

EROSION CONTROL AT KARALLOE DAM GOWA, SOUTH SULAWESI, INDONESIA

Slope Protection

Problem

The location of the Karalloe Dam is 137 km to the southeast of Makassar City, precisely in Tompobulu District, Gowa Regency. Cited from pu.go.id, with an inundation area of 248.50 hectares, the water supply of this dam will be used to irrigate an irrigation area of 7,004 hectares, a raw water source of 440 liters/second, a 4.5 MW micro-hydro power plant, and flood control for Gowa Regency of 49 m³/second. Besides functioning as water conservation, the Karalloe Dam also has the potential to be a tourism destination because of its surrounding forests that make the air fresh and clean.

In the construction process, many cut slopes had the potential for surface erosion caused by rain and water run-off. The total area that needed protection during this project in total is approximately 14.400 m². Maccaferri presented an erosion control solution that can replace the shotcrete system by considering its ability to drain water, value-add for the environment, and cost-efficiency.

Solution

MacMat EM® and MacMat HS® with Vegetation are the solutions selected to protect the cut slopes at Karalloe Dam. MacMat EM® is an erosion control blanket with HDPE Geomat and is recommended for steep slope protection. MacMat HS® is a combination of MacMat EM® with a double-twisted wire mesh panel and longitudinal high tensile strength steel cables used on steep slopes.

MacMat HS® and MacMat EM® work as vegetation media and preliminary protection of surface erosion. After the MacMat HS® and MacMat EM® have been properly installed on the cut slopes, the next step is to patch the surface. The mulching material consists of planting media, seeds, and fertilizers. The erosion control system by Maccaferri can support vegetation growth as an added value to the environment.

Maccaferri Erosion Control System grants some advantages such as:

1. Easy and Quick Installation
2. Allows drainage on the surface of the slope
3. Allows vegetation as rehabilitation
4. Can be combined with Soil Nailing
5. Suitable for steep slopes

Client: MINISTRY OF PUBLIC WORKS

Designer / Consultant: PT NIndya Karya (Persero)

Contractor: PT NIndya Karya (Persero)

Products used (Qty.)

- MacMat HS 14.400 m²

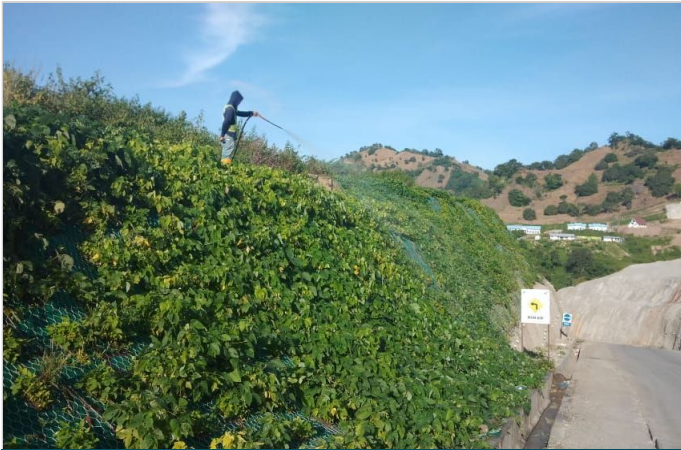
Date of construction: 05/2019 - 07/2020



Slope condition before installation



Mulching process on MacMat® HS



Watering process



Lush grown Vegetation



Lush grown vegetation