Prest®

GEOSYSTEMS
GLOBAL LEADER • GLOBAL PARTNER

creating
sustainable
environments®

GEOWEB®
earth retention
APPLICATION OVERVIEW

our commitment:
providing the highest quality
products/solutions

eco-economic solutions for vegetated retaining walls

GEOWEB®
MADE IN THE USA

GEOWEB® earth retention solutions

LOW-COST RETAINING WALL SYSTEMS

The GEOWEB® earth retention system provides an economical, structurally-sound, green alternative to conventional retaining wall systems. The GEOWEB® system meets all design requirements while providing desired aesthetics through a terraced face where vegetation can flourish, creating a natural living wall.

The GEOWEB® system adapts to a wide range of design criteria and construction requirements, meeting site challenges even when subgrade soils are compressible. With a high percentage of open area, ability to use on-site fills and efficient transportation of materials, the GEOWEB® system is an eco-friendly solution for a wide variety of retaining walls.

aesthetics of sustainable vegetation

The multi-layered GEOWEB® system features horizontal terraces with exposed outer fascia cells, creating a natural environment for selected sustainable vegetation. The vegetated system reduces stormwater runoff by allowing rain water to fall on the exposed horizontal soil terrace, maximizing water collection.

low environmental impact

The highly permeable wall surface is a natural Low Impact Development (LID)/Best Management Practice (BMP) for reducing stormwater runoff and managing stormwater on site. GEOWEB® retaining walls can contribute to LEED® green building credits for reducing site disruption, reducing the heat island effect and for stormwater quality and quantity control.

natural-colored facing

Standard wall sections are available with green, tan, or black fascia colors to blend with natural environments. The polyethylene is ultraviolet-light-stabilized to resist color fading, and increase system durability and quality performance to meet typical engineering requirements.

TYPICAL APPLICATIONS:

- vegetated retaining walls
- bioengineered walls
- steepened embankments
- dike & levee protection
- culvert headwalls
- vegetated channel structures
- change-in-grade landscape walls
- resource protection barriers
- sound berms

wall selection criteria

The GEOWEB® earth retention system can be designed in a variety of wall configurations to meet specific site and reinforcement requirements. Selection of the wall type is influenced by the site soil conditions, space accessibility/ restrictions, availability of suitable backfill materials, project economics and the desired aesthetics of the completed wall. GEOWEB® retaining walls are suitable for fill and embankment support, and can be designed for a broad range of infill, backfill, ground water and surcharge conditions.

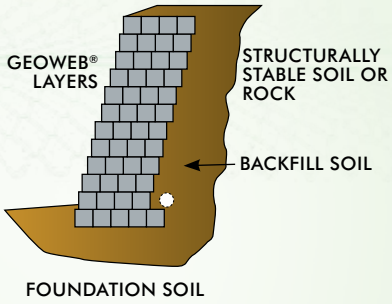
GEOWEB® wall structure types

The flexible nature of GEOWEB® retaining walls makes them adaptable to specific applications and wall types, including:

1. **STEEPENED SLOPES**
2. **GEOCOMPOSITE RETAINING WALLS**
3. **GRAVITY RETAINING WALLS**
4. **MULTI-LAYERED CHANNEL SYSTEMS**

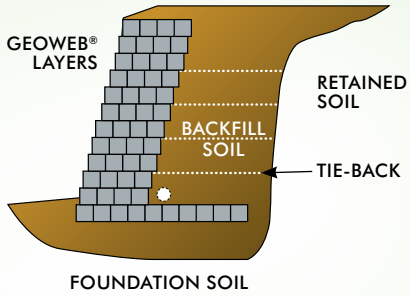
1 steepened slopes

GEOWEB® steepened slopes create a layered wall structure without requirements for additional earth reinforcement when simple fascia protection is required over a structurally-stable soil embankment.



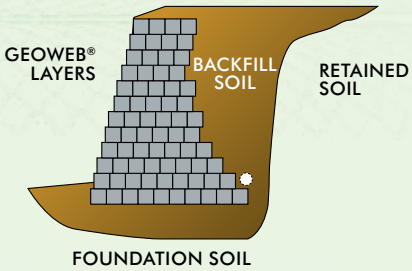
2 geocomposite retaining walls

GEOWEB® geocomposite retaining walls are utilized when earth reinforcement materials are included. The system creates a fully confined wall facing that is united with the backfill using a variety of tie-back systems (i.e. geotextile or geogrid earth reinforcement layers, soil nails, etc) typical of conventional retaining walls.



