



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Annual Summary Report
For the
Southwest Middlesex Distribution System
2017

Prepared for the Municipality of Southwest Middlesex

By the Ontario Clean Water Agency

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SECTION 1: Overview of System

This summary report for the Southwest Middlesex Distribution System was published 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 Southwest Middlesex Distribution System (Waterworks number 260005502) is categorized as a Large Municipal Residential Drinking Water System.

This report was prepared by The Ontario Clean Water Agency on behalf of the Municipality of Southwest Middlesex and must be supplied to the municipal council by March 31, 2018.

SECTION 2: Compliance with Regulations

The Southwest Middlesex Distribution System was operated and maintained in such a manner, and with such facilities that water supplied to the consumers serviced by the system satisfied most of the requirements in the system Municipal Drinking Water Licence 038-101 and Drinking Water Works Permit 038-201, with the exceptions described below.

There were no Ministry of the Environment and Climate Change (MOECC) Provincial Officer's Orders for this reporting period.

There were no non-compliances with the regulatory requirements found in the Ministry of the Environment and Climate Change Inspection conducted by Tyler Kelly on August 25th, 2017.

The routine MOECC Inspections have an Inspection Rating Record, which evaluates the system to provide information for the owner/operator on areas that need to be improved. The particular areas that were evaluated for the Southwest Middlesex Distribution System were: treatment process, distribution system, operations manuals, logbooks, certification and training, water quality monitoring, reporting and corrective actions and treatment process monitoring. This system received 0 out of 199 non-compliance ratings and as such received 100% for the Final Inspection Rating.

There was an adverse water quality incident (AWQI) in February for a distribution system lead sample. The sample was obtained from a fire hydrant with results of 29mg/L, the limit is 10mg/L.

There was an adverse water quality incident (AWQI) in May for a Chlorine spike at the Melbourne standpipe where the chlorine residual was above 4.0 mg/L for at least 15 mins.

Trihalomethanes (THMs) in the distribution system have been an ongoing issue over the last couple years with the concentration increasing since 2008. The Ontario Drinking Water Quality Standard for THMs is 100µg/L (based on a running average of four quarterly samples) the Southwest Middlesex Distribution running average is currently 90.0 µg/L. The running average has decreased by 2% from 2016. Although not a non-compliance at this time it is a concern as it is close to the maximum allowable concentration.

SECTION 3: Corrective Actions

The AWQIs required corrective action to be taken. A re-sample was taken for lead and the result was 0.03mg/L. The high Chlorine residual required flushing of the standpipe immediately lowering the residual before the high chlorine was able to reach consumers. All required notifications to the owner, health unit and MOECC were conducted in accordance with requirements in O. Reg. 170/03.

SECTION 4: Flow Summary

In accordance with Schedule 22-2(3) 1, find a summary and discussion of the quantity of water supplied during the reporting period. There are no rated capacities specified in the Municipal Drinking Water Licence.

Attached as Appendix A, find a summary of treated water flows including total, average, and maximum daily flows for the reporting period at the Southwest Middlesex Reservoir compared to the previous year's flows. The Municipal Drinking Water Licence does not specify a rated capacity of the Southwest Middlesex Reservoir.

The Southwest Middlesex Reservoir average flow for the reporting period was 1,380 m³/day, which is a 5.9% increase from 2016. The maximum daily flow for the reporting period was 3,539m³/day.

Attached as Appendix B, find a summary of treated water flows including total, average, and maximum daily flows for the reporting period at the Melbourne Standpipe compared to the previous year. The Municipal Drinking Water Licence does not specify rated capacity of the Melbourne Standpipe.

The Melbourne Standpipe average flow for the reporting period was 120 m³/day, which is a 9.4% increase from 2016. The maximum daily flow for the reporting period was 577m³/day.

Attached as Appendix C, find a summary of treated water flows including total, average and maximum daily flows for the reporting period at the Glencoe Tower. The Municipal Drinking Water Licence does not specify a rated capacity of the Glencoe Tower.

The Glencoe Tower average daily flow for the reporting period was 748m³/day, which is a 0.5% decrease from 2016. The maximum daily flow for the reporting period was 1,366m³/day.

APPENDIX A

The table below is a summary of quantities and flow rates at the Southwest Middlesex Reservoir for 2017 compared to 2016 values.

