TOWN OF VIENNA

(PWSID#: 6059800)

2020 ANNUAL WATER QUALITY REPORT

SUMMARIZING 2019 DRINKING WATER QUALITY TEST RESULTS

Department of Public Works
127 Center Street South
Vienna, VA 22180

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TOWN OF VIENNA CONTACT INFORMATION

Department of Public Works…….…..….. 703-255-6380

Water and Sewer Customer Service…….. 703-255-6385

Water and Sewer Department…… 703-319-8601

Vienna Non-Emergency Police……. 703-255-6366

Additional Contacts

Virginia Office of Drinking Water
Culpeper Field Office……..... 540-829-7340

Environmental Protection Agency's
Safe Drinking Water Hotline……..…….. 800-426-4791

EPA Region III
Drinking Water Branch…….. 215-814-5457

TOWN OF
VIENNA
since 1890

This **2020 Water Quality Report** is available online at **viennava.gov/2020waterquality**.

Town of Vienna PWSID # 6059800

IMPORTANT HEALTH INFORMATION

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. Environmental Protection Agency (EPA)/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline at 800-426-4791.

This report contains important information about your drinking water. If you cannot read English, please have someone who understands this report translate it for you. For more information, contact Town of Vienna Water Quality Engineer Christine Horner by phone at 703-319-8630 or by email at christine.horner@viennava.gov.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

MESSAGE FROM THE TOWN MANAGER

This is the Town of Vienna's annual report to inform you about your drinking water quality. As part of the Safe Drinking Water Act of 1996, the U.S. Environmental Protection Agency (EPA) requires all water utilities across the nation to provide their customers with a Water Quality Report by July 1 every year. Our goal is to provide you with a safe and dependable supply of drinking water, and we want you to understand our efforts to protect your water supply.

The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health (VDH) and EPA. The Town routinely monitors the water supply for various contaminants to ensure that we meet all regulatory requirements. The tables in this report list only those contaminants for which there was some level of detection. Vienna's water was analyzed for many additional contaminants, but either they were not present or were below detection limits of the laboratory equipment. Water quality data is primarily from testing done in 2019; however, the EPA allows us to monitor for some contaminants less than once a year because concentration of these contaminants changes infrequently.

Is your water safe to drink? Absolutely! We are proud to share our water quality test results with you. For further information, please call a contact number listed on page 2.

Sincerely,

Mercury Payton
Town Manager

GET INVOLVED – PUBLIC MEETINGS

Decisions concerning Vienna's water are made by Town Council. Regular Council meetings generally are held the first and third Monday of the month (except in July and August) at 8 p.m. in Council Chambers at Town Hall.

The Town's meeting and event calendar is available for review at **viennava.gov/calendar.aspx**.

YOUR DRINKING WATER QUALITY

In the following report, you will find an overview of required and voluntary water testing programs undertaken by the Town of Vienna in order to protect and ensure the quality of our drinking water system. Data presented in this report was collected in 2019 unless otherwise stated in the data tables.

As water travels over land surfaces or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or human activity. Substances (referred to as contaminants) in source water may come from septic systems, discharges from domestic or industrial wastewater treatment facilities, agricultural and farming activities, urban stormwater runoff, residential uses, and many other types of activities. Water from surface sources is treated to make it drinkable. All drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

