Report By:

National TAB
624 Matthews-Mint Hill Rd
Ste 252
Charlotte, NC 28105

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 04/02/2026

Completed By: National TAB

PROJECT

03-30-26 QT #1076 CHARLOTTE, NC

116 CLANTON RD

CHARLOTTE, NC

Client

QUIKTRIP

4705 SOUTH 129TH EAST AVENUE

TULSA, OK 74134

National TAB

Project: 03-30-26 QT #1076 CHARLOTTE, 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

- Hood in alarm

03-30-26 QT #1076 CHARLOTTE, NC

Project Issue Information

Issue Name : Hood in alarm

Description : The hood is showing a pressure switch fault. This did not affect balancing, hood is at design.

Created By : National TAB

Assigned To : National TAB - Brianna Biggs

Status : Open

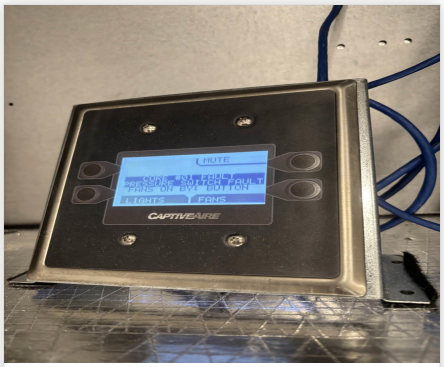
Priority : Low

Asset Tag : HD1

Originated Date : 04/02/2026 - Christian Moller - National TAB

Project Issue File Details

04/02/2026



04/02/2026

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	815	350	347				
RTU-2	SALES	800	810	350	339				
RTU-3	BOH/KITCHEN	800	861	350	336				
EF-1	WOMEN'S RR					225	207	225	207
EF-2	MEN'S RR					525	517	525	517
EF-3	HOOD					1350	1347	0	0
TOTALS		2400	2486	1050	1022	2100	2071	750	724

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2486
TOTAL EXHAUST	2100	2071
NET AIRFLOW	300	415

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.014
SIDE	
REAR	0.011
AVERAGE	**0.0125**

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1022
TOTAL EXHAUST	750	724
NET AIRFLOW	300	298

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.01
SIDE	
REAR	0.002
AVERAGE	**0.006**

NOTES:

CheckList List

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

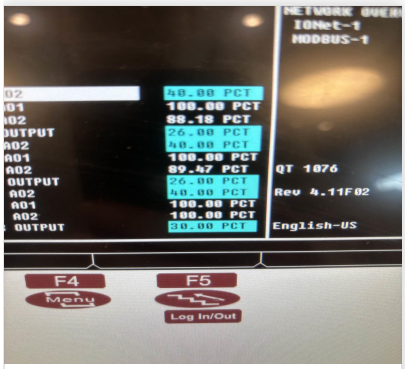
03-30-26 QT #1076 CHARLOTTE, NC

CheckList Information

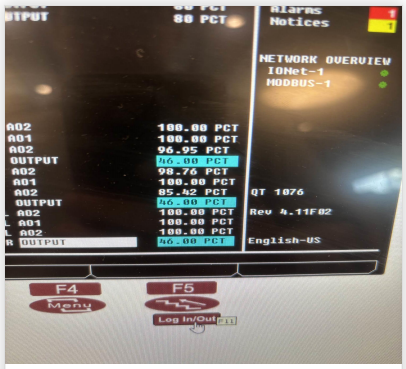
Name :	01: RTU's/AHU's	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/20/2026 - Trinity Dodds - National TAB		
Completed Date :	04/02/2026 - Christian Moller - National TAB		

CheckList Item Details

RTU's/AHU's



04/02/2026



04/02/2026

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:

03-30-26 QT #1076 CHARLOTTE, NC

CheckList Information

Name :	02: Exhaust Fans	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/20/2026 - Trinity Dodds - National TAB		
Completed Date :	04/02/2026 - 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:	

03-30-26 QT #1076 CHARLOTTE, NC

CheckList Information

Name :	03: Hoods	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/20/2026 - Trinity Dodds - National TAB		
Completed Date :	04/02/2026 - Christian Moller - National TAB		

CheckList Item Details

HOODS

Hood is free of alarms?	Fail
Comment: Has a pressure switch fault	
Hood is free of damage?	Pass
Comment:	
End panels are installed per prototype?	Pass
Comment:	

03-30-26 QT #1076 CHARLOTTE, NC

CheckList Information

Name :	04: Final Tests	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/20/2026 - Trinity Dodds - National TAB		
Completed Date :	04/02/2026 - 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:

S102 - 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	04/02/2026

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: 0.014" Back: 0.011" HOOD OFF: Front: 0.01" Back: 0.002"

