



2010
WATERWORKS
SUMMARY REPORT
(January 1, 2010 to December 31, 2010)

PREPARED BY:

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SUBMITTED ON:

February 01, 2011

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CORPORATION OF THE TOWN OF HAWKESBURY

2010 WATERWORKS SUMMARY REPORT

(January 1, 2010 to December 31, 2010)

1. **REQUIREMENTS OF THE SAFE DRINKING WATER ACT, 2002**

Under the new Drinking Water Systems Regulation 170/03, the Town of Hawkesbury's water system has been classified as a *Municipal Large Residential System*. This category is based on the fact that the Hawkesbury's water system serves a major residential development and serves more than 100 private residences.

There are 4,996 water services in the Town of Hawkesbury. Furthermore, the Town of Hawkesbury's water system serves three wards in the Township of Champlain, being the Town of Vankleek Hill with 761 water services, the Village of L'Original with 560 water services and Laurentian Park with 39 water services for a total of 1,360 water services.

2. **REQUIREMENTS OF THE DRINKING WATER SYSTEMS REGULATION (ONTARIO REGULATION 170/03)**

The new Drinking Water Systems Regulation 170/03, made under the Safe Drinking Water Act, 2002, provides more detailed regulatory requirements in conjunction with the Safe Drinking Water Act, 2002.

3. **REQUIREMENTS OF THE SYSTEM'S APPROVAL**

The Town of Hawkesbury's drinking water system operates under an amended Certificate of Approval no. 1145-5UCLCJ, issued by the Ministry of the Environment on January 6, 2004, and under Permit to Take Water no. 94-P-4011, Reference Number 7856-5TARNS, issued on February 15, 2004 in accordance with Section 34 of the Ontario Water Resources Act. This permit is valid until February 15, 2014.

4. RATED CAPACITY AND FLOW RATES

- a) Under Part 4 of the amended Certificate of Approval no. 1145-5UCLCJ, the rated capacity at the Hawkesbury Water Filtration Plant is as follows:

$$\begin{aligned} \text{Maximum Flow Rate} &= 316 \text{ L/sec} \\ \text{Maximum Daily Volume} &= 27,275 \text{ m}^3/\text{day} \end{aligned}$$

Based on the 2010 water production data, the maximum daily water production was in December 14, 2010 at 12,200 m³/day or 141 L/sec, well under the maximum flow rate allowed.

- b) Under the Permit to Take Water no. 94-P-4011, the rate of taking for the Town of Hawkesbury is as follows:

$$\begin{aligned} \text{Maximum Rate of Taking} &= 25,003 \text{ L/min} \\ \text{Maximum Rate of Taking} &= 20,000,000 \text{ L/day} \end{aligned}$$

Based on the 2010 raw water consumption data, the highest rate of taking water (peak) was in January 08 2010 at 7h10 AM for 19 944 m³/day for about 2 minutes, for a total of 10 399 m³ on that day.

See Appendix "A" for Waterworks Data 2010.

5. AVAILABILITY OF REPORT

The Town of Hawkesbury will be advising the users of water from the system, through local newspapers, that the Summary Report will be available for review and inspection, free of charge, at the following locations:

1. ***Technical Services Department***
Town of Hawkesbury
600 Higginson Street
Hawkesbury, Ontario
K6A 1H1
Tel. (613) 632-0106, ext. 2020

2. ***Hawkesbury Public Library***
550 Higginson Street
Hawkesbury, Ontario
K6A 1H1

3. ***Town's website*** www.hawkesbury.ca

Furthermore, a copy of the Summary Report will also be forwarded to the Township of Champlain.

This 2010 Summary Report has been prepared on January 31, 2011 and will be submitted to the Municipal Council of the Corporation of the Town of Hawkesbury within the next three months.

