

Report By:

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



Report: TAB Report
Function: Test, Adjust, & Balance
Date: 04/21/2025
Completed By: National TAB

PROJECT

04-14-25 CHIPOTLE #5397 MORGANTON, NC

1219 BURKEMONT AVE

MORGANTON, NC 28655

Client

Chipotle Mexican Grill
610 Newport Center Drive, Suite 1100

Newport Beach, CA 92660

National TAB

Project: 04-14-25 CHIPOTLE #5397 MORGANTON, NC

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Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report is further detail 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) w/ Diffusers

Each of the RTU's were measured at their terminal devices or via traverse to establish a total flow for that unit. Each RTU was adjusted to within tolerance of the engineer's design flow. Each outlet was then adjusted to within tolerance of the design flow. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. The outside air damper was adjusted until the airflow was within the design requirements. Any equipment that fell outside of that tolerance is noted throughout the report.

Kitchen Exhaust Hood & Associated Fans

Each 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. . Any EF's that fell outside of this tolerance is noted throughout the report.

MUA (Make Up Air Unit) w/ PSP

Total flow for the MAU (Make-up Air Unit) unit was measured by readings taken at the discharge of the hood's perforated supply plenum. Readings taken with a velocity matrix were averaged and multiplied by a manufacturer's corrected area. Adjustments to the fan speed were made in order to bring the unit to within design tolerance. Any MUA's that fell outside of this tolerance is noted throughout the report.

General Exhaust Fans w/ Grilles

The general exhaust fans were measured by reading each air device with a flow hood. The total airflow for each fan is equivalent to the sum of these readings. Fan speed was then adjusted so that the airflow was within tolerance of design. Each terminal device was balanced to within tolerance of the design volume using the installed volume dampers. Any equipment that fell outside of this tolerance is noted throughout the report.

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 of $-0.02''$ wc to $+0.02''$ wc 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

- MUA low flow



04-14-25 CHIPOTLE #5397 MORGANTON, NC

Project Issue Information

Issue Name : MUA low flow
Description : MAU is not providing adequate air to the hood according to plans. unit calls for 1675 and is pulling 1823 on the roof, however discharge at the hood is 948. technician believes this is due to all of the runs coming off the top of the MAU main, making the duct have to fill with air before its able to attempt to satisfy the diffusers.

Created By : National TAB **Assigned To :** National TAB - Brianna Biggs
Status : Closed
Priority : Urgent **Asset Tag :**
Originated Date : 04/16/2025 - JOASH ALBIN - National TAB

Project Issue Response Details

- **04/21/2025 National TAB - Will Turnbough**
 - See Ash's email



- **04/16/2025 National TAB - JOASH ALBIN**
 - Pictures



04/16/2025



04/16/2025

CheckList List

- 01: RTU'S/AHU'S
- 02: EF'S
- 03: MUA
- 04: HOODS
- 05: FINAL TESTS



04-14-25 CHIPOTLE #5397 MORGANTON, NC

CheckList Information

Name : 01: RTU'S/AHU'S **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 03/12/2025 - Kyle Henry - National TAB
Completed Date : 04/21/2025 - JOASH ALBIN - National TAB

CheckList Item Details

RTU's/AHU's

Thermostats installed and have power? Yes

Comment:

All diffusers and grilles are installed and match design? Yes

Comment:

Deflector plates are removed from 1x1 diffusers on the serve line (double check that this is specified on the diffuser schedule first) N/A

Comment:

Economizer blank plate is installed below the outside air intake (Trane only) (N/A = not applicable) N/A

Comment:

Economizers are assembled and functional? Yes

Comment:

DCV Max damper opening position is set to minimum? Yes

Comment:

Free cooling enthalpy set point set for lowest setting (Typically "D")

N/A

Comment:

ES5 in honeywell controller for lowest setting

Motors are all operating below the FLA rating?

Yes

Comment:

Are belts tight?

N/A

Comment:

If direct drive unit is the speed controller working?

Yes

Comment:

Is gas piping installed and valves turned on?

Yes

Comment:

Unit free of noticeable noise and vibration

Yes

Comment:

Final outside air damper position is marked with permanent marker?

