CHANNELIZED STREAM TECHNIQUE FOR RIVER PRESERVATION AT THE RGE CIB

CIBITUNG, WEST JAVA, INDONESIA

Revetment Protection

Problem

RGE Cibitung Warehouse, part of the Royal Golden Eagle (RGE) Group, is a modern logistics facility located in Cibitung, Bekasi, Indonesia. During the planning process, this project faced major challenges related to the presence of a river next to it. This river is a tributary of the Cibuntu River, which is experiencing bed erosion, causing the river to widen from 6 meters to 8-10 meters. This scouring occurs because there is no adequate protection on the river banks. This condition has the potential to endanger the structure of the warehouse being built because it can cause further erosion and threaten the building's foundation.
To overcome this problem, careful technical and environmental engineering measures must be taken. One of the main efforts is to return the river to its original dimensions to ensure the stability of the surrounding environment. This work involves strengthening river banks with erosion-resistant materials and creating safety structures such as revetments or earth retainers to reduce the rate of erosion naturally.

Solution

Channelized stream is a process where the river flow is formed into a straight or semi-straight channel with the addition of retaining walls, in this case using a gabion arrangement to stabilize the riverbank. The main goal is to direct the water flow according to the planned cross-section and avoid scouring on the riverbed. Gabions and Gabion Mattresses, consisting of stones encased in steel wire, were placed along riverbanks to strengthen the structure and prevent further soil erosion.
The channelized stream solution from Maccaferri Indonesia in the Cibitung project involves the construction of a retaining wall with gabions more than 6 meters high and 350 meters long. This solution aims to direct water flow in a more controlled and stable path, thereby avoiding excessive erosion of the riverbed. With stable gabions, the risk of erosion can be minimized, maintaining the stability of the surrounding structures, and ensuring the operational safety of RGE Cibitung Warehouse. Gabions also facilitate water flow and reduce hydraulic pressure, thereby preventing flooding and damage to surrounding structures. This implementation require

Client: MURI AGUNG ABADI
Designer / Consultant: Maccaferri Indonesia
Contractor: MURI AGUNG ABADI
Products used (Qty.)

- Gabions	2505 units
- Nonwoven Geotextiles	13800 sqm
- MonoAxial GeoGrids	1975 sqm
- Reno Mattress Plus	948 units
- Drainage Geocomposites	293 sqm

Date of construction: 02/2024 - 07/2024
Google Maps Google Earth



Before Construction



Construction Work



Construction Work



Construction Work

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