2025

THE CITY OF NORFOLK®
DEPARTMENT OF UTILITIES

CONSUMER CONFIDENCE REPORT

WATER QUALITY

WWW.NORFOLK.GOV/UTILITIES

A Message from your WATER UTILITY

The City of Norfolk Department of Utilities is committed to providing residents and businesses throughout the city with top-quality water service. Once again, Norfolk's Drinking Water met every regulatory requirement for finished water that is set by the Environmental Protection Agency (EPA). Our drinking water is of the highest quality and remains safe to drink.

The 2025 Consumer Confidence Report includes summary data from testing performed last year and can be found on pages 3-6. In 2024, the Kristen M. Lentz (KML) Water Treatment Plant qualified for the bronze award from the Virginia Optimization Program (VOP), administered through the Virginia Department of Health. The mission of VOP is to encourage waterworks to provide water with a quality that exceeds regulatory standards (i.e., as perfect as possible) and to operate water systems in an exemplary manner. The KML Water Treatment Plant has earned this prestigious award six consecutive years.

With a team of nearly 400 dedicated professionals, the Norfolk Department of Utilities continues to provide quality drinking water to approximately 1 million people in the City of Norfolk, Hampton Roads, and local Naval and Coast Guard installations. The Water Quality Report is distributed annually to inform our customers that we are meeting all water quality guidelines set forth by federal and state agencies.

All the best,

Robert Carteris

City of Norfolk,
Director of Utilities

Norfolk's Drinking Water Sources

The Department of Utilities obtains its raw (untreated) water from eight reservoirs, two rivers, and four deep wells. The map below shows the location of each of your water sources. From these sources, raw water is pumped to one of the Department's two water treatment plants, where it is filtered and disinfected. Once tested to meet water quality standards, Norfolk drinking water is pumped on demand to homes and businesses throughout the city.

Safeguarding the Water You Drink

The protection of our water resources, including our drinking water reservoirs, is directly related to how we manage and protect the land around them. The water in the reservoirs comes from the water that falls in the drainage area or watershed. This water flows across streets, driveways, rooftops, lawns, gardens, and may finally enter the reservoir or lake through a storm pipe or ditch. As water travels across all of these areas, it picks up pollutants, such as fertilizers, oil, gasoline, soda cans, paper cups, and pet waste. Each of these pollutants can have a negative impact on the water, from something as simple as floating litter, to more complicated issues that affect wildlife and water quality. The land the water flows across on this journey and the waterways that receive it are called a watershed.

CITY OF NORFOLK
CY2024 CONSUMER CONFIDENCE REPORT DATA

Norfolk City Distribution System

Turbidity

Substance	Likely Source	Norfolk's Lowest Monthly % of Samples Meeting Limit	Norfolk's Highest Level (NTUs)	National MCL	National MCLG	Unit	Meets EPA Standards
Turbidity	Soil runoff	100%	0.11	<1.0 maximum, and ≤0.3 95% of the time	n/a	NTU	✓

Water Utilities are required by Waterworks Regulations to continuously monitor the turbidity level of water leaving each of the filters in the treatment plant, and to record this information every 15 minutes. On January 7, 2024, an individual filter turbidity monitor for 1 of 29 filters at our treatment plants began reporting a consistent 0.01 NTU (Nephelometric Turbidity Unit), indicating a malfunction. We did not conduct the required grab sampling from the filter. The faulty monitor went undiscovered for approximately 30 days and was discovered by utilities staff on February 8, 2024. The filter was immediately taken out of service until the monitor could be replaced. Utilities staff also reported the violation to our state regulatory agency on that date as required. Since the erroneous readings were not immediately detected, the required monitoring was not conducted. There is no indication that water quality was affected. However, this is considered a violation of facility operations monitoring standards. To avoid a reoccurrence, we are improving our method of detecting this type of failure in our turbidity monitoring equipment, so that we may avoid these incidents in the future.

Please note that the turbidity values of our combined filter effluent remained within normal operating range, indicating that there was no effect on the quality or safety of the water being produced by the treatment plant.

