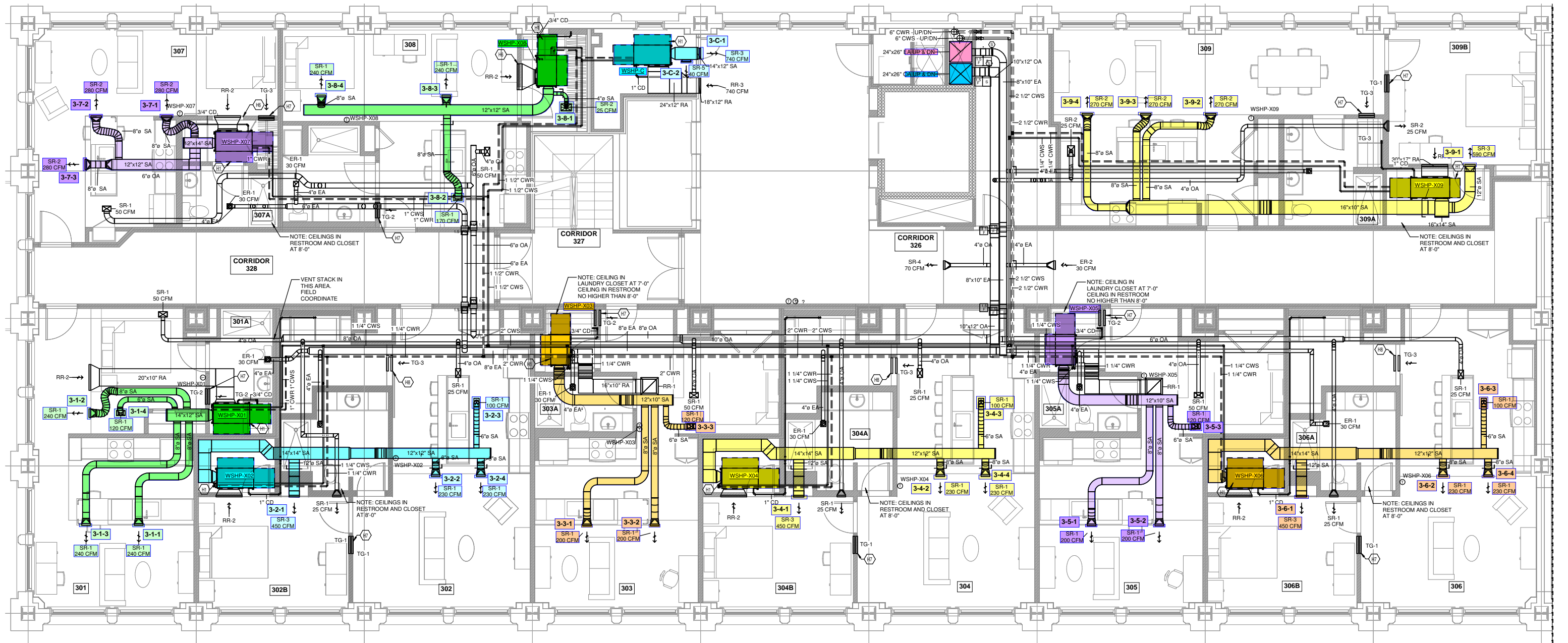
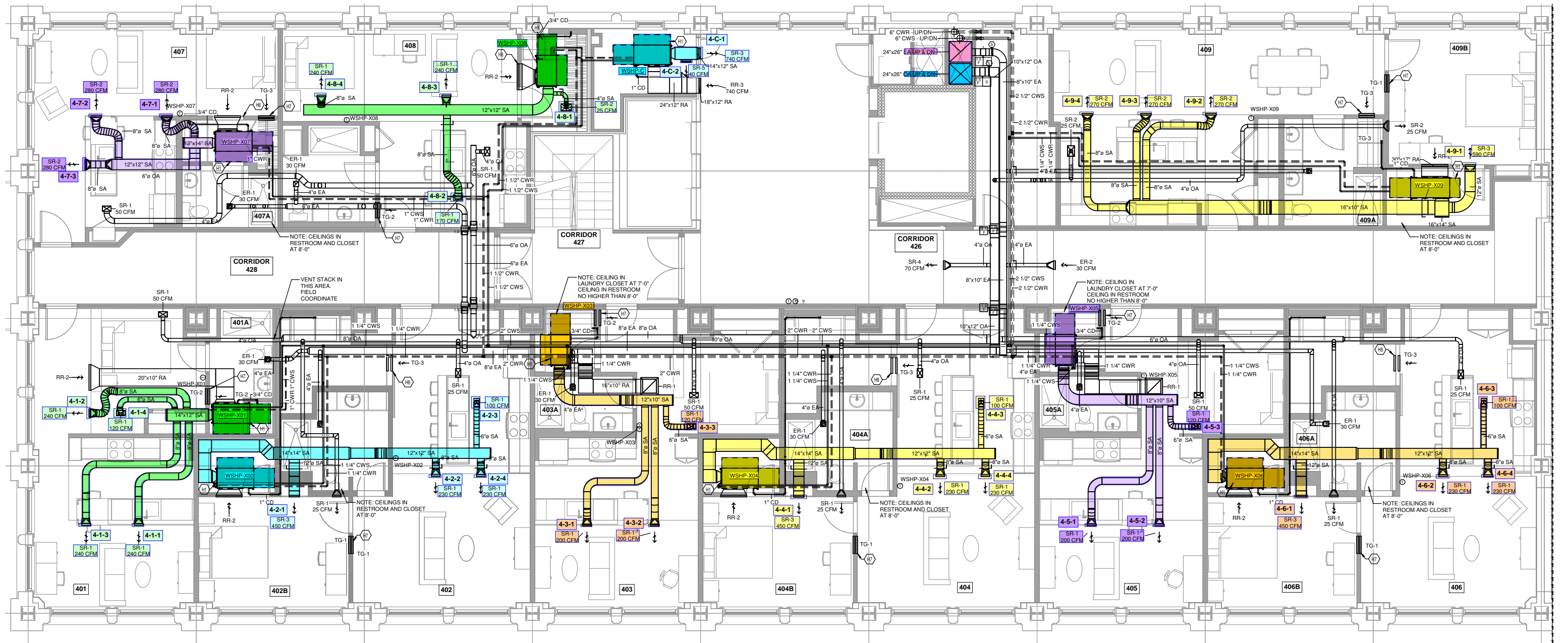


① MECHANICAL PLAN - LEVEL 2 - OVERALL
1/4" = 1'-0"

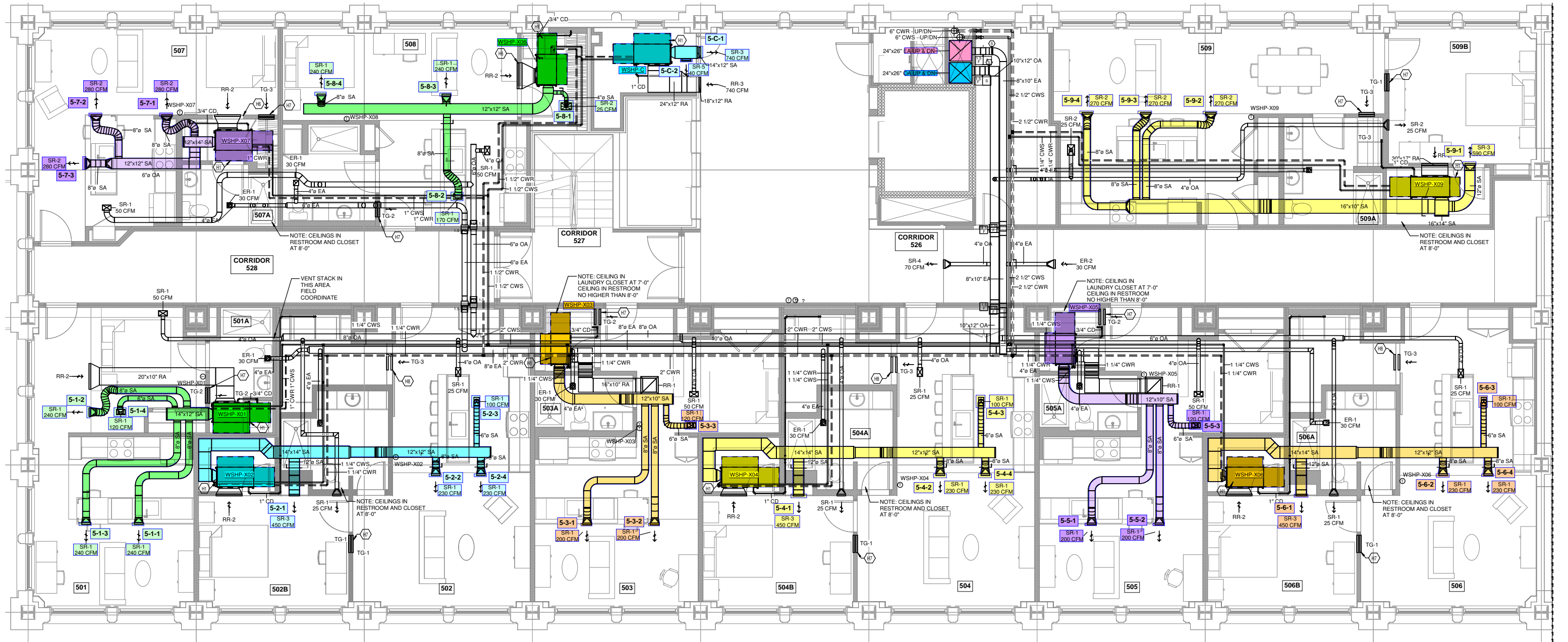


Note, the layout for the 3rd floor changed to mirror what is on floors 4-9. I just don't have an updated drawing showing the change. Please take this floor off the same as floors 4-9



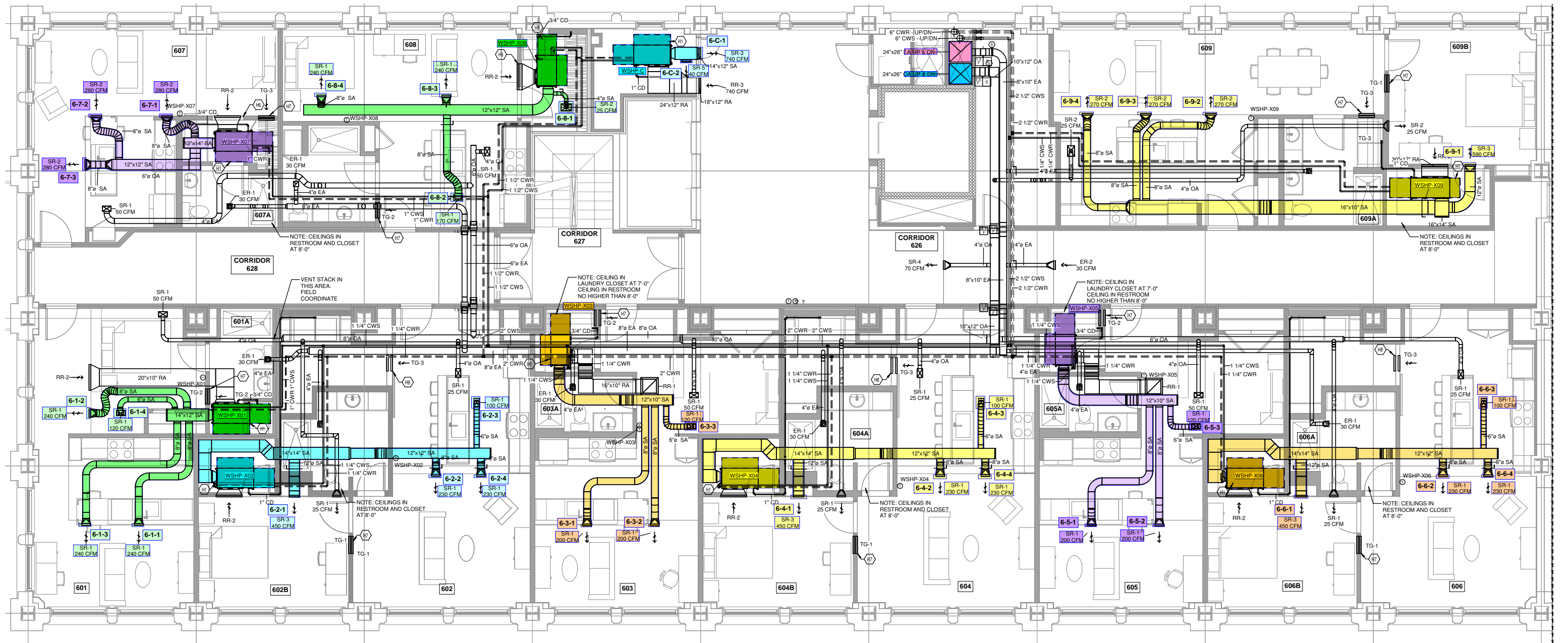
① MECHANICAL PLAN - LEVEL 4 THROUGH 9 - OVERALL
1/4" = 1'-0"

FLOOR 4 OVERALL



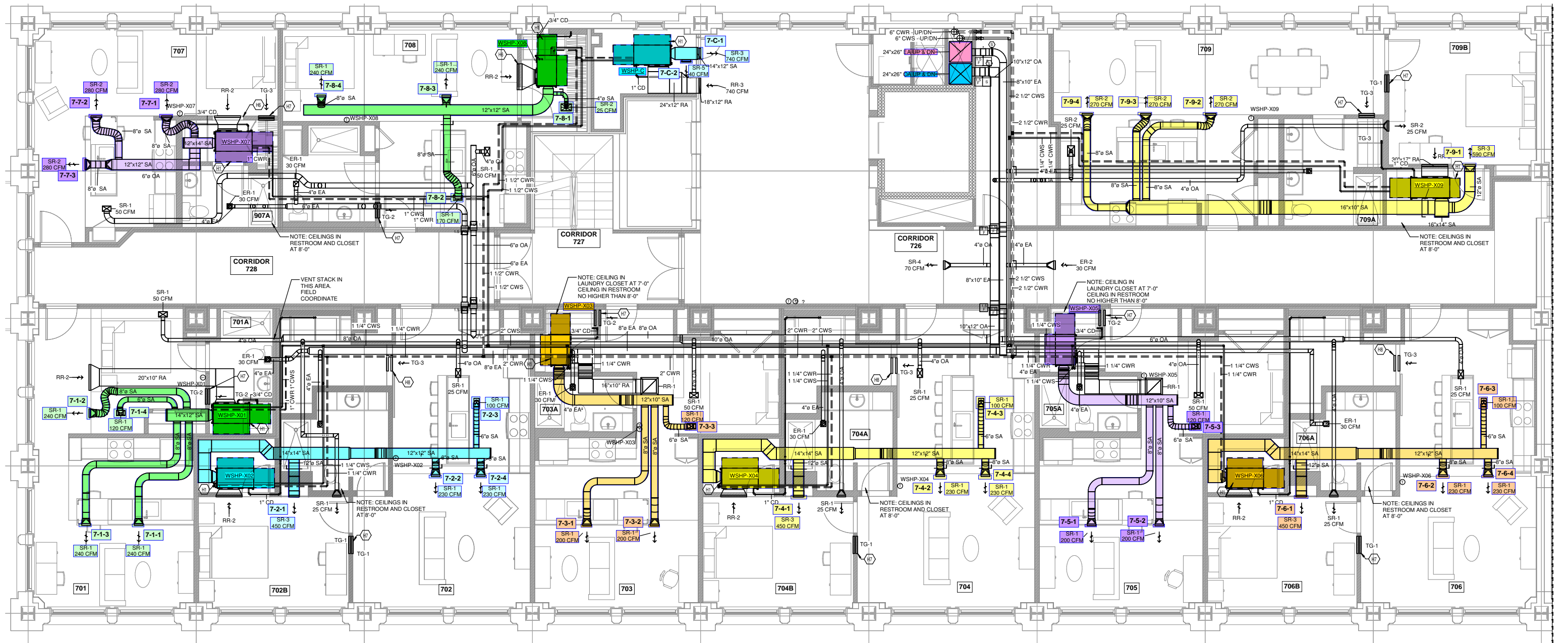
① MECHANICAL PLAN - LEVEL 4 THROUGH 9 - OVERALL
 1/4" = 1'-0"

FLOOR 5 OVERALL



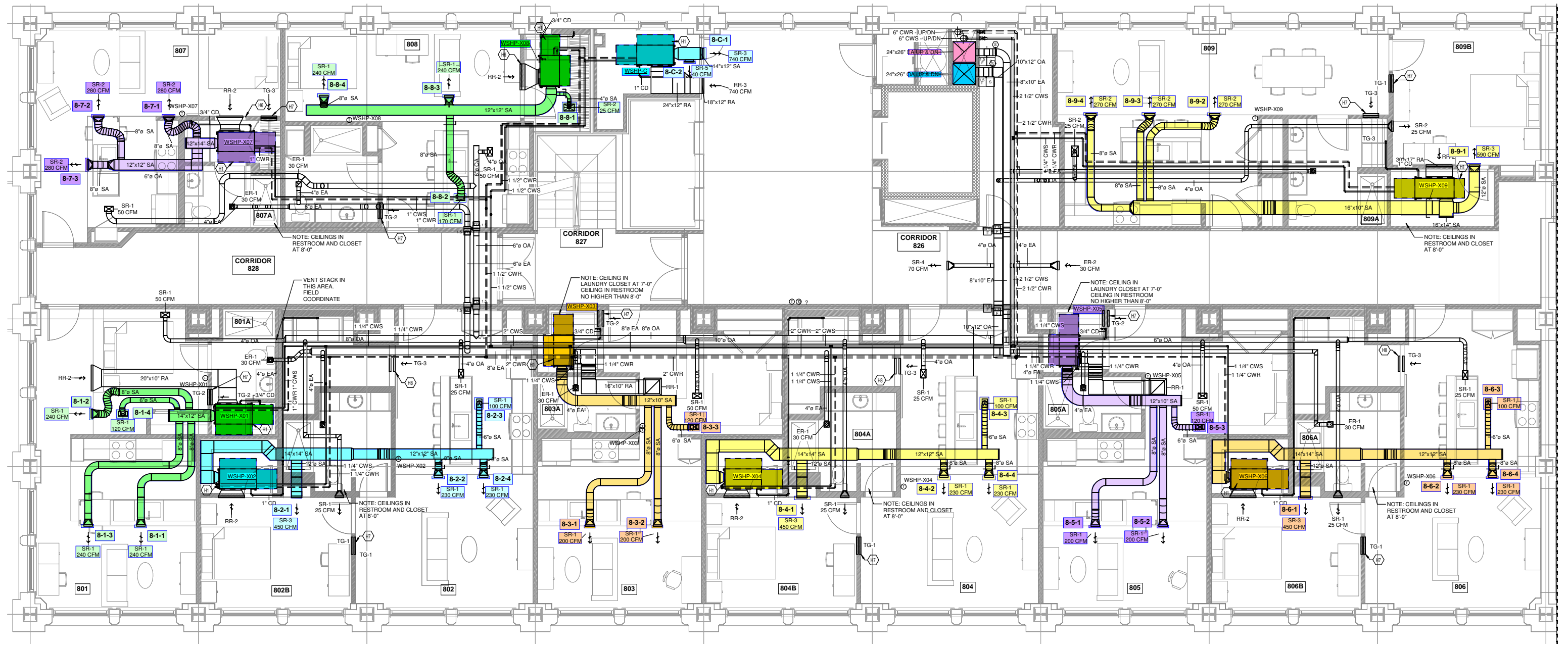
① MECHANICAL PLAN - LEVEL 4 THROUGH 9 - OVERALL
 1/4" = 1'-0"

