Exhibit No.:	
Issues:	AAO Lead Line Replacements
Witness:	Bruce W. Aiton
Exhibit Type:	Direct
Sponsoring Party:	Missouri-American Water Company
Case No.:	WU-2017-0296
Date:	August 1, 2017

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WU-2017-0296

DIRECT TESTIMONY

OF

BRUCE W. AITON, PE

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

August 1, 2017

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

IN THE MATTER OF THE APPLICATION OF) MISSOURI-AMERICAN WATER COMPANY FOR) AN ACCOUNTING ORDER CONCERNING MAWC's) LEAD SERVICE LINE REPLACEMENT PROGRAM.)	CASE NO. WU-2017-0296

AFFIDAVIT OF BRUCE W. AITON

Bruce W. Aiton, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Direct Testimony of Bruce W. Aiton"; that said testimony and schedules were prepared by him and/or under his direction and supervision; that if inquiries were made as to the facts in said testimony and schedules, he would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of his knowledge.

Bruce W. Aiton

State of Missouri
County of St. Louis
SUBSCRIBED and sworn to
Before me this 1st **day of** August **2017.**

Mary Beth Hercules
Notary Public

My commission expires:

MARY BETH HERCULES
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires April 26, 2020
Commission # 96546828

BRUCE W. AITON
MISSOURI-AMERICAN WATER COMPANY
CASE NO. WU-2017-0296

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BRUCE W. AITON

DIRECT TESTIMONY

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Bruce Aiton, and my business address is 727 Craig Rd., Creve Coeur, MO 63141.

Q. By whom are you employed and in what capacity?

A. I am employed by Missouri-American Water Company ("MAWC", "Missouri-American" or the "Company") as Director of Engineering.

Q. What are your responsibilities in this position?

A. I am responsible for managing the planning, design and construction of water and sewer capital investment projects for all of MAWC's systems and facilities, including the development and updating of the statewide Geographic Information System ("GIS") and developer related services. My responsibilities include ensuring MAWC's compliance with state and federal requirements related to the planning for and delivery of the capital investment program; coordinating the procurement of all project design and construction services; providing comprehensive system planning for use in developing system needs and projecting capital spending; and supporting MAWC operations staff in performing plant/system troubleshooting.

Q. Please describe your educational background and outline your business experience.

A. I received a Bachelor of Science degree in civil engineering from California State University Sacramento. I am a registered professional engineer in the state of California. I have over 29 years of experience in the water and wastewater design and construction industry. In these roles, I was involved in, or oversaw the completion of, numerous planning, design, and construction projects, ranging in size and scope from small sewer and water main extension projects to water and wastewater system planning studies and the design and construction administration of treatment plant improvement projects of up to $90 million. I began my career with American Water Works Company, Inc. ("American Water") in August of 2009 and began as the Director of Engineering for MAWC, in February 2017, the position I currently hold.

II. PURPOSE

Q. What is the purpose of your testimony in this proceeding?

A. My direct testimony is being submitted in support of the Company's Application for an Accounting Authority Order related to cost recovery of the replacement of customer-owned lead service lines. My testimony is divided into several parts. First, I discuss generally the risks associated with lead and how the Company approaches addressing lead in drinking water through treatment and sampling to ensure the Company supplies water consistent with federal and state regulatory standards established by the United States Environmental Protection Agency ("EPA") and Missouri Department of Natural Resources ("DNR"). Second, I provide an overview of Missouri-American's approach to further protecting customers from lead exposure in the drinking water through the replacement of lead service

lines. Third, I discuss the costs associated with the Company's proposed lead service line replacement program.

III. BASIS OF CONCERNS AND RESPONSES IN REGARD TO LEAD

Q. Why should we be concerned about lead?

A. As explained by Mr. Naumick, lead is a naturally occurring metal that is harmful if inhaled or swallowed, particularly in children and pregnant women. Exposure to lead can cause a variety of adverse health effects. Recent events, including those in Flint, Michigan, have heightened consumers' concern about the presence of lead in drinking water.

Q. Does any lead piping remain in service in public water systems in the State?

A. Yes. Until around 1950, it was common practice for water utilities in Missouri to install lead service lines. No known lead mains remain in service in the portions of MAWC's distribution system that predate this change or in systems subsequently acquired by the Company. However, there may be pipe in the system that has lead sealed joints in service in the system. In addition, there are both Company-owned and customer-owned lead service lines in the system. MAWC does not have data on other public water systems in the State that may contain lead pipe.

