



CERTIFIED TEST, ADJUST, AND BALANCE REPORT

DATE

11/3/2023

PROJECT

**LITTLE ROCK STATEHOUSE
CONVENTION CENTER – EAST
LOBBY ATRIUM RENOVATIONS**

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Certification Number: 2847

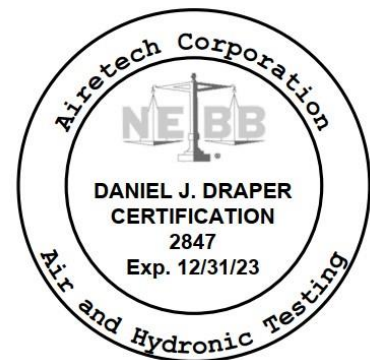


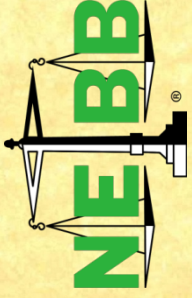
PROJECT: LR STATEHOUSE CONVENTION CENTER

THE DATA PRESENTED IN THIS REPORT IS A RECORD OF SYSTEM MEASUREMENTS & FINAL ADJUSTMENTS THAT HAVE BEEN OBTAINED IN ACCORDANCE WITH THE CURRENT ADDITION OF THE NEBB PROCEDURAL STANDARD FOR TESTING, ADJUSTING & BALANCING OF ENVIRONMENTAL SYSTEMS. THE MEASUREMENTS SHOWN, & THE INFORMATION GIVEN, IN THIS REPORT ARE CERTIFIED TO BE ACCURATE & COMPLETE, AT THE TIME & DATE INFORMATION WAS GATHERED. ANY VARIANCES FROM DESIGN QUANTITIES, WHICH EXCEED NEBB TOLERANCES, ARE NOTED IN THE TAB REPORT PROJECT SUMMARY.

SUBMITTED & CERTIFIED BY:
NEBB TAB FIRM: AIRETECH CORPORATION
REGISTRATION NUMBER: 2847
CERTIFIED BY (TAB SUPERVISOR): DANIEL J DRAPER
CERTIFICATION EXPIRATION DATE: 12/31/2023
SIGNATURE:

A handwritten signature in black ink that reads 'Daniel J. Draper'.





Firm Certification

AIRETECH CORPORATION

HAS MET ALL REQUIREMENTS FOR NEBB CERTIFIED
STATUS IN THE FOLLOWING DISCIPLINE

Testing, Adjusting and Balancing of Environmental Systems

2847

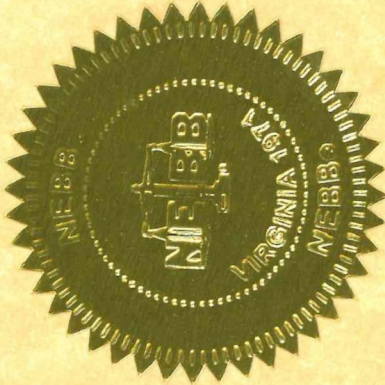
NEBB Certification Number

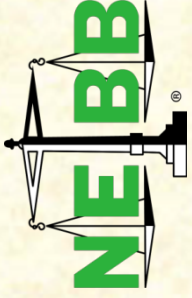
December 31, 2023

Expiration Date

NEBB President

NEBB President-Elect





Certification

DANIEL J. DRAPER

**HAS MET ALL REQUIREMENTS FOR NEBB CERTIFIED PROFESSIONAL
STATUS IN THE FOLLOWING DISCIPLINE**

Testing, Adjusting and Balancing of Environmental Systems

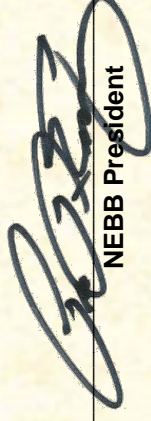
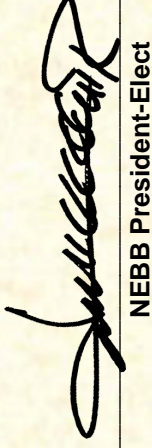
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CP-23442

