Bayshore Village Drinking Water System

Waterworks # 220012724
System Category – Large Municipal Residential

Annual Water Report

Prepared For: The Township of Ramara

Reporting Period of January 1st – December 31st, 2023

Issued: February 27, 2024

Revision: 0

Operating Authority:

OCWA
ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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 residence and the annual reports will be available to residents at the Township Of Ramara Administration Office and on the Township's website at www.ramara.ca. Notification that reports are available free of charge will be made on the Township of Ramara website. The Township of Ramara Administration Office is located at 2297 Highway 12, Brechin, ON L0K 1B0.

Compliance Report Card

Drinking Water System Number: 220012724
Drinking Water System Name: Bayshore Village DWS
Drinking Water System Owner: Township of Ramara
Drinking Water System Category: Large Municipal Residential
Period Being Reported: January 1, 2023 - December 31, 2023

	# of Events	Date	Details
Health & Safety			
Number of Incidents	0		
Drinking Water			
MECP Inspections	0		Inspection for 2023/2024 inspection cycle completed in February 2024. No inspection rating available at time of report issuance.
			Inspection for 2022/2023 cycle completed in January 2023. Final Inspection rating of 100%
AWQI	1	May 17, 2023	1TC on treated water sample
Number of Non-Compliances	0		
Number of Boil Water Advisories	0		

System Process Description

Raw Source

The Bayshore Village DWS is supplied with raw groundwater from three non-GUDI wells: Well # 3, # 4 and #5.

Treatment

The treatment system consists of the following:

- Sodium hypochlorite primary disinfection system
- One (1) reservoir
- 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

Date	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
May 17/23	161970	Treated Water	Total Coliforms	1	O. Reg 170/03	Increased chlorine dosage, flushed sample locations & resampled treated water + two downstream locations.

Non-Compliance

Legislation	Requirement(s) system failed to meet	Duration of the failure (i.e. date(s))	Corrective Action	Status
There were no non-compliances during this 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
There was no Ministry Inspection in this reporting period.				

Flows

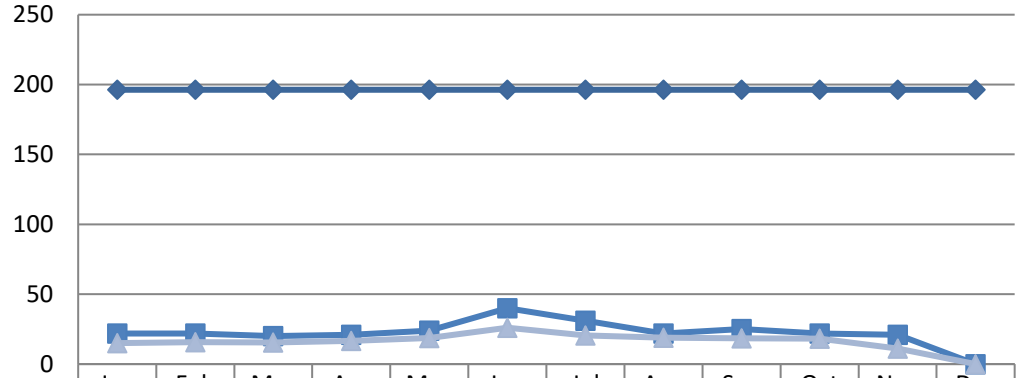
The Bayshore Village Drinking Water System is operating on average under half the rated capacity.

Raw Water Flows

The Permit to Take Water compliance criteria is in litres per minute (L/min) but for the purposes of this report the flow rate is reported in litres per second (L/sec) based on industry standard for flow monitoring recording. The Raw Water flows are regulated under the Permit to Take Water. 2023 Raw Flow Data was submitted to the Ministry electronically under permit #5467-9TFT9U. The confirmation and a copy of the data that was submitted are attached in Appendix A.

