

IEA, INC.

2022 - 2023 IAQ Walkthrough



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Saint Paul Public Schools Washington Technology Magnet

Walkthrough Date:
Monday, January 9, 2023
Retest Date: March 23, 2023

Project Description

IEA conducted an Indoor Air Quality (IAQ) walkthrough at Washington Technology Magnet by IEA representative, Jon Gorostiaga & Ricky 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 four (4) floors.
- The building has not had recent construction.
- There are operable windows in the exterior rooms within the building.
- The building was originally constructed in 1996.
- 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					667	1.1	30.1	27.5
1050 GYMNASIUM	45	No		No	601	0.9	18.3	70.3
1000 GYMNASIUM	68	No		No	627	0.9	17.8	69.3
1035 WOMEN'S LOCKER ROOM OFFICE	0	No		No	565	0.8	19.4	69.1
1013 MEN'S LOCKER ROOM OFFICE	0	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	567	0.9	20.1	69.3
1060 POOL	0	No		No	510	0.9	53.2	71.6
1064 POOL OFFICE	0	No		No	541	0.9	37.7	73.0
1602 OFFICE	2	No		No	766	1.0	22.4	70.2
1605 OFFICE	2	No		No	967	1.0	25.5	70.7
1604 OFFICE	0	No		No	586	0.9	16.8	69.6
1607 OFFICE	0	No		No	644	0.9	20.2	70.2
1610 CONFERENCE	0	No		No	574	0.8	15.8	70.3
1611 OFFICE	0	No		No	568	0.8	15.8	71.1
1613 OFFICE	1	No		No	628	0.9	17.8	71.1
1620 CONFERENCE	1	No		No	640	0.9	16.9	70.2
1622	0	No		No	639	0.9	18.2	70.7
1626 OFFICE	0	No		No	627	0.9	18.9	68.9
1631 OFFICE	0	No		No	650	0.9	17.3	68.7
1170	16	No		No	888	0.8	18.6	70.2
1201	6	No		No	738	0.8	17.4	70.2
1660 MEDIA CENTER	6	No		No	749	0.9	18.0	69.1
1630	3	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	672	0.9	17.7	70.0

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
1640	0	No		No	667	0.9	17.1	69.8
1632 OFFICE	1	No		No	836	0.9	19.3	70.0
1633 OFFICE	0	No		No	689	0.8	17.0	70.3
1652	2	No		No	694	0.9	17.8	70.3
1651	3	No	• Stained Ceiling Tiles	No	765	0.9	18.0	70.0
1653 OFFICE	0	No		No	680	0.8	17.4	69.8
1654 OFFICE	0	No		No	686	0.8	17.1	70.2
1662	1	No		No	748	0.8	17.5	70.7
1667 OFFICE	0	No		No	744	0.8	17.5	70.5
1669	2	No		No	751	0.8	17.9	70.7
1670	0	No		No	660	0.8	16.9	70.0
1671 OFFICE	1	No	• Stained Ceiling Tiles	No	778	0.8	18.9	68.5
1672 OFFICE	1	No		No	754	0.7	18.5	69.8
1270	18	No		No	914	0.8	19.4	71.1
1271 OFFICE	0	No	• Stained Ceiling Tiles	No	944	0.8	18.1	71.2
1301	20	No		No	999	0.8	19.0	71.2
1720	19	No		No	842	0.6	21.1	70.7
1710	21	No	• Stained Ceiling Tiles	No	1,079	0.9	20.1	70.7
1730	5	No		No	937	0.8	18.9	70.7
1731 OFFICE	0	No		No	851	0.8	17.9	70.9
1740	1	No		No	812	0.8	17.7	70.9
1760	17	No		No	1,102	0.8	19.6	70.9
RETEST 1760	11	No		No	752	0.0	20.2	69.5
1750 OFFICE	0	No		No	817	0.8	17.7	70.3
3473 OFFICE	3	No		No	762	0.7	17.0	70.3
3470 OFFICE	1	No		No	761	0.7	18.1	69.1
3460	18	No		No	953	0.7	19.1	69.3
3450	4	No		No	840	0.7	18.1	69.8
3441 OFFICE	0	No		No	668	0.7	16.8	70.0

