

# 2018 DRINKING WATER QUALITY REPORT

## 💧 HASTINGS MUNICIPAL AUTHORITY 💧

We are pleased to present to you our **Annual Drinking Water Quality Report** for the 2018 operating year. This report provides you with information about the quality of water and the services we deliver to you every day. Our constant goal is to provide you with a dependable supply of drinking water that meets or exceeds state and federal water quality drinking water health standards.

**The Sources:** The Hastings Municipal Authority's water system (Public Water Supply ID Number 4110013) is supplied from two sources. The primary source is a spring discharge known as the Pardee No. 29, Mine Spring No. 1 located approximately 1.3 miles east of the Borough. The second source is supplied through an interconnection with the Elder Township Water Authority (ETWA) which receives its water from two groundwater wells owned and operated by Patton Municipal Authority. The ETWA source serves as a supplemental source to the Hastings water system, supplying approximately 10,000 gallons per day, but is also capable of operating as a backup source to provide up to 300,000 gallons per day. The raw (untreated) water from the Mine Spring No. 1 source is treated using the Authority's water treatment facility that uses pre-ozonation, direct filtration using tri-media rapid sand filters, chlorine disinfection and a computer operated instrumentation and control system. The water treatment process produces a high-quality drinking water that meets all State and Federal potable water quality standards. The water supplied from the ETWA is finished water that has previously been treated at the Patton well sites and is blended with the treated water in the Hastings water system at its point of connection to the Hastings distribution system near the Haida and 3<sup>rd</sup> Avenue intersection.

**The sources of drinking water** (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or manmade. The constituents can be microbial, organic or inorganic chemicals, or radioactive materials. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

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

**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. EPA/ Centers for Disease Control (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.**

**Source Water Assessment:** A Source Water Assessment has not yet been completed by the PA Department of Environmental Protection (PA DEP) for the Hastings Municipal Authority water supply. However, a source water assessment was completed in 2002 for the Patton source, but since the assessment was prepared for the Chest Creek surface water source that is no longer in use by the Borough, that assessment is not representative of the current Patton groundwater source that supplemented the HMA system during 2018. Information on the PA DEP source water assessment program and the current status of assessments being conducted is available from the PA DEP website at [www.depgreenport.state.pa.us/elibrary/GetFolder.aspx?FolderID=4490](http://www.depgreenport.state.pa.us/elibrary/GetFolder.aspx?FolderID=4490).

**Water Quality:** In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration 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 the 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 at 1-800-426-4791.

**WE ARE PLEASED TO REPORT THAT OUR WATER MEETS ALL FEDERAL AND STATE REQUIREMENTS.**

The Hastings Municipal Authority routinely monitors for constituents in your drinking water according to Federal and State laws. The following table shows the results of our water quality monitoring for the period of January 1<sup>st</sup> through December 31, 2018. The table also provides information regarding the quality of water provided from the Patton Municipal Authority water system, since water was provided to the HMA system via the Elder Township Water Authority water system in 2018. A complete copy of Patton Borough's 2018 Water Quality Report may be obtained from the Patton Borough Office located at 800 Fourth Ave, Patton. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data is from previous years in accordance with the Safe Drinking Water Act. The date has been noted on the enclosed sampling results table. Only those contaminants found in the Authority's treated water are listed on the table, and all those detected are below the allowable limits. Many other contaminants are regulated and have been routinely tested for, but have not been found to be present at levels that are detectable. These have been listed below the following table.

