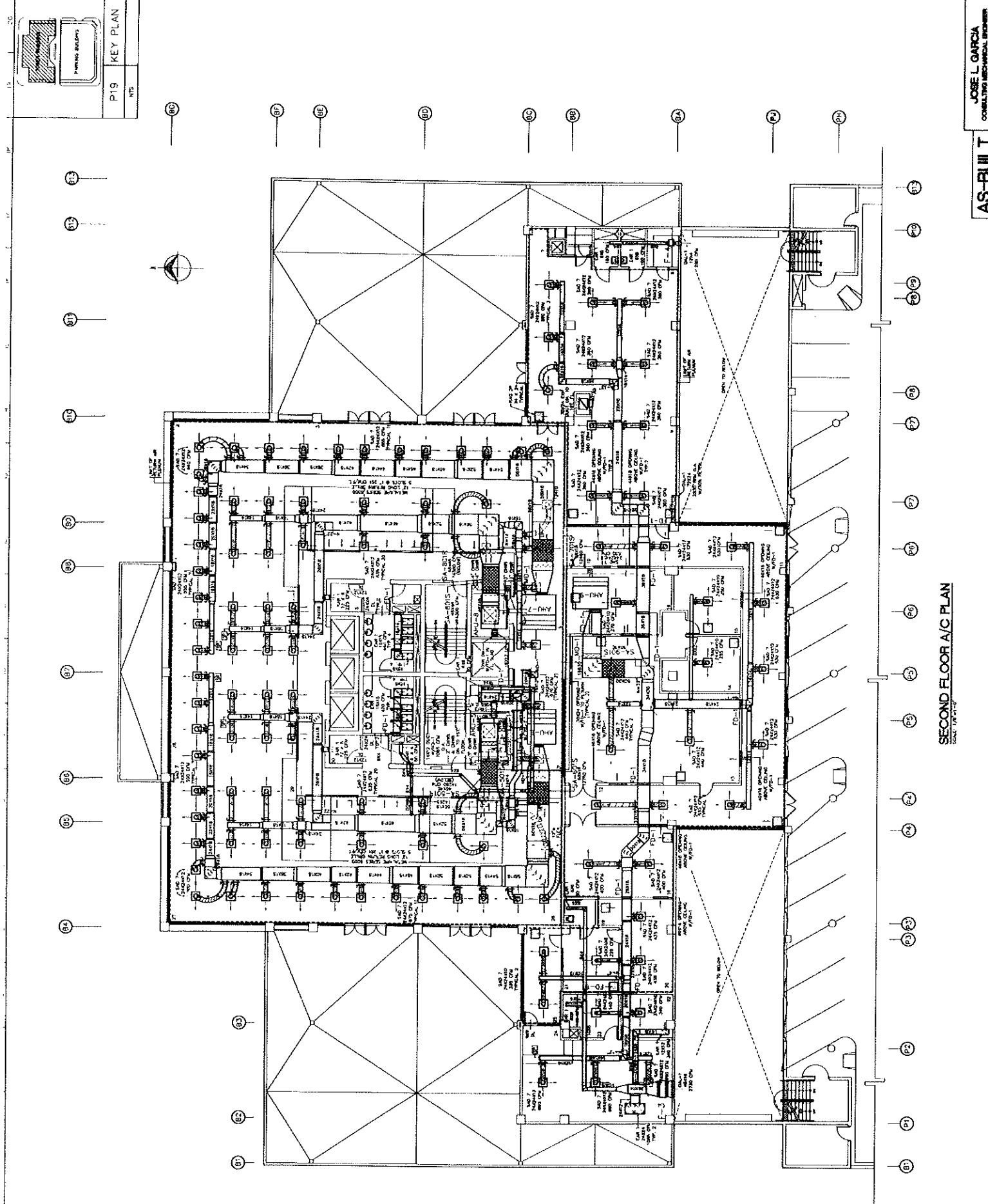
Emitido hoy, 28 de julio de 2026
En San Juan, Puerto Rico.



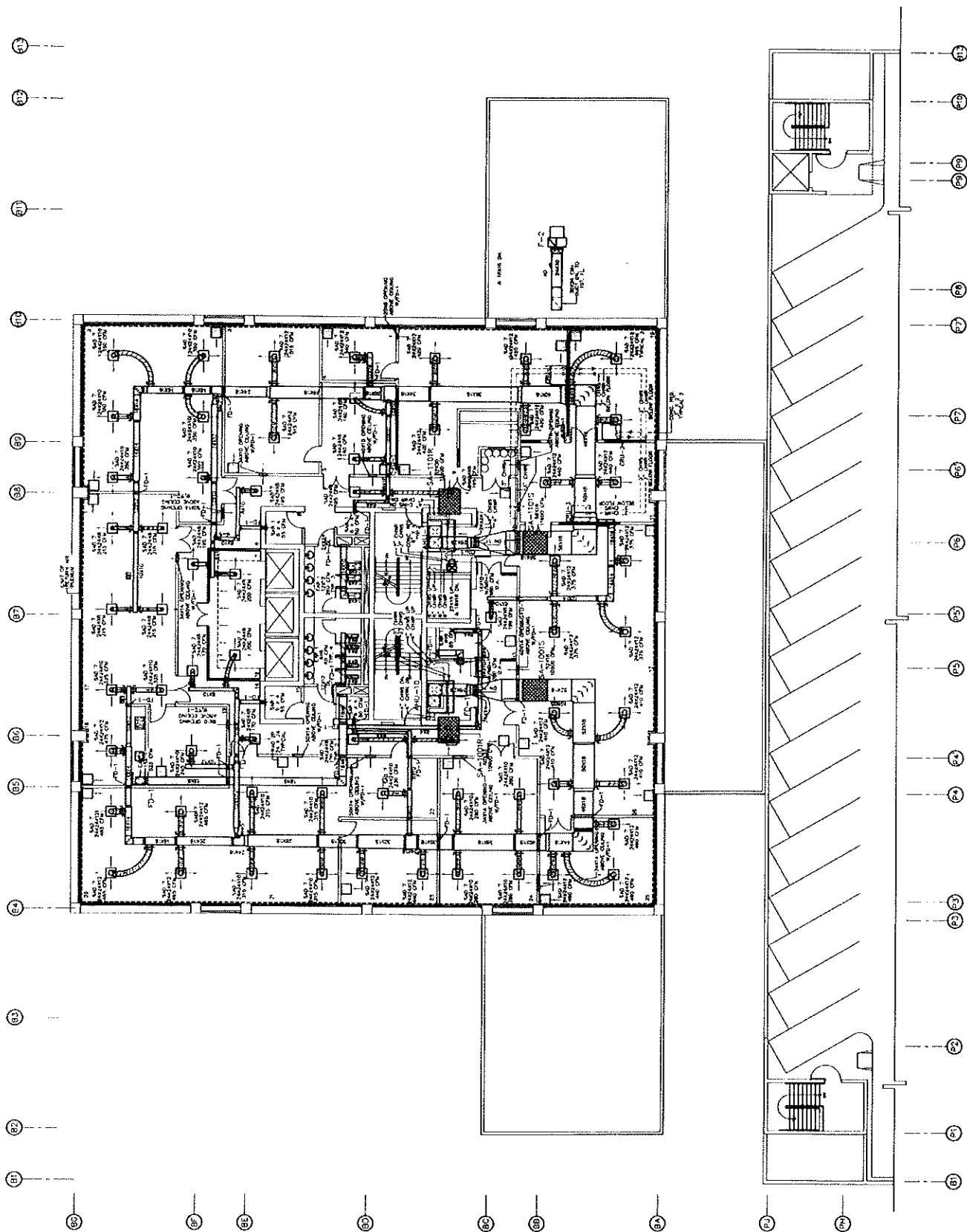


a. Planos del sistema de aire acondicionado correspondientes al Edificio Administrativo.

	DATE	REVISION
		P19 KEY PLAN NTS



SECOND FLOOR A/C PLAN

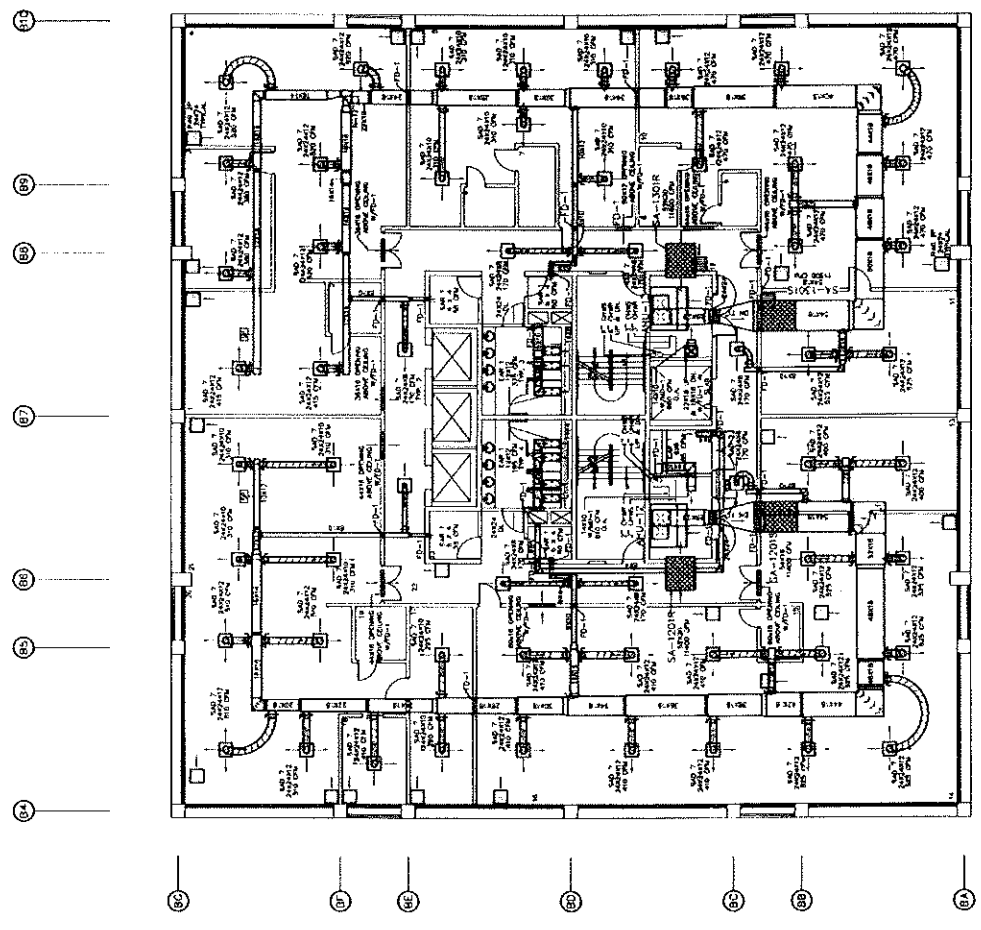


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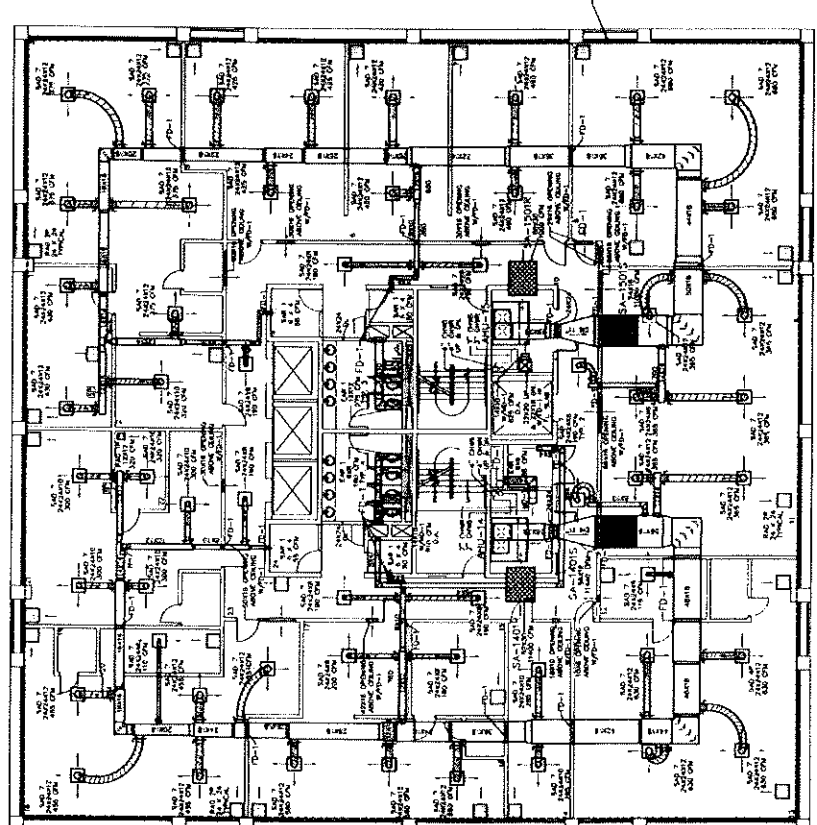
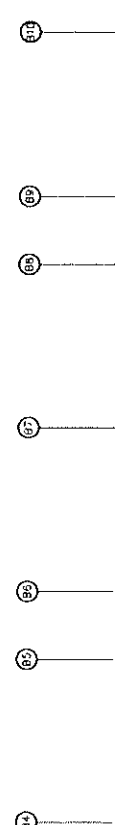
NTS

P19	KEY PLAN
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	KEY PLAN
	PT9
NTS	

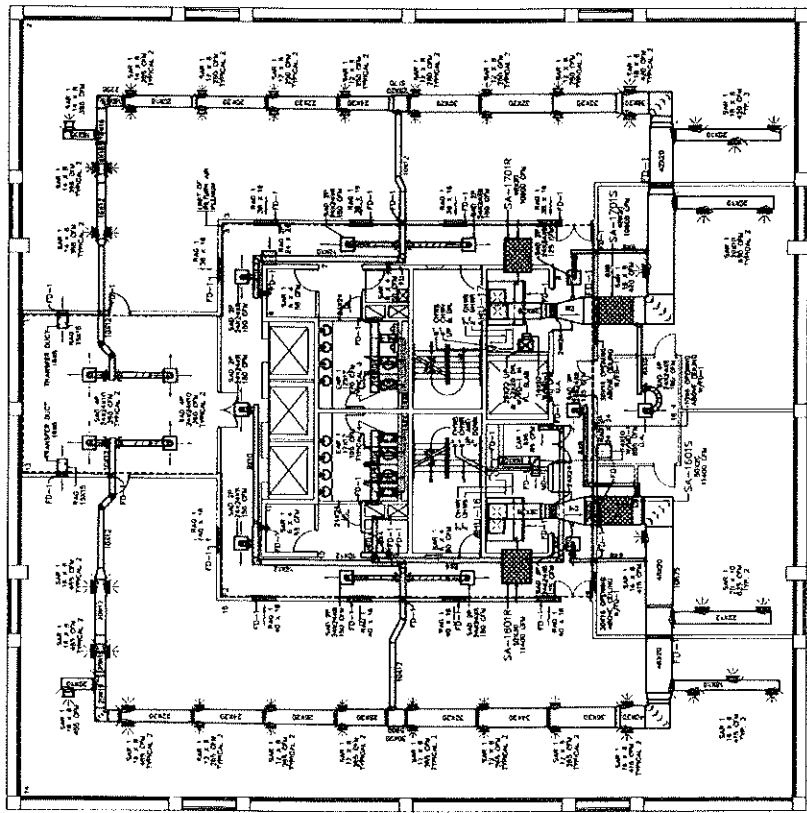
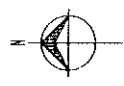
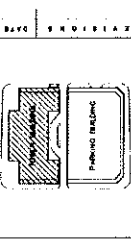


FOURTH FLOOR A/C PLAN
DATE: 10/1/00



FIFTH FLOOR A/C PLAN

KEY PLAN
PT9
WTS



SIXTH FLOOR A/C PLAN

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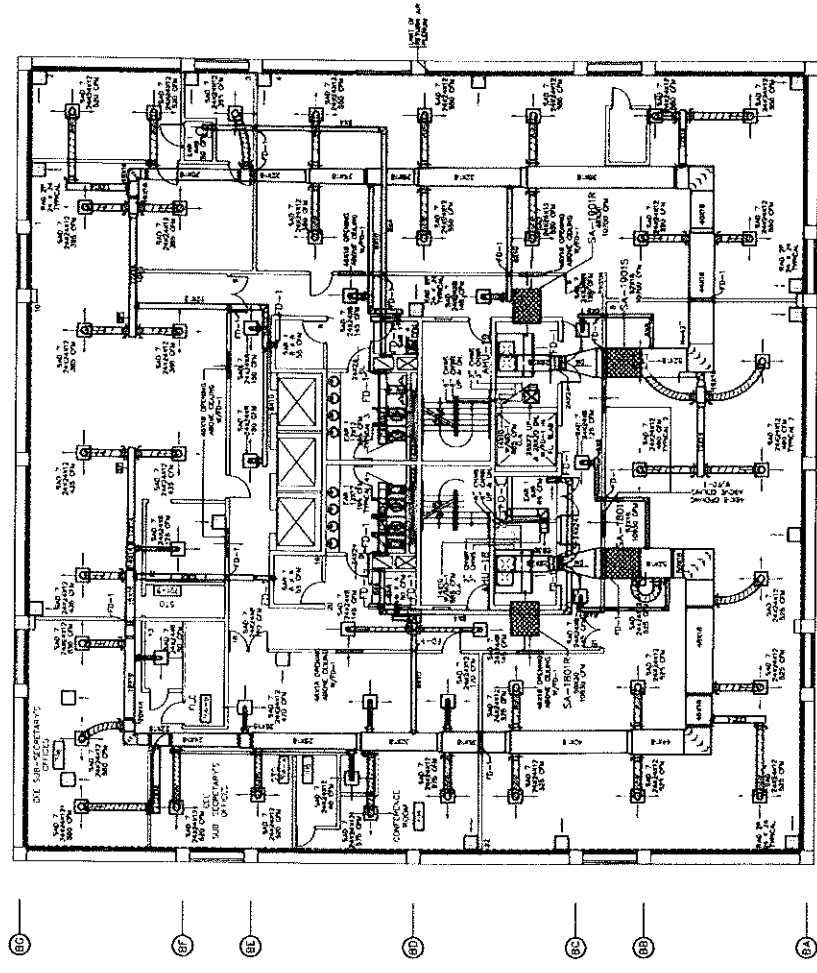
KEY PLAN

