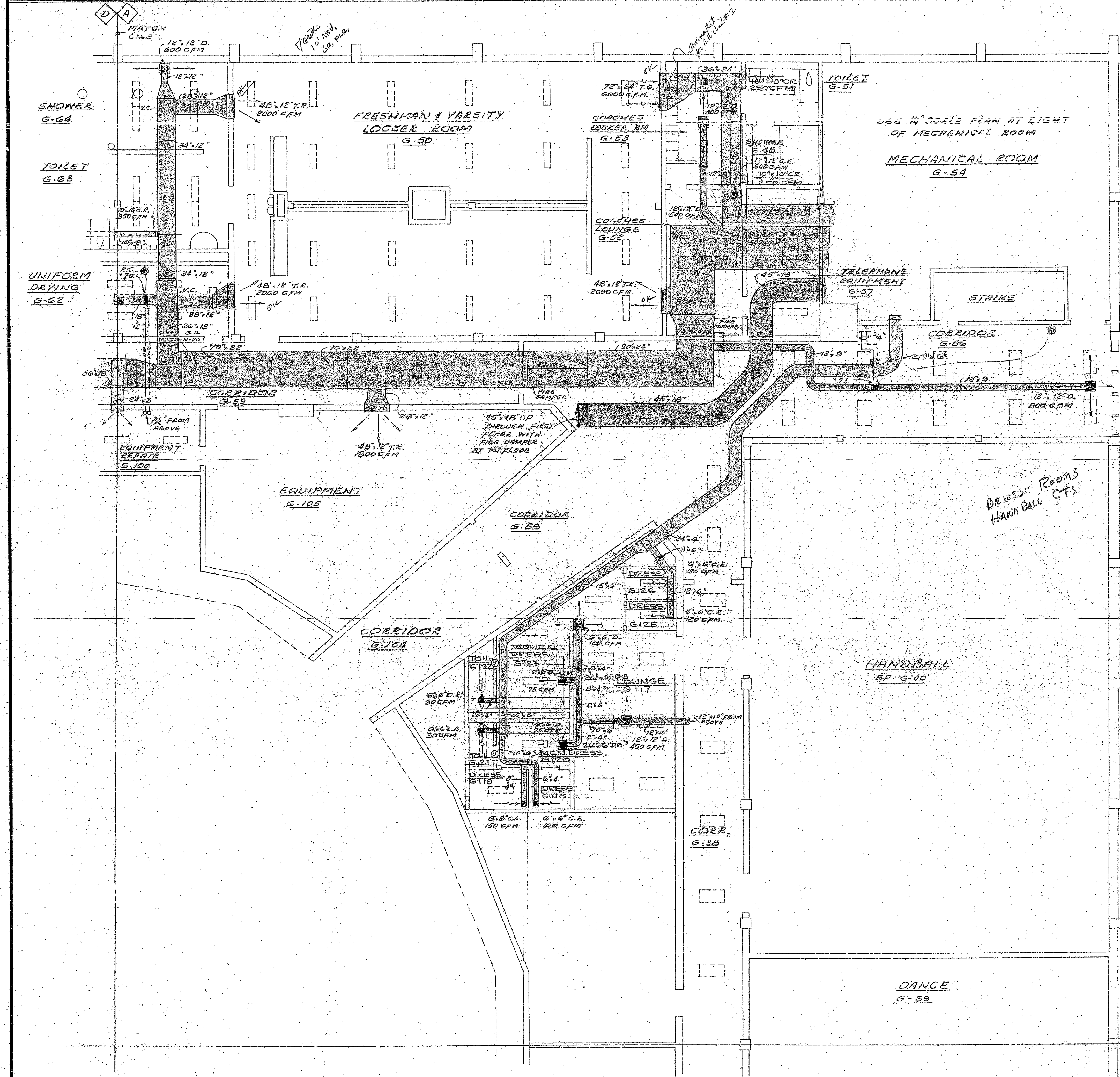
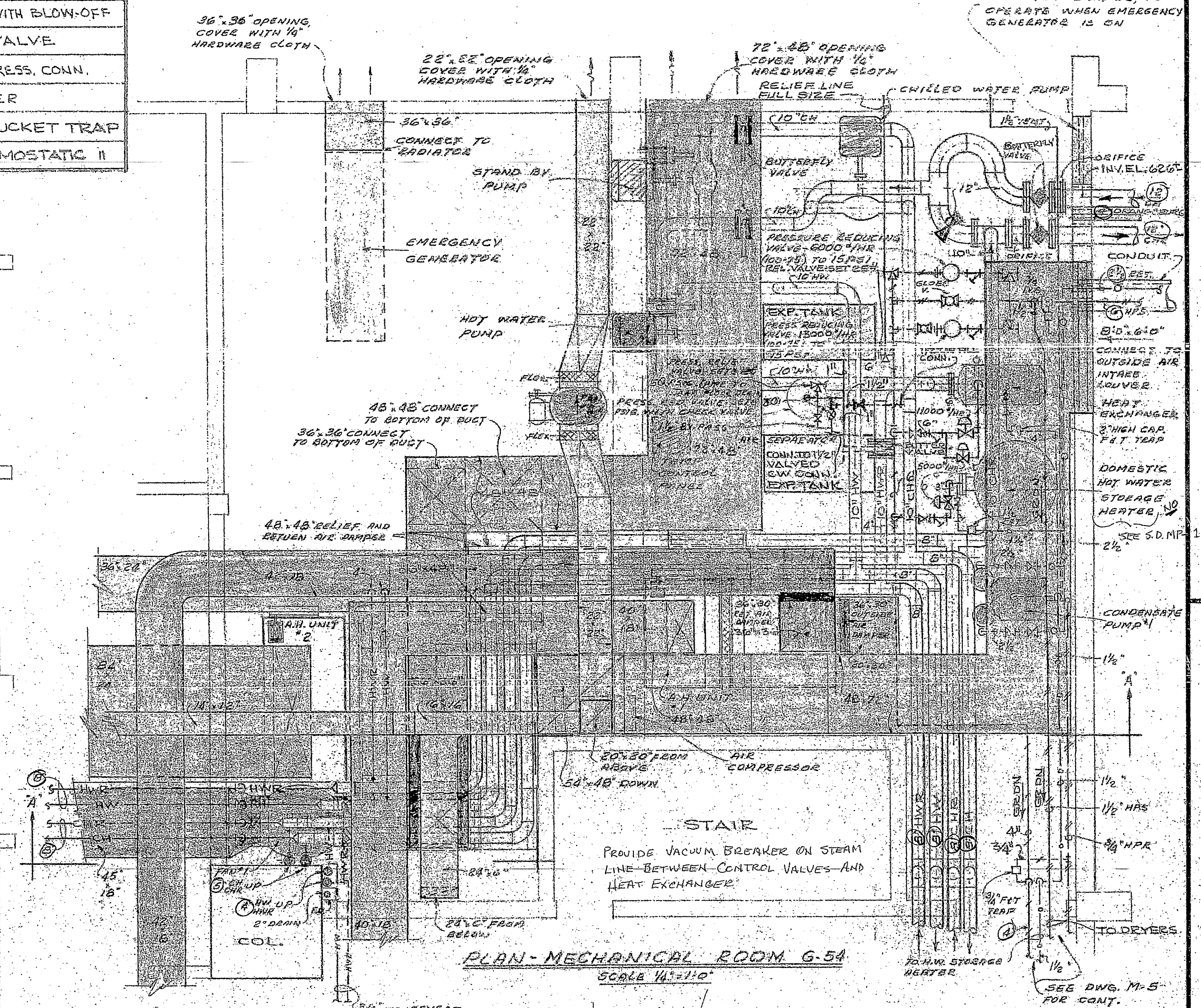


SYMBOLS

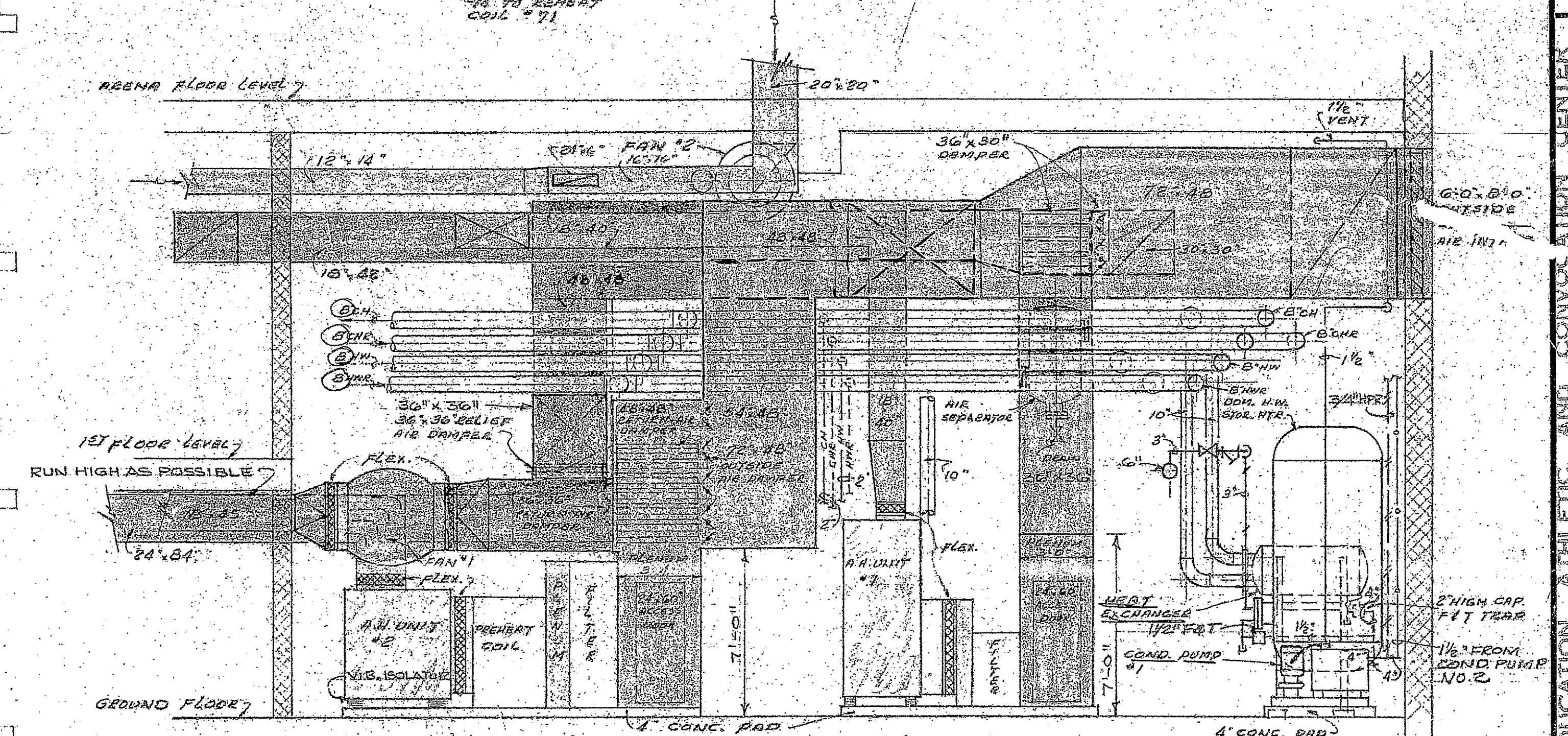
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
— CH —	CHILLED WATER SUPPLY	— O — O — O —	PUMP CONDENSATE LINE	B.G.	BOTTOM GRILLE (NEAR FLOOR)		GATE VALVE BALL OR BUTTERFLY VALVE - SEE SPEC.
--- CHR ---	CHILLED WATER RETURN	— D —	DRAIN	D.G.	DOOR GRILLE		CHECK VALVE
— HW —	HOT WATER SUPPLY	— — — — —	COLD WATER MAKE-UP	S.D.	SPLITTER DAMPER		Y-STRAINER WITH BLOW-OFF
--- HWR ---	HOT WATER RETURN	D.	DIFFUSER & NECK SIZE	N	NECK AND SIZE		BALANCING VALVE
	HIGH PRESSURE STEAM SUPPLY	C.G.	CEILING GRILLE	M.D.	MANUAL DAMPER	T.P.	TEMPERATURE PRESS. CONN.
	HIGH PRESSURE STEAM RETURN	C.R.	CEILING REGISTER	V.C.	VOLUME CONTROLLER	F.D.	FIRE DAMPER
	LOW PRESSURE STEAM SUPPLY	T.R.	TOP REGISTER (NEAR CEILING)		UNDERCUT DOOR	I.V.B.	INVERTED BUCKET TRAP
	LOW PRESSURE STEAM RETURN	T.G.	TOP GRILLE (NEAR CEILING)		THERMOSTAT	F&T.	FLOAT & THERMOSTATIC II



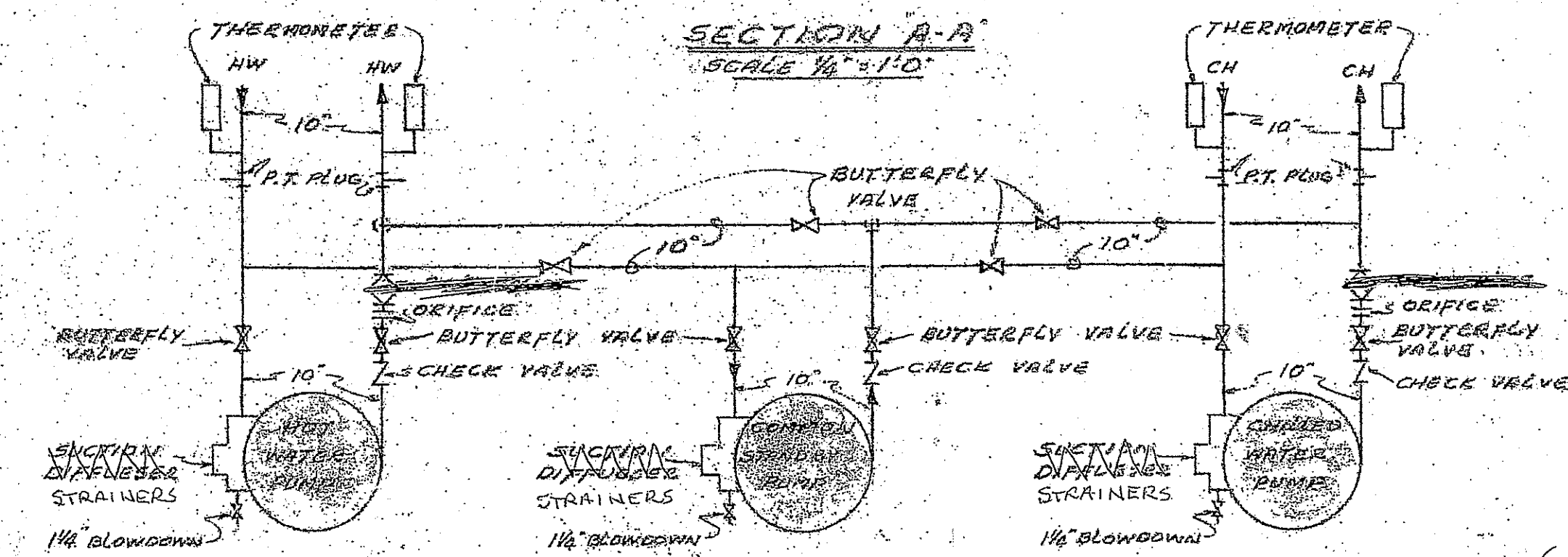
GROUND FLOOR PLAN - PART "A"
SCALE 1/8" = 1'-0"



PLAN - MECHANICAL ROOM G-5
SCALE 1/4" = 1'-0"



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



SCHEMATIC PUMP PIPING
NO SCALE

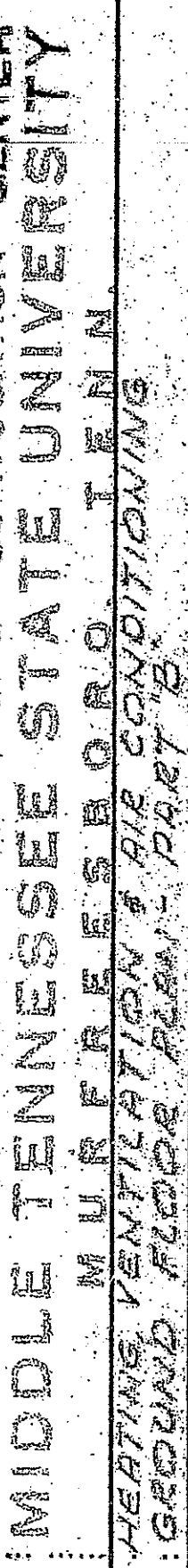
(SEE ADD #2, 2-222 1. & 2.)

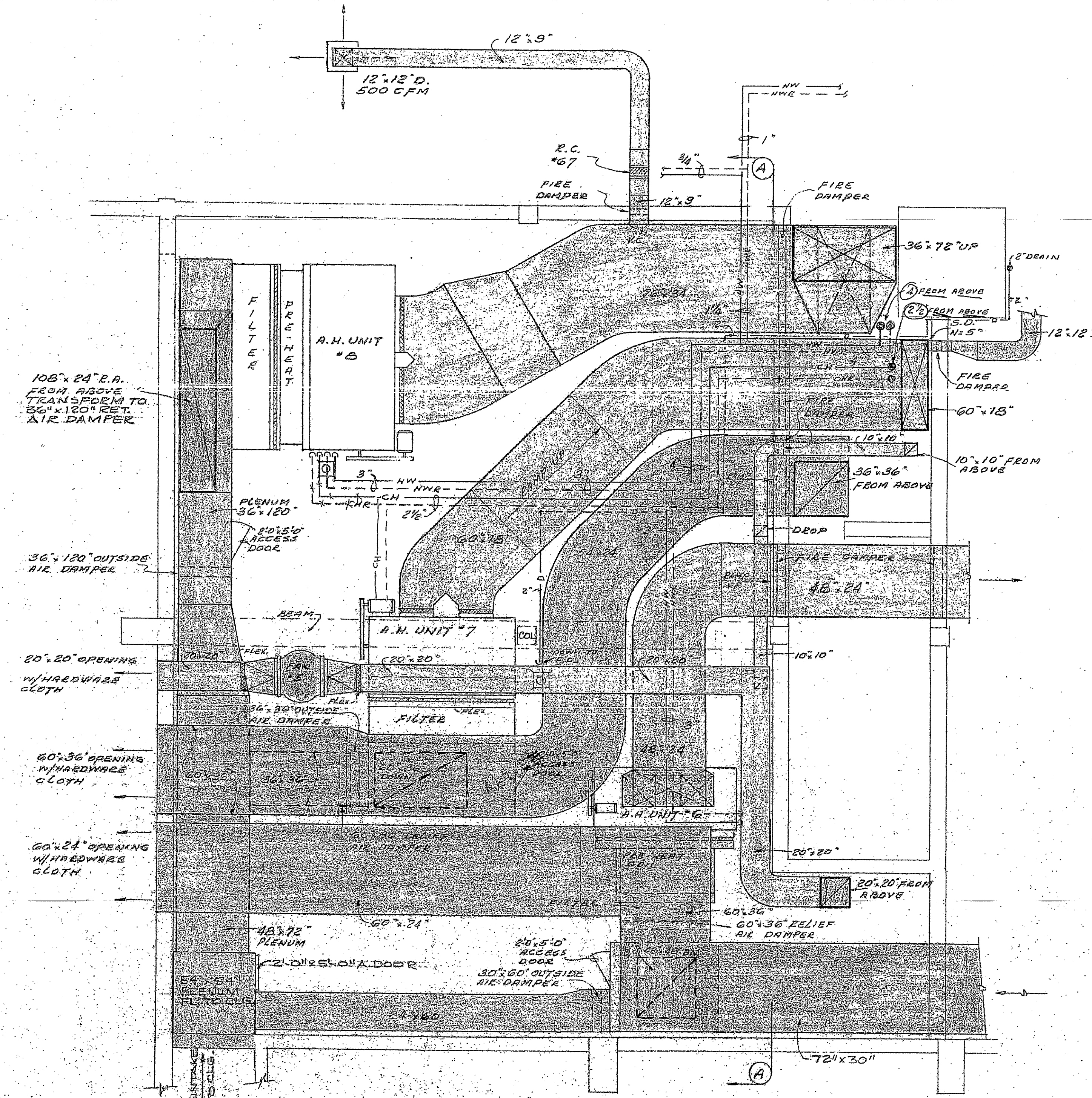
11-2
TAYLOR AND CRABTREE
A R C H I T E C T S
1812 BROADWAY, NASHVILLE, TENN.

