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2022 drinking water quality report

WEST HEMPSTEAD WATER DISTRICT
PUBLIC WATER SUPPLY IDENTIFICATION NO. 2902857

ANNUAL WATER SUPPLY REPORT

MAY 2023

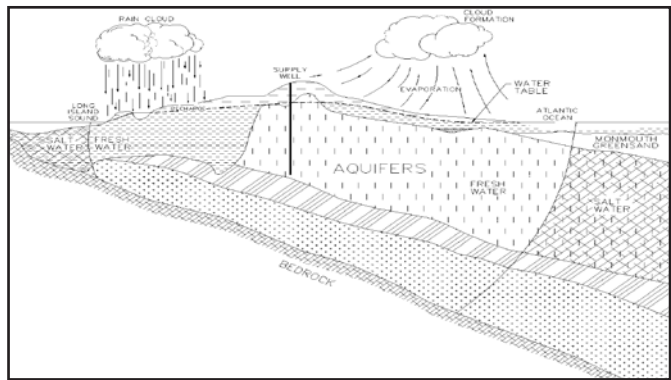
The West Hempstead Water District is pleased to present to you this year's Water Quality Report. The report is required to be delivered to all residents of our District in compliance with Federal and State regulations. Our constant goal is to provide you with a safe and dependable supply of drinking water every day. We also want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. The Board of Water Commissioners and the District employees are committed to ensuring that you and your family receive the highest quality water.

SOURCE OF WATER

The source of water for the District is groundwater pumped from 7 wells located at our various plant sites that are drilled into the Magothy Aquifer beneath Long Island, as shown on the adjacent diagram. Generally, the water quality of the aquifer is good to excellent, although there are localized areas of contamination.

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 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 radiological contaminants.



THE LONG ISLAND AQUIFER SYSTEM

WATER QUALITY AND TREATMENT

Presented on Pages 4 and 5 are the analytical testing results for 2022 for those constituents required to be tested by the State Sanitary Code and detected in our water. These tests were conducted on samples taken from various locations throughout the community. Where more than one analysis per year was conducted for a specific constituent, the range of results, from highest to lowest, during the reporting period is listed.

In accordance with State regulations, the West Hempstead Water District routinely monitors your drinking water for numerous parameters. We test your drinking water for coliform bacteria, turbidity, inorganic contaminants, lead and copper, nitrate, volatile organic contaminants, total trihalomethanes, synthetic organic contaminants and radiological contaminants. Over 135 separate parameters are tested for in each of our wells numerous times per year. The table presented on pages 4 and 5 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 affects.

The West Hempstead Water District provides treatment to all wells to improve the quality of the water prior to distribution to the consumer. The pH of the water is adjusted upward to reduce corrosive action between the water and water mains and in-house plumbing by the addition of sodium hydroxide. The District also adds small amounts of calcium hypochlorite as a disinfection agent and to prevent the growth of bacteria in the water distribution system. Some of our water is treated at our air stripping and iron removal facility as described on Page 2.

In 2021, the District proceeded with the construction of an Advanced Oxidation Process (AOP) facility for 1,4-Dioxane removal at its 7th Street location. The Plant was operational for the summer of 2022.

DISTRICT FACTS

The West Hempstead Water District encompasses an area of approximately two (2) square miles. The communities within this area are West Hempstead, portions of Cathedral Gardens, portions of Franklin Square and Garden City South.

