

OUR WATERS RUN DEEP

CHARLOTTETOWN WATER & SEWER UTILITY

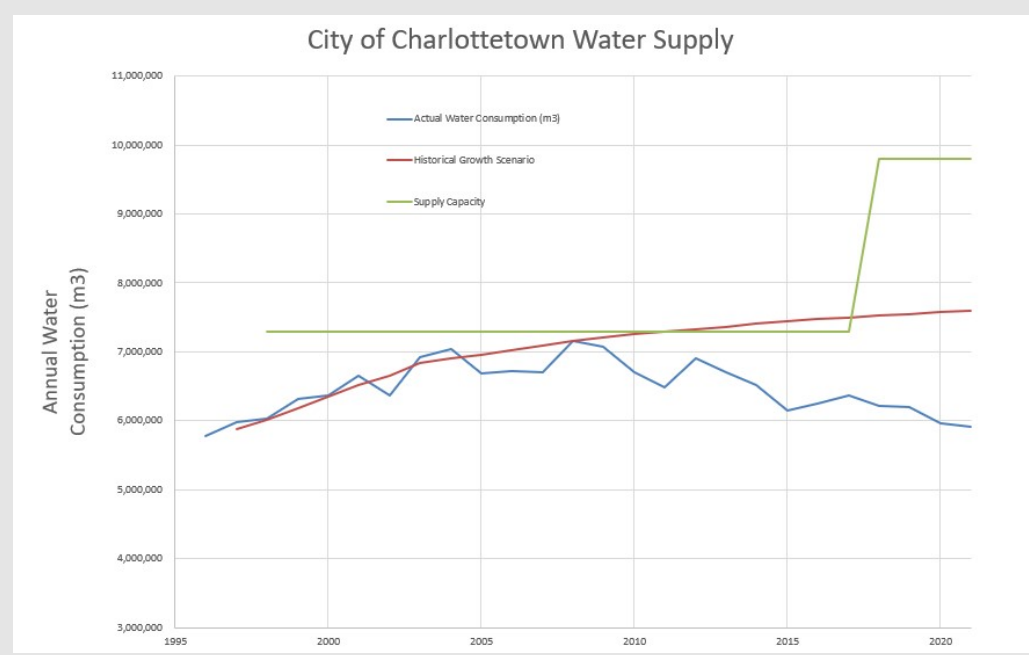


Message from the City of Charlottetown Water and Sewer Utility

The Charlottetown Water and Sewer Corporation has a long history (established 1887) of providing great service to the residents of Charlottetown. The Miltonvale Wellfield, coupled with the Brackley Wellfield, Union Wellfield and Suffolk Wellfield are meeting the water demand within the City. The development of the additional water supply capacity, coupled with increased water use conscientiousness, means the City of Charlottetown is able to meet current water demands.

Residents of Charlottetown continue to embrace water conservation. The City's annual water consumption level had a rising trend from the time of amalgamation up to the year 2008 peak of 7.2 million cubic meters. Despite Charlottetown being a growing, residents have been able to reduce water consumption since that 2008 peak. Consumption rates have dropped nearly 1 million cubic meters. This puts today's consumption levels comparable to those seen at the beginning of the century. The residents of Charlottetown should be proud of their efforts in the area of water conservation. The graphic below provides a representation of water supply capacity, water demand and a representation of where demand could have gone in the absence of increase water conservation.

Upgrades at the pollution control plant have been completed that allow for the treatment of wastewater from both East Royalty and the Town of Stratford. The plant accepted from Stratford in February 2021. Additional work is underway to increase the plant's resiliency to future climate change impacts such as the potential for increasing intensity of rainfall events.



2021 WATER & SEWER REPORT

Water and Sewer Utility Message	1	Waste Water Treatment Reports	6
Utility General Information	2	Seasonal Restrictions	7
Water Distribution Report	3,4	Education and Awareness	8,9
Chemistry Analysis Report	5	Maintaining Sewage Serenity	10

UTILITY GENERAL INFORMATION

Treatment

The treatment plant is responsible for the operation, maintenance and repairs of the City's sewage treatment facilities including the Riverside Drive Treatment Plant, East Royalty Lagoon and sewer pumping stations at Navy Quay, Dorchester Street, and West Royalty.

Works

Works is responsible for the maintenance and repair of the City's water and sewer systems including water pumping stations at Brackley, Union, Suffolk, Malpeque Road, Miltonvale Wellfield and Mt Edward Road Booster Station, water and sewer mains and services, water meters, fire hydrants and 35 sewer pumping stations located throughout the city.

