



LAKE ROSALIND DRINKING WATER SYSTEM
2024 SUMMARY REPORT

PREPARED IN ACCORDANCE WITH SCHEDULE 22 and SECTION 11 OF
ONTARIO REGULATION 170/03, AS AMENDED

PREPARED BY VEOLIA WATER CANADA
FOR THE MUNICIPALITY OF BROCKTON

February 18, 2025

DWS NAME : LAKE ROSALIND DRINKING WATER SYSTEM

DWS # : 220007800

CATEGORY: SMALL MUNICIPAL RESIDENTIAL

REPORTING PERIOD: JANUARY 1, 2024 TO DECEMBER 31, 2024

Summary of Reporting Requirements

Section 11 O. Reg. 170/03 - Annual Report

1. Brief description of the system
2. A summary of reports to MECP (including corrective actions)
3. A summary of Analysis
4. Major expenses
5. Location of where report can be inspected
6. Please Note: the Municipality is responsible for effective steps to advise users the reports are available and the obligation to supply the report to “Designated Facilities”.

This report will be sent to the Municipality of Brockton by **February 28th of the current year.**

Schedule 22 O. Reg. 170/03 – Summary Report

1. Include any orders the system failed to meet and the duration and corrective actions.
2. Summary of Flows
3. A comparison to the rated capacity.

This report will be sent to the Municipality of Brockton by **March 30th of the current year.**

Infrastructure Review – As part of the Drinking Water Quality Management System (DWQMS) an Infrastructure Review is required on an Annual Basis. The Brockton Utilities Manager and the Veolia Water Project Manager review Infrastructure on a regular basis. In the DWQMS Operational Plan it States: *The procedure will be for the Project Manager / Overall Responsible Operator to compile information received from the Maintenance Lead and Operators throughout the year based on work orders and observations relating to the infrastructure of the water treatment system. This information will be summarized in an Infrastructure section of the annual summary report and presented to the Owner on an annual basis. The Annual Summary is required to be submitted to the Owner by March 30th of each year.*

Water Taking Data has been submitted to the MECP (WTRS) for annual water taking for the Permit to Take Water.

SUMMARY

This report is a summary of the water quality and quantity information submitted in accordance with Schedule 22 of Ontario Regulation 170/03, as amended for the reporting period between **January 1, 2024 and December 31, 2024**.

Description

The Lake Rosalind Water System consists of two wells referred to as Well #1 and #3. Well #1 is a shallow dug well rated at 21 L/min and Well #3 is a drilled well rated at 77 L/min. The water is pumped through two stage filtration (5 micron and 1 micron). Dilute 12% sodium hypochlorite (4%) is injected prior to filtration to achieve disinfection. The water then passes through a 30.1 m³ chlorine contact tank and enters the 91 m³ storage area. It is pumped to the distribution via two high lift pumps. The System has a standby diesel generator for emergency situations.

Water Treatment Chemicals

Water Treatment chemical used is NSF Certified Sodium Hypochlorite (12%), diluted to approximately 4% with treated water.

Location of Report

This report is available upon request to the Municipality of Brockton at the Office of Veolia Water (Operating Authority) at 130 Wallace St., Walkerton, Ontario, or The Municipality of Brockton Office at 100 Scott St., Walkerton, Ontario.

TREATMENT CAPACITY ASSESSMENT**Well #1 Raw Water Flow**

Month	Raw Water Flow			
	Average	Minimum	Maximum	Monthly
	Daily m3	Daily m3	Daily m3	Total m3
Jan '24	3	2	4	90
Feb '24	3	1	5	80
Mar '24	3	2	5	99
Apr '24	3	2	6	101
May '24	4	2	6	114
Jun '24	4	2	10	129
Jul '24	6	3	10	176
Aug '24	5	4	8	167
Sep '24	5	4	6	149
Oct '24	4	3	6	130
Nov '24	9	3	18	262
Dec '24	4	2	6	117
Annual Summary				
Total				1,614
Average	4			
Minimum		1		
Maximum			18	

Well #3 Raw Water Flow

Month	Raw Water Flow			
	Average	Minimum	Maximum	Monthly
	Daily m3	Daily m3	Daily m3	Total m3
Jan '24	12	7	20	362
Feb '24	11	7	16	317
Mar '24	12	7	19	382
Apr '24	13	7	19	389
May '24	14	11	25	448
Jun '24	17	10	39	503
Jul '24	22	13	37	679
Aug '24	21	15	30	640
Sep '24	19	14	26	572
Oct '24	16	11	21	500
Nov '24	33	12	67	990
Dec '24	14	8	23	437
Annual Summary				
Total				6,219
Average	17			
Minimum		7		
Maximum			67	

