Report By:

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

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 10/22/2025

Completed By: National TAB

PROJECT

10-20-25 QT #1141 SIMPSONVILLE, SC

3005 GRANDVIEW DR

SIMPSONVILLE, SC

Client

QUIKTRIP

4705 SOUTH 129TH EAST AVENUE

TULSA, OK 74134

National TAB

Project: 10-20-25 QT #1141 SIMPSONVILLE, SC

Table Of Contents

Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report are further details 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)
Each of the RTU's was measured with a flow hood to establish total flow. The total flow was then adjusted via the VFD so that airflow fell within design tolerances. All diffusers on the kitchen RTU were balanced to the engineer's design flow. The diffusers on the sales floor were only adjusted when there were noticeable issues present like drafting or dampers that were found completely closed. The Hoods On outside air rate was set by first establishing the typical QT set point at the Emerson controller and then making manually adjustments on the roof. The hoods off airflow setpoint was found by adjusting the damper position at the Emerson controller until the design airflow was achieved. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. After completion of TAB all overrides were released.

Kitchen Exhaust Hood & Associated Fans
The kitchen exhaust fan was measured at the hood filter bay utilizing a velocity matrix and a manufacturer's correction factor. Each filter velocity is multiplied by the manufacturer's corrected area. The sum of these readings equals the total flow of the exhaust fans. The total flow of the exhaust was then adjusted to within tolerance of the design flow.

Restroom Exhaust Fans
The restroom exhaust fans were measured with a flow hood. The total flow was balanced for the fan with the exception of the new grille over the combi-oven, which was balanced to the listed design.

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. The hood capture was tested at the perimeter of the hood and the cook top level with the equipment heat on to ensure satisfactory hood capture and containment.

NATIONAL TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HOOD ON OA		HOOD OFF OA		HOOD ON EXHAUST		HOOD OFF EXHAUST	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU 1	SALES	800	793	350	355				
RTU-2	SALES	800	744	350	348				
RTU-3	BOH/KITCHEN	800	863	350	342				
EF-1	RR/JANITOR					750	0	750	0
EF-3	HOOD					1350	1410	0	0
TOTALS		2400	2400	1050	1045	2100	1410	750	0

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2400
TOTAL EXHAUST	2100	1410
NET AIRFLOW	300	990

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0019
SIDE	
REAR	
AVERAGE	**0.0019**

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1045
TOTAL EXHAUST	750	0
NET AIRFLOW	300	1045

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.016
SIDE	
REAR	
AVERAGE	**0.016**

NOTES:

Issue List

- EF-1 not running
- RTU 3 no deflection blades

10-20-25 QT #1141 SIMPSONVILLE, SC

Project Issue Information

Issue Name : EF-1 not running

Description : EF-1 has power and the motor works. The electricians and I trouble-shot the problem and believe it is the speed controller that is not working.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	High	**Asset Tag :**	EF1
Originated Date :	10/24/2025 - Christian Moller - National TAB		

Project Issue File Details

10/24/2025

10-20-25 QT #1141 SIMPSONVILLE, SC

Project Issue Information

Issue Name : RTU 3 no deflection blades

Description : The tradesman that orders the new cookline diffusers for RTU 3 were not ordered with the deflection blades. If there are drafting issues we will not be able to mitigate them without the blades.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	High	**Asset Tag :**	RT-3
Originated Date :	10/24/2025 - Christian Moller - National TAB		

Project Issue File Details

10/24/2025

10/24/2025

CheckList List

- 01: RTU’s/AHU’s
- 02: Exhaust Fans
- 03: Hoods
- 04: Final Tests
- PLAN REVIEW

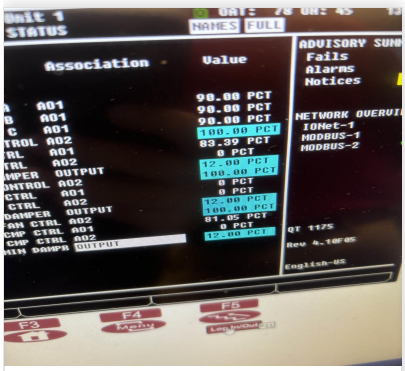
10-20-25 QT #1141 SIMPSONVILLE, SC

CheckList Information

Name :	01: RTU’s/AHU’s	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/10/2025 - Trinity Dodds - National TAB		
Completed Date :	10/24/2025 - Christian Moller - National TAB		

CheckList Item Details

RTU's/AHU's



10/24/2025

Evaporator coils are clean?	Pass
Comment:	

Condenser coils are clean?	Pass
Comment:	

Gas piping is installed and valves are turned on?	Pass
Comment:	

