

# GROTON UTILITIES 2023

Annual Water Quality Report

## The Safe Drinking Water Act 50th Anniversary



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GROTON UTILITIES  
At Your Service

## Important Information About Your Drinking Water

Groton Utilities is pleased to report that the water we supply **meets all established Federal and State drinking water standards**. During 2023 we received NO violations for water quality from our regulators. This **26th Annual Water Quality Report** contains important information about the source and treatment of your water, lists the results of our 2023 testing, and includes some of the improvements we are making to enhance the quality of your drinking water. The report also contains important information about what you can do to conserve and protect your valuable water supply.

*This year, we celebrate the 50th anniversary of the Safe Drinking Water Act, which was a major step forward in providing safe clean drinking water to the public. We will discuss a brief history of drinking water, and how our understanding of safe drinking water has evolved as we learn more about the benefits or harm of various compounds, and their potential impact on drinking water. In addition to taking a look at the Safe Drinking Water Act, we will also examine two recent changes to drinking water regulations—the Revised Lead and Copper Rule, and the new regulations for nine PFAS compounds in drinking water.*

*Please read on to learn more about these topics, and more about our latest activities to improve the quality of Groton drinking water. Further on in this water quality report we provide information on how to contact us. For more information about your drinking water, please visit the Groton Utilities website at [www.grotonutilities.com](http://www.grotonutilities.com) > Our Company > Water Operations. We also provide more information on our social media platforms:*

*Facebook: [@grotonutilities](https://www.facebook.com/grotonutilities) and  
Instagram: [@grotonutilities](https://www.instagram.com/grotonutilities).*

*Thank you for taking the time to read this report and learn more about your drinking water, and the dedicated efforts of Groton*

*Utilities employees to make Groton drinking water clean and safe.*

*Your Friends at the Groton Utilities Water Division*

The graphic design for this Water Quality Report was done by Jesse Carbone – Carbone Graphics.

## The Safe Drinking Water Act (1974)

Throughout the world's history, water has been vital to the growth and improvement of society and civilization. At first, man did not understand that water could be a vector for disease-causing organisms. The main concern was the appearance and clarity of the water; so civilizations going back to ancient times sought to reduce the cloudiness of the water (what we now refer to as the turbidity of the water) by various types of filtration. These efforts were not in vain, because the particles causing turbidity can either shield or carry with them disease-causing organisms, and reducing the turbidity of raw (i.e., untreated) water by the processes of coagulation, sedimentation, and filtration is still an important goal to this day. But as science advanced and microscopes opened our eyes to the previously-unseen world of microbes, scientists slowly started to discover bacteria, protozoa, and other microscopic organisms. Eventually, in the 1880's starting with Louis Pasteur, the germ theory of disease was described and gradually accepted, eventually leading to identifying certain microorganisms as the cause of specific diseases. Once that was recognized, it was understood that more than just filtration was necessary. In the United States, Jersey City, NJ was the first city to practice chlorination of drinking water (in 1908), with many cities following suit shortly thereafter. Once disinfection of drinking water became a routine practice, rates of illness from waterborne diseases plummeted.

The U.S. Public Health Service began regulating drinking water systems serving interstate carriers, such as ships and trains, starting in 1914. They expanded their regulations through the years, and by 1962 every state accepted their regulations, covering 28 substances, as acceptable standards for public drinking water systems.

In the 1960's, the harm caused to humans and to the environment by man-made products and chemicals began to be recognized and understood. Among other things, this led, in 1972, to the Clean Water Act, which addressed pollution of natural water bodies, such as rivers, lakes, and streams. The intent of this Act was to reduce and eliminate sources of contamination and make these water bodies safe and reasonably clean for human activity such as swimming, fishing, and boating once again, but it did not address the issue of drinking water. That subject was not far from the public or legislators' minds, however, and in 1974 the Safe Drinking Water Act was made into law.

The SDWA provided the first comprehensive federal regulations which were mandated as standards for all drinking water providers throughout the country, and were much more extensive than the 1962 USPHS regulations. As with the CWA, the SDWA would be administered by the newly-formed Environmental Protection Agency. Built into the regulations was an internal review process that would lead to investigation of compounds not currently regulated, to evaluate them for future regulation--and that process continues to this day. Major amendments were added to the SDWA in 1986 and 1996, as well as revisions to already existing regulations, such as changes that lead to the Revised Total Coliform Rule (April 1, 2016) and the Revised Lead and Copper Rule (coming into effect on October 16, 2024). Most recently,

the EPA promulgated new regulations for nine PFAS compounds (more about that further on). So as you can see, the SDWA is not a static stagnant set of regulations, it is a set of rules for drinking water that is reviewed and improved as time goes by and as scientific research improves our understanding of various compounds that may impact drinking water quality.

