



# GeoGrow

GG-Rootlok-UK22



# Think Greener Infrastructure

Rootlok - The Engineered, Environmentally Friendly System.

#BuildingGreener



# Sustainable Construction





# **Innovative green solutions for sustainable erosion control and earth retainment**

**You can expect expert knowledge on earth retainment solutions along with great personal service. Our team will help you understand how the system works and how it can be used.**

**To ensure you get the best solution for your application, we provide a full design service, ensuring our product and designs are tailored to your requirements. We offer solutions for every project we work on, allowing you to visualise how a Rootlok wall will fit in to your scheme. Where a formal design is required, our engineers will provide drawings and calculations to prove your structure is fit for its intended purpose. Alongside our design services we also provide a supply, install and hydroseed package.**



**Let's help reduce carbon emissions together.**

# Introductione

## • DESIGN • SUPPLY • INSTALL

GeoGrow manufacture in the UK, “Rootlok” a Vegetated Retaining Wall System, a soft engineered modular geotextile bag and interlocking plate system that vegetates to provide an encapsulated facing to a permanent reinforced earth solution for both land & water applications, that delivers a sustainable green finish.

We offer a full turnkey design & build package for each unique application. We adapt the principles of MSE utilising BBA Certified Stratagrid Geogrids for reinforced earth structures, retaining walls, slope stabilisation with slope angles up to 70° and 10M high, with a 120-year design life.

Our in-house technical team provide market leading, innovative solutions, budget costs and formal designs all in accordance with BS8006-1 backed calculations, sections, and layout drawings for specific site requirements with PI, if required.

Rootlok installation teams have a proven track record and expertise to quickly install the optimum Rootlok system, executed safely and to see the project to a successful conclusion. GeoGrow is fully certified to work in various markets including rail, road, infrastructure, construction, building, environmental and river & flood protection works.

Our focus is to deliver an engineered solution that's cost-effective, environmentally friendly, low impact, that adds to the ecosystem providing major benefits & advantages over traditional hard engineered structures.

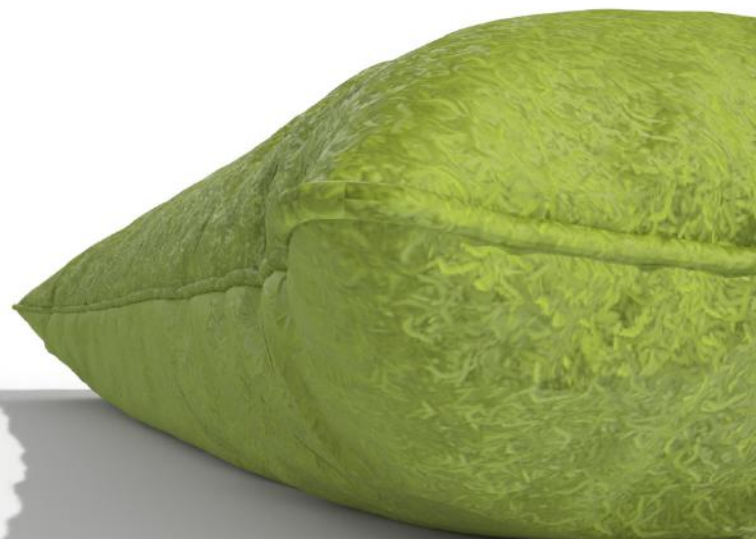
Our in-house hydroseeding and planting service offers up-front advice enabling clients to make an informed choice for the right vegetation for their specific Rootlok installation that meets with their final expectations.

GeoGrow's Rootlok Vegetated Wall System is the go to product choice for clients, specifiers, consultants and contractors who want to specify a more natural, green solution for their projects.

Regards,



**Christopher Ansell,  
Managing Director**





# Design

From concept to completion of your Rootlok Solution, our experienced team of designers and geotechnical engineers deliver sustainable engineered techniques that challenge soil erosion, wall retention, habitat creation and river and flood protection to name a few.

