
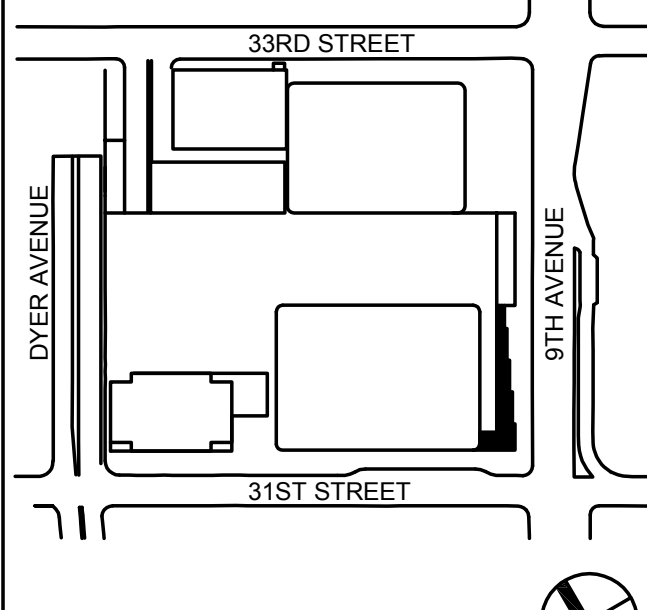
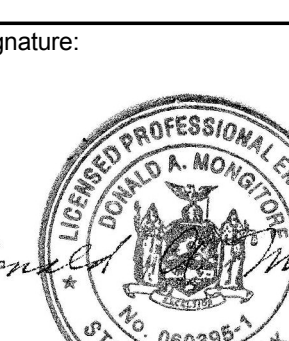


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NOTES:

1. EACH COOLING TOWER CELL SHALL BE PROVIDED WITH THE FOLLOWING:
 - a) BOTTOM RETURN PIPING CONNECTION (WITH INTERNAL FACTORY INSTALLED RISER & DISTRIBUTION GRID);
 - b) STEAM HEATING COIL
 - c) BAL 5/5 TOWER INCLUDING S/S BASIN AND SUMP BOX
 - d) ACCESS LADDER WITH SAFETY GATE & HANDRAIL
 - e) INTERNAL LADDER & CATCHWALK;
 - f) PREMIUM EFFICIENCY MOTOR SUITABLE FOR USE WITH VFD.
 - g) PROBE CONTROLLED COLD WATER MAKE-UP.
 - h) BOTTOM CONNECTIONS FOR OVERFLOW LINE, EQUALIZATION LINE, BYPASS CONNECTION, ETC.
2. STATE AN ALTERNATE PRICE TO MAINTAIN STANDING (THIRD) COOLING TOWER CELL WITH DUTY TO MATCH CT-71-1.

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<div></div> <div>MANHATTAN WEST: NORTH TOWER</div> <div>375 Ninth Avenue, New York, NY 10001</div>																			
Client																			
Brookfield																			
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Architecture/Structure Engineering																			
SOM																			
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MECHANICAL SCHEDULE SHEET 1 OF 6																			
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MANHATTAN WEST:
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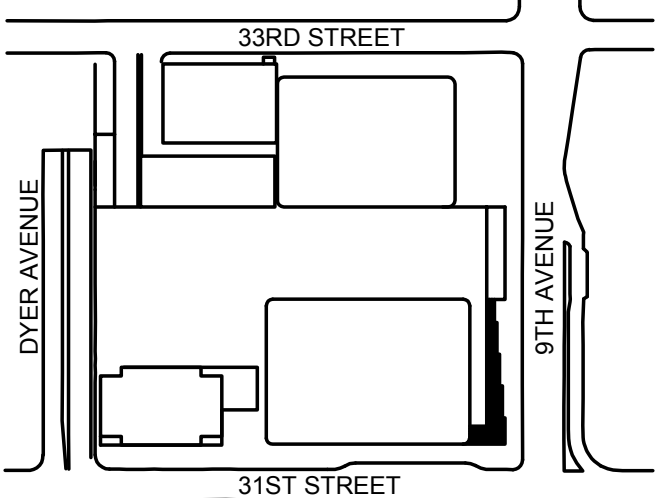
Code Consultant