MIDDLE TENNESSEE STATE UNIVERSITY
MURFREESBORO, TENN.
HEATING, VENTILATION & AIR CONDITIONING

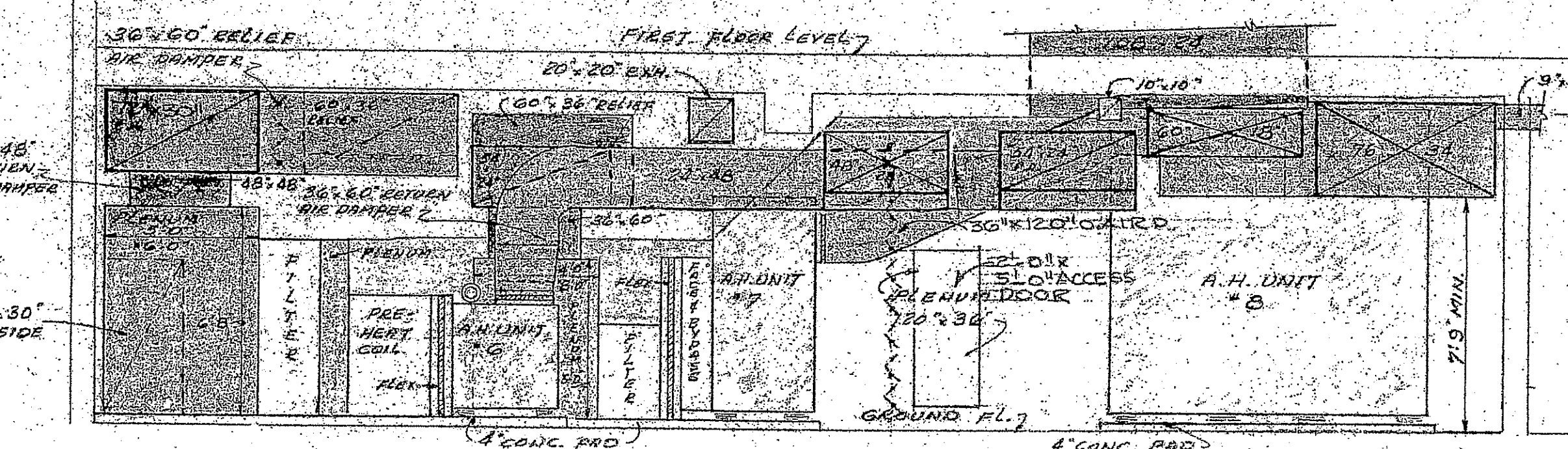
PROJECT NO.
6224
DRAWN BY
L. E. HARRIS
CHECKED BY
C. SHARP
ISSUE DATE
3 NOV. 70
SHEET NUMBER

SECRET

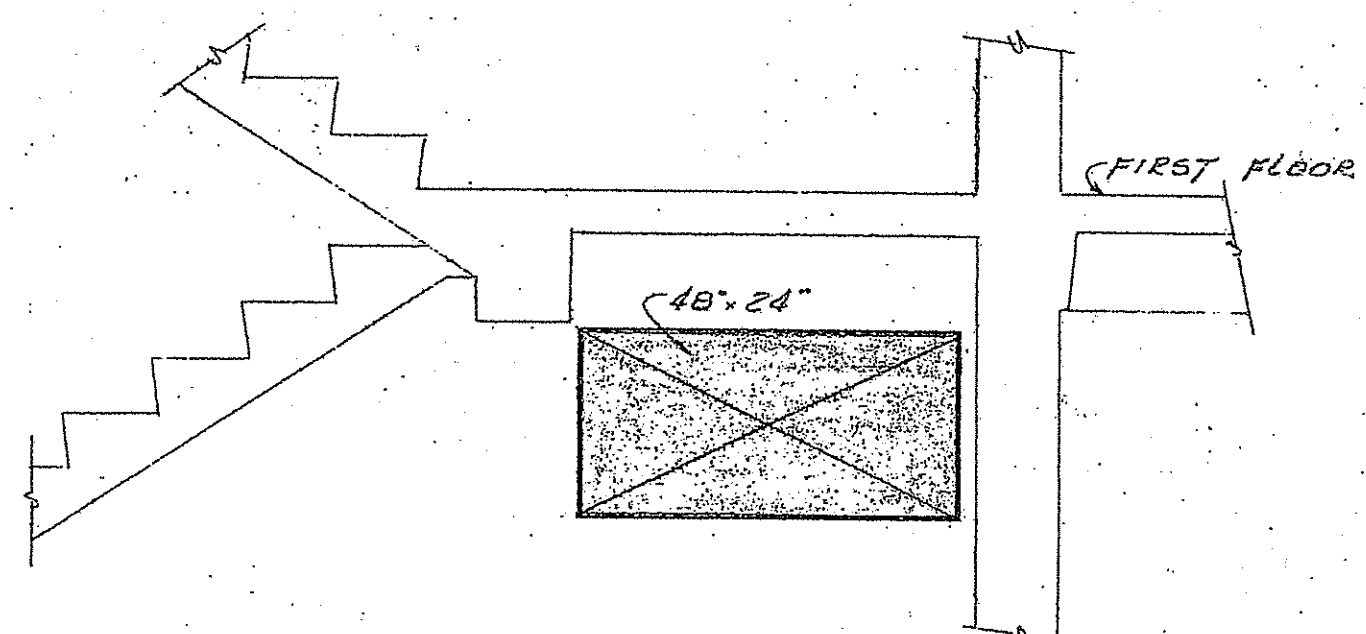




PLAN-MECHANICAL ROOM-G-2
SCALE 1/4"=1'-0"

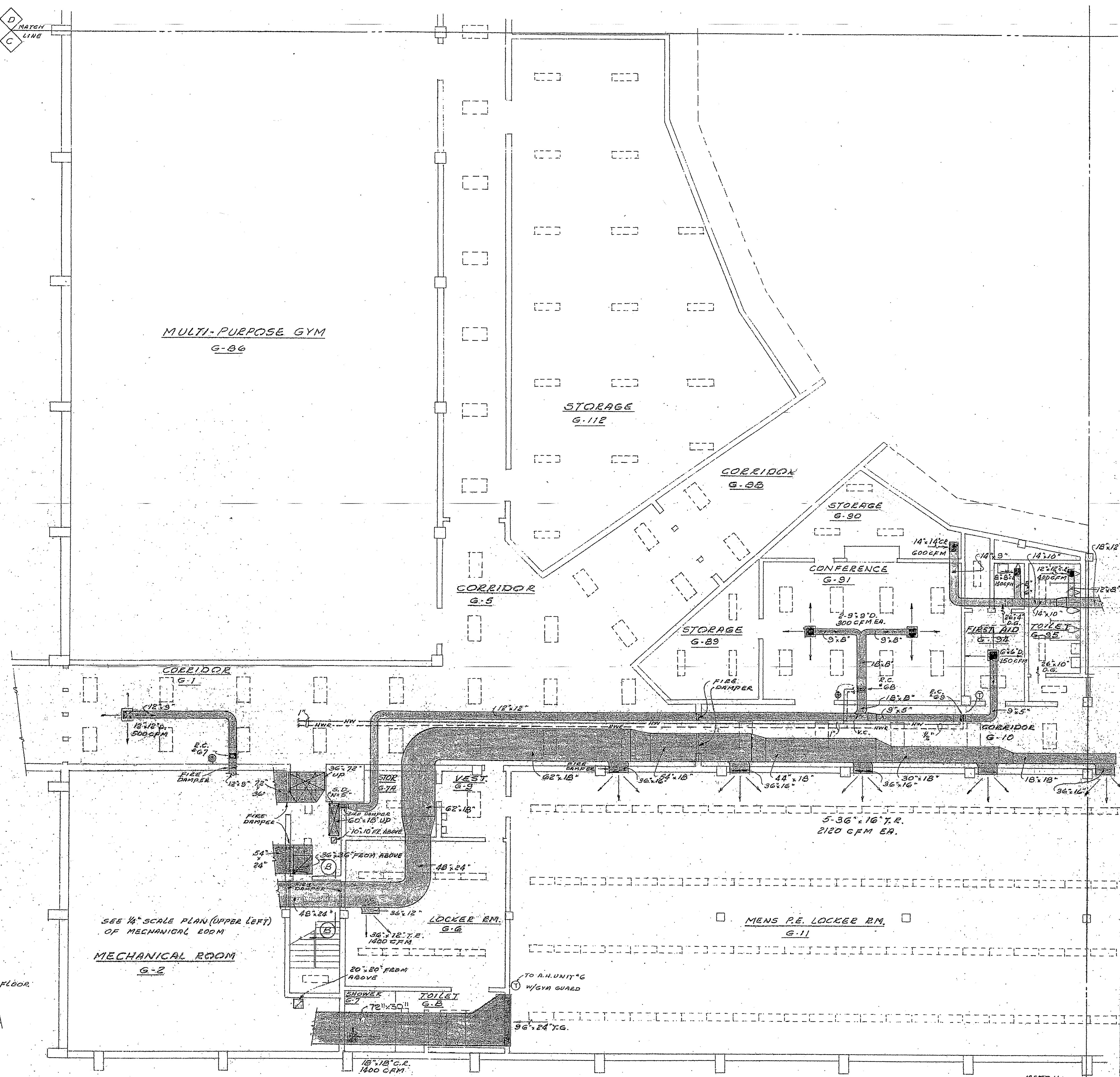


SECTION A-A
SCALE 1/4"=1'-0"

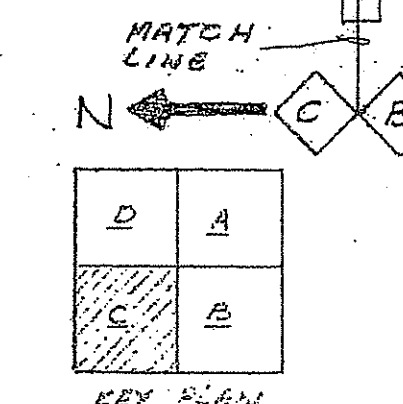


SECTION B-B
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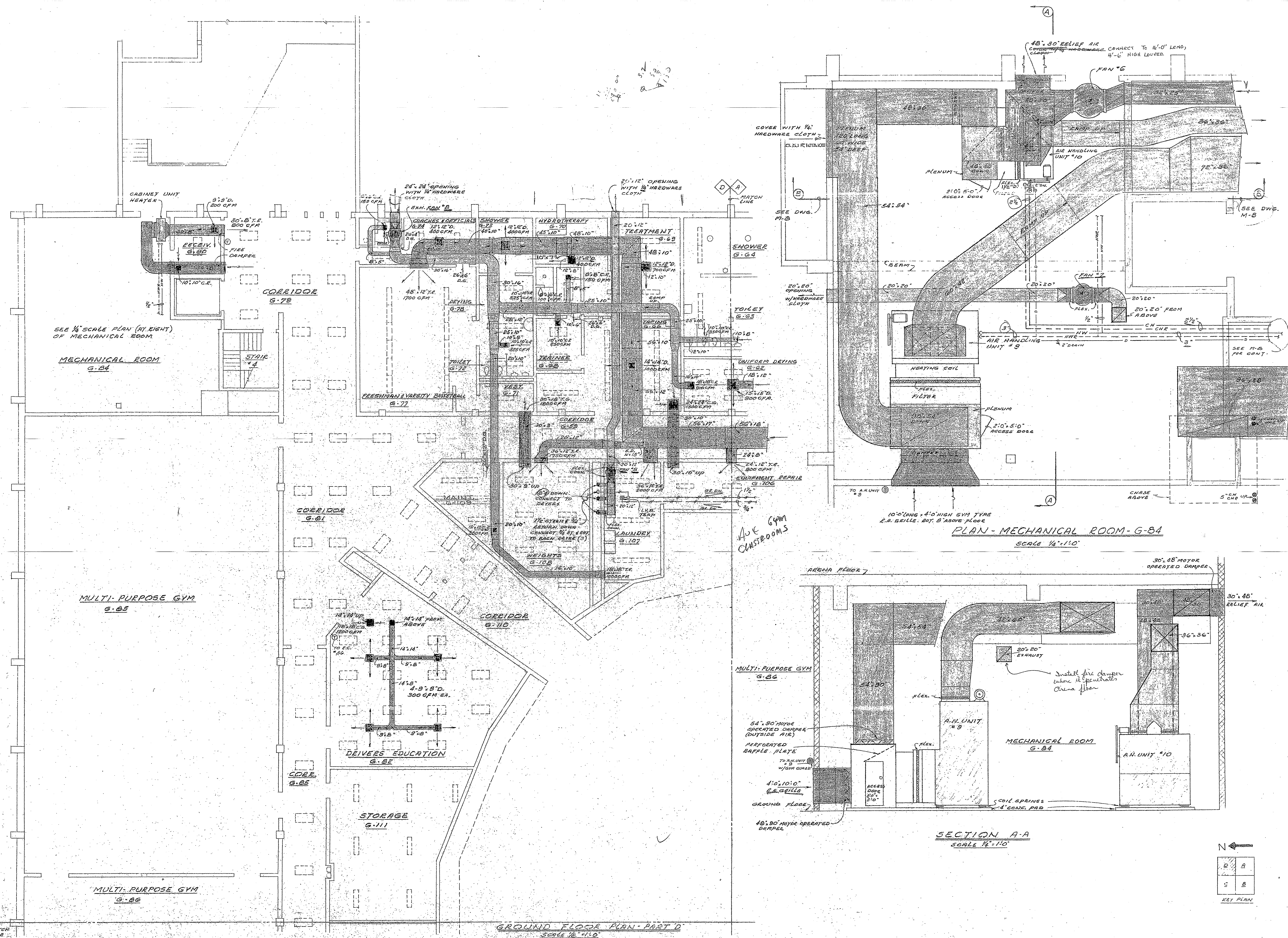
D
C
MATCH
LINE

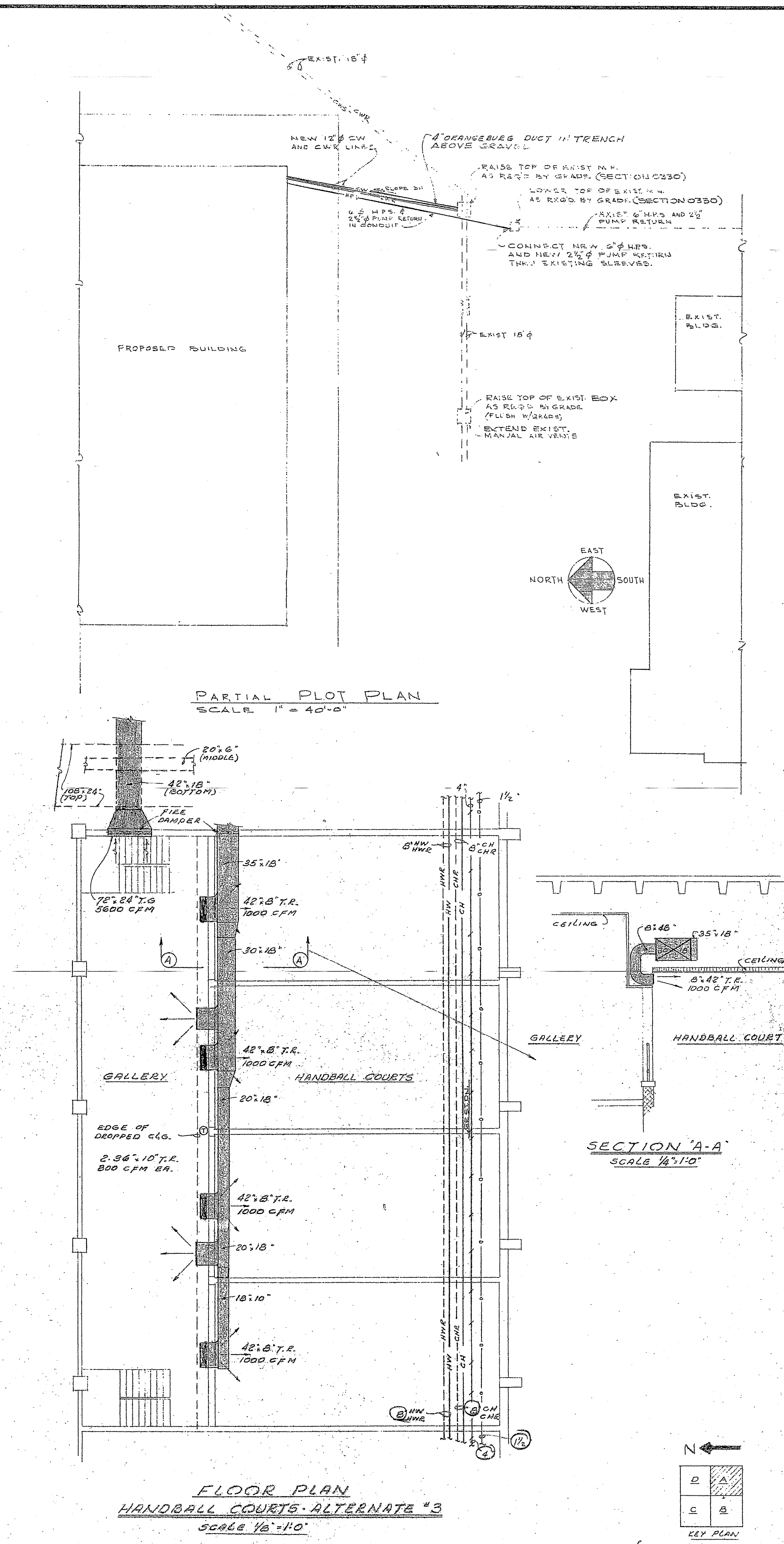
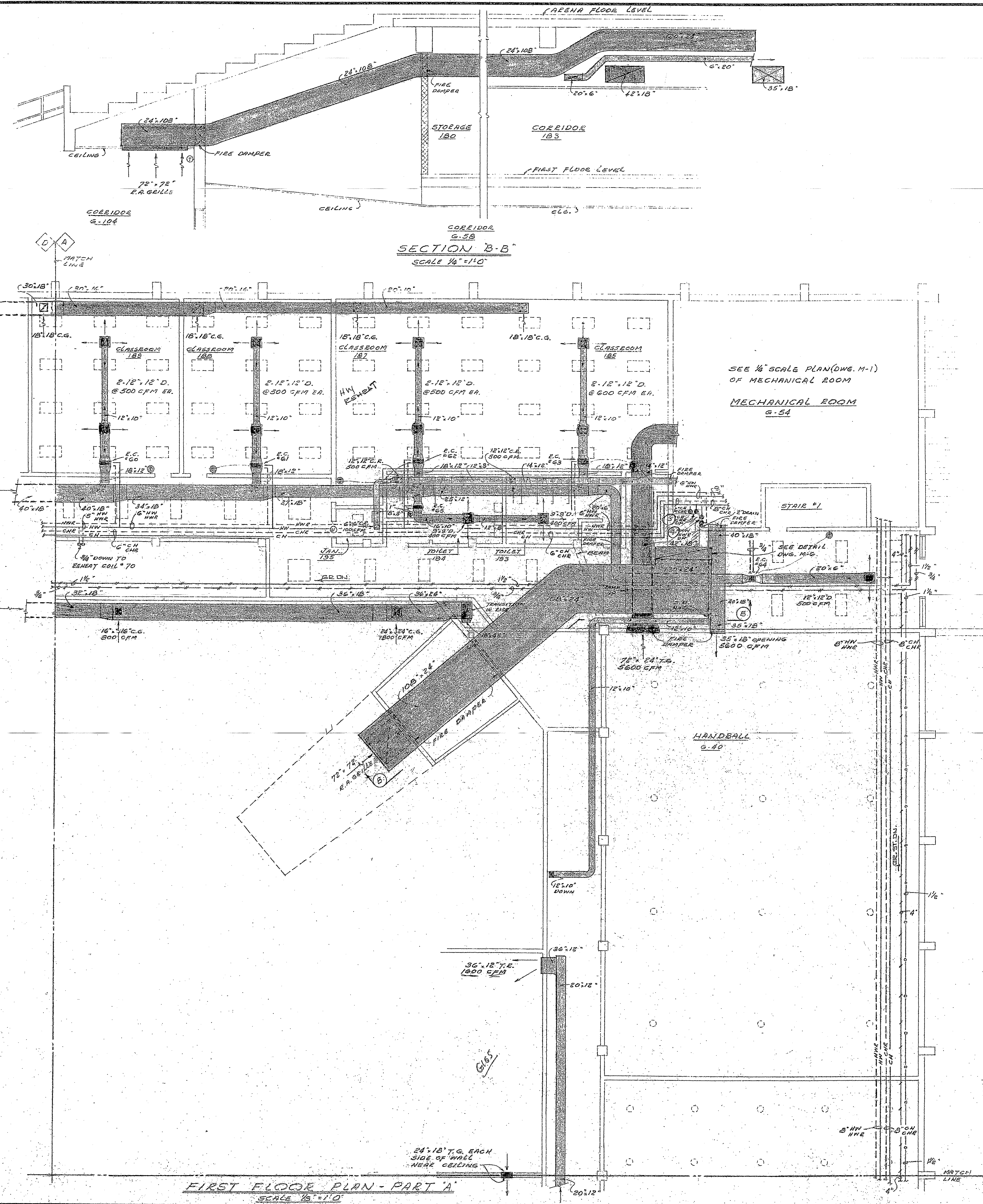


