



*Lake Huron*  
Primary Water Supply System

## 2016 COMPLIANCE REPORT



### CONTACT INFO:

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c/o City of London, Regional Water Supply Division  
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#### **Operating Authority:**

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# PROFILE

## WHO WE ARE

The Lake Huron Primary Water Supply System Board of Management owns and governs the drinking water system. The Board of Management is made up of members appointed from each of the eight member municipalities that are currently supplied with water from the Lake Huron Primary Water Supply System (LHPWSS). One of these member municipalities, the City of London, acts as the Administering Municipality. Accordingly, the City of London provides all associated administrative and management services on behalf of the Board. The Board of Management currently utilizes the services of an independent contracted Operating Authority.

The water system is operated and maintained by Ontario Clean Water Agency (OCWA) under contract to the Joint Board of Management.

**OPERATING AUTHORITY:**



### **Joint Board Member Municipalities**

City of London (*administering municipality*)  
Municipality of Bluewater  
Municipality of Lambton Shores  
Township of Lucan-Biddulph  
Municipality of Middlesex Centre  
Municipality of North Middlesex  
Municipality of South Huron  
Municipality of Strathroy-Caradoc

## WHAT WE DO

### Water Treatment & Supply

The Lake Huron Primary Water Supply System is responsible for the treatment and transmission of drinking water to eight (8) municipalities in southwestern Ontario. The population served by this system is approximately 375,000. Water is provided bulk wholesale to the municipalities who then distribute it to their customers.

The Lake Huron Water Treatment Plant (WTP) employs pre-chlorination, screening, powder activated carbon addition (seasonally on an as-required basis), coagulation, flocculation, sedimentation, dual-media filtration, post-chlorination, and sodium hydroxide addition to treat raw water obtained from Lake Huron. After the water is treated it is pumped from the WTP to various communities or to storage reservoirs. The drinking water system is monitored at various locations throughout the system via a Supervisory Control and Data Acquisition (SCADA) system.

#### Lake Huron Primary Water Supply System: Assets

- 1 water treatment plant
- 1 residual management facility
- 3 water pumping stations
- 3 in-ground storage reservoirs
- 8 monitoring stations
- 151 km of watermain



Figure 1: McGillivray Booster Pumping Station



Figure 2: Pumps at the Lake Huron Water Treatment Plant

## WHAT'S IMPORTANT

### Values of the Water System

The values of the Lake Huron Primary Water Supply System are the inherent beliefs or moral standards that generally reflect what the Lake Huron Primary Water Supply System Joint Board of Management stands for and believes in:

- **Sustainable** - be financially, environmentally, socially, and physically sustainable;
- **Inclusive** - provide access to bulk drinking water for current and prospective members, in accordance with Board policy;
- **Fair and equitable** - balance the interests of individual members with the best interests of all members, as well as the needs of existing members with the needs of new members;
- **Vigilant** - ensure an adequate supply of safe and reasonably priced drinking water is available to members;
- **Innovative** - be receptive to and supportive of new ideas and opportunities for improvement;
- **Cooperative** – be supportive to the needs of the Lake Huron Primary Water Supply System;
- **Open and transparent** – conduct business in a manner that enables member municipalities and the public to review and provide input into major decisions as appropriate;
- **Public Ownership** – retain ownership of the water system in public hands.

## LAKE HURON PRIMARY WATER SUPPLY SYSTEM: AT A GLANCE

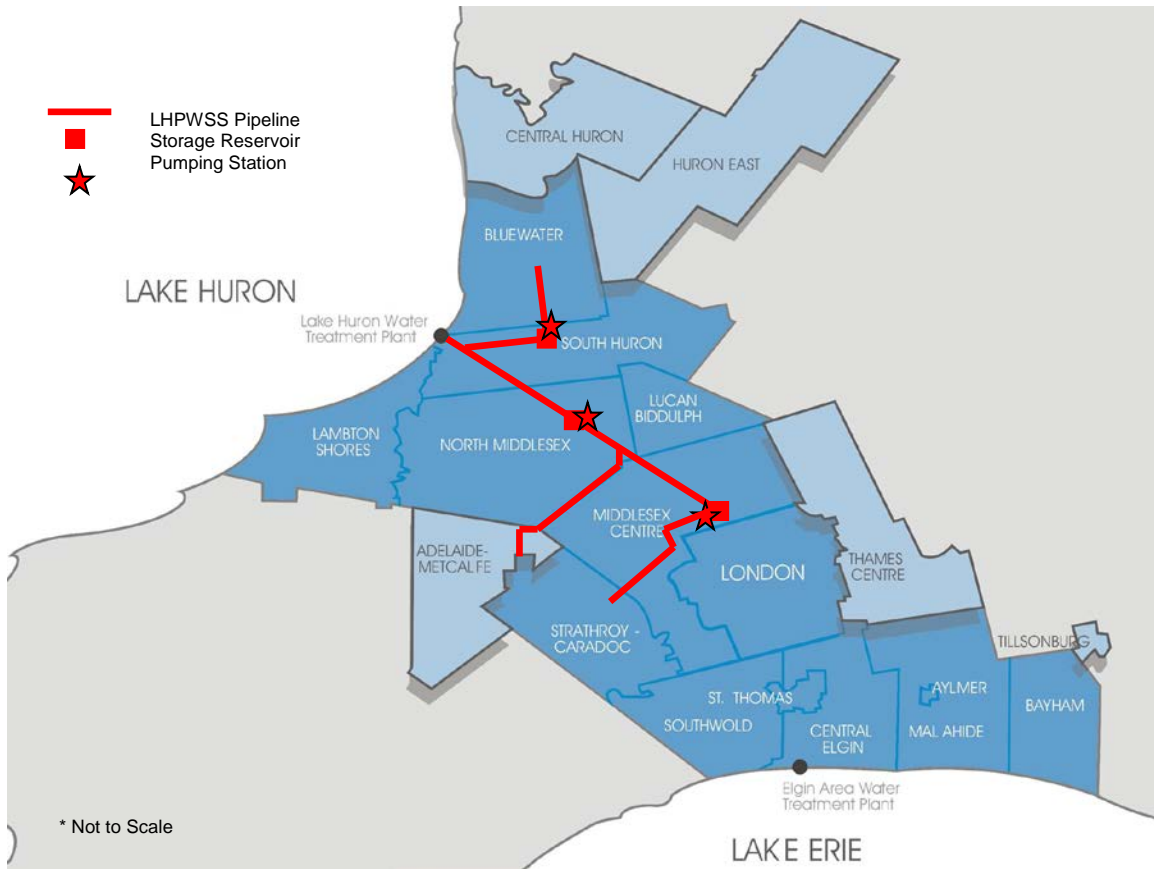


Figure 3: Lake Huron Primary Water Supply System Major Infrastructure Locations



## THE WATER TREATMENT PROCESS

The following figure provides a general overview of the conventional water treatment process. The processes outlined below are very similar to the treatment at the Lake Huron Water Treatment Plant, although they are not an exact representation. Some details may vary. Step 9 (fluoridation) does not take place at the Lake Huron Water Treatment Plant.

