



Water Quality

ANNUAL REPORT

To Our Customers,

As I sit down at my laptop in my makeshift home office, I am struck by just how many of us are grappling with countless sudden and dramatic changes to our daily routines wrought by the novel coronavirus. Whether you are teleworking for the first time, juggling conference calls with child care, or struggling with the lack of face-to-face contact with family and friends, know that you are not alone. While many facets of our community are undoubtedly being tested during this time of crisis, I have no doubt that we will emerge stronger, more connected, and more grateful for the simple pleasures of life than ever.

One thing that hasn't changed in the midst of this global health emergency is the reliability of your drinking water. Our dedicated operators and support staff continue to treat, test, and maintain all components of the public water system, forgoing time spent at home with their families in order to provide this essential service to yours. The crucial role water plays in keeping us safe and healthy has always been evident, but has been highlighted time and again throughout this pandemic. As such, I am immeasurably proud to work with so many hardworking, committed professionals who together help ensure continued access to safe drinking water.

With that said, I am pleased to provide you with this annual Water Quality Report issued with the intent of ensuring all customers are provided with an opportunity to review the quality of Concord's public water system. As always, if you have any questions on any of the material provided, please feel free to call our office at 978-318-3250 and someone should be available to help.

Respectfully,

Alan H. Cathcart
Director, Concord Public Works

2019 HIGHLIGHTS

- **Partnered with several Town divisions to install 3 lawn alternative demonstration gardens and offer a sustainable landscaping speaker series**
- **Cleaned and redeveloped Second Division and White Pond wells to increase flow and improve water quality**
- **Replaced over 2,500 feet of water main and associated service laterals, hydrants, and valves as part of the Cambridge Turnpike Improvement Project (CTIP)**
- **Participated in MassDEP's water conservation pilot campaign known as Healthy Lawn, Happy Summer for the second year**
- **Modified ozone treatment system at Nagog Pond to increase operational reliability**
- **Completed a leak detection survey on 75 miles of water main in the northern portion of town, during which 7 leaks were identified and repaired, saving ~13.9 MG/year**
- **Replaced 6 lead service lines as part of the Lead Service Line Replacement Program**

Water Quality Summary (JAN.–DEC. 2019)

To ensure that tap water is safe to drink, the EPA enforces regulations that require stringent monitoring of specific contaminants within public water supply systems. Within Concord's system, over 500 tests are run each year to assess approximately 145 potential contaminants like bacteria, perchlorate, pesticides, metals, etc. MassDEP has reduced the monitoring requirements for certain parameters, namely SOCs and IOCs, at several of our water sources that have demonstrated that they are not at risk for contamination. The last samples collected for these contaminants were taken in 2016 and 2009 respectively, and were found to meet all applicable EPA and MassDEP standards. Only substances detected in Concord's drinking water in 2019 are listed in the summary table below. The presence of these substances does not indicate that the water poses a health risk. These substances are divided into 4 categories: Microbiological, Primary, Secondary, and Lead & Copper Parameters. The Primary parameters list includes contaminants and associated limits of these contaminants that can adversely affect public health and are known or are anticipated to occur in public water systems. Secondary parameters are set for aesthetic purposes and are designed to assist the EPA in determining their occurrence in drinking water and whether future regulation is warranted. We are proud to report that Concord's water quality testing program not only consistently meets EPA's requirements for drinking water, but goes above and beyond those requirements to satisfy the higher standards we have set for ourselves. Additional water quality information is available on our website at www.concordma.gov/water.

MICROBIOLOGICAL PARAMETERS

Substance	Units	Highest Level Detected	Range of Levels Found	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Violation	Major Sources in Drinking Water
Cryptosporidium	oocyst/10L	1	ND - 1	TT	0	No	Discharged especially where water is contaminated with sewage or animal wastes
Heterotrophic Plate Count (HPC)	CFU/mL	7	2 - 7	TT	No Standard	No	Heterotrophic plate count is an indicator method that measures a range of naturally-occurring bacteria in the environment