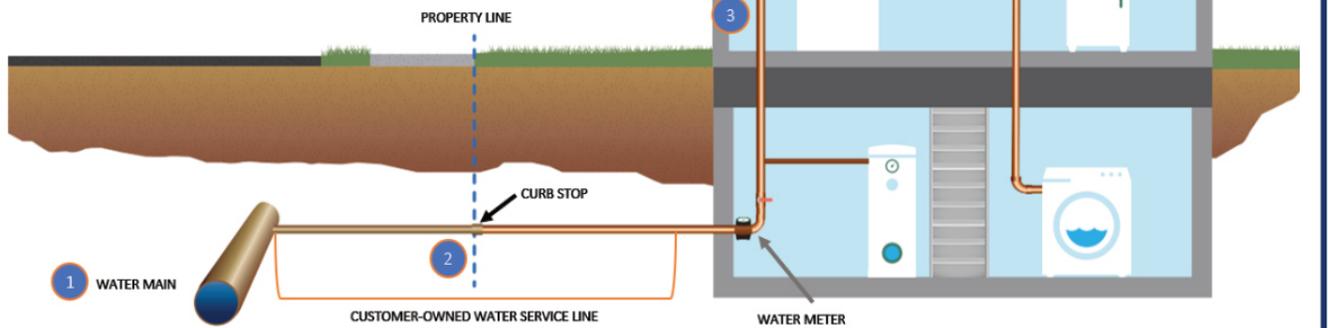
### [The Revised Lead and Copper Rule \(aka, the LCRR\)](#)

The Revised Lead and Copper Rule, issued by the EPA and enforced by the CT Department of Public Health, Drinking Water Section (CT DPH, DWS), will be in force as of October 16, 2024. One part of the rule requires each water utility in the nation to identify the various plumbing materials used for all the service lines in their service areas. All water utilities are required to complete this task by the October 16th deadline. Groton Utilities has extensive records of the water service lines in Groton where we provide water, but it is necessary that we access additional verification beyond just our written records, and that is where we are looking for your help! The next couple sections discuss service lines, and how you can provide information to us about your service line material where it connects to your water meter.

### [What is a service line?](#)

Before we can talk about identifying the plumbing materials used for water service lines, we have to answer the question "What is a service line?" The first part of the service line is the underground piping coming from the water main in the street to a "curb stop," which is the shutoff valve usually located in the front lawn or sidewalk in front of a home. The second portion of the service line goes from the curb stop to the house, going through the foundation wall in the basement (if you have a basement) and connects to your water meter. Beyond the water meter is your household plumbing, of course. The water utility installs their water

- 1 Groton Utilities water mains are not made of lead.
- 2 The entire water service line leading up to the water main is owned by the customer. The service line could be made of lead, which could affect water quality inside a home.
- 3 Homes may contain lead piping and lead solder, which can affect drinking water quality.
- 4 Drinking water quality may also be affected at the point of use if your plumbing fixtures and faucets contain lead.
- 5 Other potential sources of lead in a home include lead-based paint, dust, soil, jewelry, and some plastics.



meter at the end of this service line, and then the plumber can run the household plumbing from the meter to the rest of the house. In Groton, the customer owns the entire service line. Please see the picture on this page, provided by Arcadis (they are helping us with this task) for a visual representation of this description.

### What plumbing materials are used for service lines, and why do we need to identify them?

There are a variety of materials that have been used for service lines over the past 100 years, beginning with lead. Other types of plumbing materials used for service lines were brass pipe, galvanized pipe, black pipe, copper tubing, and, more recently, plastic tubing.

In appearance, lead is dull gray and usually has a bulbous appearance right before it connects to the water meter; it is a soft metal that can easily be scratched with a key or other sharp

object. Galvanized pipe is a little brighter gray because of the zinc coating and is not easily scratched with a key; it is made of steel. Black pipe is also made of steel, but has a black coating. Copper tubing has a typical copper color, and over the years develops a brownish-copper color; it is not uncommon to see greenish deposits on the outside of copper pipe or tubing. Polyethylene plastic tubing used for service lines is typically blue (or sometimes black) plastic.

We need to identify the materials of all the service lines in Groton because we need to be sure that we have identified any remaining lead service lines, and once we have done that, set forth a plan to have them all removed. Any service lines for which the materials are unknown, are required to be treated as if they were lead lines (even if it is unlikely that they are). Under the Revised Lead and Copper Rule, starting in October 2024, we are required to send educational materials to all customers

whose service line materials are unknown, advising them of the possibility that their service line could potentially be lead, and explaining the water quality issues with lead service lines. Once the service line identification process is completed, we will make this information available for our customers, in accordance with the requirements of the CT Department of Public Health (CT DPH).

