

## River Test Flex MSE<sup>®</sup> Bank Repair, Memorial Park, Romsey, Hampshire, UK, 2017

**Case Study:** Memorial Park Riverbank Repair & Revetment Replacement, 2017

**Client:** Test Valley Borough Council

**Contractor:** Five Rivers Environmental (Flex MSE<sup>®</sup>-Certified Contractors)

In early 2017, Test Valley Borough Council proposed to repair >270m of existing timber bank revetment that had failed, running through War Memorial Park, Romsey. This particular site has a number of SSSI (Sites of Special Scientific Interest) designations with regard to native vegetation, biodiversity and a chalk bank stream.

Flex MSE<sup>®</sup> Geomodular Block & Interlocking Plate System was specified, due to the successes on similar projects, conducted by the Environment Agency, whereby the system had received the unique designation, "Recommended for use on SSSIs" – the first man-made product to receive such a designation to date.



After a long tender process, the contract was awarded to Five Rivers Environmental Contracting – a Flex MSE<sup>®</sup>-Certified Contractor. Works commenced in mid-Summer 2017, first to remove the existing failed timber revetment, and then to replace the bank edge using geogrid-reinforced Flex MSE Units.

Sustainably sourced river-stone was used as a launch-apron, to not only help tie into the riverbed, but also to provide a form of permanent scour protection at the toe.

In some places Flex MSE<sup>®</sup> Units were tied-back into the bank, with every other unit turned perpendicular to the face, and in others where structural engineers had stipulated, geogrid was laid every 3 courses of units, tying up to 1.5m into the bank.

During installation, native aquatic plants were brush-layered in between the units at the water line. Post-installation, a specific native seed mix was hydroseeded onto the face, and top of the bank to meet the sensitive vegetation specification.

The whole project was completed in a matter of weeks, whilst maintaining all SSSI designations, and making use of site-won materials from the chalk riverbank.

Flex MSE<sup>®</sup> is UV-stabilised and both water and root-permeable with a 120-year design life.

Flex MSE® is a direct alternative to concrete, gabion baskets and timber revetment systems due to ease of installation, 120-year design life & 75-year warrantee, natural flood-management properties & habitat/biodiversity preservation. The Flex MSE® system can be vegetated in a variety of ways including hydroseeding, live-staking or brush-layering, either blending in with the natural environment or creating a living, breathing green space in urban environments.



Flex MSE® is unique in so much as that the system can incorporate the use of geogrids and other such reinforcement products, including earth/rock anchors.



The main USPs of Flex MSE® Vegetated Wall Systems include:

- 120-year design life with a 75-year warrantee
- Installed in less than 2/3 of the time compared to traditional systems
- Costs up to 60% compared to traditional systems
- Can be filled with site-won materials
- Can be vegetated with native plant species
- Is currently the only man-made product to be approved for use on SSSIs by the Environment Agency
- BREEAM compatible
- BBA Certification Stage 3 Reached
- Can be installed from horizontal (living roofs) to near-vertical (retaining walls & slopes)

Flex MSE® Applications & Uses Include:

- Retaining walls
- Riverbank/coastline erosion repairs
- Free-standing flood-walls
- Landscaping features
- Ditch lining & slope cladding
- Culvert headwall repairs