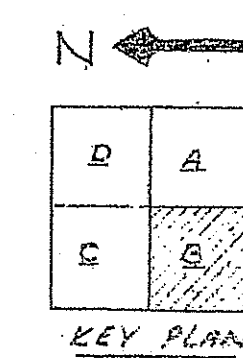
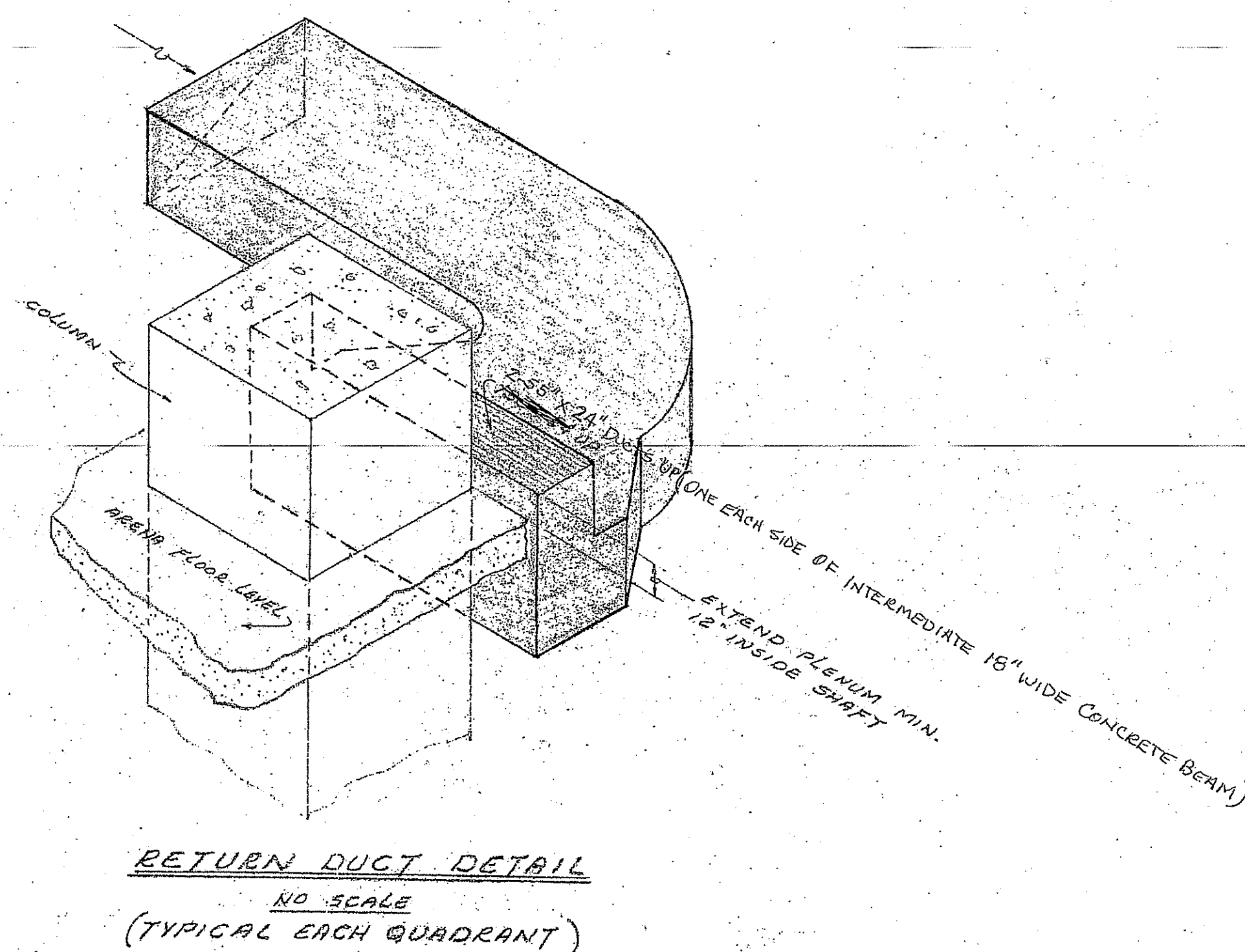
GROUND FLOOR PLAN - PART 'C'
SCALE 1/4"=1'-0"

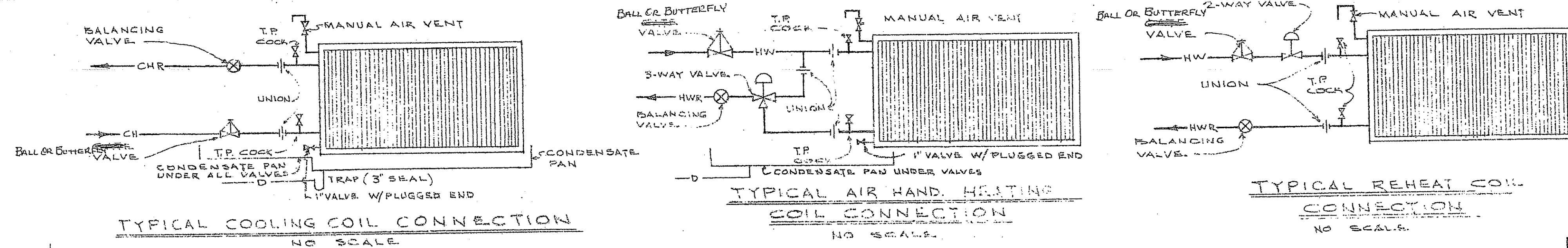


(SEE ADD #2, 2-222, 1, 2 & 3.)

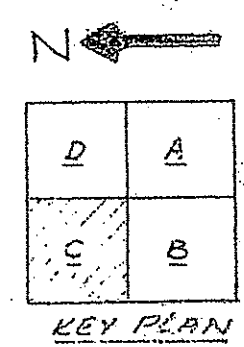
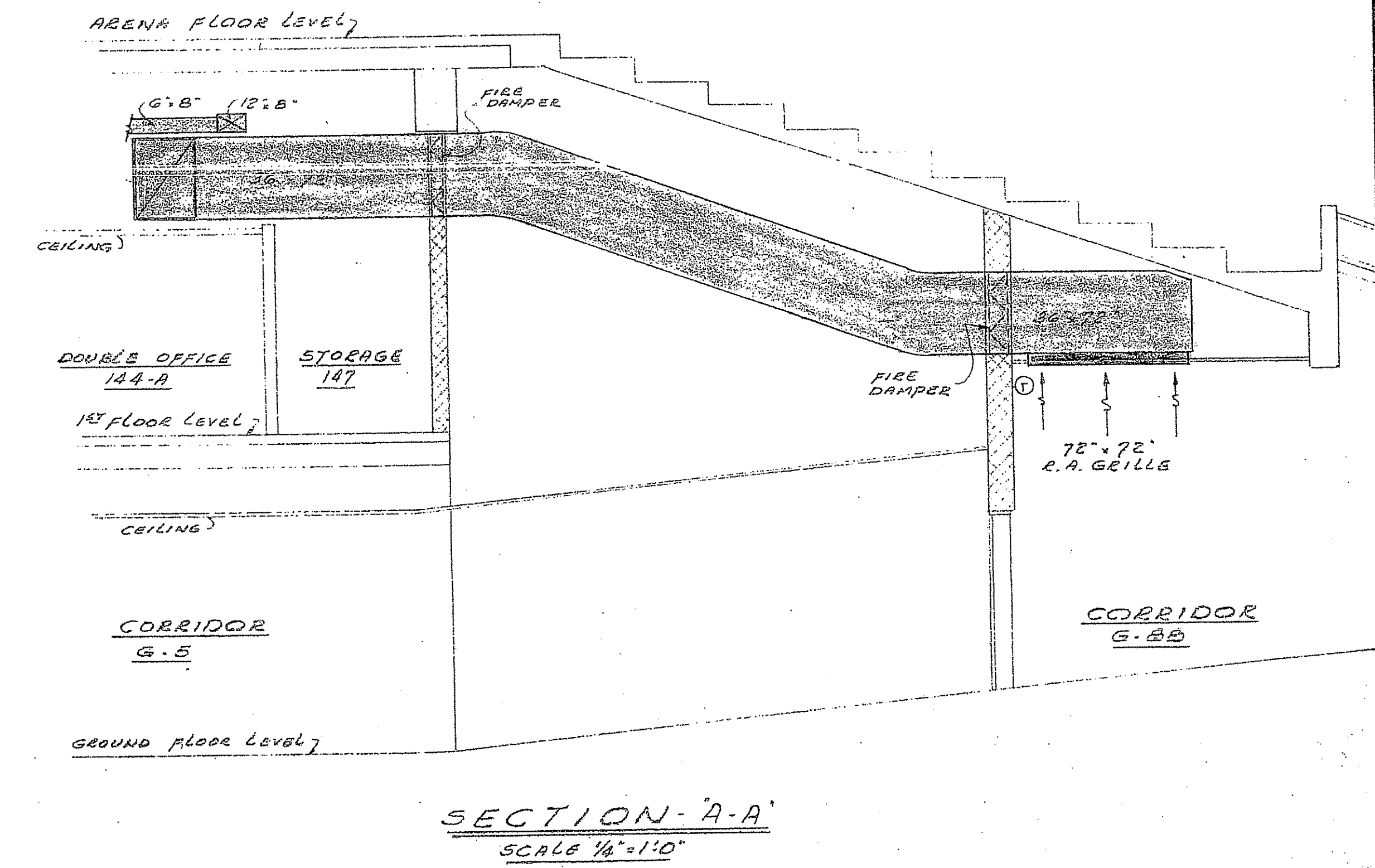
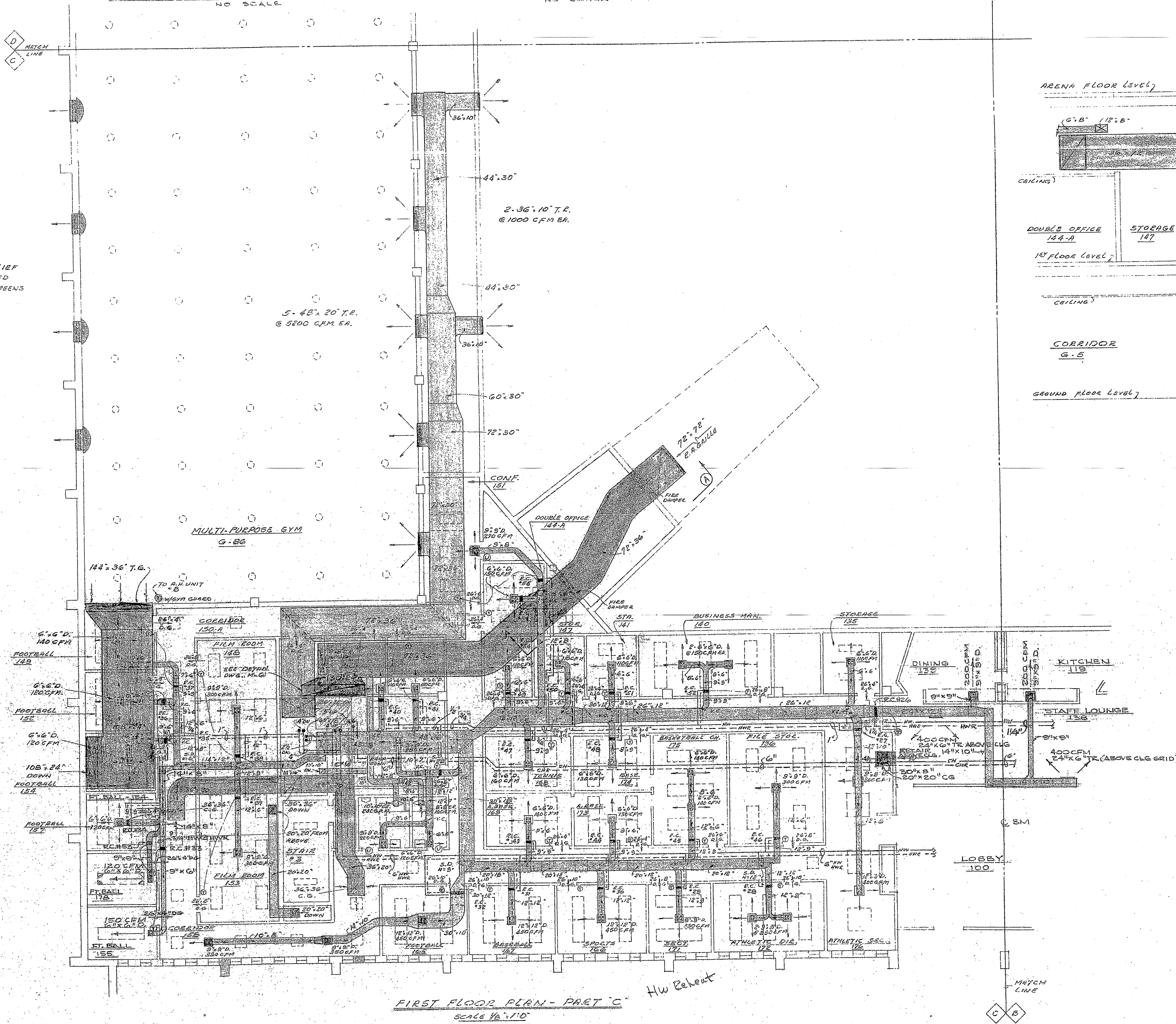








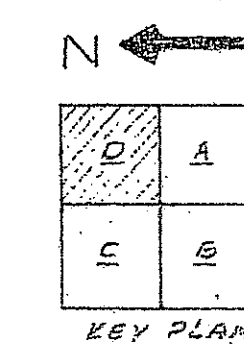
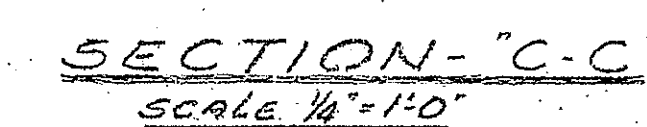
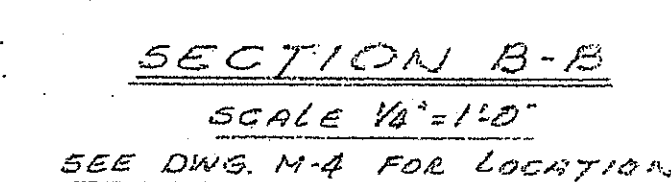
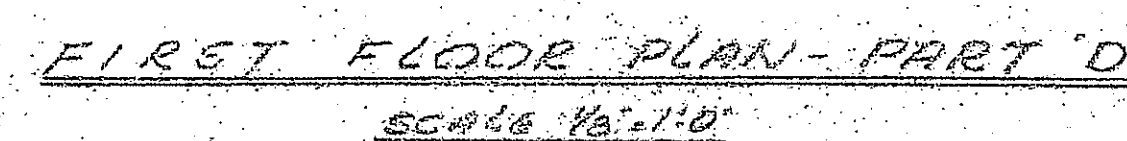
4-42" x 42" RELIEF
MOTOR OPERATED
DAMPERS W/SCREENS
OVER INLETS

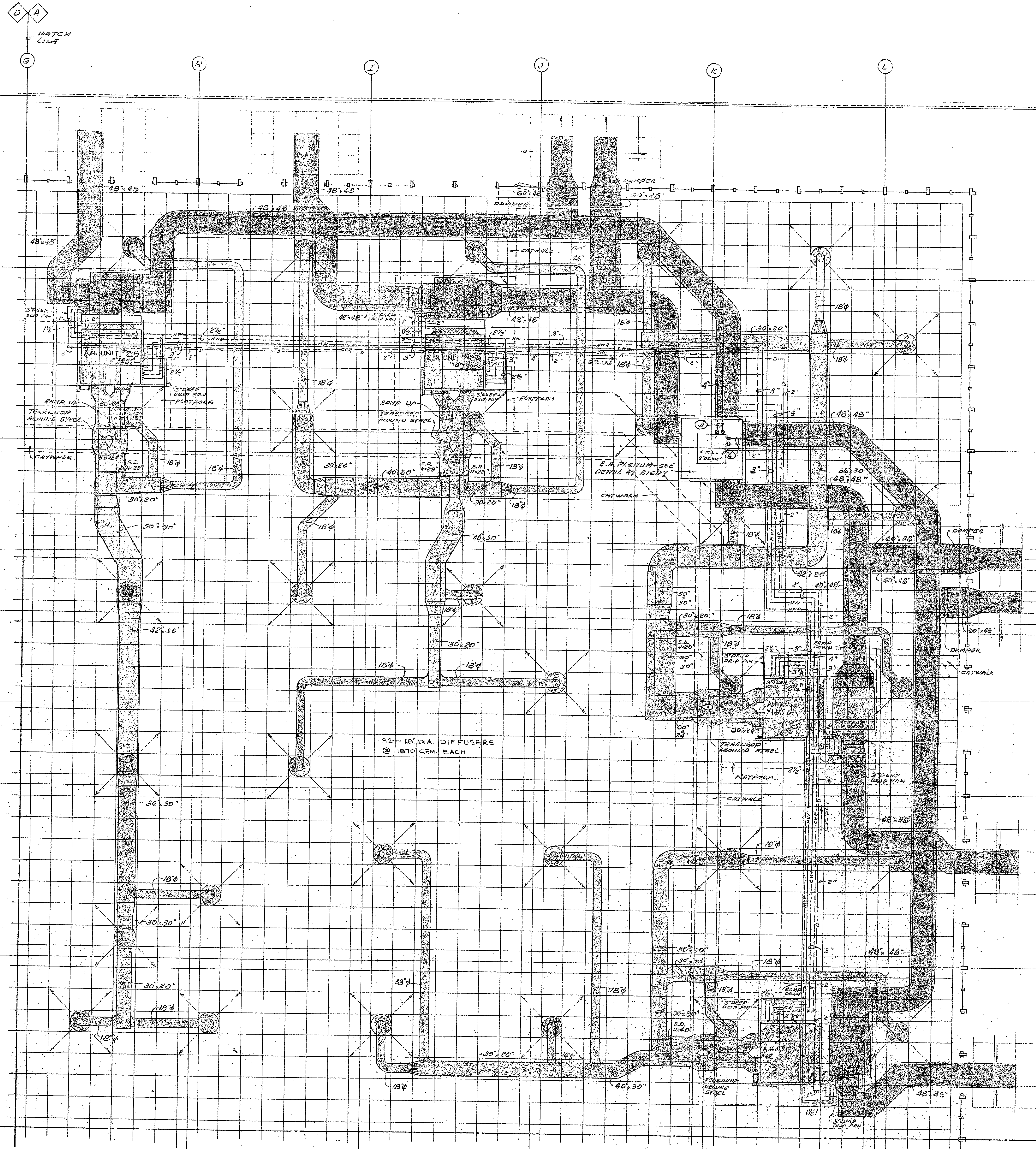


PHYSICAL EDUCATION, ATHLETIC, AND CONVOCATION CENTER
MIDDLE TENNESSEE STATE UNIVERSITY
MURFREESBORO, TENN.
HEATING VENTILATION & AIR CONDITIONING
FIRST FLOOR PLAN - PART C

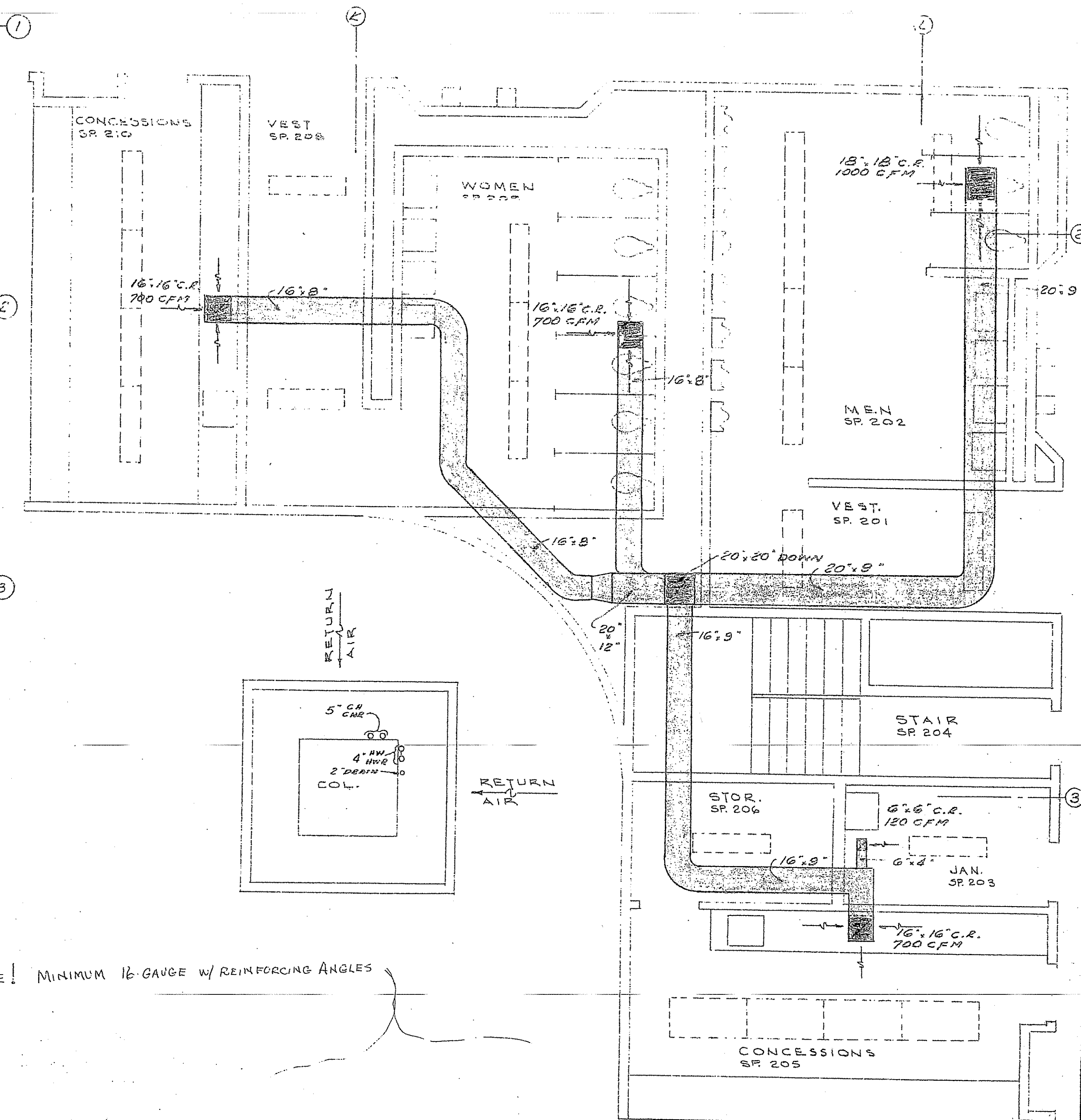
PROJECT NO.
: 6884
DRAWN BY
: J. E. WINDIGS
CHECKED BY
: J. C. CORPENTZ
ISSUE DATE
: 13 NOV 70
SHEET NUMBER
: M-7

TAYLOR AND CRABTREE
ARCHITECTS
1812 BROADWAY, NASHVILLE, TENN.

