FAN SCHEDULE

SYS NO.	SHEET NO.	FAN LOCATION	AREA SERVED	MANUFACTURER'S MODEL NUMBER BASIS OF DESIGN	C.F.M.	MIN. WHEEL DIA in	TYPE	DIS-CHARGE	S.P. INCHES WATER	RPM	O.V. FPM	BHP	DRIVE	MOTOR-60 CYCLES H.P.	RPM	V.	Φ.
S-1	M-3	BASEMENT	AUD. & LOBBY	TRANE CLIMATE CHANGER NO. 63	33,700	40 1/4	FC	—	2 1/2	770	1670	21.24	V-BELT	30	1750	208	3
S-2	M-2	OUTSIDE	STAGE	TRANE CLIMATE CHANGER NO. 12	6,000	18 1/4	FC	—	1 1/4	670	1460	2.48	V-BELT	5	1750	208	3
S-3	M-2	ABOVE TICKET OFFICE	OFFICE	SEE FLOOR PLANS												208	
S-4	M-4	ABOVE TICKET OFFICE	OFFICE	SEE FLOOR PLANS												208	
S-5	M-4	BACKSTAGE	STAGE	TRANE CLIMATE CHANGER NO. 25	11,100	2(18 1/4)	FC	HORIZ.	2	835	1400	7.0	V-BELT	10	1750	208	3
S-6	M-5	BASEMENT	AUD. & LOBBY	TRANE CLIMATE CHANGER NO. 41	18,900	1 (33)	AF	HORIZ.	2 1/2	905	1400	12.0	V-BELT	15	1750	460	3
RA-1	M-3	BASEMENT	AUD. & LOBBY	TRANE AF 54 SW	28,860	54	AF	UBD	2	445	1800	12.15	V-BELT	15	1750	208	3
RA-2	M-5	BASEMENT	AUD. & LOBBY	TRANE AF 40 SW	15,000	40	AF	UBD	2	636	1612	5.6	V-BELT	7 1/2	1750	460	3
V-1	M-5	BASEMENT	CENTRAL PLANT	TRANE T-6	3,000	12 1/4	FC	HORIZ.	1 1/2	1068	1600	1.28	V-BELT	2	1750	460	3
V-2	M-2	C.H. BASEMENT	ALTERNATE NO. 1	SEE FLOOR PLAN													
S-7	M-2	ELECT. RM.	ELECT. RM.	SEE FLOOR PLAN													

CHILLED WATER COOLING COILS

SYS NO.	NO. REQ.	NOM. TUBE LNGTH.	COIL WIDTH	MIN. ROWS DEEP	FACE AREA FT.² ea	FACE VEL. FPM	AIR TEMP. °F ENT. W.B.	ENT. D.B.	LVG. W.B.	LVG. D.B.	MAX. P.D. in W.G.	WATER G.P.M. TOTAL	ENT. °F	LVG. °F	MAX. P.D.
S-1	2 1	108 108	30 24	6	63.0	535	67.1	91	53.0	54.0	0.72	244	42	54	15.3
S-2	1	51	33	6	11.7	513	64.6	82	53.0	54.0	0.68	34.5	42	54	1.6
S-3															
S-4															
S-5	1	105	33	6	24.1	480	69.8	98.6	53.0	54.0	.58	98.5	42	54	12.2
S-6	1	108 108	24 30	6	40.5	470	66.5	88.5	53.0	54.0	.57	130	42	54	10.9
RA-1															
RA-2															
V-1	1	42	18	4	5.25	570	73	110	67	90		11	42	54	
V-2															
S-7															

HOT WATER HEATING COILS

SYS NO.	NO. REQ.	NOM. TUBE LNGTH	COIL WIDTH	MIN. ROWS DEEP	FACE AREA FT.² ea	FACE VEL. F.P.M.	AIR TEMP. °F ENT. W.B.	ENT. D.B.	LVG. W.B.	LVG. D.B.	MAX. P.D. in WB.	WATER G.P.M. TOTAL	ENT °F	LVG. °F	MAX. P.D.
S-1	1 1	108 108	18 24	2 2	31.5	1070		49.2		89	.72	73.0	200	160	2.2
S-2	1	48	18	2	6.0	1000		65		89	.64	8.0	200	160	.8
S-3															
S-4															
S-5	1	99	18	2	1238	930		47		91.4	.57	28.0	200	160	2.0
S-6	1	99	30	2	20.6	920		52		87.6	.54	36.0	200	160	1.8

FILTER SCHEDULE

SYS. NO.	MANUFACTURE'S MODEL NUMBER BASIS OF DESIGN	NO. REQ.	SIZE	ARRANGEMENT	ANTI-VIBRATION BASES TYPE BASE	MOUNT.	MIN. IN. STATIC. DEFLECT.	SYS. NO.
S-1		49	16X25	HIGH CAPACITY	G	B	2	S-1
S-2		4 2	20X25 16X25	MEDIUM CAPACITY	G	B	2	S-2
S-3	SEE FLOOR PLANS				G	B	2	S-3
S-4	SEE FLOOR PLANS				G	B	2	S-4
S-5		12	16X20X2	FLAT FILTER BOX	J-2W	B	1½	S-5
S-6		20	20X25	MEDIUM CAPACITY	G	B	2	S-6
RA-1					G	B	2	RA-1
RA-2					G	B	2	RA-2
E-3					HANGER	XVHS	1	E-3
V-1					-"-	-"-	1	V-1

AIR CONDITIONING WATER CHILLER

NO. REQ.	MANUFACTURE'S MODEL NUMBER BASIS OF DESIGN	MIN. TONS CAP.	CHILLER GPM EA.	WATER °F IN	OUT	P.D. FT. H_2O	NO. OF PASSES	CONDENSER GPM EA.	WATER °F IN	OUT	P.D. FT. H_2O	NO. OF PASSES	COMPRESSOR REFRIG. CHARGER lbs.	MOTOR-60 CYCLES 30 H.P.	V.	FLA	LRD	OTA	MAX. OPERIG. WGHT.	ANTI-VIBRATION BASES TYPE BASE	MEMBERS	MIN. IN. STATIC DEFLECT.
1	TRANE PCV-2F	236	472	54	42	15'	2	710	85	95	12	2	F-11 600 lbs	211	480	286	1600	—	12,500	G	C	1

PUMPS SCHEDULE

PMP. NO.	MANUFACTURER's MODEL NUMBER BASIS OF DESIGN	TYPE OF PMP.	SERVICE	LOCATION	GPM	HEAD FT OF H_2O	MOTOR-60 CYCLES RPM	H.P.	V.	Φ	ANTI-VIBRATION BASES TYPE BASE	MOUNT.	MIN. STAT. DEFLECT
P-1	PEERLESS TYPE A 4A-12B	SPLIT CASE DOUBLE SUCT.	CHILLED WATER	EQUIP. RM.	472	120	1750	25	460	3	J-2W	B	1½"
P-2	PEERLESS TYPE A 4A-13B	SPLIT CASE DOUBLE SUCT.	STAND-BY	EQUIP. RM.	472 710	120 75	1750	25	460	3	↓	↓	↓
P-3	PEERLESS TYPE A 5ABX x 10½		CONDENSER WATER	EQUIP. RM.	710	75	1750	20	460	3	↓	↓	↓
P-4	PEERLESS TYPE PB 1½ x 2 x 12	END SUCTION	HEATING HOT WATER	EQUIP. RM.	75	100	1750	7 1/2	460	3	↓	↓	↓
P-5	PEERLESS TYPE PB 1½ x 2 x 12	END SUCTION	HEATING HOT WATER	EQUIP. RM.	75	100	1750	7 1/2	460	3	↓	↓	↓

EXHAUST FAN SCHEDULE

SYS NO.	SHEET NO.	FAN LOCATION	AREA SERVED	MANUFACTURER'S MODEL NUMBER BASIS OF DESIGN	C.F.M.	MIN. WHEEL DIA in	TYPE	DIS-CHARGE	S.P. INCHES WATER	RPM	O.V. FPM	BHP	DRIVE	MOTOR-60 CYCLES H.P.	RPM	V.	Φ.
TX-1	M-8	ROOF	CONCERT HALL MAIN TOILETS	DAVIDSON PC-16 ROOF EXHAUSTER	800	13 3/4	—	—	1/2	1165	160	.28	V-BELT	1/3	1750	120	1
TX-2	M-8	ROOF	CONCERT HALL LOBBY TOILETS	DAVIDSON PC-10	200	9	—	—	3/8	1550	125	—	DIRECT	1/20	1550	120	1
TX-3	M-8	ROOF	CONCERT HALL STAGE	DAVIDSON PC-10	200	9	—	—	3/8	1550	125	—	DIRECT	1/20	1550	120	1
TX-4	M-8	ROOF	DRAMA THEATER MAIN TOILETS	DAVIDSON PC-16	800	13 3/4	—	—	1/2	1165	160	.28	V-BELT	1/3	1750	120	1
TX-5	M-8	ROOF	DRAMA THEATER STAGE	DAVIDSON PC-19	1050	16 7/8	—	—	1/2	910	210	.26	V-BELT	1/3	1750	120	1
E-1	M-8	ROOF	DRAMA THEATER SHOP AREA	DAVIDSON PC-28	2600	25	—	—	3/8	520	245	.36	V-BELT	1/2	1750	208	3
E-2	M-8	ROOF	DRAMA THEATER ATTIC	DAVIDSON PC-28	3500	25			3/8	585	325	.5	V-BELT	3/4	1750	208	3
E-3	M-5	DRAMA THEATER STAGE BASEMENT	STAGE BASEMENT	TRANE T-6	2500	12 1/4	F.C.	—	1	880	1350	.73	V-BELT	1	1750	208	3

COOLING TOWER

SYS. NO.	LOCATION	NO. CELLS	NOM. TONS	GPM. EA.	WATER °F ENT.	LVG.	MAX. OPER'G. WGHT.	W.B. °F	C.F.M.	MOTOR-60 CYCLES NO. REQ.	H.P.	RPM	V.	Φ.	MANUFACTURE'S MODEL NUMBER BASIC DESIGN	ANTI-VIBRATION BASES TYPE BASE	MOUNT.	MIN. IN. STATIC. DEFLECT.	SYS. NO.
1	SITE	1	236	710	95	85	10,000	75	47,400	2	15	1750	460	3	BAC VLT-225	I BEAM	C	1.5	1

BOILER

NO. REQ.	MANUFACTURER'S MODEL NUMBER BASIS OF DESIGN	SERVICE	M.B.H. (TOT.) IN	OUT	TYPE	FUEL	MAX. PRESSURE	RELIEF VAV. SETTING
2	HYDRO THERM MR 1800	HEATING	3600	2880	CAST IRON	GAS	100 PSI	100 PSI

REHEAT COIL SCHEDULE

SYSTEM NO.	SHEET NO.	NOM. TUBE LENGTH	COIL WIDTH	MIN. ROWS DEEP	FACE AREA FT.²	FACE VEL. F.P.M.	AIR TEMP. °F. ENT.	°F. LVG.	WATER G.P.M.	°F. ENT.	°F. LVG.
RC-1	M-2	24"	12"	1	2.0	750	55	80	2.03	200	160
RC-2	M-3	12"	6"	1	0.5	720	55	80	0.05	200	160
RC-3	M-4	36"	12"	1	3.0	840	55	80	3.40	200	160
RC-4	M-4	18"	12"	1	1.5	730	55	80	1.50	200	160

RALPH E. PHILLIPS INC.
MECHANICAL AND ELECTRICAL ENGINEERS
1150 SOUTH OLIVE STREET, LOS ANGELES, CALIFORNIA 90015
AREA CODE 213 PHONE 749-7676
REG. NO. E. E. 2047 M. E. 1068

JAMES McDANIEL ARCHITECT
537 East Sahara Avenue
Las Vegas, Nevada 89105
(702) 735-9169 (702) 734-1101

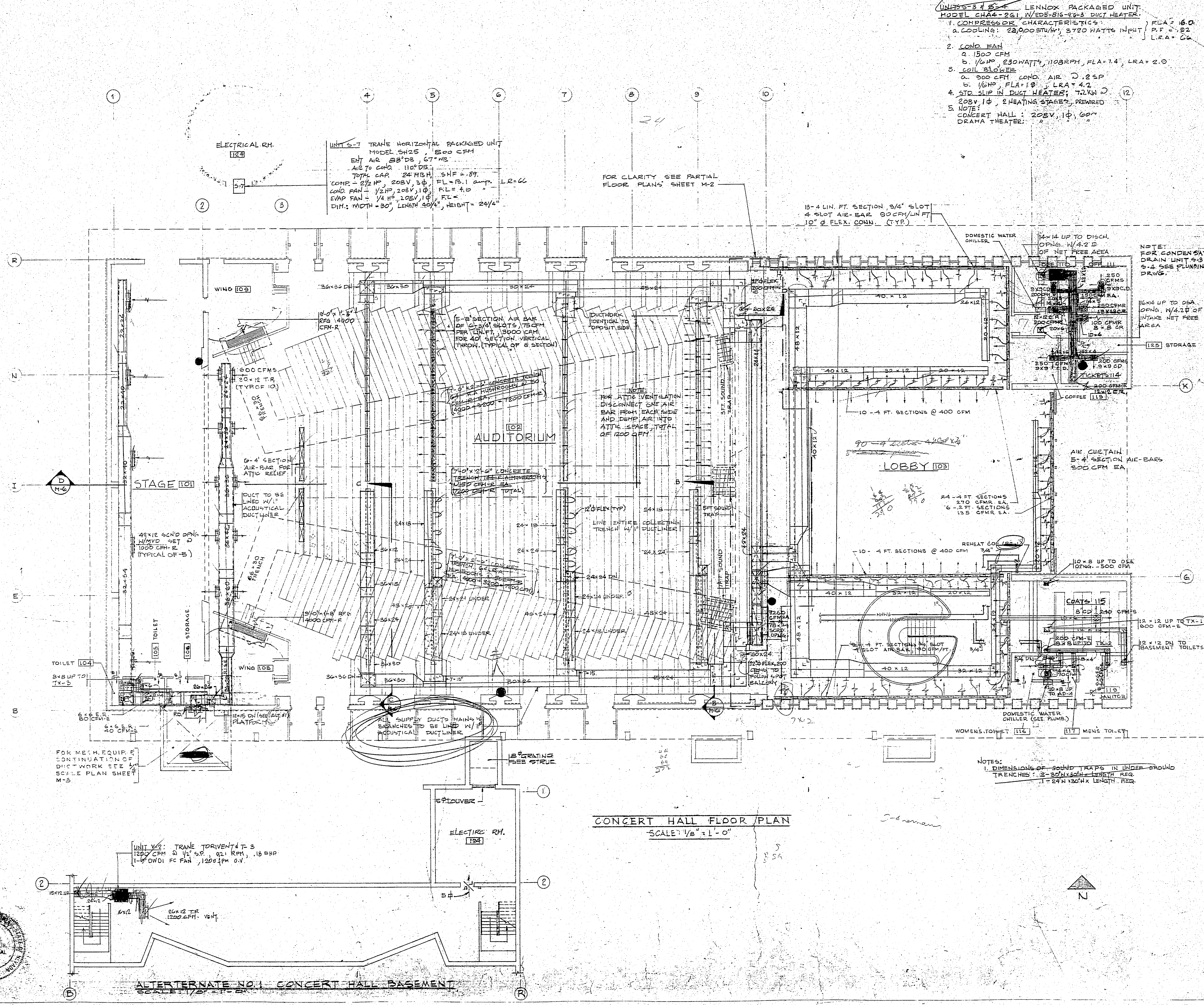
DRAWN BY A. B.
CHECKED BY H. K.

FINE ARTS COMPLEX
UNIVERSITY OF NEVADA
PHASE 1 LAS VEGAS, NEVADA

SHEET TITLE
H.V. & A.C.
SCHEDULES

M-1

10



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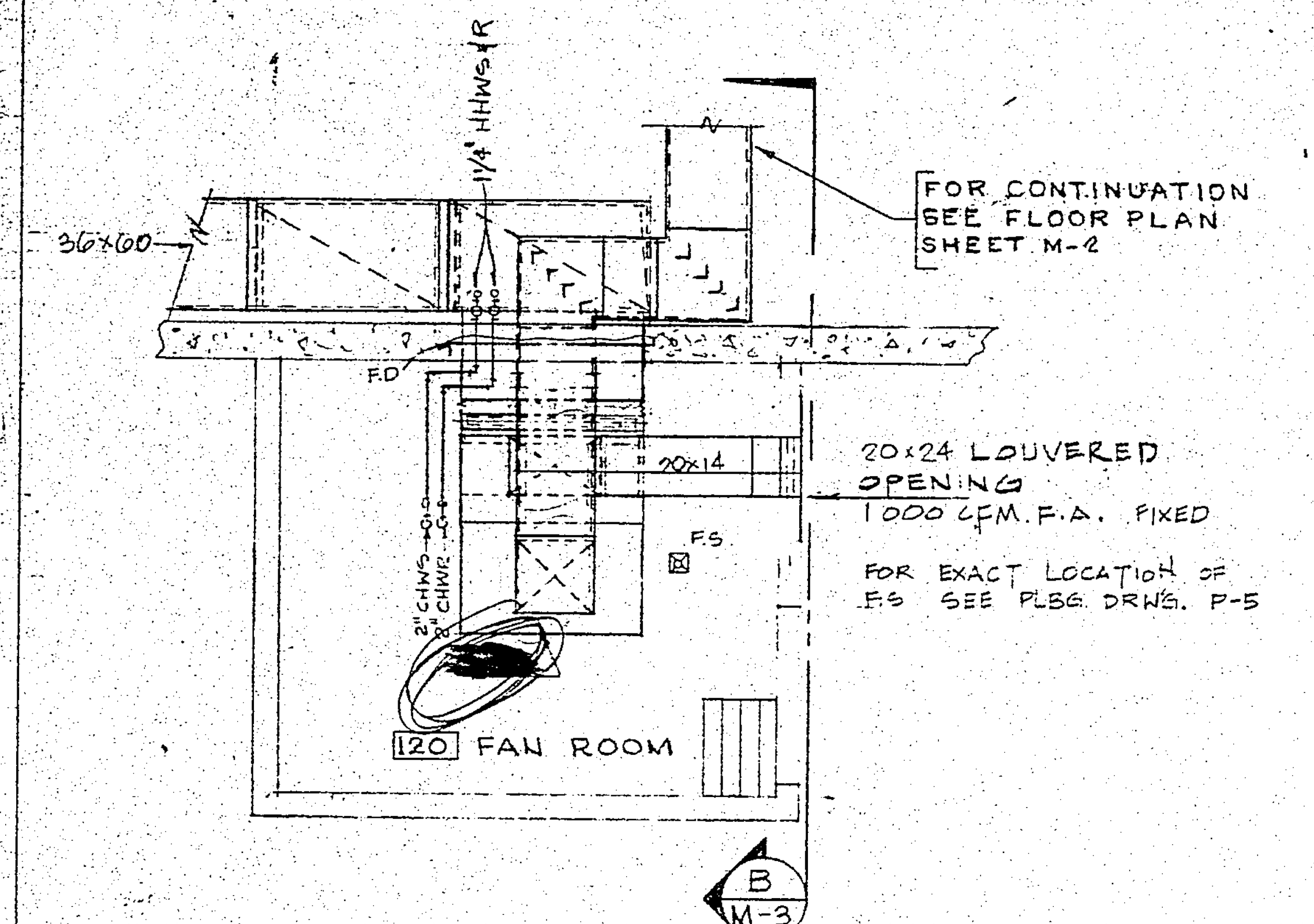
CHECKED BY M.K.
JOB NUMBER 6823
SCALE
DATE 7-12-72
APPROVED BY
OWNER
REVISIONS

