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## **MEMORANDUM**

**PWC-C 4-2020**

**Subject: Niagara Water Treatment Plant 2019 Summary Reports**

**Date: March 10, 2020**

**To: Public Works Committee**

**From: Jen Croswell, C.Tech., Water Compliance Specialist**

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A Drinking Water Summary Report (Summary Report), required under the Safe Drinking Water Act, 2002, has been prepared for each of Niagara Region's six drinking water treatment plants for January 1, 2019 through December 31, 2019, inclusive. The 2019 Summary Reports have been provided as appendices and include:

- A description of any failure to meet the requirements of any governing Act, Regulation, Order or Approval that the Drinking Water System operates under, along with the actions the Operating Authority undertook to mitigate any such non-compliance;
- A summary of water flow rates including maximum daily flow rates and instantaneous peak flow rates in comparison with the capacity of the water works identified in the drinking water licence and permit. This information is included for the purpose of allowing the owner (Niagara Region) of the system to assess the capability of the system to meet existing and planned uses of the system.

The intent of the Summary Report is to provide full disclosure and acts as an instrument to ensure Council, senior management, regulatory agencies and the public are made aware of any non-compliance issues which occurred during the last inspection period. The inspection period runs annually (April 1 – March 31) and typically includes a review of information from the previous year.

Inspections were completed for all of Niagara Region's water treatment plants. Four water treatment plants (Decew Falls, Niagara Falls, Port Colborne, and Rosehill) obtained a 100% compliance score on the Ministry of Environment, Conservation and Parks Inspection Rating Report. Two water treatment plants, Grimsby and Welland, were found to be in non-compliance with Ministry Regulations and/or System Licences. Inspection and non-compliance details are included in the tables below.

<b>Facility</b>	<b>Grimsby Water Treatment Plant</b>
<b>Inspection Rating</b>	98.34%
<b>Non-Compliance</b>	Niagara Region was found to be in non-compliance with subsection 6-1.1 (1) of Schedule 6 of O. Reg. 170/03 which specifies that weekly samples are to be taken 5 to 10 days apart.
<b>Event Details</b>	Section 4.0 of schedule C of the Municipal Drinking Water Licence requires weekly sampling of treated process waste water for free chlorine residuals prior to discharge to the environment. Sampling was conducted on a weekly basis during the inspection period except between January 9 and January 21, 2019 where the tests were performed 12 days apart.
<b>Corrective Actions</b>	Internal operating procedures will be updated to ensure all sampling requirements are captured. In addition, affected staff are required to complete introductory quality and compliance training within six months of arrival and once every three years thereafter.

<b>Facility</b>	<b>Welland Water Treatment Plant</b>
<b>Inspection Rating</b>	95.88%
<b>Non-Compliance</b>	Niagara Region was found to be in non-compliance with section 16-6 of schedule 16 of O. Reg. 170/03 which requires immediate notification of adverse water quality incidents to the Medical Officer of Health and the Spills Action Centre.
<b>Event Details</b>	On August 3, 2018, following non-invasive maintenance work within the Bemis Elevated Tank, a two-phase tank disinfection process was initiated in accordance with the Drinking Water Works Permit. Upon completion of the first phase of disinfection, the tank was filled with treated water in order to meet water retention requirements for phase two. During the second phase, a watermain break caused a decrease in system pressure

<b>Facility</b>	<b>Welland Water Treatment Plant</b>
	<p>resulting in a release of approximately 0.193 ML of improperly disinfected water to the distribution system.</p> <p>Following the release, sampling results from Niagara Region and the City of Welland were negative for bacteriological parameters, meeting provincial requirements. The event was not reported to the Medical Officer of Health or the Spills Action Centre.</p> <p>Upon internal review, incident details were provided to Public Health and the Ministry of Environment, Conservation and Parks for review. Public Health was satisfied that the drinking water remained safe during and after the incident.</p> <p>On November 29, 2018, Niagara Region reported to the Spills Action Centre that, on August 3, 2018, a release of approximately 0.193 ML of improperly disinfected water occurred at the Bemis Elevated Tank while the Region was performing the disinfection of the tank.</p>
<b>Corrective Actions</b>	<p>Details of the incident, internal procedures, the disinfection requirements of the Drinking Water Works Permit, and reporting requirements from Section 16-4 were reviewed with pertinent staff. In addition, affected staff are required to complete manager quality and compliance training within six months of arrival and once every three years thereafter.</p>

May this memorandum serve as acknowledgment of receipt of the Summary Reports by the system owner, Council.

In addition to the Summary Reports, staff have produced Annual Water Quality Reports (Annual Reports) for each of Niagara Region's six drinking water treatment plants, as required by the Safe Drinking Water Act, 2002. The [Annual Reports](https://www.niagararegion.ca/living/water/Water-Quality-Reports/default.aspx) have been made available to the public via the Niagara Region website (<https://www.niagararegion.ca/living/water/Water-Quality-Reports/default.aspx>). The

publication of these reports will be advertised in the Region's Public Works Green Scene newsletter in spring 2020.