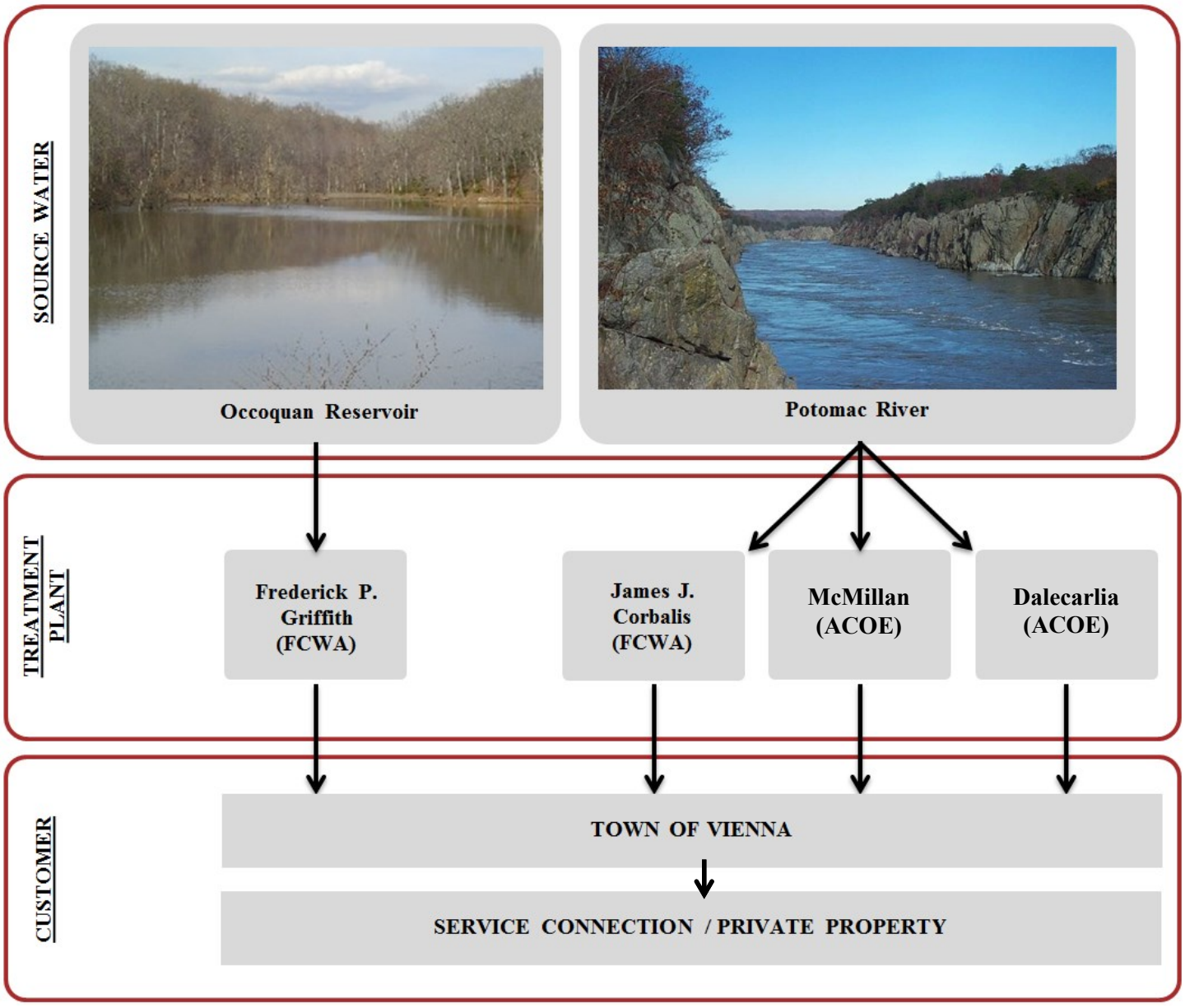
To ensure that tap water is safe to drink, the EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water.

More information can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791.

YOUR DRINKING WATER SOURCES

For calendar year 2019, the Town of Vienna was supplied with treated surface water from the Potomac River and Occoquan Reservoir. This water is supplied by the Fairfax County Water Authority (FCWA) and Army Corp of Engineers (ACOE) through the Washington Aqueduct. The water is treated at the James J. Corbalis Jr. and Frederick P. Griffith plants, operated by FCWA, and the McMillan and Dalecarlia treatment plants, operated by the ACOE. Water goes through several treatment processes, including coagulation, flocculation, chlorination, sedimentation, and filtration. A corrosion inhibitor is added to help prevent leaching of lead and copper that may be present in household plumbing. Fluoride also is added to protect health. The treated water must meet state and federal requirements administered by the VDH.

Assessments of Vienna's water sources determined that they may be vulnerable to contamination from agricultural activities, residential development, and industry. However, extensive treatment, provided by Fairfax Water and the Army Corps of Engineers, protects the water from contamination. As mentioned elsewhere in this report, the Town of Vienna's water quality continues to meet all federal and state requirements.