### How can I help with the verification process?

You can help us by taking a photo of the water pipe where it enters your home; we will be setting up a web address for you to upload your plumbing photo, along with your name and address, and check a box to note the type of plumbing material your service line is made of. We will announce a web address to do this soon—keep an eye on the “Notices” section of your bill for more information. This will provide us with a secondary means of verification, in addition to our service cards, which will give us the proof we need in order to provide sufficient documentation to the CT DPH. If your home was built after 1989, you do not need to submit this information; CT DPH states that by that time copper tubing (or sometimes plastic tubing) was in standard use for service lines.

### The New PFAS (Per- and Polyfluoroalkyl Substances) Regulation

The EPA recently established new limits (MCLs) for PFOA and PFOS of 4 parts per trillion (these were two PFAS compounds that were commonly used in the second half of the 20th century), and uses a ratio—known as a Hazard Index ratio—to evaluate the presence of seven other PFAS compounds. This proposal became a regulation on April 10, 2024. Several years ago, as concern about PFAS in source water and drinking water around Connecticut has increased, Groton Utilities began proactively sampling in our terminal reservoir (Poquonnock Reservoir), at our Point of Entry (the treated water leaving the water plant to go to our customers), and within our watershed. We do quarterly testing at our Point of Entry for 14 PFAS compounds, and the results for 2023 (for all 14

compounds) have been less than 2 parts per trillion, which is below the EPA’s new Maximum Contaminant Levels (MCLs) and hazard index ratios mentioned earlier. In addition, the EPA required all water systems serving a population of greater than 10,000 people—which includes Groton Utilities—to test for 29 PFAS compounds for four consecutive quarters; we have completed all four quarters of testing and received our results. The results of all 29 analytes for all four quarters, were reported to us as “Not Detected,” which means we would have been in compliance with the new regulation, had it been in place at that time. For more information on this specific testing, please see the next section titled “UCMR5.” Please check Groton Utilities’ website and on-line platforms for further information on PFAS.

### UCMR5

In 1996, amendments were made to the Safe Drinking Water Act (SDWA, 1996 amendments); one of these amendments established the Unregulated Contaminant Monitoring Rule (UCMR). This rule calls for developing a list of currently unregulated contaminants and winnowing them down to a manageable number. The next step calls for water companies across the country (serving a population of greater than 10,000 persons) to sample and analyze for these unregulated contaminants for four consecutive quarters, and report their results to the USEPA.

The USEPA collects all this data and evaluates it on the basis of several parameters:

- How often are each of these contaminants detected throughout the country?
- At what levels are they detected?
- At what levels are these contaminants considered harmful to human health?
- Do the answers to the above questions point to a need to develop regulations for any of these contaminants?

The UCMR rule also established a 5-year cycle to conduct this process, so even as one cycle is



Water Division Project Management staff and Watershed Surveillance staff.

in the process is being completed, work is already begun on evaluating contaminants for consideration for the next cycle. Each cycle is consecutively numbered to distinguish it from each of the previous cycles. For more information on the UCMR generally, please see [www.epa.gov/dwucmr](http://www.epa.gov/dwucmr).

The EPA is currently wrapping up the fifth cycle of the UCMR (appropriately referred to as UCMR5), which consists evaluating 29 PFAS compounds, as well as lithium. It will take a while for them to receive and evaluate the results of all the data which has been submitted to them by water companies from across the U.S., and come up with answers to all the questions listed above. In the case of Groton Utilities, we are pleased to report that we have completed all four quarters of sampling and analysis for UCMR5, as required, and the results for all four quarters and all analytes (29 PFAS compounds and Lithium) were “Not Detected.” As mentioned in the previous

section, this means that had the new PFAS rule been in effect, Groton Utilities water would have met the new regulations. Groton Utilities will continue doing quarterly testing at Point of Entry, as required by the new regulation. All water utilities will be evaluated by the EPA on the basis of the next 3 years of testing, to determine if they will be able to be in compliance with the new PFAS regulation.

### Disinfection By-Products

Chemical compounds formed by the reaction of chlorine with natural organic matter were discovered by EPA scientists in the 1970s and were subsequently regulated by the EPA beginning in 1979; they are referred to as Disinfection By-Products (DBPs). The two types of these compounds are known as Trihalomethanes (THMs) and Haloacetic acids (HAA5s) However, their presence, despite dedicated efforts by water companies to minimize their occurrence, does not outweigh

the benefits of chlorine as noted above. A report on chlorination of drinking water by the International Programme on Chemical Safety (as quoted in a document on chlorination posted by the Water Quality and Health Council, <https://waterandhealth.org/safe-drinking-water/wp/>) states the following:

*The health risks from these byproducts at the levels at which they occur in drinking water are extremely small in comparison with the risks associated with inadequate disinfection. Thus, it is important that disinfection not be compromised in attempting to control such byproducts.*

To be clear, there are potential risks to drinking water containing Disinfection by-products at levels consistently above the Maximum Contaminant Level (MCL) for many years. The EPA, echoed by the CT Department of Public Health, states the following:

*Some people who drink trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.*

This is always the challenge in all attempts to produce safe drinking water—we always work to improve drinking water quality (such as using chlorine to disinfect the drinking water), while working at the same time to minimize any unintended consequences.

