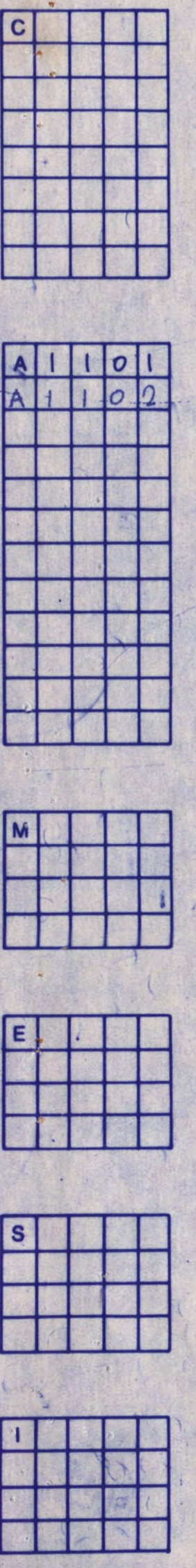
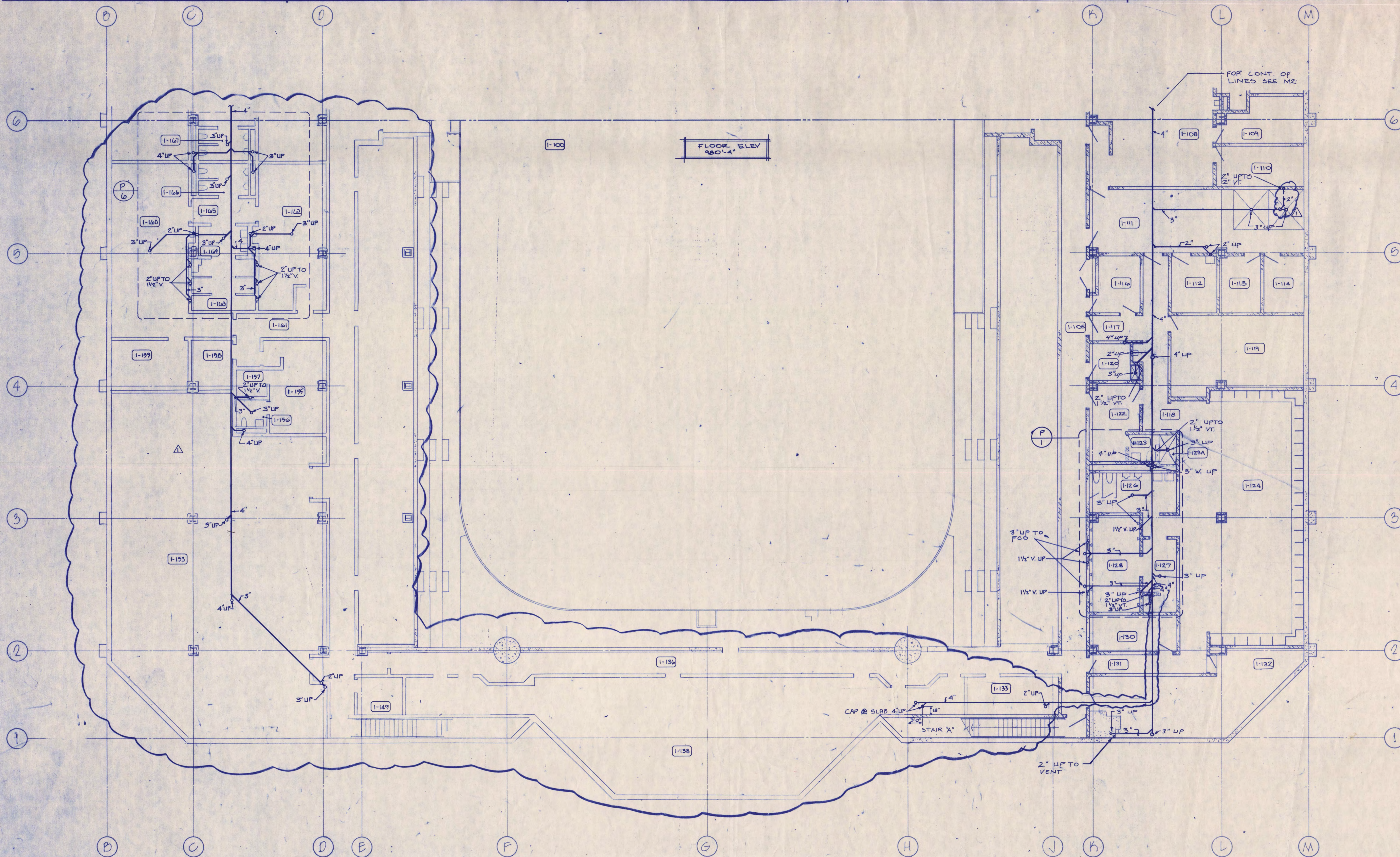
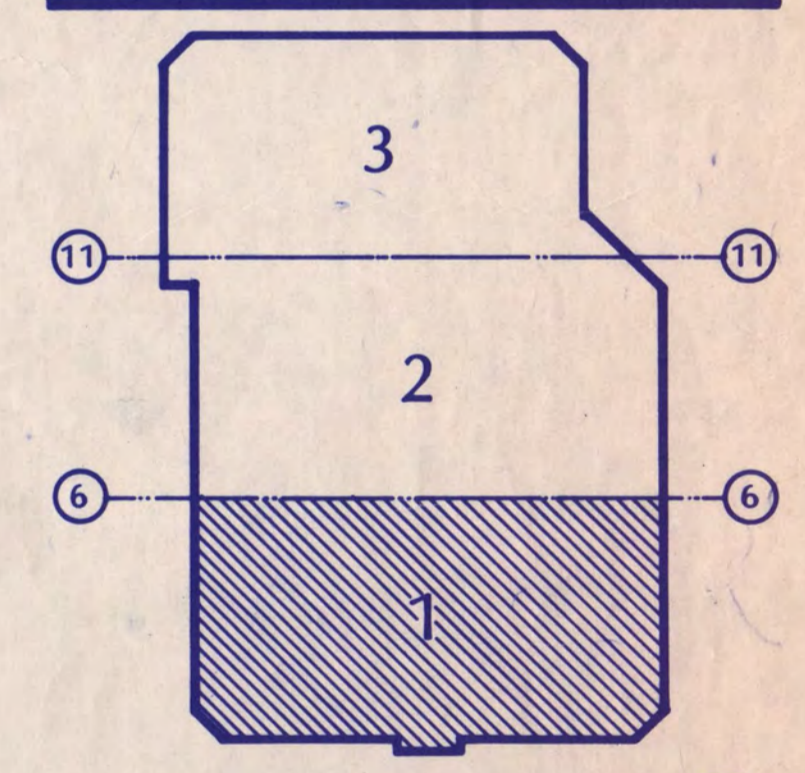


Revision	Date	No.
P.D. REVIEW ISSUE	6-8-88	
C.D. REVIEW ISSUE	7-12-88	
ISSUED FOR BIDDING	9-9-88	
ISSUED FOR BULL#1	3-10-89	▲



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For M101
Date 7-12-88 Reg. No. 11647



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 ST. CLOUD, MINNESOTA

Ellerbe

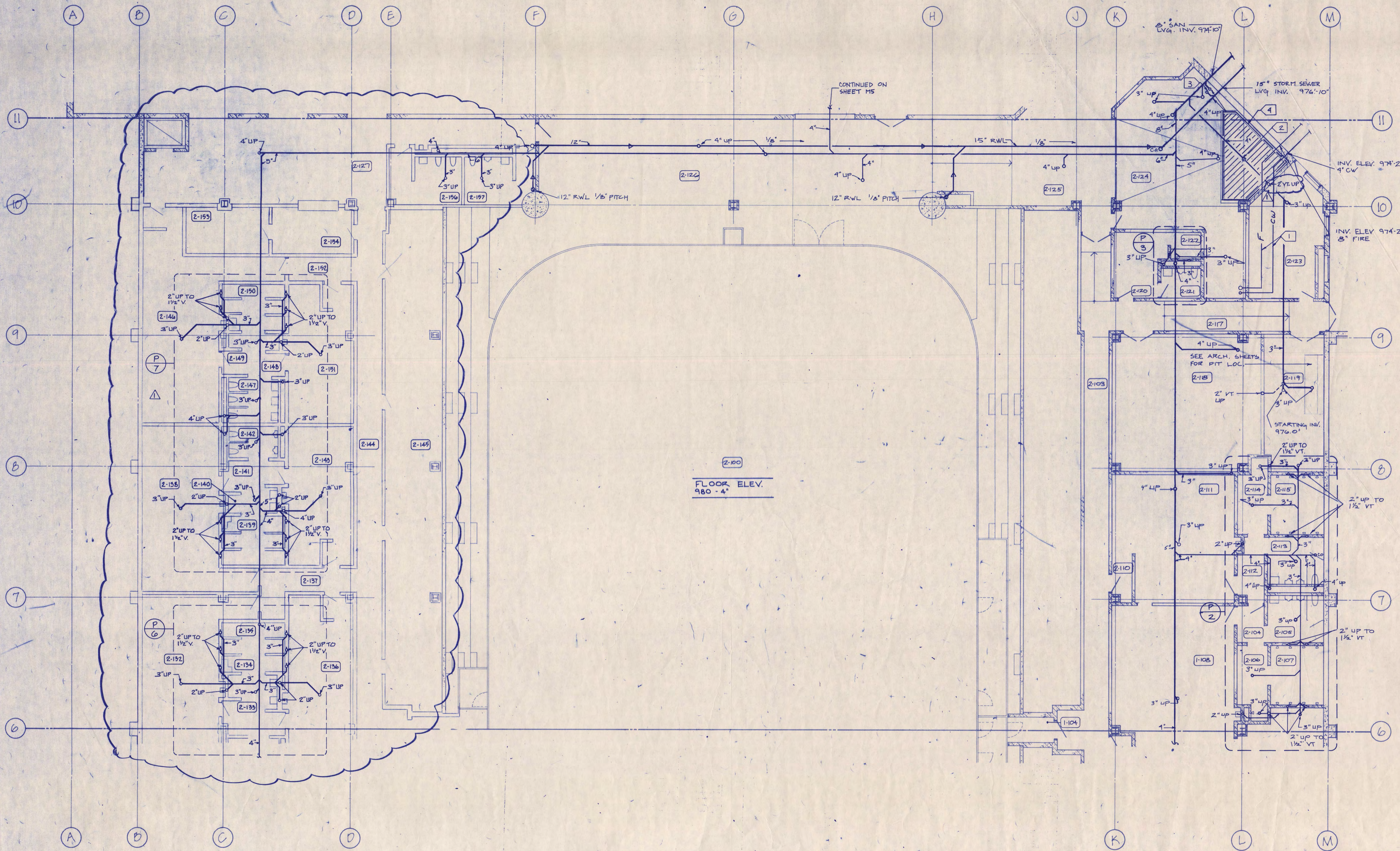
One Appletree Square
 Minneapolis, MN 55425
 (612) 853-2000
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UNDERGROUND PLUMBING PLAN
 AREA 1

