Report By:

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

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 02/06/2026

Completed By: National TAB

PROJECT

02-16-26 QT #1017 DENVER, NC

7259 N CAROLINA 73 HWY

DENVER, NC

Client

QUIKTRIP

4705 SOUTH 129TH EAST AVENUE

TULSA, OK 74134

National TAB

Project: 02-16-26 QT #1017 DENVER, NC

Table Of Contents

Project Summary

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.

Issue List

- EF-2 overamping at design
- Wrong Cook Line Diffusers

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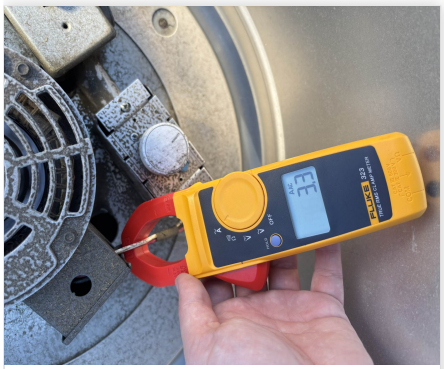
Project Issue Information

Issue Name : EF-2 overamping at design

Description : EF-2 once sped up to design CFM is over amping at the motor. Combi oven grille is low on airflow, this issue needs to be fixed to bring that grille to design.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Urgent	**Asset Tag :**	EF2
Originated Date :	02/16/2026 - Christian Moller - National TAB		

Project Issue File Details



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02-16-26 QT #1017 DENVER, NC

Project Issue Information

Issue Name : Wrong Cook Line Diffusers

Description : The cook line diffusers for RTU 3 are the wrong models. The Louvered Supply Grilles with adjustable deflection blades are the correct diffusers.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	High	**Asset Tag :**	RT-3
Originated Date :	02/16/2026 - Christian Moller - National TAB		

Project Issue File Details

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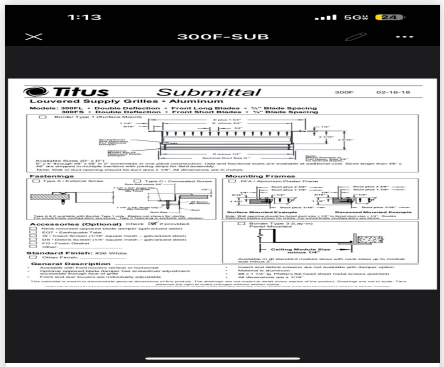

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NATIONAL TAB

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	820	350	381				
RTU-2	SALES	800	845	350	358				
RTU-3	BOH/KITCHEN	800	763	350	367				
EF-1	WOMEN'S RR					225	218	225	218
EF-2	MEN'S RR					525	300	525	300
EF-3	HOOD					1350	1285	0	0
TOTALS		2400	2428	1050	1106	2100	1803	750	518

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2428
TOTAL EXHAUST	2100	1803
NET AIRFLOW	300	625

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.026
SIDE	
REAR	0.023
AVERAGE	**0.0245**

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1106
TOTAL EXHAUST	750	518
NET AIRFLOW	300	588

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.025
SIDE	
REAR	0.021
AVERAGE	**0.023**

NOTES:

CheckList List

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

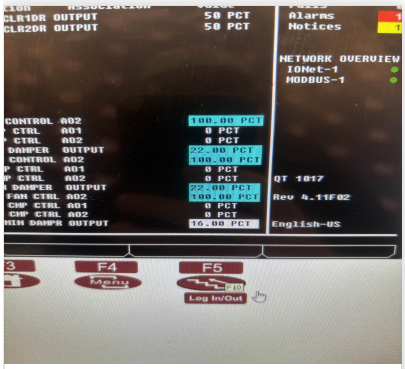
02-16-26 QT #1017 DENVER, NC

CheckList Information

Name :	01: RTU's/AHU's	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/06/2026 - Trinity Dodds - National TAB		
Completed Date :	02/16/2026 - Christian Moller - National TAB		