Q. Please describe MAWC's obligations under federal and state regulatory standards to control lead levels in the drinking water at the customer's tap.

A. Federal and state regulations require public drinking water providers, including the Company, to regularly test for contaminants such as lead. The EPA and Missouri DNR

promulgated treatment technique regulations for lead and copper (the "Lead and Copper Rule" or "LCR") in 1991 and 1994, respectively, which establish an action level for lead of 15 parts per billion ("ppb").

The current LCR requires public water suppliers to employ water treatment methods, as necessary, to minimize the corrosive quality of the water they provide because corrosion can cause lead piping and lead solder to leach lead into the water drawn at the customer's tap. If a water system, after installing and optimizing corrosion control treatment, continues to fail to meet the lead action level, the LCR directs the utility to begin replacing lead service lines under its ownership.

Q. Please describe the Company's approach to address potential sources of lead in drinking water.

A. MAWC employs a proactive, multi-faceted approach to manage the potential exposure to lead as part of its commitment to maintain excellent water quality and protect the health and safety of its customers. These layers of protection include treatment of water, monitoring of key indicators of water quality, identification and inventorying of service line materials, development of a replacement program and communication with the customer about ways to reduce potential exposure. The primary mitigation to potential exposure of lead in drinking water is stable water quality and treatment of water to minimize corrosion. The Company utilizes corrosion control treatment measures and a sampling protocol approved by the Missouri DNR. In addition, the Company employs a wide variety of tools to help customers understand how they can reduce the risk of lead

exposure from their own older plumbing, including a lead information page on MAWC's website.

Q. What is the Company's track record in meeting LCR requirements?

A. Notwithstanding the presence of the lead service lines to homes or older plumbing fixtures contained in some of the homes in our service areas, MAWC has a well-established history of LCR compliance. In the past thirty years, the Company has not triggered the LCR action level requirements in any portion of its system. This history of compliance is a testament to the effectiveness of the Company's corrosion control measures and prudent management of its distribution system.

IV. MAWC'S LEAD SERVICE LINE REPLACEMENT PROGRAM

Q. Please describe MAWC's proposed lead service line replacement program ("LSLR Program").

A. MAWC has a program to replace water mains throughout our service areas. The main replacement is prioritized by considering a variety of factors, including the condition of the main, gauged by a combination of leaks or breaks in the line, pressure and flow conditions, and pipe age and material. MAWC also coordinates with local municipalities to replace mains in conjunction with road projects. It is during this regular main replacement process that MAWC anticipates replacing the lead service lines. Under the LSLR Program, when the Company encounters lead service lines during a main replacement project, it will proactively replace the lead portion of the service line. This may include Company-owned

lead service lines and/or lead goosenecks as well as customer-owned portions of lead service lines.

If only the goose neck is lead, the Company will replace the service line up to the service shut off valve. If the service line is lead, the Company will, with the customer's consent, replace the entire service line from the main to just outside the customer's premise or to the shut off valve within the customer's premise.

Q. Please describe the specific steps that are taken during the replacement process?

A. As we replace existing water mains we inspect the existing service line connected to the main to determine if it is lead. MAWC in the course of main replacement will excavate to expose each service, and other utilities, to both confirm location and make a determination of size and material of the service line. If the gooseneck or service line are lead then the following general steps are taken.

- The customer is notified of the presence of lead in the service line;
- A telephone notification is sent to all customers within the main replacement project limits;
- The owner of the property is presented with a "Service Line Replacement License" agreement for acceptance or denial. Execution of the license is required to allow crews to work on the subject property (see Schedule BWA-1);
- Customer/owner (both if different) are provided with "Important Notice about Your Water" and "Lead" fact sheets (see Schedule BWA-2, Schedule BWA-3, and Schedule BWA-4);

- Necessary permits for water service line replacement and electrical work if required for reestablishing grounding are acquired;
- The lead service line replacement is performed. All lead portions of the lines are replace either: 1) to the foundation (or through the foundation to the interior shut-off valve if possible); or, 2) to the service shut-off valve if only the gooseneck is lead.
- Lines are then flushed in coordination with the customer;
- Post replacement sampling is done (see Schedule BWA-5); and,
- Customer/owner are notified of sampling results.