Well 1&3 Combined Raw Water Flow				
Month	Raw Water Flow			
	Average	Maximum	Minimum	Monthly
	Daily	Daily	Daily	Total
	m3	m3	m3	m3
Jan '24	15	24	9	452
Feb '24	14	20	9	397
Mar '24	16	24	9	481
Apr '24	16	24	9	490
May '24	18	31	14	562
Jun '24	21	49	13	632
Jul '24	28	47	16	855
Aug '24	26	37	19	807
Sep '24	24	32	18	721
Oct '24	20	27	14	630
Nov '24	42	85	15	1,252
Dec '24	18	28	10	554
Annual Summary				
Total				7,833
Average	21			
Minimum			9	
Maximum		85		

The above tables outline the average daily, maximum daily and total monthly flows for the raw water conveyed through treatment at the Lake Rosalind WTP. The maximum allowable water taking outlined in the Permit to Take Water (PTTW) is 140,832 Liters in 24 hours. In **2024**, the average daily flow was at **14.91%** of the PTTW. Peak flow for Well #1 was **59.52%** of the well #1 PTTW capacity (30,240 L). Peak flow for Well #3 was **60.58%** of the well #3 PTTW rated capacity (110,592 L).

Identified Peak Flow Outliers between January 1, 2024 - December 31, 2024

There were no major peak flow outliers this year.

ISSUES OF NON-COMPLIANCE

The 2024 Ministry Inspection began December 11, 2024 by Inspector Matthew Shannon (Water Compliance Officer & Provincial Officer), a final report has not been received yet.

The following table lists the requirements of the Act, Regulation, Order or System Approval(s) that the system failed to meet during the reporting period and includes a summary of action taken to correct each failure.

Requirement Type	Requirement the System Failed to Meet	Duration	Corrective Action	Status
NA				

There were no Non-Compliance issues within the reporting period.

Precautionary Boil Water/Adverse Notices

Date	Reason	Duration	Resolution
N/A			

Operational Issues (For more details see monthly reports)

April 9, 2024 - Advanced Meter Service completed Annual flow meter verifications

July 30, 2024 - Replaced curb stop at #481 Lake Rosalind Rd #4 - Curb stop was struck due to no locates being called.

August 20, 2024 - Completed seasonal flushing of distribution

September 10, 2024 - Sommers serviced generator

Drinking Water Quality Management System (DWQMS)

- March 22, 2024 – A complete on-site Audit of the DWQMS was conducted by SAI. There was no Non-Conformance listed in the audit report.
- December 5, 2024 – Completed Annual Emergency Response Training
- September 25, 2024 – An Internal Audit of the DWQMS was conducted, no Non-Conformances were identified
- January 25, 2023 – 36 Month Risk Assessment was conducted
- October 2, 2025 - An Annual Risk Assessment was conducted
- October 21, 2024 – The Annual Management Review was completed by Veolia and the Municipality

Lake Rosalind Infrastructure Review

Long term planning to replace Well #1 with a drilled well should be considered.

Information Included in Appendices

Appendix 1	Chemical Usage, Turbidity and Disinfection Data
Appendix 2	Bacteriological Samples: Distribution, Well #1 and #3
Appendix 3	Additional Samples