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
3440	15	No		No	1,069	0.7	20.9	70.2
3430	25	No		No	1,157	0.7	23.1	70.7
RETEST 3430	12	No		No	730	0.0	16.3	71.6
3420	26	No		No	912	0.7	19.1	71.1
3410	10	No		No	910	0.7	18.6	71.4
3409 OFFICE	0	No		No	932	0.7	18.7	72.3
3408	9	No	• Stained Ceiling Tiles	No	850	0.7	17.8	72.3
3361	5	No		No	1,093	0.7	20.1	72.5
3374 OFFICE	1	No		No	913	0.7	18.1	72.7
3373 OFFICE	0	No		No	818	0.7	17.4	72.0
3370 OFFICE	1	No		No	803	0.6	18.1	71.2
3360	17	No		No	1,023	0.7	19.7	71.4
3350	27	No		No	1,099	0.7	22.0	71.2
3341	0	No		No	910	0.7	19.3	71.1
3340	6	No		No	938	0.7	19.4	71.2
3330	5	No		No	1,065	0.7	20.6	71.4
3321 OFFICE	1	No		No	1,010	0.7	19.7	71.6
3320	23	Yes Fragrance		No	973	0.7	20.1	71.6
3310	17	No		No	1,235	0.7	22.0	72.0
RETEST 3310	10	No		No	1,007	0.0	24.4	70.8
3309 OFFICE	1	No	• Stained Ceiling Tiles	No	945	0.7	19.4	71.8
3308	10	No	• Stained Ceiling Tiles	No	1,024	0.7	20.3	71.6
3261	12	No		No	1,445	0.8	25.8	71.6
RETEST 3261	2	No		No	721	0.0	18.0	71.6
3273 OFFICE	0	No		No	525	0.6	17.3	70.9
3274	1	No		No	609	0.4	21.1	67.5
3270	0	No		No	516	0.4	19.1	68.9
3250	22	No		No	1,103	0.5	24.9	69.8
RETEST 3250	17	No		No	1,160	0.0	19.8	71.3

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
3241 OFFICE	1	No		No	544	0.5	18.2	70.5
3240	17	Yes Fragrance		No	1,213	0.6	24.4	70.9
RETEST 3240	29	No		No	1,005	0.0	20.2	71.2
3230	20	No		No	1,081	0.6	24.3	70.2
3221 OFFICE	0	No		No	571	0.5	18.4	70.0
3220	23	No		No	1,003	0.6	23.5	70.2
3210	22	No		No	1,041	0.6	23.1	70.5
3208	31	No		No	535	0.6	19.1	69.6
3174	2	No		No	727	0.5	20.8	69.4
3170	0	No		No	617	0.6	19.4	70.0
3110	0	No		No	625	0.6	20.3	70.2
3160	18	No		No	901	0.6	22.1	70.5
3150	16	No		No	915	0.6	21.8	71.1
3141	1	No		No	733	0.6	19.9	71.1
3140	30	No		No	943	0.5	22.3	72.9
3130	25	No		No	1,101	0.7	22.9	71.6
RETEST 3130	12	No		No	1,013	0.0	19.4	71.1
3121	1	Yes Fragrance		No	999	0.6	21.0	71.2
3120	25	No		No	701	0.6	19.6	71.2
2665	0	No		No	574	0.1	17.4	69.8
2629	4	No		No	951	0.6	18.8	70.2
2626	2	No		No	639	0.6	19.0	70.0
2650	1	No		No	517	0.5	16.5	69.4
2661	0	No		No	537	0.5	17.3	68.7
2616	2	No		No	614	0.5	19.6	68.7
2612	0	No		No	641	0.4	18.7	69.1
2611	1	No	• Stained Ceiling Tiles	No	772	0.5	19.4	69.4
2609	1	No		No	698	0.5	19.4	69.1