We here at Groton Utilities take seriously our commitment to provide our customers with the best drinking water possible; that is why we recently built the new water treatment plant with improvements such as Dissolved Air Flotation and deep-bed Granular Activated Carbon (a filter media that provides added benefits compared to the rapid sand media we previously used).

In addition, over the last several years we found that by blending several of our water sources together (reservoirs and wells) before sending the water through the Water Treatment Plant, we were able to reduce the levels of organic matter coming into the

water plant, and thereby reduce the level of organic matter leaving the water plant. This action reduced the levels of trihalomethanes even further than in previous years. We will continue to use source water blending to improve the overall water quality. Please note that Groton drinking water has always met the standards for trihalomethanes and haloacetic acids.

### Sodium in Drinking Water

Sodium is an element that is naturally occurring and is essential for life. It is naturally present in Groton's reservoirs, and in some reservoirs it is at a higher level than others, possibly due to stormwater runoff from the roads. Groton sometimes blends water from one reservoir into their main reservoir to improve certain aspects of the water quality. In 2023, we did not exceed the Sodium Notification level of 100 mg/L. For most of our customers, sodium will not be an issue, but for customers who have been put on a very restrictive diet (less than 500 mg of sodium per day) this may be something they will want to discuss with their doctor. To put things in perspective, 28 mg/L of sodium (our highest level in 2023) is equal to 6.6 mg of sodium in an 8 ounce glass of water; in comparison, an 8 ounce glass of 1 % milk contains 104 mg of sodium. So if you have any concerns about sodium in drinking water we suggest you consult your physician, but for most people on a normal (i.e., non-sodium restricted) diet it would not be of concern.

### Corrosion Control in Drinking Water

As one of the many things we do to provide you with the best drinking water quality possible, we add a corrosion inhibitor to the drinking water. The purpose is to keep lead and copper in one's household plumbing from dissolving into the tap water when water is not in use (overnight, or during other extended periods of non-use). We use a blended phosphate (an ortho phosphate and a polyphosphate); the ortho phosphate keeps the lead and copper from coming

into solution in household piping, and the polyphosphate acts to bind with minerals such as iron and manganese that may be in the water, to prevent discolored water. To be clear, there is no lead or copper in the water coming from our reservoirs, the purpose of the corrosion inhibitor is just to restrict the natural tendency of water (known as the “universal solvent”) to dissolve metal plumbing materials into the tap water. As with all the treatment in use at our water treatment plant, this blended phosphate is approved specifically for use in potable water, in a dosage approved by the Connecticut Department of Public Health, Drinking Water Section.

### Important Information about Lead and Copper in Drinking Water

Due to watershed protection measures and an active program to control corrosion in water pipes, our water system has remained in compliance with drinking water regulations for lead and copper, using this multi-barrier approach. However, it is possible that lead or copper levels at your home may be higher than at other homes in the community as a result of materials used in your home’s plumbing.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink water containing lead in excess of the action level over many years could develop kidney problems or high blood pressure.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson’s disease should consult their personal doctor.

Lead and copper in drinking water is primarily from materials and components associated with service lines and home plumbing. Groton Utilities is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.

Following are steps that can be taken to minimize potential exposure to lead:

- ✓ **If the water has sat unused in your pipes for more than several hours, flush your cold water tap for 30 seconds to 2 minutes (or until it gets cold) before using for drinking, cooking or making baby formula.**
- ✓ **Use cold water (not water from the hot water tap) for drinking, cooking, making formula, hot cocoa, tea, instant foods, etc.**
- ✓ **Periodically remove and clean the aerator or screen from the end of each faucet and rinse to remove any debris.**
- ✓ **Ensure that any updates to household plumbing are done with lead-free solder and fixtures.**

If you are concerned about lead or copper 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 (800-426-4791) or at <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>.

### Source Water

One of the best ways to protect our customers from Contaminants of Emerging Concern (CECs) is to be vigilant in monitoring the water sources within our watershed. Groton Utilities’ water is supplied by surface water from a series of five interconnected reservoirs covering a watershed of 15.6 miles, and also includes three wells. Four reservoirs –Morgan, Ledyard, Poheganut, and Smith Lake flow into Poquonnock, our terminal reservoir. When full, all five reservoirs have a combined capacity of 2.5



Water Treatment Plant Operators and Lab Staff.

billion gallons of water. Planning for the future, we invested funds in 2014 to secure water rights from Haley's Brook in Groton, and have advised local and state agencies to ensure that the immediate watershed area should receive protection status. Our staff includes watershed surveillance staff who, with local and state police, maintain a high level of security, monitor the watershed for potential sources of contamination, and routinely collect water samples for laboratory analysis. We also have a spill response team and trailer to assist emergency responders with any threat of contamination that could impact our water supply. Maintaining the security of our water supply is everyone's responsibility. Please advise us of any suspicious activity by calling us at (860) 446-4000.

