
EGANVILLE DRINKING WATER SYSTEM

2012 ANNUAL
SUMMARY REPORT

Township of Bonnechere Valley
Water and Sewage Department
March 2013



Eganville Drinking Water System – 2012 Annual Summary Report

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Executive Summary

The water delivered to the customers of the Eganville Drinking Water System continues to be safe and meet all water quality standards. The Inorganic and Organic parameters tested for in 2012 were well within Maximum Acceptable Concentrations listed in the Ontario Drinking Water Standards.

One report of adverse water quality indication was filed in July 2012. Samples collected from the distribution system indicated a presence of Total Coliform. The affected watermains were flushed and resampled. The new sample results indicated that no Total Coliform were present.

All reports required by applicable acts, regulations, permits and licences have been prepared and submitted in accordance with the legislation.

All sampling required by applicable acts, regulations, permits and licences has been conducted in accordance with the legislation.

The volume of water treated and distributed to the Village of Eganville customers averaged 514 m³/day. The maximum daily flow of 711 m³/day occurred in June which is approximately 35% of the rated capacity of the Eganville Water Treatment Plant.



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Introduction

The treatment and delivery of potable water in Ontario is regulated by the Ministry of the Environment (MOE) under the Safe Drinking Water Act. On June 1, 2003 O. Reg. 170/03 came into effect which prescribes requirements for owners and operators of municipal drinking water systems.

O. Reg. 170/03 requires the owner to produce an Annual Report, under Section 11. The Report must include the following:

- ✚ A description of the drinking water system including a list of the water treatment chemicals used;
- ✚ A summary of any adverse water quality reports and corrective actions;
- ✚ A summary of all required testing results;
- ✚ A description of any mayor expenses incurred to install, repair or replace equipment.

Every time an Annual Report is prepared the owner of the system shall ensure that effective steps are taken to advise users of water from the system that copies of the report are available, without charge, and how a copy may be obtained.

The Regulation also requires the owner to produce a Summary Report as indicated in Schedule 22.

- ✚ The report must list the requirements of the Act, its Regulations, the system's Drinking Water Works Permit, Municipal Drinking Water Licence and any orders the system failed to meet during the reporting period. The report must also specify the duration of the failure, and for each failure referred to, describe the measures that were taken to correct the failure.
- ✚ To enable the Owner to assess the rated capacity of their system to meet existing and future planned water uses, the following information is also required in the report.
 - A summary of the quantities and flow rates of water supplied during the reporting period, including the monthly average and maximum daily flows;
 - A comparison of the summary to the rated capacity and flow rates approved in the system's Permit To Take Water, Drinking Water Works Permit and Municipal Drinking Water Licence



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Report Availability

A copy of this report shall be given, without charge, to every person who requests a copy from the Township of Bonnechere Valley Municipal Office at 49 Bonnechere St. E., Eganville, Ontario.

Users of the system in the Village of Eganville shall be advised of the availability of the report by providing an insert into their monthly water bill.

The report shall also be available on the Township of Bonnechere Valley website at www.bonnecherevalleytwp.com

Eganville Drinking Water System

The Eganville Water System is owned and operated by the Township of Bonnechere Valley and provides a potable water supply to the residents and business of the Village of Eganville. The system generally consists of a Water Treatment Plant (WTP), a distribution system and a water standpipe.

The WTP, built in 1990, treats water from the Bonnechere River with two Graver Monoplant Package Units, which have a combined capacity of 2,070 m³/day. The distribution system, originally constructed in the mid 1970's consists of approximately 13 km of piping ranging in diameter from 150 mm to 250 mm with a 300,000 Imperial gallon (1,363 m³) capacity steel standpipe for pressure equalization and supply.

The water treatment process within the two Graver Monoplant Package Units uses Sodium Hypochlorite for pre-disinfection and Pre Hydroxylated Aluminum Sulphate with Polyelectrolyte for coagulation. The treated and filtered water is then disinfected with Sodium Hypochlorite prior to being pumped out to the distribution system.

Large Residential Drinking Water System	
Name	Eganville Drinking Water System
Owner	Township of Bonnechere Valley
Number	210000675
Municipal Drinking Water Licence	171-101
Drinking Water Works Permit	171-201
Permit To Take Water	7529-5S6NUN
Financial Plan	171-301
QMS Operational Plan	171-401



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Summary of Adverse Test Results and Other Issues

Incident Date	Parameter	Result	Corrective Action	Corrective Action Date
July 5, 2012	Total Coliform in distribution system	85 CFU/100 ml	Flushed watermain and re-sampled, compliant results obtained	July 9, 2012
July 5, 2012	Total Coliform in distribution system	1 CFU/100 ml	Flushed watermain and re-sampled, compliant results obtained	July 9, 2012
Dec. 4, 2012	Localized low water pressure due to watermain break		Watermain isolated and low flow maintained, fixed break, flushed effected watermain, sampled and obtained 2 compliant consecutive test results	Dec. 5, 2012

