



## REPORT FOR ACTION

# Annual Report - Lead in Drinking Water Mitigation Strategy

**Date:** August 31, 2017

**To:** Public Works and Infrastructure Committee

**From:** General Manager, Toronto Water

**Wards:** All

## SUMMARY

---

This report provides an annual update on the City's Lead in Drinking Water Mitigation Strategy.

## RECOMMENDATIONS

---

The General Manager, Toronto Water recommends that:

1. Public Works and Infrastructure Committee receive this report for information.

## FINANCIAL IMPACT

---

There is no financial impact from the receipt of this report.

The Deputy City Manager & Chief Financial Officer has reviewed this report and agrees with the financial impact information.

## DECISION HISTORY

---

Annual Report-Lead in Drinking Water Mitigation Strategy

At its meeting on September 27, 2016, Public Works and Infrastructure Committee received for information item PW15.3, titled "Annual Report - Lead in Drinking Water Mitigation Strategy". The report and attachment can be viewed at:

<http://www.toronto.ca/legdocs/mmis/2016/pw/bgrd/backgroundfile-96257.pdf>

<http://www.toronto.ca/legdocs/mmis/2016/pw/bgrd/backgroundfile-96258.pdf>

## Feasibility of Using Toronto Renovates Funds to Replace Residential Private-Side Lead Water Service Pipes

At its meeting on June 20, 2016, Public Works and Infrastructure Committee received for information item PW14.12, titled "Feasibility of Using Toronto Renovates Funds to Replace Residential Private-Side Lead Water Service Pipes". The report can be viewed at:

<http://www.toronto.ca/legdocs/mmis/2016/pw/bgrd/backgroundfile-93973.pdf>

## Proposed Loan Program for Replacement of Residential Private-Side Lead Water Service Pipes

At its meeting of November 3 and 4, 2015, City Council adopted with amendment item PW7.20, titled "Loan Program for Replacement of Residential Private-Side Lead Water Service Pipes", providing the following direction:

1. City Council direct the General Manager, Toronto Water to consider accelerating the annual number of Priority Lead Water Service Replacements.
2. City Council direct the General Manager, Toronto Water and the Director, Strategic Communications, in consultation with other staff, as appropriate, to review and improve outreach efforts and communications about the Priority Lead Water Service Replacement Program, the Faucet Filter Rebate Program and lead testing program.
3. City Council request the Director, Toronto Office of Partnerships, in consultation with other staff, as appropriate, to approach local financial institutions to discuss and review the feasibility of low interest or easily accessible loans for residential private side lead water service replacements.
4. City Council request the Director, Toronto Affordable Housing Office, in consultation with other appropriate City staff, to report back to the Public Works and Infrastructure Committee in the first quarter of 2016, on the feasibility of "Toronto Renovates" funds to be used for private lead water pipes, as an essential repair to bring a home up to acceptable standards, such as heating, plumbing, fire safety, electrical and accessibility modifications.

The Council report and directions can be viewed at:

<http://www.toronto.ca/legdocs/mmis/2015/pw/bgrd/backgroundfile-83235.pdf>

<http://www.toronto.ca/legdocs/mmis/2016/pw/bgrd/backgroundfile-93973.pdf>

## COMMENTS

---

In 2011, Toronto City Council approved the Lead in Drinking Water Mitigation Strategy a comprehensive strategy comprised of corrosion control, lead service replacement, a faucet filter program and public education to reduce lead in drinking water. Please find below an update on the Strategy.

### Corrosion Control Plan

Corrosion control was mandated and is regulated by the Ministry of the Environment and Climate Change (MOECC). It is the treatment, or the addition of phosphate to

create a barrier between the pipes and the drinking water, and is the most cost-effective strategy available to water utilities to address lead concerns in drinking water. Endorsed as a lead reduction measure by authorities such as Health Canada and the United States Environmental Protection Agency, corrosion control was implemented in Toronto in December 2014 at all four water treatment plants by adding phosphate to the drinking water. It will take several years to determine the full impact on lead levels across the city.

