

RIVER FROME AQUEDUCT RAISING



As part of the electrification of the Great Western railway between London and Bristol the River Frome Aqueduct at Old Sodbury needed raising, to provide clearance for the overhead electrification. This work will involve realignment of the river upstream of the crossing as well as a new aqueduct.



At the optioneering stage ADAS undertook a baseline survey (**EcoCheck™**) of the affected reach and the immediate surroundings to determine any ecological constraints to the engineering design and to inform further surveys. Further surveys undertaken included a **River Corridor Survey** and **River Habitat Survey**, preliminary **bat survey**, **Otter and Water Vole survey** and **Great Crested Newt survey**. These surveys identified potential for bats in the mature trees growing alongside the channel, **fish passage constraints** and nearby ponds containing Great Crested Newts. The survey report included a summary of potential constraints and suggested mitigation measures, depending on final scheme design.

Following this an option was chosen which will involve creating a new river crossing fed by a new channel to facilitate the raising of the aqueduct. The old section of channel will become a backwater, thus retaining some of its most important habitat features, such as the mature trees. The old aqueduct will be removed. The new channel and river crossing are being designed to maximise their ecological value while allowing all legal and engineering requirements to be met.

As the River Frome is a 'main river' (under the jurisdiction of the Environment Agency), **Flood Defence Consent** is required to undertake the works, which must be supported by a **Water Framework Directive** (WFD) compliance assessment. In order to inform the WFD compliance assessment, surveys have been undertaken to identify **phytobenthos** (diatoms), **fish**, **freshwater macroinvertebrates**, **macrophytes** and **geomorphology**. Fish passage was also assessed and will inform scheme design. Detailed design is currently underway, which will inform the final WFD assessment. Local Authority consent is also needed for the works, as they will also affect a section of the river designated as an 'ordinary watercourse'.



Scheme: River Frome Aqueduct Raising
Client: BAM Nuttall/ Network Rail
Location: Wiltshire
Project type: Rail (part of Great Western Electrification Scheme)
Date: 2014-ongoing
ADAS Services: Ecology, Water Management, Planning & Licensing