Village of Hartland Waterworks

2019 Consumer Confidence Report

for System Number 26802050

The Village of Hartland is pleased to present the Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the drinking water and other water related services the Village delivers to you every day. This report communicates to the public the source of the Village's water and also summarizes the detected compounds from the sampling results for the year ending 2019. Our goal is to provide you with a safe and dependable supply of drinking water. The water supplied meets all EPA/DNR requirements for drinking water. We want you to understand the efforts we make to continually improve the water utility and protect our water resources.

The Village obtains its drinking water from five drilled groundwater wells. Each of these wells is finished in the shallow sand and gravel aquifer. This aquifer can yield municipal wells ranging in capacity from 100 gallons per minute (gpm) to 2,000 gpm depending on the specific well construction and location, but it's also the most susceptible to potential contaminant sources due to the shallow depth. Well No. 1 and the associated reservoir were abandoned in 1994. Well No. 2 was constructed in 1956 to a total depth of 82 feet. The well was rehabilitated in 2012. The current well capacity is approximately 800 gpm. Well No. 3 was constructed in 1974 to a total depth of 135 feet. The well was rehabilitated in 2017 and has a capacity of approximately 950 gpm. Well No. 4 was drilled in 1972 to a depth of 81 feet. The well was rehabilitated in 2015 and produces 275 gpm. Well No. 5 was drilled in 1983 to a depth of 89 feet. The well was rehabilitated in spring of 2011 and has a capacity of approximately 1,250 gpm. Well No. 6 was drilled in 2006 to a depth of 122 feet. The well has a capacity of approximately 1,600 gpm. The Wisconsin Department of Natural Resources requires Water utilities to inspect towers and reservoirs every 5 years. Coventry Lane, Hill Street and Bristlecone towers were drained and inspected in 2018. Coventry Lane and Hill Street towers were sand blasted and painted in 2019. Bristlecone Tower will be painted in 2020.

At each well pumping station, a fluoride solution is added to supplement the natural fluoride (0.2 milligrams per liter (mg/l)) in the groundwater. The fluoride level is increased to about 0.7 milligrams per liter (mg/l). The purpose of fluoride is to help reduce dental cavities.

In addition, the Village added an air stripping tower adjacent to well pumping station No. 3 in 1984, to reduce certain detected volatile organic compounds to required levels. Due to the air stripping process, both chlorine and a phosphate compound are added to the water at pumping station No. 3. The Village started adding chlorine at Well No. 2, Well No. 5 and Well No. 6 in 2016. This is done to insure that no bacteria growth occurs and control the water chemistry. The drinking water supplied in the Village is very hard and is about 23 grains per gallon.

UTILITY IMPROVEMENTS/ INFORMATION

In order to maintain a safe and dependable water supply the Utility sometimes needs to make improvements to benefit all of its customers. The Village continues to replace old water mains, fire hydrants, service lines and valves.

The Village of Hartland staff works hard to provide quality drinking water to all its customers at a reasonable cost. The Village is proud that seven of its employees are certified water operators. We ask that all our customers help us protect our water sources by conserving water and participating in the Village efforts to increase awareness of groundwater protection. We also ask that you repair any leaks such as dripping faucets/ running toilets immediately.

MISCELLANEOUS

- The Village water utility has 57.25 miles of water main, 3,345 water meters, 668 fire hydrants, 864 street valves and pumped 344,474,000 gallons of water in 2019.
- The fire department, the D.P.W. staff and contractors with a permit are the only persons allowed to operate a fire hydrant. Please report any suspicious use of a fire hydrant to the Police Department immediately at (262) 367-2323.
- The cost of a gallon of water from the tap in 2019 was $0.00336.

WATER SYSTEM CONTACT INFORMATION

If you would like to know more about the information contained in this report, or your water utility, please contact the Village Hall at (262) 367-2714 or attend any of our regularly scheduled meetings. The Village Board meets at 6:30 P.M. at the Village Hall on the second and fourth Mondays of each month. Additional information may be found on the Village web site at www.villageofhartland.com.

HEALTH INFORMATION

The Village has followed the sampling/testing requirements set forth by the US Environmental Protection Agency and the Wisconsin Department of Natural Resources. Those test results and additional water sampling test results are available for viewing, by setting up an appointment at the Village Administration office.

