



2024 Consumer Confidence Report (CCR) **Annual Water Quality Report**

Southbridge Water Department
Southbridge, MA
PWS ID# 2278000

We are pleased to present to you our Annual Drinking Water Quality Report, also known as the Consumer Confidence Report. This report, a requirement of the 1996 amendments to the Safe Drinking Water Act, is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Water Source

The Southbridge Water Department is committed to providing our customers with high quality drinking water that meets or surpasses state and federal standards for quality and safety. We monitor both our source and distribution systems very closely. The standards we operate under were enacted by the U.S. Congress as the Safe Drinking Water Act in 1974 and were amended in 1986 and 1996.

The Town of Southbridge water system consists of five surface water reservoirs, one filtration facility, six pumping stations, four water storage tanks, and approximately 110 miles of water main.

Four reservoirs are located on Hatchet Brook and one on Cohasse Brook. The Town of Southbridge owns a major portion of the Hatchet Brook Reservoir watershed and a large portion of the Cohasse Brook reservoir watershed. The remainder of the acreage is largely low-density residential development. Water is delivered to consumers via low service and high service systems.

Any matters that concern your drinking water supply or issues you would like to see addressed can be presented at the regularly scheduled meeting of the DPW sub-committee meetings. Visit our town website at <http://www.ci.southbridge.ma.us/departement-of-public-works> for more information.

Treatment and Distribution facilities are operated and maintained by WhiteWater, Inc. for the Southbridge Department of Public Works, Water Division. If you have any questions about this report, please contact the Water Division Office at (508) 764-3207.

Additional copies of this report are available upon request and at:
<https://www.ci.southbridge.ma.us/609/Water-Consumer-Confidence-Reports>
www.whitewateronline.com
Southbridge Town Hall
Jacob Edwards Library
Charlton Town Hall



Treatment Techniques Used By the Southbridge Water Department

Corrosion Control - Many drinking water sources in New England are naturally corrosive (i.e. they have a pH of less than 7.0). The water they supply has a tendency to corrode and dissolve the metal piping it flows through. This not only damages pipes but can also add harmful metals, such as lead and copper, to the water. For this reason it is beneficial to add chemicals that make the water neutral or slightly alkaline. This is done by adding any one, or a combination of several, approved chemicals. The Southbridge Water Department adds sodium hydroxide to its water. This adjusts the water to a non-corrosive pH. Testing throughout the water system has shown that this treatment has been effective at reducing lead and copper concentrations.

Adsorption Clarification (Package Plant) - Small particles and organisms such as sediment, algae and bacteria can cause water to take on unpleasant odors or tastes, and sometimes make it unhealthy to drink. To remove this material, we chemically treat the water and then pass it through two types of filtering units – an adsorption clarifier and a mixed media filter bed. The process begins with Aluminum Sulfate being added to the water at an established rate. This causes the small particles to coagulate, or stick together and form particles of increasing size. The chemically treated water then flows into the adsorption clarifier, which is a chamber filled with HDPE (high density polyethylene) media. As the turbid water passes through this unit, the large particles adhere to the clarifier media. This effectively removes up to 95 percent of all impurities. The cleaner water then flows onto a filter bed. Filters are comprised of garnet, sand and anthracite coal, which trap the remaining particles. Over time, filters start to clog and need to be cleaned using a high-flow backwash process.

Disinfection - All reservoirs and some ground water sources contain numerous microorganisms some of which can cause people to become ill. To eliminate disease carrying organisms it is necessary to disinfect the water. Disinfection does not sterilize the water, but it does destroy harmful organisms. Sterilization kills all microorganisms, even though most are not harmful. However, it is too costly to use on a routine basis. Southbridge uses sodium hypochlorite (chlorine) as its primary disinfectant. Chlorine destroys organisms by penetrating cell walls and reacting with enzymes. Disinfection with chlorine has been proven effective at ensuring that water is free of harmful organisms and safe to drink.

Sequestration (for iron and manganese) - Iron and manganese are often present in water 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 often desirable. Southbridge uses this technique which consists of adding phosphates to the water. This results in a chemical reaction, known as sequestration, which prevents the iron and manganese from forming nuisance particles.