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Key Plan:



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1	20 JUN 2014	ISSUED FOR FOUNDATION PERMIT
2	20 DEC 2013	ISSUED FOR FOUNDATION PERMIT
3	13 NOV 2013	ISSUED FOR DD PROJECT SUBMITTING
4	12 JUL 2013	ISSUED FOR 50% DESIGN DEVELOPMENT
5	13 MAR 2013	ISSUED FOR RECONSTRUCTION

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14830.A.000

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CONSTANT / VARIABLE VOLUME BOXES

(TITUS TYPE 'DES' AS STD)

BOX SIZES (SEE DWGS)	MAXIMUM SET POINT CFM RANGE		MIN. SET POINT OF CFM SHOWN ON PLANS	MIN. SP @ BOX MAX. CFM	INLET AND OUTLET SIZES		BOXES WITH HEATING COIL						SOUND TRAP		REMARKS		
	LOW	HIGH			IN	OUT	ENTERING AIR TEMP. (°F)	LEAVING AIR TEMP.(°F)	ENTERING WATER TEMP.(°F)	LEAVING WATER TEMP.(°F)	No. OF ROWS	CFM	MAX. COIL PRESSURE DROP (PSIG)	MIN. SP @ BOX @ MAX CFM (BOX + COIL)		AC TYPE AND DIMENSIONS (WHxL)	PRESS. DROP INCH. WG.
7	90	500	65	0.14	7"ø	12x10	55	VARIES	140	VARIES	1	SEE NOTES	.10	.19	3HL 12x12x36	.01	
8	245	800	120	0.20	8"ø	12x10	55	VARIES	140	VARIES	1	SEE NOTES	.10	.27	3HL 18x12x36	.01	
10	385	1000	195	0.12	10"ø	14x12.5	55	VARIES	140	VARIES	1	SEE NOTES	.10	.19	3HL 18x12x36	.02	
12	550	1500	280	0.15	12"ø	16x15	55	VARIES	140	VARIES	1	SEE NOTES	.10	.22	5HL 24x12x60	.04	
14	880	2000	400	0.16	14"ø	20x17.5	55	VARIES	140	VARIES	1	SEE NOTES	.10	.22	5HL 24x12x60	.06	
16	1000	2500	530	0.15	16"ø	24x18	55	VARIES	140	VARIES	1	SEE NOTES	.10	.22	5HL 30x12x60	.06	

NOTES:

- REFER TO SPECIFICATIONS FOR ACOUSTICAL PERFORMANCE.
- ALL COILS SHALL BE ONE ROW UNLESS NOTED, REFER TO PLANS FOR LOCATIONS. HEATING PERFORMANCE OF ALL COILS SHALL BE BASED ON 2.0 GPM FLOW RATE.
- ALL COILS SHALL BE SUITABLE FOR A MINIMUM OF 250 PSIG. WATER WORKING PRESSURE.
- V = VARIABLE VOLUME
VR = VARIABLE VOLUME WITH HEATING COIL
C = CONSTANT VOLUME
CR = CONSTANT VOLUME WITH HEATING COIL
- EACH VAV BOX SHALL BE PROVIDED WITH DUCT MOUNTED SOUND TRAP AS SCHEDULED ABOVE.
- ALL BOXES SHALL BE PROVIDED WITH BOTTOM ACCESS DOOR, FOR INTERNAL ACCESS TO CONTROLS & TO HEATING COIL.

CONSTANT VOLUME REGULATORS

(TITUS TYPE AQCV/DQCV AS STD.)