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Waterworks Superintendent
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APPENDIX “A”

WATERWORKS DATA 2010

		FILTERS		
MONTH		Turb. No.1	Turb. No.2	Turb. No.3
JAN	Avg.	0.11	0.12	0.12
	Max	0.14	0.14	0.16
	Min	0.09	0.09	0.10
FEV	Avg.	0.12	0.12	0.12
	Max	0.15	0.32	0.26
	Min	0.09	0.10	0.10
MARS	Avg.	0.12	0.12	0.12
	Max	0.15	0.16	0.16
	Min	0.10	0.10	0.10
APRIL	Avg.	0.14	0.15	0.14
	Max	0.16	0.17	0.18
	Min	0.12	0.13	0.13
MAY	Avg.	0.15	0.15	0.15
	Max	0.17	0.17	0.18
	Min	0.13	0.12	0.12
JUNE	Avg.	0.14	0.14	0.14
	Max	0.17	0.19	0.18
	Min	0.11	0.11	0.11
JULY	Avg.	0.14	0.15	0.14
	Max	0.17	0.17	0.18
	Min	0.11	0.12	0.11
AUGUST	Avg.	0.14	0.15	0.15
	Max	0.18	0.23	0.23
	Min	0.11	0.13	0.12
SEPT.	Avg.	0.10	0.12	0.12
	Max	0.17	0.16	0.18
	Min	0.08	0.09	0.08
OCTO.	Avg.	0.11	0.12	0.12
	Max	0.15	0.17	0.16
	Min	0.09	0.08	0.10
NOV.	Avg.	0.12	0.13	0.13
	Max	0.17	0.17	0.20
	Min	0.10	0.10	0.10
DEC.	Avg.	0.12	0.13	0.13
	Max	0.17	0.18	0.18
	Min	0.08	0.10	0.09
Avg.		0.13	0.13	0.13
Max		0.18	0.32	0.26
Min		0.08	0.08	0.08
Total				

