



**The Corporation of the Town of Markham
Annual Regulatory Water Quality Report**

Covering the period from
January 1, 2006 to December 31, 2006

**In compliance with
The Ministry of the Environment (MOE)
Ontario Drinking Water Systems Regulation 170/03**

FAX COVER PAGE

FAX to: Laboratory Services Branch, Ministry of the Environment (416) 235-6312

Laboratory Services Notification
Schedule 6 (Subsection 6-9 (4))

This package of forms has been developed for making the submissions to the Ministry of the Environment specified by the provisions of Ontario Regulation 170/03.

The most current versions of these forms are posted on the Ministry of the Environment web site www.ene.gov.on.ca. These forms are to be completed and submitted by following the instructions posted with the forms. Each submission will consist of Part I (determination of the category of the system) Part II (contact information) and Part III, Form 6 Laboratory Services Notification Form.

This Drinking-Water System name (DWS) is:	
The owner of this Drinking-Water System is:	
The DWS owner's telephone number is:	

- ☐ This submission is part of a New Registration of a Drinking Water System
- ☐ This submission is part of an Update of Existing Registration Information

The Drinking-Water System number is:	
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Part III Form 6

Schedule 6 (Subsection 6-9 (4))

IDENTIFYING THE LABORATORY THAT WILL CARRY OUT LABORATORY TESTING

As specified in Ontario's Drinking-water Systems Regulation O. Reg. 170/03, this form must be completed and delivered to the Ministry of the Environment prior to the laboratory analyzing your water samples for required parameters for the first time. Once you have completed this form, you do not need to re-submit it unless there are any changes in a laboratory being contracted to analyze any required parameter (i.e. Section 2 of this form). Please note that this form is to be used for the identification of Regulation testing and not for the purpose of the Engineer's Report testing. *Failure to notify the parties in accordance with the Regulation and/or submission of false information constitutes an offence.* **All testing for Ontario Drinking-Water Quality Standards and health-related parameters required in a MOE Certificate of Approval, Order or Direction must be performed by a licensed laboratory.**

SECTION 1 – SUBMISSION INFORMATION

Date of Submission: (yyyy/mm/dd)	For Ministry Use Only Date Received: (yyyy/mm/dd)
<input type="checkbox"/> New Submission <input type="checkbox"/> Updated Submission	

SECTION 2 – CONTRACTED LABORATORY(S) HIRED TO ANALYZE DRINKING -WATER SAMPLES AND THE SPECIFIC PARAMETERS TESTED

Contracted Laboratory			
Name of Contracted Laboratory:			
Laboratory Address:			
Street No. and Name		Town/City	Postal Code
Phone:	Fax:	Email:	
Check all tests that Contracted Laboratory has been contracted to perform:			
MICROBIOLOGICAL:			
<u>Membrane Filtration</u>	<u>Presence/Absence</u>	<u>HPC</u>	<u>MPN</u>
<input type="checkbox"/> <i>E. coli</i>	<input type="checkbox"/> <i>E. coli</i>	<input type="checkbox"/> HPC – Membrane	<input type="checkbox"/> <i>E. coli</i>
<input type="checkbox"/> Fecal coliforms	<input type="checkbox"/> Fecal coliforms	Filtration	<input type="checkbox"/> Total coliforms
<input type="checkbox"/> Total coliforms	<input type="checkbox"/> Total coliforms	<input type="checkbox"/> HPC – Spread Plate	
<input type="checkbox"/> Total coliform (Background)		<input type="checkbox"/> HPC – Pour Plate	

CHEMICAL PARAMETERS:**Volatile Organic Parameters:**

- | | |
|---|--|
| <input type="checkbox"/> 1,2-dichlorobenzene | <input type="checkbox"/> Dichloromethane |
| <input type="checkbox"/> 1,4-dichlorobenzene | <input type="checkbox"/> Monochlorobenzene |
| <input type="checkbox"/> 1,2-dichloroethane | <input type="checkbox"/> Tetrachloroethylene |
| <input type="checkbox"/> 1,1-dichloroethylene | <input type="checkbox"/> Trichloroethylene |
| <input type="checkbox"/> Benzene | <input type="checkbox"/> Trihalomethanes (Total) |
| <input type="checkbox"/> Carbon tetrachloride | <input type="checkbox"/> Vinyl chloride |

☐ All of the Above Volatile Organic Parameters
Inorganic Parameters:

- | | |
|-----------------------------------|--|
| <input type="checkbox"/> Antimony | <input type="checkbox"/> Lead |
| <input type="checkbox"/> Arsenic | <input type="checkbox"/> Mercury |
| <input type="checkbox"/> Barium | <input type="checkbox"/> Nitrate + Nitrite (as nitrogen) |
| <input type="checkbox"/> Boron | <input type="checkbox"/> Selenium |
| <input type="checkbox"/> Cadmium | <input type="checkbox"/> Sodium |
| <input type="checkbox"/> Chromium | <input type="checkbox"/> Uranium |
| <input type="checkbox"/> Fluoride | |

☐ All of the Above Inorganic Parameters
Pesticide and General Organic Parameters:

