

Further information:

Edenvale Young Associates

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Project Contact:

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Project Description number:

EVY0087

Project Type

Flood Risk/Consequence Assessment

Forecasting

Detailed Design

Calibration & Optimisation

Flood Map Challenges

Scour & Geomorphology

Water Framework Directive

Environmental Impact Assessment

Training

Key Words:

Asset Condition Assessment

Civil Engineering Design and Costing

Client and stakeholders:

British Waterways

Cain Bio-Engineering Ltd.

CADW & The National Trust

EAD Ltd.

Purton Weir Refurbishment

Edenvale Young was appointed to undertake the detailed design of the restoration of the spillway and apron structure discharging from the Gloucester and Sharpness canal to the River Severn at Purton.



Illustration 1: Existing Condition

Project Details

The original 1760s weir was converted from a fixed weir to a regulating weir in November 2006 to provide a flushing system to the canal to dilute nitrates at the intake to the Water Treatment Works.

When the tilting weirs were installed the altered flow of water substantially eroded the Severn salt marshes which are within a Site of Specific Scientific Interest (SSSI).

The project work included:-

- Condition assessment, preliminary design and costing of engineering options.
- Design of an energy dissipation structure capable of managing increases in flow from the canal which also protects the integrity of the existing structure.
- Repair or strengthen the existing elements of the structure in order to extend the lifetime of the structure.
- Design the structures that are used as an interface between the energy dissipating concrete structure and the environmental friendly bank protection system.
- Design the outflow structure of the Bristol Water pipes to converge and provide a safe sampling point to allow the Environment Agency to take samples of the effluent.