



Harty & Leysdown Pumping Stations

Client: Lower Medway IDB
Location: Isle of Sheppey

Situation

The Isle of Sheppey sits largely below sea level, protected by a network of drainage channels. When tidal levels are high, gravity drainage stops and pumping becomes the only means of water level control. The southern marsh is Ramsar-designated, a Special Protection Area and Site of Special Scientific Interest. Both Harty and Leysdown pumping stations had reached the end of their serviceable life and required full replacement.

The Project

The Lower Medway Internal Drainage Board appointed ACE as MEICA contractor on a single contract covering both sites simultaneously.

At the heart of each new station is a Fish Flow Innovations enclosed composite Archimedeian screw pump — 1.6 metres in diameter, set at 26 degrees, rated at 0.5 m³/s with a maximum capacity of 0.69 m³/s. The enclosed composite construction — glass fibre reinforced throughout, covering the inner pipe, flights, and outer casing, carries a design life of 60 to 80 years. In a sealed environment with continuous exposure to tidal drainage, this eliminates the corrosion liability that steel alternatives accumulate over time.

The enclosed design also removes the pinch point between helix and trough present in open-trough alternatives. The pumps are tested and certified to NEN 8775 — the standard recognised by the Environment Agency and Natural England for fish and eel passage.

Each station is equipped with a dedicated ACE eel pass: 35 metres total length, comprising a 15-metre climbing brush section and a 20-metre flushing section, served by Rotorflush pumps.



Get in Touch

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Summary

The full installation - pump sets, covers, handrails, valves, eel passes, and cabling, was completed across two phased visits, with fifteen days of combined site time for both stations under a single project management structure.

The use of precast concrete pump sumps significantly reduced time on site, which was essential in protecting biodiversity at this sensitive nature reserve location.

By supplying fish and eel-friendly screw pumps alongside dedicated eel passes, the solution met Environment Agency requirements while supporting aquatic ecology.

Delivering a full turnkey MEICA solution in tandem with civil and demolition works enabled efficient collaboration with the principal contractor, streamlining the overall programme.

The project was successfully delivered on time and to specification, helping Lower Medway IDB enhance performance and sustainability at these critical drainage sites. The collaborative approach and sensitive environmental delivery have earned the project a nomination for an ICE (Institute of Civil Engineers) award.

60-80 year

Design life due to enclosed composite construction

0.69m³/s

Maximum capacity per pump

35m

Eel pass length per station

46%

Reduction in cement content in precast concrete



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