



2022
Annual Drinking Water Report
and
Summary Report for Municipalities

Glen Walter Water Treatment

Version 2.0

Prepared by:



Dillen Seguin
Director of Water and Wastewater

February 14, 2023

Date

Approved by:



Sarah McDonald, P. Eng.
General Manager, Infrastructure Services

February 14, 2023

Date

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Regulations

Annual Report

O. Reg. 170/03 – Section 11

Summary Report for Municipalities

O. Reg. 170/-3 – Schedule 22

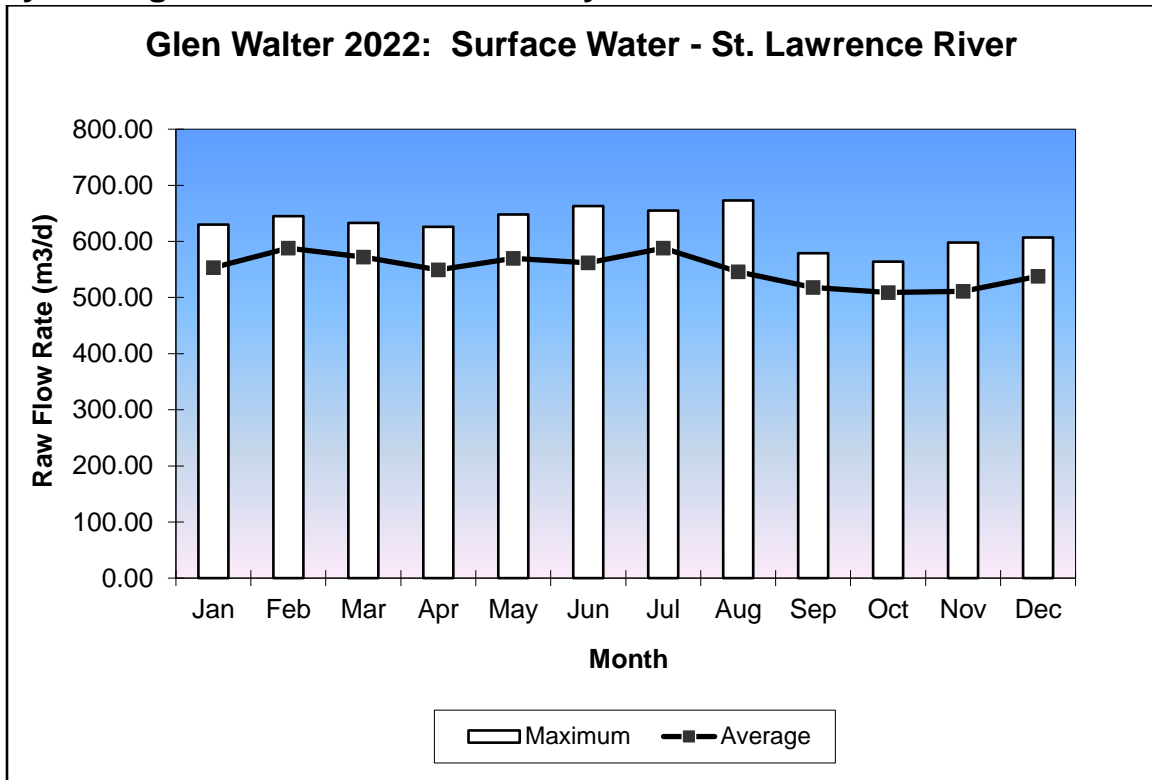
Revision History

Date	Description	Revision	Author
February 6, 2023	Initial Issue for Council Receipt	1.0	D. Seguin
February 14, 2023	Final for Approval	2.0	D. Seguin