Total Monthly Flows (m^3/d)

Max Allowable PTTW − Well #3

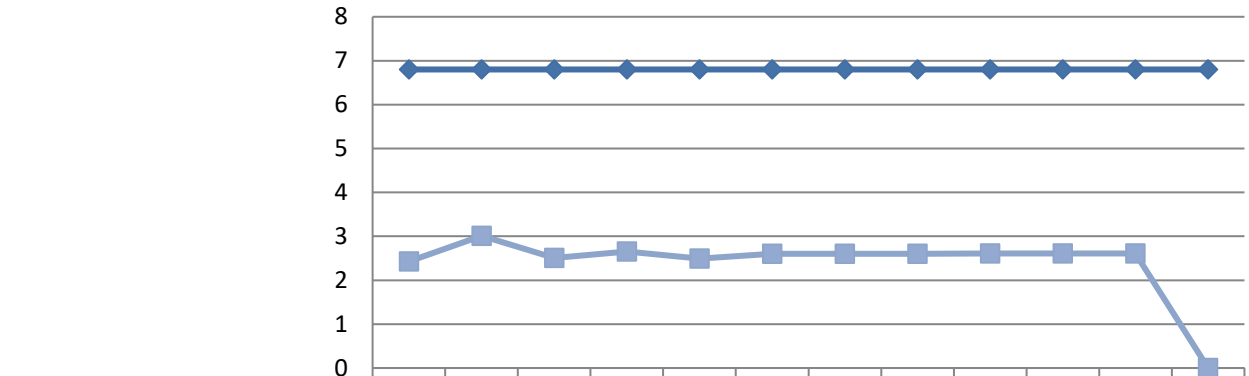


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m^3/d)	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3
Max Flow (m^3/d)	22	22	20	21	24	40	31	22	25	22	21	0
Avg (m^3/d)	15.1	15.8	15.4	16.6	18.7	26.0	20.5	19.0	18.5	18.2	11.0	0.0

*NOTE – Break in raw water line from Well 3 discovered on November 20/23. Well 3 was taken out of service on that date and was not online for the remainder of 2023.

Monthly Rated Flows (L/s)

Max allowable rate – PTTW − Well #3

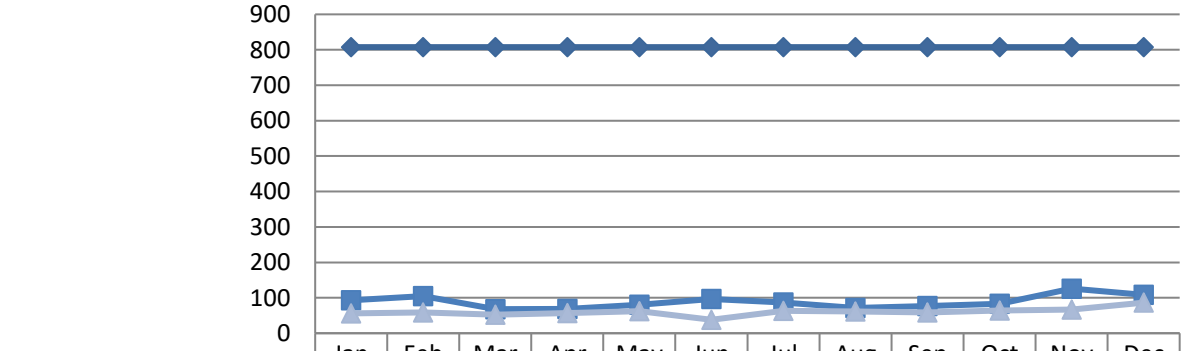


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable Rate (L/sec)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Max Rate (L/s)	2.4	3.0	2.5	2.7	2.5	2.6	2.6	2.6	2.6	2.6	2.6	0.0

*NOTE – Values were edited to eliminate erroneous values caused by flow meter noise.

