

Report By:

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



Report: Prelim Report
Function: Test, Adjust, & Balance
Date: 06/18/2025
Completed By: National TAB

PROJECT
06-16-25 WAWA #5807 SEMMES, AL

2137 N. SCHILLINGER RD

SEMMES , AL 36575

Client

Wawa
260 West Baltimore Pike
Wawa, PA 19063

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Project: 06-16-25 WAWA #5807 SEMMES, AL

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Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report is further detail about your building performance including recommendations, asset data, and pictures. Our focus is to work with the trades to remedy any issues or deficiencies during the actual field balancing and not after the balancing has occurred to achieve a positive environment and outcome. The level of success is determined by the availability of the trades, possible parts needed, or time constraints.

RTU's (Roof Top Units) w/ Diffusers

Each of the RTU's were measured at their terminal devices or via traverse to establish a total flow for that unit. Each RTU was adjusted to within tolerance of the engineer's design flow. Each outlet was then adjusted to within tolerance of the design flow. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. The outside air damper was adjusted until the airflow was within the design requirements. Any equipment that fell outside of that tolerance is noted throughout the report.

General Exhaust Fans w/ Grilles

The general exhaust fans were measured by reading each air device with a flow hood. The total airflow for each fan is equivalent to the sum of these readings. Fan speed was then adjusted so that the airflow was within tolerance of design. Each terminal device was balanced to within tolerance of the design volume using the installed volume dampers. Any equipment that fell outside of this tolerance is noted throughout the report.

Ceiling Exhaust Fans

The ceiling exhaust fans were measured using a flow hood. If speed adjustment was provided, the fan speed was adjusted to within design tolerance. Any equipment that fell outside of this tolerance is noted throughout the report.

Final Building Tests

After completing the test and balance the final building pressure was measured. It was confirmed that the building pressure fell within acceptable tolerances and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report.

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Project: 06-16-25 WAWA #5807 SEMMES, AL

System/Unit: AHU/RTU



Asset: RTU1

AREA:BACK OF HOUSE

Unit Data		
	Design	Actual
MFG	LENNNOX	LENNNOX
Serial Num	-	5624K03758
Model Num	LCT150H4E	LCT150H4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	14"X23"
Num Final Filter 1	-	4
Final Filter Size 1	-	20"X25"X2"

Motor Data		
	Design	Actual
Horsepower	3.75	3.8
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	8.7

Test Data		
	Design	Actual
SF CFM	4500	4534
SF RPM	-	1649
MOTOR RPM	-	1649
RA CFM	3800	3845
OA CFM	700	689
RL Voltage	-	213.4/212.7/212.4
RL Amperage	-	4.21/3.97/3.95
SF System SetPt	-	75%
RA Damper Position	-	75%
RA Damper Type	-	OPPOSED BLADE
OA Damper Position	-	25%
OA Damper Type	-	MOTORIZED

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.39"
Fan Suction SP	-	-0.84"
Fan Discharge SP	-	0.44"
Total ESP	.70"	0.83"
Fan Total SP	-	1.28"

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Unit Data - PHOTO LOG



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AHU/RTU



Diffuser Supply (GRD)

RTU1/BACK OF HOUSE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	TRASH/STAGG IN	SD1	10"	300	1	355	310	310	103.3
SGRD2	ELECTRICAL ROOM	SD1	10"	375	1	372	379	379	101.1
SGRD3	BOH	SD6	10"	425	1	401	426	426	100.2
SGRD4	BOH	SD6	10"	425	1	435	460	460	108.2
SGRD5	BOH	SD6	10"	425	1	444	437	437	102.8
SGRD6	BOH	SD6	10"	425	1	452	426	426	100.2
SGRD7	BOH	SD6	10"	425	1	412	435	435	102.4
SGRD8	BOH	SD6	12"	500	1	550	529	529	105.8
SGRD9	BOH	SD6	10"	400	1	414	398	398	99.5
SGRD10	BOH	SD6	10"	400	1	474	371	371	92.8
SGRD11	BOH	SD6	10"	400	1	246	363	363	90.8
Total				4500		4555	4534	4534	100.76%

Diffuser Ret/Exh (GRD)

RTU1/BACK OF HOUSE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	WASHROOM	RG1	16X14	1200	1	1091	1121	1121	93.4
EGRD2	BOH	RG1	14"	865	1	646	711	711	82.2
EGRD3	BOH	RG1	14"	865	1	738	764	764	88.3
EGRD4	BOH	RG1	14"	870	1	681	702	702	80.7
Total				3800		3156	3298	3298	86.79%

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Project: 06-16-25 WAWA #5807 SEMMES, AL

