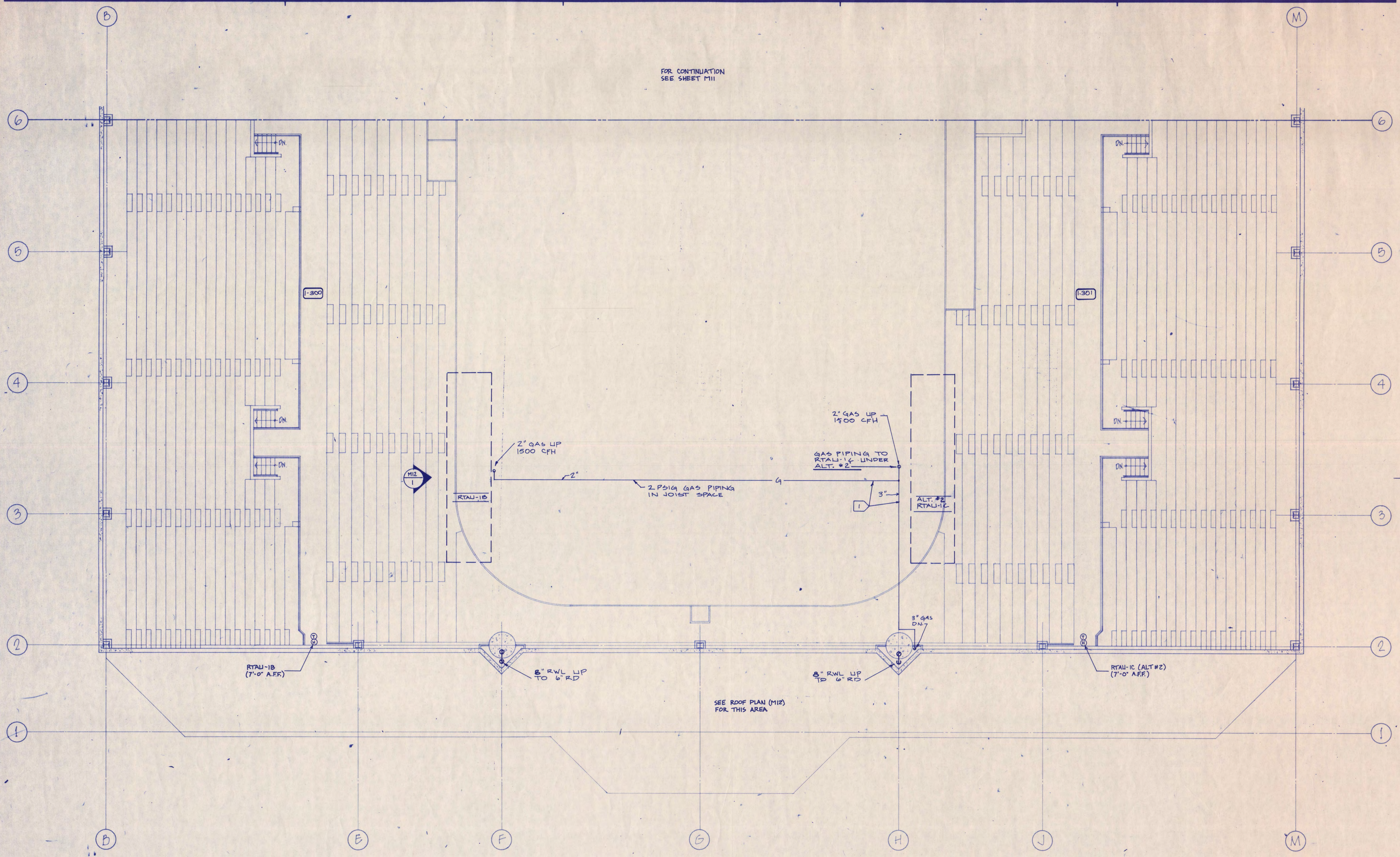


Revision	Date	No.
DD REVIEW ISSUE	6-8-88	
CD REVIEW ISSUE	7-12-88	
ISSUED FOR BIDDING	9-1-88	

FOR CONTINUATION
SEE SHEET M11

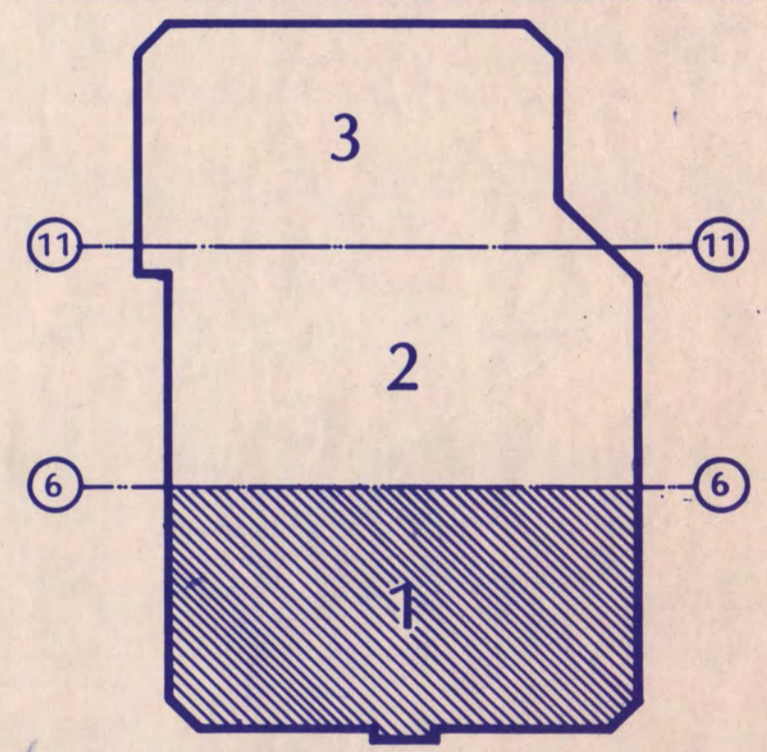
SPECIFIC NOTES
1 PIPING SHALL BE RUN ABOVE BOTTOM OF 48" JOISTS.



GENERAL NOTES
1 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.

J. M. MAST
Date 7-12-88 Reg. No. 16097



KEY PLAN
NATIONAL HOCKEY CENTER

ST. CLOUD STATE UNIVERSITY
ST. CLOUD, MINNESOTA

Ellerbe

One Appletree Square
Minneapolis, MN 55425
(612) 853-2000
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UPPER LEVEL PLBG / HVAC PLAN
AREA 1

Scale 1/8" = 1'-0"

Date SEP 9, 1988 Conmn. No. 8766-871
In Charge JDM
Drawn By JAP/AMT
Checked By JTE/SP/ED

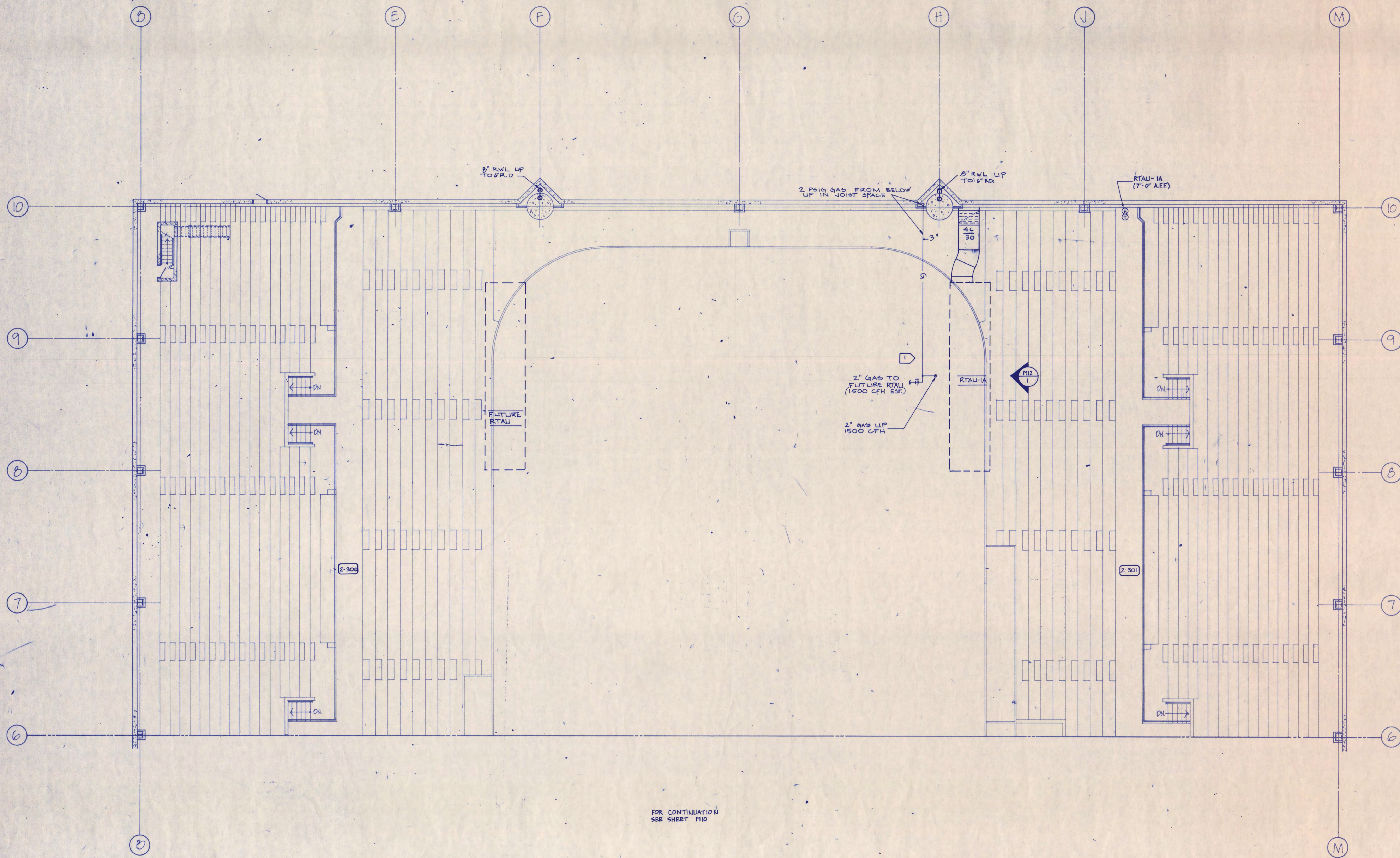
M10

C									
A	B	I	O	I					
M									
E									
S									
I									

E-1088-108

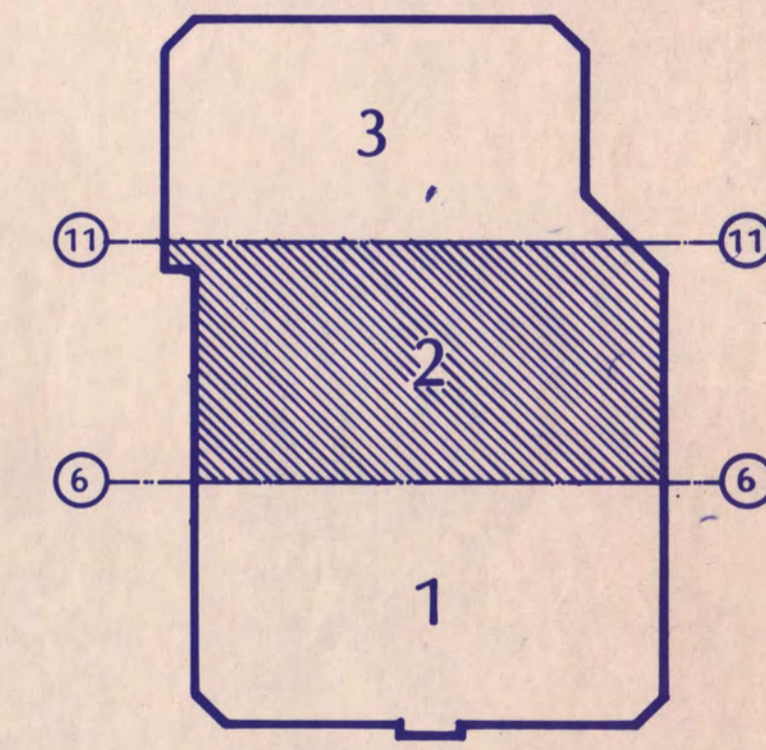
Revision	Date	No.
P.D. REVIEW ISSUE	6-8-88	
E.D. REVIEW ISSUE	7-12-88	
ISSUED FOR BIDDING	9-9-88	

SPECIFIC NOTES
 1. PIPING SHALL BE RUN ABOVE BOTTOM OF 48" JOISTS.



GENERAL NOTES
 1. REFER TO SHT. M12 FOR FIRE PROTECTION DATA.

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LOU MAJST
 Date 7-12-88 Reg. No. 16697



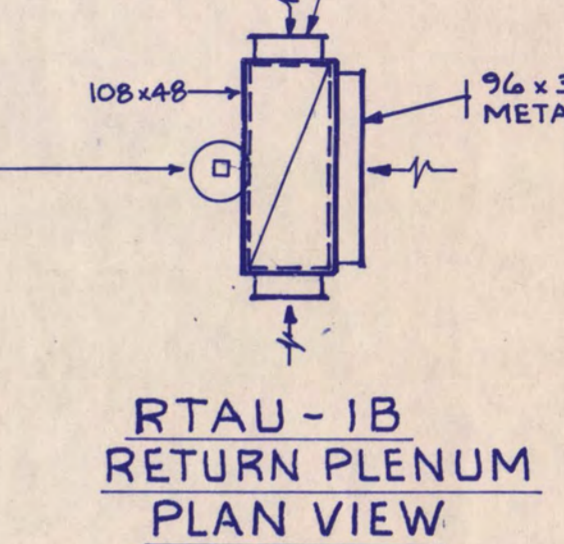
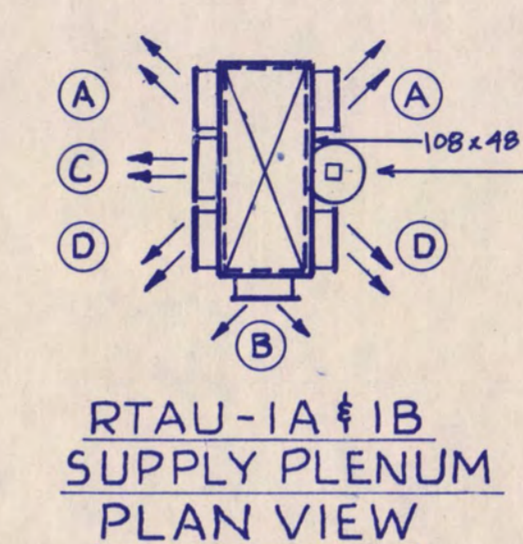
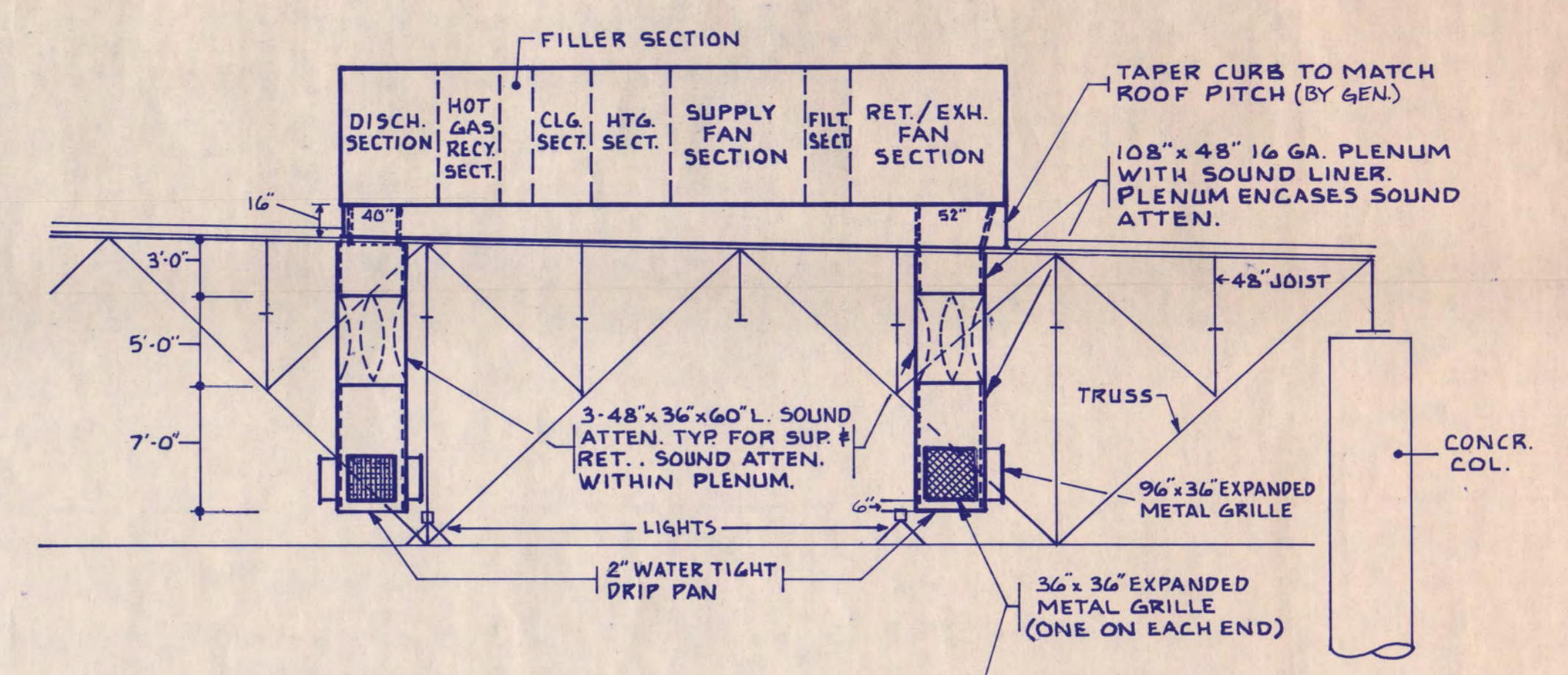
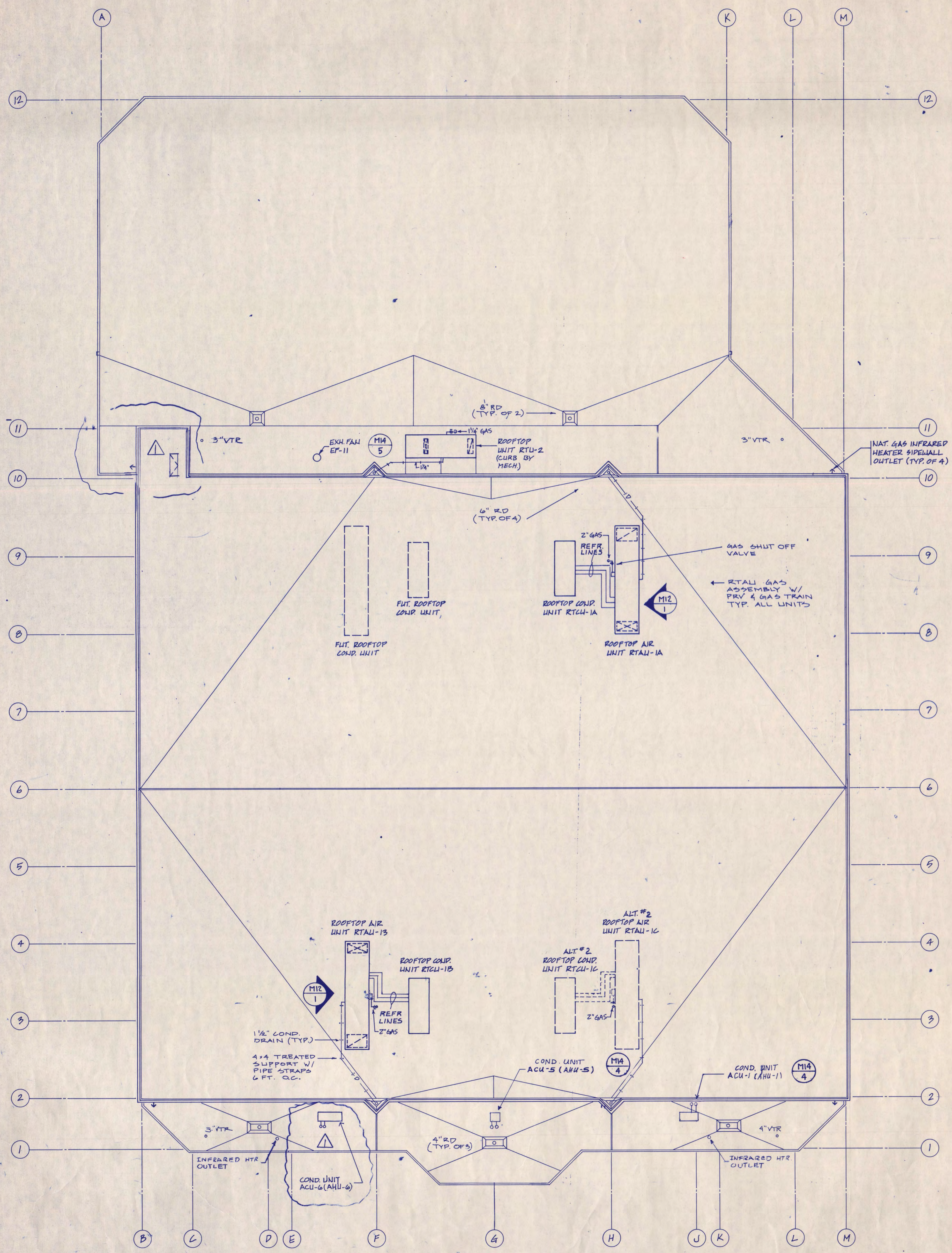
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UPPER LEVEL PLBG / HVAC PLAN
 AREA-2
 Scale 1/8" = 1'-0"
 Date SEP. 9, 1988 Comm. No. 8766-871
 In Charge JDM
 Drawn By JAP / MDT
 Checked By JTS / SP/GO