P19

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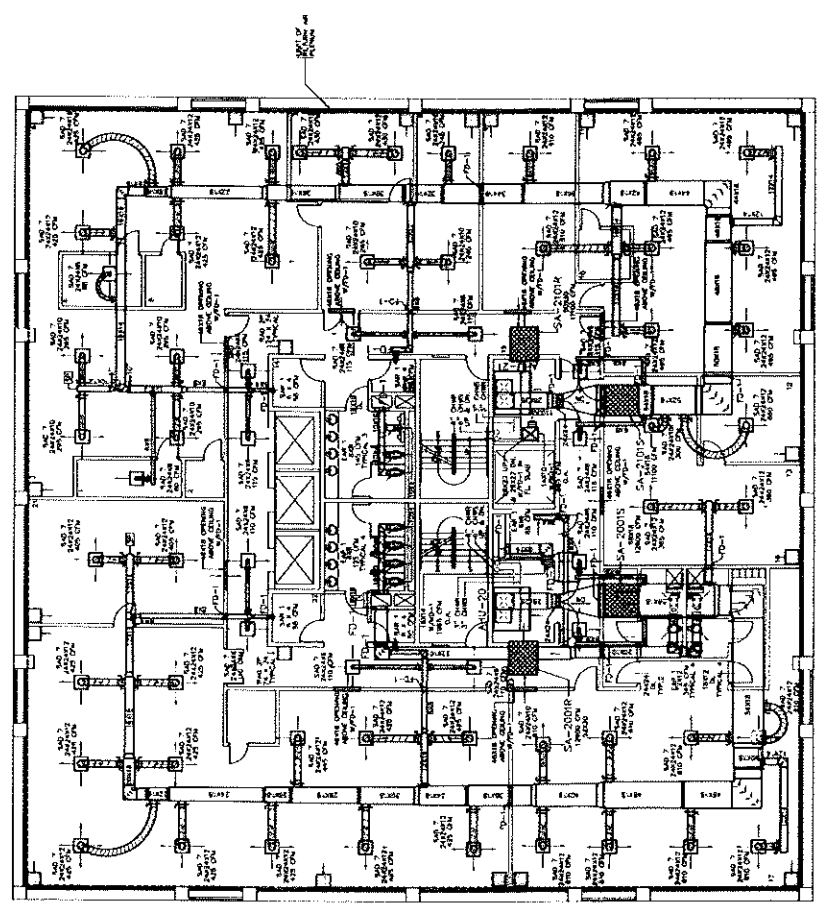
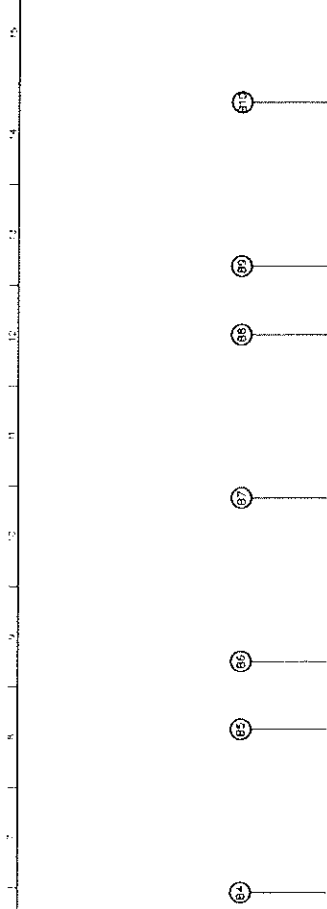
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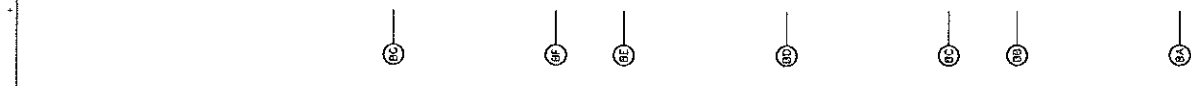
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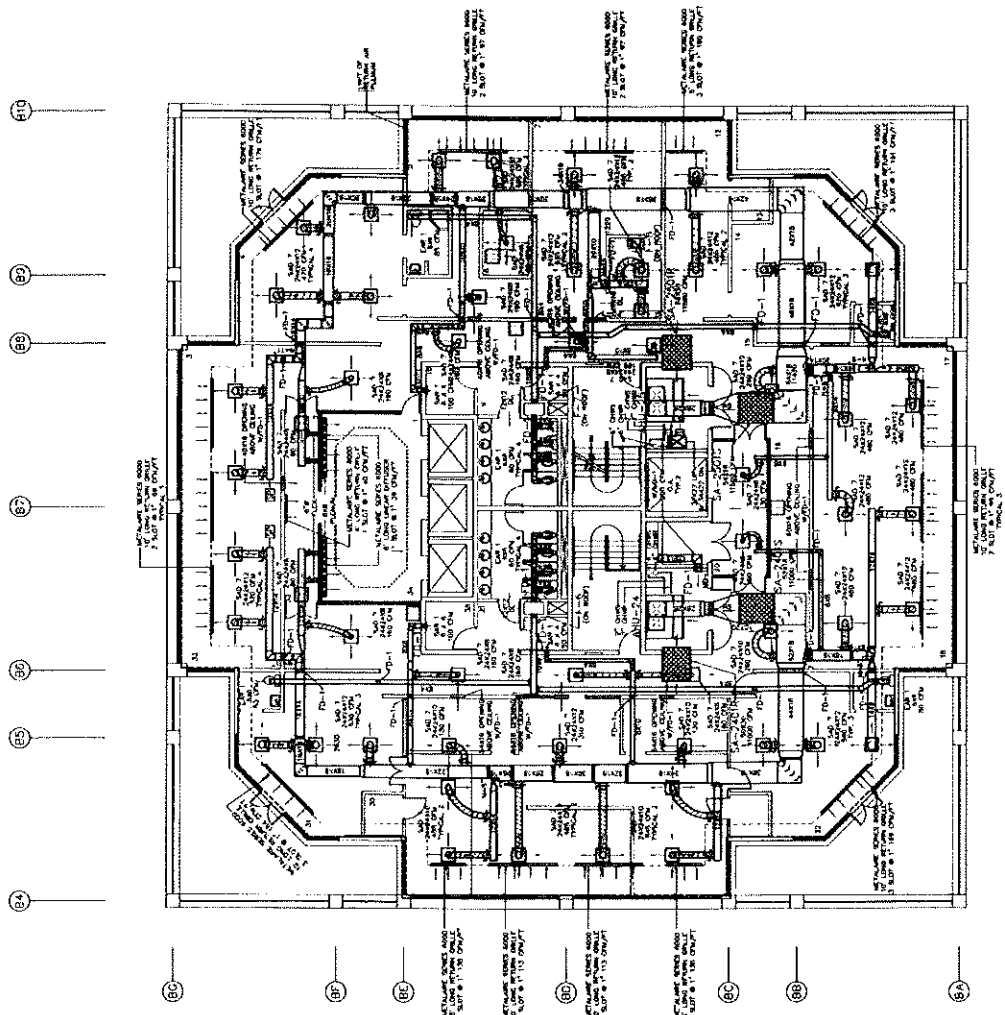
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	KEY PLAN
	P19

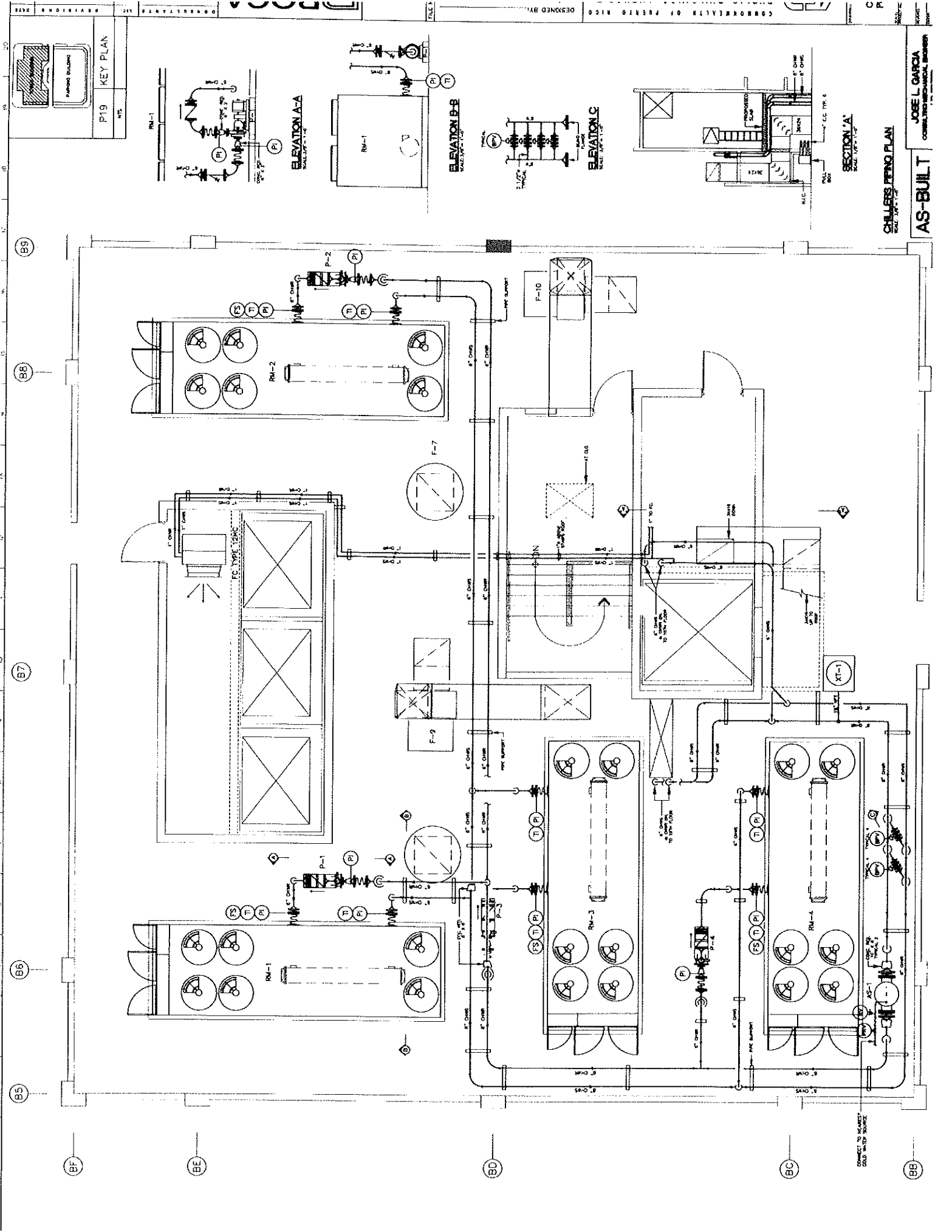


EIGHT FLOOR A/C PLAN
SCALE: 1/8"=1'-0"





TENTH FLOOR A/C PLAN
SCALE: 1/8"=1'-0"



CHILLERS ROOM PLAN
SCALE 1/8" = 1'-0"

AS-BUILT

JOSE L. GARCIA
CONSULTING MECHANICAL ENGINEER

KEY PLAN
P19
N.T.S.

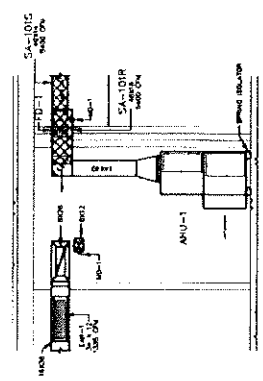
ELEVATION A-A
SCALE 1/8" = 1'-0"

ELEVATION B-B
SCALE 1/8" = 1'-0"

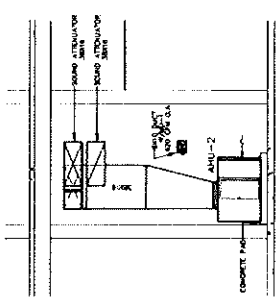
ELEVATION C-C
SCALE 1/8" = 1'-0"

SECTION A-A
SCALE 1/8" = 1'-0"

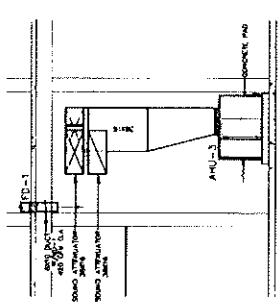
CONNECT TO EXISTING
OIL SUPPLY SOURCE



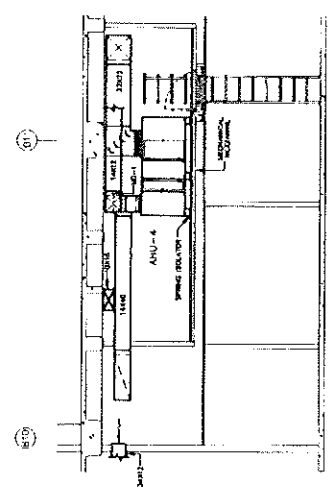
AHU-1 ELEVATION DETAIL
SCALE: 1/4"=1'-0"



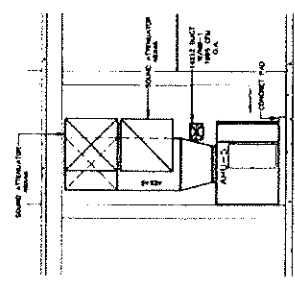
AHU-2 ELEVATION DETAIL
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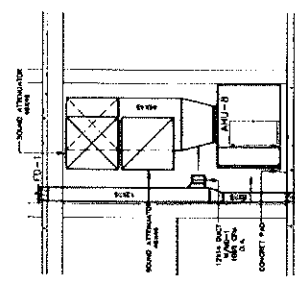
AHU-3 ELEVATION DETAIL
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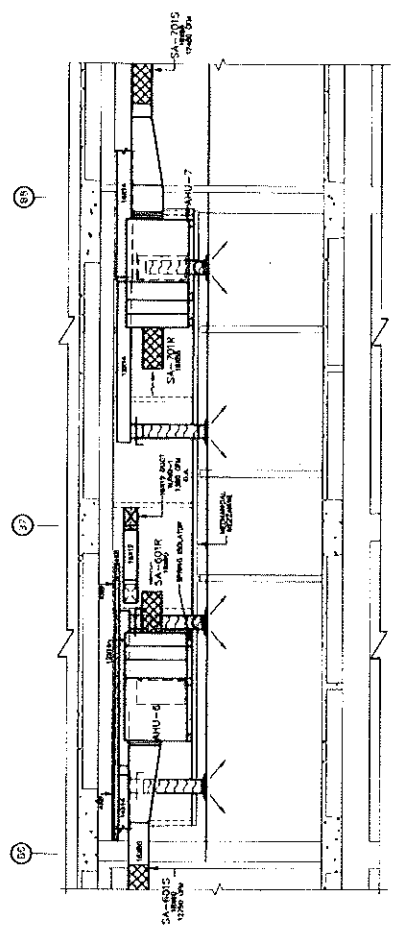
AHU-4 ELEVATION DETAIL
SCALE: 1/4"=1'-0"



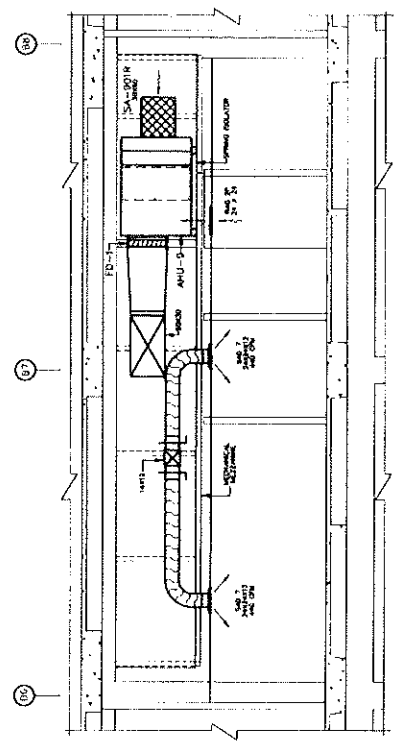
AHU-5 ELEVATION DETAIL
SCALE: 1/4"=1'-0"



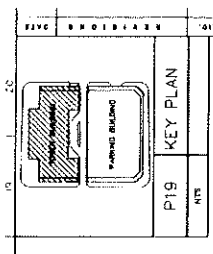
AHU-8 ELEVATION DETAIL
SCALE: 1/4"=1'-0"