System/Unit: AHU/RTU



Asset: RTU2

AREA:SALES

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5624L01987
Model Num	LCT102H4E	LCT102H4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	14"X23"
Num Final Filter 1	-	4
Final Filter Size 1	-	20"X25"2"

Motor Data		
	Design	Actual
Horsepower	3.75	3.8
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	8.7

Test Data		
	Design	Actual
SF CFM	3400	3516
SF RPM	-	1335
MOTOR RPM	-	1335
RA CFM	3020	3168
OA CFM	380	348
RL Voltage	-	213/213.3/213.7
RL Amperage	-	3.7/3.85/3.62
SF System SetPt	-	75%
RA Damper Position	-	74%
RA Damper Type	-	OPPOSED BLADE
OA Damper Position	-	20%
OA Damper Type	-	MOTORIZED

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.45"
Fan Suction SP	-	-0.87"
Fan Discharge SP	-	0.46"
Total ESP	1.00"	0.91"
Fan Total SP	-	1.33"

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Unit Data - PHOTO LOG



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AHU/RTU



Diffuser Supply (GRD)

RTU2/SALES

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	RETAIL	SD2	12"	275	0.4	337	267	267	97.1
SGRD2	RETAIL	SD2	12"	275	0.4	289	272	272	98.9
SGRD3	RETAIL	SD2	12"	275	0.4	378	283	283	102.9
SGRD4	RETAIL	SD2	12"	275	0.4	256	261	261	94.9
SGRD5	RETAIL	SD2	12"	300	0.4	321	309	309	103.0
SGRD6	RETAIL	SD2	12"	275	0.4	232	281	281	102.2
SGRD7	RETAIL	SD2	12"	275	0.4	247	297	297	108.0
SGRD8	RETAIL	SD2	12"	275	0.4	145	291	291	105.8
SGRD9	RETAIL	SD2	8"	275	0.4	187	187	304	110.5
SGRD10	DELIVERY ROOM	SD2	8"	250	1	302	267	267	106.8
SGRD11	MENS RR	SD1	8"	150	1	173	156	156	104.0
SGRD12	REAR VESTIBLE	SD1	8"	200	1	254	216	216	108.0
SGRD13	HALLWAY	SD5	8"	200	1	308	211	211	105.5
SGRD14	WOMENS RR	SD5	8"	100	1	147	101	101	101.0
Total				3400		3576	3399	3516	103.41%

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Project: 06-16-25 WAWA #5807 SEMMES, AL

System/Unit: AHU/RTU



Asset: RTU3

AREA:FRONT OF HOUSE

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5624L05433
Model Num	LCT072H4E	LCT072H4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	15"X32"
Num Final Filter 1	-	4
Final Filter Size 1	-	20"X20"X2"

Motor Data		
	Design	Actual
Horsepower	1.5	1.5
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	4.4

Test Data		
	Design	Actual
SF CFM	2400	2282
SF RPM	-	3069
MOTOR RPM	-	3069
RA CFM	2200	2095
OA CFM	200	187
RL Voltage	-	212.3/212.9/213.3
RL Amperage	-	3.7/2.83/2.76
SF System SetPt	-	93%
RA Damper Position	-	75%
RA Damper Type	-	OPPOSED BLADE
OA Damper Position	-	25%
OA Damper Type	-	MOTORIZED

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.59"
Fan Suction SP	-	-0.84"
Fan Discharge SP	-	0.71"
Total ESP	.50"	1.3"
Fan Total SP	-	1.55"

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Unit Data - PHOTO LOG



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AHU/RTU



Diffuser Supply (GRD)

RTU3/FRONT OF HOUSE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	FOH	SD2	18"	450	0.4	387	414	414	92.0
SGRD2	FOH	SD2	18"	450	0.4	392	422	422	93.8
SGRD3	FOH	SD2	18"	450	0.4	417	409	409	90.9
SGRD4	FOH	SD2	18"	450	0.4	527	411	411	91.3
SGRD5	VESTIBLE	SD5	8"	250	1	86	245	245	98.0
SGRD6	OFFICE	SD1	8"	150	1	356	163	163	108.7
SGRD7	ASSOCIATES AREA	SD1	8"	200	1	379	218	218	109.0
Total				2400		2544	2282	2282	95.08%

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Project: 06-16-25 WAWA #5807 SEMMES, AL

System/Unit: FAN - Exhaust



Asset: EF1

AREA:RESTROOMS

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	GB-098-6	GB-098-6
Serial Num	-	26006490
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	375	369
Fan Rotation	-	CCW
System SetPt	-	DIRECT DRIVE
Total ESP	.38"	0.32"
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
Horsepower	0.167	0.167
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.8
Service Factor	-	1.35