Engineering

Engineering provides support for short and long range planning, engineering, and design and upgrade of new and existing existing water and sewer facilities, mapping and records maintenance, layout and inspection of utility and contractor installations, monitoring of water quality and response to customer, developer and contractor inquiries and complaints.

Accounts

Accounts is responsible for the financial and billing needs of the City's water and sewer utility.

For your convenience, the following payment methods are available:

- In person by cash, cheques or post-dated cheques, Debit card, Visa or MasterCard. Pre-authorized withdrawals from chequing accounts please complete the form and either FAX to (902) 629-4115, scan and email to waterbill@charlottetown.ca or mail to PO Box 98, Charlottetown PE C1A 7K2
- Payment through your bank or other financial institution
- Online payments with credit card by visiting our website. www.charlottetown.ca
- A 24 hour payment drop box located to the right of the front door at City Hall (199 Queen street)



Photo credit
Odyssey Virtual

WATER DISTRIBUTION REPORT

Total Coliform Bacteria and E.coli (Distribution System)

	# of Samples	Positive TC Tests (TC≤10)	# of Non-Compliant Samples (TC>10)	E.coli
January	38	-	-	-
February	36	-	-	-
March	38	-	-	-
April	42	2	1	-
May	41	3	-	-
June	50	2	-	-
July	37	1	-	-
August	38	1	-	-
September	54	1	-	-
October	37	2	-	-
November	44	-	-	-
December	32	-	-	-
Total	487	12	1	-
Detection %	-	2.46	0.21	-



Total Background Growth (Distribution System)

	# of Samples	Positive BG Tests (BG≤200)	# of Non-Compliant Samples (BG>200)
January	38	-	-
February	36	-	-
March	38	-	-
April	42	-	-
May	41	-	-
June	50	-	-
July	37	1	-
August	38	-	-
September	54	-	-
October	37	-	-
November	44	-	-
December	32	-	-
Total	487	1	0
Detection %	-	0.21	0



WATER SOURCE REPORT

UNTREATED WATER (SAMPLES FROM WELLS)

	Milton # of Samples	Brackley # of Samples	Suffolk # of Samples	Union # of Samples	Total	TC ≤10	TC >10	E.coli	BG ≤200	BG >200
January	1	4	2	5	12	5	-	-	-	-
February	1	4	0	5	10	3	-	-	-	-
March	1	4	1	5	11	4	-	-	-	-
April	7	4	4	5	20	7	3	-	-	-
May	5	4	3	5	17	-	3	-	-	-
June	5	4	11	6	26	7	2	-	-	-
July	5	5	7	7	24	8	2	1	-	-
August	5	5	8	5	23	5	4	-	-	1
September	21	7	5	35	68	11	51	8	1	-
October	6	5	0	6	17	7	5	-	-	-
November	5	4	5	6	20	7	3	-	-	-
December	5	5	0	6	26	7	5	-	-	-
TOTAL	67	55	46	96	264	71	78	9	1	1

WATER PUMPING & BOOSTER STATIONS

The Utility has four (4) water pumping stations systems that consist of 18 submersible pumps ranging from 10 hp (10 l/s) to 100hp (50-53 l/s). In addition, there are two water booster stations that consists of seven (7) 60 hp centrifugal booster pumps located at Sherwood Pump house and Miltonvale Booster Station.

Preventive maintenance checks were carried out throughout the year. All pumps, motors, and controls are operational with normal maintenance required.

In accordance with the *Drinking Water and Wastewater Facility Operating Regulations*, a water sample is collected from each source of supply on a monthly basis and analyzed for the presence of coliform bacteria and E.coli. On occasion a low count of E.coli has been reported. However, there were no detections of E.coli in the treated water system.

As directed by the PEI Department of Communities, Land and Environment the utility maintains a free chlorine residual of 0.4 mg/l or greater at the first water service connection located within the city to the municipal water system which is on MacRae Drive. Any connection made before this location (outside the city) is provided additional disinfection protection with the use of ultraviolet light equipment installed in the customers home.

