

**School/Facility:** St. Johns' Lane Elementary School

**Location:** Second Grade Pod Classroom 82 and Project Room

**Date of IEQ Report Form:** September 27, 2017 (first individual)  
October 9, 2017 (second individual)

**Date(s) Investigated:** October 18 and 27, 2017  
November 1, 2017 (sensed area while at school tending to separate task)

**Date of Report:** January 23, 2018

**IEQ Concern:**

An individual detects a musty / odd odor that develops in the afternoon and is more pronounced when the relative humidity is over 70%. A second individual detects an overwhelming musty odor permeating the entire pod.

**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:**

- On the initial visit prior to ventilation system operation, a distinctive odor (not musty), associated with carpeting and not uncommon, was detected upon entering the hallway leading to the pod. Sometime after the ventilation system started, a heat and dry carpet aroma could be sensed within the pod. On November 1<sup>st</sup> a dry air with dull carpet like odor within the pod was detected.

- Classroom 81 had a moderate brown water stained ceiling tile. A roof drain was located above the stained ceiling tile.
- Each classroom in the pod has a unit ventilator (UV) while the common area is served by a roof top unit (RTU). The UV in room 82 appeared to be operating 24/7. The RTU was not functioning.
- A metal component near the UVs' outdoor air louver had a layer of particulate (i.e. dryer lint trap appearance).
- The reported odor is believed to be associated building materials and room supplies which are influenced by expected fluctuations of indoor and outdoor air temperature and humidity and the operation of the ventilation system (designed to continuously circulate air and introduce outdoor air during school hours). The odor intensity of the building materials and room supplies can be enhanced by the deficiencies (off, running during scheduled off hours) identified in the HVAC system.

**Corrective Actions:**

- Building Services tightened the roof drain couplings and did not observe any continuing leaks (Work Order #47271).
- Under Work Order #47277:
  - Building Services replaced the UV's fan motor in classroom 82 and then checked for proper operation.
  - Building Services cleaned UVs' metal component with the particulate layer using a vacuum.
  - Building Services replaced the fan relay in the RTU and then checked for proper operation.