

Canadiana Shores Drinking Water System

Waterworks # 220006491
System Category – Large Municipal Residential

Annual Water Report

Prepared For: The City of Kawartha Lakes

Reporting Period of January 1st – December 31st, 2020

Issued: February 15, 2021

Revision: 0

Operating Authorities:



This report has been prepared to satisfy the annual reporting requirements in
O. Reg. 170/03 Section 11 and Schedule 22

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Report Availability

This system does not serve more than 10,000 residences. The annual reports are available to residents free of charge at the City of Kawartha Lakes – Public Works Administration Office located at 322 Kent Street West in Lindsay, Ontario. The reports are also available online at the [Water and Wastewater pages of the City of Kawartha Lakes website](#).

Compliance Report Card

Drinking Water System Number: 220006491

Drinking Water System Name: Canadiana Shores DWS

Drinking Water System Owner: City of Kawartha Lakes

Drinking Water System Category: Large Municipal Residential

Period Being Reported: January 1, 2020 - December 31, 2020

	# of Events	Date	Details
Health & Safety			
Number of Incidents	0		
Drinking Water			
MECP Inspections	1	September 3, 2020	Unannounced - Focused Drinking Water Inspection - Final Inspection Rating of 97.17%
AWQI's	0		
Number of Non-Compliances	1	September 3, 2020	The well cap for the new drilled well (Well 4) was not secured in place.
Number of Boil Water Advisories	0		

System Process Description

Raw Source

The water supply for the DWS comes from three (3) groundwater wells that are considered to be GUDI (Groundwater Under the Direct Influence of Surface Water).

Treatment

The treatment system consists of the following:

- sodium hypochlorite disinfection system
- two (2) package treatment units with backwash equipment and backwash waste storage/decant tank system
- two (2) cartridge filtration systems

- two (2) booster pumps and equalization tank system
- hydropneumatic tanks
- a high lift pumping system
- Stand-by diesel generator on-site

Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Brenntag

Summary of Non-Compliance

Adverse Water Quality Incidents

There were no Adverse Water Quality Incidents reported during the reporting period.

Non-Compliance

There were no non-compliances reported during the reporting period.

Non-Compliance Identified in a Ministry Inspection:

Legislation	Requirement(s) system failed to meet	Duration of the failure (i.e. date(s))	Corrective Action	Status
O. Reg. 170/03 1-2(1)	The owner of a drinking water system shall endure the following: 1. Any well that serves as an entry point of raw water supply is constructed and maintained to prevent surface water and other foreign materials from entering the well.	Sep. 3, 2020 to Sep. 24, 2020	The well cap for Well 4 was repaired on September 24, 2020. Note: Well 4 is <u>not</u> currently connected to the Drinking Water System	Complete

Flows

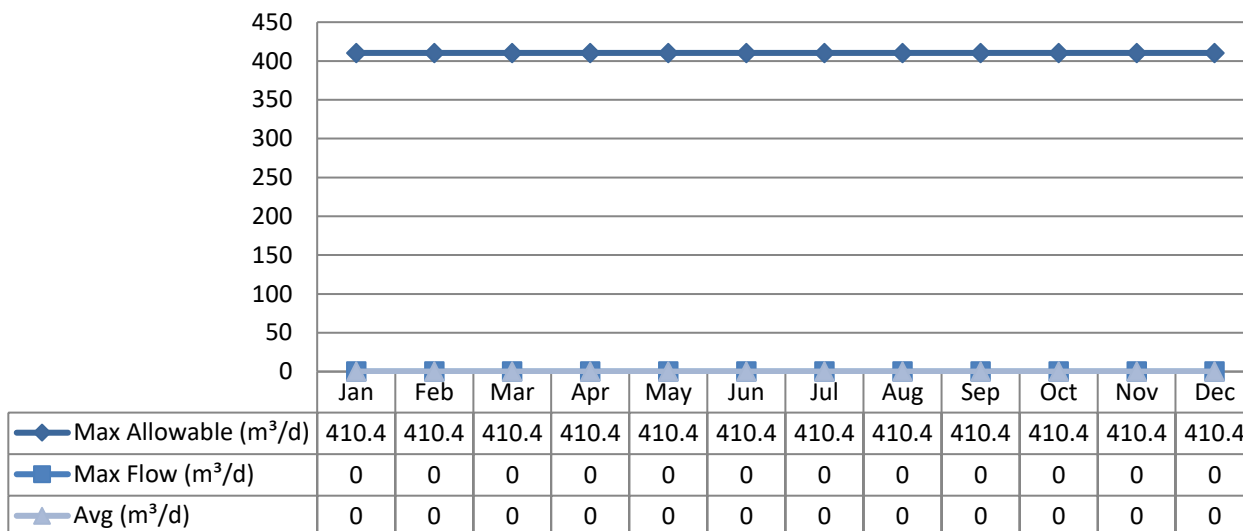
The Canadiana Shores Drinking Water System is operating on average under half the rated capacity.

