



Inflow and Infiltration (I&I): Process Task Force Objectives & Approach

Participation Eligibility and AECOM Contact

This Task Force is open to any utility that is participating in the NWWBI Wastewater Benchmarking Module. For current information on this Task Force or Task Force Deliverables, please contact

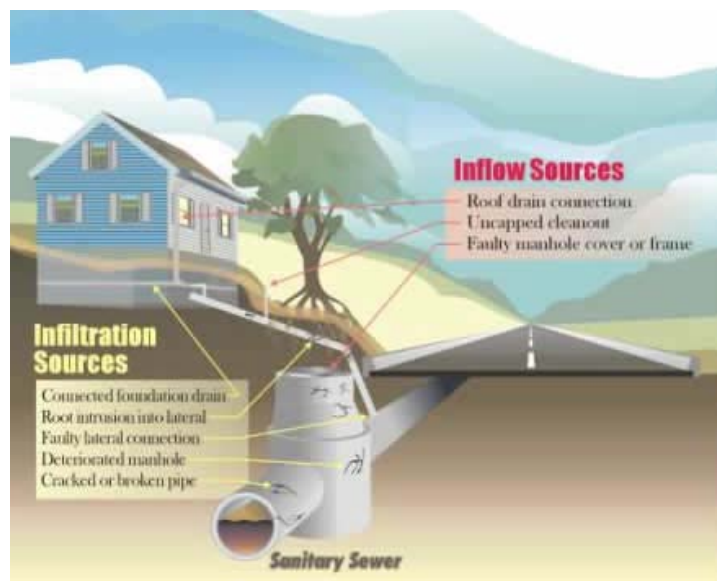
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Suggested Objectives

1. To investigate current I&I reduction related policies, procedures, tools and approaches of the benchmarking participants.
2. To investigate the key drivers behind I&I reduction strategies, and determine what are the obstacles to better I&I management.
3. To investigate the costs and benefits of successful I&I reduction programs, and determine what initiatives provide the best results per dollar spent.
4. To leverage the practical experience and knowledge of benchmarking participants in improving the knowledge of I&I management in Canada.

Background

Inflow and infiltration (I&I) are terms for the ways that clear water and storm water make their way into sanitary sewer pipes and eventually get treated, unnecessarily, at wastewater treatment plants. I&I is a problem because it takes up fixed capacity in sewerage interceptors that is needed to convey wastewater. It can also be costly to communities; once clear water gets mixed in with wastewater, communities are charged for the treatment of all the water.





Infiltration occurs when groundwater seeps into sewer pipes through cracks, leaky joints or deteriorated man-holes. Inflow is by far the larger problem, and occurs in direct proportion to rainfall. Typical inflow sources are water from rain leaders, basement sump pumps (which are designed to capture water that enters basements) or foundation drains illegally connected directly to a sanitary sewer pipe.

The current benchmarking metrics are not being used by any NWWBI members to assess their I&I nor do the existing performance measures provide guidance on acceptable values of I&I. The data that is being collected today is municipality-wide data (not specific to a single catchment area) and as such it will tend to underestimate the extent of I&I problems. Furthermore I&I is also difficult to measure and compare year after year because it is highly dependant upon rainfall. For example, an extremely wet year followed by an extremely dry year could look like a municipality has made significant progress in reducing I&I even though they had actually done nothing.

Dedicated I&I Task Force Meetings: Fall, 2011

Many cities in the NWWBI partnership are either in process of developing I&I reduction programs or planning them. In that last benchmarking workshop (April, 2011), break-out session attendees agreed that in order to begin more detailed process benchmarking, better I&I related information was required from interested participants. As a starting point, a draft questionnaire was advanced during the discussed. It was envisioned that a revised version of this survey will be reviewed through the Task Force, and then circulated amongst interested participants in order to begin the identification of Best Practice steps.

In 2011, two separate I&I Task Force workshops occurred. The first workshop was held on November 24/25th in the City of Cambridge, Ontario. The Cambridge session had over 15 attendees representing a number of Ontario municipalities including the City of Cambridge, Brantford, Hamilton, Markham, Waterloo, London and Peel and Halton Region. The second session was held in Burnaby, British Columbia on December 1st/2nd. This session had over 30 attendees representing approximately 10 BC based Regional and municipal agencies.

The focus of the workshops were as follows:

- To investigate current I&I reduction related policies, procedures, tools and approaches of the workshop participants.
- To investigate key drivers behind I&I reduction strategies, and determine the obstacles and challenges to better I&I management.
- To investigate the costs and benefits of successful I&I reduction programs, and determine what initiatives provide the best results per dollar spent.



- To leverage the practical experience and knowledge of benchmarking participants in improving the knowledge of I&I management in Canada.
- To learn from and further educate peers within similar agencies.

Each workshop included time for presentations from participants and facilitated group discussions. Presentations were discussed in detail in a facilitated and interactive group discussion.

Presentations at this year's workshops focused on the costs of I&I reduction and benefits achieved, private side servicing, waterless and the relation to I&I, condition assessment and rehabilitation planning, cross connections, I&I benchmarks and metrics and development of I&I related strategies. Presentation materials and meeting notes for each session are available to NWWBI members on the project website.

AECOM would like to thank the City of Cambridge for hosting the Ontario session and thank attendees for their active participation. It is leadership and the willingness to share experiences and practices that makes NWWBI a truly unique and informative forum for sharing information across the water and wastewater sector.

Communication amongst members occurs through e-mail discussion, conference calls and the workshop in Quebec City in April 2012. AECOM will provide logistical and technical support which is included as part of the Benchmarking fees. This Task Force is open to any utility that is participating in the NWWBI. For current information on this Task Force or Task Force Deliverables, please contact: David Main (AECOM): 604-444-6491 or david.main@aecom.com

The Task Force will continue to establish its own work plan to lead up to the spring 2012 workshop. Communication amongst members will occur through e-mail discussion, telephone discussion and teleconferences. AECOM will provide logistical and technical support (and is included as part of the Benchmarking fees).