LAKE ROSALIND DRINKING WATER SYSTEM

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Appendix 1

Disinfection Summary

<u>Treated Water Chlorine Residuals</u>				<u>Chlorine Usage and Dosage</u>			<u>Distribution Chlorine Residual Results</u>			
Month	Chlorine Analyzer Reading (mg/l)			Month	Chlorine Used		Month	No. of Dist. Samp. Collected	No. of Samples < 0.05	Average Free Residual (mg/l)
	Minimum Residual	Maximum Residual	Average Residual		Usage Kg.	Dosage mg/L				
Jan '24	1.03	1.35	1.17	Jan '24	1.316	2.92	Jan '24	22	0	1.07
Feb '24	1.04	1.46	1.35	Feb '24	1.160	2.94	Feb '24	19	0	1.21
Mar '24	1.26	1.42	1.34	Mar '24	1.357	2.83	Mar '24	20	0	1.25
Apr '24	1.27	1.40	1.31	Apr '24	1.250	2.57	Apr '24	22	0	1.21
May '24	1.27	1.43	1.36	May '24	1.373	2.45	May '24	22	0	1.24
Jun '24	1.23	1.37	1.27	Jun '24	1.553	2.46	Jun '24	19	0	1.15
Jul '24	1.06	1.35	1.22	Jul '24	2.002	2.39	Jul '24	22	0	1.03
Aug '24	1.10	1.71	1.34	Aug '24	2.280	2.82	Aug '24	21	0	1.13
Sep '24	1.11	1.55	1.28	Sep '24	2.337	3.25	Sep '24	20	0	1.09
Oct '24	1.16	1.43	1.26	Oct '24	2.223	3.53	Oct '24	22	0	1.07
Nov '24	1.42	1.69	1.54	Nov '24	3.735	3.02	Nov '24	21	0	1.35
Dec '24	1.23	1.48	1.38	Dec '24	1.594	2.91	Dec '24	20	0	1.29
Annual Summary				Annual Summary			Annual Summary			
# of Samples			366	Total	22.18		Total	250	0	
Minimum	1.03			Average		2.84	Max			1.54
Maximum		1.71		Minimum		1.72	Min			0.82
Average			1.32	Maximum		4.28	Average			1.17

Turbidity

<u>Filter Effluent Turbidity</u>				<u>Raw Water Turbidity</u>		
Month	Average Grab NTU	Average Turbidity NTU	No. of Samples > 1NTU	Month	Well #1 Average Grab NTU	Well #3 Average Grab NTU
Jan '24	0.10	0.05	0	Jan '24	0.12	0.12
Feb '24	0.10	0.04	0	Feb '24	0.14	0.11
Mar '24	0.11	0.04	0	Mar '24	0.13	0.11
Apr '24	0.11	0.04	0	Apr '24	0.14	0.19
May '24	0.11	0.05	0	May '24	0.09	0.11
Jun '24	0.11	0.05	0	Jun '24	0.12	0.13
Jul '24	0.11	0.05	0	Jul '24	0.11	0.13
Aug '24	0.11	0.04	0	Aug '24	0.17	0.14
Sep '24	0.11	0.04	0	Sep '24	0.12	0.12
Oct '24	0.11	0.04	0	Oct '24	0.10	0.09
Nov '24	0.11	0.05	0	Nov '24	0.11	0.09
Dec '24	0.12	0.05	0	Dec '24	0.16	0.20
Annual Summary				Annual Summary		
Total			0	Total		
Average	0.11	0.05		Average	0.12	0.13
Maximum	0.17	0.09		Maximum	0.31	0.47
Minimum	0.06	0.02		Minimum	0.06	0.06
# of Samples	121.0	366.0		# of Samples	53	53

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Appendix 2

Distribution Water - Bacteriological Results

<u>DW - E Coli</u>				<u>DW - Total Coliform</u>				<u>DW - HPC</u>			
Month	Minimum cfu/100 ml	Maximum cfu/100ml	# of Samples	Month	Minimum cfu/100 ml	Maximum cfu/100ml	# of Samples	Month	Minimum	Maximum	# of Samples
Jan '24	0	0	5	Jan '24	0	0	5	Jan '24	<10	<10	5
Feb '24	0	0	4	Feb '24	0	0	4	Feb '24	<10	<10	4
Mar '24	0	0	4	Mar '24	0	0	4	Mar '24	<10	<10	4
Apr '24	0	0	5	Apr '24	0	0	5	Apr '24	<10	140	5
May '24	0	0	4	May '24	0	0	4	May '24	<10	<10	4
Jun '24	0	0	4	Jun '24	0	0	4	Jun '24	<10	10	4
Jul '24	0	0	5	Jul '24	0	0	5	Jul '24	<10	<10	5
Aug '24	0	0	4	Aug '24	0	0	4	Aug '24	<10	<10	4
Sep '24	0	0	4	Sep '24	0	0	4	Sep '24	<10	<10	4
Oct '24	0	0	5	Oct '24	0	0	5	Oct '24	<10	70	5
Nov '24	0	0	4	Nov '24	0	0	4	Nov '24	<10	<10	4
Dec '24	0	0	5	Dec '24	0	0	5	Dec '24	<10	<10	5
Annual Summary				Annual Summary				Annual Summary			
Min.	0			Min.	0			Min.	<10		
Max.		0		Max.		0		Max.		140	
Avg.		0		Avg.		0		Avg.		<14	
Total			53	Total			53	Total			53