## Initial design

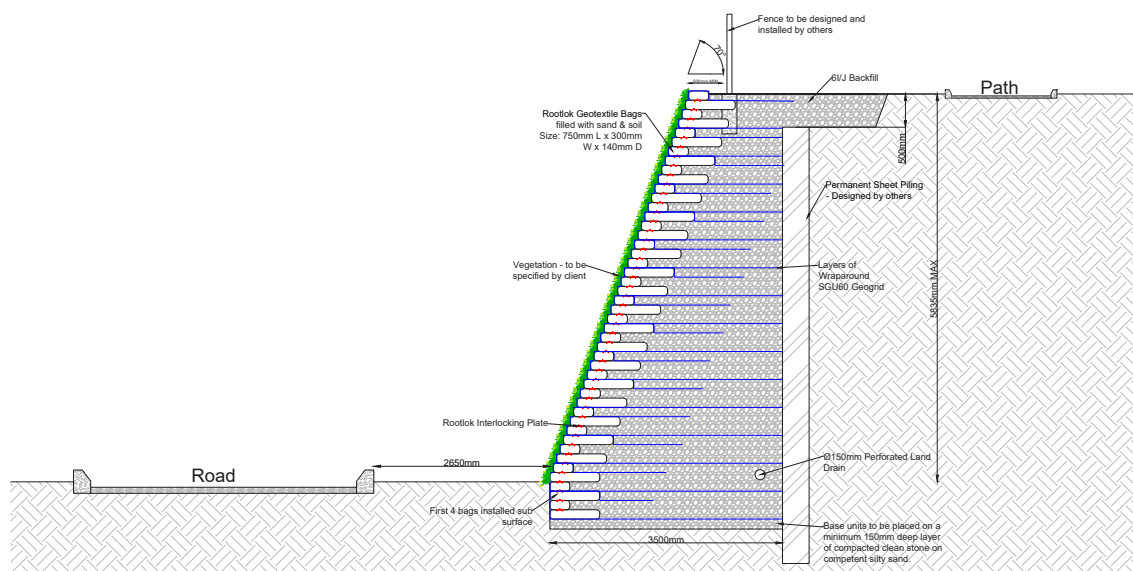
We will provide you with technical advice and a free initial design and quote. This initial detail / solution and costings will show you what we would expect the solution to be. (This can alter based on the formal design & site visit)

## Formal design

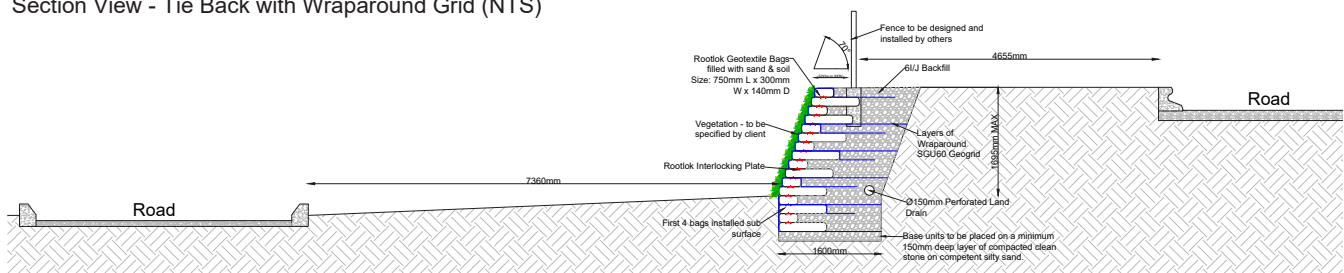
Our design team can complete in-house formal designs to help optimise the required solution. Included with this are design drawings, a design report detailing methodology and geotechnical analysis confirming the solution is British Standard and Eurocode compliant. As standard all our designs come with £5 million of personal insurance, with collateral warranties available at an extra cost. Technical advice is provided throughout the design process and up until the completion of the build.

On completion of a formal design, a formal quote will be provided for supply only, or a supply and install price for GeoGrow's in-house team to provide a full installation service.

Past projects have demonstrated major cost savings by using the Rootlok system in place of hard revetments and our environmentally sensitive structures are often more durable.



Section View - Tie Back with Wraparound Grid (NTS)



Section View - Tie Back with Wraparound Grid (NTS)

# Everything You Need to Know

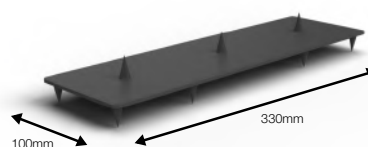


Rootlok is an engineered environmentally friendly system specifically designed for earthen structures. The system provides a reinforced facing for walls and slopes, protecting surfaces from erosion and offering an ideal medium to achieve a sustainable green finish.