Total Monthly Flows (m³/d)

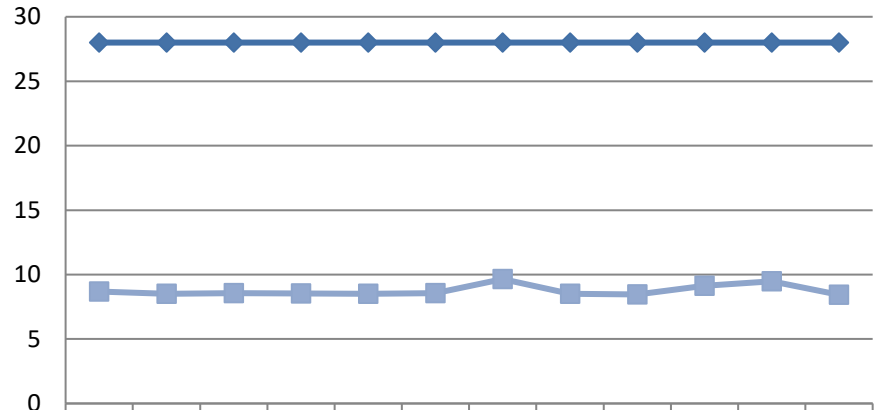
Max Allowable PTTW − Well #4



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	807.5	807.5	807.5	807.5	807.5	807.5	807.5	807.5	807.5	807.5	807.5	807.5
Max Flow (m³/d)	93	105	68	69	80	97	87	71	77	83	126	108
Avg (m³/d)	55.9	58.6	52.0	57.1	62.1	38.0	62.9	61.7	58.6	64.1	66.8	86.4

Monthly Rated Flows (L/s)

Max allowable rate – PTTW − Well #4

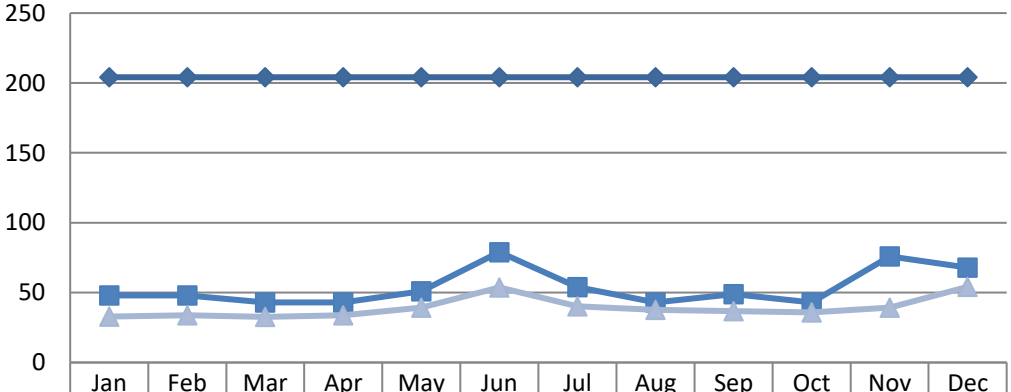


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable Rate (L/sec)	28	28	28	28	28	28	28	28	28	28	28	28
Max Rate (L/s)	8.7	8.5	8.6	8.5	8.5	8.6	9.7	8.5	8.5	9.1	9.5	8.4

*NOTE – Values were edited to eliminate erroneous values caused by flow meter noise.

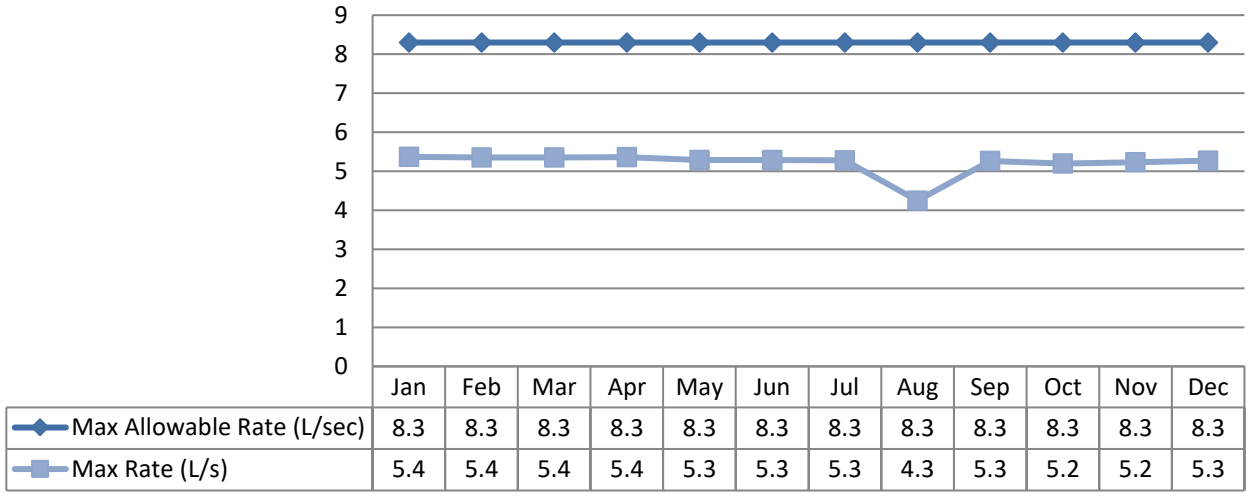
Total Monthly Flows (m³/d)

