DEPARTMENT OF THE NAVY
NAVAL SUPPORT ACTIVITY WASHINGTON
1411 PARSONS AVENUE ST STE. 303
WASHINGTON NAVY YARD DC 20374-5003

5090
N4/Ser 173
28 June, 2017

MEMORANDUM

From: Commanding Officer, Naval Support Activity Washington
To: Washington Navy Yard Tenant Commands and Residents

Subj: 2017 ANNUAL DRINKING WATER QUALITY REPORT SUMMARIZING 2016 RESULTS, WASHINGTON NAVY YARD, PUBLIC WATER SYSTEM #DC0000003

Encl: (1) 2017 Annual Drinking Water Quality Report Summarizing 2016 Results for the Washington Navy Yard
(2) 2017 Consumer Confidence Report Summarizing 2016 Results from the District of Columbia Water and Sewer Authority

1. In accordance with federal drinking water regulations, Naval Support Activity (NSA) Washington is providing Washington Navy Yard (WNY) Tenant Commands and Residents with the 2017 Annual Drinking Water Quality Report Summarizing 2016 Results for the Washington Navy Yard and the 2017 Consumer Confidence Report Summarizing 2016 Results from the District of Columbia Water and Sewer Authority (DC Water).

2. This routine report is required by law, and is being provided to ensure that you have all of the information regarding the quality of WNY drinking water. Please note that this is not being sent in response to a health threat, but a requirement of the law. **The water served at the Washington Navy Yard met federal Safe Drinking Water Act standards in 2016 and continues to meet those standards.**

3. Washington Navy Yard's drinking water originates from the Potomac River and is treated by the U.S. Army Corps of Engineers, Washington Aqueduct (WA). The WA uses chloramines as a disinfectant. DC Water purchases drinking water from the WA and distributes it to residences and businesses in the District, to include the Washington Navy Yard.

4. NAVFAC Washington is required to monitor the drinking water distribution system for specific contaminants at the Washington Navy Yard. The results of routine monitoring are an indicator of whether or not Washington Navy Yard's drinking water met Safe Drinking Water Act standards.

5. As required, enclosure (1) contains drinking water monitoring results conducted at the Washington Navy Yard in Calendar Year (CY) 2016 and enclosure (2) provides DC Water's 2016 Drinking Water Quality Report. These enclosures also provide important information about the following topics:

a. Drinking Water Quality Monitoring Results for the Washington Navy Yard conducted in CY 2016;

b. Important health effects information;

c. Definitions of key terms, such as maximum contaminant level;

d. Contaminants reasonably expected to be found in drinking water;

e. Sources of drinking water and contaminants that may be present in source waters;

f. Environmental Protection Agency (EPA) and Food and Drug Administration regulations;

g. Non-English speaking population information; and

h. EPA Safe Drinking Water Hotline telephone number.

6. 2017 Annual Drinking Water Quality Report Summarizing 2016 Results for the Washington Navy Yard contains one (1) notice of violation issued by EPA Region III to the Washington Navy Yard. The Washington Navy Yard failed to submit a comprehensive corrective plan for the two (2) Level 2 Assessments performed by the EPA in 2016 in response to the presence of coliform bacteria, a naturally occurring bacterium, in drinking water samples in August and November. There are no adverse health impacts resulting from this administrative violation and no action by consumers is required. This serves the public notification requirement mandated under the Revised Total Coliform Rule of the Safe Drinking Water Act.

7. If you have any questions with regard to the quality of the Washington Navy Yard's drinking water, contact PWD Washington's Drinking Water Program Manager, Dane Bowker at (202) 433-4191.

J. J. DRAEGER

2017 ANNUAL DRINKING WATER QUALITY REPORT SUMMARIZING 2016 RESULTS FOR THE WASHINGTON NAVY YARD

Purpose

NAVFAC Washington distributes drinking water to residential and non-residential buildings on the Washington Navy Yard. This water is supplied to NAVFAC Washington by the District of Columbia Water (DC Water). The DC Water purchases the water from the U.S. Army Corps of Engineers, Washington Aqueduct who treats Potomac River water by removing impurities and adding a disinfectant to control microorganism levels. DC Water conducts water quality monitoring throughout the city to ensure that the water delivered throughout the District meets Federal drinking water quality standards. NAVFAC Washington conducts routine sampling and monitoring activities at the Washington Navy Yard (WNY). A summary of these monitoring results are contained in Table 1 of this report.

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. The EPA and Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800) 426–4791.

Cryptosporidium **–** *Cryptosporidium* is a microbial pathogen found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly-used filtration methods cannot guarantee 100 percent removal. Monitoring performed by the Washington Aqueduct indicates the presence of these microorganisms in the Potomac River. Current test methods do not allow us to determine if the microorganisms are dead or if they are capable of causing disease.

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. NAVFAC Washington encourages immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease and it may be spread through means other than drinking water.

Lead - 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 water service lines and home plumbing. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap

for 2 minutes before using water for drinking or cooking. WNY has met EPA standards for lead in 2016 (see Table 1), the most recent round of monitoring. If you are concerned about lead in WNY water, please contact Public Works Department (PWD) Washington Drinking Water Program Manager Dane Bowker, at 202-433-4191.Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at http://water.epa.gov/drink/info/lead/index.cfm.

Changes to the Total Coliform Rule

This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2016. All water systems were required to comply with the Total Coliform Rule from 1989 to March 31, 2016, and began compliance with a new rule, the Revised Total Coliform Rule on April 1, 2016. The new rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and E.coli bacteria). US Environmental Protection Agency (EPA) anticipates greater public health protection under the new rule, as it requires water systems that are vulnerable to microbial contamination to identify and fix problems. As a result, under the new rule there is no longer a monthly maximum contaminant level violation for multiple total coliform detections. Instead, the new rule requires 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. You can view changes to the Total Coliform Rule at https://www.epa.gov/dwreginfo/revised-total-coliform-rule-and-total-coliform-rule.

