



Report to: Development Services Committee

Date Report Authored: May 31, 2011

SUBJECT: Inflow & Infiltration Reduction Strategy
PREPARED BY: Alan Brown, Director of Engineering, Ext 7507

RECOMMENDATION:

- 1) That the report entitled "Inflow & Infiltration Reduction Strategy" dated May 31, 2011 be received;
- 2) THAT Council endorse the recommendations of the York Region report titled "Inflow and Infiltration Reduction Strategy" as endorsed by Regional Council on February 17, 2011 and as summarized herein;

THAT through development and endorsement of the Strategy, York Region and the local municipalities commit to:

- Develop and maintain this Strategy including the programs, goals and inter-agency and regulatory reporting requirements for staged reduction of inflow and infiltration over the next 20 years;
 - Recommend to future Councils that they commit funds for inflow and infiltration reduction that is economically justified by the avoidance of future treatment and conveyance costs;
 - Measure wastewater flows before and after carrying out construction/rehabilitation works on sewers and to document inflow and infiltration expenditures and flow reduction measures;
 - Continue to work together in a collaborative manner over the life of the Strategy and to commit the appropriate staffing and financial resources toward implementation of the Strategy based on a business case analysis;
- 3) And that Town staff report back as to the implementation issues including but not limited to the funding strategy and I/I reduction on private property;
 - 4) And that the Region of York be advised accordingly;
 - 5) And that Staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:

The purpose of this report is to seek Council support of a cooperative approach to address long term inflow and infiltration issues, throughout the Region and in the Town in particular. Through endorsement of the principles embodied within the Inflow and Infiltration Reduction Strategy, the Town is committed to working collaboratively in minimizing risks to our sanitary sewer system. At the January 17th, 2011 presentation to

Council, Regional and Town staff presented the strategy and included information on best in-class review, stakeholder engagement and the strategy development process.

BACKGROUND:**Inflow/Infiltration**

Inflow within a sanitary sewer system is defined by the entry of water via improper storm connections to the sanitary systems or storm inflow entering sanitary manholes in low lying areas.

Infiltration is groundwater or storm water entering the sanitary system through pipe joints and cracks, etc.

Attachment “A” provides a schematic of what I/I is.

MOE Condition

As part of the Ministry of Environment conditions related to the approval of the Southeast Collector sewer, the Region is required to prepare and implement an Inflow and Infiltration Reduction Strategy in collaboration with the nine local municipal partners. This is in an effort to further demonstrate a coordinated and strategic approach to achieve imposed I/I reduction targets and conservation targets of 10 % reduction of I/I (71 MLD) over 20 years.

While 2013 servicing allocation was conditional on municipalities participating in the preparation of the I/I Strategy, staff expect future allocation will be subject to the implementation of the strategy.

The MOE has established a deadline of March 31, 2011 for submission of the Region’s and the nine area municipality’s endorsement of the strategy.

Task Force Created

In April 2010, York Region staff initiated discussions with the local municipalities to respond to the Ministry’s conditions requiring measurable reductions in I/I within the entire Regional/and Municipal sanitary sewage system. From these initial discussions, an Inflow and Infiltration Task Force was formed with participation from the Region and all nine local municipalities.

The mandate of this task force was to address the requirements of the Ministry’s conditions on I/I by formulating an overall strategy and overseeing the implementation and funding of this strategy.

I/I STRATEGY:

Staff have attached the Region of York February 9, 2011 report (Attachment “B”) entitled “Inflow and Infiltration Reduction Strategy” which provides an overview of:

- The Ministry of the Environment condition for the Region and area Municipalities to implement an I/I reduction strategy.

- Collaborative approach by Region and area Municipalities to develop the Strategy.
- I/I reduction work completed to date.
- Overview of private property inflow and infiltration
- Communication and education requirements.
- Best in class practice research.
- Peer review of strategy.
- Draft funding strategy

On September 14, 2010, June 22, 2010 and January 17, 2011, the Town and Region staff provided an overview of the Draft I/I strategy which Council received.

