

**EROSION PROTECTION FOR TRANSMISSION TOWER
LAMPANG PROVINCE, LAMPANG PROVINCE, THAILAND**

Mass Gravity Retaining Walls

Problem

High voltage power transmission tower was constructed at flood risk area in Lampong District, Thailand. A 2 m high flood control embankment with an area of 25 m length and 25 m width was constructed to protect the foot of the transmission tower. During monsoon season, flash flood occurs resulting in severe erosion at the surface of the embankment. Further erosion could expose the tower foundation, thereby weakening the tower leg. Underground seepage is also a main treat to the structure due to the high water table at the area. After inspection, three towers were identified for immediate protection.

Solution

A solution using combination of gabion retaining wall and filter fabric was proposed by Maccaferri technical team. The proposal includes:

- 1.0 Gabion gravity wall with front steps to retain a 5 m high embankment and at the same time to protect the embankment against strong water current during flood.
- 2.0 Filter fabric at the back of the retaining wall to prevent erosion.
- 3.0 An embedment depth of 3 m using gabion gravity wall to protect the concrete foundation.

The client favoured the proposal compared to other erosion prevention method because of its simple construction method and also economical. In addition, locally available boulders made the construction period shorter. The rate of construction is estimated at 25 cubic meter per man per day.

Client: ELECTRICITY GENERATING AUTHORITY, THAILAND

Designer / Consultant: NA

Contractor: SILA MAE TA LTD., PART.

Products used (Qty.)

- Gabion 3,921 m3

Date of construction: 06/2007 - 12/2007



During construction (June 2007)



During construction (July 2007)



During construction (July 2007)



After construction (December 2007)