Yes

Comment:



04-14-25 CHIPOTLE #5397 MORGANTON, NC

CheckList Information

Name : 02: EF'S **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 03/12/2025 - Kyle Henry - National TAB

Completed Date : 04/21/2025 - JOASH ALBIN - National TAB

CheckList Item Details

EF's

Rotation is correct?	Yes
-----------------------------	-----

Comment:

Belts are tight?	N/A
-------------------------	-----

Comment:

Viroguard installed on hood fan(s)?	Yes
--	-----

Comment:

Hinge kit installed installed on hood fan?	Yes
---	-----

Comment:

Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	Yes
--	-----

Comment:

Flex conduit is long enough so that fan can be completely tilted back?	Yes
---	-----

Comment:

There is no major leakage around base of fan?

Yes

Comment:

Is the motor operating below the motor FLA rating?

Yes

Comment:

For restroom fan(s) is the back draft damper installed and can it fully open?

Yes

Comment:

Unit free of noticeable noise and vibration?

Yes

Comment:



04-14-25 CHIPOTLE #5397 MORGANTON, NC

CheckList Information

Name : 03: MUA **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 03/12/2025 - Kyle Henry - National TAB
Completed Date : 04/21/2025 - JOASH ALBIN - National TAB

CheckList Item Details

MUA

Rotation is correct? Yes

Comment:

Gas piping is installed and valves are in on position? Yes

Comment:

Internal motorized damper is fully opening? Yes

Comment:

Motor is operating below the FLA rating? Yes

Comment:

Unit free of noticeable noise and vibration? Yes

Comment:



04-14-25 CHIPOTLE #5397 MORGANTON, NC

CheckList Information

Name : 04: HOODS **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 03/12/2025 - Kyle Henry - National TAB
Completed Date : 04/21/2025 - JOASH ALBIN - National TAB

CheckList Item Details

HOODS

All hood filters installed and accounted for? Yes

Comment:

Hoods are wired and have power? Yes

Comment:

Hood is free of alarms? Yes

Comment:

Hood is free of damage? Yes

Comment:

Quarter or full vertical end panels are installed if specified? Yes

Comment:



04-14-25 CHIPOTLE #5397 MORGANTON, NC

CheckList Information

Name : 05: FINAL TESTS **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 03/12/2025 - Kyle Henry - National TAB

Completed Date : 04/21/2025 - JOASH ALBIN - National TAB

CheckList Item Details

FINAL CHECKS

Is space free of drafting? Yes

Comment:

Is space comfortable in all areas? Yes

Comment:

Is the space free of ventilation noise? Yes

Comment:

List kitchen equipment turned on for testing Yes

Comment:

griddle/fryer/hoods/EF fans

List smoke candle type used

Comment:

S-102

HOOD CAPTURE TEST

Smoke test capture % - Perimeter of hood

Comment:

100%, YES

Smoke test capture % - Top of cooking surface

Comment:

100%,YES

WITNESS

Date test was completed

04/16/2025

Comment:

VIDEO CAPTURE

TAB tech name / Firm

Comment:

VIDEO CAPTURE

Site super name / Firm

Comment:

VIDEO CAPTURE

Owner representative name / Firm (if Applicable)

Comment:

VIDEO CAPTURE

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:

0.008

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Project: 04-14-25 CHIPOTLE #5397 MORGANTON, NC

System/Unit: AHU/RTU



Asset: RTU1

AREA:KITCHEN

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	1923P79786
Model Num	48FC_M11	48FCFM12A3M5A6W4C0
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	35X20
Num Final Filter 1	-	4
Final Filter Size 1	-	20X20X2

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	3	3
Motor Rpm	-	NL
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	12.6

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Motor Sheave SetPt	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD
Belt Alignment	DD

Test Data		
	Design	Actual
SF CFM	3500	3318
SF RPM	-	DD
RA CFM	3000	2798
OA CFM	500	520
RL Voltage	-	210/211/212
RL Amperage	-	7.2/7.8/7.6
SF Rotation	-	CCW
SF System SetPt	-	80%
RA Damper Position	-	80%
Min OA Damper Position	-	4.35(VDC)
Min OA Damper Type	-	ES5
OA Enthalpy Setpt	-	MIN

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.34"
Fan Suction SP	-	-0.56"
Fan Discharge SP	-	0.44"
Total ESP	.8"	0.78"
Fan Total SP	-	1.0"

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

Completed By: JOASH ALBIN on 04/21/2025

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Project:04-14-25 CHIPOTLE #5397 MORGANTON, NC