GET INVOLVED – PROTECT YOUR WATER SOURCES

A watershed is an area of land that drains to a particular point along a stream or river. The best way to protect the Potomac River from contamination is to help protect the watershed. Here are several ways to help protect your drinking water supply:

- **Use less fertilizer.** Test your soil before application and follow the manufacturer's instructions.
- **Apply fertilizer in the fall** to help reduce nitrogen and phosphorus runoff or leaching often caused by heavy spring rains.
- **Leave grass clippings on lawn** as a natural fertilizer.
- **Mow grass to proper height** - three inches is recommended.
- **Plant native or well-adapted plants** that are likely to require less water, fertilizer, and pesticides.
- **Flush pet waste** down the toilet or wrap securely and place in trash.
- **Don't pour chemicals down the drain.** Dispose of household chemicals through a hazardous waste recycling program such as the Fairfax County's Household Hazardous Waste Disposal Program.
- **Don't flush unused pharmaceuticals.** Find a drug take-back location or properly dispose of medication in the garbage.
- **Prevent trash and debris** from entering storm drains and catch basins. To report a clogged drain or basin, call 703-255-6380.
- **Report spills** that could potentially enter waterways by calling 703-255-6380. After regular business hours, call the Vienna police non-emergency number at 703-255-6366.
- **For more information** on stormwater management within the Town, visit **viennava.gov/stormwater**.

SOURCE WATER ASSESSMENT AND PROTECTION

Under provisions of the federal Safe Drinking Water Act, states are required to develop comprehensive source water assessment programs that meet the following requirements:

- identify watersheds that supply public tap water,
- provide an inventory of contaminants present in the watershed, and
- assess susceptibility to contamination in the watershed.

The VDH and Interstate Commission on the Potomac River Basin (ICPRB) have completed source water assessments for local watersheds. The assessments consist of maps of evaluated watershed areas, an inventory of known land-use activities, and documentation of any known source water contamination within the last five years. Based on criteria developed by the state, the Potomac River and Occoquan Reservoir were determined to be of high susceptibility to contamination. This determination is consistent with the state's finding for other surface waters, such as rivers, lakes, and streams, throughout Virginia. The assessment reports are available at **fairfaxwater.org/swap**.

WHAT IS IN THE WATER?

Contaminants that may be in source water include:

Microbial Contaminants (Viruses and Bacteria)	Inorganic Contaminants (Salts and Metals)	Pesticides and Herbicides	Organic Chemical Contaminants	Radioactive Contaminants
• Sewage treatment plants • Septic systems • Agricultural livestock operations • Wildlife	• Urban stormwater runoff • Industrial wastewater discharges • Oil and gas production • Mining or farming	• Agriculture • Urban stormwater runoff • Residential uses	• Industrial processes and petroleum production • Gas stations • Urban stormwater runoff • Septic systems	• Oil and gas • Mining activities

The water treatment process removes contaminants, making the Town of Vienna's water safe to drink!

GET INVOLVED – REDUCING EXPOSURE TO LEAD IN DRINKING WATER

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. The Town of Vienna is responsible for providing high-quality drinking water, but cannot control the variety of materials used in private 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 (800-426-4791) or at **epa.gov/safewater**.

The Town of Vienna's drinking water does NOT have the same contamination risk as seen in Flint, Michigan, or as recently in Newark, New Jersey. To prevent lead from leaching into drinking water, a phosphate-based corrosion inhibitor is added and water pH is adjusted by Fairfax Water. The Town's water distribution system does not contain lead pipes, and there are no identified lead service connections. As part of EPA-mandated lead testing, water from thirty Vienna water service area houses constructed prior to 1986 is periodically tested. These samples have consistently tested below the 0.015 parts per million lead action level as outlined by EPA's Lead and Copper Rule, and therefore the Town is only required to test for lead every three (3) years. The next round of sampling is scheduled for 2022.

WHY IS CHLORINE USED FOR DISINFECTION?

Most of the year, chloramine (chlorine + ammonia) is used for drinking water disinfection. For a short period each year, disinfection switches from chloramine to chlorine. This change is standard practice and is part of an annual program to clean water pipes and maintain water quality throughout the year. During this water chemistry change, chlorine is added in an uncombined state, commonly referred to as free chlorine. Free chlorine is somewhat more volatile than combined chlorine, which allows it to react with suspended sediment. During this change, the Town completes its annual fire hydrant flushing program by opening hydrants and allowing the water to flow freely for a short period of time. This also enables the Town to test and perform routine maintenance on the more than 800 fire hydrants within its service area.

Public water systems use chlorine and chloramine to kill harmful bacteria and viruses that can make people sick. The level of chlorine used is safe for consumption, but you can reduce the chlorine smell and taste by placing an open pitcher of water in the fridge.

GET INVOLVED – HELP PROTECT A FIRE HYDRANT

Winter storms often hide fire hydrants under a mountain of snow, making hydrants impossible to find quickly. In the event of a fire, firefighters have to locate and shovel out buried fire hydrants before hooking up to them, losing precious time that could be better containing a fire and saving lives.

