

OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	260082017
Drinking-Water System Name:	Sibbald Point Outdoor Resource Centre
Drinking-Water System Owner:	York Region District School Board
Drinking-Water System Category:	Small Non Municipal Non Residential
Period being reported:	01/04/2013 to 31/03/2014

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served:</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [x] No []</p> <p>Number of Interested Authorities you report to:</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [x] No []</p>
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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

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

Drinking Water System Name	Drinking Water System Number
Sibbald Point Outdoor Resource Centre	260082017

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [x] No []

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

- ☒ **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** _____

Describe your Drinking-Water System

Sibbald Point Outdoor Resource Centre receives transported water from the Township of Georgina Municipal Water supply. The water is hauled in by Clean Water Cistern operated by Drinking Water Haulage Company. The onsite reservoir has a capacity of 8000 litres. The reservoir is equipped with a UV Disinfection Unit which has an audible and visual alarm to provide a warning system when the UV Disinfection Unit is not operating as per specifications. The reservoir is also equipped with an automatic shut off function to prevent the distribution of water in the case of UV Disinfection Unit failure. A professional engineer hired by the Board provided certification that the water works at the school meets minimum treatment requirements set forth in the regulation.

List all water treatment chemicals used over this reporting period

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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

Cost of equipment maintenance and contractor services is approximately \$1060.00

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	Parameter	Result	Unit of	Corrective Action	Corrective
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Date			Measure		Action Date

*****Note please refer to annual report for Georgina Water Supply for sampling and analysis information (attached).**

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 Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw					
Treated					
Distribution					

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

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity		
Chlorine		
Fluoride (If the DWS provides fluoridation)		

***NOTE:** For continuous monitors use 8760 as the number of samples.*

***NOTE:** Record the unit of measure if it is **not** milligrams per litre.*

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

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure

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



Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony				
Arsenic				
Barium				
Boron				
Cadmium				
Chromium				
Lead (Flushed Sample)	18/06/2013	ND	mg/L	No
Lead (Standing Sample)	18/06/2013	ND	mg/L	No
Mercury				
Selenium				
Sodium				
Uranium				
Fluoride				
Nitrite				
Nitrate				

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

Summary of lead testing under Schedule 15.1 during this reporting period

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

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing			
Distribution			

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor				
Aldicarb				
Aldrin + Dieldrin				
Atrazine + N-dealkylated metabolites				
Azinphos-methyl				
Bendiocarb				
Benzene				
Benzo(a)pyrene				
Bromoxynil				



Carbaryl				
Carbofuran				
Carbon Tetrachloride				
Chlordane (Total)				
Chlorpyrifos				
Cyanazine				
Diazinon				
Dicamba				
1,2-Dichlorobenzene				
1,4-Dichlorobenzene				
Dichlorodiphenyltrichloroethane (DDT) + metabolites				
1,2-Dichloroethane				
1,1-Dichloroethylene (vinylidene chloride)				
Dichloromethane				
2-4 Dichlorophenol				
2,4-Dichlorophenoxy acetic acid (2,4-D)				
Diclofop-methyl				
Dimethoate				
Dinoseb				
Diquat				
Diuron				
Glyphosate				
Heptachlor + Heptachlor Epoxide				
Lindane (Total)				
Malathion				
Methoxychlor				
Metolachlor				
Metribuzin				
Monochlorobenzene				
Paraquat				
Parathion				
Pentachlorophenol				
Phorate				
Picloram				
Polychlorinated Biphenyls(PCB)				
Prometryne				
Simazine				
THM (NOTE: show latest annual average)				
Temephos				
Terbufos				
Tetrachloroethylene				
2,3,4,6-Tetrachlorophenol				



Triallate				
Trichloroethylene				
2,4,6-Trichlorophenol				
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)				
Trifluralin				
Vinyl Chloride				

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

Parameter	Result Value	Unit of Measure	Date of Sample

Georgina

drinking water system

Sutton Drinking Water Sub-System

[surface water - lake simcoe]

The Georgina Water Treatment Plant (WTP), located in the Town of Georgina was commissioned in November 2003 and provides water to the communities of Keswick, Lakeshore, and Sutton.