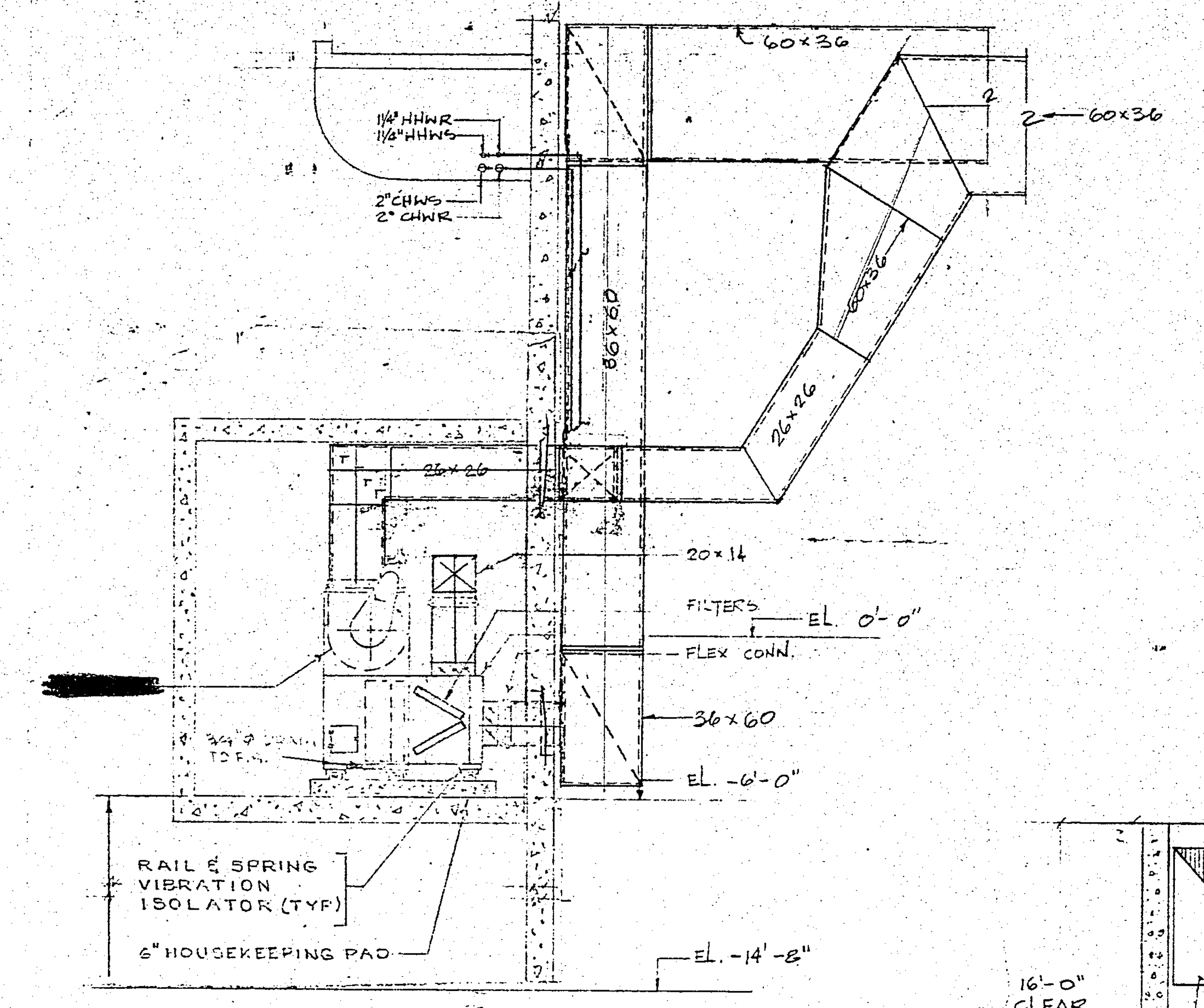
JOB TITLE
FINE ARTS COMPLEX
UNIVERSITY OF NEVADA
PHASE I LAS VEGAS, NEVADA

SHEET TITLE
H.V. & A.C.
CONCERT HALL FLOOR PLAN

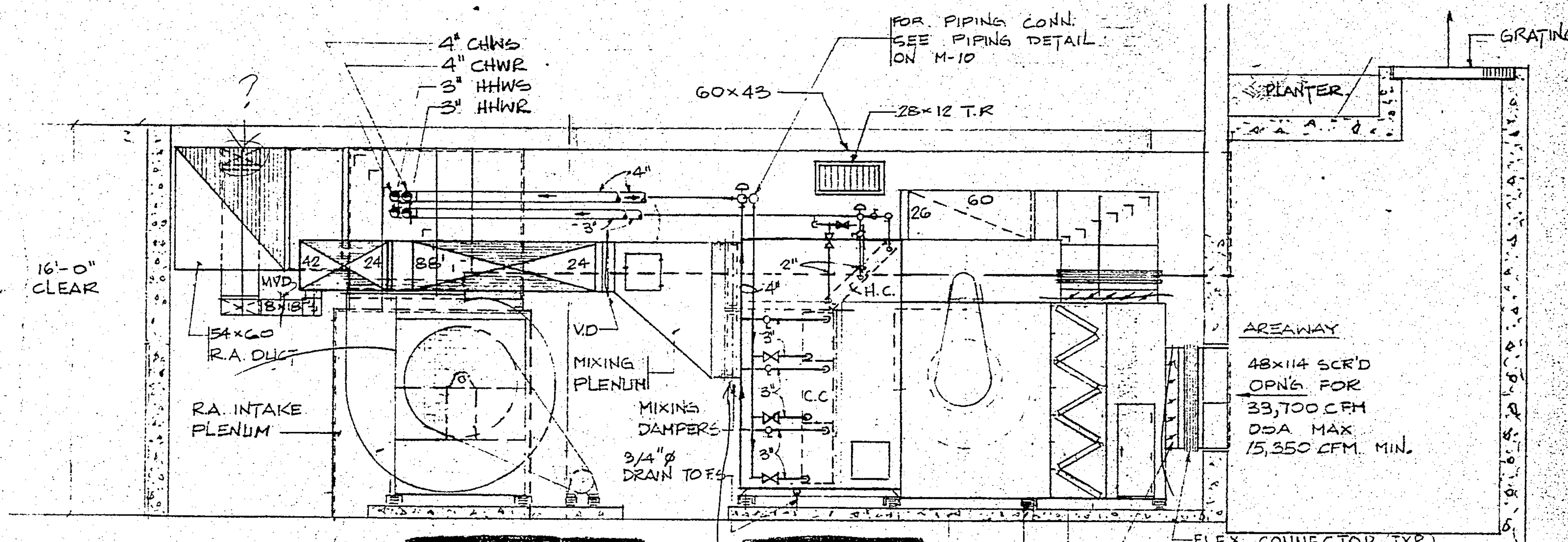
SHEET M-2
OF 10



MECH. EQUIP. RM. PLAN
CONCERT HALL
SCALE 1/4" = 1-0"

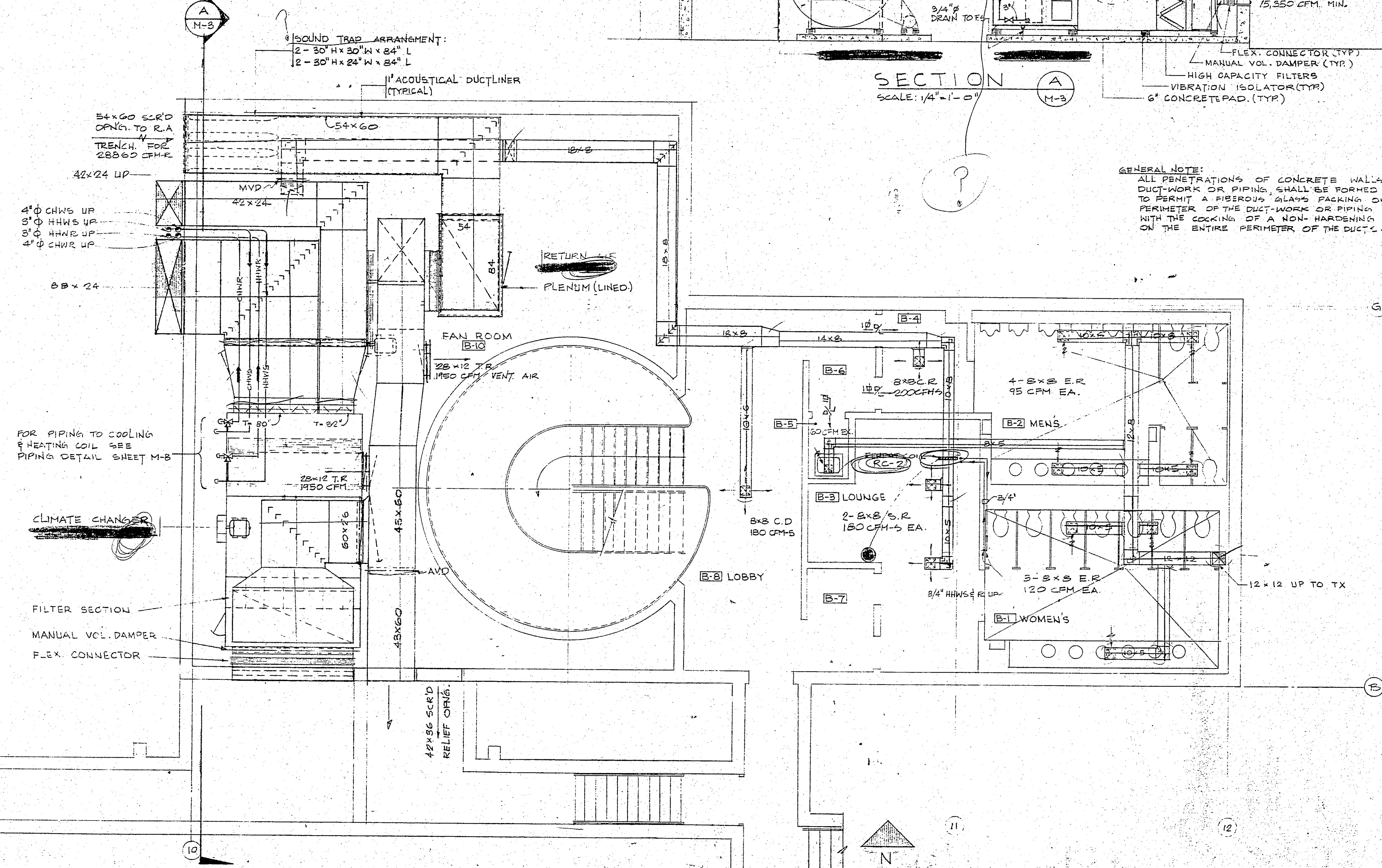


SECTION B M-3
SCALE 1/4" = 1'-0"



SECTION A M-3
SCALE: 1/4" = 1'-0"

GENERAL NOTE:
ALL PENETRATIONS OF CONCRETE WALLS OF DUCT-WORK OR PIPING, SHALL BE FORMED OVERSIZED TO PERMIT A FIBEROUS GLASS PACKING ON THE PERIMETER OF THE DUCT-WORK OR PIPING TOGETHER WITH THE COCKING OF A NON-HARDENING SEALENT ON THE ENTIRE PERIMETER OF THE DUCTS OR PIPING.



BASEMENT FLOOR PLAN
SCALE: 1/4" = 1'-0"

RALPH E. PHILLIPS INC.
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DRAWN BY A.H.
DATE 2-12-70

FINE ARTS COMPLEX
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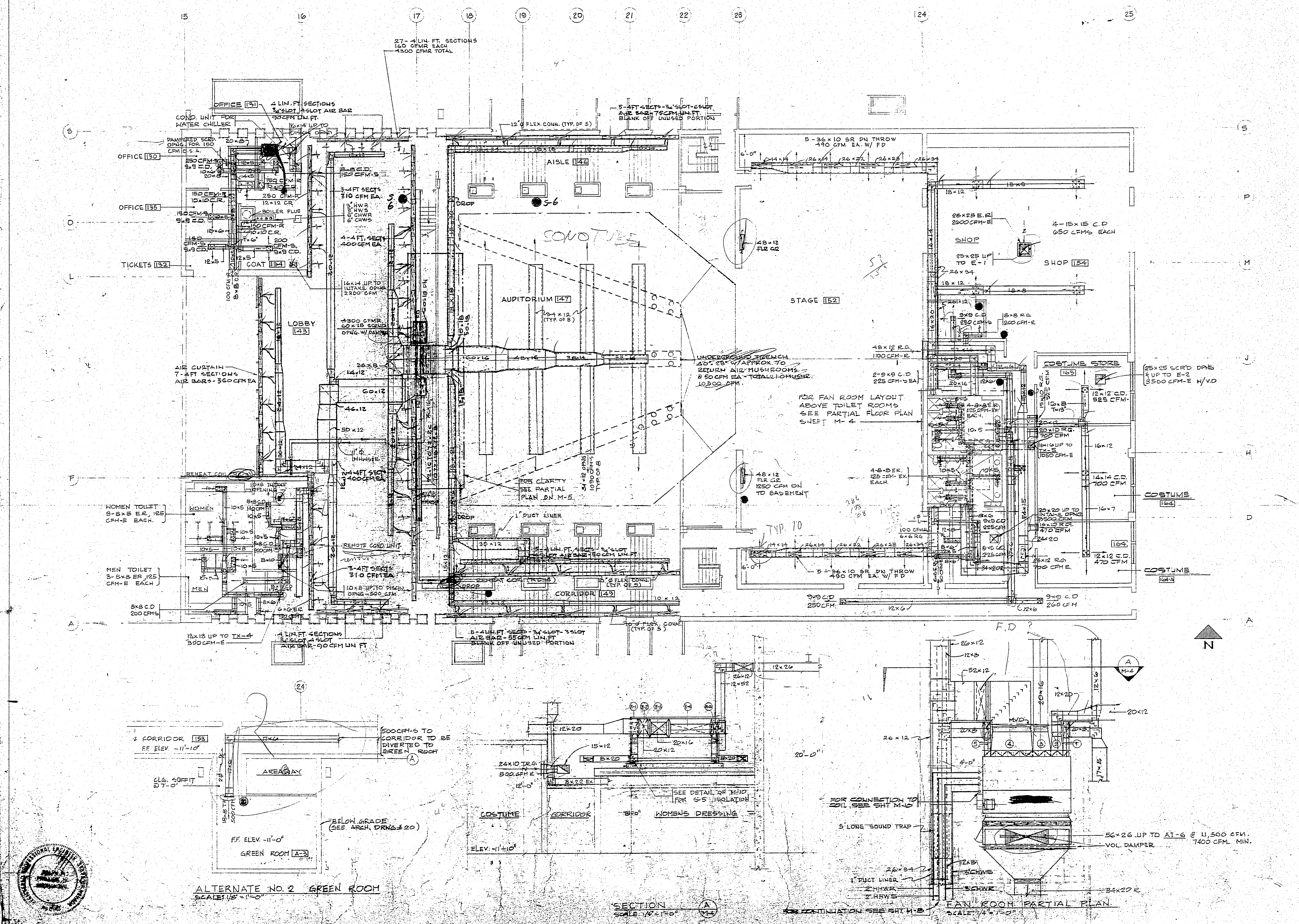
PHASE 1 LAS VEGAS, NEVADA

H.V. & A.C.
CONCERT HALL - BASEMENT PLAN
FAN ROOMS & SECTIONS

M-3

10



RALPH E. PHILLIPS INC.
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JAMES McDANIEL ARCHITECT
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Las Vegas, Nevada 89105

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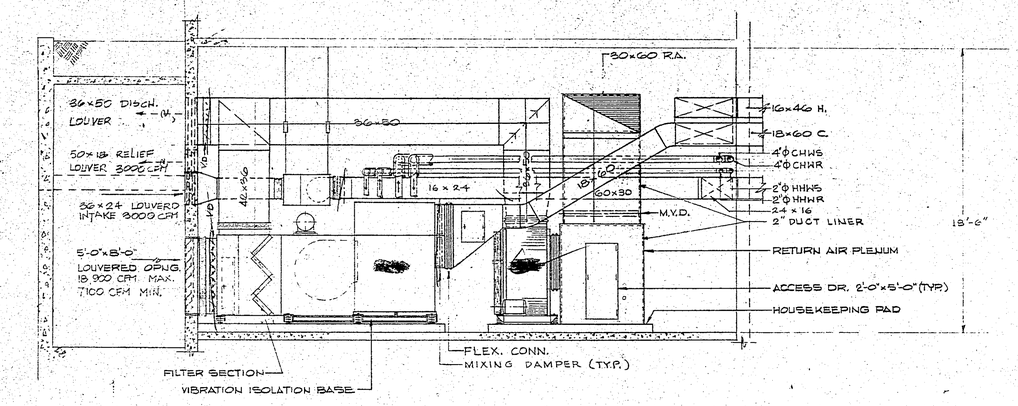
H.V. & A.C.
DRAMA THEATER FLOOR PLAN