### Source Water Assessment

The State of Connecticut Department of Public Health has performed an assessment of our

drinking water sources. It was found that Groton Utilities' drinking water sources have an overall low susceptibility to potential sources of contamination. The completed report is available for access on the Drinking Water Division's website: <https://portal.ct.gov/dph>. Click on Topics A-Z, Drinking Water, Drinking Water Topics A-Z, and then Source Water Assessment Program.

### Forestry

Watershed land owned by GU surrounding the reservoirs is made up of forests and wetlands. Forests are one of the first and best defense mechanisms to achieve high water quality filtering and purifying the water. These areas improve water quality through leaf screens, water filtration, reduction of stormwater run-off, and natural removal of contaminants. Healthy diverse forests provide important water treatment services even before the water reaches the water treatment plant. To ensure the

continued production of clean water, GU worked with a Certified Connecticut Forester to develop a long term Forestry Management Plan in 2019. Having diverse and healthy stands of trees makes the forest more resilient and better able to continue acting as a filter for our reservoirs. Properly managing forests for water quality also helps prevent damage from insect pests, invasive species and limits vulnerability to fire and other disturbances. Please take note of our fire safety signs in Groton and Ledyard watershed areas.

### Land Protection

Groton Utilities works with local and state environmental and conservation groups in support of their efforts of watershed land and aquifer protection with the aim of protecting water quality, preserving forest land and wildlife habitat, and allowing for open space activities.

In 2019, Groton Utilities partnered with Avalonia Land Conservancy in the group's protection and purchase of watershed land in Ledyard. Avalonia's recently acquired property, Atkinson-Dirlam Preserve on Long Cove Road, protects critical watershed land and wetlands that provide water treatment services. Additionally, Groton Utilities is working in partnership with Avalonia to provide watershed access and education through hikes on this newly acquired watershed property.

### Watershed Protection

Watershed and reservoir security is a key element of the Groton Utilities goal to provide clean potable water to customers and the region. The sources of our water include runoff, streams, ponds, springs, wells and of course our reservoirs. There are many key elements for this goal including flow control, inspections, sampling, surveillance, and patrol. To maintain this protection program, our employees and vehicles – clearly marked “Groton Utilities” – can be seen in all areas of the watershed.

### Emergency Response

Groton Utilities maintains an emergency response trailer stocked with absorbent materials and spill containment equipment. A team of employees have been recently re-certified to respond in case of emergency to assist first responders. Protocol and mutual aid agreements are in place with local fire and emergency services and a collaborative of Connecticut's Water/Wastewater Agency Response Network – CtWARN. Groton Utilities maintains an oil boom and turbidity curtains in key locations in reservoirs as part of water quality control for turbidity and spill protection.

### How You Can Help to Protect Your Source Water Quality

- Don't flush medications or over-the-counter products down the toilet or sink. Put them in the trash (and not in the recycling bin). For information on safely disposing them in the trash, visit the CT DEEP's website at [www.ct.gov/deep](http://www.ct.gov/deep). Under Environmental Quality, click on Pollution Prevention; and then Proper Medication Disposal.
- **Go Green** – Seek alternatives to caustic household cleaners, pesticides, paint removers, and other products containing toxic chemicals. Go to the CT DEEP's website at [www.ct.gov/deep](http://www.ct.gov/deep). Under Environmental Quality, click on Pollution Prevention; and then Reducing Toxic Products in the Home. Alternative “recipes” (as well as other helpful tips) are given for many toxic products commonly used in the house and garden.
- Properly dispose of paints, motor oil, pesticides and other hazardous household waste by bringing it to a household hazardous waste collection site. Visit [scrra.org](http://scrra.org) and scroll down to “Household Hazardous Waste” for a complete list of Household Hazardous Waste collection days in 2024.



Distribution Crew and Meter Shop Crew.

### Water Treatment

Our certified water treatment plant operators are responsible for producing water that meets all State and Federal drinking water requirements. In addition to routine plant operations, they also maintain and repair the numerous pumps and valves in the plant and the five pumping stations located in the distribution system. Performing routine maintenance throughout the Water Treatment Plant, and maintaining on-line monitoring equipment and the operational readiness of the emergency generators, are just a few examples of duties routinely performed.