CheckList Item Details

RTU's/AHU's



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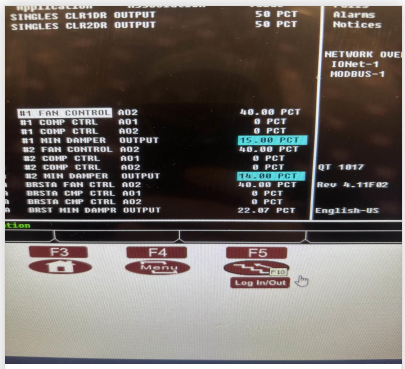

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Evaporator coils are clean?	Pass
Comment:	

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:

02-16-26 QT #1017 DENVER, NC

CheckList Information

Name :	02: Exhaust Fans	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/06/2026 - Trinity Dodds - National TAB		
Completed Date :	02/16/2026 - 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:	

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CheckList Information

Name :	03: Hoods	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/06/2026 - Trinity Dodds - National TAB		
Completed Date :	02/16/2026 - 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:	

02-16-26 QT #1017 DENVER, NC

CheckList Information

Name :	04: Final Tests	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/06/2026 - Trinity Dodds - National TAB		
Completed Date :	02/16/2026 - Christian Moller - National TAB		

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

Pizza oven, Fryer

List smoke candle type used

Comment:

None, only observed cooking

Smoke test capture % - Perimeter of hood

Comment:

100%

Smoke test capture % - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed	02/16/2026

Comment:

TAB tech name / Firm

Comment:

Christian Moller / NTAB

Site super name / Firm

Comment:

Randy Edmonds / Ascent Construction

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:

Hood on: Front: 0.026" Back: 0.023" Hood off: Front: 0.025" Back: 0.021"

National TAB

Project: 02-16-26 QT #1017 DENVER, NC

System/Unit: AHU/RTU

Asset: RT-1 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201304-ANEK08084
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X24
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	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	4387
SF RPM	-	DD
OA CFM (Hoods On)	800	820
OA CFM (Hoods Off)	350	381
RL Voltage	-	215/218/217
RL Amperage	-	4.0/4.6/4.8
VFD Max SetPt	-	33.6Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	22%
OA Damper Position (Hoods Off)	-	15%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.23”
Fan Suction SP	-	-0.38”
Fan Discharge SP	-	0.33”
Total ESP	-	0.61”
Fan Total SP	-	0.71”

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

Completed By: Christian Moller on 02/16/2026

Unit Data - PHOTO LOG

02/16/2026

National TAB

Project: 02-16-26 QT #1017 DENVER, NC

System/Unit: AHU/RTU

Asset: RT-2 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201304-ANEK08085
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X24
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	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	4170
SF RPM	-	DD
OA CFM (Hoods On)	800	845
OA CFM (Hoods Off)	350	358
RL Voltage	-	216/217/218
RL Amperage	-	3.5/4.7/4.9
VFD Max SetPt	-	32.4Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	22%
OA Damper Position (Hoods Off)	-	14%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.21"
Fan Suction SP	-	-0.36"
Fan Discharge SP	-	0.28"
Total ESP	-	0.57"
Fan Total SP	-	0.64"

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

Completed By: Christian Moller on 02/16/2026

Unit Data - PHOTO LOG

02/16/2026

National TAB

Project: 02-16-26 QT #1017 DENVER, NC

System/Unit: AHU/RTU

Asset: RT-3 AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	201304-ANEK08086
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X24
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	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	4260
SF RPM	-	DD
OA CFM (Hoods On)	800	763
OA CFM (Hoods Off)	350	367
RL Voltage	-	216/217/217
RL Amperage	-	3.7/4.9/5.1
VFD Max SetPt	-	34Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	16%
OA Damper Position (Hoods Off)	-	22.07%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.22"
Fan Suction SP	-	-0.38"
Fan Discharge SP	-	0.24"
Total ESP	-	0.60"
Fan Total SP	-	0.62"