Raw Water Flows

The Raw Water flows are regulated under the Permit to Take Water. 2020 Raw Flow Data was submitted to the Ministry electronically under permits #1452-AWDLEX and #1311-BMZH78. The confirmations and a copy of the data that was submitted are attached in Appendix A.

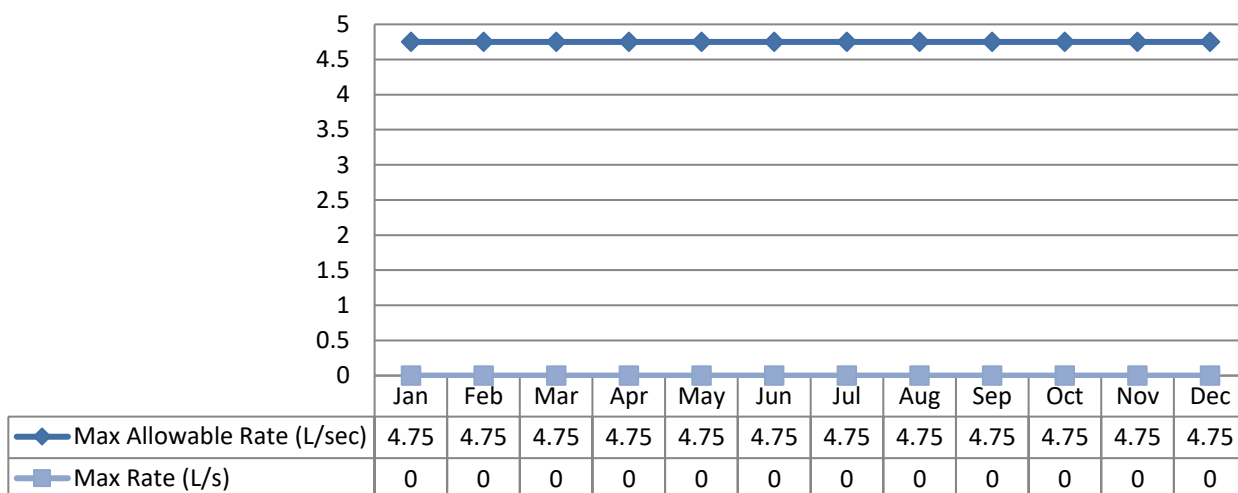
Total Monthly Flows (m³/d)

Max Allowable PTTW – Well #1



Monthly Rated Flows (L/s)