Respectfully submitted and signed by,

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Jen Croswell, C.Tech.  
Water Compliance Specialist

### **Appendices**

Appendix 1 – Decew Falls Water Treatment Plant 2019 Summary Report

Appendix 2 – Niagara Falls Water Treatment Plant 2019 Summary Report

Appendix 3 – Rosehill Water Treatment Plant 2019 Summary Report

Appendix 4 – Port Colborne Water Treatment Plant 2019 Summary Report

Appendix 5 – Grimsby Water Treatment Plant 2019 Summary Report

Appendix 6 – Welland Water Treatment Plant 2019 Summary Report



**REGIONAL MUNICIPALITY OF NIAGARA**  
**Public Works Department**  
**Water & Wastewater Services Division**

# **DECEW FALLS WATER TREATMENT PLANT**

## **ANNUAL SUMMARY REPORT**

(Prepared under Ontario Regulation 170/03)

**January 1 to December 31, 2019**

**Ministry of the Environment, Conservation and Parks**

**Municipal Drinking Water License # 007-102**  
**Drinking Water Works Permit # 007-202**

1. Failure to meet with the requirements of the Act, the regulation, the system's approval:

The Decew Falls Water Treatment Plant was operated in such a way that at no time did it fail to meet or exceed the requirements of the Safe Drinking Water Act, associated regulations, the system's approval or any order that may have been issued for this reporting period.

2. A summary of flows for the reporting period January 1, 2019 – December 31, 2019:

2019	TOTAL FLOW Raw (ML)	TOTAL FLOW Treated (ML)	AVERAGE DAY Raw (ML)	AVERAGE DAY Treated (ML)	MAX. DAY Treated (ML)	MIN. DAY Treated (ML)	MAX. FLOW RATE Treated (ML/d)	MIN. FLOW RATE Treated (ML/d)	WASTE SLUDGE (ML)
Jan	1735.021	1531.421	55.968	49.401	55.623	44.721	76.092	20.658	5.160
Feb	1595.115	1412.763	56.968	50.456	59.060	47.780	103.349	24.362	3.252
Mar	1665.812	1538.403	53.736	49.626	73.436	47.283	73.436	21.968	0.737
Apr	1685.577	1476.536	56.186	49.218	51.210	47.820	72.277	23.349	3.035
May	1744.874	1589.728	56.286	51.386	56.474	47.943	75.842	26.873	6.027
Jun	1936.416	1700.061	64.547	56.669	64.650	51.059	86.721	28.907	2.211
Jul	2344.420	2069.512	75.626	66.758	75.011	58.736	101.124	37.797	0.954
Aug	2175.377	1940.639	70.173	62.601	73.656	55.667	115.876	33.229	3.599
Sep	1909.547	1715.474	63.652	57.182	60.769	52.774	86.699	28.537	5.160
Oct	1741.500	1554.755	56.177	50.153	54.750	45.524	85.326	17.336	3.122
Nov	1607.327	1454.225	53.578	48.474	51.846	44.309	108.257	16.393	0.737
Dec	1609.801	1472.137	51.929	47.488	50.095	40.484	73.370	17.031	0.520
<b>TOTAL</b>	<b>21750.787</b>	<b>19455.654</b>							<b>34.515</b>
<b>MIN</b>						<b>40.484</b>		<b>16.393</b>	<b>0.520</b>
<b>MAX</b>					<b>75.011</b>		<b>115.876</b>		<b>6.027</b>
<b>AVG</b>			<b>59.569</b>	<b>53.284</b>					<b>2.876</b>

\* The flow rates are moments in time, and can be affected by various circumstances, such as pump changes or valve position and therefore not unusual to have higher or lower than normal flows.

3. A comparison of actual flows to that of the flow rates set out in the system's approval:

Flow rates as set in:

- Municipal Drinking Water License # 007-102
- Drinking Water Works Permit # 007-202