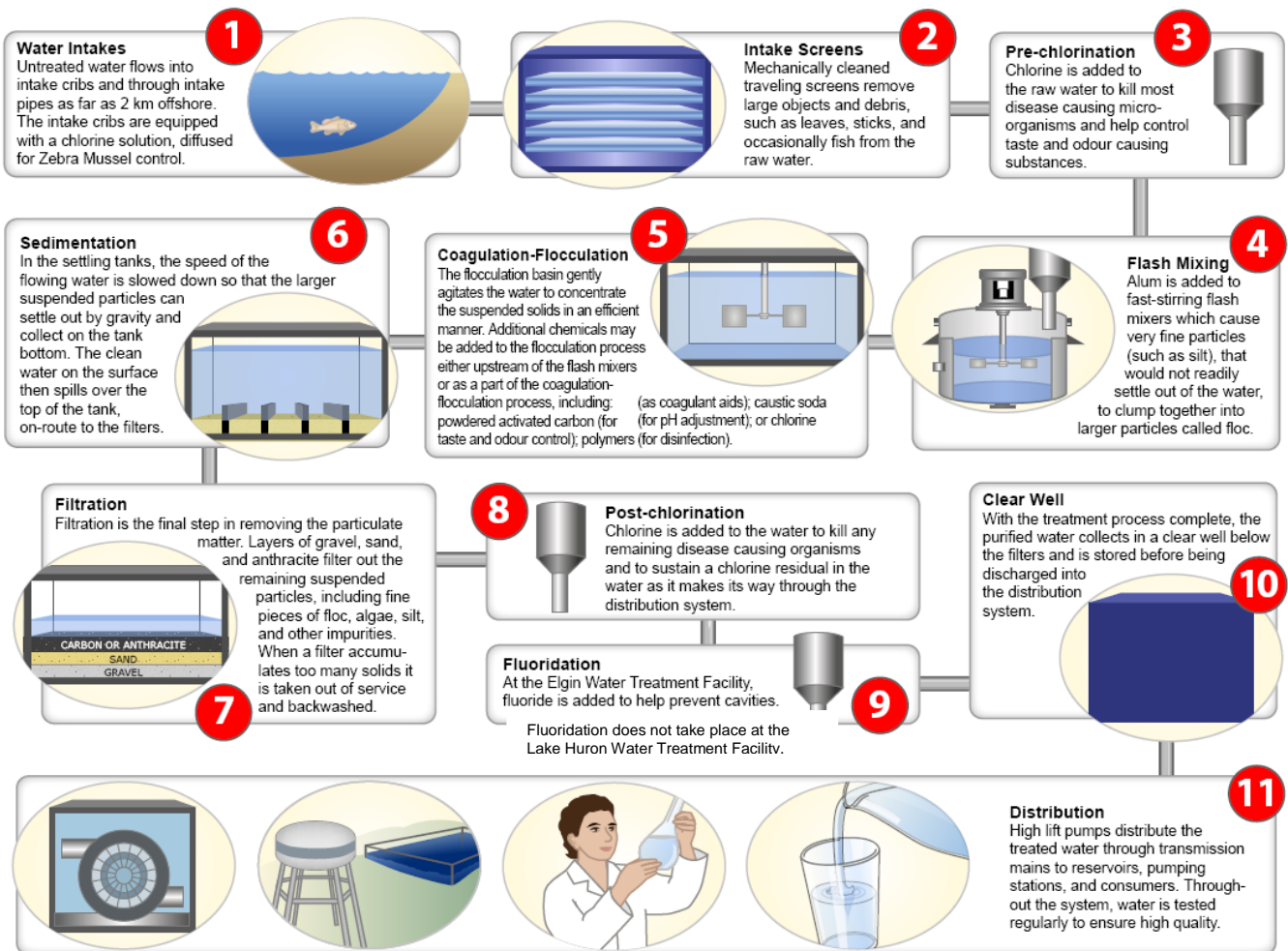


Figure 4: Overview of the Water Treatment Process

## **2016 HIGHLIGHTS**

### **ALGAL TOXINS MONITORING PROGRAM**

For several years, the Ministry of the Environment and Climate Change (MOECC) has conducted a special algal toxins monitoring program through their Drinking Water Surveillance Program (DWSP). Samples of raw source water and treated drinking are collected weekly from various drinking water systems throughout the province. The purpose of the research study is to determine the levels of microcystins and Anatoxin-a in drinking water.

Historically, Lake Erie has experienced severe blue-green algae (cyanobacteria) blooms. Several drinking water systems that draw water from Lake Erie, including the Elgin Area Primary Water Supply System (EAPWSS), participate annually in the algal toxins monitoring program. In 2016, the MOECC extended their monitoring program to include several sites on Lake Huron, including the LHPWSS.

Participation in the study took place over a six month period, June through November. A total of 25 samples of both raw and treated water were submitted to the MOECC laboratory for analysis. Of these samples, there were no detectable results for microcystins (total) in either the raw or treated water.

### **ASSET MANAGEMENT PLAN**

The Asset Management Plan (AMP) update for the LHPWSS was awarded on December 3, 2015 to CH2M. The AMP progressed to the next tier of asset management through the incorporation of the customer level of service framework, risk mitigation framework, condition assessment and evaluation, as well as the Master Water Plan which was finalized in September 2015. The update provided accurate valuation of the assets for the Financial Plan update being undertaken concurrently, such that appropriate funding of maintenance and repair activities is in place, infrastructure life is maximized and additional costs of premature replacement are avoided. The update moved beyond the strategic level of asset management such that assets may be assessed at a tactical level.

The updated Asset Management Plan for the LHPWSS was finalized and endorsed at the October 6, 2016 Board Meeting. The final AMP report is [available online](#).

### **FINANCIAL PLAN**

The Financial Plan update for the LHPWSS was awarded on December 3, 2015 to Watson & Associates Economists Ltd. The project reviewed the pressures and challenges currently facing the systems and the solutions implemented through the previous 2007 Strategic Financial Plan. It updated all facets of the previous financial plan and considered tools to meet the challenges facing the Board based on the financial components in place and the findings and recommendations of studies completed or underway.



The update to the Financial Plan was undertaken to ensure that funds are available to meet required needs of the regional water system in a timely and planned way well into the future. It reviewed the policies, directions, and specific actions that are designed to be inclusive, fair, and equitable and renewed them to address current and anticipated pressures and opportunities facing the Board as detailed in recent and ongoing studies.

The update assists the Board in continuing to accomplish a number of key goals including continuing to move toward full lifecycle replacement funding structure and ensuring the ability to replace infrastructure at the end of its useful life. It also ensures compliance with Provincial legislation and continues to place the Board in very strong and robust financial position.

The updated Financial Plan confirms that the Board continues to move to appropriate funding of maintenance and repair activities, ensuring that infrastructure life is maximized and avoid the additional costs of premature replacement. It also considered the status of the reserve funds to ensure that they continue to remain strong in order to stabilize rates and minimize use of debt by accessing the Board reserves.

The updated Financial Plan for the LHPWSS was finalized and endorsed at the October 6, 2016 Board Meeting. The Financial Plan is [available online](#).

# **2016 CAPITAL PROJECT HIGHLIGHTS**

## **ELECTRICAL UPGRADE**

In March 2013, the Board awarded an engineering assignment to Stantec Consulting Ltd. for the 4kv & 600v electrical systems upgrade and the auto-tap transformer replacement project.