FLOOR 6 OVERALL



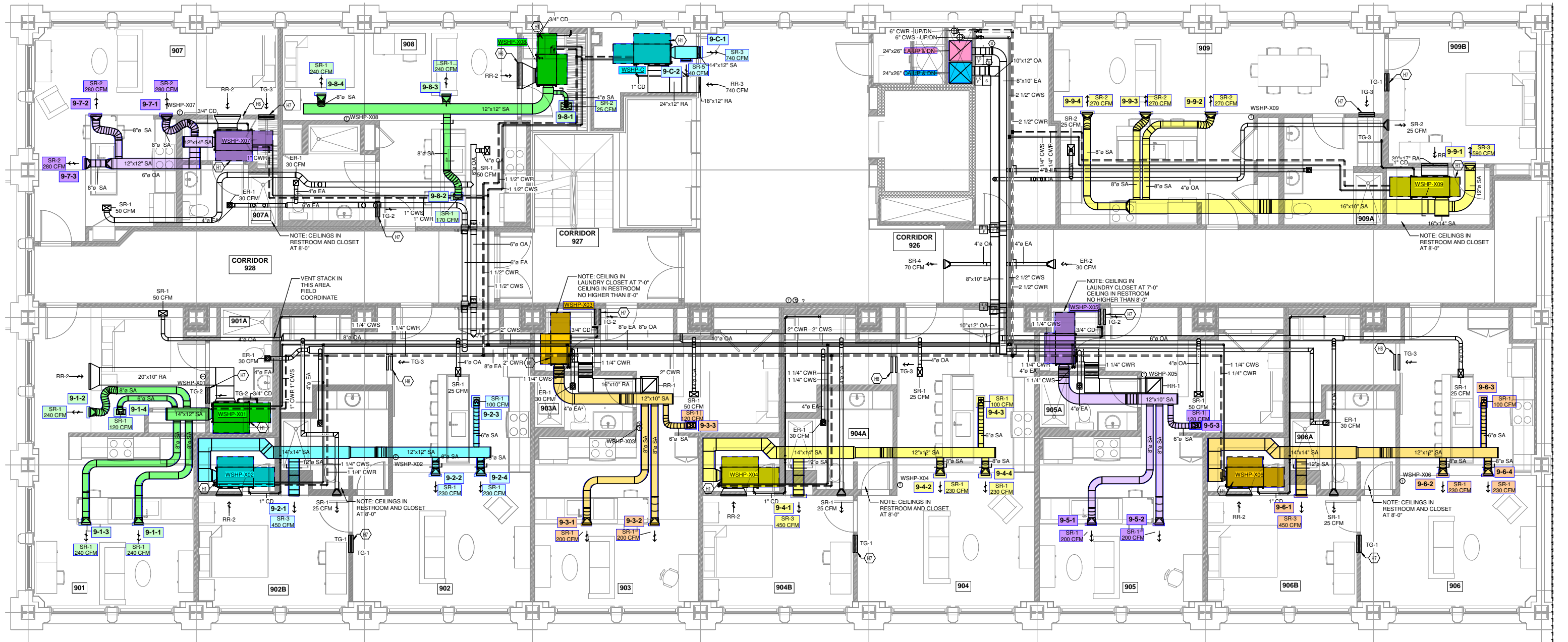
① MECHANICAL PLAN - LEVEL 4 THROUGH 9 - OVERALL
 1/4" = 1'-0"

FLOOR 7 OVERALL



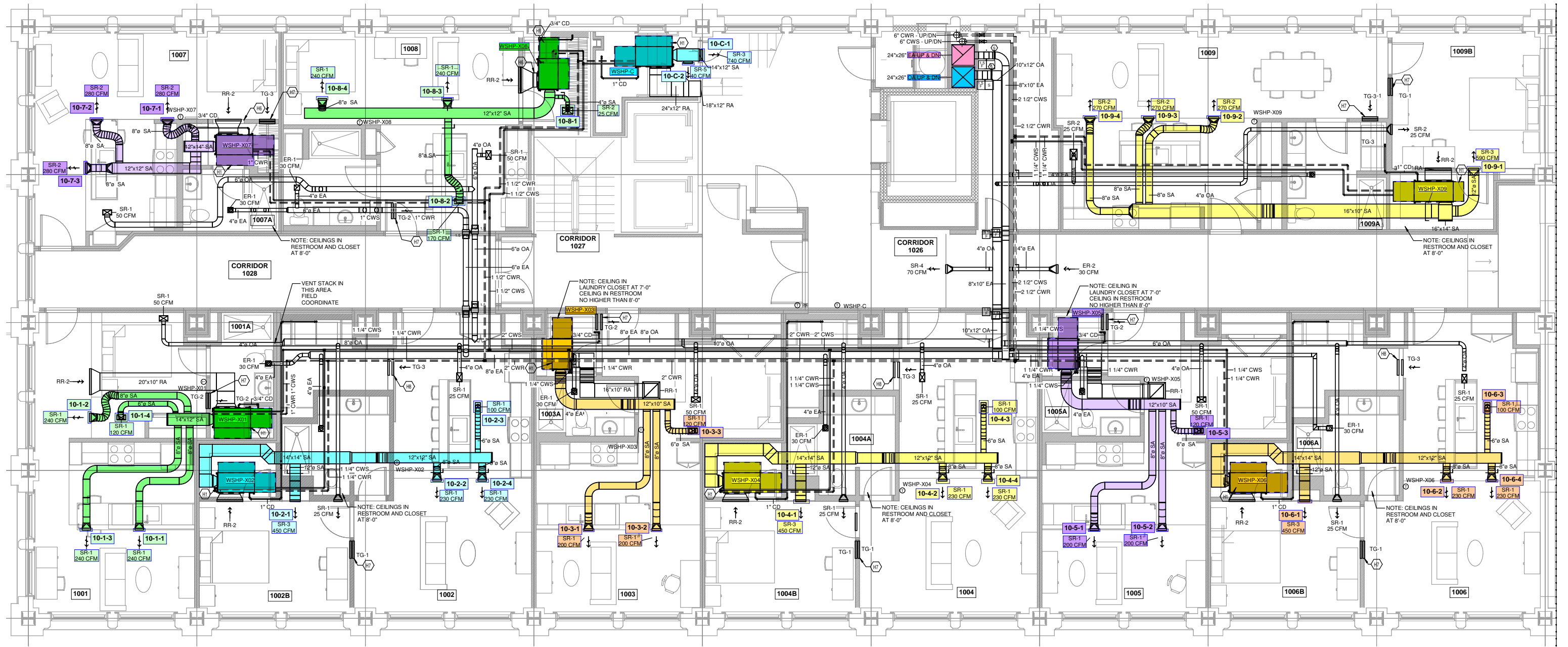
① MECHANICAL PLAN - LEVEL 4 THROUGH 9 - OVERALL
 1/4" = 1'-0"

FLOOR 8 OVERALL

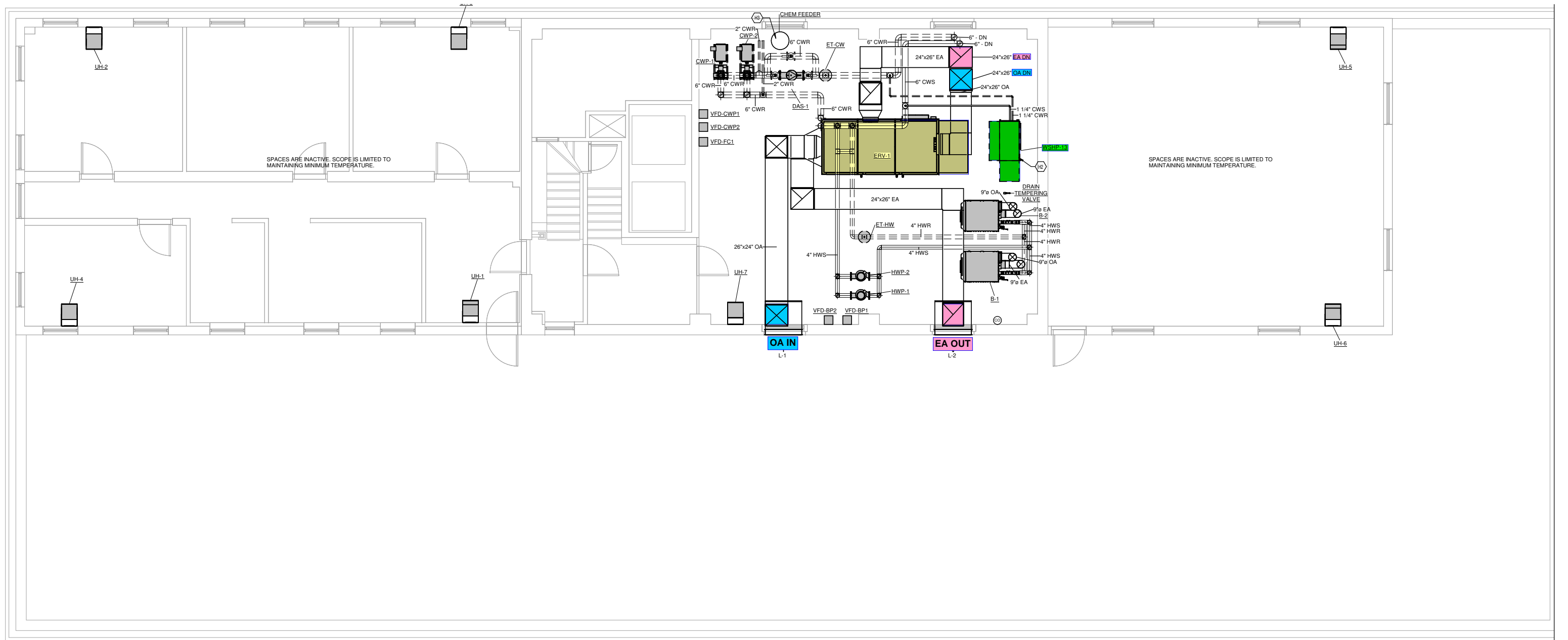


① MECHANICAL PLAN - LEVEL 4 THROUGH 9 - OVERALL
1/4" = 1'-0"

FLOOR 9 OVERALL



1 MECHANICAL PLAN - LEVEL 10 - OVERALL
1/4" = 1'-0"



① MECHANICAL PLAN - LEVEL 13 - OVERALL
1/4" = 1'-0"

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-201

AREA:201-1

Unit Data		
	Design	Actual
Unit MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	-	
Configuration	-	
Num Filters Size 1	-	
Filter Size 1	-	

Test Data		
	Design	Actual
SA CFM	465	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	
RL Amperage	-	
RA CFM	465	
OA CFM	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage	-	
Amperage	-	
Brake Horsepower	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-201/201-1

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-1-1	201-1	SR-1	8	155			-
2-1-2	201-1	SR-1	8	155			-
2-1-3	201-1	SR-1	8	155			-
Total				465	0	0	0%

Diffuser Ret/Exh (GRD)

WSHP-201/201-1

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R2-1-11	RR-2	10	465					-
Total			465		0	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-202

AREA:202-1

Unit Data		
	Design	Actual
Unit MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	-	
Configuration	-	
Num Filters Size 1	-	
Filter Size 1	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage	-	
Amperage	-	
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	890	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	
RL Amperage	-	
RA CFM	890	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-202/202-1

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-2-1	202-1	SR-1	8	180			-
2-2-2	202-1	SR-1	8	175			-
2-2-3	202-1	SR-1	8	180			-
2-2-4	202-1	SR-1	8	175			-
2-2-5	202-1	SR-1	8	180			-
Total				890	0	0	0%

Diffuser Ret/Exh (GRD)

WSHP-202/202-1

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R2-2-1	RR-1		890					-
Total			890		0	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-203

AREA:203-1

Unit Data		
	Design	Actual
Unit MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	-	
Configuration	-	
Num Filters Size 1	-	
Filter Size 1	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage	-	
Amperage	-	
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	1295	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	
RL Amperage	-	
RA CFM	1295	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-203/203-1

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-3-1	203-1	SR-1	10	215			-
2-3-2	203-1	SR-1	10	215			-
2-3-3	203-1	SR-1	10	215			-
2-3-4	203-1	SR-1	10	215			-
2-3-5	203-1	SR-1	10	215			-
2-3-6	203-1	SR-1	10	220			-
Total				1295	0	0	0%

Diffuser Ret/Exh (GRD)

WSHP-203/203-1

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R2-3-1	RR-6		1295					-
Total			1295		0	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-204

AREA:204-1

Unit Data		
	Design	Actual
Unit MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	-	
Configuration	-	
Num Filters Size 1	-	
Filter Size 1	-	

Test Data		
	Design	Actual
SA CFM	1275	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	
RL Amperage	-	
RA CFM	1275	
OA CFM	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage	-	
Amperage	-	
Brake Horsepower	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-204/204-1

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-4-1	204-1	SR-1	10	210			-
2-4-2	204-1	SR-1	10	215			-
2-4-3	204-1	SR-1	10	210			-
2-4-4	204-1	SR-1	10	210			-
2-4-5	204-1	SR-1	10	215			-
2-4-6	204-1	SR-1	10	215			-
Total				1275	0	0	0%

Diffuser Ret/Exh (GRD)

WSHP-204/204-1

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R2-4-1	RR-6		1275					-
Total			1275		0	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-205

AREA:205-1

Unit Data		
	Design	Actual
Unit MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	-	
Configuration	-	
Num Filters Size 1	-	
Filter Size 1	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage	-	
Amperage	-	
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	1875	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	
RL Amperage	-	
RA CFM	1875	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-205/205-1

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-5-1	205-1	SR-1	10	205			-
2-5-2	205-1	SR-1	10	210			-
2-5-3	205-1	SR-1	10	205			-
2-5-4	205-1	SR-1	10	205			-
2-5-5	205-1	SR-1	10	210			-
2-5-6	205-1	SR-1	10	210			-
2-5-7	205-1	SR-1	10	210			-
2-5-8	205-1	SR-1	10	210			-
2-5-9	205-1	SR-1	10	210			-
Total				1875	0	0	0%

Diffuser Ret/Exh (GRD)

WSHP-205/205-1

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R2-5-1	RR-4		1875					-
Total			1875		0	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-206

AREA:206-1

Unit Data		
	Design	Actual
Unit MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	-	
Configuration	-	
Num Filters Size 1	-	
Filter Size 1	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage	-	
Amperage	-	
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	-	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	
RL Amperage	-	
RA CFM	-	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-206/206-1

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-6-1	206-2	SR-1	10	215			-
2-6-2	206-2	SR-1	10	220			-
2-6-3	206-2	SR-1	10	220			-
2-6-4	206-2	SR-1	10	220			-
2-6-5	206-2	SR-1	10	220			-
2-6-6	206-1	SR-1	10	200			-
2-6-7	206-1	SR-1	10	195			-
2-6-8	206-1	SR-1	10	195			-
2-6-9	206-1	SR-1	10	195			-
2-6-10	206-1	SR-1	10	195			-
2-6-11	206-1	SR-1	10	195			-
Total				2270	0	0	0%

Diffuser Ret/Exh (GRD)

WSHP-206/206-1

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R2-6-1	RR-3		2270					-
Total			2270		0	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-207

AREA:207-1

Unit Data		
	Design	Actual
Unit MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	-	
Configuration	-	
Num Filters Size 1	-	
Filter Size 1	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage	-	
Amperage	-	
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	2260	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	
RL Amperage	-	
RA CFM	2245	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-207/207-1

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-7-1	207-1	SR-1	10	190			-
2-7-2	207-1	SR-1	10	195			-
2-7-3	207-1	SR-1	10	190			-
2-7-4	207-1	SR-1	10	15			-
2-7-5	207-2	SR-1	10	220			-
2-7-6	207-2	SR-1	10	215			-
2-7-7	207-2	SR-1	10	215			-
2-7-8	207-2	SR-1	10	215			-
2-7-9	207-2	SR-1	10	220			-
2-7-10	207-1	SR-1	10	195			-
2-7-11	207-1	SR-1	10	195			-
2-7-13	207-1	SR-1	10	195			-
Total				2260	0	0	0%

Diffuser Ret/Exh (GRD)

WSHP-207/207-1

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R2-7-1	RR-3		2245					-
Total			2245		0	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-208

AREA:208-1

Unit Data		
	Design	Actual
Unit MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	-	
Configuration	-	
Num Filters Size 1	-	
Filter Size 1	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage	-	
Amperage	-	
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	2240	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	
RL Amperage	-	
RA CFM	2240	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-208/208-1

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	208-1	SR-1	10	230			-
SGRD2	208-1	SR-1	10	230			-
SGRD3	208-1	SR-1	10	230			-
SGRD4	208-1	SR-1	10	230			-
SGRD5	208-1	SR-1	10	230			-
SGRD6	208-2	SR-1	10	220			-
SGRD7	208-2	SR-1	10	215			-
SGRD8	208-2	SR-1	10	220			-
SGRD9	208-2	SR-1	10	215			-
SGRD10	208-2	SR-1	10	220			-
Total				2240	0	0	0%

Diffuser Ret/Exh (GRD)

WSHP-208/208-1

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	RR-3		2240					-
Total			2240		0	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-209

AREA:209-1

Unit Data		
	Design	Actual
Unit MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	-	
Configuration	-	
Num Filters Size 1	-	
Filter Size 1	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage	-	
Amperage	-	
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	2280	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	
RL Amperage	-	
RA CFM	2280	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-209/209-1

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-9-1	209-2	SR-1	10	220			-
2-9-2	209-2	SR-1	10	215			-
2-9-3	209-2	SR-1	10	220			-
2-9-4	209-2	SR-1	10	215			-
2-9-5	209-2	SR-1	10	220			-
2-9-6	209-1	SR-1	10	200			-
2-9-7	209-1	SR-1	10	200			-
2-9-8	209-1	SR-1	10	195			-
2-9-9	209-1	SR-1	10	195			-
2-9-10	209-1	SR-1	10	200			-
2-9-11	209-1	SR-1	10	200			-
Total				2280	0	0	0%

Diffuser Ret/Exh (GRD)

WSHP-209/209-1

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R2-9-1	RR-3		2280					-
Total			2280		0	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-C200 1