- | | | | |
|--|--|--|--|
| <input type="checkbox"/> 2,3,4,6-tetrachlorophenol | <input type="checkbox"/> Bromoxynil | <input type="checkbox"/> Diquat | <input type="checkbox"/> Parathion |
| <input type="checkbox"/> 2,4-dichlorophenol | <input type="checkbox"/> Carbaryl | <input type="checkbox"/> Diuron | <input type="checkbox"/> PCBs (Total) |
| <input type="checkbox"/> 2,4,6-trichlorophenol | <input type="checkbox"/> Carbofuran | <input type="checkbox"/> Glyphosate | <input type="checkbox"/> Pentachlorophenol |
| <input type="checkbox"/> 2,4-D | <input type="checkbox"/> Chlordane (Total) | <input type="checkbox"/> Heptachlor | <input type="checkbox"/> Phorate |
| <input type="checkbox"/> 2,4,5-T | <input type="checkbox"/> Chlorpyrifos | <input type="checkbox"/> +Heptachlor Epoxide | <input type="checkbox"/> Picloram |
| <input type="checkbox"/> Alachlor | <input type="checkbox"/> Cyanazine | <input type="checkbox"/> Lindane (Total) | <input type="checkbox"/> Prometryne |
| <input type="checkbox"/> Aldicarb | <input type="checkbox"/> DDT + Metabolites | <input type="checkbox"/> Malathion | <input type="checkbox"/> Simazine |
| <input type="checkbox"/> Aldrin + Dieldrin | <input type="checkbox"/> Diazinon | <input type="checkbox"/> Methoxychlor | <input type="checkbox"/> Temephos |
| <input type="checkbox"/> Atrazine + Metabolites | <input type="checkbox"/> Dicamba | <input type="checkbox"/> Metolachlor | <input type="checkbox"/> Terbufos |
| <input type="checkbox"/> Azinphos-methyl | <input type="checkbox"/> Diclofop-methyl | <input type="checkbox"/> Metribuzin | <input type="checkbox"/> Triallate |
| <input type="checkbox"/> Bendiocarb | <input type="checkbox"/> Dimethoate | <input type="checkbox"/> Paraquat | <input type="checkbox"/> Trifluralin |
| <input type="checkbox"/> Benzo(a)pyrene | <input type="checkbox"/> Dinoseb | | |

☐ All of the Above Pesticide and General Organic Parameters
ADDITIONAL
Other Parameter(s) identified in a MOE certificate of approval, order or direction.

Specify: _____

COMMENTS:
Prepared by:
Name (Please Print) _____

Telephone No. _____

Title _____

Date (yyyy/mm/dd) _____

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

This package of forms has been developed for making the submissions to the Ministry of the Environment (MOE) specified by the provisions of Ontario Regulation 170/03. Under the provisions of Section 14 the MOE Director provides these forms for the submissions by Drinking-Water System owners. The Director has required that these forms be given in the specified electronic format.

The most current versions of these forms are posted on the Ministry of the Environment web site www.ene.gov.on.ca.

For your initial submission you are required to supply extensive detail about your system so you may find it useful to print the form and use it to gather the required information before you begin.

Step 1: Save the Part I and II and your Part III submission form(s) (pdf file / MS Word document) locally on your computer.

Step 2: Fill out Part I and II.

Step 3: Fill out the relevant form(s) from Part III,

Step 4: Save the information you entered made by saving the document using Adobe Acrobat/MS Word.

Step 5: Create an e-mail message with the following **subject line**

For systems without DWS # **New** <DWS name>, <owner name>, form #

For systems with DWS # **Update** <DWS name>, <DWS #>, form #

where <DWS name> is the name of your Drinking-Water System,

<owner name> is the name of the owner of your Drinking-Water System,

< DWS #> is the Drinking-Water System number, and

Form # is the number(s) of the Part III form(s) you are submitting.

Step 6: Attach your Parts I, II and III(s) to your e-mail message.

Step 7: Send your e-mail to Reg170_FormSubmission@ene.gov.on.ca

Please contact the Ministry's Help Desk by calling 1-866-793-2588 during normal business hours if you require assistance in filling out or in submitting the forms.

New Registration

If you made a submission previously and received a DWS number for your system, enter the DWS number below along with the DWS name and the owner's name. Then you need only update the DWS category and DWS details that have altered since the earlier submission, and complete the submission portions.

Update Existing Registration Information Date of Submission (yyyy/mm/dd):

The number assigned to this Drinking-Water System is:	
This Drinking-Water System name is:	
The owner of this Drinking-Water System is:	

PART I

O. Reg. 170/03 defines 8 categories of Drinking-Water Systems and specifies the requirements to be met by each. The following tool enables you to determine the category of any water system.

Please answer the following questions **by placing an X in the appropriate box** and **follow the instruction beside it**. Once you are finished you will know the category of your system.

