The Reinforced Earth®, TerraDyke® and TechRevetment® Systems – a major innovation

Recognised as a major innovation in the field of civil engineering, these techniques provide numerous protective solutions for owners and contractors for complex problems.

Reinforced Earth India is capable of providing complete solutions for protective water-front structures using Reinforced Earth®, TerraDyke® and TechRevetment® techniques to meet site specific requirements.

RECO India’s services include:
• Feasibility Studies
• Primary Design
• Budgeting
• Design and site assistance
• Supply of bespoke materials
• On-site technical assistance
• Project Assistance

Reunion Island, Indian Ocean
The wide choice of the soil reinforcement materials associated with Reinforced Earth® system allows this technique to be used for all types of water conditions – fresh, brackish or saline. Reinforced Earth® waterfront structures are designed and built to resist the combined forces of water and water borne debris which can be highly destructive during and after storms or floods. Reinforced Earth® structures also withstand other environmental stresses such as strong currents. Reinforced Earth® panels combined with proper barrier materials ensure adequate drainage, especially if the structure may be subjected to sudden rapid draw down and other variations in water level. TerraDyke® concept is a custom-made state of the art technique developed by Reinforced Earth India. It consists of several components like non-woven Geotextiles, Geotextile Tube, Anti Scour Apron, Anchor Tube, site-specific secondary and primary protective layers appropriate to design. TerraDyke® technology is an engineered and backfill solution specific to a particular project site. The design and analysis are carried out with an in-house software by the design experts. TerraDyke® technology is a soft solution using the advantages of geosynthetic materials and locally available RI materials. TerraDyke® technology is protective, stabilising or reinforcing for all types of water conditions ~ fresh, brackish or saline. The TerraDyke® system allows this technique to be used for all types of coastal defence, rivers and waterways, port and harbours and other hydraulic applications.

Waterfront Walls

Roads, motorways and railways are often constructed along river valleys just above the high water or normal flood stage elevation. When the embank is so narrow that new construction or widening of existing communication links encroach on the river, retaining structures are required which are permanently or temporarily in contact with water. The Reinforced Earth® technique has been extensively used for 50 years to build such structures supporting highways and railways along ocean, rivers, lakes and waterways. It is easily adapted to these complex situations and has performance characteristics that have made it universally accepted in more traditional civil engineering applications.

Benefits of Reinforced Earth® Technique

• Lower land use and site impact during construction
• Suitability of soil reinforcing and facing materials to environmental and site conditions
• Rapid construction
• Structural flexibility on moderately compact or heterogeneous foundation soils
• Compatibility with internal waterproofing geomembranes
• Exceptional response to seismic events
• Lower CO₂ impact than conventional techniques
• Use of natural or recycled materials
• Durability
• Ease of inspection, maintenance and upgrade.

Reinforced Earth®

TerraDyke®

TechRevetment®

Applications of TerraDyke® Technology:

• Shoreline management
• Land reclamation
• Beach protection / nourishment
• Breakwater
• Jetties
• Bank protection and flood-mitigation works

Applications of TechRevetment® Technology:

• Controlling erosion along the bridge abutments in flowing river
• Protecting river banks or shores from wave action
• Forming impermeable linings for containment ponds or canals
• Scour prevention or scour repair
• River training works

TechRevetment® can be installed in underwater condition. This provides a unique advantage to the client who desiring or constructing a barrier is not possible, such as canal bank protection / canal bank lining, river bank protection, abutment or pier protection under flowing water. Types of Fabric Form:

- Filter Point
- Lining Material
- Anchoring Block

Reinforced Earth® is an alternative and durable solution for erosion protection with articulated concrete block. High strength woven Geotextile former is used to provide the shape and form. Essential components of TechRevetment are non-woven geotextile, geosynthetic fabric and fine aggregate concrete. Depending upon the design requirement and specific application, the type of fabric form to be used is chosen.

Water forms two-third of our universe. These water bodies including ocean, rivers and lakes around the world are essential assets to be maintained and preserved. Sometimes, these water bodies pose threat to one-third of our land, and we need to protect them in a sustainable way. Drawing on the global expertise and track record, Reinforced Earth entities worldwide bring tailor-made solutions and provide support at all stages of the projects, fulfilling the demanding requirements of coastal defense, rivers and waterways, port and harbours and other hydraulic applications.