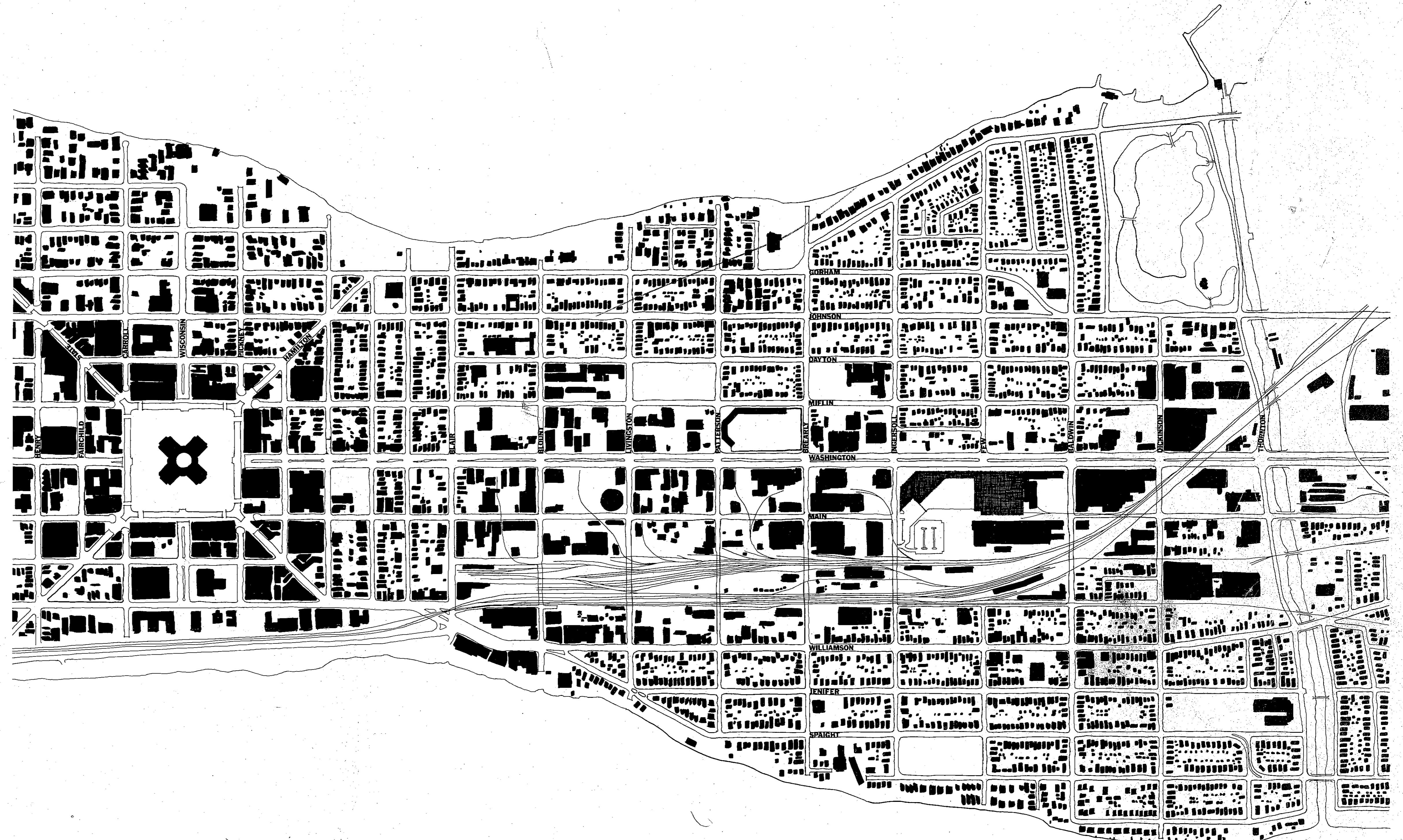


Drawing Index

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3	CE1	Existing Site Plan
4	A1	Site Plan
5	CE2	Site Utilities
6	CE3	Finished Contours and Elevations
7	CE4	Site Layout
8	L1	Landscape Plan
9	A2	First Floor Plan
10	A3	First Floor Plan
11	A4	Second Floor Plan
12	A5	Roof Plan
13	A6	Roof Plan
14	A7	Exterior Elevations
15	A8	Exterior Elevations
16	A9	Transverse and Longitudinal Sections
17	A10	Partial Floor Plans
18	A11	Reflected Ceiling Plans
19	A12	Wall Sections
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23	A16	Emergency Exits — Plans Sections and Elevations
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64	E4	Power Layout
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67	E7	Lighting Layout
68	E8	Lighting Layout
69	E9	Lighting Layout
70	E10	Building System Layout
71	E11	Building System Layout
72	E12	Building System Layout
73	E13	Riser Diagrams — Building Systems Layout
74	E14	Boiler Room Equipment Layout — Detail Sheet No. 1
75	E15	Detail Sheet No. 2
76	E16	Mechanical Equipment Control Diagrams — Sheet No. 1
77	E17	Mechanical Equipment Control Diagrams — Sheet No. 2
78	E18	Electrical Schedule
79	EQ1	Equipment Schedule



MADISON METRO TRANSIT SYSTEM MAINTENANCE AND ADMINISTRATION FACILITY

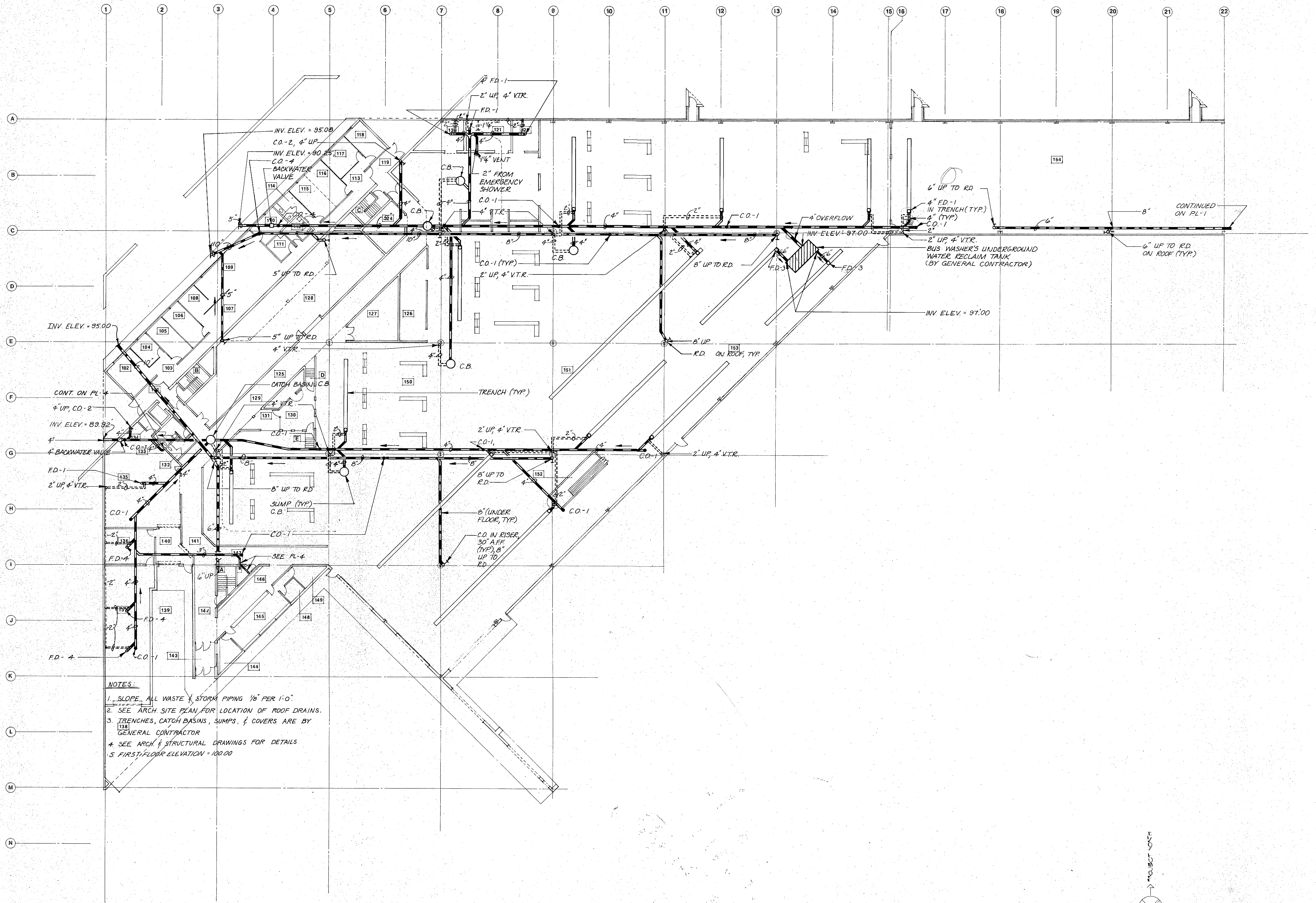
UMTA PROJECT No. WI-03-0018

JOEL SKORNICKA
JEROME D. FRANKLIN
WARREN O. SOMERFELD

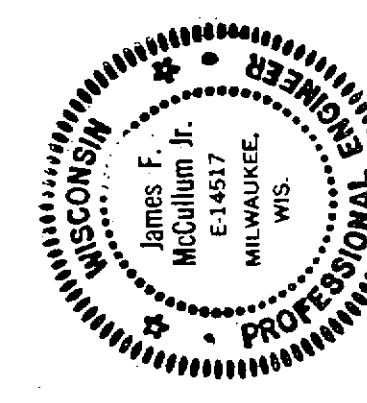
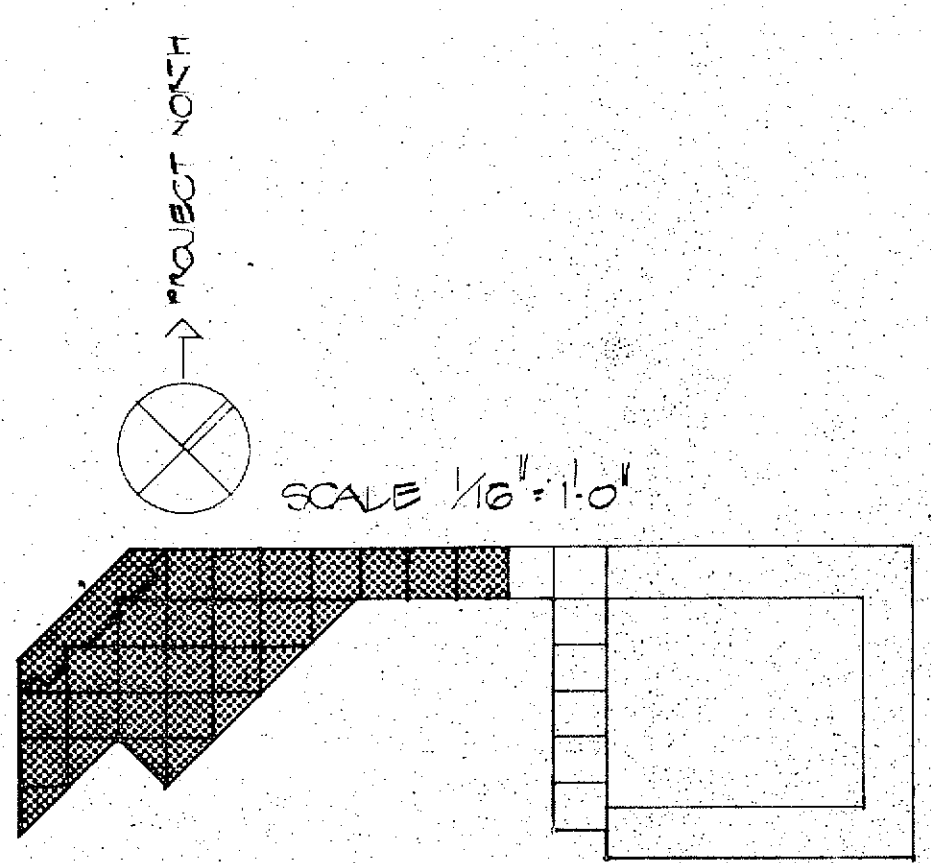
MAYOR
DIRECTOR DEPARTMENT OF PUBLIC WORKS
DIRECTOR DEPARTMENT OF TRANSPORTATION

BOWEN KANAZAWA PARTNERSHIP
STRAND ASSOCIATES
HOWARD NEEDLES TAMMEN & BERGENDOFF

ARCHITECTS
ENGINEERS
ENGINEERS



- NOTES:
1. SLOPE ALL WASTE & STORM PIPING 1/8" PER 1'-0"
 2. SEE ARCH SITE PLAN FOR LOCATION OF ROOF DRAINS.
 3. TRENCHES, CATCH BASINS, SUMPS, & COVERS ARE BY GENERAL CONTRACTOR
 4. SEE ARCH & STRUCTURAL DRAWINGS FOR DETAILS
 5. FIRST-FLOOR ELEVATION = 100.00



