LeveLine Early Warning System (EWS)

Using the LeveLine-Mini and Aquatel

• Water Level • Temperature • Alerts • Remote data capture

"Flood prevention may not be possible but with an early flood warning system you can alert your household / community / business of rising water levels giving you the chance to protect your assets from flood damage."

The Leveline-EWS is an early flood warning system consisting of a water level sensor and a telemetry system. Water level is constantly monitored, as the water level reaches your pre-set alert depth sms messages will be sent out to every contact number in the systems phone book. Alerts will show the current depth and the rate of change providing vital info during a flood event.

Key Features

- Easy to deploy, generally only requiring a few mounting brackets and some piping
- Long battery life, in excess of 12 months use with option for lithium or alkaline D sized batteries
- Set up multiple alert level points for moderate or high level alerts for example
- Operates with UK SIM card with included sms and data <1GB/month
- No annual server subscriptions
- Request live readings, change configuration, add numbers to the phone book all via sms
- Operates on 4G CAT-M & 2G networks

Use your mobile phone to communicate with the device

Anyone with the phone number of the Aquatel unit can send it various sms commands, Re for example short for readings.

Aquatel will reply with the current water level and temperature measurements. Very helpful if water levels are rising in the middle of the night and you are worried about the potential of a flood.

General users can only view data, only phone numbers stored as admin users can make configuration changes, so there is no risk of untrained users making critical changes by mistake.

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EARLY FLOOD WARNING SYSTEM PREVENTS VILLAGE FROM A POTENTIALLY DEVASTATING FLOOD

Aquaread's LeveLine-EWS system proving to be a huge success story for Essex Village

Parish councillor and local residents comment on their experiences with their new flood alert system, provided by Aquaread, as it issues it's first alerts to the community.

According to the Met Office, December was the wettest month the UK has seen in over a century. As a result flooding has affected thousands of homes and businesses, particularly across the North of England. It is estimated by the BBC that the cost of this flooding will breach the £5bn barrier, creating a £1.5bn burden on UK insurance companies.

Whilst there are many things that can be done to prevent flooding such as installing barriers, dredging rivers or more natural approaches like digging ditches in fields to divert the flood waters to open land, most of these activities are out of reach for local communities in the short term.

In some cases having more time to defend against rising flood waters can be enough to prevent substantial damage, giving people adequate warning at any time of day or night to deploy their defences and safeguard their assets. This is the approach that was recently taken by the local parish council for the village of Stansted Mountfitchet near the Hertfordshire border.

Stansted Mountfitchet has suffered from flooding in the past, but in 2014 the village experienced the worst flooding any of the local residents could remember in recent years. Ruth Clifford of the local parish council recalls *"In previous years various local roads that run close to the brook have flooded. Damage caused to property from these floods, whilst devastating for those involved, was actually very limited. However, the 2014 flood affected many businesses and a few homes. Two businesses were closed for about a year to enable the properties to dry out and be refurbished."*

Ruth was tasked with finding out if it was possible to have a flood warning system installed to warn of rising water levels to alert the local flood wardens to action. After some searches on Google she came across a number of potential suppliers, one of them being Aquaread. *"I read about your products on your web page and discussed it with your sales team. Having done the same with two other companies, I considered that your system best met our requirements."* Said Ruth when asked about why she chose the LeveLine-EWS.

Two systems were subsequently installed, by Aquaread, in November along the brook that runs through the village. Deployment locations were discussed in detail with the local residents who were most familiar with the normal level of water seen in the brook. The first system was set up on a small bridge that residents often use to gauge the brook's height and the second deployed downstream by a trash screen sitting in front of a culvert, as seen in the images that follow.

With further input from the local residents the alert levels were set at 36cm, a level equivalent to the water height reaching the underside of the bridge; a marker for action for the flood warden team.

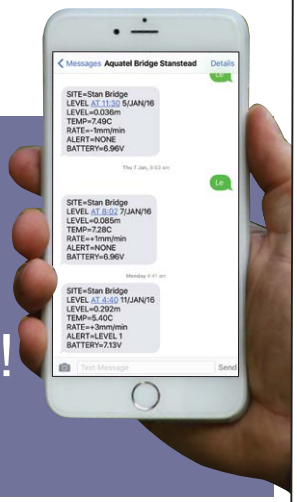
Less than a month after installation the UK was awash with the wettest December in over one hundred years. With flood wardens across the country on high alert the residents and wardens of Stansted Mountfitchet slept a little easier knowing that they would receive an alert should the brook water levels rise suddenly.

In the early hours of the 11th January 2016 at 3:50am the LeveLine-EWS deployed at the trash screen gave its first alert by distributing SMS messages. The alert was received by a local resident, being first on the scene he began to clear the trash screen of the debris that had built up following the rise in level. Once the screen was clear the flow of water was initially eased but remained high.

"We monitored the water level using the text messaging feature until around 5:20 when it became clear that there was a real problem." Stated the local resident.

More residents soon arrived to assist in further clearing of the brook, amid fears of the banks being breached. At 6:30, with persisting rain, the decision was made to deploy property based flood protection.

Thanks to the novel SMS (text messaging) communication utilised by the LeveLine-EWS, residents were able to constantly check the level whilst they carried out their usual morning activities.



Simple text message communications can be used by **Anyone!**

Local residents simply have to send the device an SMS message saying the word ‘Level’ or ‘Le’ for short, as pictured above, to get an instant reading of the current level and also the rate of change in level since the last reading.

The feature can be an advantage allowing the user to easily check the level when they have other commitments to take care of, or when it’s the middle of the night and heavy rain can be heard outside. In addition to the SMS messaging, all data is recorded by the device and stored for daily distribution via email to an administrator for the device; should you wish to plot the historical trend in water and temperature level.

“Without the system in place I am almost certain that the road along the brook would have flooded this morning.” States the resident first to attend the deployment site.

The team at Aquaread will continue to fully support the community in order for them to achieve the best results from their deployments. When asked, Ruth described the installation team as *“Simply amazing, the culvert device was a particularly tricky installation and you went above and beyond to install it!”*

The LeveLine-EWS system is designed to buy you extra time to react. That is exactly what Ruth from the parish council at Stansted Mountfitchet has helped to provide to the local residents, who had one final thing to say,*“Many thanks for this piece of kit which will, I am sure, prove invaluable and already has.”*

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