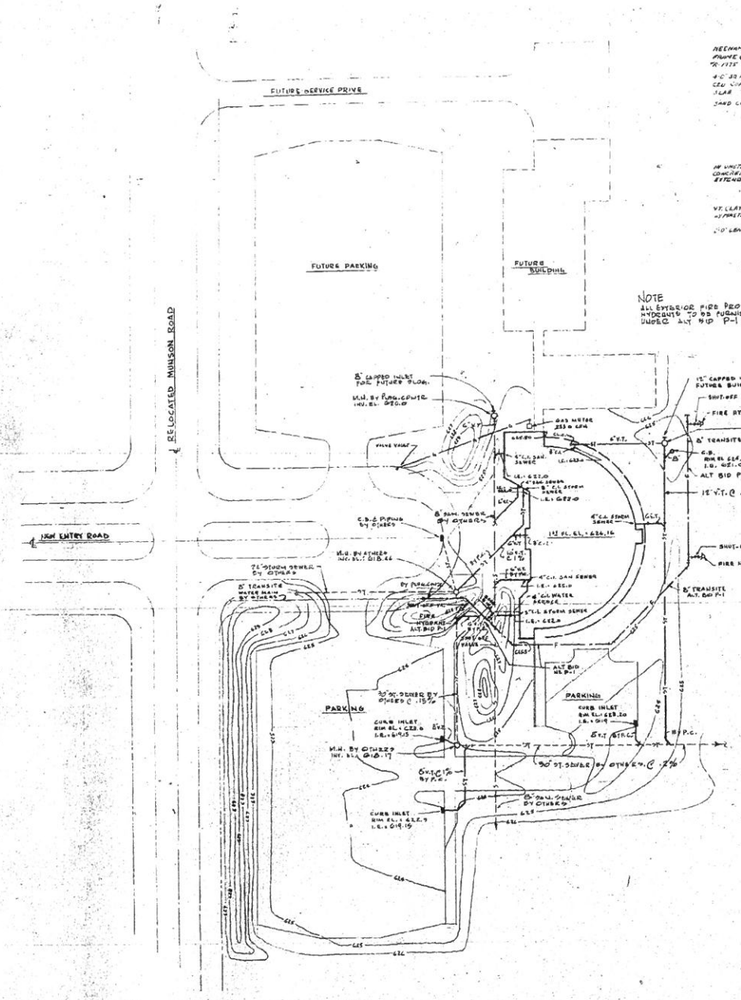
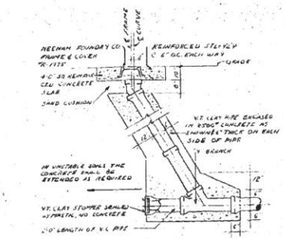
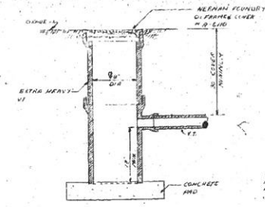


SITE PLAN
SCALE: 1" = 50'-0"

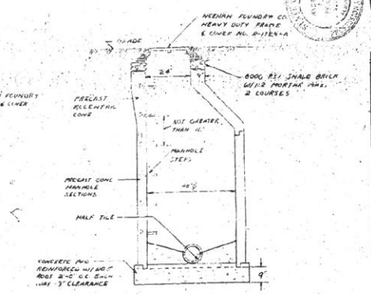
NOTE
ALL EXTERIOR FIRE PROTECTION PIPING & FIRE HYDRANTS TO BE FURNISHED & INSTALLED UNDER ALT BID P-1



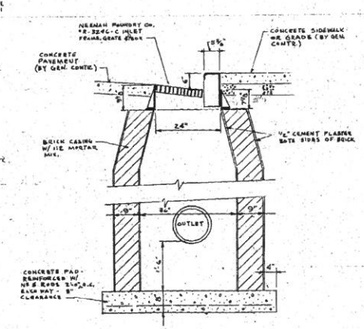
CLEAN OUT DETAIL
NOT TO SCALE



CATCH BASIN DETAIL
NOT TO SCALE



MANHOLE DETAIL
NOT TO SCALE



CURB INLET DETAIL
NOT TO SCALE

LEGEND

PLUMBING

- COLD WATER (CW)
- HOT WATER (HW)
- RECIRCULATING HOT WATER (HWR)
- GAS LINE
- SANITARY SEWER
- SANITARY VENT
- ST — STORM SEWER
- MH — MANHOLE
- C.B. — CATCH BASIN
- C.L.O. — CLEAN OUT
- R.D.-1 — ROOF DRAIN-TYPE 1
- F.D.-1 — FLOOR DRAIN-TYPE 1
- R.W.C. — RAIN WATER CONDUCTOR
- GV — GATE VALVE (GV)
- CV — CHECK VALVE (CV)
- PRV — PRESSURE REDUCING VALVE (PRV)
- F — FIRE PROTECTION LINE
- FDV — FIRE DEPARTMENT VALVE
- PD — PUMP DISCHARGE
- AD — AREA DRAIN
- ST — STORM SEWER BY OTHERS
- G — GAS SERVICE BY OTHERS

HEATING & VENTILATION

- HWS — HEATING WATER SUPPLY (HS)
- HWR — HEATING WATER RETURN (HR)
- RS — REFRIGERANT SUCTION LINE
- RL — REFRIGERANT LIQUID LINE
- HG — REFRIGERANT HOT GAS LINE
- PIPE WIRE ISOLATORS (PWI)
- BALANCING & SHUT-OFF VALVE (B&SO)
- AUTOMATIC CONTROL VALVE (ACV)
- STRAINER
- SG — SUPPLY AIR GRILLE
- RG — RETURN AIR GRILLE
- EG — EXHAUST AIR GRILLE
- CEILING DIFFUSER-(TYPE A) CFM
- MOD — MOTOR OPERATED DAMPER
- BD — BALANCING DAMPER
- FC — FLEXIBLE CONNECTION
- JSG — JAIL TYPE SUPPLY GRILLE
- ACOUSTICAL — ACOUSTICALLY LINED DUCTWORK
- PNEUMATIC THERMOSTAT
- LINE VOLTAGE THERMOSTAT
- NIGHT THERMOSTAT
- DOOR LOUVERS (BY OTHERS)

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ISSUE #	ISSUED BY	ISSUED TO	DATE	DESCRIPTION

mentor civic center
city of mentor administration facility
mentor, ohio 1973-74

COORDINATION NUMBER
7317-01

SHEET NUMBER
M-1

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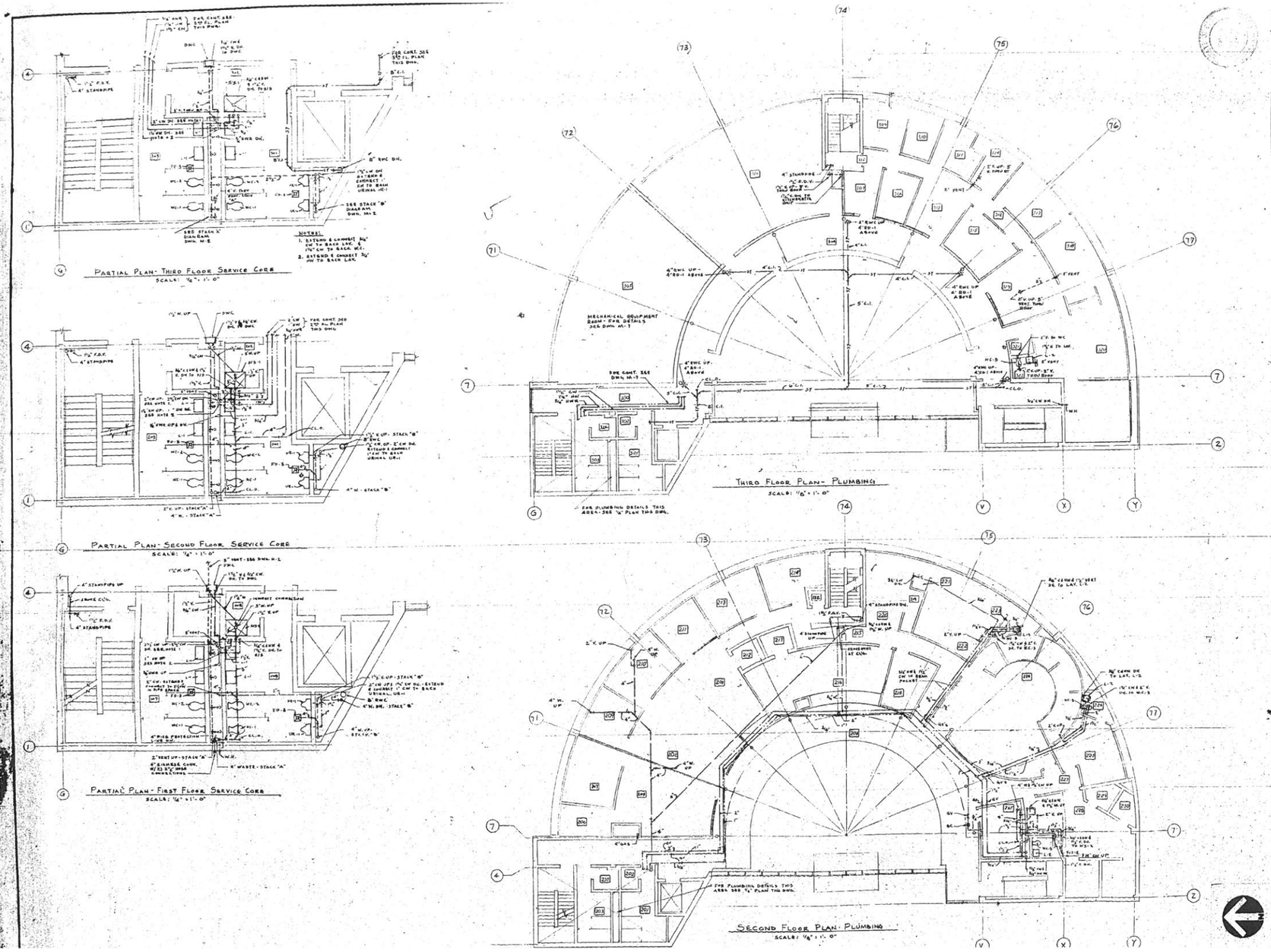
M-2



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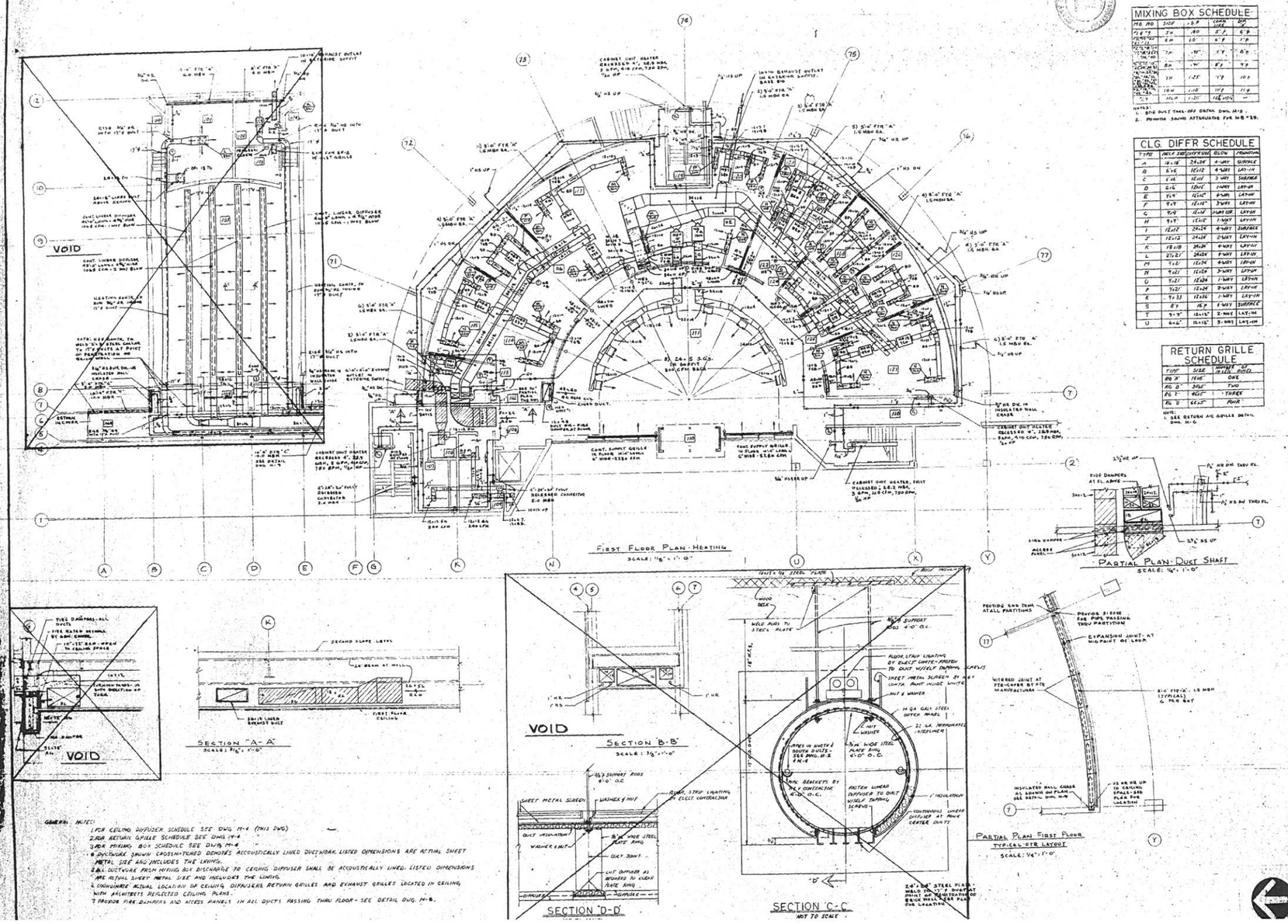
SHEET NUMBER
M-3



MIXING BOX SCHEDULE

MB. NO	SIZE	S.P.	CORE SIZE	DIR
1 & 2	24	.80	8'-6"	6'-8"
3 & 4	24	1.0	9'-7"	7'-8"
5 & 6	24	.80	8'-6"	6'-8"
7 & 8	24	.90	9'-7"	7'-8"
9	24	.90	8'-6"	9'-9"
10	18	1.25	9'-9"	10'-9"
11	10	1.10	10'-6"	11'-6"
12	14	1.20	12'-6"	10'-6"

NOTES:
1. SEE DUCT TAKE-OFF DETAIL DWG. M-8.
2. PROVIDE SOUND ATTENUATOR FOR MB #39.

CLG. DIFF'R SCHEDULE

TYPE	NECK SIZE	DIFF'R SIZE	FLOW	PROJECTION
A	18x18	24x24	4-WAY	SURFACE
B	6x6	12x12	4-WAY	LAY-IN
C	6x6	12x12	3-WAY	SURFACE
D	6x6	12x12	1-WAY	LAY-IN
E	9x9	12x12	4-WAY	LAY-IN
F	9x9	12x12	3-WAY	LAY-IN
G	9x9	12x12	SLOT DIF.	LAY-IN
H	9x9	12x12	1-WAY	LAY-IN
I	12x12	24x24	4-WAY	SURFACE
J	12x12	24x24	2-WAY	LAY-IN
K	18x18	24x24	4-WAY	LAY-IN
L	21x21	24x24	1-WAY	LAY-IN
M	9x21	12x24	4-WAY	LAY-IN
N	9x21	12x24	3-WAY	LAY-IN
O	9x21	12x24	1-WAY	LAY-IN
P	9x21	12x24	2-WAY	LAY-IN
R	9x33	12x36	1-WAY	LAY-IN
S	8'x	16'x	1-WAY	SURFACE
T	9'x9"	12x15"	2-WAY	LAY-IN
U	6'x6"	15x15"	3-WAY	LAY-IN

RETURN GRILLE SCHEDULE

TYPE	SIZE	NUMBER OF BLADES	DIRECTION
RG A	15x15	ONE	
RG B	30x6"	TWO	
RG C	46x6"	THREE	
RG D	62x6"	FOUR	

NOTE:
1. SEE RETURN AIR GRILLE DETAIL DWG. M-6

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JAMES M. KAPLAN
JAMES L. CURTIS
LEO WOODARD
REGISTERED

REVISIONS	DATE

DRAWN BY: DESIGNED BY: CHKD BY: APPD BY:
DATE: 1-22-74

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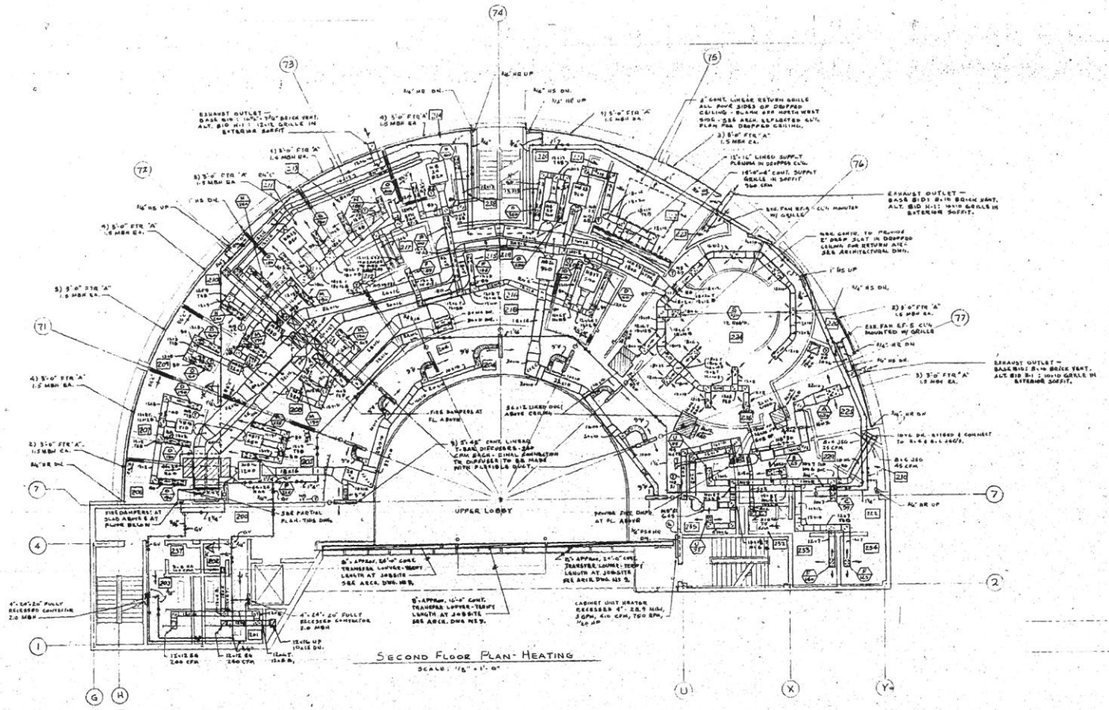
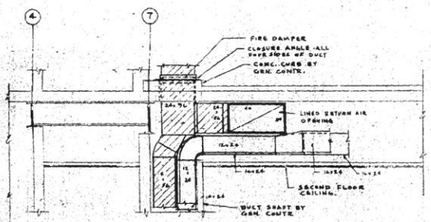
7317-01

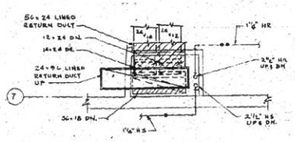
M-4



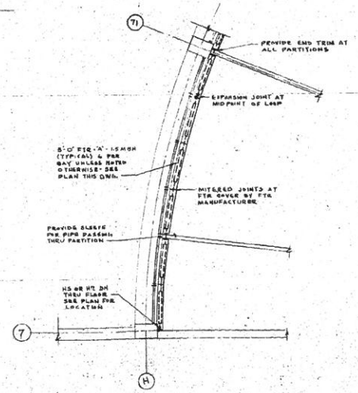
SECOND FLOOR PLAN - HEATING
SCALE: 1/8" = 1'-0"



SECTION "A-A"
SCALE: 3/8" = 1'-0"



PARTIAL PLAN - DUCT SHAFT
SCALE: 1/4" = 1'-0"



PARTIAL PLAN - SECOND FLOOR
TYPICAL FTR LAYOUT
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. FOR CEILING DIFFUSER SCHEDULE SEE DWG M-4
2. FOR RETURN GRILLE SCHEDULE SEE DWG M-4
3. FOR MIXING BOX SCHEDULE SEE DWG M-4
4. DUCTWORK SHOWN CROSSHATCHED DENOTES ACOUSTICALLY LINED DUCTWORK. LISTED DIMENSIONS ARE ACTUAL SHEET METAL SIZE AND INCLUDES THE LINING.
5. ALL DUCTWORK FROM MIXING BOX DISCHARGE TO CEILING DIFFUSER SHALL BE ACOUSTICALLY LINED. LISTE DIMENSIONS ARE ACTUAL SHEET METAL SIZE AND INCLUDES THE LINING.
6. COORDINATE ACTUAL LOCATION OF CEILING DIFFUSERS, RETURN GRILLES AND EXHAUST GRILLES LOCATED IN CEILING WITH ARCHITECTS REFLECTED CEILING PLANS

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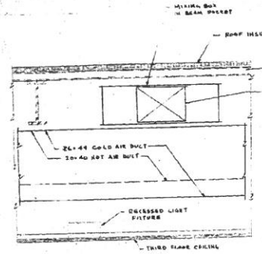
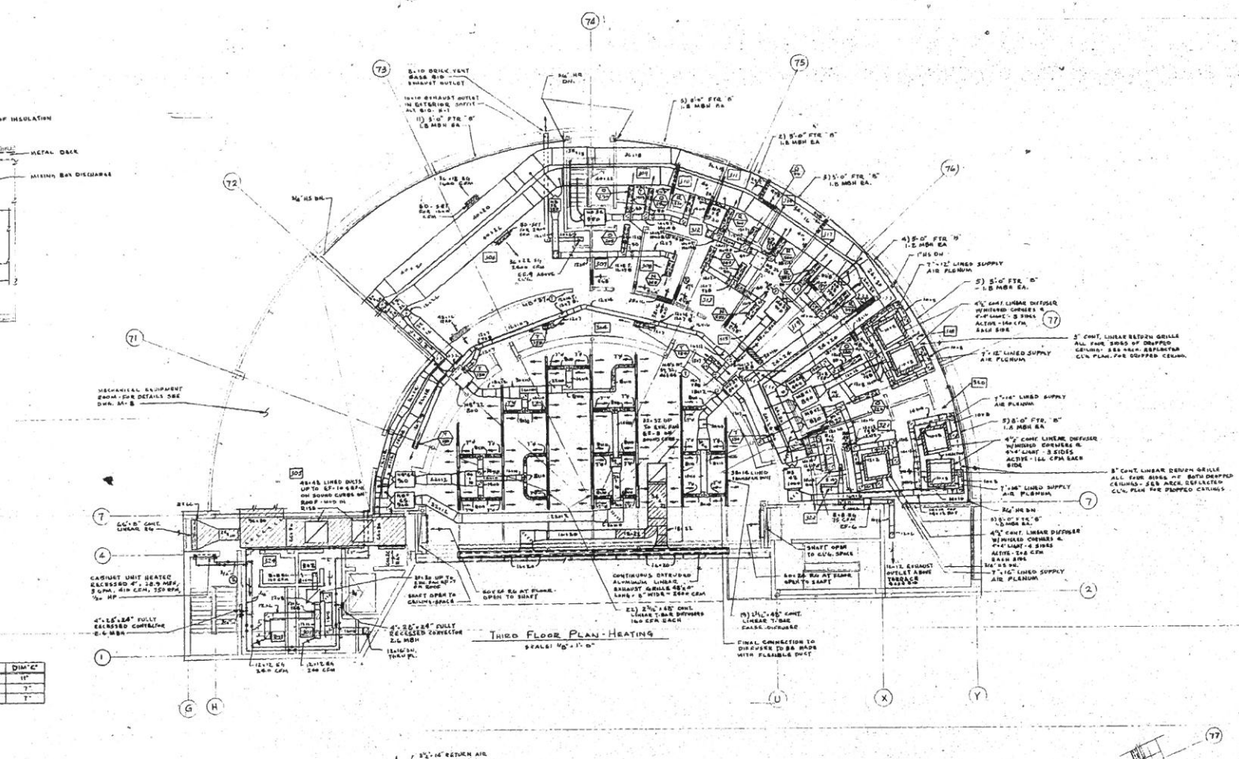
DESIGN BY SMS
REVISIONS
1 8-14-74
2 9-4-74

CONTRACT NUMBER 7317-01

SHEET NUMBER M-5

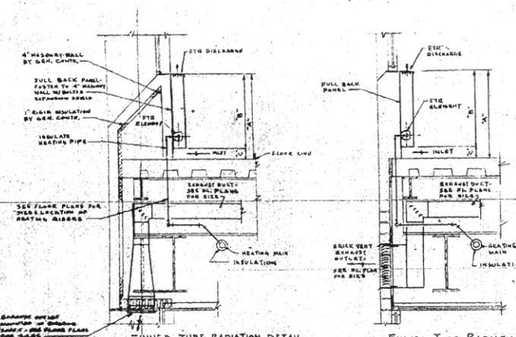


MIXING BOX LOCATION DETAIL
NOT TO SCALE

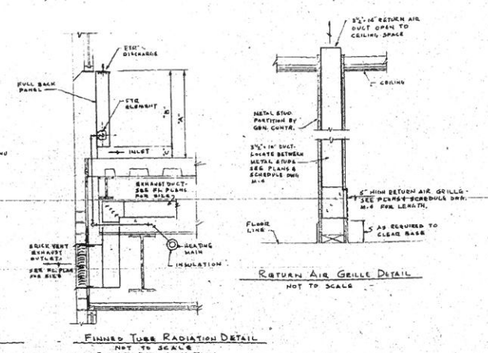


THIRD FLOOR PLAN - HEATING
SCALE: 1/8" = 1'-0"

SLAB	DIM. 'A'	DIM. 'B'	DIM. 'C'
FIRST	3'-0"	24 1/4"	11"
SECOND	2'-8"	24 1/4"	7"
THIRD	2'-8"	24 1/4"	7"

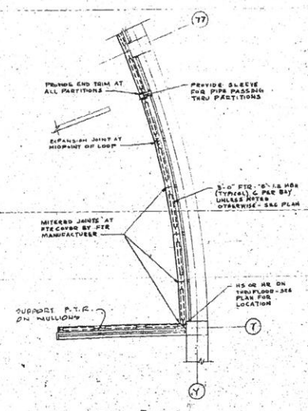


FINNED TUBE RADIATION DETAIL
NOT TO SCALE
ALT. BID CONDITION



FINNED TUBE RADIATION DETAIL
NOT TO SCALE
BASE BID CONDITION

RETURN AIR GRILLE DETAIL
NOT TO SCALE



PARTIAL PLAN - THIRD FLOOR
TYPICAL FTR LAYOUT
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. FOR CEILING DIFFUSER SCHEDULE SEE DWG. M-4.
2. FOR RETURN GRILLE SCHEDULE SEE DWG. M-4.
3. FOR MIXING BOX SCHEDULE SEE DWG. M-4.
4. UNLESS SHOWN OTHERWISE DENOTES ACOUSTICALLY LINED DUCTWORK. LISTED DIMENSIONS ARE ACTUAL SHEET METAL SIZE AND INCLUDES THE LINING.
5. ALL DUCTWORK FROM MIXING BOX DISCHARGE TO CEILING DIFFUSER SHALL BE ACOUSTICALLY LINED. LISTED DIMENSIONS ARE ACTUAL SHEET METAL SIZE AND INCLUDES THE LINING.
6. COORDINATE ACTUAL LOCATION OF CEILING DIFFUSERS, RETURN GRILLES AND EXHAUST GRILLES LOCATED IN CEILING WITH ARCHITECTS REFLECTED CEILING PLANS.

