Hampton eel screens.

Case study – 2017/18.

Hampton eel screens.

Screens to protect endangered eel populations.

We've installed a series of screens to stop eels being sucked into the Thames Lee Tunnel at our Hampton water intake. This will protect the eels and help the recovery of this endangered species.

Background.

We worked closely with our suppliers, Intralox Bridges and Steelway, to create protective eel screens for our intake at Hampton. These moving band screens are designed to stop eels getting into the transfer tunnel and allow them to continue their migration up and down the river.

The screens' small mesh prevents the eels from passing through, while an auto-wash feature enables the screens to self-clean without hampering the flow of water into the tunnel. The design is modular, so that all four screens and frames could be easily installed from a floating pontoon without impacting water abstraction during construction.

Working offsite.

The modules were constructed at Bridges' factory in Midsomer Norton, providing the benefits of a controlled working environment, free from the risk of delays and potential hazards which are often present on a construction site.

The steelwork was designed to fix directly onto the existing concrete structure in the water in front of the Hampton intake channel. This removed the need for structural works, such as piling, and minimised potential health and safety risks and possible delays to the project.

Elvers – young eels.

Our construction team visited the factory to see a demonstration of the installation process. This meant that as soon as the components reached the site, they knew how to install them correctly.

The frames were brought on site and fixed by divers into the concrete structure under the water. Most of the following work could be done from the bank or from the pontoon.

Benefits of the scheme.

The new screens have reduced embodied carbon, operational carbon and energy demand to less than 30 per cent of what was originally proposed in our business plan. The screens are also cutting operational carbon by an average of 9.6 tCO_2e per year, and they're saving 35 MWh per year of electricity compared to our business plan.

What's next?

There are another eight sites where we need to install eel screens at the intakes. Now we've successfully proven the effectiveness of this modular approach at Walton and Hampton, we can repeat the process at our other sites.

- **Protecting endangered eel populations.**
- **Saving 9.6 tCO_2e/year and 35 MWh/year of electricity.**
- **Innovative engineering design helping to minimise disruption.**