



STAFF REPORT INFORMATION ONLY

Sewers By-law Consistent with Zoning Prohibition of Reverse Slope Driveways

Date:	March 24, 2009
To:	North York Community Council
From:	General Manager, Toronto Water
Wards:	8, 9, 10, 11, 15, 16, 23, 24, 25, 26, 33, 34,
Reference Number:	TBD

SUMMARY

On January 13, 2009, The North York Community Council requested the General Manager Toronto Water, report back on whether there are any necessary amendments required to Municipal Code Chapter 681– Sewers (Sewers By-law) to ensure it is consistent with the Zoning By-law amendments restricting reverse slope driveways in the North York District. The Sewers By-law does not regulate how a property is to be developed but controls how it is to be drained by defining the specifications and criteria on how flows from private properties are to be accommodated. The By-law defines how service connections are to be made to the City’s sewer system and regulates the quality and quantity flows discharged to the system, including specifying how storm runoff is to be addressed to minimize the impacts that could cause flooding.

Toronto Water staff has reviewed the By-law and advises that there are no amendments required to the Sewers By-law to ensure it is consistent with the banning of reverse slope driveways.

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 agree with the financial impact information.

DECISION HISTORY

At its meeting on September 24 and 25, 2008, City Council reviewed the North York Community Council report (NY18.53) and adopted the recommendation to eliminate all reverse slope driveways in the North District. City Council also adopted the report from the General Manager Toronto Water entitled “*Update on the Engineering Review Addressing Basement Flooding*” which recommended the Zoning and Property Standards By-laws be amended to restrict construction of new reverse slope and below grade driveways.

The Council Decision Document can be found at the following link:

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

At its meeting held on January 13, 2009, the North York Community Council requested the General Manager Toronto Water report to the North York Community Council on whether there are any amendments required to the Municipal Code Chapter 681-Sewers (Sewers By-law) to ensure that it is consistent with a prohibition of reverse slope driveways in the North District.

The North York Community Council Decision Document can be found at:

<http://www.toronto.ca/legdocs/mmis/2009/ny/decisions/2009-01-13-ny22-dd.pdf>

ISSUE BACKGROUND

The City of Toronto has experienced chronic basement flooding in homes with reverse slope driveways as a result of extreme storm events. Therefore, an amendment to the City of Toronto Zoning By-law was adopted that bans reverse slope driveways in the North York district. In a meeting on January 13, 2009, the North York Community Council requested the General Manager Toronto Water, report back on whether any amendments are needed to the Sewers By-law to make it consistent with the prohibition of reverse slope driveways in the North District.

COMMENTS

Reverse Slope Driveways as a Contributor to Basement Flooding

Toronto Water has commenced an engineering analysis of the 31 Basement Flooding Study Areas. One of the findings from the initial studies was to restrict the construction of reverse slope driveways. Reverse slope driveways are a prime example of improper drainage and represent a significant contributing factor to basement flooding. Due to their grade design, reverse slope driveways naturally collect surface runoff during precipitation events. In order to provide drainage, private catch basins connected to the storm sewer were often installed at the bottom of reverse slope driveways at an elevation that is below that of the road surface. These private catch basins are extremely

susceptible to flooding from storm sewer backup. Extreme precipitation events will overload the storm sewer causing the sewer to surcharge (increased pressure and water levels). Under these conditions water from the storm sewer will backup into the private catchbasin causing the driveway, garage and potentially the basement to flood. Furthermore, since these driveways are below the road surface, any surface flooding that occurs could flow down the driveway and exacerbate the flooding experienced. As a result of the basement flooding studies it was recommended to restrict construction of reverse slope driveways to reduce the risk of basement flooding.

Sewers By-law Already Helps Prevent Basement Flooding

Municipal Code Chapter 681-Sewers (Sewers By-law) does not specifically regulate how a property is to be developed, but it does control how that property is to be drained. It prohibits any new direct connection to the storm sewer unless there are no practical alternatives. This provision minimizes the potential for the storm sewer to become overloaded that could result in flooding. It also would limit the connection of any private catchbasin to the storm sewer, such as would be required on a reverse slope driveway.

Provisions currently in § 681-11 of the Sewers By-law regulate how a private catchbasin that has already been installed on a reverse slope driveway must be connected to the storm sewer. A conditional restriction in § 681-11: *O(1)* requires the installation of a flap gate backwater valve directly downstream of the private catch basin to prevent backflow from the City storm sewer system back through the private catch basin. Furthermore § 681-11: *O(2)* requires the installation of a sump pump in the overflow area, in the event the flap gate backwater valve closes during a backflow incident, to pump out any stormwater collecting within the catch basin. These requirements will reduce the likelihood of flooding due to both storm sewer surcharge and surface flooding.

The Sewers By-law specifies how existing reverse slope driveways are to be drained. The restriction on reverse slope driveways does not require amendments to the Sewers By-law as it currently addresses how storm flows from private property are to be accommodated to minimize the potential for flooding.

CONTACT

Joanne Di Caro, Manager, Environmental Monitoring & Protection
Toronto Water
416 392-2929
jdicara@toronto.ca

SIGNATURE

Alex Marich, Director Operational Support
Toronto Water