Alan Wood & Partners

Engineer /
Manage /
Deliver /

Foul Water Pumping Station & Rising Main Requisition

Location:
East Riding of Yorkshire

Client:
Morrison Water Services (on behalf of Yorkshire Water Services)

Value:
Approx. £3 million

Civil Engineering | Structural Engineering | Building Consultancy | Geotechnical and Geoenvironmental Engineering | Project Management | Specialist services

The project consisted of the design and construction of a new foul water pumping station and 5.1km rising main into Stamford Bridge Treatment Works to serve the construction of a new prison, HMP Millsike, Full Sutton, East Riding of Yorkshire.

Description of the Works

Alan Wood & Partners were commissioned to carry out the Civil and Structural design and intrusive Phase 2 Geotechnical Investigations for the pumping station and 5.1km rising main. This included working closely with numerous statutory and third party stakeholders, to determine the most appropriate form of construction for the pumping station, given the challenging ground conditions, and most appropriate route for the rising main given the physical constraints and historical setting of Stamford Bridge.

Engineering and Design Factors

Geotechnically challenging ground conditions, high ground water and deep upstream drainage required Alan & Wood Partners to promote alternative construction methods for the foul pumping station. Working closely with the Client's construction and estimating teams, a 14m deep, 4.5m diameter, smooth-bore segmental shaft, sunk using the jacked caisson method, was eventually selected to reduce risk and temporary works requirements, thus significantly reducing costs. An additional 10m deep, 3m diameter shaft and auger bore was also selected to install connecting pipework.

In conjunction with the Client's construction team and other key stakeholders, Alan Wood & Partners engaged collaboratively to ensure the design of the 5.1km cross-country pipeline respected key physical, ecological and historical constraints, including the Battle of Stamford Bridge site and the River Derwent SSSI / SAC.

Core services

Civil Engineering / Structural Engineering

Sectors

Utilities and Infrastructure