Please do not let your neighborhood hydrant remain under cover of snow, leaves, or other debris. Help your fire department and neighbors by keeping the fire hydrant closest to your residence or business clear of snow, leaves, building debris, and trash. The fire department needs at least three feet of clearance on all sides.

For additional questions or concerns regarding fire hydrants, contact the Town's Department of Public Works at 703-255-6380.

WATER AND SEWER RATES

On June 15, 2020, Town Council adopted the fiscal year 2020-2021 (FY2021) budget. The total FY2021 water and sewer fund budget is set at $10,194,050. Council has also adopted FY2021 water and sewer rates, which represent a 10.4% increase. For the average Vienna customer, this change amounts to approximately $74 per year. The increase in rates will support critical investments in aging infrastructure and maintain reserves to provide for contingencies and unplanned expenses related to the water and sewer system. For more information on water and sewer rates and the supporting rate study, please contact the Town's Department of Public Works at 703-255-6380.

GET INVOLVED – CALL BEFORE YOU DIG

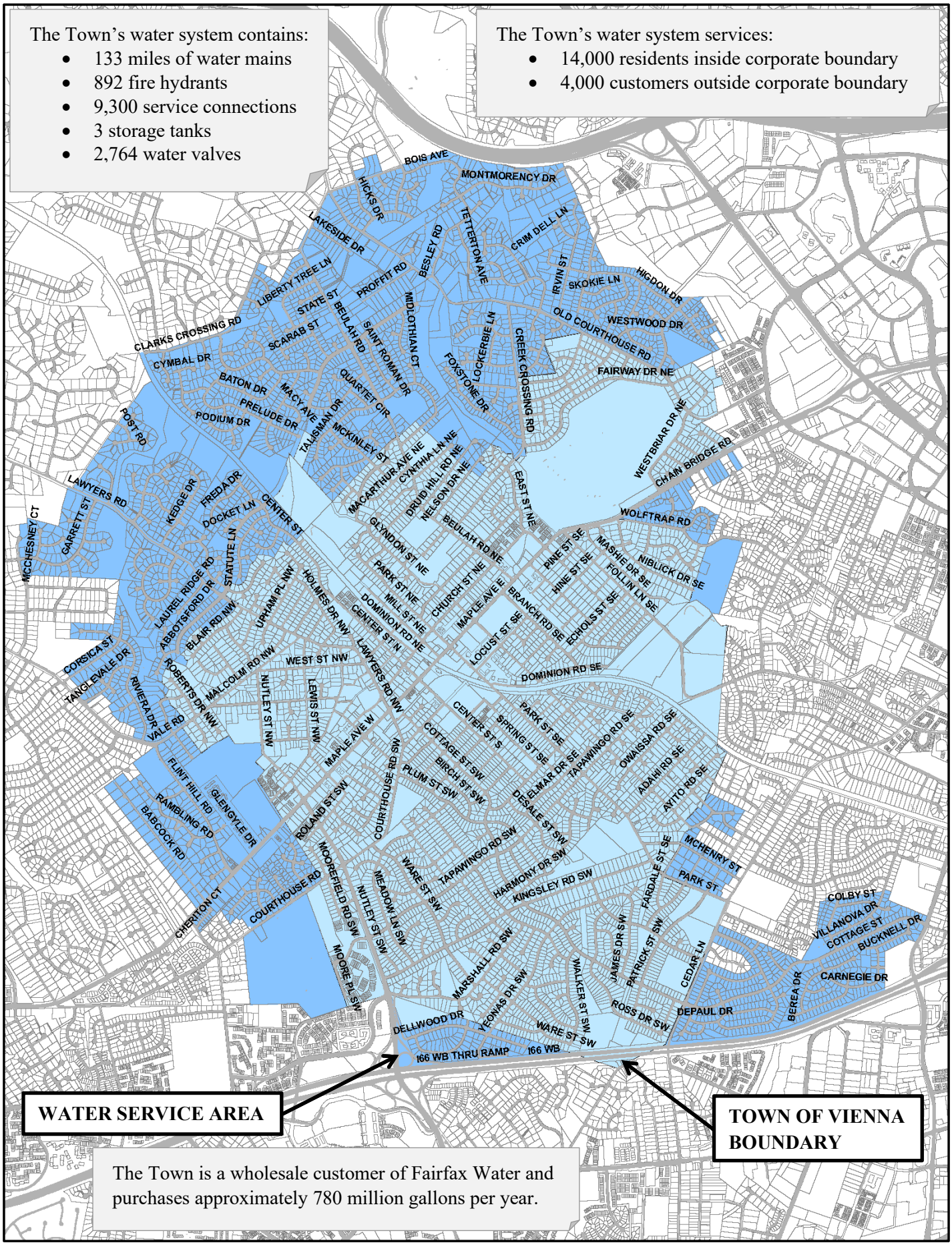
Help protect yourself and our underground utilities by calling 811 before you dig. Whether you are planning to do it yourself or hire a professional, smart digging means calling 811 before each job. More information may be found at **va811.com**.

