

**Report By:**

National TAB  
1329 E. KEMPER ROAD  
SUITE 4210  
CINCINNATI, OH 45246



**Report: TAB REPORT**  
**Function: Test, Adjust, & Balance**  
**Date: 04/02/2025**  
**Completed By: National TAB**

**PROJECT**  
**Crossroads Church (Dayton, OH)**

2700 Miamisburg-Centerville Road

Dayton, OH 45459

**Client**

Mechanical Services & Design (MSD)

4401 Springfield St

Dayton, OH 45431

# National TAB

Project: Crossroads Church (Dayton, OH)

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# CERTIFICATION



**PROJECT:** Crossroads Church (Dayton, OH)

The data presented in this report is a record of system measurements and final adjustments that have been obtained in accordance with the current edition of the NEBB *Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems*. Any variances from design quantities, which exceed NEBB tolerances, are noted in the Test-Adjust-Balance Report Project Summary.

The air distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

**NEBB TAB FIRM:** National TAB

**REGISTRATION NO:** 3629

**CERTIFIED BY:** Joe Hertenstein

**DATE:** 4/2/2025

The hydronic distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

**NEBB TAB FIRM:** National TAB

**REGISTRATION NO:** 3629


**CERTIFIED BY:** Joe Hertenstein

**DATE:** \_\_\_\_\_

## Submitted and Certified by:

**NEBB TAB FIRM:** National TAB

**TAB PROFESSIONAL:** Joe Hertenstein

**SIGNATURE:** 

**REGISTRATION NO:** 3629

**CERTIFICATION EXP:** 12/31/2025





# National TAB



Testing, Adjusting, and Balancing Equipment

INTELLIGENCE

Function		Range	Minimum Accuracy	Instrument Information	Calibration Date	Date Due
AIR	AIR PRESSURE	0 in wg to 10 in wg	2% +/- 0.001 in wg	Evergreen S-PVF-1 S/N 2200484C	3/24/2025	3/24/2027
	AIR VELOCITY INSTRUMENT	50 fpm to 3900 fpm	+/- 5 % +/- 7 fpm	Evergreen S-PVF-1 S/N 2200484C	3/24/2025	3/24/2027
	DIRECT HOOD READING	100 cfm to 2000 cfm	+/- 5 % +/- 7 cfm	Evergreen S-PVF-1 S/N 2200484C	3/24/2025	3/24/2027
TEMPERATURE	AIR METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 071118034	7/12/2024	7/12/2025
	AIR PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 5028	7/12/2024	7/12/2025
	IMMERSION METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 071118034	7/12/2024	7/12/2025
	IMMERSION PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 1075	7/12/2024	7/12/2025
	CONTACT METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 071118034	7/12/2024	7/12/2025
	CONTACT PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 4011	7/12/2024	7/12/2025
HUMIDITY	HUMIDITY PROBE	10 % RH to 90 % RH	3% of reading	Cooper ATKINS - SRH77A S/N 071118034	7/12/2024	7/12/2025
ELECTRICAL	VOLTAGE MEASUREMENT	0 VAC to 600 VAC	2 % reading +/- 5 digits	Fluke 373 True RMS, S/N: 33290686	7/12/2024	7/12/2025
	AMPERAGE MEASUREMENT	0 Amperes to 100 Amperes	2 % reading +/- 5 digits	Fluke 373 True RMS, S/N: 33290686	7/12/2024	7/12/2025
ROTATION	ROTATION MEASUREMENT	60 rpm to 5000 rpm	2 % reading 2 rpm	SHIMPO DT-207LR S/N: D1530081R	7/12/2024	7/12/2025
HYDRONIC	PRESSURE MEASUREMENT	-30 in Hg to 200 psi	±2% of reading +/- 1 psi	Alnor HM680 S/N: 70807241	5/11/2024	5/31/2025
	DIFFERENTIAL PRESSURE MEASUREMENT	0 psi - 80 psi	±2% of reading +/- 1 psi	Alnor HM680 S/N: 70807241	5/11/2024	5/31/2025

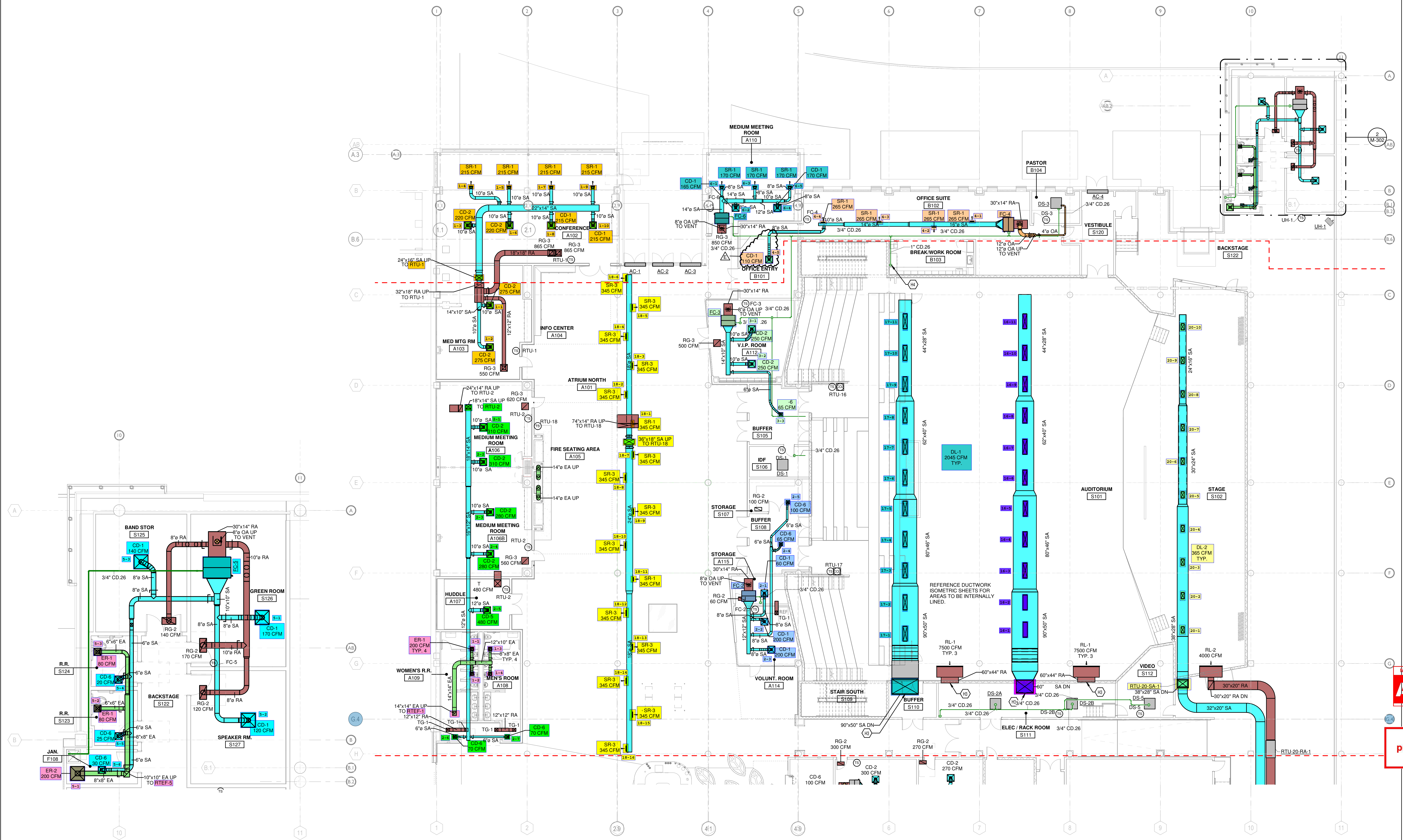
## Abbreviation List

A = Area (ft <sup>2</sup> )	S.F. = Service Factor
AHU = Air Handling Unit	SF = Supply Fan
A <sub>k</sub> = Effective Area	SP = Static Pressure
BHP = Brake Horsepower (IP) HP	SR = Supply Register
Btu = British Thermal Unit	T = Temperature
Btu/h = Btuh = BTUH = BTU/Hour	T <sub>ma</sub> = Mixed Air Temperature
CL = Center Distance (used in belt formula)	T <sub>oa</sub> = Outside Air Temperature
CD = Ceiling Diffuser	T <sub>ra</sub> = Return Air Temperature
CF = Correction Factor	H = Head (in wc, ft wc, psi)
CFM = Volumetric Flow: Cubic Feet Per Minute	h = Enthalpy
CO <sub>2</sub> = Carbon Dioxide	HP = Horsepower
CO = Carbon Monoxide	hr = Hour
C <sub>v</sub> = Flow Constant	K <sub>v</sub> = Flow constant (SI)
d = Diameter (in.) IP	kW = Kilowatt = 1000 Watts
Δ = Difference or Change (Final - Initial)	LAT = Leaving Air Temperature
DB = Dry Bulb	lb = Pounds
EA = Exhaust Air	LWT = Leaving Water Temperature
EAT = Entering Air Temperature	ma = Mixed Air
EF = Exhaust Fan	MIN = Minimum
Eff = Efficiency	MAX = Maximum
EG = Exhaust Grille	N/A = Not Applicable
ESP = External Static Pressure	NA = No Access
EWT = Entering Water Temperature	NL = Not Listed
°F = Degrees Fahrenheit, °F	NPSHA = Net Positive Suction Head Available
FPB = Fan Powered Box	NS = Not Specified
FLA = Full Load Amps	OA = Outside Air
fpm = Feet per Minute (fpm)	OAT = Outside Air Temperature
ft = Foot	PD = Sheave Pitch Diameter
gal = Gallons	P.D. = Pressure Drop
GPM = Gallons Per Minute (GPM)	PF = Power Factor
h = Enthalpy (BTU/lb dry air)	SG = Supply Grille
P = Pressure	SR = Supply Register
ppm = parts per million	TP = Total Pressure
psi = Pounds Per Square Inch	T <sub>ra</sub> = Return Air Temperature
psid = PSI Differential	TS = Tip Speed (fpm) IP, (m/s) SI
r = Radius (in)	TSP = Total Static Pressure
% <sub>ra</sub> = % of Return Air	V = Velocity
RA = Return Air	VAV = Variable Air Volume
RAT = Return Air Temperature	VD = Volume Damper
RF = Return Fan	VFD = Variable Frequency Drive
RG = Return Grille	W = Watt
RH = Relative Humidity	WB = Wet Bulb
RPM = Revolutions Per Minute	wg = wc = water gauge = water column
RTU = Roof Top Unit	WHP = Water Horsepower (IP)
SA = Supply Air	ω = Humidity Ratio

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12/23/2024 9:09:52 Autodesk Docs://Crossroads Dayton /25411.00-23-MEP-Crossroads Church - Dayton Mall.rvt

KEYED NOTES	
H3	DUCTWORK CONTINUATION SHOWN ON SHEET M-304
H4	DRAIN CONDENSATE TO BREAK ROOM SINK TAIL PIECE.



