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Subject: **Ventilation System Screening**
School 7 - Virgil Grissom School, 31 Bryant 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 7, which is the Virgil Grissom School, 31 Bryant 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. More information on the RCSD reopening plans can be found on the [RCSD website](#).

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 300, 308A, 308B, and 305. Observations and measurements are summarized below:

1. School 7 is an older building and was completely renovated in the last two years. This included installation of all new mechanical equipment. The school building has a masonry exterior and is of concrete and steel construction.
2. The building is served by a central ventilation system that include exhaust fans and supply air-handlers with a chilled beam system. The supply air handlers included some that are dedicated outside air system (DOAS) units located on the roof. There are also new air handlers located in fan rooms that provide a mixture of outside and return air. These have been run on 100% outside air until MERV 13 filters are installed. 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.
3. Classrooms also have windows, which can be opened for outside air, however opening windows is not permissible in the summer months because condensation forms on the chilled beam induction units. The windows can be opened in the winter. There are also exhaust fans that serve the bathrooms. There is no perimeter heat and all heating and cooling is provided by the chilled beam induction units.
4. The rooftop DOAS units were inspected and found to be working properly. The air handlers in the mechanical rooms were also inspected and found to be working properly.
5. Windows were checked in some classrooms and found to be working.
6. Classroom inspections revealed the following:
 - a. Room 300 - The supply vents were moving air and working. The three chilled beam induction units were checked with a thermal anemometer and had velocity rates of 190, 180, and 320 feet per minute.
 - b. Room 308A - The supply vents were moving air and working. The three chilled beam induction units were checked with a thermal anemometer and had velocity rates of 280, 160, and 430 feet per minute.
 - c. Room 308B - The supply vents were moving air and working. The three chilled beam induction units were checked with a thermal anemometer and had velocity rates of 700, 700, and 500 feet per minute.
 - d. Room 305 - The supply vents were moving air and working. The three chilled beam induction units were checked with a thermal anemometer and had velocity rates of 390, 180, and 270 feet per minute.

CONCLUSIONS

The school has a ventilation system that provides a mixture of outside air. The chilled beam induction units also recirculate air. The DOAS air handlers on the roof provide 100% outside air and no recirculated air. All outside air is filtered and heated. Windows can be opened but it is not necessary. Teachers are permitted to open a window a small amount during winter months. The school is ready for occupancy. The operable windows, 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.



Air handler has outside air damp full open



Currently MERV 8 filters



New air handler