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Subject: **Ventilation System Screening**
School 54 - Flower City School, 36 Otis Street, Rochester, NY

On Thursday, January 28th, 2021 Ed Olmsted and Margaret Sergent, representing the Rochester NY Teachers Association and Matthew Seeger, representing the Rochester City School District Facilities Management office, inspected representative classrooms, and the ventilation systems at School 54, which is the Flower City School located at 36 Otis Street, Rochester, NY.

The ventilation survey was done as part of the exposure control program for pandemic SARS-CoV-2. The Rochester City Schools District instituted many exposure control measures for the coming year including mandatory wearing of masks, distancing of occupants (reduced occupancy), enhanced cleaning, operating the ventilation systems with a maximum fraction of outside air, and installation of ASHRAE MERV 13 filters, where the HVAC units can accommodate them. Each school will temperature screen entrants and have a nurse's office. Students with symptoms or suspected of having COVID-19 will be isolated in an isolation room.

The building will be utilized for in-school classes for elementary school students. This inspection was requested prior to the students return in mid-February 2021. The survey included the following:

1. A visual inspection of a number of representative classrooms, nurses office and isolation room as well as the mechanical rooms.
2. Taking airflow measurement at exhaust grilles and open windows using a TSI 9515 VelociCalc Air Velocity Meter (anemometer); and
3. A visual inspection of the building ventilation system(s).

Rooms inspected include the rooftop units, rooms 109, 124A main office, 126, 228 and 224. Observations and measurements are summarized below:

1. School 54 is a newly renovated school and has all new mechanical equipment. The school building has a masonry exterior and is of concrete and steel construction. The building is served by a central ventilation system that includes exhaust fans and supply air-handlers with a chilled beam system, however some rooms have univents. The supply air handlers are dedicated outside air system (DOAS) units located on the roof. The systems currently have MERV 8 filters. The active chilled beams are served by ductwork that delivers outside air that is primary air to the pressurized plenum within the device that is discharged through induction nozzles, mix with entrained air, and ventilates the room. There are secondary water pipes serving each chilled beam induction unit that provide heating or cooling to the zone. The building has a chiller that provides chilled water for air conditioning and a boiler that provides hot water. The ventilation outside air supply system is ducted to each ceiling mounted chilled beam induction unit.
2. Classrooms also have windows, which are sealed and cannot be opened for outside air. There is no perimeter heat and all heating and cooling is provided by the chilled beam induction units.
3. The main office is served by univents.
4. All mechanical equipment is on the BMS system, which controls the air handlers and monitors temperature and ventilation.
5. There are also exhaust fans that pull air from each classroom and bathrooms.
6. The rooftop DOAS units were inspected and found to be working properly.
7. Room 109 - The supply vents were moving air and working. The chilled beam induction units were checked with a thermal anemometer and had good airflow.
8. Room 124A – This room is the main office and is served by the univents. One uninvent was not running. It was reported that the BMS has the controls on this unit set to fan auto so the fan shuts off.
9. Room 126 (nurse's office) - The supply vents were moving air and working. The chilled beam induction units were checked with a thermal anemometer and had good airflow.
10. Room 228 – All supply chilled beam induction units were working properly and the exhaust was working.
11. Room 224 - All supply chilled beam induction units were working properly and the exhaust was working.

CONCLUSIONS

The school has a ventilation system that provides a mixture of outside air. The chilled beam induction units also recirculate air and deliver fresh air. The DOAS air handlers on the roof provide 100% outside air and no recirculated air. All outside air is filtered and heated. The school is ready for occupancy. The ventilation system in combination with wearing of masks, screening students, social distancing and sanitizing of surfaces as well as other controls provide a sufficient level of infection prevention. It is recommended that the uninvent be operated continuously in the main office.