

**Report By:**

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



**Report: TAB REPORT**  
**Function: Test, Adjust, & Balance**  
**Date: 07/15/2024**

# PROJECT

## Sharonville Convention Ctr (Cincinnati, OH)

11355 Chester Rd

Cincinnati, OH 45246

### Client

Driekast

11290 Sebring Dr

Cincinnati, OH 45240

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

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## CERTIFICATION



**PROJECT:** Sharonville Convention Ctr (Cincinnati, OH)

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.

|                         |                 |
|-------------------------|-----------------|
| <b>NEBB TAB FIRM:</b>   | National TAB    |
| <b>REGISTRATION NO:</b> | 3629            |
| <b>CERTIFIED BY:</b>    | Joe Hertenstein |
| <b>DATE:</b>            | 7/15/2024       |

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

|                         |                 |
|-------------------------|-----------------|
| <b>NEBB TAB FIRM:</b>   | National TAB    |
| <b>REGISTRATION NO:</b> | 3629            |
| <b>CERTIFIED BY:</b>    | Joe Hertenstein |
| <b>DATE:</b>            | 7/15/2024       |

### Submitted and Certified by:

|                           |                                                                                     |
|---------------------------|-------------------------------------------------------------------------------------|
| <b>NEBB TAB FIRM:</b>     | National TAB                                                                        |
| <b>TAB PROFESSIONAL:</b>  | Joe Hertenstein                                                                     |
| <b>SIGNATURE:</b>         |  |
| <b>REGISTRATION NO:</b>   | 3629                                                                                |
| <b>CERTIFICATION EXP:</b> | 12/31/2024                                                                          |





# National TAB

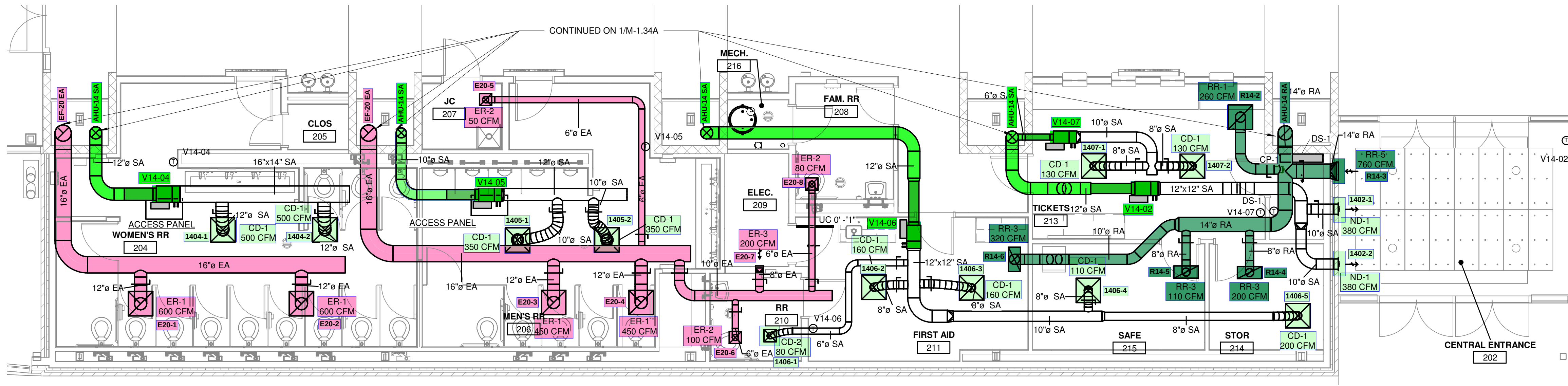
## Testing, Adjusting, and Balancing Equipment



