



Matanhail Pump House Link Drain Canal, India

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| Client | Haryana Irrigation Department |
| Gripple Terra-Lock™ System | TL-100-TLA3, TLP2 Pins and G-MAT C350 |
| Application | Slope stability of drainage channel |

After successfully completing Phase I of the Jhajjar Drain Canal project at Beri-Dujana Drain Canal, Gripple was commissioned for Phase II of the project at the Matanhail Pump House Link Drain Canal.

Located in Jhajjar - Haryana in India, the channel had been eroding due to inflow from surrounding fields and from water passing through the drain. There were failures of the embankment due to the water pressure and there was clear evidence of undermining causing instability along the channel. There was also rill and gully erosion encroaching to the road above.

A solution was needed to provide erosion control, prevent scouring and to provide dimensional stability. Most importantly, the solution needed to comply with National Green Tribunal (NGT) guidelines regarding non-use of concrete lining for drain canals by providing a permeable media for water flowing into the canal alleviating pore water pressures.

The Gripple Terra-Lock™ system, comprising of TL-100-TLA3 Anchors, TLP2 (Helical) Pins and G-MAT C350 (erosion control mat of 100% coconut fiber matrix incorporated into 3-Dimensional turf reinforcement matting) was proposed and installed for a length of 130 meters and 7 to 8 meters in height at an inclination of 45 degree to 50 degree slope. The solution met all of the above requirements as the system allows water flow without soil loss and by design stabilises the structure.

Compared to traditional concrete and riprap methods, the Gripple Terra-Lock™ system is more flexible, lightweight and faster to install. Minimum excavations are required, and there are reductions in material and labour costs. Gripple systems are also more environmentally friendly and aesthetically pleasing.



Erosion in the channel before Gripple install



During the installation of Gripple solution



Completed installation

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