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
2607	0	No		No	568	0.5	18.4	68.4
2613	3	No		No	783	0.4	18.9	69.4
2610	5	No		No	840	0.5	19.8	69.8
2619	1	No	• Stained Ceiling Tiles	No	660	0.5	19.0	69.4
2620	0	No	• Stained Ceiling Tiles	No	652	0.4	19.3	69.4
2621	0	No		No	546	0.4	17.4	68.9
2623	2	No		No	699	0.4	19.5	69.4
2624	0	No		No	527	0.4	16.8	69.4
2617	1	No		No	699	0.4	19.8	69.3
2628	0	No	• Stained Ceiling Tiles	No	603	0.4	19.0	68.9
2630	0	No	• Stained Ceiling Tiles	No	547	0.3	17.4	69.3
2635	7	No		No	747	0.4	18.8	70.0
2636	0	No		No	529	0.3	16.9	70.0
2637	0	No		No	653	0.3	18.1	70.9
2640	0	No		No	701	0.4	18.7	71.1
2639	0	No		No	771	0.4	19.1	71.2
2642	0	No		No	816	0.4	18.7	71.2
2641	0	No		No	589	0.4	17.0	71.1
2644	1	No		No	808	0.4	20.4	70.7
2643	2	No		No	685	0.3	18.3	70.9
2645	3	No		No	868	0.3	19.9	71.2
2646	1	No		No	710	0.3	18.5	70.9
2647	1	No		No	758	0.3	19.3	70.5
2634	0	No		No	712	0.2	18.7	70.3
2663	2	No		No	758	0.2	19.6	70.3
2664	0	No		No	541	0.1	17.3	69.6
2666	2	No		No	721	0.1	18.7	70.0
2667	1	No		No	771	0.1	18.8	70.0
2660	0	No		No	625	0.1	18.3	70.2

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
2659	0	No		No	704	0.2	19.1	70.2
2658	2	No		No	895	0.2	18.9	70.2
2670	1	No		No	664	0.2	18.4	70.2
2662	1	No		No	642	0.1	18.8	70.3
2671	0	No		No	627	0.1	18.3	70.5
2674	2	No		No	683	0.1	18.5	71.1
2677	0	No		No	629	0.1	18.2	70.9
2675	0	No		No	625	0.2	17.8	70.5
2678	0	No		No	649	0.1	18.5	70.2
2679	0	No		No	559	0.1	17.8	70.2
2032	0	No		No	526	0.2	26.4	71.2
2050	3	No	• Stained Ceiling Tiles	No	675	0.3	27.3	72.5
2110	0	No		No	602	0.1	19.6	69.1
2120	35	No		No	868	0.1	25.3	70.2
2130	30	No		No	1,093	0.1	24.8	69.6
2121	2	No		No	709	0.1	20.8	70.0
2140	1	No		No	693	0.1	20.2	70.0
2141	0	No		No	697	0.1	20.5	69.8
2150	3	No		No	720	0.1	21.5	69.8
2170	3	No	• Stained Ceiling Tiles	No	635	0.1	21.0	69.6
2173	0	No	• Stained Ceiling Tiles	No	598	0.1	20.2	70.2
2208	20	No		No	684	0.1	23.2	69.6
2210	0	No		No	574	0.1	20.2	69.4
2222	0	No		No	470	0.1	20.3	68.5
2220	0	No		No	466	0.1	20.7	67.6
2230	1	No		No	517	0.1	21.7	67.6
2241	1	No		No	667	0.1	21.5	68.5
2240	30	No		No	840	0.1	24.1	69.3
2250	35	No		No	898	0.1	24.6	69.8

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
2270	0	No		No	454	0.1	19.5	70.2
2273	1	No		No	506	0.1	19.9	70.2
2274	2	No		No	665	0.1	20.9	70.5
2308	7	No		No	809	0.1	22.4	70.2
2311	1	No		No	649	0.1	19.9	70.9
2310	1	No		No	843	0.1	21.1	70.9
2320	35	No		No	1,106	0.1	24.2	71.1
2321	6	No		No	985	0.1	27.6	71.4
2330	20	No		No	889	0.1	22.5	71.2
2340	30	No		No	1,010	0.1	23.7	70.9
2341	1	No		No	774	0.1	21.1	70.9
2350	30	No		No	885	0.1	23.0	70.7
2370	2	No	• Stained Ceiling Tiles	No	704	0.1	21.1	70.9
2373	1	No		No	682	0.1	20.7	71.2
2750	35	No		No	795	0.1	21.9	70.5
2751	0	No		No	772	0.1	21.4	70.0
2760	20	No		No	699	0.1	21.0	70.3
2765	0	No		No	583	0.1	20.6	70.0
2764	0	No		No	600	0.1	20.5	69.8
2761	0	No		No	630	0.1	20.6	70.5
2740	15	No		No	827	0.1	22.7	70.7
2752	0	No		No	664	0.1	20.9	70.5
2730	20	No		No	800	0.1	22.6	70.3
2733	0	No		No	639	0.1	20.7	70.0
2731	1	No	• Stained Ceiling Tiles: See Appendix A	No	643	0.1	20.6	70.7
2720	12	No		No	675	0.1	20.8	70.3
2724	1	No	• Stained Ceiling Tiles	No	659	0.1	20.9	70.0
2727	0	No	• Stained Ceiling Tiles	No	612	0.1	20.8	69.6
2710	8	No		No	687	0.1	23.4	68.5

