



A Public Outreach Document Summarizing EPA’s Lead and Copper Rule Revision (LCRR) August 2022, City of Great Falls, Montana

Narrative

The goal of this document is to promote education on lead in drinking water, encourage participation in assisting the City in composing a water service line inventory, and publicize the requirements of the LCRR as dictated by the EPA and Montana DEQ. The course will benefit the people of Great Falls by educating them in regards to the upcoming requirements of the LCRR, reviewing the City’s policy on water service lines, considering the City’s status on compliance with the LCRR, understanding the City’s goals in public outreach, and by discussing common questions and answers.

Contents

Narrative	1
Overview of EPA’s Lead & Copper Rule (LCR)	2
Overview of the Lead and Copper Rule Revision (LCRR)	3
Lead Service Line Inventory (LSLI)	3
Tap Sampling Plan	5
Lead Service Line Replacement (LSLR) Plan	6
City Policy & LSLR Funding	6
Status on LCRR compliance	6
Public outreach	8
Questions & Answers	8

Overview of EPA’s Lead & Copper Rule (LCR)

Lead and copper enter drinking water primarily through plumbing materials. Exposure to lead and copper may cause health problems ranging from stomach distress to brain damage. In 1991, EPA published a regulation to control lead and copper in drinking water, effective with the Safe Drinking Water Act. This regulation is known as the Lead and Copper Rule (LCR). In summary, the LCR requires water systems to regulate lead and copper by monitoring drinking water at customer taps. If lead concentrations exceed an action level of 15 ppb (0.015 mg/L) or copper concentrations of 1.3 ppm (1.3 mg/L) in more than 10% of customer taps sampled, the water system must undertake a number of additional actions to control corrosion, inform the public about steps they should take to protect their health, and may have to replace lead service lines under their control. Great Falls reports lead concentrations ranging between 3-6 ppb.

Since 1991, the LCR has undergone various revisions, as summarized Figure 1 below. In 2007, EPA revised the Lead and Copper Rule to enhance implementation in the areas of monitoring, treatment, customer awareness, and lead service line replacement. The update also enhanced public education requirements and ensured drinking water consumers receive meaningful, timely and useful information. These changes are known as the “Short-Term Revisions to the Lead and Copper Rule.”

In 2014, there was a crisis in the City of Flint, Michigan, where drinking water was contaminated with lead due to an increase in the corrosivity of the drinking water. The increased corrosivity resulted in lead from aging pipes leaching into the water supply. The crisis in Flint spurred the EPA on to revise the Lead and Copper rule.

EPA’s 2021 Lead and Copper Rule Revision (LCRR) seeks to better protect children and communities from the risks of lead exposure by better protecting children at schools and child care facilities, getting the lead out of our nation’s drinking water, and empowering communities through information. The goal of the Lead and Copper Rule Revision is to change the rule from a corrosion protection regulation to one that is intended to protect public health by the removal of lead from the water we consume.

