

System Sizing and Ventilation Air Calculations										
No.	Room Name	Floor Area (ft ²)	Person	CFM per Person	1000 ft ²	Exhaust CFM	ZONE	Outdoor Air (CFM)	2017 OMC Table 403.3 Occupancy Classification	HVAC System
100A	Corridor	157	0	0.05	0	0	0.8	12	Public Spaces, Corridors	1
100B	Hospitals Area	36	5	0.05	0	0	0.8	5	Offices, Main entry, lobbies	1
100C	Bed Area C	29	7.5	0.18	100	0	0.8	50	Food & Bev, Bars, cocktail lounges	1
100E	Bar Seating Area D	89	0.18	100	0	0	0.8	90	Food & Bev, Bars, cocktail lounges	1
100F	Seating Area E	36	0.18	100	0	0	0.8	42	Food & Bev, Bars, cocktail lounges	1
100G	Seating Area F	218	7.5	0.18	100	0	0.8	253	Food & Bev, Bars, cocktail lounges	1
100H	Seating Area G	233	5	0.05	5	0	0.8	25	Offices, Office spaces	1
100I	Corridor	357	0	0.05	0	0	0.8	27	Public Spaces, Corridors	2
100J	Seating Area B	103	7.5	0.18	70	0	0.8	91	Food & Bev, Dining rooms	2
100K	Seating Area C	94	7.5	0.18	70	0	0.8	83	Food & Bev, Dining rooms	2
100D	Seating Area D	109	7.5	0.18	70	0	0.8	96	Food & Bev, Dining rooms	2
100E	Private Dining Rm	111	0	0.05	0	0	0.8	4	Public Spaces, Corridors	3
100F	Corridor	355	7.5	0.18	70	0	0.8	339	Food & Bev, Dining rooms	3
100G	Seating Area B	220	7.5	0.18	70	0	0.8	116	Public Spaces, Corridors	4
100H	Seating Area C	151	7.5	0.18	70	0	0.8	133	Food & Bev, Dining rooms	4
100I	Seating Area D	267	0	0	0	0	0.8	176	Food & Bev, Dining rooms	4
100J	Seating Area E	553	0	0	0	0	0.8	372	Food & Bev, Kitchens (no cooking)	4
100K	Seating Area F	124	0	0	0	0	0.8	87	Food & Bev, Kitchens (cooking)	5
100L	Seating Area G	124	0	0	0	0	0.8	87	Food & Bev, Kitchens (cooking)	5
100M	Walk-in Cooler	111B	0	0	0	0	0.8	0	Unoccupied	5
Totals		3,489						2,840		

System 1	System 2	System 3	System 4	System 5
Supply CFM	583	1,600	1,200	1,800
Outdoor CFM	29%	29%	29%	29%
Totals	443	1,571	1,470	2,100