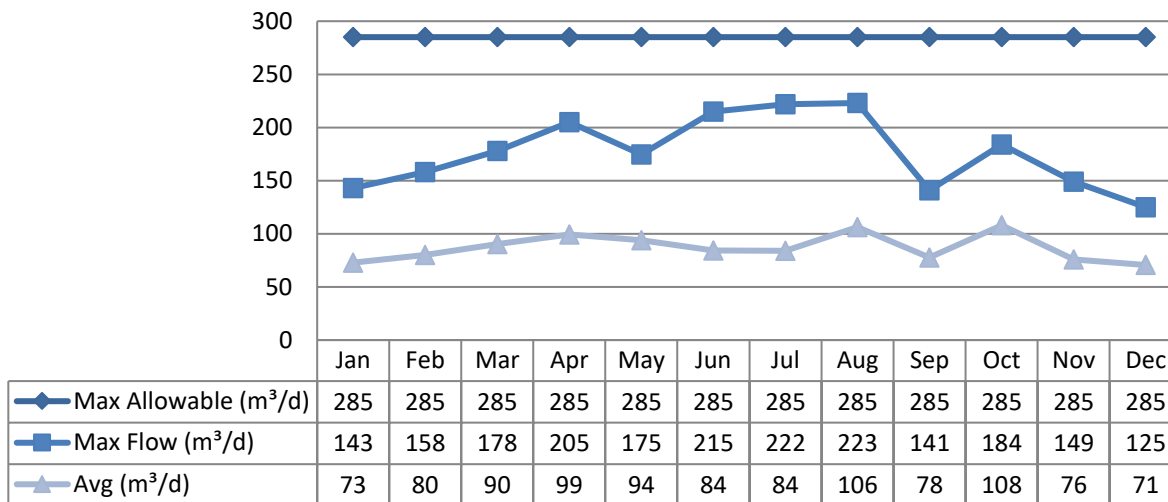
Max allowable rate – PTTW – Well #1



Note: Well 1 was not in production during the reporting period. Well 1 was decommissioned on December 18, 2019.

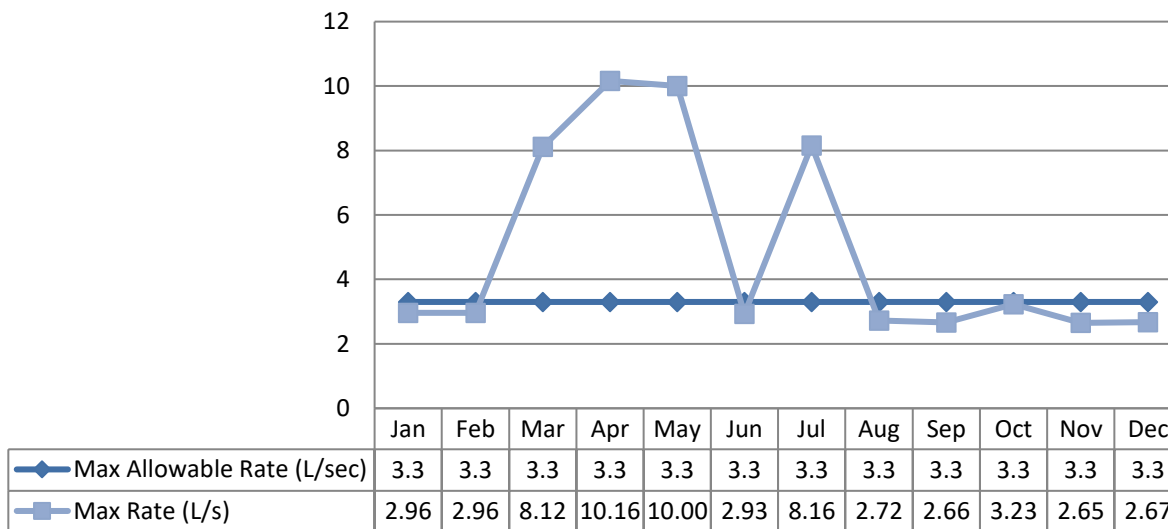
Total Monthly Flows (m³/d)

Max Allowable PTTW – Well #2



Monthly Rated Flows (L/s)