This report summarizes the water sample test results for the period of January 1, 2017 to December 31, 2019. The table of Water Sampling Test Results is included as required by the Wisconsin DNR. All samples are com¬pared to a predetermined level of safety known as the Maximum Contaminant Level (MCL) and to the Maximum Contaminant Level Goal (MCLG). The compar¬isons show if there is a system violation for any given compound.

While our sampling program does show that some compounds have been detected, they exist at small levels that are below the set maximum contaminant level (MCL). The EPA has determined that your water is safe to consume at these levels.

It should be noted that all sources of drinking water are subject to potential contamination by compounds that are naturally occurring or that are manmade. Those contaminants can be microbes, organic or inorganic chemicals, or radioactive materials. 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 (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 from their health care providers about drinking water. The Environmental Protection Agency and the Center for Disease Control (EPA/CDC) guidelines on appropriate means to lessen the risk of infection from potential contaminants and potential health affects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791. The following is additional information on potential contaminants that may be present in source water:

Total Coliform: The Total Coliform rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of the possible presence of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are required including two checks both upstream and downstream of the unsafe sample in addition to the regular quarterly sampling. The Village has never had consecutive unsafe samples. If this limit is ever exceeded, the Village will notify the public.

Nitrates: As a precaution, we would notify the public, physicians and health care providers in this area if there was ever an exceeding amount of the nitrate standard above the MCL in the water supply. Nitrates in drinking water at levels above 10 ppm are a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should seek advice from your health care provider. Nitrate levels are well below the limit and have been decreasing over the last few years.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced. Tests show that lead levels in the well water are negligible. Higher lead levels result from the water being in contact with lead piping or solder which may exist in older homes.

Copper: 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 Wilsons Disease should consult their personal doctor.

Coliform: Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

INFORMATION ABOUT CROSS-CONNECTION CONTROL AND BACKFLOW PREVENTION

What is a Cross-Connection?
A cross-connection is an actual or potential connection between the safe drinking water (potable) supply and a source of contamination or pollution. State plumbing codes require approved backflow prevention methods to be installed at every point of potable water connection and use. Cross-Connections must be properly protected or eliminated.

How does contamination occur?
When you turn on your faucet, you expect the water to be as safe as when it left the treatment plant. However, certain hydraulic conditions left unprotected within your plumbing system may allow hazardous substances to contaminate your own drinking water or even the public water supply. Water normally flows in one direction. However, under certain conditions, water can actually flow backwards; this is known as Backflow. There are two situations that can cause water to flow backward: back siphonage and backpressure.

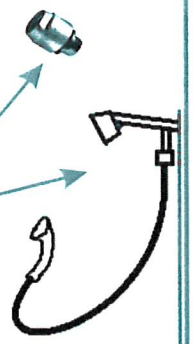
Backsiphonage
May occur due to a loss of pressure in the municipal water system during a fire fighting emergency, a water main break or system repair. This creates a siphon in your plumbing system which can draw water out of a sink or bucket and back into your water or the public water system.

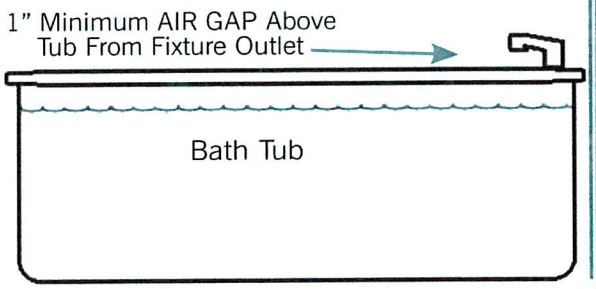
Backpressure
May be created when a source of pressure (such as a boiler) creates a pressure greater than the pressure supplied from the public water sytem. This may cause contaminated water to be pushed into your plumbing system through an unprotected cross-connection.

In the Bathroom - Hand Held Shower Fixture

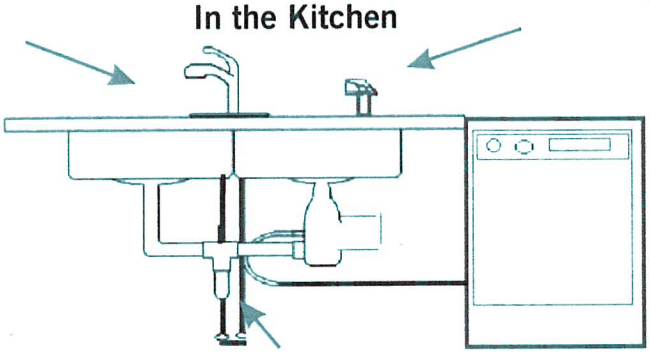
The hand held shower fixture is compliant if:

- When shower head is hanging freely, it is at least 1" above top of the flood level rim of the receptor (tub)
- Complies with **ASSE#1014**
- Has the **ASME code 112.18.1** stamped on the handle





In the Kitchen



Hoses and water treatment devices may create a potential backflow hazard if not properly isolated with backflow prevention methods.