M11

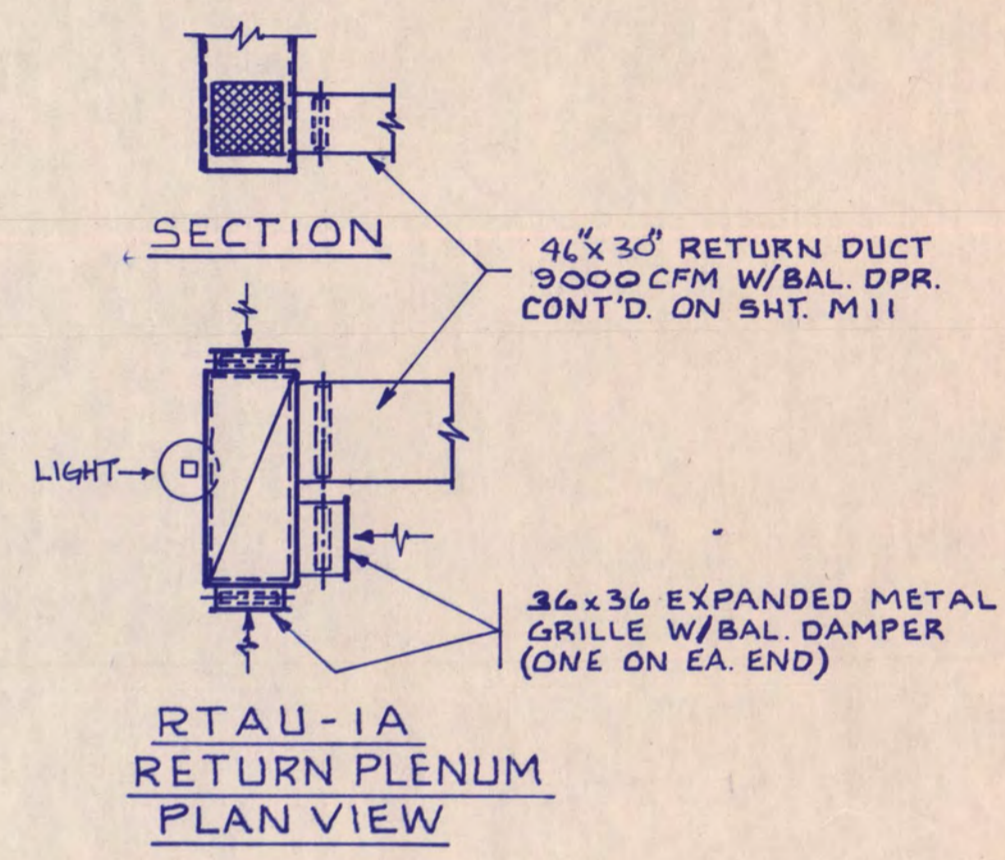
FOR CONTINUATION
 SEE SHEET M10

C				
A	3	2	0	1
M				
E				
S				
I				

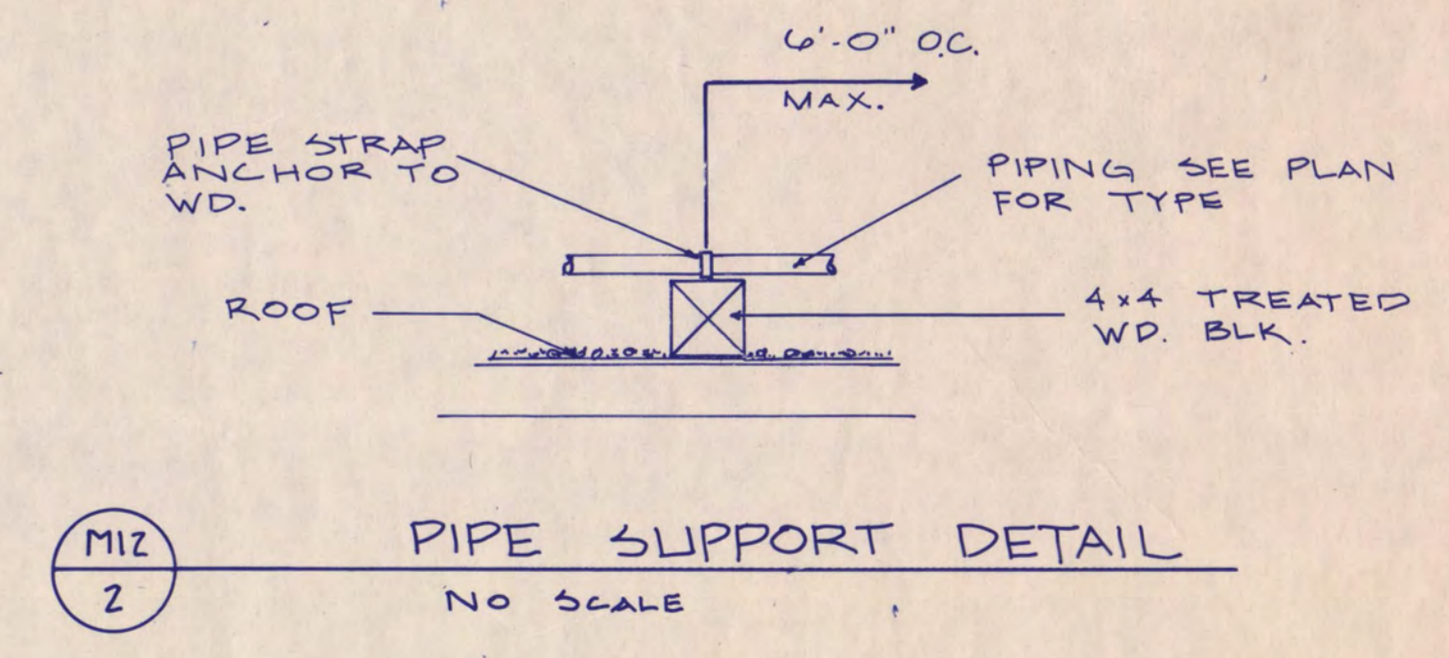


ALL SUPPLY REGISTERS TO BE 32\"/>

TYPE	VERT. FRONT BLADES	HORZ. BACK BLADES
A	45° TO ONE SIDE	0°
B	45° TO EA. SIDE	20° UP
C	0°	0°
D	45° TO ONE SIDE	10° UP



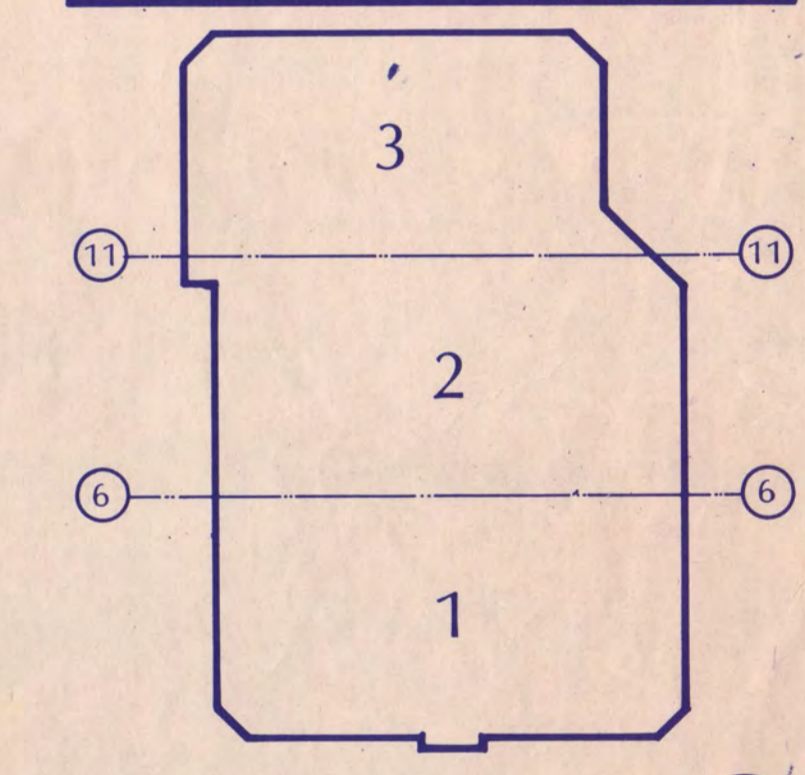
M12
1 ROOFTOP AIR UNITS - 1A & 1B DETAIL
SCALE: 1/8" = 1'-0"



M12
2 PIPE SUPPORT DETAIL
NO SCALE

GENERAL NOTES
 1. PIPES PENETRATING THE ROOF MUST BE A MINIMUM OF 16" APART TO ACCOMMODATE ROOF FLASHING.

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 TONG MAJST
 Date 7.12.88 Reg. No. 16697



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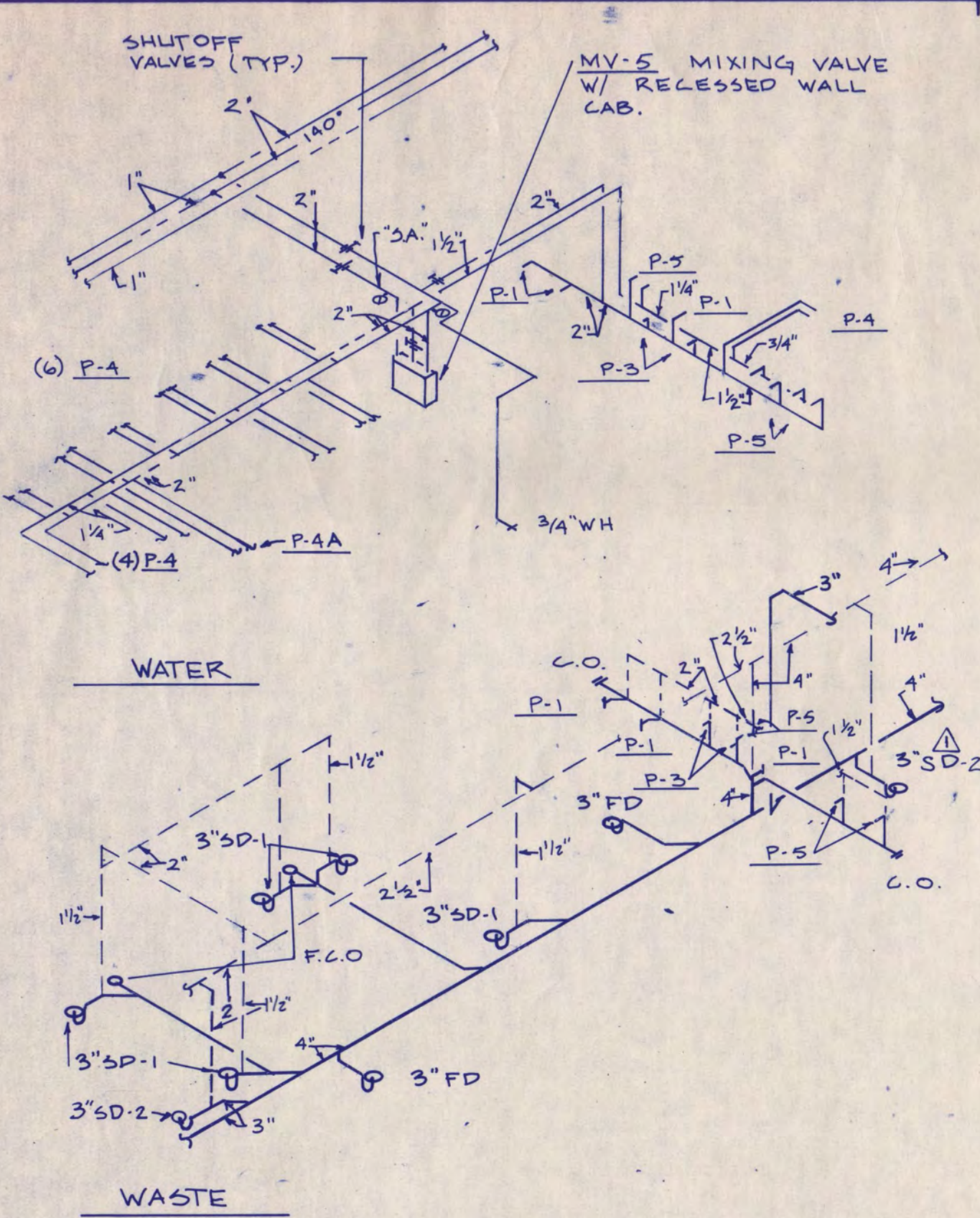
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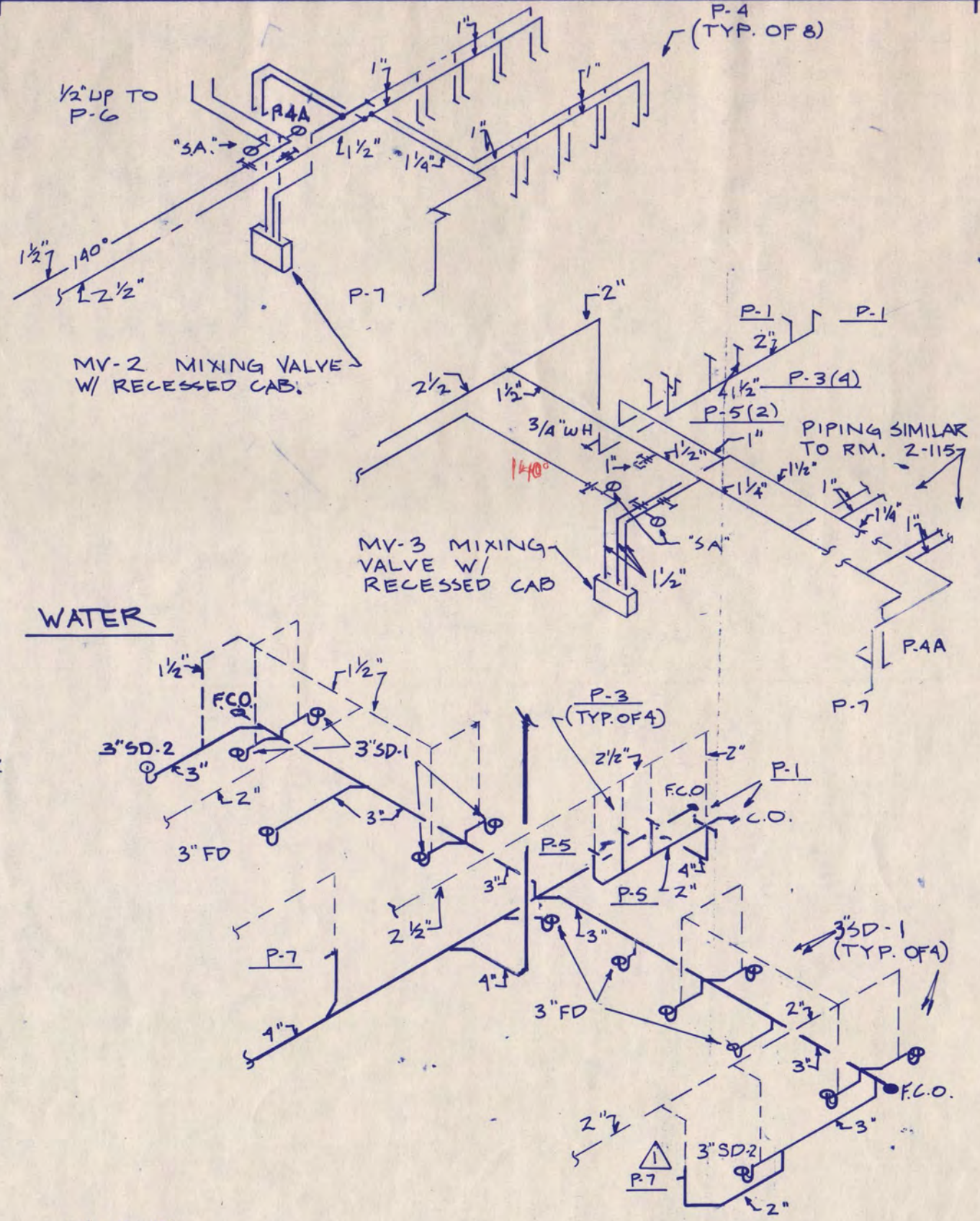
MECHANICAL ROOF PLAN

Scale 1/4" = 1'-0"
 Date SEP. 9, 1988 Comm. No. 8766-871
 In Charge JDM
 Drawn By WDT
 Checked By JTS/SP/CD

