

The logo features a stylized graphic of a building or skyline on the left, followed by the word "TORONTO" in a large, bold, sans-serif font. To the right of "TORONTO" is the text "STAFF REPORT" in a smaller, bold, sans-serif font. A horizontal line is positioned below the text.

TORONTO STAFF REPORT

October 24, 2005

To: Works Committee

From: Acting General Manager, Toronto Water

Subject: Storm Outfall Monitoring Program and Issues Related to Taylor-Massey Creek (Beaches – East York Ward 31)

Purpose:

To address the actions requested by the Works Committee at its meeting of October 11, 2005 that the Acting General Manager, Toronto Water report on:

- (a) a plan for completion of the Storm Outfall Monitoring Program's survey and water quality testing for Taylor-Massey Creek by June 2006;
- (b) a plan for completion of the by-law enforcement investigations and remedial work related to all Priority Outfalls in Taylor-Massey Creek by December 31, 2006, including the funds and staffing resources required for implementation;
- (c) a plan for the completion of the Storm Outfall Monitoring Program for all watersheds in Toronto within five years; such plan to include the timelines, staffing and other resources needed for the implementation of the Plan; and
- (d) staffing levels and resources required in the Environmental Monitoring and Protection Unit to conduct the necessary investigations and enforcement activities to maximize compliance with the City of Toronto Sewer Use By-law; and
- (e) the voluntary take-up of the Downspout Disconnection Program in the areas adjacent to the Taylor-Massey Creek Watershed; and
- (f) outlining the additional resources required in the 2006 Toronto Water Capital and Operating Budgets to implement the plans outlined in Recommendations (a)-(e) for consideration as part of the 2006 Budget process.

Financial Implications and Impact Statement:

The workplan as detailed in this report is not included in the Proposed Toronto Water 2006 Operating Budget. The workplan as detailed in this report would require the Proposed 2006 Toronto Water Operating Budget to be amended. The annualized costs of the initiatives detailed in this report are \$200,000.

Recommendation:

It is recommended that this report be received for information.

Background:

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

On June 29, 2005, in response to the June 8, 2005 report entitled "Water Quality Issues Related to Taylor-Massey Creek", Works Committee requested that the General Manager, Toronto Water provide an interim report on the progress and findings of the Storm Outfall Monitoring Program in Taylor-Massey Creek for its meeting of October 11, 2005. A progress report, dated September 21, 2005, described the findings and further actions to be undertaken by Toronto Water in relation to the Taylor-Massey Creek Outfall Monitoring Program. Subsequently, Works Committee requested that Toronto Water staff prepare a report outlining resources required to complete the Taylor-Massey Creek outfall survey, remedial work, and to implement the Outfall Monitoring Program across the City. The Works Committee also requested that the report include staffing and resources required by the Environmental Monitoring & Protection Unit of Toronto Water to maximize compliance to the Sewer Use By-law.

Comments:

The response to the Works Committee's requests are provided below:

(a) Completion of Taylor-Massey Creek Outfall Monitoring Program Survey

To complete the Outfall Monitoring Program survey and dry weather-sampling component within the Taylor-Massey Creek watershed by June 2006, the Toronto Water Environmental Monitoring & Protection Unit (EM&P) will require one crew of 2 temporary field staff, procurement of a vehicle and the necessary safety and monitoring equipment by April 1, 2006. Based on the estimated number of remaining outfalls to be surveyed, 2 field staff should be able to complete the survey by the end of June 2006. After June 2006, they will work on outfall surveys and sampling in other watersheds. The cost associated with

employing this additional 2-person crew from April to November and the required equipment is estimated to be \$55,000.

(b) Completion of Remedial Works within Taylor-Massey Creek

Based on current and previous outfall survey studies, it is estimated that 15% of all outfalls surveyed will have a contaminated flow. It is also estimated that there are still approximately 120 outfalls to be surveyed within the Taylor-Massey Creek watershed, plus 19 outfalls requiring follow-up sampling from the 2005 season. Hence the total number of contaminated outfalls within the Taylor-Massey Creek watershed is estimated to be approximately 42 including the 21 priority outfalls previously identified.

To eliminate the sources of contamination within each of the 42 estimated contaminated outfalls in the Taylor-Massey Creek drainage area may be a very onerous time consuming task. The work plan to locate and eliminate each source entails tracing the contaminated flow upstream within the sewer drainage area, collecting additional samples at strategic points within the sewer system, dye testing of service connections and possibly closed circuit television inspection of specific sewer segments. It is difficult to quantify the time required to conduct the investigations and complete all the remedial work to eliminate all the sources of contamination.

The source of contamination may originate from private property, residential, commercial or industrial, or as a result of deficiencies within the sewer itself. Those sources originating from private property may be eliminated within a short period, provided the property owner is cooperative in allowing staff access to the property to investigate and provided the property owner agrees to carry-out the required remedial work immediately. If the property owner refuses to cooperate, the process to eliminate the cross connection may require prosecution under the Municipal Code or other statutes resulting in a lengthy process. Those sources caused by defects within the existing sewer system will be corrected immediately under the approved Toronto Water Operating Budget.

