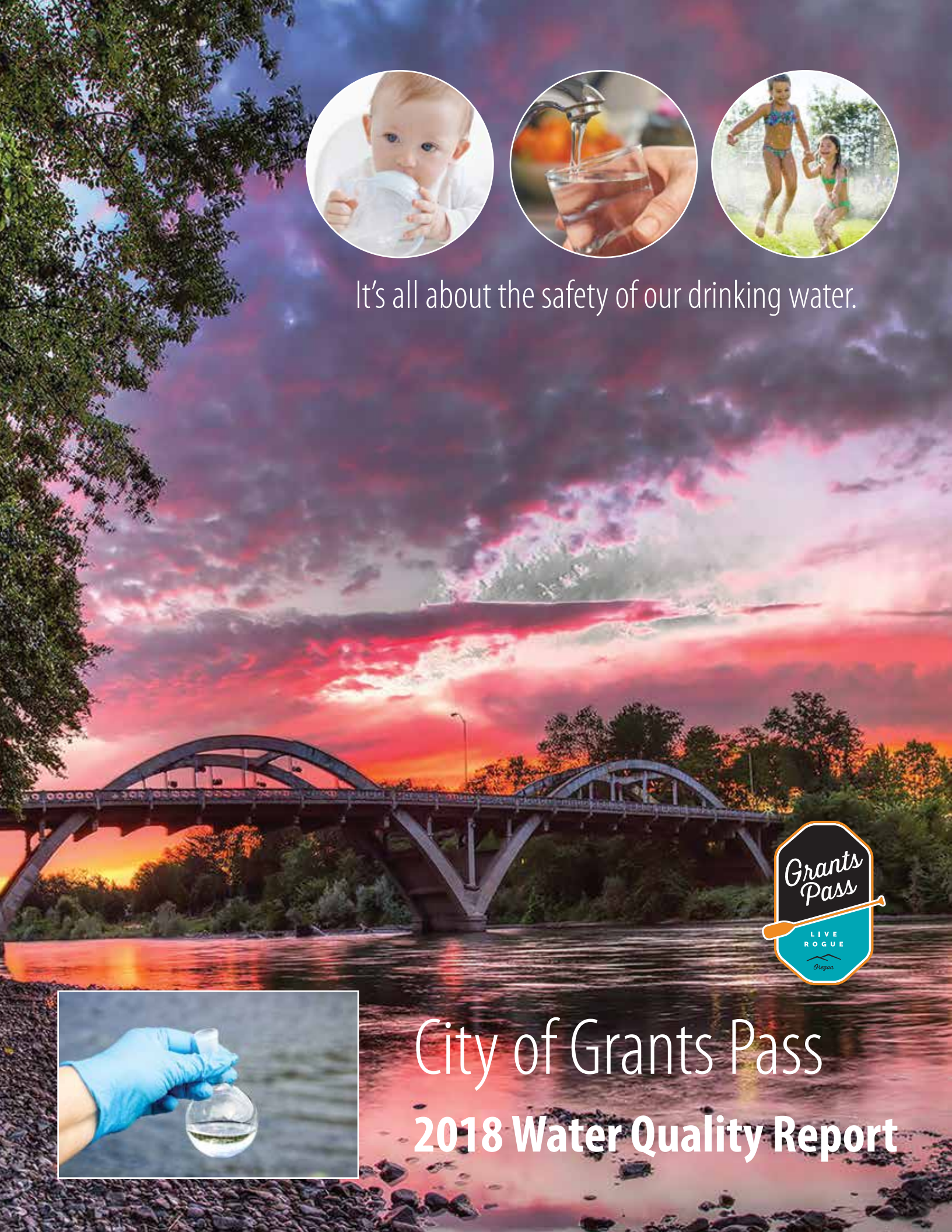




It's all about the safety of our drinking water.



City of Grants Pass 2018 Water Quality Report



Dear Water Customer

We are pleased to present you with our 2018 Water Quality Report. This report, required by the Environmental Protection Agency, is to provide you with detailed information about your drinking water quality, any detected contaminants in the water, and compliance with drinking water related rules. It is also an opportunity for the City to provide you, the consumer, with educational information on where your water comes from, how it is treated, and what you can do to ensure that Grants Pass' water remains the clean, fresh, and safe commodity that it has always been. If you desire any additional information regarding the City's water or have suggestions on how we can better serve you, please contact us at 541-450-6110.

