



**LANCASTER WATER TREATMENT
Annual Report 2021**

(as per O. Reg. 170/03 – Section 11)

and

2021 Summary Report for Municipalities

(as per O. Reg. 170/03 – Schedule 22)

Reporting Period of January 1st – December 31st, 2021

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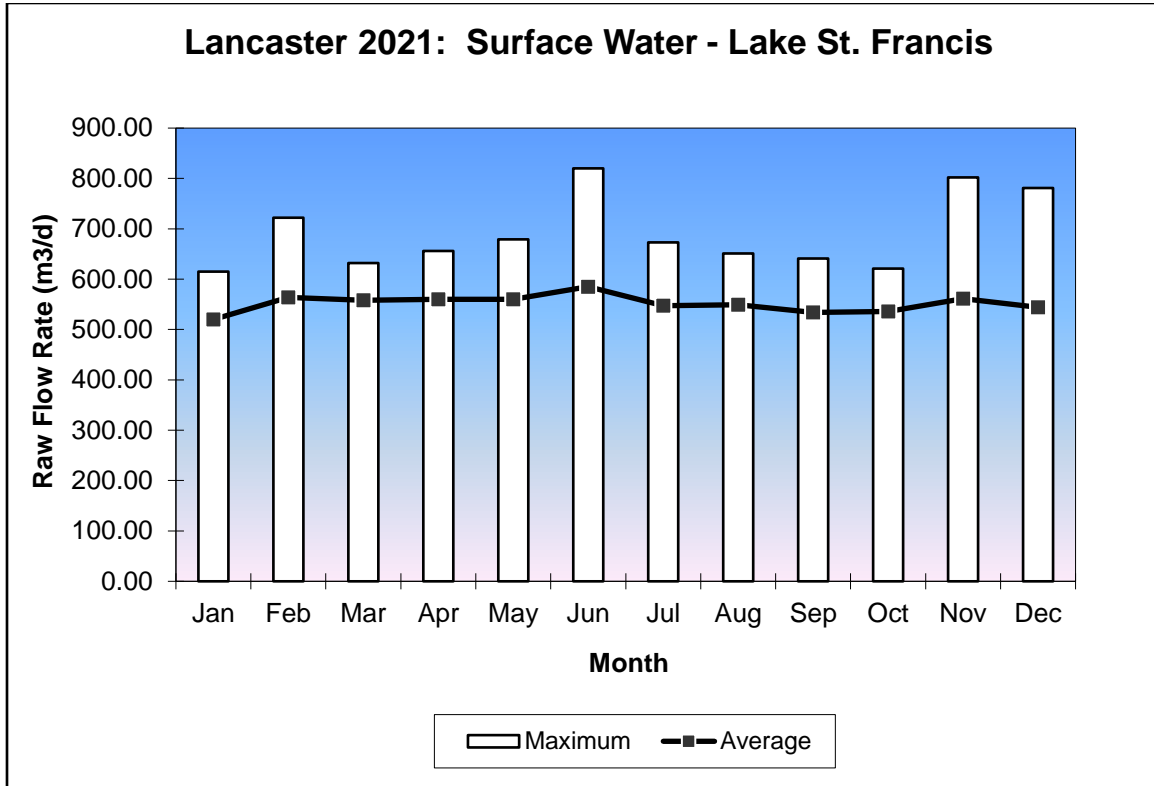
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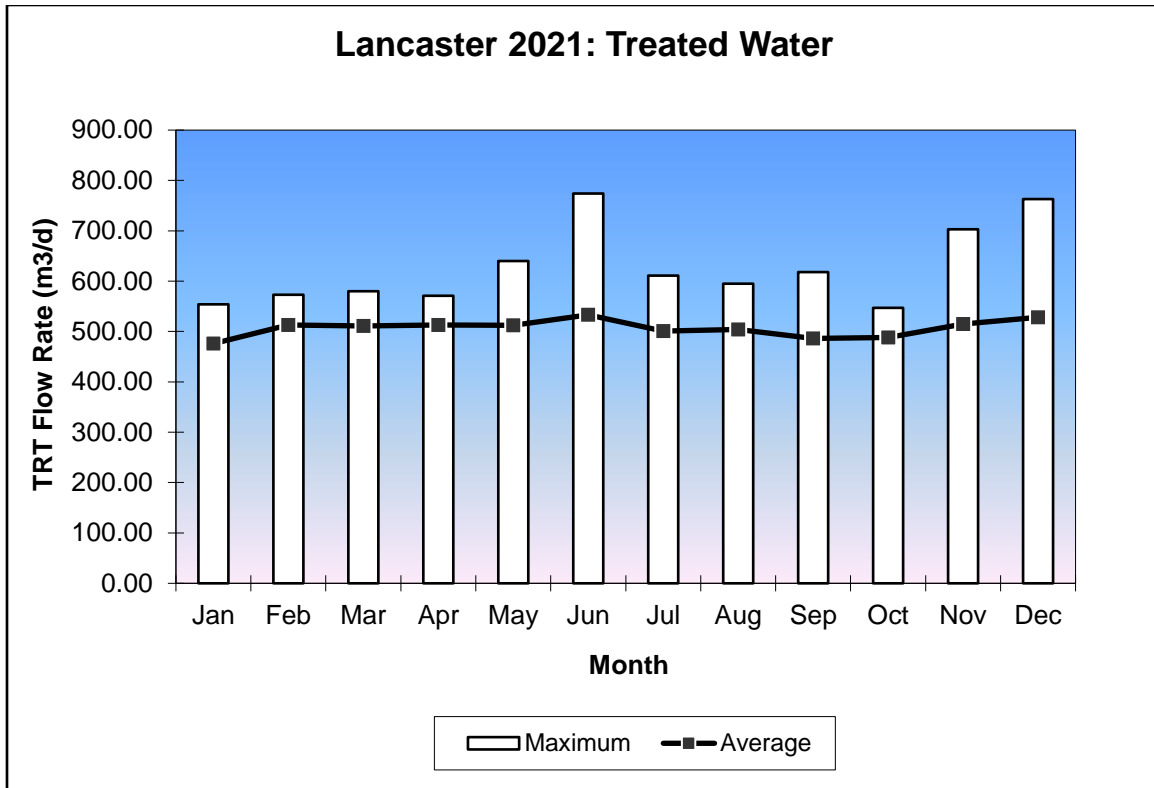