The Company has begun to prioritize the known or anticipated presence of lead service lines when prioritizing water main replacement projects.

Q. Does the LSLR Program support the Company's ability to continue to maintain compliance with applicable drinking water regulations?

A. Yes. The LCR imposes an obligation on the Company and other drinking water providers to furnish water that is below the lead action level at the customer's tap even if the source of lead originates within the customer-owned service lines and the in-home piping. Consequently, remaining in compliance with applicable drinking water regulations when the Company replaces its mains connected to lead service lines necessarily requires taking steps to address possible sources of lead contamination from customer-owned property. In his testimony, Mr. Naumick discusses why partial replacements of lead service lines do not adequately mitigate the potential exposure to lead in drinking water. Eliminating lead pipe from the system, together with the Company's robust corrosion control water treatment

measures, are a prudent and effective means to maintain regulatory compliance and protect public health.

Q. What facilities does the Company propose to replace as part of its LSLR Program?

A. As part of the LSLR Program, the Company will replace lead service lines during water infrastructure upgrade projects. This will include lead goosenecks owned by the Company, lead service lines owned by the Company and lead service lines owned by the customer. We propose to replace lead goosenecks and lead service lines whenever we encounter them.

Q. Why is the Company proposing to replace all lead service lines that are encountered when the Company replaces its mains given MAWC's full compliance with LCR requirements?

A. As explained by Mr. Naumick, a growing body of well accepted research indicates that a "partial" replacement, which physically disturbs, but leaves in place, the customer's segment of a service connection, potentially elevates the risk of lead exposure through drinking water after the replacement occurs. In addition, the National Drinking Water Advisory Council [1] recommended that the EPA revise the LCR regulations to require complete and proactive replacement of both the utility and customer segments of service connections that contain lead.

[1] Report of the Lead and Copper Rule Working Group to the National Drinking Water Advisory Group, Aug. 2015

Consequently, an increasing number of utilities are reconsidering or avoiding the practice of partial lead service line replacement where possible. MAWC, however, has significant infrastructure rehabilitation needs and cannot avoid replacing aging infrastructure simply because it is connected to lead service lines. Replacing lead service lines when the corresponding mains or service lines are replaced will eliminate a potential source of lead exposure following a "partial" replacement for MAWC's customers.

Q. Who owns the service lines in MAWC's service areas?

A. In the St. Louis County system, the customer (property owner) owns the entire service line. In the other districts, MAWC owns the portion of the service line between the main and the curb stop at the property line, and the customer (property owner) owns the portion from the curb stop to the premise.

Q. How many lead service lines does the Company expect to identify and replace over a ten-year period?

A. MAWC continues to review its distribution system materials inventory to confirm the number and location of lead service lines. We use service line tap records if available, local district knowledge and in, St. Louis, a database that contains service tap information to estimate the total number of lead connections. If available, historical tap records were scanned then reviewed. We focused data review by starting on the older portions of our service areas where lead services may exist. Preliminary surveys of the Company's tap cards indicate that approximately 30,000 lead service lines remain on its systems. However, the Company does not have full records regarding the composition of the service

lines that are installed and owned by the customer. Consequently, MAWC does not have an exact count of lead service lines that would be replaced under the Company's proposal.

V. LEAD SERVICE LINE REPLACEMENT COSTS

Q. Has the Company estimated the cost of replacement for lead service lines?

A. Yes. MAWC initially estimated the average cost to replace a lead service line would average approximately $3,000-$5,500, when the replacement is performed in conjunction with a main replacement project. While, some replacements have cost up to $11,000 due to specific site constraints, such as long lay length and the presence of rock and large trees that impacted the cost of the installation and restoration, MAWC believes costs will be more commonly at the high end of the initial range .

Q. Is the Company's LSLR Program a cost-effective initiative to address possible exposure to lead from service lines?

A. Yes. Many customers, particularly those in older neighborhoods with populations that face economic constraints that make it difficult or impossible for them to pay for replacement, will have a difficult time replacing their lead service lines on their own. Allowing MAWC to replace lead service lines under its LSLR Program is a reasonable solution to this problem. Furthermore, the Company will be able to leverage economies of scale to reduce costs and minimize service disruptions related to lead service line replacements. In addition to these efficiencies, MAWC's ability to coordinate the replacement of Company and customer owned lead service lines will streamline project administration and reduce overall costs.