AREA:200 CORRIDOR

Unit Data		
	Design	Actual
Unit MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	-	
Configuration	-	
Num Filters Size 1	-	
Filter Size 1	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage	-	
Amperage	-	
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	400	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	
RL Amperage	-	
RA CFM	400	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-C200 1/200 CORRIDOR

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-C200-1	200 CORRIDOR	SR-2	10X10	400			-
Total				400	0	0	0%

Diffuser Ret/Exh (GRD)

WSHP-C200 1/200 CORRIDOR

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R2-C200-1	RR-2		400					-
Total			400		0	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-C201 1

AREA:201 CORRIDOR

Unit Data		
	Design	Actual
Unit MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	-	
Configuration	-	
Num Filters Size 1	-	
Filter Size 1	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage	-	
Amperage	-	
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	-	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	
RL Amperage	-	
RA CFM	-	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-C201 1/201 CORRIDOR

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-C201-1	201 CORRIDOR	SR-2	10X10	460			-
Total				460	0	0	0%

Diffuser Ret/Exh (GRD)

WSHP-C201 1/201 CORRIDOR

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R2-C201-1	RR-2		460					-
Total			460		0	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-C202 1

AREA:202 MAINT

Unit Data		
	Design	Actual
Unit MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	-	
Configuration	-	
Num Filters Size 1	-	
Filter Size 1	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage	-	
Amperage	-	
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	780	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	
RL Amperage	-	
RA CFM	740	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-C202 1/202 MAINT

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-C202-1	202 MAINT	SR-3		40			-
2-C202-2	202 CORRIDOR	SR-2		740			-
Total				780	0	0	0%

Diffuser Ret/Exh (GRD)

WSHP-C202 1/202 MAINT

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R2-C202-1	RR-5		740					-
Total			740		0	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-C1

AREA:

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	
Type	WATER SOURCE	
Configuration	HORIZONTAL	
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	0.50	
Motor Rpm	-	
Phase	1	
Voltage	208	
Amperage	-	4.10
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	855	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	208
RL Amperage	-	4.10
RA CFM	-	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	0.50

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-C1/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3-C-1		SR-3	12X12	740			-
3-C-2		SR-5	10X6	40			-
Total				780	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X01

AREA:301

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230300005
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	NA
Frame	-	NA
Horsepower	0.50	NA
Motor Rpm	-	NA
Phase	1	1
Voltage	208	208/230
Amperage	-	4.10
Brake Horsepower	-	NA

Test Data		
	Design	Actual
SA CFM	840	810
Motor Speed Setpt	-	3
RL Voltage	-	210
RL Amperage	-	1.1
RA CFM	-	810

Performance Data		
	Design	Actual
Suction ESP	-	-0.41
Discharge ESP	-	0.11"
Total ESP	0.50	0.52"

Completed By: Cody Collett on 08/14/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X01/301

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3-1-1	301	SR-1	8	240	252	219	91.3
3-1-2	301	SR-1	8	240	270	224	93.3
3-1-3	301	SR-1	8	240	281	254	105.8
3-1-4	301	SR-1	6	120	130	113	94.2
Total				840	933	810	96.43%

Completed By: Gabe Merk on 08/16/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X02

AREA:302

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230300013
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Test Data		
	Design	Actual
SA CFM	1020	1183
SFAN RPM	-	NA
Motor Speed Setpt	-	LOW
RL Voltage	-	212
RL Amperage	-	1.41
RA CFM	-	1183
OA CFM	-	NA

Motor Data		
	Design	Actual
Motor MFG	-	NA
Frame	-	NL
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10
Brake Horsepower	-	NL

Performance Data		
	Design	Actual
Suction ESP	-	-0.50"
Discharge ESP	-	0.04"
Total ESP	0.50	0.54"

Unit Data - PHOTO LOG



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Completed By: Cody Collett on 08/22/2024

Notes:
Unable to reduce total to design airflow, fan is set to lowest speed setpoint.

Written By: Cody Collett on 08/22/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X02/302

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3-2-1	302B	SR-3	12	450	690	522	116.0
3-2-2	302	SR-1	8	230	198	279	121.3
3-2-3	302	SR-1	6	100	104	123	123.0
3-2-4	302	SR-1	8	230	222	269	117.0
Total				1010	1214	1193	118.12%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X03

AREA:303

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	230300012
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.1

Test Data		
	Design	Actual
SA CFM	520	543
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	1.1
RA CFM	-	543

Performance Data		
	Design	Actual
Suction ESP	-	-0.51"
Discharge ESP	-	0.11"
Total ESP	0.50"	0.62"

Completed By: Cody Collett on 08/14/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X03/303

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3-3-1	303	SR-1	8	200	288	216	108.0
3-3-2	303	SR-1	8	200	274	214	107.0
3-3-3	303	SR-1	6	120	149	113	94.2
Total				520	711	543	104.42%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X04

AREA:304

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230300036
Type	WATER SOURCE	WATER FURNACE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.1

Test Data		
	Design	Actual
SA CFM	1020	1018
Motor Speed Setpt	-	2
RL Voltage	-	210
RL Amperage	-	1.5
RA CFM	-	1018

Performance Data		
	Design	Actual
Suction ESP	-	-0.50"
Discharge ESP	-	0.04"
Total ESP	0.50"	0.54"

Completed By: Cody Collett on 08/14/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X04/304

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3-4-1	304B	SR-3	12	450	351	466	103.6
3-4-2	304	SR-1	8	230	417	226	98.3
3-4-3	304	SR-1	6	100	432	98	98.0
3-4-4	304	SR-1	8	230	344	228	99.1
Total				1010	1544	1018	100.79%

Completed By: Cody Collett on 08/14/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X05

AREA:305

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	230300032
Type	WATER SOURCE	WATER FURNACE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Test Data		
	Design	Actual
SA CFM	520	532
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	INACCESSIBLE
RA CFM	-	532

Performance Data		
	Design	Actual
Suction ESP	-	-0.42"
Discharge ESP	-	0.28"
Total ESP	0.50	0.70"

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.1

Unit Data - PHOTO LOG



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Completed By: Gabe Merk on 08/16/2024

Notes:
Unit not accessible for volts and amps.

Written By: Gabe Merk on 08/16/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X05/305

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3-5-1	305	SR-1	8	200	472	199	99.5
3-5-2	305	SR-1	8	200	417	213	106.5
3-5-3	305	SR-1	6	120	328	120	100.0
Total				520	1217	532	102.31%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X06

AREA:306

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230300039
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	1004
Motor Speed Setpt	-	SPEED TAP 2
RL Voltage	-	212
RL Amperage	-	1.6
RA CFM	-	1004

Performance Data		
	Design	Actual
Suction ESP	-	-0.49"
Discharge ESP	-	0.15"
Total ESP	0.50	0.64"

Completed By: Gabe Merk on 07/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X06/306

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3-6-1	306B	SR-3	12	450	730	452	100.4
3-6-2	306	SR-1	8	230	204	222	96.5
3-6-3	306	SR-1	6	100	97	98	98.0
3-6-4	306	SR-1	8	230	215	232	100.9
Total				1010	1246	1004	99.41%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X07

AREA:307

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230300029
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Test Data		
	Design	Actual
SA CFM	840	825
Motor Speed Setpt	-	4
RL Voltage	-	213
RL Amperage	-	1.26
RA CFM	-	825

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Frame	-	NA
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.1
Brake Horsepower	-	NA

Performance Data		
	Design	Actual
Suction ESP	-	0.44"
Discharge ESP	-	0.18"
Total ESP	0.50	0.61"

Completed By: Cody Collett on 08/14/2024

Notes:
Motor compartment not accessible due faulty screw turning but not unthreading.

Written By: Cody Collett on 08/14/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X07/307

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3-7-1	307	SR-2		280	309	279	99.6
3-7-2	307	SR-2		280	318	284	101.4
3-7-3	307	SR-2		280	219	262	93.6
Total				840	846	825	98.21%

Completed By: Cody Collett on 08/14/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X08

AREA:308

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH018
Serial Num	-	230300018
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	675	665
Motor Speed Setpt	-	LOW
RL Voltage	-	210
RL Amperage	-	1.06
RA CFM	-	665

Performance Data		
	Design	Actual
Suction ESP	-	-0.63"
Discharge ESP	-	0.07"
Total ESP	0.50	0.70"

Completed By: Cody Collett on 08/16/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X08/308

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3-8-1	308	SR-2	4	25	121	27	108.0
3-8-2	308	SR-1	8	170	304	168	98.8
3-8-3	308	SR-1	8	240	72	226	94.2
3-8-4	308	SR-1	8	240	110	244	101.7
Total				675	607	665	98.52%

Completed By: Cody Collett on 08/16/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X09

AREA:309

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH042
Serial Num	-	230300021
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	18X14 / 18X18

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	1.0
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	7.6

Test Data		
	Design	Actual
SA CFM	1400	1483
Motor Speed Setpt	-	2
RL Voltage	-	215
RL Amperage	-	2.9
RA CFM	-	1483

Performance Data		
	Design	Actual
Suction ESP	-	-0.68"
Discharge ESP	-	0.23"
Total ESP	0.50	0.91"

Completed By: Gabe Merk on 08/28/2024

Notes:
Thermostat not installed.
RESOLVED 8/28/24

Written By: Gabe Merk on 08/28/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X09/309

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3-9-1	309B	SR-3	12	590	939	615	104.2
3-9-2	309	SR-2	8	270	213	287	106.3
3-9-3	309	SR-2	8	270	226	288	106.7
3-9-4	309	SR-2	8	270	225	293	108.5
Total				1400	1603	1483	105.93%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-C1

AREA:

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	
Type	WATER SOURCE	
Configuration	HORIZONTAL	
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	0.50	
Motor Rpm	-	
Phase	1	
Voltage	208	
Amperage	-	4.10
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	855	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	208
RL Amperage	-	4.10
RA CFM	-	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	0.50

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-C1/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4-C-1		SR-3	12X12	740			-
4-C-2		SR-5	10X6	40			-
Total				780	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X01

AREA:401

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230300006
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	840	862
Motor Speed Setpt	-	2
RL Voltage	-	211.7
RL Amperage	-	1.65"
RA CFM	-	862

Performance Data		
	Design	Actual
Suction ESP	-	-0.33"
Discharge ESP	-	INACCESSIBLE
Total ESP	0.50	-0.33"

Completed By: Jordan Best on 07/12/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X01/401

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4-1-1	401	SR-1	8	240	106	239	99.6
4-1-2	401	SR-1	8	240	333	242	100.8
4-1-3	401	SR-1	8	240	305	248	103.3
4-1-4	401	SR-1	6	120	152	133	110.8
Total				840	896	862	102.62%

Completed By: Jordan Best on 07/12/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X02

AREA:402

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230300014
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	999
Motor Speed Setpt	-	3
RL Voltage	-	INACCESSIBLE
RL Amperage	-	1.7
RA CFM	-	999

Performance Data		
	Design	Actual
Suction ESP	-	-0.55"
Discharge ESP	-	0.12"
Total ESP	0.50	0.67"

Completed By: Gabe Merk on 06/27/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X02/402

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4-2-1	402B	SR-3	12	450	464	469	104.2
4-2-2	402	SR-1	8	230	252	207	90.0
4-2-3	402	SR-1	6	100	111	104	104.0
4-2-4	402	SR-1	8	230	286	219	95.2
Total				1010	1113	999	98.91%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X03

AREA:403

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	230300010
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	520	559
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	1.17
RA CFM	-	559

Performance Data		
	Design	Actual
Suction ESP	-	-0.61"
Discharge ESP	-	0.10
Total ESP	0.50	0.71"

Completed By: Jordan Best on 06/27/2024

Notes:
ELECTRICAL PANEL INACCESSIBLE, AMPS READ THROUGH COMPRESSOR COMPARTMENT

Written By: Jordan Best on 06/27/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X03/403

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4-3-1	403	SR-1	8	200	251	219	109.5
4-3-2	403	SR-1	8	200	221	209	104.5
4-3-3	403	SR-1	6	120	123	131	109.2
Total				520	595	559	107.5%

Completed By: Jordan Best on 06/27/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X04

AREA:404

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230300035
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	1019
Motor Speed Setpt	-	4
RL Voltage	-	INACCESSIBLE
RL Amperage	-	2.28
RA CFM	-	1019

Performance Data		
	Design	Actual
Suction ESP	-	-0.64"
Discharge ESP	-	0.10"
Total ESP	0.50	0.74"

Completed By: Jordan Best on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X04/404

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4-4-1	404B	SR-3	12	450	761	461	102.4
4-4-2	404	SR-1	8	230	207	232	100.9
4-4-3	404	SR-1	6	100	110	103	103.0
4-4-4	404	SR-1	8	230	145	223	97.0
Total				1010	1223	1019	100.89%

Completed By: Jordan Best on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X05

AREA:405

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	INACCESSIBLE
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	520	565
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	INACCESSIBLE
RA CFM	-	565

Performance Data		
	Design	Actual
Suction ESP	-	-0.24"
Discharge ESP	-	INACCESSIBLE
Total ESP	0.50"	0.24"

Completed By: Jordan Best on 07/12/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X05/405

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4-5-1	405	SR-1	8	200	261	219	109.5
4-5-2	405	SR-1	8	200	195	222	111.0
4-5-3	405	SR-1	6	120	106	124	103.3
Total				520	562	565	108.65%

Completed By: Jordan Best on 07/12/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X06

AREA:406

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230300038
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	1025
Motor Speed Setpt	-	4
RL Voltage	-	213
RL Amperage	-	2.3
RA CFM	-	1025

Performance Data		
	Design	Actual
Suction ESP	-	-0.57"
Discharge ESP	-	0.37"
Total ESP	0.50	0.94"

Completed By: Gabe Merk on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X06/406

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4-6-1	406B	SR-3	12	450	553	468	104.0
4-6-2	406	SR-1	8	230	250	227	98.7
4-6-3	406	SR-1	6	100	148	99	99.0
4-6-4	406	SR-1	8	230	88	231	100.4
Total				1010	1039	1025	101.49%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X07

AREA:403

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230300028
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	840	788
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	1.58
RA CFM	-	788

Performance Data		
	Design	Actual
Suction ESP	-	-0.42"
Discharge ESP	-	0.20"
Total ESP	0.50	0.62"

Completed By: Jordan Best on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X07/403

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4-3-1	403	SR-2	8	280	270	269	96.1
4-3-2	403	SR-2	8	280	267	258	92.1
4-3-3	403	SR-2	8	280	331	261	93.2
Total				840	868	788	93.81%

Completed By: Jordan Best on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X08

AREA:408

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH018
Serial Num	-	230300016
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	675	689
Motor Speed Setpt	-	3
RL Voltage	-	210.3
RL Amperage	-	1.29
RA CFM	-	689

Performance Data		
	Design	Actual
Suction ESP	-	-0.68"
Discharge ESP	-	0.09"
Total ESP	0.50"	0.77"

Completed By: Jordan Best on 06/27/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X08/408

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4-8-1	408	SR-2	4	25	16	27	108.0
4-8-2	408	SR-1	8	170	180	183	107.6
4-8-3	408	SR-1	8	240	226	261	108.8
4-8-4	408	SR-1	8	240	188	218	90.8
Total				675	610	689	102.07%

Completed By: Jordan Best on 06/27/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X09

AREA:409

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH042
Serial Num	-	230300020
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	18X14 / 18X18

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1400	1412
Motor Speed Setpt	-	2
RL Voltage	-	212
RL Amperage	-	2.8
RA CFM	-	1412

Performance Data		
	Design	Actual
Suction ESP	-	-0.85"
Discharge ESP	-	0.04"
Total ESP	0.50"	0.89"

Completed By: Gabe Merk on 08/16/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X09/409

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4-9-1	49B	SR-3	12	590	821	615	104.2
4-9-2	409	SR-2	8	270	159	243	90.0
4-9-3	409	SR-2	8	270	255	294	108.9
4-9-4	409	SR-2	8	270	316	260	96.3
Total				1400	1551	1412	100.86%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-C1

AREA:

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	
Type	WATER SOURCE	
Configuration	HORIZONTAL	
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	0.50	
Motor Rpm	-	
Phase	1	
Voltage	208	
Amperage	-	4.10
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	855	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	208
RL Amperage	-	4.10
RA CFM	-	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	0.50	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-C1/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5-C-1		SR-3	12X12	740			-
5-C-2		SR-5	10X6	40			-
Total				780	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X01

AREA:501

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230101748
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	840	872
Motor Speed Setpt	-	4
RL Voltage	-	2121
RL Amperage	-	1.4
RA CFM	-	872

Performance Data		
	Design	Actual
Suction ESP	-	-0.46"
Discharge ESP	-	INACCESSIBLE
Total ESP	0.50	INACCESSIBLE

Completed By: Gabe Merk on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X01/501

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5-1-1	501	SR-1	8	240	262	262	109.2
5-1-2	501	SR-1	8	240	242	242	100.8
5-1-3	501	SR-1	8	240	238	238	99.2
5-1-4	501	SR-1	6	120	130	130	108.3
Total				840	872	872	103.81%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X02

AREA:502

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101764
Type	WATER SOURCE	WATER SOURCEsource
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	1056
Motor Speed Setpt	-	3
RL Voltage	-	213.2
RL Amperage	-	1.86
RA CFM	-	1056

Performance Data		
	Design	Actual
Suction ESP	-	-0.51"
Discharge ESP	-	0.23"
Total ESP	0.50	0.74"

Completed By: Jordan Best on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X02/502

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5-2-1	502B	SR-3	12	450	762	475	105.6
5-2-2	502	SR-1	8	230	183	254	110.4
5-2-3	502	SR-1	6	100	102	92	92.0
5-2-4	502	SR-1	8	230	202	235	102.2
Total				1010	1249	1056	104.55%

Completed By: Jordan Best on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X03

AREA:503

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	230101757
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	520	565
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	INACCESSIBLE
RA CFM	-	565

Performance Data		
	Design	Actual
Suction ESP	-	-0.36"
Discharge ESP	-	0.30"
Total ESP	0.50	0.66"

Completed By: Jordan Best on 07/12/2024

Notes:
.DIFFUSER 1 ABOVE DESIGN DESPITE DAMPER BEING FULLY CLOSED

Written By: Jordan Best on 07/12/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X03/503

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5-3-1	503	SR-1	8	200	243	230	115.0
5-3-2	503	SR-1	8	200	291	220	110.0
5-3-3	503	SR-1	6	120	125	115	95.8
Total				520	659	565	108.65%

Completed By: Jordan Best on 07/12/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X04

AREA:504

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101790
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	1192
Motor Speed Setpt	-	4
RL Voltage	-	213
RL Amperage	-	2.2
RA CFM	-	1192

Performance Data		
	Design	Actual
Suction ESP	-	-0.63"
Discharge ESP	-	0.04"
Total ESP	0.50	0.67"

Completed By: Gabe Merk on 06/26/2024

Notes:
DIFFUSER 1 DAMPER NOT HOLDING POSITION. LEFT OPEN. UNIT TOTAL LEFT HIGH IN ANTICIPATION OF DAMPER ADJUSTMENT ON DIFFUSER 1.

