Report By:

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

Report: TAB REPORT

Function: Test, Adjust, & Balance

Date: 12/03/2024

Completed By:

PROJECT

IBP 6111 - Spec Suite 2450 (Plano, TX)

6111 WEST PLANO PARKWAY

PLANO, TX 75093

Client

Billingsley

National TAB

Project: IBP 6111 - Spec Suite 2450 (Plano, TX)

Table Of Contents

CERTIFICATION

PROJECT: IBP 6111 - Spec Suite 2450 (Plano, TX)

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.

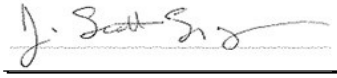
The air distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM:	National TAB-Southeast
REGISTRATION NO:	3755
CERTIFIED BY:	J. Scott Springer 23312
DATE:	11/26/2024

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:	3086
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:	12/31/2024

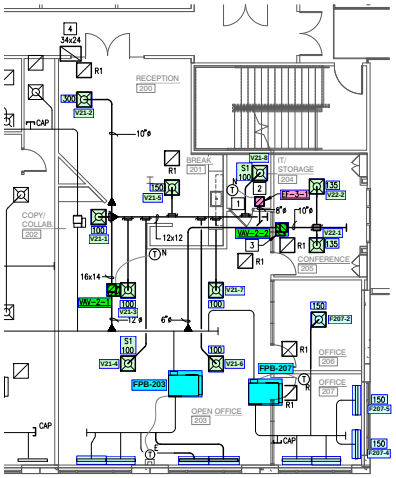
National TAB

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	Dwyer 490W-6 - S/N 01L6NK	6/3/2024	6/3/2025
	DIFFERENTIAL PRESSURE MEASUREMENT	0 psi - 80 psi	±2% of reading +/- 1 psi	Dwyer 490W-6 - S/N 01L6NK	6/3/2024	6/3/2025
DALT	DUCT LEAKAGE	-10"- +10" wc	±1% of reading +/- 0.004" wc	Kanomax DALT 6900 S/N: 080439	3/2024	3/1/2025

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



1 **FLOOR PLAN - MECHANICAL**

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND CONSTRUCTION. NO ALLOWANCES WILL BE MADE FOR LACK OF KNOWLEDGE OF EXISTING CONDITIONS. REPORT ANY DEFICIENCIES TO AOS ENGINEERING.

B. MOUNT ALL NEW AND RELOCATED THERMOSTATS A MINIMUM OF 48" ABOVE FINISHED FLOOR. THERMOSTAT LOCATIONS ARE DIAGRAMMATIC. FIELD VERIFY EXACT PLACEMENT OF THERMOSTATS WITH TENANT AND ARCHITECT PRIOR TO CONSTRUCTION.

C. MAINTAIN 10'-0" CLEARANCES FROM ALL EXHAUST TO OUTSIDE AIR INTAKE OPENINGS PER LOCAL CODES.

D. FOR ALL HVAC EQUIPMENT, MAINTAIN ALL MANUFACTURER REQUIRED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. PROVIDE SMOKE/FIRE DAMPERS FOR ALL NEW PENETRATIONS IN FIRE RATED WALL. FIELD VERIFY THAT EXISTING PENETRATIONS HAVE APPROPRIATE FIRE/SMOKE DAMPERS.

F. ANY THERMOSTAT MOUNTED ON EXTERIOR WALLS MUST BE INSULATED BEHIND THERMOSTAT TO PREVENT FALSE READINGS.

G. EXISTING THERMOSTATS SHALL BE COVERED AND SEALED DURING CONSTRUCTION. ALL EXISTING THERMOSTATS BEING REUSED SHALL BE SERVICED AND CALIBRATED.

H. CONSTRUCTION FILTERS SHALL REMAIN OR BE PLACED ON ALL FAN POWERED BOXES DURING CONSTRUCTION. FILTERS SHALL BE REMOVED AFTER CONSTRUCTION AND VERIFIED BY BUILDING MANAGEMENT BEFORE CEILING IS CLOSED.

I. ALL HVAC EQUIPMENT AND ASSOCIATED ELECTRICAL SHALL BE RELOCATED IF NECESSARY TO MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCE FROM ALL DEMISING WALLS, WALLS TO DECK, GYPSUM CEILINGS, AND/OR ANY BUILD OUT MATERIALS THAT MAY OBSTRUCT THE SERVICING OF THE EQUIPMENT.

J. ALL NEW EXPOSED DUCTWORK TO BE INTERNALLY LINED, SPIRAL WITH GALVANIZED FINISH UNLESS NOTED OTHERWISE. COORDINATE COLOR (IF REQUIRED) WITH ARCHITECT BEFORE BID. PROVIDE PAINT GRIP COATING AS REQUIRED.

KEY NOTES:

1. PROVIDE 1" UNDERCUT FOR RETURN AIR.
2. ROUTE 6" EXHAUST DUCT ABOVE CEILING AS SHOWN ON PLANS AND TERMINATE WITH OPEN END. PROVIDE 1/4" X 1/4" STEEL HARDWARE MESH.
3. PROVIDE AND INSTALL A NEW VARIABLE AIR VOLUME BOX PER THE VARIABLE AIR VOLUME BOX SCHEDULE SHOWN ON THIS SHEET. MAINTAIN ALL MANUFACTURER REQUIRED CLEARANCES FOR MAINTENANCE AND ACCESS.
4. PROVIDE NEW RETURN AIR TRANSFER. SIZE IS AS NOTED.

CONTRACTOR SHALL COORDINATE MEP DRAWINGS WITH ALL OTHER DISCIPLINES

AOS ENGINEERING
Texas Registered Engineering Firm F-9218
5020 Tennyson Parkway - Plano, TX 75024
Dallas / Fort Worth 214.432.3030
Houston 832.532.2007

AOS JOB #: 1408-013-23

PROJECT COORDINATOR/ DESIGN CONSULTANT

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2641 IRVING BLVD.
DALLAS, TEXAS 75207
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ARCHITECT/ ENGINEER

SEAL

BRIAN D. GAST 90137 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS
04/14/25

PROJECT NUMBER:	521-010
DRAWN BY:	DM
CHECKED BY:	MW
R.S.F.:	2,384

INTERNATIONAL BUSINESS PARK
SPEC SUITE 2450

6111 WEST PLANO PARKWAY
SUITE 2450
PLANO, TX 75093

NO.	REVISIONS:	DATE:
1		
2		
3		
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5		
6		
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9		

LANDLORD REVIEW ISSUE DATE:	08/23/2023
BID ISSUE DATE:	09/14/2023
CONSTRUCTION ISSUE DATE:	09/14/2023

DRAWING TITLE:
MECHANICAL FLOOR PLAN

DRAWING NUMBER:
M2.1