



TEST AND BALANCE ANALYSIS REPORT

**Odyssey RE – Suite 240 @
Gainey Ranch Corporate Center
8777 N. Gainey Center Drive
Scottsdale, Arizona 85258**

DATE: 07-22-2024

ARCHITECT: N/A

MECHANICAL ENGINEER: Mechanical Designs Inc.

WORK CONTRACTED BY: A-Rated

**SUBMITTED AND CERTIFIED BY:
Commercial Systems Analysis, Inc.
2050 W. Whispering Wind Dr., Suite 152
Phoenix, Arizona 85085
(623) 780-0222**

ARIZONA LIC. #099027

NEBB Reg. No. 3129

NEBB Certified Professional - Kurt Michael Wahl



**CERTIFIED TEST, ADJUST, AND
BALANCE REPORT**

DATE: 07-22-2024

PROJECT:

NAME: Odyssey RE – Suite 240 @ Gainey Ranch Corporate Center
ADDRESS: 8777 N. Gainey Center Drive
Scottsdale, Arizona 85258

ARCHITECT:

NAME: N/A

DESIGN ENGINEER:

NAME: Mechanical Designs, Inc.
ADDRESS: 7227 N. 16th Street, Suite 240
Phoenix, Arizona 85020

PHONE: (602) 943-6608

HVAC CONTRACTOR:

NAME: A-Rated
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Phoenix, Arizona 85027

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NEBB TAB FIRM:

NAME: Commercial Systems Analysis, Inc.
ADDRESS: 2050 W. Whispering Wind Drive, Suite 152
Phoenix, Arizona 85085

PHONE: (623) 780-0222

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TAB CERTIFICATION NUMBER: 3129

National Environmental Balancing Bureau



Certification

**Project: Odyssey RE – Suite 240 @ Gainey Ranch Corporate Center
8777 N. Gainey Center Drive
Scottsdale, Arizona 85258**

The data presented in this report is an exact record of system performance and was obtained in accordance with NEBB standard procedures. Any variances from design quantities that exceed NEBB tolerances are noted throughout this report.

The air distribution systems have been tested & balancing and final adjustments have been made in accordance with NEBB "Procedural Standards for Testing, Adjusting and Balancing of Environmental Systems" and the project specifications.

NEBB TAB FIRM Commercial Systems Analysis, Inc.

Reg. No. 3129 Certified by Kurt M. Wahl Date: 07-22-2024

The hydronic distribution systems have been tested & balanced and final adjustments have been made in accordance with NEBB "Procedural Standards for Testing, Adjusting and Balancing of Environmental Systems".

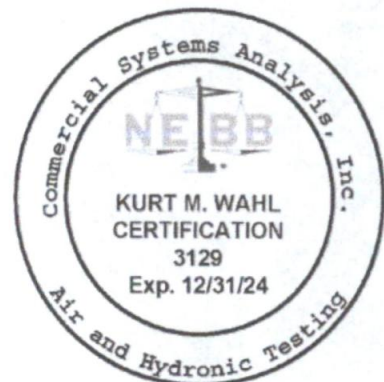
NEBB TAB FIRM Commercial Systems Analysis, Inc.

Reg. No. 3129 Certified by Kurt M Wahl Date: 07-22-2024

Submitted & Certified by:

NEBB TAB Firm Commercial Systems Analysis, Inc.
TAB Professional Kurt M. Wahl
Reg. No. 3129 Signature _____

Kurt M. Wahl





**COMMERCIAL
SYSTEMS
ANALYSIS**

Performance Guarantee

For Testing, Adjusting and Balancing
Of HVAC Systems For:

**Odyssey RE – Suite 240 @ Gainey Ranch Corporate Center
8777 N. Gainey Center Drive
Scottsdale, Arizona 85258**

By

Commercial Systems Analysis, Inc.

Commercial Systems Analysis, Inc. (CSA) unequivocally guarantees the Testing, Adjusting and Balancing of the HVAC systems documented in our TAB report, and certifies that the data stated is true, and that we have attempted to optimize to performance of the equipment within the limits of the design and installation, and to meet the design specification as closely as reasonably possible. If, after receipt of this report, there are concerns regarding the validity of the Test and Balance, at the owner's, architect's and/or consulting engineer's request, CSA will conduct performance testing which may be observed by the owner, architect, engineer and/or authorized representatives. If the result of the testing reveals CSA's Testing and Balancing to be deficient, CSA will conduct all necessary retesting and rebalancing to correct the deficiency at no cost to the owner. In our effort to continue to surpass industry standards, we guarantee the Testing and Balancing for a period of TWO YEARS from the date of the report.*

**CSA cannot be held responsible for problems occurring due to lack of, or improper maintenance including dirty coils and/or filters, improper static pressure control (where applicable), defective and/or uncalibrated thermostats or sensors, equipment or control failure, design deficiencies, load requirement changes or any alterations in the air distribution system and/or design thereof.*



PROJECT NAME: **Odyssey RE - Suite 240 @ Gainey Ranch Corporate Center**
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CITY, STATE: **Scottsdale, Arizona 85258**

