

Report By:

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



Report: TAB Report
Function: Test, Adjust, & Balance
Date: 12/18/2025
Completed By: National TAB

PROJECT
03-16-26 QT #1138 SIMPSONVILLE, SC

200 HARRISON BRIDGE RD

SIMPSONVILLE, SC

Client

QUIKTRIP
4705 SOUTH 129TH EAST AVENUE
TULSA, OK 74134

National TAB

Project: 03-16-26 QT #1138 SIMPSONVILLE, SC

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Project: 03-16-26 QT #1138 SIMPSONVILLE, SC
Function: Test, Adjust, & Balance

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 speed control
- EF-4 combo-oven grille/ no access
- RTU 3 air flow
- RTU 3 missing ductwork
- Specified diffusers not installed

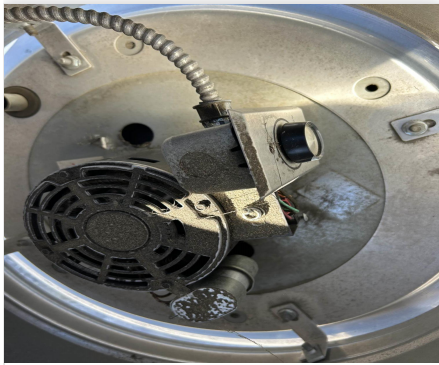


03-16-26 QT #1138 SIMPSONVILLE, SC

Project Issue Information

Issue Name : EF-2 speed control
Description : Exhaust fan 2 speed control only turns the motor on and off. Currently at 124% of design
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Low **Asset Tag :** EF2
Originated Date : 03/18/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/18/2026

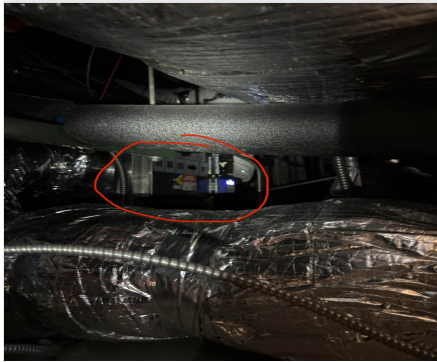


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Project Issue Information

Issue Name : EF-4 combo-oven grille/ no access
Description : EF-1 does not serve the combo-oven grille as planned. New asset was installed with an inline fan. Unable to access motor assembly.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Medium **Asset Tag :** EF4
Originated Date : 03/18/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/18/2026



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Project Issue Information

Issue Name : RTU 3 air flow
Description : Due to missing ductwork on supply trunk, unable to get total flow. Initial set point was at 36 Hz currently increase to 52 Hz, so kitchen staff can work at a comfortable temperature.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :** RT-3
Originated Date : 03/18/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/18/2026



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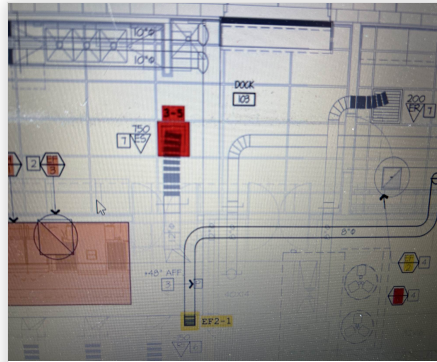
Project Issue Information

Issue Name : RTU 3 missing ductwork
Description : Missing ductwork for SGRD 3-5. Closed damper 100% but still has air leakage.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :** SGRD5
Originated Date : 03/18/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/18/2026



03/18/2026

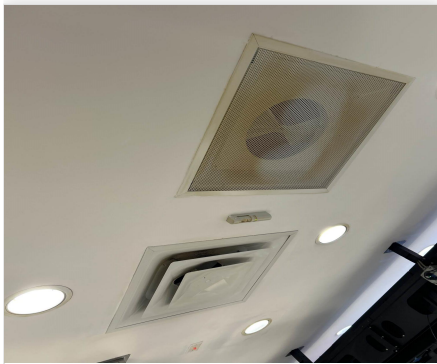


03-16-26 QT #1138 SIMPSONVILLE, SC

Project Issue Information

Issue Name : Specified diffusers not installed
Description : Specified diffusers not installed
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : [Medium](#) **Asset Tag :** RT-3
Originated Date : 03/18/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/18/2026