TREATED WATER																	
MONTH	Date	Temp.	pH	Alk.	Hardness	Color	Turb.	Residual Alum.	Free Fluor	Total Chlorine	Comb. Chlorine	Choi.	E.Coli.	THM #1	THM #2	THM #3	THM #4
JAN	Avg.	2.0	7.47	39	56	3	0.27	0.001	0.51	0.74	0.96	0.22	0.00	0.00	0.00	0.00	0.00
	Max	2.5	7.59	51	72	3	0.31	0.027	0.74	0.86	1.08	0.27	0.00	0.00	0.00	0.00	0.00
	Min	1.9	7.33	34	48	3	0.24	0.000	0.12	0.68	0.88	0.15	0.00	0.00	0.00	0.00	0.00
FEV	Avg.	1.7	7.46	39	58	3	0.26	0.001	0.61	0.75	0.97	0.22	0.00	0.00	0.00	0.00	0.00
	Max	2.1	7.69	51	70	3	0.32	0.021	0.84	0.91	1.20	0.29	0.00	0.00	0.00	0.00	0.00
	Min	1.1	7.21	33	48	3	0.23	0.000	0.11	0.70	0.89	0.17	0.00	0.00	0.00	0.00	0.00
MARS	Avg.	2.4	7.50	47	65	3	0.25	0.001	0.48	0.76	1.00	0.24	0.00	0.00	0.00	0.00	0.00
	Max	4.0	7.62	54	74	3	0.28	0.018	0.70	0.86	1.10	0.29	0.00	0.00	0.00	0.00	0.00
	Min	0.9	7.26	35	50	3	0.21	0.000	0.01	0.68	0.89	0.19	0.00	0.00	0.00	0.00	0.00
APRIL	Avg.	8.6	7.55	49	70	3	0.23	0.000	0.60	0.78	0.99	0.21	0.00	0.00	0.00	0.00	0.00
	Max	11.4	7.68	54	74	3	0.26	0.009	0.70	0.90	1.11	0.27	0.00	0.00	0.00	0.00	0.00
	Min	6.2	7.43	43	54	3	0.22	0.000	0.24	0.70	0.89	0.17	0.00	0.00	0.00	0.00	0.00
MAY	Avg.	14.4	7.55	42	61	3	0.24	0.001	0.62	0.76	0.97	0.20	0.00	0.00	0.00	0.00	0.00
	Max	19.8	7.85	46	72	3	0.28	0.019	0.69	0.90	1.13	0.25	0.00	0.00	0.00	0.00	0.00
	Min	11.8	7.39	37	52	3	0.21	0.000	0.51	0.65	0.82	0.14	0.00	0.00	0.00	0.00	0.00
JUNE	Avg.	20.1	7.47	37	53	3	0.21	0.000	0.63	0.77	0.96	0.19	0.00	0.00	0.00	0.00	0.00
	Max	21.7	7.66	39	66	3	0.25	0.008	0.71	0.92	1.13	0.24	0.00	0.00	0.00	0.00	0.00
	Min	19.0	7.28	34	42	3	0.18	0.000	0.56	0.63	0.82	0.16	0.00	0.00	0.00	0.00	0.00
JULY	Avg.	24.0	7.32	35	51	3	0.21	0.002	0.63	0.91	1.13	0.22	0.00	0.00	0.00	0.00	0.00
	Max	25.8	7.48	40	58	3	0.27	0.021	0.73	1.20	1.44	0.27	0.00	0.00	0.00	0.00	0.00
	Min	21.3	7.05	32	48	3	0.17	0.000	0.54	0.75	0.94	0.17	0.00	0.00	0.00	0.00	0.00
AUG.	Avg.	23.2	7.59	37	52	3	0.23	0.001	0.62	0.88	1.07	0.19	0.00	0.00	0.00	0.00	0.00
	Max	24.0	7.96	41	58	3	0.29	0.009	0.70	1.09	1.28	0.22	0.00	0.00	0.00	0.00	0.00
	Min	21.6	7.37	34	46	2	0.19	0.000	0.55	0.72	0.91	0.16	0.00	0.00	0.00	0.00	0.00
SEPT.	Avg.	19.7	7.49	35	54	3	0.19	0.001	0.65	0.87	1.07	0.21	0.00	0.00	0.00	0.01	0.00
	Max	23.8	7.66	40	60	3	0.23	0.014	0.71	1.03	1.21	0.25	0.00	0.00	0.00	0.21	0.00
	Min	16.5	7.34	33	48	2	0.17	0.000	0.58	0.69	0.89	0.16	0.00	0.00	0.00	0.00	0.00
OCTO.	Avg.	12.6	7.48	47	66	3	0.23	0.000	0.62	0.80	1.00	0.20	0.00	0.00	0.00	0.00	0.00
	Max	16.0	7.72	55	74	3	0.29	0.001	0.77	1.01	1.25	0.24	0.00	0.00	0.00	0.00	0.00
	Min	9.3	7.29	39	54	3	0.19	0.000	0.29	0.61	0.80	0.14	0.00	0.00	0.00	0.00	0.00
NOV.	Avg.	6.5	7.46	49	71	3	0.24	0.000	0.66	0.82	1.05	0.23	0.10	0.00	0.00	0.00	0.00
	Max	8.8	7.59	58	86	3	0.28	0.000	0.73	1.05	1.32	0.28	3.00	0.00	0.00	0.00	0.00
	Min	3.0	7.23	42	62	3	0.21	0.000	0.60	0.58	0.83	0.17	0.00	0.00	0.00	0.00	0.00
DEC.	Avg.	1.5	7.51	47	70	3	0.27	0.000	0.65	0.86	1.08	0.22	0.00	0.00	0.00	0.00	0.00
	Max	3.9	7.78	59	92	3	0.35	0.000	0.77	1.00	1.25	0.27	0.00	0.00	0.00	0.00	0.00
	Min	0.7	7.37	40	39	2	0.23	0.000	0.57	0.74	0.99	0.16	0.00	0.00	0.00	0.00	0.00
Total	Avg.	11.40	7.49	41.87	60.55	2.98	0.24	0.00	0.60	0.81	1.02	0.21	0.01	0.00	0.00	0.00	0.00
	Max	25.75	7.96	58.50	92.00	3.00	0.35	0.03	0.84	1.20	1.44	0.29	3.00	0.00	0.00	0.21	0.00
	Min	0.70	7.05	31.50	38.50	2.00	0.17	0.00	0.01	0.58	0.80	0.14	0.00	0.00	0.00	0.00	0.00