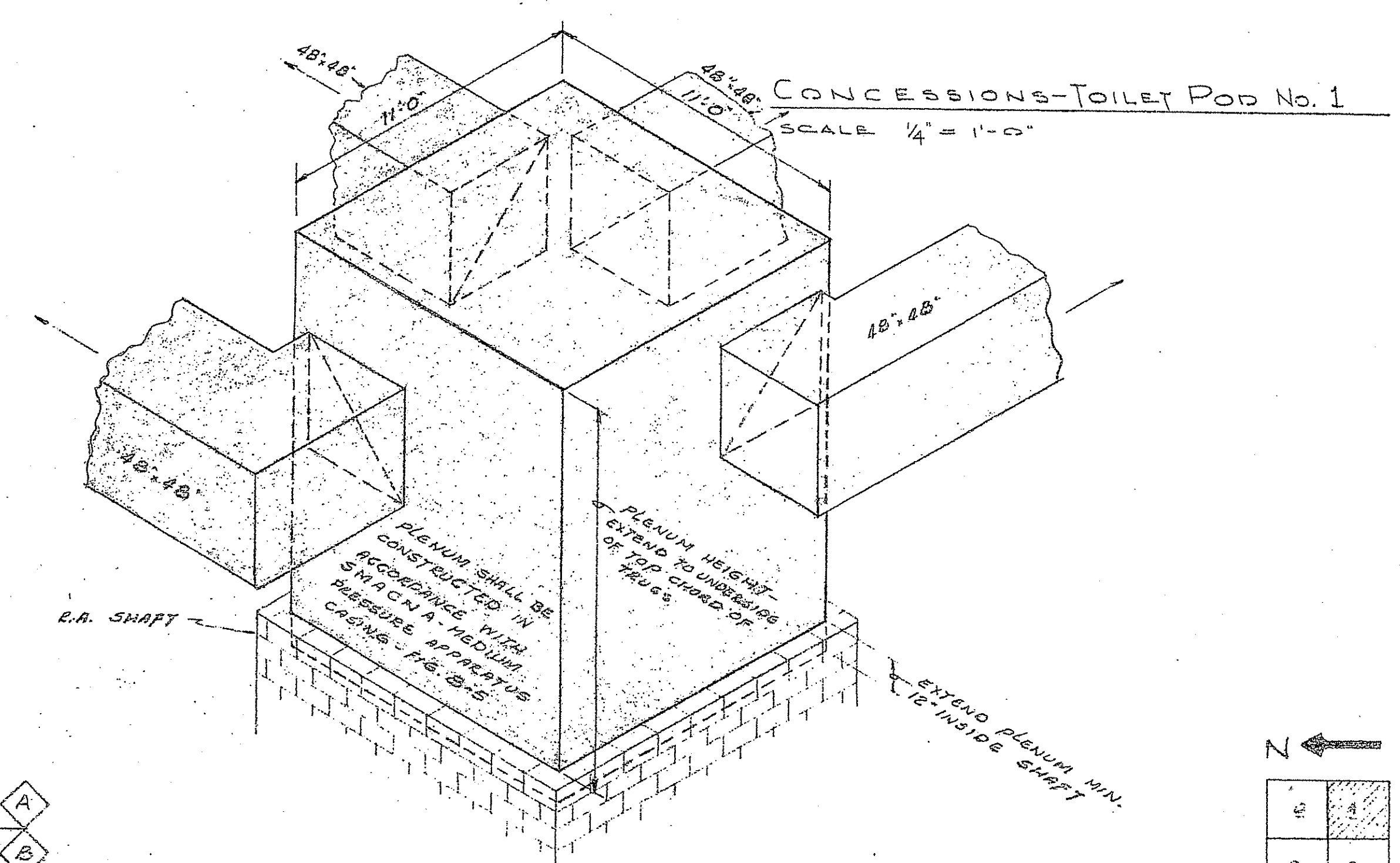




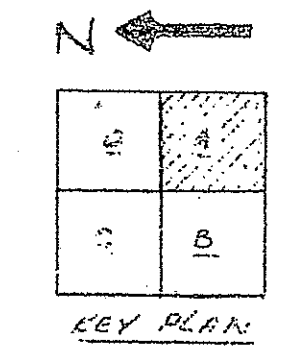
ARENA FLOOR PLAN PART "A"
SCALE 1/8" = 1'-0"

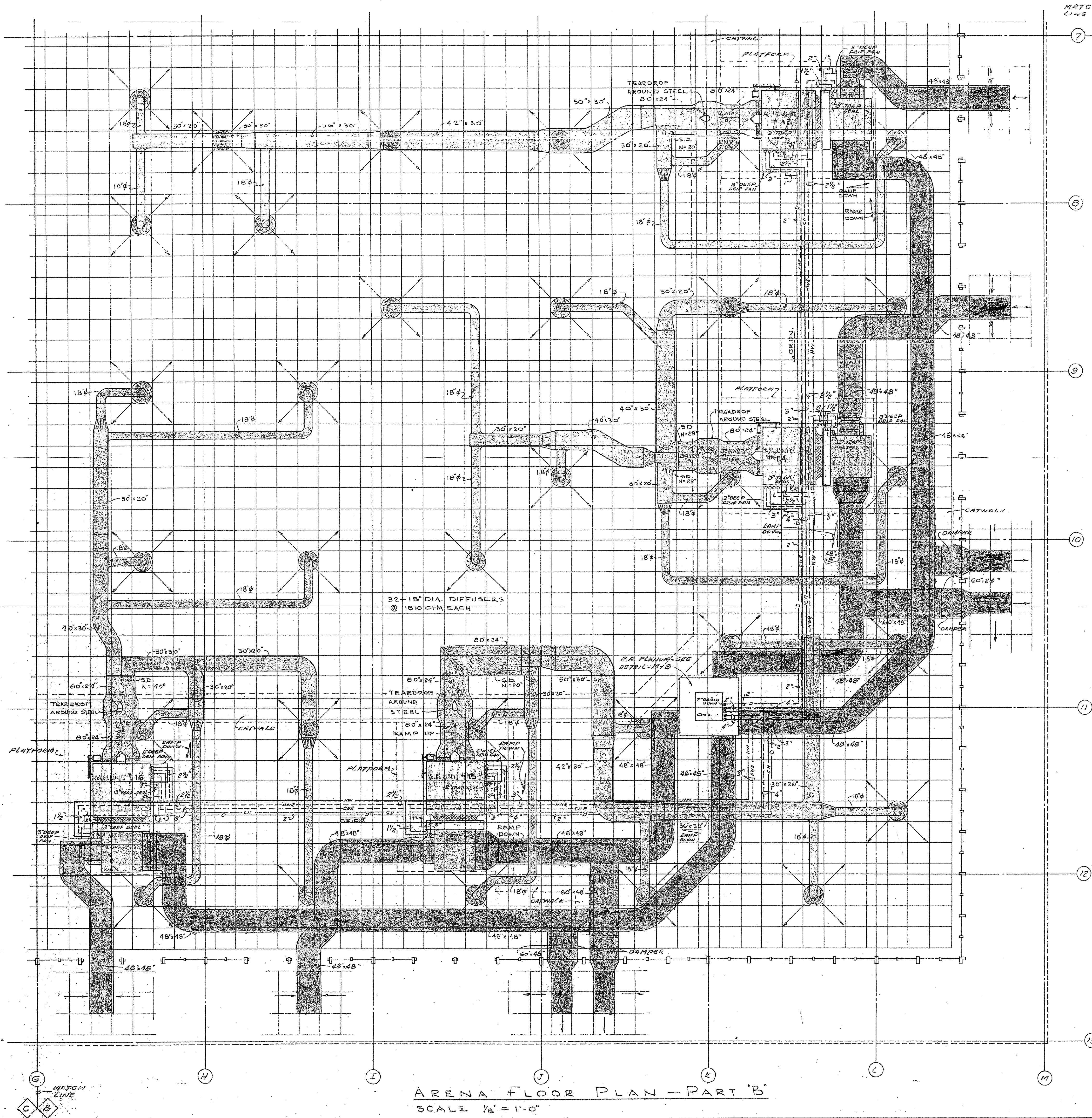


NOTE! MINIMUM 16 GAUGE W/ REINFORCING ANGLES

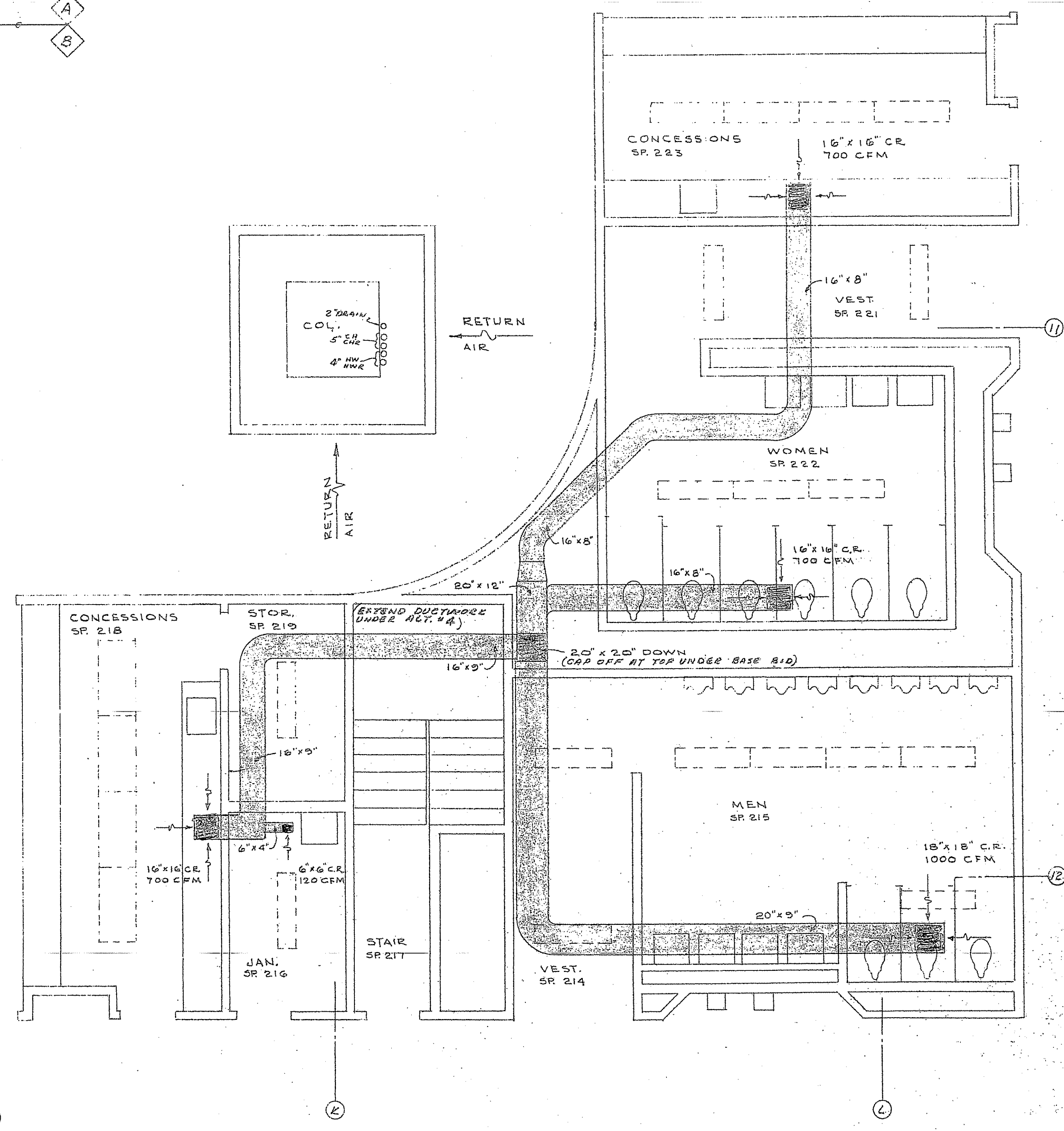


DETAIL-RETURN AIR PLENUM
TYPICAL FOR EACH QUADRANT
NO SCALE

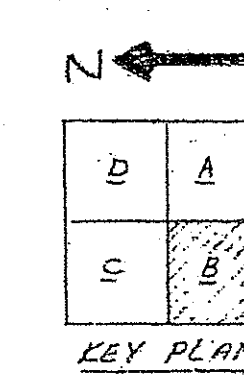


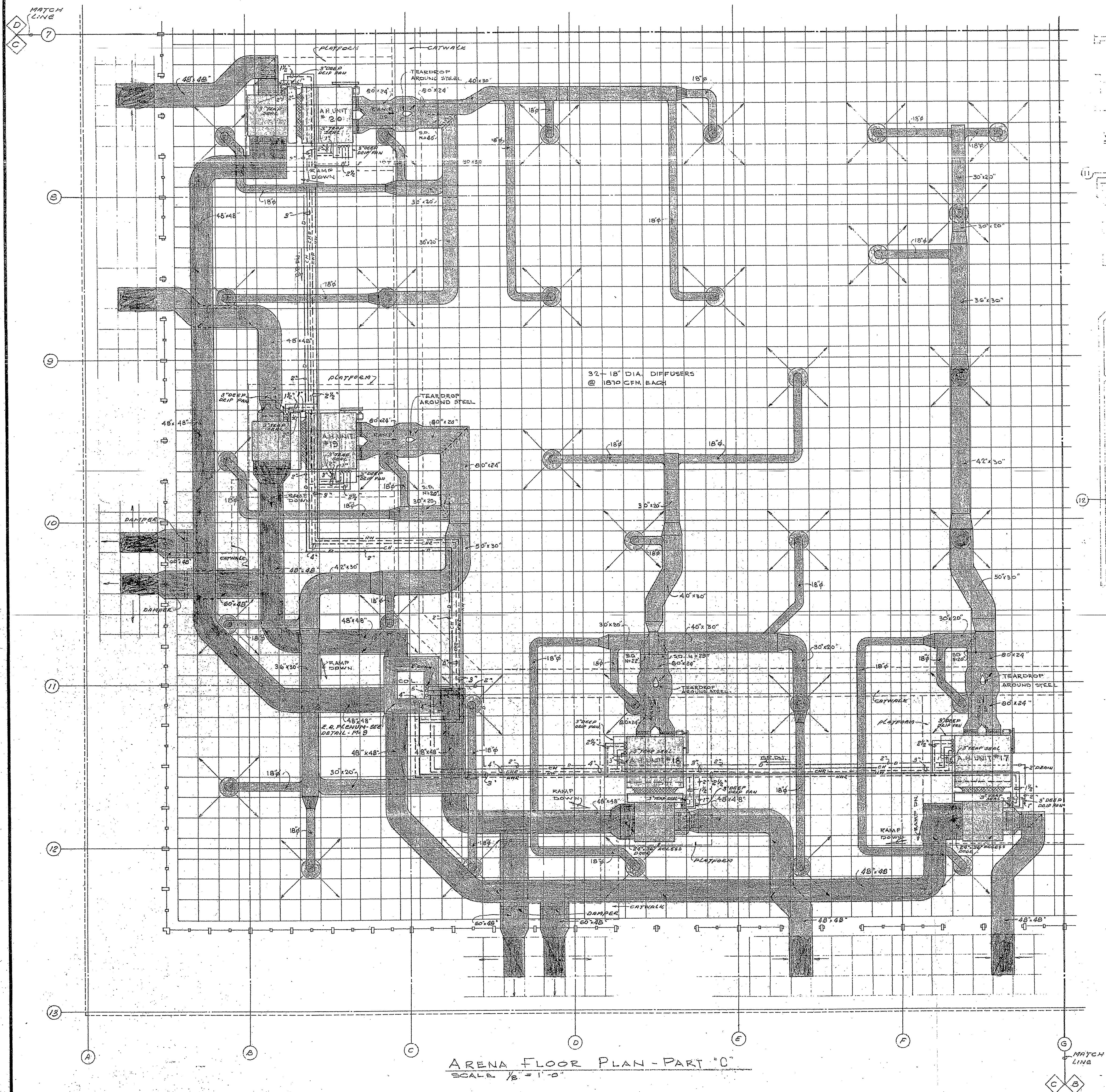


ARENA FLOOR PLAN - PART 'B'
SCALE 1/8" = 1'-0"

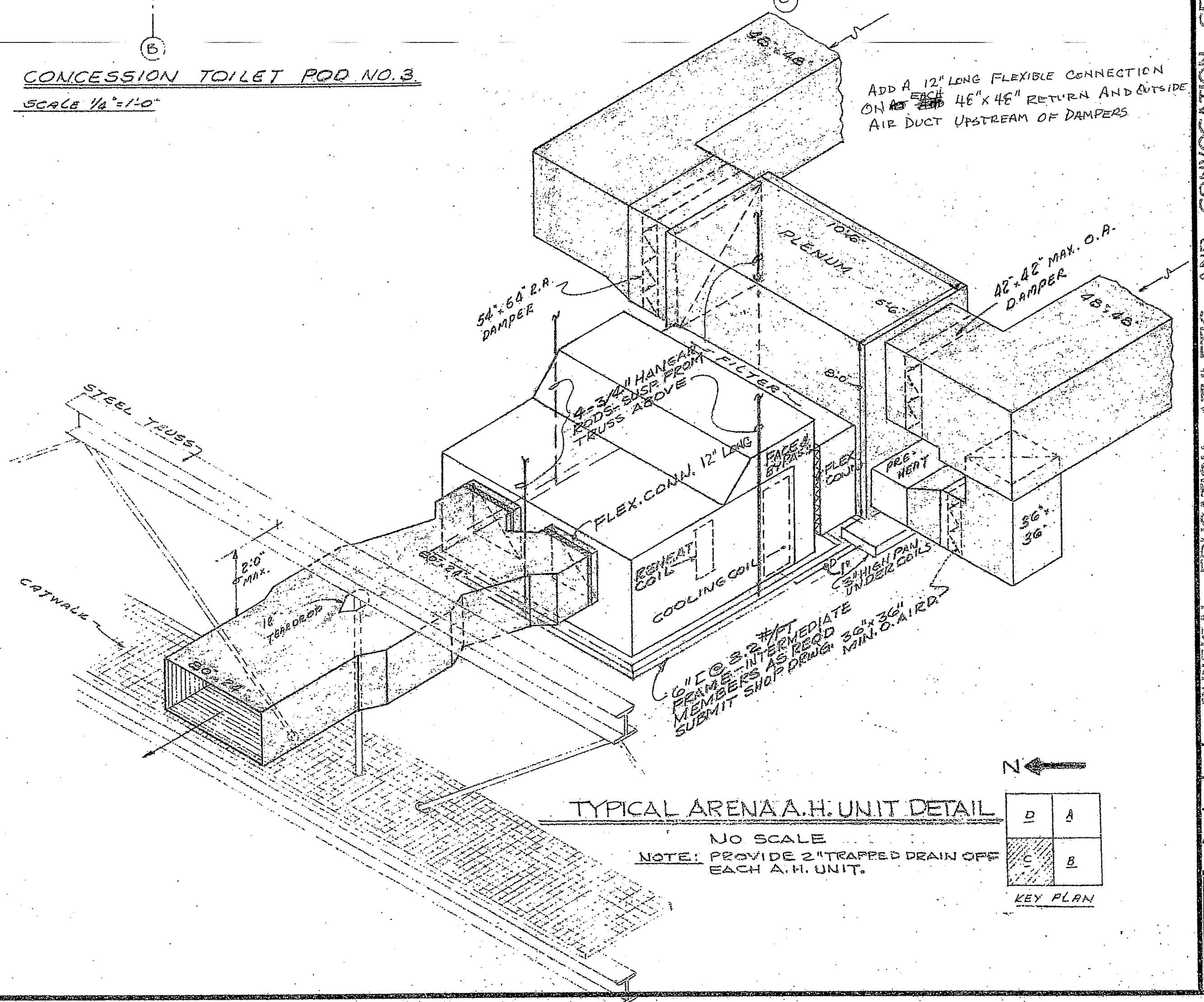
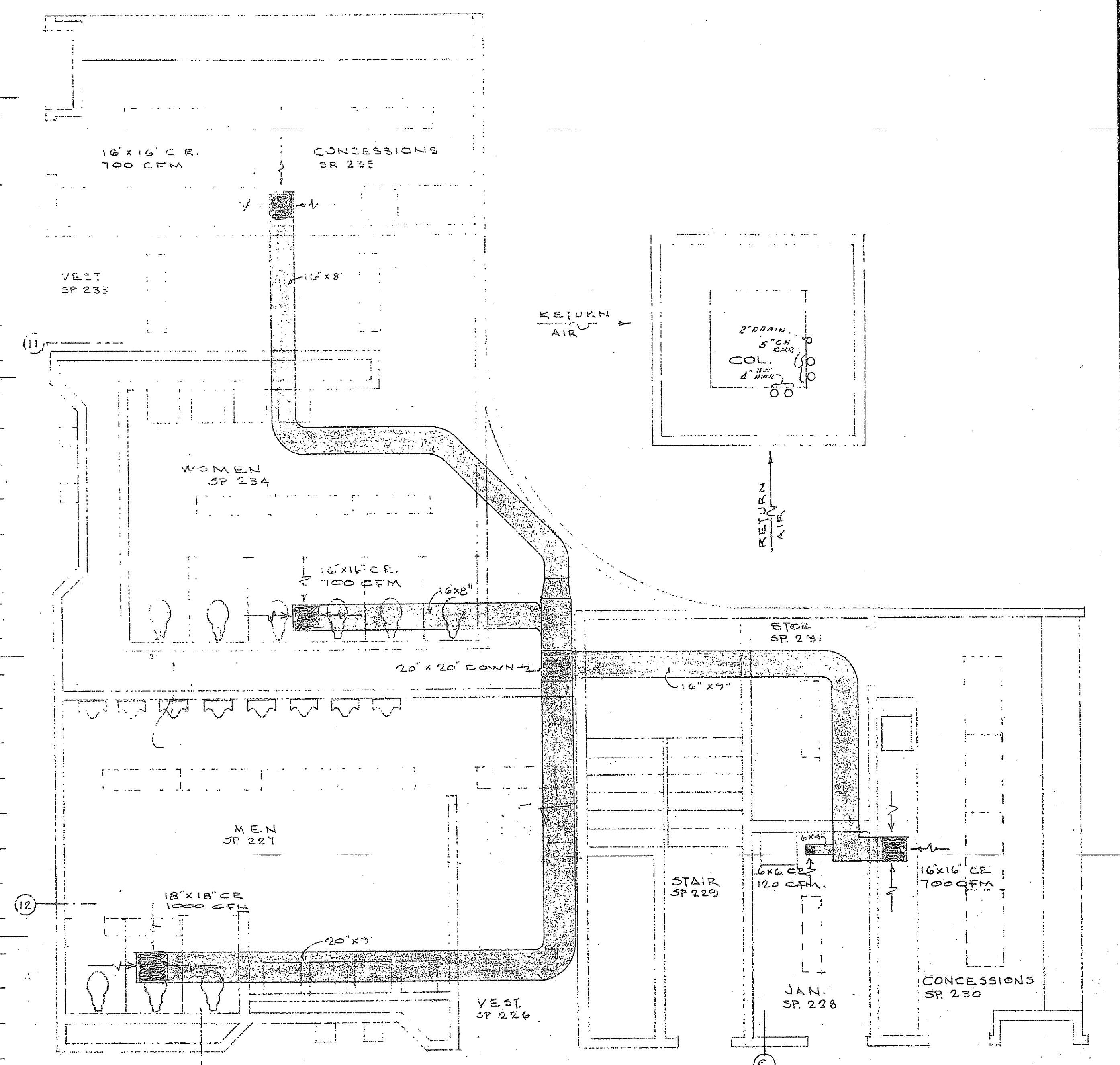


CONCESSION-TOILET POD NO. 2
SCALE 1/4" = 1'-0"





ARENA FLOOR PLAN - PART "C"
SCALE 1/8" = 1'-0"



TYPICAL ARENA A.H. UNIT DETAIL
NO SCALE
NOTE: PROVIDE 2" TRAPPED DRAIN OFF EACH A.H. UNIT.

