

2022 Consumer Confidence Report

For

Carver Municipal Buildings

Carver, Massachusetts

MASSDEP PWSID #4052061

This report is a snapshot of the drinking water quality that we provided last year. This document is required of all water systems and is updated & distributed annually. It summarizes all the water quality testing that was done on your water supply in 2022, as well as the details about your water sources and distribution water system. Please take time to review this report and save it as a reference.

PUBLIC WATER SYSTEM INFORMATION

Water System Improvements

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, your water system is operated by *Small Water Systems Services, LLC (SWSS)*, a Massachusetts contracted operations and maintenance firm with licensed operators who oversee the operations of our system.

Opportunities for Public Participation

If you would like to participate in discussions regarding your water quality, you may attend the following meetings or educational events: *The Board of Selectmen meets every other Tuesday, please contact The Carver Town Hall for more information, 508 866-3401.*

YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

Water from the Carver Municipal Well (Well 01G) supplies the Carver Municipal Complex. It is an 8-inch well drilled to 250ft located 250 feet northeast of the library parking lot. There are also 2 wells (02G and 03G) that are used for emergency purposes only. There is a pump house located 250 ft southwest of the well containing a treatment system (for sequestering iron and manganese) and a water storage tank.

Is My Water Treated?

Iron & manganese are present in this groundwater at levels that can discolor the water or cause it to take on unpleasant odors or tastes. Even though the water may still be safe to drink, treatment is recommended and for this water supply consists of adding hexametaphosphate to the water, resulting in a chemical reaction, known as sequestration, that prevents iron & manganese from forming nuisance particles. All chemicals used for sequestration are approved for water treatment by one of the following organizations: National Sanitation Foundation (Now known as NSF International or UL, both accredited by the American National Standards Institute (ANSI). Chemicals must also meet standards established by the American Water Works Association (AWWA).

How Are These Sources Protected?

MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system. The SWAP Report assesses the susceptibility of public water supplies.

Where Can I See The SWAP Report?

The complete SWAP report is available online at <https://www.mass.gov/service-details/the-source-water-assessment-protection-swap-program>. For more information, contact The Carver Town Hall on 108 Main Street Carver.

What Can Be Done to Improve Protection?

Residents can help protect sources by:

- Practicing good septic system maintenance
- Not throwing hazardous materials into toilets or sinks. Pumping out your septic system on a regular basis (annually).
- Supporting water supply protection initiatives at the next town meeting
- Taking hazardous household chemicals to haz-mat collection days; limiting pesticide, fertilizer, and road salt use

SUBSTANCES FOUND IN TAP WATER

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:

Microbial contaminants -such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

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

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

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 stormwater runoff, and septic systems.

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

In order to ensure that tap water is safe to drink, the Department of Environmental Protection (MassDEP) and U.S. Environmental Protection Agency (EPA) 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 (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

All 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 some infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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. Applewood Condominiums 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 or at <http://www.epa.gov/safewater/lead>.

IMPORTANT DEFINITIONS

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.

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

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.

Secondary Maximum Contaminant Level (SMCL) – These standards are developed to protect the 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.

Massachusetts 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.

ppm = parts per million, or milligrams per liter (mg/l)

ppt = parts per trillion, or nanograms per liter

ND = Not Detected

NTU = Nephelometric Turbidity Units

ppb = parts per billion, or micrograms per liter (ug/l)

pCi/L = picocuries per liter (a measure of radioactivity)

N/A = Not Applicable

mrem/year = milliremms per year (a measure of radiation absorbed by the body)

WATER QUALITY TESTING RESULTS

What Does This Data Represent?

The water quality information presented in the table is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table. The Massachusetts Department of Environmental Protection has reduced the monitoring requirements for PFAS, SOC and IOC because the source is not at risk of contamination. The last sample was found to meet all applicable EPA and MassDEP standards.

	Date(s) Collected	90 TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Violation (Y/N)	Possible Source of Contamination
Lead (ppb)	Q3: 6/15/22 Q4: 11/14/22	Q3: ND Q4: 1	15	0	Q3: 5 Q4: 5	Q3: 0 Q4: 0	N	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	Q3: 6/15/22 Q4: 11/14/22	Q3: 1.88 Q4: 2.043	1.3	1.3	Q3: 5 Q4: 5	Q3: 2 Q4: 1	Y	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

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.