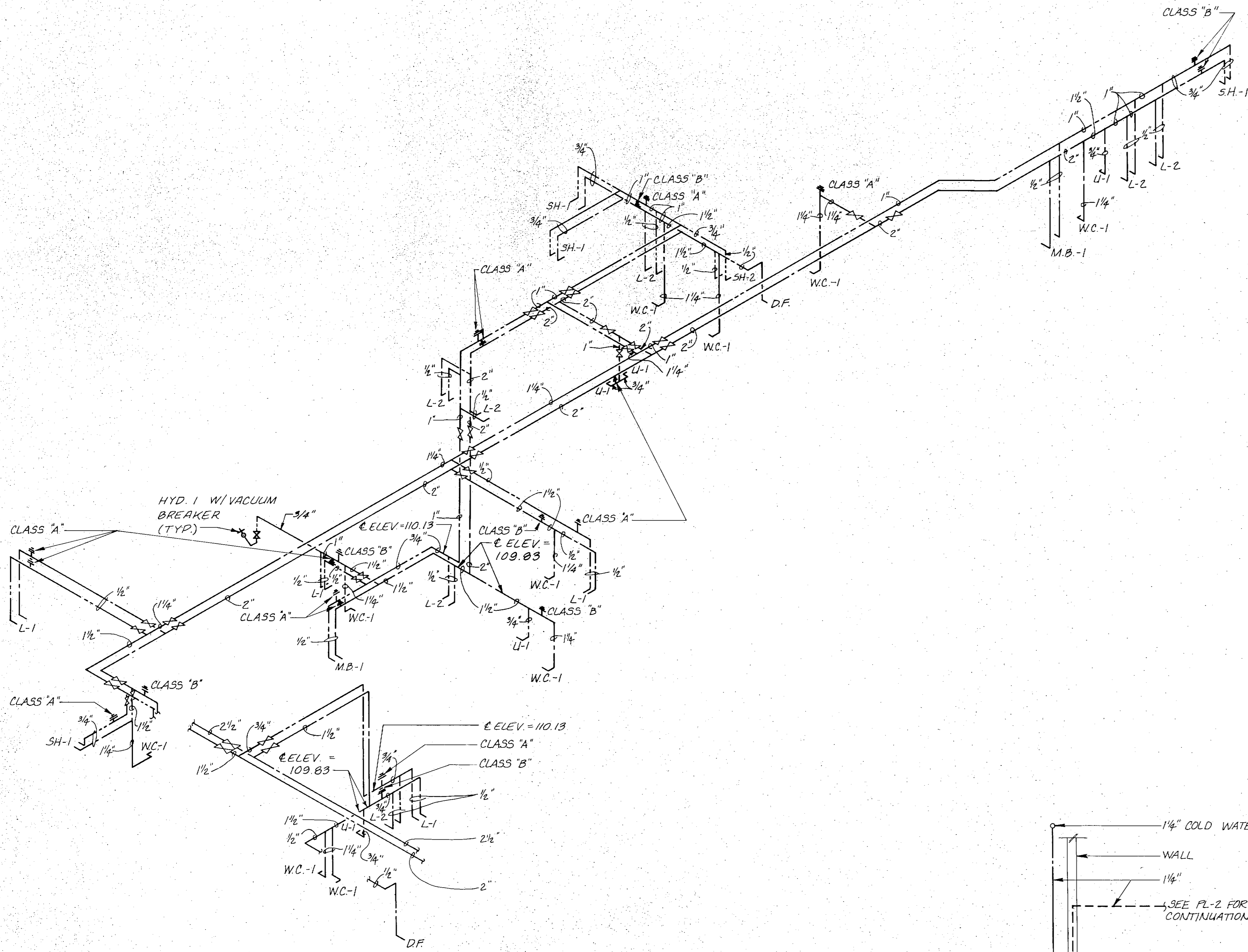
REVISION	DATE	DESCRIPTION

BOWEN KANAZAWA PARTNERSHIP ARCHITECTS 11 NORTH ALLEN ST. MADISON, WIS 53705 608-238-7626

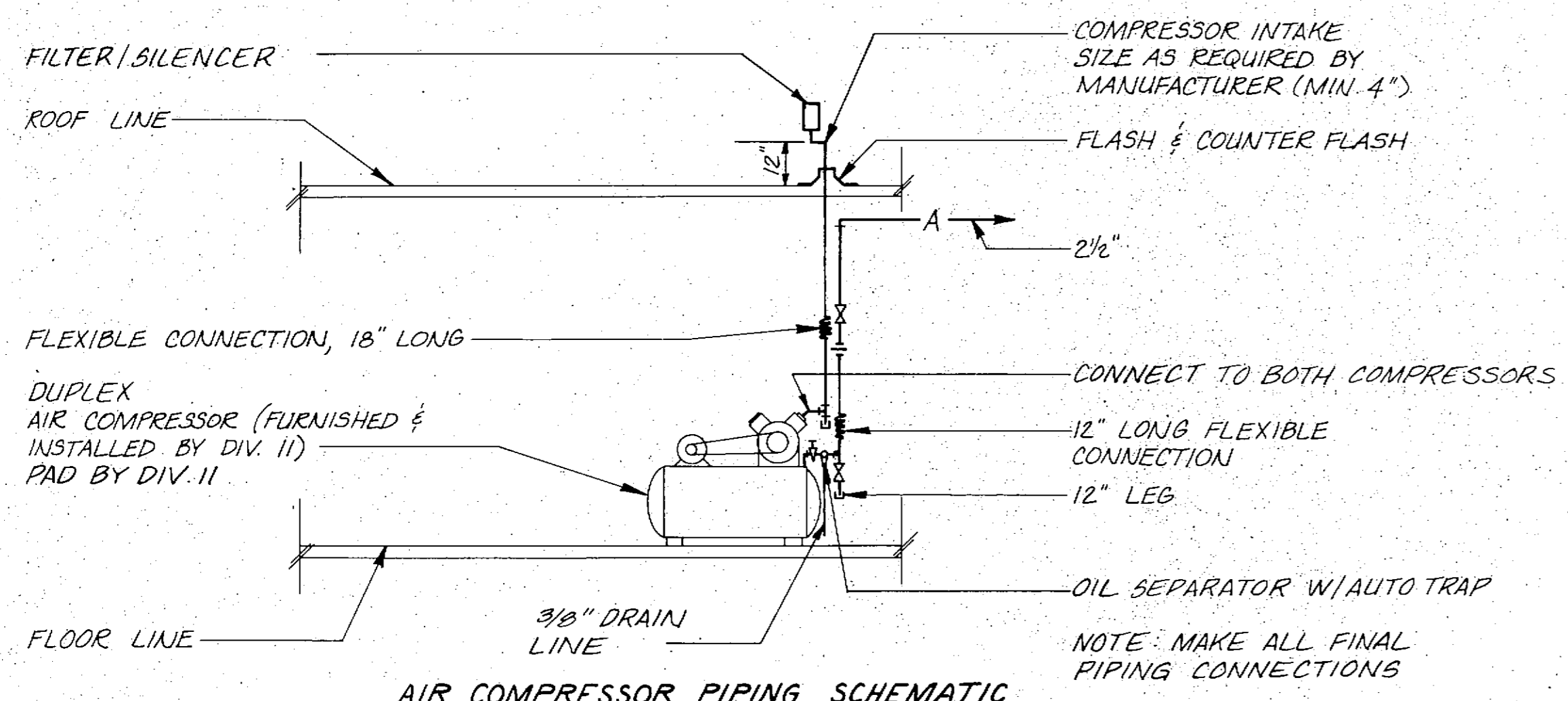
HOWARD NEEDLES TAMMEN AND BERGENDOFF PLUMBING ENGINEERS MILWAUKEE, WIS (414) 463-2310

FIRST FLOOR PLAN PLUMBING LAYOUT

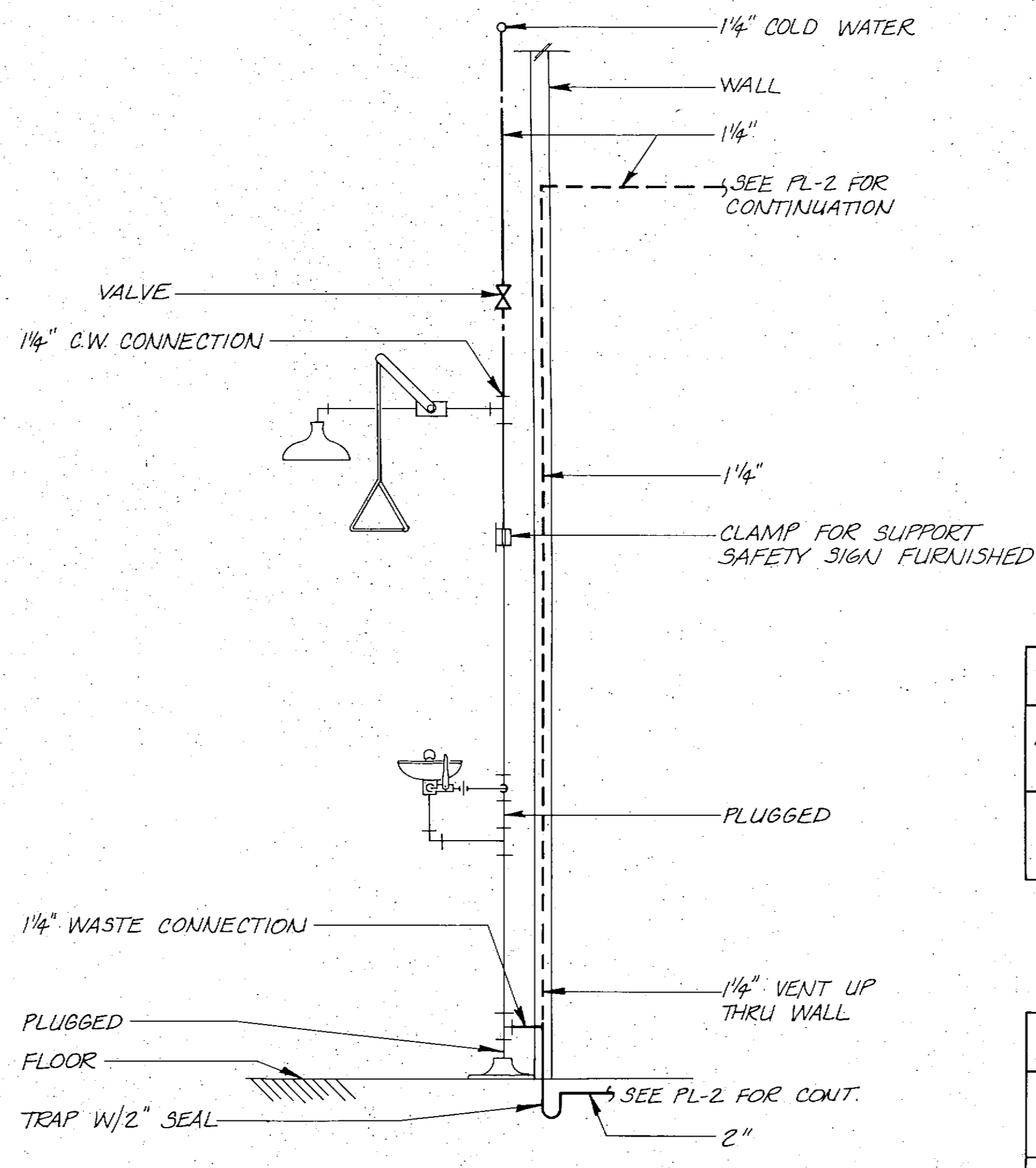
James T. M. Collins



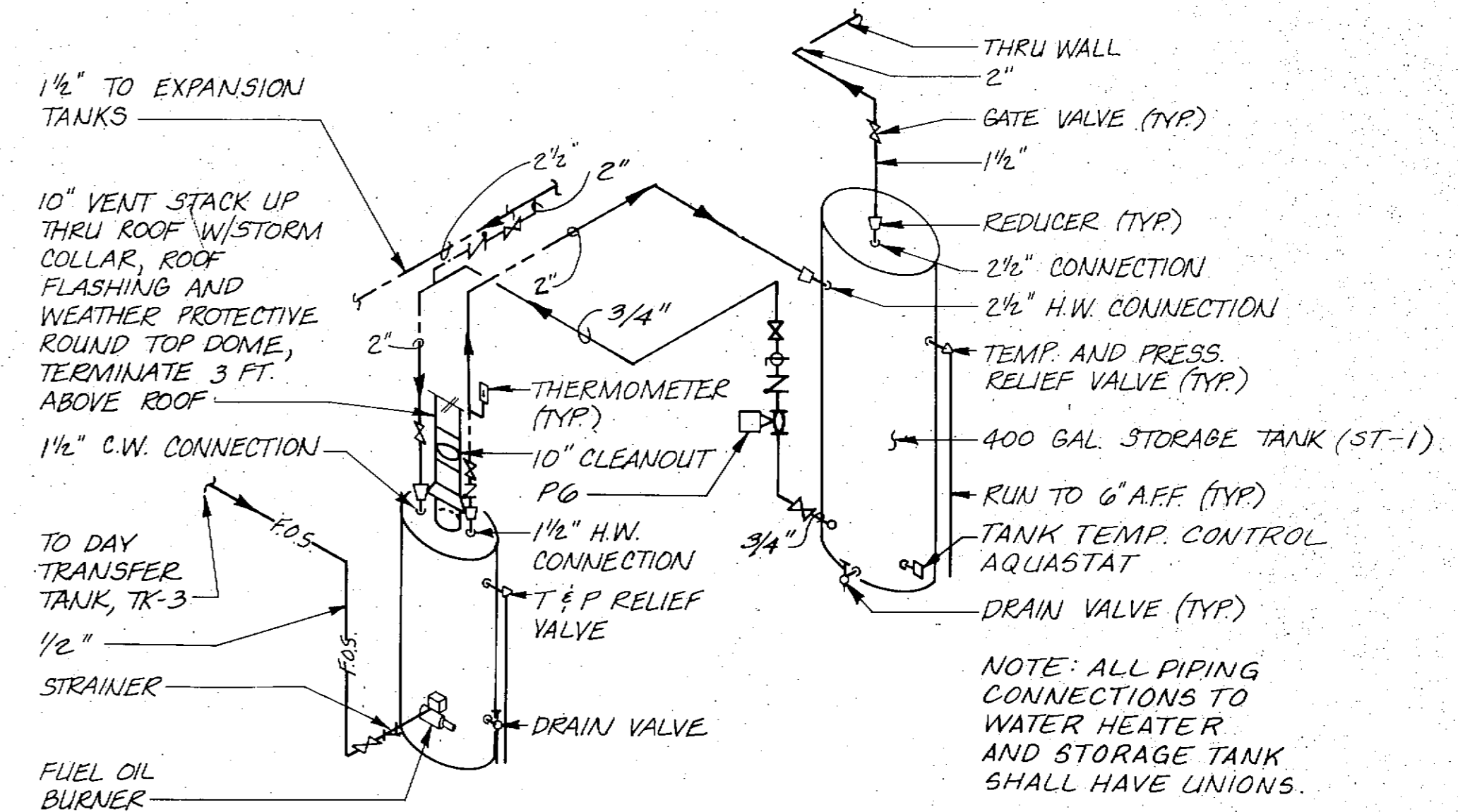
DOMESTIC WATER SCHEMATIC
NO SCALE



AIR COMPRESSOR PIPING SCHEMATIC
NO SCALE

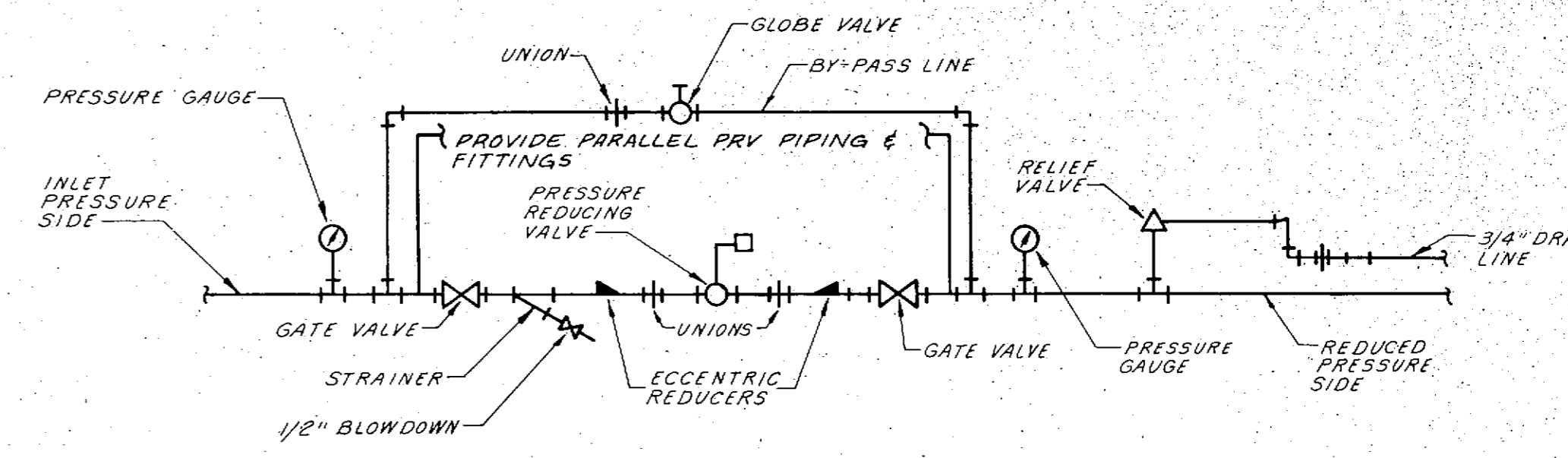


EMERGENCY SHOWER & EYE WASH
PIPING SCHEMATIC
NO SCALE



DOMESTIC HOT WATER HEATER PIPING SCHEMATIC
NO SCALE

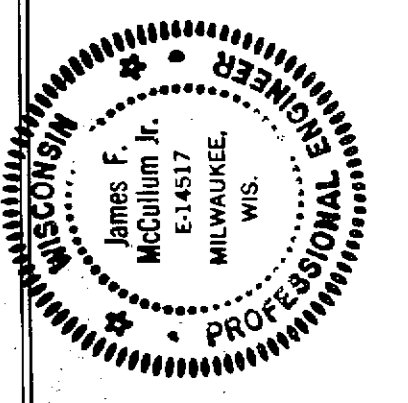
1. HYDROSTATIC INLET PRESSURE = 92 PSI.
2. RESIDUAL INLET PRESSURE = 68 PSI.
3. NO FLOW PRESSURE ON THE BUILDING SIDE OF THE PRV = 70 PSI.
4. REDUCED FLOW PRESSURE = 60 PSI.
5. SIZE PRV'S FOR 235 GPM DESIGN FLOW RATE TOTAL.



