

School/Facility: Waverly Elementary
Location: Throughout (Excluding Two-Story Addition)
Date of IEQ Report Form: November 13, 2017
Date(s) Investigated: November 13, 2017
Date of Report: February 6, 2018

IEQ Concern:

The school reported an odor (exhaust) resulting from activities performed in the area of the school under construction / renovation.

IEQ Investigation Process:

Identify deficiencies that may impact IEQ and/or sources of odor concerns. Typically includes the following depending on the nature of concern, but not limited to:

- interview/questionnaire of concern individual(s)
- inspection above drop ceiling (condition of roof deck, pipe insulation, return air plenum)
- inspection of ventilation system (operation of variable air volume box and outdoor air dampers, check controls, measurements of carbon dioxide, temperature and relative humidity, sources near outdoor air intake, measure return and supply air volume, cleanliness of coils, liner and condensate pan)
- inspection of exterior
- inspection below drop ceiling (housekeeping, sink and floor drain traps, signs of past and present moisture concern via visual and/or moisture meter, mold growth, ensure connection of current and capping of abandoned sanitary vents, odorizers, excessive plants and fabric items, identify potential pathways, and measure volatile organic compounds, carbon monoxide, and lighting)

Findings:

- A contractor working on-site for the first time was unfamiliar with work limitations and began cutting metal in the construction zone (approximately 8:30 a.m.) which is “isolated” from occupied areas of the school. The activity was ceased once learning of the odor concern and work limitations. The construction area had significant openings to the outdoors.
- The Office of Environment performed a further assessment after the school was instructed to update the office after a couple of hours of airing the school out. The school reported the odor and/or another odor was still present, but better in some areas.
- The construction area was under positive pressure compared to the occupied areas of the school.

- A slight residual gasoline and/or exhaust like odor could be sensed in the gym hall and nearby room A125. A visible haze and steel ore aroma could be detected in and near the impact area (rooms near isolation barrier separating gym hall and work area) within the construction zone
- Work observed within the construction area that could produce an odor included, skimming the cement floor and painting (latex).
- Volatile organic compounds (VOCs) were assessed throughout the building with trace detection (0.2 -1.0 parts per million (ppm)) within administrative work room and reception area, A125, and gym hall. All other occupied zones were 0 ppm. The construction area measured at 5 ppm. Outdoors areas were measured to be 0 ppm.
- Carbon monoxide (CO) levels were assessed throughout the building with trace amounts (0.1 – 0.8 ppm) detected. The peak readings were noted within the administrative work room and reception area, A125, and the gym hall. The construction area measured 4.4 ppm. Outdoor concentrations fluctuated between 0.2 and 0.8 ppm.
- Levels of CO and VOCs were considered nuisance and/or a possible irritant (low level and/or higher levels for short duration) and did not near or exceed permissible exposure limits.

Corrective Actions:

- Prohibited activities were ceased once learning of the matter. The building aired out to dilute the odor.
- The construction project Superintendent was made aware and reviewed proper procedures with contractors.