BOX SIZES (SEE DWGS)	CFM RANGE		DAMPER SIZE (IN)	MIN. SP @ BOX MAX. CFM	DISCHARGE NC RATING FOR 1/2" INLET PRESSURE	RADIANT NC RATING FOR 2" WC INLET PRESSURE	REMARKS
	LOW	HIGH					
F	250	500	14x8	0.155	26	35	
H	435	1000	18x10	0.172	22	37	
K	725	2000	20x14	0.165	22	38	
M	970	3500	22x16	0.165	25	43	
N	1220	5000	24x18	0.165	26	44	
P	1860	6000	30x20	0.162	24	42	
R	2750	8000	40x20	0.152	24	42	
R	8001	10,000	40x20	0.210	25	43	

NOTES:

- THE 5000 CFM SERVICE ELEVATOR LOBBY PRESSURIZATION CVR SHALL HAVE A MAXIMUM SIZE OF 16"øx36"H AS INDICATED ON PLANS.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE A PLENUM LENGTH OF 5'-0" OF STRAIGHT DUCT RUN DOWN STREAM OF EACH CVR.

FUEL OIL TRANSFER PUMPS

(MO DELAVAL AS STD.)

PUMP NO.	LOCATION	SERVICE	GPM	DISCHARGE HEAD, (PSIG)	SUCTION PRESSURE (IN HG.)	PUMP RPM	BHP	MINIMUM MOTOR H.P.	MODEL NO.	REMARKS
FOP-1	BASEMENT F.O. TANK RM	EMERGENCY GENERATOR	12	70	15					

NOTE:
PUMPS SHALL BE FURNISHED AS A DUPLEX SET ON A SINGLE SKID AND SHALL COME PREPARED WITH ALL VALVES, STARTERS, ALTERNATER, ETC.

COLD CONDENSATE PUMPS

(115/16"/60)

PUMP No.	LOCATION	SERVICE	PUMP CFM @15 FT. HEAD	DISCHARGE PRESSURE	RECEIVER CAP (GALS)	MOTOR RPM	MIN. MOTOR HP	PUMP TYPE	REMARKS

FAN POWERED TERMINAL UNITS

(TITUS TYPE DTQS STD)

BOX SIZES (SEE DWGS)	MAX. SET POINT CFM RANGE OF VALVE 49°F EAT		MINIMUM SET POINT CFM OF VALVE	SET OF POINT OF FAN	MIN. MOTOR H.P. HIGH SPEED	DISCHARGE S.P. DOWNSTREAM OF FPTU (INCLUDING HEATING COIL)	INLET SIZES	BOXES WITH HEATING COIL						SOUND TRAP		REMARKS			
	LOW	HIGH						ENTERING AIR TEMP. (°F)	LEAVING AIR TEMP. (°F)	ENTERING WATER TEMP. (°F)	LEAVING WATER TEMP. (°F)	GPM	MAX. COIL PRESSURE DROP (FT. H ₂ O)	MIN. SP @ BOX (COIL & BOX)	ELECTRICAL CHAR. (VOLTS/PHASE HERTZ)		IAC TYPE AND DIMENSIONS (WxHxL)	PRESS DROP INCH. WG.	
2	145	335	145	150	400 535	1/6	.40	8"ø	60	VARIES	170	140	SEE NOTE 2	.66	.08	277/1/60	3HL 12x12x36	.01	
3	200 336	480 900	160 260	401	1050 1150	1/4	.40	8"ø 10"ø	60	VARIES	170	140	SEE NOTE 2	.20 .26	.18 .26	277/1/60	3HL 18x12x36	.03	
5	801	1130	375	951	1350 1600	1/3	.40	12"ø	60	VARIES	170	140	SEE NOTE 2	.43	.16	277/1/60	5HL 24x12x60	.04	
6	1131	1350	470	1351	1650 2000	3/4	.40	14"ø	60	VARIES	170	140	SEE NOTE 2	.93	.22	277/1/60	5HL 24x12x60	.06	

NOTES:

- REFER TO FLOOR PLANS FOR ACTUAL QUANTITY OF FAN POWERED BOXES WITH AND WITHOUT HOT WATER HEATING COILS AND UNIT LEFT/RIGHT HAND ARRANGEMENT.
- ALL COILS SHALL BE ONE ROW UNLESS NOTED, REFER TO PLANS FOR LOCATIONS. COILS ON FLOORS 15 THRU 69 SHALL HAVE 2.5 GPM FLOW RATE.
- KEY TO SYMBOL: FAN CFM
(MAX. VALVE CFM)
(MIN. VALVE CFM)
- REFER TO SPECIFICATIONS FOR ACOUSTICAL PERFORMANCE.
- FAN POWERED TERMINAL UNITS BASED ON MAXIMUM OF 1.5 INCHES INLET STATIC PRESSURE.
- ALL COILS SHALL BE SUITABLE FOR A MINIMUM OF 250 PSIG. WATER WORKING PRESSURE.
- FPB = FAN POWERED BOX
FPBH = FAN POWERED BOX WITH HEATING COIL
- EACH FPB BOX SHALL BE PROVIDED WITH DUCT MOUNTED SOUND TRAP AS SCHEDULED ABOVE.
- ALL FANS PROVIDED WITH THE FPB'S SHALL BE SET TO PROVIDE A MINIMUM ESP OF .4 INCH W.G AT THE MAXIMUM AIRFLOW RATES NOTED IN THE SCHEDULE.
- ALL FAN POWERED BOXES LOCATED BELOW THE 15TH FLOOR (LEVEL B4 THRU 14) SHALL BE SELECTED FOR 140°F EWT AND 120°F LWT. MAXIMUM WATER FLOW FOR THE LARGEST SIZE BOX SHALL BE 2.0 GPM.

NOTES:
1. UNLESS OTHERWISE NOTED THERMOSTATS FOR ALL UNIT HEATERS SHALL BE UNIT MOUNTED

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MECHANICAL
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Client