Glen Walter Water Treatment Plant – Annual Report

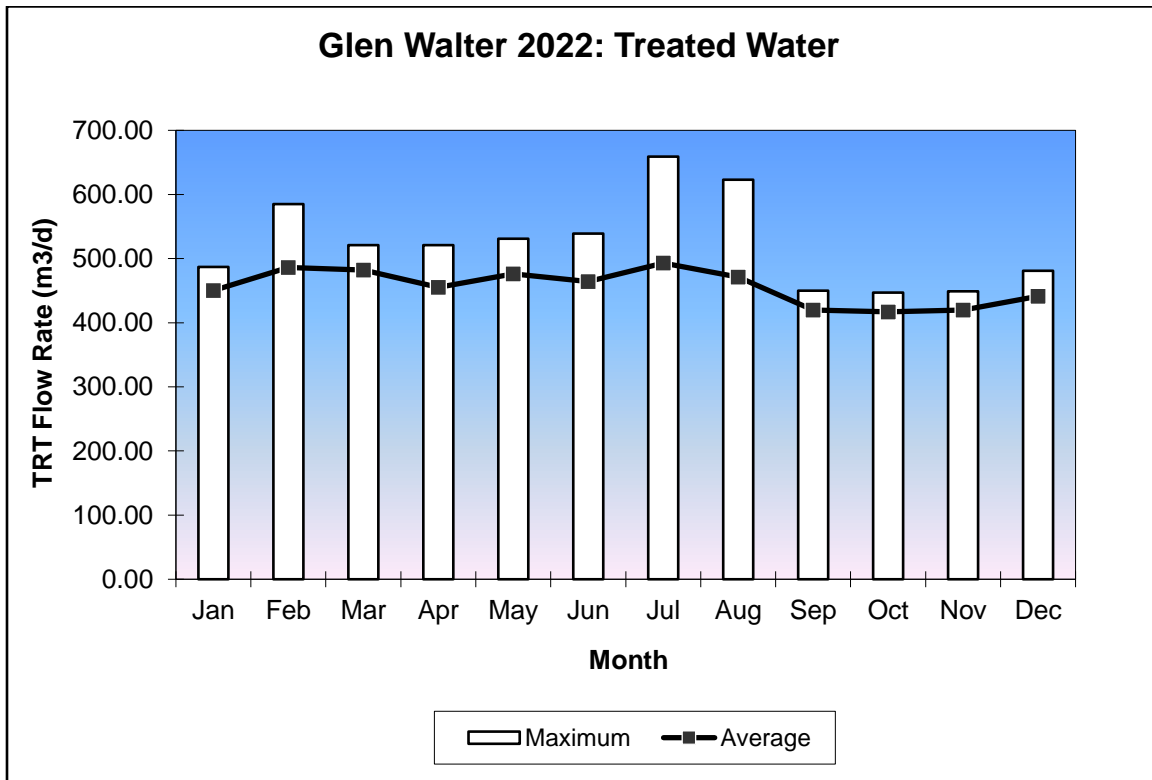
1. Flows

Daily Average and Maximum Raw Daily Flows



Permit To Take Water (3285-9TMQM2)	
Max Allowable Raw Water Flow:	995m ³ /d
Year Max:	673m ³ /day

Daily Average and Maximum Treated Daily Flows



Municipal Drinking Water License Rated Capacity (185-102)	
Max Allowable Raw Water Flow:	995m ³ /d
Year Max:	659m ³ /day

2. Compliance

A written report is prepared annually. This report is available for viewing at the Township of South Glengarry Municipal office, 6 Oak Street Lancaster or at the Glen Walter Water Treatment Plant located at 18352 County Road 2 in Glen Walter. A copy of the report is also available on the Townships website. A copy of the report is available free of charge to any resident requesting a copy. For more information on the Municipal water supply contact:

Township of South Glengarry
Water/Wastewater Division
Telephone: 613-931-3036
Fax: 613-931-3340
E-mail: infrastructure@southglengarry.com

The Township of South Glengarry commitment policy is to provide a safe and reliable supply of drinking water to all its customers, meet or exceed the requirements of all legislation and regulations applicable to drinking water and maintain and continually improve its quality management system.

3. System Description

Overview

The Township of South Glengarry Glen Walter Water Treatment Plant is located approximately two kilometers east of Cornwall along County Road 2. The water plant is a surface water treatment facility serving the community of Glen Walter. The water treatment plant has a rated capacity of 995 cubic meters of water per day for a design population of 1,080 people.

The Township of South Glengarry utilizes the following accredited laboratory to ensure safe and potable water to meet or exceed Ministry standards. Caduceon Laboratory Ottawa. We are also a participant in the Ministry Drinking Water Surveillance Program.