32
74
18
14

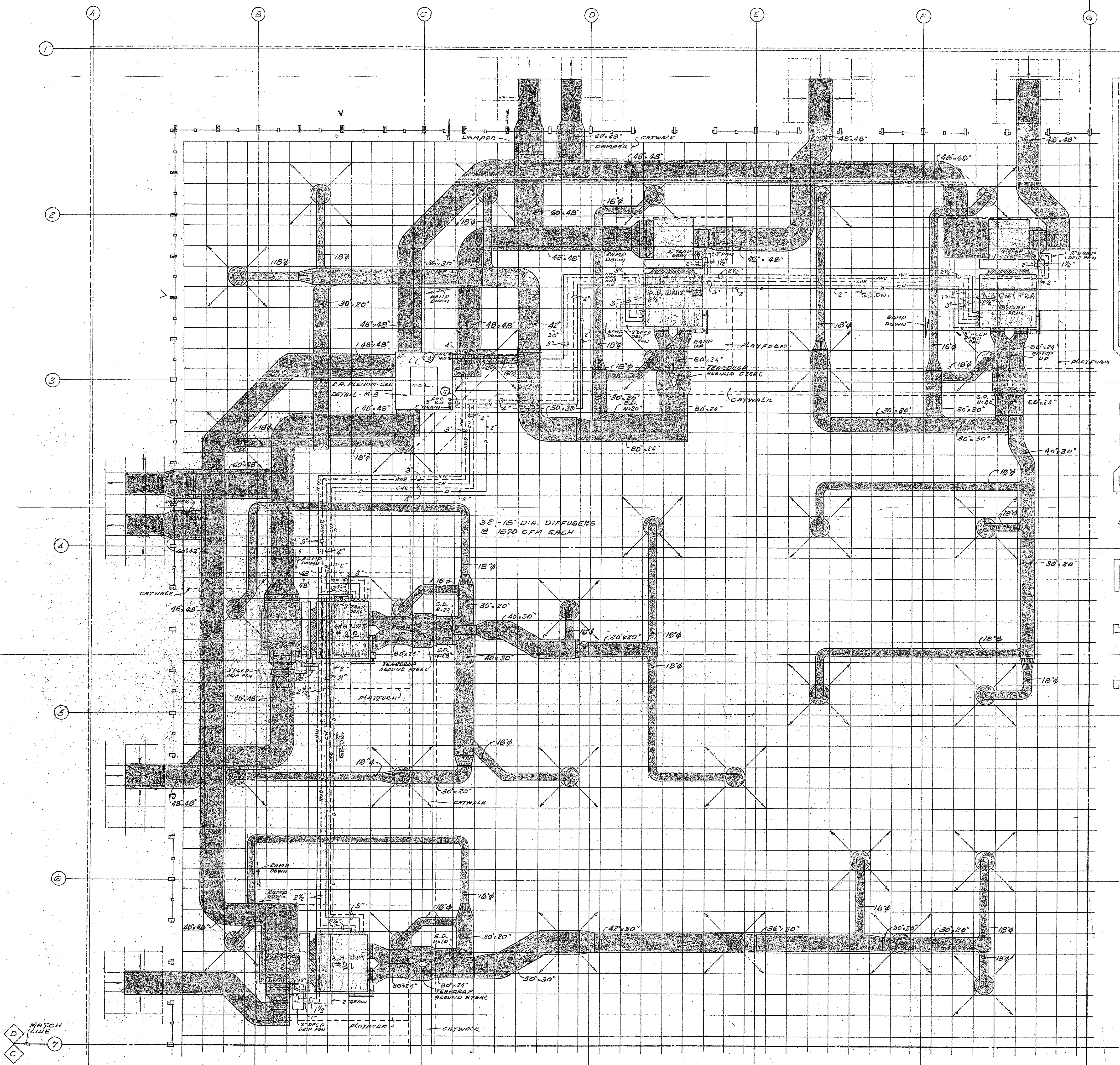
M-2

TAYLOR AND CRABTREE
ARCHITECTS
1812 BROADWAY, NASHVILLE, TENN.

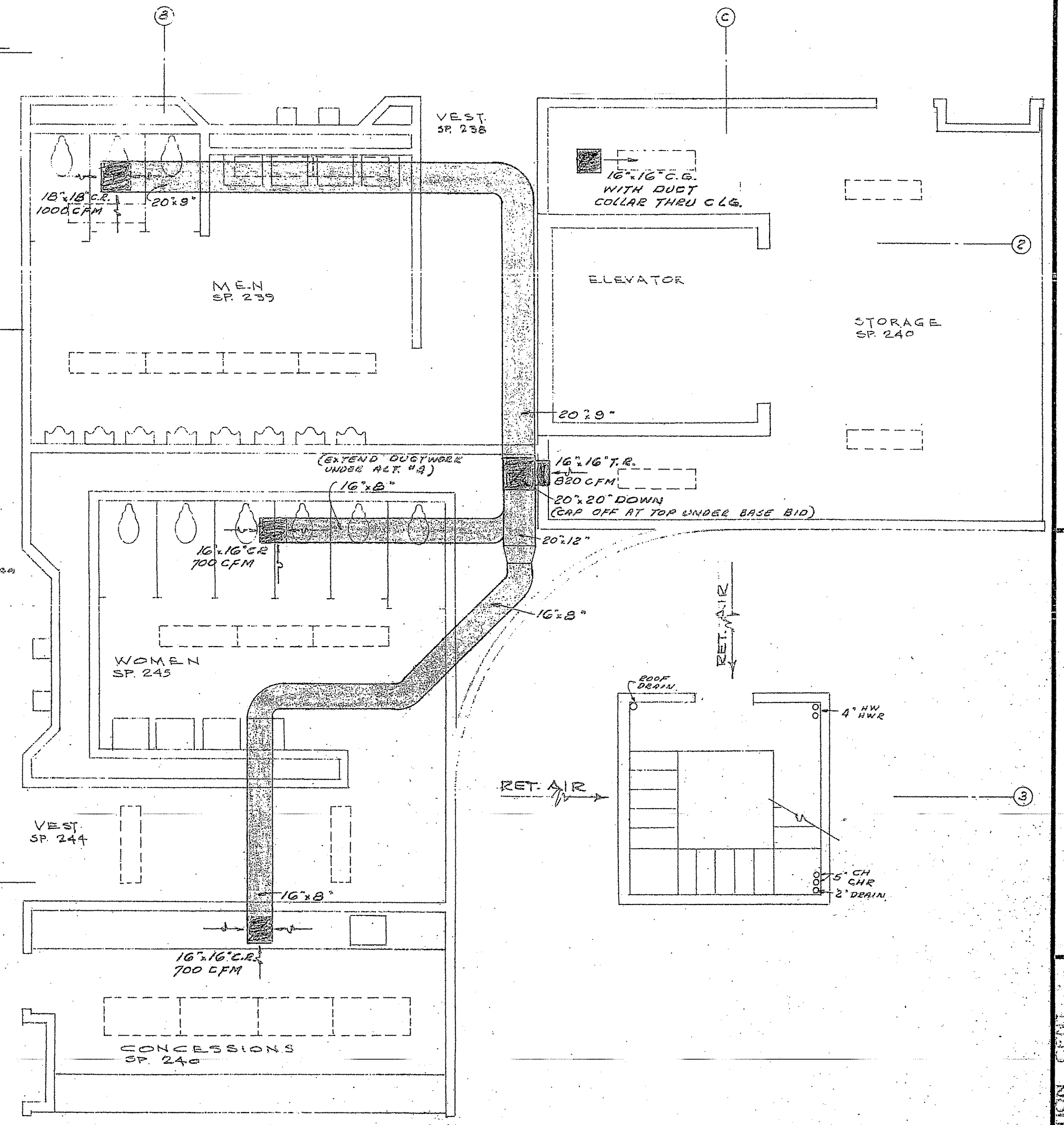
PHYSICAL EDUCATION, ATHLETIC AND CONVOCATION CENTER
MIDDLE TENNESSEE STATE UNIVERSITY
MURFREESBORO, TENN.
HEATING, VENTILATION & AIR CONDITIONING
GENERAL FLOOR PLAN - PART "D"

