

Bank stabilisation Case Study

River Great Ouse , Buckingham

Chandos Park Project

Project brief

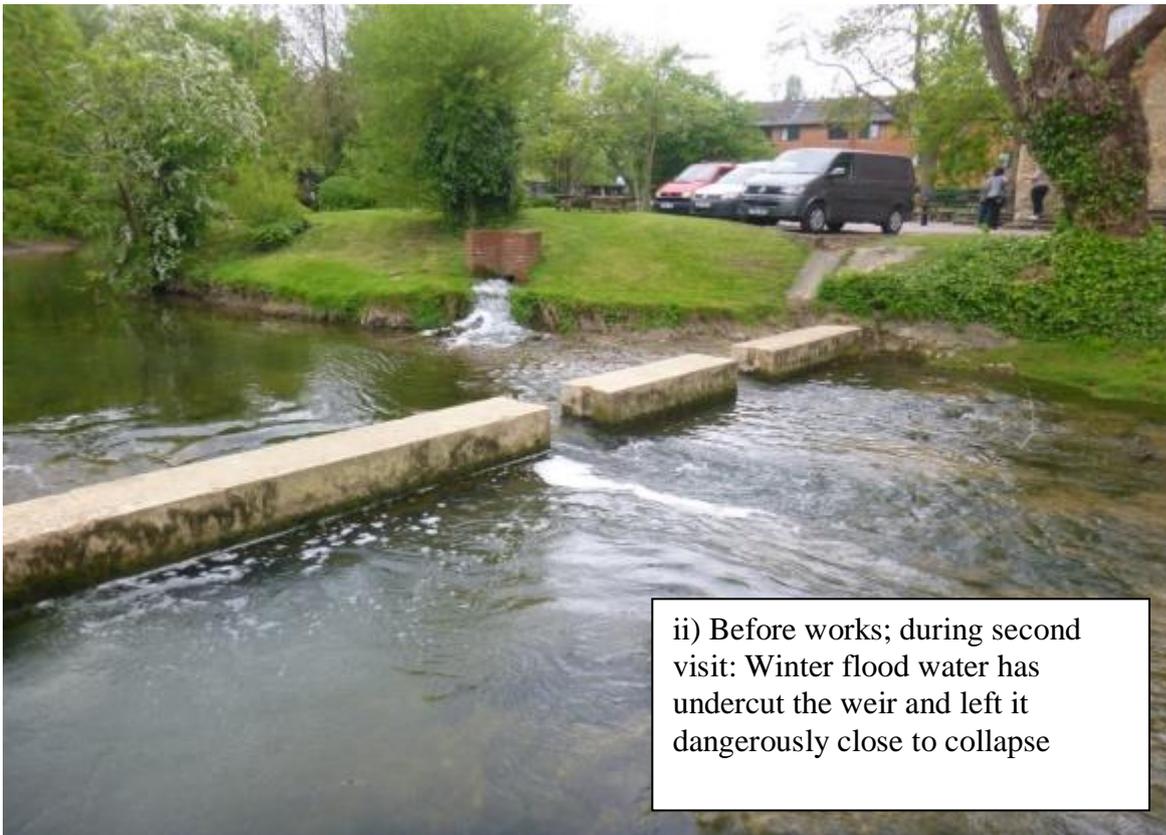
Chandos Park is a council managed public open space in the heart of Buckingham, through which the River Great Ouse flows. It attracts many visitors each year wishing to enjoy the outdoor space and the water frontage is extensively used by families and paddling children. A 110m length of bank downstream from a weir had eroded behind a failed wooden board revetment. The bank was in need of repair to thwart further erosion, reinstate the bank line and prevent health and safety risks to the public.

The weir itself failed during the winter of 2016 as it was undercut by floodwater leaving the top of the weir exposed above water level and the structure unsupported in the middle, this was a risk to the general public and required immediate removal.

The Solution

Weir removal

The first stage of works involved the removal of the weir which had been undermined and was close to structural failure. A 13t excavator with a breaker attachment was used to break the concrete into manageable pieces, then place them into a tracked dumper for removal.