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M-6

Insulated Stack Thimble Detail
Not to scale
Partial Plan - Third Floor Equipment Room
Scale: 1/4" = 1'-0"
Partial Plan - Basement Equipment Room
Scale: 1/4" = 1'-0"
Partial Plan - Third Floor Equipment Room
Base Bid
Scale: 1/4" = 1'-0"
Boiler Piping Diagram
Not to scale
Section "A-A"
Section "B-B"
Sanitary Waste Sump No. 2
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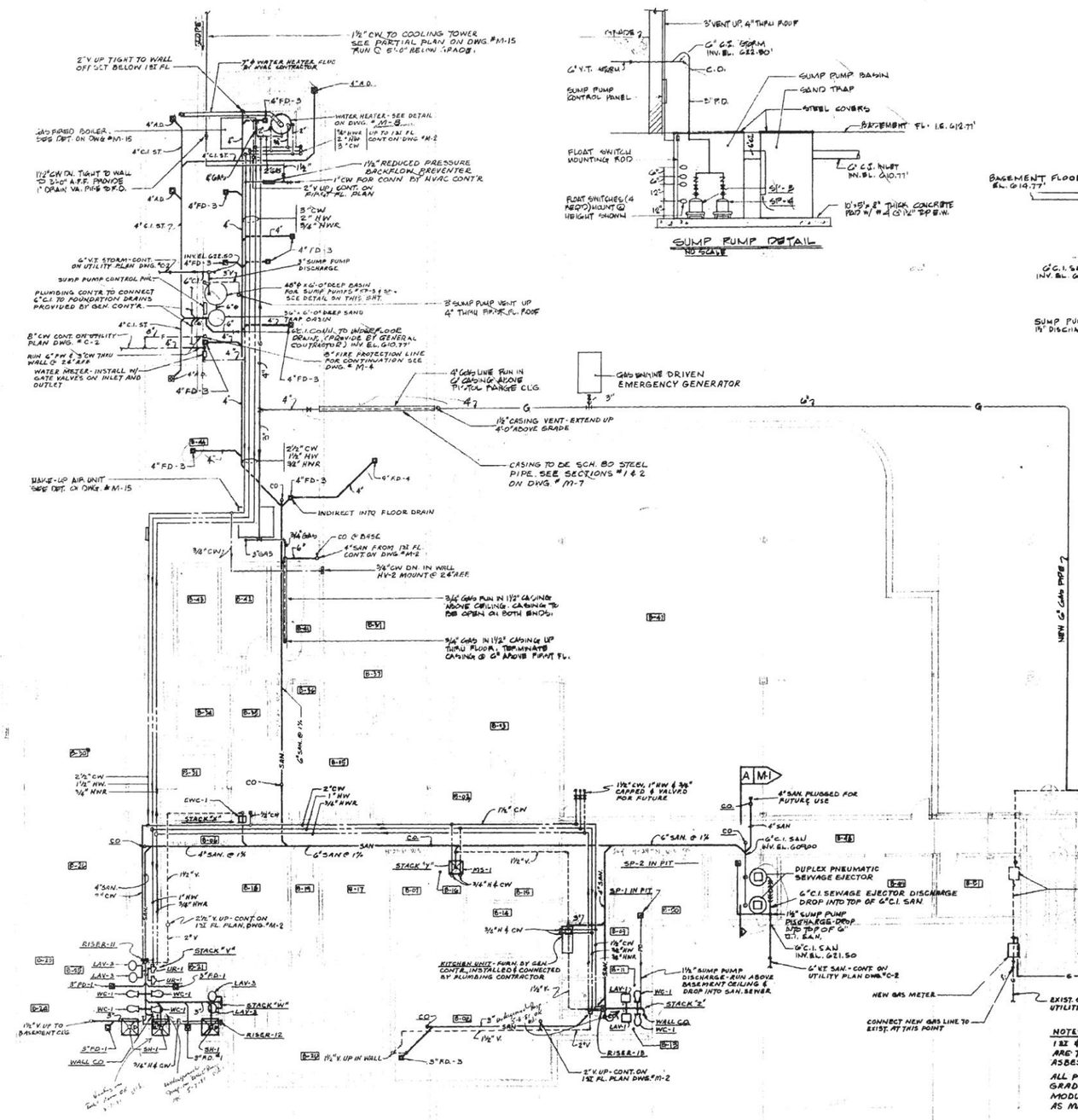
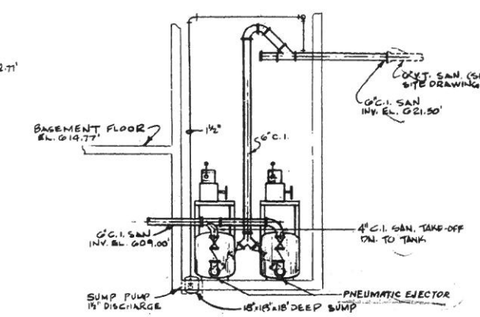
M-7

PLUMBING LEGEND

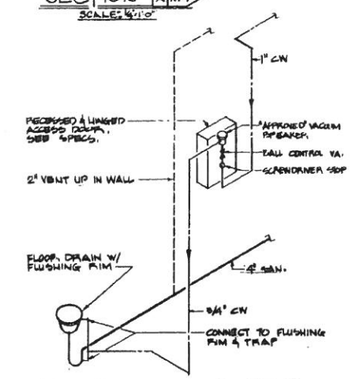
SAN	SANITARY SEWER
ST	STORM SEWER
RWC	RAINWATER CONDUCTOR
	SANITARY VENT
	CITY WATER
	HOT WATER
	HOT WATER RETURN
PD	PUMP DISCHARGE
G	NATURAL GAS
F	FIRE PROTECTION
TW	TEMPERED WATER
WC	WATER CLOSET
LAV	LAVATORY
UR	URINAL
MS	MOP SINK
SK	SINK
WH	WALL HYDRANT
HV	HOSE VALVE
EWC	ELECTRIC WATER COOLER
FD	FLOOR DRAIN
RD	ROOF DRAIN
SH	SHOWER VALVE & HEAD
SD	SHOWER DRAIN
CO	CLEAN OUT
INV. EL.	INVERT ELEVATION
VTR	VENT THRU ROOF
V	VENT
D.S.	DOWNSPOUT
C.I.	CAST IRON
V.T.	VITRIFIED TILE
SP	SUMP PUMP
AD	AREA DRAIN
S.S.	STAINLESS STEEL



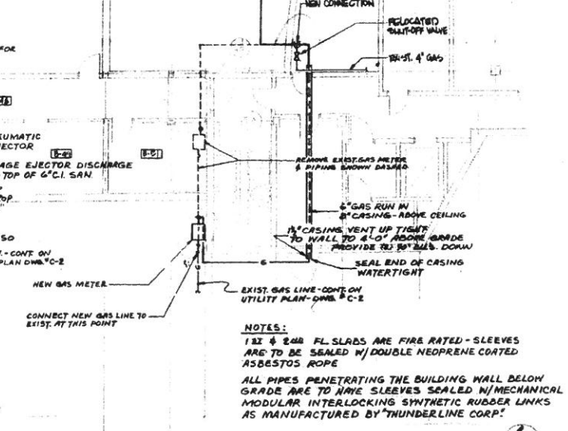
SUMP PUMP DETAIL
NO SCALE



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



SAFETY CELL TOILET DETAIL (WC-5)
SEE DWG. #M-2



NOTES:

1ST & 2ND FL. SLABS ARE FIRE RATED - SLEEVES ARE TO BE SEALED W/ DOUBLE NEOPRENE COATED ASBESTOS ROPE

ALL PIPES PENETRATING THE BUILDING WALL BELOW GRADE ARE TO HAVE SLEEVES SEALED W/ MECHANICAL MODULAR INTERLOCKING SYNTHETIC RUBBER LINKS AS MANUFACTURED BY "THUNDERLINE CORP."

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

ISSUED FOR BIDDING	9-4-80

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION	

REVISIONS

NO.	DESCRIPTION	DATE	BY

RECORD DRAWINGS

CITY MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO PAUL BLOWER JONES REGISTERED PROFESSIONAL ENGINEER

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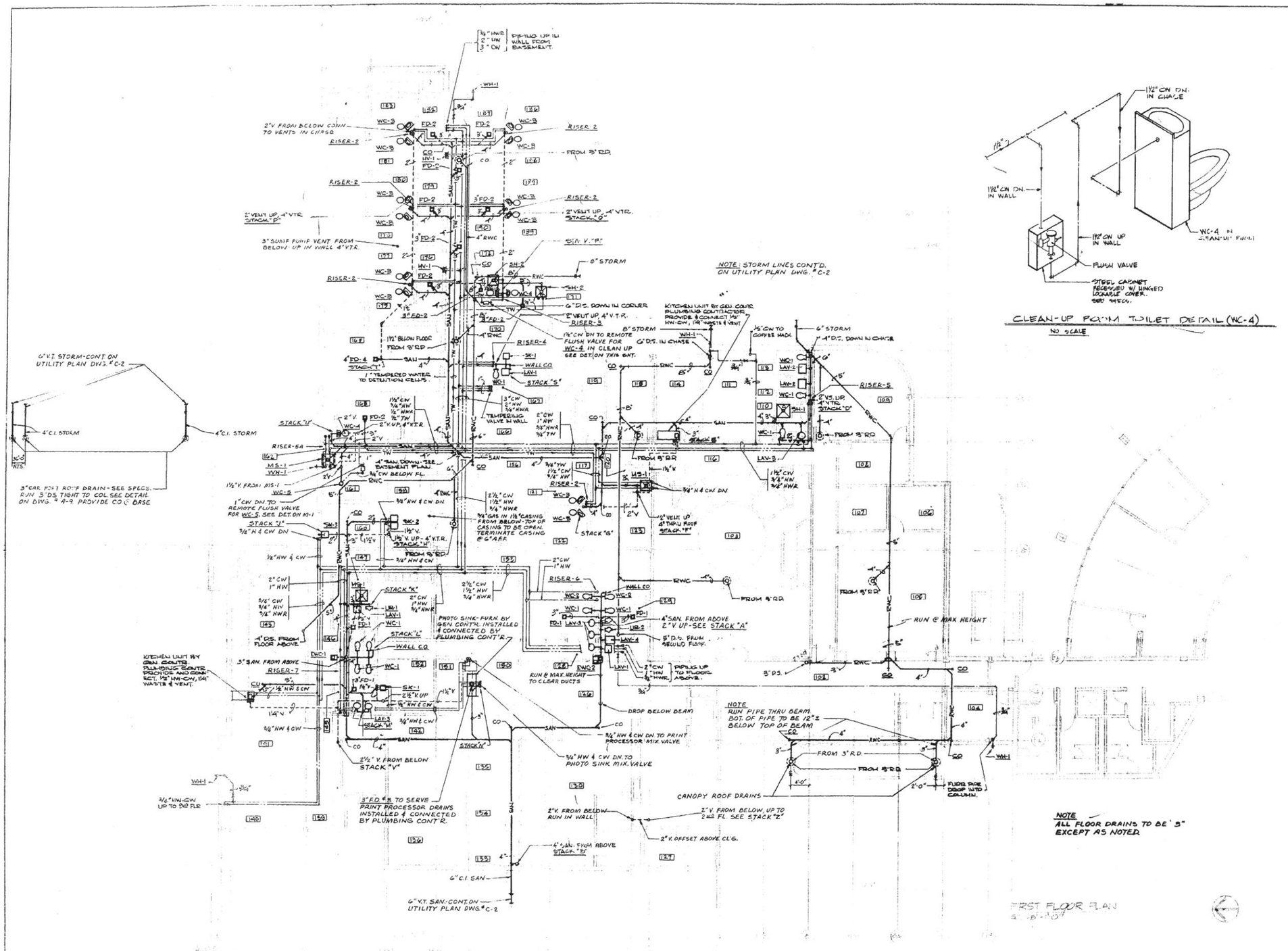
DRAWN F.A.	DATE 9-4-80
CHECKED J.T.	JOB No. 80007D

PLUMBING BASEMENT PLAN

MENTOR POLICE FACILITY
MENTOR OHIO

DALTON · DALTON · NEWPORT — ARCHITECTS · ENGINEERS · PLANNERS

M-1



CLEAN-UP ROOM TOILET DETAIL (WC-4)

NO SCALE

ISSUED FOR BIDDING	9-4-90 DATE	V.K. BY

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION	DATE	BY

REVISIONS

NO.	DESCRIPTION	DATE	BY

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CITY OF MENTOR
SEP 6 1990
BUILDING & ZONING DEPARTMENT

STATE OF OHIO PAUL BLOOMER EDWARDS REGISTERED PROFESSIONAL ENGINEER

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PLUMBING
FIRST FLOOR PLAN

MENTOR POLICE FACILITY
MENTOR OHIO

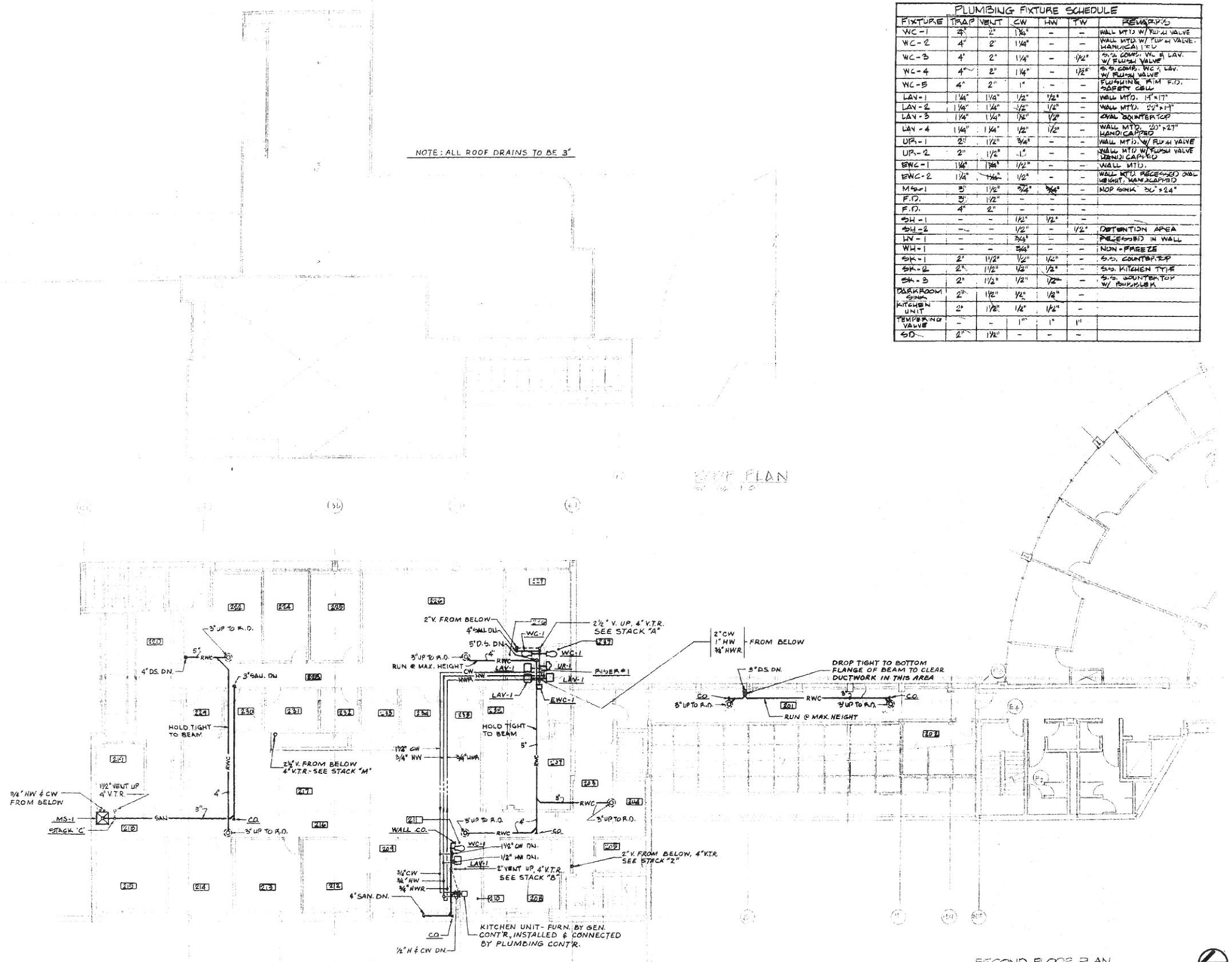
DALTON · DALTON · NEWPORT ARCHITECTS · ENGINEERS · PLANNERS

M-2

NOTE: ALL ROOF DRAINS TO BE 3"

PLUMBING FIXTURE SCHEDULE

FIXTURE	TRAP	VENT	CW	HW	TW	REMARKS
WC-1	4"	2"	1 1/4"	–	–	WALL MTD W/ FLUSH VALVE
WC-2	4"	2"	1 1/4"	–	–	WALL MTD W/ FLUSH VALVE. HANDICAPPED
WC-3	4"	2"	1 1/4"	–	1/2"	S.S. COMB. WC & LAV. W/ FLUSH VALVE
WC-4	4"	2"	1 1/4"	–	1/2"	S.S. COMB. WC & LAV. W/ FLUSH VALVE
WC-5	4"	2"	1"	–	–	FLUSHING RIM F.O. SAFETY CELL
LAV-1	1 1/4"	1 1/4"	1/2"	1/2"	–	WALL MTD. 14"x17"
LAV-2	1 1/4"	1 1/4"	1/2"	1/2"	–	WALL MTD. 22"x19"
LAV-3	1 1/4"	1 1/4"	1/2"	1/2"	–	OVAL COUNTERTOP
LAV-4	1 1/4"	1 1/4"	1/2"	1/2"	–	WALL MTD. 20"x27" HANDICAPPED
UR-1	2"	1 1/2"	3/4"	–	–	WALL MTD. W/ FLUSH VALVE
UR-2	2"	1 1/2"	1"	–	–	WALL MTD W/ FLUSH VALVE HANDICAPPED
EWC-1	1 1/4"	1 1/4"	1/2"	–	–	WALL MTD.
EWC-2	1 1/4"	1 1/4"	1/2"	–	–	WALL MTD. RECESSED DBL HEIGHT. HANDICAPPED
MSR-1	3"	1 1/2"	3/4"	3/4"	–	MOP SINK 36"x24"
F.D.	3"	1 1/2"	–	–	–	
F.D.	4"	2"	–	–	–	
SH-1	–	–	1/2"	1/2"	–	
SH-2	–	–	1/2"	–	1/2"	DETENTION AREA
HV-1	–	–	3/4"	–	–	RECESSED IN WALL
WH-1	–	–	3/4"	–	–	NON-FREEZE
SK-1	2"	1 1/2"	1/2"	1/2"	–	S.S. COUNTERTOP
SK-2	2"	1 1/2"	1/2"	1/2"	–	S.S. KITCHEN TYPE
SK-3	2"	1 1/2"	1/2"	1/2"	–	S.S. COUNTERTOP W/ SPLASHBLOCK
DARKROOM SINK	2"	1 1/2"	1/2"	1/2"	–	
KITCHEN UNIT	2"	1 1/2"	1/2"	1/2"	–	
TEMPERING VALVE	–	–	1"	1"	1"	
SD	2"	1 1/2"	–	–	–	



SECOND FLOOR PLAN
SC. 3/8"=1'-0"

ISSUED FOR BIDDING 9-4-80 VK

ADDENDA REVISIONS

ADDENDA No.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

This drawing does not presume to waive any code or cancel the [illegible] other state or local [illegible] regulating [illegible] the performance of [illegible]

DEPARTMENT OF BUILDING
CITY OF MENTOR
APPROVED
Paul Bulvik
11-5-80

RECORD DRAWINGS

CITY OF MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO
PAUL BLOVAN
19485
REGISTERED PROFESSIONAL ENGINEER

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DRAWN R.A.&E.L. DATE 9-4-80
CHECKED G.T. JOB No. 800070

PLUMBING
SECOND FLOOR PLAN

MENTOR POLICE FACILITY
MENTOR OHIO

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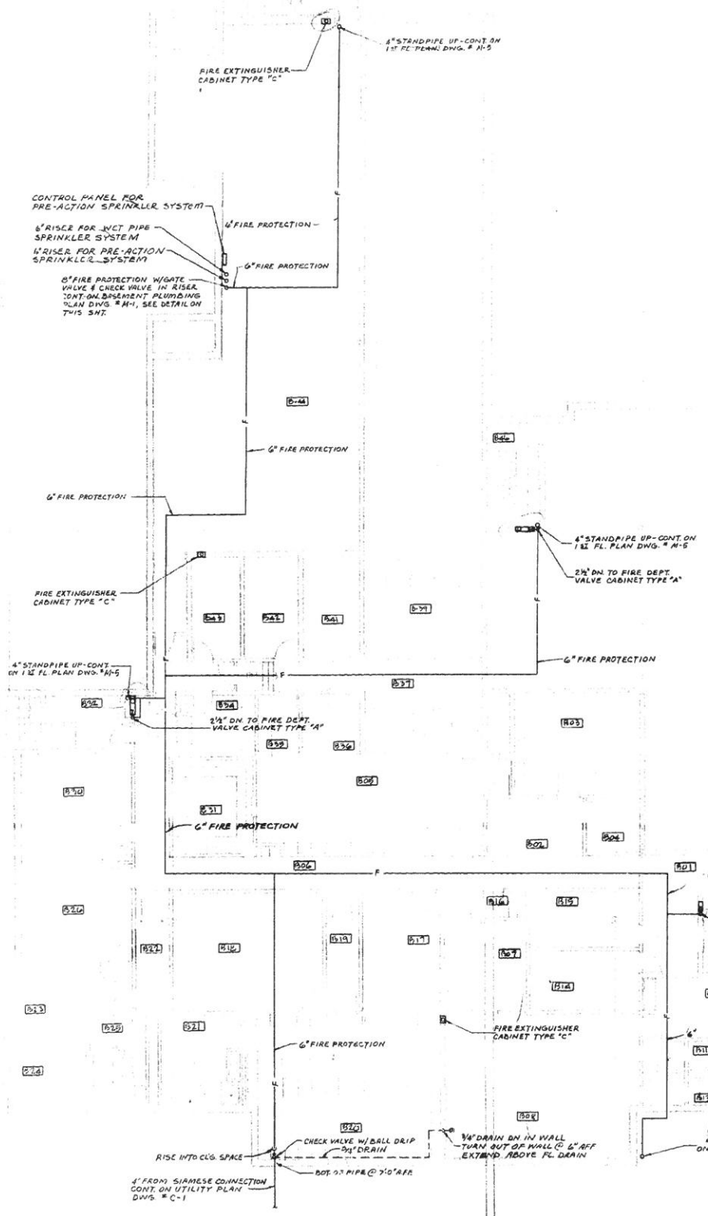
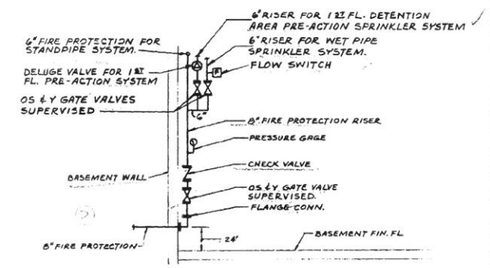
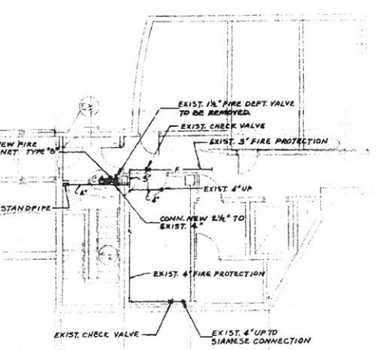
M-3





FIRE PROTECTION RISER DETAIL

NO SCALE



NOTE: FOR ADDITIONAL FIRE EXTINGUISHERS SEE PARTIAL PLAN FUELING ISLAND ON M-8 & "FOUND PROPERTY & IMPOUNDED VEHICLE SHELTER PLAN" ON M-11.

BASEMENT PLAN

SC 1/8" = 1'-0"

ISSUED FOR BIDDING — 4-4-80 V.R. — DATE — BY

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION — DATE — BY

REVISIONS

NO.	DESCRIPTION	DATE	BY

This review does not presume to give authority or cancel the provisions of other state or local laws regulating the performance of

DEPARTMENT OF BUILDING
CITY OF MENTOR
APPROVED
11-5-80

RECORD DRAWINGS — DATE — BY

CITY OF MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO — PAUL SLOVAN — 19455 — REGISTERED PROFESSIONAL ENGINEER

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CHECKED G.T. — JOB No. 800010

FIRE PROTECTION BASEMENT PLAN

MENTOR POLICE FACILITY
MENTOR OHIO

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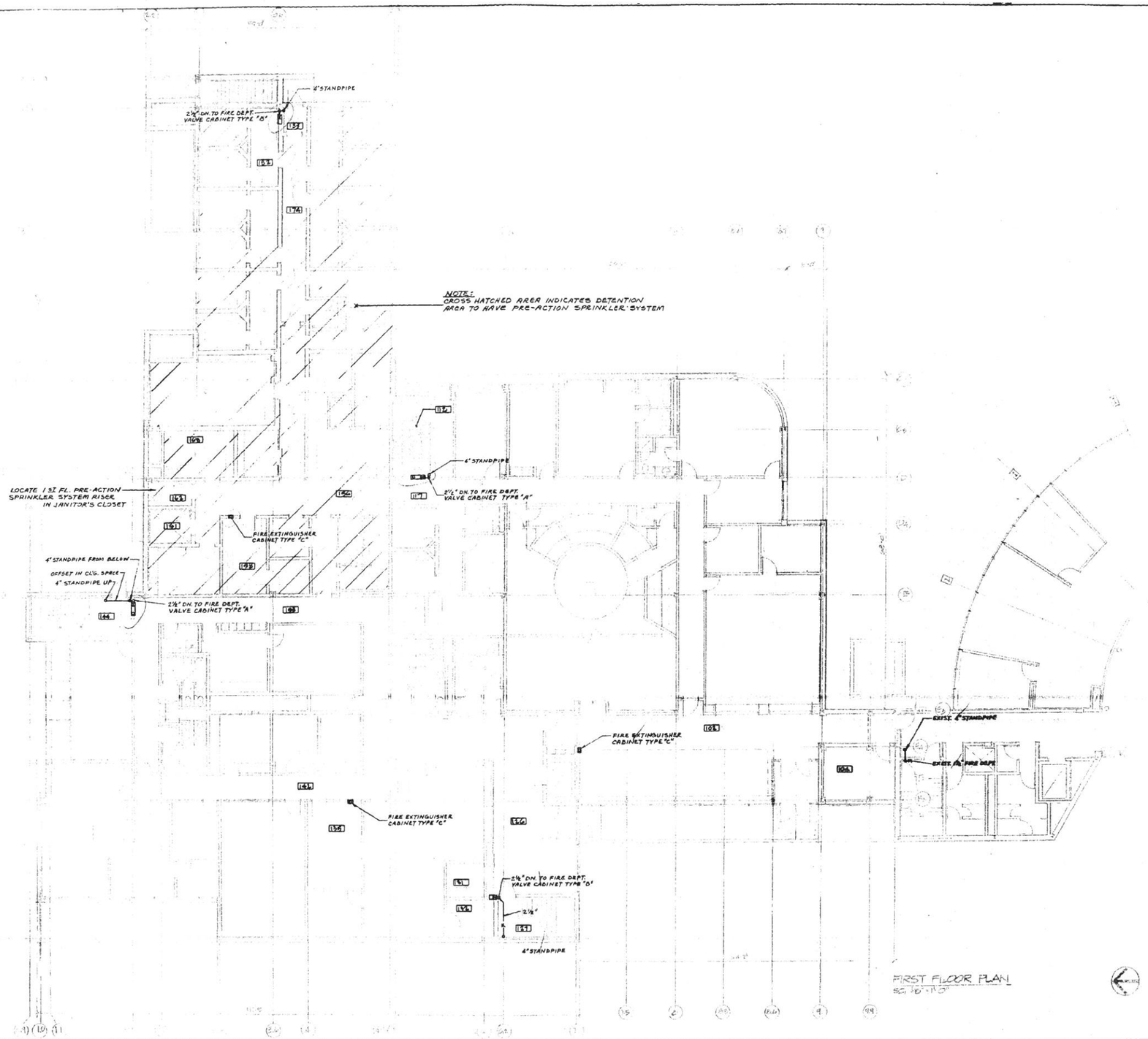
M-4



FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

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ISSUED FOR BIDDING 9-6-80 W.H.
DATE BY

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION DATE BY

REVISIONS

NO.	DESCRIPTION	DATE	BY

This drawing does not presume to violate or cancel the law of other state or local law regulating the performance of DEPARTMENT OF BUILDING CITY OF MENTOR APPROVED Robert Dickerson 11-5-80

RECORD DRAWINGS

CITY MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO PAUL SLOUGH JONES REGISTERED PROFESSIONAL ENGINEER

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FIRE PROTECTION
FIRST FLOOR PLAN

MENTOR POLICE FACILITY
MENTOR OHIO

M-5

ISSUED FOR BIDDING 9-4-80

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION DATE BY

REVISIONS

NO.	DESCRIPTION	DATE	BY

This review does not presume intent to violate or cancel the [illegible] any other state or local building law regulating [illegible] or the performance of [illegible]
DEPARTMENT OF BUILDING
CITY OF MENTOR
APPROVED
Robert Dudnick
11-5-80

RECORD DRAWINGS

CITY OF MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO
PAUL SLOVAN
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REGISTERED
PROFESSIONAL ENGINEER

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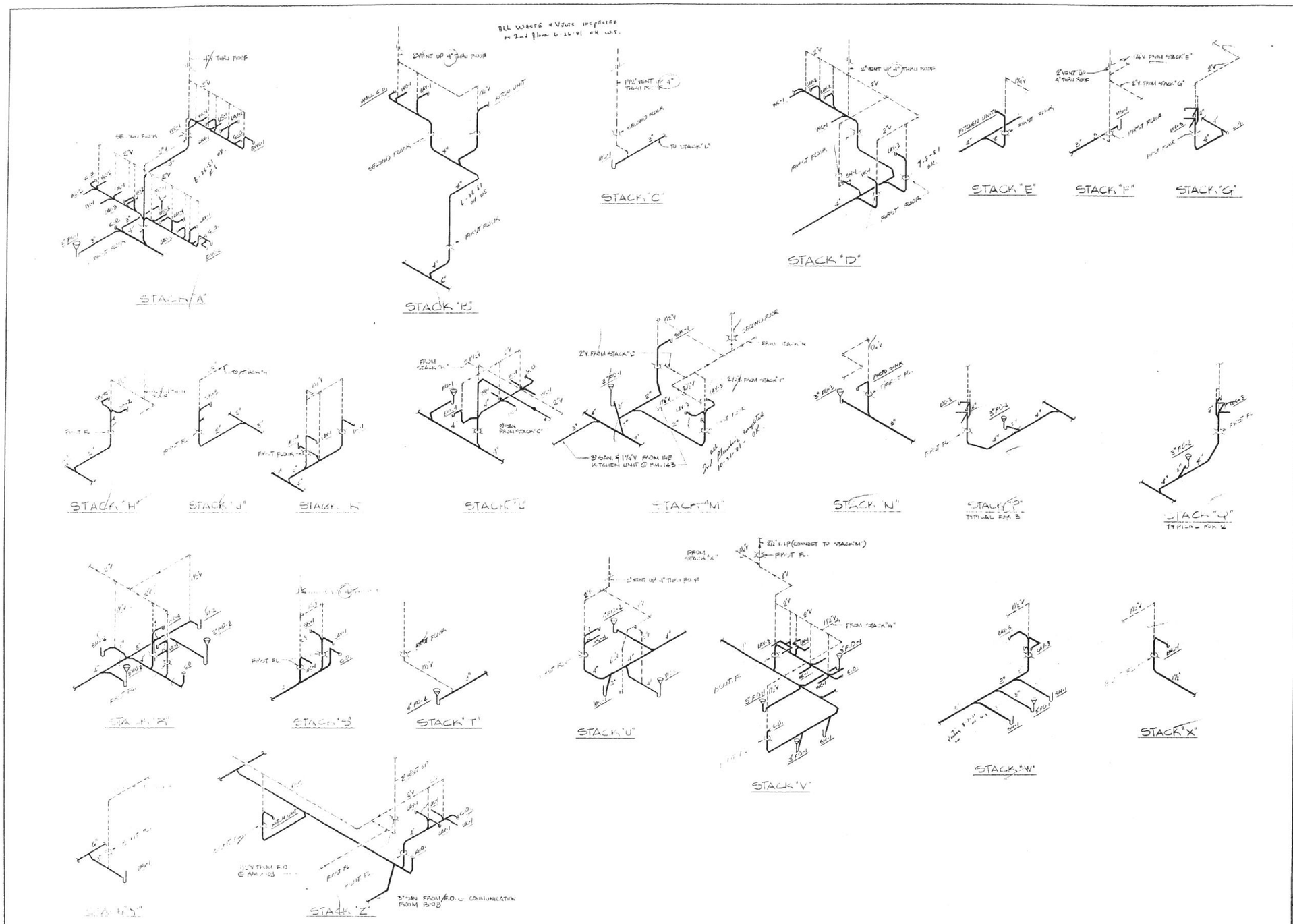
DRAWN R.A. DATE 9-4-80
CHECKED G.T. JOB No. 800010

FIRE PROTECTION
SECOND FLOOR PLAN

MENTOR POLICE FACILITY
MENTOR OHIO

DALTON · DALTON · NEWPORT ARCHITECTS · ENGINEERS · PLANNERS

M-6



ISSUED FOR BIDDING 9-4-80 V.K.
DATE BY

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION
DATE BY

REVISIONS

NO.	DESCRIPTION	DATE	BY

Approval of this drawing does not grant the authority to violate or cancel the provisions of any other state or local building zoning law regulating construction or the performance of construction.
DEPARTMENT OF BUILDING
CITY OF MENTOR
APPROVED
11-5-80

RECORD DRAWINGS

CITY OF MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO
PAUL SLOVAN
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REGISTERED
PROFESSIONAL ENGINEER

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DRAWN E.L. DATE 9-4-80
CHECKED G.T JOB No. 800070

STACK DIAGRAMS

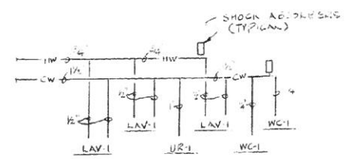
MENTOR POLICE FACILITY
MENTOR OHIO

DALTON · DALTON · NEWPORT ARCHITECTS · ENGINEERS · PLANNERS

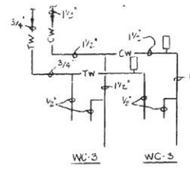
DALTON · DALTON · NEWPORT

M-7

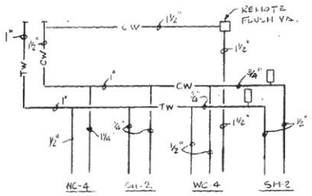
36



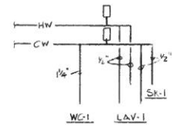
DOMESTIC WATER RISER-1
NOT TO SCALE



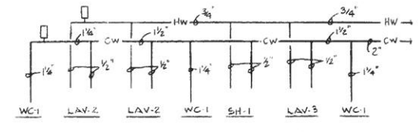
DOMESTIC WATER RISER-2
NOT TO SCALE



DOMESTIC WATER RISER-3
NOT TO SCALE



DOMESTIC WATER RISER-4
NOT TO SCALE



DOMESTIC WATER RISER-5
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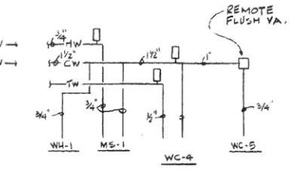
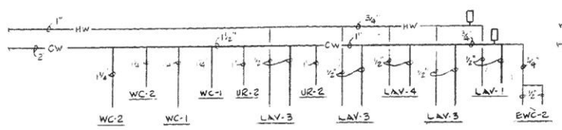
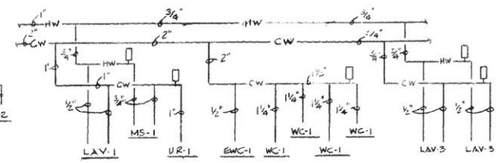


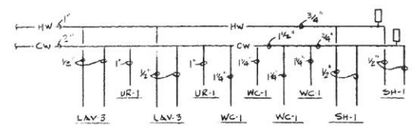
DOMESTIC WATER RISER-5A
NOT TO SCALE



DOMESTIC WATER RISER-6
NOT TO SCALE



DOMESTIC WATER RISER-7
NOT TO SCALE



DOMESTIC WATER RISER-8
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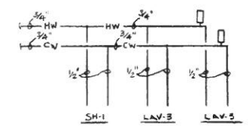

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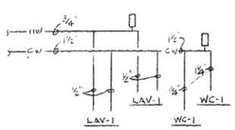

DOMESTIC WATER RISER-10
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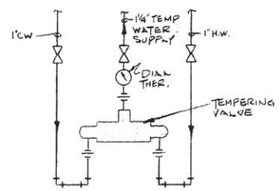

TEMPERED WATER DETAIL
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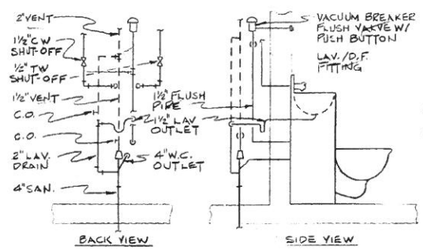
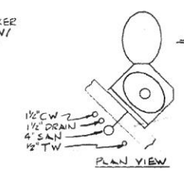
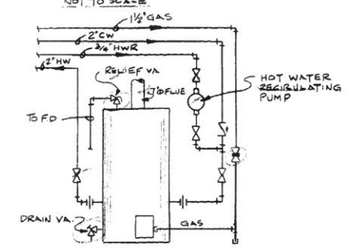


PIPING DIAGRAM OF COMBINATION WATER CLOSET & LAVATORY
NOT TO SCALE



PLAN VIEW

NOTE!
ALL SECURITY TYPE FIXTURES SHALL HAVE ALL PIPING CONNECTIONS, JOINTS & VALVES IN PLUMBING SPACE BEHIND FIXTURES, FOR ACCESSIBILITY AND REPAIR.