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Unit Data - PHOTO LOG



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FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF1/RESTROOMS

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	MENS RR	EG1	8X8	225	1	269	232	232	103.1
EGRD2	WOMENS RR	EG1	8X8	150	1	271	137	137	91.3
Total				375		540	369	369	98.4%

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Project: 06-16-25 WAWA #5807 SEMMES, AL

System/Unit: FAN - Exhaust



Asset: EF2

AREA:BACK OF HOUSE

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	GB-098-6	GB-098-6
Serial Num	-	26006561
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Horsepower	0.167	0.167
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.8
Service Factor	-	1.35

Test Data		
	Design	Actual
CFM	400	417
Fan Rotation	-	CCW
System SetPt	-	DIRECT DRIVE
Total ESP	.38"	0.23"
Fan Discharge SP	-	ATM

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Unit Data - PHOTO LOG



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Project:06-16-25 WAWA #5807 SEMMES, AL

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF2/BACK OF HOUSE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design

EGRD1	BOH	RG2	8X8	200	1	235	206	206	103.0
EGRD2	BOH	RG2	8X8	200	1	253	211	211	105.5
Total				400		488	417	417	104.25%

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Project: 06-16-25 WAWA #5807 SEMMES, AL

System/Unit: FAN - Exhaust



Asset: EF3

AREA:TRASHROOM

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-B200	SP-B200
Serial Num	-	165782962-0050
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	200	208
Fan Rotation	-	CCW
System SetPt	-	FIXED SPEED
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	GRRENHECK
Horsepower	0.03	0.03
Motor Rpm	-	1000
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	2.7

Completed By: Jordan Best on 06/18/2025

Unit Data - PHOTO LOG



06/18/2025

CheckList List

- 04: EF'S
- 05: CLOSEOUT CHECKS
- 01: RTU's/AHU's
- 02: LENNOX SETUP PARAMETERS
- 03: SENSOR WIRING (LENNOX)



06-16-25 WAWA #5807 SEMMES, AL

CheckList Information

Name : 04: EF'S **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 06/02/2025 - Tara Metcalf - National TAB

Completed Date : 06/18/2025 - Jordan Best - National TAB

CheckList Item Details

EF's

Rotation is correct? Pass

Comment:

Belts are tight (if applicable)? Pass

Comment:

Speed controller installed and functional (if applicable)? N/A

Comment:

There is no major leakage around base of fan? Pass

Comment:

Is the motor operating below the motor FLA rating? Pass

Comment:

Back draft damper installed and can it fully open? Pass

Comment:

Unit free of noticeable noise and vibration? Pass

Comment:

Total exhaust flow balanced within +/-5% and grilles are within +/-10%?

Pass

Comment:



06-16-25 WAWA #5807 SEMMES, AL

CheckList Information

Name : 05: CLOSEOUT CHECKS **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 06/02/2025 - Tara Metcalf - National TAB

Completed Date : 06/18/2025 - Jordan Best - National TAB

CheckList Item Details

SPACE COMFORT

Is space free of drafting? Pass

Comment:

Is space comfortable in all areas? Pass

Comment:

Is the space free of ventilation noise? Pass

Comment:

BUILDING PRESSURE

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative) Pass

Comment:



06-16-25 WAWA #5807 SEMMES, AL

CheckList Information

Name : 01: RTU's/AHU's **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 06/02/2025 - Tara Metcalf - National TAB
Completed Date : 06/18/2025 - Jordan Best - National TAB

CheckList Item Details

RTU's/AHU's

All diffusers and grilles are installed and match design? Pass

Comment:

Clean filters installed? Pass

Comment:

Economizers are assembled and functional? Pass

Comment:

Motors are all operating below the FLA rating? Pass

Comment:

Are belts tight? N/A

Comment:

If direct drive unit is the speed controller working? Pass

Comment:

Is gas piping installed and valves turned on? N/A

Comment:

Electric heat.

Condensate drains are installed?

