



North Chelmsford Water District

PWS ID No. 3056002

2023 Consumer Confidence Report

Foreword from the Superintendent

This report, as required by the Safe Drinking Water Act (SDWA), covers system conditions and testing conducted from January 1, 2023, to December 31, 2023, information about our water sources, water sampling results, and other relevant topics pertaining to water quality/safety, regulations, and education.

The North Chelmsford Water District (“the District”) is committed to providing you with safe, reliable, and high-quality water for domestic use and fire suppression (hydrants and fire sprinklers). Our water is tested with sophisticated equipment and advanced procedures to maintain compliance with state and federal regulations, and we continue to make improvements to our distribution and treatment systems to stay current with the latest available research and technology.

Your attention to our Consumer Confidence Report is greatly appreciated. While this report is only released annually, we continue to update our website throughout the year with news and announcements (including upcoming projects, planned hydrant/main flushing, and emergency main breaks). Our ordinance (Rules, Regulations, and Rates), monthly public meeting agendas and minutes, and other information are also available on our website (including a digital copy of this report). Please contact our office if you have any questions.

Sincerely,

Paul Pires | *Superintendent*



District Office Location and Hours of Operation

Our office is located at 64 Washington St. in North Chelmsford, MA. Our office hours are from 7:30 AM to 3:30 PM, Monday through Friday. We have a 24/7 answering service in case of an emergency, and one of our operators is always on call (including weekends and holidays).

Phone No.: (978) 251-3931

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Website: www.northchelmsfordwater.com

Board of Water Commissioners and Management

In addition to the Environmental Protection Agency (EPA), the Massachusetts Department of Environmental Protection (MassDEP), and local governing authorities, the District is overseen by a three-member Board of Water Commissioners elected by District residents who receive our water. In 2023 and continuing into 2024, the Commissioners are Bruce H. Clark (Chairman), Robert M. Leavitt (Clerk), and David M. Irvine. In 2023 and continuing into 2024, the Superintendent is Paul Pires (who took over for Bruce Harper, Sr., upon his retirement in December 2022), and the Office Manager/Treasurer is Daysha Morell.

Monthly Board of Water Commissioners Meeting and Public Participation

On the first Monday of each month at 4:00 PM, the Commissioners meet with the Superintendent and Office Manager/Treasurer during public meetings hosted at our office. All meeting times and agendas are posted at the Chelmsford Town Hall, at our office, and on our website at least 48 hours before the meeting.

Anyone who wishes to meet with the Commissioners or speak at the monthly meeting must submit a written request to the Office Manager/Treasurer by the preceding Wednesday at noon to be added to the next agenda (this deadline is strictly enforced to comply with the Open Meeting Law). We encourage your interest and participation in decisions affecting our drinking water and appreciate the opportunity to address your questions.

Groundwater Sources for Drinking Water and System Information

The District utilizes groundwater pumped from six wells (known as the Bomil Well Field) around Richardson Road: four gravel-packed (driven 150-200 ft underground) and two bedrock (drilled 200-500 ft underground), which withdraw from the Merrimack River Basin and are recharged from Cold Spring Brook and Stony Brook. Table 1: District Well Names and Source IDs (below) displays the Source Identification Numbers (IDs) associated with our wells:

Table 1: District Well Names and Source IDs

<u>District Well Name</u>	<u>Well Type</u>	<u>Source ID</u>
Bomil Well No. 1	Gravel Packed	3056002-RW01G
Bomil Well No. 2	Gravel Packed	3056002-RW02G
Bomil Well No. 3A	Gravel Packed	3056002-RW07G
Bomil Well No. 4	Gravel Packed	3056002-RW04G
Bedrock Well No. 1	Bedrock	3056002-RW05G
Bedrock Well No. 2	Bedrock	3056002-RW06G

Our two water storage tanks (Washington St. Tank and Swain Rd. Tank) have a combined capacity of 5.9 million gallons of water; in 2023, we supplied 219.4 million gallons for a variety of uses, including drinking water, irrigation, and the fire hydrant network. We have three standby water main interconnections for emergency use: one with the Lowell Regional Water Utility, and two with Chelmsford Water District, although we did not receive any water from either party in 2023.