Unregulated Contaminant Monitoring Rule

EPA uses the Unregulated Contaminant Monitoring (UCM) program to collect data for contaminants suspected to be present in drinking water, but that do not have health-based standards set under the Safe Drinking Water Act (SDWA). Every five years EPA reviews the list of contaminants and selects no more than 30 for a nationwide drinking water survey to provide occurrence data for potential future regulation. Norfolk's final sampling event for UCMR5 occurred in 2023. For more information on the UCMR program, visit EPA online at: https://www.epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule.

Substance	Likely Source	Norfolk's	Norfolk's Highest	Norfolk's Average Level	National MCL	Unit
Perfluoropentanoic acid (PFPeA)	Industrial / Man-made	ND – 0.0051	0.0051	ND	n/a	ppb
Perfluorohexanoic acid (PFHxA)	Industrial / Man-made	ND – 0.0037	0.0037	ND	n/a	ppb
Perfluorooctanesulfonic acid (PFOS)	Industrial / Man-made	ND – 0.0058	0.0058	ND	0.0040	ppb

Lead and Copper in Customers' Homes

(Data from 2023 triennial sampling)

Norfolk has extremely low lead levels in its drinking water system. Because of this, the EPA has placed Norfolk on a reduced monitoring schedule. No lead was detected at the monitoring level during this monitoring period.[1]

Substance	Likely Source	Norfolk's Results[1]	Norfolk's Measured Range	Norfolk Homes Exceeding Action Level	National Action Level	Unit	National MCLG	Meets EPA Standards
Lead	Household plumbing corrosion	< 2.5	< 2.5 - 10	0	15	ppb	0	ü
Copper	Household plumbing corrosion	0.10	< 0.025 – 0.18	0	1.3	ppm	1.3	ü

[1]Lead and copper compliance is measured at the 90th percentile of all samples taken during the triennial sampling period 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 Norfolk Department of Utilities 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 (800) 426-4791 or at http://www.epa.gov/safewater/lead.

A) Additional health information: 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 Norfolk Department of Utilities is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact Norfolk Department of Utilities Water Quality Division at (757) 441—5678. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at http://www.epa.gov/safewater/lead.

B) Health effects: Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

The 2021 U.S. Environmental Protection Agency (EPA) Lead and Copper Rule Revisions require all water systems, including the City of Norfolk Department of Utilities, prepare a service line inventory of both the City of Norfolk-owned and customer-owned materials. This inventory identifies the material of your service line. Customers can access a map online to look up their address in our records and learn if they have a non-lead, lead, or galvanized steel service line. The water service line inventory can be found at https://www.norfolk.gov/6309/View-Our-Current-Inventory-Map.

CITY OF NORFOLK
CY2024 CONSUMER CONFIDENCE REPORT DATA

Norfolk City Distribution System

Regulated Substances

Substance	Likely Source	Norfolk's Measured Range	Norfolk's Highest Level	Norfolk's Average Level	National MCL	National MCLG	Unit	Meets EPA Standards
Barium	Erosion of natural deposits	0.02 – 0.04	0.04	0.03	2	2	ppm	✓
Chloramine	Drinking water disinfectant	1.4 – 4.7	3.4[1]	3.4	4[2]	4[3]	ppm	✓
Fluoride	Added to prevent tooth decay	0.1 – 1.1	0.6[4]	0.3	4.0	4.0	ppm	✓
Nitrate as Nitrogen	Erosion of natural deposits, runoff	0.02 – 0.27	0.27	0.12	10	10	ppm	✓

[1] Highest quarterly average for calendar year [2] MRDL [3] MRDLG [4] Highest monthly average for calendar year

Substance	Likely Source	Percent Removal[1]	Range	National MCL	National MCLG	Unit	Meets EPA Standards
Total Organic Carbon	Occurs naturally in the environment	56% removal (45% is required)	45% – 70% removal	TT	n/a	%	✓