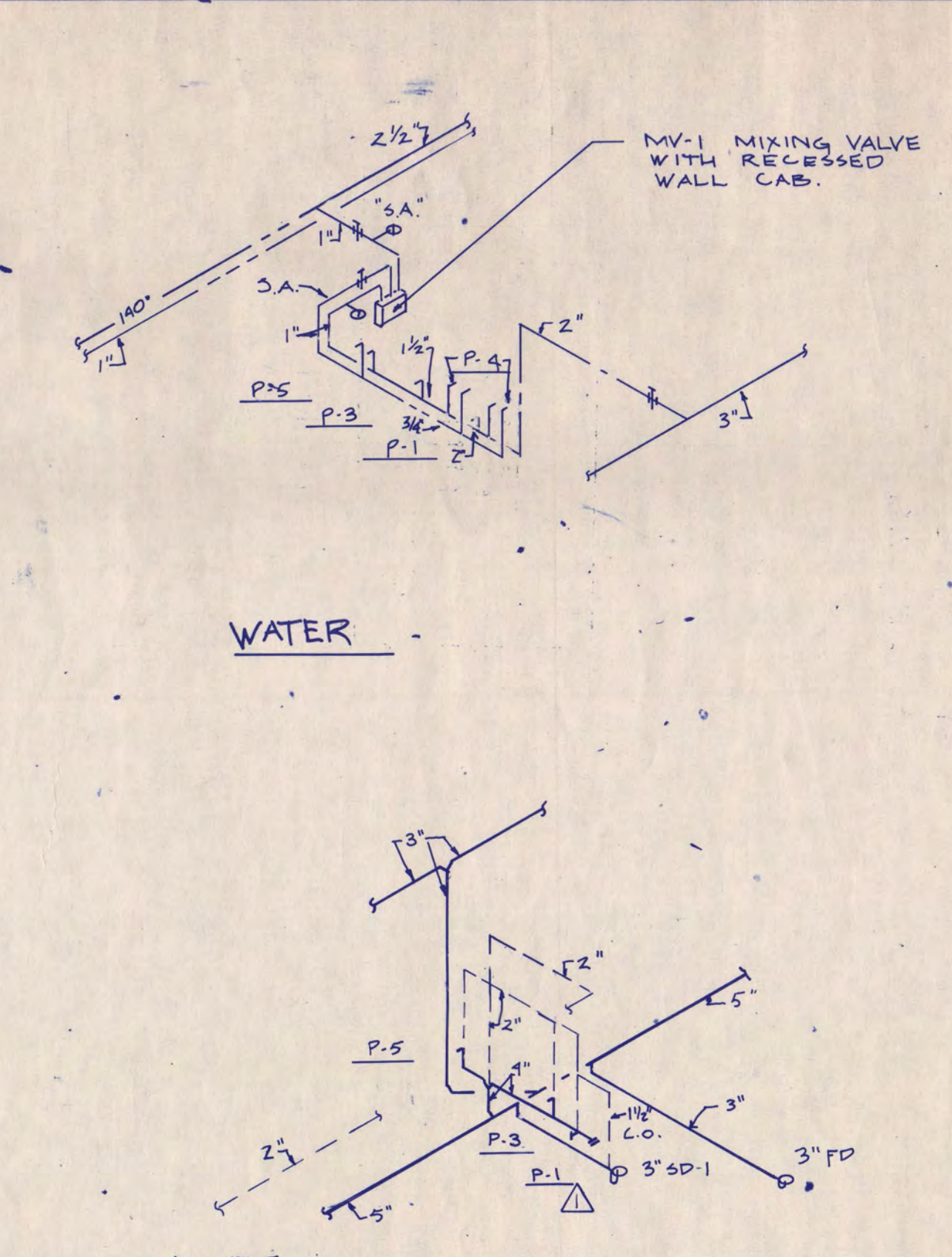
M12



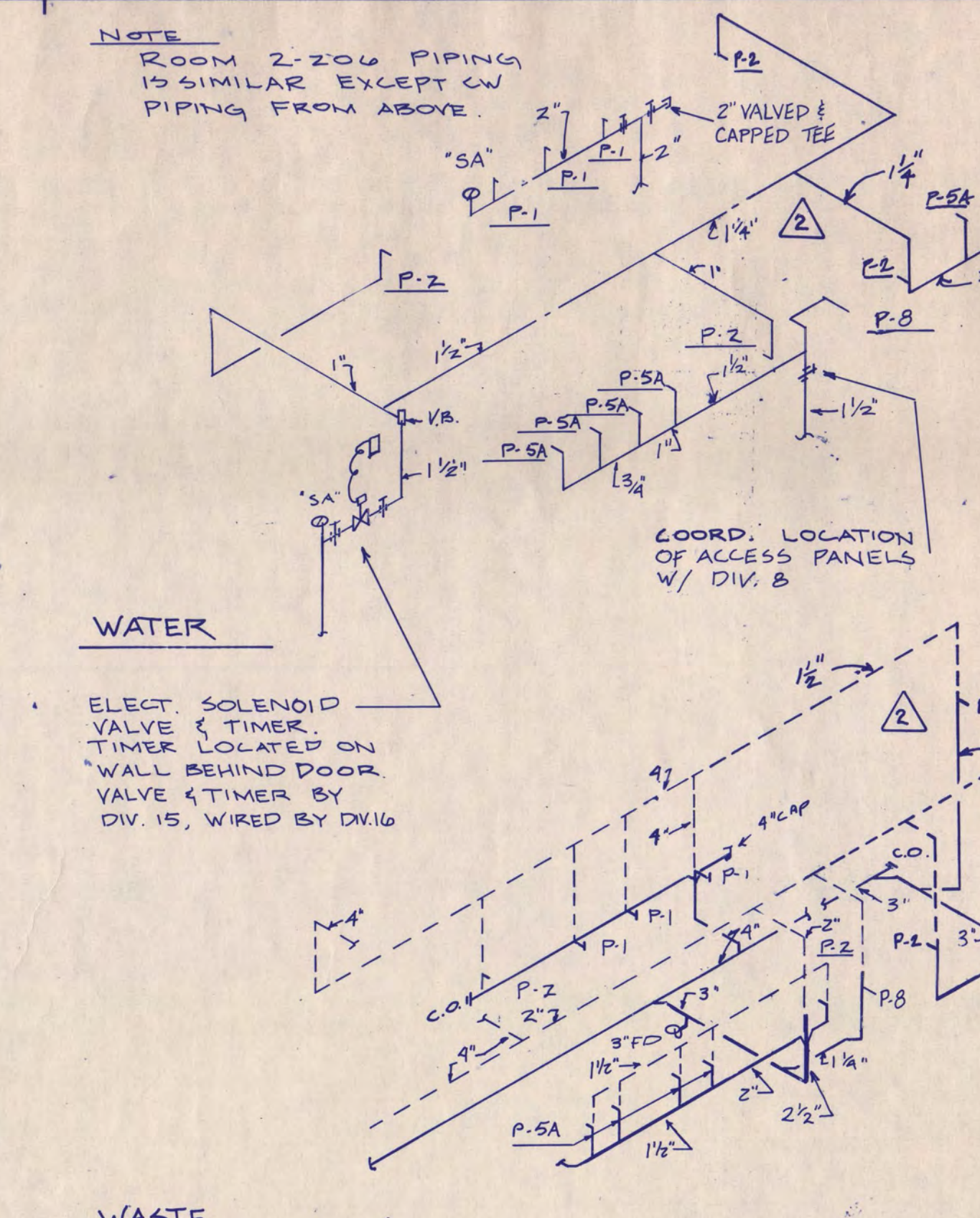
PLUMBING RISER DIAGRAM
NO SCALE



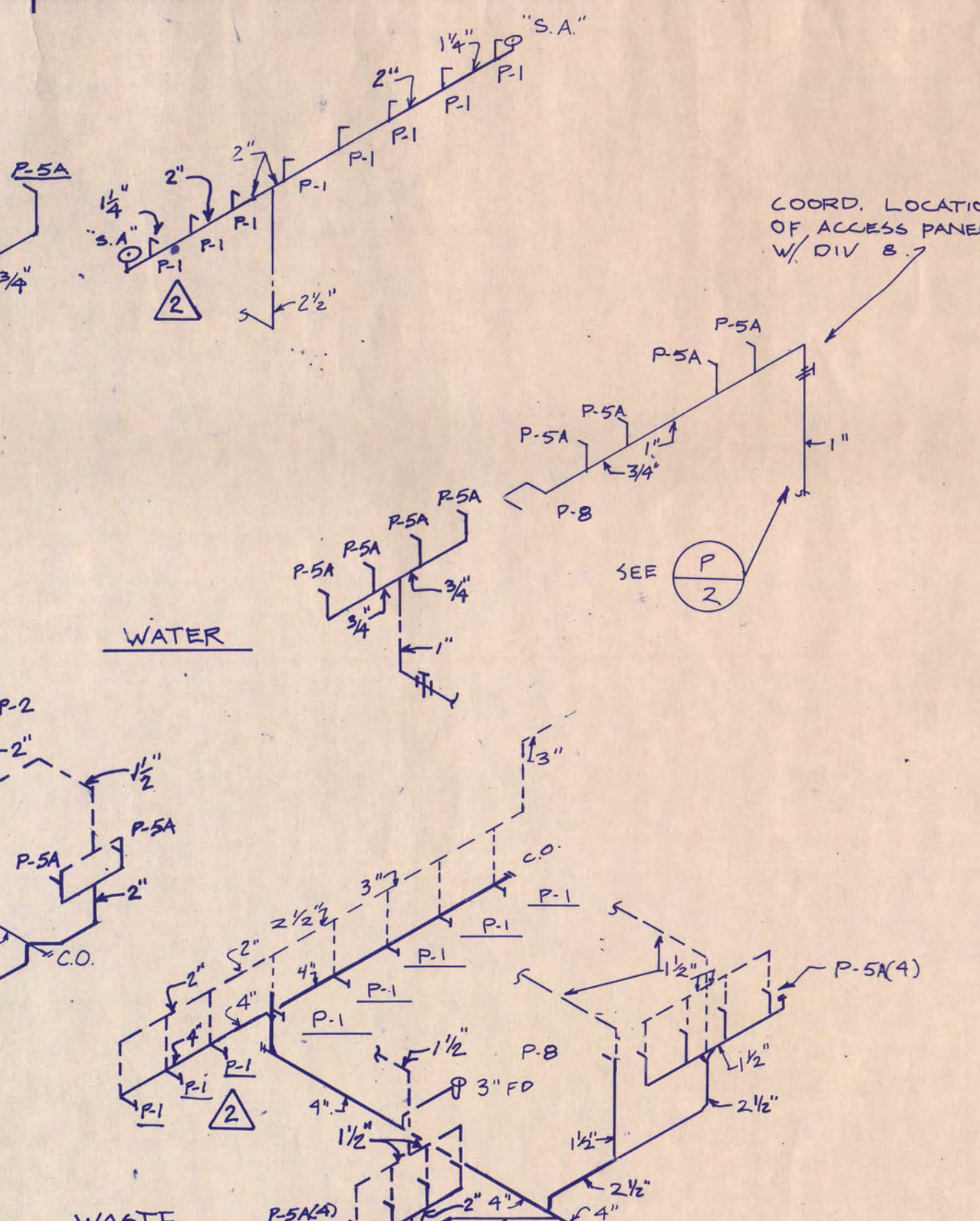
PLUMBING RISER DIAGRAM
NO SCALE



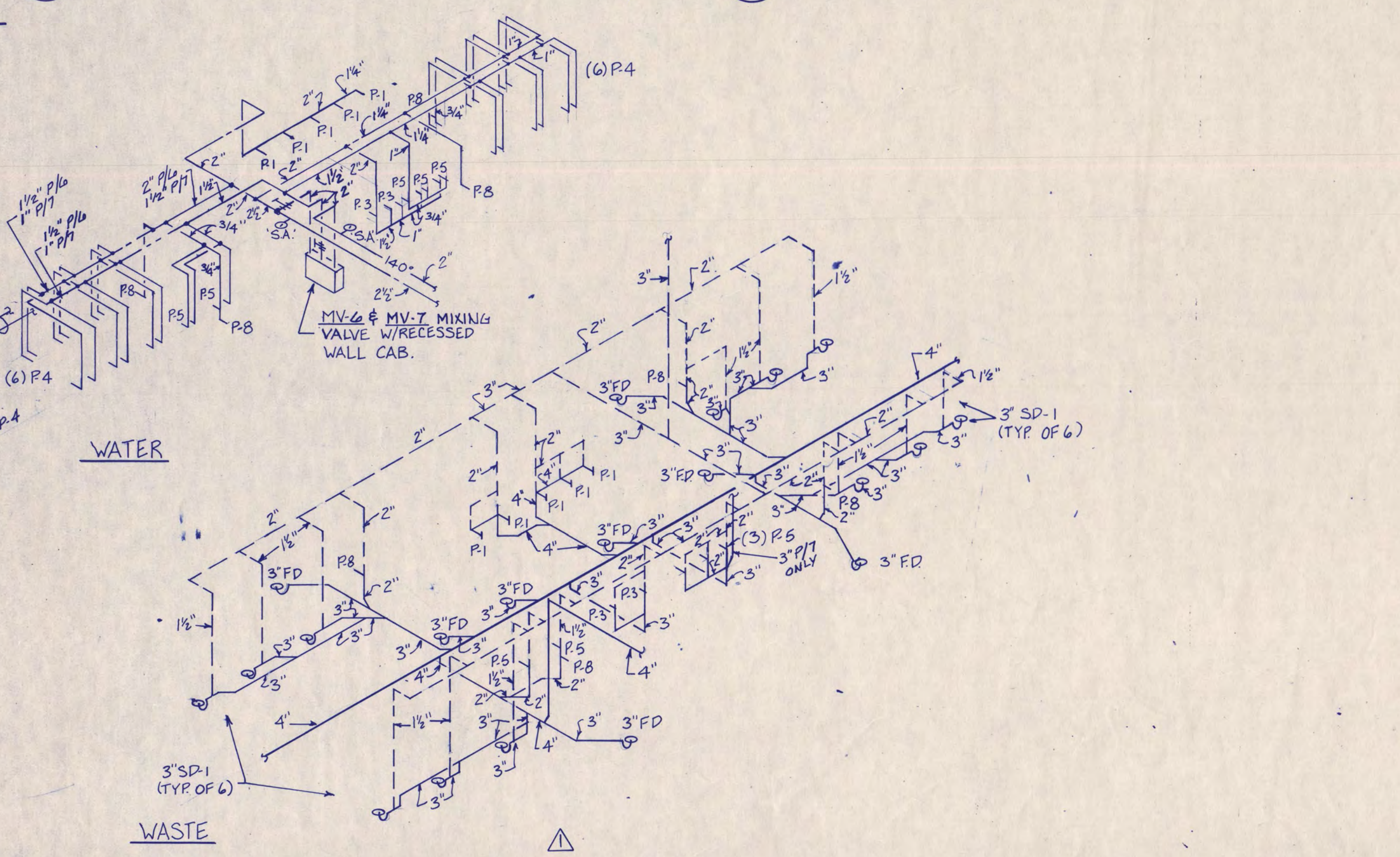
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NO SCALE



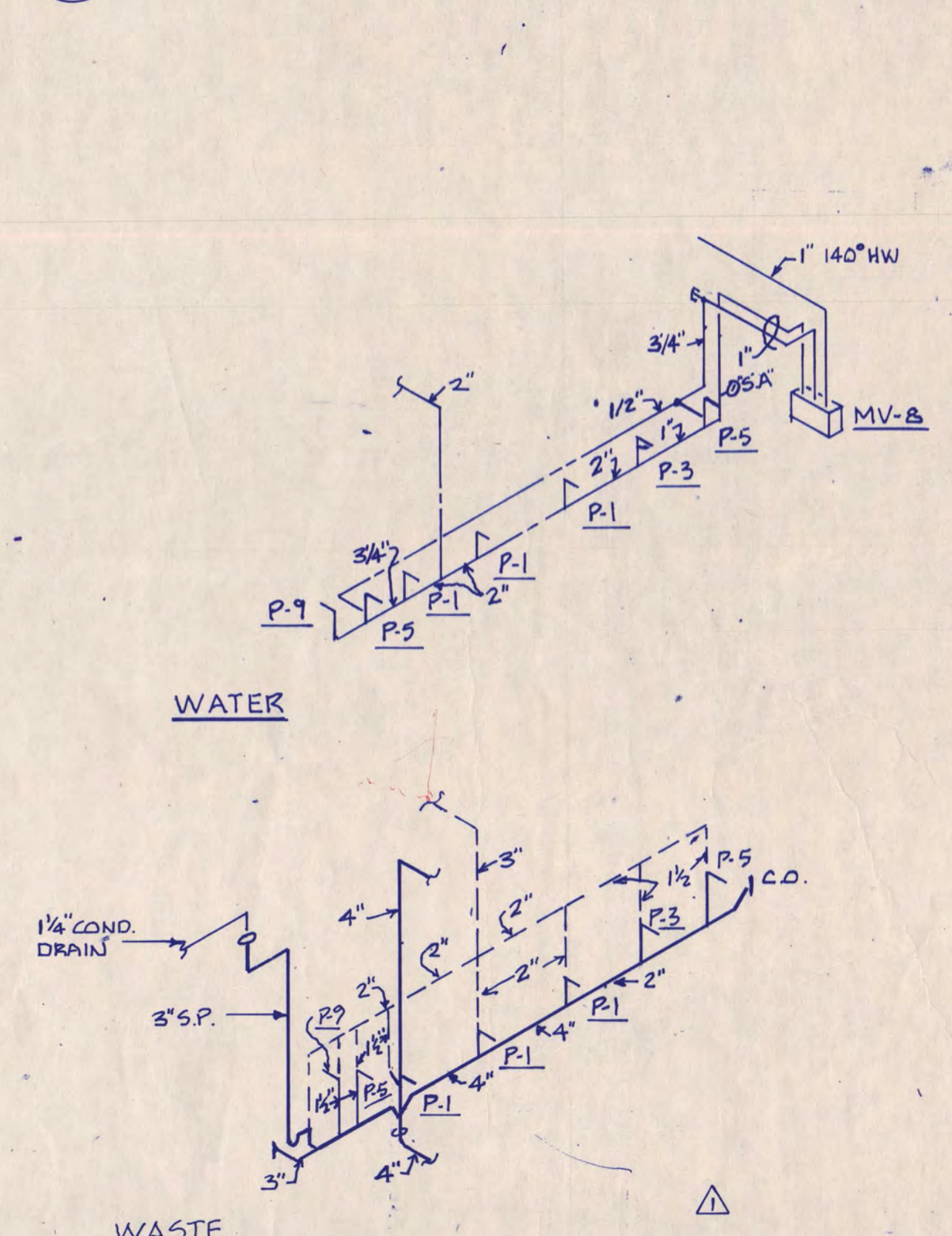
PLUMBING RISER DIAGRAM
NO SCALE



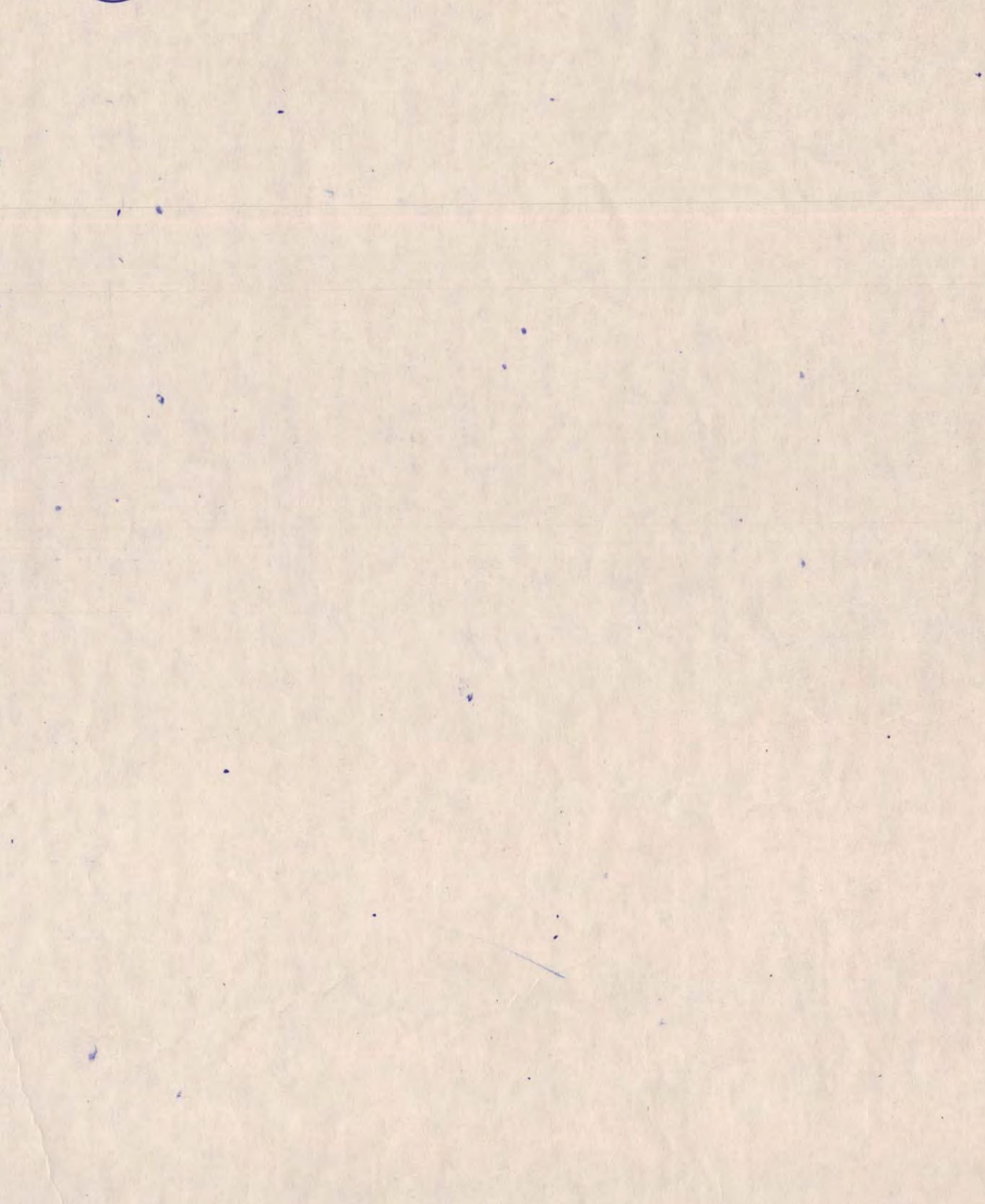
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NO SCALE



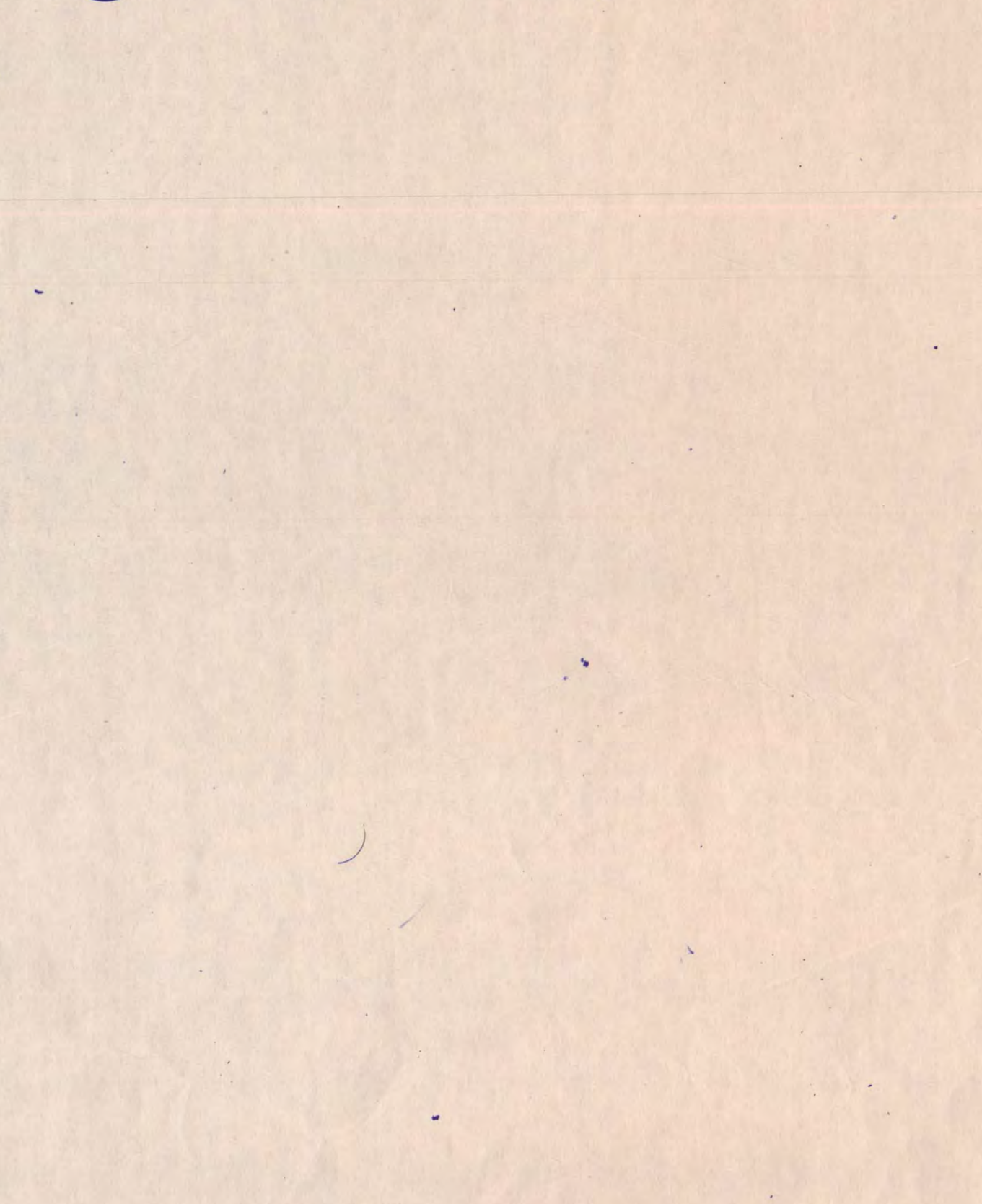
PLUMBING RISER DIAGRAMS
NO SCALE



PLUMBING RISER DIAGRAM
NO SCALE



PLUMBING RISER DIAGRAM
NO SCALE



PLUMBING RISER DIAGRAM
NO SCALE

FIRE PROTECTION INFORMATION

1. **Occupancy** Hockey Arena with Practice Rink Group A, Division 2.1 (For additional information, see Sheet T1).