TYPICAL PRESSURE REDUCING STATION
NO SCALE

CIRCULATING PUMP SCHEDULE										MARK NO. P-	
MARK NO.	LOC.	MFR.	MODEL	GPM	FT. H ₂ O	TEMP.	MOTOR			SERVICE	REMARKS
							H.P.	VOLTS/Ø	RPM		
P-6	223	B&G	"75"	16	5	110F	1/12	115/1	1750		3/4" FLANGED

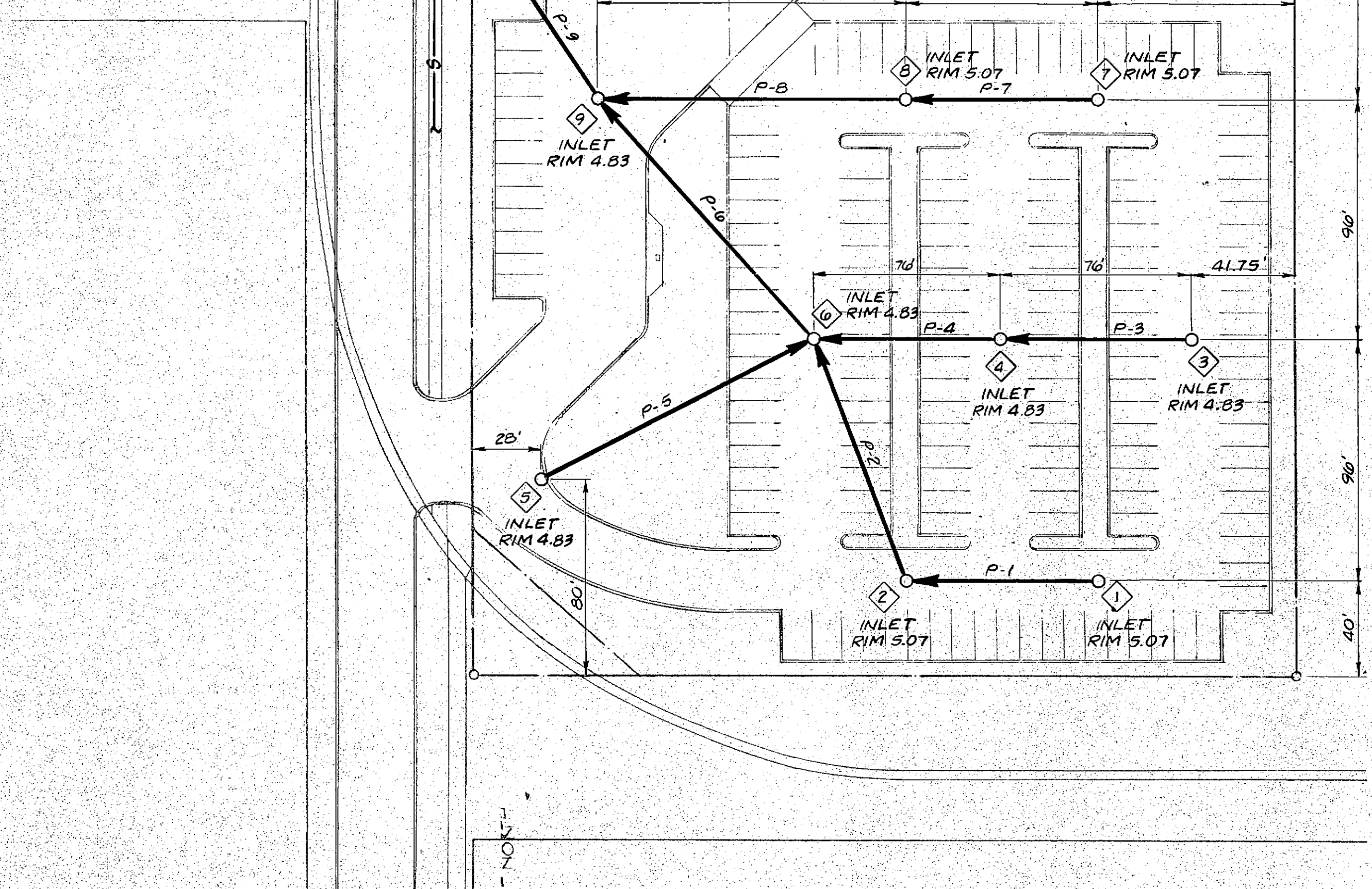
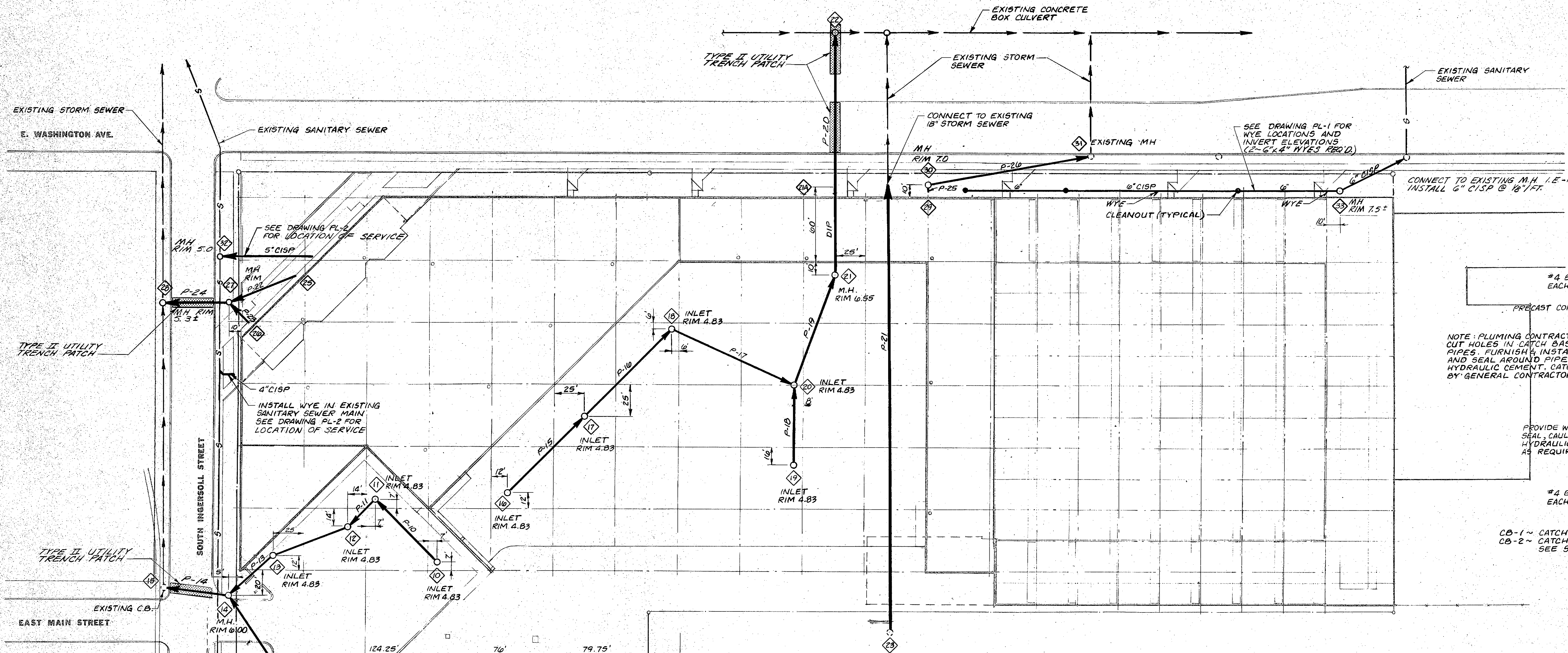
OIL FIRED HOT WATER HEATER SCHEDULE												MARK NO. OHWH-	
MARK NO.	LOC.	MFR.	MODEL	FIRING RATE (GPH)	TANK (GAL)	INPUT MBH	REC. RATE 100° RISE (GPH)	VOLTS	Ø	AMPS	RELIEF VALVE	THERM. SETTING	REMARKS



REVISION	DATE	DESCRIPTION

11 NORTH ALLEN ST. MADISON, WIS 53705
608-238-7626
ARCHITECTS
BOWEN KANAZAWA PARTNERSHIP
SCHEMATICS & SCHEDULES
HOWARD NEEDLES TAMMEN AND BERGENOFF
CONSULTING ENGINEERS
MILWAUKEE, WIS
(414) 463-2310