Written By: Gabe Merk on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X04/504

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5-4-1	504B	SR-3	12	450	330	762	169.3
5-4-2	504	SR-1	8	230	472	212	92.2
5-4-3	504	SR-1	6	100	72	78	78.0
5-4-4	504	SR-1	8	230	244	140	60.9
Total				1010	1118	1192	118.02%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X05

AREA:505

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	230101782
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	520	533
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	INACCESSIBLE
RA CFM	-	533

Performance Data		
	Design	Actual
Suction ESP	-	INACCESSIBLE
Discharge ESP	-	0.09"
Total ESP	0.50	INACCESSIBLE

Completed By: Gabe Merk on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X05/505

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5-5-1	505	SR-1	8	200	293	206	103.0
5-5-2	505	SR-1	8	200	254	214	107.0
5-5-3	505	SR-1	6	120	69	113	94.2
Total				520	616	533	102.5%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X06

AREA:506

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101796
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	250
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	973
Motor Speed Setpt	-	3
RL Voltage	-	211.2
RL Amperage	-	1.70
RA CFM	-	973

Performance Data		
	Design	Actual
Suction ESP	-	-0.57"
Discharge ESP	-	0.21"
Total ESP	0.50	0.78"

Completed By: Cody Collett on 08/16/2024

Notes:
Diffuser 4 won't stay open.

Written By: Cody Collett on 08/16/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X06/506

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5-6-1	506B	SR-3	12	450	790	481	106.9
5-6-2	506	SR-1	8	230	128	211	91.7
5-6-3	506	SR-1	6	100	89	101	101.0
5-6-4	506	SR-1	8	230	136	180	78.3
Total				1010	1143	973	96.34%

Completed By: Cody Collett on 08/16/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X07

AREA:507

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230101781
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	840	857
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	1.04
RA CFM	-	857

Performance Data		
	Design	Actual
Suction ESP	-	-0.33"
Discharge ESP	-	0.08"
Total ESP	0.50	0.41"

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X07/507

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5-7-1	507	SR-2	8	280	304	304	108.6
5-7-2	507	SR-2	8	280	268	268	95.7
5-7-3	507	SR-2	8	280	285	285	101.8
Total				840	857	857	102.02%

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X08

AREA:508

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH018
Serial Num	-	230101768
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.1

Test Data		
	Design	Actual
SA CFM	675	623
Motor Speed Setpt	-	2
RL Voltage	-	211
RL Amperage	-	1.2
RA CFM	-	623

Performance Data		
	Design	Actual
Suction ESP	-	-0.55"
Discharge ESP	-	0.08"
Total ESP	0.50	0.63"

Completed By: Gabe Merk on 08/16/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X08/508

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5-8-1	508	SR-2	4	25	96	23	92.0
5-8-2	508	SR-1	8	170	100	154	90.6
5-8-3	508	SR-1	8	240	149	230	95.8
5-8-4	508	SR-1	8	240	208	216	90.0
Total				675	553	623	92.3%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X09

AREA:509

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH042
Serial Num	-	230101774
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	18X14 / 18X18

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1400	1378
Motor Speed Setpt	-	4
RL Voltage	-	213.3
RL Amperage	-	2.58
RA CFM	-	1378

Performance Data		
	Design	Actual
Suction ESP	-	INACCESSIBLE
Discharge ESP	-	0.16"
Total ESP	0.50	0.16"

Completed By: Jordan Best on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X09/509

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5-9-1	509B	SR-3	12	590	857	594	100.7
5-9-2	509	SR-2	8	270	232	267	98.9
5-9-3	509	SR-2	8	270	272	262	97.0
5-9-4	509	SR-2	8	270	313	255	94.4
Total				1400	1674	1378	98.43%

Completed By: Jordan Best on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-C1

AREA:

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	
Type	WATER SOURCE	
Configuration	HORIZONTAL	
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	0.50	
Motor Rpm	-	
Phase	1	
Voltage	208	
Amperage	-	4.10
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	855	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	208
RL Amperage	-	4.10
RA CFM	-	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	0.50	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-C1/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
6-C-1		SR-3	12X12	740			-
6-C-2		SR-5	10X6	40			-
Total				780	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X01

AREA:601

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230101730
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	840	827
Motor Speed Setpt	-	INACCESSIBLE
RL Voltage	-	INACCESSIBLE
RL Amperage	-	INACCESSIBLE
RA CFM	-	827

Performance Data		
	Design	Actual
Suction ESP	-	-0.21"
Discharge ESP	-	0.11"
Total ESP	0.50	-0.32"

Completed By: Gabe Merk on 06/26/2024

Notes:
SUCTION SP TAKEN PRE-COIL

Written By: Gabe Merk on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X01/601

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
6-1-1	601	SR-1	8	240	292	242	100.8
6-1-2	601	SR-1	8	240	86	232	96.7
6-1-3	601	SR-1	8	240	249	241	100.4
6-1-4	601	SR-1	6	120	183	112	93.3
Total				840	810	827	98.45%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X02

AREA:602B

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101766
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	1066
Motor Speed Setpt	-	4
RL Voltage	-	212
RL Amperage	-	2.4
RA CFM	-	1066

Performance Data		
	Design	Actual
Suction ESP	-	-0.62"
Discharge ESP	-	0.04"
Total ESP	0.50	0.66"

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X02/602B

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
6-2-1	602B	SR-3	12	450	801	473	105.1
6-2-2	602	SR-1	8	230	192	243	105.7
6-2-3	602	SR-1	6	100	107	109	109.0
6-2-4	602	SR-1	8	230	153	241	104.8
Total				1010	1253	1066	105.54%

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X03

AREA:603

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	520	535
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	INACCESSIBLE
RA CFM	-	535

Performance Data		
	Design	Actual
Suction ESP	-	-0.48"
Discharge ESP	-	0.32"
Total ESP	0.50	0.8"

Completed By: Jordan Best on 07/11/2024

Notes:
MOTOR AND ELECTRICAL COMPARTMENT INACCESSIBLE

Written By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X03/603

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
6-3-1	603	SR-1	8	200	248	218	109.0
6-3-2	603	SR-1	8	200	252	204	102.0
6-3-3	603	SR-1	6	120	158	113	94.2
Total				520	658	535	102.88%

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X04

AREA:604

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101787
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1020	1194
Motor Speed Setpt	-	DEFAULT
RL Voltage	-	212.1
RL Amperage	-	2.49
RA CFM	-	1194

Performance Data		
	Design	Actual
Suction ESP	-	INACCESSIBLE
Discharge ESP	-	INACCESSIBLE
Total ESP	0.50	INACCESSIBLE

Completed By: Jordan Best on 06/26/2024

Notes:
BLOWER COMPARTMENT INACCESSIBLE, UNABLE TO ADJUST FAN SPEED. PROPORTIONALLY BALANCED HIGH.

Written By: Gabe Merk on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X04/604

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
6-4-1	604B	SR-3	12	450	725	540	120.0
6-4-2	604	SR-1	8	230	194	268	116.5
6-4-3	604	SR-1	6	100	88	126	126.0
6-4-4	604	SR-1	8	230	208	260	113.0
Total				1010	1215	1194	118.22%

Completed By: Jordan Best on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X05

AREA:605

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	230101784
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	520	520
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	INACCESSIBLE
RA CFM	-	520

Performance Data		
	Design	Actual
Suction ESP	-	-0.60"
Discharge ESP	-	0.08"
Total ESP	0.50	0.68"

Completed By: Gabe Merk on 06/25/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X05/605

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
6-5-1	605	SR-1	8	200	219	206	103.0
6-5-2	605	SR-1	8	200	224	201	100.5
6-5-3	605	SR-1	6	120	145	113	94.2
Total				520	588	520	100%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X06

AREA:606

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101792
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	1134
Motor Speed Setpt	-	2
RL Voltage	-	210
RL Amperage	-	1.4
RA CFM	-	1134

Performance Data		
	Design	Actual
Suction ESP	-	-0.49"
Discharge ESP	-	0.11"
Total ESP	0.50	0.60"

Completed By: Cody Collett on 08/22/2024

Notes:

.DIFFUSER 1 INLINE DAMPER INACCESSIBLE. NO FACE DAMPER. UNIT LEFT HIGH IN ANTICIPATION OF DAMPER INSTALLATION.

.RETURNED ON 07/11/24, ISSUE ABOVE STILL REMAINS

.RETURNED ON 07/31/24, ISSUE ABOVE STILL REMAINS

RETURNED 08/16/24, ISSUE ABOVE STILL REMAINS

ISSUE RESOLVED 8/22/24

Balanced proportionally at lowest speed setpoint. Unable to reduce cfm further.

Written By: Gabe Merk on 08/28/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X06/606

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
6-6-1	606B	SR-3	12	450	600	502	111.6
6-6-2	606	SR-1	8	230	262	257	111.7
6-6-3	606	SR-1	6	100	224	114	114.0
6-6-4	606	SR-1	8	230	334	261	113.5
Total				1010	1420	1134	112.28%

Completed By: Cody Collett on 08/22/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X07

AREA:607

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	INACCESSIBLE
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	840	833
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	INACCESSIBLE
RA CFM	-	833

Performance Data		
	Design	Actual
Suction ESP	-	-0.37"
Discharge ESP	-	0.44"
Total ESP	0.50	0.81"

Completed By: Jordan Best on 06/26/2024

Notes:
LIMITED ACCESS TO UNIT, UNABLE TO READ VOLTS AND AMPS

Written By: Jordan Best on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X07/607

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
6-7-1	607	SR-2	8	280	185	281	100.4
6-7-2	607	SR-2	8	280	262	266	95.0
6-7-3	607	SR-2	8	280	447	286	102.1
Total				840	894	833	99.17%

Completed By: Jordan Best on 06/26/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X08

AREA:608

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH018
Serial Num	-	230101770
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	675	676
Motor Speed Setpt	-	2
RL Voltage	-	212.6
RL Amperage	-	1.22
RA CFM	-	676

Performance Data		
	Design	Actual
Suction ESP	-	-0.60"
Discharge ESP	-	0.11"
Total ESP	0.50	0.71"

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X08/608

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
6-8-1	608	SR-2	4	25	36	22	88.0
6-8-2	608	SR-1	8	170	184	183	107.6
6-8-3	608	SR-1	8	240	245	233	97.1
6-8-4	608	SR-1	8	240	189	238	99.2
Total				675	654	676	100.15%

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X09

AREA:609

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH042
Serial Num	-	230101775
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	18X14 / 18X18

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	1
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	7.6

Test Data		
	Design	Actual
SA CFM	1400	1434
Motor Speed Setpt	-	3
RL Voltage	-	INACCESSIBLE
RL Amperage	-	3.4
RA CFM	-	1434

Performance Data		
	Design	Actual
Suction ESP	-	-0.68"
Discharge ESP	-	0.26"
Total ESP	0.50	0.95"

Completed By: Gabe Merk on 06/25/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X09/609

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
6-9-1	609B	SR-3	12	590	927	618	104.7
6-9-2	609	SR-2	8	270	187	260	96.3
6-9-3	609	SR-2	8	270	179	289	107.0
6-9-4	609	SR-2	8	270	271	267	98.9
Total				1400	1564	1434	102.43%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-C1

AREA:

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	
Type	WATER SOURCE	
Configuration	HORIZONTAL	
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	0.50	
Motor Rpm	-	
Phase	1	
Voltage	208	
Amperage	-	4.10
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	855	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	208
RL Amperage	-	4.10
RA CFM	-	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	0.50	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-C1/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
7-C-1		SR-3	12X12	740			-
7-C-2		SR-5	10X6	40			-
Total				780	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X01

AREA:701

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230101747
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	11
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	840	829
Motor Speed Setpt	-	4
RL Voltage	-	211
RL Amperage	-	1.5
RA CFM	-	829

Performance Data		
	Design	Actual
Suction ESP	-	INACCESSIBLE
Discharge ESP	-	INACCESSIBLE
Total ESP	0.50	INACCESSIBLE

Completed By: Gabe Merk on 06/25/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X01/701

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
7-1-1	701	SR-1	8	240	217	224	93.3
7-1-2	701	SR-1	8	240	237	240	100.0
7-1-3	701	SR-1	8	240	268	234	97.5
7-1-4	701	SR-1	6	120	112	131	109.2
Total				840	834	829	98.69%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X02

AREA:702

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101765
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	1066
Motor Speed Setpt	-	4
RL Voltage	-	212
RL Amperage	-	2.4
RA CFM	-	1066

Performance Data		
	Design	Actual
Suction ESP	-	-0.63"
Discharge ESP	-	0.23"
Total ESP	0.50	0.86"

Completed By: Gabe Merk on 06/25/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X02/702

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
7-2-1	702B	SR-3	12	450	732	473	105.1
7-2-2	702	SR-1	8	230	214	240	104.3
7-2-3	702	SR-1	6	100	40	108	108.0
7-2-4	702	SR-1	8	230	233	245	106.5
Total				1010	1219	1066	105.54%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X03

AREA:703

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	230101759
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	520	546
Motor Speed Setpt	-	2
RL Voltage	-	211
RL Amperage	-	0.3
RA CFM	-	546

Performance Data		
	Design	Actual
Suction ESP	-	-0.57"
Discharge ESP	-	0.05"
Total ESP	0.50	0.62"

Completed By: Gabe Merk on 06/25/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X03/703

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
7-3-1	703	SR-1	8	200	210	205	102.5
7-3-2	703	SR-1	8	200	233	219	109.5
7-3-3	703	SR-1	6	120		122	101.7
Total				520	443	546	105%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X04

AREA:704

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101791
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	1049
Motor Speed Setpt	-	3
RL Voltage	-	211
RL Amperage	-	1.8
RA CFM	-	1049

Performance Data		
	Design	Actual
Suction ESP	-	-0.45"
Discharge ESP	-	0.13"
Total ESP	0.50	0.58"

Completed By: Gabe Merk on 06/25/2024

Notes:
UNIT NOT GETTING INTO HIGH SPEED. USED LOW SPEED TAP SET TO 3 TO BALANCE UNIT.

Written By: Gabe Merk on 06/25/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X04/704

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
7-4-1	704B	SR-3	12	450	518	475	105.6
7-4-2	704	SR-1	8	230	140	237	103.0
7-4-3	704	SR-1	6	100	70	108	108.0
7-4-4	704	SR-1	8	230	142	229	99.6
Total				1010	870	1049	103.86%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X05

AREA:705

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	230101785
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	520	542
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	INACCESSIBLE
RA CFM	-	542

Performance Data		
	Design	Actual
Suction ESP	-	-0.70"
Discharge ESP	-	0.05"
Total ESP	0.50	0.75"

Completed By: Gabe Merk on 06/25/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X05/705

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
7-5-1	703	SR-1	8	200	223	217	108.5
7-5-2	703	SR-1	8	200	222	216	108.0
7-5-3	703	SR-1	6	120	87	109	90.8
Total				520	532	542	104.23%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X06

AREA:706

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101793
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	1042
Motor Speed Setpt	-	2
RL Voltage	-	212.2
RL Amperage	-	1.74
RA CFM	-	1042

Performance Data		
	Design	Actual
Suction ESP	-	-0.53"
Discharge ESP	-	0.17"
Total ESP	0.50	0.7"

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X06/706

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
7-6-1	706B	SR-3	12	450	630	493	109.6
7-6-2	706	SR-1	8	230	186	222	96.5
7-6-3	706	SR-1	6	100	80	90	90.0
7-6-4	706	SR-1	8	230	199	237	103.0
Total				1010	1095	1042	103.17%

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X07

AREA:707

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230101780
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	840	850
Motor Speed Setpt	-	1
RL Voltage	-	NA
RL Amperage	-	1.51
RA CFM	-	850

Performance Data		
	Design	Actual
Suction ESP	-	-0.74"
Discharge ESP	-	0.21"
Total ESP	0.50	0.95"

Completed By: Gabe Merk on 07/31/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X07/707

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
7-7-1	707	SR-2	8	280	212	258	92.1
7-7-2	707	SR-2	8	280	310	294	105.0
7-7-3	707	SR-2	8	280	511	298	106.4
Total				840	1033	850	101.19%

Completed By: Jordan Best on 07/30/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X08

AREA:708

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH018
Serial Num	-	230101769
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	675	933
Motor Speed Setpt	-	2
RL Voltage	-	210.6
RL Amperage	-	1.32
RA CFM	-	933

Performance Data		
	Design	Actual
Suction ESP	-	-0.43"
Discharge ESP	-	0.50"
Total ESP	0.50	0.93"

Completed By: Jordan Best on 07/11/2024

Notes:
FAN SPEED AT LOWEST SET POINT, UNIT BALANCED PROPORTIONATELY HIGH

Written By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X08/708

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
7-8-1	708	SR-2	4	25	27	52	208.0
7-8-2	708	SR-1	8	170	279	266	156.5
7-8-3	708	SR-1	8	240	380	335	139.6
7-8-4	708	SR-1	8	240	476	280	116.7
Total				675	1162	933	138.22%

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X09

AREA:709

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH042
Serial Num	-	230101773
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	18X14 / 18X18

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1400	1545
Motor Speed Setpt	-	INACCESSIBLE
RL Voltage	-	INACCESSIBLE
RL Amperage	-	3.62
RA CFM	-	1545

Performance Data		
	Design	Actual
Suction ESP	-	INACCESSIBLE
Discharge ESP	-	0.27"
Total ESP	0.50	0.27"

Completed By: Jordan Best on 07/11/2024

Notes:
MOTOR COMPARTMENT INACCESSIBLE, UNABLE TO ADJUST FAN SPEED
UNIT BALANCED PROPORTIONATELY HIGH

Written By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X09/709

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
7-9-1	709B	SR-3	12	590	560	602	102.0
7-9-2	709	SR-2	8	270	332	319	118.1
7-9-3	709	SR-2	8	270	307	322	119.3
7-9-4	709	SR-2	8	270	391	302	111.9
Total				1400	1590	1545	110.36%

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-C1

AREA:

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	
Type	WATER SOURCE	
Configuration	HORIZONTAL	
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	0.50	
Motor Rpm	-	
Phase	1	
Voltage	208	
Amperage	-	4.10
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	855	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	208
RL Amperage	-	4.10
RA CFM	-	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	0.50	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-C1/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
8-C-1		SR-3	12X12	740			-
8-C-2		SR-5	10X6	40			-
Total				780	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X01

AREA:801

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230101749
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.1

Test Data		
	Design	Actual
SA CFM	840	818
Motor Speed Setpt	-	3
RL Voltage	-	INACCESSIBLE
RL Amperage	-	1.3
RA CFM	-	818

Performance Data		
	Design	Actual
Suction ESP	-	INACCESSIBLE
Discharge ESP	-	INACCESSIBLE
Total ESP	0.50	INACCESSIBLE

Completed By: Gabe Merk on 06/19/2024

Notes:
 NO ROOM TO ACCESS DUCT FOR PRESSURES.
 NO ROOM TO TAKE VOLTAGE READING.

