

Report By:

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Report: TAB Report
Function: Test, Adjust, & Balance
Date: 07/31/2025
Completed By: National TAB

PROJECT

07-28-25 WAWA #7606 NICHOLASVILLE, KY

3000 LEXINGTON RD

NICHOLASVILLE, KY 40356

Client

Wawa
260 West Baltimore Pike

Wawa, PA 19063

National TAB

Project: 07-28-25 WAWA #7606 NICHOLASVILLE, KY

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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: 07-28-25 WAWA #7606 NICHOLASVILLE, KY

- [Open](#) BALANCE_SCHEDULE_LARGE_JOBS.xlsx

CheckList List

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



07-28-25 WAWA #7606 NICHOLASVILLE, KY

CheckList Information

Name : 01: RTU's/AHU's **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 07/24/2025 - Brianna Biggs - National TAB

Completed Date : 07/31/2025 - Aaron Cosby - 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?	Pass
---	------

Comment:

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:

Pass

Comment:

RTU3- 70/73 RTU2- 72/71 RTU1- 71/67

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

Pass

Comment:

RTU3-73/69 RTU2- 72/70

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

Pass

Comment:

RTU3-73/69 RTU2-73/72 RTU1-71/68



07-28-25 WAWA #7606 NICHOLASVILLE, KY

CheckList Information

Name : 02: LENNOX SETUP PARAMETERS **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 07/24/2025 - Brianna Biggs - National TAB
Completed Date : 07/31/2025 - Aaron Cosby - 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:

RTU3-89% RTU2-84% RTU1-77%

HEAT CFM VALUE: PER THE HVAC SCHEDULE

Pass

Comment:

HIGH COOL CFM VALUE: THE HIGH COOL CFM VALUE

Pass

Comment:

LOW COOL CFM VALUE: MATCH THE HIGH COOL CFM VALUE

Pass

Comment:

VENTILATION CFM VALUE: MATCH THE HIGH COOL CFM VALUE

Pass

Comment:



07-28-25 WAWA #7606 NICHOLASVILLE, KY

CheckList Information

Name : 03: SENSOR WIRING (LENNOX) **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 07/24/2025 - Brianna Biggs - National TAB
Completed Date : 07/31/2025 - Aaron Cosby - 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:

RTU3-61% RTU2-62% RTU1-62%



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CheckList Information

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

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 07/24/2025 - Brianna Biggs - National TAB

Completed Date : 07/31/2025 - Aaron Cosby - 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%?

Fail

Comment:

EF-3 is +7% with no speed control located. Other EF's are within +/-5%



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CheckList Information

Name : 05: CLOSEOUT CHECKS **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 07/24/2025 - Brianna Biggs - National TAB
Completed Date : 07/31/2025 - Aaron Cosby - 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:

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Project: 07-28-25 WAWA #7606 NICHOLASVILLE, KY

System/Unit: AHU/RTU



Asset: RTU1

AREA:BACK OF HOUSE

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5624L04596
Model Num	LCT150H4E	LCT150H4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	23X14"
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2"

Test Data		
	Design	Actual
SF CFM	4500	4512
SF RPM	-	1370
MOTOR RPM	-	NA
RA CFM	3800	3813
OA CFM	700	699
RL Voltage	-	208/208/210
RL Amperage	-	3.9/3.8/3.8
SF System SetPt	-	77%
OA Damper Position	-	40%
OA Damper Type	-	DEMAND CTRL

Motor Data		
	Design	Actual
Motor MFG	-	EBMPAPST
Horsepower	3.75	NL
Motor Rpm	-	1780
Phase	3	3
Rated Voltage	208	200
Rated Amperage	-	8.0

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.68"
Fan Suction SP	-	-.99"
Fan Discharge SP	-	0.39"
Total ESP	0.70"	1.07"
Fan Total SP	-	1.38"

Completed By: Aaron Cosby on 07/31/2025

Unit Data - PHOTO LOG



08/01/2025

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Project:07-28-25 WAWA #7606 NICHOLASVILLE, KY