Maximum daily flow: 227.300 ML

Maximum flow rate: 227.300 ML/day

<b>2019</b>	<b>AVERAGE DAY Treated (ML)</b>	<b>% OF RATED CAPACITY</b>	<b>MAX. DAY Treated (ML)</b>	<b>% OF RATED CAPACITY</b>	<b>MAX. FLOW RATE Treated (ML/d)</b>	<b>% OF RATED CAPACITY</b>
<b>Jan</b>	49.401	<b>21.7%</b>	55.623	<b>24.5%</b>	76.092	<b>33.5%</b>
<b>Feb</b>	50.456	<b>22.2%</b>	59.06	<b>26.0%</b>	103.349	<b>45.5%</b>
<b>Mar</b>	49.626	<b>21.8%</b>	73.436	<b>32.3%</b>	73.436	<b>32.3%</b>
<b>Apr</b>	49.218	<b>21.7%</b>	51.21	<b>22.5%</b>	72.277	<b>31.8%</b>
<b>May</b>	51.386	<b>22.6%</b>	56.474	<b>24.8%</b>	75.842	<b>33.4%</b>
<b>Jun</b>	56.669	<b>24.9%</b>	64.65	<b>28.4%</b>	86.721	<b>38.2%</b>
<b>Jul</b>	66.758	<b>29.4%</b>	75.011	<b>33.0%</b>	101.124	<b>44.5%</b>
<b>Aug</b>	62.601	<b>27.5%</b>	73.656	<b>32.4%</b>	115.876	<b>51.0%</b>
<b>Sep</b>	57.182	<b>25.2%</b>	60.769	<b>26.7%</b>	86.699	<b>38.1%</b>
<b>Oct</b>	50.153	<b>22.1%</b>	54.75	<b>24.1%</b>	85.326	<b>37.5%</b>
<b>Nov</b>	48.474	<b>21.3%</b>	51.846	<b>22.8%</b>	108.257	<b>47.6%</b>
<b>Dec</b>	47.488	<b>20.9%</b>	50.095	<b>22.0%</b>	73.37	<b>32.3%</b>



**REGIONAL MUNICIPALITY OF NIAGARA**  
**Public Works Department**  
**Water & Wastewater Services Division**

# **NIAGARA FALLS WATER TREATMENT PLANT**

## **ANNUAL SUMMARY REPORT**

(Prepared under Ontario Regulation 170/03)

**January 1 to December 31, 2019**

**Ministry of the Environment, Conservation and Parks**

**Drinking Water Works Permit # 007-202**  
**Municipal Drinking Water License # 007-102**



1. Failure to meet with the requirements of the Act, the regulation, the system's approval:

The Niagara Falls Water Treatment Plant was operated in such a way that at no time did it fail to meet or exceed the requirements of the Safe Drinking Water Act, associated regulations, the system's approval or any order that may have been issued for this reporting period.

2. A summary of flows for the reporting period January 1, 2019 – December 31, 2019

2019	TOTAL FLOW	TOTAL FLOW	AVERAGE DAY	AVERAGE DAY	MAX. DAY	MIN. DAY	MAX. FLOW RATE	MIN. FLOW RATE	WASTE SLUDGE
	Raw (ML)	Treated (ML)	Raw (ML)	Treated (ML)	Treated (ML)	Treated (ML)	Treated (ML/d)	Treated (ML/d)	
Jan	1306.819	1205.506	42.155	38.887	45.022	34.892	64.500	9.012	1.015
Feb	1204.272	1132.177	43.010	40.435	45.482	36.441	58.134	16.325	0.502
Mar	1367.330	1277.948	44.107	41.224	45.828	36.746	85.608	16.656	0.344
Apr	1368.584	1234.817	45.619	41.161	46.912	36.223	65.802	15.226	6.833
May	1366.246	1302.776	44.072	42.025	47.581	36.503	61.006	15.568	1.659
Jun	1476.388	1402.020	49.213	46.734	58.347	40.056	85.138	21.051	1.131
Jul	1875.394	1804.622	60.497	58.214	71.776	46.995	94.300	27.506	0.440
Aug	1739.880	1667.511	56.125	53.791	63.003	47.674	79.931	26.792	0.283
Sep	1398.047	1334.493	46.602	44.483	48.970	40.402	68.406	5.320	1.119
Oct	1304.357	1226.981	42.076	39.580	44.806	33.206	97.352	15.650	2.333
Nov	1208.534	1119.091	40.284	37.303	43.583	32.306	64.223	11.988	2.056
Dec	1221.081	1132.879	39.390	36.544	42.941	31.752	56.046	9.619	1.806
<b>TOTAL</b>	<b>16,836.932</b>	<b>15,840.821</b>							<b>19.521</b>
<b>MIN</b>						<b>31.752</b>		<b>5.320</b>	<b>0.283</b>
<b>MAX</b>					<b>71.776</b>		<b>97.352</b>		<b>6.833</b>
<b>AVG</b>		<b>1,320.07</b>	<b>46.10</b>	<b>43.37</b>					<b>1.627</b>

\*The flow rates are moments in time, and can be affected by various circumstances, such as pump changes or valve position and therefore not unusual to have higher or lower than normal flow.