Total Coliform Assessments During 2016

Level 1 Assessment - A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in the WNY water system.

Level 2 Assessment – A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in the WNY water system on multiple occasions and/or why an *E. coli* MCL violation has occurred.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. The WNY found coliforms indicating the need to look for potential problems in the WNY distribution system. When this occurs, the WNY is required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

During the past year the WNY was required to conduct one (1) Level 1 Assessment. One (1) Level 1 Assessment was completed by the WNY. The WNY Public Works Department determined that no sanitary defects were found that required corrective action.

During the past year the WNY was required to conduct two (2) Level 2 Assessments due to positive total coliform bacteria results in August and November 2016. Two (2) Level 2 Assessments were completed by EPA Region III, the first in September 2016, the second in November 2016. The WNY was required to take seven (7) corrective actions and the WNY completed three (3) of these actions.

Notice of Violation During 2016

The WNY water system violated a drinking water requirement in December 2016. Although this situation is not an emergency, as our customers, you have a right to know what happened and what the PWD did to correct this situation.

The WNY was required to participate in the Level 2 Assessment performed by EPA and submit a plan of intended corrective actions. The WNY incurred a violation in December 2016 for failure to submit a corrective plan in a timely manner that addresses all of the sanitary defects during the two Level 2 Assessments performed in 2016. The multiple versions of the corrective plans submitted by the PWD were not comprehensive as of December 10, 2016.

What should you do?

- There is nothing you need to do. You do not need to boil your water or take other corrective actions. You may continue to drink the water.

- Please share this information with all the other people who drink this water, especially those who may not have received this notice directly. You can do this by posting this notice in a public place or distributing copies by hand or mail.

What does this mean?
This is not an emergency. If it had been, you would have been notified within 24 hours.

What is being done?
PWD has resolved this issue by submitting a comprehensive corrective plan on June 6, 2017 and is working to address the necessary corrective actions.

For more information, please contact Public Works Department (PWD) Washington Drinking Water Program Manager Dane Bowker, at 202-433-4191.

This notice is being sent to you by the WNY water system (Water system ID No. DC0000003) and will be distributed on or before July 1, 2017.

Maintaining High Water Quality in Residential and Non-residential Buildings

What is the difference between building pipes and distribution mains?

Building pipes and distribution mains both move water. The difference is how fast the water is moving. Distribution mains typically have high water velocities that keep water fresh because of the continuous demand on the system. However, once the water leaves the main and enters a customer's service line, the water only turns over as fast as consumers use it. Water in buildings has the tendency to stagnate during off-work hours or vacation times.

Buildings also tend to keep water warmer, which can deteriorate water quality and at times create taste and odor issues.

What can I do as a building manager to improve water quality?

As a building manager, you play a larger role in enhancing the water quality within the building. Here are a few actions managers can take to prevent water quality degradation and even contamination.

- **Flush Lines After Extended Periods of Stagnation** - Often buildings will shut down over weekends and holidays. Following extended days of water stagnation, flush a tap at the farthest end of the building from where the water originates on each floor for 15 minutes. In addition, flush each frequently used fountain/tap for 2 minutes before use.

- **Maintain Water Fountains** - Many fountains have filters that remove chlorine taste, reduce byproducts of chlorine, and reduce sediments and particulate metals such as lead, copper, and iron which can leach from in-house plumbing. However, without routine maintenance and changing of these filters as recommended by the manufacturer, water quality will diminish considerably. Carbon filters that are not changed will eventually accumulate enough nutrients for bacteria to grow. As bacteria activity increases, their byproducts can reduce water quality. Another common water filter is a sediment filter. If these filters are not routinely changed in accordance with the manufacturer's recommendation, they may introduce contaminants into the water.

- **Clean Strainers/ Aerators** - Periodically remove and clean the strainer/ aerator device on faucets in the building to remove debris.

- **Backflow Devices Must Be Tested** - Many commercial buildings have heating and cooling recirculation systems and other industrial equipment that utilize public water as the main component. The water is sometimes heated during the circulation process, which can cause an increase in bacterial levels within the loop. In addition, some of these systems inject chemicals in water used by the equipment. Backflow prevention devices are placed on the inlet of the industrial equipment to prevent industrial water from getting back into the cold, public drinking water lines. At times, these devices can become clogged with debris, or their parts can wear over time and create the potential for recirculated water to backflow into the potable water. These devices should be tested at

least annually by a certified backflow tester to ensure they are working properly. Some devices require testing every six months.

- **Keep Water Coolers Clean** - Many buildings purchase bottled water coolers for drinking water purposes. Unlike tap water, the water provided in these coolers contains no disinfectant and therefore provides the potential for bacterial growth in the cooler dispenser. Coolers must be routinely cleaned as prescribed by the manufacturer.

Water Conservation. For information on what you can do to conserve water, please visit www.epa.gov/watersense.