3 gravity retaining walls

GEOWEB® gravity retaining walls are effective when space constraints do not allow the use of earth reinforcement materials. The system is constructed as a layered gravity wall that resists lateral pressures and maintains structural integrity even when significant subgrade deformations occur.

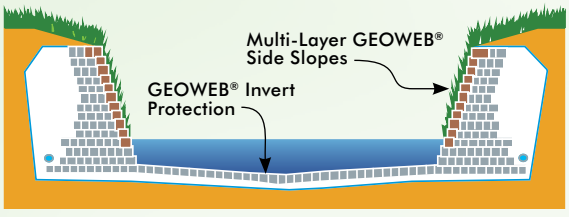


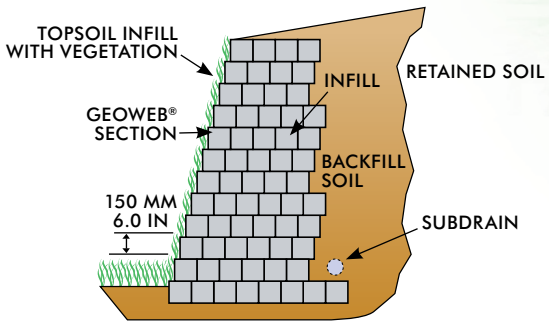
4 multi-layered channel systems

GEOWEB® sections layered along channel side slopes with vegetative infill offer a natural appearance, stability and protection to channels exposed to erosive conditions ranging from low-to-high flows, either intermittent or continuous.

This multi-layered configuration tolerates differential settlement without loss of system integrity and provides a near-vertical profile, reducing valuable land use.

When applied in areas of anticipated high-energy water impact, GEOWEB® sections can be wrapped with coir fabric to reduce soil loss potential in the outer face while vegetation is being established, or infilled with large aggregate or concrete grout.





key components

The complete GEOWEB® earth retention system may include some or all of the following:

- GEOWEB® sections
- Cell infill and backfill materials
- Geocomposite drainage materials
- Geogrids and/or geotextile reinforcement
- Subdrain

FLEXIBLE DESIGN SOLUTION

The GEOWEB® earth retention system adapts to a wide range of design requirements and site conditions. The system's inherent flexibility, unique load deformation behavior, and ability to conform to reasonable differential settlement make it suitable for a wide range of infill materials and foundation soils, including:

- Topsoil with various selected vegetation
- Granular materials (sand, gravel or graded stone)
- Concrete of various strengths and surface finishes

COST-EFFECTIVE, SIMPLE-TO-CONSTRUCT OPTION

GEOWEB® retention structures are cost-competitive with conventional earth retention systems. The installed cost will vary with site-specific conditions, including but not limited to accessibility, soil conditions, cost of infill and compaction, labor rates, surcharge loading, and length of wall.

- Construction productivity can be greatly improved compared to conventional wall types.
- Flexible wall sections conform to differential settlement and allow natural conformance to landscape obstructions and contours.
- Compact sections are easy to transport and construct in difficult access or remote locations.
- Allows use of aggregate to minimize hydrostatic conditions.
- Effective in higher velocity-flow channel applications with large aggregate or concrete infill in outer cells.

comprehensive tools and services

Presto GEOSYSTEMS® and our distributors/representatives offer the most-complete services in the industry to support project design and installation requirements.

TOOLS:

- Technical resources binder
- Engineering analysis/technical overviews
- SPECMaker® specification development tool
- Project case studies
- Detailed construction instructions

SERVICES:

Project Evaluation Service: We analyze specific project needs and provide recommended preliminary designs for each project.

Construction Services: Qualified on-site field support specialists can be available for construction training, and start-up installation supervision.

PRESTO GEOSYSTEMS' COMMITMENT — *To provide the highest quality products and solutions.*

Presto GEOSYSTEMS® is committed to helping you apply the best solutions to your soil stabilization problems. Our solutions-focused approach to solving problems adds value to every project. Rely on the leaders in the industry when you need a solution that is right for your application. Contact Presto GEOSYSTEMS® or our worldwide network of knowledgeable distributors/representatives for assistance.

LEADING-EDGE INNOVATION

Presto is the original developer of the cellular confinement technology and leads the industry in ressearch and development resulting in meaningful product improvements and enhancements, advanced engineering metholodogies, and proven field results that provide long-term solutions to unique and difficult problems.

UNSURPASSED QUALITY

Presto's commitment to quality begins with manufacturing and continues through final installation.

- Quality management system certified to ISO 9001:2008 and CE certification.
- Sections manufactured from high-quality polyethylene provide consistent and maximum seam weld strength.
- Materials engineered to established geosynthetic industry guidelines.
- Sections backed by a 10-year limited warranty.

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