

## Case Study – Islington Pumping Station (Ejector Wells)

Client: Balfour Beatty  
Location: Islington, Kings Lynn  
Duration: September 2019 – August 2020

### Project overview

Islington Pumping Station is a new flood defence system installed on the banks of the River Great Ouse near Kings Lynn.

The Pumping Station was constructed with open-cut batter excavation along western side. With sheet piles toed into the underlying Kimmeridge Clay installed around the remaining sides. Excavation area was Nominal 31m x 22m with excavation level upto 11m BGL.



### Scope of Works

The dewatering objective was to reduce the groundwater level temporarily below the formation level of the new pumping station. Ground conditions consisted sandy silt and fine sand deposits with a permeability range of  $7.5 \times 10^{-7} \text{ m/s}$  to  $2.1 \times 10^{-6} \text{ m/s}$ .

Ejector wells (22 no.) installed at approximately 5 m centres and up to a depth of 15 m. Each deep ejector well would comprise of a 250mm Ø bore/125mm ID well liner located along the external excavation perimeter.

Individual twin-pipe ejectors were connected to a supply and return main positioned around the perimeter of the excavation.

In turn this is connected to a pumping station consisting of a duty and standby 415V high head pumps (22 kW star/delta soft start) with pumping/inspection tank. Abstracted water was discharged using 100mm Ø polybauer discharge line to outfall.