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December 31, 2023

Expiration Date


NEBB President
NEBB President-Elect



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Instrument Calibration List

	Function	Range	Accuracy	Make	Model #	Serial #	Calibration Date
AIR	Air Pressure Measurement	0 to 10.00 in.w.g.	± 2% of reading	Evergreen	S-PVF-1	2200600A	12/14/2022
	Air Velocity Measurement	100 to 3500 fpm	± 5% of reading	Evergreen	S-PVF-1	2200600A	12/14/2022
	Direct Reading Hood	25 to 2000 cfm	± 5% of reading, ± 7 cfm	Evergreen	S-PVF-1	2200600A	12/14/2022
TEMPERATURE	Air Meter with Probe	0 to 200 °F	± 0.5% of reading	Cooper	SRH77A-E	10709022	10/26/2022
	Immersion Meter with probe	0 to 200 °F	± 0.5% of reading	Cooper	SRH77A-E	10709022	10/26/2022
HUMIDITY	Humidity Measurement	10 to 90% RH	± 3% RH	Evergreen	S-H-3-5	2000197	12/21/2022
ELECTRICAL	Volts AC	0 to 600 VAC	± 2% of reading	Fluke	323	34730682WS	10/27/2022
	Amperes	0.1 to 100 Amps	± 2% of reading	Fluke	323	34730682WS	10/27/2022
ROTATION	Rotation Measurement	60 to 5000rpm	± 2% of reading	Extech	461995	Q083294	10/26/2022
HYDRONIC	Hydronic Pressure Measurement	0.4 to 200 PSI	± 2% of reading	Dwyer	490W-6	01L6RK	3/6/2023
	Hydronic Differential Pressure	0.4 to 75 PSI	± 2% of reading	Dwyer	490W-6	01L6RK	3/6/2023

(N.E.B.B. # 2847)



ABBREVIATIONS

<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>
A	AMPS	HP	HEAT PUMP
AHU	AIR HANDLING UNIT	HW	HEATING WATER
BCU	BLOWER COIL UNIT	KEF	KITCHEN EXHAUST FAN
BTU	BRITISH THERMAL UNIT	LAT	LEAVING AIR TEMPERATURE
CD	CEILING DIFFUSER	LWT	LEAVING WATER TEMPERATURE
CFM	CUBIC FEET PER MINUTE	M/N	MODEL NUMBER
CH	CHILLER	MAT	MIXED AIR TEMPERATURE
CHW	CHILLED WATER	MAU	MAKE UP AIR UNIT
CW	CONDENSER WATER	NA	NOT APPLICABLE
COMP	COMPRESSOR	NL	NOT LISTED
COND	CONDENSER	NLA	NO LOAD AMPS
CRAC	COMPUTER ROOM AIR CONDITIONING	OAT	OUTSIDE AIR TEMPERATURE
CW	CHILL WATER	OAU	OUTSIDE AIR UNIT
DALT	DUCT AIR LEAKAGE TEST	OED	OPEN ENDED DUCT
DB	DRY BULB	PH	PRE-HEAT
DP	DIFFERENTIAL PRESSURE	RG	RETURN GRILLE
DP	DISCHARGE PRESSURE	RH	RE-HEAT
EAT	ENTERING AIR TEMPERATURE	RLA	RUN LOAD AMPS
EF	EXHAUST FAN	RTU	ROOF TOP UNIT
EG	EXHAUST GRILLE	S/N	SERIAL NUMBER
ERU	ENERGY RECOVERY UNIT	SF	SUPPLY FAN
ERV	ENERGY RECOVERY VENTILATOR	SG	SIDEWALL GRILLE
ESP	EXTERNAL STATIC PRESSURE	SP	SUCTION PRESSURE
EVAP	EVAPORATOR	TSP	TOTAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE	V	VOLTS
FCU	FAN COIL UNIT	VAV	VARIABLE AIR VOLUME
FP	FAN POWERED	VRF	VARIABLE REFRIGERANT
FPM	FEET PER MINUTE	WB	WET BULB
GPM	GALLONS PER MINUTE		