② MECHANICAL PLAN - 1ST FLOOR - CROSSROADS - (NEW CONSTRUCTION) - NORTH - Callout 1  
 3/16" = 1'-0"

① MECHANICAL PLAN - 1ST FLOOR NORTH - CROSSROADS  
 3/32" = 1'-0"



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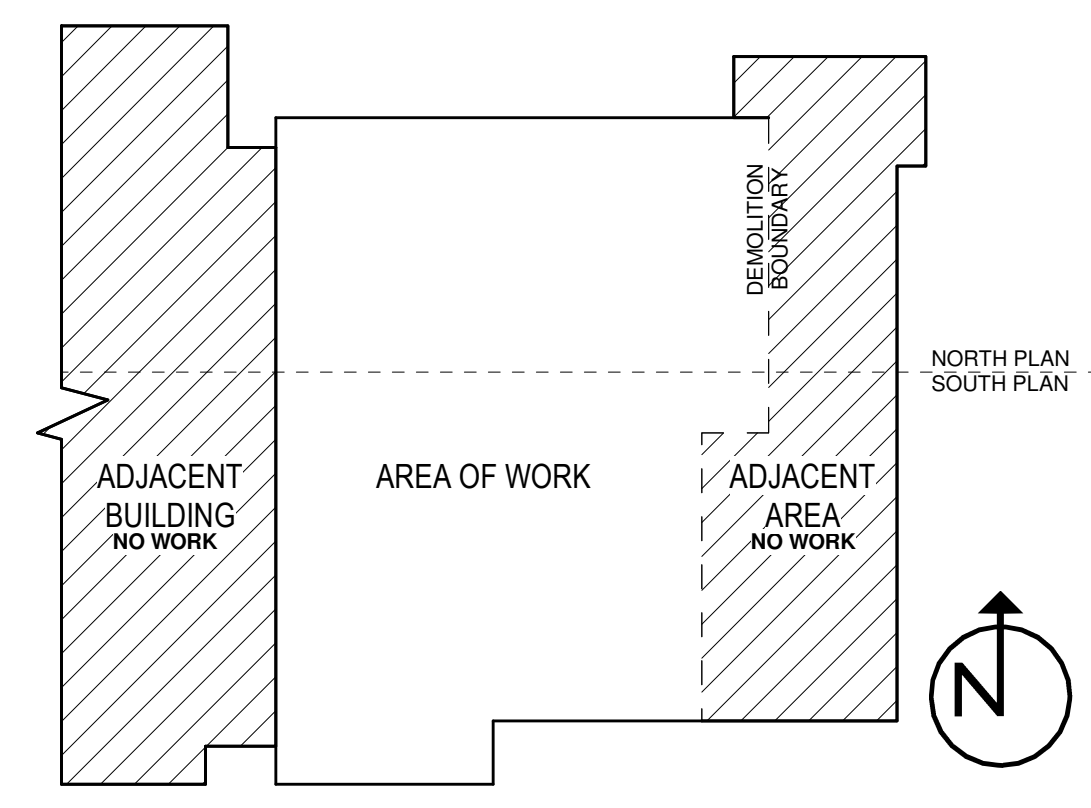
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 RENOVATION  
**CROSSROADS DAYTON**  
 2700 MAMISBURG-CENTERVILLE ROAD  
 DAYTON, OH 45459



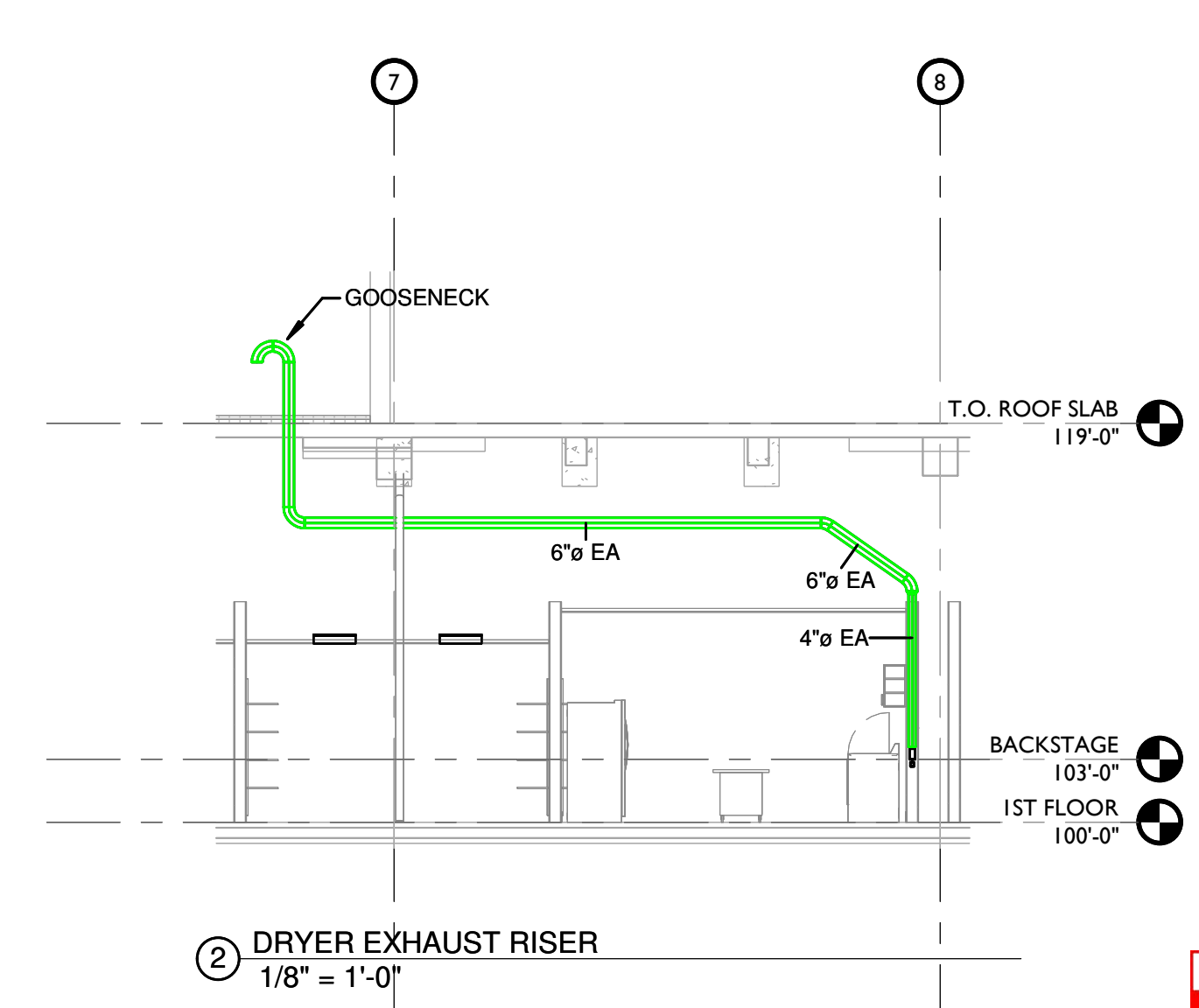
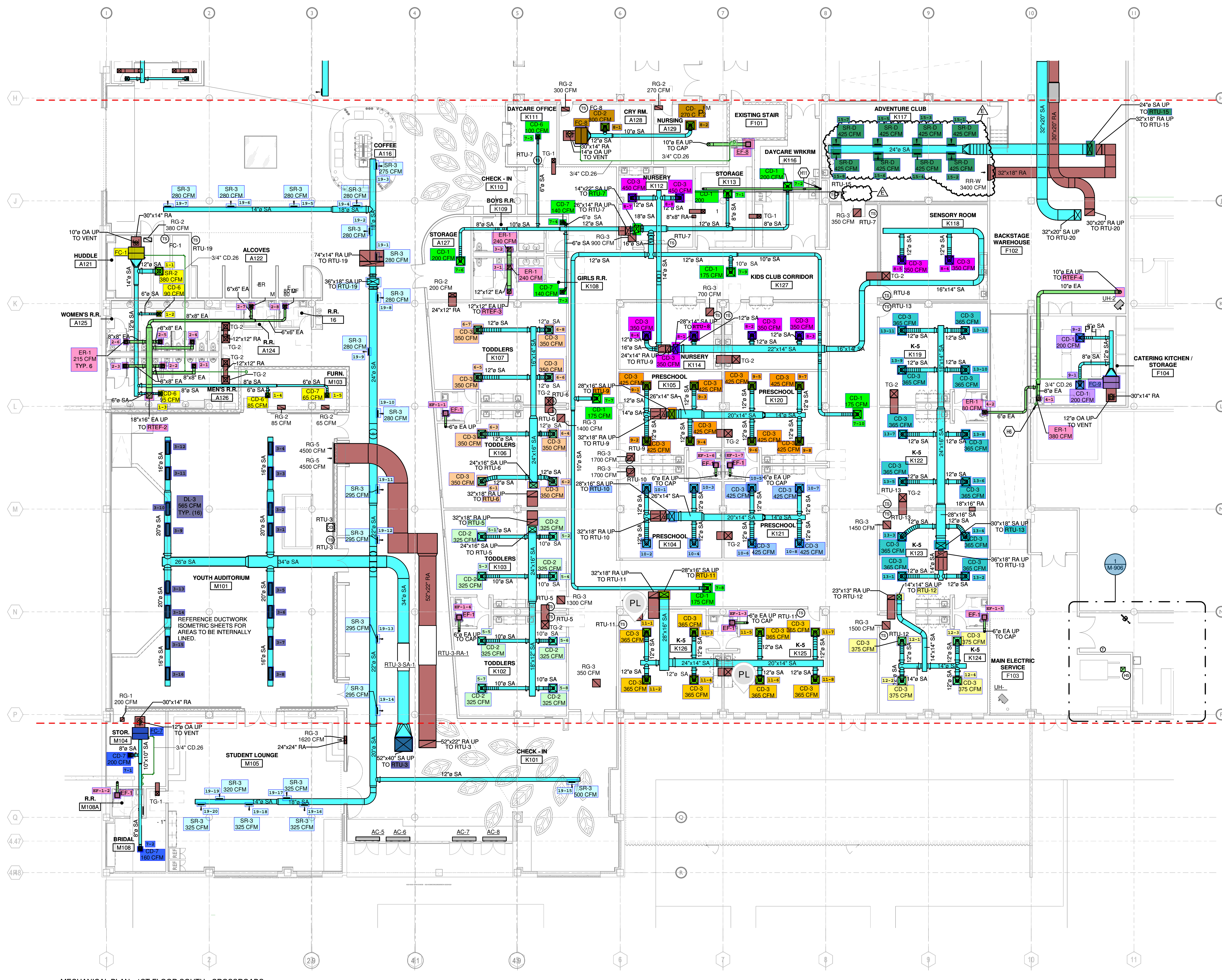
Plan Change previously approved notes still apply.

04/19/24	PHASE 3 IFC
05/24/24	MISC. REVISIONS
10/09/24	PHASE 3 IFC 2
12/23/24	HEATERS & MISC REVISIONS

DWN: CES CHK: RAL  
 DATE: 12/23/24  
 PROJECT #: 22025  
 MECHANICAL NEW DUCTWORK - NORTH ENLARGED  
**M-302**  
 1" REFERENCE R.L.H. PROJECT # 25411



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 KOHRS CONNEMANN HILL ENGINEERS, INC.  
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 FT. THOMAS, KENTUCKY 41075  
 TEL: 502-636-4656  
 FAX: 502-636-4655

PROPOSED PROJECT:  
 RENOVATION  
**CROSSROADS DAYTON**  
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 DAYTON, OH 45459



Plan Change previously approved notes still apply.

