

# **AIR BALANCING SPECIALTY INC.**

## **NORTH POWELLHURST ELEMENTARY SCHOOL PORTLAND, OREGON**

**PROJECT NO: 21-4253-DW**

AIR BALANCING SPECIALTY INC. 3532 S.E. MILWAUKIE AVENUE PORTLAND, OREGON 97202-2751  
IN BUSINESS SINCE 1964 CERTIFIED NEBB FIRM - CERTIFICATION NO. 2984  
PHONE (503) 230-2332 FAX (503) 230-2820

PROJECT NAME: **NORTH POWELLHURST ELEMENTARY SCHOOL - PORTLAND, OREGON**

OWNER: DAVID DOUGLAS SCHOOL DISTRICT      DATE STARTED: 03/18/21      DATE FINISHED: 03/18/21

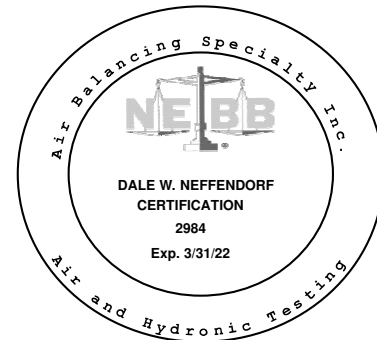
MECHANICAL ENGINEER:      WORK PERFORMED BY: DALE NEFFENDORF  
WILLIAM NEFFENDORF

GENERAL CONTRACTOR:      CERTIFIED BY: \_\_\_\_\_

MECHANICAL CONTRACTOR:      DATE: \_\_\_\_\_

SHEET METAL CONTRACTOR:

CONTROL CONTRACTOR:



IN BUSINESS SINCE 1964

## AIR BALANCING SPECIALTY INC.

CERTIFIED NEBB No. 2984

3532 SE Milwaukie Avenue Portland, Oregon 97202-2751 Phone (503) 230-2332 Fax (503) 230-2820

**CERTIFIED TEST AND BALANCE REPORT**

**PROJECT NO.: 21-42253-DW**

| <b>INSTRUMENT<br/>AIR</b>                            | <b>MODEL NO.</b>              | <b>SERIAL NO.</b> | <b>RANGE</b>                 | <b>CALIBRATION DATE</b> |
|--|-------------------------------|-------------------|------------------------------|-------------------------|
| (D) Shortridge Airdata Multimeter<br>ADM Accessories | ADM860                        | M98375            | 0.0001 to 60.00" WC.         | 1/12/2021               |
| (DH) Datameter Flow Hood                             | 8400                          |                   | 25 - 2500 CFM                |                         |
| (DP) Datameter Pitot Tube                            | 12", 18", 24", 36", 48" & 60" |                   | 50 - 30000 FPM               |                         |
| (DA) Datameter Airfoil                               | AFP18                         |                   | 50 - 5000 FPM                |                         |
| (DG) Datameter Velgrid                               | VLG84                         |                   | 50 - 2500 FPM                |                         |
| (R) Rotating Vane Anemometer                         | A4/-4"                        | 83072B            | 200 - 10000 FPM              | 1/14/2021               |
| Amprobe Ammeter                                      | Fluke 335                     | 99330394          | 0 - 750 Volts / 0 - 300 Amps | 1/8/2021                |
| Shimpo Tachometer                                    | DT-207L                       | D26B0033          | 6 - 30,000 RPM               | 1/12/2021               |
| <b>WATER</b>   |                               |                   |                              |                         |
| Hydrodata Meter                                      | HDM-250                       | W01025            | DP -10 to +300 PSI           | 1/12/2021               |

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### EQUIPMENT USED IN BALANCING