03/18/2026

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	836	350	365				
RTU-2	SALES	800	836	350	358				
RTU-3	BOH/KITCHEN	800	843	350	365				
EF-1	WOMEN'S RR					225	223	225	223
EF-2	MEN'S RR					525	656	525	656
EF-3	HOOD					1350	1372	0	0
TOTALS		2400	2515	1050	1088	2100	2251	750	879

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2515
TOTAL EXHAUST	2100	2251
NET AIRFLOW	300	264

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.001
SIDE	0.002
REAR	0.002
AVERAGE	0.0017

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1088
TOTAL EXHAUST	750	879
NET AIRFLOW	300	209

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.002
SIDE	0.003
REAR	0.002
AVERAGE	0.0023

NOTES:

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 : 12/18/2025 - Trinity Dodds - National TAB

Completed Date : 03/18/2026 - Jearod Ferrette - 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:



03-16-26 QT #1138 SIMPSONVILLE, SC

CheckList Information

Name : 02: Exhaust Fans **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 12/18/2025 - Trinity Dodds - National TAB

Completed Date : 03/18/2026 - Jearod Ferrette - 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 : 12/18/2025 - Trinity Dodds - National TAB

Completed Date : 03/18/2026 - Jearod Ferrette - 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:



03-16-26 QT #1138 SIMPSONVILLE, SC

CheckList Information

Name : 04: Final Tests **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 12/18/2025 - Trinity Dodds - National TAB

Completed Date : 03/18/2026 - Jearod Ferrette - National TAB

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

FRYER, PIZZA OVEN

List smoke candle type used

Comment:

STAFF TRAINING IN KITCHEN CAPTURE 100%

Smoke test capture % - Perimeter of hood

Comment:

100%

Smoke test capture % - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed

03/18/2026

Comment:

TAB tech name / Firm

Comment:

JEAROD FERRETTE/ 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)

Pass

Comment:

FRONT 0.001, SIDE 0.002, REAR 0.002



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Project: 03-16-26 QT #1138 SIMPSONVILLE, SC

System/Unit: AHU/RTU

Asset: RT-1

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201509-ANEK12682
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	22.5X45
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	Actual
Motor MFG	NA
Frame	NA
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	4126
SF RPM	-	DD/ 36 HZ
OA CFM (Hoods On)	800	836
OA CFM (Hoods Off)	350	365
RL Voltage	-	98.5 VFD
RL Amperage	-	8.0 VFD
VFD Max SetPt	-	36 HZ
VFD Min SetPt	-	
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	26%

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.49"
Fan Suction SP	-	-0.61"
Fan Discharge SP	-	0.46"
Total ESP	-	0.95"
Fan Total SP	-	1.07"

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

Completed By: Jearod Ferrette on 03/18/2026



National TAB

Project: 03-16-26 QT #1138 SIMPSONVILLE, SC

System/Unit: AHU/RTU

Asset: RT-2

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201509-ANEK12683
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	22.5X45
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	Actual
Motor MFG	NA
Frame	NA
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	4343
SF RPM	-	DD/ 39 HZ
OA CFM (Hoods On)	800	836
OA CFM (Hoods Off)	350	358
RL Voltage	-	117.8 VFD
RL Amperage	-	8.8 VFD
VFD Max SetPt	-	39 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	27%

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.53"
Fan Suction SP	-	-0.70"
Fan Discharge SP	-	0.68"
Total ESP	-	1.21"
Fan Total SP	-	1.38"

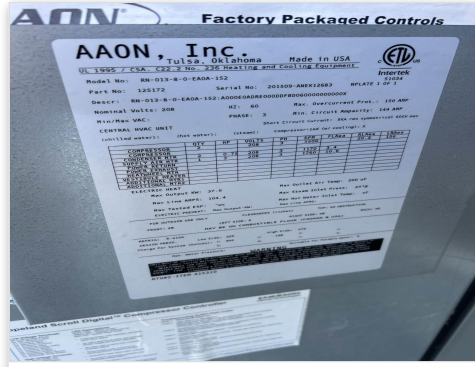
General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Jearod Ferrette on 03/18/2026

