

## TREN MAYA RAILROAD PROJECT YUCATAN, MEXICO



Problem



Solution



Result

**Application:** Slope Stabilization  
**Product:** PP5-PRO + Anchors

**Site Issues:** Steep slope erosion • Vulnerable soil types • Harsh vegetation scenarios • High profile project

**Problem:** The Tren Maya project, an extensive 1,460-kilometer railway traversing the Yucatán Peninsula in Mexico, aims to bolster tourism and economic development across the region. However, the construction of this ambitious infrastructure presented significant environmental challenges, particularly concerning slope stabilization and erosion control in areas with steep gradients and vulnerable soil compositions. During the development of the Tren Maya, certain sections encountered issues with slope instability and surface erosion. The project's environmental impact assessments highlighted the need for effective erosion control measures to prevent soil degradation and to promote the establishment of vegetation, which is crucial for maintaining ecological balance and ensuring the longevity of the railway infrastructure.

**Solution:** To address these challenges, the project team implemented an Anchor Reinforced Vegetated System (ARVS) utilizing Western Green's PP5-Pro High-Performance Turf Reinforcement Mat (HPTRM). The PP5-Pro is a woven, three-dimensional mat made from 100% UV-stabilized, high denier synthetic monofilament yarns, designed to provide immediate erosion control and facilitate vegetation establishment. The installation process involved securing the PP5-Pro mat along the affected slopes using a combination of Falcon Percussion Driven Anchors (PDAs) and other locally sourced anchoring systems. Falcon Anchors are engineered to provide immediate stabilization with improved load-locking capabilities, ensuring the mat remains firmly in place even under challenging environmental conditions.

**Result:** The implementation of the ARVS with PP5-Pro has proven effective in stabilizing the slopes along the Tren Maya route. The system not only mitigated surface erosion but also promoted the growth of native vegetation, contributing to the restoration of the local ecosystem. Several phases of the project have been successfully completed using the PP5-Pro system, with ongoing installations continuing to enhance the stability and environmental sustainability of the railway infrastructure.



## PRODUCT HIGHLIGHTS

- PP5-Pro stands out for its superior strength, lower strain values, and an open matrix design that fosters vegetation growth.
- This technology has been proven effective in both laboratory and challenging field conditions, offering unmatched hydraulic performance and resistance to deformation.
- Low-elongation strength and ultimate strength make it ideal for slope stability and surface reinforcement.



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