PROJECT: NORTH POWELLHURST ELEMENTARY SCHOOL - PORTLAND, OREGON

PROJECT NO.: 21-4253-DW

**PAGE ABBREVIATION KEY**

AK - GRILLE AREA OR RESTRICTION VALUE

VEL - VELOCITY

CFM - CUBIC FEET PER MINUTE

FPM - FEET PER MINUTE

ACH - AIR CHANGES PER HOUR

IN BUSINESS SINCE 1964

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**PROJECT: NORTH POWELLHURST ELEMENTARY SCHOOL - PORTLAND, OREGON**

**PROJECT NO.: 21-4253-DW**

| Ref | Ins | AREA SERVED |     |  | OUTLET |      |      | DESIGN |     |       | CUBIC FEET | TEST #1 |     |      |          | TEST #2 |     |     |          |  |
|-----|-----|-------------|-----|--|--------|------|------|--------|-----|-------|------------|---------|-----|------|----------|---------|-----|-----|----------|--|
|     |     |             |     |  | No.    | Size | Blow | AK     | Vel | CFM   |            | FPM     | CFM | ACH  | PRESSURE | FPM     | CFM | ACH | PRESSURE |  |
|     |     |             |     |  |        |      |      |        |     |       |            |         |     |      |          |         |     |     |          |  |
|     | DH  | Classroom   | 301 |  |        |      | 1.00 |        |     | 10100 |            |         | 470 | 2.79 |          |         |     |     |          |  |
|     | DH  | Classroom   | 302 |  |        |      | 1.00 |        |     | 10100 |            |         | 505 | 3.00 |          |         |     |     |          |  |
|     | DH  | Classroom   | 303 |  |        |      | 1.00 |        |     | 10100 |            |         | 500 | 2.97 |          |         |     |     |          |  |
|     | DH  | Classroom   | 304 |  |        |      | 1.00 |        |     | 10100 |            |         | 615 | 3.65 |          |         |     |     |          |  |
|     | DH  | Classroom   | 305 |  |        |      | 1.00 |        |     | 10100 |            |         | 555 | 3.30 |          |         |     |     |          |  |
|     | DH  | Classroom   | 306 |  |        |      | 1.00 |        |     | 10100 |            |         | 565 | 3.36 |          |         |     |     |          |  |
|     | DH  | Classroom   | 307 |  |        |      | 1.00 |        |     | 10100 |            |         | 335 | 1.99 |          |         |     |     |          |  |
|     | DH  | Classroom   | 308 |  |        |      | 1.00 |        |     | 10100 |            |         | 410 | 2.44 |          |         |     |     |          |  |
|     | DH  | Classroom   | 309 |  |        |      | 1.00 |        |     | 14254 |            |         | 410 | 1.73 |          |         |     |     |          |  |
|     | DH  | Classroom   | 310 |  |        |      | 1.00 |        |     | 9909  |            |         | 280 | 1.70 |          |         |     |     |          |  |
|     | DH  | Classroom   | 311 |  |        |      | 1.00 |        |     | 10100 |            |         | 460 | 2.73 |          |         |     |     |          |  |
|     | DH  | Classroom   | 312 |  |        |      | 1.00 |        |     | 9909  |            |         | 455 | 2.76 |          |         |     |     |          |  |
|     | DH  | Classroom   | 313 |  |        |      | 1.00 |        |     | 10100 |            |         | 450 | 2.67 |          |         |     |     |          |  |
|     | DH  | Classroom   | 314 |  |        |      | 1.00 |        |     | 10100 |            |         | 455 | 2.70 |          |         |     |     |          |  |
|     | DH  | Classroom   | 315 |  |        |      | 1.00 |        |     | 10100 |            |         | 460 | 2.73 |          |         |     |     |          |  |
|     | DH  | Classroom   | 316 |  |        |      | 1.00 |        |     | 10100 |            |         | 400 | 2.38 |          |         |     |     |          |  |
|     | DH  | Classroom   | 317 |  |        |      | 1.00 |        |     | 10100 |            |         | 355 | 2.11 |          |         |     |     |          |  |
|     | DH  | Classroom   | 318 |  |        |      | 1.00 |        |     | 10100 |            |         | 440 | 2.61 |          |         |     |     |          |  |

AIR BALANCING SPECIALTY, INC. 3532 SE Milwaukie Avenue, Portland, Oregon 97202-2751 Phone: (503) 230-2332 Fax: (503) 230-2820

CONSTANT VOLUME - FPM

AIR BALANCE DATA SHEET

PROJECT NO.: 21-4253-DW

PROJECT: NORTH POWELLHURST ELEMENTARY SCHOOL - PORTLAND, OREGON

DATE START: 03/18/21

FINISH: 03/18/21

SYSTEM: Classrooms 1 - 18

SECTION:

BY: DN / WN

PAGE: 1 OF 3

| Ref | Ins | AREA SERVED     |  |  | OUTLET |     | AK  | DESIGN |      | CUBIC FEET | TEST #1 |     |       |           | TEST #2 |          |     |     |     |          |
|-----|-----|-----------------|--|--|--------|-----|-----|--------|------|------------|---------|-----|-------|-----------|---------|----------|-----|-----|-----|----------|
|     |     |                 |  |  | Rm.#   | No. |     | Size   | Blow |            | Vel     | CFM | FPM   | CFM       | ACH     | PRESSURE | FPM | CFM | ACH | PRESSURE |
|     | R   | Isolation CDC   |  |  |        |     | 6x6 |        |      | 0.19       |         |     | 1523  | 340       | 65      | 2.54     |     |     |     |          |
|     | R   | Iso Office      |  |  |        |     | 8x8 |        |      | 0.33       |         |     | 1390  | 350       | 116     | 4.99     |     |     |     |          |
|     | DH  | Iso Head Start  |  |  |        |     |     |        |      | 1.00       |         |     | 1976  |           | 120     | 3.64     |     |     |     |          |
|     | DH  | Office          |  |  |        |     |     |        |      | 1.00       |         |     | 1847  |           | 115     | 3.74     |     |     |     |          |
|     | DH  | Speech Clinic   |  |  |        |     |     |        |      | 1.00       |         |     | 1307  |           | 100     | 4.59     |     |     |     |          |
|     | DH  | Mother Friendly |  |  |        |     |     |        |      | 1.00       |         |     | 1781  |           | 230     | 7.75     |     |     |     |          |
|     | R   | Copy / Staff    |  |  |        |     | 8x8 |        |      | 0.33       |         |     | 2277  | 250       | 83      | 2.17     |     |     |     |          |
|     |     | Main Office     |  |  |        |     |     |        |      |            |         |     |       | NO SUPPLY |         |          |     |     |     |          |
|     | DH  | Gym             |  |  |        |     |     |        |      | 1.00       |         |     | 52903 |           | 560     | 0.64     |     |     |     |          |

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AIR BALANCE DATA SHEET

PROJECT NO.: 21-4253-DW

PROJECT: NORTH POWELLHURST ELEMENTARY SCHOOL - PORTLAND, OREGON

DATE START: 03/18/21

FINISH: 03/18/21

SYSTEM: Isolation, Offices, Speech, Gym

SECTION:

BY: DN / WN

PAGE: 2 OF 3

| Ref | Ins | AREA SERVED              | Rm.# | No. | OUTLET |      | AK   | DESIGN |     | CUBIC FEET | TEST #1 |     |       |          | TEST #2 |     |     |          |
|-----|-----|--------------------------|------|-----|--------|------|------|--------|-----|------------|---------|-----|-------|----------|---------|-----|-----|----------|
|     |     |                          |      |     | Size   | Blow |      | Vel    | CFM |            | FPM     | CFM | ACH   | PRESSURE | FPM     | CFM | ACH | PRESSURE |
|     | DH  | Restroom Exhaust         | 301  |     |        |      | 1.00 |        |     | 215        |         | 35  | 9.77  | GRAVITY  |         |     |     |          |
|     | DH  | Men's CDC RR Exhaust     |      |     |        |      | 1.00 |        |     | 2570       |         | 115 | 2.68  |          |         |     |     |          |
|     | DH  | CDC RR Exhaust           |      |     |        |      | 1.00 |        |     | 690        |         | 30  | 2.61  |          |         |     |     |          |
|     | DH  | Women's RR Exhaust       |      |     |        |      | 1.00 |        |     | 2570       |         | 185 | 4.32  |          |         |     |     |          |
|     | DH  | Childcare RR Exhaust     |      |     |        |      | 1.00 |        |     | 2570       |         | 250 | 5.84  |          |         |     |     |          |
|     | DH  | Cairo RR Exhaust         |      |     |        |      | 1.00 |        |     | 2570       |         | 115 | 2.68  |          |         |     |     |          |
|     | DH  | Staff RR Exhaust         |      |     |        |      | 1.00 |        |     | 176        |         | 0   | 0.00  |          |         |     |     |          |
|     | R   | Staff / Copy RR Exhaust  |      |     |        | 9x9  | 0.28 |        |     | 117        | 100     | 28  | 14.36 |          |         |     |     |          |
|     | DH  | Boy's Headstart RR Exh.  |      |     |        |      | 1.00 |        |     | 2928       |         | 125 | 2.56  |          |         |     |     |          |
|     | DH  | Girl's Headstart RR Exh. |      |     |        |      | 1.00 |        |     | 3391       |         | 130 | 2.30  |          |         |     |     |          |
|     | DH  | Women's Gym RR Exh.      |      |     |        |      | 1.00 |        |     | 1063       |         | 35  | 1.98  |          |         |     |     |          |
|     | DH  | Men's Gym RR Exh.        |      |     |        |      | 1.00 |        |     | 950        |         | 50  | 3.16  |          |         |     |     |          |
|     | DH  | Kitchen RR Exhaust       |      |     |        |      | 1.00 |        |     | 145        |         | 100 | 41.38 |          |         |     |     |          |

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CONSTANT VOLUME - FPM

AIR BALANCE DATA SHEET

PROJECT NO.: 21-4253-DW

PROJECT: NORTH POWELLHURST ELEMENTARY SCHOOL - PORTLAND, OREGON

DATE START: 03/18/21

FINISH: 03/18/21

SYSTEM: Exhaust

SECTION:

BY: DN / WN

PAGE: 3 OF 3