Report By:

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

Report: TAB

Function: Test, Adjust, & Balance

Date: 07/16/2025

Completed By: National TAB

PROJECT

Wingstop GL#AB247 (Elk Grove, CA)

8694 ELK GROVE BLVD SUITE 3

ELK GROVE, CA 95624

Client

KMS Resource Group Inc.

8502 E CHAPMAN AVE

SUITE 274

ORANGE, CA 92869

National TAB

Project: Wingstop GL#AB247 (Elk Grove, CA)

Table Of Contents

CERTIFICATION

PROJECT: Wingstop GL#AB247 (Elk Grove, CA)

The data presented in this report is a record of system measurements and final adjustments that have been obtained in accordance with the current edition of the NEBB *Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems.* Any variances from design quantities, which exceed NEBB tolerances, are noted in the Test-Adjust-Balance Report Project Summary.

The air distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM: National TAB-Southeast
REGISTRATION NO: 3755
CERTIFIED BY: J. Scott Springer 23312
DATE: 7/21/2025

The hydronic distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM: National TAB-Southeast
REGISTRATION NO: 3755
CERTIFIED BY: J. Scott Springer 23312
DATE:

Submitted and Certified by:

NEBB TAB FIRM: National TAB-Southeast
TAB PROFESSIONAL: J. Scott Springer
SIGNATURE:
REGISTRATION NO: 3755 (NTAB) / 23312
CERTIFICATION EXP: 12/31/2025

National TAB

Testing, Adjusting, and Balancing Equipment

Function		Range	Minimum Accuracy	Instrument Information	Calibration Date	Date Due
AIR	AIR PRESSURE	0 in wg to 10 in wg	2% +/- 0.001 in wg	Shortridge ADM-880C S/N M05066	10/15/2024	10/15/2025
	AIR VELOCITY INSTRUMENT	50 fpm to 3900 fpm	+/- 5 % +/- 7 fpm	Shortridge ADM-880C S/N M05066	10/15/2024	10/15/2025
	DIRECT HOOD READING	100 cfm to 2000 cfm	+/- 3 % +/- 7 cfm	Shortridge Flow Hood	10/15/2024	10/15/2025
TEMPERATURE	AIR METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/15/2024	10/15/2025
	AIR PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 5028	10/15/2024	10/15/2025
	IMMERSION METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/15/2024	10/15/2025
	IMMERSION PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 1075	10/15/2024	10/15/2025
	CONTACT METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/15/2024	10/15/2025
	CONTACT PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 4011	10/15/2024	10/15/2025
HUMIDITY	HUMIDITY PROBE	10 % RH to 90 % RH	3% of reading	Cooper ATKINS - SRH77A S/N 090315046	10/15/2024	10/15/2025
ELECTRICAL	VOLTAGE MEASUREMENT	0 VAC to 600 VAC	2 % reading +/- 5 digits	Dwyer CM-1 - S/N 190800099	10/15/2024	10/15/2025
	AMPERAGE MEASUREMENT	0 Amperers to 100 Amperes	2 % reading +/- 5 digits	Dwyer CM-1 - S/N 190800099	10/15/2024	10/15/2025
ROTATION	ROTATION MEASUREMENT	60 rpm to 5000 rpm	2 % reading 2 rpm	Dwyer TAC-L - S/N S1100123	10/15/2024	10/15/2025
HYDRONIC	PRESSURE MEASUREMENT	-30 in Hg to 200 psi	±2% of reading +/- 1 psi	Shortridge HDM 250 - S/N W25059	6/18/2025	6/18/2026
	DIFFERENTIAL PRESSURE MEASUREMENT	0 psi - 80 psi	±2% of reading +/- 1 psi	Shortridge HDM 250 - S/N W25059	6/18/2025	6/18/2026
DALT	DUCT LEAKAGE	-10"- +10" wc	±1% of reading +/- 0.004" wc	Kanomax DALT 6900 S/N: 080439	3/7/2025	3/7/2026