Rootlok is a soft modular system providing flexible solutions that offer the same benefits of a 'hard engineered system': permanent, strong, robust. However, unlike hard revetment alternatives, the system offers many more benefits that have a real impact on our environment:



Non-woven geotextile bag  
Filled bag weight:  
Approximately 35kg



100% Polypropylene  
3 top spikes  
8 bottom spikes

## A proven, green alternative to concrete, gabion and other stone filled wall systems.

Building Greener Infrastructure



Before



After

# Features & Benefits

## Save Time & Money

- A green solution with high performance levels
- Water flows and filters through the system rather than being redirected
- The system vegetates - roots grow within the structure to provide further structural support
- A long-term and permanent solution - the vegetation protects the structure from UV degradation and the effects of harsh weather
- Enhances the natural environment - creates natural habitats providing real biodiversity net gains
- Saves time and reduces cost- walls are installed very quickly with minimal labour and equipment
- Can be used in restricted spaces - no large equipment required
- Withstands differential settlement
- Made from recycled material
- Helps to reduce carbon footprints



# Manufactured in the UK

We want to make a difference in more ways than one. We believe manufacturing in the UK gives us the benefits to help make that extra difference.

## **We are committed to our customers**

We believe in building good long-term relationships and giving our customers the chance to meet the Rootlok manufactures face to face. This promotes a positive communication stream and shows we mean business.

## **Giving you more control**

With greater communication comes greater control. You can check on progress, on quality control and be able to see first-hand what's going into your green solutions.

## **You can develop ideas with our technical team based in Cannock, Staffordshire.**

Being able to meet with us in person opens up the opportunity for you to share your experience and ideas you have for your next project. Lets talk planting techniques that may improve your aesthetic finish and installation.



A blend of washed sand & soil (vegetated compost) free from pollutants which helps to create a free draining system ready to achieve a sustainable vegetated green finish.



## **Fast response times**

Things can go wrong, we know this. You have the added security of knowing that we are based in the Midlands and can respond quickly to anywhere in the UK to resolve any problems.

## **Available from stock**

Fast delivery is possible to and from anywhere within the UK. No more waiting for new stock arrivals from overseas. You can have your product off the shelf, ready to install, straight away.

## **Customers appreciate a 'made in Britain' label**

The results of our "Made in Britain" survey found that when it comes to building trust, knowing that a retailer is selling goods that are made in the UK, this gives customers the confidence to buy home made products.

## **It helps create employment in the UK**

The more products that are made in the UK, the more jobs are secured and greater opportunities are created.

## **Reduced carbon footprint**

By simply taking out the travel from an overseas manufacturer, you significantly reduce the carbon footprint of your scheme. Find out more about why manufacturing in the UK is more sustainable.

## **Choice of product**

We have a strong heritage of design and manufacturing in the UK. You can be proud that your choice is British - made and the knowledge that it will add value to your clients projects.

## **Help Great Britain becomes a nation of manufacturers again**

You are reinforcing the manufacturing sector by making a choice of a British made product. If you can choose 'Made in the UK' – you should. We don't want to lose the manufacturers and the skills needed to make the high quality products that we are known for here in the UK.





# Green Solutions for a Better Future



We are a conscious thinking business meaning we are aware of the implications our actions have on our environment and surroundings. Our work is focussed on creating the best geotechnical solutions we can as our approach to protect the environment, requires a sustainable mindset.

These are firmly established in the GeoGrow culture. As a leader in providing sustainable solutions for: gravity walls, retaining walls, soil reinforced structures, river and flood protection works, slope stability, erosion control and landscape applications, GeoGrow's systems and solutions follow the adage "Building Greener" as an emphasis on the fact that we strongly believe in green infrastructure.

We have developed a holistic sustainability strategy that focuses on the challenges involved in improving energy efficiency of building in construction and reducing carbon emissions in line with the 2025 Future Homes Standard that the Ministry of Housing, Communities and Local Governments will be adhering to.



