

# MSE Wall & Slope Solutions

Putting you first with solutions that last.



**TITAN**

BUILD YOUR LEGEND

# MSE Wall & Slope Solutions

Mechanically stabilized earth (MSE) walls and slopes are composite structures consisting of alternating layers of compacted aggregate backfill and geosynthetic reinforcement working as a system to create a stable earthen wall structure.

MSE wall and slope systems are an economical, flexible solution to accommodate the changes in grade during infrastructure construction.

Titan's MSE solutions are categorized into two main systems:

- Titan Earth Wall™ MSE Systems
- Titan Earth Slope™ MSE Systems

Factors such as application, aesthetics, natural environment, and service life will influence the choice of the mechanically stabilized earth system required.

Compared to conventional concrete structures, MSE walls and slopes can tolerate greater differential settlement, allowing for less rigid, unyielding foundation support. This makes MSE solutions ideal for both temporary and permanent applications.

Titan MSE walls and slopes systems offer the following benefits:

- Simple, quick, and easy to install without experienced or unique skilled labor
- Can accommodate curves, steps, and height changes around bridge and culvert structures.
- Can be built vertically or with a setback to accommodate any slope angle.
- Can accommodate both vegetated and hard armored facing options for desired aesthetic requirements

---

## HIGH PERFORMING PRODUCTS BACKED BY COMPREHENSIVE SERVICE

Titan MSE Wall and Slope solutions include system design options suited to project specific needs. All of our systems are value-engineered by our in-house professional engineering team focused on MSE applications. We provide engineering support, drafting, and engineered stamped drawings to ensure your project and investments are protected.



### SYSTEM SUPPLY

We offer competitive, turnkey MSE Wall & Slope solutions at all Titan locations.



### DESIGN ASSISTANCE

Our MSE technical team provides preliminary layout designs. This includes preliminary designs, CAD drawings, and specifications to ensure that your project meets performance criteria and regulatory standards.



### INSTALLATION SUPPORT

Our technical expertise extend to supporting contractors on proper installation of MSE Wall & Slope systems. This helps ensure performance and longevity of a system, and overall project success.

# Titan Earth Wall™ MSE Systems

Titan Earth Wall™ MSE Systems provide solutions for everyday challenges faced during grade separation construction, both permanent and temporary. Suitable for up to a 90-degree batter, Titan Earth Wall™ MSE systems are custom designed to suit site geometry, the aesthetic needs of a project, natural habitat limitations, and longevity requirements.



## Advantages:

- **Cost effective** – Titan Earth Wall™ system offers significant cost savings compared to conventional concrete structures.
- **Ease of construction** – Titan Earth Wall™ system allows for fast installation.
- **Durable** – Titan Earth Wall™ System offers a lifespan of 1-5 years for temporary walls and an impressive 75-year design life for permanent structures.

## Benefits:

- **Environmentally friendly** – Offers both soft face and vegetative sustainable, environmentally friendly solutions.
- **Flexible installation** – A flexible installation compared to block walls.
- **Differential settlement** – Strong ability to handle soil settlement
- **Professional engineered solutions** – value-engineered MSE system solutions backed by our in-house MSE engineering team

## Applications:

### Core Titan Earth Wall™ Applications

- MSE walls
- Highway construction
- Bridge abutment
- Retaining walls

### Other

- Streambanks
- Steep Slopes
- Eroded or damaged slopes
- Shoreline Banks



## Titan Earth Wall™ - Stoney

### Stone Faced Permanent

Titan Earth Wall™ is A perfect solution for MSE walls up to 90° vertical face and heights up to 30m. This system is a durable, long-lasting solution with a design life of 75-100 years based on design requirements and environmental

#### Applications:

- MSE walls
- Highway construction
- Bridge abutment
- Wing walls
- Submerge walls.
- Culvert headwalls
- Landscaping



Titan Earth Wall™ - Stoney

## Titan Earth Wall™ - Tempus

### Temporary Wire Form

Titan Earth Wall™ Tempus MSE wall system is an optimal solution for construction MSE wall projects up to 90° that require completion in stages like roadway widening or phased construction. Formed using a black welded wire form in conjunction with a geotextile wrap along the face they are the most cost-effective wall solution.

#### Applications:

- Staged construction
- Roadway widening projects.
- Roadway embankments
- Bridge improvement
- Bridge abutment phased construction
- Phased or staged projects
- Foundations for heavy equipment.



