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### PLUMBING FIXTURE SCHEDULE

CODE	FIXTURE	MANUFACTURER / MODEL NO.	FAUCET/FLUSH VALVE	CW CONN.	HW CONN.	SAN CONN.	IW CONN.	VENT CONN.	ST CONN.	ACCESSORIES / COMMENTS	
WC-1	WATER CLOSET FLOOR MOUNTED	KOHLER / K-5310-0 "CIMARRON"	FLUSH TANK INCLUDED 1.28 GPF	1"	-	4"	-	2"	-	SEAT: ANGLE SUPPLY W/ STOP: TRIP LEVER: SEAT: SEE SPECIFICATIONS FOR ACCESSORIES	KOHLER / K-4008-0 KOHLER / K-7637 KOHLER / K-9466-X-2BZ TOTO / SCS34
WC-2	WATER CLOSET WALL MOUNTED	TOTO / CT708UVG	TOTO / TETS3LA31#SS 1.28 GPF	1"	-	4"	-	2"	-	SEE SPECIFICATIONS FOR ACCESSORIES	
LAV-1	LAVATORY UNDERMOUNTED	KOHLER / K-2882 "VERTICYL"	WATERMARK DESIGNS / 23-2-17-L8 1.2 GPM W/ MPU5PL DRAIN, MPT1 P-TRAP	1/2"	1/2"	1-1/2"	-	1-1/2"	-	TMV	
LAV-2	LAVATORY UNDERMOUNTED	KOHLER/ K-5400 "IRON PLAINS"	SPLASH LAB / TSLR.020 (HARDWIRE) 0.50 GPM	1/2"	1/2"	1-1/2"	-	1-1/2"	-	TMV	
LAV-3	LAVATORY WALL MOUNTED	AMERICAN STANDARD / 355.012 "LUCERNE"	TOTO / TEL103 ECOPOWER 0.35 GPM	1/2"	1/2"	1-1/2"	-	1-1/2"	-	TMV	
DF-1	SINGLE BOWL DRINKING FOUNTAIN W/ BOTTLE FILL STATION	ELKAY / LZWS - EDFPBM114K	N/A	1/2"	-	1-1/2"	-	1-1/2"	-	SEE SPECIFICATIONS FOR ACCESSORIES	
DF-2	DOUBLE BOWL DRINKING FOUNTAIN W/ BOTTLE FILL STATION	ELKAY / LZWS-EDFPBM117K	N/A	1/2"	-	1-1/2"	-	1-1/2"	-	SEE SPECIFICATIONS FOR ACCESSORIES	
BF	BOTTLE FILL STATION	ELKAY / LZWSMDK	N/A	1/2"	-	1-1/2"	-	1-1/2"	-	SEE SPECIFICATIONS FOR ACCESSORIES	
SH-1	SHOWER	WATERMARK DESIGNS / 23-HAF	N/A	1/2"	1/2"	2"	-	2"	-	PRESSURE BALANCE TRIM: PRESSURE BALANCE VALVE: DRAIN: DRAIN PLATE:	WATERMARK DESIGNS / 23-P80-L9 WATERMARK DESIGNS / SS-PB75 WATERMARK DESIGNS / LDRK WATERMARK DESIGNS / LD6-XX
SH-2	SHOWER ADA	WATERMARK DESIGNS / 23-HAF	WATERMARK DESIGNS / 23-HSHK3 (2.0 GPM)	1/2"	1/2"	2"	-	2"	-	PRESSURE BALANCE TRIM: PRESSURE BALANCE VALVE: DRAIN: DRAIN PLATE: DIVERTER VALVE: DIVERTER VALVE TRIM KIT:	WATERMARK DESIGNS / 23-P80-L8 WATERMARK DESIGNS / SS-PB75 WATERMARK DESIGNS / LDRK WATERMARK DESIGNS / LD6-XX WATERMARK DESIGNS / SS-WD2 WATERMARK DESIGNS / 23-WTR-L8
BATH-1	BATH TUB ADA	WET STYLE / BC 14XX-#MA	WATERMARK DESIGNS / 23-WBS WATERMARK DESIGNS / 23-HSHK3 (2.0 GPM)	1/2"	1/2"	3"	-	2"	-	PRESSURE BALANCE TRIM: PRESSURE BALANCE VALVE: DIVERTER VALVE TRIM KIT:	WATERMARK DESIGNS / 23-P80-L8 WATERMARK DESIGNS / SS-PB75 WATERMARK DESIGNS / 23-WTR-L8
BATH-2	BATH TUB FREE STANDING	WET STYLE / BLB 01XX-#MA	WATERMARK DESIGNS / 23-8-26-3-L8	1/2"	1/2"	3"	-	2"	-		
SK-1	SINK	ELKAY / LRAD222255	SPEAKMAN / SC-3004-LD-E 0.5 GPM	1/2"	1/2"	1-1/2"	-	1-1/2"	-	TMV	
SK-2	SINK	KOHLER / K-3894-4-NA	KOHLER / K-7505 1.5 GPM	1/2"	1/2"	1-1/2"	-	1-1/2"	-	TMV DRAIN:	KOHLER / K-8801 "DUOSTRAINER"
JSK-1	JANITOR'S SINK	FIAT / MSB-2424100 "MODESTO"	FIAT / 830AA	1/2"	1/2"	3"	-	2"	-	VB	
JSK-2	JANITOR'S SINK LAUNDRY TUB	FIAT / L-1 "SERV-A-SINK"	FIAT / A1000	1/2"	1/2"	2"	-	1-1/2"	-	VB	
EYE	EMERGENCY EYE WASH STATION	SPEAKMAN / SE-582	AS PROVIDED WITH FIXTURE 3.2 GPM	1/2"	1/2"	1-1/2"	-	1-1/2"	-	TMV	
FD-A	FLOOR DRAIN	ZURN / Z-505	N/A	-	-	SEE PLANS	-	2"	-	TP	
FD-B	FLOOR DRAIN	ZURN / ZN-415-B	N/A	-	-	SEE PLANS	-	2"	-	TP	
FD-C	FLOOR DRAIN	ZURN / Z-520	N/A	-	-	SEE PLANS	-	2"	-	TP	
FS	FLOOR SINK	ZURN / Z-1900-4	N/A	-	-	SEE PLANS	-	2"	-		
TD-1	TRENCH DRAIN, 12" WIDE	ZURN / Z882	N/A	-	-	SEE PLANS	-	2"	-	TP	
TD-2	TRENCH DRAIN, 6" WIDE	ZURN / Z886	N/A	-	-	SEE PLANS	-	2"	-	TP	
HB	HOSE BIBB	ZURN / Z1333XL	N/A	3/4"	-	-	-	-	-		
WH	WALL HYDRANT	ZURN / Z1330XL	N/A	3/4"	-	-	-	-	-		
FPWH	FREEZE PROOF WALL HYDRANT	ZURN / Z1320XL	N/A	3/4"	-	-	-	-	-		
FPRH	FREEZE PROOF ROOF HYDRANT	ZURN / Z1388XL	N/A	3/4"	-	-	-	-	-	VB	
AD	AREA DRAIN	ZURN / Z-550	N/A	-	-	-	-	-	-	SEE PLANS	
RD-A	ROOF DRAIN	ZURN / Z-100-ERC	N/A	-	-	-	-	-	-	SEE PLANS	
RD-B	GUTTER DRAIN	ZURN/ Z180 CORNICE DRAIN	N/A	-	-	-	-	-	-	2"	
RD-C	CANOPY DRAIN	ZURN/ Z180 CORNICE DRAIN	N/A	-	-	-	-	-	-	2"	
OD-A	OVERFLOW ROOF DRAIN	ZURN / Z-100-ERC-W4	N/A	-	-	-	-	-	-	SEE PLANS	

- GENERAL NOTES
1. PLUMBING DESIGN AND SIZES ARE BASED ON THE 2015 NYS PLUMBING CODE.
  2. ALL EXPOSED PIPING SERVING PLUMBING FIXTURES THAT MAY BE USED FOR ADA PURPOSES SHALL TRAPS AND SUPPLIES INSULATED PER ADA REQUIREMENTS.
  3. FINISH AND TYPE OF ALL FIXTURES AND FAUCETS ARE SUBJECT TO ARCHITECT APPROVAL. REFER TO ARCHITECTURAL SCHEDULE.
  4. EACH PLUMBING FIXTURE SHALL BE PROVIDED WITH A P-TRAP, EXCEPT THOSE WITH INTEGRAL TRAPS.
  5. EXTEND INDIRECT WASTE FULL SIZE TO NEAREST FLOOR DRAIN OR FLOOR SINK, UNLESS OTHERWISE NOTED ON PLANS.
  6. FAUCET SHALL BE LEAD FREE AS PER COMPLIANCE WITH NSF 61.
  7. EXTEND DOMESTIC HOT WATER RECIRCULATION LINE AS REQUIRED TO ALLOW FOR HOT WATER TO BE RECIRCULATED WITHIN 24" OF LAVATORY VALVE STOPS.

ACCESSORY CODES  
 TP = TRAP PRIMER  
 VB = VACUUM BREAKER  
 FLTR = FILTER  
 TMV = POINT-OF-USE THERMOSTATIC MIXING VALVE, ASSE 1070 COMPLIANT

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 18010.00  
 COLLEGE AND HAYMOND AVENUE POUGHKEEPSIE, NY

CONTRACTOR

CONSULTANT

**me**  
engineers

ME Engineers  
 200 West 42nd St  
 10th Floor  
 New York, NY 10018  
 www.meengineers.com

ISSUE DATES

03/20/14 7% DESIGN DEVELOPMENT  
 04/03/14 10% DESIGN DEVELOPMENT  
 05/07/14 30% CONSTRUCTION DOCUMENTS  
 04/10/15 30% CONSTRUCTION DOCUMENTS  
 04/10/15 30% CONSTRUCTION DOCUMENTS  
 05/10/15 30% CONSTRUCTION DOCUMENTS  
 05/10/15 30% CONSTRUCTION DOCUMENTS  
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**Frederick Fisher and Partners**  
 12248 Santa Monica Blvd, Los Angeles, CA 90025 | (310) 801-6800 | info@ffp.com  
 350 West 28th St, Suite 1802, New York, NY 10001

PLUMBING  
 SCHEDULES I  
 SCALE: AS INDICATED

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FOOD SERVICE SCHEDULES											
CODE	EQUIPMENT	QTY	WASTE				WATER				ACCESSORIES / COMMENTS
			INDIRECT SIZE	DIRECT SIZE	FS REQ	VENT SIZE	CW SIZE	FW (FILTERED CW) SIZE	HW SIZE		
01	HAND SINK, WALL MOUNT	4	-	1-1/2"	-	1-1/2"	-	1/2"	-	-	TMV
06	WATER FILTER ASSEMBLY	1	-	-	-	-	-	-	-	-	VB, INTERCONNECT TO ITEMS 07, 09, 11 (KITCHEN)
07	COFFEE BREWER, DOUBLE	2	-	-	-	-	-	-	-	-	VB
08	DROP IN SODA / ICE DISPENSER	2	3/4"	-	YES	-	-	-	-	-	-
09	ICED TEA BREWER	2	-	-	-	-	-	1/2"	-	-	VB
11	ESPRESSO MACHINE	1	5/8"	-	YES	-	-	1/2"	-	-	VB
14	DROP-IN SINK, SINGLE	1	1-1/2"	-	YES	-	-	1/2"	-	-	-
22	DROP-IN SINK, DOUBLE	1	(2) 1-1/2"	-	YES	-	-	1/2"	-	-	-
25	ICE BIN	1	-	3/4"	-	YES	-	-	-	-	-
26	ICE MAKER, MODULAR CRESCENT CUBER	1	3/4"	-	YES	-	-	1/2"	-	-	RPZ
27	FLOOR TROUGH	1	-	4"	-	-	2"	-	-	-	-
28	FLOOR TROUGH	1	-	4"	-	-	2"	-	-	-	-
29	ICE STORAGE BIN	1	3/4"	-	YES	-	-	-	-	-	-
30	ICE MAKER, MODULAR SLIM-LINE	1	3/4"	-	YES	-	-	1/2"	-	-	RPZ
31	WATER FILTER ASSEMBLY	1	-	-	-	-	-	1/2"	-	-	VB, INTERCONNECT TO ITEM 30
32	WATER FILTER ASSEMBLY	1	-	-	-	-	-	1/2"	-	-	VB, INTERCONNECT TO ITEM 26
33	MOP SINK CABINET	1	-	2"	-	2"	-	-	-	-	-
34	SERVICE SINK FAUCET	1	-	-	-	-	1/2"	-	-	-	VB
42	FLOOR TROUGH	1	-	4"	-	2"	-	-	-	-	-
43	TILTING KETTLE, ELECTRIC	1	-	-	-	-	3/8"	-	-	1/2"	VB
45	ELECTRICAL COMBI-STEAMER	1	2"	-	YES	-	-	3/4"	-	-	VB
46	WATER FILTER ASSEMBLY	1	-	-	-	-	3/4"	-	-	-	VB, INTERCONNECT TO ITEMS 45, 47
47	PASTA COOKER, ELECTRIC	1	(2) 1"	-	YES	-	-	(2) 3/4"	-	-	VB
55	HAND SINK, WELDED	1	-	1-1/2"	-	1-1/2"	-	-	-	-	-
55A	DECK MOUNT MIXING FAUCET	1	-	-	-	-	1/2"	-	-	-	TMV
57	DROP-IN SINK, SINGLE	1	1-1/2"	-	YES	-	-	1/2"	-	-	TMV
67	HAND SINK	1	-	1-1/2"	-	1-1/2"	1/2"	-	-	-	1/2"
69	THREE COMPARTMENT SINK	1	(3) 1-1/2"	-	YES	-	-	-	-	-	-
70	WALL MOUNT SWING FAUCET	2	-	-	-	-	1/2"	-	-	-	VB
74	DISHWASHER, CONVEYER TYPE	1	1-1/2"	-	YES	-	-	3/4"	-	-	-
74B	DISHWASHER VENT, UNLOAD END	1	1-1/2"	-	YES	-	-	-	-	-	-
75	PRE-RINSE FAUCET	1	-	-	-	-	1/2"	-	-	-	VB
76	WASTE DISPOSER	1	-	2"	YES	1-1/2"	1/2"	-	-	-	-
83	EVAPORATOR COIL, REFRIGERATOR	1	3/4"	-	-	-	-	-	-	-	DRAIN TO FLOOR DRAIN W/ FUNNEL
85	EVAPORATOR COIL, FREEZER	1	3/4"	-	-	-	-	-	-	-	DRAIN TO FLOOR DRAIN W/ FUNNEL
92	WATER FILTER ASSEMBLY	1	-	-	-	-	1/2"	-	-	-	VB, INTERCONNECT TO ITEMS 07, 09 (PANTRY)
93	WATER FILTER ASSEMBLY	1	-	-	-	-	1/2"	-	-	-	VB, INTERCONNECT TO ITEM 94
94	DECK MOUNT STATION W/ GLASS FILLER	1	1-1/4"	-	YES	-	-	1/2"	-	-	VB
95	DROP-IN SINK, SINGLE	1	1-1/2"	-	YES	-	-	1/2"	-	-	-
98	ICE STORAGE BIN	1	3/4"	-	YES	-	-	-	-	-	-
99	ICE MAKER - STACKABLE ICE CUBER	1	3/4"	-	YES	-	-	1/2"	-	-	RPZ
100	WATER FILTER ASSEMBLY	1	-	-	-	-	1/2"	-	-	-	VB, INTERCONNECT TO ITEM 99
104	DRAINBOARD CABINET	2	1-1/2"	-	YES	-	-	-	-	-	-
105	COMBO ICE BIN	2	(1) 1-1/2", (1) 3/4"	-	YES	-	-	-	-	-	-
107	SINK, SINGLE BOWL	2	1-1/2"	-	YES	-	-	1/2"	-	-	VB
109	DISHWASHER, UNDERCOUNTER	1	5/8"	-	YES	-	-	1/2"	-	-	-
110	UNDERBAR HAND SINK	2	1-1/2"	-	YES	-	-	1/2"	-	-	TMV, VB
113	TEE TOWER	1	1/2"	-	YES	-	-	-	-	-	-
120	ICE BIN	1	1-1/2"	-	YES	-	-	-	-	-	-
121	DRAINBOARD CABINET	1	1-1/2"	-	YES	-	-	-	-	-	-
122	BLENDER STATION	1	1-1/2"	-	YES	-	-	1/2"	-	-	TMV, VB
128	CARBONATOR	1	-	-	-	-	-	1/2"	-	-	RPZ

GENERAL NOTES (APPLIES TO ALL CONCESSIONS, BARS, AND PANTRIES):

- PLUMBING DESIGN AND SIZES ARE BASED ON THE 2015 NYS PLUMBING CODE.
- ALL EXPOSED PIPING SERVING PLUMBING FIXTURES THAT MAY BE USED FOR ADA PURPOSES SHALL HAVE TRAPS AND SUPPLIES INSULATED PER ADA REQUIREMENTS.
- EACH UNIT WITH A DIRECT WASTE CONNECTION SHALL BE PROVIDED WITH A P-TRAP, EXCEPT EQUIPMENT WITH INTEGRAL TRAPS.
- EXTEND INDIRECT WASTE TO NEAREST FLOOR SINK, UNLESS OTHERWISE NOTED ON PLANS. PROVIDE MINIMUM 1" AIR GAP.
- ALL HAND WASH SINKS SHALL BE PROVIDED WITH MV REGARDLESS OF ACCESSORIES NOTED. LEONARD MODEL 270-LF OR APPROVED EQUAL.
- REFER TO PLANS FOR FIXTURES REQUIRING CONNECT TO GREASE INTERCEPTOR SYSTEM.
- CONTRACTOR TO REFER TO FOOD SERVICE AND ARCHITECTURAL DRAWINGS FOR ALL PIPE SIZES, MOUNTING HEIGHTS AND ACTUAL EQUIPMENT QTY., ETC.

ACCESSORY CODES  
 TP = TRAP PRIMER  
 VB = VACUUM BREAKER  
 FLTR = FILTER  
 TMV = POINT-OF-USE THERMOSTATIC MIXING VALVE, ASSE 1070 COMPLIANT  
 RPZ = REDUCED PRESSURE ZONE ASSEMBLY  
 VB = VACUUM BREAKER

SUMP PUMP SCHEDULE																						
CODE	MANUFACTURER / MODEL NO.	SERVICE	TYPE	NO. OF PUMPS	GPM(EA)	FT HD (EA)	DISCHARGE PIPE SIZE (EA)	RPM	SUMP SIZE (L X W X D)						ELECTRICAL					REMARKS		
									HP	VOLT	PH	FLA	DISC	FEEDER SIZE	HP	VOLT	PH	FLA	DISC		FEEDER SIZE	
ESP-1	STANCOR / OIL-MINDER S50	INN ELEVATOR	VORTEX SUBMERSIBLE	1	50	22	2"	3450	2' X 2' X 2' (BY OTHERS)	0.5	480	3	1.4	30	3#12, #12G, 3/4"C							
ESP-2	STANCOR / OIL-MINDER S50	INSTITUTE ELEVATOR - BOH	VORTEX SUBMERSIBLE	1	50	22	2"	3450	2' X 2' X 2' (BY OTHERS)	0.5	480	3	1.4	30	3#12, #12G, 3/4"C							
ESP-3	STANCOR / OIL-MINDER S50	INSTITUTE ELEVATOR - LOBBY	VORTEX SUBMERSIBLE	1	50	22	2"	3450	2' X 2' X 2' (BY OTHERS)	0.5	480	3	1.4	30	3#12, #12G, 3/4"C							

GENERAL NOTES

- PROVIDE CHECK VALVE ON EACH PUMP. SEE GENERAL DETAIL ON DRAWINGS.
- PROVIDE PREMIUM EFFICIENCY MOTORS FOR MOTORS 1 HP AND OVER PER MENA STANDARD MG1-2003, TABLES 12-12 AND 12-13.
- PROVIDE LOCAL INDICATION OF HIGH LIQUID, HIGH CURRENT/LOCKED ROTOR, AND OIL SENSING ALARMS. COORDINATE WITH BMS CONTRACTOR TO PROVIDE ADDITIONAL BMS READOUT OF ALL ALARMS.
- PROVIDE ON/OFF SWITCH.
- PROVIDE HIGH ALARM AND WIRE TO RING BELL IN MECHANICAL ROOM.
- PROVIDE PROPERLY GROUNDED RECEPTACLE PROTECTED BY GFCI FOR CONTROLLER.
- PROVIDE WITH PUMP ON FLOAT, HIGH ALARM FLOAT, SENSOR PROBE, ETC TO ALLOW FOR PROPER OPERATION OF PUMP.
- PUMP SHALL BE ON EMERGENCY POWER.
- CONTROL PANEL SHALL BE NEMA 4X RATED.
- WARRANTY: 1.5 YEAR PUMP (W/ET END), 20 YEAR MOTOR

PUMP SCHEDULE																				
GENERAL				PUMP DATA					ELECTRICAL											
CODE	MANUFACTURER/ MODEL NO.	SERVICE	LOCATION	PUMP TYPE	DRIVE	GPM	HEAD (FT)	TEMP RANGE (F)	MIN EFF. %	HP	VOLT	PH	DISC	FEEDER SIZE	HZ	RPM	REMARKS			
																		DWCP-1	BELL & GOSSETT / ECOIRC XL N 36-45	INSTITUTE CIRCULATION
DWCP-2	BELL & GOSSETT / ECOIRC XL N 36-45	INN CIRCULATION	MECH	INLINE	ECM	20	15	40 - 140	49	1/6	120	1	STO	2#12, #12G, 3/4"C	60	3600				
DWCP-3	BELL & GOSSETT / ECOIRC XL N 36-45	INN CIRCULATION	MECH	INLINE	ECM	20	15	40 - 140	49	1/6	120	1	STO	2#12, #12G, 3/4"C	60	3600	A			
DWCP-4	BELL & GOSSETT / ECOIRC XL N 36-45	SOLAR THERMAL CIRCULATION	MECH	INLINE	ECM	10	10	40 - 140	42.2	1/6	120	1	STO	2#12, #12G, 3/4"C	60	3600				

GENERAL NOTES

- PROVIDE A HIGHLY EFFICIENT ELECTRONICALLY COMMUTATED PERMANENT MAGNET MOTOR (ECMPM TECHNOLOGY)
- PROVIDE ALL STAINLESS STEEL CONSTRUCTION, NSF-372 AND NSF-61 COMPLIANT.
- PUMP SHALL BE SUPPLIED WITH A CLOSED, PERFECTLY MOLDED INSULATION SHELL THAT FITS THE PUMP HOUSING EXACTLY.
- PUMP SHALL BE CONNECTED TO A TEMPERATURE SENSOR THAT MAINTAINS A 5 DEGREE DELTA T IN THE HOT WATER CIRCULATION LINE.
- PUMP SHALL BE SUPPLIED WITH A BUILT-IN TEMPERATURE SENSOR.
- PUMP SHALL BE PROVIDED WITH A 1.5" SUCTION AND DISCHARGE FLANGES.

REMARK NOTES  
 A. 100% STANDBY OPERATION. PROVIDE AUTOMATIC LEAD/STANDBY CHANGEOVER BASED ON RUN TIME.

