MACCAFERRI

CASE HISTORY

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EROSION CONTROL FOR TIU SUNTUK
SUMBAWA BARAT, NUSA TENGGARA BARAT, INDONESIA

Slope Protection

Problem

In the access road area to the Tiu Suntuk Dam, West Nusa Tenggara, excavation works have created steep and tall slopes that are vulnerable to surface landslides—especially during the rainy season or periods of heavy runoff. The loose and poorly compacted soil further increases the risk of failure, posing safety concerns and potentially disrupting infrastructure development.

In response, the Ministry of Public Works and Housing (PUPR) encourages the use of alternatives to conventional shotcrete methods. This aligns with their commitment to sustainable, environmentally friendly, and locally adaptive construction technologies. The project reflects the government's effort to balance technical performance with long-term ecological responsibility in strategic infrastructure development.

Solution

Maccaferri Indonesia recommends an erosion control solution for stabilizing the surface slopes along the access road to the Tiu Suntuk Dam. This solution utilizes MacMat® HS, a material reinforced with PoliMac coated wires and specifically designed to control erosion and reinforce the surface soil layer. The advantages of MacMat® HS lie in its flexibility and permeability, which allow it to optimally adapt to the contours and slope angles of the terrain. This is particularly important in excavated areas where the soil is inherently unstable and prone to erosion.

In addition to protecting against surface runoff and heavy rainfall that can trigger erosion, MacMat® HS also supports vegetation growth through the taplok method—direct planting on top of the installed mat. This method enables the slope to be protected structurally while vegetation is being established to enhance long-term natural stability. The integration of erosion control and revegetation aligns with the vision of the Ministry of Public Works and Housing to implement environmentally friendly, sustainable, and efficient solutions in infrastructure projects. This approach offers added value not only from a technical perspective but also aesthetically, while supporting environmental preservation around the dam area.

Client: PT Nindya Karya – PT Bahagia Bangunnusa, KSO

Designer / Consultant: Maccaferri Indonesia

Contractor: PT Prisma Sarana Jaya Utama

Products used (Qty.)

- Macmat Hs 17,160 m2

Date of construction: 07/2022 - 02/2024

Google Maps Google Earth



Before Construction



During Construction

MACCAFERRI



Finished Construction

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