The raw water intake consists of a one-metre diameter pipe extending 1.5 kilometres out into Lake Simcoe to a depth of 19 metres. Water is pumped from the intake pipe to a low lift pumping station. The pumping station is designed to house pumps and equipment to transfer the water to the treatment plant. Water withdrawal from the lake is regulated by a Permit to Take Water issued by the MOE.

Raw Water Source Description

The supply for the Georgina WTP is surface water from Lake Simcoe. Based on sampling conducted during the Engineer's Report exercise (2001, Simcoe Engineering) it was identified that local flora and fauna populations contributed to the occasional presence of coliforms or E.coli in the raw water supply. The summer season provides ideal conditions for abundant growth of algae in Lake Simcoe. When the algae die off in the fall, they release an organic chemical, which creates a musty taste and odour. This issue is generally seasonal, lasting from August to November and tends to improve during the cold water season.

Water Treatment

The Georgina WTP treatment process uses:

- Chlorine diffusion at the intake when the water temperature rises above 12 degrees Celcius to control zebra mussel growth
- Microfiltration treatment process removes suspended solids, Cryptosporidium, Giardia, as well as other potentially harmful parasites and bacteria; microfiltration is accomplished by drawing the raw water through membranes whose pore sizes are large enough to allow water to pass, but small enough to remove undesirable impurities
- Disinfection is accomplished by ultra-violet irradiation and the addition of chlorine
- Granular activated carbon (GAC) for taste and odour
- Hydrofluorosilicic acid is added to fluoridate

Treatment processes throughout the facility are monitored by online analyzers which are equipped with alarms and lockouts to alert operational staff of conditions requiring attention. Water supplied from the Georgina WTP branches off and feeds into the Sutton and Keswick distribution systems. In addition to the water treatment plant there is one storage tower servicing the community of Sutton, and two towers and one reservoir currently servicing Keswick and the Lakeshore communities.



Summary of Approvals and Permits

Municipal Drinking Water

Licence Number:	013-104
Issue Number:	Issue 3
Issue Date:	January 29, 2010
Revision Date:	September 20, 2013
Expiry Date:	January 28, 2015

Drinking Water Works

Permit Number:	013-204
Issue Number:	Issue 2
Issue Date:	January 29, 2010
Revision Date:	September 20, 2013

Permit to Take Water Number:	4523-8TGSMJ
Issue Date:	April 24, 2012
Expiry Date:	April 23, 2022

Operational Plan Number: 013-404



Financial Plan Number: 013-301A

MOE Waterworks Number: 260026156

System Classification: Water Treatment III (WT III)

Georgina (Sutton) Drinking Water System (Georgina WTP) Performance Summary:

[A] Absence
[hpc] Heterotrophic
Plate Count

	RAW	52 samples	0 to 8 e-coli results	0 to 115 total coliforms	n/a hpc samples	n/a hpc results
	TREATED	52 samples	[A] e-coli results	[A] total coliforms	53 hpc samples	0 to 4 hpc results

Average Treated Water Concentration (mg/L)	26 sodium	139 hardness	0.45 fluoride
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● Turbidity (Treated) 8,760 samples ranged 0.02 to 1.28 ntu [min. to max.]	● Turbidity (Raw) 8,760 samples ranged 0.11 to 4.01 ntu [min. to max.]	● Chlorine (Free) 8,760 samples ranged 0.95 to 5.00 mg/L [min. to max.]	● Fluoride 8,760 samples ranged 0.20 to 1.53 mg/L [min. to max.]
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Summary of additional testing and sampling carried out in accordance with the requirement of the licence

Facility	Parameter	Permitted Annual Average Concentration (mg/L)	Permitted Maximum Concentration (mg/L)	Reported Yearly Average (mg/L)
Georgina WTP - Yearly Average [Drinking Water Licence 013-104 Rev 3 dated September 20, 2013]	a] Suspended Solids (to lake)	25	N/A	2.54
	b] Free Chlorine (to lake)	N/A	0	0