APPLIANCE CONNECTION SCHEDULE							
CODE	DESCRIPTION	CW CONN.	HW CONN.	SAN CONN.	IW CONN.	VENT CONN.	ACCESSORIES / COMMENTS
WASH	WASHING MACHINE	(2) 3/4"	(2) 3/4"	-	3"	-	VB
REF	REFRIGERATOR W/ ICE MAKER	1/2"	-	-	-	-	VB, FLTR
ICE	ICE MAKER	1/4"	-	-	(2) 3/4"	-	RPZ, FLTR
WD	WATER DISPENSER	1/2"	-	1-1/2"	-	1-1/2"	VB
LCS	LAUNDRY CHUTE SANITATION UNIT	3/4"	-	-	-	-	VB
DW	DISHWASHER, UNDERCOUNTER	-	3/8"	3/4"	-	-	-
FWD	FOOD WASTE DISPOSER	-	-	1-1/2", 3/4"	-	-	INCLUDES DISHWASHER CONNECTION

GENERAL NOTES

- PLUMBING DESIGN AND SIZES ARE BASED ON THE 2015 INTERNATIONAL PLUMBING CODE.
- ALL EXPOSED PIPING SERVING PLUMBING FIXTURES THAT MAY BE USED FOR ADA PURPOSES SHALL TRAPS AND SUPPLIES INSULATED PER ADA REQUIREMENTS.
- EACH PLUMBING FIXTURE SHALL BE PROVIDED WITH A P-TRAP, EXCEPT THOSE WITH INTEGRAL TRAPS.
- EXTEND INDIRECT WASTE TO NEAREST FLOOR DRAIN OR FLOOR SINK, UNLESS OTHERWISE NOTED ON PLANS.

ACCESSORY CODES  
 VB = VACUUM BREAKER  
 TP = TRAP PRIMER  
 FLTR = FILTER  
 RPZ = REDUCED PRESSURE ZONE ASSEMBLY  
 MV = POINT-OF-USE MIXING VALVE, ASSE 1070 COMPLIANT

WATER TREATMENT SCHEDULE															
GENERAL			COPPER SILVER IONIZATION SYSTEM FLOW CELL				CONTROLLER			ELECTRICAL					
CODE	SERVICE	LOCATION	MANUFACTURER/ MODEL NO.	QTY	FLOW RATE (EA) (GPM)	TOTAL SYSTEM FLOW RATE (GPM)	WORKING PRESSURE (PSI)	MANUFACTURER/ MODEL NO.	AMPS	VOLT	PH	HZ	DISC	FEEDER SIZE	REMARKS
CSI-1	INN	WATER ROOM	LIQUITECH/ OF14-44 LIQUITECH MARK III CLEAN FLOW 4" "QUICK-CONNECT" FLOW CELL	1	20	20	150	S300	8	120	1	60	30	2#12, #12G, 3/4"C	

GENERAL NOTES

- COPPER SILVER IONIZATION SYSTEMS SHALL BE PROVIDED WITH (1) DIAGNOSTICS TFX ULTA TRANSIT-TIME FLOW METER, (1) MODEL DC1200 COPPER COLORIMETER TEST KIT, AND (1) REMS REMOTE ENGINEER MONITORING SYSTEM PER LIQUITECH MODULE.
- PROVIDE BMS TIE-IN
- CONTROLLER SHALL BE LIQUITECH ELECTRONIC CONTROL UNIT WITH "PROPORTIONAL CONTROL" AND REMOTE MONITORING.
- PROVIDE (1) SPARE FLOW CELL.
- ALL WELDED COMPONENTS SHALL COMPLY WITH NSF-61
- FLOW CELL SHALL BE VERTICALLY MOUNTED

REMARK NOTES

DOMESTIC WATER HEATER SCHEDULE (ELECTRIC)																	
CODE (DWH)	MANUFACTURER/ MODEL NO.	LOCATION	SERVICE	STORAGE (GAL)	RECOVERY (GPH)	RISE	KW	DIMENSIONS (IN)			OPERATING WEIGHT (LB)	ELECTRICAL					REMARKS
								L	W	H		VOLT	PH	FLA	DISC	FEEDER SIZE	
DWH-1	PVI / DURAWATT 650-L-200A-VE	1ST FL STORAGE/ CLOSET	INSTITUTE	200	515	100	126	44	34	75	2820	480	3	151.6	200	3#3/0, #6G, 2"C	
DWH-2	PVI / DURAWATT 650-L-200A-VE	1ST FL STORAGE/ CLOSET	INSTITUTE	200	515	100	126	44	34	75	2820	480	3	151.6	200	3#3/0, #6G, 2"C	
DWH-3	PVI / DURAWATT 550-L-150A-VE	1ST FL WATER SERVICE RM	INN	150	440	100	108	44	34	63	2343	480	3	129.9	200	3#3/0, #6G, 2"C	
DWH-4	PVI / DURAWATT 550-L-150A-VE	1ST FL WATER SERVICE RM	INN	150	440	100	108	44	34	63	2343	480	3	129.9	200	3#3/0, #6G, 2"C	

GENERAL NOTES

- HEAT EXCHANGER AND TANK TO BE ASSEMBLED AT THE FACTORY AND SHIPPED FULLY ASSEMBLED.
- HOT WATER HEATER SHALL BE FURNISHED WITH IMMERSION THERMOSTAT.
- ROUTE ALL T&P RELIEF VALVES TO APPROVED RECEPTOR. ALL T&P RELIEF VALVES SHALL BE ACSA-RATED.
- MUST BE NSF APPROVED.
- TANK SHALL BE AN AQUAPLEX TANK (UNLINED DUPLEX STAINLESS STEEL)
- TANK SHALL BE NON-FERROUS, REMOVABLE TANK FITTINGS. NO ANODE RODS SHALL BE REQUIRED.
- TANK SHALL BE SUPPLIED WITH FIBERGLASS INSULATION AND ENCLOSED IN STEEL JACKET PANELS.
- TANK SHALL BE FURNISHED WITH A 25-YEAR WARRANTY.
- MOUNT TANK ON 4" HOUSEKEEPING PAD.

REMARK NOTES

DOMESTIC WATER STORAGE TANK SCHEDULE										
CODE (ST)	MANUFACTURER/ MODEL NO.	LOCATION	TYPE	GALLONS	ORIENTATION	DIMENSION (IN)			WEIGHT (LBS)	REMARKS
						L	W	H		
ST-1	PVI / L215A-TR	1ST FL STORAGE	INSULATED & JACKETED	200	VERTICAL	37	34	78	2565	
ST-2	PVI / L215A-TR	1ST FL STORAGE	INSULATED & JACKETED	200	VERTICAL	37	34	78	2565	

GENERAL NOTES

- ENTIRE TANK TO BE FULLY INSULATED TO MEET ASHRAE 90.1-07.
- TANK SHALL BE PROVIDED WITH CONNECTIONS FOR AQUA-STAT, RELIEF VALVE, DRAIN, THERMOMETER WATER INLET, WATER OUTLET, AND WATER RECIRCULATION.
- MOUNT UNIT ON 4" CONCRETE HOUSEKEEPING PAD.
- ROUTE ALL T&P RELIEF VALVES TO APPROVED RECEPTOR. ALL T&P RELIEF VALVES SHALL BE ACSA-RATED.
- MUST BE NSF APPROVED.
- TANK SHALL BE AN AQUAPLEX TANK (UNLINED DUPLEX STAINLESS STEEL)
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- TANK SHALL BE SUPPLIED WITH FIBERGLASS INSULATION AND ENCLOSED IN STEEL JACKET PANELS.
- TANK SHALL BE FURNISHED WITH A 25-YEAR WARRANTY.

REMARKS

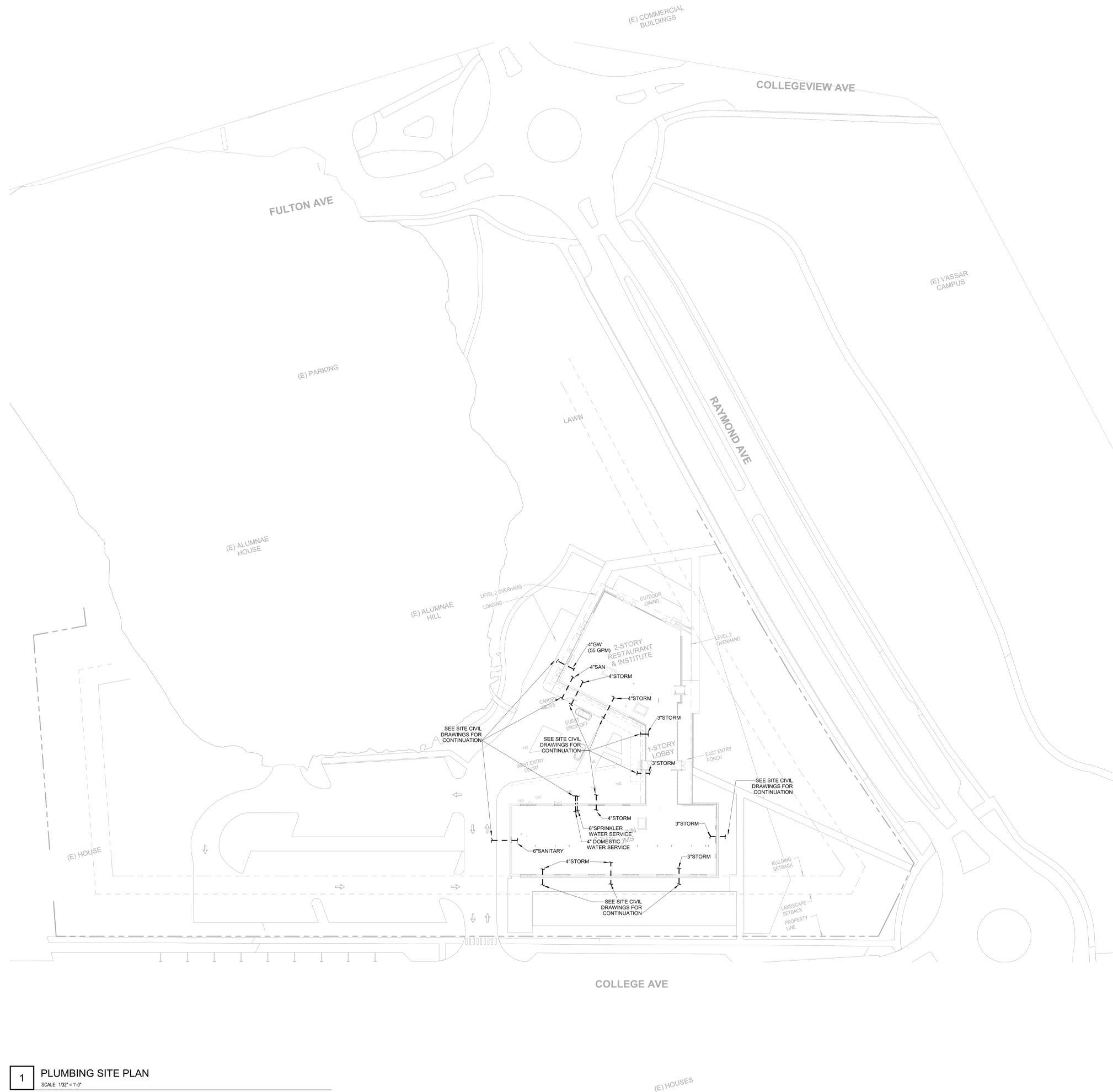
EXPANSION TANK SCHEDULE														
CODE	SERVICE	LOCATION	DESIGN PARAMETERS			OPERATING PARAMETERS			CONFIG	TYPE	MIN. ACCEPT. (GAL)	PRECHARGE (PSIG)	MANUFACTURER/ MODEL NUMBER	REMARKS
			SYSTEM VOLUME (GAL)	MIN. TEMP (F)	MAX TEMP (F)	RELIEF VALVE SETTING (PSIG)	CW MU PRV REQ'T (PSIG)							
DET-1	INSTITUTE DOM. HW	INSTITUTE - 1ST FL STORAGE	800	40	140	100	80	V	D	68	55	AMTROL / ST-120V-C		
DET-2	INN DOM. HW	INN - 1ST FL WATER RM	300	40	140	100	80	V	D	34	55	AMTROL / ST-70V-C		

GENERAL NOTES

- TYPE: B=FULL BLADDER  
 D=PARTIAL DIAPHRAGM

REMARKS

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**1** PLUMBING SITE PLAN  
SCALE: 1/32" = 1'-0"

**GENERAL NOTES:**

1. CONTRACTOR SHALL PROVIDE CORE DRILLING AS REQUIRED FOR NEW PIPE PENETRATIONS. ALL SERVICE PENETRATIONS INTO BUILDING SHALL BE WATER TIGHT.
2. COORDINATION DRAWINGS SHALL BE PREPARED TO ENSURE ROUTING AVOIDS CONFLICTS WITH ALL NEW WORK. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES.

**KEYNOTES**

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CONSULTANT  
**me**  
engineers  
ME Engineers  
200 West 25th Street  
New York, NY 10011  
www.mee.com

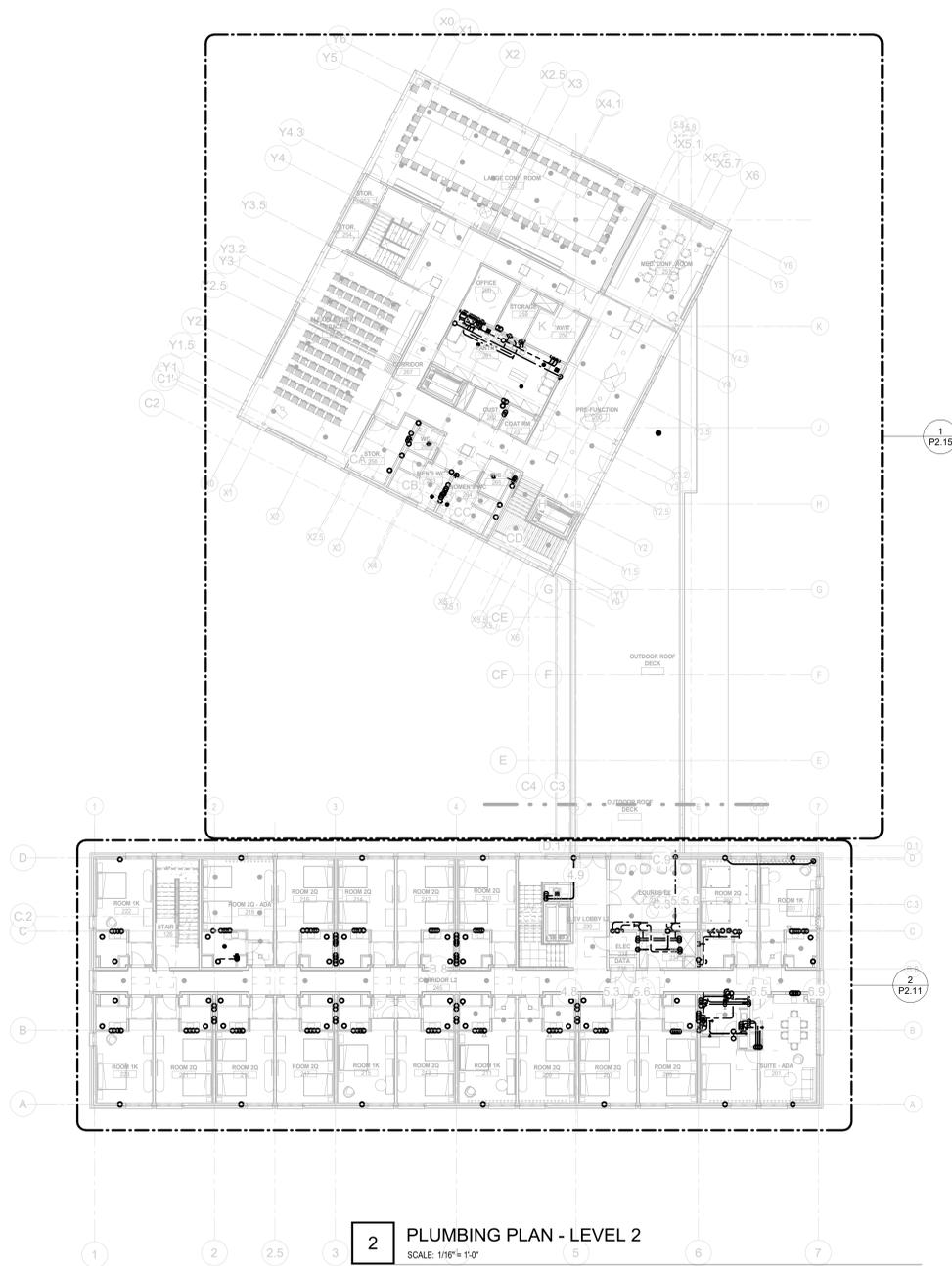
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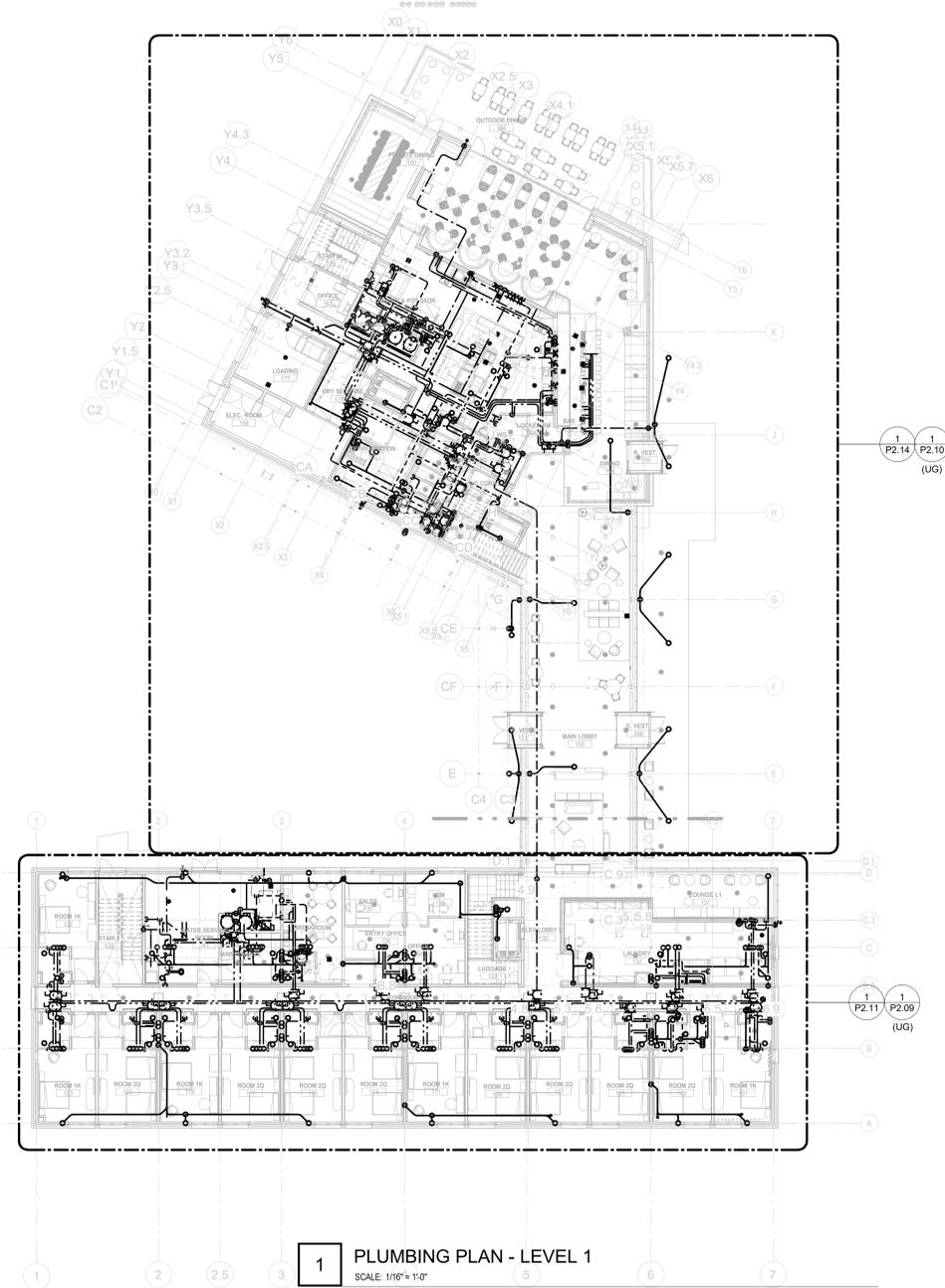
PLUMBING SITE PLAN  
SCALE: AS INDICATED

P1.01

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**2 PLUMBING PLAN - LEVEL 2**  
SCALE: 1/16" = 1'-0"



**1 PLUMBING PLAN - LEVEL 1**  
SCALE: 1/16" = 1'-0"

**GENERAL NOTES:**

1. PROVIDE HOT WATER, COLD WATER, WASTE AND VENT PIPING TO FIXTURES AS PER SCHEDULE. HOT WATER CIRCULATION PIPING SHALL BE EXTENDED FROM WATER HEATER OR RECIRC MAIN TO WITHIN 2 FT OF EACH LAVATORY FIXTURE AND WITHIN 20 FT OF ALL OTHER FIXTURES.
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5. VENT FLOOR DRAINS FROM BELOW SLAB.
6. SEE RISER DIAGRAMS P-6.0X SERIES FOR PLUMBING RISER PIPE SIZING.
7. ALL PLUMBING PIPING WITHIN CHASES SHALL BE ATTACHED TO THE WET-SPACE SIDE OF THE PARTITION ONLY.