Table Of Contents

PROJECT: LRSHCC East Lobby Atrium Reno (3-Day Op Test)
LOCATION: LITTLE ROCK, AR
PROJECT #: 72697

DATE: 11/3/2023
CONTACT: Elizabeth Amador
AUTHOR:

Table Of Contents

1 Report Summary.pdf.....	1
2 Fan Coil.....	2
2.1 FCU-01.....	2
3 3 DAY OPERATING TEST.pdf.....	3
4 TAB Drawings.pdf.....	4



REPORT SUMMARY

Test and Balance consisted of 1 floor mounted fan coil unit. Unit was tested at high speed per submittal. FCU was tested in both cooling/heating modes and all entering/leaving air temperatures were measured and recorded. Hot and chilled water flows could not be measured due to mechanical assembly. Entering and leaving water temperatures were measured and recorded for reference. All unit and motor operating data were measured and recorded for reference. A 3-Day operating test performed.



Fan Coil

PROJECT: LRSHCC East Lobby Atrium Reno (3-Day Op Test)
LOCATION: LITTLE ROCK, AR
PROJECT #: 72697

DATE: 11/3/2023
CONTACT: Elizabeth Amador
AUTHOR:

SYSTEM/UNIT: FCU-01

Tested By: David DeMarco
 Date: 10/5/2023

Unit Data	
Unit Manufacturer	IEC
Unit Model Number	LXW0600553439
Unit Serial Number	23U00021040
Filter Type	Pleated
MERV Rating	8
Filter Qty - S1	1
Filter Size - S1	7x48.75x1

Motor Data	
Motor HP	1/12 HP
Motor Rated Volts	115 Volts
Motor Phase	1
Motor Hertz	60 Hz
Motor FL Amps	1.5 Amps
Motor Type	Direct Drive
Direct Drive Speed	High

Test Data	
Cool Ent Air DB Temp Design	80.0 Deg F
Cool Ent Air WB Temp Design	67.0 Deg F
Cool Leav Air DB Temp Design	56.7 Deg F
Cool Leav Air WB Temp Design	55.2 Deg F
Cool Ent Air DB Temp Actual	68.0 Deg F
Cool Ent Air WB Temp Actual	58.0 Deg F
Cool Leav Air DB Temp Actual	46.0 Deg F
Cool Leav Air WB Temp Actual	45.0 Deg F
Heat Ent Air Temp Design	70.0 Deg F
Heat Leav Air Temp Design	113.9 Deg F
Heat Ent Air Temp Actual	73.0 Deg F
Heat Leav Air Temp Actual	88.0 Deg F
Heating Air Delta T	15.0 Deg F

Air Test Data	
Design Airflow	600 CFM
Actual Airflow	600 CFM
Design OSA	0 CFM
Actual OSA	0 CFM
Design Rtn Airflow	600 CFM
Actual Rtn Airflow	600 CFM

Water Test Data	
CW Design GPM	4.5 GPM
HW Design GPM	2.0 GPM
CW Coil Des DP	12.2 FT
HW Coil Des DP	5 FT
CW EWT	43 Deg F
CW LWT	47 Deg F
HW EWT	100 Deg F
HW LWT	95 Deg F

Electrical Test Data	
Motor Volts T1-T2	121 Volts
Motor Amps T1	1.31 Amps

Log:	Unit	Date	Author	Notes
	FCU-01	10/5/2023	David DeMarco	Test ports are inaccessible due to mechanical assembly. Entering and leaving water temperatures were measured for reference. Hot water coil has a 2.0 GPM auto flow valve installed. Chilled water coil has a 4.5 GPM auto flow valve installed. There are 2 supply motors installed.
	FCU-01	10/5/2023	David DeMarco	

