

**Update on Implementation of the Mandatory Downspout Disconnection Program**

<b>Date:</b>	October 30, 2013
<b>To:</b>	Budget Committee
<b>From:</b>	General Manager, Toronto Water
<b>Wards:</b>	All
<b>Reference Number:</b>	P:\2013\Cluster B\TW\bc13020

**SUMMARY**

---

This report is submitted in response to a request by City Council for the General Manager, Toronto Water, to report through the 2014 budget process with a plan for enforcement of the Mandatory Downspout Disconnection Program Phase 1 (combined sewer areas) and implementation of Phase 2 (basement flooding areas) as set out in Municipal Code Chapter 681, as part of the Basement Flooding Protection Program.

A field assessment undertaken in the summer of 2013 of the 200,000 properties serviced by combined sewers (Phase I of the program) that came under the mandatory provisions of the downspout disconnection by-law on November 20, 2011, recorded a 79.77 percent compliance rate. The assessment also recorded compliance rates of approximately 60 – 64 percent in other sections of the City (Phase 2, mandatory as of December 3, 2013 and Phase 3, mandatory as of December 3, 2016). Engineering reviews for chronic basement flooding study areas have shown that the risk of basement flooding can be significantly reduced if approximately 70 percent of the houses in a sewershed are disconnected from the storm sewer.

The data shows that a high compliance rate can be achieved through education, communications and outreach, grounded by the by-law. Rather than embark on an aggressive enforcement program that may achieve only very limited results and may incur costly litigation, a multi-year enhanced education, communication and outreach strategy will be continued to boost compliance with the by-law across the City.

**RECOMMENDATIONS**

---

The General Manager, Toronto Water, recommends that:

1. The Budget Committee receive this report for information.

## **Financial Impact**

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

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

---

## **DECISION HISTORY**

City Council at its meeting on October 8, 9, 10 and 11, 2013 requested the General Manager, Toronto Water, to report through the 2014 budget process with a plan for enforcement of the Mandatory Downspout Disconnection Program Phase 1 (combined sewer areas) and implementation of Phase 2 (basement flooding areas) as set out in Municipal Code chapter 681, as part of the Basement Flooding Protection Program. The Council decision document can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.PW25.7>

The Public Works and Infrastructure Committee at its meeting on September 20, 2013 requested the General Manager, Toronto Water, to report to the November 20, 2013 Public Works and Infrastructure Committee meeting with an update on the implementation of the Downspout Disconnect Program and compliance with provisions and phasing contained in the Sewer Use By-law. The Committee decision document can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.PW25.5>

City Council, at its meeting on September 24 and 25, 2008, adopted an "Update on the Engineering Review Addressing Basement Flooding", which amended the Municipal Code Chapter 681, Sewers to prohibit the connection of downspouts in the basement flooding study areas and all remaining parts of the city.

The Council Decision can be found at:

<http://www.toronto.ca/legdocs/mmis/2008/cc/decisions/2008-09-24-cc24-dd.pdf>

City Council, at its meeting on September 25, 26, 27 and 28, 2006, requested the General Manager, Toronto Water to submit a policy and implementation report in 2007 with respect to the mandatory disconnection of downspouts. The Council Decision Document can be found at:

<http://www.toronto.ca/legdocs/2006/agendas/council/cc060925/pof7rpt/cl056.pdf>

## **ISSUE BACKGROUND**

Downspout disconnection has been recognized as a key source control measure to help reduce the amount of stormwater runoff entering the City's storm and combined sewer systems and thereby reduce the frequency of basement flooding and combined sewer overflow discharges.

