

Clause No. 16 in Report No. 8 of the Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on April 17, 2014.

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UPDATE ON DEVELOPER-FUNDED INFLOW AND INFILTRATION REDUCTION PILOT PROGRAM

Committee of the Whole recommends adoption of the following recommendation contained in the report dated March 26, 2014 from the Commissioner of Environmental Services:

1. RECOMMENDATION

It is recommended that Council receive this report for information.

2. PURPOSE

This report provides an update on the Developer-funded Inflow and Infiltration Reduction Pilot Program.

3. BACKGROUND

Council approved Developer-funded Inflow and Infiltration Reduction Pilot Program in 2010

In response to the Ministry of the Environment conditions of approval for the Southeast Collector Trunk Sewer Project, York Region prepared an Inflow and Infiltration Reduction Strategy and partnered with all nine local municipalities to fund and implement components of the Strategy. One component of the Strategy is to engage the building industry to look at development practices and unique capacity assignment programs.

The Developer-funded Inflow and Infiltration Reduction Pilot Program enables a developer to enter into a tri-party agreement with a local municipality and the Region to undertake inflow and infiltration reduction projects at their own cost and risk, in exchange for advanced servicing capacity on a two to one basis.

In September 2010, Council approved the first tri-party agreement for a Developer-funded project in the City of Markham. Subsequently, three similar tri-party agreements

have been executed for pilot projects in the Town of Aurora, Town of Richmond Hill and City of Vaughan.

Works have been implemented in Aurora, Markham, and Vaughan; works are underway to identify sources of inflow and infiltration in Richmond Hill

Since execution of the tri-party agreements, remedial works have been carried out in the Town of Aurora, City of Markham and City of Vaughan as summarized in Table 1. See *Attachment 1* for location plan of remedial works and associated developments' assigned capacities.

Table 1
Remedial Works Completed Through Developer-funded Inflow and Infiltration Reduction Program

Municipality	Works completed	Date Completed
Aurora	Performed 19 point repairs on local municipal sewers with leakage at various locations in the west half of the town	November 2013
Markham	Disconnected 16 downspouts and rectified cross connections in four reversed sloped driveways and two commercial sites through construction of new storm sewers between McCowan Road and Ninth Line in the vicinity of Highway 7	April 2012
Vaughan	Rehabilitated sanitary sewer access hatches that allowed inflow from storm sewers during storm events	August 2012
Richmond Hill	Tri-party agreement executed; identification of inflow and infiltration sources is in progress	Not applicable

Capacity assigned to developer-funded projects totalled 1,413 units

Capacity assigned for works completed in Table 1 totalled 1,413 units. The principle of capacity assignment under provisions of this program is based on ensuring that flow from new development is fully compensated on a two to one basis by reducing inflow and infiltration flow (verified by the Region) at key constraint points downstream of new development. Constraint points are locations in the collection system where there is a capacity bottleneck. These points include the Aurora Sewage Pumping Station, Leslie Street Sewage Pumping Station, Humber Sewage Pumping Station and the existing Southeast Collector Trunk Sewer.

Determination of a constraint point is dependent on the specific location of the proposed development and reduction works. For example, high flow in Aurora will be conveyed to the Duffin Creek Water Pollution Control Plant via the Aurora Sewage Pumping Station and Southeast Collector Trunk Sewer. Capacity analysis for Aurora has to take into consideration the impact of flow from new development and the beneficial effect of inflow and infiltration reduction at two points: the Aurora Sewage Pumping Station and the Southeast Collector Trunk Sewer. On the other hand, capacity analysis for new development in Markham will only have to consider the constraint point at the existing Southeast Collector Trunk Sewer.

As per the terms of the tri-party agreements, capacity assignment is one unit for every two units of capacity created and confirmed to be from inflow and infiltration reduction projects. For instance, if capacity analysis indicates that flow from 100 new homes is fully compensated by inflow and infiltration reduction works, 50 units of capacity is assigned. Capacity analysis also takes into consideration capacity of the water system. Capacity assigned under this program has to ensure that there is adequate water capacity available to match the sewage capacity created by inflow and infiltration reduction.

A summary of capacity assignment to date under this program is provided in Table 2.