# 2018 Water Quality Report – Hastings Municipal Authority

Detected Regulated Contaminant Table							
Contaminant (Unit of Measure)	MCL	MCLG	Level Detected	Range	Sample Period	Violation (Yes/No)	Likely Source of Contamination
Turbidity							
Turbidity (NTU) [HMA Entry Point]	TT=1NTU single measurement	0	0.19	0.02 to 0.19	12/1/2018 (highest)	No	Soil Runoff -Turbidity is a measure of cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
	TT= at least 95% of monthly samples ≤ 0.3		100% were less than 0.3 NTU limit	N/A	2018	No	
Inorganic Contaminants							
Copper (ppm) [HMA Distribution system]	AL = 1.3	1.3	0.706 [90 <sup>th</sup> percentile]	Zero sites above AL out of 11 sites sampled 2018		No	Corrosion of household plumbing systems
Lead (ppb) [HMA Distribution system]	AL = 15	0	0 [90 <sup>th</sup> percentile]	Zero sites above AL out of 11 sites sampled 2018		No	Corrosion of household plumbing systems
Nitrate (ppm) [HMA Entry Point 101]	10	10	1.78	NA – one sample only	9/26/2018	No	Runoff from fertilizer use; leaching from septic tanks; Erosion of natural deposits
Barium (ppm) [HMA Entry Point 101]	2	2	0.027	NA – one sample only	9/26/2018	No	Discharge from drilling wastes, Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm) [HMA Entry Point 101]	2*	4	0.131	NA – one sample only	9/26/2018	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Selenium (ppb) [HMA Entry Point 101]	50	50	6.9	NA – one sample only	9/26/2018	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Barium (ppm) [Patton Borough Entry Point 102]	2	2	0.28	NA – one sample only	1/18/2018	No	Erosion of natural deposits
Fluoride (ppm) [Patton Borough Entry Point 102]	2*	4	0.33	NA – one sample only	1/18/2018	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Disinfection Residuals and Disinfection Byproducts							
Chlorine (ppm) [HMA Distribution system]	MRDL = 4	MRDLG =4	1.86 (highest)	1.19 to 1.86	Nov 2018	No	Water additive used to control microbes
Chlorine (ppm) [HMA Entry Point 101]	MinRDL = 0.2	N/A	Lowest level detected = 0.72	0.72 to 2.14	2018 Low - 6/22/18	No	Water additive used to control microbes
Chlorine (ppm) [HMA Entry Point 102]	MinRDL = 0.2	N/A	Lowest level detected = 1.0	1.0 to 2.58	2018 Low - 3/13/18	No	Water additive used to control microbes
Total Trihalomethanes (ppb) [HMA Distribution system]	80	N/A	22.43**	14.7 to 30	2018	No	Byproduct of drinking water chlorination
Total Haloacetic Acids (ppb) [HMA Distribution system]	60	N/A	5.26**	1.94 to 10	2018	No	Byproduct of drinking water disinfection

\*EPA's MCL for Fluoride is 4 ppm. However, Pennsylvania has set a lower MCL to better protect human health

\*\*For Haloacetic Acids and Total Trihalomethanes the Highest Level Detected column = Highest Running Annual Average Result

Hastings Raw Water Quality Table					
Microbial Contaminants					
Contaminant Name	Highest Level Detected	Range of Detection	Sample Period	Violation (Yes or No)	Likely Source of Contamination in Drinking Water
E. Coli Bacteria	36	ND to 36	2018	No	Human and animal fecal waste
Raw Water Quality Table Notes:					
<p>The Hastings Municipal Authority (HMA) began testing its raw (untreated) water sources for <i>E. coli</i> in late October of 2017 to comply with the LT2 Enhanced Surface Water Treatment Rule. Testing continued through the remainder of 2017 and was completed in October 2018. All test results were determined to be within normal, expected ranges. The HMA has treatment processes in place at its water filtration and treatment facility that have been designed to remove or inactivate these contaminants from the raw water prior to the release of the treated water to the distribution system. The HMA treatment facility uses ozonation, filtration and chlorine disinfection to ensure that these constituents are removed and/or inactivated.</p>					

**Supplemental Information Regarding Lead in Drinking Water** – Although lead was **not** detected in samples collected from the Hastings distribution system, elevated levels of lead, if present, 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. Hastings Municipal Authority 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 or at <http://www.epa.gov/safewater/lead>.

#### VIOLETIONS

##### Hastings Municipal Authority – Two

- 1) Distribution system chlorine (disinfection) residual reporting violation. The May 2018 distribution system chlorine residual report was received late by PA DEP. However, all required samples were collected on time and all test results were within permissible limits. There was no risk to public health as a result of this late reporting violation.
- 2) Failure to monitor – Disinfection Byproducts. We are required to monitor water in the distribution system on a quarterly basis for the following disinfection byproducts: trihalomethanes and haloacetic acids and missed the February 14, 2019 required round of sampling. The laboratory utilized by the Hastings Municipal Authority failed to collect and test water distribution samples for these disinfection byproducts during the first quarter of 2019. Therefore, we cannot be sure of the quality of water during that time with respect to these contaminants. However, it is noted that past testing has historically shown the level of these disinfection byproducts to be below their respective MCLs. Required quarterly sampling is now back on schedule with the second quarter 2019 monitoring event conducted on May 14 of 2019. A complete copy of the Tier 3 Notification for this violation may be viewed at: [http://hastingsborough.com/wp-content/uploads/2019/05/Tier3\\_Notice-Failure\\_to\\_Monitor-Disinfection\\_Byproducts.pdf](http://hastingsborough.com/wp-content/uploads/2019/05/Tier3_Notice-Failure_to_Monitor-Disinfection_Byproducts.pdf)

