

April 12, 2018

To: Members
Public Works and Infrastructure Committee

Re: Lead Service Connection Management Program Update

RECOMMENDATION

1. That Administration be directed to provide a report to Public Works & Infrastructure (PWI) Committee annually, which details the progress of the Lead Service Connection Management Program (LSCMP).
2. That this report be forwarded to the April 30, 2018 meeting of City Council for approval.

CONCLUSION

The Administration will continue to improve the LSCMP within the existing budget. These improvements will include:

- Increased public education and communication.
- Improved record keeping for both City and privately-owned lead service connections.
- Increased lead service connection replacement.
- Improved eligibility for filters or rebates for filters.
- Continued improvement of our construction practices.

BACKGROUND

Water received from the Buffalo Pound Water Treatment Plant (BPWTP) within the City of Regina's (City) water mains is free of lead, meeting the City's regulatory obligations. As with all water provided by a municipality, lead can enter the water if the water comes into contact with any materials containing lead. Lead materials can be found in approximately five per cent of City-owned service connections in Regina, which connect the water mains to individual buildings, as well as privately-owned service connections and in plumbing inside some buildings. Several factors determine whether traces of lead are present in tap water, including water chemistry, the condition of a lead service connection and whether lead-containing materials are present in the building's plumbing.

The City is responsible for the City-owned portion of the service connection from the water main to the property line. The property owner is responsible for the privately-owned portion of the service connection from the property line into the home, as well as in-house plumbing (see Appendix A).

Between 1900 and the 1930s, lead was a common plumbing material used in service connections and also in home plumbing, solder and brass. In the 1950s, the City stopped installing lead service connections. In 2009, the City completed testing following federal government recommendations. In the early 2010s, the City stopped repairing leaks on City-owned lead service connections and instead began replacing them with non-lead materials. In 2014, the City began actively replacing City-owned lead service connections before major roadways work and recently, the City construction standards were changed to adopt low-lead brass fittings and devices.

Ninety-five per cent of City-owned water service connections today are lead-free. There were originally about 7,000 City-owned lead service connections and City records show that approximately 3,800 remain.

Current LSCMP

The City has been actively managing City-owned lead service connections for some time. Aspects of the current program include:

- Replacement: The City replaces the City-owned side of lead service connections when they break or during planned major road upgrades. The City-owned portion of the lead service connection is also required to be replaced during re-development of an existing property with a lead service connection. The City will also replace a City-owned lead service connection when requested by a property owner, where the private portion of the service connection is not lead.
- Sampling and Testing Programs:
 - Random Testing Study includes proactively collecting data through a tap water testing study with about 50-100 residents; and
 - In-Home Point of Use Testing provides property owners and residents an option for free lead testing for properties that meet specific criteria. Property owners are able to collect and submit their own sample.
- Filters: The City provides access to lead removal filters through either providing a City-procured device for filtering lead or a rebate for the device for residents, property owners, or businesses where such persons meet a defined set of criteria (see Appendix B).
- Information: The City provides educational material on Regina.ca to sampling participants regarding health risks as well as actions residents and property owners can take to reduce their exposure to lead.

Information regarding LSCMPs in other municipalities is detailed in Appendix C.

DISCUSSION

Current Program Description

New industry standards relating to managing lead service connections are expected in the near future. In preparation of these expected changes, proactive data collection and education was the primary focus of the 2017 LSCMP. The 2017 program activities included the following:

- **Replacement:** The City replaced 109 City-owned lead service connections through City construction programs. The City also received and accepted six application forms to replace a City-owned lead service connection from residents. Replacements are scheduled to take place in 2018.
- **Random Testing Study:** Approximately 430 letters were sent to residents requesting their participation in the Random Testing Study. Thirty-eight residents responded to the request by signing up and sampling was completed at 89 residential homes. The other participants were obtained by contacting residents where City work related to the service connection occurred, by soliciting City employees and responding to public requests.

The City's results indicate that the City should continue to enhance the program, based on the Health Canada's Guidance on Controlling Corrosion in Drinking Water Distribution Systems Action Limit.