Max Allowable PTTW − Well #5



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	204.1	204.1	204.1	204.1	204.1	204.1	204.1	204.1	204.1	204.1	204.1	204.1
Max Flow (m³/d)	48	48	43	43	51	79	54	43	49	43	76	68
Avg (m³/d)	32.9	33.9	32.7	33.8	39.3	53.6	40.2	37.7	36.8	35.9	39.2	54.2

Monthly Rated Flows (L/s)
Max allowable rate – PTTW − Well #5



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable Rate (L/sec)	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Max Rate (L/s)	5.4	5.4	5.4	5.4	5.3	5.3	5.3	4.3	5.3	5.2	5.2	5.3

*NOTE – Values were edited to eliminate erroneous values caused by flow meter noise.

Treated Water Flows
The Treated Water flows are regulated under the Municipal Licence. The average water consumption for the Bayshore Village Drinking Water System during 2023 was: 139 m^3/day.

Bayshore Village Drinking Water System Historical Demands

Year	Number of Connections	Average Daily Demand (m^3)	Maximum Daily Demand (m^3/day)	Rated Capacity	Per Capita Consumption* (L/p/day)	
					Average	Maximum
2013	319	150	355	1244	195	370
2014	319	161	307	1244	195	370
2015	320	174	286	1244	209	344
2016	322	170	332	1244	203	397
2017	328	152	238	1244	178	279
2018	335	150	316	1244	172	362
2019	340	133	277	1244	157	313
2020	342	147	316	1244	165	355
2021	342	148	276	1244	166	310
2022	348	145	287	1244	160	317
2023	350	139	245	1244	153	269
3 Year Average/Max		144	287	1244	159	317

*Based on 2.6 people per dwelling
Note: Excluding pipe leaks/breaks & system flushing

Note: This calculation was completed based on current connections in the system, growth within the drinking water system has not been considered.

System Reserve Capacity

In accordance with the MECP Procedure D-5-1, the reserve capacity is calculated by the following formula:

Reserve Capacity= Design Flow- Committed Flow

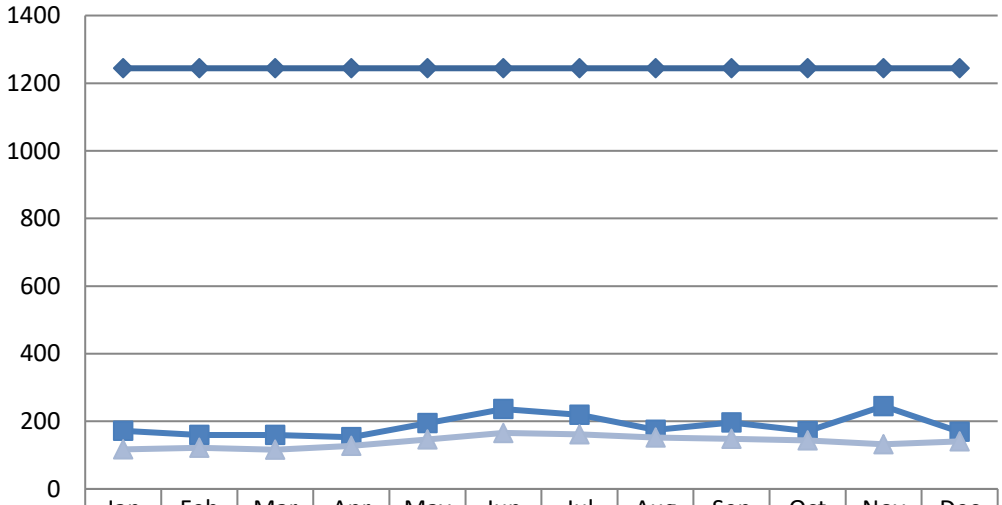
Design flow is the maximum permissible flow approved by the MDWL and/or PTTW. Bayshore Village Water Works maximum daily rated capacity is 1244 m³/day.