WATER HEATER DETAIL
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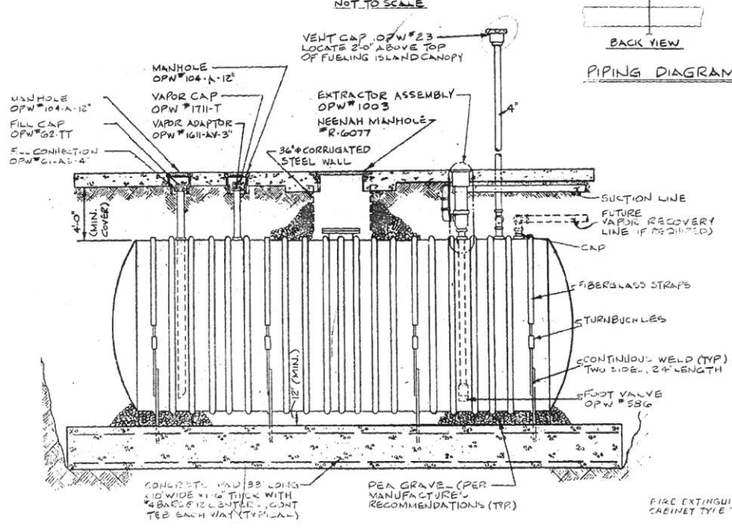

UNDERGROUND TANK DETAIL
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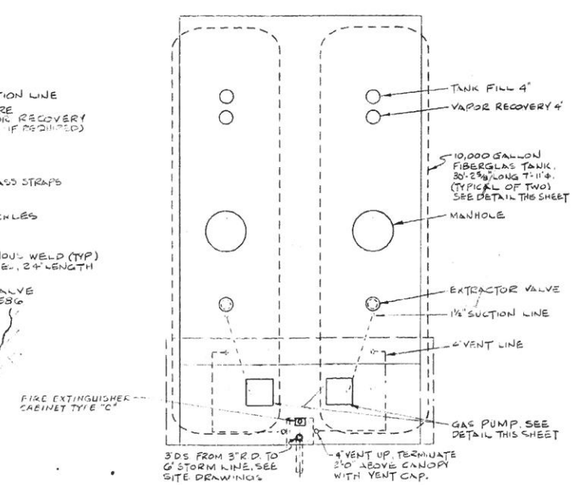
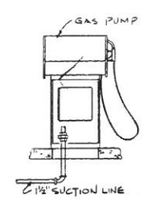


PARTIAL PLAN FUELING ISLAND
SCALES ¼"=1'0"



TYPICAL GAS PUMP DETAIL
NOT TO SCALE

ISSUED FOR BIDDING 9-4-80

ADDENDA REVISIONS

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... drawing does not preclude ... its validity or cancel the ... any other state or local ... law regulating ... of the performance of ...
DEPARTMENT OF BUILDING
CITY ENGINEER
11-5-80

RECORD DRAWINGS DATE BY

CITY MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT
STATE OF OHIO PAUL SLOVAN 19485 REGISTERED PROFESSIONAL ENGINEER
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DRAWN G.Z.	DATE 9-4-80
CHECKED G.T.	JOB No. 8000 TO

RISER DIAGRAMS & MISC. DETAILS

MENTOR POLICE FACILITY
MENTOR OHIO

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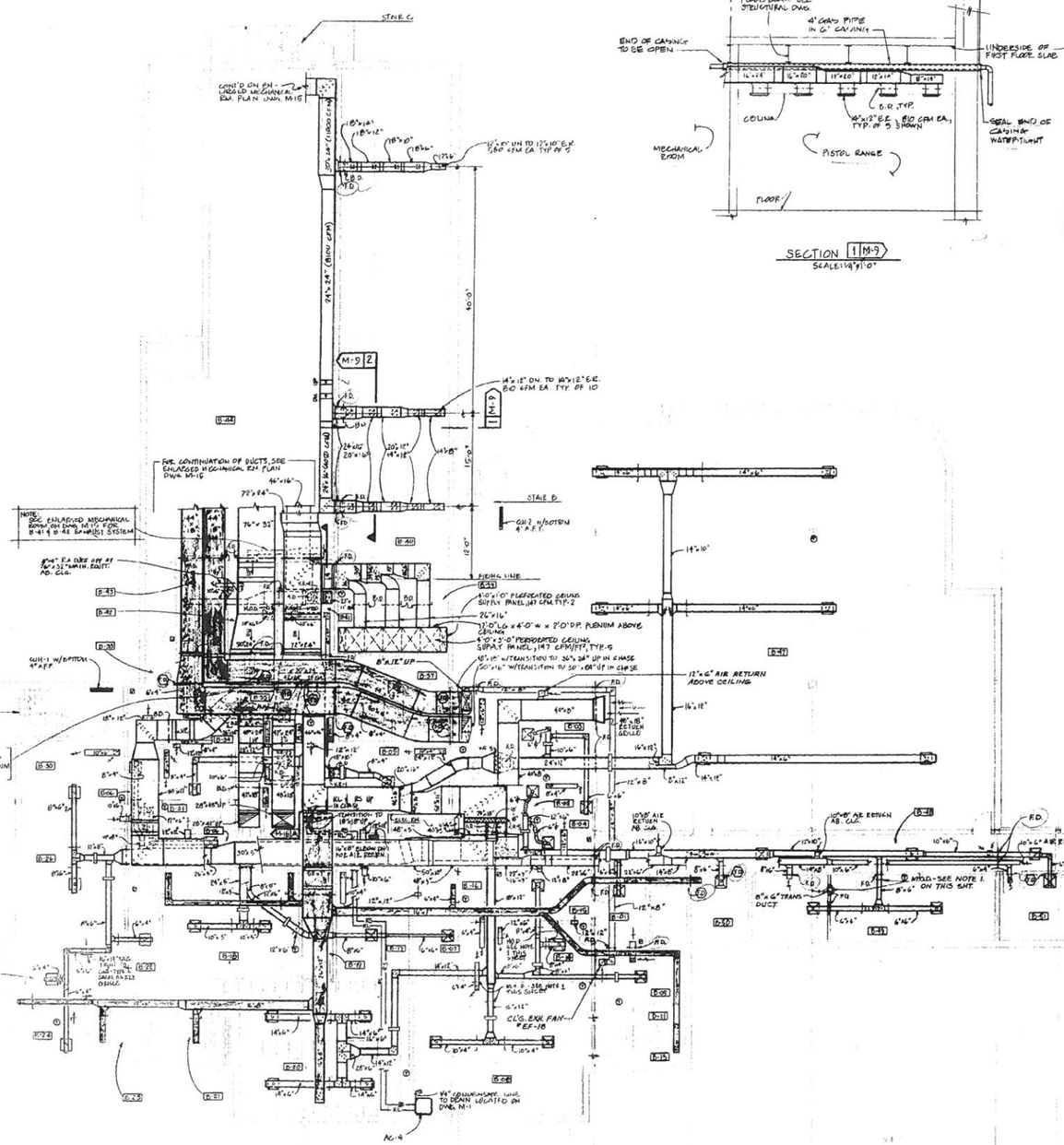
M-8


STAIR C
CONT'D ON EN-2 UNDER MECHANICAL EQ. PLAN DWG. M-15
24'-3 1/4" (BELOW CLG)
40'-0"
15'-0"
12'-0"
M-9 2
B-44
B-40
B-43
B-42
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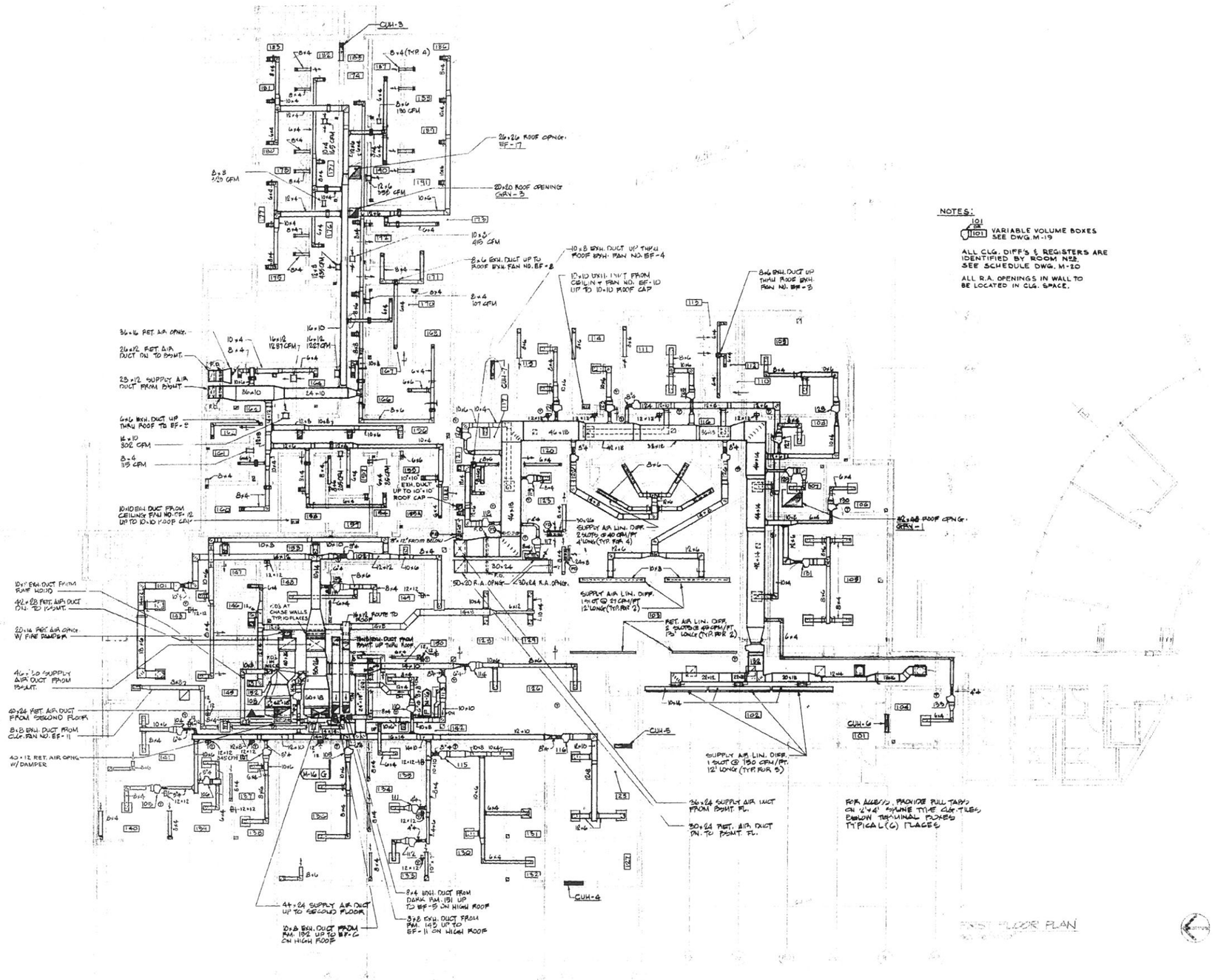
B-89



NOTES:

101 / 101 VARIABLE VOLUME BOXES SEE DWG. M-19

ALL CLG. DIFF'S & REGISTERS ARE IDENTIFIED BY ROOM NO'S. SEE SCHEDULE DWG. M-20

ALL R.A. OPENINGS IN WALL TO BE LOCATED IN CLG. SPACE.

ISSUED FOR BIDDING 4-4-80

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION DATE BY

REVISIONS

NO.	DESCRIPTION	DATE	BY

This drawing does not presume to govern or cancel the ... other state or local ... regulating the performance of ...

DEPARTMENT OF BUILDING
CITY OF MENTOR
APPROVED
Robert Lindinger
1.5.80

RECORD DRAWINGS

CITY OF MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO
PAUL SLOVAN 19485
REGISTERED PROFESSIONAL ENGINEER

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DRAWN E.L.	DATE 4-4-80
CHECKED G.T.	JOB No. 800010

HVAC
FIRST FLOOR PLAN

MENTOR POLICE FACILITY
MENTOR OHIO

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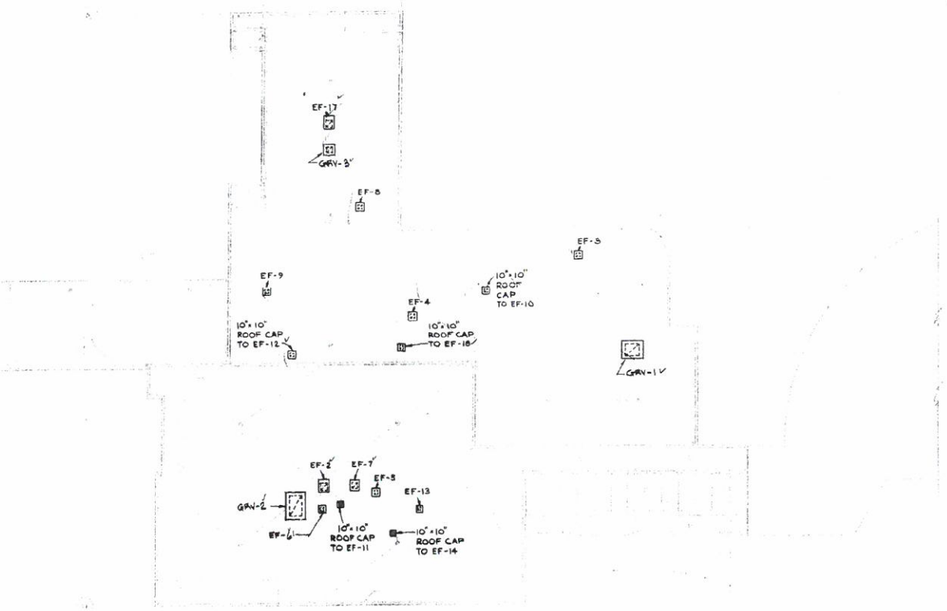
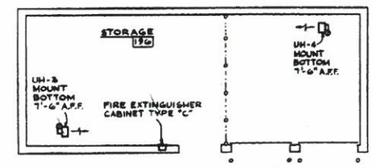
M-10



ROOF PLAN



FOUND PROPERTY & IMPOUNDED VEHICLE SHELTER PLAN

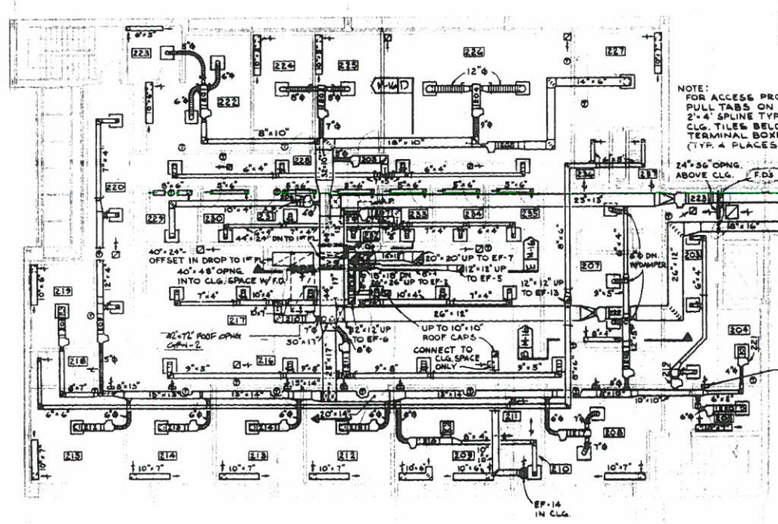
SEE SITE PLAN C-1 FOR LOCATION

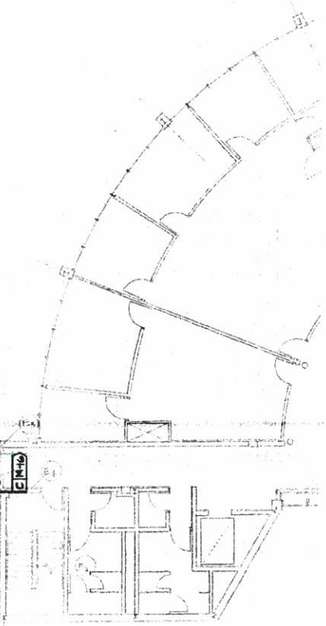
SCALE - 1/8" = 1'-0"

NOTES:

201 / 120 VARIABLE VOLUME BOXES SEE DWG. M-19

ALL CLG. DIFF'S. & REGISTERS ARE IDENTIFIED BY ROOM NOS. SEE SCHEDULE DWG. M-20





SECOND FLOOR PLAN

Approval of this drawing does not presume to give authority to violate or cancel the provisions of any other state or local building or zoning law regulating construction or the performance of construction.

DEPARTMENT OF BUILDING
CITY OF MENTOR
APPROVED
Robert Dietrich
11-5-80

RECORD DRAWINGS

CITY OF MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO
PAUL SLOVAN
19465
REGISTERED
PROFESSIONAL ENGINEER

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DRAWN L.H.	DATE 9-4-80
CHECKED G.T.	JOB No. 80076

HVAC
SECOND FLOOR PLAN

MENTOR POLICE FACILITY
MENTOR OHIO

ISSUED FOR BIDDING 9-4-80 W.K.

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

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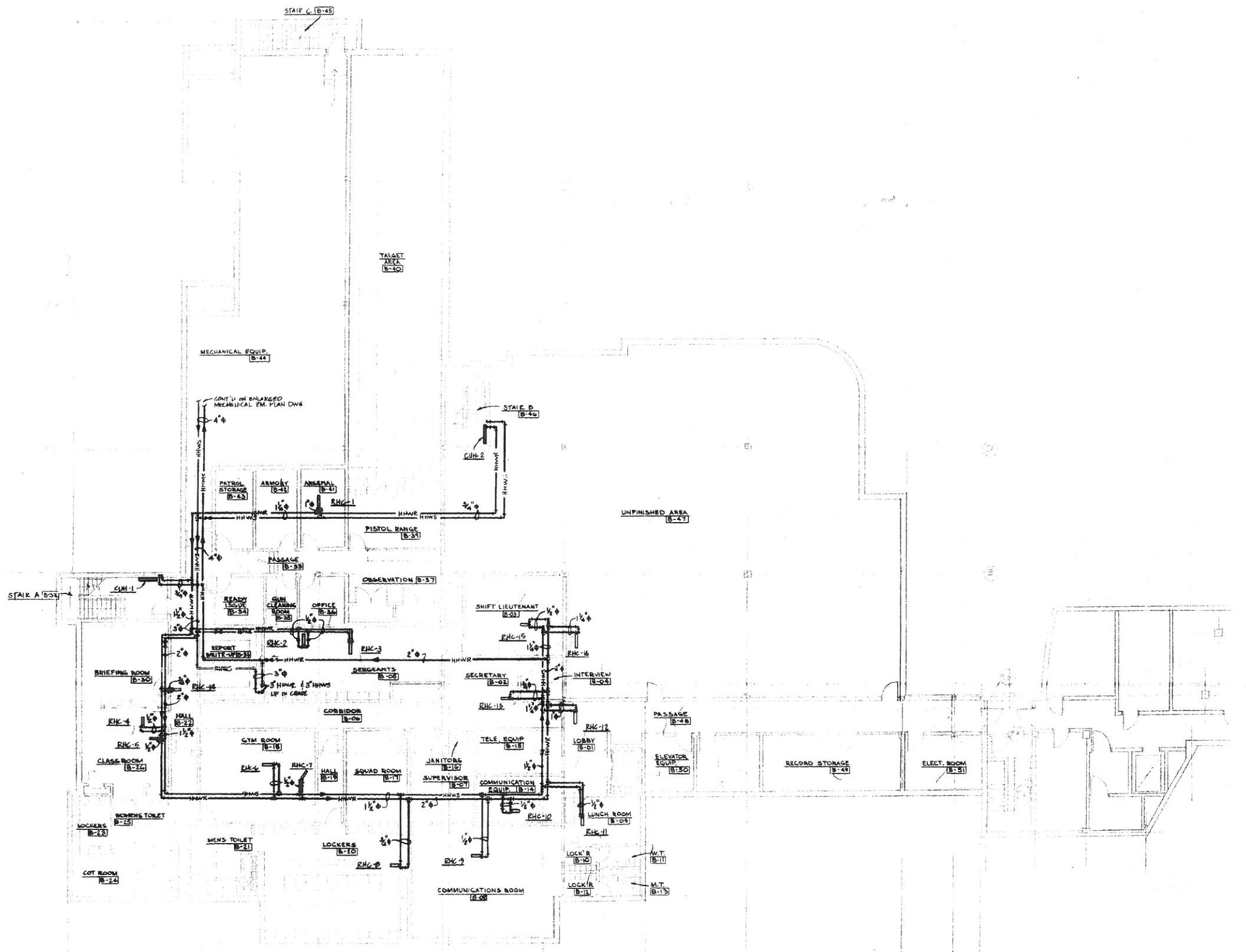
M-11



BASEMENT HEATING COIL PIPING DIAGRAM

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

BASEMENT PLAN

ISSUED FOR BIDDING 9-4-80 V.K.
DATE BY

ADDENDA REVISIONS

ADDENDUM NO.	ADDENDUM DATE	BY

ISSUED FOR CONSTRUCTION
DATE BY

REVISIONS

NO.	DESCRIPTION	DATE	BY

Approval of this drawing does not presume to give authority to violate or cancel the provisions of any other state or local building and/or fire regulating construction or the performance of construction.
DEPARTMENT OF BUILDING
CITY OF MENTOR
REVIEWED
Robert Kostelnick
11-5-80

RECORD DRAWINGS

CITY OF MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO
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HEATING PIPING BASEMENT PLAN

MENTOR POLICE FACILITY
MENTOR OHIO

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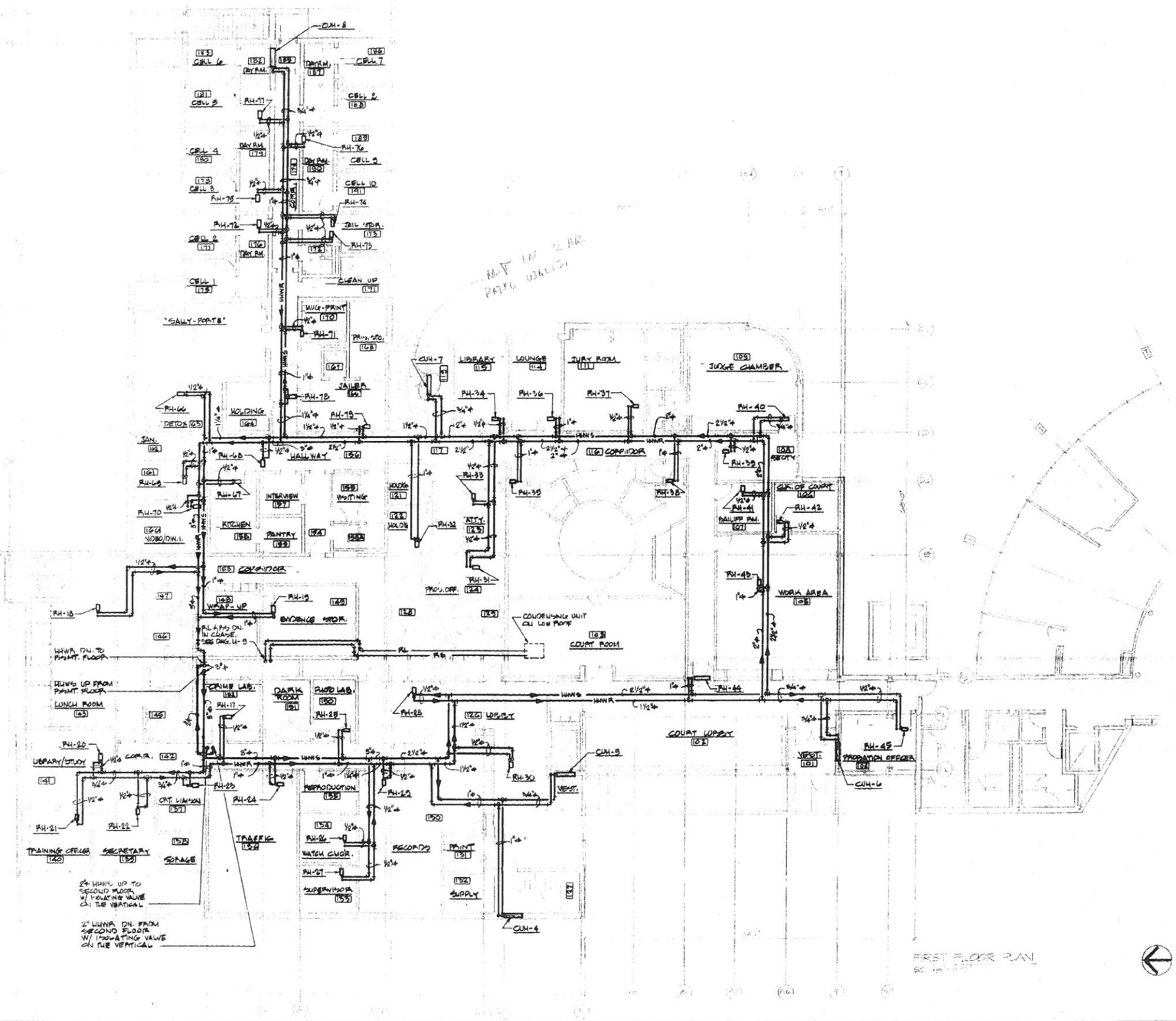
M-12



ISSUED FOR BIDDING

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

Approval of this drawing does not presume compliance or authority to violate or cancel the provisions of any other state or local building or zoning law regulating construction or the performance of construction
DEPARTMENT OF BUILDING
CITY OF MENTOR
APPROVED
11-5-80

RECORD DRAWINGS

CITY OF MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO PAUL SLOVAK 19485 REGISTERED PROFESSIONAL ENGINEER

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DRAWN E.L.	DATE 9-4-80
CHECKED G.T.	JOB No. 800070