Source Water Assessment and Protection (SWAP) Program

The SDWA Amendments of 1996 required every state to examine existing and potential threats to the quality of all of its public water supply sources and to develop a SWAP program. This program, last conducted by MassDEP in 2004, facilitated the assessment of public water supply source susceptibility to potential contamination due to land use or activity within the recharge areas. Results from this program included:

1. Delineation of protection areas for all public ground and surface water sources
2. Inventory of land uses in these areas that may present potential threats to water quality
3. Determination of the susceptibility of water supplies to contamination these sources
4. Publication of the results

A copy of the District's SWAP Program findings is available via this link: <https://www.mass.gov/doc/north-chelmsford-water-district-swap-report/download>

The District's system was assigned a susceptibility ranking of "high" based upon the information collected during this assessment. At the time of this report, contributing factors to this ranking included improper salt storage and road salting, potential influence of stormwater catch basins, and proximity to Route 3, a railroad, and oil or hazardous material. We recently identified an increased risk of contamination from per- and polyfluoroalkyl substances (PFAS) near the Bomil Well Field and continue to work alongside the Town of Chelmsford ("the Town") Department of Public Works to monitor our PFAS levels and conduct on-site remediation; the water is subsequently run through granular activated carbon filters at our Water Treatment Plant (WTP) for further removal. For our PFAS6 (the six PFAS compounds which are regulated) test results, please consult the "PFAS Information" tab on our website.

We continue to comply with all governing federal and state sampling requirements and diligently work with MassDEP, the Massachusetts Highway Department, and the Town to monitor and reduce sodium levels and the potential introduction of other contaminants into our water supply.

Our Water Treatment Process

As of 2011, the District provides physical and chemical water treatment via a system of sophisticated processes at our WTP. Water is pumped from the wells into a cascading aerator, runs through ultrafiltration filters to remove larger particulate matter then through 2 granular activated carbon filters for PFAS removal and odor reduction. Chlorine dioxide is added to the water for disinfection and to remove iron and manganese, potassium hydroxide is added to the water to adjust pH and aid with corrosion control (which inhibits pipe material from leaching into the water), and polyaluminum chloride is added to assist with filtration (by bonding with particulates, which increases their size and weight, and makes filtration much easier). Chlorine is added prior to sending the water into the distribution system to maintain an average residual of $0.45-0.75 \frac{\text{mg}}{\text{L}}$ (this maintains our disinfection process as the water travels through the system). Please note that we do not add fluoride to our water.

We submit an annual report to MassDEP detailing our treatment process and chemicals used for their review and comments. We are extremely vigilant of our standard operating procedures and ensure that sampling and testing are conducted accurately to acquire true results.



2023 Water Quality Testing Results Statement

Table 2: 2023 Water Quality Testing Results lists all of the MassDEP drinking water contaminants for which we sampled from January 1, 2023, to December 31, 2023, or during the most recent sampling period (as appropriate for our assigned sampling schedule). Unless otherwise noted, the data presented in Table 2 reflects testing conducted in 2023. MassDEP allows us to monitor certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly by year; some of the data may be more than one year old. The presence of contaminants in the water does not necessarily imply that the water poses a health risk.

Reading and Comprehending Water Quality Test Results: Definitions and Units of Measurement

Definitions

90th Percentile: Out of every 10 homes sampled, 9 were at or below this level. This number is compared to the action level to determine lead and copper compliance.

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

Health Advisory (HA): Provides information on a contaminant that can cause negative human health effects and is known or anticipated to occur in drinking water.

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.

Office of Research and Standards Guideline (ORSG): This is the concentration of a chemical in drinking water at or below which adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

Secondary Maximum Contaminant Level (SMCL): These standards are developed to protect aesthetic qualities of drinking water and are not health-based.