- **In-Home Point of Use Testing:** The City received three requests for In-Home Point of Use Testing. Of those three, two have followed through with the testing.
- **Filters:** Eligible residents have the option to either receive a rebate of up to \$100.00, or receive a City-provided filter with replacement cartridges that last for a year. In 2017, this program cost \$1,375.00 and provided:
 - four rebates at a total cost of \$362.68, and
 - nineteen City-provided filters costing approximately \$50.00 each, plus tax, at a total cost of \$1,012.32.
- **Public Information:** Information was provided primarily to testing participants and website users; specifically, property owners who had a City-owned lead service connection replaced or repaired were notified and offered testing and filters.

2018 Program Enhancements

As the test results from 2017 fall in the range where Health Canada recommends additional enhancements, the LSCMP will implement improvements in 2018. These improvements include:

- **Public Education and Communication:**

- Improve individual communications to existing and new property owners who have a City-owned lead service connection or who may have a privately-owned lead service connection. General broad communication to raise awareness, as well as notification of customers affected by construction that could disrupt lead service connections, are included.
 - Expanded information on the Regina.ca website including reports on the progress of the program.
 - Increase community outreach activities such as booths at various community locations.
 - Work with community partners to develop improved communication tactics to reach customers who may be affected.
- Improve Record Keeping for Both City and Privately-Owned Lead Service Connections:
 - The City will collect information on private lead service connections in conjunction with other City programs such as meter replacement. The collected information will improve record keeping and track progress towards replacing lead service connections regardless of their ownership.
- Increase Lead Service Connection Replacement:
 - The City will develop activities to provide property owners more options for replacing City-owned lead service connections. Additionally, opportunities to assist with the replacement of privately-owned lead service connections will be reviewed.
- Consider Corrosion Control Chemical Addition:
 - The City will continue to explore the addition of a corrosion control chemical to the water to reduce lead in tap water. Work is currently ongoing to analyze the technical requirements and understand the potential implications.
- Improved Eligibility for Filters or Rebates for Filters:
 - As program development is continuing, 2017 participants will be eligible for additional filter supplies or rebate in 2018.
- Continue Improving Construction Practices:
 - The City will continue to review construction practices to ensure that disturbances result in lead service connection replacement and notification of homeowners.

The above improvements are based on best management practices to achieve the goal of reducing lead at the tap.

These improvements are focused actions the City can take; however, to be effective in reducing the potential for lead in tap water, residents will have to use the information and supports such as

the filters provided. These actions will ensure the City is effectively managing the program that is intended to remove all lead service connections from the City's water distribution system, while ensuring customers have the information and means to reduce their risk of lead exposure.

Pace of Replacements

Historically, the City replaces 75 to 100 City-owned lead service connections annually through various initiatives. The annual number of lead service connections replaced each year is expected to increase, as residents become more familiar with the City of Regina's program and the risk associated with lead in drinking water.

The industry best practice is to target the replacement of all City-owned and privately-owned lead service connections by 2050. The best practice is based on the following:

- The best approach to minimize exposure to lead from drinking water at the municipal level is to remove the full lead service connections (City-owned and privately-owned portions) and to control corrosion in the distribution and treatment systems.
- New best management practices only consider a lead service connection as replaced when both the privately-owned portion and City-owned portion has been replaced.
- Replacing a full lead service connection appears generally effective in achieving long-term reductions in drinking water lead levels. Replacing only the City-owned portion while a privately-owned lead service connection remains is less effective.

The focus of the City's lead service connection replacement initiatives is to ensure that the City can be responsive to customers. This approach will also allow customers to drive the replacement of City-owned lead service connections as fast as they wish.

Current program elements will result in the rate of City-owned lead service connection replacements increasing as property owners become aware of these options. Additional program elements to encourage lead service connection replacements are also in development to provide other options to complete lead service connection replacements.