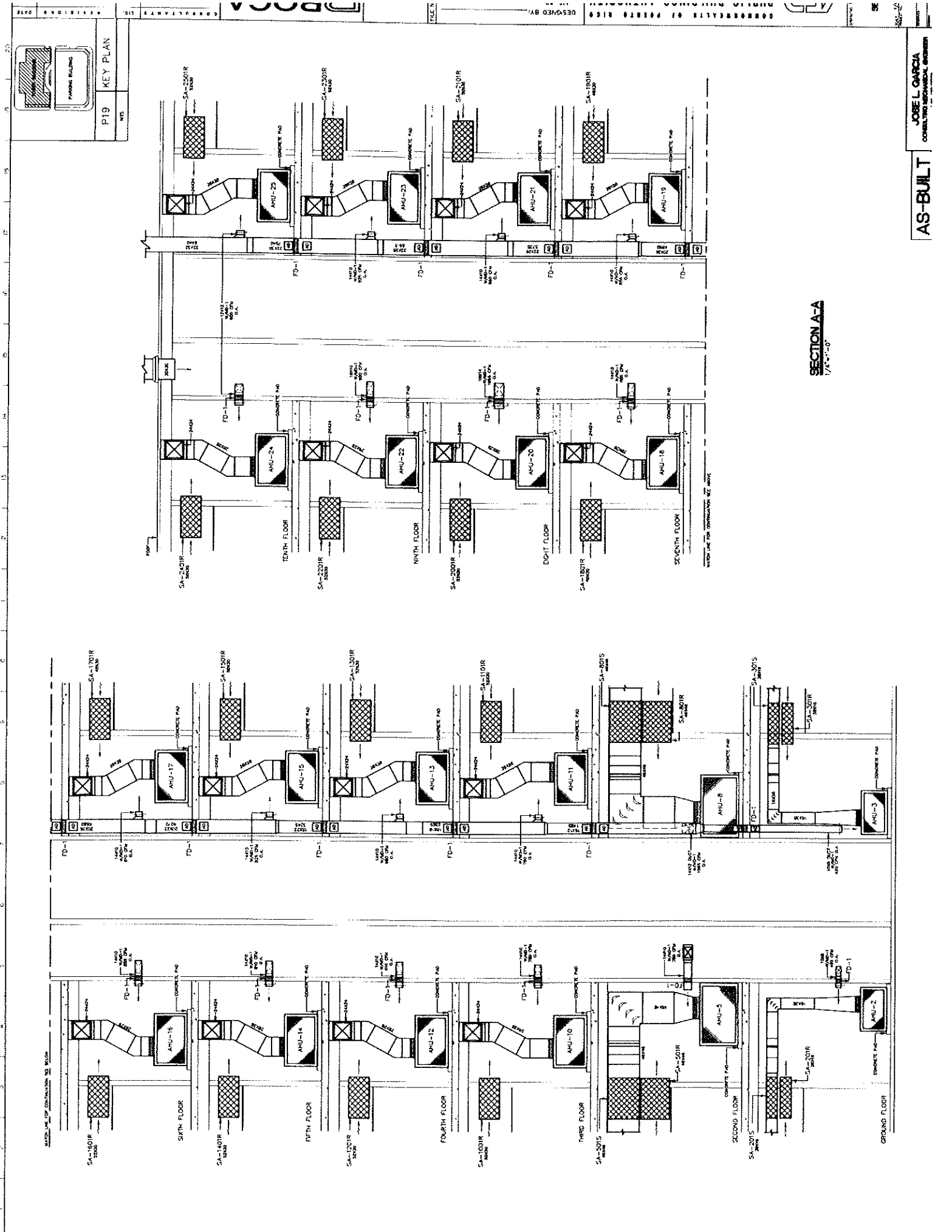
AHU-6 AND 7 ELEVATION DETAIL
SCALE: 1/4"=1'-0"



AHU-9 ELEVATION DETAIL
SCALE: 1/4"=1'-0"



KEY PLAN
PT9



AS-BUILT

JOSE L. GARCIA
CONSULTING MECHANICAL ENGINEER

SECTION A-A
1/4\"/>

AHU SCHEDULE

[illegible]

CHILDREN'S SCHEDULE

[illegible]

CHILLER SHALL INCLUDE A STAMP ALONE CONTROL PANEL OF THE SAME MANUFACTURER TO DO THE FOLLOWING:

CHILLERS AND PUMPS SHALL BE STARTED AND STOPPED AUTOMATICALLY BY THE STAMP ALONE CONTROL PANEL AT BUILDING LOAD. ALSO BYPASS VALVES SHALL CLOSE WHEN CHILLERS ARE NOT ENERGIZED. CHILLED WATER TEMPERATURE MEASUREMENT SHALL BE CONTROLLED CONSTANTLY BY THE STAMP ALONE CONTROL PANEL. STAMP ALONE CONTROL PANEL SHALL SEQUENCE THE CHILLERS TO ENSURE EQUAL RUN TIME.

EACH CHILLER SHALL INCLUDE TWO BYPASS VALVES, CARRYING EACH AND TWO DRYER PHOTOELECTRIC GAGES ATTACHING TO FLOATING CONTROLS TO MAINTAIN CONSTANT FLOW. BY-PASS VALVES SHALL BE INSTALLED BY MECHANICAL CONTRACTOR.

CHILLER MANUFACTURER SHALL START-UP CHILLER SYSTEM AND TUNE UP THE STAMP ALONE PROGRAM ACCORDING TO OWNERS REQUIREMENT.

STAMP ALONE CONTROL PANEL SHALL COMMUNICATE BOTH WITH CHILLER AND WITH STAMP ALONE CONTROL PANEL. PROTOCOL PANEL SHALL INCLUDE AN ARREST GARD.

STAMP ALONE CONTROL PANEL SHALL HAVE BEEN USED TO CONTROL THE CHILLER SYSTEM MANUFACTURER ENTIRELY TO PERFORM AS SPECIFIED.

CONTROLS FROM OTHER MANUFACTURER THAT THE CHILLER WILL NOT BE ACCEPTABLE.

EACH CHILLER SHALL INCLUDE A DIFFERENTIAL PRESSURE SWITCH WIRRED TO THE CHILLER CONTROL PANEL.

ALL CONTROLS WIRING AND ELECTRICAL POWER WIRING FOR CHILLERS CONTROLS SHALL BE BY CHILLERS MANUFACTURER. CHILLERS WILL START IN A SEQUENTIAL MANNER.

PUMP SCHEDULE

	P-1	P-2	P-3	P-4
DRAWING SYMBOL	TACO	TACO	TACO	P-4
MANUFACTURER	FV	FM	FM	FM
MODEL				
TYPE				
END SUCT TRANK MID END SUCT FRAME WTD	END SUCT FRAME WTD	END SUCT FRAME WTD	END SUCT FRAME WTD	END SUCT FRAME WTD
CAPACITY				
GPM	300	300	300	300
TDH (FT WG)	80	80	80	80
FLUG INPWR				
WATER				
70	70	70	70	70
CLUSTOR & MOTOR DATA				
NON OIL HP	15	15	16	15
RPM	1760	1760	1760	1760
VOLTS/PH/HZ	480/3/60	480/3/60	480/3/60	480/3/60
TYPE	TEFC	TEFC	TEFC	TEFC
MOTOR				
MTOR	XTE	XTE	XTE	XTE

AIR DISTRIBUTION EQUIPMENT SCHEDULE

[illegible]

THERMOMETER AND WELL SCHEDULE

TAG NUMBER	TAG NAME	TAG NUMBER	TAG NAME
MANUF ACTURER	WEISS	WEISS	
SIZE	VARIABLE	VARIABLE	
PIPE SIZE (IN.)	1 TO 2 1/2	B TO 10	
CAGE SIZE (IN.)	3 TO 6	8 TO 10	
RANGE (F)	0-170	0-120	
PROCESS CORN HPT	3/4"	3/4"	
FEEDITION HOPE	3/4"	3/4"	
PROCESS	2 1/2"	2 1/2"	
STEM LENGTH	5' 0"	5' 0"	
INSTALL IN 2"	1 3/4"	1 3/4"	
REMARKS	INSTALL IN 2" TEE		

HYDRONIC SPECIALTIES SCHEDULE

DESCRIPTION	DRAWING SYMBOL	MANUFACTURER	MOQ
RELIEF VALVE	RV	TACO	333
REDUCING VALVE	PRV	TACO	335

PRESSURE GAUGES SCHEDULES

TAG NUMBER	PI	SUPPLY LINES	PI	RETURN LINES
SERVICE MANUFACTURER	1061	AMETEK		AMETEK
MODEL	4 1/2			1061
DIAL DIAM	4 1/2			4 1/2
CASE		PHENOL		PHENOL
LENS		PLASTIC		PLASTIC
ACCURACY	1/2 % FULL SCALE			1/2 % FULL SCALE
ELEMENT	BOURDON, 316 SS			BOURDON, 316 SS
CONNECTION	1/2" NPT			1/2" NPT
RANGE	0-60 PSI			0-30 PSI

AIR PREPARATOR SCHEMATIC

DRAWING SYMBOL	AS-1
MANUFACTURER	TACO
MODEL	AC 10F
FLOW (GPM)	1300
PD (FT)	2

EXPANSION TANK SCHEDULE

DRAWING SYMBOL	XT-1
MANUFACTURER	TACO
MODEL	CA 800
GALLONS	158

TANK SHALL BE OF THE RUBBER BLADDER TYPE

AS-BUILT

JOSE L. GARCIA
COMMUNITY DEVELOPMENT SPECIALIST

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 VUBA - VERBODEN TOEGANG VOOR ALLE TOEGANGSRECHTHOUDERS
 VUBA - VERBODEN TOEGANG VOOR ALLE TOEGANGSRECHTHOUDERS

References

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DECLASSIFIED BY: 6032
DATE: 11-11-2010

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VSD SCHEDULE

GENERAL	ANU-1	ANU-2	ANU-3	ANU-4	ANU-5	ANU-6	ANU-7	ANU-8	ANU-10	ANU-11	ANU-12	ANU-13	ANU-14	ANU-15	ANU-16
DRAWING SYMBOL	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA
MANUFACTURER	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA
HP	2.5	2.5	2.5	2.5	15	15	15	15	15	15	15	15	15	15	15
VOLTAJE	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60
ENCLOSURE	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1
FEATURES															
POWER ON IND	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
FAULT INDICATION	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
BY PASS	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
AUTO RESTART	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
FREQUENCY REDUCTION	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
FAULT TRIP H ST	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
TOUCH KEY PAD	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
ACCELERATION	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
MANUAL STOP	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
MAN START-STOP	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
PROTECTION															
OVER CURRENT	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
UNDER SUPPRESSION	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
UNDER DELAY	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
OVER TRIP	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
GROUND FAULT	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
ADJUSTMENT															
ACCELERATION	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
DECLARATION	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
MAXIMUM SPEED	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
MANUAL SPEED	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
3 CRT SPEED AMP	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
TEST SIGNAL	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
REMARKS	THE VSD SPECIFIED IS BASE BID, ANY OTHER BRAND SHALL BE SUBMITTED WITH AN ADD OR DEDUCT PRICE FOR ENGINEER EVALUATION.														

VSD SCHEDULE

GENERAL	ANU-17	ANU-18	ANU-19	ANU-20	ANU-21	ANU-22	ANU-23	ANU-24	ANU-25	F-9	F-10	F-11	F-12
DRAWING SYMBOL	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA
MANUFACTURER	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA	TOSSUBA
HP	15	15	15	15	15	20	15	15	15	10	10	20	5
VOLTAJE	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60
ENCLOSURE	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1
FEATURES													
POWER ON IND	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
FAULT INDICATION	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
BY PASS	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
AUTO RESTART	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
FREQUENCY REDUCTION	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
FAULT TRIP H ST	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
TOUCH KEY PAD	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
ACCELERATION	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
MANUAL STOP	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
MAN START-STOP	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
PROTECTION													
OVER CURRENT	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
UNDER SUPPRESSION	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
UNDER DELAY	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
OVER TRIP	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
GROUND FAULT	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
ADJUSTMENT													
ACCELERATION	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
DECLARATION	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
MAXIMUM SPEED	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
MANUAL SPEED	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
3 CRT SPEED AMP	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
TEST SIGNAL	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
REMARKS	THE VSD SPECIFIED IS BASE BID, ANY OTHER BRAND SHALL BE SUBMITTED WITH AN ADD OR DEDUCT PRICE FOR ENGINEER EVALUATION.												

GENERAL NOTES

ALL PIPING WORK SHALL BE IN ACCORDANCE WITH SPECIFICATION 15000, PIPING WORK REQUIREMENTS.

CHILLED WATER PIPING INSULATION SHALL BE AS PER SPECIFICATION 15183.

KITCHEN HOOD EXHAUST DUCTWORK AND INSULATION SHALL BE AS PER SPECIFICATION 15041.

ALL AIR CONDITIONING WORK SHALL BE AS PER SPECIFICATION 15001.

SAD 7 SPECIFIED IS BASE BID, ANY OTHER DIFFUSER PROPOSED AS ALTERNATE SHALL BE INCLUDED WITH A DEDUCT PRICE FOR ENGINEER'S APPROVAL.

A/C EQUIPMENT CONDENSATE SHALL BE RUN TO NEAREST SANITARY SINKER DRAIN OR AS INDICATED IN PLUMBING DRAWINGS.

ALL PIPING WORK SHALL BE IN ACCORDANCE WITH SPECIFICATION 15051, PIPING INSTALLATION.

PIPING WORK SHALL BE IN ACCORDANCE WITH SPECIFICATION 15042.1, TESTING OF

FOR ALL SAD 7 AND 7R DIFFUSERS, CONTRACTOR SHALL CLOSE THE BLADES REQUIRED TO PROVIDE THE DISTRIBUTION PATTERN SHOWN ON DRAWINGS.

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING THE DIFFERENT RETURN AIR PLENUMS ACCORDING TO THE LIMITS SHOWN IN A/C DRAWINGS. A/C CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR TO ENSURE PROPER CLOSURE OF THIS PLENUMS.

NO WALL CONTAINED IN A RETURN AIR PLENUM SHALL RISE AGAINST THE STRUCTURE CLOSING THE AIR PATH TO THE UNIT. IF THIS HAPPENS FOR ANY REASON, MECHANICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE THE NECESSARY OPENINGS TO ALLOW AIR TO TRANSFER AT A VELOCITY NOT GREATER THAN 500 FPM.

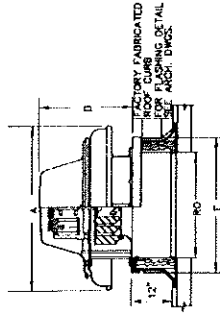
ALL CHILLED WATER PIPING SHALL BE CARBON STEEL PIPE 612 AS PER SPECIFICATION 15001.

AC RECTANGULAR DUCTWORK SHALL BE SHEET METAL CONSTRUCTION FOR 2 IN. W.G.M. ACCORDANCE WITH SPECIFICATION 15040.

AC DUCTWORK INSULATION SHALL BE AS PER SPECIFICATION 15100 AND AS FOLLOWS:

INDOORS TYPE 1, EXPOSED TO VIEW TYPE 4

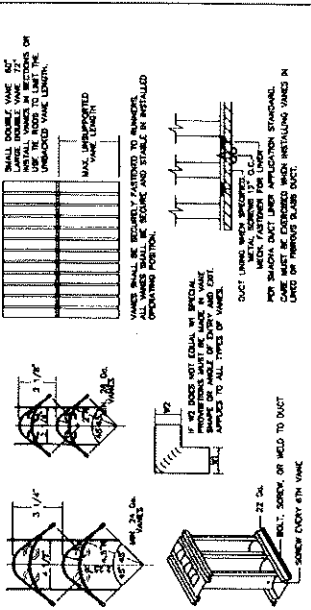
PEN DOMEX DIMENSIONAL DATA



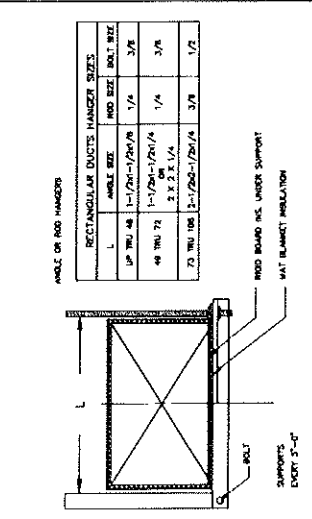
PEN DOMEX FANS DIMENSIONS (IN.)