Abbreviation List

A = Area (ft^2)	S.F. = Service Factor
AHU = Air Handling Unit	SF = Supply Fan
A_k = Effective Area	SP = Static Pressure
BHP = Brake Horsepower (IP) HP	SR = Supply Register
Btu = British Thermal Unit	T = Temperature
Btu/h = Btuh = BTUH = BTU/Hour	T_{ma} = Mixed Air Temperature
CL = Center Distance (used in belt formula)	T_{oa} = Outside Air Temperature
CD = Ceiling Diffuser	T_{ra} = Return Air Temperature
CF = Correction Factor	H = Head (in wc, ft wc, psi)
CFM = Volumetric Flow: Cubic Feet Per Minute	h = Enthalpy
CO2 = Carbon Dioxide	HP = Horsepower
CO = Carbon Monoxide	hr = Hour
C_v = Flow Constant	K_v = Flow constant (SI)
d = Diameter (in.) IP	kW = Kilowatt = 1000 Watts
Δ = Difference or Change (Final - Initial)	LAT = Leaving Air Temperature
DB = Dry Bulb	lb = Pounds
EA = Exhaust Air	LWT = Leaving Water Temperature
EAT = Entering Air Temperature	ma = Mixed Air
EF = Exhaust Fan	MIN = Minimum
Eff = Efficiency	MAX = Maximum
EG = Exhaust Grille	N/A = Not Applicable
ESP = External Static Pressure	NA = No Access
EWT = Entering Water Temperature	NL = Not Listed
°F = Degrees Fahrenheit, °F	NPSHA = Net Positive Suction Head Available
FPB = Fan Powered Box	NS = Not Specified
FLA = Full Load Amps	OA = Outside Air
fpm = Feet per Minute (fpm)	OAT = Outside Air Temperature
ft = Foot	PD = Sheave Pitch Diameter
gal = Gallons	P.D. = Pressure Drop
GPM = Gallons Per Minute (GPM)	PF = Power Factor
h = Enthalpy (BTU/lb dry air)	SG = Supply Grille
P = Pressure	SR = Supply Register
ppm = parts per million	TP = Total Pressure
psi = Pounds Per Square Inch	T_{ra} = Return Air Temperature
psid = PSI Differential	TS = Tip Speed (fpm) IP, (m/s) SI
r = Radius (in)	TSP = Total Static Pressure
% $_{ra}$ = % of Return Air	V = Velocity
RA = Return Air	VAV = Variable Air Volume
RAT = Return Air Temperature	VD = Volume Damper
RF = Return Fan	VFD = Variable Frequency Drive
RG = Return Grille	W = Watt
RH = Relative Humidity	WB = Wet Bulb
RPM = Revolutions Per Minute	wg = wc = water gauge = water column
RTU = Roof Top Unit	WHP = Water Horsepower (IP)
SA = Supply Air	ω = Humidity Ratio

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.

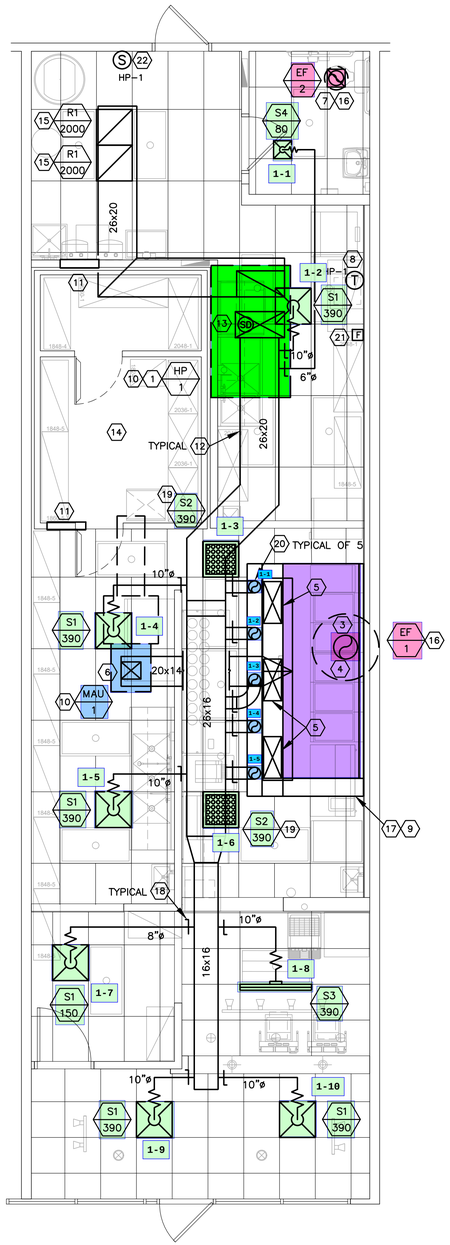
RTU's (Roof Top Units) w/ Diffusers
Each of the RTU's were measured at their terminal devices or via traverse to establish a total flow for that unit. Each RTU was adjusted to within tolerance of the engineer's design flow. Each outlet was then adjusted to within tolerance of the design flow. Outside 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.



