Report By:

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

Report: Prelim Report

Function: Test, Adjust, & Balance

Date: 01/15/2025

Completed By: National TAB

PROJECT

01-13-25 WAWA #6611 FARMVILLE, VA

2644 FARMVILLE RD

FARMVILLE , VA 23901

Client

Wawa

260 West Baltimore Pike

Wawa, PA 19063

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Project: 01-13-25 WAWA #6611 FARMVILLE, VA

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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: 01-13-25 WAWA #6611 FARMVILLE, VA

System/Unit: AHU/RTU

Asset: RTU1 AREA:CORE

Unit Data		
	Design	**Actual**
MFG	LENNOX ENLIGHT	LENNOX ENLIGHT
Serial Num	-	5624D03499
Model Num	LCT092H4E	LCT092H4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	24”X15.5”
Num Final Filter 1	-	4
Final Filter Size 1	-	20”X25”X2”

Motor Data		
	Design	**Actual**
Motor MFG	-	EBM PAPST
Horsepower	3.75	3.8
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	8.7

Test Data		
	Design	**Actual**
SF CFM	3000	3059
RA CFM	2565	2626
OA CFM	435	433
RL Voltage	-	209.9/211.4/210.2
RL Amperage	-	3.98/3.48/4.05
SF System SetPt	-	68%
RA Damper Position	-	87%
OA Damper Position	-	13%
OA Damper Type	-	MOTORIZED

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.89”
Fan Suction SP	-	-1.14”
Fan Discharge SP	-	0.46”
Total ESP	0.5"	1.35”
Fan Total SP	-	1.6”

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Unit Data - PHOTO LOG

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Project: 01-13-25 WAWA #6611 FARMVILLE, VA

System/Unit: AHU/RTU

Asset: RTU2 AREA:DELI

Unit Data		
	Design	**Actual**
MFG	LENNOX ENLIGHT	LENNOX ENLIGHT
Serial Num	-	5624A03690
Model Num	LCT150H4E	LCT150H4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	24”X15”5
Num Final Filter 1	-	4
Final Filter Size 1	-	20”X25”X2

Motor Data		
	Design	**Actual**
Motor MFG	-	EBM PAPST
Frame	-	NA
Horsepower	3.75	3.8
Motor Rpm	-	NA
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	8.7

Test Data		
	Design	**Actual**
SF CFM	5000	5070
SF RPM	-	NA
RA CFM	4300	4303
OA CFM	700	767
RL Voltage	-	215/214/211.3
RL Amperage	-	7.85/7.24/7.61
SF Rotation	-	CCW
SF System SetPt	-	90%
RA Damper Position	-	83%
Min OA Damper Position	-	17%
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	19 mA

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.43”
Fan Suction SP	-	-1.16”
Fan Discharge SP	-	0.74”
Total ESP	0.5"	1.17”
Fan Total SP	-	1.9”

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

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Unit Data - PHOTO LOG

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Project: 01-13-25 WAWA #6611 FARMVILLE, VA

System/Unit: AHU/RTU

Asset: RTU3 AREA:RETAIL

Unit Data		
	Design	**Actual**
MFG	LENNOX ENLIGHT	LENNOX ENLIGHT
Serial Num	-	5624C07753
Model Num	LCT060H4E	LCT060H4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	30”X15”
Num Final Filter 1	-	4
Final Filter Size 1	-	20”X20”X2”

Motor Data		
	Design	**Actual**
Horsepower	1	1
Phase	3	1
Rated Voltage	208	208
Rated Amperage	-	7.4

Test Data		
	Design	**Actual**
SF CFM	1850	1924
SF RPM	-	NA
MOTOR RPM	-	NA
RA CFM	1535	1596
OA CFM	315	328
RL Voltage	-	214.2/213.1/215
RL Amperage	-	6.26/6.34/6.43
SF System SetPt	-	75%
RA Damper Position	-	75%
OA Damper Position	-	25%
OA Damper Type	-	MOTORIZED

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.41”
Fan Suction SP	-	-0.57”
Fan Discharge SP	-	0.42”
Total ESP	0.5"	0.83”
Fan Total SP	-	0.99”