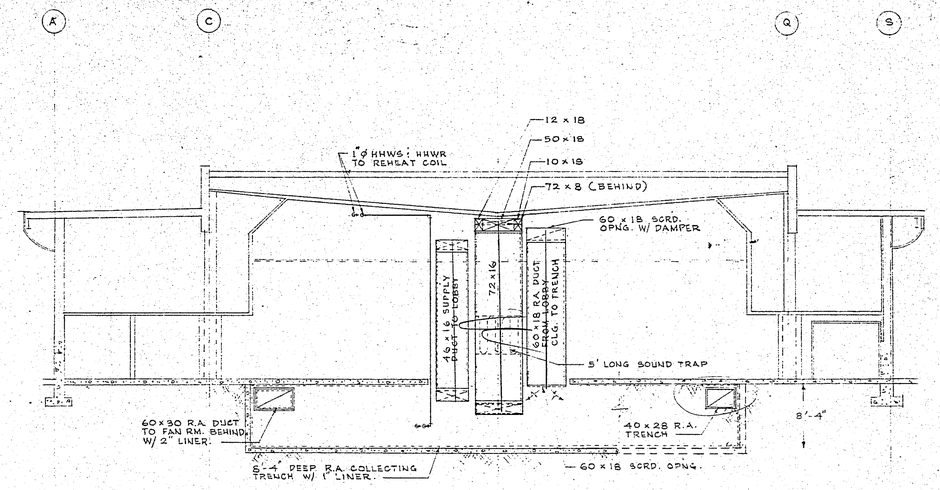
M-4

10



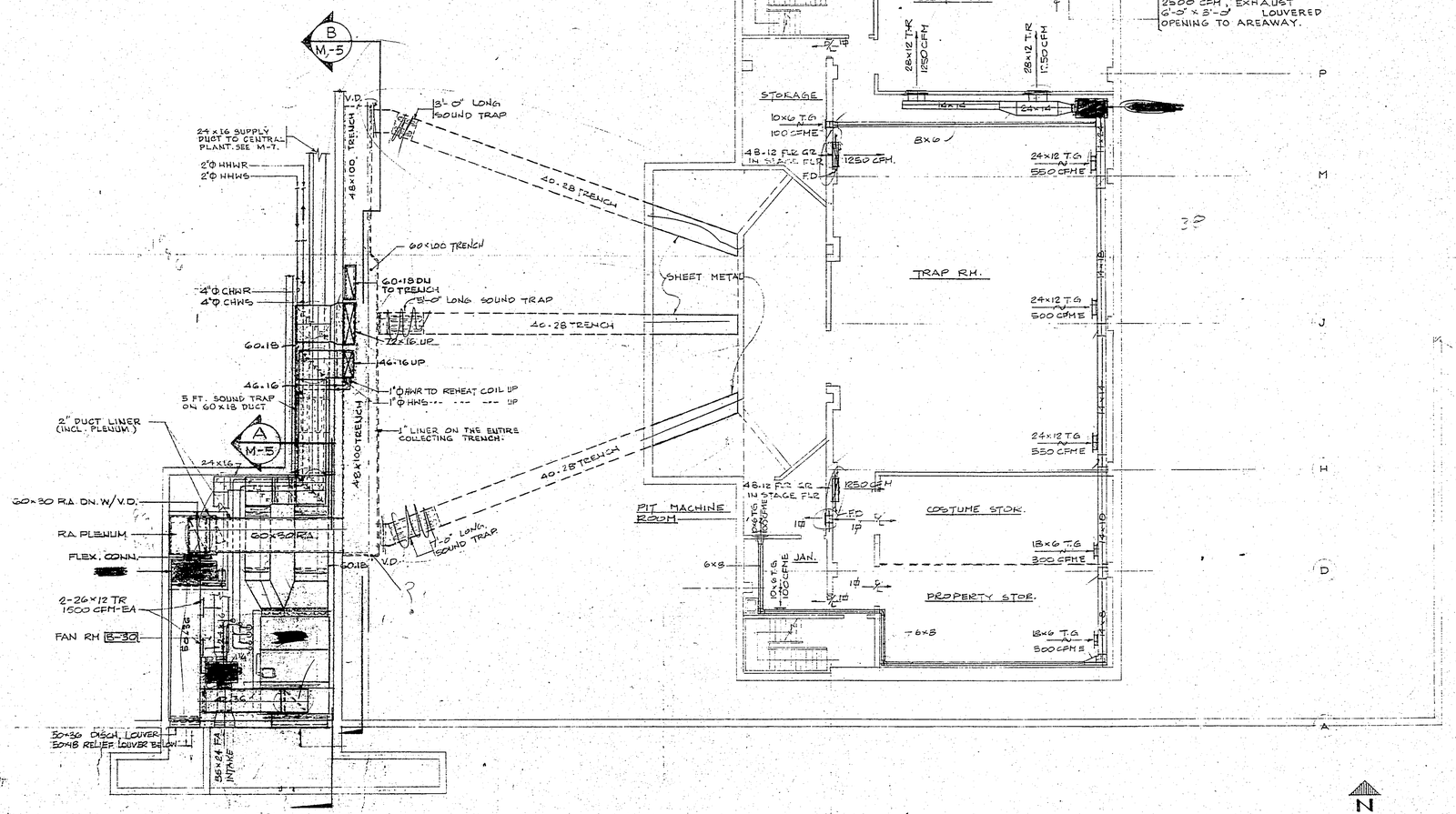
SECTION A M-5

SCALE: 1/4"=1'-0"



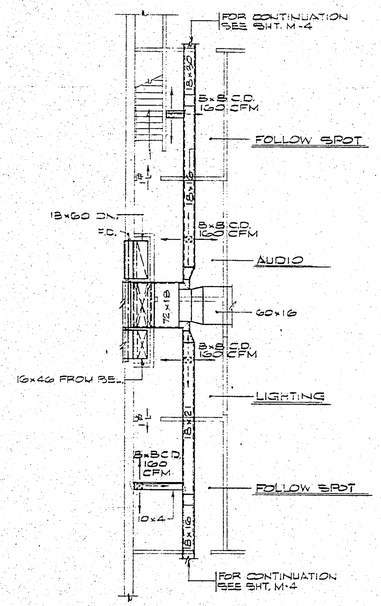
SECTION B

SCALE: 1/8"=1'-0" M-5



BASEMENT FLOOR PLAN

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



PARTIAL CATWALK PLAN

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

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
RALPH E. PHILLIPS, JR.
MECHANICAL
No. 2245

RALPH E. PHILLIPS INC.
MECHANICAL AND ELECTRICAL ENGINEERS
1150 SOUTH OLIVE STREET, LOS ANGELES, CALIFORNIA 90015
AREA CODE 213 PHONE 749-1676
REG. NO. E.E. 2047 M.E. 1068

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REVISIONS

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CHECKED BY H.K.
JOB NUMBER 6979
SCALE
DATE 2-12-70

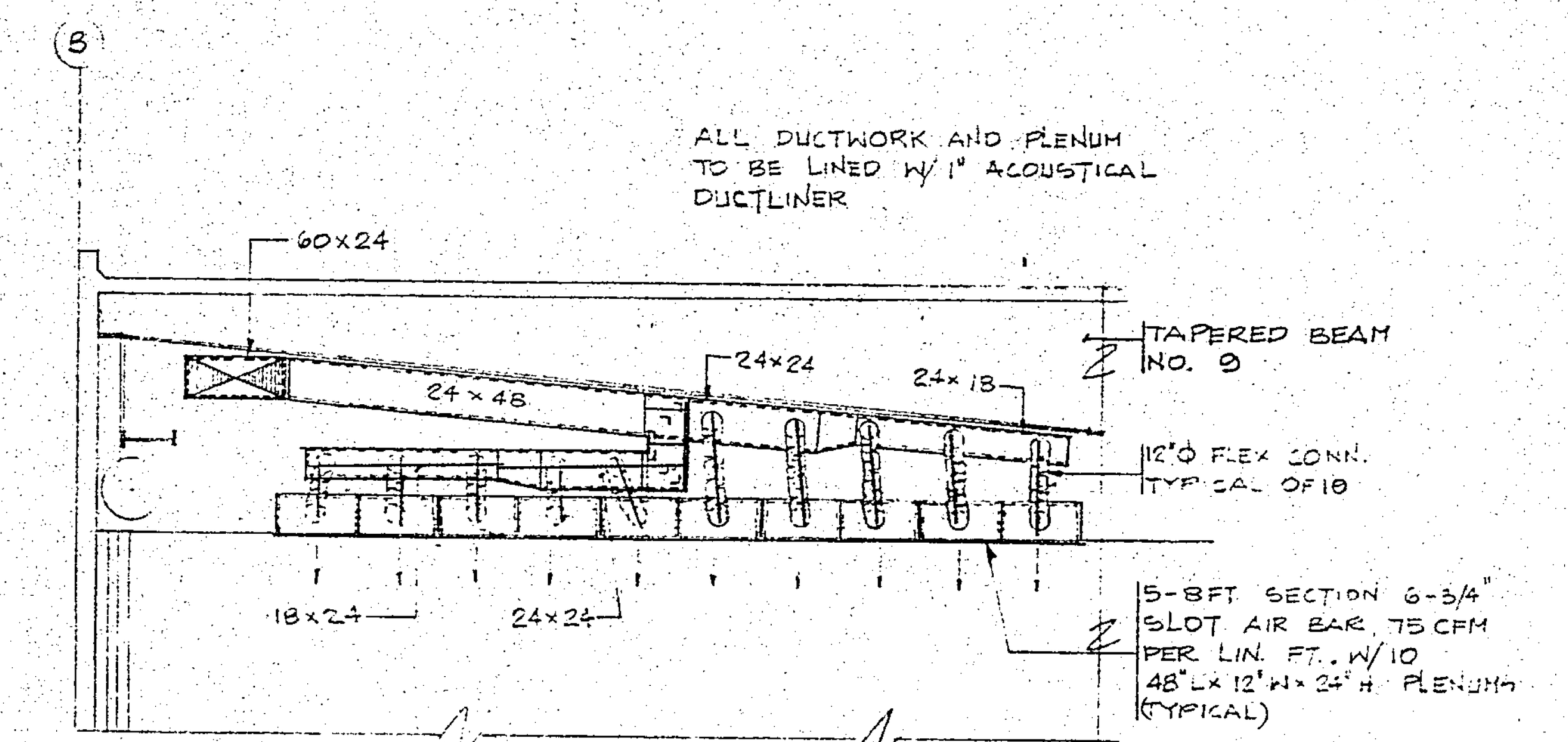
APPROVED BY OWNER

JOB TITLE
FINE ARTS COMPLEX
UNIVERSITY OF NEVADA
PHASE 1 LAS VEGAS, NEVADA

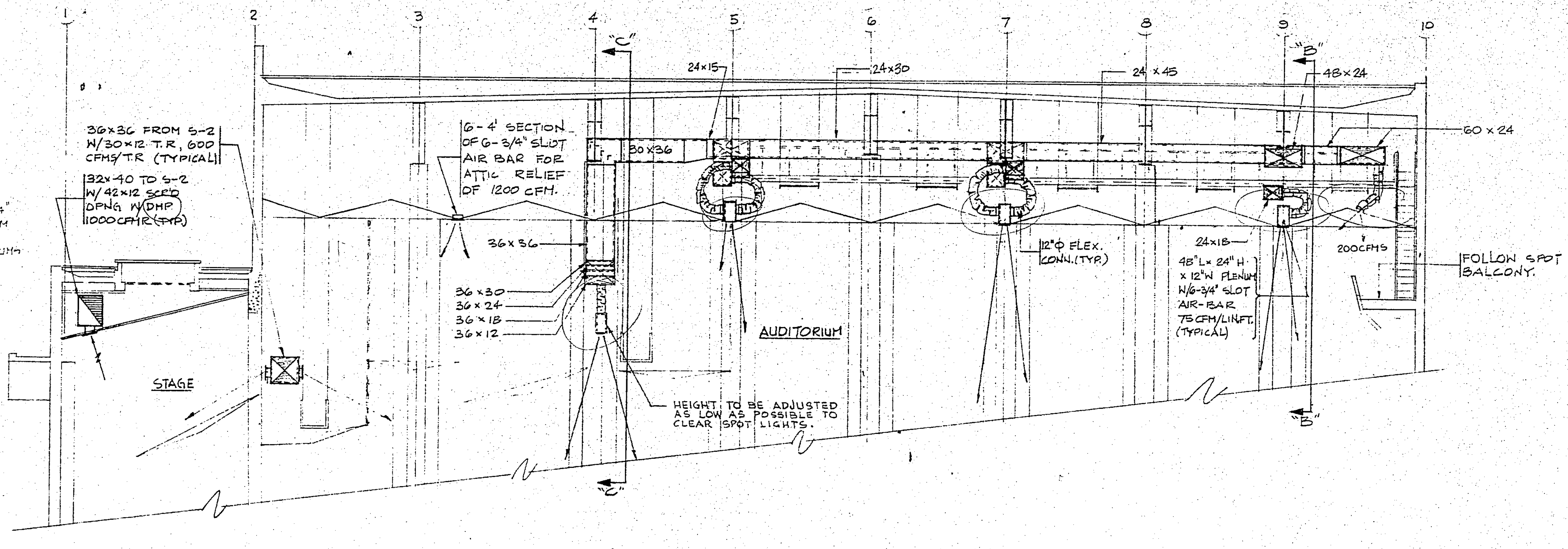
SHEET TITLE
H.V.& A.C.
DRAMA THEATER
BASEMENT FLOOR PLAN

M-5

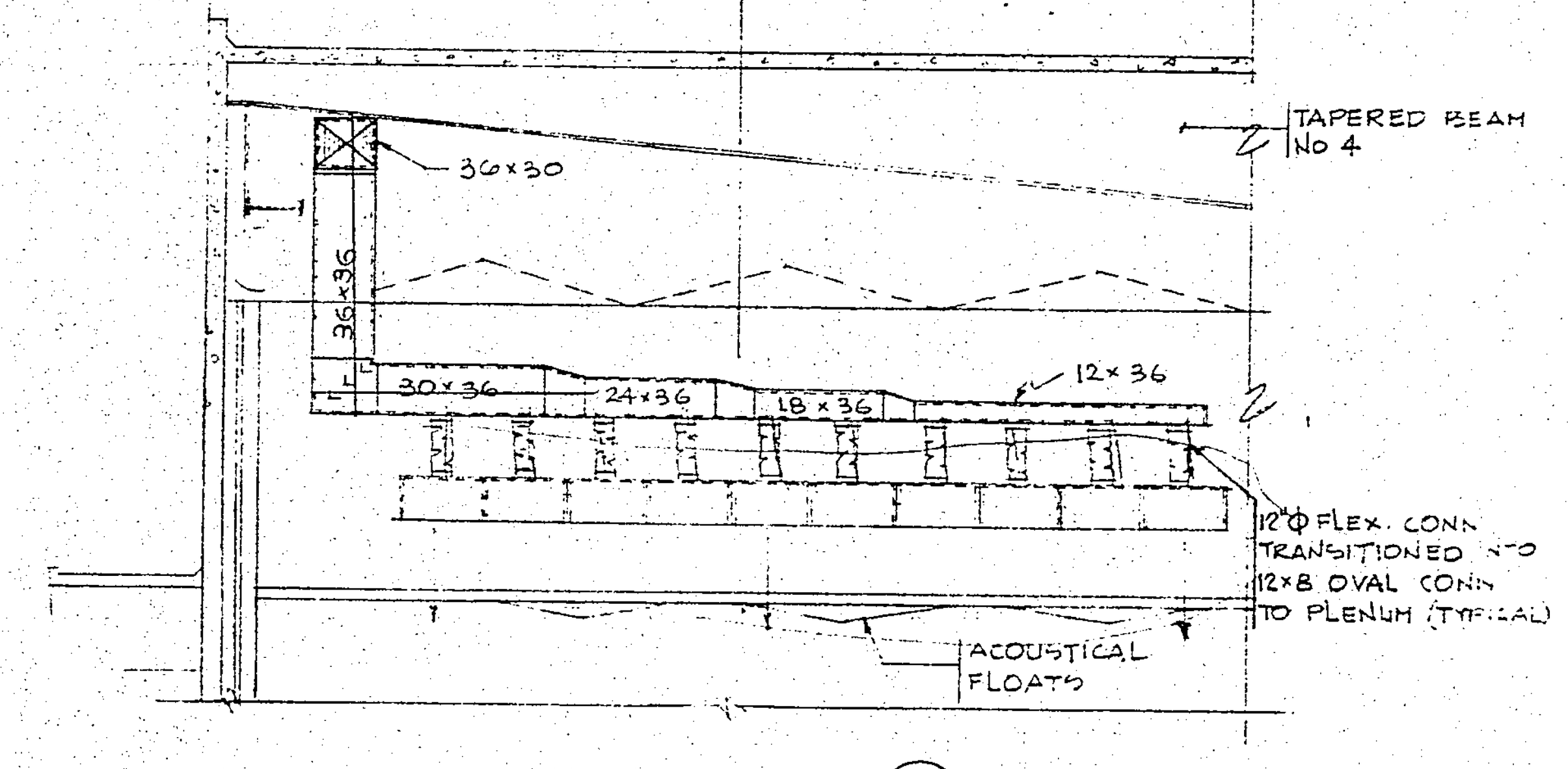
10



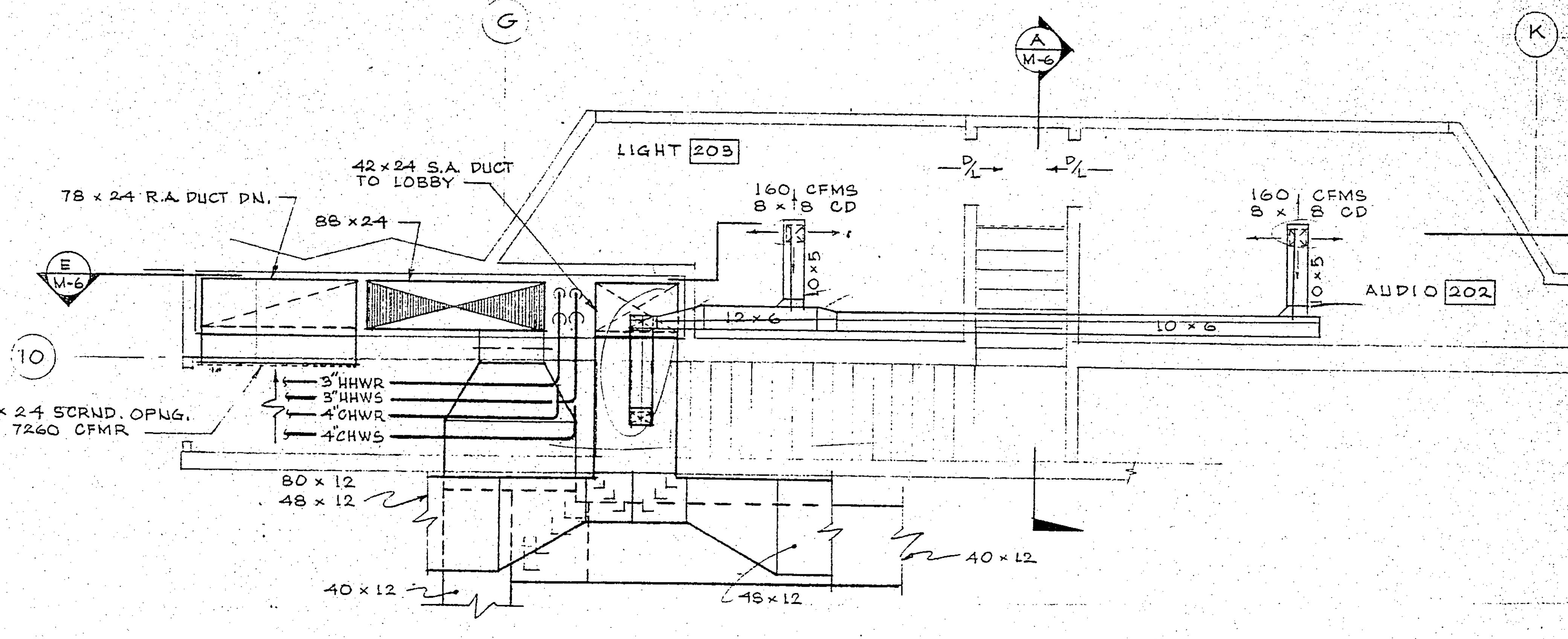
SECTION (B / M-6)
SCALE: 1/8"=1'-0"



