



ANNUAL REPORT

Drinking-Water System Number:	220010654
Drinking-Water System Name:	Sandcastle Estates Water Supply and Distribution
Drinking-Water System Owner:	The Corporation of the Township of Severn
Drinking-Water System Category:	Small Municipal Residential
Period being reported:	January 1, 2017 to December 31, 2017

<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; padding: 5px;"> <p>Township of Severn Administrative Office 1024 Hurlwood Lane Severn, Ontario L3V 0Y6</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] 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
N/A	

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 _____

Describe your Drinking-Water System

Water for the Sandcastle Estates water treatment plant is pumped from Lake Couchiching to a package water treatment plant located on Sandcastle Court. Sodium Hypochlorite and SternPAC are added prior to direct filtration. Filtration is provided by two (2) trains of pressure type depth filters and clarifiers. Filtered water is disinfected with ultraviolet light then chlorinated before being sent to a 50 m³ concrete underground reservoir for storage. Backwash water from the clarifiers and filters is stored in a 45 m³ settling tank. Solids are settled out and then the supernatant is discharged to Lake Couchiching. The distribution system was constructed in the 1970's and is comprised of PVC piping. There is one sample station and four blow-offs. There are no fire hydrants connected to the distribution system. The Sandcastle Estates water system serves approximately 170 residents.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite
SternPAC

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

Complete replacement/upgrade of depth filters, clarifiers, flow meters, valves and associated piping – \$190,000
New sample station - \$3,200
Rebuilt high lift pump #2 - \$17,500

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

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	50	0 - 38	0 – 262	N/A	N/A
Treated	53	0 - 0	0 – 0	0	-
Distribution	53	0 - 0	0 - 0	51	0 -10

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 – Train 1	8760	0.14 – 0.380 NTU
Turbidity – Train 2	8760	0.15 – 0.375 NTU
Turbidity	8760	0 .026 – 1.780 NTU
Chlorine	8760	1.08 – 2.05
Chlorine Free Residual Distribution System	104	0.93 – 2.00
Fluoride (If the DWS provides fluoridation)	N/A	

***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
July 29, 2011	TSS	Annual Avg.	10.80	mg/L

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	Oct. 26, 2015	0.07	µg/L	No
Arsenic	Oct. 26, 2015	0.7	µg/L	No
Barium	Oct. 26, 2015	27.1	µg/L	No
Boron	Oct. 26, 2015	17.0	µg/L	No
Cadmium	Oct. 26, 2015	<0.003	µg/L	No
Chromium	Oct. 26, 2015	0.15	µg/L	No
*Lead	N/A			
Mercury	Oct. 26, 2015	<0.01	µg/L	No
Selenium	Oct. 26, 2015	0.70	µg/L	No

Sodium	Oct. 2, 2017	32.2	mg/L	Yes
Uranium	Oct. 26, 2015	0.255	µg/L	No
Fluoride	Oct. 21, 2013	0.08	mg/L	No
Nitrite	January 9, 2017 April 3, 2017 July 10, 2017 October 2, 2017	0.003 0.003 0.003 0.003	mg/L	No
Nitrate	January 9, 2017 April 3, 2017 July 10, 2017 October 2, 2017	0.020 0.018 0.036 0.022	mg/L	No