National TAB

Project: 03-30-26 QT #1076 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-1 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201509-ANEK12912
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
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	4347
SF RPM	-	DD
OA CFM (Hoods On)	800	815
OA CFM (Hoods Off)	350	347
RL Voltage	-	212/212/212
RL Amperage	-	5.6/5.6/5.6
VFD Max SetPt	-	36.6Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	26%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.25”
Fan Suction SP	-	-0.47”
Fan Discharge SP	-	0.46”
Total ESP	-	0.72”
Fan Total SP	-	0.93”

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

Completed By: Christian Moller on 04/02/2026

Unit Data - PHOTO LOG

04/02/2026

National TAB

Project: 03-30-26 QT #1076 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-2 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201509-ANEK12913
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
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	4425
SF RPM	-	DD
OA CFM (Hoods On)	800	810
OA CFM (Hoods Off)	350	339
RL Voltage	-	211/211/211
RL Amperage	-	5.9/6.0/6.0
VFD Max SetPt	-	36.8Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	26%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.32”
Fan Suction SP	-	-0.58”
Fan Discharge SP	-	0.36”
Total ESP	-	0.9”
Fan Total SP	-	0.94”

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

Completed By: Christian Moller on 04/02/2026

Unit Data - PHOTO LOG

04/02/2026

National TAB

Project: 03-30-26 QT #1076 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-3 AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	201509-ANEK12914
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
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	4147
SF RPM	-	DD
OA CFM (Hoods On)	800	861
OA CFM (Hoods Off)	350	336
RL Voltage	-	212/212/212
RL Amperage	-	8.3/8.5/8.2
VFD Max SetPt	-	43.2Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	30%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.39”
Fan Suction SP	-	-0.77”
Fan Discharge SP	-	0.52”
Total ESP	-	1.16”
Fan Total SP	-	1.29”

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

Completed By: Christian Moller on 04/02/2026

Unit Data - PHOTO LOG

04/02/2026

04/02/2026

National TAB

Project:03-30-26 QT #1076 CHARLOTTE, 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	417	847	830	103.8
SGRD2	SUPPORT SERVICE	SI	12"	800	1	351	728	773	96.6
SGRD3	SUPPORT SERVICE	SI	12"	800	1	389	711	763	95.4
SGRD4	SUPPORT SERVICE	SI	12"	800	1	466	759	792	99.0
SGRD5	DOCK	ES	12"	750	1	482	839	728	97.1
SGRD6	WORKROOM	ES	8"	250	1	121	222	261	104.4
Total				4200		2226	4106	4147	98.74%

National TAB

Project: 03-30-26 QT #1076 CHARLOTTE, 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	-	410SE72736-00/0007402
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	COOK
Horsepower	-	0.125
Motor Rpm	-	1550
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	1.7

Test Data		
	Design	**Actual**
CFM	225	207
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER / MEDIUM SPEED
RL Voltage	-	110
RL Amperage	-	1.1
Total ESP	-	0.21”
Fan Inlet SP	-	-0.21”
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 04/02/2026

Unit Data - PHOTO LOG

04/02/2026

National TAB

Project: 03-30-26 QT #1076 CHARLOTTE, NC

System/Unit: FAN - Exhaust

Asset: EF2 AREA:MEN'S RR/COMBI

Unit Data		
	Design	**Actual**
MFG	NA	COOK
Model Num	NA	120 ACE 120C15D
Serial Num	-	410SE6799-00/0007101
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	COOK
Horsepower	-	0.250
Motor Rpm	-	1550
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	3.3

Test Data		
	Design	**Actual**
CFM	525	517
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER / MEDIUM SPEED
RL Voltage	-	115
RL Amperage	-	3.7
Total ESP	-	0.47”
Fan Inlet SP	-	-0.47”
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 04/02/2026

Unit Data - PHOTO LOG

04/02/2026

National TAB

Project:03-30-26 QT #1076 CHARLOTTE, 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	COMBI-OVEN	RI	8"	150	1	182	156	156	104.0
Total				150		182	156	156	104%

National TAB

Project: 03-30-26 QT #1076 CHARLOTTE, NC

System/Unit: FAN - Exhaust

Asset: EF3 AREA:KITCHEN HD

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	8198510
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	CAPTIVEAIRE
Horsepower	1/2	0.5
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	3.8

Test Data		
	Design	**Actual**
CFM	1350	1347
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	HMI / 54.8Hz
RL Voltage	-	212
RL Amperage	-	3.4
Total ESP	-	0.72”
Fan Inlet SP	-	-0.72”
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 04/02/2026

Unit Data - PHOTO LOG

04/02/2026

National TAB

Project: 03-30-26 QT #1076 CHARLOTTE, 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	-	8198510
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	108"	108”
Hood Width	60"	60”

