2024
Annual Drinking Water Report
and
Summary Report for Municipalities

Lancaster Water Treatment

Version 2.0

Prepared by: 

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Director of Water and Wastewater

February 18, 2025
Date

Approved by: 

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

February 18, 2025
Date

Table of Contents

Regulations

Annual Report

O. Reg. 170/03 – Section 11

Summary Report for Municipalities

O. Reg. 170/-3 – Schedule 22

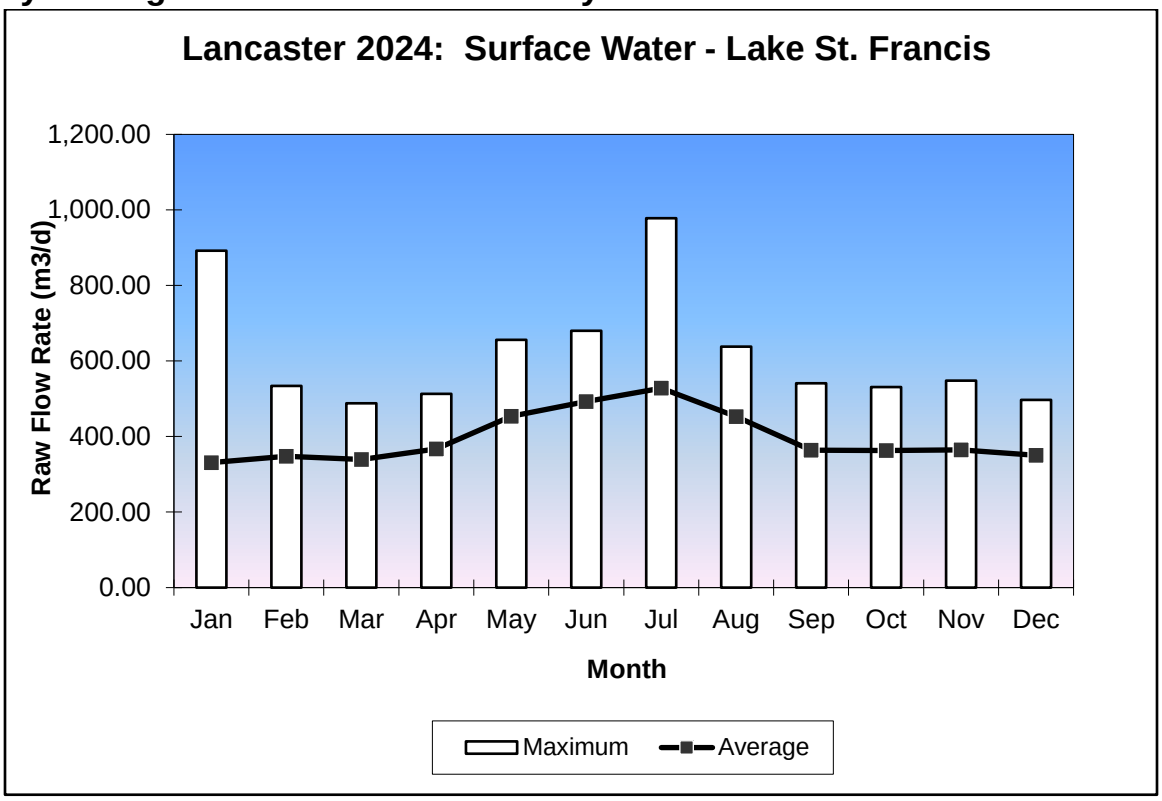
Revision History

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

Lancaster Water Treatment Plant – Annual Report

1. Flows

Daily Average and Maximum Raw Daily Flows



Permit To Take Water (6653-AP9H6L)	
Max Allowable Raw Water Flow:	1,440m^3/d
Year Max:	978m^3/day