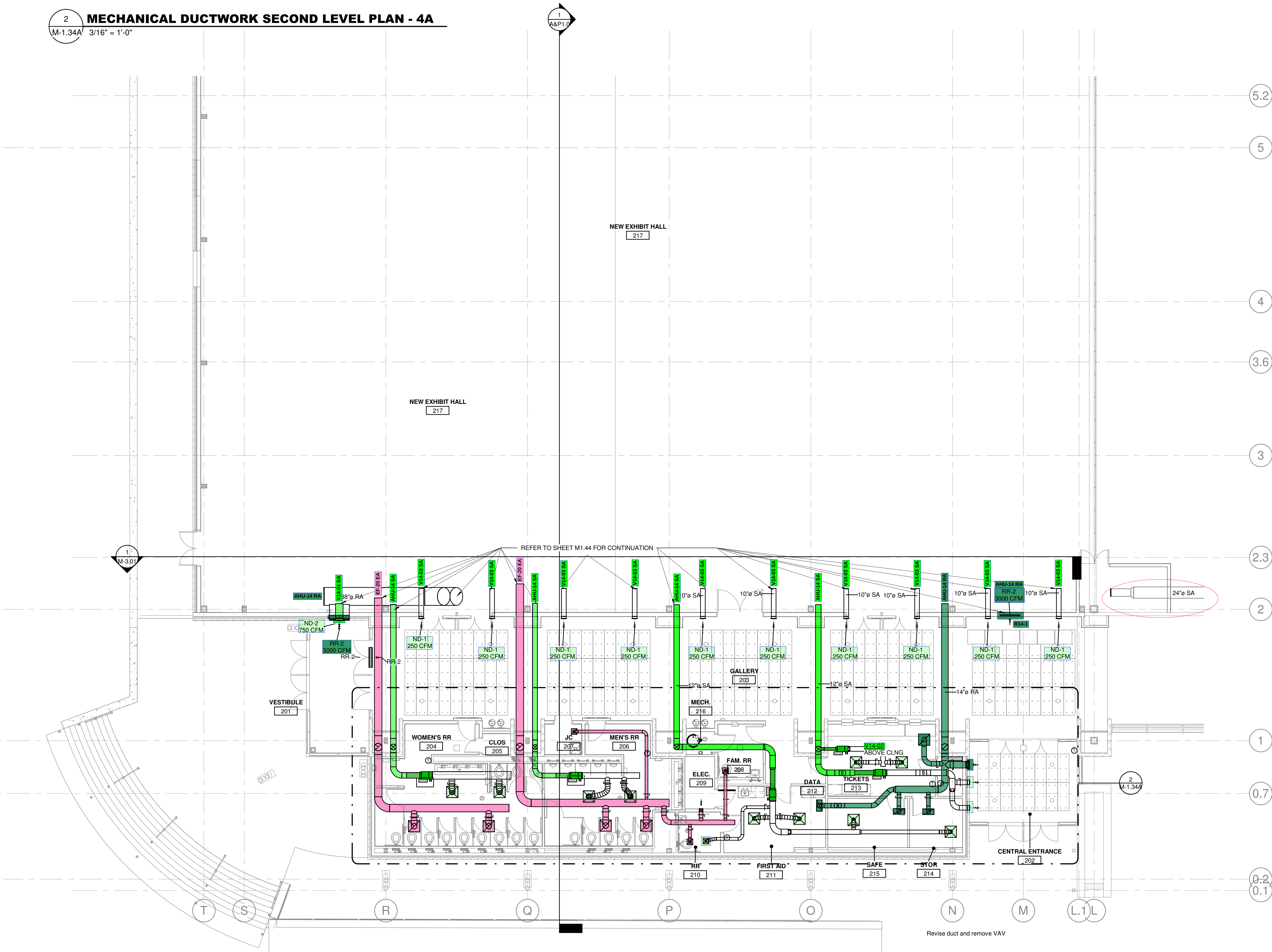
| Function    |                                   | Range                     | Minimum Accuracy             | Instrument Information               | Calibration Date | Date Due   |
|-------------|-----------------------------------|---------------------------|------------------------------|--------------------------------------|------------------|------------|
| AIR         | AIR PRESSURE                      | 0 in wg to 10 in wg       | 2% +/- 0.001 in wg           | Shortridge ADM-860C S/N M19547       | 10/17/2023       | 10/16/2024 |
|             | AIR VELOCITY INSTRUMENT           | 50 fpm to 3900 fpm        | +/- 5 % +/- 7 fpm            | Shortridge ADM-860C S/N M19548       | 10/17/2023       | 10/16/2024 |
|             | DIRECT HOOD READING               | 100 cfm to 2000 cfm       | +/- 3 % +/- 7 cfm            | Shortridge Flow Hood                 | 10/17/2023       | 10/16/2024 |
| TEMPERATURE | AIR METER                         | -20 F to 240 F            | +/- .5 % 2 F                 | Cooper ATKINS - SRH77A S/N 081820093 | 10/20/2023       | 10/19/2024 |
|             | AIR PROBE                         | -20 F to 240 F            | +/- .5 % 2 F                 | Cooper ATKINS - PD1388 7-6 S/N 5028  | 10/20/2023       | 10/19/2024 |
|             | IMMERSION METER                   | -20 F to 240 F            | +/- .5 % 2 F                 | Cooper ATKINS - SRH77A S/N 081820093 | 10/20/2023       | 10/19/2024 |
|             | IMMERSION PROBE                   | -20 F to 240 F            | +/- .5 % 2 F                 | Cooper ATKINS - PD1388 7-6 S/N 1075  | 10/20/2023       | 10/19/2024 |
|             | CONTACT METER                     | -20 F to 240 F            | +/- .5 % 2 F                 | Cooper ATKINS - SRH77A S/N 081820093 | 10/20/2023       | 10/19/2024 |
|             | CONTACT PROBE                     | -20 F to 240 F            | +/- .5 % 2 F                 | Cooper ATKINS - PD1388 7-6 S/N 4011  | 10/20/2023       | 10/19/2024 |
| HUMIDITY    | HUMIDITY PROBE                    | 10 % RH to 90 % RH        | 3% of reading                | Cooper ATKINS - SRH77A S/N 090315046 | 10/20/2023       | 10/19/2024 |
| ELECTRICAL  | VOLTAGE MEASUREMENT               | 0 VAC to 600 VAC          | 2 % reading +/- 5 digits     | Dwyer CM-1 - S/N 190800099           | 10/16/2023       | 10/15/2024 |
|             | AMPERAGE MEASUREMENT              | 0 Amperers to 100 Amperes | 2 % reading +/- 5 digits     | Dwyer CM-1 - S/N 190800099           | 10/16/2023       | 10/15/2024 |
| ROTATION    | ROTATION MEASUREMENT              | 60 rpm to 5000 rpm        | 2 % reading 2 rpm            | Dwyer TAC-L - S/N S1100123           | 10/16/2023       | 10/15/2024 |
| 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 <sup>2</sup> )                  | S.F. = Service Factor                       |
| AHU = Air Handling Unit                      | SF = Supply Fan                             |
| A <sub>k</sub> = 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 <sub>ma</sub> = Mixed Air Temperature     |
| CL = Center Distance (used in belt formula)  | T <sub>oa</sub> = Outside Air Temperature   |
| CD = Ceiling Diffuser                        | T <sub>ra</sub> = Return Air Temperature    |
| CF = Correction Factor                       | H = Head (in wc, ft wc, psi)                |
| CFM = Volumetric Flow: Cubic Feet Per Minute | h = Enthalpy                                |
| CO <sub>2</sub> = Carbon Dioxide             | HP = Horsepower                             |
| CO = Carbon Monoxide                         | hr = Hour                                   |
| C <sub>v</sub> = Flow Constant               | K <sub>v</sub> = 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 <sub>ra</sub> = Return Air Temperature    |
| psid = PSI Differential                      | TS = Tip Speed (fpm) IP, (m/s) SI           |
| r = Radius (in)                              | TSP = Total Static Pressure                 |
| % <sub>ra</sub> = % 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                          |



2 MECHANICAL DUCTWORK SECOND LEVEL PLAN - 4A  
M-1.34A 3/16" = 1'-0"



1 MECHANICAL DUCTWORK SECOND LEVEL PLAN - 4A  
M-1.34A 1/8" = 1'-0"



KEY PLAN



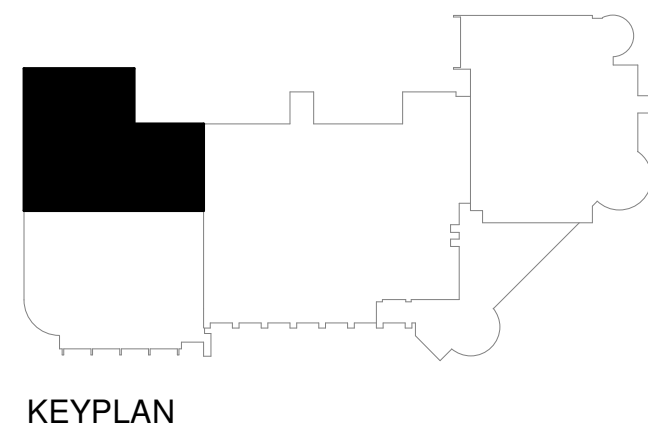
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| REV | DATE       | BY  | REVISIONS                            |
|-----|------------|-----|--------------------------------------|
| 1   | 09-15-2021 | CAM | ISSUED FOR FINAL ESTIMATE AND PERMIT |
| 2   | 09-15-2021 | CAM | ISSUED FOR BIDDING AND PERMIT        |

|                                                                                                                                                       |                                                                                                      |                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| SHARONVILLE CONVENTION CENTER EXPANSION<br>CITY OF SHARONVILLE<br>11355 CHESTER RD. CINCINNATI OH 45246<br>MECHANICAL DUCTWORK SECOND LEVEL PLAN - 4A | DATE: 09/15/2021<br>DRAWN BY: CML<br>CHECKED BY: KTS<br>APPROVED BY: [Signature]<br>F.S. NO. [Blank] | SCALE: AS NOTED<br>HORIZ: [Blank]<br>VERT: [Blank]<br>CONTRACT NO.: 180634<br>SHEET: M-1.34A |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|