SERIES	NO.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
9	11 1/2	20 1/2	26 1/2	18 1/4	14																						
10	16 1/4	24 3/4	31 1/2	23 1/2	19																						
11	18 1/4	26 3/4	33 1/2	25 1/2	21																						
12	18 1/4	26 3/4	33 1/2	25 1/2	21																						
13	18 1/4	26 3/4	33 1/2	25 1/2	21																						
14	18 1/4	26 3/4	33 1/2	25 1/2	21																						
15	18 1/4	26 3/4	33 1/2	25 1/2	21																						
16	18 1/4	26 3/4	33 1/2	25 1/2	21																						
17	18 1/4	26 3/4	33 1/2	25 1/2	21																						
18	18 1/4	26 3/4	33 1/2	25 1/2	21																						
19	18 1/4	26 3/4	33 1/2	25 1/2	21																						
20	18 1/4	26 3/4	33 1/2	25 1/2	21																						
21	18 1/4	26 3/4	33 1/2	25 1/2	21																						
22	18 1/4	26 3/4	33 1/2	25 1/2	21																						
23	18 1/4	26 3/4	33 1/2	25 1/2	21																						
24	18 1/4	26 3/4	33 1/2	25 1/2	21																						
25	18 1/4	26 3/4	33 1/2	25 1/2	21																						
26	18 1/4	26 3/4	33 1/2	25 1/2	21																						
27	18 1/4	26 3/4	33 1/2	25 1/2	21																						
28	18 1/4	26 3/4	33 1/2	25 1/2	21																						
29	18 1/4	26 3/4	33 1/2	25 1/2	21																						
30	18 1/4	26 3/4	33 1/2	25 1/2	21																						
31	18 1/4	26 3/4	33 1/2	25 1/2	21																						
32	18 1/4	26 3/4	33 1/2	25 1/2	21																						
33	18 1/4	26 3/4	33 1/2	25 1/2	21																						
34	18 1/4	26 3/4	33 1/2	25 1/2	21																						
35	18 1/4	26 3/4	33 1/2	25 1/2	21																						
36	18 1/4	26 3/4	33 1/2	25 1/2	21																						
37	18 1/4	26 3/4	33 1/2	25 1/2	21																						
38	18 1/4	26 3/4	33 1/2	25 1/2	21																						
39	18 1/4	26 3/4	33 1/2	25 1/2	21																						
40	18 1/4	26 3/4	33 1/2	25 1/2	21																						
41	18 1/4	26 3/4	33 1/2	25 1/2	21																						
42	18 1/4	26 3/4	33 1/2	25 1/2	21																						
43	18 1/4	26 3/4	33 1/2	25 1/2	21																						
44	18 1/4	26 3/4	33 1/2	25 1/2	21																						
45	18 1/4	26 3/4	33 1/2	25 1/2	21																						
46	18 1/4	26 3/4	33 1/2	25 1/2	21																						
47	18 1/4	26 3/4	33 1/2	25 1/2	21																						
48	18 1/4	26 3/4	33 1/2	25 1/2	21																						
49	18 1/4	26 3/4	33 1/2	25 1/2	21																						
50	18 1/4	26 3/4	33 1/2	25 1/2	21																						

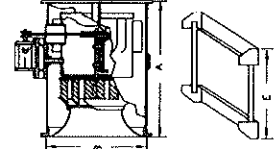
TUNING VANES AND VANE RUNNERS DETAIL



SHEET METAL DUCT SUPPORT DETAIL



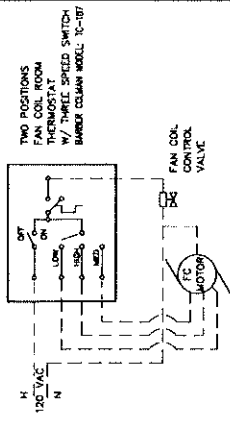
PEN CENTREX DIMENSIONAL DATA



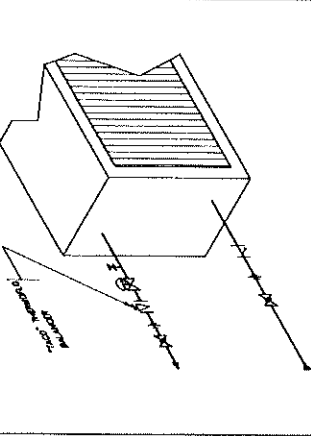
PEN CENTREX DIMENSIONS (IN.)

MODEL NO.	A	B	C
REX 178	23	18	23 1/2
REX 188	23	23	25 1/2
REX 198	30	27 3/4	30
REX 208	30	33 1/4	35 3/4
REX 218	38	40 1/2	43
REX 228	38	46 1/2	50

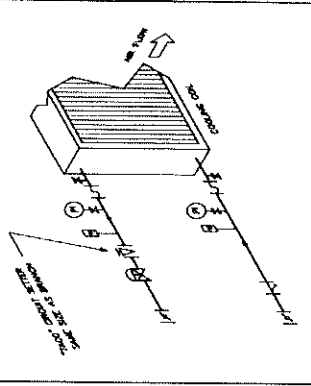
FAN COIL CONTROL DIAGRAM



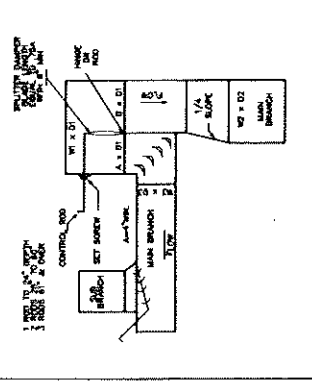
FAN COIL PIPING DETAIL



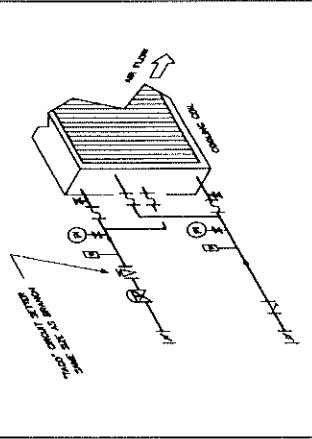
SINGLE COOLING COIL PIPING DETAIL



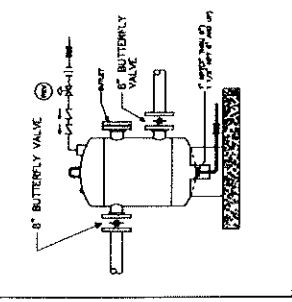
DUCTWORK TAKE OFF DETAIL



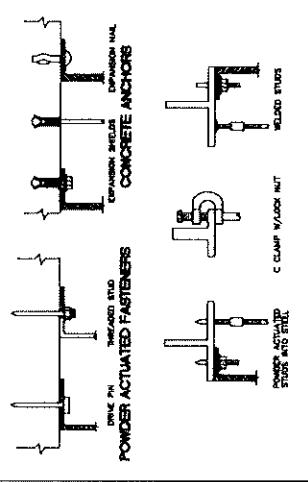
DOUBLE COOLING COIL PIPING DETAIL



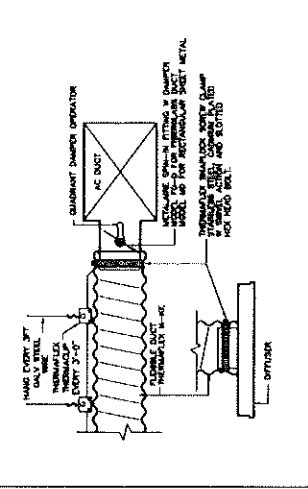
AIR SEPARATOR DETAIL



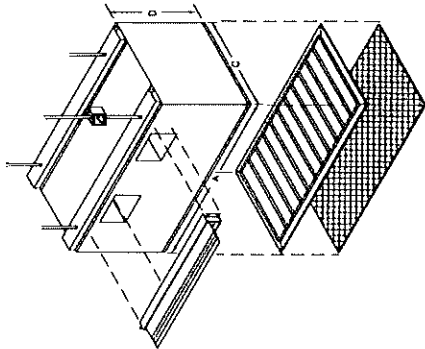
DUCTWORK SUPPORTS UPPER ATTACHMENTS DETAILS



FLEXIBLE TAKE-OFF SUPPORT, AND DIFFUSER CONNECTION DETAIL

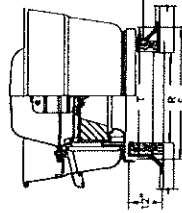


PENN ZEPHYR DIMENSIONAL DATA



MODEL	A	B	C	D
20	15 1/2	16 1/4	9	9
21	15 3/4	17 1/2	11 1/8	11
210	18	21 1/2	14	14
212	23 3/4	27 1/2	14	14
214	38	44 1/2	15 1/2	15 1/2
215	45 1/2	51 1/2	17 1/2	17 1/2

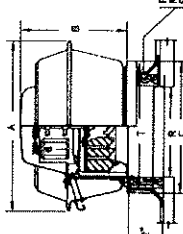
PENN RUMEX DIMENSIONAL DATA



MODEL	A	B	C	D
FAK 148	37	28	28 1/2	28
FAK 15	32	27 1/4	24 3/4	16 1/4
FAK 15 1/2	32	27 1/4	24 3/4	16 1/4

FACTORY FABRICATED ROOF CURB HANGING DETAIL (SEE ARCH DWGS.)

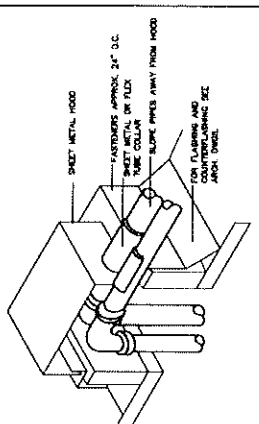
PENN RUMEX DIMENSIONAL DATA



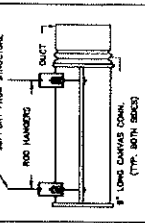
MODEL	A	B	C	D
NO. 0	12	17 1/2	11 1/2	15
FAK 12	29 1/2	18	20 1/2	11 1/2
FAK 14	29 1/2	18	20 1/2	11 1/2
FAK 148	37	28	28 1/2	28
FAK 150	51	31	36 1/2	36
FAK 152	58	38	41 1/2	41
FAK 154	64	40	44 1/2	44
FAK 156	64	40	44 1/2	44
FAK 158	64	40	44 1/2	44

FACTORY FABRICATED ROOF CURB HANGING DETAIL (SEE ARCH DWGS.)

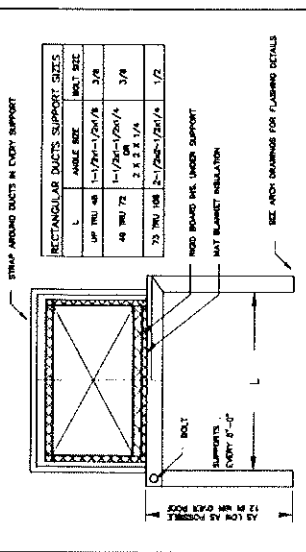
PENN THROUGH ROOF DECK DETAIL



PLINE FAN SUPPORT DETAIL

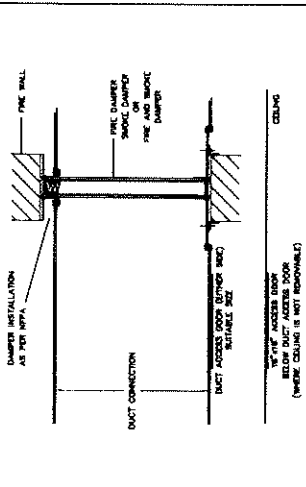


SHEET METAL DUCT SUPPORT DETAIL

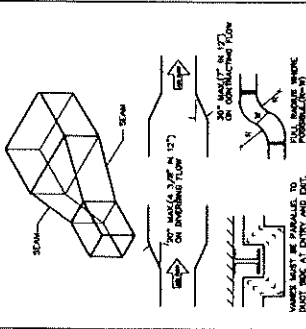


ANGLE SIZE	WELT SIZE
UP TO 48	1/2"
48 TO 72	3/8"
72 TO 108	1/2"
108 TO 144	3/4"
144 TO 180	1"

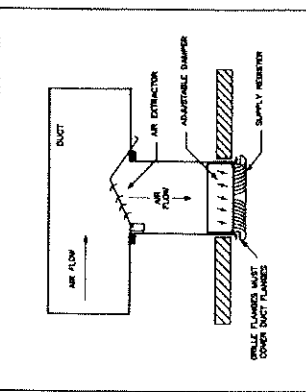
TYP. MOUNTING DETAIL FOR FIRE DAMPER AND SMOKE DAMPER



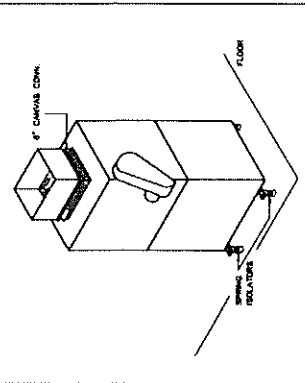
TRANSITIONS AND OFFSETS DETAIL



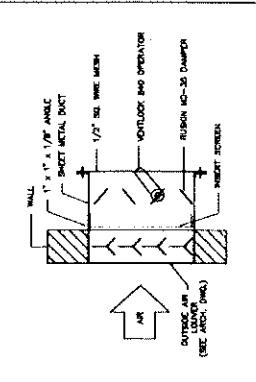
GRILLE AND REGISTER CONNECTION DETAIL



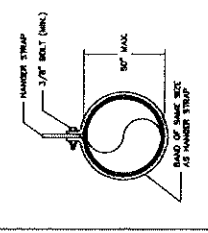
VERTICAL AIR HANDLING UNIT MOUNTING DETAIL



OUTSIDE AIR INTAKE DETAIL

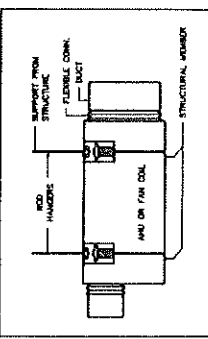


ROUND DUCT HANGERS

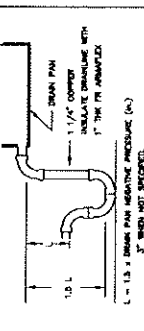


DUCT DIAMETER	MINIMUM HANGER SIZE	RECOMMENDED HANGER SIZE	NO. OF HANGERS	HANGER SPACING
14"	1/2"	3/8"	2	12"
16"	1/2"	3/8"	2	12"
18"	1/2"	3/8"	2	12"
20"	1/2"	3/8"	2	12"
22"	1/2"	3/8"	2	12"
24"	1/2"	3/8"	2	12"
26"	1/2"	3/8"	2	12"
28"	1/2"	3/8"	2	12"
30"	1/2"	3/8"	2	12"
32"	1/2"	3/8"	2	12"
34"	1/2"	3/8"	2	12"
36"	1/2"	3/8"	2	12"
38"	1/2"	3/8"	2	12"
40"	1/2"	3/8"	2	12"
42"	1/2"	3/8"	2	12"
44"	1/2"	3/8"	2	12"
46"	1/2"	3/8"	2	12"
48"	1/2"	3/8"	2	12"