3. A comparison of actual flows to the flow rates set out in the system's approval:

Flow rates as set in:

- Drinking Water Works Permit # 007-202
- Municipal Drinking Water License # 007-102

Maximum daily flow: 145.500 ML

Maximum flow rate: 145.500 ML/day

<b>2019</b>	<b>AVERAGE DAY Treated (ML)</b>	<b>% OF RATED CAPACITY</b>	<b>MAX. DAY Treated (ML)</b>	<b>% OF RATED CAPACITY</b>	<b>MAX. FLOW RATE Treated (ML/d)</b>	<b>% OF RATED CAPACITY</b>
<b>Jan</b>	38.887	<b>27%</b>	45.022	<b>31%</b>	64.500	<b>44%</b>
<b>Feb</b>	40.435	<b>28%</b>	45.482	<b>31%</b>	58.134	<b>40%</b>
<b>Mar</b>	41.224	<b>28%</b>	45.828	<b>32%</b>	85.608	<b>59%</b>
<b>Apr</b>	41.161	<b>28%</b>	46.912	<b>32%</b>	65.802	<b>45%</b>
<b>May</b>	42.025	<b>29%</b>	47.581	<b>33%</b>	61.006	<b>42%</b>
<b>Jun</b>	46.734	<b>32%</b>	58.347	<b>40%</b>	85.138	<b>59%</b>
<b>Jul</b>	58.214	<b>40%</b>	71.776	<b>49%</b>	94.300	<b>65%</b>
<b>Aug</b>	53.791	<b>37%</b>	63.003	<b>43%</b>	79.931	<b>55%</b>
<b>Sep</b>	44.483	<b>31%</b>	48.970	<b>34%</b>	68.406	<b>47%</b>
<b>Oct</b>	39.580	<b>27%</b>	44.806	<b>31%</b>	97.352	<b>67%</b>
<b>Nov</b>	37.303	<b>26%</b>	43.583	<b>30%</b>	64.223	<b>44%</b>
<b>Dec</b>	36.544	<b>25%</b>	42.941	<b>30%</b>	56.046	<b>39%</b>



**REGIONAL MUNICIPALITY OF NIAGARA**  
**Public Works Department**  
**Water & Wastewater Services Division**

# **ROSEHILL WATER TREATMENT PLANT**

## **ANNUAL SUMMARY REPORT**

(Prepared under Ontario Regulation 170/03)

**January 1 to December 31, 2019**

**Ministry of the Environment, Conservation and Parks**

**Drinking Water Works Permit # 007-203**  
**Municipal Drinking Water License # 007-103**

1. Failure to meet with the requirements of the Act, the regulation, the system's approval:

The Rosehill Water Treatment Plant was operated in such a way that at no time did it fail to meet or exceed the requirements of the Safe Drinking Water Act, associated regulations, the system's approval or any order that may have been issued for this reporting period.

2. A summary of flows for the reporting period January 1, 2019 – December 31, 2019:

2019	TOTAL FLOW Raw (ML)	TOTAL FLOW Treated (ML)	AVERAGE DAY Raw (ML)	AVERAGE DAY Treated (ML)	MAX DAY Treated (ML)	MIN. DAY Treated (ML)	MAX. FLOW RATE Treated (ML/d)	MIN. FLOW RATE Treated (ML/d)	WASTE SLUDGE (ML)
Jan	396.374	365.684	12.786	11.796	12.725	11.129	17.145	4.154	17.485
Feb	371.194	332.694	13.257	11.882	17.177	11.457	14.642	10.890	16.564
Mar	381.340	353.816	12.301	11.413	12.947	10.001	16.922	3.532	16.064
Apr	338.395	310.125	11.280	10.338	11.297	9.529	25.977	1.594	15.052
May	373.221	323.061	12.039	10.421	12.103	9.116	14.425	3.362	9.845
Jun	402.511	351.593	13.417	11.720	13.755	10.047	25.402	2.193	15.843
Jul	483.770	422.350	15.605	13.624	16.060	10.893	26.693	2.364	18.377
Aug	469.922	415.781	15.159	13.412	16.192	11.428	24.885	6.228	15.278
Sep	380.508	334.449	12.684	11.148	12.750	9.800	21.667	3.843	19.523
Oct	346.349	301.572	11.173	9.728	10.771	8.828	40.949	1.479	18.650
Nov	331.961	285.102	11.065	9.503	11.567	8.804	25.569	1.460	15.747
Dec	338.996	287.254	10.935	9.266	10.180	8.547	17.980	1.143	23.433
TOTAL	4,614.541	4,083.481							201.861
MIN						8.547		1.143	9.845
MAX					17.177		40.949		23.433
AVG			12.642	11.188					16.822

\*The flow rates are moments in time, and can be affected by various circumstances, such as pump changes or valve position and therefore not unusual to have higher or lower than normal flows

3. A comparison of actual flows to that of the flow rates set out in the system's approval:

Flow rates as set in:

- Drinking Water Works Permit # 007-203
- Municipal Drinking Water License # 007-103