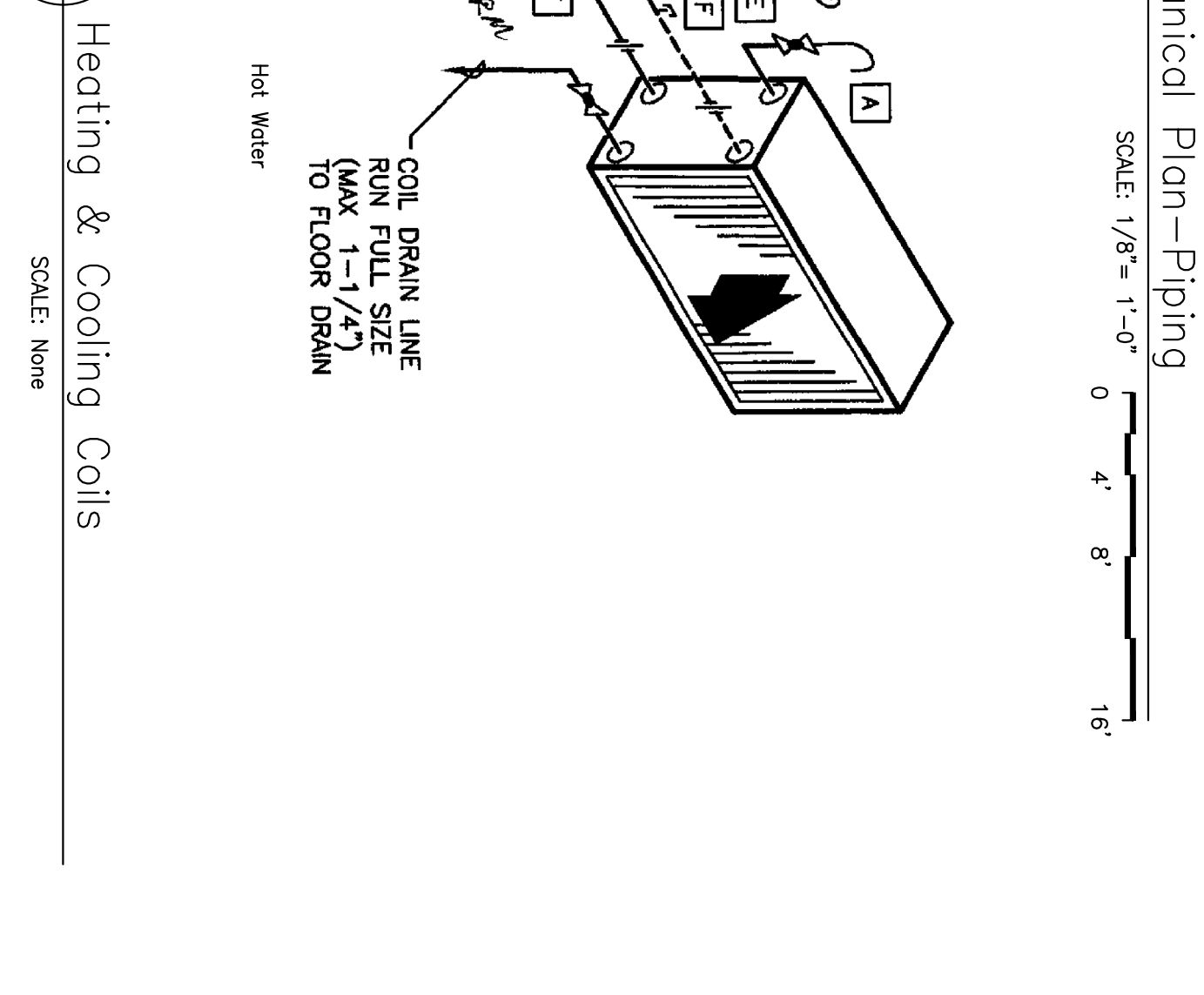
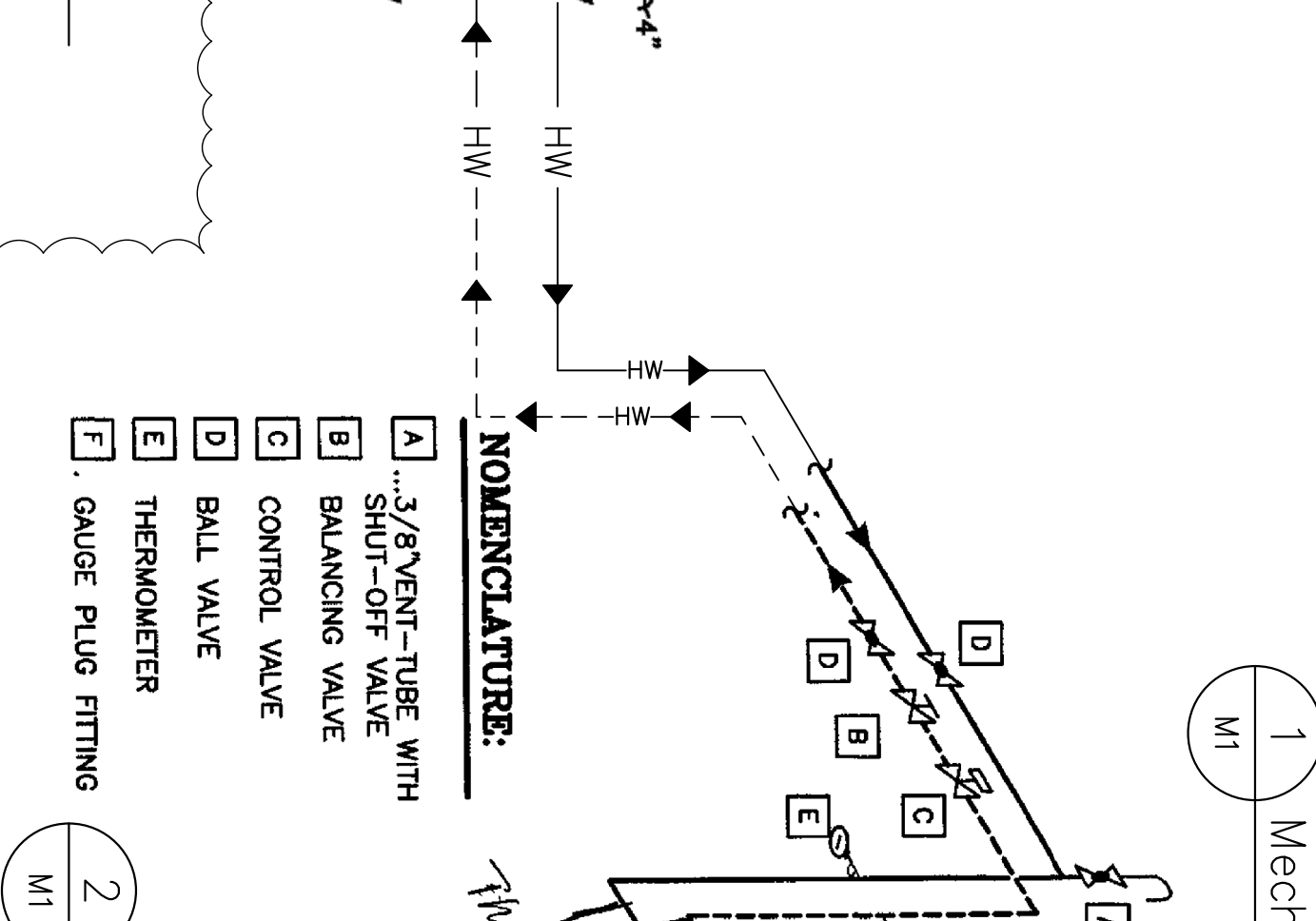
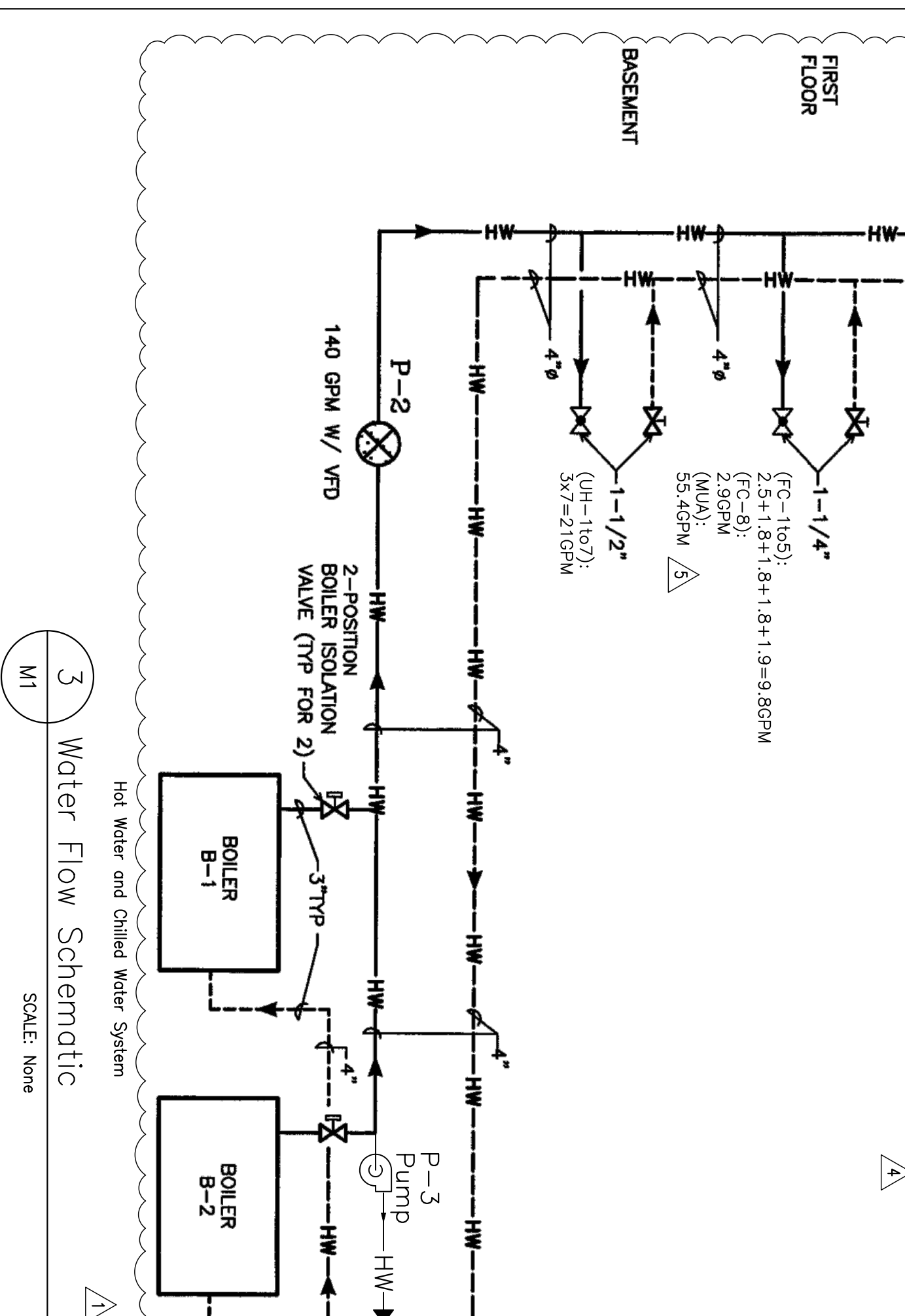