PROJECT NO.: 16584
DRAWN BY: L. C. THIRIDGER
CHECKED BY: J. C. CORPENTER
ISSUE DATE: 15 NOV. 70
SHEET NUMBER

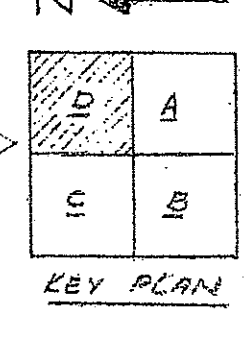
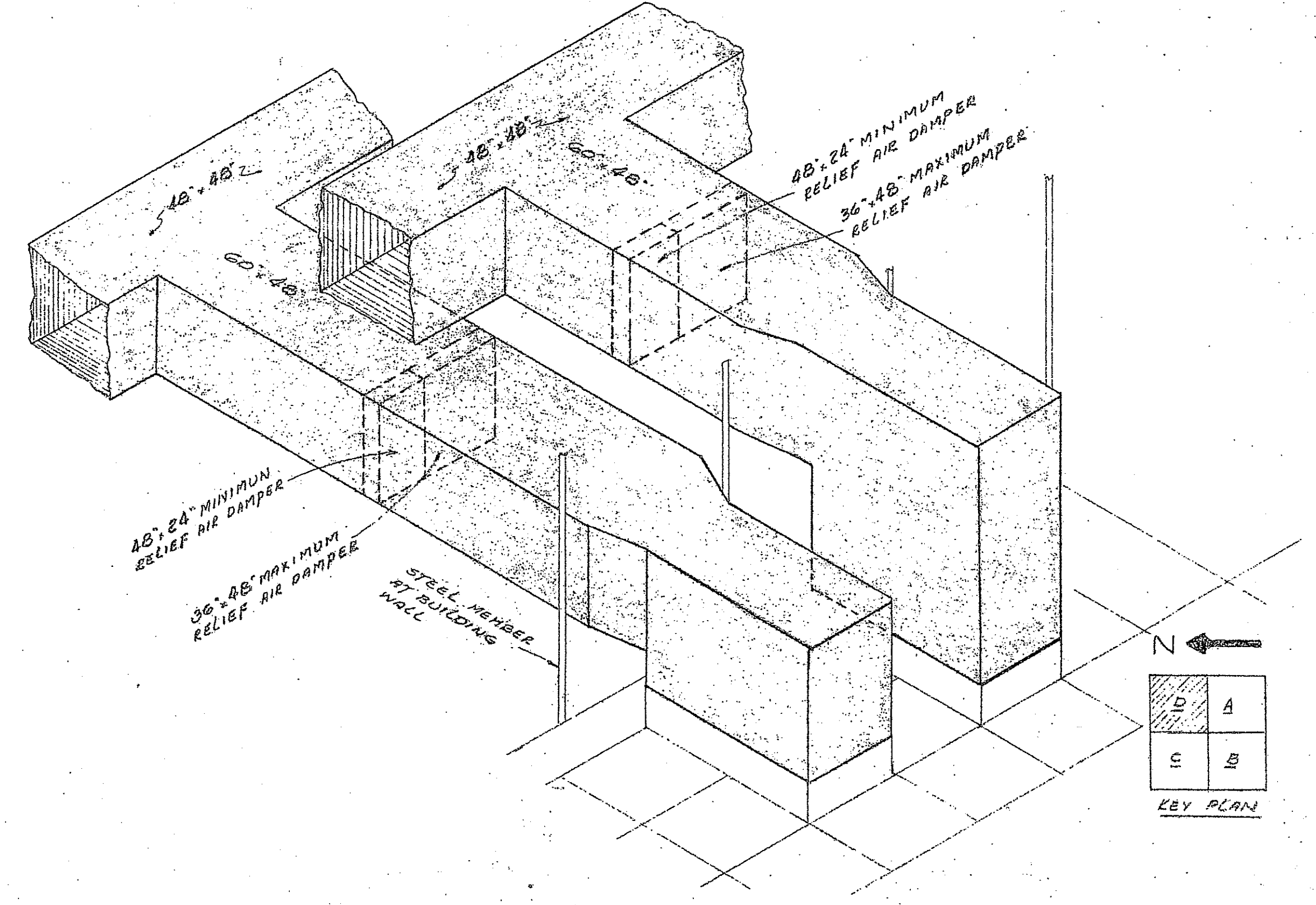
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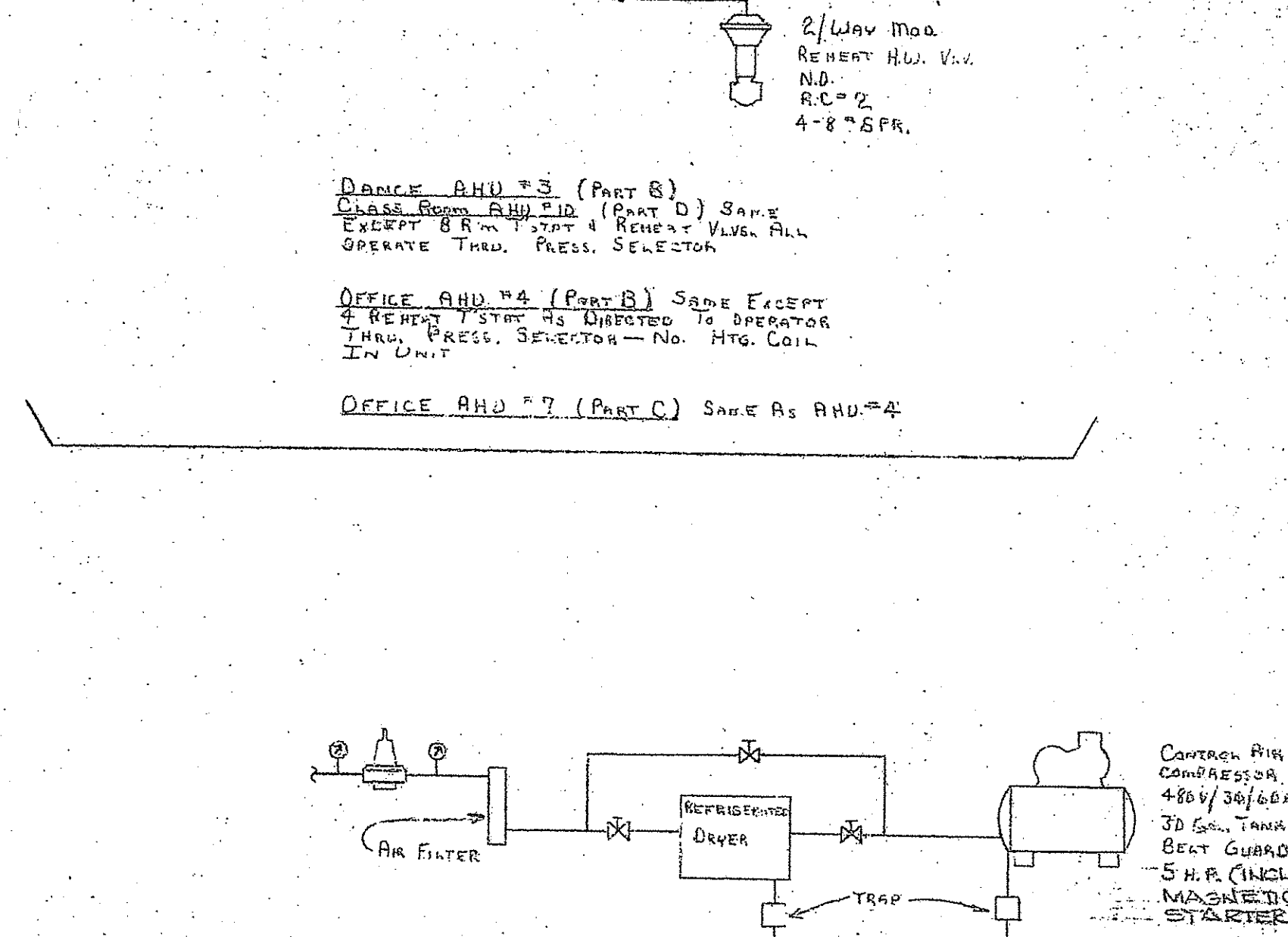
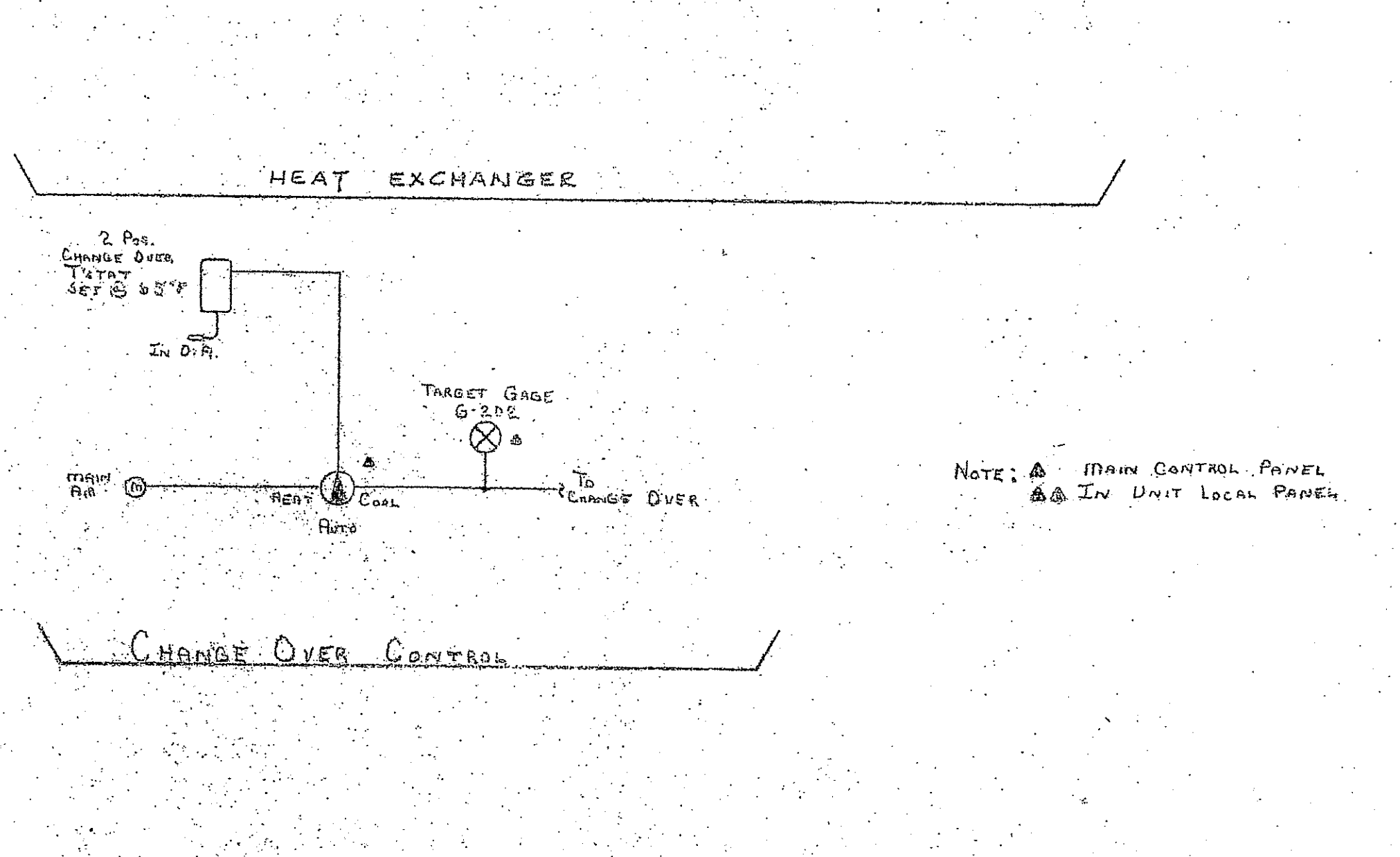
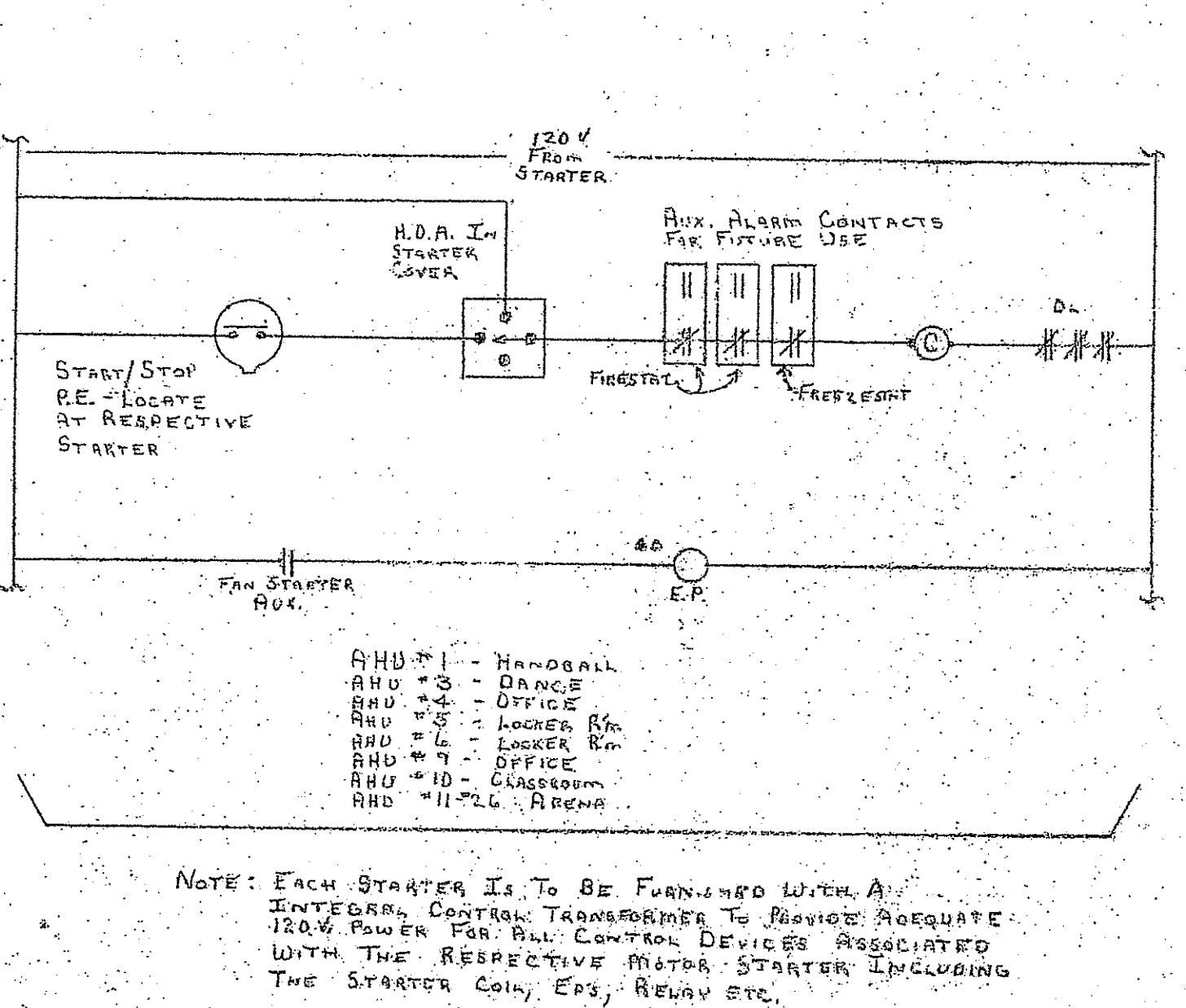
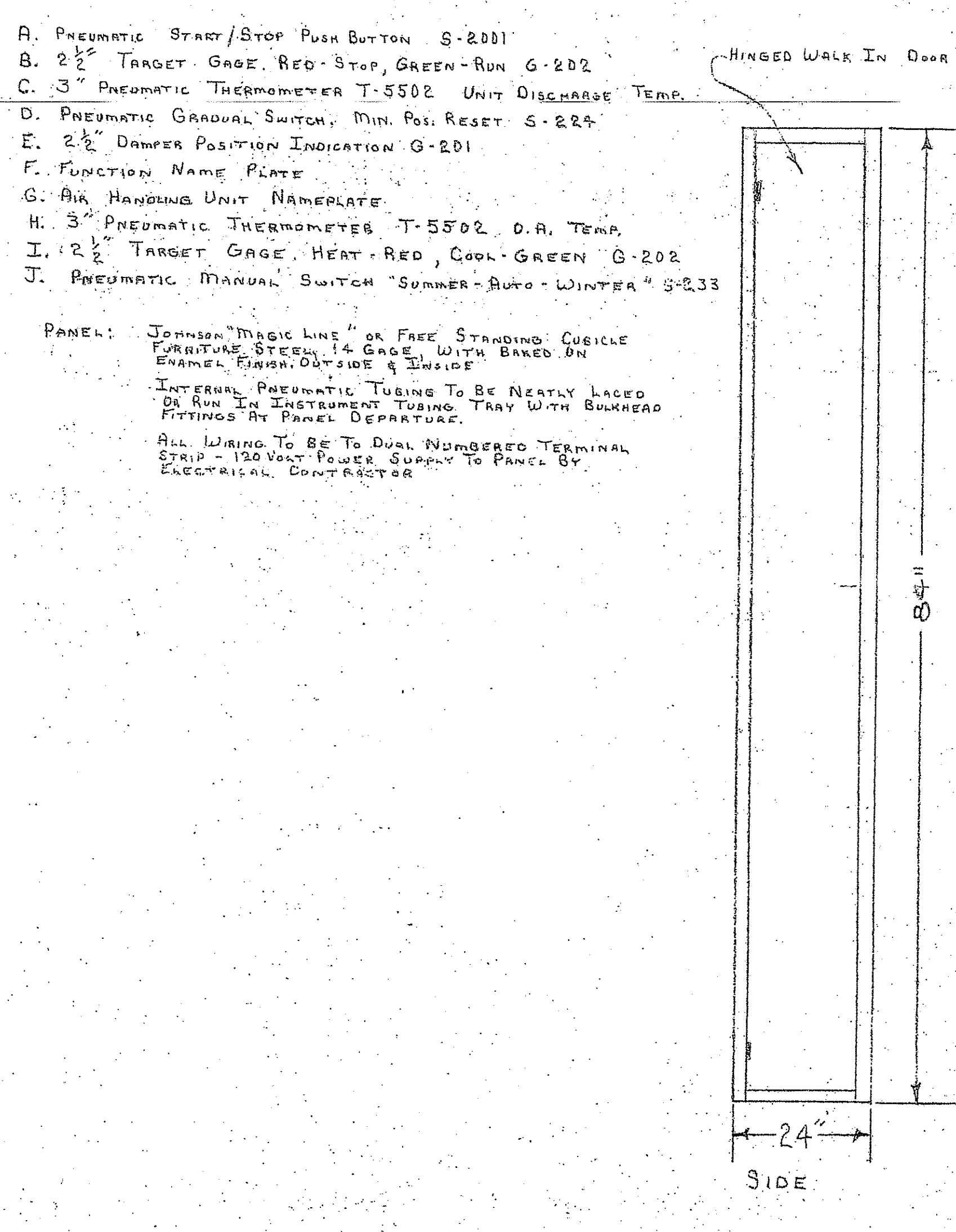