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Unit Data - PHOTO LOG

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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	G3	8"	150	1	154	154	154	102.7
EGRD2	WOMENS RR	G3	6"	100	1	105	105	105	105.0
Total				250		259	259	259	103.6%

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EF2/STAGING/FOOD SERVICE

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	FOOD SERVICE	G1	8"	230	1	97	199	215	93.5
EGRD2	FOOD SERVICE	G1	8"	235	1	111	287	243	103.4
EGRD3	FOOD SERVICE	G1	8"	235	1	204	177	215	91.5
EGRD4	STAGING ROOM	G1	6"	100	1	122	139	96	96.0
Total				800		534	802	769	96.12%

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RTU2/DELI

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	RETAIL	G1	12"	550	1	720	754	539	98.0
EGRD2	RETAIL	G1	14"	850	1	823	826	845	99.4
EGRD3	FOOD SERVICE	G1	12"	850	1	786	835	811	95.4
EGRD4	FOOD SERVICE	G1	12"	850	1	808	796	855	100.6
EGRD5	FOOD SERVICE	G1	12"	600	1	754	591	582	97.0
EGRD6	FOOD SERVICE	G1	12"	600	1	544	581	581	96.8
Total				4300		4435	4383	4213	97.98%

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Diffuser Supply (GRD)

RTU1/CORE

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	RETAIL	LD1	10"	300	1	282	313	313	104.3
SGRD2	RETAIL	LD1	10"	300	1	284	308	308	102.7
SGRD3	RETAIL	LD1	10"	300	1	278	298	298	99.3
SGRD4	RETAIL	LD1	10"	300	1	355	323	323	107.7
SGRD5	ASSOCIATES	CD1	8"	150	1	284	148	148	98.7
SGRD6	OFFICE	CD1	8"	150	1	257	143	143	95.3
SGRD7	RETAIL	LD1	10"	300	1	330	290	290	96.7
SGRD8	RETAIL	LD1	10"	300	1	314	272	272	90.7
SGRD9	COFFEE	LD1	10"	300	1	277	311	311	103.7
SGRD10	COFFEE	LD1	10"	300	1	249	328	328	109.3
SGRD11	SPECIALTY BEVERAGE	LD1	10"	300	1	274	325	325	108.3
Total				3000		3184	3059	3059	101.97%

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RTU2/DELI

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	FOOD SERVICE	LD1	10"	400	1	382	408	408	102.0
SGRD2	FOOD SERVICE	LD1	10"	400	1	289	297	367	91.8
SGRD3	FOOD SERVICE	LD1	10"	400	1	444	489	396	99.0
SGRD4	FOOD SERVICE	LD1	10"	400	1	383	383	424	106.0
SGRD5	FOOD SERVICE	LD1	10"	400	1	236	313	368	92.0
SGRD6	FOOD SERVICE	LD1	10"	400	1	355	379	413	103.3
SGRD7	FOOD SERVICE	LD1	10"	400	1	367	398	432	108.0
SGRD8	FOOD SERVICE	LD1	10"	400	1	402	454	428	107.0
SGRD9	FOOD SERVICE	LD1	10"	425	1	437	450	445	104.7
SGRD10	FOOD SERVICE	LD1	10"	400	1	333	348	371	92.8
SGRD11	BACKROOM	CD1	10"	300	1	402	387	314	104.7
SGRD12	DELIVERY ROOM	CD1	6"	50	1	138	53	51	102.0
SGRD13	WATER SERVICE ROOM	CD1	6"	75	1	141	82	81	108.0
SGRD14	ELECTRICAL ROOM	CD1	12"	550	1	783	569	572	104.0
Total				5000		5092	5010	5070	101.4%

