

February 25, 2021

Jill Bellchamber-Glazier
CAO/Clerk
Municipality of Southwest Middlesex
156 McKeller Street
Glencoe, ON NOL 1M0

Re: Requirement under the Safe Drinking Water Act for a Summary Report

Dear Ms. Bellchamber-Glazier;

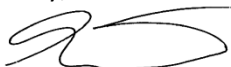
Attached is the 2020 Summary Report for the Southwest Middlesex Distribution System. This report is completed in accordance with Schedule 22 of O. Reg. 170/03, under the Safe Drinking Water Act.

This Summary Report is to be provided to the members of the council. Please ensure this distribution no later than March 31, 2021.

Attached is also a copy of the 2020 Annual Report for the Southwest Middlesex Distribution System required under Section 11 of O. Reg. 170/03. Section 12 of O. Reg. 170/03, requires both the Summary Report and the Annual Report be made available for inspection by any member of the public during normal business hours, without charge. The reports should be made available for inspection at the office of the municipality, or at a location that is reasonably convenient to the users of the water system.

Please feel free to contact me should you require any additional information regarding these reports. I can be reached at 519-312-0847.

Sincerely,



Terri-Lynn Thomson
Process and Compliance Technician

cc. Dale LeBritton OCWA Regional Manager
Sam Smith, OCWA Senior Operations Manager
Cindy Sigurdson, OCWA Safety, Process and Compliance Manager
Greg Storms, Southwest Middlesex



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Annual Summary Report
For the
Southwest Middlesex Distribution System
2020

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, 2020 to December 31st, 2020. 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, 2021.

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 Conservation and Parks (MECP) Provincial Officer's Orders for this reporting period.

A Ministry of the Environment, Conservation and Parks (MECP) inspection was conducted on September 24, 2020 by Karen Machado.

The MECP 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: capacity assessment, treatment processes, distribution system, operations manuals, logbooks, certification and training, water quality monitoring, reporting and corrective actions, other inspection findings and treatment process monitoring. This system received 39 out of 435 non-compliance ratings and as such received 91.03% for the Final Inspection Rating. Non-compliance with regulatory requirements and actions required as listed in the inspection report:

1. The owner had not ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.

During the inspection period there were two Drinking Water Works Permits (DWWP) in effect.

1. Drinking Water Works Permit #038-201, Issue #5 dated February 28, 2017 and Drinking Water Works Permit #038-201, Issue #6 dated January 7, 2020.

The current DWWP states that there should be two (2) chemical feed pumps (duty/standby) rated at 7L/hr. During the physical inspection it was noted that two chemical feed pumps had been installed at the Glencoe Tower however, only one pump is in service while the other is left unplugged and not available for switch over. Standby equipment is equipment that can be made duty equipment by the manual act of flipping a switch or the automatic switching of equipment initiated by a specific signal from a monitoring system. Therefore, the standby pump must be ready for service at all times. It was also noted that the SCADA system at the Glencoe Reservoir as stated in the DWWP was installed however, had failed in July 2020.

2. Where an activity has occurred that could introduce contamination, all parts of the drinking water system were not disinfected in accordance with Schedule B, Condition 2.3 of the Drinking Water Works Permit.

Drinking Water Works Permit #038-201 Issue #6 Section 2.3 of Schedule B states that all parts of the drinking water system in contact with drinking water which are added, modified, replaced, extended shall be disinfected in accordance with a procedure approved by the Director in accordance with the applicable provisions of the following documents:

- a) The ministry's Watermain Disinfection Procedure, dated November 2015;
- b) subject to condition 2.3.2, any updated version of the ministry's Watermain Disinfection Procedure;
- c) AWWA C652 - Standard for Disinfection of Water-Storage Facilities;
- d) AWWA C653 - Standard for Disinfection of Water Treatment Plants; and
- e) AWWA C654 - Standard for Disinfection of Wells.

On March 5, 2020, the compound flow meter at the Southwest Middlesex Reservoir and was replaced with an electronic flow meter. The operator documented the information of the work performed on an internal document "Appurtenance Repair Form". A review of the document indicated that the operating authority failed to ensure that the Ministry's Watermain Disinfection Procedures (November 2015) were correctly followed in order to satisfy the conditions imposed in Drinking Water Works Permit #038-201 Issue #6. The operating authority also failed to ensure that the minimum required information as stated in Section 4.0 (Documentation) of the Ministry's Watermain

Disinfection procedure was properly recorded. On August 19, 2020, the 34L/s fixed-speed horizontal split-case pump at the Southwest Middlesex Reservoir was replaced with a new pump. The operator documented the information of the work performed on an internal document "Appurtenance Repair Form". A review of the document indicated that the operating authority failed to ensure that the disinfection procedures in AWWA C653 - Standard for Disinfection of Water Treatment Plants and AWWA C651-Disinfecting Water Mains were followed and also were not properly documented.

