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CITY OF GUELPH DISTRICT METERING AREAS PLANNING & DEVELOPMENT

Overview

The City of Guelph, Water Services Department with the help of C3 Water Inc. developed a financial plan to implement 26 District Metering Areas (DMAs) throughout the City of Guelph's water distribution system in order to reduce the amount of unmetered water. Economic justification of the use of development funding to build out the DMA program has been made through the deferral of capital costs associated with the development of new water supplies realized by reducing water loss.

In 2013, six DMAs were implemented in the City's water system with a total of 12 flow meters and chambers installed as part of the province of Ontario's Showcasing Water Innovation program that supplied the City with equal funding for a number of initiatives. The flow meters were connected to the SCADA system using wireless technology for monitoring and further analysis.

This project includes the planning and development of the remaining 20 DMAs. The City's Inflow hydraulic water model was utilized to determine the existing system pressures and available fire flows. Upon confirmation of the draft DMA boundaries the system will be reviewed with the DMAs in place to determine if pressures or fire flows are impacted. Careful consideration is given to sensitive water users such as hospitals or industries, large water users and the impact of the DMA on available fire flows. The modeling detail included the expected head loss across the flow meter to ensure the hydraulic restriction in the system was considered.

Additional information is provided to ensure the optimum location of the DMA flow meters. Information such as traffic disruption, proximity to schools or other high traffic areas, location of other utilities, age of the road surface, size and age of watermains and other pertinent information.

A workshop is planned with Operations staff to review the initial recommendations and provide commentary on field implementation issues. It is expected that staff will provide the modeling team with a new set of constraints that will require further refinement of the DMAs and associated meter locations.

