Report By:

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

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 01/16/2026

Completed By: National TAB

PROJECT

01-26-26 QT #1065 CHARLOTTE, NC

2326 SANDY PORTER RD

CHARLOTTE, NC

Client

QUIKTRIP

4705 SOUTH 129TH EAST AVENUE

TULSA, OK 74134

National TAB

Project: 01-26-26 QT #1065 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

- Final filters dirty

01-26-26 QT #1065 CHARLOTTE, NC

Project Issue Information

Issue Name : Final filters dirty

Description : All of the final filters in each RTU are dirty. They should be replaced soon before dust piles up enough to alter CFM.

Created By : National TAB

Assigned To : National TAB - Dan Hertenstein

Status : Open

Priority : High

Asset Tag :

Originated Date : 01/23/2026 - Christian Moller - National TAB

Project Issue File Details

01/23/2026

01/23/2026

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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	803	350	361				
RTU-2	SALES	800	769	350	372				
RTU-3	BOH/KITCHEN	800	861	350	339				
EF-1	WOMEN'S RR					225	258	225	258
EF-2	MEN'S RR					525	473	525	473
EF-3	HOOD					1350	1385	0	0
TOTALS		2400	2433	1050	1072	2100	2116	750	731

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2433
TOTAL EXHAUST	2100	2116
NET AIRFLOW	300	317

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.019
SIDE	
REAR	
AVERAGE	**0.019**

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1072
TOTAL EXHAUST	750	731
NET AIRFLOW	300	341

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.017
SIDE	
REAR	
AVERAGE	**0.017**

NOTES:

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CheckList List

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

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CheckList Information

Name :	01: RTU’s/AHU’s	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	01/16/2026 - Trinity Dodds - National TAB		
Completed Date :	01/23/2026 - Christian Moller - National TAB		

CheckList Item Details

RTU's/AHU's

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:	

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CheckList Information

Name :	02: Exhaust Fans	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	01/16/2026 - Trinity Dodds - National TAB		
Completed Date :	01/23/2026 - 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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01-26-26 QT #1065 CHARLOTTE, NC

CheckList Information

Name :	03: Hoods	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	01/16/2026 - Trinity Dodds - National TAB		
Completed Date :	01/23/2026 - 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:	

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01-26-26 QT #1065 CHARLOTTE, NC

CheckList Information

Name :	04: Final Tests	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	01/16/2026 - Trinity Dodds - National TAB		
Completed Date :	01/28/2026 - 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	01/28/2026

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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: 0.019 Hood off: Front: 0.017

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Project: 01-26-26 QT #1065 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-1 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201212-ANEK07687
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	56X24

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	4238
SF RPM	-	DD
OA CFM (Hoods On)	800	803
OA CFM (Hoods Off)	350	361
RL Voltage	-	210/211/210
RL Amperage	-	4.7/2.5/5.2
VFD Max SetPt	-	31.2Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	24%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.23"
Fan Suction SP	-	-0.34"
Fan Discharge SP	-	0.30"
Total ESP	-	0.57"
Fan Total SP	-	0.64"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	NO
Condensate Drain Installed	YES

Completed By: Christian Moller on 01/23/2026

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Unit Data - PHOTO LOG

01/23/2026

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Project: 01-26-26 QT #1065 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-2 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201212-ANEK07685
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	56X24

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	4192
SF RPM	-	DD
OA CFM (Hoods On)	800	769
OA CFM (Hoods Off)	350	372
RL Voltage	-	208/208/210
RL Amperage	-	4.4/5.7/3.7
VFD Max SetPt	-	32.4Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	27%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.21"
Fan Suction SP	-	-0.31"
Fan Discharge SP	-	0.33"
Total ESP	-	0.52"
Fan Total SP	-	0.64"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	NO
Condensate Drain Installed	YES

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Unit Data - PHOTO LOG

01/23/2026

National TAB

Project: 01-26-26 QT #1065 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-3 AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	201212-ANEK07686
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	56X24

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	4062
SF RPM	-	DD
OA CFM (Hoods On)	800	861
OA CFM (Hoods Off)	350	339
RL Voltage	-	211/212/209
RL Amperage	-	9.5/7.4/10.1
VFD Max SetPt	-	43Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	18%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.47"
Fan Suction SP	-	-0.66"
Fan Discharge SP	-	0.57"
Total ESP	-	1.13"
Fan Total SP	-	1.23"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	NO
Condensate Drain Installed	YES

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Unit Data - PHOTO LOG

01/23/2026

National TAB

Project:01-26-26 QT #1065 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	924	869	869	108.6
SGRD2	SUPPORT SERVICE	SI	12"	800	1	877	834	834	104.3
SGRD3	SUPPORT SERVICE	SI	12"	800	1	768	721	721	90.1
SGRD4	SUPPORT SERVICE	SI	12"	800	1	769	726	726	90.8
SGRD5	DOCK	ES	12"	750	1	732	682	682	90.9
SGRD6	WORKROOM	ES	8"	250	1	304	230	230	92.0
Total				4200		4374	4062	4062	96.71%

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Project: 01-26-26 QT #1065 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	-	410SE32657-00/0011412
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	COOK
Frame	-	NL
Horsepower	-	0.125
Motor Rpm	-	1550
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	2.4
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	225	258
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER / MEDIUM SPEED
RL Voltage	-	114
RL Amperage	-	1.2
Total ESP	-	0.21"
Fan Inlet SP	-	-0.21"
Fan Discharge SP	-	ATM

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Unit Data - PHOTO LOG

01/23/2026

National TAB

Project: 01-26-26 QT #1065 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	-	410SE18515-00/0001703
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	COOK
Frame	-	NL
Horsepower	-	0.250
Motor Rpm	-	1550
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	3.6
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	525	473
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER / MEDIUM SPEED
RL Voltage	-	113
RL Amperage	-	2.6
Total ESP	-	0.19"
Fan Inlet SP	-	-0.19"
Fan Discharge SP	-	ATM