### **Regulated Testing**

During the implementation of corrosion control, the MOECC provided relief from the regulated residential and non-residential lead sampling program. In March 2017, the MOECC Drinking Water License was amended to include the completion of corrosion control implementation and as well reinstates the regulated lead sampling program. The amended License now requires a total of 55 tap water samples be collected on an annual basis from homes and businesses with known or suspected lead services. The new public reporting period will be on an annual basis starting March 31, 2018.

### **Toronto Water Lead Sampling Program**

In 2015 and 2016 (during the regulated testing relief period) Toronto Water (TW) conducted a sampling program similar the MOECC regulated lead sampling program. During this time period staff collected tap water samples from residential plumbing at homes with known or suspected lead service lines to monitor the effectiveness of corrosion control. The majority of this sampling took place when water temperatures were warmer and lead levels are typically elevated.

MOECC regulatory compliance is obtained when no more than 10 percent of the samples exceed the limit of 10 parts per billion. See results below:

#### **Pre-Corrosion Control Implementation (MOECC Regulated Sampling)**

2008 and 2009: Tap water samples taken during warm water sampling periods 140 of 400 residential and business samples exceeded the regulatory limit.

#### **Corrosion Control Implementation Period (Toronto Water Sampling Program)**

2015 and 2016: Tap water samples taken during warm water sampling periods 2 of 150 residential samples exceeded the regulatory limit.

These early results indicate a noticeable reduction in lead levels in residential premise plumbing since the implementation of corrosion control.

TW continues the lead pipe loop tests at the R.C. Harris Water Treatment Plant that simulate household plumbing to evaluate lead levels under various operating conditions, including reduced phosphate (corrosion control) dosages.

#### **Non-Regulated Testing Program**

Non-regulated drinking water testing for lead continues to be provided at no cost to property owners. TW continues to send out information packages to all residents whose lead test indicate any level of lead in an effort to encourage residents to take action when measured lead levels are above the laboratory method detection limit.

## Lead Service Replacement

Priority Lead Water Service Replacement Program: Coordination of replacement of the City's lead pipes when homeowners replace the lead pipes on their private property.

Planned Capital Water Service Replacement: The scheduled replacement of substandard water services in coordination with programmed capital works and infrastructure renewal program such as watermain replacement, watermain structural lining, road reconstruction and sewer reconstruction.

Emergency Water Service Replacement: This is the replacement of City-owned water service pipe when a pipe that supplies water to a home is broken or has low flow.

Toronto Public Health (TPH) advises that it is desirable due to adverse health impacts to remove as much lead from the water infrastructure as possible and that both the public and private sides of the property line should be replaced at the same time wherever possible. Toronto has approximately 437,000 residential water service connections. In 2007, approximately 65,000 City-owned services were estimated to be lead. In 2016, there are approximately 31,256 remaining.

**Table 1: Lead Service Replacements**

Program Name	Activities	Budget Target*	2016	2015	2014
Planned (Capital Project) Water Service Replacement	Watermain replacement	3,000	264+	712+**	1,711
	Structural relining				
	Road reconstruction				
Un-Planned Water Service Replacement	Priority Lead Program	1,500	1,021	1,079	1,431
	Emergency Replacement	500	355	599	740
Total		5,000	1,640	2,390	3,882

+ Service cards are received in batches. The numbers reflect service cards incorporated to date. \*Financial budget targets are set for planning purposes - there is no cap on replacements.

\*\*In the 2015, the Annual Lead in Drinking Water Mitigation Strategy reported 86 services replaced and the year-end total, once all service cards counts were completed, increased to 712. The 2016 number of 264 will also increase once service card counts are completed.

## Faucet Filter Program

Toronto Water provides free NSF-053 certified faucet filter for lead removal in the following instances to qualified homeowners:

To all homes immediately following the replacement of the City-owned section of the lead pipe that supplies water to the home;

When Water Meter staff have to cut into a lead water service on private property to install a new automated water meter;

Starting February 1, 2015, a faucet filter is mailed out to residents once their application to the Priority Lead Water Service Replacement Program is accepted into the program;

An annual \$100 rebate for the purchase of a NSF-053 certified faucet-mounted filter is available to low income residents.