DATE OCT 3, 1979
COMM. NO. 7607
SHEET 50 OF 79
DRAWING
PL5



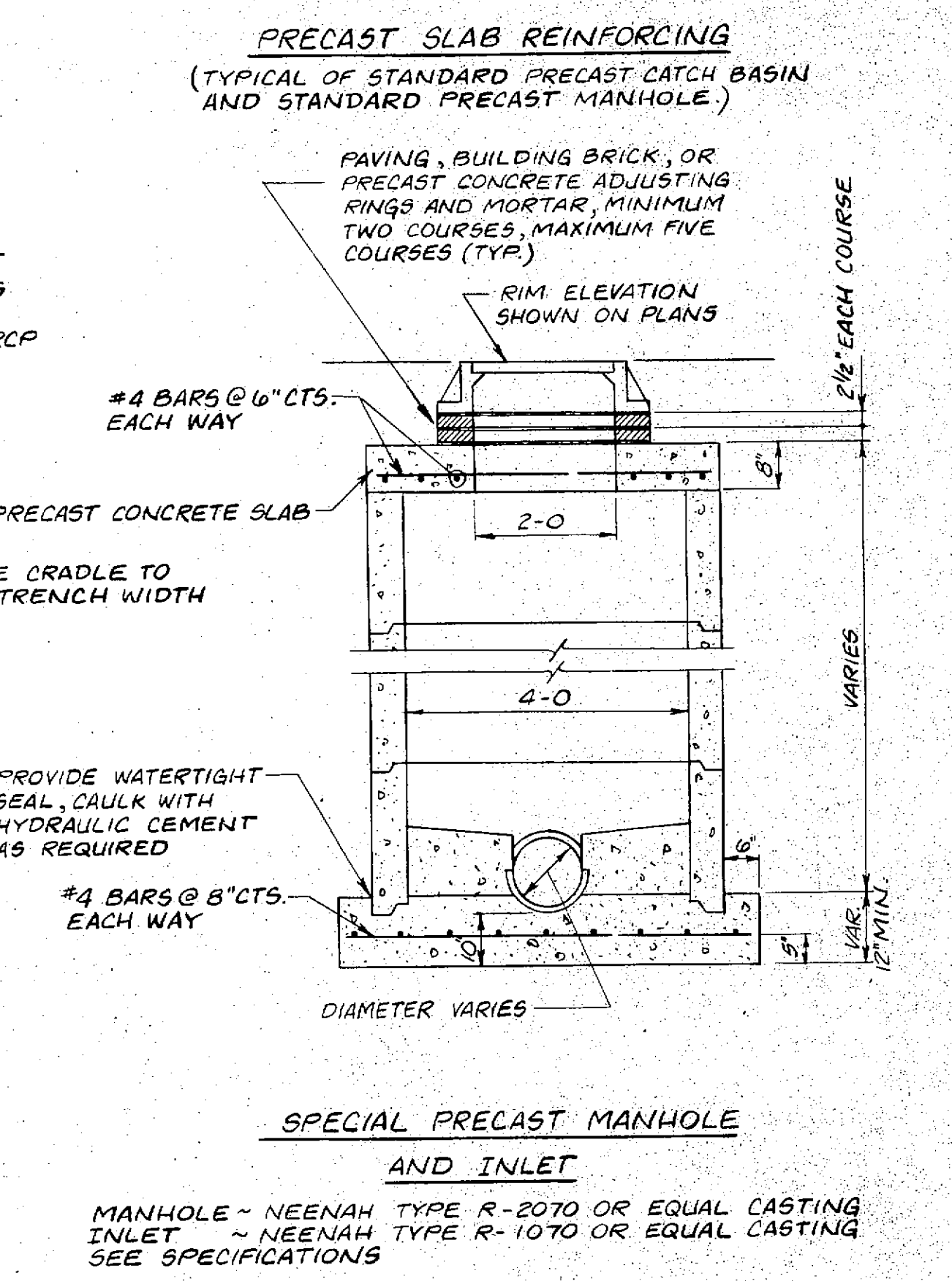
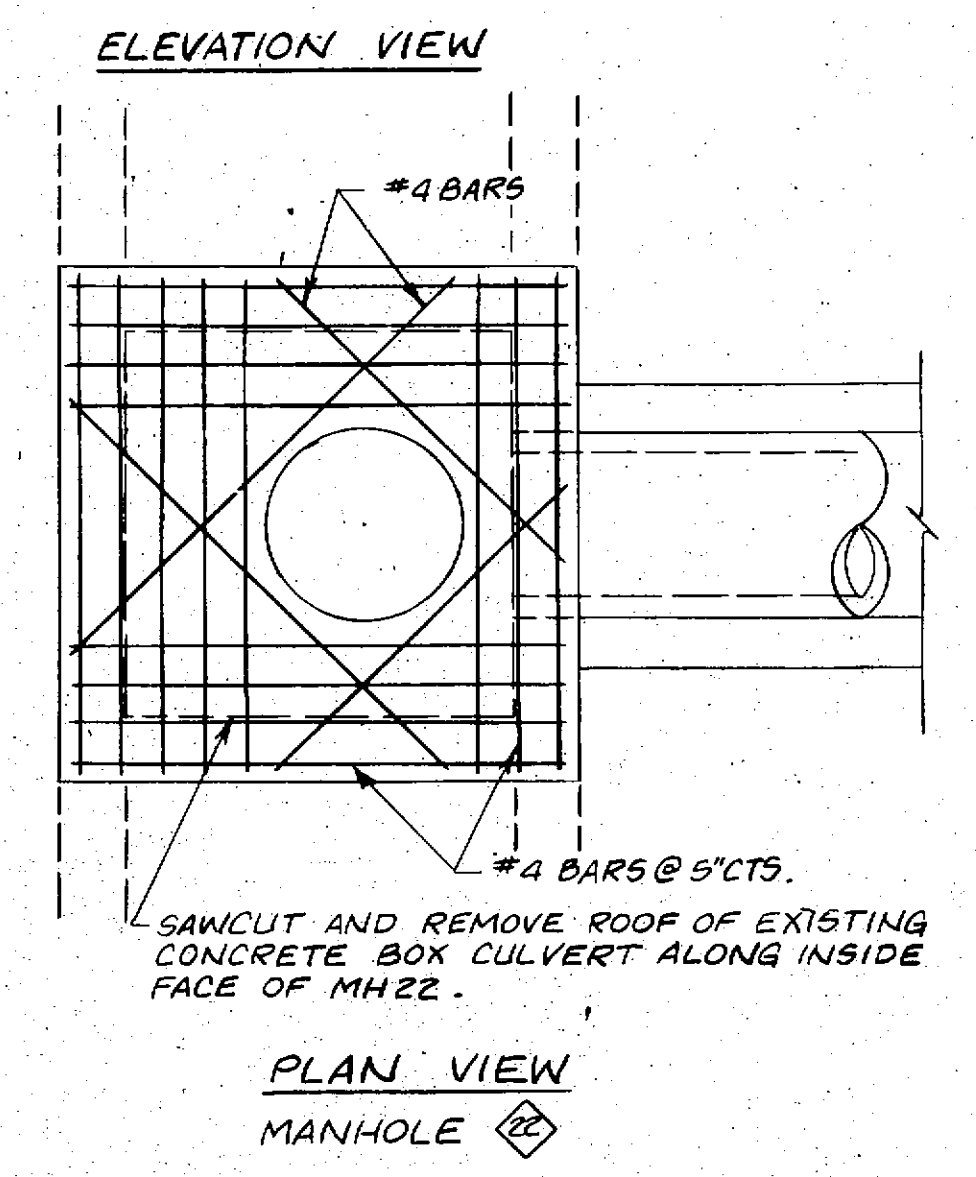
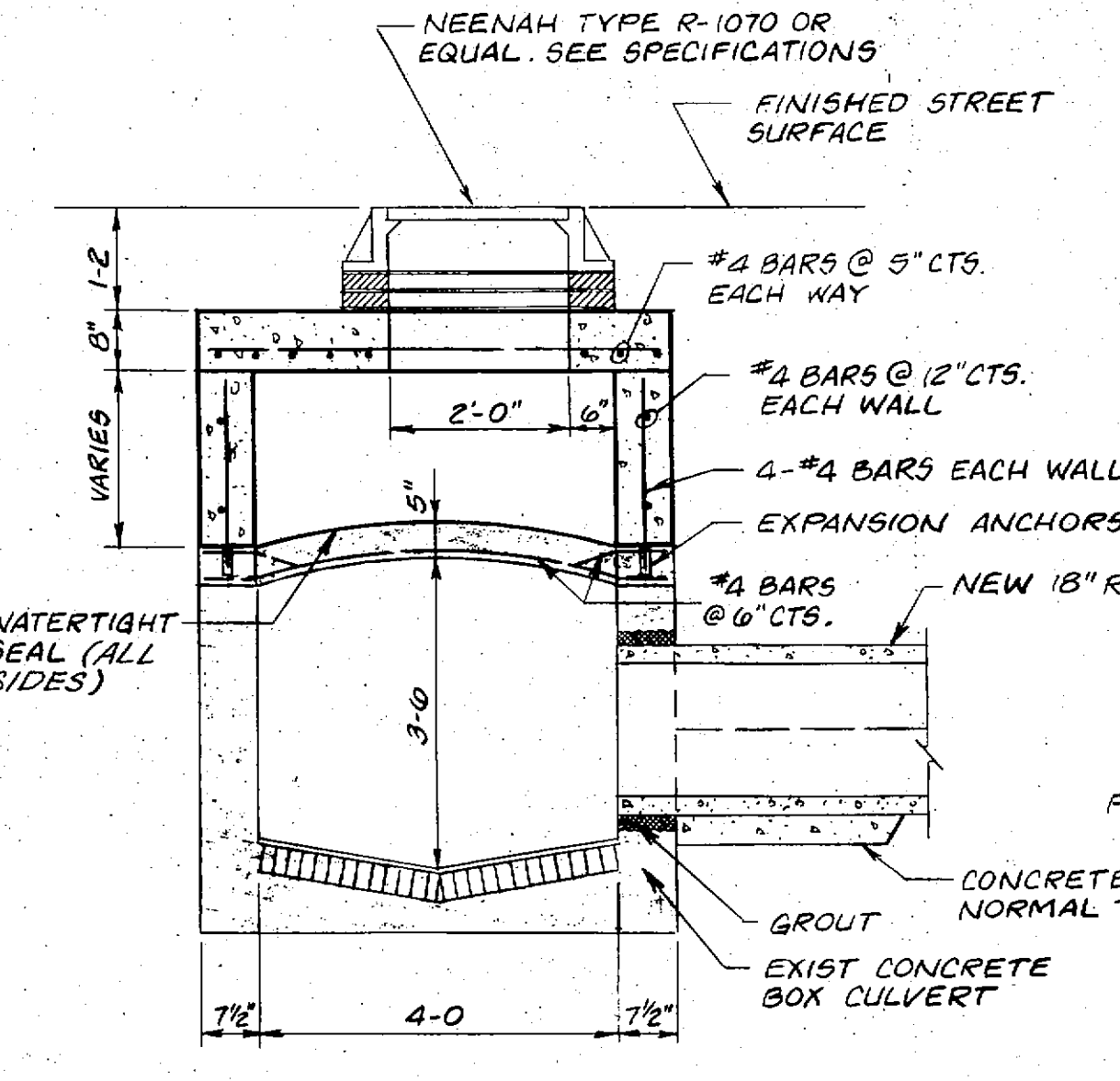
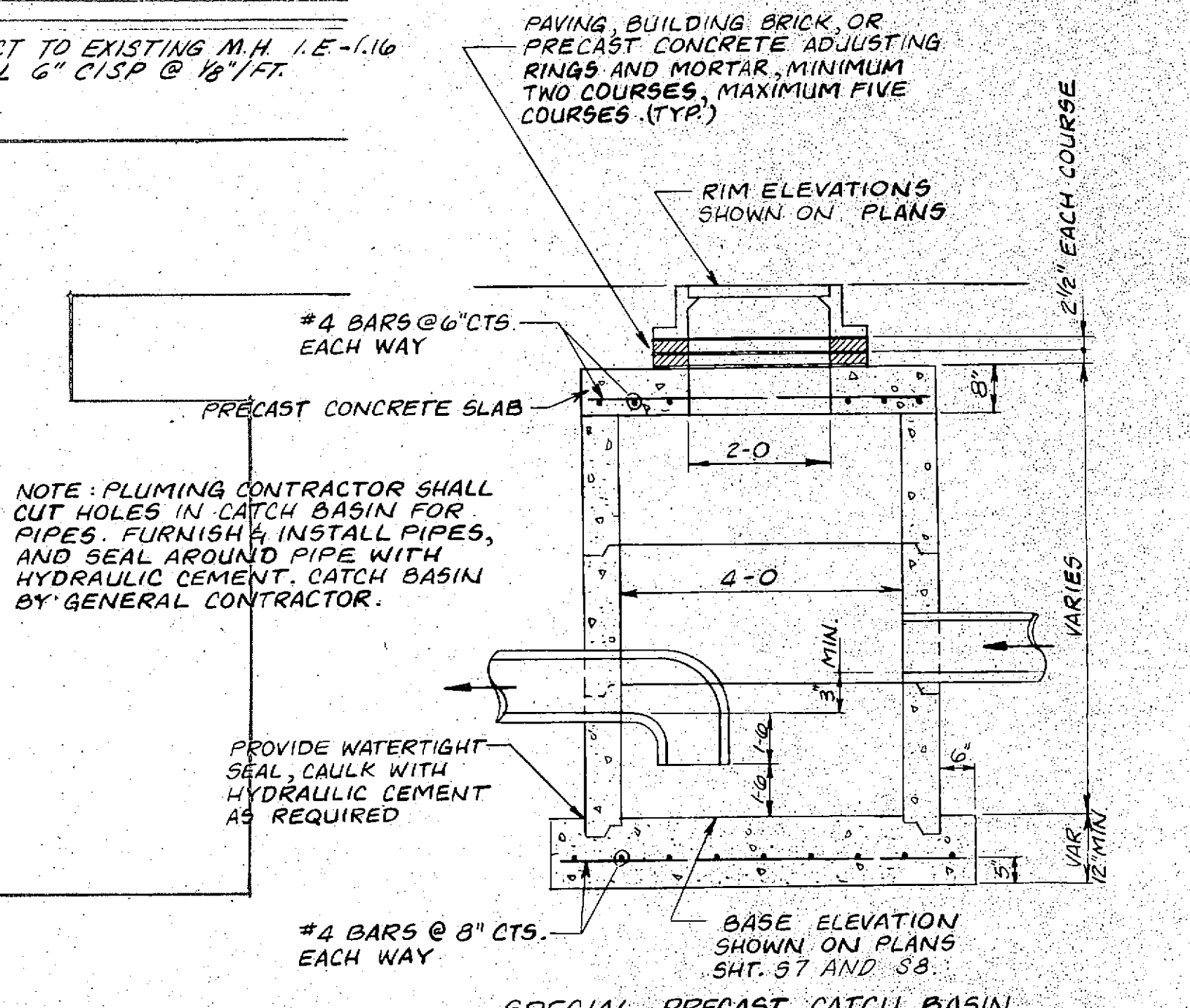
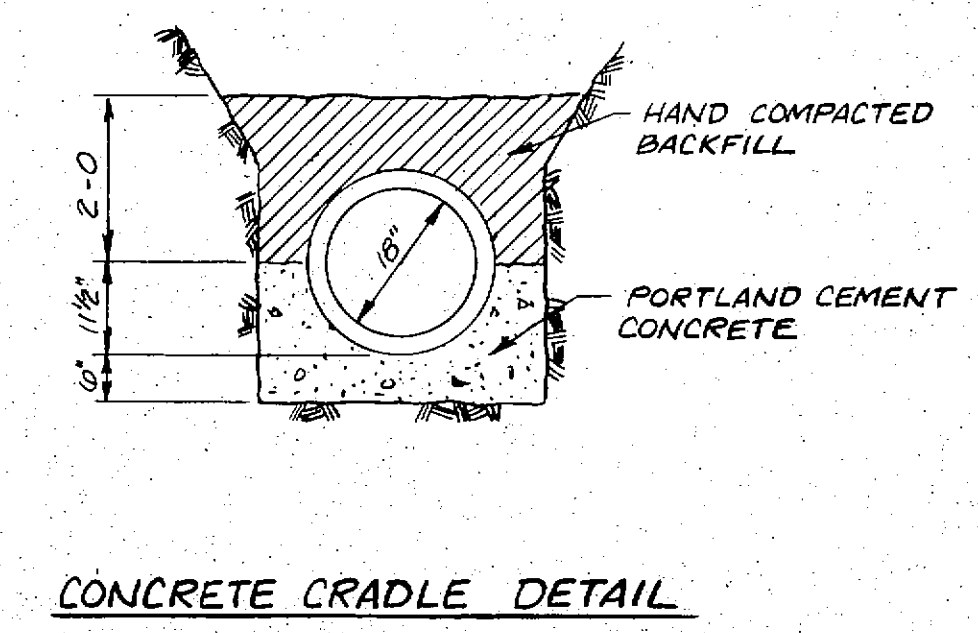
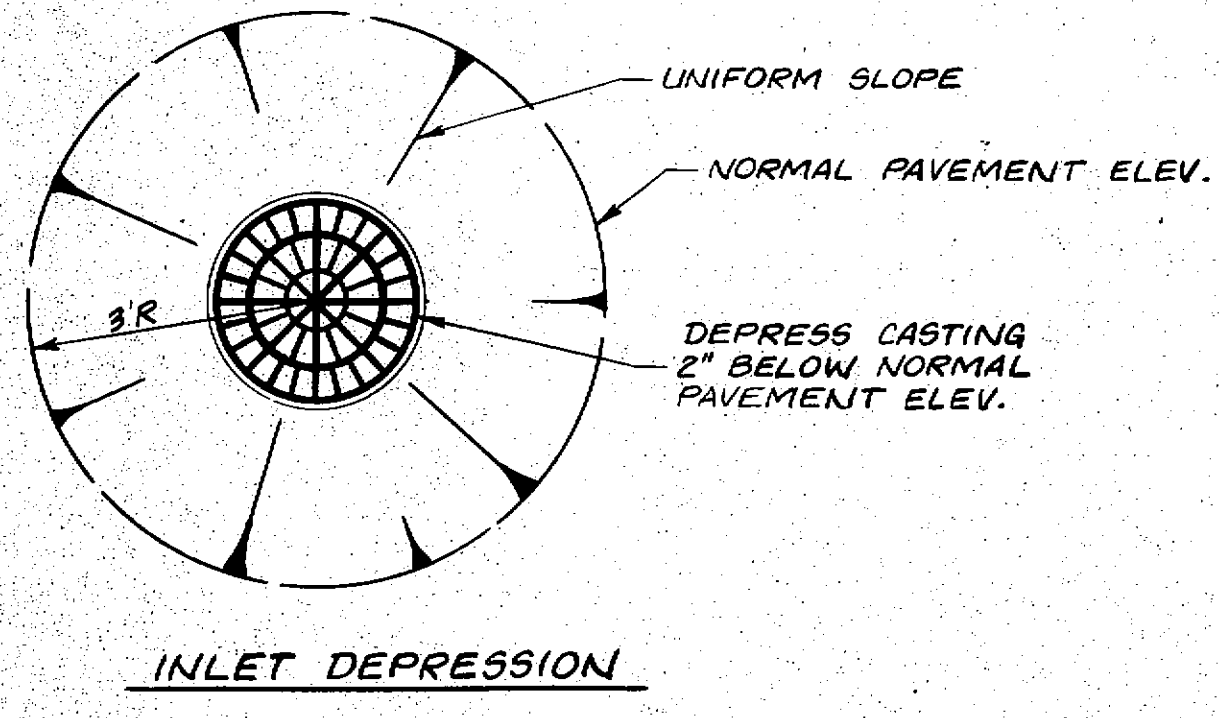
STORM SEWER PIPE SCHEDULE

