

# Elite Precast Concrete **case study**

Legato® interlocking blocks – a key element during the construction of fish and eel pass...

**For more information or technical advice, contact** 01952 588885.

**All freshwater fish species in England migrate, with some making significant journeys between freshwater and marine habitats. To support these migrations and comply with environmental legislation Yorkshire Water, in partnership with the Environment Agency, invested £10 million between 2015 and 2020 to construct 13 new fish passes across Yorkshire.**

**One such project was the construction of a fish and eel pass on the River Wharfe, near Addingham Village, designed by JBA Consulting and built by Ward & Burke Construction.**



The existing weir at Lobwood Pumping Station, spanning approximately 30 meters, impeded fish movement. The project scope included the hydraulic and structural design of a single Larinier fish pass on the right bank of the river.

The new fish pass would facilitate upstream and downstream passage for a wide range of fish, ensuring Yorkshire Water's compliance with environmental regulations and internal sustainability goals.



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The project presented a number of design and construction challenges including:

- **Hydraulic and Ecological Considerations**
- **Infrastructure Constraints**
- **Environmental Controls**

Elite Precast Concrete were asked to supply Legato® interlocking precast concrete blocks for the project and these proved to be a key element during the construction of the fish and eel pass.



## Cofferdam Construction

Sheet piles were used to form a cofferdam around the fish pass site.

However, where sheet piling was not possible Elite's Legato® blocks were deployed to create a watertight dam. This allowed for safe and dry excavation and construction of the fish pass base and walls.

## Structural Reliability

The modular nature of Legato® blocks provided flexibility and rapid installation, ensuring the cofferdam's integrity while minimising risk to existing infrastructure.

## Enabling Complex Works

By facilitating dewatering and safe access, the Legato® blocks enabled subsequent phases, including concrete pours, installation of fish pass baffles, and ecological enhancements.

Surveys and inspections by JBA Consulting and the Environment Agency confirmed that the fish pass met all design and ecological requirements. The use of Elite Precast Concrete's Legato® blocks was instrumental in overcoming complex site constraints, ensuring the project's success and supporting the migration of freshwater fish species in the River Wharfe.

*Thank you to Water Projects UK, Kevin Finn, Contract Manager and Donal Doherty, Project Manager, Ward and Burke for their help with this case study.*



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