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
2629	4	No		No	951	0.6	18.8	70.2
2626	2	No		No	639	0.6	19.0	70.0
2650	1	No		No	517	0.5	16.5	69.4
2661	0	No		No	537	0.5	17.3	68.7
2616	2	No		No	614	0.5	19.6	68.7
2612	0	No		No	641	0.4	18.7	69.1
2611	1	No	• Stained Ceiling Tiles	No	772	0.5	19.4	69.4
2609	1	No		No	698	0.5	19.4	69.1
2607	0	No		No	568	0.5	18.4	68.4
2613	3	No		No	783	0.4	18.9	69.4
2610	5	No		No	840	0.5	19.8	69.8
2619	1	No	• Stained Ceiling Tiles	No	660	0.5	19.0	69.4
2620	0	No	• Stained Ceiling Tiles	No	652	0.4	19.3	69.4
2621	0	No		No	546	0.4	17.4	68.9
2623	2	No		No	699	0.4	19.5	69.4
2624	0	No		No	527	0.4	16.8	69.4
2617	1	No		No	699	0.4	19.8	69.3
2628	0	No	• Stained Ceiling Tiles	No	603	0.4	19.0	68.9
2630	0	No	• Stained Ceiling Tiles	No	547	0.3	17.4	69.3
2635	7	No		No	747	0.4	18.8	70.0
2636	0	No		No	529	0.3	16.9	70.0
2637	0	No		No	653	0.3	18.1	70.9
2640	0	No		No	701	0.4	18.7	71.1
2639	0	No		No	771	0.4	19.1	71.2
2642	0	No		No	816	0.4	18.7	71.2
2641	0	No		No	589	0.4	17.0	71.1
2644	1	No		No	808	0.4	20.4	70.7
2643	2	No		No	685	0.3	18.3	70.9
2645	3	No		No	868	0.3	19.9	71.2

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
2646	1	No		No	710	0.3	18.5	70.9
2647	1	No		No	758	0.3	19.3	70.5
2634	0	No		No	712	0.2	18.7	70.3
2663	2	No		No	758	0.2	19.6	70.3
2664	0	No		No	541	0.1	17.3	69.6
2666	2	No		No	721	0.1	18.7	70.0
2667	1	No		No	771	0.1	18.8	70.0
2660	0	No		No	625	0.1	18.3	70.2
2659	0	No		No	704	0.2	19.1	70.2
2658	2	No		No	895	0.2	18.9	70.2
2670	1	No		No	664	0.2	18.4	70.2
2662	1	No		No	642	0.1	18.8	70.3
2671	0	No		No	627	0.1	18.3	70.5
2674	2	No		No	683	0.1	18.5	71.1
2677	0	No		No	629	0.1	18.2	70.9
2675	0	No		No	625	0.2	17.8	70.5
2678	0	No		No	649	0.1	18.5	70.2
2679	0	No		No	559	0.1	17.8	70.2
2032	0	No		No	526	0.2	26.4	71.2
2050	3	No	• Stained Ceiling Tiles	No	675	0.3	27.3	72.5
2110	0	No		No	602	0.1	19.6	69.1
2120	35	No		No	868	0.1	25.3	70.2
2130	30	No		No	1,093	0.1	24.8	69.6
2121	2	No		No	709	0.1	20.8	70.0
2140	1	No		No	693	0.1	20.2	70.0
2141	0	No		No	697	0.1	20.5	69.8
2150	3	No		No	720	0.1	21.5	69.8
2170	3	No	• Stained Ceiling Tiles	No	635	0.1	21.0	69.6
2173	0	No	• Stained Ceiling Tiles	No	598	0.1	20.2	70.2

