



**Annual Summary Report**

**For The**

**Aylmer Distribution System**

**2021**

Prepared by: Connor Bailey  
Manager of Operations  
Town of Aylmer

## Aylmer Distribution System – 2021 Summary Report

March 2022

### **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, 2021 to December 31st, 2021. 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 an off-site audit conducted on September 29, 2021 by NSF auditor Rose Johnson. The most recent MECP system inspection was conducted on June 16<sup>th</sup>, 2021. There were no instances of non-compliance, resulting in an inspection rating of 100%.

### **Requirements**

The 2021 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				
DWL #044-101. DWWP #044-201 Issue #2 (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>	118392.1	3819.1	4742.6	3188.0	2815.2
<b>February</b>	114968.5	4106.0	4627.8	3820.1	2475.8
<b>March</b>	141527.7	4565.4	5074.0	4196.3	2574.8
<b>April</b>	126757.3	4225.2	5023.3	2108.5	2608.5
<b>May</b>	155519.4	5016.8	5992.9	1241.5	2223.0
<b>June</b>	159373.5	5312.5	6081.9	4546.6	1933.7
<b>July</b>	155697.9	5022.5	5602.3	4482.2	1857.3
<b>August</b>	155616.2	5019.9	5607.1	4270.1	1757.1
<b>September</b>	153665.1	5122.2	5744.5	4574.6	1749.5
<b>October</b>	134683.3	4344.6	5264.2	2294.9	1501.5
<b>November</b>	136764.9	4558.8	4990.8	3606.6	1522.7
<b>December</b>	132183.8	4264.0	4742.6	3188.0	2644.5
<b>Total</b>	1685149.7	4616.8	4671.2	3420.8	25665.1

Flow data for the period Jan 1, 2021 to Dec 31, 2021

The maximum daily flow to the system occurred on June 10, 2021 with a daily total of 6081.9 m<sup>3</sup>. The total flow from the EMPS to Aylmer averaged 4616.8 m<sup>3</sup>/day. Total flow for the year 2021 was 1685149.7 m<sup>3</sup>. The numbers change when one considers the reverse flow through the meter at Chamber 16. When the reverse flow is subtracted from the total flow, the annual flow drops to 1659484.6 m<sup>3</sup> for the year 2021. This also changes the average daily flow from 4616.8 to 4546.5 m<sup>3</sup>/day for 2021. Using the figure 130 l/sec as the EMPS pump capacity, the total daily flow capacity for the Aylmer Secondary line is 11232 m<sup>3</sup>/day. The current average daily flow (4616.8 m<sup>3</sup>/day) uses 41% of the system's capacity. This number has gone up from the previous year's total of 40% capacity. As expected, water usage was higher during the warmer months.

**Table 3** compares the flows from 2020 to those of 2021. There were considerable variations in water usage on a month to month basis. High water consumption in the months of June, July and August is a common trend as people complete more outdoor tasks that require water usage. Irrigation and exterior cleaning of property always increase the total volume of water used. Colder months saw less water consumption.

**Table 3**

<b>Month</b>	<b>Total Flow 2020 (m3)</b>	<b>Total Flow 2021 (m3)</b>	<b>Average Daily Flow 2020</b>	<b>Average Daily Flow 2021</b>	<b>Difference between</b>
--------------	-------------------------------------	-------------------------------------	--	--	-------------------------------

			(m3/day)	(m3/day)	2020 and 2021 (%)
<b>January</b>	128631	118392.1	4149	3819.1	-8.6
<b>February</b>	121085	114968.5	4175	4106.0	-1.7
<b>March</b>	126997	141527.7	4097	4565.4	+10.3
<b>April</b>	97504	126757.3	3250	4225.2	+23.1
<b>May</b>	126238	155519.4	4072	5016.8	+18.8
<b>June</b>	164555	159373.5	5485	5312.5	-3.2
<b>July</b>	174311	155697.9	5623	5022.5	+12
<b>August</b>	162851	155616.2	5253	5019.9	-4.6
<b>September</b>	131657	153665.1	4389	5122.2	+14.3
<b>October</b>	138690	134683.3	4953	4344.6	-14
<b>November</b>	132129	136764.9	4404	4558.8	+3.4
<b>December</b>	126607	132183.8	4084	4264.0	+4.2
<b>total flow (m3)</b>	1505813	1685149.7			+10.6
<b>Average (m3/day)</b>			4495	4616.8	+2.6

Table 4 shows the various flow parameters for 2021 and compares the daily average flow rates for 2021 to those of 2020

**Table 4: Flow Rates**

Month	2021 Daily Average	Max Flow Rate/Day (L/s)	Min. Flow Rate/Day (L/s)	Highest Hourly	2020 Daily Average

	<b>Flow Rate (L/s)</b>			<b>Average (L/s)</b>	<b>Flow Rate (L/s)</b>
<b>January</b>	44.2	128.1	0	54.9	48.01
<b>February</b>	47.4	130.5	0	53.4	48.33
<b>March</b>	52.9	130.0	0	58.8	47.51
<b>April</b>	48.9	131.0	0	58.2	37.62
<b>May</b>	58.2	132.3	0	69.4	47.07
<b>June</b>	61.4	131.7	0	70.4	63.42
<b>July</b>	58.1	131.9	0	64.7	65.11
<b>August</b>	58.1	133.1	0	64.9	60.76
<b>September</b>	59.4	133.9	0	68.6	50.84
<b>October</b>	50.3	131.7	0	61.0	51.80
<b>November</b>	52.8	130.4	0	61.8	50.81
<b>December</b>	49.7	128.9	0	54.1	47.29

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, 2022.