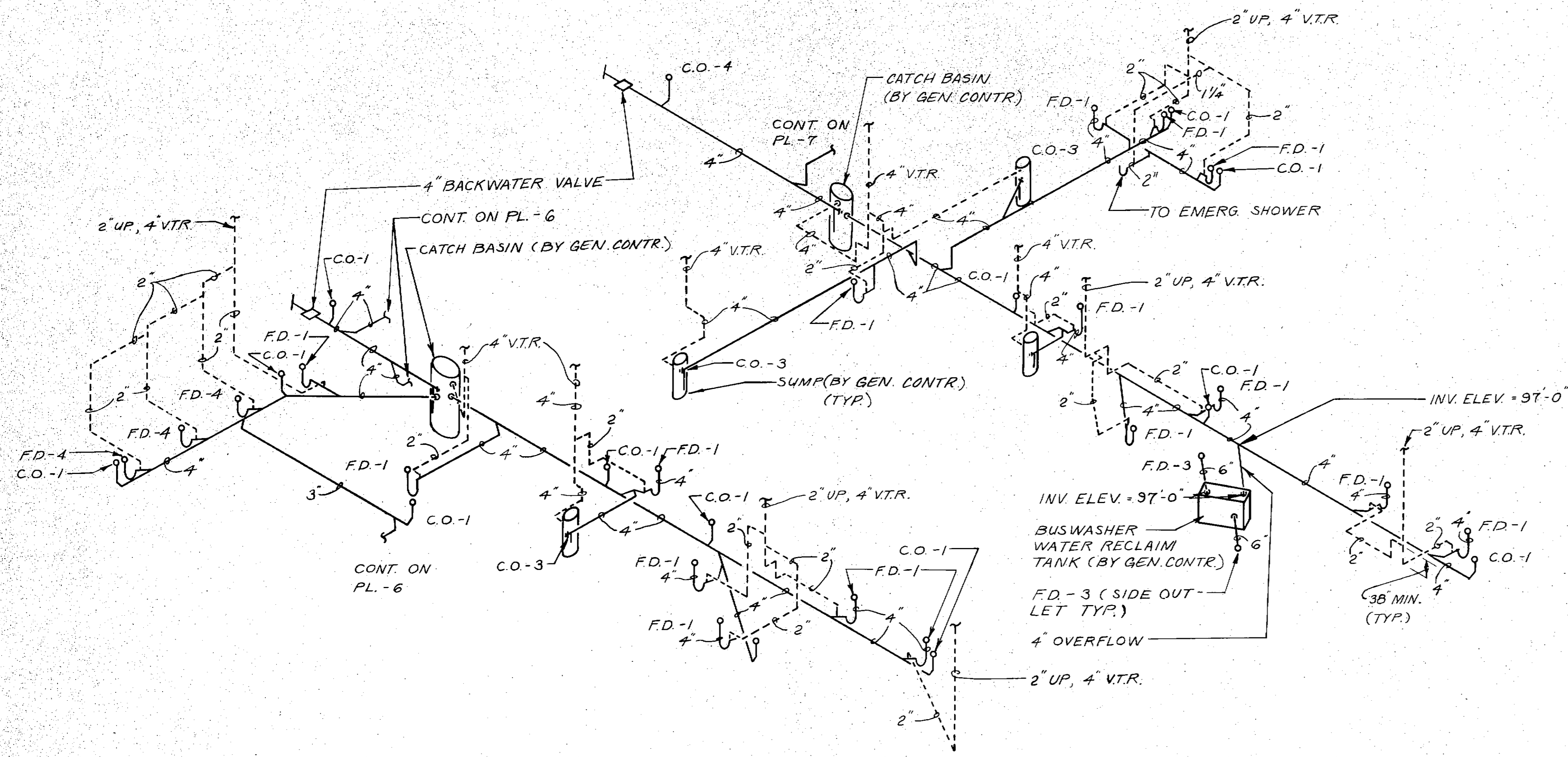
PIPE NO.	FROM POINT	TO POINT	SIZE (IN.)	LENGTH (FT.)	SLOPE (%)	INVERT ELEVATIONS		REMARKS
						INLET	DISCHARGE	
P-1	1	2	10	76	0.24	2.30	2.12	RCP
P-2	2	3	10	103	0.24	2.12	1.87	RCP
P-3	3	4	10	76	0.24	2.24	2.00	RCP
P-4	4	5	12	76	0.24	1.92	1.74	RCP
P-5	5	6	10	122	0.24	2.10	1.87	RCP
P-6	6	7	15	129	0.34	1.54	1.10	RCP
P-7	7	8	10	76	0.24	1.91	1.73	RCP
P-8	8	9	10	124	0.24	1.73	1.43	RCP
P-9	9	14	18	103	0.28	0.90	0.61	RCP
P-10	10	11	10	70	0.24	1.67	1.50	RCP
P-11	11	12	10	30	0.24	1.50	1.43	RCP
P-12	12	13	10	60	0.24	1.43	1.27	RCP
P-13	13	14	10	46	0.28	1.27	1.14	RCP
P-14	14	15	18	52	0.40	0.61	0.40	RCP
P-15	16	17	10	89	0.24	1.02	0.81	RCP
P-16	17	18	12	98	0.24	0.68	0.44	RCP
P-17	18	20	15	107	0.10	0.24	0.07	RCP
P-18	19	20	12	60	0.24	0.42	0.27	RCP
P-19	20	21	18	96	0.30	-0.13	-0.42	RCP
P-20	21	22	18	194	0.30	-0.42	-1.00	*
P-21	23	24	18	300	0.09	-0.10	-0.43	DIP
P-22	25	27	10	60	0.30	0.74	0.50	CISP
P-23	26	27	10	22	0.30	0.63	0.50	CISP
P-24	27	28	15	52	0.15	0.30	0.28	RCP
P-25	29	30	12	5	1.04	1.55	1.50	CISP
P-26	30	31	12	132	0.40	1.33	0.80	RCP

* - = DIP, - = RCP

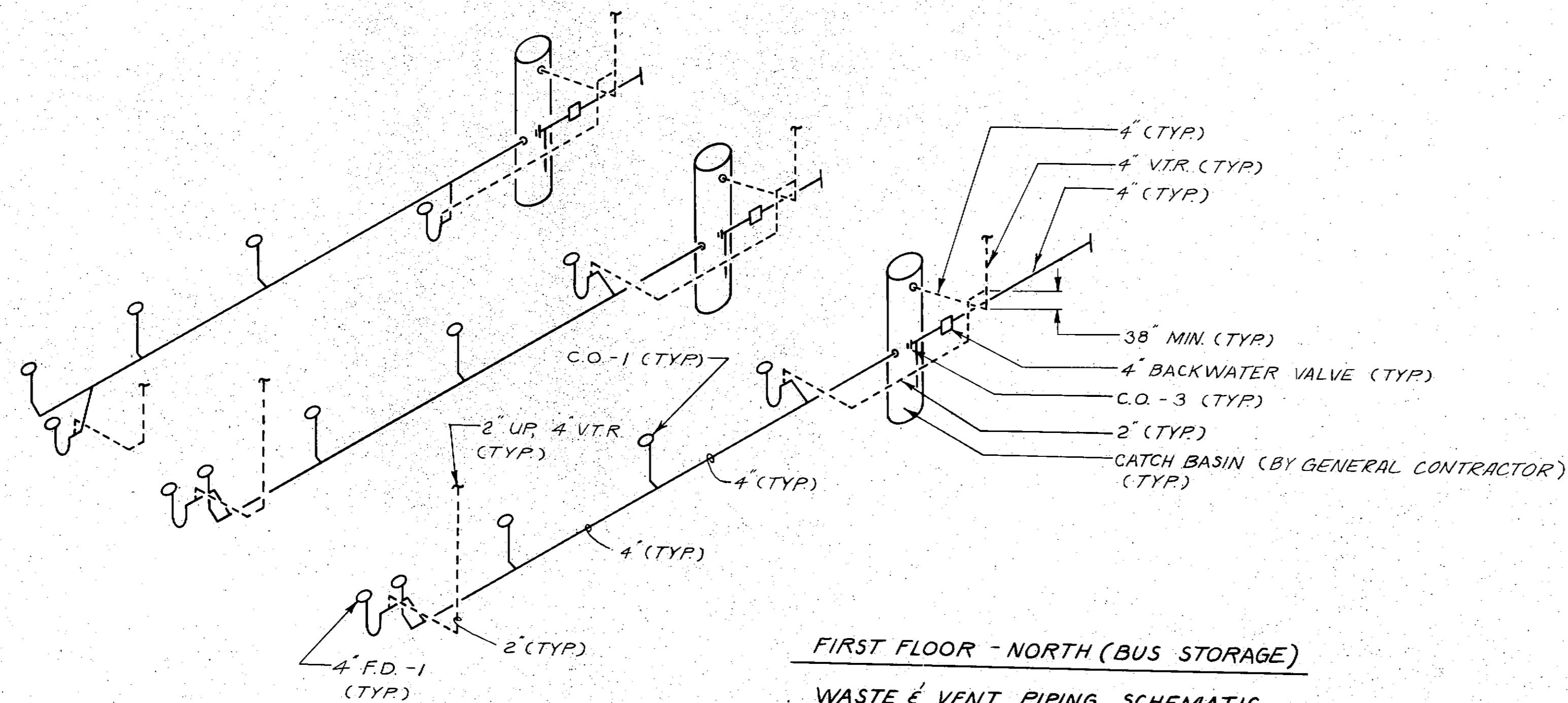
RCP = REINFORCED CONCRETE PIPE
 DIP = DUCTILE IRON PIPE
 CISP = CAST IRON SOIL PIPE

NOTES: MANHOLES AND ARE TEST MANHOLES FOR THE SANITARY SEWER LATERALS CONFORMING TO STANDARD PLATE 505.2 OF THE CITY OF MADISON. STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. INSTALL OVER EXISTING SANITARY SEWER.



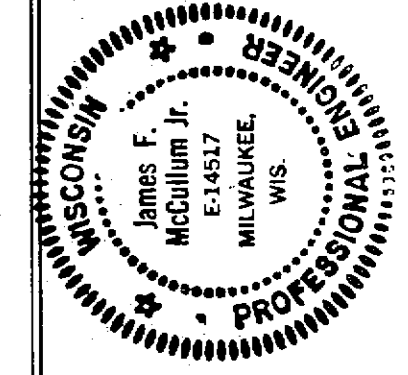


FIRST FLOOR - SOUTH (SERVICE AREA)
WASTE & VENT PIPING SCHEMATIC
NO SCALE



FIRST FLOOR - NORTH (BUS STORAGE)
WASTE & VENT PIPING SCHEMATIC
NO SCALE

LEGEND	
SYMBOLS	DESCRIPTIONS
	UNDERGROUND SANITARY SEWER
	UNDERGROUND STORM SEWER
	UNDERGROUND VENT
	SOIL, WASTE ABOVE GROUND
	STORM ABOVE GROUND
	VENT ABOVE GROUND
	COLD WATER
	HOT WATER
	HOT WATER RETURN
	FIRE LINE
	FUEL OIL SUPPLY
	COMPRESSED AIR
	CLEAN OUT IN FLOOR
	CLEAN OUT IN RISER
	GATE VALVE
	BALANCE COCK
	CHECK VALVE
	GLOBE VALVE
	PRESSURE REDUCING VALVE
	WALL HYDRANT
	HOSE BIBB
	COMPRESSED AIR DROP
	SHOCK ABSORBER
	PIPE UP
	PIPE DOWN
	BOTTOM TAKE OFF
	TOP TAKE OFF
	COMPRESSED AIR LINE PRESSURE
	PRESSURE REGULATOR W/PRES. GAUGE
	CLEAN OUT IN END OF PIPE
	WATER CLOSET
	MOP BASIN
	DRINKING FOUNTAIN
	SHOWER
	CATCH BASIN
	ROOF DRAIN
	FLOOR DRAIN
	SHOWER DRAIN
	VENT THRU ROOF
	ACCESS PANEL
	COLD WATER
	HOT WATER
	TYPICAL
	INV. ELEV.
	C.E. ELEV.
	EXIST.
	DIV.
	A.F.F.
	CONN.
	DN.
	CONT.
	MIN.
	LOC.
	MFR.
	G.P.H.
	G.P.M.
	GAL.
	REC.
	-L.