HEATING PIPING
FIRST FLOOR PLAN

MENTOR POLICE FACILITY
MENTOR OHIO

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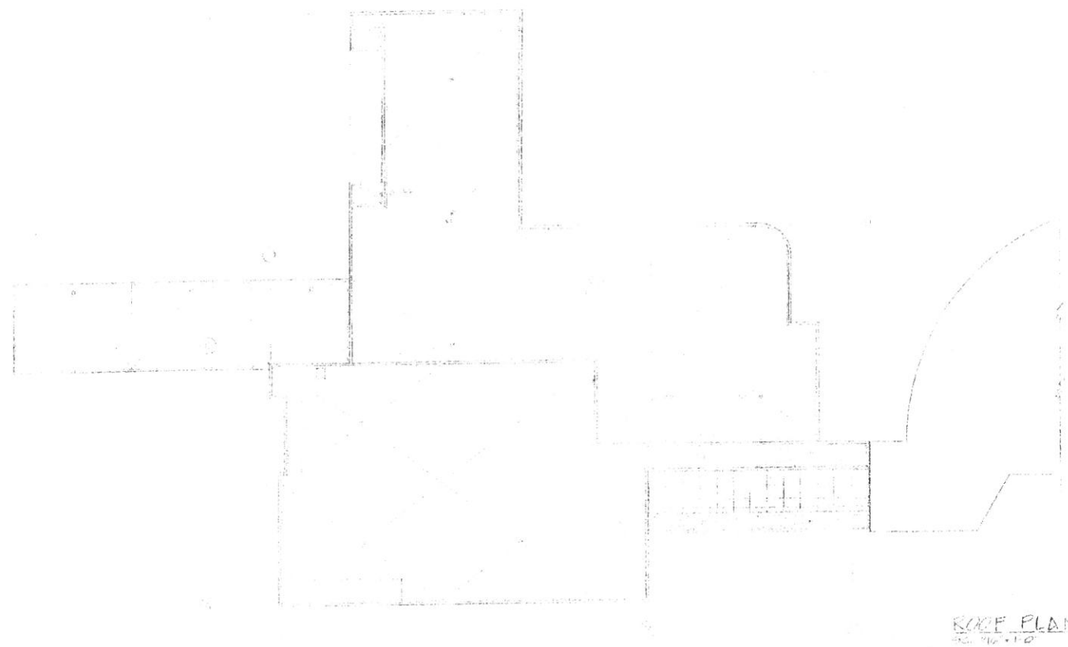
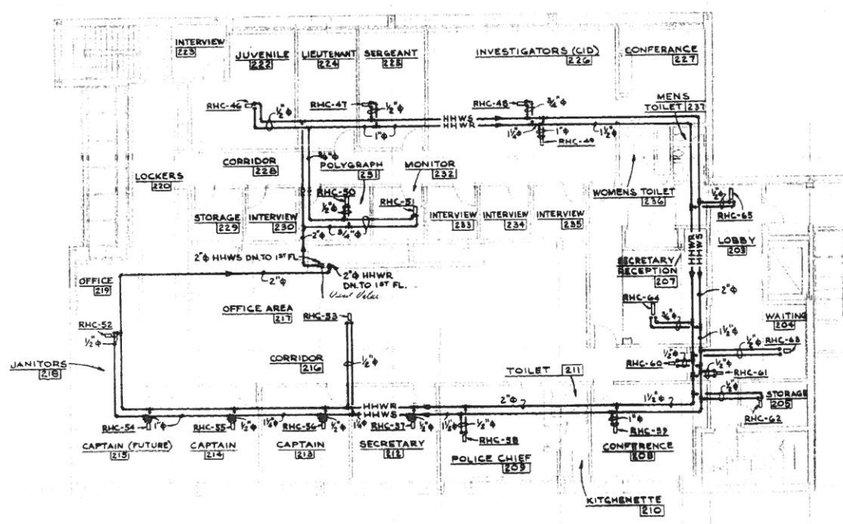
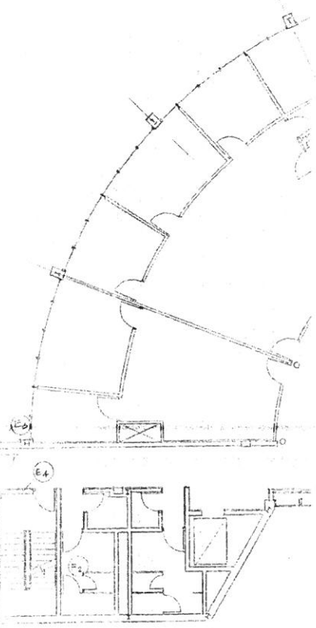
M-13

42



ROOF PLAN





SECOND FLOOR PLAN

ISSUED FOR BIDDING 9-4-80

ADDENDA REVISIONS

ADDENDUM NO.	ADDENDUM DATE	BY

ISSUED FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

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DEPARTMENT OF BUILDING
CITY OF MENTOR
By Robert D. Schmidt
Date 11-5-80

RECORD DRAWINGS

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SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO REGISTERED PROFESSIONAL ENGINEER PAUL SLOVAN 33465

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DRAWN L.H. DATE 9-4-80
CHECKED G.T. JOB No. 80070

HEATING PIPING
SECOND FLOOR PLAN

MENTOR POLICE FACILITY
MENTOR OHIO

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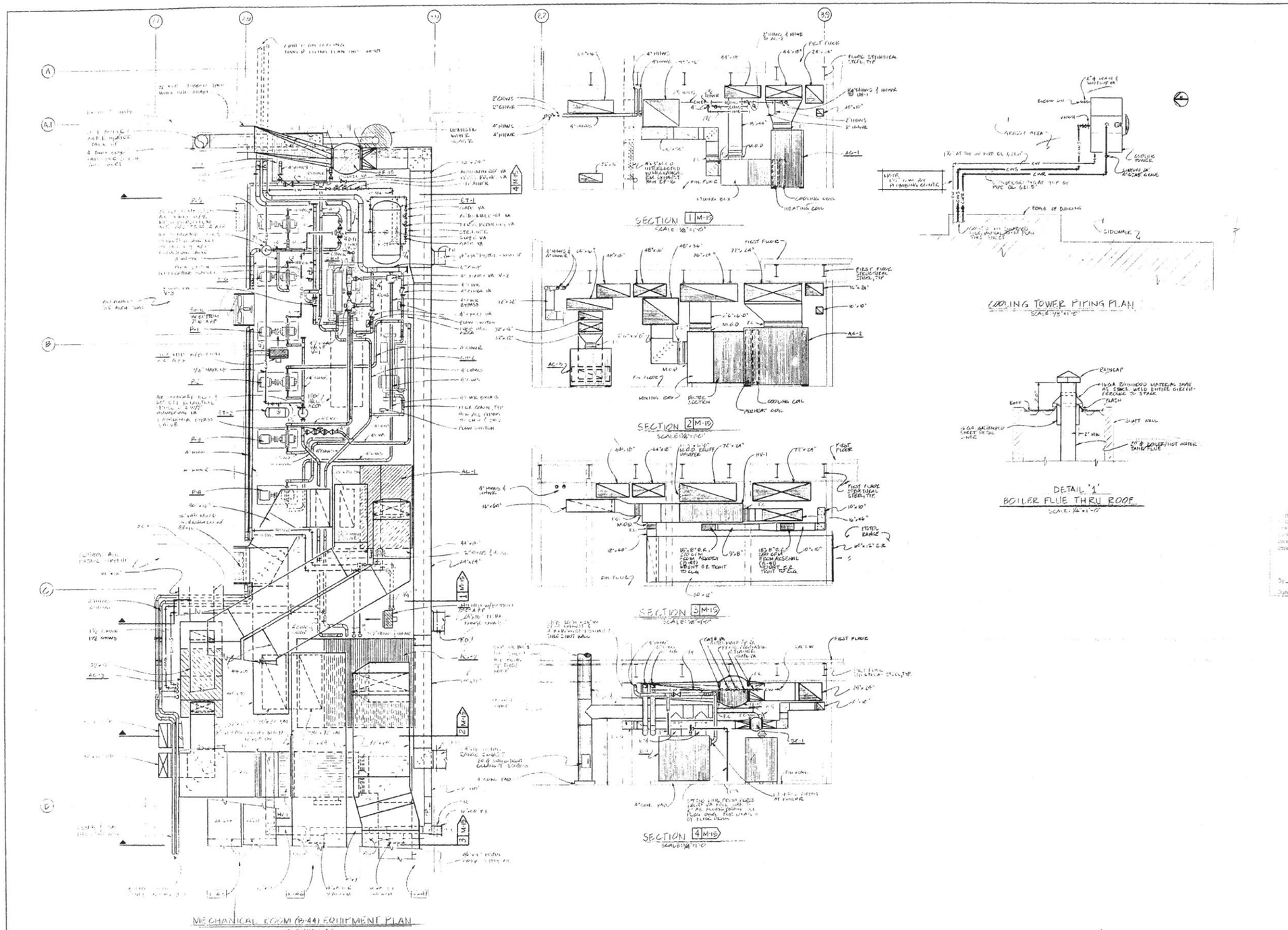
M-14



ISSUED FOR BIDDING	9-4-80	V.G.

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

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DEPARTMENT OF BUILDING
CITY OF MENTOR
APPROVED
Robert Lenhart
Date 1-6-80

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SEP 8 1980
BUILDING & ZONING DEPARTMENT

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DRAWN	M.B.	DATE	9-4-80
CHECKED	G.T.	JOB No.	37070

EQUIPMENT ROOM
PLAN & SECTIONS

MENTOR POLICE FACILITY
MENTOR OHIO

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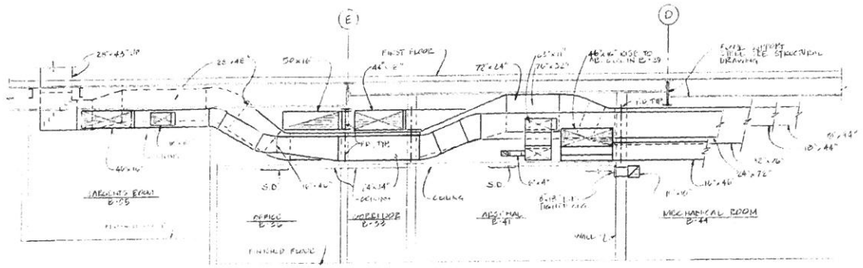
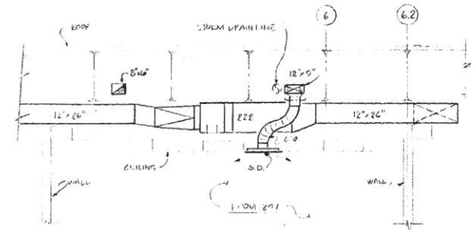
M-15



SECTION A M-9
SCALE: 3/8"=1'-0"



SECTION B M-11
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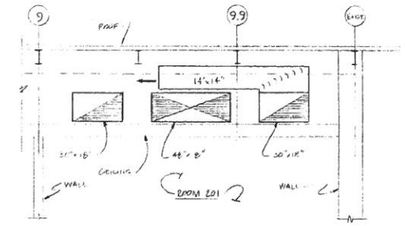

SECTION C M-11
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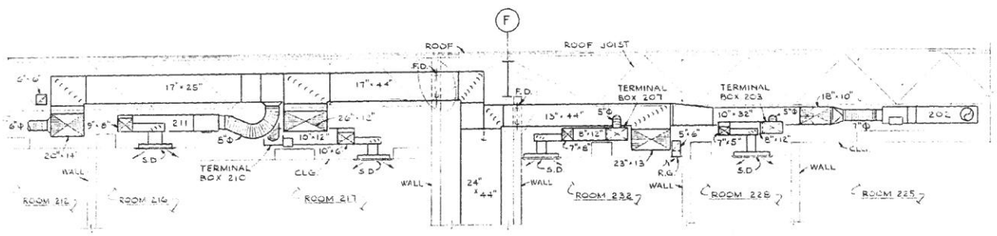

SECTION D M-11
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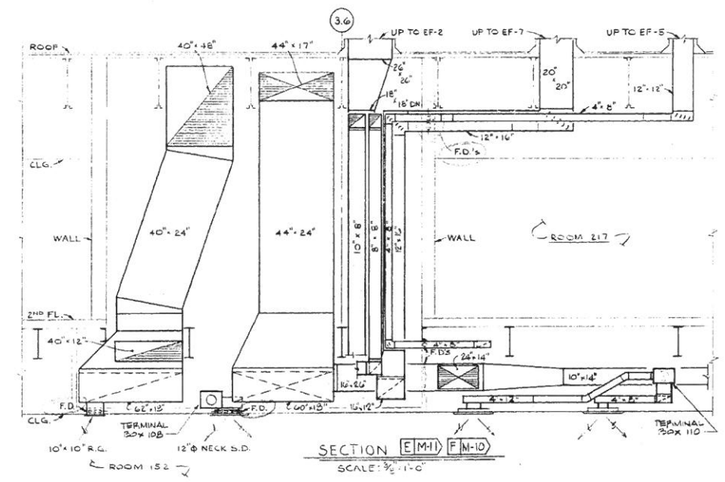
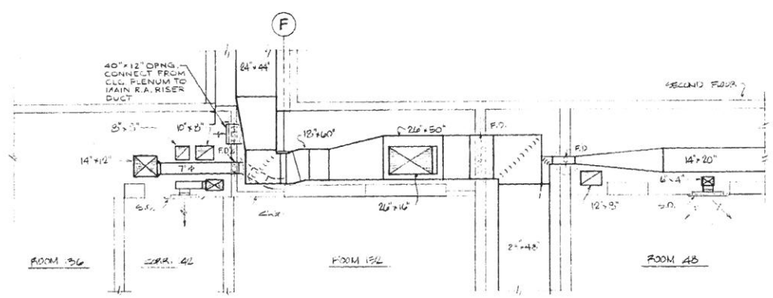


SECTION E M-11 F M-10
SCALE: 3/8"=1'-0"



SECTION G M-10
SCALE: 3/8"=1'-0"

ISSUED FOR BIDDING	9-4-80 J.E. Date By

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION	DATE	BY

REVISIONS

NO.	DESCRIPTION	DATE	BY

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DEPARTMENT OF BUILDING
CITY OF MENTOR
APPROVED
11-5-80

RECORD DRAWINGS

CITY MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO
PAUL SLOVAN
19465
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DRAWN MB, LW & EL	DATE 9-4-80
CHECKED G.T.	JOB No. 800070

HVAC SECTIONS

MENTOR POLICE FACILITY
MENTOR OHIO

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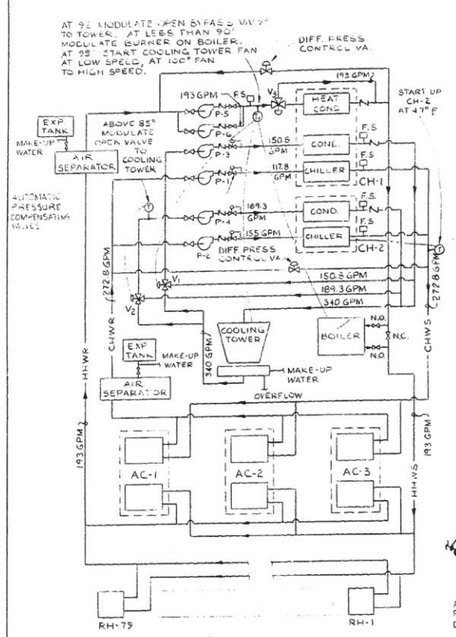
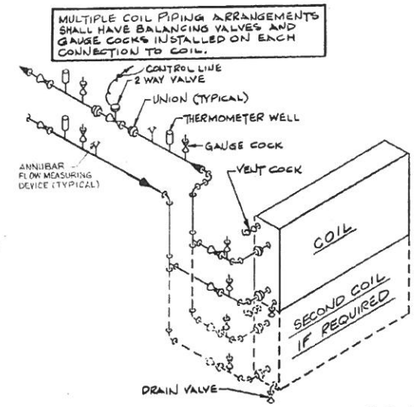
M-16

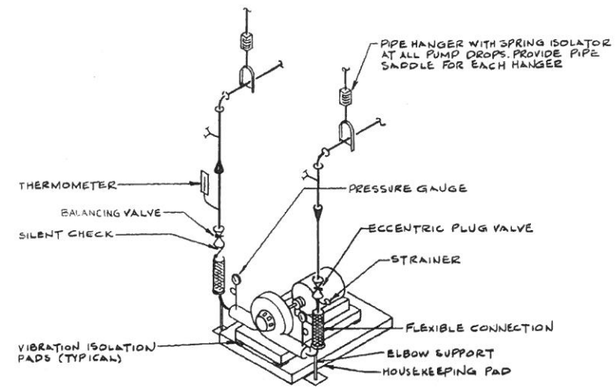


FLOW & CONTROL DIAGRAM FOR CHILLED WATER AND HEATING WATER SYSTEMS

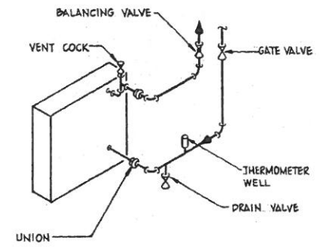
NO SCALE



TYPICAL CHILLED WATER COIL PIPING DETAIL

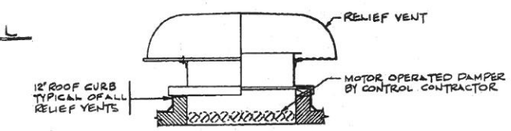


TYPICAL BASE MOUNTED PUMP DETAIL

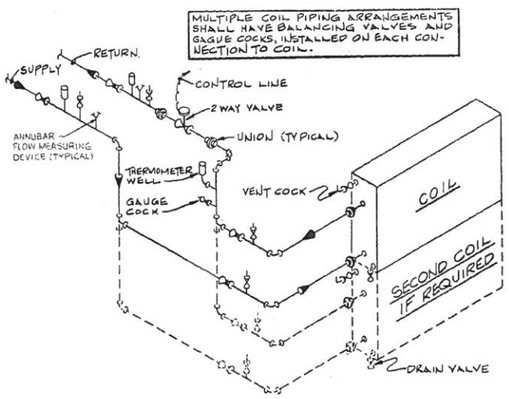


HOT WATER UNIT HEATER HORIZONTAL DISCHARGE

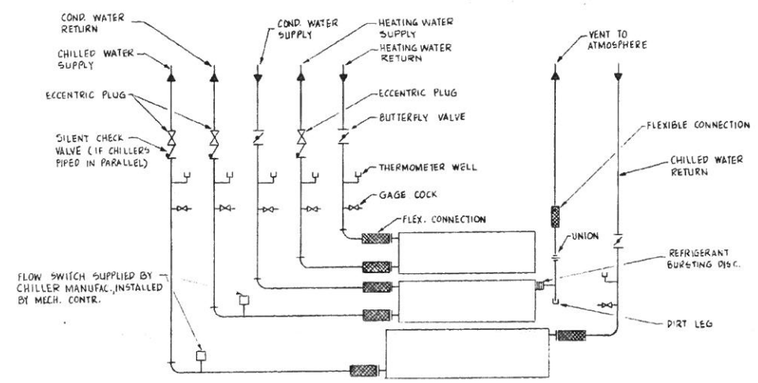
NO SCALE



TYPICAL RELIEF VENT DETAIL

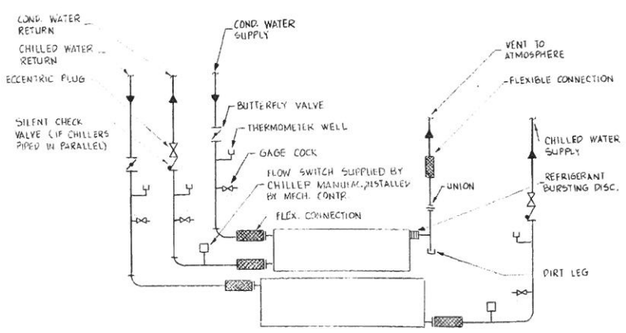


TYPICAL HOT WATER COIL AND REHEAT COIL PIPING DETAILS



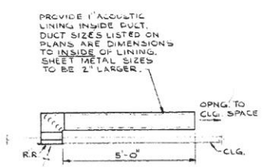
CHILLER CH-1 PIPING DIAGRAM

NO SCALE



CHILLER CH-2 PIPING DIAGRAM

NO SCALE



R.A. REGISTER SOUND TRAP DETAIL

NO SCALE

Cooling Tower Operation - CH-2

When CH-2 is operating, condenser water control shall be such that on an increase in condenser water temperature above 85°F, bypass valve V-2 will open to the tower. On a continued temperature rise, the tower fan will be run on low speed and on an increased rise, high speed will be activated.

When chiller, CH-1, is off, threeway valve, V-3, is modulated to bypass flow around heat recovery condenser.

Hot Water and Chilled Water Pump Control

Provide a pressure transmitter in the common discharge header which will modulate normally closed valve located in crossover piping to maintain required system pressure. **Controller shall be adjustable.**

Chilled Water Control System

Lead chilled water pump is started manually. Flow switch senses flow and will automatically start condenser pump and open bypass valve to allow heating water to pass through heat recovery condenser. When both pumps have started and flow is proven through flow switches, the chiller starting circuit is activated.

A temperature sensor probe located in leaving chilled water common header will allow Chiller CH-2 to start by first starting its chilled water pump, proving flow, starting condenser water pump and proving flow.

Cooling Tower Fan Operation - CH-1

The condenser water control shall be as follows: Provide pressure electric switches for twospeed cooling tower fan with time delay relays such that on an increase in the temperature sensed by 11 zone 49 F, threeway bypass valve, V1, is opened allowing water to circulate through tower. On a further temperature increase to 95 F, the cooling tower fan is started on low speed. On a further increase to 100 F, cooling tower high speed control is activated. On a temperature decrease, the reverse shall occur until the temperature reaches 90 F at which time the bypass valve is modulated to maintain 90 F.

When condenser pump P-5 is off V_1 will modulate closed to the cooling tower.

When condenser pump P-6 is off V_2 will modulate closed to the cooling tower.

ISSUED FOR BIDDING	9-4-80 V.L. DATE BY

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

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REVISIONS

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Note: That this drawing does not preclude the authority to violate or cancel the provisions of any other state or local building law regulating construction or the performance of construction.

DEPARTMENT OF BUILDING
CITY OF MENTOR
BY: [illegible]
11-5-80

RECORD DRAWINGS DATE BY

CITY OF MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO
PAUL SLOVAN
19485
REGISTERED PROFESSIONAL ENGINEER

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DRAWN L.M.	DATE 9-4-80
CHECKED G.T.	JOB No. 800070

PIPING DETAILS & FLOW DIAGRAMS

MENTOR POLICE FACILITY
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M-17

HEATING & AIR CONDITIONING LEGEND

Symbol	Description
STM	STEAM
CONR	CONDENSATE RETURN
[illegible]	PUMPED CONDENSATE
HHWS	HEATING HOT WATER SUPPLY
HHWR	HEATING HOT WATER RETURN
RADS	RADIATION WATER SUPPLY
RADR	RADIATION WATER RETURN
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
[illegible]	HEATING [illegible] WATER SUPPLY
[illegible]	HEATING [illegible] WATER RETURN
D	CONDENSATE DRAIN
CW	CITY WATER

OA	OUTSIDE AIR	AP	ACCESS PANEL
SD	SUPPLY DIFFUSER	AD	ACCESS DOOR
SG	SUPPLY GRILLE	VD	VOLUME DAMPER
SR	SUPPLY REGISTER	BD	BACKDRAFT DAMPER
RA	RETURN AIR	MD	MOTORIZED DAMPER
RR	RETURN REGISTER	(T)	THERMOSTAT
RG	RETURN GRILLE	(H)	HUMIDISTAT
ER	EXHAUST REGISTER	FD	FIRE DAMPER
EG	EXHAUST GRILLE		[illegible]
	FLEXIBLE CONNECTION		[illegible]
			[illegible]

HEATING, AIR CONDITIONING & PLUMBING SYMBOLS

HORIZONTAL SHUT OFF VALVE	TWO POSITION CONTROL VALVE
VERTICAL SHUT OFF VALVE	MODULATING CONTROL VALVE
HORIZONTAL BALANCING VALVE COCK	PRESSURE REGULATING VALVE (PRV)
VERTICAL BALANCING VALVE COCK	FLEXIBLE CONNECTION
CHECK VALVE	DIRT LEG
STRAINER	ANCHOR (A)
UNION	EXPANSION JOINT (EJ)
AIR VENT (AV)	DRIP & TRAP (D&T)

REFRIGERATION EQUIPMENT

MARK	SEE DWG NO	TYPE	REFR MAT	MIN TONS	MOTOR FULL LOAD KW	MOTOR FULL LOAD AMPS	DRIVE TYPE	EVAP. CHILLED WATER E.T. °F	L.T. °F	GPM	PD FT	SCALE FAC	VEL FPS	COND. TOWER WATER E.T. °F	L.T. °F	GPM	PD FT	SCALE FAC	VEL FPS	PURGE OIL HEATER WATTS	VOLTS	PH	PUMP HP	COMP SIZE	REMARKS
CH-1	M-15	RECIPROCATING	—	49.1	45.6	—	HERM	55°	45°	117.8	12.0	—	—	90°	100°	150.8	19.0	—	—	—	—	—	—	—	TRANE #CGHA05OR
CH-2	M-15	RECIPROCATING	—	54.6	55.9	—	HERM	55°	45°	155.0	9.5	—	—	85°	95°	169.3	11.5	—	—	—	—	—	—	—	TRANE #CGWAC60R

ADD #1 MIN COP 3.2

H.W. GENERATORS

MARK	SEE DWG NO	DESIGN	TYPE	SERVICE	FUEL TYPE	CAPACITY	PSIG	WATTS	INPUT BTU/HR	OUTPUT BTU/HR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	FUN VOL MIN CT	SMOKE OUTLET NO	DIA	MAX °F	WATER IN °F	OUT °F	GPM	REMARKS
B-1	M-15	CAST IRON	GAS FIRED	H.W. HEATING	NAT. GAS	—	—	—	2,100,000	1,460,900	—	—	—	—	—	—	—	2	14"	—	165°	180°	193	PEERLESS #211-11

MOTOR DATA

H.P. RANGE	CURRENT VOLT	PHASE	CYCLE	REMARKS
LESS THAN 1/2	120	1	60	
1/2 & LARGER	460	3	60	

GRAVITY RELIEF VENTILATORS

MARK	SEE DWG NO.	SERVICE	NECK SIZE	REMARKS
GRV-1	M-10	AC-1 SYSTEM ECONOMIZER RELIEF	42"×48"	PENN AIRETTE W/ BIRD SCREEN
GRV-2	M-11	AC-2 SYSTEM ECONOMIZER RELIEF	42"×72"	PENN AIRETTE W/ BIRD SCREEN
GRV-3	M-10	AC-3 SYSTEM ECONOMIZER RELIEF	20"×20"	PENN AIRETTE W/ BIRD SCREEN

UNIT HEATERS

MARK	SEE DWG NO.	SERVICE	TYPE	ARR'G MNT'G.	DISCH.	CAP MBH	AIR E.T. °F	L.T. °F	STEAM PSIG	LBS	HOT WATER E.T. °F	T.D. °F	GPM	PD FT	GAS PSIG	C/HR	FAN CFM	SP"	RPM	MOTOR HP	REMARKS
CUH-1	M-9	STAIR "A" - BSM'T	SURFACE	WALL	FRONT	35.0	60°	133.5			180°	23.9	3.0	2.63			410		1075	1/30	TRANE MODEL F 04
CUH-2	M-9	STAIR "B" - BSM'T	SEMI-REC			35.0		133.5				23.9	3.0	2.63							H
CUH-3	M-10	CORR. - - - 1ST FL.	FULLY-REC			30.0		12.9				30.3	2.0	1.28	—						
CUH-4	M-10	STAIR "D" - 1ST FL.				35.0		133.5				23.9	3.0	2.63							
CUH-5	M-10	VEST. - - - 1ST FL.				30.0		126.3				30.3	2.0	1.28							
CUH-6	M-10	VEST. - - - 1ST FL.																			
CUH-7	M-10	CORR. - 1ST FL.	↓	↓	↓	↓	↓	↓			↓	↓	↓	↓			↓		↓	↓	↓
UH-1	M-15	MECH. EQUIP. RM.	HORIZ.	—	HORIZ	32.1	60°	86.9			180°	20°	3.4	.21			1100		1550	1/8	TRANE #70-S
UH-2	M-15	MECH. EQUIP. RM.	HORIZ.	—	HORIZ	32.1	60°	86.9			180°	20°	3.4	.21			1100		1550	1/8	TRANE #70-S
UH-3	M-11	FOUND PROPERTY BLDG.	HORIZ.	—	HORIZ	34.1	60°	107°	10KW ELECT. 460/3/60								750		1550	1/10	CHROMALOX LUH-10-15 *
UH-4	M-11	FOUND PROPERTY BLDG.	HORIZ.	—	HORIZ	34.1	60°	107	10KW ELECT. 460/3/60								750		1550	1/10	CHROMALOX LUH-10-15 *

* W/ BUILT-IN THERMOSTAT, OPTIONAL SUMMER FAN SWITCH, OPTIONAL MOUNTING BRACKET

EXHAUST FANS

MARK	SEE DWG NO	SERVICE	TYPE	CAP C.F.M.	OUTLET VEL F.P.M.	STATIC PRESSURE EXT	TOT	WHEEL NO	DIA	RPM	DRIVE	MOTOR H.P.	REMARKS COOK MODEL NO
EF-1	M-15	RM. B-41 & B-42	IN-LINE	550	—	1.0		—	—	1140	DIRECT	1/8	CENTIVANE 120VIID
EF-2	M-11	BASEMENT AREAS	ROOF	2700	—	0.42	—	—	—	885	BELT	1/2	CTB 21E5B
EF-3	M-10/11	RM. 110, 112, & 113	ROOF	195	—	0.23	—	—	—	1050	DIRECT	1/40	CTD 9E10D
EF-4	M-10/11	RM. 120, 121 & 122	ROOF	415	—	0.28	—	—	—	1550	DIRECT	1/12	CTD 9E15D
EF-5	M-11	RM. 101	ROOF	100		0.33	—	—	—	1550	DIRECT	1/20	CTD 7E15D
EF-6	M-11	RM. 152	ROOF	390	—	0.39	—	—	—	1550	DIRECT	1/10	CTD 9E15D
EF-7	M-11	RM. 128, 129, 145, 146 & 147	ROOF	1180	—	0.45	—	—	—	1100	BELT	1/4	CTB 15E3B
EF-8	M-10/11	RM. 167, 171 & 172	ROOF	200	—	0.24	—	—	—	1050	DIRECT	1/40	CTD 9E10D
EF-9	M-10/11	RM. 162	ROOF	95	—	0.25	—	—	—	1550	DIRECT	1/20	CTD 7E15D
EF-10	M-10	RM. 114	CLG.	300	—	0.14	—	—	—	1550	DIRECT	155W	GEMINI 5-15
EF-11	M-10	RM. 143	CLG.	300	—	0.29	—	—	—	1550	DIRECT	155W	GEMINI 5-15
EF-12	M-10	RM. 158	CLG.	300	—	0.14	—	—	—	1550	DIRECT	155W	GEMINI 5-15
EF-13	M-11	RM. 211, 218, 236 & 237	ROOF	340		0.25	—	—	—	1050	DIRECT	1/40	CTD 10E10D
EF-14	M-11	RM. 210	CLG.	300		0.16	—	—	—	1550	DIRECT	155W	GEMINI 5-15
* EF-15	M-15	PISTOL RANGE	IN-LINE	11000/7335	—	2.2	—	—	—	1500/1120	BELT	15	CENTRI VANE 28CVB
EF-16	M-15	MECH. RM.	WALL	5500	-	0.37	—	—	—	1500	BELT	1	SWB 20S75
EF-17	M-15/11	DETENTION AREA	ROOF	2275	-	0.25	—	—	—	780	BELT	1/3	CTB 21E4B
EF-18	M-9	RM. B-09	CLG.	300		0.30		—	—	1550	DIRECT	155W	GEMINI 5-15

* 2-SPEED MOTOR

COOLING TOWER

MARK	SEE DWG NO	TYPE	MIN TONS	NO CELLS	DISCH	AIR D.B. °F	°F	W.B. °F	WATER E.T. °F	L.T. °F	GPM	MAX P.D. FT	FAN TYPE DRIVE	DIA	MOTOR H.P.	REMARKS
CT-1	M-15	PACKAGED	115	1	HORIZ	91°	—	75°	100°	90°	340	—	—	54	7.5	MARLEY #47125

TANKS

MARK	SEE DWG NO	SERVICE	CAPACITY NOM	ACT	SIZE DIA IN	LGT IN	DES. AP PSI	REMARKS
ET-1	M-15	H.W. EXPANSION TANK	—	317	36"	72"	125	
ET-2	M-15	C.W. EXPANSION TANK	—	15	12"	33"	125	