*CFU/100ml is Colony Forming Units per 100 millilitres

Summary of Test Results

Microbiological Testing

Source	Number of Samples	Range of E. Coli Results (CFU/100ml) (min #-max #)	Range of Total Coliform Results (CFU/100ml) (min #-max #)	ODWS**
Raw	52	0-35	0-320	N/A
Treated	52	0	0	0
Distribution	185	0	0-85*	0

*July 5, 2012 Adverse Test Results

** ODWS – Ontario Drinking Water Standard

Source	Number of HPC* Samples	Range of HPC Results (Colonies per ml) (min#-max#)	ODWS
Raw	52	N/A	N/A
Treated	52	<2-4	500
Distribution	185	<2-52	500

*HPC - Heterotrophic Plate Count



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Operational Testing

Parameter	Number of Samples	Range of Results (min #)-(max #)	ODWS
Turbidity (4 dual media filters & 2 GAC filters)	8760* per filter	.031 – 0.072 NTU**	1.0 NTU
Free Chlorine Residual in water entering distribution system	8760	1.05 – 2.00 mg/L	0.05 - 4.0 mg/L

*Note: For continuous monitors 8760 is used for the number of samples.

**NTU – Nephelometric Turbidity Unit

Summary of Lead Testing

Sample Period	Sample Date	Location	Sample Results		
			Lead* mg/L	Alkalinity mg/L	pH
June 15 to October 15, 2012	Sept. 25, 2012	Hydrant #0043 78 Queen St.	0.00018	34	7.38
June 15 to October 15, 2012	Sept. 25, 2012	Hydrant #0007 46 Bonnechere St.	0.00016	34	7.28
December 15, 2012 to April 15, 2013	Jan. 29, 2013	Hydrant #0010 49 Maple St.	0.00057	26	7.26
December 15, 2012 to April 15, 2013	Jan. 29, 2013	Hydrant #0047 30 Bell St.	0.00017	26	7.20

*ODWS objective for lead in drinking water is 0.01 mg/L



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Summary of Inorganic Parameters

The treated water was sampled on February 14, 2012 for the following inorganic parameters. No exceedance of the ODWS was noted.

Inorganic Parameter	Results (mg/L)	ODWS (mg/L)
Antimony	<0.0001	0.006
Arsenic	<0.0002	0.025
Barium	0.025	1.0
Boron	<0.005	5.0
Cadmium	<0.00002	0.005
Chromium	<0.002	0.05
Lead	<0.00003	0.01
Mercury	<0.00002	0.00
Selenium	<0.001	0.01
Sodium	5.0	200
Uranium	<0.00005	0.02
Fluoride	<0.1	1.5
Nitrite	<0.1	1.0
Nitrate	0.1	10.0

Summary of Organic Parameters

The treated water was sampled on February 14, 2012 for the following organic parameters. No exceedance of the ODWS was noted.

Organic Parameter	Result (ug/L)	ODWS (ug/L)
Alachlor	<0.3	5
Aldicarb	< 3	9
Aldrin + Dieldrin	<0.02	0.7
Atrazine + N-dealkylated metabolites	<0.5	5
Azinphos-methyl	<1	20
Bendiocarb	<3	40
Benzene	<0.5	5
Benzo(a)pyrene	<0.005	0.01
Bromoxynil	<0.3	5
Carbaryl	<3	90
Carbofuran	<1	90
Carbon Tetrachloride	<0.2	5
Chlordane (Total)	<0.04	7
Chlorpyrifos	<0.5	90
Cyanazine	<0.5	10



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Organic Parameter	Result (ug/L)	ODWS (ug/L)
Diazinon	<1	20
Dicamba	<5	120
1,2-Dichlorobenzene	<0.1	200
1,4-Dichlorobenzene	<0.2	5
Dichlorodiphenyltrichloroethane (DDT) + metabolites	<0.1	30
1,2-Dichloroethane	<0.1	5
1,1-Dichloroethane	<0.1	14
Dichloromethane	<0.3	50
2-4 Dichlorophenol	<0.1	900
2,4-Dichlorophenoxy acetic acid (2,4-D)	<5	100
Diclofop-methyl	<0.5	9
Dimethoate	<1	20
Dinoseb	<0.5	10
Diquat	<5	70
Diuron	<5	150
Glyphosate	<25	280
Heptachlor + Heptachlor Epoxide	<0.1	3
Lindane (Total)	<0.1	4
Malathion	<5	190
Methoxychlor	<0.1	900
Metolachlor	<3	50
Metribuzin	<3	80
Monochlorobenzene	<0.2	80
Paraquat	<1	10
Parathion	<3	50
Pentachlorophenol	<0.1	60
Phorate	<0.3	2
Picloram	<5	190
Polychlorinated Biphenyls(PCB)	<0.05	3
Prometryne	<0.1	1
Simazine	<0.5	10
THM (Note: latest annual running average)	60.42	100
Temephos	<10	280
Terbufos	<0.3	1
Tetrachloroethylene	<0.2	30
2,3,4,6-Tetrachlorophenol	<0.1	100
Triallate	<10	230
Trichloroethylene	<0.1	5
2,4,6-Trichlorophenol	<0.1	5
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	<10	280
Trifluralin	<0.5	45
Vinyl Chloride	<0.2	2



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Major Infrastructure Improvements

During 2012 the Water Treatment Plant HVAC system was retrofitted with new surface water source pumps, a heat exchanger, circulation pumps and heat pumps. Total cost including engineering, supply and installation was approximately \$200,000 of which 2/3 is refunded under the Ontario Small Waterworks Assistance Program.

