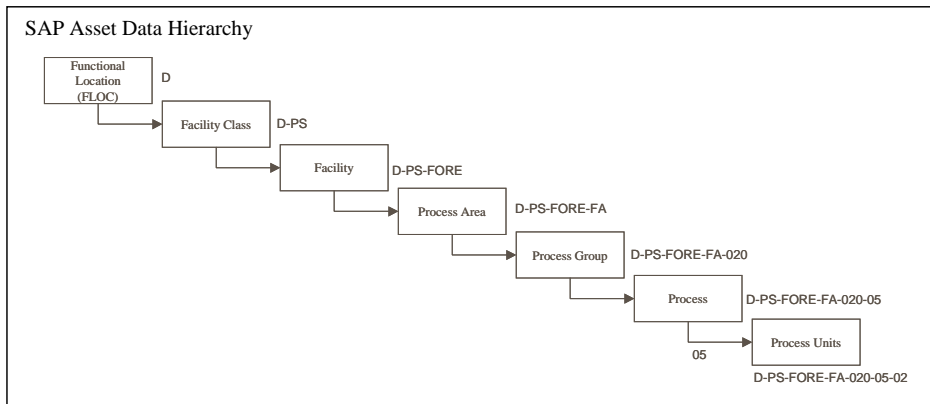


Strategic Level Capital Funding Deficit Calculation



At the inception of the project it was recognized that Ottawa did not have the level of information required to perform a detailed asset condition assessment and a predictive asset management implementation. Earth Tech developed a set of simple work tools aimed at delivering the highest order bulk numbers for defining Ottawa's water and wastewater linear and non linear "infrastructure deficit". Although not complete, there was sufficient asset inventory, condition, risk and cost data that allowed Earth Tech to develop a project framework that would allow the quick and efficient extraction of asset information from the numerous City data sources.

The facility assets (ROPEC Wastewater Treatment Plant, Lemieux Island & Britannia Water Treatment Plants, sewage pumping stations, water booster stations and reservoirs) are currently stored in SAP but upon reviewing the database it was found that there was a lot of missing information. Earth Tech developed a methodology for generating asset data related to replacement value, condition, risk and service life to determine the most opportune time to rehabilitate or replace assets. This process was conducted at the process group level, which necessitated the use of a variety of data sources to generate and validate the data.

With this data in hand, Earth Tech was able to generate capital cost replacement curves depicting the required level of reinvestment in each of the facility assets for the period 2004-2100. These graphic representations present highly effective tools for the City to increase awareness of the need to reinvest, and to advocate and plan for sustainable water and sewer rates to support infrastructure reinvestment.

PROJECT DETAILS

CLIENT: City of Ottawa
LOCATION: Ontario, Canada

REFERENCE INFORMATION

NAME Kelly Martin, Program Manager, Lifecycle Planning, Standards and Quality Assurance, City of Ottawa

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PROBLEM

Ottawa was in need of refinement of their high-level reinvestment requirements for major water and wastewater facilities and linear assets.

CHALLENGES

The City has an advanced SAP maintenance management system that serves as the main database for water and wastewater assets. The challenge was to develop protocols for mining and supplementing the data to generate capital cost replacement curves for the billion dollars worth of City water and wastewater assets.

SOLUTION

The solution was to mine asset data at the process group level, and to generate such data as the condition, expected service life, asset risk, replacement value and rehabilitation and replacement timing to generate capital cost or "Nessie" curves for the City's water and wastewater assets.

BENEFITS

Completion of a water and wastewater asset inventory, valuation, condition, risk and service life and rehabilitation/replacement timing assessment. With this data in hand, the City is able to determine what a sustainable level of infrastructure funding should be.