2019 drinking water quality report

FRANKLIN SQUARE WATER DISTRICT

PUBLIC WATER SUPPLY IDENTIFICATION NO. 2902822

ANNUAL WATER SUPPLY REPORT

MAY 2020

To keep our customers up-to-date on the quality of our drinking water the Franklin Square Water District is pleased to present this year's Water Quality Report. New York State and the EPA set regulations for drinking water quality and indicate the levels of various substances that are acceptable in public drinking water. This report explains how our water supply compares to the standards that the State and the EPA have developed.

Our constant goal is to provide you with a safe and dependable supply of drinking water every single day. The Board of Water Commissioners and the District employees are committed to ensuring that you and your family receive the highest quality water.

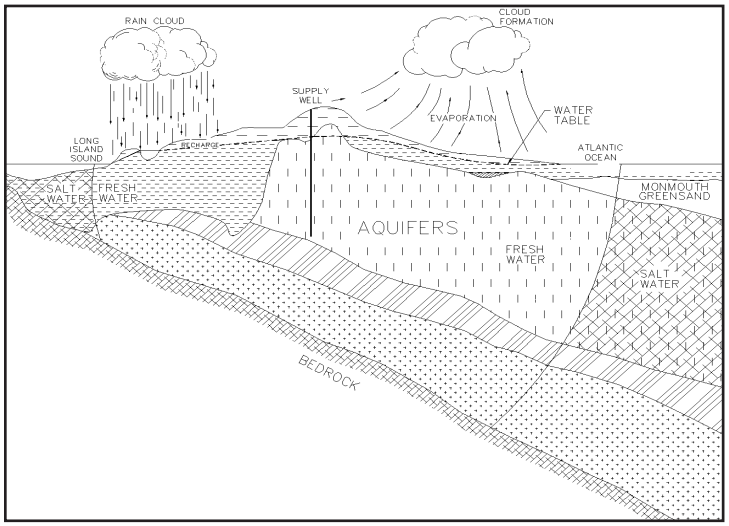
WHERE DOES OUR WATER COME FROM?

We have five (5) wells located throughout our community that pump water out of the Magothy aquifer which is located beneath the land surface of Long Island as shown in the adjacent drawing. Aquifers are underground layers of porous rock and sand that store about 50 percent of the rain and snow that fall on Long Island. Generally, the water quality of the aquifers in Franklin Square is excellent.

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 activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants.

In order to ensure that our tap water is safe to drink, the State and the EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The population within the Franklin Square Water District during 2019 was 20,000. The total amount of water withdrawn from the aquifer during the year was 759.3 million gallons.



THE LONG ISLAND AQUIFER SYSTEM

WATER CONSERVATION MEASURES

The underground water system of Long Island has more than enough water for present water demands. However, saving water can reduce your water bill and most importantly will ensure that our future generations will have a safe and abundant water supply.

We would like to thank the residents who have begun implementing water conservation measures in their homes. We hope that making some small changes continues as the trend in 2018 and years to come. Some of the steps that can be made to conserve water are:

- Check for and repair leaks in the home. A slow drip can waste 15 to 20 gallons a day!!
- Replace showerheads, faucets and toilets with water-saving devices or retrofitting existing plumbing fixtures with flow restrictors.
- Try to maintain an awareness of personal and family habits that can lead to water conservation. For example, don't let the faucet run when it isn't in use!
- Modify automatic lawn sprinklers to include rain sensors and don't forget - Nassau County Lawn Sprinkler Regulations are still in effect.

But we aren't leaving all conservation efforts to the consumers. The Franklin Square Water District has been implementing our own water conservation measures. In 2019, we continued to implement a water conservation program in order to minimize any unnecessary water use. The pumpage for 2019 was approximately 3.4 more than in as in 2018. This was most likely due to the hotter and drier conditions in 2019 compared to 2018. We will remain dedicated to implementing water conservation measures at our wells and throughout the distribution system. Additional education material are available at the District office.

WATER QUALITY FACTS

In accordance with State regulations, the Franklin Square Water District routinely monitors your drinking water for numerous parameters. We test your drinking water for coliform bacteria, turbidity, inorganic contaminants, lead and copper, nitrates, volatile organic contaminants and synthetic organic contaminants. Over 135 separate parameters are tested for in each of our wells numerous times per year. The table presented on page 3 depicts which parameters or contaminants were detected in your drinking water. It should be noted that many of these parameters are naturally found in all Long Island drinking water and do not pose any adverse health effects.

Some people may be more vulernable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as person 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 provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

During 2017, the District collected 32 samples for lead and copper. The 90% level is presented in the table as the maximum result. The next round of samples will occur in 2020. If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. Franklin Square Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at http://www.epa.gov/safewater/lead.

