




TO: Mayor J. Lehman and Members of General Committee

FROM: J. F. Thompson, P.Eng., CMM, PMP, Director of Environmental Services 

NOTED: Richard Forward, MBA, M.Sc., P.Eng.
General Manager of Infrastructure & Growth Management 
C. Ladd, Chief Administrative Officer 

RE: Frozen Water Services Remediation

DATE: December 14th, 2015

Following two back to back particularly cold winters with far more frozen water service lines than average, on June 22nd, 2015 City Council approved Staff Report ENV003-15. This Staff Report involved a Capital Project for the remediation in 2015, of fifty (50) Tier One priority water services as identified by Water Operations Branch (WOB) staff; and the development of an "Extreme Cold Weather Procedure" (Procedure), in an effort to mitigate potential frozen water services in the future. There were 313 impacted residential services identified over the 2014 and 2015 winters, which would require an estimated \$2.8 million total to fully undertake remediation works. A measured multi-year replacement program was recommended to target fifty (50) locations in 2015 as Phase 1. Council's approval enabled staff to proceed with this remediation work with an approved initial budget of \$450,000 in Capital funds for 2015.

Since July 2015, WOB staff undertook to upgrade the 50 Tier One locations within a 4-month construction window. Barrie's WOB is pleased to report that as of November 1st, 2015, all 50 Tier One priority locations were completed. For these locations, water services have been upgraded to ensure adequate depth of cover, insulation as necessary and sufficient separation from other buried infrastructure. This project is expected to come in under budget at an estimated \$447,000. Some of the lessons learned during this process include the consolidation of all contract work into one single contract, judicious use of WOB staff for completion of some lower complexity locations, and an increased technical knowledge for lowering and insulating services.

For the 2016, proposed Phase 2 of the project, an estimated 120 additional locations are planned to be completed at an estimated cost of \$575,000. These resources are part of the Intake Form #1036 to be considered with the 2016 Business Plan. This scope considers cost savings due to a longer construction window, economies of scale, and efficiencies gained from lessons learned with the Phase 1 project. Phase 3 proposed for 2017, is expected to complete the remaining 143 of the 313 identified locations.

For the development of the Extreme Cold Weather Procedure, WOB staff is pleased to report progress in this front as well. This Procedure has been divided in two elements; the billing and the operational procedure elements.

- **Billing.** In coordination with the Revenue Branch of the Finance Department, a proposed revised User Fees By-law will be addressing the water and wastewater charges for residents and will come before Council for consideration in an upcoming Staff Report in early 2016. Under this Procedure, billing will be adjusted to ensure specifically authorized residents don't bear the additional costs of water being run to waste to avoid freezing.
- **Operational Procedures.** WOB staff has updated their Standard Operating Procedures (SOPs) to reflect the successful practices employed during the 2014 and 2015 winters and lessons learned from other municipalities across the Province with similar experiences.

The Extreme Cold Weather Procedure will allow high risk properties with the potential to suffer from frozen services to be placed on a "run water list" during periods of extended cold temperatures. These residents would be instructed and assisted to set a fixture (e.g. toilet) to partially run, in order to avoid freezing of their water service.

Any questions regarding this memo or the next steps within the frozen water services remediation plan can be directed to Mr. Edgar Tovilla, Manager of Water Operations, at extension 6167.


15-12-02
J.F. Thompson, P.Eng., CMM, PMP
Director of Environmental Services