

**ATIMONAN-MAUBAN PROVINCIAL ROAD
ATIMONAN, QUEZON, REGION IV-A, PHILIPPINES**

Longitudinal Protection

Problem

An extension of the existing provincial road has been planned by Atimonan One Energy, Inc. (A1E) - a wholly-owned subsidiary of Meralco PowerGen Corporation. A1E is the developer of an environment-friendly and state-of-the-art 1,200-megawatt supercritical coal-fired power plant in Atimonan, Quezon Province. The plant is expected to augment the power supply in the Luzon grid when it starts commercial operations.

To provide access to the power plant, as well as to improve the road network in the town of Atimonan, the existing provincial road needed extension. As challenges are inevitable to every project, A1E engineers required cutting of rock outcrop and backfilling on the shoreline to construct the access road with its required elevation and geometry.

Due to space constraint, a 160 meters long section of the shoreline required a revetment wall from STA 0+980 to STA 1+140, with average total height of nine meters.

Solution

Based on the data provided by the A1E engineers and in cooperation with Project Consultant (GHD Pty. Ltd.), Maccaferri recommended a longitudinal protection revetment structure following the concept of mechanically-stabilized earth (MSE) and with the patented Terramesh System product. The design has been proven to be structurally sound and economical, and has met the tight construction schedule for the project.

The reinforced structural backfill of the MSE wall was required to be compacted to minimum 95% of MDD by Standard Proctor. A buttress and scour protection using large-sized boulders was required at the toe as primary defense against waves. The base of MSE wall was laid with Reno mattress for stabilization. Due to the sandy nature of the fill materials, the sub-surface drainage system in between the reinforced structural backfill and that of the cut soil surface was not required by the Consultant.

The combined polymeric coating and Zinc+5%Aluminum provides optimum corrosion and abrasion-resistant protection to wires of Terramesh System units. During construction, the MSE wall was tested by a local typhoon that flooded the town of Atimonan, Quezon, but the MSE wall remained still and without any damage.

Client: Meralco Powergen Corporation (MGEN)

Designer / Consultant: GHD Pty. Ltd.

Contractor: Waycon Builders & Construction Supply

Products used (Qty.)

- Terramesh N/A
- MacTex Non-woven Geotextile N/A
- Reno Mattress N/A

Date of construction: 03/2017 - 11/2017



During Construction



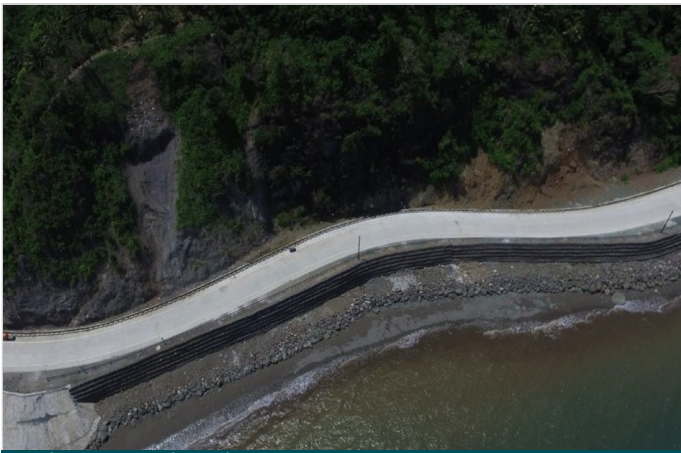
During Construction



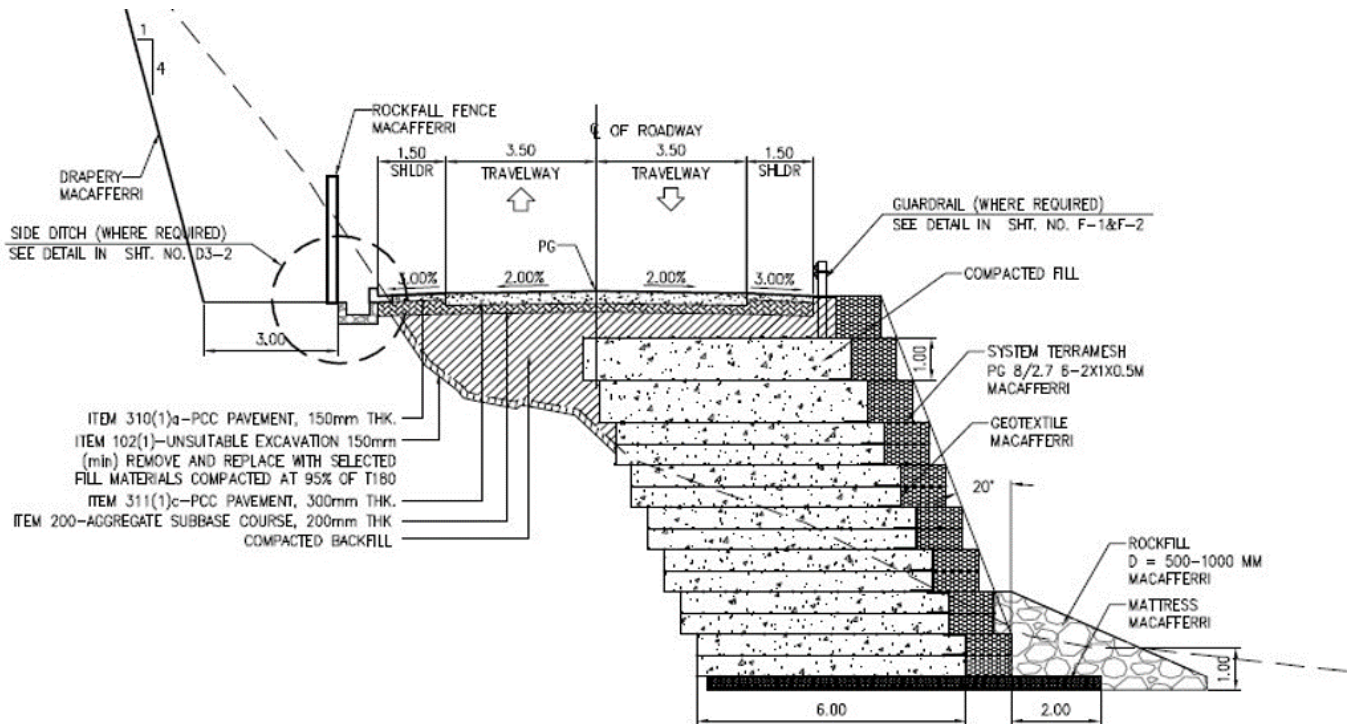
Project Completed



Project Completed



Project Completed



Typical Cross Section Detail

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