PUMPS

MARK	SEE DWG NO	SERVICE	TYPE	DRIVE	FLUID TYPE	°F	CAPACITY GPM	DISCH HD FT	SIZE PUMP	IMP	ARR'G MNT	TYPE	ROT	MOTOR R.P.M.	HP	REMARKS
P-1	M-15	CHILLED WATER FOR CH-1	CENT	F.C.	WATER	55°	150	46	3×2	7"	BASE	HORIZ	C.C.	1750	3	PEERLESS #2AD8
P-2	M-15	CHILLED WATER FOR CH-2	CENT	F.C.	WATER	55°	150	46	3×2	7"	BASE	HORIZ	C.C.	1750	3	PEERLESS #2AD8
P-3	M-15	CONDENSER WATER FOR CH-1	CENT	F.C.	WATER	100°	200	38	3×2	7"	BASE	HORIZ	C.C.	1750	3	PEERLESS #2AD8
P-4	M-15	CONDENSER WATER FOR CH-2	CENT	F.C.	WATER	100°	200	38	3×2	7"	BASE	HORIZ	C.C.	1750	3	PEERLESS #2AD8
P-5	M-15	HEATING WATER	CENT	F.C.	WATER	180°	200	68	3×2	9 3/4	BASE	HORIZ	C.C.	1750	7 1/2	PEERLESS #2AD11
P-6	M-15	HEATING WATER STAND-BY	CENT	F.C.	WATER	180°	200	68	3×2	9 3/4	BASE	HORIZ	C.C.	1750	7 1/2	PEERLESS #2AD11

NOTE: SEE CONTROL DRAWINGS FOR ACTUAL INDIVIDUAL SYSTEM FLOWS

CONSTANT VOLUME REGULATOR

MARK	SERVICE	LOCATION	CFM	SIZE	"TITUS" MODEL NO
VR-1	B-05	ABOVE B-05 CLG.	144	18"×10"	LS-PY-18
VR-2	B-05 & 31	ABOVE B-05 CLG.	222	15"×10"	LS-PB-16
VR-3	B-03, 04 & 47	ABOVE B-03 CLG.	2666	43"×18"	LS-PW-7
VR-4	B-33, 34, 35, 36, 37, 41, 42, & 43	ABOVE B-41 CLG.	871	23"×11"	LS-PW-2
VR-5	ALL AREAS NOT COVERED BY VR-1 THRU VR-2	ABOVE B-02 CLG.	4892	79"×18"	LS-PW-13

HVAC UNITS

MARK	SEE DWG NO	SERVICE	ARRG	TYPE	ARRG	CAP C.F.M.	OUTLET VEL F.P.M.	STATIC PRESSURE EXT	TOT	WHEEL NO	DIA	RPM	DRIVE	MOTOR H.P.
AC-1	M-[illegible]	COURT AREA	[illegible]	VAV	[illegible]	9961	1950		4.5"	1	14.25	1057	BELT	15
AC-2	M-[illegible]	POLICE FACILITY	[illegible]	VAV	[illegible]	21967	[illegible]		4.5"	1	27"	1437	BELT	25
AC-3	M-[illegible]	DETENTION AREA	[illegible]	[illegible]	[illegible]	2274	1400		[illegible]	1	10.5"	1650	BELT	3
AC-4	M-9	COMMUNICATION RM.	—	—	[illegible]	1600	—	0.5"	—	—	—	—	—	3/4
HV-1	M-15	PISTOL RANGE	—	—	HORIZ	10,000	2490	1.5"	—	2	15"	—	BELT	7 1/2

MARK	CASING FILTER BOX	MIX BOX	FACE BYPASS DAMPER INT	EXT	HOT & COLD DECK	INSULATION INT	EXT	VIB ISOL	FILTER TYPE PERM	AUTO	MECHANICAL CLEANABLE H VEL	L VEL	DISP	NO	SIZE T	W	L	FACE VEL FPM
AC-1	YES	YES	—	—	—	YES	—	YES	—	—		—	YES	10	2"	20"	25"	287
AC-2									—	—			YES	28	2"	16"	25"	282
AC-3	↓	↓	—	—	—	↓	—	↓	—				YES	4	2"	16"	25"	241
AC-4	—	—	—	—	—	—	—	—	—				YES	2	2"	18"	24"	
HV-1	—	—	—	—	—	—	—	—	—				YES	9	2"	20"	20"	—

MARK	CHILLED WATER NO.	ENT. TEMP °F	LEA. TEMP °F	GPM	PD-FT	FRESH AIR MIN. %	FACE VEL. FPM	ENTERING D.B. °F	W.B. °F	LEAVING D.B. °F	W.B. °F	REFRIG. LOAD TOTAL M-BTU	SENS. M-BTU	TOTAL TON
AC-1	1	45°	57.6°	56.0	4.2'	6%	482	81.5°	66.8°	55.8°	55.4°	352.7	277.8	29.4
AC-2	1	45°	55.5°	194.0	16.4'	23%	442	84.5°	69.5°	55.7°	55.0°	1,018.4	684.5	84.9
AC-3	1	45°	54.8°	23.5	3.6'	25%	475	86.0°	70.1°	58.2°	56.7°	117.6	80.7	9.8
AC-4			—	—	—	—	216	—	—	—	—	—	—	3.0
HV-1						—	—	—	—	—	—	—	—	—

MARK	HEATING COIL NO	SF	FACE VEL FPM	ENT. AIR °F	LEA. AIR °F	STEAM LB-HR	HOT WATER G.P.M.	PD-FT	REMARKS
AC-1	1	.07	482	55°	80.0°	—	20.0	1.6'	TRANE #21E VERT. W/INLET VANES
AC-2	1	.06	442	55°	80.1°	—	36.8	1.1'	TRANE #50N HORIZ. W/INLET VANES
AC-3	1	.06	475	55°	78.0°	—	5.1	0.4'	TRANE #6C VERT.
AC-4	-	-	—	—	—	—	—	—	LIEBERT - CHALLENGER 2 CF/CU43A WITH MATCHING AIR COOLED CONDENSER
HV-1	-	-	—	0°	70°	—	—	—	HASTINGS #LRA-10 NAT. GAS FIRED 756 MBH INPUT

MIN. EER of 6.1

Approval of this drawing does not grant to any authority to violate or [illegible] provisions of any other state or [illegible] building zoning law [illegible] construction of the particular [illegible] construction.
DEPARTMENT [illegible]
Robert Drobnik
11-5-80

ISSUED FOR BIDDING	9-4-80 V.K.
ADDENDA REVISIONS	
ISSUED FOR CONSTRUCTION	
REVISIONS	
RECORD DRAWINGS	

CITY OF MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO
PAUL SLOVAN
19485
REGISTERED PROFESSIONAL ENGINEER

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SCHEDULES & LEGENDS

MENTOR POLICE FACILITY
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M-18

V.A.V. BOX SCHEDULE

MARK	ROOM NO.	INLET SIZE	CFM	MIN. CFM	ATTEN-UATOR	R.H. COIL MARK NO.
101	143	10" ø	1130	200	Yes	RHC-18
● 102	133	6" ø	515	515	Yes	------
● 103	158&159	6" ø	210	210	------	RHC-19
104	141	6" ø	215	135	------	RHC-20
105	140	5" ø	125	80	------	RHC-21
106	139	5" ø	150	105	------	RHC-22
● 107	137&138	5" ø	195	195	------	RHC-23
108	152	7" ø	393	85	------	RHC-17
● 109	136	6" ø	260	260	------	RHC-24
110	150	6" ø	300	100	------	RHC-25
● 111	134	4" ø	55	55	------	RHC-26
● 112	131	4" ø	55	55	------	RHC-27
● 113	142&135	8" ø	555	555	Yes	------
114	126	6" ø	240	225	------	RHC-28
● 115	130&131&132	8" ø	405	405	Yes	RHC-29
116	125	8" ø	643	110	Yes	RHC-30
● 117	124	4" ø	65	65	------	RHC-31
● 118	121&122	6" ø	325	325	------	RHC-32
● 119	123	4" ø	55	55	------	RHC-33
● 120	117	5" ø	280	280	------	------
121	115	5" ø	175	90	------	RHC-34
122	103	8" ø	653	360	Yes	RHC-35
123	114	6" ø	210	80	------	RHC-36
● 124	116	8" ø	693	693	Yes	------
125	111	6" ø	275	150	------	RHC-37
126	103	8" ø	655	160	Yes	RHC-38
127	108	4" ø	85	70	------	RHC-39
128	109	6" ø	240	210	------	RHC-40
● 129	107	4" ø	55	55	------	RHC-41
130	106	4" ø	50	60	------	RHC-42
● 131	105	6" ø	340	340	------	RHC-43
132	102	24x16	6490	475	Yes	RHC-44
● 133	104	4" ø	70	70	------	RHC-45
201	222&223	6" ø	355	145	Yes	RHC-46
202	224&225	7" ø	475	170	Yes	RHC-47
● 203	228	5" ø	260	260	Yes	------
204	226	9" ø	760	255	Yes	RHC-48
205	227	6" ø	375	95	Yes	RHC-49
206	229	4" ø	135	35	------	RHC-50
207	230 thru 235	5" ø	280	195	Yes	RHC-51
208	219	5" ø	220	60	Yes	RHC-52
209	220	5" ø	285	180	Yes	------
● 210	217	7" ø	380	440	Yes	RHC-53
● 211	216	8" ø	680	680	Yes	------
212	215	6" ø	320	195	Yes	RHC-54
213	214	6" ø	310	95	Yes	RHC-55
214	213	6" ø	310	95	Yes	RHC-56
215	212	6" ø	310	95	Yes	RHC-57
216	209&210	8" ø	600	165	Yes	RHC-58
217	208	6" ø	350	100	Yes	RHC-59
● 218	207	5" ø	270	270	Yes	RHC-60
● 219	203	4" ø	120	120	------	RHC-61
220	205	6" ø	315	125	Yes	RHC-62
221	204	4" ø	60	[illegible]	------	RHC-63
222	201	12" ø	2280	250	Yes	RHC-64
223	202	12" ø	2300	365	Yes	RHC-65

● DENOTES CONSTANT VOLUME BOX

HOT WATER REHEAT COILS

COIL NO.	SIZE (IN.)	SIZE ROWS	CFM	VEL. FPM	S.P. W.C.	TEMP. AIR °F ENT.	TEMP. AIR °F LVG.	CIRCULATING WATER TEMP. IN °F	TEMP. OUT °F	GPM	P.D. FT. WATER	BTUH	ROOM NO.
RH-1	24x12	1	470	135	.20	55°	70.0°	100°	91.5	1.1	.5	14110	B-33 to B-43
RH-2	18x12	1	200	130	.01	55°	69.5°	100°	89.2	.6	0.2	3305	B-05 to B-31
RH-3	18x12	1	120	65	.01	55°	72.7°	100°	40.9	.5	0.1	1354	B-05
RH-4	10x9	2	400	640	[illegible]	55°	69.4°	100°	63.1	1.5	0.5	6148	B-20 and 10
RH-5	8x6	2	165	495	.15	55°	70.1°	100°	90.5	.6	0.2	2705	B-22 to 24
RH-6	18x6	[illegible]	420	560	.18	55°	69.2°	100°	86.5	1.0	0.3	7288	B-18
RH-7	12x6	2	235	470	.13	55°	69.0°	100°	87.4	.6	0.2	3807	B-07,17,19
RH-8	14x12	2	1130	1020	.14	55°	65.0°	100°	[illegible]	2.8	2.0	15246	B-[illegible]
RH-9	16x12	1	300	210	.02	55°	69.0°	100°	89.2	.6	0.3	4360	B-08
RH-10	8x6	2	135	405	.10	55°	70.0°	100°	90.6	.5	0.1	2203	B-14, 15
RH-11	8x6	2	130	390	.10	55°	69.5°	100°	90.4	.5	0.1	2106	B-03
RH-12	18x12	2	1200	800	.30	55°	69.4°	100°	92.6	3.1	4.0	18420	B-1,36 to 51
RH-13	12x6	2	280	570	.12	55°	69.5°	100°	91.4	1.5	0.5	4566	B-02
RH-14	10x9	2	480	768	.31	55°	69.9°	100°	91.2	1.7	0.5	7776	B-06
RH-15	12x6	2	182	360	.07	55°	69.4°	100°	90.5	.6	0.2	2842	B-03,04
RH-16	24x12	[illegible]	2485	1,420	.47	55°	69.9°	100°	86.3	5.5	14.4	40257	B-47
RH-17	--	1	65	--	--	55°	70.0°	100°	94.4	.5	.10	1377	152
RH-18	--	1	200	--	--	55°	70.0°	100°	77.6	.5	.10	3240	143
RH-19	--	1	210	--	--	55°	70.0°	100°	38.3	4.0	4.0	3320	148 and 149
RH-20	--	1	135	--	--	55°	70.0°	100°	85.1	1.0	.1	2203	141
RH-21	--	1	80	--	--	55°	70.0°	100°	83.1	.5	.10	1264	140
RH-22	--	1	105	--	--	55°	70.0°	100°	85.8	.5	.15	1609	139
RH-23	--	1	135	--	--	55°	70.0°	100°	[illegible]	2.0	1.1	3143	137 and 138
RH-24	--	2	240	--	--	55°	70.0°	100°	75.1	.5	.10	3642	136
RH-25	--	1	100	--	--	55°	70.0°	100°	78.0	.5	.10	1626	150
RH-26	--	1	55	--	--	55°	70.0°	100°	96.5	.5	.10	959	134
RH-27	--	1	55	--	--	55°	70.0°	100°	92.5	.5	.10	842	131
RH-28	--	2	225	--	--	55°	70.0°	100°	71.3	.5	.10	3645	126
RH-29	--	2	405	--	--	55°	70.0°	100°	89.9	1.5	.20	6561	130,131,132
RH-30	--	1	110	--	--	55°	75.0°	100°	77.6	.5	.10	1759	125
RH-31	--	1	65	--	--	55°	75.0°	100°	94.5	.5	.10	1339	124
RH-32	--	2	325	--	--	55°	75.0°	100°	97.1	5.0	3.6	6955	121 and 122
RH-33	--	1	55	--	--	55°	75.0°	100°	95.1	.5	.10	1102	123
RH-34	--	1	95	--	--	55°	75.0°	100°	91.5	1.0	.40	1922	115
RH-35	--	2	360	--	--	55°	75.0°	100°	[illegible]	4.0	3.1	7776	103
RH-36	--	1	90	--	--	55°	75.0°	100°	98.0	4.0	4.6	1750	114
RH-37	--	2	150	--	--	55°	75.0°	100°	91.1	1.0	.20	1262	111
RH-38	--	2	360	--	--	55°	75.0°	100°	95.9	4.0	3.1	7776	103
RH-39	--	1	70	--	--	55°	75.0°	100°	90.5	.5	.10	1512	108
RH-40	--	[illegible]	210	--	--	55°	75.0°	100°	91.1	3.0	.80	4536	109
RH-41	--	1	55	--	--	55°	75.0°	100°	95.2	.5	.10	1123	107
RH-42	--	1	60	--	--	55°	75.0°	100°	88.8	.5	.10	1296	106
RH-43	--	2	340	--	--	55°	75.0°	100°	95.2	4.0	2.7	7258	105
RH-44	--	1	475	--	--	55°	75.0°	100°	82.3	4.5	4.2	10260	102
RH-45	--	1	70	--	--	55°	75.0°	100°	88.5	.5	.10	1447	104
RH-46	--	1	145	--	--	55°	70.0°	100°	84.0	1.0	.40	2350	222 and 223
RH-47	--	1	170	--	--	55°	70.0°	100°	[illegible]	1.0	.28	2754	224 and 225
RH-48	--	1	255	--	--	55°	70.0°	100°	[illegible]	[illegible]	1.1	4092	226
RH-49	--	1	[illegible]	--	--	55°	70.0°	100°	96.9	4.0	4.6	1523	227
RH-50	--	[illegible]	35	--	--	55°	70.0°	100°	95.0	.5	.10	516	229
RH-51	--	1	195	--	--	55°	[illegible]	100°	[illegible]	[illegible]	1.4	3116	230 to 235
RH-52	--	1	[illegible]	--	--	55°	70.0°	100°	91.5	1.0	.40	956	219
RH-53	--	2	450	--	--	55°	70.0°	100°	72.8	1.0	.20	7666	217
RH-54	--	[illegible]	[illegible]	--	--	55°	70.0°	100°	98.4	4.0	4.6	1652	215
RH-55	--	1	95	--	--	55°	70.0°	100°	90.2	1.0	.40	1521	214
RH-56	--	1	[illegible]	--	--	55°	70.0°	100°	89.7	1.0	.40	1521	213
RH-57	--	1	95	--	--	55°	70.0°	100°	89.7	1.0	.40	1521	212
RH-58	--	2	365	--	--	55°	70.0°	100°	88.0	1.0	.20	3671	209 and 210

HOT WATER REHEAT COILS

COIL NO.	SIZE (IN.)	SIZE ROWS	CFM	VEL. FPM	S.P. W.C.	TEMP. AIR °F ENT.	TEMP. AIR °F LVG.	CIRCULATING WATER TEMP. IN °F	TEMP. OUT °F	GPM	P.D. FT. WATER	BTUH	ROOM NO.
RH-59	--	1	100	--	--	55°	70.0°	100°	97.0	4.0	4.6	1588	208
RH-60	--	2	270	--	--	55°	70.0°	100°	87.3	1.0	.20	4374	207
RH-61	--	1	120	--	--	55°	70.0°	100°	87.2	.5	.10	1912	203
RH-62	--	1	135	--	--	55°	70.0°	100°	88.2	1.0	.40	1993	205
RH-63	--	1	45	--	--	55°	70.0°	100°	94.0	.5	.10	660	204
RH-64	--	1	250	--	--	55°	70.0°	100°	80.1	2.0	1.0	4050	201
RH-65	--	1	105	--	--	55°	70.0°	100°	94.4	1.0	.3	1701	202
RH-66	10x6	2	230	552	.18	60°	74.9°	100°	90.2	.8	.2	3726	163,164
RH-67	8x6	2	110	330	.06	60°	74.6°	100°	92.0	.5	0.1	1782	154,158
RH-68	12x6	2	200	400	.09	60°	74.8°	100°	90.8	.7	0.2	3256	155,157
RH-69	6x6	1	50	200	.02	60°	75.3°	100°	92.7	.2	0.1	761	161
RH-70	8x6	1	75	225	.02	60°	73.8°	100°	90.1	.2	0.1	1183	160
RH-71	6x6	1	60	240	.03	60°	75.0°	100°	91.4	.2	0.1	972	170
RH-72	12x6	2	195	390	.08	60°	74.7°	100°	90.4	.6	0.2	3159	175,177,178
RH-73	6x6	1	65	260	.04	60°	75.2°	100°	90.5	.2	0.1	1021	173
RH-74	10x6	2	280	672	.32	60°	74.9°	100°	88.6	.9	0.2	4520	166,188,189
RH-75	10x6	2	145	360	.07	60°	74.1°	100°	89.9	.5	0.1	2365	176,179,182
RH-76	8x6	1	95	285	.04	60°	74.5°	100°	88.8	0.3	0.1	1523	187,190
RH-77	12x6	2	195	390	.08	60°	74.7°	100°	90.4	0.6	0.2	3159	180,181,183
RH-78	10x9	2	355	560	.29	60°	74.8°	100°	89.1	1.0	0.4	5670	174
RH-79	8x6	2	150	450	.20	60°	74.1°	100°	90.3	0.5	0.1	2381	166,168

ISSUED FOR BIDDING 9-4-80 V.K.

ADDENDA REVISIONS

ADDENDA NO	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION

REVISIONS

NO	DESCRIPTION	DATE	BY

Approval of this drawing does not ... to give authority to violate or cancel ... provisions of any other state or local building zoning law regulating construction or the performance of construction.
DEPARTMENT OF BUILDING
CITY OF MENTOR
APPROVED
Robert Drobnick
11-5-80

RECORD DRAWINGS

CITY OF MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

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HVAC SCHEDULES

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M-19

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DIFFUSER, REGISTER & GRILLE SCHEDULE

ROOM NO.	SUPPLY: TOTAL ROOM CFM	DIFF. TYPE	NECK SIZE	WAY THROW	CFM EA.	QTY	RETURN: TOTAL RET. CFM	R.A. REG. SIZE	CFM EA.	QTY.	EXHAUST: TOTAL EXH. CFM	EXH. REG. SIZE	CFM EA.	QTY.
B-01	93	B	5"Ø	3	93	1	93	7x6	93	1	--	--	--	--
B-02	112	A	6"Ø	2	112	1	112	8x6	112	1	--	--	--	--
B-03	143	A	6"Ø	1	143	1	143	10x6	143	1	--	--	--	--
B-04	38	A	5"Ø	3	38	1	38	6x5	38	1	--	--	--	--
B-05	238	A	6"Ø	4	119	2	238	8x6	119	2	--	--	--	--
B-06	343	B	7"Ø	2	160	2	568	8x6	142	4	--	--	--	--
B-[illegible]	--	B	10"Ø	2	320	1	--	--	--	--	--	--	--	--
B-07	81	A	5"Ø	4	81	1	81	7x6	81	1	--	--	--	--
B-08	[illegible]	A	6"Ø	4	141	[illegible]	53	6x5	50	1	--	--	--	--
B-09	130	A	6"Ø	4	130	1	130	10x6	130	1	--	--	--	--
B-11	--	--	--	--	--	--	--	--	--	--	116	12x6	116	1
B-13	--	--	--	--	--	--	--	--	--	--	116	12x6	116	1
B-14	72	C	5"Ø	4	72	1	72	8x6	72	1	--	--	--	--
B-15	64	C	5"Ø	3	64	1	64	6x6	64	1	--	--	--	--
B-16	--	--	--	--	--	--	--	--	--	--	52	7x4	52	1
B-17	120	A	6"Ø	4	120	1	120	10x6	120	1	--	--	--	--
B-18	420	A	8"Ø	4	210	2	--	--	--	--	420	12x12	210	2
B-19	34	A	5"Ø	--	34	1	34	6x5	34	1	--	--	--	--
B-20	1168	A	10"Ø	4	292	4	--	--	--	--	1168	24x24	1168	1
B-21	--	--	--	--	--	--	--	--	--	--	286	12x12	286	1
B-22	34	A	5"Ø	2	34	1	34	6x5	34	1	--	--	--	--
B-23	86	A	5"Ø	3	86	1	--	--	--	--	86 (circled)	8x6	86	1
B-24	45	A	5"Ø	1	45	1	--	--	--	--	--	--	--	--
B-25	--	--	--	--	--	--	--	--	--	--	236	12x10	236	1
B-26	138	A	7"Ø	3	138	1	28	6x5	28	1	--	--	--	--
B-27	139	A	7"Ø	3	139	1	139	10x10	139	1	--	--	--	--
B-31	84	A	6"Ø	4	84	1	84	7x6	84	1	--	--	--	--
B-33	67	A	5"Ø	2	67	1	67	6x6	67	1	--	--	--	--
B-34	43	A	5"Ø	4	43	1	40	6x5	43	1	--	--	--	--
B-35	27	A	5"Ø	3	27	1	27	6x5	27	1	--	--	--	--
B-36	38	A	5"Ø	3	38	1	38	6x5	38	1	--	--	--	--
B-37	88	A	5"Ø	3	88	1	88	7x6	88	1	--	--	--	--
B-41	280	C	8"Ø	3	280	1	--	--	--	--	280	14x10	280	1
B-42	270	C	8"Ø	3	270	1	--	--	--	--	270	14x10	270	1
B-43	52	A	5"Ø	2	52	1	52	6x5	52	1	--	--	--	--
B-47	2485	C	12"Ø	4	414	6	2485	48x18	2485	1	--	--	--	--
B-48	612	B	7"Ø	2	204	3	612	12x12	306	2	--	--	--	--
B-49	155	C	8"Ø	4	155	1	155	8x8	155	1	--	--	--	--
B-50	213	C	7"Ø	3	213	1	--	--	--	--	213	12x10	213	1
B-51	76	C	5"Ø	3	76	1	76	6x6	76	1	--	--	--	--
B-52	50	C	5"Ø	3	50	1	50	6x5	50	1	--	--	--	--
102	4450	E B	24x12 14"Ø	2	510	1	3940	24x24	1946	1	--	--	--	--
103	1300	F F	4' 12'			4 2	216 --	12' --	-- --	2 --	-- --	-- --	-- --	-- --
[illegible]	[illegible]	A	5"Ø	4	[illegible]	1	63	6x6	[illegible]	1	--	--	--	--
[illegible]	[illegible]	A	5"Ø	4	[illegible]	4	[illegible]	10x10	[illegible]	1	--	--	--	--
[illegible]	[illegible]	A	5"Ø	4	[illegible]	1	[illegible]	6x6	[illegible]	1	--	--	--	--
[illegible]	[illegible]	A	5"Ø	4	[illegible]	1	45	6x6	45	1	--	--	--	--
[illegible]	[illegible]	A	5"Ø	4	[illegible]	1	75	6x6	75	1	--	--	--	--
[illegible]	[illegible]	A	6"Ø	2	[illegible]	[illegible]	[illegible]	10x10	[illegible]	1	--	--	--	--
[illegible]	--	--	--	--	--	--	--	--	--	--	[illegible]	[illegible]	[illegible]	1
[illegible]	[illegible]	[illegible]	6"Ø	4	[illegible]	[illegible]	[illegible]	8x8	[illegible]	1	--	--	--	--
[illegible]	--	--	--	--	--	--	--	--	--	--	90	8x6	[illegible]	1
[illegible]	--	--	--	--	--	--	--	--	--	--	[illegible]	8x6	90	1

DIFFUSER, REGISTER & GRILLE SCHEDULE

ROOM NO.	SUPPLY: TOTAL ROOM CFM	DIFF. TYPE	NECK SIZE	WAY THROW	CFM EA.	QTY	RETURN: TOTAL RET. CFM	R.A. REG. SIZE	CFM EA.	QTY.	EXHAUST: TOTAL EXH. CFM	EXH. REG. SIZE	CFM EA.	QTY.
114	210	A	8"Ø	4	210	1	190	8x8	190	1	--	--	--	--
115	175	A	5"Ø	4	87	2	160	8x8	160	1	--	--	--	--
116	695	B	7"Ø	2	173	4	625	16x10	312	2	--	--	--	--
117	280	B	6"Ø	2	140	2	187	10x10	187	1	--	--	--	--
120	--	--	--	--	--	--	--	--	--	--	92	6x6	92	1
121	160	G	10x6		160	1	--	--	--	--	160	10x6	160	1
122	160	G	10x6	--	160	1	--	--	--	--	160	10x6	160	1
123	55	A	5"Ø	1	55	1	45	6x6	45	1	--	--	--	--
124	65	A	5"Ø	4	65	1	55	6x6	55	1	--	--	--	--
126	240 640	B B B	6"Ø 10"Ø 10"Ø	4 4 4	120 220 200	2 2 1	210 -- --	10x10 -- --	210 -- --	1 -- --	-- -- --	-- -- --	-- -- --	-- -- --
128	--	--	--	--	--	--	--	--	--	--	335	10x8	167	2
129	--	--	--	--	--	--	--	--	--	--	335	10x8	167	2
130	350	A	6"Ø	4	175	2	315	12x12	315	1	--	--	--	--
131	30	A	5"Ø	3	30	1	30	6x5	30	1	--	--	--	--
132	30	A	5"Ø	4	30	1	30	6x5	30	1	--	--	--	--
133	55	A	5"Ø	4	55	1	50	6x5	50	1	--	--	--	--
134	55	A	5"Ø	4	55	1	50	6x5	50	1	--	--	--	--
135	45	A	5"Ø	1	45	1	45	6x5	45	1	--	--	--	--
136	240	A	6"Ø	4	120	2	215	10x10	215	1	--	--	--	--
137	55	A	5"Ø	4	55	1	50	6x5	50	1	--	--	--	--
138	140	A	7"Ø	3	140	1	125	10x6	125	1	--	--	--	--
139	120	A	5"Ø	4	60	2	110	10x6	110	1	--	--	--	--
140	125	A	6"Ø	4	125	1	110	10x6	110	1	--	--	--	--
141	215	A	6"Ø	2	107	2	195	10x8	195	1	--	--	--	--
142	510	B	6"Ø	2	127	4	460	16x10	230	2	--	--	--	--
143	1120	A	16"Ø	4	560	2	1610	24x24	1610	1	--	--	--	--
145	--	--	--	--	--	--	--	--	--	--	207	10x10	207	1
146	--	--	--	--	--	--	--	--	--	--	207	16x10	207	1
147	--	--	--	--	--	--	--	--	--	--	92	6x6	92	1
148	83	A	5"Ø	4	[illegible]	1	75	6x6	75	1	--	--	--	--
149	130	A	6"Ø	4	130	1	115	10x6	115	1	--	--	--	--
150	100	A	6"Ø	4	100	1	90	8x6	90	1	--	--	--	--
151	200	A	8"Ø	4	200	1	180	10x8	180	1	100	--	--	--
152	390	A	12"Ø	4	390	1	356	10x10	356	1	890	--	--	--
153	815	B	6"Ø	2	135	6	310	10x10	310	1	--	--	--	--
154	40	G	6x4	--	40	1	40	6x4	40	1	--	--	--	--
155	100	G	6x6	--	100	1	90	8x4	90	1	--	--	--	--
155A	45	G	6x4	--	45	1	40	6x4	90	1	--	--	--	--
156	745	G G	10x6 8x4	-- --	161 85	3 3	192 176	10x6 8x4	196 98	2 4	-- --	-- --	-- --	-- --
157	60	G	6x4	--	60	1	55	6x4	55	1	--	--	--	--
158	75	G	8x4	--	75	1	--	--	--	--	--	--	--	--
159	--	--	--	--	--	--	65	8x4	65	1	--	--	--	--
160	75	G	8x4	--	75	1	70	8x4	70	1	--	--	--	--
161	50	G	6x4	--	50	1	45	6x4	45	1	--	--	--	--
162	--	--	--	--	--	--	--	--	--	--	95	6x6	75	1
163	170	G	8x4	--	85	2	155	10x6	155	1	--	--	--	--
164	65	G	6x4	--	65	1	60	6x4	60	1	--	--	--	--
166	56	G	6x6	--	56	1	45	6x4	45	1	--	--	--	--
167	--	--	--	--	--	--	--	--	--	--	50	6x4	50	1
168	55	G	6x4	--	55	1	50	6x4	50	1	--	--	--	--
170	60	G	6x4	--	60	1	55	6x4	55	--	--	--	--	--
171	--	G	--	--	--	--	--	--	--	--	80	8x4	80	1
172	--	G	--	--	--	--	--	--	--	--	70	8x4	70	1
173	65	G	6x4	--	65	1	60	6x4	60	1	--	--	--	--
174	95	G	6x4	--	47	2	--	--	--	--	--	--	--	--
175	70	G	8x4	--	70	1	65	6x4	65	1	--	--	--	--