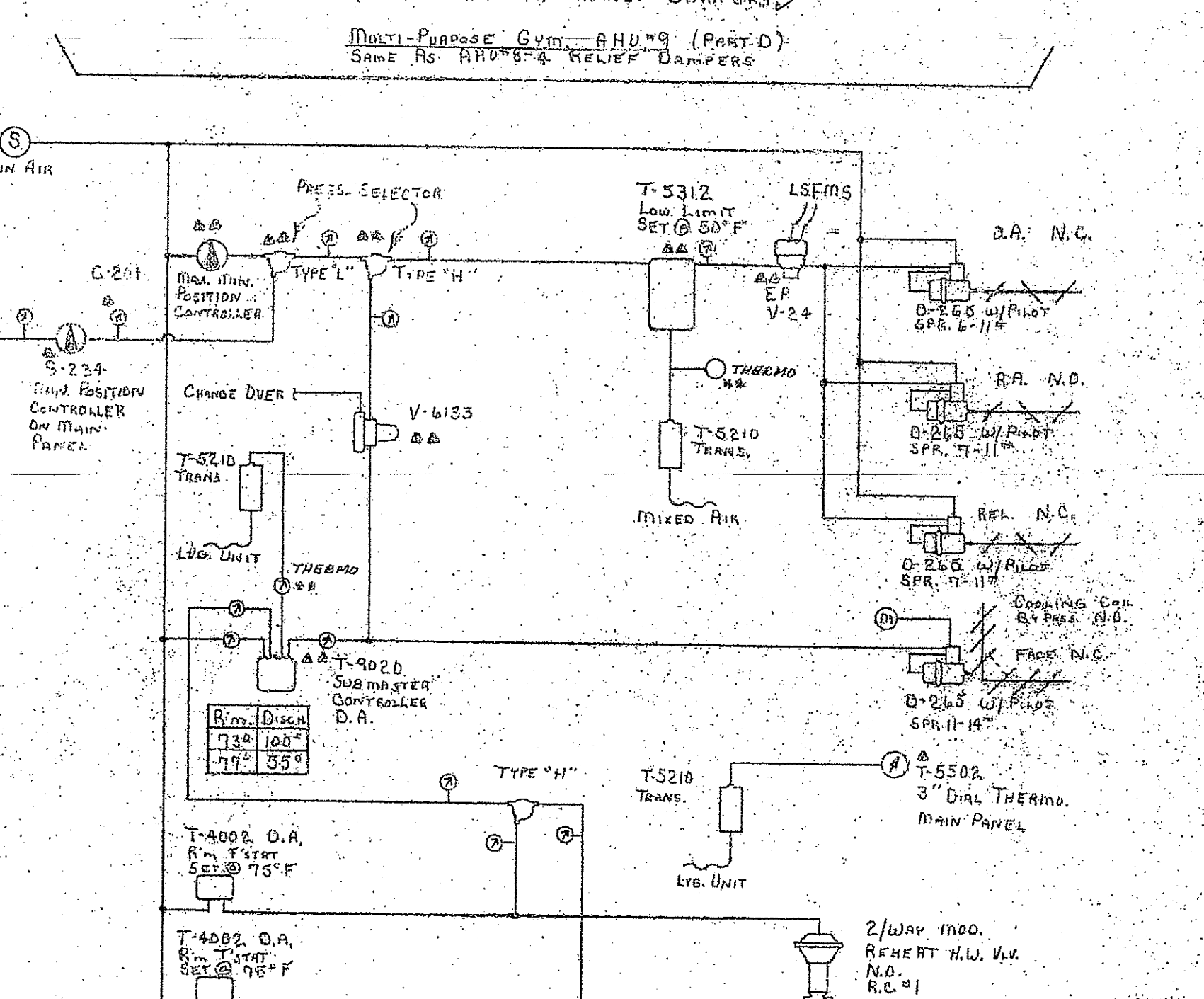
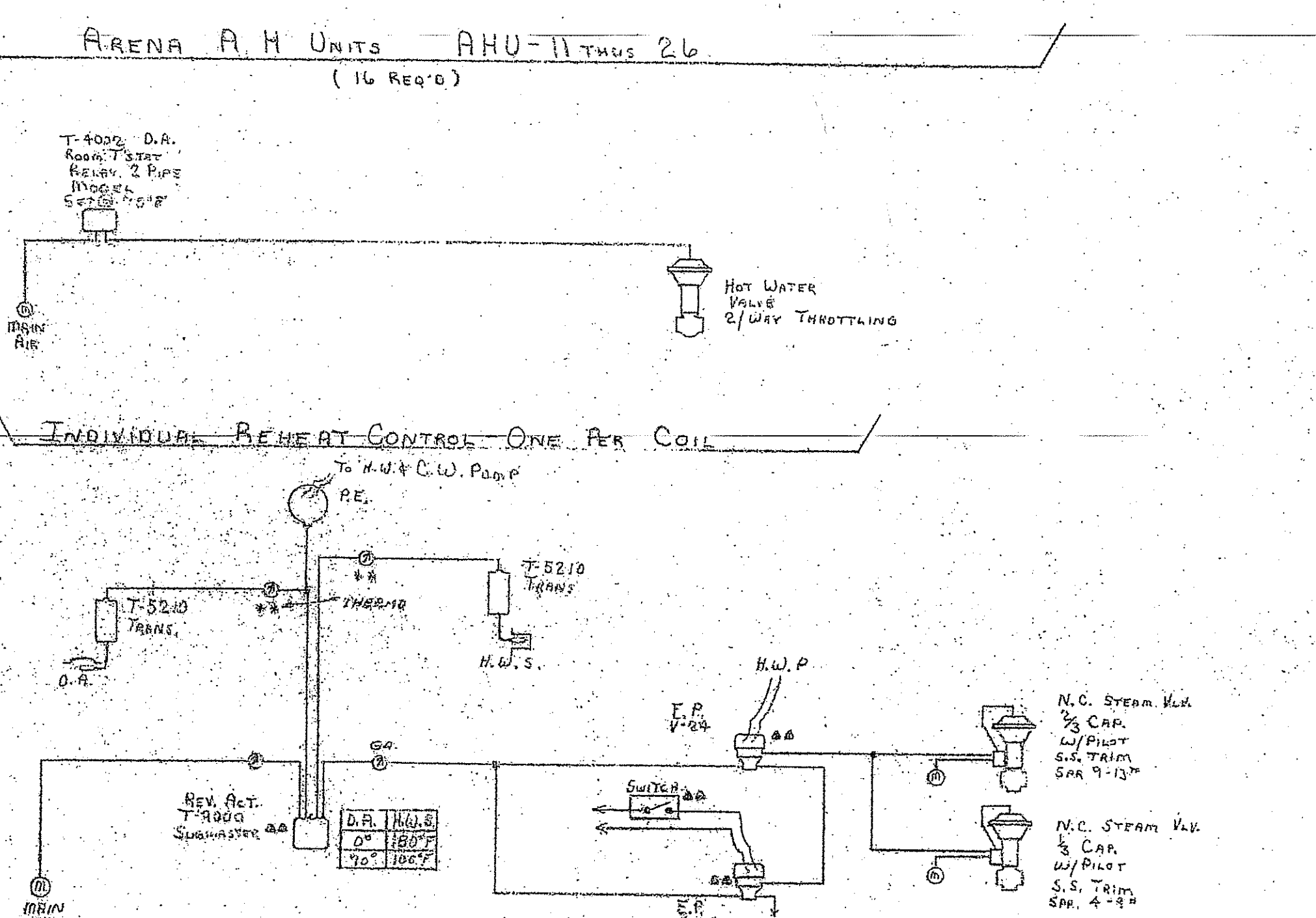
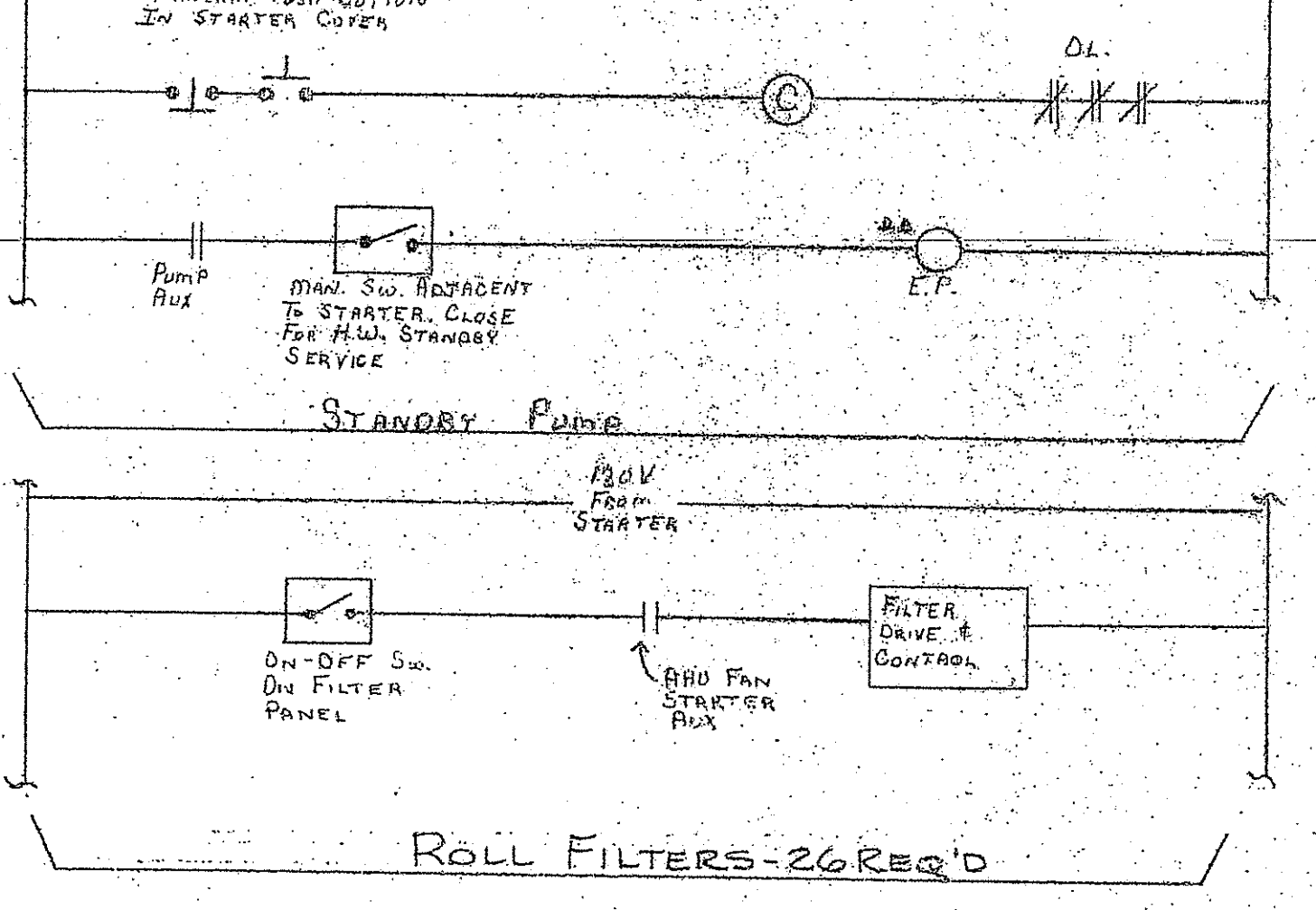
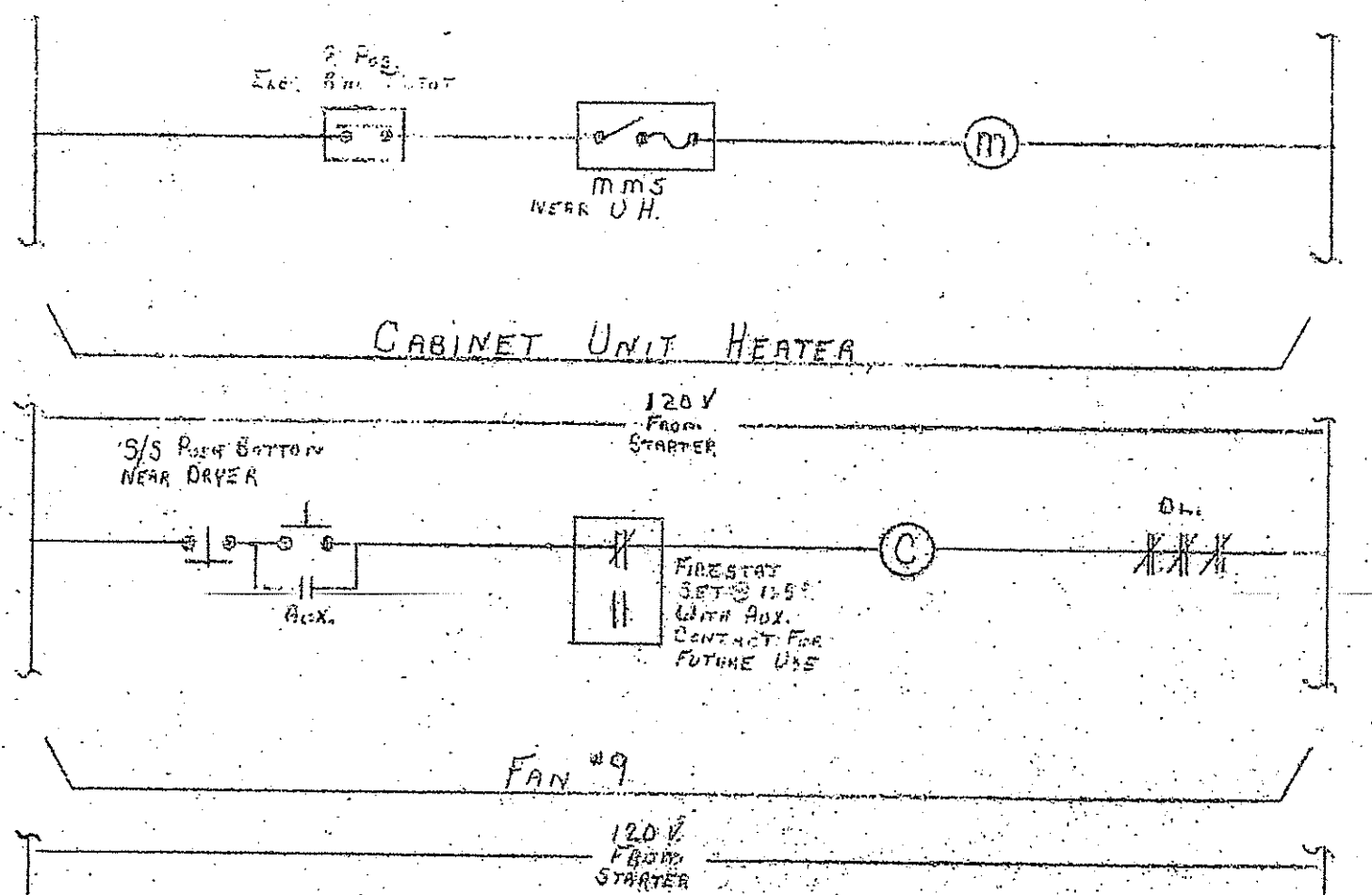
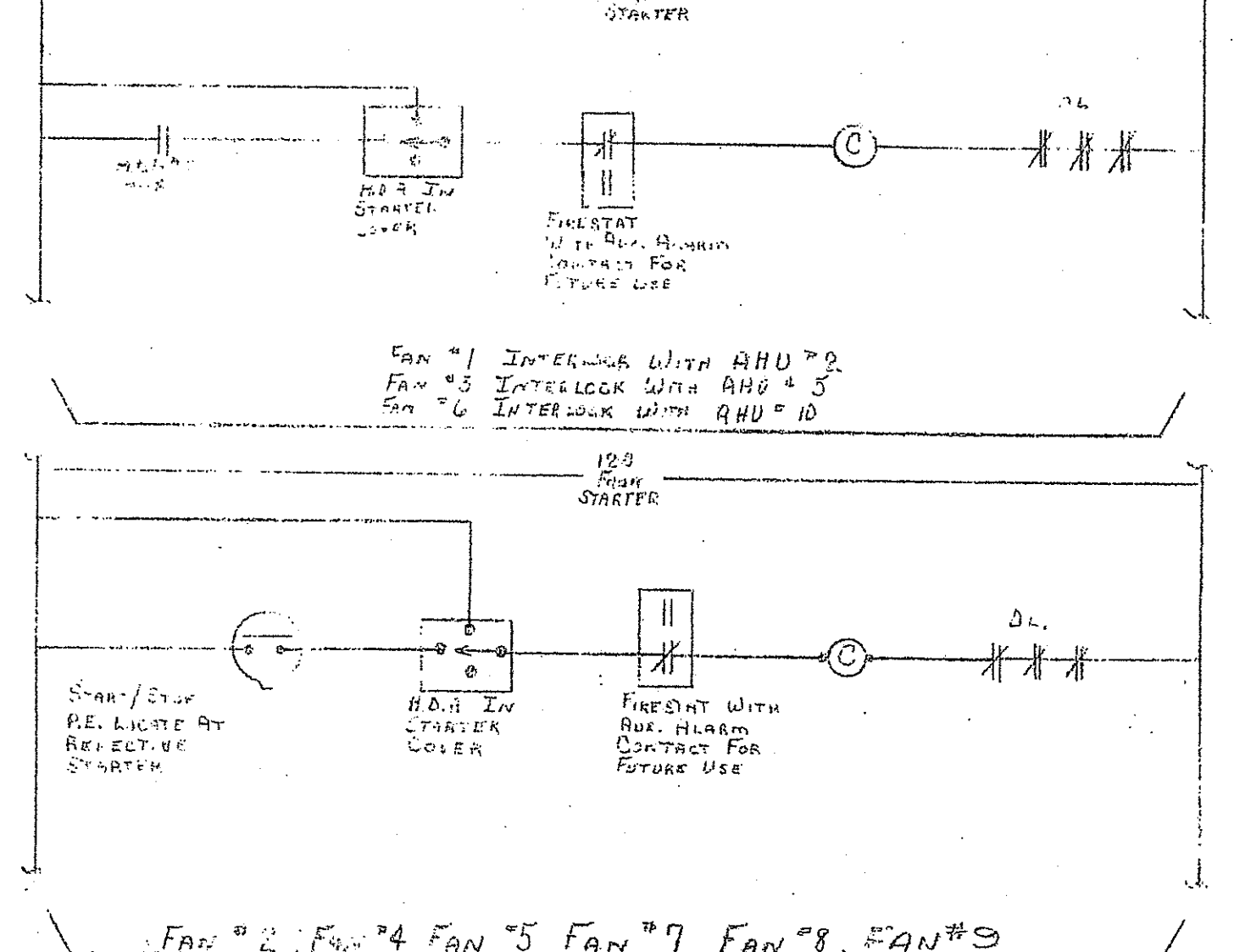
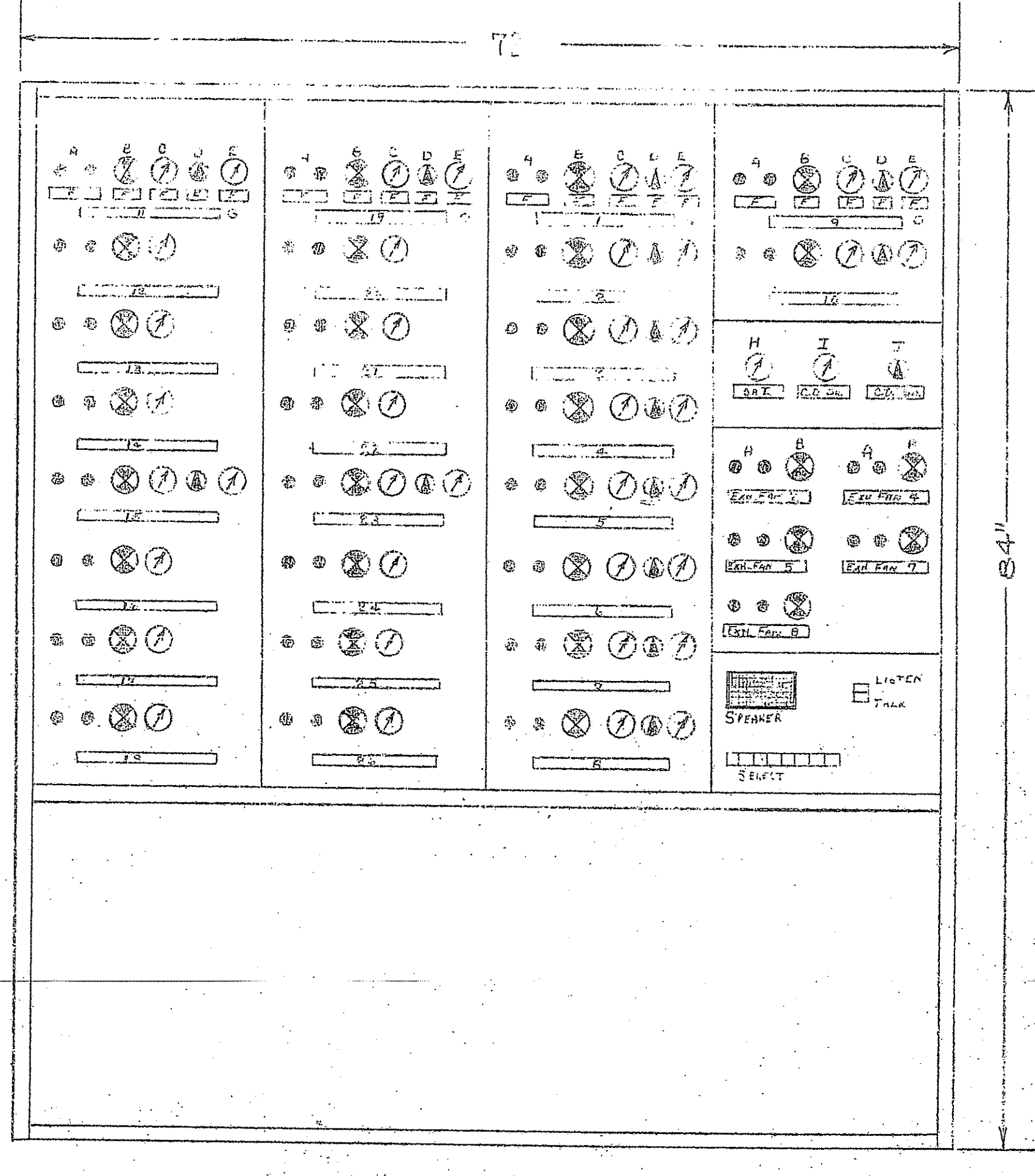
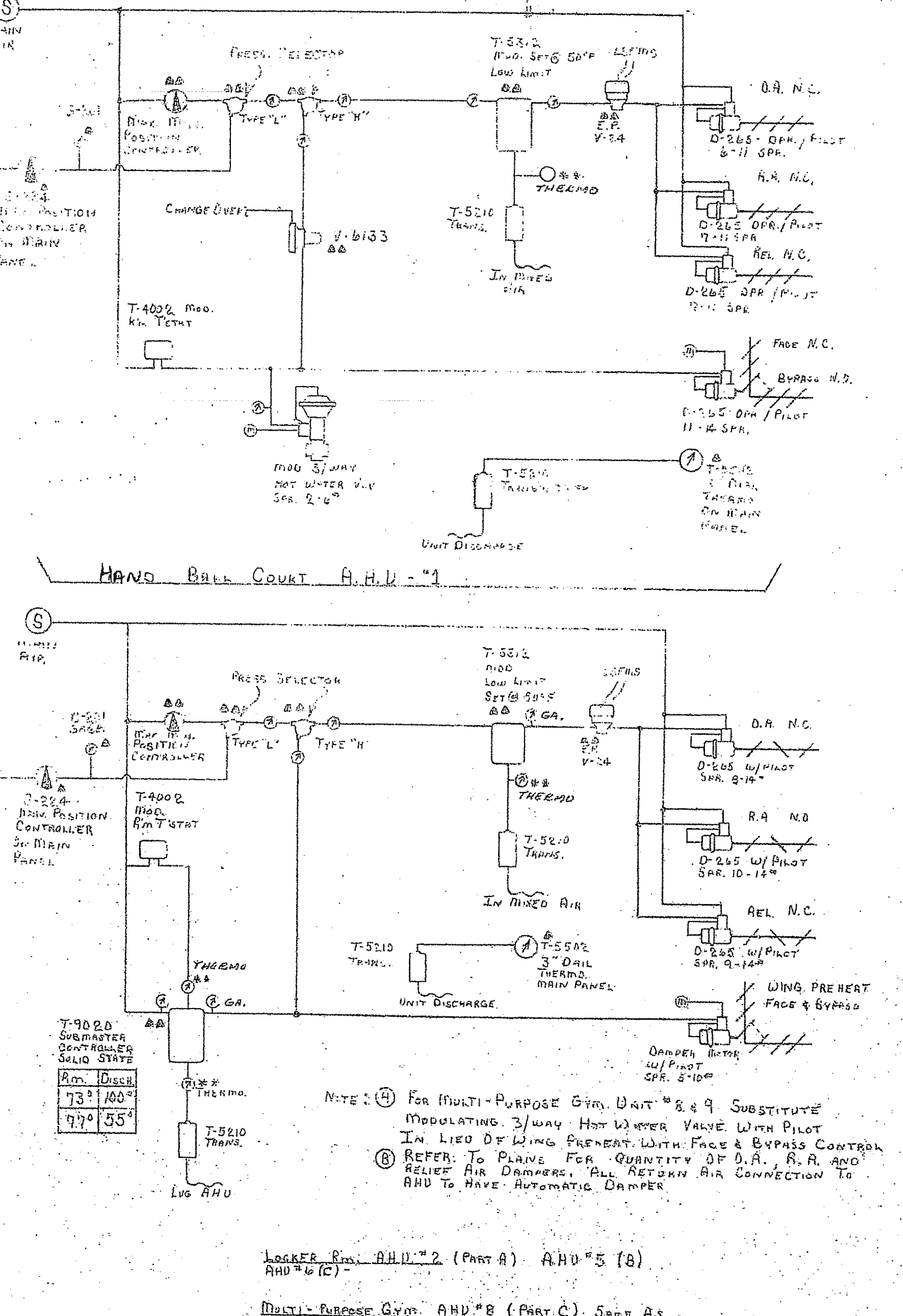
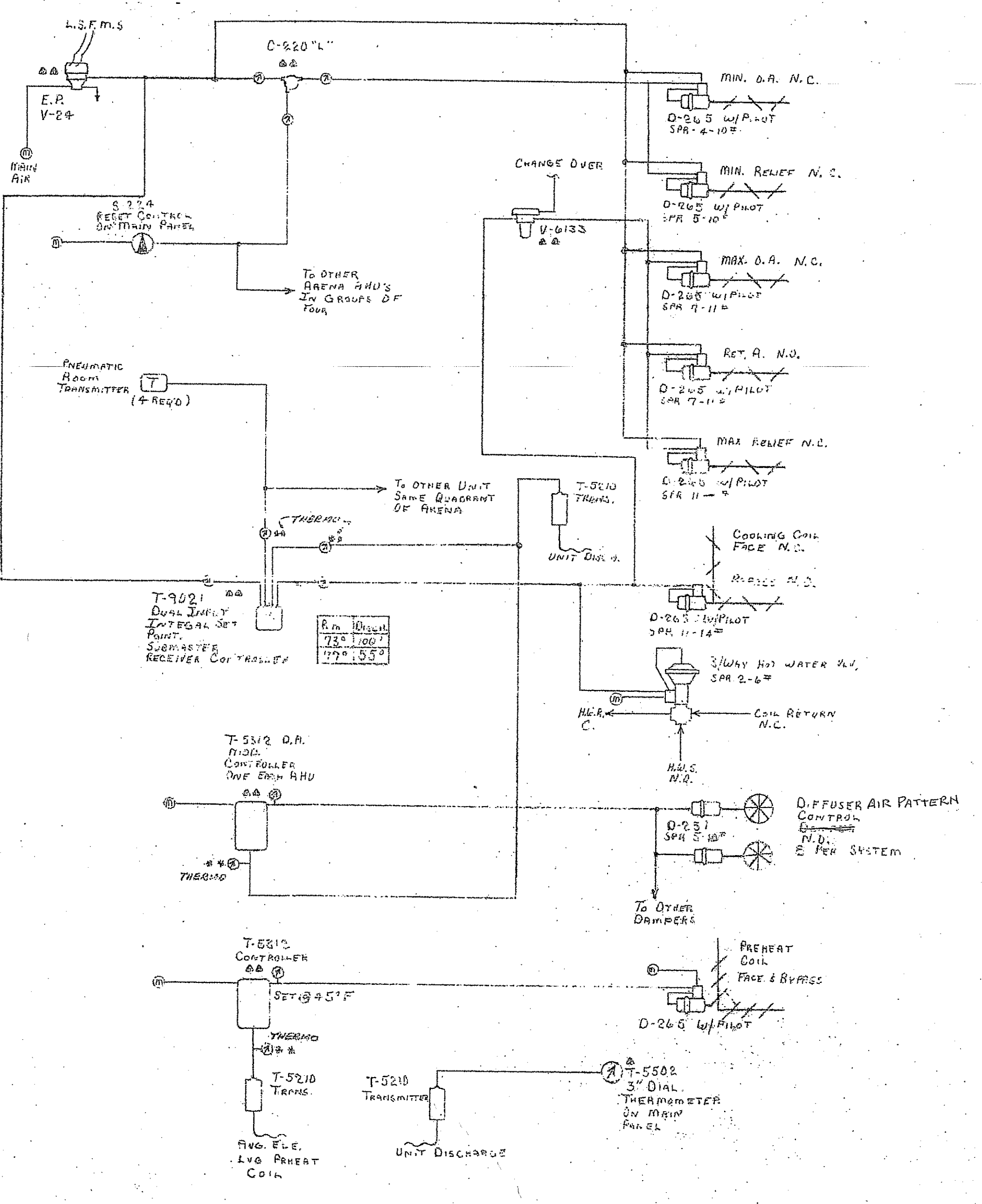
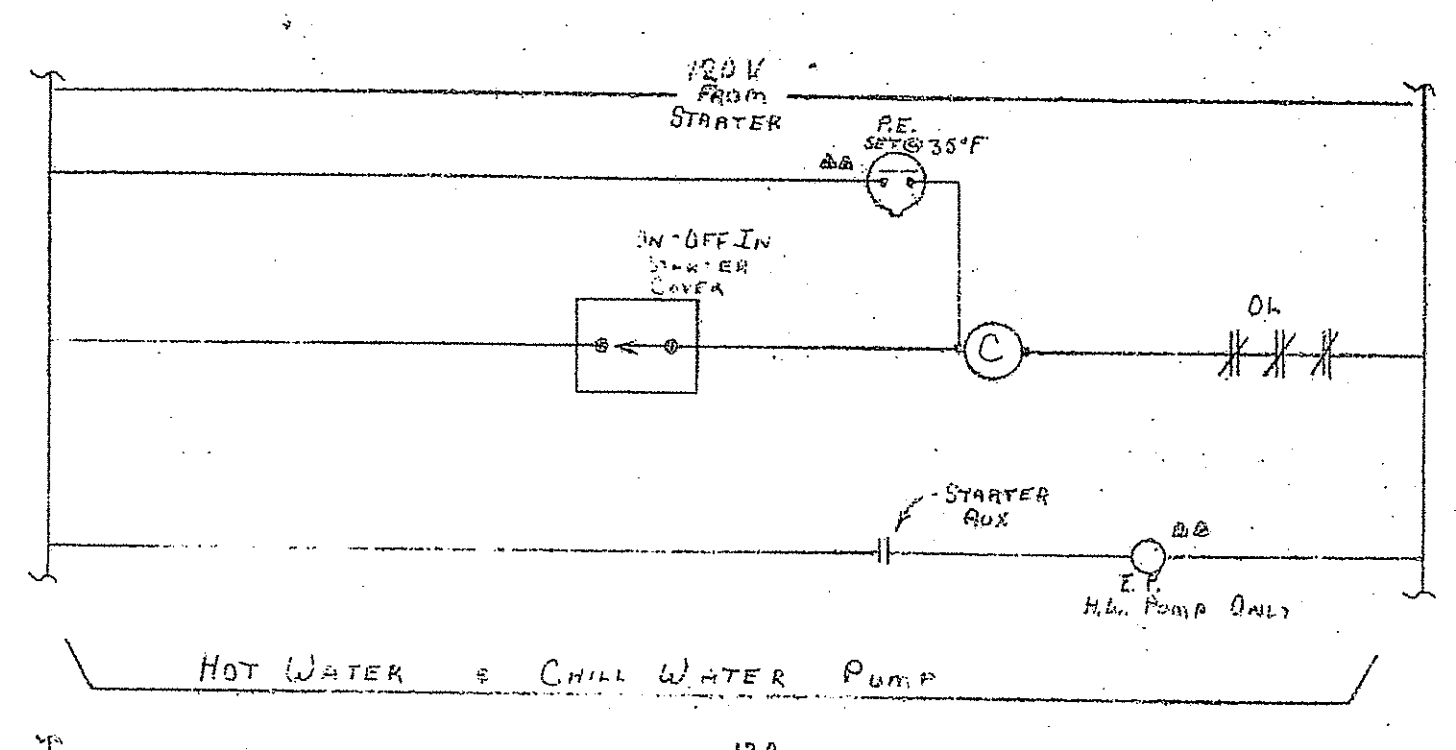
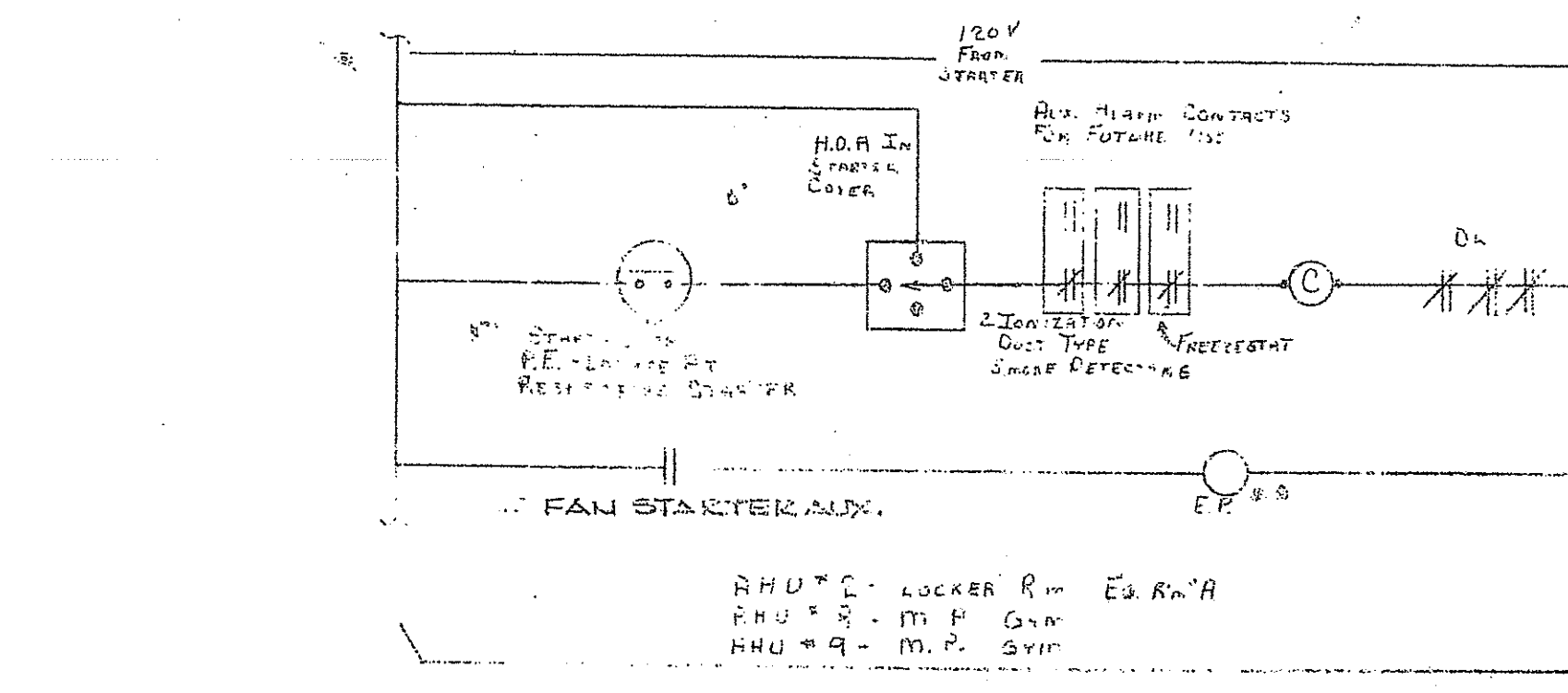