**KEYNOTES**

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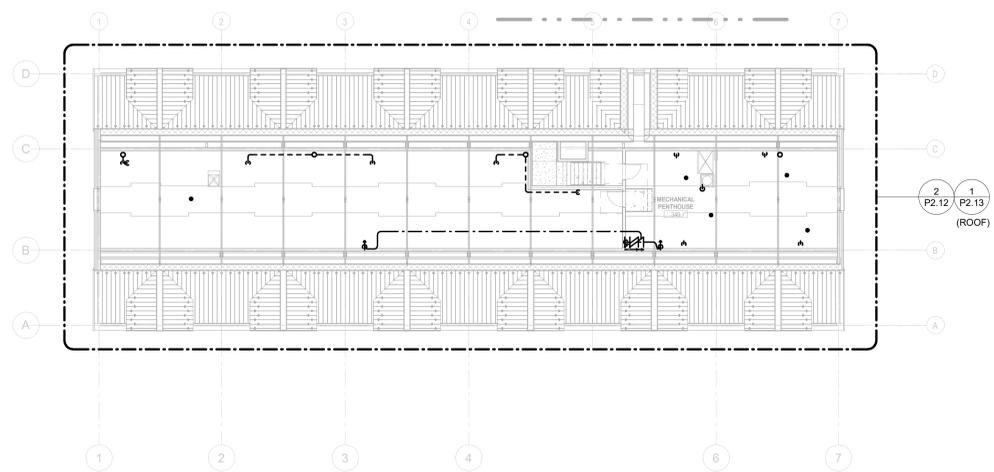
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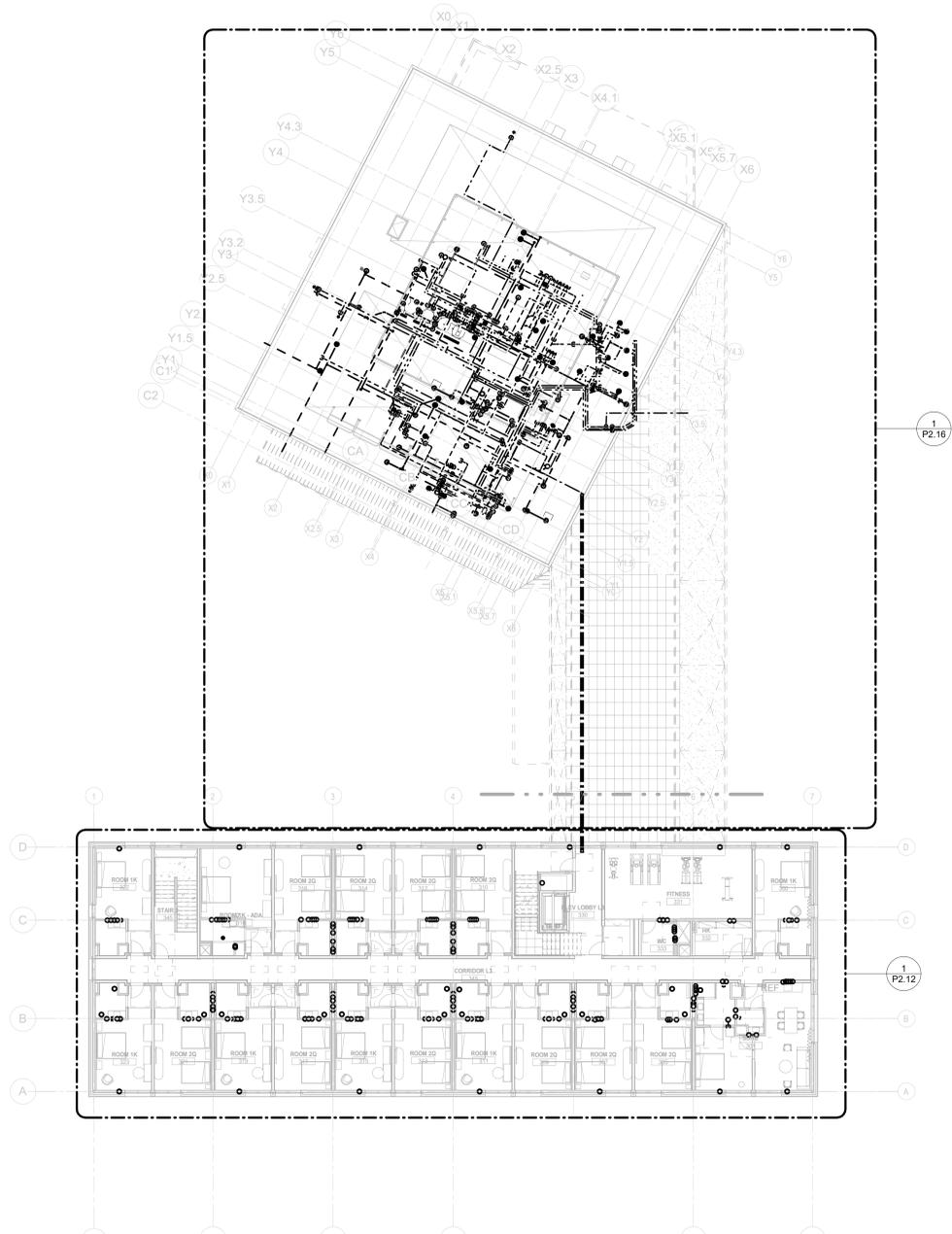
**PLUMBING OVERALL FLOOR PLANS**  
SCALE: AS INDICATED

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**2** PLUMBING PLAN - PENTHOUSE LEVEL  
SCALE: 1/16" = 1'-0"



**1** PLUMBING PLAN - LEVEL 3  
SCALE: 1/16" = 1'-0"

**GENERAL NOTES:**

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5. VENT FLOOR DRAINS FROM BELOW SLAB.
6. SEE RISER DIAGRAMS P-6.0X SERIES FOR PLUMBING RISER PIPE SIZING.
7. ALL PLUMBING PIPING WITHIN CHASES SHALL BE ATTACHED TO THE WET-SPACE SIDE OF THE PARTITION ONLY.

**KEYNOTES**

CONSULTANT  
**me**  
engineers  
ME Engineers  
200 West 28th  
New York, NY 10001  
212.246.7722 ext. 411  
www.mee.com

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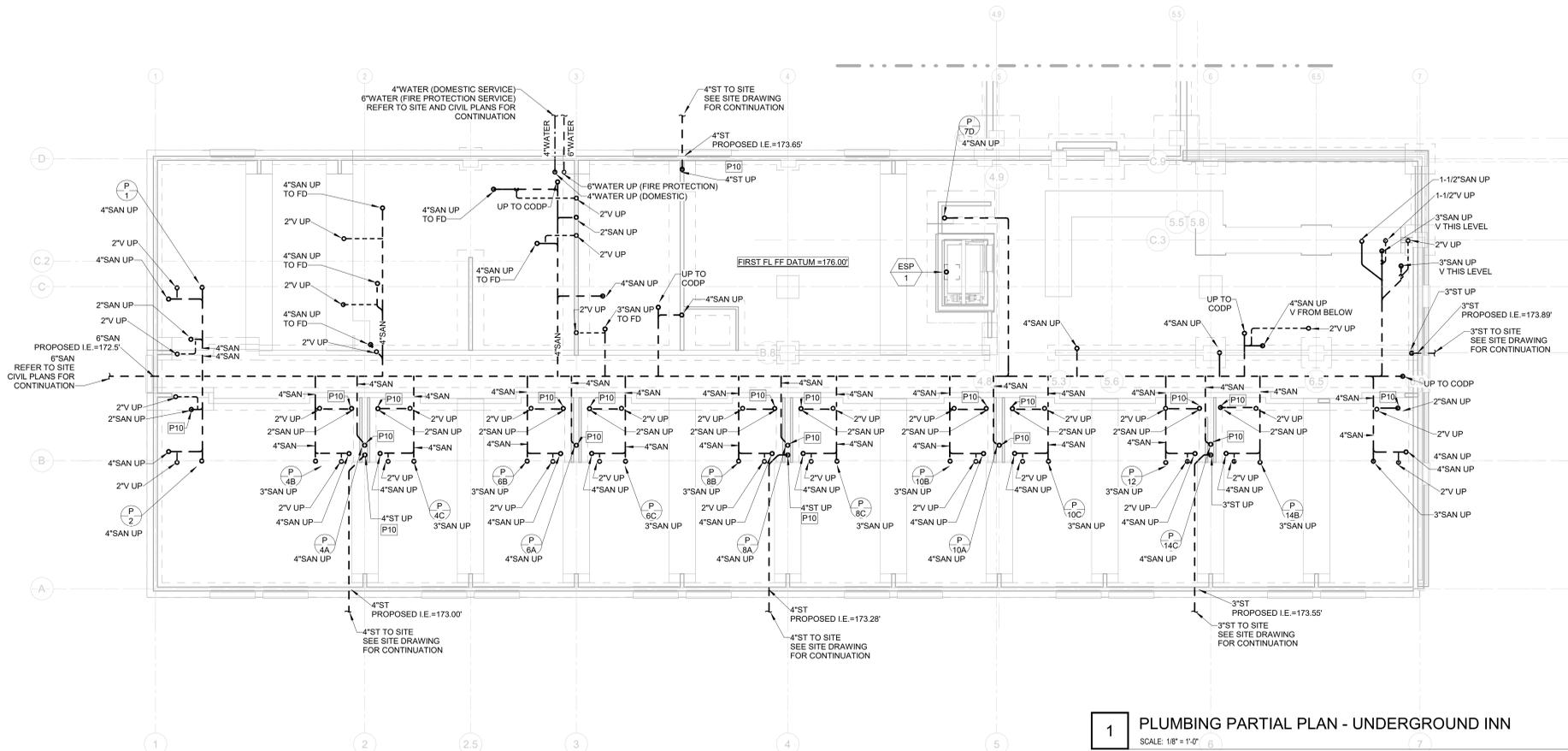
PLUMBING  
OVERALL  
FLOOR PLANS  
SCALE: AS INDICATED

P2.02

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KEYNOTES

P10 FOR UNDERGROUND PIPING PENETRATION THRU STRUCTURAL GRADE BEAMS, CONTRACTOR SHALL COORDINATE EXACT LOCATION AND PIPE SLEEVING PENETRATION DETAILS WITH STRUCTURAL DETAILS. OFFSET PIPING AS REQUIRED.

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New York, NY 10001  
Tel: 212-279-7772  
www.meengineers.com

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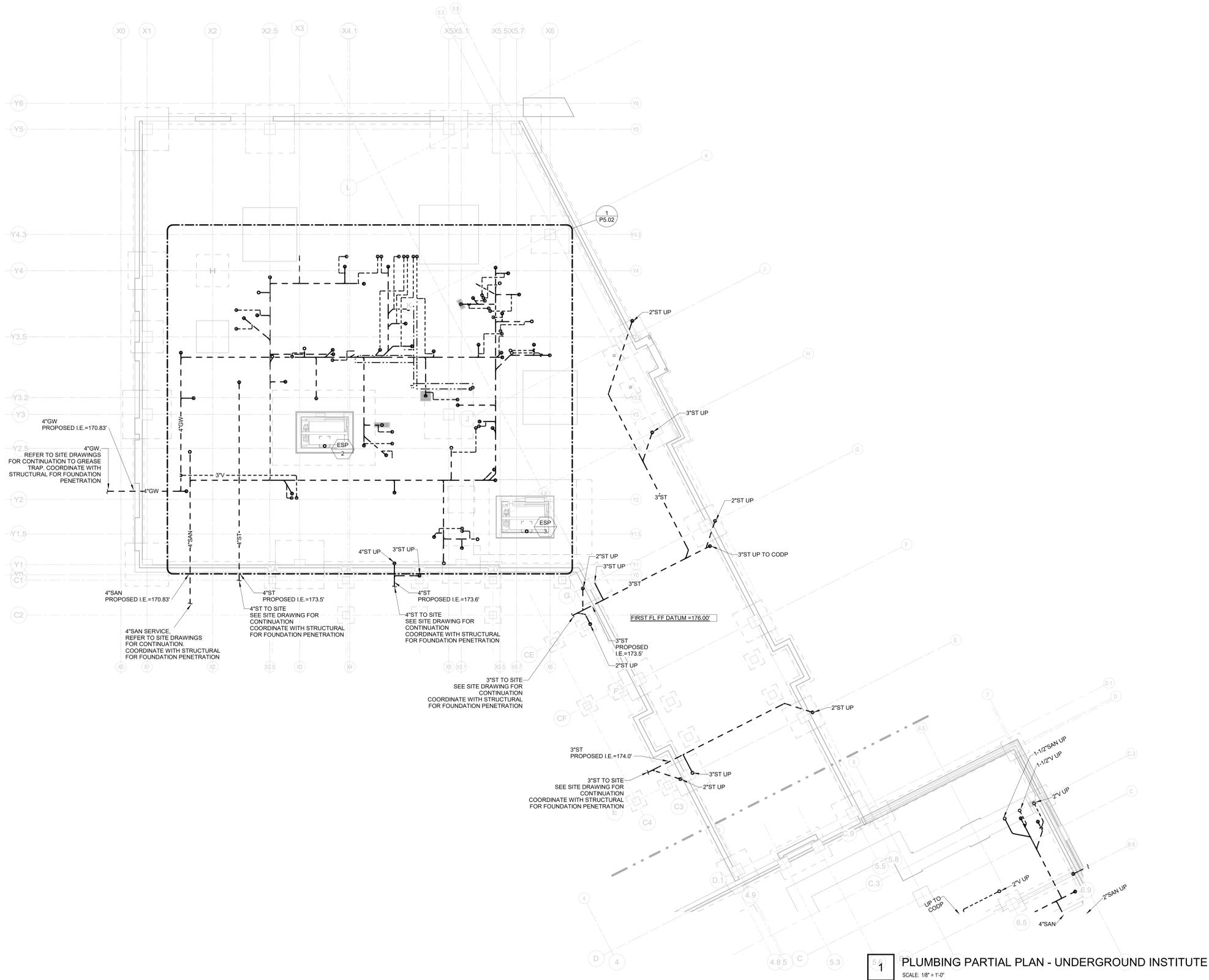
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PLUMBING PARTIAL PLAN - UNDERGROUND INN  
SCALE: AS INDICATED

P2.09

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7. ALL PLUMBING PIPING WITHIN CHASES SHALL BE ATTACHED TO THE WET-SPACE SIDE OF THE PARTITION ONLY.

**KEYNOTES**

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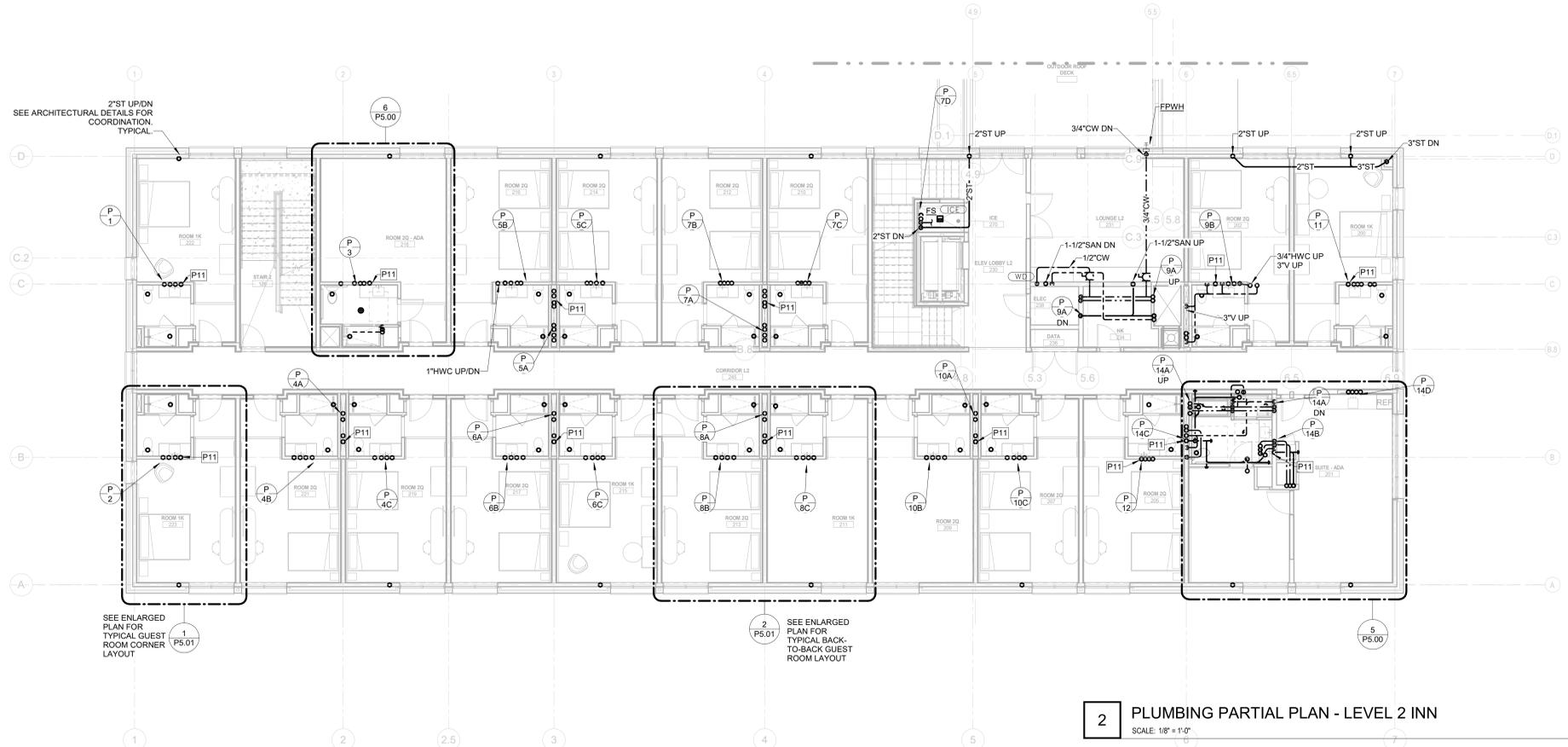
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PLUMBING PARTIAL PLAN -  
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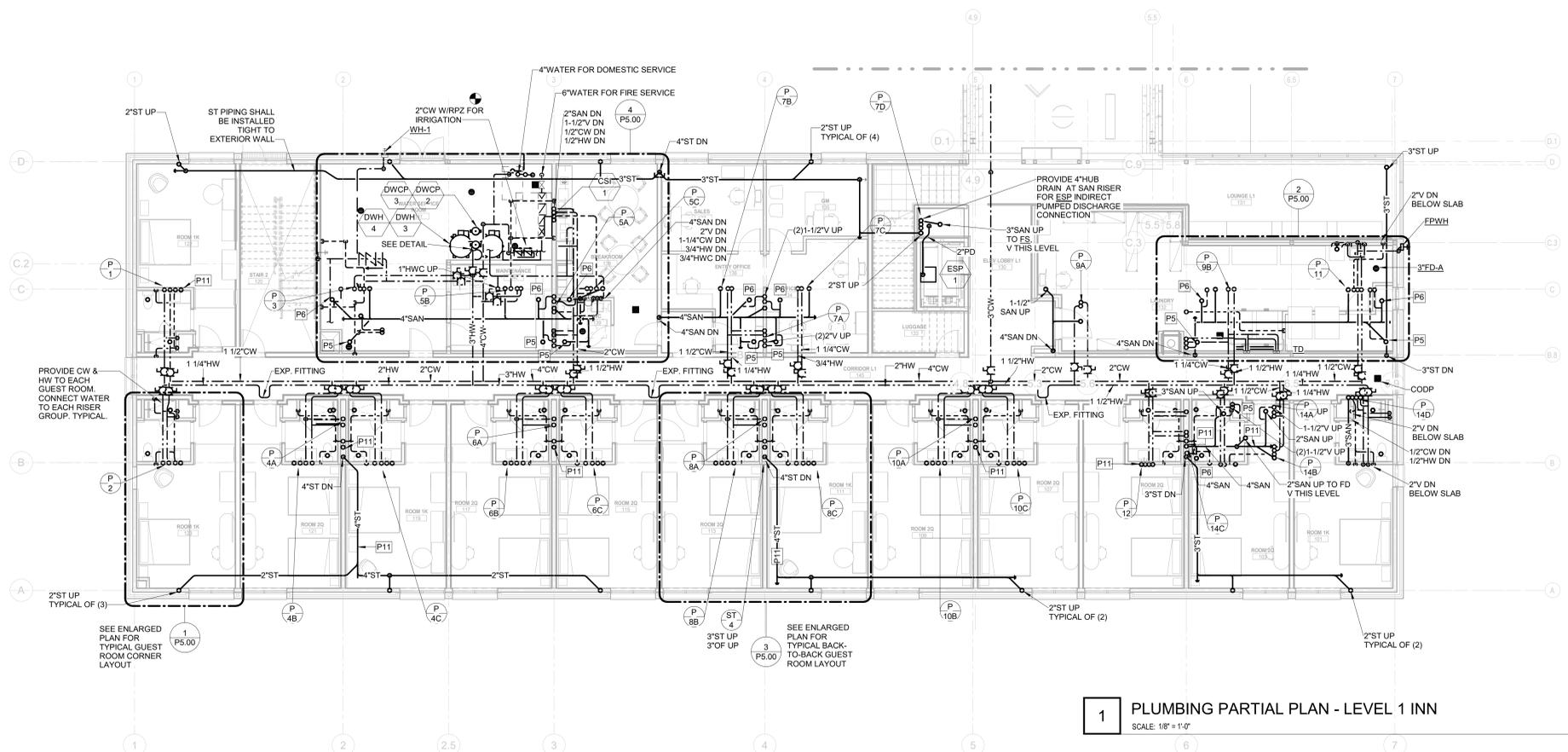
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**1 PLUMBING PARTIAL PLAN - UNDERGROUND INSTITUTE**  
SCALE: 1/8" = 1'-0"

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**2** PLUMBING PARTIAL PLAN - LEVEL 2 INN  
SCALE: 1/8" = 1'-0"



**1** PLUMBING PARTIAL PLAN - LEVEL 1 INN  
SCALE: 1/8" = 1'-0"

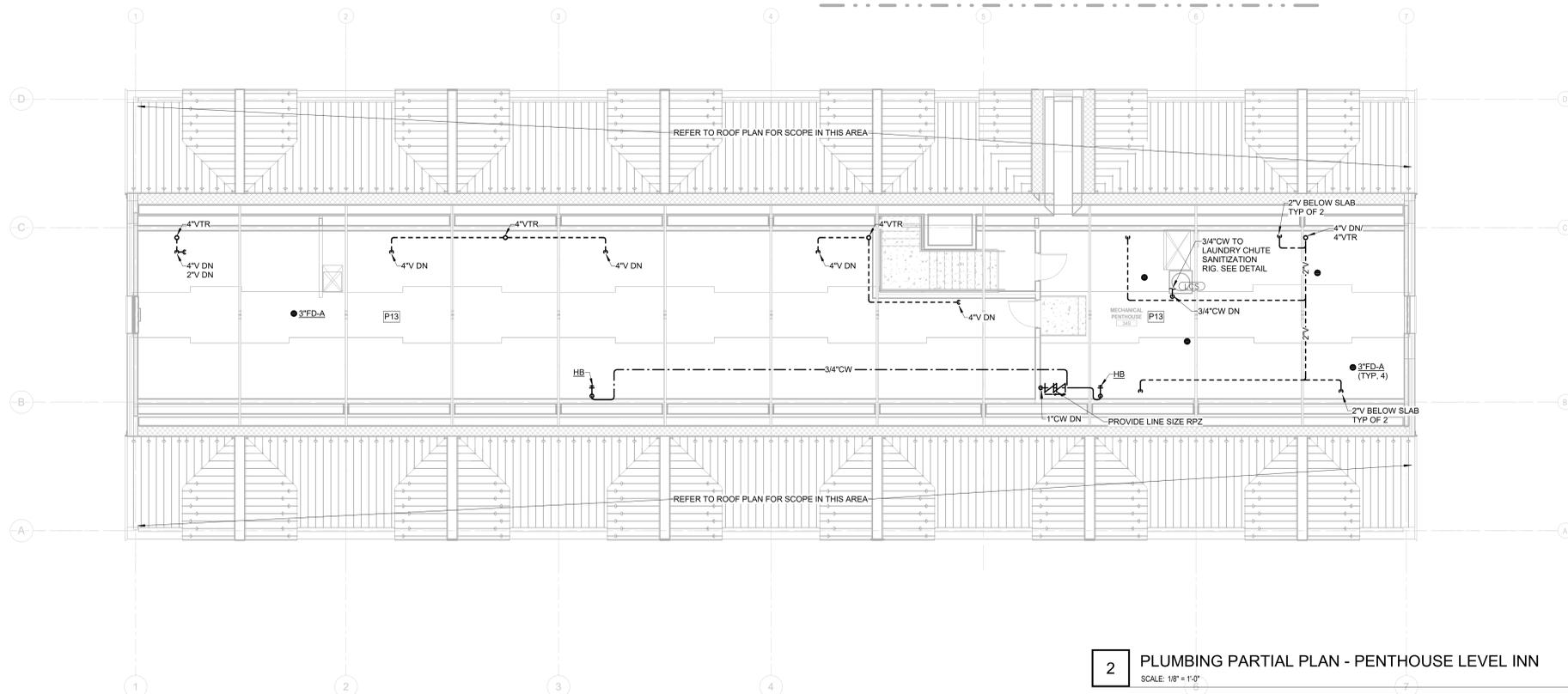
**GENERAL NOTES:**

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5. VENT FLOOR DRAINS FROM BELOW SLAB.
6. SEE RISER DIAGRAMS P-6.0X SERIES FOR PLUMBING RISER PIPE SIZING.
7. ALL PLUMBING PIPING WITHIN CHASES SHALL BE ATTACHED TO THE WET-SPACE SIDE OF THE PARTITION ONLY.