Brookfield Place
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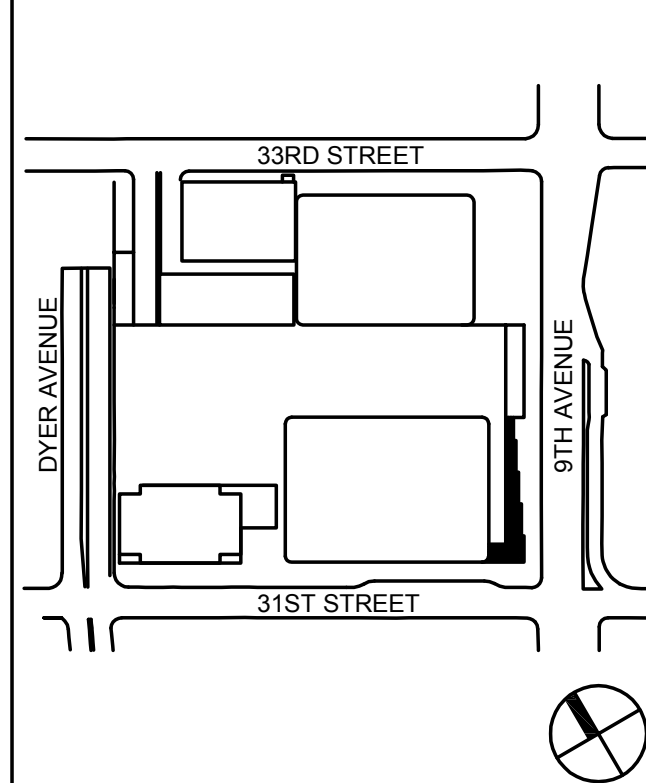
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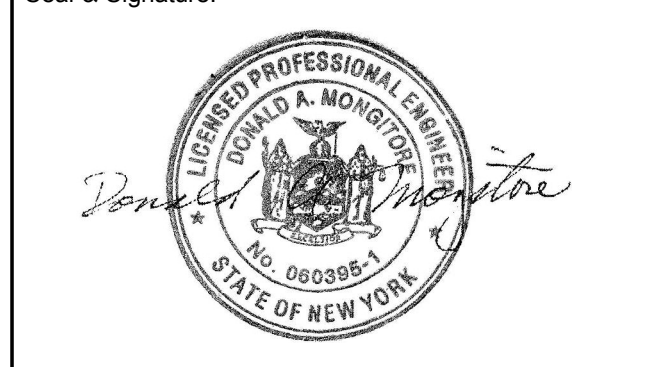