Unregulated Contaminants: Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

Units of Measurement

ppm: parts per million or milligrams per liter ($\frac{\text{mg}}{\text{L}}$)

$\frac{\text{pCi}}{\text{L}}$: picocuries per liter (a measure of radioactivity)

ppb: parts per billion or micrograms per liter ($\frac{\mu\text{g}}{\text{L}}$)

NTU: Nephelometric Turbidity Units

ppt: parts per trillion or nanograms per liter ($\frac{\text{ng}}{\text{L}}$)

Table 2: 2023 Water Quality Testing Results

Regulated Contaminants							
Volatile Organic Compounds							
Name (Units)	Result	MCL or MRDL	ORSG	Violation	Possible Sources of Contamination	Health Effects	
1,2-Dichlorobenzene-44 (%)	91	70-130	N/A	No	N/A	N/A	
4-Bromofluorobenzene (%)	93	70-130	N/A	No	N/A	N/A	
Bromodichloromethane (ppb)	2.9	N/A	N/A	No	Trihalomethane; byproduct of drinking water chlorination	Some people who drink water containing bromodichloromethane at high concentrations for many years could experience liver and kidney problems.	
Bromoform (ppb)	5.5	N/A	N/A	No	Trihalomethane; byproduct of drinking water chlorination	Some people who drink water containing bromoform at high concentrations for many years could experience liver and kidney problems.	
Chloroform (ppb)	1.2	N/A	70	No	Trihalomethane; byproduct of drinking water chlorination. (In non-chlorinated sources, chloroform may be naturally occurring.)	Some people who drink water containing chloroform at high concentrations for many years could experience liver and kidney problems and may have an increased risk of cancer.	
Dibromochloromethane (ppb)	7.0	N/A	N/A	No	Trihalomethane; byproduct of drinking water chlorination	Some people who drink water containing dibromochloromethane at high concentrations for many years could experience liver and kidney problems.	
Radioactive Compounds							
Name (Units)	Date Collected	Result	MCL or MRDL	MCLG	Violation	Possible Sources of Contamination	
Alpha Emitters (pCi/L)	3/10/2021	0.740.6	15	0	No	Erosion of natural deposits	
Uranium (ppb)	3/10/2021	ND	30	0	No	Erosion of natural deposits	
Radium 226 & Radium 228 (pCi/L)	6/15 & 9/5/2018	1.040.9	5	0	No	Natural sources	
PFAS6							
Name (Units)	Range Detected	Highest Quarterly Average	MCL	Violation	Possible Sources of Contamination	Health Effects	
PFAS6 (ppt)	ND-5.12	5.12	20	No	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams.	Some people who drink water containing these PFAS in excess of the MCL may experience certain adverse effects. These could include effects on the liver, blood, immune system, thyroid, and fetal development. These PFAS may also elevate the risk of certain cancers.	
Disinfection Byproducts							
Contaminant	MRDL	MRDLG	Highest Result	Range of Detects	Violation	Major Sources	Health Effects
Chlorine Dioxide (ppb)	800	800	1010	ND-1010	Yes*	Water additive used to control microbes	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.
*Compliance with the MRDL for chlorine dioxide is based on consecutive daily samples. The District had 11 MRDL violations in 2023.							
Contaminant	MCL	MCLG	Highest Quarterly Average	Range of Detects	Violation	Major Sources	Health Effects
Chlorite (ppm)	1	0.8	0.050	<0.010-0.094	No	Byproduct of drinking water disinfection	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
Contaminant	No. of Sites	Highest Result or RAA	Range of Detects	MCL	MCLG	Violation	Possible Sources
HAAS (ppb)	2	3.9	2.3-3.9	60	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb)	3	50	17-50	80	N/A	No	Byproduct of drinking water disinfection