3 DAY OPERATING TEST

Date Time		10/27/23 8:07	10/27/23 10:07	10/27/23 12:07	10/27/23 14:07	10/27/23 16:07	10/28/23 8:07	10/28/23 10:07	10/28/23 12:07	10/28/23 14:07	10/28/23 16:07	10/29/23 8:07	10/29/23 10:07	10/29/23 12:07	10/29/23 14:07	10/29/23 16:07
Supply Air	Temp (F)	72.3	73.0	72.3	67.2	69.5	72.5	72.5	70.9	70.5	69.3	67.4	67.0	67.6	67.4	77.3
	Hum (%RH)	68.7	66.2	73.4	91.8	90.5	65.9	65.3	62.3	66.3	71.9	68.5	68.4	66.0	65.2	43.7
	Dew Point (F)	61.5	61.1	63.3	64.7	66.6	60.4	60.2	57.3	58.7	59.8	56.6	56.3	55.8	55.3	53.5
Return Air	Temp (F)	72.2	72.6	72.5	69.8	71.2	72.1	72.1	70.2	69.7	68.6	67.4	67.7	68.2	67.3	68.5
	Hum (%RH)	70.3	67.5	73.5	80.1	86.6	67.0	67.1	63.6	66.8	75.9	69.6	68.1	65.8	66.3	58.8
	Dew Point (F)	62.0	61.2	63.5	63.4	67.0	60.5	60.6	57.2	58.1	60.7	57.1	56.8	56.3	55.7	53.5
Space	Temp (F)	72.2	72.6	72.6	73.1	72.8	72.0	71.9	70.7	69.4	68.9	66.0	65.9	66.3	66.1	66.4
	Hum (%RH)	69.8	67.5	72.7	73.9	80.5	67.8	67.9	63.5	66.0	73.9	73.1	72.3	70.2	69.2	64.1
	Dew Point (F)	61.8	61.2	63.3	64.3	66.5	60.8	60.7	57.7	57.6	60.2	57.1	56.7	56.3	55.8	53.9

