

GABION WALLS FOR OOTY-METTUPALAYAM ROAD OOTY, TAMIL NADU, INDIA

Mass Gravity Retaining Walls

Problem

Ooty is one of the most beautiful hill stations in Tamil Nadu and is known as 'Queen of Hill Stations'. It is situated 2,240m above sea level. The misty hills and valleys attract lot of tourists to this place through out the year.

The National Highway Authority of India (NHAI) wanted to improve the road safety and traffic flow on existing Ooty-Mettupalayam road. This highway passes through a variety of terrains and many locations were proposed for widening. Thus, retention of hill and cut slopes was required. Mass gravity structures (in cut area) and reinforced soil structures (in the fill portion) were used in these instances to provide slope stability against environmental effects. Due to heavy rainfall, many locations at this road had bad landslides. The result was a blocked traffic on the highway.

Solution

National Highway Authority of India consulted Maccaferri for the problems faced by the Highway department for widening of existing road and retention works along the National Highway. Gabion retaining wall was suggested as a solution, which is flexible, free draining, permeable, economical, eco-friendly and easy to construct in high rainfall conditions. On hilly terrains, gabions are the ideal to retain cut and fill slopes, especially in widening on curves and workplace restricted slopes.

The height of the wall which was suggested by Maccaferri ranged from 1.5m to 6m.

Gabions also have advantages over more rigid structures because they can conform to ground movement, dissipate energy of flowing water and drain freely. Their strength and effectiveness increases with time in most cases, as silt and vegetation fill the interstitial voids and reinforce the structure.

Advantages of gabion retaining wall are:

- Cost-effectiveness.
- Monolithicity.
- Simplicity in construction and economy.
- Environmental friendliness.
- Permeability.
- Flexibility & versatility.
- Structural safety.

Client: National Highway Authority of India

Designer / Consultant: WilburSmith Associates, Bangalore

Contractor: T. Rangaraju- Highway Contractor, Perambular

Products used (Qty.)

- Gabion 23,700 cum

Date of construction: 04/2009 - 09/2009



Photo 1: Before construction- cutting area



Photo 2: Before construction- filling area



Photo 3: Before construction



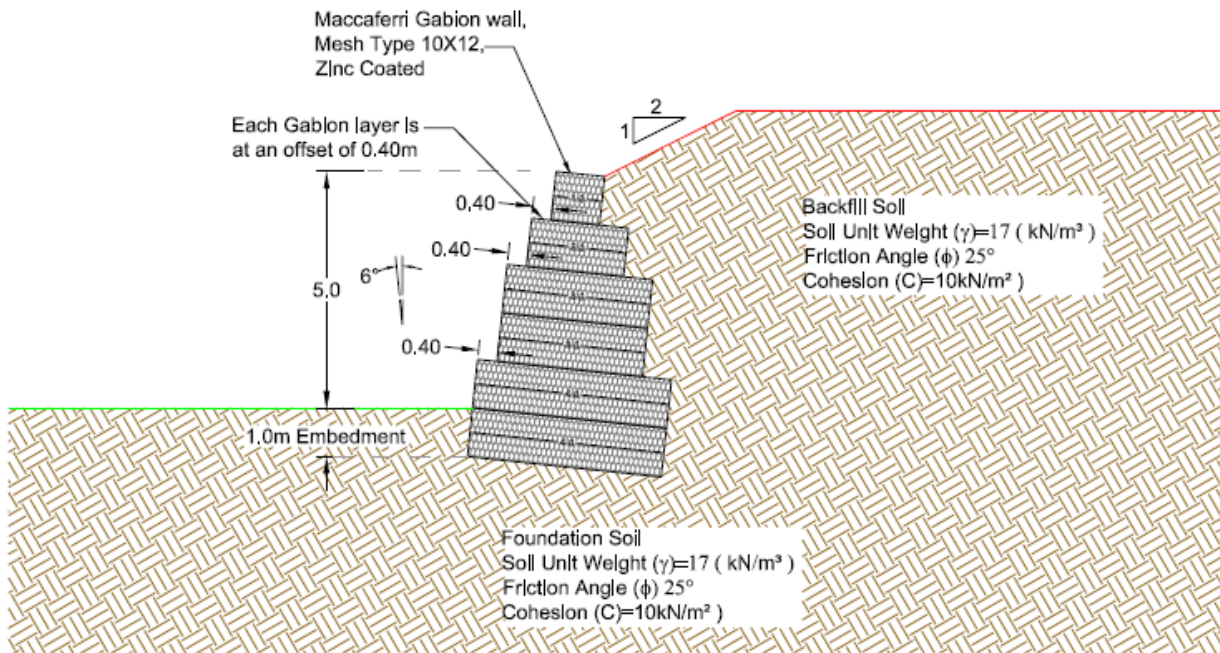
Photo 4: Completed structure



Photo 5: Completed structure



Photo 6: Completed structure



Cross sectional drawing

MACCAFERRI ENVIRONMENTAL SOLUTIONS PVT. LTD
D40, MIDC Ranjangaon, Tal-Shirur, Dist. Pune - 412 220
Tel: +91 2138 393000 , Email: info.in@maccaferri.com