Scale 1/2" = 1'-0"
 Date SEP 9, 1988 Comm. No. 5160-871
 In Charge JDM
 Drawn By JAP
 Checked By JIS/GD

M1

Revision	Date	No.
P.P. REVIEW ISSUE	4-8-88	
C.D. REVIEW ISSUE	7-12-88	
ISSUED FOR BIDDING	9-9-88	
ISSUED FOR BULL #1	3-10-89	



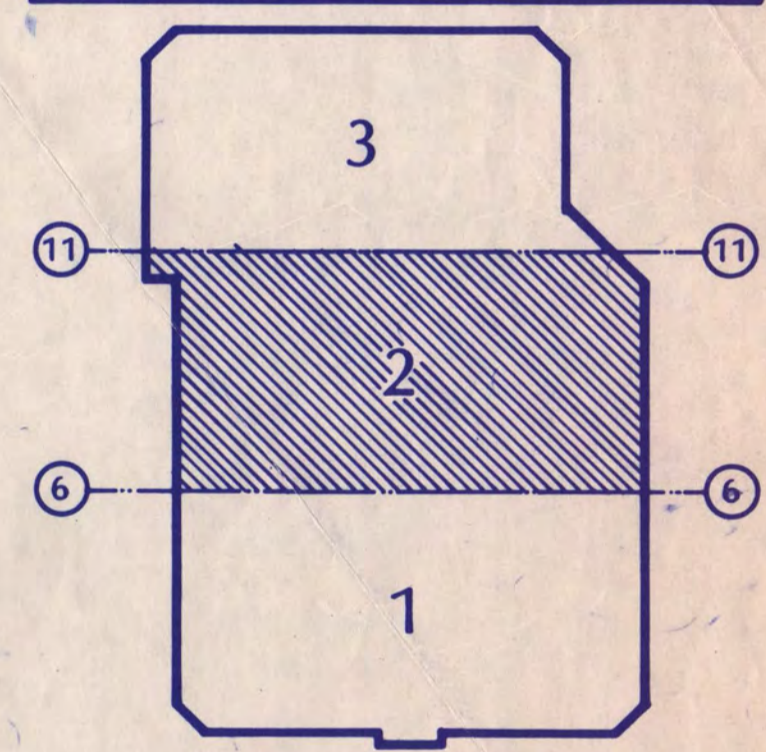
FLOOR ELEV.
980 - 4'

- SPECIFIC NOTES**
- 1 CW & FIRE PROTECTION MAINS FROM STREET TO FLOOR PENETRATION BY DIV. 10. PIPE TO RISE IN BLDG. TO AVOID CONC. FTG.
 - 2 ICE MELTING VERIFY SLAB INV. W/ ARCH.
 - 3 OFFSET C.O. LINES TO AVOID WATER HEATERS.
 - 4 SEE SHT. GS/7 FOR UNDERGROUND INSUL. BY DIV. 2.

- GENERAL NOTES**
1. SEE ICE RINK DRAWINGS FOR ADDITIONAL UNDER GROUND PIPING, PROVIDED BY DIV. 15.

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DOUG WADSWORTH
Date 7-12-88 Reg. No. 14699



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UNDERGROUND PLUMBING PLAN AREA 2

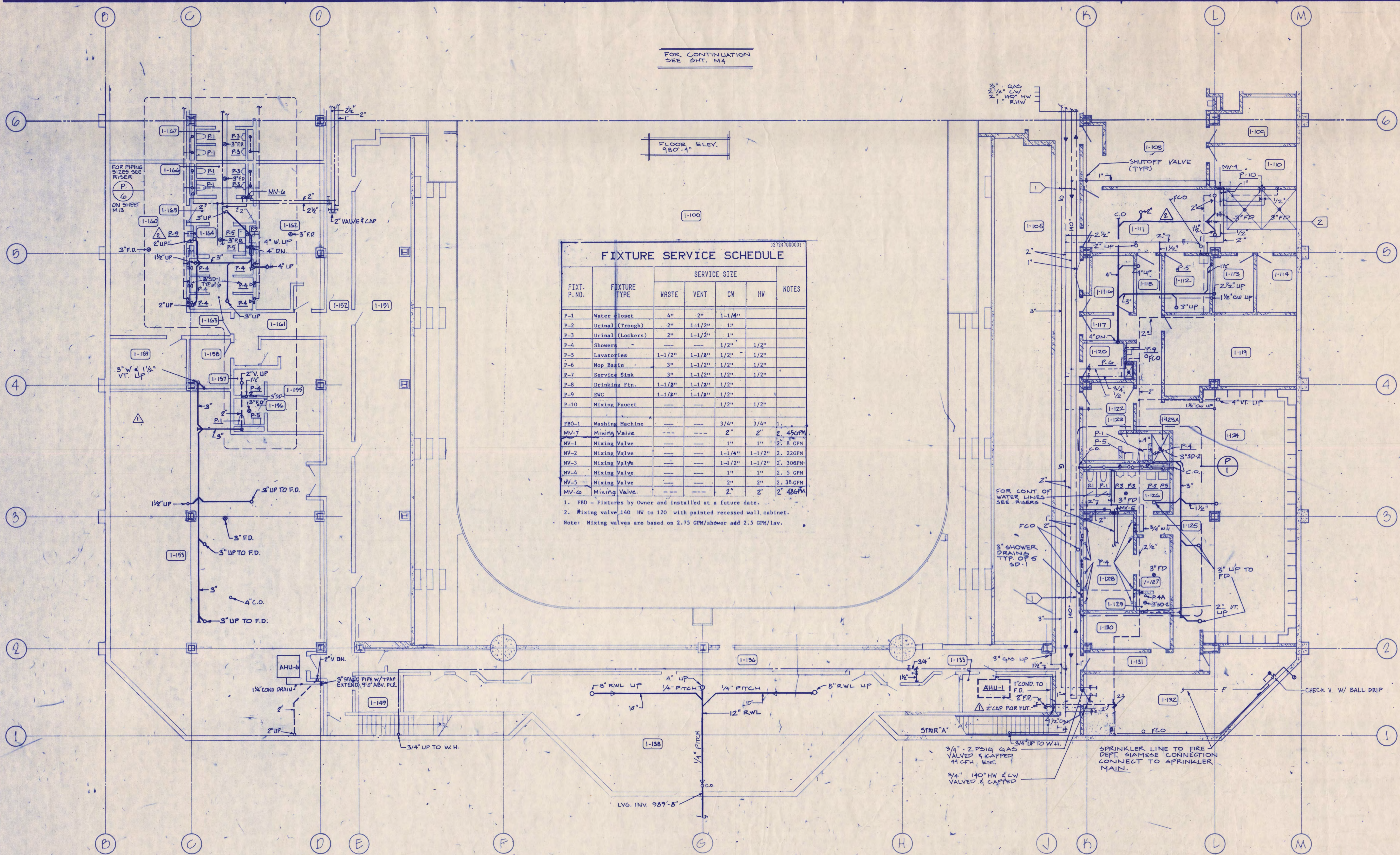
Scale 1/8" = 1'-0"

Date SEP 9, 1988 Comm. No. 876-6-871
In Charge JDM
Drawn By TAP
Checked By JTS/SP

M2

Revision	Date	No.
P.D. REVIEW ISSUE	6-8-88	
C.D. REVIEW ISSUE	7-12-88	
ISSUED FOR BIDDING	9-9-88	
ISSUED FOR BULL. #1	3-10-89	
ISSUED FOR BULL. #2	6-27-89	

FOR CONTINUATION
SEE SHT. M4



FIXT. P. NO.	FIXTURE TYPE	SERVICE SIZE				NOTES
		WASTE	VENT	CW	HW	
P-1	Water Closet	4"	2"	1-1/4"		
P-2	Urinal (Trough)	2"	1-1/2"	1"		
P-3	Urinal (Lockers)	2"	1-1/2"	1"		
P-4	Showers		1/2"	1/2"	1/2"	
P-5	Lavatories	1-1/2"	1-1/2"	1/2"	1/2"	
P-6	Mop Basin	3"	1-1/2"	1/2"	1/2"	
P-7	Service Sink	3"	1-1/2"	1/2"	1/2"	
P-8	Drinking Ftn.	1-1/2"	1-1/2"	1/2"		
P-9	FGC	1-1/2"	1-1/2"	1/2"		
P-10	Mixing Faucet			1/2"	1/2"	
FBO-1	Washing Machine			3/4"	3/4"	
MV-7	Mixing Valve			2"	2"	2.45 GPM
MV-1	Mixing Valve			1"	1"	2.8 GPM
MV-2	Mixing Valve			1-1/4"	1-1/2"	2.22 GPM
MV-3	Mixing Valve			1-1/2"	1-1/2"	2.308 GPM
MV-4	Mixing Valve			1"	1"	2.5 GPM
MV-5	Mixing Valve			2"	2"	2.38 GPM
MV-6	Mixing Valve			2"	2"	2.486 GPM

1. FBO - Fixtures by Owner and installed at a future date.
2. Mixing valve 140 HW to 120 with painted recessed wall cabinet.
Note: Mixing valves are based on 2.75 GPM/shower add 2.5 GPM/lav.

