



Trenton Drinking Water System



2010 Annual and Summary Report



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**PUBLIC WORKS & ENVIRONMENTAL
SERVICES**

**2010 Annual & Summary Report
Trenton Drinking Water System
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Annual Report*

Drinking-Water System Number: **220001619**
Drinking-Water System Name: **Trenton Drinking Water System**
Drinking-Water System Owner: **The Corporation of the City of Quinte West**
Drinking-Water System Category: **Large Municipal Residential System**
Period being reported: **January 1, 2010-December 31, 2010**

Does your Drinking-Water System serve more than 10,000 people?

Yes

Is your annual report available to the public at no charge on a web site on the Internet?

Yes – please visit www.quintewest.ca

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

City Hall
7 Creswell Drive
Trenton, ON, K8V 5R6

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
Carrying Place/Consecon WDS	260005099

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



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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

The Trenton Water Treatment plant drafts water via a 53 m long, 400 mm diameter raw water intake pipe from the Trent River just above Dam No. 1. This conventional chemically assisted filtration plant has a rated capacity of 35, 800 m³/day. Processes used at the filtration plant include flocculation, sedimentation, Dual-Media filtration, and Granular-Activated Carbon adsorption filtration. Chlorine gas is applied as a disinfectant before filtered water enters two interconnected un-baffled clearwells with a combined capacity of 5, 454 m³. The potable water is then pumped into the distribution system. There are two elevated water storage tanks currently in service. The first is the 2nd Dug Hill Road Water Tower; capacity 2273m³ the second is the Oak Street Water Tower; capacity 2273 m³. The Trenton distribution system services approximately 17, 000 people in the Trenton community in addition to part of CFB Trenton. As of November 2010 a pressure boosting pumping station, located on Telephone Road, was put in service to supply water to the *En Route* 401 service centers located in Quinte West. The Trenton Water Treatment plant also supplies all drinking water to the Carrying Place and Consecon Water Distribution system in Prince Edward County.

List all water treatment chemicals used over this reporting period:

- Aluminum Sulphate (alum)
- Chlorine Gas

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:

- New Supervisory Control and Data Acquisition (SCADA) system programming and installation
- Drinking Water Quality Management System implementation; *this led to the City being one of the first in the area to receive Full Scope DWQMS Accreditation and receive the new Drinking Water Licensing and Drinking Water Works Permits.*
- Raw water intake and wells cleaned and inspected
- Chlorine leak detection replaced
- Serviced and cleaned MCC cabinets
- New ultrasonic level controls installed on all filters
- Generator serviced



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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 (mm/dd/yy)	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date (mm/dd/yy)
04/06/10	Lead	51.7	ug/L	Customer notified; no further action required	04/07/10
04/06/10	Lead	49.1	ug/L	Customer notified; no further action required	04/07/10
04/06/10	Lead	36.2	ug/L	Customer notified; no further action required	04/07/10
04/15/10	Lead	58.1	ug/L	Customer notified; no further action required	04/19/10
07/30/10	Continuous monitoring (trending) frozen for a period of 4 ½ hours.	For a period of 4 ½ hours online trending for treated water chlorine was frozen.		The SCADA system was rebooted. Staff maintained visual observation of the analyzer all day and were confident that no water quality issues occurred.	07/30/10
09/14/10	Lead	41.4	ug/L	Customer notified; no further action required	09/14/10
09/28/10	Lead	10.2	ug/L	Customer notified; no further action required	09/28/10
10/01/10	Lead	57.6	ug/L	Customer notified; no further action required	10/01/10
10/07/10	Lead	94.3	ug/L	Customer notified; no further action required	10/07/10
10/07/10	Lead	12.4	ug/L	Customer notified; no further action required	10/07/10



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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	52	2-680	20-18,800	--	--
Treated	52	0-0	0-0	52	0-3
Distribution	324	0-0	0-0	145	0-114

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 *	8760	0.000-2.000
Chlorine **	8760	1.47-4.40
Distribution ** - Chlorine	8760	0.70-4.59

* Maximum turbidity value never lasted more than 15 minutes.

** Maximum Chlorine residuals lasted for very short durations.

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

Not applicable.



