

Main Breaks: Quick Identification – Pressure

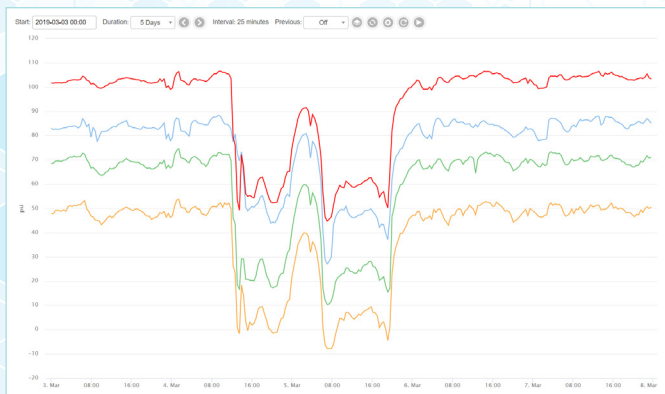
Early Notification

Main breaks can lead to catastrophic events – asset failure, road collapse, building flooding and boil water advisories. Utilities often are reacting to these events when a call is received from a local resident that notices water running down the road or finds that their shower pressure is much lower than expected.

Digital Water Solutions proven and patented technology, listens for main breaks using acoustic sensors in the water column and identifies pressure drops that fall outside of the normal operating range. Having early notifications of pressure events that are indicative of a main break can give utilities an early start on responding to and repairing a break.

Watermain Break

In early spring the City of Atlanta experienced a significant water main break. The break occurred on March 4 and pressure in the area was stabilized 48 hours later. A boil water advisory was initiated for the area most affected that lasted for several days until repairs, flushing and restoration of service could be achieved.



The Digital Water technology provided an immediate notification to the City of the significant pressure drop and allowed the City to identify the magnitude of the impact upon normal pressure levels.

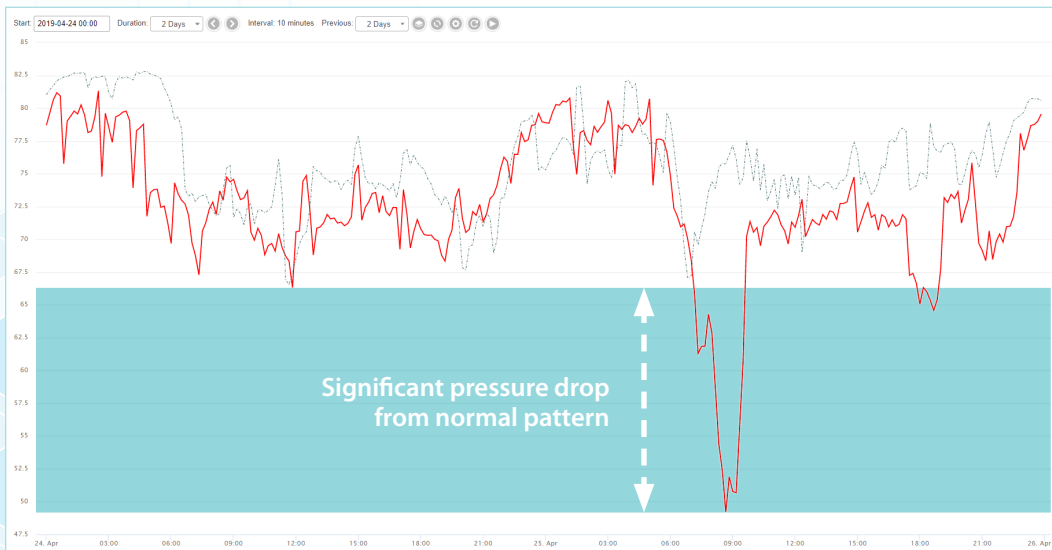
In some areas the pressure drop was more than 50psi and was identified on several sensors placed within the distribution system.

Contractor Error

A contractor working on private property managed to hit a 24" water main, causing a loss of nearly 2.6MG of water in a 90-minute period. While the main was isolated and repairs were completed, the water utility had to advise customers that it may take several hours for pressure to return. Additional time was required to complete water quality tests and customers may have experienced discoloration in their water.



The pressure fluctuation seen in the water distribution system approximately 4 miles from the event was approximately 15-20psi below the normal pressure range in the area for that time of day. This is a significant impact and could also lead to transient events within the distribution system with further additional leaks or breaks materializing as a result.



Being able to quickly identify a significant pressure change, or even a minor one, from the normal operating pressures of an area can lead to rapid response by the operations team to water main breaks – limiting water loss and infrastructure damage.

**Break Rates Have Increased 27% in the Past Six Years.
Over 16% of Installed Water Mains are Beyond Their Useful Life.
The Average Age of Failing Water Mains is Approximately 50 Years Old.**

Water Main Break Rates In the USA and Canada: A Comprehensive Study. Steven Folkman, Utah State University