SPECIFIC NOTES

1 PIPING IN CORRIDOR IS SHOWN THIS WAY FOR CLARIFICATION ONLY. BRACKET PIPE TO CORRIDOR SIDE OF SOUTH WALL & MAINTAIN MIN. OF 10" A.F.F.

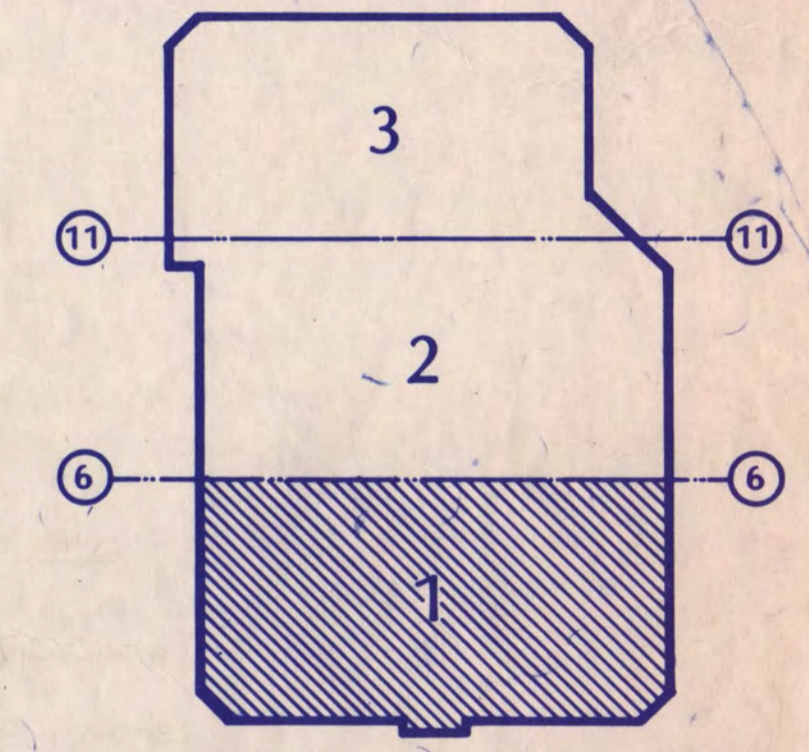
2 4" W. AND 2" VALVED CW FOR FUTURE TOILETS ON CONCOURSE.

GENERAL NOTES

1. REFER TO SHT. M13 FOR FIRE PROTECTION DATA.

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John M. M... 1-12-88 Reg. No. 16697



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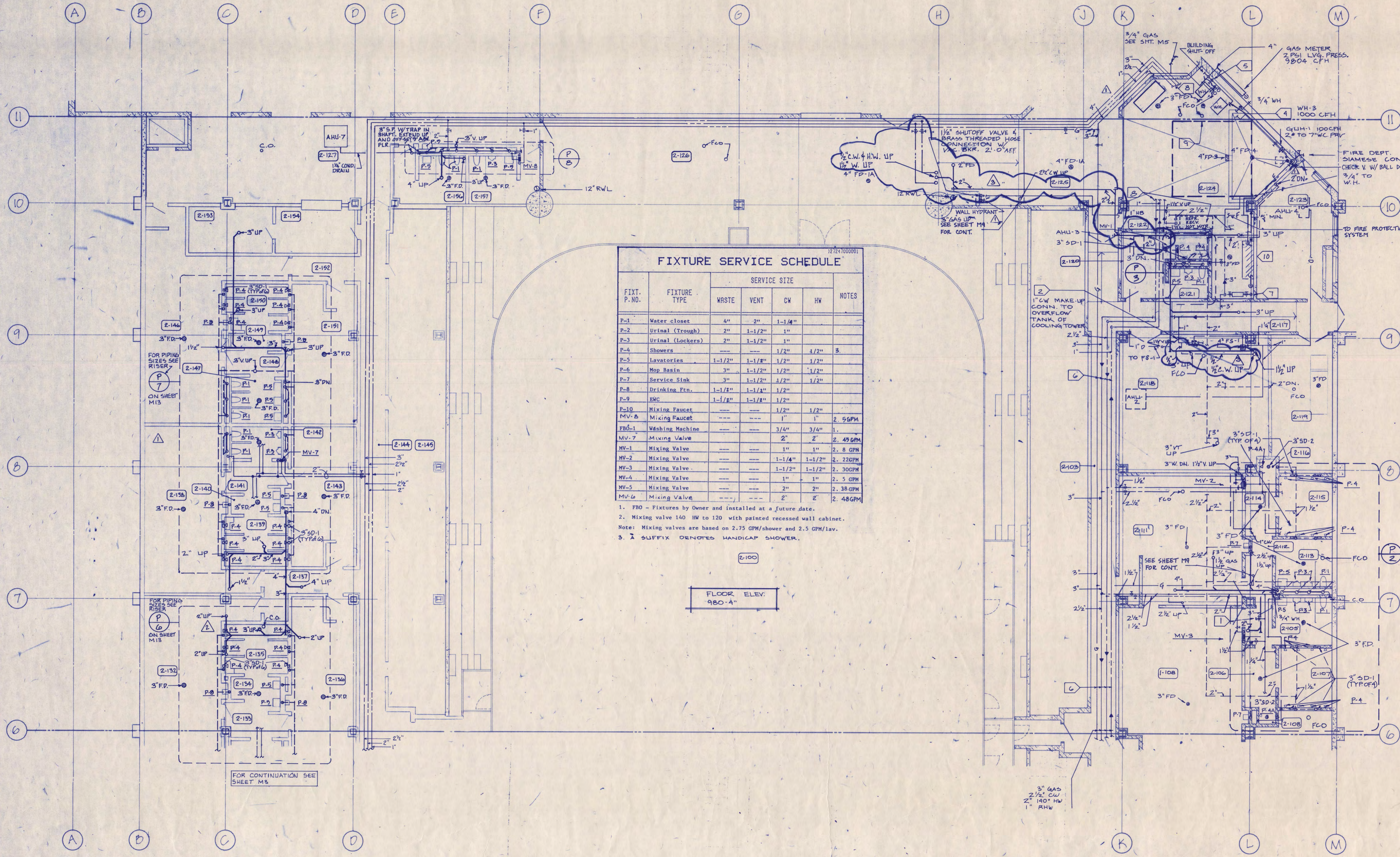
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BASEMENT PLUMBING PLAN AREA 1

Scale: 1/8" = 1'-0"
Date: SEP 9, 1988 Comm. No. 5166-871
In Charge: JDM
Drawn By: JAB
Checked By: JTS/GD

M3



FIXTURE SERVICE SCHEDULE

FIXT. P. NO.	FIXTURE TYPE	SERVICE SIZE				NOTES
		WASTE	VENT	CW	HW	
P-1	Water closet	4"	2"	1-1/4"		
P-2	Urinal (Trough)	2"	1-1/2"	1"		
P-3	Urinal (Lockers)	2"	1-1/2"	1"		
P-4	Showers			1/2"	3/4"	3
P-5	Lavatories	1-1/2"	1-1/2"	1/2"	1/2"	
P-6	Mop Basin	3"	1-1/2"	1/2"	1/2"	
P-7	Service Sink	3"	1-1/2"	1/2"	1/2"	
P-8	Drinking Ftn.	1-1/2"	1-1/2"	1/2"	1/2"	
P-9	BWC	1-1/2"	1-1/2"	1/2"		
P-10	Mixing Faucet			1/2"	1/2"	
MV-5	Mixing Faucet			1"	1"	2.56GPM
WB-1	Washing Machine			3/4"	3/4"	1
MV-7	Mixing Valve			2"	2"	2.49GPM
MV-1	Mixing Valve			1"	1"	2.8 GPM
MV-2	Mixing Valve			1-1/4"	1-1/2"	2.22GPM
MV-3	Mixing Valve			1-1/2"	1-1/2"	2.30GPM
MV-4	Mixing Valve			1"	1"	2.5 GPM
MV-5	Mixing Valve			2"	2"	2.38 GPM
MV-6	Mixing Valve			2"	2"	2.48GPM

1. FRO - Fixtures by Owner and installed at a future date.
 2. Mixing valve 140 HW to 120 with painted recessed wall cabinet.
 Note: Mixing valves are based on 2.75 GPM/shower and 2.5 GPM/lav.
 3. S suffix DENOTES HANDICAP SHOWER.