Table 1: 2016 Results of Drinking Water Monitoring for Washington Navy Yard

Microbial Indicators							
		EPA Limits		**Washington Navy Yard Drinking Water**			**Description/ Typical Sources of Contaminants**
	Units	**MCLG**	**MCL or TT**	**Highest**	**Range**	**Violation**	
Total Coliform Bacteria*	Number Positive Samples	0	1	0	0	No	Naturally present in the environment
Total Coliform Bacteria^	TT	NA	TT	4	0-4	Yes	Naturally present in the environment
Fecal Coliform or E.coli Bacteria	Number Positive Samples	0	0	0	0	No	Human and animal fecal waste
Disinfectants							
Chlorine	ppm	4 MRDLG (annual average)	4.0 MRDL (annual average)	2.8 (Highest running annual average)	0.06-3.9 (Range of single site results)	No	Water additive that protects against microbiological contamination. Chlorine is combined with ammonia to form chloramine
Disinfection Byproducts ‡							
Total Trihalomethanes – Monitoring Period	ppb	N/A	80 ‡	53 (Highest locational running annual average)	14 to 94 (Range of single site results)	No	Trihalomethanes are a byproduct of drinking water disinfection
Haloacetic Acids – Monitoring Period	ppb	N/A	60 ‡	29 (Highest locational running annual average)	11 to 46 (Range of single site results)	No	Haloacetic acids are a byproduct of drinking water disinfection
Nitrate and Nitrite							
Nitrate	ppm	10	10	2.3	2.3	No	Runoff from fertilizer use; erosion from natural deposits
Nitrite**	ppm	1	1	<0.20	<0.20	No	Runoff from fertilizer use; erosion from natural deposits
Lead and Copper (at the consumer's Tap)							
		EPA Limits		**Washington Navy Yard Drinking Water**			**Description/ Typical Sources of Contaminants**
	Units	**MCLG**	**Action Level (AL)**	**Samples Above AL**	**90th Percentile**	**Violation**	
Lead							
June–Sept 2016 Monitoring Period***	ppb	0	15	0	<5	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper							
June–Sept 2016 Monitoring Period***	ppm	1.3	1.3	0	0.099	No	Corrosion of household plumbing systems; erosion of natural deposits

* Total Coliform results until March 31, 2016. For a system that collects fewer than 40 samples per month, if one or more samples during the month are total-coliform positive, the system has triggered a monthly MCL violation for coliform.

^ Total Coliform results beginning April 1, 2016.

‡ Disinfection byproducts are the result of providing continuous disinfection of your drinking water and form when disinfectants combine with organic matter naturally occurring in the source water. Disinfection byproducts are grouped into two categories, Total Trihalomethanes (TTHM) and Haloacetic Acids. USEPA set standards for controlling the levels of disinfectants and disinfectant byproducts in drinking water, including both TTHMs and HAAs.

** Nitrite results are from the 2015 monitoring year, which is the most recent sampling completed in accordance with Federal regulations.

*** Lead and copper results are from the 2016 monitoring year, which is the most recent sampling completed in accordance with Federal regulations.

Abbreviations and Definitions

AL- Action Level. The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a system must follow.
MCL - Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG - Maximum Contaminant Level Goal -Maximum Contaminant Level Goal. The level of a contaminant in drinking water below which there is no known or expected risk to health.
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 or expected risk to health. MDRLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
ND- Not Detected
ppb - parts per billion
ppm - parts per million
TT - Treatment Technique. A required process intended to reduce the level of a contaminant in drinking water.

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2017 DRINKING WATER QUALITY REPORT

– Summarizing 2016 Water Quality Test Results

Enclosure (2)

2017 DRINKING WATER QUALITY REPORT

DC WATER CONTACT INFORMATION

Drinking Water Division ..... (202) 612-3440
Customer Service ..... (202) 354-3600
24-Hour Command Center..... (202) 612-3400
External Affairs ..... (202) 787-2200
dcwater.com

Additional contacts:

US Army Corps of Engineers
Washington Aqueduct..... (202) 764-2703
nab.usace.army.mil/Missions/Washington-Aqueduct/

Department of Energy
and Environment ..... (202) 535-2600
doee.dc.gov

Interstate Commission on
the Potomac River Basin..... (301) 984-1908
potomacriver.org

EPA Region III Drinking Water Branch.....(215) 814-2321

The 2017 Water Quality Report is available for download at **dcwater.com/waterreport**.

Reports from previous years can be viewed at **https://www.dcwater.com/testresults**.
Please call 202-787-2200 or send an email to externalaffairs@dcwater.com to request a printed copy.

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CONTENTS

Este reporte contiene información importante sobre su agua potable. Para obtener una traducción del reporte, por favor comuníquese con la Oficina de Asuntos Externos a través del 202-364-3600 o custserv@dcwater.com.

ይህ ዘገባ ስለሚጠጡት ውሃ አስፈላጊ መረጃዎችን የያዘ ነው ። የተተረጎመውን ዘገባ ለማግኘት እባኮን የውጪ ጉዳይ ጽሕፈት ቤትን በስልክ ቁጥር 202-364-3600 ወይንም በሚሜል custserv@dcwater.com ያግኙ።

该报告包含有关您的饮用水的重要信息。如需翻译版的报告，请联系外事办公室，电话：202-364-3600，电子邮件： custserv@dcwater.com.

Báo cáo này có chứa thông tin quan trọng về nước uống của bạn. Vui lòng liên hệ Phòng Đối Ngoại theo số 202-364-3600 **hoặc địa chỉ** custserv@dcwater.com **nếu bạn muốn có bản dịch báo cáo.**

Ce rapport contient des renseignements importants à propos de votre eau potable. Si vous souhaitez vous procurer un rapport traduit, veuillez communiquer avec le Bureau des affaires extérieures en composant le 202-364-3600, ou connectez-vous à custserv@dcwater.com.

If you have a question about this report and require assistance from a translator, please contact Customer Service at 202-354-3600 (8 a.m. to 5 p.m., Monday through Friday).