ARENA FLOOR PLAN - PART "D"
SCALE: 1/8" = 1'-0"



CONCESSIONS-TOILET POD No. 4
SCALE: 1/4" = 1'-0"



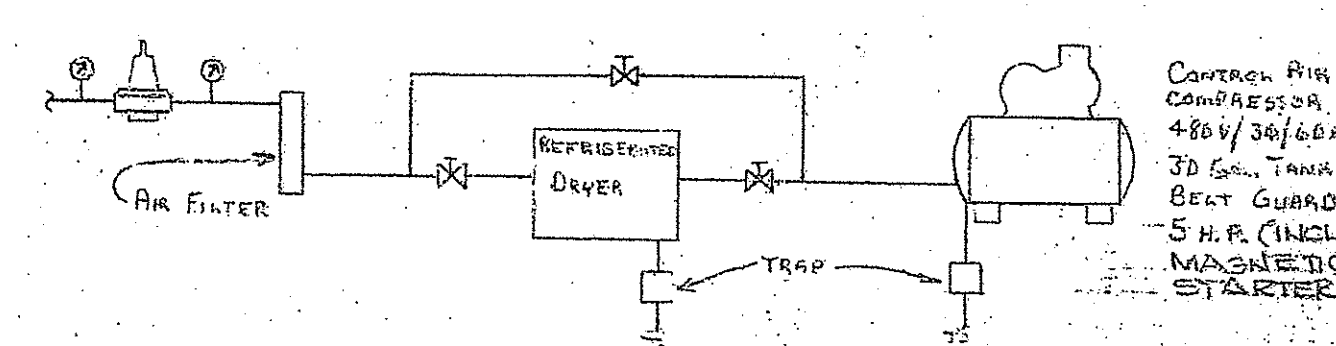


- A. Pneumatic Start/Stop Push Button S-2001
B. 2 1/2" Target Gauge, Red-Stop, Green-Run G-202
C. 3" Pneumatic Thermometer T-5502 Unit Discharge Temp.
D. Pneumatic Gradual Switch, Min. Pos. Reset S-224
E. 2 1/2" Damper Position Indicator G-201
F. Function Name Plate
G. Air Handling Unit Nameplate
H. 3" Pneumatic Thermometer T-5502, O.A. Temp.
I. 2 1/2" Target Gauge, Heat-Red, Cool-Green G-202
J. Pneumatic Manual Switch "Summer-Auto-Winter" S-233
- PANEL: Johnson "Magic Line" or Free Standing Cubicle
Furniture, Steel 14 Gauge with Baked Enamel Finish, Outside & Inside
INTERNAL PNEUMATIC TUBING TO BE NEATLY LACED
ON RUN IN INSTRUMENT TUBING TRAY WITH BULKHEAD
FITTINGS AT PANEL DEPARTURE
ALL WIRING TO BE TO DUAL NUMBERED TERMINAL
STRIP - 120 VOLT POWER SUPPLY TO PANEL BY
ELECTRICAL CONTRACTOR

NOTE: EACH STARTER IS TO BE FURNISHED WITH A
SOUTHERN COMPANY TRANSMITTER TO PROVIDE APPROPRIATE
120V. POWER FOR RUN CONTROL DEVICES ASSOCIATED
WITH THE RESPECTIVE MOTOR STARTER INCLUDING
THE STARTER COIL, E.P., RELAY ETC.

NOTE: A - MAIN CONTROL PANEL
AA - IN UNIT LOCAL PANEL

DANCE ROOM A.H.U. - 3 (PART B) SAME EXCEPT 8 E.P. START & REHEAT VALVE, ALL
OPERATE THRU PRESS. SELECTOR
OFFICE A.H.U. - 4 (PART A) SAME EXCEPT
8 REHEAT START & REHEAT VALVE, ALL
THRU PRESS. SELECTOR - NO. Htg. COIL
IN UNIT
OFFICE A.H.U. - 7 (PART C) SAME AS A.H.U. - 4



AIR HANDLING UNITS

UNIT NUMBER	SERVICE	TOTAL C.F.M.	MIN. OUTSIDE AIR C.F.M.	EXT. S.P. EXCEPT COOL. COIL	TYPE	COOLING COIL (BASED ON 42° ENTERING WATER)								PRE-HEAT COIL (BASED ON 180° ENT. WATER)						RE-HEAT COIL (BASED ON 180° ENT. WATER)						ELECTRICAL			FILTERS (AUTO. ROLL TYPE)	REMARKS									
						G.P.M.	MAX. WATER PRESS. DROP	MAX. FACE VEL. (F.P.M.)	ENT. AIR TEMP. D.B. °F	W.B. °F	LEAV. AIR TEMP. D.B. °F	W.B. °F	CAPACITY BTU/HR	G.P.M.	MAX. WATER PRESS. DROP	MAX. FACE VEL. (F.P.M.)	ENT. AIR °F	LEAVING AIR °F	CAPACITY BTU/HR	G.P.M.	MAX. WATER PRESS. DROP	MAX. FACE VEL. (F.P.M.)	ENT. AIR °F	LEAVING AIR °F	CAPACITY BTU/HR	ESTIMATED FAN MOTOR	ELEC. CHAS.	STARTER											
1	HANDBALL	6,300	1400	1.0"	VERTICAL	29	12 FT.	**550	82.1	68.5	57.0	55.9	260,000	—	—	—	—	—	—	—	—	—	—	—	—	21.0	12 FT.	750	35	90	1,200,000	5	480V. 3 PH.	MAGNETIC WITH H.O.A. SW. IN COVER	5'-8" L X 3'-0" H. APPROX.	—			
2	LCKR. RM. - E. SIDE	20,200	9550	1.7"	HORIZONTAL	—	—	—	—	—	—	—	—	141.0	12 FT.	750	35	90	1,200,000	—	—	—	—	—	—	—	—	—	—	—	—	—	10	—	—	7'-4" L X 6'-0" H. APPROX.	—		
3	DANCE	6,000	1500	1.0"	VERTICAL	30	12 FT.	**550	82.1	68.5	57.0	55.9	246,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—	—	5'-8" L X 3'-0" H. APPROX.	HEATING COILS IN SUPPLY DUCTS		
4	OFFICE (SW PART)	9,000	1350	1.0"	VERTICAL	36	12 FT.	**550	80.6	67.3	57.8	56.9	300,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7 1/2	—	—	8'-0" L X 3'-0" H. APPROX.	HEATING COILS IN SUPPLY DUCTS	
5 & 6	N.E. - LCKR (SW PART) N.W. - LCKR (NW PART)	12,000	6000	1.7"	HORIZONTAL	—	—	—	—	—	—	—	—	58.8	12 FT.	750	35	90	710,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7 1/2	—	—	5'-0" L X 6'-0" H. APPROX.	—
7	OFFICE (NW PART)	9,750	1460	1.0"	VERTICAL	36	12 FT.	**550	80.6	67.3	57.8	56.9	325,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7 1/2	—	—	8'-0" L X 3'-0" H. APPROX.	HEATING COILS IN SUPPLY DUCTS
8 & 9	MULTI-PURPOSE GYM	28,000	4200	1.2"	VERTICAL	—	—	—	—	—	—	—	—	91.0	12 FT.	750	50	80	910,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15	—	—	10'-4" L X 6'-0" H.	—
10	CLASSROOMS	9,300	1900	.8"	VERTICAL	46	12 FT.	**550	81.5	68.0	57.3	55.0	410,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7 1/2	—	—	8'-0" L X 3'-0" H.	HEATING COILS IN SUPPLY DUCTS
11 THRU 26	ARENA	14,950	3750	1.0"	HORIZONTAL	80	12 FT.	**500	82.1	68.5	56.5	54.5	675,000	14.8	12 FT.	550	0	47	191,000	43.0	12 FT.	750	60	100	645,000	10	480V. 3 PH.	MAGNETIC WITH H.O.A.	9'-4" L X 4'-0" H.	PRE-HEAT COIL - 3750 CFM RE-HEAT COIL - 14950 CFM	—	—	—	—	—				

1. PREHEAT MINIMUM OUT. AIR ONLY. W/FACE & BYPASS CONTROL.
2. FACE AND BYPASS SECTION AROUND COOLING COIL ONLY.
3. ALL COOLING UNITS TO INCLUDE FACE AND BYPASS SECTION.
4. PREHEAT-TOTAL AIR (MIXED) W/FACE & BYPASS DAMPER CONTROL.
5. PREHEAT-TOTAL AIR (MIXED) W/3-WAY VALVE CONTROL.

5. SEE ADD #2, ITEM 2-22, 1.

REHEAT COILS (BASED ON 180° ENT. WATER)

NO.	C.F.M.	G.P.M.	APPROX. SIZE (H x L)	MAX. WATER PRESS. DROP	ENT. AIR	LEAV. AIR	CAPACITY	PIPE CONN.
1	3000	11.4	18" x 36"	12 FT.	50	85	114.0	1 1/4"
2	3000	11.4	18" x 36"	12 FT.	50	85	114.0	1 1/4"
3	330	1.3	9" x 12"	—	60	95	18.0	1/2"
4	330	1.3	9" x 12"	—	—	—	13.0	1/2"
5	330	1.3	9" x 12"	—	—	—	13.0	1/2"
6	330	1.3	9" x 12"	—	—	—	13.0	1/2"
7	330	1.3	9" x 12"	—	—	—	13.0	1/2"
8	380	1.5	9" x 12"	—	—	—	14.4	1/2"
9	380	1.5	9" x 12"	—	—	—	14.4	1/2"
10	300	1.2	9" x 12"	—	—	95	11.4	1/2"
11	2720	11.8	18" x 36"	—	—	100	118.0	1 1/4"
12	180	.4	9" x 12"	—	—	80	9.9	1/2"
13	140	.3	9" x 12"	—	—	—	3.0	1/2"
14	150	.3	9" x 12"	—	—	—	3.3	1/2"
15	220	.5	9" x 12"	—	—	—	4.8	1/2"
16	170	.4	9" x 12"	—	—	—	3.7	1/2"
17	170	.4	9" x 12"	—	—	—	3.7	1/2"
18	170	.4	9" x 12"	—	—	—	3.7	1/2"
19	400	.5	12" x 12"	—	—	—	8.7	1/2"
20	410	.5	12" x 12"	—	—	—	8.9	1/2"
21	160	.4	9" x 12"	—	—	—	3.5	1/2"
22	160	.4	9" x 12"	—	—	—	3.5	1/2"
23	140	.3	9" x 12"	—	—	—	3.0	1/2"
24	350	.8	9" x 12"	—	—	—	7.6	1/2"
25	250	.5	9" x 12"	—	—	—	5.3	1/2"
26	1200	2.1	12" x 24"	—	—	80	26.0	3/4"
27	800	2.3	12" x 18"	—	—	35	22.8	3/4"
28	500	1.9	12" x 12"	—	—	—	19.0	3/4"
29	330	1.3	9" x 12"	—	—	—	12.5	1/2"
30	450	1.7	12" x 12"	—	—	—	17.1	3/4"
31	450	1.7	12" x 12"	—	—	—	17.1	3/4"
32	1350	4.4	12" x 30"	—	—	95	43.8	1"
33	150	.8	9" x 12"	—	—	110	8.1	1/2"
34	120	.7	9" x 12"	—	—	110	6.5	1/2"
35	120	.7	9" x 12"	12 FT.	60	110	6.5	1/2"

NOTE: MAX. AIR PRESSURE DROP SHALL NOT EXCEED .15" H₂O.

REHEAT COILS (BASED ON 180° ENT. WATER)

NO.	C.F.M.	G.P.M.	APPROX. SIZE (H x L)	MAX. WATER PRESS. DROP	ENT. AIR	LEAV. AIR	CAPACITY	PIPE CONN.
36	120	.7	9" x 12"	12 FT.	60	110	6.5	1/2"
37	140	.8	9" x 12"	—	—	—	7.5	1/2"
38	300	.7	9" x 12"	—	—	80	6.5	1/2"
39	300	.7	9" x 12"	—	—	—	6.5	1/2"
40	110	.3	6" x 6"	—	—	—	2.4	1/2"
41	110	.3	6" x 6"	—	—	—	2.4	1/2"
42	600	1.3	12" x 12"	—	—	—	13.0	1/2"
43	160	.4	9" x 12"	—	—	—	3.5	1/2"
44	130	.3	9" x 12"	—	—	—	2.8	1/2"
45	280	.6	9" x 12"	—	—	—	6.1	1/2"
46	300	.7	9" x 12"	—	—	—	6.5	1/2"
47	160	.4	9" x 12"	—	—	—	3.5	1/2"
48	130	.3	9" x 12"	—	—	—	2.8	1/2"
49	110	.3	6" x 6"	—	—	—	2.4	1/2"
50	110	.3	6" x 6"	—	—	—	2.4	1/2"
51	110	.3	6" x 6"	—	—	—	2.4	1/2"
52	300	.7	9" x 12"	—	—	80	6.5	1/2"
53	120	.7	9" x 12"	—	—	110	6.5	1/2"
54	150	.4	9" x 12"	—	—	80	3.3	1/2"
55	270	.6	9" x 12"	—	60	80	5.9	1/2"
56	1200	2.6	12" x 24"	—	55	75	26.0	3/4"
57	1200	4.5	12" x 24"	—	—	90	45.0	1"
58	1000	3.8	12" x 24"	—	—	—	38.0	1"
59	1000	3.8	12" x 24"	—	—	—	38.0	1"
60	1000	3.8	12" x 24"	—	—	—	38.0	1"
61	1000	3.8	12" x 24"	—	—	—	38.0	1"
62	1000	3.8	12" x 24"	—	—	—	38.0	1"
63	1200	4.5	12" x 24"	—	—	90	45.0	1"
64	500	3.0	12" x 12"	—	—	110	30.0	3/4"
65	800	1.7	12" x 18"	—	55	75	17.2	3/4"
66	1500	9.8	12" x 30"	—	50	110	97.5	1"
67	500	3.3	12" x 12"	—	—	80	32.5	3/4"
68	600	1.3	12" x 12"	—	—	60	13.0	1/2"
69	150	.3	9" x 12"	—	—	60	3.3	1/2"
70	900	2.9	12" x 18"	—	—	50	29.0	3/4"
71	500	3.3	12" x 12"	12 FT.	50	110	32.5	3/4"

FANS

FAN NO.	SERVICE	TYPE	C.F.M.	STATIC PRESS. IN WG.	MIN. WHEEL DIA.	MAX. OUT VEL.	DRIVE	EST. MTR. HP	ELEC. CHAS.	STARTER
1	RETURN AIR LCKR. E. SIDE	DUCT MTD. CENTRIF.	7900	3/8"	32"	1500 FPM	BELT	2	480V, 3 PH.	MAGNETIC WITH H.O.A. SW IN COVER
2	S.E. CONCESSION EXHAUST	—	5000	1/4"	24"	—	—	3/4	—	—
3	RETURN AIR LCKR. W. SIDE	—	6350	3/8"	28"	—	—	1 1/2	—	—
4	S.W. CONCESSION EXHAUST	—	3820	1/4"	24"	—	—	3/4	—	—
5	N.W. CONCESSION EXHAUST	—	3820	1/4"	24"	—	—	3/4	—	—
6	RETURN AIR CLASSROOMS	—	8000	3/8"	32"	—	—	2	—	—
7	N.E. CONCESSION EXHAUST	—	3220	1/4"	20"	—	—	3/4	—	—
8	E. SIDE LCKR. EXHAUST	—	4250	1/4"	24"	—	—	3/4	480V, 3 PH.	MAGNETIC WITH H.O.A. SW IN COVER
9	DRYER, EXH.	DUCT MTD. CENTRIF.	1800	1/4"	20"	1500 FPM	BELT	1/4	120V, 1 PH.	MAGNETIC WITH 55TBS IN COVER

PUMPS

SERVICE	TYPE	G.P.M.	HEAD	R.P.M.	EST. HP	ELEC. CHAS.	STARTER
CHILLED WATER	HORIZ. OR VERT. SPLIT CASE	1450	80 FT	1750	40	480V, 3 PH	MAGNETIC WITH ON-OFF SW IN COVER
HOT WATER	HORIZ. OR VERT. SPLIT CASE	1476	80 FT	1750	40	480V, 3 PH	MAGNETIC WITH ON-OFF SW IN COVER
STAND-BY	HORIZ. OR VERT. SPLIT CASE	1476	80 FT	1750	40	480V, 3 PH	MAGNETIC WITH MAINTAIN SSPB IN COVER
CONDENSATE PUMP NO. 1	DUPLEX WITH RECEIVER	75	92 FT	1750	2 @ 3 HP EA.	480V, 3 PH	MAGNETIC WITH FLOAT SW & ALTERNATE
CONDENSATE PUMP NO. 2	DUPLEX WITH RECEIVER	12	34 FT	1750	2 @ 1/2 HP EA.	120V, 1 PH	MAGNETIC WITH FLOAT SW & ALTERNATE

Condensate pump receivers shall be steel. Minimum sizes shall be 57 gallon for condensate. #1 Pump No. 1 and 2.5 gallon for Condensate Pump No. 2.

HEAT EXCHANGER: TO HEAT 1467 GPM FROM 158°F TO 180°F (WITH ADJUSTABLE SADDLES) WITH 10 PSIG STEAM, .001 FOUL FACTOR, 54 FPS WATER VEL, 5 FT MAX PD, 442 SQ. FT. HEAT SURFACE.

CABINET UNIT HEATER: HORIZONTAL, 10" ESP, 800 CFM, 40 MSH, 4 GPM 180° H₂O, 170 WATTS, 120V, 1 PH. WITH MANUAL MOTOR STARTER.

COMPRESSION TANKS: (2) - 260 GAL. EACH, 36" x 74", A.S.M.E.

NOTE: EACH STARTER* SHALL BE FURNISHED WITH INTEGRAL CONTROL TRANSFORMER TO PROVIDE ADEQUATE 120V. POWER FOR ALL CONTROL DEVICES ASSOCIATED WITH THE RESPECTIVE MOTOR STARTER INCLUDING THE STARTER COIL, ERS, RELAY, ETC. (EXCEPT MAN. MOTOR-FRACT)

TAYLOR AND CRABTREE
1812 BROADWAY, NASHVILLE, TENN.

PHYSICAL EDUCATION, ATHLETIC, AND CONVOCATION CENTER
MIDDLE TENNESSEE STATE UNIVERSITY
MURFREESBORO, TENN.
HEATING, VENTILATION, & AIR CONDITIONING
EQUIPMENT SCHEDULE

PROJECT NO.: 6629
DRAWN BY: RAY LYLE
CHECKED BY: C. CARPENTER
ISSUE DATE: 3 NOV 70
SHEET NUMBER

M-14