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	KITCHEN	SD-6	10"	500	1	50	547	547	109.4
SGRD2	KITCHEN	SD-6	10"	425	1	648	451	451	106.1
SGRD3	KITCHEN	SD-6	10"	425	1	639	448	448	105.4
SGRD4	KITCHEN	SD-6	10"	425	1	652	434	434	102.1
SGRD5	KITCHEN	SD-6	10"	425	1	584	388	388	91.3
SGRD6	KITCHEN	SD-6	10"	425	1	567	408	408	96.0
SGRD7	BOH	SD-6	10"	400	1	504	361	361	90.3
SGRD8	BOH	SD-6	10"	400	1	629	448	448	112.0
SGRD9	BOH	SD-6	10"	400	1	493	356	356	89.0
SGRD10	TRASH	SD-1	10"	300	1	485	329	329	109.7
SGRD11	ELECTRICAL ROOM	SD-1	10"	375	1		342	342	91.2
Total				4500		5251	4512	4512	100.27%

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	KITCHEN	RG-1	14"	860	1	891	891	891	103.6
EGRD2	KITCHEN	RG-1	14"	870	1	884	884	884	101.6
EGRD3	KITCHEN	RG-1	14"	870	1	834	834	834	95.9
EGRD4	WASHROOM	RG-1	16X14	1200	1	1171	1171	1171	97.6
Total				3800		3780	3780	3780	99.47%

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Project: 07-28-25 WAWA #7606 NICHOLASVILLE, KY

System/Unit: AHU/RTU



Asset: RTU2

AREA:SALES

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5624L02337
Model Num	LGT102H4E	LGT102H4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	23X14"
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2"

Test Data		
	Design	Actual
SF CFM	3400	3408
SF RPM	-	1495
RA CFM	3020	3012
OA CFM	380	396
RL Voltage	-	210/207/211
RL Amperage	-	5.0/5.2/5.0
SF System SetPt	-	84%
OA Damper Position	-	28%
OA Damper Type	-	DEMAND CTRL

Motor Data		
	Design	Actual
Motor MFG	-	EBMPAPST
Frame	-	NL
Horsepower	3.75	NL
Motor Rpm	-	1780
Phase	3	3
Rated Voltage	208	200
Rated Amperage	-	8.0

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.75"
Fan Suction SP	-	-1.09"
Fan Discharge SP	-	0.55"
Total ESP	1.0"	1.3"
Fan Total SP	-	1.64"

Completed By: Aaron Cosby on 07/30/2025

Unit Data - PHOTO LOG



08/01/2025

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Project:07-28-25 WAWA #7606 NICHOLASVILLE, KY

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	SD-2	12X6	275	1	334	334	257	93.5
SGRD2	RETAIL	SD-2	12X6	275	1	356	356	259	94.2
SGRD3	RETAIL	SD-2	12X6	300	1	457	457	322	107.3
SGRD4	RETAIL	SD-2	12X6	275	1	342	342	285	103.6
SGRD5	RETAIL	SD-2	12X6	275	1	302	302	267	97.1
SGRD6	RETAIL	SD-2	12X6	275	1	315	315	252	91.6
SGRD7	RETAIL	SD-2	12X6	275	1	289	289	286	104.0
SGRD8	RETAIL	SD-2	12X6	275	1	252	252	266	96.7
SGRD9	RETAIL	SD-2	12X6	275	1	169	169	292	106.2
SGRD10	HALLWAY	SD-1	8"	200	1	282	282	182	91.0
SGRD11	DELIVERY ROOM	SD-1	8"	250	1	322	322	271	108.4
SGRD12	WOMENS RR	SD-5	8"	100	1	178	178	105	105.0
SGRD13	MENS RR	SD-5	8"	150	1	201	201	165	110.0
SGRD14	REAR VESTIBULE	SD-5	8"	200	1	299		199	99.5
Total				3400		4098	3799	3408	100.24%

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Project: 07-28-25 WAWA #7606 NICHOLASVILLE, KY