MECHANICAL FLOOR PLAN
SCALE: 1/4" = 1'-0"

PLAN COMMENTS

ALL JOINTS, PENETRATIONS, AND OTHER OPENINGS INTO THE BUILDING ENVELOPE THAT ARE POTENTIAL SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHER-STRIPPED OR OTHERWISE SEALED TO LIMIT AIR INFILTRATION AND EXFILTRATION.

HVAC SYMBOLS

☒	SUPPLY AIR DUCT OR GRILLE	M	MOTORIZED DAMPER
CHS	CHILLED WATER SUPPLY	S	SMOKE DETECTION DEVICE
CHR	CHILLED WATER RETURN	T	THERMOSTAT
HS	HOT WATER SUPPLY	SD	DUCT SMOKE DETECTOR
HR	HOT WATER RETURN	R.A.G.	RETURN AIR GRILLE
R.D.	REFRIGERANT DISCHARGE LINE	DIFF.	DIFFUSER
R.S.	REFRIGERANT SUCTION LINE	M.D.	MANUAL DAMPER
O.A.	OUTDOOR AIR	F.D.	FIRE DAMPER
R.A.	RETURN AIR	F.C.	FLEXIBLE CONNECTION
S.A.	SUPPLY AIR	S.E.	SMOKE EXHAUST
⊠	RETURN AIR DUCT OR GRILLE		
—D—	CONDENSATE DRAIN LINE		
TE	TOILET EXHAUST		

ALL SYMBOLS MAY NOT BE USED

APPROVED
Apr 30, 2025
CITY OF ELK GROVE
BUILDING DEPT

GENERAL INSTRUCTION TO BIDDERS

EQUIPMENT SHALL BE TRANE WITH MODELS AND CONFIGURATIONS AS SHOWN. NO SUBSTITUTIONS ALLOWED. PLEASE REFER TO THE TRANE NATIONAL ACCOUNT PROGRAM SCHEDULE BLOCK FOR DETAILS ON PRICING AND ORDERING OR CONTAT: – WINGSTOP NATIONAL ACCOUNT TEAM
866-986-4822
EMAIL: WINGSTOP@TRANE.COM
ACCOUNT MANAGER: AUSTIN LUPTON