2. **Water Supply Test Information:**

A. Fire protection piping - 12" main with 12" x 8" tapping sleeve and post indicator valve at property line.

B. Last flow test on November 25, 1987 by City of St. Cloud Fire Department indicated 80 PSI static and 78 PSI residual with 1,255 GPM at fire hydrant #680 on 12th Street and 3rd Avenue and another hydrant at 12th Street and 3rd Avenue.

NOTE: Fire hydrant and water main located at 12th and 3rd Avenue shall be relocated. All pressures and flows shall be verified. Relocation of fire hydrant and main, not in contract.

3. **Fire Protection Design Criteria:**

A. Total of four building zones:

Zone #1 - main arena and seating area.

Zone #2 - main concourse and ticket areas

Zone #3 - lower level - offices, storage, locker rooms, maintenance, skate changing, etc.

Zone #3A - All additional areas added by Alternate #1.

Zone #4 - Practice arena

B. See plans for coverage densities. (based on NFPA 13).

Light hazard - 10 GPM/1,500 sq. ft., 165°F heads, 225 sq. ft./head max spacing

Ordinary hazard - 17/1,500 sq. ft., 165°F, 130 sq. ft./head max spacing

C. Provide pendant type heads in all areas with finished ceiling, upright in all other areas.

D. Provide joist and truss protection as per NFPA 13.

M3 - Fire Protection Notes

Zone #3 & 3A

Light Hazard - 1-104, 1-107, 1-108, 1-110, 1-111, 1-112, 1-113, 1-114, 1-117, 1-118, 1-119, 1-122, 1-123, 1-123A, 1-124, 1-125, 1-126, 1-127, 1-128, 1-131, 1-134, 1-136, 1-138, 1-152, 1-153, 1-155 THRU 1-157, 1-159 THRU 1-167.

Ordinary Hazard - 1-106, 1-109, 1-116, 1-120, 1-130, 1-132, 1-133, 1-151, 1-158, 1-149.

M4 - Fire Protection Notes

Zones #3 & 3A

Light Hazard - 2-103, 2-104, 2-105, 2-106, 2-107, 2-108, 2-110, 2-111, 2-112, 2-113, 2-114, 2-115, 2-117, 2-120, 2-121, 2-122, 2-123, 2-127, 1-104, 1-108, 2-127

Ordinary Hazard - 2-118, 2-119, 2-124, 2-125, 2-126, 2-145, 2-153, 2-154.

M5 Fire Protection Notes

Zone 4

Light Hazard - Entire practice arena

M5 Fire Protection Notes

Zone 3

Ordinary Hazard - 2-125

M8 - Fire Protection Notes

Zone 2

Light Hazard - 1-202, 1-203, 1-205, 1-206, 1-208, 1-211, 1-213, 1-214, 1-215, 1-216, 1-217, 1-220, 1-222, 1-223, 1-225, 1-226

Ordinary Hazard - 1-207, 1-221

M9 - Fire Protection Notes

Zone #2

Light Hazard - 2-202, 2-203, 2-205, 2-206, 2-208, 2-211, 2-212, 2-224, 2-227, 2-229, 2-230, 2-332, 2-333.

Ordinary Hazard - 2-227, 2-213, 2-216, 2-217, 2-218, 2-219, 2-220, 2-222, 2-223, 2-228.

M10 - Fire Protection Notes

Zone #1

Light Hazard - Entire upper arena and seating area

M11 - Fire Protection Notes

Zone #1

Light Hazard - Entire upper arena and seating area. Including the elevator lobby and stairway in the northeast corner.

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TOOK MAJEST
 Date 1-12-88 Reg. No. 16697

NATIONAL HOCKEY CENTER

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ST. CLOUD, MINNESOTA

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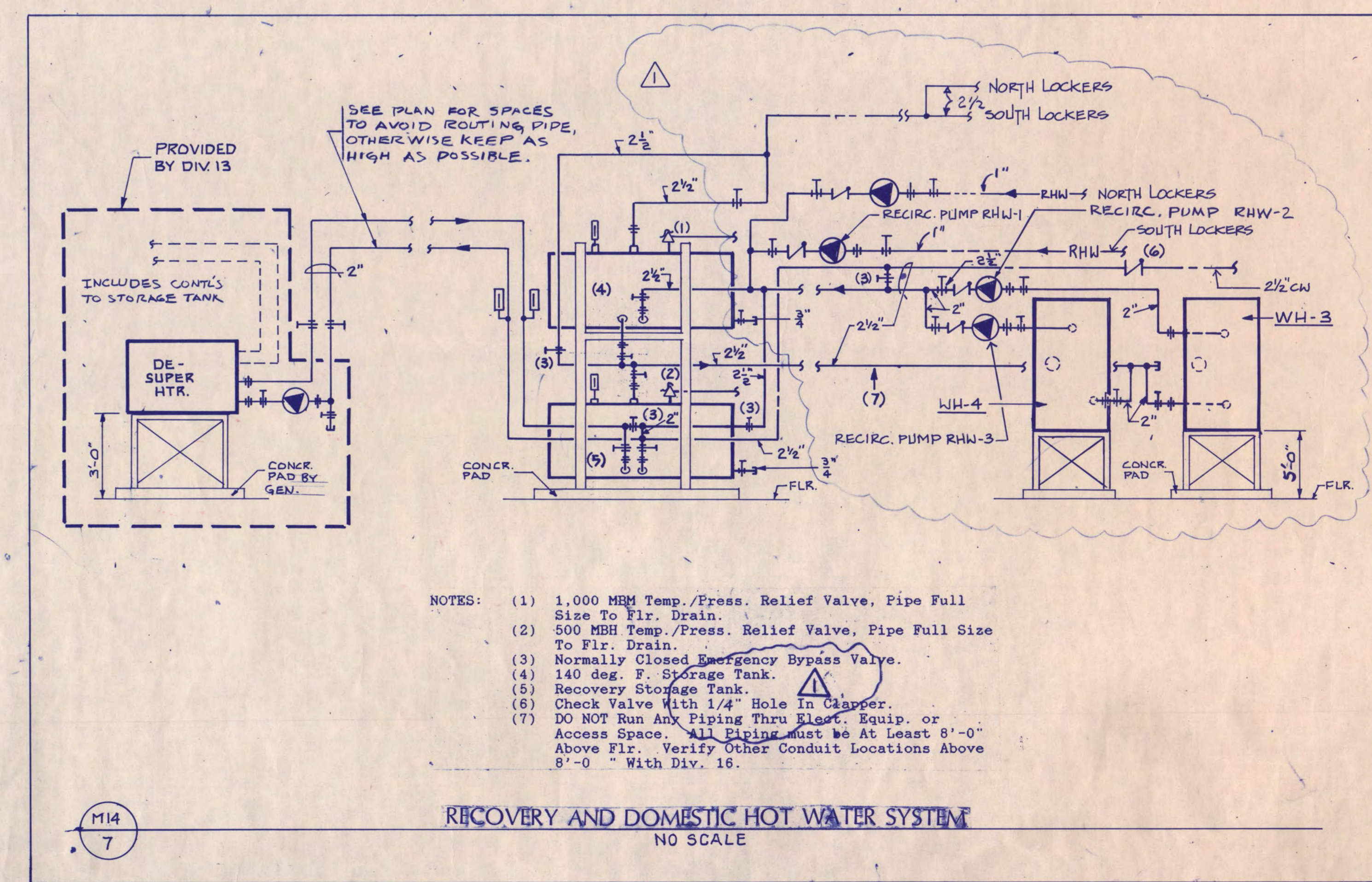
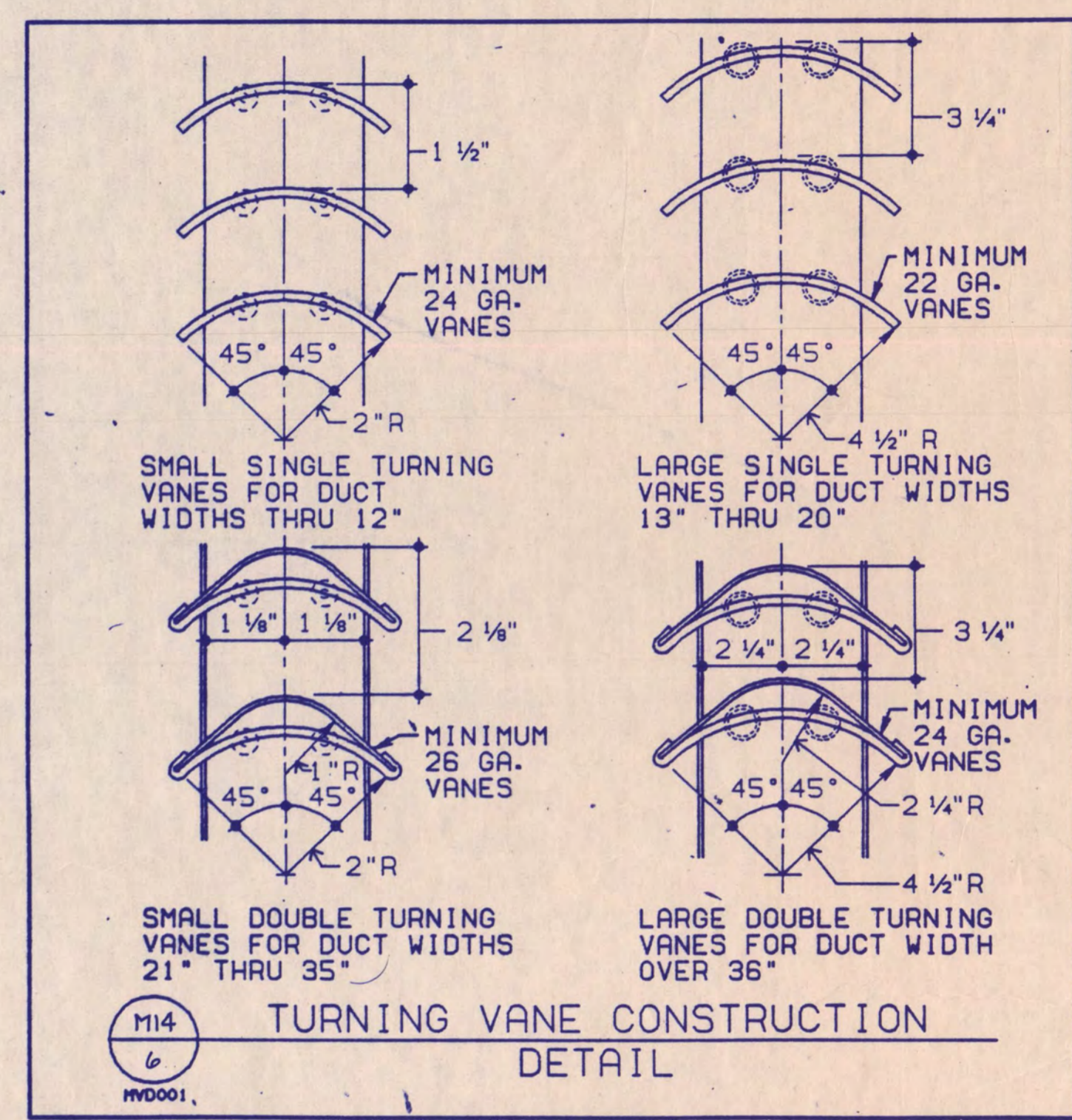
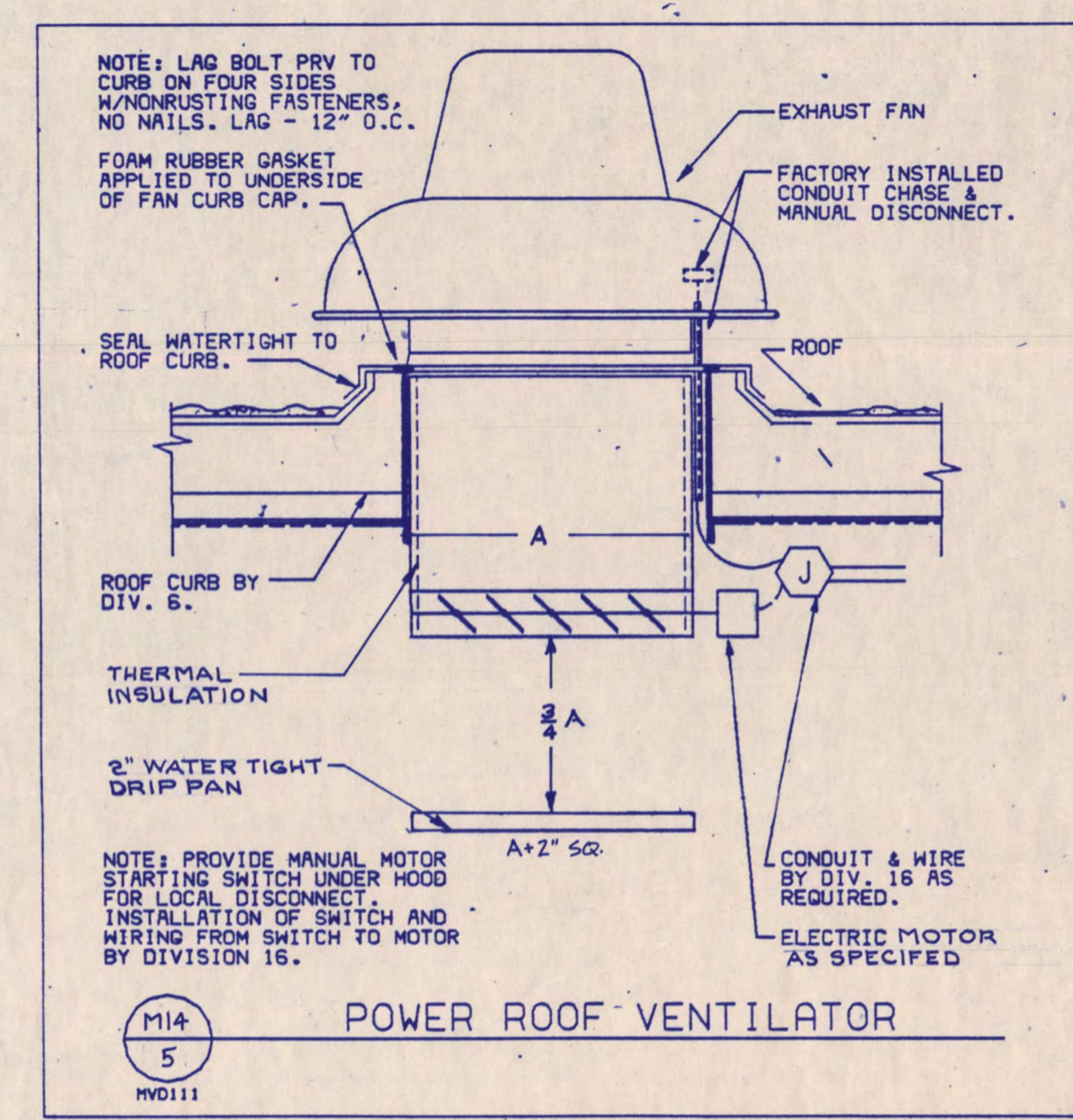
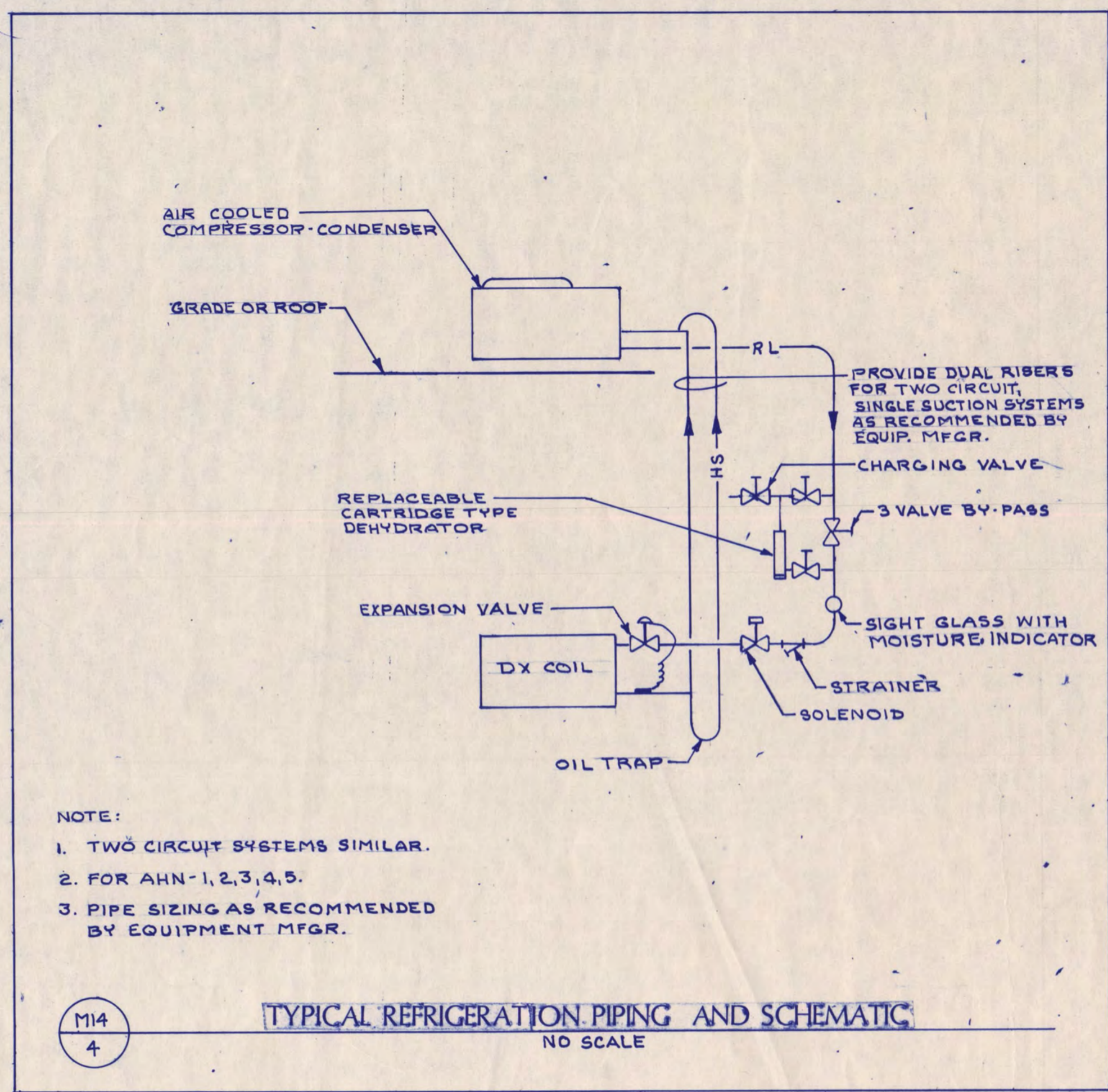
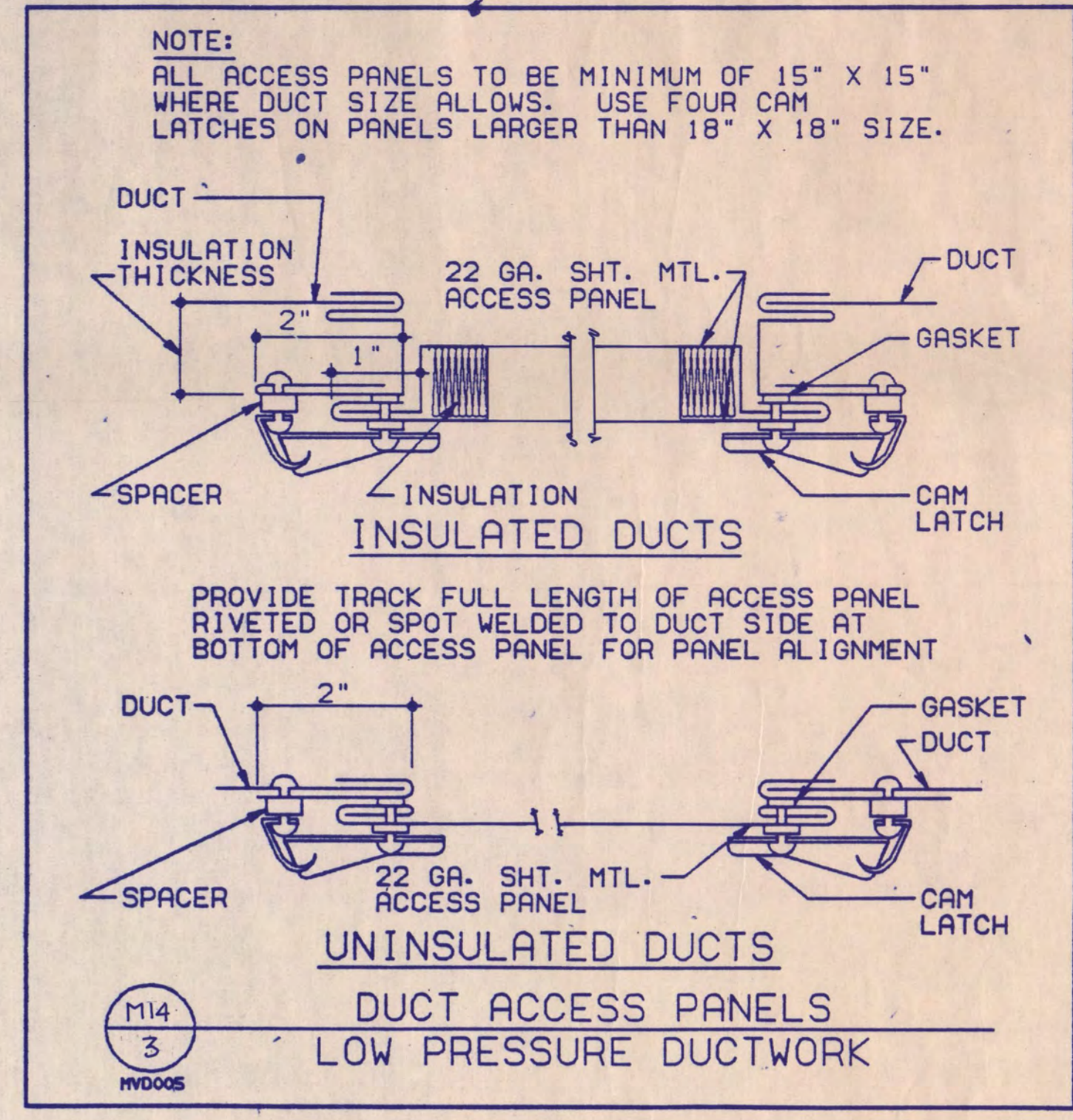
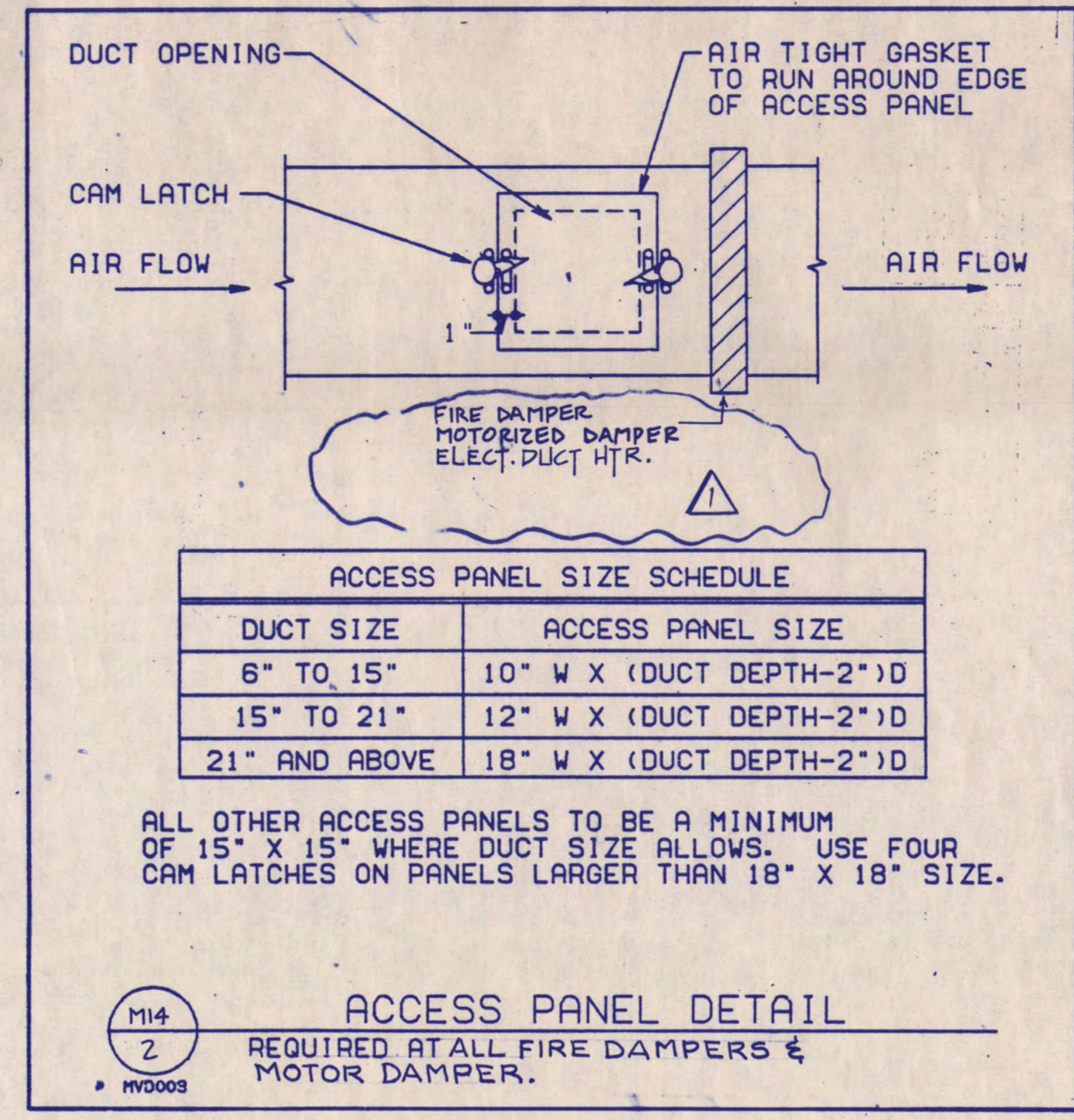
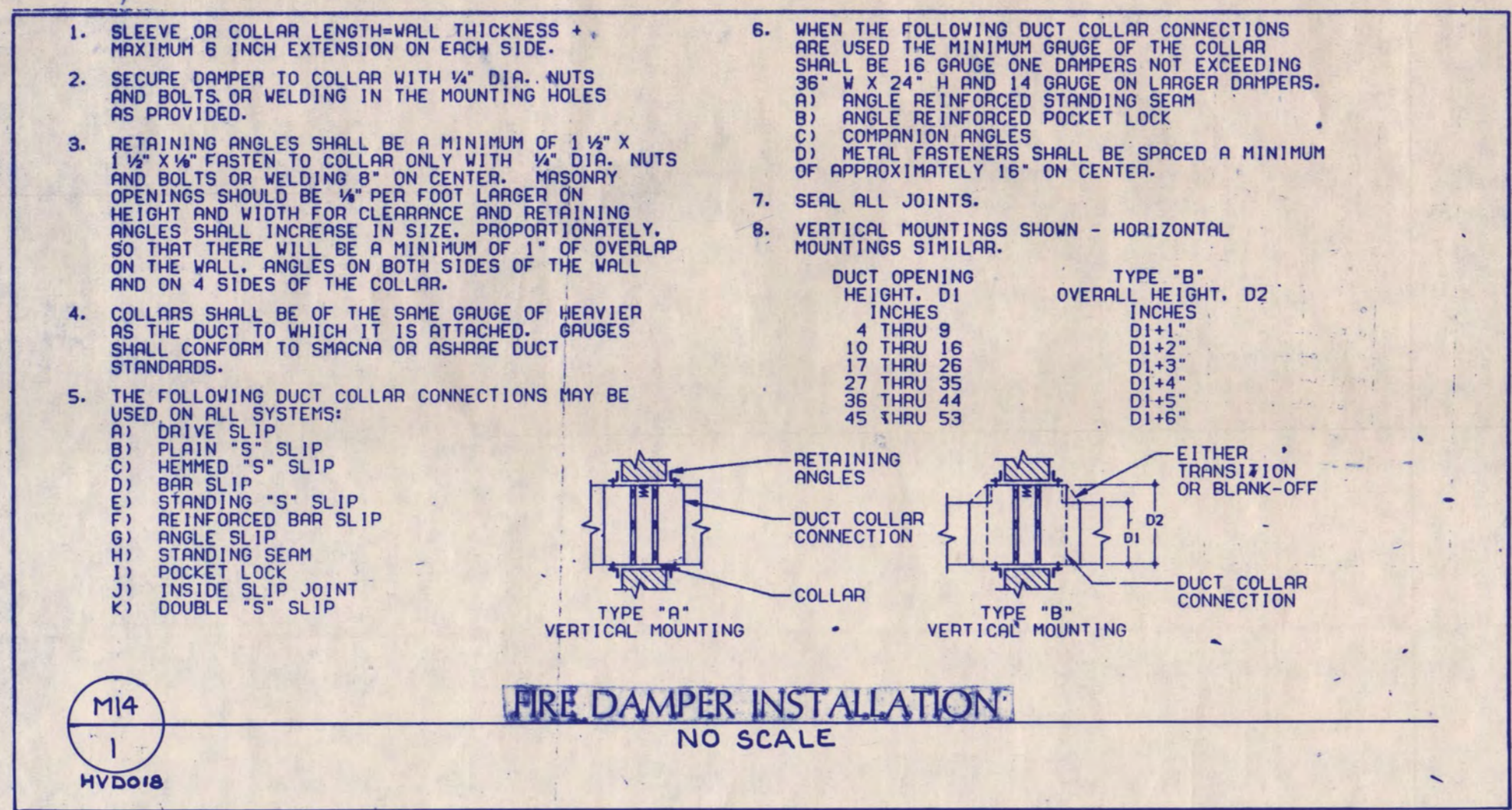
PLUMBING RISER AND DETAIL PLAN