##### Patton (Supplemental Source) – No Violations reported in 2018

Other contaminants that have been tested for, but were **not detected** included:

**Microbial Contaminants (2018)** – Total Coliform Bacteria (distribution system)

**Inorganic Contaminants: (2018)** Arsenic, Cadmium, Chromium, Cyanide, Mercury, Nickel, Antimony, Beryllium, Thallium, Nitrites; (2012) Asbestos

**Volatile Organic Compounds [VOCs] (2018):** Benzene, Carbon tetrachloride, Chlorobenzene, para-Dichlorobenzene, o-Dichlorobenzene, 1,2-Dichloroethane, 1,1-Dichloroethylene, Cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, Dichloromethane 1,2-Dichloropropane, Ethylbenzene, Styrene, Tetrachloroethylene, Toluene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl chloride; Xylenes, and 1,2,4-trichlorobenzene

**Synthetic Organic Compounds [SOCs] (2017):** Endrin, Lindane, Methoxychlor, Toxaphene, Dalapon, Diquat, Endothall, Glyphosate, Di(2-Ethylhexyl)Adipate, Oxymal, Simazine, Di(2-Ethylhexyl)Phthalate, Piclorem, Dinoseb, Hexachlorocyclopentadiene, Carbofuran, Atrazine, Alachlor, Heptachlor, Heptachlor Epoxide, 2,4-D, 2,4,5-TP Silvex, Hexachlorobenzene, Benzo(A)pyrene, Pentachlorophenol, PCBs, 1,2-Dibromo,3-Chloroprop, Ethylene Dibromide, Chlorodane; (2014) Dioxin

**Radiological Contaminants: (2015)** Gross Alpha; (2012) Combined Uranium, Radium-226 and Radium-228

## Definitions and Abbreviations:

*(The following are definitions of terms and abbreviations used throughout this report and in the Water Quality Tables)*

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

**HMA** – Hastings Municipal Authority; **ETWA** – Elder Township Water Authority; **PMA** – Patton Municipal Authority

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

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

**Maximum Residual Disinfectant Level (MRDL)** - 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.

**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 the use of disinfectants to control microbial contamination.

**Minimum Residual Disinfection Level (MinRDL)**- The minimum level of residual disinfectant required at the entry point to the distribution system.

**N/A** - Not applicable; **ND** - Not Detected; **NTU**=Nephelometric Turbidity Units (a measure of water clarity)

**ppb** - Parts per billion or micrograms per liter ( $\mu\text{g/L}$ ); **ppm** - Parts per million or milligrams per liter ( $\text{mg/L}$ )

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

## - PLEASE CONSERVE OUR WATER RESOURCES -

The Hastings Municipal Authority requests that customers conserve our water resources by conserving water in the home and at places of work. Efficient water use can have major environmental, public health, and economic benefits by helping to improve water quality, maintain aquatic ecosystems, and protect drinking water resources. Efficient use of water, through behavioral, operational, or equipment changes, if practiced broadly can help mitigate the effects of drought. Efficiency measures can also save the homeowner money on their water and energy bills. The following facts, tips and suggestions were obtained from **Think2now** and the EPA **Watersense** websites and can help you conserve water, save money and protect and preserve our water resources. For many more water saving tips and water conservation resources, please visit their websites at [www.think2now.com](http://www.think2now.com) or [www.epa.gov/watersense](http://www.epa.gov/watersense).