MONTH	BACKWASH		WATER PRODUCTION					Town Flow (m3/d)
		TSS (mg/l)	Raw Water (M3)	City Consumption (M3)	Back Wash (M3)	Plant Use (M3)	Total Production (m3/d)	
JAN	Avg.	0.0					10,030	9,956
	Max	0.0					11,192	11,213
	Min	0.0					8,872	8,756
	Total		328,644	306,828	4,108	6,758	310,936	308,622
FEV	Avg.	0.0					9,909	9,839
	Max	0.0					11,357	11,385
	Min	0.0					8,256	8,176
	Total		289,433	273,770	3,685	6,131	277,455	275,483
MARS	Avg.	0.0					8,729	8,660
	Max	0.0					10,335	10,063
	Min	0.0					7,579	7,512
	Total		281,765	266,535	4,057	6,672	270,592	268,473
APRIL	Avg.	0.0					8,214	8,145
	Max	0.0					9,484	9,443
	Min	0.0					7,443	7,361
	Total		255,931	242,430	3,987	6,346	246,417	244,360
MAY	Avg.	0.0					8,950	8,866
	Max	0.0					11,650	11,485
	Min	0.0					7,540	7,432
	Total		288,481	273,373	4,069	6,757	277,442	274,848
JUNE	Avg.	0.0					8,701	8,612
	Max	0.0					10,969	10,869
	Min	0.0					7,327	7,246
	Total		273,069	257,055	3,986	7,971	261,041	258,370
JULY	Avg.	0.0					8,563	8,489
	Max	0.0					10,763	10,675
	Min	0.0					7,301	7,360
	Total		276,206	261,676	3,783	8,270	265,459	263,144
AUGUST	Avg.	0.0					8,377	8,297
	Max	0.0					10,162	10,121
	Min	0.0					7,113	7,032
	Total		269,986	255,540	4,144	8,219	259,684	257,201
SEPT.	Avg.	0.0					8,497	8,419
	Max	0.0					10,023	9,913
	Min	0.0					7,346	7,323
	Total		265,301	250,929	3,972	8,189	254,901	252,575
OCTO.	Avg.	0.0					8,198	8,125
	Max	0.0					9,359	9,546
	Min	0.0					7,148	7,081
	Total		266,378	249,982	4,156	8,136	254,138	251,890
NOV.	Avg.	0.0					8,239	8,154
	Max	0.0					9,624	9,854
	Min	0.0					7,071	6,965
	Total		260,474	242,791	4,385	6,422	247,176	244,613
DEC.	Avg.	0.0					9,061	8,970
	Max	0.0					12,200	12,316
	Min	0.0					6,942	6,814
	Total		294,963	276,458	4,424	6,617	280,882	278,082
Avg.		0.00					8,789	
Max		0.00					12,200	
Min		0.00					6,942	
Total			3,350,630	3,157,368	48,756	86,488	3,206,124	3,177,660

MONTH		CHLORINE				SILICA			LIME		ALUM		FLUOR		
		Monthly (kg)	Dosage (mg/l)	Chateau (kg)	Chateau (mg/l)	Silica (c) (litre)	lum. (c) (litre)	Dosage SiO ₂ (mg/l)	Lime (c.) (kg)	Dosage (mg/l)	Alum (litre)	Dosage (mg/l)	Fluor(b) (lbs)	Fluor® (kg)	Dosage (mg/l)
JAN	Avg.		2.22		0.35			1.03		11.66		41.65			0.47
	Max		4.33		0.63			1.37		14.08		49.29			0.67
	Min		0.44		0.08			0.66		10.65		27.24			0.17
	Total	730.0		10.6		852	432		3,576.5		22,121.8		652.9	129.1	
FEV	Avg.		2.14		0.23			0.91		12.45		43.62			0.55
	Max		2.87		0.46			1.03		13.41		58.22			0.63
	Min		1.41		0.01			0.80		11.52		29.46			0.01
	Total	620.0		6.5		659	332		3,414.4		20,527.2		688.7	136.2	
MARS	Avg.		2.22		0.13			0.91		12.28		43.83			0.45
	Max		4.35		0.29			1.03		13.05		55.74			0.62
	Min		1.16		0.00			0.81		10.92		35.48			0.19
	Total	625.0		3.7		641	323		3,273.7		20,014.2		552.3	109.2	
APRIL	Avg.		2.36		0.15			0.91		11.84		45.85			0.55
	Max		3.74		0.38			1.30		12.57		56.91			0.61
	Min		1.29		0.01			0.83		11.17		37.82			0.20
	Total	605.0		4.1		581	291		2,872.4		19,051.4		607.3	120.1	
MAY	Avg.		2.55		0.38			0.91		11.72		43.40			0.58
	Max		3.78		0.77			1.08		12.50		48.99			0.62
	Min		1.73		0.00			0.76		10.71		40.32			0.49
	Total	735.0		10.5		660	325		3,207.9		20,317.3		721.1	142.6	
JUNE	Avg.		2.91		0.46			0.85		12.04		41.27			0.57
	Max		5.36		0.70			0.99		13.01		58.14			0.69
	Min		0.52		0.16			0.49		10.71		20.82			0.41
	Total	790.0		12.6		582	286		3,087.2		18,229.0		667.5	132.0	
JULY	Avg.		3.32		0.63			0.87		11.08		40.83			0.58
	Max		4.85		0.92			0.96		12.89		46.14			0.62
	Min		1.80		0.37			0.68		9.35		32.45			0.55
	Total	915.0		18.1		602	297		2,910.8		18,306.7		693.5	137.1	
AUGUST	Avg.		3.25		0.81			0.87		11.60		39.94			0.58
	Max		5.51		1.12			1.00		12.37		44.57			0.62
	Min		1.23		0.55			0.74		10.40		36.19			0.50
	Total	880.0		22.3		592	291		2,968.9		17,492.6		675.6	133.6	
SEPT.	Avg.		2.87		0.77			0.90		11.76		42.75			0.57
	Max		4.16		1.66			1.01		12.58		48.46			0.64
	Min		1.86		0.27			0.49		10.80		39.02			0.10
	Total	760.0		20.9		599	302		2,949.3		18,389.4		644.5	127.5	
OCTO.	Avg.		2.63		0.43			0.98		13.56		48.60			0.58
	Max		4.32		0.74			1.38		14.31		71.59			0.62
	Min		0.57		0.22			0.80		12.02		25.28			0.51
	Total	700.0		11.8		656	328		3,393.5		20,950.4		663.2	131.2	
NOV.	Avg.		2.45		0.48			0.93		14.31		54.32			0.58
	Max		4.39		0.86			1.05		15.58		68.69			0.61
	Min		1.29		0.13			0.80		12.02		28.00			0.48
	Total	640.0		13.0		609	0		3,468.8		22,898.9		641.8	126.9	
DEC.	Avg.		2.16		0.28			0.98		14.45		58.28			0.57
	Max		3.60		0.66			1.10		16.57		89.65			0.82
	Min		0.85		0.02			0.86		13.05		44.23			0.34
	Total	630.0		7221.9		729	364		3,958.3		27,615.6		745.3	147.4	
	Avg.				0.42			0.92		12.40		45.36			0.55
	Max				1.66			1.38		16.57		89.65			0.82
	Min				0.00			0.49		9.35		20.82			0.01
	Total	8,630.0		7356.0		7,762	3,572		39,082		245,914		7,954	1,573	