Regulated Contaminants							
Lead and Copper							
Name	Date Collected	90th Percentile	AL	MCLG	No. of Sites above AL	Source	Health and/or Aesthetic Effects
Copper (ppm)	August 2023	0.173	1.3	1.3	0 out of 20	Internal corrosion of household plumbing; erosion of natural deposits	May produce a metallic taste; blue-green staining
Lead (ppb)	August 2023	4.2	15	0	1 out of 20	Internal corrosion of household plumbing; erosion of natural deposits	If over the AL, infants and children could experience delays in their physical or mental development, children could show slight deficits in attention span and learning abilities, and adults with chronic exposure could develop kidney problems or high blood pressure
Inorganic Contaminants							
Contaminant	Date(s) Collected	Highest Result or Average	MCL or MRDL	MCLG or MRDLG	Violation	Major Sources	Health Effects
Arsenic (ppb)	9/27/2021	ND	10	N/A	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Barium (ppm)	9/27/2021	0.031	2	2	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Fluoride* (ppm)	9/27/2021	0.2	4	4	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.
Mercury (ppb)	9/27/2021	ND	2	2	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.
Nitrate (ppm)	5/3/2023	0.94	10	10	No	Runoff from fertilizer use; leaching from septic tanks; natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome
Nitrite (ppm)	6/2/2022	ND	1	1	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome
Perchlorate (ppb)	8/6/2023	ND	2	N/A	No	Rocket propellants, fireworks, munitions, flares, blasting agents	Perchlorate interferes with the normal function of the thyroid gland and thus has the potential to affect growth and development, causing brain damage and other adverse effects, particularly in fetuses and infants. Pregnant women, the fetus, infants, children up to the age of 12, and people with a hypothyroid condition are particularly susceptible to perchlorate toxicity.

*Fluoride has an SMCL of 2 ppm to better protect human health

Secondary and Unregulated Contaminants							
Secondary Contaminants							
Name (Units)	Result or Range Detected	SMCL	Violation	Source to Drinking Water	Health and/or Aesthetic Effects		
Aluminum (ppb)	ND	200	No	Residue from water treatment process; erosion of natural deposits	May produce colored water		
Chloride (ppm)	243-250	250	Fails EPA Secondary	Runoff and leaching from natural deposits; seawater influence	May produce a salty taste		
Color, Apparent (C.U.)	0	15	No	N/A	May produce a visible tint		
Iron (ppb)	35	300	No	Natural and industrial sources as well as aging and corroding distribution systems and household pipes	Use of water containing iron at concentrations above the secondary MCL may result in aesthetic issues including the staining of laundry and plumbing fixtures and water with an unpleasant metallic taste and rusty odor.		
Odor (T.O.N.)	1	3	No	Naturally occurring organic materials that form ions when in water, seawater influence	May produce a "rotten-egg", musty, or chemical smell		
Sulfate (ppm)	15.2	250	No	Runoff and leaching from natural deposits; industrial wastes	May produce a salty taste		
Total Dissolved Solids (ppm)	610	500	Fails EPA Secondary	Runoff and leaching from natural deposits; seawater influence	May produce hardness; deposits; colored water; staining; salty taste		
Turbidity (NTU)	0.35	5	No	Soil runoff	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.		
Zinc (ppm)	0.006	5	No	Corrosion of household plumbing systems; erosion of natural deposits	May produce a metallic taste		
Unregulated Contaminants (non-PFAS)							
Name (Units)	Result or Range Detected	Average Detected	SMCL	OSRG	Violation	Source to Drinking Water	Health Effects
Radon (pCi/L) [8/22/2018]	687	N/A	N/A	10,000	No	Natural sources	
Manganese* (ppb)	4	N/A	50	300 (lifetime for general pop.) 1000 (for 10-day exposure for general pop.) 300 for infants (limit exposure to 10 days)	No	Natural sources as well as discharges from industrial uses; erosion of natural deposits	Use of water containing manganese at concentrations above the secondary MCL may result in aesthetic issues including the staining of laundry and plumbing fixtures and water with an unpleasant bitter metallic taste, odor, and/or black-brown color; infants and children who drink water containing manganese at high concentrations may have learning and behavior problems. People with liver disease who drink water containing manganese at high concentrations may have neurological disorders.
Methyl tert-Butyl Ether (MTBE)** (ppb)	ND	N/A	N/A	70	No	Fuel additive; leaks and spills from gasoline storage tanks	Some people who drink water containing methyl tertiary butyl ether at high concentrations for many years could experience chronic effects on the kidney and liver and possible cancer.
Sodium (ppm)	37.1-115	76.05	N/A	20	Yes	Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents	Some people who drink water containing sodium at high concentrations for many years could experience an increase in blood pressure.
*EPA has established a lifetime HA of 0.3 mg/L and an acute HA of 1.0 mg/L. **EPA has established a lifetime HA for MBE of 0.3 mg/L and an acute HA at 1.0 mg/L.							
Unregulated Contaminants (PFAS excluding PFAS6)							
Name (Units)	Result or Range Detected	Average Detected	SMCL	OSRG	Violation	Source to Drinking Water	Health Effects
Perfluorohexanoic Acid (PFHxA) (ppt)	1.39	N/A	N/A	N/A	No	Manmade chemical; breakdown product of stain- and grease-proof coatings on food packaging and household products	Based on studies of laboratory animals, depending on the level and length of exposure, PFHxA in drinking water may affect the liver, the blood, the thyroid and may cause effects on the developing fetus. PFHxA is generally considered less toxic than PFOA and is cleared from the body much faster than PFOS, PFOA and other longer-chain PFAS.