Fluoridation - Southbridge adds Sodium Fluoride to help in the prevention of tooth decay.



Source Water Assessment

A water assessment of Southbridge Water Dept. was completed by the Department of Public Health Drinking Water Section. The updated assessment report can be found on the Department of Public Health's website at: <https://portal.ct.gov/DPH/Drinking-Water/DWS/Source-Water-Assessment-Program-SWAP-Reports>. The assessment found that this public drinking water source has a high susceptibility to potential sources of contamination.

Additional source water assessment information can be found at the Environmental Protection Agency's website: <https://www.epa.gov/sourcewaterprotection/source-water-assessments>.

Source Water Protection

Source water is untreated water from streams, rivers, lakes, or underground aquifers that is used to supply public drinking water. Preventing drinking water contamination at the source makes good public health, economic, and environmental sense. You can be aware of the challenges of keeping drinking water safe and take an active role in protecting drinking water. There are lots of ways that you can get involved in drinking water protection activities to prevent the contamination of the ground water source: dispose properly of household chemicals, help clean up the watershed that is the source of your community's water, attend public meetings to ensure that the community's need for safe drinking water is considered in making decisions about land use, etc. Contact our office for more information on source water protection or contact the Environmental Protection Agency (EPA) at 1.800.426.4791. You may also find information on EPA's website at <https://www.epa.gov/sourcewaterprotection>.

Water Quality

Southbridge Water Dept. routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table shows any detection resulting from our monitoring for the period of January 1 to December 31, 2024. It is important to remember that the presence of these contaminants does not necessarily pose a health risk.

The sources of drinking water include rivers, lakes, ponds, 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 human or animal activity. All sources of drinking water are subject to potential contamination by substances that are naturally occurring, or manmade. Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, 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** may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.



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

To ensure that tap water is safe to drink, U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the number of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The table below lists all the drinking water contaminants that were detected throughout water quality monitoring and testing. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk.

Test Results						
<i>Unless otherwise noted, testing was done in 2024.</i>						
<i>Unless otherwise noted, the highest concentration of each contaminant that was collected has been reported.</i>						
Contaminant	Violation (Y/N)	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Total Coliform Bacteria	N	0	highest number of positive samples (monthly)	Absent	0 positive	Naturally present in the environment.
Turbidity (12/18/2024)	N	0.12	NTU	-	5	Soil run-off.
Inorganic Contaminants						
Fluoride (Monthly 2024)	N	ND-0.88	mg/L	4	4	Erosion of natural deposits; Water additive which promotes strong teeth
Nitrite (Various 2024)	N	ND-0.362	mg/L	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Nitrate (11/19/2024)	N	ND-0.16	mg/L	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Perchlorate (9/18/2024)	N	0.47	ppb	-	2	Rocket propellants, fireworks, munitions, flares, blasting agents
Sodium (4/11/2023)	N	7	mg/L	20		Erosion of natural deposits, urban storm runoff.
Sulfate (4/6/2021)	N	8	mg/L	250		Erosion of natural deposits; urban storm runoff.



Contaminants including Pesticides & Herbicides						
Organic Chemicals (VOCs) (4/11/2023)			ug/L			See results listed below; all others not listed resulted non-detect.
Chloroform (4/11/2023)	N	26.0	ug/L	-	-	Parameter included in Organic Chemicals (VOCs).
Bromodichloromethane (4/11/2023)	N	2.9	ug/L	-	-	Parameter included in Organic Chemicals (VOCs).
Disinfection Byproducts						
Chlorine (Monthly 2024)	N	Monthly Average 0.98-1.48	ppm	4	4	Water additive used for disinfection.
Total Haloacetic Acids (HAA5) (Quarterly 2024)	N	51.25***	ug/L	0	60	A byproduct of drinking water chlorination.
Total Trihalomethanes (TTHMs) (Quarterly)	N	53.75***	ug/L	0	80	A byproduct of drinking water chlorination.
Total Organic Carbon (Monthly 2024)	N	1.3-2.0	mg/L	-	-	Naturally present in the environment
*** Indicates the Annual Running Average for the entire system.						

