

IEA, INC.

2022 - 2023 IAQ Walkthrough



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Saint Paul Public Schools Battle Creek Magnet

Walkthrough Date:
Thursday, November 17, 2022
Retest Date: March 20, 2023

Project Description

IEA conducted an Indoor Air Quality (IAQ) walkthrough at Battle Creek Magnet 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.

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 one (1) floor.
- The building has not had recent construction.
- There are operable windows in the exterior rooms within the building.
- The building was originally constructed in 1964.
- There are additions to the building, in the following year(s): 1966, 1996 and 2001.
- The building does not utilize walk-off mats.
- There are no 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					485	1.5	45.3	26.0
1102	1	No		No	742	0.8	21.9	72.0
1103	2	No		No	843	0.9	23.2	71.6
1203	60	No		No	895	0.9	22.5	71.6
1206	20	No	<ul style="list-style-type: none"> • Stained Ceiling Tiles 	No	1,449	0.8	28.8	72.9
RETEST 1206	26	No		No	1,354	0.0	25.7	71.3
1208	19	No		No	1,048	0.8	26.4	71.8
1211	24	Yes Fragrance	<ul style="list-style-type: none"> • Stained Ceiling Tiles • Plants 	No	1,460	0.7	28.8	71.6
RETEST 1211	28	No	<ul style="list-style-type: none"> • Plants 	No	1,766	0.0	29.5	72.6
1213	23	No	<ul style="list-style-type: none"> • Live Animals 	No	1,247	0.6	28.8	72.0
RETEST 1213	16	No		No	921	0.0	21.8	72.3
1210	24	Yes Slight food	<ul style="list-style-type: none"> • Stained Ceiling Tiles • Plants 	No	1,213	0.6	29.4	70.3
RETEST 1210	24	No	<ul style="list-style-type: none"> • Plants 	No	963	0.0	21.4	70.9
1212	24	No		No	1,251	0.5	28.1	72.0
RETEST 1212	25	No		No	1,498	0.0	26.4	71.2
1215	2	Yes Garbage	<ul style="list-style-type: none"> • Stained Ceiling Tiles 	No	702	0.5	24.6	71.1
1216	2	No	<ul style="list-style-type: none"> • Stained Ceiling Tiles • Plants 	No	967	0.5	27.6	70.9
1217	1	No		No	930	0.5	28.5	69.8
1218	2	No	<ul style="list-style-type: none"> • Stained Ceiling Tiles 	No	920	0.4	28.2	69.4
1219	3	No		No	1,090	0.4	28.8	69.4
1110	15	No		No	680	0.3	25.7	69.1
1107	0	No		No	666	0.2	26.1	69.1

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
1112	25	No		No	731	0.2	25.1	69.4
1001	1	Yes Fragrance		No	570	0.2	22.5	71.6
1004	0	No	• Plants	No	607	0.3	22.5	72.0
1005	0	Yes Fragrance		No	760	0.3	23.0	72.0
1006	5	No		No	753	0.3	23.4	72.7
1003	1	No		No	532	0.3	22.7	72.1
1002	0	No		No	605	0.2	21.9	72.5
1104	21	No		No	760	0.3	24.2	71.6
1105	22	No	• Aquariums (fish) • Plants • Taxidermy	No	942	0.3	26.0	70.5
1106	24	No		No	879	0.2	26.0	69.6
1331	20	No	• Plants • Taxidermy	No	712	0.2	25.3	69.6
1337	18	No		No	1,152	0.2	26.8	71.2
RETEST 1337	5	No		No	995	0.0	21.5	72.5
1336	20	No		No	951	0.2	26.3	71.6
1335	18	No		No	1,025	0.2	26.6	70.9
1332	5	No		No	600	0.2	22.9	70.0
1330	15	No		No	749	0.2	24.7	70.5
1316	7	No		No	609	0.2	21.4	71.6
1314	9	No		No	609	0.2	24.3	70.5
1312	6	Yes Fragrance		No	905	0.2	23.5	71.2
1310	9	No		No	760	0.2	23.1	72.0
1306	0	No	• Plants	No	527	0.2	23.1	70.3
1305	0	No	• Plants	No	566	0.2	21.8	70.9
1304	0	No		No	535	0.2	23.2	70.0
1301	0	No		No	509	0.2	22.4	69.3

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
1302	1	No		No	627	0.2	25.4	69.3
1303	6	No		No	616	0.2	24.1	70.5
1311	3	No		No	614	0.2	21.7	70.9
1313	1	No	• Plants	No	668	0.2	22.4	71.6
1309	0	No		No	610	0.0	22.0	71.6
1315	9	Yes Fragrance		No	684	0.2	21.6	71.1
1317	22	No		No	769	0.2	22.7	71.8
1321	15	No		No	710	0.2	22.2	71.8
1323	13	No		No	750	0.2	22.5	72.0
1325	15	No		No	696	0.2	23.6	70.2
1329	17	No		No	914	0.2	23.3	70.2
1334	22	No		No	852	0.2	24.1	71.4
1326	16	No		No	700	0.2	23.8	71.8
1324	18	No		No	637	0.2	22.8	70.5
1322	0	No		No	548	0.2	19.9	72.5
1202	2	No		No	601	0.2	21.8	71.8

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 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.

- 1206
- 1210
- 1211
- 1212
- 1213
- RETEST 1206
- RETEST 1211
- RETEST 1212

After IEA completed the initial IAQ walkthrough, the ventilation system(s) serving rooms with carbon dioxide measurements at or above 1,100 ppm were evaluated by SPPS. After ventilation adjustments or repairs were made, IEA returned to those rooms on March 20, 2023, to repeat the walkthrough. The “retest” data is included in this report for reference.

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 sixty-two (62) 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.

- 1001 *Fragrance*
- 1005 *Fragrance*
- 1210 *Slight food*
- 1211 *Fragrance*
- 1215 *Garbage*
- 1312 *Fragrance*
- 1315 *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.

- 1206 • 1215
- 1210 • 1216
- 1211 • 1218

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.

- 1004 • 1306
- 1105 • 1313
- 1210 • 1331
- 1211 • RETEST 1210
- 1216 • RETEST 1211
- 1305

Taxidermy

IEA observed area(s) with taxidermy mounts present. Individuals with allergies or asthma may be sensitive to dust, animal fur, or dander, and may have a reaction when exposed to these allergens. IEA recommends using an alternative to taxidermy mounts if allergen symptoms are found by occupants within the classroom.

- 1105 • 1331

Live Animals / Aquariums

IEA observed live animal(s). Prior to having animals, the Building Principal should be consulted. Consult parents about potential allergies in a take-home note with students or during parent-teacher conferences. IEA recommends that the animal and cages/cases are regularly cleaned/maintained and stored away from air supply and return vents.

- 1105 • 1213