

Avon Lake Regional Water

2024 DRINKING WATER CONSUMER CONFIDENCE REPORT

For the 2023 calendar year

The Board of Municipal Utilities

The Avon Lake Board of Municipal Utilities (the Board) is an independent board, that functions separately from Avon Lake City Council, that is composed of five members elected by the citizens of Avon Lake to serve four-year terms. The Board establishes policy and oversees the water and wastewater treatment operations of Avon Lake Regional Water. These private citizens, fellow Avon Lakers, represent you in determining the future of Avon Lake Regional Water.

Here are the individuals that served on the Board in 2023:

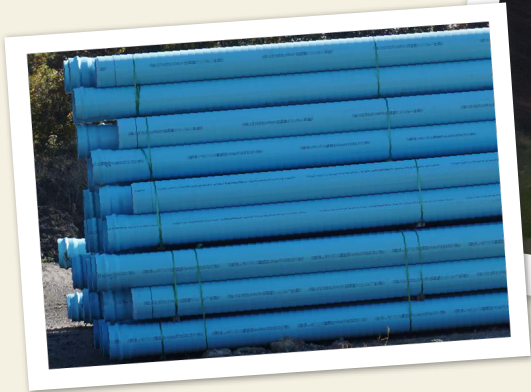
John Dzwonczyk (Chair),
Anthony Abram,
Dave Rickey,
Timothy Rush,
Dana Schnabel

The Board meets twice a month, the first and third Tuesdays, at 6:30 p.m. at 201 Miller Road, Avon Lake, Ohio 44012. Meetings are open to the public and live-streamed on Facebook Live via our Facebook page, facebook.com/AvonLakeWater.



**Avon Lake
Regional Water**

Serving the region,
protecting our resource.



Quality You Can Count On

Your Avon Lake Board of Municipal Utilities is pleased to present its annual Consumer Confidence Report for 2024. Citizens of Avon Lake and over 200,000 other users elsewhere in the county continue to enjoy exceptional service and quality at the best possible rates in the region. As you will see in the coming pages, we can all be proud of ALRW's record of outstanding water quality and quantity, even as we grow and face new regulations and supply chain challenges. To this latter subject, one thing particularly notable is our transition from gaseous state chlorine to aqueous state (as sodium hypochlorite – actually bleach). There have been significant price increases and supply shortages in chlorine gas, and the Board has decided to move away from this product and into the more modern liquid form of disinfection. While any chemical has to be handled with care, bleach is far safer to store and use compared to chlorine gas. Accordingly we will be modifying our treatment plant to accommodate deliveries of sodium hypochlorite, and we are preparing to pilot the first of its kind in Ohio, onsite generation of sodium hypochlorite from sodium chloride (ordinary salt, plentiful in the region) when approved by Ohio EPA. When operational, such a system will be considerably resistant to supply chain vagaries.

Another development in the past year has been the real estate activities of your Board, which has acquired several properties adjacent to the existing water treatment plant in order to add capacity that will accommodate the continuing growth expected in our county. ALRW is the best-positioned water utility to serve an imminent surge of activity in the rural reaches of Lorain county. Needless to say, we will continue to be involved in the choices the City of Avon Lake makes in the redevelopment on the prior power plant property (whose site includes the original Avon Lake water plant), as these potentially have an effect on our operations.

Overall, The Board and I remain pleased with the performance of our utility and reiterate our gratitude to our employees, whose dedication is so great, and to you, our customers, who entrust us with these important responsibilities. We wish everyone good health and prosperity in the coming years and we pledge to bring you the best possible water and service available.

Sincerely,

John Dzwonczyk,
Chairman of the Avon Lake
Board of Municipal Utilities

Avon Lake Regional Water has prepared the following report to provide information to you, the consumer, on the quality of our drinking water. Your drinking water met all Ohio EPA standards. Included within this report is general health information, water quality test results, how to participate in decisions concerning your drinking water and water system contacts. Also, the articles throughout the report show how Avon Lake Regional Water focused on keeping your water safe and planning for the future.