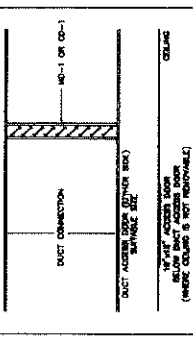
FAN COOL UNIT SUSPENSION DETAIL



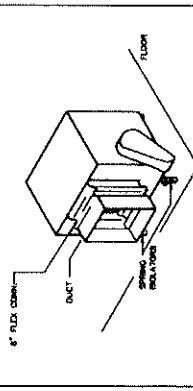
DRAW TRU UNIT TRAP DETAIL



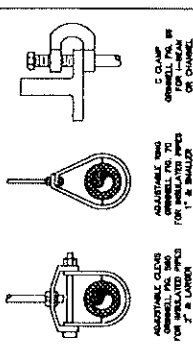
MOUNTING DETAIL FOR MANUAL OR AUTO DAMPER



FLOOR MOUNTED HORIZONTAL UNIT MOUNTING DETAIL



PIPE HANGERS DETAILS



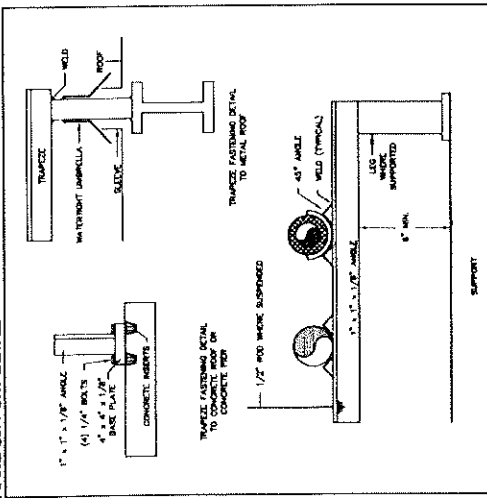
AS-BUILT

FEBRUARY 2020

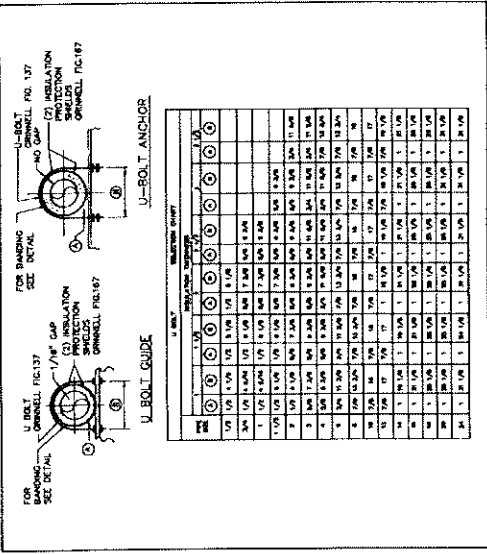
JOSE L. GARCIA

CONSULTING ENGINEER

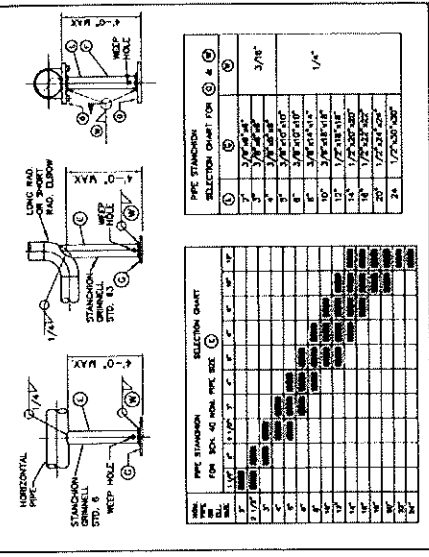
PIPING SUPPORT DETAIL



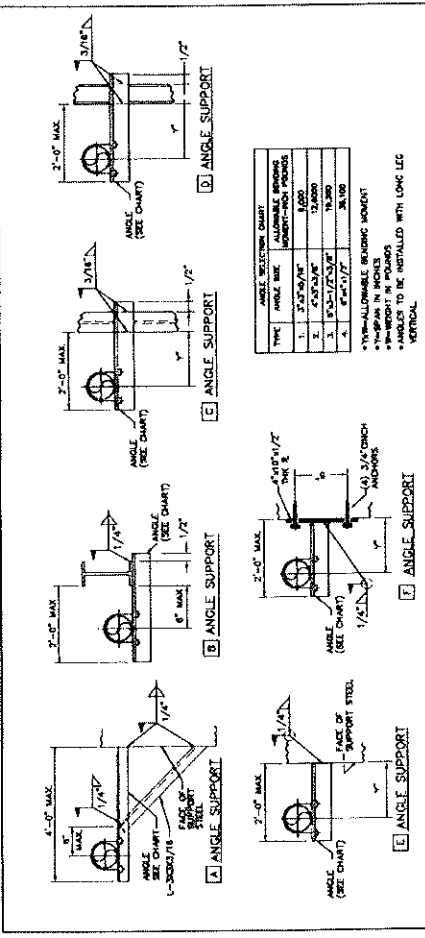
Pg-12



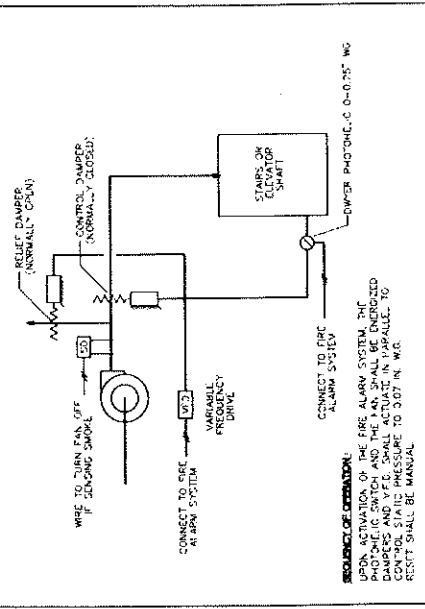
92



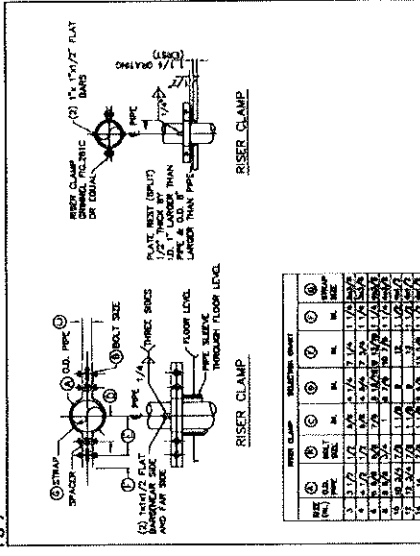
pg-13



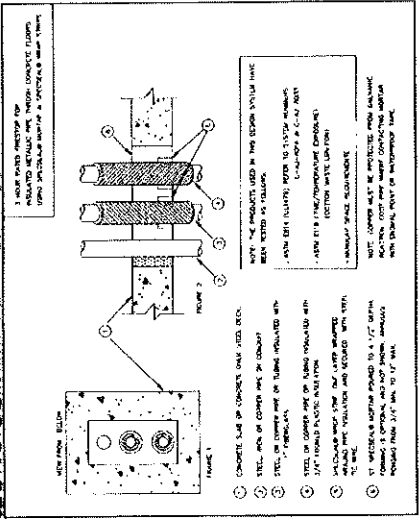
SMOKE PROOF ENCLOSURE CONTROL DIAGRAM
(TYPICAL FOR ALL STAIRS + ELEVATORS SHAFT)



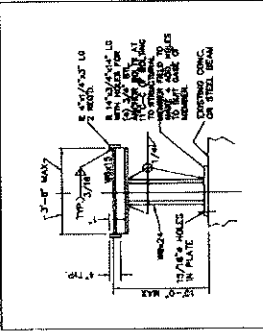
pg. 7



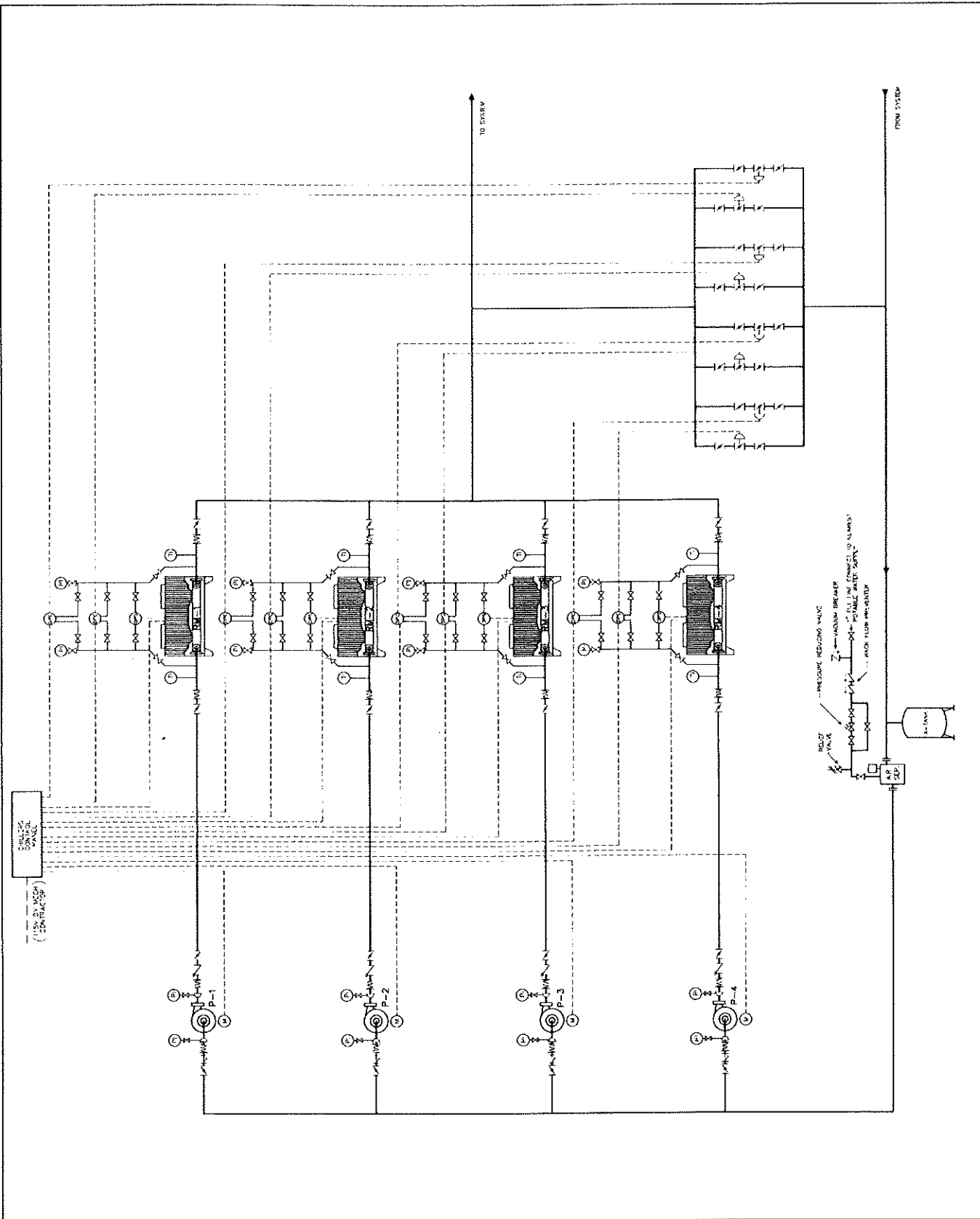
SLAB PIPE PENETRATION FIRE PROTECTION DETAIL



Pg-1



CHILLED WATER SYSTEM DIAGRAM



CHILLED WATER SYSTEM
(120-10-100)

AS-BUILT

FEBRUARY/2000

JOSE L. GARCIA

CONSULTING ENGINEER

DATE: 01/20/00
BY: JLG
CHECKED BY: JLG
DESIGNED BY: JLG
FILE: 120-10-100

CONSULTING ENGINEER
LIC. 120-10-100

CONSULTING ENGINEER
LIC. 120-10-100

DATE: 01/20/00
BY: JLG
CHECKED BY: JLG
DESIGNED BY: JLG
FILE: 120-10-100

INSTRUMENT SCHEDULE

[illegible]

ALL OTHER AHS CONTROL SEQUENCE

CONTROLS SEQUENCE	APPLICABLE DETAILS
FAN SHALL BE STARTED AND STOPPED THROUGH A LOCAL CONTROL MICROPROCESSOR START-STOP PROGRAM.	SS01
IF A FAN INLET DEVICE SHALL BE WIRED TO THE LOCAL CONTROL MICROPROCESSOR.	
AN RTD LOCATED AT THE FAN INLET TO SENSE SUPPLY AIR TEMPERATURE SHALL BE CONNECTED TO A LOCAL CONTROL MICROPROCESSOR.	CC01, CC02
A PRESSURE TRANSDUCER LOCATED AT THE FAN INLET TO SENSE STATIC PRESSURE SHALL BE CONNECTED TO A LOCAL CONTROL MICROPROCESSOR.	FP01
30X FILTER PRESSURE DROP SHALL BE INDICATED AT THE AHU CONTROL PANEL BY DRYER MAGNETIC COILS WITH MANUAL SET POINT INDICATOR. PRESSURE SHALL BE SET TO 0.3 IN. WG TO SHOW UNIT FILTERS.	SD01
A SENSING DEVICE SHALL BE INSTALLED AT THE FAN UNIT TO MONITOR SENSING SIGNAL AND ALARM THE CONDITION AT THE ALARM PANEL. RESET SHALL BE MANUAL.	
A STATIC PRESSURE TRANSDUCER SENSING WHERE SHOWN ON DRAWINGS SHALL BE CONNECTED TO AN AHU VARIABLE FREQUENCY DRIVE AND INLET VANE DAMPER SHALL BE CONNECTED TO AN INLET VANE DAMPER. THE RETURN DUCT SHALL BE CONNECTED TO THE MICROPROCESSOR CONTROLLER. PRESSURE SHALL BE MAINTAINED CONSTANT BY MODULATING THE VARIABLE INLET VANE DAMPER ACTUATOR. THE INLET VANE DAMPER ACTUATOR SHALL BE PROGRAMMED TO OPERATE AS THE VFD IN CASE OF VFD FAILURE.	SP01, CC03
INLET VANE DAMPER SHALL RESET THE STATIC PRESSURE SETPOINT. PRESSURE SHALL BE 0.35 IN. W.G. AND 0.15 IN. W.G.	
ALL INHALE POINTS SHALL BE CONNECTED TO A LOCAL CONTROL MICROPROCESSOR.	
ALL LOCAL CONTROL MICROPROCESSORS SHALL BE CONNECTED TO A LOCAL AREA NETWORK.	
ALL POINTS CONNECTED AT A SINGLE LOCATION.	
THE SYSTEM SHALL HAVE A DIRM TERMINAL TO MONITOR POINTS.	
ALL POINTS SHALL BE CONNECTED TO A LOCAL CONTROL MICROPROCESSOR. TEMPERATURE, ALARMS, AND TEMPERATURE TEND REPORTS.	DC01, DC02
FLOW SHALL BE INDICATED BY A MAGNETIC COIL READING PRESSURE DROP ACROSS THE COILING DUCT. COIL SHALL BE SPECIFICALLY DEVELOPED FOR	FA-1

AHUS 18 + 17 CONTROL SEQUENCE

APPLICABLE DETAILS	THE DESCRIPTION
SS01	FAN SHALL BE STARTED AND STOPPED THROUGH A LOCAL CONTROL MICROPROCESSOR START-STOP PROGRAM.
CC01, CC02	WHEN THE FUEL DEVICE SHALL BE WIRED TO THE LOCAL CONTROL MICROPROCESSOR.
FF01	AN AIR FLOW DETECTOR LOCATED AT THE FAN INLET TO SENSE SUPPLY AIR TEMPERATURE SHALL BE WIRDED TO THE LOCAL CONTROL MICROPROCESSOR.
SD01	WHEN THE FAN INLET TO SENSE SUPPLY AIR TEMPERATURE SHALL BE WIRDED TO THE LOCAL CONTROL MICROPROCESSOR TO MAINTAIN CONSTANT SUPPLY AIR TEMPERATURE.
DD01, DD02	50% FILTER PRESSURE DROP SHALL BE INDICATED AT THE AHI CONTROL MICROPROCESSOR.
PD01, PD03	50% FILTER PRESSURE DROP SHALL BE INDICATED AT THE AHI CONTROL MICROPROCESSOR.
	INDICATION SHALL BE SET TO 0.3 IN. WG. TO SHOW DIRT FILTING.
	A SHOCK DETECTOR LOCATED IN THE SUPPLY DUCT SHALL STOP THE FAN UPON DETECTION OF A SHOCK.
	SHALL BE MANUAL.
	ALL INLET POINTS SHALL BE CONNECTED TO A LOCAL CONTROL MICROPROCESSOR.
	ALL LOCAL CONTROL MICROPROCESSORS SHALL BE CONNECTED TO A SINGLE AREA NETWORK.
	ALL POINTS CONNECTED TO A LOCAL LOCATION.
	ALL POINTS CONNECTED TO A LOCAL LOCATION.
	THE SYSTEM SHALL HAVE A PRINTOUT FOR PRINT OUT DIRTY FILTERS, AND HIGH TEMPERATURE ALARMS, AND TEMPERATURE TRENDS REPORTS.
	RETURN TEMPERATURE SHALL BE CONTROLLED CONSTANT BY MODULATING THE FAN SPEED.
	MINIMUM FLOW MODULATION SHALL BE SET AS INDICATED ON DRAWINGS.
	FLOW SHALL BE INDICATED BY A MAGNETICALLY DAMPED PRESSURE DROP TRANSDUCER.
	THE COOLING COIL DASH SHALL BE SPECIFICALLY DEVELOPED FOR THE COOLING COIL.

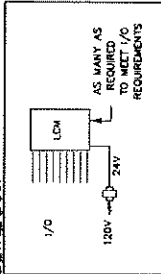
TABLE 9. ADDITIONAL CONTROL SEQUENCE

CONTROLS SEQUENCE	APPLICABLE DETAILS
SMOKE DETECTORS LOCATED IN THE SUPPLY AND RETURN DUCTS SHALL STOP THE FAN AND CLOSE THE AUTOMATIC DAMPERS UPON SENSING SMOKE. DAMPERS SHALL CLOSE WHEN THE FAN IS NOT ENERGIZED. SMOKE DETECTORS SHALL BE LOCATED WITHIN THE FAN STARTER TO ALLOW FAN START ONLY WHEN THERE IS NO SMOKE. EITHER THE FAN STARTER OR THE FAN STARTER SHALL BE LOCATED WITHIN THE FAN STARTER TO ALLOW FAN STOP ONLY WHEN THERE IS NO SMOKE.	5002

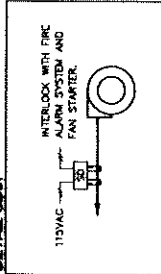
AMUS 18 + 17 CONTROL SEQUENCE

APPLICABLE DETAILS	THE DESCRIPTION
SS01	FAN SHALL BE STARTED AND STOPPED THROUGH A LOCAL CONTROL MICROPROCESSOR START-STOP PROGRAM. A PRESSURE TRANSDUCER TEST DEVICE SHALL BE WIRED TO THE LOCAL CONTROL MICROPROCESSOR.
CC01, CC02	AIR FLOW LOCATED AT THE FAN INLET TO SENSE SUPPLY AIR TEMPERATURE SHALL BE WIRRED TO THE LOCAL CONTROL MICROPROCESSOR. A SMOKE DETECTOR LOCATED IN THE SUPPLY DUCT SHALL BE WIRRED TO THE LOCAL CONTROL MICROPROCESSOR TO MAINTAIN CONSTANT SUPPLY AIR TEMPERATURE.
FF01	50% FILTERS PRESSURE DROP SHALL BE INDICATED AT THE AHU CONTROL. A PRESSURE TRANSDUCER SHALL BE INSTALLED IN THE SUPPLY DUCT TO MONITOR INDICATION SHALL BE SET TO 0.3 IN. WG. TO SHOW DIRTY FILTERS.
SD01	A SMOKE DETECTOR LOCATED IN THE SUPPLY DUCT SHALL STOP THE FAN UPON DETECTION OF SMOKE. A SMOKE DETECTOR SHALL BE INSTALLED IN THE SUPPLY DUCT TO MONITOR INDICATION SHALL BE SET TO 0.3 IN. WG. TO SHOW DIRTY FILTERS. A SMOKE DETECTOR SHALL BE INSTALLED IN THE SUPPLY DUCT TO MONITOR INDICATION SHALL BE SET TO 0.3 IN. WG. TO SHOW DIRTY FILTERS.
DC01, DC02	ALL INFLUENT POINTS SHALL BE CONNECTED TO A LOCAL CONTROL MICROPROCESSOR. ALL LOCAL CONTROL MICROPROCESSORS SHALL BE CONNECTED TO A SINGLE ANALOG INPUT MODULE. ALL POINTS CONNECTED TO A SINGLE LOCATION. A SMOKE DETECTOR LOCATED IN THE SUPPLY DUCT SHALL BE WIRRED TO THE LOCAL CONTROL MICROPROCESSOR TO MAINTAIN CONSTANT SUPPLY AIR TEMPERATURE. A SMOKE DETECTOR LOCATED IN THE SUPPLY DUCT SHALL BE WIRRED TO THE LOCAL CONTROL MICROPROCESSOR TO MAINTAIN CONSTANT SUPPLY AIR TEMPERATURE.
PA01, CC03	RETURN TEMPERATURE SHALL BE CONTROLLED CONSTANT BY MODULATING THE FAN SPEED. A SMOKE DETECTOR LOCATED IN THE SUPPLY DUCT SHALL BE WIRRED TO THE LOCAL CONTROL MICROPROCESSOR TO MAINTAIN CONSTANT SUPPLY AIR TEMPERATURE. A SMOKE DETECTOR LOCATED IN THE SUPPLY DUCT SHALL BE WIRRED TO THE LOCAL CONTROL MICROPROCESSOR TO MAINTAIN CONSTANT SUPPLY AIR TEMPERATURE.
P-1	FLOW SHALL BE INDICATED BY A MAGNETICALLY COUPLED PRESSURE DROP TRANSDUCER. A SMOKE DETECTOR LOCATED IN THE SUPPLY DUCT SHALL BE WIRRED TO THE LOCAL CONTROL MICROPROCESSOR TO MAINTAIN CONSTANT SUPPLY AIR TEMPERATURE. A SMOKE DETECTOR LOCATED IN THE SUPPLY DUCT SHALL BE WIRRED TO THE LOCAL CONTROL MICROPROCESSOR TO MAINTAIN CONSTANT SUPPLY AIR TEMPERATURE.