The Township of South Glengarry Operators are all certified under the Ministry of Environment regulation 128/04 for Utility Operators Licensing Program.

The Township of South Glengarry water system uses sodium hypochlorite chlorine for disinfection and Aluminum Sulphate for a coagulant.

Equipment

Raw water is consumed through a 300 millimeter intake pipe and intake crib approximately 390 meters off shore into the St. Lawrence River at a depth of approximately 12 meters. The water plant consists of two low lift pumps rated at 11.52 litres per second, one flocculation tank, two rapid sand filters, two carbon contactors, three compartment clear well reservoir, two high lift pumps rated at 16.44 litres per second and one backwash pump together with all associated piping, electrical and mechanical equipment, control and alarm systems all housed in a common building.

Process

Raw water is pumped from the low lift pumping chamber, which is pre-chlorinated. A liquid coagulant is introduced into an in-line flash mixer, then flows under pressure into a flocculation tank. When the coagulation flocculation process is complete the water flows through rapid sand filters in parallel, then through the carbon contactor series, which removes any taste and odour in the drinking water. Chlorine is added after the carbon contactors for post disinfection. The chlorinated (potable) water enters the three-compartment storage reservoir, which is pumped to the distribution via high lift pumps. To allow for safe and potable water sampling and testing to be completed on a regular basis.

Distribution

The distribution system is comprised of varying sized water pipes, valves, and fire hydrants all supplied from the two high lift pumps situated at the Glen Walter Water Plant. Fire flow cannot be utilized within the Glen Walter system.

4. Operation Summary

There were no upgrades or operational issues noted during the reporting year.

The major maintenance undertaken on the Glen Walter system is provided in the table below.

Table 1. Major Maintenance (2022)

2022	Details
Jan.	Highlift 3+4 Under electrical review
Feb.	Highlift 3+4 Hardwired directly to new power source (UPS)/Relay
Feb.	Distribution Break/Boil Water
May.	Generator Over Heating – Replaced pipework and Solenoid
Jun.	Plant shutdown maintenance on pipe work (Chemical Build Up)
Jun.	Generator maintenance/tests
Jun.	Analytical calibrations
Jun.	Filter Media Replacement
Jul.	Hydrant Flushing
Jul.	Sodium hypochlorite tube/pipe work replacement
Oct.	Flow meter calibrations
Oct.	Low lift 2 out for rebuild
Nov.	Raw water bypass re-built
Nov.	Lowlift packing glands replaced
Nov.	Winterize hydrants
Dec.	Generator maintenance/load test

Glen Walter Water Treatment Plant – Summary Report

Ontario Drinking Water License #185-102

The Township of South Glengarry Water Treatment Department operated the Glen Walter Water Treatment Plant for the year 2022.

5. Non-Compliance

Adverse Water Quality Incidents

During the reporting year, there were no adverse water quality incidents (AWQI).

Incident #1 (none)

Incident Date:	-
Parameter:	-
Result:	-
Corrective Action:	-
Corrective Action Date:	-
Corrective Compliance:	-

Non-Compliance

During the reporting year, there was one (1) non-compliance in regard to a regulatory requirement.

Non-Compliance #1

Non-Compliance Date:	February 8th, 2022
Parameter:	Low Pressure
Result:	<20 psi Contractor had damaged distribution pipework during new installation of laterals.
Corrective Action:	Monitor replacement of pipe and follow watermain disinfection protocol. Return pressure back to normal range, flush dead ends and issue preventative boil water until water samples could be tested.
Corrective Action Date:	February 8th, 2022
Corrective Compliance:	Precautionary Boil Water Rescinded: February 10th, 2022.

Non-Compliance Ministry Inspection

During the year 2022, there were no non-compliance from a ministry inspection within the Glen Walter Drinking Water System.

The ministry inspection occurred on and off site during the month of July. There were no issues of regulatory compliance identified in the report and the final inspection rating was 100%. A copy of the report is available at The Glen Walter Water Treatment Plant Office.

6. Regulatory Sample Results

Statistics for Flow and Chemicals

A total of 200,951m³ of raw water had been treated for the year 2022 with a monthly average of 550m³ per day and a maximum flow of 673m³/day for the year. Maximum flow is equivalent to 67% plant capacity.