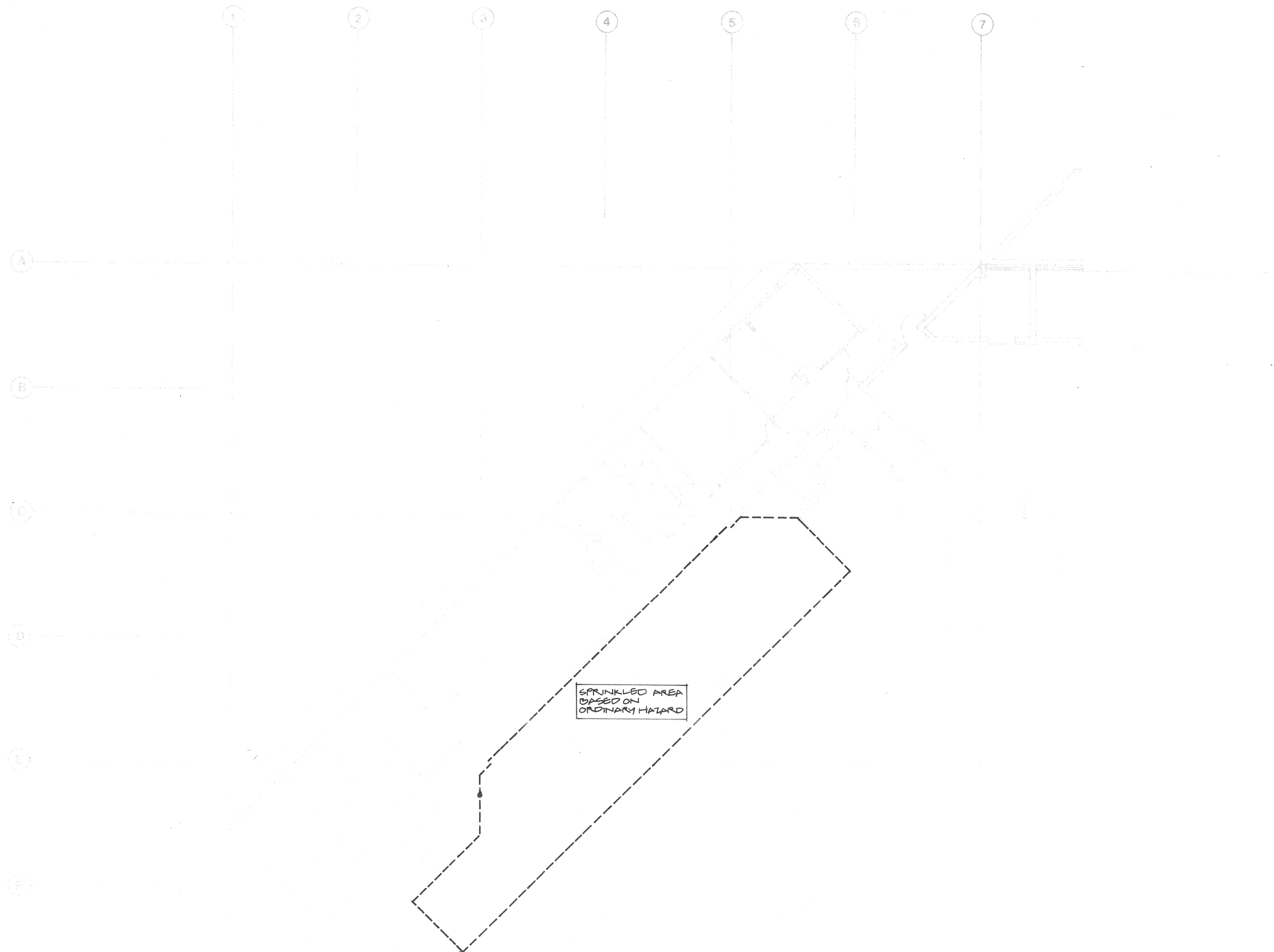


REVISION	DATE	DESCRIPTION

BOWEN KANAZAWA PARTNERSHIP ARCHITECTS 11 NORTH ALLEN ST. MADISON, WIS 53705 608-238-7626

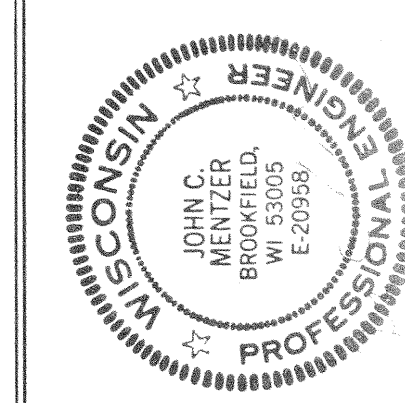
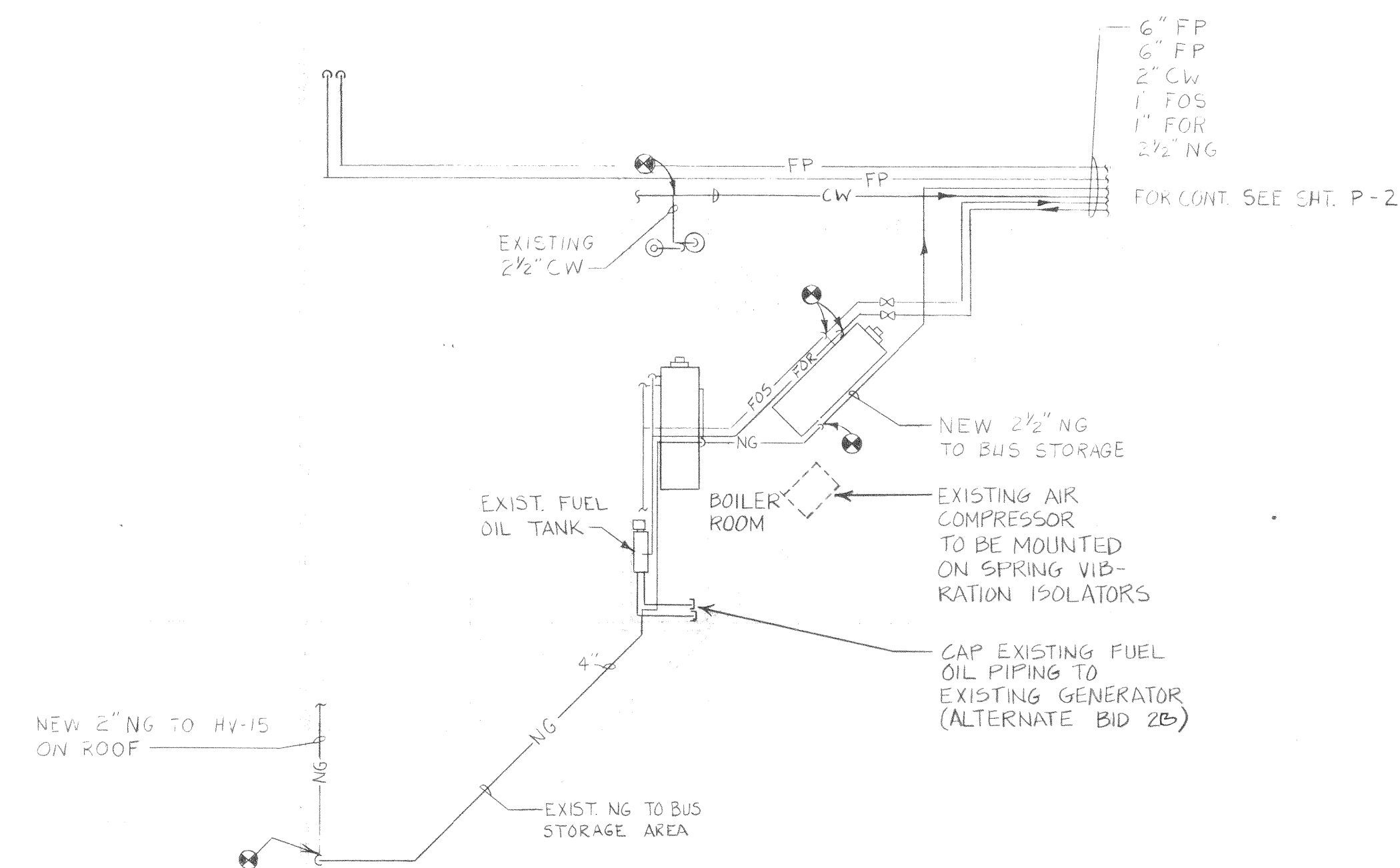
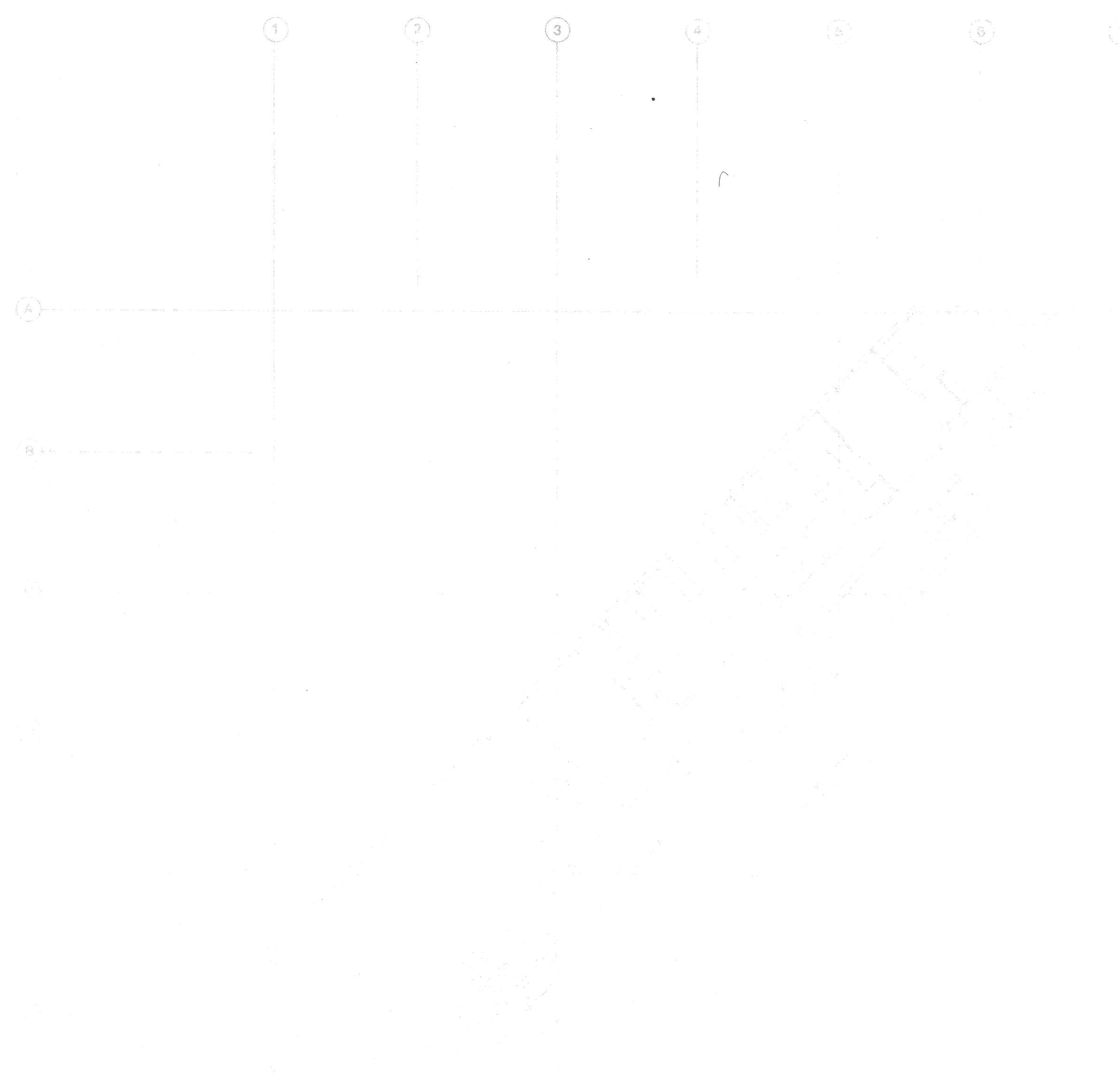
HOWARD NEEDLES, TAMMEN AND BERGENDOFF
CONSULTING ENGINEERS
MILWAUKEE, WIS
(414) 463-2310

SCHEMATICS



EXIST. 6" F RISER AND SIAMENSE
 RAISE EXIST. VALVE, AND INSTALL (2) 6" RISERS w/ VALVES

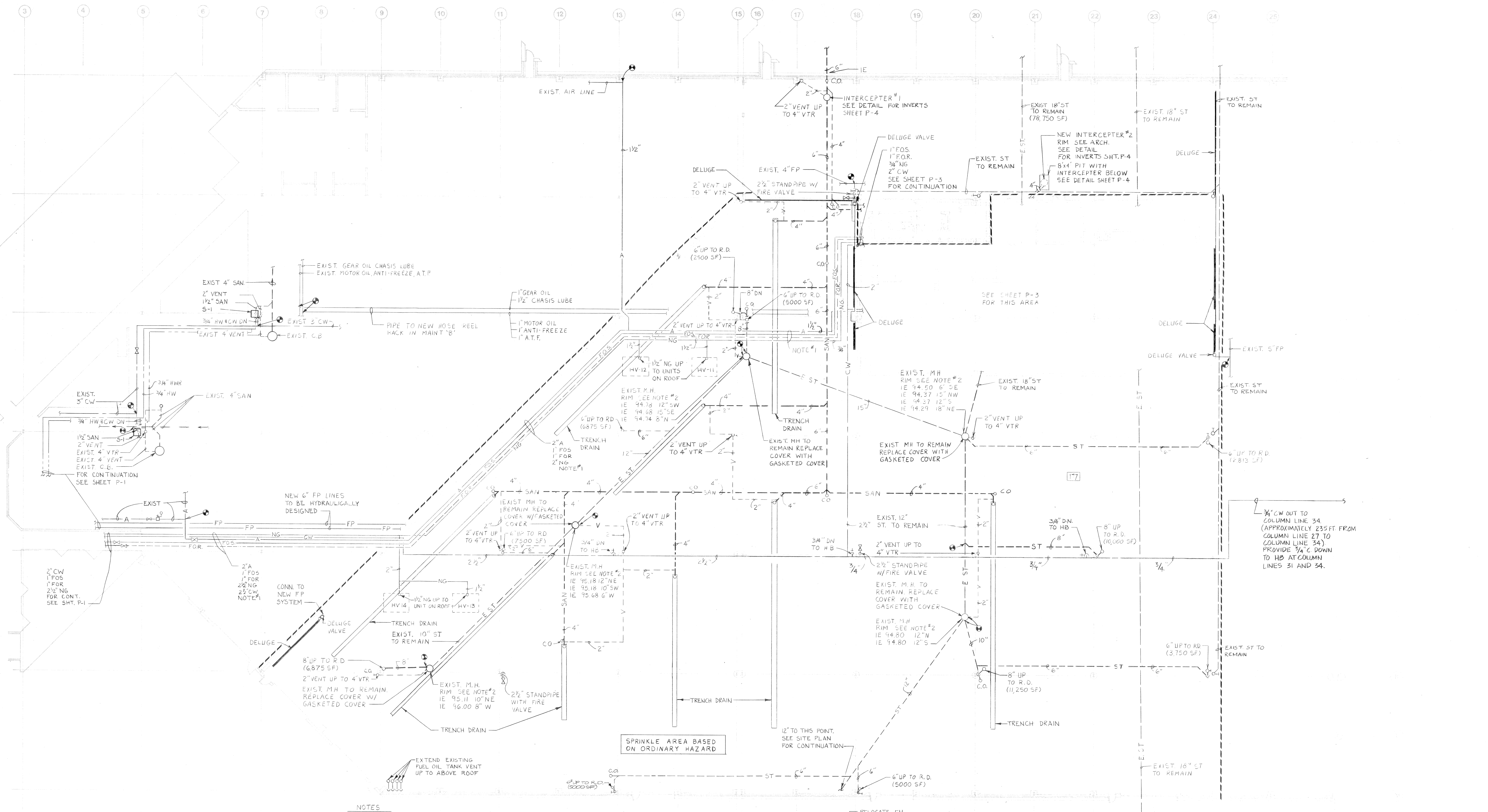
EXISTING GAS METER PIPING



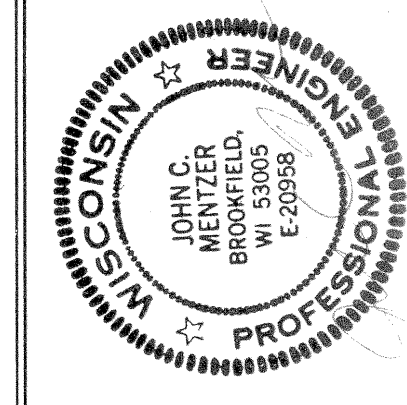
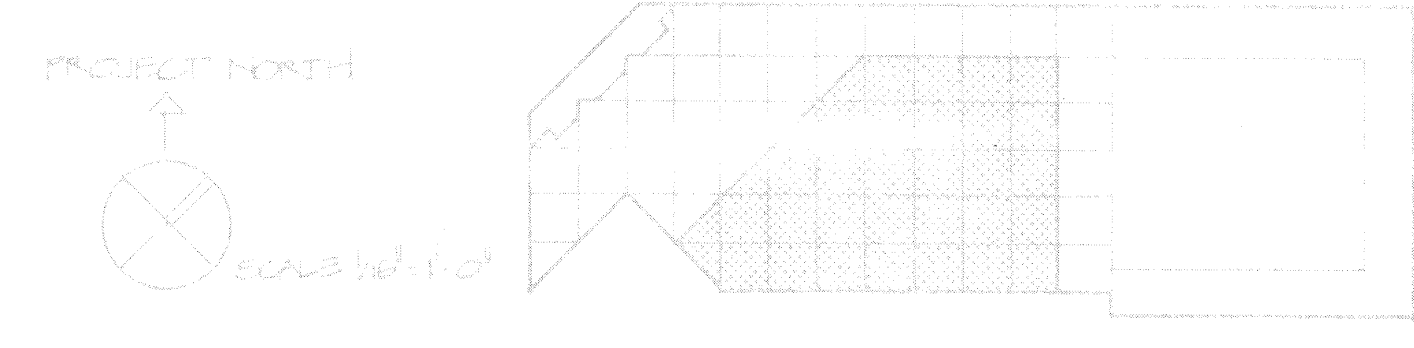
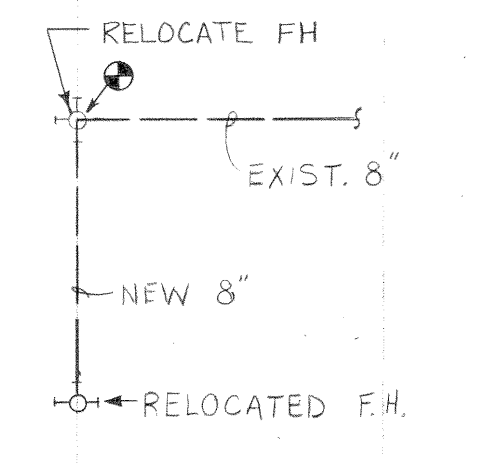
REVISION	DATE	DESCRIPTION

BOWEN WILLIAMSON ZIMMERMANN ARCHITECTS 11 NORTH ALLEN ST. MADISON, WIS 53705 608-238-7626
 PARTIAL FIRST AND SEPTIMOR PLUMBING LAYOUT - EXISTING BUILDING
 HOWARD NEEDLES TAMMEN AND BERGENDOFF CONSULTING ENGINEERS MILWAUKEE, WISCONSIN 414-463-2310

PLUMBING LAYOUT - EXISTING BUILDING



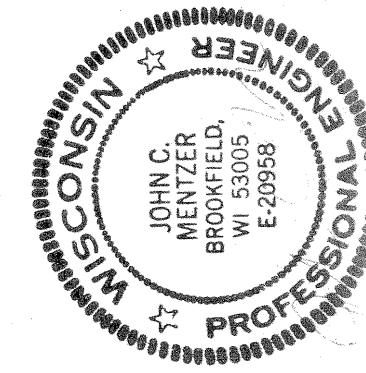
- NOTES
1. PLUMBING CONTRACTOR SHALL COORDINATE USING TRAPEZE HANGERS PROVIDED BY MECH CONTRACTOR FOR HANGING PLUMBING PIPES. PLUMBING CONTRACTOR SHALL PROVIDE HANGERS FOR PLUMBING PIPES WHERE COMBINING IS NOT POSSIBLE.
 2. ALL EXISTING MAN HOLES SHALL HAVE RIMS BROUGHT TO FINISHED FLOOR ELEVATION.
 3. SLOPE ALL SANITARY BUILDING DRAINS AT 1/8\"/>



REVISION	DATE	DESCRIPTION

608-238-7626
 11 NORTH ALLEN ST. MADISON, WIS 53705
 HOWARD NEEDLES, TAMMEN AND BERGENDOFF
 CONSULTING ENGINEERS
 MILWAUKEE, WISCONSIN
 414-463-2310