[1] Running Annual Average, calculated quarterly

Substance	Likely Source	Norfolk's Measured Range (Individual Results)	Norfolk's Average Level (Individual Results)	Norfolk's Highest Quarterly Locational Running Annual Average	Quarterly Running Annual Average		Unit	Meets EPA Standards
					National MCL	National MCLG		
Haloacetic Acids (HAA5)	Byproduct of disinfection process	9 – 37	24	27	60	0	ppb	✓
Trihalomethanes (TTHM)	Byproduct of disinfection process	15 – 67	40	43	80	0	ppb	✓

Secondary and Unregulated Monitored Substances

Substance	Likely Source	Norfolk's Range	Norfolk's Highest Level	Norfolk's Average Level	National SMCL	Unit
Aluminum	Erosion of natural deposits; also, from use of chemicals at water treatment plant	0.01 – 0.06	0.06	0.02	0.05 - 0.20	ppm
Boron	Natural in environment and manmade origins	ND – 0.06	0.06	ND	n/a	ppm
Chloride	Natural in environment	13 – 19	19	16	250	ppm
Iron	Natural in environment	ND – 0.05	0.05	ND	0.3	ppm
Manganese	Natural in environment and manmade origins	ND – 0.006	0.006	ND	0.05	ppm
Nickel	Corrosion of plumbing materials	ND – 0.004	0.004	ND	n/a	ppm
pH	Adjusted during water treatment process	7.4 – 8.1	7.8[1]	7.7	6.5 – 8.5	pH units
Sodium	Natural in environment; also, from use of chemicals at water treatment plant	12 – 29	29	19	n/a[2]	ppm
Sulfate	Natural in environment; also, from use of chemicals at water treatment plant	25 – 48	48	33	250	ppm
Total Dissolved Solids	Natural in environment	98 – 117	117	109	500	ppm
Zinc	Natural in environment; also, from use of chemicals at water treatment plant	0.02 – 0.53	0.53	0.19	5	ppm

[1] Highest monthly average for calendar year [2] For physician-prescribed "no salt diets," a limit of 20 ppm is suggested

Additional Information

Substance	Norfolk's Range	Norfolk's Average Level	Unit
Alkalinity	27 – 42	35	ppm
Ammonia	ND – 0.3	0.1	ppm
Hardness	34 – 59	47[1]	ppm
Silica	4 – 8	6	ppm

[1] Norfolk's water averages in the range between soft and slightly hard. This means there is enough hardness for soaps and detergents to work properly, yet not too much to interfere with most industrial applications. To find grains per gallon, divide ppm value by 17.

This report and more are available at www.norfolk.gov/waterquality or scan the QR code for more information.

Monitoring Water Quality: WHAT WE LOOK FOR

Drinking water sources 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. It can also pick up substances resulting from the presence of animals or human activity.

Contaminants that may be present in source (raw) water include:

Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. Inorganic contaminants, such as salts and metals, can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses. Radioactive contaminants, can be naturally occurring or be the result of gas production, and mining activities.

In 2001 the Hampton Roads Planning District Commission (HRPDC), our regional government entity, conducted a study on all the raw water sources in the area, including Norfolk's, to determine the susceptibility of reservoirs, rivers, and wells to contamination. Norfolk's susceptibility has been rated high. Norfolk's water treatment process ensures you receive high-quality treated drinking water that meets all Federal Safe Drinking Water Act requirements. For a copy of this study, contact Norfolk's Water Quality Lab at (757) 441-5678.

To ensure drinking water quality, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limitations for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably contain trace amounts of some contaminants, but their presence does not necessarily indicate a health risk is present

Your Water Meets All Standards

The EPA and Virginia Department of Health (VDH) water quality standards guide the treatment of Norfolk drinking water. And once again in 2024, Norfolk drinking water met or exceeded those standards. Nearly 87,000 annual water quality tests were conducted at reservoirs, treatment plants, homes and throughout the distribution system. None of these reported elevated levels of substances identified by drinking water standards as potentially harmful to the public health.

