



Leakage Investigation Survey

17 November 2016

Client

Leisure Park, County Durham

Mains water meter information

Size (mm)	15-28		32-50		75-100	✓	125-200		Above 200mm	
Serial number	123456									
Readings (1)	04312.030				Time:	10:23 17 November 2016				
Readings (2)	04314.560				Time:	12:00 17 November 2016				
Location	Meter located in medium sized chamber in grass verge in Stan Industrial Estate (off Bond Way) – accessed with pair of small lifting keys.									

Leakage Activities

Acoustic sounding	✓	Correlation		Ground microphone		Environmental Inspection	
Other	Isolation of main valve onto site						
Pipe traced	n/a	CAT & Genny			Distance		
Pipe correlated	Accelerometer			Hydrophones	Distance		

Background Survey Information

Water consumption through the meter supplying the Leisure Park has recently increased, suggesting leakage or other unidentified water consumption on the network around the park.

Prior to the survey, data logging has confirmed the nightline to be very low at approximately 0.2m³ per hour across the whole Leisure Park estate. A sharp increase in consumption was recorded on the data logger on 11th October 2016 at which point the constant flow of water increased from 0.2m³ per hour to approximately 1.18m³ per hour.

This is an excess consumption of approx. 0.98m³ per hour, equating to an unaccounted cost to Heatherview of £53.39 per day, £373.73 per week and £19,487.35 per annum.

Two leaks were repaired on the park in January 2015.

Summary of Survey

Pipework & Metering

The water meter supplying the park is located off site in Stan Industrial Estate. It is located in a medium sized chamber in the left hand verge, off Bond Way. From the meter, the exact route of pipework to the park is not known, though it must cross under the railway track at some point before crossing the river within the railway bridge deck.

Where the pipework reaches the park, there is a main isolation valve (wheel valve) that isolates all pipework on park - this is located adjacent plot 32. This was confirmed by a few residents from around the park whose water pressure diminished when this valve was closed.



Meter location in grass verge



Meter

Leakage Survey Activities

To confirm the integrity of the off-site section of pipework from the meter to the park itself, the main controlling valve by plot 32 was closed whilst the water meter was monitored. With the valve closed, the meter continued to turn at a continuous rate of 16.2 litres per minute.

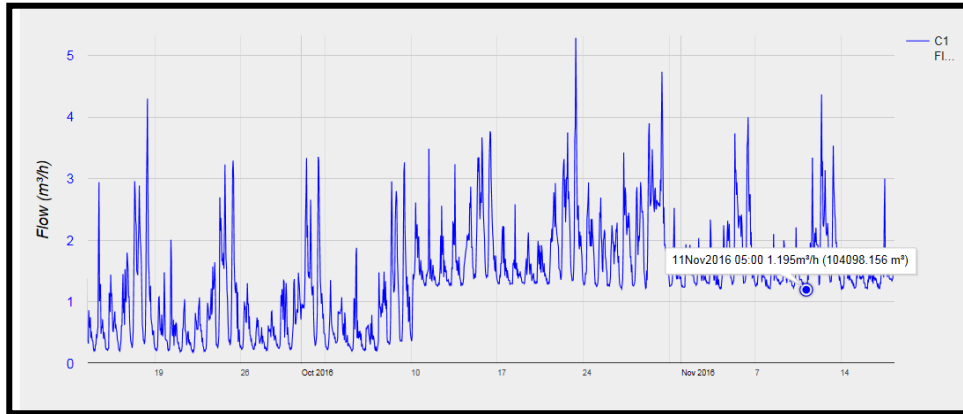
When checked, there was a high level of leak noise on the pipework in the meter chamber. With the valve behind the meter closed for a short period, the water level in the chamber was found to drop quite quickly. A chlorine residual test confirmed mains water immediately. The chamber was completely dewatered before opening the valve again. Water started filling the chamber within a few seconds.



Leak location behind water meter (traffic cone)



Water in chamber (level drops when gate valve closed)



Summary & Recommendations

Summary:

1. Leakage on the section of off-site pipework between the water meter and the main valve into the park confirmed to be 16.2 litres per minute or over 23m³/day equating to an excess cost of approx. £52.95 per day.

Recommendations:

1. H2O to arrange with Water Company to attend site, identify, inspect and repair this leak.
2. Confirm reduced leakage volume (if any) once leak has been repaired.

Our cost to carry out the above works: £XXX + VAT

Survey carried out by

Engineer	H2O Building Services	Date	18 th November 2016
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