The District implements several measures to protect the quality of water. One of these measures is maintaining an active backflow prevention program where plumbing devices are installed on water services to prevent the backflow of any contaminant into the distribution system. The District requires all residents with automatic sprinkler systems to maintain a backflow device. Please contact the District office for the District's backflow requirements.

WHAT TYPE OF WATER TREATMENT DO WE PROVIDE?

The Franklin Square Water District provides treatment at all wells to improve the quality of the water pumped prior to distribution to the consumer. The pH of groundwater is normally a bit low, so to reduce any corrosion in water mains and in-house plumbing, sodium hydroxide is added to the water to raise the pH.

The soil and water at Well No. 3 have a high level of iron. Although iron does not cause a health hazard, it does stain laundry and plumbing fixtures. A sequestering agent in the form of polyphosphate is added to the water at Well No. 3 to stabilize the iron in the water. At Well Nos. 4 and 5, a granular activated carbon (GAC) filter system is installed for the removal of organic compounds that have been found in the water. The District constructed an air stripping treatment facility to remove organic compounds from Well Nos. 1 and 2.

The District also adds small amounts of sodium hypochlorite to the water as a disinfection agent.

The Franklin Square Water District conducts over 5,000 water quality tests throughout the year, testing for over 130 different contaminants which have been undetected in our water supply including:

Turbidity	Hexachlorocyclopentadiene	Chloromethane	1,2,3-Trichlorobenzene
Odor	bis(2-Ethylhexyl)adipate	Vinyl Chloride	Benzene
Ammonia	bis(2-Ethylhexyl)phthalate	Bromomethane	Toluene
Nitrite	Hexachlorobenzene	Chloroethane	Ethylbenzene
Detergents (MBAS)	Benzo(A)Pyrene	Trichlorofluoromethane	M,P-Xylene
Free Cyanide	Aldicarb Sulfone	Chlorodifluoromethane	O-Xylene
Antimony	Aldicarbsulfoxide	Methylene Chloride	Styrene
Beryllium	Aldicarb	Trans-1,2-Dichloroethene	Isopropylbenzene (Cumene)
Thallium	Total Aldicarbs	1,1-Dichloroethane	N-Propylbenzene
Lindane	Oxamyl	cis-1,2-Dichloroethene	1,3,5-Trimethylbenzene
Heptachlor	Methomyl	2,2-Dichloropropane	Tert-Butylbenzene
Aldrin	3-Hydroxycarbofuran	Bromochloromethane	1,2,4-Trimethylbenzene
Heptachloro Epoxide	Carbofuran	Carbon Tetrachloride	Sec-Butylbenzene
Dieldrin	Carbaryl	1,1-Dichloropropene	4-Isopropyltoluene (P-Cumene)
Endrin	Glyphosate	1,2-Dichloroethane	N-Butylbenzene
Methoxychlor	Diquat	1,2-Dichloropropane	Methyl Tert.Butyl Ether (MTBE)
Toxaphene	Endothall	Dibromomethane	Haloacetic Acid (HAA5)
Chlordane	1,2-Dibromoethane (EDB)	Trans-1,3-Dichloropropene	
Total PCBs	1,2-Dibromo-3-Chl.Propane	cis-1,3-Dichloropropene	
Propachlor	Dioxin	1,2-Dichlorobenzene	
Alachlor	Chloroacetic Acid	1,3-Dichlorobenzene	
Simazine	Bromoacetic Acid	1,4-Dichlorobenzene	
Dicamba	Total Coliform	1,24-Trichlorobenzene	
Pentachlorophenol	Dichlorodifluoromethane	Hexachlorobutadiene	