Lead & Copper – Last sampled in 2024						
Contaminant	Violation (Y/N)	Level Detected	Unit Measurement	MCLG	AL	Likely Source of Contamination
Lead – 90 th Percentile	N	3	ppb	0	15	Corrosion of household plumbing systems.
Copper – 90 th Percentile	N	0.158	mg/L	1.3	1.3	Corrosion of household plumbing systems.
Range of results for lead samples collected: 0-15 ppb Number of sites exceeding lead action level: 0 Range of results for copper samples collected: 0.007-0.188 mg/L Number of sites exceeding copper action level: 0						



Unregulated Contaminants						
Contaminant	Violation (Y/N)	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
PFAS6 (5/21/2024, 7/23/2024) Per- and polyfluoroalkyl substances are a large, complex group of synthetic chemicals used in various consumer products.	N	ND	ppt	-	20	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. Corrosion of household plumbing systems.
Health Effects for PFAS: 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.						

**Note: the state allows us to monitor for some contaminants less than once a year because the concentrations of these contaminants do not change frequently. Not all contaminants are tested for every year due to monitoring waivers and therefore we use the most recent round of sampling. Some of the data presented is more than one year old, however, is limited to no older than five years.*

Units of Measurement:

Parts per million (ppm) or Milligrams per liter (mg/L)	A measurement that corresponds to one minute in two years, or a single penny in \$10,000.
Parts per billion (ppb) or Micrograms per liter (µg/L)	A measurement that corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
Picocuries per liter (pCi/L) or Micrograms per liter (µg/L)	Measurements of radioactivity in water.
Millirems per year (mrem/year)	A measurement of radiation absorbed by the water.
Nephelometric Turbidity Unit (NTU)	A measurement of the clarity of water; turbidity more than 5 NTU is just noticeable to the average person.
Million fibers per liter (MFL)	A measurement of the presence of asbestos fibers that are longer than 10 micrometers.



Definitions:

Action Level (AL)	the concentration of contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Treatment Technique (TT)	a required process intended to reduce the level of a contaminant in drinking water.
Massachusetts Office of Research and Standards Guideline (ORSG)	This is the concentration of a chemical in drinking water, at or below which, adverse, non-cancer health effects are likely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.
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 disinfectant is necessary for control of microbial contaminants.
Maximum Residual Disinfectant Level Goal (MRDLG)	the level of drinking water disinfectant below which there is no known or expected risk to health; MRDLGs do reflect the benefits of the use of disinfectants to control microbial contaminants.
Running Annual Average (RAA)	the average of all monthly or quarterly samples for the last year at all sample locations.
Non-Detect (ND)	the specified contaminant was not detected.
Level 1 Assessment	a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria has been found in the water system.
Level 2 Assessment	a very detailed study of the water system to identify potential problems and determine (if possible) why an E. Coli MCL violation has occurred and/or why total coliform bacteria has been found in the water system on multiple occasions.

IMPORTANT INFORMATION

Lead & Copper: Samples are generally collected, and action levels measured at the consumer's tap. 90% of the tests for a given system must be equal to or below the action level; therefore, a section of the results above has been calculated and are listed as the 90th percentile.

Lead: **Major sources in drinking water:** corrosion of household plumbing systems; erosion of natural deposits.
Health effects statement: Infants and children who drink water containing lead more than 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 more than the action level over many years could develop kidney problems or high blood pressure.

Copper: **Major sources in drinking water:** corrosion of household plumbing systems; erosion of natural deposits.



Health effects statement: 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 more than the action level over many years could, suffer liver or kidney damage. People with Wilson's Disease should consult their doctor.

- Arsenic:** The United States Environmental Protection Agency (US EPA) adopted the new MCL standard of 10ppb in October 2001. Water systems were required to meet this new standard by January 1 2006.
- Total Coliform:** Reported as the highest monthly number of positive samples for water systems that take less than 40 samples per month. Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria, may be present.
- Turbidity:** Turbidity has no health effects, however, can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms, that can include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

As you can see by the table, our system had no violations. We are proud that your drinking water meets all Federal and State requirements. The EPA has determined that your water IS SAFE at these levels.