BOWEN WILLIAMSON ZIMMERMANN ARCHITECTS
 FIRST FLOOR PLAN
 PLUMBING LAYOUT and FIRE PROTECTION



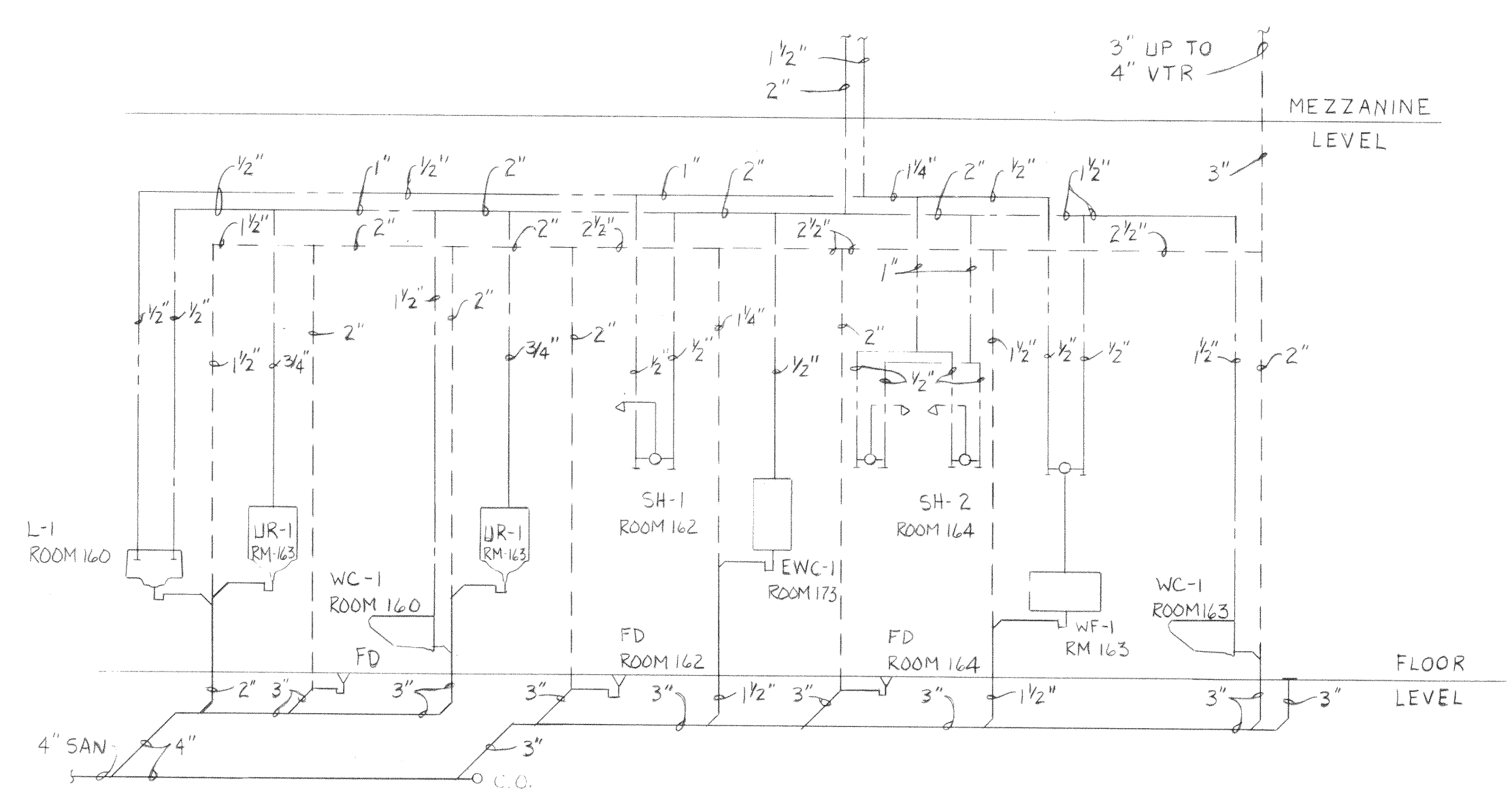
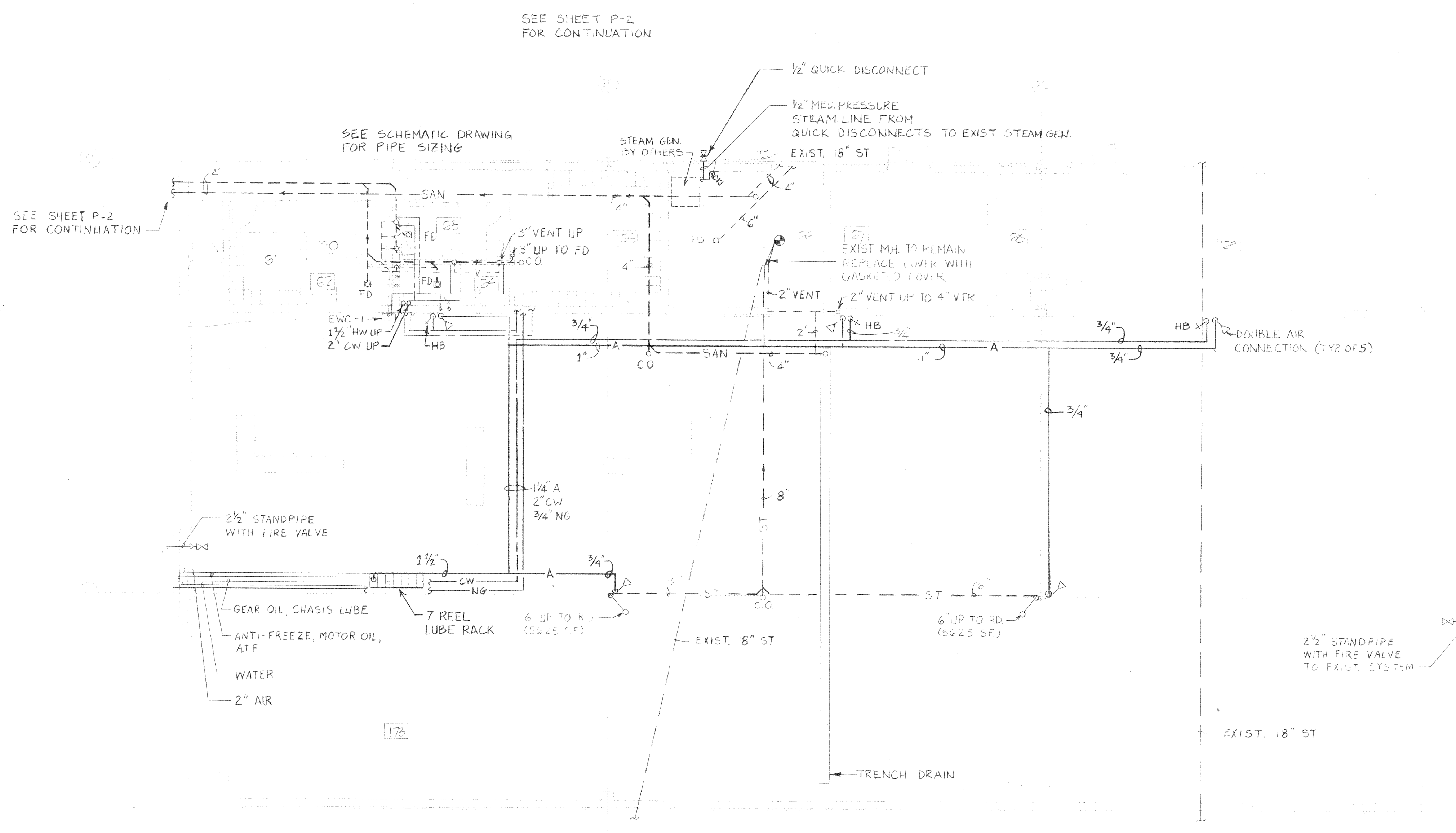
REVISION	DATE	DESCRIPTION