Permit To Take Water (6653-AP9H6L)

Max Allowable Raw Water Flow: 1,440m³/d

Year Max: 820m³/day

Comparison of Daily Average and Maximum Treated Daily Flows for 2021



Municipal Drinking Water License Rated Capacity (185-101)

Rated Capacity: 1,440m³/d

Year Max flow: 763m³/d

The Corporation of the Township of South Glengarry Lancaster Water Treatment Plant 2021 Annual Performance Report

Reporting

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 your Municipal water supply contact the Township Of South Glengarry Water/Wastewater Division at 613-931-3036 or fax 613-931-3340.

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.

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.

Upgrades

No upgrades were noted in the reporting year.

Operational Issues

No issues were noted in the reporting year.

Major Maintenance

Month	Details
Apr.	Gas heating units in water plant worked on
May.	Flocculation arms worked on
May.	Generator maintenance/tests
Jun.	Analytical calibrations
Jun.	Hydrant flushing
Aug.	New furnace and A/C installed
Sep.	ISI on site for Scada upgrades for turbidity requirements/trends
Sep.	Backwash pump failure/ electrical fixed
Oct.	Flow meter calibrations
Oct.	Winterize hydrants
Dec.	Generator maintenance/load test

Ontario Drinking Water License #185-101

The Township of South Glengarry Water Treatment Department operated the Glen Walter Water Treatment Plant for the year 2021.

Adverse Water Quality Incidents

There were no adverse water quality incidents reported during the reporting period.

Non-Compliance

There were no non-compliance incidents reported during the reporting year.

Non-Compliance Ministry Inspection

During the year 2021 non-compliance from a ministry inspection was noted within the Lancaster Drinking Water System.

Legislation:

- Performance Criterion for Filtered Water Turbidity less than 0.3 NTU in 95% of measurements each month

Updates to SCADA to calculate filtered water turbidity was programmed to calculate the Filtered water turbidity on daily basis and monthly readings to comply with O. Reg 170/03

Status: Completed

Legislation: O. Reg. 170/03

- Continuous monitoring equipment was not recording data with a prescribed format

Updates to the SCADA to record measurements with the prescribed format in the historian were completed to comply with O. Reg 170/03

Status: Completed

Legislation: O. Reg. 170/03

- Required Trends

Updates to the SCADA included addition of filter run time trends.

Status: Completed

Legislation: SDWA

- Harmful algal bloom monitoring plan not in place

Harmful algal bloom plan posted, and training provided to comply with O. Reg 170/03

Status: Completed

Legislation: SDWA

- Backwash sampling, testing and monitoring

Sample schedule updated to meet the requirements of the MDWL

Status: Completed

Statistics for Flow and Chemicals 2021

A total of 201,353m³ of raw water had been treated for the year 2021 with a monthly average of 552m³ per day and a maximum flow of 820m³ /day for the year. Maximum flow is equivalent to 57% of plant capacity.

