Lead & Copper in Drinking Water

Recent concerns (Flint, MI; Sebring, OH; Chagrin Falls, OH) regarding lead contamination in drinking water have prompted questions regarding the safety of drinking water in Oberlin. The following information is gathered to answer questions you may have from citizens in our community:

USEPA issued the Lead and Copper rules (LCR) on June 7, 1991. These rules apply to all community drinking water systems in the United States. Ohio subsequently adopted these rules and assumes primary regulatory enforcement in our state. The purpose of these rules is to protect public health by minimizing lead and copper levels in drinking water, primarily by reducing water corrosiveness. Lead (Pb) and copper (Cu) enter drinking water mainly from corrosion of lead and copper plumbing materials.

The lead and copper rules establish action levels of 15 parts per billion for Pb and 1300 parts per billion for Cu based on the 90th percentile of tap water samples. An exceedance of these action levels is not a violation but can trigger other requirements that include additional water quality monitoring, corrosion control treatment, source water monitoring/treatment, public education, and lead service line replacement.

USEPA maintains that the implementation of the LCR has resulted in the reduction of risk of exposure to Pb that can cause damage to the brain, red blood cells, and kidneys, especially for young children and pregnant women. In addition, the LCR has resulted in a reduction in the risk of exposure to Cu that can cause stomach and intestinal distress, liver or kidney damage, and complications of Wilson's disease in genetically predisposed people.

Water distribution and plumbing systems in the US, including in Oberlin, consist of lead jointed pipes and lead service lines, as well as copper and brass (an alloy of copper and zinc) services and fittings that can introduce Pb and Cu contamination under corrosive conditions. The Oberlin Water Department has followed all testing protocols since the LCR was first introduced in 1991. Our system has subsequently been placed on a reduced monitoring schedule due to very low levels of Pb and Cu. Oberlin now tests 20 residences for Pb and Cu every three years. The test sites were selected and approved by OEPA as representative of Oberlin's distribution system and are collected under strict optimal conditions (worst case scenario) for the detection of Pb and Cu. Test results can be found on our annual consumer confidence reports (CCR). In addition, each of the volunteers that collect samples at their residence receives a copy of their results.

Oberlin Water Department staff takes its responsibility to protect customers from lead and copper exposure seriously. Your Water Department has been proactive in treatment processes and has been practicing corrosion control for many years. Your drinking water is not only tested for Pb and Cu on a tri-annual basis, but treated daily and tested weekly for successful corrosion control. The process of lime softening and treatment used at the Oberlin WTP inhibits Pb and Cu from contaminating your drinking water.

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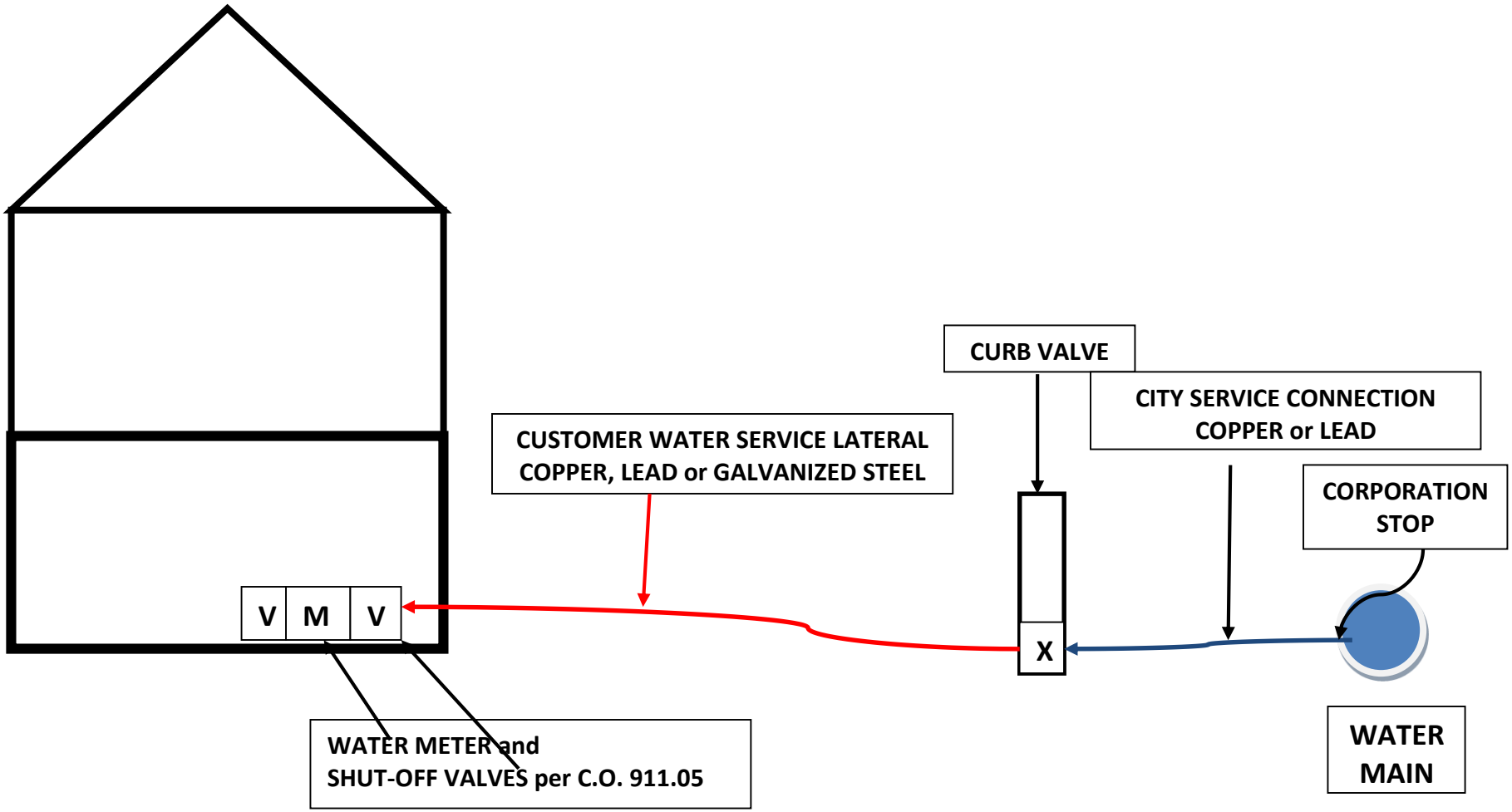
TYPICAL WATER SERVICE CONNECTION