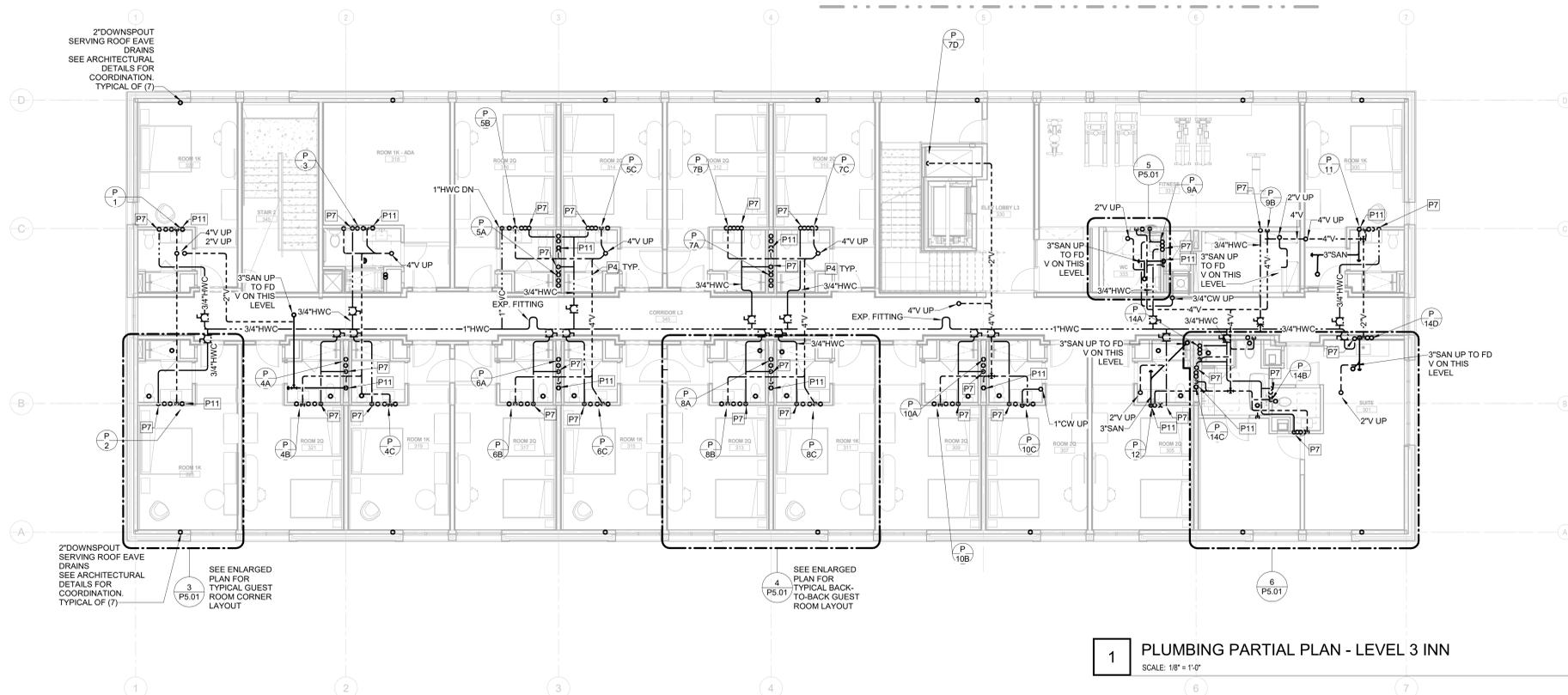
**KEYNOTES**

P5	2" SAN UP TO SHOWER VENT ON THIS LEVEL
P6	4" SAN UP TO WATER CLOSET VENT ON THIS LEVEL
P11	PIPEING 4" AND LARGER WITHIN GUEST ROOMS SHALL BE WRAPPED IN 1 PSF MASS-LOADED VINYL LAGGING

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**2** PLUMBING PARTIAL PLAN - PENTHOUSE LEVEL INN  
SCALE: 1/8" = 1'-0"



**1** PLUMBING PARTIAL PLAN - LEVEL 3 INN  
SCALE: 1/8" = 1'-0"

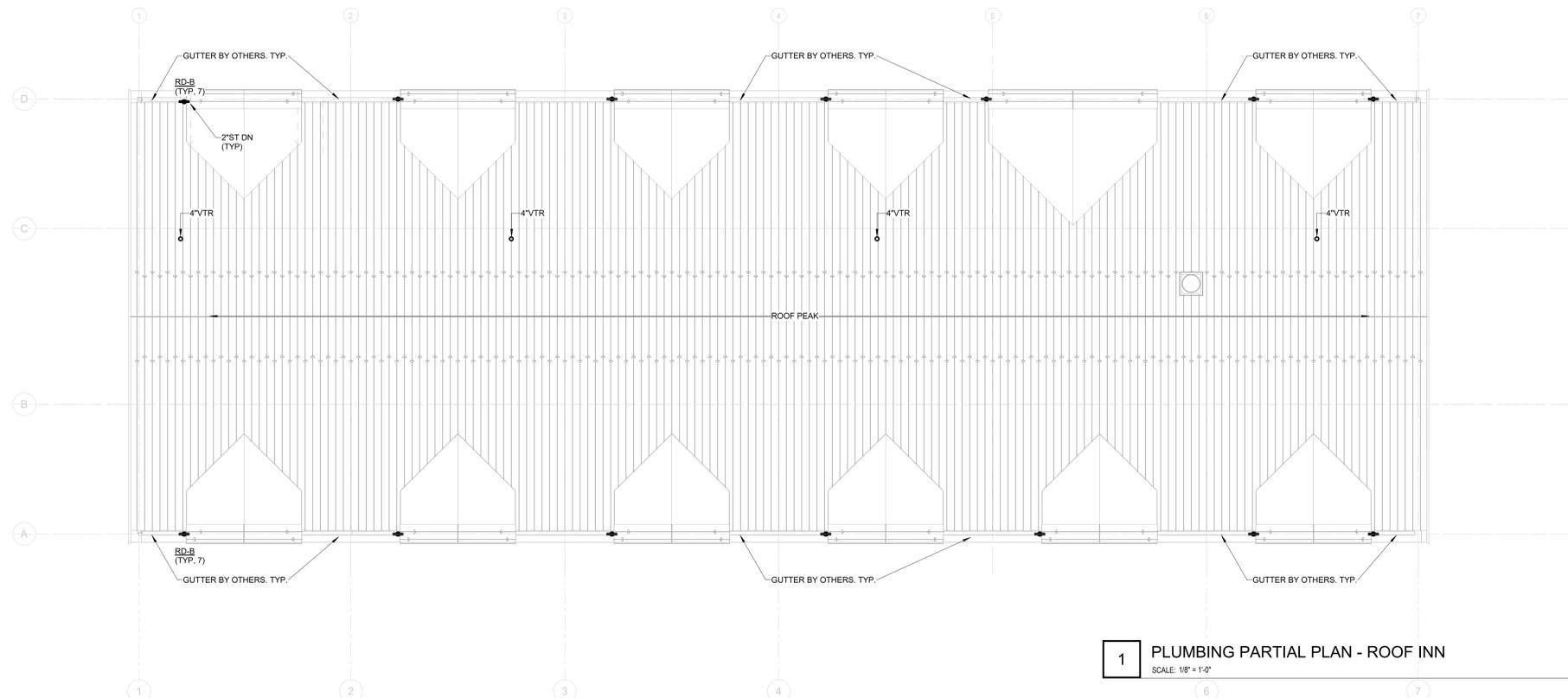
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**KEYNOTES**

P4	EXTEND 4\"/>
P7	1/2\"/>
P11	PIPING 4\"/>
P13	ALL PIPES PENETRATIONS THROUGH THE SLAB WITHIN SPACE SHALL BE PROVIDED WITH MINIMUM 4\"/>

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**1** PLUMBING PARTIAL PLAN - ROOF INN  
SCALE: 1/8" = 1'-0"

**GENERAL NOTES:**

1. PROVIDE HOT WATER, COLD WATER, WASTE AND VENT PIPING TO FIXTURES AS PER SCHEDULE. HOT WATER CIRCULATION PIPING SHALL BE EXTENDED FROM WATER HEATER OR RECIRC MAIN TO WITHIN 2 FT. OF EACH LAVATORY FIXTURE AND WITHIN 20 FT. OF ALL OTHER FIXTURES.
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7. ALL PLUMBING PIPING WITHIN CHASES SHALL BE ATTACHED TO THE WET-SPACE SIDE OF THE PARTITION ONLY.

**KEYNOTES**

CONSULTANT  
**me**  
engineers

ME Engineers  
300 West 30th  
New York, NY 10001  
Tel: 212-279-0900  
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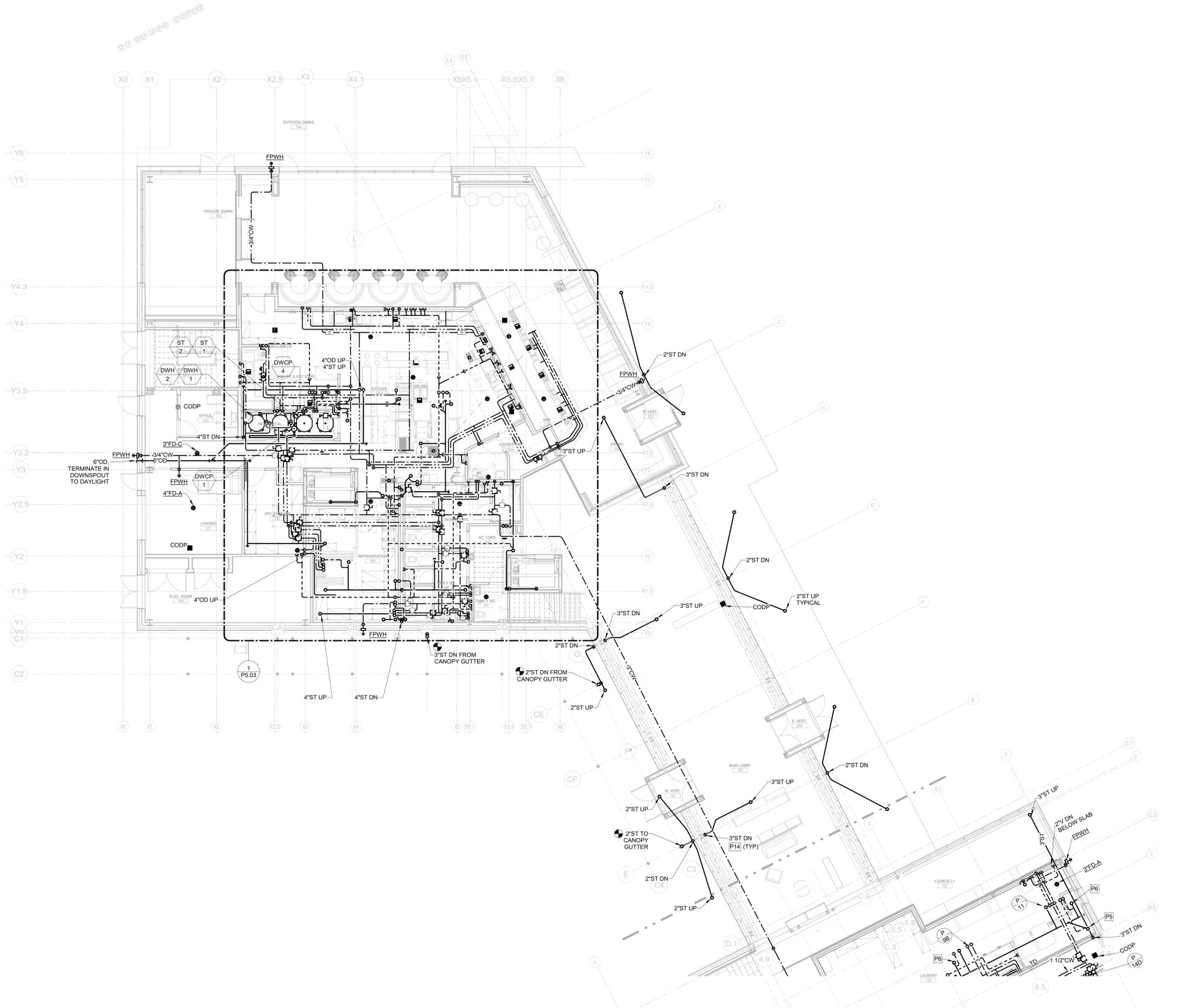
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PLUMBING  
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- ROOF INN  
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**1** PLUMBING PARTIAL PLAN - LEVEL 1 INSTITUTE  
SCALE: 1/8" = 1'-0"

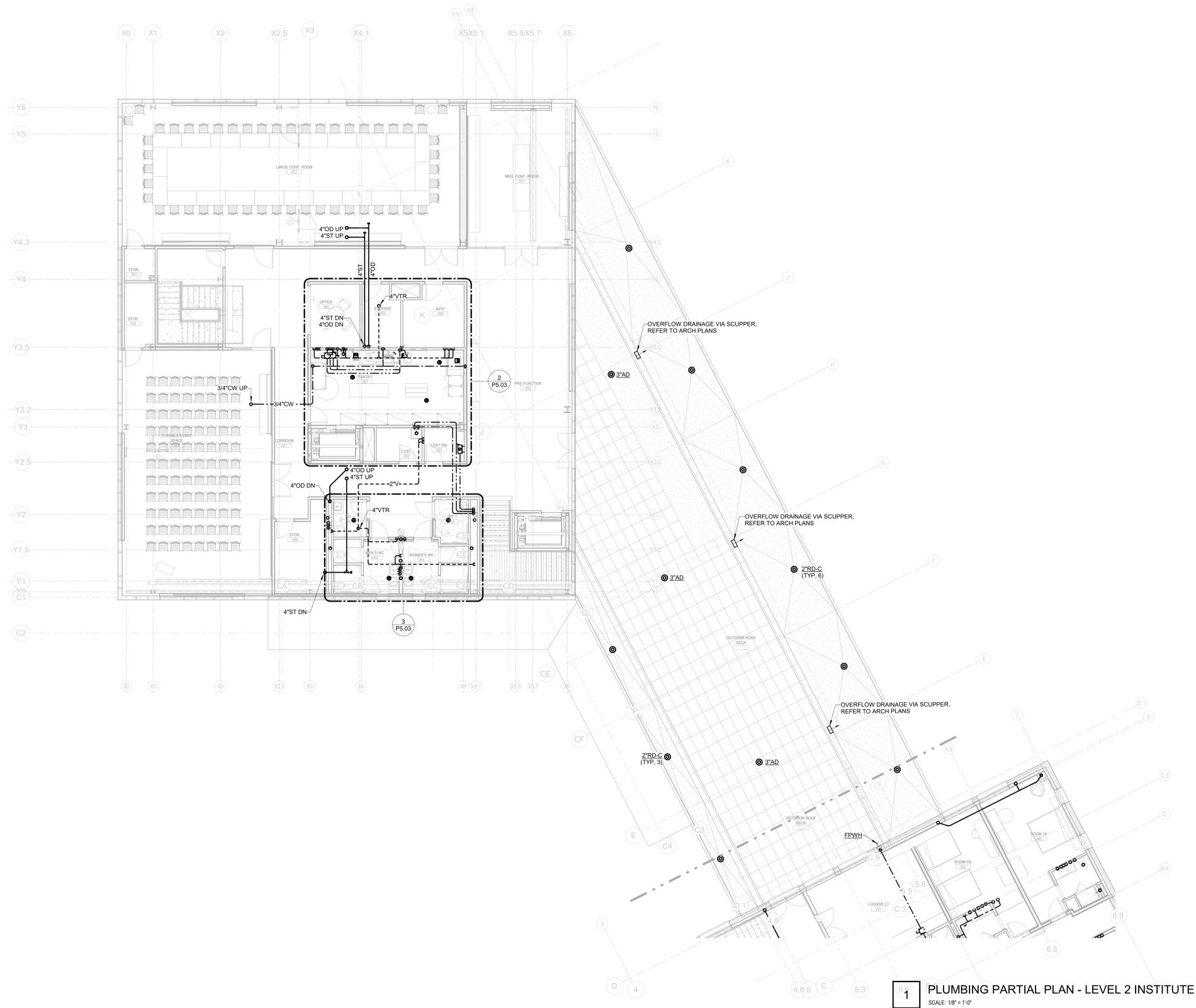
**GENERAL NOTES:**

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5. VENT FLOOR DRAINS FROM BELOW SLAB.
6. SEE RISER DIAGRAMS P-6.0X SERIES FOR PLUMBING RISER PIPE SIZING.
7. ALL PLUMBING PIPING WITHIN CHASES SHALL BE ATTACHED TO THE WET-SPACE SIDE OF THE PARTITION ONLY.

**KEYNOTES**

P5	2" SAN UP TO SHOWER. VENT ON THIS LEVEL.
P6	4" SAN UP TO WATER CLOSET. VENT ON THIS LEVEL.
P14	EXPOSED VERTICAL STORM PIPING SHALL BE SUPPORTED OFF OF THE ADJACENT COLUMN WITH RING CLAMPS AND UNISTRUT FASTENED TO STRUCTURE. PROVIDE ADDITIONAL SUPPORT VIA PIPE HANGER WITHIN 1'-0" OF ELBOW DOWN. COORDINATE PIPE FINISHPAINTING WITH ARCHITECT.

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1 PLUMBING PARTIAL PLAN - LEVEL 2 INSTITUTE  
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. PROVIDE HOT WATER, COLD WATER, WASTE AND VENT PIPING TO FIXTURES AS PER SCHEDULE. HOT WATER CIRCULATION PIPING SHALL BE EXTENDED FROM WATER HEATER OR RECIRC MAIN TO WITHIN 2 FT OF EACH LAVATORY FIXTURE AND WITHIN 20 FT OF ALL OTHER FIXTURES.
2. CONTRACTOR SHALL PROVIDE CORE DRILLING AS REQUIRED FOR PIPE PENETRATIONS.
3. COORDINATION DRAWINGS SHALL BE PREPARED TO ENSURE ROUTING AVOIDS CONFLICT WITH ALL NEW WORK. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES.
4. WHERE SINKS, LAVATORIES, WATER CLOSETS, ETC. ARE INSTALLED ON THE SAME CHASE AS A BACK OUTLET WATER CLOSET, THE SINK OR LAVATORY SHALL DRAIN VIA CHAIR CARRIER.
5. VENT FLOOR DRAINS FROM BELOW SLAB.
6. SEE RISER DIAGRAMS P-6.0X SERIES FOR PLUMBING RISER PIPE SIZING.
7. ALL PLUMBING PIPING WITHIN CHASES SHALL BE ATTACHED TO THE WET-SPACE SIDE OF THE PARTITION ONLY.

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engineers

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New York, NY 10001  
Tel: 212 279 7777  
www.mee.com

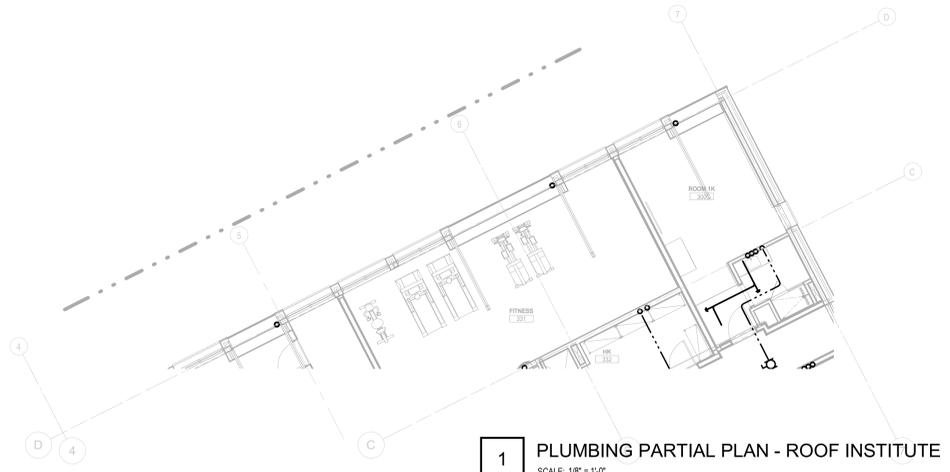
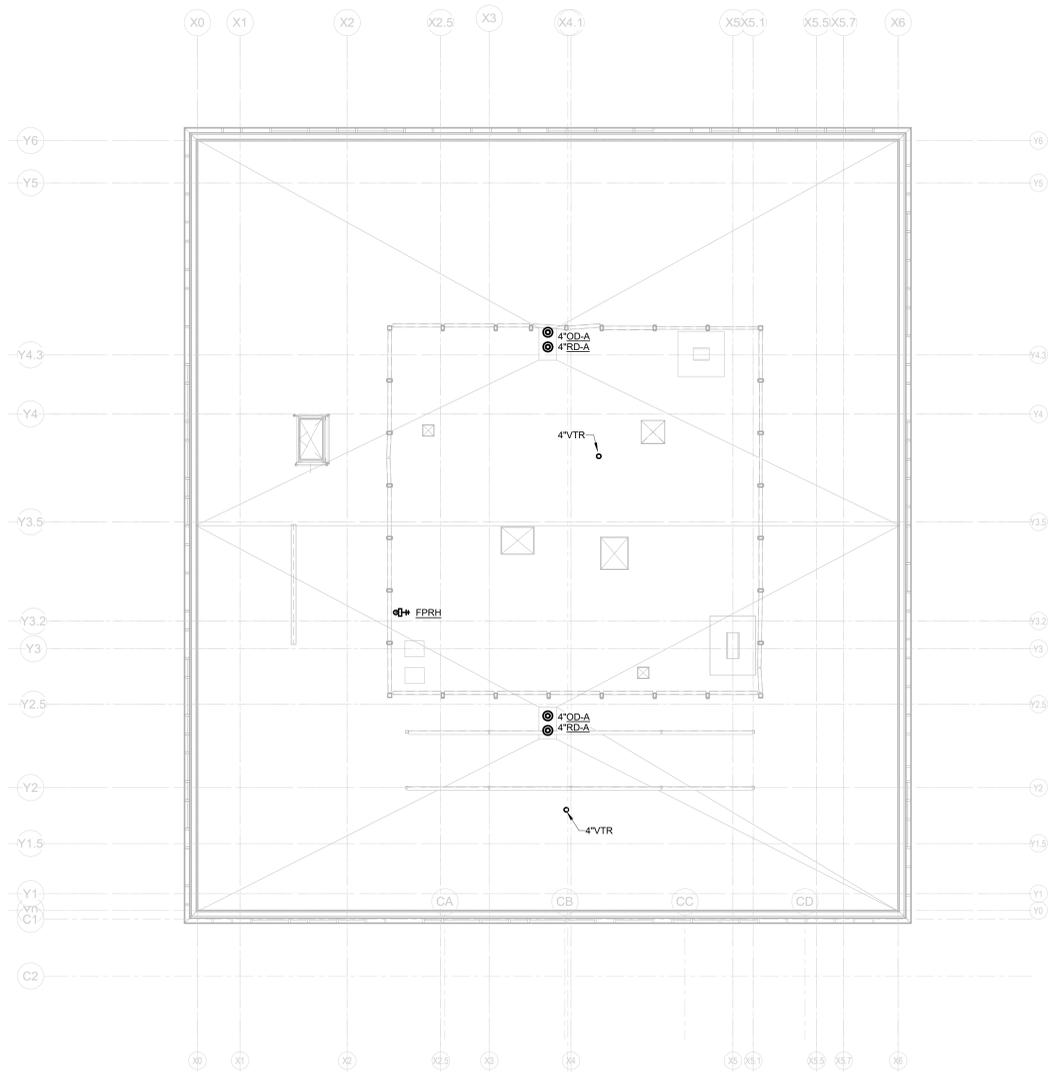
ISSUE DATES  
02/20/14 70% DESIGN DEVELOPMENT  
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04/02/14 90% CONSTRUCTION DOCUMENTS  
04/10/14 95% CONSTRUCTION DOCUMENTS  
05/01/14 ISSUED FOR PERMIT  
05/01/14 ISSUED FOR CONSTRUCTION  
05/02/14 RFP SET  
05/02/14 FINAL GMP SET  
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PLUMBING PARTIAL PLAN -  
LEVEL 2  
INSTITUTE  
SCALE: AS INDICATED

P2.15

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**1** PLUMBING PARTIAL PLAN - ROOF INSTITUTE  
SCALE: 1/8" = 1'-0"

**GENERAL NOTES:**

1. PROVIDE HOT WATER, COLD WATER, WASTE AND VENT PIPING TO FIXTURES AS PER SCHEDULE. HOT WATER CIRCULATION PIPING SHALL BE EXTENDED FROM WATER HEATER OR RECIRC MAIN TO WITHIN 2 FT OF EACH LAVATORY FIXTURE AND WITHIN 20 FT OF ALL OTHER FIXTURES.
2. CONTRACTOR SHALL PROVIDE CORE DRILLING AS REQUIRED FOR PIPE PENETRATIONS.
3. COORDINATION DRAWINGS SHALL BE PREPARED TO ENSURE ROUTING AVOIDS CONFLICT WITH ALL NEW WORK. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES.
4. WHERE SINKS, LAVATORIES, WATER CLOSETS, ETC. ARE INSTALLED ON THE SAME CHASE AS A BACK OUTLET WATER CLOSET, THE SINK OR LAVATORY SHALL DRAIN VIA CHAIR CARRIER.
5. VENT FLOOR DRAINS FROM BELOW SLAB.
6. SEE RISER DIAGRAMS P-6.0X SERIES FOR PLUMBING RISER PIPE SIZING.
7. ALL PLUMBING PIPING WITHIN CHASES SHALL BE ATTACHED TO THE WET-SPACE SIDE OF THE PARTITION ONLY.

