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# **Jordan Public Schools High School**

**Inspection Date  
04-10-2019**



## Observations and Air Quality Measurements

Observations and air sampling results are outlined in the following table:

Room / Location	Time	Number of Occupants	CO2 (ppm)	CO (ppm)	RH (%)	Temp. (F)	Comments/Observations
Main Office	11:02 AM	4	1267	0	29	65	
202	11:06 AM	2	867	0	26	67	
204	11:07 AM	2	820	0	25	67	
206	11:08 AM	2	886	0	25	69	
208	11:09 AM	2	837	0	23	70	Plants
209	11:10 AM	2	827	0	22	71	
211	11:11 AM	1	864	0	22	71	
212 Work Room	11:11 AM	1	877	0	22	71	
212 Copier	11:12 AM	1	799	0	21	71	
203	11:13 AM	2	858	0	21	71	
201	11:14 AM	1	859	0	22	72	
Media Center	11:15 AM	12	812	0	21	71	
M302	11:16 AM	1	818	0	21	71	
M301	11:17 AM	1	794	0	21	71	Stained ceiling/ceiling tiles
M304	11:18 AM	1	1134	0	23	71	Stained ceiling/ceiling tiles
M309	11:20 AM	2	757	0	21	71	
M303	11:21 AM	1	827	0	21	71	
M305	11:22 AM	1	862	0	21	71	
S502	11:23 AM	2	1081	0	24	71	
S506	11:25 AM	1	1184	0	23	71	
S503	11:26 AM	1	1051	0	23	72	
S505	11:27 AM	35	1273	0	25	72	
S508	11:28 AM	1	992	0	22	71	
S509	11:29 AM	29	1215	0	24	71	
S511	11:31 AM	19	1304	0	25	71	
S510	11:32 AM	24	1427	0	27	72	
S515	11:33 AM	35	1640	0	27	72	
S517	11:34 AM	3	973	0	22	72	
S517 Extra Room	11:35 AM	1	974	0	22	72	
S519	11:36 AM	5	951	0	22	72	
S519 Resource Room	11:37 AM	1	1017	0	22	72	
E406	11:39 AM	1	1165	0	22	72	
E405	11:40 AM	1	1344	0	23	72	
M312	11:41 AM	1	856	0	20	72	
M311	11:43 AM	1	825	0	20	72	
E402	11:45 AM	2	967	0	22	72	
E401	11:47 AM	3	1007	0	22	72	
N117	11:48 AM	28	1021	0	22	74	
N116	11:49 AM	1	897	0	21	73	
M306	11:51 AM	3	993	0	22	72	
N115	11:53 AM	29	1378	0	26	72	
N113	11:54 AM	22	1314	0	24	72	
N111	11:55 AM	1	1083	0	22	71	
N109	11:57 AM	2	1038	0	23	71	

N108	11:58 AM	1	1058	0	23	71	
N104	12:00 PM	28	1679	0	28	71	
N102	12:02 PM	3	1075	0	23	71	
N100	12:03 PM	2	989	0	23	71	
S504	12:04 PM	1	1392	0	28	72	
S502	12:06 PM	8	1133	0	26	72	
S506	12:07 PM	10	1125	0	24	72	
N101	12:08 PM	1	986	0	22	71	
A824	12:11 PM	33	1706	0	29	72	
A823	12:14 PM	1	1235	0	26	73	
A819	12:15 PM	23	1171	0	26	73	
A821	12:16 PM	1	1253	0	26	73	
Kitchen	12:17 PM	10	953	0	23	73	
Gym	12:20 PM	1	808	0	25	72	
The Union	12:21 PM	1	910	0	22	72	
210	12:23 PM	15	904	0	23	72	
Outdoors	12:24 PM	1	425	1	42	33	

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## Summary of Concerns & Recommendations

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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 areas 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. An evaluation of the ventilation system controls, performance and operation is recommended. Low relative humidity is common in buildings during the heating season.

All Areas

IEA recorded area(s) with carbon dioxide measurements over 1,200 ppm in the building. IEA considers carbon dioxide measurements above 1,200 ppm as an indication of a possible ventilation issue. The air-handling system serving the location with these levels should be evaluated. Possible issues with air distribution and/or the control system may be the source for the carbon dioxide measurements.