Unit free of noticeable noise and vibration	Pass

Comment:

10-20-25 QT #1141 SIMPSONVILLE, SC

CheckList Information

Name :	02: Exhaust Fans	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/10/2025 - Trinity Dodds - National TAB		
Completed Date :	10/24/2025 - Christian Moller - National TAB		

CheckList Item Details

EF's

Hinge kit installed installed on hood fan?	Pass
Comment:	
Flex conduit is long enough so that fan can be completely tilted back?	Pass
Comment:	
No major leakage around the fan base	Pass
Comment:	
Unit is free of noise and vibration	Pass
Comment:	

10-20-25 QT #1141 SIMPSONVILLE, SC

CheckList Information

Name :	03: Hoods	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/10/2025 - Trinity Dodds - National TAB		
Completed Date :	10/24/2025 - Christian Moller - National TAB		

CheckList Item Details

HOODS

Hood is free of alarms?	Pass
Comment:	
Hood is free of damage?	Pass
Comment:	
End panels are installed per prototype?	Pass
Comment:	

10-20-25 QT #1141 SIMPSONVILLE, SC

CheckList Information

Name :	04: Final Tests	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/10/2025 - Trinity Dodds - National TAB		
Completed Date :	10/24/2025 - Christian Moller - National TAB		

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

NONE

List smoke candle type used

Comment:

S-102 45 SECOND CANDLES

Smoke test capture % - Perimeter of hood

Comment:

100%

Smoke test capture % - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed	10/23/2025

Comment:

TAB tech name / Firm

Comment:

Christian Moller / NTAB

Site super name / Firm

Comment:

Ryan abbott / QT project manager

Owner representative name / Firm (if Applicable)

Comment:

N/A

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:

Front: +0.0019"

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CheckList Information

Name :	PLAN REVIEW	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/10/2025 - Trinity Dodds - National TAB		
Completed Date :	10/10/2025 - Trinity Dodds - National TAB		

CheckList Item Details

Asset Requirements

We have the latest set of construction drawings and are not working off the Bid or Permit Set:	N/A
Comment: PROTOTYPE	
Diffuser totals equal the scheduled airflow of each piece of equipment	Yes
Comment:	
Scheduled Hood airflow match scheduled EF and MAU airflows	N/A
Comment:	

Files to Upload

A PDF summary is uploaded and matches the equipment/scope of the project	Yes
Comment:	
Balance schedule is uploaded?	Yes
Comment:	
Required account checklists are created	Yes

Comment:	
Mechanical drawings are uploaded	Yes
Comment:	
If job is a Revive, Pre-design, or Remodel. Check if we have an old report on sharepoint or the old FaciliBuild and upload to files section.	N/A
Comment:	
GRD Layout is uploaded	Yes
Comment:	
Jurisdiction Requirements	
Is job in Orlando, FL metro area or Phoenix metro area? If yes, a smoke detector checklist needs to be created for each RTU or AHU	No
Comment:	
Is job in Broward County, FL? If so, is Broward County on the permit (Ask the GC)? If Broward County is on the permit, then we CANNOT perform the balance.	No
Comment:	

National TAB

Project: 10-20-25 QT #1141 SIMPSONVILLE, SC

System/Unit: AHU/RTU

Asset: RT-1 AREA:SALES FLOOR

Unit Data		
	Design	**Actual**
MFG	NA	AAON
Serial Num	-	202112-ANEK23275
Model Num	NA	RN-013-8-0-EA0A-152
Num OA Filters 1	-	1
OA Filter Size 1	-	45X25

Motor Data		
	Design	**Actual**
Motor MFG	-	AAON
Frame	-	NL
Horsepower	-	3
Motor Rpm	-	1760
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	4095
OA CFM (Hoods On)	800	793
OA CFM (Hoods Off)	350	355
RL Voltage	-	208/209/210
RL Amperage	-	5.1/5.7/7.0
VFD Max SetPt	-	40.2Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	40%
OA Damper Position (Hoods Off)	-	35%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.43"
Fan Suction SP	-	-0.63"
Fan Discharge SP	-	0.59"
Total ESP	-	1.06"
Fan Total SP	-	1.22"

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

Completed By: Christian Moller on 10/24/2025

Unit Data - PHOTO LOG

10/24/2025

National TAB

Project: 10-20-25 QT #1141 SIMPSONVILLE, SC

System/Unit: AHU/RTU

Asset: RT-2 AREA:SALES FLOOR

Unit Data		
	Design	**Actual**
MFG	NA	AAON
Serial Num	-	202112-ANEK23275
Model Num	NA	RN-013-8-0-EA0A-152
Num OA Filters 1	-	1
OA Filter Size 1	-	45X25