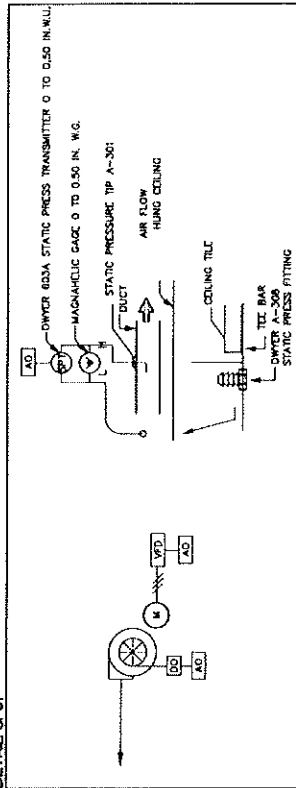
DETAIL DOOR



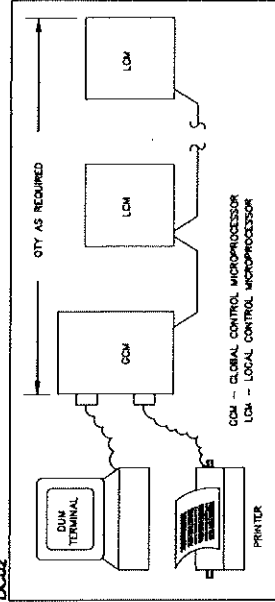
DETAIL SUB01



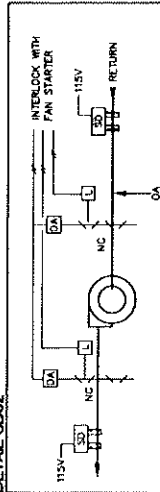
DETAIL SP-01



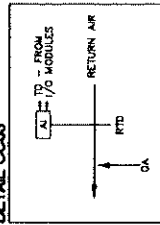
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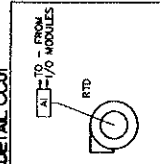
DETAIL SDO2



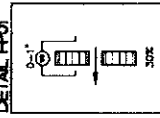
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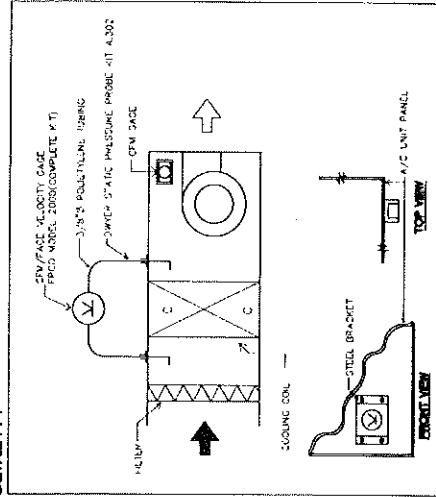
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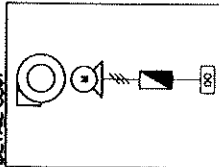
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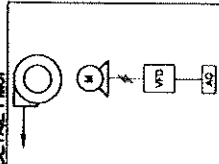
DETAIL E-1



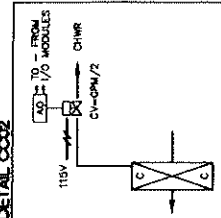
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DETAILS



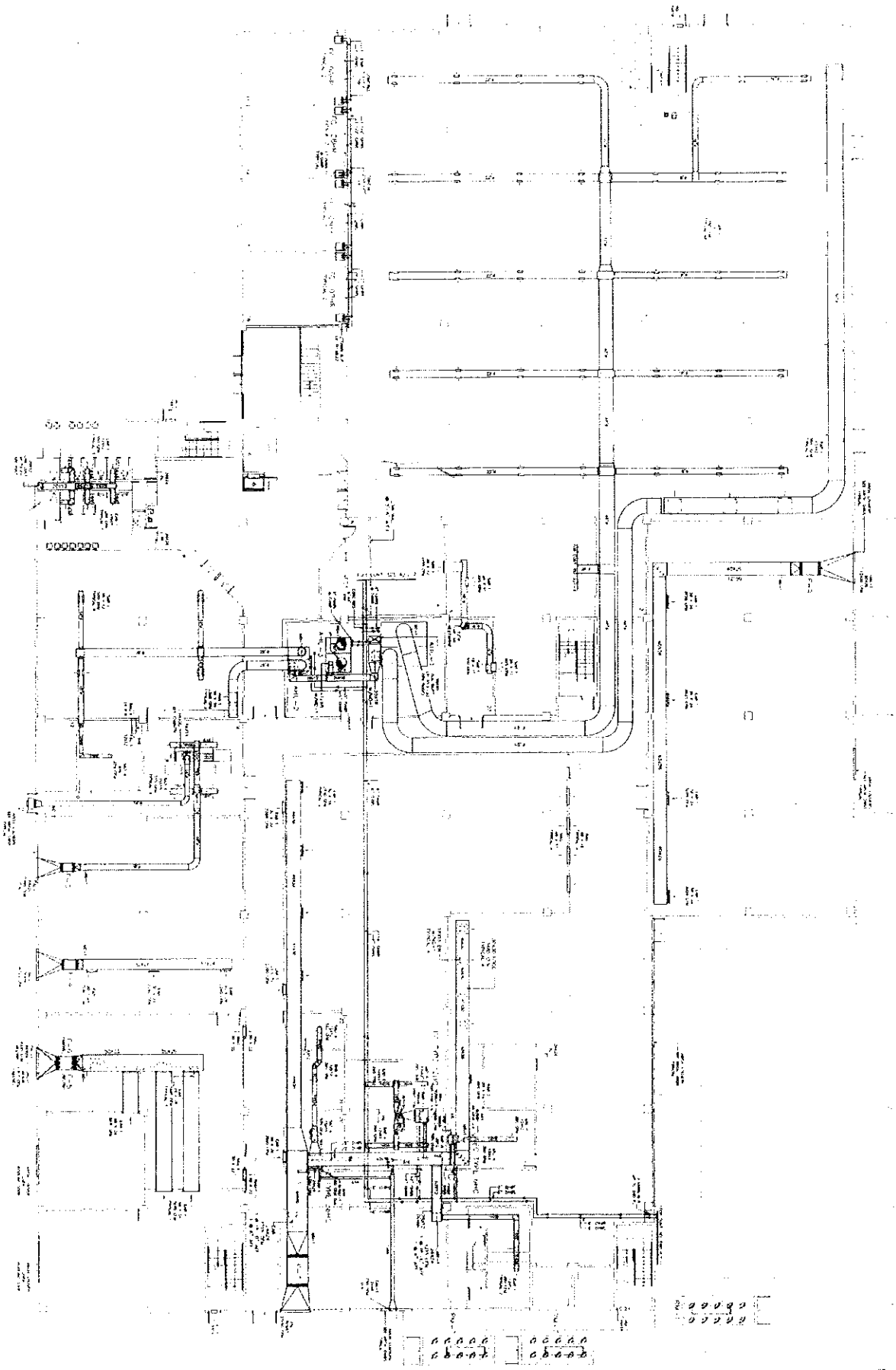
WAVE





b. Planos del sistema de aire acondicionado correspondientes al Edificio de Operaciones Electorales.

GROUND FLOOR A/C PLAN



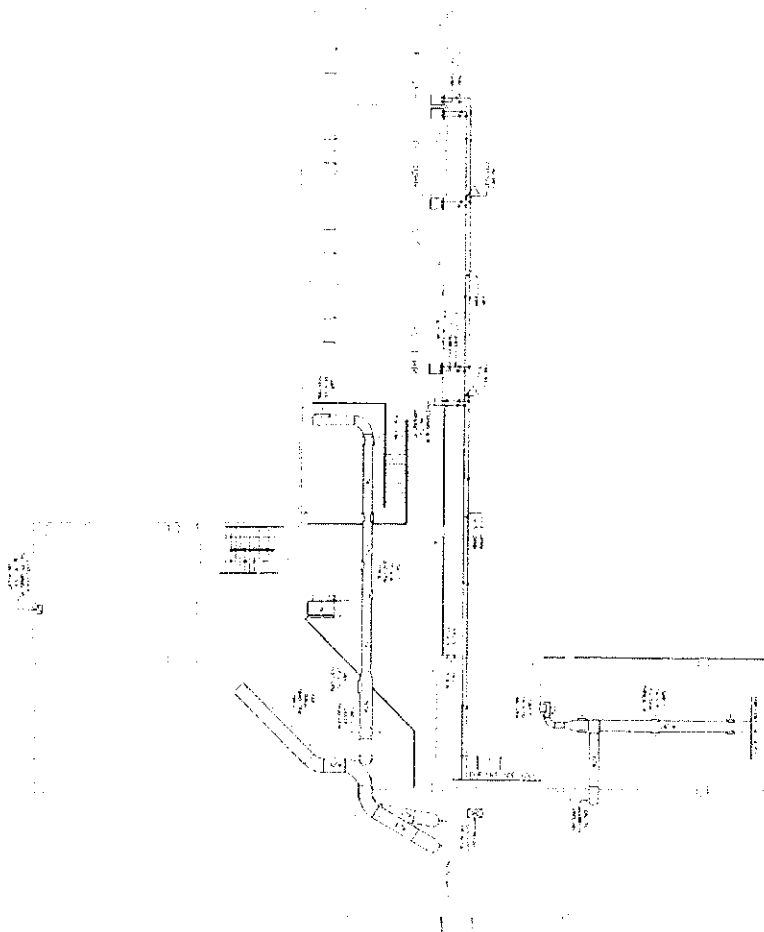
JOSE L. GARCIA
CONSULTING MECHANICAL ENGINEER

CEAMONTEA, T. A. DE PUERTO RICO
INGENIEROS Y ARQUITECTOS

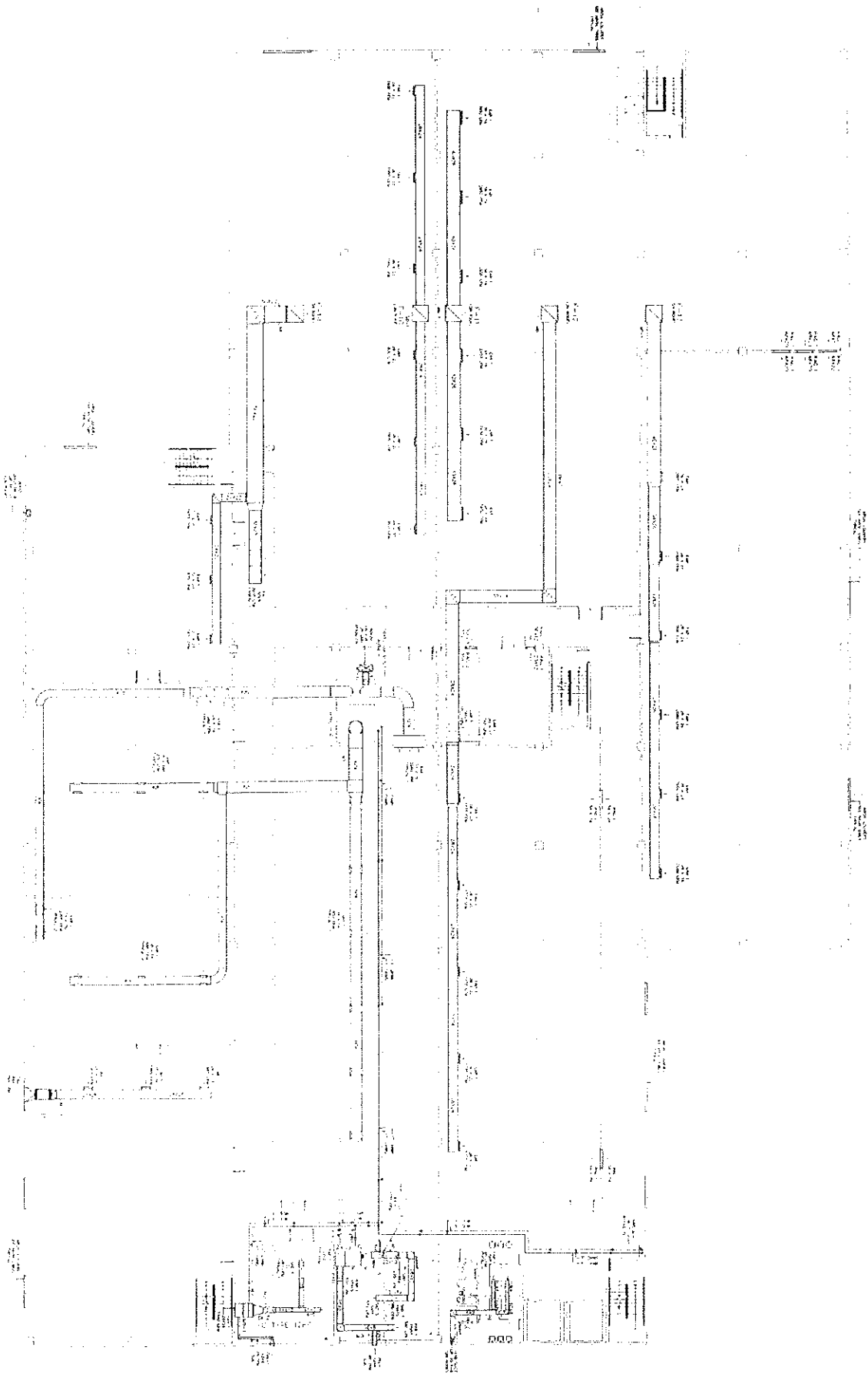
SCALE: 1/8" = 1'-0"

