

Toronto Sewer Inspection and Condition Assessment

In 2014 the City of Toronto adopted a unique approach for their on-going sewer inspection and rehabilitation planning program. They retained a joint consulting engineering and inspection contractor team to undertake the program. A.E was retained to provide consulting engineering services but also to plan, coordinate and execute all CCTV inspections, MH inspections and required cleaning.

With the following tasks, A.E was to complete 2,500 km of sewer and 60,000 MH inspections and assessment over a 5-year term. The scope included:

- Day-to-day planning and management of 10 to 15 full time inspection crews
- Work order issuance and return data from field crews
- Condition assessment review
- Rehabilitation assignment, planning and reporting
- Rigorous and comprehensive QA/QC process for all data
- Use of InfoNet™ and GIS to ensure smooth, accurate transfer of 400-500 Gb of media files (monthly)

The scope of the 5-year project provided flexibility for the team to integrate innovative new technologies to complete otherwise challenging and unusual tasks. High precision 3D laser scanning in large control chambers, acoustic detection of sewer blockages, and portable MH inspection techniques for remote sites have all been implemented.

Various trenchless rehabilitation options were recommended for sewers in poor conditions, including mainline and lateral CIPP, spot repairs such as seals and structural sleeves (mechanical and cured-in-place), panel lining, and various cleaning techniques. Decisions were based on various factors, including the condition of the sewers, types and extent of damages, access routes and etc.

Toronto is Canada's largest city, operating and maintaining a sewer network with over 10,000 km of mains and 160,000 MHs. Using this unique consulting approach has enabled the City to significantly improve program delivery and has enabled the A.E team to regularly exceed monthly targets by 25-35%. On average, 60,000 m of sewers versus a 45,000 m target and 1,100 MHs versus a 850 target have been delivered monthly.