Bacteria	MCLG	Value	Date	Violation (Y/N)	Possible Sources
Total Coliform Bacteria	0	Absent	Monthly	N	Naturally occurring in the environment.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens maybe present or that a potential pathway exists through which contamination may enter the drinking water distribution system.

Regulated Contaminant	Date(s) Collected	Highest Result	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Perchlorate (ppb)	9/13/21	0.12	--	2	10	N	Rocket propellants, fireworks, munitions, flares, blasting agents
Inorganic Contaminants							
Fluoride* (ppm)	5/19/20	0.07	--	4	4	N	Naturally occurring element.
*Fluoride also has a Secondary Contaminant Level (SMCL) of 2ppm.							
Radioactive Contaminants							
Gross Alpha (pCi/l) (minus uranium)	12/10/21	3.5	--	15	0	N	Erosion of natural deposits
Radium 226 & 228 (pCi/L) (combined values)	12/10/21	0.2	--	5	0	N	Erosion of natural deposits
Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb)	9/28/22	16	--	80	NA	N	Byproduct of drinking water disinfection.
Total Haloacetic Acids (HAA5) (ppb)	9/28/22	1.2	--	60	NA	N	Byproduct of drinking water disinfection.
Chlorine (ppm)	Monthly	1.05	0.04 – 1.05	4	4	N	Water additive used to control microbes

Unregulated Contaminants	Date(s) Collected	Result or Range	Avg Detected	SMCL	ORSG	Possible Source
Volatile Organic Compounds						
Bromodichloromethane (ppb)	8/24/22	1.9	--	N/A	N/A	Trihalomethane; by-product of drinking water chlorination
Bromoform (ppb)	8/24/22	1.1	--	N/A	N/A	Trihalomethane; by-product of drinking water chlorination

Chloroform (ppb)	8/24/22	1.5	--	N/A	70	Trihalomethane; by-product of drinking water chlorination
Dibromochloromethane (ppb)	8/24/22	3.3	--	N/A	N/A	Trihalomethane; by-product of drinking water chlorination
Secondary Contaminants						
Chloride (ppm)	8/24/22	37.2	--	250	N/A	Runoff and leaching from natural deposits; seawater influence
Iron (ppb)	8/24/22	12	--	300	N/A	Natural and industrial sources as well as aging and corroding distribution systems and household pipes.
Manganese (ppb)	2/24/22, 5/4/22, 8/24/22, 12/27/22	ND – 11	2.75	50	300	Natural sources as well as discharges from industrial uses.
Sulfate (ppm)	8/24/22	7.2	--	250	N/A	Runoff and leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS) (ppm)	8/24/22	130	--	500	N/A	Erosion of natural deposits.
Zinc (ppm)	8/24/22	0.007	--	5	N/A	Erosion of natural deposits, leaching from plumbing materials
* EPA has established a lifetime Health Advisory (HA) for manganese of 300 ppb and an acute HA at 1000 ppb						
Sodium (ppm)	5/19/20	7.2	--	N/A	20	Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents

Health Effect Statements

Manganese* - Manganese is a naturally occurring mineral found in rocks, soil, groundwater, and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet but can have undesirable effects on certain sensitive populations at elevated concentrations. The United States Environmental Protection Agency (EPA) and MassDEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 50 ug/L (microgram per liter), or 50 parts per billion (ppb). In addition, MassDEP's Office of Research and Standards (ORS) has set a drinking water guideline for manganese (ORSG), which closely follows the EPA public health advisory for manganese.

Drinking water may naturally have manganese and, when concentrations are greater than 50 ppb, the water may be discolored and taste bad. Over a lifetime, the EPA recommends that people limit their consumption of water with levels over 1000 ppb, primarily due to concerns about the possible neurological effects. Children up to one year of age should not be given water with manganese concentrations over 300 ppb, nor should formula for infants be made with that water for longer than 10 days.

