



## OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	220004313
Drinking-Water System Name:	Thorold (Decew) Distribution System
Drinking-Water System Owner:	Corporation of The City of Thorold
Drinking-Water System Category:	Large Municipal
Period being reported:	January 1, 2022 – December 31, 2022

**Complete if your Category is Large Municipal Residential or Small Municipal Residential**

Does your Drinking-Water System serve more than 10,000 people? Yes [ X ] No [ ]

Is your annual report available to the public at no charge on a web site on the Internet?  
Yes [ X ] No [ ]

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Thorold Arena  
70 Front St North,  
Thorold, Ontario  
(905) 227-6613 fax: (905) 227-3666

**Complete for all other Categories.**

Number of Designated Facilities served:

Did you provide a copy of your annual report to all Designated Facilities you serve?  
Yes [ ] No [ ]

Number of Interested Authorities you report to:

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?  
Yes [ ] No [ ]

**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 [X] No [ ]



# Ontario Drinking-Water Systems Regulation O. Reg. 170/03

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 to Council is prepared and provided for information purposes at Council meeting which is also televised on a local network channel

## Describe your Drinking-Water System

The City of Thorold purchases treated water from the Regional Municipality of Niagara and is responsible for the distribution of this water to all users within the Urban Service Area of the City of Thorold. The City of Thorold is supplied from three Regional sources. This particular system (Decew) receives water from the Decew Falls Water Treatment Plant (2700 Decew Road, Thorold) which has a total capacity of 227 ML/D. The system consists of approximately 88 kilometers of watermain and serves approximately 14,000 residents in the City of Thorold and is a Class 1 Water Distribution System.

## List all water treatment chemicals used over this reporting period

No treatment chemicals have been used by the City of Thorold over this period. The Decew Distribution System receives treated water from the Decew Falls Water Treatment Plant. The City of Thorold maintains the distribution portion and does not use any treatment chemicals.

## 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

The City of Thorold's 2022 capital budget for watermain replacement and improvements was approximately \$730,000. No watermain was replaced in 2022. Approximately \$730,000 was awarded to Engineering companies to design road reconstruction projects which included water main replacement.

## 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
2022/11/24	Total Coliform	1	Cfu/100 mL	Flush, resample	2022/11/24

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	416	0-0	0-0	416	(0) - (>500)

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

	Number of Samples	Range of Results (min #)-(max #)	Unit of Measure	<i>NOTE: For continuous monitors use 8760 as the number of samples.</i>
Turbidity				
Chlorine	660	0.25-1.38	mg/L	
Fluoride (If the DWS provides fluoridation)				

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	N/A	N/A	N/A	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				
Arsenic				
Barium				
Boron				
Cadmium				

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Chromium</b>				
<b>*Lead</b>				
<b>Mercury</b>				
<b>Selenium</b>				
<b>Sodium</b>				
<b>Uranium</b>				
<b>Fluoride</b>				
<b>Nitrite</b>				
<b>Nitrate</b>				

\*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	Exceedance
<b>Plumbing</b>	0	<b>0</b>	µg/L	<b>0</b>
<b>Distribution</b>	8	<b>&lt;1.0</b>	µg/L	<b>0</b>

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Alachlor</b>				
<b>Atrazine + N-dealkylated metabolites</b>				
<b>Azinphos-methyl</b>				
<b>Benzene</b>				
<b>Benzo(a)pyrene</b>				
<b>Bromoxynil</b>				
<b>Carbaryl</b>				
<b>Carbofuran</b>				
<b>Carbon Tetrachloride</b>				
<b>Chlorpyrifos</b>				
<b>Diazinon</b>				
<b>Dicamba</b>				
<b>1,2-Dichlorobenzene</b>				
<b>1,4-Dichlorobenzene</b>				
<b>1,2-Dichloroethane</b>				



Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
1,1-Dichloroethylene (vinylidene chloride)				
Dichloromethane				
2-4 Dichlorophenol				
2,4-Dichlorophenoxy acetic acid (2,4-D)				
Diclofop-methyl				
Dimethoate				
Diquat				
Diuron				
Glyphosate				
HAA	Annual Average	12.9	µg/L	0
Malathion				
2-Methyl-4-chlorophenoxyacetic acid (MCPA)				
Metolachlor				
Metribuzin				
Monochlorobenzene				
Paraquat				
Pentachlorophenol				
Phorate				
Picloram				
Polychlorinated Biphenyls(PCB)				
Prometryne				
Simazine				
THM	Annual Average	26.43	µg/L	0
Terbufos				
Tetrachloroethylene				
2,3,4,6-Tetrachlorophenol				
Triallate				
Trichloroethylene				
2,4,6-Trichlorophenol				
Trifluralin				
Vinyl Chloride				



## OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	220049582
Drinking-Water System Name:	Thorold (Port Robinson) Distribution System
Drinking-Water System Owner:	Corporation of The City of Thorold
Drinking-Water System Category:	Large Municipal
Period being reported:	January 1, 2022 – December 31, 2022

**Complete if your Category is Large Municipal Residential or Small Municipal Residential**

Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [ X ]

Is your annual report available to the public at no charge on a web site on the Internet?  
Yes [ X ] No [ ]

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Thorold Arena  
70 Front St North  
Thorold, Ontario  
(905) 227-6613 fax: (905) 227-3666

**Complete for all other Categories.**

Number of Designated Facilities served:

Did you provide a copy of your annual report to all Designated Facilities you serve?  
Yes [ ] No [ ]

Number of Interested Authorities you report to:

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?  
Yes [ ] No [ ]

**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 [X] No [ ]



# Ontario Drinking-Water Systems Regulation O. Reg. 170/03

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 to Council is prepared and provided for information purposes at Council meeting which is also televised on a local network channel

## Describe your Drinking-Water System

The City of Thorold purchases treated water from the Regional Municipality of Niagara and is responsible for the distribution of this water to all users within the Urban Service Area of the City of Thorold. The City of Thorold is supplied from three Regional sources. This particular system (Port Robinson) receives water from the Niagara Falls Water Treatment Plant (3599 Macklem St, Niagara Falls) which has a total capacity of 146 ML/D. The Water Distribution System is a Class 1 system that consists of approximately 6000 metres of watermain located at the South East end of the City of Thorold.