The Glen Walter Water Treatment Plant uses sodium hypochlorite for disinfection. A total of 590.38kg of sodium hypochlorite had been utilized for the year at an average dosage rate of 2.9mg/litre.

The Glen Walter Water Treatment Plant also uses aluminum sulphate as a coagulant in the treatment process. A total of 3.18m³ of aluminum sulphate was used.

Attached is the data spread sheet, which identifies flows, laboratory results, number of samples taken and chemical use on a monthly basis.

Municipality: Township of South Glengarry
 Project: Glen Walter W.T.P
 DWS # 210001861

Annual Report Data
 2022

Water Source: St. Lawrence River
 Design Capacity: 0.995 x 1000 m3/D

Description: Pressure Filter System - Carbon Contactors - Alum Coagulation - Sodium Hypochlorite Disinfection

	Raw Water Flow			Treated Water Flow			Chemical Usage		Treated Water						Distribution Water								
	Total X 1000 m3	Average X 1000 m3	Maximum Daily X 1000 m3	Total X 1000 m3	Average X 1000 m3	Maximum Daily X 1000 m3	Cl2 Total Kg Used	Alum Total L Used	Free Cl2 Residual mg/L			Average Turbidity NTU	Average Colour TCU	Average Aluminum mg/L	Nitrate NO3 mg/L	Nitrite NO2 mg/L	Free Cl2 Residual mg/L			THM ug/L	Lead ug/L	Lead ug/L	
							Min.	Max.	Avg.							Min.	Max.	Avg.					
January	17.147	0.553	0.630	13.966	0.450	0.487	48.27	265.320	1.00	1.56	1.25	0.09	0.0	0.024	0.1	0.3	0.90	1.35	1.05	25			
February	16.469	0.588	0.645	13.623	0.486	0.585	44.09	261.360	1.21	1.65	1.46	0.08	0.0	0.019			1.00	1.42	1.23				
March	17.782	0.572	0.633	14.953	0.482	0.521	47.44	281.820	0.90	1.66	1.52	0.08	0.2	0.022			0.80	1.32	1.23				
April	16.495	0.549	0.626	13.666	0.455	0.521	46.51	277.200	1.30	1.60	1.46	0.09	0.0	0.029	0.1	0.3	1.28	1.04	1.23	26			
May	17.683	0.570	0.648	14.760	0.476	0.531	53.06	316.140	1.38	1.66	1.49	0.09	0.0	0.023			1.18	1.42	1.30				
June	16.863	0.562	0.663	13.946	0.464	0.539	57.92	271.260	1.19	1.48	1.32	0.10	0.3	0.042			1.00	1.22	1.10				
July	18.250	0.588	0.655	15.286	0.493	0.659	55.00	264.000	1.13	1.62	1.43	0.13	0.0	0.122	0.1	0.2	1.00	1.30	1.20	43			
August	16.926	0.546	0.673	14.610	0.471	0.623	54.53	279.840	1.30	1.58	1.46	0.13	0.1	0.082			1.08	1.24	1.14				
September	15.553	0.518	0.579	12.623	0.420	0.450	47.34	240.240	1.48	1.67	1.57	0.12	0.0	0.090			1.16	1.31	1.21				
October	15.780	0.509	0.564	12.956	0.417	0.447	46.83	233.640	0.81	1.71	1.53	0.10	0.3	0.064	0.2	0.1	0.74	1.39	1.21	32			
November	15.331	0.511	0.598	12.616	0.420	0.449	42.41	232.320	1.47	1.66	1.56	0.09	0.3	0.035			1.10	1.32	1.25				
December	16.692	0.538	0.607	13.700	0.441	0.481	46.98	265.320	1.10	1.70	1.55	0.10	0.0	0.008			1.16	1.35	1.27				
Total	200.951			166.705			590.38	3188.46															
Average	16.746	0.550	0.627	13.892	0.456	0.524	49.198	265.705	1.19	1.63	1.47	0.10	0.10	0.047	0.125	0.225	1.03	1.31	1.20	31.5	#DIV/0!	#DIV/0!	
Criteria			0.995			0.995			0.2				5	0.1	10	1	0.05			100	10	10	
Maximum			0.673			0.659			0.81				0.1	0.047			0.74			31.5			
Compliance			Yes			Yes			Yes				Yes	Yes	Yes	Yes	Yes			Yes	N/A	N/A	