608-238-7626
 11 NORTH ALLEN ST. MADISON, WIS 53705

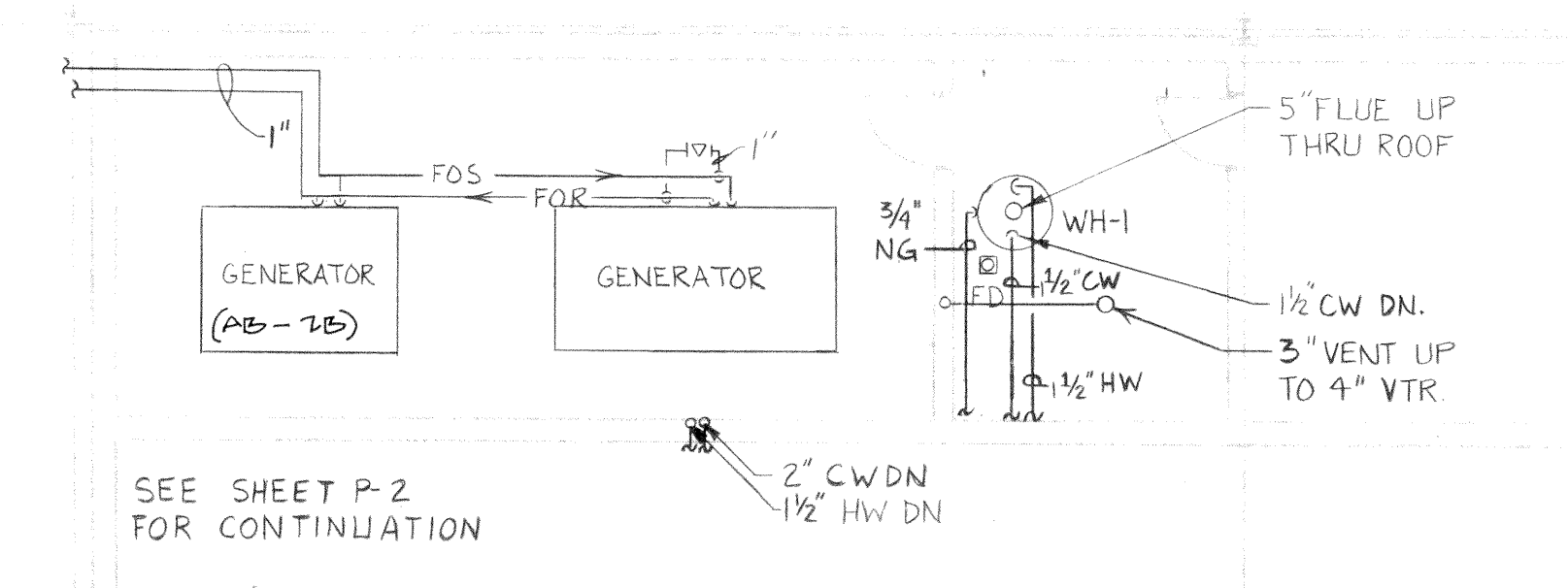
HOWARD NEEDLES TAMMEN AND BERGENDOFF
 CONSULTING ENGINEERS
 414-463-2510

BOWEN WILLIAMSON ZIMMERMANN ARCHITECTS
 PARTIAL FLOOR PLANS
 PLUMBING LAYOUT MAINTENANCE AREA B

Date DEC. 7, 1982
 Comm. No. 7607
 Sheet 28 of 47
 Drawing **PL3**



PLUMBING RISER SCHEMATIC DIAGRAM
 NO SCALE



SEE SHEET P-2 FOR CONTINUATION

SEE SHEET P-2 FOR CONTINUATION

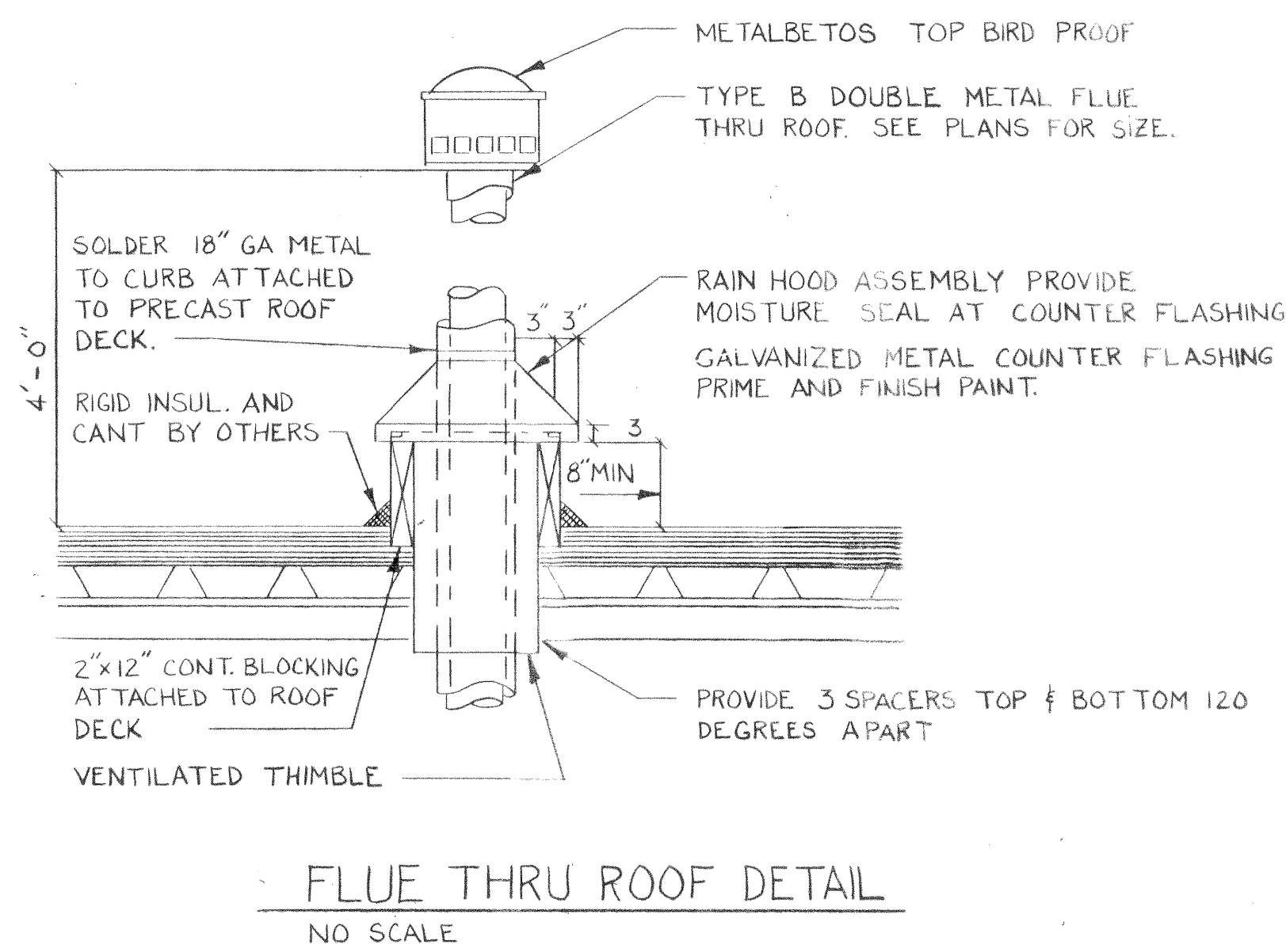
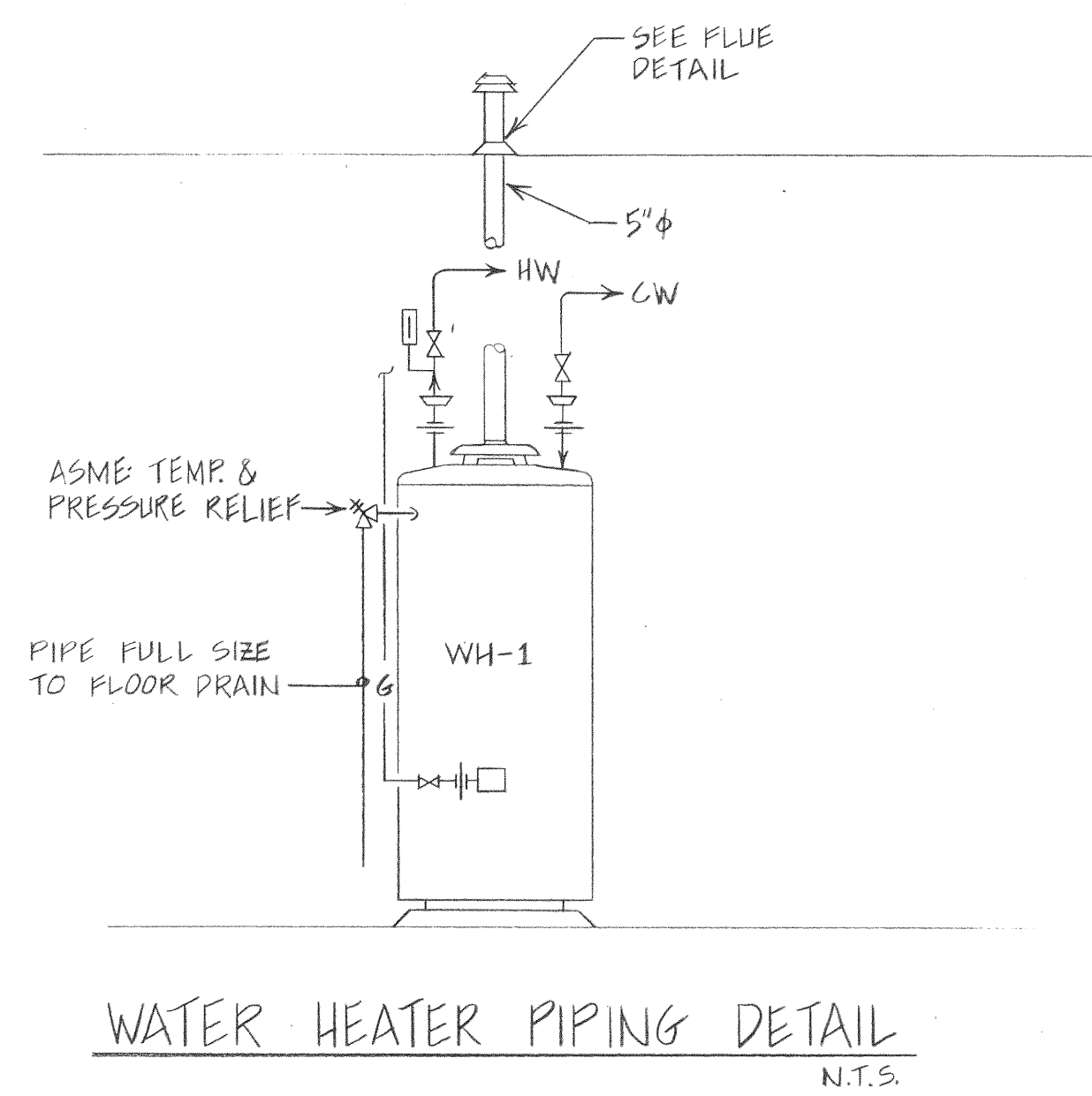
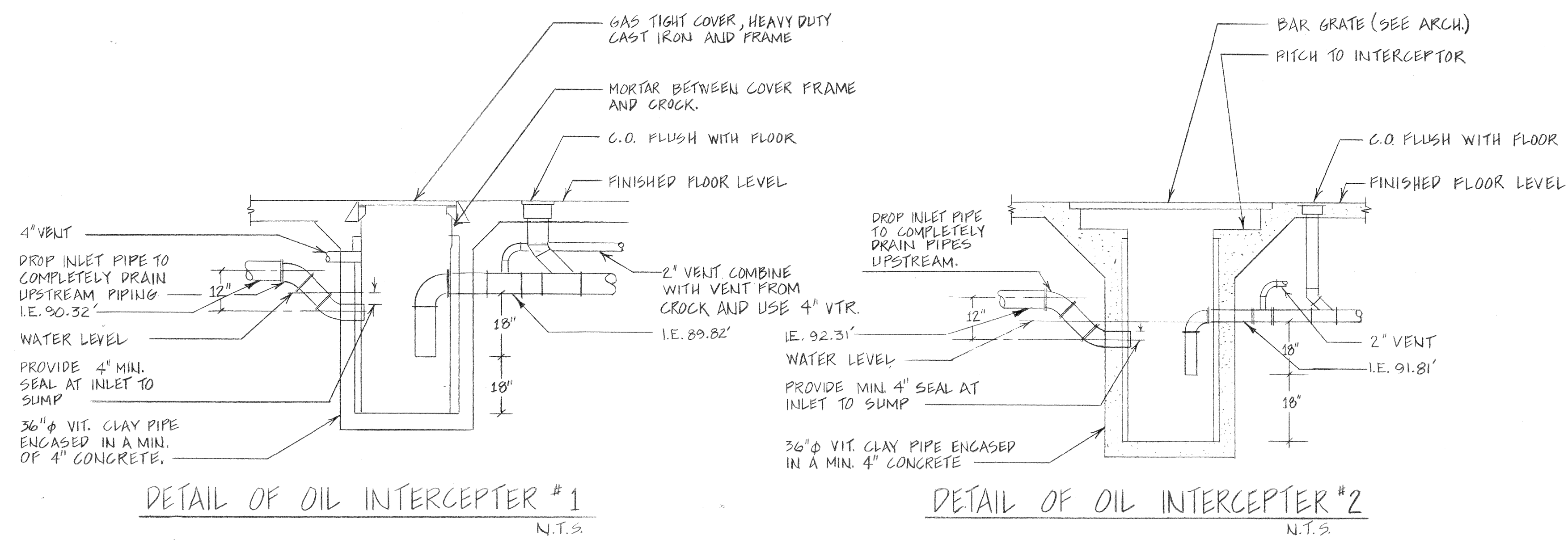
SEE SCHEMATIC DRAWING FOR PIPE SIZING

SEE SHEET P-2 FOR CONTINUATION

p3

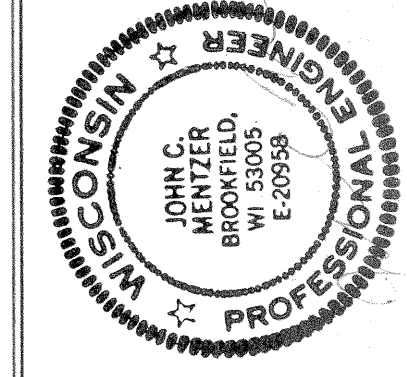
u3

als



SYMBOLS	
ST	STORM PIPING
SAN	SANITARY PIPING
---	PIPING UNDER FLOOR (ABBR. FOR TYPE)
V	VENT PIPING
---	DOMESTIC COLD WATER
---	DOMESTIC HOT WATER
---	DOMESTIC HOT WATER RECIRCULATING
F	FIRE PROTECTION
CO	CLEAN OUT
CO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
RD	ROOF DRAIN
RD	RISE-DROP IN PIPE
FD	SIAMESE FIRE DEPARTMENT CONNECTION
WH	WALL HYDRANT (WH. OR HOSE BIB (HB))
FH	FIRE HYDRANT
A	COMPRESSED AIR
DA	DOUBT AIR CONNECTION
QD	QUICK DISCONNECT
GV	GATE VALVE
BV	BALANCE VALVE
BFV	BUTTERFLY VALVE
RV	RELIEF VALVE
U	UNION
FC	FLANGED CONNECTION
CV	CHECK VALVE
PR	PRESSURE REDUCING STATION
FX	FLEX CONNECTION
AN	ANCHOR
STR	STRAINER
CP	CAPPED PIPE
PG	PIPE GUIDE
CR	CONCENTRIC REDUCER
ER	ECCENTRIC REDUCER
E	EXISTING PIPE
---	PIPE TO BE REMOVED
3WV	3 WAY VALVE
2WV	2 WAY VALVE
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
FOV	FUEL OIL VENT
NG	NATURAL GAS

ABBREVIATIONS	
FLEX	FLEXIBLE
A.F.F.	ABOVE FINISH FLOOR
COND.	CONDENSATE
I.E.	INVERT ELEVATION
M.H.	MANHOLE
EXIST.	EXISTING
V.T.R.	VENT THRU ROOF
S.F.	SQUARE FOOTAGE
F.U.	FIXTURE UNIT
DN.	DOWN
A.T.F.	AUTOMATIC TRANSMISSION FUEL
GEN.	GENERATOR



DESCRIPTION	DATE	REVISION

608-238-7626
 53705
 MADISON, WIS
 11 NORTH ALLEN ST.
 ARCHITECTS
 ZIMMERMANN
 BOWEN WILLIAMSON

HOWARD NEELES, TAMMEN AND BERGENDOFF
 CONSULTING ENGINEERS
 414 W. WISCONSIN
 MILWAUKEE, WISCONSIN
 414-483-2310

PLUMBING PIPING DETAILS

SECTION 15505A
FIRE PROTECTION SYSTEMS

I. SCOPE

- A. The scope consists of the furnishing and installing of all necessary equipment, materials, piping, fittings, and specialties as well as all miscellaneous items for a complete fire protection system in accordance with all National, (NFPA), state and local codes. Requirements of Division I apply to all work in this section.
- B. Work Included:
 - 1. Scope
 - 2. Materials
 - 3. Workmanship and Execution

II. MATERIALS

- A. Piping Underground Inside Buildings and 5' Outside Buildings
 - 1. Underground water piping shall be ductile iron. All joints and connections shall be mechanical joint type fittings capable of withstanding a pressure of at least 200 psig.
- B. Interior Above Ground Piping
 - 1. Interior building piping can be Type "L" copper tube or Sch. 40 steel pipe. Fittings shall be wrought copper, screwed cast iron, or victaulic couplings.
- C. Valves
 - 1. Valves shall be designed for a minimum of 175 psig non-shock cold water working pressure, Underwriters' Laboratories approved.
 - 2. Furnish OS and Y pattern, guided wedge disc, with stem repackable under full operating pressure.
 - 3. Sizes 2 inches and smaller to have bodies, bonnets and discs from bronze conforming to ASTM Spec. B-61 or B-62, with bronze alloy stems.
 - 4. Furnish Stockham No. 8133, Crane No. 459 or Kennedy No. 6.
 - 5. Sizes 2-1/2 inches and larger to have body and bonnet made from cast iron conforming to ASTM Spec. A126, Class B. Renewable seat rings and disc shall be made of bronze conforming to ASTM Spec. B-61, or B-62. Stem shall be bronze alloy.

6. Furnish Stockham No. G634, Kennedy No. 68, Travis City No. A266, or M and H No. 81-F.
7. Check and dry pipe valves and accessories to be Grinnell or equal.

D. Fire Department Connections

1. Furnish all new connections by Allen Co., Seco or Potter Roemer. Use Allen No. 440 - fire department connection 8-inch x 2-1/2 inch x 2-1/2 inch with individual drop clapper valves.
2. Connection to be satin chromium-plated wall-mounted and installed complete with valve and piping. Furnish chained caps and threads conforming to the local fire department threads. Label "Auto. Sprklr. & Standpipe". Provide ball drip valves to prevent freezing.

E. Sprinkler Heads

1. Furnish standard upright or pendant heads in all areas sprinkled. These to be ordinary rated sprinklers (135 degrees to 165 degrees) in all areas permitted by NFPA, local or state code requirements. Existing heads in existing building may be reused with approval of local authority.
2. At a convenient location for Owner, furnish a sprinkler cabinet containing a reserve supply of 6 sprinkler heads and two wrenches necessary for installing them.

F. Alarm Switches and Contacts

1. Furnish UL approved flow and pressure switches in risers, and valve switches with contacts on all shutoff valves. Contacts are for alarm circuits. Refer to Division 16 for all alarm systems. Provide freeze stats as indicated.

G. Standpipe Valves

1. Furnish Allen Co., Seco or Potter Roemer. Use Allen, 2-1/2 inch angle valve with threads conforming to local fire department threads.

H. Identification

1. Provide all valves with proper sign identification. Label all valves as to function; i.e., "Standpipe Valve" and also operation; i.e. "Do Not Open (or Close)" for Fire Department Use Only".

I. Hangers, Supports and Anchors

1. Hangers, supports and anchors to be as outlined in Section 15045A except for more stringent requirements listed in NFPA No. 12 or 13. Provide thrust blocks per NFPA 13 for underground piping.
2. Ductile-iron bends and tees shall have lugs for water socket clamps and shall be installed with tie rods. Tie rods shall be installed as recommended by the authorities having jurisdiction.

J. Gauges

1. Gauges shall be installed where water will not freeze. Each gauge shall be controlled by a valve. Gauges shall be Ashcroft, Catalog No. 1010, pressure gauge, 4-1/2 inch dial, 0 to 200 lbs. graduations.

K. Pipe Tracing

1. Pipe tracing cable to be Briskeat or equal for 110 volt service to protect pipe from freezing. Provide all controls, including thermostat and pilot light, and other indicators as required. Pipe tracing to be as indicated on drawings.

L. Insulation

1. Provide one inch thick wrap around insulation for piping to be heat traced.

M. Air Compressors

1. Provide new or relocate maintenance air compressors for all dry pipe risers. New compressors to be 1/4 HP 110 volt.

N. Accelerator

1. Provide new U.L. Approved accelerator on new building service main riser.

III. WORKMANSHIP AND EXECUTION

A. System

1. The extent of the system is the Bus service and Bus storage areas of the facility. Water service, as indicated on plans, to the facility is from existing street mains in Ingersoll and E. Washington Streets. The classification is ordinary hazard as defined by NFPA and Local code. The system is to be provided and installed with all necessary drain, test connections, indicators, etc., as outlined and in accord with NFPA standards and Local codes.

2. The service area system to be new wet pipe system from Ingersoll Street underground water service. The storage area system (existing Gisholt Building and new driveways) to be modified, remodeled and expanded for this facility. The existing dry pipe system is to be remodeled and extended by addition of all dry pipe appurtances. The existing private water system serving this facility to be disconnected and capped in accordance with the instructions of the local authorities having jurisdiction. Modifications and additions are required for the existing system due to new internal building configurations in areas indicated on the drawings. New water service is from East Washington Street (85 P.S.I.G.). To the extend possible, and with the approval of the local authorities, the existing piping, hangers, valves, heads, etc., may be resued for these modifications.

This facility must be examined in detail to determine the scope of work before bids are submitted or work commences.

B. Installation

1. The entire system shall be installed by firms regularly engaged in this type of work with approval of local and state authorities for doing the work; Grinnell or equal.
2. See Section 15405A for Specification on other details of installation.

C. Tests

1. Pressure test at 125 psig or 50 psig above the static pressure of system as a minimum.
2. In all cases all tests shall be made in the presence of the Owner representative, Inspectors and authorities having jurisdiction and proved satisfactory to their satisfaction. Pressure shall be continuously maintained for 24 hours on water pressure tests. Contractor shall make and pay for all expenses involved for all tests.

D. Final Requirements

1. The Owner's Representative will make an inspection of the work during the progress of the work. All work so inspected shall be kept operational by the Contractor until the final inspection by the Owner or Authorities having jurisdiction and the acceptance of the entire work. Contractor shall, at this time, remove any protective paper or coating on piping and equipment.
2. It shall be the Contractor's responsibility to instruct the Owner in the operation of the entire system and to also furnish written instructions.