DIFFUSER, REGISTER & GRILLE SCHEDULE

ROOM NO.	SUPPLY: TOTAL ROOM CFM	DIFF. TYPE	NECK SIZE	WAY THROW	CFM EA.	QTY	RETURN: TOTAL RET. CFM	R.A. REG. SIZE	CFM EA.	QTY.	EXHAUST: TOTAL EXH. CFM	EXH. REG. SIZE	CFM EA.	QTY.
176	50	G	6x4	--	50	1	45	6x4	45	1	--	--	--	--
177	60	G	6x4	--	60	1	55	6x4	55	1	--	--	--	--
178	60	G	6x4	--	60	1	55	6x4	55	1	--	--	--	--
179	45	G	6x4	--	45	1	40	6x4	40	1	--	--	--	--
180	60	G	6x4	--	60	1	55	6x4	55	1	--	--	--	--
181	60	G	6x4	--	60	1	55	6x4	55	1	--	--	--	--
182	50	G	6x4	--	50	1	45	6x4	45	1	--	--	--	--
183	70	G	8x4	--	70	1	65	6x4	65	1	--	--	--	--
186	75	G	8x4	--	75	1	70	6x4	70	1	--	--	--	--
187	45	G	6x4	--	45	1	45	6x4	45	1	--	--	--	--
188	70	G	8x4	--	70	1	65	6x4	65	1	--	--	--	--
189	70	G	8x4	--	70	1	65	6x4	65	1	--	--	--	--
190	45	G	6x4	--	45	1	45	6x4	45	1	--	--	--	--
191	70	G	8x4	--	70	1	65	6x4	65	1	--	--	--	--
201	2280	B	12"Ø	3	380	6	2050	24x24	1025	2	--	--	--	--
202	2200	C	48x18	--	2200	1	1980	30x18 sidewall	990	2	--	--	--	--
203	120	A	5"Ø	2	40	3	190	12x12	190	1	--	--	--	--
204	90		5"Ø	2	90	1	--	--	--	--	--	--	--	--
205	315	A	10"Ø	3	315	1	285	12x12	285	1	--	--	--	--
207	270	A B	6"Ø 6"Ø	3 2	90 90	2 1	90	8x8	90	1	--	--	--	--
208	350	A	7"Ø	3	175	2	315	12x12	315	1	--	--	--	--
209	500	A	14"Ø	4	500	1	450	12x12	225	2	--	--	--	--
210	100	A	5"Ø	1	100	1	--	--	--	--	--	--	--	--
211	--	--	--	--	--	--	--	--	--	--	60	6x6	60	1
212	310	A	10"Ø	4	310	1	280	12x12	280	1	--	--	--	--
213	310	A	10"Ø	4	310	1	280	12x12	280	1	--	--	--	--
214	310	A	10"Ø	4	310	1	280	12x12	280	1	--	--	--	--
215	320	A	10"Ø	4	320	1	285	12x12	285	1	--	--	--	--
216	680	B	7"Ø	2	170	4	610	12x12	305	2	--	--	--	--
217	480	A	5"Ø	4	80	6	430	12x12	215	2	--	--	--	--
218	--	--	--	--	--	--	--	--	--	--	100	8x6	100	1
219	230	A	10"Ø	4	220	1	200	12x12	200	1	--	--	--	--
220	285	B	5"Ø	2	95	3	260	12x12	260	1	--	--	--	--
222	300	A	6"Ø	4	150	2	270	12x12	270	1	--	--	--	--
223	55	A	5"Ø	3	55	1	50	6x6	50	1	--	--	--	--
224	230	A	8"Ø	4	230	1	210	12x12	210	1	--	--	--	--
225	245	A	8"Ø	4	245	1	220	12x12	220	1	--	--	--	--
226	760	A	12"Ø	4	380	2	670	12x12	335	2	--	--	--	--
227	375	A	12"Ø	4	375	1	340	12x12	340	1	--	--	--	--
228	260	B	5"Ø	2	65	4	240	8x8	120	2	--	--	--	--
229	135	D	8"Ø	3	135	1	125	8x8	125	1	--	--	--	--
230	45	D	5"Ø	3	45	1	40	6x5	40	1	--	--	--	--
231	55	D	5"Ø	4	55	1	50	6x5	50	1	--	--	--	--
232	45	D	5"Ø	3	45	1	40	6x5	40	1	--	--	--	--
233	45	D	5"Ø	3	45	1	40	6x5	40	1	--	--	--	--
234	45	D	5"Ø	3	45	1	40	6x5	40	1	--	--	--	--
235	45	D	5"Ø	3	45	1	40	6x5	40	1	--	--	--	--
236	--	--	--	--	--	--	--	--	--	--	90	8x6	90	1
237	--	--	--	--	--	--	--	--	--	--	90 (circled)	8x6	90	1

ISSUED FOR BIDDING 9-4-80 VE

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION — DATE — BY

REVISIONS

NO.	DESCRIPTION	DATE	BY

Approval of this drawing does not presume to give authority to violate or cancel the provisions of any other state or local building zoning law regulating construction or the performance of construction.
DEPARTMENT OF BUILDING
CITY OF MENTOR
APPROVED
Robert Dubnik
11-5-80

RECORD DRAWINGS — DATE — BY

CITY OF MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

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CHECKED GT	JOB No. 800070

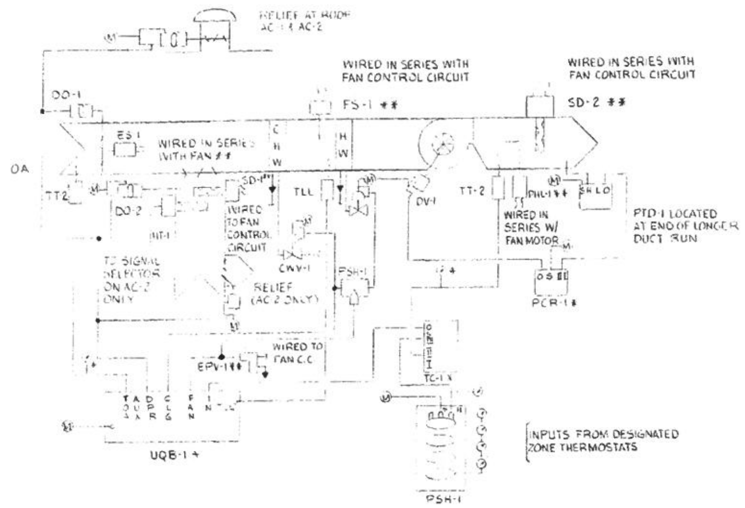
HVAC SCHEDULES

MENTOR POLICE FACILITY
MENTOR OHIO

DALTON · DALTON · NEWPORT ARCHITECTS · ENGINEERS · PLANNERS

DALTON · DALTON · NEWPORT

M-20



AIR HANDLING UNITS
TYPICAL FOR AC-1, AC-2.
AC-2 TO HAVE CONSTANT VOLUME BRANCH DUCT DAMPERS (SUPPLIED BY MECHANICAL CONTRACTOR).
TEMPERATURE CONTROL CONTRACTOR TO MOUNT AUXILLIARY SENSORS.

(M) — MAIN AIR CONNECTION
* — LOCATED IN CONTROL PANEL
** — FURNISHED WIRED & INSTALLED BY CONTROL CONTRACTOR

CONTROL DIAGRAM FOR AC-1 & AC-2

AC-1 Courtroom Air Handling Unit Control Sequence

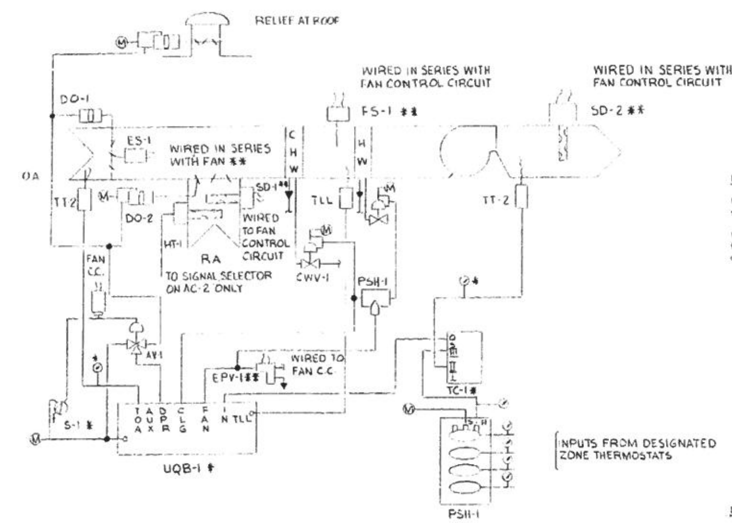
1. On fan start, an EP switch will open outside air intake damper and exhaust dampers to minimum position. When damper end switch contact is made, unit fans shall start.
2. Air handling unit shall have a pneumatic economizer controller with a dry bulb switchover to automatically go to minimum damper position whenever outside temperature exceeds 70°F (adjustable).
3. Below 55°F (adjustable) outside air, the cooling coil valve shall be closed fully to the coil and discharge air reset controller shall modulate the outdoor air dampers up to 100% open to provide for free cooling.
4. A mixed air low limit thermostat shall override the discharge air controller by modulating the outdoor and return air dampers to provide a mixed air low limit temperature of 50°F.
5. Selected zone thermostats, shall, through a pneumatic signal transmitter located near reheat coil, reset the discharge air from air handling unit from the zone demanding the most cooling. This resetting shall be done by modulating the unit heating and cooling valves, outdoor air and return air dampers in sequence. A discharge air reset controller (adjustable) shall manually be set at minimum discharge temperature and automatically reset higher by abovementioned sequence.
6. A static pressure sensor located in the main air duct shall, through a differential pressure controller and integral pressure controller, adjust the inlet vane to the supply air fan to control air volume. A duct safety high pressure sensor shall shutdown the fan if the duct static pressure exceeds its set point.
7. Ionization smoke detectors located in the supply and return ducts shall shutdown supply fan, close outdoor air, relief dampers and open the return air dampers upon sensing products of combustion.
8. An electric low temperature detection thermostat with a 20 foot element shall, upon sensing a low temperature condition, stop the duct supply fan, close the unit outdoor and exhaust air dampers, and open return air dampers.

AC-2 Police Facility Air Handling Unit Control Sequence

Control for this unit shall be identical to AC-1 except that a humidity sensor located in the return air duct shall override the zone thermostats and maintain a preset cooling coil discharge temperature.

Constant Volume Branch Control on VAV System

1. This contractor shall mount a duct pressure sensor for constant volume control crater (supplied by Mechanical Contractor) as per manufacturer's instructions where indicated on drawings.



AIR HANDLING UNIT AC-3
(M) --- MAIN AIR CONNECTION
* — LOCATED IN CONTROL PANEL
** — FURNISHED, WIRED & INSTALLED BY CONTROL CONTRACTOR

CONTROL DIAGRAM FOR AC-3

AC-3 Detention Air Handling Unit Control Sequence

1. On fan start, an EP switch will open outside air intake damper and exhaust dampers to minimum position. When damper end switch contact is made, unit fans shall start.
2. Air handling unit shall have a pneumatic economizer controller with a dry bulb switchover to automatically go to minimum damper position whenever outside temperature exceeds 70°F (adjustable).
3. Below 55°F (adjustable) outside air, the cooling coil valve shall be closed fully to the coil, and discharge air reset controller shall modulate the outdoor air dampers up to 100% open to provide for free cooling.
4. A mixed air low limit thermostat shall override the discharge air controller by modulating the outdoor and return air dampers to provide a mixed air low limit temperature of 50°F.
5. Selected zone thermostats, shall, through a pneumatic signal transmitter located near reheat coil, reset the discharge air from air handling unit from the zone demanding the most cooling. This resetting shall be done by modulating the unit heating and cooling valves, outdoor air and return air dampers in sequence. A discharge air reset controller (adjustable) shall manually be set at minimum discharge temperature and automatically reset higher by abovementioned sequence.
6. Ionization smoke detectors located in the supply and return ducts shall shutdown supply fan, close outdoor air, relief dampers and open the return air dampers upon sensing products of combustion.
7. An electric low temperature detection thermostat with a 20 foot element shall, upon sensing a low temperature condition, stop the unit supply fan, close the unit outdoor and exhaust air dampers, and open return air dampers.
8. A manual switch, S-1, located inside the temperature control panel shall be provided to start exhaust fan EF-17, open outdoor air dampers and start supply fan for the purpose of smoke removal.

HV-1 Pistol Range Air Handling Unit

This contractor shall mount a 12-hour timer in the pistol range and interlock this timer with the "occupied-unoccupied" controls furnished with this unit. In addition, a remote thermostat shall be mounted adjacent to the timer. An interlock with two speed exhaust fan such that on unoccupied cycle exhaust fan shall go to low speed. Occupied cycle exhaust fan to high speed.

AC-4 Communication Room Air Handling Unit

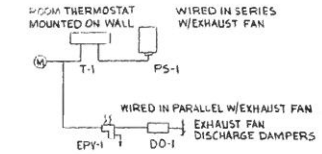
1. Interlock packaged unit with condensing unit on roof.
2. Interlock exhaust dampers with Halon system to close dampers when the Halon system has been activated.

Chiller and Boiler Interlocks

Make all necessary interlocks for operation of boiler and chillers, including interlock to their respective pumps.

D. Water Treatment System

1. This contractor shall furnish and install all necessary field interlock wiring required for control of water treatment systems (condenser water and boiler water).
2. This work shall include all wiring required between manufacturer's factory-wired control panel and field-located auxiliaries, as shown on manufacturer's shop drawings.

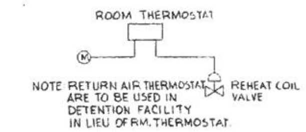


VENTILATION EXHAUST FAN

Exhaust Fan Control for Mechanical Room Ventilation

Ventilation exhaust fan EF-16 shall start automatically by thermostat setting, and open exhaust and intake damper automatically.

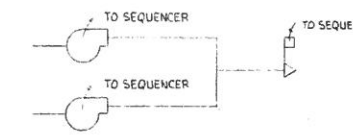
Ventilation exhaust fan EF-16 shall also start automatically when air handling unit AC-2 is on its economizer cycle, exhaust damper shall open automatically and intake damper will remain closed.



CONSTANT VOLUME W/REHEAT

B. Constant Volume Duct Reheat Coils

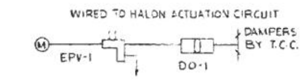
Return air thermostat shall modulate its repsective reheat valve to maintain required space temperature.



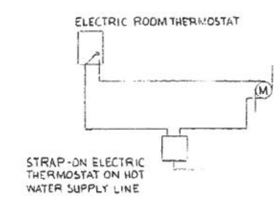
HOT WATER PUMPS

Hot Water Pumps

Two circulating pumps for hot water are started manually and shall have a flow switch (supplied by this contractor) on the common discharge line. These pumps operate continually year-round. One pump shall be used as the main operating pump and the other as a standby or backup pump. The pump sequencer shall contain a switch to select which pump is to be the lead pump. When the pumps operate normally, a green light shall be displayed on the panel face. If the lead pump fails, the backup pump is automatically started and a red light is displayed to indicate pump failure.



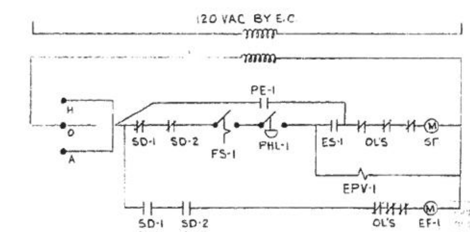
COMPUTER RM. EXHAUST FANS



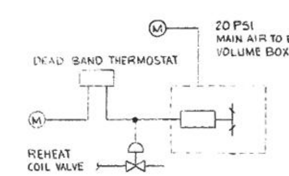
UNIT AND CABINET HEATERS

C. Unit Heater and Cabinet Heater Controls

1. A line voltage electric thermostat with strap-on bulb on supply to coil to prevent operation until hot water is available.



WIRING FOR AC-3

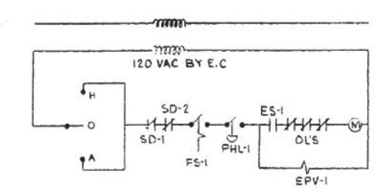


VARIABLE VOLUME WITH REHEAT

VARIABLE VOLUME BOXES WITH REHEAT

A direct acting dead-band thermostat will modulate the normally open coil valve and normally closed damper motor on variable volume box in sequence to maintain required space temperature. Boxes to have a preset minimum position.

For constant volume boxes thermostat will be directly connected to reheat coil valve.



WIRING FOR AC 1 & 2

ISSUED FOR BIDDING	9-4-80 Y.K.

ADDENDA REVISIONS

ADDENDA NO.	ADDENDA DATE	BY

ISSUED FOR CONSTRUCTION — DATE BY

REVISIONS

NO.	DESCRIPTION	DATE	BY

Approval of this drawing does not presume authority to violate or cancel the provisions of any other state or local building zoning law regulating construction or the performance of construction.

DEPARTMENT OF BUILDING
CITY OF MENTOR
APPROVED
Robert Dustwick
11-5-80

RECORD DRAWINGS — DATE BY

CITY OF MENTOR
SEP 8 1980
BUILDING & ZONING DEPARTMENT

STATE OF OHIO
PAUL SLOVAN
19485
REGISTERED PROFESSIONAL ENGINEER

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DRAWN R.M.	DATE 9-4-80
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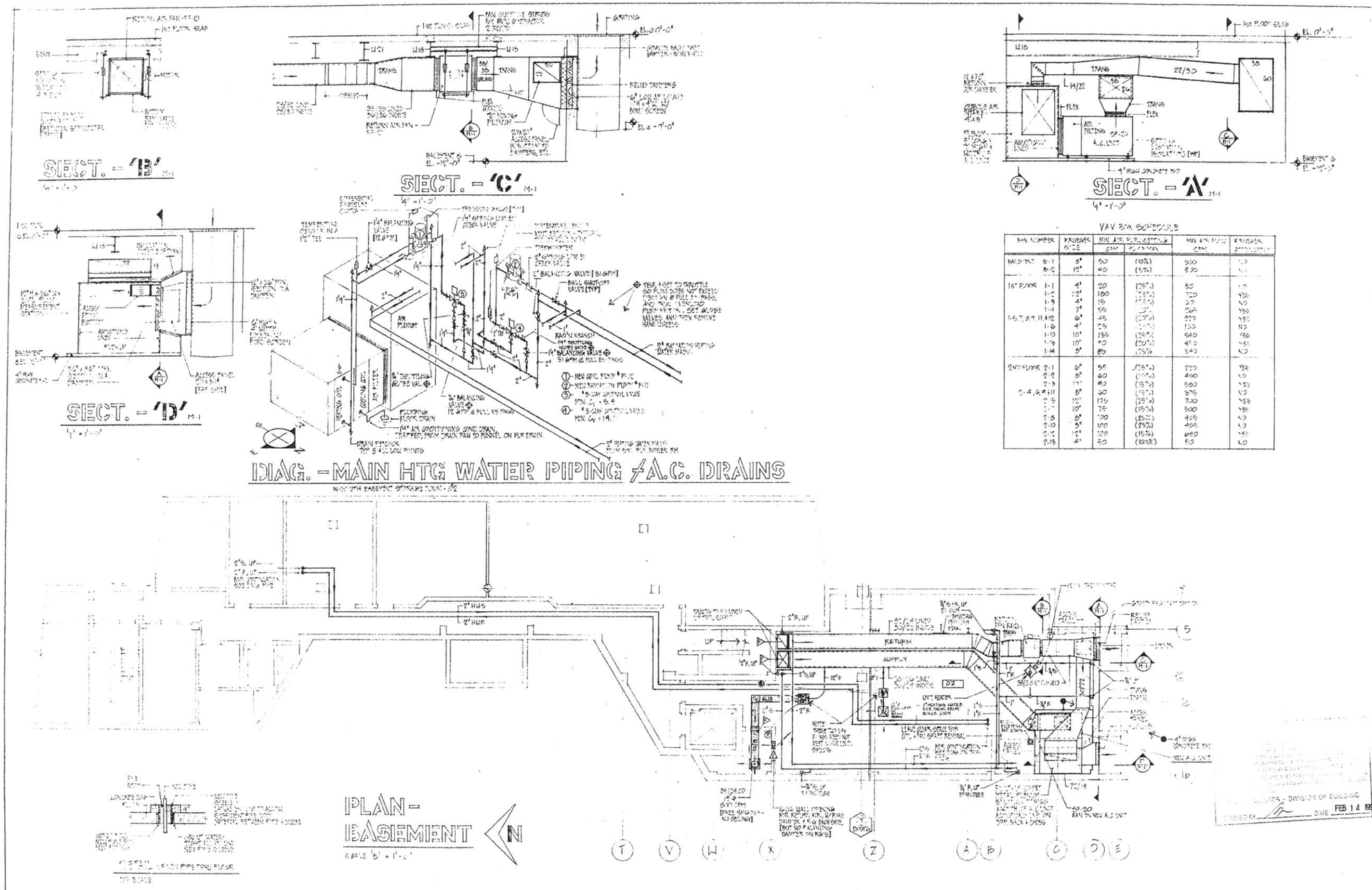
CONTROL DIAGRAMS

MENTOR POLICE FACILITY
MENTOR OHIO

DALTON · DALTON · NEWPORT ARCHITECTS · ENGINEERS · PLANNERS

DALTON DALTON NEWPORT

M-21



VAV BOX SCHEDULE

FAN NUMBER	KRUEGER SIZE	MIN. AIR DISTRIBUTION CFM	(% FLOW)	MAX. AIR DISTRIBUTION CFM	KRUEGER PRESSURE
BASEMENT B-1	8"	50	(10%)	500	NO
B-2	10"	40	(5%)	800	NO
1ST FLOOR 1-1	4"	20	(20%)	80	NO
1-2	12"	180	(25%)	720	YES
1-3	4"	15	(15%)	60	NO
1-4	7"	55	(20%)	265	YES
1-6,7,8,9,11,12	6"	45	(20%)	220	YES
1-6	4"	25	(20%)	120	NO
1-10	10"	135	(25%)	540	YES
1-13	10"	70	(20%)	410	YES
1-14	8"	85	(25%)	340	NO
2ND FLOOR 2-1	6"	55	(25%)	220	YES
2-2	8"	60	(15%)	400	NO
2-3	10"	80	(15%)	560	YES
2-4,6,9,11	8"	60	(15%)	375	NO
2-5	12"	175	(25%)	700	YES
2-7	10"	75	(15%)	500	YES
2-8	8"	100	(25%)	400	NO
2-10	8"	100	(25%)	400	NO
2-12	12"	100	(15%)	650	YES
2-13	4"	50	(100%)	50	NO

STATE OF OHIO REGISTERED PROFESSIONAL ENGINEER

STATE OF OHIO CHARLES H. DICKSON 5308 REGISTERED ARCHITECTS

DICKSON ASSOCIATES INC
ARCHITECTS
PLANNERS
2055 LEE ROAD, CLEVELAND, OH 44118
216.932.4865

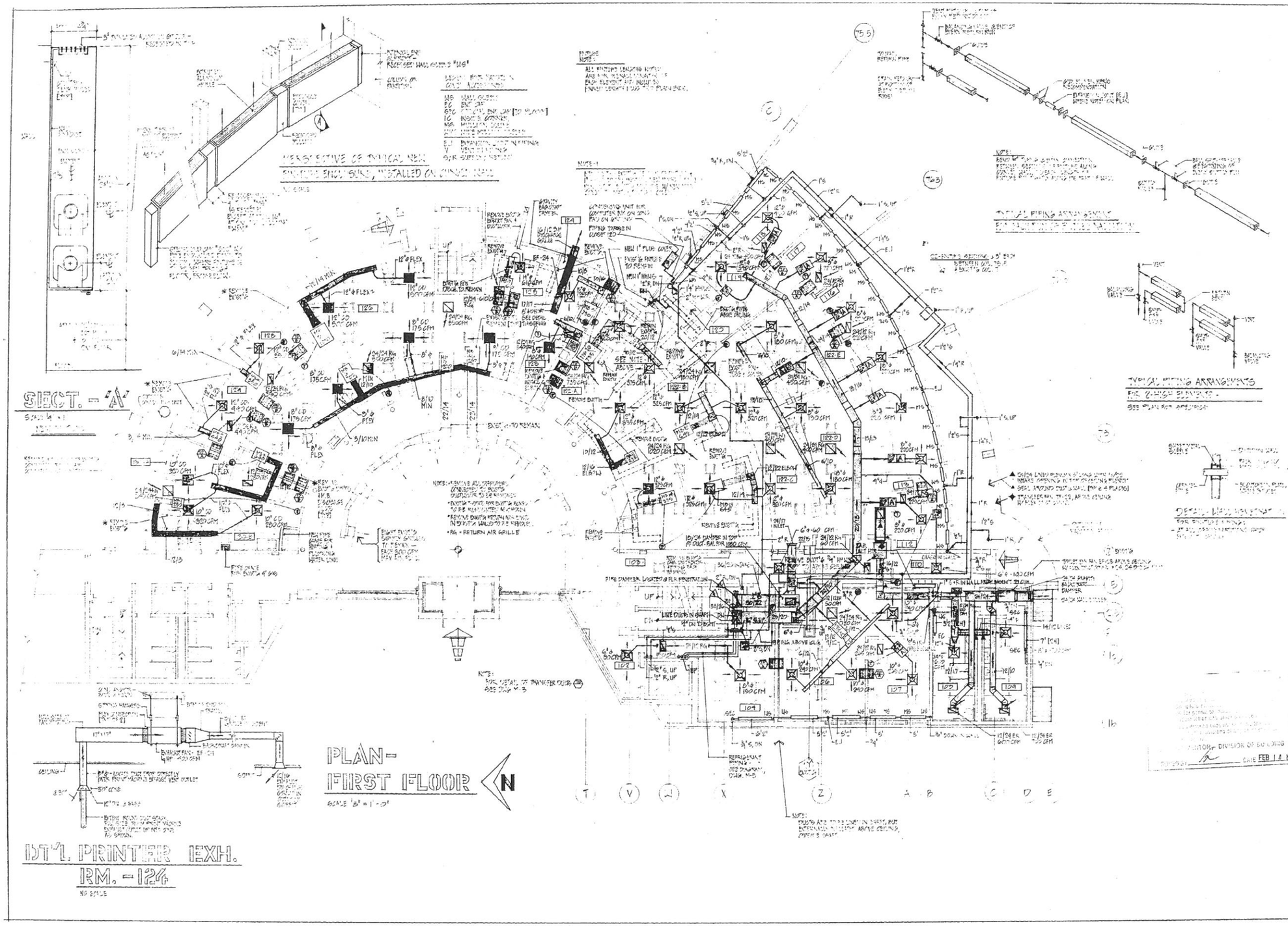
MENTOR CITY HALL
ADDITION AND REMODELING
8500 Civic Center Boulevard
Mentor, Ohio 44060

HVAC - BASEMENT AND DIAGRAMS

DRAWING NO: M1

DATE: 11-6-95

106-83



STATE OF OHIO JAMES T. WEBER REGISTERED PROFESSIONAL ENGINEER

STATE OF OHIO CHARLES H. DICKSON 5300 REGISTERED ARCHITECTS

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ARCHITECTS
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216.932.4266

MENTOR CITY HALL ADDITION AND REMODELING

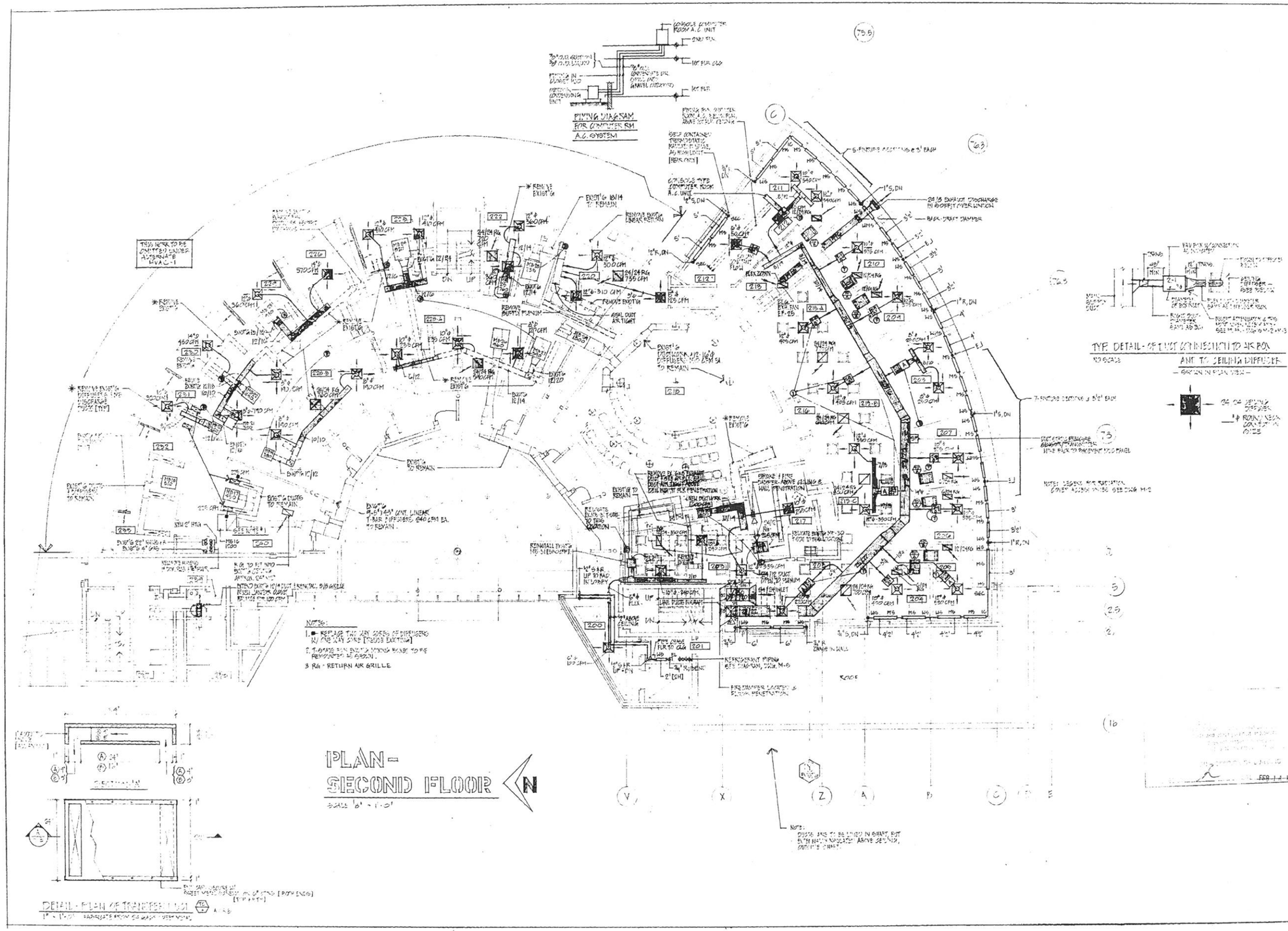
8500 Civic Center Boulevard
Mentor, Ohio 44060

HVAC - 1ST FLOOR AND DIAGRAMS

DRAWING NO: M2

DATE: 11-16-95

106-83



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CHARLES H. DICKSON
0308
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ARCHITECTS