Month	2017 Total Flow (m ³)	2016 Total Flow (m ³)	2017 Average Day Flow (m ³ /day)	2016 Average Day Flow (m ³ /day)	% Difference between 2017 and 2016	2017 Max Day Flow (m ³ /day)	2016 Max Day Flow (m ³ /day)	% Difference between 2017 and 2016
January	38,335	36,406	1,237	1,174	5.3	2,219	1,941	14
February	34,789	34,872	1,242	1,202	3.4	1,729	2,011	-14
March	38,698	36,549	1,248	1,179	5.9	2,100	2,008	5
April	37,595	37,109	1,253	1,237	1.3	2,410	1,808	33
May	43,645	43,448	1,408	1,498	-6.0	2,107	2,382	-12
June	49,178	51,536	1,586	1,718	-7.7	1,985	2,598	-24
July	51,969	48,624	1,676	1,569	6.8	2,531	2,313	9
August	44,960	25,110	1,450	810	79.1	2,090	1,236	69
September	46,930	46,437	1,564	1,548	1.1	3,539	2,571	38
October	40,787	38,820	1,316	1,252	5.1	2,331	2,110	10
November	38,354	36,371	1,278	1,212	5.5	2,976	2,347	27
December	40,331	33,299	1,301	1,233	5.5	2,212	2,329	-5
Total Flow	505,571	468,581						
Average			1,380	1,303	5.9			
Max						3,539	2,598	36

APPENDIX B

The table below is a summary of quantities and flow rates from the Melbourne Standpipe for 2017 compared with 2016 values.

Month	2017 Total Flow (m ³)	2016 Total Flow (m ³)	2017 Average Day Flow (m ³ /day)	2016 Average Day Flow (m ³ /day)	% Difference between 2017 and 2016	2017 Max Day Flow (m ³ /day)	2016 Max Day Flow (m ³ /day)	% Difference between 2017 and 2016
January	3,457	2,922	112	94	18.2	133	129	3
February	3,337	2,742	119	95	26.1	134	140	-4
March	3,632	2,808	117	91	29.3	157	146	7
April	3,277	3,090	109	103	6.0	146	133	9
May	3,654	3,875	118	125	-5.7	199	184	8
June	5,138	4,062	166	135	22.4	577	172	235
July	4,121	4,121	133	133	0.0	174	149	17
August	3,711	3,454	120	111	7.5	156	137	14
September	3,968	3,222	132	107	23.2	253	150	69
October	3,180	3,212	103	104	-1.0	168	162	3
November	2,822	3,096	105	103	1.3	166	134	25
December	2,382	3,250	104	112	-7.6	151	139	9
Total Flow	42,680	39,852						
Average			120	109	9.4			
Maximum						577	184	213

APPENDIX C

The table below is a summary of quantities and flow rates from the Glencoe Tower for 2017 compared with 2016 values.

Month	2017 Total Flow (m ³)	2016 Total Flow (m ³)	2017 Average Day Flow (m ³ /day)	2016 Average Day Flow (m ³ /day)	% Difference between 2017 and 2016	2017 Max Day Flow (m ³ /day)	2016 Max Day Flow (m ³ /day)	% Difference between 2017 and 2016
January	22,254	20,685	718	667	7.6	931	923	0.9
February	20,491	21,945	732	757	-3.3	929	1,030	-9.8
March	23,607	21,684	762	700	8.8	930	1,020	-8.8
April	20,575	22,682	686	756	-9.3	1,095	1,022	7.1
May	22,028	23,127	711	746	-4.7	1,074	1,106	-2.9
June	27,415	25,093	884	836	5.8	1,035	1,033	0.2
July	26,670	25,329	860	817	5.3	951	946	0.5
August	23,450	25,110	756	810	-6.6	952	1,236	-22.9
September	20,220	21,861	674	729	-7.5	1,066	926	15.1
October	21,899	23,046	706	743	-4.9	1,055	958	10.1
November	21,875	21,208	729	707	3.1	1,366	1,008	35.5
December	17,363	21,810	755	752	0.4	1,234	986	25.1
Total Flow	267,849	273,580						
Average			748	752	-0.5			
Maximum						1,366	1,236	10.5