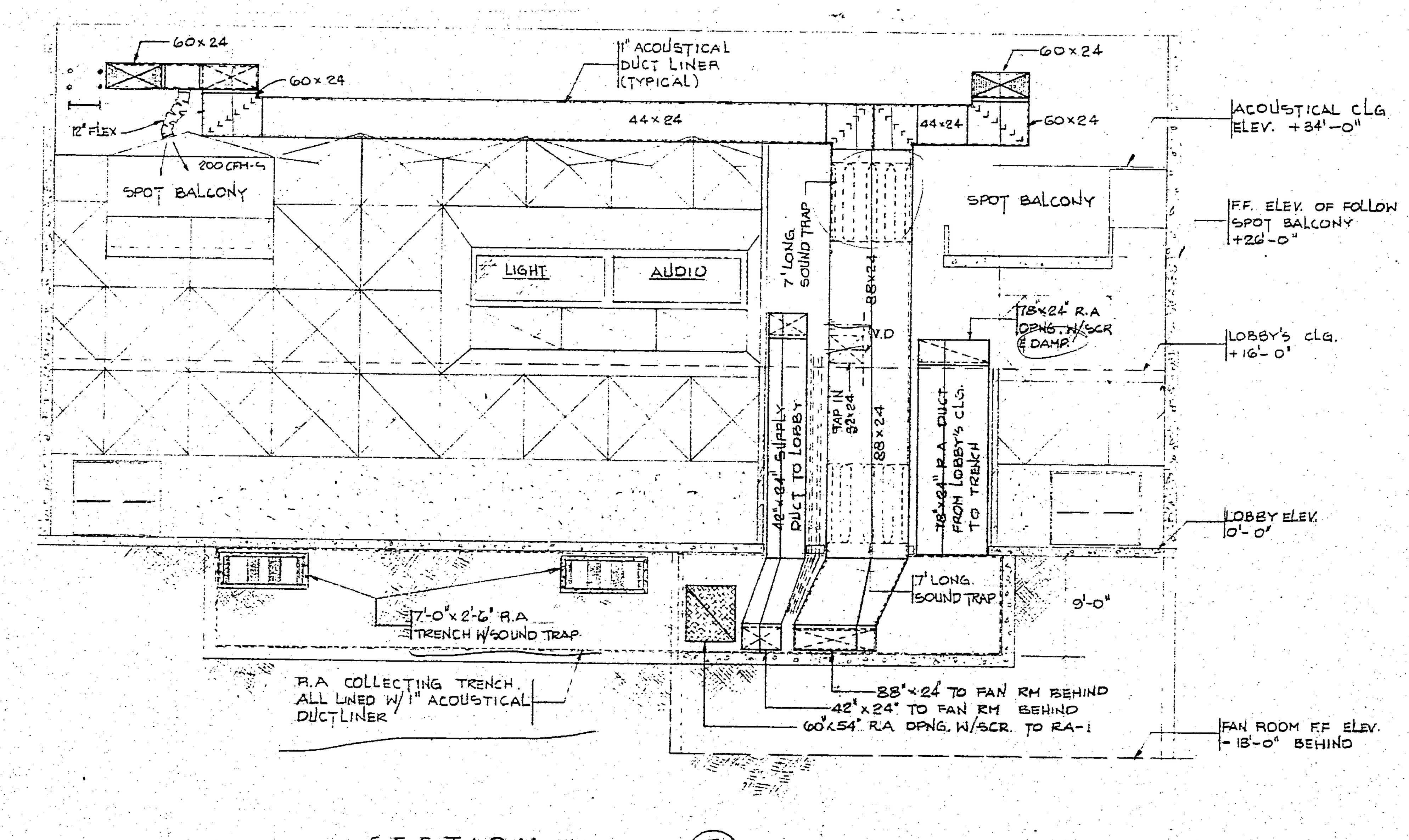
SECTION (D / M-6)
SCALE: 1/8"=1'-0"



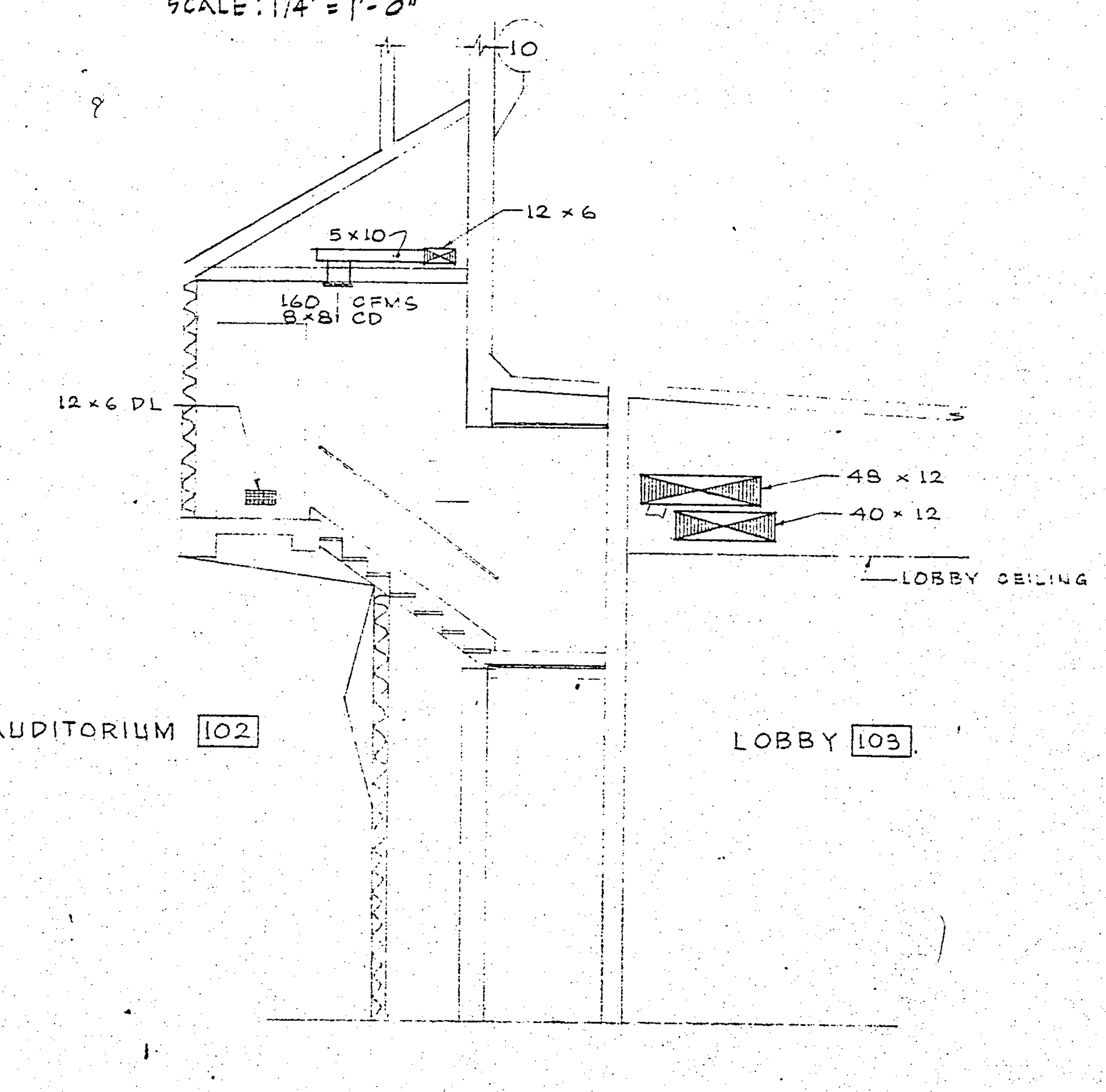
SECTION (C / M-6)
SCALE: 1/8"=1'-0"



PLAN @ AUDIO ROOM LEVEL
SCALE: 1/4"=1'-0"



SECTION (E / M-6)
SCALE: 1/8"=1'-0"



SECTION (A / M-6)
SCALE: 1/4"=1'-0"

REGISTERED PROFESSIONAL ENGINEER — RALPH E. PHILLIPS JR. — MECHANICAL — No. 2943 — STATE OF NEVADA

RALPH E. PHILLIPS INC.
MECHANICAL AND ELECTRICAL ENGINEERS
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DATE: 2-12-70
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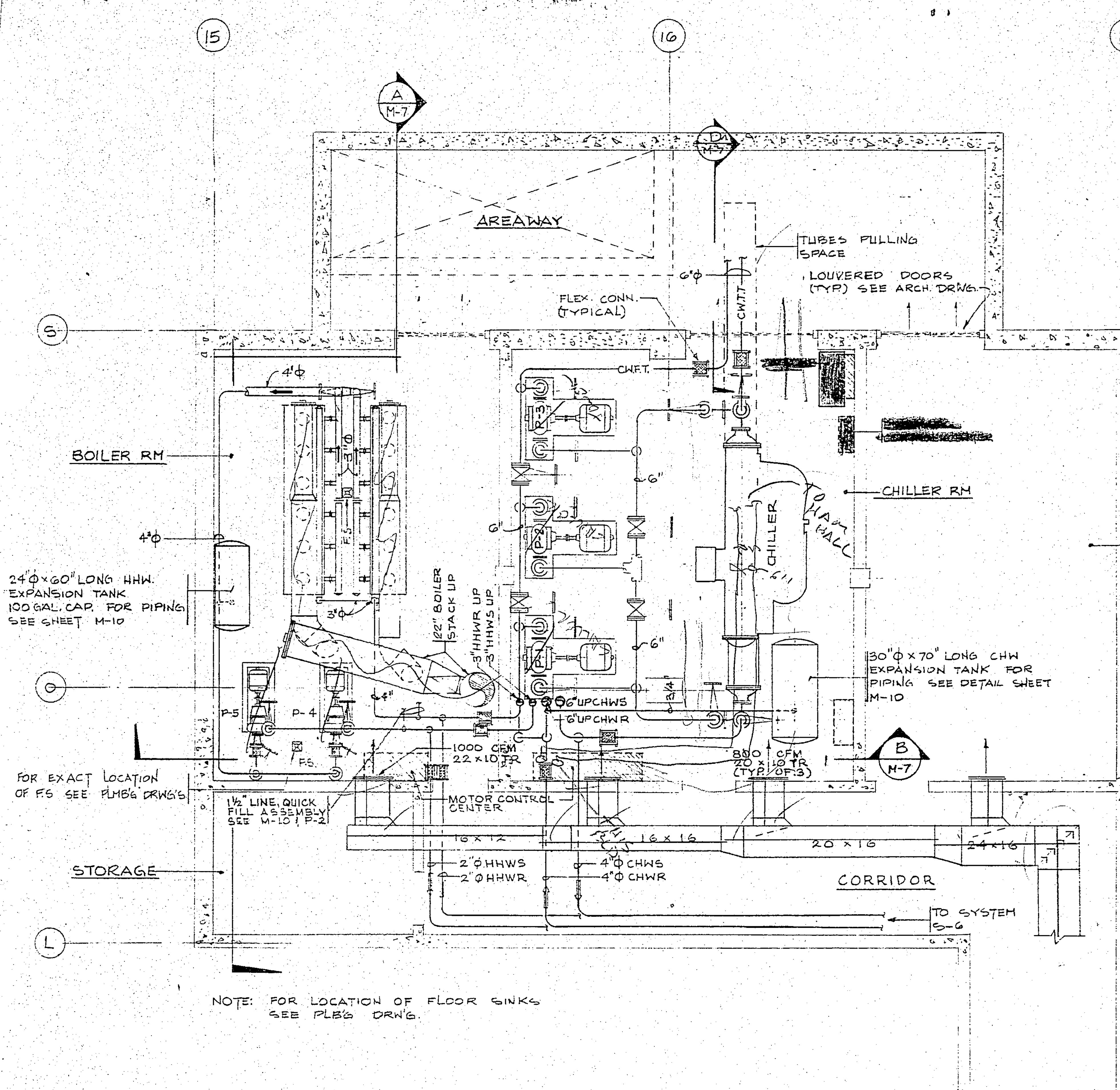
APPROVED BY
OWNER

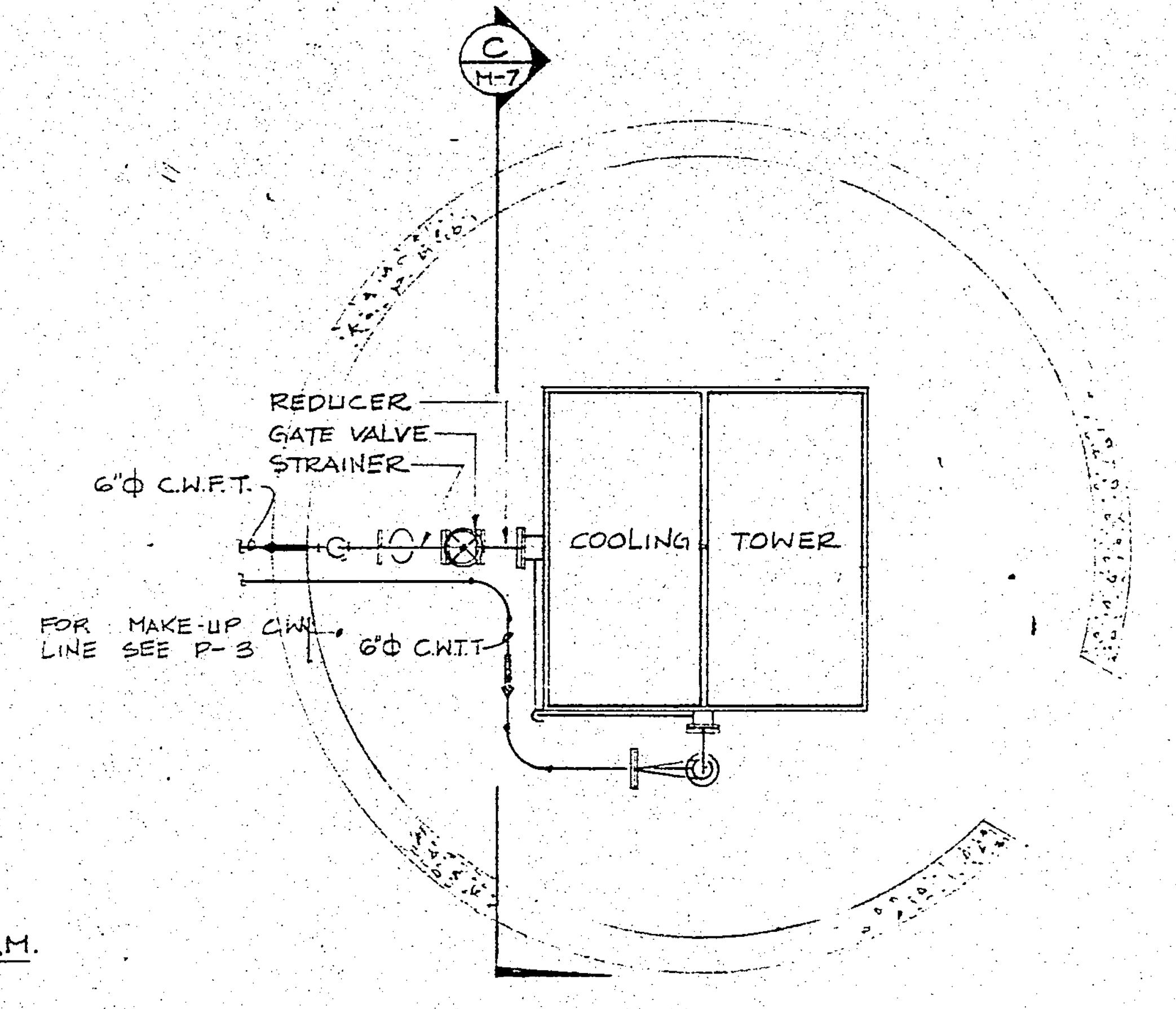
FINE ARTS COMPLEX
UNIVERSITY OF NEVADA
PHASE I — LAS VEGAS, NEVADA

H.V. & A.C. SECTIONS

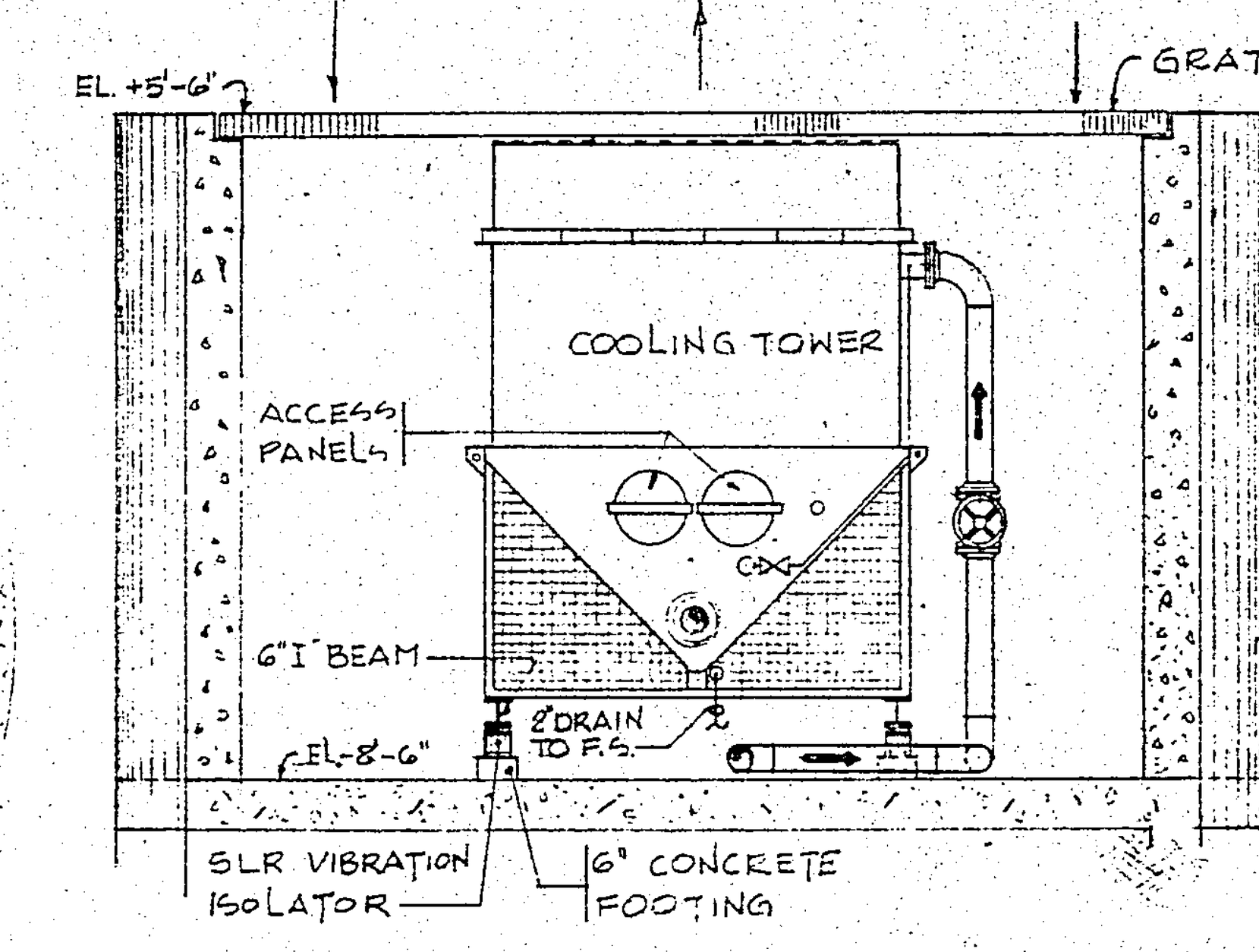
M-6
10



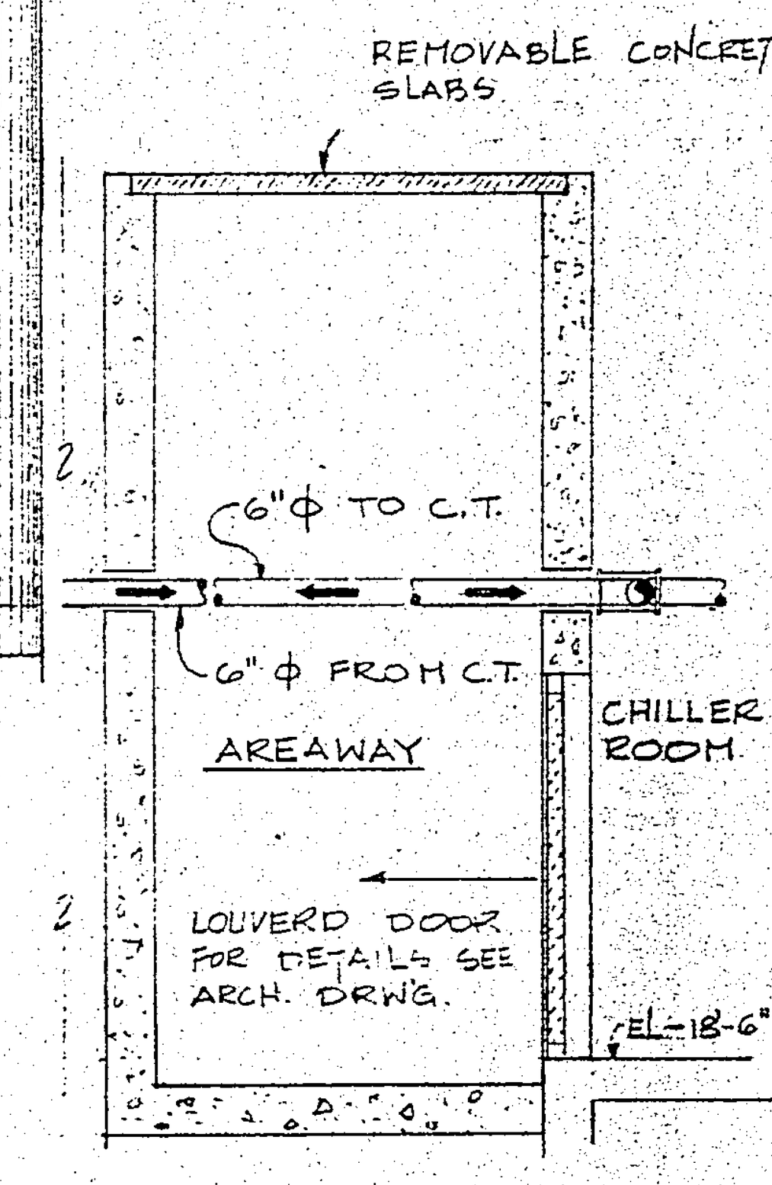
CENTRAL PLANT FLOOR PLAN
SCALE: 1/4" = 1'-0"