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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	02/09/10	0.02	ug/L	No
Arsenic	02/09/10	0.4	ug/L	No
Barium	02/09/10	30.8	ug/L	No
Boron	02/09/10	8.1	ug/L	No
Cadmium	02/09/10	0.003	ug/L	No
Chromium	02/09/10	0.5	ug/L	No
Mercury	02/09/10	0.02	ug/L	No
Selenium	02/09/10	1	ug/L	No
Sodium – Next sample due August 2014 as per O. Reg. 170/03 s. 13-8	08/11/09	7.35	mg/L	No
Uranium	02/09/10	0.055	ug/L	No
Fluoride – Next sample due August 2014 as per O. Reg. 170/03 s. 13-9	08/11/09	0.06	mg/L	No
Nitrite	02/09/10 05/11/10 08/10/10 11/09/10	0.005 0.005 0.005 0.005	mg/L	No
Nitrate	02/09/10 05/11/10 08/10/10 11/09/10	0.250 0.092 0.039 0.048	mg/L	No

Summary of lead testing under Schedule 15.1 during this reporting period

Location Type	Number of Samples	Range of Lead Results (ug/L) (min#) – (max #)	Number of Exceedances
Plumbing – Non residential	14	0.4-4.97	0
Plumbing – Residential	123	0.02-94.3	9
Distribution	35	0.06-5.61	0

* As of the last round of Lead sampling the City is now eligible to follow O. Reg. 170/03 s. 15-5 Reduced Sampling protocol. The City will not start another round of Lead Testing until April 2013.



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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	02/09/11	0.02	ug/L	No
Aldicarb	02/09/11	0.01	ug/L	No
Aldrin + Dieldrin	02/09/11	0.01	ug/L	No
Atrazine + N-dealkylated metabolites	02/09/11	0.01	ug/L	No
Azinphos-methyl	02/09/11	0.02	ug/L	No
Bendiocarb	02/09/11	0.01	ug/L	No
Benzene	02/09/11	0.32	ug/L	No
Benzo(a)pyrene	02/09/11	0.004	ug/L	No
Bromoxynil	02/09/11	0.33	ug/L	No
Carbaryl	02/09/11	0.01	ug/L	No
Carbofuran	02/09/11	0.01	ug/L	No
Carbon Tetrachloride	02/09/11	0.16	ug/L	No
Chlordane (Total)	02/09/11	0.01	ug/L	No
Chlorpyrifos	02/09/11	0.02	ug/L	No
Cyanazine	02/09/11	0.03	ug/L	No
Diazinon	02/09/11	0.02	ug/L	No
Dicamba	02/09/11	0.20	ug/L	No
1,2-Dichlorobenzene	02/09/11	0.41	ug/L	No
1,4-Dichlorobenzene	02/09/11	0.36	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	02/09/11	0.01	ug/L	No
1,2-Dichloroethane	02/09/11	0.35	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	02/09/11	0.33	ug/L	No
Dichloromethane	02/09/11	0.35	ug/L	No
2,4 Dichlorophenol	02/09/11	0.15	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	02/09/11	0.19	ug/L	No
Diclofop-methyl	02/09/11	0.40	ug/L	No
Dimethoate	02/09/11	0.03	ug/L	No
Dinoseb	02/09/11	0.36	ug/L	No
Diquat	02/09/11	1	ug/L	No
Diuron	02/09/11	0.03	ug/L	No
Glyphosate	02/09/11	6	ug/L	No
Heptachlor + Heptachlor Epoxide	02/09/11	0.01	ug/L	No
Lindane (Total)	02/09/11	0.01	ug/L	No
Malathion	02/09/11	0.02	ug/L	No
Methoxychlor	02/09/11	0.01	ug/L	No
Metolachlor	02/09/11	0.01	ug/L	No
Metribuzin	02/09/11	0.02	ug/L	No
Monochlorobenzene	02/09/11	0.30	ug/L	No
Paraquat	02/09/11	1	ug/L	No

Parathion	02/09/11	0.02	ug/L	No
Pentachlorophenol	02/09/11	0.15	ug/L	No
Phorate	02/09/11	0.01	ug/L	No
Picloram	02/09/11	0.25	ug/L	No
Polychlorinated Biphenyls(PCB)	02/09/11	0.04	ug/L	No
Prometryne	02/09/11	0.03	ug/L	No
Simazine	02/09/11	0.01	ug/L	No
THM (NOTE: show latest annual average)	02/09/11	78	ug/L	No
Temephos	02/09/11	0.01	ug/L	No
Terbufos	02/09/11	0.01	ug/L	No
Tetrachloroethylene	02/09/11	0.35	ug/L	No
2,3,4,6-Tetrachlorophenol	02/09/11	0.14	ug/L	No
Triallate	02/09/11	0.01	ug/L	No
Trichloroethylene	02/09/11	0.43	ug/L	No
2,4,6-Trichlorophenol	02/09/11	0.25	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	02/09/11	0.22	ug/L	No
Trifluralin	02/09/11	0.02	ug/L	No
Vinyl Chloride	02/09/11	0.17	ug/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 last Sample
THM	78	ug/L	Nov. 9, 2010



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Trenton Drinking Water System
Summary Report**

Summary Report – O. Reg. 170/03 Schedule 22 Requirement

Under Schedule 22 of O. Reg. 170/03, the Ministry of Environment requires that a copy of the Safe Drinking Water Act, regulations, the system’s approvals, and any order that the system failed to meet at any time during the reporting period be provided to the members of the municipal council.