9/15/2021 1:26:12 PM



| REV                                                                                                              | Q          | REVISIONS                     | DATE       | BY  |
|------------------------------------------------------------------------------------------------------------------|------------|-------------------------------|------------|-----|
| 1                                                                                                                | 09/15/2021 | ISSUED FOR FINAL ESTIMATE     | 04-24-2020 | CAM |
|                                                                                                                  |            | ISSUED FOR BIDDING AND PERMIT | 09-15-2021 | CAM |
| <p>DATE: _____</p> <p>DRAWN BY: _____</p> <p>CHECKED BY: _____</p> <p>APPROVED BY: _____</p> <p>Scale: _____</p> |            |                               |            |     |

SHARONVILLE CONVENTION CENTER EXPANSION  
CITY OF SHARONVILLE  
11355 CHESTER RD, CINCINNATI OH 45246  
MECHANICAL DUCTWORK PLAN - ALTERNATE 3

|                 |
|-----------------|
| SCALE: AS NOTED |
| HORZ:           |
| VERT:           |
| CONTRACT NO:    |
| 180634          |
| SHEET           |
| M-10.03         |







**MECHANICAL DUCTWORK**

1

M-1.54B

1/8" = 1'-0"

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

## System/Unit: AHU-DUAL FAN



Asset: AHU-14

AREA:GALLERY 203

| UNIT DATA - SUPPLY           |              |               |
|------------------------------|--------------|---------------|
|                              | Design       | Actual        |
| Manufacturer                 | NA           | DAIKIN        |
| Model Number                 | NA           | OAC027GBAM    |
| Serial Number                | -            | FBOU220600019 |
| No. Pre-Filters / Size (1)   | 2 / 24X24X2  | 2 / 24x24x2   |
| No. Pre-Filters / Size (2)   | 4 / 24X20X2  | 4 / 24x20x2   |
| No. Final Filters / Size (1) | 2 / 24X24X12 | 2 / 24x24x12  |
| No. Final Filters / Size (2) | 4 / 24X20X12 | 4 / 24x20x12  |

| MOTOR DATA - EXHAUST/RETURN |                |
|-----------------------------|----------------|
|                             | Actual         |
| Horsepower / RPM            | 2@ 6.71 / 1312 |
| Rated Volts / Phase         | 480 / 3        |
| Rated Amperage / SF         | 2@ 7.04 /      |

| MOTOR DATA - SUPPLY |              |
|---------------------|--------------|
|                     | Actual       |
| Horsepower / RPM    | 3@6.0 / 2344 |
| Rated Volts / Phase | 480 / 3      |
| Rated Amperage / SF | 3@ 6.27      |

| TEST DATA - SUPPLY |        |                |
|--------------------|--------|----------------|
|                    | Design | Actual         |
| Total CFM          | 11880  | 12097          |
| OA CFM             | 3000   | 2893           |
| VFD Speed          | -      | 80%            |
| RL Voltage         | 480    | 488/487/481    |
| RL Amperage        | 18.7   | 10.9/10.8/10.7 |
| Motor B.H.P.       | -      | 9.99           |

| PERFORMANCE DATA - SUPPLY |        |        |
|---------------------------|--------|--------|
|                           | Design | Actual |
| Static Pressure Stpt      | -      | 1.8"   |
| Suction S.P.              | -      | -1.41  |
| Discharge S.P.            | -      | 2.25   |
| Total S.P.                | 5.40   | 3.66   |
| Chilled Water Coil P.D.   | -      | 0.3    |
| Pre Heat Coil P.D.        | -      | 0.1    |
| Final Filters P.D.        | -      | 0.35   |
| Air Blender P.D.          | -      | 0.26   |
| Total ESP                 | 2.50   | 2.44   |

Completed By: Nick Payne on 02/22/2024

Notes:  
OA flow station Kfactor 0.667

Written By: Nick Payne on 03/12/2024

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

## AHU-DUAL FAN



VAV - Single Duct

### AHU-14/GALLERY 203

| Asset      |       |           |        |            |                |         |                |         |                 |          |          |
|------------|-------|-----------|--------|------------|----------------|---------|----------------|---------|-----------------|----------|----------|
| Asset Name | MFG   | Model Num | Type   | Inlet Size | Design Max CFM | Max CFM | Design Min CFM | Min CFM | Design Heat CFM | Heat CFM | Ak (max) |
| V14-01     | TITUS | DESV      | REHEAT | 16         | 3000           | 2924    | 1500           | 1538    | 2819            | 2914     | 1.823    |
| V14-02     | TITUS | DESV      | REHEAT | 10         | 760            | 792     | 370            | 388     | 601             | 630      | 2.826    |
| V14-03     | TITUS | DESV      | REHEAT | 16         | 2500           | 2449    | 1250           | 1213    | 1250            | 1277     | 2.158    |
| V14-04     | TITUS | DESV      | REHEAT | 10         | 1000           | 1020    | 500            | 510     | 500             | 509      | 1.813    |
| V14-05     | TITUS | DESV      | REHEAT | 9          | 700            | 708     | 350            | 353     | 368             | 370      | 1.863    |
| V14-06     | TITUS | DESV      | REHEAT | 10         | 710            | 706     | 350            | 347     | 700             | 709      | 1.785    |
| V14-07     | TITUS | DESV      | REHEAT | 6          | 260            | 259     | 120            | 121     | 120             | 119      | 2.233    |
| V14-08     | TITUS | DESV      | REHEAT | 16         | 3000           | 2820    | 1500           | 1515    | 3000            | 2985     | 1.942    |

Diffuser Supply (GRD)

### V14-01/217 HALL

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 1401-1     | 201      | ND-2 | 16   | 750        | 880    | 734       | 97.9        |
| 1401-2     | 201      | ND-2 | 16   | 750        | 756    | 747       | 99.6        |
| 1401-3     | 201      | ND-2 | 16   | 750        | 625    | 728       | 97.1        |
| 1401-4     | 201      | ND-2 | 16   | 750        | 489    | 715       | 95.3        |
| Total      |          |      |      | 3000       | 2750   | 2924      | 97.47%      |

### V14-02/203

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 1402-1     | 202      | ND-1 | 10   | 380        | 312    | 390       | 102.6       |
| 1402-2     | 202      | ND-1 | 10   | 380        | 296    | 402       | 105.8       |
| Total      |          |      |      | 760        | 608    | 792       | 104.21%     |

### V14-04/206

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 1404-1     | 204      | CD-1 | 12   | 500        | 526    | 510       | 102.0       |
| 1404-2     | 204      | CD-1 | 12   | 500        | 520    | 510       | 102.0       |
| Total      |          |      |      | 1000       | 1046   | 1020      | 102%        |

