

Kerala



Retention measures and Erosion control protection

TYPE OF PROJECT	YEAR OF CONSTRUCTION	CLIENT	CONTRACTOR	DESIGNER
Reinforced Soil Walls And Slope Reinforcement	2023	Kerala State Transport Project (KSTP)	M/S Cherian Varkey Construction Company (CVCC)	Maccaferri Environmental Solutions Pvt. Ltd.

PROD. RELATED

TerraMesh (328 Nos.), MonoAxial GeoGrids (ParaLink 300- 4080 SQM; Paragrid HF 200- 1975 SQM), Nonwoven Geotextiles (MACTEX N 30.2- 1745 SQM), Drainage Geocomposites (MacDrain - 840 SQM), Gabions (Sack Gabion- 973 Nos.)

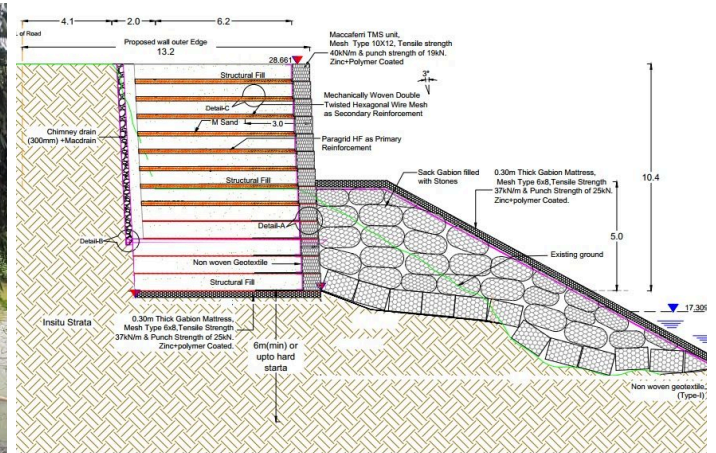
Challenge

Upgradation of PUNALUR TO PONKUNNAM ROAD (SH 8) - PACKAGE 8A: 0+000(PUNALUR) to 29+840(KONNI) work under KSTP carried out by CVCC – RDS joint venture. In that, newly constructed Gabion retention wall of around 9m high between Ch.0+600 to Ch.0+670 has failed for a length of 70 m and went entirely into the Kallada river due to heavy flood in 1st week of July 2022. Backfilling was completed without proper compaction and filling with lateritic soil.

Restoration of failed structure has to be carried out to achieve the road width and to protect the bank slope from scouring against the river flow.



CONDITION BEFORE START OF WORK



Typical cross section of 10.4m Paramesh wall with scour

Solution

For regain the existing road width, a Reinforced Soil Wall with free draining Gabion fascia has been proposed for a stretch length of 70 m from Ch. 0+600 to 0+670 as per BS 8006-1-2016. Reinforced soil wall is properly designed for the anticipated traffic and seismic loads for retention purpose. Reinforced soil system is advantageous in terms of better uniform pressure distribution at the base of the wall. Differential settlement will be addressed effectively as the system is flexible and monolithic.

For the toe protection a counter berm of sufficient height has been developed using the Sack Gabions & Gabion mattress at the toe of wall.



Placing of Sack Gabions as counter berm



Compaction during construction



After Completion-Final Structure



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