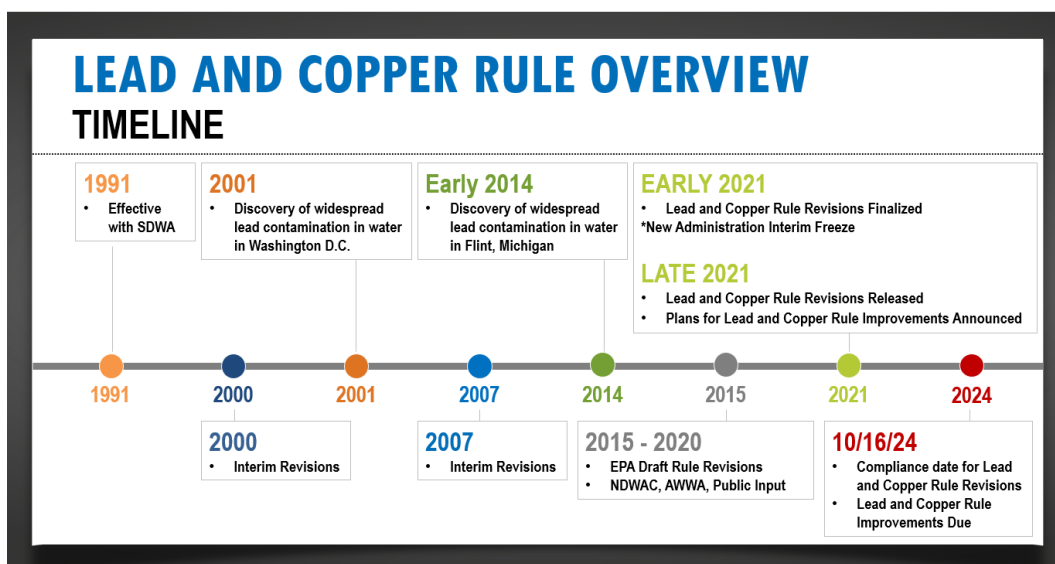


Figure 1

Overview of the Lead and Copper Rule Revision (LCRR)

The following overview is a basic summary of the Lead and Copper Rule Revision (LCRR) and its implications to the City. A more comprehensive review of the LCRR, published by the Federal Register may be found at the following link, “Review of the National Primary Drinking Water Regulation: Lead and Copper Rule Revisions (LCRR)” Federal Register, Vol. 86, No. 240, Pages 71574-71582 [FR DOC #2021-27457] <https://www.govinfo.gov/content/pkg/FR-2021-12-17/pdf/2021-27457.pdf>. Additional information on the LCRR can be found at <https://www.epa.gov/ground-water-and-drinking-water/revise-lead-and-copper-rule>.

The LCRR can be summarized into three action items for water service providers: composition of a Lead Service Line Inventory, implementation of an updated Tap Sampling Plan, and composition of a Lead Service Line Replacement Plan.

Lead Service Line Inventory (LSLI)

Per the LCRR, all water systems must develop an initial Lead Service Line Inventory (LSLI), by October 16th, 2024. The LSLI is an inventory of all water service connections on the system, identifying the material type of all water service lines, including all abandoned and non-potable lines. A water service line constitutes the water pipe from the water main in the street to the meter in the home. The material type may physically change at the curb stop, which separates the water main side of the service line and the building side of the service line, see figure 2 below. The City’s policy is that the property owner is responsible for the maintenance of the full length of the water service line, from the water main in the street to the building. Cities that serve populations greater than 50,000, such as Great Falls, must publish the LSLI information electronically on a website. Per the LCRR, any service line will fall into one of the following categories: Lead or partial lead, non-lead (documented), Galvanized, or Unknown. If it cannot be verified that a galvanized is “free from lead” then it must be assumed to be lead. Unknowns may be recorded, but they are considered as lead until proven otherwise. Figure 3 provides visual information regarding differences between lead and galvanized service lines.