### V14-05/206

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 1405-1     | 206      | CD-1 | 10   | 350        | 417    | 352       | 100.6       |
| 1405-2     | 206      | CD-1 | 10   | 350        | 350    | 356       | 101.7       |
| Total      |          |      |      | 700        | 767    | 708       | 101.14%     |

V14-06/214

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 1406-1     | 210      | CD-2 | 6    | 80         | 59     | 72        | 90.0        |
| 1406-2     | 211      | CD-1 | 8    | 160        | 195    | 161       | 100.6       |
| 1406-3     | 215      | CD-1 | 8    | 160        | 138    | 155       | 96.9        |
| 1406-4     | 211      | CD-1 | 8    | 110        | 170    | 112       | 101.8       |
| 1406-5     | 214      | CD-1 | 8    | 200        | 186    | 206       | 103.0       |
| Total      |          |      |      | 710        | 748    | 706       | 99.44%      |

V14-07/213

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 1407-1     | 213      | CD-1 | 8    | 130        | 159    | 134       | 103.1       |
| 1407-2     | 213      | CD-1 | 8    | 130        | 137    | 125       | 96.2        |
| Total      |          |      |      | 260        | 296    | 259       | 99.62%      |

V14-08/211

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 1408-1     | 217 HALL | ND-1 | 10   | 375        | 478    | 360       | 96.0        |
| 1408-2     | 217 HALL | ND-1 | 10   | 375        | 462    | 349       | 93.1        |
| 1408-3     | 217 HALL | ND-1 | 10   | 375        | 310    | 342       | 91.2        |
| 1408-4     | 217 HALL | ND-1 | 10   | 375        | 280    | 353       | 94.1        |
| 1408-5     | 217 HALL | ND-1 | 10   | 375        | 276    | 351       | 93.6        |
| 1408-6     | 217 HALL | ND-1 | 10   | 375        | 305    | 345       | 92.0        |
| 1408-7     | 217 HALL | ND-1 | 10   | 375        | 310    | 352       | 93.9        |
| 1408-8     | 217 HALL | ND-1 | 10   | 375        | 226    | 368       | 98.1        |
| Total      |          |      |      | 3000       | 2647   | 2820      | 94%         |

V14-03/203

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| SGRD1      | 203      | ND-1 | 10   | 250        | 197    | 237       | 94.8        |
| SGRD3      | 203      | ND-1 | 10   | 250        | 205    | 248       | 99.2        |
| SGRD4      | 203      | ND-1 | 10   | 250        | 236    | 255       | 102.0       |
| SGRD4      | 203      | ND-1 | 10   | 250        | 198    | 262       | 104.8       |
| SGRD5      | 203      | ND-1 | 10   | 250        | 209    | 229       | 91.6        |
| SGRD5      | 203      | ND-1 | 10   | 250        | 210    | 234       | 93.6        |
| SGRD5      | 203      | ND-1 | 10   | 250        | 212    | 239       | 95.6        |
| SGRD8      | 203      | ND-1 | 10   | 250        | 27     | 246       | 98.4        |
| SGRD9      | 203      | ND-1 | 10   | 250        | 216    | 244       | 97.6        |
| SGRD10     | 203      | ND-1 | 10   | 250        | 200    | 255       | 102.0       |
| Total      |          |      |      | 2500       | 1910   | 2449      | 97.96%      |

| Asset  | Notes                                                                    | Date       | Written By |
|--------|--------------------------------------------------------------------------|------------|------------|
| V14-08 | 2 Diffusers not installed, airflow distributed to remaining 8 diffusers. | 01/16/2024 | Nick Payne |

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

## System/Unit: AHU-DUAL FAN



Asset: AHU-15

AREA:217

| UNIT DATA - SUPPLY           |               |               |
|------------------------------|---------------|---------------|
|                              | Design        | Actual        |
| Manufacturer                 | NA            | DAIKIN        |
| Model Number                 | NA            | OAC092GVAM    |
| Serial Number                | -             | FBOU220600010 |
| No. Pre-Filters / Size (1)   | 12 / 24X24X2  | 12 / 24X24X2  |
| No. Pre-Filters / Size (2)   | 3 / 20X24X2   | 3 / 20X24X2   |
| No. Final Filters / Size (1) | 12 / 24X24X12 | 12 / 24X24X12 |
| No. Final Filters / Size (2) | 3 / 20X24X12  | 3 / 20X24X12  |

| MOTOR DATA - SUPPLY |                |
|---------------------|----------------|
|                     | Actual         |
| Motor MFG / Frame   |                |
| Horsepower / RPM    | 5@ 6.97 / 2361 |
| Rated Volts / Phase | 480 / 3        |
| Rated Amperage / SF | 5@ 7.32 /      |

| TEST DATA - SUPPLY |        |             |
|--------------------|--------|-------------|
|                    | Design | Actual      |
| Total CFM          | 15000  | 15462       |
| OA CFM             | 10000  | 10673       |
| VFD Speed          | -      | 83%         |
| RL Voltage         | 480    | 485/489/489 |
| RL Amperage        | 36.5   | 7.4/7.6/7.7 |
| Motor B.H.P.       | 21     | 4.7         |

| PERFORMANCE DATA - SUPPLY |        |        |
|---------------------------|--------|--------|
|                           | Design | Actual |
| Suction S.P.              | -      | -1.14" |
| Discharge S.P.            | -      | 1.20"  |
| Total S.P.                | 4.81   | 2.34"  |
| Reheat Coil P.D.          | -      | 0.09"  |
| Chilled Water Coil P.D.   | -      | 0.21"  |
| Final Filters P.D.        | -      | 0.44"  |
| Total ESP                 | 1.50   | 1.40"  |

| MOTOR DATA - EXHAUST/RETURN |                |
|-----------------------------|----------------|
|                             | Actual         |
| Horsepower / RPM            | 3@ 6.71 / 1561 |
| Rated Volts / Phase         | 480 / 3        |
| Rated Amperage / SF         | 3@ 7.04        |

| TEST DATA - EXHAUST/RETURN |        |             |
|----------------------------|--------|-------------|
|                            | Design | Actual      |
| Total CFM                  | 19000  | 18655       |
| VFD Speed                  | -      | 58%         |
| RL Voltage                 | 480    | 488/485/486 |
| RL Amperage                | 21.1   | 4.3/4.1/4.2 |
| Motor B.H.P.               | 12.9   | 3.6         |

| PERFORMANCE DATA - EXHAUST/RETURN |        |        |
|-----------------------------------|--------|--------|
|                                   | Design | Actual |
| Suction S.P.                      | -      | -1.12  |
| Discharge S.P.                    | -      | 0.36   |
| Total S.P.                        | 2.94   | 1.48   |