Written By: Gabe Merk on 06/19/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X01/801

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
8-1-1	801	SR-1	8	240	171	238	99.2
8-1-2	801	SR-1	8	240	137	220	91.7
8-1-3	801	SR-1	8	240	219	252	105.0
8-1-4	801	SR-1	6	120	86	108	90.0
Total				840	613	818	97.38%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X02

AREA:802B

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101762
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.1

Test Data		
	Design	Actual
SA CFM	1010	1050
Motor Speed Setpt	-	4
RL Voltage	-	211
RL Amperage	-	2.3
RA CFM	-	1050

Performance Data		
	Design	Actual
Suction ESP	-	-0.67
Discharge ESP	-	0.11"
Total ESP	0.50	0.78"

Completed By: Gabe Merk on 06/19/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X02/802B

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
8-2-1	802B	SR-3	12	450	672	474	105.3
8-2-2	802	SR-1	8	230	176	229	99.6
8-2-3	802	SR-1	6	100	110	108	108.0
8-2-4	802	SR-1	8	230	178	239	103.9
Total				1010	1136	1050	103.96%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X03

AREA:803

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	230101758
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	520	551
Motor Speed Setpt	-	2
RL Voltage	-	212
RL Amperage	-	4.5
RA CFM	-	551

Performance Data		
	Design	Actual
Suction ESP	-	-0.67"
Discharge ESP	-	0.07"
Total ESP	0.50	0.74"

Completed By: Gabe Merk on 06/19/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X03/803

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
8-3-1	803	SR-1	8	200	197	216	108.0
8-3-2	803	SR-1	8	200	223	218	109.0
8-3-3	803	SR-1	6	120	88	117	97.5
Total				520	508	551	105.96%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X04

AREA:804

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101789
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1020	1028
Motor Speed Setpt	-	3
RL Voltage	-	211
RL Amperage	-	1.6
RA CFM	-	1028

Performance Data		
	Design	Actual
Suction ESP	-	-0.53"
Discharge ESP	-	0.02"
Total ESP	0.50	0.73"

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X04/804

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
8-4-1	804B	SR-3	12	450	747	498	110.7
8-4-2	804	SR-1	8	230	180	219	95.2
8-4-3	804	SR-1	6	100	75	93	93.0
8-4-4	804	SR-1	8	230	200	218	94.8
Total				1010	1202	1028	101.78%

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X05

AREA:805

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	230101786
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	520	505
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	INACCESSIBLE
RA CFM	-	505

Performance Data		
	Design	Actual
Suction ESP	-	-0.57"
Discharge ESP	-	0.13"
Total ESP	0.50	0.70"

Completed By: Gabe Merk on 06/19/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X05/805

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
8-5-1	805	SR-1	8	200	391	191	95.5
8-5-2	805	SR-1	8	200	522	194	97.0
8-5-3	805	SR-1	6	120	243	120	100.0
Total				520	1156	505	97.12%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X06

AREA:806

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101795
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1850
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1020	977
Motor Speed Setpt	-	2
RL Voltage	-	214
RL Amperage	-	1.9
RA CFM	-	977

Performance Data		
	Design	Actual
Suction ESP	-	-0.51"
Discharge ESP	-	0.14"
Total ESP	0.50	0.65"

Completed By: Gabe Merk on 06/18/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X06/806

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
8-6-1	806B	SR-3	12	450	694	463	102.9
8-6-2	806	SR-1	8	230	441	209	90.9
8-6-3	806	SR-1	6	100	32	97	97.0
8-6-4	806	SR-1	8	230	362	208	90.4
Total				1010	1529	977	96.73%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X07

AREA:807

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230101779
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	840	985
Motor Speed Setpt	-	1
RL Voltage	-	211
RL Amperage	-	1.0
RA CFM	-	985

Performance Data		
	Design	Actual
Suction ESP	-	-0.51"
Discharge ESP	-	0.19"
Total ESP	0.50	0.70"

Completed By: Jordan Best on 07/10/2024

Notes:
MOTOR IN LOWEST SPEED. UNIT BALANCED PROPORTIONALLY HIGH.

Written By: Gabe Merk on 06/19/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X07/807

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
8-7-1	807	SR-2	8	280	304	330	117.9
8-7-2	807	SR-2	8	280	338	340	121.4
8-7-3	807	SR-2	8	280	416	315	112.5
Total				840	1058	985	117.26%

Completed By: Jordan Best on 07/10/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X08

AREA:808

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH018
Serial Num	-	230101771
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	675	682
Motor Speed Setpt	-	2
RL Voltage	-	210
RL Amperage	-	1.1
RA CFM	-	682

Performance Data		
	Design	Actual
Suction ESP	-	-0.53"
Discharge ESP	-	0.11"
Total ESP	0.50	0.64"

Completed By: Gabe Merk on 06/24/2024

Notes:
FRESH FILTER USED FOR TAB. OLD FILTER REPLACED.

Written By: Gabe Merk on 06/24/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X08/808

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
8-8-1	SR-2	SR-2	12	25	73	23	92.0
8-8-2	SR-1	SR-1	8	170	132	185	108.8
8-8-3	SR-1	SR-1	8	240	225	242	100.8
8-8-4	SR-1	SR-1	8	240	166	232	96.7
Total				675	596	682	101.04%

Completed By: Gabe Merk on 06/24/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X09

AREA:809

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH042
Serial Num	-	230101772
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	18X14 / 18X18

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	1.0
Phase	1	1
Voltage	208	208
Amperage	-	7.6

Test Data		
	Design	Actual
SA CFM	1400	2597
Motor Speed Setpt	-	INACCESSIBLE
RL Voltage	-	212.3
RL Amperage	-	3.25
RA CFM	-	1597

Performance Data		
	Design	Actual
Suction ESP	-	NA
Discharge ESP	-	0.07"
Total ESP	0.50	0.07"

Completed By: Jordan Best on 07/10/2024

Notes:
MOTOR INACCESSIBLE, UNABLE TO SLOW FAN SPEED, UNIT BALANCED PROPORTIONATELY HIGH

Written By: Jordan Best on 07/10/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X09/809

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
8-9-1	809B	SR-3	12	590	775	790	133.9
8-9-2	809	SR-2	8	270	309	278	103.0
8-9-3	809	SR-2	8	270	361	259	95.9
8-9-4	809	SR-2	8	270	340	270	100.0
Total				1400	1785	1597	114.07%

Completed By: Jordan Best on 07/10/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-C1

AREA:

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	
Type	WATER SOURCE	
Configuration	HORIZONTAL	
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	0.50	
Motor Rpm	-	
Phase	1	
Voltage	208	
Amperage	-	4.10
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	855	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	208
RL Amperage	-	4.10
RA CFM	-	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	0.50	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-C1/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
9-C-1		SR-3	12X12	740			-
9-C-2		SR-5	10X6	40			-
Total				780	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X01

AREA:901

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230101751
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	840	852
Motor Speed Setpt	-	INACCESSIBLE
RL Voltage	-	212
RL Amperage	-	1.3
RA CFM	-	852

Performance Data		
	Design	Actual
Suction ESP	-	INACCESSIBLE
Discharge ESP	-	INACCESSIBLE
Total ESP	0.50	INACCESSIBLE

Completed By: Gabe Merk on 06/24/2024

Notes:
UNABLE TO ACCESS FAN SECTION. DUCTWORK INACCESSIBLE UNABLE TO ACQUIRE PERFORMANCE DATA.

Written By: Gabe Merk on 06/24/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X01/901

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
9-1-1	901	SR-1	8	240	39	249	103.8
9-1-2	901	SR-1	8	240	247	256	106.7
9-1-3	901	SR-1	8	240	228	219	91.3
9-1-4	901	SR-1	6	120	129	128	106.7
Total				840	643	852	101.43%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X02

AREA:903

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101763
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1020	973
Motor Speed Setpt	-	1
RL Voltage	-	212
RL Amperage	-	1.5
RA CFM	-	973

Performance Data		
	Design	Actual
Suction ESP	-	-0.55"
Discharge ESP	-	0.02"
Total ESP	0.50	0.57"

Completed By: Jordan Best on 07/11/2024

Notes:

- . DAMPER FOR DIFFUSER 1 INACCESSIBLE. UNABLE TO BALANCE AIRFLOW TO OTHER DIFFUSERS.
- . 07/30/24 DAMPER STILL INACCESSIBLE, NO FACE DAMPER INSTALLED

Written By: Jordan Best on 07/30/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X02/903

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
9-2-1	902B	SR-3	12	450	753	637	141.6
9-2-2	902	SR-1	8	230	127	129	56.1
9-2-3	902	SR-1	6	100	89	71	71.0
9-2-4	902	SR-1	8	230	161	136	59.1
Total				1010	1130	973	96.34%

Completed By: Jordan Best on 07/11/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X03

AREA:303

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	230101760
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	520	535
Motor Speed Setpt	-	2
RL Voltage	-	211.5
RL Amperage	-	1.31
RA CFM	-	535

Performance Data		
	Design	Actual
Suction ESP	-	-0.63"
Discharge ESP	-	0.17"
Total ESP	0.50	

Completed By: Jordan Best on 06/27/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X03/303

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
9-3-1	903	SR-1	8	200	210	205	102.5
9-3-2	903	SR-1	8	200	266	221	110.5
9-3-3	903	SR-1	6	120	148	109	90.8
Total				520	624	535	102.88%

Completed By: Jordan Best on 06/27/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X04

AREA:904

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101783
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1020	1121
Motor Speed Setpt	-	1
RL Voltage	-	213
RL Amperage	-	1.74
RA CFM	-	1121

Performance Data		
	Design	Actual
Suction ESP	-	-0.45"
Discharge ESP	-	0.29"
Total ESP	0.50	0.74"

Completed By: Jordan Best on 06/24/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X04/904

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
9-4-1	904B	SR-3	12	450	525	525	116.7
9-4-2	904	SR-1	8	230	234	234	101.7
9-4-3	904	SR-1	6	100	114	114	114.0
9-4-4	904	SR-1	8	230	248	248	107.8
Total				1010	1121	1121	110.99%

Completed By: Jordan Best on 06/24/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X05

AREA:905

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	INACCESSIBLE
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	520	655
Motor Speed Setpt	-	INACCESSIBLE
RL Voltage	-	INACCESSIBLE
RL Amperage	-	INACCESSIBLE
RA CFM	-	655

Performance Data		
	Design	Actual
Suction ESP	-	INACCESSIBLE
Discharge ESP	-	INACCESSIBLE
Total ESP	0.50	INACCESSIBLE

Completed By: Jordan Best on 06/24/2024

Notes:
Unit balanced as is, unable to access blower or electrical panels.

Written By: Jordan Best on 06/24/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X05/905

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
9-5-1	905	SR-1	8	200	245	258	129.0
9-5-2	905	SR-1	8	200	308	266	133.0
9-5-3	905	SR-1	6	120	108	131	109.2
Total				520	661	655	125.96%

Completed By: Jordan Best on 06/24/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X06

AREA:906

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230101794
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	982
Motor Speed Setpt	-	2
RL Voltage	-	212.1
RL Amperage	-	1.60
RA CFM	-	982

Performance Data		
	Design	Actual
Suction ESP	-	-0.56"
Discharge ESP	-	0.07"
Total ESP	0.50	0.63"

Completed By: Jordan Best on 07/10/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X06/906

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
9-6-1	906B	SR-3	12	450	597	447	99.3
9-6-2	906	SR-1	8	230	206	224	97.4
9-6-3	906	SR-1	6	100	137	94	94.0
9-6-4	906	SR-1	8	230	227	217	94.3
Total				1010	1167	982	97.23%

Completed By: Jordan Best on 06/27/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X07

AREA:907

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230101777
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	840	802
Motor Speed Setpt	-	2
RL Voltage	-	INACCESSIBLE
RL Amperage	-	1.3
RA CFM	-	802

Performance Data		
	Design	Actual
Suction ESP	-	-0.26"
Discharge ESP	-	0.55"
Total ESP	0.50	0.81"

Completed By: Jordan Best on 06/27/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X07/907

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
9-7-1	907	SR-2	8	280	408	268	95.7
9-7-2	907	SR-2	8	280	430	272	97.1
9-7-3	907	SR-2	8	280	62	262	93.6
Total				840	900	802	95.48%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X08

AREA:908

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH018
Serial Num	-	230101767
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Test Data		
	Design	Actual
SA CFM	675	627
Motor Speed Setpt	-	1
RL Voltage	-	211.8
RL Amperage	-	1.23
RA CFM	-	627

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Frame	-	NA
Horsepower	0.50	1
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Performance Data		
	Design	Actual
Suction ESP	-	-0.52"
Discharge ESP	-	0.1"
Total ESP	0.50	0.62"

Completed By: Jordan Best on 07/10/2024

Notes:

- . DIFFUSER 1 ABOVE DESIGN, DAMPER FULLY CLOSED, THIS CAUSES DIFFUSERS 3 & 4 TO FALL BELOW DESIGN
- . 07/30/24 NO THERMOSTAT, UNIT NOT RUNNING

Written By: Jordan Best on 07/30/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X08/908

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
9-8-1	908	SR-2	4	25	80	80	320.0
9-8-2	908	SR-1	8	170	166	166	97.6
9-8-3	908	SR-1	8	240	184	184	76.7
9-8-4	908	SR-1	8	240	197	197	82.1
Total				675	627	627	92.89%

Completed By: Jordan Best on 07/10/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X09

AREA:909

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH042
Serial Num	-	230101776
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	18X14 / 18X18

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	1
Motor Rpm	-	1050
Phase	1	1
Voltage	208	208
Amperage	-	7.6

Test Data		
	Design	Actual
SA CFM	1400	1404
Motor Speed Setpt	-	3
RL Voltage	-	212
RL Amperage	-	3.2
RA CFM	-	1404

Performance Data		
	Design	Actual
Suction ESP	-	-0.85"
Discharge ESP	-	0.04"
Total ESP	0.50	0.89"

Completed By: Jordan Best on 07/10/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X09/909

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
9-9-1	909B	SR-3	SR-3	590	813	596	101.0
9-9-2	909	SR-2	SR-2	270	234	279	103.3
9-9-3	909	SR-2	SR-2	270	257	267	98.9
9-9-4	909	SR-2	SR-2	270	287	262	97.0
Total				1400	1591	1404	100.29%

Completed By: Jordan Best on 07/10/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-C1

AREA:

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	
Type	WATER SOURCE	
Configuration	HORIZONTAL	
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	0.50	
Motor Rpm	-	
Phase	1	
Voltage	208	
Amperage	-	4.10
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	855	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	208
RL Amperage	-	4.10
RA CFM	-	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	0.50

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-C1/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
10-C-1		SR-3	12X12	740			-
10-C-2		SR-5	10X6	40			-
Total				780	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X01

AREA:301

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	NA
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	840	909
Motor Speed Setpt	-	1
RL Voltage	-	NA
RL Amperage	-	NA
RA CFM	-	909

Performance Data		
	Design	Actual
Suction ESP	-	-0.75"
Discharge ESP	-	NA
Total ESP	-	0.75"

Completed By: Jordan Best on 09/06/2024

Notes:

. MOTOR COMPARTMENT AND CONTROL PANEL INACCESSIBLE, UNABLE TO READ VOLTAGE/ AMPS OR CHANGE FAN SPEED SET POINT

Written By: Jordan Best on 09/06/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X01/301

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
10-1-1	301	SR-1	8	240	310	257	107.1
10-1-2	301	SR-1	8	240	353	265	110.4
10-1-3	301	SR-1	8	240	183	259	107.9
10-1-4	301	SR-1	6	120	264	128	106.7
Total				840	1110	909	108.21%

Completed By: Jordan Best on 09/06/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X02

AREA:1002

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230300015
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Phase	1	1
Voltage	208	208
Amperage	-	4.1

Test Data		
	Design	Actual
SA CFM	1010	1051
Motor Speed Setpt	-	1
RL Voltage	-	210.4
RL Amperage	-	2.14
RA CFM	-	1051

Performance Data		
	Design	Actual
Suction ESP	-	-0.96"
Discharge ESP	-	0.11"
Total ESP	-	1.07"

Completed By: Jordan Best on 09/06/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X02/1002

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
10-2-1	1002B	SR-3	12	450	630	438	97.3
10-2-2	1002	SR-1	8	230	198	253	110.0
10-2-3	1002	SR-1	6	100	199	109	109.0
10-2-4	1002	SR-1	8	230	170	251	109.1
Total				1010	1197	1051	104.06%

Completed By: Jordan Best on 09/06/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X03

AREA:1003

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	230300011
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	520	533
Motor Speed Setpt	-	1
RL Voltage	-	211.8
RL Amperage	-	1.21
RA CFM	-	533

Performance Data		
	Design	Actual
Suction ESP	-	-0.49"
Discharge ESP	-	0.26"
Total ESP	-	0.75"

Completed By: Jordan Best on 09/06/2024

Notes:
 . MOTOR COMPARTMENT INACCESSIBLE, UNABLE TO ADJUST FAN SPEED SET POINT

Written By: Jordan Best on 09/06/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X03/1003

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
10-3-1	1003	SR-1	8	200	154	216	108.0
10-3-2	1003	SR-1	8	200	517	187	93.5
10-3-3	1003	SR-1	6	120	182	130	108.3
Total				520	853	533	102.5%

Completed By: Jordan Best on 09/06/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X04

AREA:1004

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	230300034
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	1010	976
Motor Speed Setpt	-	3
RL Voltage	-	212.9
RL Amperage	-	1.75
RA CFM	-	976

Performance Data		
	Design	Actual
Suction ESP	-	-0.96"
Discharge ESP	-	0.04"
Total ESP	-	1"

Completed By: Jordan Best on 09/05/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X04/1004

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
10-4-1	1004B	SR-3	12	450	410	418	92.9
10-4-2	1004	SR-1	8	230	216	223	97.0
10-4-3	1004	SR-1	6	100	158	107	107.0
10-4-4	1004	SR-1	8	230	178	228	99.1
Total				1010	962	976	96.63%

Completed By: Jordan Best on 09/05/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X05

AREA:1005

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH015
Serial Num	-	230300033
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Test Data		
	Design	Actual
SA CFM	520	565
Motor Speed Setpt	-	3
RA CFM	-	565

Performance Data		
	Design	Actual
Suction ESP	-	-0.55"
Total ESP	-	0.50

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.5
Phase	1	1
Voltage	208	208
Amperage	-	4.1

Completed By: Jordan Best on 09/05/2024

Notes:

- . MOTOR INACCESSIBLE, UNABLE TO ADJUST FAN SPEED
- . UNABLE TO ATTAIN DISCHARGE PRESSURE
- . UNABLE TO ATTAIN VOLTAGE AND AMPS

Written By: Jordan Best on 09/05/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X05/1005

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
10-5-1	1005	SR-1	8	200	193	214	107.0
10-5-2	1005	SR-1	8	200	196	217	108.5
10-5-3	1005	SR-1	6	120	168	134	111.7
Total				520	557	565	108.65%

Completed By: Jordan Best on 09/05/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X06

AREA:1006

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH030
Serial Num	-	
Type	WATER SOURCE	
Configuration	HORIZONTAL	
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	0.50	
Motor Rpm	-	
Phase	1	
Voltage	208	
Amperage	-	4.10
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	1020	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	208
RL Amperage	-	4.10
RA CFM	-	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	-	0.50

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X06/1006

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
10-6-1	1006B	SR-3	12	450			-
10-6-2	1006	SR-1	8	230			-
10-6-3	1006	SR-1	6	100			-
10-6-4	1006	SR-1	8	230			-
Total				1010	0	0	0%

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X07

AREA:1007

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH024
Serial Num	-	230300030
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X25

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	840	789
Motor Speed Setpt	-	1
RL Voltage	-	NA
RL Amperage	-	1.68
RA CFM	-	789

Performance Data		
	Design	Actual
Suction ESP	-	-0.71"
Discharge ESP	-	0.19"
Total ESP	-	0.9"

Completed By: Jordan Best on 09/06/2024

Notes:

. CONTROL PANEL INACCESSIBLE, UNABLE TO READ VOLTAGE

Written By: Jordan Best on 09/06/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X07/1007

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
10-7-1	1007	SR-2	8	280	188	254	90.7
10-7-2	1007	SR-2	8	280	310	273	97.5
10-7-3	1007	SR-2	8	280	524	262	93.6
Total				840	1022	789	93.93%

Completed By: Jordan Best on 09/06/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X08

AREA:1008

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH018
Serial Num	-	230300017
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	16X20

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	0.50
Phase	1	1
Voltage	208	208
Amperage	-	4.10

Test Data		
	Design	Actual
SA CFM	675	679
Motor Speed Setpt	-	1
RL Voltage	-	211.6
RL Amperage	-	1.15
RA CFM	-	679

Performance Data		
	Design	Actual
Suction ESP	-	-0.57"
Discharge ESP	-	NA
Total ESP	-	0.57"

Completed By: Jordan Best on 09/06/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X08/1008

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
10-8-1	1008	SR-2	4	25	38	27	108.0
10-8-2	1008	SR-1	8	170	78	167	98.2
10-8-3	1008	SR-1	8	240	324	228	95.0
10-8-4	1008	SR-1	8	240	373	257	107.1
Total				675	813	679	100.59%

Completed By: Jordan Best on 09/06/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-X09

AREA:1009

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH042
Serial Num	-	230300019
Type	WATER SOURCE	WATER SOURCE
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	1
Filter Size 1	-	18X14 / 18X18

Motor Data		
	Design	Actual
Motor MFG	-	GENTEQ
Horsepower	0.50	1
Phase	1	1
Voltage	208	208
Amperage	-	7.6

Test Data		
	Design	Actual
SA CFM	1460	1824
Motor Speed Setpt	-	3
RL Voltage	-	NA
RL Amperage	-	3.17
RA CFM	-	1824

Performance Data		
	Design	Actual
Suction ESP	-	-0.83"
Discharge ESP	-	0.02"
Total ESP	-	0.85"

Completed By: Jordan Best on 09/05/2024

Notes:

- . CONTROL PANEL INACCESSIBLE, UNABLE TO READ VOLTAGE
- . MOTOR INACCESSIBLE, UNABLE TO ADJUST FAN SPEED, UNIT BALANCED PROPORINATELY HIGH

Written By: Jordan Best on 09/05/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

Heat Pump



Diffuser Supply (GRD)

WSHP-X09/1009

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
10-9-1	1009B	SR-3	12	590	910	675	114.4
10-9-2	1009	SR-2	8	270	324	375	138.9
10-9-3	1009	SR-2	8	270	352	392	145.2
10-9-4	1009	SR-2	8	270	272	382	141.5
Total				1400	1858	1824	130.29%

Completed By: Jordan Best on 09/05/2024

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Heat Pump



Asset: WSHP-14

AREA:1009A

Unit Data		
	Design	Actual
Unit MFG	NA	WATER FURNACE
Model Num	NA	UBH048
Serial Num	-	
Type	WATER SOURCE	
Configuration	HORIZONTAL	
Num Filters Size 1	-	1 / 1
Filter Size 1	-	18X14 / 18X18

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	1.0	
Motor Rpm	-	
Phase	3	
Voltage	208	
Amperage	-	7.6
Brake Horsepower	-	

Test Data		
	Design	Actual
SA CFM	1635	
SFAN RPM	-	
Motor Speed Setpt	-	
RL Voltage	-	208
RL Amperage	-	7.6
RA CFM	-	
OA CFM	-	

Performance Data		
	Design	Actual
Suction ESP	-	
Discharge ESP	-	
Total ESP	0.50	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: E-201

AREA:201 RR

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	CEILING	

Test Data		
	Design	Actual
CFM	80	
RL Voltage	-	120
RL Amperage	-	0.2
Total ESP	0.4	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	950	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	0.2
Service Factor	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: E-202

AREA:202 RR

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	CEILING	

Test Data		
	Design	Actual
CFM	80	
RL Voltage	-	120
RL Amperage	-	0.2
Total ESP	0.4	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	950	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	0.2
Service Factor	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: E-203

AREA:203 RR

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	CEILING	

Test Data		
	Design	Actual
CFM	80	
RL Voltage	-	120
RL Amperage	-	0.2
Total ESP	0.4	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	950	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	0.2
Service Factor	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: E-204

AREA:204 RR

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	CEILING	

Test Data		
	Design	Actual
CFM	80	
RL Voltage	-	120
RL Amperage	-	0.2
Total ESP	0.4	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	950	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	0.2
Service Factor	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: E-205

AREA:205 RR

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	CEILING	

Test Data		
	Design	Actual
CFM	80	
RL Voltage	-	120
RL Amperage	-	0.2
Total ESP	0.4	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	950	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	0.2
Service Factor	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: E-206

AREA:206 RR

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	CEILING	

Test Data		
	Design	Actual
CFM	80	
RL Voltage	-	120
RL Amperage	-	0.2
Total ESP	0.4	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	950	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	0.2
Service Factor	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: E-207

AREA:207

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	CEILING	

Test Data		
	Design	Actual
CFM	80	
RL Voltage	-	120
RL Amperage	-	0.2
Total ESP	0.4	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	950	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	0.2
Service Factor	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: E-208

AREA:208 RR

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	CEILING	

Test Data		
	Design	Actual
CFM	80	
RL Voltage	-	120
RL Amperage	-	0.2
Total ESP	0.4	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	950	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	0.2
Service Factor	-	

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: FAN - Exhaust



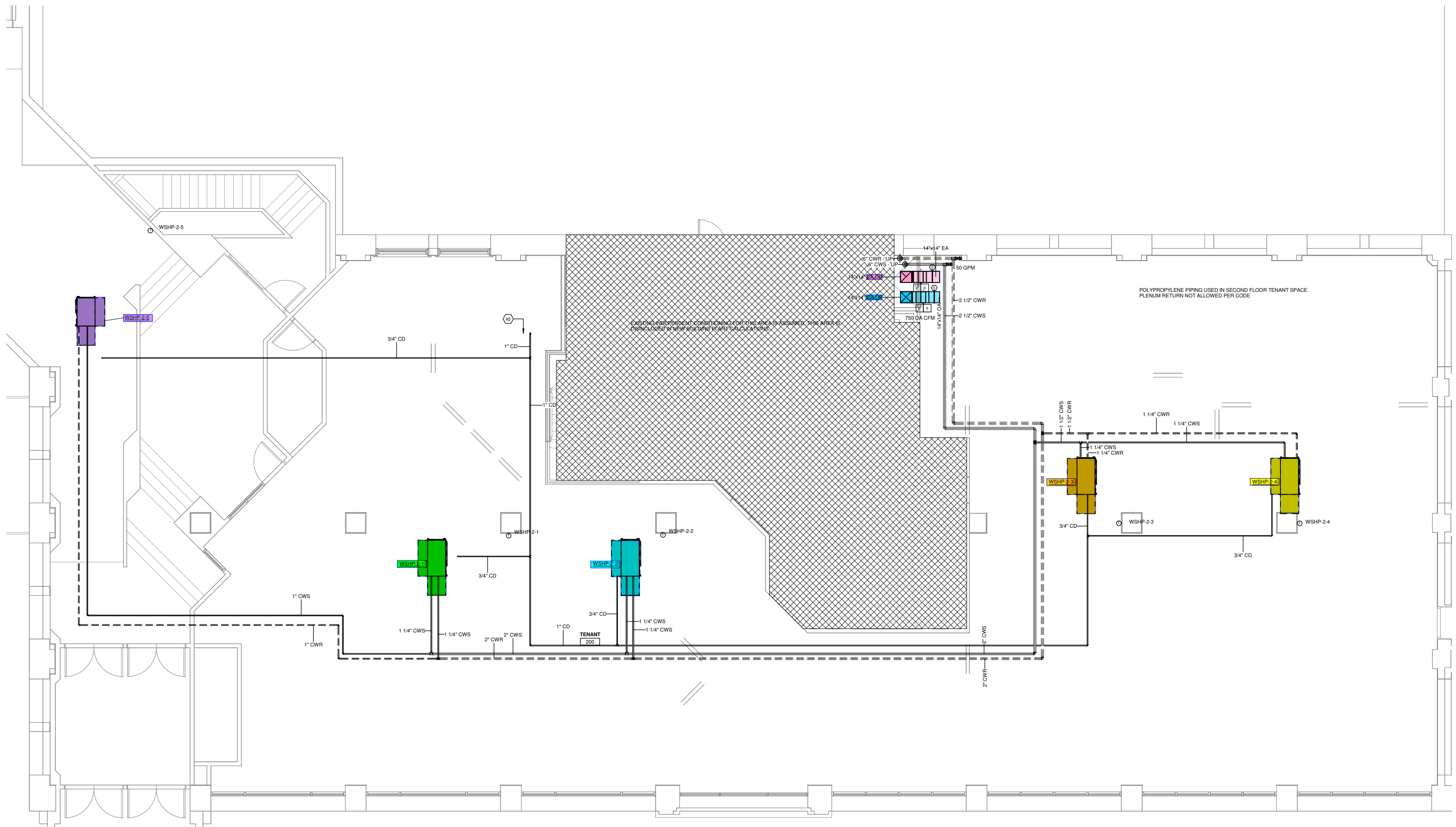
Asset: E-209

AREA:209 RR

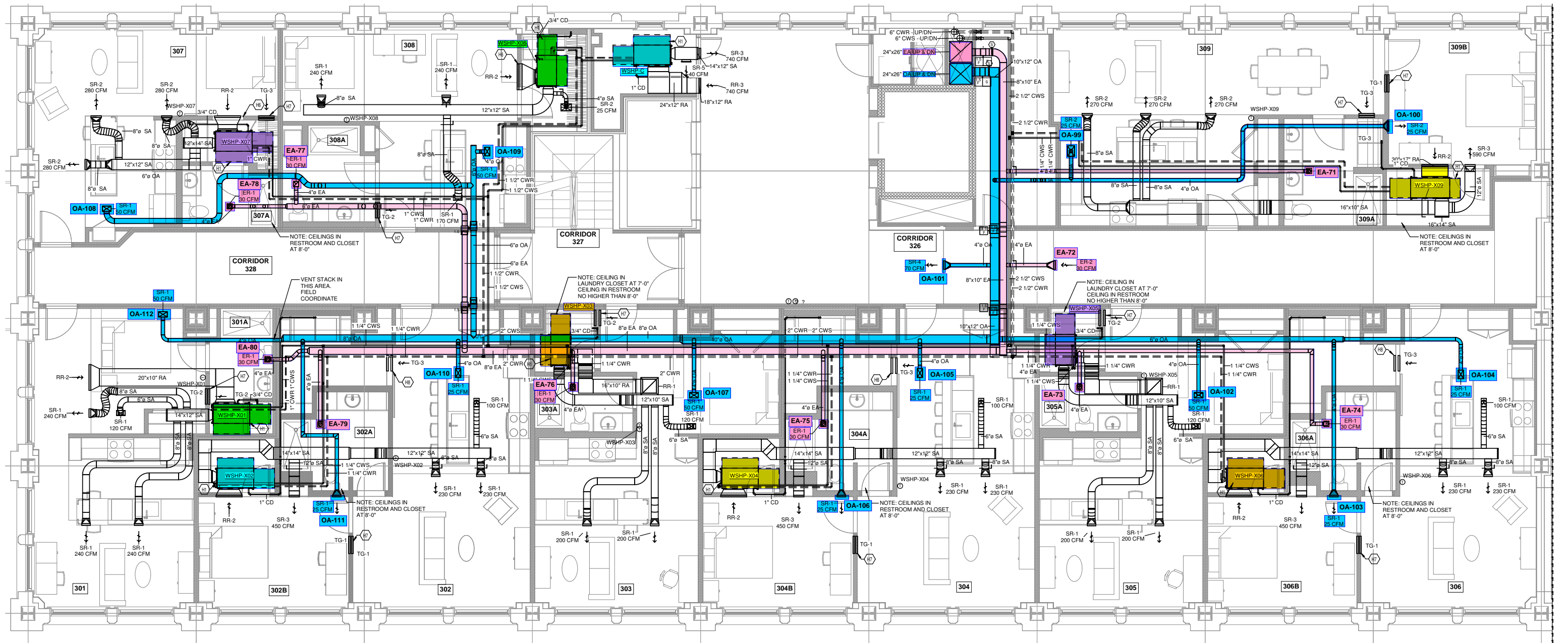
Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	CEILING	

Test Data		
	Design	Actual
CFM	80	
RL Voltage	-	120
RL Amperage	-	0.2
Total ESP	0.4	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	950	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	0.2
Service Factor	-	



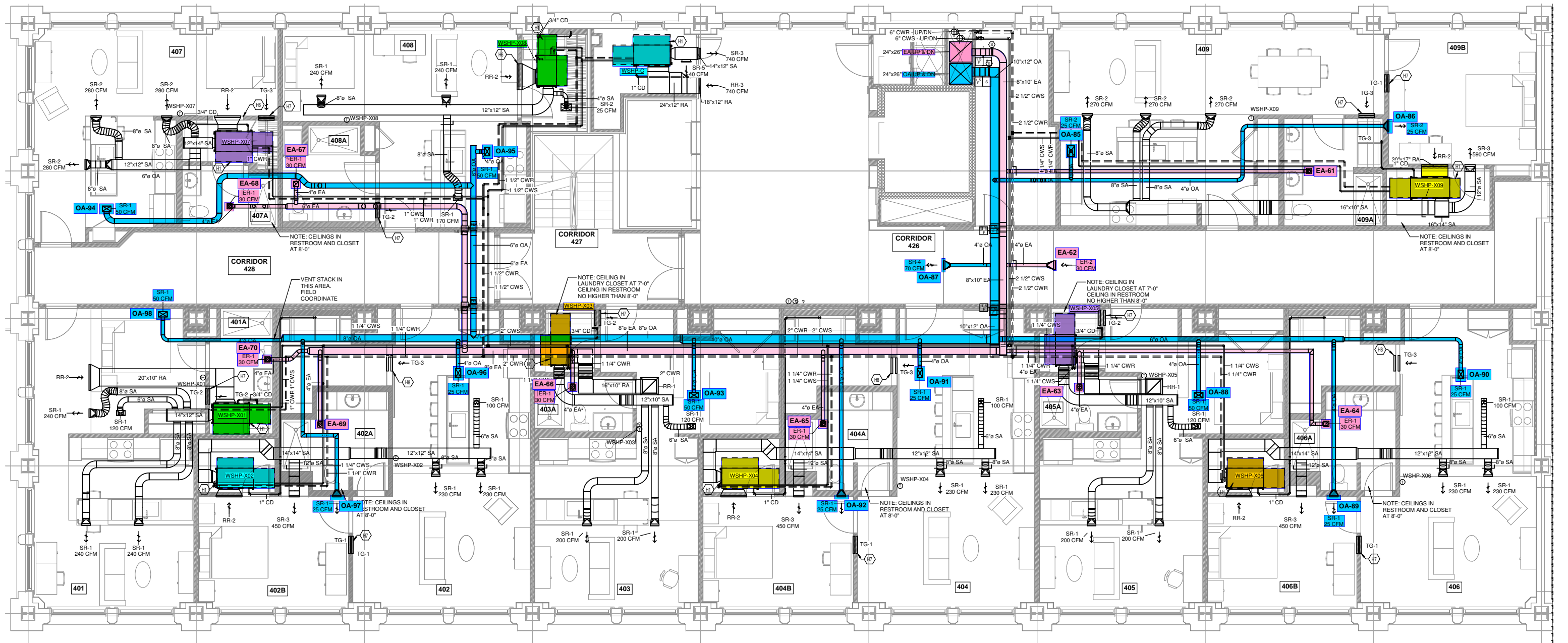
① MECHANICAL PLAN - LEVEL 2 - OVERALL
 1/4" = 1'-0"



