

Summary Report for York Region Drinking-Water Systems

Mandated under the Safe Drinking Water Act (2002)

Reporting Period of January 1 – December 31, 2004

**Presented to the York Region Transportation and Works Committee and York
Regional Council**



Table of Contents

1	Introduction.....	2
2	Executive Summary.....	3
3	Legislative Requirements.....	5
4	Drinking Water Systems Information	

Ansnerfeldt	11
Aurora	16
Ballantrae	26
Georgina	30
Keswick	33
King City	36
Kleinburg	41
Mount Albert	46
Newmarket/East Gwillimbury	50
Nobleton	66
Schomberg	71
Stouffville	76
Yonge Street Aquifer	84
York Water System	85

5	Appendices.....	89
---	-----------------	----

Maximum Daily Withdrawal	89
Duration of Daily Instantaneous Peak Flows above the PTTW limit	103

1 Introduction

The purpose of this “Summary Report” is to provide owners and operators with an understanding of the Regional Municipality of York’s (York Region) drinking-water systems status and capacities for the reporting period of January 1 – December 31, 2004. It has been created to fulfill the requirements outlined under Schedule 22 of the Ministry of the Environment’s Drinking Water Systems Regulation (O. Reg. 170/03).

The “Annual Report”, which details the quality of York Region’s drinking water, has been completed separately in order to fulfill Section 11 of O.Reg. 170/03. This report will be available on the York Region Website and from the Water and Wastewater Branch by February 28, 2005.

2 Executive Summary

York Region is responsible for the production, treatment and storage of drinking water to the communities of Georgina, Aurora, East Gwillimbury, Newmarket, Whitchurch-Stouffville, King Township, and parts of the City of Vaughan. York Region is also responsible for the transmission of drinking water from the City of Toronto to the communities of Richmond Hill, Markham, part of City of Vaughan and Aurora.

This report has been created to fulfill the requirements outlined under Schedule 22 of the Ministry of the Environment's Drinking Water Systems Regulation (O. Reg. 170/03). It has been produced to provide owners and operators an opportunity to assess the capacity of York Region's drinking water systems.

The report provides a summary of the general legislative requirements in relation to the Safe Drinking Water Act and associated regulations, a review of the individual drinking water systems and a series of figures on the 2004 pumping history for the individual wells and systems in York Region.

There were no contraventions of systems' approvals for the daily withdrawal of water during the time period of January 1, 2004 to December 31, 2004.

Instantaneous peak flow rates have been plotted as required in Schedule 22 in the Regulation 170/03, however, this data must be reviewed with a clear understanding of the total water taking for the day. Out of the 17 wells that show peak flow rates above the Permit to Take Water limit, the majority are short duration (on average less than 5 minutes) and generally represent less than 1% of the total volume of water taken for that day. These peaks are associated with the initial start up of a pump by removing of back pressure, a change in elevation in the water table or maintenance on the distribution system (i.e. main flushing).

In the few sites where a single instantaneous peak flow rate appears as a clear isolated outlier in the trend, the rate is well above the physical capacity of the pump. The data is believed to be erroneous due to a communication error as a result of the broad band radio frequency which may be affected by power surges, environmental interference (wind, ice, lightning, etc) or other electrical interruptions.

There have been no Orders issued by the Ministry of the Environment under the Safe Drinking Water Act (2002) or the Ontario Regulation 170/03 for the period of January 1, 2004 to December 31, 2004.

Maximum flow daily withdrawal data for the reporting period of January 1 – December 31, 2004 for each drinking water system is contained within the respective appendix.

The Sutton water treatment plant has been offline since November of 2003. In 2004 the plant was disconnected from the system. Water for Sutton is now being supplied through the new Georgina Water Treatment Plant.

3 Legislative Requirements

The Safe Drinking Water Act (2002)*

In Part II of the Report of the Walkerton Inquiry, Commissioner Dennis O'Connor recommended that the Ontario government enact a Safe Drinking Water Act to deal with matters related to the treatment and distribution of drinking water.

The government of Ontario passed the Safe Drinking Water Act (2002) in December 2002. The Act expands on existing policy and practice and introduces new features to protect drinking water in Ontario. The Act's purpose is to protect human health through the control and regulation of drinking-water systems and drinking-water testing. The Act also provides legislative authority to implement 50 of the 93 recommendations made in Commissioner O'Connor's Part Two Report. The majority of the Act came into force on June 1, 2003 along with the Drinking Water Systems Regulation (O.Reg. 170/03).

Two key requirements of the Safe Drinking Water Act are the statutory standard of care and a municipal drinking-water license – neither of which have currently been incorporated into a regulation.

The Drinking Water Systems Regulations

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

The Ontario government enacted the several new regulations under the Act. The Drinking-Water Systems Regulation (O.Reg. 170/03) came into effect on June 1, 2003. This regulation replaced the regulations 459/00 and 505/00 under the Ontario Water Resources Act (OWRA), which previously governed the operation of municipal drinking water systems. In addition, O.Reg. 169/03 was released to support O.Reg. 170/03 and prescribes the standards for 161 chemical/physical, microbiological and radiological parameters for testing which was previously detailed in the Ontario Drinking Water Standards (ODWS) under the OWRA.

The O.Reg. 170/03 distinguishes between municipal and non-municipal drinking water systems. There are four types of municipal drinking water systems classified under the regulation outlined in Table 1.

Table 1: Municipal Residential Drinking Water System Classification and Definition under O.Reg. 170/03

System Classification	Definition
Small residential systems	Serving less than 100 homes
Large residential systems	Serving more than 101 homes
Small non-residential systems	• does not serve a major residential development • is not capable of supplying drinking water at a rate of more than 2.9 litres per second, and • serves a designated facility or public facility
Large non-residential systems	• Serving a major residential development (4 or more homes) • a trailer park or campground that has more than five service connections

York Region is responsible for operating both small and large municipal systems. The only small municipal residential system within York Region's operational jurisdiction is the Ansnorveldt system in King Township. All remaining municipal systems, with the exception of the York Water System, are considered large municipal residential drinking water systems.

The York Water System is a further delineation of municipal residential drinking water systems in O.Reg. 170/03 called the 'large municipal system receiving water from a large municipal drinking water system'. The York Water System is strictly a transmission system that receives all of its water from the City of Toronto. As such, there are special considerations under the Act and regulations for this situation.

Requirements of the Drinking Water Systems Regulation

Owners and operators of municipal drinking water systems must:

- *Sample and test* – a frequency of testing has been outlined within the regulation specific to the type and size of each system classification
- *Use a accredited laboratory* – an accredited laboratory must be used for the testing of municipal drinking water samples. A specific regulation for laboratories was released and came into effect on October 1, 2003 (O.Reg. 248/03) which details their responsibilities for QA/QC.

- *Report adverse test results* – any standards from Schedules 1 – 3 in O.Reg. 170/03 that have been exceeded are required to be reported to the Medical Officer of Health and the Ministry of the Environment both verbally and in writing upon detection and upon completion of corrective action.
- *Obtain an approval and permit to take water* – an approval must be obtained from the Ministry of the Environment for all municipal drinking water systems.
- *Have a professional engineer certify some systems* – municipal non-residential systems are required to have an engineer certify compliance with the regulations.
- *Have certified operators or trained persons* – certification of staff is required depending on the category of the system in which they are working. A proposed regulation regarding certification and training of waterworks operators has been released but is not yet in force.
- *Prepare an annual report* – An Annual Report (Section 11, O.Reg. 170/03) must be prepared and made available to the public. This report replaces the Quarterly Reports that existed under the OWRA previously. This report details the quality of the water in a system during the reporting period.
- *Prepare an annual summary report* – Schedule 22 requires a Summary Report to be produced annually for drinking water system owners and operators, including members of council or municipal service boards. This report must summarize the requirements of the SDWA, the regulations, system approvals and any order that the system failed to meet during the reporting period. For any failures, the report must detail the corrective actions taken. The report must also include information about system capacities enabling owners and operators to determine future capabilities.

**Adapted from the Ministry of the Environment's Background Document entitled "4478e Roles and responsibilities of owners and operators of municipal drinking-water systems".*

Exemptions for the York Water System

The York Water System, as mentioned previously, has a unique classification under the SDWA and O.Reg. 170/03 – it is considered a 'large municipal residential system that obtains all of its water from a large municipal residential system'. As such, there are many requirements of O.Reg. 170/03 that do not apply to its operation as a drinking water system.

The exemptions that the York Water System is afforded due to the type of system include the exemption from some of the corrective action requirements under Schedule 17 of O.Reg. 170/03 in response to an adverse test result. An approval exemption was obtained from the MOE by York Region and the City of Toronto. The original exemption

obtained had a one year approval and expired on July 1, 2004. Another exemption has been obtained from the MOE with the same stipulations and it is valid for two years until July 2, 2006.

The York Water System does not provide any treatment to the drinking water it supplies. The system follows a drinking water testing schedule, as outlined in O.Reg. 170/03, and monitors its chlorine residual on a daily basis.

The York Water System is not required to have an Annual Report (under Section 11, O.Reg. 170/03) submitted to the Ministry of the Environment. Alternately, the City of Toronto, as the supplier of the water submits a report on to the MOE on York Region's behalf along with their reports. York Region obtains a copy of this report upon its submission.

Training and Certification

A regulation regarding training and certification for operators of drinking-water systems was released in May 2004.

Ontario Regulation 128/04 (O.Reg. 128/04), Certification of Drinking-water System Operators and Water Quality Analysts, under the SDWA revoked and replaced the previous regulation, Ontario Regulation 435/93 (OWRA) for waterworks operators.

O.Reg. 128/04 was introduced with the intention that portions of the regulation were in effect immediately, while others would be phased in over a two year window. Significant changes were made from O.Reg. 435/93 to O.Reg. 128/04 with regards to Operators in Training (OITs), Grandparented operators and training hours.

OITs

Under the new regulation, OITs issued under O.Reg. 128/04 will be valid for 16 months (without participation in MOE approved course) or 3 years (with participation in MOE approved course). At the point of expiration, the operator must obtain a Class I certificate or apply for an extension of the OIT provided that there was not enough experience obtained in any one discipline to obtain a Class I certificate (one year experience in Water Treatment and Water Distribution must be demonstrated to obtain a Class I certificate). It should be noted that although this requirement is immediate, the MOE has not defined or made available the approved course that is referenced in O.Reg. 128/04.

Current OITs will be valid until August 2006 or 2007, depending on their expiration date under the previous regulation. A special classification of OIT has been designed for summer students. The OIT issued for summer students will not require that an MOE approved course be completed and will be valid only for those students working four months or less in a seven month period. The summer student OIT is valid for twelve months from issue. This arrangement is only valid for a maximum of four years. This portion of the regulation is not in effect until August 1, 2005.

Grandparented Operators

‘Grandparented’ operators refer to operators that had their certificates granted under previous regulations without the requirement to complete and pass examinations. Under O.Reg. 128/04, any grandparented operator is required to submit to an examination of some sort by May 2006. If an operator is designated the ‘Overall Responsible Operator’ under O.Reg. 128/04 (these are the Chief Operators in York Region) and they have been grandparented under previous legislation, they are required to complete and pass an examination by May 2005 to maintain their certificates. All other grandparented operators have until May 2006 to complete and pass an examination to maintain their certificates.

Certified Operators

Operators that were certified under O.Reg. 435/93 will automatically be given the same certification level under O.Reg. 128/04. There has been an additional type of certificate named under O.Reg. 128/04 – Water Treatment, Water Distribution, and Water Distribution and Supply. All certificates granted as ‘Water Distribution’ under O.Reg. 435/93 will be considered ‘Water Distribution and Supply’ certificates under O.Reg. 128/04.

Training requirements for certified operators has changed from the mandatory 40 hours under O.Reg. 435/93 to the following, under O.Reg. 128/04:

Level	Training Requirements
Class I	30 hours (7 continuous education, 23 on-the-job)
Class II	35 hours (12 continuous education, 23 on-the-job)
Class III	40 hours (14 continuous education, 26 on-the-job)
Class IV	50 hours(14 continuous education, 36 on-the-job)

Training hours have been broken down by facility classification, as well as into specific learning formats (continuous education and on-the-job). This portion of O.Reg. 128/04 is effective from August 1, 2005 to August 1, 2007 and there has been little guidance material provided by the MOE to define the course curriculum or learning types specified in the regulation.

Facility Classification

As a requirement under O.Reg. 128/04, York Region applied for facility classification under the new regulation. Any classifications to be issued by the MOE under O.Reg. 128/04 are pending and the classifications under O.Reg. 435/93 are applicable until superceded.

Proposed Drinking Water Quality Management System Standard

The MOE, in conjunction with the Canadian Standards Association (CSA), has developed the draft Drinking Water Quality Management Standard (DWQMS) to which operating authorities will be required to be accredited to by a third party. The draft was released in October 2004 and workshops were held by the CSA throughout October and November 2004.

The DWQMS is modelled after the current ISO 9001:2000 standard and will require the development of operational plans and procedures for all drinking water systems in Ontario. In addition, there will be a requirement for the assessment of processes for critical control points – points in the process where possible contamination could occur if not controlled with procedures.

It is proposed that the DWQMS will begin being implemented in late 2005 or early 2006 but there have been no firm targets established by the MOE to date.

Currently, the drinking water systems operated by York Region's Water and Wastewater Branch are registered to the ISO 9001:2000 standard and there is predicted to be little impact on the current systems.

3 Drinking-Water Systems Information

Ansnorveldt

York Region operates a water supply system to service Ansnorveldt, Township of King, under authority of a Certificate of Approval (C of A) as issued by the Ontario Ministry of the Environment (MOE). The C of A includes reference to the valid Permit To Take Water (PTTW) also issued by the MOE. Details of the C of A and PTTW and other relevant classification information are presented in Table 1.

In September 2000, an order was issued by the Ministry of Environment for York Region to resume control of the Ansnorveldt Water Supply. One of the conditions in the order was to issue a Boil Water Advisory by York Region's Medical Officer of Health. The Advisory was issued as a result of samples containing inadequate levels of chlorine residuals at some locations within the distribution system. The Boil Water Advisory was lifted on December 06, 2004.

In 2004 the Ansnorveldt drinking water supply underwent facility upgrades. These system upgrades included the installation and commissioning of a new Supervisory Control and Data Acquisition (SCADA) system.

TABLE 1: Ansnorveldt Water Supply – Summary of Approvals and Permit

Current Certificate of Approval Number:	3385-5W4SD4
Issue Date:	March 3, 2004
Current Permit to Take Water Number:	02-P-3050
Issue Date:	June 21, 2002
Expiry Date:	March 31, 2012
MOE Waterworks Number:	260002213
System Classification:	Water Distribution II (WDII)

Water Taking

The C of A for the Ansnorveldt Water Supply System allows York Region to withdraw up to 285,120 litres per day from production wells 1 and 2.

York Region monitors the water taking through flow meters placed downstream of each production well. As of October 2004, flow is monitored on a continuous basis by SCADA to ensure that the regulated flows are not exceeded.

Measuring Points

A flow meter is in place downstream of each production before the water is combined. The flow meters record the instantaneous flow rate and the total volume of water that has passed through the meter. The flow meters are calibrated on an annual basis to meet the monitoring conditions of the C of A.

Flow data is retrieved and stored by two methods in York Region. This approach provides York Region with the opportunity to compare and contrast data should one method suddenly fail due to power failures or by other means.

1. York Region staff manually record the flow rates and total flow data on regular operational visits to the well sites. Average flow rates are also calculated using records of total flow and number of operating pump hours. This 'manual' data was used to generate the maximum daily withdrawal and monthly average flow tables and figures.
2. The flow meters were also recently (mid-October 2004) connected to the Supervisory Control and Data Acquisition (SCADA) system so that data can be monitored remotely and stored electronically. This data was used to generate the instantaneous peak flow rate figures.

Water Withdrawal

The total volume of water taken from the production wells of the Ansnorveldt Water Supply system in for the reporting period of January 1 – December 31, 2004 was 23,287,000 litres. This volume is less than the maximum permitted withdrawal as prescribed in the C of A.

The maximum allowable daily water taking and the actual maximum recorded daily water taking are presented in Table 2.

TABLE 2: Allowable and Actual Maximum Daily Withdrawal from the Ansnorveldt Production Wells for January 1 – December 31, 2004

Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)
Well 1	100,800	32,000 (August 4,2004)
Well 2	184,320	80,000 (October 25,2004)

The monthly average flows, the maximum daily withdrawals, and the allowable daily withdrawal for the reporting period of January 1 – December 31, 2004 are shown in Figure 1a and 1b. The actual dates of the peak monthly demands are summarized in the Appendices.

Figure 1a: Ansnorveldt Well No. 1
Monthly Average Flow and Monthly Maximum Flow
2004

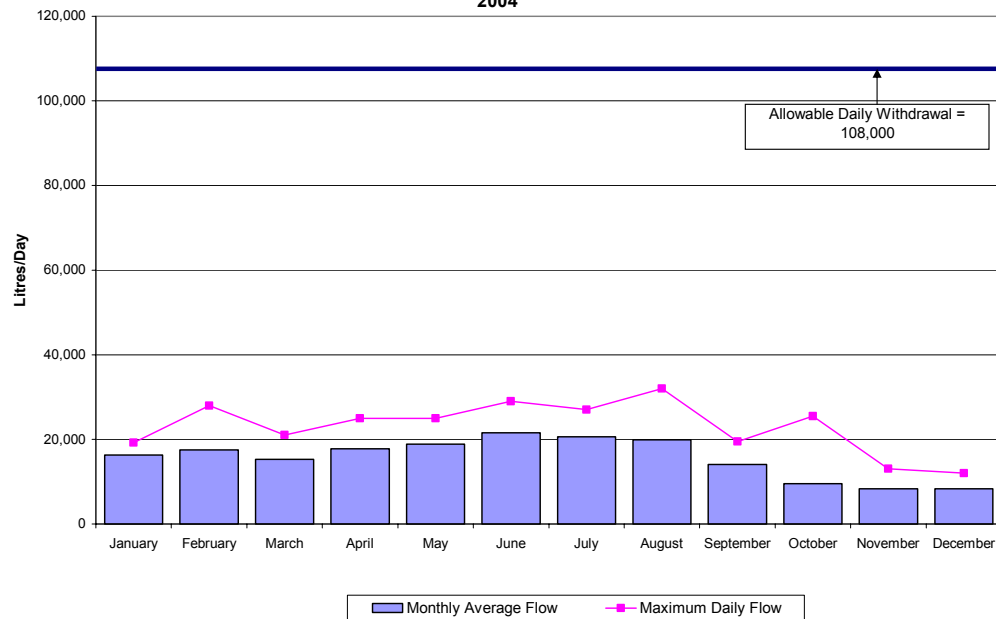
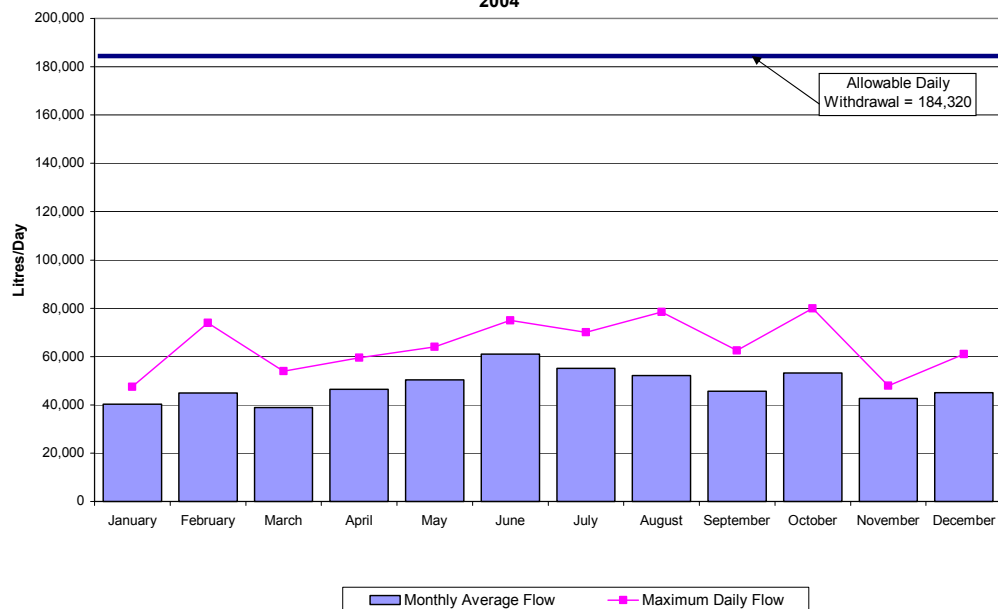


Figure 1b: Ansnorveldt Well No. 2
Monthly Average Flow and Maximum Daily Flow
2004



The actual volumes of water taken from the Ansnorveldt production wells during January 1 – December 31, 2004 did not exceed the allowable daily withdrawal volumes.

Figure 2a and 2b below show the '*Daily Instantaneous Peak Flow (litres)*' for mid-October to December 31, 2004 for Ansnorveldt production wells 1 and 2. The SCADA links for wells 1 and 2 were installed in mid-October, resulting in no data for the first ten months of 2004.

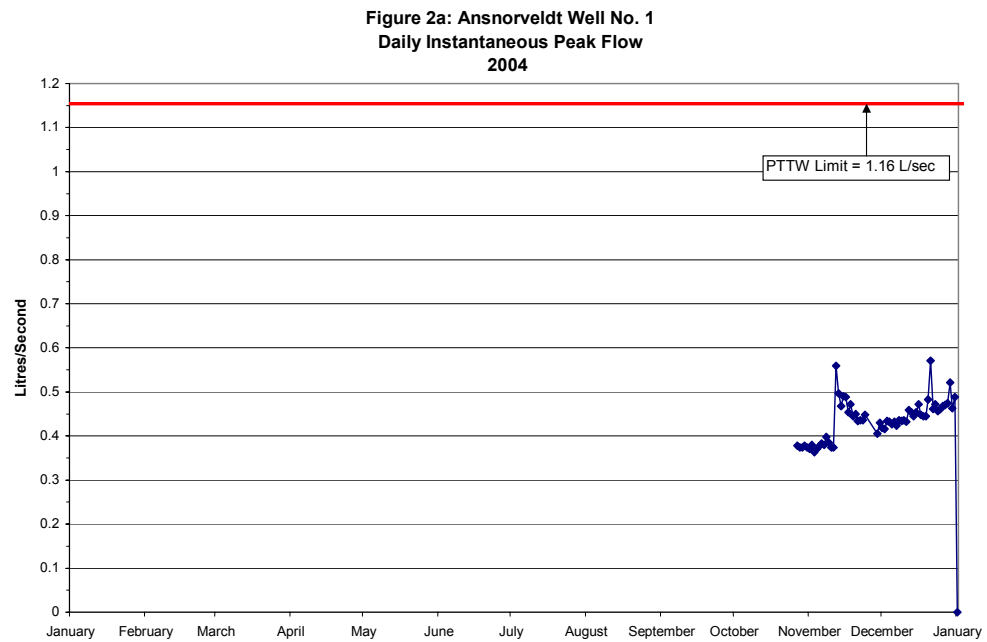
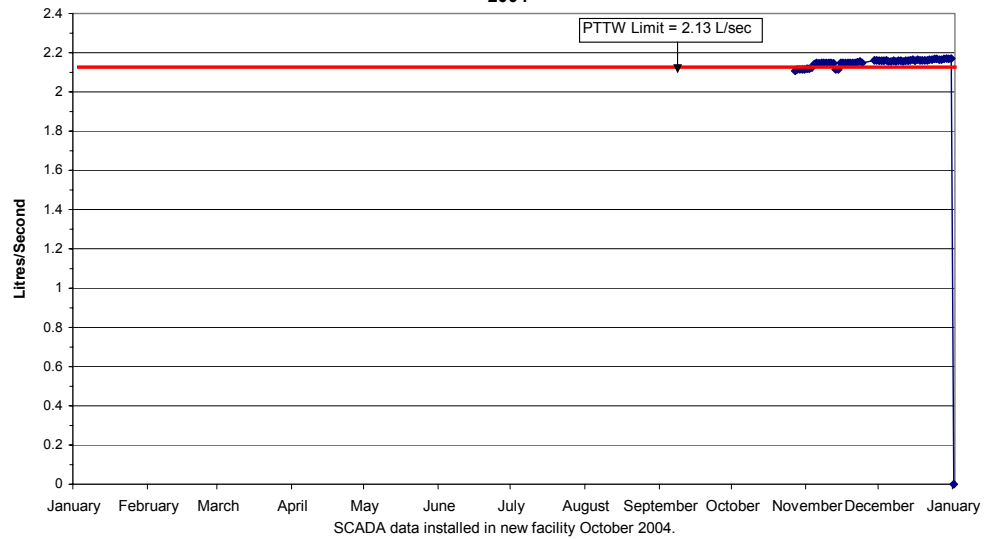


Figure 2b: Ansnorveldt No. 2
Daily Instantaneous Peak Flow
2004



Pump was designed for the CofA operating limit, which is above the PTTW limit. Pump has been re-configured in Jan 2005 with flow reducer in order to pump at the slower rate. NOTE: the rate is an extremely low compared to other York Region operating systems.

Aurora

York Region operates a water supply system to service the Town of Aurora under authority of a Certificate of Approval (C of A) as issued by the Ontario Ministry of the Environment (MOE). The C of A includes reference to the valid Permit To Take Water (PTTW) also issued by the MOE. Details of the C of A and PTTW and other relevant classification information are presented in Table 1. C of A requirements have been commissioned at Aurora wells 5 and 6. The C of A upgrades for Aurora wells 1 to 4 has been ongoing throughout the year.

TABLE 1: Aurora Water Supply – Summary of Approvals and Permit

Current Certificate of Approval Number: Issue Date:	7994-5TWKLB* December 16, 2003
Previous Certificate of Approval Numbers: (superseded by current certificate)	
Number: Issue Date:	0516-5SCL87 November 3, 2003
Number: Issue Date:	2162-5EKKPR December 19, 2002
Current Permit to Take Water Number: Issue Date: Expiry Date:	93-P-3078 November 20, 2002 March 31, 2005
MOE Waterworks Number:	220002440
System Classification:	Water Distribution IV (WD IV)

* New Certificate of Approval Number 4950-67ELQ1 issued January 5, 2005.

Water Taking

The C of A for the Aurora Water Supply System allows York Region to withdraw up to 31,600,800 litres per day from all production wells.

York Region monitors the water taking through flow meters placed downstream of each production well. Flow is monitored on a continuous basis to ensure that the regulated flows are not exceeded.

Measuring Points

Flow meters are in place downstream of each production well. The flow meters record the instantaneous flow rate and the total volume of water that has passed through the meter. The flow meters are calibrated on an annual basis to meet the monitoring conditions of the C of A.

Flow data is retrieved and stored by two methods in York Region. This approach provides York Region with the opportunity to compare and contrast data should one method suddenly fail due to power failures or by other means.

1. York Region staff manually record the flow rates and total flow data on regular operational visits to the well sites. Average flow rates are also calculated using records of total flow and number of operating pump hours. This 'manual' data was used to generate the maximum daily withdrawal and monthly average flow tables and figures.
2. The flow meters are also connected to the Supervisory Control and Data Acquisition (SCADA) system so that data can be monitored remotely and stored electronically. This data was used to generate the instantaneous peak flow rate figures.

Water Withdrawal

The total volume of water taken from the production wells of the Aurora Water Supply system for the reporting period of January 1 – December 31, 2004 was 5,324,945,000 litres. This volume is less than the maximum permitted withdrawal as prescribed in the C of A.

The maximum allowable daily water taking and the actual maximum recorded daily water taking are presented in Table 2.

TABLE 2: Allowable and Actual Maximum Daily Withdrawal from the Aurora Production Wells for January 1 – December 31, 2004

Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)
Well 1	3,273,120	2,592,000 (December 20, 2004)
Well 2	5,889,600	5,225,000 (January 12, 2004)
Well 3	5,237,280	5,110,000 (December 31, 2004)
Well 4	7,855,200	7,800,000 (February 16, 2004)
Well 5	5,889,600	4,717,500 (April 14, 2004)
Well 6	3,456,000	2,780,000 (October 6, 2004)

The average monthly flow rates, the maximum daily flows, and the allowable daily flows are presented in Figures 1a, 1b, 1c, 1d, 1e, and 1f. The actual dates of the peak monthly demands are summarized in the Appendices.

Figure 1a: Aurora Well No. 1
Monthly Average Flow and Maximum Daily Flow
2004

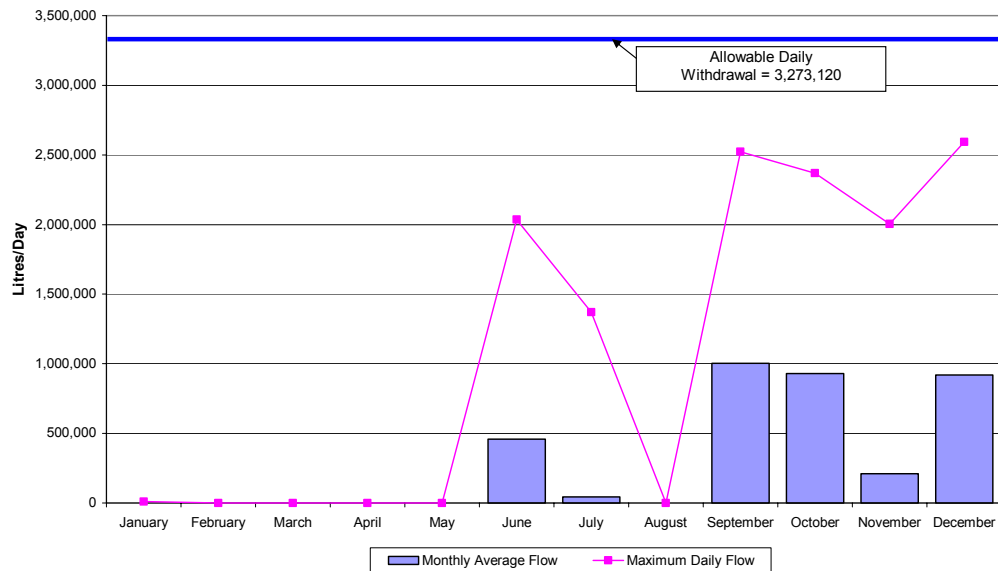
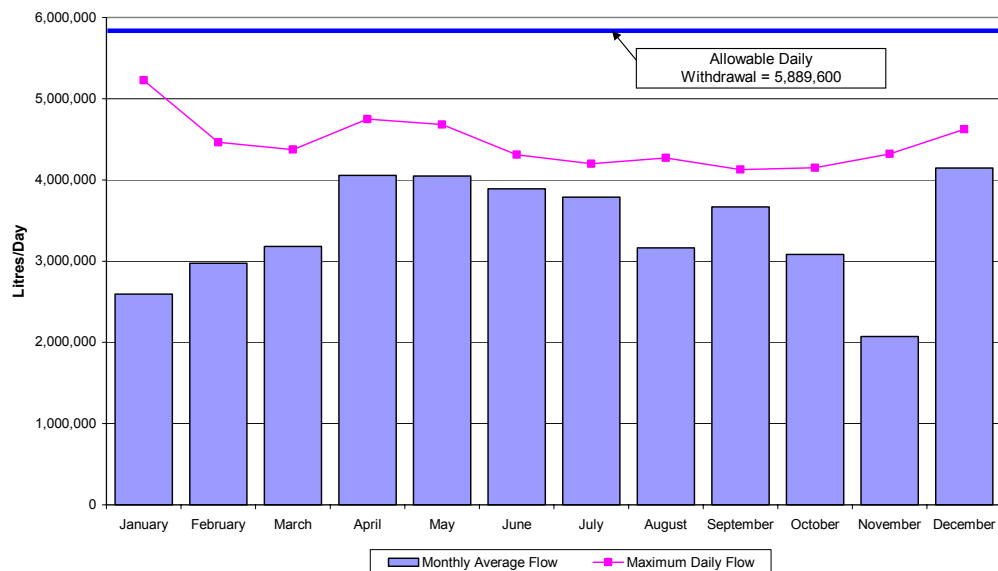


Figure 1b: Aurora Well No. 2
Monthly Average Flow and Maximum Daily Flow
2004



Summary Report for York Region Drinking Water Systems
March 2004

Figure 1c: Aurora Well No. 3
Monthly Average Flow and Maximum Daily Flow
2004

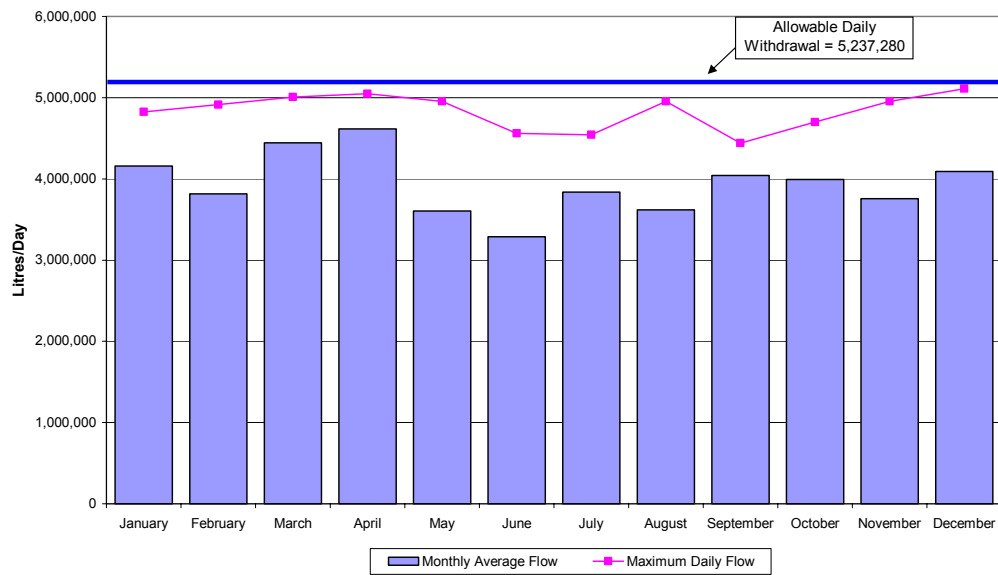


Figure 1d: Aurora Well No. 4
Monthly Average Flow and Maximum Daily Flow
2004

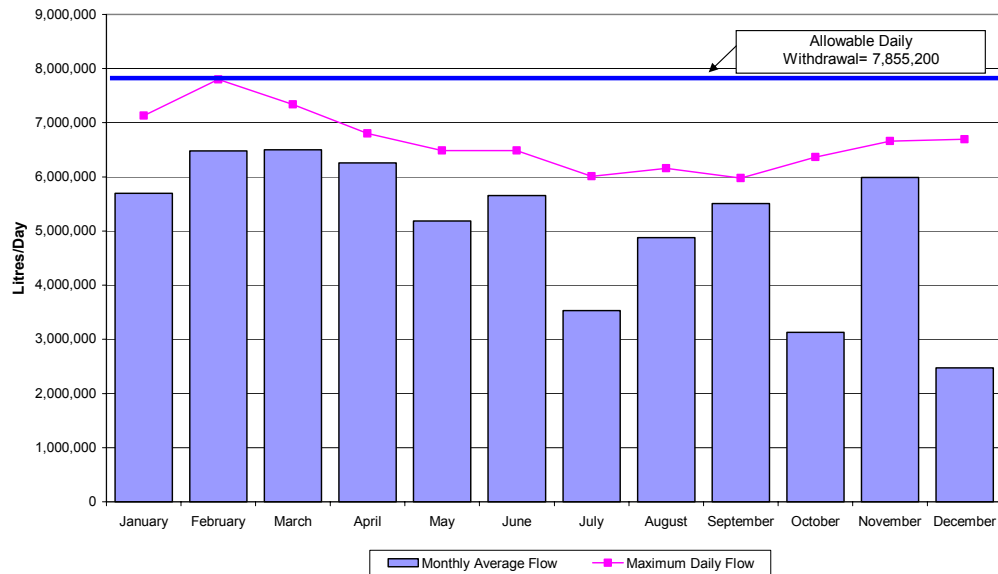


Figure 1e: Aurora Well No. 5
Monthly Average Flow and Maximum Daily Flow
2004

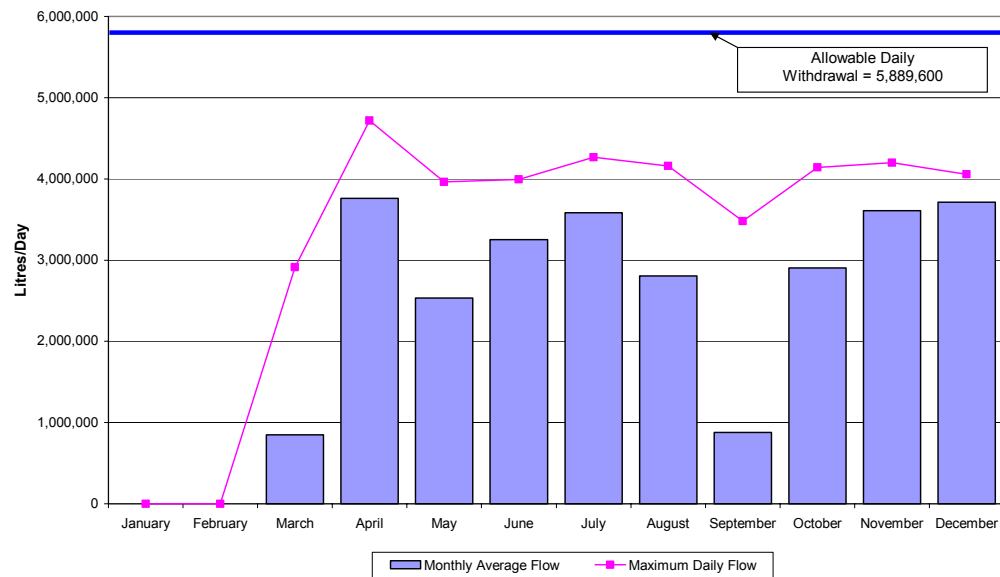
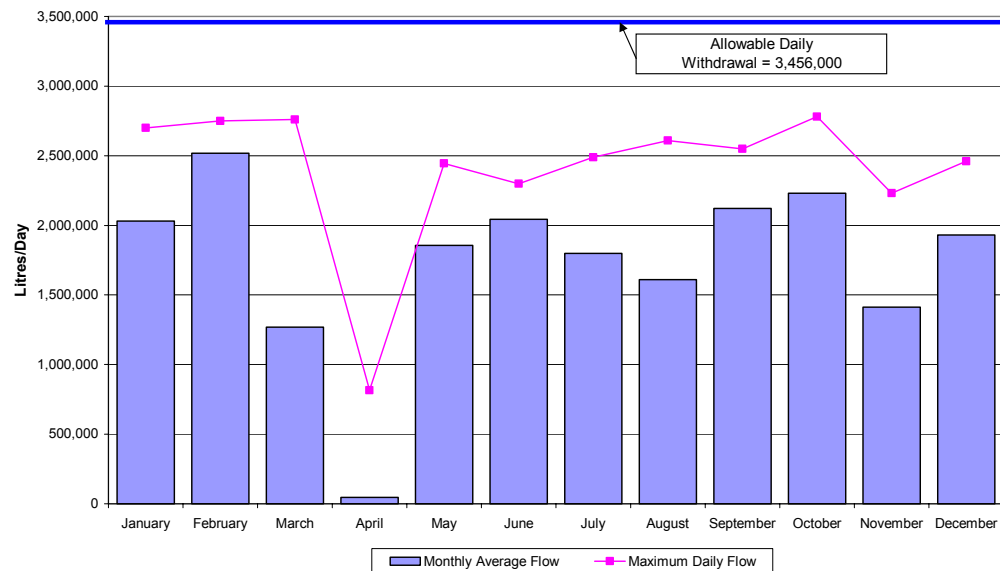


Figure 1f: Aurora Well No. 6
Monthly Average Flow and Maximum Daily Flow
2004



The actual volumes of water taken from the Aurora production wells during January 1 – December 31, 2004 did not exceed the allowable daily withdrawal.

The 'Daily Instantaneous Peak Flow (litres)' for January 1- December 31, 2004 is presented in Figure 1a, b, c, d, e, and f.

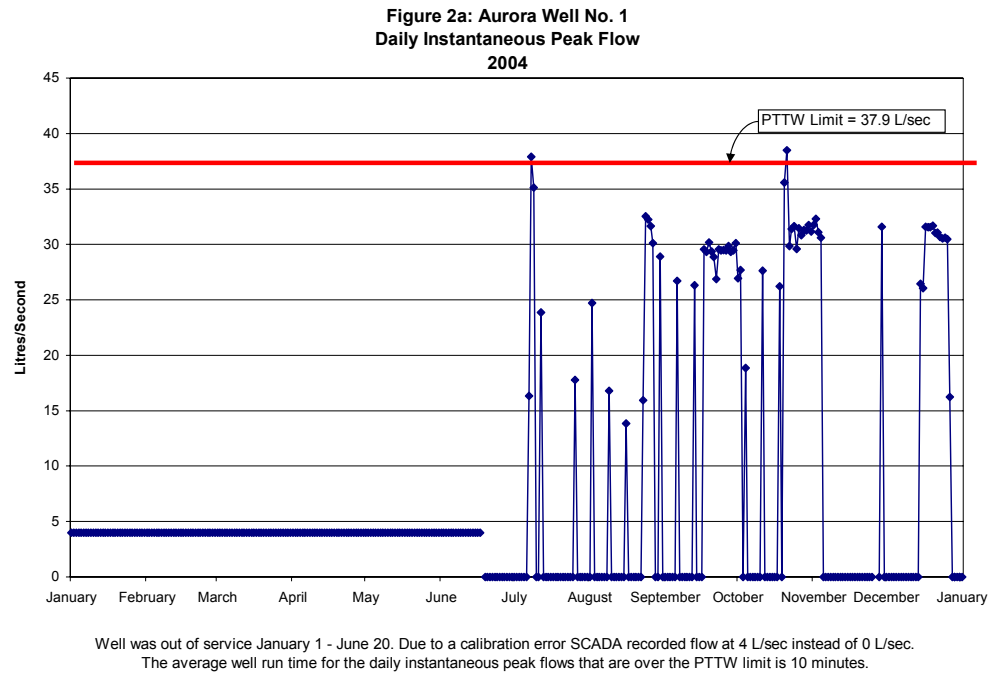
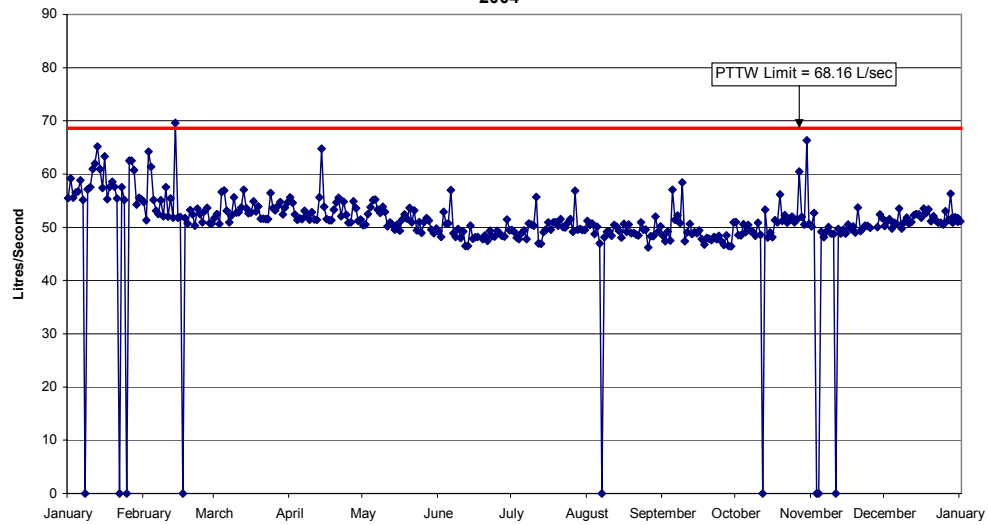


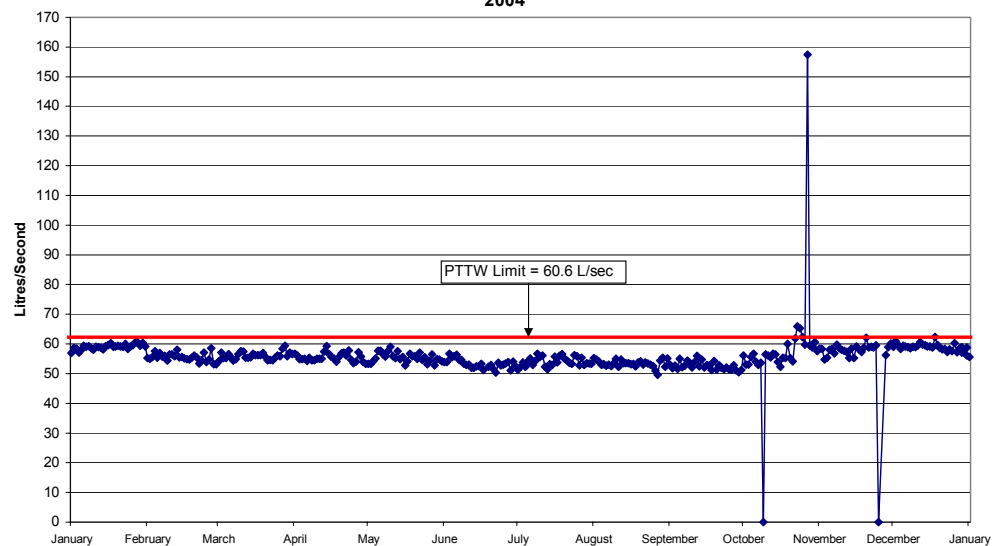
Figure 2a: shows instantaneous peak flow rates above the Permit to Take Water limit. The instantaneous peak flow rates are short duration (on average less than 10 minutes) and represent less than 1% of the total volume of water taken for that day. These peaks are associated with the initial start up of a pump removing of back pressure or a change in elevation in the water table or maintenance on the distribution system. Specific information about the duration of each individual reading above the PTTW limit is detailed in the Appendices.

**Figure 2b: Aurora Well No. 2
Daily Instantaneous Peak Flow
2004**



The well ran over the PTTW limit for 5 minutes due to pump startup.

**Figure 2c: Aurora Well No. 3
Daily Instantaneous Peak Flow
2004**



The average well run time for the daily instantaneous peak flows that are over the PTTW limit is under 25 minutes.

Figure 2c: shows instantaneous peak flow rates above the Permit to Take Water limit. The instantaneous peak flow rates are short duration (on average less than 25 minutes) and represent less than 3% of the total volume of water taken for that day. The peaks are associated with the initial start up of a pump by removing of back pressure, a change in elevation in the water table or

maintenance on the distribution system. Specific information about the duration of each individual reading above the PTTW limit is detailed in the Appendices.

Figure 2c also shows where a single instantaneous peak flow rate appears as a clear isolated outlier in the trend, the value is well above the physical capacity of the pump. This data is believed to be erroneous due to communication error as a result of the broad band radio frequency which maybe affected by power surges, environmental interference (wind, ice, lightning, etc) or other electrical interruptions.

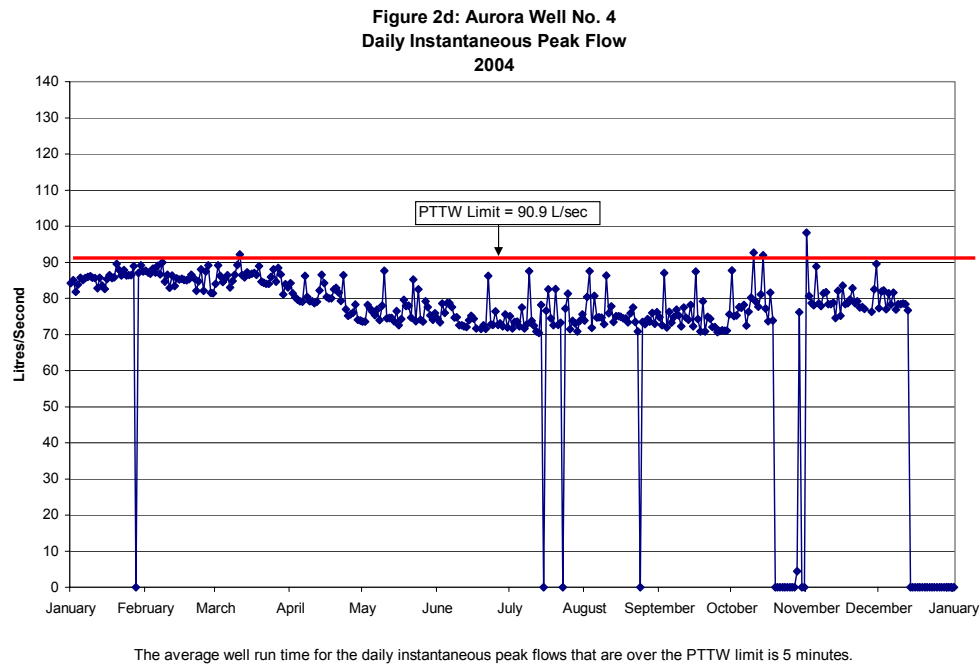
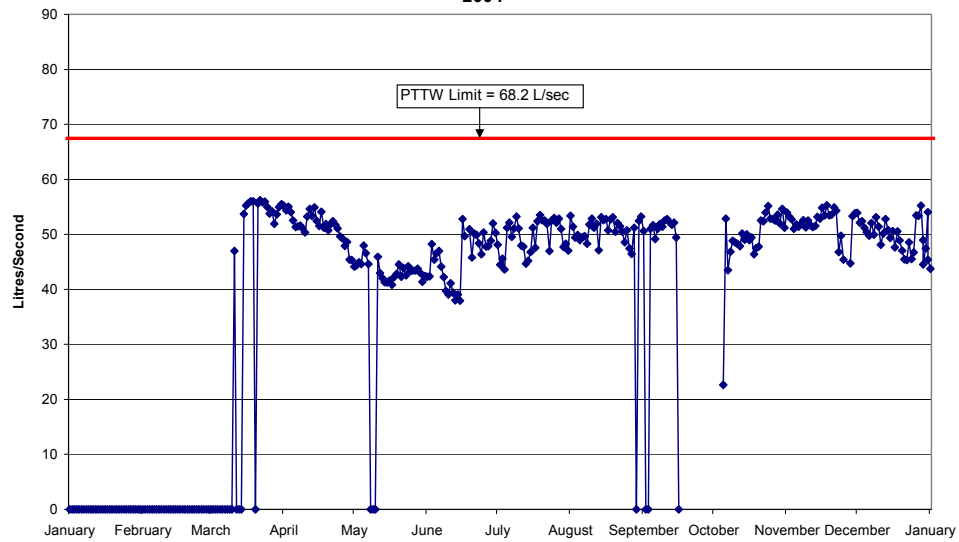


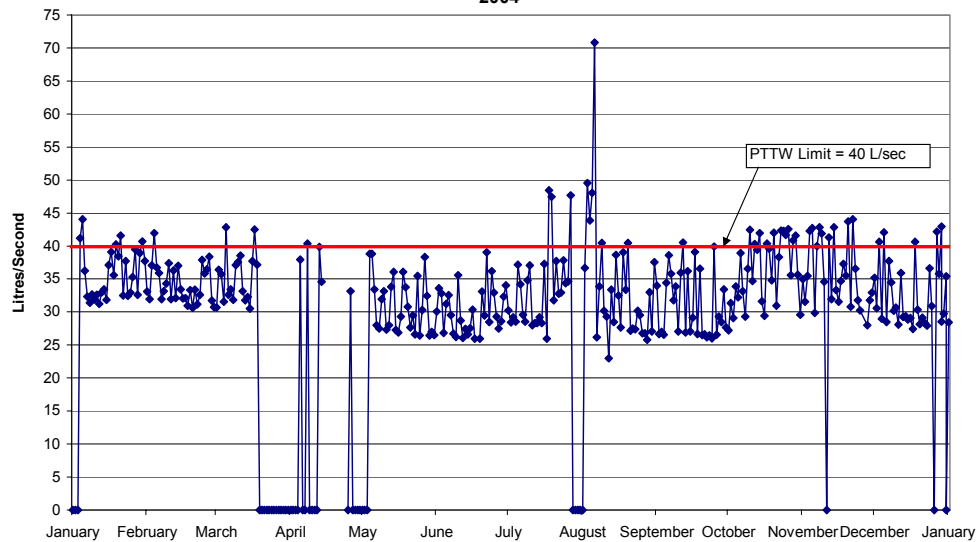
Figure 2d: shows instantaneous peak flow rates above the Permit to Take Water limit. The instantaneous peak flow rates are short duration (on average less than 5 minutes) and represent less than 1% of the total volume of water taken for that day. The peaks are associated with the initial start up of a pump by removing of back pressure, a change in elevation in the water table or maintenance on the distribution system.

Figure 2e: Aurora Well No. 5
Daily Instantaneous Peak Flow
2004



This well was out of service January 1- March 15 and September 15 - October 5.

Figure 2f: Aurora Well No. 6
Daily Instantaneous Peak Flow
2004



The average well run time for the daily instantaneous peak flows that are above the PTTW limit is under 10 minutes.

Figure 2f: shows instantaneous peak flow rates above the Permit to Take Water limit. The instantaneous peak flow rates are short duration (on average less than 10 minutes) and represent less than 2% of the total volume of water taken for that day. These peaks are associated with the initial start up of a pump by removing of back pressure, a change in elevation in the water table or

maintenance on the distribution system. Specific information about the duration of each individual reading above the PTTW limit is detailed in the Appendices.

The Figure also shows an instantaneous peak flow rate that is above 70 L/sec, which is well above the physical capacity of the pump. This data is believed to be erroneous due to communication error as a result of the broad band radio frequency which maybe affected by power surges, environmental interference (wind, ice, lightning, etc) or other electrical interruptions.

Ballantrae

York Region operates a water supply system to service Ballantrae/Musselman's Lake, Town of Whitchurch-Stouffville, under authority of a Certificate of Approval (C of A) as issued by the Ontario Ministry of the Environment (MOE). The C of A includes reference to the valid Permit To Take Water (PTTW) also issued by the MOE. The C of A requirements for the Ballantrae/Musselman's Lake water supply have been finished. Details of the C of A and PTTW and other relevant classification information are presented in Table 1.

TABLE 1: Ballantrae/Musselman's Lake Water Supply – Summary of Approvals and Permit

Current Certificate of Approval Number:	8759-5W9LN2
Issue Date:	March 3, 2004
Current Permit to Take Water Number:	96-P-3020
Issue Date:	September 11, 2003 (renewed)
Expiry Date:	September 11, 2006
MOE Waterworks Number:	220008658
System Classification:	Water Distribution II (WDII)

Water Taking

The PTTW for the Ballantrae/Musselman's Lake Water Supply System allow York Region to withdraw up to 2,617,920 litres per day from production wells 1 and 2 during the period of October 1 – May 31 and 4,380,480 litres per day from production wells 1 and 2 during the period of June 1 – September 30.

York Region monitors the water taking through flow meters placed downstream of each production well. Flow is monitored on a continuous basis to ensure that the regulated flows are not exceeded.

Measuring Points

Flow meters are in place downstream of each production well. The flow meters record the instantaneous flow rate and the total volume of water that has passed through the meter. The flow meters are calibrated on an annual basis to meet the monitoring conditions of the C of A.

Flow data is retrieved and stored by two methods in York Region. This approach provides York Region with the opportunity to compare and contrast data should one method suddenly fail due to power failures or other means.

1. York Region staff manually record the flow rates and total flow data on regular operational visits to the well sites. Average flow rates are also calculated using records of total flow and number of operating pump hours. This 'manual' data was used to generate the maximum daily withdrawal and monthly average flow tables and figures.
2. The flow meters are also connected to the Supervisory Control and Data Acquisition (SCADA) system so that data can be monitored remotely and stored electronically. This data was used to generate the instantaneous peak flow rate figures.

Water Withdrawal

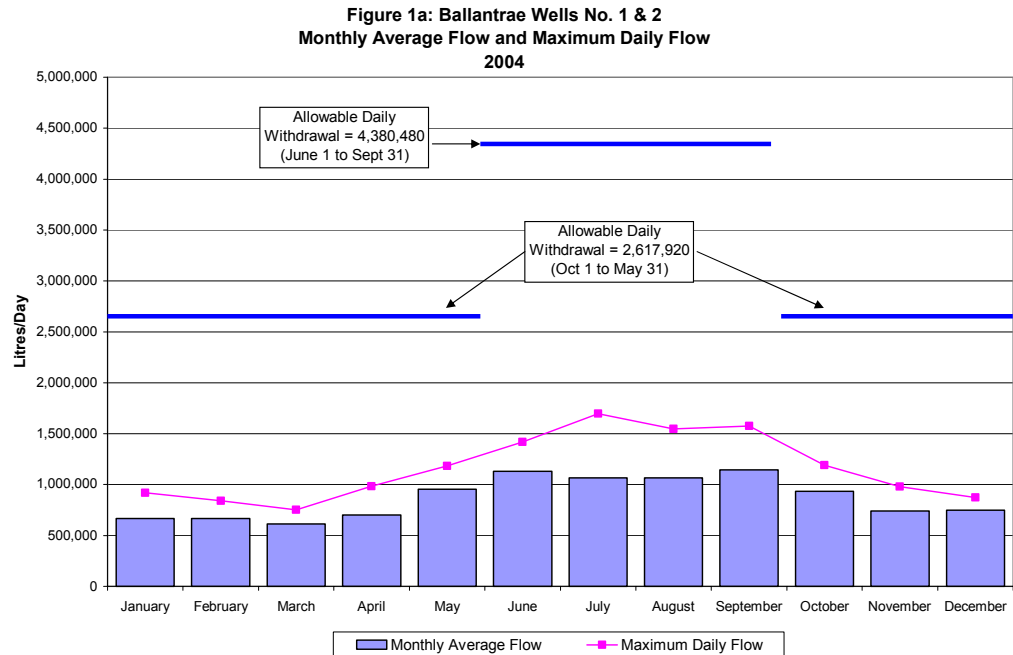
The total volume of water taken from the production wells of the Ballantrae/Musselman's Lake Water Supply system for the reporting period of January 1 – December 31, 2004 was 317,772,000 litres. This volume is less than the maximum permitted withdrawal as prescribed in the PTTW.

The maximum allowable daily water taking and the actual maximum recorded daily water taking are presented in Table 2.

TABLE 2: Allowable and Actual Maximum Daily Withdrawal from the Ballantrae/Musselman's Lake Production Wells for January 1 – December 31, 2004

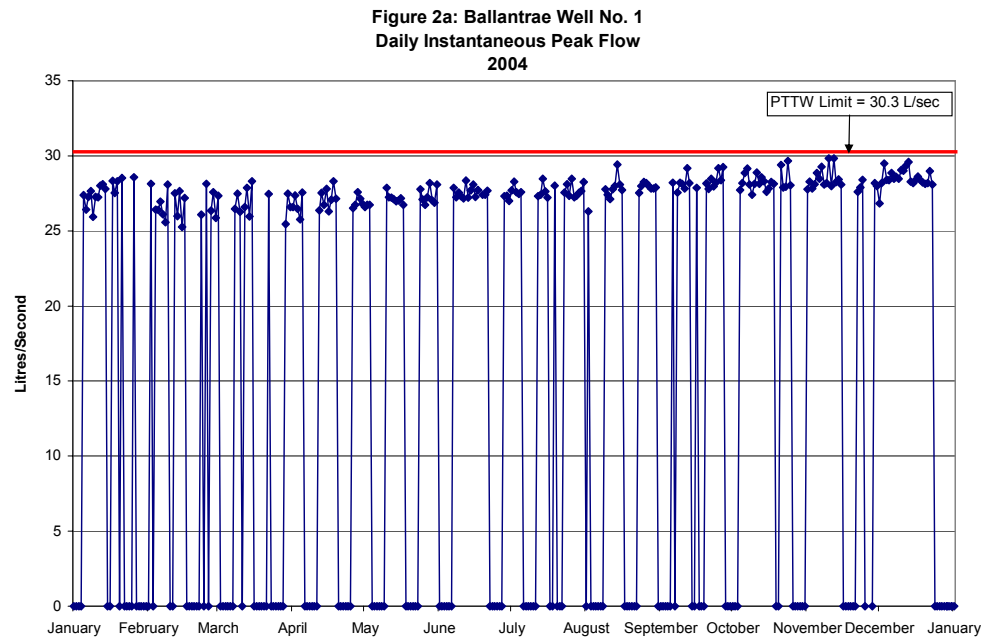
Allowable Daily Withdrawal from Production Wells 1 and 2 (Litres)	Actual Maximum Daily Withdrawal (Litres)
2,617,920 from Oct 1 – May 31	1,182,500 (May 19, 2004)
4,380,480 from Jun 1 – Sept 30	1,698,000 (July 9, 2004)

The average monthly flow rates, maximum daily flow, and the allowable daily withdrawal are presented in Figure 1a. The actual dates of the peak monthly demands are summarized in the Appendices.



The actual volume of water taken from the Ballantrae/Musselman's production wells during January 1 – December 31, 2004 did not exceed the allowable daily withdrawal volume.

The '*Daily Instantaneous Peak Flow (litres)*' for January 1- December 31, 2004 for wells 1 and 2 are presented in the following graphs.



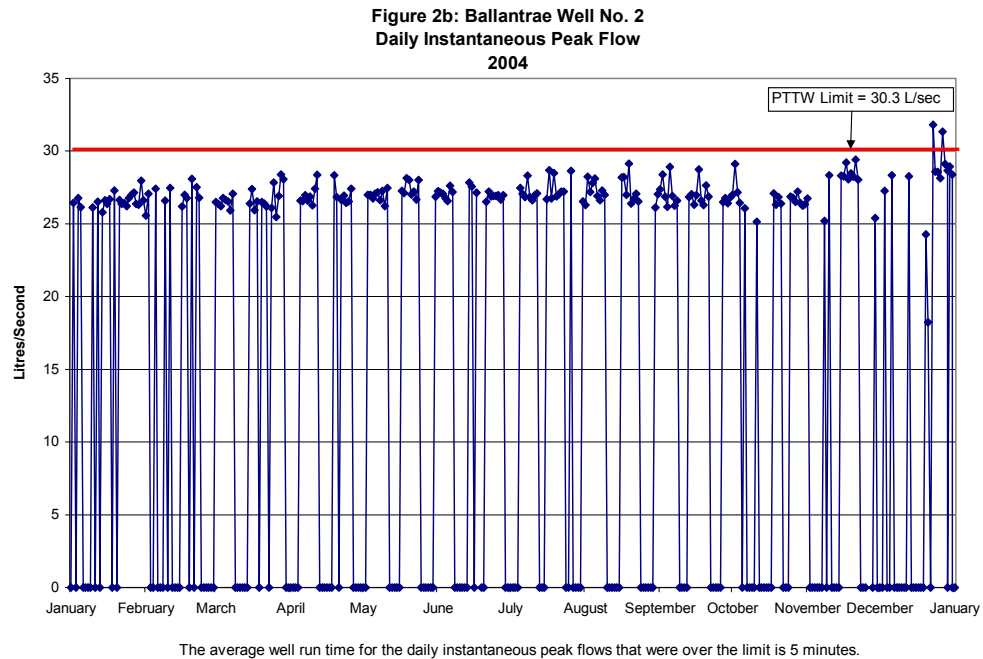


Figure 2b: shows instantaneous peak flow rates above the Permit to Take Water limit. The instantaneous peak flow rates are short duration (on average less than 5 minutes) and represent less than 1% of the total volume of water taken for that day. These peaks are associated with the initial start up of a pump by removing of back pressure, a change in elevation in the water table or maintenance on the distribution system. Specific information about the duration of each individual reading above the PTTW limit is detailed in the Appendices.

Georgina

The Regional Municipality of York (York Region) operates a water supply system to service Sutton, Town of Georgina, under authority of a Certificate of Approval (C of A) as issued by the Ontario Ministry of the Environment (MOE). The C of A includes reference to the valid Permit To Take Water (PTTW) also issued by the MOE. Details of the C of A and PTTW and other relevant classification information are presented in Table 1. The Georgina water supply system has remained at the same state, with no new upgrades.

TABLE 1: Georgina Water Supply – Summary of Approvals and Permit

Current Certificates of Approval Numbers:	5640-667R8N
Issue Date:	December 8, 2004
Current Permit to Take Water Number:	03-P-3008
Issue Date:	February 12, 2003
Expiry Date:	February 28, 2013
MOE Waterworks Number:	260026156
System Classification:	Water Treatment II (WTII)

Water Taking

The C of A for the Georgina Water Supply System allows York Region to withdraw up to 50,000,000 litres per day from the water treatment plant.

York Region monitors the water taking through flow meters. Flows are monitored on a continuous basis to ensure that the regulated flows are not exceeded.

Measuring Points

Flow meters are in place downstream of the intake at the lowlift pump, filters and highlift pump locations. The flow meters record the instantaneous flow rate and the total volume of water that has passed through the meter. The flow meters are calibrated on an annual basis to meet the monitoring conditions of the C of A.

Flow data is retrieved and stored by two methods in York Region. This approach provides York Region with the opportunity to compare and contrast data should one method suddenly fail due to power failures or other means.

1. York Region staff manually record the flow rates and total flow data on regular operational visits to the well sites. Average flow rates are also

calculated using records of total flow and number of operating pump hours. This 'manual' data was used to generate the maximum daily withdrawal and monthly average flow tables and figures.

2. The flow meters have recently been connected to the Supervisory Control and Data Acquisition (SCADA) system so that data can be monitored remotely and stored electronically. This data was used to generate the instantaneous peak flow rate figures.

Water Withdrawal

The Georgina water treatment plant began operation in late November 2003.

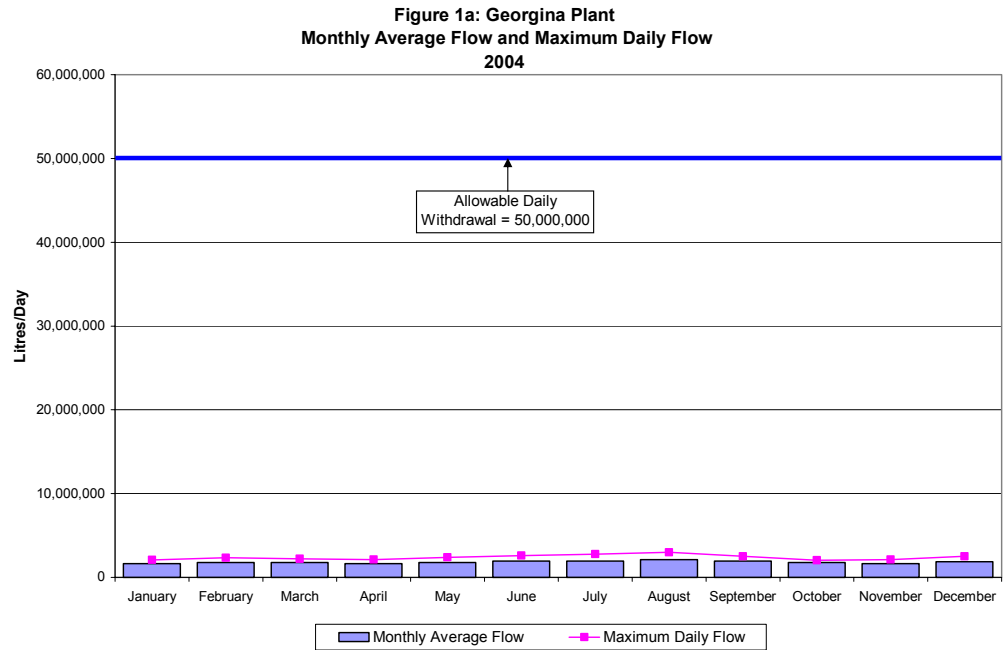
The total volume of water from the Georgina water treatment plant during January 1 – December 31, 2004 was 663,204,000 litres. This volume is less than the maximum permitted withdrawal as prescribed in the C of A.

The maximum allowable daily water taking and the actual maximum recorded daily water taking are presented in Table 2.

TABLE 2: Allowable and Actual Maximum Daily Withdrawal from the Georgina Water Treatment Plant for January 1 – December 31, 2004

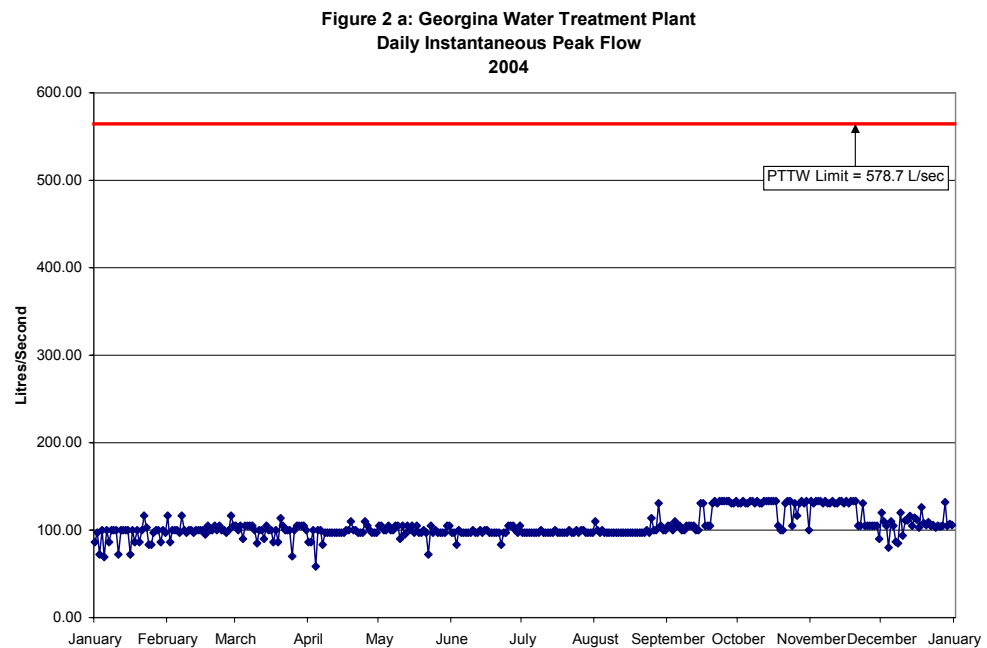
Location	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)
Water Treatment Plant	50,000,000	2,776,000 (July 31, 2004)

The monthly average flow rates, maximum daily flow, and allowable daily withdrawal are presented in Figure 1a.



The withdrawal rates from the Georgina Water Treatment Plant did not exceed the allowable limits for January 1 – December 31, 2004.

The 'Daily Instantaneous Peak Flow (litres)' for January 1- December 31, 2004 is presented in Figure 2a.



Keswick

The Regional Municipality of York (York Region) operates a water supply system to service Keswick, Town of Georgina, under authority of two Certificates of Approval (C of A) as issued by the Ontario Ministry of the Environment (MOE). The C of A includes reference to the valid Permit To Take Water (PTTW) also issued by the MOE. Details of the C of A and PTTW and other relevant classification information are presented in Table 1. The Keswick water supply system has undergone these upgrades necessary to meet the C of A requirements.

TABLE 1: Keswick Water Supply – Summary of Approvals and Permit

Current Certificates of Approval Numbers: Keswick Water Treatment Plant Issue Date: Keswick Standpipe Issue Date:	1509-5UASGE January 19, 2004 1509-5UASGE January 19, 2004
Current Permit to Take Water Number: Issue Date: Expiry Date:	1268-636QNK July 30, 2004 June 30, 2014
MOE Waterworks Number:	210003280
System Classification:	Water Treatment III (WTIII)

Water Taking

The C of A for the Keswick Water Supply System allows York Region to withdraw up to 16,200,000 Litres per day from the water treatment plant. The Keswick Standpipe is allowed to pump at a rate of 10,481,000 litres per day.

York Region monitors the water taking through flow meters. Flows are monitored on a continuous basis to ensure that the regulated flows are not exceeded.

Measuring Points

Flow meters are in place downstream of the intake at the low lift pump, filters and high lift pump locations. The flow meters record the instantaneous flow rate and the total volume of water that has passed through the meter. The flow meters are calibrated on an annual basis to meet the monitoring conditions of the C of A.

Flow data is retrieved and stored by two methods in York Region. This approach provides York Region with the opportunity to compare and contrast data should one method suddenly fail due to power failures or by other means.

1. York Region staff manually record the flow rates and total flow data on regular operational visits to the well sites. Average flow rates are also calculated using records of total flow and number of operating pump hours. This 'manual' data was used to generate the maximum daily withdrawal and monthly average flow tables and figures.
2. The flow meters are also connected to the Supervisory Control and Data Acquisition (SCADA) system so that data can be monitored remotely and stored electronically. This data was used to generate the instantaneous peak flow rate figures.

Water Withdrawal

The total volume of water from the Keswick water treatment plant during January 1 – December 31, 2004 was 2,315,408,000 Litres. This volume is less than the maximum permitted withdrawal as prescribed in the C of A.

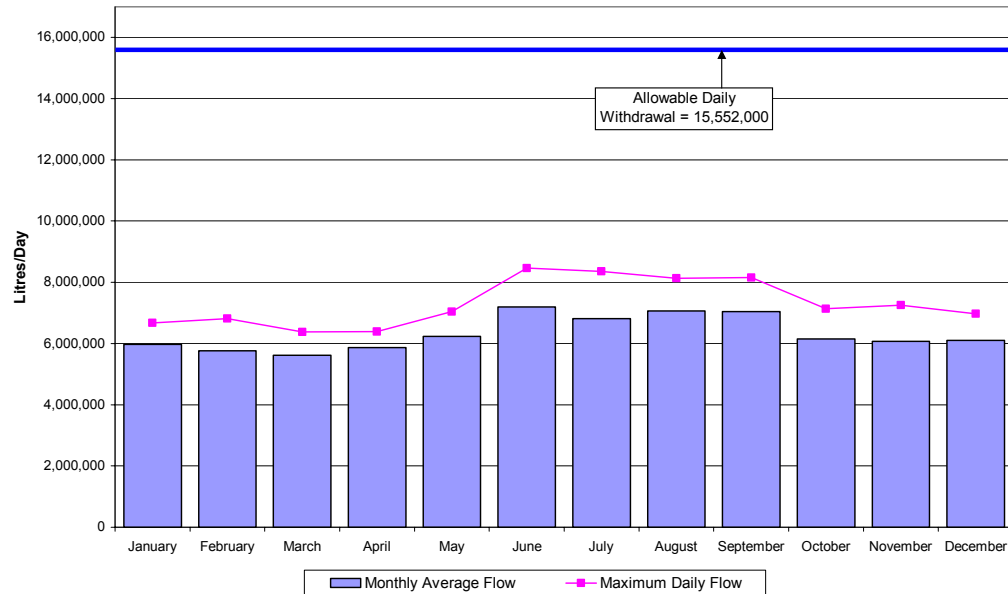
The maximum allowable daily water taking and the actual maximum recorded daily water taking are presented in Table 2.

TABLE 2: Allowable and Actual Maximum Daily Withdrawal from the Keswick Water Treatment Plant and Keswick Standpipe for January 1 – December 31, 2004

Location	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)
Water Treatment Plant	16,200,000	8,467,000 (June 13, 2004)

The average monthly flow rates, maximum daily flow, and allowable daily withdrawal are presented in Figure 1a. The actual dates of the peak monthly demands are summarized in the Appendices.

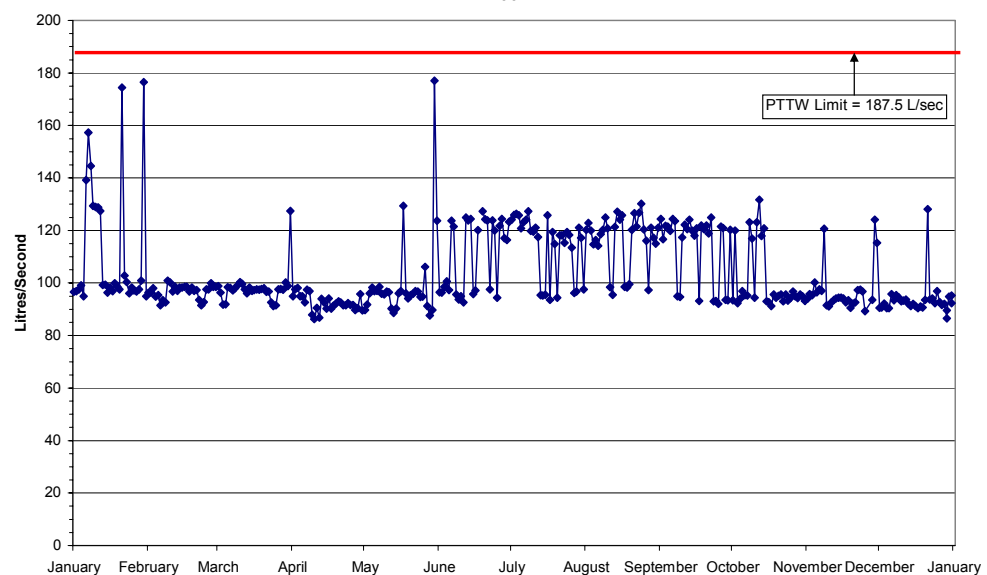
Figure 1a: Keswick Plant
Monthly Average Flow and Maximum Daily Flow
2004



The withdrawal rates from the Keswick Water Treatment Plant and the Keswick Standpipe did not exceed the allowable limits during January 1 – December 31, 2004.

The ‘*Daily Instantaneous Peak Flow (litres)*’ for January 1- December 31, 2004 is presented in Figure 2a.

Figure 2 a: Keswick Water Treatment Plant
Daily Instantaneous Peak Flow
2004



King City

York Region operates a water supply system to service King City, Township of King, under authority of a Certificate of Approval (C of A) as issued by the Ontario Ministry of the Environment (MOE). The C of A includes reference to the valid Permit To Take Water (PTTW) also issued by the MOE. Details of the C of A and PTTW and other relevant classification information are presented in Table 1. The King City water supply system has undergone those upgrades that are required under the C of A.

TABLE 1: King City Water Supply – Summary of Approvals and Permit

Current Certificate of Approval Number:	7674-62MQDB
Issue Date:	July 12, 2004
Current Permit to Take Water Number:	8634-67HR9L
Issue Date:	December 20, 2004
Expiry Date:	January 31, 2015
MOE Waterworks Number:	220002299
System Classification:	Water Distribution III (WD III)

Water Taking

The C of A for the King City Water Supply System allows York Region to withdraw up to 4,582,470 litres per day from production wells 3 and 4.

York Region monitors the water taking through flow meters placed downstream of each production well. Flow is monitored on a continuous basis to ensure that the regulated flows are not exceeded.

Measuring Points

Flow meters are in place downstream of production well 3 and 4. The flow meters record the instantaneous flow rate and the total volume of water that has passed through the meter. The flow meters are calibrated on an annual basis to meet the monitoring conditions of the C of A.

Flow data is retrieved and stored by two methods in York Region. This approach provides York Region with the opportunity to compare and contrast data should one method suddenly fail due to power failures or by other means.

1. York Region staff manually record the flow rates and total flow data on regular operational visits to the well sites. Average flow rates are also calculated using records of total flow and number of operating pump

hours. This 'manual' data was used to generate the maximum daily withdrawal and monthly average flow tables and figures.

2. The flow meters are also connected to the Supervisory Control and Data Acquisition (SCADA) system so that data can be monitored remotely and stored electronically. This data was used to generate the instantaneous peak flow rate figures.

Water Withdrawal

The total volume of water taken from the production wells of the King City Water Supply system for January 1 – December 31, 2004 was 506,966,000 litres. This volume is less than the maximum permitted withdrawal as prescribed in the C of A.

The maximum allowable daily water taking and the actual maximum recorded daily water taking are presented in Table 2.

TABLE 2: Allowable and Actual Maximum Daily Withdrawal from the King City Production Wells for January 1 – December 31, 2004

Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)
Well 3	1,963,915	1,574,000 (May 28, 2004)
Well 4	2,618,554	1,850,500 (January 26, 2004)

The monthly average flow rates, maximum daily flow, and the allowable daily withdrawal are presented in Figure 1a and 1b. The actual dates of the peak monthly demands are summarized in the Appendices.

Figure 1a: King City Well No. 3
Monthly Average Flow and Maximum Daily Flow
2004

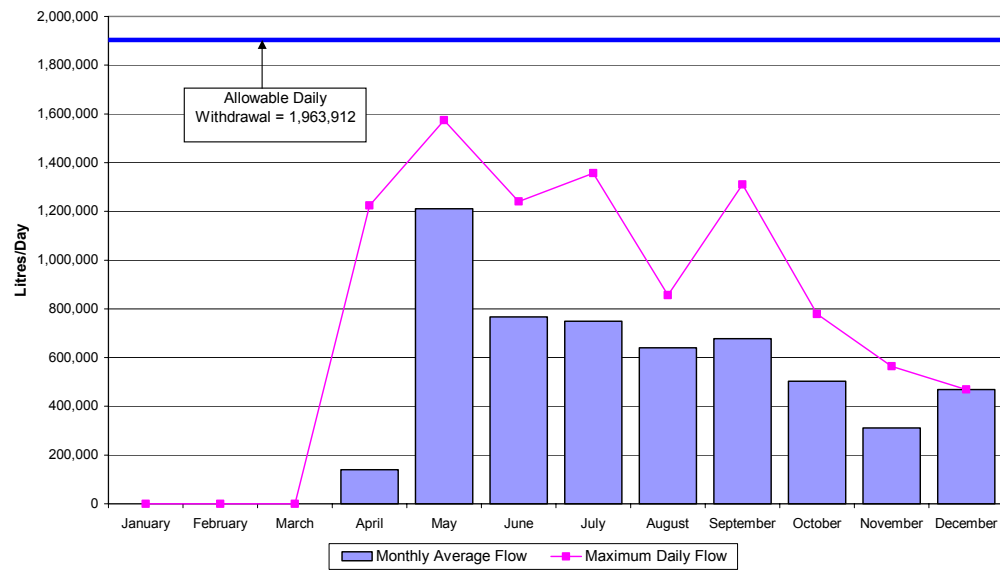
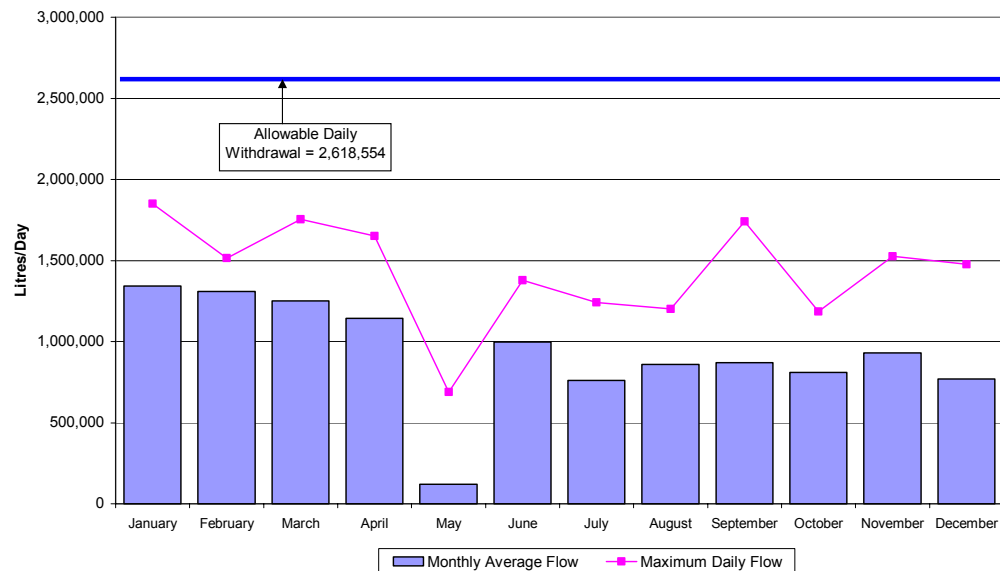


Figure 1b: King City Well No. 4
Monthly Average Flow and Maximum Daily Flow
2004



The withdrawal rates from the King City production wells did not exceed the allowable limits during January 1 – December 31, 2004.

The 'Daily Instantaneous Peak Flow (litres)' for January 1- December 31, 2004 are presented in Figures 2a and 2b.

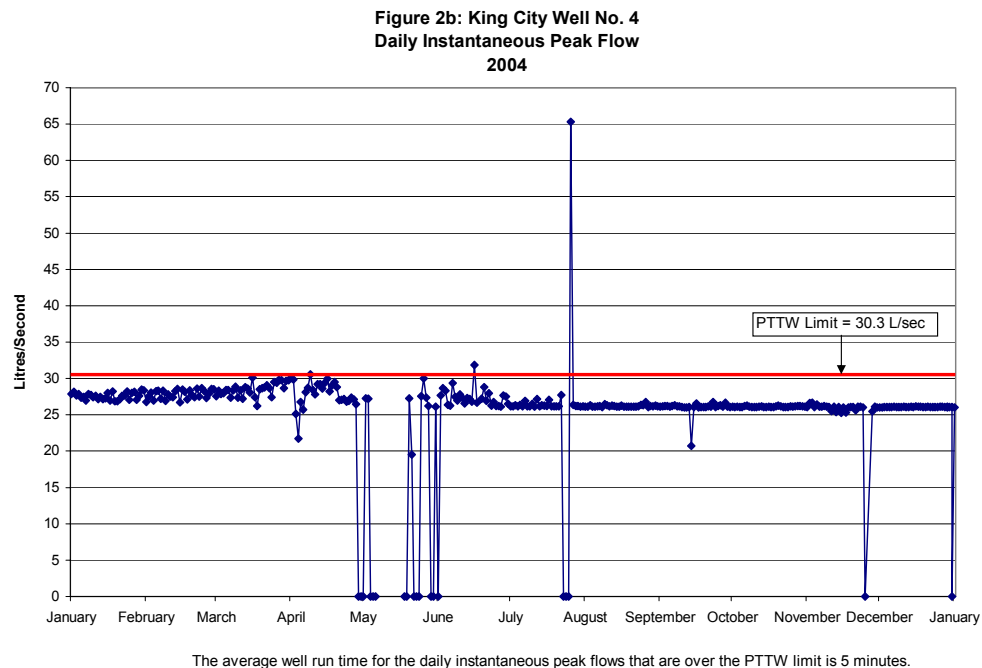
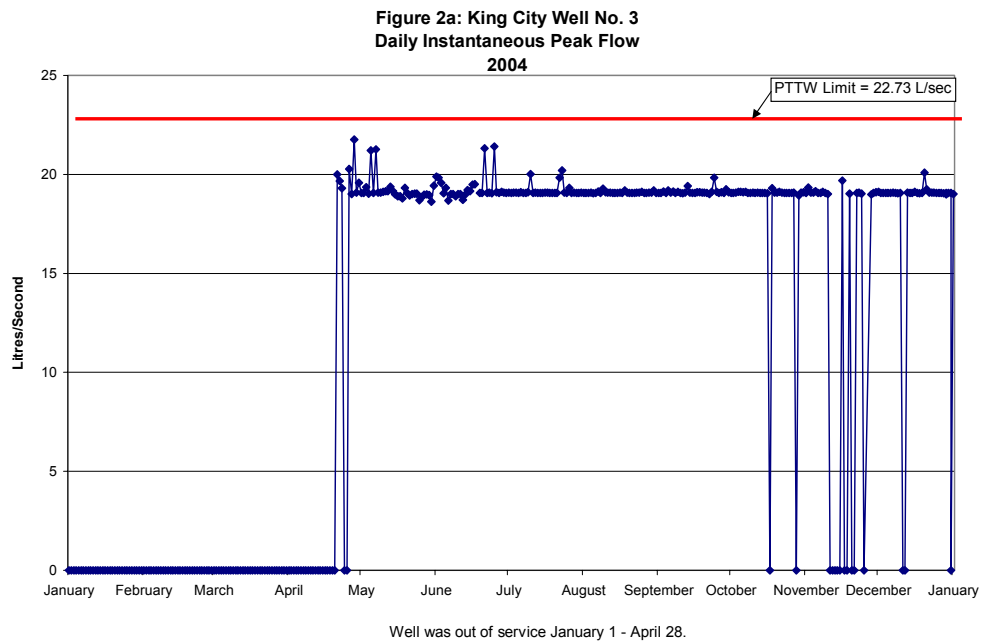


Figure 2b: shows where a single instantaneous peak flow rate appears as a clear isolated outlier in the trend, the value is well above the physical capacity of the pump. This data is believed to be erroneous due to communication error as a result of the broad band radio frequency which maybe affected by power surges,

environmental interference (wind, ice, lightning, etc) or other electrical interruptions.

Kleinburg

York Region operates a water supply system to service Kleinburg, City of Vaughan, under authority of a Certificate of Approval (C of A) as issued by the Ontario Ministry of the Environment (MOE). The C of A includes reference to the valid Permit To Take Water (PTTW) also issued by the MOE. Details of the C of A and PTTW and other relevant classification information are presented in Table 1. The Kleinburg water supply system has undergone those upgrades that are required under the C of A.

TABLE 1: Kleinburg Water Supply – Summary of Approvals and Permit

Current Certificate of Approval Number: Issue Date:	3182-5STRXV November 3, 2003
Previous Certificate of Approval Number: Issue Date:	8311-5L2SCA April 3, 2003
Current Permit to Take Water Number: Issue Date: Expiry Date:	01-P-3063 July 22, 2002 January 31, 2005
MOE Waterworks Number:	220002360
System Classification:	Water Distribution III (WDIII)

Water Taking

The C of A for the Kleinburg Water Supply System allows York Region to withdraw up to 4,233,000 litres per day from production wells 2 and 3. Withdrawal from production well 2 is limited to 90 days per year.

York Region monitors the water taking through flow meters placed downstream of each production well. Flow is monitored on a continuous basis to ensure that the regulated flows are not exceeded.

Measuring Points

Flow meters are in place downstream of production well 2 and 3. The flow meters record the instantaneous flow rate and the total volume of water that has passed through the meter. The flow meters are calibrated on an annual basis to meet the monitoring conditions of the C of A.

Flow data is retrieved and stored by two methods in York Region. This approach provides York Region with the opportunity to compare and contrast data should one method suddenly fail due to power failures or by other means.

1. York Region staff manually record the flow rates and total flow data on regular operational visits to the well sites. Average flow rates are also calculated using records of total flow and number of operating pump hours. This 'manual' data was used to generate the maximum daily withdrawal and monthly average flow tables and figures.
2. The flow meters are also connected to the Supervisory Control and Data Acquisition (SCADA) system so that data can be monitored remotely and stored electronically. This data was used to generate the instantaneous peak flow rate figures.

Water Withdrawal

The total volume of water taken from the production wells of the Kleinburg Water Supply system for January 1 – December 31, 2004 was 539,751,000 litres. This volume is less than the maximum permitted withdrawal as prescribed in the C of A.

The maximum allowable daily water taking and the actual maximum recorded daily water taking are presented in Table 2.

TABLE 2: Allowable and Actual Maximum Daily Withdrawal from the Kleinburg Production Wells for January 1 – December 31, 2004

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)
Well 2	950,400	374,000 (June 02, 2004)
Well 3	3,283,200	2,451,333 (July 02, 2004)

** Kleinburg well 2 is typically used as a standby well and is primarily operated for collection of samples for required water quality testing.*

The monthly average flow rates, maximum daily flow, and allowable daily withdrawal are presented in Figure 1a and 1b. The actual dates of the peak monthly demands are summarized in the Appendices.

Figure 1a: Kleinburg Well No. 2
Monthly Average Flow and Maximum Daily Flow
2004

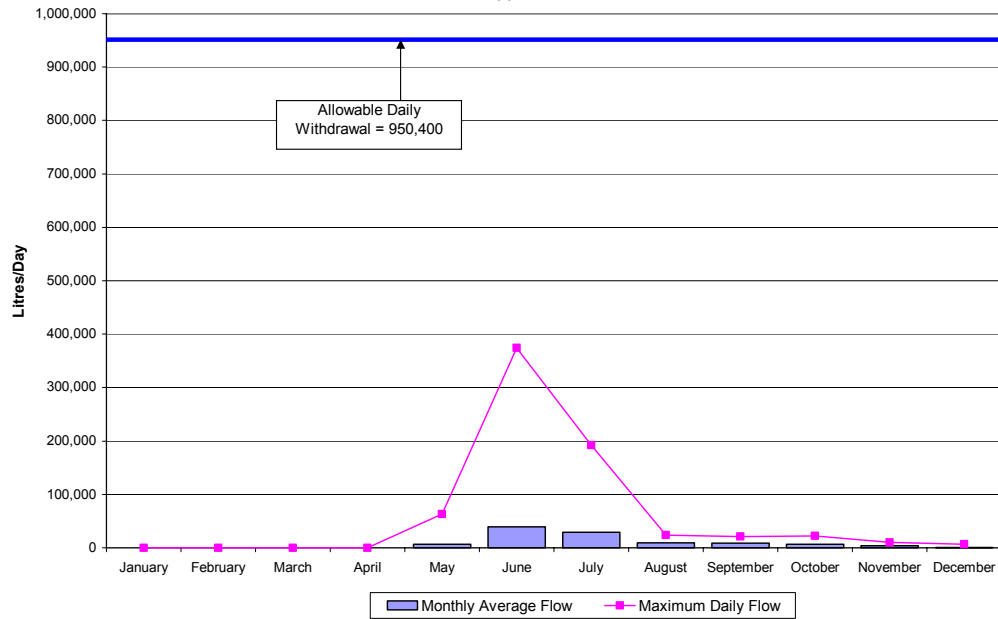
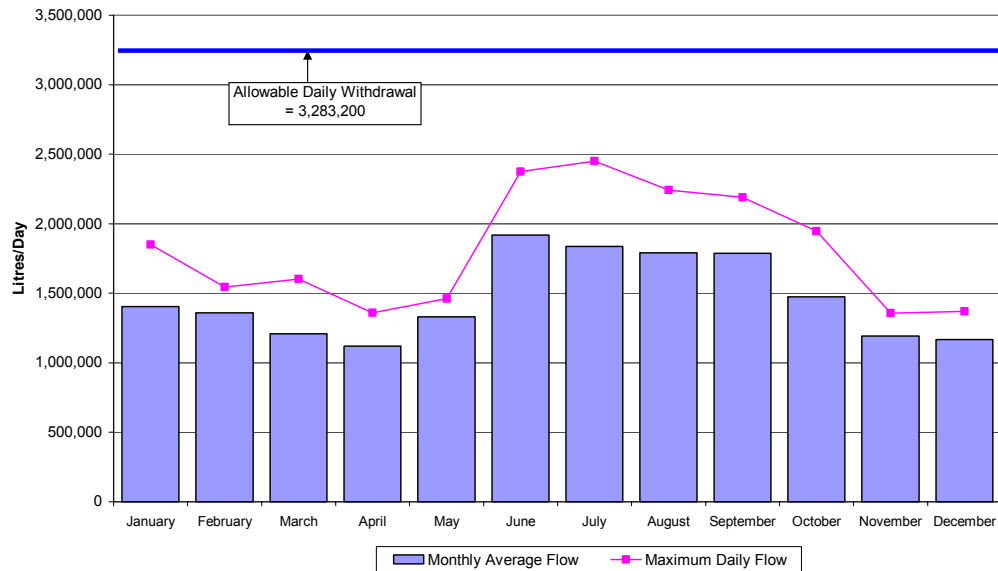


Figure 1b: Kleinburg Well No. 3
Monthly Average Flow and Maximum Daily Flow
2004



The withdrawal rates from the Kleinburg production wells did not exceed the allowable limits during January 1 – December 31, 2004.

The 'Daily Instantaneous Peak Flow (litres)' for January 1- December 31, 2004 is presented in Figures 2a and 2b.

Figure 2a: Kleinburg Well No. 2
Daily Instantaneous Peak Flow
2004

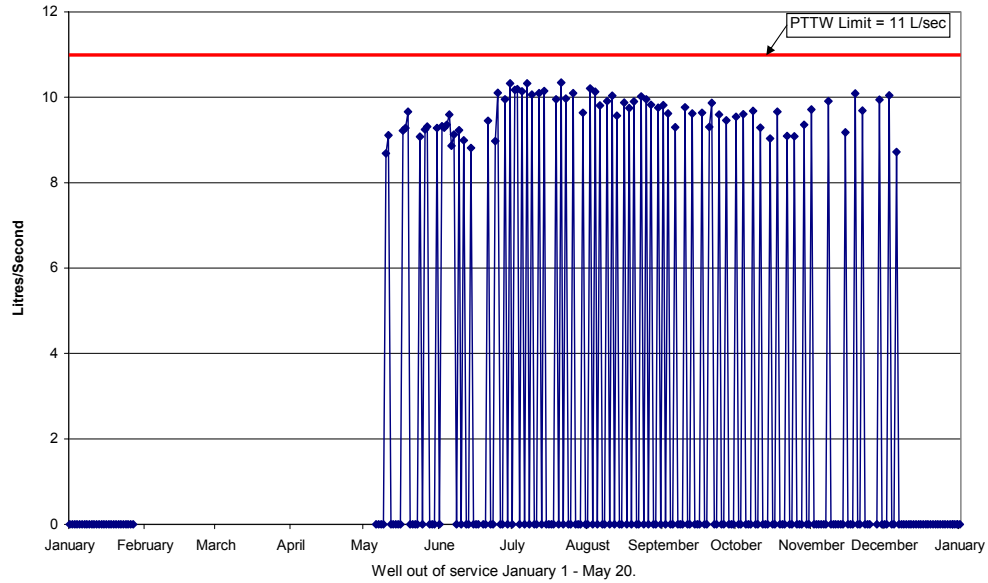


Figure 2b: Kleinburg Well No. 3
Daily Instantaneous Peak Flow
2004

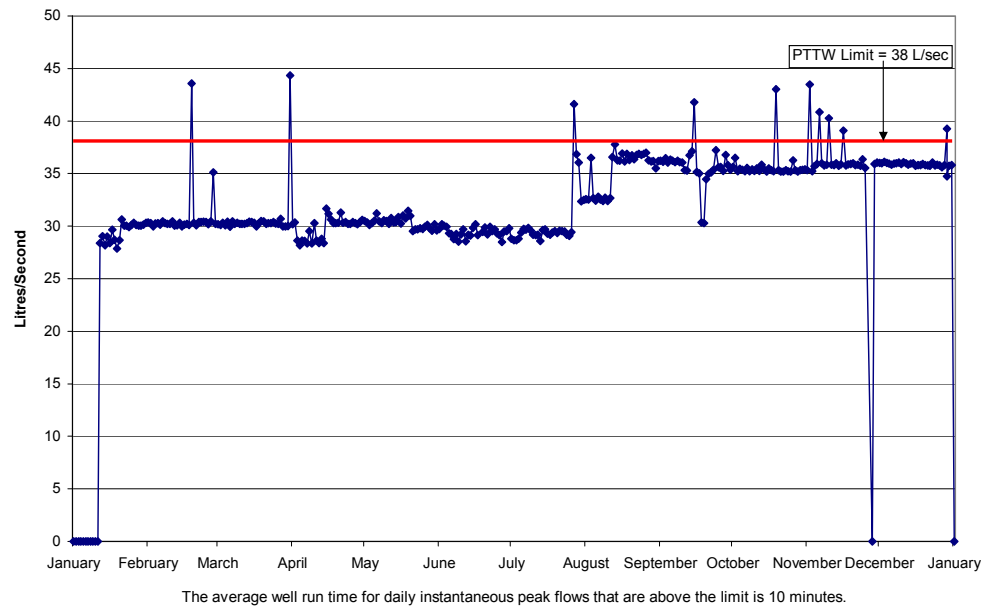


Figure 2b: shows instantaneous peak flow rates above the Permit to Take Water limit. The instantaneous peak flow rates are short duration (on average less than 10 minutes) and represent less than 2% of the total volume of water taken for that day. These peaks are associated with the initial start up of a pump by removing of back pressure, a change in elevation in the water table or maintenance on the distribution system. Specific information about the duration of each individual reading above the PTTW limit is detailed in the Appendices.

Mount Albert

York Region operates a water supply system to service Mount Albert, Town of East Gwillimbury, under authority of a Certificate of Approval (C of A) as issued by the Ontario Ministry of the Environment (MOE). The C of A includes reference to the valid Permit To Take Water (PTTW) also issued by the MOE. Details of the C of A and PTTW and other relevant classification information are presented in Table 1. Current facility upgrades that are required for the Mount Albert water supply C of A have commenced. The current upgrade that is in progress is the installation of a contact tank.

TABLE 1: Mount Albert Water Supply – Summary of Approvals and Permit

Current Certificate of Approval Number:	2131-63QQP6
Issue Date:	August 19, 2004
Current Permit to Take Water Number:	94-P-3070
Issue Date:	January 28, 2003
Expiry Date:	March 31, 2006
MOE Waterworks Number:	220006543
System Classification:	Water Distribution III (WDIII)

Water Taking

The C of A for the Mount Albert Water Supply System allows York Region to withdraw up to 4,352,000 litres per day (up to a maximum of 16 hours per day) combined from production wells 1 and 2, and 3,273,120 litres each if only one well is running at a time.

York Region monitors the water taking through flow meters placed downstream of each production well. Flow is monitored on a continuous basis to ensure that the regulated flows are not exceeded.

Measuring Points

Flow meters are in place downstream of production well 1 and 2. The flow meters record the instantaneous flow rate and the total volume of water that has passed through the meter. The flow meters are calibrated on an annual basis to meet the monitoring conditions of the C of A.

Flow data is retrieved and stored by two methods in York Region. This approach provides York Region with the opportunity to compare and contrast data should one method suddenly fail due to power failures or by other means.

1. York Region staff manually record the flow rates and total flow data on regular operational visits to the well sites. Average flow rates are also calculated using records of total flow and number of operating pump hours. This 'manual' data was used to generate the maximum daily withdrawal and monthly average flow tables and figures.
2. The flow meters are also connected to the Supervisory Control and Data Acquisition (SCADA) system so that data can be monitored remotely and stored electronically. This data was used to generate the instantaneous peak flow rate figures.

Water Withdrawal

The total volume of water taken from the production wells of the Mount Albert Water Supply system for the reporting period of January 1 – December 31, 2004 was 320,507,000 litres. This volume is less than the maximum permitted withdrawal as prescribed in the C of A.

The maximum allowable daily water taking and the actual maximum recorded daily water taking are presented in Table 2.

TABLE 2: Allowable and Actual Maximum Daily Withdrawal from the Mount Albert Production Wells for January 1 – December 31, 2004

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)
Well 1	2,176,000	1,335,000 (December 8, 2004)
Well 2	2,176,000	1,452,000 (December 31, 2004)

The monthly average flow rates, maximum daily flow, and allowable daily withdrawal are presented in Figure 1a and 1b. The actual dates of the peak monthly demands are summarized in the Appendices.

Figure 1a: Mount Albert Well No. 1
Monthly Average Flow and Maximum Daily Flow
2004

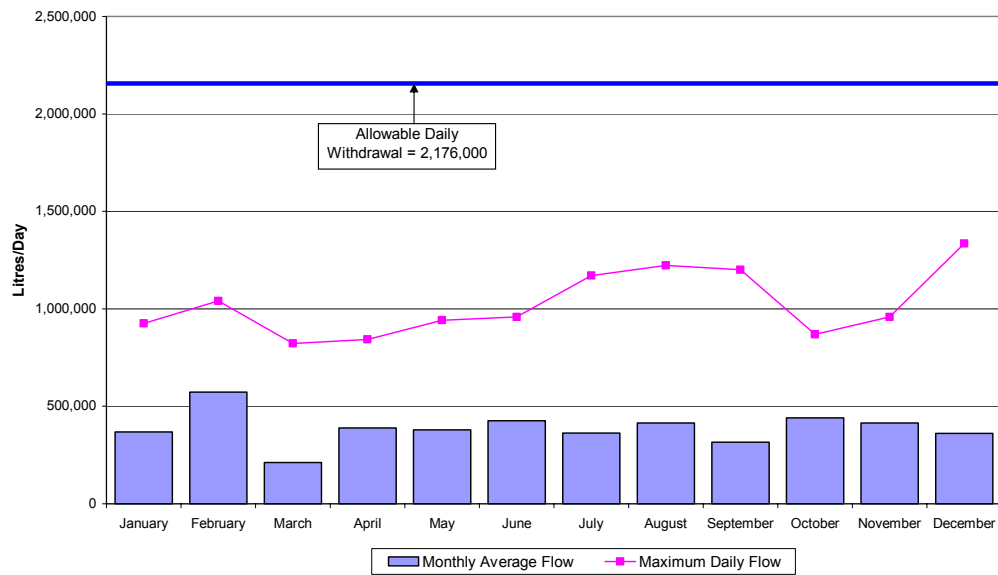
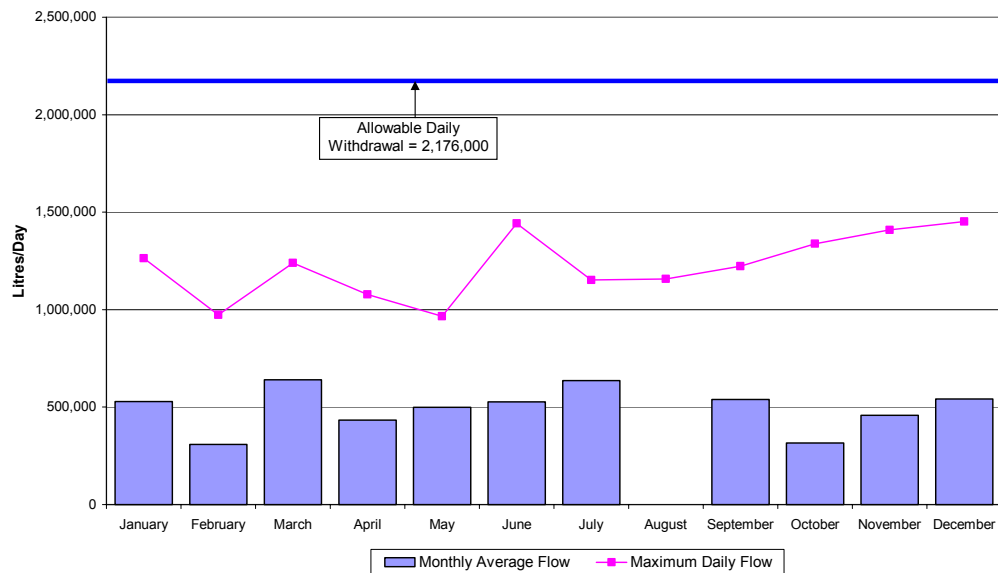


Figure 1b: Mount Albert Well No. 2
Monthly Average Flow and Maximum Daily Flow
2004



The actual volumes of water taken from the Mount Albert production wells during January 1 – December 31, 2004 did not exceed the allowable daily withdrawal volumes. The wells exceeded the 16 hour allowable daily run time

on two days during January 1 – December 31, 2004. On July 28 and 29 the wells ran a combined time of 19.5 hours each day. Our records do not indicate any abnormal activity that may have caused this.

The ‘*Daily Instantaneous Peak Flow (litres)*’ for January 1- December 31, 2004 are presented in Figure 2a and 2b.

Figure 2a: Mount Albert Well No. 1
Daily Instantaneous Peak Flow
2004

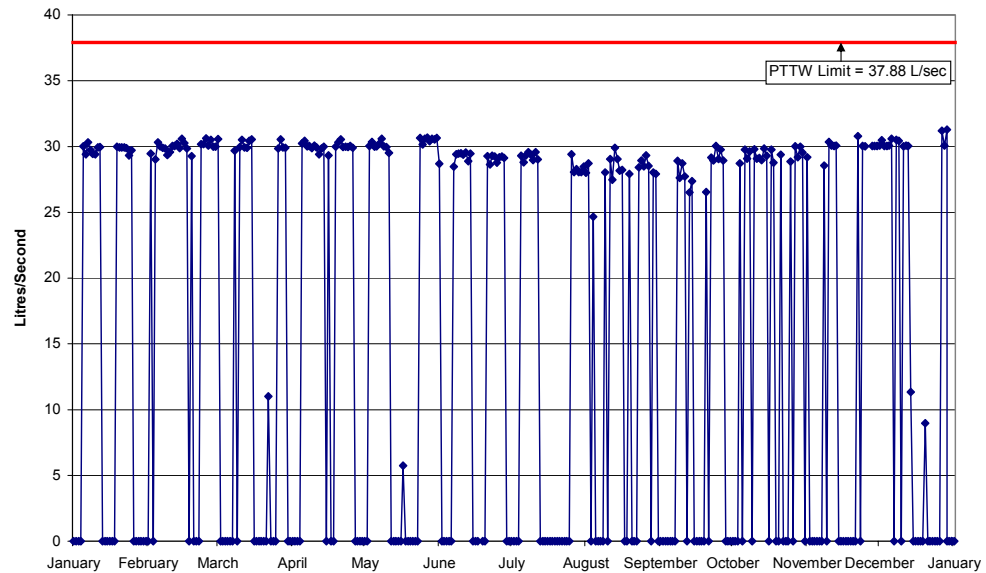
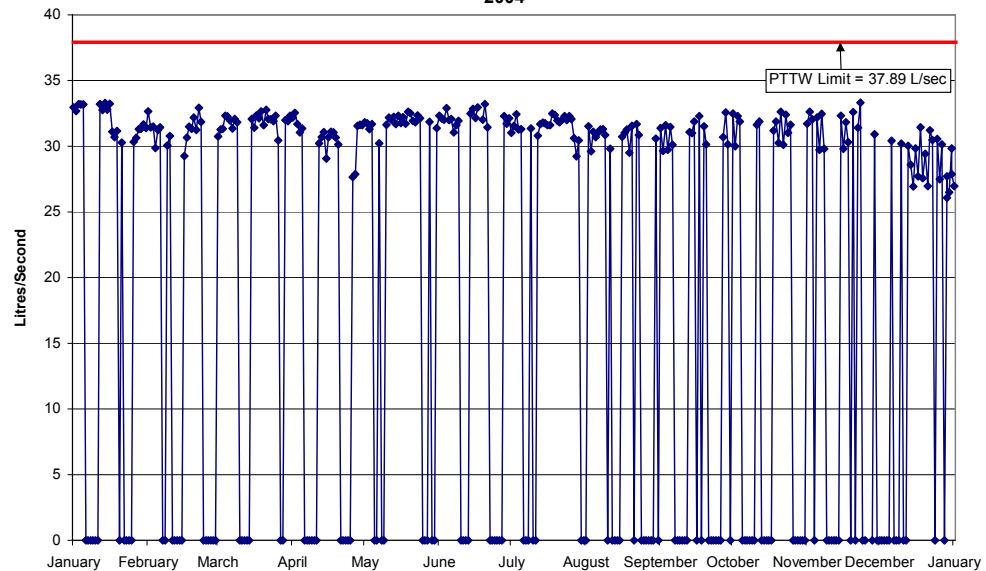


Figure 2b: Mount Albert Well No. 2
Daily Instantaneous Peak Flow
2004



Newmarket/East Gwillimbury

York Region operates a water supply system to service the communities of Holland Landing, Sharon and Queensville in the Town of East Gwillimbury and the Town of Newmarket under authority of a Certificate of Approval (C of A) as issued by the Ontario Ministry of the Environment (MOE). The C of A includes reference to the valid Permit To Take Water (PTTW) also issued by the MOE. Details of the C of A and PTTW and other relevant classification information are presented in Table 1. The Newmarket/East Gwillimbury water supply system has undergone facility upgrades in order meet the requirements of the C of A.

TABLE 1: Newmarket/East Gwillimbury Water Supply – Summary of Approvals and Permit

Current Certificate of Approval Number: Issue Date:	0590-66DJY5 November 22, 2004
Current Permit to Take Water Number: Issue Date: Expiry Date:	93-P-3078 November 20, 2002 March 31, 2005
MOE Waterworks Number: Holland Landing: Newmarket: Queensville:	220004046 220002413 260001955
System Classification:	Water Distribution IV (WD IV)

Water Taking

The C of A for the Newmarket/East Gwillimbury Water Supply System allows York Region to withdraw up to 56,030,400 litres per day from all production wells.

York Region monitors the water taking through flow meters placed downstream of each production well. Flow is monitored on a continuous basis to ensure that the regulated flows are not exceeded.

Measuring Points

Flow meters are in place downstream of each production well. The flow meters record the instantaneous flow rate and the total volume of water that has passed through the meter. The flow meters are calibrated on an annual basis to meet the monitoring conditions of the C of A.

Flow data is retrieved and stored by two methods in York Region. This approach provides York Region with the opportunity to compare and contrast data should one method suddenly fail due to power failures or by other means.

1. York Region staff manually record the flow rates and total flow data on regular operational visits to the well sites. Average flow rates are also calculated using records of total flow and number of operating pump hours. This 'manual' data was used to generate the maximum daily withdrawal and monthly average flow tables and figures.
2. The flow meters are also connected to the Supervisory Control and Data Acquisition (SCADA) system so that data can be monitored remotely and stored electronically. This data was used to generate the instantaneous peak flow rate figures.

Water Withdrawal

The total volume of water taken from the production wells of the Newmarket/East Gwillimbury Water Supply system for January 1 – December 31, 2004 was 9,995,846,000 litres. This volume is less than the maximum permitted withdrawal as prescribed in the C of A.

The maximum allowable daily water taking and the actual maximum recorded daily water taking are presented in Table 2.

TABLE 2: Allowable and Actual Maximum Daily Withdrawal from the Newmarket/East Gwillimbury Production Wells for the January 1 – December 31, 2004

Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)
Holland Landing Well 1	2,289,600	2,032,000 (January 2, 2004)
Holland Landing Well 2	3,600,000	2,529,000 (June 25, 2004)
Newmarket Well 1	2,291,040	2,180,667 (June 25, 2004)
Newmarket Well 2	4,582,080	4,519,500 (March 15, 2004)
Newmarket Well 13	5,891,040	5,419,000 (January 14, 2004)
Newmarket Well 14	2,291,040	1,605,500 (December 8, 2004)
Newmarket Well 15	3,273,120	1,951,500 (December 1, 2004)
Newmarket Well 16	5,631,840	4,943,667 (February 13, 2004)
Queensville Well 1	6,544,800	6,493,000 (October 27, 2004)
Queensville Well 2	6,544,800	5,869,000 (December 10, 2004)
Queensville Well 3	6,544,800	6,142,500 (February 16, 2004)
Queensville Well 4	6,544,800	5,741,333 (May 28, 2004)

The monthly average flow rates, maximum daily flow, and allowable daily withdrawal are presented in Figure 1a through 1l. The actual dates of the peak monthly demands are summarized in the Appendices.

Figure 1a: Holland Landing Well No. 1
Monthly Average Flow and Maximum Daily Flow
2004

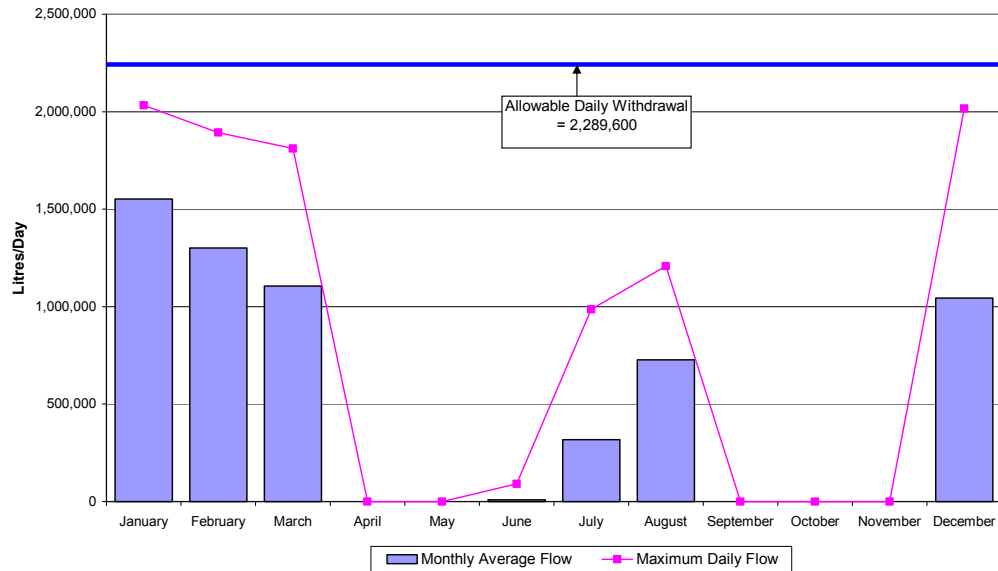


Figure 1b: Holland Landing Well No. 2
Monthly Average Flow and Maximum Daily Flow
2004

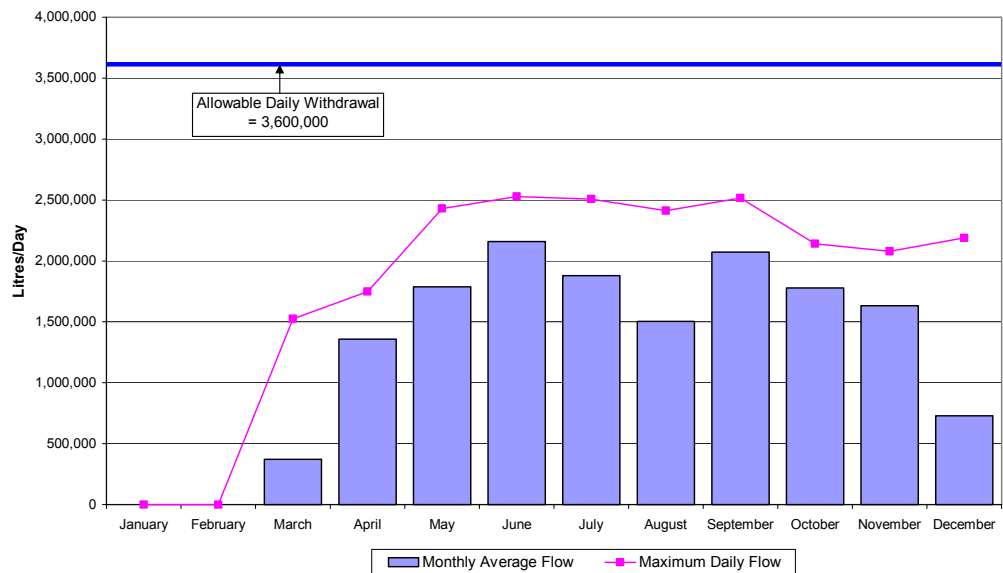


Figure 1c: Newmarket Well No. 1
Monthly Average Flow and Maximum Daily Average
2004

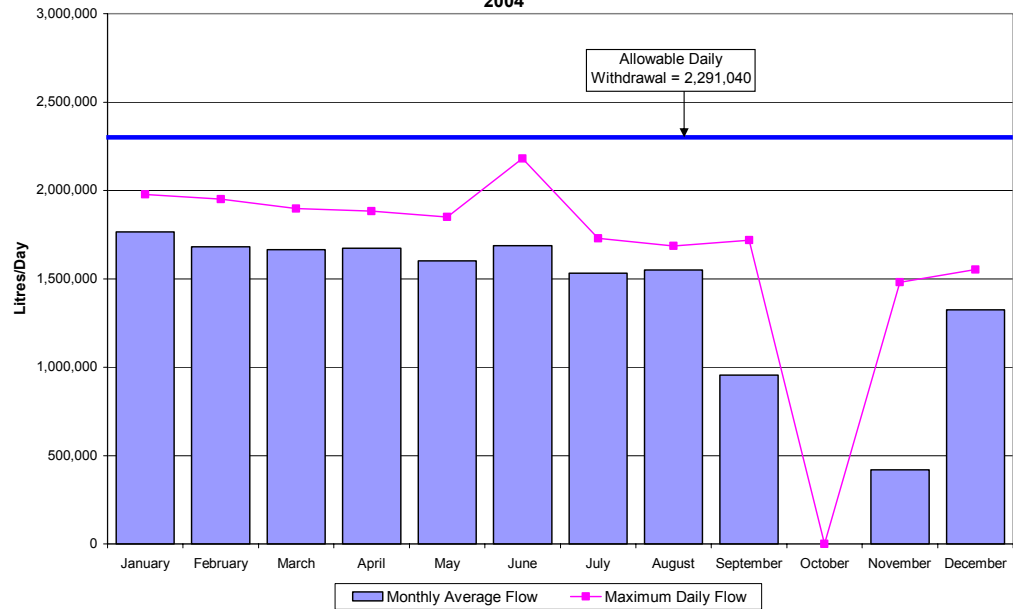


Figure 1d: Newmarket Well No. 2
Monthly Average Flow and Maximum Daily Flow
2004

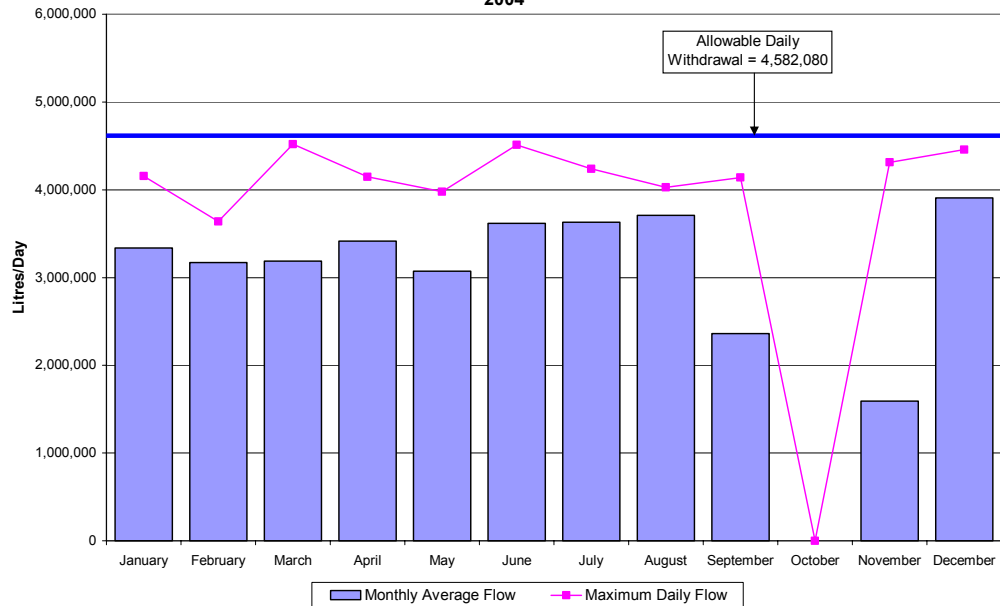


Figure 1e: Newmarket Well No. 13
Monthly Average Flow and Maximum Daily Flow
2004

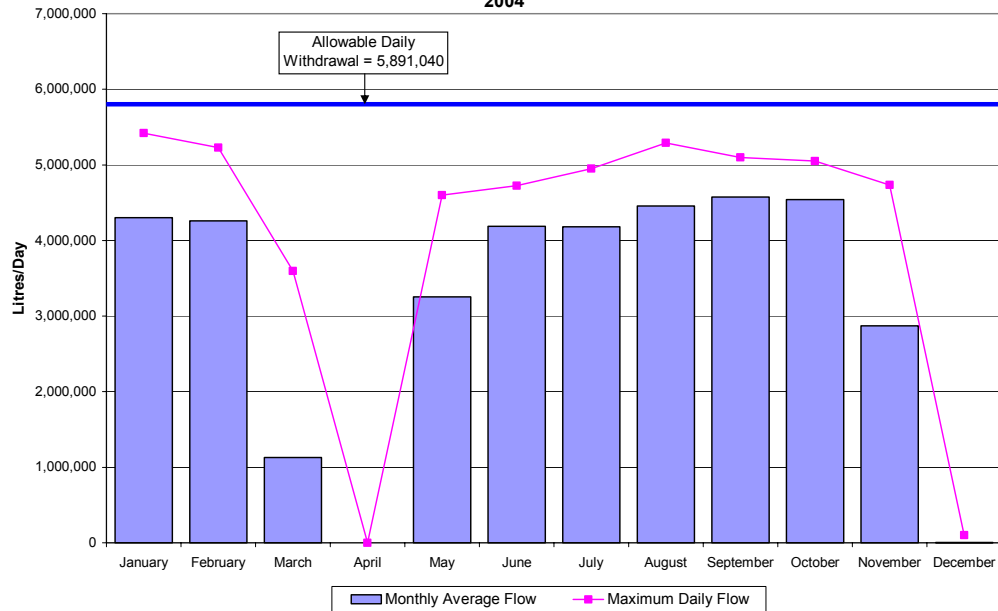


Figure 1f: Newmarket Well No. 14
Monthly Average Flow and Maximum Daily Flow
2004

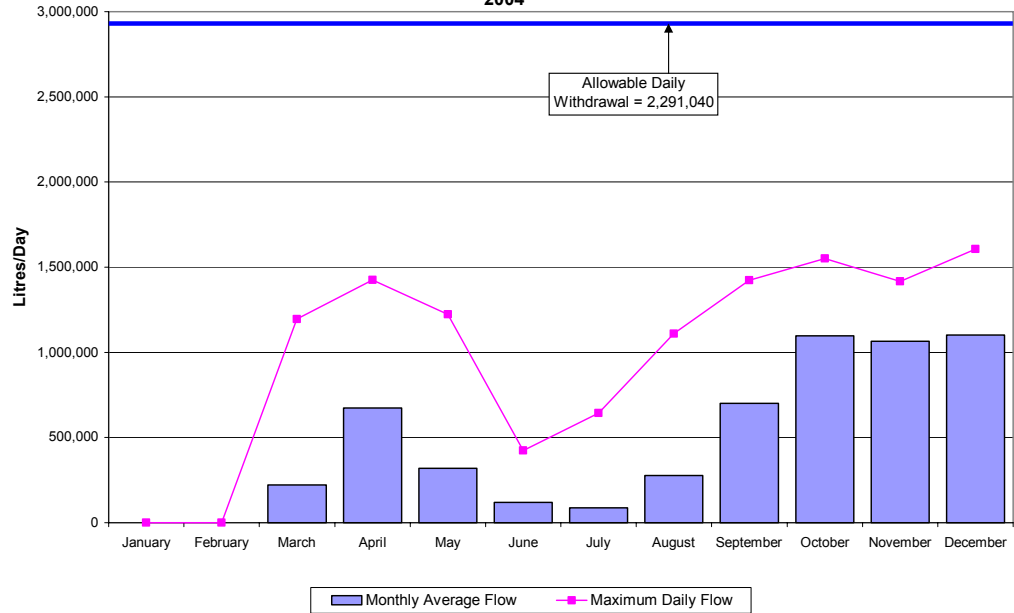


Figure 1g: Newmarket Well No. 15
Monthly Average Flow and Maximum Daily Flow
2004

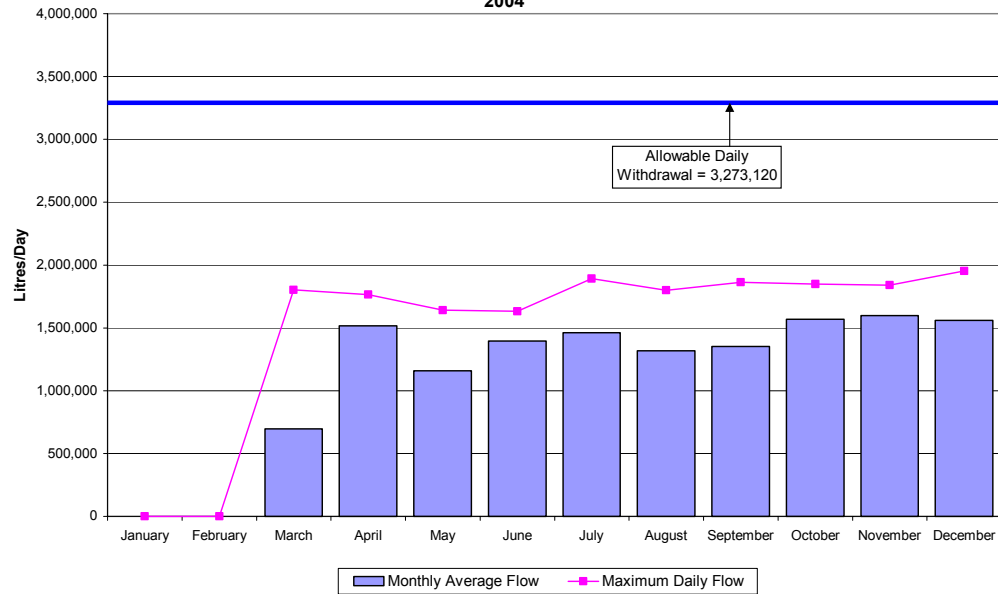
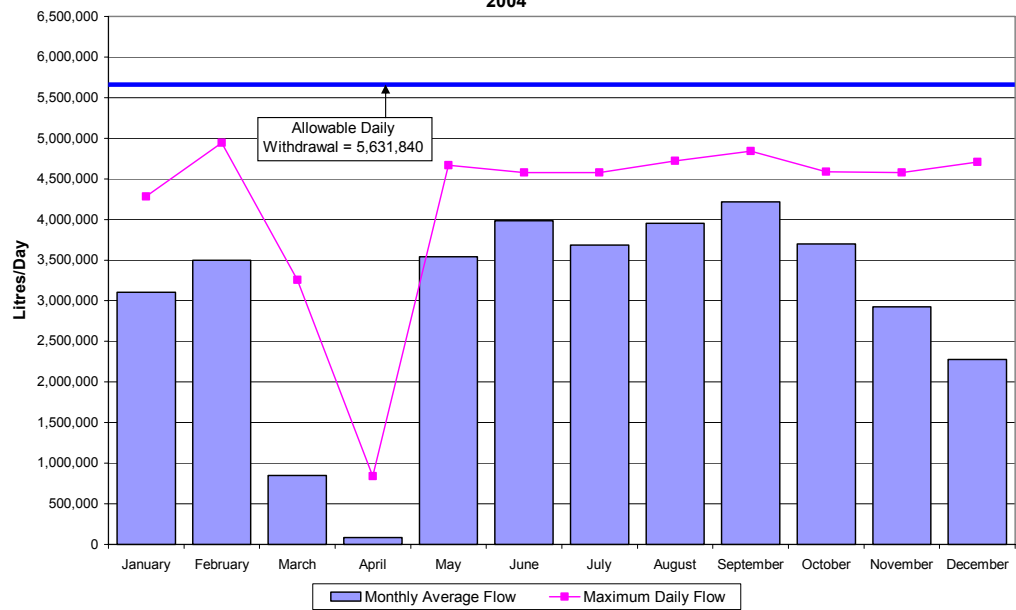


Figure 1h: Newmarket Well No. 16
Monthly Average Flow and Maximum Daily Flow
2004



Summary Report for York Region Drinking Water Systems
March 2004

Figure 1i: Queensville Well No. 1
Monthly Average Flow and Maximum Daily Flow
2004

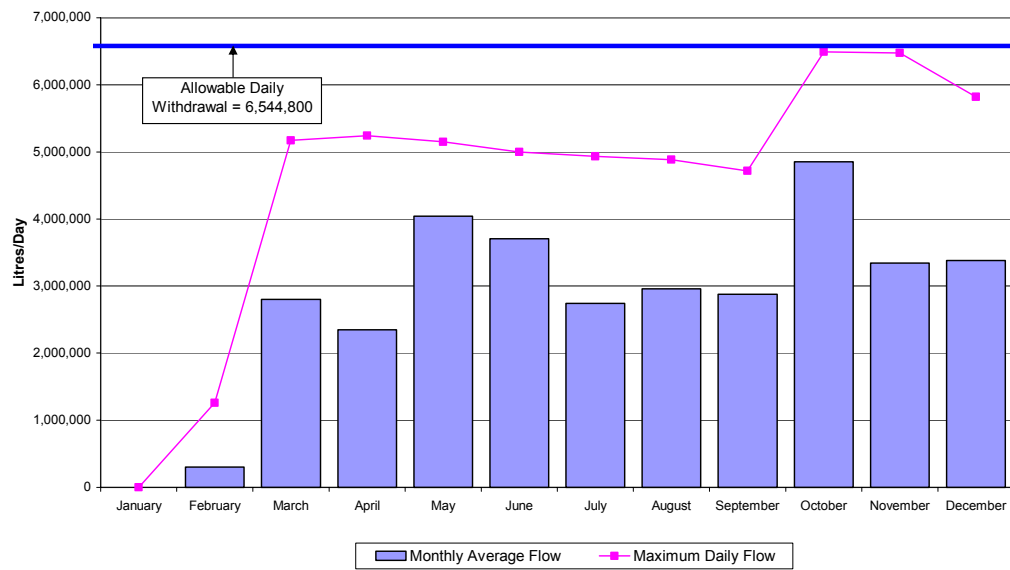
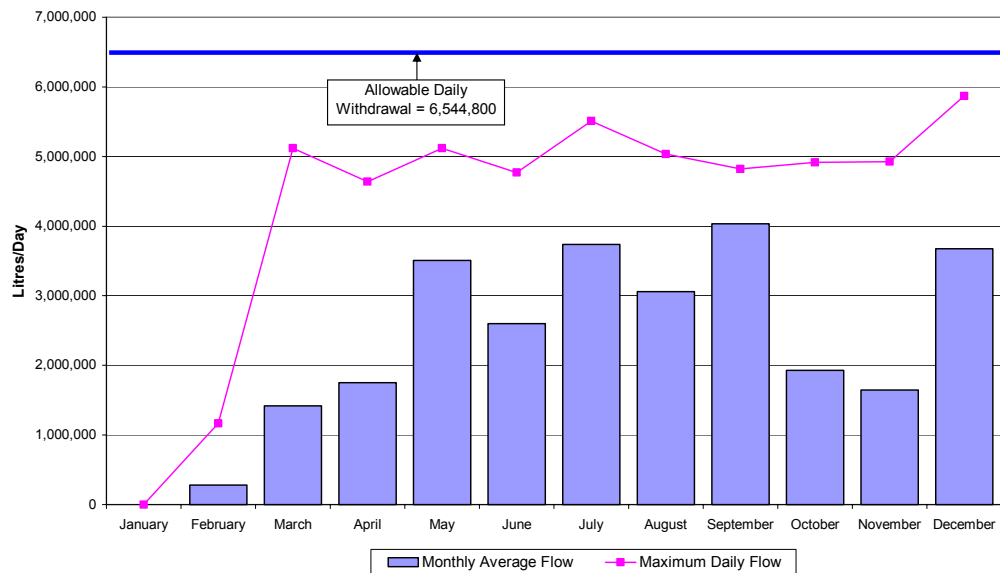


Figure 1j: Queensville Well No. 2
Monthly Average Flow and Maximum Daily Flow
2004



Summary Report for York Region Drinking Water Systems
March 2004

Figure 1k: Queensville Well No. 3
Monthly Average Flow and Maximum Daily Flow
2004

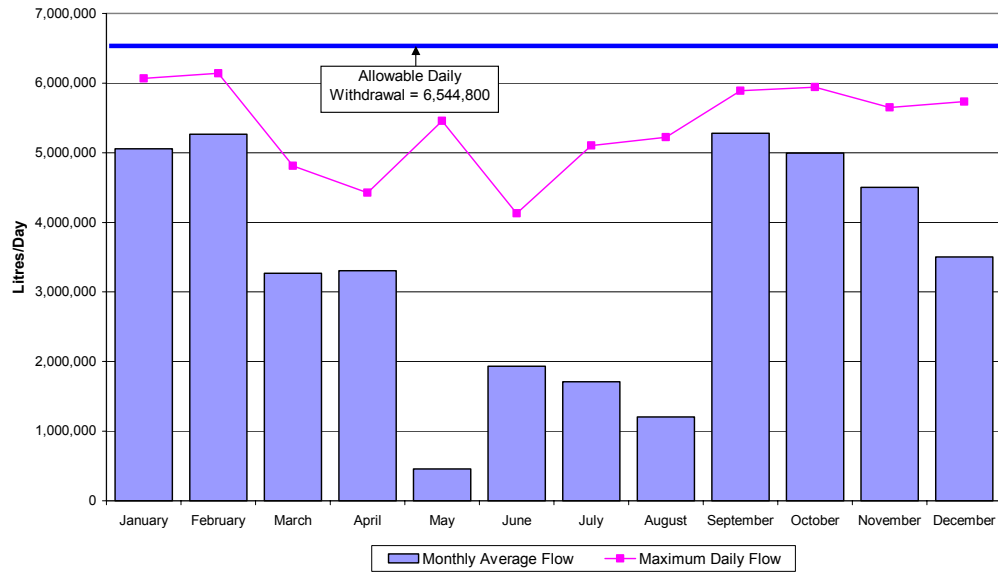
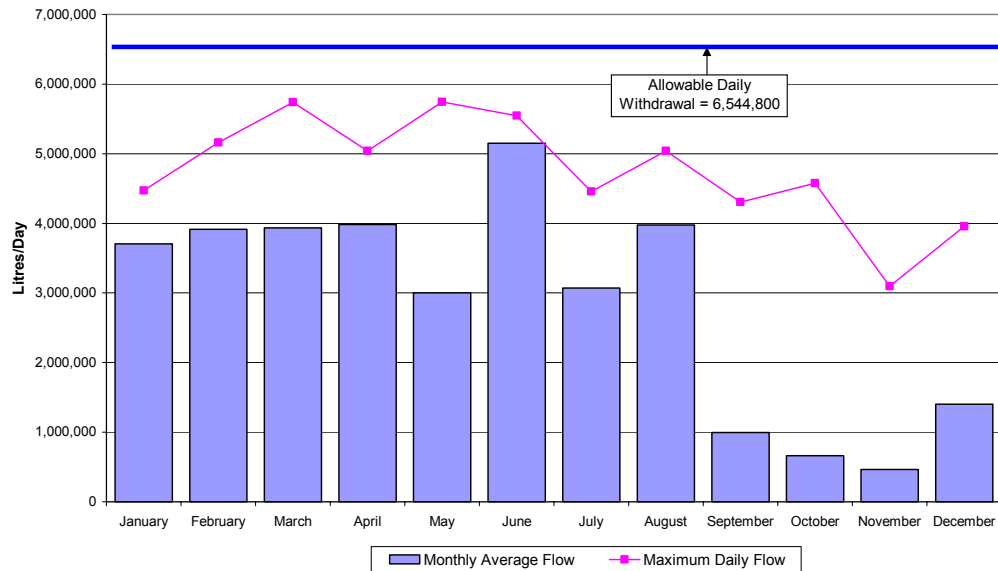


Figure 1l: Queensville Well No. 4
Monthly Average Flow and Maximum Daily Flow
2004



Throughout the period of January 1 – December 31, 2004 the withdrawal rates from the Newmarket/East Gwillimbury production wells did not exceed the allowable limits.

The '*Daily Instantaneous Peak Flow (litres)*' for January 1- December 31, 2004 is presented in Figures 2a through 2l.

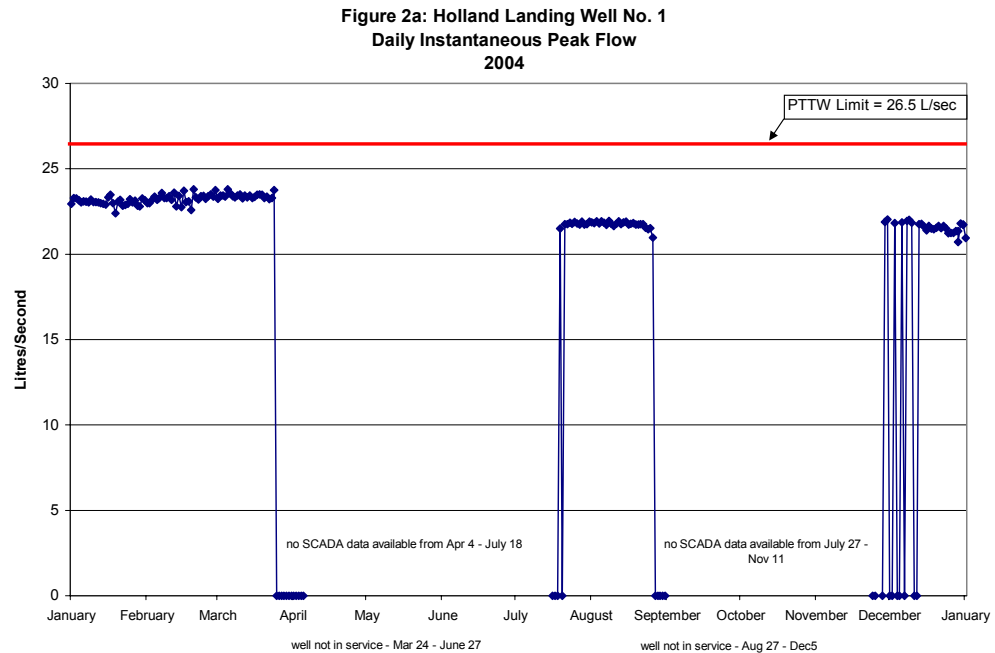


Figure 2b: Holland Landing Well No. 2
Daily Instantaneous Peak Flow
2004

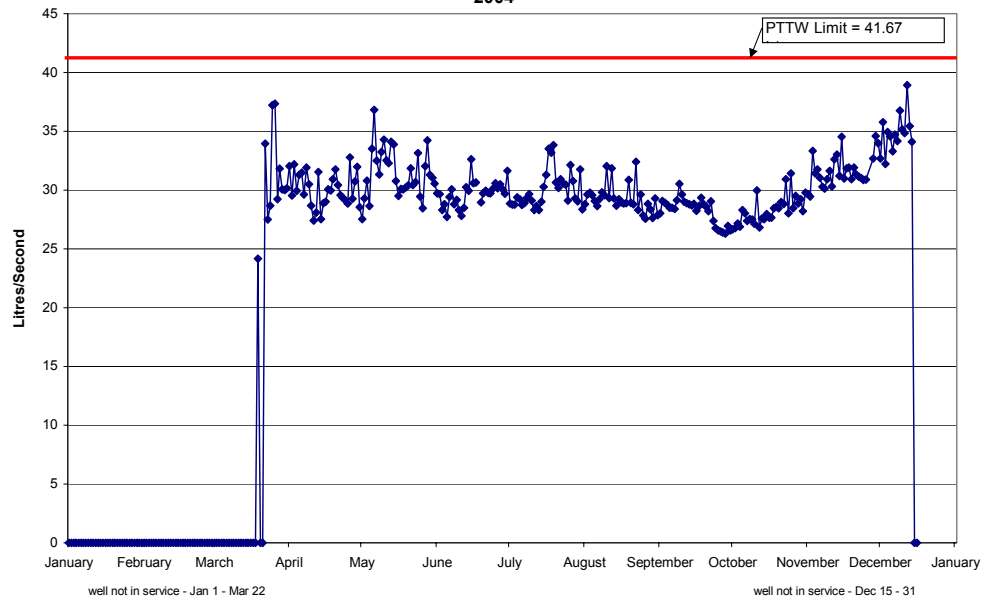


Figure 2c: Newmarket Well No. 1
Daily Instantaneous Peak Flow
2004

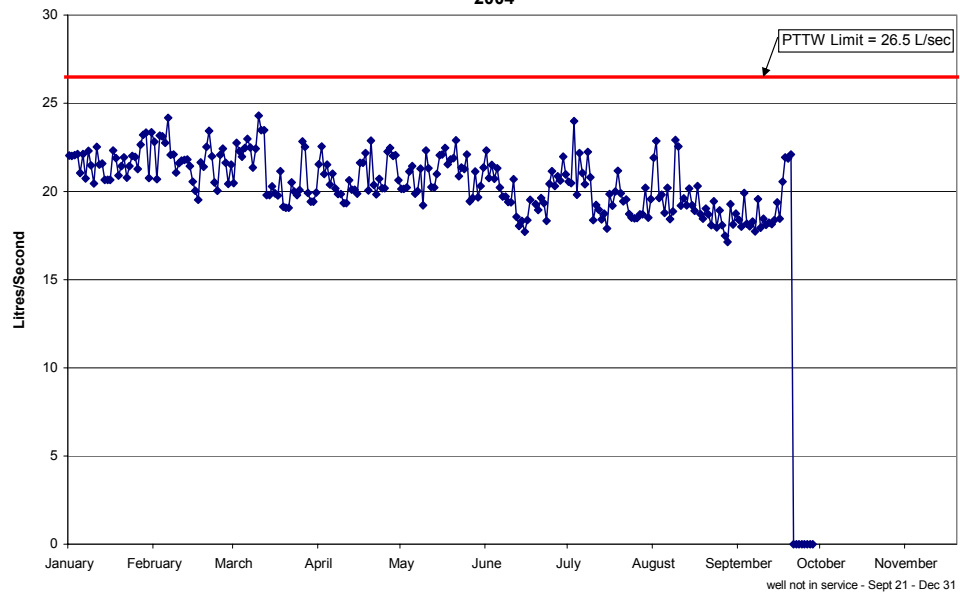
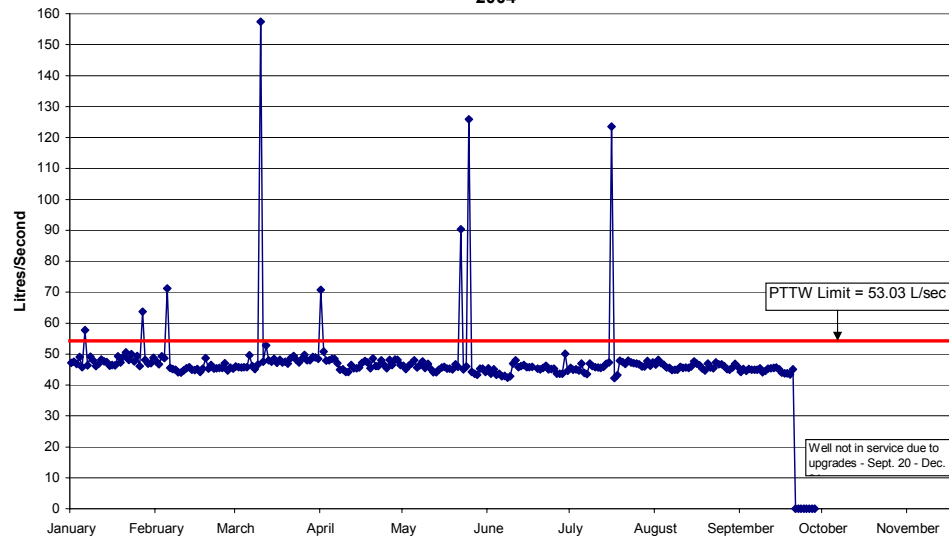
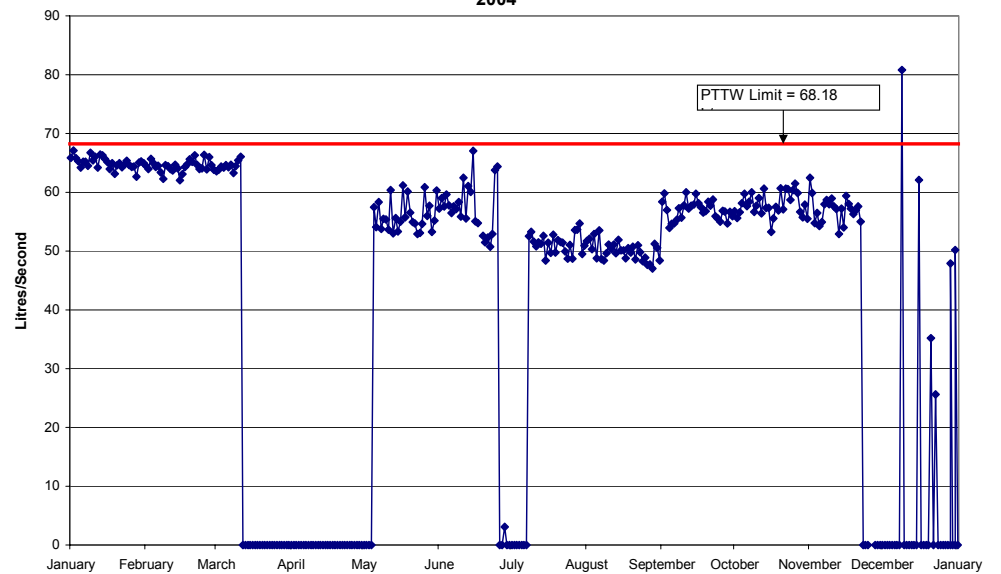


Figure 2d: Newmarket Well No. 2
Daily Instantaneous Peak Flow
2004



The average well run time for the daily instantaneous peak flows that are over the PTTW limit is less than 30 minutes.
Mar 10 peak flow is because the well was put back in service, adjusted flow (fine tuning).

Figure 2e: Newmarket Well No. 13
Daily Instantaneous Peak Flow
2004



The well ran over the PTTW limit for 30 minutes due to maintenance.

Well not in service because of upgrades - Nov 24 - Dec

Figure 2d and 2e: show a number of a single instantaneous peak flow rates that appear as a clear isolated outlier in the trend. This value is well above the physical capacity of the pump. This data is believed to be erroneous due to communication error as a result of the broad band radio frequency which maybe affected by power surges, environmental interference (wind, ice, lightning, etc) or other electrical interruptions.

Figure 2f: Newmarket Well No. 14
Daily Instantaneous Peak Flow
2004

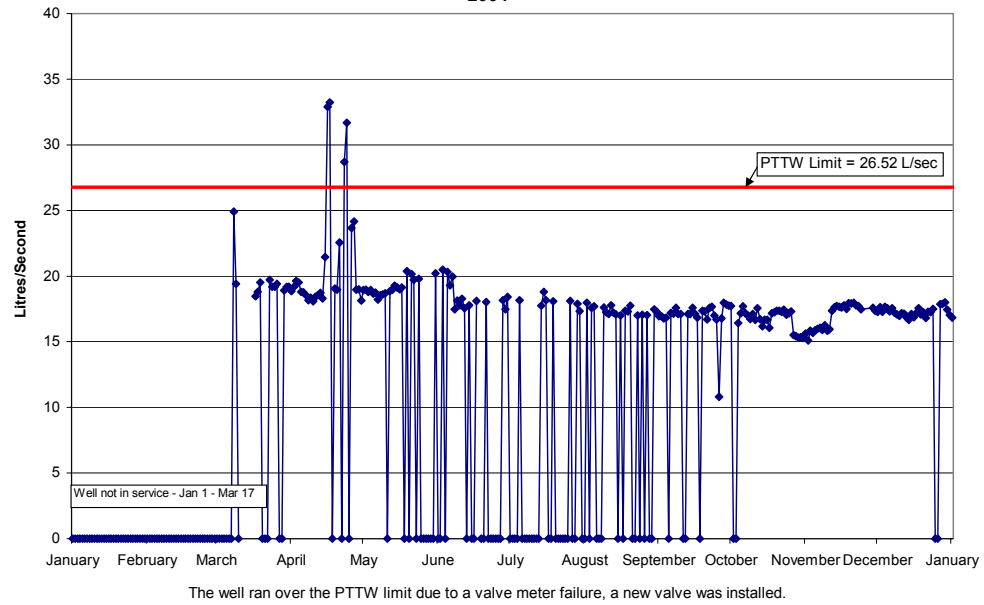
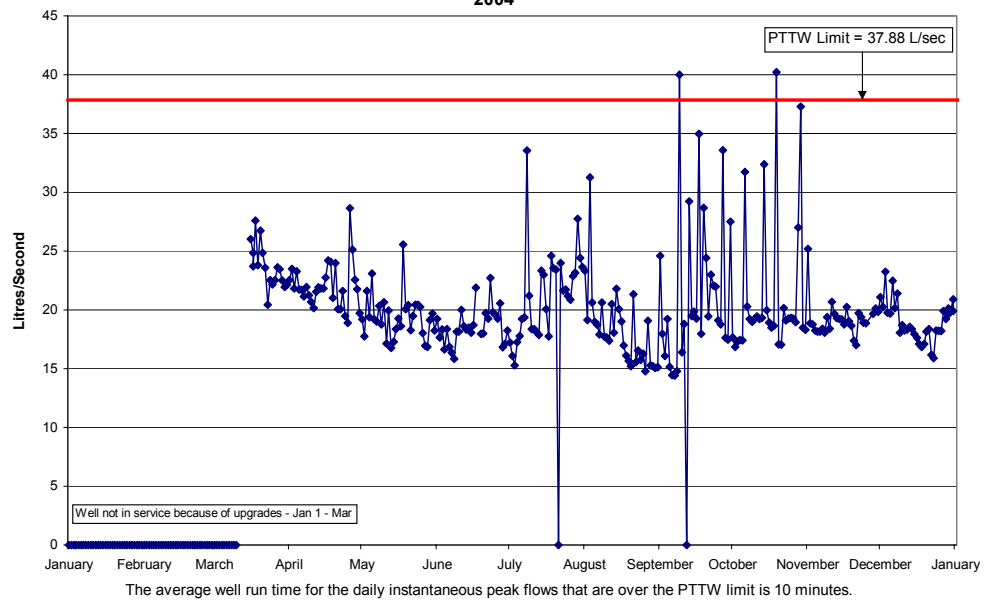


Figure 2g: Newmarket Well No. 15
Daily Instantaneous Peak Flow
2004



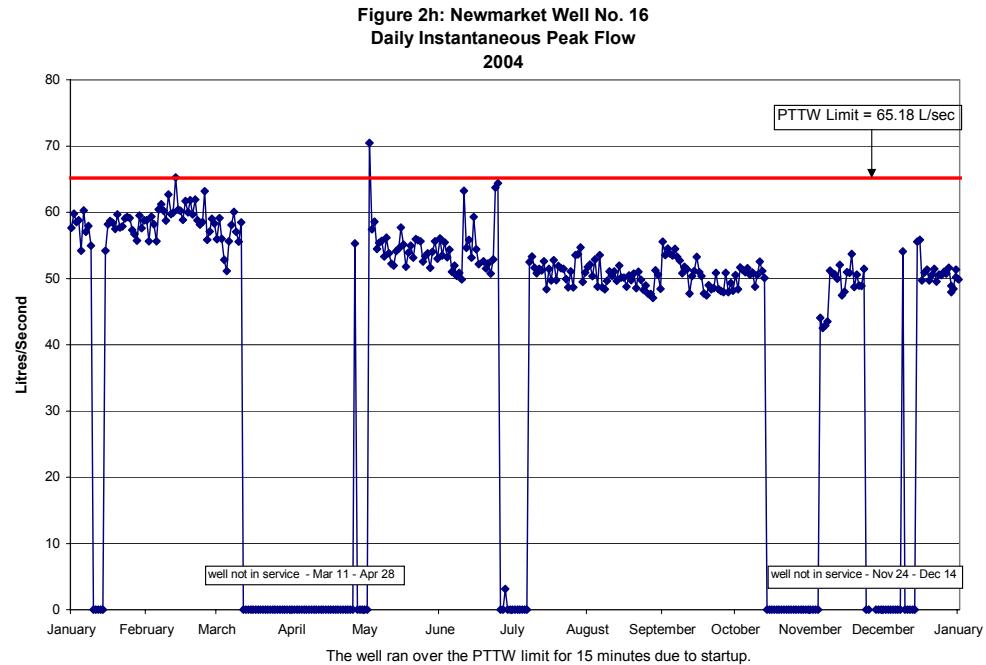
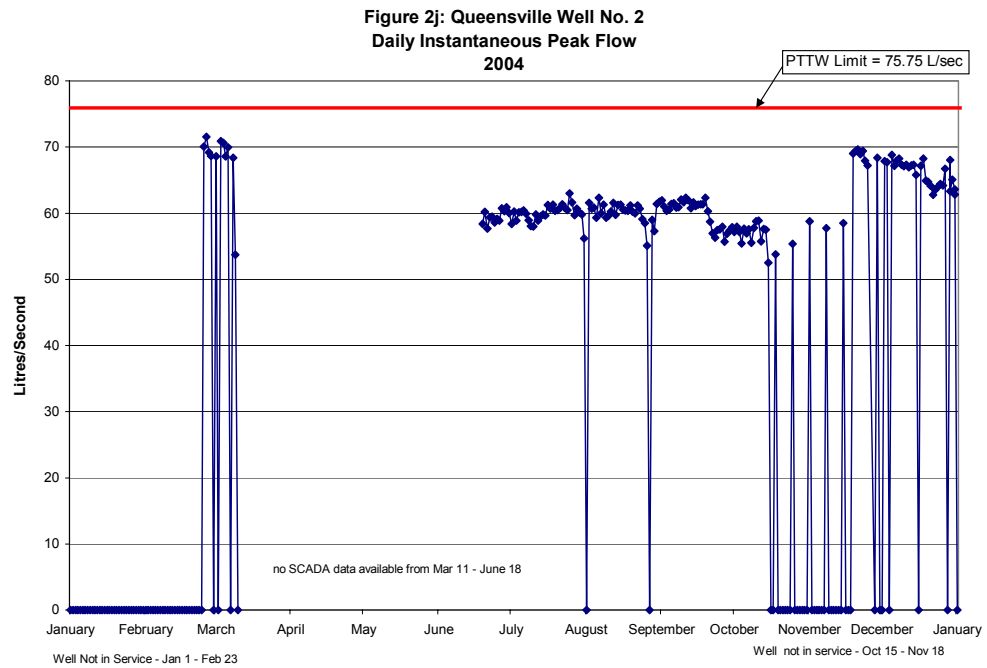
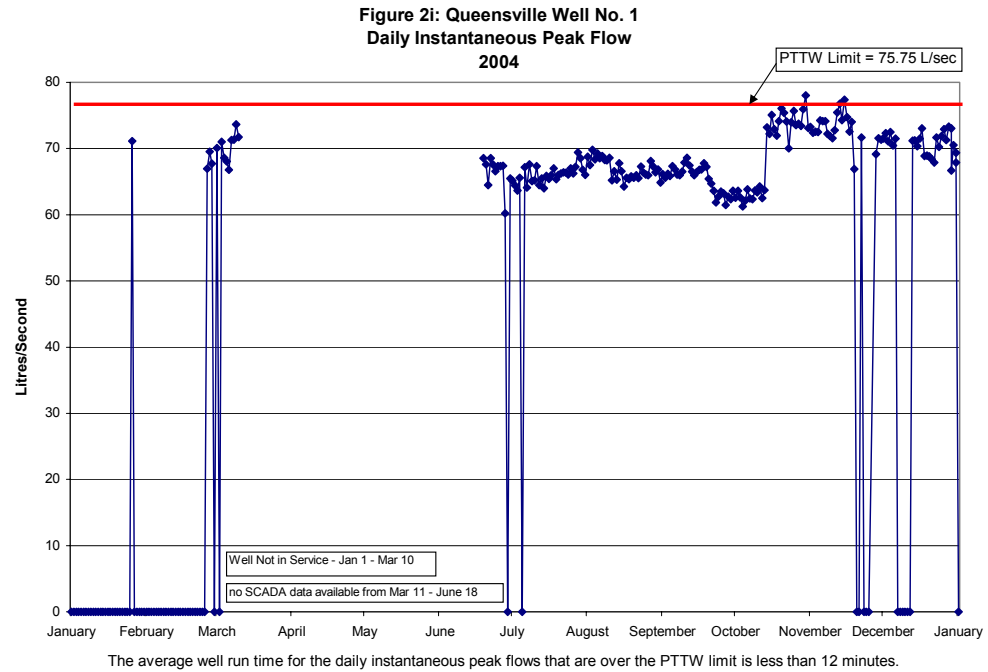
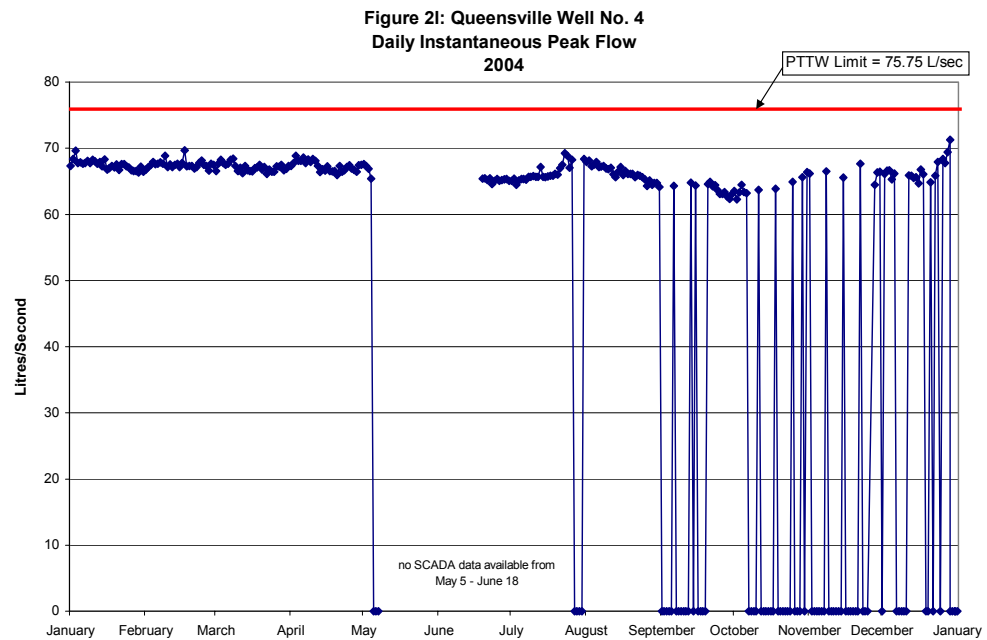
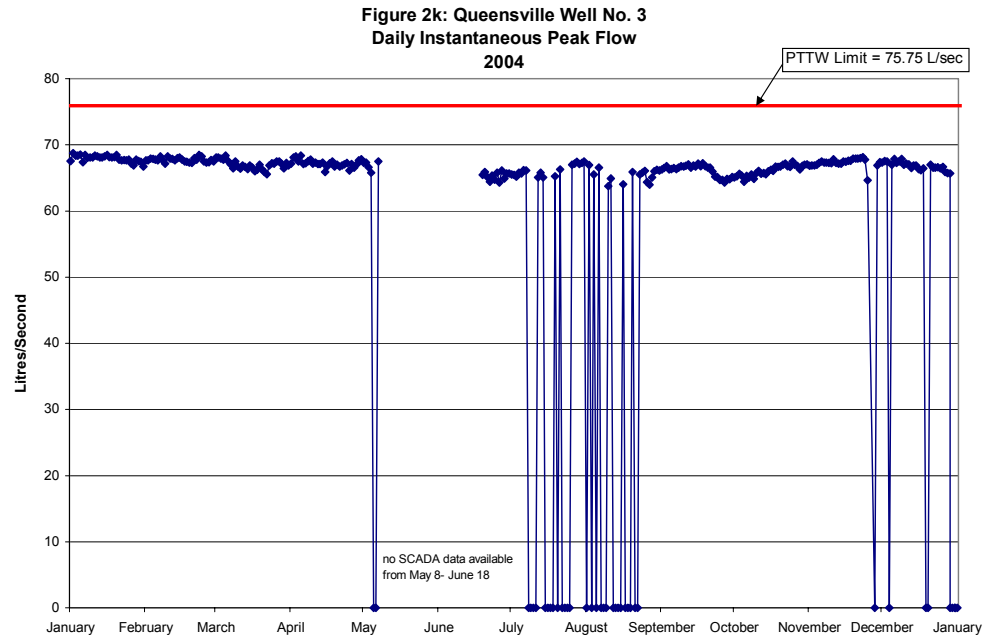


Figure 2g, 2h and 2i: show instantaneous peak flow rates above the Permit to Take Water limit. The instantaneous peak flow rates are short duration (on average less than 15 minutes) and represent less than 2% of the total volume of water taken for that day. These peaks are associated with the initial start up of a pump by removing of back pressure, a change in elevation in the water table or maintenance on the distribution system. Specific information about the duration of each individual reading above the PTTW limit is detailed in the Appendices.





Nobleton

York Region operates a water supply system to service Nobleton, Township of King, under authority of a Certificate of Approval (C of A) as issued by the Ontario Ministry of the Environment (MOE). The C of A includes reference to the valid Permit To Take Water (PTTW) also issued by the MOE. Details of the C of A and PTTW and other relevant classification information are presented in Table 1. The Nobleton water supply has undergone those facility upgrades in which the C of A requires.

TABLE 1: Nobleton Water Supply – Summary of Approvals and Permit

Current Certificate of Approval Number: Issue Date:	6988-5RRN8F November 24, 2003
Previous Certificate of Approval Number: Issue Date:	6051-5L7J64 April 3, 2003
Current Permit to Take Water Number: Issue Date: Expiry Date:	99-P-3008 March 1, 1999 Valid indefinitely
MOE Waterworks Number:	220002306
System Classification:	Water Distribution III (WDIII)

Water Taking

The C of A for the Nobleton Water Supply System allows York Region to withdraw up to 3,928,000 litres per day from production wells 2 and 3.

York Region monitors the water taking through flow meters placed downstream of each production well. Flow is monitored on a continuous basis to ensure that the regulated flows are not exceeded.

Measuring Points

Flow meters are in place downstream of production well 2 and 3. The flow meters record the instantaneous flow rate and the total volume of water that has passed through the meter. The flow meters are calibrated on an annual basis to meet the monitoring conditions of the C of A.

Flow data is retrieved and stored by two methods in York Region. This approach provides York Region with the opportunity to compare and contrast data should one method suddenly fail due to power failures or by other means.

1. York Region staff manually record the flow rates and total flow data on regular operational visits to the well sites. Average flow rates are also calculated using records of total flow and number of operating pump hours. This 'manual' data was used to generate the maximum daily withdrawal and monthly average flow tables and figures.
2. The flow meters are also connected to the Supervisory Control and Data Acquisition (SCADA) system so that data can be monitored remotely and stored electronically. This data was used to generate the instantaneous peak flow rate figures.

Water Withdrawal

The total volume of water taken from the production wells of the Nobleton Water Supply system in January 1 – December 31, 2004 was 384,155,000 litres. This volume is less than the maximum permitted withdrawal as prescribed in the C of A.

The maximum allowable daily water taking and the actual maximum recorded daily water taking are presented in Table 2.

TABLE 2: Allowable and Actual Maximum Daily Withdrawal from the Nobleton Production Wells for 2002

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)
Well 2	1,963,872	1,890,000 (June 17, 2004)
Well 3	1,963,872	1,106,000 (August 18, 2004)

The monthly average flow rates, maximum daily flow, and allowable daily withdrawal are presented in Figure 1a and 1b. The actual dates of the peak monthly demands are summarized in the Appendices.

Figure 1a: Nobleton Well No. 2
Monthly Average Flow and Maximum Daily Flow
2004

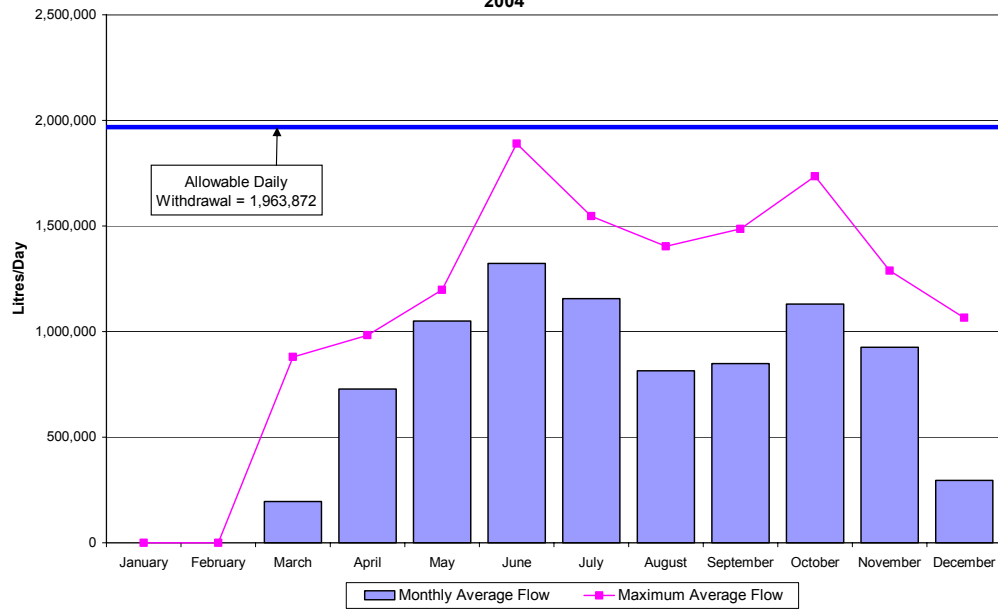
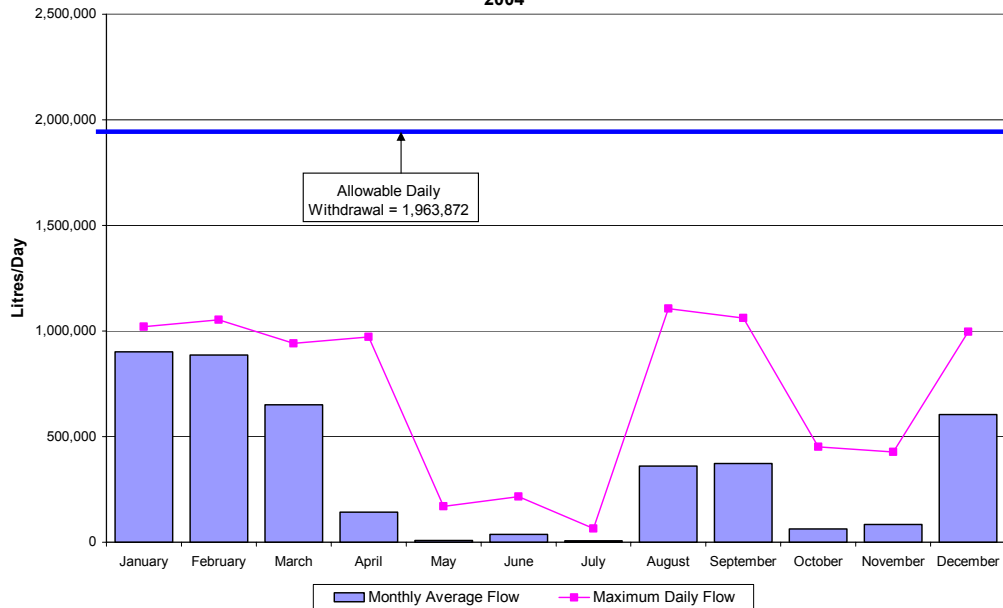


Figure 1b: Nobleton Well No. 3
Monthly Average Flow and Maximum Daily Flow
2004



The withdrawal rates from the Nobleton production wells did not exceed the allowable limits during January 1 – December 31, 2004.

The 'Daily Instantaneous Peak Flow (litres)' for January 1- December 31, 2004 is presented found in Figures 2a and 2b.

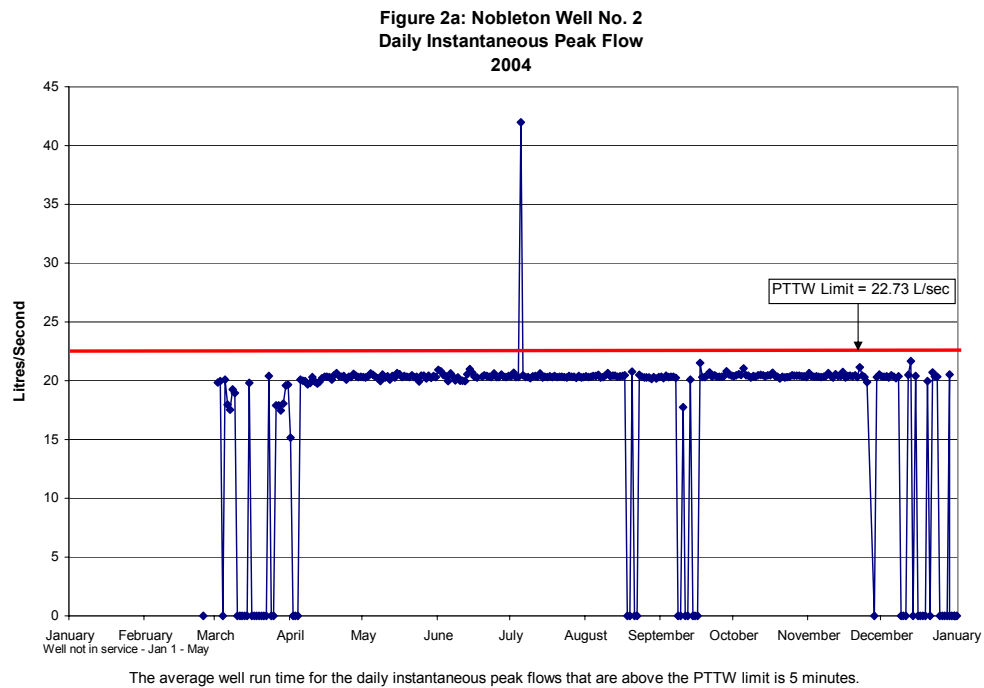


Figure 2a: shows a single instantaneous peak flow rate that appears as a clear isolated outlier in the trend. This value is well above the physical capacity of the pump. This data is believed to be erroneous due to communication error as a result of the broad band radio frequency which maybe affected by power surges, environmental interference (wind, ice, lightning, etc) or other electrical interruptions.

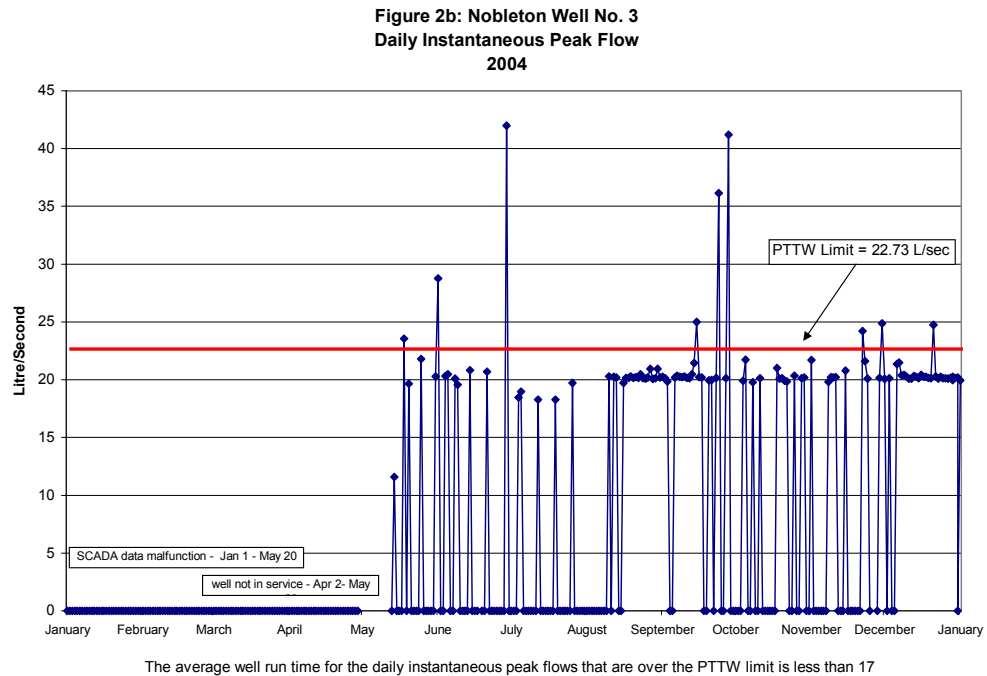


Figure 2b: shows instantaneous peak flow rates above the Permit to Take Water limit. The instantaneous peak flow rates are short duration (on average less than 17 minutes) and represent less than 5% of the total volume of water taken for that day. These peaks are associated with the initial start up of a pump by removing of back pressure, a change in elevation in the water table or maintenance on the distribution system. Specific information about the duration of each individual reading above the PTTW limit is detailed in the Appendices.

The figure also shows a number instantaneous peak flow rates that are > 30 Litres/sec, which is well above the physical capacity of the pump. This data is believed to be erroneous due to communication error as a result of the broad band radio frequency which maybe affected by power surges, environmental interference (wind, ice, lightning, etc) or other electrical interruptions.

Schomberg

York Region operates a water supply system to service Schomberg, Township of King, under authority of a Certificate of Approval (C of A) as issued by the Ontario Ministry of the Environment (MOE). The C of A includes reference to the valid Permit To Take Water (PTTW) also issued by the MOE. Details of the C of A and PTTW and other relevant classification information are presented in Table 1. The Schomberg water supply has undergone those facility upgrades that are required under the C of A.

TABLE 1: Schomberg Water Supply – Summary of Approvals and Permit

Current Certificate of Approval Number: Issue Date:	7111-5RUN2P November 24, 2003
Previous Certificate of Approval Number: Issue Date:	6044-5L7PDG April 3, 2003
Current Permit to Take Water Number: Issue Date: Expiry Date:	3451-66BNPB November 9, 2004 November 30, 2014
MOE Waterworks Number:	220004901
System Classification:	Water Distribution III (WDIII)

Water Taking

The C of A for the Schomberg Water Supply System allows York Region to withdraw up to 3,926,560 litres per day from production wells 2 and 3.

York Region monitors the water taking through flow meters placed downstream of each production well. Flow is monitored on a continuous basis to ensure that the regulated flows are not exceeded.

Measuring Points

Flow meters are in place downstream of production well 2 and 3. The flow meters record the instantaneous flow rate and the total volume of water that has passed through the meter. The flow meters are calibrated on an annual basis to meet the monitoring conditions of the C of A.

Flow data is retrieved and stored by two methods in York Region. This approach provides York Region with the opportunity to compare and contrast data should one method suddenly fail due to power failures or by other means.

1. York Region staff manually record the flow rates and total flow data on regular operational visits to the well sites. Average flow rates are also calculated using records of total flow and number of operating pump hours. This 'manual' data was used to generate the maximum daily withdrawal and monthly average flow tables and figures.
2. The flow meters are also connected to the Supervisory Control and Data Acquisition (SCADA) system so that data can be monitored remotely and stored electronically. This data was used to generate the instantaneous peak flow rate figures.

Water Withdrawal

The total volume of water taken from the production wells of the Schomberg Water Supply system for January 1 – December 31, 2004 was 231,730,000 litres. This volume is less than the maximum permitted withdrawal as prescribed in the C of A.

The maximum allowable daily water taking and the actual maximum recorded daily water taking are presented in Table 2.

TABLE 2: Allowable and Actual Maximum Daily Withdrawal from the Schomberg Production Wells for January 1 – December 31, 2004

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)
Well 2	1,636,560	850,333 (June 14, 2004)
Well 3	2,290,000	1,001,500 (September 27, 2004)

The monthly average flow rates, maximum daily flow, and the allowable daily withdrawal are presented in Figure 1a and 1b. The actual dates of the peak monthly demands are summarized in the Appendices.

Figure 1a: Schomberg Well No. 2
Monthly Average Flow and Maximum Daily Flow
2004

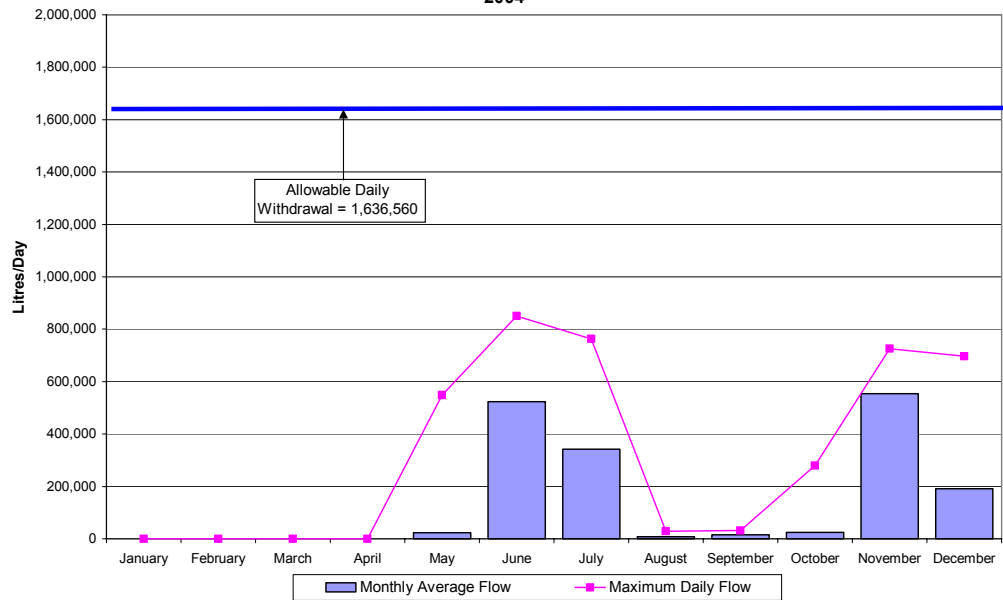
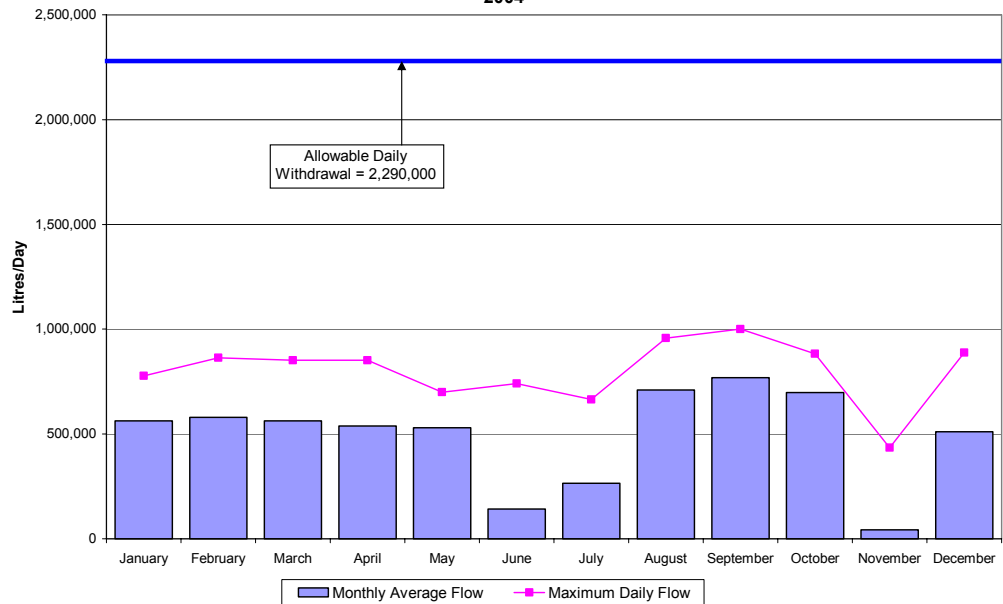


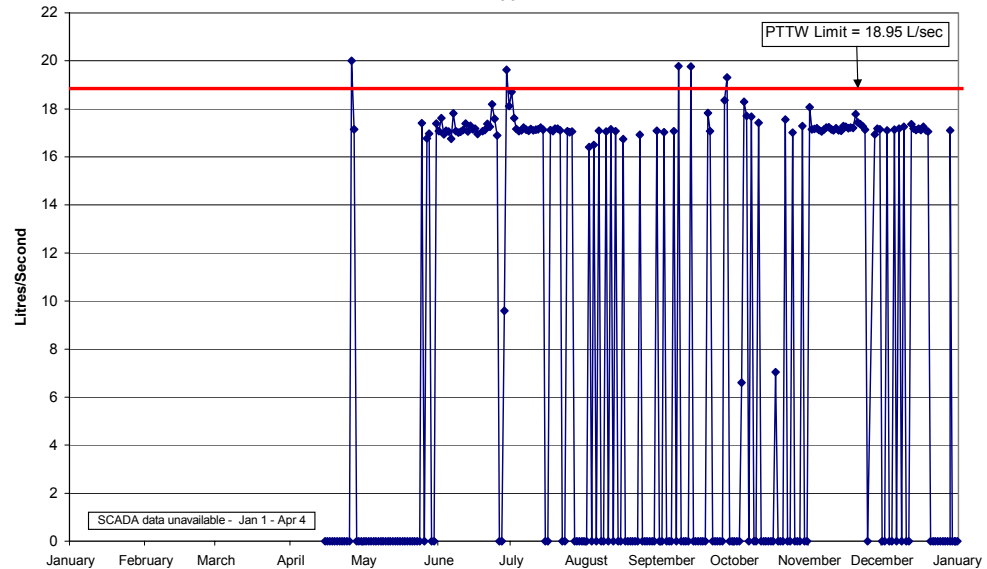
Figure 1b: Schomberg Well No. 3
Monthly Average Flow and Average Daily Flow
2004



The actual volumes of water taken from the Schomberg production wells in the period of January 1 – December 31, 2004 did not exceed the allowable daily withdrawal volumes.

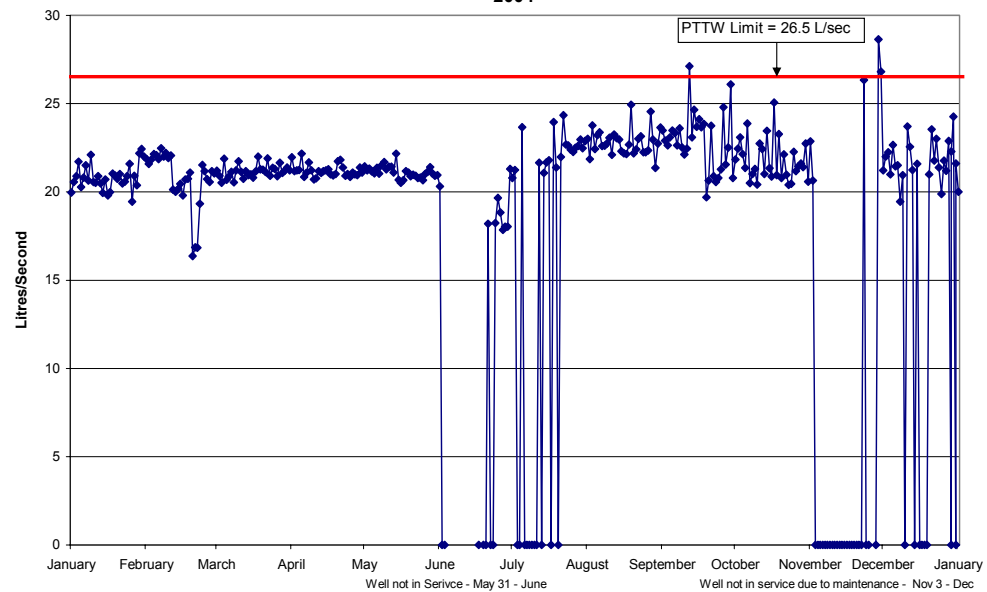
The 'Daily Instantaneous Peak Flow (litres)' for January 1- December 31, 2004 is found in the following graphs.

Figure 2a: Schomberg Well No. 2
Daily Instantaneous Peak Flow
2004



The average well run time for the daily instantaneous peak flows that are over the PTTW limit is 30 minutes.

Figure 2b: Schomberg Well No. 3
Daily Instantaneous Peak Flow
2004



The average well run time for the daily instantaneous peak flows that are over the PTTW limit is 8 minutes.

Figure 2a and b: show instantaneous peak flow rates above the Permit to Take Water limit. The instantaneous peak flow rates are short duration (on average less than 30 minutes) and represent less than 10% of the total volume of water taken for that day. These peaks are associated with the initial start up of a pump by removing of back pressure, a change in elevation in the water table or maintenance on the distribution system. Specific information about the duration of each individual reading above the PTTW limit is detailed in the Appendices.

Stouffville

York Region operates a water supply system to service Stouffville, Town of Whitchurch-Stouffville, under authority of a Certificate of Approval (C of A) as issued by the Ontario Ministry of the Environment (MOE). The C of A includes reference to the valid Permit To Take Water (PTTW) also issued by the MOE. Details of the C of A and PTTW and other relevant classification information are presented in Table 1. The Stouffville water supply system has undergone those facility upgrades that are required under the C of A.

TABLE 1: Stouffville Water Supply – Summary of Approvals and Permit

Current Certificate of Approval Number: Issue Date:	4350-5QZR53 October 10, 2003
Previous Certificate of Approval Number: Issue Date:	2006-5FTS9H November 22, 2002
Current Permit to Take Water Number: Issue Date: Expiry Date:	1688-5XLHGB April 8, 2004 June 30, 2007
MOE Waterworks Number:	220002333
System Classification:	Water Distribution III (WD III)

Water Taking

The C of A for the Stouffville Water Supply System allows York Region to withdraw up to 14,238,720 litres per day from all production wells.

York Region monitors the water taking through flow meters placed downstream of each production well. Flow is monitored on a continuous basis to ensure that the regulated flows are not exceeded.

Measuring Points

Flow meters are in place downstream of each production well. The flow meters record the instantaneous flow rate and the total volume of water that has passed through the meter. The flow meters are calibrated on an annual basis to meet the monitoring conditions of the C of A.

Flow data is retrieved and stored by two methods in York Region. This approach provides York Region with the opportunity to compare and contrast data should one method suddenly fail due to power failures or by other means.

1. York Region staff manually record the flow rates and total flow data on regular operational visits to the well sites. Average flow rates are also calculated using records of total flow and number of operating pump hours. This 'manual' data was used to generate the maximum daily withdrawal and monthly average flow tables and figures.
2. The flow meters are also connected to the Supervisory Control and Data Acquisition (SCADA) system so that data can be monitored remotely and stored electronically. This data was used to generate the instantaneous peak flow rate figures.

Water Withdrawal

The total volume of water taken from the production wells of the Stouffville Water Supply system from January 1 – December 31, 2004 was 1,529,186,000 litres. This volume is less than the maximum permitted withdrawal as prescribed in the C of A.

The maximum allowable daily water taking and the actual maximum recorded daily water taking are presented in Table 2.

TABLE 2: Allowable and Actual Maximum Daily Withdrawal from the Stouffville Production Wells for January 1 – December 31, 2004

Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)
Well 1	2,946,240	1,749,000 (October 6, 2004)
Well 2	2,946,240	2,469,000 (March 29, 2004)
Well 3	2,946,240	1,633,000 (May 28, 2004)
Well 5	2,289,600	1,715,000 (July 5, 2004)
Well 6	3,110,400	1,378,000 (July 5, 2004)

The monthly average flow rates, maximum daily flow, and allowable daily withdrawal are presented in Figure 1a, 1b, 1c, 1d, and 1e. The actual dates of the peak monthly demands are summarized in the Appendices.

Figure 1a: Stouffville Well No. 1
Monthly Average Flow and Maximum Daily Flow
2004

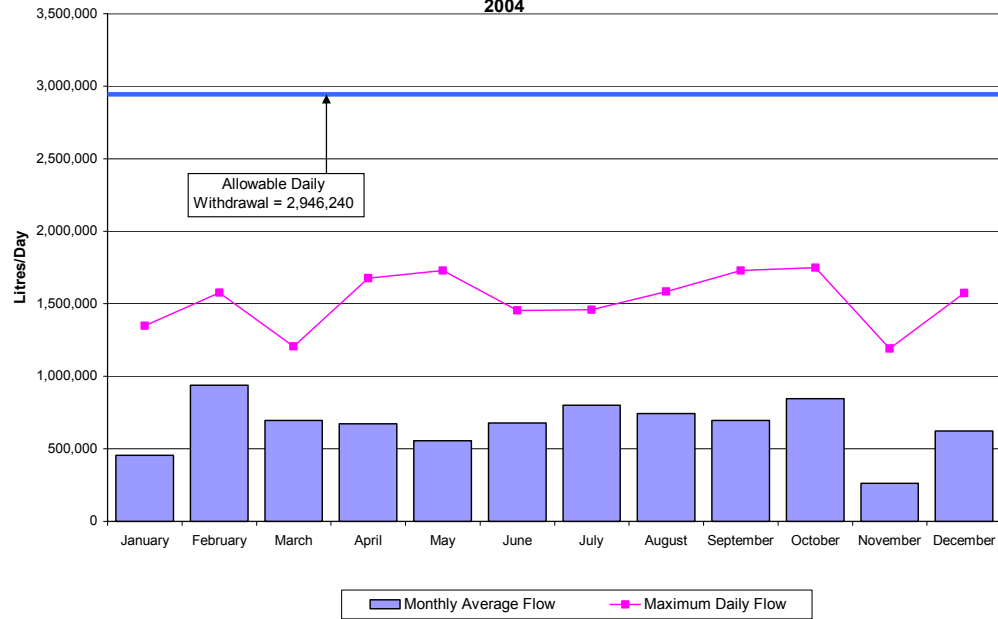


Figure 1b: Stouffville Well No. 2
Monthly Average Flow and Maximum Daily Flow
2004

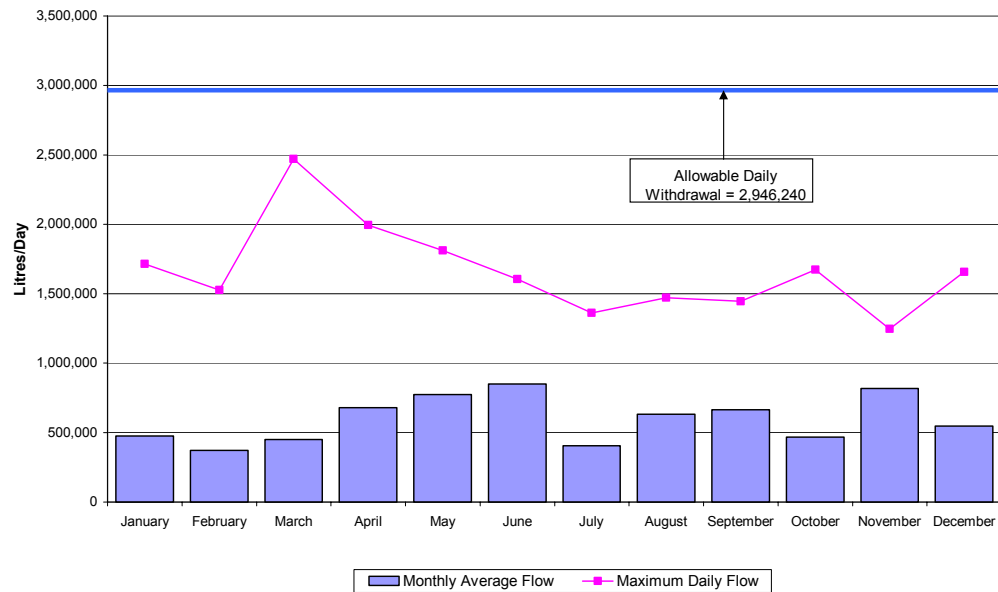


Figure 1c: Stouffville Well No. 3
Monthly Average Flow and Maximum Daily Flow
2004

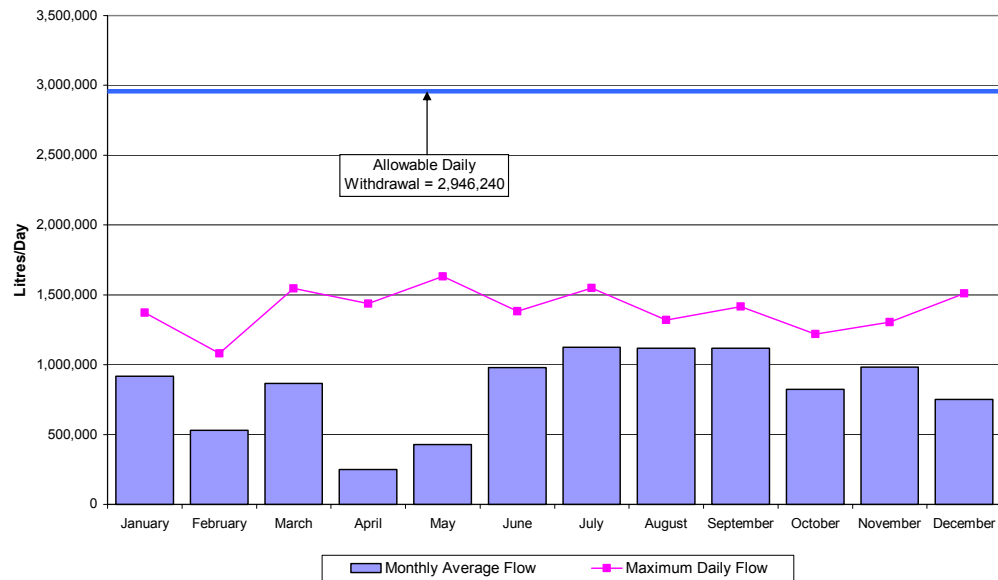
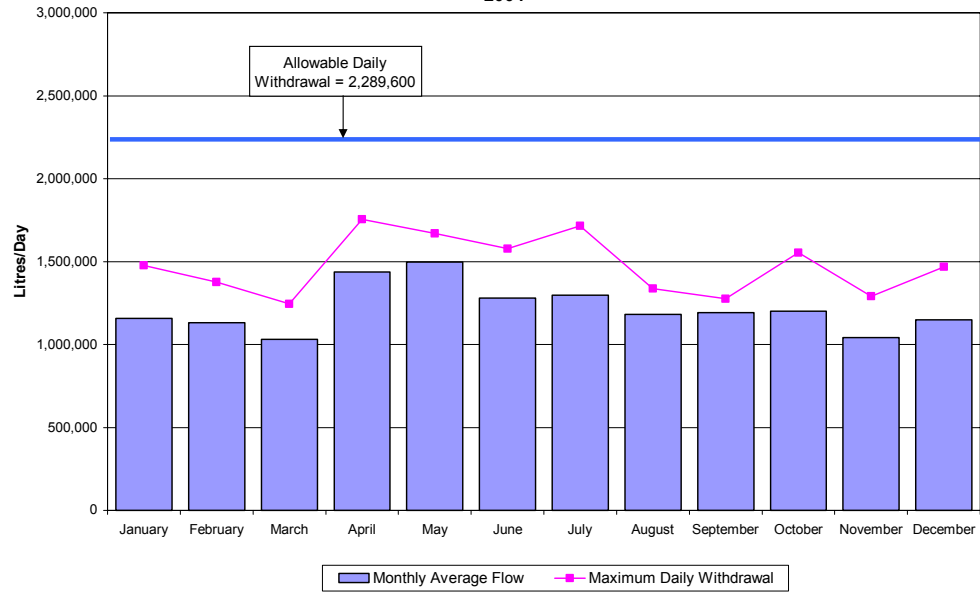
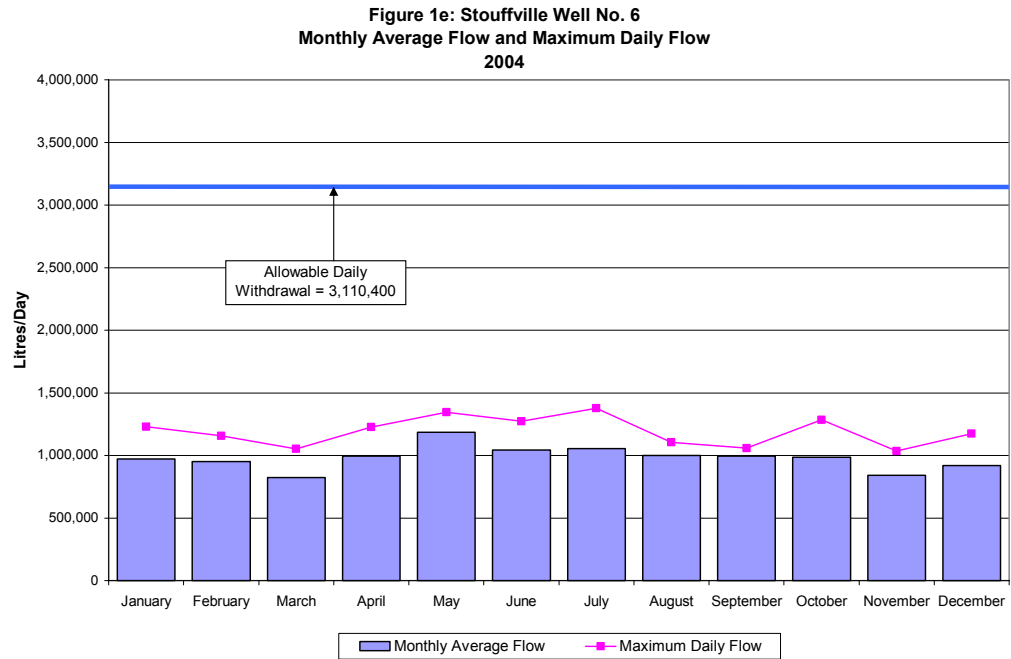


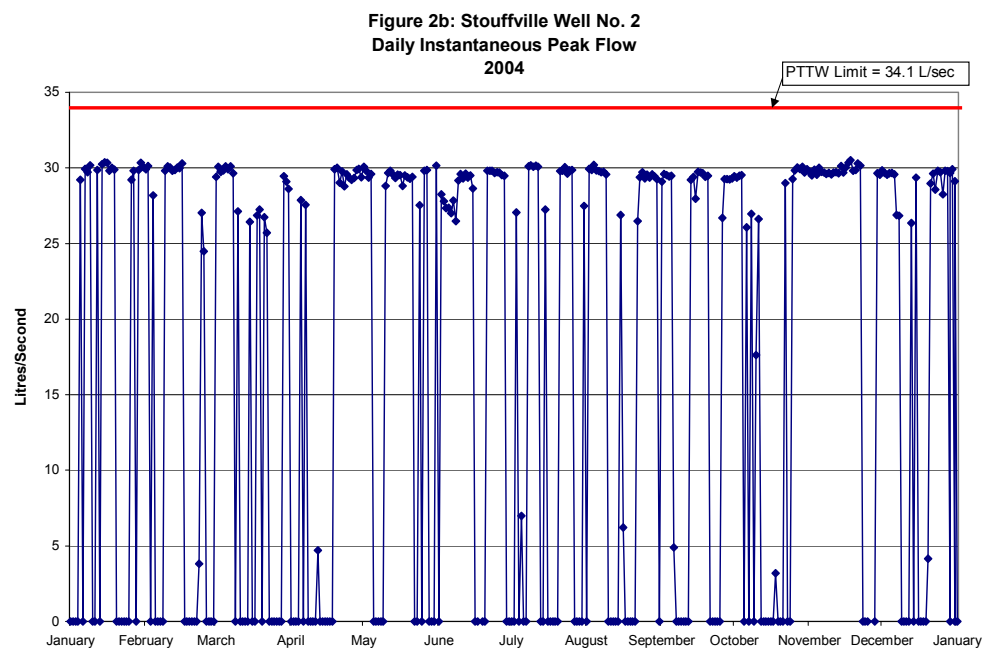
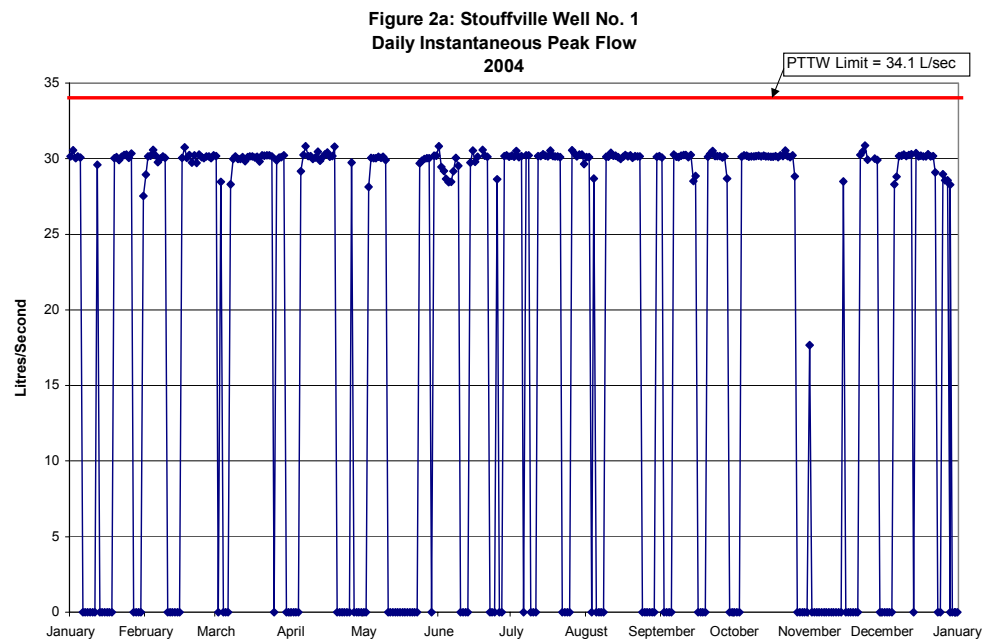
Figure 1d: Stouffville Well No. 5
Monthly Average Flow and Maximum Daily Flow
2004

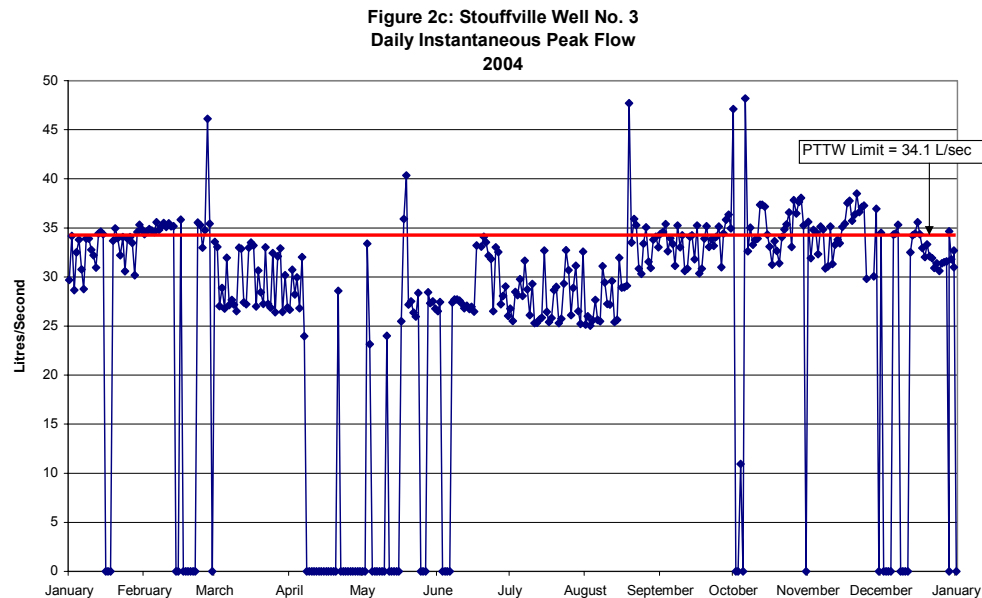




The actual volumes of water taken from the Stouffville production wells for January 1 – December 31, 2004 did not exceed the allowable daily withdrawal volumes.

The 'Daily Instantaneous Peak Flow (litres)' for January 1- December 31, 2004 is presented in Figures 2a through 2e.





The average well run time is under 30 minutes for the daily instantaneous peak flows that are over the PTTW

Figure 2c: shows instantaneous peak flow rates above the Permit to Take Water limit. The instantaneous peak flow rates are short duration (on average less than 30 minutes) and represent less than 10% of the total volume of water taken for that day. These peaks are associated with the initial start up of a pump by removing of back pressure, a change in elevation in the water table or maintenance on the distribution system. Specific information about the duration of each individual reading above the PTTW limit is detailed in the Appendices.

The Figure also shows a number of instantaneous peak flow rates that are > 40 Litres/sec, which is well above the physical capacity of the pump. This data is believed to be erroneous due to communication error as a result of the broad band radio frequency which maybe affected by power surges, environmental interference (wind, ice, lightning, etc) or other electrical interruptions.

Figure 2d: Stouffville Well No. 5
Daily Instantaneous Peak Flow
2004

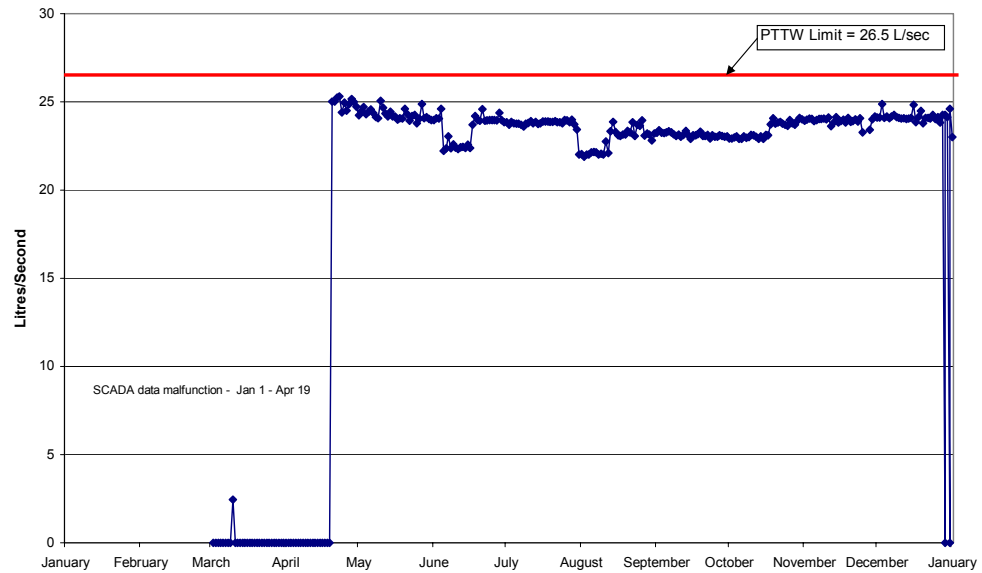
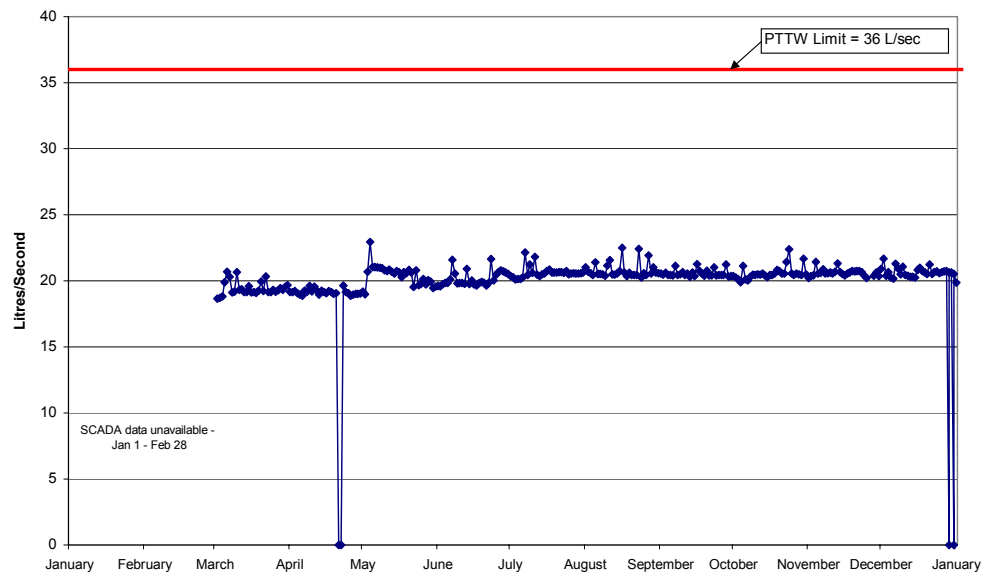


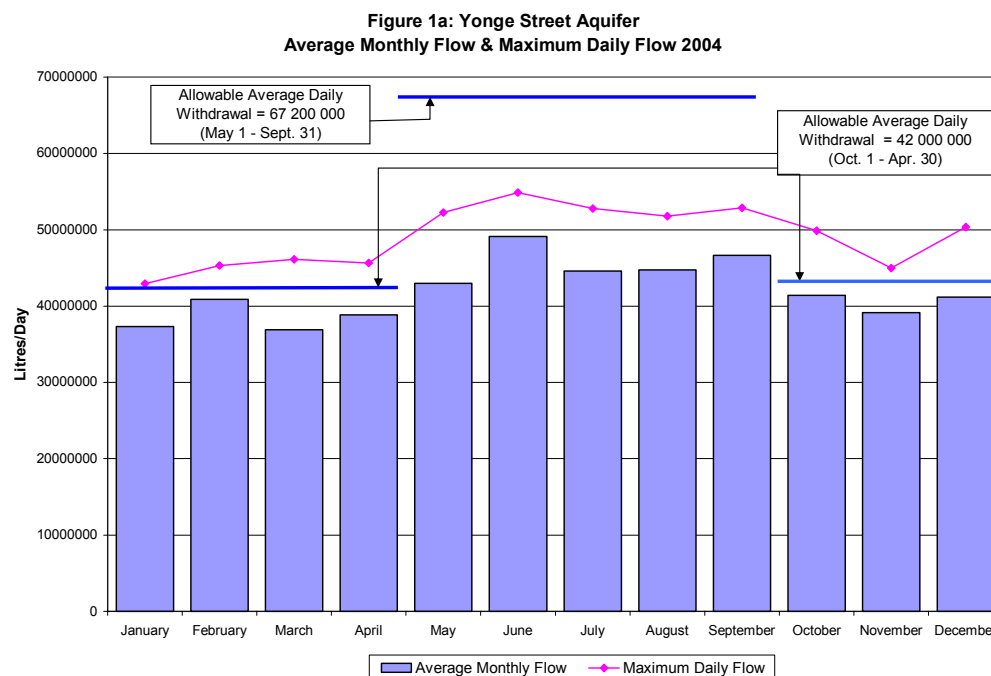
Figure 2e: Stouffville Well No. 6
Daily Instantaneous Peak Flow
2004



Yonge Street Aquifer

The Yonge Street Aquifer is the name given to the source aquifer that supplies groundwater to the communities of Aurora, Newmarket, Holland Landing, Queensville and Sharon. There are 20 wells in total that obtain water from the Yonge Street Aquifer, which are captured under one Permit to Take Water 93-P-3078.

Detailed information about the individual wells has been provided in separate sections and appears in this report under the 'Aurora' or 'Newmarket' headings. However, for the purposes of understanding the accumulative impact of our water taking on the Yonge Street Aquifer, Figure 1a has been provided below.



When comparing the 2003 and 2004 monthly average flow rate for the year, water taking from the Yonge Street Aquifer has increased by 5%. This is likely due to a longer duration of shut down of the York Water System, which supplies water from the City of Toronto to Aurora. In 2004, the York Water System was not providing water to Aurora during the months of July, August, September and December, however in 2003, the supply was only down for the months of September and October.

The 'Daily Instantaneous Peak Flow (litres)' for the Yonge Street Aquifer have not been illustrated because detailed information about the individual wells has been already been provided in separate sections and appears in this report under the 'Aurora' or 'Newmarket' headings.

York Water System

York Region operates a water supply system to service the Town of Markham, the Town of Richmond Hill, the City of Vaughan, and parts of the Town of Aurora and Newmarket. The York Water System is classified as a 'Large Municipal System receiving water from a Large Municipal System'. It distributes water supplied from the City of Toronto to the area municipalities. As such, it does not have a requirement for a Permit to Take Water.

There are several Certificate of Approval (C of A) as issued by the Ontario Ministry of the Environment (MOE) in the York Water System. Details of the C of A and other relevant classification information are presented in Table 1.

TABLE 1: York Water System – Summary of Approvals and Permit

Current Certificate of Approval: • Jefferson Pumping Station Issue Date: 3167-66JMRV November 18, 2004 • Markham Pumping Station Issue Date: 0714-5RYNS3 October 10, 2003 <i>Previous</i> Issue Date: 7-0865-98-006 September 2, 1998 • Richmond Hill Pumping Station Issue Date: 7-1138-97-006 September 2, 1998 • North Richmond Hill Pumping Station Issue Date: 3889-5K4SKT March 10, 2003 • O.Reg. 170/03 Exemption Issue Date: 2982-5ZZHKJ June 22, 2004	
MOE Waterworks Number:	260001929
System Classification:	Water Distribution III (WDIII)

Water Taking

York Region monitors the water taking through flow meters. Flows are monitored on a continuous basis to ensure that the regulated flows are not exceeded.

The agreement with the City of Toronto and York Region (Toronto/York Water Supply Agreement) allows for a daily maximum of 440 megalitres per day in 2004.

Measuring Points

York Region staff manually record the flow rates and total flow data on regular operational visits to the plant.

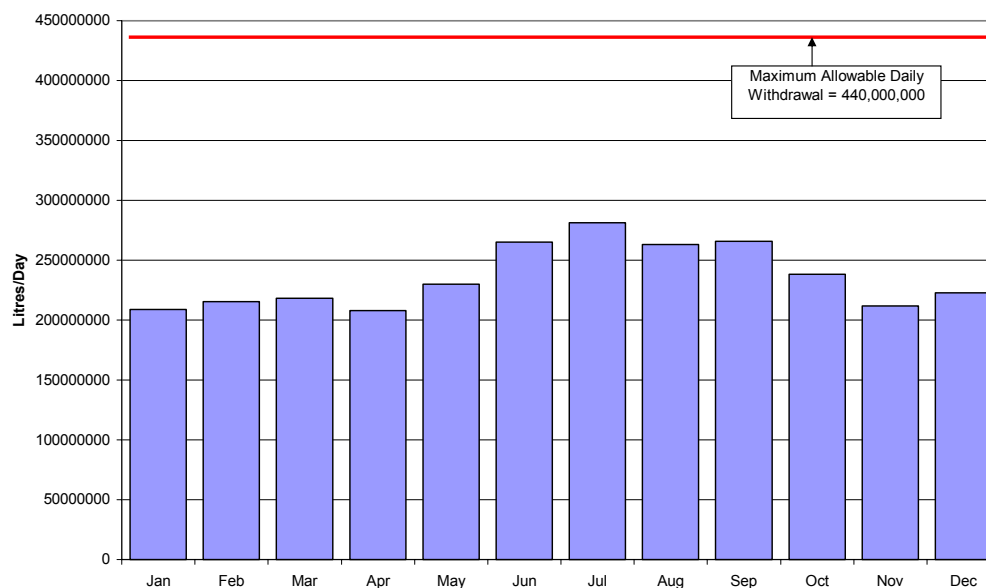
The flow meters are calibrated on an annual basis to meet the monitoring conditions of the C of A.

Water Withdrawal

The total volume of water transmitted by the YWS for the reporting period of January 1 – December 31, 2004 was 86,129,955,000 litres. This volume is less than the maximum permitted withdrawal as prescribed in the operating agreement with the City of Toronto.

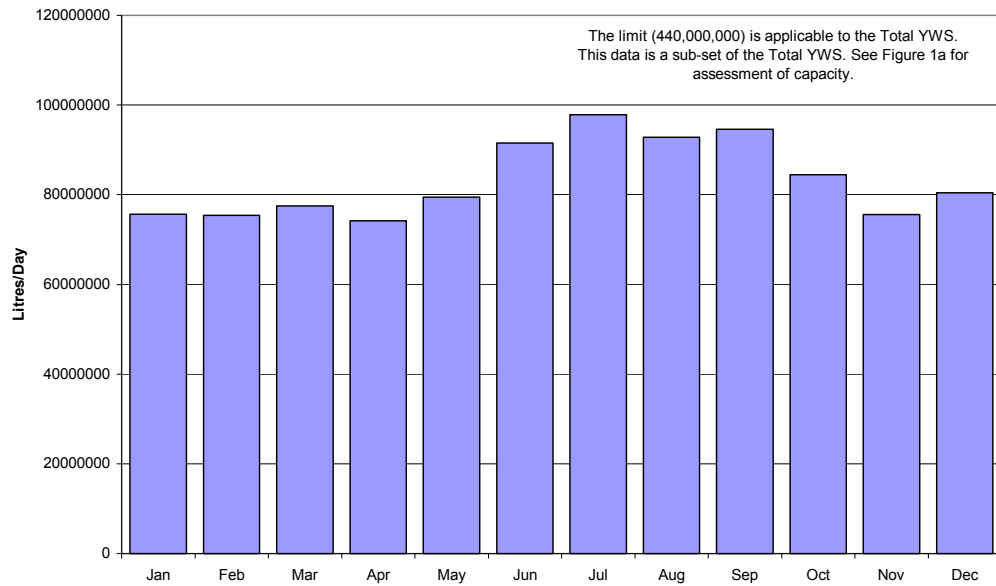
The total York Water System (YWS) monthly flow rates are presented in Figure 1a.

Figure 1a: Total Yonge Street System Monthly Average Flow
2004

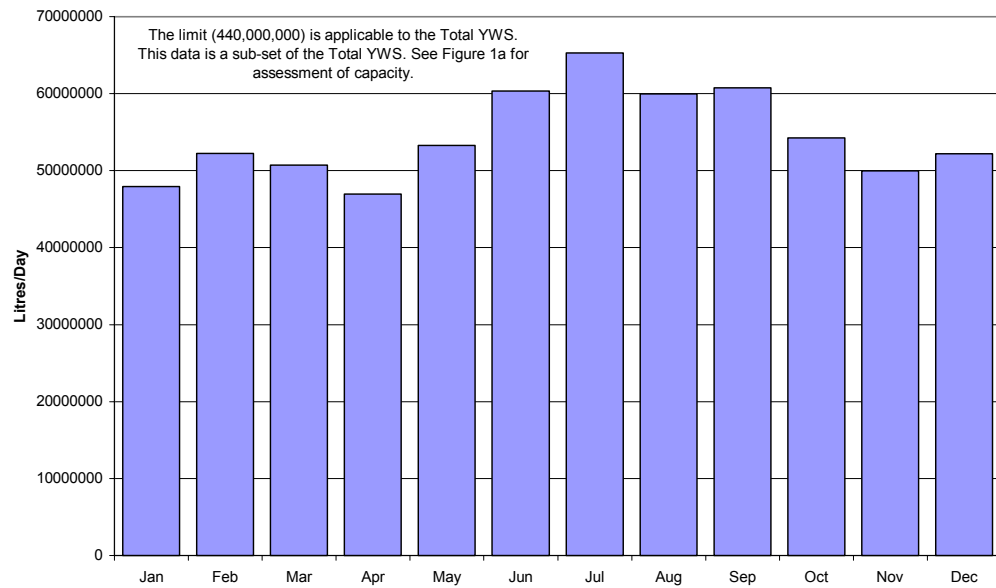


The monthly flow rates for each municipality served by the YWS are presented in Figures 1b through e.

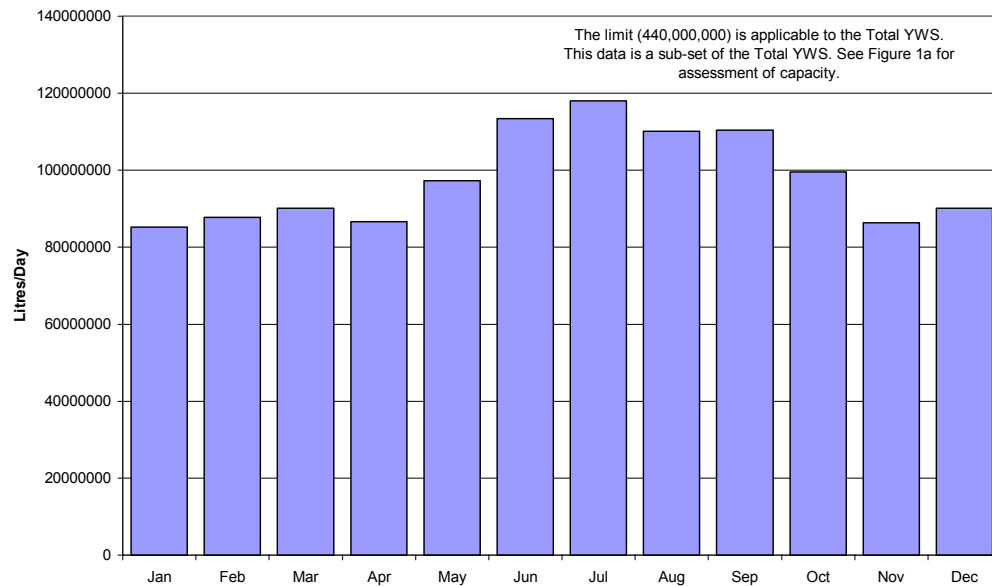
**Figure 1b: Markham Monthly Average Flow
2004**



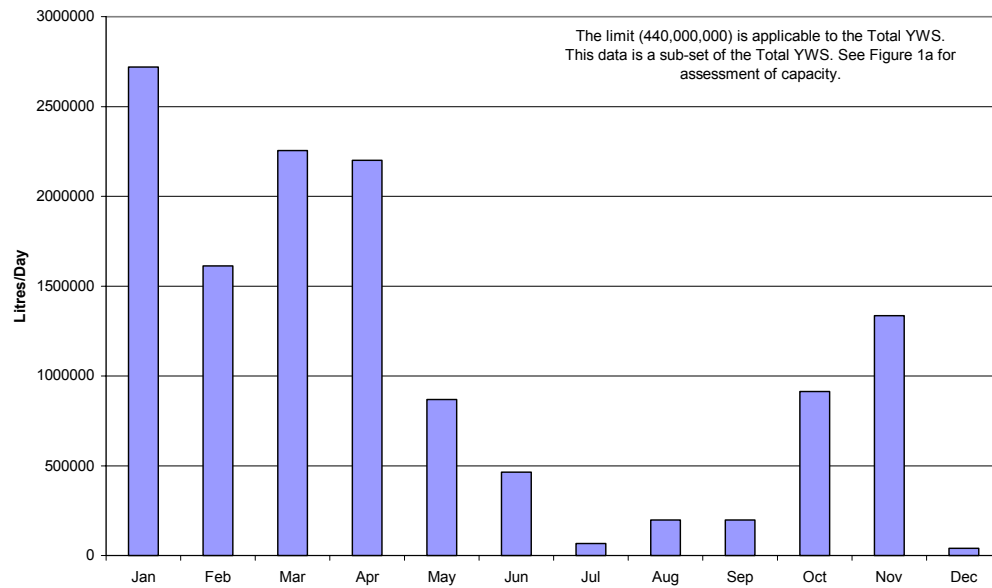
**Figure 1c: Richmond Hill Monthly Average Flow
2004**



**Figure 1d: Vaughan Monthly Average Flow
2004**



**Figure 1e: Aurora Monthly Average Flow
2004**



The withdrawal rates for the YWS from the City of Toronto did not exceed the allowable daily limits in during the reporting period of January 1 – December 31, 2004.

The '*Daily Instantaneous Peak Flow (litres)*' for January 1- December 31, 2004 is unavailable for the York Water System during the reporting period.

Appendices

Appendices

Ansnoeveldt Maximum Daily Withdrawal:

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal Date
Well 1	100,800	19,250	January 07
		28,000	February 11
		21,000	March 24
		25,000	April 21
		25,000	May 31
		29,000	June 09
		27,000	July 01
		32,000	August 04
		19,500	September 15
		25,500	October 13
		13,000	November 17
		12,000	December 30
Well 2	184,320	47,500	January 19
		74,000	February 11
		54,000	March 24
		59,500	April 14
		64,000	May 12
		75,000	June 09
		70,000	July 01
		78,500	August 04
		62,500	September 29
		80,000	October 25
		48,000	November 15
		61,000	December 30

Aurora Maximum Daily Withdrawals:

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal Date
Well 1	3,273,120	10,000	January 28
		0	-
		0	-
		0	-
		0	-
		2,035,000	June 21
		1,370,000	July 01
		0	-
		2,523,000	September 24
		2,369,667	October 29
		2,004,000	November 01
		2,592,000	December 20
Well 2	5,889,600	5,225,000	January 12
		4,463,333	February 06
		4,375,000	March 22
		4,750,000	April 23
		4,680,000	May 01
		4,310,000	June 07
		4,200,000	July 21
		4,270,000	August 02
		4,130,000	September 22
		4,150,000	October 18
		4,320,000	November 24
		4,626,000	December 31
Well 3	5,237,280	4,826,667	January 23
		4,913,333	February 20
		5,010,000	March 29
		5,046,667	April 23
		4,953,333	May 01
		4,560,000*	June 11
		4,545,000	July 21
		4,955,000	August 02
		4,440,000	September 22
		4,700,000	October 01
		4,956,667	November 05
		5,110,000	December 31
	7,855,200	7,133,333	January 23

*Verified manual data with SCADA Data for this date since manual data was collected over a period of time greater than 24 hours. SCADA records show a maximum daily withdrawal of 4,503,110 litres for June 11, 2004

Summary Report for York Region Drinking Water Systems
March 2004

Well 4		7,800,000	February 16
		7,336,667	March 05
		6,800,000	April 19
		6,486,667	May 01
		6,490,000	June 07
		6,010,000	July 02
		6,156,667	August 13
		5,975,000	September 01
		6,366,667	October 01
		6,663,333	November 05
		6,698,000	December 06
Well 5	5,889,600	0	-
		0	-
		2,912,667	March 26
		4,717,500	April 14
		3,963,000	May 01
		3,996,000	June 17
		4,265,000	July 21
		4,158,000	August 04
		3,482,500	September 13
		4,139,500	October 18
		4,200,000	November 08
		4,058,000	December 31
Well 6	3,456,000	2,699,500	January 07
		2,749,000	February 27
		2,760,000	March 10
		817,000	April 12
		2,445,000	May 24
		2,298,500	June 30
		2,488,000	July 21
		2,607,500	August 16
		2,550,000	September 01
		2,780,000	October 06
		2,230,000	November 29
		2,459,500	December 13

Ballantrae Maximum Daily Withdrawals:

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal Date
Well 1 and 2	2,617,920 from Oct 1 to May 31	918,667	January 02
		841,000	February 11
		753,500	March 08
		982,000	April 23
		1,182,500	May 19
	4,380,480 from June 1 to Sept 30	1,417,667	June 11
		1,698,000	July 09
		1,547,500	August 25
		1,576,500	September 22
		1,191,000	October 13
		978,500	November 01
		872,000	December 27

Georgina Maximum Daily Withdrawals:

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal Date
Water Treatment Plant	50,000,000	2,085,000	January 10
		2,350,000	February 16
		2,210,000	March 01
		2,106,000	April 19
		2,402,000	May 19
		2,594,000	June 07
		2,776,000	July 31
		3,006,000	August 25
		2,505,000	September 21
		2,044,000	October 14
		2,133,000	November 02
		2,519,000	December 03

Keswick Maximum Daily Withdrawals:

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal Date
Water Treatment Plant	16,200,000	6,676,000	January 08
		6,816,000	February 13
		6,377,000	March 26
		6,392,000	April 10
		7,046,000	May 14
		8,467,000	June 13
		8,359,000	July 03
		8,135,000	August 24
		8,157,000	September 07
		7,140,000	October 12
		7,255,000	November 29
		6,976,000	December 28

King City Maximum Daily Withdrawals:

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal Date
Well 3	1,963,915	0	-
		0	-
		0	-
		1,224,000	April 28
		1,574,000	May 28
		1,240,500	June 01
		1,356,667	July 23
		856,500	August 23
		1,310,000	September 13
		778,500	October 06
		564,500	November 03
		469,226	December 17
Well 4	2,618,554	1,850,500	January 26
		1,514,333	February 27
		1,755,000	March 22
		1,650,000	April 12
		690,000	May 26

Summary Report for York Region Drinking Water Systems
March 2004

		1,378,000	June 23
		1,241,000	July 02
		1,202,000	August 04
		1,741,000	September 20
		1,185,000	October 15
		1,525,667	November 12
		1,476,667	December 10

Kleinburg Maximum Daily Withdrawals:

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal Date
Well 2	950,400	0	-
		0	-
		0	-
		0	-
		63,500	May 19
		374,000	June 02
		192,000	July 02
		24,000	August 30
		21,000	September 24
		22,100	October 29
		10,000	November 29
		6,500	December 01
Well 3	3,283,200	1,850,000	January 07
		1,544,667	February 27
		1,603,500	March 10
		1,360,000	April 30
		1,461,500	May 17
		2,375,000	June 30
		2,451,333	July 02
		2,242,000	August 23
		2,190,000	September 24
		1,948,000	October 11
		1,356,667	November 05
		1,369,000	December 29

Mount Albert Maximum Daily Withdrawals:

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal Date
Well 1	2,176,000	926,000	January 19
		1,040,333	February 06
		823,667	March 26
		843,667	April 23
		941,000	May 05
		958,000	June 11
		1,170,000	July 28
		1,223,500	August 11
		1,200,667	September 24
		870,000	October 08
		958,000	November 29
		1,335,000	December 08
Well 2	2,176,000	1,264,000	January 12
		973,000	February 20
		1,240,000	March 01
		1,077,000	April 16
		966,500	May 19
		1,443,000	June 14
		1,152,000	July 12
		1,158,333	August 20
		1,223,667	September 03
		1,337,667	October 01
		1,409,667	November 05
		1,452,000	December 31

Newmarket/East Gwillimbury Maximum Daily Withdrawals:

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal Date
Holland Landing Well 1	2,289,600	2,032,000	January 02
		1,893,000	February 16
		1,811,000	March 08
		0	-
		0	-
		91,286	June 28
		985,667	July 23
		1,207,333	August 20
		0	-
		0	-
		0	-
		2,016,500	December 27
Holland Landing Well 2	3,600,000	0	-
		0	-
		1,524,000	March 31
		1,748,500	April 19
		2,430,333	May 14
		2,529,000	June 25
		2,508,000	July 12
		2,412,500	August 30
		2,516,000	September 03
		2,142,667	October 01
		2,079,333	November 26
		2,188,000	December 03
Newmarket Well 1	2,291,040	1,976,500	January 28
		1,951,500	February 18
		1,898,000	March 05
		1,882,500	April 28
		1,850,000	May 05
		2,180,667	June 25
		1,729,500	July 07
		1,685,000	August 09
		1,718,333	September 17
		0	-
		1,479,667	November 26
		1,552,000	December 01
Newmarket	4,582,080	4,157,000	January 12

Summary Report for York Region Drinking Water Systems
March 2004

Well 2		3,639,667	February 13
		4,519,500	March 15
		4,149,500	April 14
		3,977,000	May 12
		4,512,000	June 17
		4,239,000	July 26
		4,029,000	August 23
		4,137,500	September 08
		0	-
		4,314,000	November 26
		4,459,000	December 01
Newmarket Well 13	5,891,040	5,419,000	January 14
		5,230,667	February 13
		3,594,667	March 05
		0	-
		4,601,000	May 24
		4,725,000	June 18
		4,950,000	July 21
		5,289,000	August 25
		5,101,000	September 08
		5,049,500	October 11
		4,733,000	November 17
		98,500	December 15
Newmarket Well 14	2,291,040	0	-
		0	-
		1,196,000	March 29
		1,425,000	April 28
		1,223,500	May 05
		425,000	June 07
		644,000	July 28
		1,110,500	August 30
		1,423,500	September 29
		1,550,333	October 22
		1,417,500	November 29
		1,605,500	December 08
Newmarket Well 15	3,273,120	0	-
		0	-
		1,802,667	March 26
		1,765,000	April 14
		1,639,500	May 10
		1,631,500	June 21
		1,893,000	July 28
		1,799,000	August 01
		1,861,500	September 22
		1,847,500	October 13

Summary Report for York Region Drinking Water Systems
March 2004

Newmarket Well 16	5,631,840	1,839,000	November 26
		1,951,500	December 01
		4,285,000	January 23
		4,943,667	February 13
		3,258,000	March 05
		838,000	April 28
		4,667,000	May 24
		4,578,000	June 18
		4,581,000	July 21
		4,723,000	August 25
		4,842,000	September 08
		4,587,500	October 11
		4,578,500	November 17
		4,708,000	December 31
Queensville Well 1	6,544,800	0	-
		1,262,143	February 23
		5,169,000	March 10
		5,242,000	April 14
		5,149,500	May 12
		5,001,000	June 09
		4,933,000	July 09
		4,884,500	August 23
		4,718,500	September 22
		6,493,000 ¹	October 27
		6,476,000 ²	November 01
		5,819,000	December 31
Queensville Well 2	6,544,800	0	-
		1,170,000	February 23
		5,118,333	March 19
		4,637,500	April 26
		5,116,500	May 12
		4,768,000	June 28
		5,508,500	July 21
		5,034,000	August 16
		4,819,000	September 24
		4,913,000	October 11
		4,926,000	November 22
		5,869,000	December 10
Queensville Well 3	6,544,800	6,066,667	January 23
		6,142,500	February 16
		4,809,333	March 26
		4,425,000	April 28
		5,457,000	May 03
		4,125,500	June 09
		5,102,500	July 05

1 – Verified manual data with SCADA Data as manual records covered a period greater than 24 hrs. SCADA data recorded an actual maximum daily withdrawal of 5,577,234 litres on October 27, 2004

2 - Verified manual data with SCADA Data as manual records covered a period greater than 24 hrs. SCADA data recorded an actual maximum daily withdrawal of 5,745,633 litres on November 2, 2004.

Summary Report for York Region Drinking Water Systems
March 2004

Queensville Well 4		5,221,500	August 23
		5,888,000	September 22
		5,940,500	October 11
		5,650,000	November 08
		5,733,000	December 08
	6,544,800	4,472,000	January 26
		5,161,000	February 18
		5,738,667	March 19
		5,039,000	April 28
		5,741,333	May 28
		5,544,000	June 09
		4,457,333	July 02
		5,040,000	August 02
		4,304,500	September 22
		4,577,000	October 04
		3,098,500	November 29
		3,956,000	December 15

Nobleton Maximum Daily Withdrawals:

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal Date
Well 2	1,963,872	0	-
		0	-
		879,000	March 29
		982,000	April 30
		1,198,000	May 17
		1,890,000	June 17
		1,546,000	July 12
		1,404,000	August 23
		1,486,500	September 29
		1,736,000	October 06
		1,289,000	November 17
		1,065,333	December 03
Well 3	1,963,872	1,020,000	January 16
		1,054,000	February 04
		941,000	March 22
		972,333	April 02
		169,500	May 31
		216,000	June 04
		66,000	July 05
		1,106,000	August 18

		1,061,500	September 13
		452,000	October 03
		428,500	November 08
		996,000	December 17

Schomberg Maximum Daily Withdrawals:

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal Date
Well 2	1,636,560	0	-
		0	-
		0	-
		0	-
		549,000	May 31
		850,333	June 14
		762,667	July 02
		29,000	August 09
		31,600	September 01
		279,500	October 04
		726,000	November 24
		696,333	December 17
Well 3	2,290,000	778,000	January 05
		863,500	February 04
		851,000	March 31
		851,000	April 01
		699,500	May 19
		741,000	June 28
		665,000	July 28
		958,000	August 04
		1,001,500	September 27
		883,000	October 27
		434,000	November 01
		889,000	December 31

Stouffville Maximum Daily Withdrawals:

Production Well Number	Allowable Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal (Litres)	Actual Maximum Daily Withdrawal Date
Well 1	2,946,240	1,349,000	January 21
		1,576,000	February 16
		1,206,500	March 22
		1,676,000	April 09
		1,729,000	May 24
		1,453,333	June 18
		1,458,000	July 12
		1,582,500	August 16
		1,728,500	September 06
		1,749,000	October 06
		1,189,667	November 26
		1,573,500	December 15
Well 2	2,946,240	1,714,333	January 16
		1,526,333	February 13
		2,469,000	March 29
		1,995,000	April 21
		1,811,500	May 12
		1,606,000	June 11
		1,361,667	July 09
		1,471,500	August 23
		1,445,000	September 17
		1,674,000	October 01
		1,246,500	November 29
		1,658,000	December 03
Well 3	2,946,240	1,371,000	January 09
		1,080,000	February 09
		1,546,000	March 24
		1,436,333	April 02
		1,633,000	May 28
		1,382,000	June 30
		1,548,333	July 02
		1,319,000	August 23
		1,417,000	September 06
		1,219,500	October 20
		1,305,000	November 15
		1,509,000	December 31
Well 5	2,289,600	1,477,333	January 09

Summary Report for York Region Drinking Water Systems
March 2004

		1,376,000	February 13
		1,245,000	March 31
		1,754,500	April 21
		1,670,000	May 14
		1,578,500	June 30
		1,715,000	July 05
		1,336,000	August 23
		1,275,000	September 10
		1,553,667	October 01
		1,291,000	November 29
		1,469,000	December 01
Well 6	3,110,400	1,230,333	January 09
		1,155,667	February 13
		1,051,000	March 31
		1,227,000	April 02
		1,344,333	May 14
		1,273,000	June 30
		1,378,000	July 05
		1,105,000	August 23
		1,059,000	September 27
		1,285,000	October 01
		1,034,500	November 29
		1,174,000	December 01

Duration of Daily Instantaneous Peak Flows above the PTTW limit

Location	Date (m/d/y)	Duration of Peak Flow (minutes)
Aurora 1	07-08-2004	5
	10-21-2004	15
Aurora 2	2-14-2004	5
Aurora 3	10-22-2004	25
	10-23-2004	30
	10-24-2004	75
	10-25-2004	30
	10-27-2004	10
	11-20-2004	5
	12-18-2004	5
Aurora 4	03-11-2004	5
	10-10-2004	5
	10-14-2004	5
	11-01-2004	5
Aurora 6	01-04-2004	5
	01-05-2004	5
	1-19-2004	5
	1-21-2004	5
	1-30-2004	5
	02-04-2004	5
	03-05-2004	5
	3-17-2007	5
	04-08-2004	5
	7-18-2004	60
	7-19-2004	15
	7-27-2004	50
	08-03-2004	35
	08-04-2004	20
	08-05-2004	20
	08-06-2004	5
	8-20-2004	5
	09-12-2004	5
	10-10-2004	5
	10-12-2004	5
	10-14-2004	10
	10-17-2004	5
	10-20-2004	5
	10-23-2004	5
	10-24-2004	5

Summary Report for York Region Drinking Water Systems
March 2004

	10-25-2004	5
	10-26-2004	5
	10-28-2004	5
	10-29-2004	5
	11-04-2004	5
	11-05-2004	5
	11-08-2004	5
	11-09-2004	5
	11-12-2004	5
	11-14-2004	5
	11-22-2004	5
	12-03-2004	5
	12-05-2004	5
	12-18-2004	5
	12-27-2004	5
	12-29-2004	10
Ballantrae 2	12-23-2004	5
	12-27-2004	5
King City 4	6-16-2004	5
	7-26-2004	5
Kleinburg 3	02-19-2004	5
	03-31-2004	45
	07-27-2004	5
	09-15-2004	5
	10-19-2004	15
	11-02-2004	10
	11-06-2004	20
	11-10-2004	5
	11-16-2004	5
	12-29-2004	10
Newmarket 2	01-06-2004	100
	1-27-2004	10
	02-05-2004	5
	03-10-2004	50
	04-01-2004	25
	5-22-2004	20
	5-25-2004	15
	7-16-2004	30
Newmarket 13	12-09-2004	30
Newmarket 14	04-16-2004	370
	04-17-2004	400
	04-23-2004	285
	04-24-2004	150
Newmarket 15	10-19-2004	10
	09-09-2004	5

Summary Report for York Region Drinking Water Systems
March 2004

Newmarket 16	05-03-2004	15
Nobleton 2	07-05-2004	10
Nobleton 3	05-18-2004	10
	06-01-2004	10
	06-29-2004	5
	09-15-2004	5
	09-24-2004	5
	09-28-2004	10
	11-22-2004	10
	11-30-2004	45
	12-21-2004	65
Queensville 1	10-30-2004	10
	11-13-2004	20
	11-15-2004	5
Schomberg 2	04-26-2004	10
	06-29-2004	90
	09-08-2004	85
	09-13-2004	20
	09-28-2004	5
Schomberg 3	09-12-2004	5
	11-29-2004	15
	11-30-2004	20
Stouffville 3	01/02/2004	5
	01/13/2004	5
	01/14/2004	5
	01/15/2004	5
	01/20/2004	5
	01/29/2004	5
	01/30/2004	30
	01/31/2004	25
	02/01/2004	5
	02/02/2004	15
	02/03/2004	20
	02/04/2004	10
	02/05/2004	15
	02/06/2004	15
	02/07/2004	15
	02/08/2004	15
	02/09/2004	15
	02/10/2004	20
	02/11/2004	35
	02/12/2004	20
	02/13/2004	25
	02/16/2004	20
	02/23/2004	20

Summary Report for York Region Drinking Water Systems
March 2004

Stouffville 3	02/24/2004	15
	02/26/2004	5
	02/27/2004	30
	02/28/2004	75
	05/18/2004	25
	05/19/2004	10
	06/20/2004	5
	08/19/2004	5
	08/21/2004	5
	08/22/2004	5
	08/26/2004	5
	08/30/2004	5
	09/01/2004	5
	09/02/2004	5
	09/03/2004	5
	09/08/2004	5
	09/10/2004	5
	09/14/2004	5
	09/16/2004	5
	09/20/2004	10
	09/25/2004	5
	09/27/2004	0
	09/28/2004	20
	09/29/2004	75
	09/30/2004	5
	10/01/2004	0
	10/06/2004	5
	10/08/2004	5
	10/12/2004	40
	10/13/2004	30
	10/14/2004	30
	10/15/2004	5
	10/22/2004	5
	10/23/2004	5
	10/24/2004	5
	10/26/2004	35
	10/27/2004	15
	10/28/2004	0
	10/29/2004	25
	10/30/2004	45
	11/01/2004	30
	11/03/2004	5
	11/04/2004	5
	11/06/2004	5
	11/07/2004	5

Summary Report for York Region Drinking Water Systems
March 2004

Stouffville 3	11/10/2004	5
	11/15/2004	10
	11/16/2004	10
	11/17/2004	10
	11/18/2004	5
	11/19/2004	10
	11/20/2004	10
	11/21/2004	10
	11/22/2004	5
	11/23/2004	15
	11/24/2004	5
	11/29/2004	10
	12/01/2004	5
	12/06/2004	5
	12/07/2004	10
	12/08/2004	5
	12/14/2004	5
	12/15/2004	5
	12/16/2004	5
	12/17/2004	10
	12/29/2004	5