

LANDSLIDE PROTECTION WORKS WITH GABION RETAINING WALL AT NH-47 KUDIRAN, KERALA, INDIA

Mass Gravity Retaining Walls

Problem

National highway 47, commonly referred as NH47, is a 640km long highway. It starts from Salem in Tamil Nadu, passes through major cities in Kerala and ends at Kanyakumari in Tamil Nadu.

The highway passes through a variety of terrains, which includes roaring coastal areas as well as the silent mountain ranges upto the southern tip of the India. From Trichur to Palakkad, the road passes through several picturesque locations and one of them is Kudiran.

Due to heavy rainfall, the proposed site at Kudiran was affected by landslides. The result was blocked traffic on the highway, causing a lot of inconvenience to the commuters. This landslide further could have led to a major disaster as a 11KV power transmission tower mounted on the top also came down with the slide.

Solution

National Highway Authority of India asked solutions for the problem to Maccaferri India. They required a speedy solution since the proposed site was on National highway.

Maccaferri suggested gabion retaining wall which is a flexible, free draining, permeable, economical, eco-friendly and easy to construct.

The gabion wall of approximately 9m height was constructed. Above the wall, a coir mat was provided to stabilize the surcharge slope.

Gabion walls being flexible and permeable in nature, could be economised to a considerable extent. The speed of construction achieved at the site was remarkably better than any other type of conventional structure. The work started and completed within a span of 20 days.

The structure is aesthetically pleasing with perfect alignment in horizontal and vertical direction. A very good vegetation has grown on the surface of the wall.

Advantages of Gabion:

- Flexibility.
- Monolithicity.
- Permeability.
- Cost effectiveness.
- Easy to construct.
- Eco friendly.

Client: NATIONAL HIGHWAY AUTHORITY OF INDIA

Designer / Consultant: Maccaferri (Designer)

Contractor: National Highway Authority of India

Products used (Qty.)

- Gabion 3,300 CUM

Date of construction: 10/2008 - 11/2008



Photo 1: Before construction



Photo 2: Before construction



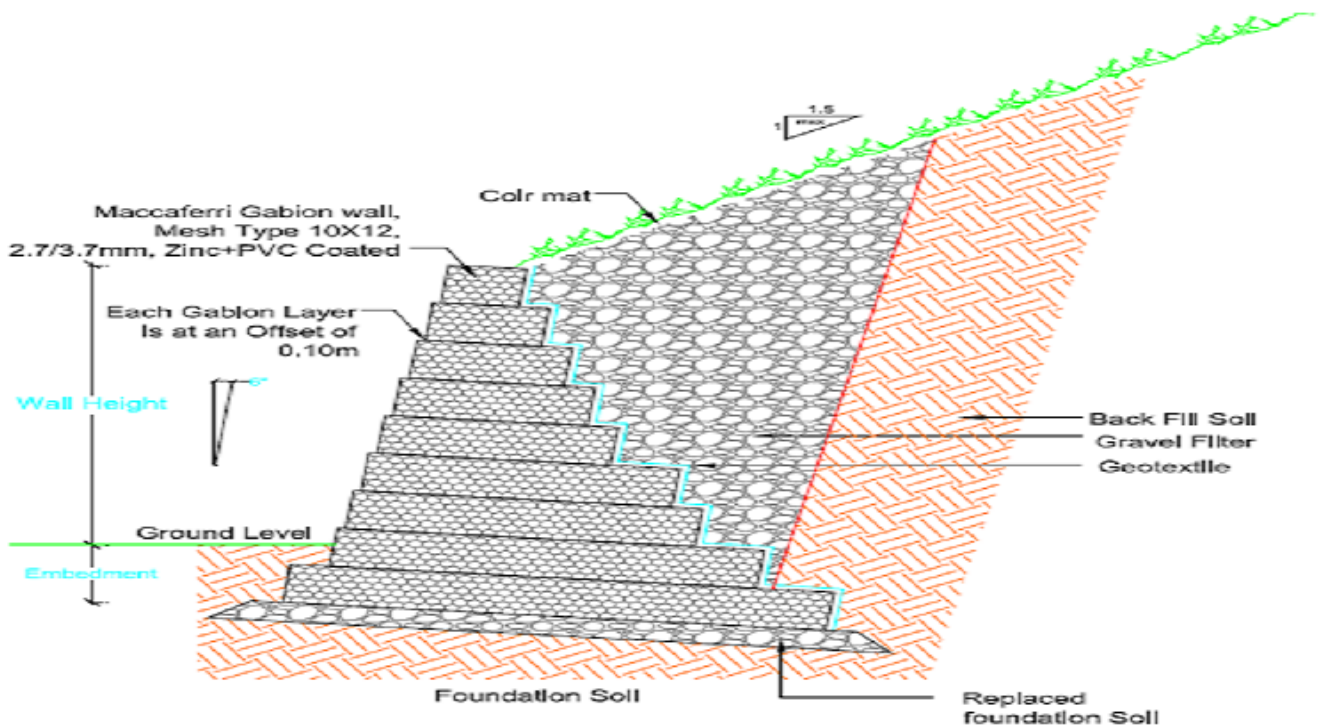
Photo 3: During construction



Photo 4: Completed structure



Photo 5: Completed Structure



Cross sectional drawing