

Acton, Milton, and Georgetown Wastewater Treatment Plant Capital Needs Assessment

Earth Tech developed a methodology to document and estimate the capital expenditure required to treat future flows and meet the capacity needs of the Acton, Milton, and Georgetown wastewater treatment plants, while meeting regulatory requirements over the next 20 years. The project harmonized the lifecycle, capacity, and capital needs of the facilities, while addressing operational efficiencies of the major process areas needed for sustainable operation of the wastewater treatment plants.



The methodology used to develop lifecycle needs of the assets was based on the National Research Council of Canada's Six "What's" of Asset Management Planning. This framework is based on answering key infrastructure related questions: "What do you have?", "What is it worth?", "What is its condition?", "What do you have to replace first?", and "What is the cost?"



Based on this framework, Earth Tech developed procedures to conduct a high-level condition and risk assessment of major process areas and individual assets that were accessible. Standards and procedures for evaluating the asset condition and risk in the field were established, and the remaining lifecycle and expected replacement cost of each asset were identified. The approach also addresses the operational efficiencies as identified of the major plant components/processes by operators of the facilities through a series of interviews. The resulting harmonized 20-year capital projections ensures the Region of Halton will be capable to meet current and future requirements to treat flows/capacities, while meeting regulatory requirements of the Acton, Milton, and Georgetown wastewater treatment plants.



PROJECT DETAILS

CLIENT: Regional Municipality of Halton

LOCATION: Oakville, Ontario Canada

REFERENCE INFORMATION

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PROBLEM

Long-term capital financing dollars needed to be identified to address lifecycle and future capacity needs of the facilities. These funds also needed to be incorporated into the annual budgeting process, ensuring sustainable long-term operation of the facilities.

CHALLENGES

An approach and methodology needed to be developed and implemented. The current maintenance management system did not contain a complete inventory, and composed mainly of process equipment. Lifecycle needs and future demands needed to be harmonized in manner that was both cost effective and efficient.

SOLUTION

A top-down approach was implemented consisting of a high-level condition and risk assessment. Lifecycle needs and future capacity requirements were harmonized and presented in a 20 year Capital Plan.

BENEFITS

The client has been able to identify and incorporate the future capital requirements for the facilities into their short - and long-term capital planning process.

COMPLETION DATE

On-going