

NEW MODI LEKHNATH 132 KV TRANSMISSION LINE PROJECT PARBAT, NEPAL, NEPAL

Longitudinal Protection

Problem

The road to project site (New Modi Lekhnath 132 KV Transmission Line Project) runs along the bank of Patu river for approximately 700m.

Patu is a steep river with large boulders on the bed and bank.

The bank cutting during the monsoon can damage the road and road alignment. The client was looking for alternatives to rigid structures since they would have developed pore water pressure behind and underneath of the protection wall. So, it was appropriate to provide a flexible and self draining structure to control the erosion.

Solution

The following Structures had been designed by Maccaferri based on the available river hydrology and topographical information:

(1) River Bank Protection Works (2) Retaining Structures to strengthen the road embankment For the same, gabions were used for which the boulders were locally sourced as fill material.

Advantages of using gabions embankment wall:

- 1 Highly stable due to its large weight & flexibility.
- 2 Maintains its functions even after the settlement of the foundation.
- 3 Structure can be built without heavy equipment.
- 4 Can be repaired by opening the boxes, refilling and wiring them shut again.
5. Structure is self draining in nature which prevents the formation of pore water pressure behind the wall.
6. Eco-friendly with low carbon footprint

Client: Nepal Electricity Authority

Designer / Consultant: Maccaferri

Contractor: ABB India / Hanuman Construction, Nepal JV

Products used (Qty.)

- Gabion

2x1x1m, 7000
cu.m,

Date of construction: 01/2019 - 07/2019



Photo 1: Initial site condition



Photo 2: Initial site condition



Photo 3: Initial site condition



Photo 4: River bank protection / road embankment protection works



Photo 5: Completed protection work



Photo 6: Completed protection work