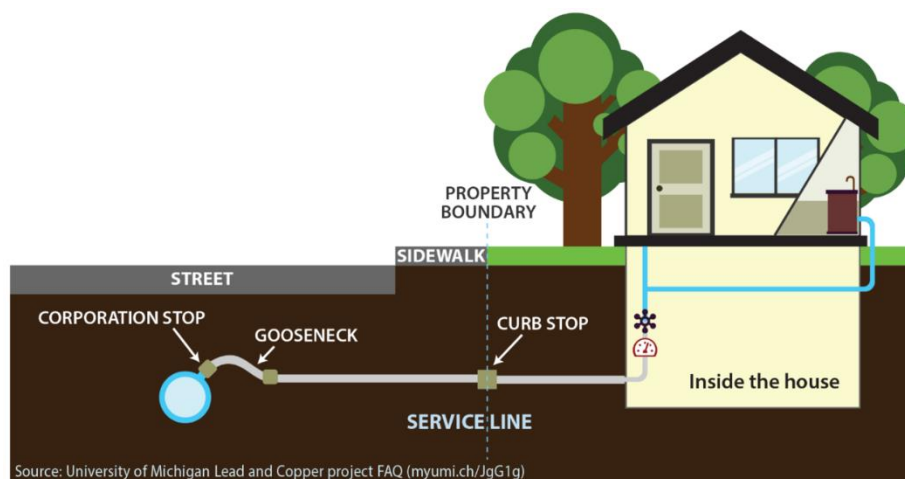


Figure 2

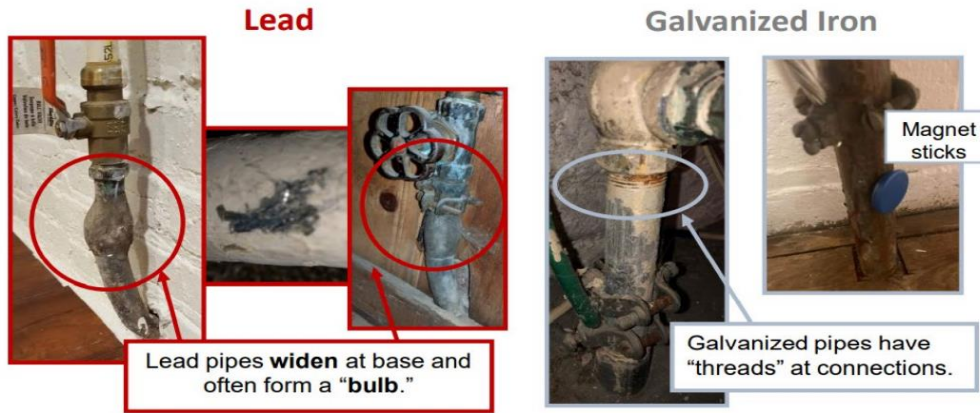


Figure 3

The LCRR requires water utility providers to perform a records search as well as implement tracking of service line materials as they are encountered during normal operations. The EPA will request the documentation as to how the records research was performed and how the conclusions were made. The DEQ must approve methods for tests which determine the material type of the service line. Greg Montgomery, the rule manager with the DEQ, was contacted and a "scratch test" is an acceptable method of determining the service line material type, see figure 4. The scratch test is further described in the Q&A section of this document.



Figure 4

Tap Sampling Plan

The LCRR implements new tap sampling protocols that target locations with known lead service lines. The new sampling protocols also changes from a 1st liter draw to a 5th liter draw, which targets the water in the service line, see figure 5. These protocols are expected to increase the

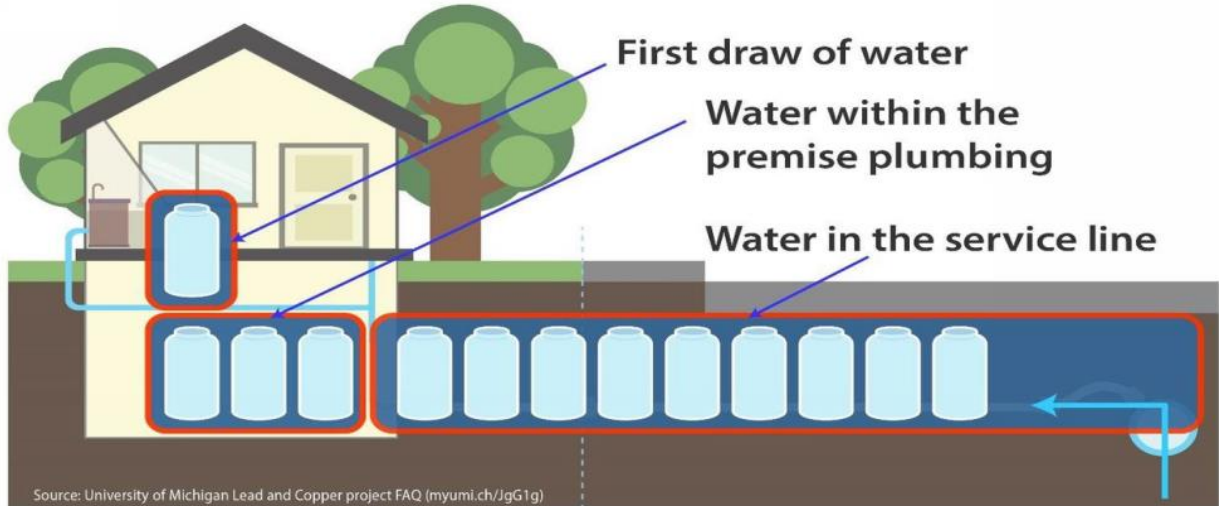


Figure 5

lead concentration in the samples. The sampling results will dictate the City's required response for compliance base on new action level and trigger level requirements. If the 90th percentile (90% of the scores are equal to or lower than that score) of the samples result in lead concentrations of 15 ppb or more, the current rule states that full replacement of lead service lines will be required, 3% per year. If 10 ppb or more, then lead service lines must be replaced at a defined goal rate set by the State and the system. If 0-10 ppb, the lead service lines may be replaced voluntarily. See figure 6 below for a summary of the action and trigger level requirements of the LCRR. Over the past 20 years, the City has reported lead concentrations between 3 and 6 ppb.