The committed flow is the total expected water demand from the existing and proposed connections based on the previous three years of data. The committed number of service connections is: 382.The three-year (2021-2023) maximum per capita water consumption is: 317 L/p/day. At this water consumption rate, the committed flow is: 315 m³/day.

As a result, the calculated reserve capacity is: 929 m³/day.

Monthly Rated Flows

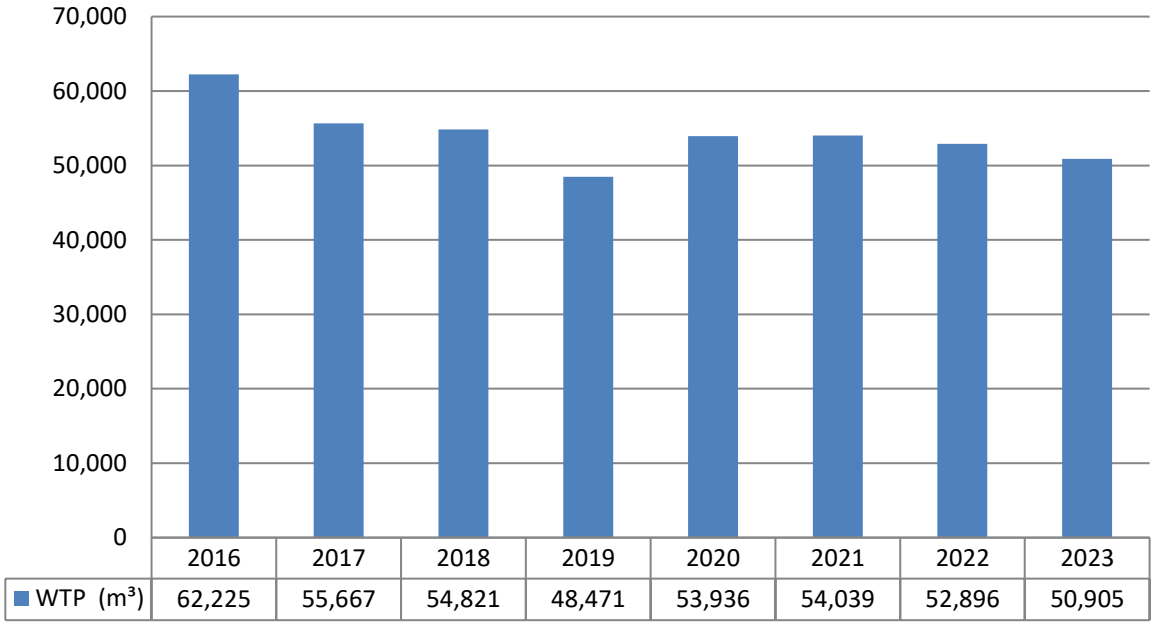
Rated Capacity – MDWL



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity (m³/d)	1244	1244	1244	1244	1244	1244	1244	1244	1244	1244	1244	1244
Max Daily Flow (m³/d)	172	160	160	153	195	236	219	175	196	171	245	169
Avg (m³/d)	116.8	122.1	116.0	127.3	146.7	165.7	161.1	151.7	148.2	143.9	132.5	141.0

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 3	46*	0	0	0	0		
Raw Well 4	58**	0	0	0	2		
Raw Well 5	52	0	0	0	10		
Treated	54	0	0	0	1	0	6
Distribution	111	0	0	0	0	0	24

*Well 3 offline for six weeks

** In addition to the 52 regular weekly samples, six additional samples were collected and tested for Total Coliforms after Well 3 being cleaned

