



**OPTIONAL ANNUAL REPORT TEMPLATE**

<b>Drinking-Water System Number:</b>	220003421
<b>Drinking-Water System Name:</b>	City of Windsor Drinking Water System
<b>Drinking-Water System Owner:</b>	The Windsor Utilities Commission
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	Calendar Year 2020

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [ X ] No [ ]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [ X ] No [ ]</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>The Windsor Utilities Commission 4545 Rhodes Dr. Windsor ON N9A 5T7</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served: <input style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</p> <p>Number of Interested Authorities you report to: <input style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</p>
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**Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report**

**List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

Drinking Water System Name	Drinking Water System Number
Town of Lasalle, ON	220004402
Town of Tecumseh, ON	260004969

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?  
Yes [ X ] No [ ]

Indicate how you notified system users that your annual report is available, and is free of charge.

- [ X ] Public access/notice via the web
- [ X ] Public access/notice via Government Office
- [ ] Public access/notice via a newspaper
- [ X ] Public access/notice via Public Request



Public access/notice via a Public Library

Public access/notice via other method \_\_\_\_\_

**Describe your Drinking-Water System**

The Windsor Utilities Commission water treatment facility employs screening, pre-chlorination (on an as needed basis), pH adjustment (utilizing CO<sub>2</sub>), disinfection (utilizing ozone), coagulation, flocculation, sedimentation, dual-media filtration (3 filters) and multi-media filtration (5 filters) with post chlorination and corrosion control adjustment (utilizing phosphoric acid) to treat raw water obtained from the Detroit River.

The water treatment plant pumps sedimentation sludge and backwash water to the sanitary sewer. Treated water from the plant is routed to an on-site reservoir and other reservoir co-located nearby the water treatment facility. Subsequently the treated water is pumped into the distribution system from two pumping stations co-located nearby the water treatment facilities as well. Water from the pumping stations satisfies demand for the greater Windsor area including the communities of Tecumseh and LaSalle. A remote reservoir and pumping station provides a re-chlorination facility (using sodium hypochlorite) to provide system pressure and flow to the southwest portion of the system, while a centrally located water tower provides pressure and flow control to the downtown core.

The drinking water system is monitored at various locations, both at the water treatment and pumping stations as well as throughout the transmission system via a Supervisory Control and Data Acquisition (SCADA) system.

**List all water treatment chemicals used over this reporting period**

Chlorine gas, Sodium Hypochlorite, Carbon dioxide (CO<sub>2</sub>), Ozone (generated on-site using liquid oxygen), Calcium Thiosulfate (ozone quench agent), Polyaluminum chloride (PaCl), Filter aid cationic polymer and phosphoric acid (corrosion control agent).

**Were any significant expenses incurred to?**

- Install required equipment
- Repair required equipment
- Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred:**

Installed 133 new public-use fire hydrants through capital projects.

Removed 134 existing public-use fire hydrants through capital projects.

Installed 18.7 km of watermain <400 mm through capital projects.

**Reservoir “D” Rehabilitation**

Rehabilitation engineering work started for construction in 2021. The refurbishment of Reservoir “D” will provide important additional disinfection, storage and redundancy for the



drinking water system. The redundancy allows for reservoir maintenance to occur without affecting treatment quality and supply. Approximate capital expenditure \$139,000.

**Filter Bed Rehabilitation – Filters #7 and Filter #8**

ENWIN continues to rehabilitate the original multi-media filters at the A.H. Weeks WTP. The old plastic underdrain system was removed, the filter beds and walls were coated to protect the concrete. New stainless steel underdrains are scheduled to be installed and new anthracite and sand filter media will be placed into the bed in early 2021. The new underdrain system and media will increase the overall filter performance. Approximate capital expenditure \$786,000

**Fluoride Implementation – Pipe Loop Study**

ENWIN is conducting a fluoride pipe loop study utilizing the existing pipe loop study at the A H Weeks WTP. The study hopes to determine possible interference, if any, with the effectiveness of the existing Corrosion Control Plan. The study will facilitate the dosage optimization, prior to large scale implementation. Lead service lines were harvested from the distribution system and installed into the existing pipe loop and are dosed with hydrofluorosilic acid solution similar to the dosage rate that will be implemented into the distribution system. The study will be on-going for approximately 10 months. Approximate cost \$164,000.