<p>ACTION LEVEL – 90TH PERCENTILE @ 15 PPB</p> <ul style="list-style-type: none"> • Lead Service Lines – full replacement, 3% per Year • Tap Sampling – standard monitoring every 6 months • Corrosion Control Treatment – Implement or re-optimize
<p>TRIGGER LEVEL – 90TH PERCENTILE @ 10 PPB</p> <ul style="list-style-type: none"> • Lead Service Lines - Full replacement at defined goal rate (set by state and system) • Tap Sampling – standard monitoring every year • Corrosion Control Treatment– conduct study (if CCT not installed) or re-optimize CCT if installed
<p>0-10 PPB</p> <ul style="list-style-type: none"> • Lead Service Lines – voluntary replacement • Tap Sampling – reduced monitoring every 3 years • Continue corrosion control treatment and Water Quality Parameter Monitoring

Figure 6

The new sampling protocols are intended to target water within known lead service lines, which will likely result in increased lead concentrations. Therefore, it is anticipated that full lead service line replacement may be required. However, the City will not know with certainty until the lead concentration results from the new tap sampling protocols are obtained in late 2024 or 2025.

Additionally, the LCRR states that all water service providers must conduct sampling at 20% of elementary schools and 20% of childcare facilities per year and conduct sampling at secondary schools on request for one testing cycle (five years) and conduct sampling on request of all schools and childcare facilities thereafter. This excludes facilities which were built or had all plumbing replaced after January 1, 2014.

Lead Service Line Replacement (LSLR) Plan

The LCRR requires water service providers to compose a Lead Service Line Replacement (LSLR) plan. As of July 2022, the LSLR plan includes galvanized, unknown, or other lead-containing water service lines. If it cannot be verified that a galvanized service line is “free from lead” then it must be assumed to be lead. If the material of a service line is “Unknown” then it must be assumed to be lead. The LSLR plan does not permit partial replacement of lead service lines, the full lead service line must be replaced. The annual LSLR rate is based on the number of lead and galvanized lines requiring replacement when the system first exceeds the action level plus the current number of “unknown” service lines.

Following each LSLR, the water system must provide pitcher filters/cartridges to each customer for 6 months after replacement and collect a lead tap sample within 3 to 6 months after replacement. The City must also inform customers annually that they are served by a lead service line or lead status unknown service line.

City Policy & LSLR Funding

The City’s policy is that the full length of the water service line from the water main in the street to the meter in the building is owned and maintained by the consumer. The official code of the City of Great Falls (OCCGF) 13.6.010 states “All the expense of laying and maintaining the service pipes from the mains to the consumer’s premises must be borne by the consumer.” There have been many concerns expressed in regards to the financial burden caused by required lead service line replacement (LSLR). LSLR cost may vary greatly from residence to residence. As of July of 2022, the City does not know with certainty whether LSLR will be required. The Bipartisan Infrastructure Law allocates \$15 Billion for LSLR efforts. Montana is to receive ~\$140 Million: \$28 Million per year over 5 years. Money will be dispersed through the State Revolving Fund process, a low interest loan program.

Status on LCRR compliance

The City is making diligent effort to compose an accurate water service line inventory by October 16th, 2024, by utilizing its existing asset management software, researching city records, and in public outreach and citizen engagement. The City utilizes a GIS asset management software which identifies all water service lines in the City. The City maintains records of every “tap” made to a water main since 1937. When a tap is made to a water main, this is the point in time when a water service line is installed. The

City also maintains records of every “re-tap” made to a water main, a re-tap is a replacement of a water service line at the same location or serving the same lot as the original tap. The tap and re-tap records include the size of the tap, the address of the tap, and the location of the curb box. The tap and re-tap records do not indicate the water service line material type.

