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Subject: **Ventilation Screening**  
**All City High School**  
**2 Austin Street, Rochester, NY**

On Thursday, February 26, 2021, Ed Olmsted and Margaret Sergent, representing the Rochester, NY Teachers Association (RTA) inspected representative classrooms at the All City School located at 2 Austin Street in Rochester, NY. The survey team also included a representative of the Rochester City School District (RCSD), Matthew Seeger, Schools Facilities Management.

The survey was done as part of the exposure control program for pandemic SARS-CoV-2. RCSD instituted many exposure control measures for the coming year including mandatory wearing of masks, distancing of occupants (reduced occupancy), enhanced cleaning, in-school COVID-19 testing, operating the ventilation systems with a maximum fraction of outside air, installation of ASHRAE MERV 13 filters, where the HVAC units can accommodate them, and the provision of air purifiers to all occupied spaces. Each school will have temperature screening upon entry 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 is intended to be utilized in the Phase 3 February reopening for blended and in-school classes in middle and high schools. This inspection was requested prior to the staff and students' return and conducted after their return. The survey included the following:

1. A visual inspection of a number of representative classrooms;
2. A visual inspection of the building ventilation system(s); and
3. Taking airflow measurement at supply outlets, return/exhaust grilles and open windows using a TSI 9515 VelociCalc Air Velocity Meter (anemometer).

The findings include:

1. The All-City High School is in a leased building that is an old Catholic School. There is no central ventilation system and heating is done by steam radiators and cooling by window unit air conditioners.
2. There are exhaust fans on the roof that pull air from the classrooms, common areas and bathrooms. At the time of this survey most of the exhaust fans were not working and RCSD immediately contacted the shop and contractors to repair the exhaust fans.
3. Not all rooms could be inspected but a representative number was included in the inspection. All classrooms have operable windows that can be opened for outside air. Air was found to flow out of the windows which is probably because some of the exhaust fans were not working.
4. In the basement level multipurpose room, nurses office, and weight room there are exhaust fans in the windows that provide mechanical ventilation. These were mostly off and were turned on at the time of this survey. The volume flow rate provided by the exhaust fans was assessed and volume flow rates were measured at 250 CFM through one cafeteria fan and 2,000 CFM in the weight room. Operating the exhaust fans in the cafeteria, nurses office and weight room will provide sufficient ventilation to meet guidelines for SARs-CoV-2.
5. It was indicated that approximately 120 to 140 students were in the building at the time of this survey. Levels of carbon dioxide were measured in the school to assess air exchanges with the outdoors. The levels ranged from 550 to 600 parts per million (ppm). This suggests there are sufficient air exchanges.
6. The windows were checked in two classrooms to verify that they are operable and can be opened. Air velocity was measured at a window opened 2 inches and the room size was measured to estimate the air exchange rate. The following room air exchange rates were estimated for each room:
  - a. Classroom 705 – one window was opened 3 inches provided 4.5 air changes per hour
7. The nurses office and isolation room have HEPA filter air cleaners in addition to central mechanical ventilation and operable windows.
8. The isolation room has one window that has an air conditioner in the window. The AC unit should be removed so the window can be opened.
9. There were complaints of musty odors in the basement weight room. The teacher shut off the exhaust fan because of the odor. The exhaust fan should be operated. The odors are likely from the carpet, which may be getting damp due to moisture in the foundation wall and concrete slab.

## **CONCLUSIONS**

All classrooms also have operable windows that can be used to provide natural ventilation. Where possible and if necessary, teachers can open two windows in each room to an opening of two inches. This will provide natural ventilation without causing the room to become cold and will provide 4 to 5 supplemental air changes per hour. Additionally, the exhaust fans should be run in the basement level nurse's office, weight room and cafeteria. In addition, the exhaust fans on the roof should all be repaired to improve mechanical ventilation. In the isolation room the AC unit should be removed so the window can be opened. In the weight room the carpet should be removed. Do not put carpeting in basements below grade. Lastly, ensure other safety and health precautions, such as mask-wearing, social distancing, cleaning/sanitization, and routine

handwashing, are also practiced preventing the transmission of SARS-CoV-2. Pairing effective ventilation with mask wearing, social distancing, and other precautions are crucial in reducing the risk of COVID-19 in schools.

## **REFERENCE**

1. American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). Reopening of Schools and Universities. American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). 2020. Available at: <https://www.ashrae.org/technical-resources/reopening-of-schools-and-universities>.



Radiators provide heat and the windows provide natural ventilation





The roof top exhaust fans should be inspected and repaired where not working





there is dampness in the foundation wall in the weight room and this has caused a musty odor in the carpet.