AHU/RTU



Diffuser Supply (GRD)

RTU1/KITCHEN

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
RTU1-SGRD1	BACK	CD1	12"	400	1	178	383	383	95.8
RTU1-SGRD2	BACK	CD1	12"	425	1	279	395	395	92.9
RTU1-SGRD3	BACK	CD1	12"	425	1	215	399	399	93.9
RTU1-SGRD4	BACK	SR2	8"	150	1	145	149	149	99.3
RTU1-SGRD5	BACK	CD1	8"	150	1	146	139	139	92.7
RTU1-SGRD6	KITCHEN	CD1	12"	475	1	346	428	428	90.1
RTU1-SGRD7	KITCHEN	CD1	12"	475	1	360	435	435	91.6
RTU1-SGRD8	KITCHEN	CD1	10"	250	1	271	245	245	98.0
RTU1-SGRD9	HOOD	ACPSP	165X6	800	1	989	745	745	93.1
Total				3550		2929	3318	3318	93.46%

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Project: 04-14-25 CHIPOTLE #5397 MORGANTON, NC

System/Unit: AHU/RTU



Asset: RTU2

AREA:DINING

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	0424P62987
Model Num	48FC_M09	48FCFN09D3M5A6W4F0
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	35X20
Num Final Filter 1	-	4
Final Filter Size 1	-	20X20X2

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	3	3
Motor Rpm	-	NL
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	7.5

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Motor Sheave SetPt	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD
Belt Alignment	DD

Test Data		
	Design	Actual
SF CFM	3400	3375
SF RPM	-	DD
RA CFM	2400	2318
OA CFM	1000	1057
RL Voltage	-	210/211/212
RL Amperage	-	7.0/7.1/6.9
SF Rotation	-	CCW
SF System SetPt	-	90%
RA Damper Position	-	70%
Min OA Damper Position	-	30%/5.65(VDC)
Min OA Damper Type	-	ODB
OA Enthalpy Setpt	-	ES5

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.31"
Fan Suction SP	-	-0.58"
Fan Discharge SP	-	0.46"
Total ESP	.8"	0.89"
Fan Total SP	-	1.04"

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

Completed By: JOASH ALBIN on 04/21/2025

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Project:04-14-25 CHIPOTLE #5397 MORGANTON, NC

AHU/RTU



Diffuser Supply (GRD)

RTU2/DINING

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
RTU2-SGRD1	DINING	SR1	12"	500	.78	345	425	505	101.0
RTU2-SGRD2	DINING	SR1	12"	475	.78	405	403	468	98.5
RTU2-SGRD3	DINING	SR1	12"	475	.78	425	415	475	100.0
RTU2-SGRD4	DINING	SR1	12"	475	.78	475	411	470	98.9
RTU2-SGRD5	DINING	SR1	12"	475	.78	750	409	465	97.9
RTU2-SGRD6	DINING	SR1	12"	475	.78	356	412	477	100.4
RTU2-SGRD7	DINING	SR1	12"	475	.78	318	404	465	97.9
RTU2-SGRD8	BACK	CD4	6"	50	.78	54	40	50	100.0
Total				3400		3128	2919	3375	99.26%

Completed By: JOASH ALBIN on 04/17/2025

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Project: 04-14-25 CHIPOTLE #5397 MORGANTON, NC

System/Unit: FAN - Supply



Asset: MAU1

AREA:HOOD

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	A1-D.250-15D	A1-D.250-15D
Serial Num	-	7222290
Type	MAU	MAU
Configuration	VERTICAL	VERTCAL

Motor Data		
	Design	Actual
Motor MFG	-	WESTINGHOUSE
Frame	-	145T
Horsepower	1	1.5
Motor Rpm	-	1740
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	4.02
Service Factor	-	1.15

Gas Heat		
	Design	Actual
Heater Operates (y/n)	-	YES
Flame Status (pass/fail)	-	PASS
Inlet Air Temp SetPt	-	55
Discharge Air Temp SetPt	-	60
Air Flow Switch SP Actual	-	0.31"

Test Data		
	Design	Actual
CFM	1675	1527
SF RPM	-	DD
Motor RPM	-	58Hz
SF System SetPt	-	58Hz
RL Voltage	-	210/211/211
RL Amperage	-	3.5/3.3/3.4

General	
	Actual
Fan Rotation Correct	YES

Completed By: JOASH ALBIN on 04/21/2025

Notes:

intake is 1823, discharge is 948. no dampers on connection to hood or from the run. all runs come off the top of the MAU. see issues.