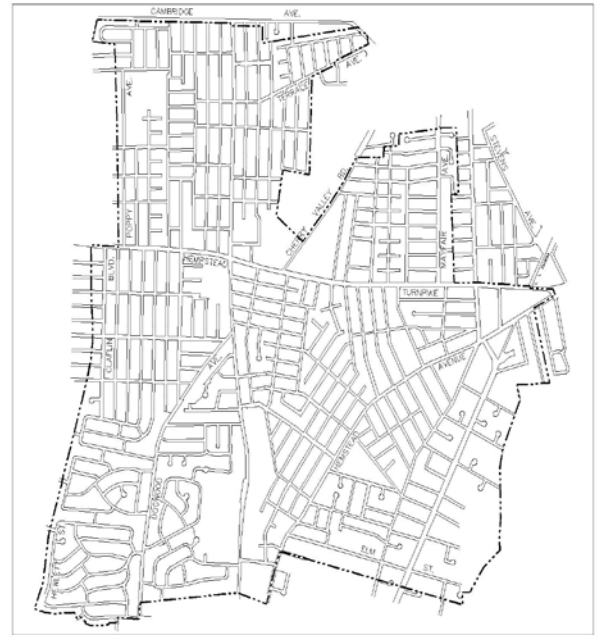
The District supplies water through approximately 120 miles of water mains ranging in size from 6” to 20”. The District has the capability of pumping 8 to 9.5 million gallons of water per day from 7 supply wells. Our 750,000 gallon tank has been taken off-line and is currently being dismantled. We now are down to 2 elevated storage tanks holding 1.6 million gallons bringing our total tank capacity to 3.1 million.

The population served by the West Hempstead Water District during 2022 was approximately 32,000. The total amount of water withdrawn from the aquifer in 2022 was 1.135 billion gallons, of which approximately 91 percent was billed directly to consumers.

The water not billed to our customers was used for fire fighting and training, system flushing and loss because of an occasional water main break.

Approximately 60 percent of the water that enters the distribution system is processed through the iron removal/air stripping facility located at the Water District headquarters. The facility treats all the water that is pumped from the Magothy Aquifer through Well Nos. 6, 8, 9, 10 & 11. The removal of the iron (iron is a naturally occurring element) is accomplished by passing the water through these multi-media pressure filters located at the plant. The water of Well Nos. 9, 10 and 11 is then discharged into the air stripping towers for the removal of any VOCs (volatile organic compounds). In this process, the filtered water cascades over the stripping tower media (the media is similar to a wiffle ball) where it comes in contact with air being forced up into the towers from large blower fans located at the base of the tower. The treated water is discharged into a clearwell (holding tank) where it is then pumped to the elevated storage tank for delivery to the distribution system and ultimately to you, the resident of the district. In total, this filtration system has the capacity to process over 8 million gallons of water per day. The water of Well Nos. 7-1 and 7-2 is taken from the Magothy and treated by the use of an advanced oxidation treatment system to break down 1,4-Dioxane and then passes through granular activated carbon to remove peroxide and VOC’s.

The Commissioners of the West Hempstead Water District are responsible for its overall operation and finances. The day-to-day operation and the mandated license is the responsibility of the District Superintendent. The population and pumping capacity of the West Hempstead Water District requires the Superintendent to have a Grade 1B Public Water System Operator’s Certification. This certification or license is issued to the individual by the Department of Health of the State of New York. Requirements for this certification include successful completion of academic studies in all aspects of the water industry and a minimum of 10 years experience in the water works field. Additionally, all individuals at the West Hempstead Water District who operate any aspects of the plant have a Grade D and Grade 2-B New York State Certified Water System Operator Certification. The requirements to obtain this certification are similar to that of the Superintendent, but not as detailed. Some plant operators also have a Grade 1B New York State Certified Water System Operator Certification.



**WEST HEMPSTEAD
WATER DISTRICT AREA**

COST OF WATER

Quarterly Water Rates - Residential

Consumption (gallons)	Charges
0 to 2,000	\$27.25 minimum (3/4” service)
2,001 - 10,000	\$1.64/thousand gallons
10,001 - 25,000	\$2.18/thousand gallons
25,001 - 40,000	\$2.73/thousand gallons
40,001 - 60,000	\$3.27/thousand gallons
60,001 & Over	\$3.82/thousand gallons

The average cost of water is approximately \$2.00 per thousand gallons of water used. The District also provides water to commercial accounts based on our commercial water rates as shown below.