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1 (800) 426-4791.

For most people, the health benefits of drinking plenty of water outweigh any possible health risk from these contaminants. However, 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/Center of Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline at 1 (800) 426-4791.

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. Southbridge Water Department is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact



WhiteWater at 888-377-7678. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.

Information about Lead in Drinking Water

You have no doubt seen a lot of media attention in the past few months regarding lead in drinking water. This began in Flint, Michigan, but has since become a topic of conversation and attention in Massachusetts, and other states as well.

Because of concern there may be, our department would like to provide information regarding lead in drinking water to help our customers understand more about the topic.

- Lead is not found in any of the water sources that we use in Southbridge.
- When water enters your property from the street, there is no lead in the water.
- If the plumbing in your house or facility does not contain lead, then there is no pathway for lead to leach into your water.
- Lead could be present in the water service line and plumbing materials that are inside your house or facility. If your property has lead pipes, lead solder, or fixtures that contain lead, then lead could leach into the water over time.
- The amount of leaching can be affected by water quality parameters such as the pH balance of the water in pipes. We treat our drinking water, continuously monitoring pH levels, and maintaining proper water quality parameters in the water system to minimize the potential for any leaching to occur.
- We have a testing plan that has been approved by the Mass Dept. of Environmental Protection (MassDEP) and we test in accordance with MassDEP requirements.
- This testing is done at representative locations throughout the entire water system. These locations are determined by MassDEP.
- Our test results have continuously met all requirements of this rule which indicates that the treatment we have in place has been effective.

If you would like to learn more about lead and drinking water, please feel free to contact our office at 508-764-3207 or visit the following websites:

<http://www.mass.gov/eea/agencies/massdep/water/drinking/lead-in-drinking-water.html>

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

LEAD SERVICE LINE INVENTORY (SLI)

In October 2024 MassDEP approved our request to release a statement that our system has no service lines of Lead, Galvanized Requiring Replacement (GRR) or unknown materials. For information on all service lines in our water system, contact WhiteWater staff at the Southbridge Water Dept 508-764-3207



CROSS CONNECTION CONTROL & PREVENTION

What is a cross connection?

A cross connection occurs whenever a potable drinking water line is directly or indirectly linked to a piece of equipment or piping containing non-potable water.

Why should I be concerned about cross connections?

An unprotected or inadequately protected cross connection in your home or work place could contaminate the drinking water not only in your building, but in neighboring businesses and homes. Severe illnesses—even death—have been caused by cross connection contamination events that could have been prevented. Unprotected and inadequately protected cross connections have been known to cause outbreaks of hepatitis A, gastroenteritis, Legionnaire's disease, chemical poisoning, body lesions (from exposure through showering), damage to plumbing fixtures and explosions.

How can a cross connection contamination occur?

Non-potable water or chemicals used in equipment or a plumbing system can end up in the drinking waterline as a result of backpressure or backsiphonage. Backpressure occurs when the pressure in the equipment such as a boiler or air conditioning unit is greater than the pressure in the drinking water line. Backsiphonage occurs when the pressure in the drinking water line drops due to fairly routine occurrences such as water main breaks, nearby fires, unusually heavy water demand. Contaminants are then sucked out and into the drinking water line.

What can I do to make sure my water supply is protected from cross connections?

- Contact your local water supplier to find out what he/she is doing to prevent cross connection contamination incidents.
- Survey your home to make sure you are not unknowingly creating a cross connection
- Do not attach any pesticide, chemical, or any other non-potable liquid applicators to your water line
- Install hose bibb vacuum breakers (HBVB) on all outside faucets. The HBVB isolates garden hose applications, protecting your drinking water supply from contaminants that could be drawn into your home through the hose.

We, at the Southbridge Water Department, work hard to provide top quality water to every tap. Water is a limited resource, so it is vital that we all work together to maintain it and use it wisely. We ask that all our customers help us protect and preserve our drinking water resources, which are the heart of our community, our way of life, and our children's future. Please contact us with any questions. Thank you for working together for safe drinking water.