Dear Customers,

It is with great pride that I present your 2017 Water Quality Report, which details the outstanding quality of your drinking water and reflects the dedication of more than 1,100 employees who serve you seven days a week and 24 hours a day. Customer safety is our first priority, and the 2016 test results presented in this report demonstrate that your drinking water surpassed the water quality standards established by the U.S. Environmental Protection Agency (EPA). In 2016, DC Water collected more than 6,500 water samples and conducted over 40,000 tests to ensure that high quality water reaches residents and businesses in the District of Columbia.

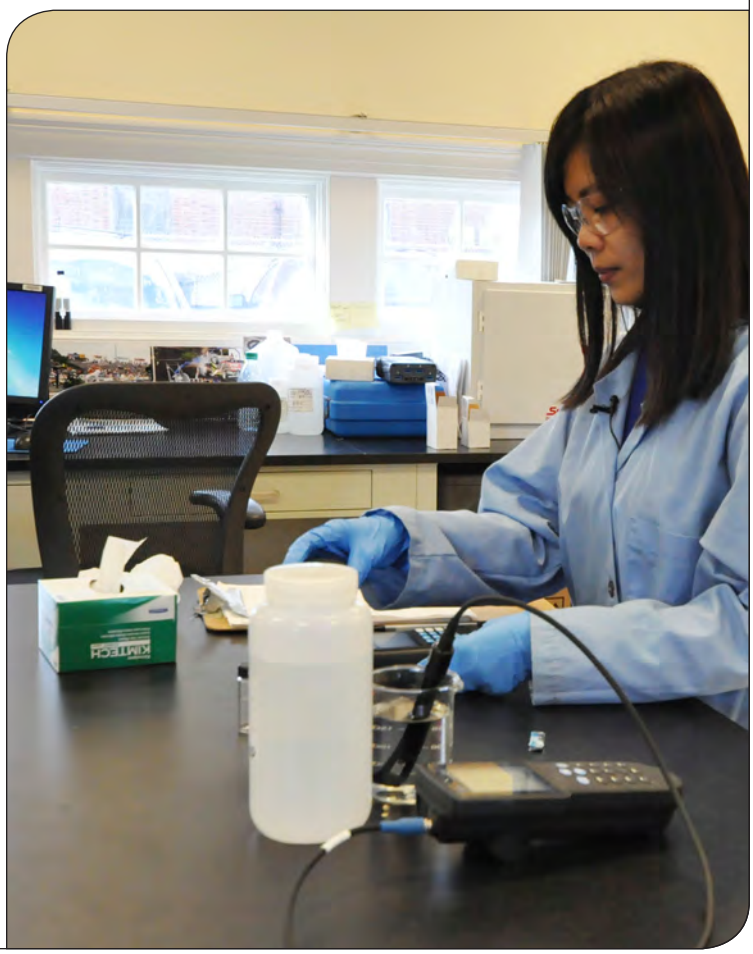
Please take this opportunity to learn more about your drinking water and DC Water's efforts to protect public health and our drinking water source, the Potomac River. We are committed to providing you with the best water at the lowest possible price and protecting your drinking water source for generations to come. If you have questions, concerns or suggestions, please contact us at one of the numbers listed on the previous page.

Sincerely,

George S. Hawkins, CEO and General Manager

YOUR DRINKING WATER QUALITY

In the following pages, you will find an overview of the required and voluntary water testing programs that protect our drinking water system. In order to ensure that tap water is safe to drink, the Environmental Protection Agency prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).



THE POTOMAC RIVER – YOUR DRINKING WATER SOURCE

Drinking water for the District of Columbia comes from the Potomac River, a "surface water" supply. DC Water purchases the treated drinking water from the US Army Corps of Engineers, Washington Aqueduct (Aqueduct). The Aqueduct withdraws approximately 180 million gallons of water each day from the Potomac River at the Great Falls and Little Falls intakes and treats the water at two treatment plants, Dalecarlia and McMillan. The Aqueduct filters and disinfects water from the Potomac River to meet safe drinking water standards. The treatment process includes sedimentation, filtration, fluoridation, pH adjustment, primary disinfection using free chlorine, secondary disinfection with chloramines through the addition of ammonia, and corrosion control with orthophosphate. For more information on the drinking water treatment process, visit the Aqueduct's website at: **nab.usace.army.mil/Missions/Washington-Aqueduct/**

DC Water distributes the treated drinking water to more than 680,000 residential, commercial, and governmental customers in the District of Columbia, Maryland and Virginia.

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 and into the Potomac River, it dissolves naturally occurring minerals, and in some cases, radioactive material. The water can also pick up substances resulting from the presence of animals or human activity. Prior to water treatment, contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria that may come from agricultural livestock operations, septic systems, wastewater treatment plants and wildlife.
- Inorganic contaminants, such as salts and metals that can be naturally occurring or result from urban stormwater runoff, farming, and industrial or domestic wastewater discharges.
- Pesticides and herbicides that may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and also may come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants that can be naturally-occurring or the result of mining activities.

