

**University of Waterloo Researcher and Centre for Advancement of Trenchless Technologies (CATT) has been awarded the US Water Research Foundation grant to develop a standard defect condition rating system for potable water distribution and transmission pipe networks.**

The University of Waterloo's Centre for Advancement of Trenchless Technologies will lead a team of international water experts to create the framework and contents of a standard defect coding and condition rating system for potable water pipelines. The two and half year long project will include urban water supply pipelines made of cast iron, ductile iron, asbestos cement, and plastic (PVC/PE) materials.

This will be accomplished by developing a water pipelines' condition assessment framework that will include water pipeline defect coding scheme, defect codes, and defect weighting and scoring schemes. The framework will further establish water pipeline condition grades as well as a decision support process to prioritizing condition assessment, rehabilitation, or replacement of water pipelines. The framework will be developed and validated with the help of industry experts and water utilities participation. An industry consensus standard will be developed by obtaining feedback from the Technical Advisory Committee, utility partners, on-line surveys, focus group meeting, and knowledge dissemination workshops.

Outcomes from this project will lay the foundation for the adoption of a standard protocol for water pipelines' condition assessment. Project benefits for North American water utilities include: 1) for the first time, a common set of processes, terminology and methodologies for the condition assessment and evaluation of water pipelines; 2) laying the foundation for good water asset management practices; and 3) reducing data management and data mining costs.

The project will be led by Dr. Mark Knight, P.Eng., Associate Professor at the University of Waterloo as the Principal Investigator (PI). Project Co-PI's are Dr. Rizwan Younis, Centre for Advancement of Trenchless Technologies, Dr. Yehuda Kleiner, P.Eng., Yeda Consultants Ltd., and Dr. John Mathews, PE. Battelle Memorial Institute, USA.

The research team will be supported by the Technical Resource Team of international water experts that consists of Dan Elliott- HDR USA, Chris Macey-AECOM CAN, Cliff Jones-Ontario Clean Water Agency, CAN, Dr. Balvant Rajani-Rajani Consultants CAN, Dr. Samuel Ariaratnam-ASU USA , Dr. Dec Downey-Trenchless Opportunity, UK, and Philip Wildbore-DEFRA UK. Three leading water technology suppliers – Russell NDE System Inc, Pure Technologies and Echologics – will also provide technical support. Leading Canadian and USA water utilities will also support the research team to develop the industry standard that will meet end users' needs. They include: City of London, City of Calgary, City of Waterloo, Greater Cincinnati Water Works, Miami Dade Water and Sewer Department, Louisville Water Company, Monroe County Water Authority, Portland Water Bureau, Department Water and Power City of Los Angeles, and Washington Suburban Sanitary Commission.