



**Annual Summary Report**

**For The**

**Aylmer Distribution System**

**2019**

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Aylmer Distribution System – 2019 Summary Report

January 2020

## **Overview**

This Summary Report for the Aylmer Distribution System is generated in accordance with Schedule 22 of Ontario's Drinking Water Systems Regulation for the reporting period of January 1st, 2019 to December 31st, 2019. The Aylmer Distribution System (waterworks number 260002136) is categorized as Large Municipal Residential Drinking Water System. It is operated under the Municipal Drinking Water License (MDWL) #044-101 and Drinking Water Works Permit (DWWP) #044-201.

The Town of Aylmer is supplied water by the Aylmer Secondary System which delivers water from the Elgin Middlesex Pumping Station to the town limits by means of a 450 mm water main.

## **Compliance**

The annual audit of the Aylmer Distribution System's Drinking Water Quality Management Standard (DWQMS) was conducted off site, on October 13, 2019 by NSF auditor Rose Johnson. The most recent MECP system inspection was conducted on May 7, 2019. One minor non-compliance was identified resulting in an inspection rating of 98.79%.

## **Requirements**

The 2019 Summary Report for the Aylmer Distribution System is submitted to satisfy Schedule 22 of Ontario Regulation 170/03. As described in O.Reg 170.03, the report must:

- a) List the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water license and any orders applicable to the system that were not met at any time during the reporting period and
- b) For each requirement not met in part a), specify the duration of the failure and the measures that were taken to correct the failures

The Summary Report must also include the following information to assist the owner in assessing the capability of the system to meet existing and future uses:

- 1) A summary of the quantities and flow rates of the water supplied during this period covered by the report, including monthly average and maximum daily flows
- 2) A comparison of the summary results to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water license or if the system is receiving all of its' water from another system under an agreement, to the flow rates specified in that agreement

**Table 1** lists the requirements that the system failed to meet and the measures taken to correct the failure

**Table 1**

Drinking Water Legislation	List of requirements the system failed to meet	Duration of the failure	Measures that were taken to correct problem	Status: (complete or incomplete)
Safe Drinking Water Act				
Ontario Regulations	O.Reg 170/03, Sec 10.1 -All changes to the system registration information must be provided to the MECP within 10 days of the change	20 days	DWIS file was updated immediately	Complete
DWL #044-101. DWWP #044-201 (as of June 7/16)				
Provincial Officer's Order No.				
Works permit/ License				

## Water Quantity Summary

**Table 2** provides an overview of the quantity of water entering the Aylmer Distribution System at Chamber 16 as recorded by the SCADA system.

**Table 2**

	<b>Total Flow (m3)</b>	<b>Average Daily Flow (m3/day)</b>	<b>Max Daily Flow (m3/day)</b>	<b>Min Daily Flow (m3/day)</b>	<b>Total Reverse Flow (m3)</b>
<b>January</b>	125003	4032	4638	3478	2710
<b>February</b>	115901	4139	4561	2234	2530
<b>March</b>	130031	4191	4666	3555	2819
<b>April</b>	133901	4463	4811	4125	2600
<b>May</b>	149452	4821	5307	4098	2582
<b>June</b>	156190	5206	5864	4543	2346
<b>July</b>	159200	5135	5880	4061	2393
<b>August</b>	159970	5160	5689	4571	2523
<b>September</b>	120078	4002	5175	2244	2651
<b>October</b>	145556	4695	5758	3428	2743
<b>November</b>	129512	4317	4645	3985	2803
<b>December</b>	127872	4124	4486	2757	2884
<b>Total</b>	1652666	4528			31584

Flow data for the period Jan 1, 2019 to Dec 31, 2019

The maximum daily flow to the system occurred on July 25, 2019 with a daily total of 5880 m<sup>3</sup>. The total flow from the EMPS to Aylmer averaged 4528 m<sup>3</sup>/day. The numbers change when one takes into account the reverse flow through the meter at Chamber 16. When the reverse flow is subtracted from the total flow, the annual flow drops to 1621082 m<sup>3</sup> for the year 2019. This also changes the average daily flow from 4528 to 4441 m<sup>3</sup>/day for 2019.