Q. Does MAWC intend to pursue state and federal funding sources to offset LSLR Program costs?

A. Yes. MAWC will seek low cost state and federal funding to the extent funding is available.

Q. Does this conclude your direct testimony at this time?

A. Yes, it does.

WATER SERVICE LINE REPLACEMENT LICENSE

(St Louis Only)

The undersigned _____ and _____ (collectively "Customer") grants to Missouri-American Water Company ("Company") and to its approved contractors and/or subcontractors a license to enter upon Customer's property at _____, _____, Missouri _____ ("Property") for the purpose of connecting Customer's residence to a Company water main adjacent to the Property, at no cost to Customer. The term of this license shall be six (6) months following the date set forth below. Customer represents that _____ is/are the sole owner(s) of the Property and has/have sole authority to agree to this License.

Customer agrees and accepts this replacement license: YES ☐ NO ☐

Company or its approved contractors and/or subcontractors will replace a portion of Customer water service line to remove lead from the existing water service line from the Company water main located near the Customer's property line in public street right of way /easement to the Customer's residence, at no cost to Customer. The Customer water service line is currently and will continue to be owned and maintained by Customer. If the work is performed by a third party contractor, Customer consents to the release of the contact information provided in this release to be provided to the contractor.

Upon completion of the work necessary to effect the new connection, Company will restore Customer's Property as nearly as practicable to its former condition.

Customer acknowledges that _____ has/have received the "Important Notice About Your Water" and "Lead" fact sheets provided by Company.

In consideration for performing the work to replace the lead contained within the portion of the Customer water service line at Company's cost, Customer agrees to indemnify, release and hold harmless Company and its affiliates and agents from and against all claims, liability and costs ("Claims") resulting from acts and omissions of Company and/or its approved subcontractors in installing the Customer water service line; however, Customer shall have no duty to indemnify Company for any Claims that result from the negligence, wrongful act, or omission of the Company including its representatives, subcontractors, successors and assigns. Notwithstanding the foregoing, Company warrants the workmanship of its installation of the portion of the Customer water service line replaced for a period of 12 months following the date set forth below, with Company's liability limited to the cost of repairing or replacing the portion of the Customer water service line containing lead that was replaced as part of this agreement.

DATE: _____ CUSTOMER PHONE #: _____ _____
HOME CELL

CUSTOMER:

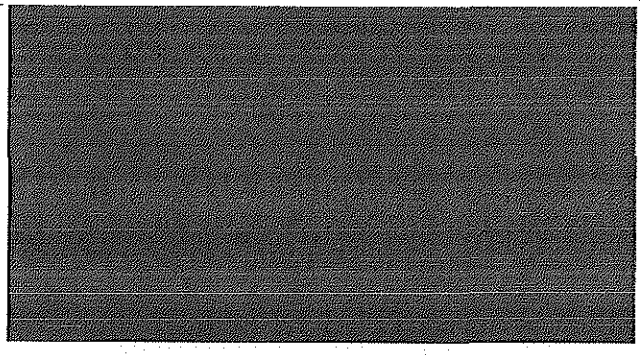
_____ _____

_____ _____
[Print Name] [Print Name]

MISSOURI-AMERICAN WATER COMPANY

By: _____

_____
[Print Name and Title]



IMPORTANT NOTICE ABOUT YOUR WATER

Dear Valued Customer,

As part of our routine improvements to ensure the quality and pressure of your water service, Missouri American Water is upgrading our infrastructure. Today, we connected your customer-owned service line to the company's new main in the street. Some sediment or debris may have come loose during this process.

You should flush your household plumbing BEFORE you consume tap water or use hot water. For example, this includes drinking, cooking, making baby formula, filling pet bowls, or using icemakers, filtered water dispensers or appliances requiring water.

1. Start by finding the closest available cold water tap to where the water line comes into the home (such as an outside hose bib or laundry/utility sink). If using outside faucet, please use hose to direct water away from your home.
2. Remove faucet aerator, and if applicable, bypass any home treatment unit. Then fully open the cold water tap and let the water run for at least 5 minutes.[1]

Monitor tap and drain to prevent overflows.

For more information on your water quality, call us or visit us online at **www.missouriamwater.com**. Under Water Quality & Stewardship, select Water Quality Reports.

[1]**Source:** Environmental Protection Agency (EPA), https://www.epa.gov/il/advice-chicago-residents-about-lead-drinking-water.

Date: ____/____/20____ Time: _____ a.m. / p.m.

MO.STL.FLA.D.04.16

MISSOURI
AMERICAN WATER

CUSTOMER SERVICE
HOURS OF OPERATION: M-F, 7 a.m. to 7 p.m.
FOR EMERGENCIES: We're available 24/7.
1-866-430-0820

IMPORTANT NOTICE ABOUT YOUR WATER

MISSOURI AMERICAN WATER

Dear Valued Customer,

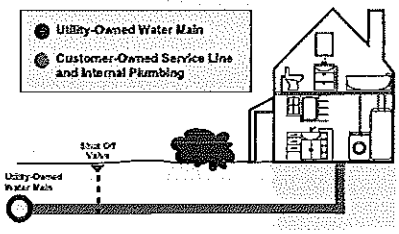
As part of our routine improvements to ensure the quality and pressure of your water service, Missouri American Water is upgrading our infrastructure. Today, we evaluated your customer-owned water service line. Here's what we found.

- ❑ We identified that your customer-owned service line may contain lead.

Missouri American Water Company is planning on replacing a portion of the customer-owned water service line that contains lead. This will occur when we reconnect your water service line to the newly installed water main in the street/ right of way/easement.

You will be notified when your water service line is transferred to the newly installed water main. Once transferred, please follow the **Household Flushing Instructions** recommended by AWWA[1] listed below to minimize your exposure of any lead that may have been released.

St. Louis County



Please note: This diagram is a generic representation. Variations may apply.

Because part of the service line that we observed contained lead, you should contact a licensed plumber to identify the material used in your home plumbing. If lead is found, you should consider replacing those materials to reduce your exposure to lead. Please note: homeowners are responsible for their home plumbing and water service line.

Household Flushing Instructions

You should flush your household plumbing BEFORE you consume tap water or use hot water. For example, this includes drinking, cooking, making baby formula, filling pet bowls, or using icemakers, filtered water dispensers or appliances requiring water.

1. Start by finding the closest available cold water tap to where the water line comes into the home (such as an outside hose bib or laundry/utility sink). If using outside faucet, please use hose to direct water away from your home.
2. Remove faucet aerator, and if applicable, bypass any home treatment unit. Then fully open the cold water tap and let the water run for at least 30 minutes.

Next, flush the remainder of your household plumbing as follows:

3. Remove faucet aerators from all cold water taps in the home (and remove any filter devices).
4. Beginning in the lowest level of the home, fully open the cold water taps throughout the home.
5. Let the water run for at least 30 minutes at the last tap you opened (top floor).
6. Turn off each tap starting with the taps in the highest level of the home. Replace the aerators on faucets.

Be sure to run cold water in bathtubs, showers and faucets, and monitor all taps and drains to prevent overflows.

[1]**Source:** American Water Works Association (AWWA), www.awwa.org. AWWA is a nonprofit association dedicated to managing and treating water.

FOR MORE INFORMATION

For Questions About Lead:
Contact Jane Bishop
M-F, 7:30 a.m.–4 p.m.
314-469-6050, ext 6428
After hours: Please contact our field resources center at 1-618-239-3227

For Questions About Construction:
_____
(____) _____

For all other inquiries:
Customer Service Center
1-866-430-0820
Hours: M-F, 7 a.m. – 7 p.m.
For emergencies, we're available 24/7.

Missouri American Water meets all drinking water standards related to lead. Basic information about lead, the steps we take—along with tips on what you can do—to reduce the potential for lead exposure, are attached and can be found online at **www.missouriamwater.com**. Under Water Quality, select Water Quality Reports.

For more information on drinking water in general:
Call the USEPA's Safe Drinking Water Hotline at (800) 426-4791.

Date: _____
Time: _____ a.m. / p.m.

MOSTL.FLB.01-2017

LEAD

The most common source of lead in tap water is the plumbing in your home

MISSOURI AMERICAN WATER

Missouri American Water regularly tests for lead in drinking water and has taken steps to minimize levels through improvements in corrosion control.

Although these tests indicate that lead is not an issue in the treated water leaving our facility, lead and/or copper levels in some homes and businesses might be detected due to customer use of lead pipes, lead solder and molded metal faucets in household plumbing.

Health effects associated with high levels of lead

The U.S. Environmental Protection Agency (EPA) sets standards related to lead in drinking water. Lead levels that exceed these standards could cause serious damage to the brain, kidneys, nervous system and red blood cells. The greatest risk, even with short-term exposure, is to young children and pregnant women.

Assessing your exposure to lead

Lead levels in drinking water are more likely to be higher if:

- your home or water system has lead pipes or has a lead service line
- your home has copper pipes with lead solder
- your home was built before 1986 AND
- you have soft or acidic water
- water sits in the pipes for several hours

Minimizing your exposure

You cannot see, smell or taste lead, and boiling water will not remove lead. Although our water is treated to minimize the risk of lead, you can reduce your household's exposure to lead in drinking water by following these simple steps:

- **Flush your tap before drinking or cooking with water, if the water in the faucet has gone unused for more than six hours.** The longer the water lies dormant in your home's plumbing, the more lead it might contain. Flush your tap with cold water for 30 seconds to two minutes before using. To conserve water, catch the running water and use it to water your plants.
- **Try not to cook with or drink water from the hot water faucet.** Hot water has the potential to contain more lead than cold water. When you need hot water, heat cold water on the stove or in the microwave.
- **Remove loose lead solder and debris from plumbing.** In newly-constructed homes or homes in which the plumbing was recently replaced, remove the strainers from each faucet and run the water for 3 to 5 minutes. When replacing or working on pipes, be sure to use materials that are lead-free. Use of lead-based solders has been banned.
- **Look for the "Lead Free" Label.** When replacing or installing fixtures, look for the "lead free" label. Under the 2011 Reduction of Lead in Drinking Water Act, fixtures must have 0.25% lead or less to be considered "lead free."
- **See also information** on the reverse related to home treatment devices.

(Continued)

For more information

Missouri American Water Customer Service Center:
1-866-430-0820
M-F, 7 a.m. - 7 p.m.

Check us out online:
missouriamwater.com

For more information on drinking water standards:
Contact the EPA Hotline at 1-800-426-4791

MISSOURI AMERICAN WATER

If you are still concerned about elevated levels and want to find out where you can have your water tested by a certified laboratory, contact the EPA's Safe Drinking Water Act Hotline at 1-800-426-4791 or visit the Missouri Department of Natural Resources' website at www.dnr.mo.gov.

FREQUENTLY ASKED QUESTIONS

Is lead in water regulated and does Missouri American Water comply with standards?

Yes and yes. The EPA's lead standard is an action level that requires treatment modifications if lead test results exceed 15 parts per billion (ppb) in more than 10 percent of first draw samples taken from household taps.

Missouri American Water regularly tests for lead at the end of its treatment process. Testing has shown that lead is not an issue in the water exiting any of our water treatment facilities.

We also conduct tests in our distribution system in accordance with the EPA regulatory requirements. For more information on your system, visit **missouriamwater.com** to view the latest consumer confidence report. Under the **Water Quality & Stewardship** menu, select **Water Quality Reports**.

Does that mean I do not have lead in my water?

Not necessarily. You might have lead in your drinking water if your household plumbing system has lead pipes or if lead solder was used in the joints of copper pipes.

Homes built before 1930 are more likely to have lead plumbing systems.

Lead pipes are dull grey color and scratch easily revealing a shiny surface. Lead solder used to join copper pipes is a silver or grey color. If your house was built before January 1986, you are more likely to have lead-soldered joints. If you do, the chance of the lead leaching into your drinking water is greater when water has been standing in the pipes for many hours, overnight for example.

Lead kits that test for the presence of lead in solder are available at some hardware stores.

Should I flush my faucets every morning before using it to drink or use for food prep?

Yes. If you know you have lead pipes or lead solder was used on your copper piping, **flush your tap before drinking or cooking with water, if the water in the faucet has gone unused for more than six hours.** The longer the water lies dormant in your home's plumbing, the more lead it might contain. Flush your tap with cold water for 30 seconds to two minutes before using.