AIR SIDE
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WATER SOURCE HEAT PUMP TEST

PROJECT: Odyssey RE - Suite 240 @ Gainey Ranch Corporate Center
SYSTEMS: WSHP-2-47 / WSHP-2-48 **DATE:** 07-22-24
PLAN #: MSK-1 **TECHNICIAN:** JJ - JT

UNIT #	WSHP-2-47						WSHP-2-48					
MANUFACTURER	Climate Master						Climate Master					
MODEL # / SERIAL #	TCH036 / S13811530						TCH036 / S13811533					
	DESIGN DATA			FINAL DATA			DESIGN DATA			FINAL DATA		
TOTAL CFM	1200			1252			1050			1264 **		
RETURN CFM / OSA CFM	1120	80		1172	80 *		981	69		1195	69 *	
FAN STATICS: EXT. / TOTAL				.16 "	.69 "					.21 "	.70 "	
FAN STATICS: IN / OUT				- .55	+ .14					- .53	+ .17	
COOLING COIL: IN / OUT / DELTA "P"				- .21	- .55	.34				- .23	- .53	.30
FILTER: IN / OUT / DELTA "P"	MERV 8			- .02	- .21	.19	MERV 8			- .04	- .23	.19
FILTERS: QUANTITY / SIZE	1 ea. / 20" x 30" x 2"						1 ea. / 20" x 30" x 2"					
INDOOR MOTOR: MAKE / FRAME	Fasco / -----						Fasco / -----					
INDOOR MOTOR: HP / RPM	1/2	1075		1/2	1075		1/2	1075		1/2	1075	
INDOOR MOTOR: VOLTS/PH/HZ	460	1	60	480	1	60	460	1	60	480	1	60
INDOOR MOTOR: AMPS / S.F.	1.24	SP: 1.0		.91			1.24	SP: 1.0		.97		
INDOOR MOTOR: TYPE	Direct Drive						Direct Drive					
MOTOR: SPEEDS / SETTING	3-Speed			Low Speed			3-Speed			Low Speed		
COMPRESSOR: VOLTS/PH/HZ	460	3	60	483	3	60	460	3	60	480	3	60
COMPRESSOR #1: AMPS	5.80			4.77	4.85	4.78	5.80			4.73	4.78	4.80
TEMPERATURE TEST												
CONDENSER WATER IN / OUT / DELTA "T"				86.3	96.5	10.2				86.7	97.0	10.3
COOLING TEMPERATURE: AIR IN / OUT / DELTA "T"				76.8	55.5	21.3				77.1	55.8	21.3
COOLING TEMPERATURE: AIR IN / OUT / DELTA "T"				62.0	51.6	10.4				62.1	51.9	10.2

NOTES:
WSHP-2-47 OSA: 8"O = .35 sq. ft. x 228 FPM = 80 CFM

WSHP-2-48 OSA: 8"O = .35 sq. ft. x 197 FPM = 69 CFM

* OSA to remain no CFM's shown on drawings.

** 3-Ton WSHP at nominal speed; CSA balanced supply diffusers proportionatly high.

AIR DISTRIBUTION TEST

PROJECT: Odyssey RE - Suite 240 @ Gainey Ranch Corporate Center

SYSTEMS: WSHP-2-47 / WSHP-2-48 **DATE:** 07-22-24

PLAN #: MKS-1 **TECHNICIAN:** JJ - JT

ROOM	TERMINAL				"K"	DESIGN		TEST-FPM /CFM		FINAL		% To DESIGN	NOTES
	NO.	SIZE	TYPE	DIA.		FPM	CFM	TEST 1	TEST 2	FPM	CFM		
	1	2' Lin.	LD-1	8"			150	163			157	105%	
	2	2' Lin.	LD-1	8"			150	135			153	102%	
	3	2' Lin.	LD-1	8"			150	301			151	101%	
	4	2' Lin.	LD-1	8"			150	320			160	107%	
	5	2' Lin.	LD-1	10"			300	242			318	106%	
	6	2' Lin.	LD-1	10"			300	355			313	104%	
WSHP-2-47						Total	1200	1516			1252	104%	

ROOM	TERMINAL				"K"	DESIGN		TEST-FPM /CFM		FINAL		% To DESIGN	NOTES
	NO.	SIZE	TYPE	DIA.		FPM	CFM	TEST 1	TEST 2	FPM	CFM		
	1	2' Lin.	LD-1	8"			150	125			181	121%	*
	2	2' Lin.	LD-1	8"			150	166			183	122%	*
	3	2' Lin.	LD-1	8"			150	240			180	120%	*
	4	2' Lin.	LD-1	8"			100	149			119	119%	*
	5	2' Lin.	LD-1	8"			100	180			121	121%	*
	6	24x24	CD-1	8"			100	30			118	118%	*
	7	24x24	CD-1	8"			100	47			120	120%	*
	8	24x24	CD-1	8"			200	30			242	121%	*
WSHP-2-48						Total	1050	967			1264	120%	*

NOTES:

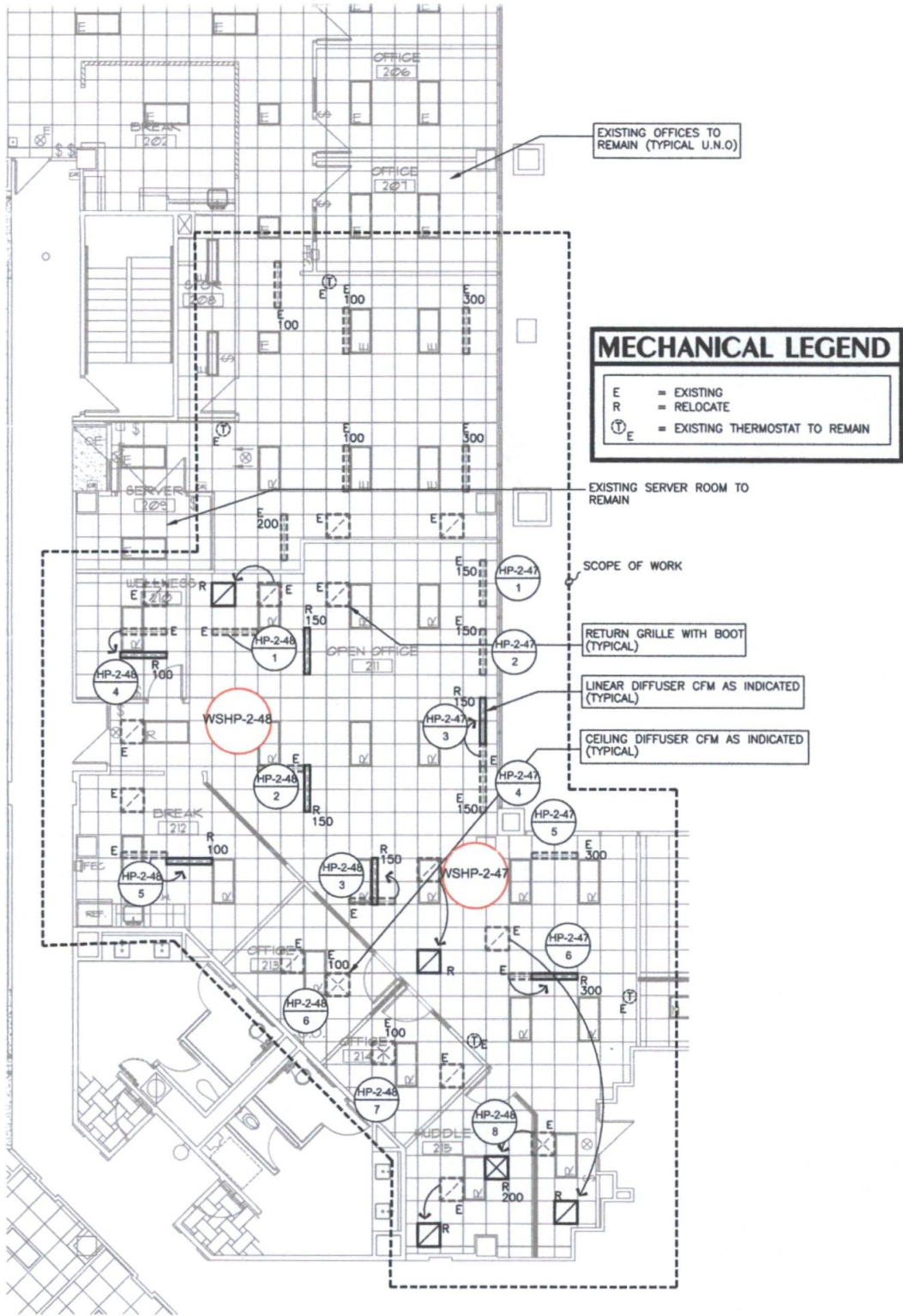
- * 3-Ton WSHP at nominal speed; CSA balanced supply diffusers proportionatly high.

AIR CONDITIONING UNIT OSA TEST

PROJECT: Odyssey RE - Suite 240 @ Gainey Ranch Corporate Center
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PLAN #: MSK-1 **TECHNICIAN:** JJ - JT

MAKE / MODEL # SERIAL #	UNIT		"K"	DESIGN		PRELIMINARY		FINAL		NOTES
	NO.	SIZE		FPM	CFM	FPM	CFM	FPM	CFM	
Climate Master / TCH036 S13811530	WSHP 2-47	8"O	.35	228	80	228	80	228	80	*
Climate Master / TCH036 S13811533	WSHP 2-48	8"O	.35	197	69	197	69	197	69	*
OSA Total					149		149		149	

NOTES:
 * OSA to remain; No CFM shown on drawings.



MECHANICAL FLOOR PLAN

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



SHEET
MSK-1
OF 1

GAINEY RANCH CORPORATE CENTER PHASE I
8777 N Gainey Center Drive
Scottsdale, Arizona
ODYSSEY RE

MDI
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39554
SCOTT A. CARLSON
Date Signed: 4/28/24
ARIZONA, U.S.A.

EXPIRES: 9/30/24