Our original water treatment plant was constructed in 1939 and had been periodically upgraded to meet regulatory requirements. The water was treated through a process termed “conventional treatment,” which consists of coagulation, flocculation, sedimentation and filtration. Chlorine dioxide was sometimes added during the summer months to help

remove iron and manganese. In the new WTP, which was put in service in November 2020, our conventional treatment now consists of coagulation, flocculation, Dissolved Air Flotation, and filtration through deep-bed Granular Activated Carbon (GAC) filter media. Just completed in 2022, there is now one additional, final stage of treatment—Manganese Contactors. These Contactors look similar to our GAC filters, but they contain specially coated anthracite media, which attracts the dissolved manganese remaining in the filtered water onto the surface of the media and retains it there. Clear water exits the contactors and continues on to our Clearwells and then to our storage tanks, before being pumped out into the distribution system. Caustic soda and phosphate are added to inhibit corrosion of plumbing. Chlorine is added for disinfection and to maintain the quality of water as it travels throughout the piping network to your home. Fluoride is added to reduce the formation of cavities, as required by State of Connecticut Public Health regulations. In 2023, the water treatment plant produced drinking

water at an average of 4.8 million gallons a day and delivered water to approximately 44,000 customers in the City and Town of Groton, Noank, Groton Long Point, and parts of Ledyard, Montville, and Mystic.

### Distribution Operations

Our certified water distribution operators are responsible for maintaining and servicing over 100 miles of water mains in Groton. One of their duties is fire hydrant maintenance, which ensures an adequate supply of water in the event of a fire. They also exercise valves, repair and replace mains to ensure an adequate supply of water to your home or business, and flush hydrants. Hydrants are flushed in the spring to maintain water quality and remove any rust or sediments which have accumulated throughout the year. **If discoloration occurs, run the cold water for 15 or 20 minutes until it clears. If it persists, call us at (860) 446-4000.**

### Did you know that?

All of our operators have the highest grade of certification possible, as required by the CT Department of Public Health. They are also required to take continuing education courses to maintain their certification.

### Project Management

Our project managers' responsibilities include overseeing new main construction and repair, as well as water treatment plant modifications. They also maintain all records digitally, pertaining to the location, type, and age of all pipes, valves, and equipment in the distribution system. This data is used to update the Groton Utilities asset management plan; Call Before You Dig is also an important function of Project Management.

Did you know that your contractor should Call Before You Dig (811 or 1-800-922-4455) at least two full working days prior to any home improvement project requiring digging? You will get your underground utilities marked out for free, avoiding possible physical harm, fines, and

repair costs for any damaged utility line. Visit their website at <https://www.cbyd.com> for more information.

### Customer Service

Our customer service representatives are dedicated to provide you with personalized customer service. Call them at (860) 446-4000 or stop in at the office, located at 295 Meridian Street. Whether by telephone or in person, they will assist you with your service needs, answer questions, and respond to problems or concerns that you may have. Walk-in office hours, open to the public, are: Monday through Thursday from 8:00 AM to 4:00 PM (closed Friday); The main office is available for phone calls: Monday – Friday, 8:00 am – 4:30 pm, and Saturday 8:00 am – 12 noon. The office is closed on holidays. Emergency or after hour calls are also answered at (860) 446-4000.

### Water Quality / System Improvements

As noted earlier, after years of planning and preparation we have upgraded our water treatment plant. We also continue to work to improve the water quality and reliability of our water supply prior to treatment and after the water enters the distribution system. This includes water main replacement where needed, and upgrades to our standpipes and standpipe operations to maintain the freshness of our water, as well as doing annual hydrant flushing and other routine maintenance operations.

### Regional Water

Groton Utilities continues to improve its services to ensure the best water quality and required quantity of water be delivered to our customers in Groton, Mystic, Ledyard, Noank, Groton Long Point, Montville, Mohegan Tribe, and have water available on an emergency basis for other regional interconnected customers—New London, East Lyme, Waterford, and Norwich.

### Community Involvement

Groton Utilities conducts water plant tours to

educate students and the public about our operations, water conservation, and source water protection. Additionally, classroom presentations, mentoring, job shadowing, and internship opportunities are made available. We also conduct escorted tours in the watershed for various groups for educational, environmental and other supervised activities. These groups include, but are not limited to Ledyard and Groton residents, Senior Centers, the Audubon Society for its annual bird count, Denison Pequotsepos Nature Center, GOSA and local schools for research purposes. Groton Utilities is also a member of the Greater Mystic Chamber of Commerce and the Eastern Connecticut Chamber of Commerce.

### Water Quality Testing

Groton Utilities maintains a State-certified laboratory (CT License #PH-0409) where the majority of our water analyses are conducted. During the year, samples are collected from the source water before treatment, during the various stages in the treatment process, and throughout the distribution system. Tests for bacteria, physical qualities, various organic and inorganic compounds, and pesticides and herbicides are conducted.

