

IEA, INC.

## 2022 - 2023 IAQ Walkthrough



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## Saint Paul Public Schools Nokomis Montessori South

Walkthrough Date:  
Friday, January 6, 2023

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## Project Description

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IEA conducted an Indoor Air Quality (IAQ) walkthrough at Nokomis Montessori South by IEA representative, Jon Gorostiaga. This walkthrough was conducted with the intent of gathering basic air quality and visual observations which will assist the District in making informed and proactive decisions to improve and maintain acceptable air quality in the building. This walkthrough is based upon the Environmental Protection Agency's (EPA's) Tools for Schools IAQ guidelines.

Some observations gathered during the walkthrough may identify issues which may require additional testing, evaluation or further investigation.

The findings, conclusions and recommendations presented herein are believed to be accurate and representative of the building on the date and time of the walkthrough.

### **GENERAL COMMENTS**

The analysis and opinions expressed in this report are based upon data obtained from Saint Paul Public Schools at the indicated locations. This report does not reflect variations in conditions that may occur across the site, property, or facility. Actual conditions may vary and may not become evident without further assessment.

The report is prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted indoor air quality practices. Other than as provided in the preceding sentence, no warranties are extended or made.

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## Building Information

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General information regarding the building was collected during the walkthrough. The information gathered during this process is a vital component, as it is helpful in determining how these items may play a role in possible IAQ related issues.

Below is a summary of the information gathered during the walkthrough:

- The building has two (2) floors.
- The building has not had recent construction.
- There are operable and inoperable windows in the exterior rooms within the building.
- The building was originally constructed in 1954.
- There are additions to the building, in the following year(s): 1994.
- The building does utilize walk-off mats.
- There are no below grade floors.
- There are no tunnels under portions of the building.

## Observations Summary and Air Quality Measurements

| Room / Location    | Number of Occupants | Odor Present     | Observations | Dust Accumulation | CO <sub>2</sub> (ppm) | CO (ppm) | RH (%) | Temp (°F) |
|--------------------|---------------------|------------------|--------------|-------------------|-----------------------|----------|--------|-----------|
| OUTDOORS           |                     |                  |              |                   | 422                   | 0.8      | 26.5   | 17.0      |
| 1408 HEAD ENGINEER | 1                   | No               |              | No                | 904                   | 2.1      | 19.8   | 70.7      |
| 1404 KITCHEN       | 1                   | No               |              | No                | 1,320                 | 5.3      | 20.8   | 71.1      |
| 1402               | 10                  | No               |              | No                | 1,138                 | 3.3      | 23.9   | 70.3      |
| 1305               | 10                  | No               | • Plants     | No                | 995                   | 1.9      | 20.5   | 69.1      |
| 1304 OFFICE        | 2                   | No               |              | No                | 1,039                 | 1.7      | 21.5   | 69.6      |
| 1303 OFFICE        | 0                   | No               | • Plants     | No                | 866                   | 1.7      | 19.1   | 70.5      |
| 1204               | 28                  | No               |              | No                | 1,185                 | 0.8      | 20.5   | 70.0      |
| 1203               | 21                  | No               |              | No                | 1,063                 | 0.8      | 20.2   | 69.8      |
| 1202               | 22                  | No               | • Plants     | No                | 724                   | 0.7      | 17.2   | 69.4      |
| 1001 MAIN OFFICE   | 5                   | No               |              | No                | 664                   | 0.7      | 16.9   | 69.4      |
| 1002 OFFICE        | 1                   | No               |              | No                | 668                   | 0.7      | 17.1   | 69.8      |
| 1007 WORKROOM      | 1                   | No               |              | No                | 697                   | 0.7      | 17.4   | 70.2      |
| 1003               | 1                   | No               |              | No                | 673                   | 0.7      | 17.2   | 70.0      |
| 1004 NURSE         | 2                   | No               |              | No                | 684                   | 0.7      | 17.4   | 70.2      |
| 1005 COT ROOM      | 0                   | No               |              | No                | 655                   | 0.7      | 17.0   | 70.3      |
| 1006               | 0                   | No               |              | No                | 806                   | 0.7      | 18.3   | 70.2      |
| 1201               | 0                   | No               |              | No                | 884                   | 0.7      | 19.9   | 69.4      |
| MEDIA CENTER       | 1                   | No               |              | No                | 551                   | 0.7      | 15.4   | 68.9      |
| 1102               | 3                   | No               |              | No                | 610                   | 0.6      | 15.7   | 68.9      |
| 1105               | 8                   | Yes<br>Fragrance |              | No                | 753                   | 0.6      | 17.1   | 69.6      |
| 1502               | 22                  | No               | • Plants     | No                | 792                   | 0.7      | 22.1   | 69.1      |
| 1504               | 20                  | No               |              | No                | 775                   | 0.7      | 20.7   | 69.4      |

