

CAMBRIDGE ANNUAL REPORT

Drinking Water System Number:	260002460
Drinking Water System Name:	Cambridge Distribution System
Drinking Water System Owner:	The Corporation of the City of Cambridge
Drinking Water System Category:	Large Municipal Residential
Period being reported:	January 1 to December 31, 2022

<u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u>	<u>Complete for all other Categories</u>
<p>Does your Drinking Water System serve more than 10,000 people? Yes [X] No []</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; margin-top: 10px;"> <p>A copy may be obtained from the City of Cambridge Clerk's Department (519) 623-1340</p> </div>	<p>Number of Designated Facilities served:</p> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;">N/A</div> <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:</p> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;">N/A</div> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>

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 their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Lloyd Brown Subdivision Distribution System	260002759

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 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 - Report provided to Cambridge City Council

Describe your Drinking Water System

The Cambridge Distribution System services approximately 138,500 people via 40,668 service connections, which includes 37,615 private residences. There is an estimated 606 kilometers of water main located within Cambridge, of which the City owns 516 km, the Region of Waterloo owns 58 km, and there is 32 km of shared mains. There are 3,669 hydrants providing fire protection and 6,656 valves (including shared) of various sizes for controlling water flow. The distribution system is divided into five individual pressure zones based on the water supply components and the varying elevations throughout the City. The water supply is provided by the Region.

List all water treatment chemicals used over this reporting period

N/A – See Region of Waterloo

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

Water Connection Maintenance – \$2,410,000
 Watermain Maintenance – \$1,226,000
 Hydrant Maintenance - \$ 566,000

*Numbers are approximates at time of report.

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
June 27, 2022 (AWQI 158890)	Present TC	Present TC	Present/ Absent	Flushed and resampled	June 28, 2022
July 13, 2022 (AWQI 159133)	Present TC	Present TC	Present/ Absent	Flushed and resampled	July 14, 2022
July 14, 2022 (AWQI 159148)	Present TC	Present TC	Present/ Absent	Flushed and resampled	July 15, 2022
Sept 12, 2022 (AWQI 159961)	Present TC	Present TC	Present/ Absent	Flushed and resampled	Sept 14, 2022
Sept 22, 2022 (AWQI 160093)	Low Chlorine	Total 0.23	mg/L	Flushed and resampled	Sept 22, 2022
Sept 26, 2022 (AWQI 160130)	Low Chlorine	Total 0.13	mg/L	Flushed and resampled	Sept 27, 2022
Nov 8, 2022 (AWQI 160599)	Present TC	Present TC	Present/ Absent	Flushed and resampled	Nov 9, 2022
Nov 9, 2022 (AWQI 160617)	Present TC	Present TC	Present/ Absent	Flushed and resampled	Nov 10, 2022
Nov 10, 2022 (AWQI 160625)	Present TC	Present TC	Present/ Absent	Flushed and resampled	Nov 11, 2022

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 Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Distribution	1611	Absent, Present	Absent, Present	631 (39 % of all samples)	0 - >500 CFU/100m L

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 #)	Unit of Measure
Total Chlorine	833	0.31 – 2.40	mg/L
Combined Chlorine	833	0.02 – 1.50	mg/L
Free Chlorine	833	0.02 – 1.98	mg/L

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

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
n/a				

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	n/a			
Arsenic				
Barium				
Boron				
Cadmium				
Chromium				
*Lead				
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 #)	Unit of Measure	Number of Exceedances
Alkalinity (Distribution System)	24	248 – 304	mg/L	n/a (not legislated)
pH (Distribution System, Residential, and Non-Residential)	79	4.8 – 8.3	pH	n/a (not legislated)
Plumbing	122	0.228 – 15.6	µg/L	3
Distribution	23	0.2 – 2.92	µg/L	n/a

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				
Atrazine + N-dealkylated metabolites				

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Azinphos-methyl				
Benzene				
Benzo(a)pyrene				
Bromoxynil				
Carbaryl				
Carbofuran				
Carbon Tetrachloride				
Chlorpyrifos				
Diazinon				
Dicamba				
1,2-Dichlorobenzene				
1,4-Dichlorobenzene				
1,2-Dichloroethane				
1,1-Dichloroethylene (vinylidene chloride)				
Dichloromethane				
2,4-Dichlorophenol				
2,4-Dichlorophenoxy acetic acid (2,4-D)				
Diclofop-methyl				
Dimethoate				
Diquat				
Diuron				
Glyphosate				
HAAs (<i>Note: show latest running annual average</i>)	07-Feb-22 16-May-22 15-Aug-22 14-Nov-22	12.03	µg/L	No
Lindane (Total)				
Malathion				
Metolachlor				
Metribuzin				
Monochlorobenzene				
Paraquat				
Pentachlorophenol				
Phorate				
Picloram				
Polychlorinated Biphenyls(PCB)				
Prometryne				
Simazine				
Terbufos				
Tetrachloroethylene (perchloroethylene)				
2,3,4,6-Tetrachlorophenol				

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
THMs (Note: show latest running annual average)	26-Jan-22 04-May-22 09-Aug-22 24-Nov-22	6.68	µg/L	No
Triallate				
Trichloroethylene				
2,4,6-Trichlorophenol				
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
Lead (residential)	6.16	µg/L	June 29, 2022
Lead (residential)	6.49	µg/L	July 13, 2022
Lead (residential)	6.32	µg/L	August 10, 2022
Lead (non-residential)	7.46	µg/L	August 15, 2022