Insights to protect your drinking water

Do...

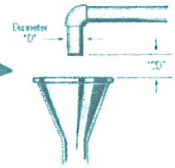
- Keep the ends of hoses clear of all possible contaminants.
- Make sure dishwashers are installed with a proper "air gap" device.
- Verify and install a simple hose bibb vacuum breaker on all threaded faucets around your home.
- Make sure water treatment devices such as water softeners have the proper "air gap", which is a minimum of one inch above any drain.

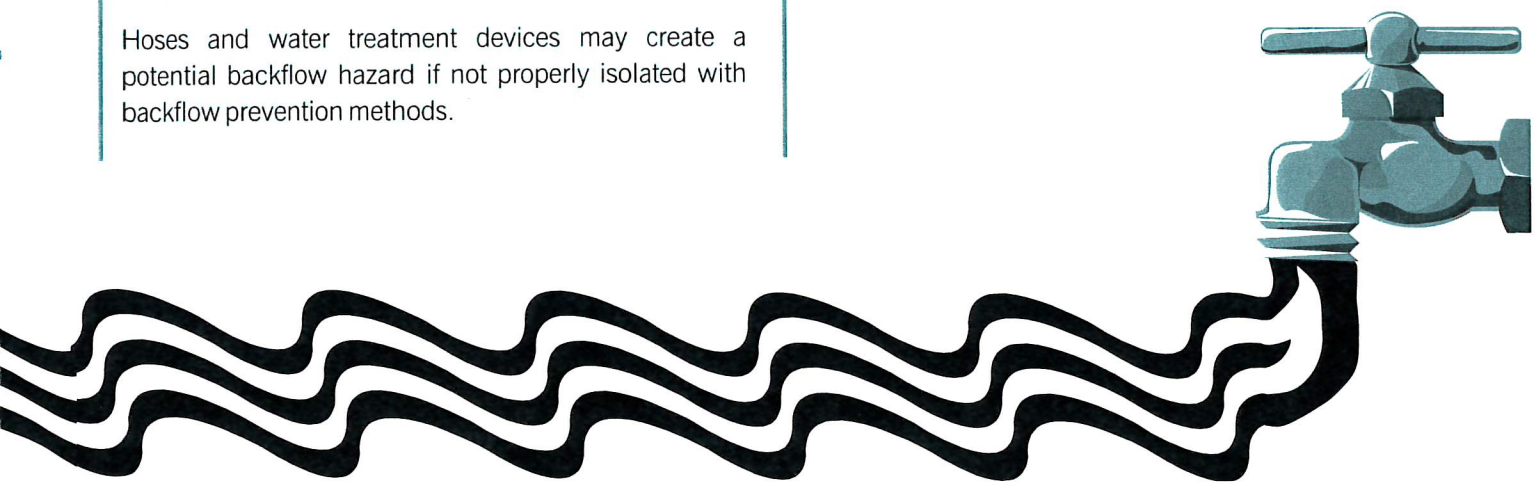
Hose bibb Vacuum Breaker

Don't...

- Submerge hoses in buckets, pools, tubs, sinks or ponds.
- Use spray attachments without a backflow prevention device.
- Connect waste pipes from water softeners or other treatment systems directly to the sewer or submerged drain pipe. Always be sure there is a one inch "air gap" separation.

Air Gap



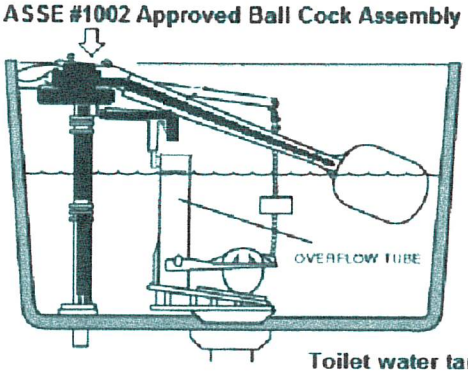


In the Bathroom - Toilet Tanks

There are many unapproved toilet tank fill valve products sold at common retailers which do not meet the state plumbing code requirements for backflow prevention.