Why Galvanized Pipes Should Be Replaced

What Are Galvanized Pipes?

Galvanized pipes are steel pipes that have been dipped in a protective zinc coating to prevent corrosion and rust. Galvanized piping was commonly installed in homes built before 1960. When it was invented, galvanized pipe was an alternative to lead pipe for water supply lines. Today, however, we have learned that decades of exposure to water will cause galvanized pipes to corrode and rust on the inside.

What Do Galvanized Pipes Look Like?

When first installed, galvanized pipes look similar to a nickel in color, but as it ages, galvanized pipe may appear much duller, and lighter or darker, depending on its environment. We have also seen homes where the water pipes have been painted, so it can be difficult to tell at first glance.

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How Can I Tell If I Have Galvanized Pipes?

If you cannot tell if you have galvanized pipes by looking at them, there is a quick test to tell if they are galvanized. Simply grab a flat head screwdriver and a strong magnet. Start by finding your water line and scratch the outside of the pipe with the screwdriver. Compare your results:

Copper

The scratches area will look like a copper penny. A magnet will NOT stick to it.

Plastic

Plastic pipe can come in different colors. The scratched area will appear black, white, blue or red in color. Those are the most common colors. A magnet will NOT stick to it.

Galvanized Steel

The scratched area will have a silver-gray color. A strong magnet will stick to it.

Lead

The scratched area will have a dull silver-gray color, and the metal will usually be soft and easy to scratch. A magnet will NOT stick to it. Lead pipes are easy to bend and may be misshapen. If you have lead pipes, we recommend replacement if at all possible.

Be sure to scratch test your pipes in multiple areas. It is not uncommon to have more than one type of piping on your water line.

Do Galvanized Pipes Contain Lead?

The galvanized pipes installed on water lines between 1880 and 1960 were dipped in molten, naturally occurring zinc. Naturally occurring zinc is impure, so these pipes were bathed in zinc that also contained lead and other impurities. The zinc coating elongated the life of the steel pipes, but added a small amount of lead and other substances that could potentially harm inhabitants.

Additionally, if your galvanized pipes were ever connected to lead plumbing (including service lines) there is more cause for concern. The corrosion inside galvanized steel pipes could have trapped small pieces of the lead. Even if the lead piping was removed years ago, the galvanized steel pipes could still periodically release the trapped lead into the water flow. Chicago didn't stop using lead pipes for service lines until 1986, and an estimated 400,000 lead service lines are still in use in Chicago alone.

The only way to ensure that lead is not mobilized from plumbing to tap in a given home is to fully replace the galvanized plumbing and any lead service lines.

What Other Problems Galvanized Pipes Cause?

Low Water Pressure

Due to the restriction of the line, corrosion in galvanized pipes can cause lower water pressure throughout your home.

Uneven Distribution of Water

If some of your taps have low water pressure, but others don't, this could be a symptom of galvanized pipes. Corrosion can build up unevenly. Also, part of the galvanized pipe line could have been replaced in your home, but not everywhere.

Discoloration of Water

Galvanized pipes can release iron and cause discoloration. A clear indicator of this is a brown stain on a porcelain sink.

Leaks

Given enough time, galvanized pipes will rust through and cause more damage to your home.