PRIMARY PARAMETERS

Substance	Units	Highest Level Detected	Range of Levels Found	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Violation	Major Sources in Drinking Water
Barium	ppb	29	ND - 29	2000	2000	No	Erosion of natural deposits
Bromate ²	ppb	10.8	9.2 - 13.0	10	0	Yes	By-product of drinking water disinfection
Chlorine ²	ppm	0.41	0.01 - 1.46	4 (MRDL)	4 (MRDLG)	No	Water treatment for disinfection
Fluoride ¹	ppm	1.1	0.1 - 1.1	4	4	No	Erosion of natural deposits; Water additive which promotes strong teeth
Haloacetic Acids ²	ppb	11.2	2.0 - 40.6	60	No Standard	No	By-product of drinking water disinfection
Nitrate	ppm	2.35	0.06 - 2.35	10	10	No	Runoff from fertilizer use; Leaching from septic tanks; Erosion of natural deposits
Perchlorate	ppb	0.15	ND - 0.15	2	No Standard	No	By-product of drinking water disinfection; Found in propellants/fireworks/munitions/blasting agents/etc.
Trihalomethanes ²	ppb	26.3	15.0 - 73.9	80	No Standard	No	By-product of drinking water disinfection
Turbidity ³	NTU	0.77	0.33 - 0.77	5	1	No	Suspended and colloidal particles including clay, silt, inorganic matter, algae, and microorganisms.

SECONDARY PARAMETERS

Substance	Units	Highest Level Detected	Range of Levels Found	SMCL	Major Sources in Drinking Water
Calcium	ppm	36.7	7.1 - 36.7	No Standard	Erosion of natural deposits
Chloride	ppm	222	41.3 - 222	250	Naturally present in the environment
Copper	ppm	0.066	0.0018 - 0.0656	1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Hardness	ppm	134	25.1 - 134	No Standard	Erosion of natural deposits
Iron	ppb	225	ND - 225	300	Erosion of natural deposits
Magnesium	ppm	10.4	1.78 - 10.4	No Standard	Erosion of natural deposits
Manganese	ppb	49.9	ND - 49.9	50	Erosion of natural deposits
Methyl Tertiary-Butyl Ether or MTBE	ppb	2.68	ND - 2.68	No Standard	Fuel additive; leaks and spills from gasoline storage tanks
Nickel	ppm	0.004	ND - 0.0043	No Standard	Erosion of natural deposits
Potassium	ppm	56.6	5.16 - 56.6	No Standard	Naturally present in the environment
Sodium	ppm	110	17 - 110	No Standard	By-product of drinking water treatment; Naturally present in the environment
Sulfate	ppm	35.8	ND - 35.8	250	Naturally present in the environment
Total Dissolved Solids ⁴	ppm	538	136 - 538	500	Naturally present in the environment
Trichlorofluoromethane (Freon 11)	ppb	1.14	ND - 1.14	No Standard	Discharge from use as a refrigerant
Zinc	ppm	0.058	0.0299 - 0.0579	5	Naturally present in the environment

LEAD & COPPER PARAMETERS⁵

Substance	Units	90th Percentile Level Detected	90th Percentile Action Level (AL) (EPA's MCL)	# samples (# exceeding AL)	Ideal Goal (EPA's MCLG)	Exceeds Action Level	Major Sources in Drinking Water
Lead (2017)	ppb	3.3	15	30 (0)	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; see statement below
Copper (2017)	ppm	0.28	1.3	30 (0)	1.3	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservative; see statement below



Bromate in Drinking Water Notice

Nagog Pond is currently used seasonally to meet increased water demand during the warmer months. When in operation, this water is treated with ozone to address taste and odor and to enhance disinfection. Ozone can react with bromide, a naturally occurring trace element in surface water, to create bromate, a disinfection byproduct. The allowable concentration of bromate in drinking water, averaged over a year, is 10 ppb. Some people who drink water containing bromate in excess of 10 ppb over many years have an increased risk of getting cancer. The average concentration of bromate in water supplied by Nagog Pond from June–September 2019 was just under 11 ppb. The Nagog Pond water supply was shut down for the season in late September 2019 and public notice was distributed to all customers in November 2019.