Quarterly Water Rates - Commercial

Consumption (gallons)	Charges
Base Rate	\$27.25 Base Rate (3/4” Service)
0 - 10,000	\$1.80/thousand gallons
10,001 - 25,000	\$2.40/thousand gallons
25,001 - 40,000	\$3.00/thousand gallons
40,001 - 60,000	\$3.60/thousand gallons
60,001 & Over	\$4.20/thousand gallons

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

In 2022, the West Hempstead Water District continued to implement a water conservation program in order to minimize any unnecessary water use. The pumpage for 2022 was slightly less than in 2021. This can be attributed to our continuous Water Conservation Program.

Residents of the District can also implement their own water conservation measures such as retrofitting plumbing fixtures with flow restrictors, modifying automatic lawn sprinklers to include rain sensors, repairing leaks in the home, installing water conservation fixtures/appliances and maintaining a daily awareness of water conservation in their personal habits. In addition, our consumers should be aware that the Nassau County Lawn Sprinkling Regulations are still in effect as outlined on Page 6, "Outdoor Water Use Restrictions". Besides protecting our precious underground water supply, water conservation will produce a cost savings to the consumer in terms of both water and energy bills (hot water).

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 the section entitled "Water Quality and Treatment" 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.

Drinking water is derived from 7 wells. The source water assessment has rated all of the wells as having a very high susceptibility to nitrates, and all but one (1) well as having very high susceptibility to industrial solvents. The elevated susceptibility to nitrates is due primarily to commercial, institutional and residential land use and related practices, such as fertilizing lawns in the assessment area. The elevated susceptibility to industrial solvents is due primarily to point sources of contamination related to commercial/industrial facilities and related practices in the assessment area.

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

CONTACTS FOR ADDITIONAL INFORMATION

We are pleased to report that our drinking water meets all Federal and State requirements with the exception of iron. The District provides iron treatment at its iron removal facility. If you have any questions about this report or your water utility, please contact Water District Supt. Jason Belle at (516) 483-1180 or the Nassau County Department of Health at (516) 227-9692. The Water District's regularly scheduled District meetings are normally held each Wednesday at 5:00 p.m. at the District office. We want our valued customers to be informed about our water system and the improvements that are being made to enhance the quality of the water. The normal business hours of the Water District office are 8:30 a.m. to 4:30 p.m. Should you need to contact the District at any time, the District's 24-Hour Emergency Number is (516) 483-1180 (Menu No. 5).

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immunocompromised 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 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 (1-800-426-4794).

WATER QUALITY

The West Hempstead 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. For more information on contamination and potential health risks, please contact the USEPA Safe Drinking Water Hotline at 1-800-426-4791 or www.epa.gov/safewater.

During 2020, the District collected 30 samples for lead and copper. The next round of samples will occur in 2023. 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. West Hempstead 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 (1-800-426-4794).