Educational Information: Water Contamination and Personal Vulnerability

In order to ensure that tap water is safe to drink, EPA and MassDEP prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that 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 water contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

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

1. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
2. 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.
3. Pesticides and herbicides, which may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.
4. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, and septic systems.
5. Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.
6. PFAS, which is a group of man-made chemicals that do not readily break down in either the environment or the human body, can build up over time and lead to adverse health effects. Known sources include firefighting foam, numerous consumer products, and industrial processes.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune disorders, some elderly, and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. EPA and the Centers for Disease Control and Prevention (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).

Health Information: Sodium

Sodium is a naturally occurring element found in soil and water and is necessary for maintaining normal bodily functions, including regulating fluids and assisting muscle and nerve function. Adequate daily total sodium intake is estimated to range from 115-750 $\frac{\text{mg}}{\text{day}}$ for infants, 325-2700 $\frac{\text{mg}}{\text{day}}$ for children, and 1100-3300 $\frac{\text{mg}}{\text{day}}$ for adults. According to MassDEP, the principal source of exposure to sodium is one's diet. A full copy of the MassDEP Sodium Notice is available upon request.

Health Information: Lead

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. Infants and children who drink water containing lead in excess of the action level (AL) 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 exceeding the AL over many years could develop kidney problems or high blood pressure. The District 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. Additional ways to limit your exposure include installing an NSF/ANSI 53-certified water filter (which have been certified in reducing lead concentrations in water) and only using cold water for drinking and cooking, as warm or hot water can have higher lead concentrations; please note that boiling water will not reduce its lead concentration. If you are concerned that you may have been exposed to lead, consult with your healthcare provider about getting a blood lead test.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at:

<https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>

<https://www.mass.gov/lead-in-drinking-water>

<https://www.cdc.gov/nceh/lead/prevention/sources/water.htm#:~:text=If%20you%20have%20a%20lead%20service%20line%2C%20reduce%20your%20exposure,of%20lead%20in%20your%20water>

Ongoing Lead Service Line Inventory and Replacement Project

In continuation with our commitment to abiding by federal and state guidelines, the District continues to prepare a system-wide inventory to document service line and main materials comprising the distribution system by MassDEP's deadline of October 16, 2024. MassDEP's goal is for public water systems to find and replace any lead service lines. Upon completion, this inventory will be made publicly available on our website. As of April 2024, our data collection process has not resulted in the discovery of any lead service lines.