MONTH	Date	GAS		HYDRO	
		(m3)	(kw/m)	Peak Demand	
JAN	Avg. Max Min Total	9,629	115,500	595 610 580	
FEV	Avg. Max Min Total	8,213	103,500	599 605 580	
MARS	Avg. Max Min Total	7,066	104,000	553 600 490	
APRIL	Avg. Max Min Total	3,554	99,500	516 585 460	
MAY	Avg. Max Min Total	1,410	107,500	544 585 470	
JUNE	Avg. Max Min Total	3	100,000	517 585 475	
JULY	Avg. Max Min Total	3	102,500	574 585 280	
AUGUST	Avg. Max Min Total	3	100,000	547 590 400	
SEPT.	Avg. Max Min Total	3	97,500	496 590 465	
OCTO.	Avg. Max Min Total	1,001	95,506	564 590 465	
NOV.	Avg. Max Min Total	5,915	98,000	548 590 480	
DEC.	Avg. Max Min Total	9,746	110,000	573 605 430	
	Avg. Max Min Total	46,546	1,233,506	552.21 610.00 280.00	

SOMMAIRE / SUMMARY

	2009	2010	2009	2010
	Production d'eau (Gallons)		Water production (m3)	
Total de l'année Total for year	742,184,953	705,347,181	3,373,568	3,206,124
Moy. par jour Daily ave.	2,033,383	1,932,458	9,243	8,784
Moy. par min. Ave. per min.	1,412	1,342	6.42	6.10
Consommation max. Max. consumption	2,777,756	2,684,032	12,626	12,200
Consommation min. Min. consumption	1,497,217	1,527,316	6,806	6,942
	Produits chimiques (lbs)		Chemical products (kg)	
Alun/Alum	620,382	541,012	281,992	245,914
Chaux/Lime	89,505	85,980	40,684	39,082
Chlore/Chlorine	45,051	35,169	20,478	15,986
Fluor/Fluoride	3,631	3,460	1,651	1,573
Silicate	18,084	17,077	8,220	7,762
Aluminate	8,833	7,857	4,015	3,572

Surintendant/Superintendent
SERVICE DE L'ENVIRONNEMENT/ENVIRONMENT SERVICE