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 #1129 SPARTANBURG, SC

21 FAIRVIEW CHURCH RD

SPARTANBURG, SC

Client

QUIKTRIP

4705 SOUTH 129TH EAST AVENUE

TULSA, OK 74134

National TAB

Project: 10-20-25 QT #1129 SPARTANBURG, SC

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-1 AND EF-2 Routing does not Match Plans
- EF-1 not operational
- Kitchen diffusers on back order
- RTU 3 not operational

10-20-25 QT #1129 SPARTANBURG, SC

Project Issue Information

Issue Name : EF-1 AND EF-2 Routing does not Match Plans

Description : Per GC, exhaust was tapped into women's restroom instead of men's due to confined space issue. The Combi-Oven grille is now on EF-2 when plans called for it to be installed on EF-1.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	InfoOnly	**Asset Tag :**	EF2
Originated Date :	10/22/2025 - Jearod Ferrette - National TAB		

Project Issue File Details

10/22/2025

10/22/2025

10-20-25 QT #1129 SPARTANBURG, SC

Project Issue Information

Issue Name : EF-1 not operational

Description : EF-1 not operational. The motor is just humming.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	High	**Asset Tag :**	EF1
Originated Date :	10/23/2025 - Jearod Ferrette - National TAB		

Project Issue File Details

10/23/2025

10-20-25 QT #1129 SPARTANBURG, SC

Project Issue Information

Issue Name : Kitchen diffusers on back order
Description : Kitchen diffusers on backorder

Created By : National TAB
Assigned To : National TAB - Dan Hertenstein
Status : Open
Priority : Low
Asset Tag : RT-3
Originated Date : 10/23/2025 - Jearod Ferrette - National TAB

Project Issue File Details

10/23/2025

10-20-25 QT #1129 SPARTANBURG, SC

Project Issue Information

Issue Name : RTU 3 not operational

Description : RTU-3 not operational. Unit has power, but the VFD doesn't appear functional. Attempted to power cycle but no change to the unit.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Urgent	**Asset Tag :**	RT-3
Originated Date :	10/23/2025 - Jearod Ferrette - National TAB		

Project Issue File Details

10/23/2025

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Project: 10-20-25 QT #1129 SPARTANBURG, SC

- Open QT_Balance_Schedule.xlsx

CheckList List

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

10-20-25 QT #1129 SPARTANBURG, SC

CheckList Information

Name :	01: RTU's/AHU's	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/14/2025 - Trinity Dodds - 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?	N/A
Comment:	
Unit free of noticeable noise and vibration	Pass
Comment:	

10-20-25 QT #1129 SPARTANBURG, SC

CheckList Information

Name :	02: Exhaust Fans	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/14/2025 - Trinity Dodds - 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	
Comment:	
Unit is free of noise and vibration	
Comment:	

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CheckList Information

Name :	03: Hoods	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/14/2025 - Trinity Dodds - National TAB		
Completed Date :	10/24/2025 - Jearod Ferrette - National TAB		

CheckList Item Details

HOODS

Hood is free of alarms?	Fail
Comment: CORE O1 FAULT.	
Hood is free of damage?	Pass
Comment:	
End panels are installed per prototype?	Pass
Comment:	

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10-20-25 QT #1129 SPARTANBURG, SC

CheckList Information

Name :	04: Final Tests	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/14/2025 - Trinity Dodds - National TAB		

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

OVEN AND FRYER.

List smoke candle type used

Comment:

SMOKE CANDLE.