FLOOR ELEV. 980'-4"

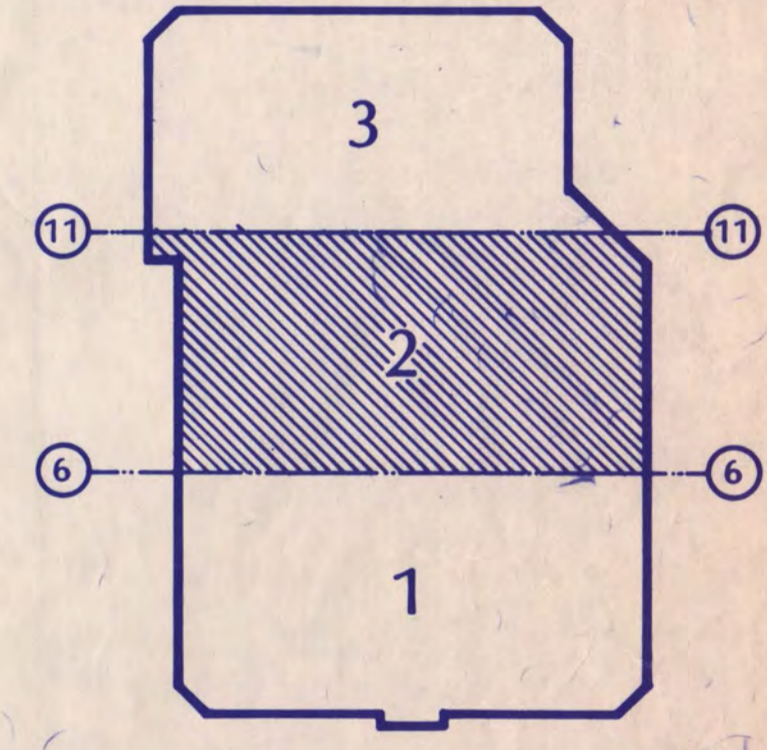
SPECIFIC NOTES

- 3" WASTE, 1" CW CAPPED ABOVE CLG. FOR FUTURE TOILET RM.
- SHUTOFF VALVE W/ REDUCED PRESSURE BACKFLOW PREVENTOR, DRAIN TO F.O.
- 1" SAN. CAPPED AT FLOOR, 2" VALVED & CAPPED CW & 2" CAPPED VENT AT CLG.
- 1/4" 2 PSIG GAS DN. TO WATER HTR. PROVIDE 2" TO 7" W.C. PRESSURE REGULATING VALVE & SHUTOFF. VENT FRY TO ATMOSPHERE. MAINTAIN 25' FROM FA LOWER.
- 1/2" 2 PSIG GAS W/ SHUTOFF VALVE. 1000 CFH EST. (FUT. WH.)
- PIPING IN CORRIDOR IS SHOWN THIS WAY FOR CLARIFICATION ONLY. BRACKET PIPE TO CORRIDOR SIDE OF SOUTH WALL & MAINTAIN MIN. 6" A.T.C.
- WATER METER ASSEMBLY AS REQUIRED BY CODE. SUPPORT FROM CONC. BASE.
- FOR PIPE SIZES, LAYOUT, BYPASS, & EQUIP. ARRANGEMENTS OF HOT WATER STORAGE AND HTG. SYSTEM SEE SHT. M-14.
- ALL PIPING SHALL AVOID THIS AREA - MOUNT PIPING AS HIGH AS POSSIBLE.
- FIRE PROTECTION VALVING LOCATION.

GENERAL NOTES

- SEE ICE RINK DRAWINGS FOR ADDITIONAL LINDER GROUND PIPING BY DIV. 13.
 - REFER TO SHT. M13 FOR FIRE PROTECTION DATA.
- I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date: 7-12-88 Reg. No. 16697



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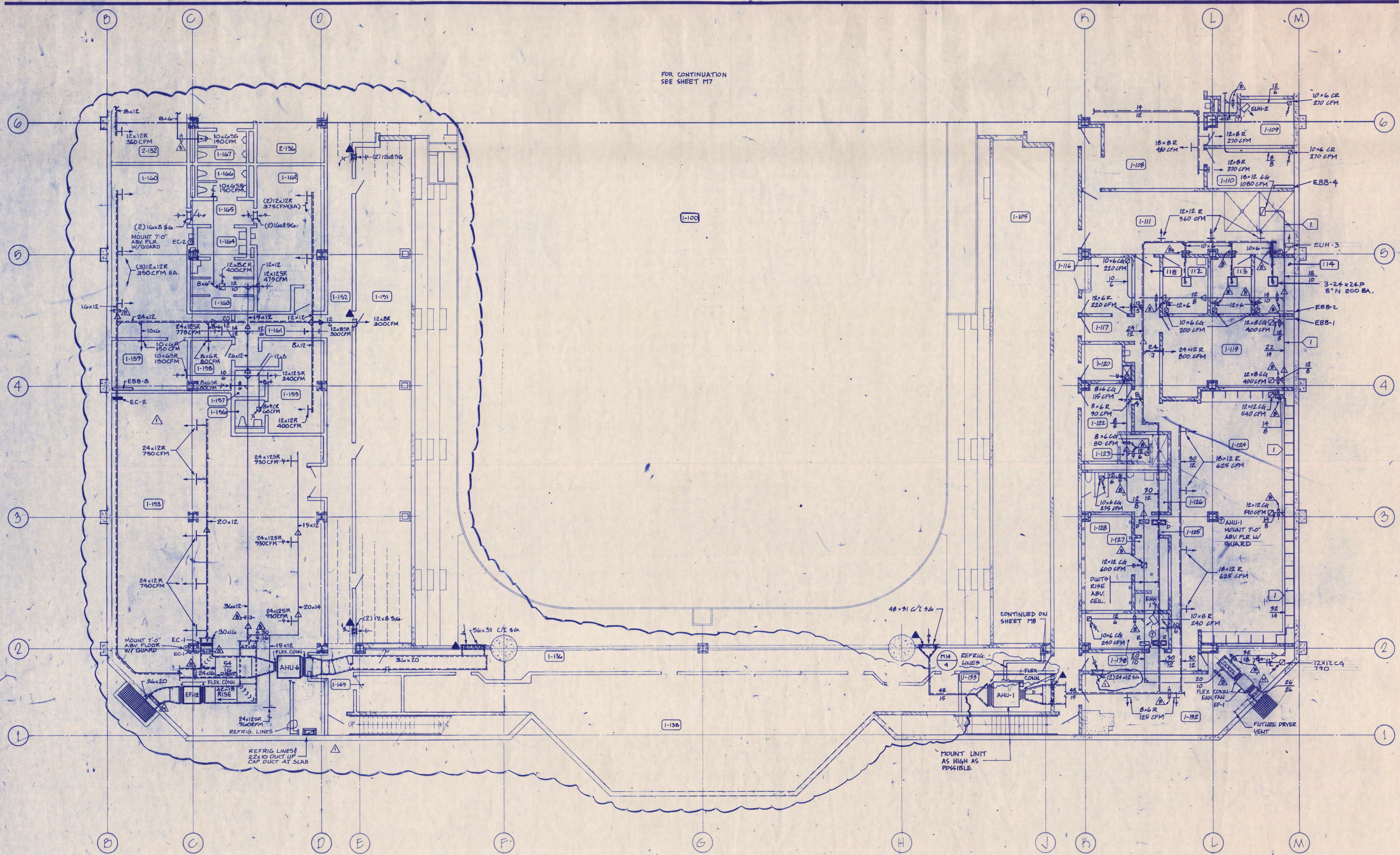
BASEMENT PLUMBING PLAN AREA 2
 Scale 1/8" = 1'-0"

Date: SEP 9, 1988 Conn. No. 076-871
 In Charge: JDM
 Drawn By: TAP
 Checked By: JTS/GD

M4

Revision	Date	No.
P.P. REVIEW ISSUE	6-8-88	
C.O. REVIEW ISSUE	7-2-88	
ISSUED FOR BIDDING	9-9-88	
ISSUED FOR BIDDING	3-10-89	

FOR CONTINUATION
SEE SHEET M7



SPECIFIC NOTES:

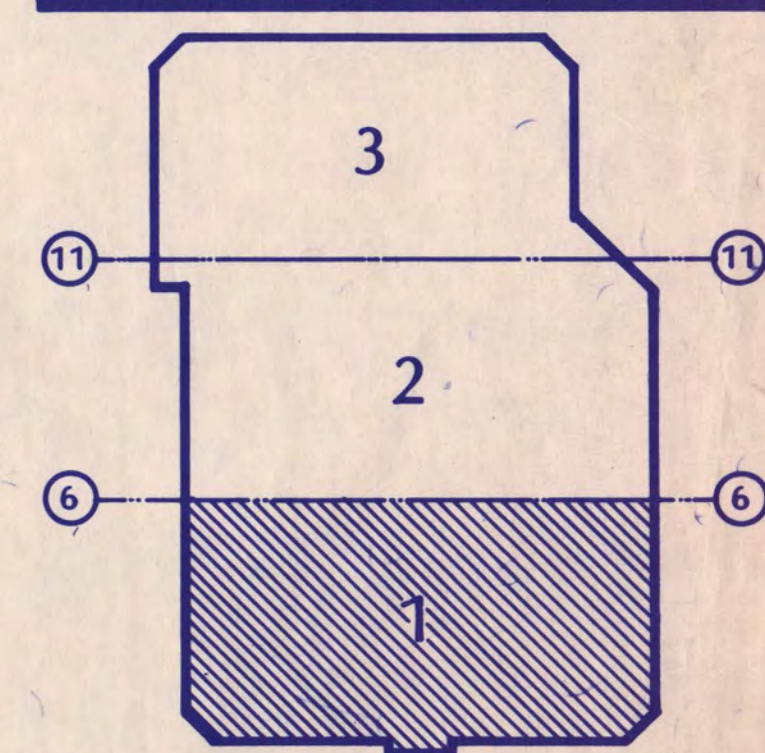
- 1 HOLD TIGHT TO WALL.

GENERAL NOTES:

- 1. KEEP ALL DUCTWORK AS HIGH AS POSSIBLE.