Completed By: Nick Payne on 02/22/2024

Notes:  
OA flow station Kfactor 0.931

Written By: Nick Payne on 03/12/2024

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

## AHU-DUAL FAN



### Diffuser Supply (GRD)

#### AHU-15/217

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 15-1       | 217      | RD-1 | 18   | 1250       | 1488   | 1297      | 103.8       |
| 15-2       | 217      | RD-1 | 18   | 1250       | 1555   | 1212      | 97.0        |
| 15-3       | 217      | RD-1 | 18   | 1250       | 1414   | 1258      | 100.6       |
| 15-4       | 217      | RD-1 | 18   | 1250       | 1625   | 1262      | 101.0       |
| 15-5       | 217      | RD-1 | 18   | 1250       | 1337   | 1303      | 104.2       |
| 15-6       | 217      | RD-1 | 18   | 1250       | 1233   | 1348      | 107.8       |
| 15-7       | 217      | RD-1 | 18   | 1250       | 1559   | 1302      | 104.2       |
| 15-8       | 217      | RD-1 | 18   | 1250       | 1216   | 1269      | 101.5       |
| 15-9       | 217      | RD-1 | 18   | 1250       | 1402   | 1217      | 97.4        |
| 15-10      | 217      | RD-1 | 18   | 1250       | 1495   | 1288      | 103.0       |
| 15-11      | 217      | RD-1 | 18   | 1250       | 1386   | 1345      | 107.6       |
| 15-12      | 217      | RD-1 | 18   | 1250       | 1277   | 1362      | 109.0       |
| Total      |          |      |      | 15000      | 16987  | 15463     | 103.09%     |

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

## System/Unit: AHU-DUAL FAN



Asset: AHU-16

AREA:217

| UNIT DATA - SUPPLY           |               |               |
|------------------------------|---------------|---------------|
|                              | Design        | Actual        |
| Manufacturer                 | NA            | DAIKIN        |
| Model Number                 | NA            | OAC095GVAM    |
| Serial Number                | -             | FBOU220600011 |
| No. Pre-Filters / Size (1)   | 12 / 24X24X2  | 12 / 24X24X2  |
| No. Pre-Filters / Size (2)   | 3 / 20X24X2   | 3 / 20X24X2   |
| No. Final Filters / Size (1) | 12 / 24X24X12 | 12 / 24X24X12 |
| No. Final Filters / Size (2) | 3 / 20X24X12  | 3 / 20X24X12  |

| MOTOR DATA - SUPPLY |                 |
|---------------------|-----------------|
|                     | Actual          |
| Horsepower / RPM    | 6@ 6.p97 / 2332 |
| Rated Volts / Phase | 480 / 3         |
| Rated Amperage / SF | 6@ 7.32 /       |

| TEST DATA - SUPPLY |        |             |
|--------------------|--------|-------------|
|                    | Design | Actual      |
| Total CFM          | 15000  | 15407       |
| OA CFM             | 12000  | 12566       |
| VFD Speed          | -      | 83%         |
| RL Voltage         | 480    | 485/488/489 |
| RL Amperage        | 36.5   | 8.8/8.7/8.8 |
| Motor B.H.P.       | 25     | 6           |

| PERFORMANCE DATA - SUPPLY |        |        |
|---------------------------|--------|--------|
|                           | Design | Actual |
| Suction S.P.              | -      | -1.16" |
| Discharge S.P.            | -      | 1.66"  |
| Total S.P.                | 4.83   | 2.82"  |
| Reheat Coil P.D.          | -      | 0.09"  |
| Chilled Water Coil P.D.   | -      | 0.21"  |
| Final Filters P.D.        | -      | 0.44"  |
| Total ESP                 | 1.50   | 1.94"  |

| MOTOR DATA - EXHAUST/RETURN |         |
|-----------------------------|---------|
|                             | Actual  |
| Horsepower / RPM            | 3@ 6.71 |
| Rated Volts / Phase         | 480 / 3 |
| Rated Amperage / SF         | 3@ 7.04 |

| TEST DATA - EXHAUST/RETURN |        |             |
|----------------------------|--------|-------------|
|                            | Design | Actual      |
| Total CFM                  | 22000  | 20910       |
| VFD Speed                  | -      | 60%         |
| RL Voltage                 | 480    | 489/489/485 |
| RL Amperage                | 21.5   | 4.6/4.4/4.4 |
| Motor B.H.P.               | 15.5   | 3           |

| PERFORMANCE DATA - EXHAUST/RETURN |        |        |
|-----------------------------------|--------|--------|
|                                   | Design | Actual |
| Suction S.P.                      | -      | 0.96   |
| Discharge S.P.                    | -      | 0.27   |
| Total S.P.                        | 3.19   | 1.23   |

Completed By: Nick Payne on 02/22/2024

Notes:  
OA flow station Kfactor 1.129

Written By: Nick Payne on 03/12/2024

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

## AHU-DUAL FAN



### Diffuser Supply (GRD)

#### AHU-16/217

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 16-1       | 217      | RD-1 | 18   | 1250       | 1717   | 1201      | 96.1        |
| 16-2       | 217      | RD-1 | 18   | 1250       | 1566   | 1297      | 103.8       |
| 16-3       | 217      | RD-1 | 18   | 1250       | 1482   | 1356      | 108.5       |
| 16-4       | 217      | RD-1 | 18   | 1250       | 1395   | 1294      | 103.5       |
| 16-5       | 217      | RD-1 | 18   | 1250       | 996    | 1277      | 102.2       |
| 16-6       | 217      | RD-1 | 18   | 1250       | 1550   | 1242      | 99.4        |
| 16-7       | 217      | RD-1 | 18   | 1250       | 1411   | 1285      | 102.8       |
| 16-8       | 217      | RD-1 | 18   | 1250       | 1274   | 1319      | 105.5       |
| 16-9       | 217      | RD-1 | 18   | 1250       | 874    | 1211      | 96.9        |
| 16-10      | 217      | RD-1 | 18   | 1250       | 1196   | 1300      | 104.0       |
| 16-11      | 217      | RD-1 | 18   | 1250       | 1502   | 1346      | 107.7       |
| 16-12      | 217      | RD-1 | 18   | 1250       | 1477   | 1279      | 102.3       |
| Total      |          |      |      | 15000      | 16440  | 15407     | 102.71%     |