CHEMICAL ANALYSES REPORT (WELLS & DISTRIBUTION)

Parameter	Brackley (avg) Concentration, (mg/l)	Suffolk (avg) Concentration, (mg/l)	Union (avg) Concentration, (mg/l)	Milton Concentration, (mg/l)	Distribution System Typical (mg/l)	MAC* (mg/L)	AO* (mg/L)
Alkalinity Total	145.625	126.4	148.30	132.00	147.00	--	--
Barium	0.401	0.53	0.53	0.48	0.51	1.0	--
Calcium	35.93	23.09	35.71	29.34	33.72	--	--
Chloride	11.36	10.30	15.77	10.38	13.77	--	≤250
Chromium	--	--	--	--	--	0.05	--
Copper	0.0051	0.0042	0.027	0.0038	0.11	--	≤1.0
Iron	<0.002	0.0024	<0.002	<0.002	<0.002	--	≤0.3
Lead	0.00057	0.0013	0.00048	<0.0001	0.0010	0.01	--
Magnesium	19.43	14.20	19.25	16.02	18.29	--	--
Manganese	0.00085	0.0078	0.00064	<0.0005	<0.0005	--	≤0.05
Nickel	--	--	--	--	--	--	--
Nitrate-N	4.31	2.02	3.66	3.10	3.03	10.0	--
pH	7.77	8.04	7.48	8.03	7.77	--	6.5 to 8.5
Phosphorus	0.049	0.058	0.051	0.041	0.047	--	--
Potassium	1.43	1.29	1.57	1.48	1.56	--	--
Sodium	5.92	9.74	9.45	7.81	9.67	--	≤200
Sulfate	7.01	4.63	8.42	4.49	6.57	--	≤500
Zinc	0.0037	0.0028	0.0031	0.0046	0.0040	--	≤5
Total Hardness	169.70	123.61	168.37	139.23	159.50	--	≤200

*MAC - Maximum Acceptable Concentration AO - Aesthetic Objective - as per *Guidelines for Canadian Drinking Water Quality*, Health Canada

WASTEWATER TREATMENT REPORTS

Treatment Plant Effluent

Month	Average CBOD (mg/L)	Average Suspended Solids (mg/L)	Maximum Total Ammonia (mg/L)	Total Nitrogen (mg/L)	Total Phosphorus (µg/L)	Geometric Mean Fecal Coliform (MPN/100ml)
January	<10 mg/L	6.25	-	-	-	39
February	<10mg/L	12.75	0.237	31.9	4840	56
March	<10 mg/L	7.6	-	-	-	-
April	<10mg/L	6	-	-	-	48
May	<10mg/L	8.5	<0.100	34.7	3560	17.5
June	<10 mg/L	8.2	-	-	-	163
July	<10 mg/L	10.25	-	-	-	10.5
August	<10 mg/L	10.75	0.15	31.7	3380	190
September	<10 mg/L	8	-	-	-	20.5
October	<10 mg/L	9	-	-	-	5
November	<10 mg/L	9	0.178	35.5	4480	3
December	<10 mg/L	11.25	-	-	-	387



SEASONAL WATER USE RESTRICTIONS



With the summer months fast approaching, residents are reminded that Seasonal Water Use Restrictions come into effect on June 1st. As per the Utility’s Rules and Regulations, “no resident shall permit the use of water that conflicts with the “Water Shortage Restrictions”.

	Seasonal Water Use Restrictions (Effective June 1 – September 30)	Water Shortage Restrictions (Implemented at the discretion of the Charlottetown Water & Sewer Utility Corporation)
Lawn watering (hose or sprinkler) New sod is exempt from restrictions for first 30 days after it is laid	5am – 10am OR 7pm – 1am (max 2 hours per day)	Prohibited
Spot watering for gardens/ hanging baskets	Anytime	Anytime
Filling or topping up swimming pools or hot tubs	Anytime	Prohibited
Hosing hard surfaces (sidewalks, driveways)	Prohibited at all times	Prohibited at all times
Car washing	Anytime	Once per week
Kiddie pools/water toys	Anytime	Anytime

HOW TO READ YOUR WATER METER

Your new water meter accurately measures the water you use in litres and cubic metres (m³).



Your water bill is calculated based on the number of cubic metres used in a billing cycle. There are 1,000 litres in a cubic metre.



As water passes through the meter the “sweep hand” moves around the dial.



Each complete revolution of the dial equals 100 litres of water or 0.1 cubic metres.

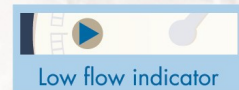


CHARLOTTETOWN WATER & SEWER UTILITY
<https://www.charlottetown.ca/cms/one.aspx?portalId=10500387&pageId=12271947>
 199 Queen Street, Charlottetown • 902-629-4014



HOW TO CHECK FOR LEAKS

The triangular shaped “low flow indicator” will move when even the smallest amount of water is passing through the meter. You should use the low flow indicator periodically to check for leaks within your property.



How to check for leaks within your property using your water meter’s low flow indicator.