PFAS

Potential contaminants that have received much attention are Per- and Polyfluoroalkyl Substances (PFAS). Avon Lake Regional Water has previously analyzed your drinking water numerous times over the past decade for several of these compounds. There were no previous detections in any of the samples. Currently ALRW is completing the sampling process for these compounds utilizing a newer, much more sensitive method as part of the newly released United States Environmental Protection Agency regulations to determine the prevalence of these compounds throughout waters of the United States. This newly approved test procedure is able to detect these compounds ten times lower than previously. We look forward to gaining additional data so that we can continue to ensure we are producing the highest quality water to those who rely on us to provide this service. As testing levels become more sensitive, we continually optimize our treatment. Below is more information on these chemical compounds.

What are PFAS?

Per- and Polyfluoroalkyl Substances (PFAS) are a group of manufactured chemicals. They have been used in industry and consumer products since the 1940s because of their useful properties. There are thousands of different PFAS, some of which have been more widely used and studied than others. Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS), for example, are two of the most widely used and studied chemicals in the PFAS group. PFOA and PFOS have been replaced in the United States with other PFAS in recent years. One common characteristic of concern of PFAS is that many break down very slowly and can build up in people, animals, and the environment over time.

Examples of PFAS

PFAS can be present in water, soil, air, food, and many materials. PFAS may be found in landfills, hazardous waste sites, fire extinguishing foam, chemical production facilities, food (ex. exposed fish or livestock), fast food containers, pizza boxes, candy wrappers, cleaning products, paints, sealants, shampoo, dental floss, and fertilizers.

What does exposure to PFAS mean to me?

Current scientific research suggests that exposure to high levels of certain PFAS may lead to adverse health outcomes. However, research is still ongoing to determine how different levels of exposure to different PFAS can lead to a variety of health effects. Research is also underway to better understand the health effects associated with low levels of exposure to PFAS over long periods of time, especially in children.

What is being done at this time?

The start of the process is simple and straightforward – collect nationwide data. Water systems across the country have been scheduled to collect samples from 2022 through 2025. It is the intention of the Federal EPA to have nationwide results in the databases by 2026 in order to (as stated by Federal EPA Administrator Michael S. Regan): “With the data provided by this rule, EPA will be able to better develop regulations while the agency, states, and our local partners will be able to make protective public health decisions that are grounded in science.”

Unregulated contaminants (such as PFAS) are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of these contaminants in drinking water and whether future regulation is warranted. In 2023 Avon Lake Regional Water participated in the fifth round of the Unregulated Contaminant Monitoring Rule (UCMR5). For a copy of the results please call Jason Gibboney, Water Filtration Plant Manager, at 440-933-3229.

What will be monitored?

A list of all contaminants to be monitored as part of this regulation can be found here: <https://www.epa.gov/system/files/documents/2023-02/UCMR5-HBRV.pdf>

Where can I find the latest information on PFAS?

The primary website for PFAS regulations and news can be found here: <https://www.epa.gov/pfas> or give Avon Lake Regional Water a call at 440-933-6226.

Water Filtration Plant Upgrades

Ground has now been broken and construction is underway at the Avon Lake Regional Water Filtration Plant. Beginning in May 2024 equipment and materials have begun arriving on site. Work will be completed within the next two years and will focus on two main aspects of the treatment process. Filtration and chemical feed/storage improvements.

Four new filters will be constructed to replace filters that have reached the end of their service life including the original four filters built in 1926. Many factors were considered when deciding between rehabbing the existing filters versus constructing new ones. In the end it was determined to be most cost-effective to have four larger, modern filters that would be added on the end of the twelve existing filters so that all units are in a central location.



Currently liquid chlorine is used for disinfection. ALRW is updating its WFP to utilize sodium hypochlorite, or bleach, as there is much less risk in having this chemical on-site in large quantities. Something that has become increasingly more common in recent years is managing supply chain issues and having increased chemical inventory onsite helps to mitigate any delays. Powdered activated carbon is one of the chemicals that will benefit from increased storage. In the 1980's this was fed only seasonally to help with taste and odor issues resulting from algal blooms. It is now fed year-round as it also removes many other compounds from the lake water before it enters the WFP.



In order to safely and effectively treat your drinking water there are several chemicals that are essential to turn water from Lake Erie into the high-quality product that customers rely on for drinking, cooking, bathing and fighting fires. Much of the existing chemical feed equipment dates back to the 1980's. The biggest concerns with this older equipment were parts availability and the amount of chemical storage on site. All equipment needs maintenance and repairs from time to time and the cost of replacement parts is significantly higher than with more modern chemical feed equipment.