The Town's water system contains:

- 133 miles of water mains
- 892 fire hydrants
- 9,300 service connections
- 3 storage tanks
- 2,764 water valves

The Town's water system services:

- 14,000 residents inside corporate boundary
- 4,000 customers outside corporate boundary



The Town is a wholesale customer of Fairfax Water and purchases approximately 780 million gallons per year.

HOW TO READ ANALYSIS DATA

Town of Vienna water is tested to assure that it is safe and healthy. Contaminants in the drinking water are routinely monitored according to federal and state regulations. The tables contained in this report show the most recent results of our monitoring. The "Major Source in Drinking Water" column shows where this substance usually originates. The following definitions are provided to help you better understand terms and abbreviations.

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

EPA (Environmental Protection Agency)
An agency of the United States federal government that protects human health and the environment, including drinking water, by promulgating and enforcing regulations based on laws passed by Congress.

HAA5 (Haloacetic Acids 5)
The five haloacetic acid species required to be monitored by EPA.

Level 1 Assessment
A Level 1 Assessment is a study of waterworks to identify potential problems and, if possible, why total coliform bacteria have been found in a waterworks system.

Level 2 Assessment
A Level 2 Assessment is a very detailed study of waterworks to identify potential problems and determine, if possible, why an E. coli PMCL violation has occurred and why total coliform bacteria have been found in waterworks on multiple occasions.

Maximum Contaminant Level (MCL)
The highest level of a contaminant allowed in drinking water. MCLs are set at very stringent levels by the EPA. In developing standards, EPA assumes that the average adult drinks two liters of water each day throughout a 70-year lifespan. EPA generally sets MCLs at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-one million chance of having the described health effect for other contaminants.

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. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Residual Disinfectant Level (MRDL)
The maximum level of total chlorine allowable by regulation.

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

Non-detects (ND)
Laboratory analysis indicates that contaminant is not present.

Not Applicable (N/A)
Does not apply to this subject or in this scenario.

Nephelometric Turbidity Unit (NTU)
A measure of the clarity or cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of filtration systems.

Picocuries per liter (pCi/L)
A measure of radioactivity in water.

Parts per million (ppm)
One part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb)
One part per billion corresponds to half a teaspoon of water in an Olympic-sized swimming pool, one minute in 2,000 years, or one penny in $10 million.

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

Turbidity
A measure of the cloudiness of water. We measure turbidity because it is a good indicator of the effectiveness of the water treatment system. Turbidity in excess of 5 NTU is just noticeable to the average person.

TEST RESULTS →

FAIRFAX WATER (FCWA) RESULTS - FINISHED WATER CHARACTERISTICS OF REGULATED PARAMETERS

				Corbalis Water Treatment Plant			Griffith Water Treatment Plant			
Components	**Unit**	**Goal (MCLG)**	**Max. Allowed (MCL)**	**Average**	**Minimum**	**Maximum**	**Average**	**Minimum**	**Maximum**	**Major Source in Drinking Water**
Barium	ppm	2	2	0.041	0.028	0.049	0.018	ND	0.038	Discharge of drilling wastes; discharge from metal refineries; erosion from natural deposits
Beta/photon Emitters[1]	pCi/L	0	50[1]	3.33[2]	ND	4.78	2.63[2]	2.63[2]	2.63[2]	Decay of natural and man-made deposits
Fluoride	ppm	4	4	0.7	0.6	0.7	0.7	0.6	0.8	Water additive that promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	ppm	10	10	1.28	1.03	1.68	0.90	0.62	1.30	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Radium 226	pCi/L	0	5	0.145[2]	ND	0.186[2]	---	---	---	Decay of natural and manmade deposits
Uranium	ppb	0	30	0.085[2]	0.083[2]	0.088[2]	---	---	---	Erosion of natural deposits
Total Organic Carbon	ratio	N/A	TT	Removal ratio achieved: 1.6[3] based on quarterly running annual average. Removal ratio range 1.4 – 1.6.			Removal ratio achieved: 1.6[3] based on quarterly running annual average. Removal ratio range 1.5 – 1.6.			Naturally present in the environment
Turbidity	NTU	N/A	TT	0.24 = highest single measurement 0.04 = average annual turbidity Lowest monthly percentage of samples meeting turbidity requirements = 100%.			0.16 = highest single measurement 0.03 = average annual turbidity Lowest monthly percentage of samples meeting turbidity requirements = 100%.			Soil runoff