Unit Data - PHOTO LOG



03/18/2026



03/18/2026



National TAB

Project: 03-16-26 QT #1138 SIMPSONVILLE, SC

System/Unit: AHU/RTU

Asset: RT-3

AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	201509-ANEK12684
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	22.5X45
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	Actual
Motor MFG	NA
Frame	NA
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	3029
SF RPM	-	DD/ 52 HZ
OA CFM (Hoods On)	800	843
OA CFM (Hoods Off)	350	365
RL Voltage	-	164.8 VFD
RL Amperage	-	11.7 VFD
VFD Max SetPt	-	52 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	26%

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.46"
Fan Suction SP	-	-0.62"
Fan Discharge SP	-	2.13"
Total ESP	-	2.59"
Fan Total SP	-	2.75"

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

Completed By: Jearod Ferrette on 03/18/2026

Notes:
HIGH DISCHARGE STATIC PRESSURE

SEE ISSUES

Written By: Jearod Ferrette on 03/18/2026



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Project:03-16-26 QT #1138 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	707		927	115.9
SGRD2	SUPPORT SERVICE	SI	12"	800	1	384		568	71.0
SGRD3	SUPPORT SERVICE	SI	12"	800	1	699		936	117.0
SGRD4	SUPPORT SERVICE	SI	12"	800	1	255		375	46.9
SGRD5	DOCK	ES	12"	750	1	0		0	0.0
SGRD6	WORKROOM	ES	8"	250	1	184		223	89.2
Total				4200		2229	0	3029	72.12%

Asset	Notes	Date	Written By
SGRD5	MISSING DUCTWORK	03/18/2026	Jearod Ferrette



National TAB

Project: 03-16-26 QT #1138 SIMPSONVILLE, SC

System/Unit: FAN - Exhaust

Asset: EF1

AREA:WOMEN'S RR

Unit Data		
	Design	Actual
MFG	COOK	COOK
Model Num	120 ACE	90 ACEH
Serial Num	-	050SF64967
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
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	225	223
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	50%
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.15"
Fan Inlet SP	-	-0.15"
Fan Discharge SP	-	ATMO

Completed By: Jearod Ferrette on 03/18/2026

Unit Data - PHOTO LOG



03/18/2026



National TAB

Project: 03-16-26 QT #1138 SIMPSONVILLE, SC

System/Unit: FAN - Exhaust

Asset: EF2

AREA: MEN'S RR/COMBI

Unit Data		
	Design	Actual
MFG	COOK	COOK
Model Num	120 ACE	120 ACE
Serial Num	-	050SF64967
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
Frame	-	48Y
Horsepower	-	1/4
Motor Rpm	-	1300
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	3.3
Service Factor	-	1

Test Data		
	Design	Actual
CFM	375	466
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	ON
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.19"
Fan Inlet SP	-	-0.19"
Fan Discharge SP	-	ATMO

Completed By: Jearod Ferrette on 03/18/2026

Notes:
SEE ISSUES

Written By: Jearod Ferrette on 03/18/2026

Unit Data - PHOTO LOG



03/18/2026



National TAB

Project: 03-16-26 QT #1138 SIMPSONVILLE, SC

System/Unit: FAN - Exhaust

Asset: EF3

AREA:KITCHEN HD

Unit Data		
	Design	Actual
MFG	COOK	CAPTIVEAIRE
Model Num	120 ACE	DU50HFA
Serial Num	-	8262104
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Frame	-	NA
Horsepower	1/2	1/2
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	NA
Service Factor	-	1

Test Data		
	Design	Actual
CFM	1350	1372
Fan RPM	-	1250
Fan Rotation	-	CCW
Motor RPM	-	1250
System SetPt	-	55.8 HZ
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.40"
Fan Inlet SP	-	-0.40"
Fan Discharge SP	-	ATMO

Completed By: Jearod Ferrette on 03/18/2026



National TAB

Project: 03-16-26 QT #1138 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	-	8262104
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	CAPTRATE SOLO FILTER
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	-	108
Filter2 FPM	-	110
Filter3 FPM	-	108
Filter4 FPM	-	115
Filter5 FPM	-	114
Filter6 FPM	-	109
Filter Ave FPM(corr)	-	110
CFM	1350	1372