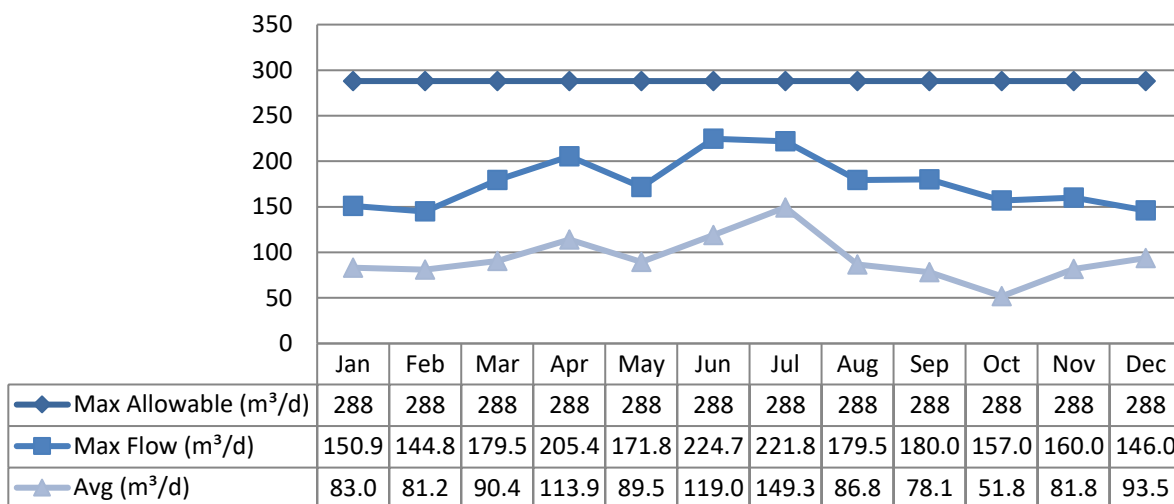
Max allowable rate – PTTW – Well #2



Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s). The significant spike in March, April, and July were due to power transfer between utility and the onsite generator. Additionally, the spike in May was due to scheduled Flow Meter calibration.

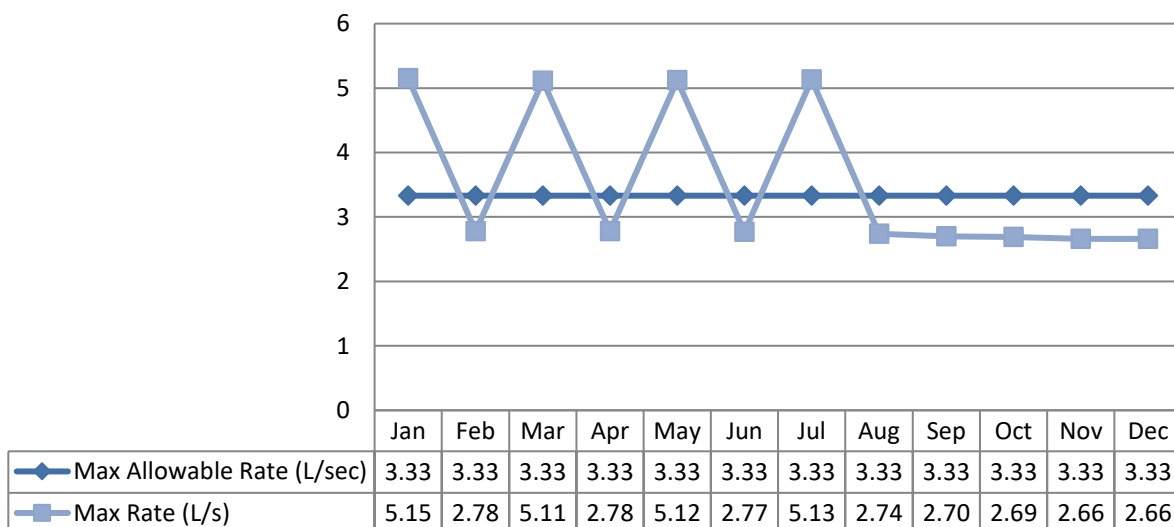
Total Monthly Flows (m³/d)

Max Allowable PTTW – Well #3



Monthly Rated Flows (L/s)