Operational Testing

	No. of Samples Collected	Range of Results	
		Minimum	Maximum
Turbidity Well 3 (NTU)	11	0.13	0.40
Turbidity Well 4 (NTU)	12	0.14	0.74
Turbidity Well 5 (NTU)	12	0.10	0.37
Turbidity – Treated (NTU)	8760	0.10	2.04
Treated Water Chlorine (mg/L)	8760	0.00	2.61
Distribution Water Chlorine (mg/L)	365	0.44	2.48
Fluoride (If the DWS provides fluoridation)	**N/A**	**N/A**	**N/A**

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	
				MAC	1/2 MAC
Treated Water					
Antimony: Sb (ug/L) - TW	2022/08/03	<MDL 0.6	6.0	No	No
Arsenic: As (ug/L) - TW	2022/08/03	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2022/08/03	240	1000.0	No	No
Boron: B (ug/L) - TW	2022/08/03	143	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2022/08/03	0.015	5.0	No	No
Chromium: Cr (ug/L) - TW	2022/08/03	0.23	50.0	No	No
Mercury: Hg (ug/L) - TW	2022/08/03	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2022/08/03	0.44	50.0	No	No
Uranium: U (ug/L) - TW	2022/08/03	0.072	20.0	No	No
Additional Inorganics					
Fluoride (mg/L) - TW	2022/08/03	0.37	1.5	No	No
Nitrite (mg/L) - TW	2023/02/07	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2023/05/01	<MDL 0.003	1.0	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	
				MAC	1/2 MAC
Nitrite (mg/L) - TW	2023/08/01	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2023/11/06	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2023/02/07	0.011	10.0	No	No
Nitrate (mg/L) - TW	2023/05/01	0.01	10.0	No	No
Nitrate (mg/L) - TW	2023/08/01	0.015	10.0	No	No
Nitrate (mg/L) - TW	2023/11/06	0.011	10.0	No	No
Sodium: Na (mg/L) - TW	2020/08/12	30.1	20*	Yes	Yes
Sodium: Na (mg/L) - TW	2020/08/24	28.0	20*	Yes	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 Samples	Range of Results Minimum	Range of Results Maximum	MAC (ug/L)	Number of Exceedances
Alkalinity (mg/L)	4	276	310	N/A	N/A
pH	4	7.4	8.18	N/A	N/A
Lead (ug/l)	0	-	-	10	0

Note: Lead is only required to be sampled every 3 years and was sampled in 2022.

Organic Parameters

These parameters are tested every 3 years 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	Number of Exceedances	
				MAC	1/2 MAC
Treated Water					
Alachlor (ug/L) - TW	2022/08/03	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2022/08/03	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2022/08/03	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2022/08/03	<MDL 0.32	1.00	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Benzo(a)pyrene (ug/L) - TW	2022/08/03	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2022/08/03	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2022/08/03	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2022/08/03	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2022/08/03	<MDL 0.17	2.00	No	No
Chlorpyrifos (ug/L) - TW	2022/08/03	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2022/08/03	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2022/08/03	<MDL 0.20	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2022/08/03	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2022/08/03	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2022/08/03	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2022/08/03	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2022/08/03	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2022/08/03	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2022/08/03	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2022/08/03	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2022/08/03	<MDL 0.06	20.00	No	No
Diquat (ug/L) - TW	2022/08/03	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2022/08/03	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2022/08/03	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2022/08/03	<MDL 0.02	190.00	No	No
Metolachlor (ug/L) - TW	2022/08/03	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2022/08/03	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2022/08/03	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2022/08/03	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2022/08/03	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2022/08/03	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2022/08/03	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2022/08/03	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2022/08/03	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2022/08/03	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2022/08/03	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2022/08/03	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2022/08/03	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2022/08/03	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2022/08/03	<MDL 0.44	5.00	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
2,4,6-Trichlorophenol (ug/L) - TW	2022/08/03	<MDL 0.25	5.00	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA) (ug/L)- TW	2022/08/03	<MDL 0.12	100	No	No
Trifluratlin (ug/L) - TW	2022/08/03	<MDL 0.02	45.0	No	No
Vinyl Chloride (ug/L) - TW	2022/08/03	<MDL 0.17	1.00	No	No
Distribution Water					
Trihalomethane: Total (ug/L) Annual Average - DW	2023	33.75	100	No	No
HAA Total (ug/L) Annual Average - DW	2023	6.53	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
No additional legislated samples required.				