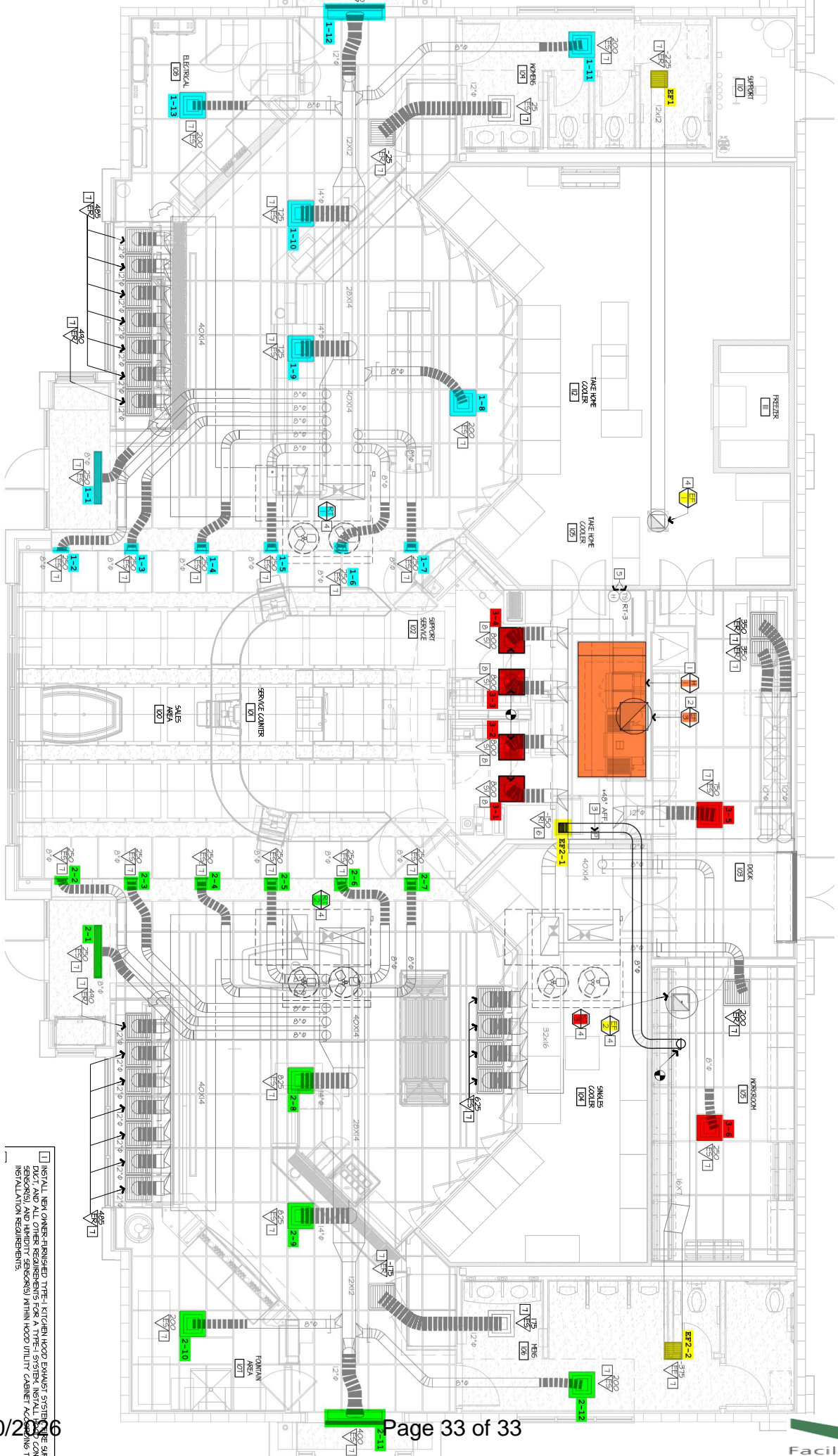
Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	PIZZA OVEN

Completed By: Jearod Ferrette on 03/18/2026

Unit Data - PHOTO LOG



03/18/2026



[] INSTALL NEW OVER-PRESSURED TYPE-K KITCHEN HOOD EXHAUST SYSTEMS FOR SUPPLY
 AND EXHAUST SYSTEMS FROM A TYPICAL SYSTEM INSTALLATION. SEE MECHANICAL
 AND ELECTRICAL DRAWINGS FOR DUCTWORK AND EQUIPMENT INSTALLATION REQUIREMENTS.