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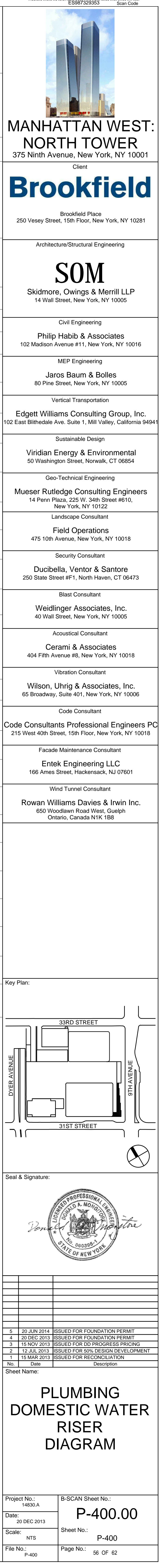
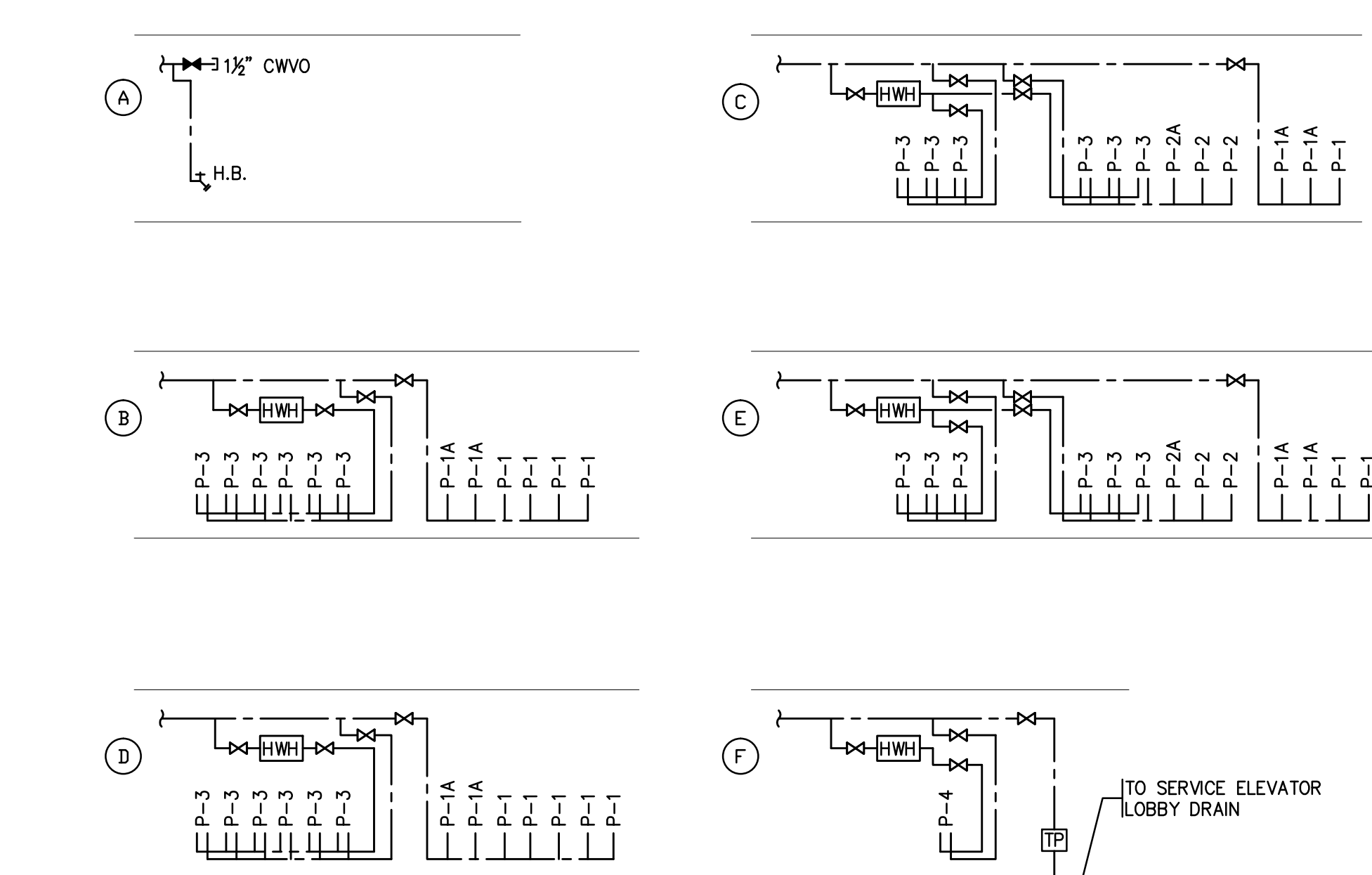
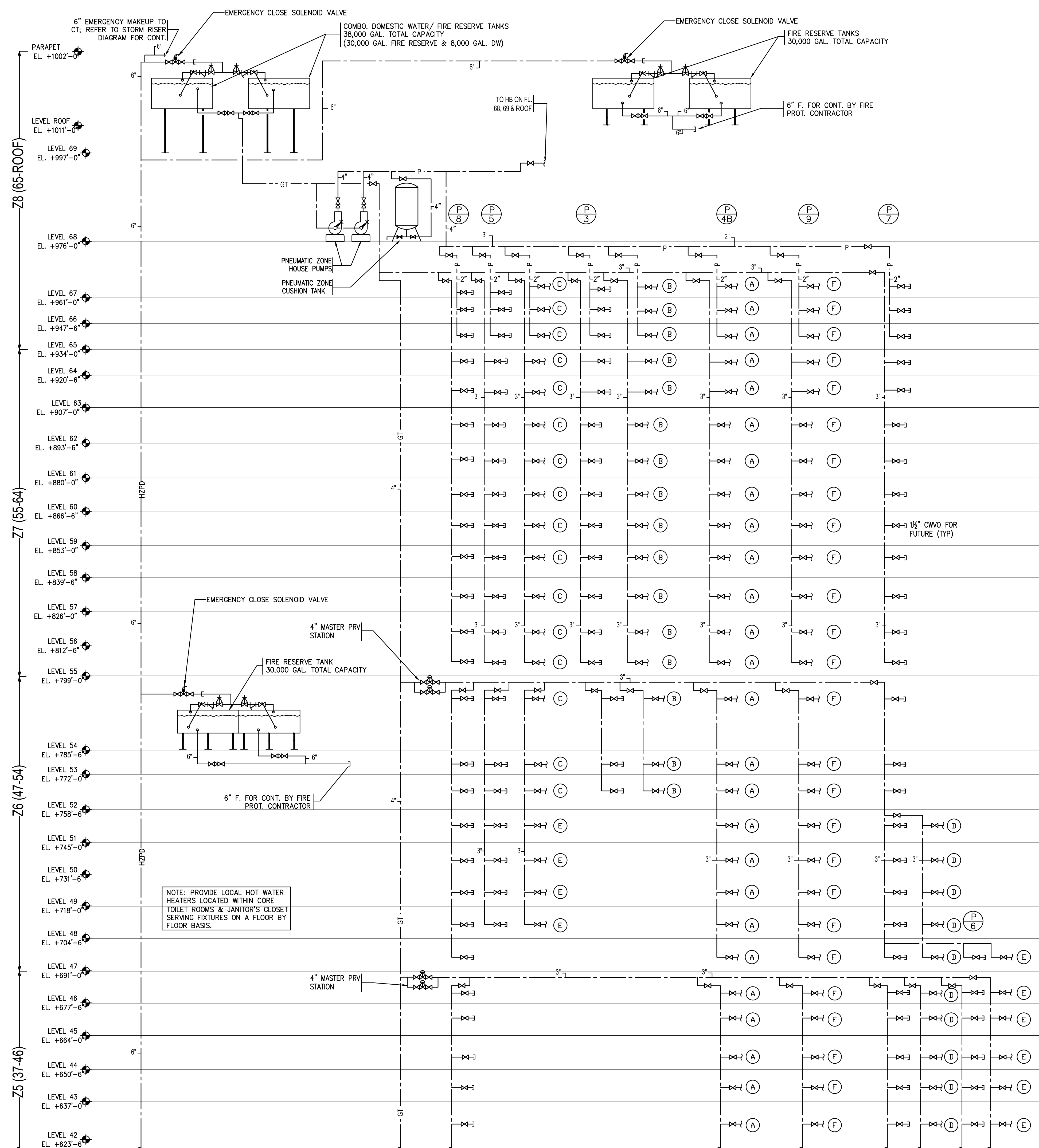