Toronto Water has identified as a very high priority the need to eliminate these sources of contamination. As such, Toronto Water is currently following the City of Toronto approved process for filling the 14 funded vacancies that currently exist on the approved establishment of EM&P. These vacancies include Quality Control Investigators, an Environmental Evaluation Analyst, and Supervisory positions. These additional staff will be assigned tasks within EM&P including locating and eliminating the sources of contamination within the priority outfalls. The effort and complexity involved in locating each source of contamination is substantial. Furthermore, considerable time and effort will be needed for the legal process should the affected property owner(s) not cooperate in the investigation and/or in undertaking required corrective works to eliminate the source of contamination. These factors make it extremely difficult to guarantee that the investigation and all the remedial work required to eliminate all the sources of contamination within the Taylor-Massey Creek watershed will be completed by December 2006. As indicated above, Toronto Water is currently in the process of hiring additional staff for EM&P to be assigned to this task. If it is determined through the initial investigations within this watershed, and

through surveys of the other watersheds, that additional contaminated outfalls exist, Toronto Water will request additional resources to adequately address the outstanding workload.

(c) City-wide Outfall Monitoring Program 5 Year Plan

In order to complete the survey and sampling component of the Outfall Monitoring Program for all watersheds in the City of Toronto within 5 years, the EM&P Unit will require additional survey and sampling staff on a temporary basis. Based on earlier studies undertaken in the Lake Ontario, Don River, Humber River, Mimico Creek, and Etobicoke Creek watersheds and extrapolating for the Rouge River and Highland Creek watersheds, a relatively accurate estimate of the number of outfalls discharging to surface waters within the City of Toronto would be 2,800. To survey and sample all watersheds within a 5-year timeframe will require 4 additional temporary staff for a 6 to 8 month period for each of the next 5 years. This will provide 2-2 person crews on an annual basis to work on the program. An Environmental Evaluation Analyst position referred to in (b) above is required to coordinate the entire program. All these positions will be dedicated to the Outfall Monitoring Program. This request includes the additional crew required to complete the Taylor-Massey Creek watershed work by June 2006 as detailed in section (a) of this report. The staff must be employed by April of each year, starting in 2006, to meet the targeted completion date.

The development of a standardized nomenclature system for all outfalls in the city is a component of the Outfall Monitoring Program. When this is finalized each outfall will require an identification tag or sign. The cost of this identification process will be absorbed under Toronto Water's annual Operating Budget. The crews will be tasked with installing the outfall ID signs and the tagging is expected to be completed within the 5 years. The intent of installing a sign at each outfall is for City staff and the public to be able to easily identify outfalls exhibiting contaminated flows and improve Toronto Water's spill response capability.

Toronto Water Laboratory will perform the analysis of all samples arising out of the Outfall Monitoring Program. Additional costs, estimated at \$90,000 per year, will be incurred to cover the increased workload resulting from the survey and sampling component of the Outfall Monitoring Program.

Funds in the amount of \$200,000 for salaries and equipment of the temporary staff, which includes the staffing monies detailed in section (a), and \$90,000 for the additional analytical cost would be required to undertake the this workplan.

(d) Maximize Compliance with the Toronto Municipal Code Chapter 681: Sewers

An organizational review and program evaluation has been completed for the EM&P Unit. The intent of this review was to focus on the core activities of the unit, which are ensuring compliance and enforcing the Sewer Use By-law as described in the Toronto Municipal Code Chapter 681: Sewers. Working under the direction of a Manager, the EM&P unit will consist of 3 Supervisors, one each for the Pollution Prevention Group, the Stormwater Quality Group and the Industrial Waste Control Group. As previously stated, there are

currently 14 funded vacant positions within EM&P out of the total compliment of 43 staff. Funding for all positions has been carried into the 2006 Operating Budget submission. No additional funds were requested for staffing in the 2006 submission. The plan is to fill the funded vacancies that currently exist on the unit's establishment. When these positions are filled, in accordance with the approved recruitment process, the EM&P unit will be able to exert a more proactive approach to ensure compliance with Toronto Municipal Code Chapter 681: Sewers.

Program reviews and resource allocations will be re-evaluated periodically to ensure EM&P's mandate is fulfilled. Should the re-evaluation process determine additional resource requirements are needed, the appropriate protocols will be followed to address these issues in subsequent budgets.

(e) Downspout Disconnection Program in the Taylor-Massey Creek Watershed

Information regarding the voluntary uptake of the Downspout Disconnection Program in the areas adjacent to the Taylor-Massey Creek watershed is not currently available at this time. The Section responsible for this work will prepare a Toronto Water response at a later date once access to the information is available and the data have been evaluated.

(f) Implementation Resource Needs

Through an organizational review and program evaluation, Toronto Water was able to reallocate existing funds to the EM&P unit to allow it to focus on its core activity of monitoring compliance with the Toronto Municipal Code Chapter 681: Sewers. To meet the requests as described above, will require Toronto Water Proposed 2006 Operating Budget to be amended.

Conclusions:

In order to complete the survey and sampling component of the Outfall Monitoring Program in the Taylor-Massey Creek watershed by June 2006, 2 additional temporary staff are required starting in April 2006. For the implementation of a 5 year plan to complete the survey and sampling component of the Outfall Monitoring Program in all 6 watersheds of the City, Toronto Water will need to hire an additional 4 temporary staff for the period April to November over the next 5 years.

To maximize compliance with the Toronto Municipal Code Chapter 681: Sewers, the Environmental Monitoring & Protection (EM&P) Unit within Toronto Water has recently undergone a program evaluation and reorganization that will enable EM&P to focus on this core activity. The reorganization requires Toronto Water fill the 14 existing funded vacancies. Program reviews and resource allocations will be assessed periodically to ensure that EM&P continues to fulfill this mandate. If this assessment identifies changing resource requirements, the appropriate protocols will be followed to address the issues in subsequent budget submissions.

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