

# **OLMSTED ENVIRONMENTAL SERVICES, INC.**

**1992 Route 9, Garrison NY 10524**

phone 845 424 4077 • fax 845 424 3482 • email [Olmsted.mac@me.com](mailto:Olmsted.mac@me.com)

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Report for: Margaret Sergent  
Second Vice-President  
Health and Safety Chairperson  
30 North Union Street, Suite 301  
Rochester, New York 14607

Email: [mmsergent@rochesterteachers.com](mailto:mmsergent@rochesterteachers.com)

Prepared by: Ed Olmsted, CIH, CSP  
Jennifer Long, MS

Subject: **Ventilation System Screening**  
**School 58 Rochester, NY**  
**World of Inquiry School**

On Monday December 21, 2020, Ed Olmsted and Jennifer Long as well as Margaret Sergent, representing the Rochester NY Teachers Association inspected representative classrooms, and the ventilation systems at School 58 in Rochester, NY. The survey team included representatives of the Rochester City School District (RCSD) including Stacie Darby, Environmental Health and Safety, Matthew Seeger, Schools Facilities Management, and Tom Keysa of Schools Facilities Management. 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.

School 58 is of prewar construction but was gut renovated recently and is of modern construction. The school building has a masonry exterior in the original building and glass and steel exterior in the new addition areas. The building is of concrete and steel construction and is served by a central ventilation system that consists of a number of air handlers in mechanical rooms primarily in the basement. The ventilation system provides both heating and cooling. The building has a chiller that provides chilled water for air conditioning and a boiler that provides hot water. The supply fans are new and provide a mixture of outside air and return air modulated by dampers. Each supply fan has an associated return/exhaust fan. Mixed air is filtered through MERV 13 filters and heated or cooled in fan coils in the unit. The ventilation supply system is ducted and has variable

air volume dampers (VAV) with re-heat coils. VAVs modulate the supply of air to a zone based on the temperature requirements. Classrooms have windows, which can be opened for outside air, however opening windows is not necessary since the mechanical ventilation system delivers outside air that is heated and filtered. There are also exhaust fans that serve the bathrooms.

The building will be utilized this January for in-school classes starting with special education students and phasing in elementary and middle school students. This inspection was requested prior to the students return. The survey was done on December 21, 2020 and included the following:

1. A visual inspection of a number of representative classrooms, nurse's office and isolation room as well as the mechanical room;
2. Taking airflow measurement at supply outlets, return/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).

The findings include:

1. The two basement mechanical rooms were inspected. The supply fans and the return / exhaust fan were inspected and found to be new and in good condition. The supply air units are operating and have MERV 8 pre-filters and MERV13 primary box filters. These are recommended by ASHRAE for infection prevention. The supply air handler units were delivering a large fraction of outside air.
2. The nurse's office (room L105) had measurable supply air out of each ceiling outlet. There is a standalone HEPA air cleaners in the nurse's office.
3. The isolation room (L-144) had good airflow from each supply diffuser.
4. Classrooms G124 and G114 will be used first. These were found to be clean and had good flow of supply air from the ceiling outlets.
5. All of the exhaust fans were found to be operating.
6. Exhaust vents were checked in representative bathrooms and were found to be moving air out of the bathroom.

## **CONCLUSIONS**

The school has a central mechanical ventilation system with MERV 13 filters and that provides a mixture of outside air and return air. All air is filtered and heated and provided to all rooms. The return and supply fans were all working. The exhaust fans were also working. Temperature readings indicate the heating system is working in each classroom. 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.



Box MERV 13 filter in air handler



New air handlers



MERV 13 new filters