Maximum daily flow: 50.000 ML  
Maximum flow rate: 50.000 ML/day

2019	AVERAGE DAY  Treated (ML)	% OF RATED CAPACITY	MAX. DAY  Treated (ML)	% OF RATED CAPACITY	MAX. FLOW RATE  Treated (ML/d)	% OF RATED CAPACITY
Jan	11.796	24%	12.725	25%	17.145	34%
Feb	11.882	24%	17.177	34%	14.642	29%
Mar	11.413	23%	12.947	26%	16.922	34%
Apr	10.338	21%	11.297	23%	25.977	52%
May	10.421	21%	12.103	24%	14.425	29%
Jun	11.720	23%	13.755	28%	25.402	51%
Jul	13.624	27%	16.060	32%	26.693	53%
Aug	13.412	27%	16.192	32%	24.885	50%
Sep	11.148	22%	12.750	26%	21.667	43%
Oct	9.728	19%	10.771	22%	40.949	82%
Nov	9.503	19%	11.567	23%	25.569	51%
Dec	9.266	19%	10.180	20%	17.980	36%



**REGIONAL MUNICIPALITY OF NIAGARA**  
**Public Works Department**  
**Water & Wastewater Services Division**

# **PORT COLBORNE WATER TREATMENT PLANT**

## **ANNUAL SUMMARY REPORT**

(Prepared under Ontario Regulation 170/03)

**January 1 to December 31, 2019**

**Ministry of the Environment, Conservation and Parks**

**Municipal Drinking Water License # 007-102**

**Drinking Water Works Permit # 007-202**

1. Failure to meet with the requirements of the Act, the regulation, the system's approval:

The Port Colborne Water Treatment Plant was operated in such a way that at no time did it fail to meet or exceed the requirements of the Safe Drinking Water Act, associated regulations, the system's approval or any order that may have been issued for this reporting period.

2. A summary of flows for the reporting period January 1, 2019 – December 31, 2019:

2019	TOTAL FLOW	TOTAL FLOW	AVERAGE DAY	AVERAGE DAY	MAX. DAY	MIN. DAY	MAX. FLOW RATE	MIN. FLOW RATE	WASTE SLUDGE
	Raw (ML)	Treated (ML)	Raw (ML)	Treated (ML)	Treated (ML)	Treated (ML)	Treated (ML/d)	Treated (ML/d)	(ML)
Jan	256.970	245.010	8.289	7.904	8.790	6.090	17.518	3.282	1.551
Feb	240.000	232.250	8.571	8.295	12.390	6.720	15.487	4.390	1.470
Mar	259.330	249.370	8.365	8.044	9.170	6.700	17.262	4.256	1.660
Apr	242.670	232.550	8.089	7.752	10.340	6.310	38.226**	2.892	1.507
May	232.410	222.120	7.497	7.165	8.420	5.030	16.267	4.390	1.736
Jun	220.650	215.920	7.355	7.197	8.460	5.230	12.759	4.349	2.025
Jul	236.980	235.350	7.645	7.592	10.530	5.047	16.749	3.651	2.010
Aug	221.870	221.410	7.157	7.142	8.420	5.290	16.903	2.456	1.834
Sep	200.450	198.200	6.682	6.607	7.960	4.780	15.415	3.990	1.773
Oct	197.230	194.050	6.362	6.260	7.500	4.560	27.202	3.836	1.975
Nov	199.930	194.460	6.664	6.482	7.810	4.940	16.308	2.061	2.051
Dec	220.430	215.350	7.111	6.947	8.420	5.090	13.477	3.713	1.777
<b>TOTAL</b>	<b>2728.920</b>	<b>2656.040</b>							<b>21.369</b>
<b>MIN</b>						<b>4.560</b>		<b>2.061</b>	<b>1.470</b>
<b>MAX</b>					<b>12.390</b>		<b>38.226</b>		<b>2.051</b>
<b>AVG</b>			<b>7.482</b>	<b>7.282</b>					<b>1.781</b>

\*The flow rates are moments in time, and can be affected by various circumstances, such as pump changes or valve position and therefore not unusual to have higher or lower than normal flow.

\*\*A temporary exceedance of the rated capacity or maximum flow rate are permitted for the purposes of fire protection and system maintenance activities.