Smoke test capture % - Perimeter of hood

Comment:

100%

Smoke test capture % - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed	10/24/2025

Comment:

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TAB tech name / Firm

Comment:

ALEX BAUER/NTAB

Site super name / Firm

Comment:

NA

Owner representative name / Firm (if Applicable)

Comment:

NA

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)

Comment:

National TAB

Project: 10-20-25 QT #1129 SPARTANBURG, SC

System/Unit: AHU/RTU

Asset: RT-1 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201107ANEK05166
Model Num	RN01380EA0A152
Num OA Filters 1	1
OA Filter Size 1	44.5X22.5

Motor Data	
	Actual
Motor MFG	NA
Frame	NA
Horsepower	NA
Motor Rpm	NA
Phase	3
Rated Voltage	208
Rated Amperage	208

Test Data		
	Design	**Actual**
SF CFM	4200	4352
SF RPM	-	DD/ 43HZ
OA CFM (Hoods On)	800	877
OA CFM (Hoods Off)	350	367
RL Voltage	-	143.3vfd
RL Amperage	-	9.5vfd
VFD Max SetPt	-	43HZ
OA Damper Position (Hoods On)	-	
OA Damper Position (Hoods Off)	-	

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-1.37"
Fan Suction SP	-	-1.47"
Fan Discharge SP	-	0.28"
Total ESP	-	2.84"
Fan Total SP	-	1.75"

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

Completed By: Jearod Ferrette on 10/22/2025

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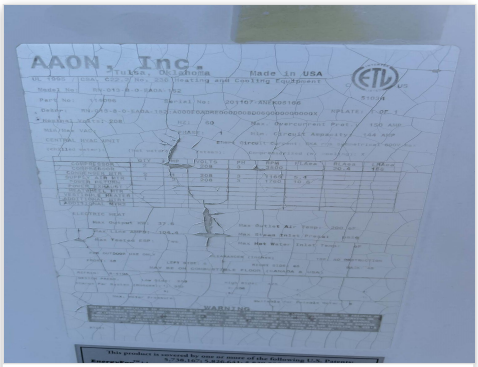
Unit Data - PHOTO LOG

10/21/2025



10/21/2025

National TAB

Project: 10-20-25 QT #1129 SPARTANBURG, SC

System/Unit: AHU/RTU

Asset: RT-2 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201107ANEK05168
Model Num	RN01380EA0A152
Num OA Filters 1	1
OA Filter Size 1	44.5X22.5

Motor Data	
	Actual
Motor MFG	NA
Frame	NA
Horsepower	NA
Motor Rpm	NA
Phase	3
Rated Voltage	208
Rated Amperage	NA

Test Data		
	Design	**Actual**
SF CFM	4200	4563
SF RPM	-	DD/ 43HZ
OA CFM (Hoods On)	800	869
OA CFM (Hoods Off)	350	380
RL Voltage	-	143.5vfd
RL Amperage	-	9.5vfd
VFD Max SetPt	-	43hz
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	26%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.52"
Fan Suction SP	-	-0.68"
Fan Discharge SP	-	1.30"
Total ESP	-	1.20"
Fan Total SP	-	1.98"

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

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Unit Data - PHOTO LOG

10/21/2025

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National TAB

Project: 10-20-25 QT #1129 SPARTANBURG, SC

System/Unit: AHU/RTU

Asset: RT-3 AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	201107ANEK05167
Model Num	RN01380EA0A152
Num OA Filters 1	1
OA Filter Size 1	44.5X22.5

Motor Data	
	Actual
Motor MFG	NA
Frame	NA
Horsepower	NA
Motor Rpm	NA
Phase	3
Rated Voltage	208
Rated Amperage	NA

Test Data		
	Design	**Actual**
SF CFM	4200	[1]
SF RPM	-	[1]

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

Notes:
[1] UNIT NOT OPERATIONAL AT TIME OF TAB. NEEDS SERVICE.