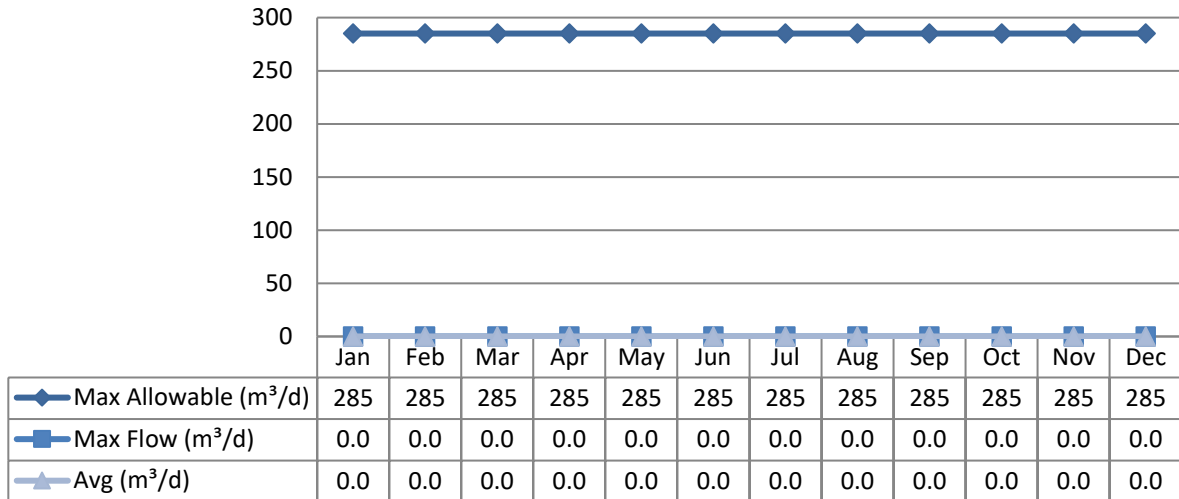
Max allowable rate – PTTW – Well #3



Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s). The significant spikes in January, March, and July was due to power transfer between utility and the onsite generator. Additionally, the spike in May was due to scheduled Flow Meter calibration.

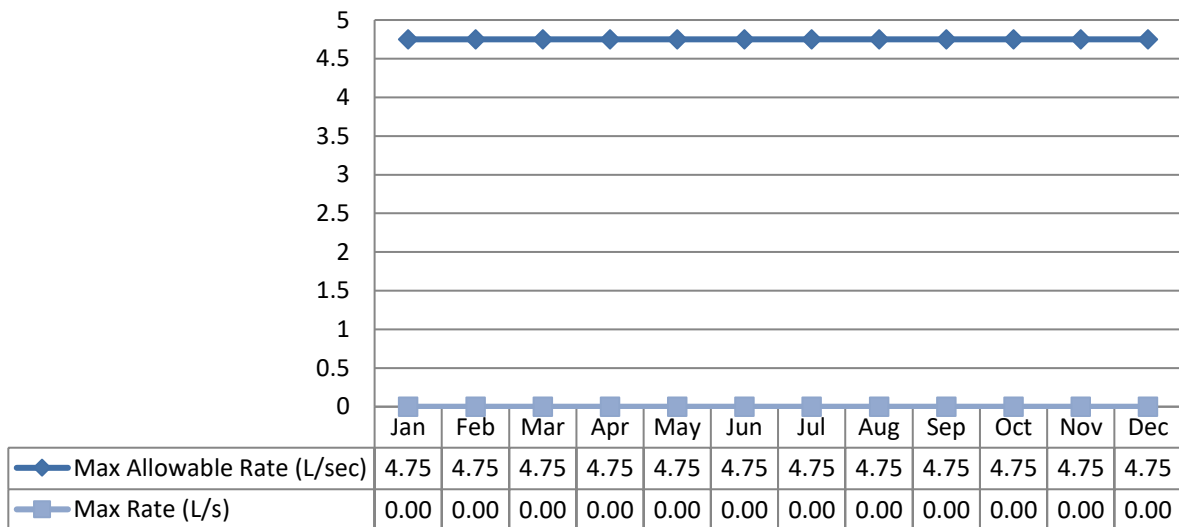
Total Monthly Flows (m³/d)

Max Allowable PTTW – Well #4



Monthly Rated Flows (L/s)

