

Bankside Remediation, Worsbrough Reservoir

On behalf of Balfour Beatty and the Environment Agency, Salix were appointed to deliver bank stabilisation works at Worsborough Reservoir, South Yorkshire.



The project involved the installation of a durable rock mattress revetment to replace a failing retaining wall and create a stable, long-term platform for angling, including wheelchair-accessible areas on both the north and south shores.

The initial stage of the project saw the removal of the existing deteriorated wall structure by Balfour Beatty to a specified design level. Salix then commenced the installation of a new stepped revetment using pre-filled granite rock roll mattresses, each measuring 2m x 1m x 250mm. These mattresses were placed in layers to the design profile, forming a robust and erosion-resistant wall along the bankside.

For each layer installed, the space behind the mattress wall was backfilled with 6N structural fill material and compacted to ensure stability and prevent settlement. This method provided both strength and permeability, allowing for natural water movement while maintaining structural integrity.

The final top layer of the revetment was capped with topsoil and seeded to promote vegetation establishment, blend the structure into the surrounding landscape, and support habitat creation. Voids that had formed under the previous wall structure were underpinned using Soluform grout bags, providing additional support and preventing future washouts beneath the revetment.



Plant and equipment used during the works included a 15-tonne tracked excavator for operations along the northwest and northeast shorelines, a 13-tonne tracked excavator for managing material deliveries within the compound, and a spider-wheeled excavator for maneuverability on uneven ground. A telehandler and trailer were used for material transport, while a hand whacker plate was deployed for backfill compaction. Fuel bowzers, Jason's cradle, a full complement of spill kits, and multiple plant nappies were utilised to ensure safe and environmentally responsible operations throughout the programme.

Salix supplied all rock mattress materials for the revetment, including pre-filled 2m x 0.9m x 0.3m granite mattresses and associated rock mattress ground anchors to secure the structure in place.

The project delivered a resilient, low-maintenance revetment system that significantly improves access and safety for recreational users of the reservoir while addressing long-standing issues of bank instability and wall degradation. With final landscaping and replanting scheduled as part of the broader scheme, the site is set to benefit from improved usability, aesthetics, and ecological value.