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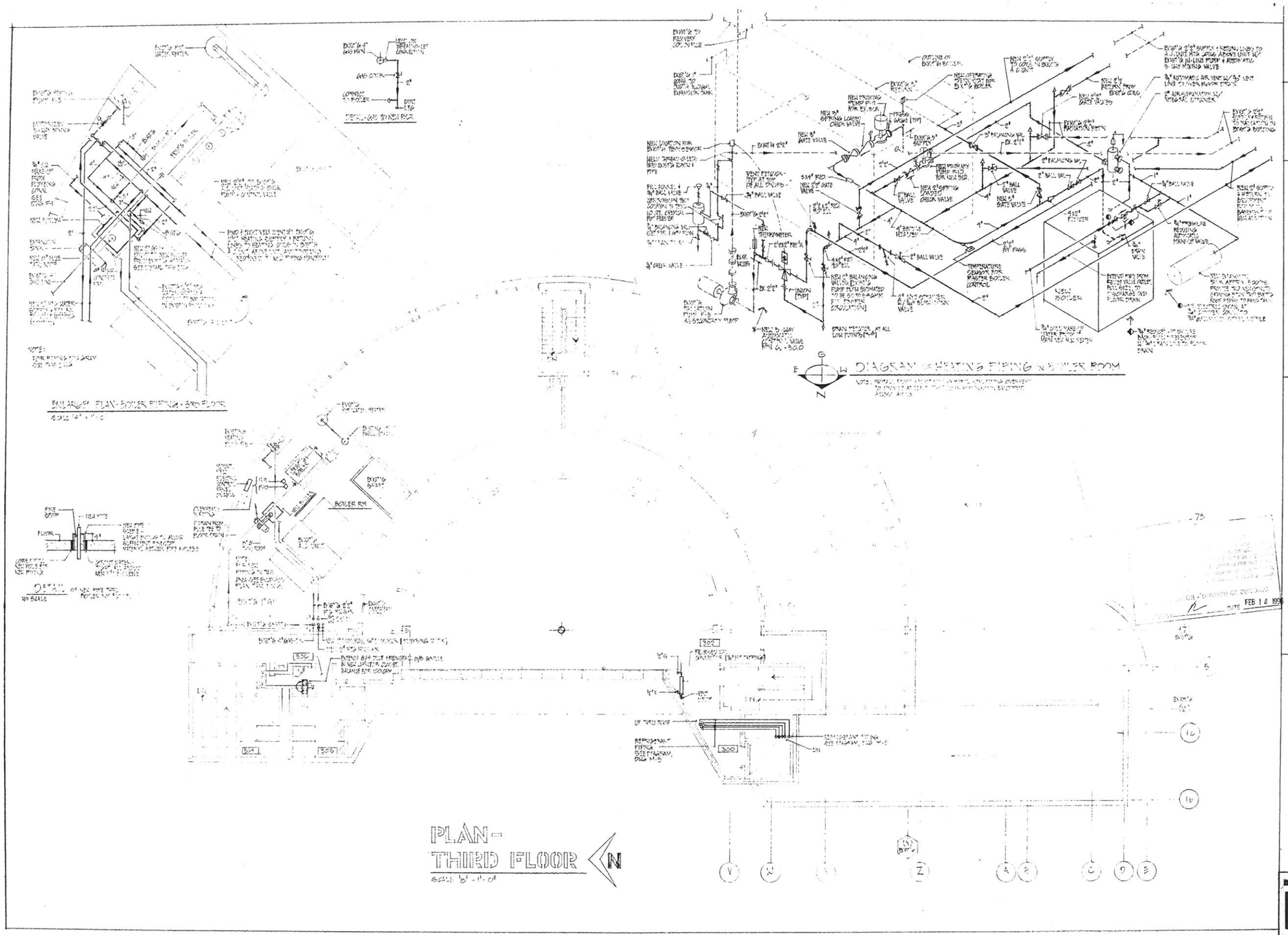
ADDITION AND REMODELING
8500 Civic Center Boulevard
Mentor, Ohio 44060

HVAC - 2ND FLOOR
AND DIAGRAMS

DRAWING NO:
M3
DATE: 11-16-



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216/932-4266

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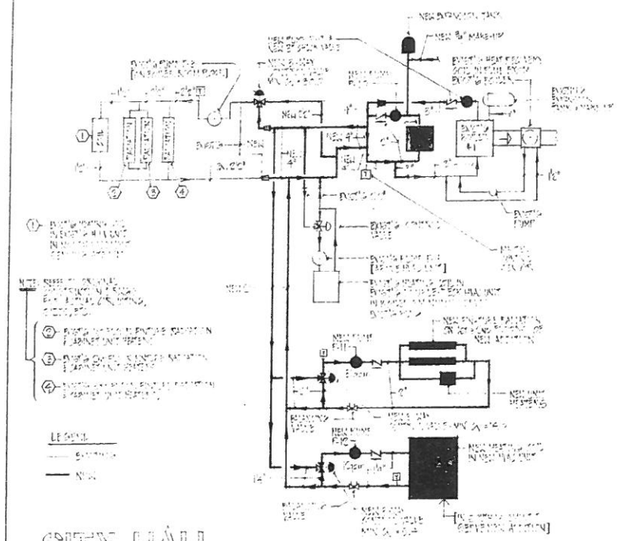
Mentor, Ohio 44060

HVAC - 3RD FLOOR AND DIAGRAMS

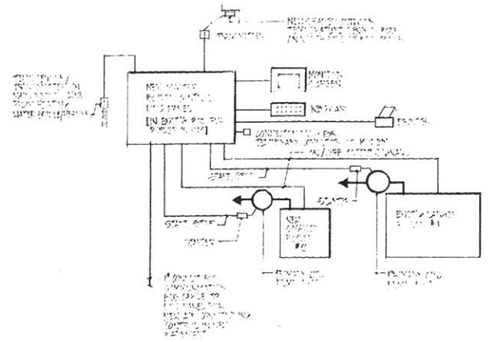
DRAWING NO.: **M4**

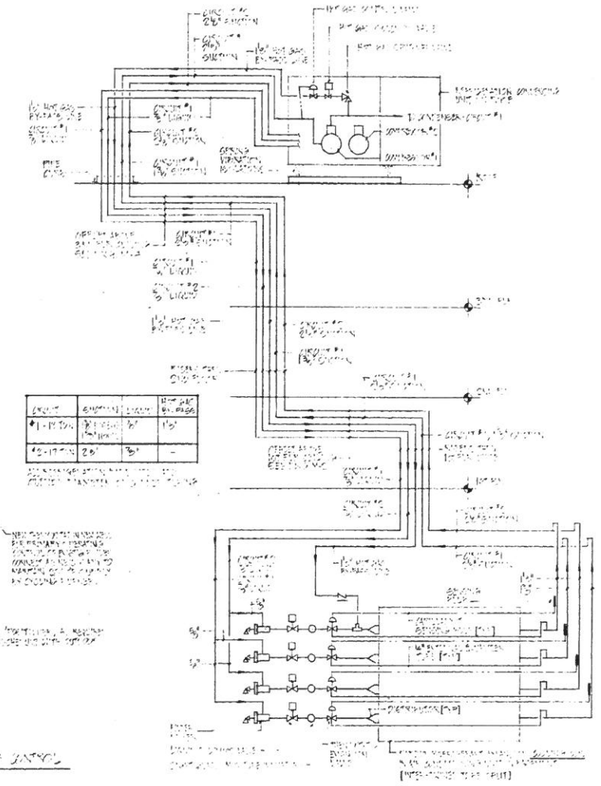
DATE: 11-16-95

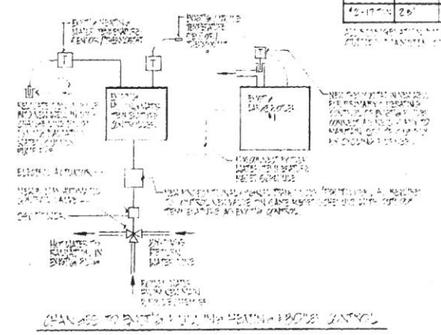
06-83



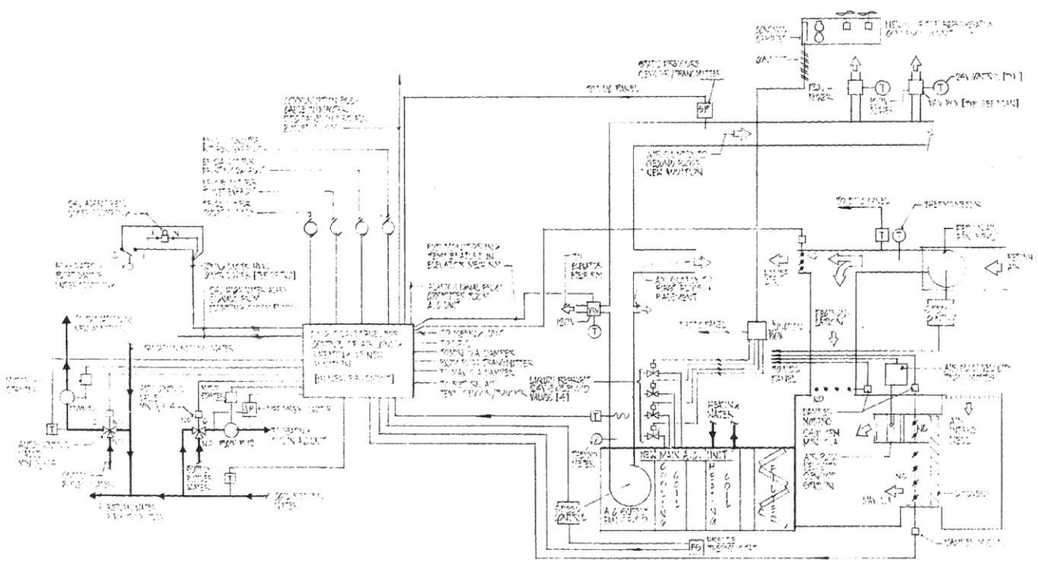
CITY HALL
HEATING HOT WATER FLOW DIAG.

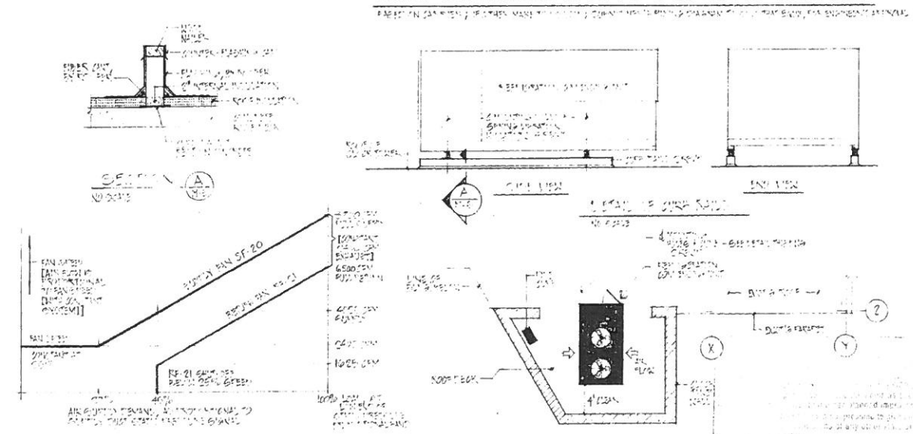






REFRIGERATION PIPING DIAG.





PARTIAL ROOF PLAN

CITY OF MENTOR - DIVISION OF BUILDING
REVIEWED BY: DATE: FEB 1 1 1995

DICKSON ASSOCIATES INC
ARCHITECTS
PLANNERS
2055 LEE ROAD, CLEVELAND, OH 44118
216-932-4866

STATE OF OHIO ARCHITECTS REGISTERED CHARLES H. DICKSON 3306

STATE OF OHIO PROFESSIONAL ENGINEER JAMES E. WEST 35338

MENTOR CITY HALL
ADDITION AND REMODELING
8500 Civic Center Boulevard
Mentor, Ohio 44060

HVAC - DETAILS AND DIAGRAMS

DRAWING NO: **M5**

DATE: 11-16-95

106-83

GENERAL NOTES:

THESE PLANS WERE PREPARED USING EXISTING DRAWINGS "MENTOR POLICE FACILITY" PREPARED BY ARCHITECTS "DALTON-DALTON-NEWPORT" DATED 4-4-80, "ADDITIONAL TO MUNICIPAL COURT" PREPARED BY ARCHITECTS "JAN DYER ARCHITECTS" DATED 4-1992 AND PRESENT FIELD NOTES. IT IS NOT FEASIBLE TO ACCURATELY INDICATE ALL EXISTING ITEMS.
CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL CONDITIONS AND EQUIPMENT AS REQUIRED FOR COMPLETING DEMOLITION AND NEW WORK AS PART OF THIS CONTRACT.
CONTRACTOR SHALL BE FAMILIAR WITH OWNERS STANDARDS, RULES, AND REGULATIONS. ALL OWNERS CRITERIA SHALL BE COMPLETE WITH AND INCLUDE IN THIS BID.

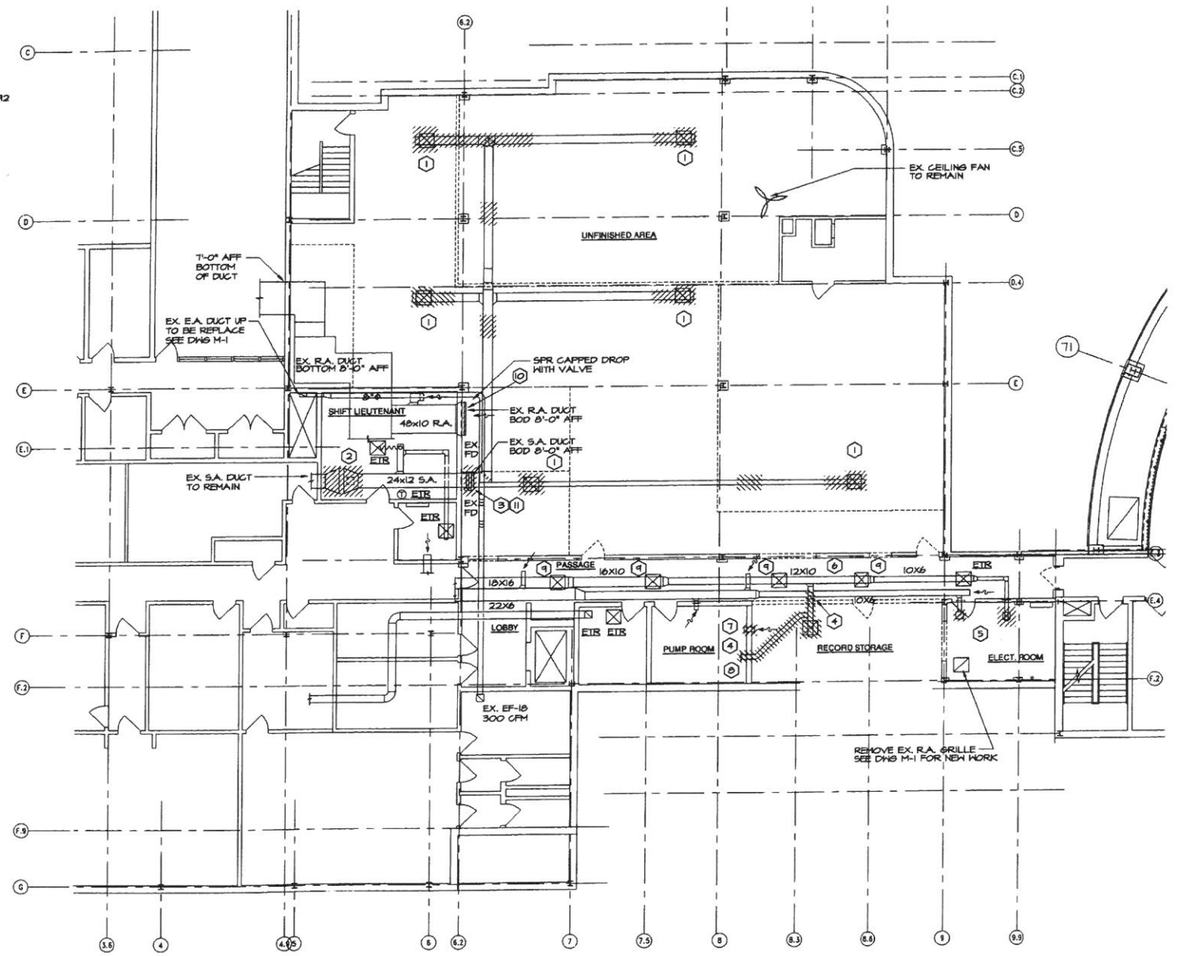
ALL REMOVED EQUIPMENT AND FIXTURES SHALL BE RETURNED TO OWNER. (VERIFY WITH OWNER).
ANY EQUIPMENT DESIGNATED BY OWNER TO BE DISPOSED OF SHALL BE REMOVED FROM SITE AND PROPERLY DISPOSED OF.

DEMOLITION NOTES:

1. - REMOVE EX. BRANCH DUCTS, S.A. DIFFUSERS, T.STAT, ETC., BACK TO 24x12 S.A. MAIN IN THE RENOVATION AREA, UNLESS NOTED OTHERWISE.
2. - REMOVE EX. CONSTANT VOLUME REGULATOR V.R. #3.
3. - REMOVE EX. REHEAT COIL AND REWORK PIPING FOR NEW CONNECTION.
4. - REMOVE FIRE DAMPER.
5. - REMOVE EX. S.A. DUCT AND DIFFUSER BACK TO MAIN AND CAP. REMOVE EX. R.A. GRILLE AND DUCT BACK TO MAIN. SEE DWG M-1 FOR NEW WORK.
6. - REMOVE EX. S.A. DUCT AND DIFFUSER BACK TO MAIN. SEE DWG M-1 FOR NEW WORK.
7. - REMOVE EX. T.A. OPENING WITH FIRE DAMPER. PATCH WALL TO MATCH EXISTING.
8. - PATCH WALL AT SEWAGE EJECTOR ROOM TO MATCH EXISTING
9. - REMOVE EX. S.A DIFFUSER IN EX. CORRIDOR CEILING. REUSE EX. DUCT CONNECTION FOR NEW S.A. DIFFUSERS IN NEW LAY-IN CEILING, SEE DWG M-1.
10. - REMOVE EX. R.A. GRILLE AND EXTEND DUCT AS SHOWN ON DWG M-1. REPLACE EX. FIRE DAMPER ON EX. DUCT.
11. - REPLACE EX. FIRE DAMPER ON EX. S.A. DUCT.

EX. SPRINKLER SYSTEM

EX. SPRINKLER SYSTEM SHALL BE MODIFIED TO ACCOMMODATE NEW LAYOUT. SEE DWG FP-1 "FIRE PROTECTION PLAN" FOR FIRE PROTECTION WORK.



MECHANICAL LOWER LEVEL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

N

STATE OF OHIO
DAVID L. UTIS
E-29217
REGISTERED PROFESSIONAL ENGINEER

SUBMISSIONS / REVISIONS
08/20/08 BID AND PERMIT

THE CITY OF MENTOR
THE MENTOR MUNICIPAL COURT
8500 CIVIC CENTER BOULEVARD, MENTOR, OH 44060
RENOVATION AND ADDITION

MECHANICAL LOWER LEVEL DEMOLITION PLAN

CT Consultants
engineers | architects | planners
33000 Kinter Court, Willoughby, Ohio 44094
440.951.9000 www.ctconsultants.com

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APPROVED BY:	WGO
SCALE:	AS NOTED
F.B. No.	PG.
CONTRACT No.	08154
SHEET NO.	MD-1

JAN 26 2009

20090084

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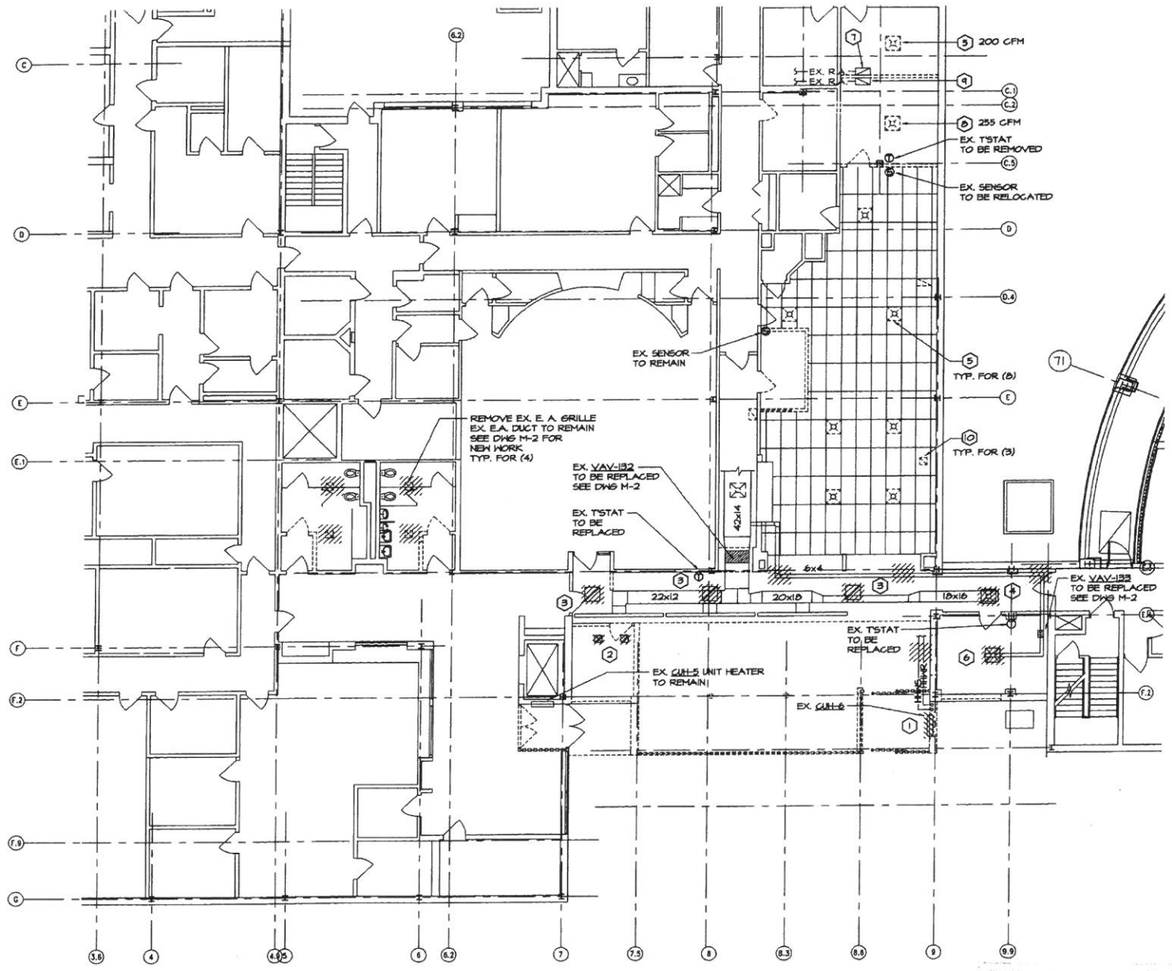
DEMOLITION NOTES:

1. - REMOVE EX. UNIT HEATER AND RETURN TO OWNER. REMOVE EX. HWS/HWR PIPING BACK TO MAIN AND CAP. PATCH WALL TO MATCH EXISTING.
2. - REMOVE EX. S.A. AND R.A. DIFFUSERS WITH DUCTWORK BACK TO MAIN. CAP DUCTWORK AT MAIN.
3. - REMOVE EX. R.A. GRILLE. SEE DWG M-2 FOR NEW WORK. EX. RETURN AIR PLENUM TO REMAIN.
4. - REMOVE EX. S.A. DIFFUSER. REWORK EX. DUCT FOR NEW CONNECTION. SEE DWG M-2 FOR NEW WORK.
5. - REMOVE EX. S.A. DIFFUSERS. REWORK DUCT AS REQUIRED FOR CONNECTION TO NEW DIFFUSERS IN NEW LAY-IN CEILINGS. SEE DWG M-2.
6. - REMOVE EX. S.A. DUCT BRANCH TO MAIN. REWORK CONNECTION AT MAIN. SEE DWG M-2 FOR NEW WORK.
7. - REMOVE EX. R.A. GRILLE REPLACE WITH NEW ONE. REWORK EX. R.A. DUCT AS REQUIRED (EX. ROOFTOP UNIT). SEE DWG M-2.
8. - REMOVE EX. S.A. DIFFUSER AND DUCT BRANCH BACK TO MAIN AND CAP (EX. ROOFTOP UNIT).
9. - REMOVE EX. R.A. GRILLE AND DUCT BRANCH BACK TO MAIN AND CAP (EX. ROOFTOP UNIT).
10. - REMOVE EX. R.A. GRILLE (SPACE ABOVE EX. CEILING IS PLENUM)



MECHANICAL MAIN LEVEL DEMOLITION PLAN

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

N

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IRONA L. UTIS
E65217
REGISTERED
PROFESSIONAL ENGINEER

SUBMISSIONS / REVISIONS

08/20/08	BID AND PERMIT

THE CITY OF MENTOR
THE MENTOR MUNICIPAL COURT
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RENOVATION AND ADDITION

MECHANICAL MAIN LEVEL DEMOLITION PLAN

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engineers | architects | planners
23000 Euclid Avenue, Euclid, Ohio 44117
440.953.1800 www.ctconsultants.com

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OF	

20090084

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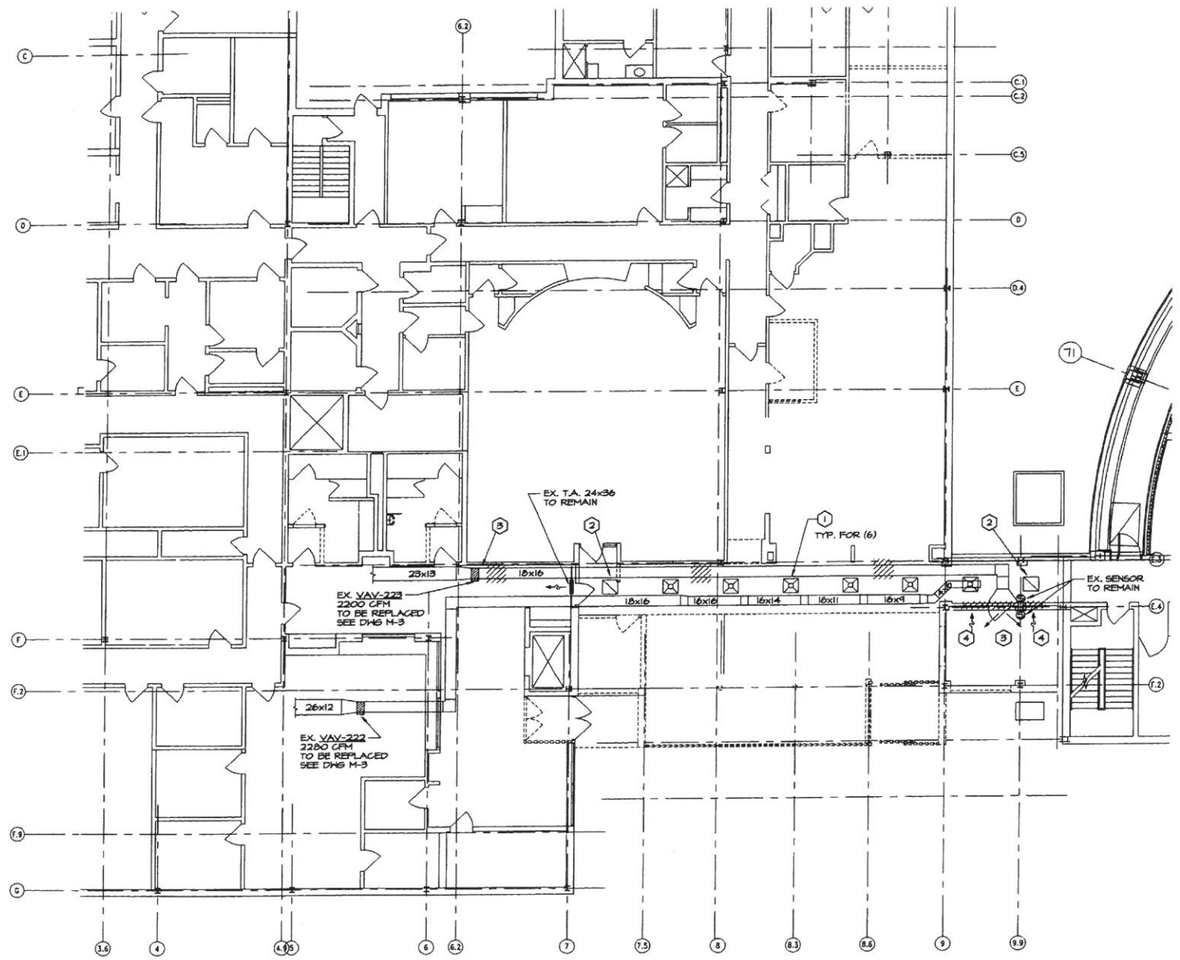
DEMOLITION NOTES:

1. - EX. S.A. CEILING DIFFUSERS TO REMAIN.
2. - EX. R.A. CEILING GRILLE TO REMAIN
3. - REMOVE EX. S.A. 48x18 WALL GRILLE AND DUCTWORK BACK TO EX. VAV. BOX. PATCH WALL TO MATCH EXISTING. SEE DWG M-3 FOR NEW WORK.
4. - REMOVE EX. R.A. 30x18 WALL GRILLE. PATCH WALL TO MATCH EXISTING.



MECHANICAL UPPER LEVEL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

N

STATE OF OHIO
IVAN E. UTIS
E85217
REGISTERED
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MECHANICAL UPPER LEVEL DEMOLITION PLAN

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Drawing Name: H:\08003 MENTOR Courthouse\Design\08154\Dwg\02184\02184E05.dwg WGG by H:\2002\02184\Dwg\02184E05.dwg

20090084

NOTES:

1. EXTEND EX. 24x12 S.A. DUCT (BOD AT 8'-0"AFF). RAISE DUCT TO ACCOMMODATE NEW LAY-IN CEILING. EX. FIRE DAMPER TO REMAIN.
2. EXTEND EX. 48x10 R.A. DUCT (BOD 8'-0" AFF). RAISE DUCT TO ACCOMMODATE NEW LAY-IN CEILING. EX. FIRE DAMPER TO REMAIN.
3. REWORK EX. MAIN R.A. DUCT AND INSTALL NEW GRILLE.
4. COORDINATE LOCATION OF DIFFUSERS WITH CEILING GRID AND LIGHTS. SEE ARCH. DRAWINGS FOR REFLECTED CEILING PLAN.
5. SEE DWG M-4 FOR HYDRONIC PIPING.
6. REUSE EX. WALL OPENING FOR NEW 6x6 DUCT.
7. DROP 6x6 S.A. DUCT AND PENETRATE EX. BLOCK WALL UNDER EX. BEAM AS HIGH AS POSSIBLE TO BE AT SOFFIT IN CORRIDOR. RAISE DUCT ABOVE CORRIDOR LAY-IN CEILING.
8. REWORK EX. DUCT AND PROVIDE NEW VAV-10 REPLACE EX. DIFFUSER WITH NEW ONE. RECONNECT EX. DUCT AS NEEDED.
9. PROVIDE ACCESS DOOR AT EACH FIRE DAMPER.
10. COORDINATE LOCATION WITH STORAGE RACKS.