Scale NONE

Date SEP 9, 1988 Comm. No. 8746-871

In Charge JDM
 Drawn By TAP
 Checked By JTS/GD

M13



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Dick Maest
 Date 7-12-88 Reg. No. 16697

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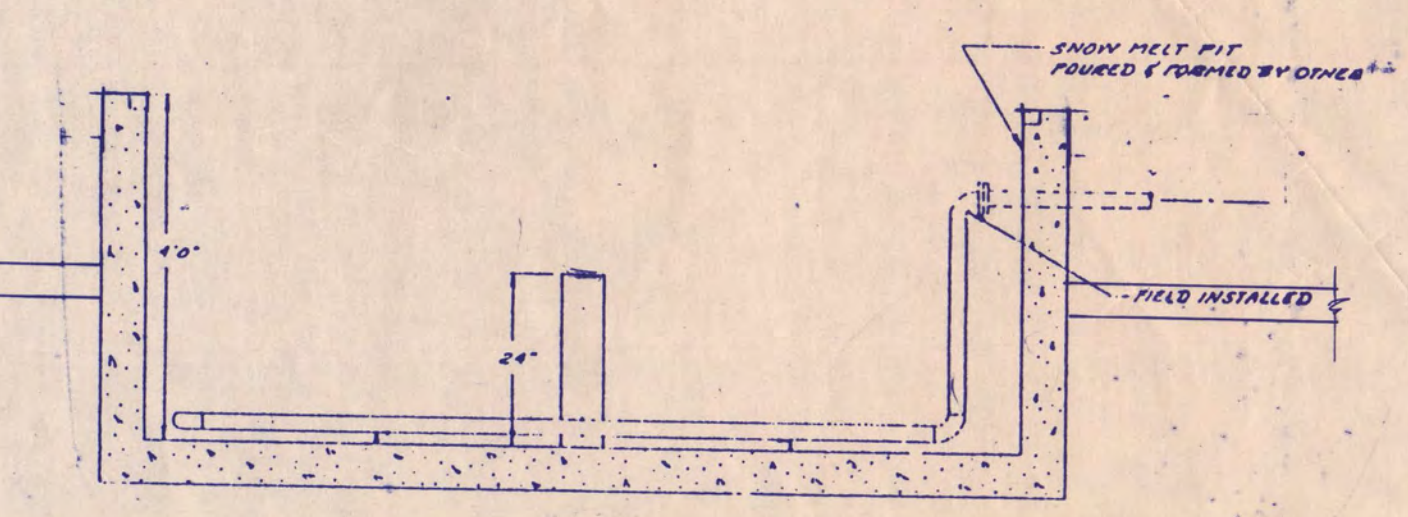
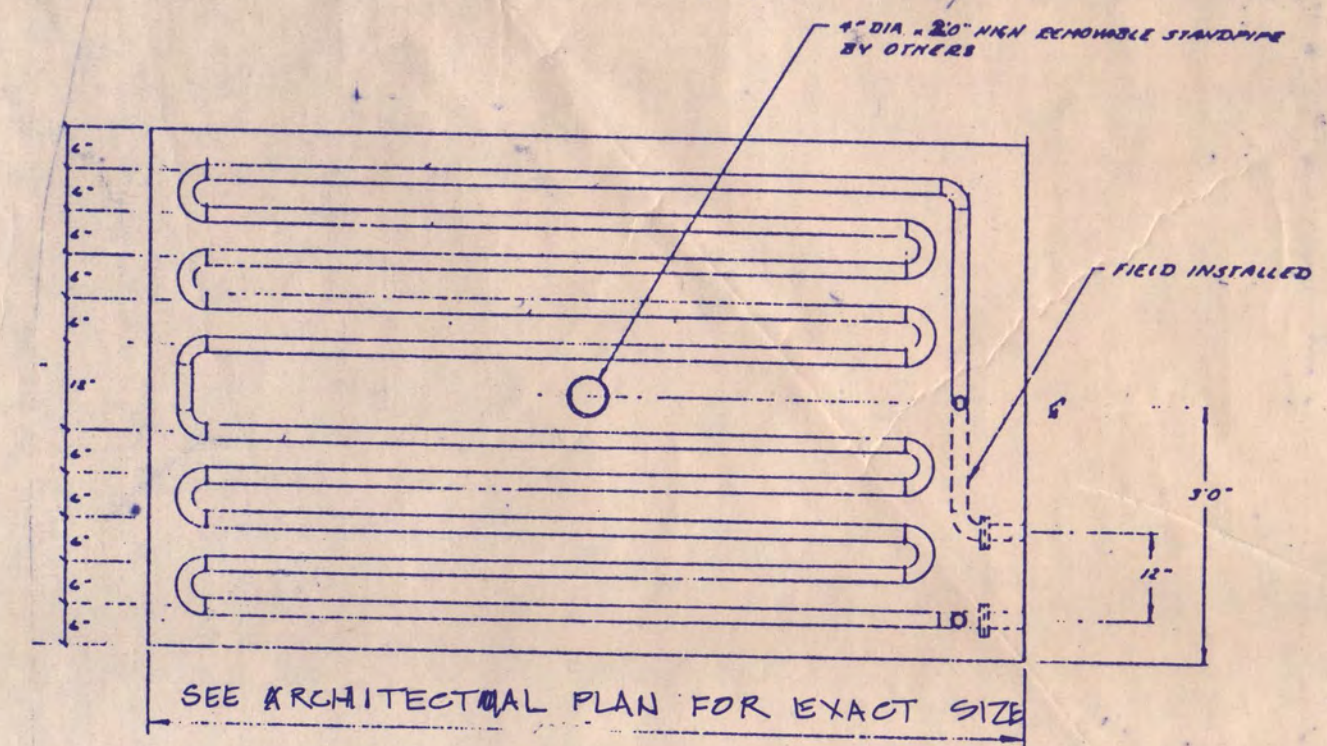
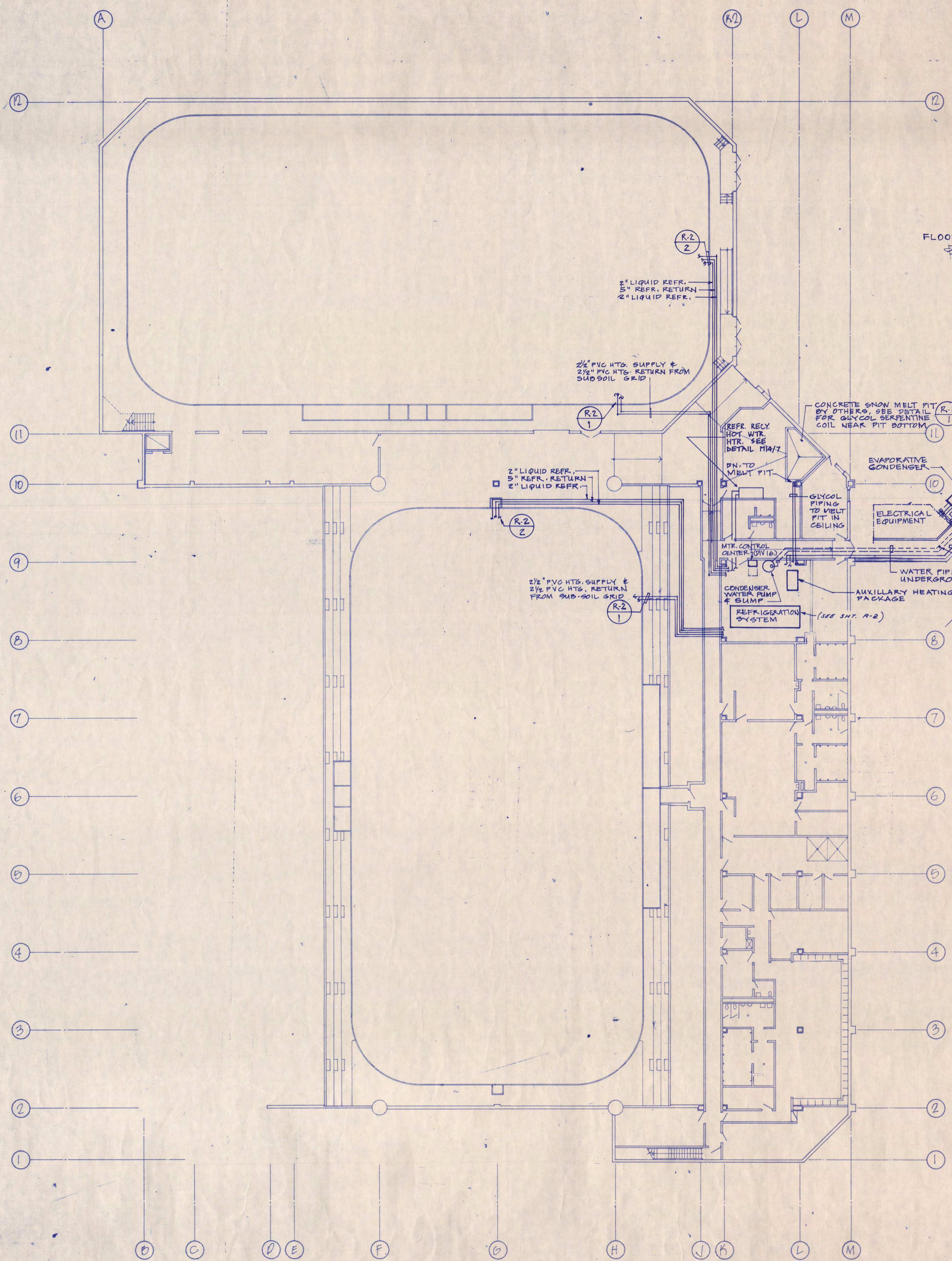
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MECHANICAL DETAIL PLAN

Scale NONE

Date SEP 9, 1988 Comm. No. 876-871
 In Charge JDM
 Drawn By MDT
 Checked By JIS/SP/GD

M14



CONCRETE SNOW MELT PIT
BY OTHERS, SEE DETAIL
FOR GLYCOL SERPENTINE
COIL NEAR PIT BOTTOM

EVAPORATIVE
CONDENSER

ELECTRICAL
EQUIPMENT

REFRIG. PIPING
RACKED ON WALL

DO NOT RUN CONDENSER WATER
PIPING UNDER ELEC. EQUIP.

WATER PIPING
UNDERGROUND

AUXILIARY HEATING
PACKAGE

CONDENSER
WATER PUMP
& SLUMP

REFRIGERATION
SYSTEM (SEE SHEET R-2)

MTX. CONTROL
CENTER DIV. 16

GLYCOL
PIPING TO MELT
PIT IN
CEILING

REFR. RECY.
HOT WTR.
HTX. SEE
DETAIL MM/7

PH. TO
MELT PIT

2 1/2" PVC HTG. SUPPLY &
2 1/2" PVC HTG. RETURN FROM
SUBSOIL GRID

2" LIQUID REFR.
5" REFR. RETURN
2" LIQUID REFR.

2" LIQUID REFR.
5" REFR. RETURN
2" LIQUID REFR.

