

Use green engineering techniques instead of hard bank protection

Project Summary

Title: River Wey bank restoration

Location: River Wey, Elstead, Surrey, England

Technique: Restoring river banks using a 'living wall'

Cost of technique: ££

Overall cost of scheme: ££

Benefits: £

Dates: 1992

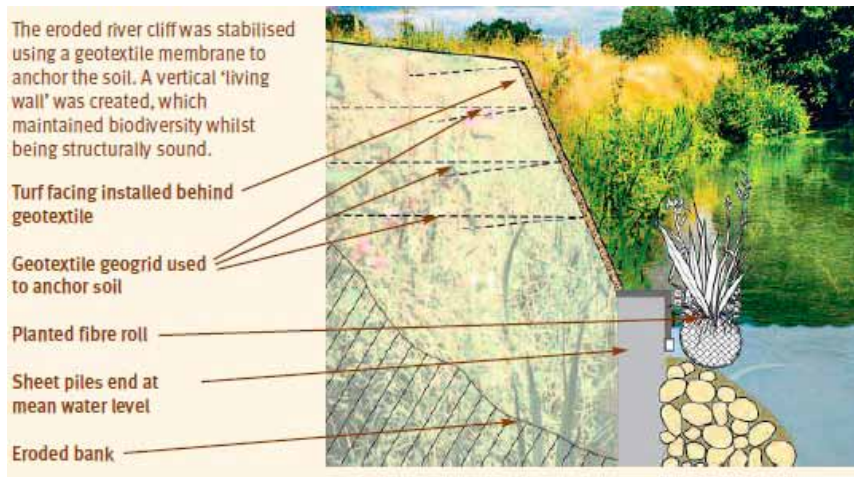
Mitigation Measure(s)

Use green engineering techniques instead of hard bank protection

How it was delivered

Delivered through: Surrey County Council

Partners: Environment Agency and MMG engineering



Engineering cross-section showing techniques used to restore bank profile and protect from erosion

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Background / Issues & Step-by-step

A bank of the River Wey in Elstead had been badly affected by erosion during high flows. This resulted in considerable bank retreat and the loss of the public footpath which followed the top of the bank. The landowner, Surrey County Council, wanted to restore the bank to its original profile and protect the land adjacent to the river from further erosion. A green engineering solution was developed to withstand the erosive pressures caused by high flows in the watercourse whilst improving the amenity and biodiversity value of the river. This solution included:

- The installation of sheet piles to protect the bank toe from further erosion. The height of the piling was limited to the mean water level, reducing the impact on natural bank habitats whilst providing a high degree of protection from further bank toe scour.
- The installation of fibre rolls to mask the piling and provide marginal habitats.
- The creation of a "living wall" behind the piling to create a new stable bank profile. The area behind the piling was infilled, and the new bank face was secured using a geogrid. This was covered by turf, held in place by geotextile.

Benefits & Lessons Learnt

- Greater wildlife benefit.
- Natural river bank restored.
- Re-graded banks designed to withstand erosion and under-cutting.
- A higher quality environment created along the footpath for people.
- A good example of how green engineering can achieve the objectives set out in River Basin Management Plans whilst providing flood and erosion protection.

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