Written By: JOASH ALBIN on 04/16/2025

Unit Data - PHOTO LOG



04/17/2025



04/17/2025



04/17/2025

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Project: 04-14-25 CHIPOTLE #5397 MORGANTON, NC

System/Unit: FAN - Exhaust



Asset: EF1

AREA:KITCHEN

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU180HFA	DU180HFA
Serial Num	-	7222290
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	WEG
Frame	-	W22
Horsepower	2	2
Motor Rpm	-	1170
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	8.5
Service Factor	-	1.25

Test Data		
	Design	Actual
CFM	2925	2877
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	48hZ(VFD)
RL Voltage	-	210/211/211
RL Amperage	-	5.4/5.2.5.2
Total ESP	1.2"	1.12"
Fan Inlet SP	-	-1.12"
Fan Discharge SP	-	ATM

Completed By: JOASH ALBIN on 04/21/2025

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Project: 04-14-25 CHIPOTLE #5397 MORGANTON, NC

System/Unit: FAN - Exhaust



Asset: EF2

AREA:RESTROOM

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DR12HFA	DR12HFA
Serial Num	-	7222290
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Frame	-	42EC
Horsepower	.18	.25
Motor Rpm	-	TELCOGREEN
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	2.7
Service Factor	-	1

Test Data		
	Design	Actual
CFM	150	143
Fan RPM	-	924
Fan Rotation	-	ccw
Motor RPM	-	na
System SetPt	-	55p
RL Voltage	-	120
RL Amperage	-	1.2
Total ESP	.6"	0.41"
Fan Inlet SP	-	-0.41"
Fan Discharge SP	-	ATM

Completed By: JOASH ALBIN on 04/16/2025

National TAB

Project:04-14-25 CHIPOTLE #5397 MORGANTON, NC

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF2/RESTROOM

Asset												
Asset Name	Model Num	MFG	Type	Size	DESIGN CFM	AK	VEL(1)	CFM(1)	VEL(2)	CFM(2)	FINAL CFM	% to design
EF2-1	NA	NA			75	1	115	72	72		71	94.7
EF2-2	NA	NA			75	1	120	71	71		72	96.0
Total					150			143		0	143	95.33%

Completed By: JOASH ALBIN on 04/16/2025

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Project: 04-14-25 CHIPOTLE #5397 MORGANTON, NC

System/Unit: Kitchen Hood Type I



Asset: HD1

AREA: COOK LINE

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5424 ND-2-ACPSP-F	5424 ND-2-ACPSP-F
Job / Serial Num	-	7050245
Type	TYPE 1 CANOPY	TYPE I
Hood length	153"	156"
Hood Width	54"	61/36
Supply Plenum Type	-	ACPSP
Supply Plenum Width	9"	14"
Supply Plenum Length	165"	166"