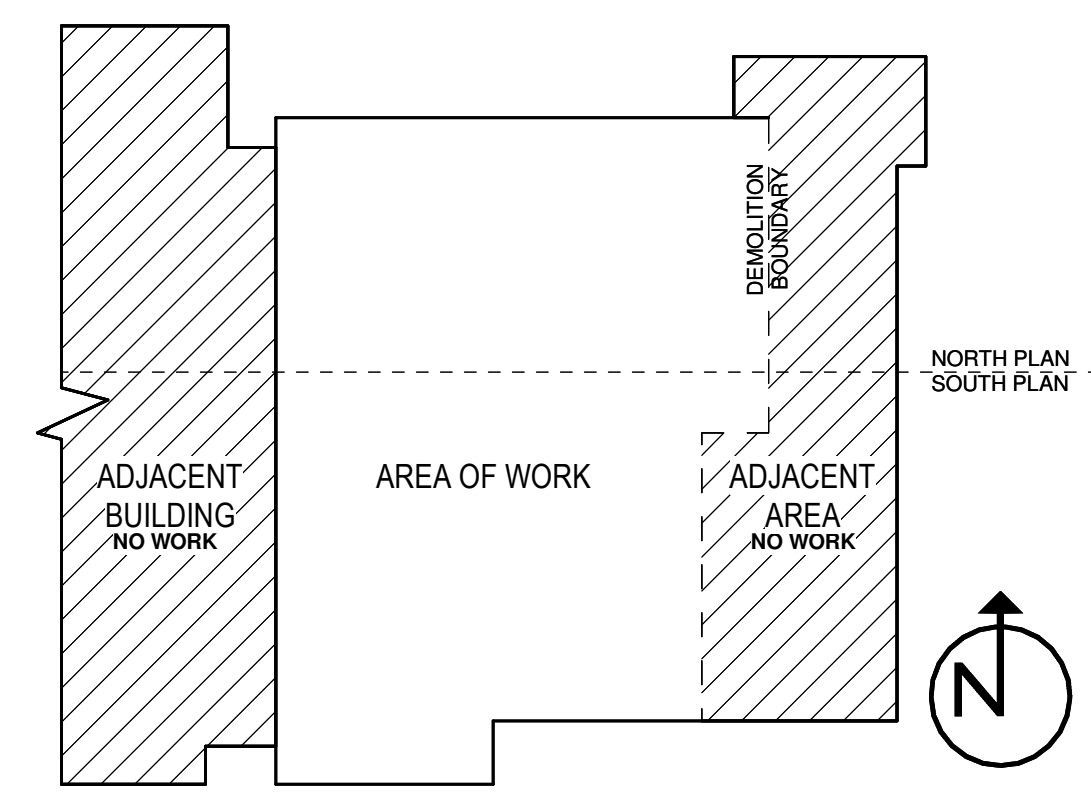
08/30/24	HVAC REVISIONS
08/24/24	MISC. REVISIONS
10/09/24	PHASE 3 IFC 2
12/23/24	HEATERS & MISC REVISIONS

DWN: CES CHK: RAL  
 DATE: 12/23/24  
 PROJECT #: 22025

MECHANICAL  
 NEW  
 DUCTWORK -  
 SOUTH  
 ENLARGED

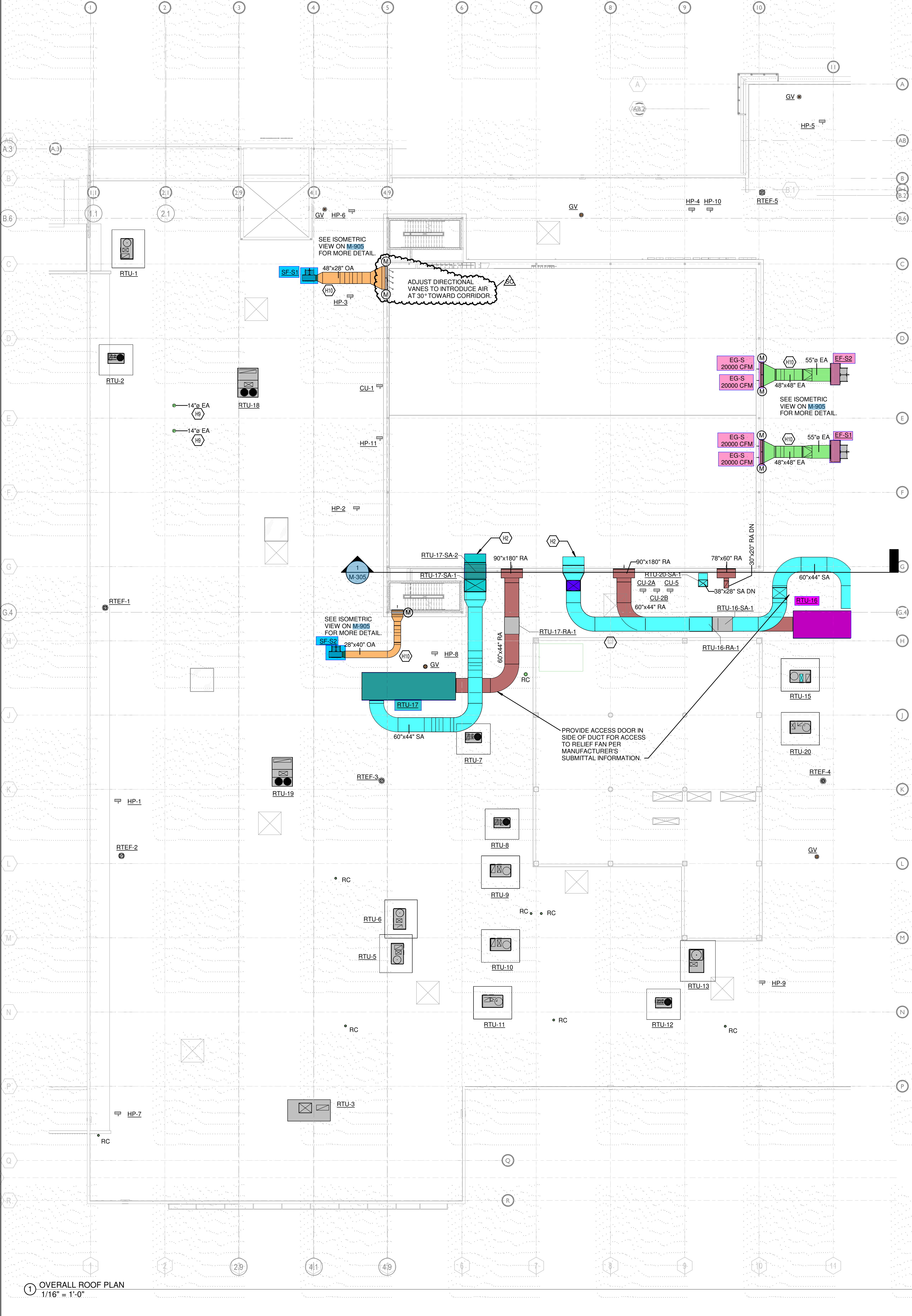
**M-303**

1" REFERENCE  
 KLH PROJECT #  
 25411

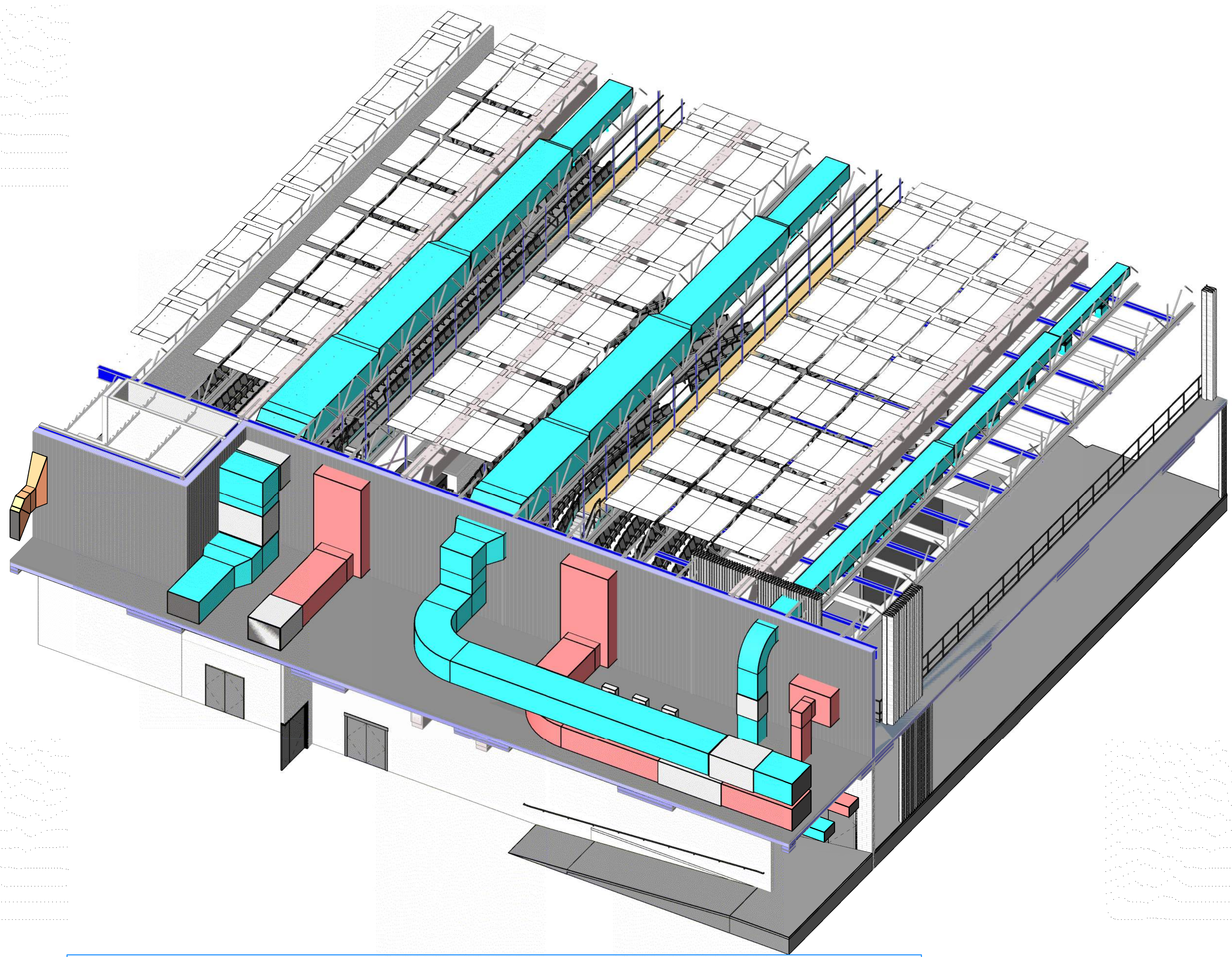


MECHANICAL PLAN - 1ST FLOOR SOUTH - CROSSROADS  
 3/32" = 1'-0"

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KEYED NOTES	
H2	SUPPLY DUCTWORK CONTINUATION SHOWN ON SHEET M-302
H9	PROVIDE CHIMNEY STACK 4 RAIN CAP, 10-FOOT ABOVE ROOF.
H10	SMOKE CONTROL DUCTWORK TO BE PAINTED BLUE TO MATCH ROOF.



The plans must include the sequence of operation per Section 907.1 OBC. The sequences of operation will show the monitoring devices for the smoke control system.