*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	2	0.31 – 0.53	0

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	Oct. 26, 2015	<0.02	µg/L	No
Aldicarb	Oct. 26, 2015	<0.01	µg/L	No
Aldrin + Dieldrin	Oct. 26, 2015	<0.01	µg/L	No
Atrazine + N-dealkylated metabolites	Oct. 26, 2015	0.03	µg/L	No
Azinphos-methyl	Oct. 26, 2015	<0.05	µg/L	No
Bendiocarb	Oct. 26, 2015	<0.01	µg/L	No
Benzene	Oct. 26, 2015	<0.32	µg/L	No
Benzo(a)pyrene	Oct. 26, 2015	<0.004	µg/L	No
Bromoxynil	Oct. 26, 2015	<0.33	µg/L	No
Carbaryl	Oct. 26, 2015	<0.05	µg/L	No
Carbofuran	Oct. 26, 2015	<0.01	µg/L	No
Carbon Tetrachloride	Oct. 26, 2015	<0.16	µg/L	No
Chlordane (Total)	Oct. 26, 2015	<0.01	µg/L	No
Chlorpyrifos	Oct. 26, 2015	<0.02	µg/L	No
Cyanazine	Oct. 26, 2015	<0.03	µg/L	No
Diazinon	Oct. 26, 2015	<0.02	µg/L	No
Dicamba	Oct. 26, 2015	<0.20	µg/L	No
1,2-Dichlorobenzene	Oct. 26, 2015	<0.41	µg/L	No



1,4-Dichlorobenzene	Oct. 26, 2015	<0.36	µg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	Oct. 26, 2015	<0.01	µg/L	No
1,2-Dichloroethane	Oct. 26, 2015	<0.35	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Oct. 26, 2015	<0.33	µg/L	No
Dichloromethane	Oct. 26, 2015	<0.35	µg/L	No
2-4 Dichlorophenol	Oct. 26, 2015	<0.15	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Oct. 26, 2015	<0.19	µg/L	No
Diclofop-methyl	Oct. 26, 2015	<0.40	µg/L	No
Dimethoate	Oct. 26, 2015	<0.03	µg/L	No
Dinoseb	Oct. 26, 2015	<0.36	µg/L	No
Diquat	Oct. 26, 2015	<1	µg/L	No
Diuron	Oct. 26, 2015	<0.03	µg/L	No
Glyphosate	Oct. 26, 2015	<1	µg/L	No
Heptachlor + Heptachlor Epoxide	Oct. 26, 2015	<0.01	µg/L	No
Haloacetic Acids (HAA5) (NOTE: show latest annual average)	2017 Average	33.88	µg/L	No
Lindane (Total)	Oct. 26, 2015	<0.01	µg/L	No
Malathion	Oct. 26, 2015	<0.02	µg/L	No
Methoxychlor	Oct. 26, 2015	<0.01	µg/L	No
Metolachlor	Oct. 26, 2015	<0.01	µg/L	No
Metribuzin	Oct. 26, 2015	<0.02	µg/L	No
Monochlorobenzene	Oct. 26, 2015	<0.3	µg/L	No
Paraquat	Oct. 26, 2015	<1	µg/L	No
Parathion	Oct. 26, 2015	<0.02	µg/L	No
Pentachlorophenol	Oct. 26, 2015	<0.15	µg/L	No
Phorate	Oct. 26, 2015	<0.01	µg/L	No
Picloram	Oct. 26, 2015	<1	µg/L	No
Polychlorinated Biphenyls(PCB)	Oct. 26, 2015	<0.04	µg/L	No
Prometryne	Oct. 26, 2015	<0.03	µg/L	No
Simazine	Oct. 26, 2015	<0.01	µg/L	No
THM (NOTE: show latest annual average)	2017 Average	67.4	µg/L	No
Temephos	Oct. 26, 2015	<0.01	µg/L	No
Terbufos	Oct. 26, 2015	<0.01	µg/L	No
Tetrachloroethylene	Oct. 26, 2015	<0.35	µg/L	No
2,3,4,6-Tetrachlorophenol	Oct. 26, 2015	<0.20	µg/L	No
Triallate	Oct. 26, 2015	<0.01	µg/L	No
Trichloroethylene	Oct. 26, 2015	<0.44	µg/L	No
2,4,6-Trichlorophenol	Oct. 26, 2015	<0.25	µg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Oct. 26, 2015	<0.22	µg/L	No
Trifluralin	Oct. 26, 2015	<0.02	µg/L	No
Vinyl Chloride	Oct. 26, 2015	<0.17	µg/L	No



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
Sodium	33.1	mg/L	October 17, 2017
THMs	67.4	µg./L	Annual Average