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
2208	20	No		No	684	0.1	23.2	69.6
2210	0	No		No	574	0.1	20.2	69.4
2222	0	No		No	470	0.1	20.3	68.5
2220	0	No		No	466	0.1	20.7	67.6
2230	1	No		No	517	0.1	21.7	67.6
2241	1	No		No	667	0.1	21.5	68.5
2240	30	No		No	840	0.1	24.1	69.3
2250	35	No		No	898	0.1	24.6	69.8
2270	0	No		No	454	0.1	19.5	70.2
2273	1	No		No	506	0.1	19.9	70.2
2274	2	No		No	665	0.1	20.9	70.5
2308	7	No		No	809	0.1	22.4	70.2
2311	1	No		No	649	0.1	19.9	70.9
2310	1	No		No	843	0.1	21.1	70.9
2320	35	No		No	1,106	0.1	24.2	71.1
RETEST 2320	27	No		No	1,254	0.0	22.5	69.8
2321	6	No		No	985	0.1	27.6	71.4
2330	20	No		No	889	0.1	22.5	71.2
2340	30	No		No	1,010	0.1	23.7	70.9
2341	1	No		No	774	0.1	21.1	70.9
2350	30	No		No	885	0.1	23.0	70.7
2370	2	No	• Stained Ceiling Tiles	No	704	0.1	21.1	70.9
2373	1	No		No	682	0.1	20.7	71.2
2750	35	No		No	795	0.1	21.9	70.5
2751	0	No		No	772	0.1	21.4	70.0
2760	20	No		No	699	0.1	21.0	70.3
2765	0	No		No	583	0.1	20.6	70.0
2764	0	No		No	600	0.1	20.5	69.8
2761	0	No		No	630	0.1	20.6	70.5

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
2740	15	No		No	827	0.1	22.7	70.7
2752	0	No		No	664	0.1	20.9	70.5
2730	20	No		No	800	0.1	22.6	70.3
2733	0	No		No	639	0.1	20.7	70.0
2731	1	No		No	643	0.1	20.6	70.7
2720	12	No		No	675	0.1	20.8	70.3
2724	1	No	• Stained Ceiling Tiles	No	659	0.1	20.9	70.0
2727	0	No	• Stained Ceiling Tiles	No	612	0.1	20.8	69.6
2710	8	No		No	687	0.1	23.4	68.5
4470/4471	2	No	• Stained Ceiling Tiles	No	835	0.2	14.2	74.0
4473	4	No	• Stained Ceiling Tiles	No	715	0.3	12.3	73.1
4460	18	No	• Bubbling/Peeling Paint: Northern window. See Appendix A.	No	813	0.4	14.6	70.4
4450	16	No	• Stained Ceiling Tiles	No	818	0.2	14.3	71.2
4440	24	No		No	793	0.2	13.7	70.5
4441	0	No		No	636	0.2	12.0	70.2
4410	11	No		No	715	0.2	13.6	70.5
4420	17	No		No	791	0.3	15.0	70.4
4408	0	No	• Aquariums (fish)	No	859	0.2	14.7	71.3
4373	0	No	• Stained Ceiling Tiles	No	795	0.3	13.8	71.0
4370/4371	1	No		No	866	0.2	14.4	69.8
4360	22	No		No	1,314	0.1	15.6	70.8
RETEST 4360	26	No		No	1,188	0.0	23.4	72.0
4350	12	No		No	1,084	0.2	17.3	71.0
4340	28	No		No	1,242	0.1	18.2	71.7
RETEST 4340	14	No		No	1,148	0.0	21.6	72.1
4330	14	No		No	1,060	0.3	16.6	70.6
4320	29	No	• Bubbling/Peeling Paint: Under window by flag; See Appendix A	No	1,048	0.2	16.5	70.8
4321	0	No		No	803	0.2	14.2	69.8