As Nagog Pond is only one of Concord's seven water supplies and is currently operated seasonally, the average 12-month concentration of bromate in Concord's drinking water is closer to 4 ppm, well within the allowable limit. Prior to seasonal start-up of the Nagog Pond supply, Concord Water staff will continue to work with our consulting engineers and MassDEP to evaluate existing treatment practices in an effort to reduce bromate. For additional information, please visit www.concordma.gov/bromate.

Cryptosporidium

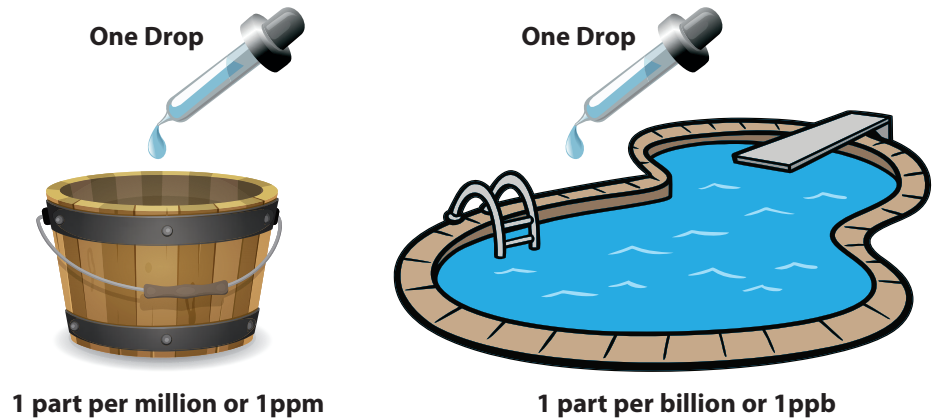
Cryptosporidium is a microbial pathogen that is widely present in the environment, and can be found in surface waters throughout the United States. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection whose symptoms include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease in a few weeks. However, immunocompromised individuals, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause illness, and it may be spread through other means than drinking water.

We routinely monitor for Cryptosporidium in the *untreated source water* from Nagog Pond, and a sample collected in November 2019, while the source was not in operation, indicated the presence of this organism. Current test methods do not allow us to conclusively determine if the organisms are dead or alive (i.e. capable of causing illness).

To ensure any pathogens like Cryptosporidium are effectively inactivated, water from Nagog Pond is treated with ozone, UV light, and chlorine. This multi-layered treatment regime ensures our customers are protected from bacteria, viruses, and pathogens.

What is the difference between ppm and ppb?

It can be hard to wrap our minds around what the concentration of a contaminant actually means. To help visualize different concentrations, imagine that one part per million (1 ppm) is the same as one drop of water in a bucket. At an even smaller concentration, one part per billion (1 ppb) is the same as one drop of water in an Olympic size swimming pool!



TERMS & ABBREVIATIONS

Action Level: The concentration of a contaminant that, 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. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

CFU: colony forming units

ND: none detected

NTU: Nephelometric Turbidity Units

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

ppm: parts per million or milligrams per liter (mg/L)

TT (Treatment Technique):

A required process intended to reduce the level of a contaminant in drinking water

90th Percentile: Out of every 10 homes, 9 were at or below this level.

FOOTNOTES

1 Fluoride: 1969 Town meeting vote authorized the Concord Board of Health to order the upward adjustment of the fluoride content of the water supply available for domestic use in the Town of Concord. Drinking water fluoridation using sodium fluoride began in 1970. As of December 2015, fluoride treatment was decreased from 1.0 ppm to 0.7 ppm in accordance with the United States Department of Health and Human Services' (HHS) recommendation. Fluoride has a secondary maximum contaminant level (SMCL) of 2 ppm to better protect human health.

2 Haloacetic Acids, Trihalomethanes, Bromate and Free Chlorine: The highest level detected represents the highest running annual average for these contaminants. The range of levels found may have results in excess of the MCL but the running annual average of all sample locations is used to determine compliance.

3 Turbidity is a measure of the cloudiness of the water. We monitor it because it is a general indicator of water quality and treatment needs.