**KEYNOTES**

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**me**  
engineers  
ME Engineers  
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New York, NY 10001  
212.693.7722 ext. 411  
www.mee.com

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04/03/14 80% DESIGN DEVELOPMENT  
05/07/14 90% CONSTRUCTION DOCUMENTS  
06/10/14 95% CONSTRUCTION DOCUMENTS  
07/08/14 ISSUED FOR PERMIT  
08/15/14 ISSUED FOR CONSTRUCTION  
09/02/14 RFP SET  
10/02/14 FINAL RFP SET  
01/02/15 RFP SET

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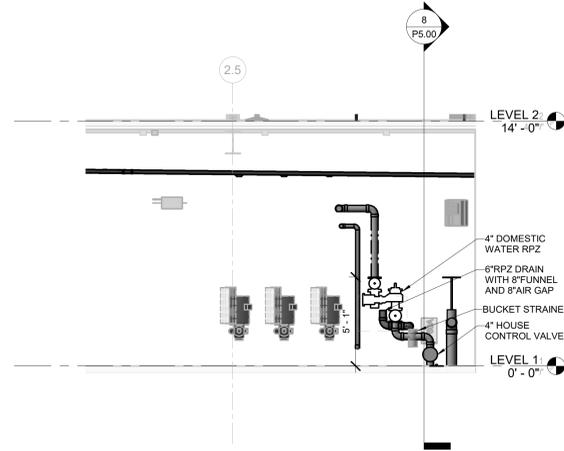
PLUMBING PARTIAL PLAN - ROOF INSTITUTE  
SCALE: AS INDICATED

P2.16

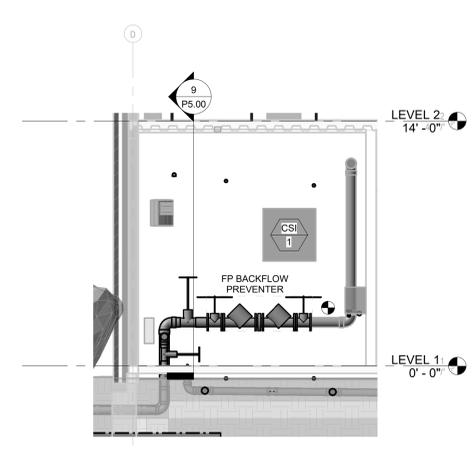
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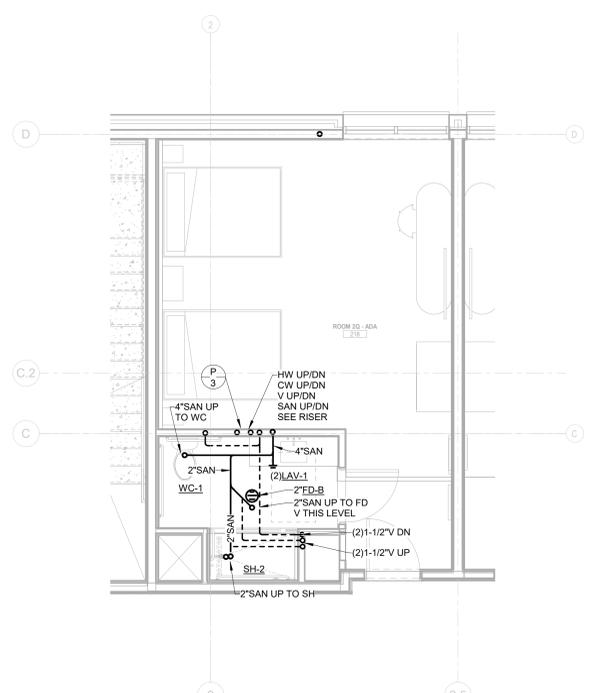
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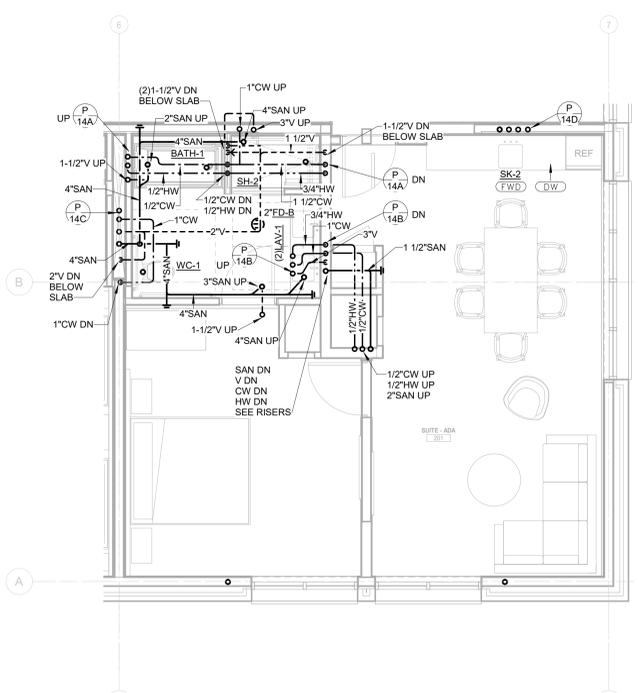
**9 PLUMBING SECTION - BACKFLOW PREVENTER 1**  
SCALE: 1/4" = 1'-0"



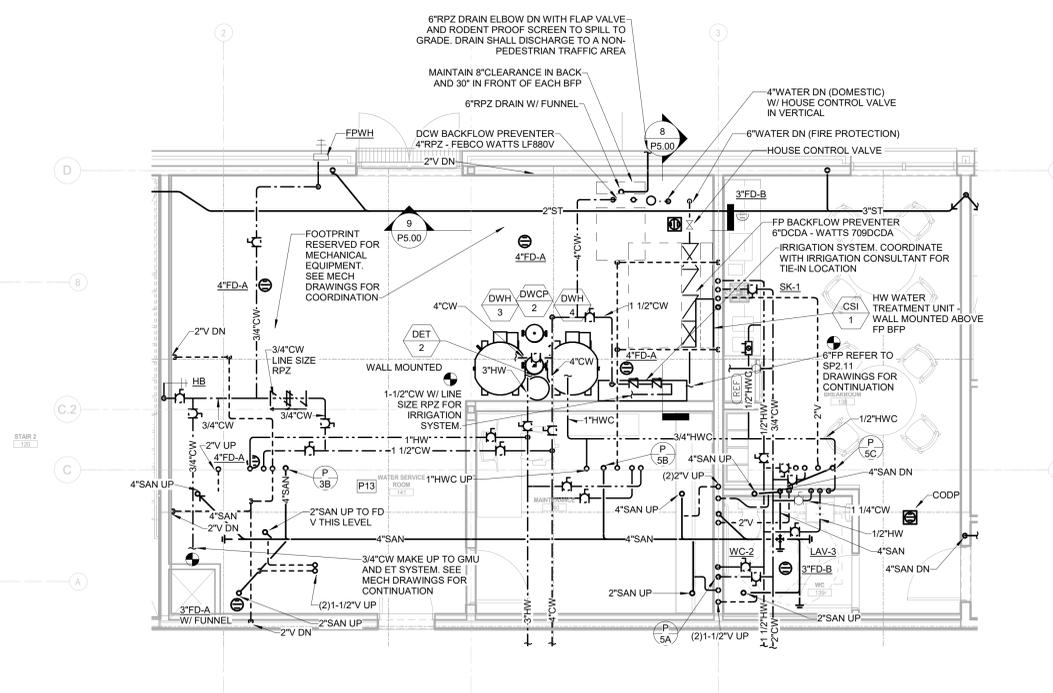
**8 PLUMBING SECTION - BACKFLOW PREVENTER 2**  
SCALE: 1/4" = 1'-0"



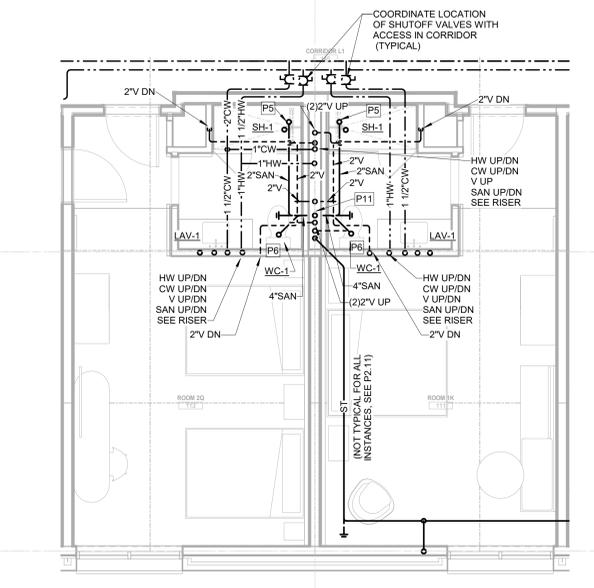
**6 PLUMBING ENLARGED PLAN - TYPICAL ADA GUEST ROOM**  
SCALE: 1/4" = 1'-0"



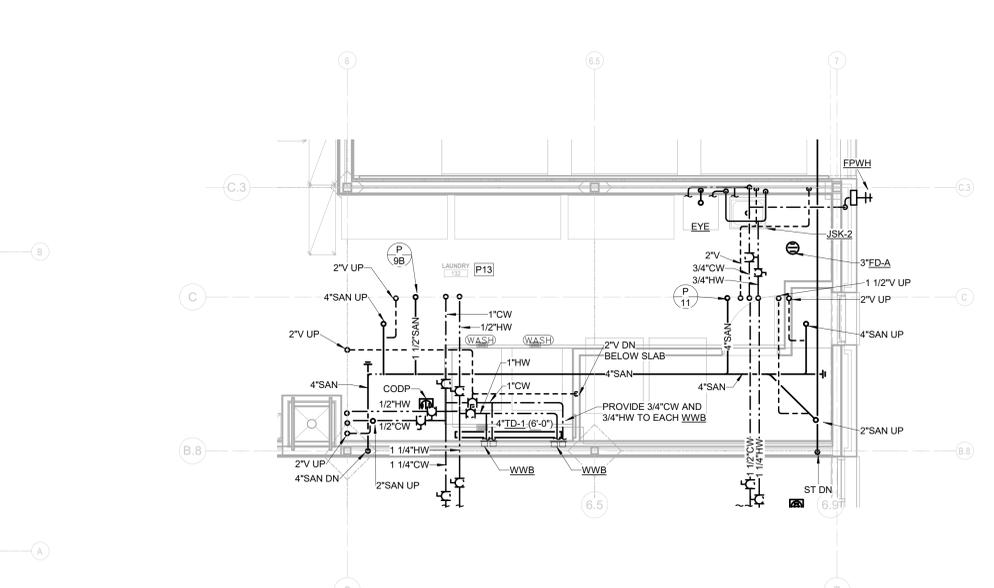
**5 PLUMBING ENLARGED PLAN - GUEST SUITE - ROOM 201**  
SCALE: 1/4" = 1'-0"



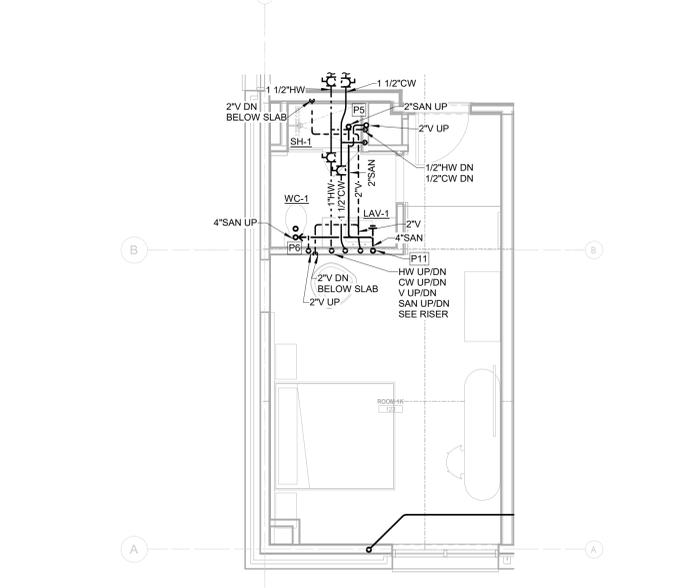
**4 PLUMBING ENLARGED PLAN - WATER ROOM & OFFICE SUITE**  
SCALE: 1/4" = 1'-0"



**3 PLUMBING ENLARGED PLAN - TYPICAL 1ST FL GUEST ROOMS - BACK-TO-BACK**  
SCALE: 1/4" = 1'-0"



**2 PLUMBING ENLARGED PLAN - LAUNDRY**  
SCALE: 1/4" = 1'-0"



**1 PLUMBING ENLARGED PLAN - TYPICAL 1ST FL GUEST ROOM - CORNER**  
SCALE: 1/4" = 1'-0"

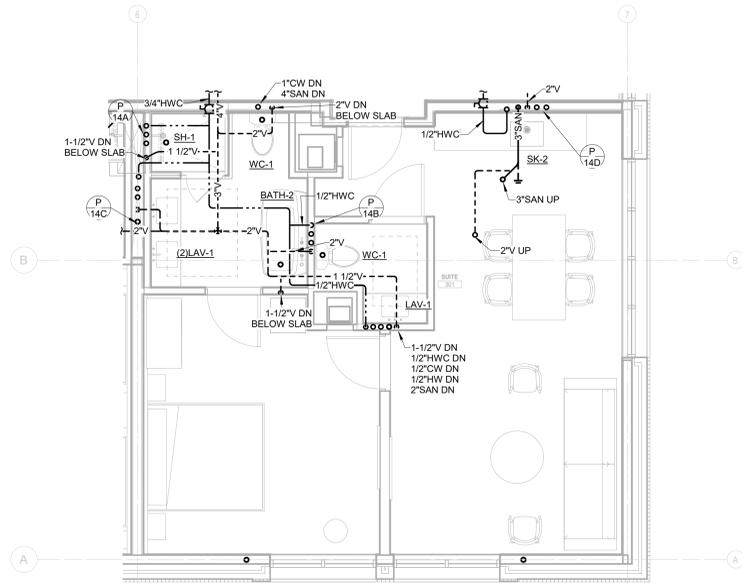
**GENERAL NOTES:**

- PROVIDE HOT WATER, COLD WATER, WASTE AND VENT PIPING TO FIXTURES AS PER SCHEDULE. HOT WATER CIRCULATION PIPING SHALL BE EXTENDED FROM WATER HEATER OR RECIRC MAIN TO WITHIN 2 FT OF EACH LAVATORY FIXTURE AND WITHIN 20 FT OF ALL OTHER FIXTURES.
- CONTRACTOR SHALL PROVIDE CORE DRILLING AS REQUIRED FOR PIPE PENETRATIONS.
- COORDINATION DRAWINGS SHALL BE PREPARED TO ENSURE ROUTING AVOIDS CONFLICT WITH ALL NEW WORK. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES.
- WHERE SINKS, LAVATORIES, ETC. ARE INSTALLED ON THE SAME CHASE AS A BACK OUTLET WATER CLOSET, THE SINK OR LAVATORY SHALL DRAIN VIA CHAIR CARRIER.
- VENT FLOOR DRAINS FROM BELOW SLAB.
- SEE RISER DIAGRAMS P-6.0X SERIES FOR PLUMBING RISER PIPE SIZING.
- ALL PLUMBING PIPING WITHIN CHASES SHALL BE ATTACHED TO THE WET-SPACE SIDE OF THE PARTITION ONLY.

**KEYNOTES**

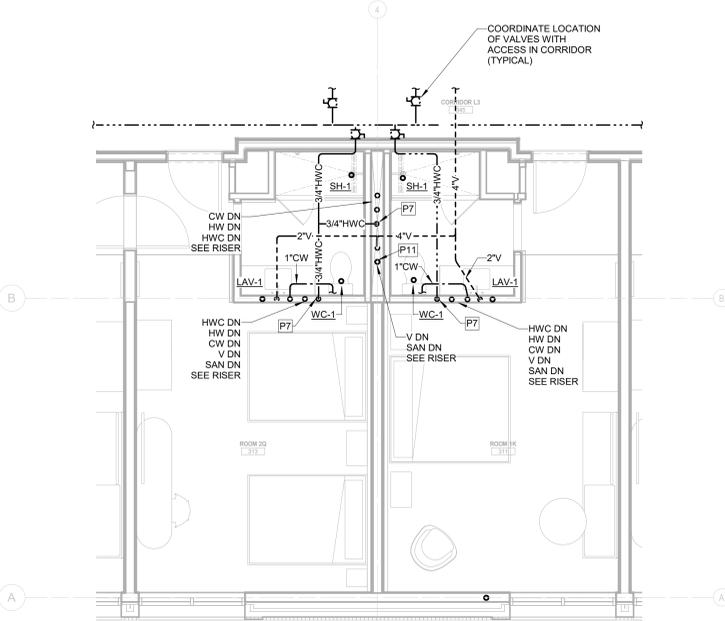
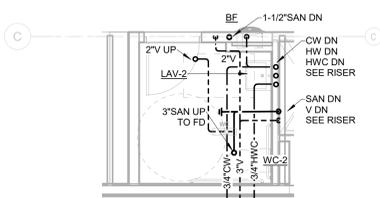
P5	2" SAN UP TO SHOWER VENT ON THIS LEVEL.
P6	4" SAN UP TO WATER CLOSET VENT ON THIS LEVEL.
P11	PIPING 4" AND LARGER WITHIN GUEST ROOMS SHALL BE WRAPPED IN 1 PSF MASS-LOADED VINYL LAGGING.
P13	ALL PIPES PENETRATIONS THROUGH THE SLAB WITHIN SPACE SHALL BE PROVIDED WITH MINIMUM 4" WATER DAM VIA SLEEVE EXTENSION. REFER TO DETAILS.

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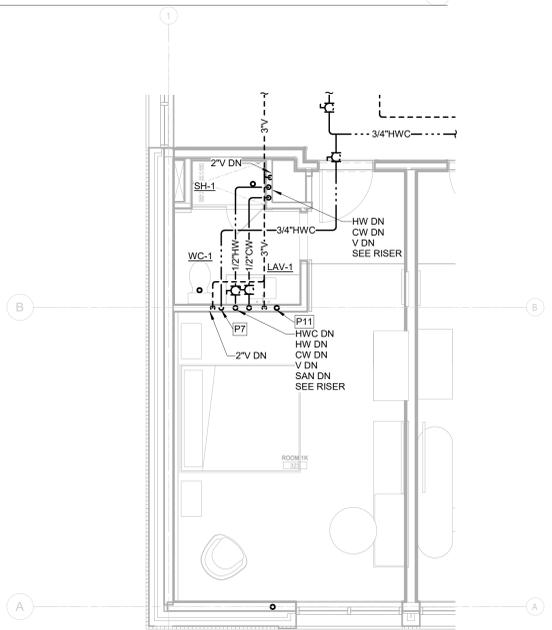


**6** PLUMBING ENLARGED PLAN - LEVEL 3 INN - GUEST SUITE ROOM 301  
SCALE: 1/4" = 1'-0"

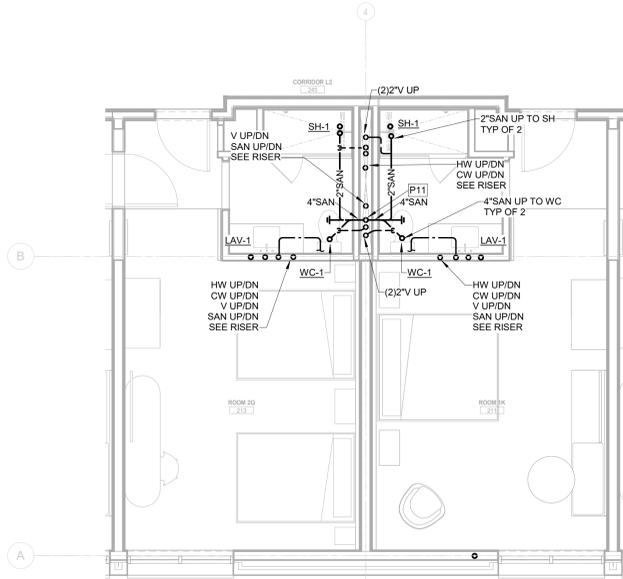
**5** PLUMBING PARTIAL PLAN - LEVEL 3 INN - FITNESS WC  
SCALE: 1/4" = 1'-0"



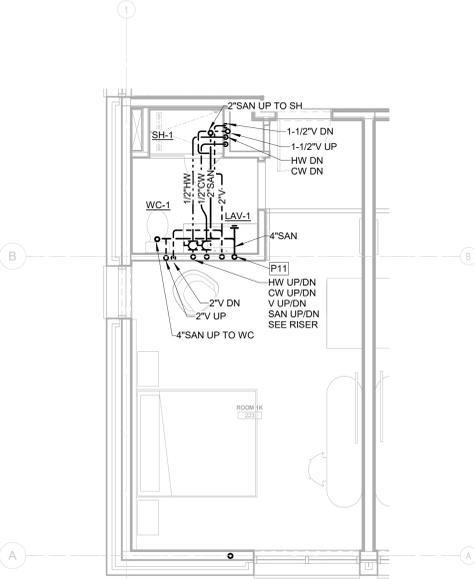
**4** PLUMBING ENLARGED PLAN - TYPICAL 3RD FL GUEST ROOMS - BACK-TO-BACK  
SCALE: 1/4" = 1'-0"



**3** PLUMBING ENLARGED PLAN - TYPICAL 3RD FL GUEST ROOM - CORNER  
SCALE: 1/4" = 1'-0"



**2** PLUMBING ENLARGED PLAN - TYPICAL 2ND FL GUEST ROOMS BACK TO BACK  
SCALE: 1/4" = 1'-0"



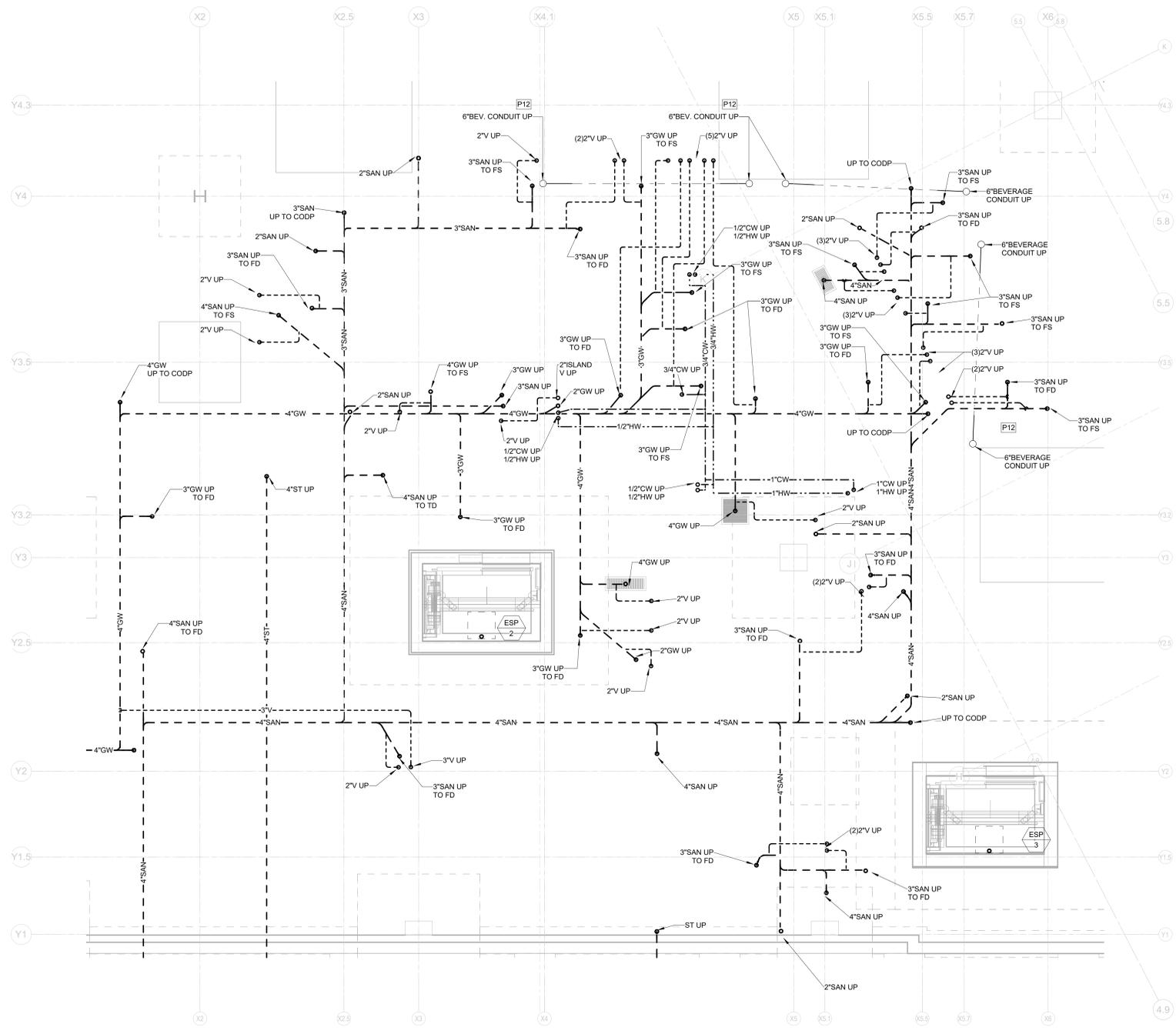
**1** PLUMBING ENLARGED PLAN - TYPICAL 2ND FL GUEST ROOM - CORNER  
SCALE: 1/4" = 1'-0"

**GENERAL NOTES:**

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6. SEE RISER DIAGRAMS P-6.0X SERIES FOR PLUMBING RISER PIPE SIZING.
7. ALL PLUMBING PIPING WITHIN CHASES SHALL BE ATTACHED TO THE WET-SPACE SIDE OF THE PARTITION ONLY.