The project entails replacing the two primary 115/4kV transformers, updating the existing high voltage substation, the low lift 4kV switchgear, and all of the 600V motor control center (MCC) distribution gear.

In March 2016, the tender was awarded to Selectra Inc. Construction began in April 2016 with an estimated one year construction period.



*Figure 5a: Installation of a new MCC in the Low Lift Electrical Room.*



*Figure 5b: Construction of a new emergency power MCC in the Low Lift Electrical Room.*



*Figure 5c: New networking communications panel, located in the High Lift Electrical Room.*



*Figure 5d: New transformers in the High Lift Electrical Room, installation pending.*

## **FILTER REBUILDS**

In 2013, the Board approved the filter rebuild project (multi-year project). The twelve (12) dual-media filters used at the water treatment plant were originally constructed in the mid-1960's and have not been replaced. All filters were showing signs of deterioration due to age. The purpose of the project is to replace the media within the filter boxes, repair filter blocks where required, perform concrete crack repair, filter surface wash rehabilitation, and filter back wash valve rebuilds. The filter media will be replaced in two filters per year, over a six year program.

In 2016, the filter media was replaced in two filters. Through this program, the media has now been replaced in a total of four of the twelve filters. Two more filters are scheduled for rebuild in 2017.

## **2016 FLOW SUMMARY**

As per the water system's current Permit To Take Water (PTTW), the amount of raw water taken into the Lake Huron Water Treatment Plant cannot exceed 454.98 million litres/day or 315,960 litres/minute. This converts to 5266 litres/second.

The water taking PTTW for 2016 was # 4725-87SS3J.

As per the water system's current Municipal Drinking Water License, the rated capacity of the Water Treatment Plant is 340.0 million litres/day, which converts to 3935 litres/second. The maximum daily volume of treated water that flows from the treatment plant into the distribution system shall not exceed this value.

The following table contains a flow summary, with comparison to the system's rated capacity and permit limits in order to assess the capability of the system to meet existing and planned uses.

	Total Daily Flow (ML/day)	Total Daily Flow (% of Capacity)	Daily Instantaneous Peak Flow (L/s)
Permit To Take Water (PTTW) – permitted raw water taking amount	454.98	100%	5266
Raw Water Flow – Average Day	128.4	28.22%	2636
Raw Water Flow – Max. Day	198.8	43.69%	3862
Water Treatment Plant Rated Capacity	340.0	100%	3935
Treated Water Flow – Average Day	122.3	35.97%	2188
Treated Water Flow – Max. Day	192.3	56.56%	3691

A complete flow summary for the Lake Huron Primary Water Supply System can be found in Appendix A.

The majority of the volume of treated drinking water from the LHPWSS is used by the City of London. As shown in Figure 7, London takes approximately 84.4% of the volume, with the other seven municipalities using the remaining 15.6%.

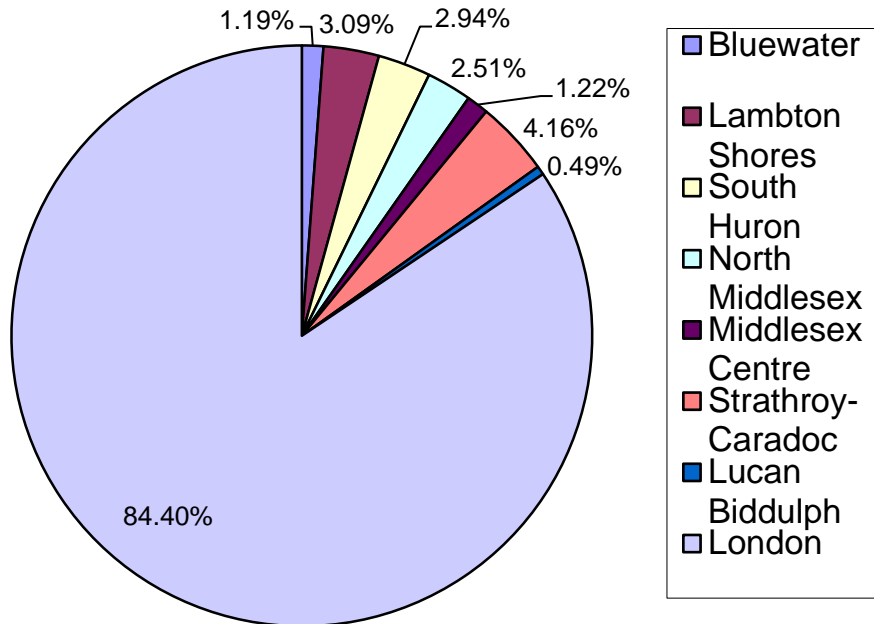


Figure 6: 2016 Treated Water Volume per Municipality

## **2016 CHEMICAL CONSUMPTION**

A variety of water treatment chemicals are used at the Lake Huron Water Treatment Plant or remote sites to ensure safe, clean drinking water. The following table outlines the chemicals most frequently used for the Lake Huron Primary Water Supply System. As part of the system's registered ISO14001 Environmental Management System, objectives and targets are currently in place to optimize chemical usage.

Chemical	Used for	Total Amount Used in 2016
Aluminum sulphate	Coagulation	1,063,786 kg
Powdered activated carbon	Taste and odour control (seasonally)	35,360 kg
Chlorine gas	Zebra mussel control (seasonally)	22,226 kg
Chlorine gas	Primary disinfection	75,893 kg
Sodium hydroxide	pH adjustment for corrosion control	610,131 L
Sodium hypochlorite	Secondary disinfection	2,996 L
Polymer	Filter aid (used on an as-required basis)	Not available
	Residual Management Facility	22,573 L
Sodium Bisulphite	Residual Management Facility - dechlorination	63,863 L

# **2016 WATER QUALITY SUMMARY**

## **WATER QUALITY SAMPLING AND MONITORING**

The Lake Huron Primary Water Supply System (LHPWSS) consistently provides treated drinking water with water quality above the standards required by provincial regulation. Where desirable, the LHPWSS standards are more stringent than what is required by regulation. For example, the target at the Lake Huron Water Treatment Plant for treated water turbidity (a measure of the cloudiness of water) is 10 times more stringent than the provincial standard. The LHPWSS is practicing continual improvement to ensure that high drinking water standards are maintained and enhanced where possible.

All water quality sampling at the Lake Huron Primary Water Supply System (LHPWSS) is performed in accordance with the *Safe Drinking Water Act* and its associated regulations. All samples are collected by licensed operating authority personnel and are submitted to Canadian Association for Laboratory Accreditation (CALA)/Standards Council of Canada (SCC) accredited laboratories for both bacterial and chemical analysis.

In 2016, a total of 618 microbiological samples were collected from raw, treated and distribution system water, and were tested for E Coli, total coliforms and heterotrophic plate count (HPC). There were no incidents of adverse microbiological test results in 2015.

Annual samples are collected and tested for inorganics (metals) and organics which include herbicides, pesticides and volatile organic parameters. Quarterly sampling is also conducted for trihalomethanes, haloacetic acids (a disinfection by-product), nitrates and nitrite.

In addition, the water treatment plant operator samples the raw, in-process and treated water six times per day and carries out a battery of physical and chemical tests for operational control.

As required by regulation, the LHPWSS also prepares an Annual Report which includes a summary of water quality test results and a maintenance report. The 2016 Annual Report can be found in Appendix B.

