MACCAFERRI

CASE HISTORY

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WAY ARA RIVER BANK PROTECTION
SERAM ISLAND, MALU, INDONESIA

Channelling Works

Problem

Way Ara is located in the South 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 build 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 line the dike using Gabions and Reno Mattresses coupled with concrete blocks. 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.
During the construction phases, the Mattresses lining experienced a severe flood without any visible damage.
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.
Area 1 Protection given to the local community from flooding thanks to the construction of the dikes on both river left and right side.
Shore area Left side dike covered with concrete modular blocks and Reno Mattresses to limit the erosion due to the river flow.
Bridge area Bridge abutment protected with a combination of concrete blocks and Reno Mattresses.

Client: INDONESIAN MINISTRY OF PUBLIC WORKS
Designer / Consultant: PT MACCAFERRI INDONESIA
Products used (Qty.)

- Gabion N/A
- Reno Mattress N/A
- MacTex Non-woven Geotextile N/A

Date of construction: 07/2015 - 12/2015

Area 2 and 3 after construction

Area 1 and 4 after construction

Area 1 and 4 after construction

Area 1 and 4 after construction

Area 1 and 4 after construction

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