Item	Question	
A	Does this Drinking-Water System (DWS) use electricity or serve any building or other structure that uses electricity?	YES <input type="checkbox"/> If YES, Go to B
		NO <input type="checkbox"/> If NO, Once notices are posted, water fountains rendered inoperative and Form #1 is submitted to the director then Go to X
B	Is this DWS municipal or will be owned by a municipality based on O. Reg 170/03?	YES <input type="checkbox"/> If YES, Go to C
		NO <input type="checkbox"/> If NO, Go to E
C	Does this DWS serve more than 100 private residences? (Definition 1)	YES <input type="checkbox"/> If YES, This System is Large Municipal Residential. (Do not answer any further questions. Please go to PART II)
		NO <input type="checkbox"/> If NO, Go to D
D	Does this DWS serve more than 5 but less than 101 private residences?	YES <input type="checkbox"/> If YES, This system is Small Municipal Residential (Do not answer any further questions. Please go to PART II)
		NO <input type="checkbox"/> If NO, Go to I
E	Does this DWS serve more than 5 private residences or a trailer park or campground with more than 5 service connections?	YES <input type="checkbox"/> If YES, Go to F
		NO <input type="checkbox"/> If NO, Go to G
F	Does this DWS operate seasonally (Definition 2)?	YES <input type="checkbox"/> If YES, This system is Non-Municipal Seasonal Residential (Do not answer any further questions. Please go to PART II)
		NO <input type="checkbox"/> If NO, This system is Non-Municipal Year - Round Residential (Do not answer any further questions. Please go to PART II)

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G	Does this DWS have a capacity more than 2.9 litres/sec?	YES <input type="checkbox"/> If YES, Go to the Calculation for Non-Municipal Systems On Page # 5
		NO <input type="checkbox"/> If NO, Go to H
H	Does this DWS serve a Designated Facility? (Definition 3) or a Public Facility? (Definition 4)	YES <input type="checkbox"/> If YES, This system is Small Non- Municipal Non-Residential (Do not answer any further questions. Please go to PART II)
		NO <input type="checkbox"/> If NO, Go to X
I	Does this DWS have a capacity more than 2.9 litres/sec?	YES <input type="checkbox"/> If YES, Go to calculation for Municipal Systems on page # 4
		NO <input type="checkbox"/> If NO, Go to J
J	Does this DWS serve a Designated Facility or a Public?	YES <input type="checkbox"/> If YES, This system is Small Municipal Non-Residential (Do Not answer any further Questions.Please go to PART II)
		NO <input type="checkbox"/> If NO, Go to X
X	Based on the answers you have given this Drinking-Water System is currently exempt from the provisions of O. Reg. 170/03. To enable the Ministry to supply you with information that will assist you to keep up to date with situations which might impact the quality of water you provide please complete and submit only the information set out in Part II: Drinking-Water System owner information, operator's information and Drinking-Water System's operational information.	

CALCULATION FOR MUNICIPAL SYSTEMS

If this Drinking-Water System has one or more distribution lines that supply water exclusively for the listed operations then this calculation may be undertaken to determine if the impact of these operations should alter the category of the Drinking-Water System.

QUESTION	YES	If YES	NO	If NO
<p>I) Does your Drinking-Water System have one or more distribution lines that supply water exclusively for either of the following operations</p> <ul style="list-style-type: none"> <input type="checkbox"/> Agricultural <input type="checkbox"/> Landscaping <input type="checkbox"/> Industrial or Manufacturing (including food manufacturing and processing) <input type="checkbox"/> Swimming pool <input type="checkbox"/> Skating rink construction <input type="checkbox"/> Maintenance? 		Complete the calculation (A-B)		<p>This system remains a</p> <p>Large Municipal Non-Residential</p> <p>(Do not answer any further questions. Please go to PART II)</p>
CALCULATION				
<p>A = Maximum Rate the systems can supply water in litres/sec</p>				
<p>B = The Sum of Average rates in litres/sec at which the Drinking-Water System supplied water in the preceding calendar year to the distribution lines</p> <p>Or</p> <p>An estimated sum of the average rates (for the period Jan- Dec) in litres per sec</p>				
Calculate A-B		<p>If A-B is equal to or less than 2.9 litres/sec</p> <p>Go to J for municipal systems</p>		<p>If A-B is more than 2.9 litres/sec</p> <p>This system is</p> <p>Large Municipal Non-Residential</p> <p>(Do not answer any further questions. Please go to PART II)</p>

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CALCULATION FOR NON-MUNICIPAL SYSTEMS

If this Drinking-Water System has one or more distribution lines that supply water exclusively for the listed operations then this calculation may be undertaken to determine if the impact of these operations should alter the category of the Drinking-Water System.

QUESTION	YES	If YES	NO	If NO
<p>I) Does your Drinking-Water System have one or more distribution lines that supply water exclusively for either of the following operations</p> <ul style="list-style-type: none"> <input type="checkbox"/> Agricultural <input type="checkbox"/> Landscaping <input type="checkbox"/> Industrial or Manufacturing (including food manufacturing and processing) <input type="checkbox"/> Swimming pool <input type="checkbox"/> Skating rink construction <input type="checkbox"/> Maintenance? 		Complete the calculation (A-B)		<p>This system remains a</p> <p>Large Non-Municipal Non-Residential</p> <p>(Do not answer any further questions. Please go to PART II)</p>
CALCULATION				
<p>A = Maximum Rate the systems can supply water in litres/sec</p>				
<p>B = The Sum of Average rates in litres/sec at which the Drinking-Water System supplied water in the preceding calendar year to the distribution lines</p> <p>Or</p> <p>An estimated sum of average rates (for the period Jan- Dec) in litres per sec</p>				
Calculate A-B		<p>If A-B is equal to or less than 2.9 litres/sec</p> <p>Go to H for non-municipal systems</p>		<p>If A-B is more than 2.9 litres/sec</p> <p>This system is</p> <p>Large Non-Municipal Non-Residential</p> <p>(Do not answer any further questions. Please go to PART II)</p>

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PART II COMPLETE FOR YOUR DRINKING-WATER SYSTEM (DWS)

The blank areas within the form will expand to allow you to enter your information.