- 1) Check to ensure that all faucets, and any appliances that use water, are turned off and make sure that toilets are not flushed during the test.
- 2) Look at your meter and make sure that the low flow indicator is NOT moving.
 - If it is NOT moving, you do not have any leaks.
 - If you can see it moving then there is likely a leak within your property.

Check your toilets first. Incorrectly seated or worn out toilet flappers are the No.1 cause of leaks in the home.



CHARLOTTETOWN WATER & SEWER UTILITY
<https://www.charlottetown.ca/cms/one.aspx?portalId=10500387&pageId=12271947>
 199 Queen Street, Charlottetown • 902-629-4014



MAKING A WATER BILL PAYMENT ONLINE

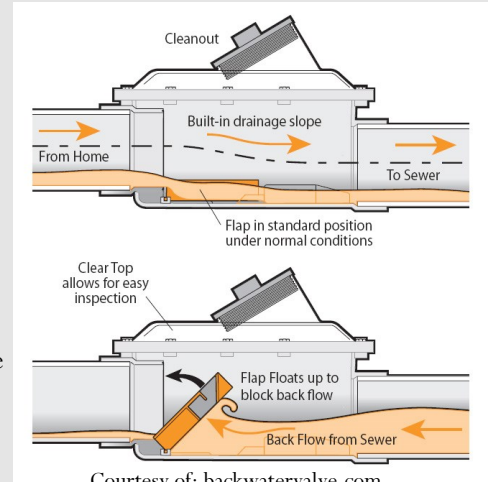
Payment is now available online and can be found at <https://ipn.paymentus.com/cp/cpeu>

EDUCATION AND AWARENESS

Backwater valves permit the flow of wastewater away from a home to the municipal sanitary sewer system. During times of large amounts of water, the valve will close automatically if sewage or water approaches the home through the sanitary or storm lateral.

A backwater valve is one of the most effective tools available to reduce the risk of damage to homes from storm water and sanitary waste. Most homes in Canada, however, do not have a backwater valve. For those homes that do have a backwater valve if it is not properly maintained, water and sanitary waste can back up into a home during an extreme water event.

People need to be educated and perform proper maintenance if the valves are to be effective. It's determined that the main mode of failure of the backwater valves is the valve cover is not screwed down tightly, resulting in failure of the valve. Typically people are not aware of the appropriate maintenance and care required to secure the greatest protection from backwater valves. To learn about proper maintenance please visit: <http://www.basementfloodreduction.com/option15.html> for more information and educational videos.



Be Water Friendly —The Be Water Friendly brand and accompanying micro-site was created in 2011 to create a common identifier for water conservation programs and initiatives and provide a designated online resource for water conservation information. The logo and word mark are displayed on all program brochures and are also displayed on the Utility fleet as a continuous reminder of this important discussion in the Charlottetown community. The micro-site contains all the pertinent information on water supply concerns and is an important source of information on water conservation tips and for displaying new programs and initiatives.



Fix-a-Leak Week — The Utility promoted US EPA Fix-a-Leak Week to encourage the identification and repair of leaks by Utility customers. This was also promoted through the annual bill for flat-rate customers that included an information card and leak strips that can be used to identify toilet leaks in the home and information on how to repair the most common types of toilet leak. For more information on proper maintenance and educational videos, visit: <http://www.bewaterfriendly.com/>

MAINTAINING SEWAGE SERENITY

The proper maintenance and operation of our sewer system begins with our customers. In order to provide an effective sewage collection and treatment system it is important that care is taken by all. The following information is provided to assist all of us in contributing to effective management of our wastewater.

When you use your toilet, shower, washing machine or dishwasher, wastewater leaves your home through pipes that connect to the city sewer system.

Materials that may be flushed or poured down the drain could harm Utility staff and the pipes that connect to city sewers as well as the city sewer system. Every property owner connected to the city sewer treatment system can be a potential contributor to sewer problems, and a potential victim of those problems.

Putting the wrong things down the drain could damage the sewer system, cause sewer backups in your home, and sewer releases to the environment. Anyone who uses the city sewer system should be responsible for what they flush or pour down drains.

The only thing that should be flushed down a toilet is human waste (urine and feces) and toilet paper.



Please avoid flushing these common household items

- disposable diapers
- tampons
- cotton balls and swabs
- mini or maxi pads
- unused medications (return to a pharmacy)
- condoms
- cleaning wipes of any kind
- facial tissue
- bandages and bandage wrappings
- fats, oils and grease

By working together we can all ensure effective management of our wastewater. Thank you for your assistance