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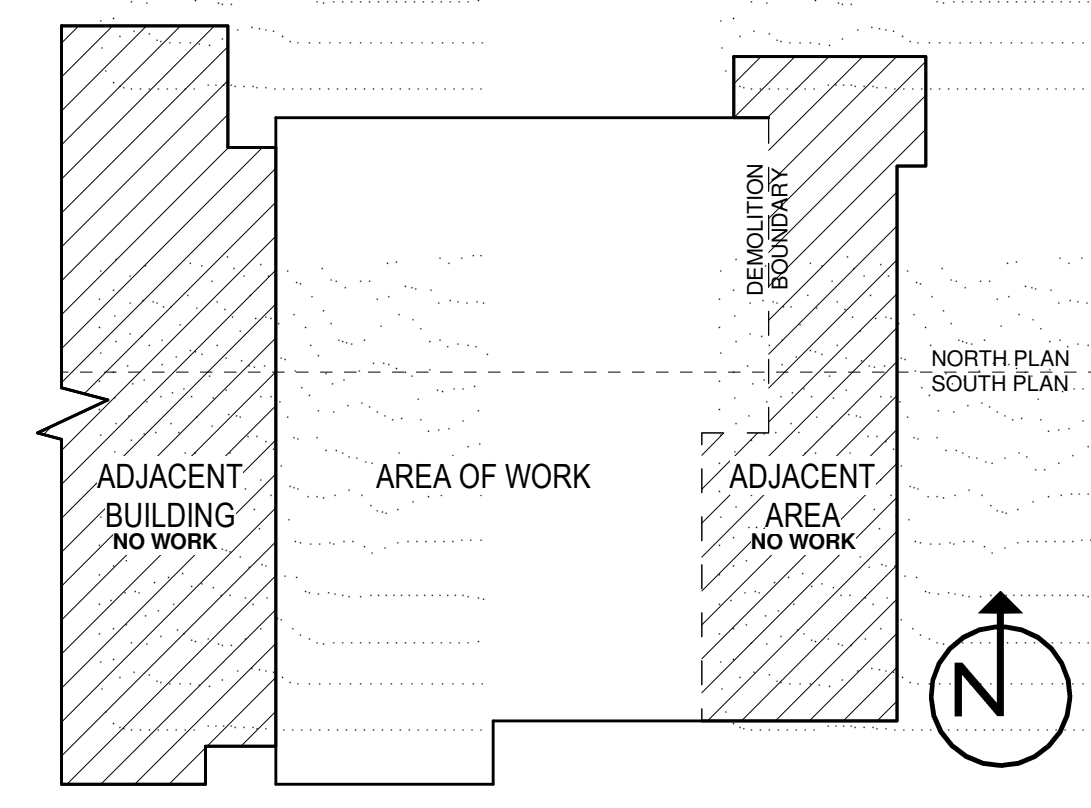
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Plan Change previously approved notes still apply.

04/19/24	PHASE 3 IFC
05/22/24	SMOKE CONTROL

DWN: CES CHK: RAL  
 DATE: 03/07/24  
 PROJECT #: 22025  
 MECHANICAL NEW DUCTWORK - ROOF  
**M-304**  
 1" REFERENCE  
 KLH PROJECT # 25411



**National TAB**  
 Project: Crossroads Church (Dayton, OH)  
 System/Unit: AHU/RTU



Asset: RTU-1

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	241212106L
Model Num	NA	YSJ090A4S0L06
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	36"X15"
Num PreFilter 1	-	3
PreFilter Size 1	-	16"X24"X2"
Num Final Filter 2	-	2
Final Filter Size 2	-	18"X24"X2"

Motor Data		
	Design	Actual
Horsepower	-	3
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	4.6

Test Data		
	Design	Actual
SF CFM	2280	2313
RA CFM	-	1782
OA CFM	518	531
RL Voltage	-	485/486/482
RL Amperage	-	1.21/1.22/1.20
OA Damper Position	-	5%
Brake Horse Power	-	0.78

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.72"
Fan Suction SP	-	-0.86"
Fan Discharge SP	-	0.44"
Total ESP	-	1.16"
Fan Total SP	-	1.3"

Completed By: Jordan Best on 03/14/2025

Notes:  
 Fan Speed Set Pt. 57%

Written By: Jordan Best on 03/14/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-1/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTU-1-SGRD1	A103	CD2	10	275	178	293	106.5
RTU-1-SGRD2	A103	CD2	10	275	184	251	91.3
RTU-1-SGRD3	A102	CD2	10	220	355	219	99.5
RTU-1-SGRD4	A102	SR1	10	215	523	211	98.1
RTU-1-SGRD5	A102	SR1	10	215	543	223	103.7
RTU-1-SGRD6	A102	CD2	10	220	295	222	100.9
RTU-1-SGRD7	A102	SR1	10	215	511	232	107.9
RTU-1-SGRD8	A102	CD1	10	215	324	224	104.2
RTU-1-SGRD9	A102	SR1	10	215	482	209	97.2
RTU-1-SGRD10	A102	CD1	10	215	279	229	106.5
<b>Total</b>				2280	3674	2313	101.45%

Completed By: Jordan Best on 03/12/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-2

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	235210307L
Model Num	NA	YSC060G4RLB2FH
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	26.875"X11"
Num PreFilter 1	-	2
PreFilter Size 1	-	20X35X2

Motor Data		
	Design	Actual
Horsepower	-	1
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	2.5

Test Data		
	Design	Actual
SF CFM	1800	1783
RA CFM	-	1331
OA CFM	446	452
RL Voltage	-	486/485/482
RL Amperage	-	1.21/1.22/1.20
OA Damper Position	-	0.12 VDC
Brake Horse Power	-	0.48

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.92"
Fan Suction SP	-	-1.05"
Fan Discharge SP	-	0.16"
Total ESP	-	1.08"
Fan Total SP	-	1.21"

Completed By: Jordan Best on 03/14/2025

Notes:  
Fan Speed on Highest Motor Tap

Written By: Jordan Best on 03/14/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-2/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
RTU-2-SGRD1	A106	CD-2	10	310	322	325	104.8
RTU-2-SGRD2	A106	CD-2	10	310	336	311	100.3
RTU-2-SGRD3	A106B	CD-2	10	280	290	294	105.0
RTU-2-SGRD4	A106B	CD-2	10	280	336	272	97.1
RTU-2-SGRD5	A107	CD-5	12	480	376	435	90.6
RTU-2-SGRD6	A109	CD-6	6	70	69	72	102.9
RTU-2-SGRD7	A108	CD-6	6	70	87	74	105.7
Total				1800	1816	1783	99.06%

Completed By: Jordan Best on 03/11/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-3

AREA: YOUTH AUDITORIUM

Unit Data		
	Design	Actual
<b>MFG</b>	NA	TRANE
<b>Serial Num</b>	-	C23M07358
<b>Model Num</b>	NA	YCD360CL4LA2B
<b>Configuration</b>	VERTICAL	Vertical
<b>Num OA Filters 1</b>	-	3
<b>OA Filter Size 1</b>	-	22"X34"
<b>Num PreFilter 1</b>	-	16
<b>PreFilter Size 1</b>	-	16"X20"X2"

Motor Data		
	Design	Actual
<b>Horsepower</b>	-	7.5
<b>Phase</b>	3	3
<b>Rated Voltage</b>	460	460
<b>Rated Amperage</b>	-	9.8

Test Data		
	Design	Actual
<b>SF CFM</b>	9040	8710
<b>SF RPM</b>	-	1115
<b>RA CFM</b>	-	5974
<b>OA CFM</b>	2862	2736
<b>RL Voltage</b>	-	INACCESSIBLE
<b>RL Amperage</b>	-	3.7 VFD
<b>OA Damper Position</b>	-	25%
<b>Brake Horse Power</b>	1	1.0 VFD

Performance Data		
	Design	Actual
<b>MA Plenum SP</b>	-	-0.05"
<b>Fan Suction SP</b>	-	-0.20"
<b>Fan Discharge SP</b>	-	INACCESSIBLE
<b>Total ESP</b>	-	NA
<b>Fan Total SP</b>	-	NA

Completed By: Gabe Merk on 03/24/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-3/YOUTH AUDITORIUM**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
RTU-3-SGRD1	M101	DL	20	565	698	532	94.2
RTU-3-SGRD2	M101	DL	20	565	464	509	90.1
RTU-3-SGRD3	M101	DL	20	565	451	511	90.4
RTU-3-SGRD4	M101	DL	20	565	348	567	100.4
RTU-3-SGRD5	M101	DL	20	565	387	509	90.1
RTU-3-SGRD6	M101	DL	20	565	399	529	93.6
RTU-3-SGRD7	M101	DL	20	565	291	582	103.0
RTU-3-SGRD8	M101	DL	20	565	560	571	101.1
RTU-3-SGRD9	M101	DL	20	565	376	549	97.2
RTU-3-SGRD10	M101	DL	20	565	464	532	94.2
RTU-3-SGRD11	M101	DL	20	565	513	571	101.1
RTU-3-SGRD12	M101	DL	20	565	487	548	97.0
RTU-3-SGRD13	M101	DL	20	565	598	531	94.0
RTU-3-SGRD14	M101	DL	20	565	342	562	99.5
RTU-3-SGRD15	M101	DL	20	565	689	558	98.8
RTU-3-SGRD16	M101	DL	20	565	587	549	97.2
<b>Total</b>				9040	7654	8710	96.35%

Completed By: Jordan Best on 03/13/2025

Asset	Notes	Date	Written By
RTU-3-SGRD5	Grill close to take-off (transition) causing zero flow condition.	03/10/2025	Joe Hertenstein

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-5

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	241212137L
Model Num	NA	YSJ090A4S0L06H0
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	36" X 15"
Num PreFilter 1	-	3
PreFilter Size 1	-	16" X 24" X2"
Num Final Filter 2	-	2
Final Filter Size 2	-	18"X24"X2"

Motor Data		
	Design	Actual
Horsepower	-	3
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	4.6

Test Data		
	Design	Actual
SF CFM	2600	2625
SF RPM	-	43%
RA CFM	-	1969
OA CFM	645	656
RL Voltage	-	487/491/490
RL Amperage	-	0.7/0.8/0.8
OA Damper Position	-	32%
Brake Horse Power	-	0.52

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.09"
Fan Suction SP	-	-0.29"
Fan Discharge SP	-	0.28"
Total ESP	-	0.37"
Fan Total SP	-	0.57"

Completed By: Gabe Merk on 03/21/2025

**National TAB**  
 Project: Crossroads Church (Dayton, OH)  
**AHU/RTU**



**Diffuser Supply (GRD)**

**RTU-5/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTU-5-SGRD1	K103	CD2	10	325	263	331	101.8
RTU-5-SGRD2	K103	CD2	10	325	384	307	94.5
RTU-5-SGRD3	K103	CD2	10	325	471	338	104.0
RTU-5-SGRD4	K103	CD2	10	325	493	309	95.1
RTU-5-SGRD5	K102	CD2	10	325	412	319	98.2
RTU-5-SGRD6	K102	CD2	10	325	454	342	105.2
RTU-5-SGRD7	K102	CD2	10	325	485	341	104.9
RTU-5-SGRD8	K102	CD2	10	325	484	338	104.0
<b>Total</b>				<b>2600</b>	<b>3446</b>	<b>2625</b>	<b>100.96%</b>

Completed By: Jordan Best on 03/11/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-6

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	241212257L
Model Num	NA	YSJ090A4S0L06H0
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	36"X15"
Num PreFilter 1	-	3
PreFilter Size 1	-	16"X24"X2"
Num Final Filter 2	-	2
Final Filter Size 2	-	18"X24"X2"

Motor Data		
	Design	Actual
Horsepower	-	3
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	4.6

Test Data		
	Design	Actual
SF CFM	2800	2860
SF RPM	-	47%
RA CFM	-	2198
OA CFM	696	662
RL Voltage	-	486/490/489
RL Amperage	-	0.9/0.9/0.9
OA Damper Position	-	30%
Brake Horse Power	-	0.61

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.16"
Fan Suction SP	-	-0.26"
Fan Discharge SP	-	0.28"
Total ESP	-	0.44"
Fan Total SP	-	0.54"

Completed By: Nick Payne on 03/21/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-6/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
RTU-6-SGRD1	K106	CD3	12	350	502	366	104.6
RTU-6-SGRD2	K106	CD3	12	350	506	371	106.0
RTU-6-SGRD3	K106	CD3	12	350	432	334	95.4
RTU-6-SGRD4	K106	CD3	12	350	248	336	96.0
RTU-6-SGRD5	K107	CD3	12	350	520	366	104.6
RTU-6-SGRD6	K107	CD3	12	350	329	363	103.7
RTU-6-SGRD7	K107	CD3	12	350	445	383	109.4
RTU-6-SGRD8	K107	CD3	12	350	418	341	97.4
<b>Total</b>				<b>2800</b>	<b>3400</b>	<b>2860</b>	<b>102.14%</b>

Completed By: Jordan Best on 03/11/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-7

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	235210309L
Model Num	NA	YSC060G4RLB2F
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	26"X12"
Num PreFilter 1	-	2
PreFilter Size 1	-	20"X35"X2"