The ORSG differs from the EPA's health advisory because it expands the age group to which a lower manganese concentration applies from children less than six months of age to children up to one year of age to address concerns about children's susceptibility to manganese toxicity. See EPA Drinking Water Health Advisory for manganese at: https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_magnese_dwreport_0.pdf and MassDEP Office of Research and Standards (ORSG) for manganese <http://www.mass.gov/eea/agencies/massdep/water/drinking/lead-and-other-contaminants-in-drinking-water.html#11>

COMPLIANCE WITH DRINKING WATER REGULATIONS

Does My Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available and are proud to report that last year your drinking water met all applicable primary health standards regulated by the state and federal government with the exception of Copper. Sampling frequency was increased and the process has been started to design and install corrosion control treatment to help prevent health effects from copper.

EDUCATIONAL INFORMATION

Cross-Connection Control and Backflow Prevention

The Municipal Wells of Carver, MA makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the time the water is extracted via deep wells from underground aquifers or withdrawal point from a surface water source, throughout the entire treatment and distribution system. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross-connection? If so, how?

What is a cross-connection?

A cross-connection occurs whenever the drinking water supply is or could be in contact with potential sources of pollution or contamination. Cross-connections exist in piping arrangements or equipment that allows the drinking water to come in contact with non-potable liquids, solids, or gases (hazardous to humans) in event of a backflow.

What is a backflow?

Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by equipment or a system such as a boiler or air-conditioning is higher than the water pressure inside the water distribution line (back pressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand causing the water to flow backward inside the water distribution system (back siphonage). Backflow is a problem that many people are unaware of, but one that each water customer can help prevent.



What can I do to help prevent a cross-connection?

Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact, over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you as a drinking water user can take to prevent such hazards, they are:

- NEVER submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains, or chemicals.
- NEVER attached a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bibb vacuum breaker in any threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances and equipment with backflow preventers.
- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.

WHAT ARE PFAS AND WHY ARE THEY A PROBLEM?

Per- and polyfluoroalkyl substances (PFAS) are a family of chemicals used since the 1950s to manufacture stain-resistant, water-resistant, and non-stick products. PFAS are widely used in common consumer products as coatings, on food packaging, outdoor clothing, carpets, leather goods, ski and snowboard waxes, and more. Certain types of firefighting foam—historically used by the U.S. military, local fire departments, and airports to fight oil and gasoline fires—may contain PFAS.



PFAS in drinking water is an important emerging issue nationwide. Because PFAS are water soluble, over time PFAS from some firefighting foam, manufacturing sites, landfills, spills, air deposition from factories and other releases can seep into surface soils. From there, PFAS can leach into groundwater or surface water, and can contaminate drinking water. PFAS have also been found in rivers, lakes, fish, and wildlife.

Exposure can occur when someone uses certain products that contain PFAS, eats PFAS-contaminated food, or drinks PFAS-contaminated water. When ingested, some PFAS can build up in the body and, over time, these PFAS may increase to a level where health effects could occur.

On October 2, 2020, MassDEP published its PFAS public drinking water standard, of 20 nanograms per liter (ng/L) (or ppt) – individually or for the sum of the concentrations of six specific PFAS. These PFAS are perfluorooctane sulfonic acid (PFOS); perfluorooctanoic acid (PFOA); perfluorohexane sulfonic acid (PFHxS); perfluorononanoic acid (PFNA); perfluoroheptanoic acid (PFHpA); and perfluorodecanoic acid (PFDA). MassDEP abbreviates this set of six PFAS as “PFAS6.” This drinking water standard is set to be protective against adverse health effects for all people consuming the water.

For more information, see the MassDEP webpage regarding PFAS at: www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas, or the EPA webpage at: www.epa.gov/pfas/pfas-explained.

ADDITIONAL INFORMATION

A Note from Your Water Operators

Small Water Systems Services, LLC (SWSS) is contracted on an annual basis to provide licensed water operator coverage for the water system serving Carver Municipal Building. It is our responsibility to maintain the system's compliance with all drinking water operation requirements. We monitor your drinking water, routinely evaluating the water quality entering your distribution system and inspecting the systems regularly. For more information, call your operators at *SWSS* at 978-486-1008.