

Fact Sheet: Water quality considerations for re-opening your building

The purpose of this fact sheet

As a building owner and operator, you are responsible for the water quality in your building and should understand what could happen when water is left stagnant. The longer the building has low water use, the higher the risk for water quality issues. During COVID-19, reduced or no water use in buildings may present health risks. This fact sheet provides information related to reopening your building's water supply.

Water quality concerns from prolonged stagnation

When the water is not used, the disinfectant in the water dissipates and may result in growth of microorganisms in pipes and fixtures. Disinfectant is used to prevent micro-organisms (such as Legionella) from spreading, preventing diseases. Stagnant water may dissolve toxic metals (lead).

Re-opening considerations

Prepare your water management plan:

- The best immediate action is to flush the entire building
- Inspect mechanical equipment to ensure proper function
- Clean all fixtures

- Develop a water safety plan to maintain/restore water quality

In most cases, flushing buildings with water that has normal chlorine levels is sufficient for cleaning the water system.

How to flush a large building

The American Water Works Association (AWWA) provides guidance to COVID-19 Shutoffs and Return to Service:

1. Remove or bypass point-of-entry treatment units prior to flushing
2. Take steps to prevent backflow or the siphoning of contaminants into plumbing
3. Flush to maximize water flow
4. Run enough water through all fixtures and taps, removing aerators when possible. (10 to 30 minutes for each, depending on water velocity)
5. Flush the cold water lines first, then the hot water lines
6. Replace all point-of-use filters, including the filter in refrigerators
7. Additional precautions may be needed

Flushing Responsibilities

- The building owner is responsible for the cost of recommissioning, including the cost of water needed for flushing

- Initial flushes of stagnant water may release high concentrations of chemicals and contaminants. Flushing should be conducted in a way to minimize splashing / aerosols.
- Consider hiring an expert such as plumbers or engineers to design and complete flushing plans.

Other recommended steps:

Site Specific

- Building water management plans should reflect the building's unique characteristics. Common elements include regular flushing and thermal regulation.
- Flushing is a best practice, is easy and has proven water quality benefits, so should be done periodically.
- If you can measure water quality, it's important to measure chlorine concentration at the supply and at the furthest tap in each zone. Some aspects of the building are site specific and will affect the volume, order and time needed to flush each tap. Protocols may require access to plumbing plans or drawings and building personnel who have knowledge of the system design.
- Legionella management typically relies on thermal control or onsite disinfection. Hot water systems should continue to operate to minimize potential legionella growth. If water heaters and pumps are shut down to save energy, this control will no longer be available. Consider hiring an expert to restore the water heating system.

- If there is a strong reason to believe the building's water quality is not restored with flushing, contact your local municipal water utility (contact information below).

Communication

Informing occupants:

- Communication should be tailored to individual situations and be accessible to all building occupants (simple language) and communicate risk factors

Contact Information

City of Cambridge Public Works
 E: publicworks@cambridge.ca
 P: 519-621-0740

Resources

ESPRI & HA Environmental COVID-19 Flushing Guide:
https://esprinstitute.org/wp-content/uploads/2020/04/FINAL_Corona_virus-Building-Flushing-Guidance-20200403-rev-1.pdf

AWWA Covid-19 Shutoffs and Return to Service Guidance
<https://www.awwa.org/Resources-Tools/Resource-Topics/Coronavirus#10681543-shutoffs-and-return-to-service-guidance>