3. All changes to the system registration information were not provided within ten (10) days of the change.

During a review of documentation for the inspection period it was noted that the contact information for the Owner was not up to date as required under O. Reg. 170/03 Section 10.1(3) where all changes to the system registration information must be provided in writing within ten days of the change. After alerting the Owner/Operating Authority, a Drinking Water System Profile Information Form was submitted on October 13, 2020 to correct the Owner contact.

4. The following instance(s) of non-compliance were also noted during the inspection:

According to the reviewed logbooks entries, there were occasions when activities such daily rounds were not recorded in the logbook. In addition, there were occasions where the time recorded within the log entries was different from the time documented on the Weekly Chlorine Residuals Round Sheet and also on the Certificate of Analysis final reports for microbiological samples. Ontario Regulation 128/04 – Section 27(5) stipulates the following in reference to logs and record keeping:

An operator-in-charge or a person authorized by an operator-in-charge shall record the following information in the logs or other record-keeping mechanisms in respect of each operating shift:

1. The date, the time of day the shift began and ended and the number or designation of the shift.
2. The names of all operators on duty during the shift.
3. Any departures from normal operating procedures that occurred during the shift and the time they occurred.
4. Any special instructions that were given during the shift to depart from normal operating procedures and the person who gave the instructions.
5. Any unusual or abnormal conditions that were observed in the subsystem during the shift, any action that was taken and any conclusions drawn from the observations.
6. Any equipment that was taken out of service or ceased to operate during the shift and any action taken to maintain or repair equipment during the shift. O. Reg. 128/04, s. 27 (5).

An AWQI occurred on a routine microbiological sample taken on July 13th, 2020 with a result of 2 total coliform.

SECTION 3: Corrective Actions

See below for actions required as written in the MECP Inspection Report and actions taken.

1. Action(s) Required:

The Owner/Operating Authority must ensure that all equipment is installed and operational as per the DWWP. By no later than December 31, 2020 the Owner/Operating Authority shall provide documentation showing that both the chemical feed pumps at the Glencoe Tower are operational.

By December 31, 2020 both pumps at the Glencoe Tower were operational and documentation showing this was sent to the inspector.

2. Action(s) Required:

From herein, the Operating Authority shall ensure that procedures outlined in the Ministry's Watermain Disinfection Procedure are followed and properly documented as stipulated by the Drinking Water Works Permit #038-201 Issue #6, Section 2.3 of Schedule B. In addition, the Operating Authority shall ensure that proper forms are available to the operators for replacement/repairs to treatment equipment. The Operating Authority shall provide training to the operators on the requirements of the Drinking Water Works Permit and shall submit documentation of the training including an operator sign off sheet to the undersigned inspector no later than January 31, 2021.

On January 21, 2021 training on the new Ontario Watermain Disinfection Procedure requirements took place and addressed applicable site-specific procedures.

3. Action(s) Required:

The Drinking Water System Profile Information Form was completed and submitted on October 13, 2020 as required under O. Reg. 170/03 Section 10.1(3). No further actions required at this time.

4. Action(s) Required:

From herein, the Owner / Operating Authority shall ensure that logs and records maintained in association with the drinking water system meet with the requirements of Ontario Regulation 128/04 – Section 27(5). Compliance with this requirement will be assessed during the next inspection of the drinking water system.

The region has switched over to eLogbooks in the new year. This has allowed for greater oversight of logbook entries by the Senior Operations Manager and Process and Compliance Technician.

The AWQI required corrective action to be taken. Resamples were obtained upstream, downstream and at the source where the adverse occurred for two consecutive days after receiving notification. The results were in compliance limits of 0 cfu/100mL for total coliform and E. coli. All required notifications to the owner, health unit and MECP 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 1,272 m³/day, which is a 1% increase from 2019. The maximum daily flow for the reporting period was 2,183m³/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 89m³/day, which is a 7.1% decrease from 2019. The maximum daily flow for the reporting period was 212m³/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 414m³/day, which is a 20.9% decrease from 2019. The maximum daily flow for the reporting period was 1,114m³/day.