# Environmental & Social Responsibility

We pursue our values to create a sustainable future for coming generations, to enable those that come after us a greener future. Fairness, respect, passion, responsibility, humility and integrity - these values form the foundation of our actions. Everybody, every day and everywhere.

Our values are the common beliefs and actions shared by people at GeoGrow. They define how we work with one another as well as how we conduct ourselves outside the company as representatives of GeoGrow.



## **Tie-Back Gravity Wall**

Build type for small & low-loading applications, heights up to 1.64m

## What Sets Us Apart

We believe in communication and innovation, and planting the 'Idea' seed and watching it grow and blossom. We are ideas based and encourage creative thinking, as these are the building blocks for collective innovation. We are ambitious to achieve our collective goal and will aspire to reach this success with a smile on our face.



# Photo Gallery





## A look back at 2021





# Flood Defence





# Photo Gallery



Before



After



Before



After



Before

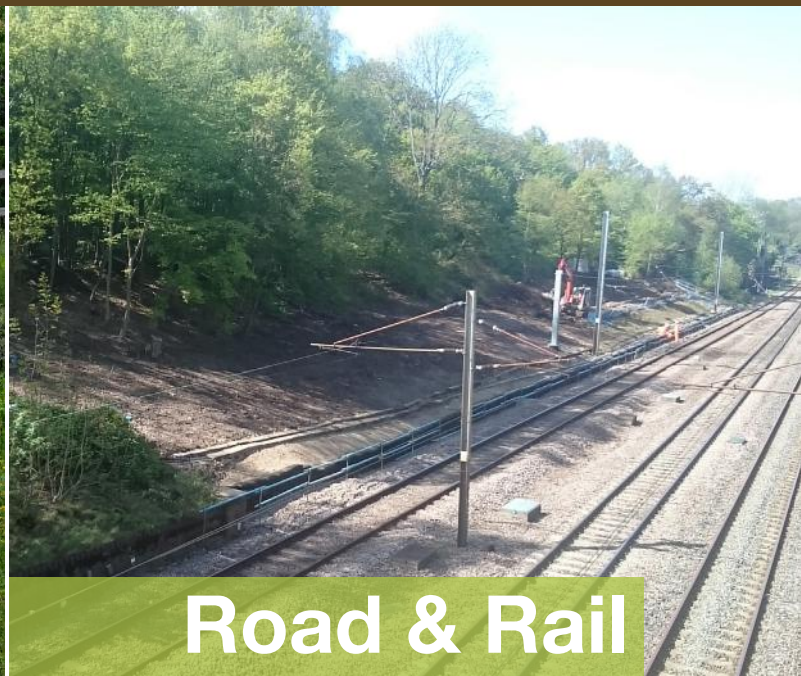


After





**Residential**



**Road & Rail**



**River & Flood**



**Commercial**



**Landscape  
& Gardening**



**Wetlands & Habitat**



# Sectors

The Rootlok System can be used as a solution for many construction, commercial and private applications:

The Rootlok Vegetated Wall System offers engineers, architects, contractors, home owners and others an engineered solution for building retaining walls quickly and easily with a focus on green infrastructure and carbon reduction. Rootlok can be used to build standard gravity walls in small applications up to 2.1m high, as well as reinforced structures that are 4m or more in height, depending on ground conditions and surcharges.

Rootlok applies standard soil stabilisation practices and engineering methods to build retaining walls at near vertical angles. The systems simple design creates a modular wall face that easily integrates vegetation into the systems performance.

## Applications

The Rootlok Vegetated Wall System is extremely versatile, allowing it to be used in many applications;

- Erosion control
- Slope stabilisation
- River and flood protection
- Landscaping
- Headwalls
- Earth reinforced structures
- Retaining walls
- Gravity Walls
- Watercourses
- SUDs - Ponds - open attenuation walls

Rootlok has been successfully used in several watercourse applications, including river, stream and storm water channel works connected to rail projects.

## Reinforced walls

A range of geogrids can be used within the Rootlok system and locking plates in reinforced slope applications, with the possible advantage of using site won material. One of the key benefits of Rootlok is how fast and easy it is to install unlike hard edge structures such as concrete, stone, block, panel and gabion systems. This allows it to be used in locations with difficult and varied terrains that are not suitable for traditional methods.