EROCAL

MEZZANINE A/C FLOOR PLAN

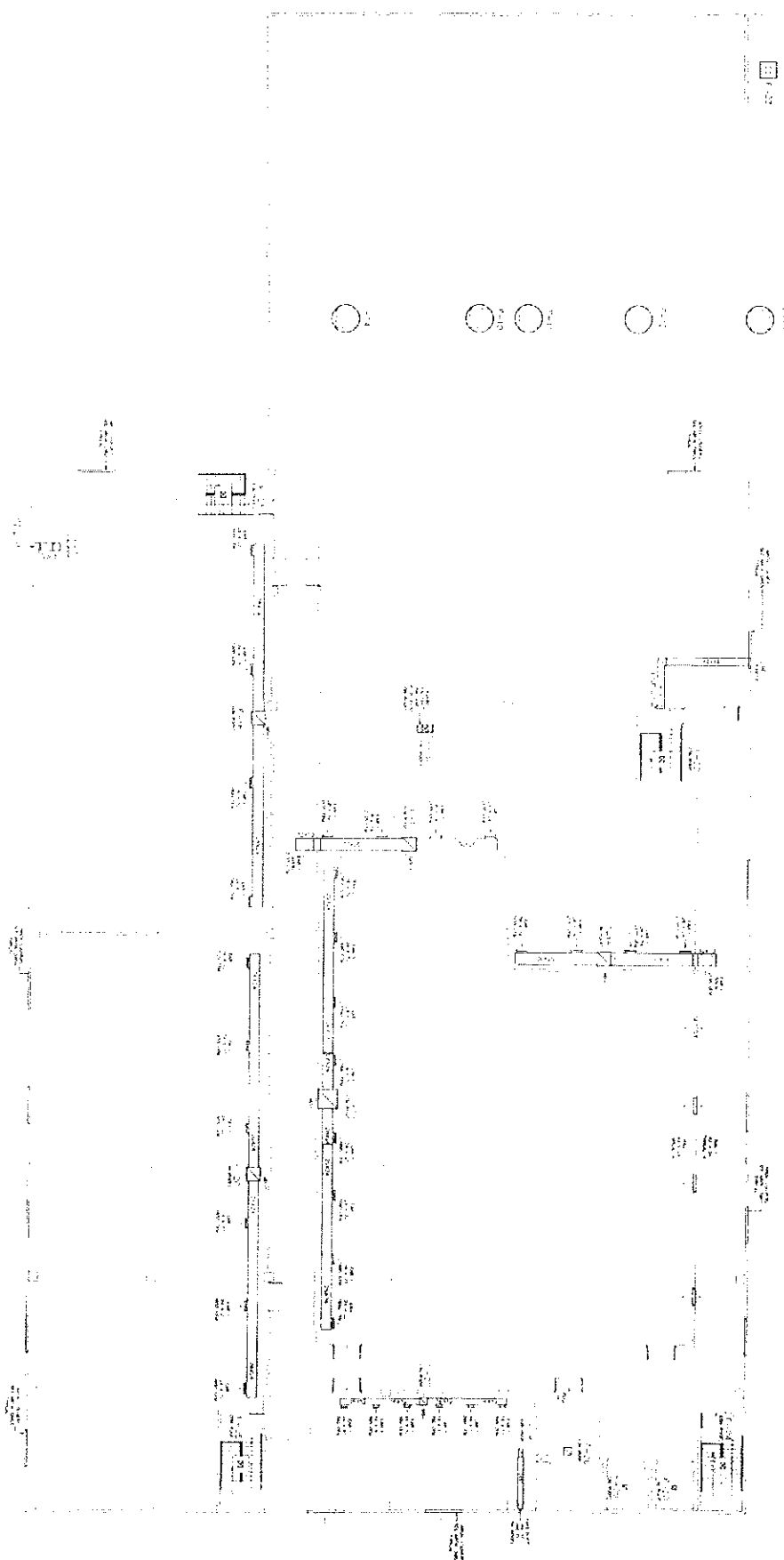


SECOND FLOOR A/C PLAN



JOSE L. GARCIA
CONSULTING MECHANICAL ENGINEER

THIRD FLOOR A/C PLAN



JOSE L. GARCIA
CONSULTING MECHANICAL ENGINEER

A/C ROOF PLAN

JOSE L. GARCIA
CONSULTING MECHANICAL ENGINEER

COMMUNICATION OF FLOOR TO R/C

DESIGNED BY

RE

PROCA

12

13

14



PUMP



PUMP SIDE ELEVATION

PUMP 1

SECTION A-A

PIPE SEPARATION DETAIL

CHILLER PIPING PLAN

JOSE L. GARCIA
CONSULTING MECHANICAL ENGINEER

==AN SCHEDULE==

[illegible]

TRAIN SCHEDULE

MANUFACTURER	5-16	5-20	5-24	5-28	5-32	5-36	5-40	5-44	5-48	5-52	5-56	5-60	5-64	5-68	5-72	5-76	5-80	5-84	5-88	5-92	5-96	5-100	5-104	5-108	5-112	5-116	5-120	5-124	5-128	5-132	5-136	5-140	5-144	5-148	5-152	5-156	5-160	5-164	5-168	5-172	5-176	5-180	5-184	5-188	5-192	5-196	5-200	5-204	5-208	5-212	5-216	5-220	5-224	5-228	5-232	5-236	5-240	5-244	5-248	5-252	5-256	5-260	5-264	5-268	5-272	5-276	5-280	5-284	5-288	5-292	5-296	5-300	5-304	5-308	5-312	5-316	5-320	5-324	5-328	5-332	5-336	5-340	5-344	5-348	5-352	5-356	5-360	5-364	5-368	5-372	5-376	5-380	5-384	5-388	5-392	5-396	5-400	5-404	5-408	5-412	5-416	5-420	5-424	5-428	5-432	5-436	5-440	5-444	5-448	5-452	5-456	5-460	5-464	5-468	5-472	5-476	5-480	5-484	5-488	5-492	5-496	5-500	5-504	5-508	5-512	5-516	5-520	5-524	5-528	5-532	5-536	5-540	5-544	5-548	5-552	5-556	5-560	5-564	5-568	5-572	5-576	5-580	5-584	5-588	5-592	5-596	5-600	5-604	5-608	5-612	5-616	5-620	5-624	5-628	5-632	5-636	5-640	5-644	5-648	5-652	5-656	5-660	5-664	5-668	5-672	5-676	5-680	5-684	5-688	5-692	5-696	5-700	5-704	5-708	5-712	5-716	5-720	5-724	5-728	5-732	5-736	5-740	5-744	5-748	5-752	5-756	5-760	5-764	5-768	5-772	5-776	5-780	5-784	5-788	5-792	5-796	5-800	5-804	5-808	5-812	5-816	5-820	5-824	5-828	5-832	5-836	5-840	5-844	5-848	5-852	5-856	5-860	5-864	5-868	5-872	5-876	5-880	5-884	5-888	5-892	5-896	5-900	5-904	5-908	5-912	5-916	5-920	5-924	5-928	5-932	5-936	5-940	5-944	5-948	5-952	5-956	5-960	5-964	5-968	5-972	5-976	5-980	5-984	5-988	5-992	5-996	6-000	6-004	6-008	6-012	6-016	6-020	6-024	6-028	6-032	6-036	6-040	6-044	6-048	6-052	6-056	6-060	6-064	6-068	6-072	6-076	6-080	6-084	6-088	6-092	6-096	6-100	6-104	6-108	6-112	6-116	6-120	6-124	6-128	6-132	6-136	6-140	6-144	6-148	6-152	6-156	6-160	6-164	6-168	6-172	6-176	6-180	6-184	6-188	6-192	6-196	6-200	6-204	6-208	6-212	6-216	6-220	6-224	6-228	6-232	6-236	6-240	6-244	6-248	6-252	6-256	6-260	6-264	6-268	6-272	6-276	6-280	6-284	6-288	6-292	6-296	6-300	6-304	6-308	6-312	6-316	6-320	6-324	6-328	6-332	6-336	6-340	6-344	6-348	6-352	6-356	6-360	6-364	6-368	6-372	6-376	6-380	6-384	6-388	6-392	6-396	6-400	6-404	6-408	6-412	6-416	6-420	6-424	6-428	6-432	6-436	6-440	6-444	6-448	6-452	6-456	6-460	6-464	6-468	6-472	6-476	6-480	6-484	6-488	6-492	6-496	6-500	6-504	6-508	6-512	6-516	6-520	6-524	6-528	6-532	6-536	6-540	6-544	6-548	6-552	6-556	6-560	6-564	6-568	6-572	6-576	6-580	6-584	6-588	6-592	6-596	6-600	6-604	6-608	6-612	6-616	6-620	6-624	6-628	6-632	6-636	6-640	6-644	6-648	6-65
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IN COIL SCHEDULE

HILLER SCHEDULE

IR SEPARATOR SCHEDULE

PRESSURE GAUGES SCHEDULE	
120 NUMBER	30000 UNIT
STATION	ANALYST
MANUFACTURER	ANALYST
MODEL	160
DATE	1/27/01
DESCRIPTION	PLASTIC
ACCURACY	1/2" & FULL SCALE
ELEMENT	ROBISON, 316 SS
CONNECTION	1/2" NPT

FAN COIL SCHEDULE

AIR DISTRIBUTION EQUIPMENT SCHEDULE

HYDRONIC SPECIAL TIES SCHEDULE

THEWOMETER AND WELL SCHEDULE

PRESSURE GAUGES SCHEDULED

15.0 LBS/HR	PI	PI
GRADE	3500-Y UNITS	RETURN INFS
MANUFACTURER	AMETEK	AMETEK
MODEL	1001	1001
DIAL DIAW	4 1/2"	4 1/2"
CASE	PLASTIC	PLASTIC
LINKS	1/2" X DILL SCAL	1/2" X DILL SCAL
ACTUATOR ELEMENT	BOULDER 310 SS	BOULDER 310 SS
CONNECTION	1/2" NPT	1/2" NPT
MANIC	D-300 PSI	C-300 PSI

AC SYMBOLS

PUMP SCHEDULE

BLANKING SOURCE	P-1, 2
MANUFACTURER	TACO
MODEL	1A
SIZE	250
TYPE	SNO GUN PROBE
PROB. DIA.	2NB
IDH (1" WD)	90
NUMBER	
FLUID	
EFFICIENCY %	
WATER VAPOR	15
NON OIL, #	1750
SPIN	4400/29AC
NO. 3/2004/12	13°C
TYPE	13°C
100 TACS	
WATER SEAL	YES

GENERAL NOTES

- ALL PIPING WORK SHALL BE IN ACCORDANCE WITH SPECIFICATION 15000, PIPING WORK REQUIREMENTS.
- CHILLED WATER PIPING INSULATION SHALL BE AS PER SPECIFICATION 15182.
- A/C AND CONDITIONING WORK SHALL BE AS PER SPECIFICATION 15801.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING THE CORRECT VOLTAGE OF MECHANICAL EQUIPMENT AFTER CONSULTING WITH THE PROJECT ELECTRICAL UTILITIES ENGINEER AND DISSEMINATING RESULTS TO THE MECHANICAL DRAWINGS AND THE MECHANICAL ELECTRICAL UTILITIES CONTRACTOR SHALL REQUEST THAT ALL PARTS INVOLVED IN THE PROJECT DESIGN TO COMPLY THE REQUIREMENTS BEFORE EQUIPMENTING EQUIPMENT.
- A/C-CONDENSING EQUIPMENT SHALL BE RUN TO NEAREST SANITARY DRAIN OR AS INDICATED IN PLUMBING DRAWINGS.
- ALL PIPING WORK SHALL BE IN ACCORDANCE WITH SPECIFICATION 15001, PIPING INSTALLATION.
- PIPING WORK SHALL BE IN ACCORDANCE WITH SPECIFICATION 15041, TESTING OF PRESSURIZED PIPING SYSTEMS.
- ALL CHILLED WATER PIPING SHALL BE GALVANIZED STEEL PIPE, 612 AS PER SPECIFICATION 16001.
- FOR ALL SIZES, 6000 PITCHES AND SLOPES, 2" IS 24 X 24 UNLESS OTHERWISE NOTED ON DRAWINGS. CONTRACTOR SHALL SPECIFY FRAMES THAT ACCORDANCE TO CEILING WHEN MOUNTING DIRECTLY OR DRILL.
- AC RECTANGULAR DUCTWORK SHALL BE SHEET METAL CONSTRUCTION FOR 2 IN. X 12 IN. ACCORDANCE WITH SPECIFICATION 15446.
- RECTANGULAR A/C DUCT SHALL BE INSTALLED UNLESS 1 IN. THICK ACoustICAL AND THERMAL INSULATION, DUCT SIZE SHOWN ON DRAWING AND CLEAR INSIDE DIMENSIONS.
- ALL ROUND DUCTWORK SHALL BE JUNIT SHALL METAL 22.
- ALL HANDING UNITS SHALL BE SUPPLIED WITH A GALVANIZED STEEL STRUCTURE, EXCEPTING BASE. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A HOUSE KICKING PAD IF DRAIN OUTLET IS NOT OF SUFFICIENT HEIGHT FOR FLOOR TO PROPERLY TRAP DRAIN.
- ALL EXTERIOR CARRYING UNITS SHALL BE EXPOSED TO AROUND ANNUAL LEAKAGE. DRAIN PAN SHALL BE INSULATED DOUBLE-WALL GALVANIZED STEEL, SLOPED TOWARD DRAIN OUTLET, MUST BE IN DRAIN PAN.
- ALL ACCESS DRAIN (DAN TEST) SHALL BE PROVIDED ON EACH SECTION WITH EXCEPTION TO THE COOL COILS. ACCESS DOOR SHALL BE DOUBLE WALL CONSTRUCTION AND BE INSTALLED ON LEFT-OR RIGHT HANDS FOR ALL OUTWARD GROUND APPLICATION.
- CASING SHALL HAVE AN INTERNAL METAL LINER WHICH WILL PREVENT DIRECT CONTACT OF AIR WITH THE REFRIGERANT INSULATION.
- FLUE GAS VELOCITY SHALL NOT EXCEED 450 FPM FACE VELOCITY. FILTERS SHALL BE 4 INCH BOX EFF. ELATED METAL.
- ALL EXHAUSTION DUCTWORK SHALL BE SHEET METAL CONSTRUCTION FOR 1/4" AND 1/2" IN ACCORDANCE WITH SPECIFICATION 15400.
- PAINT COLORED DUCTS AS PER ARCHITECTS COLOR & TYPE SELECTION.
- IN EXTERIOR, ROOF DUCTS/ DUCTWORK AND INSULATION SHALL BE AS PER SPECIFICATION 15441.

[illegible][illegible]

CHILLED WATER FLOW CONTROL DIAGRAM

1. The system is a closed loop, chilled water system. The water is circulated by three pumps (P-1, P-2, P-3) and three chillers (C-1, C-2, C-3). The water is then distributed to the process units (U-1, U-2, U-3) and returns to the pumps.

2. The flow is controlled by three pumps (P-1, P-2, P-3) and three chillers (C-1, C-2, C-3). The pumps are controlled by a flow controller (FC) which maintains the flow rate at a set point. The chillers are controlled by a temperature controller (TC) which maintains the water temperature at a set point.

3. The flow controller (FC) is a differential pressure (DP) controller. It measures the pressure drop across the process units and compares it to a set point. If the pressure drop is low, the FC increases the pump speed. If the pressure drop is high, the FC decreases the pump speed.

4. The temperature controller (TC) is a temperature controller. It measures the water temperature and compares it to a set point. If the temperature is high, the TC increases the chiller speed. If the temperature is low, the TC decreases the chiller speed.

5. The system is designed to maintain a constant flow rate and temperature, regardless of the load on the process units. This ensures that the process units receive the required amount of cooling water.

CHILLED WATER FLOW CONTROL DIAGRAM

1. The system is a closed loop, chilled water system. The water is circulated by three pumps (P-1, P-2, P-3) and three chillers (C-1, C-2, C-3). The water is then distributed to the process units (U-1, U-2, U-3) and returns to the pumps.

2. The flow is controlled by three pumps (P-1, P-2, P-3) and three chillers (C-1, C-2, C-3). The pumps are controlled by a flow controller (FC) which maintains the flow rate at a set point. The chillers are controlled by a temperature controller (TC) which maintains the water temperature at a set point.

3. The flow controller (FC) is a differential pressure (DP) controller. It measures the pressure drop across the process units and compares it to a set point. If the pressure drop is low, the FC increases the pump speed. If the pressure drop is high, the FC decreases the pump speed.

4. The temperature controller (TC) is a temperature controller. It measures the water temperature and compares it to a set point. If the temperature is high, the TC increases the chiller speed. If the temperature is low, the TC decreases the chiller speed.

5. The system is designed to maintain a constant flow rate and temperature, regardless of the load on the process units. This ensures that the process units receive the required amount of cooling water.

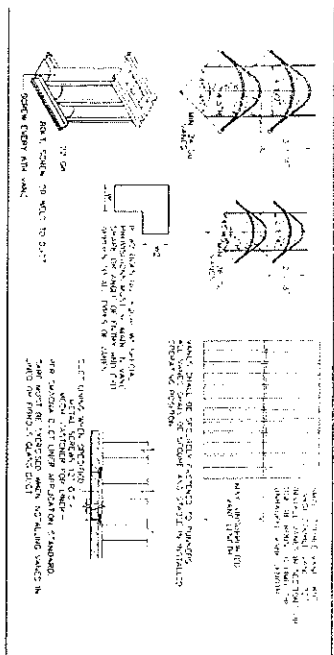
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MODEL _____ UNIT DIMENSIONS

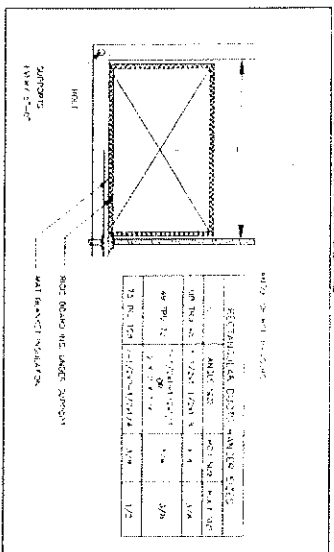
NO.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
INCHES	5.7	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
MILLIMETERS	145	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51

SAFARI FABRICATED FOR CASHING DEPT. (SEE ALSO DIMS)