KEYNOTES	
P7	1/2\"/>
P11	PIPING 4\"/>

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**1** PLUMBING ENLARGED PLAN - UNDERGROUND INSTITUTE KITCHEN  
SCALE: 1/4" = 1'-0"

**GENERAL NOTES:**

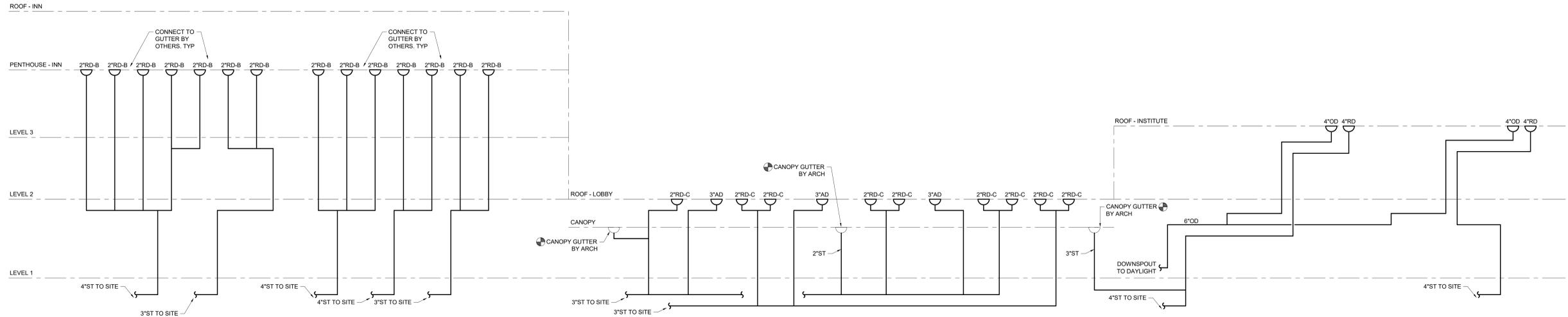
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**KEYNOTES**

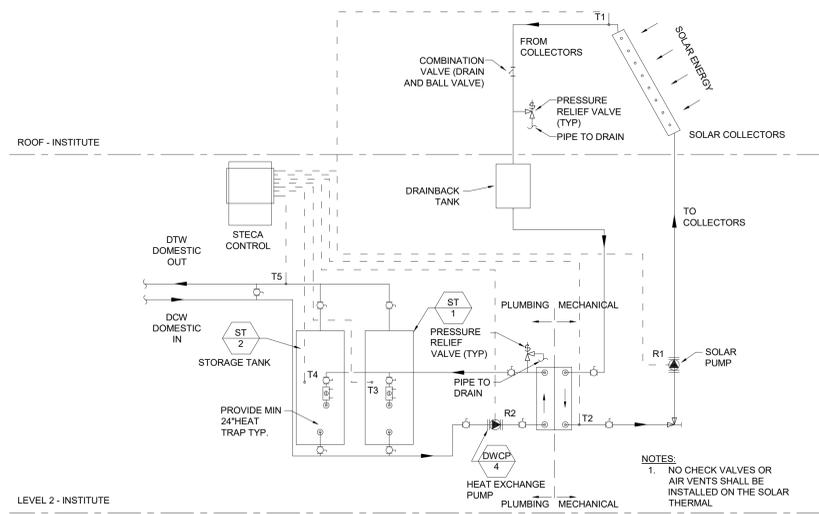
P12 REFER TO FOOD SERVICE DRAWINGS FOR BEVERAGE CONDUIT ROUGH-IN LOCATIONS. COORDINATE FINAL LOCATIONS WITH FOOD SERVICE CONTRACTOR. REFER TO FOOD SERVICE DETAILS AND SPECIFICATIONS FOR ADDITIONAL BEVERAGE CONDUIT INFORMATION.



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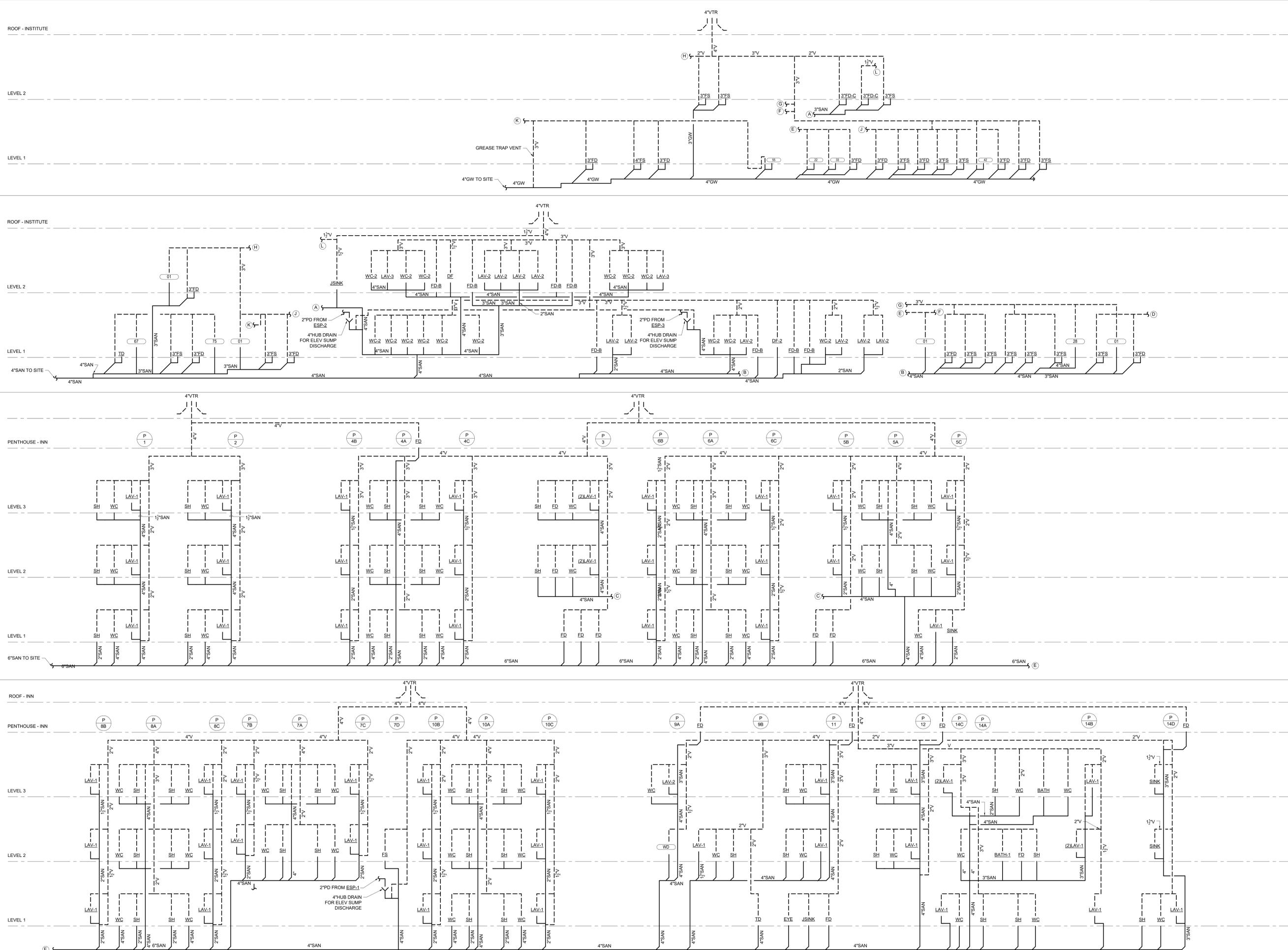


**PLUMBING RISER DIAGRAM - STORM**  
N.T.S.



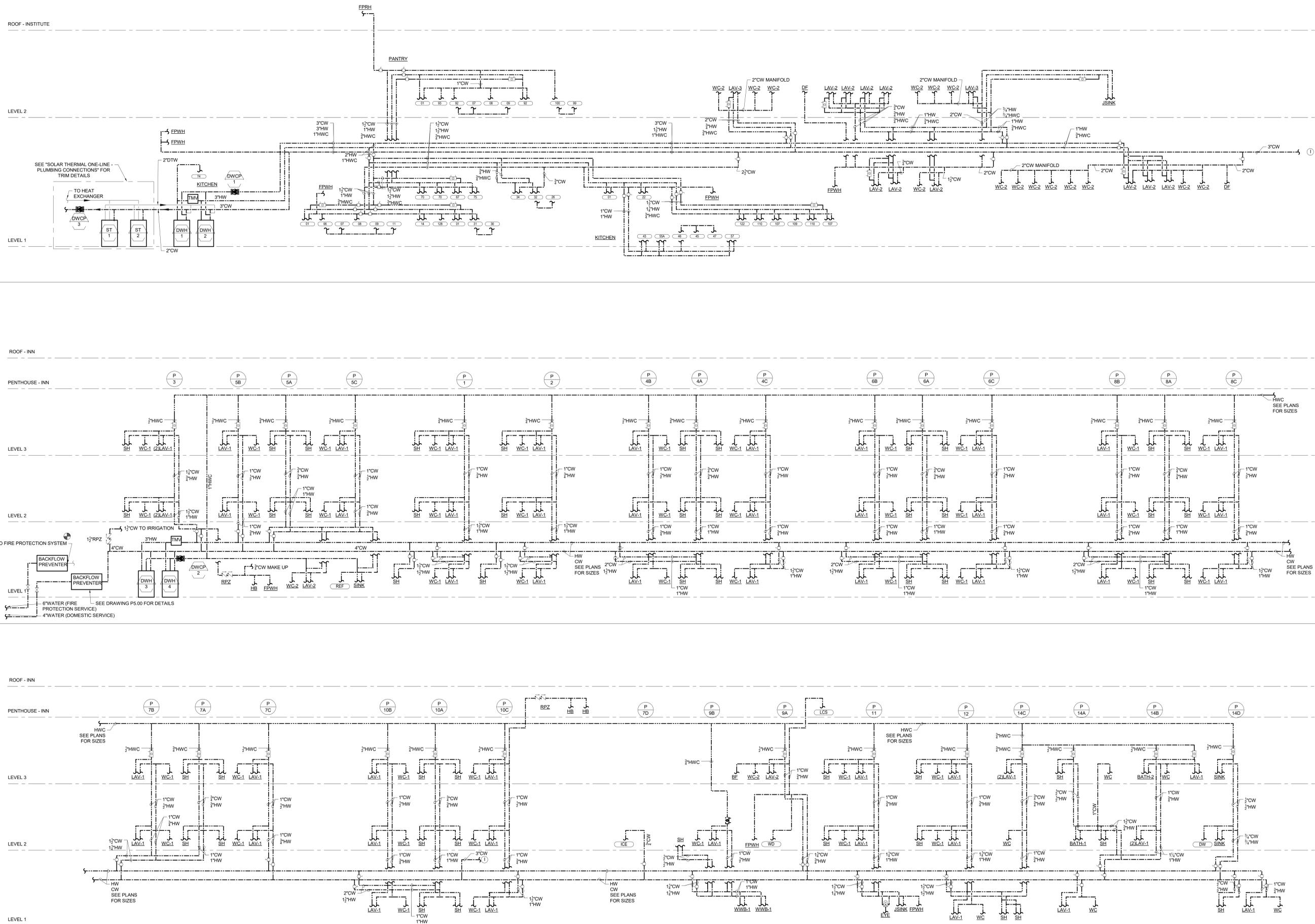
**SOLAR THERMAL ONE-LINE - PLUMBING CONNECTIONS**  
N.T.S.

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PLUMBING RISER DIAGRAM - SANITARY  
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**PLUMBING RISER DIAGRAM - WATER**  
N.T.S.

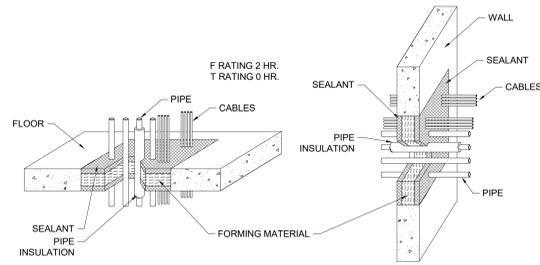
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PLUMBING ONE-LINES III  
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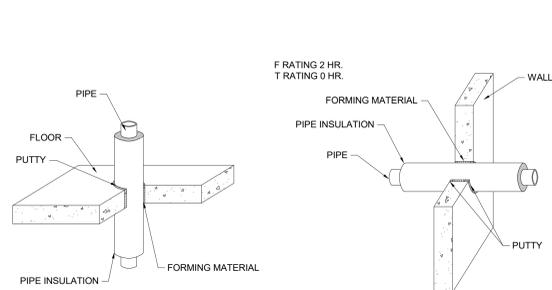
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- FLOOR OR WALL ASSEMBLY - MIN 4-1/2" THICK LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR MIN 5" THICK WALL, OR CMU BLOCK WALL. THE MAX AREA OF THE OPENING IS 144 SQ IN WITH A MAX DIMENSION OF 24". OF THE FOUR PENETRANTS, ONLY ONE PIPE SHALL HAVE A NOM DIAMETER GREATER THAN 2".
- METALLIC PIPE - MAX NOMINAL 4" DIAMETER, OR SMALLER, SCH. 5 OR HEAVIER STEEL, CAST IRON, RMC, EMT OR TYPE L OR HEAVIER COPPER PIPE OR TUBING. SPACE BETWEEN PIPES IS NOM 1". SPACE BETWEEN PIPES AND PERIPHERY OF OPENING IS 1" TO 2".
- NONMETALLIC PIPE - ONE OR MORE NOMINAL 2" DIAMETER, OR SMALLER, SCH. 40 OR PVC PIPE FOR USE IN CLOSED (PROCESS OR SUPPLY) PIPING SYSTEMS.
- PIPE INSULATION - MAX 1" THICK AB/PVC (ARMAFLEX) FOAM INSULATION. THE INSULATION MAY BE INSTALLED ON ONE OF THE METALLIC PIPES OR TUBING HAVING A NOM DIAMETER OF 2" OR LESS. THE INSULATED PIPE OR TUBING SHALL BE SPACED A NOM 1" FROM THE OTHER THROUGH PENETRANTS. THE ANNULAR SPACE BETWEEN THE INSULATED PIPE OR TUBING AND PERIPHERY OF THE OPENING SHALL BE A NOM 1".
- CABLES - MAX 12 LENGTHS OF CABLES TO BE INSTALLED WITHIN THE OPENING. THE SPACE BETWEEN THE CABLES AND THE PERIPHERY OF OPENING SHALL RANGE FROM A MIN 1-7/16" TO A MAX 2-0/8". CABLES TO BE BUNDLED TOGETHER OR SPACED A NOM 1/8" APART. MAX 25PR 624AWG CABLES OR 62.5/125 UM FIBER OPTIC CABLES, BOTH JACKETED.
- FORMING MATERIAL - TIGHTLY PACK MIN 6PCF MINERAL WOOL BATT INSULATION TO FILL THE ANNULAR SPACE TO A MIN 2 1/2" DEPTH, AND RECESS 1-1/4" FROM THE TOP SURFACE OF THE FLOOR OR BOTH SIDES OF THE WALL.
- NELSON LBS3 SEALANT - APPLY OVER THE FORMING MATERIAL TO A MIN 1-1/4" DEPTH. FLUSH WITH THE TOP SURFACE OF THE FLOOR OR BOTH SURFACES OF THE WALL.

UL SYSTEM NO. C-AJ-8141  
NELSON FIRESTOP DWG NO. FS-0544 RO

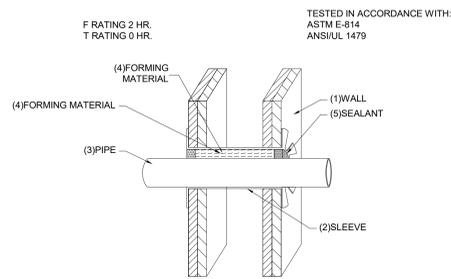
**CONCRETE FLOOR OR WALL MULTIPLE METALLIC PIPES FIRE STOPPING DETAIL**  
NOT TO SCALE



- FLOOR OR WALL ASSEMBLY - MIN 4 1/2" THICK LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR 5 1/2" OR CMU BLOCK WALL. THE MAX OPENING DIAMETER IS 8". THE MAX ANNULAR SPACE IS 3/4"
- METALLIC PIPE OF CONDUIT - MAX NOMINAL 4" DIAMETER, SCH. 5 OR HEAVIER STEEL OR CAST IRON PIPE.
- PIPE INSULATION - NOMINAL 1" THICK, OR THINNER, FIBERGLASS OR MINERAL WOOL PIPE INSULATION.
- FORMING MATERIAL - TIGHTLY PACK MIN 4PCF MINERAL WOOL BATT INSULATION TO FILL THE ANNULAR SPACE TO A MIN 3 3/4", AND RECESS 1" FROM THE TOP SURFACE OF THE FLOOR OR FROM BOTH SURFACES OF THE WALL.
- NELSON FSP PUTTY - APPLY OVER THE FORMING MATERIAL TO A MIN DEPTH OF 1". FLUSH WITH THE TOP SURFACE OF THE FLOOR OR WITH BOTH SURFACES OF THE WALL WITH AN ADDITIONAL 1/2" AROUND THE PIPE WHERE IT PENETRATES THE FLOOR OR WALL.

UL SYSTEM NO. C-AJ-5012  
NELSON FIRESTOP DWG NO. FS-0083 R3

UL SYSTEM NO. C-AJ-5012  
NELSON FIRESTOP DWG NO. FS-0083 R3

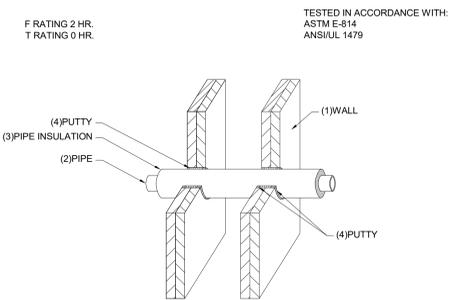


1. WALL ASSEMBLY - CONSTRUCTED IN THE MANNER SPECIFIED IN THE U300 OR U400 SERIES DESIGNS AS SHOWN IN THE UL FIRE RESISTANCE DIRECTORY.

- METALLIC SLEEVE - NOMINAL 6 1/2" DIAMETER (OR SMALLER) STEEL SLEEVE FABRICATED FROM .018" (26 GA.) GALVANIZED SHEET STEEL, WITH A 2" OVERLAP ALONG LONGITUDINAL SEAM AND 1 1/2" LONG ANCHOR TABS SPACED A MAX. 6" ON CENTER. SECURE TO BOTH SIDES OF WALL WITH TOGGLE BOLTS AND FENDER WASHERS.
- METALLIC PIPE - THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES MAY BE USED:  
(A) STEEL PIPE - NOM. 4" DIAMETER (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE  
(B) IRON PIPE - NOM. 4" DIAMETER (OR SMALLER) CAST OR DUCTILE IRON PIPE ANNULAR SPACE RANGE IS MIN. 0" (POINT CONTACT) TO MAX. 2".
- FORMING MATERIAL - TIGHTLY PACK MIN. 4PCF MINERAL WOOL BATT INSULATION TO FILL THE ANNULAR SPACE TO MIN. 3 1/4" DEPTH FOR 1 HR. WALLS OR 4" DEPTH FOR 2 HR. WALLS. RECESS FIBER 1/2" FROM BOTH SURFACES OF WALL.
- NELSON CLK SEALANT - APPLY OVER THE FORMING MATERIAL TO A MIN. 1/2" DEPTH. FLUSH WITH WALL. AT AREAS OF POINT CONTACT, APPLY A 1/2" BEAD AT THE INTERFACE OF THE PIPE AND SLEEVE ON BOTH WALL SURFACES.

UL SYSTEM NUMBER W-L-1083

**GYPSUM WALL UNINSULATED METALLIC PIPE FIRE STOPPING DETAIL**  
NOT TO SCALE



1. WALL ASSEMBLY - CONSTRUCTED IN THE MANNER SPECIFIED IN THE U300 OR U400 SERIES DESIGNS AS SHOWN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAMETER OF OPENING IS 10".