### Water Conservation Facts

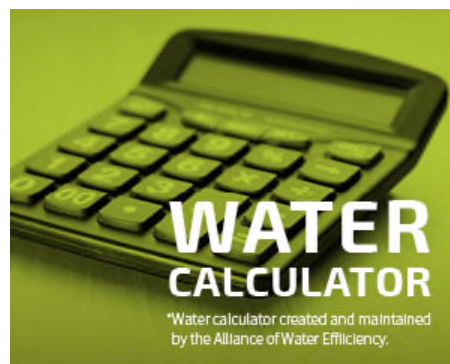
1. Less than 2% of the Earth's water supply is fresh water.
2. Of all the earth's water, 97% is salt water found in oceans and seas.
3. Only 1% of the earth's water is available for drinking water. Two percent is frozen.
4. The human body is about 75% water.
5. A person can survive about a month without food, but only 5 to 7 days without water.
6. Every day in the United States, we drink about 110 million gallons of water.
7. Showering and bathing are the largest indoor uses (27%) of water domestically.
8. If every household in America had a faucet that dripped once each second, 928 million gallons of water a day would leak away.
9. A leaky faucet can waste 100 gallons a day.
10. One flush of the toilet uses 3 ½ gallons of water (on average).
11. An average bath requires 37 gallons of water.
12. An average family of four uses 881 gallons of water per week just by flushing the toilet.
13. The average 5-minute shower takes 15-25 gallons of water--around 40 gallons are used in 10 minutes.
14. You use about 5 gallons of water if you leave the water running while brushing your teeth.
15. If you water your grass and trees more heavily, but less often, this saves water and builds stronger roots.
16. An automatic dishwasher uses 9 to 12 gallons of water while hand washing dishes can use up to 20 gallons.



17. Approximately 1 million miles of pipelines and aqueducts carry water in the U.S. & Canada. That's enough pipe to circle the earth 40 times.
18. About 800,000 water wells are drilled each year in the United States for domestic, farming, commercial, and water testing purposes.
19. You can refill an 8-oz glass of water approximately 15,000 times for the same cost as a six-pack of soda pop.
20. A dairy cow must drink four gallons of water to produce one gallon of milk.
21. 300 million gallons of water are needed to produce a single day's supply of U.S. newsprint.
22. One inch of rainfall drops 7,000 gallons or nearly 30 tons of water on a 60' by 180' piece of land.
23. A gallon of gasoline takes nearly 13 gallons of water to produce. Combine your errands, car pool to work, or take public transportation to reduce both your energy and water use.
24. A cross-country airplane trip (about 6,000 miles) could be worth more than 1,700 standard toilet flushes.
25. According to recent reports, nearly 5% of all U.S. water withdrawals are used to fuel industry and the production of many of the material goods we stock up on weekly, monthly, and yearly.
26. It takes about 100 gallons of water to grow and process a single pound of cotton, and the average American goes through about 35 pounds of new cotton material each year.
27. Try this: <http://www.home-water-works.org/calculator>

### Other Resources:

- [American Water Works Association](http://www.awwa.org/) (<http://www.awwa.org/>)
- [Green Plumbers](http://www.greenplumbersusa.com/) (<http://www.greenplumbersusa.com/>)
- [Earth Easy](http://eartheasy.com/water-conservation) (<http://eartheasy.com/water-conservation>)
- [Alliance for Water Efficiency](http://www.allianceforwaterefficiency.org/) (<http://www.allianceforwaterefficiency.org/>)
- [EPA Water Sense](http://www.epa.gov/watersense/) (<http://www.epa.gov/watersense/>)
- [USGS Water](http://www.usgs.gov/water/) (<http://www.usgs.gov/water/>)



### Save Indoors



You've purchased some [WaterSense labeled products](#) and started down the road to savings, but don't stop there. There are lots of things you can do in your own home to reduce water use and get more from less. Just follow our simple tips below to get started!

#### Fix a leak:

Small household leaks can add up to gallons of water lost every day. That's why WaterSense reminds Americans to check their plumbing fixtures and irrigation systems each year in March during [Fix a Leak Week](#).

#### In the bathroom—where over half of all water use inside a home takes place:

- Turn off the tap while shaving or brushing teeth.
- Showers use less water than baths, as long as you keep an eye on how long you've been lathering up. Learn tips on how to [Shower Better](#).
- If you're dreaming of a [Better Bathroom](#), get ready for your mini-makeover.
- [Calculate how much you can save](#) with WaterSense labeled products in the bathroom!

#### In the kitchen—whip up a batch of big water savings:

- Plug up the sink or use a wash basin if washing dishes by hand.
- Use a dishwasher—and when you do, make sure it's fully loaded!
- Scrape your plate instead of rinsing it before loading it into the dishwasher.