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Jouk Maest
Date 7.12.88 Reg. No. 116697



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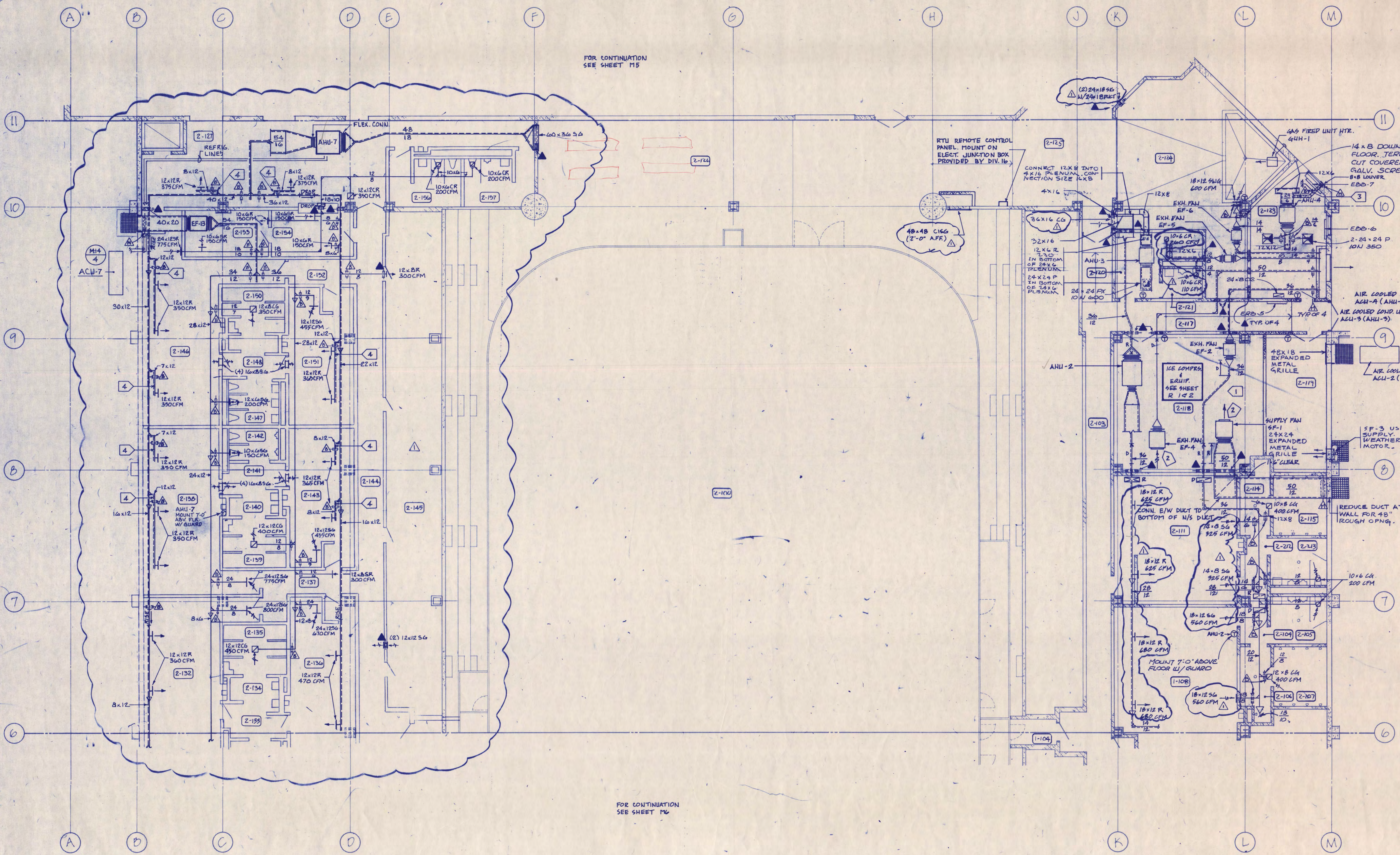
**BASEMENT HVAC PLAN
AREA 1**

Scale 1/4" = 1'-0"

Date SEP 9, 1988 Comm. No. 5166-01
In Charge JDM
Drawn By WDJ
Checked By JTB/SP

M6

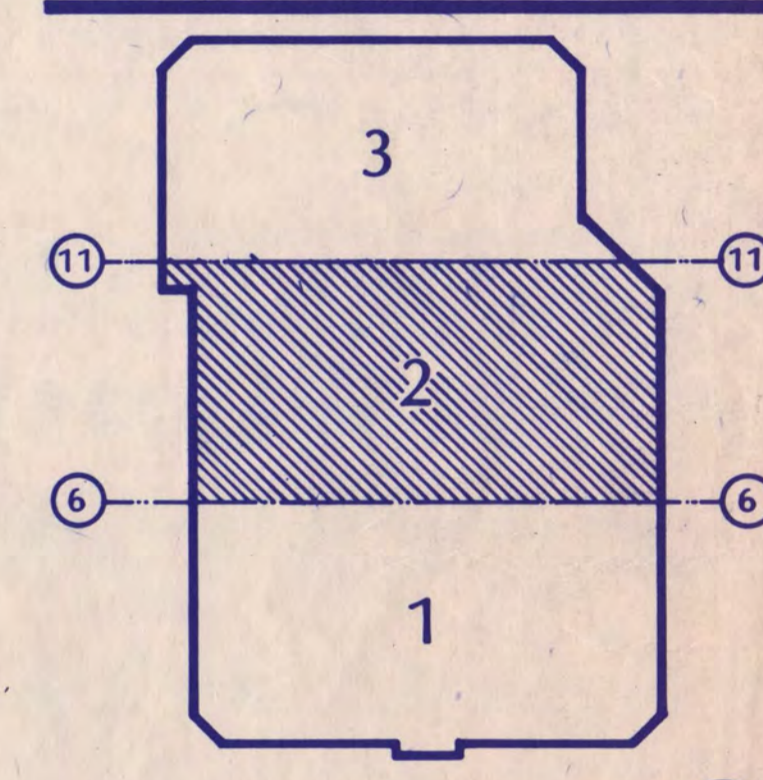
FOR CONTINUATION
 SEE SHEET M5



FOR CONTINUATION
 SEE SHEET M6

- SPECIFIC NOTES**
- KEEP ALL FANS & DUCTWORK AS HIGH AS POSSIBLE
 - 1/2" GALV. HDWE. SCREEN OVER OPENING
 - ADJUST BAL. DAMPER FOR 20 CFM OF OA.
 - DUCT TAKE-OFF IS ON TOP OF MAIN DUCT FOR HIGHER REGISTER LOCATION
- GENERAL NOTES**
- KEEP ALL DUCTS AS HIGH AS POSSIBLE.

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JOSE MAJST
 Date 7.12.88 Reg. No. 16697



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BASEMENT HVAC PLAN
 AREA 2
 Scale 1/8" = 1'-0"

Date SEP 9, 1988 Comm. No. 0766-871
 In Charge JPM
 Drawn By WDT
 Checked By JTS/SP

M7

Revision	Date	No.
PD REVIEW ISSUE	6-8-88	
C.D. REVIEW ISSUE	7-12-88	
ISSUED FOR BIDDING	9-9-88	
ISSUED FOR BULL.#1	3-10-89	
ISSUED FOR BULL.#2	5-18-89	
ISSUED FOR BULL.#3	6-20-89	

FOR CONTINUATION
SEE SHEET M8

FIXTURE SERVICE SCHEDULE					
FIXT. P. NO.	FIXTURE TYPE	SERVICE SIZE			NOTES
		WASTE	VENT	CW	
P-1	Water closet	4"	2"	1-1/4"	
P-2	Urinal (Trough)	2"	1-1/2"	1"	
P-3	Urinal (Lockers)	2"	1-1/2"	1"	
P-4	Showers			1/2"	1/2"
P-5A	Lavatories	1-1/2"	1-1/2"	1/2"	
P-6	Mop Basin	3"	1-1/2"	1/2"	1/2"
P-7	Service Sink	3"	1-1/2"	1/2"	1/2"
P-8	Drinking Ftn.	1-1/2"	1-1/2"	1/2"	
P-9	EWG	1-1/2"	1-1/2"	1/2"	
P-10	Mixing Faucet			1/2"	1/2"
FBO-1	Washing Machine			3/4"	3/4"
MV-1	Mixing Valve			1"	1"
MV-2	Mixing Valve			1-1/4"	1-1/2"
MV-3	Mixing Valve			1-1/2"	1-1/2"
MV-4	Mixing Valve			1"	1"
MV-5	Mixing Valve			2"	2"

1. FBO - Fixtures by Other and installed at a future date.
2. Mixing valve 140 HW to 120 with painted recessed wall cabinet.
Note: Mixing valves are based on 2.75 GPM/shower and 2.5 GPM/lav.

