



Review of Techniques and Decision Frameworks for Gravity Sewers

Background

Condition assessment of gravity sewers is an important part of the management of sewerage networks, particularly for critical or “avoid fail” sewers. CCTV is the most popular method of inspecting sewers but there are limitations to this technique. There is a need to evaluate and improve the confidence in other inspection techniques to overcome the limitations to CCTV and therefore provide more reliable inspection data on critical sewers.

One of the key strategic drivers in most Australian utilities is improved understanding of the risks in relation to infrastructure performance. New techniques can provide better information but more important is how the data is used to evaluate the risks through decision support tools to predict residual life and to determine optimum strategies and expenditure on rehabilitation and renewal.

AECOM undertook a review of condition assessment techniques and decision frameworks, currently available or used by authorities in Australia, New Zealand, United Kingdom and Canada. This scope of the study is limited to gravity sewer lines only, targeting critical or “avoid-fail” mains.

The study focuses on:

- Common failure modes reported by authorities.
- Decision-making frameworks to support investigation, prioritisation and programming of rehabilitation and replacement activities.
- Tools available to forecast end of economic life.
- Identification and appraisal of condition assessment techniques addressing priority failure modes.

This project was completed in 2009.

Outcomes and benefits

Outcomes:

- Report - Gravity Sewer Assessment and Renewal

Benefits:

- Cost effective management of sewer networks
- Minimise negative social and environmental effects
- Access to a range of technology options for techniques that compare benefits, disadvantages, indicative costs, application, accuracy, suppliers, contacts etc.
- Access to case studies incorporating the use of techniques

How to purchase

This subscription project was funded by participating WSAA Member utilities. Non-participating WSAA Members and those without WSAA membership will be required to purchase the project deliverable. The deliverable will only be made available to water utilities. Prices will be calculated according to a utility's number of connections.

Participating members can access this project via the [WSAA Member Portal](#). If you do not have access to the portal please contact web@wsaa.asn.au.

Further Information

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