| Room / Location | Number of Occupants | Odor Present     | Observations            | Dust Accumulation | CO <sub>2</sub> (ppm) | CO (ppm) | RH (%) | Temp (°F) |
|-----------------|---------------------|------------------|-------------------------|-------------------|-----------------------|----------|--------|-----------|
| 2100            | 1                   | No               |                         | No                | 846                   | 1.0      | 21.7   | 68.9      |
| 2201            | 21                  | No               | • Plants                | No                | 1,618                 | 0.8      | 25.5   | 68.5      |
| 2207            | 23                  | No               |                         | No                | 1,666                 | 0.8      | 25.3   | 69.3      |
| 2206            | 20                  | No               | • Plants                | No                | 1,055                 | 0.7      | 20.9   | 70.3      |
| 2202            | 20                  | No               | • Plants                | No                | 1,649                 | 0.8      | 26.6   | 70.0      |
| 2205            | 8                   | No               | • Plants                | No                | 705                   | 0.7      | 16.1   | 70.2      |
| 2203            | 27                  | Yes<br>Fragrance |                         | No                | 851                   | 0.7      | 20.2   | 70.2      |
| 2204            | 18                  | No               |                         | No                | 768                   | 0.6      | 17.2   | 69.6      |
| 2304            | 11                  | No               |                         | No                | 1,146                 | 1.2      | 23.0   | 69.4      |
| 2306            | 27                  | No               | • Plants                | No                | 1,211                 | 1.0      | 25.7   | 69.8      |
| 2305            | 7                   | No               | • Stained Ceiling Tiles | No                | 1,181                 | 1.2      | 23.7   | 69.6      |

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## Summary of Concerns & Recommendations

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See below for IEA's list of concern areas and recommendations:

### **Indoor Air Quality Parameters/Guidelines**

IEA recorded area(s) with carbon dioxide measurements above 1,200 ppm in the room(s) listed below. IEA considers carbon dioxide measurements above 1,200 ppm as an indication of a possible ventilation issue. The ventilation system(s) serving the location(s) with these levels should be evaluated.

- 1404 KITCHEN
- 2201
- 2202
- 2207
- 2306

IEA recorded area(s) with elevated carbon monoxide levels. IEA considers carbon monoxide over 5 ppm to be a possible indication of ventilation and/or equipment issues. The ventilation system and equipment in locations with elevated carbon monoxide should be evaluated.

- 1404 KITCHEN

IEA recorded area(s) with humidity levels outside the ASHRAE recommended range of 30 - 60%. Relative humidity levels identified in area(s) listed below were found to be outside these guidelines. Low humidity levels tend to dry mucous membranes which may result in increased susceptibility to irritation. Elevated humidity levels can lead to condensation and provide conditions conducive to fungal growth. Low relative humidity is common in buildings during the heating season. An evaluation of the ventilation system controls, performance and operation is recommended.

- IEA identified thirty-three (33) rooms with relative humidity levels below 30%. However, this is common for non-humidified buildings during the heating season and is not considered an issue.

### **Odors**

Odors were detected during the site visit in the building. If the source of the odor cannot be easily identified, IEA can provide further investigation or recommendations.

- 1105 *Fragrance*
- 2203 *Fragrance*

### **Stained Ceiling Tiles**

Stained ceiling tiles were found in the room(s) shown below. The impacted ceiling tiles should be removed and replaced, and the cause of the moisture repaired.

- 2305

### **Plants**

Plants in an occupied location can be a source of allergens to sensitized individuals due to the pollen and soil mold. It is recommended that plants be removed from locations occupied by sensitized individuals. If plants are to remain in the area, IEA recommends that plants should not be placed near air unit ventilators or air supply diffusers. Additionally, plants should be watered from the bottom. These measures will help control pollen and mold spores from becoming airborne.

- 1202
- 1303 OFFICE
- 1305
- 1502
- 2201
- 2202
- 2205
- 2206
- 2306