The number assigned to this Drinking-Water System is	
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[A] DRINKING WATER-SYSTEM OWNER INFORMATION

Data Element	Please Enter Your Information	Explanation
Name of the Business that owns the Drinking-Water System		Full name required
Drinking-Water System Ownership Type		Please select one of the following which most closely matches your type: Commercial/ Conservation Authority/ Corporation/ Crown Corporation/ Federal/ First Nation/ Industrial/ Municipal/ Partnership/ Provincial/ Sole Proprietorship/School Board
Legal name of Business		Full, legal company name
If your Drinking-Water System began operation after June 1, 2003 please enter date		YYYY/MM/DD
Owner's Mailing Address Information		
Street Number		
Street Name		
Street Type		Street, Road, etc.
Street Direction		N, S, E, W, NE, SW, etc.
Unit / Apt Number /Suite		
Delivery Mode		P.O. Box, R.R., etc.
PO Box/Rural Route #		
Delivery Installation Type		STN, RPO
Delivery Installation Qualifier		MAIN, A
City/Town		
Province/State		
Postal Code/Zip		
Owner's Contact Person Details		
Courtesy Title		Dr., Miss, Mr., Mrs., Ms.
Contact Name		
Contact Name Title		
Primary Phone Number		
Primary Phone Number Extension		
Fax Number		
Mobile Number		
Pager Number		
E-mail Address		Full E-mail address required. e.g.: name@company.com
Alternate Contact (if any)		
Courtesy Title		Dr., Miss, Mr., Mrs., Ms.
Contact Name		
Contact Name Title		
Primary Phone Number		
Primary Phone Number		

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Extension		
Fax Number		
Mobile Number		
Pager Number		
E-mail Address		Full E-mail address required. e.g.: name@company.com

[B] DRINKING-WATER SYSTEM – OPERATOR INFORMATION

Data Element	Please Enter Your Information	Explanation
Name of Drinking-Water System's Operator (Business Name)		Full business name of operator required
Drinking-Water System Operator Type		Please select one of the following which most closely matches your type: Commercial/ Conservation Authority/ Corporation/ Crown Corporation/ Federal/ First Nation/ Industrial/ Municipal/ Partnership/ Provincial/ Sole Proprietorship/ School Board
Legal Name of Business		Full, legal company name of operator
Operator's Mailing Address Information		
Street Number		
Street Name		
Street Type		Street, Road, etc.
Street Direction		N, S, E, W, NE, SW, etc.
Unit/Apt Number /Suite		
Delivery Mode		P.O. Box, R.R., etc.
PO Box/Rural Route #		
Delivery Installation Type		STN, RPO
Delivery Installation Qualifier		MAIN, A
City/Town		
Province/State		
Postal Code/Zip		
Operator's Contact Person Details		
Courtesy Title		Dr., Miss, Mr., Mrs., Ms.
Contact Name		
Contact Name Title		
Primary Phone Number		
Primary Phone Number Extension		
Fax Number		
Mobile Number		
Pager Number		
E-mail Address		Full E-mail address required. e.g.: name@company.com
Alternate Contact (if any)		
Courtesy Title		
Contact Name		
Contact Name Title		
Primary Phone Number		
Primary Phone Number Extension		
Fax Number		

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Mobile Number		
Pager Number		
E-mail Address		

[C] DRINKING WATER-SYSTEM'S OPERATIONAL INFORMATION

Data Element	Please Enter Your Information	Explanation
Drinking-Water System Name		
In what Municipality is this Drinking -Water System located?		Use Ministry of Municipal Affairs and Housing's municipal name
	Drinking-Water System Civic Location Address	
Street Number		
Street Name		
Street Type		Street, Road, etc.
Street Direction		N, S, E, W, NE, SW, etc.
Unit/Apt. Number/Suite		
City/Town		
Postal Code		
	If system has no street address:	
Geographical Township		
Lot		
Concession		
	If located in unorganized area	
In what Community is this Drinking-Water System located?		
	Operational Parameters	
Map Datum		Enter the Geographical Reference Information for this Drinking Water System
Geo-Referencing Method		
Accuracy Estimate		
Location Reference		
Latitude		
Longitude		
Zone		
Easting		
Northing		
Population served		
Number of private residences served		
Number of service connections		
Design/ Rated Capacity		Estimate acceptable (in litres/sec)
Is your Drinking-Water System seasonally operated?		Indicate Yes or No Seasonal System means a Drinking-Water System that a) does not operate for at least 60 consecutive days in every calendar year or b) does not operate for at least 60 consecutive days in every period

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		that begins on April 1 in one year and ends on March 31 in the following year or c) does not operate for at least 60 consecutive days in a 365 day period that begins on the day the Drinking-Water System begins operation
If yes to above, please specify operational periods.		Use format: YYYY/MM/DD to YYYY/MM/DD
Does your Drinking -Water System shut down for 7 or more consecutive days during the operational period?		Indicate with Yes or No For definition of Seven-day Shutdown please see last page.
If yes to the above, how many such shut downs are there in a year?		Please provide the number of shutdowns. For seasonal systems, this refers to shutdowns during operational periods.
Please specify the period the system is not in operation for each shut down		Start date to end date that the DWS is not in operation YYYY/MM/DD to YYYY/MM/DD