Water Hardness and Aesthetics

Water hardness/softness is quantified by its concentration of minerals and is usually measured in ppm or $\frac{\text{mg}}{\text{L}}$ of calcium carbonate. The "harder" water is: the more minerals it contains. Since our water is sourced from underground wells, it is predisposed to being hard.

Your water may occasionally have a brown/black tinge to it. Naturally occurring sediment in the water can build up inside pipes, and, later on, loosen up and flow downstream to your tap. This is an expected result of flushing water mains and hydrants. You may also experience cloudiness in your water, which is caused by tiny air bubbles (similar to carbonated gas in soft drinks); with time, the bubbles will rise to the top and dissipate.

In order to keep you informed, we post announcements on our website when we flush an area. Please note that running your cold shower/tub tap normally resolves discoloration, but we encourage you to contact our office if the problem persists.

Cross-Connection Control and Backflow Prevention

A cross-connection is a point in the water system where potable water and a source of contamination meet. Backflow refers to the reverse flow of water within the system. If backflow occurs at a point of cross-connection, contaminants could enter the distribution system, so the District maintains a cross-connection control program to prevent this from occurring. This program involves our certified staff conducting surveys of individual plumbing systems to determine whether a cross-connection exists and what type of backflow prevention device should be installed to protect the system. More information about our program is available on our website.

Hydrant Flushing Program

Our Hydrant Flushing Program facilitates water turnover and internal water main cleaning, which help maintain the condition of the distribution system, improve water quality, and ensure functional operation. Our Spring/Summer 2024 schedule is posted on our website.

During flushing, you may *temporarily* lose water pressure or experience discolored water, which is caused by disrupting naturally occurring, unharmed sediment within the main. If you experience discolored water, run the *cold* water in your shower/tub until the water runs clear. If you have difficulty getting the water to clear up or have any questions, please contact our office.

Summer Water Management Program: Outdoor Water Use Restrictions by Level

Effective May 1-September 30, 2024

This program complies with the Water Management Act to reduce water consumption by:

1. Limiting the hours of the day during which you may water
2. Limiting the number of days per week during which you may water
3. Restricting automatic sprinklers or irrigation systems
4. Implementing a complete ban on outdoor watering (in some cases)

Our water storage tanks must be at least 75% full to ensure adequate system pressure, which also maintains our fire suppression system (hydrants and fire sprinklers). Our water withdrawal allowance is limited by our permits from MassDEP, so we may not withdraw more water than permitted to compensate for outdoor watering usage.

All automatic lawn sprinkler systems require a permit from the District and Town Plumbing Inspector. All systems must have rain sensors, backflow prevention devices, and be zoned properly with timers set according to the posted Level (each Level represents different permitted usage). Signs will be posted throughout the District and in the local media. Please note that “odd numbered” refers to numbers ending in 1, 3, 5, 7, and 9, while “even numbered” refers to numbers ending in 0, 2, 4, 6, and 8.

The three outdoor water use restriction levels are described in Table 3: District Watering Restrictions by Level.

Table 3: District Watering Restrictions by Level

	Level 1 (Green) 6 AM to 9 AM or 6 PM to 9 PM ONLY	Level 2 (Yellow) 6 PM to 9 PM ONLY	Level 3 (Red) No outside water use until further notice
Odd Numbered Addresses on Odd Numbered Calendar Days:	Automatic/non-automatic sprinkler systems	Automatic/non-automatic sprinkler systems	No outside water use until further notice
Even Numbered Addresses on Even Numbered Calendar Days:	Automatic/non-automatic sprinkler systems	Automatic/non-automatic sprinkler systems	No outside water use until further notice
Other Permitted Watering:	Handheld hoses and watering cans for small flower and vegetable gardens permitted from 6 AM to 9 PM on your assigned days	Handheld hoses and watering cans for small flower and vegetable gardens permitted from 6 AM to 9 PM on your assigned days	None permitted