## **RESEARCH & PARTNERSHIPS**

The Lake Huron Primary Water Supply System acknowledges the importance of scientific research on water quality and the effects on human health. The LHPWSS has partnered with the Natural Sciences and Engineering Research Council (NSERC) Chair in Drinking Water Research at the University of Waterloo and University of Toronto to pursue research opportunities, and is a member of the Water Research Foundation (WRF). In addition, the LHPWSS continues to evaluate and conduct specific research on the efficacy of the existing treatment processes, optimizing and improving treatment systems, and evaluating the potential and need of more advanced treatment alternatives. The LHPWSS also participates in the Ministry of the Environment's Drinking Water Surveillance Program (DWSP) and intake monitoring studies.



# **MINISTRY OF THE ENVIRONMENT AND CLIMATE CHANGE INSPECTION**

## **ANNUAL INSPECTION**

The Ontario Ministry of the Environment and Climate Change (MOECC) conducts an inspection of the Lake Huron Primary Water Supply System annually. A MOECC inspection took place in July 2016. The final inspection report was issued on September 26, 2016. A total of zero (0) non-compliance was identified in the inspection report. The final inspection rating received for the 2016-2017 reporting year was 100.00%.



*Lake Huron*  
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**APPENDIX A – 2016 FLOW SUMMARY**

## APPENDIX A – 2016 FLOW SUMMARY

### 1. RAW WATER INTAKE – FLOW (ML/DAY)

MONTH	January ML	February ML	March ML	April ML	May ML	June ML	July ML	August ML	September ML	October ML	November ML	December ML	
DAY													
1	95.64	112.14	105.80	114.32	124.63	156.88	188.13	123.80	145.19	126.65	111.80	102.48	
2	101.88	99.43	107.32	113.05	115.27	162.81	142.75	137.49	141.97	128.22	118.58	102.98	
3	103.56	118.53	107.73	104.99	111.47	147.19	157.37	155.33	150.37	130.61	119.85	114.41	
4	114.07	117.47	104.91	118.25	118.04	186.10	146.69	158.35	137.44	134.12	125.20	139.28	
5	117.60	103.15	107.00	111.96	120.29	141.63	191.59	160.61	138.47	126.63	110.86	102.43	
6	119.50	111.16	111.14	113.68	127.69	120.75	180.49	161.66	150.63	126.90	117.27	131.13	
7	111.53	111.01	110.71	107.71	126.16	129.92	186.58	168.30	158.14	133.74	120.02	119.92	
8	111.66	114.62	111.52	105.52	117.63	125.25	162.59	145.64	143.10	138.28	111.27	134.56	
9	102.54	103.63	111.48	117.37	126.70	129.32	160.30	163.60	134.08	117.93	114.96	102.42	
10	112.47	99.80	107.10	121.72	123.40	134.35	138.13	167.62	149.99	109.62	118.72	131.50	
11	119.39	102.12	110.55	110.24	122.21	138.07	150.56	183.47	143.90	127.43	112.16	104.04	
12	132.64	132.69	109.43	105.77	124.46	183.62	139.86	159.51	144.47	117.21	113.19	133.23	
13	117.53	97.65	107.38	120.85	132.86	131.75	198.00	136.71	135.03	129.46	114.97	117.25	
14	122.70	106.61	115.05	122.82	124.33	172.27	187.01	145.33	147.39	129.91	119.31	135.73	
15	105.60	102.43	102.35	109.40	102.30	137.43	141.28	141.96	135.11	122.27	122.46	142.65	
16	111.58	111.03	106.16	114.39	115.18	149.71	139.73	150.82	157.23	120.08	116.67	116.86	
17	119.02	103.67	102.63	124.95	117.53	138.53	142.06	147.51	146.28	119.95	114.77	125.45	
18	112.14	103.28	106.31	111.05	123.65	158.07	148.37	143.60	138.23	125.63	103.64	102.31	
19	120.25	106.58	110.19	109.83	122.42	172.57	160.60	144.56	139.97	129.93	117.50	167.69	
20	113.63	112.46	108.04	137.01	140.24	162.64	159.34	144.11	134.73	127.90	113.67	106.39	
21	113.28	113.83	119.41	122.44	139.71	184.74	198.77	144.69	143.50	129.02	114.50	114.44	
22	113.91	113.77	105.37	106.84	126.24	170.51	158.77	133.99	143.32	131.77	112.63	130.50	
23	113.00	103.30	102.81	113.44	131.72	183.08	167.73	147.52	139.54	121.67	103.47	102.43	
24	117.39	109.76	68.61	117.78	131.00	179.43	161.99	140.43	163.73	114.65	103.48	102.82	
25	117.19	108.50	129.38	112.74	156.63	184.28	153.19	145.13	137.96	116.48	112.03	102.33	
26	110.76	103.72	103.91	109.28	159.50	180.48	149.12	136.31	120.52	127.56	122.67	120.21	
27	111.34	111.88	103.83	111.57	155.10	173.13	179.19	146.85	129.10	133.00	102.68	101.24	
28	102.88	108.32	104.16	119.65	160.89	155.89	177.44	128.92	130.25	119.93	102.38	101.99	
29	109.82	117.48	114.88	121.40	187.21	146.53	173.20	136.03	134.87	118.43	124.12	130.04	
30	106.28		92.98	124.63	177.05	132.28	149.16	146.61	136.38	114.24	102.23	103.43	
31	118.07		120.62		131.74		135.78	148.38		122.24		102.69	
<b>Total</b>	3498.9	3160.0	3328.8	3454.7	4093.3	4669.2	5025.8	4594.8	4250.9	3871.5	3417.1	3644.8	47009.6
<b>Minimum</b>	95.6	97.7	68.6	105.0	102.3	120.8	135.8	123.8	120.5	109.6	102.2	101.2	68.6
<b>Maximum</b>	132.6	132.7	129.4	137.0	187.2	186.1	198.8	183.5	163.7	138.3	125.2	167.7	198.8
<b>Average</b>	112.9	109.0	107.4	115.2	132.0	155.6	162.1	148.2	141.7	124.9	113.9	117.6	128.4

Note: (i) As per the water system's current Permit To Take Water (PTTW), the amount of raw water taken into the Lake Huron Water Treatment Plant cannot exceed 454.98 million litres/day.

