

IEA, INC.

2022 - 2023 IAQ Walkthrough



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Saint Paul Public Schools Global Arts Plus Lower

Walkthrough Date:
Thursday, February 2, 2023
Retest Date: March 21, 2023

Project Description

IEA conducted an Indoor Air Quality (IAQ) walkthrough at Global Arts Plus Lower by IEA representative, David McNeill. 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 1922.
- There are additions to the building, in the following year(s): 1924 and 2018.
- 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					375	0.9	69.9	9.6
3418	1	No		No	708	0.2	13.9	68.4
3417	25	No		No	1,000	0.2	17.1	68.4
3416	0	No		No	635	0.3	13.1	69.1
3415	28	No		No	959	0.3	16.8	69.4
3414	4	No		No	804	0.3	14.7	69.4
3413	20	No		No	963	0.3	17.5	69.6
3411	1	No		No	813	0.3	15.0	69.4
3409	0	No		No	571	0.3	12.8	69.1
3412	2	No		No	768	0.3	13.9	69.4
3404	0	No	<ul style="list-style-type: none"> • Stained Ceiling Tiles 	No	760	0.3	14.1	69.7
3403	0	No	<ul style="list-style-type: none"> • Plants 	No	656	0.3	13.2	69.4
3401	20	No	<ul style="list-style-type: none"> • Plants 	No	827	0.3	15.3	69.4
3211	1	No		No	940	0.4	15.6	67.5
3201 COMMONS	2	No		No	811	0.3	16.1	66.6
3206	10	No		No	748	0.2	15.8	68.5
3204	0	No		No	515	0.3	10.0	70.9
3202	1	No		No	562	0.3	10.0	71.8
3102	0	No		No	562	0.3	10.2	70.9
3106	20	No		No	714	0.3	12.0	71.2
3108	0	No		No	477	0.3	9.2	71.1
3107	15	No		No	1,097	0.4	14.3	70.5
3109	0	No		No	541	0.3	9.5	69.8
2104	3	No	<ul style="list-style-type: none"> • Plants 	No	650	0.2	12.5	70.5
2104A	1	No		No	608	0.2	11.5	71.4

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
2108	1	No	• Plants	No	471	0.2	7.5	80.1
2109	25	No		No	889	0.3	10.9	74.6
2106	0	No		No	529	0.3	9.2	72.9
2202	0	No		No	518	0.3	8.7	73.2
2204	25	No		No	872	0.3	12.4	71.8
2206 COMMONS	10	No		No	751	0.3	12.6	71.4
2206	1	No	• Plants	No	610	0.2	11.7	72.3
2208	0	No		No	736	0.2	11.3	72.7
2401	1	No		Yes Air Return	1,110	0.3	16.2	70.7
RETEST 2401	30	No		No	1,155	0.0	24.6	69.2
2403	20	No		No	1,000	0.3	16.9	70.7
2404	0	No		No	617	0.2	12.6	70.5
2412	0	No		No	715	0.2	13.2	70.5
2418	0	No		No	494	0.2	11.8	70.3
2416	0	No		No	603	0.2	13.3	71.2
2417	20	No	• Plants	No	751	0.2	14.2	70.9
2415	20	No		No	799	0.2	14.6	70.3
2414	6	No	• Plants	No	698	0.2	13.9	70.3
2413	20	No		No	764	0.2	13.5	70.5
2411	0	No		No	648	0.2	13.0	70.2
2409	25	No	• Plants	No	729	0.3	14.1	68.5
0101	0	No		No	654	0.2	14.5	67.3
MAIN OFFICE	3	No	• Plants	No	528	0.1	9.7	68.9
1002	0	No		No	509	0.1	7.7	70.9
1003	0	No		No	578	0.1	9.8	71.2
1004	2	No		No	529	0.1	8.4	72.0
1008	0	No		No	564	0.1	9.2	72.5
1006	2	No		No	763	0.2	11.8	72.9
HEALTH OFFICE	2	No		No	609	0.2	9.3	72.7

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
1007A	1	No		No	556	0.3	8.7	73.0
1007B	0	No		No	551	0.2	8.8	73.0
1007 COMMONS	0	No		No	623	0.3	10.6	72.0
1403	20	No		Yes Air Return	1,407	0.3	21.0	69.8
RETEST 1403	1	No		No	1,008	0.0	21.6	68.2
1405	25	No	• Plants	Yes Air Return	1,598	0.2	22.8	70.3
RETEST 1405	28	No		No	902	0.0	4.0	67.8
1301 GYM	0	No		No	629	0.2	11.5	69.4
STAGE	0	No		No	618	0.3	11.6	68.9
CAFETERIA	2	No		No	522	0.2	14.8	69.4
1503	0	Yes Musty		No	535	0.3	24.4	70.2
1505	0	No		No	495	0.2	13.8	70.9
1411	15	No	• Plants	No	884	0.3	15.1	70.2
1103	0	No		No	735	0.3	12.2	69.1
1107	6	Yes Fragrance		No	682	0.2	10.8	70.0
1104	25	No		No	711	0.3	11.4	70.0
1102	25	No		No	735	0.2	12.3	71.1
1105	15	No	• Plants	No	805	0.3	11.4	70.7
1001A	1	No		No	641	0.1	9.0	69.3

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.

- 1403
- 1405

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 21, 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 seventy-two (72) 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.

- 0101
- 2108
- 3201 COMMONS
- 3211
- RETEST 1405

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.

- 1107 *Fragrance*
- 1503 *Musty*

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.

- 3404

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.

- 1105
- 1405
- 1411
- 2104
- 2108
- 2206
- 2409
- 2414
- 2417
- 3401
- 3403
- MAIN OFFICE

Dust Accumulation

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

- 1403 *Air Return*
- 1405 *Air Return*
- 2401 *Air Return*