MECHANICAL KEYED NOTES

1. HVAC CONTRACTOR SHALL SUPPLY AND INSTALL 10 TON HEAT PUMP UNIT HP-1. REFER TO EQUIPMENT SCHEDULE ON SHEET M2. PROVIDE FLEXIBLE CONNECTORS FOR THE SUPPLY AND RETURN AIR DUCT CONNECTIONS. TRANSITION TO DUCT SIZES SHOWN. PROVIDE DUCT WORK AND AIR DISTRIBUTION DEVICES AS INDICATED ON THE PLAN. REFER TO EQUIPMENT SCHEDULES FOR ADDITIONAL REQUIREMENTS.
2. NOT USED
3. 16"ø EXHAUST RISER UP FROM HOOD COLLAR. EXTEND DUCT UP TO FAN ON ROOF. REFER TO DETAILS ON SHEET M2 FOR EXHAUST DUCT FIRE BARRIER DUCT WRAP. EXHAUST DUCT AND FIRE BARRIER DUCT WRAP PROVIDED BY OWNER INSTALLED BY MECHANICAL CONTRACTOR. IF WELDED EXHAUST DUCT IS USED, MECHANICAL CONTRACTOR TO PROVIDE EXHAUST DUCT AND FIRE BARRIER DUCT WRAP.
4. 16"ø EXHAUST DUCT UP THROUGH ROOF TO EF-1 ON ROOF. ROOF MOUNTED KITCHEN EXHAUST FAN EF-1 AND CURB TO BE PROVIDED BY OWNER AND INSTALLED BY MECHANICAL CONTRACTOR. SEE EQUIPMENT SCHEDULE AND FAN/HOOD DETAILS FOR ADDITIONAL INFORMATION. ROOF CURB TO BE 20" REFER TO HOOD DRAWINGS.
5. 28"x12" SUPPLY DUCT RISER UP FROM 28"x12" DUCT COLLAR (TYPICAL OF 3). EXTEND DUCT UP TO MAIN SUPPLY DUCT.
6. 13"x11" UP THROUGH ROOF TO MUA-1 ON ROOF. ROOF MOUNTED KITCHEN MAKE-UP AIR UNIT MUA-1 AND CURB TO BE PROVIDED BY OWNER AND INSTALLED BY MECHANICAL CONTRACTOR. SEE EQUIPMENT SCHEDULE AND FAN/HOOD DETAILS FOR ADDITIONAL INFORMATION. PROVIDE EXTENSION AS REQUIRED FOR 10 FEET MINIMUM FROM EXHAUST VENT.
7. EXTEND DUCTS FROM EACH CEILING EXHAUST FAN TO 10"ø AT EXHAUST DUCT THROUGH ROOF. TERMINATE ROOF DUCT NO LESS THAN 10'-0" FROM ANY OUTSIDE AIR INTAKE. PROVIDE WEATHERPROOF CAP AND BIRDSCREEN.
8. PROVIDE AN EQUIPMENT COMPATIBLE PROGRAMMABLE THERMOSTAT WITH NIGHT SETBACK FEATURE AND LOCKING COVER. MOUNT AT 48" A.F.F. COORDINATE EXACT LOCATION WITH OWNER ON SITE. (TYPICAL OF 2).
9. EXHAUST HOOD TO BE PROVIDED BY OWNER AND INSTALLED BY MECHANICAL CONTRACTOR. SEE DRAWING SHEET H1 AND MECHANICAL EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION. VOLUME OF EXHAUST PER U.L. LISTING FOR HOOD. SEE ARCHITECTURAL DRAWINGS FOR HOOD MOUNTING LOCATION AND DIMENSIONS.