## APPENDIX A – 2016 FLOW SUMMARY

### 2. RAW INSTANTANEOUS PEAK FLOW (L/s)

MONTH DAY	January L/s	February L/s	March L/s	April L/s	May L/s	June L/s	July L/s	August L/s	September L/s	October L/s	November L/s	December L/s	
1	2129.28	2128.47	1493.75	2279.63	2244.68	3854.17	2968.06	2891.20	2964.58	2872.80	2871.18	1968.63	
2	2128.47	2201.85	2138.08	2959.38	2156.48	3790.28	2912.27	3104.40	3020.49	2129.28	2125.81	1978.24	
3	1976.39	2146.88	2893.87	2964.58	2186.11	3748.38	3009.26	3295.72	2857.18	2889.58	2882.52	2104.86	
4	2150.35	2869.33	2138.08	1988.77	2148.61	2942.01	2906.13	3035.30	2918.40	3013.54	3028.47	2875.46	
5	2145.02	2207.99	2192.25	1995.72	2187.96	2899.07	3104.51	3009.26	2882.52	3028.36	2927.89	1966.90	
6	2145.14	2956.83	1966.90	2921.76	2888.66	2301.50	3095.60	2977.78	2934.95	3089.58	2924.42	2900.00	
7	2182.64	2185.30	3001.39	2200.12	2906.13	2917.48	3070.25	3016.20	2954.17	3845.25	2913.08	2255.09	
8	2117.13	2178.24	2236.00	2802.08	2988.19	2928.82	3052.89	2905.21	2904.40	2873.84	2133.68	2934.95	
9	1966.78	2104.17	3022.22	3006.60	2902.66	2923.50	3105.32	3035.42	3851.39	2947.22	2971.64	1954.63	
10	2982.99	2125.81	2852.78	2927.08	2937.50	3100.12	3113.19	3001.27	2883.33	2964.58	2215.86	2929.63	
11	2152.08	1979.05	2160.76	2925.35	2251.74	2983.91	3039.81	3266.09	2148.61	2869.44	2111.92	2280.56	
12	2880.79	2857.18	2153.94	2991.78	2182.64	3112.27	3067.82	3721.18	2916.67	2967.25	2914.81	2920.95	
13	2285.76	2130.32	2881.71	2991.78	2212.38	2989.93	3016.20	3092.25	3100.93	2933.22	2126.74	1945.83	
14	2123.26	2118.06	2137.15	2928.94	2996.99	3069.44	3163.08	2982.18	2955.09	2926.27	2951.50	1932.75	
15	2105.79	1957.29	2070.02	2117.94	2193.17	2934.14	3049.42	2995.25	2263.08	2865.97	3072.11	1925.81	
16	2159.14	2159.95	1967.82	2878.13	2294.44	2940.97	3049.42	2969.91	2205.32	2873.73	2945.37	1940.63	
17	2148.61	2105.79	2832.64	2225.46	2152.08	2963.77	3067.82	2961.92	2977.78	2985.53	2220.25	2258.68	
18	2264.81	1970.37	2145.95	3016.20	2296.30	3051.16	3003.13	2957.64	2981.25	2926.16	2978.59	1951.16	
19	2519.91	1954.63	2135.53	3015.28	2207.18	3110.53	3019.68	2972.92	2952.43	2941.90	2157.29	2945.37	
20	2130.32	2891.20	2179.17	3042.48	2897.34	3245.14	2976.85	2979.51	2903.47	3023.15	2866.78	2936.69	
21	2896.41	2285.76	2135.53	2961.11	3059.84	3861.92	3041.55	2844.10	1917.94	2928.94	2135.53	2855.44	
22	2253.36	2141.55	2875.58	2126.74	2891.20	2942.82	2989.12	3093.06	1909.26	2960.30	2120.60	2851.85	
23	2922.69	1957.29	2114.58	2164.35	2892.13	2948.84	3005.67	3014.35	1613.89	2121.53	1953.70	1950.23	
24	2108.45	2133.68	2881.71	2163.54	2154.75	3032.41	3210.19	3063.43	3011.00	2111.92	1955.44	1954.63	
25	2214.12	1969.44	2892.13	2192.25	3001.27	2898.26	3028.47	3055.56	2982.18	2972.45	2153.01	1950.23	
26	2156.48	1168.29	1978.24	2162.62	2994.44	3037.15	3122.69	2988.19	2880.79	2913.19	2153.94	2833.56	
27	2141.55	2136.34	1976.50	2222.92	3149.88	2984.72	3002.20	3009.14	2917.48	3003.13	1964.24	1945.95	
28	1977.31	2114.47	1990.51	2181.71	3038.89	2251.74	3023.15	2960.30	3017.01	2892.94	1947.57	2157.29	
29	2104.86	2461.34	2160.76	2198.38	3068.63	3079.98	3011.69	2947.22	2906.94	2878.13	2851.97	2853.59	
30	2118.98		2884.26	2244.68	3764.12	3024.88	3022.22	3003.94	2923.61	3005.67	1947.69	1957.29	
31	2183.56		2260.42		3493.52		2965.63	2984.72		2856.25		1940.63	
<b>Minimum</b>	1,967	1,168	1,494	1,989	2,149	2,252	2,906	2,844	1,614	2,112	1,948	1,926	1,168
<b>Maximum</b>	2,983	2,957	3,022	3,042	3,764	3,862	3,210	3,721	3,851	3,845	3,072	2,945	3,862
<b>Average</b>	2,251	2,193	2,347	2,560	2,669	3,062	3,039	3,037	2,789	2,891	2,484	2,328	2,639

Note: (i) As per the water system's current Permit To Take Water (PTTW), the amount of raw water taken into the Lake Huron Water Treatment Plant cannot exceed 454.98 million litres/day. This converts to 5266 litres/second.

## APPENDIX A – 2016 FLOW SUMMARY

### 3. TREATED WATER FLOW (ML/DAY)

MONTH	January	February	March	April	May	June	July	August	September	October	November	December	
DAY	ML	ML	ML	ML	ML	ML	ML	ML	ML	ML	ML	ML	
1	90.56	107.41	100.50	110.21	119.51	152.57	181.66	117.52	138.40	121.38	105.37	95.47	
2	97.69	94.05	102.88	107.24	109.46	155.87	136.96	131.01	132.71	120.10	111.99	96.05	
3	98.50	114.31	102.79	101.16	105.30	142.31	151.65	145.99	143.12	124.59	113.87	107.84	
4	109.38	112.86	100.06	111.87	112.73	182.19	141.87	152.09	130.95	127.87	117.76	133.32	
5	112.92	97.42	102.27	106.96	115.63	136.14	184.96	153.26	131.24	119.02	104.47	95.96	
6	114.09	107.31	106.09	109.67	121.24	116.18	170.26	153.15	144.27	121.18	111.11	124.37	
7	105.36	105.89	105.43	103.06	121.03	135.25	176.34	163.28	150.58	122.88	112.97	113.01	
8	106.82	109.21	106.80	98.70	113.17	118.92	154.97	136.75	137.30	131.96	105.10	128.35	
9	97.42	97.55	106.20	112.42	120.03	124.72	153.71	155.54	127.58	112.01	108.71	96.05	
10	108.41	95.75	101.23	116.86	117.32	129.36	129.42	157.54	141.69	102.80	112.20	125.74	
11	115.44	93.30	104.98	105.60	116.97	132.67	140.45	174.43	137.95	121.96	105.59	96.79	
12	125.82	127.31	105.32	100.02	118.47	180.41	131.51	150.19	137.24	110.11	106.68	124.7	
13	112.71	89.80	102.11	114.48	127.39	126.81	190.89	127.88	128.12	122.41	108.64	111.83	
14	118.55	102.74	110.27	117.60	119.15	167.92	181.32	134.90	140.14	124.06	113.00	129.09	
15	100.36	97.03	98.12	104.00	102.30	132.05	134.29	134.07	127.84	114.97	115.68	135.25	
16	107.03	102.71	101.04	109.30	109.76	145.52	132.60	141.58	146.24	115.02	110.62	103.42	
17	114.54	99.05	97.46	121.25	111.95	133.30	136.49	139.72	135.57	117.15	107.18	119.29	
18	106.26	97.85	101.81	105.14	118.49	153.47	148.37	136.29	128.05	117.98	97.06	95.6	
19	113.81	97.18	104.92	104.61	116.92	169.14	154.34	138.63	126.66	119.97	110.78	161.4	
20	109.04	108.62	102.56	131.29	135.20	154.06	153.64	135.65	129.79	120.94	107.43	99.45	
21	106.25	109.70	115.43	116.14	134.70	182.91	192.31	138.59	133.95	120.63	107.41	107.92	
22	108.35	105.78	101.04	101.30	121.05	163.64	150.12	124.40	133.00	124.34	105.86	123.92	
23	109.34	98.38	96.60	108.44	126.71	176.82	160.79	141.34	123.10	115.27	97.46	96.08	
24	112.17	104.68	65.50	113.08	125.57	173.43	155.14	132.90	154.25	107.23	97.01	96.87	
25	111.96	103.73	125.53	108.66	152.13	180.89	143.58	136.58	130.08	109.71	104.91	95.74	
26	106.65	98.39	98.50	103.69	154.71	170.86	143.06	129.74	113.94	121.11	116.51	114.26	
27	106.45	106.55	98.35	104.25	150.32	168.53	172.09	139.64	121.89	126.21	96.77	95.77	
28	98.05	103.95	98.91	114.49	156.24	150.87	171.54	121.40	123.71	113.50	95.92	95.46	
29	104.95	111.94	109.58	117.50	183.13	138.65	163.54	128.79	128.05	111.96	117.76	123.98	
30	101.66		88.38	119.51	171.89	128.84	139.13	139.19	130.22	106.89	95.07	95.89	
31	114.43		115.69		125.78		129.53	141.36		115.03		96.67	
<b>Total</b>	3345.0	3000.5	3176.4	3298.5	3934.3	4524.3	4806.5	4353.4	4007.6	3660.2	3220.9	3435.5	44763.1
<b>Minimum</b>	90.6	89.8	65.5	98.7	102.3	116.2	129.4	117.5	113.9	102.8	95.1	95.5	65.5
<b>Maximum</b>	125.8	127.3	125.5	131.3	183.1	182.9	192.3	174.4	154.3	132.0	117.8	161.4	192.3
<b>Average</b>	107.9	103.5	102.5	110.0	126.9	150.8	155.0	140.4	133.6	118.1	107.4	110.8	122.3