Motor Data		
	Design	**Actual**
Motor MFG	-	AAON
Frame	-	NL
Horsepower	-	3
Motor Rpm	-	1760
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	4081
OA CFM (Hoods On)	800	744
OA CFM (Hoods Off)	350	348
RL Voltage	-	205/206/208
RL Amperage	-	5.1/5.2/5.8
VFD Max SetPt	-	38.4Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	40%
OA Damper Position (Hoods Off)	-	35%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.40"
Fan Suction SP	-	-0.61"
Fan Discharge SP	-	0.55"
Total ESP	-	1.01"
Fan Total SP	-	1.16"

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

Completed By: Christian Moller on 10/24/2025

Unit Data - PHOTO LOG

10/24/2025

National TAB

Project: 10-20-25 QT #1141 SIMPSONVILLE, SC

System/Unit: AHU/RTU

Asset: RT-3 AREA:BOH/KITCHEN

Unit Data		
	Design	**Actual**
MFG	NA	AAON
Serial Num	-	202112-ANEK23276
Model Num	NA	RN-013-8-0-EA0A-152
Num OA Filters 1	-	1
OA Filter Size 1	-	45X25

Motor Data		
	Design	**Actual**
Motor MFG	-	AAON
Frame	-	NL
Horsepower	-	3
Motor Rpm	-	1760
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	4123
OA CFM (Hoods On)	800	863
OA CFM (Hoods Off)	350	342
RL Voltage	-	205/206/206
RL Amperage	-	6.5/6.7/7.0
VFD Max SetPt	-	43.2Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	9%
OA Damper Position (Hoods Off)	-	12%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.87"
Fan Suction SP	-	-0.99"
Fan Discharge SP	-	0.90"
Total ESP	-	1.86"
Fan Total SP	-	1.89"

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

Completed By: Christian Moller on 10/24/2025

Unit Data - PHOTO LOG

10/24/2025

National TAB

Project:10-20-25 QT #1141 SIMPSONVILLE, SC

AHU/RTU

Diffuser Supply (GRD)

RT-3/BOH/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SUPPORT SERVICE	SI	12"	800	1	245	872	815	101.9
SGRD2	SUPPORT SERVICE	SI	12"	800	1	287	763	755	94.4
SGRD3	SUPPORT SERVICE	SI	12"	800	1	189	736	742	92.8
SGRD4	SUPPORT SERVICE	SI	12"	800	1	254	789	757	94.6
SGRD5	DOCK	ES	10"	500	1	213	621	543	108.6
SGRD6	WORKROOM	ES	8"	250	1	267	189	273	109.2
SGRD7	PLUMBING	ES	8"	250	1	163	213	238	95.2
Total				4200		1618	4183	4123	98.17%

National TAB

Project: 10-20-25 QT #1141 SIMPSONVILLE, SC

System/Unit: FAN - Exhaust

Asset: EF1 AREA:RR/JANITOR

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DR50HFA
Serial Num	-	5435265
Type	-	UPBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	CAPTIVEAIRE
Frame	-	NL
Horsepower	-	0.5
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	8.4
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	750	
Fan RPM	-	
Fan Rotation	-	
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	-	
Fan Inlet SP	-	
Fan Discharge SP	-	

Completed By: Christian Moller on 10/24/2025

Notes:
Fan is not running, has power, we believe the speed controller is not working.

Written By: Christian Moller on 10/24/2025

Unit Data - PHOTO LOG

10/24/2025

Diffuser Ret/Exh (GRD)

EF1/RR/JANITOR

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD4	SUPPORT SERVICE	RI	8"	150					-
Total				150		0	0	0	0%

National TAB

Project: 10-20-25 QT #1141 SIMPSONVILLE, SC

System/Unit: FAN - Exhaust

Asset: EF3 AREA:KITCHEN HD

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	7657323
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	CAPTIVEAIRE
Frame	-	NL
Horsepower	1/2	0.5
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	3.6
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	1350	1410
Fan Rotation	-	CCW
System SetPt	-	HMI / 55.8Hz
RL Voltage	-	206
RL Amperage	-	2.7
Total ESP	-	NR
Fan Inlet SP	-	NR
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 10/24/2025

Unit Data - PHOTO LOG

10/24/2025

National TAB

Project: 10-20-25 QT #1141 SIMPSONVILLE, SC

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:GRIDDLE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6030ND-2-F	6030ND-2-F
Job / Serial Num	-	7657323
Type	-	TYPE I CANOPY
Hood length	-	122"
Hood Width	-	60"