Raw Water - E Coli. Results

<u>Well #1</u>				<u>Well #3</u>			
Month	Minimum cfu/100 ml	Maximum cfu/100ml	# of Samples	Month	Minimum cfu/100 ml	Maximum cfu/100ml	# of Samples
Jan '24	0	0	1	Jan '24	0	0	1
Feb '24	0	0	1	Feb '24	0	0	1
Mar '24	0	0	1	Mar '24	0	0	1
Apr '24	0	0	1	Apr '24	0	0	1
May '24	0	0	1	May '24	0	0	1
Jun '24	0	0	1	Jun '24	0	0	1
Jul '24	0	0	1	Jul '24	0	0	1
Aug '24	0	0	1	Aug '24	0	0	1
Sep '24	0	0	1	Sep '24	0	0	1
Oct '24	0	0	1	Oct '24	0	0	1
Nov '24	0	0	1	Nov '24	0	0	1
Dec '24	0	0	1	Dec '24	0	0	1
Annual Summary				Annual Summary			
Min.	0			Min.	0		
Max.		0		Max.		0	
Avg.		0		Avg.		0	
Total			12	Total			12

Raw Water - Total Coliform Results

Well #1				Well #3			
Month	Minimum cfu/100 ml	Maximum cfu/100ml	# of Samples	Month	Minimum cfu/100 ml	Maximum cfu/100ml	# of Samples
Jan '24	41	41	1	Jan '24	0	0	1
Feb '24	0	0	1	Feb '24	0	0	1
Mar '24	4	4	1	Mar '24	0	0	1
Apr '24	0	0	1	Apr '24	0	0	1
May '24	4	4	1	May '24	0	0	1
Jun '24	1	1	1	Jun '24	0	0	1
Jul '24	18	18	1	Jul '24	0	0	1
Aug '24	31	31	1	Aug '24	0	0	1
Sep '24	49	49	1	Sep '24	0	0	1
Oct '24	80	80	1	Oct '24	3	3	1
Nov '24	72	72	1	Nov '24	0	0	1
Dec '24	3	3	1	Dec '24	0	0	1
Annual Summary				Annual Summary			
Min.	0			Min.	0		
Max.		80		Max.		3	
Avg.		25		Avg.		0	
Total			12	Total			12

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Appendix 3

Lake Rosalind Additional Sampling Results 2024

TW - Nitrates			TW - Nitrites			DW - Haloacetic Acids		
MAC: 10 mg/l			MAC: 10 mg/l			MAC: 80 ug/l		
1/2 MAC: 5 mg/l			1/2 MAC: 5 mg/l			1/2 MAC: 40 ug/l		
Date	Nitrates (mg/l)	Excedences	Date	Nitrates (mg/l)	Excedences	Date	HAA's (ug/l)	Excedences
Jan 16, '24	4.27	0	Jan 16, '24	<0.003	0	Jan 16, '24	6.2	0
Apr 16, '24	5.92	0	Apr 16, '24	<0.003	0	Apr 16, '24	<5.3	0
Jul 16, '24	5.52	0	Jul 16, '24	<0.003	0	Jul 16, '24	<5.3	0
Oct 22, '24	5.31	0	Oct 22, '24	<0.003	0	Oct 22, '24	<5.3	0
Min	4.27		Min	<0.003		Min	5	
Max	5.92		Max	<0.003		Max	6	
Avg	5.26		Avg	<0.003		Avg	6	
Total		0	Total		0	Total		0

DW - Trihalomethanes			DW - Lead		
MAC: 100 ug/l			MAC: 10 ug/l		
1/2 MAC: 50 ug/l			1/2 MAC: 5 ug/l		
Date	THM's (ug/l)	Excedences	Date	Lead (ug/l)	Excedences
Jan 16, '24	20	0	Oct 22, '24	0.23	0
Apr 16, '24	20	0			
Jul 16, '24	21	0			
Oct 22, '24	24	0	Min	0.23	
			Max	0.23	
Min	20		Avg	0.23	
Max	24		Total		0
Avg	21				
Total		0			