The Lancaster Water Treatment Plant uses sodium hypochlorite for disinfection. A total of 825.0kg of sodium hypochlorite has been utilized for the year at an average dosage rate of 4.09mg/litre.

The Lancaster Water Treatment Plant also uses aluminum sulphate as a coagulant in the treatment process. A total of 4.07m³ 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.

Inorganic Parameters

LANCASTER 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	0.0004	0.025	mg/L	No
BARIUM	Jan-04-21	0.0210	1	mg/L	No
BORON	Jan-04-21	0.0220	5	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	1.18	10	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-8-17	17.8	200	mg/L	No
URANIUM	Jan-04-21	0.00025	0.020	mg/L	No
FLUORIDE	Aug-8-17	0.10	1.5	mg/L	No
NITRITE	Year 2021	0.10	1	mg/L	No
NITRATE	Year 2021	0.20	10	mg/L	No

Eastern Ontario Health Unit MAC					
Sodium	Aug-8-17	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-04-21	0.3	5	ug/L	No	
ATRAZINE + N-DEALKYLATED METOBOLITES	Jan-04-21	0.5	5	ug/L	No	
AZINPHOS-METHYL	Jan-04-21	1	20	ug/L	No	
BENZO(A)PYRENE	Jan-04-21	0.006	0.01	ug/L	No	
BENZENE	Jan-04-21	0.5	5	ug/L	No	
BROMOXYNIL	Jan-04-21	0.5	5	ug/L	No	
CARBON TETRACHLORIDE	Jan-04-21	0.2	5	ug/L	No	
CARBARYL	Jan-04-21	3	90	ug/L	No	
CARBOFURAN	Jan-04-21	1	90	ug/L	No	
CHLORPYRIFOS	Jan-04-21	0.5	90	ug/L	No	
1,2-DICHLOROBENZENE	Jan-04-21	0.5	200	ug/L	No	
1,4-DICHLOROBENZENE	Jan-04-21	0.5	5	ug/L	No	
1,2-DICHLOROETHANE	Jan-04-21	0.5	5	ug/L	No	
1,1-DICHOETHENE	Jan-04-21	0.5	1.4	ug/L	No	
DICHLOROMETHANE	Jan-04-21	5	50	ug/L	No	
DIAZINON	Jan-04-21	1	20	ug/L	No	
DICAMBA	Jan-04-21	10	120	ug/L	No	
2-4 DICHLOROPHENOL	Jan-04-21	0.2	900	ug/L	No	
2,4-DICHLOROPHOXY ACETIC ACID(2,4-D)	Jan-04-21	10	100	ug/L	No	
DICLOFOP-METHYL	Jan-04-21	0.9	9	ug/L	No	
DIMETHOATE	Jan-04-21	1	20	ug/L	No	
DIQUAT	Jan-04-21	5	70	ug/L	No	
DIURON	Jan-04-21	5	150	ug/L	No	
GLYPHOSATE	Jan-04-21	25	280	ug/L	No	
MONOCHLOROBENZENE	Jan-04-21	0.5	80	ug/L	No	
MALATHION	Jan-04-21	5	190	ug/L	No	
METOLACHLOR	Jan-04-21	3	50	ug/L	No	
METRIBUZIN	Jan-04-21	3	80	ug/L	No	
PARAQUAT	Jan-04-21	1	10	ug/L	No	
PENTACHLOROPHENOL	Jan-04-21	0.2	60	ug/L	No	
PHORATE	Jan-04-21	0.3	2	ug/L	No	
PICLORAM	Jan-04-21	15	190	ug/L	No	
POLYCHLORINATED BIPHENYLS(PCB)	Jan-04-21	0.05	3	ug/L	No	
PROMETRYNE	Jan-04-21	0.1	1	ug/L	No	
SIMAZINE	Jan-04-21	0.5	10	ug/L	No	
TETRACHLOROETHYLENE	Jan-04-21	0.5	30	ug/L	No	
TRICHLOROETHYLENE	Jan-04-21	0.5	5	ug/L	No	
TERBUFOS	Jan-04-21	0.5	1	ug/L	No	
2,3,4,6-TRICHLOROPHENOL	Jan-04-21	0.2	5	ug/L	No	
TRIALATE	Jan-04-21	10	230	ug/L	No	
2,4,6-TRICHLOROPHENOL	Jan-04-21	0.2	5	ug/L	No	
Vinyl Chloride	Jan-04-21	0.2	2	ug/L	No	
TRIFLURALIN	Jan-04-21	0.5	45	ug/L	No	
THM (NOTE: SHOW LATEST ANNUAL AVERAGE)	Year 2021	37.3	100	ug/L	No	
MCPA	Year 2021	10	100	ug/L	No	
HAA	Year 2021	18	80	ug/L	No	