

Private Side Lead Replacement Strategy – Engagement Update

ISSUE

This report provides an update regarding engagement for the private side-only lead service line (LSL) replacement, associated risks with lead in drinking water, property ownership changes, and updated replacement costs.

BACKGROUND

At its March 1, 2021 meeting, the Standing Policy Committee on Environment, Utilities and Corporate Services considered the report titled [“Strategy for the Replacement of Lead Service Lines on Private Side Only”](#) and resolved:

“That the item be deferred to the August meeting of the Standing Policy Committee on Environment, Utilities and Corporate Services in order for the Administration to:

- Engage the affected homeowners with regards to the options for the replacement of these remaining private lead lines and report back to this committee at its August meeting;
- To provide an analysis of the risk of the introduction of lead into drinking water, both at the private side and into the general system, be included, both with and without line disruption; and
- Provide additional information identifying how many of the 168 properties changed ownership after 2016.”

The initial report presented on March 1, 2021, included the following information:

- Approximately 350 properties existed where the private side of the water service (owned by the property owner) was lead and the public side (in the public right-of-way) was not lead; and
- The approximate cost of a private side-only lead service line (LSL) replacement was estimated at \$7,500 to \$9,000.

CURRENT STATUS

In preparation for the engagement of affected property owners, a manual audit of the service line material database was undertaken. An audit of database information was completed prior to contacting property owners to confirm that the service line material in the database is correct. All drawings and records for each property were individually reviewed and records updated. The audit resulted in a reduction of the private side-only LSLs from 350 to 256. The number of properties that changed ownership after 2010 was reduced from 168 to 145. Sixty-seven of those properties changed ownership after 2016. The 256 property owners and occupants were sent letters inviting them to participate in an online survey.

The initial estimated price for a private side-only replacement was reduced to \$4,000 to \$6,000 based on more recent tender pricing for work that is more similar in scope to a private side only replacement. The impact of the reduction has been outlined in the Financial Implications section of this report.

DISCUSSION/ANALYSIS

Public Engagement

An online survey was open for responses from May 26 to June 18, 2021, to gauge support for each of the four options that were presented to the Standing Policy Committee on Environment, Utilities and Corporate Services on March 1, 2021, as well as to receive comments on the project.

The four options presented were:

1. Require property owners to replace private side-only LSLs at their own expense, with the costs eligible to be deferred to their property taxes;
2. Require property owners to replace private side-only LSLs at their own expense, with no eligibility to defer payments to their property taxes;
3. Require property owners to replace private side-only LSLs with costs shared between the owner (40%) and the City of Saskatoon (60%); and
4. No requirement for property owners to replace private side-only LSLs.

The survey was available on the project's Engage webpage and was directly marketed by mailout to owners and residents of the 256 properties known to have a private side-only LSL.

In total, there were 59 responses to the survey, the majority of which own the home they live in and have private side-only LSLs to the home.

Of the four presented options, Option 3 received a strong level of support from survey respondents, Options 1 and 4 received some moderate support, and Option 2 received very little support.

The level of support indicated for each option is provided below as a proportion of all respondents who provided a level of support for that option. A weighted score is also provided in the table as a measure of level of support. This weighted score was calculated by multiplying responses of "Strong Support" by 2, responses of "Medium Support" by 1, and responses of "Do not Support" by 0. These "weighted" responses were then added together and divided by the total number of responses, which provides a total weighted score between 0 and 2. A "0" weighted score would indicate all respondents provided a response of "Do not Support" while a weighted score of "2" would indicate all respondents provided a response of "Strong Support."

What is your level of support for each option?				
	Strong Support	Medium Support	Do not Support	Weighted Score (0 - 2)
Option 1 Require replacement with property owner paying full cost but able to defer costs to their property taxes	18%	44%	38%	0.80
Option 2 Require replacement with property owner paying full cost	0%	12%	88%	0.12
Option 3 Require replacement with the City covering 60% of the cost	78%	16%	6%	1.72
Option 4 Replacement not required	31%	15%	54%	0.77

Risk of Introduction of Lead into Drinking Water

The City of Saskatoon (City) conducts an annual lead monitoring program as recommended by Health Canada for communities with a population greater than 100,000, as outlined in [Guidance on Controlling Corrosion in Drinking Water Distribution Systems](#), and reports results to the Saskatchewan Water Security Agency. The [annual report](#) is posted on the City’s website.