Alongside our team of fully qualified engineers we can provide a solution specific to your requirements. Our initial solution is free of charge, and we provide engineered formal designs, calculations and CAD drawings at an extra cost.



# Services

## Hydroseeding service & erosion control

Due to its advantages and benefits over conventional seeded processes, hydroseeding is an ever increasing and go to technique for vegetating larger spaces and infrastructure works. The mulch provides the ideal environment to achieve faster germination and a more even establishment of vegetation, providing greater seed contact with soils, geotextile bags and substrates (using erosion control products such as erosion control blankets, coir netting and high-performance turf reinforcement mats).

Various grass seed mixes, including flowering shrubs and small tree species can be used to the client's specification using the hydroseeding method. Seed mixes including low-maintenance, shade and drought tolerant, river bank mix, wildflower and amenity mixes are all suitable mixes for hydroseeding large open spaces and erosion control areas.

Special attention needs to be taken to the location of your application, ensuring a more sustainable green finish and successful biodiversity net gain.

Our staff can offer help and advice regarding seed mixes for your project, having many years of experience delivering the best possible solutions using state of the art machinery. We are happy to undertake site visits and site surveys to take samples for soil testing, helping clients, architects, designers, and end users to choose the right solution and seed for their schemes.



We use high quality seed



Hydroseeded wall



GeoGrow HYDROSEED



# Benefits & Advantages

Save Time & Money

- High-performance materials
- Fast and cost-effective solutions
- 100% biodegradable
- Uniform spread of seed
- Fast germination
- Quick grass growth
- UK sourced quality seed
- Steep slope vegetation growth
- Provides long-term soil stabilisation
- Combined use with erosion control systems
- Establishes fully vegetated areas
- Minimum maintenance required
- Helping to deliver biodiversity net gain

GeoGrow's experienced installation team have delivered many successful solutions across a broad range of applications throughout the UK resulting in the creation of sustainable vegetated systems.



# Install



Our system is a specialised geotechnical engineered solution, our in-house teams & approved installers have installed 100's of Rootlok solution throughout the UK. Please take advantage of our full turnkey package.

- Once your structure is designed, we can cost for our in-house construction team or one of our approved installers to fully install your Rootlok wall.
- Our fully trained site staff specialise in the construction and vegetation of the Rootlok system and have gained expertise having worked in many of the UK's market sectors.
- We will install the system in a safe and timely manner ensuring a high-quality construction, saving you time and money.
- We also provide a post construction and after care service. We can supply you with as built information and can produce operation and maintenance manuals, if required.
- Our hydroseeding team are more than happy to provide advice on the correct vegetation type needed to produce a sustainable green finish on your project.



# Supply



**If you wish to install the Rootlok system yourself, you can, and we will supply the installation guides as standard to help you complete the build with ease.**

Furthermore, if you are looking for that extra support, we can also organise for one of our experienced supervisors to provide daily supervision at an extra cost.

Our products are manufactured in the UK and the bags arrive to site prefilled on pallets for immediate installation on-site, along with the correct quantity of interlocking plates required for your project.

Unfilled bags are available should you wish to fill yourselves on-site, attention must be taken to fill the bags correctly and to the medium specification, so the wall can be constructed to the correct design and achieve a sustainable green finish.



# Book Your CPD Webinar Today...



**Thinking about a soft, engineered solution that delivers greener infrastructure to your next scheme?**

Presented live by one of our specification engineers, the webinar features a wealth of useful information including our initial solutions to formal design support, case studies, videos, photos and information on the Rootlok system, that keeps our CPD webinar fun and interactive.

**The course is free of charge and already very popular.**

**For more information on how to book a virtual webinar at a time to suit you, get in touch now on 01543 224 800. Alternatively email us on [sales@geogrow.co.uk](mailto:sales@geogrow.co.uk)**





# Case Study

## Slope Stabilisation in Bedworth



Nuneaton and Bedworth BC asked GeoGrow to advise on a suitable solution for a slope stabilisation project. Due to continuous erosion, the council were concerned that the failing embankment would slip into the building below. The restricted space and access to the area was also limiting the options available. The right solution was required urgently to avoid the likely event of a total landslip.