2 1/2" PVC HTG. SUPPLY &
2 1/2" PVC HTG. RETURN FROM
SUBSOIL GRID

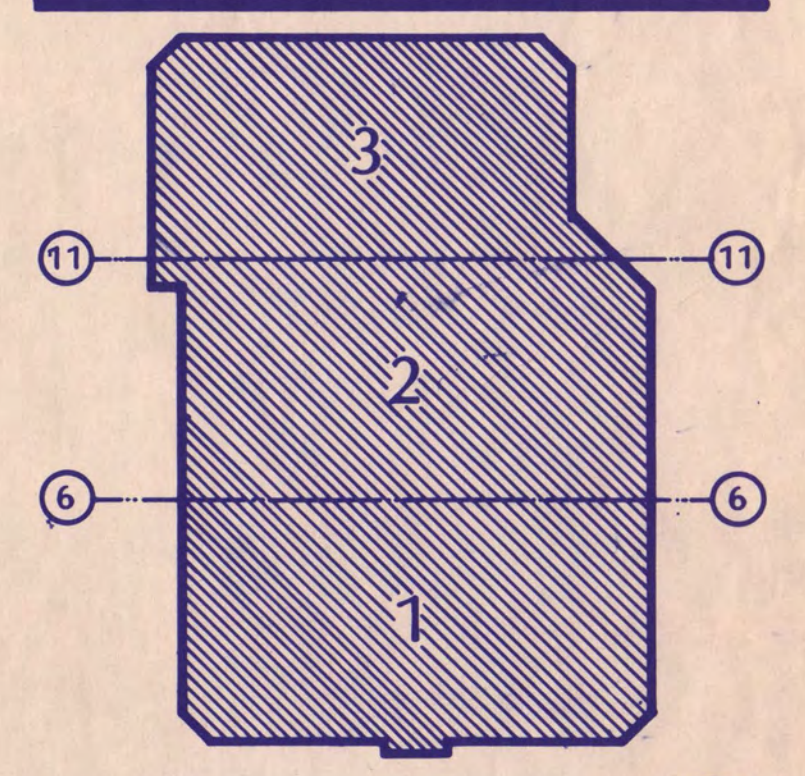
2" LIQUID REFR.
5" REFR. RETURN
2" LIQUID REFR.

RUN REFRIG. PIPING A MINIMUM OF 8'-0"
ABOVE WALK. PROVIDE ADEQUATE SUPPORT
FOR VERTICAL & HORIZONTAL PIPING, TO SUPPORT
UP TO 300 PSI OF HORIZONTAL OR VERTICAL
LOAD.

- GENERAL NOTES:**
- SEE SHEET M-2 FOR OTHER UNDERGROUND SERVICES. ALSO SEE CIVIL AND ELECTRICAL DRAWINGS, FOR WORK REQUIRING COORDINATION.
 - SEE SHEET M-4 & M-7 FOR MECHANICAL EQUIPMENT ABOVEGROUND, ALSO SEE ARCHITECTURAL & ELECTRICAL DRAWINGS FOR WORK REQUIRING COORDINATION.
 - SEE DETAIL MM/7 FOR HOT WATER HTG. EQUIPMENT PROVIDED BY DIV. 13.

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.

John M. Most
 Date 7-17-88 Reg. No. 11697



NATIONAL HOCKEY CENTER

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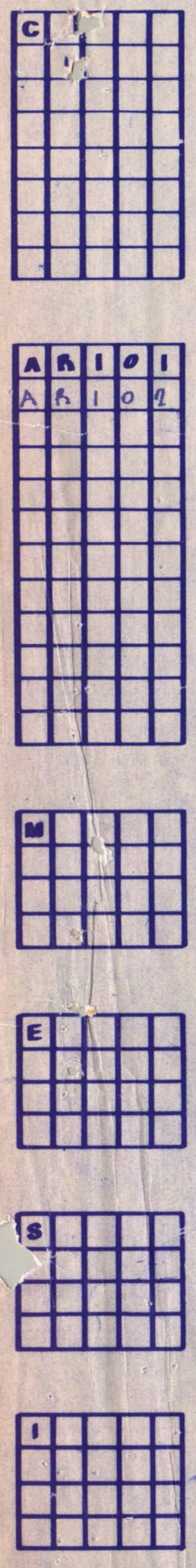
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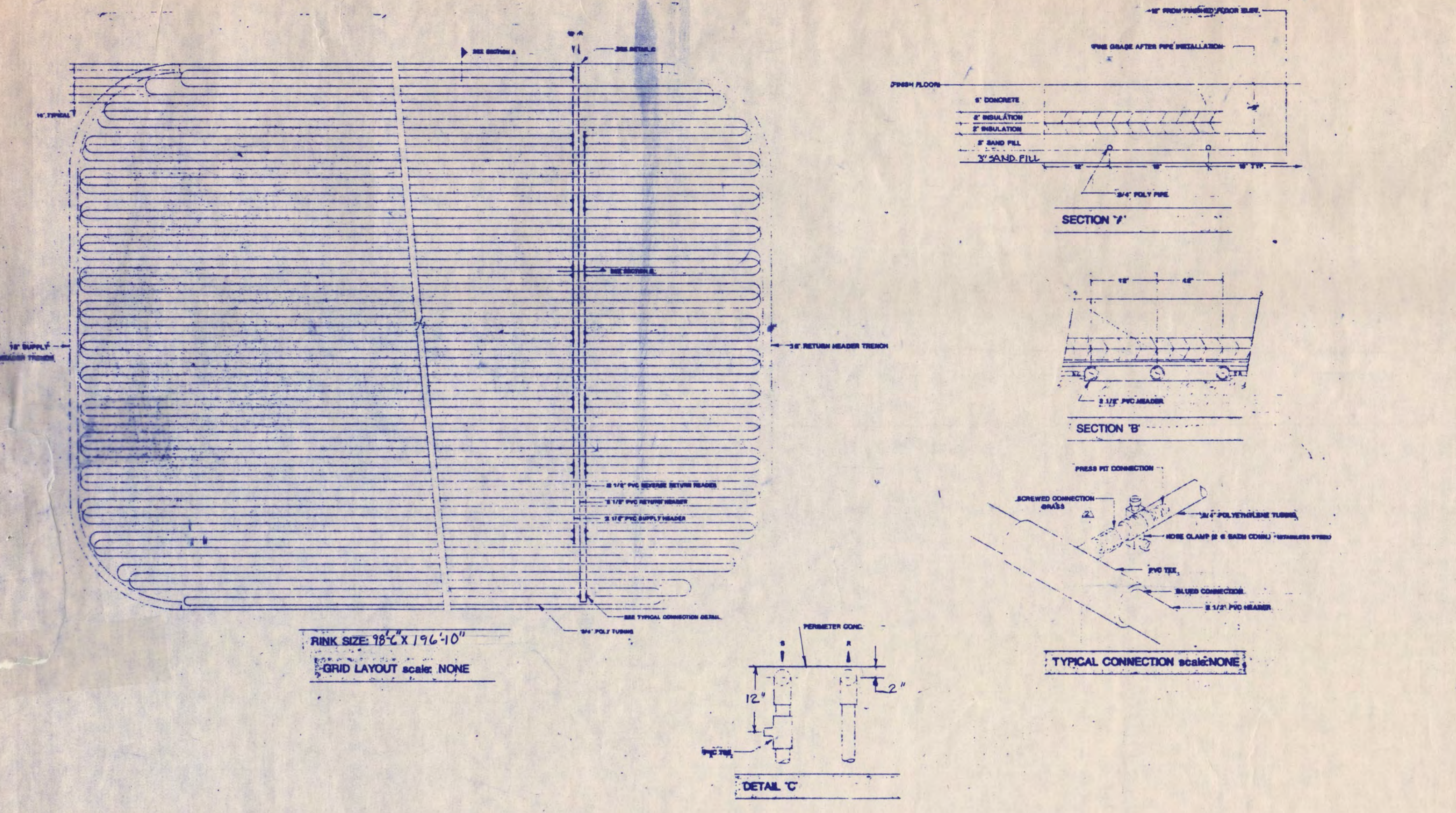
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ICE RINK FLOOR PLAN

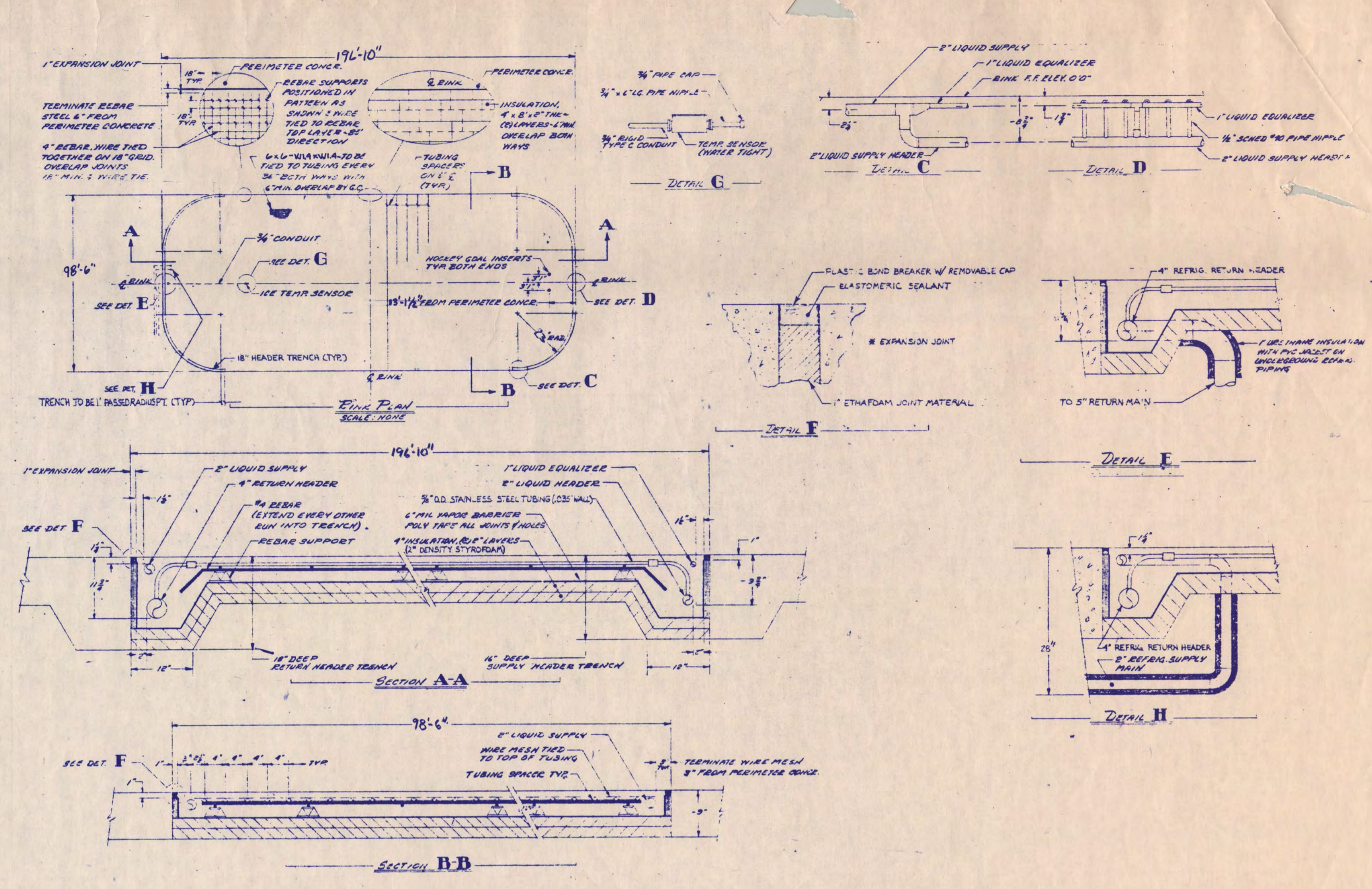
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 Date SEP. 9, 1988 Comm. No. 6166-671
 In Charge JDM
 Drawn By JS
 Checked By JTS/SP

R1

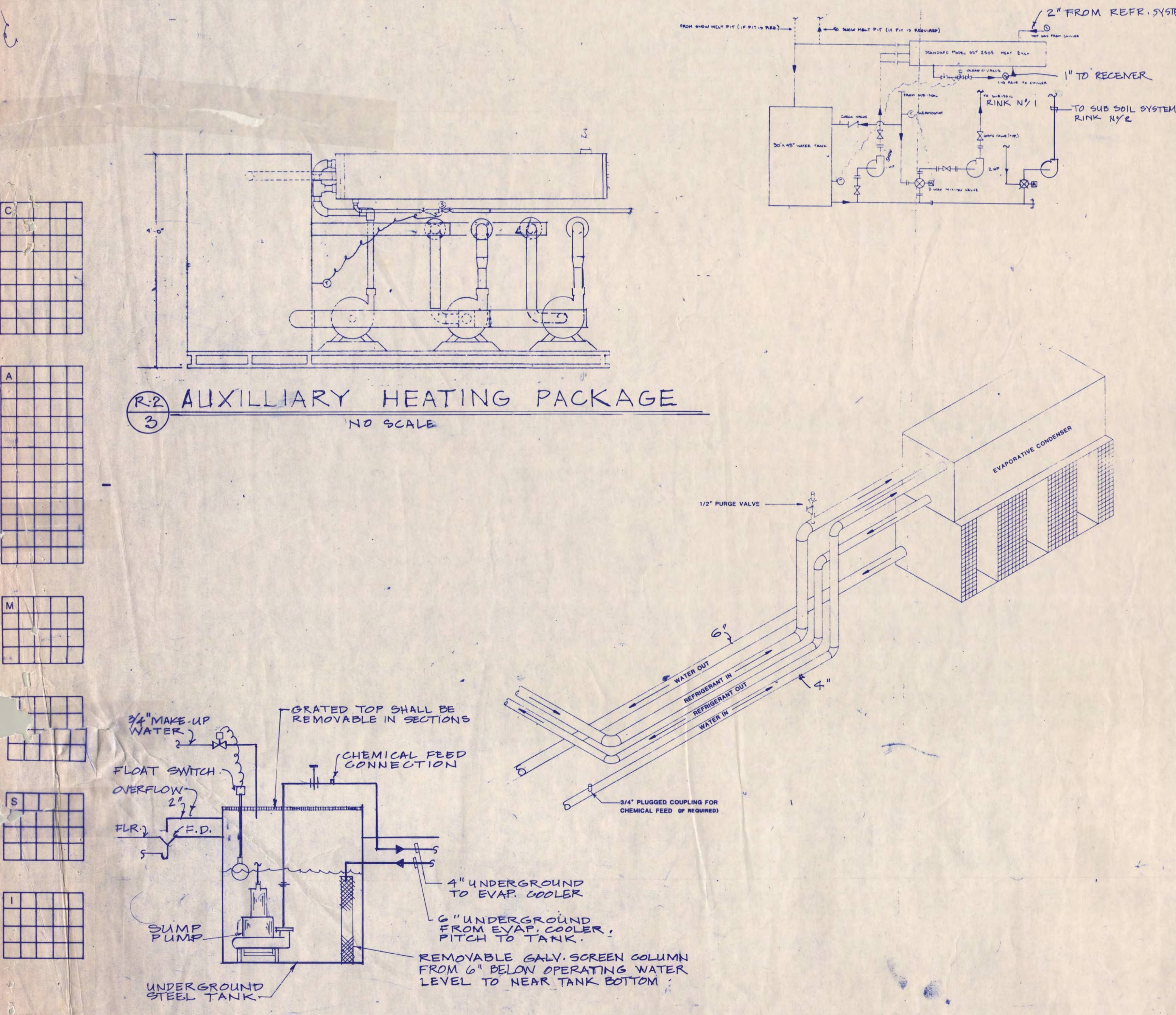




R-2 TYP. SUB SOIL HEATING GRID AND DETAILS
 NO SCALE

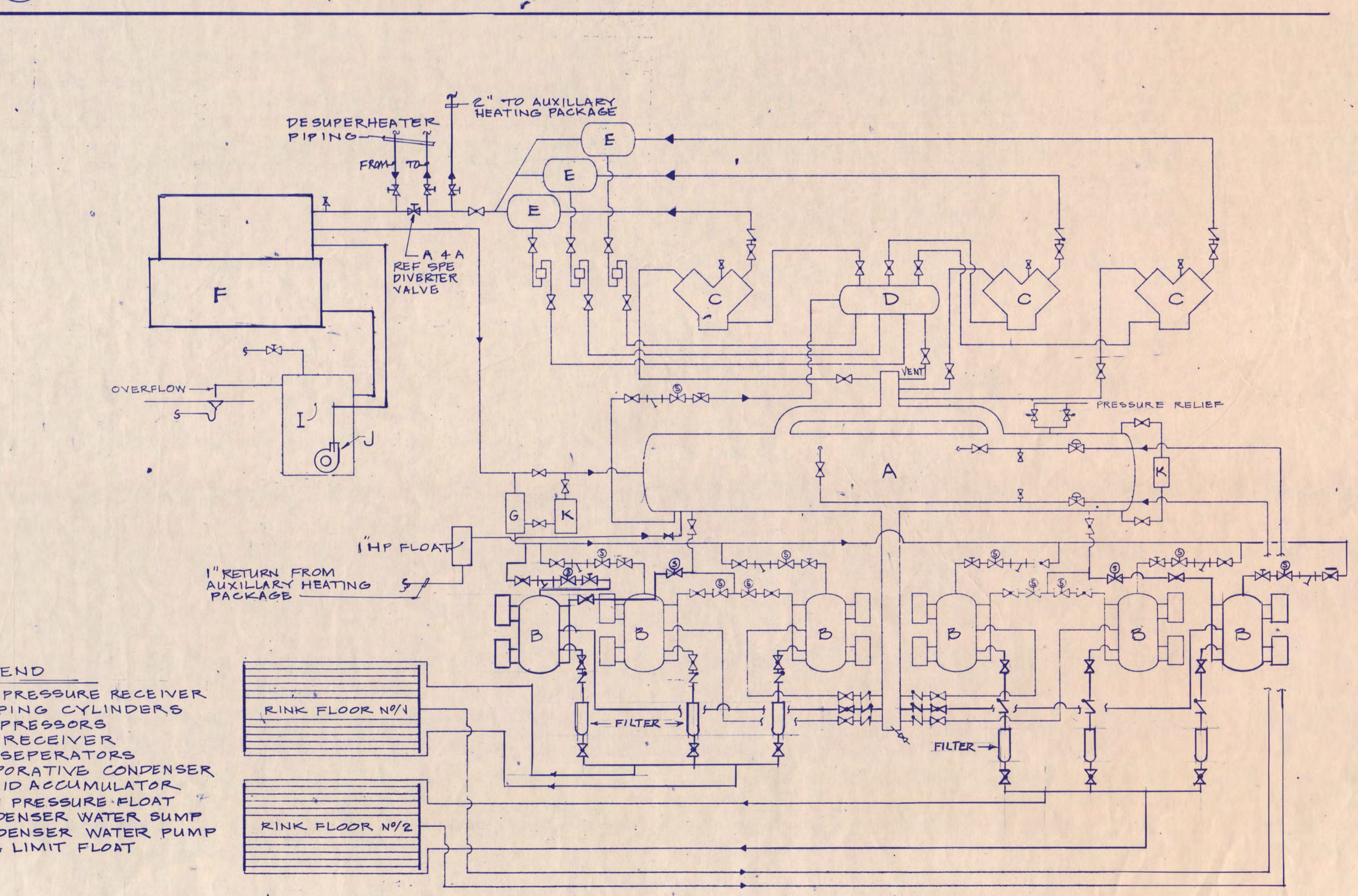


R-2 TYPICAL CONCRETE FLOOR SECTIONS AND DETAILS
 NO SCALE



R-2 AUXILIARY HEATING PACKAGE
 NO SCALE

R-2 CONDENSER SCHEMATIC
 NO SCALE



- LEGEND
- A - LOW PRESSURE RECEIVER
 - B - PUMPING CYLINDERS
 - C - COMPRESSORS
 - D - OIL RECEIVER
 - E - OIL SEPARATORS
 - F - EVAPORATIVE CONDENSER
 - G - LIQUID ACCUMULATOR
 - H - HIGH PRESSURE FLOAT
 - I - CONDENSER WATER SUMP
 - J - CONDENSER WATER PUMP
 - K - HIGH LIMIT FLOAT

R-2 SYSTEM FLOW SCHEMATIC
 NO SCALE

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 Date 7-12-88 Reg. No. 16697