HVAC GENERAL NOTES

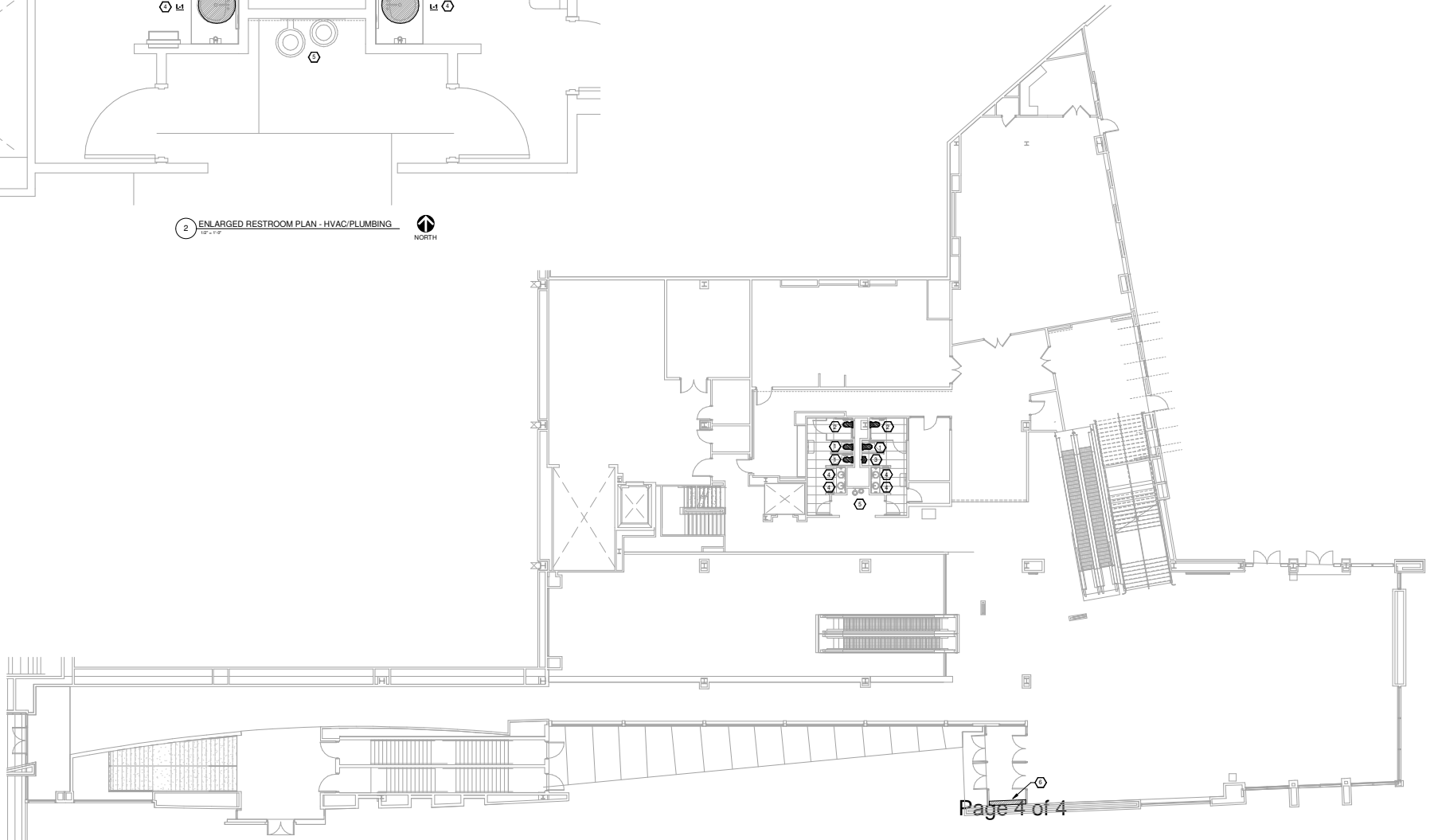
1. ALL LIGHTER SOLID LINES REPRESENT PIPING, DUCTWORK, EQUIPMENT, ETC. TO REMAIN.
2. ALL DARKER SOLID LINES REPRESENT NEW PIPING, DUCTWORK, EQUIPMENT, ETC.
3. FIELD VERIFY EXACT SIZE AND LOCATION OF ALL EXISTING ITEMS SHOWN ON THIS PLAN THAT ARE TO BE CONNECTED TO.

HVAC KEYED NOTES

- ① NEW WATER CLOSET WC-1 INSTALLED IN EXISTING LOCATION UTILIZING EXISTING CARRIER. ADJUST EXISTING PIPING AS REQUIRED FOR NEW CONNECTION.
- ② NEW WATER CLOSET WC-2 INSTALLED IN EXISTING LOCATION UTILIZING EXISTING CARRIER. ADJUST EXISTING PIPING AS REQUIRED FOR NEW CONNECTION.
- ③ NEW URINAL UR-1 INSTALLED IN EXISTING LOCATION UTILIZING EXISTING CARRIER. ADJUST EXISTING PIPING AS REQUIRED FOR NEW CONNECTION.
- ④ NEW LAVATORY L-1 INSTALLED IN EXISTING LOCATION. ADJUST EXISTING PIPING AS REQUIRED FOR NEW CONNECTION.
- ⑤ EXISTING ELECTRIC WATER COOLER TO REMAIN.
- ⑥ NEW FAN COIL UNIT IN EXISTING LOCATION. RECONNECT EXISTING PIPING, CONTROLS ETC.



2 ENLARGED RESTROOM PLAN - HVAC/PLUMBING
1/8" = 1'-0" NORTH



1 GROUND LEVEL FLOOR PLAN - HVAC/PLUMBING
1/8" = 1'-0" NORTH