How can I tell if my water contains too much lead?

You can have your water tested for lead. Since you cannot see, taste or smell lead dissolved in water, testing is the only sure way of knowing.

Will electrical grounding increase my lead levels?

Possibly. If grounding wires from electrical systems are attached to household plumbing, corrosion and lead exposure may be greater. Customers can choose to pay to have an electrician check the house wiring.

Getting your water tested for lead

Missouri American Water does not provide testing for lead for individual customers who request it. Customers can choose to have their water tested at their cost at a certified laboratory.

For more information

- Contact EPA's Safe Drinking Water Act Hotline: 1-800-426-4791
- Visit Missouri Department of Natural Resources online at www.dnr.mo.gov

Do I need a home treatment device for lead?

The need for a home treatment device is a customer-specific decision. Missouri American Water takes steps to reduce the potential for lead to leach from your pipes into the water. This is accomplished by adding a corrosion inhibitor or by reducing the acidity of the water leaving our treatment facilities. Certain home treatment devices, such as water softeners for example, might increase lead levels in your water. Always consult the device manufacturer for information on potential impacts to your drinking water or household plumbing.

NSF International created a Consumer Guide to NSF Certified Lead Filtration Devices for Reduction of Lead in Drinking Water. Visit www.nsf.org/info/leadfiltrationguide for more information.

05-2016

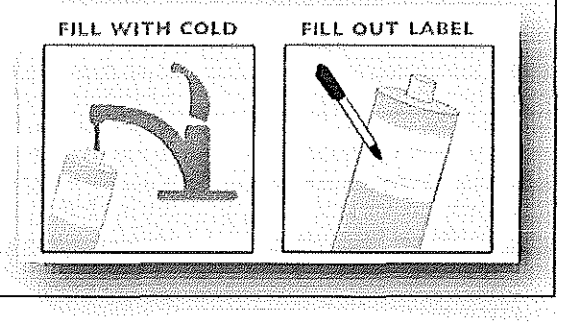
Sample #1 – Post Flush

STEP I Fill bottle and complete label (print legibly)

- Collect water sample from the **kitchen cold water tap** AFTER conducting the whole house flush.
- If a water treatment unit or filter is attached to the plumbing system or faucet, remove the filter or bypass the unit before sampling.

Sampling

1. Gently open the **kitchen cold water tap** and fill the bottle to the top (marked with a line).
2. Turn off water and tightly cap the sample bottle.
3. Fill out the bottle label:
   Collect Date, Collect Time, and Address.



STEP II Deliver Sample

Deliver sample on the SAME DAY COLLECTED to [INSERT Project Manager Name] for shipment to the lab.

Sample #2 – Water Unused for 6 Hrs

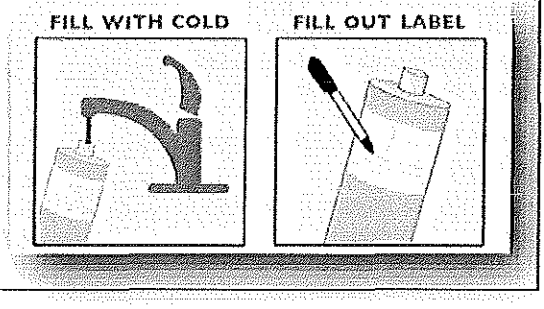
**This sample should be collected within 72 hours (3 days) of the water line replacement.*

STEP I Fill bottle and complete label (print legibly)

- Collect water sample from the **kitchen cold water tap** AFTER water has sat motionless for AT LEAST 6 HOURS. (This may be first thing in the morning or after returning home from work, etc.)
- This sample must be collected within 72 hours (3 days) of the repair.
- If a water treatment unit or filter is attached to the plumbing system or faucet, remove the filter or bypass the unit before sampling.

Sampling

1. Gently open the **cold water tap** (*that has been unused for at least 6 hours*) and fill the bottle to the top (marked with a line).
2. Turn off water and tightly cap the sample bottle.
3. Fill out the bottle label:
   Collect Date, Collect Time, and Address.



STEP II Deliver Sample

Deliver sample on the SAME DAY COLLECTED to [INSERT Project Manager Name] for shipment to the lab. Results will be communicated with the resident/owner as soon as they are available.