

IEA, INC.

2022 - 2023 IAQ Walkthrough



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Saint Paul Public Schools Hidden River Middle School

Walkthrough Date:
Wednesday, December 14, 2022

Project Description

IEA conducted an Indoor Air Quality (IAQ) walkthrough at Hidden River Middle School by IEA representative, Erik Holloman. 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.

Building Information

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 three (3) 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 1926.
- There are additions to the building, in the following year(s): 1926.
- The building does utilize walk-off mats.
- There are below grade floors.
- There are tunnels under portions of the building.

Observations Summary and Air Quality Measurements

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
OUTDOORS					406	1.2	52.5	36.0
1205	15	No		No	589	0.3	29.1	71.1
1206	0	No		No	515	0.3	27.7	71.1
1208	1	No		No	590	0.3	30.2	71.2
1209	0	No		No	515	0.2	28.3	71.2
1212	0	No		No	487	0.3	28.2	70.3
1213	15	No		No	650	0.2	30.2	70.0
1215	1	No		No	510	0.2	28.7	69.6
1305	0	No	<ul style="list-style-type: none"> Bubbling/Peeling Paint: See Appendix A 	No	705	0.3	28.6	73.0
1306	0	No		No	595	0.2	26.7	73.4
2105	0	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	609	0.2	29.8	69.3
2111	19	Yes Stuffy		No	775	0.2	36.7	71.2
2112	22	Yes Stuffy		No	764	0.2	29.1	73.6
3116	22	No		No	808	0.3	30.4	71.6
3114	26	No		No	833	0.2	34.4	72.5
3112	0	No		No	561	0.3	28.9	70.9
3110	20	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	34	0.2	34.6	70.2
3107	15	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	920	0.2	34.6	71.2
3103	24	No		No	739	0.2	31.1	70.7
3101	26	No		No	717	0.2	29.9	72.5

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
3105	3	No		Yes Horizontal Surfaces	960	0.3	31.5	72.3
1310	1	No		No	671	0.3	26.5	73.9
1308	0	No		No	725	0.2	28.7	73.9
1107	2	No		No	712	0.2	28.5	74.1
1108	1	No	• Plants	No	607	0.2	28.9	73.8
1106	2	No		No	521	0.2	28.3	72.5
1014	1	No		No	625	0.2	29.0	72.3
1016	1	No		No	664	0.2	29.0	72.7
1011	0	No		No	593	0.2	26.5	74.3
1013	0	No		No	582	0.3	26.9	73.4
1012	0	No		No	570	0.2	26.1	73.8
1008	1	No		No	629	0.2	25.8	75.0
1009	0	No		No	551	0.3	25.0	74.8
1007	1	No		No	605	0.2	25.7	75.4
1001	3	No	• Plants	No	582	0.2	25.4	75.2
1002	0	No		No	571	0.2	26.0	74.5
1005	1	No		No	615	0.2	27.1	74.7
1004	0	No		No	575	0.2	25.8	74.1
1006	3	No		No	652	0.2	30.4	73.6
1101	12	Yes Stuffy		No	706	0.2	27.5	73.4
1102	25	Yes Stuffy		No	825	0.2	28.9	74.3
1015	1	No		No	656	0.2	28.8	72.1
2101	12	No		No	896	0.2	30.5	72.9
2103	0	No		No	621	0.2	28.3	71.4
2103	6	No	• Plants	No	746	0.2	29.7	71.1

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
2108	22	Yes Stuffy	• Stained Ceiling Tiles	No	1,089	0.2	33.7	70.7
2107	0	No		No	633	0.2	28.0	71.1
2109	28	No	• Stained Ceiling Tiles	No	826	0.2	33.0	70.9
2111	22	Yes Stuffy	• Stained Ceiling Tiles	No	1,062	0.3	31.3	72.0
2116	0	Yes Stuffy		No	769	0.2	29.6	71.8
2114	1	No		No	756	0.2	30.3	71.2
2119	3	No	• Stained Ceiling Tiles	No	778	0.2	31.4	71.6
2201	1	Yes Fragrance	• Stained Ceiling Tiles	No	749	0.2	30.0	72.1
2202	21	No		No	890	0.3	30.2	72.0
2302	21	No		No	736	0.2	30.7	70.3
2303A	0	No	• Stained Ceiling Tiles	No	562	0.2	30.2	68.7
2303	11	No		No	872	0.2	35.1	68.9
2304	2	No		No	739	0.2	32.4	68.7
2305	21	No	• Stained Ceiling Tiles	No	798	0.2	32.9	68.5
2204	2202	No	• Stained Ceiling Tiles	No	679	0.2	32.6	71.4
1204	1	No		Yes Horizontal Surfaces	629	0.2	28.9	71.4
1302	120	No		No	765	0.2	30.2	71.4
1303	5	No		No	841	0.3	30.2	73.8
1304	0	No		No	628	0.3	27.4	73.8

Summary of Concerns & Recommendations

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

Indoor Air Quality Parameters/Guidelines

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-seven (37) 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.

IEA recorded area(s) with temperatures outside the recommended range. During the heating season, ASHRAE recommends that temperatures be between 68°F and 75°F. Evaluation of temperature controls and/or ventilation system performance and operation is recommended.

- 1001
- 1007

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.

- 1101 *Stuffy*
- 1102 *Stuffy*
- 1108 *Stuffy*
- 1111 *Stuffy*
- 2112 *Stuffy*
- 2116 *Stuffy*
- 2201 *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.

- 2105
- 2108
- 2109
- 2111
- 2119
- 2201
- 2204
- 2303A
- 2305
- 3107
- 3110

Bubbling/Peeling Paint Concerns

IEA observed bubbling/peeling paint in area(s) within the room(s) listed below. Bubbling/peeling paint can be caused by moisture issues. IEA recommends investigating the cause and repairing the paint. IEA recommends ensuring that the paint is not lead-based prior to disturbance.

- 1305

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.

- 1001 • 2103
- 1108

Dust Accumulation

IEA observed dust accumulation in the following room(s) and recommend that the specified area is wiped clean using a damp rag.

- 1204 *Horizontal Surfaces* • 3105 *Horizontal Surfaces*

Appendix A

Photo Documentation



1305

Bubbling/Peeling Paint