OUTDOOR AIR REQUIREMENTS:

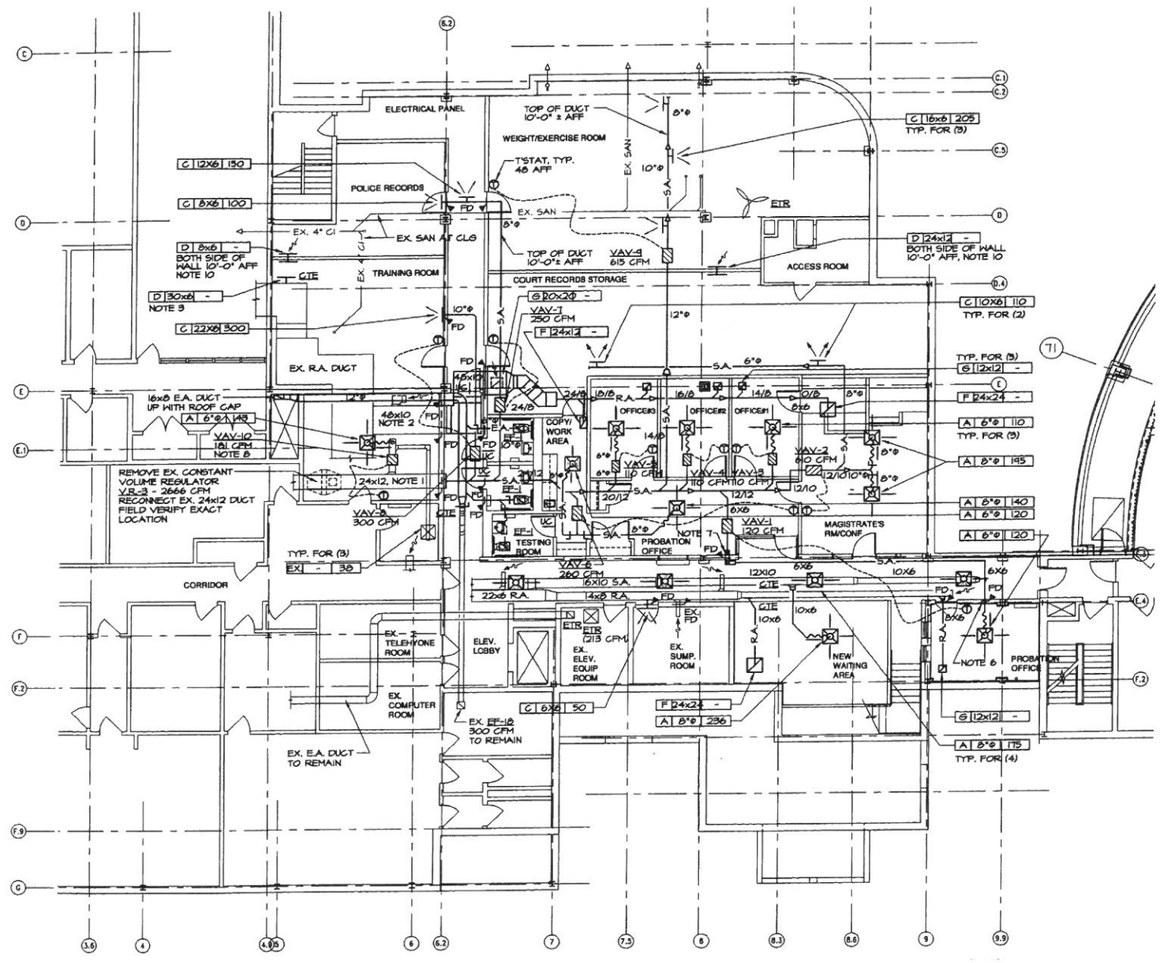
EX. AC-2 AIR HANDLING UNIT SET UP TO PROVIDE 23% OF OUTDOOR AIR.

2666 CFM x 0.23 = 613 CFM
936 CFM x 0.25 = 213 CFM
826 CFM

OMC TABLE 403.3

ROOM TYPE	AREA SQ. FT	OCCUPANCY PEOPLE PER SQ.FT	OCCUPANCY PEOPLE	O.A. CFM PER PERSON	O.A. CFM PER SQ. FT	O.A. REQUIRED
CONF.	450	-	17	20	-	340
OFFICES	906	-	6	20	-	120
WAITING	240	-	13*	15	-	195
TRAINING	414	-	2	20	-	40
WEIGHT	1222	-	4*	20	-	80
CORR.	975	-	-	-	0.05	50
MINIMUM O.A. REQUIRED						825

* - ASHRAE 62.1-2004 - 6.2.6.2. SHORT-TERM CONDITIONS



MECHANICAL LOWER LEVEL PLAN
SCALE: 1/8" = 1'-0"

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THE MENTOR MUNICIPAL COURT
8500 CIVIC CENTER BOULEVARD, MENTOR, OH 44060
RENOVATION AND ADDITION

MECHANICAL LOWER LEVEL PLAN

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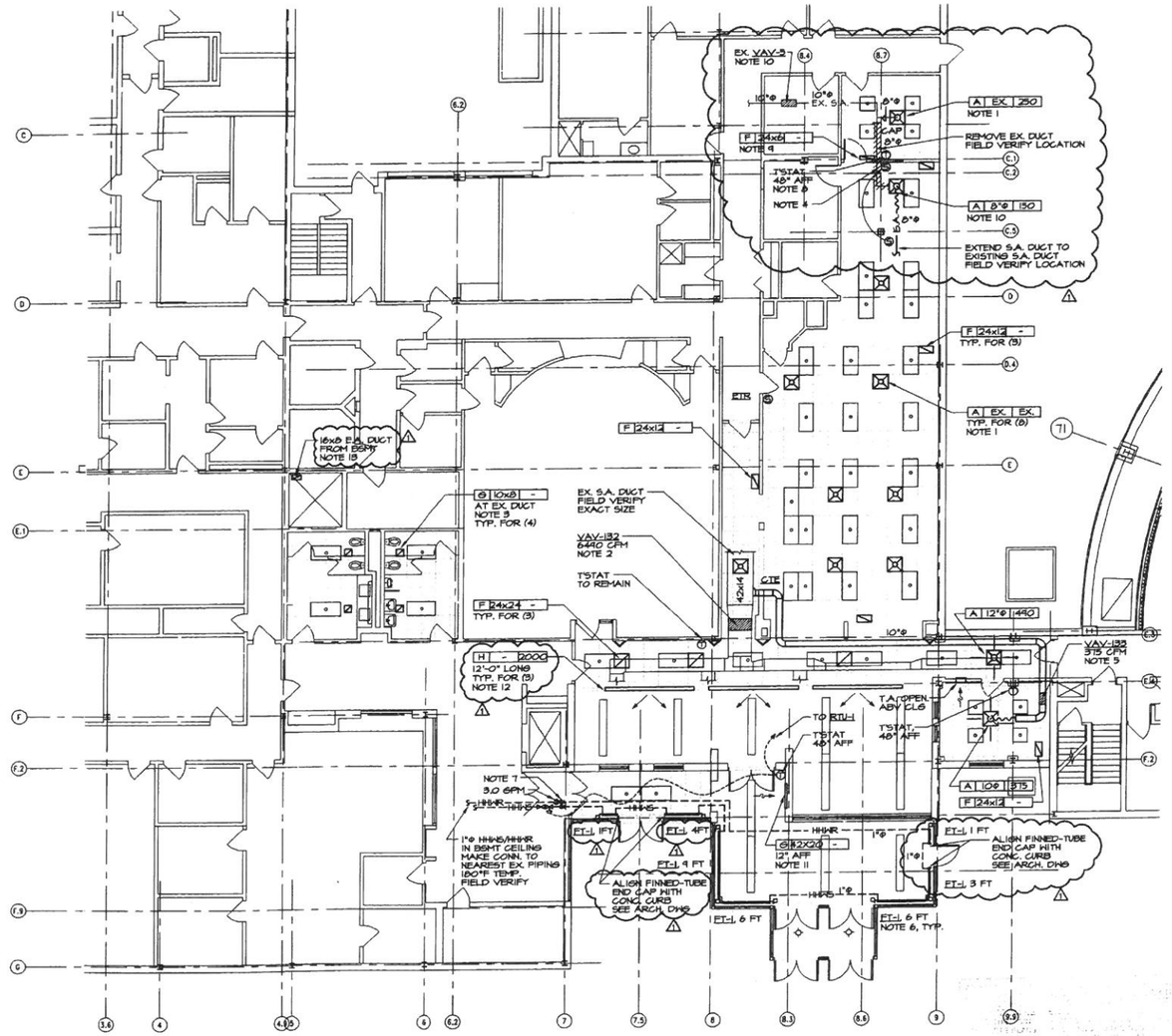
NOTES:

1. REPLACE EX. S.A. DIFFUSERS WITH NEW TO ACCOMMODATE NEW CEILING. FIELD VERIFY EX. CFM FOR EACH EX. DIFFUSER AND REBALANCE THE SYSTEM AS REQUIRED.
2. REPLACE EX. VAV BOX WITH NEW ONE. FIELD VERIFY EXACT DUCT SIZE. RECONNECT EX. 1" HHWS/HHWR PIPING TO REHEAT COIL. RECONNECT POWER WIRING AND CONTROL WIRING.
3. REWORK EX. S.A. DUCT AS REQUIRED TO ACCOMMODATE NEW LAY-IN CEILING AND CONNECT TO NEW S.A. GRILLES.
4. RELOCATE EX. SENSOR AS SHOWN. REWIRE AS REQUIRED.
5. REWORK AND RECONNECT EX. 3/4"ø HHWS/HHWR PIPING TO NEW VAV-133 BOX REHEAT COIL. RECONNECT POWER AND CONTROL WIRING.
6. COORDINATE LINEAR FEET OF FINNED-TUBE WITH COLUMN. SEE ARCHITECTURAL/STRUCTURAL DRAWINGS.
7. ROUTE HHWS/HHWR PIPING UNDER FLOOR SLAB TO FINNED-TUBE. PROVIDE SLEEVE AT EACH PIPE PENETRATION. SEE SPECIFICATIONS. UNDERGROUND PIPING SHALL BE TYPE K (A) ANNEALED-TEMPER COPPER TUBING, WROUGHT-COPPER FITTINGS AND COMPRESSION JOINTS. USE THE FEWEST POSSIBLE JOINTS.
8. PROVIDE TSTAT AND CONNECT TO EX. VAV-5 (EX. ROOFTOP UNIT) DWG M1 BY "JAN DYER ARCHITECTS" DATED 4-14-12 CONTROLLED EX. S.A. FOR THIS ROOM. FIELD VERIFY EXACT LOCATION.
9. FIELD VERIFY EXACT LOCATION AND SIZE OF EX. R.A. DUCT AND CONNECT NEW GRILLES TO EX. R.A. DUCT (EX. ROOFTOP UNIT).
10. INSTALL NEW S.A. DIFFUSER AND CONNECT 8"ø DUCT TO NEAREST VAV BOX DUCT AT EX. AC AIR HANDLING UNIT. REPLACE EX. VAV BOX IF NEEDED. FIELD VERIFY EXACT LOCATION.
11. 12" STUD WALL IS R.A. PLENUM.
12. REWORK EX. S.A. DUCT AND REPLACE S.A. WALL MOUNTED DIFFUSERS AS SHOWN. PATCH WALL TO MATCH EXISTING.
13. FIELD VERIFY ACCESS TO DUCT CHASE.



MECHANICAL MAIN LEVEL PLAN

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

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MECHANICAL MAIN LEVEL PLAN

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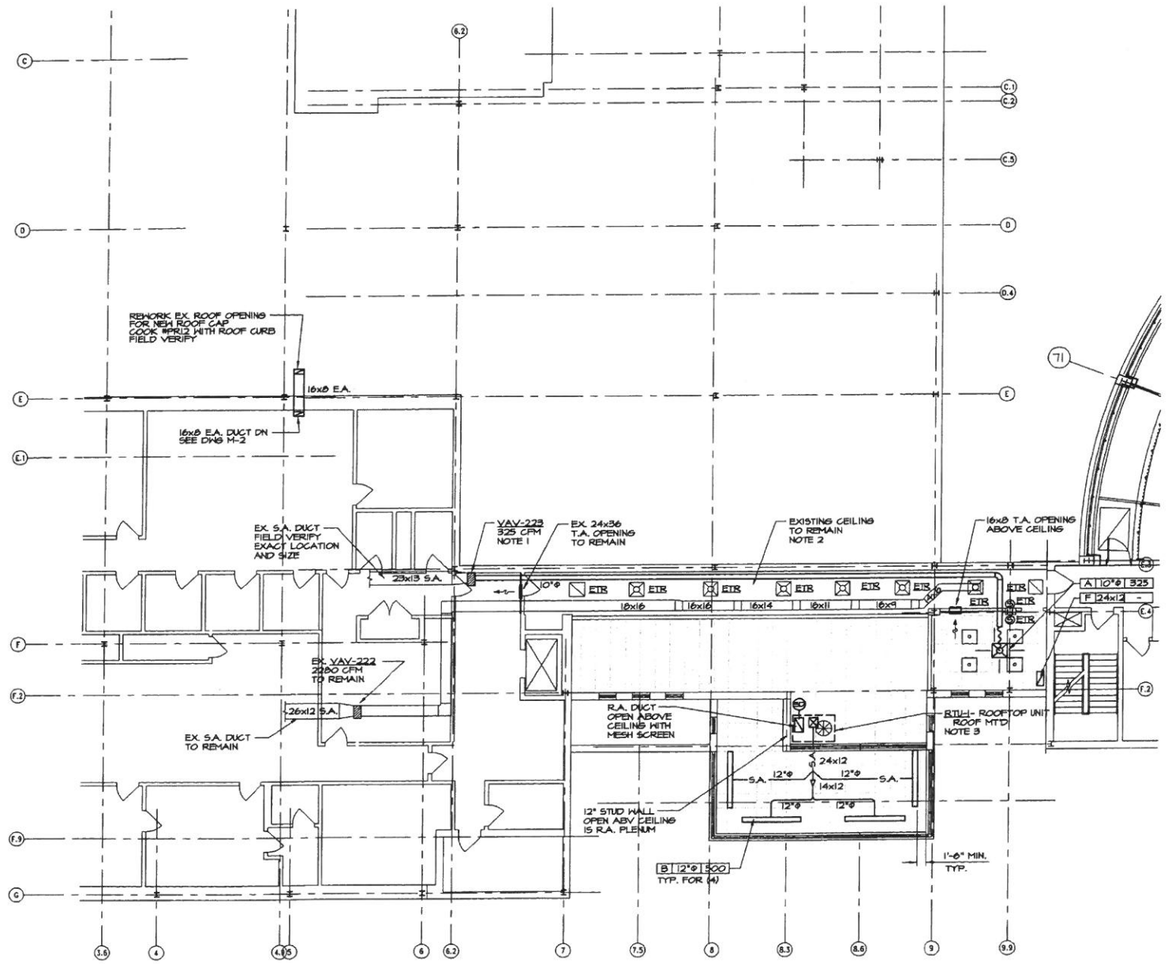
NOTES:

1. REPLACE EX. VAV TERMINAL BOX WITH NEW ONE.
   EXTEND DUCT AS SHOWN.
   RECONNECT EX. 1/2" HWS/HWR PIPING TO VAV REHEAT COIL.
   RECONNECT POWER WIRING AND CONTROL WIRING
2. REMOVE AND REINSTALL EX. CEILING AS REQUIRED FOR NEW DUCT INSTALLATION.
   ALL EXISTING S.A. DIFFUSERS AND R.A. GRILLES TO REMAIN IN EXISTING CEILING.
3. INSTALL RTU-1 ON ROOF CURB. EXTEND S.A. AS SHOWN.
   PROVIDE FULL SIZE R.A. DROP.
   PROVIDE INSULATION AT CURB.
   PROVIDE 1" THICK ACOUSTICAL LINER FOR S.A. AND R.A. DUCT.
   DUCT SIZES INDICATED ARE INTERIOR AND NOT INCLUDE LINING.
   COORDINATE ROOF OPENING WIT S.T.C.
   PROVIDE CONDENSATE DRAIN PER MFGR REQUIREMENTS AND SPILL OVER CONCRETE SPLASH BLOCK (12"x12"x2").
   MIN. 10'-0" SHALL BE PROVIDED FROM ROOF EDGE.



MECHANICAL UPPER LEVEL PLAN
SCALE: 1/8" = 1'-0"

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MECHANICAL UPPER LEVEL PLAN

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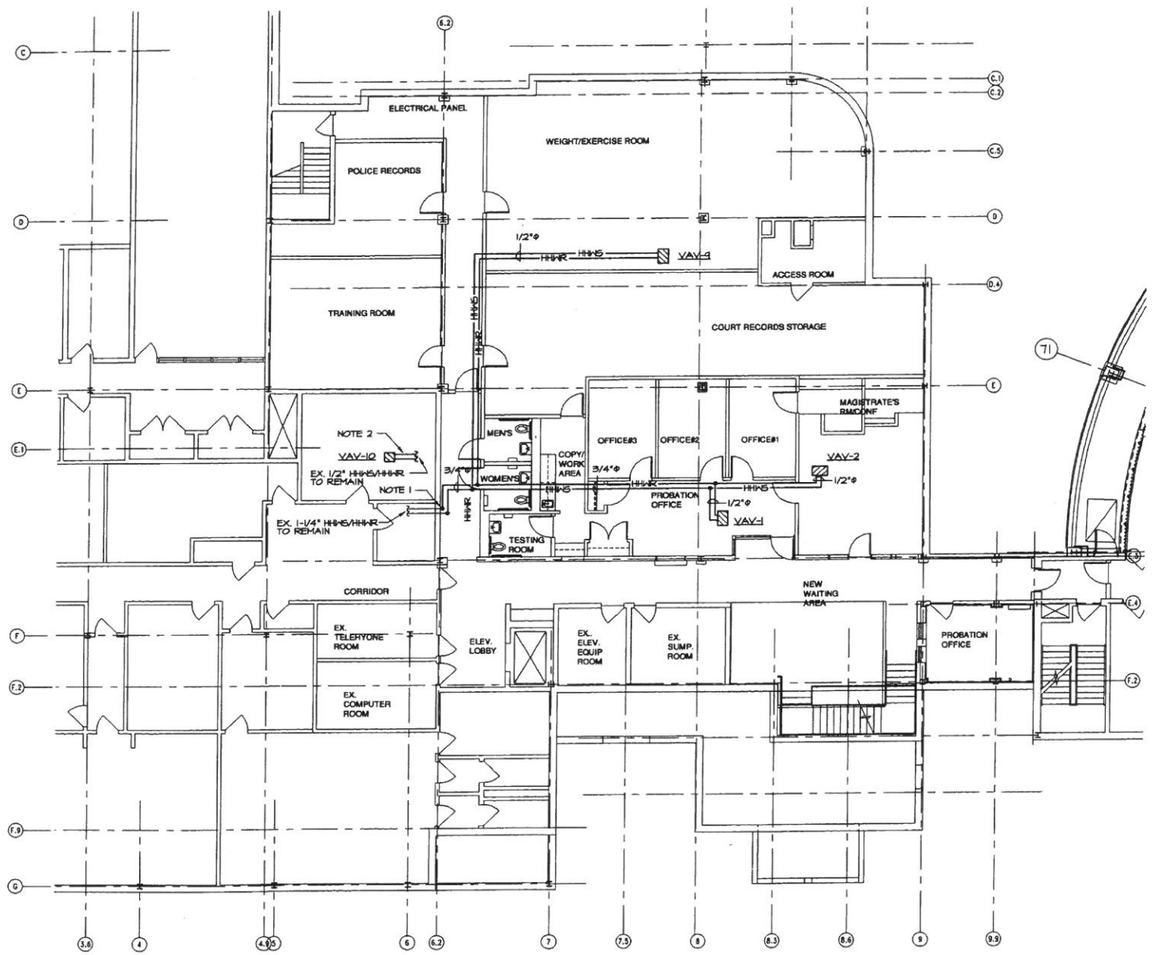

NOTES:

1. MAKE CONNECTION TO EX. 1-1/4" HHHS AND HHHR (100°F WATER TEMP.) AT THIS POINT. REMOVE VALVE AND EXTEND PIPING AS SHOWN.
2. REWORK EX. PIPING AND MAKE CONNECTION TO REHEAT COIL AT VAV-10.
3. COORDINATE HHHS/HHHR PIPING LOCATION WITH DUCTWORK.
4. PROVIDE FIRE STOPPING MATERIALS AT PIPE PENETRATIONS THRU FIRE RATED WALLS.

HYDRONIC LOWER LEVEL PLAN

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

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SYMBOL LEGEND

	TURNING VANES (MITERED ELBOW)	SA	SUPPLY AIR
VD	VOLUME DAMPER	RA	RETURN AIR
FD	FIRE DAMPER	OA	OUTSIDE AIR
MOD	MOTOR OPERATED DAMPER	TA	TRANSFER AIR
SD	DUCT SMOKE DETECTOR	EA	EXHAUST AIR
	SUPPLY DUCT	AFF	ABOVE FINISHED FLOOR
	RETURN OR EXHAUST DUCT	BFF	BELOW FINISHED FLOOR
	FLEXIBLE CONNECTION	EL	ELEVATION
	LINED DUCTWORK	BOD	BOTTOM OF DUCT
	TRANSITION (RECTANGULAR TO ROUND)	EX	EXISTING
		CTE	CONNECT TO EXISTING
		ETR	EXISTING TO REMAIN
S	TEMPERATURE SENSOR	AD	ACCESS DOOR
O	OCCUPANCY SENSOR	MCA	MINIMUM CIRCUIT AMPERAGE
T	THERMOSTAT	GTC	GENERAL TRADES CONTRACTOR
SD	SMOKE DETECTOR	PC	PLUMBING CONTRACTOR
		MC	MECHANICAL CONTRACTOR
		EC	ELECTRICAL CONTRACTOR

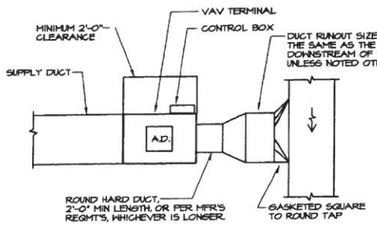
- THERMOMETER
- PRESSURE GAUGE
- UNION
- SHUT-OFF VALVE
- CHECK VALVE
- CONTROL VALVE
- BALANCING VALVE
- REDUCER, CONCENTRIC
- REDUCER, ECCENTRIC
- SHUT OFF VALVE IN RISER
- FLOW DIRECTION
- SECTION OR DETAIL NUMBER
- DRAWING NUMBER
- AIR DIFFUSER WITH SHADED SECTION(S) REPRESENT NO AIR FLOW IN THAT DIRECTION
- 4-WAY THROW
- VAV DAMPER VAV-**(MARK)
- STRAINER
- RELIEF VALVE
- MANUAL AIR VENT
- CAP ON END OF PIPE
- PIPING ELBOW UP
- PIPING ELBOW DOWN
- HWS HEATING WATER SUPPLY
- HWR HEATING WATER RETURN
- EXISTING PIPING
- ITEM TO BE REMOVED
- UC 1" UNDERCUT DOOR

DIFFUSER SYMBOL — NECK SIZE — CFM

DIFFUSER LEGEND

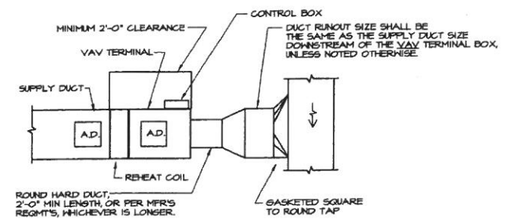
AIR GRILLE SCHEDULE

SYMBOL	DESCRIPTION
A	TITUS OMNI SQUARE PANEL DIFFUSER, LAY-IN CEILING, 24"x24" CEILING MODULE, D-75 DAMPER (ROUND), DB DIRECTIONAL BLOW CLIPS (SEE PLANS).
B	TITUS ML-94, 4 SLOT DIFFUSER WITH MP-94 PLENUM 8'-0" LONG, ALUMINUM, LAY-IN MODULE AT 24'-0" LAY-IN CEILING
C	TITUS 300RS-1 SUPPLY REGISTER, DOUBLE DEFLECTION, SURFACE MOUNT, AG-15 DAMPER, 3/4" SPACING.
D	TITUS 350RL-1 RETURN AIR GRILLE, SURFACE MOUNT, 3/4" SPACING.
F	TITUS 50F-3 E66GRATE RETURN GRILLE, ALUMINUM, LAY-IN MODULE
G	TITUS 50F-1 E66GRATE RETURN GRILLE, ALUMINUM, SURFACE MOUNT
H	TITUS S.A. LINEAR DIFFUSER ALUMINUM, WALL MOUNT TO MATCH EXISTING
FD	RUSKIN DIB02 FIRE DAMPER, STYLE B, DYNAMIC, 1-1/2 HOUR



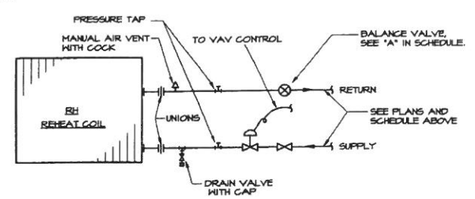
VAV BOX CONNECTION DETAIL

NO SCALE



VAV BOX WITH REHEAT COIL CONNECTION DETAIL

NO SCALE



REHEAT COIL PIPING DIAGRAM

NO SCALE

MECHANICAL EQUIPMENT SCHEDULE

SYMBOL	QUAN.	DESCRIPTION	ACCESSORIES	ELECTRICAL
RTU-1	1	TRANE YSC060 AIR CONDITIONING UNIT PACKAGE GAS/ELECTRIC ROOFTOP DOWNFLOW, 10 SEER 2000 CFM @ 0.5 E.S.P., 100 CFM O.A. MIN. NOMINAL 5 TONS COOLING AT 80°F/67°F EDB/EWB MEDIUM HEAT CAP. - 80 MBH INPUT, 64 MBH OUTPUT * R.A. DUCT SMOKE DETECTOR	DISCONNECT SWITCH PROGRAMMABLE TSTAT ROOF CURB ENTHALPY ECONOMIZER (2) 2" - 30/30 FILTERS	460/60/3 MCA 16.30 A MOP 25 A
EF-1	3	COOK GEMINI RGC-240 EXHAUST FAN CEILING MOUNT, DIRECT DRIVE, CENTRIFUGAL GALV. ST. WHEEL STEEL GRILLE 100 CFM @ .25" SP, 1.5 SONES	R.I.S. ISOLATORS	115/60/1 65 WATTS
FT-1	-	VULCAN DVDB SERIES FINNED TUBE 6" COVER HEIGHT, COPPER TUBE, ALUMINUM FINS, 180°F WATER TEMP. 3/4" TUBE, 580 HEIGHT ENCLOSURE TOP AND FRONT -11 GAGE EXTRUDED ALUMINUM, CLEAR ANODIZED, 204R1, STEEL BACK PANEL, ETC. FOR WALL MOUNTING SEE DWG M-2 FOR LENGTH AND QUANTITIES	END CAP	-

* PROVIDE RTU-1 RETURN-AIR DUCT SMOKE DETECTOR, REMOTE TEST STATION, AND COMBINATION AUDIBLE/VISIBLE ALARM SIMPLEX MODELS 2098-9649(4120), 20-4805 OR EQUALS BY SIEMENS OR HONEYWELL. ALL WIRING BY E.C. LOCATE TEST STATION AND ALARM AT UPPER FLOOR (VERIFY LOCATION WITH OWNER).

VAV BOX SCHEDULE

MARK	ROOM NAME	MODEL#	INLET SIZE (inches)	COOLING CFM MIN.	COOLING CFM MAX.	SOUND N.C. DISCH/RAD. @ 1/2" INLET S.P.	ΔP# AIR	REHEAT COIL	OCCUPANCY SENSOR	REMARKS
VAV-1	PROBATION OFFICE	VCHF	4	0	120	19/15	.02"	YES	--	STAND-ALONE SYSTEM
VAV-2	MAGISTRATE'S ROOM CONF., COURT RECORD	VCHF	10	0	610	15/15	.07"	YES	--	
VAV-3	OFFICE -1	VCCF	4	0	110	19/15	.01"	--	--	
VAV-4	OFFICE-2	VCCF	4	0	110	19/15	.01"	--	--	
VAV-5	OFFICE -3	VCCF	4	0	110	19/15	.01"	--	--	
VAV-6	PROBATION OFFICE WORK AREA	VCCF	5	0	260	15/15	.01"	--	--	
VAV-7	POLICE RECOR. CORR.	VCCF	5	0	250	15/15	.01"	--	--	
VAV-8	TRAINING ROOM	VCCF	5	0	300	17/17	.01"	--	--	
VAV-9	WEIGHT/EXERCISE	VCHF	10	0	615	15/15	.07"	YES	--	
VAV-10	EX. B-08, B04	VCHF	5	0	181	15/15	.01"	YES	--	
TOTAL S.A. AIR OF BASEMENT RENOVATED AREA: 2666 CFM										
VAV-132	EXISTING	VCHF	8	0	575	15/15	.02"	YES	--	CENTRAL TEMP. CONTROL SYSTEM
VAV-133	EXISTING	VCHF	24x16	0	6490	24/37	.01"	YES	--	
VAV-223	EXISTING	VCHF	8	0	325	15/15	.01"	YES	--	
									--	

NOTES:

1. VAV BOX MODEL# AND SIZING CRITERIA BASED ON TRANE VARITRANE EQUIPMENT.
2. SOUND AND PRESSURE DATA ARE NOT PERMITTED TO BE EXCEEDED BY MORE THAN 10%.
3. SEE ELECTRICAL PLANS FOR 120V POWER CIRCUIT TERMINATIONS. M.C. TO EXTEND ALL POWER/CONTROL WIRING FROM THOSE POINTS TO ALL DAMPERS, THERMOSTATS, TRANSFORMERS, ETC PER DIVISION 16 SPEC'S.
4. REHEAT CONNECTION SIZE TO MATCH BRANCH PIPING SIZE AS SHOWN ON DWG M-4 "MECHANICAL HYDRONIC PLAN".
5. VERIFY VAV BOX NUMBERING SEQUENCE FOR EXISTING AC-2 AIR HANDLING UNIT AND NUMBER NEW BOXES ACCORDINGLY.

VAV REHEAT COIL PIPING SCHEDULE

MARK	MBH	ROWS	ΔT=37°F GPM	"A" GPM	CONTROL VALVE TYPE	PIPE SIZE	REMARKS
VAV-1	1.85	1	.90	0.22	2-POSITION	1/2"	STAND-ALONE SYSTEM
VAV-2	4.9	1	2.35	0.57	2-POSITION	1/2"	
VAV-4	2.2	1	1.10	0.3	2-POSITION	1/2"	
VAV-10	EXT.	1	1.81	0.6	2-POSITION	1/2"	
VAV-132	EXT.	1	4.75	4.0	2-POSITION	1"	CENTRAL TEMP. CONTROL SYSTEM
VAV-133	6.0	1	3.25	0.8	2-POSITION	3/4"	
VAV-223	6.0	1	3.25	0.8	2-POSITION	1/2"	

ENTERING AIR TEMP. 58°F
LIVING AIR TEMP. 75°F
ΔT=17°F

ENTERING WATER TEMP. 100°F (EXISTING)
LIVING WATER TEMP. 85°F (EXISTING)
ΔT=15°F

JAN 9 6 2009

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