Note: (i) As per the water system's current Municipal Drinking Water Licence, the rated capacity of the Water Treatment Plant is 340.0 million litres/day. The maximum daily volume of treated water that flows from the treatment plant into the distribution system shall not exceed this value.

## APPENDIX A – 2016 FLOW SUMMARY

### 4. TREATED WATER INSTANTANEOUS PEAK FLOW (L/s)

MONTH	January L/s	February L/s	March L/s	April L/s	May L/s	June L/s	July L/s	August L/s	September L/s	October L/s	November L/s	December L/s	
DAY													
1	1163.43	2148.38	2028.70	2175.58	2176.62	3590.74	2221.88	2173.15	2662.27	2141.55	2067.13	1203.01	
2	1165.74	2072.69	2084.03	1971.06	2181.13	3679.86	2220.72	2217.25	2627.31	2151.85	2101.85	1142.01	
3	1271.76	2126.97	2224.19	2094.21	2239.93	3557.87	2690.51	2664.70	2223.03	2169.91	2114.47	2113.43	
4	2130.32	2129.17	2006.13	1980.09	2167.71	2207.18	2689.35	2655.56	2220.72	2173.26	2145.02	2126.97	
5	2102.08	2056.83	1986.92	1943.98	2238.77	2185.76	2354.05	2691.78	2186.81	2173.26	2630.67	1164.58	
6	2088.43	2313.31	2045.60	2231.94	2180.09	2149.54	2687.15	2692.82	2706.25	2649.77	2178.94	2168.75	
7	2105.56	2061.34	2136.00	2196.99	2191.32	2339.24	2697.34	2253.47	2706.25	2155.09	2150.69	2220.72	
8	2117.82	2145.83	2367.48	2233.10	2253.47	2174.31	2698.50	2663.43	2658.80	2176.62	2176.74	2209.26	
9	1164.58	2105.56	2125.81	2189.12	2215.16	2172.11	2675.93	2705.09	2235.30	2200.35	2642.01	1263.89	
10	2254.51	1218.75	2145.02	2167.59	2174.31	2198.15	2665.74	2731.02	2185.65	2107.64	2135.88	2191.20	
11	2145.02	1184.84	2073.84	2165.28	2141.67	2273.84	2686.00	3126.39	2209.38	2158.45	2129.28	2148.38	
12	2150.69	2139.35	2161.92	2220.72	2172.11	2264.70	2726.62	3126.39	2670.14	2181.02	2667.82	2194.79	
13	2142.82	2173.26	2090.74	2220.72	2125.69	2226.27	2729.98	2217.25	2668.98	2227.43	2156.37	1921.41	
14	2157.52	2161.92	2114.47	2247.69	2500.81	2253.47	2728.82	2201.50	2660.07	2190.16	2151.85	1973.38	
15	2145.02	1192.82	2047.80	2176.74	2131.48	2165.39	2691.78	2683.80	2219.44	2130.09	2158.56	1961.92	
16	2072.69	2086.23	2080.56	2152.89	2126.85	2164.24	2687.15	2680.44	2158.56	2124.77	2156.37	2125.69	
17	2140.63	2104.40	2114.70	2190.16	2180.09	2259.03	2172.11	2230.09	2246.64	2185.65	2151.85	2169.91	
18	2085.19	1184.84	2119.10	2138.31	2243.40	2132.64	2686.00	2264.70	2212.85	2190.16	2186.81	1170.14	
19	2143.87	1174.77	2115.74	2423.96	2177.78	2332.41	2688.19	1908.45	2163.08	2133.80	2122.57	2217.25	
20	2093.06	2246.53	2060.42	2472.57	2182.18	2219.56	2691.67	2270.37	2185.65	2617.13	2089.70	1848.03	
21	2223.96	2142.82	2192.36	2109.95	2239.93	3691.20	2691.67	2203.70	1955.32	2188.08	2124.65	2105.56	
22	2121.30	2097.57	2193.63	2109.95	2158.56	2186.81	2691.67	2680.32	1982.41	2219.56	2193.52	2149.54	
23	2095.37	1266.20	2118.98	2274.88	2154.05	2187.96	2688.31	2684.95	1426.16	2157.52	1320.37	1148.73	
24	2127.89	2146.18	2149.54	2141.67	2177.78	2141.20	2668.98	2675.93	2236.46	2121.30	1309.03	1290.97	
25	2109.95	1996.88	2161.92	2181.13	2332.52	2339.24	2734.49	2246.64	2169.91	2027.55	2092.01	1156.60	
26	2120.25	1174.77	1176.97	2113.43	2247.69	2203.82	2737.85	2268.17	2177.78	2247.80	2134.84	2107.75	
27	2109.95	2276.04	1163.43	2102.08	2242.13	2265.86	2736.69	2247.80	2217.25	2242.25	1195.02	1143.06	
28	1287.73	2115.63	1224.42	2169.91	2384.38	2202.66	2735.65	2306.60	2415.05	2177.78	1151.04	1139.70	
29	2133.80	2138.31	2120.14	2172.11	2236.46	2515.51	2693.87	2254.40	2612.62	2130.32	2125.69	2139.35	
30	2105.56		2091.90	2176.62	3527.55	2645.37	2684.95	2686.00	2636.34	2638.89	1138.54	1171.30	
31	2115.74		2031.02		3496.87		2220.72	2681.48		2186.81		1146.53	
<b>Total</b>	61,392	55,382	62,753	65,144	71,198	72,926	81,374	77,094	69,636	68,576	61,099	54,234	800,810
<b>Minimum</b>	1,163	1,175	1,163	1,944	2,126	2,133	2,172	1,908	1,426	2,028	1,139	1,140	1,139
<b>Maximum</b>	2,255	2,313	2,367	2,473	3,528	3,691	2,738	3,126	2,706	2,650	2,668	2,221	3,691
<b>Average</b>	1,980	1,910	2,024	2,171	2,297	2,431	2,625	2,487	2,321	2,212	2,037	1,749	2,188