Written By: Michael McDonnell on 12/18/2025

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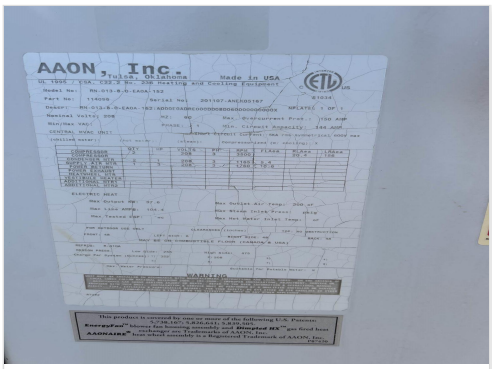
Unit Data - PHOTO LOG



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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				-
SGRD2	SUPPORT SERVICE	SI	12"	800	1				-
SGRD3	SUPPORT SERVICE	SI	12"	800	1				-
SGRD4	SUPPORT SERVICE	SI	12"	800	1				-
SGRD5	WORKROOM	ES	12"	750	1				-
SGRD6	WORKROOM	ES	8"	250	1				-
Total				4200		0	0	0	0%

National TAB

Project: 10-20-25 QT #1129 SPARTANBURG, SC

System/Unit: FAN - Exhaust

Asset: EF1 AREA:WOMEN'S RR

Unit Data		
	Design	**Actual**
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	418SD76572
Type	-	UPBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	QUEACE
Frame	-	48Y
Horsepower	-	1/8
Motor Rpm	-	1600
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	1.7
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	525	225
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	-	
Fan Inlet SP	-	
Fan Discharge SP	-	ATMO

Notes:
[1] DEVIATION FROM PLANS, EF-1 DUCTED TO COMB-OVEN GRILLE INSTEAD OF EF-2. FAN (EF-1) IS NOT OPERATIONAL. SEE ISSUE.

Written By: Michael McDonnell on 12/18/2025

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Unit Data - PHOTO LOG

10/21/2025

National TAB

Project: 10-20-25 QT #1129 SPARTANBURG, SC

System/Unit: FAN - Exhaust

Asset: EF2 AREA:MEN'S RR

Unit Data		
	Design	**Actual**
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	418SD76572
Type	-	UPBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	FASCO
Frame	-	NA
Horsepower	-	1/4
Motor Rpm	-	1550
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	3.2
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	375	356
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	MAX ON DAIL
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.21"
Fan Inlet SP	-	-0.21"
Fan Discharge SP	-	ATMO

Completed By: Jearod Ferrette on 10/23/2025

Notes:
[1] FAN SCHEDULED TO SERVE OVEN GRILLE PER PLAN. GRILLE WAS DUCTED TO EF-1 INSTEAD.

Written By: Michael McDonnell on 12/18/2025

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Unit Data - PHOTO LOG

10/21/2025

National TAB

Project: 10-20-25 QT #1129 SPARTANBURG, SC

System/Unit: FAN - Exhaust

Asset: EF3 AREA:KITCHEN HD

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	7644870
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	HSSA
Frame	-	48
Horsepower	1/2	1/2
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	6.2
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	1350	1460
Fan RPM	-	DD/
Fan Rotation	-	CCW
Motor RPM	-	1243
System SetPt	-	54.8 Hz
RL Voltage	-	211
RL Amperage	-	2.0/1.8
Total ESP	-	0.33”
Fan Inlet SP	-	-0.33”
Fan Discharge SP	-	ATMO

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Unit Data - PHOTO LOG

10/21/2025

National TAB

Project: 10-20-25 QT #1129 SPARTANBURG, 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	-	7644870
Type	-	TYPE I CANOPY
Hood length	-	121"
Hood Width	-	60"

Test Data Exhaust		
	Design	**Actual**
Filter Type	-	CAPTRATE
Filter Size 1	-	16X20
Filter Qty 1	-	6
Filter AK factor size 1	-	2.08
Filter Total AK Area	-	12.48
Filter1 FPM	-	118
Filter2 FPM	-	115
Filter3 FPM	-	112
Filter4 FPM	-	123
Filter5 FPM	-	119
Filter6 FPM	-	117
Filter Ave FPM(corr)	-	117
CFM	1350	1460