[1] The MCL for the beta particles is written as 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

[2] This radioactive contaminant result is above the analysis-specific detection limit but below the minimum detection limits (DL) prescribed in the Consumer Confidence Rule, as stated in 40 CFR 141.151 (d). This result may not be required to be reported in the CCR.

[3] Quarterly Running Annual Average (QRAA) of the monthly ratio of actual Total Organic Carbon removal versus required Total Organic Carbon removal. QRAA is to be ≥ 1 to be in compliance.

WASHINGTON AQUEDUCT (ACOE) RESULTS - FINISHED WATER CHARACTERISTICS OF REGULATED PARAMETERS

				Dalecarlia Water Treatment Plant			McMillan Water Treatment Plant			
Components	**Unit**	**Goal (MCLG)**	**Max. Allowed (MCL)**	**Average**	**Minimum**	**Maximum**	**Average**	**Minimum**	**Maximum**	**Major Source in Drinking Water**
Arsenic	ppb	0	10	ND	ND	0.3	ND	ND	0.3	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	ppm	2	2	0.04	0.03	0.05	0.04	0.03	0.05	Discharge of drilling wastes; discharge from metal refineries; erosion from natural deposits
Combined Radium - 226/228[1]	pCi/L	0	5	ND	ND	2	ND	ND	ND	Erosion of natural deposits
Fluoride	ppm	4.0	4.0	0.7	0.6	0.8	0.7	0.6	0.8	Water additive that promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	ppm	10	10	2	1	3	2	1	3	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Total Organic Carbon	ratio	N/A	TT	Running annual average removal ratio is required to be equal to or greater than 1.00. Removal ratio actually achieved: ≥1.23 based on running annual averages.			Running annual average removal ratio is required to be equal to or greater than 1.00. Removal ratio actually achieved: ≥1.35 based on running annual averages.			Naturally present in the environment
Turbidity	NTU	N/A	TT	0.06 = highest single hourly measurement. Lowest monthly percentage of samples meeting turbidity requirements = 100%.			0.06 = highest single hourly measurement. Lowest monthly percentage of samples meeting turbidity requirements = 100%.			Soil runoff

[1] Triennial radionuclide monitoring was performed in 2017.

Total Organic Carbon has no health effects. However, it provides a medium for formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Compliance with treatment technique reduces formation of these disinfection byproducts.

Turbidity levels are measured during the treatment process after the water has been filtered, but before disinfection. The turbidity level of filtered water shall be less than or equal to 0.3 NTU in at least 95% of measurements taken each month and shall at no time exceed 1 NTU.

WASHINGTON AQUEDUCT (ACOE) RESULTS - FINISHED WATER CHARACTERISTICS OF UNREGULATED PARAMETERS

				Dalecarlia Water Treatment Plant			McMillan Water Treatment Plant			
Components	**Unit**	**Goal (MCLG)**	**Max. Allowed (MCL)**	**Average**	**Minimum**	**Maximum**	**Average**	**Minimum**	**Maximum**	**Major Source in Drinking Water**
Nickel	ppb	N/A	N/A	0.5	ND	0.8	ND	ND	0.8	Primarily leaching from metals in contact with drinking-water, such as pipes and fittings; may also be present in some groundwaters as a consequence of dissolution from nickel ore-bearing rocks
Sodium	ppm	N/A	N/A	22	13	45	22	14	30	Natural occurrences, road salt, water treatment chemicals, and ion-exchange water softening units

TOWN OF VIENNA RESULTS - MICROBIAL INDICATORS

Since 1989, public water systems have been required to comply with the Total Coliform Rule (TCR). A revised version of the rule, the Revised Total Coliform Rule (RTCR), took effect as of April 1, 2016. This 2020 Drinking Water Quality Report reflects changes in regulatory requirements imposed by the RTCR. The RTCR maintains the purpose of protecting public health by ensuring the integrity of drinking water distribution system and monitoring for the presence of microorganisms (i.e., total coliform and E.coli bacteria). The EPA anticipates greater public health protection under the RTCR, as it requires public water systems that are vulnerable to microbial contamination, to identify and fix problems. As a result, under the RTCR, there is no longer a monthly maximum contaminant level violation for multiple total coliform detections. Instead, the RTCR requires public water systems that exceed a specified frequency of total coliform occurrences to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected.