[D] DRINKING-WATER SYSTEM CONTACT AT THE LOCATION OF THE DRINKING-WATER SYSTEM OR THE 24 HOUR 7 DAYS A WEEK CONTACT NUMBER

Courtesy Title		Dr., Miss, Mr., Mrs., Ms.
Contact Name		
Contact Name Title		
Primary Phone Number		10 Digits + extension if applicable
Fax Number		
Mobile Number		
Pager Number		
E-mail Address		Full E-mail address required. e.g.: name@company.com

[E] Complete the information for each DESIGNATED FACILITY/ PUBLIC FACILITY served by your Drinking-Water System if your Drinking-Water System is categorized as:

Small Municipal Non Residential / Large Municipal Non Residential / Large Non Municipal Non Residential / Small Non Municipal Non Residential / Non Municipal Year-Round Residential / Non Municipal Seasonal Residential

How many designated facilities does your Drinking-water system serve?

Please complete a table for each designated facility.

Data Element	Please Enter Your Information	Explanation
Designated Facility Name		
Designated Facility Type		Social care/Children's Camp/Health Care Seniors/Health Care/Degree Granting Institution/ Delivery Agent Care Facility/ School
Are there weeks in the year when this facility is not in operation?		Indicate with Yes or No
Please specify the time frame for each period that the facility is not in operation		Use format: YYYY/MM/DD to YYYY/MM/DD

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Designated Facility Contact Person Details	
Courtesy Title	Dr., Miss, Mr., Mrs., Ms.
Contact Name	
Primary Phone Number	
Primary Phone Number Extension	
Fax Number	
Mobile number	
Pager number	
E-mail Address	Full E-mail address required. e.g.: name@company.com
Designated Facility's Physical Address	
Street #	
Street Name	
Street Type	Street, Road etc.
Street Direction	N, S, E, W, NE, SW, etc.
Unit/Apt. #	
Delivery Mode	P.O. Box, R.R., etc.
PO Box/Rural Route #	
Delivery Installation Type	STN, RPO
Delivery Installation Qualifier	MAIN, A
City /Town	
Postal Code	
Interested Authority Information	
Name of Interested Authority	e.g.: Ministry of Health and Long-Term Care/ Ministry of Community, Family and Children's Services/ Ministry of Education/ Ministry of Training, Colleges and Universities / Private/ Delivery Agent

PUBLIC FACILITIES

Data Element	Please Enter Your Information
Please provide the names of all the public facilities served by your Drinking-Water system	

[F] CERTIFICATE OF APPROVAL INFORMATION

The existing Certificate(s) of Approval Number		Please list the C of A number(s)
Does your drinking-water system have an order(s) that require extra sampling and analysis?		Yes/No
Order number		
Order date		YYYY/MM/DD

[G] PROFILE QUESTIONS: IMPORTANT QUESTIONS REGARDING YOUR DRINKING-WATER SYSTEM

Data Element	Please Enter Your Information	Explanation
1) Does your Drinking-Water System receive water from any other Drinking- Water System?		Indicate with Yes or No.
2b) If you answered "Yes" to 2(a), specify the way you receive		Indicate either-Transported water, or -Through a connection.

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water - Transported Water, or - Through a connection		[2b is for non residential systems only: 1) A large municipal non residential system 2) A small municipal non-residential system 3) A large non-municipal non-residential system 4) A small non-municipal non residential system]
2) Does your Drinking-Water System supply water to any other Drinking-Water Systems?		Indicate with Yes or No.
3a) Does your Drinking-Water System own any of the raw water sources?		Indicate with Yes (if you own well(s) or intake pipe in river/lake) or No
3b) If you answered “yes” to Q3(a), then indicate the raw water sources -well(s) -Intake pipe in river, lake		<u>Indicate Source Type - Wells, Intake pipe in river/</u>

[H] DRINKING WATER SYSTEM(S) THAT SUPPLY WATER TO YOUR DRINKING WATER SYSTEM

Supplying Drinking-Water System's Number		Please provide if available
When do you receive water from this drinking-water system?		Intermittently/continuously
Specify the way you receive the water		Transported Water/Through a connection
Does this Drinking-Water System provide secondary disinfection?		Indicate with Yes or No
Secondary disinfection method		e.g. Chlorination, Chloramination, Ozonation, Chlorination with Chlorine Dioxide, Ultraviolet Irradiation, or list any other type
If the Secondary disinfection method is other than chlorination or chloramination, is it approved by the Director? (for Large and Small Municipal Drinking-Water Systems) Or is it approved by a Professional Engineer? (for other categories of Drinking-Water Systems)		Indicate with Yes or No

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[I] DRINKING-WATER SYSTEM(S) THAT RECEIVES WATER FROM YOUR DRINKING WATER SYSTEM

Receiving Drinking-Water System's number		Please provide if available
When do you supply water to this Drinking-water system		Intermittently/Continuously

[J] DRINKING-WATER SYSTEM USING GROUND WATER SOURCE(S)

Number of wells: _____

Please complete a table for each ground water source.

Data Element	Please Enter Your Information	Explanation
Well Name		
	Geographical Reference Information	
Map Datum		Enter the Geographical Reference Information for this Drinking Water System
Geo-Referencing Method		
Accuracy Estimate		
Location Reference		
Latitude		
Longitude		
Zone		
Easting		
Northing		
Point of Entry Name		A Point of Entry is the point in the system at which treated water from this source enters the distribution system or the treatment location.
Is the ground water under the direct influence of surface water?		For GUDI definition please refer definition # 5 on the definition page Indicate with Yes or No
Is there a written report prepared after August 1, 2000 by a professional engineer or professional hydrogeologist that concludes the raw water supply is not ground water under direct influence of surface water, or Is there an approval from the Director agreeing that the raw water supply is not GUDI?		Indicate with Yes or No
If you have answered 'YES' to the above question please specify the date of the report/approval		Use format: YYYY/MM/DD
	Treatment Process Information	
Do you have Disinfection?		Indicate with Yes or No
Disinfection Method(s)		E.g. Chlorination, Chloramination, Ozonation, Chlorination with Chlorine Dioxide, Ozonation, Ultraviolet Irradiation, or list any other type
Do you have Coagulation?		Indicate with Yes or No
Do you have Flocculation?		Indicate with Yes or No
Do you have Sedimentation?		Indicate with Yes or No

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Do you have Filtration?		Indicate with Yes or No
Filter Medium		Sand/Manganese Greensand/ Anthracite Coal/ Granular Activated Carbon/ Others. If Others please specify
Do you have Membrane Filtration?		Indicate with Yes or No
Membrane Filtration Type		Microfiltration/ Ultrafiltration/ Nanofiltration/ Reverse Osmosis/list any other type
Do you have Alkalinity Adjustment?		Indicate with Yes or No
Do you have pH Adjustment?		Indicate with Yes or No
Do you have a Sludge Blanket Clarifier?		Indicate with Yes or No
Do you have an Upflow Clarifier?		Indicate with Yes or No
Do you have Dissolved Air Flotation?		Indicate with Yes or No
Do you have Fluoridation?		Indicate with Yes or No
Do you have Iron Sequestering?		Indicate with Yes or No
Do you have Softening?		Indicate with Yes or No
Do you have Stripping?		Indicate with Yes or No
Do you have Taste and Odour Control?		Indicate with Yes or No
Do you have Zebra Mussel Control?		Indicate with Yes or No

[K] DRINKING-WATER SYSTEM USING SURFACE WATER SOURCE(S)

Number of surface water sources: _____

Please complete a table for each surface water source.

Data Element	Please Enter Your Information	Explanation
Water Body Name		
	Geographical Reference Information	
Map Datum		Enter the Geographical Reference Information for this Drinking Water System
Geo-Referencing Method		
Accuracy Estimate		
Location Reference		
Latitude		
Longitude		
Zone		
Easting		
Northing		
	Point of Entry Information	
Point of Entry Name		A Point of Entry is the point in the system at which treated water from this source enters the distribution system or the treatment location
	Treatment Process Information	
Do you have Disinfection?		Indicate with Yes or No
Disinfection Method(s)		e.g. Chlorination, Chloramination, Ozonation, Chlorination with Chlorine

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		Dioxide, Ozonation, Ultraviolet Irradiation, or list any other type
Do you have Coagulation?		Indicate with Yes or No
Do you have Flocculation?		Indicate with Yes or No
Do you have Sedimentation?		Indicate with Yes or No
Do you have Filtration?		Indicate with Yes or No
Filter Medium		Choose: Sand/Manganese Greensand/ Anthracite Coal/ Granular Activated Carbon/ Others. If Others please specify
Do you have Membrane Filtration?		Indicate with Yes or No
Membrane Filtration Type		Choose: Microfiltration/ Ultrafiltration/ Nanofiltration/ Reverse Osmosis/list any other type
Do you have Alkalinity Adjustment?		Indicate with Yes or No
Do you have pH Adjustment?		Indicate with Yes or No
Do you have a Sludge Blanket Clarifier?		Indicate with Yes or No
Do you have an Upflow Clarifier?		Indicate with Yes or No
Do you have Dissolved Air Flotation?		Indicate with Yes or No
Do you have Fluoridation?		Indicate with Yes or No
Do you have Iron Sequestering?		Indicate with Yes or No
Do you have Softening?		Indicate with Yes or No
Do you have Stripping?		Indicate with Yes or No
Do you have Taste and Odour Control?		Indicate with Yes or No
Do you have Zebra Mussel Control?		Indicate with Yes or No

OTHERS: DISTRIBUTION SYSTEM (If you own the Distribution system /Plumbing)

These are treatment processes that occur in the Distribution System/Plumbing only.

Do you have disinfection in the distribution system after treatment?		Indicate with Yes or No
Disinfection Method(s)		e.g. Chlorination, Chloramination, Ozonation, Chlorination with Chlorine Dioxide, Ultraviolet Irradiation, or list any other type

DEFINITIONS

1) Private Residence is a dwelling place occupied for an extended period of time by the same person if

- a) The residents have a reasonable expectation of privacy
- b) Food preparation, personal hygiene and sleeping accommodations are not communal in nature and
- c) Any use of the dwelling place by a resident for a home occupation, trade, business, profession or craft is secondary to the use of the dwelling place as a residence and does not use more than 25 per cent of the indoor floor area.

2) Seasonal System means a Drinking-Water System that does not operate for 60 or more consecutive days in a fiscal (April 1st to March 31st)/ Calendar (Jan 1st to Dec 31st) year/ 365 day period that begins on the day the drinking-water system begins operation

3) Designated Facility means

- a) A children's camp – a camp that is intended primarily for campers under 18 years of age and that is a class A camp or a class B camp within the meaning of Reg. 568 of the Revised Regulations of Ontario, 1990 (Recreational Camps) under the *Health Protection and Promotion Act*; (“camp de vacances pour enfants”)
- b) A delivery agent care facility
- c) A health care facility
- d) A school or private school
- e) A social care facility
- f) A university, a college of applied arts and technology or an institution with authority to grant degrees

4) Public Facility means

- a) Food Premises, as defined in the Health Protection and Promotion Act
- b) A place that provides overnight accommodation to the traveling public, including trailer park or campground
- c) A marina
- d) A church, mosque, synagogue, temple or other places of worship
- e) A recreational camp
- f) A recreational or athletic facility
- g) A place, other than a private residence, where a service club or fraternal organization meets on a regular basis
- h) Any place where general public has access to a washroom, drinking water fountain or shower and does not include a designated facility

5) GUDI (ground water under direct influence of surface water).

The following are deemed GUDI:

- A DWS that obtains water from a well that is not a drilled well or obtains water from a well that does not have a watertight casing that extends to a depth of at least 6 metres
- A DWS that obtains water from an infiltration gallery
- A DWS that supplies water at the rate of 0.58 L/s or less and that obtains water from a well, any part of which is within 15 metres of surface water
- A DWS that supplies water at the rate greater than 0.58 L/s and that obtains water from a overburden well, any part of which is within 100 metres of surface water
- A DWS that supplies water at the rate greater than 0.58 L/s and that obtains water from a bedrock well, any part of which is within 500 metres of surface water
- A DWS that exhibits evidence of contamination by surface water or
- A DWS for which a report has been prepared by a professional engineer or professional hydrogeologist that concludes that the system's raw water supply is ground water under the direct influence of surface water.

6) Seven-days shutdown. Sampling and testing is not required during a period of seven or more consecutive days when: the drinking-water system is not in operation, the drinking-water system supplies water only to private residences that are occupied by the owner of the system, members of the family of the owner of the system, employees or agents of the owner of the system, or members of the families of employees or agents of the owner of the system. The owner shall ensure that no drinking-water is supplied to a user of water until samples have been taken and tested and the results of the tests have been received by the owner and the operating authority.

Applies to: Small municipal residential systems, large municipal non-residential systems, non-municipal year-round residential systems, large non-municipal non-residential systems. **Also to:** small municipal non-residential systems, non-municipal seasonal residential systems and small non-municipal non-residential systems. As per Schedule 11 and 12 of the Ontario Safe Drinking Water Regulation 170/03.

Part III Form 2

Section 11. ANNUAL REPORT.

Drinking-Water System Number:	220004162
Drinking-Water System Name:	Markham Water Distribution – Subsystem Class 2
Drinking-Water System Owner:	The Corporation of the Town of Markham
Drinking-Water System Category:	Large Municipal Residential System
Period being reported:	January 1, 2006 to December 31, 2006

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.

Markham Civic Centre –
Waterworks Department

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
Not applicable	Not applicable

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 [x]

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 - Community Newsletter

Describe your Drinking-Water System

Markham distribution system is an extension of Toronto and York Region distribution systems. Raw surface water from Lake Ontario is disinfected, treated and tested by Toronto system for microbiological, organic and inorganic parameters prior to reaching York Region distribution system. York Region distribution system acts as a wholesale distribution system to Markham, and provides standard distribution testing in their south distribution system only (refer to York Region Annual Report for details). York Region distribution system also provides storage and pressure boosting for Markham system.

Markham is a distribution system only without pumping and storage facilities. Markham's drinking water within the distribution system is tested for standard parameters.

List all water treatment chemicals used over this reporting period

Not applicable

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

Watermain Cement Relining (water main rehabilitation)	= \$1,025,000
Cathodic Protection of Iron Watermains	= \$289,000
Watermain Replacement Program	= \$1,069,000
System Repair (Watermain Repair)	= \$1,332,357

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

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Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
May 5, 06 (AWQI# 63821)	On-site observation (No adverse water quality sample results were obtained.)			Repair broken watermain; flush repair location; swab all repair materials with chlorine solution; flush repaired main; sample repaired watermain	May 5, 06
Jun 20, 06 (AWQI# 65077)	Total Coliform (TC)	P	P/A	Flush mains & resample	June 20, 06
Jul 11, 06 (AWQI# 65758)	Total Coliform (TC)	P	P/A	Flush mains & resample	Jul 11, 06
Jul 18, 06 (AWQI# 66072)	Total Coliform (TC)	P	P/A	Flush mains & resample	Jul 18, 06
Jul 18, 06 (AWQI# 66075)	Total Coliform (TC)	P	P/A	Flush mains & resample	Jul 18, 06
Aug 16, 06 (AWQI# 67040)	Combined Chlorine Residual	After 30 min: 0.22	mg/L	Continued flushing of main & resample	Aug 16, 06
Sep 13, 06 (AWQI# 67798)	Combined Chlorine Residual	<0.25	mg/L	Flush watermain & resample	Sep 13, 06
Sep 15, 06 (AWQI# 67892)	Combined Chlorine Residual	0.15	mg/L	Flush watermain & resample	Sep 15, 06
Sep 21, 06	On-site observation			Repair broken	Sep 21, 06

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(AWQI# 68029)	(No adverse water quality sample results were obtained.)			watermain; flushed repaired watermain; sample repaired watermain	
Nov 14, 06 (AWQI# 68994)	Total Coliform (TC)	P	P/A	Flush mains & resample	Nov 14, 06
Dec 14, 06 (AWQI# 69448)	On-site observation (No adverse water quality sample results were obtained.)			Repair broken watermain; flushed repaired watermain; sample repaired watermain	Dec 14, 06

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	2500	<1	<1 --- >1	1233	<1 --- 320

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 (Combined)	6232	(min 0.02 mg/L) (max 1.35 mg/L)
Fluoride (If the DWS provides fluoridation)	0	Tested in 2005 (done once every 5 years)

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.

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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	June 6, 06	<0.0004	mg/L	No
Arsenic	June 6, 06	<0.0004	mg/L	No
Barium	June 6, 06	0.0210	mg/L	No
Boron	June 6, 06	0.023	mg/L	No
Cadmium	June 6, 06	<0.0001	mg/L	No
Chromium	June 6, 06	<0.0003	mg/L	No
Lead	June 27, 06	0.0007	mg/L	No
Mercury	June 6, 06	<0.01	ug/L	No
Selenium	June 6, 06	0.002	mg/L	No
Uranium	June 6, 06	<0.002	mg/L	No
Nitrite	Nov 29, 06	<0.02	mg/L	No
Nitrate	Nov 29, 06	0.53	mg/L	No

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	June 6, 06	<0.4	ug/L	No
Aldicarb	June 6, 06	<3.5	ug/L	No
Aldrin + Dieldrin	June 6, 06	<0.006	ug/L	No
Atrazine + N-dealkylated metabolites	June 6, 06	<0.08	ug/L	No
Azinphos-methyl	June 6, 06	<0.2	ug/L	No
Bendiocarb	June 6, 06	<3.0	ug/L	No
Benzene	June 6, 06	<0.1	ug/L	No
Benzo(a)pyrene	June 6, 06	<0.001	ug/L	No
Bromoxynil	June 6, 06	<0.4	ug/L	No
Carbaryl	June 6, 06	<0.2	ug/L	No
Carbofuran	June 6, 06	<4.0	ug/L	No
Carbon Tetrachloride	June 6, 06	<0.2	ug/L	No
Chlordane (Total)	June 6, 06	<0.006	ug/L	No
Chlorpyrifos	June 6, 06	<0.2	ug/L	No
Cyanazine	June 6, 06	<0.2	ug/L	No
Diazinon	June 6, 06	<0.2	ug/L	No
Dicamba	June 6, 06	<0.4	ug/L	No
1,2-Dichlorobenzene	June 6, 06	<0.1	ug/L	No
1,4-Dichlorobenzene	June 6, 06	<0.1	ug/L	No

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Dichlorodiphenyltrichloroethane (DDT) + metabolites	June 6, 06	<0.008	ug/L	No
1,2-Dichloroethane	June 6, 06	<0.1	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	June 6, 06	<0.3	ug/L	No
Dichloromethane	June 6, 06	<0.5	ug/L	No
2-4 Dichlorophenol	June 6, 06	<0.4	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	June 6, 06	<0.6	ug/L	No
Diclofop-methyl	June 6, 06	<0.4	ug/L	No
Dimethoate	June 6, 06	<0.3	ug/L	No
Dinoseb	June 6, 06	<0.5	ug/L	No
Diquat	June 6, 06	<0.1	ug/L	No
Diuron	June 6, 06	<0.2	ug/L	No
Glyphosate	June 6, 06	<2.0	ug/L	No
Heptachlor + Heptachlor Epoxide	June 6, 06	<0.008	ug/L	No
Lindane (Total)	June 6, 06	<0.005	ug/L	No
Malathion	June 6, 06	<0.2	ug/L	No
Methoxychlor	June 6, 06	<0.009	ug/L	No
Metolachlor	June 6, 06	<0.2	ug/L	No
Metribuzin	June 6, 06	<0.08	ug/L	No
Monochlorobenzene	June 6, 06	<0.1	ug/L	No
Paraquat	June 6, 06	<0.1	ug/L	No
Parathion	June 6, 06	<0.2	ug/L	No
Pentachlorophenol	June 6, 06	<0.4	ug/L	No
Phorate	June 6, 06	<0.2	ug/L	No
Picloram	June 6, 06	<0.7	ug/L	No
Polychlorinated Biphenyls(PCB)	June 6, 06	<0.02	ug/L	No
Prometryne	June 6, 06	<0.08	ug/L	No
Simazine	June 6, 06	<0.08	ug/L	No
THM (NOTE: show latest annual average)	Nov 29, 06	16	ug/L	No
Temephos	June 6, 06	<3	ug/L	No
Terbufos	June 6, 06	<0.2	ug/L	No
Tetrachloroethylene	June 6, 06	<0.3	ug/L	No
2,3,4,6-Tetrachlorophenol	June 6, 06	<0.5	ug/L	No
Triallate	June 6, 06	<2.0	ug/L	No
Trichloroethylene	June 6, 06	<0.1	ug/L	No
2,4,6-Trichlorophenol	June 6, 06	<0.5	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	June 6, 06	<0.5	ug/L	No
Trifluralin	June 6, 06	<0.006	ug/L	No
Vinyl Chloride	June 6, 06	<0.2	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 Sample

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)