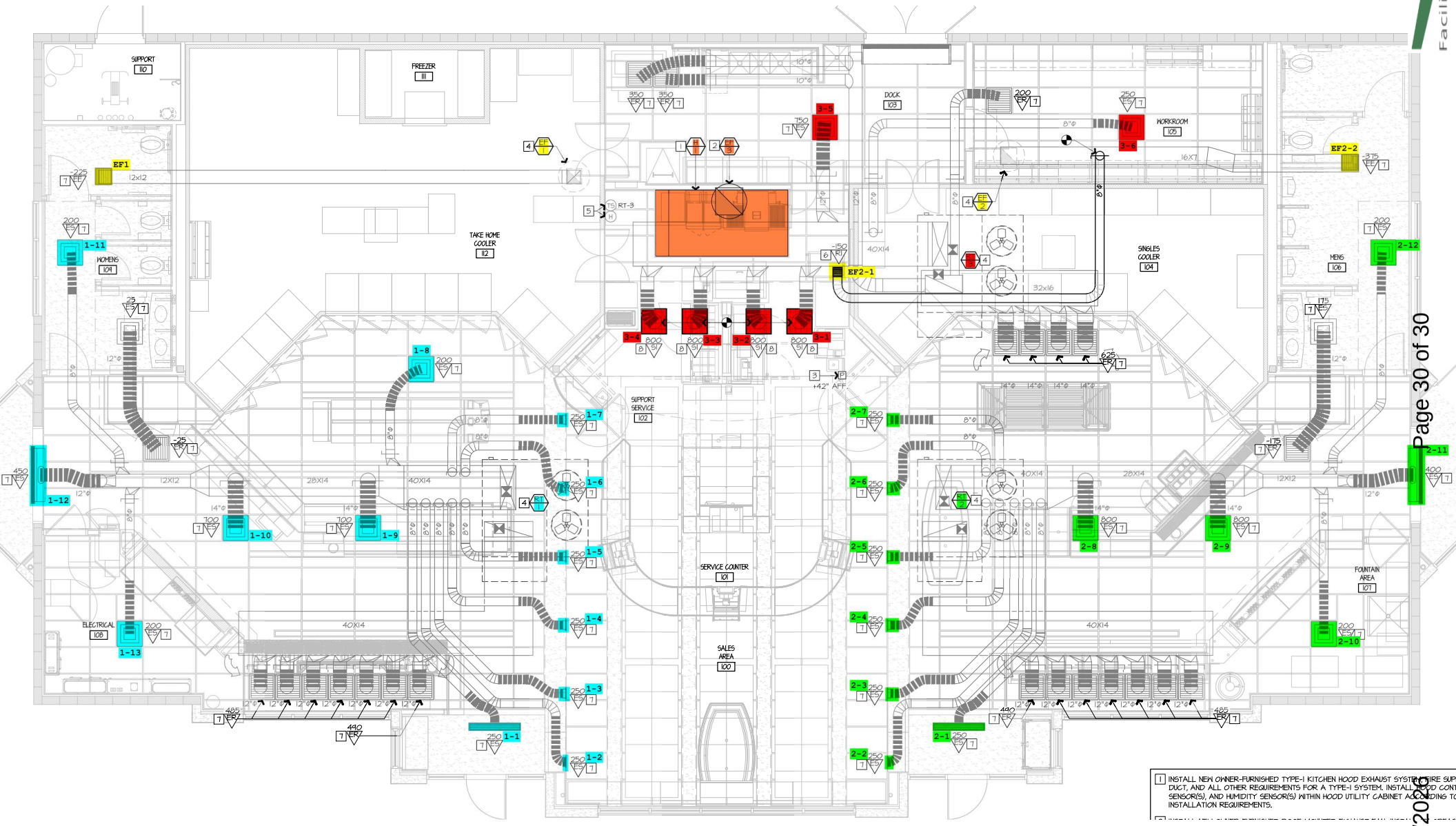
Test Data Exhaust		
	Design	**Actual**
Filter Type	CAPTRATE SOLO FILTER	BAFFLE FILTERS
Filter Size 1	20X16	20X16
Filter Qty 1	6	6
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	12.48	12.48
Filter1 FPM	-	105
Filter2 FPM	-	121
Filter3 FPM	-	112
Filter4 FPM	-	107
Filter5 FPM	-	98
Filter6 FPM	-	106
Filter Ave FPM(corr)	-	108
CFM	1350	1347

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	PIZZA OVEN

Completed By: Christian Moller on 04/02/2026

Unit Data - PHOTO LOG

04/02/2026



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

Date: 4/2/2020