**A.J Brian and J.F. Cook Fuel System Upgrades**

ENWIN removed the existing below grade diesel fuel tanks at both the A.J. Brian and J.F. Cook facilities and installed a new fuel system at J. F. Cook. The new system, replacing the existing outdated fuel system, and it’s safety measures provides compliance with the current TSSA regulation and MECP recommendations. Approximate cost \$168,000.

**SCADA Network Upgrade**

ENWIN engaged the service of Rockwell for the design and implementation of an upgraded SCADA Network at the A.H. Weeks WTP. The project will update and improve the current SCADA network infrastructure adding increased security measures in line with current industry best practice. The design for the network upgrade was conducted in 2020 with implementation scheduled for 2021. Approximate capital expenditure \$143,000

**Feeder valve replacement**

A 24-inch feeder main valve on College and California would not operate. ENWIN and its contractor drained the feeder main and replaced the valve.

**Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre**

<b>Incident Date</b>	<b>Parameter</b>	<b>Result</b>	<b>Unit of Measure</b>	<b>Corrective Action</b>	<b>Corrective Action Date</b>
March 10, 2020	AWQI#149724 Lead test	10.7	µg/L	Flushed and re-sample initial location,	March 17, 2020

	exceedance of 10.7 micrograms per L at a fire hydrant at 963 Parent Ave., Windsor			upstream and downstream from the initial location	
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**Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.**

	Number of Samples	Range of E.Coli (min#)-(max#)	Range of Total Coliform (min#)-(max#)	Number of HPC Samples	Range of HPC (min#)-(max#)
Raw	255	0 - 600	0 - > 2000	255	5 - > 2000
Treated	2093	0 - 0	0 - 0	1698	<10 - 30
Distribution	1870	0 - 0	0 - 0	924	<10 - 20

**Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.**

	Number of Samples	Range of Results (min#)-(max#)	Unit of Measure
Turbidity	365	0.02 – 0.13	NTU
Chlorine	365	1.47 – 1.58	mg/L

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Running Annual Average Result	Unit of Measure
MDWL 025-101	Bromate - Treated	1-Jan-20 to 31-Dec-20	0.004	mg/L
MDWL 025-101	Bromate - Distribution	1-Jan-20 to 31-Dec-20	0.004	mg/L

\* Reported as Running Annual Average (RAA)

**Summary of Inorganic parameters tested during this reporting period or the most recent sample results.**

Parameter	Sample Date	Result Value	Unit of Measure	Exceedence
Antimony	October 14, 2020	0.00014	mg/L	NO
Arsenic	October 14, 2020	0.0004	mg/L	NO
Barium	October 14, 2020	0.0155	mg/L	NO
Boron	October 14, 2020	0.014	mg/L	NO
Cadmium	October 14, 2020	0.000003 <MDL	mg/L	NO
Chromium	October 14, 2020	0.00014	mg/L	NO
*Lead	October 14, 2020	0.00001 <MDL	mg/L	NO
Mercury	October 14, 2020	0.00001 <MDL	mg/L	NO

Selenium	October 14, 2020	0.00012	mg/L	NO
Sodium	January 8, 2020	7.33	mg/L	NO
Uranium	October 14, 2020	0.000068	mg/L	NO
Fluoride	January 8, 2020	0.10	mg/L	NO
Nitrite	October 14, 2020	0.003 <MDL	mg/L	NO
Nitrate	October 14, 2020	0.226	mg/L	NO

#### Summary of lead testing under Schedule 15.1 during this reporting period

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#)-(max#)	Unit of Measure	Number of Exceedances
Plumbing	68	0.01 – 8.54	µg/L	0
Distribution	55	0.01 - 20	µg/L	1

#### Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedence
Alachlor	October 14, 2020	0.00002 <MDL	mg/L	NO
Atrazine + N-dealkylated metabolites	October 14, 2020	0.00002	mg/L	NO
Azinphos-methyl	October 14, 2020	0.00005 <MDL	mg/L	NO
Benzene	October 14, 2020	0.00032 <MDL	mg/L	NO
Benzo(a)pyrene	October 14, 2020	0.000004 <MDL	mg/L	NO
Bromoxynil	October 14, 2020	0.00033 <MDL	mg/L	NO
Carbaryl	October 14, 2020	0.00005 <MDL	mg/L	NO
Carbofuran	October 14, 2020	0.00001 <MDL	mg/L	NO
Carbon Tetrachloride	October 14, 2020	0.00017 <MDL	mg/L	NO
Chlorpyrifos	October 14, 2020	0.00002 <MDL	mg/L	NO
Diazinon	October 14, 2020	0.00002 <MDL	mg/L	NO
Dicamba	October 14, 2020	0.00020 <MDL	mg/L	NO
1,2-Dichlorobenzene	October 14, 2020	0.00041 <MDL	mg/L	NO
1,4Dichlorobenzene	October 14, 2020	0.00036 <MDL	mg/L	NO
1,2-Dichloroethane	October 14, 2020	0.00035 <MDL	mg/L	NO
1,1-Dichloroethylene (vinylidene chloride)	October 14, 2020	0.00033 <MDL	mg/L	NO
Dichloromethane	October 14, 2020	0.00035 <MDL	mg/L	NO
2,4-Dichlorophenol	October 14, 2020	0.00015 <MDL	mg/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	October 14, 2020	0.00019 <MDL	mg/L	NO



Diclofop-methyl	October 14, 2020	0.0004 <MDL	mg/L	NO
Dimethoate	October 14, 2020	0.00006 <MDL	mg/L	NO
Diquat	October 14, 2020	0.001 <MDL	mg/L	NO
Diuron	October 14, 2020	0.00003 <MDL	mg/L	NO
Glyphosate	October 14, 2020	0.001 <MDL	mg/L	NO
Haloacetic Acids (HAA5) (Note: show latest running annual average)		Avg.		
Q1 2020 = <0.0053 mg/L	January 8, 2020	<0.0053	mg/L	NO
Q2 2020 = <0.0053 mg/L	April 8, 2020			
Q3 2020 = <0.0053 mg/L	July 8, 2020			
Q4 2020 = <0.0053 mg/L	October 14, 2020			
Malathion	October 14, 2020	0.00002 <MDL	mg/L	NO
MCPA	October 14, 2020	0.00012 <MDL	mg/L	NO
Metolachlor	October 14, 2020	0.00001 <MDL	mg/L	NO
Metribuzin	October 14, 2020	0.00002 <MDL	mg/L	NO
Monochlorobenzene	October 14, 2020	0.0003 <MDL	mg/L	NO
Paraquat	October 14, 2020	0.001 <MDL	mg/L	NO
Pentachlorophenol	October 14, 2020	0.00015 <MDL	mg/L	NO
Phorate	October 14, 2020	0.00001 <MDL	mg/L	NO
Picloram	October 14, 2020	0.001 <MDL	mg/L	NO
Polychlorinated Biphenyls (PCB)	October 14, 2020	0.00004 <MDL	mg/L	NO
Prometryne	October 14, 2020	0.00003 <MDL	mg/L	NO
Simazine	October 14, 2020	0.00001 <MDL	mg/L	NO
THM (Note: show latest running annual average)		Avg.		
Q1 2020 = 0.0073 mg/L	January 8, 2020	0.0123	mg/L	NO
Q2 2020 = 0.011 mg/L	April 8, 2020			
Q3 2020 = 0.017 mg/L	July 8, 2020			
Q4 2020 = 0.014 mg/L	October 14, 2020			
Terbofos	October 14, 2020	0.00001 <MDL	mg/L	NO
Tetrachlorethylene	October 14, 2020	0.00035 <MDL	mg/L	NO
2,3,4,6-Tetrachlorophenol	October 14, 2020	0.00020 <MDL	mg/L	NO
Triallate	October 14, 2020	0.00001 <MDL	mg/L	NO
Trichloroethylene	October 14, 2020	0.00044 <MDL	mg/L	NO
2,4,6-Trichlorophenol	October 14, 2020	0.00025 <MDL	mg/L	NO
Trifluralin	October 14, 2020	0.00002 <MDL	mg/L	NO
Vinyl Chloride	October 14, 2020	0.00017 <MDL	mg/L	NO



## **Ontario Drinking-Water Systems Regulation O. Reg. 170/03**

**List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.**

No Inorganic or Organic parameter(s) exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standard.