Note: (i) As per the water system's current Municipal Drinking Water Licence, the rated capacity of the Water Treatment Plant is 340.0 million litres/day. This converts to 3935 litres/second. The maximum daily volume of treated water that flows from the treatment plant into the distribution system shall not exceed this value.



**APPENDIX B – 2016 ANNUAL REPORT**



<b>Drinking-Water System Number:</b>	210000791
<b>Drinking-Water System Name:</b>	<b>Lake Huron Primary Water Supply System</b>
<b>Drinking-Water System Owner:</b>	Lake Huron Primary Water Supply System Joint Board of Management
<b>Drinking-Water System Operating Authority:</b>	Ontario Clean Water Agency (OCWA)
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2016 through December 31, 2016

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [X] No [ ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px;"> <p>Lake Huron and Elgin Area Water Supply Systems c/o Regional Water Supply Division 235 North Centre Road, Suite 200 London, ON N5X 4E7 <a href="http://www.watersupply.london.ca">http://www.watersupply.london.ca</a></p> <p>Lake Huron Water Treatment Plant 71155 Bluewater Hwy., Grand Bend, ON</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b>  <div style="border: 1px solid black; padding: 2px; width: 100px; text-align: center;">N/A</div> </p> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b> <div style="border: 1px solid black; padding: 2px; width: 100px; text-align: center;">N/A</div></p> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></p>
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**List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

**Systems that receive their drinking water from the LHPWSS:**

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>
City of London	260004917
Municipality of Bluewater	260006542
Municipality of Lambton Shores (East Lambton Shores Water Distribution System)	260006568
Township of Lucan-Biddulph	260003071



Municipality of Middlesex Centre (Middlesex Centre Distribution System)	260004202
Municipality of North Middlesex	260006529
Municipality of Strathroy-Caradoc (Strathroy- Caradoc Distribution System)	260080106
Municipality of South Huron (South Huron Water Distribution System)	220001520

**Systems that may receive their drinking water from the LHPWSS:**

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>
Municipality of Lambton Shores (West Lambton Shores Distribution System) *Normally supplied by the Lambton Area Water Supply System (LAWSS) but a connection to the LHPWSS exists	260006581

**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  No

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

- Public access/notice via the web
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method News Release

**Describe your Drinking-Water System**

The Lake Huron Water Treatment Plant (WTP) employs pre-chlorination, screening, powder activated carbon addition (seasonally on an as-required basis), coagulation, flocculation, sedimentation, dual-media filtration, post-chlorination, and pH adjustment using sodium hydroxide to treat raw water obtained from Lake Huron. The WTP intake crib and raw water intake pipe have an estimated gross capacity of 454.6 Megalitres/day (MLD). The WTP rated capacity is 340.0 MLD.

A Residue Management Facility providing equalization, clarification, sludge thickening and dechlorination is also housed in the main complex where thickened sludge is dewatered by centrifuges and sludge cake is sent to the landfill for final disposal. Clarified and dechlorinated liquid streams are sent back to Lake Huron through the plant drain via the Diversion Chamber.

The distribution system is comprised of the McGillivray Booster Pumping Station and Reservoir, the Exeter-Hensall Booster Pumping Station and Reservoir, the Arva Terminal Reservoir, the Komoka-Mt. Brydges Booster Pumping Station (PS#4) and the associated interconnecting transmission water mains, which includes the primary, Strathroy, Exeter-Hensall, and Komoka-Mt. Brydges transmission water mains.

The drinking water system is monitored at various locations throughout the system via a Supervisory Control and Data Acquisition (SCADA) system.



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

Filter Aid Polymer (on an as-required basis)  
Aluminum Sulphate  
Powder Activated Carbon  
Chlorine Gas  
Sodium Hydroxide  
Sodium Hypochlorite (Exeter Hensall Pumping Station)  
Dewatering Polymer (Residuals Management Facility)  
Sodium Bisulphite (Residuals Management Facility)

**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**

**Capital Projects:**

- Instrumentation replacements
- Concrete crack injection
- Low lift surge valve replacement
- Clarifier instrument upgrades
- Grit pump replacement
- Meter replacement and upgrades
- Filter media rebuilds
- Vehicle security gate replacement
- SCADA security upgrades
- Residuals management facility HVAC
- Plant drain pipe replacement
- Site drainage improvements
- Easement maintenance
- Alum tempering/flushing system upgrade
- Pipeline chamber upgrades
- Chlorine injector replacement
- UPS battery replacement
- General control upgrades
- Pipeline marker signs installed
- Air compressor upgrades
- Pipeline CMMS project

**Maintenance Projects:**

- Residuals management facility - north equalization tank floc drain upgrade
- North B-Line chamber repair/rebuild
- Low lift #4 pump rebuild
- Filter backwash valve rebuild
- Plant security camera replacement

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

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
NA	NA	NA	NA	NA	NA

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 Results (CFU/100mL) (min #)-(max #)	Range of Total Coliform Results (CFU/100mL) (min #)-(max #)	Range of HPC Results (CFU/1mL) (min #)-(max #)
Raw Water	102	(0)-(<100)	(0)-(18,600)	(<10)-(>2,000)
Treated Water (WTP)	257	(0)-(0)	(0)-(0)	(<10)-(>2,000)
Distribution (McGillivray PS)	51	(0)-(0)	(0)-(0)	(<10)-(30)
Distribution (North Exeter)	52	(0)-(0)	(0)-(0)	(<10)-(40)
Distribution (South Exeter)	52	(0)-(0)	(0)-(0)	(<10)-(60)
Distribution (Exeter-Hensall Reservoir)	52	(0)-(0)	(0)-(0)	(<10)-( 30)
Distribution (Komoka-Mt. Brydges PS)	52	(0)-(0)	(0)-(0)	(<10)-(10)

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

Parameter	Number of Grab Samples	Range of Results (min #)-(max #)
Treated Water Free Chlorine (mg/L)	Continuous Monitoring	(0.61) – (1.75)
	2145	(0.87) - (1.76)
Treated Water Turbidity (NTU)	Continuous Monitoring	(0.021) – (2.00)
	2141	(0.030) - (0.099)
Filter #1 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.020) - (0.349)
Filter #2 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.013) - (0.681)
Filter #3 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.022) - (0.400)
Filter #4 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.011) - (0.236)
Filter #5 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.017) - (0.357)
Filter #6 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.015) - (0.240)
Filter #7 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.022) - (0.147)
Filter #8 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.017) - (0.790)
Filter #9 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.020) - (0.166)
Filter #10 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.017) - (0.146)
Filter #11 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.015) - (0.538)
Filter #12 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.010) – (0.175)
Combined Filtered Water Turbidity (NTU)	2139	(0.006) - (0.120)