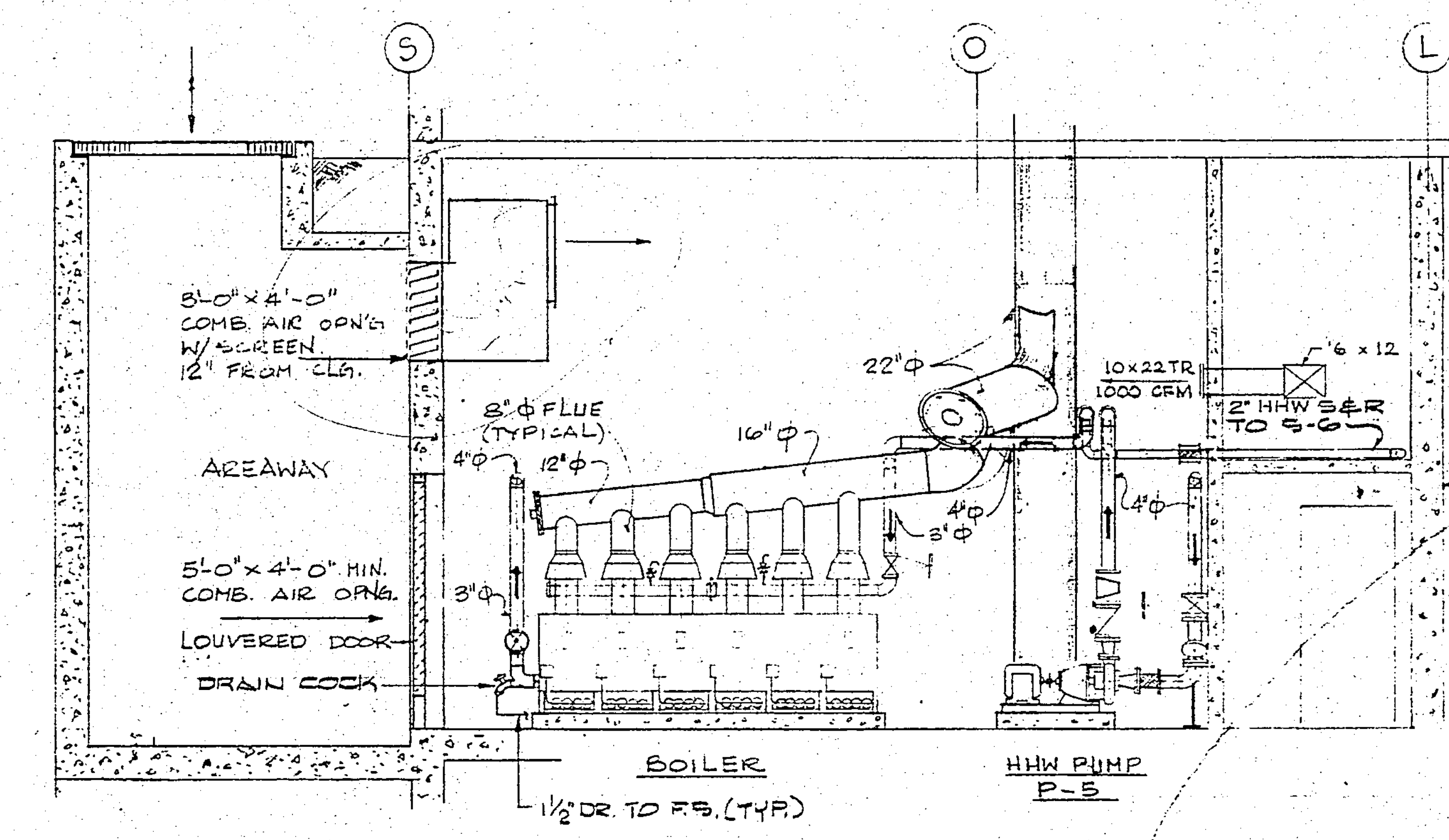
COOLING TOWER PIT PLAN
SCALE: 1/4" = 1'-0"



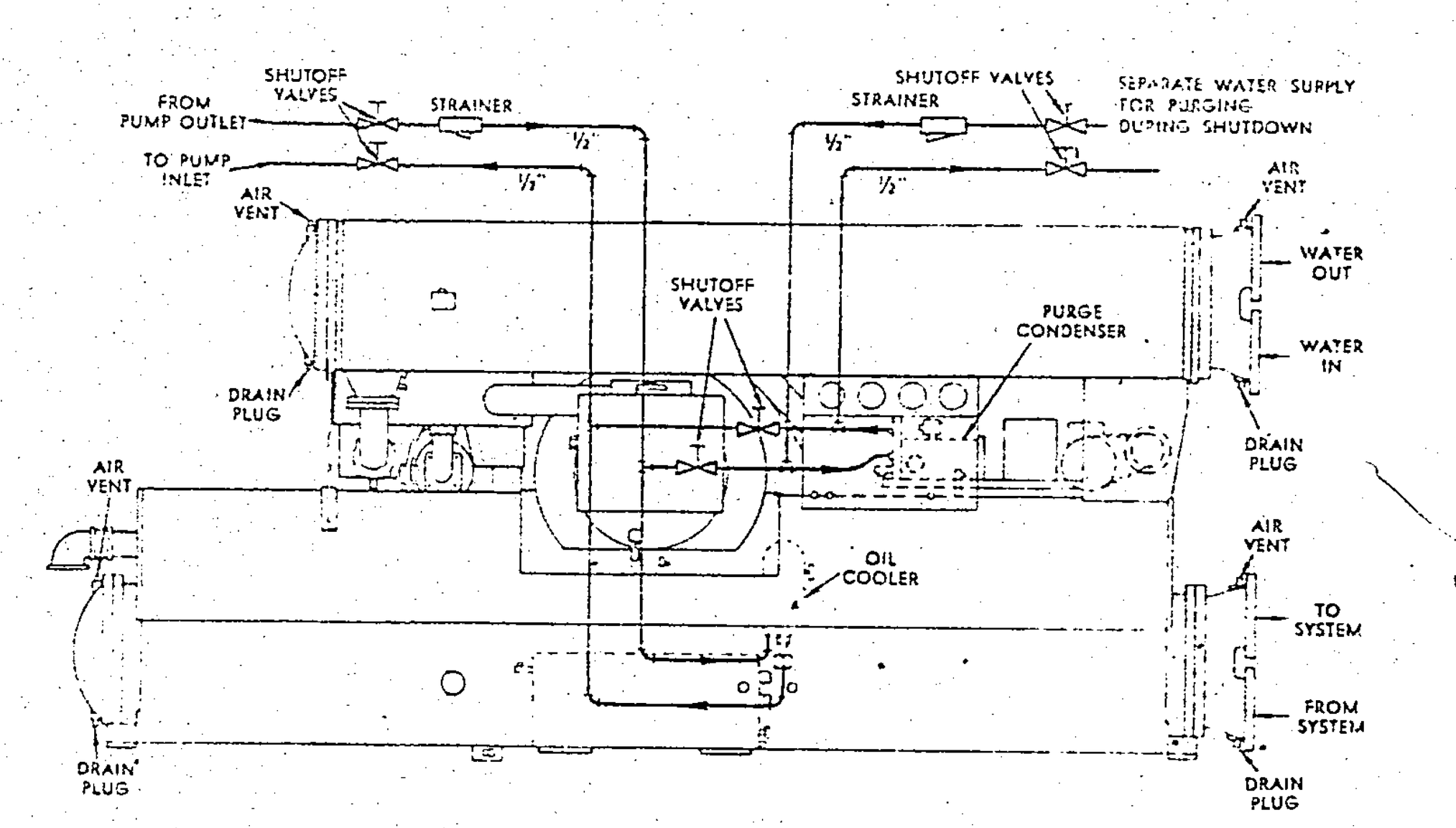
SECTION C
SCALE: 1/4" = 1'-0"



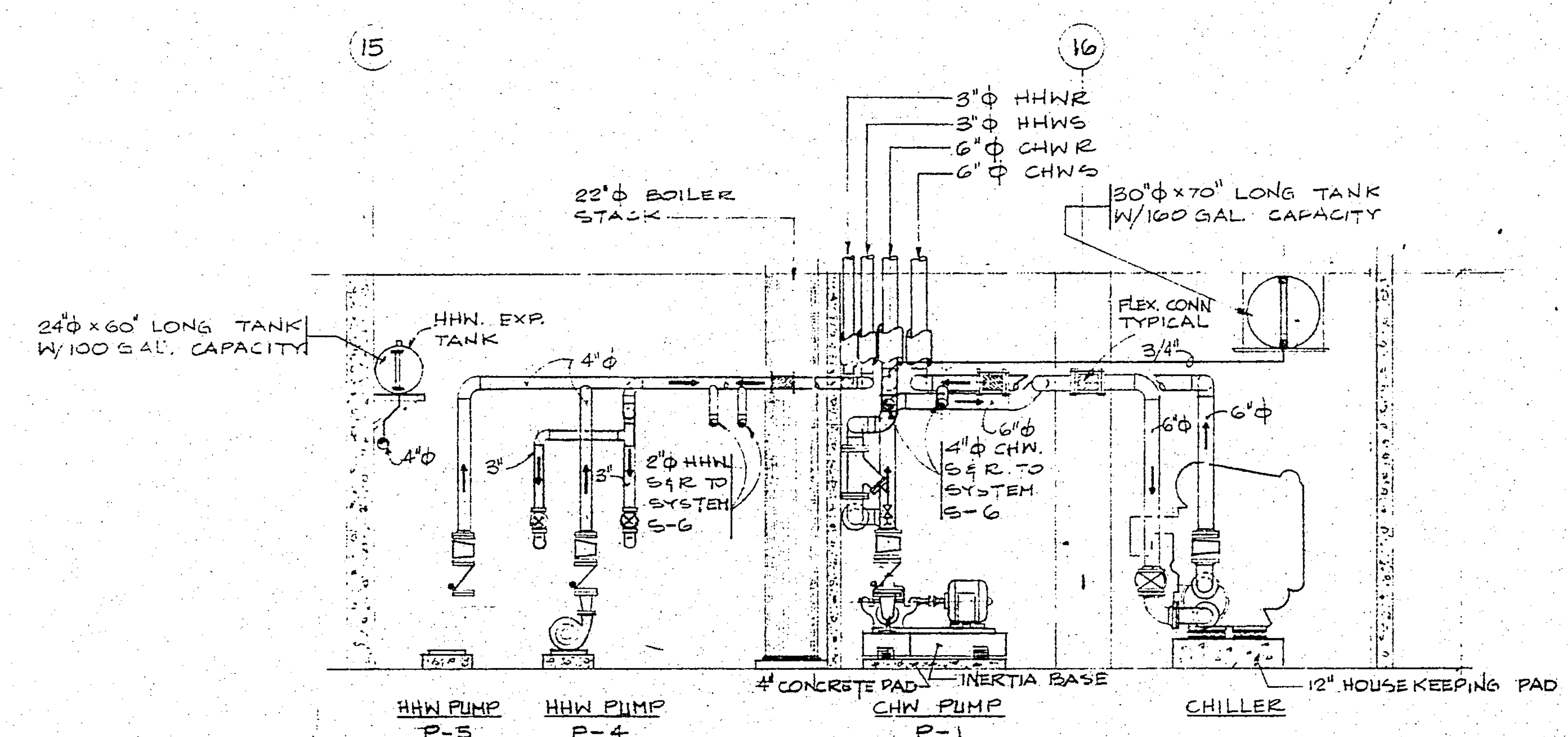
SECTION D
SCALE: 1/4" = 1'-0"



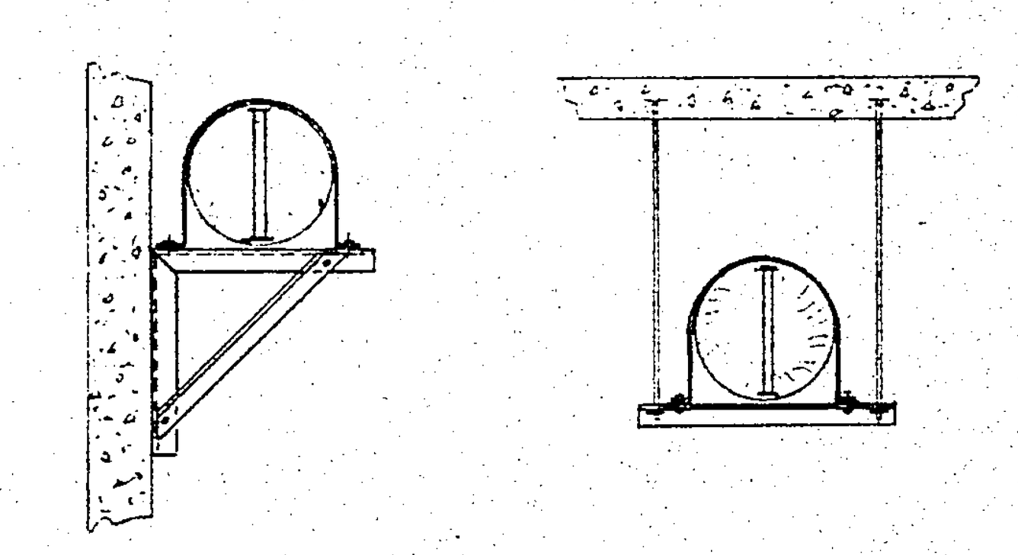
SECTION A
SCALE: 1/4" = 1'-0"



PIPING TO OIL COOLER & PURGING SYSTEM
NOT TO SCALE



SECTION B
SCALE: 1/4" = 1'-0"



EXPANSION TANK SUPPORT DETAIL
NO SCALE

RALPH E. PHILLIPS INC.
MECHANICAL AND ELECTRICAL ENGINEERS
LOS ANGELES, CALIFORNIA

JAMES McDANIEL ARCHITECT
537 East Sahara Avenue
Las Vegas, Nevada

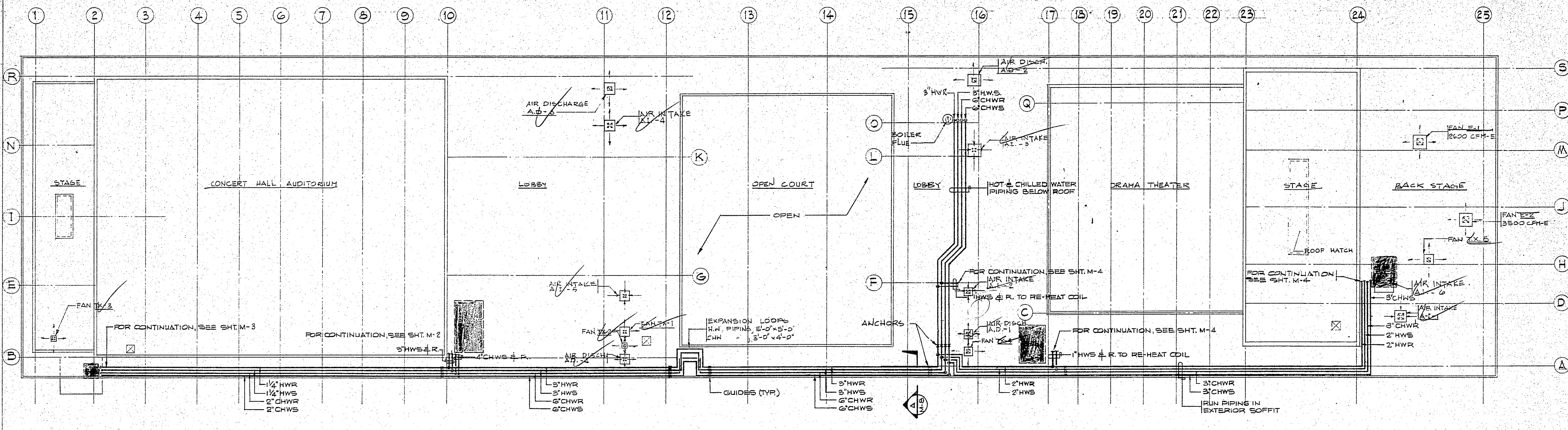
DRAWN BY A.H.
CHECKED BY H.K.
JOB NUMBER 6828
DATE 2-12-70

FINE ARTS COMPLEX
UNIVERSITY OF NEVADA
PHASE I LAS VEGAS, NEVADA

H.V. & A.C.
CENTRAL PLANT
PLAN & SECTIONS

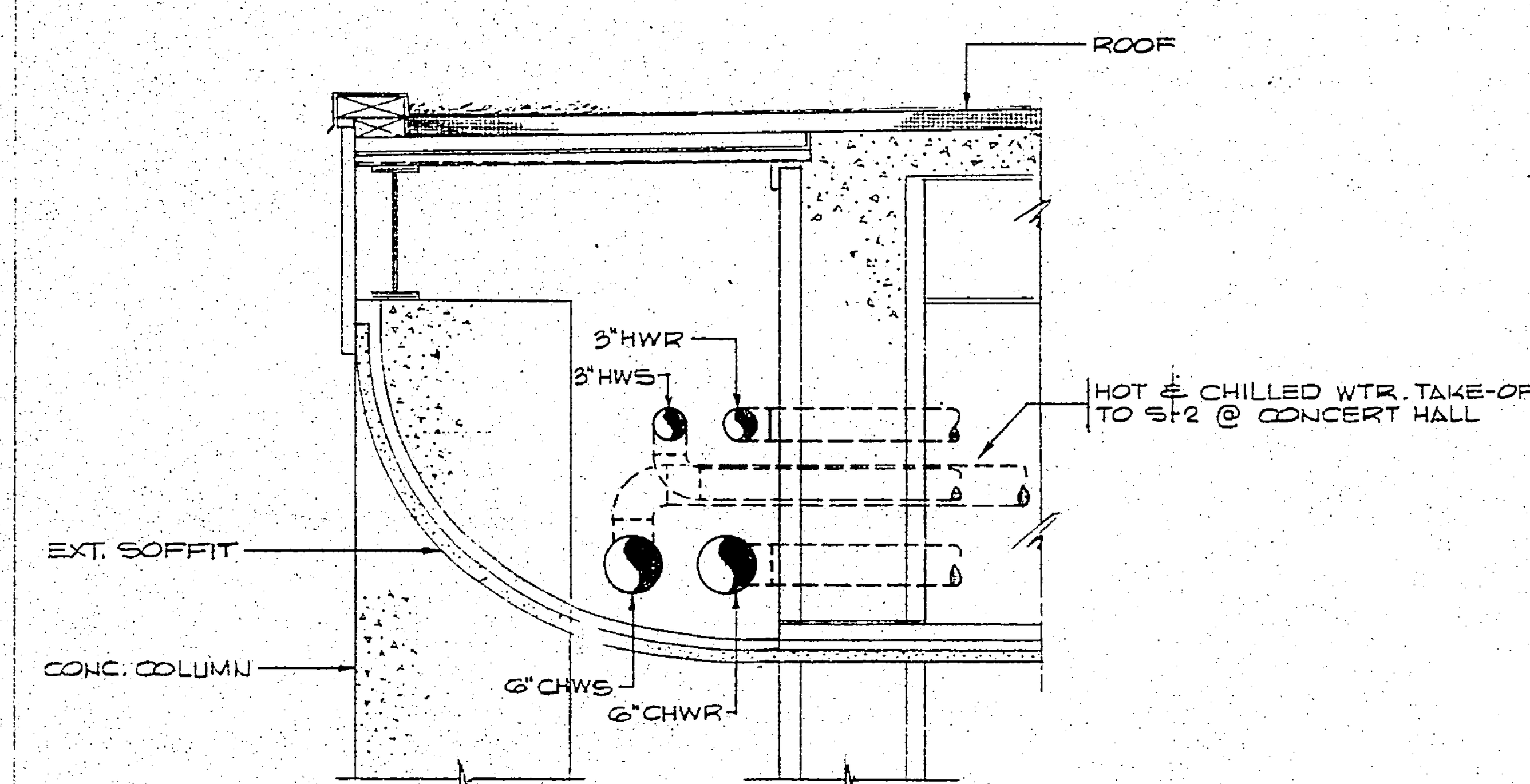
M-7
10

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
RALPH E. PHILLIPS, JR.
MECHANICAL
No. 2643