**3. A comparison of actual flows to that of the flow rates set out in the system's approval:**

Flow rates as set in:

- Drinking Water Works Permit # 007-201
- Municipal Drinking Water License # 007-101

Maximum daily flow 36.000 ML

Maximum flow rate 36.000 ML/day

<b>2019</b>	<b>AVERAGE DAY Treated (ML)</b>	<b>% OF RATED CAPACITY</b>	<b>MAX. DAY Treated (ML)</b>	<b>% OF RATED CAPACITY</b>	<b>MAX. FLOW RATE Treated (ML/d)</b>	<b>% OF RATED CAPACITY</b>
<b>Jan</b>	7.904	<b>22.0%</b>	8.79	<b>24.4%</b>	17.518	<b>48.7%</b>
<b>Feb</b>	8.295	<b>23.0%</b>	12.39	<b>34.4%</b>	15.487	<b>43.0%</b>
<b>Mar</b>	8.044	<b>22.3%</b>	9.17	<b>25.5%</b>	17.262	<b>48.0%</b>
<b>Apr</b>	7.752	<b>21.5%</b>	10.34	<b>28.7%</b>	38.226*	<b>106.2%*</b>
<b>May</b>	7.165	<b>19.9%</b>	8.42	<b>23.4%</b>	16.267	<b>45.2%</b>
<b>Jun</b>	7.197	<b>20.0%</b>	8.46	<b>23.5%</b>	12.759	<b>35.4%</b>
<b>Jul</b>	7.592	<b>21.1%</b>	10.53	<b>29.3%</b>	16.749	<b>46.5%</b>
<b>Aug</b>	7.142	<b>19.8%</b>	8.42	<b>23.4%</b>	16.903	<b>47.0%</b>
<b>Sep</b>	6.607	<b>18.4%</b>	7.96	<b>22.1%</b>	15.415	<b>42.8%</b>
<b>Oct</b>	6.260	<b>17.4%</b>	7.5	<b>20.8%</b>	27.202	<b>75.6%</b>
<b>Nov</b>	6.482	<b>18.0%</b>	7.81	<b>21.7%</b>	16.308	<b>45.3%</b>
<b>Dec</b>	6.947	<b>19.3%</b>	8.42	<b>23.4%</b>	13.477	<b>37.4%</b>

\*A temporary exceedance of the rated capacity or maximum flow rate are permitted for the purposes of fire protection and system maintenance activities.





**REGIONAL MUNICIPALITY OF NIAGARA**  
**Public Works Department**  
**Water & Wastewater Services Division**

# **GRIMSBY WATER TREATMENT PLANT**

## **ANNUAL SUMMARY REPORT**

**(Prepared under Ontario Regulation 170/03)**

**January 1 to December 31, 2019**

**Ministry of the Environment, Conservation and Parks**

**Municipal Drinking Water License # 007-105**  
**Drinking Water Works Permit # 007-205**

**1. Failure to meet with the requirements of the Act, the regulation, the system's approval:**

The Grimsby Water Treatment Plant was found to be in non-compliance with regulations and/or system Licence, as follows:

<b>Inspection Rating</b>	98.34%
<b>Non-Compliance</b>	Niagara Region was found to be in non-compliance with subsection 6-1.1 (1) of Schedule 6 of O. Reg. 170/03 which specifies that weekly samples are to be taken 5 to 10 days apart.
<b>Event Details</b>	Section 4.0 of schedule C of the Municipal Drinking Water Licence requires weekly sampling of treated process waste water for free chlorine residuals prior to discharge to the environment. Sampling was conducted on a weekly basis during the inspection period except between January 9 and January 21, 2019 where the tests were performed 12 days apart.
<b>Corrective Actions</b>	Internal operating procedures will be updated to ensure all sampling requirements are captured. In addition, affected staff are required to complete introductory quality and compliance training within six months of arrival and once every three years thereafter.

**2. A summary of flows for the reporting period January 1, 2019 – December 31, 2019:**

2019	TOTAL FLOW	TOTAL FLOW	AVERAGE DAY	AVERAGE DAY	MAX. DAY	MIN. DAY	MAX. FLOW RATE	MIN. FLOW RATE	WASTE SLUDGE
	Raw (ML)	Treated (ML)	Raw (ML)	Treated (ML)	Treated (ML)	Treated (ML)	Treated (ML/D)	Treated (ML/D)	(ML)
Jan	404.671	404.464	13.054	13.232	20.014	11.027	15.656	13.597	0.650
Feb	360.032	360.057	12.858	12.859	13.675	11.572	17.109	7.749	0.650
Mar	400.309	399.968	12.913	12.902	14.086	11.892	18.958	7.209	0.694
Apr	383.980	382.635	12.799	12.755	14.655	11.393	18.045	7.010	0.780
May	428.875	422.888	13.835	13.642	15.650	11.456	18.546	8.684	1.951
Jun	460.855	457.213	15.362	15.240	18.333	12.079	21.935	2.472	0.694
Jul	550.331	554.625	17.753	17.891	20.744	15.408	25.175	7.348	0.939
Aug	471.050	491.739	15.195	15.863	19.098	13.009	23.062	9.300	0.911
Sep	409.215	433.978	13.641	14.466	16.323	12.405	19.230	9.429	0.911
Oct	382.356	410.761	12.334	13.250	14.926	12.199	18.051	3.525	2.255
Nov	352.285	392.247	11.743	13.075	14.125	11.903	17.453	8.155	0.477
Dec	357.343	401.711	11.527	12.958	13.959	11.164	17.761	6.985	0.650
TOTAL	4961.302	5112.286							11.562
MIN						11.027		2.472	0.477
MAX					20.744		73.432		2.255
AVG			13.584	14.011					0.963

\* The flow rates are moments in time, and can be affected by various circumstances, such as pump changes or valve position and therefore not unusual to have higher or lower than normal flows.

