Released in 2017, the "RAFT" tool is the latest in PICA's line of state-of-the-art pipe inspection tools. It is specifically designed to non-destructively assess the steel cylinder embedded within concrete pipes. The RAFT's unique collapsible design enables technicians to insert the nine sections of the tool through small access locations that are only 19 inches in diameter, eliminating the need to excavate and cut the pipeline to gain access.

The tool is completely self-contained with battery power, data storage and distance tracking all integrated on the tool itself. Target pipe applications are Cement Mortar Lined and Coated (CML&C) Steel Pipes and Bar-Wrapped Steel Cylinder Concrete Pressure (AWWA C303) Pipes.

CCTV (Closed Circuit TV, or Remote Visual) is the use of video cameras to see inside infrastructure; such as pipelines, turbines, vessels and tanks that are otherwise inaccessible for direct visual inspection. This technology provides the ability to inspect key areas of concern without disassembly, or the need for personnel to enter confined spaces. Cameras are mounted on push-rod cables, or crawlers that can travel into and through pipelines.

CCTV Crawler Specifications
- Range: 1000 to 3200 feet (300 to 1000 m)
- Pipe Sizes: 8 to 72 inch (200 to 1830 mm)
- On-board dual diode laser defect measurement tool
- Depth rated to 100 feet (30 m)
- Auto Tilt Compensation prevents rollovers
- Built-in sonde and inclinometer

Top: CML lined pipe and laterals with cracking visible in concrete
Left: Accessing large transfer line
In early 2017, the RAFT tool completed a five-mile (8 km) inspection of 36-inch bar-wrapped concrete cylinder pipeline that carries millions of gallons of water per day to a water treatment plant for processing. Installed in the late 1940’s, the feeder main is a critical part of the local water system and asset managers wanted to perform a detailed, non-destructive condition assessment. The inspection identified several areas of thinning of the steel cylinder, which if left untreated would have resulted in serious pipeline failures in the near term. Some of these areas were verified by removal of the internal concrete liner which surprisingly showed no sign of distress.

PICA utilizes CCTV crawler and push rod camera systems for video inspection services. These inspection tools can navigate around bends and wyes within piping. Customer is given a full inspection report complete with images and video files.

Left: Image of debris causing pipe bore restriction discovered during CCTV inspection of PVC piping; cracked PVC pipe allows casing cement intrusion causing pipe blockage. Below: Vent connection installation left unprotected.

PICA CCTV inspection technicians are NASSCO (National Association of Sewer Service Companies) trained with certifications in PACP (Pipeline Assessment/coding) and MACP (Manhole Assessment/coding).

GOOD DECISIONS START WITH GOOD INFORMATION