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

Completed By: Christian Moller on 02/16/2026

Unit Data - PHOTO LOG

02/16/2026

National TAB

Project:02-16-26 QT #1017 DENVER, NC

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	658	881	841	105.1
SGRD2	SUPPORT SERVICE	SI	12"	800	1	639	869	849	106.1
SGRD3	SUPPORT SERVICE	SI	12"	800	1	724	779	758	94.8
SGRD4	SUPPORT SERVICE	SI	12"	800	1	481	782	763	95.4
SGRD5	DOCK	ES	12"	750	1	368	688	784	104.5
SGRD6	WORKROOM	ES	8"	250	1	142	271	265	106.0
Total				4200		3012	4270	4260	101.43%

National TAB

Project: 02-16-26 QT #1017 DENVER, NC

System/Unit: FAN - Exhaust

Asset: EF1 AREA:WOMEN'S RR

Unit Data		
	Design	**Actual**
MFG	NA	COOK
Model Num	NA	90 ACEH 90C15DH
Serial Num	-	410SE49284-00/0005502
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	FASCO
Frame	-	U24B1
Horsepower	-	1/8
Motor Rpm	-	1600
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	1.7
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	225	218
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER / MEDIUM SPEED
RL Voltage	-	113
RL Amperage	-	0.6
Total ESP	-	0.24”
Fan Inlet SP	-	-0.24”
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 02/16/2026

Unit Data - PHOTO LOG

02/16/2026

National TAB

Project: 02-16-26 QT #1017 DENVER, NC

System/Unit: FAN - Exhaust

Asset: EF2 AREA:MEN'S RR/COMBI

Unit Data		
	Design	**Actual**
MFG	NA	COOK
Model Num	NA	120ACE 120C15D
Serial Num	-	410SE51527-00/0000702
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	COOK
Frame	-	NL
Horsepower	-	1/4
Motor Rpm	-	1550
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	3.3
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	525	300
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER / LOW SPEED
RL Voltage	-	114
RL Amperage	-	3.3
Total ESP	-	0.18”
Fan Inlet SP	-	-0.18”
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 02/16/2026

Notes:
[1]Overamping at design. SEE ISSUES.

Written By: Christian Moller on 02/16/2026

Unit Data - PHOTO LOG

02/16/2026

National TAB

Project:02-16-26 QT #1017 DENVER, NC

Diffuser Ret/Exh (GRD)

EF2/MEN'S RR/COMBI

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	SUPPORT SERVICE	RI	8"	150	1	68	68	68	45.3
Total				150		68	68	68	45.33%

National TAB

Project: 02-16-26 QT #1017 DENVER, NC

System/Unit: FAN - Exhaust

Asset: EF3 AREA:KITCHEN HD

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	8424867
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	CAPTIVEAIRE
Frame	-	NL
Horsepower	0.5	0.5
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	3.7
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	1350	1285
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	HMI/50.8Hz
RL Voltage	-	211
RL Amperage	-	2.4
Total ESP	0.75"	0.56”
Fan Inlet SP	-	-0.56”
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 02/16/2026

Unit Data - PHOTO LOG

02/16/2026

National TAB

Project: 02-16-26 QT #1017 DENVER, NC

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:GRIDDLE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6030ND-2-F	6030ND-2
Job / Serial Num	-	8424867
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	108"	108”
Hood Width	60"	60”