Inorganic or Organic Parameter Exceedances

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

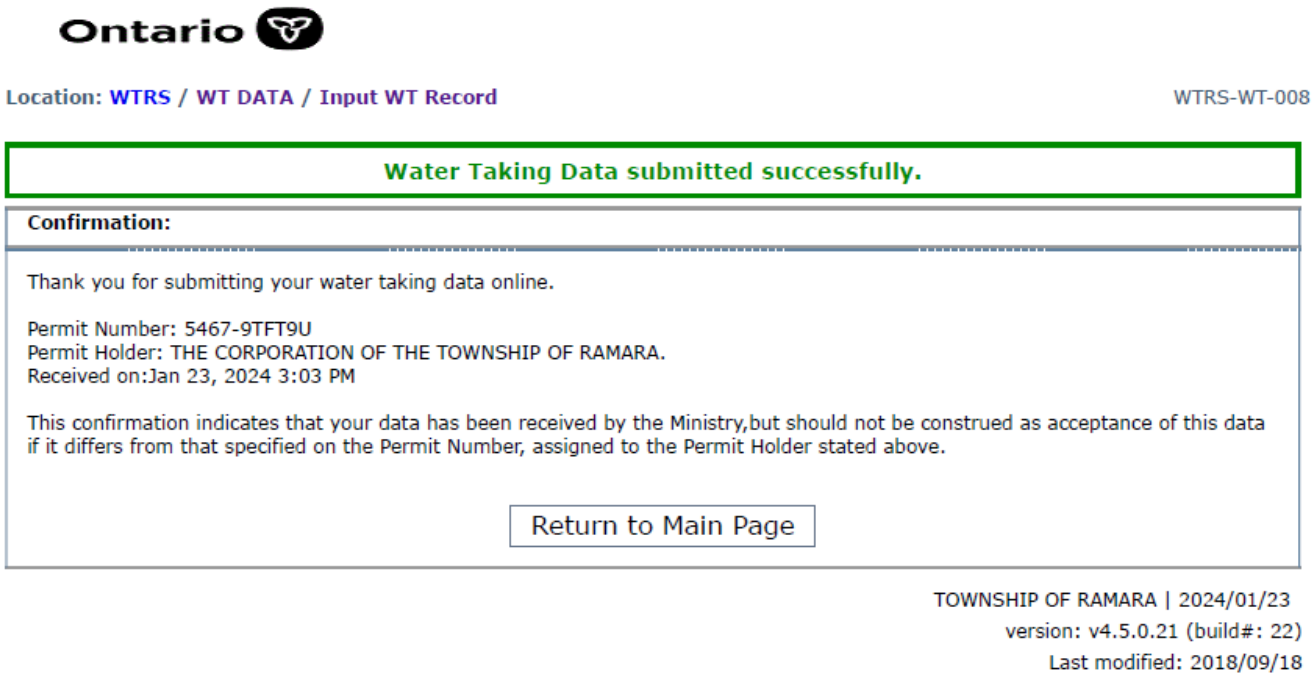
Parameter	Result Value	Unit of Measure	Date of Sample
No exceedances.			

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

Item #	Description
1	Replace fire hydrant
2	Reservoir ROV inspection
3	Replace generator transfer switch
4	Replace well 5 raw flow meter
5	Replace sample station Bayshore

Appendix A

WTRS Data Submission Confirmation



Ontario

Location: WTRS / WT DATA / Input WT Record WTRS-WT-008

Water Taking Data submitted successfully.

Confirmation:

Thank you for submitting your water taking data online.

Permit Number: 5467-9TFT9U
Permit Holder: THE CORPORATION OF THE TOWNSHIP OF RAMARA.
Received on:Jan 23, 2024 3:03 PM

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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