0	Health and quality violations
27	Substances detected but within limits
123	Additional substances tested for but not found

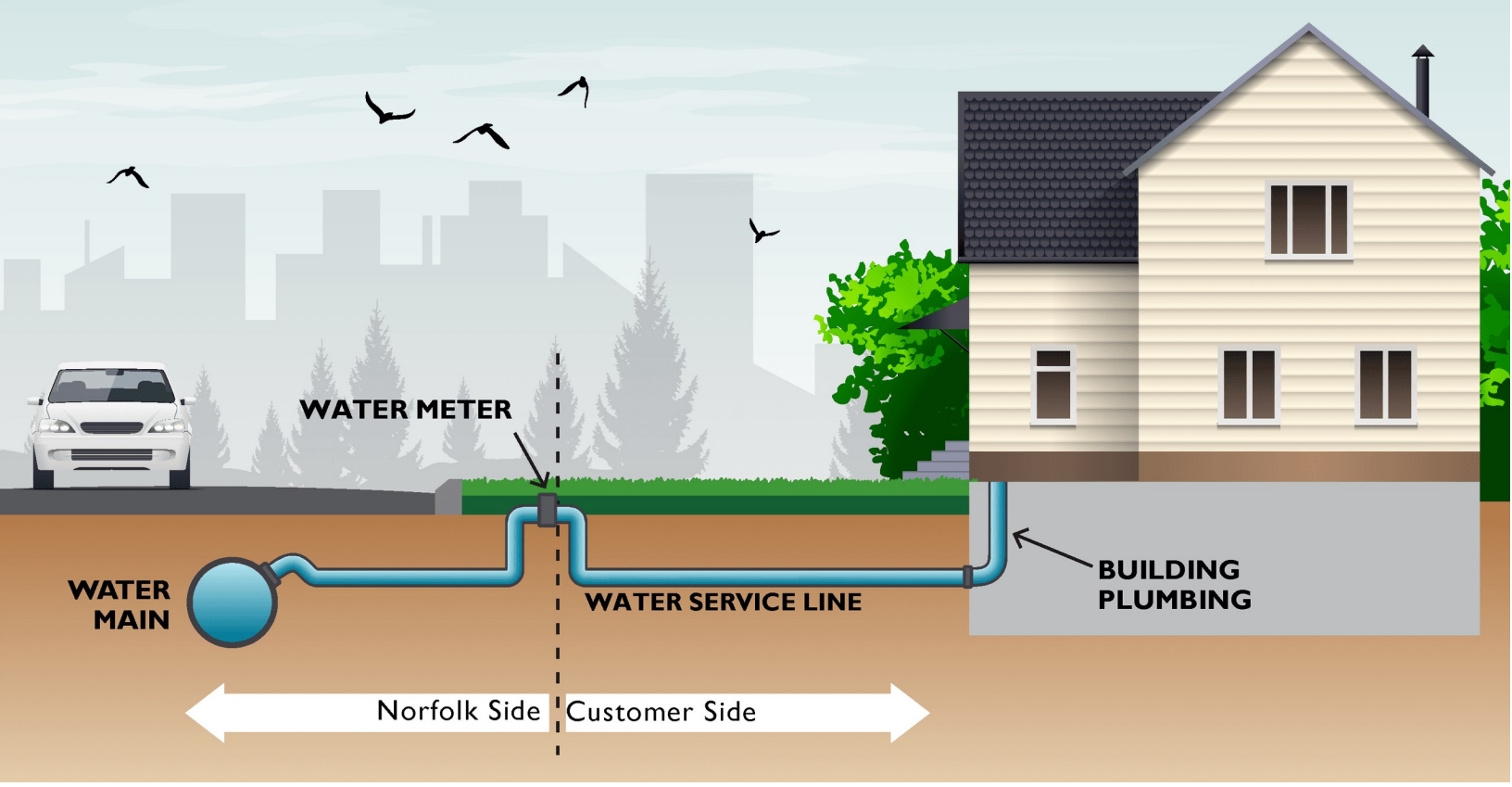
PHARMACEUTICALS AND SOURCE WATER

Pharmaceuticals can enter the waterways through excretion from the body and the practice of improper disposal methods, such as flushing unused or expired medications down the toilet. Everyone can help keep unused pharmaceuticals out of the water supply by properly disposing of unused medications. A permanent drug drop-off location is Norfolk's Public Safety Building, 811 E. City Hall Avenue, Norfolk, VA 23510. If disposing at home, discard with the trash. Always remove personal information, seal in a container, and disguise contents by mixing with coffee grounds or kitty litter.