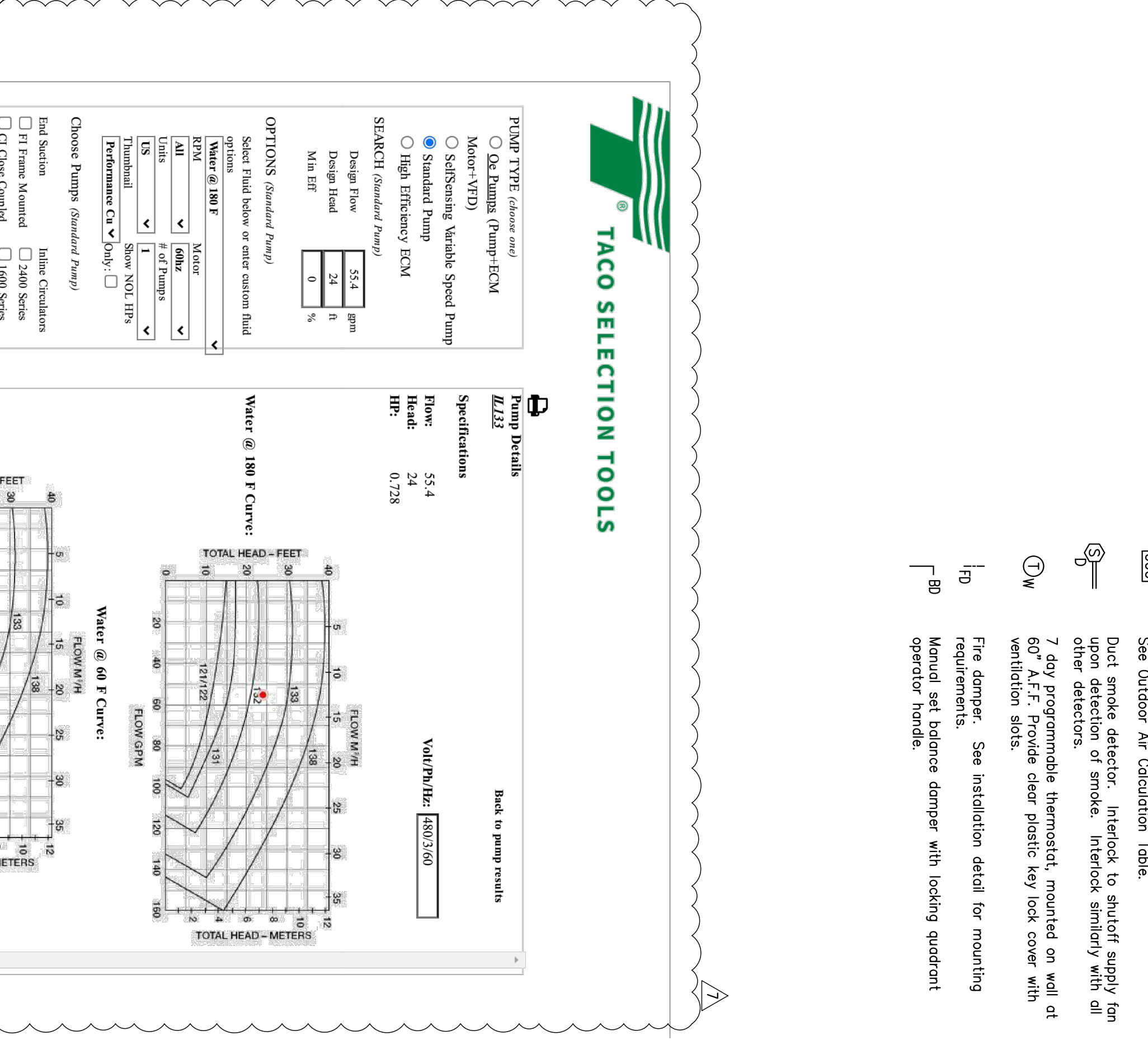
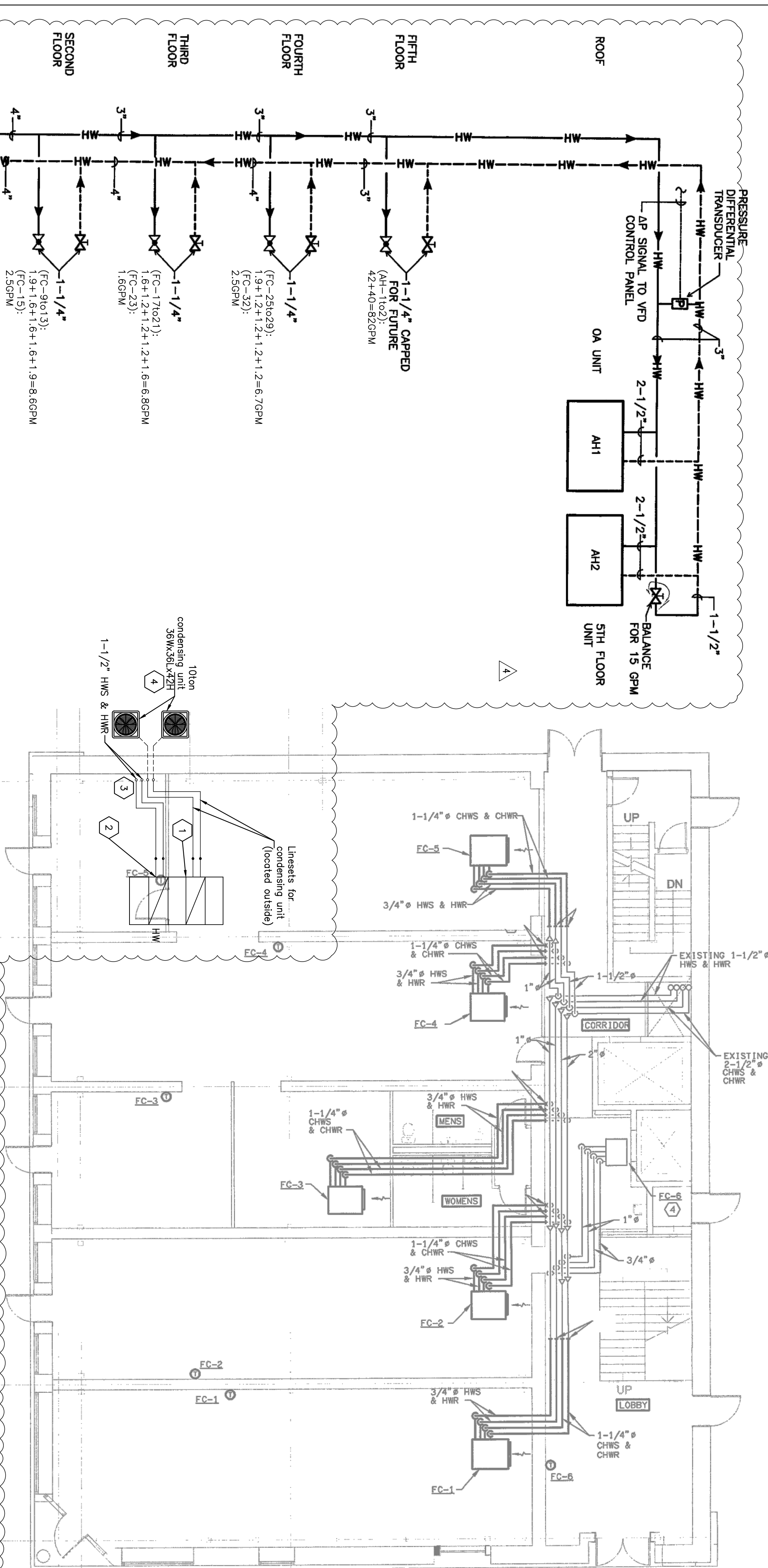
Equipment	Intake (CFM)	Exhaust (CFM)
Kitchen Hood 1	-	2,200
Kitchen Hood 2	-	1,942
HVAC System 1	140	1,590
HVAC System 2	140	1,400
HVAC System 3	260	1,400
HVAC System 4	160	1,400
HVAC System 5	160	1,400
Hood MUA System	6,000	6,000
TOTALS	8,440	5,992