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

## System/Unit: AHU-DUAL FAN



Asset: AHU-17

AREA:217 HALL ANTE

| UNIT DATA - SUPPLY           |              |               |
|------------------------------|--------------|---------------|
|                              | Design       | Actual        |
| Manufacturer                 | NA           | DAIKIN        |
| Model Number                 | NA           | OAC033GVAM    |
| Serial Number                | -            | FBOU220600012 |
| No. Pre-Filters / Size (1)   | 2 / 24X24X2  | 5/20"x24"x2"  |
| No. Final Filters / Size (1) | 2 / 24X24X12 | 2 / 24xx24x12 |
| No. Final Filters / Size (2) | 2 / 24X20X12 | 2 / 24x20x12  |

| MOTOR DATA - SUPPLY |                |
|---------------------|----------------|
|                     | Actual         |
| Horsepower / RPM    | 3@ 4.96 / 3056 |
| Rated Volts / Phase | 480 / 3        |
| Rated Amperage / SF | 5.08           |

| TEST DATA - SUPPLY |         |             |
|--------------------|---------|-------------|
|                    | Design  | Actual      |
| Total CFM          | 5980    | 5891        |
| OA CFM             | 3000    | 3072        |
| VFD Speed          | -       | 63%         |
| RL Voltage         | 480     | 488/487/485 |
| RL Amperage        | 15.2    | 5/4/5       |
| Motor B.H.P.       | 3@ 3.23 | 5.1         |

| PERFORMANCE DATA - SUPPLY |        |        |
|---------------------------|--------|--------|
|                           | Design | Actual |
| Static Pressure Stpt      | -      | 0.82   |
| Suction S.P.              | -      | -1.1   |
| Discharge S.P.            | -      | 0.99   |
| Total S.P.                | 5.24   | 2.09   |
| Chilled Water Coil P.D.   | -      | 0.22   |
| Pre Heat Coil P.D.        | -      | 0.1    |
| Final Filters P.D.        | -      | 0.26   |
| Total ESP                 | 2.00   | 1.26   |

| PERFORMANCE DATA - EXHAUST/RETURN |        |        |
|-----------------------------------|--------|--------|
|                                   | Design | Actual |
| Suction S.P.                      | -      | -0.57  |
| Discharge S.P.                    | -      | 0.11   |
| Total S.P.                        | 3.31   | 0.68   |

Completed By: Nick Payne on 02/22/2024

Notes:  
OA flow station Kfactor 1.373

Written By: Nick Payne on 03/12/2024

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

## AHU-DUAL FAN



### VAV - Single Duct

#### AHU-17/217 HALL ANTE

| Asset      |       |           |        |            |                |         |                |         |                 |          |          |
|------------|-------|-----------|--------|------------|----------------|---------|----------------|---------|-----------------|----------|----------|
| Asset Name | MFG   | Model Num | Type   | Inlet Size | Design Max CFM | Max CFM | Design Min CFM | Min CFM | Design Heat CFM | Heat CFM | Ak (max) |
| V17-01     | TITUS | DESV      | REHEAT | 9          | 800            | 818     | 280            | 294     | 280             | 277      | 2.009    |
| V17-02     | TITUS | DESV      | REHEAT | 12         | 955            | 962     | 540            | 544     | 540             | 541      | 1.734    |
| V17-03     | TITUS | DESV      | REHEAT | 7          | 440            | 475     | 215            | 214     | 430             | 432      | 1.892    |
| V17-04     | TITUS | DESV      | REHEAT | 10         | 940            | 956     | 460            | 464     | 920             | 921      | 1.828    |
| V17-05     | TITUS | DESV      | REHEAT | 14         | 1770           | 1763    | 715            | 714     | 1372            | 1363     | 1.808    |
| V17-06     | TITUS | DESV      | REHEAT | 14         | 1620           | 1718    | 780            | 785     | 1443            | 1457     | 1.970    |

### Diffuser Supply (GRD)

#### V17-01/218

| Asset      |          |       |      |            |        |           |             |
|------------|----------|-------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type  | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 1701-1     | 218      | 5' LD | 8    | 200        | 192    | 205       | 102.5       |
| 1701-2     | 218      | 5' LD | 8    | 200        | 175    | 209       | 104.5       |
| 1701-3     | 218      | RD2   | 8    | 200        | 188    | 199       | 99.5        |
| V17-01-4   | 218      | RD2   | 8    | 200        | 166    | 205       | 102.5       |
| Total      |          |       |      | 800        | 721    | 818       | 102.25%     |

#### V17-02/220

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 1702-1     | 219      | CD-1 | 10   | 295        | 216    | 288       | 97.6        |
| 1702-2     | 220      | CD-1 | 10   | 275        | 281    | 293       | 106.5       |
| 1702-3     | 219      | CD-1 | 10   | 275        | 331    | 282       | 102.5       |
| 1702-4     | 235      | CD-1 | 10   | 110        | 212    | 99        | 90.0        |
| Total      |          |      |      | 955        | 1040   | 962       | 100.73%     |

#### V17-03/226

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 1703-1     | 226      | CD-1 | 8    | 190        | 175    | 206       | 108.4       |
| 1703-2     | 230      | CD-2 | 6    | 40         | 67     | 44        | 110.0       |
| 1703-3     | 224      | CD-2 | 6    | 60         | 86     | 62        | 103.3       |
| 1703-4     | 223      | SR-1 | 8    | 150        | 60     | 163       | 108.7       |
| Total      |          |      |      | 440        | 388    | 475       | 107.95%     |

#### V17-04/218

| Asset      |               |      |      |            |        |           |             |
|------------|---------------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location      | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 1704-1     | 217 HALL      | SR-2 | 14   | 470        | 516    | 516       | 109.8       |
| 1704-2     | 217 HALL VEST | SR-2 | 14   | 470        | 449    | 449       | 95.5        |
| Total      |               |      |      | 940        | 965    | 965       | 102.66%     |

V17-05/301

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 1705-1     | 301      | SR-1 | 12X8 | 295        | 297    | 297       | 100.7       |
| 1705-2     | 301      | SR-1 | 12X8 | 295        | 273    | 273       | 92.5        |
| 1705-3     | 301      | SR-1 | 12X8 | 295        | 286    | 286       | 96.9        |
| 1705-4     | 301      | SR-1 | 12X8 | 295        | 301    | 301       | 102.0       |
| 1705-5     | 301      | SR-1 | 12X8 | 295        | 289    | 289       | 98.0        |
| 1705-6     | 301      | SR-1 | 12X8 | 295        | 317    | 317       | 107.5       |
| Total      |          |      |      | 1770       | 1763   | 1763      | 99.6%       |

V17-06/301

| Asset      |          |      |      |            |        |           |             |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| SGRD1      | 301      | SR   | 12X8 | 270        | 292    | 292       | 108.1       |
| SGRD2      | 301      | SR   | 12X8 | 270        | 298    | 298       | 110.4       |
| SGRD3      | 301      | SR   | 12X8 | 270        | 260    | 260       | 96.3        |
| SGRD4      | 301      | SR   | 12X8 | 270        | 295    | 295       | 109.3       |
| SGRD5      | 301      | SR   | 12X8 | 270        | 290    | 290       | 107.4       |
| SGRD6      | 301      | SR   | 12X8 | 270        | 283    | 283       | 104.8       |
| Total      |          |      |      | 1620       | 1718   | 1718      | 106.05%     |

| Asset  | Notes                                                                                                                 | Date       | Written By |
|--------|-----------------------------------------------------------------------------------------------------------------------|------------|------------|
| V17-01 | Drawing change took away one linear diffuser (210cfm) and added 2 rounds (200cfm each) for a new box total of 800cfm. | 02/22/2024 | Nick Payne |