The City will be actively promoting program elements to increase the rate that customers request replacement of City-owned lead service connections. This approach will continue to increase the rate of lead service connection replacements and will do so in a manner that will be effective in reducing lead concentrations in tap water. Increasing the rate of City-owned lead service connections without property owner participation is not effective in reducing lead concentrations.

A significant challenge to property owner participation is the cost of private lead service connection replacement. The cost of this work typically ranges from \$2,500.00 to \$8,000.00.

Aligning with industry best practices provides time for property owners to plan and budget for a lead service connection replacement.

The following are the advantages and risks associated to the approach described in this report:

Advantages:

- Educates the public about their risk from lead service connections.
- Provides property owners with information about their own home as well as actions they can take.
- Allows the City's LSCMP to be consistent with best practices and practices in various Canadian municipalities.
- Provides enhanced public assistance to address the risks associated with lead, whether from a City-owned lead service connection, privately-owned lead pipe or other plumbing materials that may contain lead.
- Protects the City's interests by being open and transparent with property owners.
- Assists the City with achieving the goals detailed in the *Design Regina, Official Community Plan* (OCP).

Risks:

- The City will continue to incur costs for testing, filter rebates, and filters. The current Utility Budget contains sufficient funding to cover expected costs.
- May increase demands from property owners for City-owned lead service connection replacements, which could require future year budget allocations.

RECOMMENDATION IMPLICATIONS

Financial Implications

Assuming work is evenly distributed until all lead service connections are replaced, the proposed activities can be managed within the existing long-term financial model for the Utility and by itself, will not result in a rate increase. The LSCMP is funded through both capital and operating funds.

The 2018 Utility Capital Budget includes funding for water infrastructure renewal. Lead service connection replacements are a portion of the work funded from this budget. No additional funding is required in 2018 to address additional expected lead service connection replacements that may result from increased resident and business owner awareness. The capital budget includes \$4,500,000 for service connection replacement; a portion of this work would be replacing lead service connections.

The 2018 Utility Operational Budget also includes funding for the LSCMP. The operational funding is for filters, the Random Testing Study, communication needs and in-home point of use testing. The operational budget for the Lead Service Connection Management Program is \$235,000.

Environmental Implications

None with respect to this report.

Policy and/or Strategic Implications

Over the long term, the LSCMP is consistent with the City's OCP as follows:

- A revised program will meet industry best practices for managing lead service connections (OCP D4 Goal 1 - Safe and Efficient Infrastructure).
- Additional financial resources to replace City-owned lead infrastructure helps make the City's LSCMP affordable and accessible to all property owners of Regina (OCP D11 Goal 5 - Social Inclusion: 13.19).
- Providing filters or a rebate for a filter, demonstrates that Regina is a caring community for all property owners, including those who are vulnerable and marginalized and who may not be able to afford lead service connection replacement (OCP D11 Goal 4 - Vulnerable and Marginalized Populations).
- Future program activities will encourage the replacement of both the City-owned and privately-owned lead service connections, helping to improve the condition of existing housing stock (OCP D6 Goal 2 - Existing Housing Stock: 8.9).

Other Implications

None with respect to this report.

Accessibility Implications

None with respect to this report.

COMMUNICATIONS

Information on the revised LSCMP is currently available on Regina.ca. New activities during 2018 will focus on providing information to residents that may have a City-owned or privately-owned lead service connection. This information will include:

- Providing educational information to residents and property owners where partial lead service connections are replaced.
- Letters to property owners seeking volunteers to participate in water testing.

- Letters to property owners where a City-owned lead service connection is present, as well as information targeting property owners in areas where lead service connections may have been used on either side of the property line.

DELEGATED AUTHORITY

The recommendations contained in this report require City Council approval.

Respectfully submitted,

A handwritten signature in blue ink, appearing to be 'Pat Wilson', with a long horizontal stroke extending to the right.

Pat Wilson, Director
Water Works

Respectfully submitted,

A handwritten signature in blue ink, appearing to be 'Karen Gasmo', written in a cursive style.

Karen Gasmo, Executive Director
Transportation & Utilities

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