

## GABION RETAINING WALL AT IT PARK MAGARPATTA, PUNE PUNE, MAHARASHTRA, INDIA

### Mass Gravity Retaining Walls

#### Problem

Magarpatta, Pune is a self-contained residential cum industrial / corporate settlement spanning over 700 acres of land. Its award winning design and eco friendly construction made it the first such settlement in India to receive the ISO:9001 certification.

An IT park was to be constructed at the location. For this purpose, a fill of around 6-7 m was provided, the slope of which needed to be protected. Also, a canal passed near the edge of the fill. Hence, there were chances of development of hydrostatic forces.

The site had black cotton type soil present. Considering the engineering properties of soil, foundation replacement was also advised.

#### Solution

Since black cotton soil is highly sensitive to seasonal moisture content variations and can lead to distress of the structure, foundation replacement was done with stone dumping. To provide protection to the slope of the fill and the canal, a gabion wall was constructed.

Maccaferri gabion structure are cages which are engineered from double twisted hexagonal woven steel wire mesh. Delivered flat-packed, gabions are assembled and then filled with stones at the project site to form flexible, permeable, monolithic structures. As rigid structures are costlier and exert pressure at the base, the flexible gabion walls were quite suitable for specified conditions at the site.

The gabion wall was the perfect solution for the proposed site due to its advantageous characteristics like:

1. Cost Effectiveness.
2. Simplicity in Construction.
3. Flexibility.
4. Durability.
5. Drainage and permeability.
6. Environmental compatibility as it allows vegetation to grow.

**Client:** Kumar Properties

**Designer / Consultant:** Maccaferri Environmental Solutions Pvt Ltd

**Contractor:** Kumar Properties

**Products used (Qty.)**

- Gabion

Not available

**Date of construction:** 02/2010 - 05/2010



Photo 1: During construction

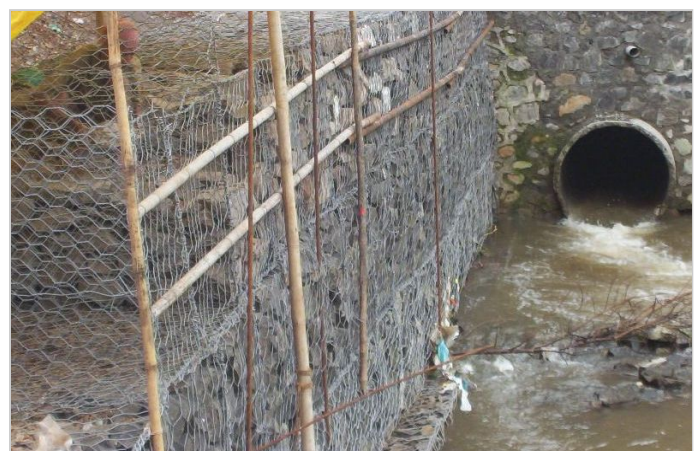


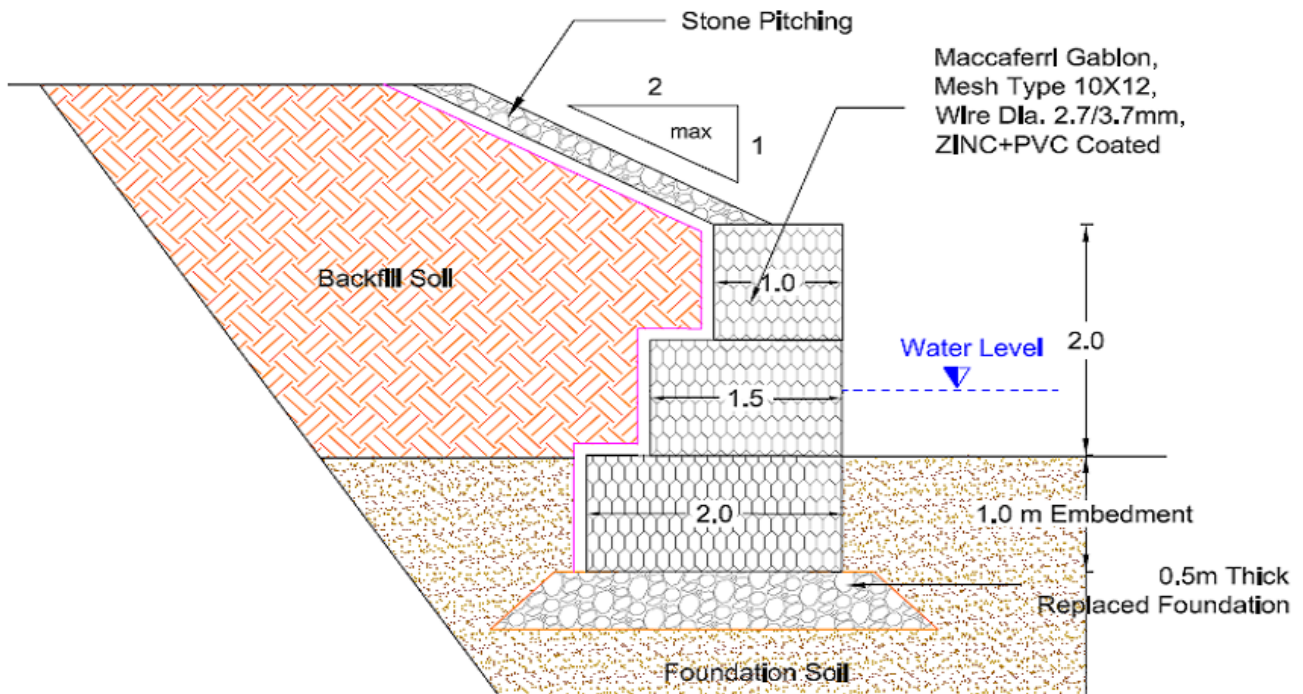
Photo 2: During construction



Photo 3: Completed structure



Photo 4: Completed structure



Cross sectional drawing