



Working to restore & enhance our rivers

UTILISING SPOIL EXCAVATED FROM RIVERS

10.2 Landform areas

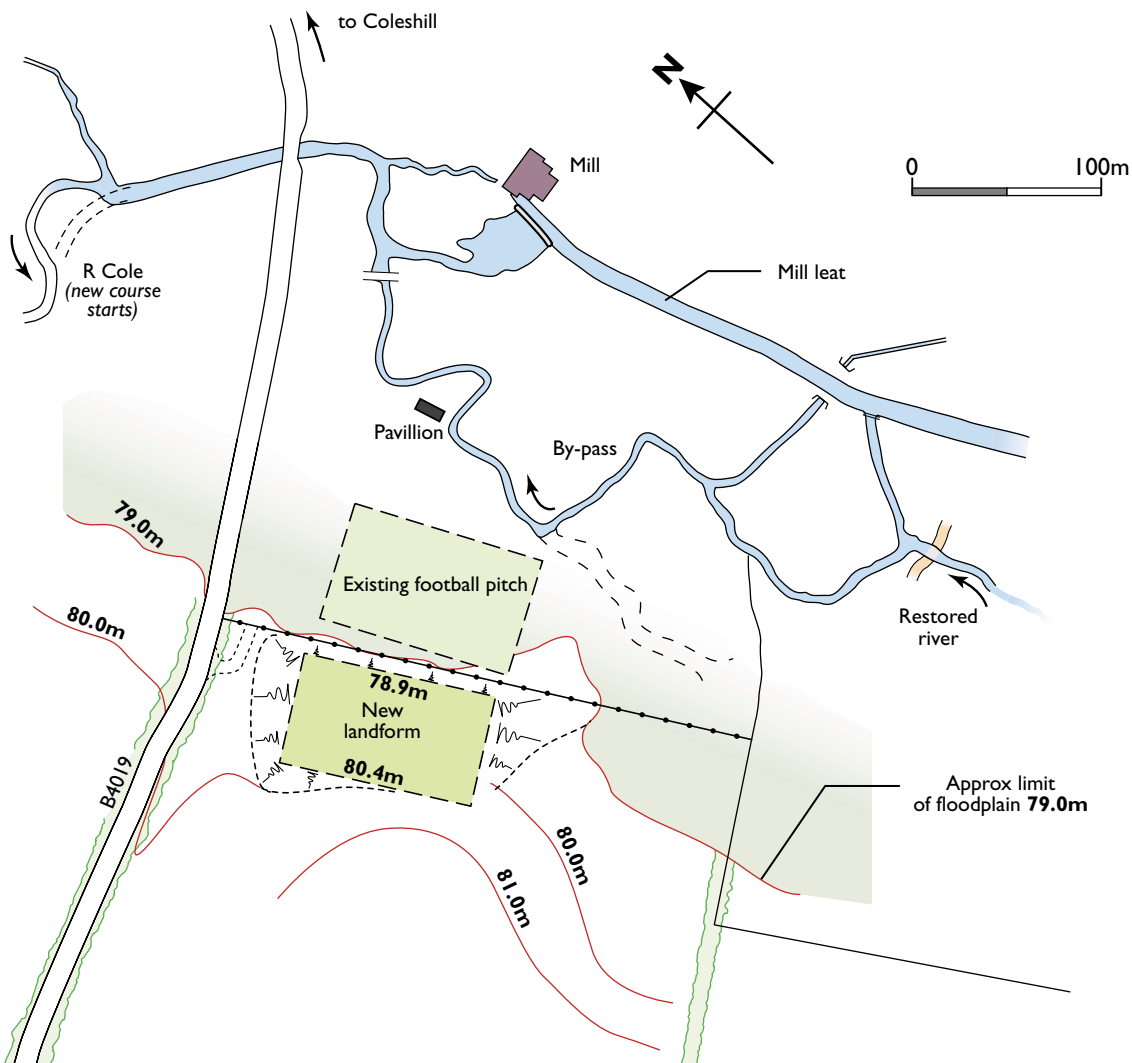
RIVER COLE

LOCATION – Coleshill, Oxon/Wilts border, SU 234935

DATE OF CONSTRUCTION – Autumn 1995 – June 1996

AREA – 0.6ha (c. 4,000m³ – main site)

COST – £13.6k Carting and creation of landform



DESCRIPTION

Excavation to create over 1 km of new meandering river channel resulted in c. 4,000m³ of spoil that needed to be transported away from the riverside. This was used to re-contour a nearby area of sloping arable field just off the floodplain. The landform created resembles a natural river terrace. It is large enough to serve as a second football pitch to compliment an existing pitch located on the adjacent floodplain, if needed. In addition, shallow mounds

of spoil were created at two locations on the floodplain to serve as stock refuges in times of flood.

DESIGN

Most of the material excavated was used to infill redundant lengths of the old straight river channel, but not all. As an intrinsic part of the overall scheme, several lengths were left unfilled and developed to create sheltered off-river habitats (see 2.2 and 9.2).

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Spreading of surplus material on the floodplain was not considered complimentary to the river restoration project objectives and carting all spoil off site would have been too costly. The concept of terracing the adjacent valley side was therefore adopted.

The site for the terrace was chosen to assist the local football club whose pitch is located on the floodplain of the river and suffers periodic inundation. It was possible to ensure that the area of the terrace was large enough for a pitch and that it was elevated above flood levels. In practice, the new terrace was restored to arable production but the opportunity for future flood free recreational use remains.

Construction of the terrace was a straightforward operation involving bull dozing of top soil to one side (post harvest) for re-use, prior to carting and spreading of fill. Detailing involved smoothly graded contouring around the edges to blend at 1 in 40 with existing land levels and ensuring a 1 in 130 cross-fall over the terrace to maintain surface run-off.

Elsewhere two smaller landform features were created on the floodplain in the form of gently sloping shallow mounds that will serve as stock refuges in times of flood, in areas where this is critical (see 1.3). These do not adversely affect flood storage capacity because

the amount of spoil utilised is small in comparison to the substantial surplus of spoil carted to the main landform.

SUBSEQUENT PERFORMANCE 1995/98

The new terrace is in full arable use with only a small part lost to production for one season. Although not unduly intrusive within the landscape, part of the designed 1 in 40 transitional slopes were steepened at the end of the contract to accommodate additional spoil resulting from extra works.

Concerns that increased flood frequencies generated by the river restoration works would advance the need to establish a second flood free football pitch have not materialised to date. The restored river has not developed the amount of in-stream growth conservatively estimated in the design, and seasonal rainfall has been below average since construction. Both these factors may account for this although hydraulic modelling did predict a manageable situation for the football club.

The concept of re-profiling valley sides near to the floodplain has proved to be a very effective way of avoiding excessive spoil disposal costs without any obvious detriment to the landscape.



Construction of landform in arable field to right of football pitch – 1995
Photo: Environment Agency

