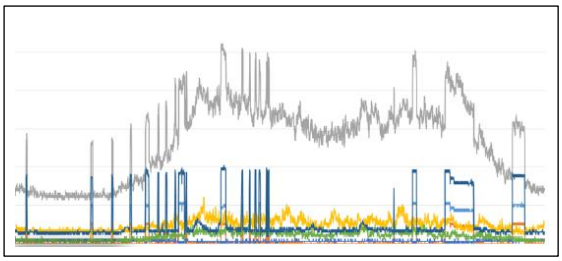
DMA Blind Leak Test

System : DMA
Properties : Approx. 2,000
Location : United Kingdom
Scope : Detect deliberate leak
Date : 2020

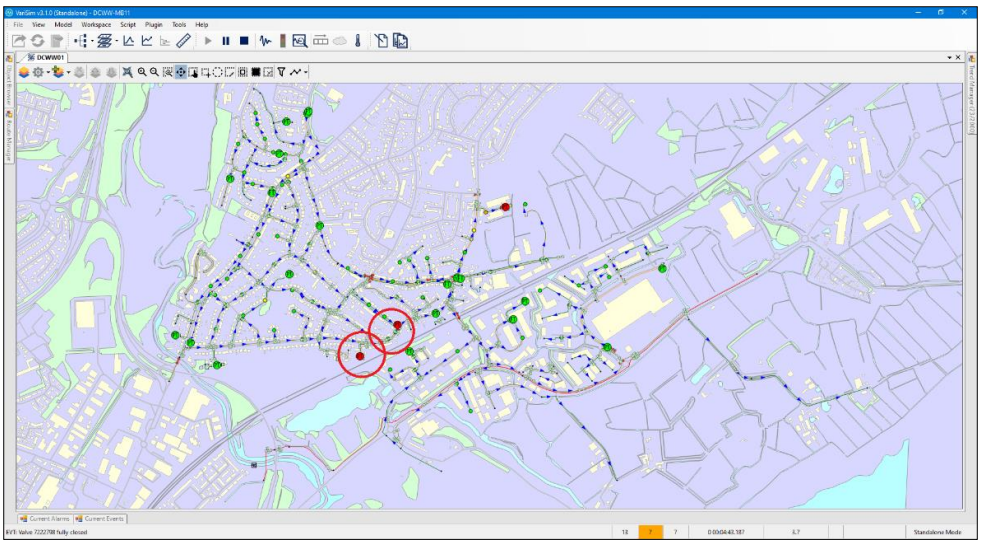


Scope of Work

Real-time pipeline simulators can be used on DMA's to help identify areas of leakage as new leaks develop. The DMA pipeline simulator is typically driven by standard GPRS pressure loggers and the simulator has the ability to model any size of DMA that is usually derived from GIS data and can accommodate common or mixed pipe materials.

A deliberate blind leak test was carried out on a DMA to test the accuracy of the Hydraulic Analysis DMA hydraulic simulator in locating the leak and also the response time of the project team in reporting the location of the leak. On the day in question, a higher than normal flowrate was detected entering the DMA and the pressure sensors showed an average deviation of 0.5 metres compared to the expected measurements. The pressure logger data was run through the hydraulic simulator and the delta (differences between measured and calculated value) was monitored for all pressure loggers. Note that it cannot be assumed that the largest pressure difference will occur closest to the leak as it depends on the flow routing within the DMA and the local system hydraulics / head losses.

The simulator identified an anomaly within the two red circled areas below and this information was communicated to the water company within a few hours of being identified. It was subsequently confirmed that a fire hydrant had been used to mimic a leak and that it was located within the intersection of the two circled areas. If this had been a real leak, the results would have significantly reduced the required search area to a small part of the DMA, saving time, money and carbon emissions.



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