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
4341	0	No		No	835	0.3	14.3	70.2
4310	27	No		No	963	0.2	15.1	70.4
4308	22	No	<ul style="list-style-type: none"> Stained Ceiling Tiles Plants 	No	1,330	0.1	20.1	71.7
RETEST 4308	22	No		No	983	0.0	20.5	71.4
4261	1	No	<ul style="list-style-type: none"> Bubbling/Peeling Paint: See Appendix A Plants 	No	825	0.1	14.3	72.0
4273	11	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	825	0.2	15.4	70.8
4270/4271	1	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	595	0.2	14.6	70.9
4260	0	No		No	779	0.3	15.3	70.2
4250	22	No		No	1,025	0.1	17.6	71.1
4241	1	No		No	807	0.1	14.9	70.9
4240	19	No		No	1,056	0.2	17.3	70.7
RETEST 4240	20	No		No	1,170	0.0	21.2	70.9
4220	30	No		No	1,112	0.3	18.8	69.8
4221	0	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	950	0.1	17.4	70.3
4230	21	No		No	903	0.2	15.8	69.1
4210	23	No	<ul style="list-style-type: none"> Stained Ceiling Tiles Aquariums (fish) Plants 	No	1,021	0.2	12.1	69.8
4110	0	No	<ul style="list-style-type: none"> Bubbling/Peeling Paint: Eastern most window; See Appendix A 	No	775	0.2	17.0	71.8
4120	19	No		No	1,060	0.1	20.5	70.8
4140	25	No		No	806	0.0	18.2	71.4
4150	22	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	866	0.1	18.2	73.2
4160	21	No		No	1,080	0.1	21.3	73.6
4121	2	No		No	781	0.2	18.5	72.8
4141	0	No		No	661	0.1	15.5	71.9
4130	16	No		No	796	0.1	16.7	72.1
4170/4171	0	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	647	0.0	17.3	73.1

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
4173	0	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	650	0.2	14.5	73.6
4208	1	No	<ul style="list-style-type: none"> Stained Ceiling Tiles Aquariums (fish) Plants Taxidermy 	No	769	0.1	17.4	72.3
4421	1	No		No	671	0.2	16.1	69.6
2510	2	No		No	778	0.2	18.2	68.4
2520	2	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	842	0.0	18.6	67.0
2530	5	No		No	1,004	0.0	21.4	69.1
2540	1	No		No	1,026	0.1	19.0	69.7
2560	0	No	<ul style="list-style-type: none"> Plants 	No	909	0.2	15.8	70.2
2550	0	No		No	789	0.1	15.0	70.8
2570	0	No		No	865	0.1	15.4	70.0
2473	1	No		No	715	0.0	17.4	70.0
2470	1	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	669	0.0	16.4	70.5
CAFETERIA	85	No		No	1,045	0.0	20.5	71.2
2834	1	No		No	1,040	0.1	20.1	71.3
KITCHEN	9	No		Yes Ceiling Tiles Around Air Supply	977	0.2	21.2	70.5
2410	5	No		Yes Air Return, Ceiling Tiles Around Air Supply	654	0.1	18.2	70.9
2460	5	No		Yes Ceiling Tiles Around Air Supply	673	0.0	17.2	70.5
2450	5	No		Yes Ceiling Tiles Around Air Supply	800	0.1	17.8	71.1
2441	1	No		No	738	0.0	17.9	72.2

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
2440	10	No	<ul style="list-style-type: none"> Plants 	No	845	0.1	18.6	71.2
2430	11	No		Yes Air Return	903	0.1	19.5	71.2
2421	0	No		No	648	0.1	16.2	71.1
2420	2	No		Yes Air Return	715	0.0	16.9	71.2
2422	0	No	<ul style="list-style-type: none"> Moisture Impacted Materials: Hole in ceiling tile from active leak, currently have a coffee can under to catch water. See Appendix A. Stained Ceiling Tiles 	No	664	0.2	17.0	71.5
2340	1	No		No	795	0.2	17.4	72.0
2361	0	No		No	674	0.0	17.0	72.3
2408	0	No		Yes Air Return	696	0.1	17.3	71.5
2423	0	No		No	678	0.0	17.1	71.4
2362	0	No		No	687	0.1	16.7	71.3
STAGE/THEATER ARTS	0	No		No	872	0.1	17.3	72.0
2813	0	No	<ul style="list-style-type: none"> Housekeeping: Storage 	No	754	0.1	18.2	72.2
2814	0	No		No	764	0.1	17.4	71.3
2854	0	No		No	941	0.1	18.7	72.2
2864	5	No		No	1,067	0.0	19.8	73.0
2880	0	No		No	670	0.2	17.4	71.0

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.

- 3240
- 3261
- 3310
- 4308
- 4340
- 4360
- RETEST 2320

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 23, 2023, to repeat the walkthrough. The "retest" data is included in this report for reference.

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 23, 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 three hundred and sixty-seven (367) 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.

- 2220
- 2230
- 2520
- 3274

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.