SPECIFIC NOTES

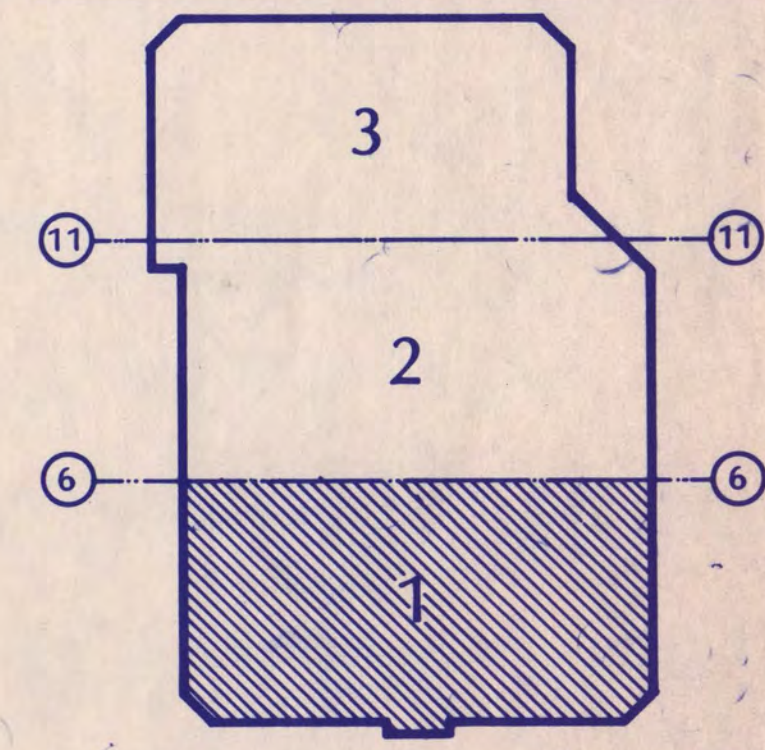
- 3" GAS AND REFRIG. LINES RUN IN PIPE CHASE.
- PIPING LOCATED IN CRAWL SPACE CAP FULL SIZE FOR FUTURE TOILET RMS. SEE RISER.
- ROUTE PIPING ALONG WALL ABOVE INFRARED HTR. BRACKETS.

GENERAL NOTES

- RUN PIPING IN TOILET RMS AS HIGH AS POSSIBLE.
- REFER TO SHT. M13 FOR FIRE PROTECTION DATA.
- SEE ARCH. DRAWINGS FOR HANDICAPPED FIXTURES.

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Date 7.17.88 Reg. No. 16697



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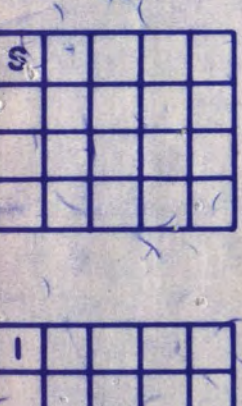
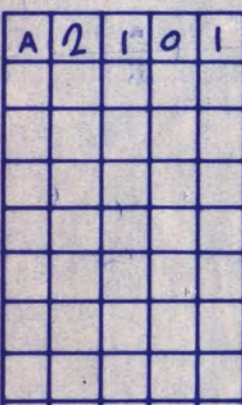
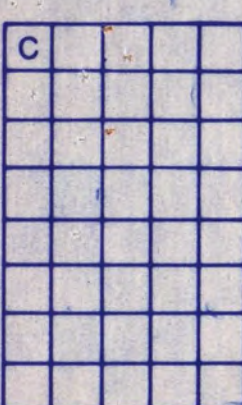
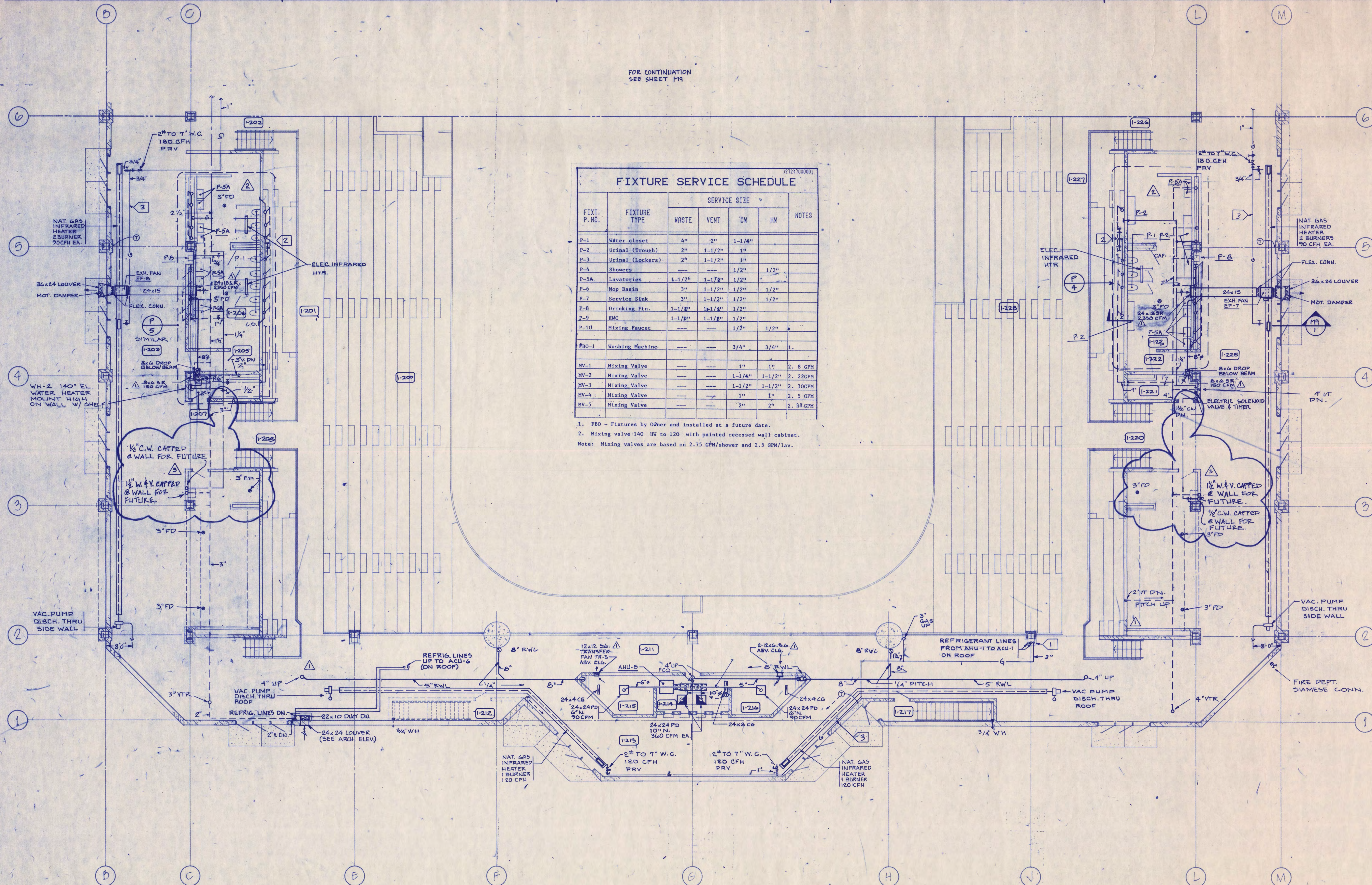
CONCOURSE PLBG / HVAC PLAN AREA 1

Scale 1/4" = 1'-0"

Date SEP 9 1988 Comm. No. 5766-571

In Charge JDM
Drawn By JAP/KDT
Checked By JIS/SP/SD

M8



12-1388-108

Revision	Date	No.
RD REVIEW ISSUE	6-8-88	
CD REVIEW ISSUE	7-12-88	
ISSUED FOR BIDDING	9-9-88	
ISSUED FOR BULL #1	3-10-89	
ISSUED FOR BULL #2	5-18-89	
ISSUED FOR BULL #3	6-30-89	

SPECIFIC NOTES

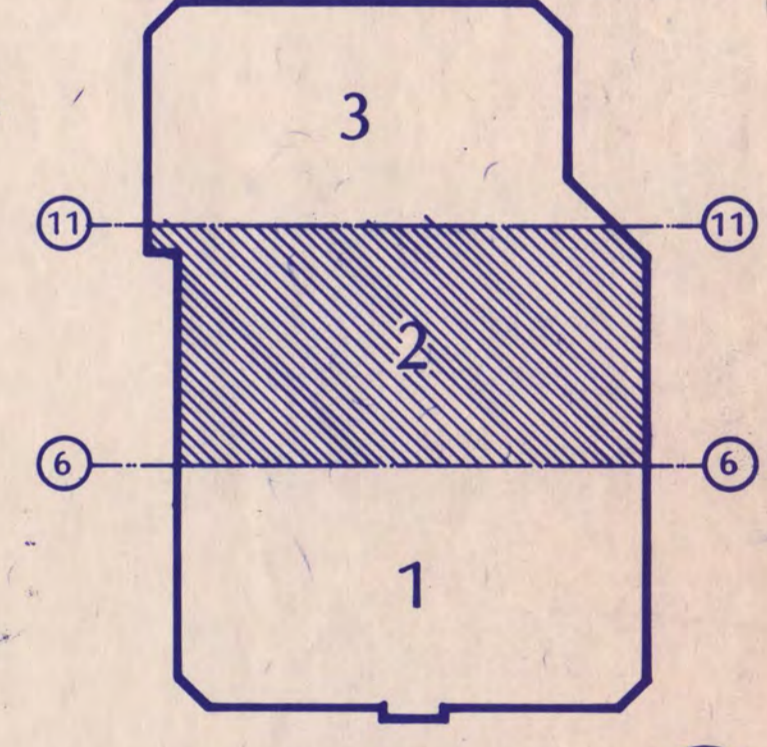
- 1 PIPING LOCATED IN CRAWL SPACE CAP FULL SIZE FOR FUTURE FIXTURES SEE RISERS.
- 2 ROUTE PIPING ALONG WALL ABOVE INFRARED HTR. BRACKETS.
- 3 GAS PIPING CROSSING CONCOURSE SHALL RISE UP WITH SEATING RISERS AND DROP AT EXT. WALL.
- 4 HOLD PIPING AS HIGH AS POSSIBLE

GENERAL NOTES

- 1 RUN ALL PIPING IN TOILET RMs AS HIGH AS POSSIBLE.
- 2 REFER TO SHT. M13 FOR FIRE PROTECTION DATA.