### The Solution

GeoGrow put forward a design for the scheme that included a 1.26m near vertical wall to retain a 4m high slope. This will stabilise the slope and provide effective erosion control. Rootlok is a flexible system that small teams can install easily with no machinery required. The system will provide long-term protection to the embankment and will eventually achieve full vegetational cover.

Access around the building is extremely narrow and which made it difficult to carry the bags through. During installation the contractor used conveyor belts to transport the bags through the gap to the build area.

The contractor delivered a great installation while facing various obstacles and working in such a confined area. The slope is now stabilised and the area accessible to users.



# Case Study

## Mear Homes - Princes Risborough



GeoGrow was employed by Mear Homes to install a high-performance stabilisation system to a failing earthen slope which had a residential road above and a watercourse below. The slope had failed mainly due to erosion issues at the base of the slope which caused a shallow plane failure along the full length of the slope.

The existing vegetation was removed, and the slope was regraded to achieve a flat surface in preparation for the installation. An ARMORMAX® Engineered Earth Armoring System™ comprising of a High-Performance Turf Reinforcement Mat (HPTRM) and Engineered Earth Anchors™ (EEA) was approved for use, the turf reinforcement mat, anchors, and fixing pins are designed to work together to lock soil into place to provide a deep seated, long-term erosion protection system.

At the base of the slope, a rip-rap channel edge was installed to give extra erosion protection to the toe of the slope, after all the anchors and pins were installed the whole of the HPTRM was covered with 100mm of fresh topsoil.

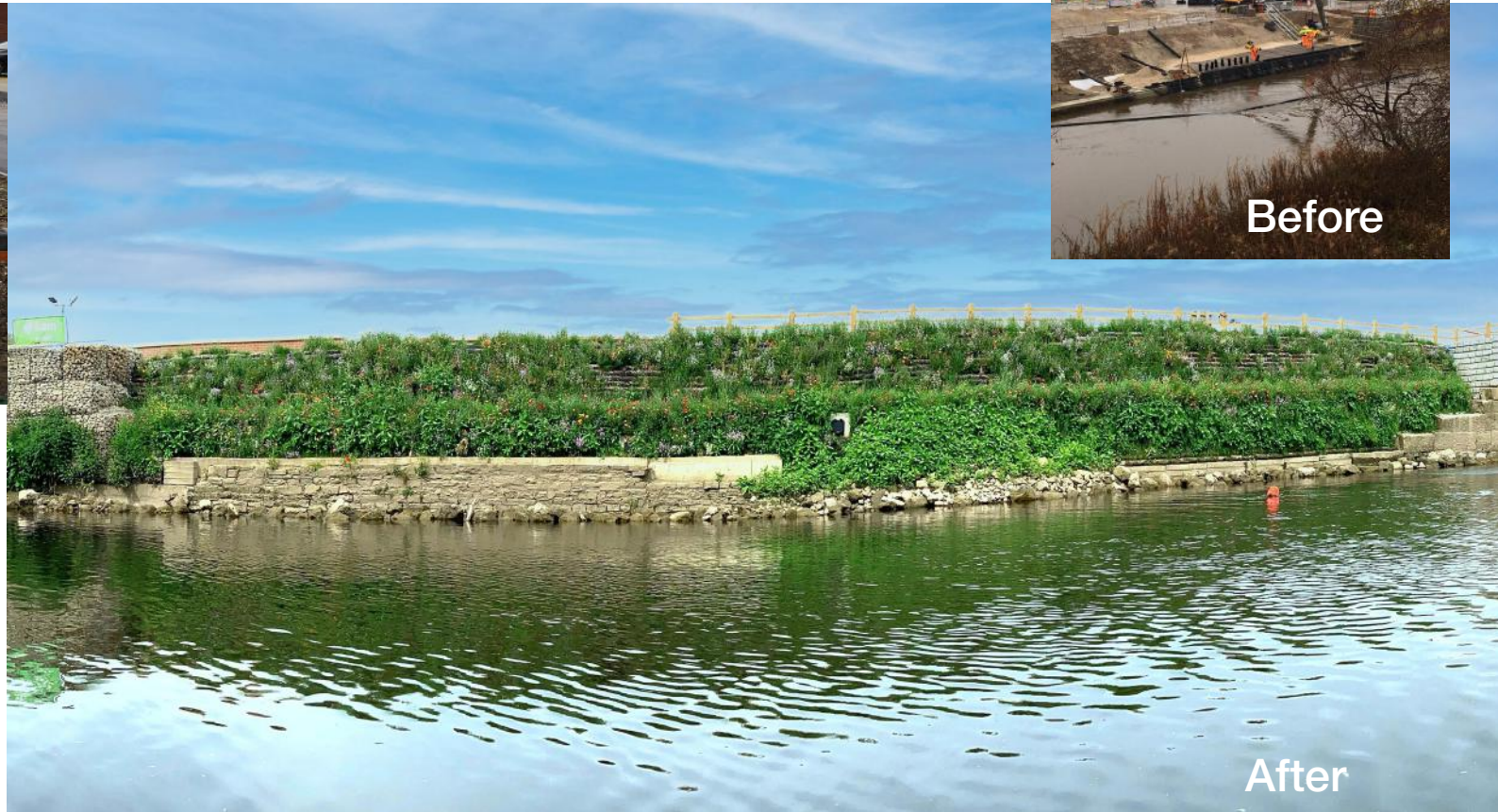
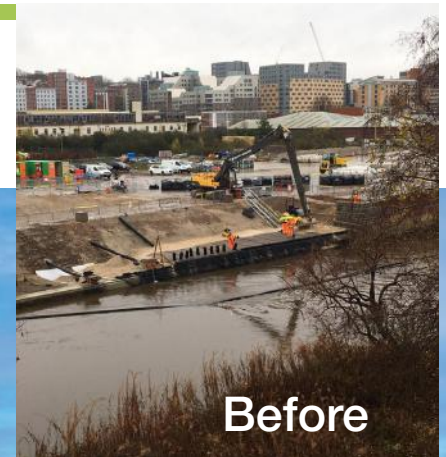
The client specified a low maintenance grass mix with wildflower, a low growing deep rooted grass mix to enable the root system to grow firmly into the turf reinforcement mat securing the vegetation to the anchored system. GeoGrow's in-house hydroseeding service provided a cost-effective, high-performance hydromulch a combination of materials including seeds, mulch, tackifier and fertiliser sprayed directly onto the slope.