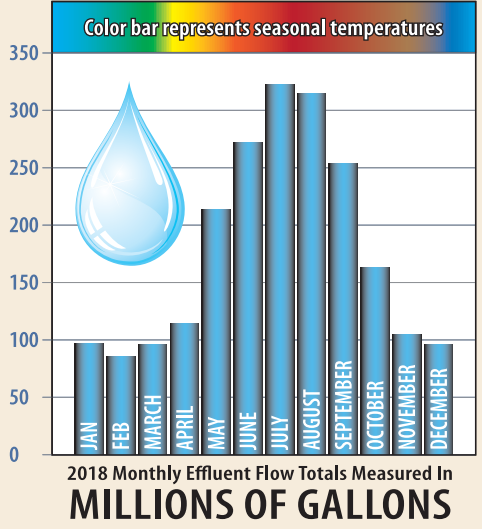
Respectfully yours,

Jason M. Canady, Public Works Director

Source of Supply

Our water source is surface water drawn from the Rogue River. The Rogue River has supplied the City of Grants Pass with its drinking water since 1888. From 1888 to 1930 water was pumped from the Rogue River and chlorinated to kill bacteria; however, it was not filtered. At certain times of the year the drinking water was very turbid. There was a definite need for filtration to make the water a clear and pleasant tasting commodity. During the period from the 1930's to 1983 the Water Treatment Plant (WTP) expanded to our present capacity of 20 million gallons per day. Depending on the time of year and customer demand, the Water Treatment Plant presently produces between 1.3 and 15.36 million gallons per day. In 2018, the City distributed over 2.14 billion gallons of water.

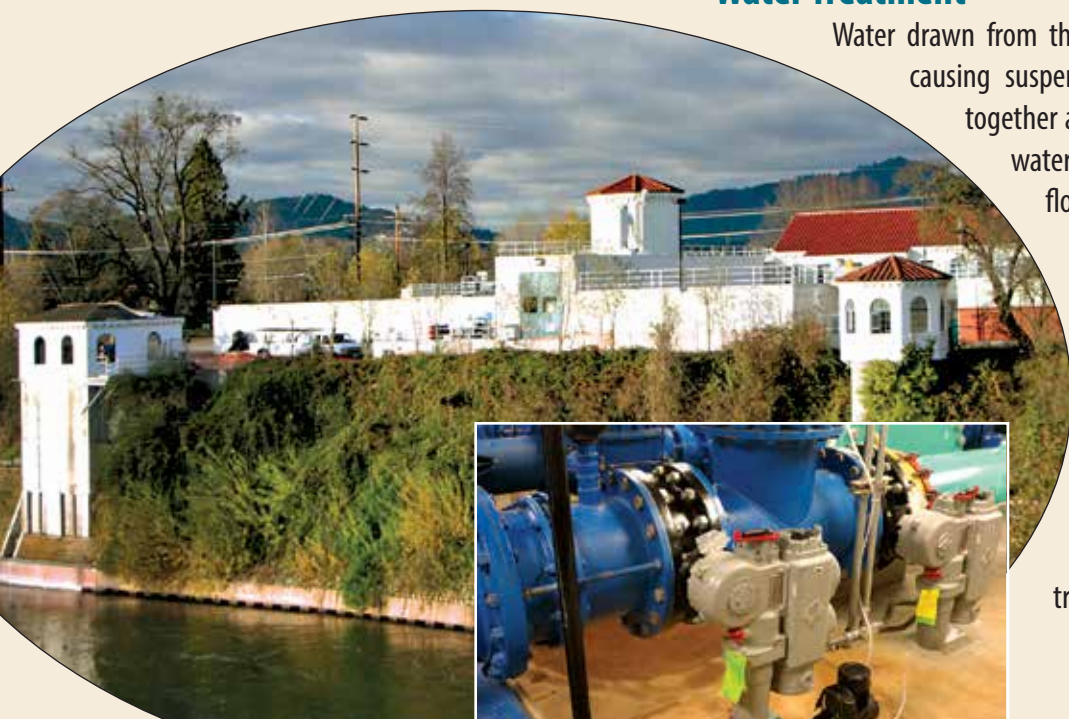
How Much Water Was Used in 2018



Water Treatment

Water drawn from the Rogue River is mixed with coagulant causing suspended materials in the water to clump together and form larger particles called "floc". The water enters sedimentation basins, where the floc (which is heavier than water) settles to the bottom of the tanks. The water then flows from the sedimentation basins into dual-media filters. The filters remove any remaining particles present in the water.

In the final step, chlorine is added to the water for disinfection and to keep it safe in the distribution system as it travels to a reservoir and on to your tap.



Water system operators are certified by the Oregon Health Authority Drinking Water Program (OHA-DWP) and are trained in all aspects of water treatment and distribution. They are required to complete continuing education classes in order to maintain their certification and to keep up to date on the latest standards and technology used in water treatment. We are pleased to report that the water we distribute is safe and meets all Federal and State requirements.

Storage and Distribution

Treated water piped from the plant is pumped and stored by thirteen remote pumping stations and eight reservoirs. The distribution system is made up of five different elevation zones located throughout the City and over 188 miles of distribution lines varying in size from 2 to 36 inches in diameter. Liquid chlorine is added at strategic points in the distribution system to maintain the chlorine residual mandated by the OHA-DWP.

Monitoring and Reporting Requirements

The Grants Pass Water Treatment Plant routinely monitors for contaminants in our water according to Federal and State laws. The data within this report comes from the monitoring of our potable water supply for the period of January 1, 2018 to December 31, 2018. All water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

Federal and State regulations include procedures and schedules for monitoring water from the source to the tap. The OHA-DWP ensures that public water systems in Oregon comply with these regulations, follow monitoring schedules, and report monitoring results. The Grants Pass Water Treatment Plant and Distribution Department work hard to provide the highest quality water to every tap.

Source Water Assessment

An update to the City's 2013 Source Water Assessment was completed in spring of 2018. This updated assessment contains detailed information about potential threats to the City's source of supply; the Rogue River. Assuring safe drinking water depends on public water suppliers implementing multiple successful practices:

1. Protect the drinking water source.
2. Practice effective water treatment.
3. Conduct regular monitoring for contaminants to assure safety.
4. Protect the distribution system piping and finished water storage from recontamination.
5. Practice competent water system operation, maintenance, and construction.

These practices are collectively called "multiple barrier public health protection".

The updated source water protection plan is a step towards collaboratively protecting the City's source water. The updated plan can be viewed at: www.grantspassoregon.gov/water-documents or a hard copy can be viewed at the Public Works office at 101 NW A Street.

In 2018, the City created a partnership with the Medford Water Commission, the City of Rogue River, the City of Gold Hill, the Rogue River Watershed Council and others to form the Rogue Basin Drinking Water Providers. This group, utilizing grant funds from the State of Oregon, is working to enhance source water protection in the Rogue basin. Issues that adversely impact the Rogue River affect all residents of the Rogue Valley, especially those who rely on the Rogue River for their drinking water. The Partnership is working to create educational materials, as well as media releases to raise awareness of the importance of Source Water Protection to our communities.

For updates on implementation of the Plan visit: <https://www.grantspassoregon.gov/374/Water-Treatment-Plant-Facility-Plan> or contact the Public Works Administration Office.



Results of Lead and Copper Analysis – Sept 2017

Variable	90th Percentile	Action Level* (AL)	Complies?	Typical Source
Copper	0.32 ppm	90% of the homes tested must have levels less than 1.3 ppm of Copper and 15 ppb of Lead	Yes No samples exceeded the Action Level	Corrosion of household plumbing;
Lead	0 ppb		Yes No samples exceeded the Action Level	Erosion of natural deposits



NOTES: Plumbing components may contribute to elevated lead and copper at the tap. There is no detectable lead in Grants Pass water supply sources. Copper occurs naturally at very low levels. Some homes and buildings may have elevated lead levels at the tap if water stands in the pipes for several hours. Lead may leach from faucets or plumbing components. Leaching may also occur in copper pipes that are joined with lead-based solder. The lead and copper results reported here are from a targeted group of homes in Grants Pass retail and wholesale service area. This group of homes meets criteria for being at risk of having elevated levels of lead and copper at the tap.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Grants Pass Water Treatment Plant is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by running your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.



Water pumped from the Rogue River flows through three large sedimentation basins. The basin's total area is 16,909 square feet and can hold 1,635,033 gallons. This coagulated raw water flows out of the basins and is treated with a polymer prior to filtration to remove any suspended particles and any floating debris. The leftover sediment is pumped into large dewatering bags. These bags measure 50-200' long and can get up to 8' tall and are constructed of a synthetic geo-textile fabric. Over several months the water slowly seeps out of the bags leaving the sediment to become a solid, like chunks of dried mud. The photos are of the drying sediment that will be scooped up and hauled away.

To continue high standards of water quality, we must plan for our future.

The Water Treatment Plant has faithfully served the Grants Pass residents for over 88 years. Turn on a tap, and out comes an unending supply of good, safe drinking water. The water currently produced by the Treatment Plant is of the highest quality; however, safeguarding reliable delivery of water to our community is becoming increasingly more challenging. Unfortunately, the City's Water Treatment Plant is beginning to fail. The main building was constructed in 1931, long before the building codes and seismic requirements of today. Walls are crumbling; structures are no longer sound. If we were to have a seismic event, the citizens of Grants Pass would no longer have access to the fresh, clean, safe water the Treatment Plant currently provides.

Over the past five years, the City has contracted with several specialized engineering firms to assess the facility's current condition. We have also evaluated the potential plant condition following a large seismic event. All firms have found faults in the current structure and have concluded there is a very high likelihood the treatment plant would not be able to supply water following a seismic event. Simply put, this aging facility is beyond a minor repair. Being our only source for treating and supplying drinking water, it would not be a responsible decision to continue investing in our current facility. After gathering and

analyzing all this information, the City Council continues to place the Water Treatment Plant as their number 1 goal in the strategic plan. To facilitate this process, they have hired Stantec Engineering Inc. to assist in the numerous decisions that will have to be made before construction can begin. The current goal is to have a new Water Treatment Plant online and producing high quality drinking water by winter of 2023.

To fund this project the City has approved a rate increase, phased in over five years, which includes a new Treatment Plant Replacement Fee. This fee will gradually increase to \$13.50 by 2023. It will serve primarily to pay the debt required to construct the replacement water treatment plant. Once the debt is repaid, the fee will be removed from the City Utility bill. If you are interested in learning more, visit our website at: www.grantspassoregon.gov/water to get the latest updates and meeting schedule.



Photos show delamination and loss of integrity of walls and water bearing structures and roof patches.



Results of Turbidity and Microbiological Analysis of Treated Water After Disinfection

(All results meet State and Federal drinking water regulations)

Variable	Maximum Amount Found	Maximum Contaminant Level (MCL)	Maximum Contaminant Level Goal (MCLG)	Typical Source	Meets Regulations
Physical Testing Characteristic Turbidity	0.001 NTU 0.03 NTU Yearly Daily Average	A violation exists if > 5% of samples are > 0.30 NTU	n/a	Soil erosion and stream sediment	Yes
Microbiological Testing Total Coliform Bacteria	Zero positive tests	5% or more samples test positive	Zero positive tests	Soil bacteria and animal feces	Yes
Disinfection Residual	1.33 ppm Range 1.1 ppm - 1.3 ppm	MRDL = 4.0 ppm	MRDLG = 4.0 ppm	Chlorine is used as a disinfectant in the water treatment process	Yes

NOTES:

Turbidity and NTU's.

Turbidity is regulated because it can provide a medium for bacterial growth. Turbidity is measured in NTU's. The Water Treatment Plant consistently delivers water that is well under Federal and State standards.

Total Coliform Bacteria.

Testing for these bacteria after disinfection helps confirm the effectiveness of the disinfection process. (Bacteria may have been present in the source water.) Total coliform bacteria are also indicators of possible contamination that might occur after treatment.

Chlorine Residual. Federal and State drinking water regulations require detectable disinfectant residual (chlorine) throughout our water distribution system. Water entering the Grants Pass distribution system has approximately 1.2 parts per million of chlorine.

Rogue River Turbidity (2018 Averages)

Summer Daily Average	2.2	NTU's
Winter Daily Average	4.8	NTU's
Maximum Daily Average	73	NTU's

Production Data (2018 Averages - million gallons per day)

Summer Daily Average	10.0	MGD
Winter Daily Average	4.0	MGD
Maximum Daily Flow	11.0	MGD



Results of Disinfection By-Product Analysis

(All results meet State and Federal drinking water regulations)

Substance	Location	Average Result (ppb)	Range of Results (ppb)	Maximum Contaminant Level (MCL)	Maximum Contaminant Level Goal (MCLG)	Source of Contaminant	Complies
Total Trihalomethanes (TTHM's)	New Hope Pump Station	29.2	15.7 – 37.3	Running Annual Average <80 ppb	Zero ppb	By-products of chlorination used in the water treatment process	Yes
	Forest View Drive	34.7	32.7 – 39.1				
	Starlite Drive	41.5	27.9 – 51.2				
	Merlin Landfill	48.5	42.4 – 58.2				
Haloacetic Acids (HAA5's)	New Hope Pump Station	30.5	11.5 – 38.5	Running Annual Average <60 ppb	Zero ppb	By-products of chlorination used in the water treatment process	Yes
	Forest View Drive	33.2	25.4 – 38.6				
	Starlite Drive	33.5	25.9 – 39.5				
	Merlin Landfill	37.8	25.3 – 52.1				

NOTES: During disinfection, certain by-products form as a chemical reaction between chlorine and naturally occurring organic matter in the water. The disinfection process is carefully controlled so that the disinfection is maintained while keeping the levels of disinfection by-products below regulatory limits.

Some people who drink water containing TTHMs in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Disinfection by-products are monitored quarterly. The results of one quarter are averaged with results of three previous quarters and reported as a running annual average (RAA). One of the Haloacetic Acids (HAA5's) results exceeded the 60 ppb MCL but because the Location Running Annual Average was below the MCL a violation did not occur.

Acronyms and Key Definitions

AL - Action Levels. The concentration of a contaminant that if exceeded, triggers treatment or other requirements that a water system must follow.

Contaminant - Any substance found in water. Not all contaminants are harmful.

MCL - Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

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

MRDL - Maximum Residual Disinfectant Level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG - Maximum Residual Disinfectant Level Goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

ND@ - Not Detected. At a particular detection point because laboratory instruments are only able to detect chemicals to certain minimum levels.

NTU - Nephelometric Turbidity Unit. Unit of measure used to describe water clarity. The smaller the number the clearer the water.

ppb - Parts per Billion. A part per billion indicates the amount of a substance in a billion parts of water; this compares with one penny in \$10 million.

ppm - Parts per Million. A part per million means that one part of a particular substance is present for every million parts of water; this compares to one penny in \$10,000. Similarly, it is the same as 1 mg/l (milligram per liter).

TT - Treatment Technique. A required process intended to reduce the level of a contaminant in drinking water.

Turbidity - Turbidity. A measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

Frequently Asked Questions

Does the City add fluoride to the water?

No, we do not add fluoride to the water. However, there are low levels of naturally occurring fluoride in the drinking water, at a level that is neither beneficial for cavity fighting nor does it present a health hazard.

Why does the taste and odor of my water sometimes differ?

Water naturally varies in taste and odor at different times of the year. Taste and odor problems in your drinking water can come from new or old pipelines, plumbing fixtures, or changes in raw water quality.

Is Grants Pass City water soft or hard?

Grants Pass City water is soft to moderately soft. It ranges from 1.90 to 3.4 grains of hardness per gallon (less than 59 parts per million CaCO₃).

What is the pH of the City's water?

Grants Pass City water after treatment averages 7.2 pH units.



Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons 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 from their health care providers about drinking water. 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 (800-426-4791).

More information about contaminants and potential health effects can be obtained by calling the following numbers:

Environmental Protection Agency
Safe Drinking Water Hotline:
1-800-426-4791

Oregon Health Authority
Drinking Water Program:
(971) 673-0405

Josephine County
Public Health:
(541) 474-5325

City of Grants Pass
Public Works Office:
(541) 450-6110



Past reports can be viewed at: www.grantspassoregon.gov/CCR

Report designed by Ben Blankenbaker, Flying Toad Graphics