- ### General Project Notes
- New work under this contract is shown in bold line weight. Existing duct work (if any) is shown in dark gray fashion. Other elements are shown in light gray.
 - This drawing shall not be used for construction unless it bears both the seal and signature of the engineer. Blue line reproductions are not approved for construction. Use only the most current revision.
 - Plumbing work shall be in accordance with the applicable code. Takes precedence, followed by HVAC ductwork, and then electrical.
 - Plans are essentially diagrammatic in nature, and do not necessarily reflect all pre-existing conditions, obstacles or ancillary work. This contractor shall conduct his own survey of the job site, and report any material deviations to the engineer prior to commencing work.

- ### Mechanical Plan Notes
- Field run 1" condensate drain by gravity to nearest floor sink and discharge via air gap.
 - Connect coils per Fan Coil Unit Piping Diagram this sheet.
 - Connect to existing HW piping by tee or hot tap approximately where shown and extend piping as shown to makeup or header. All piping shall be installed in accordance with applicable codes and standards.
 - See Mechanical Plan Sheet M2 for property line location.

HVAC Plan Symbol Legend

	24 x 12	Point of connection to existing system elements.
	12x	Rectangular metal ductwork (Width x Depth) of air passage size). Bottom of duct at 9' A.F.F. unless otherwise noted.
	Flexible ductwork	Round ductwork and size (inches diameter of air passage size).
	Ceiling mounted supply air diffuser, register, or exhaust grille.	Flexible ductwork and size (inches diameter of air passage size).
	Ceiling mounted return air grille.	Refer to identifier.
	Exhaust Fan	7 day programmable thermostat, mounted on wall at 60' A.F.F. Provide clear plastic key lock cover with ventilation slots.
	Fire damper	See installation detail for mounting requirements. Manual set balance damper with locking quadrant operator handle.
	Room Identifier	See Outdoor Air Calculation Table.
	Duct smoke detector	Interlock to shut-off supply fan upon detection of smoke. Interlock similarly with all other detectors.
	7 day programmable thermostat	7 day programmable thermostat, mounted on wall at 60' A.F.F. Provide clear plastic key lock cover with ventilation slots.
	Device Identifier	See mechanical specifications. Refer to identifier.
	PLV or GPM stream	See mechanical specifications. Refer to identifier.



TACO SELECTION TOOLS

PUMP DETAILS

Model: 55.4
Flow: 24 gpm
Head: 24 ft
HP: 0.728

Specifications

Flow: 55.4 gpm
Head: 24 ft
HP: 0.728

Options (Standard Pump)

Water @ 180 F Curve: [Graph showing Total Head vs Flow]

Water @ 60 F Curve: [Graph showing Total Head vs Flow]

Project Builder

Add to New Project

Project name: [Input field]