	Total # of Raw Samples	Raw Water Escherichia Coliform (cfu/100mL)			Raw Water Total Coliform (cfu/100mL)			Total # of Treated Samples	Treated Water Escherichia Coliform (cfu/100mL)			Treated Water Total Coliform (cfu/100mL)			Treated Water Heterotrophic Plate Count (cfu/100mL)		Total # of Dist. Samples	Distribution Water Escherichia Coliform (cfu/100mL)		Distribution Water Total Coliform (cfu/100mL)			Distribution Water Heterotrophic Plate Count (cfu/100mL)	
		Minimum	Maximum	Average	Minimum	Maximum	Average		Safe	Unsafe	Safe	Unsafe	Safe	Unsafe	Safe	Unsafe		Safe	Unsafe	Safe	Unsafe	Safe	Unsafe	
January	5	0.0	0.0	0.0	0.0	1.0	0.2	5	5	0	5	0	5	0	15	15	0	15	15	0	15	0	0	
February	4	0.0	3.0	1.0	0.0	35.0	9.5	4	4	0	4	0	4	0	19	19	0	19	19	0	19	0	0	
March	4	0.0	16.0	4.0	0.0	61.0	18.3	4	4	0	4	0	4	0	12	12	0	12	12	0	12	0	0	
April	4	0.0	8.0	3.5	0.0	21.0	9.8	4	4	0	4	0	4	0	12	12	0	12	12	0	12	0	0	
May	5	0.0	6.0	1.8	0.0	18.0	4.2	5	5	0	5	0	5	0	15	15	0	15	15	0	15	0	0	
June	4	0.0	5.0	1.5	0.0	42.0	14.3	4	4	0	4	0	4	0	12	12	0	12	12	0	12	0	0	
July	4	0.0	0.0	4.0	0.0	1.0	0.3	4	4	0	4	0	4	0	12	12	0	12	12	0	12	0	0	
August	5	0.0	28.0	7.4	0.0	190.0	61.8	5	5	0	5	0	5	0	15	15	0	15	15	0	15	0	0	
September	4	0.0	37.0	9.3	0.0	42.0	12.8	4	4	0	4	0	4	0	12	12	0	12	12	0	12	0	0	
October	5	0.0	14.0	9.2	0.0	82.0	25.2	5	5	0	5	0	5	0	15	15	0	15	15	0	15	0	0	
November	4	0.0	6.0	2.5	0.0	22.0	8.0	4	4	0	4	0	4	0	12	12	0	12	12	0	12	0	0	
December	4	0.0	1.0	0.3	0.0	29.0	7.3	4	4	0	4	0	4	0	12	12	0	12	12	0	12	0	0	
Total	52							52							163									

Inorganic Parameters**GLEN WALTER WATER TREATMENT PLANT****INORGANIC PARAMETERS**

PARAMETER	SAMPLE DATE	RESULT VALUE	MAC	UNIT OF MEASURE	EXCEEDANCE
ANTIMONY	Jan-04-21	0.0001	0.006	mg/L	No
ARSENIC	Jan-04-21	0.0003	0.025	mg/L	No
BARIUM	Jan-04-21	0.0180	1.0	mg/L	No
BORON	Jan-04-21	0.0210	5.0	mg/L	No
CADMIUM	Jan-04-21	0.000015	0.005	mg/L	No
CHROMIUM	Jan-04-21	0.0020	0.050	mg/L	No
LEAD	Year 2020	0.6400	10.0	ug/L	No
MERCURY	Jan-04-21	0.00002	0.001	mg/L	No
SELENIUM	Jan-04-21	0.0010	0.010	mg/L	No
SODIUM	Aug 22 2022	16.70	200.0	mg/L	No
URANIUM	Jan-04-21	0.00024	0.020	mg/L	No
FLUORIDE	Aug 22 2022	0.1000	1.5	mg/L	No
NITRITE	Year 2022	0.1000	1.0	mg/L	No
NITRATE	Year 2022	0.2500	10.0	mg/L	No