NATIONAL HOCKEY CENTER

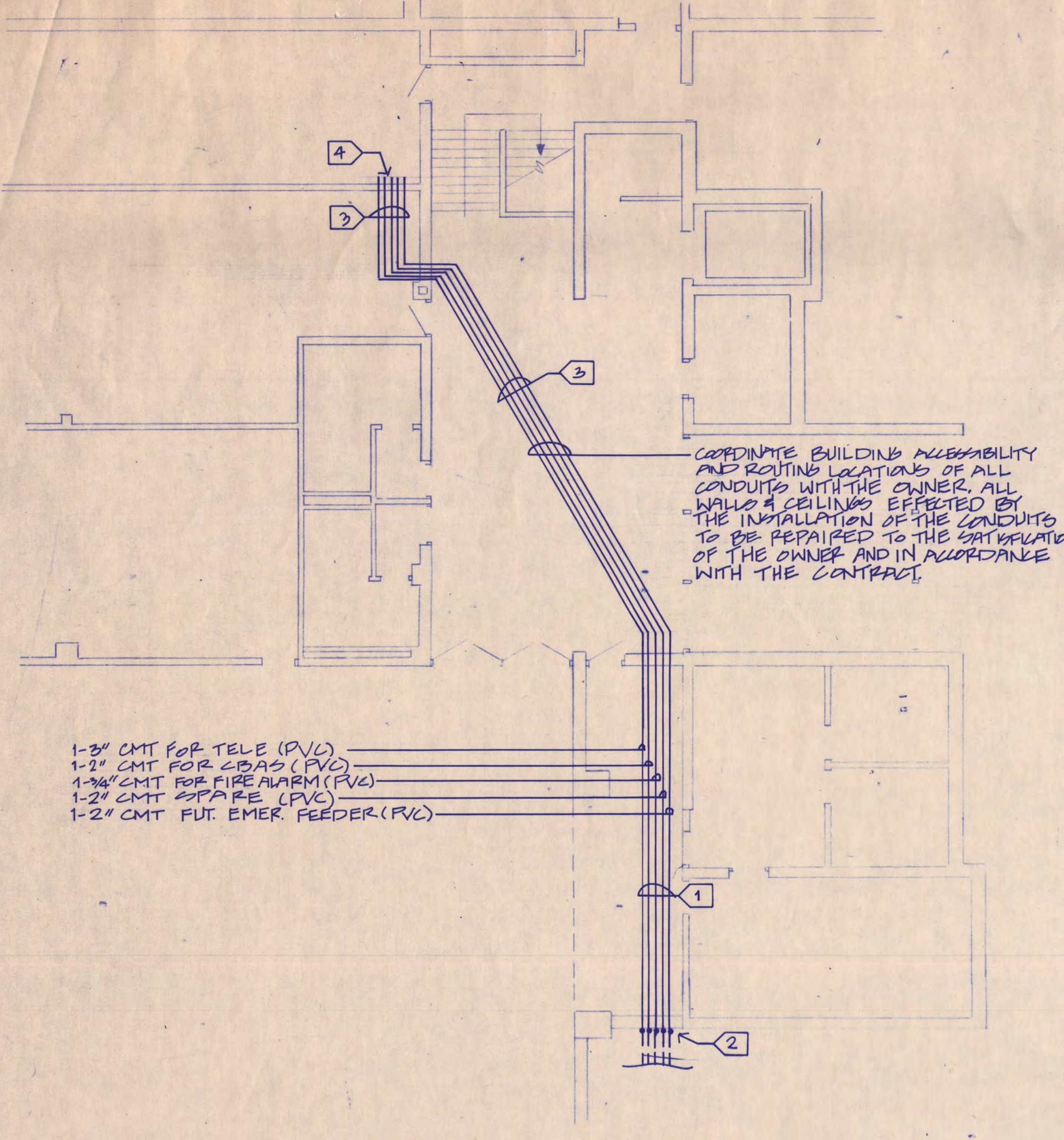
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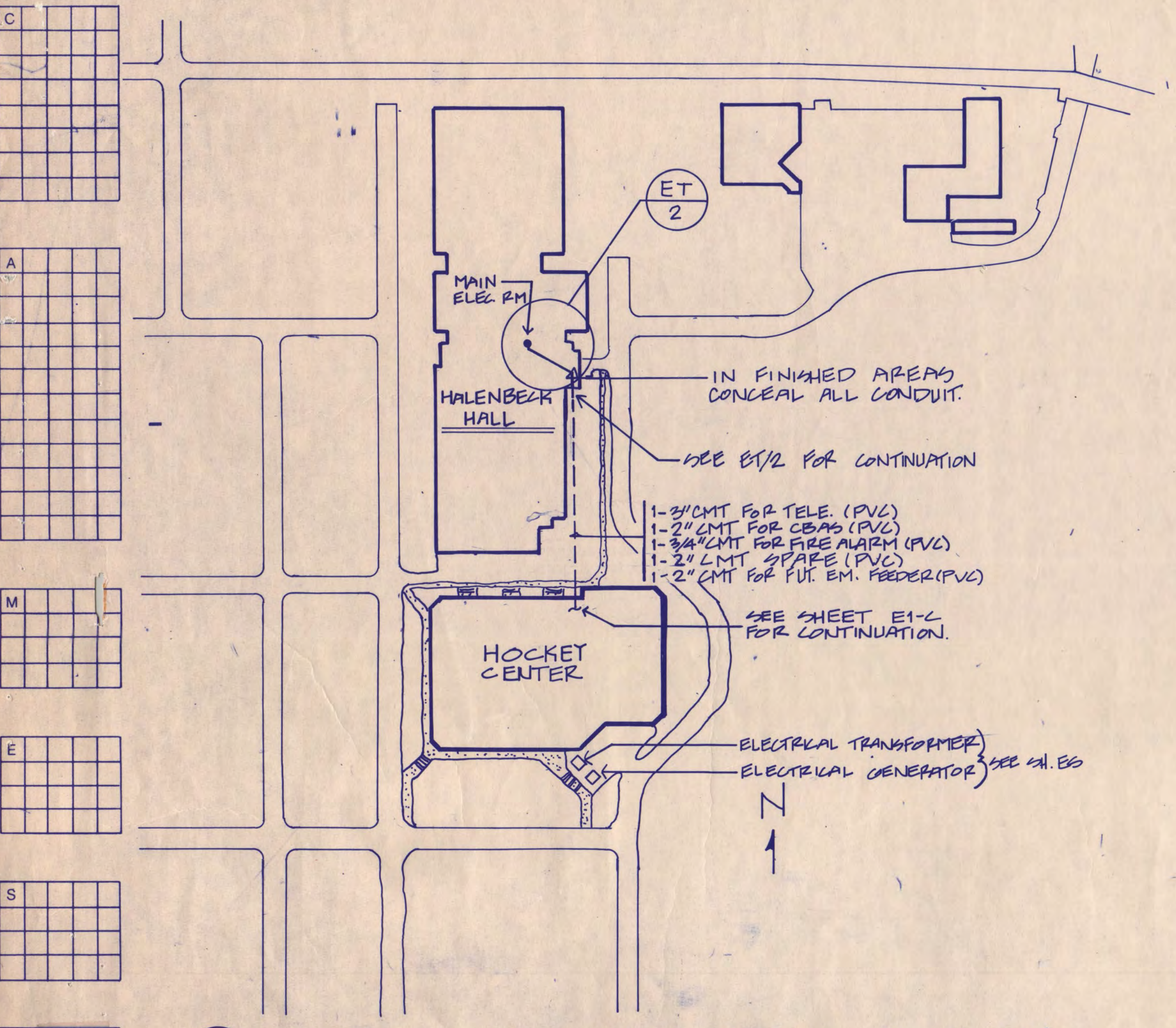
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ICE RINK DETAIL PLAN

Scale NONE
 Date SEP. 9, 1988 Comm. No. 8766-871
 In Charge JDM
 Drawn By TS
 Checked By JIS/SP
 R2



ET 2 PARTIAL PLAN - HALENBECK HALL - FIRST FLOOR



ET 1 COMMUNICATIONS SYSTEMS SERVICE ENTRANCE ROUTING PLAN

LIST OF DRAWINGS

ET	ELECTRICAL TITLE AND SYMBOL SHEET
ES	ELECTRICAL SITE PLAN
E1-1L	BASEMENT LEVEL - LIGHTING PLAN AREA 1
E1-1P	BASEMENT LEVEL - POWER PLAN AREA 1
E1-2L	BASEMENT LEVEL - LIGHTING PLAN AREA 2
E1-2P	BASEMENT LEVEL - POWER PLAN AREA 2
E1-3LP	BASEMENT LEVEL - LIGHTING & POWER PLAN AREA 3
E1-C	BASEMENT LEVEL - COMMUNICATION PLAN AREA 1
E2-1L	CONCOURSE LEVEL - LIGHTING PLAN AREA 1
E2-1P	CONCOURSE LEVEL - POWER PLAN AREA 1
E2-2L	CONCOURSE LEVEL - LIGHTING PLAN AREA 2
E2-2P	CONCOURSE LEVEL - POWER PLAN AREA 2
E2-C	CONCOURSE LEVEL - COMMUNICATION PLAN
E3-1P	ARENA/UPPER SEATING LIGHTING & POWER PLAN
E3-C	UPPER SEATING LEVEL COMMUNICATION PLAN
EA-1	ROOF PLAN
ES-1	ARENA LIGHTING CONTROL SCHEDULE AND DETAILS
EG-1	ONE-LINE POWER RIDER DIAGRAM
E7-1	SCHEDULE - MOTOR STARTER
E7-2	SCHEDULE - PANELBOARDS

ABBREVIATIONS

A	AMPERE
ACC	ALTERNATING CURRENT
ADD	ADDENDUM
AF	ABOVE FINISHED FLOOR
AUTO	AUTOMATIC
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
CB	CABINET
CBR	CIRCUIT BREAKER
CCTV	CIRCUIT TELEVISION
CLB	CLOSED CIRCUIT TELEVISION
CLD	CEILING
CMT	CONDUIT EMPTY
COMB	COMBINATION
CONN	CONNECTION, CONNECTOR OR CONNECTOR
CONTR	CONTRACTOR
COORD	COORDINATE
CRT	CATHODE RAY TUBE
DET	DETAIL
DIST	DISTRIBUTION
DP	DOWN
DWG	DRAWING
EA	EACH
ED	ELECTRICAL OUTLET
ELECT	ELECTRICAL
EQUIP	EQUIPMENT
EXIST	EXISTING
EXPL	EXPLOSION PROOF
ELR	END OF LINE RESISTOR
ENC	ELECTRIC WATER COOLER
F	FUSED
FA	FIRE ALARM
FDR	FEEDER
FIN	FINISHED
FL	FLOOR
FUT	FUTURE
FIX	FIXTURE
FND	FLEXIBLE WIRING DUCT
GND OR G	GROUND
GFI	GROUND FAULT INTERRUPTER
HDA	HAND OFF AUTO
HP	HORSEPOWER
HTG	HEATING
HTR	HEATER
HZ	HERTZ
I/C	INTERLOCKING CAPACITY
I/L	INTERLOCK
JB	JUNCTION BOX
KO	KNOCK OUT
KM	KILOMETERS
KVA	KILOVOLT AMPERE
LOC	LOCATION
LTG	LIGHTING, LIGHT OR LIGHTS
LTFC	LIGHT TIGHT FLEXIBLE CONDUIT
MAN	MANUAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MIN	MINIMUM
MFG	MANUFACTURER
MH	MAN HOLE
MTR	MOTOR
MS	MOTOR STARTER
MSP	MOTOR STARTER PANEL
MSS	MOTOR STARTER SWITCH
MT	EMPTY
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
N.C.	NORMALLY CLOSED
N/C	NURSE CALL
NF	NON FUSED
N.O.	NORMALLY OPEN
P	POLE
PB	PUSH BUTTON
PF	POWER FACTOR
PL	PANEL LIGHT
PLN	PANEL
PR	PAIR
PVC	POLYVINYL CHLORIDE
PWR	POWER
PUB	PULL BOX
RECEPT	RECEPTACLE
RM	ROOM
SHT	SHEET
SPC	SPACE
SPR	SPARE
SSN	SAFETY SWITCH
STR	STARTER
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TEL	TELEPHONE
TERM	TERMINAL
TRANS	TRANSFORMER
TV	TELEVISION
TYP	TYPICAL
UFD	UNDER FLOOR DUCT
UG	UNDERGROUND
UH	UNIT HEATER
V	VOLTS
VA	VOLT AMPERE
H	HATTS
WP	WEATHERPROOF

EQUIPMENT IDENTIFICATION

ELECTRICAL SYSTEMS

S	SWITCHBOARD
P	POWER PANEL
L	BRANCH CIRCUIT LIGHTING PANEL
R	BRANCH CIRCUIT RECEPTACLE PANEL
T	TRANSFORMER
B	TAP-CIRCUIT BREAKER
F	TAP-SWITCH/FUSE
J	JUNCTION
M	MCC
N	MSP
A	A.T.S.

EQUIPMENT DESIGNATION

S	SWITCHBOARD
P	POWER PANEL
L	BRANCH CIRCUIT LIGHTING PANEL
R	BRANCH CIRCUIT RECEPTACLE PANEL
T	TRANSFORMER
B	TAP-CIRCUIT BREAKER
F	TAP-SWITCH/FUSE
J	JUNCTION
M	MCC
N	MSP
A	A.T.S.

ELECTRICAL SYMBOLS

HT	EXIT LIGHT WITH DIRECTIONAL ARROW(S)
AS	AS INDICATED
LF	LIGHTING FIXTURES
2 X 4	2 X 4
3	CIRCUIT NUMBER
3	SWITCH REFERENCE
HT	LIGHTING FIXTURE ON EMERGENCY BRANCH
HT	TRACK LIGHTING
HT	INDICATES NUMBER OF LIGHTS
HT	(NOTE: OUTLET BOXES SHALL BE INCLUDED WITH OR ADJACENT TO ALL FIXTURES WHERE REQUIRED BY CODE OR NECESSARY FOR APPROVED WIRING METHODS)
HT	POLE LIGHT
HT	INDICATES NUMBER OF LIGHTS
HT	RECEPTACLE (SINGLE).....18"
HT	RECEPTACLE (DUPLICATE).....18"
HT	RECEPTACLE ON EMERGENCY BRANCH.....18"
HT	RECEPTACLE (DOUBLE DUPLICATE).....18"
HT	RECEPTACLE (COMB. 120/208 VOLT).....18"
HT	SPECIAL PURPOSE.....18"
HT	PEDESTAL OUTLET
HT	FLOOR OUTLET
HT	POWER POLE
HT	SINGLE POLE SWITCH.....48"
HT	TWO POLE SWITCH.....48"
HT	THREE WAY SWITCH.....48"
HT	FOUR WAY SWITCH.....48"
HT	KEY OPERATED SWITCH.....48"
HT	MOMENTARY CONTACT SWITCH.....48"
HT	DOOR SWITCH.....72"
HT	PILOT LIGHT
HT	BRACKET SYMBOL INDICATES ALL DEVICES UNDER ONE COVER PLATE
HT	DIMMER.....48"
HT	BELL
HT	BUZZER
HT	CHIME
HT	CLOCK.....64"
HT	FLOW SWITCH
HT	TAMPER SWITCH
HT	FIRE ALARM MANUAL STATION.....48"
HT	FIRE ALARM HEAT DETECTOR
HT	FIRE ALARM BELL.....88"
HT	FIRE ALARM BELL WITH LIGHT.....88"
HT	FIRE ALARM HORN.....88"
HT	FIRE ALARM CHIME.....88"
HT	OFF/AUTO SWITCH
HT	NORMALLY OPEN AUXILIARY CONTACTS (2)
HT	NORMALLY CLOSED AUXILIARY CONTACTS (2)
HT	MAGNETIC DOOR HOLDER
HT	DAMPER OPERATOR (BY DIVISION 15)
HT	COMPUTER OUTLET
HT	INTERCOM OUTLET.....18"
HT	(W INDICATES WALL INTERCOM OUTLET AT 48")
HT	MICROPHONE OUTLET.....24"
HT	PROJECTOR OUTLET.....24"
HT	SELECTOR SWITCH.....60"
HT	SPEAKER
HT	VOLUME CONTROL UNIT.....48"
HT	TELEPHONE OUTLET.....18"
HT	(W INDICATES WALL TELEPHONE OUTLET AT 48")
HT	TV ANTENNA SYSTEM OUTLET
HT	CCTV
HT	CLOSED CIRCUIT TV OUTLET
HT	JUNCTION BOX WALL/CLG MTD.
HT	BLANKED OUTLET FLUSH MTD WALL/CLG MTD
HT	THERMOSTAT.....58"
HT	PUSHBUTTON
HT	TRANSFORMER
HT	RELAY

MOTOR STARTER AND CONTROL

STARTER TYPE	ABBREVIATIONS	DESCRIPTIONS
MSS		MOTOR STARTER SWITCH
FVN		FULL VOLTAGE NON-REVERSING
FVR		FULL VOLTAGE REVERSING
2S2		2 SPEED 2 WINDING
2S1		2 SPEED 1 WINDING
2SP		2 STEP PART WINDING
YDS		WYE-DELTA START
SPL		SPECIAL

AUXILIARY CONTROLS

ABBREVIATIONS	DESCRIPTION
A	HAND-OFF-AUTOMATIC SELECTOR SWITCH
B	STOP-START PUSH BUTTON
C	CONTROL TRANSFORMER- 120V SECONDARY
D	DOOR INTERLOCK SWITCH
E	RED PILOT LIGHT
F	AMBER PILOT LIGHT
G	GREEN PILOT LIGHT
H	OFF/AUTO SWITCH
J	NORMALLY OPEN AUXILIARY CONTACTS (2)
K	NORMALLY CLOSED AUXILIARY CONTACTS (2)
L THRU Z	"SEE AUXILIARY SCHEDULE"

ELECTRICAL SYMBOLS

MSS	MOTOR STARTER SWITCH.....60"
□	SAFETY SWITCH
⊗	MOTOR STARTER
⊗	COMBINATION MOTOR STARTER
⊗	POWER OR DISTRIBUTION CABINET
⊗	120 VOLT LIGHTING AND RECEPTACLE PANELBOARD
⊗	277 VOLT LIGHTING PANELBOARD
⊗	TERMINAL CABINET
⊗	ANNUNCIATOR
⊗	MOTOR-NO. OR NAME-REFER TO SCHEDULE
⊗	ELECTRICAL NOTE SYMBOL-SEE NOTE SCHEDULE ON SAME DRAWING
PS	PLUGSTRIP
⊗	RACEWAY INSTALLED CONCEALED IN WALL OR CEILING
⊗	RACEWAY INSTALLED EXPOSED
⊗	RACEWAY INSTALLED IN SLAB
⊗	RACEWAY INSTALLED BELOW SLAB OR GRADE
⊗	RACEWAY SEAL
⊗	RACEWAY (C)-CAPPED (B)-BUSHED
⊗	RACEWAY DOWN
⊗	RACEWAY UP
⊗	HOME RUN INDICATES GROUND WIRE-SIZE SAME AS CCT WIRES
⊗	LN-N PANELBOARD NO. 1, 3 - CIRCUIT NUMBERS
⊗	ANY CIRCUIT WITHOUT DESIGNATION IS A TWO WIRE CIRCUIT. ANY GREATER NUMBER OF WIRES IS INDICATED BY CROSS MARKS.
⊗	EXISTING RACEWAY TO REMAIN UNLESS NOTED OTHERWISE

ELECTRICAL SYMBOL NOTES

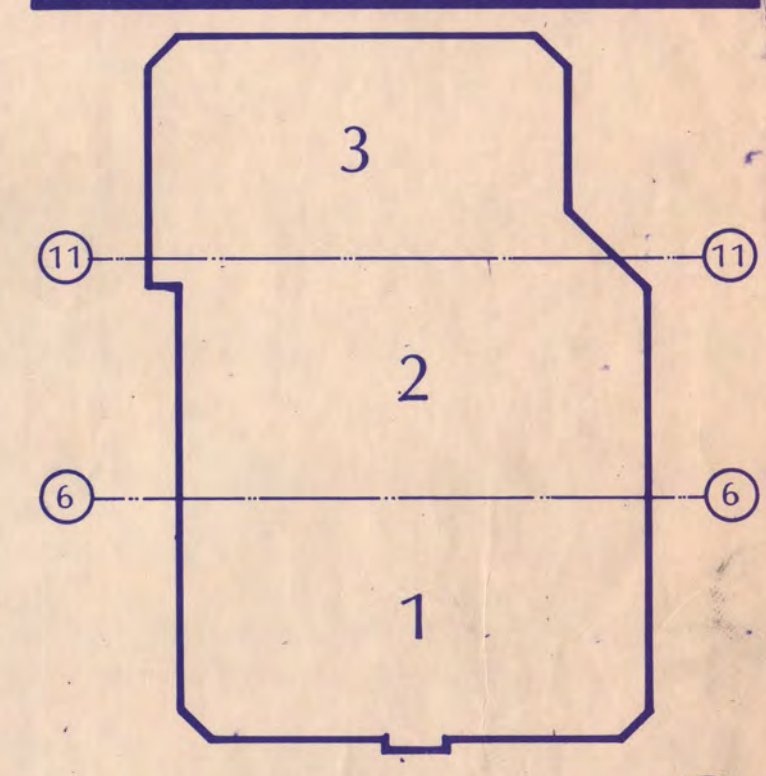
- EQUIPMENT SHALL BE INSTALLED AT THE MOUNTING HEIGHT INDICATED, UNLESS SHOWN OTHERWISE ON THE ARCHITECTURAL ELEVATION. NOTED ON THE DRAWINGS, OR IN THE SPECIFICATIONS.
- ALL MOUNTING HEIGHTS ARE TO CENTER OF DEVICE FROM FINISHED FLOOR. MOUNTING HEIGHTS INDICATED ON ARCHITECTURAL WALL ELEVATIONS TAKE PRECEDENCE OVER MOUNTING HEIGHTS LISTED ABOVE.
- CAPITAL LETTERS ADJACENT TO SYMBOLS INDICATE UNIT TYPE- SEE SPECS.
- DASHED SYMBOLS INDICATE EXISTING FIXTURES AND DEVICES.

Revision Date No.

D.D. REVIEW ISSUE 6-8-88
 C.D. REVIEW ISSUE 7-12-88
 ISSUED FOR BIDDING 9-9-88

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.