Pass

Comment:**Unit free of noticeable noise and vibration**

Pass

Comment:**Final outside air damper position is marked with permanent marker?**

Pass

Comment:**No alarms present?**

Pass

Comment:**Any noticeable duct leakage?**

Pass

Comment:**Total supply and OA flows are balanced within +/-5% and supply & return diffusers within +/-10%?**

Pass

Comment:**IN TEST MODE, TEST THE FOLLOWING:****Cooling mode is operational? Record EAT/LAT for each unit:****Comment:**

RTU-1 EAT: 69 LAT: 59 RTU-2 EAT: 72 LAT: 57 RTU-3 EAT: 71 LAT: 58

Heating mode is operational? Record EAT/LAT for each unit:

Pass

Comment:

RTU-1 EAT: NA LAT: NA RTU-2 EAT: 72 LAT: 76 RTU-3 EAT: 70 LAT: 84

Dehumidification mode is operational? (Feel dehumidification coil with your hand. Is it hot?) Record EAT/LAT for each unit:

Pass

Comment:

RTU-1 EAT: 70 LAT: 67 RTU-2 EAT: 73 LAT: 69 RTU-3 EAT: 72 LAT: 65



06-16-25 WAWA #5807 SEMMES, AL

CheckList Information

Name : 02: LENNOX SETUP PARAMETERS **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 06/10/2025 - Tara Metcalf - National TAB

Completed Date : 06/18/2025 - Jordan Best - National TAB

CheckList Item Details

UNIT ID CONFIGURATIONS

BACNET CONFIGURATION: GO TO SETTINGS>GENERAL>CONFIGURATION ID1 POSITION 5 SET TO "N". Pass

Comment:

NETWORK CONFIGURATION: GO TO SETUP>NETWORK INTEGRATION, SET TO BACNET IP Pass

Comment:

CONTROL MODE: SET CONTROL MODE TO ROOM SENSOR: CO2, TEMP & HUMIDITY (PER UNIT, AS NEEDED). Pass

Comment:

INDIVIDUAL PARAMETER CONFIGURATIONS (MECHANICAL CONTRACTOR TO DEFINE / AS APPLICABLE):

PARAMETER 105 DEHUMID MODE: 7 NO CONDITIONS Pass

Comment:

PARAMETER 106 DEHUMID SETPOINT: 50, THIS IS A CENTERED SET POINT (+/-) Yes

Comment:

PARAMETER 107 DEHUMID DEADBAND: 3 (DEFAULT) THIS IS THE ACTUAL +/- VALUE Pass

Comment:

PARAMETER 117 CO2 DAMPER MAX OPEN: 50%

Pass

Comment:

PARAMETER 118 CO2 START OPEN PPM: 1500

Pass

Comment:

PARAMETER 119 CO2 MAX OPEN PPM: 1500

Pass

Comment:

PARAMETER 137 OCCHET SET POINT: 68 (BACK UP)

Pass

Comment:

PARAMETER 131 SET TO THE SAME % AS THE MINMIUM OA DAMPER SETPOINT

Pass

Comment:

PARAMETER 139 OCC COOLING SET POINT: 72 (BACK UP)

Pass

Comment:

PARAMETER 154 OCC BLOWER MODE: ON-CONTINUOUS 1

Pass

Comment:

CFM VALUES / MSAV FAN SPEEDS (AIR BALANCER TO DEFINE / IF APPLICABLE):

OA DAMPER SET TO SAME POSITION IN ALL FAN SPEEDS?

Pass

Comment:

ALL FAN SPEEDS SET TO THE SAME CFM VALUE (ENTER SETPOINTS BELOW)

Pass

Comment:

RTU-1: 75% RTU-2: 75% RTU-3: 93%

HEAT CFM VALUE: PER THE HVAC SCHEDULE

Comment:

RTU-1: 4500 RTU-2: 3400 RTU-3: 2400

HIGH COOL CFM VALUE: THE HIGH COOL CFM VALUE

Pass

Comment:

RTU-1: 4500 RTU-2: 3400 RTU-3: 2400

LOW COOL CFM VALUE: MATCH THE HIGH COOL CFM VALUE

Pass

Comment:

RTU-1: 4500 RTU-2: 3400 RTU-3: 2400

VENTILATION CFM VALUE: MATCH THE HIGH COOL CFM VALUE

Pass

Comment:

RTU-1: 4500 RTU-2: 3400 RTU-3: 2400



06-16-25 WAWA #5807 SEMMES, AL

CheckList Information

Name : 03: SENSOR WIRING (LENNOX) **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 06/02/2025 - Tara Metcalf - National TAB

Completed Date : 06/18/2025 - Jordan Best - National TAB

CheckList Item Details

COMBINATION TEMPERATURE/HUMIDITY SENSOR

Sensors are installed where shown on the drawing? Pass

Comment:

2 conductor shielded cable has one wire landed to Vin, one to GND, and the shield wire is not connected. Pass

Comment:

For second shielded cable, one wire is landed to Vout and the shield wire is not connected. Pass

Comment:

Verify that the CORE or Prodigy controller is sensing a relative humidity (record the reading) Pass

Comment:

RTU-1:7% RTU-2: 50% RTU-3: 60%