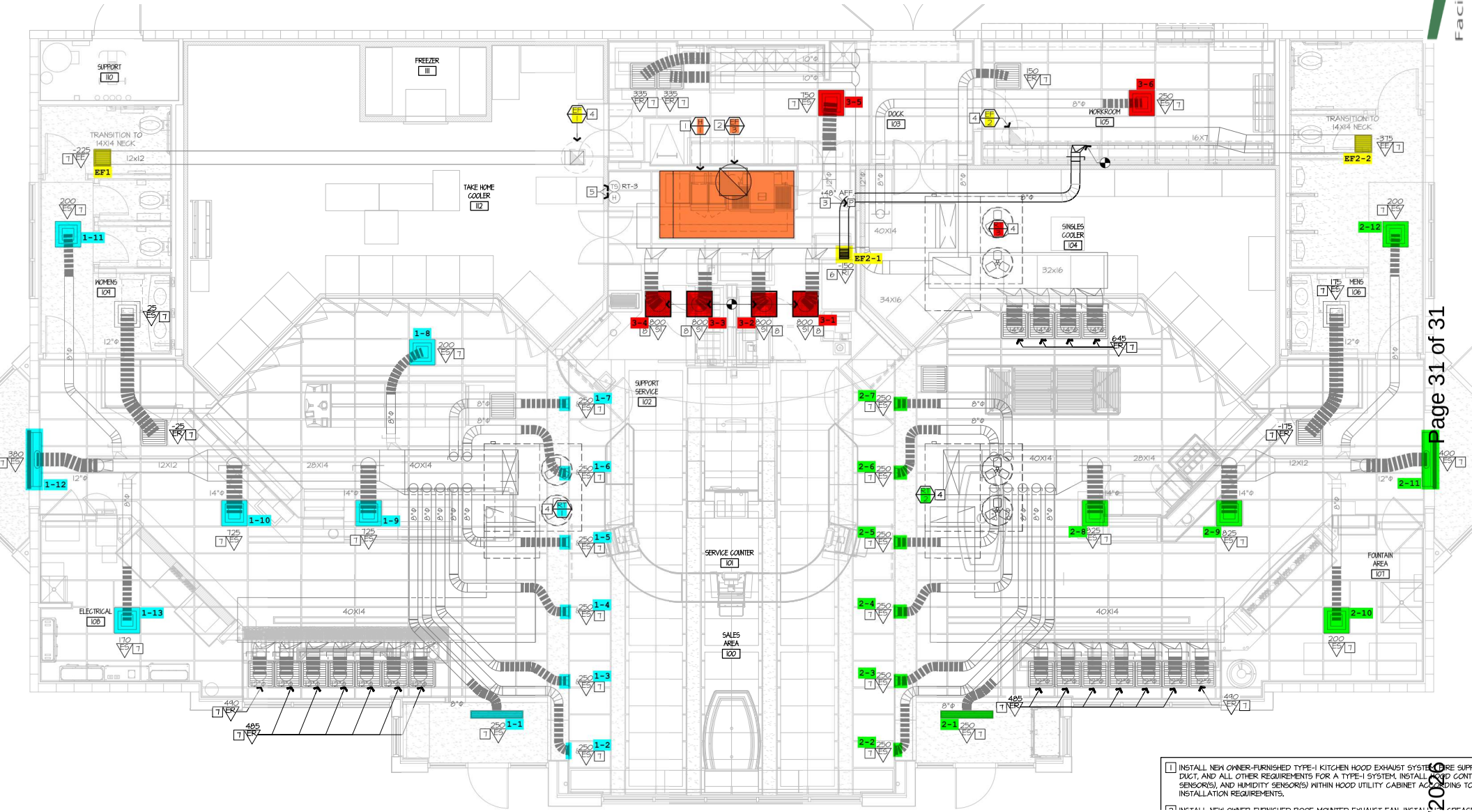
Test Data Exhaust		
	Design	**Actual**
Filter Type	CAPTRATE SOLO FILTER	BAFFLE FILTERS
Filter Size 1	20X16	20X16
Filter Qty 1	6	6
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	12.48	12.48
Filter1 FPM	-	113
Filter2 FPM	-	103
Filter3 FPM	-	108
Filter4 FPM	-	98
Filter5 FPM	-	102
Filter6 FPM	-	98
Filter Ave FPM(corr)	-	103
CFM	1350	1285

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	PIZZA OVEN

Completed By: Christian Moller on 02/16/2026

Unit Data - PHOTO LOG

02/16/2026



1 INSTALL NEW OWNER-FURNISHED TYPE-I KITCHEN HOOD EXHAUST SYSTEM, FIRE SUPP DUCT, AND ALL OTHER REQUIREMENTS FOR A TYPE-I SYSTEM. INSTALL GREASE SENSOR(S), AND HUMIDITY SENSOR(S) WITHIN HOOD UTILITY CABINET ACCORDING TO INSTALLATION REQUIREMENTS.

Date: 2/16/2026