

Haddenham Booster Station

Client:	Anglian Water
Location:	Haddenham, Cambridgeshire
Value:	£510k
Duration:	8 weeks

In Brief...

Customers in the village of Haddenham, Cambridgeshire were not receiving water pressure that met the criteria of new Ofwat (Water Services Regulation Authority) regulations. As part of the IOS alliance with Anglian Water, Barhale were contracted to install a new booster station adjacent to the existing water tower in order to increase the water pressure.



The existing water tower and new kiosk



The new booster pumps inside the kiosk

Technical Features...

The extent of the work included installing:

- 30m of new pipework at about 225mm diameter
- A two-pump water booster kiosk

The booster station was installed before the connecting pipework due to the fact that its placement was limited to one area. This was more time efficient than completing the pipework first. The team cleared the required amount of earth before laying a type 1 base. This was then topped with Bodpave, a low carbon, environmentally friendly alternative to the usual kiosk base. Due to the kiosk design, it could then be placed and installed quickly and efficiently.

The kiosk was a glass reinforced plastic (GRP) unit which arrived at site fully fitted with the two pumps and their associated electrical equipment. It had been pre-planned by the team to sit directly on top of the pre-existing manifolds. A smart pump controller, which allows the network optimisation team to adjust settings remotely and monitor pressures, was also installed. This required an electric cable for the GRP unit to be installed on the site.

In order to increase the pressure of the water flowing away from the tower, the team needed access to the existing pipework. A 7m x 4m pit was excavated around a section of the pipes carrying water into (300mm diameter) and away from (225mm diameter) the water tower.

As this was a live water supply, as much work as possible was carried out before connecting to, and interrupting, the system to minimise the disruption to the network. This included assembling the new ductile iron pipes and installing the new kiosk.

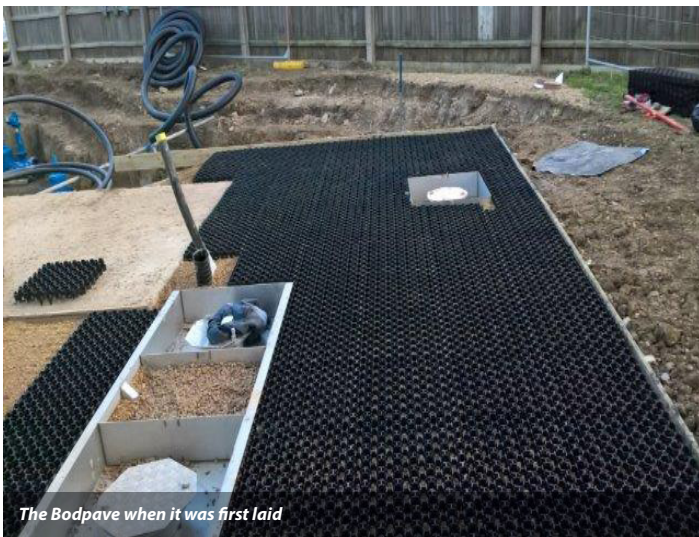
The new pipework included the installation of two gate valves and one non-return valve, which was covered by a 1200mm square manhole. Also included were wash-out points from which the pipes would be cleaned, and water samples taken for testing.

The water network into and out of the water tower was shut off for one night – between the hours of 10pm and 5am. In this time, the pre-assembled, new pipework was installed and connected which would join the new booster pumps to the network.

Constraints...

Overall space on site was limited due to its location. This restricted the possible location of the new kiosk and required the Barhale team to revise the original plans, which they did successfully.

The team were with a live clean water supply. This meant that all team members had EUSR National Water Hygiene cards as well as Anglian Water's own certification to work with clean water. Furthermore, as a result of the care and attention that was paid when cleaning the new section of pipes – 15 hours of cleaning took place whilst other work continued – and that all team members involved conducted themselves correctly at all times, the water samples that a qualified Barhale team member had taken were clean and potable the first time.



Constraints Cont...

Having only a seven hour period in which the water supply was shut off meant that time to install and connect the new pipework was very limited. Additionally, the existing pipes, of which a section had to be cut and removed, contained asbestos in the cement lining. This work therefore required specialist subcontractors – placing even more of a time constraint on the installation and connection of the new pipes.

Customer Benefits...

Despite the close proximity of the site to residential properties, the team took care to ensure consideration of the nearby occupants, and the fact that no complaints were received is evidence of this.

In order to minimise disruption to the customers' water supply, the clean water network was only shut off for a seven hour period. During this time the village was supplied with water from elsewhere. This meant that the customers had no disruption to their water supply at all which demonstrates the high level of planning and organisation that the Barhale team put into this project.