2022 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	July/August/September 2020	0.008 - 0.23 0.19 ⁽¹⁾	mg/l	1.3	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	No	July/August/September 2020	ND - 20.0 1.6 ⁽¹⁾	ug/l	0	AL = 15	
Barium	No	10/28/22	ND - 0.0022	mg/l	2.0	MCL = 2.0	Naturally occurring
Sodium	No	10/28/22	5.7 - 25.4	mg/l	n/a	No MCL ⁽²⁾	
Zinc	No	10/31/22	ND - 0.025	mg/l	n/a	MCL = 5.0	
Chloride	No	10/28/22	12.3 - 29.0	mg/l	n/a	MCL = 250	
Iron	No	07/12/22	ND - 220	ug/l	n/a	MCL = 300 ⁽³⁾	
Manganese	No	07/12/22	ND - 11.0	ug/l	n/a	MCL = 300 ⁽³⁾	
Odor	No	10/28/22	ND - 1.0	Units	n/a	MCL = 3	
Nickel	No	10/28/22	ND - 0.0013	ug/l	n/a	MCL = 100	
Sulfate	No	10/28/22	12.2 - 29.6	mg/l	n/a	MCL = 250	
Magnesium	No	10/31/22	1.4 - 3.5	mg/l	n/a	No MCL	
Calcium	No	10/28/22	2.5 - 8.0	mg/l	n/a	No MCL	
Selenium	No	10/28/22	ND - 2.7	ug/l	50	MCL = 50	
Nitrate	No	10/31/22	ND - 1.9	mg/l	10	MCL = 10	Runoff from fertilizer and leaching from septic tanks and sewage
Disinfection By-Products							
Total Trihalomethanes (TTHM)	No	06/08/22	ND - 0.74	ug/l	n/a	MCL = 80	Disinfection By-Product
Radionuclides							
Gross Alpha	No	02/11/21	2.14 - 3.01	pCi/L	n/a	MCL = 15	Naturally occurring
Gross Beta	No	02/11/21	2.33 - 2.4	pCi/L	n/a	MCL = 50	
Combined Radium 226 & 228	No	02/11/21	1.546 - 2.494	pCi/L	n/a	MCL = 5 ⁽⁴⁾	
Uranium	No	02/11/21	1.09 - 1.51	ug/l	n/a	MCL = 30	
Disinfectants							
Chlorine Residual	No	Continuous	0.51 - 0.91	mg/l	n/a	MRDL = 4.0	Measure of disinfectant
Physical Characteristics							
pH	No	Continuous	7.7 - 7.8	pH units	n/a	7.5 - 8.5 ⁽⁵⁾	Measure of water acidity or alkalinity
Total Hardness	No	10/28/22	12.2 - 34.0	mg/l	n/a	No MCL	Naturally occurring
Calcium Hardness	No	10/28/22	6.2 - 19.9	mg/l	n/a	No MCL	
Total Alkalinity	No	11/01/22	ND - 46.7	mg/l	n/a	No MCL	
Total Dissolved Solids	No	10/28/22	12.0 - 119.0	mg/l	n/a	No MCL	
Synthetic Organic Contaminants (SOCs)							
1,4-Dioxane	No	09/15/22	ND - 0.9	ug/l	n/a	MCL = 1.0 ⁽⁶⁾	Industrial discharge ⁽⁷⁾
Volatile Organic Contaminants (VOCs)							
Acetone	No	09/15/22	ND - 8.7	ug/l	2.0	MCL = 50	Naturally occurring
UCMR							
Bromide	No	10/31/22	0.041 - 0.042	mg/l	0	MCL = 0.01	Naturally occurring
Hexavalent Chromium	No	08/18/22	ND - 0.17	ug/l	0	No MCL	Natural deposits
UCMR4							
Manganese	No	04/13/18	1.0 - 1.3	ug/l	n/a	MCL = 300 ⁽³⁾	Naturally occurring
HAA6Br	No	04/13/18	1.06 - 1.98	ug/l	n/a	No MCL	Disinfection By-Product
HAA9	No	10/25/18	1.5 - 3.82	ug/l	n/a	No MCL	Disinfection By-Product

2022 DRINKING WATER QUALITY REPORT

TABLE OF DETECTED PARAMETERS (cont'd.)

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.

Maximum Residual Disinfection Level (MRDL) - The highest level of disinfectant allowed in drinking water.

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

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).

TT (Treatment Technique) - A required process intended to reduce the level of a contaminant in drinking water.

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 2020, we collected and analyzed 30 samples for lead and copper. 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. The action levels for both lead and copper were not exceeded at any site tested. The next round of sampling for lead and copper will occur in 2023.

⁽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⁾ - If iron and manganese are present, the total concentration of both should not exceed 300 ug/l. Higher levels may be allowed by the State when justified by the supplier of water. The MCL is based on iron's effect on the taste, odor and color of the water. This represents the compliance value following repeat sampling. All the wells that are used at the Birch Street facility receive iron removal treatment. The water is processed through the District's filtration system before being sent out into the distribution system.

⁽⁴⁾ - Combined Radium 226 and 228 has an MCL = 5.0

⁽⁵⁾ - As per Nassau County Department of Health guidelines.

⁽⁶⁾ - 1,4-Dioxane -New York State (NYS) established an MCL for 1,4 dioxane at 1 part per billion(ppb) effective August 26, 2020.

⁽⁷⁾ - 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.