Table 2
Advanced Capacity Assignment for Developer-funded Inflow and Infiltration
Reduction Pilot Program

Municipality	Capacity Created (units)	Advanced Capacity Assignment (units)
Aurora	532	266
Markham	960	480
Richmond Hill	0 (to date)	0 (to date)
Vaughan	1,334	667
Total	2,826	1,413

4. ANALYSIS AND OPTIONS

Developer-funded Inflow and Infiltration Reduction Pilot Program helps to achieve goals set out in Region's Inflow and Infiltration Reduction Strategy

Since its implementation, the Developer-funded Inflow and Infiltration Reduction Pilot Program has been providing the expected benefits at no cost to the local municipality and the Region. Once the inflow and infiltration reduction work has been completed, the Region advances commensurate capacity assignment, which in turn generates development charge revenue.

The Developer-funded Inflow and Infiltration Reduction Pilot Program also contributes toward achieving the target inflow and infiltration flow reduction committed to the Ministry of the Environment under the Region's Inflow and Infiltration Reduction Strategy. The Strategy goal is to reduce 40 megalitres of inflow and infiltration flow over a 24-hour period in the York-Durham Sewage System under a 25-year storm event by 2031.

Seventeen per cent of 2031 Strategy target has been achieved through inflow and infiltration reduction work implemented to date

Since implementation of the Inflow and Infiltration Reduction Strategy, remedial works completed across the York-Durham Sewage System have provided 7.02 megalitres of inflow and infiltration flow reduction or 17 per cent of the ultimate target reduction. The Developer-funded Inflow and Infiltration Reduction Pilot Program is only a small component of the overall Strategy and with this multi-faceted program approach, the Region is on track to achieve Strategy targets. The Region will continue to work in partnership with both the local municipalities and developers to achieve the inflow and infiltration reduction target of 40 megalitres through the following areas:

- Comprehensive flow monitoring program and system analysis
- Investigation and mitigation programs in the local systems
- Capital rehabilitation projects on large Regional trunk sewers
- Collaboration with development industry on new construction
- Communication and education programs
- Financial commitments to asset management and inflow and infiltration reduction

Next update on Developer-funded Inflow and Infiltration Reduction Pilot Program to occur in 2016

To remove capacity constraints in the York-Durham Sewage System, critical infrastructure projects are included in the 10 Year Capital Program and some are currently under construction, including the Southeast Collector Trunk Sewer Project and Leslie Street Sewage Pumping Station Upgrade; both are expected to be commissioned by the end of 2014. As more system constraints are being removed, there may be less incentive for developers to continue funding inflow and infiltration reduction works under this program. Uptake and need for the program will be monitored and impact will be analyzed and considered in developing the next Inflow and Infiltration Reduction Strategy Update scheduled for 2016.

An update on the requirement of Developer-funded Inflow and Infiltration Reduction Pilot Program will be provided to Council in 2016.

Link to key Council-approved plans

The Developer-funded Inflow and Infiltration Reduction Pilot Program supports the following 2011-2015 Corporate Strategic Plan objectives:

- Identify and leverage capacity available in existing infrastructure to complete the build-out of developing communities through reducing inflow and infiltration into the sanitary sewer system
- Continue to partner with all levels of government to facilitate the delivery of environmentally sustainable infrastructure, including meeting the approval conditions of new Southeast Collector Sewer Project through implementing the Inflow and Infiltration Reduction Strategy

5. FINANCIAL IMPLICATIONS

Pilot projects are being carried out by developers at no cost to local municipalities or the Region. The program allows the Region to advance capacity assignment based on inflow and infiltration reduction work and, in turn, generates development charge revenue. The pilot projects also remove inflow and infiltration flows from the system and, in turn, reduce operational costs.

6. LOCAL MUNICIPAL IMPACT

The Developer-funded Inflow and Infiltration Reduction Pilot Program benefits local municipalities by allowing local municipalities with allocation constraints to move forward with their developments, through capacity created by the developer's inflow and infiltration reduction pilot projects.

The Developer-funded Inflow and Infiltration Reduction Pilot Program reduces inflow and infiltration in the existing sewer system. The Region, in partnership with local municipalities, also developed new sewer construction, inspection and commissioning standards and specifications that assist in minimizing inflow and infiltration in new sewer systems. These initiatives assist local municipalities to control inflow and infiltration in both new and old sewer systems.