2019 DRINKING WATER QUALITY REPORT - TABLE OF DETECTED PARAMETERS

Contaminants	Violation (Yes/No)	Date of Sample	Level Detected (Maximum Range)	Unit Measurement	MCLG	Regulatory Limit (MCL or AL)	Likely Source of Contaminant
Inorganic Contaminants							
Copper	No	June/July/August 2017	ND - 0.4 0.21[1]	mg/l	1.3	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	No	June/July/August 2017	ND - 9.9 3.8[1]	ug/l	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits
Selenium	No	08/06/19	ND - 2.0	ug/l	n/a	MCL = 50	Naturally occurring
Barium	No	08/20/19	ND - 0.0022	mg/l	n/a	MCL = 2.0	Naturally occurring
Sodium	No	07/09/19	9.0 - 31.0	mg/l	n/a	No MCL[2]	Naturally occurring
Zinc	No	08/20/19	ND - 0.058	mg/l	n/a	MCL = 5	Naturally occuring
Chloride	No	08/06/19	13.5 - 21.5	mg/l	n/a	MCL = 250	Naturally occurring
Iron	No[3]	08/27/19	ND - 290	ug/l	n/a	MCL = 300	Naturally occurring
Manganese	No	08/20/19	ND - 6.9	ug/l	n/a	MCL = 300	Naturally occurring
Manganese	No	04/16/19	0.51 - 65.9	ug/l	n/a	MCL = 300[4]	Naturally occurring
Nitrate	No	08/06/19	ND - 2.4	mg/l	10	MCL = 10	Runoff from fertilizer and leaching from septic tanks and sewage
Sulfate	No	08/27/19	8.2 - 28.9	mg/l	n/a	MCL = 250	Naturally occurring
Magnesium	No	08/06/19	3.7 - 4.2	mg/l	n/a	None	Naturally occurring
Nickel	No	06/03/19	0.68 - 2.2	ug/l	n/a	MCL = 100	Naturally occurring
Calcium	No	07/09/19	5.8 - 10.0	mg/l	n/a	No MCL	Naturally occuring
Calcium Hardness	No	07/09/19	17.3 - 25.0	mg/l	n/a	No MCL	Naturally occurring
Total Alkalinity	No	07/09/19	4.6 - 50.5	mg/l	n/a	No MCL	Naturally occurring
Total Hardness	No	07/09/19	29.9 - 39.5	mg/l	n/a	No MCL	Naturally occurring
Total Dissolved Solids (TDS)	No	07/09/19	117.0 - 140.0	mg/l	n/a	No MCL	Naturally occurring
Volatile Organic Contaminants							
1,1,2-Trichlorotrifluoroethane	No	07/09/19	ND - 3.8	ug/l	n/a	MCL = 5	Industrial discharge
1,1-Dichloroethene	No	07/09/19	ND - 1.6	ug/l	n/a	MCL = 5	Industrial discharge
1,1,1-Trichloroethane	No	07/09/19	ND - 0.79	ug/l	n/a	MCL = 5	Industrial discharge
Chlorodifluoromethane	No	07/09/19	ND - 1.6	ug/l	n/a	MCL = 5	Industrial discharge
Trichloroethene	No	10/08/19	ND - 3.5	ug/l	n/a	MCL = 5	Industrial discharge
Tetrachloroethene	No	11/12/19	ND - 0.56	ug/l	n/a	MCL = 5	Industrial discharge
Disnfection By-Products							
HAA5	No	04/16/19	0.88 - 1.5	ug/l	n/a	MCL = 60	Disinfection By-Products
Total Trihalomethanes (TTHMs)	No	07/09/19	0.52 - 3.7	ug/l	n/a	MCL = 80	Disinfection By-Products
Radionuclides							
Gross Alpha	No	04/01/17	ND - 1.8	pCi/L	n/a	MCL = 50	Naturally occurring
Gross Beta	No	04/18/17	0.57 - 2.32	pCi/L	n/a	MCL = 50	Naturally occurring
Radium 226 & 228	No	04/01/17	0.43 - 1.33	pCi/L	n/a	MCL = 5[5]	Naturally occurring
Uranium	No	04/01/17	ND - 0.9	ug/l	n/a	MCL = 30	Naturally occurring

2019 DRINKING WATER QUALITY REPORT - TABLE OF DETECTED PARAMETERS

Contaminants	Violation (Yes/No)	Date of Sample	Level Detected (Maximum Range)	Unit Measurement	MCLG	Regulatory Limit (MCL or AL)	Likely Source of Contaminant
Unregulated Contaminant Monitoring Rule - Phase 3 (UCMR3)[6]							
1,4-Dioxane	No	03/19/19	ND - 1.2	ug/l	n/a	HA = 35	Industrial Discharge[7][8]
Hexavalent Chromium	No	06/03/14	ND - 0.39	ug/l	n/a	No MCL[9]	Natural deposits
Unregulated Contaminant Monitoring Rule - Phase 4 (UCMR4)[6]							
HAA6Br	No	04/16/19	0.91 - 1.67	ug/l	n/a	No MCL	Disinfection By-Products
HAA9	No	04/16/19	1.23 - 2.07	ug/l	n/a	No MCL	Disinfection By-Products
2-methoxyethanol	No	04/16/19	ND - 0.47	ug/l	n/a	No MCL	Industrial solvent
2-propen-1-ol	No	04/16/19	ND - 1.1	ug/l	n/a	No MCL	Laboratory chemical

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.
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 which a water system must follow.
Health Advisory (HA) - An estimate of acceptable drinking water levels for a chemical substance based on health effects information; a health advisory is not a legally enforceable Federal standard, but serves as technical guidance to assist Federal, State and local officials.
Milligrams per liter (mg/l) - Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).
Micrograms per liter (ug/l) - Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).
Non-Detects (ND) - Laboratory analysis indicates that the constituent is not present.
pCi/L - pico Curies per Liter is a measure of radioactivity in water.

