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INFORMATIONAL RELEASE
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Water Resources' Statement on April 16 Wet Weather Event:
Partially Disinfected Release into Lake Champlain -
Known Risk to Human Health Minimal

Our priorities are stewarding Burlington's natural assets and infrastructure, protecting public health and providing accurate, transparent and timely information to the public. Below is factual information about the April 16th wet weather event discharge and additional background on Burlington's wastewater and combined sewer system.

- On April 16th Burlington's Main Wastewater Treatment Plant released approximately 7.128 million gallons of partially disinfected wet weather flow into Lake Champlain.
- Bacterial sample results read on April 17th yielded an *E. coli* concentration of approximately 28,000 cols/100 mL or 4.5 times our permit limit.
- The outfall is half a mile into Lake Champlain. Additionally, due to time of year there is limited recreation at this point on the Lake. The risk to human health is minimal. Furthermore, *E. coli* is not harmful to fish or other aquatic biota.
- A faulty valve appears to be the cause of the partial disinfection. The valve has been replaced and we are conducting an ongoing evaluation of this event and the overall system.
- Signs were posted at beaches and Lake access points within 1 mile of the outfall as a precaution as of 6:30 pm April 17th.
- Required parties, including surrounding towns, the Burlington city health officer, nearby water treatment facilities and the Department of Parks and Rec, as well as local media sources, have been notified within 12 hours of discovery in accordance with our permit and Department of Environmental Conservation procedures.

Release of Partially Disinfected Flow Incident:

As the result of the (0.89 inch) storm event on April 16 and increased runoff due to ground saturated by rain and snow melt events on April 12 - April 15, the wet weather system at the Main Plant processed approximately 7.128 million gallons of wet weather flow between 2 pm and 9:30 pm and a few shorter time periods after 9:30 pm. While the wet weather treatment screening systems worked as designed, operators noticed that despite increasing the dosage of

hypochlorite, our disinfection agent, they were not detecting appropriate levels of chlorine residual (a measure of disinfection agent) as the effluent was leaving the plant and entering the outfall pipe. While the “full treatment train” portion of the storm event’s flow was being fully treated and disinfected, the wet weather flow was not receiving adequate disinfection. The sample taken for *E. coli* analysis (which takes 24 hours to incubate) showed that we were discharging partially disinfected wet weather flow with a *E. coli* concentration of approximately 28,000 col/100 mL or 4.5 times our permit limit.

While the cause of the issue could not be fully diagnosed and remedied during the storm event, on April 17 wastewater staff members were able to confirm that a valve in our disinfection system had failed, sending the hypochlorite to a different portion of the plant instead of the wet-weather vortex system as designed. While the valve was determined to be in the correct orientation, the internal mechanisms of the valve directed the hypochlorite to the incorrect feed line. Recently, this valve operated correctly during a similarly sized storm event on Friday April 13, with no resultant disinfection issues. The valve in question has been replaced. Wastewater staff members are conducting a thorough review of the system to ensure that there are no other contributing issues.

Given the plant’s outfall is nearly a half-mile out in the lake (well beyond the breakwater) and the limited recreational use of the lake this time of year, the potential risk to human health for this incident is small. Nonetheless, nearby public access points to the lake were posted on April 17 and the event was reported to the State in accordance with the State’s public notification law. Wastewater staff also notified the required list of parties, including surrounding towns, the Burlington city health officer, nearby water treatment facilities and the Department of Parks, Recreation and Waterfront, as well as local media sources, in accordance with our permit.

Additional Background on Main Wastewater Plant Combined Sewer/Wet Weather Treatment System

Burlington’s Main Plant Sewer Collection system is a combined sewer system, where one pipe receives both sanitary and stormwater flow and carries it to the wastewater treatment plant. During significant storm events this combined sewer system *can* cause un-treated and un-disinfected combined sewer overflows (CSOs) from the collection system, but the vast majority of storm events travels to the treatment plant.

During the last Main Plant wastewater system upgrade in 1994 the City eliminated a number of untreated and un-disinfected CSOs by upgrading the plant’s treatment processes to provide the full enhanced secondary level treatment train (primary clarification, with biological nutrient removal, secondary clarification and disinfection) for small storm events (those with intensities < 0.15 in/hour).

The 1994 upgrade also maximized treatment for storm events that exceeded that small storm threshold (intensities > 0.15 in/hour) by providing vortex screening of solids and disinfection for

flows up to an additional 100 million gallons and rough screening and disinfection of all wet weather events in order to meet water quality standards in the Lake.

At the same time, the outfall for Burlington's Main Plant (previously located 100' on-shore) was redesigned to lay on the Lake bottom, extend 2600' off shore (out past the breakwater) and to include 1000' of diffusers (evenly spaced holes) to minimize the "point source" nature of a typical wastewater outfall. Our dry weather *E. coli* limit is 77 cols/100 mL (and we typically release < 4 cols/100 mL) cols, and our *E. coli* limit for wet weather events is 6160 cols/100 mL for wet weather events. During typical wet weather operations, we operate well below that limit.

The Department of Public Works team is committed to the stewardship of our precious water resources. We take this incident very seriously and will be continuing to pursue any possible near term preventative measures that could be taken to further minimize the possibility of this type of mechanical failure impacting our plants performance. Moreover, as we continue our on-going planning for the next round of significant capital investment in our existing plant processes and in possible future treatment enhancements, we will pursue all effective means of safeguarding our waters from such incidents.

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