7. CONCLUSION

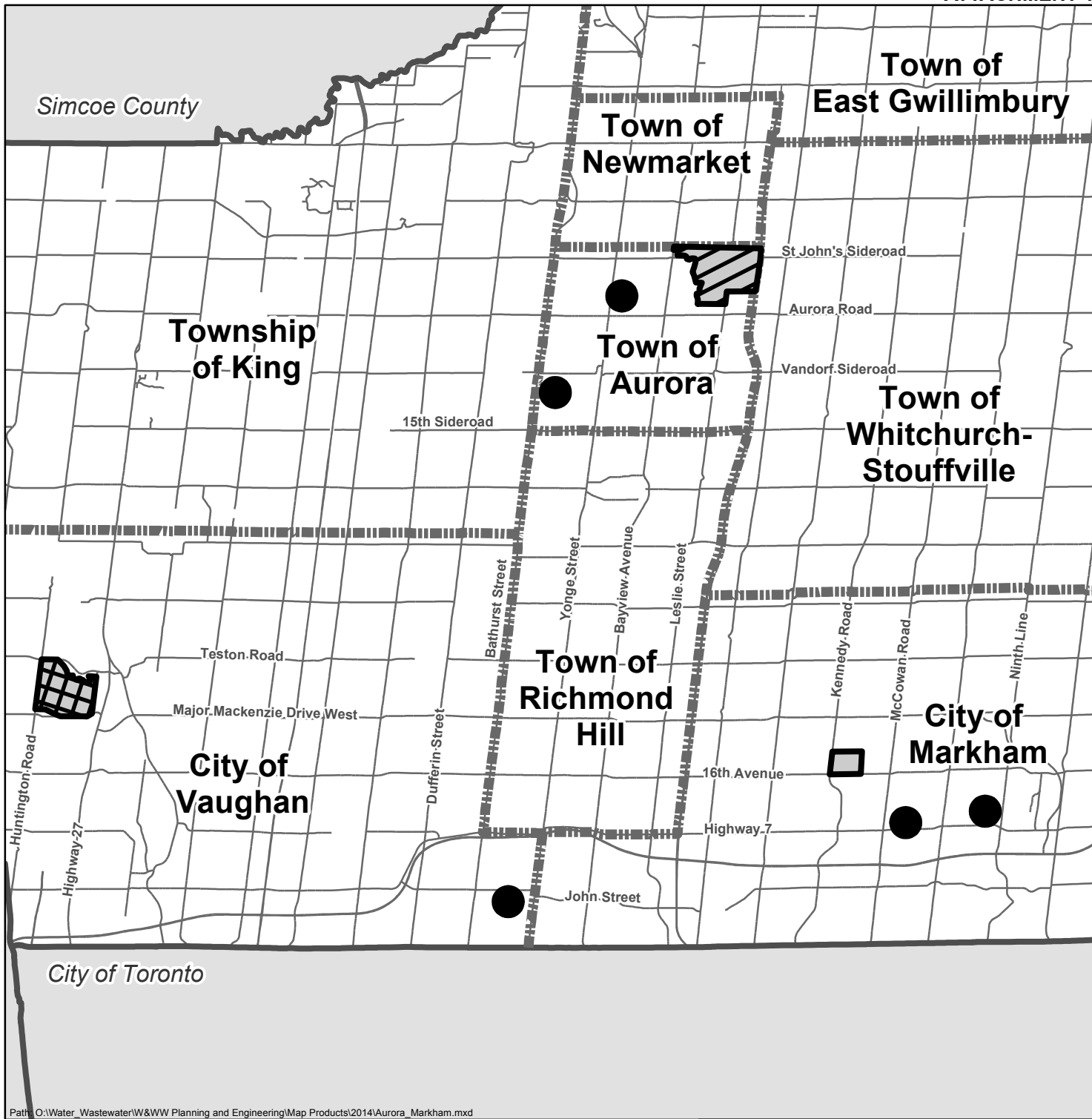
The Developer-funded Inflow and Infiltration Reduction Pilot program provides benefits to both local municipalities and the Region. Since implementation of the program in 2010, the Region has executed four tri-party agreements and advanced servicing capacity up to 1,413 units with remedial works completed to date. As the principle of capacity assignment is based on one unit assignment for every two units of capacity created by

inflow and infiltration reduction, the program reduces operational risk in the system even as additional capacity is being assigned.

For more information on this report, please contact Mike Rabeau, Director, Capital Planning and Delivery at 905-830-4444 ext. 75157.

The Senior Management Group has reviewed this report.

Attachment - 1



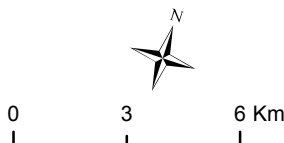
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Update on Developer-funded Inflow and Infiltration Reduction Pilot Program

Report of the Commissioner of Environmental Services
April 10, 2014



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Environmental Services Department
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Legend

● Inflow and Infiltration Remediation Area

Developments Receiving Capacity Assignment

■ Upper Unionville Inc. (480 units)

▨ Aurora 2C Landowners Group Inc. (266 units)

▤ Huntington Landowners Trustee Inc. (667 units)