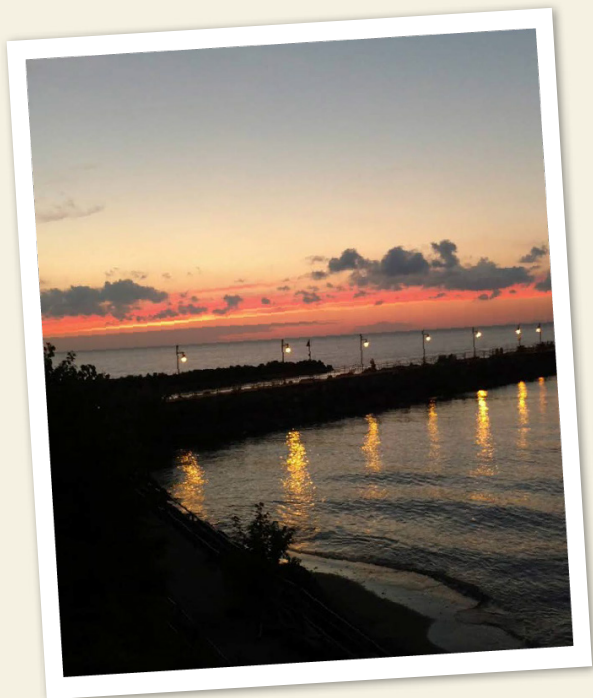
What Is The Source Of Your Drinking Water?

Avon Lake Regional Water (Avon Lake City PWS) receives its drinking water from Lake Erie. In Avon Lake, there are two separate intakes to ensure our ability to pump from this virtually endless source of quality raw water.

Avon Lake Regional Water treats water to meet EPA drinking water quality standards. A Source Water Assessment Report was prepared for Avon Lake Regional Water by Ohio EPA. Copies of the complete source water assessment report prepared for Avon Lake are available by contacting Jason Gibboney, Water Filtration Plant Manager, at 440-933-3229.

West Ridge Interconnect

Avon Lake Regional Water also has an emergency connection with the City of Elyria. During 2023, we used zero gallons from this connection. This report does not contain information on the water quality received from the City of Elyria. You can contact Samuel F. Jacob, Water Plant Superintendent, City of Elyria, who has prepared this report. Mr. Jacob has over 44 years of experience in Water Treatment, and Class IV Water Plants. He currently holds an Ohio EPA Class IV Water Certificate. If you have any questions, concerns or would like additional information, please contact him at 440-324-7669 or 440-244-4310 extension 6201 or email him at sjacob@cityofelyria.org.



Excerpt from Drinking Water Source Assessment for the City of Avon Lake

6.0 SUSCEPTIBILITY ANALYSIS

For the purposes of source water assessments, all surface waters are considered to be susceptible to contamination. By their nature surface waters are accessible and can be readily contaminated by chemicals and pathogens with relatively short travel times from source to the intake. Based on the information compiled for this assessment, the Avon Lake Water System drinking water source protection area (CAZ) is susceptible to contamination from municipal waste water treatment discharges, industrial waste water discharges, air contamination deposition, combined sewer overflows, runoff from residential, agricultural and urban areas, oil and gas production and transportation, and accidental releases and spills from rail and vehicular traffic as well as from commercial shipping operations and recreational boating.

It is important to note that this assessment is based on available data, and therefore may not reflect current conditions in all cases. Water quality, land uses and other activities that are potential sources of contamination may change with time. While the source water for the City of Avon Lake is considered susceptible to contamination, historically, the Avon Lake Public Water System has effectively treated this source water to meet drinking water quality standards.

Please contact Jason Gibboney at 440-933-3229 if you would like more information about the assessment.

What Are Sources Of Contamination to Drinking Water?

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 that may be present in source water include: (A) **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; (B) **Inorganic contaminants**, such as salts and

metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; (C) **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; (D) **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; (E) **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, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 Federal Environmental Protection Agency's Safe Drinking Water Hotline 1-800-426-4791.

Backflow Prevention

Did you know that backflow prevention devices, such as the picture shown below, protect our water quality? Backflow prevention devices are critical tools in preventing a backflow situation at a cross-connection to our public water supply. A backflow situation occurs when water flows backwards into the building's water system and/or the public water system. It happens when there is a cross-connection and a change in pressure causing the water to go backwards. A cross-connection is where a possible source of water contamination and the property and/or the public water system connect.