SOURCE WATER PROTECTION EFFORTS

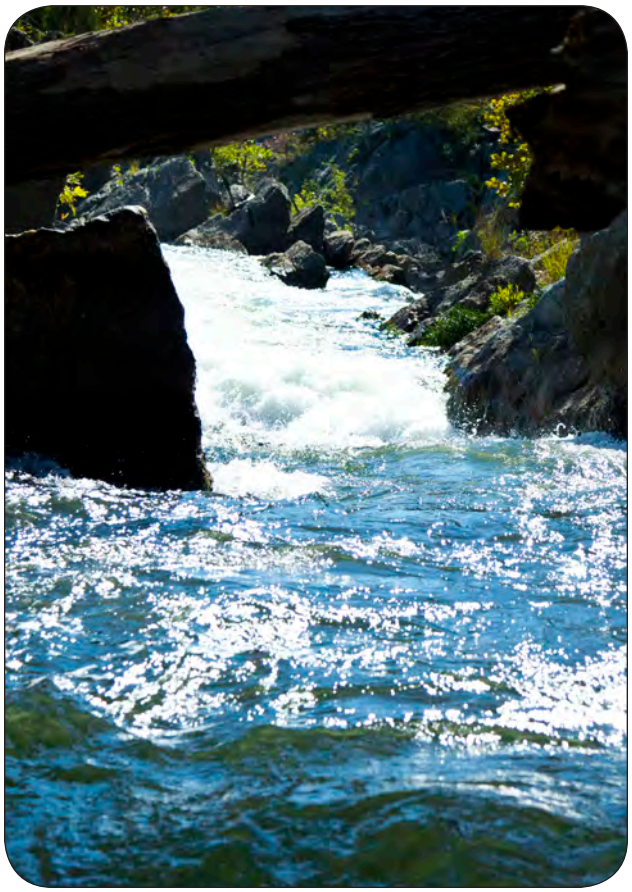
The Interstate Commission on the Potomac River Basin (ICPRB) conducted a Source Water Assessment of the Potomac River watershed in April, 2002 under contract with the District of Columbia government. The assessment, titled The District of Columbia Source Water Assessment, identified urban runoff, toxic spills, agriculture and inadequate wastewater treatment as potential contamination sources to the water supply. A redacted version of the District of Columbia Source Water Assessment can be found on the ICPRB website with the 2002 publications at: **potomacriver.org/publications**. For more information on the District of Columbia Source Water Assessment, contact ICPRB at 301-984-1908.

DC Water is a member of the Potomac River Basin Drinking Water Source Protection Partnership, a collaborative effort of drinking water suppliers and government agencies to protect shared drinking water sources. The group is currently working with the Metropolitan Washington Council of Governments (MWCOG) to update the 2002 *District of Columbia Source Water Assessment*. For more information about the Partnership's efforts, visit **potomacdwspp.org**.

PROTECTING YOUR DRINKING WATER SUPPLY

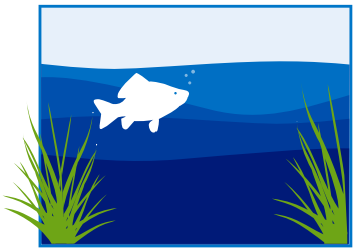
Protect The Watershed – A watershed is an area of land that drains to a particular point along a stream or river. The best way to protect the Potomac River from contamination is to help protect the watershed. You can help protect your drinking water supply in several ways:

- Prevent trash and debris from entering storm drains and catch basins. To report a clogged drain or basin, call (202) 612-3400.
- Dispose of household waste, grease and motor oil properly.
- Report spills that could potentially enter the waterways by calling the DC 311 Call Center.
- Do not flush pharmaceuticals down the toilet or drain. Find a drug take-back location or properly dispose of medications in the garbage.

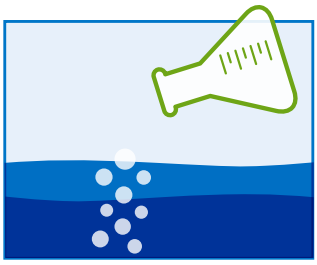


DRINKING WATER QUALITY IS A SHARED RESPONSIBILITY OF DC WATER AND RESIDENTS

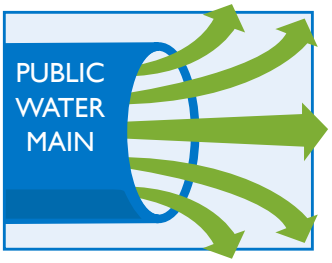
1. Drinking water is drawn from the Potomac River by the Washington Aqueduct.



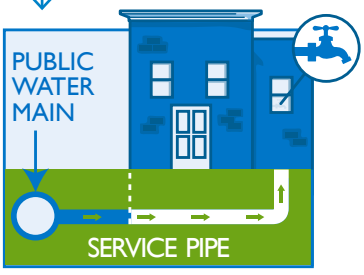
2. The Washington Aqueduct is responsible for water treatment.



3. DC Water is responsible for monitoring water quality in the distribution system.



4. Customers are responsible for ensuring that water quality is maintained on private property.



DRINKING WATER TREATMENT

The Washington Aqueduct collects water from the Potomac River and treats the water at the Dalecarlia and McMillan Treatment Plants. Like most public water systems around the country, the Washington Aqueduct uses a multi-step treatment process. The treatment process includes sedimentation, filtration, fluoridation, pH adjustment, disinfection using free chlorine and chloramine (chlorine + ammonia), and corrosion control using orthophosphate. DC Water works closely with the Aqueduct to ensure that the water leaving the plant meets the Environmental Protection Agency drinking water standards. Once the water leaves the treatment plant, DC Water collects samples throughout the District of Columbia to monitor the quality of the water as it travels through the pipes to your tap.

