

Land Reclamation, Marl Beck

On behalf of the Coal Authority, Salix were appointed to carry out reprofiling and drainage improvement works at the Marl Beck site to create stable, vegetation-ready landforms and mitigate the risk of erosion and mine waste mobilisation.



The project aimed to address instability and environmental concerns associated with historical mine waste deposits by reshaping the landscape and formalising surface water management infrastructure.

The central focus of the works was the reprofiling of mine waste to remove steep gullies, overhangs, and excessively steep gradients. These features were reshaped into stable landforms capable of supporting vegetation. Soil stockpiled above the access road was partially transferred and spread over the reprofiled area below the road to support revegetation efforts. The remainder of the stockpiled soil was spread over the upper areas of the site. Hydroseeding was used across the site, both above and below the road, to establish a durable vegetative cover and promote long-term surface stability.

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As part of the water management strategy, drainage infrastructure was significantly improved. A stone-lined ditch was reprofiled, and approximately 100m of 450mm diameter pipe was installed to connect an additional drainage ditch to the outfall of a future Biochar treatment chamber. These works were designed to divert surface water away from the mine waste, slow flow velocities, and reduce erosion risks along newly created channels. Drainage gullies were formalised to ensure a controlled flow path, while silt mitigation measures such as silt fencing and coir rolls were employed to prevent sediment migration and protect nearby watercourses.

Plant and equipment utilised on site included a Menzi M540 spider excavator and a 13-tonne standard excavator for reprofiling operations. Additional site equipment included a fuel bowser, certified chains and shackles for lifting operations, and a full range of hand tools. Environmental protection materials such as plant nappies and no-spill kits were used to safeguard against fuel or oil leaks.

Case Study



A ford crossing and Biochar treatment chamber are scheduled for installation at a later stage, pending final design approvals. These features will complete the water treatment system, enhancing the site's ability to filter runoff and improve downstream water quality.

The works were carried out with environmental sensitivity and forward planning to ensure a long-lasting, ecologically sustainable result. The intervention has laid the foundation for successful re-vegetation and improved water management, with the site expected to stabilise further as vegetation establishes and drainage systems come online.