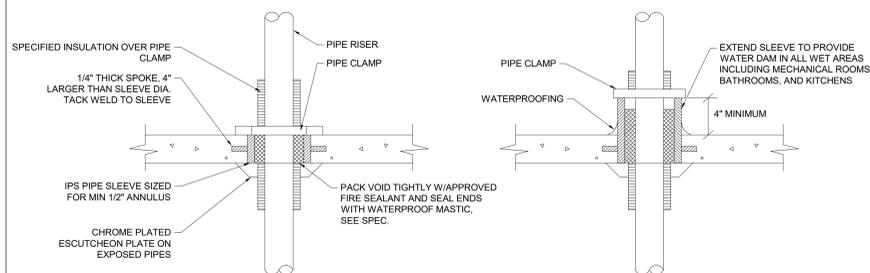
- METALLIC PIPE - THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES MAY BE USED:  
(A) STEEL PIPE - NOM. 6" DIAMETER (OR SMALLER) SCHEDULE 10 OR HEAVIER STEEL PIPE  
(B) IRON PIPE - NOM. 6" DIAMETER (OR SMALLER) CAST OR DUCTILE IRON PIPE  
(C) COPPER TUBING OR PIPE - NOM. 4" DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING OR REGULAR (OR HEAVIER) COPPER PIPE FOR STEEL OR CAST IRON PIPE THE T RATING IS 2 HOURS, FOR COPPER TUBING OR PIPE THE T RATING IS 0
- PIPE INSULATION - NOMINAL 1 1/2" THICK (OR THINNER) FIBERGLASS OR MINERAL FIBER PIPE INSULATION. THE MAX ANNULAR SPACE FOR PIPE LARGER THAN 4" DIAMETER IS 3/8" AND 3/4" OTHERWISE.
- NELSON FSP PUTTY (PART# AA445) - APPLY FSP TO FILL THE ANNULAR SPACE TO A NOMINAL 1 1/2" DEPTH ON BOTH SIDES OF THE WALL. ADDITIONAL MATERIAL TO BE INSTALLED SUCH THAT A 1/2" THICK CROWN IS FORMED AROUND THE PENETRATING ITEM.

UL SYSTEM NUMBER W-L-5036

**GYPSUM WALL INSULATED METALLIC PIPE FIRE STOPPING DETAIL**  
NOT TO SCALE

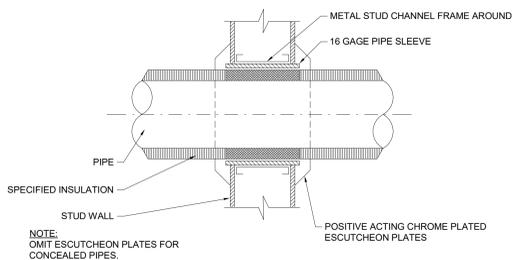
**PEN7 CONCRETE FLOOR OR WALL MULTIPLE METALLIC PIPES FIRE STOPPING DETAIL**

NO SCALE



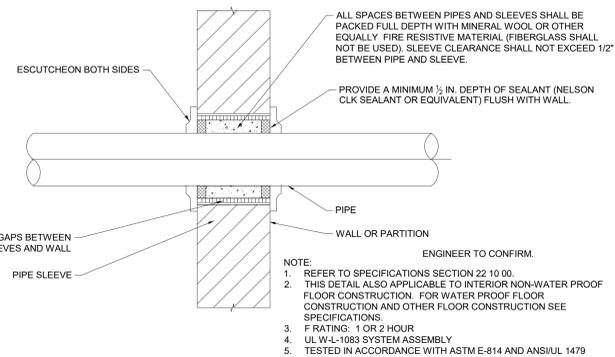
**PEN2 PIPE THRU STUD WALL DETAIL**

NO SCALE

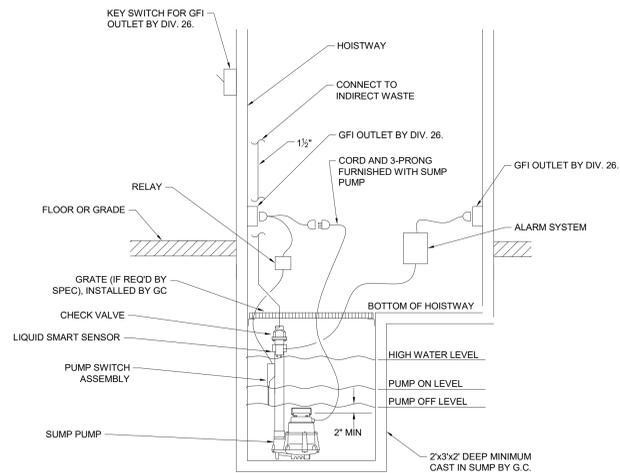


**PEN1 DETAIL OF PIPING PIERCING REQUIRED FIRE RATE PARTITIONS AND WALL**

NO SCALE



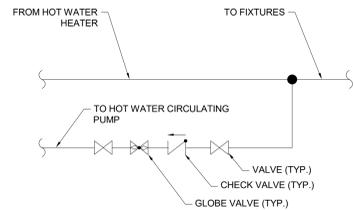
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- NOTE:**
1. THIS DETAIL APPLIES TO ALL HOISTWAYS. PROVIDE THIS ARRANGEMENT AT EACH HOISTWAY.
  2. PUMP SHALL BE NON-CLOGGING IMPELLER DESIGN CAPABLE OF PASSING 3/4" SOLIDS.
  3. PROVIDE AN OIL SMART PUMP SWITCH WITH RELAY AND 20 FOOT THREE PRONG PLUG-IN CORD. PROVIDE 20 FOOT THREE PRONG PLUG-IN ELECTRICAL SUPPLY CORD. OIL SMART ALARM SHALL ALERT TENANTS OR MAINTENANCE PERSONNEL OF LIQUID LEVEL PROBLEMS (HIGH OIL OR HIGH WATER) WITH AN AUDIBLE ALARM. OIL SMART PUMP SWITCH SHALL BE CAPABLE OF DIFFERENTIATE BETWEEN OIL AND WATER TO PREVENT HYDROCARBONS FROM BEING INADVERTENTLY PUMPED INTO THE ENVIRONMENT.
  4. ALL WORK IN DETAIL DESIGNATED TO BE PROVIDED BY OTHER DIVISIONS AND CONTRACTORS SHALL BE HAVE THEIR SERVICES RETAINED BY THIS CONTRACTOR.

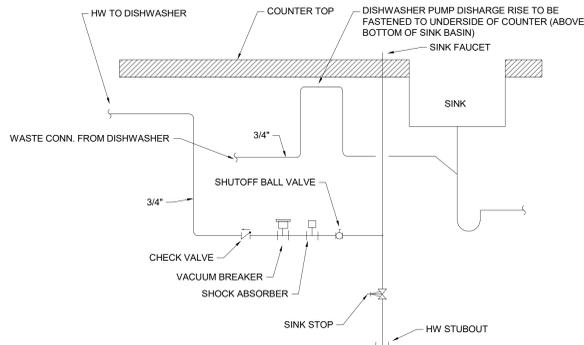
**SUM4 SIMPLEX ELEVATOR SUMP PUMP DETAIL**

NO SCALE



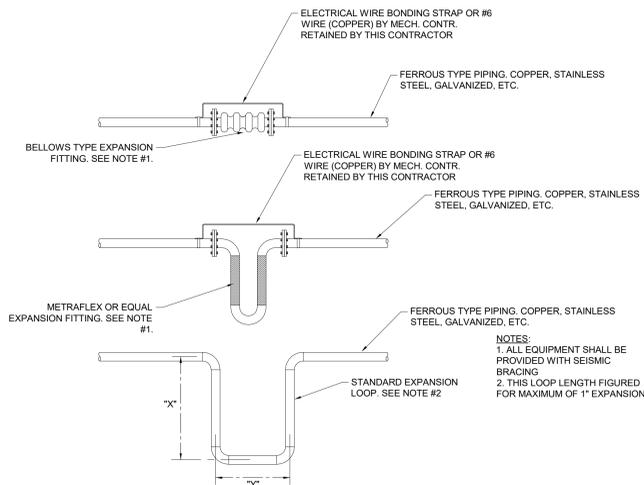
**PIP5 HOT WATER CIRCULATION CONNECTION DETAIL**

NO SCALE



**PIP4 DISHWASHER CONNECTION DETAIL**

NO SCALE

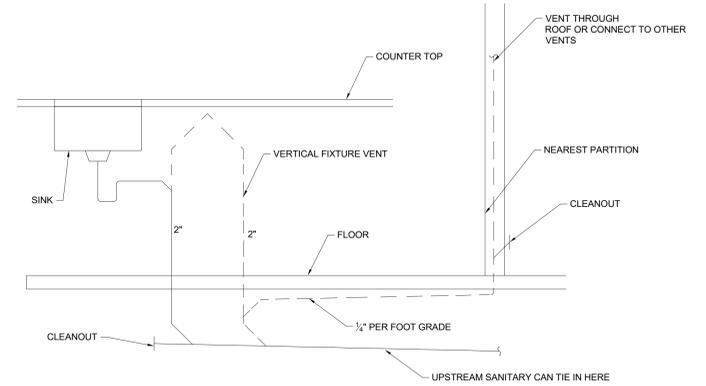


- NOTES:**
- 3-(3) OPTIONAL TYPE EXPANSION TYPE JOINTS ARE SHOWN. SIZING FOR EXPANSION JOINTS USING FITTINGS SHALL BE done ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
  - 4-EXPANSION LOOP TYPE JOINTS SHALL BE SIZED IN ACCORDANCE WITH STANDARD ENGINEERING PRACTICES.
  - 5-PIPE ANCHORS AND GUIDES FOR ALL EXPANSION JOINTS AND LOOPS SHALL BE AS REQUIRED BY MANUFACTURER'S RECOMMENDATIONS AND STANDARD ENGINEERING PRACTICES.

SCHEDULES FOR PIPE EXPANSION LOOPS			
PIPE SIZE	Y	X	TOT. DEVELOPED LENGTH
3/4"	1'-2"	2'-11"	7'-0"
1"	1'-4"	3'-4"	8'-0"
1 1/2"	1'-7"	3'-9"	9'-1"
2"	1'-10"	4'-6"	10'-10"
2 1/2"	2'-0"	5'-0"	12'-0"
3"	2'-2"	5'-6"	13'-2"
4"	2'-7"	6'-6"	15'-7"

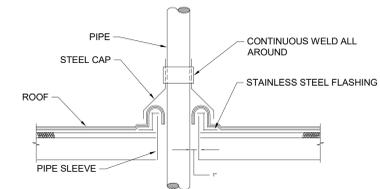
**PIP1 PIPING EXPANSION TYPES**

NO SCALE



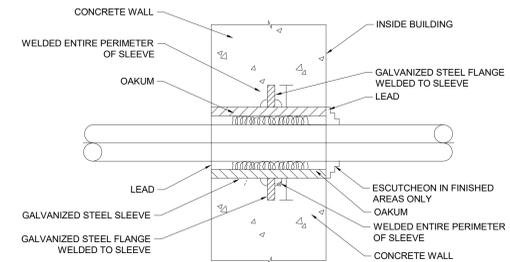
**PIP2 ISLAND VENT DETAIL**

NO SCALE



**PEN6 DETAIL OF UNINSULATED PIPE THRU ROOF**

NO SCALE



**PEN5 DETAIL OF WATERTIGHT SLEEVE**

NO SCALE

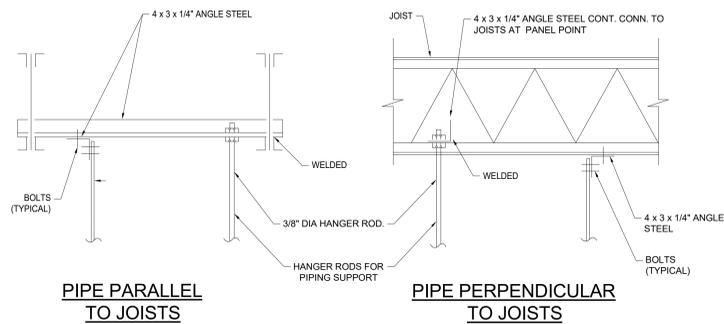
COLLEGE AND HAYMOND AVENUE POUGHKEEPSIE, NY

me engineers

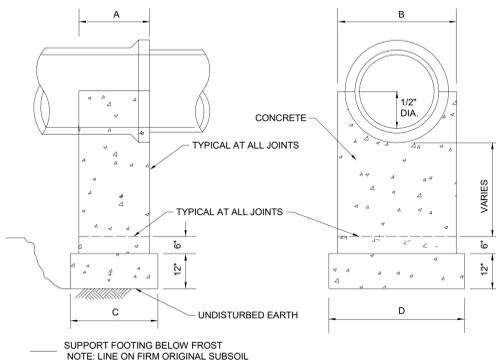
ME Expires 06/30/2025, PE Expires 06/30/2025, P.E. Expires 06/30/2025, P.E. Expires 06/30/2025

ISSUE DATES  
02/02/24 75% DESIGN DEVELOPMENT  
08/03/24 80% DESIGN DEVELOPMENT  
12/02/24 85% CONSTRUCTION DOCUMENTS  
04/10/25 90% CONSTRUCTION DOCUMENTS  
04/10/25 95% CONSTRUCTION DOCUMENTS  
05/01/25 95% CONSTRUCTION DOCUMENTS

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- NOTES:**
1. PROVIDE RUBBER INSULATORS OR COPPER PLATED TRAPEZE WHERE COPPER PIPE IS IN CONTACT WITH TRAPEZE.
  2. PROVIDE VIBRATION ISOLATORS IN PIPE HANGERS WITHIN 10 FEET OF ROTATING EQUIPMENT.



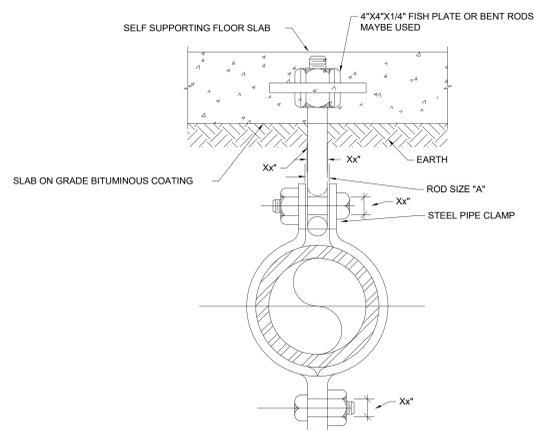
PIPE SIZES	A	B	C	D
6"	1'-3"	1'-6"	2'-3"	2'-6"
8"	1'-3"	1'-6"	2'-3"	2'-6"
10"	1'-6"	2'-0"	6'-6"	3'-0"
12"	1'-5"	2'-0"	2'-6"	3'-0"
16"	1'-6"	2'-6"	2'-6"	3'-6"
21"	1'-6"	3'-0"	2'-6"	4'-0"
24"	1'-6"	3'-6"	2'-6"	4'-6"
27"	1'-6"	3'-6"	2'-6"	4'-6"
30"	2'-0"	4'-0"	3'-0"	5'-0"
36"	2'-0"	4'-6"	3'-0"	5'-6"

**HAN15 METHODS OF PIPE SUPPORT**

NO SCALE

**HAN13 CONCRETE PIER FOR SUPPORTING PIPE IN FILL**

NO SCALE



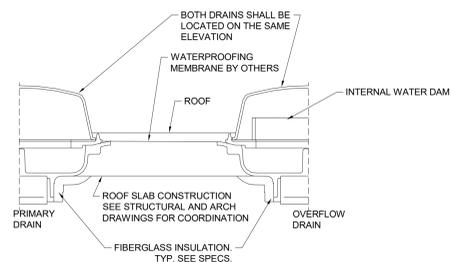
- NOTES:**
1. UNDERGROUND PIPE HANGERS SIMILAR OR EQUAL TO F & S #275

DIMENSIONS	NOMINAL PIPE SIZES					
	3" & 4"	5" & 6"	8"	10"	12"	15"
A	5/8"	3/4"	7/8"	1"	1"	1 1/8"
B	3/4"	7/8"	1"	1 1/8"	1 1/8"	1 1/4"
C	1/4"	3/8"	3/8"	1/2"	1/2"	1/2"
X	X	X	X	X	X	X
D	1 1/4"	1 1/2"	1 1/2"	2"	2"	2 1/2"
E	5/8"	3/4"	3/4"	7/8"	7/8"	7/8"

**NOTE:** PROVIDE HANGERS ON ALL UNDERGROUND SOIL VENT AND STORM DRAINAGE PIPING. ALL JOINTS ON THE UNDERGROUND PIPING SHALL BE SEALED WATER TIGHT SO THAT THERE WILL BE NO GROUND WATER INFILTRATION INTO THE DRAINAGE SYSTEM.

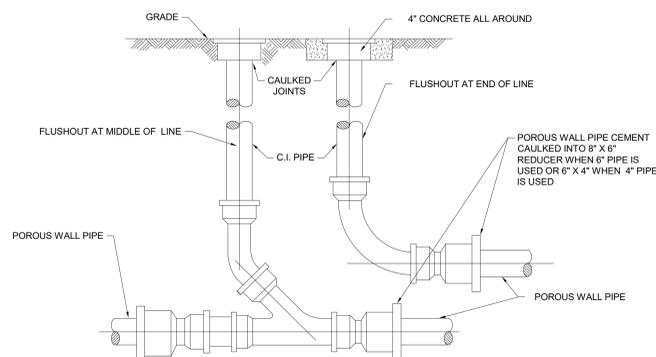
**HAN14 DETAIL OF PIPE IN FILL**

NO SCALE



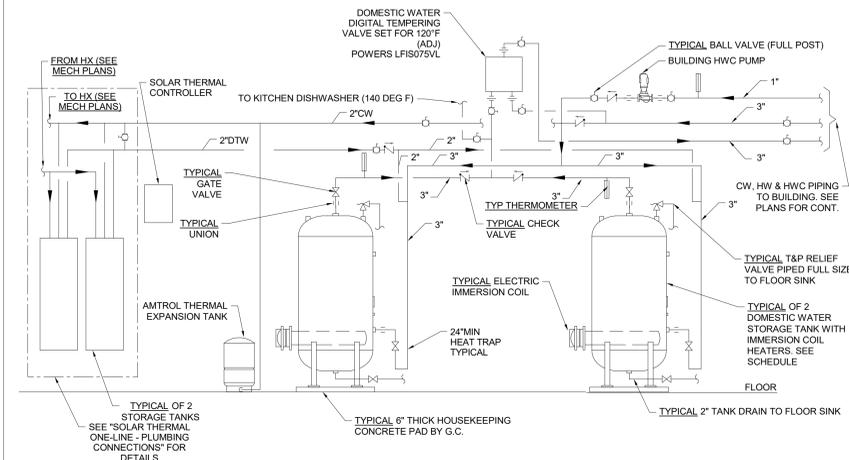
**RD ROOF PRIMARY AND OVERFLOW DRAIN DETAIL**

NO SCALE



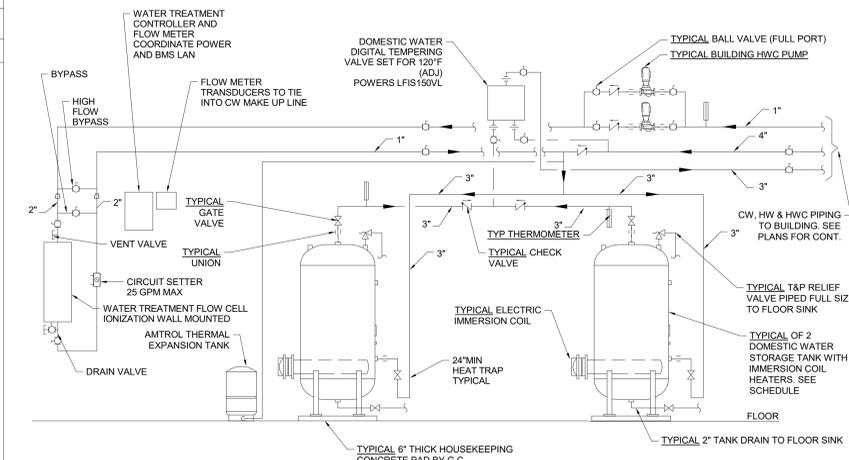
**SAN4 GRADE FLUSHOUT**

NO SCALE



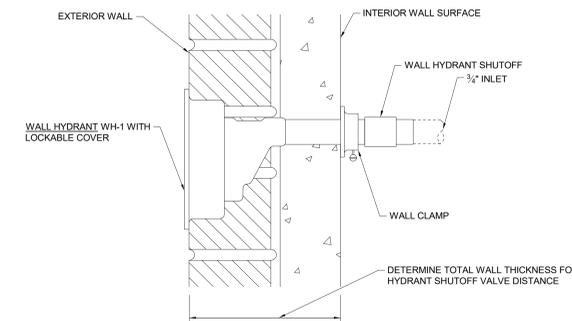
**HWH7 DOMESTIC WATER HEATING PIPING DETAIL (INSTITUTE)**

NO SCALE



**HWH6 DOMESTIC WATER HEATING PIPING DETAIL (INN)**

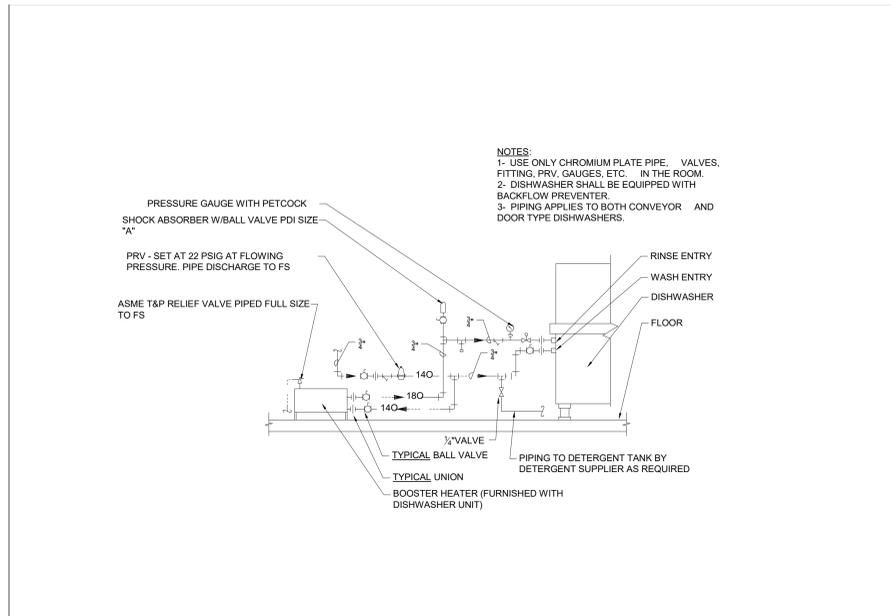
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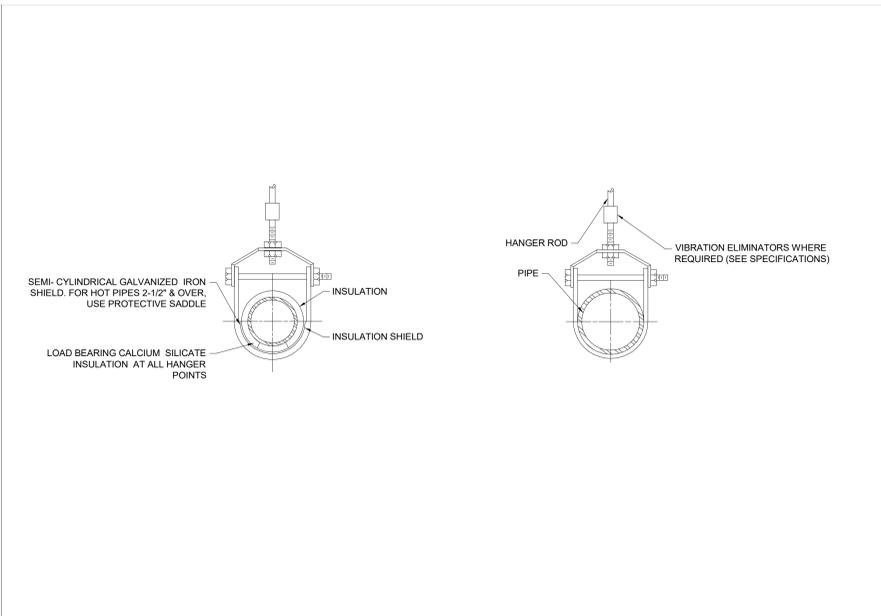
**HYD4 FREEZEPROOF WALL HYDRANT (WH-1) DETAIL**