Hydroseeding is a quick & easy process of spraying the mulch-mix directly onto the soils from the edge of the slope with the good soil used, quality seed and good weather germination was expected within 7-days.



# Case Study

## Leeds Flood Alleviation Scheme, Phase 2



GeoGrow were invited to provide a formal design for the supply & installation of a Rootlok vegetated wall system to part of the riverbank along the river Aire corridor between Wellington Bridge and Viaduct Road.

GeoGrow's design engineers worked along side BAM Nuttall & Mott MacDonald who were to carry out a range of works along the river Aire including areas where major flood events hit Christmas 2015. GeoGrow provided a design for an earth reinforced structure utilising geogrids with a Rootlok geotextile bag facing to provide a sustainable green finish. The wall measured approximately 44 metres long x 3 metres high and had a geogrid wraparound face to provide extra factors of safety.

Rootlok was chosen to provide a softer, engineered system to promote a more natural structure that provides more benefits for the environment, wildlife habitats and a vegetated finish, all stone was sourced locally to help reduce the schemes carbon footprint.

The wall was installed within a 6-week period, on completion in December 2020, the front face of the Rootlok system was hydroseeded with a riverbank seed mix and planted with a range of herbaceous flowering plants. Over winter, the seeds were protected by our high-performance mulch mix and successful germination took place in spring 2021, grass and plants started growing and gave a colourful pleasing vegetated finish for the remainder of 2021. Eight meters back from the top of our wall BAM Nuttall built a brick & block flood wall to further protect the local businesses & residents.

BMMjv were delighted with the Rootlok system and approval from the client Leeds City Council and the Environmental Agency will lead to other installation of the Rootlok system.



# Rootlok



#BuildingGreener

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## GeoGrow

The information presented in this publication is for general information only. While every effort has been made to ensure its accuracy, this information should not be relied upon for any application without verification of accuracy, suitability, and applicability for the use intended, which is the sole responsibility for the user. A final, project specific design should be prepared by a qualified, licenced, professional engineer based on site conditions.

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**Sustainable | Green | Vegetated | Ecological**