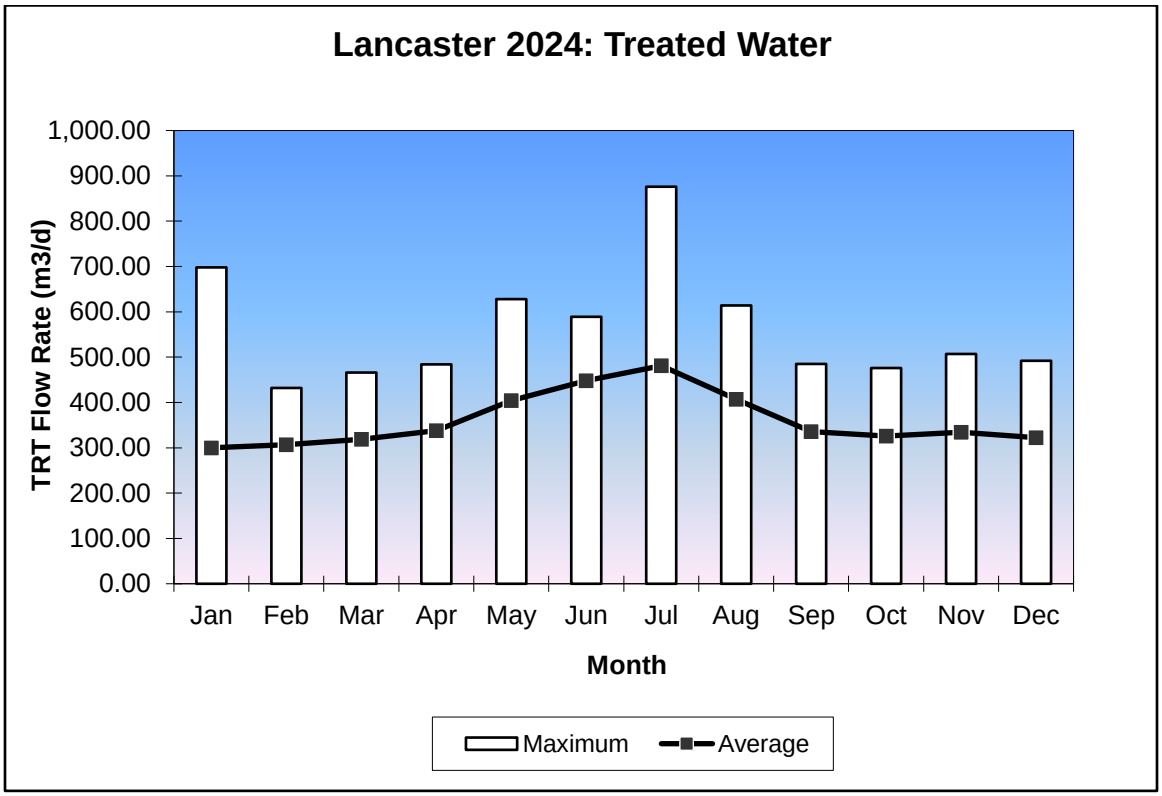
Note(s):

- Above Normal Usage x 1

  January – High Water Flow Caused Due to Fire Hydrant

  July – Flush of System

Daily Average and Maximum Treated Daily Flows



Municipal Drinking Water License Rated Capacity (185-101)	
Max Allowable Raw Water Flow:	1,440m^3/d
Year Max:	876m^3/day

Note(s):

- Above Normal Usage x 1

  January – High Water Flow Caused Due to Fire Hydrant

  July – Flush of System via Hydrant

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 web site. 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, Lancaster Water Treatment Plant is located at **20523 Old Montreal Road in South Lancaster**. The water treatment plant is a surface water treatment facility serving the village of Lancaster and the Hamlet of South Lancaster. The water plant has a rated capacity of 1,440 cubic meters of water per day for a design population of 1,218 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.

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

The Township of South Glengarry water system uses Sodium Hypochlorite for disinfection and Aluminum Sulphate for a coagulant.

Equipment

Raw water is consumed through a 450 millimeter intake pipe and wooden intake crib off the shore of Lake St. Francis at a depth of approximately 12 meters. The plant consists of three low lift pumps rated at 8.33 liters per second one dual media anthracite sand gravity filter, one gravity granular activated carbon filter, three high lift pumps two rated at 15.9 liters per second and the third at 6.3 liters per second and two backwash pumps together with all associated piping, electrical equipment, controls and alarm systems all housed in a common building.

Process

Raw water is pumped from the low lift chamber, which is pre chlorinated. A liquid coagulant is introduced into an in line flash mixer, and then flows to two set of coagulant/flocculators;

clarifiers and filters each rated at 720 cubic meters per day. The filtered water is then post chlorinated before it enters the twin celled reservoir. The treated (potable) water is then pumped to the distribution system and also feeds an elevated storage tank located on North Beech Street.