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
Horsepower	-	1.0
Phase	3	1
Rated Voltage	460	460
Rated Amperage	-	2.5

Test Data		
	Design	Actual
SF CFM	1680	1732
SF RPM	-	SPEED TAP 1
RA CFM	-	1269
OA CFM	455	473
RL Voltage	-	485
RL Amperage	-	1.2
OA Damper Position	-	VIA DIAL
Brake Horse Power	-	0.48

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.19"
Fan Suction SP	-	-0.32"
Fan Discharge SP	-	0.65"
Total ESP	-	0.84"
Fan Total SP	-	0.97"

Completed By: Gabe Merk on 04/01/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-7/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
RTU-7-SGRD1	K113	CD1	10	200	395	211	105.5
RTU-7-SGRD2	K116	CD1	10	200	0	211	105.5
RTU-7-SGRD3	K108	CD7	6	140	150	145	103.6
RTU-7-SGRD4	K109	CD7	6	140	143	136	97.1
RTU-7-SGRD5	K111	CD6	6	100	156	109	109.0
RTU-7-SGRD6	A127	CD1	8	200	0	201	100.5
RTU-7-SGRD7	K127	CD1	10	175	187	167	95.4
RTU-7-SGRD8	K127	CD1	10	175	194	184	105.1
RTU-7-SGRD9	K127	CD1	10	175	193	185	105.7
RTU-7-SGRD10	K127	CD1	10	175	194	183	104.6
Total				1680	1612	1732	103.1%

Completed By: Gabe Merk on 04/01/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-8

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	241213595L
Model Num	NA	YSJ090A4S0L
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	35"X15"
Num PreFilter 1	-	3
PreFilter Size 1	-	16"X24"X2"
Num Final Filter 2	-	2
Final Filter Size 2	-	18"X24"X2"

Motor Data		
	Design	Actual
Horsepower	-	3
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	4.6

Test Data		
	Design	Actual
SF CFM	3000	3045
SF RPM	-	56%
RA CFM	-	2283
OA CFM	747	762
RL Voltage	-	487/490/490
RL Amperage	-	1.3/1.3/1.3
OA Damper Position	-	30%
Brake Horse Power	-	0.88

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.27"
Fan Suction SP	-	-0.50"
Fan Discharge SP	-	0.43"
Total ESP	-	0.70"
Fan Total SP	-	0.93"

Completed By: Gabe Merk on 03/24/2025

**National TAB**  
 Project: Crossroads Church (Dayton, OH)  
**AHU/RTU**



**Diffuser Supply (GRD)**

**RTU-8/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTU-8-SGRD1	K118	CD3	12	350	634	341	97.4
RTU-8-SGRD2	K118	CD3	12	350	595	330	94.3
RTU-8-SGRD3	K127	CD3	12	350	654	335	95.7
RTU-8-SGRD4	K127	CD3	12	350	606	375	107.1
RTU-8-SGRD5	K114	CD3	12	350	542	355	101.4
RTU-8-SGRD6	K114	CD3	12	350	526	383	109.4
RTU-8-SGRD7	K112	CD3	12	450	325	475	105.6
RTU-8-SGRD8	K112	CD3	12	450	316	451	100.2
<b>Total</b>				<b>3000</b>	<b>4198</b>	<b>3045</b>	<b>101.5%</b>

Completed By: Gabe Merk on 03/24/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-9

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	241210951L
Model Num	NA	YSJ120A4S0L
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	34.5"X15.25"
Num PreFilter 1	-	3
PreFilter Size 1	-	16"X24"X2"
Num Final Filter 2	-	2
Final Filter Size 2	-	18"X24"X2"

Motor Data		
	Design	Actual
Horsepower	-	3
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	4.6

Test Data		
	Design	Actual
SF CFM	3400	3290
SF RPM	-	54%
RA CFM	-	2514
OA CFM	817	776
RL Voltage	-	485/490/491
RL Amperage	-	1.2/1.2/1.2
OA Damper Position	-	31%
Brake Horse Power	-	0.81

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.23"
Fan Suction SP	-	-0.48"
Fan Discharge SP	-	0.38"
Total ESP	-	0.61"
Fan Total SP	-	0.86"

Completed By: Nick Payne on 03/21/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-9/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
RTU-9-SGRD1	K105	CD3	12	425	491	384	90.4
RTU-9-SGRD2	K105	CD3	12	425	323	383	90.1
RTU-9-SGRD3	K105	CD3	12	425	631	387	91.1
RTU-9-SGRD4	K105	CD3	12	425	649	410	96.5
RTU-9-SGRD5	K120	CD3	12	425	722	452	106.4
RTU-9-SGRD6	K120	CD3	12	425	707	455	107.1
RTU-9-SGRD7	K120	CD3	12	425	66	400	94.1
RTU-9-SGRD8	K120	CD3	12	425	643	419	98.6
Total				3400	4232	3290	96.76%

Completed By: Jordan Best on 03/10/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-10

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	241210963L
Model Num	NA	YHJ120A4S0L05H0
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	34.5"X15.5"
Num PreFilter 1	-	3
PreFilter Size 1	-	16"X24X"2"
Num Final Filter 2	-	2
Final Filter Size 2	-	18"X24"X2"

Motor Data		
	Design	Actual
Horsepower	-	3
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	4.6

Test Data		
	Design	Actual
SF CFM	3400	3393
SF RPM	-	54%
RA CFM	-	2557
OA CFM	835	836
RL Voltage	-	486/489/489
RL Amperage	-	1.2/1.2/1.2
OA Damper Position	-	32%
Brake Horse Power	-	0.81

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.20"
Fan Suction SP	-	-0.40"
Fan Discharge SP	-	0.42"
Total ESP	-	0.62"
Fan Total SP	-	0.82"

Completed By: Nick Payne on 03/21/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-10/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
RTU-10-SGRD1	K104	CD3	12	425	442	385	90.6
RTU-10-SGRD2	K104	CD3	12	425	219	388	91.3
RTU-10-SGRD3	K104	CD3	12	425	629	434	102.1
RTU-10-SGRD4	K104	CD3	12	425	524	412	96.9
RTU-10-SGRD5	K121	CD3	12	425	609	448	105.4
RTU-10-SGRD6	K121	CD3	12	425	666	422	99.3
RTU-10-SGRD7	K121	CD3	12	425	550	444	104.5
RTU-10-SGRD8	K121	CD3	12	425	600	460	108.2
Total				3400	4239	3393	99.79%

Completed By: Jordan Best on 03/10/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-11

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	241210856L
Model Num	NA	YHJ102A4S0M05H0
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	36"X16"
Num PreFilter 1	-	3
PreFilter Size 1	-	16"X24"X2"
Num Final Filter 2	-	2
Final Filter Size 2	-	18"X24"X2"

Motor Data		
	Design	Actual
Horsepower	-	3
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	4.6

Test Data		
	Design	Actual
SF CFM	2920	3016
SF RPM	-	50%
RA CFM	-	2307
OA CFM	715	709
RL Voltage	-	487/491/491
RL Amperage	-	1.0/1.0/1.0
OA Damper Position	-	31%
Brake Horse Power	-	0.67

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.15"
Fan Suction SP	-	-0.35"
Fan Discharge SP	-	0.38"
Total ESP	-	0.53"
Fan Total SP	-	0.73"

Completed By: Nick Payne on 03/21/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-11/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTU-11-SGRD1	K126	CD3	12	365	553	345	94.5
RTU-11-SGRD2	K126	CD3	12	365	527	386	105.8
RTU-11-SGRD3	K126	CD3	12	365	567	379	103.8
RTU-11-SGRD4	K126	CD3	12	365	141	384	105.2
RTU-11-SGRD5	K125	CD3	12	365	516	375	102.7
RTU-11-SGRD6	K125	CD3	12	365	579	343	94.0
RTU-11-SGRD7	K125	CD3	12	365	421	404	110.7
RTU-11-SGRD8	K125	CD3	12	365	630	400	109.6
<b>Total</b>				2920	3934	3016	103.29%

Completed By: Jordan Best on 03/10/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-12

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	235210315I
Model Num	NA	YSC060G4RLB2
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	26"X11"
Num PreFilter 1	-	2
PreFilter Size 1	-	20"X35"X2"

Motor Data		
	Design	Actual
Horsepower	-	1
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	0.7

Test Data		
	Design	Actual
SF CFM	1500	1491
SF RPM	-	NA
RA CFM	-	1124
OA CFM	373	367
RL Voltage	-	483/486/486
RL Amperage	-	1.0/1.0/1.0
OA Damper Position	-	1"
Brake Horse Power	-	0.40

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.03"
Fan Suction SP	-	-0.18"
Fan Discharge SP	-	1.02"
Total ESP	-	1.05"
Fan Total SP	-	1.20"

Completed By: Gabe Merk on 03/21/2025

Notes:  
Fan Speed Set Pt.- Low

Written By: Jordan Best on 03/10/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-12/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTU-12-SGRD1	K124	CD3	12	375	493	398	106.1
RTU-12-SGRD2	K124	CD3	12	375	526	372	99.2
RTU-12-SGRD3	K124	CD3	12	375	537	373	99.5
RTU-12-SGRD4	K124	CD3	12	375	501	348	92.8
<b>Total</b>				1500	2057	1491	99.4%

Completed By: Jordan Best on 03/10/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-13

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	241610973L
Model Num	NA	YSJ150B4S0M05
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	35"X14.5"
Num PreFilter 1	-	3
PreFilter Size 1	-	18"X24"X2/18"X18"X2"
Num Final Filter 2	-	3
Final Filter Size 2	-	18"X18"X2"

Motor Data		
	Design	Actual
Horsepower	-	1
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	2.2

Test Data		
	Design	Actual
SF CFM	4380	4528
SF RPM	-	65%
RA CFM	-	3459
OA CFM	1064	1069
RL Voltage	-	484/487/487
RL Amperage	-	1.8/1.8/1.7
OA Damper Position	-	33%
Brake Horse Power	-	1.60

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.36"
Fan Suction SP	-	-0.62"
Fan Discharge SP	-	0.55"
Total ESP	-	0.91"
Fan Total SP	-	1.17"

Completed By: Gabe Merk on 03/21/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-13/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTU-13-SGRD1	K123	CD3	12	365	212	373	102.2
RTU-13-SGRD2	K123	CD3	12	365	158	332	91.0
RTU-13-SGRD3	K123	CD3	12	365	406	400	109.6
RTU-13-SGRD4	K123	CD3	12	365	382	354	97.0
RTU-13-SGRD5	K122	CD3	12	365	388	393	107.7
RTU-13-SGRD6	K122	CD3	12	365	416	379	103.8
RTU-13-SGRD7	K122	CD3	12	365	481	343	94.0
RTU-13-SGRD8	K122	CD3	12	365	434	384	105.2
RTU-13-SGRD9	K119	CD3	12	365	472	390	106.8
RTU-13-SGRD10	K119	CD3	12	365	392	384	105.2
RTU-13-SGRD11	K119	CD3	12	365	484	399	109.3
RTU-13-SGRD12	K119	CD3	12	365	482	397	108.8
<b>Total</b>				<b>4380</b>	<b>4707</b>	<b>4528</b>	<b>103.38%</b>

Completed By: Jordan Best on 03/10/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-15

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	241210876L
Model Num	NA	YSJ120A4S0L05H0
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	35"X15"
Num PreFilter 1	-	3
PreFilter Size 1	-	16"X24"X2"
Num Final Filter 2	-	2
Final Filter Size 2	-	18"X24"X2"

Motor Data		
	Design	Actual
Horsepower	-	3
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	4.6

Test Data		
	Design	Actual
SF CFM	3400	3214
RA CFM	-	2381
OA CFM	825	833
RL Voltage	-	483/480/482
RL Amperage	-	1.16/1.17/1.19
OA Damper Position	-	32%
Brake Horse Power	-	0.77