**Summary of Inorganic parameters tested during this reporting period**
*(\*All tests were conducted on treated water leaving the WTP unless otherwise noted)*

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	January 8, 2016	0.00016	mg/L	NO
<b>Arsenic</b>	January 8, 2016	0.0002	mg/L	NO
<b>Barium</b>	January 8, 2016	0.0128	mg/L	NO
<b>Boron</b>	January 8, 2016	0.0128	mg/L	NO
<b>Cadmium</b>	January 8, 2016	Not Detected	mg/L	NO
<b>Chromium</b>	January 8, 2016	0.00009	mg/L	NO
<b>Lead</b> <i>(Komoka Mt-Brydges Monitoring Station #2)</i>	January 8, 2016 April 13, 2016 July 15, 2016 October 6, 2016	Not Detected 0.00005 Not Detected 0.00002	mg/L mg/L mg/L mg/L	NO
<b>Mercury</b>	January 8, 2016	Not Detected	mg/L	NO
<b>Selenium</b>	January 8, 2016	0.00014	mg/L	NO
<b>Sodium</b>	January 8, 2016	10.5	mg/L	NO
<b>Uranium</b>	January 8, 2016	0.000061	mg/L	NO
<b>Fluoride</b>	NA	Not Tested	mg/L	--
<b>Nitrite</b>	January 8, 2016 April 13, 2016 July 15, 2016 October 6, 2016	Not Detected Not Detected Not Detected Not Detected	mg/L mg/L mg/L mg/L	NO



<b>Nitrate</b>	January 8, 2016	0.452	mg/L	NO
	April 13, 2016	0.954	mg/L	
	July 15, 2016	0.339	mg/L	
	October 6, 2016	0.264	mg/L	

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

(\*All tests were conducted on treated water leaving the WTP unless otherwise noted)

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Alachlor</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Atrazine + N-dealkylated metabolites</b>	January 8, 2016	0.03	µg/L	NO
<b>Azinphos-methyl</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Benzene</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Benzo(a)pyrene</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Bromoxynil</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Carbaryl</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Carbofuran</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Carbon Tetrachloride</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Chlorpyrifos</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Diazinon</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Dicamba</b>	January 8, 2016	Not Detected	µg/L	NO
<b>1,2-Dichlorobenzene</b>	January 8, 2016	Not Detected	µg/L	NO
<b>1,4-Dichlorobenzene</b>	January 8, 2016	Not Detected	µg/L	NO
<b>1,2-Dichloroethane</b>	January 8, 2016	Not Detected	µg/L	NO
<b>1,1-Dichloroethylene (vinylidene chloride)</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Dichloromethane</b>	January 8, 2016	Not Detected	µg/L	NO
<b>2-4 Dichlorophenol</b>	January 8, 2016	Not Detected	µg/L	NO
<b>2,4-Dichlorophenoxy acetic acid (2,4-D)</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Diclofop-methyl</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Dimethoate</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Diquat</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Diuron</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Glyphosate</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Haloacetic Acids (HAA's)</b> <i>(Arva Reservoir)</i>	January 8, 2016 April 13, 2016 July 15, 2016 October 6, 2016	Not Detected 15.0 9.0 Not Detected	µg/L µg/L µg/L µg/L	NO
<b>Haloacetic Acids (HAA's)</b> <i>(Exeter-Hensall Monitoring Station #3)</i>	January 8, 2016 April 13, 2016 July 15, 2016 October 6, 2016	9.4 22.0 14.0 9.1	µg/L µg/L µg/L µg/L	NO



<b>Haloacetic Acids (HAA's)</b> <i>(Komoka Mt-Brydges Monitoring Station #2)</i>	January 8, 2016 April 13, 2016 July 15, 2016 October 6, 2016	6.5 17.0 9.6 Not Detected	µg/L µg/L µg/L µg/L	NO
<b>Haloacetic Acids (HAA's)</b> <i>(Strathroy-Caradoc Monitoring Station #2)</i>	January 8, 2016 April 13, 2016 July 15, 2016 October 6, 2016	Not Detected 12.0 10.0 Not Detected	µg/L µg/L µg/L µg/L	NO
<b>Malathion</b>	January 8, 2016	Not Detected	µg/L	NO
<b>2-Methyl-4-chlorophenoxyacetic acid</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Metolachlor</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Metribuzin</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Monochlorobenzene</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Paraquat</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Pentachlorophenol</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Phorate</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Picloram</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Polychlorinated Biphenyls (PCB)</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Prometryne</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Simazine</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Total Trihalomethanes</b> <i>(Arva Reservoir)</i>	January 8, 2016 April 13, 2016 July 15, 2016 October 6, 2016	15.0 21.0 27.0 14.0	µg/L µg/L µg/L µg/L	NO
<b>Total Trihalomethanes (THMs)</b> <i>(Arva Reservoir)</i> <b>Running Annual Average</b>	2016	19.25	µg/L	NO
<b>Total Trihalomethanes</b> <i>(Exeter-Hensall Monitoring Station #3)</i>	January 8, 2016 April 13, 2016 July 15, 2016 October 6, 2016	30.0 29.0 41.0 33.0	µg/L µg/L µg/L µg/L	NO
<b>Total Trihalomethanes</b> <i>(Exeter-Hensall Monitoring Station #3)</i> <b>Running Annual Average</b>	2016	33.25	µg/L	NO
<b>Total Trihalomethanes</b> <i>(Komoka Mt-Brydges Monitoring Station #2)</i>	January 8, 2016 April 13, 2016 July 15, 2016 October 6, 2016	22.0 26.0 34.0 23.0	µg/L µg/L µg/L µg/L	NO



<b>Total Trihalomethanes</b> <i>(Komoka Mt-Brydges Monitoring Station #2)</i> <b>Running Annual Average</b>	2016	26.25	µg/L	NO
<b>Total Trihalomethanes</b> <i>(Strathroy-Caradoc Monitoring Station #2)</i>	January 8, 2016 April 13, 2016 July 15, 2016 October 6, 2016	18.0 21.0 29.0 18.0	µg/L µg/L µg/L µg/L	NO
<b>Total Trihalomethanes</b> <i>(Strathroy-Caradoc Monitoring Station #2)</i> <b>Running Annual Average</b>	2016	21.5	µg/L	NO
<b>Terbufos</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Tetrachloroethylene</b>	January 8, 2016	Not Detected	µg/L	NO
<b>2,3,4,6-Tetrachlorophenol</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Triallate</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Trichloroethylene</b>	January 8, 2016	Not Detected	µg/L	NO
<b>2,4,6-Trichlorophenol</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Trifluralin</b>	January 8, 2016	Not Detected	µg/L	NO
<b>Vinyl Chloride</b>	January 8, 2016	Not Detected	µg/L	NO

*NOTE: During 2016, no Inorganic or Organic parameter(s) exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.*