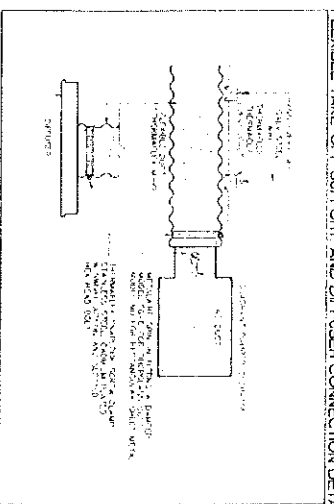
RUNNING VANES AND VANE RUNNERS DETAIL



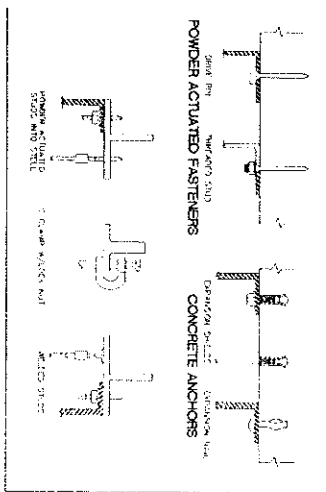
SHEET METAL DUCT SUPPORT DETAIL



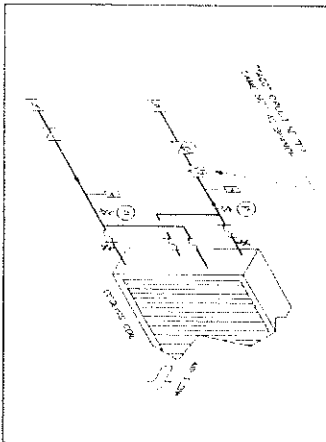
FLEXIBLE TAKE-OFF SUPPORT AND DIFFUSER CONNECTION DETAIL



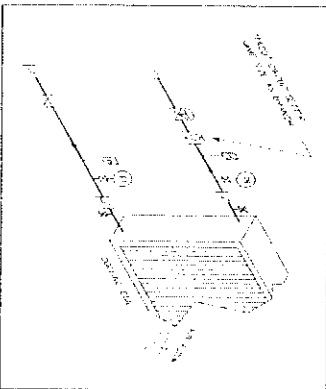
DUCTWORK SUPPORTS UPPER ATTACHMENTS DETAILS



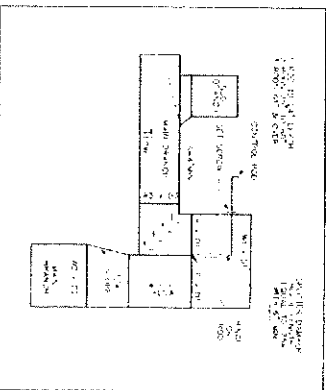
DOUBLE COOLING COIL PRING DETAIL



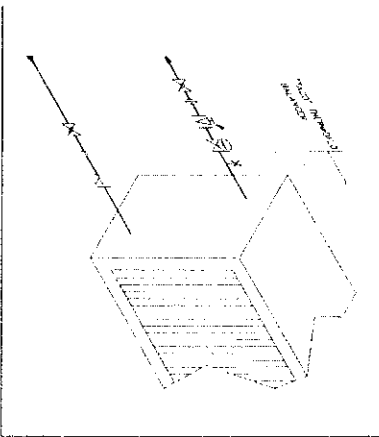
SINGLE COOLING COIL PRING DETAIL



DUCTWORK TAKE OFF DETAIL



AN COIL PRING DETAIL



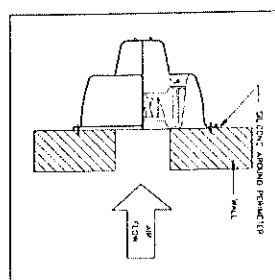
PRING LEGEND

1	1/2"	1/2"	1/2"
2	3/4"	3/4"	3/4"
3	1"	1"	1"
4	1 1/4"	1 1/4"	1 1/4"
5	1 1/2"	1 1/2"	1 1/2"
6	1 3/4"	1 3/4"	1 3/4"
7	2"	2"	2"
8	2 1/4"	2 1/4"	2 1/4"
9	2 1/2"	2 1/2"	2 1/2"
10	2 3/4"	2 3/4"	2 3/4"
11	3"	3"	3"
12	3 1/4"	3 1/4"	3 1/4"
13	3 1/2"	3 1/2"	3 1/2"
14	3 3/4"	3 3/4"	3 3/4"
15	4"	4"	4"
16	4 1/4"	4 1/4"	4 1/4"
17	4 1/2"	4 1/2"	4 1/2"
18	4 3/4"	4 3/4"	4 3/4"
19	5"	5"	5"
20	5 1/4"	5 1/4"	5 1/4"
21	5 1/2"	5 1/2"	5 1/2"
22	5 3/4"	5 3/4"	5 3/4"
23	6"	6"	6"
24	6 1/4"	6 1/4"	6 1/4"
25	6 1/2"	6 1/2"	6 1/2"
26	6 3/4"	6 3/4"	6 3/4"
27	7"	7"	7"
28	7 1/4"	7 1/4"	7 1/4"
29	7 1/2"	7 1/2"	7 1/2"
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31	8"	8"	8"
32	8 1/4"	8 1/4"	8 1/4"
33	8 1/2"	8 1/2"	8 1/2"
34	8 3/4"	8 3/4"	8 3/4"
35	9"	9"	9"
36	9 1/4"	9 1/4"	9 1/4"
37	9 1/2"	9 1/2"	9 1/2"
38	9 3/4"	9 3/4"	9 3/4"
39	10"	10"	10"
40	10 1/4"	10 1/4"	10 1/4"
41	10 1/2"	10 1/2"	10 1/2"
42	10 3/4"	10 3/4"	10 3/4"
43	11"	11"	11"
44	11 1/4"	11 1/4"	11 1/4"
45	11 1/2"	11 1/2"	11 1/2"
46	11 3/4"	11 3/4"	11 3/4"
47	12"	12"	12"
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57	14 1/2"	14 1/2"	14 1/2"
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83	21"	21"	21"
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94	23 3/4"	23 3/4"	23 3/4"
95	24"	24"	24"
96	24 1/4"	24 1/4"	24 1/4"
97	24 1/2"	24 1/2"	24 1/2"
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99	25"	25"	25"
100	25 1/4"	25 1/4"	25 1/4"
101	25 1/2"	25 1/2"	25 1/2"
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113	28 1/2"	28 1/2"	28 1/2"
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126	31 3/4"	31 3/4"	31 3/4"
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128	32 1/4"	32 1/4"	32 1/4"
129	32 1/2"	32 1/2"	32 1/2"
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138	34 3/4"	34 3/4"	34 3/4"
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140	35 1/4"	35 1/4"	35 1/4"
141	35 1/2"	35 1/2"	35 1/2"
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181	45 1/2"	45 1/2"	45 1/2"
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220	55 1/4"	55 1/4"	55 1/4"
221	55 1/2"	55 1/2"	55 1/2"
222	55 3/4"	55 3/4"	55 3/4"
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224	56 1/4"	56 1/4"	56 1/4"
225	56 1/2"	56 1/2"	56 1/2"
226	56 3/4"	56 3/4"	56 3/4"
227	57"	57"	57"
228	57 1/4"	57 1/4"	57 1/4"
229	57 1/2"	57 1/2"	57 1/2"
230	57 3/4"	57 3/4"	57 3/4"
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233	58 1/2"	58 1/2"	58 1/2"
234	58 3/4"	58 3/4"	58 3/4"
235	59"	59"	59"
236	59 1/4"	59 1/4"	59 1/4"
237	59 1/2"	59 1/2"	59 1/2"
238	59 3/4"	59 3/4"	59 3/4"
239	60"	60"	60"
240	60 1/4"	60 1/4"	60 1/4"
241	60 1/2"	60 1/2"	60 1/2"
242	60 3/4"	60 3/4"	60 3/4"
243	61"	61"	61"
244	61 1/4"	61 1/4"	61 1/4"
245	61 1/2"	61 1/2"	61 1/2"
246	61 3/4"	61 3/4"	61 3/4"
247	62"	62"	62"
248	62 1/4"	62 1/4"	62 1/4"
249	62 1/2"	62 1/2"	62 1/2"
250	62 3/4"	62 3/4"	62 3/4"

Technical drawing of a mechanical assembly, likely a pump or motor component. It includes a side view (top) and a cross-sectional view (bottom). The side view shows a rectangular frame with a central vertical support. The cross-sectional view shows a cylindrical component with internal features, including a central shaft and a surrounding housing. Dimensions are indicated by arrows and numbers.

NO.	A	B	C
DE 06	16 1/2"	12 7/16"	13 1/2"
DE 10	21"	14 1/2"	18 1/2"
DE 12	22"	19"	23 1/2"
DE 14	25"	23"	27 1/2"
DE 20	30"	27 3/4"	30"

MODEL	A	B	C
REX 08	16 1/2	12 7/8	15 1/2
REX 10	21	14 1/2	21 1/4
REX 12	22	18	25 1/2
REX 14	25	23	26 1/2
REX 20	30	27 3/4	30



MODEL	A	B	C
N. D.	20	16	23 1/2
M. 206	20	23	23 1/2
M. 206 A	20	23 3/4	23 1/2
M. 206 B	20	23 1/2	23 1/2
M. 206 C	20	49 1/2	43
M. 206 D	20	49 1/2	43

MODE- NO.	A	B	C
REX 11R	23	14	23 1/2
REX 140	25	23	25 1/2
REX 20R	30	27	33 1/4
REX 20B	32	33 1/4	35 3/4
REX 22C	36	40 1/2	43
REX 30R	34	45 1/2	52

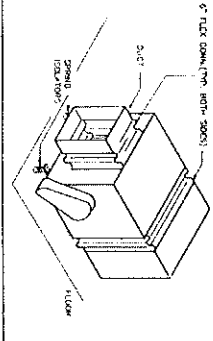
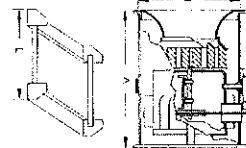
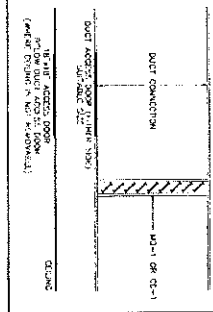
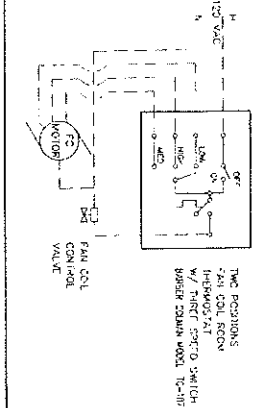
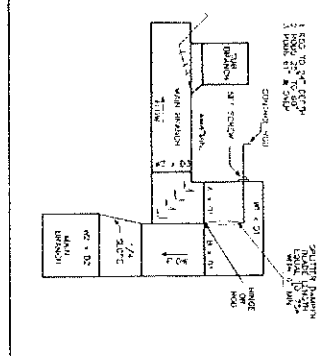
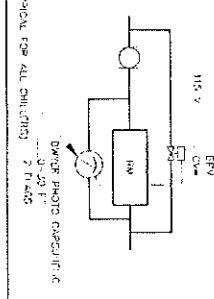
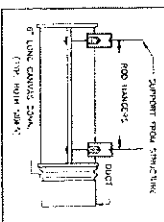
[illegible][illegible]

Diagram illustrating a support post with a rod passing through a duct. The rod is labeled "ROD 1/2 INCH DIA." and the duct is labeled "DUCT". The cavity between the rod and the duct is labeled "1/2 INCH CAVITY".



VENT

FILLER

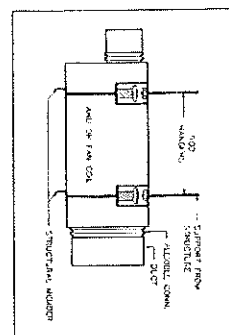
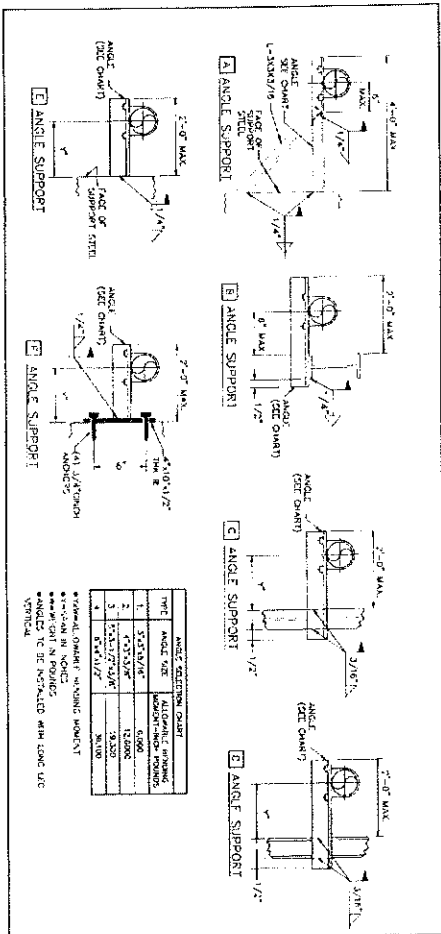
FUEL TANK

STRUCTURAL MEMBER

DRAINAGE

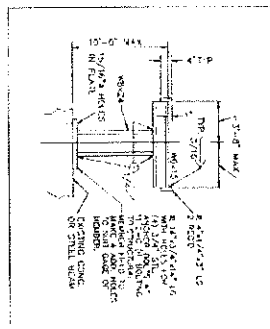
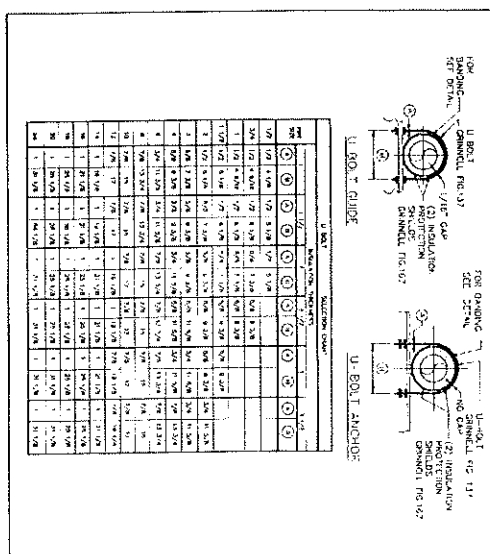
FILLER

1.2 CT

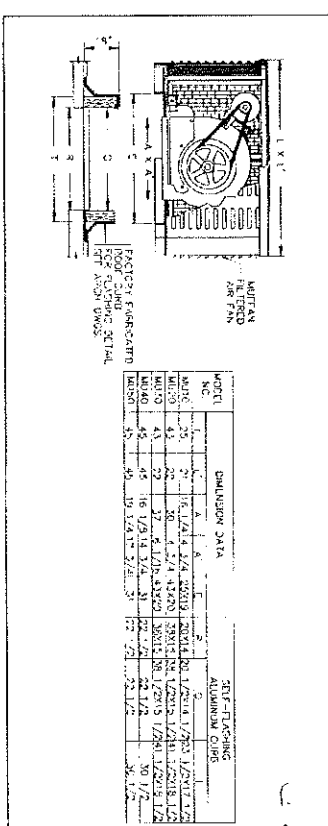
[illegible]

ANGLE SELECTION CHART		
TYPE	ANGLE VALUE	ALLIGATOR BINDING SHEATH-INSIDE POLYMER
1.	5.5° to 16°	0.000
2.	17° to 3.8°	12.000
3.	3.9° to 17° to 3.8°	19.330
4.	18° to 11°	36.110

Technical drawing of a vertical shaft assembly. The shaft is labeled "SHAFT" and has a diameter of "1.50". The shaft is supported by a "BUSHING" with a diameter of "1.50". The bushing is mounted on a "BASE" with a diameter of "1.50". The base is labeled "CASTING CONC. OR STEEL WELD". The shaft is also labeled "SHAFT" and has a diameter of "1.50". The shaft is supported by a "BUSHING" with a diameter of "1.50". The bushing is mounted on a "BASE" with a diameter of "1.50". The base is labeled "CASTING CONC. OR STEEL WELD".

[illegible][illegible]

MATERIAL	DILUTION DATA					SELF-FLASHING	
	1	2	3	4	5	ALUMINUM	CHLOR
MA-10	1	1	A	A	E	20.1/20.1	1.5/15.1
MA-15	2	1	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-20	3	2	3/4	3/4	3/4	18.8/18.8	1.5/15.1
MA-25	4	2	3/4	3/4	3/4	18.8/18.8	1.5/15.1
MA-30	5	3	3/4	3/4	3/4	18.8/18.8	1.5/15.1
MA-35	6	4	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-40	7	5	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-45	8	6	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-50	9	7	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-55	10	8	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-60	11	9	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-65	12	10	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-70	13	11	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-75	14	12	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-80	15	13	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-85	16	14	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-90	17	15	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-95	18	16	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-100	19	17	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-105	20	18	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-110	21	19	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-115	22	20	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-120	23	21	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-125	24	22	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-130	25	23	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-135	26	24	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-140	27	25	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-145	28	26	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-150	29	27	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-155	30	28	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-160	31	29	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-165	32	30	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-170	33	31	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-175	34	32	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-180	35	33	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-185	36	34	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-190	37	35	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-195	38	36	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-200	39	37	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-205	40	38	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-210	41	39	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-215	42	40	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-220	43	41	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-225	44	42	1/2	1/2	1/2	18.8/18.8	1.5/15.1
MA-230	45	43	1/2	1/2	1/2	18.8/18.8	1.5/15.1



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60	Q61	Q62	Q63	Q64	Q65	Q66	Q67	Q68	Q69	Q70	Q71	Q72	Q73	Q74	Q75	Q76	Q77	Q78	Q79	Q80	Q81	Q82	Q83	Q84	Q85	Q86	Q87	Q88	Q89	Q90	Q91	Q92	Q93	Q94	Q95	Q96	Q97	Q98	Q99	Q100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

1. The first step in the process of identifying a problem is to determine the scope of the problem. This involves gathering information about the problem and its impact on the organization.

2. The second step is to identify the causes of the problem. This involves analyzing the data collected in the first step to determine the underlying factors that are contributing to the problem.

3. The third step is to develop a plan of action. This involves determining the specific steps that need to be taken to address the problem and the resources that will be required to implement the plan.

4. The fourth step is to implement the plan. This involves putting the plan into action and monitoring the progress of the implementation.

5. The fifth step is to evaluate the results. This involves assessing the effectiveness of the plan and making adjustments as needed.

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