

Case study

# King George V Willowstick Survey

Atkins used Willowstick to position diaphragm wall and stop leakage through 6.2km long embankment dam

With over 6km of embankment locating the exact leakage paths and hence minimising the required diaphragm wall length was made possible with the use of Willowstick. Willowstick brought confidence in the correct location of the diaphragm wall and major cost savings to the client.

## Efficient investigation of extensive embankment

King George V reservoir is a 6.2km earth embankment dam built in 1912 and impounds one of London's largest water supply reservoirs. Visible leakage was discovered in 2008 and the decision was made to conduct a leakage investigation and use the results to guide remedial works.



The large size of the structure meant the leakage investigation had to be extensive and efficient to ensure the whole structure was surveyed within a short period of time and within budget. As a result Willowstick was chosen enabling large areas to be surveyed quickly and non-intrusively.

A full survey of the embankment was conducted to locate the exact path of the leakage. This enabled the remedial works to be focused on the affected area. As a result of the Willowstick findings, a diaphragm slurry wall was designed and constructed across the leakage area.

The survey found no additional areas of leakage through the embankment, providing the client with confidence that all leakage through the dam had been dealt with.

## Identifying exact path of leak enabled focused remedial works



Willowstick reading on the upstream face

Example of survey layout