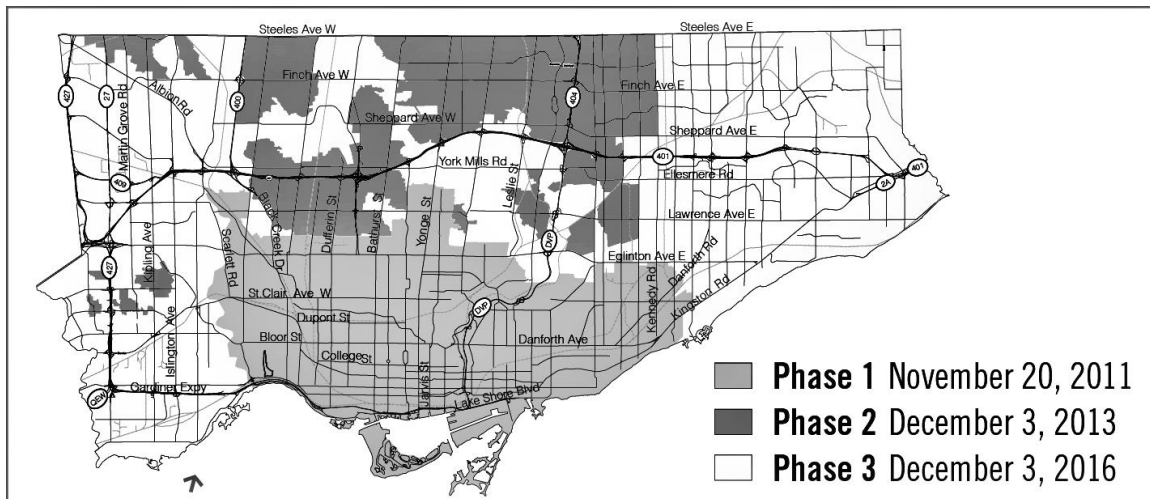
In 2006, in recognition of the merits associated with disconnecting downspouts in chronic basement flooding prone areas (where downspouts are connected to the separated storm sewer system), the staff report, referenced in the above-noted Decision History, recommended advancing a mandatory program across the City.

City Council approved a Mandatory Downspout Disconnection Program for combined sewer service areas in 2007. In 2008, City Council approved the expansion of the program across the City following the completion of engineering assessments in the chronic basement flooding areas.

In order to mandate the disconnection of downspouts for properties within the City of Toronto, amendments were made to the Municipal Code Chapter §681-11S, Sewers. As a result, the by-law does not permit the connection of a downspout from a building directly or indirectly to a sanitary, combined or storm sewer connection unless an exemption has been granted by the General Manager.

The by-law requirements come into effect in three phases, as follows:

- **Phase 1:** Approximately 200,000 properties in the area of the city served by combined sewers - November 20, 2011
- **Phase 2:** Approximately 90,000 properties in study areas identified as basement flooding-prone - December 3, 2013
- **Phase 3:** Approximately 216,000 properties in the remaining areas of the city - December 3, 2016



Under the Mandatory Downspout Disconnection Program, property owners must assess their property for the potential to disconnect the downspouts and comply with the by-law. A property owner may make an application for an exemption where disconnection would create a hazardous condition or is not technically feasible.

## COMMENTS

### Implementation Update

Implementation of the Mandatory Downspout Disconnection Program has required numerous activities from raising public awareness to processing of applications for exemptions and financial assistance as outlined below. To date, activities have focussed primarily on Phase 1, which includes most of the former City of Toronto, York and East York and the south-west portion of former Scarborough. Recent efforts have focused on the initiation of Phase 2.

### Communications

To raise public awareness and ensure the successful implementation of the program, a variety of communication and notification activities have been undertaken in advance of the by-law deadlines. Activities have included the following:

Activity	Area	Details
Information Packages	Phase 1&2	An information package has been delivered to property owners in advance of the deadline dates. Each information package contains full program details and important guidelines to consider before disconnecting.
Information cards	Phase1&2	All properties in Phase 2 were issued an information card in late 2012 to notify them of the by-law deadline. The cards are also being used to remind property owners in Phase 1, who have not yet disconnected, about their responsibility to do so, as required.
Public open house events	Phase 1&2	In conjunction with Basement Flooding studies, staff have attended numerous events to provide residents information on the program requirements.
City Publications	All Phases	Program information has been provided to residents in a variety of City publications including: Our Toronto, the utility brochure and the Solid Waste calendar.
City website ( <a href="http://www.toronto.ca/water">www.toronto.ca/water</a> )	All Phases	Includes useful information such as an on-line map to help property owners identify the by-law date for their property, do-it-yourself instructions, frequently asked questions and a video on the benefits of disconnection.
In-store retailer events	All Phases	Events have taken place during the Do-it-yourself ("DIY") season.

### Program Administration

Staff have assisted customers with understanding by-law requirements, achieving compliance and resolving related property issues. To-date, approximately 8,000 property owners have received direct program support through the provision of a dedicated telephone line and e-mail. Program staff have also attended site visits where there are

complex property issues and assisted seniors and disabled property owners to complete exemption applications. A significant component of the administration of the program is the processing of exemption and financial assistance applications.

### **Applications for an Exemption from the By-law**

Under Municipal Code Chapter §681-11S, Sewers, property owners can make an application to the General Manager for an exemption from the by-law provisions, where disconnection of downspouts would create a hazardous condition or is not technically feasible. Before applying for an exemption, property owners are required to make every effort to disconnect their downspouts safely. This includes relocating one or more downspouts and/or re-grading eavestroughs, as well as correcting slope/grading on the property.