**3. A comparison of actual flows to that of the flow rates set out in the system's approval:**

Flow rates as set in:

- Municipal Drinking Water License # 007-105
- Drinking Water Works Permit # 007-205

Maximum daily flow: 44.000 ML

Maximum flow rate: 44.000 ML/day

<b>2019</b>	<b>AVERAGE DAY Treated (ML)</b>	<b>% OF RATED CAPACITY</b>	<b>MAX. DAY Treated (ML)</b>	<b>% OF RATED CAPACITY</b>	<b>MAX. FLOW RATE Treated (ML/d)</b>	<b>% OF RATED CAPACITY</b>
<b>Jan</b>	13.232	<b>30.1%</b>	20.014	<b>45.5%</b>	15.656	<b>35.6%</b>
<b>Feb</b>	12.859	<b>29.2%</b>	13.675	<b>31.1%</b>	17.109	<b>38.9%</b>
<b>Mar</b>	12.902	<b>29.3%</b>	14.086	<b>32.0%</b>	18.958	<b>43.1%</b>
<b>Apr</b>	12.755	<b>29.0%</b>	14.655	<b>33.3%</b>	18.045	<b>41.0%</b>
<b>May</b>	13.642	<b>31.0%</b>	15.65	<b>35.6%</b>	18.546	<b>42.2%</b>
<b>Jun</b>	15.240	<b>34.6%</b>	18.333	<b>41.7%</b>	21.935	<b>49.9%</b>
<b>Jul</b>	17.891	<b>40.7%</b>	20.744	<b>47.1%</b>	25.175	<b>57.2%</b>
<b>Aug</b>	15.863	<b>36.1%</b>	19.098	<b>43.4%</b>	23.062	<b>52.4%</b>
<b>Sep</b>	14.466	<b>32.9%</b>	16.323	<b>37.1%</b>	19.23	<b>43.7%</b>
<b>Oct</b>	13.250	<b>30.1%</b>	14.926	<b>33.9%</b>	18.051	<b>41.0%</b>
<b>Nov</b>	13.075	<b>29.7%</b>	14.125	<b>32.1%</b>	17.453	<b>39.7%</b>
<b>Dec</b>	12.958	<b>29.5%</b>	13.959	<b>31.7%</b>	17.761	<b>40.4%</b>



**REGIONAL MUNICIPALITY OF NIAGARA**  
**Public Works Department**  
**Water & Wastewater Services Division**

# **WELLAND WATER TREATMENT PLANT**

## **ANNUAL SUMMARY REPORT**

(Prepared under Ontario Regulation 170/03)

**January 1 to December 31, 2019**

**Ministry of the Environment, Conservation and Parks**

**Drinking Water Works Permit # 007-204**  
**Municipal Drinking Water License # 007-104**

1. Failure to meet with the requirements of the Act, the regulation, the system's approval:

The Welland Water Treatment Plant was found to be in non-compliance with regulations and/or system Licence, as follows:

<b>Inspection Rating</b>	95.88%
<b>Non-Compliance</b>	Niagara Region was found to be in non-compliance with section 16-6 of schedule 16 of O. Reg. 170/03 which requires immediate notification of adverse water quality incidents to the Medical Officer of Health and the Spills Action Centre.
<b>Event Details</b>	<p>On August 3, 2018, following non-invasive maintenance work within the Bemis Elevated Tank, a two-phase tank disinfection process was initiated in accordance with the Drinking Water Works Permit. Upon completion of the first phase of disinfection, the tank was filled with treated water in order to meet water retention requirements for phase two. During the second phase, a watermain break caused a decrease in system pressure resulting in a release of approximately 0.193 ML of improperly disinfected water to the distribution system.</p> <p>Following the release, sampling results from Niagara Region and the City of Welland were negative for bacteriological parameters, meeting provincial requirements. The event was not reported to the Medical Officer of Health or the Spills Action Centre.</p> <p>Upon internal review, incident details were provided to Public Health and the Ministry of Environment, Conservation and Parks for review. Public Health was satisfied that the drinking water remained safe during and after the incident.</p> <p>On November 29, 2018, Niagara Region reported to the Spills Action Centre that, on August 3, 2018, a release of approximately 0.193 ML of improperly disinfected water occurred at the Bemis Elevated Tank while the Region was performing the disinfection of the tank.</p>
<b>Corrective Actions</b>	Details of the incident, internal procedures, the disinfection requirements of the Drinking Water Works Permit, and reporting requirements from Section 16-4 were reviewed with pertinent staff. In addition, affected staff are required to complete manager quality and compliance training within six months of arrival and once every three years thereafter.

