



# Project: Kellingley Crook Pumping Station

Location: Kellingley Crook

## Non Return Valves

Client: Selby Area Internal Drainage Board



Aquatic Control Engineering Ltd (ACE) were contacted to assist, in what was initially thought, to be a simple replacement of four pumped and four gravity cast iron non return flap valves.

An attempted mindless theft of the cast iron flap valves at the Kellingley Crook Pumping Station, left communities and acres of agricultural land, open from the increased risk of flooding. ACE, on behalf of JBA Consulting's Engineering Division attended the site, to review the damage to the old cast iron flap valves, to see if they could help, using their product portfolio, knowledge and experience to assist in the most affordable and practical way.



The site in this instance proved to be a little different, having two of the original flap valves mounted at 90 degrees to one another, one being a standard gravity fed flap valve, the other fed from a large pump. ACE's heavy duty pump flap valve, is designed with two great features; the flap is mounted at 15 degrees, offering an advanced sealing technology and stroke limiters to remove any risk of the flap flipping up to a vertical position as the pump energises. When Kellingley Crook Pumping Station was designed such technology had not been thought of, meaning the modern features of ACE's pumped flap valve posed a restriction on the operational clearance of the adjacent flap valve.



ACE redesigned the scheme to use one of their WaStop non return valves, one of the fantastic benefits of the WaStop is the self contained unit fits neatly inside the pipeline, with nothing protruding from the head wall. This meant not only any potential thief would not see anything worth taking, it also meant the pumped non return valve adjacent to this WaStop unit would freely operate. Utilising the WaStop technology at this site ACE and JBA were able to overcome the apparent overlapping issues of the original flap valves and provide and improved non return valve system.

ACE would like to thank both JBA Consulting's Engineering Division in Doncaster and the Selby Area Internal Drainage Board for their assistance during the project.

**Aquatic Control Engineering Ltd**

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