



## **PIPA Live Water Pipe Inspection and Cleaning Validation**

### **Scope of Works**

PIPA was recently contacted by a building contractor client in the UK. The contractor had recently built a new school building, within the grounds of an old school building, however once the new pipeline had been commissioned issues arose and the new school lost the use of water. The client using traditional techniques could not fully understand the issue or pinpoint the pipes exact location being a non-ferrous material.

### **Project Challenges**

The pipeline is a newly installed 1.5" HPPE pipe with 3 bar pressure and was installed with unmapped location and configuration.

The failed pipeline had a major knock on effect, as the client cannot proceed with the new school handover, and also the issues had to be explained in front of Parliament.

### **Project Delivery**

#### **Images of site location**



**Site location**



**Small diameter pipe (camera entry point)**

The client installed a T fitting for PIPA to undertake an internal pipe assessment.

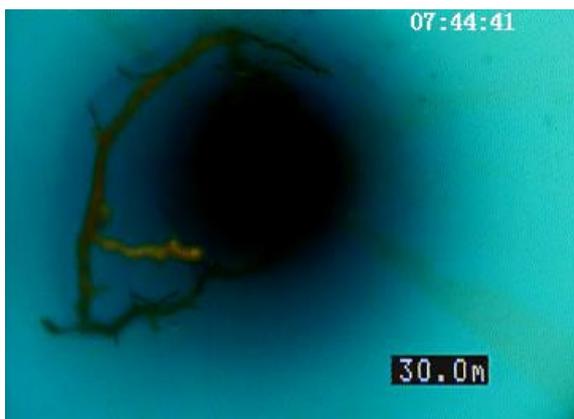
PIPA uses technology that includes a pressure rated camera (Microcam™) tethered to a 105 metre semi rigid rodding to give the operator live video and recorded distance data during an inspection. The unique product also has a genny port for mains tracing.

The system enters a pipeline via a pressurised seal fitting, and is fully chlorinated during its Insertion; the system works on a live basis, with no Interruptions to the clients services and with several surveys undertaken this unique product can cover a distance of up to 1km per day.

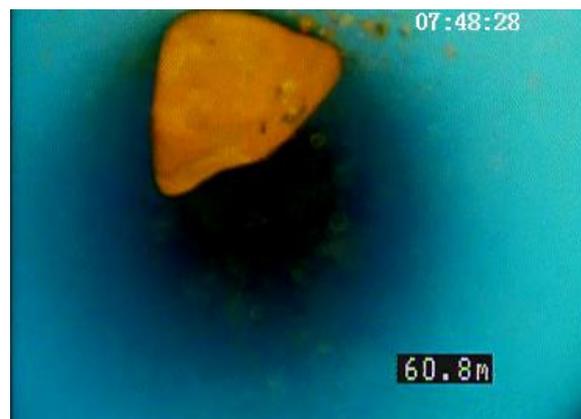
The technology is the latest live main inspection system on the market being fully battery powered and only requires a 2 man team for its Implementation.

During the survey high levels of pipe debris was identified which in turn may have blocked pump filters creating the lack of water issues.

**Video stills of survey findings**



**Root ingress identified**



**Stones and debris in pipe**

**Survey results**

- ◆ PIPA successfully delivered a full CCTV assessment of the asset
- ◆ PIPA also identified an unknown debris within the pipeline
- ◆ Tethered insertion technology system allowed for precise identification and location of the pipe ingress debris
- ◆ The flexi cable small diameter system is very responsive, with 170 metre survey successfully completed via both ends of service pipe section

## **Solution**

PIPA identified the internal pipe issues were created due to poor pipe installation services by the contractor. The pipeline should have been cleaned as part of the commissioning procedure.

PIPA offered to clean the pipeline using a double swab cleaning technique and also validated the results prior to pipe chlorination and recommissioning.

## **Results and Validation**



Cleaned pipe validation



Cleaned pipe validation

## **Conclusion**

It would have been very difficult and expensive for contractor to find the remaining issues within the water main. The CCTV and tracing capability proved indispensable for locating issues and trouble shooting.

PIPA completed the inspection in 1 working day, and offered a full solution identifying true pipe configuration and also by ruling out leakage issues.

The contractor resolved the ongoing issue by removing the guess work at a fraction of the cost and time invested in the alternative of a new trench excavation and new service pipe installation.

PIPA Representative: The project was a great success, Ideal due to pipe location and material and also a great case study for our company. The contractor had exhausted all other pipeline inspection avenues, and was more than relieved when we offered a solution.

PIPA has also delivered successful projects with the majority of the UK water utility companies.