Attachment “C” is an executive summary of the I/I Strategy which contains the following components:

- a) Establish I/I goals and targets
- b) Monitor and analyze flows
- c) Investigate and monitor I/I
- d) Financial management
- e) Communication and education
- f) Reporting out
- g) Continuous improvement

PRIVATE PROPERTY:

It is estimated that 53% of sanitary/storm infrastructure is privately owned and is a main source of I/I in the municipal sanitary sewer system. While the Region and area municipalities can address the municipal system, without improvements to the private system the I/I reduction targets will not be met. To successfully address inflow and infiltration from private property the long term Strategy recommends the following:

- Establish legal authority to enter private property under municipal bylaws or other binding agreements
- Create a strong program of communication and technical assistance to help homeowners design an alternative discharge method for the flows
- Establish a clear policy regarding responsibility for the cost of repairs including subsidy or grant programs
- Establish municipal authority to order the remediation of the problem by the property owner, even if the municipality plans to cover the cost of disconnecting the flows itself
- Include a program of follow up inspections after repairs are made and periodically inspect repairs/disconnections thereafter
- Establish a strong public outreach and education component so that the public is aware of the problem and the benefits of inflow reduction

The following broad range of options to address extraneous flows from private property should be considered within the coming years;

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- Household plumbing and drainage inspections
 - Downspout disconnection by Region, municipality or property owners
 - Foundation drain disconnection programs by Region and area municipalities
 - Lateral rehabilitation programs by Region and municipalities
 - Time of re-sale inspections and/or lateral inspection or certification programs

Staff will report back to Committee on these matters.

FINANCIAL CONSIDERATIONS AND TEMPLATE:

Although the Region has provided a preliminary estimate of \$100 million over a 20 year period (\$5 million per year) for the Regional and Municipal sewer systems inclusively, further monitoring of regional, municipal and private sewer infrastructure to refine this estimate and ownership is required.

The Region also outlined preliminary funding sources (water rate and development charges) but further analysis of costs and funding options is required, and staff will report back to Committee/Council on such.

The Region and local municipalities will need to allocate adequate additional funding and resources to implement I & I reduction programs for Regional and local systems. The I & I Taskforce, comprised of both Regional and Local Municipal senior staff, will develop efficient and fair funding and cost sharing principles to address future remediation projects required for implementation over a 20 year timeline and report back to our respective Councils.

The Inflow and Infiltration Reduction strategy needs to be supported by a collaborative long term funding model based on a cost shared approach between the local municipalities and Region. The key funding principles being considered are:

- A set amount added to the sewer rates to be collected at both the local and Regional level to be identified through the needs of the Strategy and agreed to by the municipal partners.
- The amount collected at the local level will be used to address priorities identified both through the Strategy and as determined by each local municipality.
- The amount collected at the Regional level will be used to address Regional inflow and infiltration priorities both at the Regional and local level.
- The allocation of Regional funds intended for use in the local systems will be managed and allocated by a joint team with staff representatives from each municipality and the Region. Funding from the Region will be granted based on the most effective application to achieve the desired inflow and infiltration improvements as quickly as possible.

Future servicing allocation based on the success of the Strategy will allow appropriate development approvals to move forward, which is important to permit the Town to, manage growth and construct complete communities.

Some resources within the Town's operating budget are already intended for use for reducing I & I. Through evaluation of the funding and cost sharing principles it will be determined if any additional resources are required from both the local municipality and Region to achieve the goals set forth in the strategies.

ALIGNMENT WITH STRATEGIC PRIORITIES:

Aligns with Growth Management; Environment and Municipal Services;

BUSINESS UNITS CONSULTED AND AFFECTED:

The Legal and Finance Departments have received and commented on the report.

RECOMMENDED BY:

Alan Brown, C.E.T.
Director of Engineering

Peter Loukes, P.Eng
Director of Operations

Jim Baird, M.C.I.P., R.P.P.
Commissioner Development Services

Brenda Librecz
Commissioner Community Services

ATTACHMENTS:

Attachment "A" - I/I Schematic

Attachment "B" - Region of York – February 9, 2011 Report

Attachment "C" - I/I Strategy – Executive Summary