[1] - During 2017, we collected and analyzed 30 samples for lead and copper. The action levels for copper was not exceeded at any site tested. The action level for lead was exceeded at only one site. Retesting is required in 2020. The values reported for lead and copper represent the 90th percentile. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system. In our sampling program, the 90th percentile value is the 4th highest result.
[2] - No MCL has been established for sodium. However, 20 mg/l is a recommended guideline for people on high restricted sodium diets and 270 mg/l for those on moderate sodium diets.
[3] - Iron is only a secondary water standard. Iron has no health effects. Therefore, exceeding the MCL represents a level at which adverse aesthetics effects start to occur. The maximum iron result shown in Well No. 3. The District only uses Well No. 3 during peak demand periods. The District did not use Well No. 3 at all in 2018. The District also provides iron sequestering treatment when Well No. 3 is utilized. Typical iron concentrations from all other wells is normally undetectable.
[4] - If iron and manganese are present, the total concentration of both should not exceed 500 ug/l.
[5] - MCL for Radium is for Radium 226 and Radium 228 combined.
[6] - UCMR - Unregulated Contaminant Monitoring Rule is a Federal water quality sampling program where water suppliers sample and test their source water for 1 year. Results will be used by the USEPA to determine if the contaminants need to be regulated in the future.
[7] - 1,4-Dioxane -The New York State (NYS) proposed MCL for 1,4 dioxane is 1 part per billion(ppb).
[8] - It is used as a solvent for cellulose formulations, resins, oils, waxes and other organic substances. It is also used in wood pulping, textile processing, degreasing, in lacquers, paints, varnishes, and stains; and in paint and varnish removers.
[9] - MCL for Total Chromium - There is no MCL established for Hexavalent Chromium.

COST OF WATER

The District bills its consumers at a billing rate of $26.00 per quarter for the first 9,000 gallons and $2.60 per additional 1,000 gallons. Of the 759.3 million gallons that was withdrawn, approximately 84.6 percent was billed directly to the consumers. The typical District resident pays approximately $1.00 per day for water. We are sure you will agree that your water bill is by far the cheapest of all your utility bills.

SOURCE WATER ASSESSMENT

The NYSDOH, with assistance from the local health department, has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how rapidly contaminants can move through the subsurface to the wells. The susceptibility of a water supply well to contamination is dependent upon both the presence of potential sources of contamination within the well's contributing area and the likelihood that the contaminant can travel through the environment to reach the well. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. See section "Water Quality Facts" for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

As mentioned before, our water is derived from five (5) wells. The source water assessment has rated the wells as having a very high susceptibility to industrial solvents and a high susceptibility to nitrates. The elevated susceptibility to industrial solvents is due primarily to point sources of contamination related to transportation routes, and commercial/ industrial facilities and related activities in the assessment area. The elevated susceptibility to nitrates is due to residential land use and related practices, such as fertilizing lawns, as well as the commercial/industrial activities in the assessment area.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting the District, as noted below.

PUBLIC INFORMATION AND PARTICIPATION

If you have any questions about this report or about your water supply, the following contacts and resources are available to you:

- Water District Superintendent John Hughes at (516) 354-0780.
- Nassau County Department of Health at (516) 227-9692.
- All our residents are welcome to attend any of our regularly scheduled meetings. They are normally held on the first, second, third and fourth Tuesday of each month at 5:00 p.m. at the Water District office.

The Franklin Square Water District routinely monitors for different parameters and contaminants in your drinking water as required by Federal and State laws. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk. If you would like to find more information on contamination and potential health risks, you can contact:

- USEPA Safe Drinking Water Hotline at (800-426-4791).
- Website addresses for EPA (www.epa.gov/safewater) and/or NYSDOH (www.health.state.ny.us).

CAPITAL IMPROVEMENT PROGRAM

The District continuously evaluates our water supply facilities to determine when repairs and replacements are necessary. The Water District has completed its water meter replacement program that started in the summer of 2018. The new meters are more accurate and have a radio read system that reduce the effort needed to read meters. Rather than taking weeks to read the approximately 5,000 meters throughout the District, all meters are now being read within 1 day. The District would like to thank all residents for their cooperation during this meter replacement program.

The District is also in the design phase of constructing a new wellhead treatment system at our Theodora Street well station for removal of emerging Contaminants. The District is happy to report that it received a New York State Water Infrastructure Act Grant in the amount of $4.122 million to assist in paying for this project. The District is planning on having the treatment system on-line in 2021.

Copies of the Supplemental Data Package, which includes the water quality data for each of our supply wells utilized during 2019, are available at the Franklin Square Water District office located at 895 Schroeter Avenue, Franklin Square, New York and the local Public Library.

We, at the Franklin Square Water District, work around the clock to provide top quality water to every tap throughout the community. The District is proud of the fact that we consistently are voted one of the Best Tasting Waters in Nassau County. We ask that all our customers help us protect our water supply, which is the heart of our community, our way of life and our children's future.