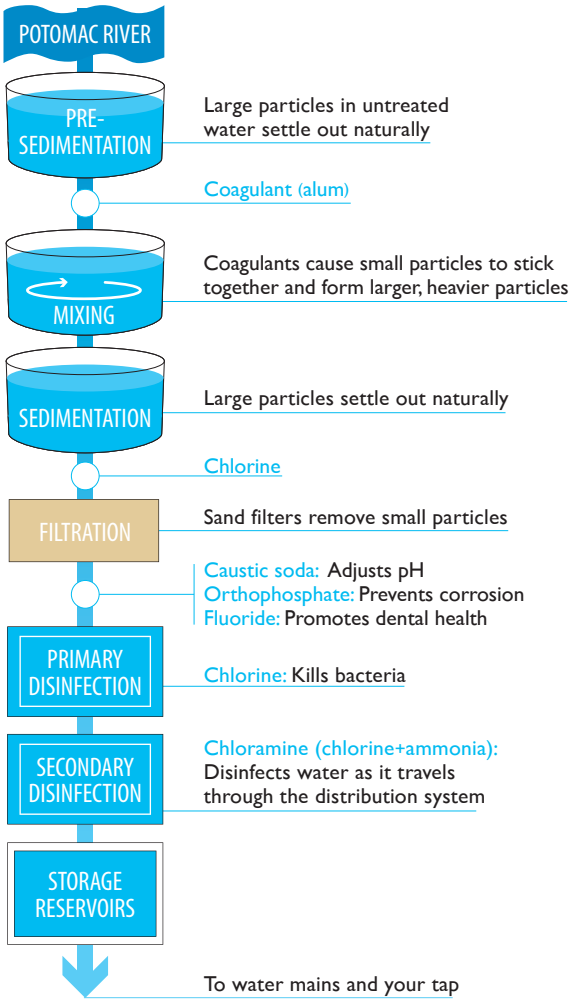
DRINKING WATER DISINFECTION

The Environmental Protection Agency requires the disinfection of water supplies to protect public health. The Washington Aqueduct uses chloramine, a combination of chlorine and ammonia, to disinfect the drinking water that is delivered to the District. Chloramine is a common disinfectant used to protect water supplies from harmful bacteria and viruses that can be found in rivers and streams. DC Water continuously monitors the drinking water to ensure that safe disinfectant levels are maintained in the distribution system. Chloramine must be removed from water used for kidney dialysis and aquariums. Contact your kidney dialysis center, physician or local pet store about water treatment for removing chloramine. For more information about chloramine, visit **dcwater.com/water-faqs**.

Why is chlorine used for disinfection during the Spring?

Most of the year, the Washington Aqueduct uses chloramine to disinfect the drinking water. For a short period each year, during the spring, the Washington Aqueduct switches the disinfectant from chloramine to chlorine. This change is part of an annual program to clean water pipes and maintain water quality throughout the year. This is a standard practice for water systems that use chloramine during the majority of the year. Public water systems use chlorine to kill harmful bacteria and viruses that can make people sick. The level of chlorine is safe for consumption, but you can reduce the chlorine smell and taste by placing an open pitcher of water in the fridge. If you haven't used water in several hours, let the cold water run for 2 minutes before filling the pitcher.

WATER TREATMENT PROCESS DALECARLIA AND MCMILLAN WATER TREATMENT PLANTS



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

Water Quality Analysis Data

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 2017 Drinking Water Quality Report reflects the changes in regulatory requirements imposed by the RTCR. The RTCR maintains the purpose of protecting public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microorganisms (i.e., total coliform and E.coli bacteria). US 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. DC Water's total coliform results were below the threshold and did not trigger an assessment in 2016.

Cryptosporidium

The Aqueduct monitored for Cryptosporidium in the source water (Potomac River) by collecting samples from the Little Falls and Great Falls intakes every month in 2016. Cryptosporidium oocysts were detected in two samples collected from the Little Falls intake in April and May 2016 at concentrations of 0.200 and 0.300 oocysts per liter, respectively.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these microorganisms in the Potomac River. Current test methods do not allow us to determine if the microorganisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

Giardia

The Aqueduct also monitored for Giardia in the source water (Potomac River) by collecting samples at the Little Falls and Great Falls intakes every month in 2016. Giardia cysts were detected in eleven samples collected from the Little Falls and Great Falls intakes in April, May, June, July, August, and December, with concentrations ranging from 0.095 to 0.837 cysts per liter. Giardia is effectively removed through the treatment process.

IMPORTANT HEALTH INFORMATION
continued

IMPORTANT HEALTH INFORMATION continued

Lead

Drinking water is essentially lead-free when it leaves the treatment plant, but lead can be released when the water comes in contact with pipes and plumbing fixtures that contain lead. Lead sources and lead levels vary between buildings, so it is important to identify and remove any lead sources in each household. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. A water service line connects the water main in the street to your household plumbing. The service line is owned by the property owner. The Washington Aqueduct and DC Water are responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your cold water tap for at least two minutes before using water for drinking or cooking. If you are concerned about lead in your drinking water, you should determine if you have lead plumbing or other sources of lead on your property and consider testing your water for lead. See DC Water's online Service Line Map that shows service line material information for each home. To request a free lead test kit from DC Water, please contact our Drinking Water Division at 202-612-3440.

Until all sources of lead in drinking water have been removed, pregnant or nursing women and children under the age of six should use filtered tap water for drinking and cooking. This includes water used for making infant formula, beverages and ice. Filters should be certified to meet NSF Standard 53 for lead removal. 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 (800-426-4791), epa.gov/safewater/lead and dcwater.com/lead.