To ensure that tap water is safe to drink, EPA prescribes limits on the amounts 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.

**The table on the last page of this report lists only the contaminants that were found in our drinking water in 2023. All levels found were less than the maximum level allowed by the EPA and CT Department of Public Health. The table does not list the more than 60 contaminants that were tested for, but were not present in our water. You will also note that some of the results, though representative, were from samples collected prior to 2023. That is because the CT Department of Public Health allows us to monitor for some contaminants less than once per year because the concentrations of**

**these contaminants do not change frequently.**

Any water quality concerns, questions or requests for more information can be submitted via e-mail to [waterquality@grotonutilities.com](mailto:waterquality@grotonutilities.com) or can be phoned in directly to our lab at (860) 446-4135 during normal business hours (Monday – Friday, 7:00 am – 3:00 pm). *For emergency or after hour calls for assistance, please call (860) 446-4000.*

### Sources of Drinking Water Contaminants

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 radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Listed below are some examples of such contaminants:

- Microbiological contaminants such as viruses and bacteria, which may come from septic systems, sewage treatment plants, agriculture and livestock operations, and wildlife;
- 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;
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses;
- Organic chemicals, including synthetic and volatile organic compounds which are byproducts of industrial processes and petroleum production, and can come from gas stations, urban storm water runoff, and septic systems;
- Radioactive contaminants that 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 the water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for human health.

### Health Effects Information

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 EPA's Safe Drinking Water Hotline (800) 426-4791.

*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 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 (800) 426-4791.

### Water Conservation Tips

- Fix leaky faucets, showerheads and toilets.
- Consider replacing older toilets with a WaterSense labeled high efficiency toilet. These must pass rigorous performance criteria and can't use more than 1.28 gallons per flush in order to earn the

WaterSense label. (Older toilets can use up to four times more water than WaterSense toilets).

- Install aerators on your faucets. They reduce the flow and use air to maintain good water pressure. (and remember to periodically remove and clean faucet aerators because they can trap debris).
- Take shorter showers. High efficiency WaterSense showerheads automatically use less water without compromising the quality of your shower.
- Consider replacing your old washing machine with a high-efficiency Energy Star labeled model, which uses up to 50% less water and electricity.
- Run the dishwasher and washing machine only when full.
- Don't over-water your lawn or garden - use a timer, and water early in the morning or at night to avoid excess evaporation.
- Clean your sidewalk or driveway with a broom instead of a hose.

*There is a strong commitment by Groton Utilities, the local community, state regulators, and public health professionals to protect Connecticut's drinking water supplies and inform consumers about water quality issues.*

For more information, call us at (860) 446-4000. We provide 24 hour a day service and emergency response.

The Utility Commission, our policy making body, meets regularly at 10:00 AM on the 3rd Wednesday of each month in Council Chambers at 295 Meridian Street, Groton.

*Learn more about the Groton Utilities water system at:*

[www.grotonutilities.com](http://www.grotonutilities.com)

*How we measure contaminants (parts per million, parts per billion, parts per trillion, Oh My!)*

Because the annual data table on the back page uses various units of measure, we hope this explanation of the ways we describe or measure the quantity of contaminants in a water sample will be helpful to you. When we measure the amount of something in water, we describe it in terms of parts per million, or smaller measurements of parts per billion, and even smaller measurements of parts per trillion. What do parts per million, parts per billion, and parts per trillion even mean?

Let's use the example of lottery winnings, and let's say you picked the correct numbers for an extremely large jackpot, and your lump-sum payout ended up being \$100,000,000 after taxes and everything else!

- 1 part per million (ppm) of \$100,000,000 is \$100,
- 1 part per billion (ppb) of that payout is 10 cents,
- 1 part per trillion (ppt) of that payout is 0.01 cents – another way to picture that would be to take one penny, chop it up into 100 equal-sized bits, and hold one of those tiny bits in your hand. You would be holding 1 part per trillion of \$100,000,000.

Here is one more way to picture these very small measurements: Let's say you eat right every day, exercise every day, and have good genes—good enough that you will live to be exactly 100 years old—what would ppm, ppb, and ppt look like in that circumstance?

- 1 part per million of a 100-year-life would be 52.6 minutes,
- 1 part per billion (ppb) of 100 years would be 3.2 seconds,
- 1 part per trillion (ppt) of 100 years would

be 0.0032 seconds (3.2 milliseconds!)

Another way to think of that is that the average eye-blink takes 0.1 – 0.3 seconds (100 – 300 milliseconds); let's say 0.2 seconds to be cautious about it—so a single eye-blink would be 63 ppt of a 100-year life.

Scientists are measuring PFAS compounds down to a level of 2 parts per trillion (ppt)!

To use another example, 20 Olympic-sized swimming pools hold about one trillion drops of water; if only one drop of water splashed out of one of the 20 pools, that's also one part per trillion.

