2024
Annual Drinking Water Report
and
Summary Report for Municipalities

Redwood Estates Water Treatment

Version 2.0

Prepared by: 

Dillen Seguin
Director of Water and Wastewater

February 18, 2025
Date

Approved by: 

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

February 18, 2025
Date

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O. Reg. 170/03 – Section 11

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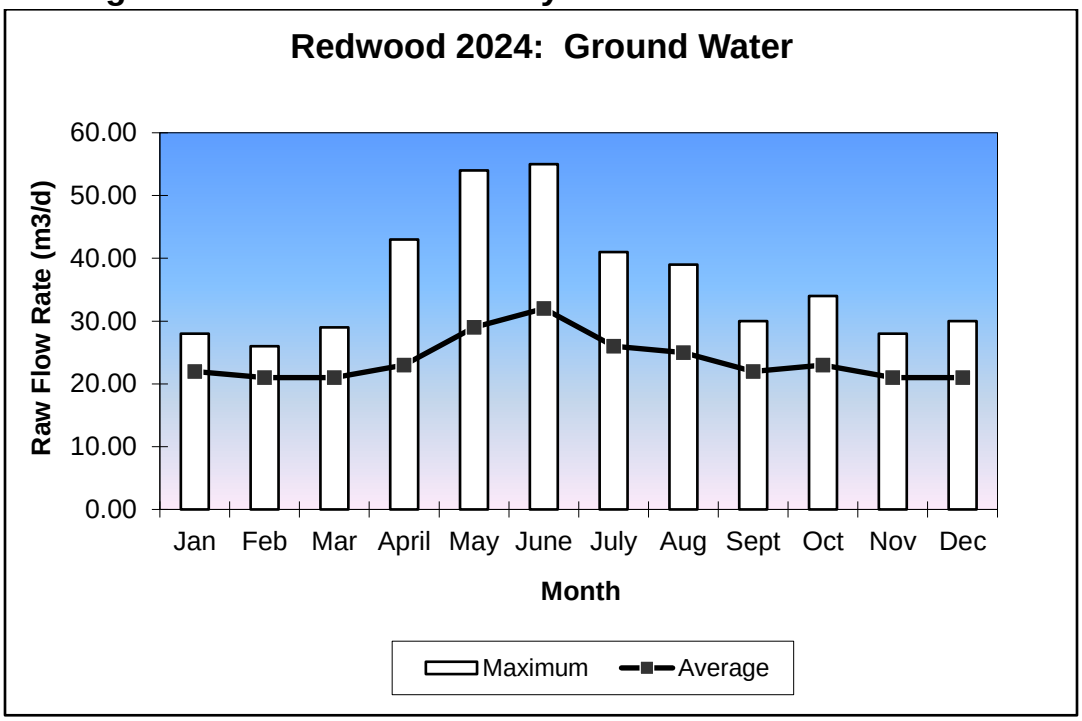
Revision History

Date	Description	Revision	Author
February 4, 2025	Initial Issue for Council Receipt	1.0	D. Seguin
February 18, 2025	Issued for Council Acceptance	2.0	D. Seguin