1 MECHANICAL PLAN - LEVEL 4 THROUGH 9 - OVERALL
 1/4" = 1'-0"

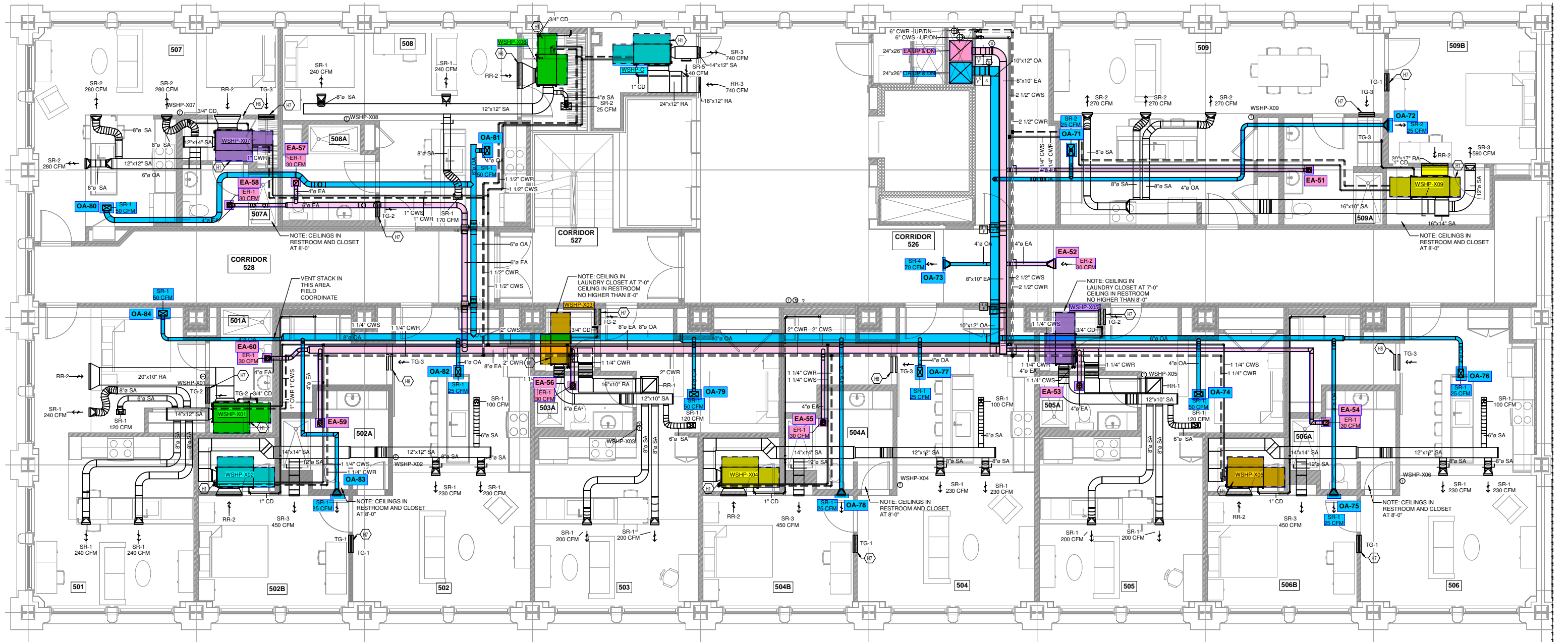
FLOOR 3 OVERALL

Note, the layout for the 3rd floor changed to mirror what is on floors 4-9. I just don't have an updated drawing showing the change. Please take this floor off the same as floors 4-9



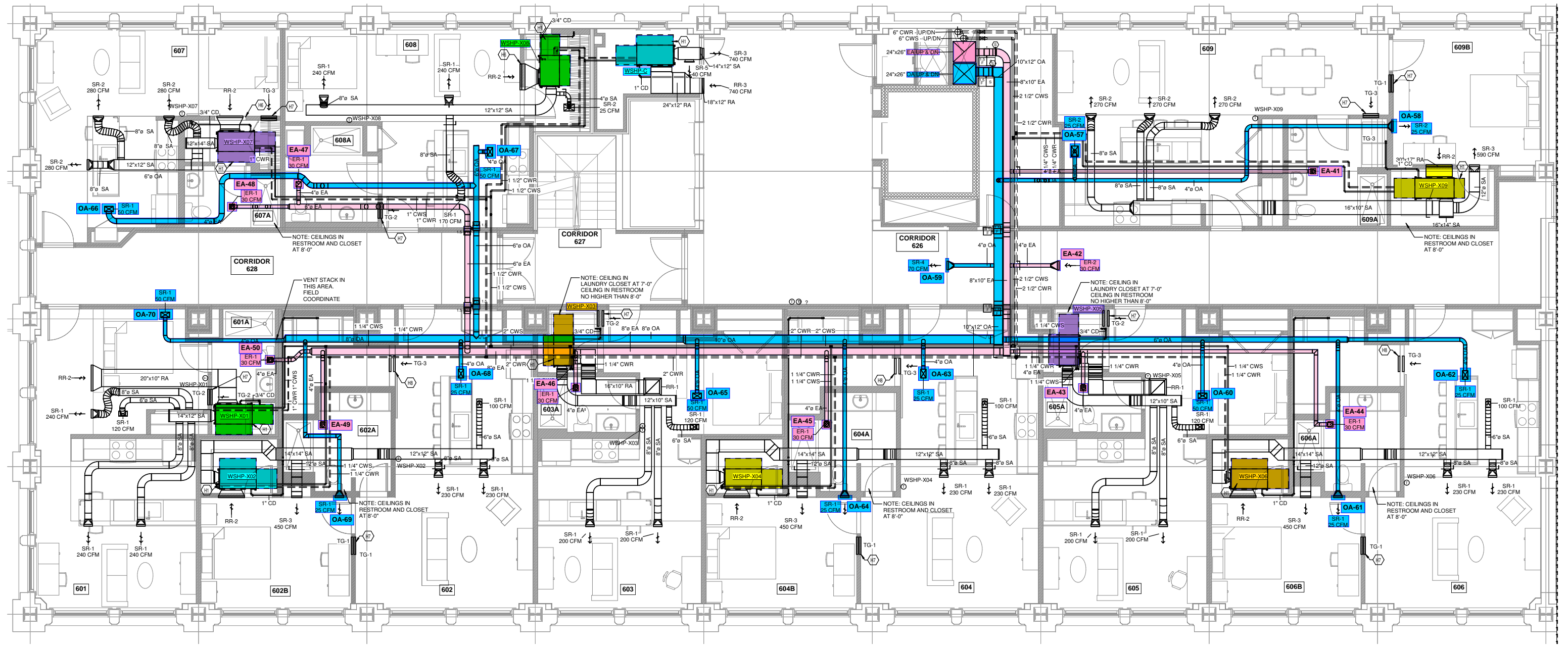
① MECHANICAL PLAN - LEVEL 4 THROUGH 9 - OVERALL
 1/4" = 1'-0"

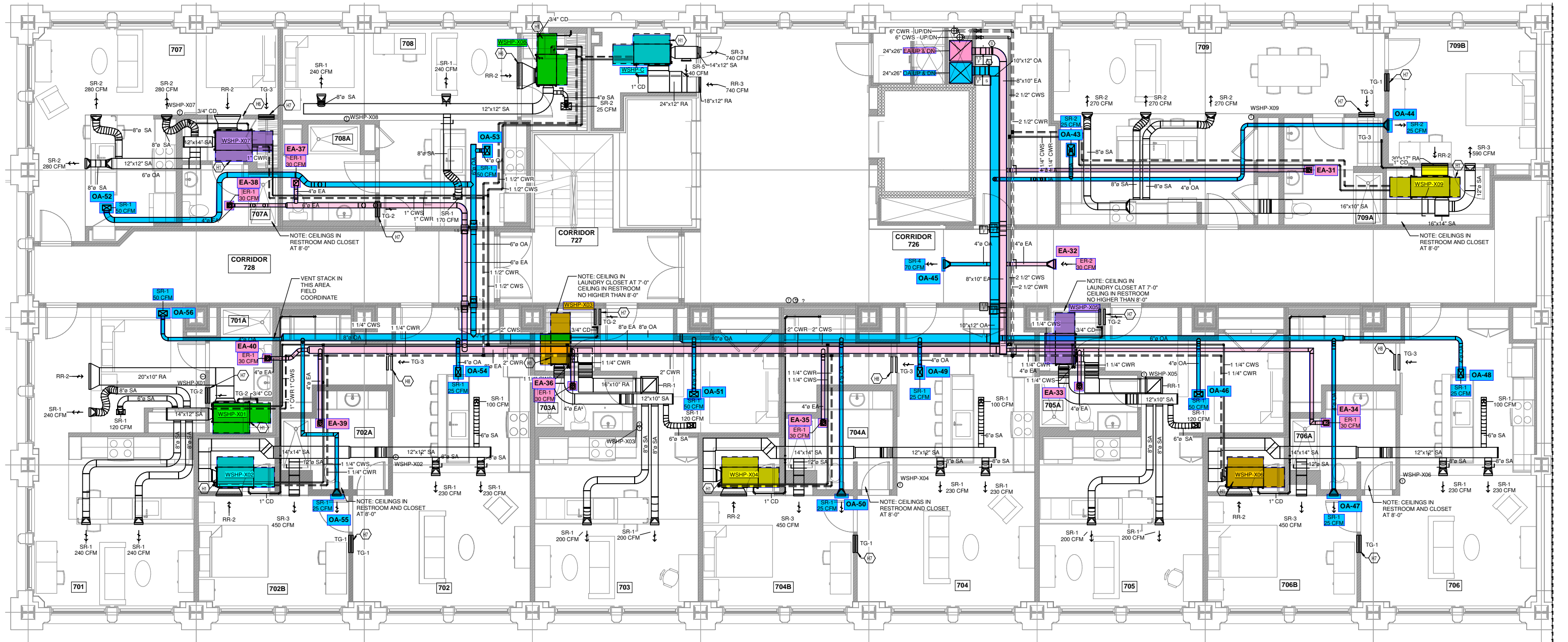
FLOOR 4 OVERALL



① MECHANICAL PLAN - LEVEL 4 THROUGH 9 - OVERALL
 1/4" = 1'-0"

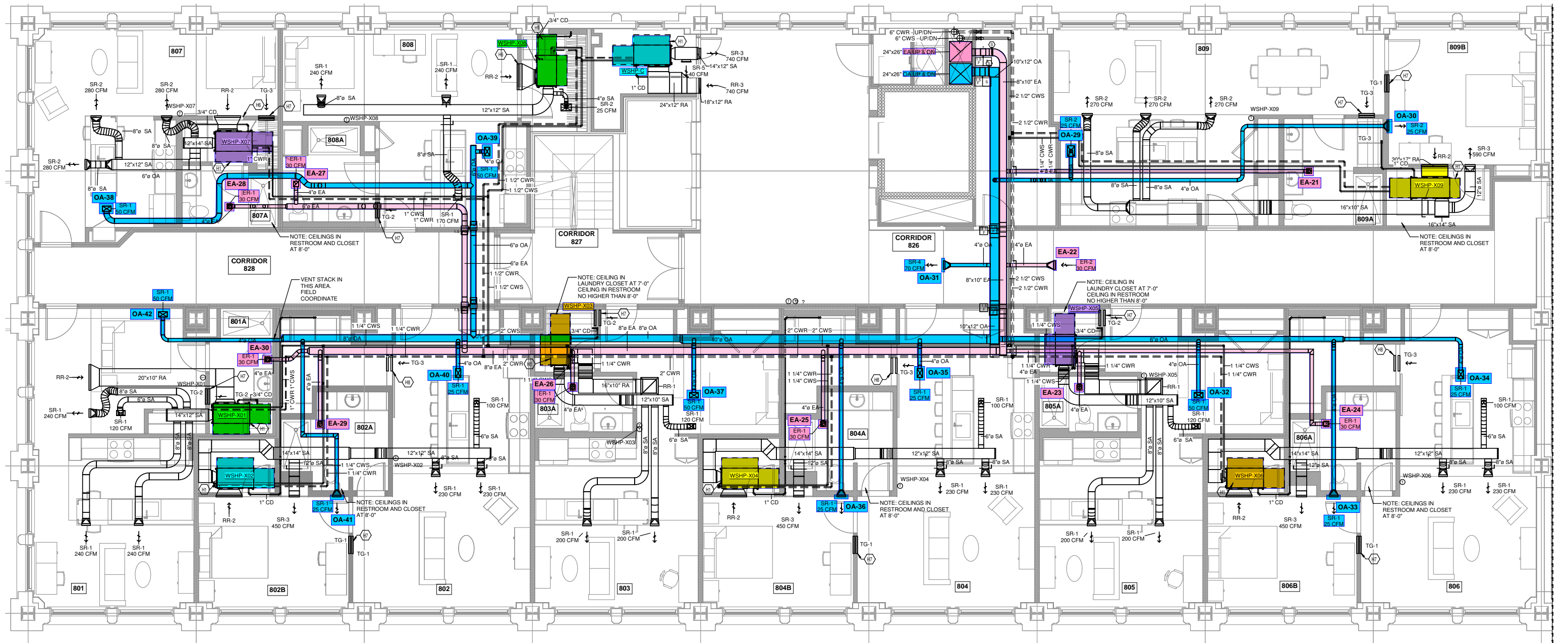
FLOOR 5 OVERALL





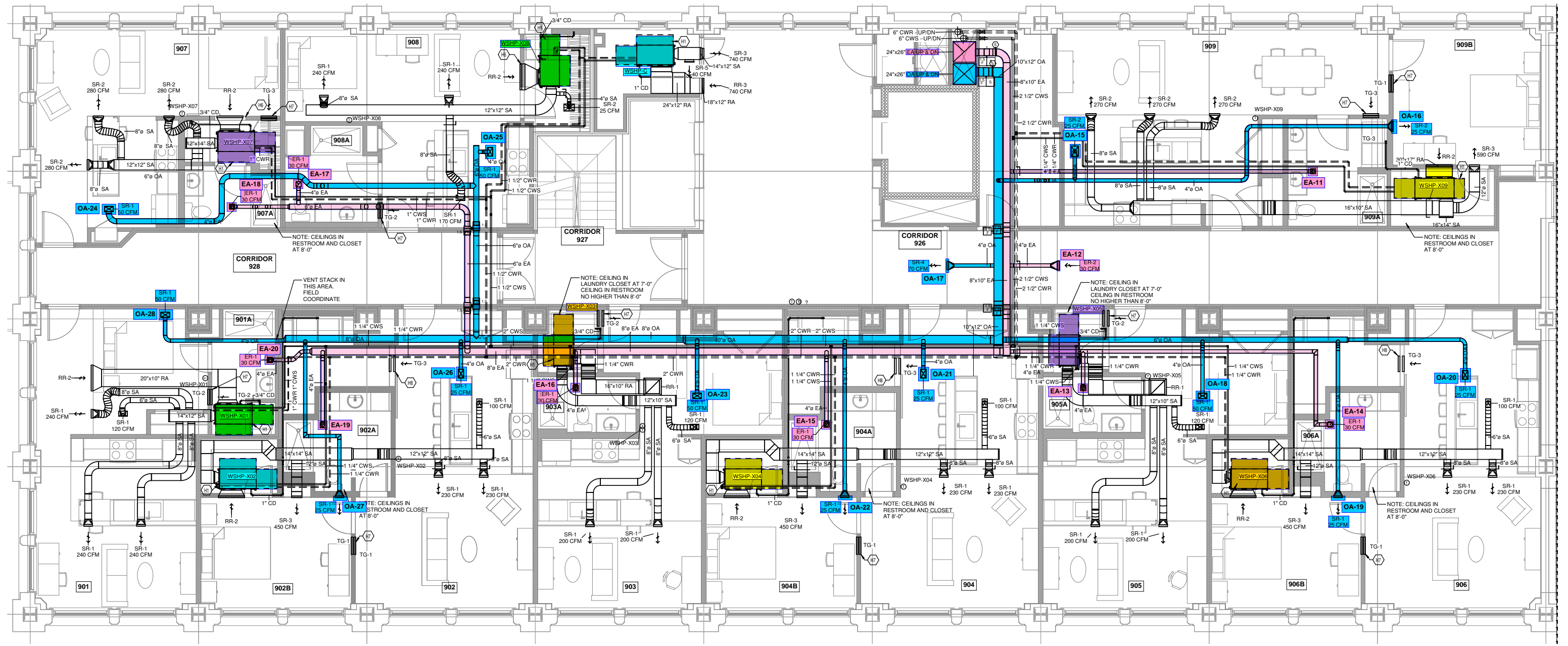
① MECHANICAL PLAN - LEVEL 4 THROUGH 9 - OVERALL
 1/4" = 1'-0"

FLOOR 7 OVERALL



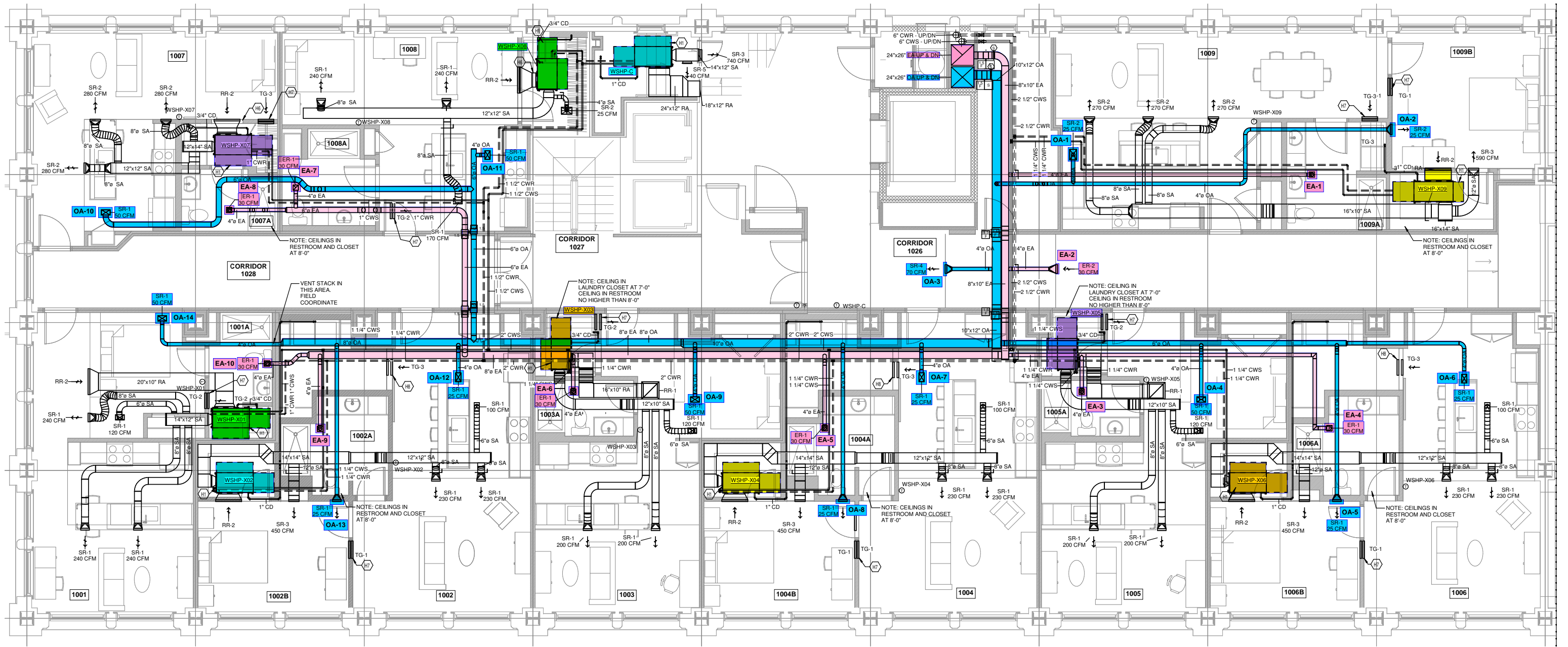
① MECHANICAL PLAN - LEVEL 4 THROUGH 9 - OVERALL
 1/4" = 1'-0"