D. Lane Hersey
 Date 7-12-88 Reg. No. 12413



KEY PLAN

NATIONAL HOCKEY CENTER

ST. CLOUD STATE UNIVERSITY

ST. CLOUD, MINNESOTA

Ellerbe

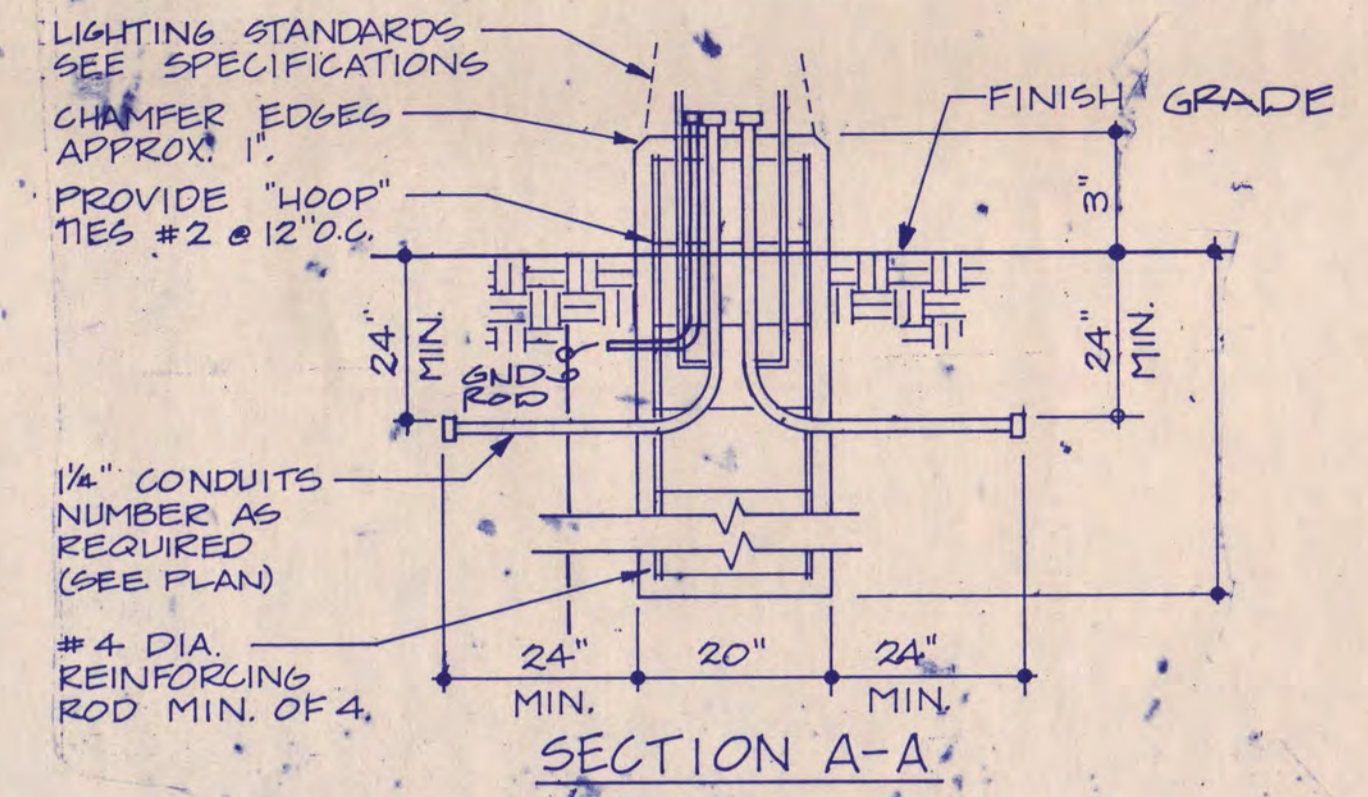
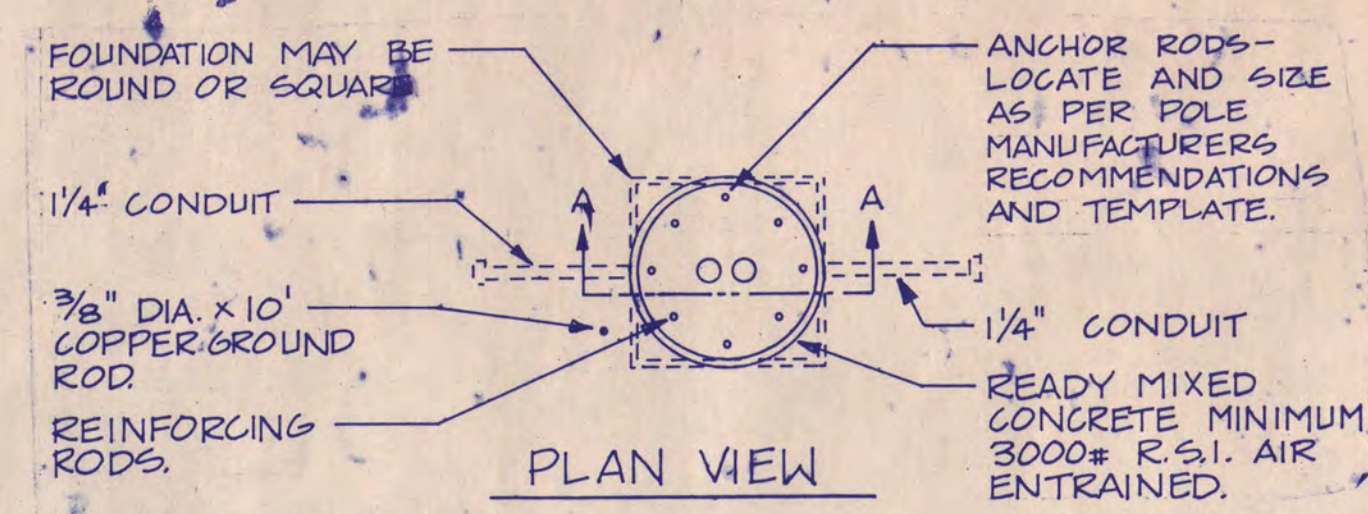
One Appletree Square
 Minneapolis, MN 55420
 (612) 853-2000
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ELECTRICAL TITLE AND SYMBOL SHEET

Scale NONE

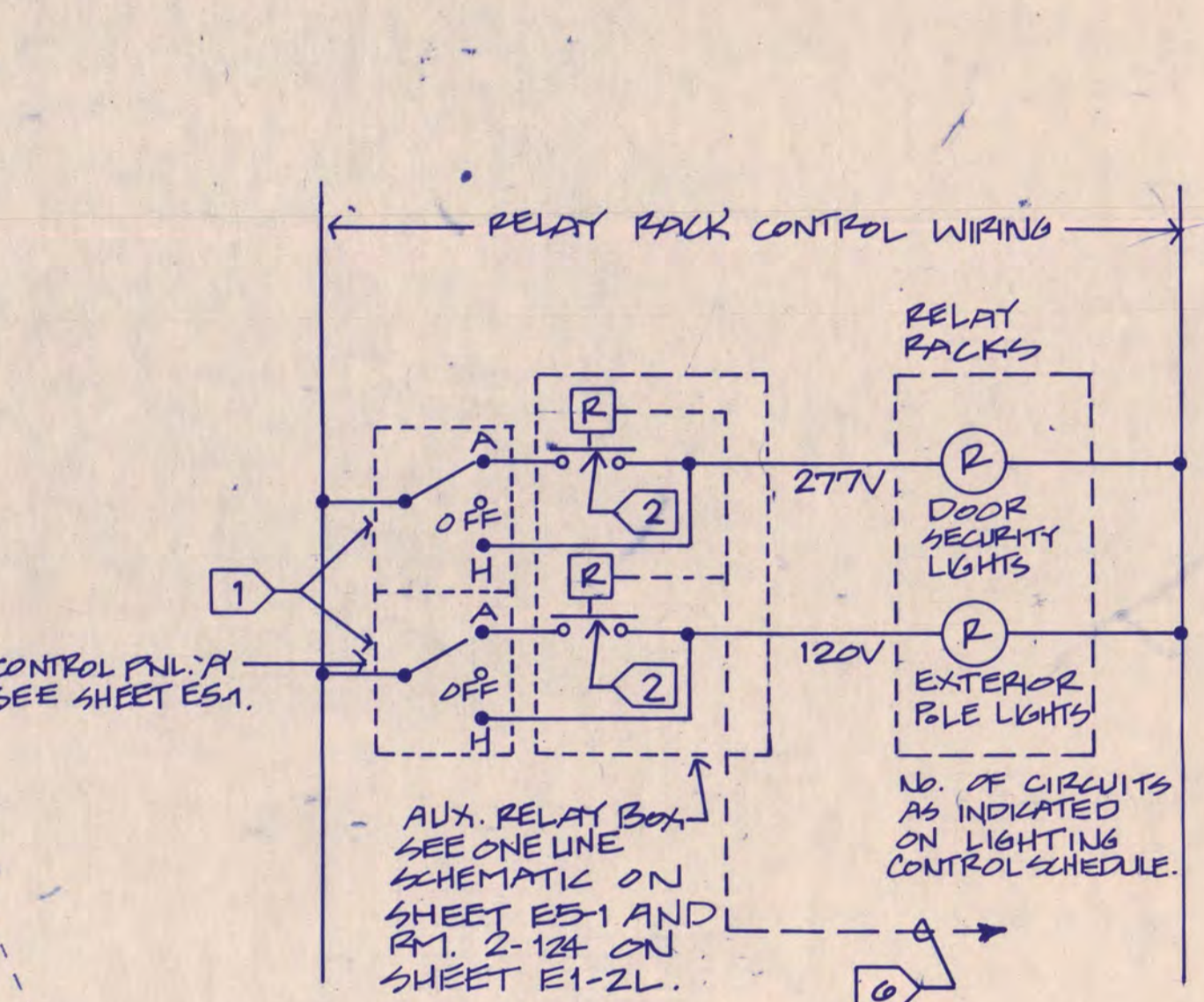
Date SEPT 9, 1988 Comm. No. 8766-871
 In Charge D.L. HERSEY
 Drawn By S. WOODWARD
 Checked By J. KIRCHNER

ET

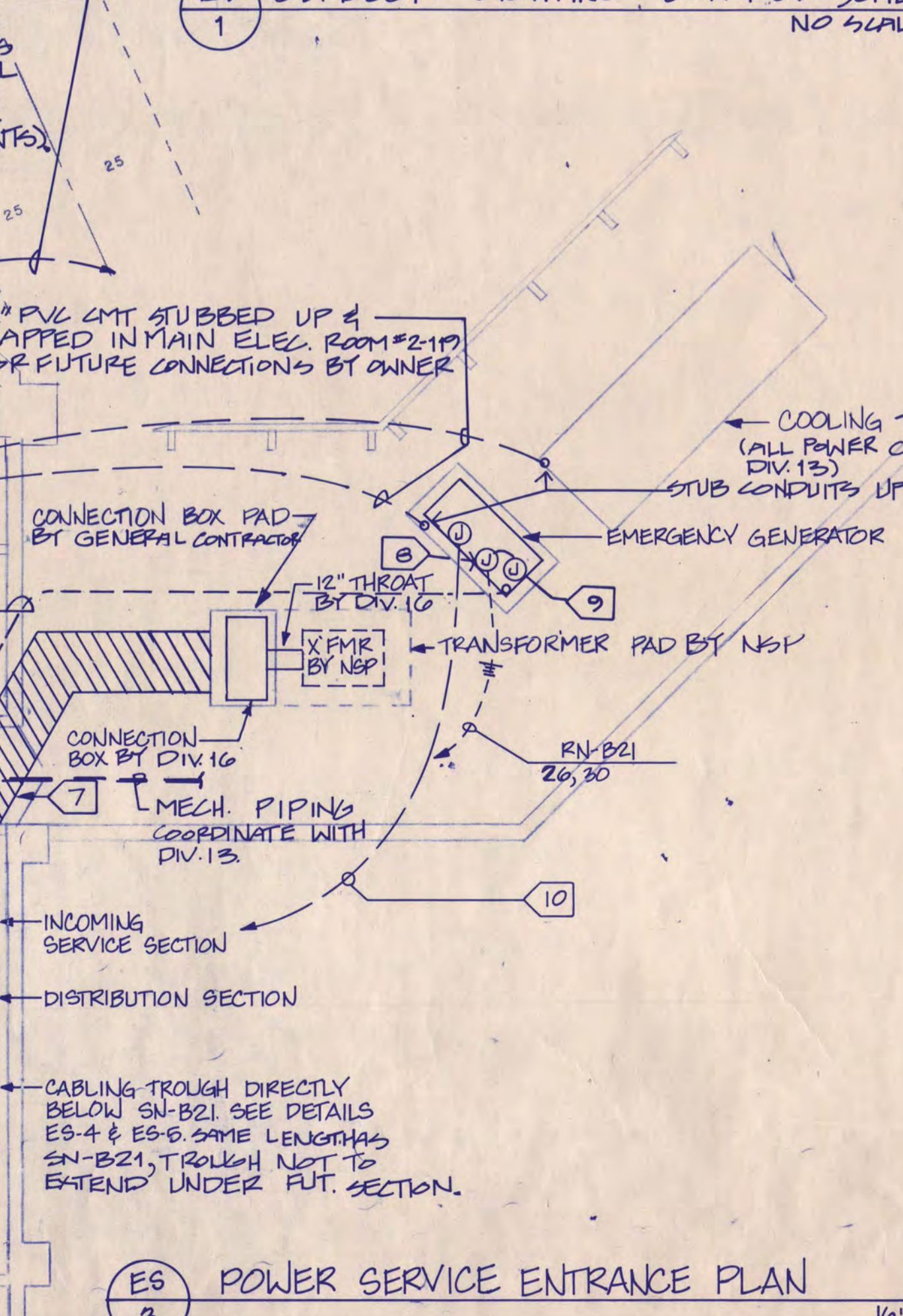


ES 2 TYPICAL LIGHTING STANDARD FOUNDATION

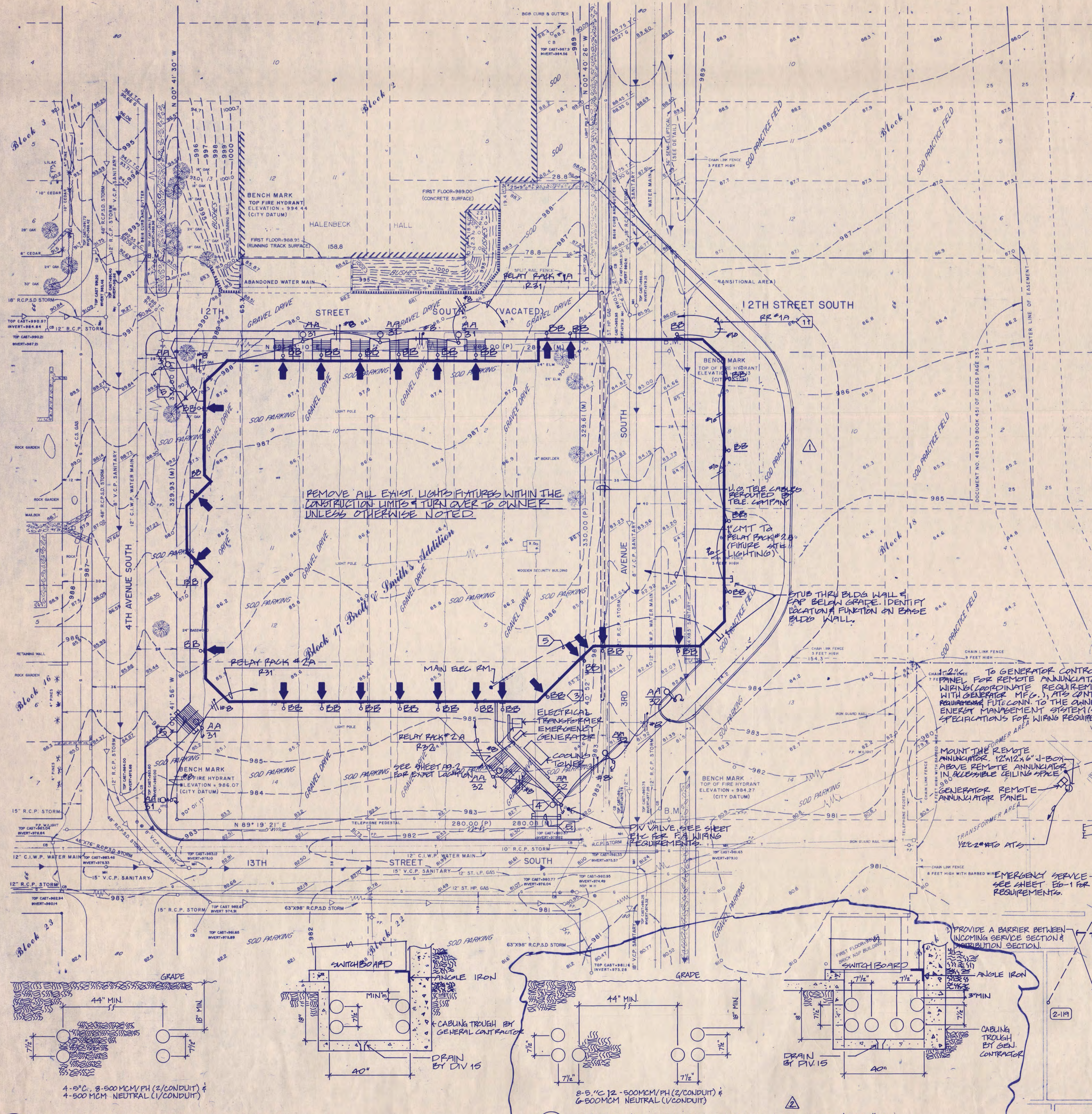
GENERAL NOTES:
 A) ALL NORTHERN STATES POWER CO. (NSP) FILES LINES & MISCELLANEOUS EQUIPMENT IN THE CONSTRUCTION LIMITS IS TO BE REMOVED & REROUTED BY NSP.



ES 1 OUTDOOR LIGHTING CONTROL SCHEMATIC NO SCALE



ES 3 POWER SERVICE ENTRANCE PLAN 1/8\"/>



ES 4 INCOMING SERVICE DETAILS - BASE BID NO SCALE

ES 5 INCOMING SERVICE DETAILS - ADD ALTERNATE #1 NO SCALE

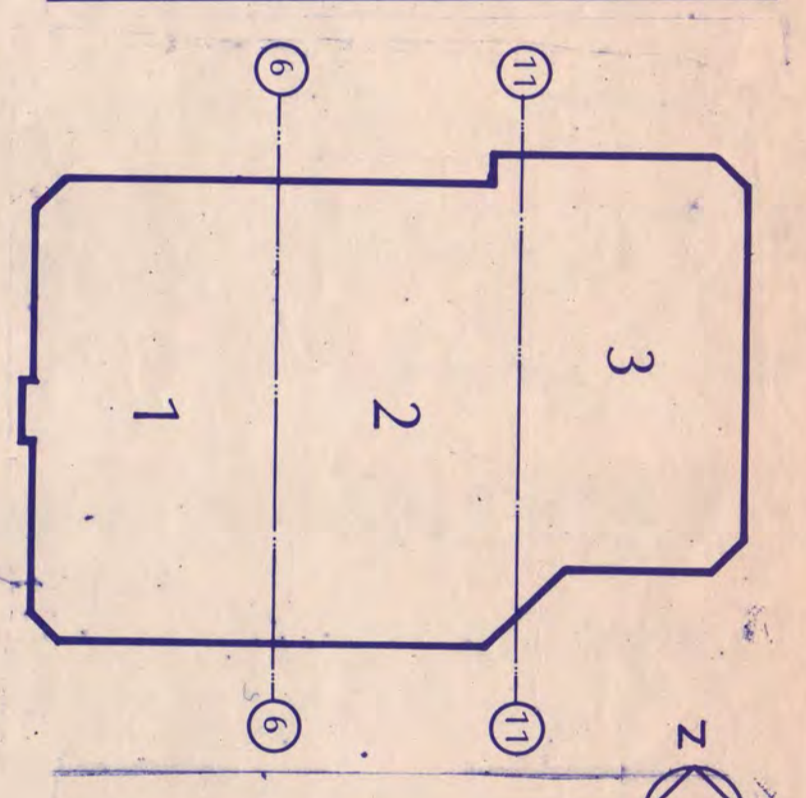
D.D. REVIEW ISSUE 6-8-88
 C.D. REVIEW ISSUE 7-12-88
 BIDDING 9-9-88
 CCA #10 3-13-89
 AS-BUILT

ELECTRICAL NOTES:

- 1) PROVIDE A 3-POSITION CYLINDRICAL KEY LOCK TYPE SELECTOR SWITCH IN CONTROL PANEL #1. SWITCH TO BE METERED IN ALL POSITIONS.
- 2) RELAY LOCATED IN AUX. RELAY BOX, RELAY PROVIDED BY OWNER & INSTALLED BY DIV. 16 CONTRACTOR.
- 3) SEE FLOOR PLANS FOR GROUNDING FOR TYPE 'BB' FIXTURES (TYPICAL).
- 4) SEE SPECIFICATION SECTION 1640 FOR TYPE 'AA' FIXTURES & STANDARD INFORMATION.
- 5) 3/4\"/>

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.

R. Lane Hershey
 Date 7-12-88 Reg. No. 12418



KEY PLAN
NATIONAL HOCKEY CENTER
 ST. CLOUD STATE UNIVERSITY
 ST. CLOUD, MINNESOTA

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 One Appletree Square
 Minneapolis, MN 55420
 (612) 853-2000
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ELECTRICAL SITE PLAN

Scale 1" = 30'-0"
 Date 3-27-89 Comm. No. 8766-071
 In Charge: P.L. HERSEY
 Drawn By: S. WOODWARD
 Checked By: L. KIRCHNER