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	OVEN

Completed By: Jearod Ferrette on 10/24/2025

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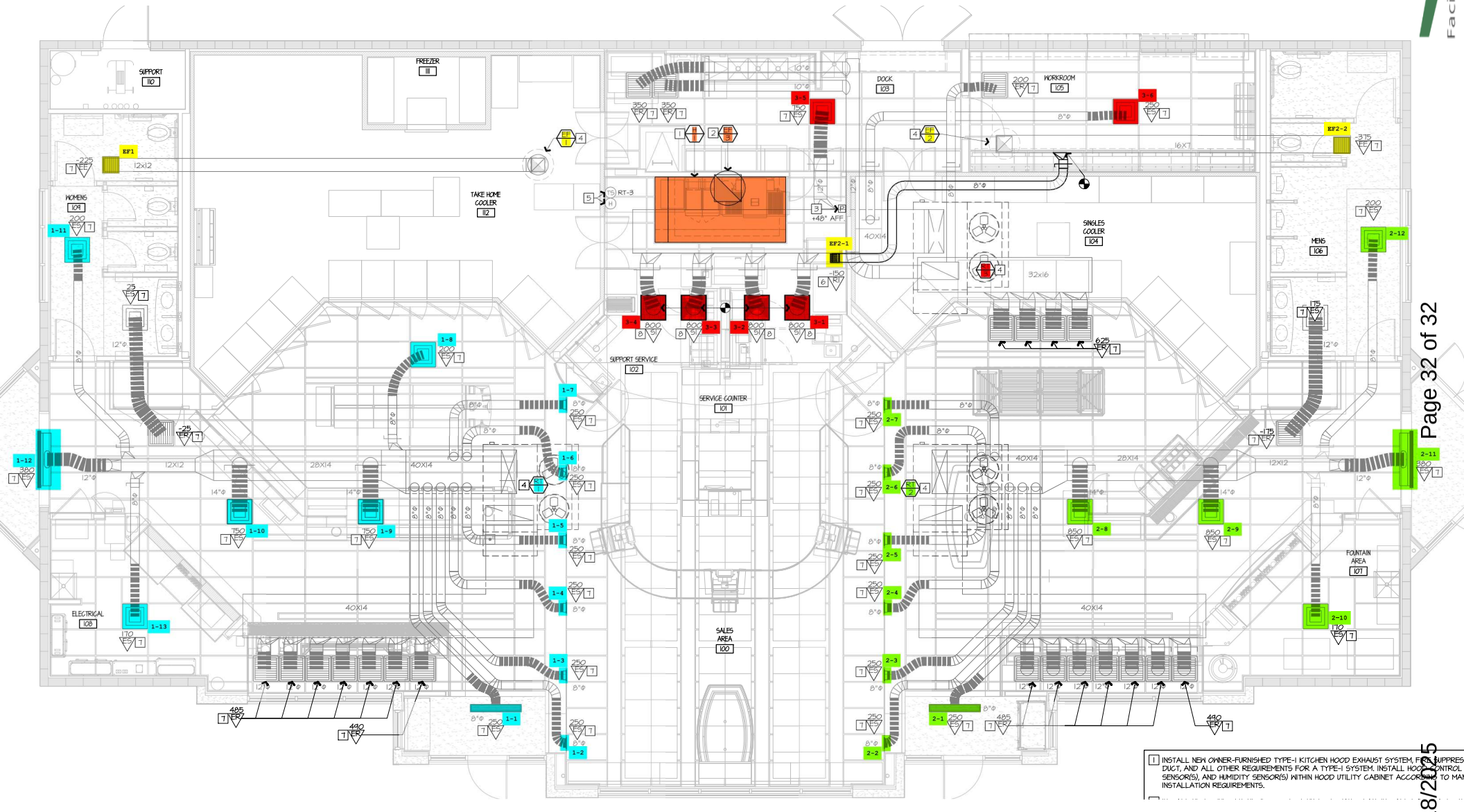
Unit Data - PHOTO LOG

10/22/2025



Date: 12/18/2025