PER AND POLYFLUOROALKYL SUBSTANCES (PFAS)

Federal maximum drinking water contaminant levels for PFAS were finalized on April 10, 2024. Water systems will be required to comply with the rule within three years. To find out more about PFAS, visit www.norfolk.gov/PFAS.

City of Norfolk UCMR5 monitoring results may be viewed at the following Data Finder link https://www.epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule-data-finder#data-finder.



HOW WE MANAGE LEAD

Our chemists monitor drinking water to ensure our treatment helps keep lead out of water in buildings with lead plumbing. The water production team utilizes a corrosion control treatment, which coats the lining of service lines, indoor pipes, fixtures, and solder, to reduce lead leaching into the water. This corrosion control treatment, which is required by federal law under the Lead and Copper Rule (LCR), has been in place for over three decades. To date, sampling results indicate that our treatment is effective.

TESTING

The Norfolk Department of Utilities conducted a regulatory lead testing program June through September 2023. Results from this round of testing show Norfolk complied with the federal Lead and Copper Rule Revisions and can be found in the table on page 4.

CONCERNED ABOUT LEAD IN YOUR PIPES

If you are concerned about lead in your drinking water, you are encouraged to have your water tested. For water testing, you can contact the Water Quality Lab for a sampling kit by calling (757) 441-5678 or visit www.norfolk.gov/waterquality for more information. For service line testing, contact a qualified plumber. You can also purchase lead testing swabs to test your service lines yourself.

LEAD SERVICE LINE RESOURCES

Safe Drinking Water Hotline: (800) 426-4791

EPA: www.epa.gov/safewater/lead

Ask HR Green: www.askhrgreen.org/leadpipes

Norfolk Utilities: www.norfolk.gov/leadreductionresources

GLOSSARY OF TERMS

.**Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. The action level is not based on one sample; instead, it is based on many samples.

Alkalinity: A measure of the water's ability to resist changes in the pH level and a good indicator of overall water quality. Although there is no health risk from alkalinity, we monitor it to check our treatment processes.

E. coli (Escherichia coli): A type of coliform bacteria that is associated with human and animal fecal waste.

gpg (grains per gallon): A unit of water hardness. One grain per gallon is equal to 17.1 parts per million.

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): 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.

mg/L (Milligrams per liter): One milligram per liter is equal to one part per million.

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

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

Minimum Residual Disinfectant Level: The minimum level of residual disinfectant required at the entry point to the distribution system.

ND: Not Detected in the water.

NTU (nephelometric turbidity units): Turbidity is measured with an instrument called a nephelometer. Measurements are given in nephelometric turbidity units

Pathogens: Bacteria, virus, or other microorganisms that can cause disease.

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

ppm (parts per million): Denotes 1 part per 1,000,000 parts, which is equivalent to two-thirds of a gallon in an Olympic-sized swimming pool.

ppb (parts per billion): Denotes 1 part per 1,000,000,000 parts, which is equivalent to half a teaspoon in an Olympic-sized swimming pool.

µg/L (Microgram per liter): One microgram per liter is equal to one part per billion.

ppt (parts per trillion): Denotes 1 part per 1,000,000,000,000 parts, which is equivalent to one drop in 20 Olympic- sized swimming pools.

Total Coliform: Coliforms are bacteria that are naturally present in the environment. Their presence in drinking water may indicate that other potentially harmful bacteria are also present.

HAAs (Haloacetic Acids): A group of chemicals known as disinfection byproducts. These form when a disinfectant reacts with naturally occurring organic and inorganic matter in the water.