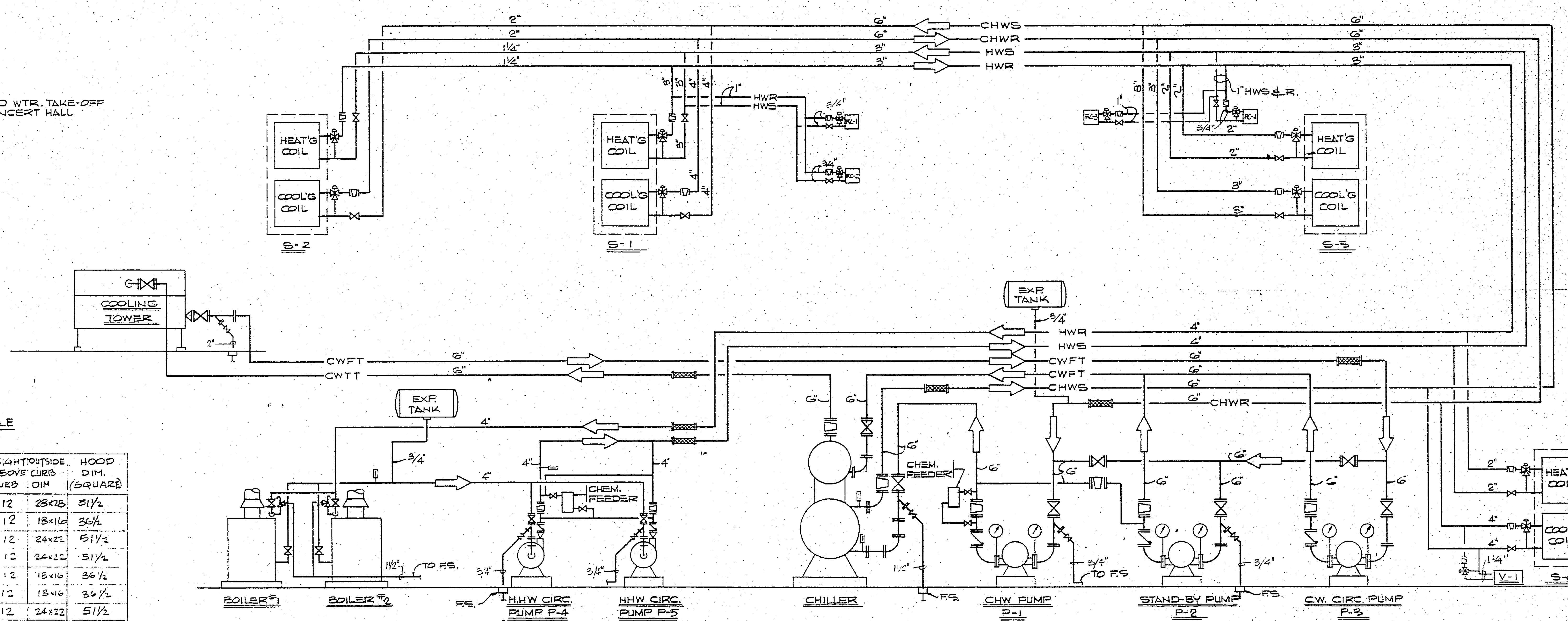
ROOF PLAN

1/16" = 1'-0"



SECTION

SCALE: 3/4"=1'-0"



HEATING HOT WATER & CHILLED WATER SYSTEM FLOW DIAGRAM

ROOF AIR DISCHARGE & INTAKE OPENING'S SCHEDULE

SYSTEM & NO.	LOCATION	CFM	MANUFACTURER & MODEL NO. (BASIS OF DESIGN)	INSIDE CURB DIM.	NECK AREA IN □	DISCH. NET FREE AREA	O.V. fpm THRU OPNG	HEIGHT OF CURB	HEIGHT ABOVE CURB	OUTSIDE CURB DIM	HOOD DIM. (SQUARE)
A.I-1	D.T. BACK STAGE	3500	DAVIDSON 220g	20×20	2.8	13□	270	8	12	28×28	51½
A.I-2	D.T. LOBBY	500	-"- 110a	10×8	.56	7.25	~70	8	12	18×16	36½
A.I-3	-"-	2200	-"- 216d	16×14	1.56	14.0	158	8	12	24×22	51½
A.I-4	C.H LOBBY	2200	-"- 216d	16×14	1.56	14.0	158	8	12	24×22	51½
A.I-5	C.H -"-	500	-"- 110a	10×8	.56	7.25	~70	8	12	18×16	36½
A.D-1	D.T -"-	500	-"- 110a	10×8	.56	7.25	~70	8	12	18×16	36½
A.D-2	-"-	2200	-"- 216d	16×14	1.56	14.0	158	8	12	24×22	51½
A.D-3	C.H LOBBY	2200	-"- 216d	"	"	"	"	"	"	"	"
A.D-4	-"-	500	-"- 110a	10×8	.56	7.25	~70	8	12	18×16	36½
A.I-6	D.T. BACK STAGE	11,500	-"- 550J	30×20	10.1	33.0	350	12	12	64×34	84

NOTES:
1. A.I. STANDS FOR AIR INTAKE
2. A.D. STANDS FOR AIR DISCHARGE
3. BASIS OF DESIGN IS DAVIDSON FAN CO. AIR RELIEF VENT. TYPE AR.
4. ALL OPN'G W/V.D.

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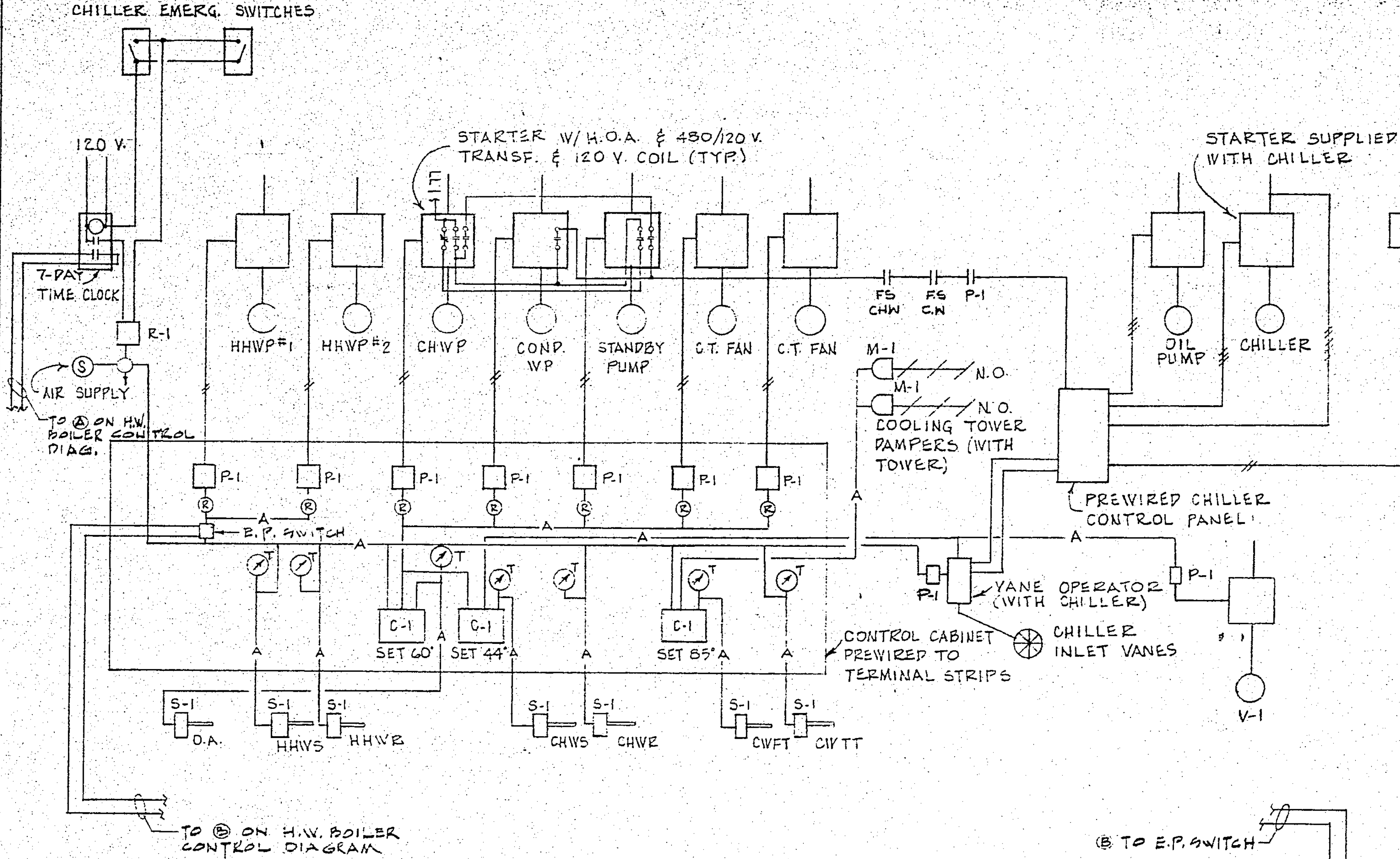
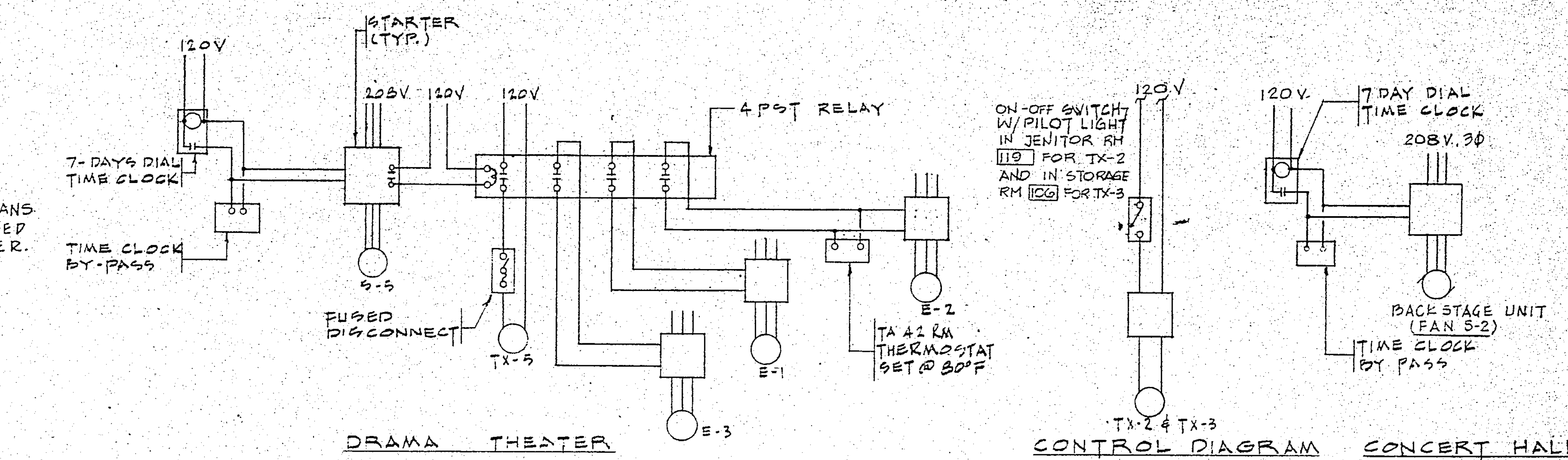
H.V. & A.C.
ROOF PLAN & FLOW DIAGRAM

SHEET M-8

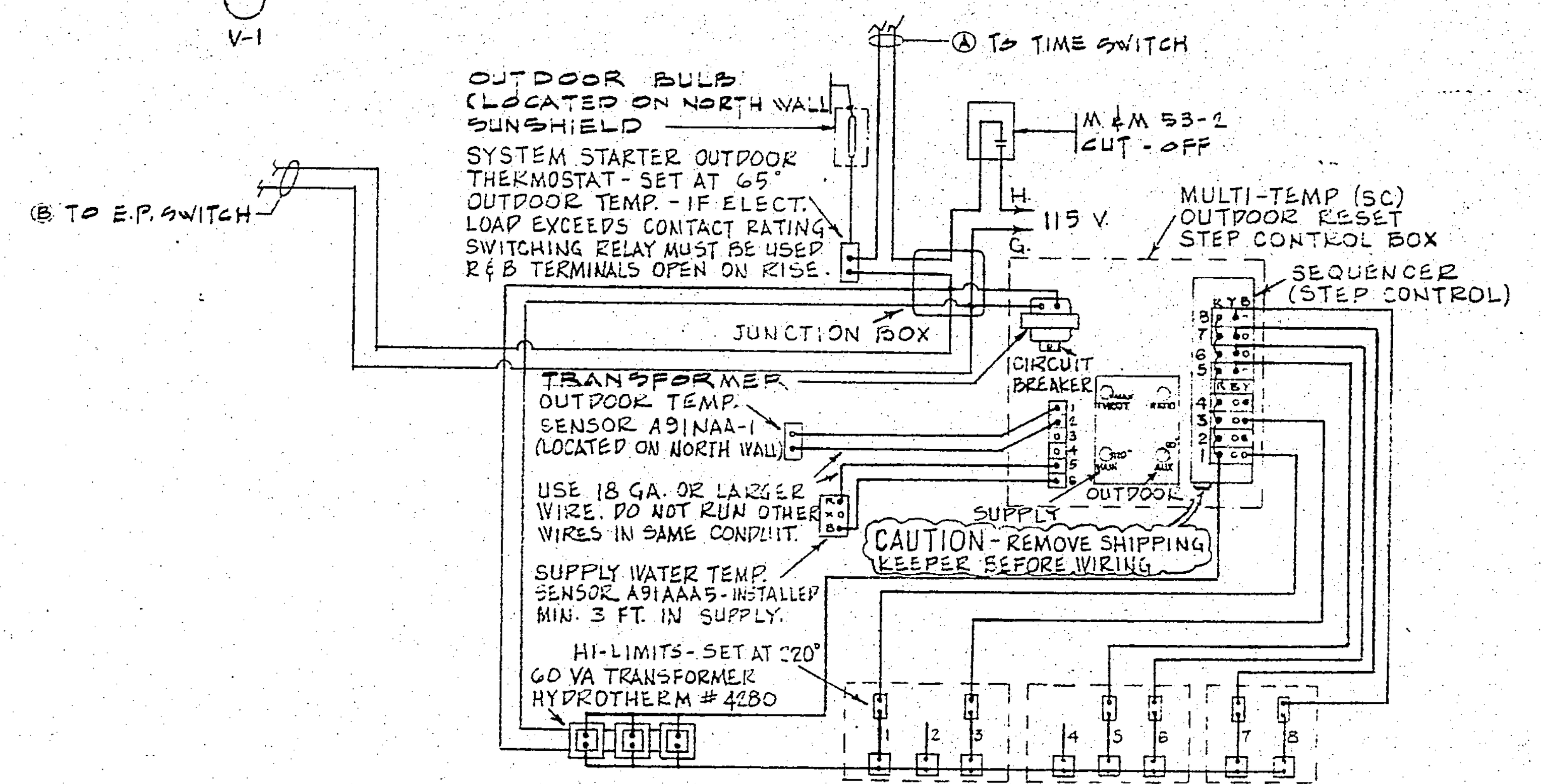
10



CHILLER CONTROL PNEUMATIC INTERLOCK



BACK STAGE UNIT WIRING DIAGRAM

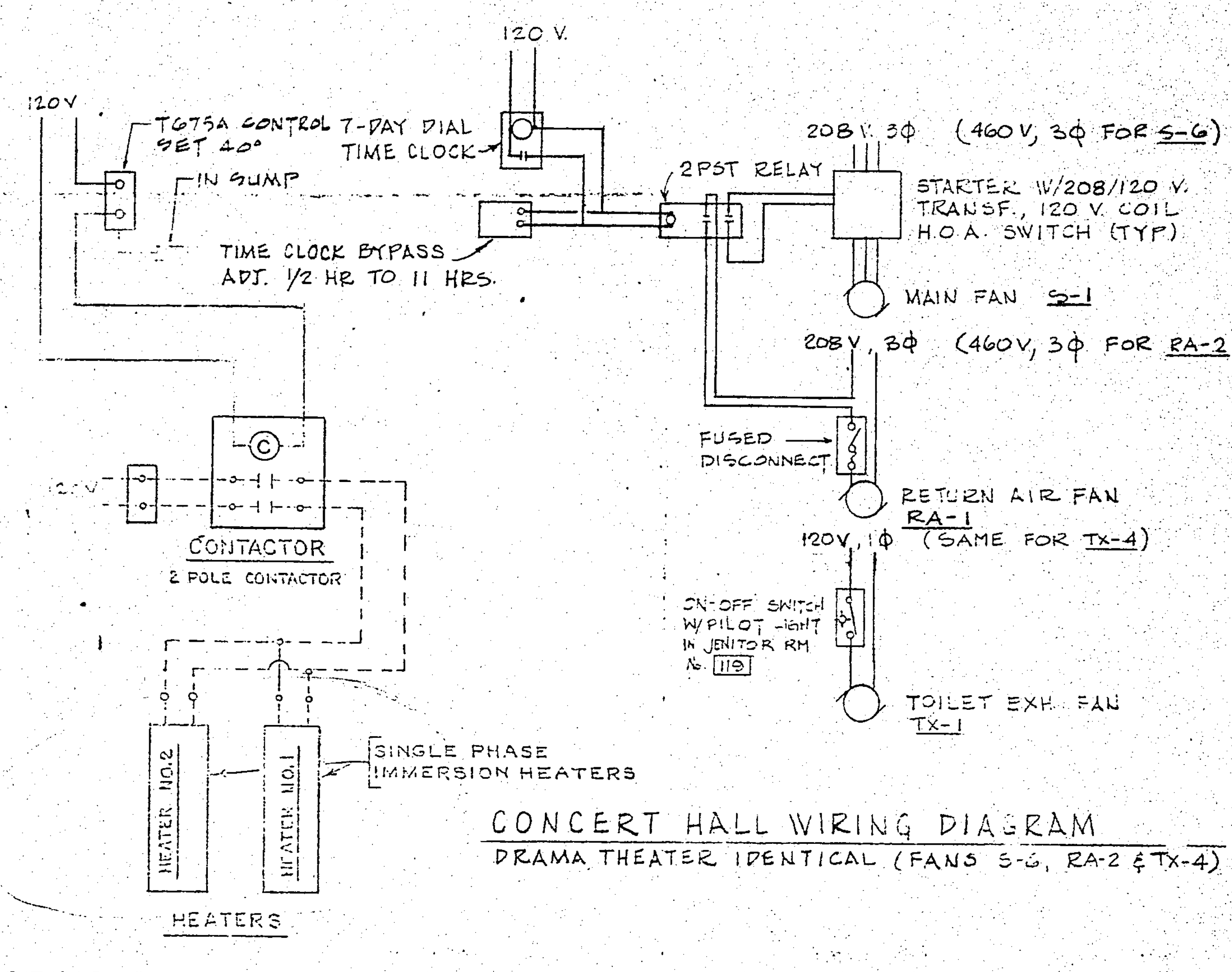


DIAL SETTINGS SHOWN IN CONTROL BOX OPERATE SYSTEM AS FOLLOWS:

OUTDOOR TEMP.	80°	70°	60°	50°	40°	30°	20°	10°	0°
SUPPLY TEMP	120°	130°	140°	150°	160°	170°	180°	190°	200°

NO. OF MODULES	USE CONTACTS NUMBERED
6	1-3-5-6-7-8

HOT WATER BOILER CONTROL WIRING DIAGRAM

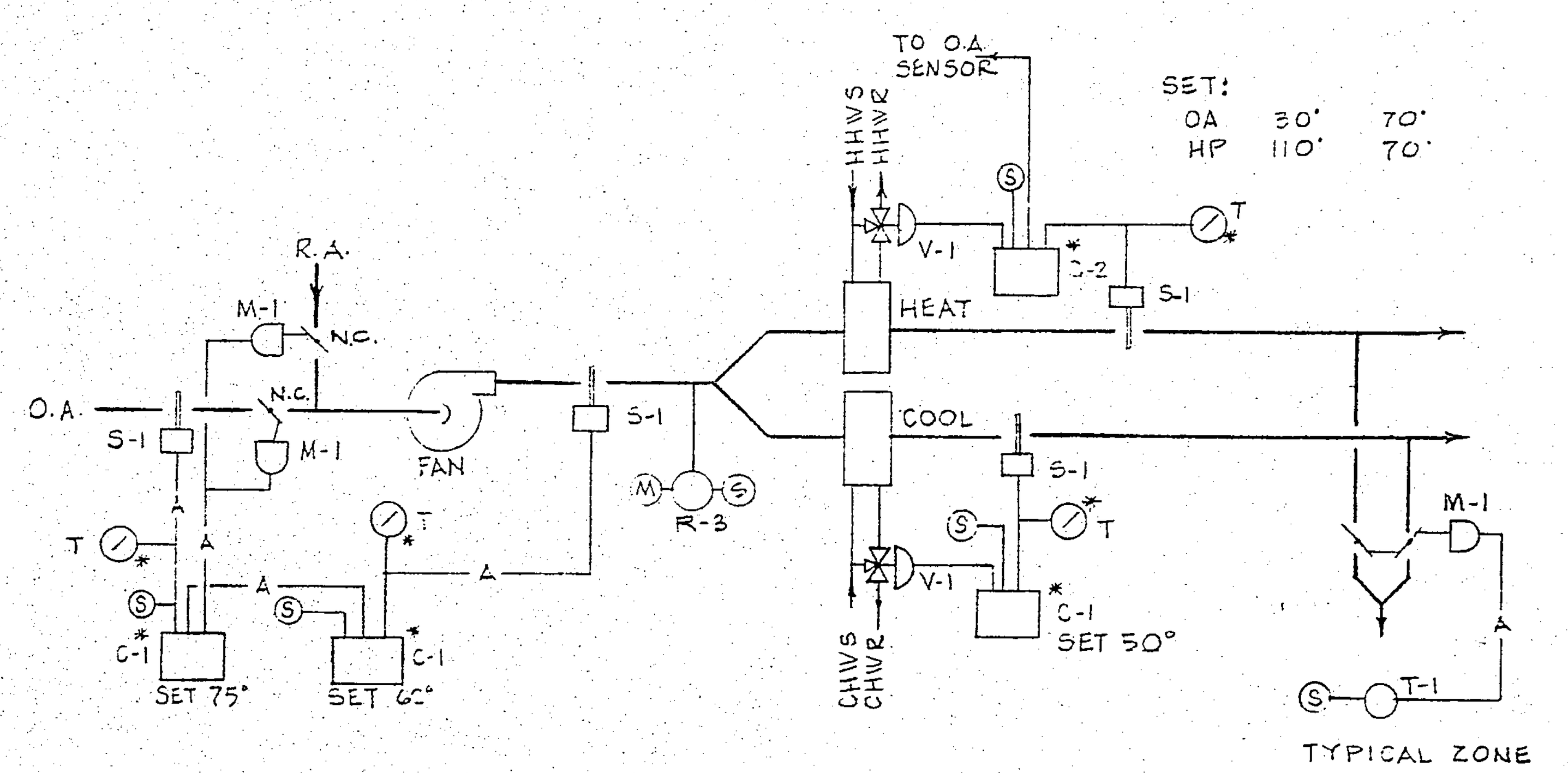


CONCERT HALL WIRING DIAGRAM

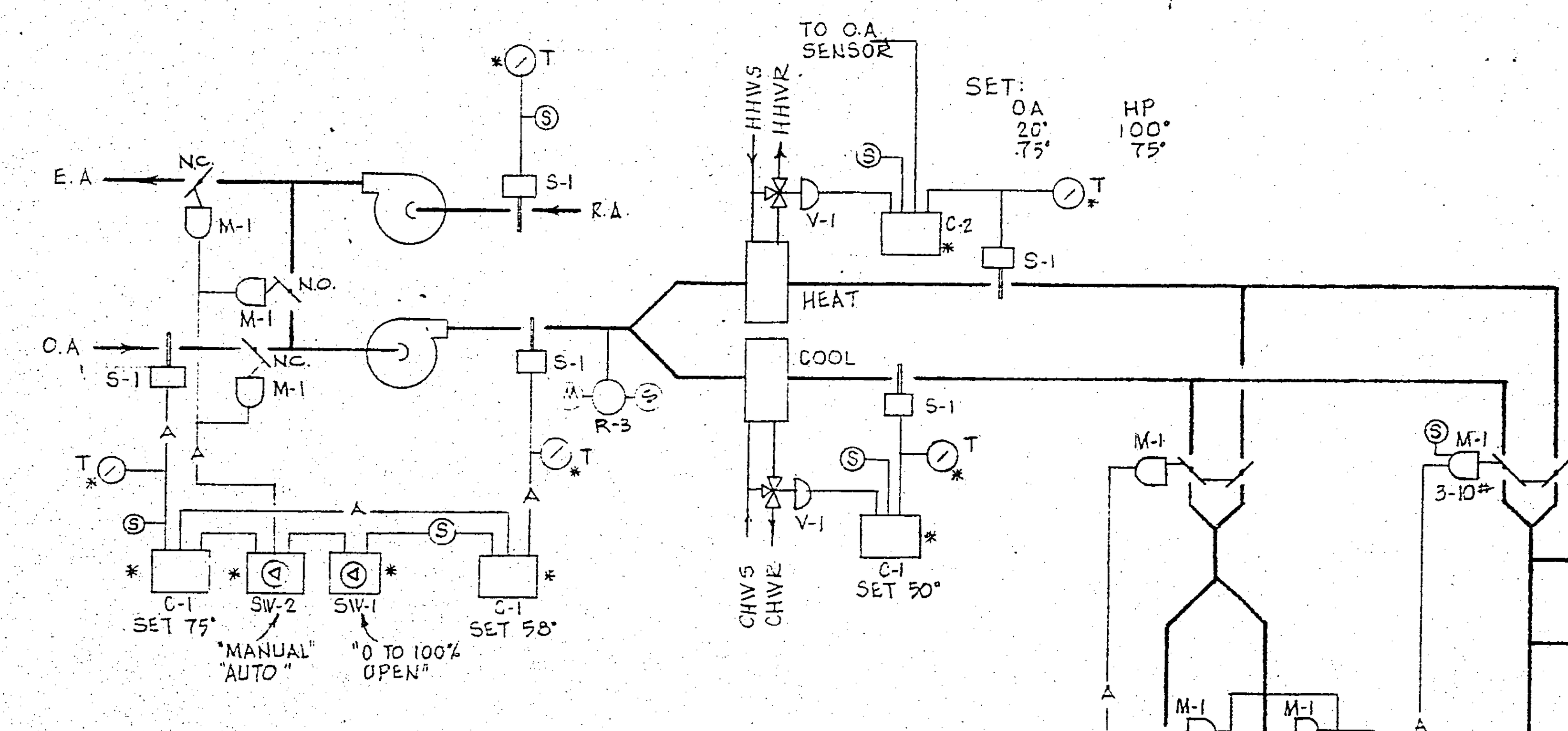
DRAMA THEATER IDENTICAL (FANS S-6, RA-2 & TX-4)

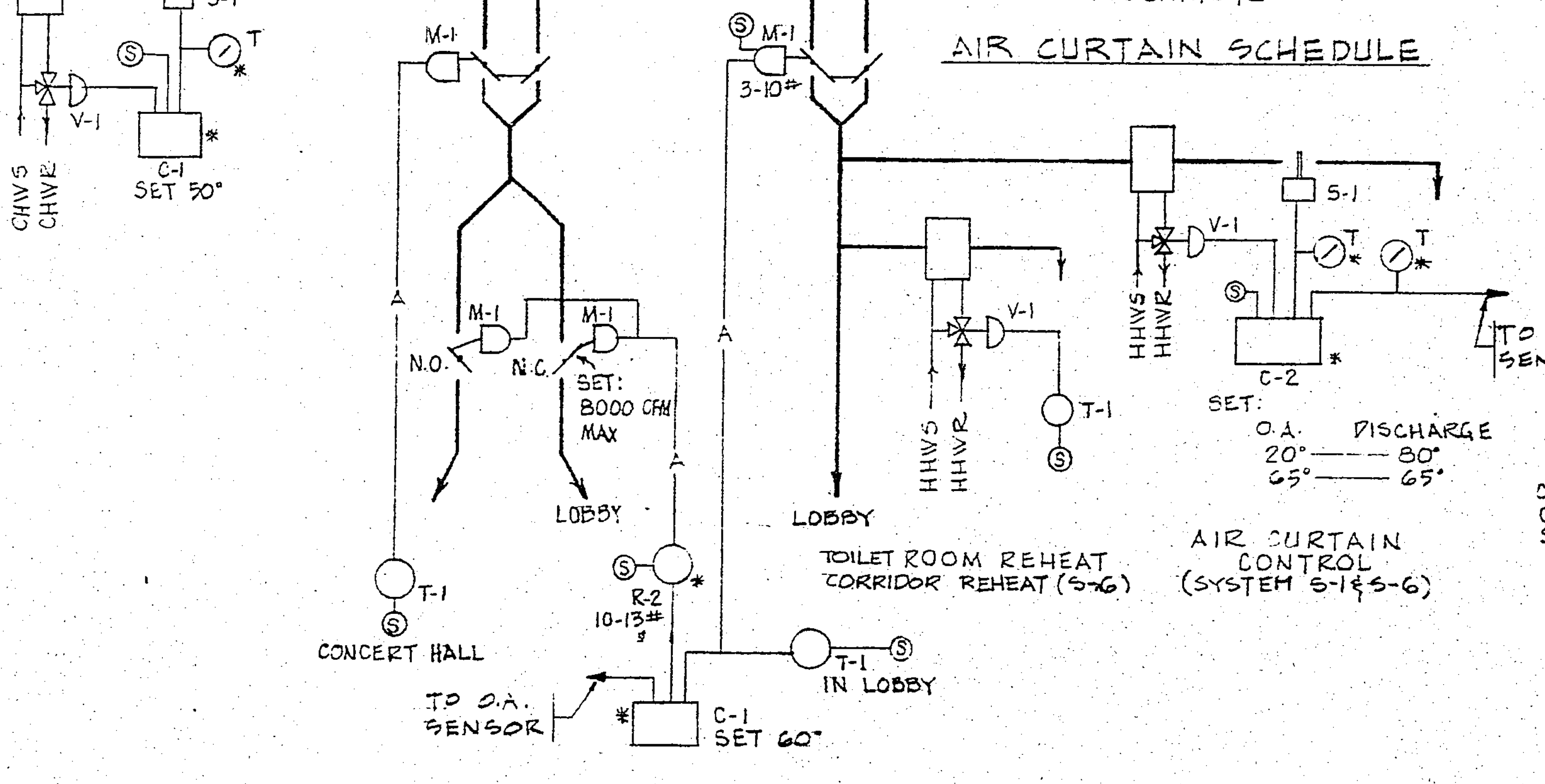
ELECTRIC PAN HEATERS FOR COOLING TOWER CT-1

SYMBOL	TYPE NO.	DESCRIPTION
T-1	TP910A	Room Thermostat (concealed set point, with concealed thermometer) locking cover with adjustable throttling range.
S-1	LP914A	Sensor - 40° to 160° F. range - 15" element.
C-1	RP908A	Controller - proportional band adjustable - field adjustable for direct or reverse acting.
C-2	RP908B	Controller - field adjustable for direct or reverse action - Proportional bank adjustable - Submaster - with adjust - able reset range.
R-1	RP403D	Electric-pneumatic relay
R-2	RP907A	Ratio relay
P-1	PA404	Pneumatic-electric relay U. L. rated for 100,000 cycles
M-1	MP909	Damper motor.
V-1	KP516C	Three-way mixing valve - spring loaded self adjusting packing - contoured linear plug - 3-12# or 4-11# spring or use positive positioner.
T		Temperature indicator 2½" dial.
SW-1	SP93A	Manual readjustment gradual switch.
SW-2	SP401A	MANUAL SELECTING SWITCH.
*		MOUNT ON LOCAL PANEL.
FS.		FLOW SWITCH MCDONNELL MILLER
R-3	RP411A	FAN INTERLOCK RELAY



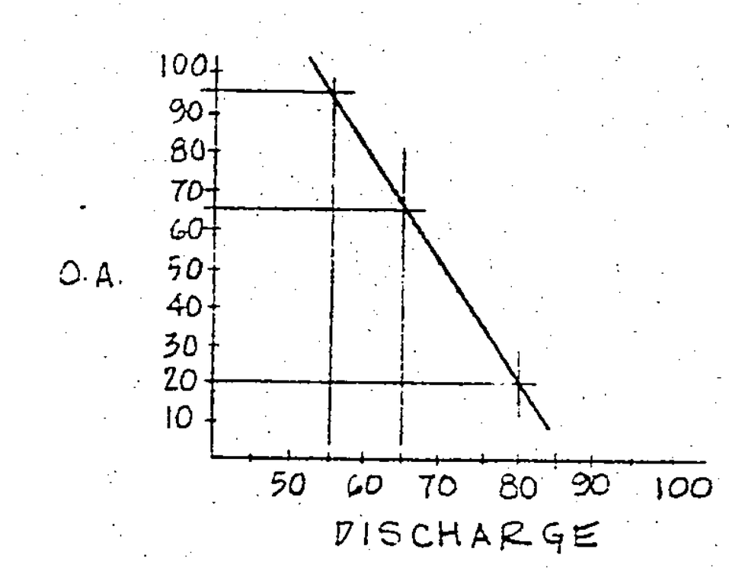
DRAMA THEATER STAGE UNIT (FAN S-5)





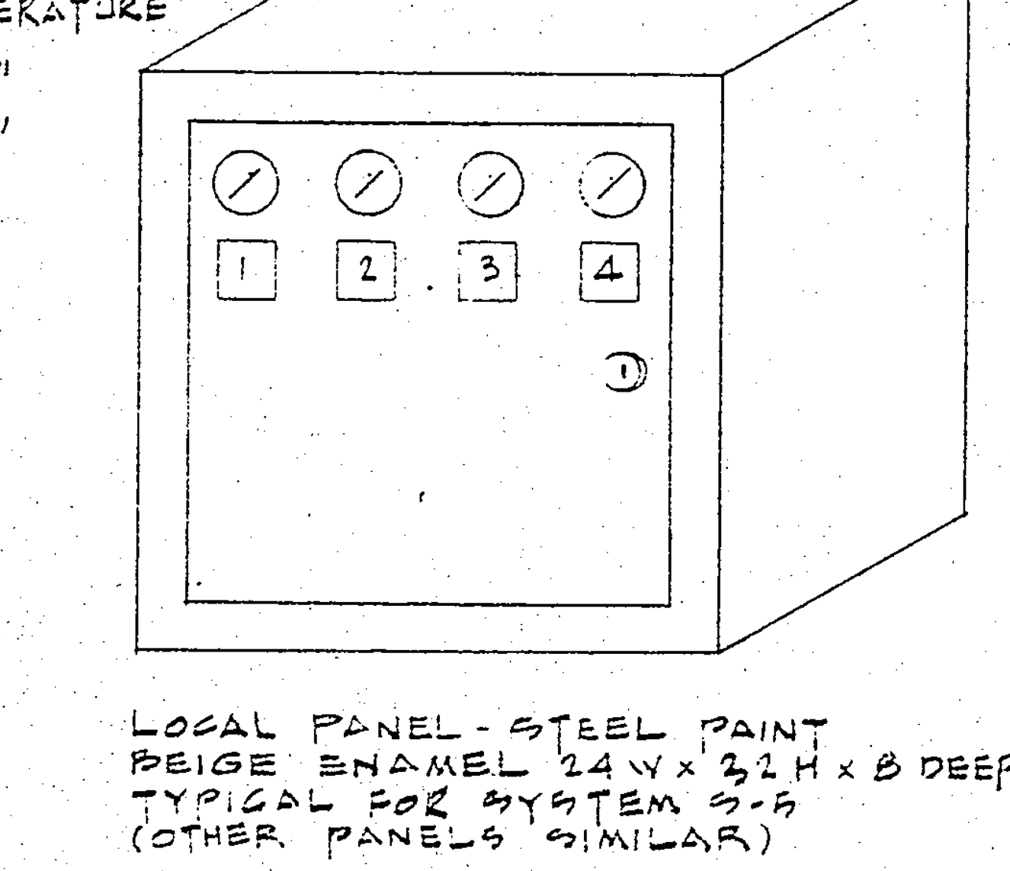
CONCERT HALL SYSTEM (FANS S-1 & RA-1)

DRAMA THEATER SYSTEM IDENTICAL. (FANS S-6 & RA-2)