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Tom Maust
Date 7-12-88 Reg. No. 16697



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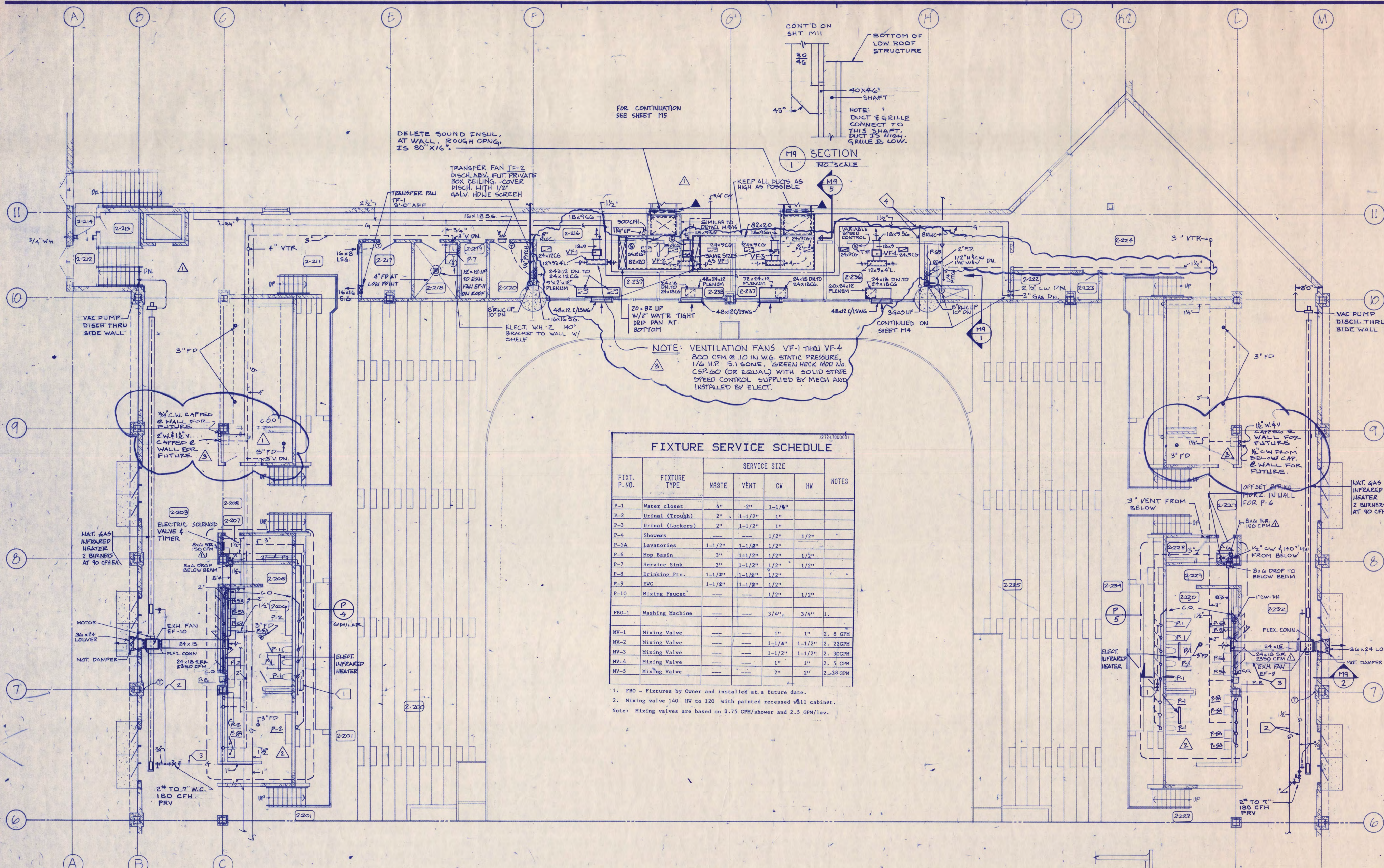
One Appletree Square
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CONCOURSE PLBG / HVAC PLAN
AREA 2

Scale $1/8" = 1'-0"$

Date SEP 9, 1988 Comm. No. B766-B71
In Charge JDM
Drawn By MPJ/TAP
Checked By JTS/SP/GO