OUTDOOR WATER USE RESTRICTIONS

Use of water for irrigation purposes for lawns, shrubs, trees, plants and vegetation of any type is regulated by hours set forth by the County of Nassau. **Absolutely no watering between the hours of 10:00 a.m. and 4:00 p.m.** Watering will be permitted all other hours under the following conditions:

1. Residents with even house numbers may water on even dates.
2. Residents with odd house numbers may water on odd dates.
3. Premises without numbered addresses may water on even dates.
4. No watering is permitted on the 31st of any month.

Copies of a Supplemental Data Package, which includes the water quality data for each of our supply wells utilized during 2022, are available at the West Hempstead Water District office located at 575 Birch Street, West Hempstead, New York and the West Hempstead Public Library. For more information, please contact Supt. Jason Belle at (516) 483-1180.

We, at the West Hempstead Water District, work around the clock to provide top quality water to every tap throughout the community. We ask that all our customers help us protect our water resources, which are the heart of our community, our way of life and our children's future. Please call our office if you have any questions.

The West Hempstead Water District conducts over 10,000 water quality tests throughout the year, testing for over 135 different contaminants which have been undetected in our water supply including:

Cadmium	2,4,5-TP (Silvex)	Methyl Tert. Butyl Ether (MTBE)	1,2,3-Trichloropropane
Chromium	Dinoseb	N-Butylbenzene	2-Chlorotoluene
Mercury	Dalapon	4-Isopropyltoluene (P-Cumene)	4-Chlorotoluene
Ammonia	Picloram	Sec-Butylbenzene	1,2-Dichlorobenzene
Silver	Dicamba	1,2,4-Trimethylbenzene	1,3-Dichlorobenzene
Odor	Pentachlorophenol	Tert-Butylbenzene	1,4-Dichlorobenzene
Arsenic	Hexachlorocyclopentadiene	1,3,5-Trimethylbenzene	1,2,4-Trichlorobenzene
Nitrite	bis(2-Ethylhexyl)adipate	N-Propylbenzene	Hexachlorobutadiene
Turbidity	bis(2-Ethylhexyl)phthalate	Isopropylbenzene (Cumene)	1,2,3-Trichlorobenzene
Detergents (MBAS)	Hexachlorobenzene	1,1-Dichloroethene	Benzene
Free Cyanide	Benzo(A)Pyrene	Methylene Chloride	Ethylbenzene
Antimony	Aldicarb Sulfone	Trans-1,2-Dichloroethene	M,P-Xylene
Beryllium	Aldicarb sulfoxide	1,1-Dichloroethane	O-Xylene
Thallium	Aldicarb	cis-1,2-Dichloroethene	Styrene
Perchlorate	Total Aldicarbs	2,2-Dichloropropane	Chlorodifluoromethane
Lindane	Oxamyl	Bromochloromethane	Fluoride
Heptachlor	Methomyl	1,1,1-Trichloroethane	
Aldrin	3-Hydroxycarbofuran	Carbon Tetrachloride	
Heptachloro Epoxide	Carbofuran	1,1-Dichloropropene	
Dieldrin	Carbaryl	1,2-Dichloroethane	
Endrin	Glyphosate	Trichloroethene	
Methoxychlor	Diquat	1,2-Dichloropropane	
Toxaphene	Endothall	Dibromomethane	
Chlordane	1,2-Dibromoethane (EDB)	Trans-1,3-Dichloropropene	
Total PCBs	1,2-Dibromo-3-Chl. Propane	Metribuzin	
Propachlor	Dioxin	cis-1,3-Dichloropropene	
Alachlor	Chloromethane	1,1,2-Trichloroethane	
Simazine	Vinyl Chloride	1,3-Dichloropropane	
Atrazine	Bromomethane	Chlorobenzene	
Metolachlor	Chloroethane	1,1,1,2-Tetrachloroethane	
Butachlor	Trichlorofluoromethane	Bromobenzene	
2,4-D	Chlorodifluoromethane	1,1,2,2-Tetrachloroethane	