10. COORDINATE NEW HP-1 AND MAU-1 LOCATION WITH EXISTING ROOF JOIST, COORDINATE WITH STRUCTURAL ENGINEER.
11. PROVIDE TITUS 50F 26x18 TRANSFER AIR GRILLE IN SOFFIT ABOVE COOLER.
12. FURNISH AND INSTALL GALVANIZED STEEL DUCTWORK, SIZES AS NOTED ON DRAWINGS. DUCTWORK SIZES ARE SHEET METAL SIZES. ALL NEW DUCTWORK SHALL HAVE 1" INTERNAL LINER.
13. FACTORY MOUNTED 120V SMOKE DETECTOR INSIDE HVAC UNIT TO MEET LOCAL CODE REQUIREMENTS. PROVIDE INTERLOCK WIRING TO DE-ENERGIZE ALL RTU'S UPON DETECTION OF SMOKE. PROVIDE TEST/RESET SWITCH AND PIEZO ALERT SOUNDER AND REMOTE ANNUNCIATOR ALARM LED MOUNTED AS DIRECTED BY LOCATION AHJ. MECHANICAL CONTRACTOR TO PROVIDE ALL REQUIRED INTERLOCK WIRING AND COORDINATE ALL FINAL CONNECTIONS.
14. WALK-IN COOLER WITH R-404A REFRIGERANT AT 64 OZ. CAPACITY. VOLUME OF COOLER IS 627 CU. FEET, FLAME SPREAD IS 15, AND COMPRESSOR IS 1.5 H.P.
15. 1" EXTERNALLY INSULATED RETURN AIR DUCT. COORDINATE ROUTING WITH EXISTING STRUCTURE, PIPING, ETC.
16. CONTRACTOR SHALL ENSURE THAT EXHAUST FANS ARE AT LEAST 10'-0" AWAY FROM ANY OUTSIDE AIR INTAKES FOR MAU-1, HP-1, AND ADJOINING TENANT'S OUT SIDE AIR INTAKES.
17. PRE-PIPED FIRE SUPPRESSION SYSTEM SUPPLIED WITH HOOD AND PROVIDED BY OWNER. SEE SHEET H1 FOR DETAILS. MECHANICAL CONTRACTOR SHALL INSTALL OWNER PROVIDED FIRE SUPPRESSION GAS VALVE AND MAKE ALL ELECTRICAL CONNECTIONS. FIRE SYSTEM HOOKUP IS PROVIDED BY CAPTIVE AIRE.
18. VOLUME DAMPER AT DUCT CONNECTION TO MAIN SUPPLY AIR DUCT, TYPICAL.
19. SUPPLY AIR DIFFUSER CFM RATES SHALL BE ADJUSTED AS REQUIRED FOR PROPER AIR FLOW AROUND THE HOOD.
20. 8"ø SUPPLY AIR DUCT DOWN TO HOOD SUPPLY DIFFUSER. TRANSITION AS REQUIRED. BALANCE TO 130 CFM.
21. FIRE SUPPRESSION SYSTEM PULL STATION, VERIFY EXACT LOCATION IN FIELD WITH LOCAL CODE OFFICIAL PRIOR TO INSTALLATION.
22. PROVIDE COMPATIBLE REMOTE TEMPERATURE SENSORS. CONNECT TO CORRESPONDING THERMOSTATS. MOUNT 48" A.F.F. COORDINATE EXACT LOCATION WITH OWNER ON SITE.