In February of 1967, the City adopted Ordinance 1558 which dictated that all water service lines 2” or smaller in diameter shall be copper (see Section 20 of Ordinance 1558). In March of 1976, the City adopted Ordinance 1913 which stated that any repairs made to a water service line which are not of copper or cast iron which resulted in a length of repair of $\frac{1}{4}$ of the distance between the City main and the property line or more was necessary, then the entire water service pipe from the main was removed and copper or cast iron pipe laid for the entire distance. In 1986, amendments to the Federal Safe Drinking Water Act were made emphasizing lead contamination of drinking water from pipe materials and solder containing lead. Since that time it has been the City’s policy to require property owners who experience leaking water service lines consisting of materials other than copper to replace any portion of it that is not copper with copper. In 1988 the State introduced legislation that banned lead in water systems.

The City can document that any new water service line tapped to a main and installed post 1970 was non-lead and non-galvanized, this is deduced by adding 3 years to the date of Ordinance 1558. The City can also document that all water service lines re-tapped to a main and replaced by a consumer or property owner after 1980, if non-copper was discovered, then copper was used to replace the entire length of the service line. This is deduced by adding 4 years to the date of Ordinance 1913, and understanding that re-tapping by definition includes a replacement of the water service. If the City filters out the database to include water service lines tapped/installed before 1970, and re-tapped/reinstalled before 1980, this results in approximately 10,000 service lines which could be non-copper.

In July of 2022, the City delivered mailers to these 10,000 locations. The mailers included a test form and instructions to inspect and determine their water service material. The mailer included contact information to a City “Water Service Line Inventory Hotline” (406) 455-8401, requesting that the hotline only be called if necessary, that questions be water service line material specific, and asking for patience as a large number of calls were anticipated. If the consumer is unable to identify their water service line material, they may schedule an inspection by calling the Hotline. The City may request to schedule an inspection to those who do not respond to the mailer. Inspections will be performed by Public Works staff and additional inspections may occur on an as needed basis.

Since about 1970, the City has been conducting water main replacement projects to replace water mains in older parts of town or in areas with many water main breaks. During these projects, City inspectors have been identifying locations of non-copper water services. If a non-copper service is discovered, the project replaces the service from the main to the curb stop with copper, and notifies the homeowner of a non-copper service. The city has completed a database research of the inspector logs and as-built drawings for these water main replacement projects and of the 55 miles of water main replaced, a minimum of 3,000 water services were examined, and 116 lead, partial lead, and galvanized service lines were discovered, or about 0.5%.

The City is now including in its operations the identification and recording the water service line material type as they service and replace water meters. As of July 2022, the City has replaced or serviced roughly

714 meters, of the 714 there have been 41 lead, partial lead, and galvanized water service lines, or about 0.6%.

The City plans to both update its tap sampling plan to implement the new protocols required by the LCRR and create a lead service line replacement plan by October 16th, 2024.

Public Outreach

The City's goal in public outreach is to promote education on lead in drinking water, encourage participation in assisting the City in composing a water service line inventory, and publicize the requirements of the Lead and Copper Rule Revision. The public can get onto the City's website and view a City Commission work session was held on March 1st, 2022 that provided an overview the LCRR to the public, the Mayor, and City Commissioners. A follow up work session is scheduled for September 20th, 2022. The City has delivered roughly 10,000 mailers to residences and businesses which have water service lines installed prior to 1970 or replaced prior to 1980. The mailers are addressed to the current resident and request their assistance to perform a scratch test to identify the material type of their service line and report it back to the City. The scratch test form that was included with the mailers is on the City's website, greatfallsmt.net/publicworks/engineering at the bottom of the page under the supporting documents. The topic was discussed at the Neighborhood Council of Council meeting on May 24th, 2022. On September 13th, 2022, a presentation will be made to the Great Falls Realtors Association. Additional press releases, City Facebook posts, mailed letters, City Commission presentations, Neighborhood Council presentations, and other public outreach may be conducted to meet the City's public outreach goals.

Questions & Answers

Below are some commonly asked questions and answers:

Where can I find more information? Where can I learn more about the EPA's Lead and Copper Rule Revision and/or the City's compliance?

Monitor the City's Facebook page and engineering website, as information will be released when it is available. Additional information on EPA's Lead and Copper Rule Revision can be found on their website:

<https://www.epa.gov/dwreginfo/lead-and-copper-rule>

<https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule>

How does lead get into drinking water?

Lead enters drinking water primarily through plumbing materials.

What are the common health concerns with lead in drinking water?