FLOOR 8 OVERALL

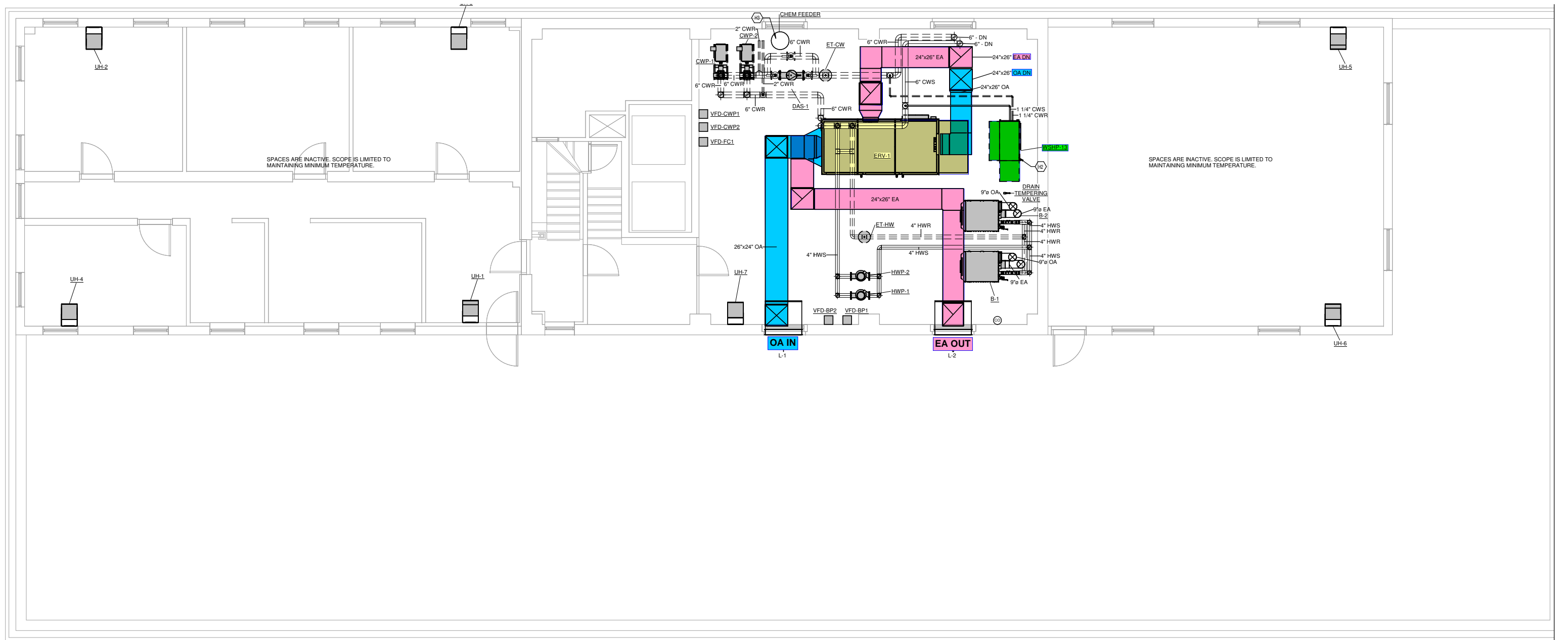


① MECHANICAL PLAN - LEVEL 4 THROUGH 9 - OVERALL
 1/4" = 1'-0"

FLOOR 9 OVERALL



① MECHANICAL PLAN - LEVEL 10 - OVERALL
1/4" = 1'-0"



① MECHANICAL PLAN - LEVEL 13 - OVERALL
 1/4" = 1'-0"

National TAB

Project: Mercantile Library Bldg (Cincinnati, OH)

System/Unit: Energy Recovery Unit



Asset: ERV-1

AREA:ROOF (BLDG OA&EA)

Unit Data		
	Design	Actual
MFG	ADDISON	ADDISON
Model Num	PROW 240 C0	PROW240
Serial Num	-	230301501001
Service	-	WSHPs
Num Exh-Filters 1	-	3
Exh-Filter Size 1	-	18X25X2
Num OA-Filters 1	-	3
OA-Supply Size 1	-	18X25X2
Num OA-Filters 2	-	9
OA-Filter Size 2	-	16X16X2

Exhaust Fan Test Data		
	Design	Actual
Exh-ERU CFM	2430	2333
Exh-ERU RPM	1920	1868
RL Voltage	-	213/212/212
RL Amperage	-	5.88/5.99/5.87
Brake Horse Power	-	5.91

OA Fan Test Data		
	Design	Actual
OA-ERU CFM	4160	4070
OA-ERU RPM	1980	NA
RL Voltage	-	234.8/235.1/234.9
RL Amperage	-	15/14.9/15.4

Exhaust Fan Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	145T
Horsepower	2.0	2
Motor Rpm	1920	1760
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	6.2
Service Factor	-	1

OA Fan Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	-
Horsepower	7.5	7.5
Motor Rpm	1980	-
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	20.5
Service Factor	-	1.15
Brake Horse Power	-	5.78

Notes:
 9 16X16X4 filters for supply
 OA-8 not getting flow. Verified no ductwork obstructions. added flow to OA-7 to keep room total.
 SUP Fan Set Pt: 66hz
 EXH Fan Set Pt: 70hz
 Supply Fan Suction: -0.236"
 Supply Fan Discharge: 0.86"
 Supply Filter and Coil Drop: 0.37"
 ERU & Supply Filter Pressure Drop: 1.62"
 Exhaust Fan Suction: -1.29"
 Exhaust Fan Discharge: 0.34"
 ERU & Filter Drop: 0.78"

Written By: Jordan Best on 09/04/2024

National TAB
Project: Mercantile Library Bldg (Cincinnati, OH)
Energy Recovery Unit



Diffuser Supply (GRD)

ERV-1/ROOF (BLDG OA&EA)

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
OA-1	1009	SR-2	4	25	0.566	75		25	100.0
OA-2	1009B	SR-2	4	25	0.566	53		27	108.0
OA-3	1026	SR-4	4	70	0.337	79		77	110.0
OA-4	1005	SR-1	4	50	0.337	56		42	84.0
OA-5	1006B	SR-1	4	25	0.337	32		24	96.0
OA-6	1006	SR-1	4	25	0.337	40		23	92.0
OA-7	1004	SR-1	4	25	0.337	67		54	216.0
OA-8	1004B	SR-1	4	25	0.337			0	0.0
OA-9	1003	SR-1	4	50	0.337	59		43	86.0
OA-10	1007	SR-1	4	50	0.337	72		53	106.0
OA-11	1008	SR-1	4	50	0.337	61		42	84.0
OA-12	1002	SR-1	4	25	0.337	35		26	104.0
OA-13	1002B	SR-1	4	25	0.337	63		23	92.0
OA-14	1001	SR-1	4	50	0.337	59		47	94.0
OA-15	909	SR-2	4	25	0.566			27	108.0
OA-16	909B	SR-2	4	25	0.566			20	80.0
OA-17	926	SR-4	4	70	0.337	131		71	101.4
OA-18	905	SR-1	4	50	0.337	48		48	96.0
OA-19	906B	SR-1	4	25	0.337	35		27	108.0
OA-20	906	SR-1	4	25	0.337	47		23	92.0
OA-21	904	SR-1	4	25	0.337	61		23	92.0
OA-22	904B	SR-1	4	25	0.337	33		25	100.0
OA-23	903	SR-1	4	50	0.337	51		51	102.0
OA-24	907	SR-1	4	50	0.337	55		45	90.0
OA-25	908	SR-1	4	50	0.337	35		35	70.0
OA-26	902	SR-1	4	25	0.337	29		27	108.0
OA-27	902B	SR-1	4	25	0.337	34		27	108.0
OA-28	901	SR-1	4	50	0.337	69		47	94.0
OA-29	809	SR-2	4	25	0.566	59		32	128.0
OA-30	809B	SR-2	4	25	0.566	62		27	108.0
OA-31	826	SR-4	4	70	0.337	64		64	91.4
OA-32	805	SR-1	4	50	0.337	47		47	94.0
OA-33	806B	SR-1	4	25	0.337	38		23	92.0
OA-34	806	SR-1	4	25	0.337	54		24	96.0
OA-35	804	SR-1	4	25	0.337			26	104.0
OA-36	804B	SR-1	4	25	0.337	41		25	100.0
OA-37	803	SR-1	4	50	0.337	54		46	92.0
OA-38	807	SR-1	4	50	0.337	51		51	102.0
OA-39	808	SR-1	4	50	0.337	37		37	74.0
OA-40	802	SR-1	4	25	0.337	44		24	96.0
OA-41	802B	SR-1	4	25	0.337	48		24	96.0
OA-42	801	SR-1	4	50	0.337	50		50	100.0
OA-43	709	SR-2	4	25	0.566	34		27	108.0
OA-44	709B	SR-2	4	25	0.566	83		24	96.0
OA-45	726	SR-4	4	70	0.337	93		71	101.4
OA-46	705	SR-1	4	50	0.337	50		50	100.0
OA-47	706B	SR-1	4	25	0.337			24	96.0
OA-48	706	SR-1	4	25	0.337			26	104.0
OA-49	704	SR-1	4	25	0.337	55		23	92.0
OA-50	704B	SR-1	4	25	0.337	42		26	104.0
OA-51	703	SR-1	4	50	0.337	45		45	90.0
OA-52	707	SR-1	4	50	0.337	52		52	104.0
OA-53	708	SR-1	4	50	0.337	45		45	90.0
OA-54	702	SR-1	4	25	0.337	48		26	104.0
OA-55	702B	SR-1	4	25	0.337	45		27	108.0
OA-56	701	SR-1	4	50	0.337	37		52	104.0
OA-57	609	SR-2	4	25	0.566	91		26	104.0
OA-58	609B	SR-2	4	25	0.566	84		27	108.0
OA-59	626	SR-4	4	70	0.337	25		75	107.1
OA-60	605	SR-1	4	50	0.337	47		47	94.0
OA-61	606B	SR-1	4	25	0.337	43		27	108.0
OA-62	606	SR-1	4	25	0.337	65		27	108.0
OA-63	604	SR-1	4	25	0.337	54		23	92.0
OA-64	604B	SR-1	4	25	0.337	37		24	96.0
OA-65	603	SR-1	4	50	0.337	38		38	76.0
OA-66	607	SR-1	4	50	0.337	47		47	94.0

OA-67	608	SR-1	4	50	0.337	38		46	92.0
OA-68	602	SR-1	4	25	0.337	46		25	100.0
OA-69	602B	SR-1	4	25	0.337	45		27	108.0
OA-70	601	SR-1	4	50	0.337	41		51	102.0
OA-71	509	SR-2	4	25	0.566			23	92.0
OA-72	509B	SR-2	4	25	0.566	81		23	92.0
OA-73	526	SR-4	4	70	0.337	72		72	102.9
OA-74	505	SR-1	4	50	0.337			52	104.0
OA-75	506B	SR-1	4	25	0.337	52		27	108.0
OA-76	506	SR-1	4	25		50		24	96.0
OA-77	504	SR-1	4	25	0.337	47		23	92.0
OA-78	504B	SR-1	4	25	0.337	56		27	108.0
OA-79	503	SR-1	4	50	0.337	50		50	100.0
OA-80	507	SR-1	4	50	0.337	50		50	100.0
OA-81	508	SR-1	4	50	0.337	48		48	96.0
OA-82	502	SR-1	4	25	0.337	34		25	100.0
OA-83	502B	SR-1	4	25	0.337	37		26	104.0
OA-84	501	SR-1	4	50	0.337	74		49	98.0
OA-85	409	SR-2	4	25	0.566	80		27	108.0
OA-86	409B	SR-2	4	25	0.566	61		25	100.0
OA-87	426	SR-4	4	70	0.337			71	101.4
OA-88	405	SR-1	4	50	0.337	12		46	92.0
OA-89	406B	SR-1	4	25	0.337	27		27	108.0
OA-90	406	SR-1	4	25	0.337	34		25	100.0
OA-91	404	SR-1	4	25	0.337	26		26	104.0
OA-92	404B	SR-1	4	25	0.337	43		25	100.0
OA-93	403	SR-1	4	50	0.337	37		39	78.0
OA-94	407	SR-1	4	50	0.337	53		53	106.0
OA-95	408	SR-1	4	50	0.337	35		35	70.0
OA-96	402	SR-1	4	25	0.337	25		25	100.0
OA-97	402B	SR-1	4	25	0.337	40		27	108.0
OA-98	401	SR-1	4	50	0.337	48		48	96.0
OA-99	309	SR-2	4	25	0.566			27	108.0
OA-100	309B	SR-2	4	25	0.566			26	104.0
OA-101	326	SR-4	4	70	0.337			74	105.7
OA-102	305	SR-1	4	50	0.337	51		51	102.0
OA-103	306B	SR-1	4	25	0.337	43		27	108.0
OA-104	306	SR-1	4	25	0.337			23	92.0
OA-105	304	SR-1	4	25	0.337	39		23	92.0
OA-106	304B	SR-1	4	25	0.337	53		27	108.0
OA-107	303	SR-1	4	50	0.337	50		50	100.0
OA-108	307	SR-1	4	50	0.337	47		47	94.0
OA-109	308	SR-1	4	50	0.337	46		46	92.0
OA-110	302	SR-1	4	25	0.337	41		23	92.0
OA-111	302B	SR-1	4	25	0.337	47		26	104.0
OA-112	301	SR-1	4	50	0.337	52		52	104.0
Total				4160		4999	0	4070	97.84%

Diffuser Ret/Exh (GRD)

ERV-1/ROOF (BLDG OA&EA)

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EA-1	ER-1	4	30	0.19	22	27	27	90.0
EA-2	ER-2	4	30	0.20	39	31	31	103.3
EA-3	ER-1	4	30	0.19	18	22	28	93.3
EA-4	ER-1	4	30	0.19	0	0	27	90.0
EA-5	ER-1	4	30	0.19	19	23	28	93.3
EA-6	ER-1	4	30	0.19	17	20	31	103.3
EA-7	ER-1	4	30	0.19	18	20	32	106.7
EA-8	ER-1	4	30	0.19	18	20	28	93.3
EA-9	ER-1	4	30	0.19	19	21	27	90.0
EA-10	ER-1	4	30	0.19	16	20	27	90.0
EA-11	ER-1	4	30	0.19	26	30	30	100.0
EA-12	ER-2	4	30	0.20	27	30	30	100.0
EA-13	ER-1	4	30	0.19	22	25	27	90.0
EA-14	ER-1	4	30	0.19	15	20	28	93.3
EA-15	ER-1	4	30	0.19	26	28	28	93.3
EA-15	ER-1	4	30	0.19	25	29	29	96.7
EA-16	ER-1	4	30	0.19	15	18	31	103.3
EA-17	ER-1	4	30	0.19	19	20	27	90.0
EA-18	ER-1	4	30	0.19	25	28	28	93.3
EA-19	ER-1	4	30	0.19	24	27	27	90.0
EA-20	ER-1	4	30	0.19	15	17	31	103.3
EA-21	ER-1	4	30	0.19	26	28	28	93.3
EA-22	ER-2	4	30	0.20	26	29	29	96.7
EA-23	ER-1	4	30	0.19	27	29	29	96.7
EA-24	ER-1	4	30	0.19	16	18	33	110.0
EA-25	ER-1	4	30	0.19	25	28	28	93.3
EA-26	ER-1	4	30	0.19	26	30	30	100.0
EA-27	ER-1	4	30	0.19	21	23	28	93.3
EA-28	ER-1	4	30	0.19	18	20	32	106.7
EA-29	ER-1	4	30	0.19	22	24	28	93.3
EA-30	ER-1	4	30	0.19	17	21	31	103.3
EA-31	ER-1	4	30	0.19	24	27	27	90.0
EA-32	ER-2	4	30	0.20	27	31	31	103.3
EA-33	ER-1	4	30	0.19	18	22	28	93.3
EA-34	ER-1	4	30	0.19	24	26	27	90.0
EA-35	ER-1	4	30	0.19	25	29	29	96.7
EA-36	ER-1	4	30	0.19	19	24	24	80.0
EA-37	ER-1	4	30	0.19	17	21	33	110.0
EA-38	ER-1	4	30	0.19	15	18	28	93.3
EA-39	ER-1	4	30	0.19	17	20	27	90.0
EA-40	ER-1	4	30	0.19	26	29	29	96.7
EA-41	ER-1	4	30	0.19	26	31	31	103.3
EA-42	ER-2	4	30	0.20	24	30	30	100.0
EA-43	ER-1	4	30	0.19	17	20	33	110.0
EA-44	ER-1	4	30	0.19	16	20	27	90.0
EA-45	ER-1	4	30	0.19	27	30	30	100.0
EA-46	ER-1	4	30	0.19	22	25	28	93.3
EA-47	ER-1	4	30	0.19	17	20	29	96.7
EA-48	ER-1	4	30	0.19	16	20	27	90.0
EA-49	ER-1	4	30	0.19	18	21	31	103.3
EA-50	ER-1	4	30	0.19	22	26	28	93.3
EA-51	ER-1	4	30	0.19	25	27	27	90.0
EA-52	ER-2	4	30	0.20	27	34	34	113.3
EA-53	ER-1	4	30	0.19	19	23	29	96.7
EA-54	ER-1	4	30	0.19	17	20	31	103.3
EA-55	ER-1	4	30	0.19	24	29	29	96.7
EA-56	ER-1	4	30	0.19	16	21	27	90.0
EA-57	ER-1	4	30	0.19	14	19	28	93.3
EA-58	ER-1	4	30	0.19	12	17	31	103.3
EA-59	ER-1	4	30	0.19	17	20	27	90.0
EA-60	ER-1	4	30	0.19	16	21	28	93.3
EA-61	ER-1	4	30	0.19	23	29	29	96.7
EA-62	ER-1	4	30	0.19	36	36	31	103.3
EA-63	ER-1	4	30	0.19	18	21	30	100.0
EA-64	ER-1	4	30	0.19	17	22	27	90.0
EA-65	ER-1	4	30	0.19	24	28	28	93.3

EA-66	ER-1	4	30	0.19	23	28	28	93.3
EA-67	ER-1	4	30	0.19	18	21	28	93.3
EA-68	ER-1	4	30	0.19	17	20	30	100.0
EA-69	ER-1	4	30	0.19	22	25	28	93.3
EA-70	ER-1	4	30	0.19	17	22	27	90.0
EA-71	ER-1	4	30	0.19	26	29	29	96.7
EA-72	ER-2	4	30	0.20	38	38	31	103.3
EA-73	ER-1	4	30	0.19	16	20	20	66.7
EA-74	ER-1	4	30	0.19	15	19	28	93.3
EA-75	ER-1	4	30	0.19	23	29	29	96.7
EA-76	ER-1	4	30	0.19	21	25	27	90.0
EA-77	ER-1	4	30	0.19	14	17	31	103.3
EA-78	ER-1	4	30	0.19	0	0	28	93.3
EA-79	ER-1	4	30	0.19	15	19	31	103.3
EA-80	ER-1	4	30	0.19	22	26	27	90.0
Total			2430		1658	1921	2333	96.01%