Common backflow hazards include hose connections to chemical solution aspirators to feed lawn and shrub herbicides, pesticides, or fertilizers; lawn irrigation systems; chemically treated heating systems; hose connections to a water outlet or laundry tub; and swimming pools, hot tubs, and spas. Backflow prevention devices, required where there is a cross-connection to the public water supply like those listed above, stop contaminants from backflowing into a water pipe directly connected to the public water system.

Annual testing and inspection of these backflow prevention devices is critical to ensuring our public water supply is protected for all.



License to Operate (LTO) Status Information

In 2023, Avon Lake had an unconditioned license to operate our water system.

About Your Drinking Water

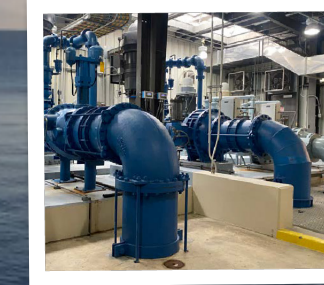
The EPA requires regular sampling to ensure drinking water safety. Avon Lake Regional Water conducted sampling for bacteria, inorganic, radiological, and volatile organic contaminant sampling during 2023. Samples were collected for a total of 61 different contaminants most of which were not detected in the Avon Lake Regional Water water supply. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, may be more than one year old.

How to read the table: EPA establishes the safe drinking water regulations that limit the amount of contaminants allowed in drinking water. The table shows the concentrations of detected substances in comparison to regulatory limits. Substances that were tested for, but not detected, are not included in this table.

Listed below is information on those contaminants that were found in the Avon Lake Regional Water drinking water.

Table of Detected Contaminants

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Microbiological Contaminants							
Turbidity (NTU) ¹	NA	TT	0.20	0.02 to 0.20	No	2023	Soil runoff
Turbidity (% samples meeting standard)	NA	TT	100%	100%	No	2023	Soil runoff
Total Organic Carbon (TOC) ²	NA	TT	1.32	1.0 to 1.7	No	2023	Naturally present in the environment
Disinfectants and Disinfection Byproducts³							
Total Chlorine (ppm)	MRDLG = 4	MRDL = 4	1.39	1.20 to 1.40	No	2023	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb) ⁴	NA	60	16.8	9.60 to 20.3	No	2023	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) ⁴	NA	80	36.55	17.1 to 51.6	No	2023	By-product of drinking water disinfection
Inorganic Contaminants							
Barium (ppm)	2	2	0.02	NA	No	2023	Erosion of natural deposits; Discharge of drilling wastes; Discharge from metal refineries
Fluoride (ppm)	4	4	0.69	0.69 to 1.20	No	2023	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	10	10	0.96	0.134 to 0.96	No	2023	Run off from fertilizer use, Leaching from septic tanks, sewage; Erosion of natural deposits
Lead and Copper							
	Action Level (AL)	Individual Results over the AL	90% of test levels were less than	Violation	Year Sampled	Typical Source of Contaminants	
Lead (ppb)	15 ppb	NA	<2.0	No	2023	Corrosion of household plumbing systems; erosion of natural deposits.	
Zero out of 32 samples were found to have lead levels in excess of the lead action level of 15 ppb.							
Copper (ppm)	1.3 ppm	NA	0.06	No	2023	Erosions of natural deposits; leaching from wood preservatives; Corrosions of household plumbing systems.	
Zero out of 32 samples were found to have copper levels in excess of the copper action level of 1.3 ppm.							



Definitions

- Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Contaminant:** Any physical, chemical, biological, or radiological substance or matter in water.
- Maximum Contaminant Level (MCL):** The highest level of 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 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 residual disinfectant convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants. level allowed in drinking water. There is
- Maximum Residual Disinfectant Level Goal (MRDLG):** The level of residual 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.

- NA: Not Applicable**
- ND: Not Detected**
- NTU:** Nephelometric Turbidity Units
- Parts per billion (ppb) or Micrograms per Liter (ug/L)** are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
- Parts per million (ppm) or Milligrams per Liter (mg/L)** are units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.
- PFAS:** Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals applied to many industrial, commercial and consumer products to make them waterproof, stain resistant, or nonstick. PFAS are also used in products like cosmetics, fast food packaging, and a type of fire fighting foam

called aqueous film forming foam (AFFF) which are used mainly on large spills of flammable liquids, such as jet fuel. PFAS are classified as contaminants of emerging concern, meaning that research into the harm they may cause to human health is still ongoing.