The following is a list of the Acts and Regulations which have been provided to municipal council electronically:

- ✚ The Safe Drinking Water Act, 2002
- ✚ O. Reg. 128/04 – Certification of Drinking Water Operators
- ✚ O. Reg. 169/03 – Ontario Drinking Water Quality Standards
- ✚ O. Reg. 170/03 – Drinking Water Systems (Please see ‘Application of Schedules’ table below for applicable schedules pertinent to Large Municipal Residential Systems)
- ✚ O. Reg. 188/07 – Licensing of Municipal Drinking Water Systems
- ✚ O. Reg. 242/05 – Compliance and Enforcement
- ✚ O. Reg. 248/03 – Drinking Water Testing Services
- ✚ Procedure for Disinfection of Drinking Water in Ontario

- ✚ The systems Certificate of Approval # 1347-6SAL53
- ✚ Drinking Water Works Permit # 163-202; *Issue Date: December 6, 2010*
- ✚ Municipal Drinking Water Licence # 163-102; *Issue Date: December 6, 2010*
- ✚ Permit to Take Water (PTTW) # 4033-6AHJBC

TABLE
Application of schedules
O. Reg. 170/03

Item	Drinking Water Systems	Applicable Schedules				
		Treatment	Operational Checks, Sampling and Testing	Adverse Test Results and Other Problems	Reports	Chemical Testing Parameters
1.	Large municipal residential systems	1, 4	6, 7, 10, 13, 15.1	16, 17	22	23, 24

O. Reg. 170/03, s. 4; O. Reg. 247/06, s. 2; O. Reg. 399/07, s. 1.

* Please note that the Act and Regulations provided have potentially been amended since these documents were saved electronically. For the most current and up to date consolidated laws, please visit www.e-laws.gov.on.ca.

For 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 during this reporting period, please refer to the table on page 3 of the Annual Report.



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Public Works and Environmental Services

2010 Annual and Summary Reports

Trenton Drinking Water System

Summary Report - Comparison of Quantities & Flow Rates

Summary of Quantities and Flow Rates

Raw Water - PTTW limit of 35, 800 m³/d			
Month	Monthly Average Flow (m³)	Max Daily Flow (m³)	Total Monthly Flow (m³)
January	11,504	16,639	356,623
February	11,673	14,736	326,850
March	11,574	16,891	358,783
April	11,485	12,830	344,562
May	13,004	16,622	403,130
June	12,727	14,488	381,817
July	14,267	17,112	442,273
August	13,644	15,746	422,966
September	12,339	15,219	370,161
October	10,259	11,696	318,014
November	9,811	11,464	294,341
December	10,570	12,810	327,668

Total Raw Water Flow 2010 - 4,347,188

Treated Water - Rated Capacity of 35, 800 m³/d			
Month	Monthly Average Flow (m³)	Max Daily Flow (m³)	Total Monthly Flow (m³)
January	8,788	9,726	272,413
February	8,849	9,685	247,785
March	8,824	9,703	273,529
April	9,674	11,117	290,226
May	11,591	15,821	359,309
June	11,124	13,497	333,732
July	12,487	15,844	387,086
August	12,031	14,580	372,974
September	10,711	13,763	321,321
October	9,766	10,686	302,736
November	8,779	9,590	263,358
December	9,336	11,501	289,421

Total Treated Water Flow 2010 - 3,713,890

Comparison of Quantities and Flow Rates for Treated Water		
Actual Annual Average Daily Flow (m ³)=	10,175	28.4 % of Rated Capacity
Actual Max Daily flow (m ³) =	15,844	44.3 % of Rated Capacity



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Summary Report - Comparison Quantities & Flows

Trenton Historical Treated Water Flows

Year	Average Daily Flow (m ³ /d)	Max Daily Flow (m ³ /d)	Month of Max Daily Flow
2005	14,441	25,458	July
2006	12,476	18,590	August
2007	13,333	25,280	June
2008	10,189	33,830	January
2009	10,412	19,415	March
2010	10,175	15,844	July