Main Office	Room S504	Room S505	Room S509
Room S510	Room S511	Room S515	Room E405
Room N104	Room N113	Room N115	Room A821
Rom A823	Room A824		

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

Main Office - 65°      Room 202 - 67°      Room 204 - 67°

IEA did not record any areas with elevated carbon monoxide levels. IEA considers carbon monoxide over 5 ppm to be a possible indication of ventilation and/or equipment issues. Systems and equipment in locations with elevated carbon monoxide should be assessed.

### **Odors**

Odors were not detected during the site visit in the building. If odor issues arise, the source should be investigated. If the source for the odor cannot be easily identified, it is recommended that further investigation be conducted by a professional consulting service.

### **Water Stained Ceiling Concerns**

Water-impacted ceiling materials should be replaced when discoloration or water staining is observed. Water-impacted ceiling materials can be a source for microbial growth. The source for the moisture infiltration should be investigated and repaired.

Room M301      Room M304

### **Visible Fungal Growth Concerns**

Building materials with visible fungal growth should be removed and/or cleaned under controlled conditions, per the New York City Guidelines (<https://www1.nyc.gov/assets/doh/downloads/pdf/epi/epi-mold-guidelines.pdf>) or following the Institute of Inspection, Cleaning and Restoration (IICRC) S520 *Standard and Guide for Professional Mold Remediation* to prevent possible contamination of adjacent locations and impact to building occupants. No issues observed.

### **Efflorescence Concerns**

During the walkthrough, IEA did not identify any areas with efflorescence. Should issues develop, IEA recommends checking the area to note humidity levels and investigating moisture concerns in the area.

### **Bubbling/Peeling Paint Concerns**

IEA did not observe bubbling/peeling paint in throughout the building. Bubbling/peeling paint can be caused by moisture issues. IEA would recommend investigating the cause and repairing the paint. IEA recommends ensuring that the paint is not lead-based prior to disturbance.

### **Condensation Concerns**

IEA did not locate any areas where condensation was forming. Condensation forming on interior sources may suggest a temperature or humidity issue within the space. Elevated humidity can be a source of microbial growth. Temperature differentials that cause condensation on surfaces can suggest a ventilation concern. The condensation can be deposited on surfaces can increase the likelihood for fungal growth and damage to building materials. Window condensation can occur during extreme cold outdoor temperatures.

### **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 plans be removed from locations occupied by sensitized individuals. If plants are to remain in the area, the following actions are recommended:

- Water plants from the bottom to aid in preventing fungal growth on the soil surface
- Do not locate plants on top of air unit ventilators, if present in a room, to prevent soil and leaves from falling into the units.
- Do not locate plants near air supply diffusers, this will limit air currents over the plants and may prevent pollen or mold spores from becoming airborne.

Room 208

### **Taxidermy**

IEA did not observe any areas with taxidermy mounts present. Individuals with allergies or asthma may be sensitive to dust, animal fur, dander, body fluids, and feces and may have a reaction when exposed to these allergens. IEA recommends using an alternative to animals if allergen symptoms are found by occupants within a classroom containing taxidermy.

### **Live Animals**

During the walkthrough, IEA did not observe any live animals. Prior to having animals, the District Nurse should be consulted to verify children's allergies. Consult parents about potential allergies in a take-home note with students or during parent-teacher conferences. IEA recommends that sensitive students are located away from the animal and that cages are regularly cleaned.

### **Poor Airflow**

Poor airflow was not identified in the building during the site visit. If the building is occupied, air handling systems should be set to operate in "occupied" mode. If poor airflow is identified while systems are in "occupied" mode, a ventilation and controls assessment is recommended.

### **Poor Housekeeping**

Areas were not identified by IEA as having poor housekeeping (excessive clutter, excessive dust/debris on horizontal surfaces, etc.). Poor housekeeping can limit building maintenance from conducting a proper regular 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.

### **Structural Failure**

IEA did not observe any areas in which external and/or internal structural failure was present. IEA would note these items as pre-cautionary and would recommend that they are examined by a licensed engineer.

### **Blocked Air Diffusers**

IEA did not observe any blocked air diffusers in the following rooms. IEA would recommend that items are moved from the vicinity of the air supply diffuser and return grates. Blocked supply and return on the units can limit efficient air exchange within the occupied space.