Please refer to the EPA's webpage which discusses potential lead related health concerns:

www.epa.gov/lead/what-are-some-health-effects-lead

How can I test my drinking water for lead?

The City of Great Falls is not able to perform lead tests for individual consumers. To test for lead, contact the Department of Health Services Lab in Helena, (406) 444-3444, or visit their website:

<https://dphhs.mt.gov/publichealth/laboratoryservices/EnvironmentalLaboratory/>

The cost is approximately \$60 and they will direct you to the necessary size of the sample, the sample container, and a sample pick up location.

How can I check if my water service line is lead or lead containing?

Lead and galvanized water service lines can be identified by performing a “Scratch Test” on the water service line where it enters the building. The scratch test is essentially a visual test that can be completed with basic tools and in a short timeframe. First, locate the water service line coming into the building. It is typically found in the basement, crawl space, mechanical room, or in a wall panel. A water meter is installed on the water service line pipe after the point of entry into the building. Identify a test area on the pipe on the upstream or street side of the meter, which is between the point where it comes into the building and the water meter. If the pipe is covered or wrapped, peel back the cover to expose a small area of the pipe, about 6-inches, to clearly see the color of the pipe. Using the edge of a screwdriver or penny, scratch or scrape through any corrosion that may have built up on the outside of the pipe so that the color of the pipe can clearly be seen. Also, grab a strong magnet. Using the color of the scratched surface and the magnet, identify the pipe from the following criteria:

- Lead – scratches are shiny and silver-gray – a strong magnet will not stick to a lead pipe
- Galvanized – scratches are dull silver-gray – a strong magnet will stick to galvanized pipe, pipe fittings are also threaded on galvanized pipe
- Copper – scratches are copper – a strong magnet will not stick to copper
- Plastic – plastic pipes are rigid, non-metallic, and may vary in color – magnets do not stick

Residents can download a test form with instructions to perform the scratch test and return the results to the City at greatfallsmt.net/publicworks/engineering. The test form is under the Supporting Documents at the bottom of the webpage. Residents can also contact the City of Great Falls water service Inventory Hotline at 406-455-8401. Please keep questions pertinent to identifying the material type of the water service line, and please be patient with us as we respond to calls as we expect a large volume of calls. Residents can also take a picture of the water service line where it enters the building, indicate the physical address of the building, and send that information in an e-mail to waterserviceline@greatfallsmt.net. Residents with non-copper water service lines are encouraged to communicate their water service line material type and address to the City so that the City can incorporate that data into the water service line inventory.

Why did I receive a mailer and not someone else?

Mailers were delivered to every residence or building which had a water service line installed prior to 1970 or replaced prior to 1980. The mailer included instructions to perform a scratch test and return the results to the City. About 10,000 mailers were delivered.

I have a lead, lead containing, or galvanized water service line, what now?

Let the City know as instructed on the test form available under the supporting documents heading at the bottom of the following webpage: greatfallsmt.net/publicworks/engineering. The City will add the information to the water service line inventory. As of July 2022, the Federal

government is not requiring line replacement, and the next phase of the LCRR is tap sampling. The Federal Government may require water service line replacement in the future as dictated by the results of the LCRR Tap Sampling Plan.

Who will pay for replacement of a lead, lead containing, galvanized, or unknown water service line?

The City's Code states that all the expense of laying and maintaining the service pipes from the mains to the consumer's premises must be borne by the consumer.

What is the estimated cost for a lead or lead containing water service line replacement?

As of July of 2022, the City does not know with certainty whether or not lead service line replacement is required. The cost may vary greatly from residence to residence. Local qualified water utility contractors should be contacted to obtain individual quotes.

Will the State or Federal government provide funding for lead or lead containing water service line replacement?

The Bipartisan Infrastructure Law allocates \$15 Billion for LSLR efforts. Montana is to receive ~\$140 Million: \$28 Million per year over 5 years. Money will be dispersed through the State Revolving Fund process, a low interest loan program. Formal guidance on fund allocations will be provided by the State.

What if the plumbing inside my building is lead, lead containing, or galvanized?

Lead plumbing components inside the building are another potential source of lead contamination. As of July of 2022, the LCRR does not require replacement of interior plumbing, just lead, lead containing, unknown, or galvanized water service lines.