TOC (Total Organic Carbon): A measure of the carbon content of organic matter. This measure is used to indicate the amount of organic material in the water that could potentially react with a disinfectant to form disinfection byproducts.

TTHMs (Total Trihalomethanes): A group of chemicals known as disinfection byproducts. These form when a disinfectant reacts with naturally occurring organic and inorganic matter in the water.

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

Turbidity: A measure of the clarity of water related to its particle content. Turbidity serves as an indicator for the effectiveness of the water treatment process. Low turbidity measurements, such as ours, show the significant removal of particles that are much smaller than can be seen by the naked eye.

WTP: Water Treatment Plant

RESOURCES

Sharing this Report

Please share this report with everyone who enjoys Norfolk water, especially those who may not have received this notice directly. You can help by posting this notice in a public place or distributing copies in-person or by mail. To receive a printed copy of this report, call the Utilities Public Information Office at (757) 664-6730, or email UTpublicinfo@norfolk.gov.

People with Special Health Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as people with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk from infection. These people should seek advice about drinking water from their health care providers. Environmental Protection Agency/Center for Disease Control 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.

Questions?

For questions regarding this report, contact the Norfolk Water Quality Lab at (757) 441-5678. For more information about decisions affecting your drinking water quality, you may attend Norfolk City Council meetings. For times and agendas, call the City Clerk's Office at (757) 664-4253, or visit www.norfolk.gov.

Si tiene preguntas sobre este informe, comuníquese con el Laboratorio de Calidad del Agua de Norfolk al (757) 441-5678. Para obtener más información sobre las decisiones que afectan la calidad de su agua potable, puede asistir a las reuniones del Concejo Municipal de Norfolk. Para conocer los horarios y las agendas, llame a la Oficina del Secretario Municipal al visite www.norfolk.gov.

About Us

The Norfolk Department of Utilities provides water to approximately 1 million people in the City of Norfolk, Hampton Roads, and local U.S. Naval and Coast Guard installations. Norfolk Utilities manages approximately 65,000 water service accounts, providing water service and wastewater conveyance for Norfolk's residents and businesses through a team of nearly 400 dedicated professionals.

Our Mission

The mission of the Norfolk Department of Utilities is to enhance quality of life by providing excellent water and wastewater services at the best possible value to our customers.

Our Vision

The City of Norfolk Department of Utilities is a premier service provider that meets our customers' needs for affordable, dependable, and high-quality drinking water and wastewater services.

Our Goals

- To exceed customer expectations through fast, effective, and courteous service.
- Embrace new and better ways of achieving quality results through creativity, initiative, and technology.
- Protect and respect our natural resources and foster a healthy, safe, and clean environment.
- Act as exemplary stewards of the public funds entrusted to us.

Important Contact Numbers

Water Quality
(757) 441-5678
www.norfolk.gov/waterquality

Water/Sewer Main Breaks and Emergencies
(757) 823-1000
www.norfolk.gov/4759/Report-a-Problem

Customer Service
(757) 664-6700
www.norfolk.gov/utilities

Public Information
(757) 664-6758
www..norfolk.gov/UTpublicinfo

Reservoir Management (Boating)

(757) 441-5678 ext. 253
www.norfolk.gov/reservoir

Storm Water Management
(757) 823-4000
www.norfolk.gov/stormwater

Keep Norfolk Beautiful
(757) 441-1347
www.norfolk.gov/KNB

DRINK UP!

