

IEA, INC.

2022 - 2023 IAQ Walkthrough



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Saint Paul Public Schools E-STEM Middle School

Walkthrough Date:
Thursday, February 9, 2023

Project Description

IEA conducted an Indoor Air Quality (IAQ) walkthrough at E-STEM 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 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 2001.
- 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 ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
OUTDOORS					442	0.5	88.0	29.0
1714	1	No		Yes Horizontal Surfaces	622	0.4	26.1	68.4
1710	0	No		No	509	0.4	22.7	69.6
GYMNASIUM 1800	60	No		Yes Horizontal Surfaces	939	0.3	28.6	69.3
1804 OFFICE	0	No		No	593	0.4	23.0	70.9
1610/1608	25	No		No	785	0.5	24.8	70.0
1606	1	No		No	593	0.4	23.1	70.0
1604/1602	29	No		No	711	0.5	24.3	69.8
1600	3	No		No	722	0.4	24.7	69.8
1601/1501	3	No		No	677	0.4	24.9	69.6
1502/1504	7	No		No	620	0.4	24.1	70.0
1500	2	No		No	584	0.4	23.2	70.0
1509	0	No		No	581	0.4	23.2	69.8
1506	4	No		No	739	0.4	24.8	70.3
1508	1	No		No	658	0.4	23.9	70.0
1038	5	No		No	64	0.6	22.9	71.4
1042 OFFICE	1	No		Yes Ceiling Tiles Around Air Supply	580	0.4	23.2	71.6
1024	0	No	• Taxidermy	No	490	0.4	22.2	71.2

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
CAFETERIA 1042	165	No		No	621	0.4	24.1	71.1
1400	0	No		No	696	0.4	23.9	70.2
1409	25	No	• Stained Ceiling Tiles	No	812	0.4	25.3	70.9
1406	0	No		No	605	0.3	22.5	71.8
1404/1402	26	No		No	685	0.4	23.5	71.2
1401/1301	0	No		No	698	0.4	23.9	70.7
1300	0	No		No	694	0.3	24.4	70.0
1306	0	No		No	669	0.3	24.5	69.8
1306	0	No		No	668	0.3	24.3	69.4
1308/1310	23	No		No	692	0.3	24.7	69.4
1012	0	No		No	651	0.1	24.7	70.5
1210/1208	1	No	• Plants	No	769	0.3	25.0	70.2
1206	2	No		No	674	0.3	24.1	70.3
1310/1308	0	No		No	768	0.3	25.0	70.3
1201/1101	2	No		No	736	0.3	24.9	70.2
1200	0	No		No	727	0.3	28.3	69.8
1100	0	No		No	717	0.3	25.4	69.8
1102/1104	26	No		No	882	0.3	26.3	69.8
1109	0	No		No	632	0.3	23.9	69.6
1108	28	No		No	1,034	0.3	29.9	70.2
1106	0	No		No	655	0.3	24.2	70.1
1043 MAIN OFFICE	2	No		No	615	0.3	24.2	69.8
1046	0	No		No	565	0.3	23.7	70.0
1048	6	No		No	994	0.3	26.7	70.5
1050	0	No		No	585	0.3	24.1	69.9

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
1052	0	No		No	598	0.3	24.1	69.4
1054	0	No		No	583	0.3	24.3	69.4
1053	2	No		No	737	0.3	25.3	69.4
1070 NURSE	4	No		No	637	0.3	24.7	69.8
1072 NURSE OFFICE	0	No		No	593	0.3	23.7	69.8
1044	0	No		No	589	0.3	24.5	69.8
2053	13	No		No	633	0.3	24.2	70.3
2044	2	No		No	630	0.3	23.7	71.1
2040	0	No		No	633	0.3	25.2	71.2
2024	0	No		No	644	0.3	23.8	71.1
2601	0	No		No	587	0.3	22.9	70.9
2604/2602	23	No		No	734	0.3	24.9	70.7
2606	0	No		No	550	0.2	23.3	70.7
2608	31	No		No	926	0.3	27.9	71.2
2501	1	No		No	882	0.3	26.0	71.4
2510/2508	6	No		No	625	0.3	23.3	71.4
2515	2	No		No	759	0.3	24.2	70.3
2503/2504	0	No		No	587	0.3	23.6	70.2
2506	0	No		No	605	0.3	23.7	70.5
2401	0	No		No	589	0.3	23.2	70.7
2402/2402	29	No		No	734	0.3	25.0	70.3
2406	0	No		No	592	0.3	24.6	70.3
2408/2410	0	No		No	614	0.3	24.1	70.0
2308	27	No		No	1,044	0.3	28.5	70.5
2308	0	No		No	599	0.3	25.4	70.2
2304/2302	26	No		No	753	0.3	26.3	70.2

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
2301	0	No		No	613	0.3	25.6	70.6
2201	1	No		No	811	0.3	25.5	70.0
2202/2204	33	No		No	758	0.3	26.7	70.2
2206	0	No		No	825	0.3	27.2	70.2
2208A	0	No		No	715	0.3	25.5	70.3
2210/2108	29	No	Stained Ceiling Tiles	No	785	0.2	25.5	70.9
2101	0	No		No	643	0.3	25.8	70.2
2102/2104	28	No		No	861	0.3	28.8	70.5
2106	5	No		No	765	0.3	25.3	70.7
2006	0	No		No	643	0.3	28.5	70.6

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 seventy-eight (78) 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.

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.

- 1409
- 2210/2108

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.

- 1210/1208

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.

- 1024

Dust Accumulation

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

- 1042 OFFICE *Ceiling Tiles Around
Air Supply*
- 1714 *Horizontal Surfaces*
- GYMNASIUM *Horizontal Surfaces*
1800