Case Study

River Lea, Hooks Marsh

Background

The Lee Valley Regional Park Authority is responsible for managing the open spaces and venues along the 26 mile long, 10,000 acre Lee Valley Country Park. The backbone of the park is the River Lee, which runs through the park in a generally southerly direction, before out-falling to the River Thames.

Hooks Marsh is an historic sand and gravel quarry, which has since been filled with inert household and commercial wastes then capped. The river bank in this area has been heavily eroded and there are concerns over the risk of contamination of the watercourse caused by discharge from the buried contents of the landfill, if the erosion continues.

Scope of the Project

Aquamaintain Ltd were appointed as contractors to design and install a soft engineered bank repair and river habitat enhancement scheme to protect and improve this section of the river Lea.

The river at this location is keen habitat for Barbel spawning so a specialist approach was adopted to restrict siltation and low oxygen in the river during operations.

Kingfisher nests were also present in the bank to be repaired. So delivery of the project was timed once the nests had been fledged. Loss of habitat was mitigated by installing a purpose built kingfisher nesting bank as part of the bank restoration scheme.

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Solution

To address the bank erosion at the landfill site the outside bend of the river was protected by installing over 100 linear meters of a twin tiered Hazel Rod Spiling fascine. This was installed from the top of the bank so as to reduce disturbance of the in channel habitat.

A purpose built Kingfisher nesting bank was installed as part of the newly repaired embankment. It featured layers of compacted sand to provide birds with a substrate to construct nest burrows within the bank. Pre-fabricated nest boxes were also installed along the length of the repair as an alternative option.

To further enhance this stretch of the river Lea, large scale woody debris and flow deflectors were installed to discourage erosion of the newly repaired bank and encourage the formation of pools and riffles vital for coarse fish.

Berms were installed to narrow the channel where the river was wide and the flow had become sluggish. Speeding up water velocities and cleansing the gravels to improve Barbel spawning habitat.

For More Information...

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