Water Usage Summary

2012 Month	Monthly Flows (m ³)	Average Daily Flows (m ³)	Maximum Daily Flows (m ³)
Jan	14,487	467	563
Feb	14,834	512	648
Mar	15,842	511	678
Apr	14,944	498	580
May	17,509	565	669
June	17,336	578	711
July	16,509	533	661
Aug	15,311	494	623
Sept	16,209	540	681
Oct	15,407	497	623
Nov	14,650	488	608
Dec	14,887	480	655
Total	187,925		
Average	15,660	514	
Max Day			711

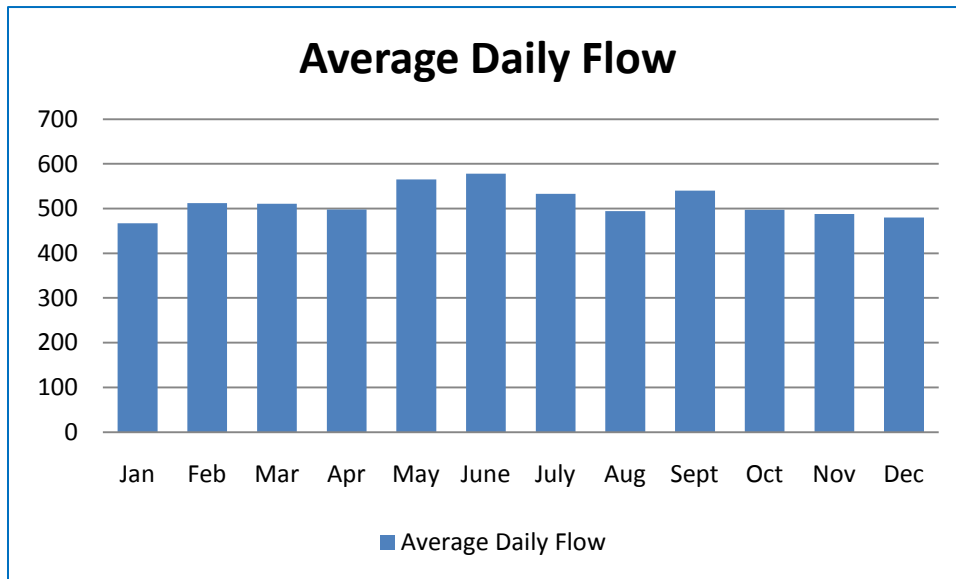
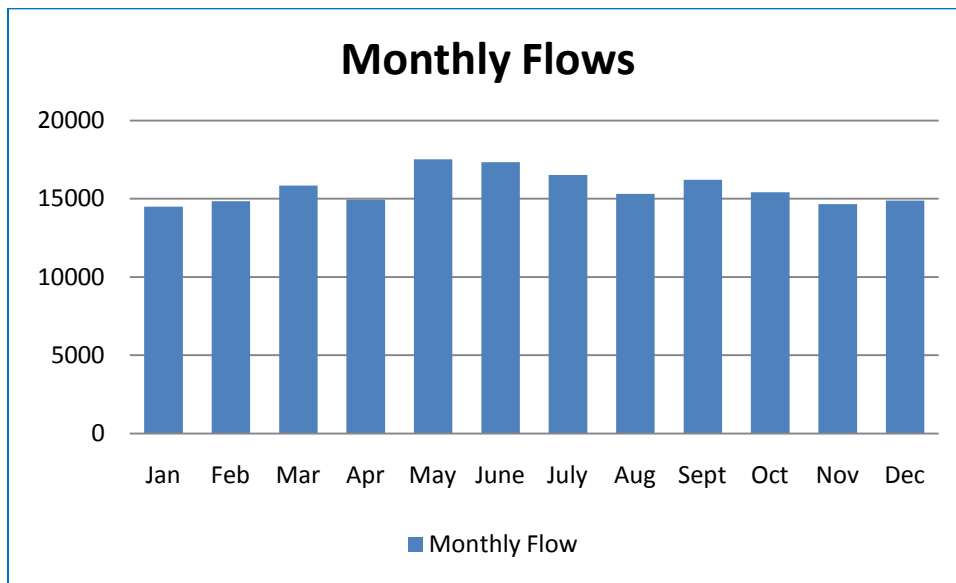
The rated capacity of the Eganville Water Treatment Plant is 2070 m³/day.

The maximum daily flow recorded during 2012 was 711 m³ which is only 35% of the rated capacity.

Based on this the Eganville Water Treatment Plant has more than adequate capacity to supply the Village of Eganville with drinking water for the foreseeable future.



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