The Town of Vienna had no detections of positive total coliform samples out of 373 total samples collected throughout 2019. Under the Revised Total Coliform Rule, no assessment was triggered in 2019.

Components	Highest Level Allowed (TT)[1]	Highest Monthly Total Coliform Positive %	Assessment Triggered[2]	Major Source in Drinking Water
Total Coliform Bacteria	Monthly Total Coliform positive sample percentage = 5%	0.0%	No	Naturally present in the environment

Components	Highest Level Allowed (EPA MCL)	# of Positive E.coli samples this period	Assessment Triggered[3]	Major Source in Drinking Water
Fecal Coliform or E.coli Bacteria	Repeat sample is E.coli positive OR Routine sample is E.coli positive followed by repeat sample that is total coliform positive OR System fails to take all required repeat samples following E.coli positive routine sample OR System fails to analyze for E.coli when any repeat sample tested positive for total coliform	Routine = 0 Repeat = 0	No	Human and animal fecal waste

[1] TT: Treatment Technique (Total Coliform Bacteria was changed from an EPA MCL to a Treatment Technique on April 1, 2016.)

[2] If the monthly Total Coliform positive sample percentage is 5 percent or higher, an assessment to determine the cause would be performed and corrective action taken.

[3] If an E. coli MCL violation occurs, an assessment to determine the cause would be performed and corrective action taken.

TOWN OF VIENNA RESULTS - LEAD AND COPPER

Components	Unit	Goal (MCLG)	Action Level	Results of Samples from 90th Percentile Value	Action Level Exceedance?	# of Sites Exceeding Action Level	Use or Environmental Source*
Lead	ppb	0	15	1.5	No	0	Corrosion of household plumbing systems; erosion of natural deposits
Copper	ppm	1.3	1.3	0.164	No	0	

Copper and lead results are based on testing performed in 2019. Due to observed low levels of lead and copper, the Town of Vienna is on a reduced monitoring schedule, which requires monitoring only every three years. The next triennial monitoring period is 2022.

TOWN OF VIENNA RESULTS - DISINFECTANTS

Components	Unit	Goal (MRDLG)[1]	Max. Allowed (MRDL)[2]	Highest Quarterly Average	System Range (Individual Results)	Violation	Major Source in Drinking Water
Total Chlorine	ppm	4	4	2.7	1.0 – 4.0	No	Water additive used to control microbes

[1] Maximum Residual Disinfectant Level Goal

[2] Maximum Residual Disinfectant Level

TOWN OF VIENNA RESULTS – DISINFECTANT BYPRODUCTS

Components	Unit	Goal (MCLG)[1]	Max. Allowed (MCL)[1]	Highest Locational Running Annual Average (LRAA)[2]	System Range (Individual Results)	Violation	Major Source in Drinking Water
Total Trihalomethanes	ppb	0	80	41.4	1.63 – 57.3	No	Byproduct of drinking water disinfection
Haloacetic Acids 5 (HAA5)	ppb	0	60	29.4	4.43 – 84.9	No	Byproduct of drinking water disinfection

[1] Unless otherwise specified, MCLG and MCL apply to an individual result.

[2] Compliance is based upon site-specific Locational Running Annual Averages (LRAAs) (not based upon an individual result).

TOWN OF VIENNA RESULTS – UNREGULATED CONTAMINANT MONITORING RULE 4 (UCMR4)

The 1996 Safe Drinking Water Act (SDWA) amendments require the EPA once every five years to issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs). Unregulated contaminants are those that do not yet have a drinking water standard or maximum allowable concentration set by EPA. The monitoring of unregulated contaminants will help the EPA evaluate the occurrence of these compounds and determine future regulations. The fourth UCMR was published in the Federal Register on December 20, 2016.

The UCMR benefits environmental and public health by providing EPA and other interested parties with scientifically valid data about the presence of these contaminants in drinking water. This allows EPA and public water systems to determine if the population is being exposed and to quantify the level of exposure. This data is one of several primary sources for occurrence and exposure of remerging contaminants.

The Town of Vienna started sampling for UCMR4 in July 2018. The results published on this page are for samples collected in 2018 and 2019. The complete UCMR4 results are published in this year's water quality report.