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

## System/Unit: FAN - Exhaust



Asset: EF-20

AREA:208

| Unit Data  |             |                       |
|------------|-------------|-----------------------|
|            | Design      | Actual                |
| MFG        | NA          | COOK                  |
| Model Num  | NA          | 150 ACE               |
| Serial Num | -           | 108SK14157-00/0000701 |
| Type       | CRE DNBLAST | DOWNBLAST             |

| Test Data   |        |        |
|-------------|--------|--------|
|             | Design | Actual |
| CFM         | 2530   | 2534   |
| RL Voltage  | -      | 117    |
| RL Amperage | -      | 10.7   |
| Total ESP   | 0.5    | 0.86"  |

| Motor Data       |        |           |
|------------------|--------|-----------|
|                  | Design | Actual    |
| Motor MFG        | -      | US MOTORS |
| Frame            | -      | 48Y       |
| Horsepower       | 0.75   | 1         |
| Motor Rpm        | -      | 1800      |
| Phase            | 1      | 1         |
| Voltage (rated)  | 120    | 115       |
| Amperage (rated) | -      | 11.6      |

Completed By: Gabe Merk on 02/22/2024

**National TAB**  
Project: Sharonville Convention Ctr (Cincinnati, OH)  
**FAN - Exhaust**



Diffuser Ret/Exh (GRD)

EF-20/208

| Asset      |      |      |            |    |        |        |           |             |
|------------|------|------|------------|----|--------|--------|-----------|-------------|
| Asset Name | Type | Size | DESIGN CFM | AK | CFM(1) | CFM(2) | FINAL CFM | % to design |
| E20-1      | ER-1 | 12   | 600        |    | 669    | 605    | 616       | 102.7       |
| E20-2      | ER-1 | 12   | 600        |    | 37     | 572    | 637       | 106.2       |
| E20-3      | ER-1 | 12   | 450        |    | 224    | 465    | 425       | 94.4        |
| E20-4      | ER-1 | 12   | 450        |    | 563    | 501    | 437       | 97.1        |
| E20-5      | ER-3 | 8    | 50         |    | 41     | 41     | 50        | 100.0       |
| E20-6      | ER-2 | 6    | 100        |    | 265    | 80     | 110       | 110.0       |
| E20-7      | ER-2 | 6    | 200        |    | 90     | 130    | 180       | 90.0        |
| E20-8      | ER-2 | 6    | 80         |    | 130    | 70     | 79        | 98.8        |
| Total      |      |      | 2530       |    | 2019   | 2464   | 2534      | 100.16%     |

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

## System/Unit: FAN - Exhaust



Asset: EF-21

AREA:RR 224

| Unit Data  |        |                           |
|------------|--------|---------------------------|
|            | Design | Actual                    |
| MFG        | NA     | COOK                      |
| Model Num  | NA     | 101 ACE<br>101/017DEC     |
| Serial Num | -      | 108SK14157-<br>00/0002301 |
| Type       | -      | DOWNBLAST                 |

| Test Data   |        |        |
|-------------|--------|--------|
|             | Design | Actual |
| CFM         | 430    |        |
| RL Voltage  | -      |        |
| RL Amperage | -      |        |
| Total ESP   | 0.5    |        |

| Motor Data       |        |        |
|------------------|--------|--------|
|                  | Design | Actual |
| Motor MFG        | -      | COOK   |
| Horsepower       | 0.25   | 0.25   |
| Motor Rpm        | -      | 1725   |
| Phase            | 1      | 1      |
| Voltage (rated)  | 120    | 120    |
| Amperage (rated) | -      | 3.4    |

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

## FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-21/RR 224

| Asset      |      |      |            |    |        |        |           |             |
|------------|------|------|------------|----|--------|--------|-----------|-------------|
| Asset Name | Type | Size | DESIGN CFM | AK | CFM(1) | CFM(2) | FINAL CFM | % to design |
| E21-1      | ER-3 | 8X8  | 200        |    |        |        |           | -           |
| E21-2      | ER-4 | 12X8 | 150        |    |        |        |           | -           |
| E21-3      | ER-2 | 8    | 80         |    |        |        |           | -           |
| Total      |      |      | 430        |    | 0      | 0      | 0         | 0%          |

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

System/Unit: Chiller



Asset: CHIL-3

AREA:MECH RM

| Unit Data  |                 |           |
|------------|-----------------|-----------|
|            | Design          | Actual    |
| MFG        | NA              | Provides  |
| Model Num  | NA              | 6131235   |
| Serial Num | -               | 335886251 |
| Type       | ROTARY<br>SCREW | ROTARY    |

| Test Data-Evaporator |        |        |
|----------------------|--------|--------|
|                      | Design | Actual |
| GPM                  | -      | 427.4  |
| LWT (F)              | -      | 42.00  |
| CHW Delta P          | -      |        |

| Test Data-Condenser |        |        |
|---------------------|--------|--------|
|                     | Design | Actual |
| CW GPM              | -      |        |

Completed By: Nick Payne on 06/05/2024

Notes:

6/5 unit locked out on "low oil alarm".

Written By: Nick Payne on 06/05/2024

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

## System/Unit: Pump



Asset: CTP-4

AREA:MECH RM

| Unit Data         |        |                |
|-------------------|--------|----------------|
|                   | Design | Actual         |
| MFG               | NA     | BELL & GOSSETT |
| Model Num         | NA     | e-1510 / 4BD   |
| Serial Num        | -      | C334698-01G22  |
| Service           | -      | CHW            |
| Type              | -      | Primary        |
| Configuration     | -      | Centrifugal    |
| Pump RPM          | -      | 1800           |
| GPM/HD            | 750-50 | 825-50         |
| Impeller Diameter | 8.75   | 8.75           |

| Motor Data     |        |        |
|----------------|--------|--------|
|                | Design | Actual |
| Motor MFG      | -      | Nidec  |
| Frame          | -      | 254    |
| Horsepower     | 15.0   | 15.0   |
| Motor Rpm      | -      | 1770   |
| Phase          | -      | 3      |
| Voltage        | -      | 480    |
| Amperage       | -      | 19.0   |
| Service Factor | -      | 1.15   |
| Efficiency     | -      | 93.0   |
| Power Factor   | -      | 81.4   |

| Test Data                 |        |             |
|---------------------------|--------|-------------|
|                           | Design | Actual      |
| Pump Off Pres             | -      | -2.1 ft     |
| Pump Dead Head Pres       | -      | -           |
| Act Impeller Dia (IN)     | -      | -           |
| Valve Open GPM (FT)       | -      | 809.8       |
| Valve Open Diff (FT)      | -      | 51.9 ft     |
| Final Suction Pres (FT)   | -      | -2.5 ft     |
| Final Discharge Pres (FT) | -      | 49.4 ft     |
| Total Head Pres (FT)      | 50.0   | 51.9 ft     |
| Final GPM                 | 825.0  | 809.8       |
| Pump Rotation             | -      | Correct     |
| Motor RPM                 | -      | 1770        |
| Pump RPM                  | -      | 1800        |
| Motor Frequency           | -      | 60          |
| System SetPt              | -      | 100% open   |
| RL Voltage                | -      | 477/474/470 |
| RL Amperage               | -      | 16/17/17    |
| Brake Horse Power         | -      | 13.7        |