4 Total Dissolved Solids (TDS) represents the total concentration of dissolved substances in water, and is mainly comprised of naturally occurring minerals. EPA and MassDEP have set an aesthetics-based SMCL for TDS of 500 ppm, as water may be discolored, have a taste to it, or leave deposits at or above this level. Please be advised that there are no health effects associated with an exceedance of this SMCL, nor are there any violations.

5 Lead and Copper: In accordance with EPA regulations, Concord Public Works tests the tap water of 30 homes in Concord for lead and copper every 3 years. Testing was last done during summer 2017 and is next scheduled for completion during summer of 2020. EPA determines whether the protection against corrosion is sufficient by requiring that at least 90% of the sampled homes have lead levels under 15 parts per billion (ppb). This is called the Action Level.

Water Resource Updates

Portable Water Fountains

For nearly a decade, CPW's Water & Sewer Division has provided a sustainable, reusable water source at a variety of community events by offering the use of our two portable water fountains free of charge. These lightweight yet durable units connect to an existing public water connection, like an outdoor spigot, and prevent the need for bottled water at events, as each fountain offers 4 bubblers and 2 bottle fillers! You might have enjoyed using one of these fountains at events like the Minuteman Arc March, the Stow Street Block Party, the Musketaquid Earth Day celebration, or even at the Town's beloved DropOff/SwapOff event.

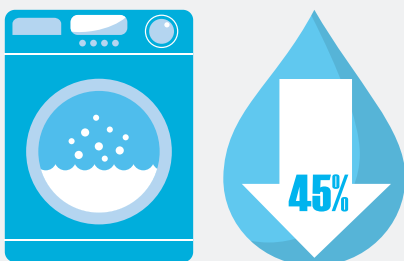
As the popularity of these fountains continues to grow, we are thrilled to announce the availability of two new and improved replacement units! These second generation fountains have been redesigned to meet federal ADA requirements, and set-up is a breeze with easier-than-ever to install splash guard skirts! To request a fountain for an upcoming event, contact our office at 978-318-3250 or email awahlstrom@concordma.gov.



Clothes Washer Rebate Program

The average American family washes about 300 loads of laundry each year. If you're in the market for a new clothes washing machine, why not invest in an ENERGY STAR certified model that uses about 25% less energy and 45% less water than non-certified models?

CPW's Water Division is excited to offer a limited number of \$150 rebates for customers purchasing a qualifying clothes washer from the ENERGY STAR Most Efficient 2020 list. Please visit www.energystar.gov to see the list of qualifying washers and then head over to www.concordma.gov/H2ORebates to download your rebate application!



Lead Service Line Replacement Program

CPW's Water Division has made a concerted effort to develop a program to identify and eliminate existing lead service lines within Concord's distribution system. Based on a preliminary assessment of available service records, less than 5% of the active water services in Concord are believed to contain lead. According to the American Water Works Association (AWWA), the typical cost associated with a private contractor replacing a lead service line is in the range of \$5,000 to \$6,000; such costs are not considered unusual in Concord.

In order to help accelerate and incentivize lead service line replacements by significantly reducing the cost of this work, the Public Works Commission approved a low-cost Lead Service Line Replacement Program (LSLRP) in May 2017. This program enables Division personnel to perform work on private property, a practice not generally offered, and caps the cost of labor and materials at \$1,500. Additionally, participating customers are offered an interest-free 12-month payment plan. As part of the LSLRP, a total of 23 lead service lines have been replaced since the program's inception!

While CPW provides outreach to those we believe may have lead service lines bringing water to their homes, we encourage customers who believe they may have a lead service line that are interested in taking advantage of this program to contact us for additional information. You can call our office at 978-318-3250 or find details on the LSLRP on our website at www.concordma.gov/lead.

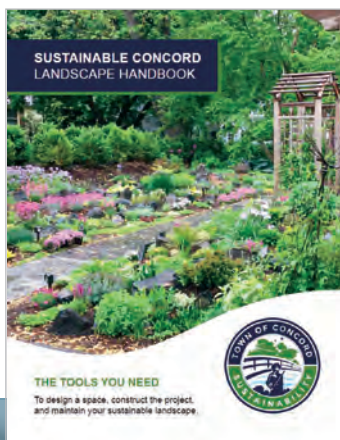


Working Together to Protect Our Precious Resources

Sustainable Landscaping

Have you ever considered your landscape as a place where you can reduce water and energy consumption, increase resilience to drought, and improve air and water quality, all while enjoying some beautiful biodiversity in your very own backyard? These are just some of the many benefits of embracing the practices of sustainable landscaping, which focuses on designing landscapes to thrive in local temperatures, rainfall, and weather patterns.