MECHANICAL GENERAL NOTES

1. DUCTWORK SHALL BE RUN ABOVE CEILING AS HIGH AS POSSIBLE IN GENERAL LOCATIONS SHOWN, BUT SHALL CONFORM TO ALL STRUCTURAL AND FINISH CONDITIONS OF BUILDINGS. COORDINATE WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS PRIOR TO ANY INSTALLATION.
2. LOCATE EQUIPMENT AND FIXTURES APPROXIMATELY AS SHOWN CONFORMING TO ALL ARCHITECTURAL AND STRUCTURAL ITEMS. PROVIDE ALL SUPPORTS, HANGERS AND OPENINGS AS REQUIRED FOR A COMPLETE INSTALLATION. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR CLEARANCES, AND EXACT LOCATIONS OF EQUIPMENT. ALL EQUIPMENT AND FIXTURES SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND IN FULL ACCORDANCE WITH ALL APPLICABLE CODES.
3. CEILING MOUNTED AIR DEVICES SHALL BE APPROXIMATELY AS SHOWN. FOR EXACT LOCATION AND FRAME MOUNTING TYPES, REFER TO ARCHITECTURAL REFLECTED CEILING PLAN. ALL CEILING DIFFUSERS TO BE 4-WAY UNLESS NOTED OTHERWISE BY AIRFLOW ARROWS, ON FLOOR PLAN. EXTEND FLEX DUCTWORK FROM DIFFUSERS. INSTALL STRAIGHT AS POSSIBLE WITH LONG RADIUS BENDS AND CLAMPS TO BE USED AT BOTH ENDS.
4. DUCTWORK WITH TURNING VANES INSTALLED IN ALL ELBOWS OF SUPPLY AIR DUCTS, AIR EXTRACTORS AT ALL RECTANGULAR TAKE-OFFS, AND TWIST-IN TAP WITH MANUAL VOLUME DAMPER AT ALL ROUND BRANCH TAKE-OFFS TO AIR DEVICES.
5. DUCT SMOKE DETECTORS REQUIRED IN UNIT SUPPLY AIR PLENUM SHALL BE IONIZATION TYPE AND SHALL BE APPROVED AND LISTED BY UL OR FM FOR DUCT INSTALLATION. ACTIVATION OF A DUCT DETECTOR SHALL CAUSE SHUTDOWN OF RTU. CONTROL AND INTERLOCK WIRING SHALL RUN IN CONDUIT WHICH SHALL BE SIZED TO SUIT THE NUMBER, TYPE AND SIZE OF CONDUCTORS AND SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. CONTROL AND INTERLOCK WIRING SHALL BE IN SEPARATE CONDUIT FROM POWER WIRING PER NEC. ALL WIRING SHALL BE IN ACCORDANCE WITH NEC. PROVIDE ALL APPROPRIATE ACCESS PANELS.
6. PROVIDE ELECTRONIC PROGRAMMABLE THERMOSTAT WITH SUB-BASE AS NOTED ON PLAN. TRANSFORMERS AND 24 VOLT CONTROL WIRING. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING. THERMOSTATS SHALL BE MOUNTED 48" A.F.F. AND SET POINT SHALL BE AS FOLLOWS: COOLING IN DINING 74°F; ALL OTHERS 78°F; HEATING 68°F FOR ALL. VERIFY FINAL LOCATION WITH OWNER.
7. BUILDING AIR SYSTEMS SHALL BE BALANCED PER DATA INCLUDED ON THE DRAWINGS TO ACHIEVE RELATIVE AIR VOLUMES AS INDICATED ON THE DRAWINGS AND SCHEDULED HEREIN.
8. ALL DUCT SIZES INDICATED ON DRAWINGS ARE CLEAR INTERNAL DIMENSIONS.
9. WHERE SHOWN ON THE DRAWINGS, PROVIDE VOLUME DAMPERS WITH LOCKING QUADRANTS OR SPLITTERS WITH HINGE AND ROD THRU SIDE OF DUCT WITH SET SCREW. VOLUME DAMPER HANDLES SHALL BE INSTALLED ON THE BOTTOM OF THE SPIN-IN FITTING AND SHALL HAVE RING SET IN FULL OPEN POSITION.
10. KITCHEN EXHAUST HOODS: EXTEND EXHAUST AND MAKE-UP AIR DUCT AS SHOWN AND TRANSITION AS REQUIRED TO HOOD TAPS. REFER TO HOOD DRAWINGS SHEET H1 FOR EXACT SIZES AND LOCATIONS. SLOPE EXHAUST DUCTS BACK TO KITCHEN EXHAUST HOOD. PROVIDE ACCESS DOORS AS REQUIRED FOR INSPECTION AND CLEANING. ENCLOSE KITCHEN EXHAUST DUCT IN FIRE BARRIER 15A FIRE RETARDANT DUCT WRAP AS REQUIRED BY CODE. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS. HEIGHT TO FAN OUTLET: 40" ABOVE ROOF. KITCHEN HOOD SUPPLY AND EXHAUST FANS SHALL BE INTERLOCKED WITH THE FIRE SUPPRESSION SYSTEM.
11. COORDINATE LOCATIONS OF EXHAUST FAN, MAKE-UP AIR UNIT, AND RTU'S WITH EXISTING STEEL BEAMS AND JOIST. COORDINATE WITH STRUCTURAL ENGINEER.
12. ALL EXHAUST OUTLETS WILL BE A MINIMUM OF 10'-0" FROM ANY AIR INTAKE.

CONSULTANT:
CASE Engineering Inc.
796 Menic Court
St. Louis, MO 63026
T 636.349.1600
F 636.349.1730

CLIENT:
WINGSTOP
2801 NORTH CENTRAL EXPRESSWAY, SUITE 1600
DALLAS, TX 75204
TELEPHONE: (972) 686-6

PROJECT INFORMATION:

WINGSTOP
STORE NUMBER: GL#AB247
THE CROSSING
8694 ELK GROVE BOULEVARD, SUITE 3
ELK GROVE, CA 95624

SEAL:

LICENSED PROFESSIONAL ENGINEER
MATTHEW R. CASE
4/1/21
MECHANICAL
STATE OF CALIFORNIA

4/2/25
DATE

PROJECT NO.: 2024-0459
DRAWN BY: JJV
CHECKED BY: MRC

ISSUE:	DATE:
FOR PERMIT & BID	2025-02-05

REVISION:		DATE:
1	REV 1	2025-02-12
2	PLAN COMMENTS	2025-04-03

WRI-DELCO_v101

PROJECT LOCATION:
ELK GROVE, CA

SHEET NUMBER / TITLE:
M1
MECHANICAL FLOOR PLAN

National TAB

Project: Wingstop GL#AB247 (Elk Grove, CA)

System/Unit: AHU/RTU

Asset: HP-1 AREA:

Unit Data		
	Design	**Actual**
MFG	NA	TRANE
Serial Num	-	251712527L
Model Num	NA	WSK120A3S0
Configuration	-	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	37X24
Num Final Filter 1	-	3
Final Filter Size 1	-	18X24X2
Num Final Filter 2	-	3
Final Filter Size 2	-	18X8X2

Motor Data		
	Design	**Actual**
Motor MFG	-	NL
Frame	-	NL
Horsepower	-	5
Motor Rpm	-	1800
Phase	3	3
Rated Voltage	208	208
Rated Amperage	11.0	11.0
Service Factor	-	1.0

Test Data		
	Design	**Actual**
SF CFM	4000	3947
SF RPM (Initial)	-	1278
SF RPM	-	1638
RA CFM	3200	3136
OA CFM	800	811
RL Voltage	208	211/211/211
RL Amperage	11.0	7.1/7.1/7.1
OA Damper Position	-	20%
Brake Horse Power	-	3.27

Performance Data		
	Design	**Actual**
Fan Suction SP	-	-0.33"
Fan Discharge SP	-	0.41
Total ESP	-	0.74"
Fan Total SP	-	0.94"

Completed By: Zack Eismin on 07/16/2025

Unit Data - PHOTO LOG

07/16/2025

National TAB

Project:Wingstop GL#AB247 (Elk Grove, CA)

AHU/RTU

Diffuser Supply (GRD)

HP-1/

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
HP1-1	RR	S4	6	80	77	81	101.3
HP1-2	BOH	S1	10	390	300	377	96.7
HP1-3	KITCHEN	S2	10	390	166	384	98.5
HP1-4	KITCHEN	S1	10	390	135	377	96.7
HP1-5	HOOD	DUCT	8	130	83	121	93.1
HP1-6	HOOD	DUCT	8	130	83	121	93.1
HP1-7	HOOD	DUCT	8	130	83	121	93.1
HP1-8	HOOD	DUCT	8	130	83	121	93.1
HP1-9	HOOD	DUCT	8	130	83	121	93.1
HP1-10	KITCHEN	S1	10	390	366	389	99.7
HP1-11	KITCHEN	S2	10	390	397	401	102.8
HP1-12	SERVICE	S1	8	150	308	150	100.0
HP1-13	SERVICE	S3	10	390	331	371	95.1
HP1-14	LOBBY	S1	10	390	335	411	105.4
HP1-15	LOBBY	S1	10	390	319	401	102.8
Total				4000	3149	3947	98.68%

National TAB

Project: Wingstop GL#AB247 (Elk Grove, CA)

System/Unit: FAN - Supply

Asset: MAU-1 AREA:

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	ECONAIR
Model Num	EA-A1-15D	EA-A1-15D
Serial Num	-	7301506
Configuration	HORIZONTAL	HORIZONTAL
Num Filters Size 1	-	3
Filter Size 1	-	23X18

Motor Data		
	Design	**Actual**
Motor MFG	-	TECO
Frame	-	145T
Horsepower	2.00	2
Motor Rpm	1745	1745
Phase	3	3
Voltage (rated)	208	230
Amperage (rated)	-	5.64
Service Factor	-	1.15

Test Data		
	Design	**Actual**
CFM	2160	2137
SF RPM	2047	1762
Motor Frequency	-	60.6HZ
SF System SetPt	-	60.6HZ
RL Voltage	208	173/173/173
RL Amperage	6.1	4.2/4.2/4.2
Brake Horse Power	-	1.49

Completed By: Zack Eismin on 07/16/2025

Unit Data - PHOTO LOG

07/16/2025

National TAB

Project: Wingstop GL#AB247 (Elk Grove, CA)

