



**GREEN GRAVITY**

**WALLS UK LTD**

**Manufacturers of the  
ECO-MSE Bag System**



## **Sustainable Retaining Walls engineered for a Greener Future**

**Innovative ECO-MSE Bag System for  
Infrastructure, Rail, and Flood Defence.**



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# ABOUT GREEN GRAVITY WALLS

At Green Gravity Walls, we specialize in providing sustainable, high-performance retaining wall solutions that meet the demands of modern infrastructure while preserving the natural environment. Our ECO-MSE (Mechanically Stabilized Earth) bag system offers a smart alternative to traditional retaining walls, combining structural integrity with ecological benefits.

Designed for industries such as rail, civil engineering, flood defence, and landscaping, our solutions are engineered for efficiency, rapid deployment, and long-term durability. By integrating with the landscape and encouraging natural vegetation growth, our retaining walls not only provide strength and stability but also contribute to a more sustainable and environmentally responsible future.



## Our Mission

Our mission is to redefine modern infrastructure by providing eco-friendly, high-performance retaining solutions that seamlessly integrate durability with environmental responsibility. We believe that sustainable engineering should not come at the cost of efficiency, which is why our ECO-MSE bag system is designed to offer rapid deployment, minimal site disruption, and long-term resilience, all while reducing the environmental footprint of construction.

We are committed to revolutionizing the industry by replacing traditional concrete and steel structures with natural, adaptable, and vegetation-friendly alternatives. Our solutions not only provide cost-effective and structurally sound retaining walls but also promote biodiversity and carbon footprint reduction, aligning with the global shift toward greener infrastructure.

## Our Vision

Our vision is to lead the transformation toward a more sustainable, resource-efficient world where infrastructure harmonizes with nature rather than disrupting it. We aim to be the go-to partner for industries looking to modernize their construction approach, helping them meet sustainability targets while ensuring project efficiency, safety, and long-term performance. By combining innovation, efficiency, and environmental stewardship, Green Gravity Walls is committed to shaping the future of sustainable construction—one project at a time.



# OUR ECO-MSE BAGS

Green Gravity Walls' ECO-MSE bags are engineered to meet high-performance standards for retaining wall applications, erosion control, and soil stabilization, providing a cost-effective and environmentally responsible solution.

Designed for strength, durability, and resilience, our ECO-MSE bags conform to rigorous international testing standards, ensuring long-term reliability in civil engineering and landscaping projects. Additionally, the efficient installation process of our system reduces labour costs by approximately 60% compared to conventional retaining wall systems, minimizing site disruption and keeping projects on schedule while delivering superior structural performance.



## ECO-MSE Bag Conformance

Our ECO-MSE bags have been rigorously tested and conform to all of the following industry standards:



- ASTM D4632 (2015)
- EN ISO 12956 (2020)
- ASTM D4533 (2015)
- EN ISO 11058 (2019)
- ASTM D6241 (2014)
- EN12224
- ASTM D5261 (2018)
- EN 12226:2012





# ECO-MSE ADVANTAGES



## Cost-effective

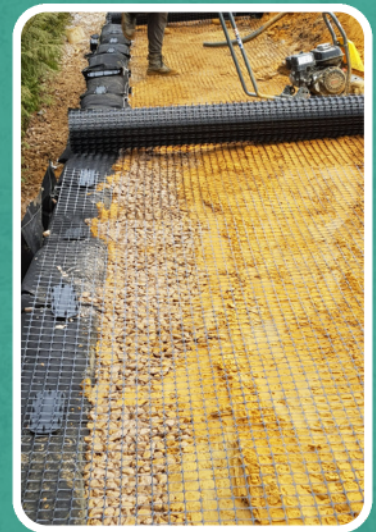
Our ECO-MSE bags provide a low-cost alternative to concrete and steel, with up to 60% labour savings due to fast, easy installation. Their lightweight, modular design reduces material and workforce expenses without compromising strength or durability. With a 100+ year lifespan, they offer a long-term, low-maintenance solution for retaining walls and soil stabilization.



## Easy to install

The quick and simple installation process of our ECO-MSE bags makes them ideal for projects in remote or challenging locations.

Unlike conventional retaining wall systems that require heavy machinery and extensive groundwork, these bags can be rapidly deployed and assembled on-site with minimal disruption, helping projects stay on schedule.