Max allowable rate – PTTW – Well #4



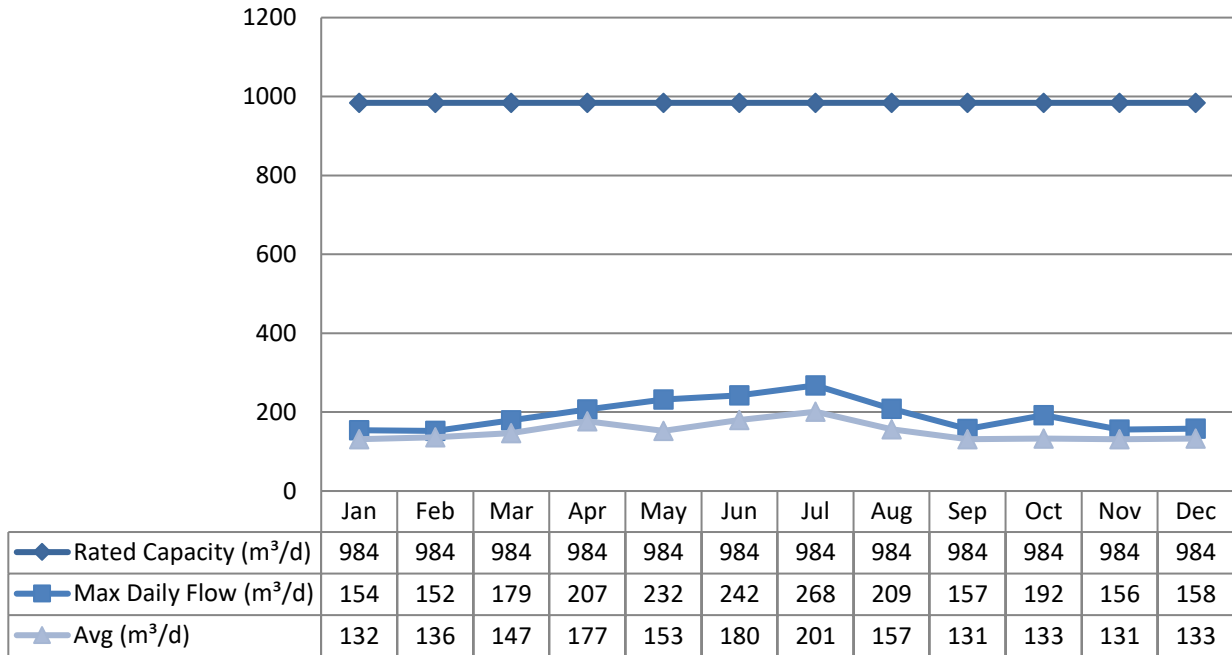
Note: Well 4 was not connected to the drinking water system during the reporting period.

Treated Water Flows

The Treated Water flows are regulated under the Municipal Licence.