While property owners are encouraged to take action to disconnect their downspouts, it is recognized that not all downspouts are suitable for disconnection and should be avoided in particular situations. Exemptions are granted for extenuating, site specific conditions, such as flooding of adjacent properties or contributing to slope failure or erosion in ravines, or where disconnection would require internal reconstruction or plumbing retrofits.

At the end of September 2013, Toronto Water had received 8,363 applications and processed 3,689 applications. Of the applications processed, approximately 90% have received an exemption. It is important to note that exemptions are issued per downspout on a property. The majority of properties issued an exemption have disconnected one or more downspouts. Hence, the exemption is often granted where disconnection would present a hazardous condition.

Phase 1 implementation suggests that property owners are highly motivated to comply with the by-law requirements and as such has resulted in a significantly high volume of exemption applications. This has created a backlog in the processing of applications.

### **Financial Assistance for Low Income Property Owners**

The City offers a reimbursement of the costs of labour and materials for performing downspout disconnection work, up to a maximum of \$500, to eligible property owners who are senior or disabled and have a total household income of less than \$50,000.

At the end of September, the program had received a total of 74 applications and provided approximately \$31,000 in funding to qualified applicants.

### **Field Assessment**

In 2013, Toronto Water staff undertook a field assessment to gain an understanding of compliance by assessing the rate of disconnection following the by-law's implementation in Phase 1 and ahead of its implementation in Phases 2 and 3.

A total of 14,414 properties were surveyed comprised of 2,327 full property and 12,087 curbside surveys. Based on the properties surveyed, the rate of disconnection for each phase is shown in the following Table 1.

**Table 1: Rate of Disconnection (%)**

Phase 1	79.77
Phase 2	63.82
Phase 3	60.95

Computer simulation modelling used in the engineering reviews for chronic basement flooding study areas has shown that a 100% attainment of downspout disconnection is not required in order to achieve a significant reduction in the risk of basement flooding as a result of sewer surcharging from connected downspouts. The modelling has shown that risk of basement flooding can be significantly reduced if approximately 70% of the houses in a given sewershed are disconnected from the storm sewer.

Included in the field assessment was an examination of the maximum potential disconnection rate in each phase beyond what has already been achieved. Potential disconnections are categorized as simple or complex. Simple disconnection refers to the ability to disconnect at the downspouts current location; complex disconnection refers to the need to relocate the downspout or retrough. The field assessment identified further potential disconnection rates as shown in Table 2, below.

**Table 2: Potential Disconnection Rate (%)**

	Simple	Complex
Phase 1	3.4	1.15
Phase 2	7.87	1.94
Phase 3	12.42	1.41

The potential disconnection rate varies across each phase for a number of reasons, which include: properties in Phase 1 are spaced closely together, many do not have driveways, and downspouts may be disconnected on the sides of the property where minimal movement occurs; structures are generally older and may have aging foundation drainage, prompting homeowners in Phase 1 to more often disconnect onto hard surfaces.

The graph enclosed as Appendix A to this report provides the disconnection rates (recorded as a percentage) for each City ward. The graph also provides on a ward-by-ward basis the percentage of possible complex and simple disconnections.

Phase 1 has been rolled out and the field assessment demonstrates a high compliance rate with current efforts and without enforcement. In Phase 2 and 3, the field assessment shows a lower disconnection rate than Phase 1, which is to be expected but the rates are still encouraging and suggest that pre-deadline communications have been effective in getting property owners to disconnect prior to the by-law's implementation.

The data also illustrates that further disconnection can be achieved largely within Phase 2 and 3 without enforcement. Our focus has been on achieving voluntary compliance through education and not penalizing property owners who have not yet disconnected.

To maximize the rate of disconnection across all phases, a multi-year enhanced compliance outreach strategy will be continued as an alternative to the use of enforcement.

## **CONTACT**

Kamal Sangha  
Manager, Business & Customer Support  
Business Operations Management  
Toronto Water  
Tel: 416-338-0635  
Fax: 416-392-7001  
Email: [KSangha@toronto.ca](mailto:KSangha@toronto.ca)

Lawson Oates  
Director  
Business Operations Management  
Toronto Water  
Tel: 416-392-8223  
Fax: 416-392-5305  
Email: [LOates@toronto.ca](mailto:LOates@toronto.ca)

## **SIGNATURE**

---

Lou Di Gironimo,  
General Manager, Toronto Water

## **ATTACHMENT**

Attachment 1: Figure – Disconnection Rate by Ward

# Downspout Disconnection Rate By Ward (%)

- Complex Disconnection Possible (%)
- Simple Disconnection Possible (%)
- Disconnection Rate (%)