Once the weir is removed the impounded water upstream begins to flow again reconnecting the upstream and downstream waterbodies. The large scour hole that had appeared when the water was flowing underneath the weir was filled in with imported gravel and a riffle was created across the channel width to balance the water levels.

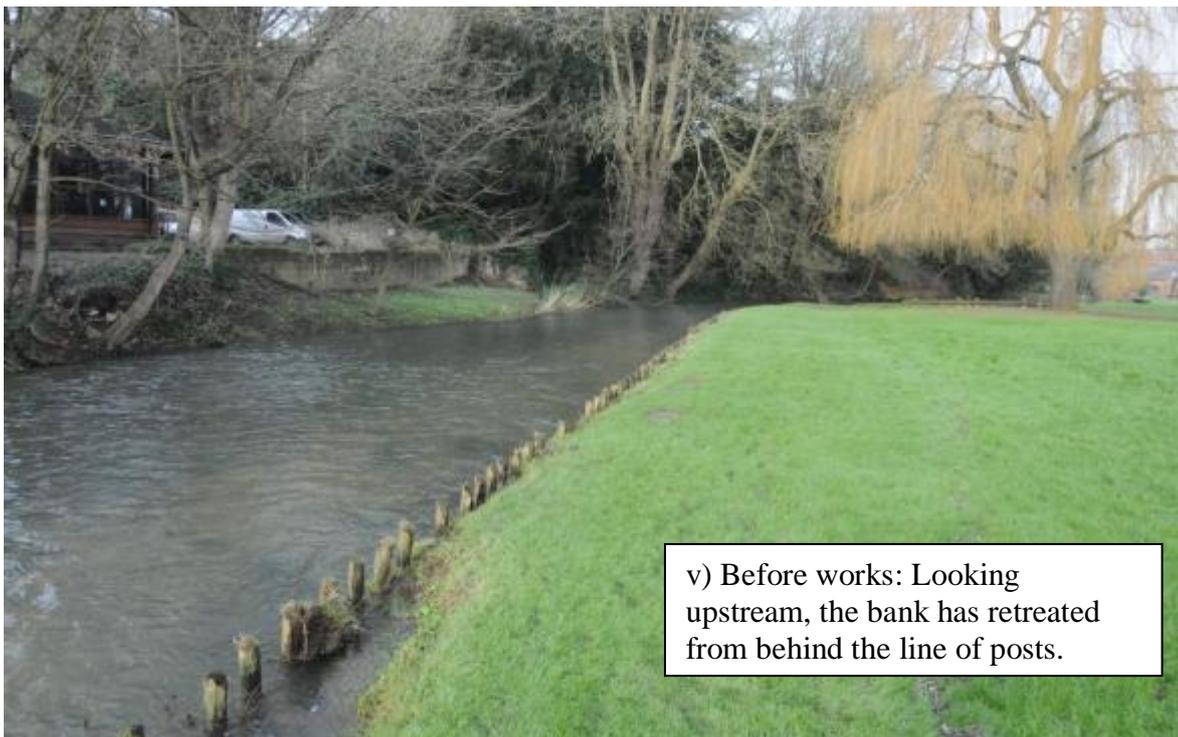


Bank stabilisation

The first stage of bank stabilisation involved the removal of the old rotten posts and any remaining boarding. These were disposed of at a licensed waste facility. The bank was then



cleared back to stable ground allowing enough space for securing the geotextiles. Chestnut posts were driven into the river bed every 500mm along the bank line and a retaining 2 ply geotextile installed to the rear.



The structure was then back-filled with locally sourced imported gravel to create a free draining, durable interface. Topsoil was spread evenly over the gravels creating a level stable surface to promote vegetation growth. Upon completion the revetment was seeded. Downstream of an overflow drainage channel, a marginal reed bed was created to help filter any impurities being leached into the river and help improve water quality. The work was completed in under three weeks.