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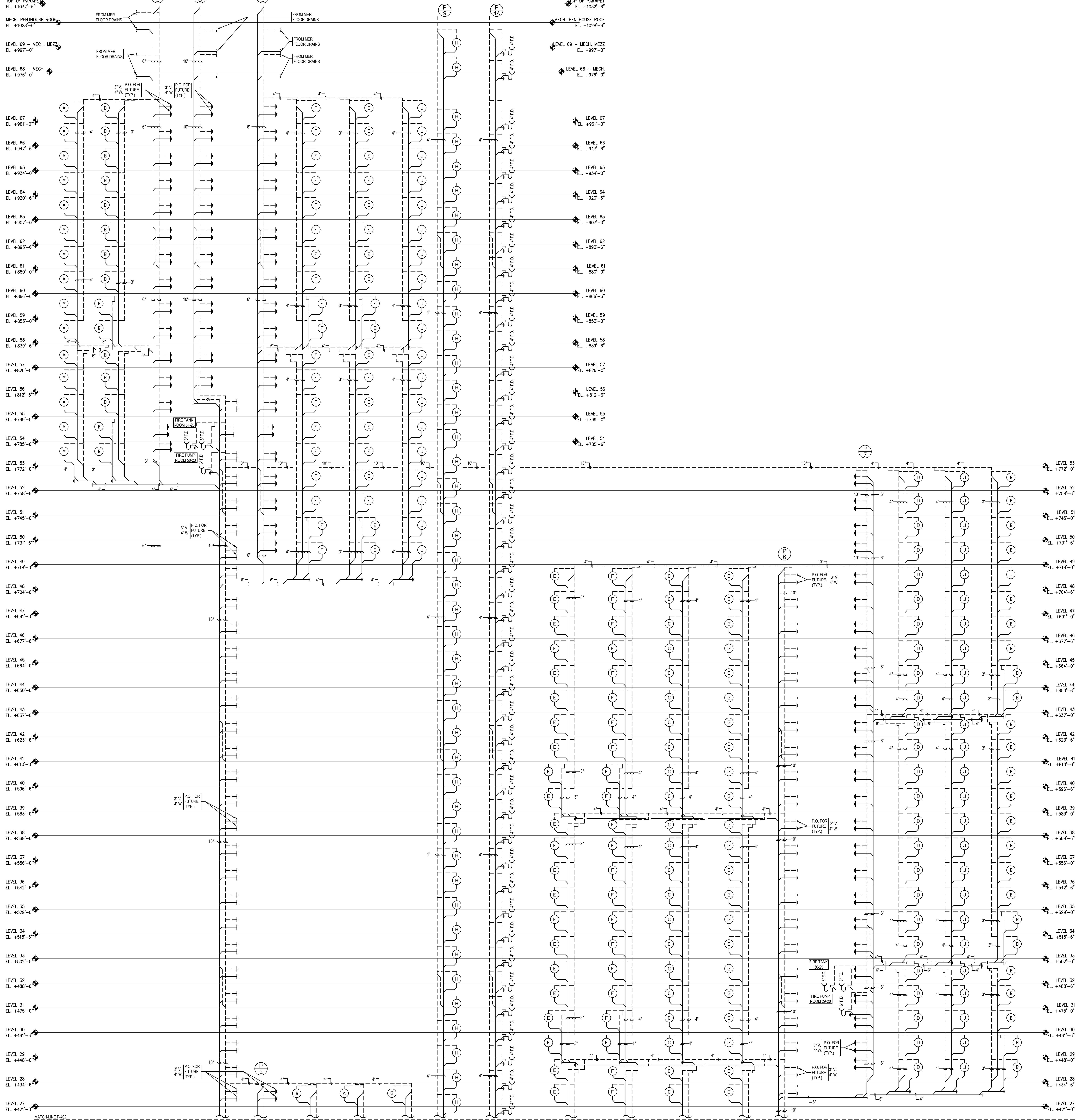
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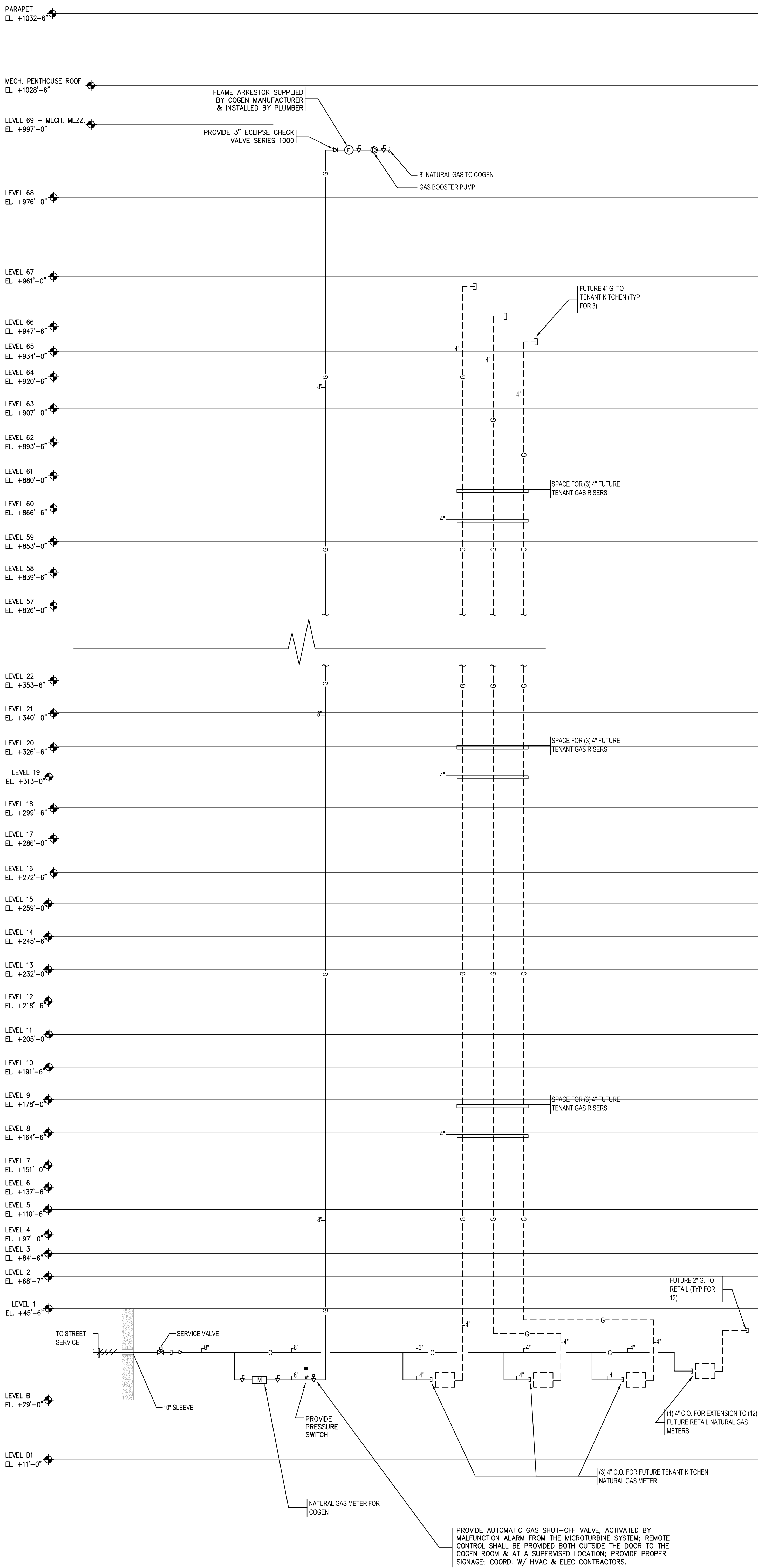




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sex biology
socialization culture
identity politics



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