Project added to project

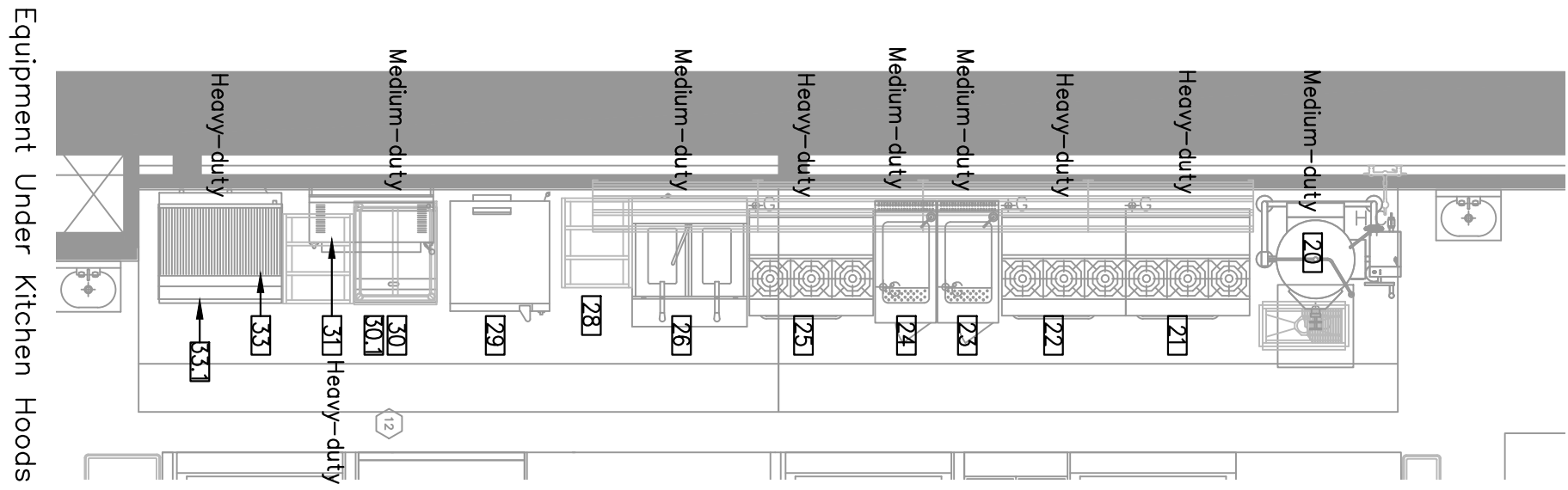
Go to Project Builder

Pump Schedule

System	Type	Capacity
System 1	Hot water heating	55.4
System 2	Base mounted centrifugal	24 ft
System 3	In-line centrifugal	1.00
System 4	Variable frequency drive	
System 5	Horizontal split case	
System 6	Rotary gear	

Mechanical Plan Notes

1. See M33M4 for kitchen hood information.
2. Deleted.
3. Exhaust outlets shall be located not less than 10' horizontally from property lines or not less than 3' above air intake openings into any building. Exhaust also shall not create a nuisance. (CMC 506.3133)
4. Toilet exhaust fans are existing. No work.
5. Toilet exhaust fans are existing to remain. No work.
6. See M5 & M6 for MUA (SFT) information.
7. See M5 & M6 for MUA (SFT) information.
8. Rebalance existing equipment to meet required cfm per System information.
9. See architect's drawing for kitchen equipment layout in the kitchen.
10. Firestop of round ducts with Fiberglass insulation.
11. All discharge supply duct to be internally 1" thick insulation.
12. See Sheets M10 & M19 for more information of hood grease ducts, exhaust fan, and MUA installation.
13. Deleted.
14. Deleted.
15. Deleted.
16. Deleted.
17. Deleted.
18. Lajin return shall have 20x20x1 disposable filter. Typical of ceiling returns.
19. Provide sidewall return register as shown with adjustable flow damper.
20. Deleted.



1 Mechanical Plan
SCALE: 1/4" = 1'-0"
0 2 4 8

#	Issued For:	Date:	By:
2	Plumbing Permit Revision	09 Jul 2024	M. Miller
3	Electric Permit & Constr.	12 Jul 2024	M. Miller
4a	Plumb+HVAC Permit Rev	09 Aug 2024	M. Miller
D	HVAC & Hood Coordin.	12 Aug 2024	M. Miller
5	Permit Revision	16 Aug 2024	M. Miller
6	Plumbing Permit Revision	20 Aug 2024	M. Miller
E	Client Review	27 Aug 2024	M. Miller

Interior MEP Renovation for:
Carmelo's
 434 Madison Avenue
 Covington, Kentucky 41011

Plumechtrics
 "Plumbing, Mechanical, Electrical Engineering"
 (513) 842-1144 Office
 (513) 617-2263 Mobile
 1550 Magnolia Drive
 Cincinnati, Ohio 45215

Sheet:
M2
 Mechanical Plan
 © Plumechtrics All Rights Reserved
 28 May 2024

Seal: