

TORONTO STAFF REPORT

June 8, 2005

To: Works Committee

From: General Manager of Toronto Water

Subject: Report on Water Quality Issues Related to Taylor-Massey Creek
Beaches - East York, Ward 31

Purpose:

To address the water pollution concerns in Taylor-Massey Creek contained in a communication dated April 22, 2005 from Councillor Davis, Ward 31, Beaches-East York.

Financial Implications and Impact Statement:

There are no financial implications to the City as a result of this report.

Recommendations:

It is recommended that this report be received for information.

Background:

At its meeting on April 27, 2005, the Works Committee approved the recommendations contained in the communication from Councillor Davis that the General Manager, Toronto Water prepare a report on issues related to the water quality of Taylor-Massey Creek for their meeting in May. The communication from Councillor Davis was a result of a red effluent (red dye) discharged into the storm sewer on April 5, 2005 that impacted the water quality of the creek.

Comments:

The following items address the concerns listed in the communication (April 22, 2005) from Councillor Davis regarding water quality issues related to Taylor-Massey Creek:

1) (a) Spill response for the April 5, 2005 spill in Taylor-Massey Creek.

On April 5, 2005 a complaint was called in to Toronto Water regarding a contaminant turning a large section of Taylor Creek red in colour. Toronto Water staff responded from South District and Industrial Waste & Storm Water Quality (IW&SQ). The red material was a dye which had infiltrated into the storm sewer system from the sanitary sewer. It was determined that a blockage of the sanitary sewer just downstream of the Curity Avenue and Cranfield Road intersection caused a back-up within the sewer. The resulting water pressure forced sanitary flows through a damaged joint, just upstream of Curity Avenue and Cranfield Road, into the storm sewer running parallel to the sanitary sewer. The storm sewer discharges to a small branch of Taylor Creek through a storm outfall at the southwest corner of Curity Avenue and O'Connor Drive.

The sanitary discharge to the creek was easily identified because it contained dye. The Ministry of Environment (MOE) took a sample of the flow for analysis. The May 11, 2005 MOE laboratory report confirmed the contaminant was an organic dye. This red dye was discharged legally, to the sanitary sewer, from Fabricolor International at 25 Waterman Avenue. The dye is considered non-toxic, but coupled with sanitary flows would have resulted in both bacterial loading to the creek and other contaminants typically associated with sanitary flows. Toronto Water South District staff cleared the blockage immediately, thereby eliminating the discharge to Taylor-Massey Creek.

Toronto Water will be relining approximately 103 metres of the sanitary sewer on Curity Ave. immediately north of Cranfield Road. Toronto Water will also reline approximately 67 metres of the storm sewer on Curity Avenue immediately north of Cranfield Road. The relining will take place in the segments of the sewers where the infiltration to the storm sewer occurred. The tentative date for relining is set for mid-June 2005.

Maps of storm and sanitary sewers associated with the sanitary discharge to Taylor Creek are included in Appendix 1.

(b) Spills or water pollution incidents, and water quality tests completed for Taylor-Massey Creek since 2000.

Toronto Water conducted a search of its Work Management System and found 16 complaints of a discharge to Taylor Creek since 2000 to which Toronto Water responded. A summary of the reports is included in Appendix 2.

- (c) Toronto Water's Spill Response Plan and possible amendments to the report protocol to include reporting to local Councillors.

In 2003 and 2004, Toronto Water responded to 496 and 200 spills respectively of varying magnitudes. The Toronto Water Spill Response Plan is currently undergoing its annual review. The notification protocol will be modified to ensure Supervisors report all significant spills to Toronto Water management who will assess the severity and/or potential impact of the incident to determine if local Councillors should be notified.

- (d) Toronto Water's current water quality testing regime for streams, rivers, and other waterways.

The Toronto Water Stormwater Quality Group (SQG) is currently involved in 9 main programs related to monitoring and/or improving the water quality of the Toronto's 6 river systems and Lake Ontario. The programs range from Priority Outfall monitoring and Beaches' Water Quality testing to sampling for West Nile Virus Larvicide Application effectiveness and Road Salt Runoff impacts. Appendix 3 details the programs. Many of the programs are done in partnership with other Divisions of the city.

- (e) Status Report on the Implementation of the Sewer Use By-law.

At its meeting of June 7, 8, and 9, 2000, City Council approved the new Toronto Sewer Use By-law which was officially enacted in July, 2000. The by-law which was incorporated into the City of Toronto Municipal Code 681, has several amendments, including more stringent concentration limits for heavy metals, with mercury restricted to 0.01 mg/L, concentration limits for 27 new organics, mandatory Pollution Prevention planning, and the requirement for dental waste amalgam separators for dental clinics.

Toronto Water's Industrial Waste staff currently monitor, advise and enforce the by-law regulations for over 1,000 industries mainly manufacturing or other large plant facilities. The frequency of inspection and effluent sampling varies with the nature of the particular industry. Those industries with surcharge agreements or that have a high potential that their effluent may exceed the by-law criteria are visited 1 to 2 times per month. There are over 200 industries that fall into this category. The remainder of the industries that exhibit a medium or low potential to exceed the by-law requirements are inspected on a less frequent basis ranging from bi-monthly to annual inspections. In 2004, staff responded to 226 complaints regarding industrial discharges, issued 51 written violation

notices and 8 summons to industries in non-compliance. A summary of the enforcement activities and a list of the prosecutions and fines are provided in Appendix 4.

The by-law also has a provision that requires a Pollution Prevention Plan (P2) from the 12 subject sector industries, and every industry that discharges any amount of the 38 designated subject pollutants to the sewer system. The key objectives are to help industries and other facilities identify ways of reducing or eliminating pollutants at the source, to continuously improve biosolid quality and to protect the aquatic environment. A summary of the P2 activities for each of the industrial sectors is provided in Appendix 5. There are approximately 5,000 industrial, institutional and commercial establishments in the City that are required to prepare a P2 plan. To date, approximately 3,700 have submitted their plans. In 2004, Toronto Water P2 staff inspected approximately 700 facilities.

Since the implementation of the by-law, the concentrations of mercury, arsenic, molybdenum and selenium in the biosolids at the wastewater treatment plants has decreased substantially. This reduction is illustrated in Appendix 5. Furthermore, the P2 staff have worked with the Canadian Association of Textile Colourists & Chemists (CATCC) and Canadian Petroleum Products Institute (CPPI) members to eliminate cleaners containing Nonylphenols (NPs) and Nonylphenol Ethoxylates (NPEs). NPs and NPEs potential usage by the Industrial Laundry sector was reduced by over 60,000 kg annually due to a major detergent manufacturer making the substitution to linear alcohol ethoxylates.

2) Toronto Water's Planned Water Quality Monitoring Programs for the Toronto Tributaries and Waterfront, including Taylor Creek.

During the spring of 2005 Toronto Water will initiate a Storm Outfall Monitoring Program. The program is designed to collect samples from storm outfalls with a dry weather flow. The long term objective is to sample all flowing dry weather outfalls within the city. The outfalls will be sampled for conventional contaminants such as bacteria, metals, and phosphorus. Additional samples will be taken for outfalls indicating a contaminated flow. Pesticide sampling may be undertaken if resources permit. Outfalls determined to be discharging contaminants to our waterbodies will be targeted for investigation. Tracing of the contaminated flow through the storm system will be a typical course of action.

The Program is to start with the Don River, specifically the Taylor Creek branch, and spread to the remaining tributaries over time. Based on similar past programs it is estimated the Don River alone could take more than 2 years to complete.

The time required to complete the survey of the entire system is dependant on resources and the percentage of contaminated flows identified. This will be assessed after the first year of

the program. In addition, the program will identify outfalls currently not included in the asset database to improve our existing sewer maps and spill tracing abilities.

- 3) General Manager of Toronto Water report to the June meeting of Works Committee on the implementation plan for the wet weather flow management master plan (WWFMMP), including a sewer shed map that identifies all of the combined sewers and outfalls in the city, completed and planned sewer separation projects since 2003, other construction opportunities where sewer separation may be possible, and how the EA process for Taylor-Massey Creek can be expedited.

A sewershed map that identifies all of the sewer outfalls in the City is presented in Figure 1 of Appendix 6.

A sewershed map that identifies the combined sewer areas, the basement flooding areas, recently constructed storm sewers in the combined sewer areas (2002-2005), and proposed storm sewers in those areas in 2006 is presented in Figure 2 of Appendix 6.

Toronto Water staff made a presentation to members of the Works Committee and other interested councillors, on May 13, 2005 on the 25-year implementation plan for the Wet Weather Flow Management Master Plan (WWFMMP) including the first five-year phase: 2003-2007 (Appendix 6 - Table 1).

The Implementation Plan for the WWFMMP was developed City-wide and considered several corporate and legislative priorities and fiscal realities, including:

- Health & Safety (beach water quality, basement flooding, river flooding)
- Legislative requirements (combined sewer overflow (CSO) control: MOE Procedure F-5-5)
- Infrastructure Protection & Renewal
- Accommodation of Growth
- A target spending rate of \$40 million annually for 25 years (or total of \$1 billion)

The 25-Year Implementation Plan addresses basement flooding as an immediate priority and includes projects to address waterfront beach water quality and the requirement for combined sewer overflow control as a key priority, while implementing other projects to address stream water quality, habitat protection, infrastructure protection and renewal, and accommodation of urban growth. The Implementation Plan, presented in five-year periods, was approved by Council in October 2003. Improvements in lot-level management of stormwater runoff will be sought throughout the 25-year period through the voluntary roof downspout disconnection program and public education and through the development review process in areas of intensification. Opportunities for implementing conveyance controls will be sought, where aging sewer systems need reconstruction in areas with suitable soil conditions and in coordination with road reconstruction projects.

While the Implementation Plan includes source and conveyance controls across the City, it also contains a number of projects specific to the Taylor-Massey Creek subwatershed which are summarized as follows:

i) End-of-pipe Facilities

- Implementation of the first major CSO control facility in the Taylor-Massey Creek subwatershed near the end of the second five-year period (2008 – 2012) and continuing into the third five-year period (2013 – 2017). The CSO control project for Massey Creek will be initiated, after the completion of the requisite Class Environmental Assessment (EA) studies which are expected to be initiated once similar studies are completed for CSO projects along the Inner Harbour.
- Stormwater management facilities for separated storm sewers will also be implemented during these implementation periods. Implementation of these projects is also subject to completion of the requisite Class EA studies. It is expected that these studies will be initiated towards the end of the first five-year period by 2007.

ii) Stream Restoration Projects

Through the development of the WWFMMP it was recognized that stream assessments and a geomorphological study were required before addressing any stream restoration needs. This type of study has been initiated in the Highland Creek watershed. This study will provide the foundation for determining the stream rehabilitation strategy for all City watersheds. Once developed, the methodology will be applied to Taylor-Massey Creek. At this time, the geomorphological study is expected to be initiated near the end of the first five-year implementation period. The Taylor-Massey Creek geomorphological study will represent the final key element of effectively completing a subwatershed study for the Taylor-Massey Creek subwatershed, as other key elements of a subwatershed plan designed to control pollution sources, have been completed through the WWFMMP.

In the interim, stream erosion has been identified in the lower reaches of Taylor-Massey Creek, and an assessment of the damage and the restoration needed is expected to be undertaken in the next two years. Restoration works will subsequently be incorporated within Toronto Water's Capital Budget.

Conclusions:

The April 5, 2005 Toronto Water spill response was appropriate and successful in both resolving the immediate issue and identifying preventative measures. Toronto Water continues to be involved in both the enforcement and monitoring of discharges to our sewer system and Toronto's watercourses. Toronto Water staff respond to water pollution related spills and

complaints in a timely and appropriate fashion, and are currently working with the public and industry in matters of spill prevention. The outfall monitoring program commencing in 2005 will improve the quality of dry weather discharges to Toronto's tributaries and waterfront. The Wet Weather Flow Management Master Plan will further improve the quality of the City's watercourses by addressing the impact of wet weather discharges. Several capital projects have been identified for implementation within the watershed between 2008 to 2017, dependent on the completion of requisite Class Environmental Assessment studies. Several of these studies are expected to be initiated by 2007, and incorporated within Toronto Water's Capital Budget submission.

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List of Attachments:

- Appendix 1: Reports and Sewer Maps detailing the April 5/05 sanitary spill to Taylor Creek.
- Appendix 2: Summary of South District Hansen Service Request Reports related to Taylor Creek from 2000 to present and Summary of IW&SQ Complaint and Spill Reports related to Taylor Creek from 2000 to present.
- Appendix 3: Summary list of SQG's Water Quality Monitoring Program Involvement.
- Appendix 4: Summary tables of Enforcement and Prosecutions by the IW&SQ Unit.
- Appendix 5: Summary table and charts relating to Pollution Prevention activity and initiatives.
- Appendix 6: Figure 1. A sewershed map that identifies all of the sewer outfalls in the city.
Figure 2. A sewershed map that identifies combined sewer areas, the basement flooding areas, recently constructed storm sewers in the combined sewer areas (2002-2005), and proposed storm sewers in those areas in 2006
Table 1 – Implementation Schedule (2003 – 2007).

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Appendix 1



TAYLOR CREEK DISCHARGE
2003 ORTHOIMAGES



- | | | | |
|---|-------------------------------------|-----|----------------|
| ▲ | Discharge Location | --- | Taylor Creek |
| ● | Discharge Appearance | --- | Sewerline STM |
| ○ | Storm Outfalls (incl. Hansen ID) | --- | Sewerline SAN |
| | | --- | Sewerline COMB |



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**Appendix 2:
Summary of Toronto Water Work Management System
Taylor Creek Incidents from 2000 to present.**

- 1) **May 15/00** – Sudsy discharges to Massey Creek southwest of St. Clair and Warden – outfall SA 328, no such discharge visible upon inspection, additional inspections required.
- 2) **May 20/00** – PCB hydro transformer oil spilled to Taylor Creek near Warden and Lawrence – high winds toppled hydro poles damaging transformers, contractor hired to clean up spill using vac trucks and adsorbent material, a max of 50 gallons was spilt, no oil sheen was actually visible in the creek
- 3) **April 5/01** – Green material and foam entering Taylor Creek near Warden and St. Clair – flow inspected, small amount of foam and possible green colour observed in pooled areas downstream of outfall, flow clear and colourless, no trace possible.
- 4) **April 24/01** – Foam in Massey Creek near Warden Woods – foam traced to just north of St.Clair before foam remnants disappeared and trace was discontinued.
- 5) **July 17/02** – Oil and fuel to Taylor Creek from auto shop fire near Danforth Road and Mack Ave. – no evidence of contaminants at the outfall, sewage odour present, Transportation cleaned the street and vacuumed out the catchbasin.
- 6) **July 22/02** – 1000 litres of lubricating oil discharge to storm sewer within the Taylor Creek sewershed from Capital Metal Industries at 61 Milne Ave. – spill occurred as a result of vandalism to a bulk tote during the weekend, reported first thing Mon. morning, rain during the weekend and on Monday flushed the storm system, outfall SA-310 had no evidence of the spill, industry instructed to clean out private catchbasin and area on property still showing evidence of spilled oil, recommended additional security measures be put in place to prevent a reoccurrence.
- 7) **October 1/02** – 20 litres of Ortho-sec-buthylphenol spilled to catchbasin from Schenectady Canada Ltd. at 309 Comstock Ave. – actually 1000 litres spilled but catchbasin has a shut-off valve which was activated as soon as the spill occurred, no evidence of product in the sewers, outfall at Taylor Creek was boomed off and the receiving catchbasin was pumped out.
- 8) **May 9/03** – Don River running at mouth of Taylor Creek – inspection turned up no evidence of red flows in the Don or Taylor Creek.
- 9) **May 30/03** – Grayish flow discharging into Taylor Creek from outfall SC404 – storm sewer inspected upstream of outfall, no evidence of contaminated flow found during trace.
- 10) **February 26/04** – Green coloured car wash effluent discharged to the storm sewer through a cross connection, entered Taylor Creek at outfalls EF-X2 and EF-X3 near Curity and O’Connor (same outfall/branch as 04/05/05 spill), may be same incident as the March 1/04 Hansen report above, car wash instructed to correct improper connection to the storm sewer, owner stated there had been no modifications to his plumbing, car wash’s sanitary connection had been severed by past road work and eventually found its way into the storm sewer, the investigation revealed that the new operator had been

- incorrectly using a green car wax at full strength (bright green similar to fluorescein dye) and this may have been the reason the discharge was finally noticed.
- 11) **March 1/04** – cross connection located discharging sanitary flows into creek near O'Connor and Curity – district operations corrected problem on April 21/04.
 - 12) **May 13/04** – Reddish purple colour in the Taylor Creek – discharge traced to outfall south of St.Clair Ave. East, west of O'Connor Drive and Sandra Road (same outfall/branch as 04/05/05 spill), District staff indicated it was the result of a blockage in the sanitary sewer and they would clear the line.
 - 13) **June 16/04** – Sewage to Taylor Creek near old Pharmacy Yard – dry weather inspections of CSO outfall indicated no sewage discharge occurring, wet weather discharges likely and the norm
 - 14) **Sept. 12/04** – Taylor Creek running red in colour near St. Clair Ave. East and Sandra Road – discharge point to the creek was never found but assumed to be the storm sewer from Curity Ave. (same outfall/branch as 04/05/05 spill), inspection in the sewershed revealed no indication of a spill to the storm, likely this was also the result of a sanitary blockage causing an overflow/infiltration into the storm sewer, same event detailed in Hansen reports above.
 - 15) **March 21/05** – bad odour noticed from storm outfall in Taylor Creek Park – inspected and no odour found at any outfalls along the area complainant identified.
 - 16) **April 5/05** – red dye in Taylor Creek – see above for response.

Appendix 3: Summary list of Toronto Water's Water Quality Monitoring Programs

Priority Outfall Monitoring

- Monitor 61 priority storm outfall flows with the intent to reduce contaminant loadings through investigation and enforcement in the upstream storm drainage area
- Outfalls classified if routinely or currently discharge contaminants
- New outfalls identified strictly by complaints from the public or other agencies/departments
- Outfalls inspected a minimum of twice per year
- Samples taken during dry weather conditions
- Involves tracing of contaminants in the storm sewer system to identify source
- Sample for pH, Suspended Solids (SS), Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Phenols, Ammonia (NH₃), Phosphorus (P), Heavy Metals (ie: Cadmium, Chromium, Lead, Copper, etc.), and Mercury

Streams Sampling

- Long-term program for collection of data to compare/determine water quality trends
- Monthly dry weather sampling of Toronto tributaries at in-stream locations
- Operated in partnership with the Toronto Region Conservation Authority (TRCA)
- 17 sites monitored in past years
- Sample for pH, Dissolved Oxygen (DO), Temperature (Temp), Nitrate (NO₃), Nitrite (NO₂), NH₃, Chloride (Cl), BOD, SS, Turbidity (Turb), P, Total Kjeldahl Nitrogen (TKN), Metals, Escherichia coli (E.coli), Algae

Lake Monitoring Program

- Lake samples taken to track pollutant migration and concentrations along the Toronto waterfront
- Weekly and/or daily samples from 96 locations
- Sampling will take place from late spring through the summer season
- Sample weekly for NO₂, NO₃, Cl, BOD, SS, Turb, NH₃, P, TKN, Metals, E-coli

Beaches Monitoring Program

- Daily sampling at 57 Lake Ontario locations within the City's designated waterfront beach areas to determine if conditions are suitable for swimming
- Samples taken 7 days a week from June 1st through to the September Labour Day weekend
- 56 sample locations from the Etobicoke Crk area in the West to the Rouge River in the east
- Sample for E-coli
- Toronto Public Health uses the data to determine beach postings

Western Beaches Tunnel Program

- In 2005 to monitor the Western Beaches Tunnel to determine loadings of contaminants to Lake Ontario and the effectiveness of the collection and treatment operation
- Lake samples for E-coli taken at 7 sites daily

- Sample for E-coli, SS, BOD, P, Metals, Cyanide (CN), Anions, Cl, NO₂, NO₃, Sulphates (SO₄), Toxicity, PCB, Pesticides, Nonylphenols (NP), Nonylphenol Ethoxylates (NPEO), Oil & Grease (O&G), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Total Petroleum Hydrocarbons (TPH), Glycols, Total Organic Carbon (TOC) during wet weather events.
- Report to be prepared and submitted to the MOE as a requirement of the certificate of approval.

West Nile Virus Larvicide Program

- Dry and wet weather samples at two selected test sites to determine the effectiveness larvicide application to storm catchbasins
- Samples also taken to indicate concentration of larvicide in the storm sewer system
- Project partners include Ryerson University and the Ontario Ministry of the Environment (MOE)
- Sample for Methoprene, Dissolved Organic Carbon, Cl, and Metals

Road Salt Runoff Monitoring Program

- Monitor road salt de-icing runoff impact to Toronto's tributaries
- Fourteen monitoring stations in total
- Sample for Chloride and Conductivity
- Project operated in partnership with Toronto Transportation

Etobicoke Flow Balance Program

- Sampling of influent and effluent from stormwater collection ponds near the lake in the West District to determine effectiveness of pond reduction on contaminants reaching Lake Ontario
- Collect samples from 4 sites after every significant rain event and dry weather samples as required
- Sample for SS, Cond., pH, COD, BOD, TKN, NH₃, P, Metals, E-coli, Toxicity, Oil & Grease (O&G), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), PCB, and Pesticides

Coatsworth Cut Study

- Monitoring of stormwater, combined sewer overflows, and Ashbridges Bay Treatment Plant (ABTP) bypasses to the Ashbridges Bay area of Lake Ontario
- Installation of two water quality monitoring devices (datasondes) in the Coatsworth Cut
- Collects samples of significant rain events from the storm sewer
- Collect water samples from the lake and data from the datasondes on a semi-weekly basis
- Sample for pH, Temp, DO, Turb, SS, E-coli, BOD, Cond, TKN, NO₂, NO₃, NH₃, P, COD, Cl, Phenols, Metals, O&G, Pesticides, PCB, PAHs, VOCs
- Daily collection of E-coli samples from 2 sites within the Coatsworth Cut

**Appendix 4:
Summary tables of Enforcement and Prosecutions by the IW&SQ Unit.**

SEWER USE BY-LAW MUNICIPAL CODE CHAPER 681

ENFORCEMENT SUMMARY

| PROGRAM | 2002 | 2003 | 2004 | 2005 (Jan – May) |
|--------------------------------------|------|------|------|---------------------|
| Number of Complaint/Spills Responses | 25 | 218 | 226 | 65 |
| Number of Written Violation Notices | 6 | 27 | 51 | 27 |
| Number of Summons Issued | 6 | 5 | 8 | 2 |

PROSECUTION LIST

| YEAR | INDUSTRY NAME | ADDRESS | FINE |
|------|---|------------------------------------|-------------|
| 2002 | Feature Foods Limited | 15 Meteor Drive | \$5,000.00 |
| | The Screening, Plating & Circuit Group Inc. | 91 Finchdene Square | \$8,500.00 |
| | Vision Coaters Canada (Attn: Mr. Huucu Ngu) | 1 Yorkgate Blvd., Suite 211 | \$3,125.00 |
| 2003 | A.F.E.L. Enterprises Ltd. | 402 Attwell Drive | \$2,500.00 |
| | An Individual | | \$1,125.00 |
| | Recycle Plus Ltd. | 63 Medulla Avenue | \$1,875.00 |
| | Top-Coat Metal Finishers | 121 Citiview Drive | \$5,020.00 |
| | Triple M Metals | | \$37,500.00 |
| 2004 | Omega Inc. | 1149 Bellamy Road North, Unit 1 | \$1,895.00 |
| | Organic Resource Management Inc. | 300 Steeles Avenue, West Suite 601 | \$6,270.00 |
| | Pak Electro Plating Ltd. | 1960 Ellesmere Road Unit 4 & 5 | \$3,125.00 |
| | 1610532 Ontario Inc. | 4545 Steeles Avenue East | \$1,125.00 |
| | Leader Plating On Plastic Ltd. | 2 Jody Avenue | N/A |

| | | | |
|------|-----------------------------|----------------------|------------|
| 2005 | Autotek Electroplating Inc. | 20 Huddersfield Road | \$6,250.00 |
| | Ontario Redimix Ltd. | 21 Goodmark Place | N/A |

Appendix 5:
Summary table and charts relating to Pollution Prevention activity and initiatives.

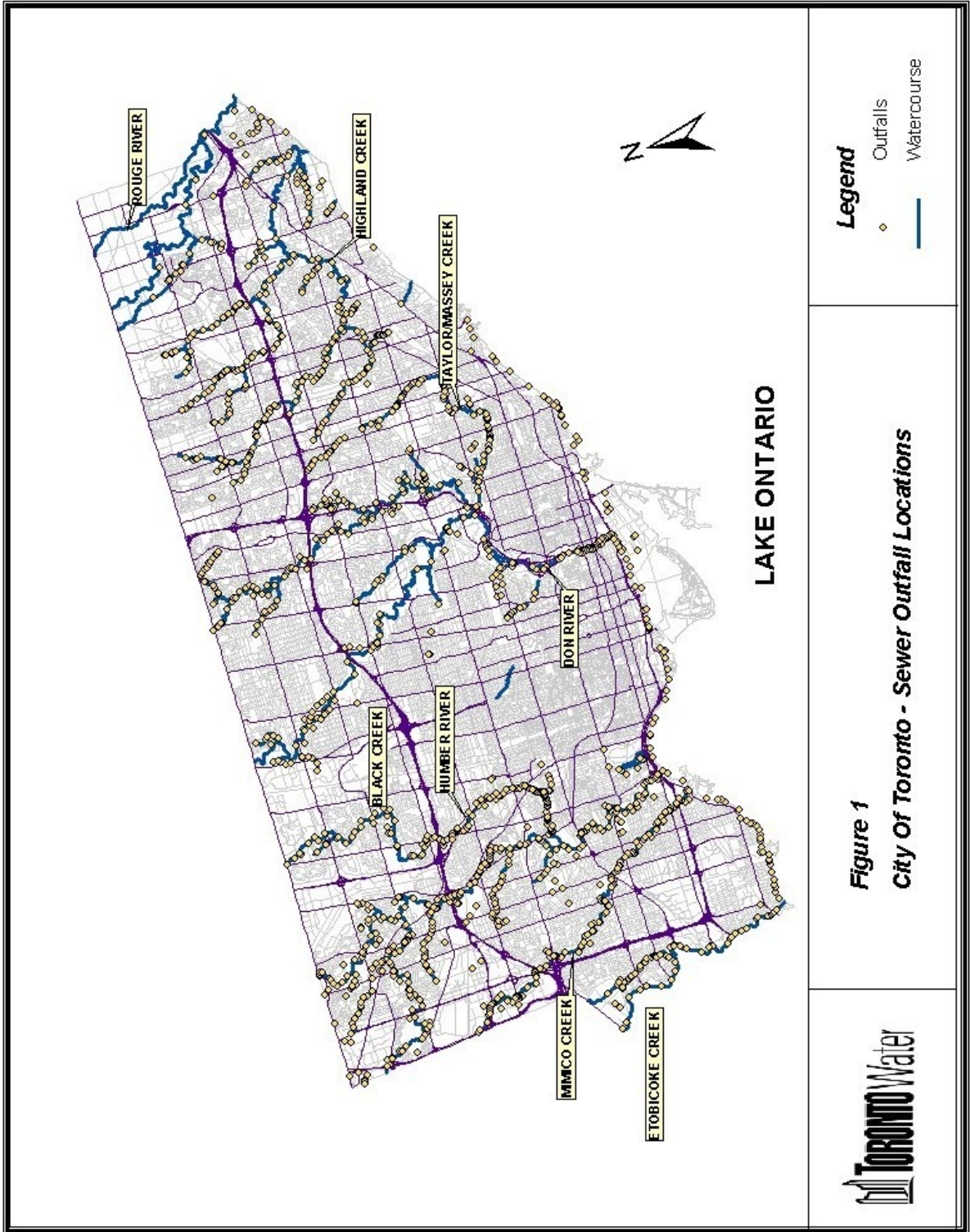
Table 1:

| Industry Sector | P2 Plans / Updates filed | Estimated no. of businesses in the city ¹ |
|----------------------|--------------------------|--|
| Autobody | 237 | 549 |
| Automotive | 364 | 2800 ² |
| Dental | 2188 | 3024 |
| Hospital | 37 | 43 |
| Industrial Laundries | 17 | 19 |
| Manufacturing | 90 | 291 |
| Labs | 6 | |
| Metal Finishers | 104 | 113 |
| Printing | 339 | 634 |
| Photo Finishers | 230 | 280 |
| Textile | 14 | 35 |
| Transportation | 42 | 42 |
| Non-sector | 19 | 19 |

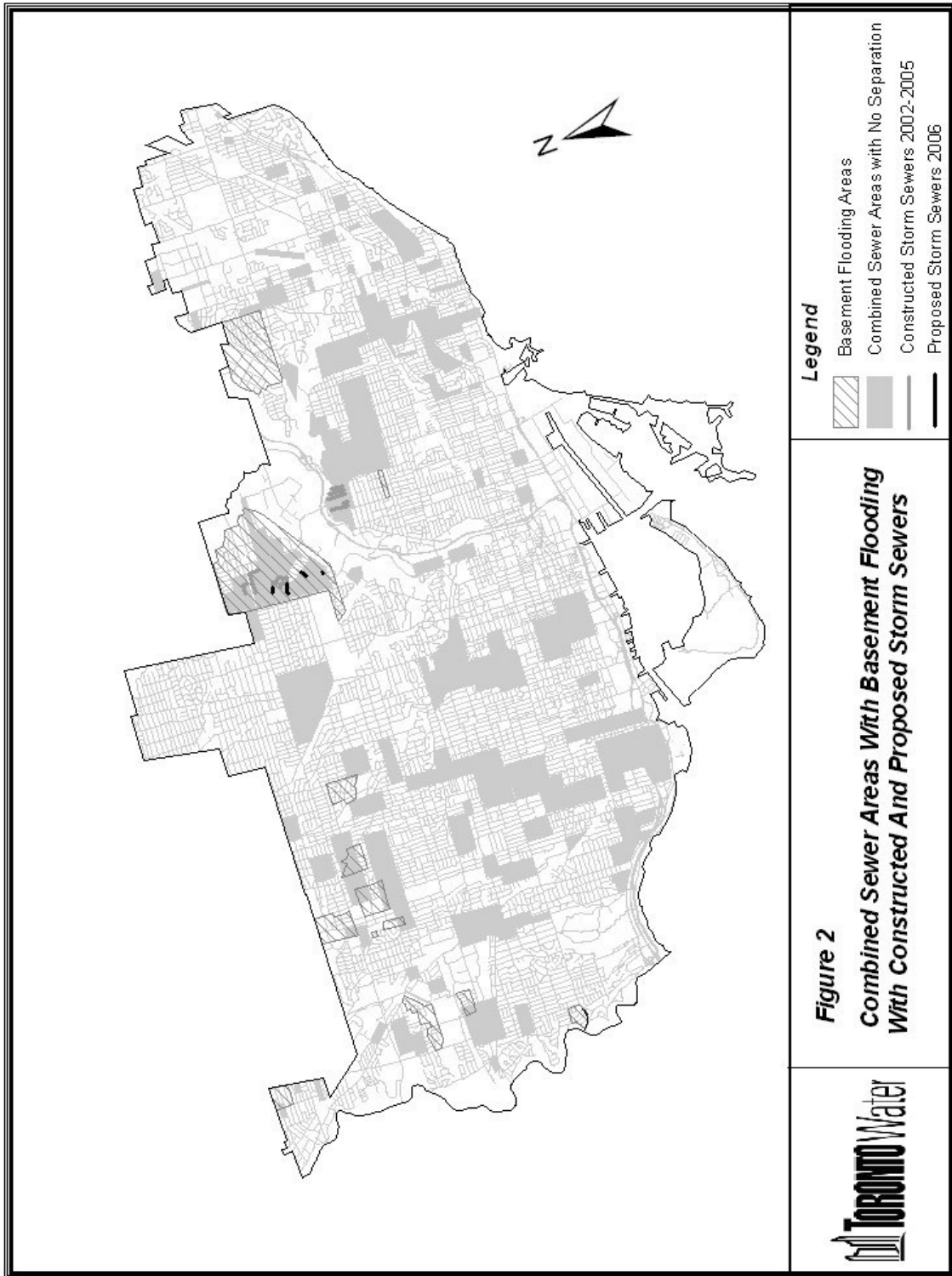
¹ The numbers are estimated based on the information in our database, information received from Licensing & Standards office, Industry Associations, Scott's directory, & yellow pages.

² Not actively following up on P2 plans as we are trying to move towards BMPs for this sector. The inspectors, however, check for compliance with the By-law.

Appendix 6



Appendix 6



Legend





-  Basement Flooding Areas
-  Combined Sewer Areas with No Separation
-  Constructed Storm Sewers 2002-2005
-  Proposed Storm Sewers 2006

Figure 2
Combined Sewer Areas With Basement Flooding
With Constructed And Proposed Storm Sewers

