

Case Study

Intelligent monitoring system provides flood warnings



Water level sensing technology from OTT Hydrometry is being used in an intelligent flood warning system that has been installed at a ford in Kenilworth, Warwickshire. The system monitors water level in the Finham Brook where it passes under the A452, and warns drivers when potentially dangerous conditions arise.

Working closely with Warwickshire County Council (WCC), SWARCO provided a set of four signs on the approach and in close proximity to the ford. The two signs that are closest to the ford initially warn of water on the carriageway (up to 100mm); these alert drivers to the flood and the risk of aquaplaning. When the water rises above 100mm the two outer signs are activated to enable drivers to take an alternative route, and the inner signs provide an additional message that the ford is impassable.

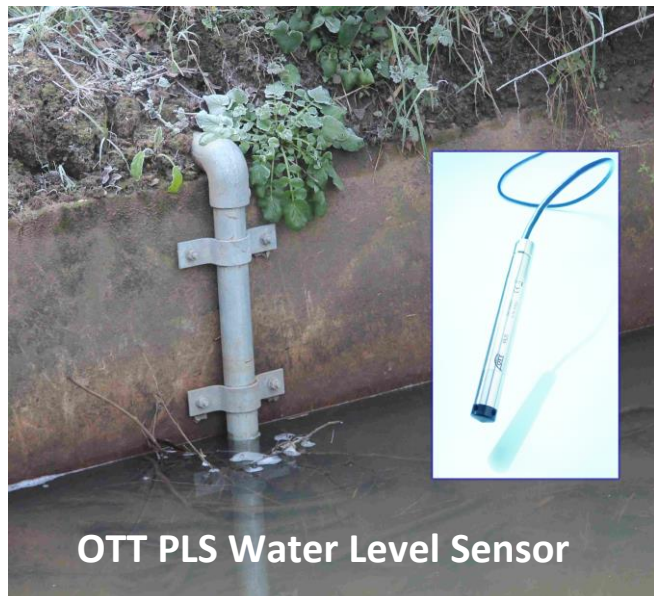


David Matthewson, team leader of the Traffic Control and Information Systems team at WCC, says:

“This ford can be the cause of significant traffic problems during flood conditions; partly because drivers are unsure whether the road is passable and also because smaller cars can get into trouble when a passing larger car causes a wave.

“The two trigger levels were based on potential risk to motorists and although these can be adjusted locally onsite, we initially erred on the side of caution at commissioning. Following three periods of flood since late December 2015 we have slightly adjusted the trigger levels to reflect the depth of water on the carriageway during a flood.”

The water level sensor is an OTT PLS (Pressure Level Sensor) located in a slotted stilling well. Designed for field applications, the robust PLS has a stainless steel housing, an integrated controller and a ceramic pressure-measuring cell. The sensor has an analogue output that can be adjusted onsite. The control system uses a UTMIC interface to communicate with Warwickshire’s existing UTMIC Common Database which in turn sends commands to the low energy/high visibility LED signs.



“This is a good example of the advantages to be gained by continuous monitoring,” says OTT Hydrometry Managing Director, Nigel Grimsley. “Our sensors are extremely rugged and run on low power with very little maintenance so they are ideal for remote deployment. We also provide a range of telemetry options and cloud based network management software, so that networks of monitors can be viewed and managed 24/7 from anywhere.”

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OTT Hydrometry manufactures products that enable water professionals to monitor the planet's most precious resource. Through the delivery of accurate reliable data, OTT's instruments and services provide essential tools to help protect the environment. From precipitation through surface and ground water to marine monitoring applications, OTT's measurement and communication technologies provide a complete picture of the water cycle. Adcon Telemetry was acquired in 2011, and Sutron and Lufft joined the OTT Hydromet Group in 2015, which means that the company is able to offer the best sensors and data handling technology for every application. Completely focused on hydro-meteorology and water quality, OTT products have been market leaders for over 140 years and coupled with modern communications technology provide remote access to continuous monitoring data.