Redwood Water Treatment Plant – Annual Report

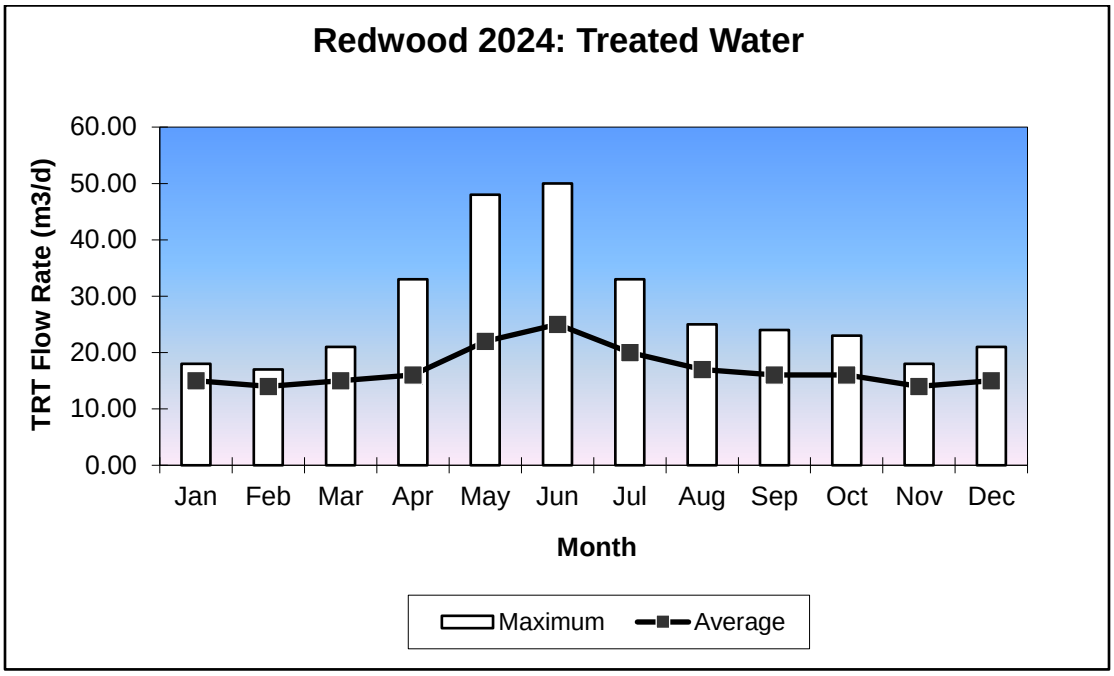
1. Flows

Daily Average and Maximum Raw Daily Flows



Permit To Take Water (8854-9GQQNL)	
Max Allowable Raw Water Flow:	151.2m^3/d
Year Max:	55m^3/day

Daily Average and Maximum Treated Daily Flows



Municipal Drinking Water License Rated Capacity (185-103)	
Max Allowable Raw Water Flow:	151.2m^3/d
Year Max:	50m^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, Redwood Estates Water Treatment Facility is located approximately 5 kilometers east of the Village of Lancaster. The water treatment plant is a ground water system serving the Redwood Estates subdivision. The water treatment plant has a rated capacity of 151 cubic meters per day for a design population of 140 people.

The Township of South Glengarry utilizes the following accredited laboratories to ensure safe and potable water to meet or exceed Ministry standards. Caduceon Laboratory Ottawa.

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

The Township of South Glengarry, Redwood water system uses Sodium Hypochlorite for disinfection.

Equipment

Raw water is drawn from a single well located within the pump house with a submersible pump capable of delivering 118 liters per minute. The water treatment plant consists of two Manganese greensand pressure filters, two hydro pneumatic tanks, two high lift pumps, one booster and one backwash pump. All pumps have a rated capacity of 303 liters per minute together with all associated piping, electrical equipment, controls and alarm systems all housed in a common building.

Process

Raw water is drawn from the single well where Sodium Hypochlorite is introduced, and flash mixed for disinfection. Following the disinfection period water then flows through the Greensand

filters removing all other impurities. Water then flows to a 25 cubic meter underground storage reservoir to be pumped to the distribution system.

Distribution

The distribution system is comprised of one sized water pipe, valves, and two sample hydrants all supplied from the two high lift pumps that fill two hydro pneumatic tanks situated at the Redwood Water Plant. Fire flow cannot be supplied.

4. Operation Summary

There were no upgrades noted in the reporting year.

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

Table 1. Major Maintenance (2024)

2024	Details
Mar.	Alarm System Upgrade LTE Network
May.	Flush System
Jun.	Generator Maintenance/Tests
Jun.	Analytical Calibrations
Jun.	Hydrant Flushing
Oct.	New Alarm System Installed
Oct.	Flow Meter Calibrations
Dec.	Generator Maintenance/Load Test

Redwood Estates Water Treatment Plant – Summary Report

Ontario Drinking Water License #185-103

The Township of South Glengarry Water Treatment Department operated the Redwood Estates Water Treatment Plant for the year 2024.