Eastern Ontario Health Unit MAC

Sodium	Aug 22 2022	16.7	20	mg/L	No
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Organic Parameters

GLEN WALTER WATER TREATMENT PLANT						
ORGANIC PARAMETERS						
PARAMETER	SAMPLE DATE	RESULT VALUE	MAC	UNIT OF MEASURE	EXCEEDANCE	
ALACHLOR	Jan-04-22	0.3	5	ug/L	No	
ATRAZINE + N-DEALKYLATED METOBOLITES	Jan-04-22	0.5	5	ug/L	No	
AZINPHOS-METHYL	Jan-04-22	1	20	ug/L	No	
BENZO(A)PYRENE	Jan-04-22	0.006	0.01	ug/L	No	
BENZENE	Jan-04-22	0.5	5	ug/L	No	
BROMOXYNIL	Jan-04-22	0.5	5	ug/L	No	
CARBON TETRACHLORIDE	Jan-04-22	0.2	5	ug/L	No	
CARBARYL	Jan-04-22	3	90	ug/L	No	
CARBOFURAN	Jan-04-22	1	90	ug/L	No	
CHLORPYRIFOS	Jan-04-22	0.5	90	ug/L	No	
1,2-DICHLOROBENZENE	Jan-04-22	0.5	200	ug/L	No	
1,4-DICHLOROBENZENE	Jan-04-22	0.5	5	ug/L	No	
1,2-DICHLOROETHANE	Jan-04-22	0.5	5	ug/L	No	
1,1-DICHOETHENE	Jan-04-22	0.5	1.4	ug/L	No	
DICHLOROMETHANE	Jan-04-22	5	50	ug/L	No	
DIAZINON	Jan-04-22	1	20	ug/L	No	
DICAMBA	Jan-04-22	1	120	ug/L	No	
2-4 DICHLOROPHENOL	Jan-04-22	0.2	900	ug/L	No	
2,4-DICHLOROPHENOXY ACETIC ACID(2,4-D)	Jan-04-22	1	100	ug/L	No	
DICLOFOP-METHYL	Jan-04-22	0.9	9	ug/L	No	
DIMETHOATE	Jan-04-22	1	20	ug/L	No	
DIQUAT	Jan-04-22	5	70	ug/L	No	
DIURON	Jan-04-22	5	150	ug/L	No	
GLYPHOSATE	Jan-04-22	25	280	ug/L	No	
MONOCHLOROBENZENE	Jan-04-22	0.5	80	ug/L	No	
MALATHION	Jan-04-22	5	190	ug/L	No	
METOLACHLOR	Jan-04-22	3	50	ug/L	No	
METRIBUZIN	Jan-04-22	3	80	ug/L	No	
PARAQUAT	Jan-04-22	1	10	ug/L	No	
PENTACHLOROPHENOL	Jan-04-22	0.2	60	ug/L	No	
PHORATE	Jan-04-22	0.3	2	ug/L	No	
PICLORAM	Jan-04-22	5	190	ug/L	No	
POLYCHLORINATED BIPHENYLS(PCB)	Jan-04-22	0.05	3	ug/L	No	
PROMETRYNE	Jan-04-22	0.1	1	ug/L	No	
SIMAZINE	Jan-04-22	0.5	10	ug/L	No	
TETRACHLOROETHYLENE	Jan-04-22	0.5	30	ug/L	No	
TRICHLOROETHYLENE	Jan-04-22	0.5	5	ug/L	No	
TERBUFOS	Jan-04-22	0.5	1	ug/L	No	
2,3,4,6-TETRACHOLOPHENOL	Jan-04-22	0.2	5	ug/L	No	
TRIALATE	Jan-04-22	10	230	ug/L	No	
2,4,6-TRICHLOROPHENOL	Jan-04-22	0.2	5	ug/L	No	
TRIFLURALIN	Jan-04-22	0.5	45	ug/L	No	
Vinyl Chloride	Jan-04-22	0.2	2	ug/L	No	
MCPA	Jan-04-22	10	100	ug/L	No	
THM (NOTE: SHOW LATEST ANNUAL AVERAGE)	Year 2022	31.5	100	ug/L	No	
HAA	Year 2022	16.8	80	ug/L	No	