- Keep a pitcher of drinking water in the refrigerator instead of letting the faucet run until the water is cool.
- Thaw in the refrigerator overnight rather than using a running tap of hot water.
- Add food wastes to your compost pile instead of using the garbage disposal.

#### **In the laundry room—where you can be clean AND green:**

- Wash only full loads of laundry or use the appropriate water level or load size selection on the washing machine.
- To save money on your energy bills, set your washing machine to use cold water rather than hot or warm water.

#### **Save Outdoors**

Of the estimated 29 billion gallons of water used daily by households in the US, nearly 9 billion gallons, or 30 percent, is devoted to outdoor water use. In the hot summer months, or in dry climates, a household's outdoor water use can be as high as 70 percent.

- [Create a water-smart landscape](#) that is both beautiful and efficient to give your home the curb appeal you desire.
- Timing is everything! Knowing when and how much to water allows you to keep a [healthy landscape](#).
- Upgrade to a WaterSense labeled controller if you have an [in-ground irrigation system](#).
- Find a certified irrigation professional to install, maintain, or audit your irrigation system to ensure it is watering at peak efficiency.
- Sweep driveways, sidewalks, and steps rather than hosing off.
- Wash the car with water from a bucket, or consider using a commercial car wash that recycles water.
- If you have a pool, use a cover to reduce evaporation when the pool is not being used.
- Take action during the [hot summer months](#) when water use increases to curb water waste. Get the facts on water use when it's hot.
- If a [drought](#) is declared in your area, go the extra mile to save water.

#### **Save Energy**

It takes a lot of energy to deliver and treat the water you use every day for bathing, shaving, cooking, and cleaning. Homes with electric water heaters, for example, spend one-quarter of their electric bill just to heat water. As an example, letting your faucet run for five minutes uses about as much energy as letting a 60-watt light bulb run for 14 hours.

#### **Drops & Watts: You Can't Have One Without the Other**

On average, the annual energy used to deliver and treat water for only 10 households could power a refrigerator for more than two years. In some areas of the country, that estimate is very low. Heating water for showering, bathing, shaving, cooking, and cleaning also requires a considerable amount of energy. Homes with electric water heaters, for example, spend one-fourth of their total electric bills.

#### **Did you Know?**

It also takes water to create energy. Vast amounts of water are used to cool the power plants that generate electricity. In fact, it takes 3,000 to 6,000 gallons of water to power a 60-watt incandescent bulb for 12 hours per day over the course of a year. One of the simplest ways to save both water and energy is to install water-efficient products. WaterSense labeled products not only save water, but can help reduce your energy bills. Installing WaterSense labeled faucet aerators in your bathrooms, for example, costs just a few dollars but could save you enough electricity to dry your hair every day for a year! You can be sure the products will not only save resources, but will perform well. All WaterSense labeled products are tested and independently certified to ensure they meet EPA's criteria for both efficiency and performance.

**Please help us find leaks, save water and reduce water service costs...** Because water lines are located underground, leaks may go unnoticed for days and even years resulting in a considerable waste of our valuable water resource and additional costs for all customers. Please help us locate these leaks by reporting to the Water Department any occurrences of: water running in locations that are normally dry; wet spots in yards and streets; the sound of water running in your home when water is not in use; the sound of water trickling or running in a storm inlet when it is not raining; sudden or unusually low water pressure; and slugs of discolored or cloudy water. When an occurrence such as this is reported, a representative of the water department will make contact and investigate the situation.

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## HASTINGS MUNICIPAL AUTHORITY



### 2018 DRINKING WATER REPORT

***Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.***

(This report contains important information about your drinking water. Translate it or speak with someone who understands it.)

**IF YOU HAVE ANY QUESTIONS ABOUT THIS REPORT** or concerning your water utility, please contact Mr. Thomas Kinney, Authority Chairman at 814-247-8240, Monday through Friday 8:00 a.m. to 4:00 p.m. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held at 7:00 p.m. on the 2<sup>nd</sup> Thursday of each month at the Hastings Borough Building, 207-1 Fifth Avenue.

**SPECIAL NOTICE:** Customers are requested to inform the Authority of any changes in your account contact information, especially phone number changes, so that we may continue to be able to notify you via the Authority's Swiftreach Notification System in the event of a water service or water system emergency.