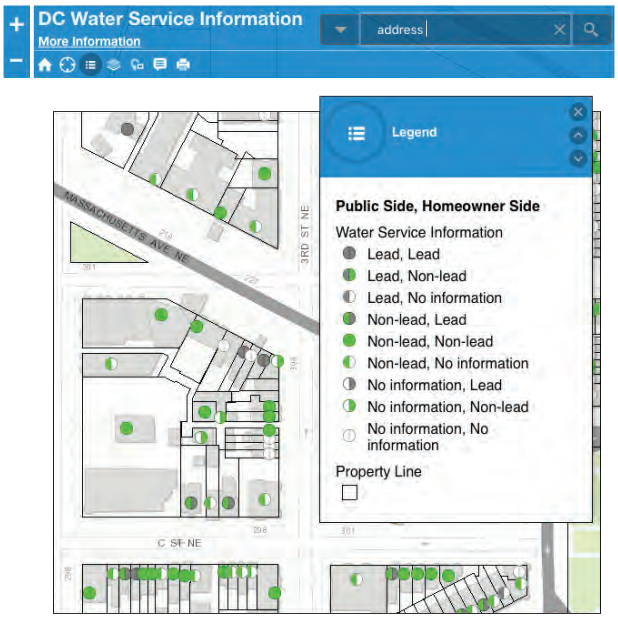
Service Line Map

Use our map to check for lead service lines on your property.

Lead service lines were predominately installed prior to the mid-1950s in the District of Columbia, but there are records of lead service lines being installed as late as 1977.

You can use our service line map to see the information DC Water has about your service line.

geo.dcwater.com/Lead



Download our brochure TIPS TO REDUCE LEAD in DRINKING WATER

dcwater.com leadbrochure

Reminder: Remove and clean faucet aerators every 3 months.

District of Columbia Drinking Water Analysis Data for 2016

The following tables represent levels of regulated and unregulated water quality parameters sampled in 2016. The test results for these parameters, with the exception of arsenic as noted, were detected above EPA's analytical method detection limit from samples collected in the source or finished water for the District of Columbia. DC Water will publish the following tables in the 2017 Drinking Water Quality Report on our website by July 1, 2017.

The water quality test results indicate that your drinking water complied with all of the EPA's drinking water standards in 2016.

For testing results from previous years, please visit dcwater.com/testresults.

As you review the test results in the following section, you may find terms and abbreviations with which you are not familiar. Below is a reference guide to help you better understand the terms and abbreviations used in this report.

Abbreviations and Definitions

AL (Action Level):
The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow. Other requirements may include additional testing, public notification or capital improvements. The AL is not equivalent to a maximum contaminant level or MCL (see definition below).

$CaCO_3$: Calcium carbonate.

EPA (Environmental Protection Agency):
An agency of the United States federal government which was created for the purpose of protecting 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.

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 or expected risk to health. MDRLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

MCLG (Maximum Contaminant Level Goal):
The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MCL (Maximum Contaminant Level):
The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

NA: Not applicable.

ND: Not detected.

NH_3-N:
Measurement of ammonia in the form of nitrogen.

NO_2-N:
Measurement of nitrite in the form of nitrogen.

NTU (Nephelometric Turbidity Units):
Turbidity is measured with an instrument called a nephelometer, which measures the intensity of light scattered by suspended matter in the water. Measurements are given in nephelometric turbidity units (NTUs).

pCi/L (picocuries per liter): Measure of radioactivity.

PO_4:
Phosphate

ppm:
parts per million. Equivalent to a drop of water in 50 liters of liquid.

ppb:
parts per billion. Equivalent to half a teaspoon of water in one Olympic-size swimming pool.

ppt:
parts per trillion. Equivalent to a drop of water in 20 Olympic-size swimming pools.

SMCL (Secondary Maximum Contaminant Limit):
Established only as a guideline to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color and odor.

TT (Treatment Technique):
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 →

Regulated Contaminants

WASHINGTON AQUEDUCT WATER TREATMENT PLANT PERFORMANCE					
	Units	EPA Limits		DC Drinking Water	Description / Typical Sources of Contaminants
		MCLG	MCL or TT		
Turbidity	NTU	NA	TT = 1 (maximum)	(maximum hourly) 0.20	Turbidity is often caused by soil runoff
	% of monthly turbidity readings ≤ 0.3 NTU	NA	TT = 95% (minimum)	100%	
Total Organic Carbon (TOC)	removal ratio	NA	TT = > 1 (annual average)	1.20 (lowest annual average) Annual average must be greater than 1.00 to be in compliance	Naturally present in the environment

WATER ENTERING DC WATER'S DISTRIBUTION SYSTEM						
	Units	EPA Limits		DC Drinking Water		Description / Typical Sources of Contaminants
		MCLG	MCL	Highest	Range	
Inorganic Metals						
Antimony[1]	ppb	6	6	0.4	ND to 0.4	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic[1]	ppb	0	10	0.4	ND to 0.4	Erosion of natural deposits; Runoff from orchards
Barium	ppm	2	2	0.05	0.03 to 0.05	Erosion of natural deposits
Inorganic Anions						
Fluoride	ppm	4.0	4.0	0.8	0.5 to 0.8	Water additive which promotes strong teeth
Nitrate as Nitrogen	ppm	10	10	2	0.2 to 2	Runoff from fertilizer use; Erosion of natural deposits
Nitrite as Nitrogen	ppm	1	1	0.01	ND to 0.01	Runoff from fertilizer use; Erosion of natural deposits
Synthetic Organic Contaminants						
Atrazine	ppb	3	3	0.2	ND to 0.2	Herbicide runoff
Dalapon	ppb	200	200	1	ND to 1	Runoff from herbicide used on rights of way
Simazine	ppb	4	4	0.07	ND to 0.07	Herbicide runoff

[1] Arsenic was detected, although levels were below the minimum detection limits prescribed by EPA.