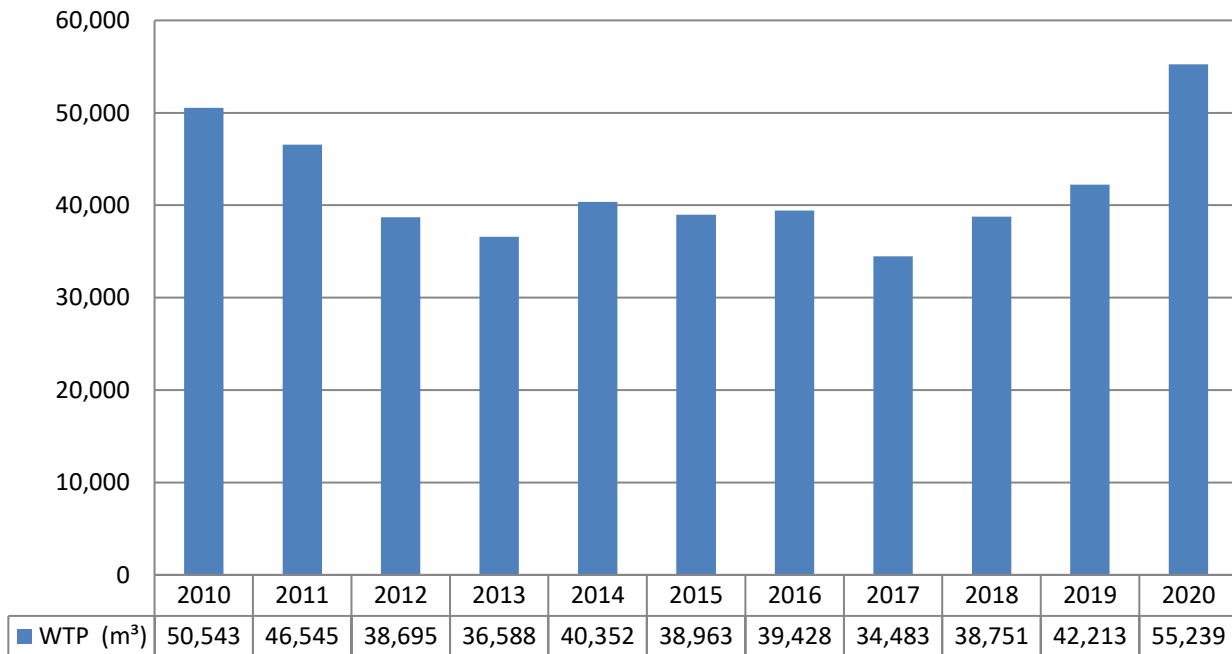
Monthly Rated Flows

Rated Capacity – MDWL



Annual Total Flow Comparison

Total Annual m³



Regulatory Sample Results Summary

Microbiological Testing

	No. of Samples Collected	Range of E. Coli Results		Range of Total Coliform Results		Range of HPC Results	
		Min	Max	Min	Max	Min	Max
Raw Well 1	0						
Raw Well 2	54	0	0	0	5		
Raw Well 3	54	0	0	0	0		
Raw Well 4	0						
Treated	53	0	0	0	0	0	1
Distribution	156	0	0	0	0	0	2

Note: Well 1 and Well 4 were not in production during this reporting period.

Operational Testing

	No. of Samples Collected	Range of Results	Range of Results
		Minimum	Maximum
Turbidity Well 1 (NTU)	0		
Turbidity Well 2 (NTU)	12	0.11	0.59
Turbidity Well 3 (NTU)	12	0.17	3.24
Turbidity Well 4 (NTU)	0		
Turbidity – Filter Line 1 (NTU)	8760	0.00	2.06
Turbidity – Filter Line 2 (NTU)	8760	0.00	2.04
Chlorine	8760	0	2.76
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

Note: Well 1 and Well 4 was not in production during this reporting period.

Note: Record the unit of measure if it is **not** milligrams per litre.

Note: For continuous monitors 8760 is used as the number of samples. Spikes recorded by on-line instrumentation were a result of air bubbles and various maintenance/calibration activities. All spikes are reviewed for compliance with O. Reg. 170/03.

Inorganic Parameters

These parameters are tested as a requirement under O. Reg. 170/03. Sodium and Fluoride are required to be tested every 5 years. Nitrate and Nitrite are tested quarterly and the metals are tested annually as required under O. Reg. 170/03. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

- MAC = Maximum Allowable Concentration as per O. Reg. 169/03
- MDL = Method Detection Limit

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	Exceedances
				MAC	1/2 MAC
Treated Water					
Antimony: Sb (ug/L) -	2020/01/06	<MDL	6.0	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	Exceedances
				MAC	1/2 MAC
TW		0.09			
Arsenic: As (ug/L) - TW	2020/01/06	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2020/01/06	111.0	1000.0	No	No
Boron: B (ug/L) - TW	2020/01/06	10.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2020/01/06	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2020/01/06	0.17	50.0	No	No
Mercury: Hg (ug/L) - TW	2020/01/06	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2020/01/06	0.11	50.0	No	No
Uranium: U (ug/L) - TW	2020/01/06	4.62	20.0	No	No
Additional Inorganics					
Fluoride (mg/L) - TW	2018/01/08	0.09	1.5	No	No
Nitrite (mg/L) - TW	2020/01/06	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/04/06	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/07/06	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/10/05	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2020/01/06	1.19	10.0	No	No
Nitrate (mg/L) - TW	2020/04/06	1.22	10.0	No	No
Nitrate (mg/L) - TW	2020/07/06	0.818	10.0	No	No
Nitrate (mg/L) - TW	2020/10/05	1.27	10.0	No	No
Sodium: Na (mg/L) - TW	2018/01/08	17.0	20*	No	Yes

*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

Schedule 15 Sampling

The Schedule 15 Sampling is required under O. Reg. 170/03. This system is under reduced sampling. No plumbing samples were collected.