Using the figure 130 l/sec as the EMPS pump capacity, the total daily flow for the Aylmer Secondary line is 11232 m<sup>3</sup>/day. The current average daily flow (4528 m<sup>3</sup>/day) uses 40 % of the system's capacity. This number is higher than the previous year's total of 35% capacity. The increase is largely due to the increase in production at the ethanol plant.

**Table 3** compares the flows from 2019 to those of 2018. There were considerable variations on a month to month basis with the expected increases in June, July and August due to customer lawn watering. It is interesting to note that double digit increases in flow (compared to 2018) occurred during the first eight months of the year. Most, if not all of the increase in flow can be attributed to the increase in production at the ethanol plant. The last three months of 2019 show smaller percentage increases in flow since IGPC had expanded its' operation in October of 2018 resulting in comparable flows from 2018 to 2019 for those months. The drop in average daily flows for the month of September was largely due to the ethanol plant shutting down production for a week for its' annual plant maintenance.

**Table 3**

<b>Month</b>	<b>Total Flow 2019 (m3)</b>	<b>Total Flow 2018 (m3)</b>	<b>Average Daily Flow 2019 (m3/day)</b>	<b>Average Daily Flow 2018 (m3/day)</b>	<b>Difference between 2019 and 2018 (%)</b>
<b>January</b>	125003	108410	4032	3497	+15.3%
<b>February</b>	115901	97222	4139	3472	+19.2%
<b>March</b>	130031	107074	4191	3454	+21.3%
<b>April</b>	133901	95929	4463	3197	+39.6%
<b>May</b>	149452	124551	4821	4017	+20%
<b>June</b>	156190	131537	5206	4384	+18.6%
<b>July</b>	159200	137186	5135	4425	+16.1%
<b>August</b>	159970	117808	5160	3800	+35.8%
<b>September</b>	120078	112293	4002	3743	+6.9%
<b>October</b>	145556	137238	4695	4427	+6.1%
<b>November</b>	129512	123474	4317	4115	+4.9%
<b>December</b>	127872	126334	4124	4075	+1.2%
<b>total flow (m3)</b>	1652666	1419056			
<b>Average (m3/day)</b>			4528	3888	+16.5

**Table 4** shows the various flow parameters for 2019 and compares the daily average flow rates for 2019 to those of 2018

**Table 4: Flow Rates**

<b>Month</b>	<b>2019 Daily Average Flow Rate (L/s)</b>	<b>Max Flow Rate/Day (L/s)</b>	<b>Min. Flow Rate/Day (L/s)</b>	<b>Highest Hourly Average</b>	<b>2018 Daily Average Flow Rate (L/s)</b>
<b>January</b>	46.7	53.8	40.2	131.2	40.4
<b>February</b>	48.3	53.1	43.6	130.5	40.1
<b>March</b>	48.7	53.8	40.9	130.4	39.9
<b>April</b>	51.6	55.4	48.1	131.2	37.1
<b>May</b>	55.8	61.7	47.7	132.4	46.4
<b>June</b>	60.2	67.9	52.9	156.1	46.4
<b>July</b>	59.5	68.4	47.4	132.9	51.2
<b>August</b>	59.7	66.1	52.9	133.7	44.0
<b>September</b>	46.3	60.0	26.2	133.5	43.4
<b>October</b>	54.4	66.9	39.9	134.7	51.2
<b>November</b>	49.9	53.6	46.5	131.2	47.6
<b>December</b>	47.8	51.8	38.5	130.8	47.1
	52.4	68.4	26.2	156.1	44.9

This information is collected in order to assist the owner in assessing the present capacity of the water system. A copy of this report shall be submitted to Council no later than March 31, 2020.