2. A summary of flows for the reporting period January 1, 2019 – December 31, 2019:

2019	TOTAL FLOW Raw (ML)	TOTAL FLOW Treated (ML)	AVERAGE DAY Raw (ML)	AVERAGE DAY Treated (ML)	MAX. DAY Treated (ML)	MIN. DAY Treated (ML)	MAX. FLOW RATE Treated (ML/d)	MIN. FLOW RATE Treated (ML/d)	WASTE SLUDGE (ML)
Jan	663.870	650.530	21.415	21.016	23.954	18.654	41.500	25.644	22.975
Feb	614.750	597.235	21.955	21.363	25.025	18.460	42.794	19.525	27.640
Mar	679.410	667.126	21.916	21.551	25.162	19.000	42.431	20.109	22.781
Apr	640.200	627.266	21.340	20.941	23.448	19.444	42.562	20.062	23.395
May	694.010	669.421	22.387	21.634	24.422	17.556	47.666	23.688	34.338
Jun	713.800	691.059	23.793	23.076	26.331	19.380	43.312	22.341	39.256
Jul	858.750	835.247	27.702	26.987	31.300	22.168	43.744	14.969	40.244
Aug	796.380	787.374	25.690	25.441	28.782	21.886	46.612	14.413	26.939
Sep	703.560	690.526	23.452	23.053	28.480	18.718	46.594	6.095	29.116
Oct	707.110	677.685	22.810	21.888	32.400	12.760	42.031	24.731	18.706
Nov	727.160	649.755	24.239	21.681	24.680	19.806	42.725	6.456	18.796
Dec	713.820	691.082	23.026	22.317	25.614	19.888	42.956	18.276	33.557
<b>TOTAL</b>	<b>8512.820</b>	<b>8234.307</b>							<b>304.186</b>
<b>MIN</b>						<b>12.760</b>		<b>6.095</b>	<b>18.706</b>
<b>MAX</b>					<b>32.400</b>		<b>47.666</b>		<b>304.186</b>
<b>AVG</b>			<b>23.311</b>	<b>22.579</b>					<b>25.349</b>

\*The flow rates are moments in time, and can be affected by various circumstances, such as pump changes or valve position and therefore not unusual to have higher or lower than normal flow.

**3. A comparison of actual flows to that of the flow rates set out in the system's approval:**

Flow rates as set in:

- Drinking Water Works Permit # 007-204
- Municipal Drinking Water License # 007-104

Maximum daily flow                      65.000 ML  
Maximum flow rate                      65.000 ML/day

<b>2019</b>	<b>AVERAGE DAY Treated (ML)</b>	<b>% OF RATED CAPACITY</b>	<b>MAX. DAY Treated (ML)</b>	<b>% OF RATED CAPACITY</b>	<b>MAX. FLOW RATE Treated (ML/d)</b>	<b>% OF RATED CAPACITY</b>
<b>Jan</b>	21.016	<b>32.3%</b>	23.954	<b>36.9%</b>	41.5	<b>63.8%</b>
<b>Feb</b>	21.363	<b>32.9%</b>	25.025	<b>38.5%</b>	42.794	<b>65.8%</b>
<b>Mar</b>	21.551	<b>33.2%</b>	25.162	<b>38.7%</b>	42.431	<b>65.3%</b>
<b>Apr</b>	20.941	<b>32.2%</b>	23.448	<b>36.1%</b>	42.562	<b>65.5%</b>
<b>May</b>	21.634	<b>33.3%</b>	24.422	<b>37.6%</b>	47.666	<b>73.3%</b>
<b>Jun</b>	23.076	<b>35.5%</b>	26.331	<b>40.5%</b>	43.312	<b>66.6%</b>
<b>Jul</b>	26.987	<b>41.5%</b>	31.3	<b>48.2%</b>	43.744	<b>67.3%</b>
<b>Aug</b>	25.441	<b>39.1%</b>	28.782	<b>44.3%</b>	46.612	<b>71.7%</b>
<b>Sep</b>	23.053	<b>35.5%</b>	28.48	<b>43.8%</b>	46.594	<b>71.7%</b>
<b>Oct</b>	21.888	<b>33.7%</b>	32.4	<b>49.8%</b>	42.031	<b>64.7%</b>
<b>Nov</b>	21.681	<b>33.4%</b>	24.68	<b>38.0%</b>	42.725	<b>65.7%</b>
<b>Dec</b>	22.317	<b>34.3%</b>	25.614	<b>39.4%</b>	42.956	<b>66.1%</b>