

Lead in Water and Full Lead Service Line Replacement

Even if your community has a water system with effective corrosion control and low drinking water lead levels, lead service lines (LSLs) can contribute unpredictable and variable sources of exposure. For homes with LSLs, the service line typically contributes the greatest percentage of lead to the tap. Lead particulates from an LSL may enter directly into the water people drink or become trapped in the faucet aerator and release lead over time. With the reduction of lead in new plumbing material, the next large opportunity for reducing the risk of exposure to lead in drinking water is the removal of LSLs.

Removing lead service lines provides an opportunity to significantly reduce the risk of exposure to lead in drinking water.

Why is lead a problem?

Lead exposure can harm children's brain development, contributing to lower IQs as well as learning and behavioral problems. Young children, infants, and fetuses are particularly vulnerable to lead because the harm appears to be greater at lower exposures in children than in adults.

How does lead get into drinking water?

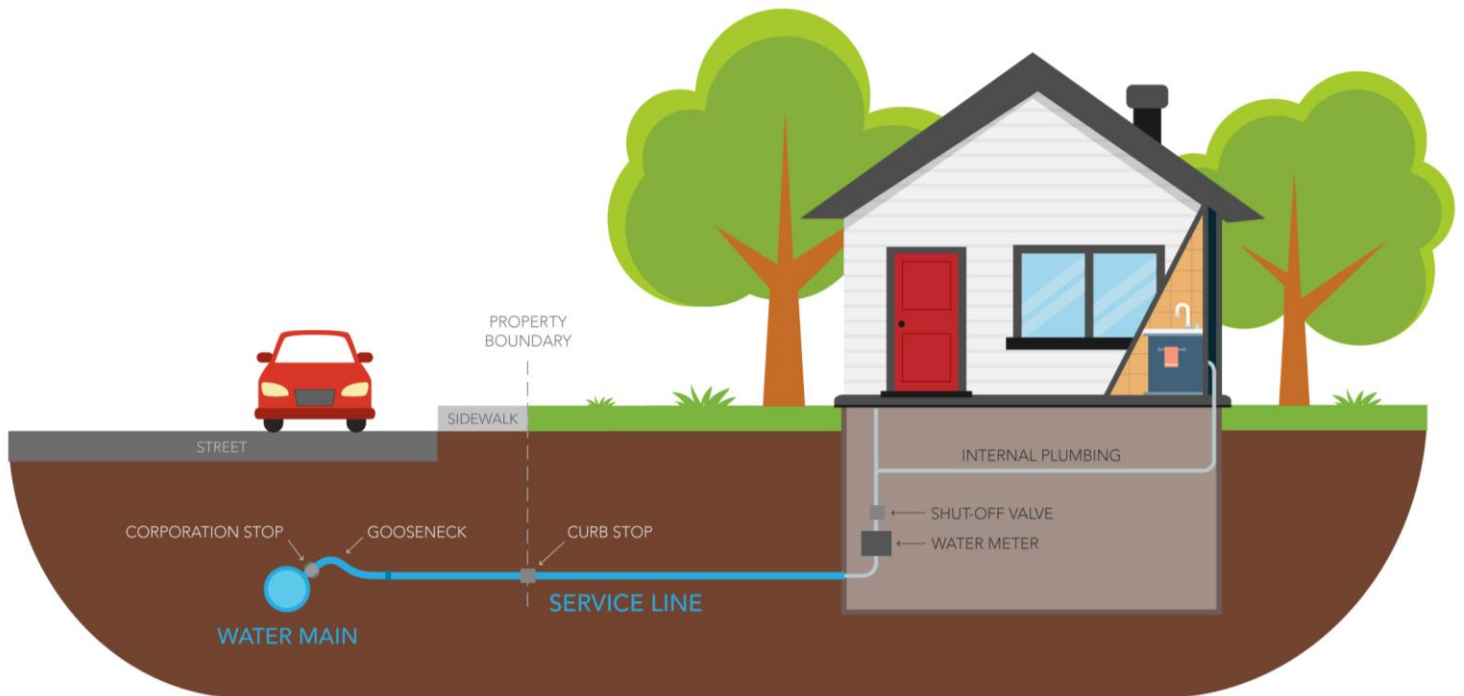
Lead can enter drinking water when pipes and plumbing fixtures that contain lead corrode, especially where the water has high acidity or low mineral content. There are three main sources of lead:

- **Lead pipes** – Lead service lines, the pipe that connects the water main under the street to a building's plumbing. Lead pipes were also used in inside plumbing, but it is unusual. Congress banned use of lead pipes in 1986.
- **Leaded solder** – Solder is used to connect copper pipe and fittings. Congress banned the use of leaded solder in 1986.
- **Leaded alloys** – Brass is frequently used in faucets and other plumbing components. In 1986, Congress limited the amount of lead in brass to 8% (close to the level of lead typical of products at the time) and reduced the limit to a much lower level (0.25%) in 2014.



What is a service line?

The following figure is a simplified illustration of the components of a service line installation.



What is full LSL replacement?

Full LSL replacement involves elimination of lead pipe from a water main up to the interior plumbing of the home. Older brass components would also typically be replaced, though some brass components might remain after replacement in some instances. An example would be a brass valve functioning as a corporation stop where replacement would require shutting off water to multiple homes or increase the risk of a leak or break in the water main.

What is the Lead Service Line Replacement Collaborative?

The LSLR Collaborative is a group of 25 national public health, water utility, environmental, labor, consumer, housing, and state and local government organizations driven by the goal of accelerating voluntary LSL replacement in communities across the United States. Learn more [about the LSLR Collaborative](#) and explore [the online toolkit](#).

Learn more about the Lead Service Line Replacement Collaborative: slr-collaborative.org