## **Public Education and Communication**

Since 2007, information on lead in drinking water continues to be provided to residents through a wide range of communications resources and approaches from broad based communications such as the utility bill, to staff attendance at public meetings in specific neighbourhoods. TW and TPH, through their public education efforts, continue to advise the public that replacing both the City-owned side and the homeowner side of the lead service pipe at the same time is important. This minimizes the potential of lead fragments entering the pipes and eliminates the need for ongoing filtering of water for lead.

## **Outreach and Communications**

Council directed TW to develop a targeted pilot project to identify, educate, encourage and coordinate the replacement of private and public water services in areas with a significant number of homes that may have lead services.

In response, two public meetings were held in September 2015 and May 2016. The locations of the meetings were chosen by identifying areas where capital water service replacement projects were scheduled, combined with homes built prior to the mid 1950's.

City staff from Engineering and Construction Services (ECS), TW and TPH presented information and answered questions about the capital works project, lead and drinking water, the City's programs and services to reduce lead exposure, including the implementation of corrosion control, and distribution of faucet filter kits. Free lead testing kits were distributed to residents at both events.

Meeting notices are delivered to every home, however, the public meetings held did not generate considerable uptake in attendance, or program applications. Of the 200 property owners invited to the September 2015 meeting, approximately 40 attended. Of the residents that attended the meeting, zero submitted lead test samples, even though several kits were given out.

Over 400 residents were invited to the second meeting held May 30th, 2016, approximately 30 residents attended. Of those that attended the meeting, five subsequently applied to the Priority Lead Program, and four submitted a water sample for testing. Of the additional residents that received the notification letter, but did not attend the meeting, five submitted lead test samples, and six applied to the Priority Lead Water Service Replacement Program.

TW and TPH evaluated the effectiveness of the meetings and in light of the low attendance and few program applications submitted future meetings will be facilitated upon request.

In 2016, TPH staff in collaboration with TW staff began distributing free filters to participants in the Canada Prenatal Nutrition Program (CPNP). CPNP participants are referred to this program by TPH staff, family physicians and/or partner agencies because of their vulnerability status. Vulnerability is defined as low-socio-economic status and pregnancy. In 2016, TW received six inquiries from residents participating in the CPNP program. Of the six residents, two qualified and were sent faucet filters, two

were found to have copper services, and two were high rise apartment buildings who would not have lead services.

### **Data Systems Related to Lead Services**

TW tracks water service information and replacement status via water service cards submitted by the project delivery groups. In 2016, TW planned to develop a digital map that would identify areas/neighbourhoods where lead water services were potentially installed within the limits of privacy requirements. During TWs feasibility review of delivering the digital map, significant gaps in information were identified from the available water service cards. As a result, the unavailability of the data, specifically the historical water service material type, makes the creation of a digital interactive map or online database unfeasible.

Data is currently being collected on completed water service replacements and will be used to update the status of public-side lead service replacements with the anticipation of better data tracking.

## **"Toronto Renovates" Funds used for Replacement of Residential Private-Side Lead Water Services**

In a report received for information at the June 20th 2016 meeting of Public Works and Infrastructure Committee, the Director, Affordable Housing Office advised that the Affordable Housing Office would continue to consider residential private-side lead water pipe replacement as part of the Toronto Renovates home repair program, on a case by case basis and subject to the terms and conditions of the program.

Since 2012, "Toronto Renovates" has received 2 applications for lead water pipe replacements with 1 approved for funding and 1 in process.

The decision of the Committee can be viewed at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.PW14.12>

## **CONTACT**

---

William Fernandes, Director, Water Treatment and Supply, Toronto Water, Phone: 416-338-8220, Email: [William.Fernandes@toronto.ca](mailto:William.Fernandes@toronto.ca)

Kamal Sangha, Manager, Business and Customer Support, Toronto Water, Phone: 416-338-0635, Email: [Kamaldeep.Sangha@toronto.ca](mailto:Kamaldeep.Sangha@toronto.ca)

## **SIGNATURE**

---

Lou Di Gironimo  
General Manager, Toronto Water