Last year, CPW partnered with the Sustainability Division and others to develop the *Sustainable Concord Landscape Handbook*, a resource for residents on how to create, install, and care for your landscape in a way that conserves water, takes the changing climate into account, and promotes the health of native species. To get started on your sustainable landscape design, visit www.concordma.gov/greenscapes, where you'll find a copy of the handbook, water-smart landscape templates, information on the Town's lawn-alternative demonstration gardens, and many other resources!



Flushing Your Household Plumbing

Water system disturbances, like water main flushing, water main breaks, meter replacements, internal plumbing repairs, and even roadway construction and excavation activities in front of your home may cause particulates to shake free from your home plumbing. Some of these particulates may cause discoloration and can settle in the aerators at the end of your faucets. If you have a lead service line, these particulates may also contain lead. You can reduce the inadvertent risks to your tap water that these disturbances may create by simply flushing your home plumbing system before consuming water. To do so, follow these easy steps:

1. Remove faucet aerators from all cold water taps.
2. Beginning in the basement or lowest level of your home, open all cold water taps to run at the highest rate possible. Be sure to open any outdoor spigots as well.
3. Move to the next highest level of your home until all cold water taps, including showers and bathtubs, are running at the same time.
4. Let the water run for 5-10 minutes, or for 30 minutes if you have a lead service line. Inspect your drains to prevent water overflow.
5. Turn off each tap, starting with the ones in the highest level of your home



- and working your way down to the first tap you opened.
6. Rinse any debris from faucet aerators and reinstall them.

CPW recommends flushing your home plumbing to protect yourself and your family from lead in tap water, regardless of whether or not you have a lead service line, as plumbing fixtures and pipe solder are other potential sources of lead. Remember, the most important time to flush is after long periods of no use, such as first thing in the morning, after work, or upon returning from vacation.

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Cross Connection Control and You

Concord Public Works' Water Rules and Regulations, as well as Massachusetts' drinking water regulations, require that public water systems be protected from potential contamination resulting from cross connections.

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 (polluted) water.

Why should I be concerned?

An unprotected or inadequately protected cross connection in your home or workplace could contaminate the drinking water not only in your building, but also in neighboring homes and businesses. Severe illnesses have been caused by cross connection contamination that could have been prevented.

How does this happen?

Typically, this occurs when equipment, plumbing fixtures or attachments such as garden hoses contain chemicals or water that becomes contaminated over time. When something unexpected happens that alters water pressure in the line or the direction of water flow (like a water main break), contaminants can be sucked from the equipment and back into the drinking water line.

Can it happen at my home?

Outdoor hose bibbs and garden hoses tend to be the most common sources of cross connections at home. The garden hose creates a hazard when submerged in non-potable water such as a swimming pool or when attached to a chemical sprayer for weed killing. Fertilizer, garden chemicals or other materials may contaminate hoses left lying on the ground. Other household cross connections can occur when lawn irrigation systems, boilers, water filtration devices, and fire service systems are connected to the home's plumbing.

How can I be protected?

All industrial, commercial and institutional facilities are annually surveyed to ensure that all potential cross connections are identified and eliminated or protected by a backflow preventer. We also inspect and test these backflow preventers to make sure they are providing maximum protection. At home, do not attach any chemical or non-potable liquid applicators to anything connected to your plumbing system. Outdoors, install hose bibb vacuum breakers on any outside faucet. Owners of irrigation systems are required to have an approved reduced pressure backflow preventer (RPBP) installed on the system.

What is a backflow preventer?

A backflow preventer is a mechanical device installed in the plumbing line to prevent the introduction of pollutants or contaminants into the drinking water supply. Types include reduced pressure backflow preventer (RPBP), double check valve assembly (DCVA), pressure vacuum breaker assembly (PVB), and "air gap." The simplest type is the "air gap" or simply keeping the end of the water line or hose from coming in direct contact with the vessel being filled with water.

