

EXECUTIVE SUMMARY

This report examines the land use planning and engineering methods used by three south-eastern Ontario municipalities to manage sewage capacity.

Many municipalities find themselves constrained by the demand "To do more with less". Declining revenues from senior levels of government for expansion and maintenance of infrastructure, pressures from new development and increased regulations for sewage treatment combine to challenge municipalities to provide services in an efficient and cost-effective manner.

Municipalities can deal with this issue by using land use planning and engineering measures. Land use planning measures include phasing of future developments through the use of development areas, down zoning of lands and use of the holding provision to delay development. Engineering measures serve to reduce the demand for sewage treatment through promoting water conservation and reducing extraneous flows into the sanitary sewer system.

Two comparisons were the basis for the report. The first was a comparison of the methods used by the three case study municipalities to manage sewage capacity. These three municipalities were the former Township of Kingston, the Town of Gananoque and the City of Belleville. The purpose of this comparison was to determine common practice in sewage capacity management in south-eastern Ontario. The second comparison involved comparing the approaches taken by these three municipalities to those taken by other North American municipalities. The measures taken by the other municipalities were found as a result of a directed literature review. This comparison compared the common practice of the three Ontario municipalities with a wider scope of recognised good practice.

The first comparison found that all of the three Ontario municipalities used both land use planning and engineering measures to deal with limited sewage capacity. The use of development areas to stage growth was used in two of the three municipalities. All three municipalities had provisions in their Official Plans allowing for use of the holding

provision to delay development. The Township of Kingston had specific Official Plan policies for use of the holding provision to manage sewage capacity and used it, while the other municipalities did not. The Township of Kingston also de-registered a plan of subdivision and reviewed the possibility of down-zoning lands. These two actions would reduce the potential development that could occur, reducing the over-allocation of the sewage treatment plant. An additional measure presented to the Town of Gananoque by its consultants was to allow for continued unserviced industrial development which did not require servicing from the Town's water and sewer system.

All of the three municipalities undertook or were in the process of undertaking inflow and infiltration reduction programs to reduce extraneous flows into the sanitary sewer system. Water metering was also used in the three municipalities with one of them, Kingston Township, implementing municipality-wide metering to manage sewer capacity. The effectiveness of metering is doubted as none of the municipalities had a consumption-based rate structure to promote indoor water conservation. The Province of Ontario has also passed legislation requiring the use of low-flow plumbing fixtures in new residential construction and renovations. This would reduce the demand on sewage treatment facilities.

The second comparison found that the imposition of moratoria on growth was a common measure. This was used in two of the Ontario municipalities and municipalities in the wider literature search. In addition, establishment of development areas, as was done by two of the Ontario municipalities, was a common approach. Down-zoning and permitting development to occur using on-site septic systems were also common approaches to the two sets of municipalities. Implementing water metering did not produce the magnitude of reduced consumption that was noted in the wider literature review. A possible explanation of this is the failure of the Ontario municipalities to adopt a consumption based rate structure. It is too early to know the impact that the increased use of water-conserving fixtures will have on sewage capacity in the Ontario municipalities, but based on the experiences of other municipalities, the potential exists for reductions in wastewater flows. The measures taken by the Ontario municipalities to reduce inflow and infiltration are similar to those outlined in the literature review. Inspection was carried out first with repairs made to the system once the extent of the

problem was known. All of the municipalities have not measured the reduction in flows from repairs to the sewer system, but it is believed that reductions can be made by repairing inflow and infiltration.

The recognised good practice of the three Ontario municipalities in managing sewage capacity is in agreement with the recognised good practice of the municipalities in the literature review. When implemented, land use planning and engineering measures can be effective methods to manage sewage capacity.