Distribution System	Number of Sampling Points	Number of Samples	Range of Results Minimum	Range of Results Maximum	MAC (µg/L)	Number of Exceedances
Alkalinity (mg/L)	2	4	288	291	N/A	N/A
pH	2	4	7.39	7.66	N/A	N/A

Distribution System	Number of Sampling Points	Number of Samples	Range of Results Minimum	Range of Results Maximum	MAC (µg/L)	Number of Exceedances
Lead (µg/l)	2	4	0.06	0.13	10	No

Organic Parameters

These parameters are tested as a requirement under O. Reg. 170/03. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	Exceedances
				MAC	1/2 MAC
Treated Water					
Alachlor (ug/L) - TW	2020/01/06	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2020/01/06	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2020/01/06	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2020/01/06	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2020/01/06	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2020/01/06	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2020/01/06	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2020/01/06	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2020/01/06	<MDL 0.17	2.00	No	No
Chlorpyrifos (ug/L) - TW	2020/01/06	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2020/01/06	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2020/01/06	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2020/01/06	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2020/01/06	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2020/01/06	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2020/01/06	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2020/01/06	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2020/01/06	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2020/01/06	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2020/01/06	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2020/01/06	<MDL 0.06	20.00	No	No
Diquat (ug/L) - TW	2020/01/06	<MDL 1.0	70.00	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	Exceedances
				MAC	1/2 MAC
Diuron (ug/L) - TW	2020/01/06	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2020/01/06	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2020/01/06	<MDL 0.02	190.00	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA) (ug/L)	2020/01/06	<MDL 0.12	100.00	No	No
Metolachlor (ug/L) - TW	2020/01/06	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2020/01/06	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2020/01/06	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2020/01/06	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2020/01/06	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2020/01/06	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2020/01/06	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2020/01/06	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2020/01/06	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2020/01/06	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2020/01/06	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2020/01/06	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2020/01/06	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2020/01/06	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2020/01/06	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2020/01/06	<MDL 0.25	5.00	No	No
Trifluralin (ug/L) - TW	2020/01/06	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2020/01/06	<MDL 0.17	1.00	No	No
Distribution Water					
Trihalomethane: Total (ug/L) Annual Average - DW	2020	8.0	100	No	No
HAA Total (ug/L) Annual Average - Du	2020	5.3	80	No	No

MAC = Maximum Allowable Concentration as per O. Reg. 169/03

MDL = Method Detection Limit

Additional Legislated Samples

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
July 26, 2016	Suspended Solids (Composite)	January 2020	2	mg/L



Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
July 26, 2016	Suspended Solids (Composite)	February 2020	4	mg/L
July 26, 2016	Suspended Solids (Composite)	March 2020	6	mg/L
July 26, 2016	Suspended Solids (Composite)	April 2020	2	mg/L
July 26, 2016	Suspended Solids (Composite)	May 2020	6	mg/L
July 26, 2016	Suspended Solids (Composite)	June 2020	27	mg/L
July 26, 2016	Suspended Solids (Composite)	July 2020	9	mg/L
July 26, 2016	Suspended Solids (Composite)	August 2020	3	mg/L
July 26, 2016	Suspended Solids (Composite)	September 2020	3	mg/L
July 26, 2016	Suspended Solids (Composite)	October 2020	<2	mg/L
July 26, 2016	Suspended Solids (Composite)	November 2020	2	mg/L
July 26, 2016	Suspended Solids (Composite)	December 2020	3	mg/L
July 26, 2016	Suspended Solids Annual Average Concentration	2020	6.09	mg/L

Major Maintenance Summary incurred to install, repair or replace required equipment

WO #	Description
1749998	Belt replacement on dehumidifier
2038298	Ventilation, louvers, generator

Appendix A

WTRS Submission Confirmations



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Conservation and Parks

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Water Taking Data submitted successfully.

Confirmation:


Thank you for submitting your water taking data online.



Permit Number: 1452-AWDLEX
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.
Received on: Feb 8, 2021 10:10 AM

This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance of this data if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.

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Water Taking Data submitted successfully.

Confirmation:


Thank you for submitting your water taking data online.

Permit Number: 1311-BMZH78
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.
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