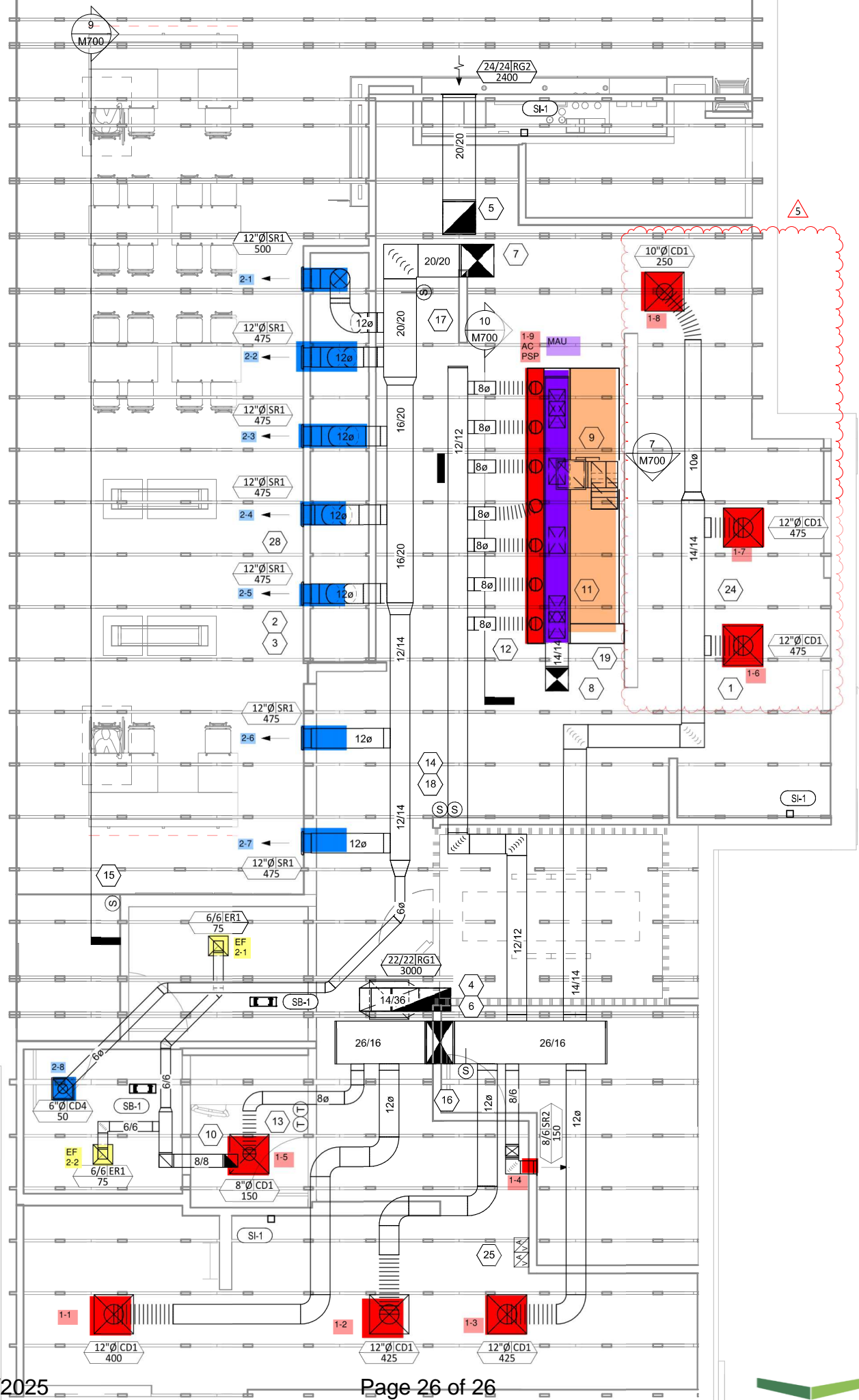
Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATESOLO
Filter Size 1	16X16	16X16
Filter Qty 1	9	9
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	14.58	14.58
Filter1 FPM	-	176
Filter2 FPM	-	213
Filter3 FPM	-	231
Filter4 FPM	-	232
Filter5 FPM	-	204
Filter6 FPM	-	191
Filter7 FPM	-	171
Filter8 FPM	-	166
Filter9 FPM	-	192
Filter10 FPM	-	
Filter11 FPM	-	
Filter12 FPM	-	
Filter Ave FPM(corr)	-	197
CFM	2925	2877

Cooking Equipment	
	Actual
Item 1	GRIDDLE
Item 2	STOVE
Item 3	
Item 4	
Item 5	

Test Data Supply		
	Design	Actual
Total Area	10.31	15.75
Kv factor (Vel)	.81	0.81
Num of Readings	-	9
Reading1 FPM	-	125
Reading2 FPM	-	111
Reading3 FPM	-	114
Reading4 FPM	-	135
Reading5 FPM	-	141
Reading6 FPM	-	108
Reading7 FPM	-	115
Reading8 FPM	-	118
Reading9 FPM	-	111
Reading10 FPM	-	
Reading11 FPM	-	
Reading12 FPM	-	
Reading13 FPM	-	
Reading14 FPM	-	
Ave FPM(corr)	-	92
CFM	1675	1527

Completed By: JOASH ALBIN on 04/16/2025

COPY
THIS
AND
CHIP
USE
EXTE
CHIP



Issue R
05.17
08.19
10.28

Revision
5 10.21

Drawn
AJJ
Project
2401
Center

HV