Distribution

The distribution system is comprised of varying sized water pipes, valves, and fire hydrants all supplied from the three high lift pumps situated at the Lancaster Water Plant. Fire flow can be achieved for the Lancaster Water system.

4. Operation Summary

There were no upgrades noted in the reporting year. Operational issues noted for the reporting year are outlined with all of the work completed within the Table 1. Major Maintenance (2024).

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

Table 1. Major Maintenance (2024)

2024	Details
Jan.	Hypo Pump Tubes Changed
Jan.	Heaters Failed x 2 Fixed/Replaced
Jan.	Hydrant Opened Causing Low Clearwell and Tower
Feb	PRV Replaced on Alum Dosage System
Feb.	Building Pipe Envelopes Clogged (Reamed)
Feb.	Chemical Containment Area Cleaned
May	Spring Hydrant Flushing
May.	Valve Exercising Started
May.	Intake Inspection
Jun.	Analytical Calibrations Third Party
Jun.	Generator Maintenance/Tests
Aug.	Tile Work in Lancaster Lab
Aug.	Scada Failure Corrupted Computer Drive
Sep.	Water Tower Inspection
Oct.	Fall Flush and Residual Checks
Oct.	Flow Meter Calibrations
Oct.	Winterize Hydrants
Dec.	Scheduled Power Outage Affecting Plants
Dec.	Generator Maintenance/Load Test

Lancaster Water Treatment Plant – Summary Report

Ontario Drinking Water License #185-101

The Township of South Glengarry Water Treatment Department operated the Lancaster 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 a regulatory requirement.

Non-Compliance #1 (none)

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

Non-Compliance Ministry Inspection

During the year 2024, there were no non-compliance from a ministry inspection within the Lancaster 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 145,255m³ of raw water had been treated for the year 2024 with a monthly average of 396m³ per day and a maximum flow of 876m³ /day for the year. Maximum flow is equivalent to 61% of plant capacity. It is noted that one (1) high usage days occurred and were not regular flow operations.

The Lancaster Water Treatment Plant uses sodium hypochlorite for disinfection. A total of 727.41kg of sodium hypochlorite has been utilized for the year at an average dosage rate of 5.01mg/litre.

The Lancaster Water Treatment Plant also uses aluminum sulphate as a coagulant in the treatment process. A total of 2.970m³ of aluminum sulphate had been used.

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

Municipality: Township of South Glengarry
Project: Lancaster W.T.P
DWS # 260006867