APPENDIX A

The table below is a summary of quantities and flow rates at the Southwest Middlesex Reservoir for 2020 compared to 2019 values.

Month	2020 Total Flow (m ³)	2019 Total Flow (m ³)	2020 Average Day Flow (m ³ /day)	2019 Average Day Flow (m ³ /day)	% Difference between 2020 and 2019	2020 Max Day Flow (m ³ /day)	2019 Max Day Flow (m ³ /day)	% Difference between 2020 and 2019
January	38,809	34,717	1,252	1,120	-10.5	1,965	1,475	-24.9
February	35,013	33,558	1,207	1,198	-0.7	1,940	1,568	-19.2
March	34,695	34,147	1,119	1,102	-1.6	2,136	1,454	-32.0
April	33,171	36,003	1,106	1,200	8.5	1,673	1,476	-11.8
May	40,166	37,269	1,296	1,242	-4.1	1,830	1,815	-0.8
June	49,989	43,847	1,666	1,462	-12.3	2,183	1,899	-13.0
July	50,146	46,703	1,618	1,557	-3.8	2,149	2,075	-3.5
August	41,031	43,547	1,324	1,405	6.1	1,492	1,737	16.4
September	36,365	36,928	1,212	1,231	1.5	1,398	1,673	19.6
October	36,170	38,247	1,167	1,234	5.7	1,423	1,748	22.8
November	33,477	34,714	1,116	1,157	3.7	1,323	1,292	-2.4
December	36,456	37,316	1,176	1,204	2.4	1,740	1,342	-22.9
Total Flow	465,489	456,996						
Average			1,272	1,259	1.0			
Max						2,183	2,075	5.2

APPENDIX B

The table below is a summary of quantities and flow rates from the Melbourne Standpipe for 2020 compared with 2019 values.

Month	2020 Total Flow (m ³)	2019 Total Flow (m ³)	2020 Average Day Flow (m ³ /day)	2019 Average Day Flow (m ³ /day)	% Difference between 2020 and 2019	2020 Max Day Flow (m ³ /day)	2019 Max Day Flow (m ³ /day)	% Difference between 2020 and 2019
January	2,558	3,437	83	111	34.4	111	140	25.9
February	2,337	2,718	81	97	20.5	127	132	3.3
March	2,408	3,064	78	99	27.3	107	118	10.3
April	989	3,249	33	108	228.5	36	145	301.2
May	3,404	4,050	110	131	19.0	162	223	37.7
June	4,231	1,282	141	128	-9.1	187	148	-21.1
July	4,483	0	145	0	-100.0	212	0	-100.0
August	3,607	1,997	116	111	-4.7	194	140	-27.9
September	2,838	3,441	95	115	21.2	131	150	14.1
October	2,935	2,821	95	91	-3.9	122	145	19.3
November	1,846	2,395	62	80	29.7	127	101	-20.7
December	1,038	2,517	33	81	142.5	70	95	36.7
Total Flow	32,674	30,971						
Average			89	96	-7.1			
Maximum						212	223	-5.2

APPENDIX C

The table below is a summary of quantities and flow rates from the Glencoe Tower for 2020 compared with 2019 values.

Month	2020 Total Flow (m³)	2019 Total Flow (m³)	2020 Average Day Flow (m³/day)	2019 Average Day Flow (m³/day)	% Difference between 2020 and 2019	2020 Max Day Flow (m³/day)	2019 Max Day Flow (m³/day)	% Difference between 2020 and 2019
January	27,274	17,042	880	550	-37.5	939	782	-16.7
February	22,937	15,120	791	540	-31.7	923	823	-10.9
March	24,020	16,294	775	526	-32.2	1,114	643	-42.3
April	13,917	15,324	464	511	10.1	970	845	-12.8
May	10,215	15,081	330	486	47.6	680	760	11.8
June	9,294	17,179	310	573	84.8	490	825	68.4
July	13,594	12,349	439	398	-9.2	857	790	-7.8
August	5,231	16,558	169	534	216.5	299	786	162.9
September	4,987	12,884	166	429	158.4	382	838	119.7
October	6,221	12,676	201	409	103.8	528	729	38.0
November	7,397	13,106	247	437	77.2	478	898	87.9
December	6,259	27,587	202	890	340.8	478	1,019	113.1
Total Flow	151,345	191,201						
Average			414	524	-20.9			
Maximum						1,114	1,019	9.4