



Beri-Dujana Drain Canal, India

Client	Haryana Irrigation Department
Gripple Terra-Lock™ System	TL-304, TL-A3, TL Pins and G-MAT T50
Application	Hydraulic and Slope Stability, Erosion control

The Beri-Dujana Drain Canal is located in Jhajjar - Haryana in India. Previously concrete was used to line the bed and embankment of the drain canal, however over time it started to fail in various places due to erosion caused by water inflow from the surrounding fields and from water passing through the drain. There were failures of the embankment toe and concrete lining on the bed of the channel due to pore water pressure, and failure to the entire concrete lining along the embankment.



Failure of the concrete in drain canal

To solve the problem a solution was needed to provide erosion control, prevent scouring and 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.



During installation of Gripple solution

The Gripple Terra-Lock™ system, comprising of TL-304 Anchors, TL Pins and G-MAT T50 was proposed and installed for a test length of approximately 15 meters and 3.5 to 4 meters high. 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.



80 days after installation