Titan Earth Wall™ - Tempus

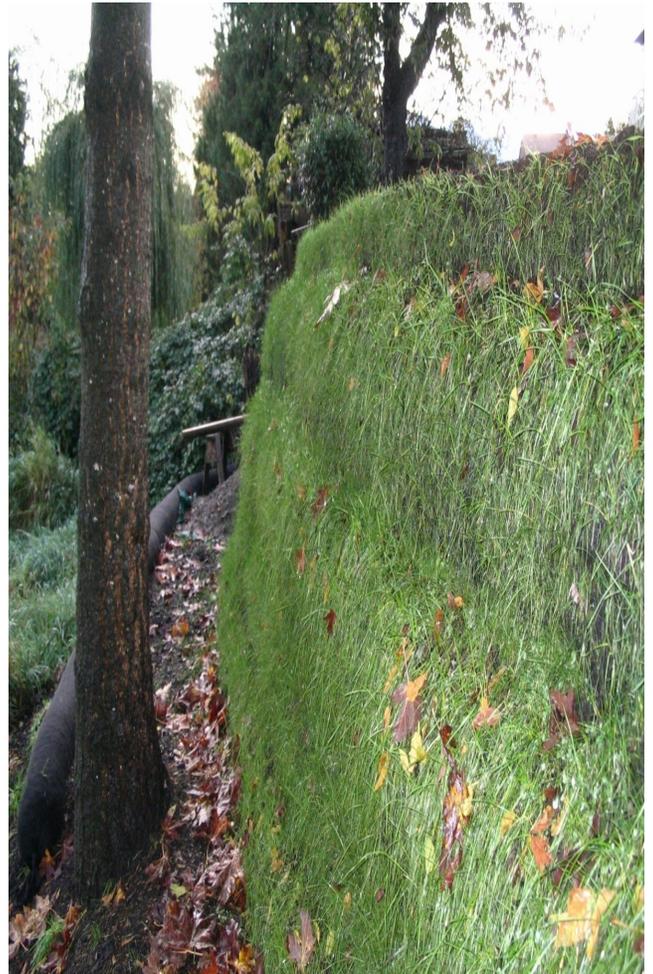
## Titan Earth Wall™ - Living

### Living Vegetative Permanent

Titan Earth Wall™ Living Vegetative system is ideal for projects requiring a soft face, sustainable, environmentally friendly vegetated solution. The systems can be built to a near vertical wall or a shallow slope while being designed to uncompromising standards.

#### Applications:

- Streambanks
- Steep Slopes
- Retaining walls
- Roadside slopes



Titan Earth Wall™ - Living

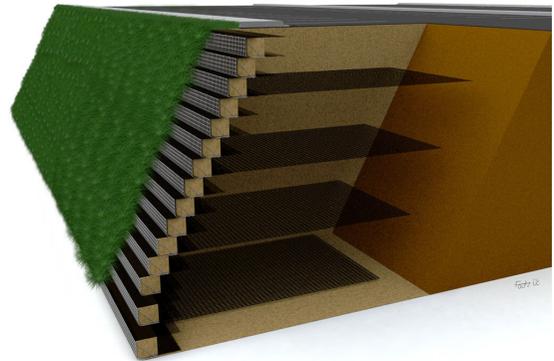
# Titan Earth Slope™ MSE Systems

Titan Earth Slope™ MSE systems are custom designed to suit site geometry, project aesthetic needs, natural habitat limitations, and design-life requirements. Suitable for constructing slopes with a batter up to 70 degrees, Titan Earth Slope™ MSE systems are both flexible and durable, making them a cost-effective solution.



## Advantages:

- **Cost effective** – Titan Earth Slope™ system offers significant cost savings compared to conventional concrete structures.
- **Ease of construction** – Titan Earth Slope™ system allows for fast installation
- **Environmentally friendly** – Titan Earth Slope™ System minimize impact on environmental areas (i.e. wetlands, natural habitats)



## Benefits:

- **Increased green space** – Offers both soft face and vegetative sustainable, environmentally friendly solutions.
- **Flexible installation** – A flexible installation compared to block walls.
- **Flexible system** – Allows for larger margins of displacement
- **Professional engineered solutions** – value-engineered MSE system solutions backed by our in-house MSE engineering team

## Applications:

### Core Titan Earth Slope™ Applications

- Streambanks
- Steep Slopes
- Eroded or damaged slopes
- Shoreline Banks

### Other

- Road Embankments
- Culvert headwalls
- Shorelines
- Retaining walls



## Titan Earth Slope™ - Blanket

### Blanket Permanent

Titan Earth Slope™ - Blanket System is the most economical and natural-looking of our mechanically stabilized earth slope systems. This advantageous solution has excellent versatility, allowing for superior vegetation that accommodates both native and/or select species.

