

Badger Anti-Burrowing Protection for East West Rail Alliance (EWRA)

SOUTH EAST TRAIN LINES, OXFORD TO CAMBRIDGE - SOUTH EAST - United Kingdom



TYPE OF PROJECT
Slope Protection

YEAR OF CONSTRUCTION
2021

CLIENT
NETWORK RAIL

CONTRACTOR
BAM Nutall

DESIGNER
ARUP

PROD. RELATED
RenoMesh (17500m2)

Challenge

The East West Rail Alliance (EWRA) is a major UK rail infrastructure project aimed at reinstating and upgrading the historic Varsity railway line to connect Oxford and Cambridge via Bicester, Milton Keynes, and Bedford, creating a strategic east–west rail link that avoids London.

Spanning a long distance through rural countryside, the project faces a range of environmental and geotechnical challenges. One of the most critical issues encountered was the presence of badgers and other burrowing animals along the rail corridor. Badgers are highly effective diggers, creating extensive underground sett networks that can extend beneath railway embankments.

These burrows pose a serious risk to rail infrastructure stability. Excavation beneath embankments can lead to ground weakening, potential slope failure, and, in extreme cases, collapse. Furthermore, the interconnected tunnels allow water ingress deep into the embankment, accelerating erosion and increasing maintenance requirements. This combination of structural instability and drainage issues can result in operational delays, safety concerns, and increased lifecycle costs for the railway.

A durable, environmentally sensitive, and effective anti-burrowing solution was required to protect the railway embankments from ongoing wildlife activity while maintaining ecological balance.



RAILWAY EMBANKMENT BURROWING PREVENTION



Anti-burrowing DT Mesh spread across rail embankment

Solution

Maccaferri provided its RenoMesh Mammal Anti-Burrowing Mesh, a proven solution for preventing damage caused by badgers and other large burrowing animals. Specifically designed for infrastructure protection, this high-performance mesh acts as a physical barrier that stops animals from digging into embankments, slopes, and riverbanks.

Unlike plastic grids or lightweight rabbit netting, RenoMesh offers superior strength and durability. The system is constructed using a flexible double-twist woven steel mesh, allowing it to conform closely to ground profiles while maintaining structural integrity. The mesh is protected with a zinc-aluminium heavy-duty galvanised coating, delivering excellent corrosion resistance in harsh environmental conditions.

To further enhance performance, the mesh is coated with Maccaferri's advanced PoliMac® polymer. This coating significantly improves resistance to UV exposure, abrasion, and chemical degradation, ensuring a longer design life compared to traditional anti-burrowing systems. As a result, the solution provides long-term protection with reduced maintenance requirements.

Across the EWRA project, a total of 17,500 m² of badger netting was installed in key risk areas. The mesh functions as an effective slope protection system, preventing deterioration caused by animal burrowing. Its aperture size has been carefully engineered based on extensive research and field studies conducted in collaboration with academic institutions, ensuring it deters both large animals and smaller juvenile mammals.

Installation efficiency was a key benefit for the project. Supplied in large roll sizes of 4 m x 25 m, the mesh allowed rapid coverage of extensive areas with minimal jointing. This reduced installation time, minimised disruption, and limited the duration of work near active railway operations, improving both safety and project delivery efficiency.



Anti-burrowing DT Mesh deployed and secured



Area covered with the protective mesh



OPEN GOOGLE MAPS



OPEN GOOGLE EARTH