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RTU3/RETAIL

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	FRONT VESTIBULE	CD2	8"	250	1	256	262	262	104.8
SGRD2	RETAIL	LD1	10"	275	1	328	298	298	108.4
SGRD3	RETAIL	LD1	5"	250	1	211	236	236	94.4
SGRD4	MENS RR	CD3	6"	75	1	120	77	77	102.7
SGRD5	WOMENS RR	CD3	6"	50	1	159	53	53	106.0
SGRD6	RETAIL	LD1	8"	250	1	253	258	258	103.2
SGRD7	RETAIL	LD1	10"	300	1	261	271	271	90.3
SGRD8	RETAIL	LD1	10"	300	1	277	287	287	95.7
SGRD9	REAR VESTIBULE	CD3	6"	100	1	187	182	182	182.0
Total				1850		2052	1924	1924	104%

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Project: 01-13-25 WAWA #6611 FARMVILLE, VA

System/Unit: FAN - Exhaust

Asset: EF1 AREA:RESTROOMS

Unit Data		
	Design	**Actual**
MFG	PENNBARRY	COOK
Model Num	DX10S	100C10DL
Serial Num	-	224SL3097200/0004101
Type	CENTRIFUGAL	CENTRIFUGAL
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	US MOTORS
Frame	-	42Y
Horsepower	1/25	0.04
Motor Rpm	-	1050
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.1

Test Data		
	Design	**Actual**
CFM	250	259
Fan Rotation	-	CCW
RL Voltage	-	124.2
RL Amperage	-	1.05
Suction ESP	-	-0.15”
Discharge ESP	-	ATM
Total ESP	0.250"	0.15”

Completed By: Jordan Best on 01/13/2025

Notes:
. Fan speed set pt. marked on dial

Written By: Jordan Best on 01/13/2025

Unit Data - PHOTO LOG

01/15/2025

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Project: 01-13-25 WAWA #6611 FARMVILLE, VA

System/Unit: FAN - Exhaust

Asset: EF2 AREA:STAGING/FOOD SERVICE

Unit Data		
	Design	**Actual**
MFG	PENNBARRY	COOK
Model Num	DX13R	120C15D
Serial Num	-	224LP30972-01/0000701
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	**Actual**
CFM	800	769
Fan Rotation	-	CCW
RL Voltage	-	123.6
RL Amperage	-	4.41
Suction ESP	-	-0.35”
Total ESP	0.250"	0.35”

Motor Data		
	Design	**Actual**
Motor MFG	-	US MOTORS
Frame	-	48Y
Horsepower	1/6	0.25
Motor Rpm	-	1650
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.2

Completed By: Jordan Best on 01/15/2025

Notes:
. Set point marked on dial

Written By: Jordan Best on 01/14/2025

Unit Data - PHOTO LOG

01/15/2025

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Project: 01-13-25 WAWA #6611 FARMVILLE, VA

System/Unit: FAN - Exhaust

Asset: EF3 AREA:WATER SERVICE ROOM

Unit Data		
	Design	**Actual**
MFG	PENNBARRY	COOK
Model Num	DX08Q	70CH15DH
Serial Num	-	224SL30972-00/0002401
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	US MOTORS
Frame	-	42Y
Horsepower	1/6	0.05
Phase	1	1
Voltage (rated)	120	115

Test Data		
	Design	**Actual**
CFM	100	103
Fan Rotation	-	CCW
System SetPt	-	MARKED ON DIAL
RL Voltage	-	123.8
RL Amperage	-	0.73
Total ESP	0.125"	0.06”
Fan Inlet SP	-	-0.06”
Fan Discharge SP	-	ATM

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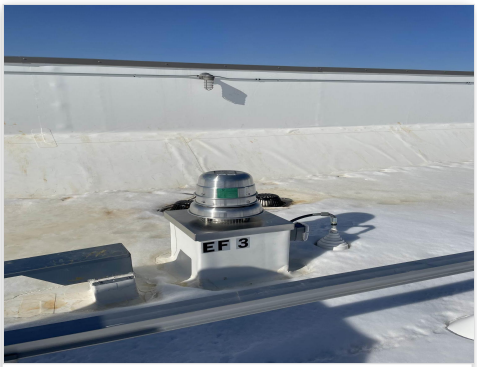
Unit Data - PHOTO LOG



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Project: 01-13-25 WAWA #6611 FARMVILLE, VA

- Open WAWA_Farmville_Complete_Balance_Sched.xlsx