



## EWEB invests more than \$30 million in filtration plant

After investing more than \$30 million upgrading, expanding and renovating its Hayden Bridge Water Filtration Plant over the past eight years, the Eugene Water & Electric Board is nearly done with a series of capital improvements aimed at increasing reliability and efficiency at the 67-year-old facility.

The improvements at Hayden Bridge, EWEB's only filtration plant, are part of the utility's Water Reliability Initiative to increase the system's resilience now and for future generations. There are several emergencies that could result in a water supply shortage, and the most devastating would be a large earthquake,

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“ Targeted, incremental improvements to critical infrastructure is our top priority in order to provide reliable and affordable water service to our customers for the long term, ”

- Brad Taylor, water operations manager

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*(EWEB invests continued)*

including a seismic event along the Cascadia Subduction Zone.

Research indicates there is a high probability the Willamette Valley will experience a significant earthquake within the next 50 years, and water systems are especially vulnerable to such damage. Distribution and transmission pipes are susceptible to rupture during sudden ground movement, and a substantial earthquake could affect intake structures that draw water from the McKenzie River, and the filtration plant itself.

Over the past several years, EWEB has completed a series of seismic upgrades to the plant, including reinforcing basin walls and filter buildings, as well as the

head house. A project expected to be complete late this summer – disconnecting an old flume from the filtration building – will complete the seismic improvements. Later this year, the plant will start a project to replace the gas chlorine system. Once operational, the system will be able to generate liquid chlorine at the plant site.

Other significant work already finished includes a plant expansion that added a new contact basin and two new filters; updated electrical systems and instrumentation; installation of new pumps and piping; and the addition of a new compressor building.

“Targeted, incremental improvements to critical infrastructure is our top priority

in order to provide reliable and affordable water service to our customers for the long term,” said Brad Taylor, water operations manager. “Looking at our investments in Hayden Bridge make me very proud of our highly skilled staff, and of the increased resiliency of our water system”

In addition to replacing older distribution pipes throughout the service area and upgrading and expanding the equipment at Hayden Bridge, EWEB is also planning to build a second, smaller filtration plant on the Willamette River. Property acquisition, planning and engineering work is underway on that project. EWEB expects the second filtration plant to become operational in 2022.

## EWEB water is reliably outstanding



“Your water **met or exceeded** all state and federal drinking water health standards.”

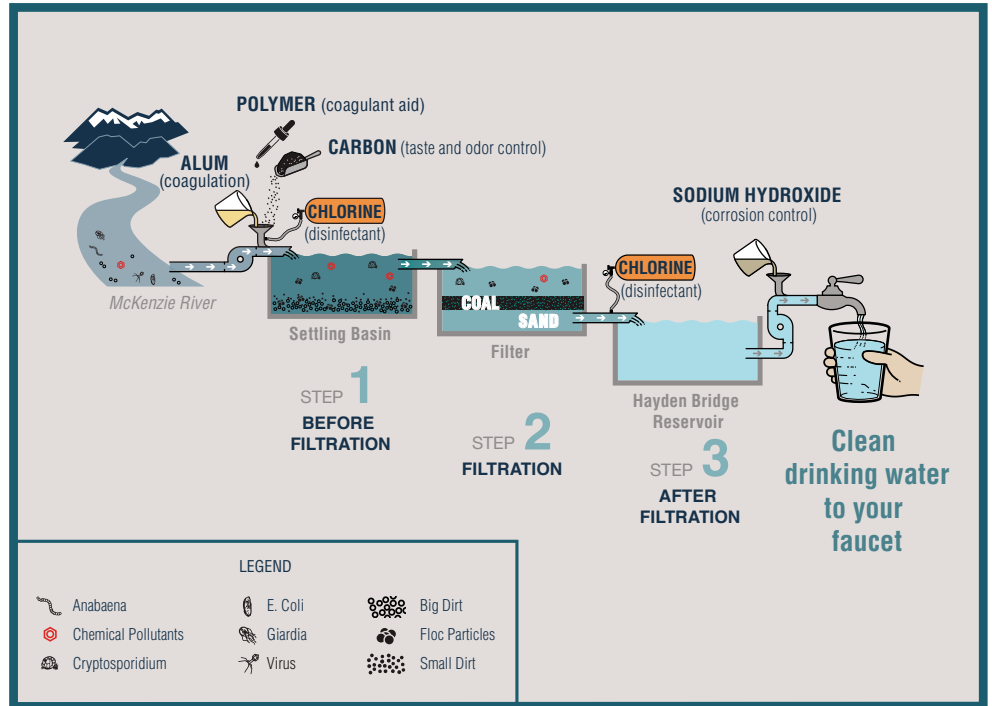
This report provides a snapshot of last year’s water quality. The key conclusion is this: Your water met or exceeded all state and federal drinking water health standards. In fact, EWEB is proud to say that it has never violated a maximum contaminant level or any other water quality standard established by the EPA.

# EWEB water filtration process

Even with a high-quality drinking water source, we still have to filter and disinfect the river water to deliver safe drinking water to your tap. At the Hayden Bridge Water Filtration Plant we use a three-step process to turn water from the McKenzie River into safe drinking water.

## 1 Before filtration

- We disinfect the water by adding chlorine, which kills organisms that can make people sick.
- Sometimes we add carbon to improve taste and odor.
- Raw water from the river can be cloudy due to soil particles floating in the water. We add alum to bind the soil particles into clumps. The clumps then fall to the bottom of the settling basin, and the water flows into the filters.

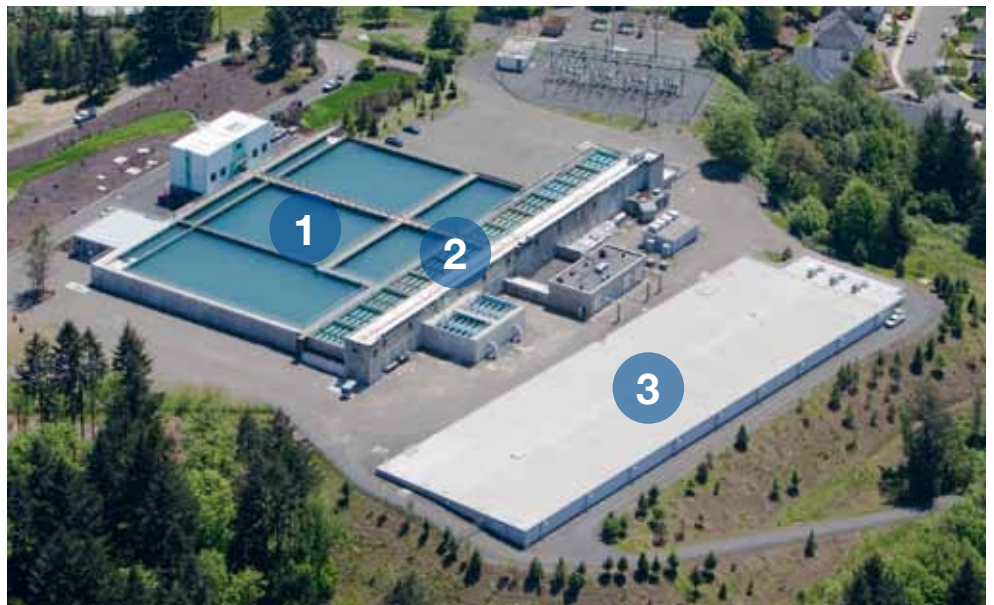


## 2 Filtration

- Following settling, the water travels through a multi-layered filtration process that removes any remaining clumps and small particles.

## 3 After filtration

- We add more chlorine to maintain the purity of the water throughout our distribution system.
- We adjust pH with sodium hydroxide to reduce corrosion in our distribution system and in your home or business's plumbing system.



Hayden Bridge Water Filtration Plant

# How we prevent lead in our drinking water system

All of us care about our family's health and well-being. Elevated levels of lead can cause serious health problems, and pregnant women and young children are especially vulnerable. For decades, we have tested our water for lead. This testing shows that there is no lead in the water that enters the distribution piping. We also adjust the pH of the water to reduce corrosion in our pipe systems and to help prevent lead from leaching out of your old household plumbing fixtures.

## How to keep lead out of your drinking water

Boiling water will not reduce or remove lead from water. Here are a few tips to reduce lead exposure from your tap water:



**Use only cold water to drink, cook and make baby formula**

Hot water makes it easier for lead to leach from your pipes into the drinking water.



**Run your tap**

Anytime the water in a particular faucet has not been used for six hours or longer, "flush" your cold-water pipes by running the water until it becomes as cold as it will get.

**Your faucet aerator can trap particles that contain lead**

Clean your aerator every few months to remove any particles.

**Consider buying low-lead fixtures**

As of January 4, 2014, all pipes, fittings and fixtures must contain less than 0.25 percent lead. **Learn how to identify lead free products.**



**Consider using a water filter**

**Contact National Sanitation Foundation International** at **1-800-673-8010** for information about certified water filters. Follow all filter maintenance instructions to keep your water safe.

EWEB is considered **optimized** by the Oregon Health Authority in its corrosion prevention and is in compliance with all lead regulations.

# What to do if you are concerned about lead in your drinking water

**YOU CAN** have your tap water tested for the presence of lead. [Click here](#) for a list of certified laboratories. **YOU CAN also find out if you have lead pipes.**

**YOU CAN** ask your child's doctor to have a lead blood level test done. The Centers for Disease Control and Prevention recommends that public health actions be initiated when the level of lead in a child's blood is 5 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ) or more.

## Additional information

**YOU CAN** visit: [EUGENE WATER & ELECTRIC BOARD](#)  
[EWEB Lead in Drinking Water](#)

[OREGON HEALTH AUTHORITY](#)  
[Lead fact sheet](#)  
[Oregon healthy school facilities](#)

[US ENVIRONMENTAL PROTECTION AGENCY](#)  
[Learn about Lead](#)  
[Lead in Drinking Water](#)

EWEB is responsible for providing high quality drinking water, but cannot control the variety of materials used in household plumbing components. Additional Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or go to our [website](#).

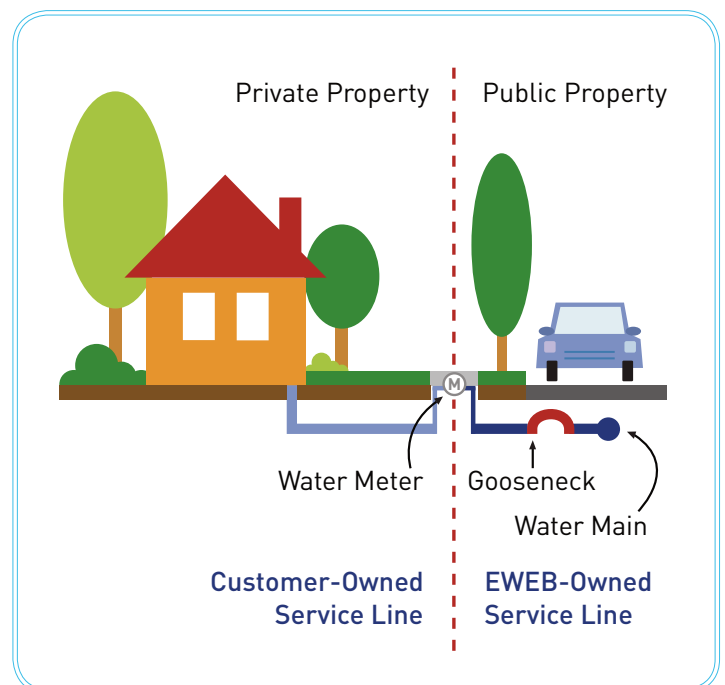
# How lead could get into your drinking water

## Service lines

Although rare, some homes built before 1950 may have been connected to our water system by a lead "gooseneck". For more than 40 years we have been removing all lead parts from our system. We have reviewed our documentation and developed a materials evaluation. There are no known lead service lines in our distribution system.

## Household plumbing

The main source of lead in our community's tap water is old household plumbing. Household plumbing is the homeowner's portion of the service line which runs from the meter to your house and the type of internal plumbing and faucets used inside your home. Lead solder was often used in homes built or plumbed with copper pipes before 1986. Lead is also common in brass faucets and fixtures manufactured before 2014.



# Consistent monitoring assures reliable water quality

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency regulates the amount of certain substances in water provided by public water systems. The following regulated contaminants were detected in the water.

To view a comprehensive list of all the substances that EWEB tests for, go to the [2016 annual testing results](#).

## 2016 DRINKING WATER QUALITY RESULTS

TEST	MCL	MCLG	DETECTION RANGE	IN COMPLIANCE	PROBABLE SOURCE
<b>INORGANICS</b>					
Arsenic (ppb)	10	0	ND - 1.87	YES	Erosion of natural deposits
Barium (ppm)	2	2	0.0016 - 0.0019	YES	Erosion of natural deposits
<b>DISINFECTION BY-PRODUCTS</b>					
Total Trihalomethanes (ppb)	80	n/a	14.2-43.7 Highest LRAA=29.7	YES	By-product of drinking water disinfection
Haloacetic Acids (ppb)	60	n/a	9.8 - 35.6 Highest LRAA=26.9	YES	By-product of drinking water disinfection
Chlorine (ppm)	4	4	0.02 - 0.85	YES	Water additive used to control microbes
Total Organic Carbon (ppm)	TT	n/a	0.31 - 0.85	YES	Naturally present in the environment
<b>MICROBIOLOGICALS</b>					
Turbidity (ntu)	TT<0.3 NTU 95% of the time	n/a	0.027 - 0.074 Met criteria 100% of the time	YES	Soil run-off
<b>RADIONUCLIDES</b>					
Gross Beta Particle (pCi/L) <i>Sampled in 2014</i>	50*	0	3.8	YES	Decay of natural & manmade deposits
<b>DISTRIBUTION SYSTEM</b>					
<b>90TH PERCENTILE</b>					
Copper (ppm) <i>Sampled in 2015</i>	AL =1.3	1.3	0.070 Samples exceeding AL=0	YES	Corrosion of household plumbing systems
Lead (ppb) <i>Sampled in 2015</i>	AL =15	0	3.0 Samples exceeding AL=0	YES	Corrosion of household plumbing systems

\*The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

# Unregulated contaminant monitoring assures reliable water quality in the future

In 2013, EWEB conducted additional monitoring for unregulated contaminants on a quarterly basis. These substances don't yet have a drinking water standard set by the EPA. The purpose of monitoring is to help the EPA decide whether the substances should have a standard. A full list can be found [here](#). The four metals listed below were detected. They were found at very low, naturally occurring levels typical of the Cascade rock formations of volcanic origin at the headwaters of the McKenzie River.

## UNREGULATED CONTAMINANT MONITORING

INORGANIC (results in ppb)	AVERAGE RESULT	DETECTION RANGE	PROBABLE SOURCE
Total Chromium	<0.2	<0.2 - 0.39	Erosion of natural deposits
Hexavalent Chromium	0.10	0.097 - 0.12	Erosion of natural deposits
Strontium	26	25 - 28	Erosion of natural deposits
Vanadium	4.6	3.6 - 5.8	Erosion of natural deposits

## Terms and Definitions

**Highest Locational Running Annual Average (LRAA):** The highest calculated annual average at a single location.

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goal (MCLG) as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microorganisms.

**Action Level (AL):** The concentration of a substance, which if exceeded, triggers treatment.

**Treatment Technique (TT):** A required process intended to reduce the level of a substance in drinking water.

**90th Percentile:** This means that 90 percent of the samples collected were equal to or below the value reported.

**Detection Range:** This is the range of substance levels found in parts per million or billion (ppm or ppb). These units of measure describe the levels of detected substances.

**Nephelometric Turbidity Units (NTU):** A measure of water clarity.

**Non-Detect (ND):** Substance not detectable using current monitoring equipment.



## Online posting saves mailing and printing costs

EWEB saves thousands of dollars in paper and printing costs as well as postage fees by making this document available online. *Please consider the environment before printing.*

Para una copia de este informe en español, contacte Joe Harwood en **541-685-7471** o [joe.harwood@eweb.org](mailto:joe.harwood@eweb.org)

## We make good water even better

We are fortunate to have a high-quality drinking water source, the McKenzie River. Water treatment begins with management of this great resource. We partner with local conservation organizations to protect and maintain our healthy watershed. Visit our [Source Water Protection Program web page](#) to learn more about how we help protect the McKenzie River watershed.

### Notes on EWEB Detected Substances

**The following provides additional information about the substances that were detected:**

**Arsenic/Barium/Gross Beta Particles:** These naturally occurring substances, found in the mineral composition of our watershed, were detected at extremely low levels – well below health standards established by the EPA and the Oregon Health Authority.

**Chlorine:** EWEB adds chlorine to its water during the disinfection process to

protect against microorganisms such as Giardia and E.coli.

**Copper:** Copper is found in natural deposits and is also widely used in household plumbing materials.

**Disinfection Byproducts (DBPs):** Disinfectants are an essential element in drinking water treatment because of the barrier they provide against waterborne disease-causing microorganisms. DBPs form when disinfectants used to

treat drinking water react with naturally occurring materials in the water (e.g., decomposing plant and other organic material).

**Turbidity:** Turbidity is a measure of the cloudiness of water. Turbidity can interfere with disinfection. EWEB's filtration process effectively removes turbidity.

**Total Organic Carbon:** A measure of naturally occurring organic materials in water.

For information on EWEB's drinking water monitoring program or to request a printed copy of this document, call **541-685-7835**, or email [water.quality@eweb.org](mailto:water.quality@eweb.org)



## What the EPA says about drinking water contaminants

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at **1-800-426-4791** or visiting the [website](#).

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants in drinking water sources may include:

- **Microbial contaminants** such as viruses and bacteria, which may come from wildlife or septic systems.
- **Inorganic contaminants** such as salts and metals, which can occur naturally or result from urban storm water runoff, industrial or domestic wastewater discharges and farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as farming and forestry activities, urban storm water runoff, and home or business landscaping activities.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes. These substances also can come from gas stations, urban storm water runoff and septic systems.
- **Radioactive contaminants** can occur naturally or may result from oil and gas production and mining activities.

## Special Health Considerations

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the **Safe Drinking Water Hotline (1-800-426-4791)**.

EWEB commissioners  
hold public meetings  
the first Tuesday of  
each month.  
For more information,  
go to our [website](#).

# Five Things to Know

ABOUT EWEB'S INVESTMENT IN WATER RELIABILITY



## 1 or 2 Day Supply

EWEB only has enough storage to provide 1 or 2 days of drinking water if something happens to our McKenzie River supply.

## Community Risk

A reliable supply of clean water is vital to public health, safety and our economy, especially in an emergency.



## System Resilience

EWEB's strategy to replace and renew our water system will increase resilience now, and for future generations.

## Invest in Reliability

Our biggest investment will be a new drinking water source and filtration plant on the Willamette River.



## Affordable

Careful financial planning will balance water reliability and affordability.