## List all water treatment chemicals used over this reporting period

No water treatment chemicals have been used by the City of Thorold over this period. The Port Robinson Distribution System receives treated water from the Niagara Falls Water Treatment Plant, owned by the Region of Niagara

## 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

No water main replacement was performed on this system

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					
Treated					
Distribution	156	0-0	0-6	156	0-17

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

	Number of Samples	Range of Results (min #)-(max #)	Unit of Measure	<i>NOTE: For continuous monitors use 8760 as the number of samples.</i>
Turbidity				
Chlorine	418	0.29-1.76	mg/L	
Fluoride (If the DWS provides fluoridation)				

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	N/A	N/A	N/A	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				
Arsenic				
Barium				
Boron				
Cadmium				
Chromium				
*Lead				
Mercury				
Selenium				
Sodium				
Uranium				
Fluoride				



Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
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	Exceedance
Plumbing	0	n/a	µg/L	0
Distribution	4	<1.0	µg/L	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				
Atrazine + N-dealkylated metabolites				
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				



Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Diquat				
Diuron				
Glyphosate				
HAA	Annual Average	16.4	µg/L	0
Malathion				
2-Methyl-4-chlorophenoxyacetic acid (MCPA)				
Metolachlor				
Metribuzin				
Monochlorobenzene				
Paraquat				
Pentachlorophenol				
Phorate				
Picloram				
Polychlorinated Biphenyls(PCB)				
Prometryne				
Simazine				
THM	Annual Average	31.9	µg/L	0
Terbufos				
Tetrachloroethylene				
2,3,4,6-Tetrachlorophenol				
Triallate				
Trichloroethylene				
2,4,6-Trichlorophenol				
Trifluralin				
Vinyl Chloride				



## OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	220049621
Drinking-Water System Name:	Thorold (South End) Distribution System
Drinking-Water System Owner:	Corporation of The City of Thorold
Drinking-Water System Category:	Large Municipal
Period being reported:	January 1, 2022 – December 31, 2022

<p><u><b>Complete if your Category is Large Municipal Residential or Small Municipal Residential</b></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><p>Thorold Arena 70 Front St North, Thorold, Ontario (905) 227-6613 fax: (905) 227-3666</p></div>	<p><u><b>Complete for all other Categories.</b></u></p> <p>Number of Designated Facilities served:</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:</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 [X] No [ ]



# Ontario Drinking-Water Systems Regulation O. Reg. 170/03

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

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☒ 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 to Council is prepared and provided for information purposes at Council meeting which is also televised on a local network channel

## Describe your Drinking-Water System

The City of Thorold purchases treated water from the Regional Municipality of Niagara and is responsible for the distribution of this water to all users within the Urban Service Area of the City of Thorold. The City of Thorold is supplied from three Regional sources. This particular system (South End) receives water from the Welland Water Treatment Plant (4 Cross Street North). The system consists of approximately 6 kilometers of watermain and serves approximately 600 residents in the City of Thorold and is a Class 1 Water Distribution System.

## List all water treatment chemicals used over this reporting period

No treatment chemicals have been used by the City of Thorold over this period. The South End Distribution System receives treated water from the Welland Water Treatment Plant. The City of Thorold maintains the distribution portion and does not use any treatment chemicals.

## 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

No water main replacement was performed on this system. Only new development has occurred and will have huge growth in population use very shortly once houses are finished.

## 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
N/A	N/A	N/A	N/A	N/A	N/A

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 #)
<b>Raw</b>					
<b>Treated</b>					
<b>Distribution</b>	156	0-0	0-0	156	0-18

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

	Number of Samples	Range of Results (min #)-(max #)	Unit of Measure	<i>NOTE: For continuous monitors use 8760 as the number of samples.</i>
<b>Turbidity</b>				
<b>Chlorine</b>	416	0.25-1.37	mg/L	
<b>Fluoride</b> (If the DWS provides fluoridation)				

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	N/A	N/A	N/A	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
<b>Antimony</b>				
<b>Arsenic</b>				
<b>Barium</b>				
<b>Boron</b>				
<b>Cadmium</b>				
<b>Chromium</b>				
<b>*Lead</b>				
<b>Mercury</b>				
<b>Selenium</b>				
<b>Sodium</b>				
<b>Uranium</b>				



Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
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	Exceedance
Plumbing	12	<1.0	µg/L	0
Distribution	6	<1.0	µg/L	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				
Atrazine + N-dealkylated metabolites				
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				



Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Dimethoate				
Diquat				
Diuron				
Glyphosate				
HAA	Annual Average	7.5	µg/L	0
Malathion				
2-Methyl-4-chlorophenoxyacetic acid (MCPA)				
Metolachlor				
Metribuzin				
Monochlorobenzene				
Paraquat				
Pentachlorophenol				
Phorate				
Picloram				
Polychlorinated Biphenyls(PCB)				
Prometryne				
Simazine				
THM	Annual Average	21.3	µg/L	0
Terbufos				
Tetrachloroethylene				
2,3,4,6-Tetrachlorophenol				
Triallate				
Trichloroethylene				
2,4,6-Trichlorophenol				
Trifluralin				
Vinyl Chloride				