## Titan Earth Slope™ - Grid

### Uniaxial Geogrid & Biaxial Geogrid

Titan Earth Slope™ - Grid system is Ideal for MSE slopes up to 45 degrees. The system uses uniaxial geogrid in conjunction with a UV stabilized biaxial geogrid and erosion control blanket, wrapped to provide a robust and durable facing.



Titan Earth Slope™ - Grid System

## Titan Earth Slope™ - Honeycomb

### HDPE Green Facia

Titan Earth Slope™ - Honeycomb system is a mechanically stabilized earth slope system which includes HDPE green facia units that are stacked to create varying steep slope applications up to 70° standards. This robust system promotes an aesthetic, green finish, reducing the carbon footprint while offering cost-saving opportunities.

#### Applications:

- Streambanks
- Steep Slopes
- Road Embankments
- Culvert headwalls



Titan Earth Slope™ - Honeycomb System

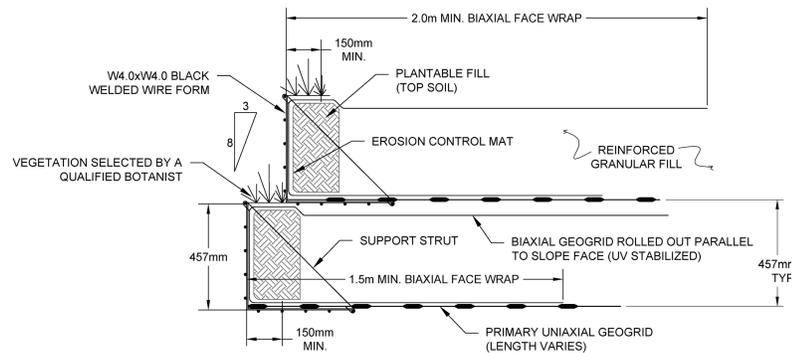
## Titan Earth Slope™ - Veggie

### Vegetated Wire Face

Titan Earth Slope™ - Veggie system is an ideal solution for construction of MSE slope projects up to 70° batter, providing an environmentally friendly vegetated solution.

#### Applications:

- Streambanks
- Steep Slopes
- Retaining walls
- Roadside slopes
- Slope protection
- Eroded or damaged slopes
- Shoreline Banks



Titan Earth Slope™ - Veggie Illustration



Titan Earth Slope™ - Veggie Finished

## Titan Earth Slope™ - Living

### Living Vegetative

Titan Earth Slope™ - Living system is an ideal solution for projects requiring a soft face, sustainable requirements, and environmentally friendly vegetated solution. This system offers the most superior vegetation over all our other MSE slope systems and can be built to a near vertical wall or a shallow slope while being designed to uncompromising standards.

#### Applications:

- Streambanks
- Steep Slopes
- Retaining walls
- Roadside slopes
- Slope protection
- Eroded or damaged slopes
- Shoreline Banks



Titan Earth Slope™ - Living

**Titan Environmental supplies proven geosynthetics and specialty civil engineering construction solutions designed to extend the life of vital infrastructure while protecting precious natural resources.**

We push limits with creative solutions. Our product lines include geomembranes, geotextiles, geogrids, primary & secondary containment systems, stormwater management solutions, drainage solutions, MSE wall & slope systems, and erosion & sediment control products. We service the road construction, agricultural, waste management, water resources, mining, oil and gas, and hydroelectric industries that support essential infrastructure worldwide. By providing engineers with a resilient foundation for building better, we've become North America's fastest-growing-end-to-end geosynthetics supplier, fabricator and installer.

We do more than help manage environmental impact, we help improve how that's done. With a team of audacious innovators and agile problem-solvers, we're trusted to adapt to change, respond quickly, and support you at every stage. When you build with Titan, you strive for your very best.