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.19"
Fan Suction SP	-	-0.41"
Fan Discharge SP	-	0.22"
Total ESP	-	0.41"
Fan Total SP	-	0.63"

Completed By: Jordan Best on 03/14/2025

Notes:  
Fan speed set pt. 55%

Written By: Jordan Best on 03/14/2025

**National TAB**  
 Project: Crossroads Church (Dayton, OH)  
**AHU/RTU**



**Diffuser Supply (GRD)**

**RTU-15/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTU-15-SGRD1	K117	SR-D	20"X10"	425	389	411	96.7
RTU-15-SGRD2	K117	SR-D	20"X10"	425	399	398	93.6
RTU-15-SGRD3	K117	SR-D	20"X10"	425	287	389	91.5
RTU-15-SGRD4	K117	SR-D	20"X10"	425	343	402	94.6
RTU-15-SGRD5	K117	SR-D	20"X10"	425	387	413	97.2
RTU-15-SGRD6	K117	SR-D	20"X10"	425	383	392	92.2
RTU-15-SGRD7	K117	SR-D	20"X10"	425	493	411	96.7
RTU-15-SGRD8	K117	SR-D	20"X10"	425	519	398	93.6
<b>Total</b>				3400	3200	3214	94.53%

Completed By: Jordan Best on 03/12/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-16

AREA:66A

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	C24b00898
Model Num	NA	SFHM754HA66C78DCLO
Configuration	HORIZONTAL	Horizontal
Num OA Filters 1	-	2
OA Filter Size 1	-	55"X31"
Num PreFilter 1	-	35
PreFilter Size 1	-	16"X20"X2"

Test Data		
	Design	Actual
SF CFM	22495	21958
SF RPM	-	1798
RA CFM	-	16237
OA CFM	5818	5421
RL Voltage	-	483/485/485
RL Amperage	-	24.52 VFD
OA Damper Position	-	20%
Brake Horse Power	24	20.4

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	284T
Horsepower	25	25
Motor Rpm	-	1775
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	30
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.83"
Fan Suction SP	-	-1.5"
Fan Discharge SP	-	1.1"
Total ESP	-	1.93"
Fan Total SP	-	2.6"

Drive Data	
	Actual
Motor Sheave Size	2B5V50
Motor Bore Size	1.75"
Motor Sheave SetPt	FIXED
Fan Sheave Size	11"
Fan Sheave Bore	1.75"
Belt CL Distance	33.25"
Num of Belts	2
Belt Size	5VX950

Completed By: Nick Payne on 03/21/2025

Notes:  
Fan Speed Set Pt. 60 HZ w/ damper @15%

Written By: Jordan Best on 03/14/2025

**National TAB**  
 Project: Crossroads Church (Dayton, OH)  
**AHU/RTU**



**Diffuser Supply (GRD)**

**RTU-16/66A**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTU-16-SGRD2	66A	DL	48x10	2045	1039	1955	95.6
RTU-16-SGRD3	66A	DL	48x10	2045	2361	1934	94.6
RTU-16-SGRD4	66A	DL	48x10	2045	2211	1969	96.3
RTU-16-SGRD5	66A	DL	48x10	2045	2321	2124	103.9
RTU-16-SGRD6	66A	DL	48x10	2045	2209	1905	93.2
RTU-16-SGRD7	66A	DL	48x10	2045	1756	1876	91.7
RTU-16-SGRD8	66A	DL	48x10	2045	1952	1952	95.5
RTU-16-SGRD9	66A	DL	48x10	2045	2166	2166	105.9
RTU-16-SGRD10	66A	DL	48x10	2045	1906	1906	93.2
RTU-16-SGRD11	66A	DL	48x10	2045	2243	2008	98.2
RTU-16-SGRD12	66A	DL	48x10	2045	1377	2163	105.8
<b>Total</b>				<b>22495</b>	<b>21541</b>	<b>21958</b>	<b>97.61%</b>

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-17

AREA:66B

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	C24B00897
Model Num	NA	SFHM754HA66C78DCL0
Configuration	HORIZONTAL	Horizontal
Num OA Filters 1	-	2
OA Filter Size 1	-	55"X31"
Num PreFilter 1	-	35
PreFilter Size 1	-	16"X20"X2"

Test Data		
	Design	Actual
SF CFM	22495	23452
SF RPM	-	100%
RA CFM	-	17649
OA CFM	5404	5803
RL Voltage	-	487/490/491
RL Amperage	-	21.7/21.0/23.3
OA Damper Position	-	15%
Brake Horse Power	-	19.80

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	284T
Horsepower	-	25
Motor Rpm	-	1775
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	30
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.84
Fan Suction SP	-	-1.67
Fan Discharge SP	-	0.20
Total ESP	-	1.04
Fan Total SP	-	1.87

Drive Data	
	Actual
Motor Sheave Size	2B5V50
Motor Bore Size	1.75"
Motor Sheave SetPt	FIXED
Fan Sheave Size	11"
Fan Sheave Bore	1.75"
Belt CL Distance	33.25"
Num of Belts	2
Belt Size	5VX950

Completed By: Aaron Cosby on 03/25/2025

**National TAB**  
 Project: Crossroads Church (Dayton, OH)  
**AHU/RTU**



**Diffuser Supply (GRD)**

**RTU-17/66B**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTU-17-SGRD1	66B	DL	48x10	2045	1876	2238	109.4
RTU-17-SGRD2	66B	DL	48x10	2045	1901	2201	107.6
RTU-17-SGRD3	66B	DL	48x10	2045	1972	2139	104.6
RTU-17-SGRD4	66B	DL	48x10	2045	1978	2174	106.3
RTU-17-SGRD5	66B	DL	48x10	2045	1998	2209	108.0
RTU-17-SGRD6	66B	DL	48x10	2045	2019	2061	100.8
RTU-17-SGRD7	66B	DL	48x10	2045	2209	2033	99.4
RTU-17-SGRD8	66B	DL	48x10	2045	2321	2012	98.4
RTU-17-SGRD9	66B	DL	48x10	2045	2436	2178	106.5
RTU-17-SGRD10	66B	DL	48x10	2045	2786	2029	99.2
RTU-17-SGRD11	66B	DL	48x10	2045	3219	2178	106.5
<b>Total</b>				<b>22495</b>	<b>24715</b>	<b>23452</b>	<b>104.25%</b>

Completed By: Jordan Best on 03/14/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-18

AREA: ATRIUM NORTH

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	24101116D
Model Num	NA	YHJ240A4S0H02H0
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	67.5"x18"
Num PreFilter 1	-	8
PreFilter Size 1	-	20"X24"X2"

Motor Data		
	Design	Actual
Horsepower	-	3
Phase	3	3
Rated Voltage	460	450
Rated Amperage	-	4.6

Test Data		
	Design	Actual
SF CFM	5200	5001
RA CFM	-	3604
OA CFM	1366	1397
RL Voltage	-	486/484/487
RL Amperage	-	1.73/1.65/1.75
OA Damper Position	-	40%
Brake Horse Power	3.1	2.2

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.16"
Fan Suction SP	-	-0.26"
Fan Discharge SP	-	0.66"
Total ESP	-	0.82"
Fan Total SP	-	0.92"

Completed By: Jordan Best on 03/14/2025

Notes:  
Fan speed set pt. 47%

Written By: Jordan Best on 03/14/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-18/ATRIUM NORTH**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
RTU-18-SGRD1	ATRIUM	SR	32X18	325	328	298	91.7
RTU-18-SGRD2	ATRIUM	SR	32X18	325	396	302	92.9
RTU-18-SGRD3	ATRIUM	SR	32X18	325	454	318	97.8
RTU-18-SGRD4	ATRIUM	SR	32X18	325	453	334	102.8
RTU-18-SGRD5	ATRIUM	SR	32X18	325	432	329	101.2
RTU-18-SGRD6	ATRIUM	SR	32X18	325	592	338	104.0
RTU-18-SGRD7	ATRIUM	SR	32X18	325	153	294	90.5
RTU-18-SGRD8	ATRIUM	SR	32X18	325	219	302	92.9
RTU-18-SGRD9	ATRIUM	SR	32X18	325	251	311	95.7
RTU-18-SGRD10	ATRIUM	SR	32X18	325	257	314	96.6
RTU-18-SGRD11	ATRIUM	SR	32X18	325	242	322	99.1
RTU-18-SGRD12	ATRIUM	SR	32X18	325	205	302	92.9
RTU-18-SGRD13	ATRIUM	SR	32X18	325	203	298	91.7
RTU-18-SGRD14	ATRIUM	SR	32X18	325	230	311	95.7
RTU-18-SGRD15	ATRIUM	SR	32X18	325	218	309	95.1
RTU-18-SGRD16	ATRIUM	SR	32X18	325	287	319	98.2
Total				5200	4920	5001	96.17%

Completed By: Jordan Best on 03/13/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-19

AREA: ATRIUM

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	240910514D
Model Num	NA	YHJ240A4S0M02H0
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	65"X17"
Num PreFilter 1	-	4
PreFilter Size 1	-	20"x24"x2"

Motor Data		
	Design	Actual
Horsepower	-	3
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	4.6

Test Data		
	Design	Actual
SF CFM	6095	5955
RA CFM	-	4160
OA CFM	1762	1795
RL Voltage	-	486/484/486
RL Amperage	-	2.83/2.75/2.96
OA Damper Position	-	45%
Brake Horse Power	3.1	3.7

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.66"
Fan Suction SP	-	-0.83"
Fan Discharge SP	-	0.44"
Total ESP	-	1.1"
Fan Total SP	-	1.27"

Completed By: Jordan Best on 03/14/2025

Notes:  
Fan speed set pt. 62%

Written By: Jordan Best on 03/14/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-19/ATRIUM**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
RTU-19-SGRD1	ATRIUM	SR3	24X10	280	289	302	107.9
RTU-19-SGRD2	ATRIUM	SR3	24X10	280	269	278	99.3
RTU-19-SGRD3	ATRIUM	SR3	24X10	275	302	267	97.1
RTU-19-SGRD4	ATRIUM	SR3	24X10	280	312	256	91.4
RTU-19-SGRD5	ATRIUM	SR3	24X10	280	281	269	96.1
RTU-19-SGRD6	ATRIUM	SR3	24X10	280	311	272	97.1
RTU-19-SGRD7	ATRIUM	SR3	8	280	302	258	92.1
RTU-19-SGRD8	ATRIUM	SR3	8	280	309	264	94.3
RTU-19-SGRD9	ATRIUM	SR3	32X16	280	342	272	97.1
RTU-19-SGRD10	ATRIUM	SR3	32X16	280	311	301	107.5
RTU-19-SGRD11	ATRIUM	SR3	32X16	295	321	289	98.0
RTU-19-SGRD12	ATRIUM	SR3	32X16	295	367	268	90.8
RTU-19-SGRD13	ATRIUM	SR3	32X16	295	345	271	91.9
RTU-19-SGRD14	ATRIUM	SR3	32X16	295	334	311	105.4
RTU-19-SGRD15	K101	SR3	32X16	500	324	465	93.0
RTU-19-SGRD16	M105	SR3	32X16	325	361	311	95.7
RTU-19-SGRD17	M105	SR3	32X16	325	276	309	95.1
RTU-19-SGRD18	M105	SR3	32X16	325	287	319	98.2
RTU-19-SGRD19	M105	SR3	32X16	320	311	332	103.8
RTU-19-SGRD20	M105	SR3	32X16	325	298	341	104.9
Total				6095	6252	5955	97.7%

Completed By: Jordan Best on 03/13/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: AHU/RTU



Asset: RTU-20

AREA:S102

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	241210959L
Model Num	NA	YSJ120A4S0L05H0
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	1
OA Filter Size 1	-	35"X15"
Num PreFilter 1	-	3
PreFilter Size 1	-	16"X24"X2"
Num Final Filter 2	-	2
Final Filter Size 2	-	18"X24"X2"