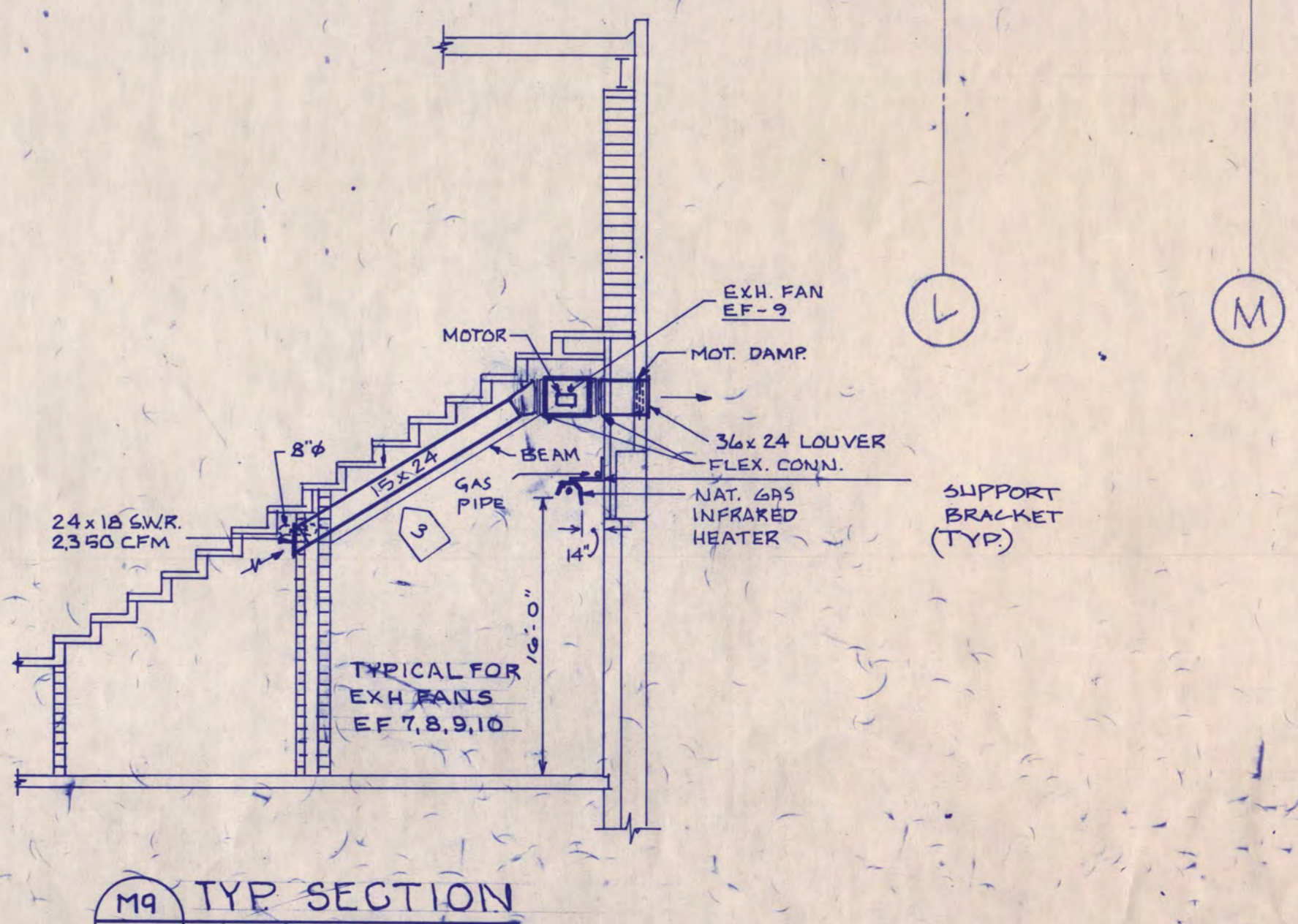
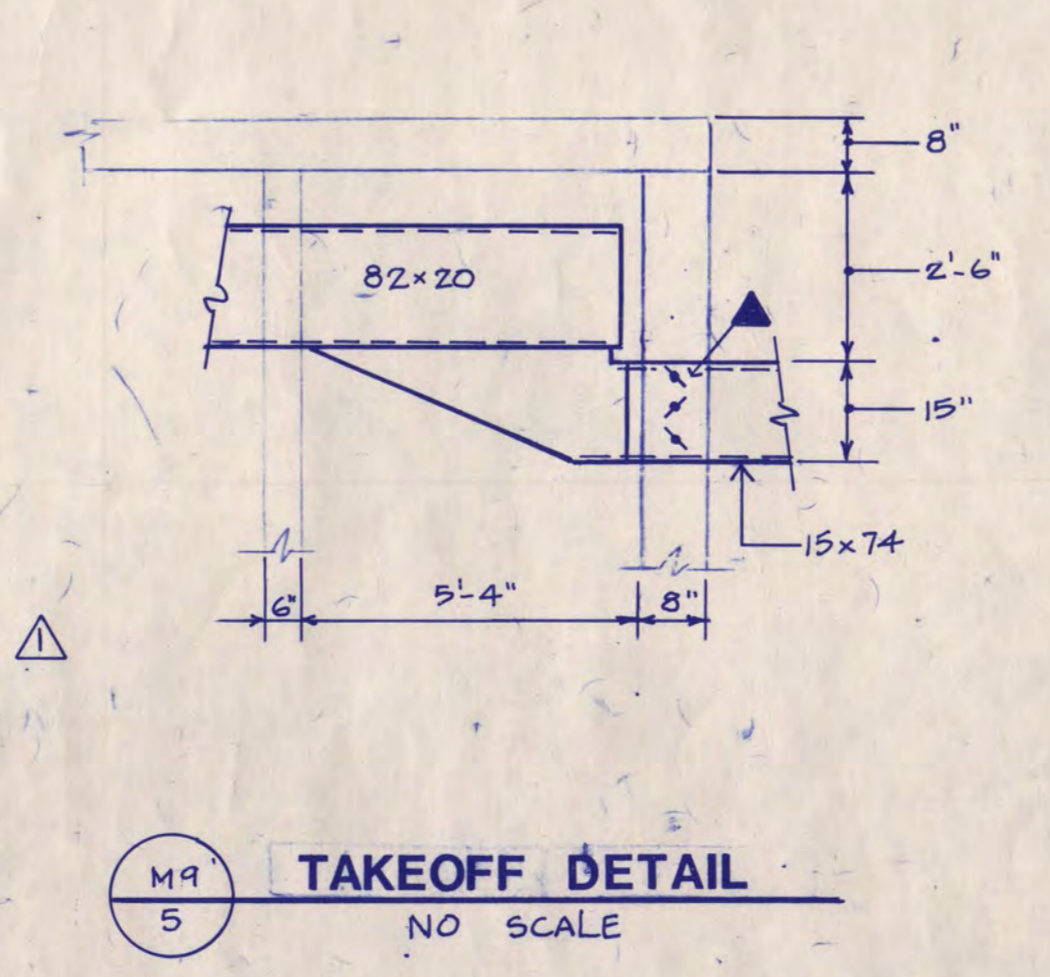
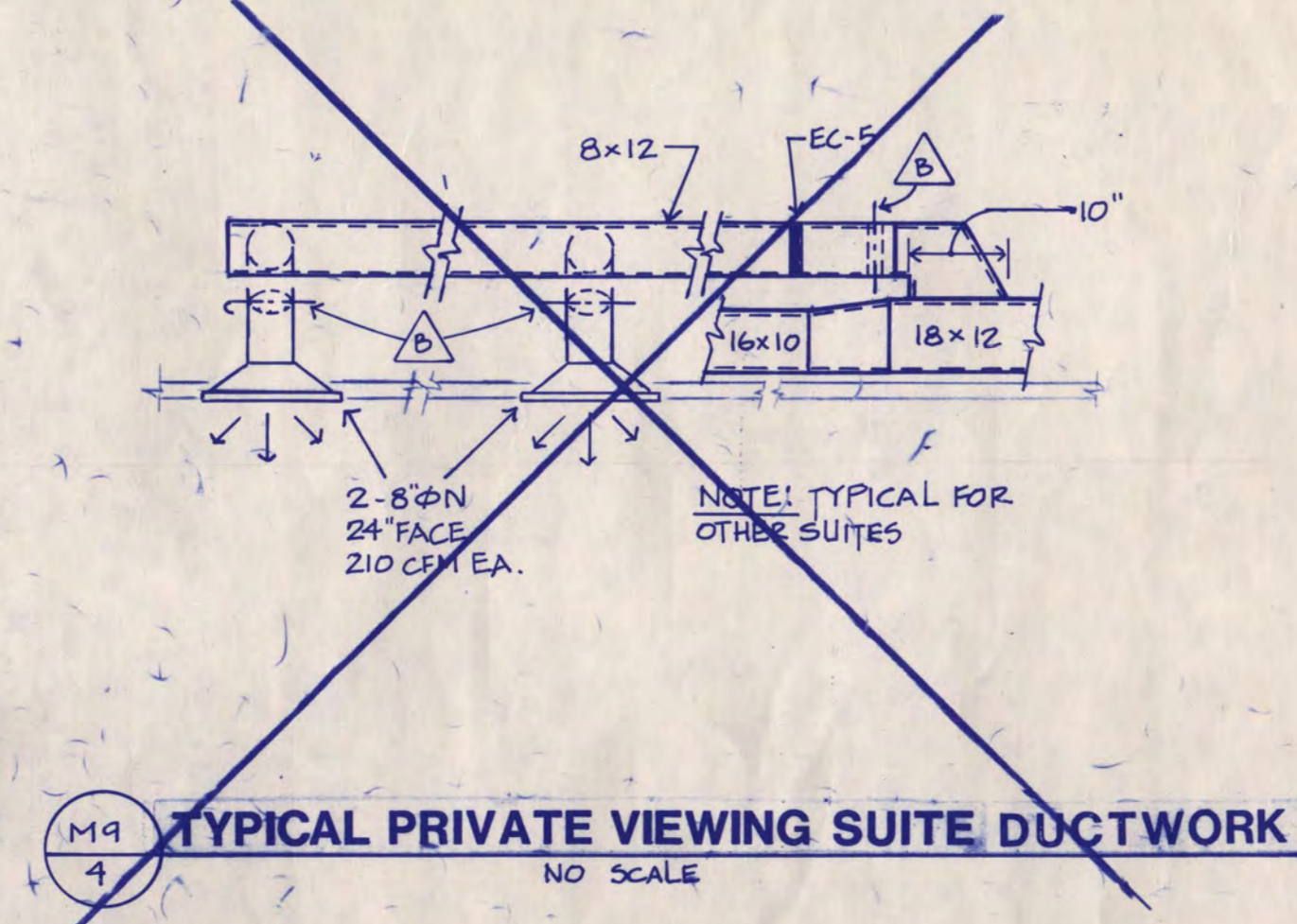
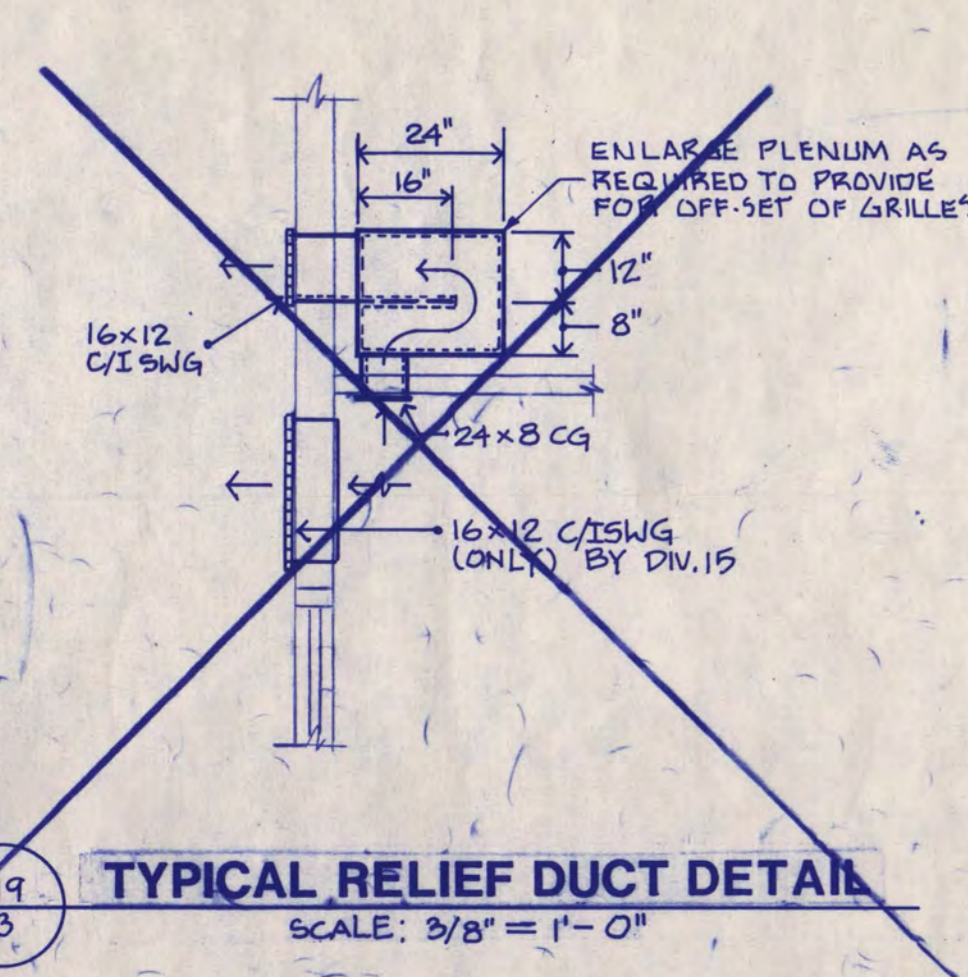
M9



FIXTURE SERVICE SCHEDULE

FIXT. P. NO.	FIXTURE TYPE	SERVICE SIZE				NOTES
		WASTE	VENT	CW	HW	
P-1	Water closet	4"	2"	1-1/4"		
P-2	Urinal (Trough)	2"	1-1/2"	1"		
P-3	Urinal (Lockers)	2"	1-1/2"	1"		
P-4	Showers		1/2"	1/2"	1/2"	
P-5A	Lavatories	1-1/2"	1-1/2"	1/2"		
P-6	Mop Basin	3"	1-1/2"	1/2"	1/2"	
P-7	Service Sink	3"	1-1/2"	1/2"	1/2"	
P-8	Drinking Ftn.	1-1/2"	1-1/2"	1/2"		
P-9	IBC	1-1/2"	1-1/2"	1/2"		
P-10	Mixing Faucet			1/2"	1/2"	
FBO-1	Washing Machine			3/4"	3/4"	1.
MV-1	Mixing Valve			1"	1"	2.8 GPM
MV-2	Mixing Valve			1-1/4"	1-1/2"	2.22GPM
MV-3	Mixing Valve			1-1/2"	1-1/2"	2.30GPM
MV-4	Mixing Valve			1"	1"	2.5 GPM
MV-5	Mixing Valve			2"	2"	2.38GPM

1. FBO - Fixtures by Owner and installed at a future date.
 2. Mixing valve 140 HW to 120 with painted recessed wall cabinet.
- Note: Mixing valves are based on 2.75 GPM/shower and 2.5 GPM/lav.



2-1000-108