



FlexMSE[®]
Vegetated Wall System



THE ECOLOGICAL
SOLUTION

For Erosion Control, Retaining
Walls, Highways and Waterways

www.FlexMSE.com

Five Rivers
ENVIRONMENTAL CONTRACTING

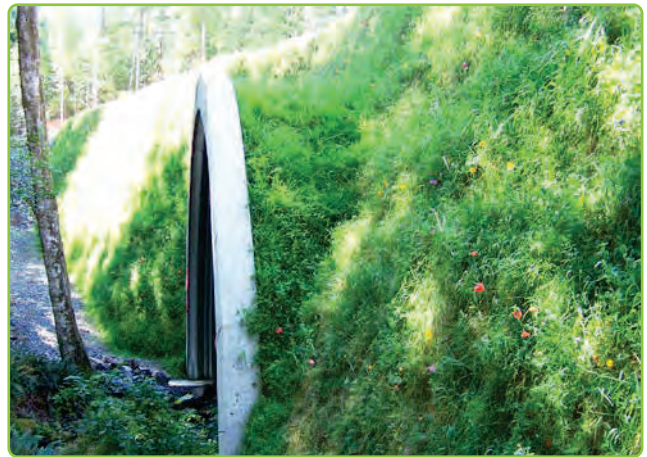
SIMPLICITY, ADAPTABILITY, AND LONGEVITY

Flex MSE is a Patented engineered solution for vegetated retaining walls and erosion control.

Flex MSE Bags and Interlocking Plates are used to build naturally resilient Geomodular structures.

A unique soft building material which exhibits hard material qualities, Flex MSE adapts to events that would ruin lesser systems, and only gets stronger and greener as time goes on.

Flex MSE is a Patented system which leverages Mechanically Stabilized Earth (MSE) principles along with geotextile technology to create strong and easy to install Geomodular block structures.



10m (33ft) tall municipal roadway



Economical



Eco friendly



Permanent



Aesthetically
Pleasing



75 Year
Warranty

BUILDING WITH FLEX MSE



Flex MSE is one of the easiest systems on the market to install, vegetate and maintain.

Flex MSE Bags are:

- ✓ Filled with sand and organics
- ✓ An ideal 'planter block' for many types of vegetation
- ✓ Water and root permeable
- ✓ Flexible enough to create almost any contour or angle

Flex MSE Plates are:

- ✓ Made from 100% recycled material
- ✓ Designed to bridge the gap between Bags to create an interlocking mechanical connection
- ✓ Engineered with Friction Strips for greater Bag to Bag mechanical connection and Geogrid hooks to connect to soil reinforcement.



5m (16ft) tall landscape retaining wall

The Flex MSE Vegetated Wall system provides the strength of interlocking components without the need for concrete, rebar, wire mesh or other formwork.

APPLICATIONS AND USES



VEGETATED CULVERT HEADWALLS



RIVERBANK PROTECTION



HIGHWAY WALLS AND SLOPES



LANDSCAPING AND DEVELOPMENT



Civil Infrastructure

- Slope Repairs (shallow and reinforced)
- Retaining Walls
- Highway Walls
- Bridge Abutments
- Noise Barriers
- Levees/Dikes



Commercial and Residential

- Large Landscaping Walls
- Garden Walls
- Site Levelling and Optimization
- Golf Courses and Parks



Anywhere Land meets Water

- Culverts and Pump Stations
- Stream bank Protection
- River Bank Protection
- Coastal Protection
- Channel Linings
- Detention/Retention Ponds and Reservoirs
- Irrigation Canals, Ditches



Emergency Use

- Permanent Flood Protection Walls
- Wind and Storm Protection Walls
- Blast Walls and Bunkers

FLEX MSE ADVANTAGES

1

Flex MSE cuts installation times.

Flex MSE walls install in $\frac{2}{3}$ to $\frac{1}{2}$ of the time of conventional walls.

2

Flex MSE is lightweight and easy to transport.

93m² (1000ft²) of unfilled Flex MSE ships on a single pallet.

3

Flex MSE is cost effective.

The all-in costs for a Flex MSE wall are generally 40-50% less than other systems. Savings in machine, labor, material and transportation costs make Flex MSE an obvious choice for helping generate project cost savings.

6

Longevity

With Flex MSE's 120 year design life and 75 year warranty, lifetime costs can be $\frac{1}{4}$ of conventional systems.

5

Flex MSE is ideal for a wide variety of applications.

Flex MSE works seamlessly with utilities and landforms and integrates perfectly with other building materials and systems.