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 no non-compliance in regard to the Municipal Drinking Water License.

Non-Compliance #1

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

Non-Compliance Ministry Inspection

The ministry inspection occurred on and off site during the month of July.
Two regulatory compliance items identified in the report resulting in less than 100% compliance. (96.5%) A full copy of the report is available at The Glen Walter Water Treatment Plant Office.

Redwood Estates Drinking Water System Inspection Report

During the 2024 Annual inspection for the Redwood Estates drinking water system, it was reported that non-compliance was observed with the legislative requirements.

This letter of correspondence is to address the actions required with the actions taken by the Township of South Glengarry for the report number:1-385159807

NON-COMPLIANCE as per 2024 Inspection

NC-1 (DWMR1060001)

ACTIONS REQUIRED: By October 15, 2024, the owner SHALL either revise the current inspection schedule and maintenance procedure or create a new inspection schedule and maintenance procedure to ensure below grade well components are taken into consideration. The owner shall submit the inspection schedule and maintenance procedure to the signed Water Compliance Officer for review and approval.

ACTION TAKEN

Implemented: Revised the current schedule and maintenance procedure to include consideration for below grade components.

NC-2 (DWMR1094001)

ACTIONS REQUIRED: By October 15, 2024, the owner SHALL outline to the signed Water Compliance Officer what steps will be taken to ensure the monthly backwash wastewater sampling requirements outlined in the MDWL are met. Furthermore, if these steps include modifications to the current sampling protocol, the creation of new sample tracking mechanisms, operator training, etc., records shall be provided to the signed Water Compliance Officer to demonstrate what has or will be changed/implemented.

ACTION TAKEN

Implemented: An updated sampling calendar and schedule has been created to ensure all sampling requirements are met.

6. Regulatory Sample Results

Statistics for Flow and Chemicals

A total of 8,904 cubic meters of water had been treated for the year 2024 with a monthly average of 24m³ per day and a maximum flow of 55m³ /day for the year. Maximum flow is equivalent to 36% of the plant capacity.

The Redwood Estates Water Treatment Plant uses Sodium Hypochlorite for disinfection. A total of 68.51 kg of chlorine had been utilized for the year at an average of 7.7mg/liter.

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: Redwood Estates W.T.P
DWS # 250002311