Motor Data		
	Design	Actual
Horsepower	-	3
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	4.6

Test Data		
	Design	Actual
SF CFM	3650	3573
RA CFM	-	2588
OA CFM	1009	985
RL Voltage	-	483/484/481
RL Amperage	-	1.52/1.53/1.54
OA Damper Position	-	33%
Brake Horse Power	3.1	0.99

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.31"
Fan Suction SP	-	-0.64"
Fan Discharge SP	-	0.48"
Total ESP	-	0.79"
Fan Total SP	-	1.12"

Completed By: Jordan Best on 03/14/2025

Notes:  
Fan Speed Set Pt. 64%

Written By: Jordan Best on 03/14/2025

**National TAB**  
 Project: Crossroads Church (Dayton, OH)  
**AHU/RTU**



**Diffuser Supply (GRD)**

**RTU-20/S102**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTU-20-SGRD1	S102	DL	38X28	365	456	342	93.7
RTU-20-SGRD2	S102	DL	38X28	365	422	379	103.8
RTU-20-SGRD3	S102	DL	38X28	365	419	380	104.1
RTU-20-SGRD4	S102	DL	38X28	365	117	360	98.6
RTU-20-SGRD5	S102	DL	30X24	365	315	347	95.1
RTU-20-SGRD6	S102	DL	30X24	365	103	345	94.5
RTU-20-SGRD7	S102	DL	30X24	365		378	103.6
RTU-20-SGRD8	S102	DL	24X16	365	419	380	104.1
RTU-20-SGRD9	S102	DL	24X16	365	614	333	91.2
RTU-20-SGRD10	S102	DL	24X16	365	289	329	90.1
<b>Total</b>				3650	3154	3573	97.89%

Completed By: Jordan Best on 03/12/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## System/Unit: Fan Coil



Asset: FC1

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Model Num	NA	TPEADA0241AA80A
Serial Num	-	39R0082630P10D
Configuration	HORIZONTAL	HORIZONTAL

Motor Data		
	Design	Actual
Horsepower	-	0.162
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	1.82

Test Data		
	Design	Actual
SFAN CFM	715	773
Motor Speed SetPt	-	HI
RL Voltage	208	210.1
RL Amperage	1.82	0.62
RA CFM	439	636
OA CFM	141	137

Performance Data		
	Design	Actual
Suction ESP	-	-0.09"
Discharge ESP	-	0.19"
Total ESP	-	0.28"

Completed By: Jordan Best on 03/14/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## Fan Coil



**Diffuser Supply (GRD)**

**FC1/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
FC1-SGRD1	A121	SR2	12	380	465	413	108.7
FC1-SGRD2	A125	CD6	6	90	104	98	108.9
FC1-SGRD3	A126	CD6	6	95	141	103	108.4
FC1-SGRD4	M103	CD6	6	85	131	93	109.4
FC1-SGRD5	M103	CD7	6	65	78	66	101.5
<b>Total</b>				<b>715</b>	<b>919</b>	<b>773</b>	<b>108.11%</b>

Completed By: Jordan Best on 03/14/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## System/Unit: Fan Coil



Asset: FC2

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Model Num	NA	TPEADA024
Serial Num	-	39R0078730P10D
Configuration	HORIZONTAL	HORIZONTAL

Motor Data		
	Design	Actual
Horsepower	-	0.162
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	1.82

Test Data		
	Design	Actual
SFAN CFM	625	623
Motor Speed SetPt	-	2
RL Voltage	208	211
RL Amperage	2.1	0.3
RA CFM	460	449
OA CFM	165	174

Performance Data		
	Design	Actual
Suction ESP	-	-0.02"
Discharge ESP	-	0.10"
Total ESP	-	0.12"

Completed By: Gabe Merk on 04/01/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## Fan Coil



**Diffuser Supply (GRD)**

**FC2/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
FC2-SGRD1	A115	CD1	8	60	178	63	105.0
FC2-SGRD2	A114	CD1	8	200	267	198	99.0
FC2-SGRD3	A114	CD1	8	200	269	203	101.5
FC2-SGRD4	S108	CD6	6	65	110	65	100.0
FC2-SGRD5	S107	CD6	6	100	96	94	94.0
Total				625	920	623	99.68%

# National TAB

Project: Crossroads Church (Dayton, OH)

## System/Unit: Fan Coil



Asset: FC3

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Model Num	NA	TPEADA0241AA80A
Serial Num	-	39R0078530P10D
Configuration	HORIZONTAL	HORIZONTAL

Motor Data		
	Design	Actual
Horsepower	-	0.162
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	1.82

Test Data		
	Design	Actual
SFAN CFM	565	590
Motor Speed SetPt	-	LOW
RL Voltage	208	211.6
RL Amperage	1.84	0.28
RA CFM	419	452
OA CFM	146	138

Performance Data		
	Design	Actual
Suction ESP	-	-0.04"
Discharge ESP	-	0.08"
Total ESP	-	0.12"

Completed By: Gabe Merk on 03/24/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## Fan Coil



**Diffuser Supply (GRD)**

**FC3/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
FC3-SGRD1	A112	CD2	10	250	257	257	102.8
FC3-SGRD2	A112	CD2	10	250	269	269	107.6
FC3-SGRD3	A112	CD6	6	65	64	64	98.5
<b>Total</b>				<b>565</b>	<b>590</b>	<b>590</b>	<b>104.42%</b>

Completed By: Jordan Best on 03/13/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

System/Unit: Fan Coil



Asset: FC4

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Model Num	NA	TPEFYP048MA144A
Serial Num	-	41R0235130P914
Configuration	HORIZONTAL	HORIZONTAL

Motor Data		
	Design	Actual
Horsepower	0.402	0.402
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	3.09

Test Data		
	Design	Actual
SFAN CFM	1170	1212
Motor Speed SetPt	-	3
RL Voltage	208	210
RL Amperage	3.5	1.2
RA CFM	751	1025
OA CFM	194	187

Performance Data		
	Design	Actual
Suction ESP	-	-0.07"
Discharge ESP	-	0.10"
Total ESP	-	0.17"

Completed By: Gabe Merk on 04/01/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## Fan Coil



**Diffuser Supply (GRD)**

**FC4/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
FC4-SGRD1	B102	SR1	12X6	265	354	283	106.8
FC4-SGRD2	B102	SR1	12X6	265	370	279	105.3
FC4-SGRD3	B102	SR1	12X6	265	111	269	101.5
FC4-SGRD4	B102	SR1	12X6	265	334	273	103.0
FC4-SGRD5	B101	CD1	8	110	98	108	98.2
<b>Total</b>				1170	1267	1212	103.59%

# National TAB

Project: Crossroads Church (Dayton, OH)

## System/Unit: Fan Coil



Asset: FC5

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Model Num	NA	TPEADA0241AA80A
Serial Num	-	3XR0095130P10D
Configuration	HORIZONTAL	HORIZONTAL

Motor Data		
	Design	Actual
Horsepower	-	0.162
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	1.82

Test Data		
	Design	Actual
SFAN CFM	505	522
Motor Speed SetPt	-	2
RL Voltage	208	210
RL Amperage	2.1	0.3
RA CFM	397	421
OA CFM	108	101

Performance Data		
	Design	Actual
Suction ESP	-	-0.02"
Discharge ESP	-	0.09"
Total ESP	-	0.11"

Completed By: Chase Wright on 04/01/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## Fan Coil



**Diffuser Supply (GRD)**

**FC5/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
FC5-SGRD1	S126	CD1	8	170	154	173	101.8
FC5-SGRD2	S127	CD1	8	120	168	115	95.8
FC5-SGRD3	S125	CD1	8	140	129	153	109.3
FC5-SGRD4	S124	CD6	6	20	34	22	110.0
FC5-SGRD5	S123	CD6	6	25	29	27	108.0
FC5-SGRD6	F108	CD6	6	30	44	32	106.7
<b>Total</b>				505	558	522	103.37%

Completed By: Chase Wright on 04/01/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## System/Unit: Fan Coil



Asset: FC6

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Model Num	NA	PEAD-A30AA8
Serial Num	-	33R00810
Configuration	HORIZONTAL	HORIZONTAL

Motor Data		
	Design	Actual
Horsepower	-	0.162
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	1.84

Test Data		
	Design	Actual
SFAN CFM	845	799
Motor Speed SetPt	-	HI
RL Voltage	208	210.6
RL Amperage	1.84	0.95
RA CFM	703	655
OA CFM	142	144

Performance Data		
	Design	Actual
Suction ESP	-	-0.07"
Discharge ESP	-	0.16"
Total ESP	-	0.23"

Completed By: Jordan Best on 03/13/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## Fan Coil



**Diffuser Supply (GRD)**

**FC6/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
FC6-SGRD1	A110	SR1	8	170	152	162	95.3
FC6-SGRD2	A110	CD1	8	165	171	149	90.3
FC6-SGRD3	A110	SR1	8	170	161	177	104.1
FC6-SGRD4	A110	CD1	8	165	152	154	93.3
FC6-SGRD5	A110	SR1	8	170	191	157	92.4
<b>Total</b>				<b>840</b>	<b>827</b>	<b>799</b>	<b>95.12%</b>

Completed By: Jordan Best on 03/13/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

System/Unit: Fan Coil



Asset: FC7

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Model Num	NA	TPEADA0241AA80A
Serial Num	-	3XR0095230P10D
Configuration	HORIZONTAL	HORITONTAL

Motor Data		
	Design	Actual
Horsepower	0.162	0.162
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	1.82

Test Data		
	Design	Actual
SFAN CFM	400	391
Motor Speed SetPt	-	2
RL Voltage	208	210
RL Amperage	1.82	0.3
RA CFM	310	304
OA CFM	90	87

Performance Data		
	Design	Actual
Suction ESP	-	-0.02"
Discharge ESP	-	0.15"
Total ESP	-	0.17"

Completed By: Gabe Merk on 04/01/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## Fan Coil



**Diffuser Supply (GRD)**

**FC7/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
FC7-SGRD1	M104	CD7	8	200	228	198	99.0
FC7-SGRD2	M108	CD7	8	160	163	170	106.3
Total				360	391	368	102.22%

Completed By: Chase Wright on 04/01/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## System/Unit: Fan Coil



Asset: FC8

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Model Num	NA	TPEADA024
Serial Num	-	39R0078630P10D
Configuration	HORIZONTAL	HORIZONTAL

Motor Data		
	Design	Actual
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	1.82

Test Data		
	Design	Actual
SFAN CFM	570	579
Motor Speed SetPt	-	2
RL Voltage	208	211
RL Amperage	0.28	0.3
RA CFM	427	426
OA CFM	143	153

Performance Data		
	Design	Actual
Suction ESP	-	-0.01"
Discharge ESP	-	0.10"
Total ESP	-	0.11"

Completed By: Gabe Merk on 04/01/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## Fan Coil



**Diffuser Supply (GRD)**

**FC8/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
FC8-SGRD1	A128	CD2	10	300	578	290	96.7
FC8-SGRD2	A129	CD2	10	270	71	289	107.0
Total				570	649	579	101.58%

Completed By: Gabe Merk on 04/01/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## System/Unit: Fan Coil



Asset: FC9

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Model Num	NA	TPEADA0121AA80A
Serial Num	-	29R0028430P10A
Configuration	HORIZONTAL	HORIZONTAL

Motor Data		
	Design	Actual
Horsepower	-	0.162
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	1.78

Test Data		
	Design	Actual
SFAN CFM	400	399
Motor Speed SetPt	-	LOW
RL Voltage	208	210.2
RL Amperage	1.78	0.32
RA CFM	400	399
OA CFM	0	0

Performance Data		
	Design	Actual
Suction ESP	-	-0.03"
Discharge ESP	-	0.22"
Total ESP	-	0.25"

Completed By: Jordan Best on 03/13/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## Fan Coil



