

TERESA, RIZAL DYNAMIC ROCKFALL BARRIER

RIZAL, REGION IV-A, PHILIPPINES

Dynamic Barriers

Problem

A cement manufacturing company faced a 120 - ton boulder threatening to destroy three of their main structures in the event of rockfall. The boulder's volume is estimated to be 44.44 m³ with a unit weight of 2,700 kg/m³ reaching a rock mass of 120 tons. The slope length where the boulder is located is 28 meters in length and the slope composition is made up of silty sand.

Solution

Maccaferri Philippines provided technical and design assistance in the construction of the 30 linear meters Maccaferri dynamic rockfall barrier (RMC850A). The rockfall barrier was designed in accordance with UNI 11211- 4:2012 "Rockfall protection works - Part 4: Definitive and executive design." Prior to the installation of the rockfall barrier, area clearing is done along the slope. The boulder was broken up into smaller pieces, resulting in a smaller size boulder with a volume of 22.22 m³ and a rock mass of 60 tons.

Based on the analysis and calculations, it was determined that the RMC850A Barrier will be sufficient to arrest the energy of the fragmented boulder. Maccaferri RMC850/A has a MEL Rated Capacity of 8,644 kJ. Applying the Risk Amplification Factor and the Barrier Capacity Reduction Factor, a barrier design capacity of 6,548.48 kJ is obtained.

Client: Republic Cement Teresa Plant

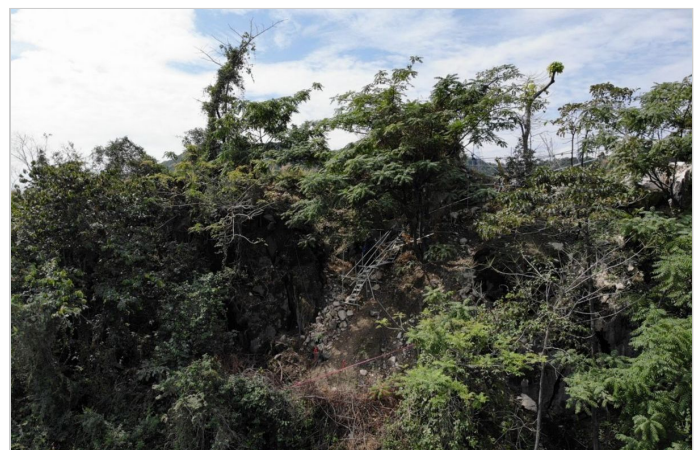
Designer / Consultant: Republic Cement Teresa Plant

Contractor: BMDK

Products used (Qty.)

- Dynamic barrier RMC 850/A 30 Linear Meter

Date of construction: 04/2021 - 06/2021



Before Construction



Before Construction



During Construction



During Construction



Completed



Completed



Completed