## Environmentally friendly

Our ECO-MSE bags are made with 99% recycled materials and are designed to integrate naturally with their surroundings, allowing vegetation to grow through the structure over time.

This not only enhances the aesthetic appeal of the retaining wall but also contributes to soil stabilization and biodiversity. By reducing reliance on concrete and steel, they offer a more sustainable approach to infrastructure development.





# TESTIMONIALS

## NETWORK RAIL

"This approved innovative ECO-MSE system is not only environmentally friendly but also highly cost-efficient. It provides a sustainable alternative to traditional retaining walls while maintaining structural integrity and durability. The ability to reduce costs while supporting eco-friendly infrastructure makes it a valuable solution for projects across all industries.

By choosing this system, we have enhanced both sustainability and savings, aligning with our long-term asset management goals."

*– Asset Management, Network Rail*



## NORTHERN TRAINS

"The service provided was outstanding from start to finish. The supply and installation process was handled with professionalism, ensuring a smooth and efficient delivery. The team demonstrated great expertise, making sure everything was installed to the highest standard while maintaining a strong focus on sustainability and safety. Their commitment to quality and attention to detail made this project a success, and we're pleased with the effective and environmentally friendly solution they delivered."

*– Programme Manager, Northern Trains*



## NETWORK RAIL

"Green Gravity Walls UK undertook the design, civil, manufacture and installation works of the ECO- MSE bags (Mechanically Stabilized Earth bagged vegetated wall system) at Normanton Train Station on behalf of TMT Commercial Contractors Ltd / Northern Trains / Network Rail. The team were great to work with, always listened to our requirements and open to offering suggestions themselves. This was a large project which was carried out professionally, on time and on budget, with a high degree of skilled quality. I wouldn't hesitate to use Green Gravity Walls UK Ltd again on future construction project builds."

*– Director, TMT*





# ECO-MSE USES

Our ECO-MSE are widely used in civil engineering and environmental projects for erosion control, slope stabilization, and soil reinforcement. They are constructed by filling geotextile bags with a specialist sand/soil blend, or granular materials to create a stable structure, providing mechanical strength to earthworks.

## RETAINING WALLS

Our ECO-MSE bags are used to construct retaining walls, where the bags act as a structural element to hold back soil. The bags are stacked to form a reinforced wall, which stabilizes the soil behind it. The friction between the bags and the fill material provides strength, allowing the wall to withstand lateral earth pressure.

## SLOPE STABILIZATION AND EROSION CONTROL

To prevent soil erosion on steep slopes or riverbanks. Our ECO-MSE bags filled with sand/soil are placed on slopes or embankments. The bags provide stability by holding the soil in place, preventing it from being washed away during rainfall or flooding events. This is especially common in coastal protection, riverbanks, and hilly areas.

## SHORELINE AND RIVERBANK PROTECTION

To protect shorelines, riverbanks, and flood-prone areas from erosion due to water flow or wave action. Our ECO-MSE bags are often used in marine applications to build seawalls, groynes, or revetments. These bags help dissipate wave energy, reduce water velocity, and prevent the removal of shoreline soil.

## ROAD AND HIGHWAY EMBANKMENTS

Used to reinforce embankments for roads, highways, and railways. In areas where soil conditions are weak or prone to settlement, our ECO-MSE bags can be used to reinforce the embankments, providing a stable foundation for the roadbed. This helps in distributing the load evenly and reduces the risk of landslides or settlement issues.

## FLOOD CONTROL STRUCTURES

To mitigate flood damage by constructing temporary or permanent flood barriers. Our ECO-MSE bags can be quickly filled and placed to form temporary levees or flood barriers in the event of rising water levels. For permanent flood control structures, these bags can be used in combination with other reinforcement techniques.

## DRAINAGE

Our ECO-MSE bags provide a non-toxic, environmentally approved solution for drainage applications, including headwalls, culverts, and ditch linings. Their carbon-neutral design supports sustainable water management while ensuring long-term stability. With a 100+ year lifespan, they offer a durable, low-maintenance alternative to conventional materials. The lightweight, modular system allows for easy installation, even in challenging locations, making them an efficient and eco-friendly choice for drainage infrastructure projects.