CASE HISTORY
UK / CH / RWSR / Rev: 01, Jan 2020

M8/M74 IMPROVEMENT SCHEME
NORTH LANARKSHIRE, SCOTLAND

SLOPE REINFORCEMENT
Product: Green Terramesh System, Paragrid, Macmat-R

Problem:
The Scottish Governments new initiative is to complete the Motorway Network in Central Scotland including the M8, M73 and the M74 which are a Road Improvement Scheme to fill in the missing link between Edinburgh and Glasgow. The works needed would include a new 7 mile stretch of the M8 which would replace the A8 through North Lanarkshire.

Solution:
The procurement process was tendered and the successful bidder, Scottish Roads Partnership (SRP), was a consortium with a construction joint venture of Ferrovial Agroman and Lagan. Maccaferri was awarded the contract by the joint venture for all reinforcing systems required on the project. The M8, M73, M74 motorway improvements were one of the first major road projects in Scotland to pioneer the use of Building Information Modelling (BIM), the cutting-edge 3D technology revolutionising civil engineering.

A commitment to social responsibility and the environment saw 95% of all waste produced on site recycled. Works impact was minimised with an effective communications strategy and community engagement programme, including supporting local charities, social and educational programmes and provision of significant local training, short and long-term employment opportunities.

Maccaferri was awarded the supply contract for the materials required for several major reinforced soil slopes and slope stabilisation system. Maccaferri provided full technical support to the JVs engineer, Amey Edinburgh.

The construction included over 5,000m² of reinforced soil slopes up to 15 metres high, in which Green Terramesh and Paragrid were used.

The Green Terramesh (GTM) System combines BBA certified 120 year design life double twist steel mesh and a rapid to install fascia. The fascia includes biodegradable matting which supports the vegetation growth giving the green finish and at a slope angle of 70 degrees.

The works also included the upgrading and widening of the M73 and M74 connections together with the construction of a new underpass at the Raith Interchange - here Macmat-R was installed in combination with soil nailing. 15,000sqm of Macmat-R erosion control system was installed.

Client:
TRANSPORT SCOTLAND
Main contractor:
FERROVIAL LAGAN JV
Designer:
AMEY / RPS (Edinburgh offices)
Products used:
GREEN TERRAMESH, PARAGRID (5,000sqm facing area)
Date of construction
2015/2016
The North Calder bridge beam is lifted into place

The GTM units are forming the bridge abutment

View of the whole embankment width. All fill to the Green Terramesh faced Paragrid reinforced soil block and any wedge to the rear of the reinforced soil block was placed and compacted in layers to 95% of maximum dry density according to the SFHW.
The tallest structure almost finished

GTM closure detail - abutting to a concrete soil reinforced wall

Finished 15 metre high slope reinforcement
Two years on and vegetation has grown and the solution is a success.

A couple of years later, vegetation has proceeded to grow making the slope fit into its countryside surroundings.