NO SCALE

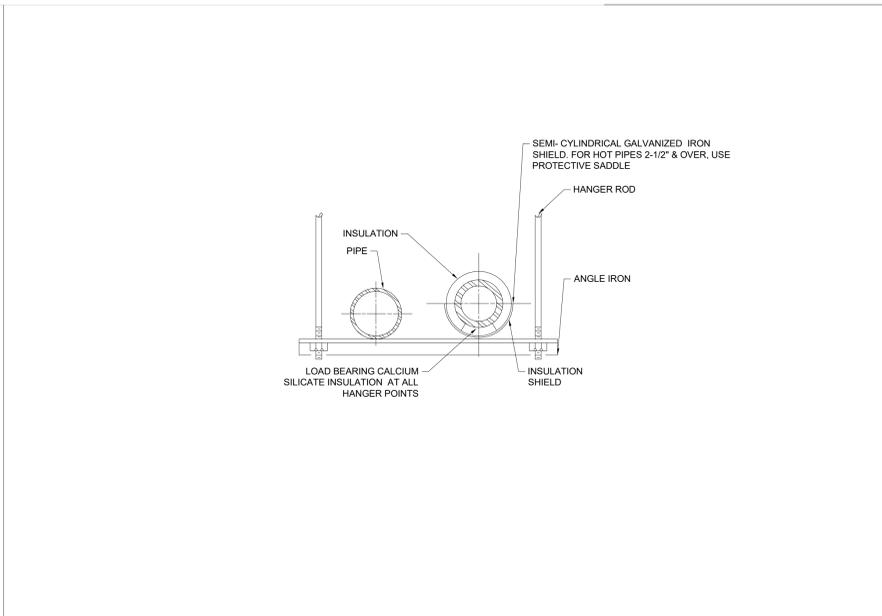
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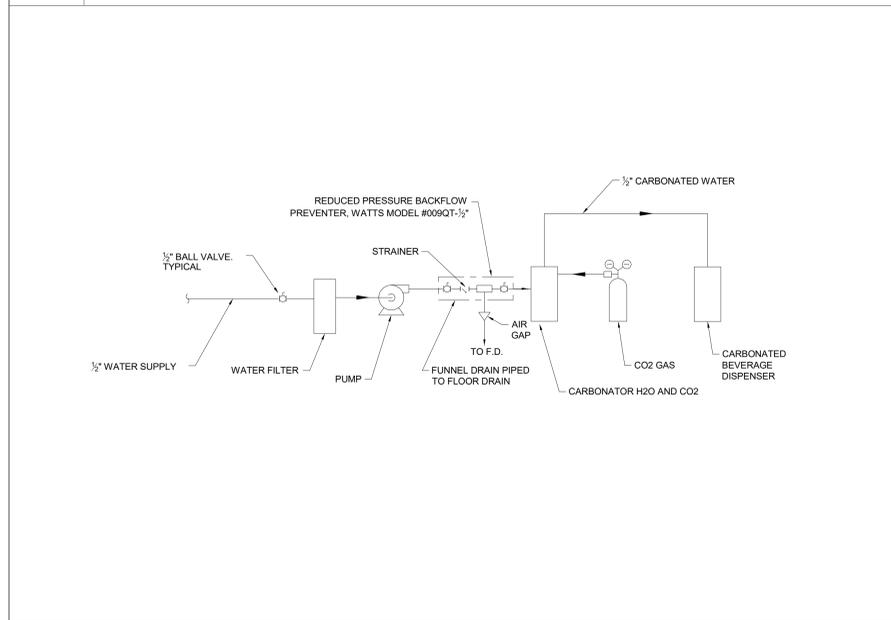
**FSV5** DISHWASHER/BOOSTER HEATER PIPING DETAIL  
NO SCALE



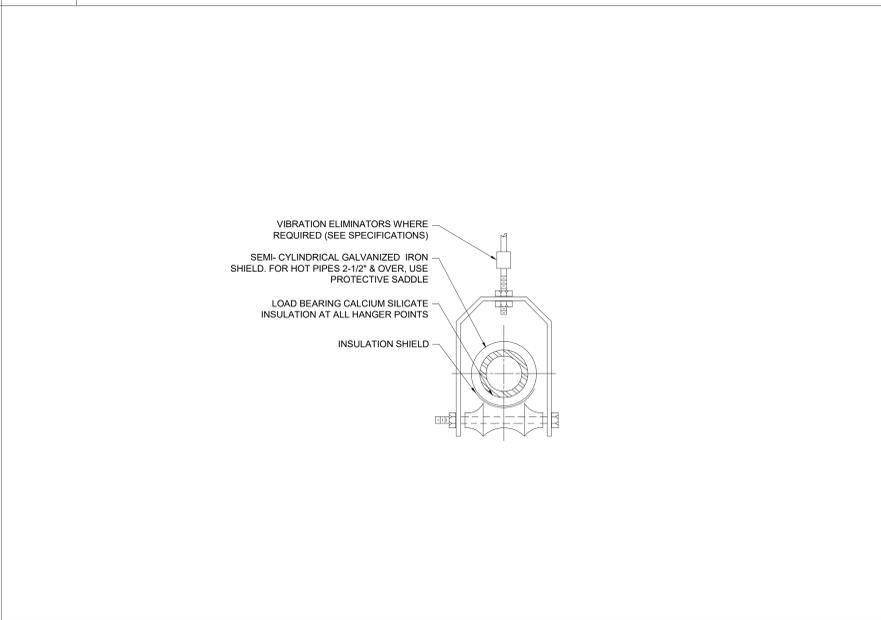
**HAN12** CLEVIS HANGER  
NO SCALE



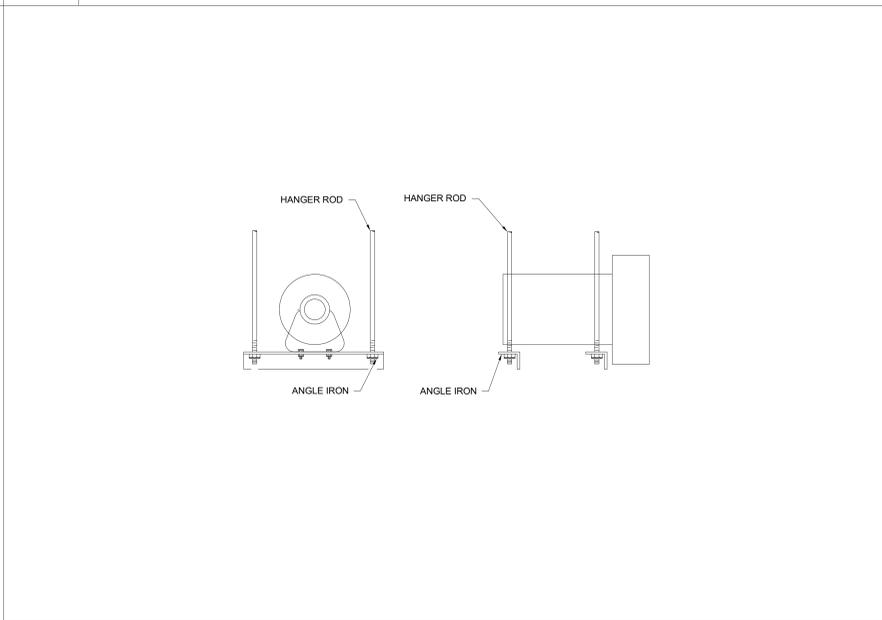
**HAN9** TRAPEZE HANGER  
NO SCALE



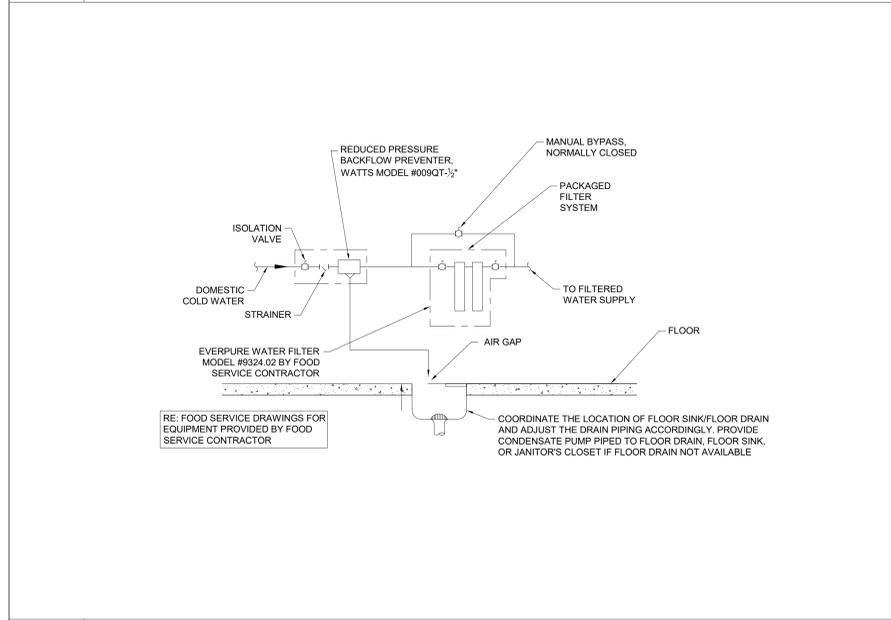
**FSV3** TYPICAL CARBONATOR INSTALLATION DETAIL  
NO SCALE



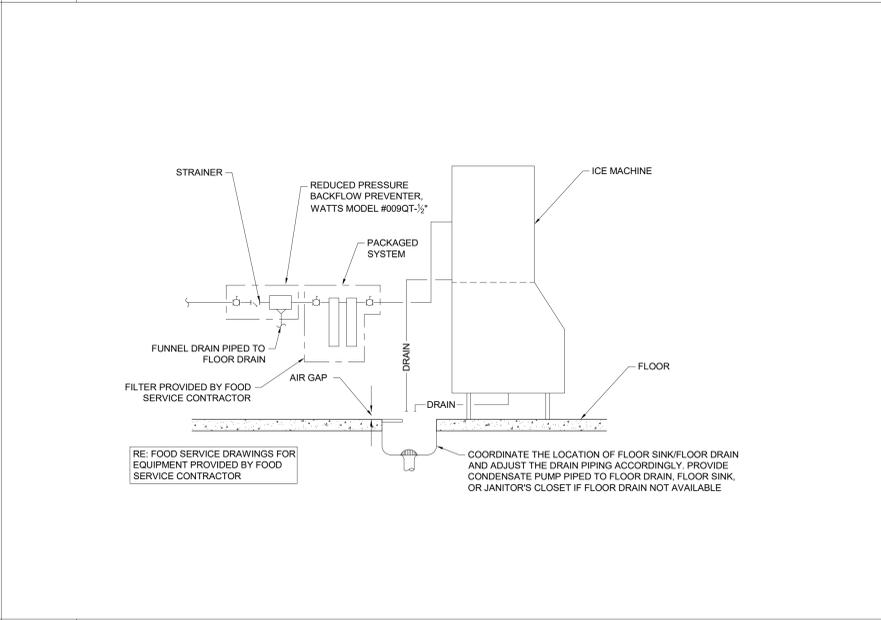
**HAN10** CLEVIS ROLLER HANGER  
NO SCALE



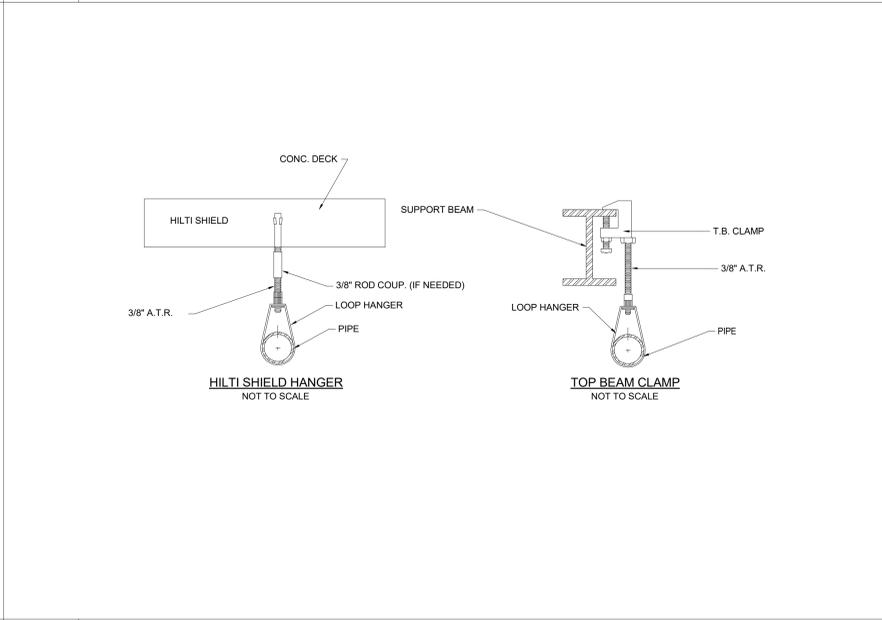
**HAN6** IN-LINE PUMP SUPPORT DETAIL  
NO SCALE



**F** WATER FILTER PIPING DETAIL  
NO SCALE



**FSV7** TYPICAL ICE MACHINE CONNECTION DETAIL  
NO SCALE



**HAN5** HANGER DETAILS  
NO SCALE

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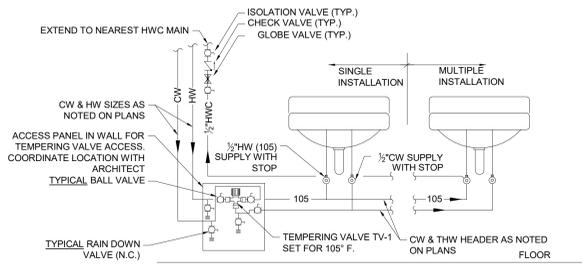
CONSULTANT  
**me**  
engineers

ME Engineers  
200 West 42nd Street  
New York, NY 10018  
www.meeengineers.com

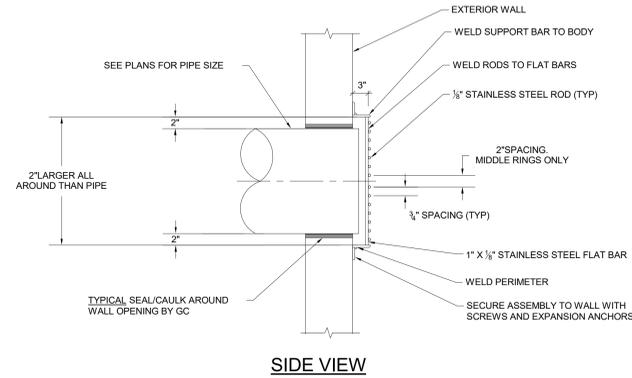
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06/02/2015 90 DAY



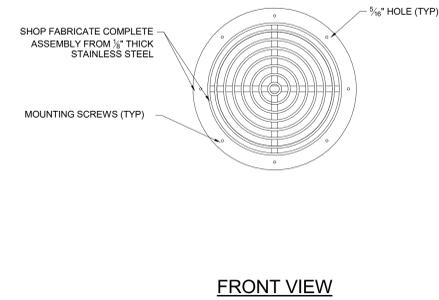
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- NOTES:
1. ALL WATER PIPING SHALL BE INSTALLED IN CHASE BEHIND FIXTURES.
  2. DETAIL APPLIES TO SINGLE APPLICATION ALSO, DELETE ALL FIXTURES AFTER FIRST LAV OR SINK SHOWN.
  3. ALL PIPING SHALL BE PROVIDED WITH ADEQUATE SHUTOFF AND DRAIN DOWN VALVES WITH HOSE END CONNECTIONS.
  4. DOMESTIC HOT WATER CIRCULATOR PIPING SHALL BE CONNECTED WITHIN 12" OF LAVATORY VALVE STOP. ALL CIRCULATOR CONNECTION TRIM SHALL BE FULLY SERVICEABLE (ABOVE CEILING, BELOW FLOOR, WITHIN WALL), PROVIDE ACCESS DOORS AS REQUIRED.



NOTE:  
SEE PLANS FOR MOUNTING HEIGHT TO BOTTOM OF UNIT.



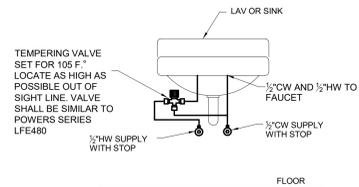
- NOTES:
1. ALL EQUIPMENT SHALL BE PROVIDED WITH SEISMIC BRACING

**TVA2 LAV/SINK TEMPERING VALVE DETAIL**

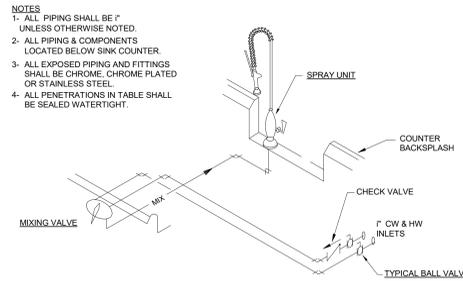
NO SCALE

**STO5 STORM OVERFLOW STRAINER DETAIL**

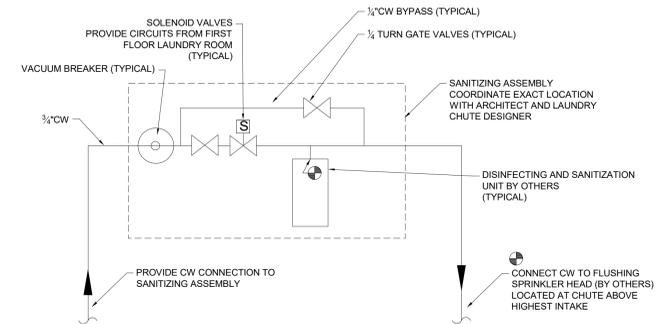
NO SCALE



NOTE:  
DETAIL IS APPLICABLE FOR ALL HAND WASH SINKS WHETHER INDICATED OR NOT.



- NOTES:
1. ALL PIPING SHALL BE 1" UNLESS OTHERWISE NOTED.
  2. ALL PIPING & COMPONENTS LOCATED BELOW SINK COUNTER.
  3. ALL EXPOSED PIPING AND FITTINGS SHALL BE CHROME, CHROME PLATED OR STAINLESS STEEL.
  4. ALL PENETRATIONS IN TABLE SHALL BE SEALED WATERTIGHT.



**B TYPICAL SINK TEMPERING VALVE DETAIL**

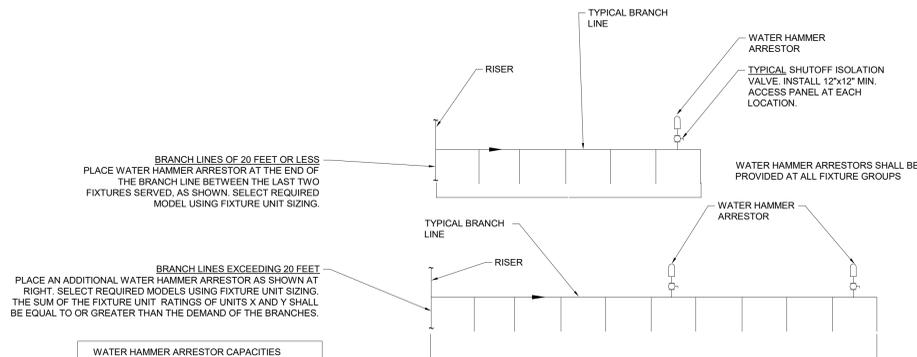
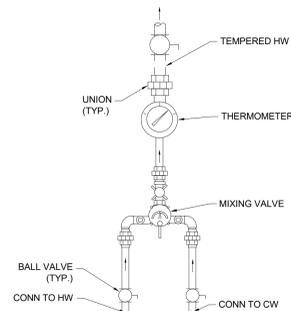
NO SCALE

**PW PRE-WASH W/MIXING VALVE DETAIL**

NO SCALE

**LC LAUNDRY CHUTE SANITIZING ASSEMBLY PIPING DETAIL**

NO SCALE

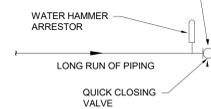


WATER HAMMER ARRESTOR CAPACITIES				
CONN. SIZE	CODE	P.D.I. SIZE	FIXTURE UNIT CAPACITY	CUBIC INCH VOLUME
1/2"	SA-1	A	1 TO 11	5
3/4"	SA-2	B	12 TO 32	7
1"	SA-3	C	33 TO 60	11
1"	SA-4	D	61 TO 113	20
1"	SA-5	E	114 TO 154	29
1"	SA-6	F	155 TO 330	34

LENGTH OF PIPE	P.D.I. WATER HAMMER ARRESTORS					
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
25'	A	A	B	C	D	E
50'	A	B	C	D	E	F
75'	B	C	D	AE	F	EF
100'	C	D	E	F	CF	FF
125'	C	D	F	AF	EF	FFF
150'	D	E	F	DF	FF	FFF

WHEN LONG RUNS OF PIPING ARE EMPLOYED TO SERVE REMOTE EQUIPMENT, WATER HAMMER ARRESTOR SHOULD BE LOCATED AS CLOSE AS POSSIBLE TO THE POINT OF QUICK CLOSURE.

THE SIZE AND QUANTITY OF WATER HAMMER ARRESTORS TO BE INSTALLED IN BRANCH LINES IS SHOWN IN TABLE. WHEN FLOW PRESSURES OF 65 TO 85 PSIG ARE USED, THE NEXT LARGER SIZE SHOULD BE SELECTED.



- NOTES:
1. MATCH TOTAL FIXTURE UNITS OF BRANCH LINE TO CORRECT SIZE OF WATER HAMMER ARRESTOR

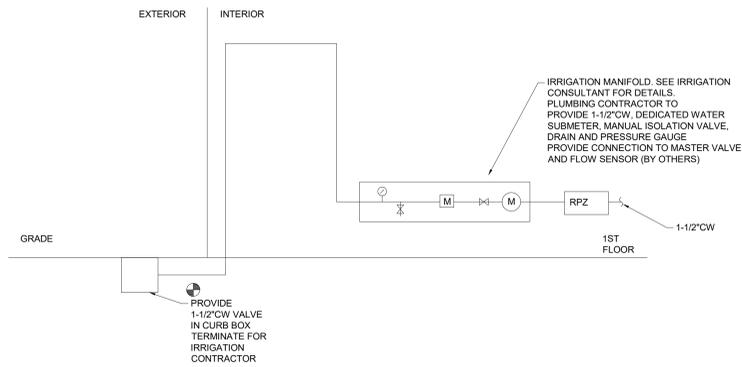
**TVA5 TEMPERING VALVE DETAIL**

NO SCALE

**MIS3 WATER HAMMER ARRESTOR INSTALLATION AND SIZING DETAIL**

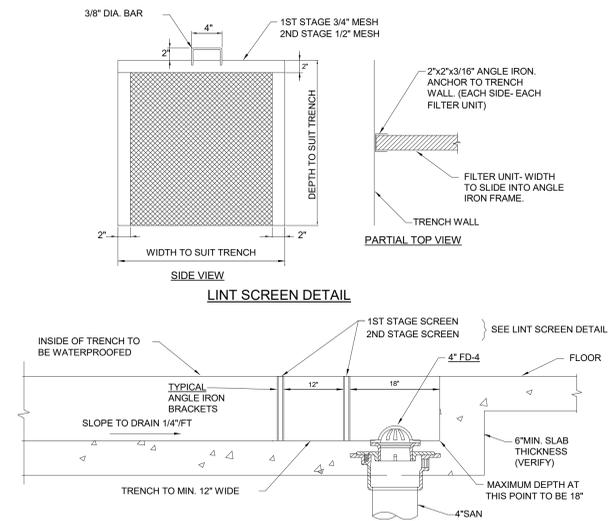
NO SCALE

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**I** IRRIGATION PIPING DETAIL

NO SCALE



**F** TYPICAL LAUNDRY TRENCH DRAIN DETAIL

NO SCALE

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