- Total Organic Carbon (TOC)** has no health effects. However, TOC provides a medium when the water is disinfected for the formation of disinfection by-products. TOC removal early in the treatment plant is required.
- Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water. For example Avon Lake Regional Water adds orthophosphate to maintain compliance with the lead and copper rule.
- VOC:** Volatile Organic Chemicals
- WTP:** Water Treatment Plant
- The "<" symbol:** A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.

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.

Avon Lake Regional Water 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 flushing 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 at 800-426-4791 or at <http://www.epa.gov/>

safewater/lead. In 2023 Avon Lake had a current, unconditioned license to operate our water system from the Ohio EPA.

¹ Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the samples analyzed each month and shall not exceed 1 NTU at any time. As reported above the Avon Lake WTP highest recorded turbidity result for 2023 was 0.20 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%.

² The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. This removal ratio is calculated as the ratio between the actual TOC removal and the TOC rule removal

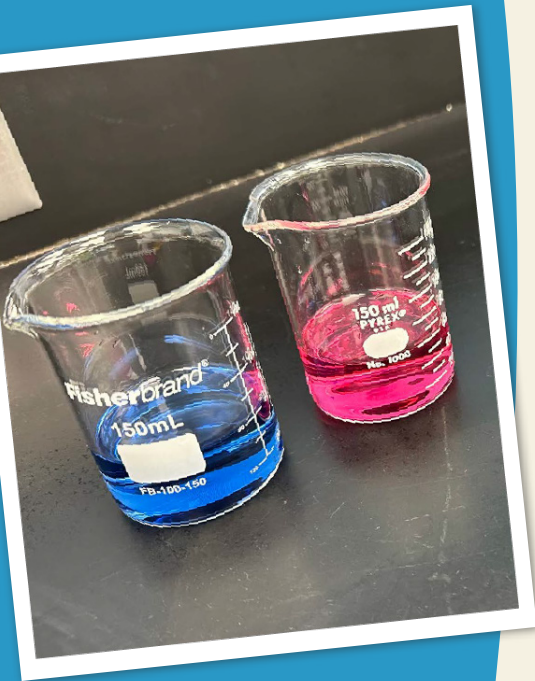
requirements and other parameters. A value of at least one (1) indicates that the water system is in compliance with TOC removal requirements.

³ These contaminants level found is the highest compliance value based on a running annual average. This average includes results from 2022 & 2023.

⁴ Disinfection by-products are the result of providing continuous disinfection of your drinking water and form when disinfectants combine with organic matter naturally occurring in the source water. Disinfection by-products are grouped into two categories, Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5). USEPA sets standards for controlling the levels of disinfectants and disinfection by-products in drinking water, including both TTHMs and HAA5s.

Avon Lake Regional Water

201 Miller Road Avon
Lake, Ohio 44012



Who Needs To Take Special Precautions?

Although Avon Lake Regional Water's drinking water exceeds all state and federal water quality standards, 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 infection. 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.

How Do I Participate In Decisions Concerning My Drinking Water?

Public participation and comment are encouraged at regular meetings of the Avon Lake Board of Municipal Utilities which meets twice a month, the first and third Tuesdays, at 6:30 p.m. at 201 Miller Road, Avon Lake, Ohio 44012. If you would like to submit a comment to be read during the public comment portions of the meeting, please provide your comment via email to comments@avonlakewater.org or written letter to our office (Avon Lake Regional Water 201 Miller Road, Avon Lake, Ohio 44012) by 4:30 p.m. on the day of the meeting. For more information on your drinking water, contact Jason Gibboney, Water Filtration Plant Manager at 440-933-3229.

Have Additional Questions About Avon Lake Regional Water?

During the day, Monday-Friday, you may reach a customer service representative from Avon Lake Regional Water at 440-933-6226. Avon Lake residents: if you experience an emergency after hours, please call 440-933-3229. Like us on Facebook ([facebook.com/AvonLakeWater](https://www.facebook.com/AvonLakeWater)) or visit our website at avonlakewater.org.