Where can I get more information?

If you need more information, you can contact the Plumbing Inspector's office or CPW's Water & Sewer Division.

Potential Sources of Contaminants

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or 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, and farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **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, EPA and MassDEP prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. FDA and the 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 certain substances which the EPA calls "contaminants." The presence of these substances does not necessarily indicate that the water poses a health risk. For example, naturally occurring dissolved minerals are commonly found in well water. More information about the substances found in drinking water and their potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791 or the Massachusetts Drinking Water Program at 1-617-292-5770.

Get Involved

The Public Works Commission oversees the work of Concord Public Works. Their meetings provide an opportunity to become more involved in issues relating to the water system. They typically meet the second Wednesday of each month at 7:15 pm. Please check the PWC website for exact dates and location.

www.concordma.gov/529/Public-Works-Commission

For more information regarding water quality and resource protection initiatives, or if you have a neighborhood concern in a resource protection area (depicted on the map on page 8), please contact Melissa Simoncini, Senior Environmental & Regulatory Coordinator at 978-318-3250 or msimoncini@concordma.gov



WATER QUALITY

Lead & Copper

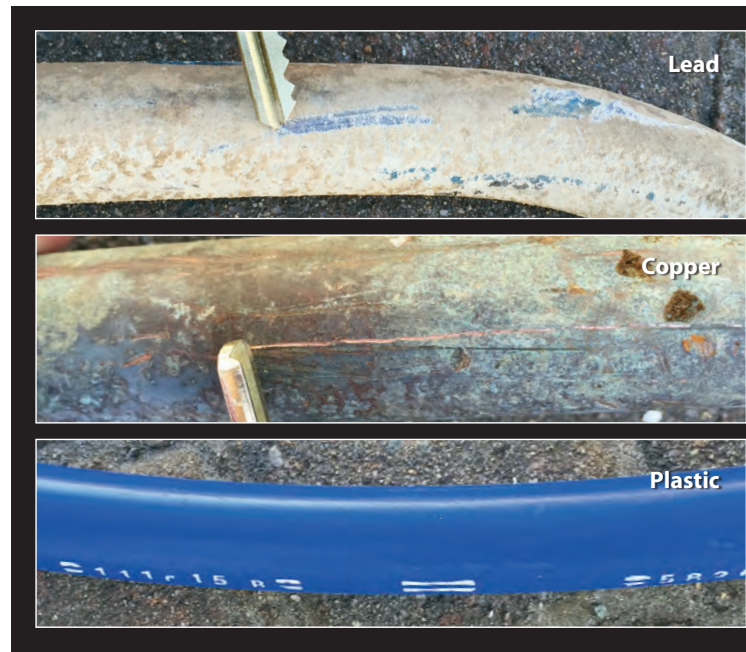
The detection of unacceptably high lead levels within the Flint, Michigan drinking water system began to draw national media attention in early 2015. This discovery has resulted in increased awareness and concern about drinking water quality across the country. Concord Public Works would like to reassure our customers that we take our responsibility for providing safe and reliable drinking water extremely seriously. We believe it is important to provide you with an update about Concord's ongoing lead and copper protection efforts, along with a brief explanation of what we do to prevent a similar public health crisis from occurring in Concord.

CPW's Water Division treats our drinking water to reduce the natural corrosivity of our local water supplies. We do so by upwardly adjusting the pH by adding potassium hydroxide and enhancing the buffering capacity by adding polyphosphate. These activities raise the pH from slightly acidic to neutral while simultaneously creating a very thin, protective film on the interior walls of water mains and service pipes entering your home. Most importantly, these activities significantly reduce the amount of metals, including lead (if present) that could leach from your private plumbing system into the water carried through it.