Annaul Report Data
2024

Water Source: Lake St. Francis
Design Capacity: 1.440 x 1000 m3/D

Description: Conventional Treatment - Chemically Assisted Filtration (Alum) - 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 Min.	Max.	Avg.	Average Turbidity NTU	Average Colour TCU	Average Aluminum mg/L	Nitrate NO3 mg/L	Nitrite NO2 mg/L	Free Cl2 Residual mg/L Min.	Max.	Avg.	THM ug/L	Lead µg/L	Lead µg/L
January	10.264	0.331	0.892	9.316	0.300	0.698	45.45	232.560	0.80	2.27	1.78	0.13		0.050	0.28	0.5	0.84	1.90	1.57	43		
February	10.097	0.348	0.534	8.931	0.307	0.432	37.85	199.260	1.64	2.61	2.00	0.13		0.030			1.55	2.00	1.82			
March	10.516	0.339	0.488	9.902	0.319	0.466	46.93	222.420	1.74	2.16	1.90	0.11		0.020			1.64	2.00	1.77			
April	11.025	0.367	0.513	10.161	0.338	0.484	45.35	223.080	1.68	2.04	1.91	0.13		0.030	0.29	0.05	1.60	1.90	1.80	38		
May	14.098	0.454	0.656	12.535	0.404	0.628	55.82	285.780	1.75	2.11	1.92	0.13		0.060			1.64	1.90	1.73			
June	14.815	0.493	0.680	13.443	0.448	0.589	76.15	274.560	1.44	2.15	1.79	0.090		0.100			1.36	1.86	1.61			
July	16.391	0.528	0.978	14.930	0.481	0.876	91.14	349.140	1.29	2.30	1.74	0.09		0.130	0.2	0.05	1.14	1.82	1.50	70		
August	14.047	0.453	0.638	12.626	0.407	0.614	97.97	290.400	1.60	2.17	1.87	0.08		0.220			1.48	1.80	1.65			
September	10.928	0.364	0.541	10.088	0.336	0.485	59.68	225.060	1.53	2.31	2.02	0.090		0.170			1.52	1.96	1.80			
October	11.271	0.363	0.531	10.129	0.326	0.476	63.46	224.400	1.78	2.20	1.97	0.070		0.130	0.11	0.05	1.74	1.98	1.84	54		
November	10.953	0.365	0.548	10.047	0.334	0.507	50.86	225.060	1.73	2.18	1.94	0.08		0.070			1.68	2.00	1.85			
December	10.850	0.350	0.497	9.990	0.322	0.492	56.75	218.460	1.11	2.09	1.88	0.090		0.050			1.06	1.88	1.71			
Total	**145.255**			**132.098**			**727.41**	**2970.18**														
Average	12.104583	0.396	0.625	11.008	0.360	0.562	60.62	247.515	1.51	2.22	1.89	0.10		0.088	0.2	0.1625	1.44	1.92	1.72	51.3	#DIV/0!	#DIV/0!
Criteria			**1.440**						**0.2**						**10**	**1**	**0.05**			**100**	**10**	**10**
Maximum			0.978			0.876			0.80								0.84			51.3		
Compliance			**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 Escherichia 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	5	0	0	0.00	1	10	2.20	5	5	0	5	0	5	0	**15**	15	0	15	0	15	0
February	4	0	0	0.00	1	5	2.25	4	4	0	4	0	4	0	**12**	12	0	12	0	12	0
March	4	0	0	0.00	0	2	1.00	4	4	0	4	0	4	0	**12**	12	0	12	0	12	0
April	5	0	1	0.20	1	6	2.40	5	5	0	5	0	5	0	**15**	15	0	15	0	15	0
May	4	0	0	0.00	4	6	2.50	4	4	0	4	0	4	0	**12**	12	0	12	0	12	0
June	4	0	0	0.00	1	2	0.75	4	4	0	4	0	4	0	**12**	12	0	12	0	12	0
July	5	1	2	0.80	1	8	2.60	5	5	0	5	0	5	0	**15**	15	0	15	0	15	0
August	4	0	11	3.50	12	220	85.25	4	4	0	4	0	4	0	**12**	12	0	12	0	12	0
September	4	1	14	4.75	2	154	54.00	4	4	0	4	0	4	0	**12**	12	0	12	0	12	0
October	5	1	6	3.00	8	28	18.80	5	5	0	5	0	5	0	**15**	15	0	15	0	15	0
November	4	2	6	4.25	14	30	27.00	4	4	0	4	0	4	0	**12**	12	0	12	0	12	0
December	5	0	4	2.20	6	124	55.60	5	5	0	5	0	5	0	**15**	15	0	15	0	15	0
Total	53							53							159						

Inorganic Parameters

LANCASTER 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	0.000300	0.025	mg/L	No
BARIUM	Jan-02-24	0.021000	1	mg/L	No
BORON	Jan-02-24	0.017000	5	mg/L	No
CADMIUM	Jan-02-24	0.000015	0.005	mg/L	No
CHROMIUM	Jan-02-24	0.001000	0.050	mg/L	No
LEAD	Year 2023	0.001035	10	ug/L	No
MERCURY	Jan-02-24	0.000020	0.001	mg/L	No
SELENIUM	Jan-02-24	0.001000	0.010	mg/L	No
SODIUM	Aug 22 2022	17.800000	200	mg/L	No
URANIUM	Jan-02-24	0.000190	0.020	mg/L	No
FLUORIDE	Aug 22 2022	0.100000	1.5	mg/L	No
NITRITE	Year 2024	0.162500	1	mg/L	No
NITRATE	Year 2024	0.200000	10	mg/L	No

Eastern Ontario Health Unit MAC					
Sodium	Aug 22 2022	17.8	20	mg/L	No

Organic Parameters

LANCASTER 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	1.00	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	1.00	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
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	5.00	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-TRICHLOROPHENOL	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
Vinyl Chloride	Jan-02-24	0.20	2	ug/L	No
TRIFLURALIN	Jan-02-24	0.50	45	ug/L	No
MCPA	Jan-02-24	10.00	100	ug/L	No
THM (NOTE: SHOW LATEST ANNUAL AVERAGE)	Year 2024	51.3	100	ug/L	No
HAA	Year 2024	24.0	80	ug/L	No