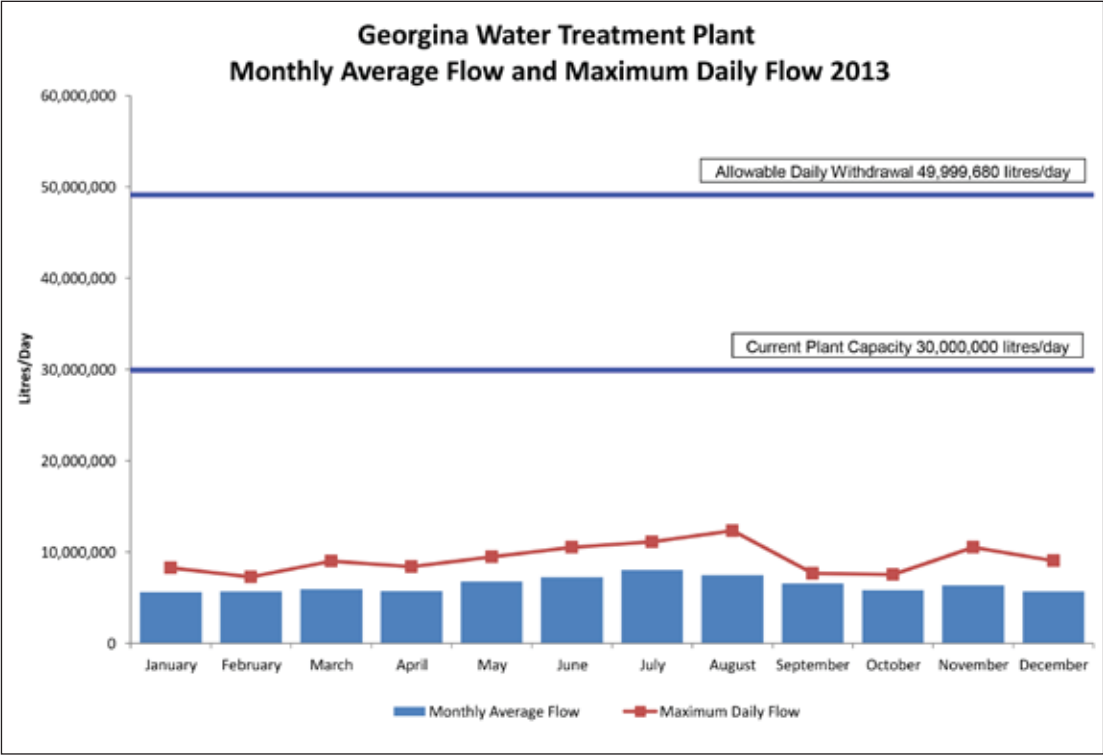
(Additional monitoring required as per Drinking Water License)

Permitted and Actual Maximum Daily Withdrawal from the Georgina (Sutton) Production Wells for January 1 to December 31, 2013

Location	Permitted Daily Withdrawal (litres)	Actual Maximum Daily Withdrawal (July 16, 2012) (litres)	Number of Days Operating at Peak Capacity (May to October)	Number of Days Operating at Peak Capacity (Annual)
Water Treatment Plant	49,999,680	12,347,000 August 4, 2013	0	0

Permitted and Actual Maximum Annual Withdrawal from the Georgina (Sutton) Production Wells for January 1 to December 31, 2013

18,250,000,000 litres	2,341,256,750 litres	12.8 per cent
Annual Permitted Withdrawal	Actual Annual Withdrawal	Percentage of Permitted Annual Withdrawal



Georgina

drinking water system

Keswick Drinking Water Sub-System

York Region operates a water treatment plant in the community of Keswick. The 600-millimetre diameter water intake pipe extends 365 metres out into Cook's Bay and draws water from a depth of 8.5 metres. Water withdrawal from the lake is regulated by a Permit to Take Water issued by the MOE.

Raw Water Source Description

The supply for the Keswick WTP is surface water from Cook's Bay, Lake Simcoe. Based on sampling conducted during the Engineer's Report exercise (2001, Simcoe Engineering) it was identified that local flora and fauna populations contributed to the occasional presence of coliforms or E.coli in the raw water supply.

The summer season provides the ideal conditions for abundant growth of algae in Lake Simcoe. When algae die off in the fall, they release an organic chemical, which creates a musty taste and odour. This event is generally seasonal, lasting from August to November and tends to improve during the cold water season.