Annaul Report Data
2024

Water Source: Ground Water (GUDI)
Design Capacity: 0.151 x 1000 m3/D

Description: Greensand Pressure Filtration - Sodium Hypochlorite Disinfection

	Raw Water Flow			Treated Water Flow			Chemical	Treated Water									Distribution Water					Backwash Water Flow		
	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	Free Cl2 Residual mg/L Min.	Max.	Avg.	Average Turbidity NTU	Average Colour TCU	Sodium mg/L	Nitrate NO3 mg/L	Nitrite NO2 mg/L	Iron mg/L NO2 mg/L	Free Cl2 Residual mg/L Min.	Max.	Avg.	THM ug/L	Lead µg/L	CBOD5 mg/L	TSS mg/L	Cl2
January	0.698	0.022	0.028	0.492	0.015	0.018	5.77	1.75	2.17	1.98	0.19			0.05	0.05	0.008	1.28	2.06	1.81	15			21	0.02
February	0.626	0.021	0.026	0.434	0.014	0.017	4.58	1.63	2.09	1.98	0.16						1.44	2.14	1.89				65	0.02
March	0.671	0.021	0.029	0.474	0.015	0.021	5.02	1.52	2.55	2.00	0.16						1.65	2.28	1.91				3	0.02
April	0.714	0.023	0.043	0.501	0.016	0.033	5.94	1.84	2.42	2.08	0.16			0.05	0.12	0.005	1.47	2.17	1.86	18			4	0.00
May	0.918	0.029	0.054	0.669	0.022	0.048	5.95	1.87	2.50	2.15	0.24						1.24	2.42	1.76				6	0.02
June	0.966	0.032	0.055	0.763	0.025	0.050	6.92	1.10	2.14	1.50	0.16						1.14	1.80	1.40				3	0.02
July	0.836	0.026	0.041	0.631	0.020	0.033	6.57	1.20	2.13	1.67	0.18			0.05	0.05	0.1	0.88	1.95	1.55	16			3	0.02
August	0.777	0.025	0.039	0.552	0.017	0.025	5.82	1.05	2.17	1.61	0.14						1.30	1.78	1.52				3	0.02
September	0.683	0.022	0.030	0.485	0.016	0.024	5.34	1.00	2.33	1.66	0.18						1.24	1.96	1.59				3	0.02
October	0.718	0.023	0.034	0.515	0.016	0.023	5.77	1.15	2.33	1.74	0.12			0.05	0.21	0.005	1.36	1.93	1.64	16			3	0.02
November	0.630	0.021	0.028	0.440	0.014	0.018	4.99	1.10	2.33	1.71	0.14						1.31	1.92	1.65				4	0.02
December	0.667	0.021	0.030	0.469	0.015	0.021	5.84	1.26	2.48	1.87	0.17						1.26	1.83	1.60				3	0.02
Total	8.904			6.425			68.51																	
Average	0.742	0.024	0.036	0.535	0.017	0.028	5.709	1.37	2.30	1.83	0.17			0.1	0.1	0.030	1.30	2.02	1.68	16.250			10.1	0.02
Criteria			**0.151**					**0.2**					**20**	**10**	**1**		**0.05**			**100**	**10**		**25**	**0.02**
Maximum			0.055					1.00									0.88			16.250				
Compliance			**Yes**					**Yes**						**Yes**	**Yes**		**Yes**			**Yes**			**Yes**	**Yes**

	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 Esherichia Coliform (cfu/100mL)		Distribution Water Total Coliform (cfu/100mL)		Distribution Water Heterotrophic Plate Count (cfu/100mL)	
		Minimum	Maximun	Average	Minimum	Maximun	Average		Safe	Unsafe	Safe	Unsafe	Safe	Unsafe		Safe	Unsafe	Safe	Unsafe	Safe	Unsafe
January	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	5	0	5	0
February	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	4	0	4	0
March	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	4	0	4	0
April	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	5	0	5	0
May	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	4	0	4	0
June	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	4	0	4	0
July	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	5	0	5	0
August	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	4	0	4	0
September	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	4	0	4	0
October	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	5	0	5	0
November	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	4	0	4	0
December	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	5	0	5	0
Total	12							0							53						

Inorganic Parameters

REDWOOD WATER TREATMENT PLANT

INORGANIC PARAMETERS					
PARAMETER	**SAMPLE DATE**	**RESULT VALUE**	**MAC**	**UNIT OF MEASURE**	**EXCEEDANCE**
Antimony	Jan-02-24	*0.000100*	0.006	mg/L	No
Arsenic	Jan-02-24	*0.000100*	0.025	mg/L	No
Barium	Jan-02-24	*0.195000*	1	mg/L	No
Boron	Jan-02-24	*0.178000*	5	mg/L	No
Cadmium	Jan-02-24	*0.000015*	0.005	mg/L	No
Chromium	Jan-02-24	*0.001000*	0.05	mg/L	No
Lead	Year 2023	0.000860	10	ug/L	No
Mercury	Jan-02-24	*0.000020*	0.001	mg/L	No
Selenium	Jan-02-24	*0.001000*	0.01	mg/L	No
Sodium	Jan-04-21	254.000000	200	mg/L	Yes
Uranium	Jan-02-24	*0.000070*	0.02	mg/L	No
Fluoride	Apr-06-21	0.100000	1.5	mg/L	No
Nitrite	Year 2024	0.10	1	mg/L	No
Nitrate	Year 2024	0.10	10	mg/L	No