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Unit Data - PHOTO LOG

01/23/2026

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	145	145	145	96.7
Total				150		145	145	145	96.67%

National TAB

Project: 01-26-26 QT #1065 CHARLOTTE, NC

System/Unit: FAN - Exhaust

Asset: EF3 AREA:KITCHEN HD

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	8262099
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)	-	3.8
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	1350	1385
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	HMI/55.8Hz
RL Voltage	-	211
RL Amperage	-	2.4
Total ESP	-	0.60”
Fan Inlet SP	-	-0.60”
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 01/28/2026

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Unit Data - PHOTO LOG

01/23/2026

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Project: 01-26-26 QT #1065 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	-	8262099
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	108"	108"
Hood Width	60"	60"

Test Data Exhaust		
	Design	**Actual**
Filter Type	-	BAFFLE FILTERS
Filter Size 1	-	16X20
Filter Qty 1	-	6
Filter AK factor size 1	-	2.302
Filter Total AK Area	-	13.9
Filter1 FPM	-	90
Filter2 FPM	-	89
Filter3 FPM	-	110
Filter4 FPM	-	108
Filter5 FPM	-	98
Filter6 FPM	-	102
Filter Ave FPM(corr)	-	100
CFM	1350	1385

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	PIZZA OVEN

Completed By: Christian Moller on 01/28/2026

Notes:
MEASUREMENTS MADE BY CAPTIVEAIRE TECHS W/ 2 INCH STANDOFFS, 2.302 AK FACTOR.

Written By: Christian Moller on 01/28/2026

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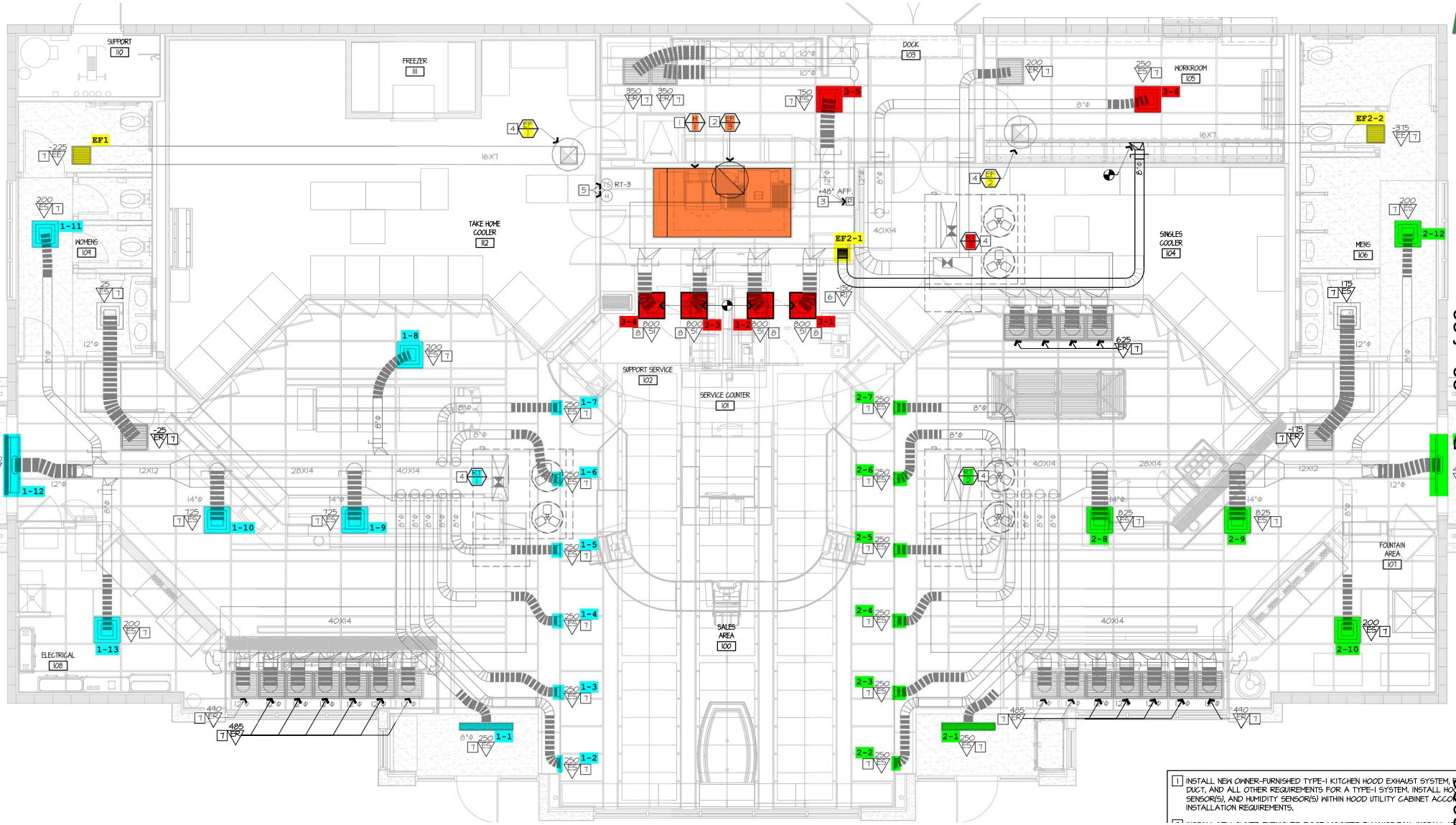
Unit Data - PHOTO LOG

01/23/2026



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

Date: 1/28/2026