MACCAFERRI

CASE HISTORY

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EROSION CONTROL FOR CIAWI DAM PROJECT

BOGOR, WEST JAVA, INDONESIA

Slope Protection

Problem

On December 23, 2022, the President of Indonesia, Joko Widodo, inaugurated the Ciawi Dam in Bogor, West Java. The construction of the Ciawi Dam is a significant infrastructure project aimed at addressing the flooding issues in Jakarta, boasting a water storage capacity of 6 million cubic meters and a floodplain area of approximately 39.40 hectares.

As Indonesia's first dry dam, the Ciawi Dam introduces a unique approach to water resource management. Unlike conventional dams, which store water and form lakes, the Ciawi Dam is designed to allow water to flow through. This design aims to significantly reduce the risk of flooding in Jakarta, with an estimated reduction of 30.6 percent.

Focused on diminishing the flood discharge heading towards Jakarta, the Ciawi Dam is expected to cut down flood volumes by up to 111.75 cubic meters per second. The dam is strategically located to control the water flow from Mount Gede and Mount Pangrango before it moves towards the Katulampa Dam and ultimately flows into the Ciliwung River.

During the construction process, the main challenge faced was the potential erosion on the cut hill slopes, which could pose a risk to the area below. The condition of these slopes could cause serious hazards to the dam facilities themselves. Spillways, roads, and other facilities around these slopes are at significant risk. This situation triggers the need for swift and effective measures to prevent further landslides. The solution for controlling erosion involves the use of MacMat® HS with vegetation to prevent landslides in the area.

Solution

In response to this challenge, Maccaferri Indonesia offers the best solution: MacMat® HS with Vegetation. This innovative solution incorporates a combination of HDPE Geomat and double-twisted wire mesh panels with longitudinal high tensile strength steel cables, known as MacMat® HS, strategically installed on the slope cuts. The Maccaferri solution not only tackles erosion issues but also enables environmental restoration through vegetation growth, presenting an efficient and sustainable method for managing erosion-related challenges.

Client: ABIPRAYA - SACNA KSO

Designer / Consultant: ABIPRAYA - SACNA KSO

Contractor: ABIPRAYA - SACNA KSO

Products used (Qty.)

- Macmat Hs 64,000 sqm

Date of construction: 01/2021 - 08/2022

Google Maps Google Earth



Before Construction



Construction Work



Construction Work



After Construction



Finish Construction

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