- Look for the **ASSE #1002** Standard symbol on the device and packaging
- Replace any unapproved devices with an **ASSE #1002** approved anti siphon ball-cock assembly. Average cost is typically $12 to $22 at home improvement stores
- Verify overflow tube is one inch below critical level (CL) marking on the devce

ASSE #1002 Approved Ball Cock Assembly



Toilet water tank

Did you know...

Your water can become contaminated if connections to your plumbing system are not properly protected!

The purpose of the local Cross-Connection Control Program, as required by State Plumbing Code and Regulations, is to ensure that everyone in the community has safe, clean drinking water.

Public Health & Safety....

To avoid contamination, backflow preventers are required by state plumbing codes wherever there is an actual or potential hazard for a cross-connection. The Wisconsin Department of Natural Resources requires all public water suppliers to maintain an on-going Cross-Connection Control Program involving public education, onsite inspections, and possible corrective actions by building owners if required.

More Information

WI Department of Safety and Professional Services (formerly DOC)
www.dsps.wi.gov

WI Department of Natural Resources
www.dnr.wi.gov

Environmental Protection Agency (EPA)
www.epa.gov

Cross-Connection Control / Backflow Prevention
www.hydrodesignsinc.com/wiccc.html

EDUCATIONAL INFORMATION

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

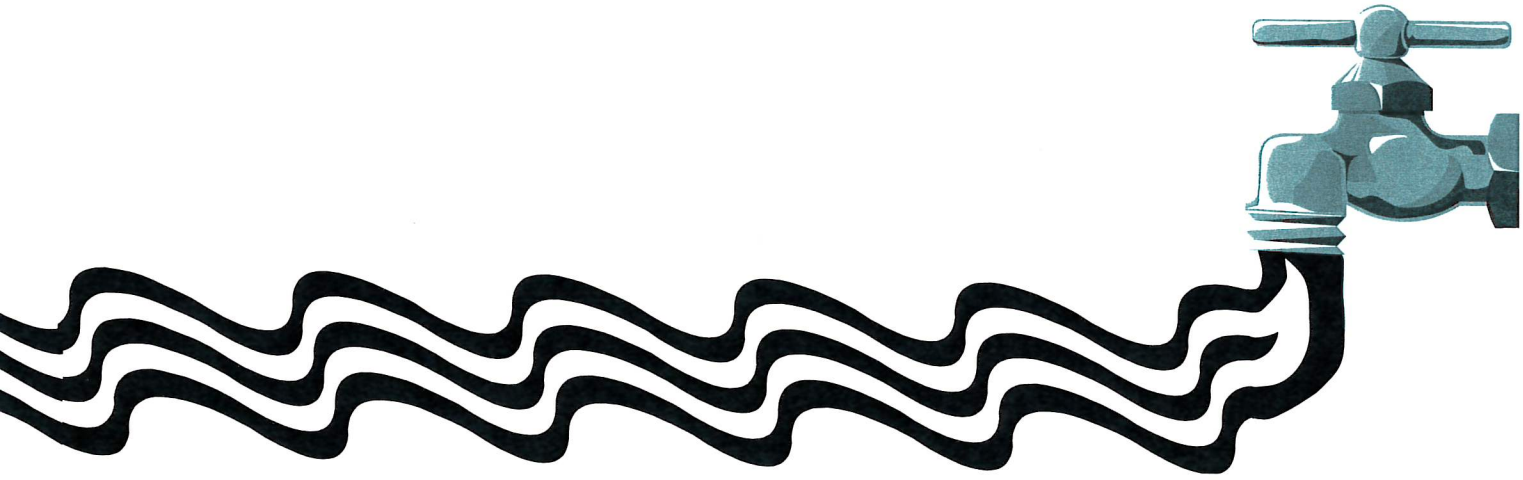
Contaminants that may be present in source water include:

- 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 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 chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.
- 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, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Sources of Hartland's Water

Source id (Well #)	Source	Depth (in feet)
2	Groundwater	82
3	Groundwater	135
4	Groundwater	81
5	Groundwater	89
6	Groundwater	122