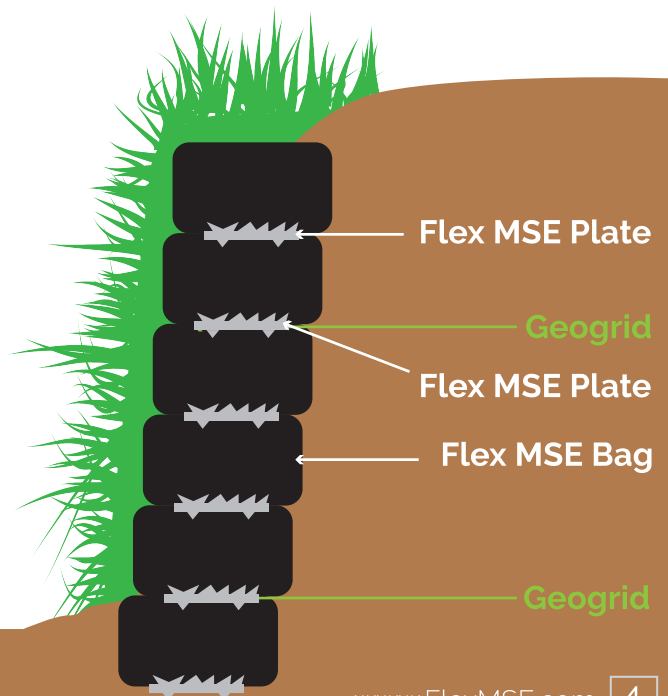
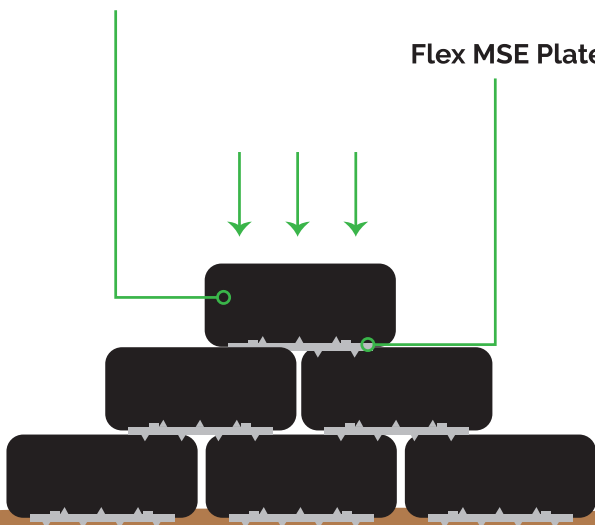
4

Flex MSE walls are easy to construct.

DIY'ers to professional contractors can install Flex MSE using our simple installation methods.

Flex MSE Bag

Flex MSE Plate



INSTALLATION AND VEGETATION

INSTALLATION

- Place Flex MSE Plates 760mm (30") apart in a shallow, relatively level trench.
- Center a Flex MSE Bag on top of each Plate, laid end to end.
- Place a single Flex MSE Plate over each Bag joint, in a 1:1 ratio.
- Lay each row of Bags squarely over the Flex MSE Plates, creating an offset 'running bond' pattern. Plates should be completely covered.
- Tamp or lightly compact the Bags to create a level course.
- Place and compact backfill every two courses or as required.
- Repeat this process until the desired height is reached, adding reinforcement as required.
- When using Geogrid, the Flex MSE Plate's Patented Grid Hooks secure geogrid at the select layers.

VEGETATION

- A key advantage of Flex MSE is its ability to accept almost all types of vegetation over 100% of the face.
- Vegetation can include grasses, ground covers, flowers, vines, and small shrubs.
- Hydroseeding, live planting and live staking walls are examples of vegetation methods that work well with the Flex MSE system.



5m (16ft) tall commercial retaining wall

FLEX MSE SYSTEM COMPONENT SPECIFICATION

FLEX MSE PLATE

Provides a positive mechanical connection between the Flex MSE Bags, effectively interlocking each and every Bag into one solid Unit. The Flex MSE Plate incorporates our Patented Friction Strips and two Geogrid Hooks per Plate.

Dimensions:

Height	42mm (1.65")
Length	285mm (11.22")
Width	99mm (3.90")
Spikes	11
Hooks	2
Weight	63g (2.2oz)



FLEX MSE BAG

Flex MSE Bags provide the ideal planter block for permanent vegetation. These Bags have a filtering functionality to prevent soil particle seepage while permitting water and roots to pass.

Dimensions:

Unfilled:

Width	380mm (15")
Length	890mm (35")

Filled:

Width	300mm (12")
Length	760mm (30")
Height	140mm (5.5")





Five Rivers

ENVIRONMENTAL CONTRACTING

01722 783041
flexmse@five-rivers.com
www.five-rivers.com



DISCLAIMER:

This information, including technical and engineering data, figures, tables, designs, details, suggested procedures, and suggested specifications, presented in this publication is for general information only. While every effort has been made to ensure its accuracy, this information should not be used or relied upon for any application without verification of accuracy, suitability, and applicability for the use contemplated, which is the sole responsibility of the user. A final, project specific design should be prepared by a qualified, licensed, professional engineer based on actual site conditions. Flex MSE disclaims any and all express or implied warranties of merchantability and fitness for any general or particular purpose, in regard to information or products contained or referred to herein. The Flex MSE system is subject to pending and registered patents worldwide.

® is a Registered Trade-Mark of Callewaert Intellectual Property Inc. used under license.

Front Cover: 5m (16ft) tall terraced residential slope
Back Cover: 3m (10ft) tall, 500m (1,640ft) long residential wall