Eastern Ontario Health Unit MAC					
Sodium	Jan-04-21	254	20	mg/L	Yes

Organic Parameters

REDWOOD WATER TREATMENT PLANT					
ORGANIC PARAMETERS					
PARAMETER	SAMPLE DATE	RESULT VALUE	MAC	UNIT OF MEASURE	EXCEEDANCE
ALACHLOR	Jan-02-24	0.30	5	ug/L	No
ATRAZINE + N-DEALKYLATED METOBOLITES	Jan-02-24	0.50	5	ug/L	No
AZINPHOS-METHYL	Jan-02-24	1.00	20	ug/L	No
BENZO(A)PYRENE	Jan-02-24	0.01	0.01	ug/L	No
BENZENE	Jan-02-24	0.50	5	ug/L	No
BROMOXYNIL	Jan-02-24	0.50	5	ug/L	No
CARBON TETRACHLORIDE	Jan-02-24	0.20	5	ug/L	No
CARBARYL	Jan-02-24	3.00	90	ug/L	No
CARBOFURAN	Jan-02-24	1.00	90	ug/L	No
CHLORPYRIFOS	Jan-02-24	0.50	90	ug/L	No
1,2-DICHLOROBENZENE	Jan-02-24	0.50	200	ug/L	No
1,4-DICHLOROBENZENE	Jan-02-24	0.50	5	ug/L	No
1,2-DICHLOROETHANE	Jan-02-24	0.50	5	ug/L	No
1,1-DICHOROETHENE	Jan-02-24	0.50	1.4	ug/L	No
DICHLOROMETHANE	Jan-02-24	5.00	50	ug/L	No
DIAZINON	Jan-02-24	1.00	20	ug/L	No
DICAMBA	Jan-02-24	10.00	120	ug/L	No
2-4 DICHLOROPHENOL	Jan-02-24	0.20	900	ug/L	No
2,4-DICHLOROPHENOXY ACETIC ACID(2,4-D)	Jan-02-24	10.00	100	ug/L	No
DICLOFOP-METHYL	Jan-02-24	0.90	9	ug/L	No
DIMETHOATE	Jan-02-24	1.00	20	ug/L	No
DIQUAT	Jan-02-24	5.00	70	ug/L	No
DIURON	Jan-02-24	5.00	150	ug/L	No
GLYPHOSATE	Jan-02-24	25.00	280	ug/L	No
MONOCHLOROBENZENE	Jan-02-24	0.50	80	ug/L	No
MALATHION	Jan-02-24	5.00	190	ug/L	No
METOLACHLOR	Jan-02-24	3.00	50	ug/L	No
METRIBUZIN	Jan-02-24	3.00	80	ug/L	No
PARAQUAT	Jan-02-24	1.00	10	ug/L	No
PENTACHLOROPHENOL	Jan-02-24	0.20	60	ug/L	No
PHORATE	Jan-02-24	0.30	2	ug/L	No
PICLORAM	Jan-02-24	15.00	190	ug/L	No
POLYCHLORINATED BIPHENYLS(PCB)	Jan-02-24	0.05	3	ug/L	No
PROMETRYNE	Jan-02-24	0.10	1	ug/L	No
SIMAZINE	Jan-02-24	0.50	10	ug/L	No
TETRACHLOROETHYLENE	Jan-02-24	0.50	30	ug/L	No
TRICHLOROETHYLENE	Jan-02-24	0.50	5	ug/L	No
TERBUFOS	Jan-02-24	0.50	1	ug/L	No
2,3,4,6-TETRACHOLOPHENOL	Jan-02-24	0.20	5	ug/L	No
TRIALLATE	Jan-02-24	10.00	230	ug/L	No
2,4,6-TRICHLOROPHENOL	Jan-02-24	0.20	5	ug/L	No
TRIFLURALIN	Jan-02-24	0.50	45	ug/L	No
Vinyl Chloride	Jan-02-24	0.20	2	ug/L	No
MCPA	Jan-02-24	10.00	100	ug/L	No
THM (NOTE: SHOW LATEST ANNUAL AVERAGE)	Year 2024	16.3	100	ug/L	No
HAA	Year 2024	5.3	80	ug/L	No