System/Unit: AHU/RTU



Asset: RTU3

AREA:FRONT OF HOUSE

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5624M01116
Model Num	LGT072H4E	LGT072H4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	23X14"
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2"

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	1	NL
Motor Rpm	-	3300
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	4.4

Test Data		
	Design	Actual
SF CFM	2400	2322
SF RPM	-	2937
MOTOR RPM	2200	NA
RA CFM	2200	2117
OA CFM	200	205
RL Voltage	-	209/211/208
RL Amperage	-	3.3/3.4/3.3
SF System SetPt	-	89%
OA Damper Position	-	9%
OA Damper Type	-	DEMAND CTRL

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.82"
Fan Suction SP	-	-1.02"
Fan Discharge SP	-	0.46"
Total ESP	0.50"	1.28"
Fan Total SP	-	1.48"

Completed By: Aaron Cosby on 07/31/2025

Unit Data - PHOTO LOG



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Project:07-28-25 WAWA #7606 NICHOLASVILLE, KY

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	VESTIBULE	SD-5	8"	250	1	249	230	230	92.0
SGRD2	RETAIL	SD-2	12X6	450	1	444	444	444	98.7
SGRD3	RETAIL	SD-2	12X6	450	1	452	450	450	100.0
SGRD4	RETAIL	SD-2	12X6	450	1	446	446	446	99.1
SGRD5	RETAIL	SD-2	12X6	450	1	425	432	432	96.0
SGRD6	ASSOCIATES AREA	SD-1	8"	200	1	0	183	183	91.5
SGRD7	OFFICE	SD-1	8"	150	1	201	137	137	91.3
Total				2400		2217	2322	2322	96.75%

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Project: 07-28-25 WAWA #7606 NICHOLASVILLE, KY

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	-	26530528
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	375	389
Fan RPM	-	1189
Fan Rotation	-	CW
Motor RPM	-	1761
System SetPt	-	3 TURNS OUT
RL Voltage	-	115
RL Amperage	-	3.4
Fan Inlet SP	-	-0.34"
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Frame	-	48Y
Horsepower	0.167	0.167
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	4.0
Service Factor	-	1.15

Completed By: Aaron Cosby on 07/30/2025

Unit Data - PHOTO LOG



08/01/2025

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Project:07-28-25 WAWA #7606 NICHOLASVILLE, KY

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	WOMENS RR	SQUARE	16X16	150	1	55	183	165	110.0
EGRD2	MENS RR	SQUARE	16X16	225	1	34	205	224	99.6
Total				375		89	388	389	103.73%

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Project: 07-28-25 WAWA #7606 NICHOLASVILLE, KY

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	-	26530529
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	400	385
Fan RPM	-	1197
Fan Rotation	-	CW
Motor RPM	-	1760
System SetPt	-	3 TURNS OUT
RL Voltage	-	115
RL Amperage	-	3.5
Fan Inlet SP	-	-0.23"
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Frame	-	48Y
Horsepower	0.167	0.167
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	4.0
Service Factor	-	1.15

Completed By: Aaron Cosby on 07/30/2025

Unit Data - PHOTO LOG



08/01/2025

National TAB

Project:07-28-25 WAWA #7606 NICHOLASVILLE, KY

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	FOOD SERVICE	RECT	16X8	200	1	0	218	195	97.5
EGRD2	BOH	RECT	16X8	200	1	0	149	190	95.0
Total				400		0	367	385	96.25%

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Project: 07-28-25 WAWA #7606 NICHOLASVILLE, KY

System/Unit: FAN - Exhaust



Asset: EF3

AREA:TRASH ROOM

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-B200	SP-B200
Serial Num	-	158403953
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	0.167	0.03
Motor Rpm	-	1000
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	2.7
Service Factor	-	NL

Test Data		
	Design	Actual
CFM	200	214
Fan RPM	-	NA
Fan Rotation	-	NA
Motor RPM	-	NA
RL Voltage	-	NA
RL Amperage	-	2.3
Fan Discharge SP	-	ATM

Completed By: Aaron Cosby on 07/31/2025

