



North Kyme Pumping Station

Client: Witham IDB
Location: Lincolnshire

Situation

Few stretches of England have been argued over with water for as long as the Lincolnshire fen at North Kyme. The Romans cut the Car Dyke along this edge of the marsh; the Victorians drained the parish in earnest under an Act of 1840; and a few miles off at Dogdyke a steam engine of 1858 still stands in working order. Draining this land has never been a task that is finished, only one handed down from one generation of engineers to the next.

The Board's requirement was modest to state and awkward to satisfy. North Kyme is an intermediate station, discharging into a Board-maintained drain, and it needed a replacement that would move land-drainage flows reliably, meet modern environmental standards, sit on a shallow civil structure, and then be left largely alone for decades without calling for specialist attention. Long life, low fuss.

The Project

Working with Fish Flow Innovations, ACE proposed two enclosed screws, each 1.6 metres across and rated at 0.40 cubic metres per second. They are moulded from vinyl ester glass-fibre composite with no steel in the drum or vanes, retiring corrosion as a maintenance worry and giving the rotating section an eighty-year design life.

The sealed rotating drum bonds the screw into the drum and closes off leakage entirely - stationary, with the brake applied, it becomes a line of flood defence in its own right. That single property let the pumps be made shorter, reducing effective lift and energy drawn in normal running.

Each assembly was built and balanced off-site and dropped into the civil structure on a single crane lift, keeping on-site work and programme risk to a minimum. Turning at very low speeds, the screw runs well below the speed at which fish come to harm, with mortality approaching zero.

ACE delivered the station complete. The electrical package runs from a Form 4 Type 2 MCC housing Schneider variable-speed drives with passive harmonic filters holding total harmonic distortion to ten per cent or below. The whole is housed in a purpose-built GRP kiosk.

Get in Touch

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Summary

The installation at North Kyme represents the latest chapter in a centuries-long effort to manage water across this stretch of Lincolnshire fen. ACE's two enclosed Archimedean screw pumps deliver precisely what the Witham First Internal Drainage Board required: reliable land-drainage performance, low maintenance, environmental compliance, and longevity. With no steel in the drum or vanes, an eighty-year design life, and a sealed drum that doubles as flood defence, the pumps are far more than a like-for-like replacement.

What is new at North Kyme is not the concern but the answer — a station engineered to last, built to cause no harm, and designed to need as little attention as possible. The Romans, the Victorians and ACE have each in turn taken a hand to this fen, and on the present evidence, this latest leg should stand for a good while yet.

80 year

Design life due to enclosed composite construction

Flood Defence

The sealed drum acts as an independent line of flood defence when the pump is stationary

Full package

ACE delivered pumps, MCC, GRP kiosk, cabling, telemetry, and NICEIC certification under a single contract

Single-lift

Each pump assembly is pre-fabricated and balanced off-site, requiring one crane lift



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