**Diffuser Supply (GRD)**

**FC9/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
FC9-SGRD1	F104	CD1	8	200	56	195	97.5
FC9-SGRD2	F104	CD1	8	200	64	204	102.0
Total				400	120	399	99.75%

Completed By: Jordan Best on 03/13/2025

**National TAB**  
 Project: Crossroads Church (Dayton, OH)  
 System/Unit: FAN - Supply



Asset: SF-S1

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	300CA-SWSI
Serial Num	-	108SL22712-00/000281
Type	-	Utility

Test Data		
	Design	Actual
CFM	20000	20935
RL Voltage	460	491/489/489
RL Amperage	21	15/16/15
Suction ESP	-	Atm
Discharge ESP	-	0.85
Total ESP	1.50	0.85
Brake Horse Power	-	12.4

Motor Data		
	Design	Actual
Motor MFG	-	Weg
Frame	-	254
Horsepower	15	15
Motor Rpm	1725	1725
Phase	3	3
Voltage (rated)	460	460
Amperage (rated)	-	18.9
Service Factor	-	1.15

Completed By: Nick Payne on 03/25/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Supply



Asset: SF-S2

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	300CA-SWSI
Serial Num	-	108SL22712-00/0002802
Type	-	Utility

Motor Data		
	Design	Actual
Motor MFG	-	WEG
Frame	-	254
Horsepower	15	15
Motor Rpm	1725	1725
Phase	3	3
Voltage (rated)	460	460
Amperage (rated)	-	18.9
Service Factor	-	1.15

Test Data		
	Design	Actual
CFM	20000	19898
RL Voltage	460	489/491/490
RL Amperage	21	17/16/17
Suction ESP	-	ATM
Discharge ESP	-	0.96
Total ESP	1.50	0.96
Brake Horse Power	-	13.3

Completed By: Nick Payne on 03/25/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: EF8

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GEMINI 140
Serial Num	-	NA

Test Data		
	Design	Actual
CFM	80	107

Motor Data		
	Design	Actual
Motor MFG	-	NA
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.4

Completed By: Gabe Merk on 04/01/2025

Notes:  
SINGLE SPEED FAN. UNABLE TO REDUCE TO DESIGN AIRFLOW.

Written By: Gabe Merk on 04/01/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: EF-1-1

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GEMINI
Serial Num	-	NA

Test Data		
	Design	Actual
CFM	80	100

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
Horsepower	32W	NA
Motor Rpm	845	1550
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.4

Completed By: Aaron Cosby on 03/24/2025

Notes:  
Fixed fan speed, unable to adjust.

Written By: Jordan Best on 03/10/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: EF-1-2

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GEMINI
Serial Num	-	NA

Test Data		
	Design	Actual
CFM	80	103

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
Horsepower	32W	NA
Motor Rpm	845	1550
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.4

Completed By: Aaron Cosby on 03/24/2025

Notes:  
Fixed fan speed, unable to adjust.

Written By: Jordan Best on 03/10/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: EF-1-3

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GEMINI
Serial Num	-	NA

Test Data		
	Design	Actual
CFM	80	99

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
Horsepower	32W	NA
Motor Rpm	845	1550
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.4

Completed By: Aaron Cosby on 03/24/2025

Notes:  
Fixed fan speed, unable to adjust.

Written By: Jordan Best on 03/10/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: EF-1-4

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GEMINI
Serial Num	-	NA

Test Data		
	Design	Actual
CFM	80	98

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
Horsepower	32W	NA
Motor Rpm	845	1550
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.4

Completed By: Jordan Best on 03/10/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: EF-1-5

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GEMINI
Serial Num	-	NA

Test Data		
	Design	Actual
CFM	80	102

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
Horsepower	32W	NA
Motor Rpm	845	1550
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.4

Completed By: Aaron Cosby on 03/24/2025

Notes:  
Fixed fan speed, unable to adjust.

Written By: Jordan Best on 03/10/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: EF-1-6

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GEMINI
Serial Num	-	NA

Test Data		
	Design	Actual
CFM	80	98

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
Horsepower	32W	NA
Motor Rpm	845	1550
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.4

Completed By: Aaron Cosby on 03/24/2025

Notes:  
Fixed fan speed, unable to adjust.

Written By: Jordan Best on 03/10/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: EF-1-7

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GEMINI
Serial Num	-	NA

Test Data		
	Design	Actual
CFM	80	102

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
Horsepower	32W	NA
Motor Rpm	845	1550
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.4

Completed By: Aaron Cosby on 03/24/2025

Notes:  
Fixed fan speed, unable to adjust.

Written By: Jordan Best on 03/10/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: EF-S-1

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	490CA-SWSI
Serial Num	-	108SL22712-00/0000701
Type	ACB	ACB

Test Data		
	Design	Actual
CFM	40000	38833
RL Voltage	460	481/482/480
RL Amperage	29.5	21/22/21
Discharge ESP	-	Atm
Total ESP	2.00	1.52

Motor Data		
	Design	Actual
Motor MFG	-	WEG
Frame	-	284T
Horsepower	25	25
Motor Rpm	1725	1770
Phase	3	3
Voltage (rated)	460	460
Amperage (rated)	-	29.5
Service Factor	-	1.25

Completed By: Nick Payne on 03/21/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: EF-S-2

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	490CA-SWSI
Serial Num	-	108SL22712-00/0000702
Type	ACB	ACB

Test Data		
	Design	Actual
CFM	40000	42367
RL Voltage	460	479/478/478
RL Amperage	29.5	26/25/26
Discharge ESP	-	Atm
Total ESP	2.00	1.85

Motor Data		
	Design	Actual
Motor MFG	-	WEG
Frame	-	284T
Horsepower	25	25
Motor Rpm	1725	1770
Phase	3	3
Voltage (rated)	460	460
Amperage (rated)	-	29.5
Service Factor	-	1.25

Completed By: Nick Payne on 03/21/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: RTEF-1

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	101C28D (VF)
Serial Num	-	108PK99449-02/0000701
Type	CRE	CRE

Test Data		
	Design	Actual
CFM	800	867
RL Voltage	115	121
RL Amperage	4.4	2.4
Discharge ESP	-	ATM
Total ESP	0.500	0.27"

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
Frame	-	48Y
Horsepower	0.33	1
Motor Rpm	2800	2800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	10.4
Service Factor	-	NA

Completed By: Gabe Merk on 04/01/2025

Notes:  
79% FAN SPEED

Written By: Gabe Merk on 04/01/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## FAN - Exhaust



**Diffuser Ret/Exh (GRD)**

**RTEF-1/**

<b>Asset</b>									
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTEF-1-EGRD1	A109	ER-1	8	200	1	275	213	213	106.5
RTEF-1-EGRD2	A109	ER-1	8	200	1	285	217	217	108.5
RTEF-1-EGRD3	A108	ER-1	8	200	1	179	219	219	109.5
RTEF-1-EGRD4	A108	ER-1	8	200	1	163	218	218	109.0
<b>Total</b>				<b>800</b>		<b>902</b>	<b>867</b>	<b>867</b>	<b>108.38%</b>

Completed By: Jordan Best on 03/12/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: RTEF-2

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	120C17DOR92VF
Serial Num	-	108PK99449-02/0002101
Type	CRE	DOWNBLAST

Test Data		
	Design	Actual
CFM	1450	1361
RL Voltage	115	121
RL Amperage	6.4	3.7
Discharge ESP	-	ATM
Total ESP	0.750	0.90"

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
Frame	-	48Y
Horsepower	0.50	0.5
Motor Rpm	1725	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	6.4
Service Factor	-	NA

Completed By: Gabe Merk on 04/01/2025

**National TAB**  
 Project: Crossroads Church (Dayton, OH)  
**FAN - Exhaust**



**Diffuser Ret/Exh (GRD)**

**RTEF-2/**

<b>Asset</b>									
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTEF-2-EGRD1	A126	ER-1	8	215	1	115	228	194	90.2
RTEF-2-EGRD2	A126	ER-1	8	215	1	108	187	211	98.1
RTEF-2-EGRD3	A126	ER-1	8	215	1	111	179	214	99.5
RTEF-2-EGRD4	A125	ER-1	8	215	1	110	151	195	90.7
RTEF-2-EGRD5	A125	ER-1	8	215	1	87	160	199	92.6
RTEF-2-EGRD6	A125	ER-1	8	215	1	102	154	194	90.2
RTEF-2-EGRD7	A124	ER-1	6	80	1	41	73	76	95.0
RTEF-2-EGRD8	A124	ER-1	6	80	1	55	78	78	97.5
<b>Total</b>				1450		729	1210	1361	93.86%

Completed By: Gabe Merk on 04/01/2025

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: RTEF-3

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	120C28DOR81VF
Serial Num	-	108SK99449-00/0000701
Type	CRE	DOWNBLAST

Test Data		
	Design	Actual
CFM	480	479
RL Voltage	115	122
RL Amperage	4.4	1.4
Discharge ESP	-	ATM
Total ESP	0.700	0.11"

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
Frame	-	48Y
Horsepower	0.33	1
Motor Rpm	2800	2800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	10.4
Service Factor	-	NA

Completed By: Gabe Merk on 03/24/2025

Notes:  
Fan speed 63%

Written By: Gabe Merk on 03/24/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## FAN - Exhaust



**Diffuser Ret/Exh (GRD)**

**RTEF-3/**

<b>Asset</b>									
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTEF-3-EGRD1	K108	ER-1	12	240	1.0	323	242	242	100.8
RTEF-3-EGRD2	K109	ER-1	12	240	1.0	317	237	237	98.8
<b>Total</b>				480		640	479	479	99.79%

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: RTEF-4

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	100C17DL (VF)
Serial Num	-	108PK99449-03/0003601
Type	CRE	DOWNBLAST

Test Data		
	Design	Actual
CFM	460	483
RL Voltage	115	121
RL Amperage	3.2	1.6
Discharge ESP	-	0.150
Total ESP	0.600	0.150

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
Frame	-	48Y
Horsepower	0.25	0.5
Motor Rpm	1725	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	6.4
Service Factor	-	NA

Completed By: Aaron Cosby on 03/24/2025

Notes:

97%

1674 RPM

Written By: Aaron Cosby on 03/24/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## FAN - Exhaust



**Diffuser Ret/Exh (GRD)**

**RTEF-4/**

<b>Asset</b>									
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTEF-4-EGRD1	F104	ER-1	8	380	1.0	462	422	408	107.4
RTEF-4-EGRD2	K122	ER-1	6	80	1.0	0	53	75	93.8
<b>Total</b>				460		462	475	483	105%

# National TAB

Project: Crossroads Church (Dayton, OH)  
System/Unit: FAN - Exhaust



Asset: RTEF-5

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	101C28D (VF)
Serial Num	-	108PK99449-02/0000702
Type	CRE	DOWNBLAST

Test Data		
	Design	Actual
CFM	360	372
RL Voltage	115	121
RL Amperage	4.4	0.6
Discharge ESP	-	ATM
Total ESP	0.500	0.12"

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
Frame	-	48Y
Horsepower	0.33	1
Motor Rpm	2800	2800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	10.4
Service Factor	-	NA

Completed By: Gabe Merk on 03/24/2025

Notes:  
Fan speed setpoint 41%

Written By: Gabe Merk on 03/24/2025

# National TAB

Project: Crossroads Church (Dayton, OH)

## FAN - Exhaust



**Diffuser Ret/Exh (GRD)**

**RTEF-5/**

<b>Asset</b>									
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>	<b>FINAL CFM</b>	<b>% to design</b>
RTEF-5-EGRD1	F108	ER-2	8	200	1.0	80	379	219	109.5
RTEF-5-EGRD2	S123	ER-1	6	80	1.0	85	86	72	90.0
RTEF-5-EGRD3	S124	ER-1	6	80	1.0	205	83	81	101.3
<b>Total</b>				360		370	548	372	103.33%