Completed By: Nick Payne on 06/05/2024

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)

## System/Unit: Pump



Asset: CWP-3

AREA:MECH RM

| Unit Data         |         |                |
|-------------------|---------|----------------|
|                   | Design  | Actual         |
| MFG               | NA      | BELL & GOSSETT |
| Model Num         | NA      | e-1510 / 5GB   |
| Serial Num        | -       | C334699-01J22  |
| Service           | -       | CHW            |
| Type              | -       | Secondary      |
| Configuration     | -       | Centrifugal    |
| Pump RPM          | -       | 1800           |
| GPM/HD            | 912-120 | 912-120        |
| Impeller Diameter | 11.625  | 11.625         |

| Motor Data     |        |        |
|----------------|--------|--------|
|                | Design | Actual |
| Motor MFG      | -      | Baldor |
| Frame          | -      | 326    |
| Horsepower     | 50.0   | 50     |
| Motor Rpm      | -      | 1770   |
| Phase          | -      | 3      |
| Voltage        | -      | 480    |
| Amperage       | -      | 57     |
| Service Factor | -      | 1.15   |
| Efficiency     | -      | 94.5   |
| Power Factor   | -      | 87     |

| Test Data                 |        |          |
|---------------------------|--------|----------|
|                           | Design | Actual   |
| Pump Off Pres             | -      | -        |
| Pump Dead Head Pres       | -      | -        |
| Act Impeller Dia (IN)     | -      | -        |
| Valve Open GPM (FT)       | -      | 871      |
| Valve Open Diff (FT)      | -      | 132 ft   |
| Final Suction Pres (FT)   | -      | 52.5 ft  |
| Final Discharge Pres (FT) | -      | 180.3 ft |
| Total Head Pres (FT)      | 120.0  | 127.8 ft |
| Final GPM                 | 912.0  | 883.7    |
| Pump Rotation             | -      | Correct  |
| Motor RPM                 | -      | 1770     |
| Pump RPM                  | -      | -        |
| Motor Frequency           | -      | 60hz     |
| System SetPt              | -      | 12 psi   |
| RL Voltage                | -      | 455 vfd  |
| RL Amperage               | -      | 38.7 vfd |
| Brake Horse Power         | -      | 33.4     |

Completed By: Nick Payne on 06/05/2024

# National TAB

Project: Sharonville Convention Ctr (Cincinnati, OH)



## Circuit Setter

### CHW CS/

| Asset      |      |        |            |         |         |           |             |
|------------|------|--------|------------|---------|---------|-----------|-------------|
| Asset Name | Size | Type   | Design GPM | Setting | Delta P | Final GPM | % to Design |
| AHU-14     | 3    | MANUAL | 85.90      |         |         |           | -           |
| AHU-15     | 3    | MANUAL | 131.20     |         |         |           | -           |
| AHU-16     | 3    | MANUAL | 131.20     |         |         |           | -           |
| AHU-17     | 3    | MANUAL | 37.00      |         |         |           | -           |
| Total      |      |        | 385.3      |         |         | 0         | 0%          |

### HW CS/

| Asset      |      |        |            |         |         |           |             |
|------------|------|--------|------------|---------|---------|-----------|-------------|
| Asset Name | Size | Type   | Design GPM | Setting | Delta P | Final GPM | % to Design |
| AHU-14     | 1.25 | MANUAL | 16.60      | 9       | 1.05 ft | 16.13     | 97.0        |
| AHU-15     | 2.5  | MANUAL | 66.50      | 6       | 1.2 ft  | 65.8      | 98.9        |
| AHU-16     | 2.5  | MANUAL | 66.50      | 6       | 1.3 ft  | 66.2      | 99.5        |
| AHU-17     | 1.25 | MANUAL | 12.10      | 8       | 1.0 ft  | 12.01     | 99.2        |
| CUH-11     | 0.5  | MANUAL | 2.7        | 5       | 1.55 ft | 2.64      | 96.3        |
| UH-18      | 0.5  | MANUAL | 3.3        | 6       | 1.48 ft | 3.08      | 93.9        |
| UH-19      | 0.5  | MANUAL | 3.3        | 6       | 1.52 ft | 3.19      | 97.0        |
| UH-20      | 0.5  | MANUAL | 3.3        | 6       | 1.58 ft | 3.42      | 103.0       |
| UH-21      | 0.5  | MANUAL | 3.3        | 6       | 1.51 ft | 3.13      | 93.9        |
| UH-22      | 0.5  | MANUAL | 3.3        | 6       | 1.56 ft | 3.35      | 103.0       |
| V14-01     | 1.25 | MANUAL | 6.2        | 4       | 1.2 ft  | 6.38      | 103.2       |
| V14-02     | 0.5  | MANUAL | 1          | 3       | 1.05 ft | 1.06      | 110.0       |
| V14-03     | 0.5  | MANUAL | 4.1        | 7       | 1.85 ft | 3.95      | 97.6        |
| V14-04     | 0.5  | MANUAL | 1.8        | 4       | 1.34 ft | 1.79      | 100.0       |
| V14-05     | 0.5  | MANUAL | 1.5        | 4       | 1.01 ft | 1.52      | 100.0       |
| V14-06     | 0.5  | MANUAL | 1.1        | 3       | 1.08 ft | 1.1       | 100.0       |
| V14-07     | 0.5  | MANUAL | 0.3        | 2       | 0.33 ft | 0.31      | 100.0       |
| V14-08     | 1.25 | MANUAL | 12.2       | 7       | 1.1 ft  | 12.5      | 102.5       |
| V17-01     | 0.5  | MANUAL | 0.8        | 3       | 0.65 ft | 0.84      | 100.0       |
| V17-02     | 0.5  | MANUAL | 1.3        | 4       | 1.2 ft  | 1.33      | 100.0       |
| V17-03     | 0.5  | MANUAL | 0.8        | 3       | 0.71 ft | 0.87      | 112.5       |
| V17-04     | 1"   | MANUAL | 4.8        | 5       | 0.9 ft  | 4.72      | 97.9        |
| V17-05     | 1"   | MANUAL | 1.7        | 2       | 0.7 ft  | 1.75      | 105.9       |
| V17-06     | 0.75 | MANUAL | 1.8        | 4       | 0.8 ft  | 1.85      | 105.6       |
| Total      |      |        | 220.3      |         |         | 218.92    | 99.37%      |

Completed By: Nick Payne on 01/17/2024