		Distribution System UCMR4 Detects		
Components	**Unit**	**Average**	**Minimum**	**Maximum**
Haloacetic Acids 5 (HAA5)[1]	ug/L	2.95	0.65	4.26
Haloacetic Acids 6 Brominated Group (HAA6BR)[2]	ug/L	3.04	1.02	5.38
Haloacetic Acids 9 (HAA9)[3]	ug/L	0.63	0.35	0.89
Use or Environmental Source: By-products of drinking water disinfection				

[1] HAA5 includes: dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, trichloroacetic acid.

[2] HAA6Br includes: bromochloroacetic acid, bromodichloroacetic acid, dibromoacetic acid, chlorodibromoacetic acid, monobromoacetic acid, tribromoacetic acid.

[3] HAA9 includes: bromochloroacetic acid, bromodichloroacetic acid, chlorodibromoacetic acid, dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, tribromoacetic acid, trichloroacetic acid.

			Entry Point UCMR4 Detects		
Components	**Unit**	**MRL[1]**	**Average**	**Minimum**	**Maximum**
Anatoxin-a	ug/L	0.0300	< 0.0300	< 0.0300	< 0.0300
Cylindrospermopsin	ug/L	0.0900	< 0.0900	< 0.0900	< 0.0900
Total Microcystins & Nodularins	ug/L	0.300	< 0.300	< 0.300	< 0.300
Percent Coefficient of Variation	%	N/A	5.1	0.2	10
Germanium	ug/L	0.3	< 0.3	< 0.3	< 0.3
Manganese	ug/L	0.4	1.07	0.885	1.34
alpha-Hexachlorocyclohexane	ug/L	0.01	< 0.01	< 0.01	< 0.01
Chlorpyrifos	ug/L	0.03	< 0.03	< 0.03	< 0.03
Dimethipin	ug/L	0.2	< 0.2	< 0.2	< 0.2
Ethoprop	ug/L	0.03	< 0.03	< 0.03	< 0.03
Oxyfluorfen	ug/L	0.05	< 0.05	< 0.05	< 0.05
Profenofos	ug/L	0.3	< 0.3	< 0.3	< 0.3
Tebuconazole	ug/L	0.2	< 0.2	< 0.2	< 0.2
Total Permethrin	ug/L	0.04	< 0.04	< 0.04	< 0.04
Tribufos	ug/L	0.07	< 0.07	< 0.07	< 0.07
Butylated hydroyanisole	ug/L	0.03	< 0.03	< 0.03	< 0.03
o-Toluidine	ug/L	0.007	< 0.007	< 0.007	< 0.007
Quinoline	ug/L	0.02	< 0.02	< 0.02	< 0.02
1-Butanol	ug/L	2	< 2	< 2	< 2
2-Methoxyethanol	ug/L	0.4	< 0.4	< 0.4	< 0.4
2-Propen-1-ol	ug/L	0.5	< 0.5	< 0.5	< 0.5

[1] Minimum Reporting Limit.

WHAT IS GIARDIA?

Giardia is a microscopic parasite that causes an intestinal illness known as giardiasis. The Army Corps of Engineers (ACOE) monitors for giardia lamblia cysts in the Potomac River every month. Giardia lamblia cysts were detected in nine (9) samples collected in 2019 with concentrations ranging from 0.093 to 0.744 cysts/L.

The water treatment process is designed to remove giardia by providing a multiple-barrier approach to chemically treat, filter, and disinfect source water and minimize the risk to public health.

WHAT IS CYPTOSPORIDIUM?

Cryptosporidium is a microbial pathogen found in most surface water in the United States. The ACOE monitors for cryptosporidium in the Potomac River and Occoquan Reservoir every month. Cryptosporidium oocysts were detected in three (3) samples collected by the ACOE from the Potomac River in February, June, and December 2019 with concentrations ranging from 0.095 to 0.279 oocysts/L.

The water treatment process is designed to remove cryptosporidium by providing a multiple-barrier approach to chemically treat, filter, and disinfect source water and minimize the risk to public health; however, most commonly used filtration methods cannot guarantee 100 percent removal. Fairfax Water and the Army Corps of Engineers consistently maintain filtration processes in accordance with regulatory guidelines to maximize removal efficiency.

Ingesting cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing a life-threatening illness. The Town of Vienna encourages immuno-compromised individuals to consult their doctor regarding appropriate precautions to avoid infection and viruses that can make people sick.