



# 2016 Annual Water Quality Report

City of Albany, City of Millersburg, and the Dumbeck Lane Water District



**If you are a manager or owner of a business or multifamily dwelling, please share this report with your employees or tenants.**

If you would like additional copies, please call 541-917-7600 or visit [www.cityofalbany.net/contact](http://www.cityofalbany.net/contact).

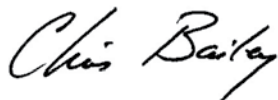
Este Reporte de Calidad de Agua contiene informacion importante sobre su agua potable. Si usted desea recibir una copia de este documento en Español, llame al 541-917-7600 o visite [www.cityofalbany.net/contact](http://www.cityofalbany.net/contact).

## To Our Valued Customers,

The Albany Public Works Department is pleased to present the Albany, Millersburg and Dumbeck Lane Water District's 2016 Annual Water Quality Report. This report provides important information about the high quality of the drinking water Albany provides to homes, businesses, and industry 24 hours a day throughout the year. This information is provided to you in compliance with U.S. Environmental Protection Agency requirements.

Albany regularly monitors the quality of our drinking water to ensure our customers are getting quality water service. In 2016, Albany's drinking water met or exceeded all state and federal standards for safe drinking water. Albany places great importance on delivering excellent water and works hard to meet our goal of providing high quality and dependable water service for all of our customers.

If you have any questions about this report or the City's drinking water system in general, please contact the City of Albany at 541-917-7600 or [www.cityofalbany.net/contact](http://www.cityofalbany.net/contact). Dumbeck Lane Water District's contact, Rod Laverdure, can be reached at 541-619-6314. Beginning in 2017, the City of Millersburg became its own separate water system. To contact the City of Millersburg, call 541-928-4523. To provide input on our water quality, Albany invites you to join us at City Council meetings held on the second and fourth Wednesdays of each month at 7:15 p.m. in City Hall, 333 Broadalbin Street SW.

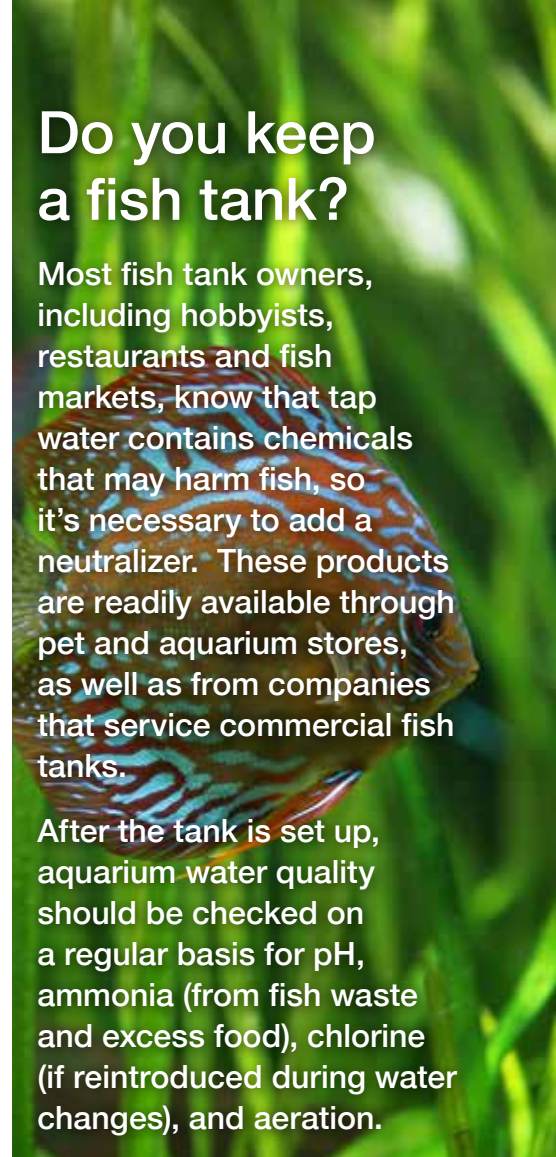


Chris Bailey  
Public Works Operations Director

## Do you keep a fish tank?

Most fish tank owners, including hobbyists, restaurants and fish markets, know that tap water contains chemicals that may harm fish, so it's necessary to add a neutralizer. These products are readily available through pet and aquarium stores, as well as from companies that service commercial fish tanks.

After the tank is set up, aquarium water quality should be checked on a regular basis for pH, ammonia (from fish waste and excess food), chlorine (if reintroduced during water changes), and aeration.



### Special Notice for Immuno-Compromised Persons

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 or 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.

Guidelines from the Environmental Protection Agency and Centers for Disease Control and Prevention on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791.

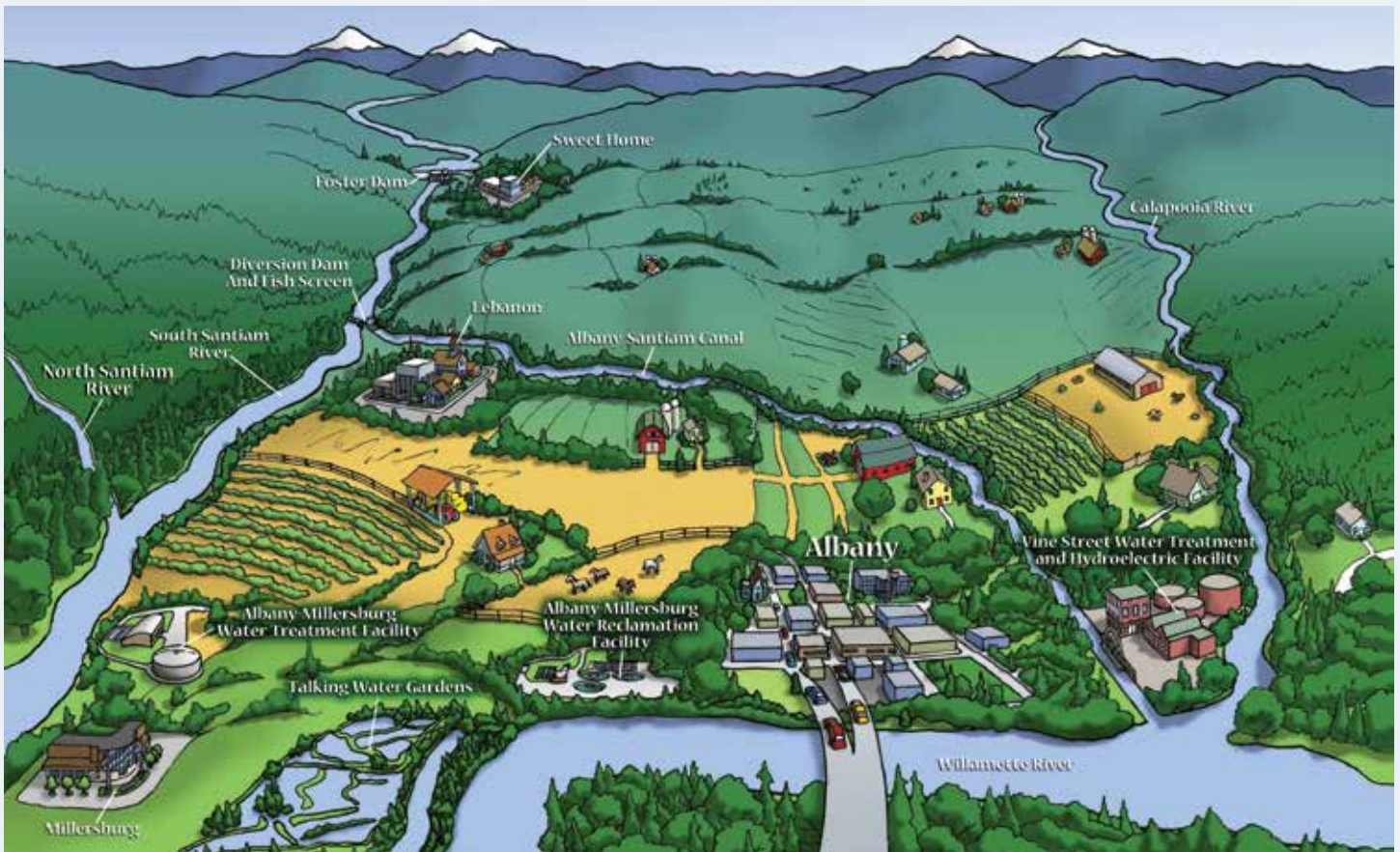
### Albany Families Benefit from Low-Income Assistance Program

Albany's Low-Income Assistance Program is dedicated to helping qualified individuals and families facing financial difficulties in paying their water bills. Every single-family residential water customer pays 35¢ per month to fully fund this program exclusively for low-income assistance. In 2016, this program provided assistance to 273 families.

Assistance is available for qualified low-income senior or low-income disabled water customers in the City of Albany. Those that qualify receive a credit for part of their water use (up to four units) on each monthly bill.

If you meet all the criteria at [www.cityofalbany.net/incomeassist](http://www.cityofalbany.net/incomeassist) and wish to apply, call Community Services Consortium at 541-704-7644.





# Where do we get our drinking water?

The cities of Albany and Millersburg and the Dumbeck Lane Water District receive their drinking water from the Santiam River system through one of two water treatment plants.

The Albany-Millersburg treatment plant uses membrane technology to filter water from the Santiam River. Membranes are made up of thin layers of material that separate out dirt, sand and microorganisms from the water. This plant is designed to produce up to 12 million gallons of treated water per day. The Vine Street treatment plant uses mixed-media filter technology to treat water from the South Santiam River. Mixed-media filters are made up of different sizes of sand, anthracite coal, and garnet to attract and trap dirt, sand and microorganisms in the filter. This plant is designed to produce up to 16 million gallons of treated water per day. After filtration,

the water is disinfected to inactivate any remaining microorganisms, the pH is adjusted to reduce corrosion of piping and plumbing components, and fluoride is added to help prevent dental cavities. The water is then ready to distribute to our customers. The water distribution system consists of seven reservoirs, six pumping stations and about 287 miles of pipeline that serve Albany, Millersburg and the Dumbeck Lane Water District.

A Source Water Assessment Report was completed by the Oregon Department of Environmental Quality in 2002 for the Vine Street water treatment plant. The report concluded that the source water may be susceptible to contamination from sediments (turbidity), microbiological sources and nutrients. One group of contaminants that are sometimes found in surface water is pesticides

or herbicides. These chemicals often run off from agricultural or residential property and make their way into the water. Albany has occasionally found very low levels of common pesticides in our raw water sampling, far below any levels that would impact human health. While the concentrations of these chemicals are very low, we would prefer not to find them at all and encourage anyone using pesticides or herbicides to follow label directions, avoid spraying along the banks of the Canal or other waterways, and store chemicals away from surface water. Because Albany's water is highly treated, drinking water quality impacts are not likely to occur from any of these potential contaminants.

The Source Water Assessment document is available upon request by calling 541-917-7600 or visiting [www.cityofalbany.net/contact](http://www.cityofalbany.net/contact).

# What the EPA Wants You to Know About Contaminants in Source Waters

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 that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 800-426-4791 or at [www.epa.gov/safewater](http://www.epa.gov/safewater).

The sources of drinking water (both tap water 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 sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

**Inorganic contaminants** such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

**Pesticides and herbicides** which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

**Organic chemical contaminants** including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and which can also come from gas stations, urban stormwater runoff, and septic systems;

**Radioactive contaminants** which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

## Definitions

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**Maximum Contaminant Level (MCL):** 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.

**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 addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG):** 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 contamination.

**Nephelometric Turbidity Units (NTU):** The units of turbidity from an instrument that measures the propensity of particles to scatter a light beam focused on them.

### **Parts Per Million (ppm):**

One part per million corresponds to one penny in \$10,000 or approximately one minute in two years. One part per million is equal to 1,000 parts per billion or one milligram/liter (mg/L).

**Part Per Billion (ppb):** One part per billion corresponds to one penny in \$10,000,000 or approximately one minute in 2,000 years. One part per billion is equal to one microgram/liter (ug/L).

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

# Regulated Contaminants

The City of Albany sampled for 88 regulated contaminants on a continuous, daily, monthly, quarterly, annual, or reduced monitoring program in 2016. The federal Environmental Protection Agency requires disclosure of any regulated contaminants that were detected in the Albany-Millersburg and Dumbeck Lane public water systems. Where allowed to monitor less often than once a year, the City of Albany is required to report contaminants detected within the last five years.

**At no time were any of the detected contaminants found to be above the maximum level allowed in drinking water (MCL).**

## Regulated Contaminants Detected in 2016

Vine Street and Albany-Millersburg Joint Water Treatment Plants Public Water System (PWS) #4100012 (serving the Albany, Millersburg and Dumbeck water customers)								
	Contaminant	Maximum Level Reported	Range of Detections	MCL	Unit of Measurement	Recommended Health Goal (MCLG)	Major Sources	Does our water meet the standard?
MICROBIAL	Turbidity – Vine Street WTP <sup>1</sup>	0.13	0.01 – 0.13	0.15	NTU (TT)	N/A	Soil runoff	Yes
	Turbidity – AM Joint WTP <sup>1</sup>	0.13	0.01 – 0.13	1	NTU (TT)	N/A	Soil runoff	Yes
	Cryptosporidium <sup>2</sup>	0.016	ND – 0.1	N/A	Oocyst/L	N/A	Human and Animal Waste	Yes
CHEMICALS	Fluoride <sup>3</sup>	0.72	0.15 – 1.49	4	PPM	4	Additive which promotes strong teeth	Yes
	Total Organic Carbon (TOC) <sup>3</sup>	1.18	0.54 – 1.4	N/A	PPM (TT)	N/A	Naturally present in the environment	Yes
Albany-Millersburg Water Distribution System PWS #4100012								
	Contaminant	Maximum Level Reported	Range of Detections	MCL	Unit of Measurement	Recommended Health Goal (MCLG)	Major Sources	Does our water meet the standard?
CHEMICALS	Chlorine (Free Cl <sub>2</sub> Residual) <sup>3</sup>	0.7	0.05 - 1.14	4 (MRDL)	PPM	4 (MRDLG)	Water additive used to control microbes	Yes
	Total Trihalomethanes (TTHM) <sup>4</sup>	64	18.4 – 93.1	80	PPB	N/A	Byproduct of drinking water disinfection	Yes
	Haloacetic Acids (HAA5) <sup>4</sup>	31	13.9 – 42.7	60	PPB	N/A	Byproduct of drinking water disinfection	Yes
	Lead <sup>5</sup>	3	0 – 20.4	15 (AL)	PPB	0	Corrosion of household plumbing	Yes
	Copper <sup>6</sup>	0	0 – 0.14	1.3 (AL)	PPM	1.3	Corrosion of household plumbing	Yes
Dumbeck Lane Water Distribution System PWS #4101319								
	Contaminant	Maximum Level Reported	Range of Detections	MCL	Unit of Measurement	Recommended Health Goal (MCLG)	Major Sources	Does our water meet the standard?
CHEMICALS	Chlorine (Free Cl <sub>2</sub> Residual) <sup>3</sup>	0.3	0.09 – 0.53	4 (MRDL) <sup>3</sup>	PPM	4 (MRDLG)	Water additive used to control microbes	Yes
	Total Trihalomethanes (TTHM)	44.9	N/A	80	PPB	N/A	Byproduct of drinking water disinfection	Yes
	Haloacetic Acids (HAA5)	20.2	N/A	60	PPB	N/A	Byproduct of drinking water disinfection	Yes
	Lead <sup>6</sup>	1.5	0 – 2.95	15 (AL)	PPB	0	Corrosion of household plumbing	Yes

N/A = Not Applicable

- Turbidity is a measure of the cloudiness of the water. Turbidity is monitored because it is a good indicator of the effectiveness of Albany's filtration system at removing contamination. Albany monitors turbidity at each filter on a continuous basis and records the value every 15 minutes. The highest single measurement detected is reported. For compliance, 95% of monthly samples must be below the MCL. If the Maximum Level Reported for turbidity exceeds the MCL, the percent of monthly samples that met the turbidity limits for our filtration technology is also reported.
- Cryptosporidium is a protozoan that can be found in surface water sources, generally from human or animal waste contamination. The City is currently undergoing a second round of cryptosporidium sampling, as required by the Long-Term 2 Enhanced Surface Water Treatment Rule, to determine the level of cryptosporidium in the raw water (before treatment) at both the Vine Street WTP and the AM Joint WTP. The samples are analyzed for the number oocysts, which is the form the organism takes when in the environment, per liter of water. Sampling will continue through September 2017, after which the highest arithmetic average of all sample concentrations in any 12 consecutive-month period will be calculated for each WTP. That number will be used to determine if additional treatment is necessary to reduce the risk of cryptosporidium contamination in our drinking water.
- Compliance levels reported for fluoride and total organic carbon (TOC) are calculated by averaging the sample results at each plant over a running 12-month period. The compliance level reported for free chlorine is calculated by averaging the sample results from all sampling sites over a running 12-month period. The range is determined by individual tests at single sites.
- The detected level of TTHMs and HAA5s is the highest average at any of the individual monitoring locations and the range of all monitoring locations.
- A total of 30 homes in the Albany-Millersburg distribution system were tested for lead and copper at the customer's tap in August 2014. One of those homes exceeded the action level for lead. None of the homes exceeded the action level for copper. All home owners were notified of their test results. Lead and copper standards are met if at least 90 percent of the samples have lead levels less than or equal to 15 ppb and copper levels less than or equal to 1.3 ppm. The 90th percentile was 3 ppb for lead and non-detect for copper in the Albany-Millersburg distribution system. The 90th percentile is reported to the Oregon Health Authority. The next sample set will be collected in summer 2017.
- A total of 5 homes in the Dumbeck Lane distribution system were tested for lead and copper at the customer's tap in September 2015. Lead was detected at only one home and was below the action level. Copper was not detected in any of the homes. All home owners were notified of their test results. Lead and copper standards are met if at least 90 percent of the samples have lead levels less than or equal to 15 ppb and copper levels less than or equal to 1.3 ppm. The 90th percentile was 1.5 ppb for lead and non-detect for copper in the Dumbeck Lane distribution system. The 90th percentile is reported to the Oregon Health Authority. The next sample set will be collected in summer 2018.





Lead-contaminated drinking water in Flint, Michigan, Portland, Oregon and Tacoma, Washington has drawn national attention to the issue of controlling lead exposure in public drinking water systems. The City of Albany has worked to control lead in its water system for many years; it is one of our standard operating procedures for keeping drinking water clean and safe.

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. If present, elevated levels of lead in drinking water can cause serious health problems, especially for pregnant women and young children. In 1991, the Environmental Protection Agency (EPA) published a regulation to control lead and copper in drinking water. The Lead and Copper Rule requires the City to collect water samples at customer taps to be analyzed for lead and copper, which can be present in drinking water if materials in a water system's distribution pipes or a building's plumbing contain either metal. Certain characteristics of drinking water (primarily the pH) can cause fixtures with lead-based solder and brass faucets to corrode. When water is in contact with these fixtures over time, lead or copper can be released into the water. The amount of lead and/or copper can increase when water is in contact with such fixtures for extended periods. If lead or copper concentrations exceed the action level in more than 10% of customer samples, the City must take additional steps to control corrosion.

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A boil-water advisory or boil-water order is a public health advisory or directive issued by a public drinking water system or by health authorities to consumers when a community's drinking water is or could be contaminated by disease-causing organisms. It is a preventive measure that is intended to protect the health of water consumers when there is an actual or significant possibility that contamination may be present within the drinking water system.

In early October, 2016, the City of Albany issued a boil-water advisory to approximately 70 homes in North Albany. The advisory was issued in response to a complete

loss of water pressure in the main after a contractor damaged an eight-inch main line related to the Meadow Wood Drive water line project near Crocker Lane. The loss of water pressure could have resulted in the backflow or infiltration of objectionable water into the City's water main, posing a potential risk to the health of our customers.

City staff communicated the advisory to the public in the following ways:

- Door hangers left on each property within the affected area
- Media release issued to local outlets

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To comply with the Lead and Copper Rule, Albany has taken a systematic approach to:

- Remove lead components from the public water distribution system. In 2016, the City investigated 86 service connections and identified and removed 55 lead pigtails from the system. Lead pigtails, sometimes known as goosenecks, are short lead pipes used in the early 1900s to connect the main water line to the customer's service line. The Reduction of Lead in Drinking Water Act sets standards for the amount of lead allowed in pipe, plumbing fittings, fixtures, solder, and flux. In January 2014, the Act was amended to reduce the allowable lead content in these components from 8% to 0.25% or less. All system components purchased and installed since this amendment are in compliance. In addition, three-inch and larger meters with lead components were replaced with lead-free meters in 2016.
- Comply with corrosion control requirements. Operators in Albany's two water treatment plants adjust the pH of water entering the distribution system to make it less likely to corrode plumbing components in the homes we serve.
- Testing the drinking water to assure compliance with health standards. Public Works staff sample homes considered by the EPA to be at higher risk of lead and copper corrosion because of plumbing materials that were used at the time of construction (prior to June 30, 1985). Albany, Millersburg, and Dumbeck Lane Water District are in compliance

with the Lead and Copper Rule (see page 5 for Regulated Contaminant Data). In addition, a number of public buildings with the greatest frequency of use were sampled for lead in 2016. Fixtures identified with high-lead results were replaced and retested to confirm the lead content in the water was below the action level.

The City of Albany Public Works Department is responsible for providing high-quality drinking water, but cannot control the variety of materials used in private plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two 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 at 800-426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead). You can review the City of Albany and the Dumbeck Lane District water quality results any time by visiting the Oregon Health Authority Drinking Water Services Water Online website at <https://yourwater.oregon.gov/>. If you have questions or believe the plumbing in your home dates from 1983-1985 and would like to be in our sampling plan, please contact the Water Operations Supervisor at 541-917-7628. Please visit our website for more information on what Albany is doing to reduce lead in drinking water: [www.cityofalbany.net/lead](http://www.cityofalbany.net/lead).

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- City of Albany website updated with media release and map of affected area
- Updates to the City of Albany social media sites and Nixle

The water service was repaired and water pressure restored within two hours. However, the advisory lasted for one day because of the time it takes to analyze the water for the presence of bacteria. Once the results were received showing no presence of bacteria, City staff used the same methods of communication to notify the public the water was safe for consumption.

## Stay Informed

The Linn-Benton Alert Emergency Notification System and Nixle are the two quickest ways to be notified of a water emergency and other types of emergencies in our area. These systems require customers to sign up and set notification preferences. All local residents are encouraged to sign up at:

Linn-Benton Alert Emergency Notification System: [cityofalbany.net/lbalert](http://cityofalbany.net/lbalert)

Nixle: [cityofalbany.net/nixle](http://cityofalbany.net/nixle)



This is only the second time in the 32 years that the City has operated the drinking water system that staff has issued a boil-water advisory. We again learned from the experience how to make the process more efficient should we

need to issue an advisory in the future.

Health of the community is our top priority and Albany will continue to follow Best Management Practices to reduce the risk of contamination entering the water system.



## Conserve water and money with a FREE outdoor water conservation kit.

Pick up your kit at Albany City Hall, 333 Broadalbin Street SW, at the Engineering counter on the second floor. Sign up for a free irrigation audit and learn practical ways to reduce water usage. If you have a home or business in Albany and irrigate your lawn, you qualify.

Call 541-220-0312 to schedule your audit or visit [www.cityofalbany.net/wateraudit](http://www.cityofalbany.net/wateraudit)

Kits are available June 1 – August 31 in limited quantities.

### Tips for Watering Wisely:

- Lawns only need about one inch of water per week
- Water deeply but infrequently using cycle-soak : irrigate until the water runs off, wait 30 minutes for it to soak in, and repeat until you have applied the desired amount for that day.
- Mow with a sharp blade set high
- Established plants and shrubs need a half inch of water per week

For more information, visit [www.cityofalbany.net/conservewater](http://www.cityofalbany.net/conservewater).

## Checking for a Water Leak

**Step 1.** Make sure that all water fixtures and water-using appliances are off. This includes sinks, showers, washing machines, ice machines, refrigerators and any other appliances that use water.

**Step 2.** Locate your meter box, normally in the sidewalk or parking strip in front of your home. Remove the meter box lid and identify the type of water meter you have. There are currently two types of meters:



The first type of water meter will have a register with a low flow indicator. These meters will have a small white, black, or red triangle on the face. With all water off, if this low-flow triangle is spinning, it is an indication of a leak.



The second type of water meter has an electronic or digital register with a series of numbers much like an odometer in your car. With all water off, look at the numbers on the far right. If the numbers continue to turn, it is an indication of a leak.

## Cross Connection Control Program

One of the measures the City of Albany takes to ensure the safety of your drinking water is to implement a cross connection control program to prevent water from flowing back into the public water supply. Connections between drinking water piping and any plumbing fixtures, tanks, receptors, equipment or devices through which it may be possible for used water or any other substance to enter back into the water supply are called cross connections. The undesirable condition when water reverses its normal direction of flow is called backflow.

Generally speaking, backflow preventers are mechanical devices or assemblies installed to prevent contamination of the public water supply. In accordance with Oregon Administrative Rules (OAR) 333-061-0070 and the Albany Municipal Code, backflow assemblies must be tested at least annually to ensure they are working properly for the protection of the public water system. Backflow assemblies must be tested by a certified backflow assembly tester to ensure proper operation. The City of Albany mails notification letters to remind customers with backflow prevention assemblies to schedule annual testing.

The City of Albany's Cross Connection Control Program is working to eliminate or reduce the risk of cross connections in the public water system and help customers to comply with backflow prevention practices and regulations designed to protect the quality of the drinking water. For questions regarding cross connection control or backflow assembly testing, contact Bret Johnson at 541-791-0031 or visit [www.cityofalbany.net/backflow](http://www.cityofalbany.net/backflow).



# Hydro Excavation

The Albany water distribution system has various types of pipe. About 90 miles of water mains are made of asbestos cement. This pipe was a common choice for potable water main construction from the 1940s until the late 1970s and was installed when Pacific Power owned the Albany water system. Construction included installing water pipe and underground power in a common trench. This practice presents a distressing safety situation when trying to perform water main maintenance.

Safety is our first concern for our field operators; in order to safely perform maintenance on these mains and in other areas where underground utilities need to be protected, the City is using hydro excavation.

In 2016, the City purchased a hydro excavator from Owen Equipment in Portland. The excavator is a Vactor 2100

Plus, manufactured by Vactor Manufacturing, Inc., Streator, Illinois, and mounted on a Freightliner chassis. The excavator will allow field crews to be more efficient and safer by hydro excavating around all underground utilities, especially the asbestos cement mains that are buried with power lines.

## What is Hydro Excavation?

Hydro excavation is the process of removing or moving soil with pressurized water. A vacuum is then used to transfer the soil or debris to a debris tank. The process is non-destructive and more accurate in excavating soil and locating underground utilities. Due to an increasing number of underground utilities, hydro excavation is quickly becoming the preferred method for excavating.

The primary benefit of hydro excavation is that it provides for better damage and safety control compared to traditional mechanical



methods. It prevents accidents and injuries for field operators and the public. Hydro excavating is quicker than traditional methods of excavation, allowing field crews to perform repairs with less outage time for customers.

Using hydro excavation helps to avoid damage to other utilities. Interrupted utilities are inconvenient and costly to our customers. Hydro excavation also reduces insurance and liability costs. Altogether, hydro excavation is more cost effective, safer, and provides better customer service than other excavation methods in the industry today.

# Valve Maintenance Program

The Albany water distribution system has 288 miles of water mains. Within this maze of pipes are 7,845 valves that are used to regulate, stop or start the flow of water in the distribution system. The most important function of these valves is to shut off water during emergencies such as main breaks.

Having a first-class valve maintenance program is important and helps to optimize the water distribution system. The City's water distribution work group has an active and defined valve maintenance program. The valve maintenance program includes:

- Surveying valves;
- Exercising valves; and
- Repairing and replacing broken valves and valve boxes.

In 2016, the distribution group purchased a valve maintenance trailer system, manufactured by E.H. Wachs of Harvard, Illinois. This trailer uses a swivel-mounted valve exerciser with extended reach. It has 750 ft/lbs of torque and uses a computer that allows operators to open and close even the most stubborn valves. The trailer is equipped with GPS that automatically locates and records a valve's location while the valve is operated. A vacuum unit allows



operators to clean and maintain the underground boxes that house valves while performing valve maintenance.

The trailer will allow operators to perform and complete valve maintenance work more effectively. Reliable valves within the water system stop excessive water loss and reduce the number of affected customers and overtime incurred during water main emergencies.

Almost 2.7 billion gallons of drinking water was treated and delivered to customers in 2016.

**That's enough water to fill over 4,000 Olympic swimming pools.**



Water quality is monitored continuously through 54 online analyzers. Results from those analyzers are verified through approximately 36 daily lab tests conducted by professional water treatment operators.

In addition, water quality is verified through analysis of approximately 88 regulated contaminants by certified third-party laboratories as shown on page 5 of this report. Our water meets all water quality standards.



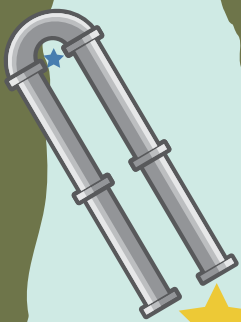
Did you know?

*Fun facts about your drinking water*

You pay approximately \$0.0052 per gallon for excellent quality drinking water delivered right to your tap. Store-brand bottled water is available for as low as \$0.89 per gallon. That makes buying a gallon of water 171 times more expensive than using tap water! The average person in the US may use up to 100 gallons of water a day. Imagine buying bottled water for \$89/day versus tap water at \$0.52/day!



In addition to maintaining the distribution system infrastructure, in 2016, the City added water service to 348 new homes and businesses as well as installed 41 new fire hydrants and 19,275 feet of new or replacement pipe. Maintenance, repair and replacement of infrastructure assure the water distribution system can provide adequate flow and pressure at all locations at all times to maintain water quality and fire protection for our community.



★ Albany

More than 287 miles of pipe are maintained in order to deliver water to our customers 24 hours a day, seven days a week. These main lines range in size from 1" to 42" in diameter. That's enough pipe to reach to Seaside and back!