Inorganic Contaminants

Contaminant (units)	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2019)	Violation	Typical Source of Contaminant
BARIUM (ppm)	2	2	0.093	0.063-0.093		NO	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
COPPER (ppm)	AL=1.3	1.3	0.6500	2 of 30 results were above the action level.	6/8/2017	NO	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
FLUORIDE (ppm)	4	4	0.1	0.1		NO	Erosion of natural deposits; Water additive which promotes strong teeth i.e. tooth paste, mouthwash or Fluoride treatments. Discharge from fertilizer and aluminum factories
LEAD (ppb)	AL=15	0	9.70	1 of 30 results were above the action level.	6/8/2017	NO	Corrosion of household plumbing systems; Erosion of natural deposits
NICKEL (ppb)	100		4.4000	3.8000-4.4000		NO	Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products.
NITRATE (N03-N) (ppm)	10	10	5.29	2.10 - 4.40		NO	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)	n/a	n/a	120.00	80.00-120.00		NO	n/a

* Systems exceeding a lead and/or copper action level must take actions to reduce lead and/or copper in the drinking water. The lead and copper values represent the 90th percentile of all compliance samples collected. If you want information on Copper or Lead, please contact the Village Hall at (262) 367-2714. At this time the Village of Hartland does not exceed the action level for Copper/Lead.

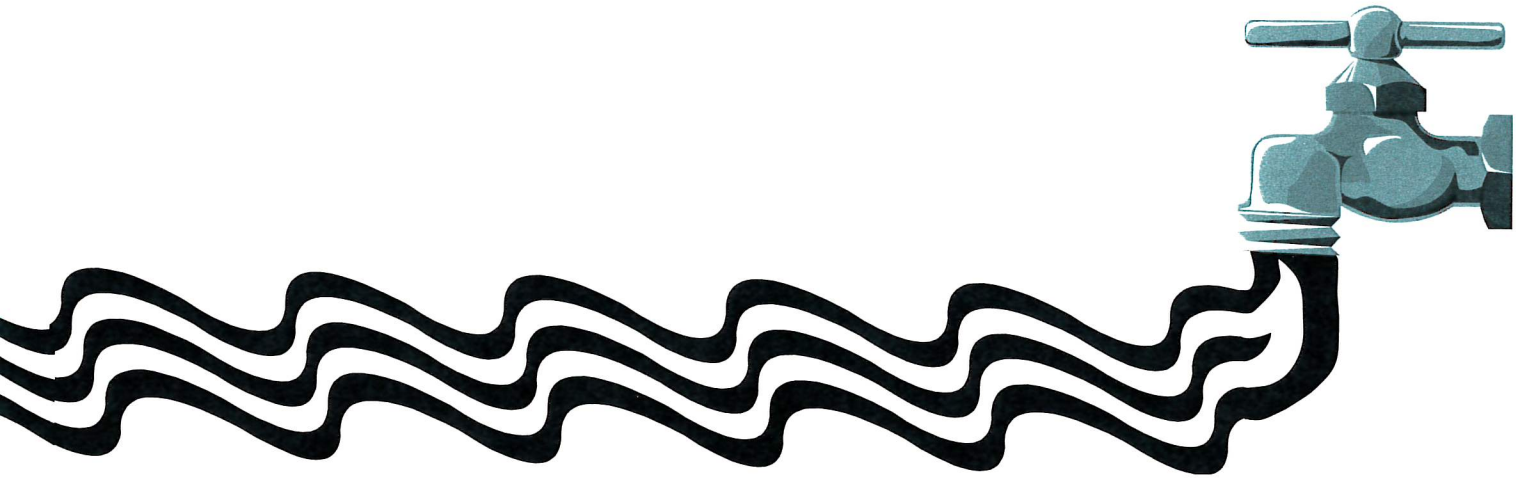
Disinfection Byproduct

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2018)	Violation	Typical Source of Contaminant
HAA5 (ppb)	DBP1	60	60	2	2		NO	By-product of drinking water chlorination
TTHM (ppb)	DBP1	80	0	2.0	2.0		NO	By-product of drinking water chlorination

Unregulated Contaminants

Contaminant (units)	Level Found	Range	Sample Date (if prior to 2019)
METOLACHLOR (DUAL) (PPB)	0.04	0.4	

*Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. EPA required us to participate in this monitoring.



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Definition of Terms

Term	Definition
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. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
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.
MFL	million fibers per liter
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.