



Annual Summary Report

For The

Aylmer Distribution System

2017

Prepared by: Bill Berry
Manager of Water Operations
Town of Aylmer

Aylmer Distribution System – 2017 Summary Report

January 2018

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, 2017 to December 31st, 2017. 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 on October 10, 2017 by NSF auditor Rose Johnson at the Town's Works Department office. Three minor corrective action requests were created:

(DWQMS)-01 The DWQMS document control processes were not fully effective.

(DWQMS)-02 Measuring equipment verification processes were not fully effective.

(DWQMS)-03 DWQMS requirements relating to Essential Supplies and Services are not fully addressed.

All were addressed and submitted to NSF. All were approved.

The most recent **MOECC** system inspection was conducted on October 24, 2017.

One non-compliance was identified. The haloacetic acid water quality monitoring requirements were not conducted within the required frequency and at the required location. Since that time, HAA sampling has begun and the requirements are being met.

Requirements

The 2017 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, Sec13-6.1(1) No sampling for HAAs in 3 rd quarter of 2017	One calendar quarter	Began sampling in 4 th quarter	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

	Total Flow (m3)	Average Daily Flow (m3/day)	Max Daily Flow (m3/day)	Min Daily Flow (m3/day)	Total Reverse Flow (m3)
January	105519	3403	3629	3175	2874
February	94721	3382	3776	2884	2569
March	99170	3199	3734	2227	2963
April	100161	3339	3652	2990	2812
May	113317	3655	4035	3135	2753
June	116875	3895	5001	2499	2404
July	128342	4140	4792	3462	2323
August	131268	4234	4838	3656	2352
September	122617	4087	4888	3508	2460
October	103114	3326	4114	2239	2945
November	102551	3418	3896	3092	2769
December	98497	3177	3506	2812	2769
Total	1316152	3605	5001	2227	31990

Flow data for the period Jan 1, 2017 to Dec 31, 2017

The maximum daily flow to the system occurred on June 16, 2017 with a daily total of 5001 m³. The total flow from the EMPS to Aylmer averaged 3605 m³/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 1284162 m³ for the year 2017. This also changes the average daily flow from 3605 to 3518 m³/day for 2017.

Using the figure 130 l/sec as the EMPS pump capacity, the total daily flow for the Aylmer Secondary line is 11232 m³/day. The current average daily flow (3605 m³/day) uses only 32 % of the system's capacity. This number is slightly higher than the previous year's total of 31% capacity.

Table 3 compares the flows from 2017 to those of 2016. There were considerable variations on a month to month basis with the largest occurring during the months of August and September. Checking climactic records, it was discovered that an unusually small amount of precipitation (one inch) fell in each of those months (in 2017). This helps explain the large increase in flows during those months. A large number of property owners were watering their lawns during this period.

Table 3

Month	Total Flow 2017 (m3)	Total Flow 2016 (m3)	Average Daily Flow 2017 (m3/day)	Average Daily Flow 2016 (m3/day)	Difference between 2017 and 2016 (%)
January	105519	96129	3403	3100	+9.7
February	94721	92800	3382	3200	+5.7
March	99170	99725	3199	3216	-0.5
April	100161	100227	3339	3340	0.0
May	113317	118846	3655	3833	-4.6
June	116875	126686	3895	4222	-7.7
July	128342	109508*	4140	3911	+5.8
August	131268	118562	4234	3824	+10.7
September	122617	105713	4087	3523	+16.0
October	103114	104318	3326	3365	-1.1
November	102551	98986	3418	3299	+3.6
December	98497	99635	3177	3214	-1.2
total flow (m3)	1316152	1271135			+3.5
Average (m3/day)			3605	3481	+3.5

* 3 days in July not included in total due to metering issue at Chamber 16.

Table 4 shows the various flow parameters for 2017 and compares the daily average flow rates for 2017 to those of 2016

Table 4: Flow Rates

Month	Daily Average Flow Rate (L/s)	Max Flow Rate/Day (L/s)	Min. Flow Rate/Day (L/s)	Highest Hourly Average	2016 Daily Average Flow Rate (L/s)
January	39.35	42.03	36.56	131.1	35.86
February	39.23	43.96	33.41	135.3	36.93
March	37.07	43.22	25.80	135.9	37.28
April	38.74	42.33	33.35	134.6	38.74
May	42.28	46.68	35.79	133.8	44.31
June	45.11	57.73	29.03	135.2	48.88
July	47.95	55.59	40.02	135.6	46.73
August	48.99	56.07	42.15	136.2	44.28
September	47.30	56.64	40.88	138.4	40.79
October	38.54	47.61	26.21	134.5	38.92
November	39.50	44.99	35.52	144.9	38.12
December	36.77	40.52	32.16	132.2	37.21
	41.74	57.73	26.21	144.9	40.67

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, 2018.