System/Unit: FAN - Exhaust

Asset: EF-1 AREA:

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	EADU180H
Serial Num	-	7301506
Type	CRE	CRE

Motor Data		
	Design	**Actual**
Motor MFG	-	TECO
Frame	-	184T
Horsepower	2.00	2
Motor Rpm	-	1170
Phase	3	3
Voltage (rated)	208	230
Amperage (rated)	-	6.00
Service Factor	-	1.15

Test Data		
	Design	**Actual**
CFM	2700	2670
Motor Frequency	-	54.5HZ
System SetPt	-	54.5HZ
RL Voltage	208	173/173/173
RL Amperage	7.3	3.08/3.08/3.08
Suction ESP	-	-1.13"
Total ESP	1.20	1.13"
Brake Horse Power	-	1.15

Completed By: Zack Eismin on 07/16/2025

Unit Data - PHOTO LOG

07/16/2025

National TAB

Project: Wingstop GL#AB247 (Elk Grove, CA)

System/Unit: FAN - Exhaust

Asset: EF-2 AREA:

Unit Data		
	Design	**Actual**
MFG	NA	COMMERCIAL ELECTRIC
Model Num	NA	BPT14-240D-H
Serial Num	-	0325

Test Data		
	Design	**Actual**
CFM	150	146

Motor Data		
	Design	**Actual**
Motor MFG	-	NL
Horsepower	-	NL
Motor Rpm	-	NL
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	0.26

Completed By: Zack Eismin on 07/16/2025

Unit Data - PHOTO LOG

07/16/2025

National TAB

Project: Wingstop GL#AB247 (Elk Grove, CA)

System/Unit: Kitchen Hood Type I

Asset: HD-1 AREA:

Unit Data		
	Design	**Actual**
MFG	NA	ECONAIR
Model Num	NA	5430 EX-2
Job / Serial Num	-	7301506
Type	TYPE I PSP	TYPE I CANOPY
Hood length	144	144"
Hood Width	54	54"
Supply Plenum Type	-	PSP
Supply Plenum Width	14	14"
Supply Plenum Length	156	156"

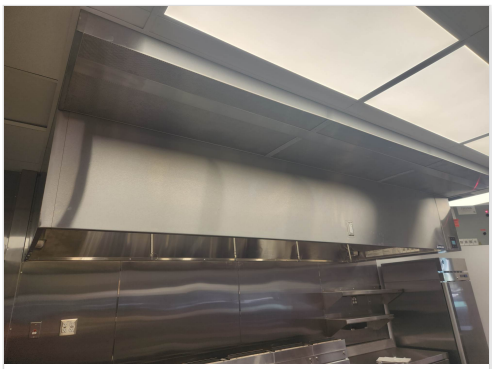
Test Data Exhaust		
	Design	**Actual**
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	20X16	20X16
Filter Qty 1	9	9
Filter AK factor size 1	-	2.08
Filter Total AK Area	-	18.72
Filter1 FPM	-	152
Filter2 FPM	-	146
Filter3 FPM	-	148
Filter4 FPM	-	155
Filter5 FPM	-	153
Filter6 FPM	-	138
Filter7 FPM	-	133
Filter8 FPM	-	134
Filter9 FPM	-	125
Filter Ave FPM(corr)	-	142.6
CFM	2700	2670

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	FRYER
Item 3	FRYER
Item 4	FRYER

Test Data Supply		
	Design	**Actual**
Total Area	-	15.17
Kv factor (Vel)	-	0.89
Num of Readings	-	12
Reading1 FPM	-	186
Reading2 FPM	-	160
Reading3 FPM	-	185
Reading4 FPM	-	173
Reading5 FPM	-	164
Reading6 FPM	-	104
Reading7 FPM	-	99
Reading8 FPM	-	166
Reading9 FPM	-	169
Reading10 FPM	-	160
Reading11 FPM	-	163
Reading12 FPM	-	170
Ave FPM(corr)	-	158.25
CFM	2160	2137

Completed By: Zack Eismin on 07/16/2025

Unit Data - PHOTO LOG



07/16/2025