Indiana State Department of Health
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Eric J. Holcomb
Governor

Kristina Box, MD, FACOG
State Health Commissioner

January 31, 2020

MB3-99-RDC-#470
Dr. Bruce Hibbard, Superintendent
Franklin Township Community School Corp.
6141 S. Franklin Rd.
Indianapolis, IN 46259

Dear Dr. Hibbard:

The purpose of this letter is to report the result of our indoor air quality evaluation of the Freshman Academy at Franklin Central High School on January 31, 2020. Lisa Cauldwell with the Marion County Public Health Department's Indoor Air Quality program joined us on this inspection. This evaluation was conducted at the request of a concerned citizen to address the health concerns of the occupants that may be related to indoor air quality of the school. The complainant stated that there was a offensive odor in the Freshman Academy that was distracting to students and staff. They stated that the odor was strongest on the second floor near classroom 9221.

The Carbon dioxide (CO_2) levels inside were measured with the highest reading 1222 parts CO_2 per million parts of air (ppm) in room 9221. The School Indoor Air Quality rule, 410 IAC 33-4-2 states "(a) "Outdoor Air shall be supplied to classrooms when occupied. (b) Carbon dioxide concentrations in the breathing zone shall never exceed 700 ppm over the outdoor concentration", in this case giving a limit of 1064 ppm. ASHRAE (American Society of Heating, Refrigeration, and Air Conditioning Engineers) recommends 15 cfm (cubic feet per minute) of outdoor air per person for classrooms.

The outdoor relative humidity was measured at 65 percent (%), and the indoor relative humidity had a range of 30 to 34%. The American Society of Heating, Refrigeration and Air-conditioning Engineers (ASHRAE) recommends the relative humidity in habitable spaces preferably should be maintained between 30% and 60% to minimize growth of allergenic and pathogenic organisms. Humidity levels above 50% have been found to increase the population size of molds, fungi and mites that may cause allergies. The evidence suggests that humidity levels should be maintained between 40% and 50% to reduce the incidence of upper respiratory infections and to minimize the adverse effect on people suffering from asthma or allergies. Such a range would be hard to maintain, however, exposure to higher or lower levels are unlikely to affect the health of most people.

Ms. Cauldwell used a combustible gas meter to check for hydrogen sulfide, a major component of sewer gas. None was detected in the school.

Based on air sample measurements and our visual inspection we note the following:

1) There was no noticeable odor in the building. The Corporation's Indoor Air Coordinator, Jody Melady, stated that the building's maintenance director had noticed and investigated the odor prior to our contacting the school. He discovered a dry trap in a floor drain in the 2nd floor mechanical room. The dry trap was addressed and the odor was eliminated. He also stated that the schedule had been changed so the traps would be checked for frequently so this would not occur in the future. We feel that the school took the appropriate actions to address this issue.

2) **410 IAC 33-4-2 states "carbon dioxide concentrations in the breathing zone shall never exceed 700 ppm over the outdoor concentration",** The carbon dioxide in some of the rooms was slightly higher than allowed. We recommend that the damper settings be checked to ensure sufficient fresh air is being supplied to the classrooms.

410 IAC 33 requires you to respond within 60 days of any actions you take based upon this report.

The School Indoor Air Quality rule 410 IAC 33-6-2 requires this report, and your response to this report, to be posted for 14 days at the location of the school building stated in the report so they are accessible to all students, parents, and employees.

Individuals experiencing any health problems should seek medical advice from a physician.

If you have questions I can be reached at 317.682.9033.

Sincerely,

Ron Clark

RON CLARK,
Industrial Hygienist
Indoor Air Section, Environmental Public Health

Enclosure

TABLE 1
Franklin Central High School Freshman Academy

Air Sample Results
Taken January 31, 2020

SAMPLE ID	LOCATION	NO. OF OCCUPANTS	RELATIVE HUMIDITY (%)	CARBON DIOXIDE (ppm)
1	9221	20	34	1222
2	9223	7	30	895
3	9212	23	31	1066
4	9133	19	34	1088
5	Outside	---	65	364

Notes:

% ---------percent

Ppm-------parts per million

CFU/M^3—colony forming units per cubic meter of air