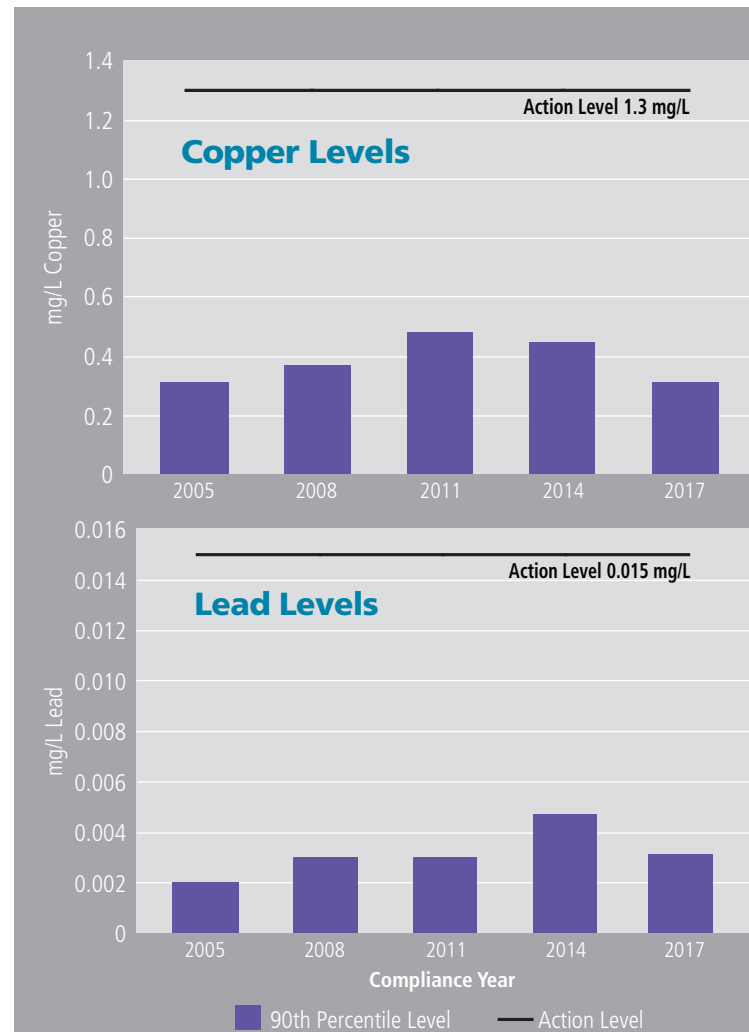
These treatment activities are validated in accordance with U.S. Environmental Protection Agency (EPA) and Massachusetts Department of Environmental Protection (MassDEP) regulations. A total of 30 homes throughout Concord are sampled once every three years to confirm the effectiveness of our corrosion control efforts. The last round of lead and copper sampling was completed in the summer of 2017 and will be repeated in the summer of 2020. The two graphs on this page summarize the long-term effectiveness of our treatment practices, showing Concord's compliance levels for the past five sampling events. More information is available in the *Water Quality Summary* on page 2.

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 fixtures, such as faucets, valves, and solder. Concord Public Works 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, such as first thing in the morning, after work, or upon returning from vacation, 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. To conserve water, other household water usage activities such as showering, washing clothes, and flushing the toilet are also effective methods for flushing pipes and allowing fresh water from the distribution system to enter household pipes.

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 EPA's Safe Drinking Water Hotline at <http://www.epa.gov/safewater/lead>, or you can visit the Concord Public Works website at www.concordma.gov/lead.



Most residential water service lines in Concord are made of Lead, Copper or Plastic. Lead service lines are generally a dull gray color and are very soft. You can identify them easily by carefully scratching with a key. If the pipe is made of lead, the area you've scratched will turn a bright silver color.



