

**RIVER REVETMENT IN WAY LIRANG
SERAM ISLAND - MALUKU, INDONESIA**

RIVER AND DIKE FLEXIBLE REVETMENT USING RENO MATTRESSES

Product: Reno Mattresses PVC, MacTex MXL

Problem

Way Lirang is located in the South-West of Seram Island, Maluku Province of Indonesia. An unconfined river body was threatening the surrounding areas, populated by the local community, with frequent floods coming during the rainy season.

The objective was to build a dike in order to confine the high water flow level avoiding thus the flooding of the areas in its vicinity. The dike was planned to be built with locally available loose soil (mainly sandy clay).

Solution

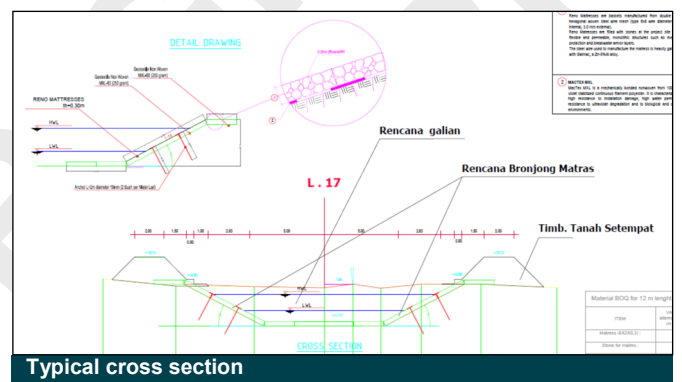
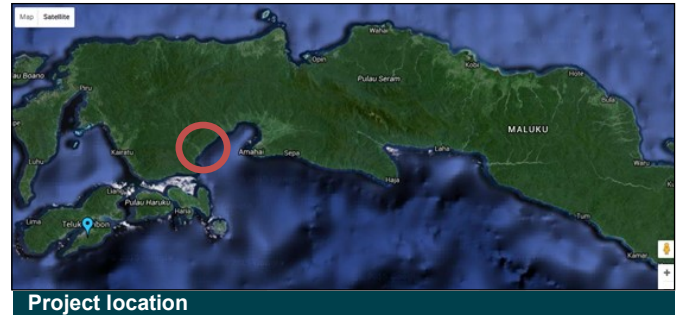
The Public Works Department decided therefore to build the dike and to cover it with a durable and flexible revetment system to prevent the erosion of the fine soil particles.

It has been decided to protect the dike using Reno Mattresses (thickness 30 cm). Reno Mattresses allow tangential river flow velocities up to 6m/s without any substantial damage (according to the test results gathered during the Colorado State University hydraulic test campaign). Mattresses are also very flexible modular elements which allow high levels of deformation and settlements without compromising the lining integrity. Reno Mattresses have shown to be a valid alternative to the traditional lining systems used in Indonesia (rip-rap or masonry walls) both in terms of flexibility, durability and cost effectiveness.

Services

All the stability checks Reno Mattresses structures were performed using the internally developed calculation spreadsheets.

Furthermore, Maccafferri provided the Client with jobsite supervision and the Contractor with installation assistance in order to ensure that the highest construction and installation standards were followed.



Client:

INDONESIAN MINISTRY OF PUBLIC WORKS

Designer:

PT MACCAFERRI INDONESIA

Products used:

RENO MATTRESSES, MACTEX MXL

Date of construction

JUL 2015 — DEC 2015



New dike construction



River revetment with Reno Mattresses under construction



River revetment with Reno Mattresses under construction



River revetment with Reno Mattresses completed



River revetment with Reno Mattresses under construction



River revetment with Reno Mattresses completed