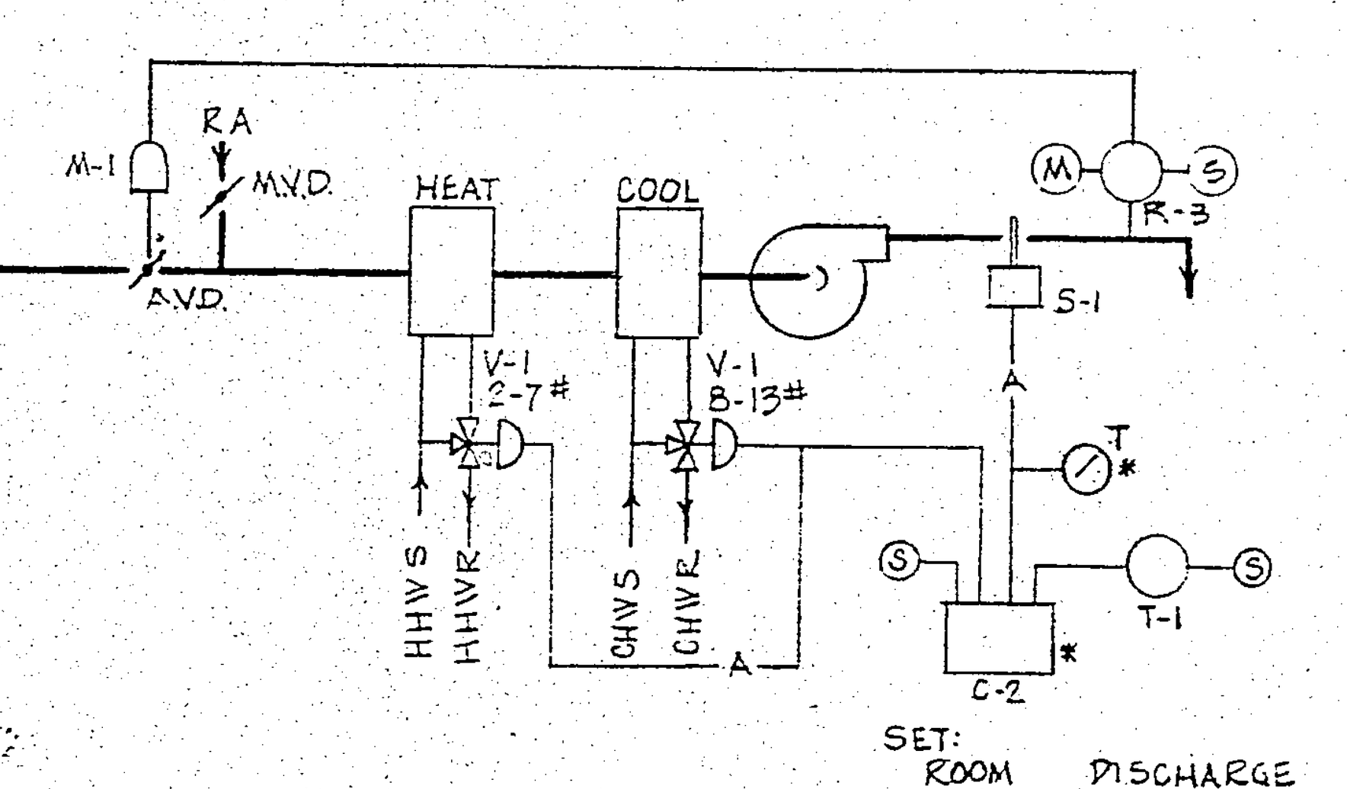
AIR CURTAIN SCHEDULE

NAME PLATES
1. OUT SIDE AIR TEMPERATURE
2. MIXED AIR TEMPERATURE
3. HOT PLENUM "
4. COLD PLENUM "



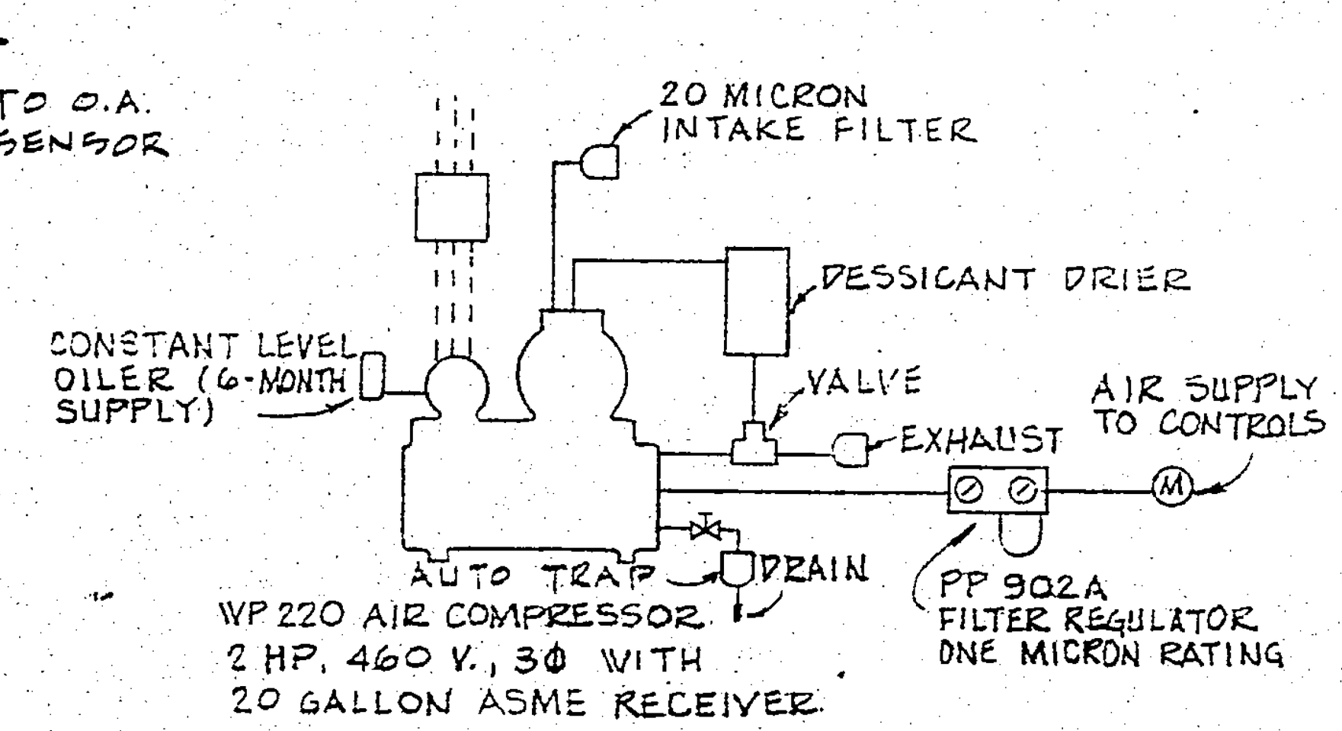
LOCAL PANEL - STEEL PAINT BEIGE ENAMEL 24 W x 24 H x 8 DEEP TYPICAL FOR SYSTEM S-5 (OTHER PANELS SIMILAR)

LOCAL PANEL



CONCERT HALL STAGE UNIT (FAN S-2)

ALSO FOR FAN V-1 WITHOUT HEATING COIL CONTROL SET T-1 @ 80°



CONTROL AIR SUPPLY

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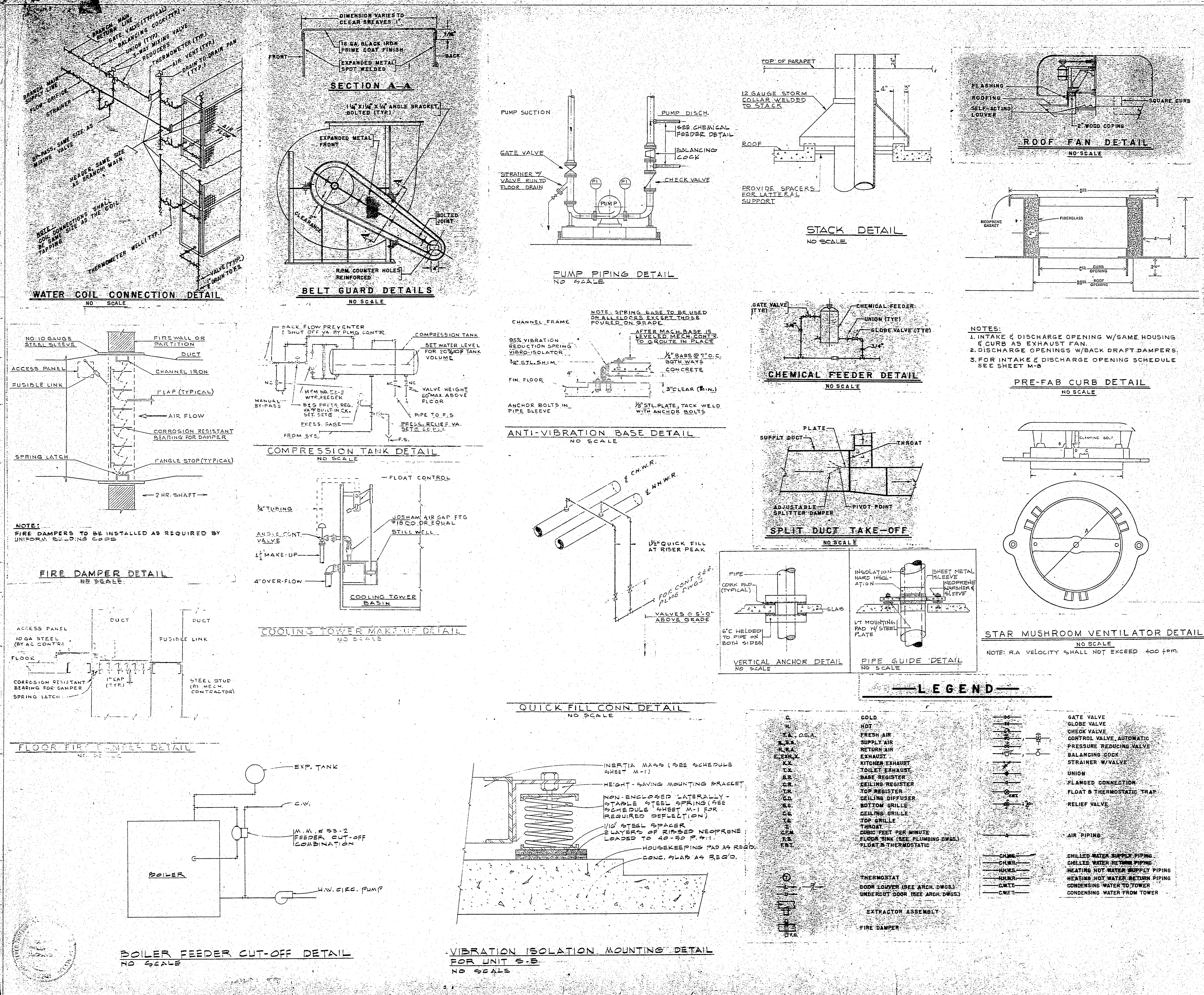
JOB TITLE: FINE ARTS COMPLEX UNIVERSITY OF NEVADA PHASE I LAS VEGAS, NEVADA

SHEET TITLE: HV & AC CONTROLS

M-9


WATER COIL CONNECTION DETAIL
NO SCALE
BRANCH MAIN RETURN LINE
GATE VALVE (TYPICAL)
BALANCING COCK (TYP.)
UNION (TYP.)
3-WAY MIXING VALVE
THERMOMETER (TYP.)
AIR VENT (TYP.)
DRAIN TO DRAIN PAN (TYP.)
BRANCH MAIN SUPPLY LINE
FLOW ORIFICE
STRAINER
BY-PASS, SAME SIZE AS MIXING VALVE
HEADER SAME SIZE AS BRANCH MAIN
REDUCERS
NOTE: COIL CONNECTIONS SHALL BE SAME SIZE AS THE COIL TAPPING
THERMOMETER WELL (TYP.)
VALVE (TYP.) DRAIN TO F.S.
SECTION A-A
DIMENSION VARIES TO CLEAR SHEAVES 1"
16 GA. BLACK IRON PRIME COAT FINISH
EXPANDED METAL SPOT WELDED
FRONT
BACK
1¼" X 1¼" X ¼" ANGLE BRACKET BOLTED (TYP.)
EXPANDED METAL FRONT
BOLTED JOINT
R.P.M. COUNTER HOLES REINFORCED
BELT GUARD DETAILS
NO SCALE
PUMP SUCTION
PUMP DISCH.
SEE CHEMICAL FEEDER DETAIL
BALANCING COCK
GATE VALVE
STRAINER W/ VALVE RUN TO FLOOR DRAIN
CHECK VALVE
PUMP
PUMP PIPING DETAIL
NO SCALE
TOP OF PARAPET
12 GAUGE STORM COLLAR WELDED TO STACK
ROOF
PROVIDE SPACERS FOR LATTERAL SUPPORT
STACK DETAIL
NO SCALE
FLASHING
ROOFING
SELF-ACTING LOUVER
SQUARE CURB
2" WOOD COPING
ROOF FAN DETAIL
NO SCALE
NEOPRENE GASKET
FIBERGLASS
CURB OPENING
ROOF OPENING
NOTES:
1. INTAKE & DISCHARGE OPENING W/SAME HOUSING & CURB AS EXHAUST FAN.
2. DISCHARGE OPENINGS W/BACK DRAFT DAMPERS.
3. FOR INTAKE & DISCHARGE OPENING SCHEDULE SEE SHEET M-8
PRE-FAB CURB DETAIL
NO SCALE
NO. 10 GAUGE STEEL SLEEVE
FIREWALL OR PARTITION
DUCT
ACCESS PANEL
CHANNEL IRON
FUSIBLE LINK
1" LAP (TYPICAL)
AIR FLOW
CORROSION RESISTANT BEARING FOR DAMPER
SPRING LATCH
ANGLE STOP (TYPICAL)
2 HR. SHAFT
NOTE: FIRE DAMPERS TO BE INSTALLED AS REQUIRED BY UNIFORM BUILDING CODE
FIRE DAMPER DETAIL
NO SCALE
BACK FLOW PREVENTER & SHUT OFF VA BY PLMG CONTR.
COMPRESSION TANK
SET WATER LEVEL FOR 20% OF TANK VOLUME
M&M NO. 52-2 WTR. FEEDER
MANUAL BY-PASS
VALVE HEIGHT 60" MAX. ABOVE FLOOR
PIPE TO F.S.
PRESS. GAGE
PRESS. RELIEF VA. SET @ 60 P.S.I.
FROM SYS.
COMPRESSION TANK DETAIL
NO SCALE
CHANNEL FRAME
NOTE: SPRING BASE TO BE USED ON ALL FLOORS EXCEPT THOSE POURED ON GRADE
95% VIBRATION REDUCTION SPRING VIBRO-ISOLATOR
AFTER MACH. BASE IS LEVELED MECH. CONT'R. TO GROUTE IN PLACE
½" BARS @ 7" O.C. BOTH WAYS
CONCRETE
FIN. FLOOR
3" CLEAR (MIN.)
ANCHOR BOLTS IN PIPE SLEEVE
⅛" STL. PLATE, TACK WELD WITH ANCHOR BOLTS
ANTI-VIBRATION BASE DETAIL
NO SCALE
GATE VALVE (TYP.)
CHEMICAL FEEDER
UNION (TYP.)
GLOBE VALVE (TYP.)
CHEMICAL FEEDER DETAIL
NO SCALE
FLOAT CONTROL
¼" TUBING
JOSHAM AIR GAP FTG. #18 CO. OR EQUAL
STILL WELL
ANGLE CONT. VALVE
1½" MAKE-UP
4" OVER-FLOW
COOLING TOWER BASIN
COOLING TOWER MAKE-UP DETAIL
NO SCALE
℄ CH.W.R.
℄ H.H.W.R.
1½" QUICK FILL AT RISER PEAK
FOR CONT. SEE PLMG DWGS.
VALVES @ 5'-0" ABOVE GRADE
QUICK FILL CONN. DETAIL
NO SCALE
PLATE
SUPPLY DUCT
THROAT
ADJUSTABLE SPLITTER DAMPER
PIVOT POINT
SPLIT DUCT TAKE-OFF
NO SCALE
PIPE
CORK PAD (TYPICAL)
SLAB
6" C WELDED TO PIPE ON BOTH SIDES
VERTICAL ANCHOR DETAIL
NO SCALE
INSOLATION HARD INSOLATION
SHEET METAL SLEEVE
NEOPRENE WARSHER & SLEEVE
LT MOUNTING PAD W/ STEEL PLATE
PIPE GUIDE DETAIL
NO SCALE
STAR MUSHROOM VENTILATOR DETAIL
NO SCALE
NOTE: R.A VELOCITY SHALL NOT EXCEED 400 fpm.
ACCESS PANEL
10 GA STEEL (BY AC CONTR.)
DUCT
FUSIBLE LINK
FLOOR
CORROSION RESISTANT BEARING FOR DAMPER
1" LAP (TYP.)
SPRING LATCH
STEEL STUD (BY MECH. CONTRACTOR)
FLOOR FIRE DAMPER DETAIL
NO SCALE
EXP. TANK
C.W.
M.M. # 53-2 FEEDER CUT-OFF COMBINATION
BOILER
H.W. CIRC. PUMP
BOILER FEEDER CUT-OFF DETAIL
NO SCALE
INERTIA MASS (SEE SCHEDULE SHEET M-1)
HEIGHT-SAVING MOUNTING BRACKET
NON-ENCLOSED LATERALLY-STABLE STEEL SPRING (SEE SCHEDULE SHEET M-1 FOR REQUIRED DEFLECTION)
1/4" STEEL SPACER
2 LAYERS OF RIBBED NEOPRENE LOADED TO 40-50 P.S.I.
HOUSEKEEPING PAD AS REQ'D.
CONC. SLAB AS REQ'D.
VIBRATION ISOLATION MOUNTING DETAIL FOR UNIT S.B.
NO SCALE
LEGEND
C. COLD
H. HOT
F.A. O.S.A. FRESH AIR
S.A. SUPPLY AIR
R.A. RETURN AIR
E. EXH. EXHAUST
K.X. KITCHEN EXHAUST
T.X. TOILET EXHAUST
B.R. BASE REGISTER
C.R. CEILING REGISTER
T.R. TOP REGISTER
C.D. CEILING DIFFUSER
B.G. BOTTOM GRILLE
C.G. CEILING GRILLE
T.G. TOP GRILLE
T. THROAT
C.F.M. CUBIC FEET PER MINUTE
F.S. FLOOR SINK (SEE PLUMBING DWGS.)
F.&T. FLOAT & THERMOSTATIC
THERMOSTAT
DOOR LOUVER (SEE ARCH. DWGS.)
UNDERCUT DOOR (SEE ARCH. DWGS.)
EXTRACTOR ASSEMBLY
FIRE DAMPER
GATE VALVE
GLOBE VALVE
CHECK VALVE
CONTROL VALVE, AUTOMATIC
PRESSURE REDUCING VALVE
BALANCING COCK
STRAINER W/VALVE
UNION
FLANGED CONNECTION
FLOAT & THERMOSTATIC TRAP
RELIEF VALVE
AIR PIPING
CHWS CHILLED WATER SUPPLY PIPING
CHWR CHILLED WATER RETURN PIPING
HHWS HEATING HOT WATER SUPPLY PIPING
HHWR HEATING HOT WATER RETURN PIPING
CWTT CONDENSING WATER TO TOWER
CWFT CONDENSING WATER FROM TOWER

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M-10
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