

A large, faint, light blue water wheel graphic is positioned in the background, centered behind the main text. The wheel has multiple spokes radiating from a central hub and several curved buckets around its perimeter. The overall image has a light blue and white color scheme with a wavy blue shape at the bottom representing water.

Case Study – Hainbury Mill

*Medium scale micro-hydro
installation*

Very low head

ern Renewable Energy

Case Study:

Site: Hainbury Mill, Ilchester
Turbine: Archimedes screw
Power: 23kW
Head: 1.6m

Western Renewable Energy (WRE) was brought in by another firm to subcontract part of the feasibility work and design. The site benefited from an abstraction license previously granted for an abortive design. WRE in turn became the installer.

Site specific issues include:

- Very low 1.6m head
- Difficult access and location in landscaped gardens
- Particular flooding issues





Site access was limited, with 5t machinery being the largest possible able to reach main site

Initial ground investigation showed clay ground conditions with no stone whatsoever

WRE carried out scheme visualisation for interpretive purposes





Due to the flood prone nature of the site, the disruption of installation, and to control costs, all excavation and concrete pouring were tightly scheduled to minimise risks





All concrete was pumped to site to overcome access issues



Civil construction was carried out in two phases, to install the works with the banks left in-situ, minimising the risk in flood conditions



After pouring of these sections a cofferdam was deployed, holding back the water for a week while floor and wall pours were completed



All civil construction was completed by WRE as planned in a speedy three weeks from start to completion



Once the concrete was stripped, stop logs were installed, and the aquadam removed. Turbine installation then continued with the help of a 200t crane, required due to the long lift distance of nearly 40m





Mechanical and electrical installation was then carried out, with G59 (electrical) testing and commissioning completed after less than 7 weeks on site time





Only fencing and rendering of the power house are required to finish the works