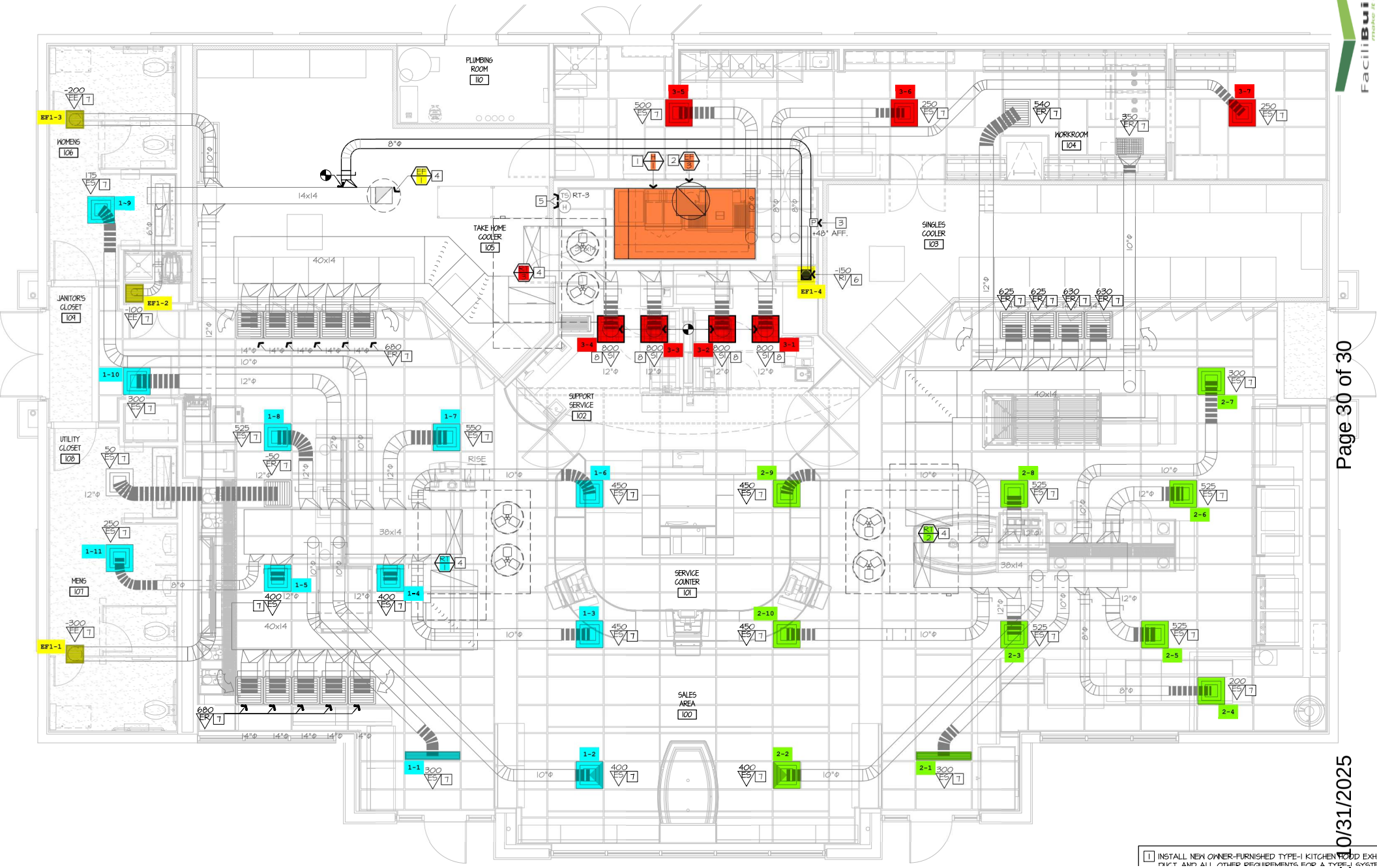
Test Data Exhaust		
	Design	**Actual**
Filter Type	-	BAFFLE FILTERS
Filter Size 1	-	16X20
Filter Qty 1	-	6
Filter AK factor size 1	-	2.08
Filter Total AK Area	-	12.48
Filter1 FPM	-	106
Filter2 FPM	-	106
Filter3 FPM	-	124
Filter4 FPM	-	124
Filter5 FPM	-	112
Filter6 FPM	-	109
Filter Ave FPM(corr)	-	113
CFM	1350	1410

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	PIZZA OVEN

Completed By: Christian Moller on 10/24/2025

Unit Data - PHOTO LOG

10/24/2025



1 INSTALL NEW OWNER-FURNISHED TYPE-I KITCHEN HOOD EXH
DUCT AND ALL OTHER REQUIREMENTS FOR A TYPE-I SYSTE

Date: 10/31/2025