

GEBZE-ORHANGAZI-İZMİR MOTORWAY GABION RETAINING WALL PROJECT

BURSA ORHANGAZI, MARMARA, TURKEY

Mass Gravity Retaining Walls

Problem

Due to the stability problem in the slope located on KM 29 + 500 of the Kamu Özel Sektör Ortaklığı Genel Müdürlüğü Gebze-Orhangazi-İzmir (Including İzmit Bay Crossing and Connection Roads) Motorway Build-Operate-Transfer Project Orhangazi - Bursa section, a solution was provided with the piling system in order to prevent the total collapse of the slope. Due to the fact that the pile cap elevation is below the road platform elevation, the need for a retaining structure has arisen against the stability problems that will occur on the slope surface.

Solution

As a result of the investigations made in the project area, it was determined that the correct solution for slope stabilization would be the Gabion retaining wall. The Gabion Retaining Wall was determined as a solution when the parameters of ease of finding stones in the application area, application speed, the technical approach to the solution of the slope problem, the weight wall requirement, being economical, architectural appearance, earthquake resistance and need for a flexible structure are considered. Gabion Retaining Wall is 7 m high and has 4 m heel width. The Stone sizes used are between 125 mm and 250 mm and the unit weight of the stone is 25 kN / m³. Since there is a 30% void ratio in gabion structures, 17.5 kN / m³ unit volume weight was taken as a basis in the design. In the project, box gabions are made of heavy galvanized coated double twisted wire mesh in 8X10 mesh type and 2.7 mm thickness produced in accordance with international standards in Maccaferri's Düzce factory. For the design, EUROCODE 7-8 norms were used to determine the load combination in both seismic and static analysis. The analysis program used in the design is Maccaferri Macstars W 2000. 4300 m³ gabion has been manufactured and the total manufacturing period is 75 days.

Client: NÖMAYG GEBZE-İZMİR OTOYOLU İNŞAATI A.O.

Designer / Consultant: MACCAFERRI TÜRKİYE

Contractor: YÜKSEL ÖZALTIN ORTAKLIĞI

Products used (Qty.)

- Gabion 4300 m³

Date of construction: 05/2015 - 10/2015



Gabion Static and Seismic Analysis



Gabion Wall



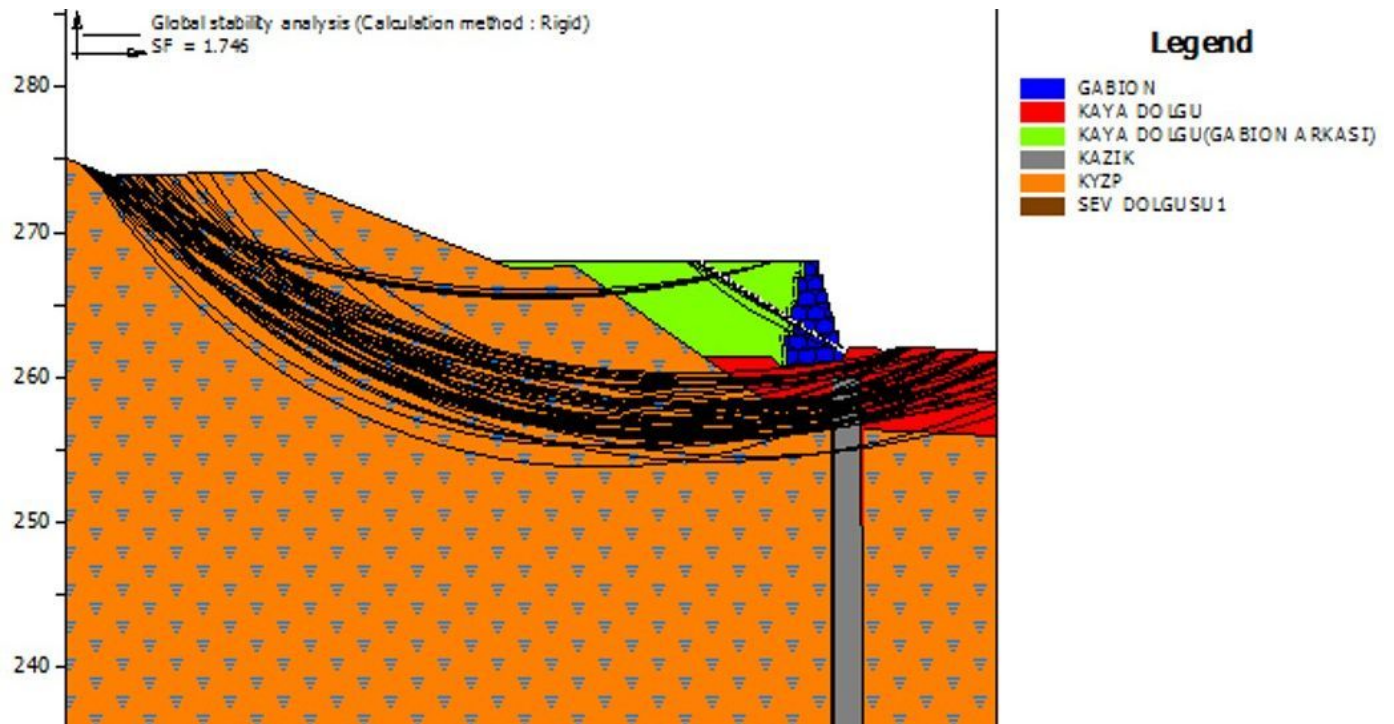
Gabion Wall



Gabion wall aerial view



Gabion Wall



Gabion Statik ve Sismik Analizi Gabion Static and Seismic Analysis