Just as there are different words we can use that mean the same thing, in water science different words can mean the same thing.

- One part per million (1ppm) means the same thing as one milligram per liter (1 mg/L),
- One part per billion means the same thing as one microgram per liter (1 ug/L),
- One part per trillion (1 ppt) means the same thing as one nanogram per liter (1 ng/L)

So if we say there are 29 mg/L of sodium in the water, that means the same thing as if we said there are 29 ppm of sodium in the water; it's the same exact thing, just two different ways of saying it. Now that we have discussed how we measure very small quantities of things, please take a look at our data table for Groton Water in 2023, which lists data using the measurements we just explained, and compares them to the maximum amount allowed in drinking water (the Maximum Contaminant Level, or MCL).

# GROTON UTILITIES 2023 ANNUAL WATER QUALITY DATA

Regulated Contaminants      Highest Level Allowed      Groton Water

Parameter	Units	MCL	MCLG	Highest Detected Level	Range (a)	Major Source	Meets Standards?
Barium	ppm	2	2	0.01	—	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	YES
Chloride	ppm	250	N/A	52	29 - 52	Stormwater runoff containing road salt, erosion of natural deposits	YES
Fluoride	ppm	4	4	0.72	0.53 - 0.72	Erosion of natural deposits; water additive which promotes strong teeth	YES
Nitrite	ppm	1	1	0.07	ND<0.05 - 0.07	Runoff from fertilizer use, leachate from septic tanks; sewage, erosion of natural deposits	YES
Total Coliform Bacteria	P/A	Presence not to exceed 5% of monthly samples	0%	0.00%	0.0%	Naturally present in the environment	YES
Parameter	Units	TT	MCLG	Lowest RAA	Range	Major Source	
Total Organic Carbon	N/A	Removal ratio must be >=1.00	N/A	1.6	1.2 - 1.8	Naturally present in the environment	YES
Parameter	Units	TT	MCLG	Highest Detected Level	Lowest % of samples meeting limit	Major Source	
Turbidity (NTU)	(b)	95% of samples must be <=0.3 NTU	N/A	0.20	100%	Soil runoff	YES
Parameter	Units	Action Level	MCLG	90th percentile (c)	# of sites above AL	Major Source	
Lead	ppb	15	0	4	6 of 121	Corrosion of household plumbing systems; erosion of natural deposits	YES
Copper	ppm	1.3	1.3	0.06	0 of 121	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	YES
Parameter	Units	MCL	MCLG	Highest LRAA (d)	Range	Major Source	
Haloacetic Acids	ppb	60	N/A	30.6	19.1 - 43.0	By-product of drinking water disinfection	YES
Total Trihalomethanes	ppb	80	N/A	62.1	33.7 - 98.4	By-product of drinking water disinfection	YES
Parameter	Units	MRDL	MRDLG	Highest RAA	Range	Major Source	
Chlorine	ppm	4	4	1.34	0.12 - 2.01	Water additive used to control microbes	YES

## Unregulated Contaminants (e)

Parameter	Units	MCL	MCLG	Average	Range	Major Source	Meets Standards?
Sodium	ppm	Notification level = 100	None	25	19 - 28	Stormwater runoff containing road salt, erosion of natural deposits	N/A
Sulfate	ppm	None	None	5	4 - 6	Naturally occurring	N/A

### Notes

- Only detected contaminants are listed in this table. Analyses were performed in 2023 unless noted otherwise.
- (a) A range of values is not presented for those parameters which were measured only once in 2023.
- (b) Turbidity is a measure of the cloudiness of water and is a good indicator of the effectiveness of our filtration system. Turbidity cannot exceed 1 NTU.
- (c) Of the 121 homes tested in 2023, 90% had lead levels below 4 ppb, and 90% had copper below 0.06 ppm; since these values are below their respective Action Levels, our system is in compliance. Next analysis is due in 2024.
- (d) Highest Locational Running Annual Average (LRAA) of samples taken in the distribution system. Values in the range are individual sample results.
- (e) EPA has not established drinking water standards for unregulated contaminants. We are required to monitor for them to assist the EPA in determining their occurrence and whether future regulation is warranted.

### Key to Table

- AL = Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- MCL = Maximum Contaminant Level: the highest level of a contaminant that is allowed in drinking water.
- MCLG = Maximum Contaminant Level Goal: 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. (MCLs are set as close to the MCLGs as feasible using best available technology.)
- 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 contamination.
- N/A = Not Applicable
- ND = Not Detected
- NTU = Nephelometric Turbidity Units
- < = Less than
- > = Greater than
- ppm = parts per million
- ppb = parts per billion
- pCi/L = picoCuries per liter
- P/A = presence / absence
- RAA = Running Annual Average
- TT = Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.