Water Treatment

Treatment at the Keswick WTP is accomplished by:

- Chlorine is added at the intake to limit zebra mussel growth when the incoming water temperature rises above 12 degrees Celsius (oC)
- Incoming water is initially screened to remove large objects
- Carbon dioxide is added to adjust the pH for coagulation
- Coagulant is used in flocculation tanks to make suspended particles clump together and eventually settle out during the treatment process
- Settling occurs in the sedimentation tanks
- Filtration is performed by dual media gravity filters with granular activated carbon, which removes taste and odour
- Water continues to the clearwell and ground reservoir located in the plant
- Filtered water is disinfected using chlorine and fluoride is added prior to the water being pumped to the distribution system

Treatment processes throughout the facility are monitored by online analyzers which are equipped with alarms and lockouts to alert operational staff of conditions that require attention. There is one point of entry from the Keswick WTP to the distribution system servicing Sutton, Keswick and the Lakeshore communities. In addition to the water treatment plant there are two storage towers and one reservoir currently servicing Keswick and Lakeshore communities.

[surface water - lake simcoe]



LEGEND:

- Service Area
- ★ Elevated Tank
- Reservoir
- ◆ Water Treatment Plant (WTP)



Summary of Approvals and Permits

Municipal Drinking Water

Licence Number: 013-104
Issue Number: Issue 3
Issue Date: January 29, 2010
Revision Date: September 20, 2013
Expiry Date: January 28, 2015

Drinking Water Works

Permit Number: 013-204
Issue Number: Issue 2
Issue Date: January 29, 2010
Revision Date: September 20, 2013

Permit to Take Water Number: 8413-994JDQ
Issue Date: August 8, 2013
Expiry Date: October 30, 2023

Operational Plan Number: 013-404



Financial Plan Number: 013-301A

MOE Waterworks Number: 260026156

System Classification: Water Treatment III (WT III) Water Distribution Subsystem III (WDIII)

Georgina (Keswick) Drinking Water System (Keswick WTP) Performance Summary:

[A] Absence
[hpc] Heterotrophic
Plate Count

	RAW	52 samples	0 to 8 e-coli results	0 to 590 total coliforms	n/a hpc samples	n/a hpc results
	TREATED	52 samples	[A] e-coli results	[A] total coliforms	53 hpc samples	0 to 150 hpc results

Average Treated
Water Concentration (mg/L)

27

sodium

143

hardness

0.31

fluoride

- Turbidity (Treated)
8,760 samples
ranged 0.02 to 1.12 ntu
[min. to max.]
- Turbidity (Raw)
8,760 samples
ranged 0.00 to 7.04 ntu
[min. to max.]
- Chlorine (Free)
8,760 samples
ranged 0.61 to 2.33 mg/L
[min. to max.]
- Fluoride
8,760 samples
ranged 0.198 to 1.46 mg/L
[min. to max.]

Summary of additional testing and sampling carried out in accordance with the requirement of the licence

Facility	Parameter	Permitted Annual Average Concentration (mg/L)	Reported Yearly Average (mg/L)
Keswick WTP - Yearly Average [Drinking Water Licence 013-104 Rev 3 dated September 20, 2013]	a] Suspended Solids (to lake)	25	24.3
(Additional monitoring required as per Drinking Water License)			

Permitted and Actual Maximum Daily Withdrawal from the Georgina (Keswick) Production Wells for January 1 to December 31, 2013

Location	Permitted Daily Withdrawal (litres)	Actual Maximum Daily Withdrawal (October 31, 2012) (litres)	Number of Days Operating at Peak Capacity (May to October)	Number of Days Operating at Peak Capacity (Annual)
Water Treatment Plant	18,150,000	5,559,000 June 19, 2013	0	0

Permitted and Actual Maximum Annual Withdrawal from the Georgina (Keswick) Production Wells for January 1 to December 31, 2013

6,624,750,000
litres

Annual Permitted
Withdrawal

1,256,221,092
litres

Actual Annual
Withdrawal

19.0
per cent

Percentage of Permitted
Annual Withdrawal

Keswick Water Treatment Plant Monthly Average Flow and Maximum Daily Flow 2013