Regulated Contaminants continued

Regulated Contaminants continued

WATER ENTERING DC WATER'S DISTRIBUTION SYSTEM continued						
	Units	EPA Limits		DC Drinking Water		Description / Typical Sources of Contaminants
		MCLG	MCL	Highest	Range	
Volatile Organic Contaminants						
None detected other than TTHMs						
Radionuclides[2]						
Gross alpha particles	pCi/L	15	0	9	ND to 9	Erosion of natural and man-made deposits

DC WATER'S DISTRIBUTION SYSTEM							
	Units	EPA Limits		DC Drinking Water		Violation	Description / Typical Sources of Contaminants
		MCLG	MCL or TT	Highest	Range		
Disinfectants and Disinfection Byproducts							
Chlorine	ppm	4 (MRDLG) (annual average)	4 (MRDL) (annual average)	3.1 (Highest running annual average)	0.0 to 4.1 (Range of single site results)	no	Water additive used to control microbes; Chlorine is combined with ammonia to form chloramine.
Total Trihalomethanes (TTHM)	ppb	NA	80 (4-quarter locational running average)	49 (Highest locational running annual average)	14 to 74 (Range of single site results)	no	By-product of drinking water disinfection.
Haloacetic Acids (5)	ppb	NA	60 (4-quarter locational running average)	35 (Highest location running annual average)	3 to 46 (Range of single site results)	no	By-product of drinking water disinfection.
LEAD AND COPPER (AT THE CUSTOMER'S TAP)							
	Units	EPA Limits		DC Drinking Water		Violation	Description / Typical Sources of Contaminants
		MCLG	Action Level	Samples above AL	90th Percentile		
Lead							
January-June Monitoring Period	ppb	0	15	0 of 125	2	no	Corrosion of household plumbing systems; erosion of natural deposits
July-December Monitoring Period	ppb	0	15	2 of 115	3		
Copper							
January-June Monitoring Period	ppm	1.3	1.3	0 of 125	0.082	no	Corrosion of household plumbing systems; erosion of natural deposits
July-December Monitoring Period	ppm	1.3	1.3	0 of 115	0.078		

[2] Triennial radionuclide monitoring was performed in 2014.

Contaminants without Primary MCLs or Treatment Techniques

WATER ENTERING DC WATER'S DISTRIBUTION SYSTEM			
Parameter	Units	Average	Range
Aluminum	ppb	36	14 to 78
Bromide	ppm	ND	ND to 0.03
Calcium	ppm	39	25 to 58
Chloride	ppm	37	24 to 61
Copper at Point of Entry[3]	ppb	3.9	0.6 to 11
Lithium	ppb	2	1 to 3
Magnesium	ppm	4	3 to 14
Manganese	ppb	2.4	ND to 43
Metolachlor	ppb	ND	ND to 0.07
Molybdenum	ppb	0.8	ND to 1
N-Nitroso-dimethylamine (NDMA)	ppt	2.3	ND to 10
Nickel	ppb	0.9	0.6 to 1
Orthophosphate (as PO_4)	ppm	2.4	1.8 to 3.2
Perchlorate	ppb	0.4	0.2 to 1.4
Sodium	ppm	24	16 to 41
Strontium	ppb	174	98 to 251
Sulfate	ppm	47	31 to 73
THAA (HAA5) at Point of Entry[4]	ppb	25	14 to 38
Thorium	ppb	ND	ND to 0.6
Total Ammonia	ppm	0.7	0.01 to 1.0
Total DCPA (mono- & -di-acid degradates)	ppb	ND	ND to 0.1
Total Hardness	ppm	131	84 to 199
Total Hardness	grains/gal	7.6	4.9 to 11.6
TTHM at Point of Entry[4]	ppb	39	13 to 70
Zinc	ppb	ND	ND to 2

[3] Results represent levels entering DC Water's distribution system and are distinct from lead and copper compliance monitoring conducted in single-family residential homes.
[4] Monitoring for these parameters is not required at entry points, but is required in the distribution system.

Other Water Quality Parameters

DC WATER'S DISTRIBUTION SYSTEM & TAP MONITORING RESULTS			
Parameter	Units	Average	Range
Alkalinity	ppm	65	48 to 92
Aluminum Total mg/L	ppm	0.007	0 to 0.045
Ammonia-Free NH3-N	ppm as NH_3-N	0.21	0.09 to 0.4
Calcium Hardness mg/L as $CaCO_3$	ppm as $CaCO_3$	90	53 to 117
grains per gallon	Grains per gallon as $CaCO_3$	5.2	3.1 to 6.8
Dissolved Orthophosphate mg/L	ppm	2.43	1.8 to 2.88
Iron Total mg/L	ppm	0.05	0 to 0.3
Nitrite mg/L	ppm as NO_2-N	0.03	0 to 0.218
pH	--	7.68	7.56 to 7.79
Temperature F	Degrees Fahrenheit	66	39 to 91
Total Dissolved Solids	ppm	176	138 to 210

drink tap

dcwater.com/tap

TapIt Metro D.C.

TapIt Metro D.C. is a network of nearly 400 businesses in the metro region that provide free tap water to refill a reusable bottle.

Download the free **TapIt Metro D.C.** app to find locations or visit **freetapwater.org** for a map of partners.

ANDROID APP ON Google play

Available on the iPhone App Store

FOR WATER QUALITY TIPS, DOWNLOAD

DC Water's **HOUSEHOLD WATER QUALITY GUIDE**

dcwater.com/homeguide
or call
202-787-2200
to request a mailed copy.

GET INVOLVED

The DC Water Board of Directors conducts regularly scheduled board meetings that are open to the public, generally on the first Thursday of each month, except August, at 9:30 AM at the Blue Plains Advanced Wastewater Treatment Plant, 5000 Overlook Avenue, SW, Washington, DC 20032.

Please visit dcwater.com or contact the Office of the Board Secretary at (202) 787-2330 to confirm a meeting time and location.