

## Environment Agency River Witham pumping station gets facelift



Located near Fiskerton in Lincolnshire, on the River Witham and run by the Environment Agency, the Short Ferry pump hall is about 50 years old. A survey of the fabric of the building had shown that although generally in good condition, it was in need of some modernisation and refurbishment.

Following a recent survey there were significant concerns relating to the structural integrity of the front façade. After considering several options it was decided to demolish the existing façade and the construction of a new, modern solution.

As a result, the Environment Agency placed a contract with ECS Engineering Services to demolish and rebuild the frontage and replace the windows with modern automated double-glazed units. Appointment of ECS allowed the EA to utilise a multi skilled engineering company at Short Ferry with its project management, steel fabrication and structural design abilities all available in house.

"We provided critical information to the Environment Agency so that it could secure planning permission," recalls Neil Denman, one of the ECS' estimating engineers who worked on the project. "We also worked with a firm of architects on the visual aspects of the project and with the supplier of the aluminium framed double glazing units."

The pump hall is a steel portal frame structure with brick surround at the lower level and infill panels above, many of which include a window. In detail, the mullions that surround the windows were of precast concrete sections and were retrofitted at some point after the main structure was completed.

However, it was evident that the windows and mullions were moving away from the main structure. Further, it appeared that they had moved previously but the remedial work to address this had not solved the problem and had also caused spalling of the surrounding brickwork.

Denman again: "We replaced the old single skin brickwork of the lower walls with a cavity wall in block, filling the cavity with insulating foam. We also installed new upper panels, with our in-house fabrication department manufacturing bespoke steel supports for the panels. We made sure the panels were highly insulated so that with the double-glazed windows the whole pump hall became much more thermally efficient."

Sensors were installed to monitor the humidity and temperature within the hall and to open and close the windows to optimise ventilation. This helps to control condensation and damp and thus keeps the building in good condition. The controller is also programmed so that it will open the windows in the event of fire and there is also a manual override allowing the windows to be opened or closed if necessary.

Denman concludes: "At all stages of the project we worked closely with the architects to make sure the end result was visually similar to the old façade and in keeping with the surrounding buildings. Our team has worked hard to renovate the building and deliver the project on time."

**Photo Caption:-** ECS Engineering Services has rebuilt the front façade of the main hall of Short Ferry Water Pumping Station on the River Witham.

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## **About ECS Engineering Services**

ECS Engineering Services has over 20 years experience in delivering high quality, reliable and cost effective engineering solutions, specialising in bespoke design and construction of water, energy and environmental processing and management projects.

In conjunction with key supply partners, ECS has the expertise and capacity to design and install a wide range of water control engineering projects. With in-house fabrication services, which have CE Marking approval to EXC3, well equipped and highly skilled engineers can also complete structural steelwork, bespoke fabrication work and access metalwork to the highest standard.

With a complete range of site services available, ECS offers a full turnkey project managed service for mechanical and electrical installations including managing civils contractors and supplying pipework, control and automation work to ensure that every installation is installed and commissioned to the highest standard. Existing clients include the majority of the UK Water Utility companies, Government Agencies and Internal Drainage Boards.

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