Health Canada’s document outlines monitoring procedures and maximum acceptable concentrations of lead in drinking water. The Federal Maximum Acceptable Concentration (FMAC) of lead is 0.005 mg/L. This was reduced in 2019, down from 0.010 mg/L. The Government of Saskatchewan has adopted a Provincial Maximum Acceptable Concentration (PMAC) of 0.010 mg/L.

- Risk of introduction of lead into drinking water into the general system
Water quality testing at the Water Treatment Plant, at hydrants throughout the distribution system, and at properties that have no known lead materials (control sites) indicate that LSLs do not introduce lead into the general water main distribution system.

Theoretically, a depressurization event could create a situation where water from an LSL is pulled to the water main; however, the likelihood of this resulting in a concentration of lead exceeding the FMAC is very low. Another mitigating factor is that following the majority of depressurization events, the water main is flushed before fully returning to service.

- Risk of introducing lead into drinking water at the private side
The annual corrosion report indicates that LSLs contribute to lead levels above the FMAC. Forty-two sites with known LSLs were selected for sampling, thirty-seven (88%) exceeded the FMAC of 0.005 mg/L and thirty-five (83%) exceeded the PMAC of 0.010 mg/L in at least one of the four samples.

For properties with LSLs, the City mails out a [brochure](#) annually with information on how to reduce exposure to lead.

- Analysis of risk of lead line disruption

Over time, it is expected that properties that have had complete LSL replacements will no longer have lead levels exceeding the FMAC. However, soon after replacement, there may still be lead particles in the plumbing system.

Seven sites were selected for lead testing that had recently had full LSL replacements. One of the seven replaced LSL sites exceeded the FMAC of 0.005 mg/L in one of the four samples collected at that location (0.00720 mg/L). The other six sites all had lead levels below the FMAC.

The site exceeding FMAC is indicative of increased lead levels that are noticed when an LSL is disturbed. Owners are notified to continue flushing their lines for up to two-to-three months following an LSL replacement.

Property Ownership Change Since 2016

The revised number of properties that changed ownership from 2010 to present is 145; of those, 67 changed ownership after 2016.

A summary of all 256 properties shows the current owners purchased their properties:

- Prior to 2010 – 111;
- From 2010 and up to and including 2016 – 78; and
- After 2016 – 67.

For reference, the following are key dates related to the LSL replacement program:

- 2010 – homeowners were no longer allowed to opt out of full LSL replacements. Prior to 2010, homeowners could opt to keep private side LSLs.
- 2016 – the LSL replacement program received increased funding to accelerate the rate of replacement with the goal of replacing all remaining LSLs by the end of 2026. The accelerated program began in 2017.

FINANCIAL IMPLICATIONS

The engagement survey used a lower estimated private side replacement cost than the initial decision report presented at the March 1, 2021 Committee meeting.

The report included Option 3 with a 60/40 cost split between the City and homeowners at estimated costs of \$4,500 to \$5,400 for the City and \$3,000 to \$3,600 for the homeowner.

Based on the updated estimates used in the engagement, these costs are now estimated to be \$2,400 to \$3,600 for the City and \$1,600 to \$2,400 for the homeowner.

The updated total cost to the City for Option 3 is estimated at \$614,400 to \$921,600 for 256 properties.

Additional Financial Considerations for Option 3

The typical price that homeowners pay on the current LSL replacement program is \$3,520. In order to maintain equitability between programs, it may be considered, in lieu of Option 3, that instead of the 60/40 split, the homeowner portion of a private side-only replacement should match the homeowner portion for the full LSL replacement program.

Based on estimates of \$4,000 to \$6,000 for a private side only replacement, the homeowner would pay \$3,520 and the City would pay between \$480 and \$2,480. The total estimated cost to the City would be \$122,880 to \$634,880 for 256 properties.

This approach would treat properties with private side-only LSL replacements similarly to how full LSL replacements are treated and allow for the City to hire a contractor for private side replacements so that the work is coordinated with other infrastructure work. Homeowners on the private side only program could also be eligible to have the costs deferred to their property taxes, in the same manner to that described in Option 1.

OTHER IMPLICATIONS

There are no privacy, legal, social, or environmental implications identified.

APPENDIX

1. Lead Line Replacement Engagement Summary

Report Approval

Written by: Stephen Wood, Asset Preservation Manager, Technical Services
Reviewed by: Dan Willems, Director of Technical Services
Angela Gardiner, General Manager, Utilities and Environment
Terry Schmidt, General Manager, Transportation and Construction
Approved by: Jeff Jorgenson, City Manager