MACCAFERRI

CASE HISTORY

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SADAWARNA DAM PARAMESH WALL

SUBANG, WEST JAVA, INDONESIA

Weirs, Culverts and Transverse Structures

Problem

Sadawarna Dam is located in Sumedang, West Java. The Dam, which has an inundation area of 695 hectares, can irrigate around 4.280 hectares of rice fields in Subang and Indramayu Regencies. With a length of 933 meters, this dam has a total water reservoir of 70.86 million m3 and an effective storage volume of 42.11 million m3. Apart from irrigating the rice fields, the Sadawarna Dam is also said to overcome flooding in the Pamanukan area and its surroundings.
Sadawarna Dam has its Stilling Basin designed to reduce the energy from overtopping water flowing down the spillway, to minimize the risk of dam erosion. The Stilling Basin needs to be protected with a retaining wall. Thus, a Mechanically Stabilized Earth Wall using Paramesh System was proposed.

Client: PT. Wijaya Karya (Persero) tbk
Designer / Consultant: PT. Wijaya Karya (Persero) tbk
Contractor: KSO PT. Wijaya Karya (Persero) tbk - PT Daya
Products used (Qty.)

- Terramesh 300 pcs
- MonoAxial GeoGrids 5.175 sqm
- Drainage Geocomposites 604 sqm
- Nonwoven Geotextiles 2.100 sqm

Date of construction: 03/2022 - 07/2022
Google Maps Google Earth

Solution

The Retaining Wall Structure for Stilling Basin in Sadawarna Dam is constructed using Paramesh System with a height of 5m, consisting of the Terramesh System as the facing and secondary reinforcement, which is then combined with Paragrid HF 150 - geogrid with a tensile strength of 150 kN/m - with the length of 3m – 5m as the primary reinforcement of the structure. Maccaferri Indonesia proposed to use the Polimac Coated Wire for the Terramesh System as protection against corrosion, abrasion, and UV exposure. The usage of this material proved to be more effective and efficient in terms of construction time and cost.
All the stability checks of the structures were performed using the internally developed software of Maccaferri (MacStars). Furthermore, Maccaferri provided the client with Product Assistant in order to ensure The Obligated Standard Procedure was followed.

Installation of Paramesh System

Compaction Every 25 cm

Finished Structure (1)

Finished Structure (2)

Finished Structure (3)

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