- 3121 *Fragrance*
- 3240 *Fragrance*
- 3320 *Fragrance*

Moisture-Impacted Building Material Concerns

Moisture-impacted building materials should be repaired or replaced when discoloration or water staining is observed. Moisture-impacted building materials can be a source for microbial growth. The source for the moisture infiltration should be investigated and repaired if not easily identified.

- 2422 *Hole in ceiling tile from active leak, currently have a coffee can under to catch water.*

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.

- | | |
|---------------------------------|---------------|
| • 1013 MEN'S LOCKER ROOM OFFICE | • 2727 |
| • 1271 OFFICE | • 2731 |
| • 1630 | • 3308 |
| • 1651 | • 3309 OFFICE |
| • 1671 OFFICE | • 3408 |
| • 1710 | • 4150 |
| • 2050 | • 4170/4171 |
| • 2170 | • 4173 |
| • 2173 | • 4208 |
| • 2370 | • 4210 |
| • 2422 | • 4221 |
| • 2470 | • 4270/4271 |
| • 2520 | • 4273 |
| • 2611 | • 4308 |
| • 2619 | • 4373 |
| • 2620 | • 4450 |
| • 2628 | • 4470/4471 |
| • 2630 | • 4473 |
| • 2724 | |

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.

- | | |
|-----------------------------------|------------------------------------|
| • 4110 <i>Eastern most window</i> | • 4320 <i>Under window by flag</i> |
| • 4261 | • 4460 <i>Northern window.</i> |

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.

- 2440
- 2560
- 4208
- 4210
- 4261
- 4308

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.

- 4208

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.

- 4208
- 4210
- 4408

Poor Housekeeping

Area(s) identified by IEA as having poor housekeeping (excessive clutter, excessive dust/debris on horizontal surfaces, etc.) were documented within the building. Poor housekeeping can limit building maintenance from conducting a proper cleaning of the area. This can result in elevated potential for allergen issues in sensitized individuals due to dirt and debris loading. Poor housekeeping can also allow for pest (insects and rodents) issues in the space.

- 2813 *Storage*

Dust Accumulation

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

- | | |
|-----------------------------------------------------------|--------------------------------------------------|
| • 2408 <i>Air Return</i> | • 2450 <i>Ceiling Tiles Around Air Supply</i> |
| • 2410 <i>Air Return, Ceiling Tiles Around Air Supply</i> | • 2460 <i>Ceiling Tiles Around Air Supply</i> |
| • 2420 <i>Air Return</i> | • KITCHEN <i>Ceiling Tiles Around Air Supply</i> |
| • 2430 <i>Air Return</i> | |

Appendix A

Photo Documentation



2731

Stained Ceiling Tiles



4460

Bubbling/Peeling Paint



4320

Bubbling/Peeling Paint

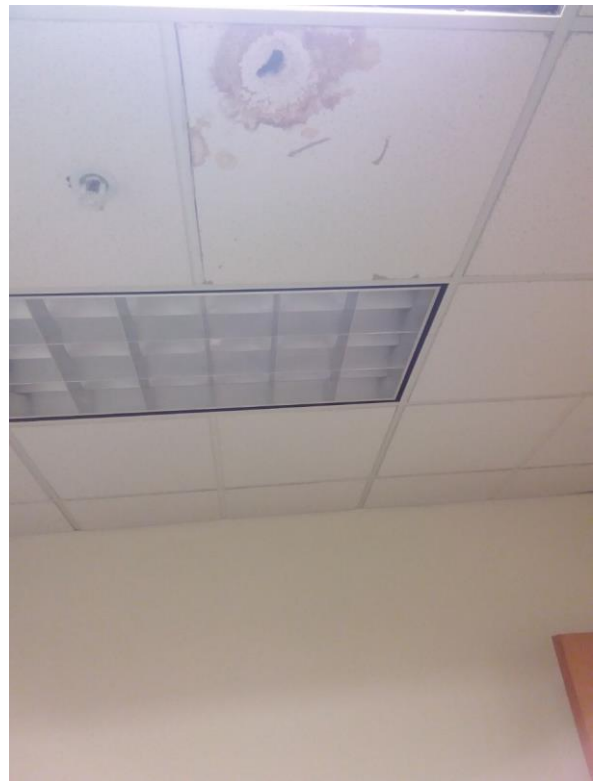


4261

Bubbling/Peeling Paint



4110
Bubbling/Peeling Paint



2422
Moisture-Impacted Materials