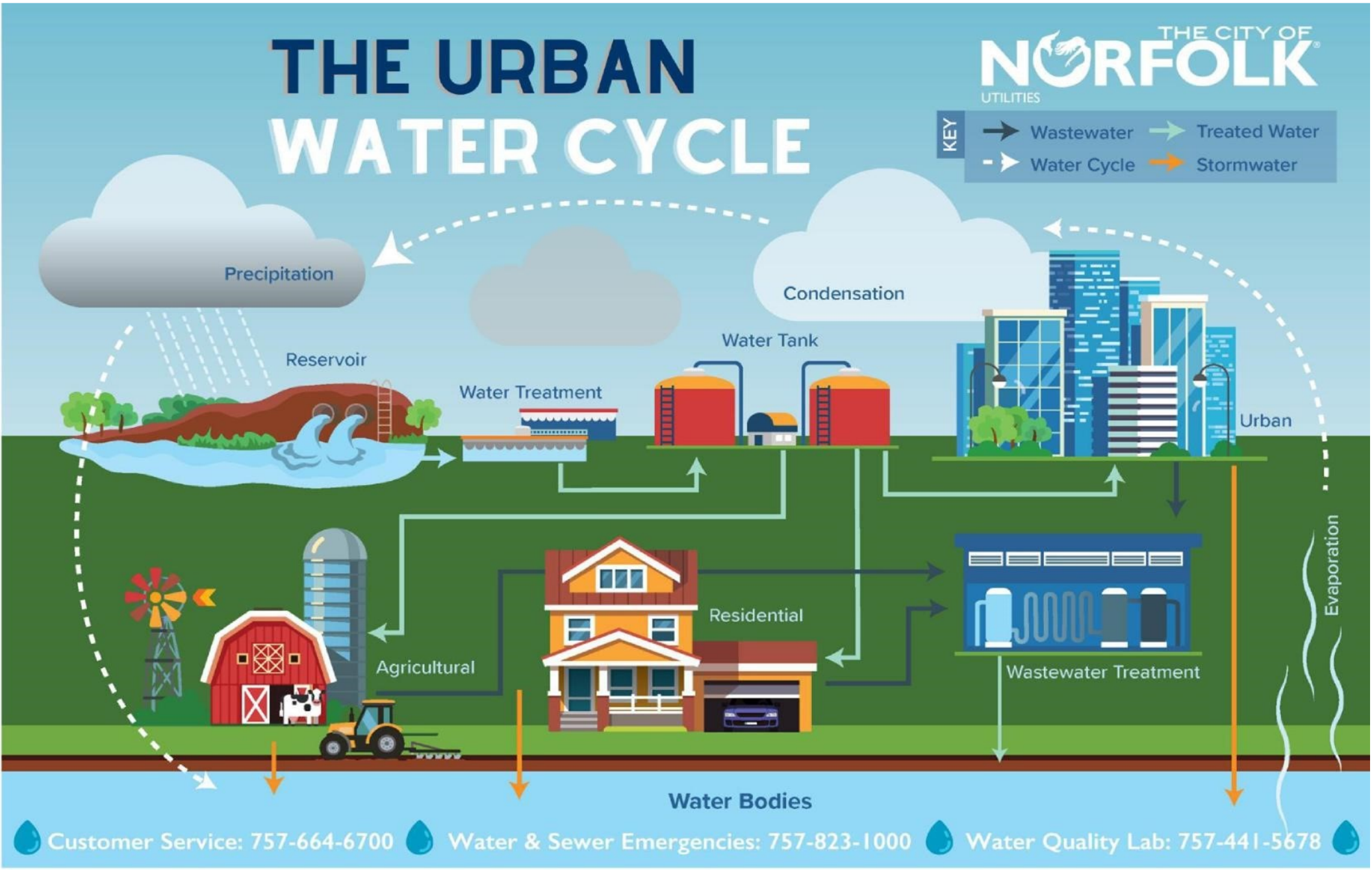
The Norfolk Department of Utilities is committed to providing safe, clean drinking water that meets or exceeds all state and federal regulations. Our dedicated team works around the clock to monitor, treat, and deliver high-quality water to homes and businesses across the city. We take great pride in the reliability of our water system and the trust that our community places in us.

We ensure that the drinking water flowing to our customers is safe to consume by following rigorous testing protocols and maintaining modern infrastructure. We are here to support you, and can provide guidance or resources if you choose to pursue additional testing.

THE URBAN WATER CYCLE

THE CITY OF NORFOLK
UTILITIES

KEY
Wastewater
Treated Water
Water Cycle
Stormwater



Customer Service: 757-664-6700 | Water & Sewer Emergencies: 757-823-1000 | Water Quality Lab: 757-441-5678