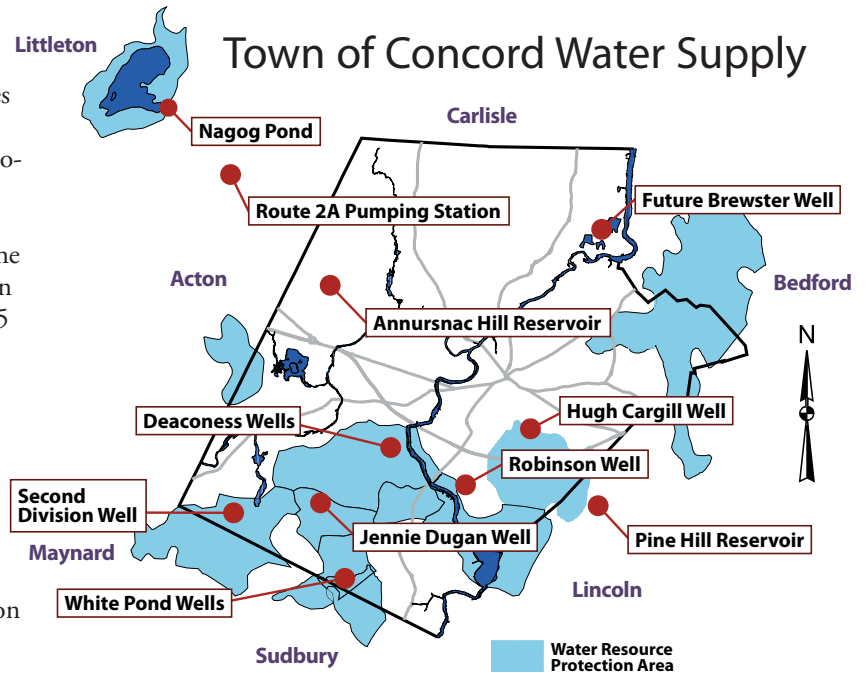
If you would like information on your service line material, please contact Concord Public Works at 978-318-3250.

Water Supply

Concord's water system consists of six groundwater supplies located in Concord and one surface water supply located on the Acton/Littleton town line. In addition, there are associated pumping stations, two storage reservoirs with a 7.5 million gallon total capacity, approximately 134 miles of water main, and over 1,300 fire hydrants. Depending on the season, all available production facilities may be called upon to satisfy system demands which may fluctuate between 1.5 million gallons per day (MGD) during the winter months to nearly 4 MGD in the summer. Concord's public water system is interconnected with Acton and Bedford for emergency backup, if ever needed.

Water Treatment

In accordance with State and Federal drinking water requirements, Concord's water is treated before it gets to your tap. Treatment includes: *disinfection*—via the addition of liquid chlorine at all supplies plus ozone/UV light at the Nagog Pond water supply; *corrosion control*—via the addition of potassium hydroxide and polyphosphate to raise the natural pH of the water and reduce its corrosiveness to household plumbing; *fluoridation*—via the addition of sodium fluoride to help in the prevention of tooth decay; *iron sequestration*—performed by adding polyphosphate to reduce the frequency of discoloration events; and *iron and manganese removal*—performed by pressure filtering the Deaconess and White Pond wells. Due to a high level of water quality in Nagog Pond, the Town continues to operate this source under a filtration waiver. Chemical adjustments and disinfection are provided as noted in the Source Treatment Table (below) to ensure that safe drinking water is delivered to customer's taps.



Drinking Water and People with Weakened Immune Systems

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (1-800-426-4791).

SOURCE TREATMENT

	Nagog Pond	Jennie Dugan Well	Deaconess Wells	White Pond Wells	Second Division Well	Robinson Well	Hugh Cargill Well
Source ID	01S	01G	03G, 10G	04G, 08G, 09G	05G	06G	07G
Potassium Hydroxide to Adjust pH for Corrosion Control	•	•	•	•	•	•	•
Ultra-Violet Light for Disinfection	•						
Chlorine for Disinfection	•	•	•	•	•	•	•
Ozone for Disinfection	•						
Fluoride to Promote Strong Teeth	•	•	•	•	•	•	•
Polyphosphate for Iron & Manganese Treatment	•	•	•	•	•	•	•
LayneOx™ Pressure Filtration for Iron & Manganese Removal			•	•			
Source Water Protection (SWAP) susceptibility rating*	High	Moderate	High	High	High	High	High

* Susceptibility ratings were developed as a part of the SWAP report and reflect the proximity of potential contaminant sources like farms, golf courses and residential houses to water supplies. The complete swap report is available at 135 Keyes Road or online at <http://www.mass.gov/eeal/docs/depl/water/drinking/swap/nero/3067000.pdf>.

For questions about this report or to learn more about protecting Concord's water supply, contact Melissa Simoncini, Senior Environmental and Regulatory Coordinator at 978-318-3250.