

**ATAŞEHİR MİMAR SİNAN MOSQUE**  
**İSTANBUL, MARMARA, TURKEY****Reinforced Soil Walls and Slope Reinforcement****Problem**

Within the scope of the Mimar Sinan Mosque project, which is one of the largest mosques in Istanbul, located in the Ataşehir district of Istanbul province, the need for a retaining wall on the TEM highway side of the mosque has arisen. It is aimed to control the slope and to create a platform for the road by building a retaining wall in the sloped area where the mosque's parking road and access road to the mosque are located. However, in the landscaping works within the project concept, the concrete surface does not fit the concept, if a reinforced concrete retaining wall is built, it will negatively affect the architectural appearance of the mosque. The reinforced concrete retaining wall cannot give the desired image, and the reinforced concrete retaining wall needs additional ground improvements due to the weakness of the ground.

**Solution**

In the first meeting with the contractor, considering the problem and the requests of the employer, it was revealed that among the Maccaferri solution issues, the most suitable solution for this project is the green terramesh retaining wall with geosynthetic reinforcement. Architectural details were prepared in line with the demands of the employer, and static and seismic calculations were made by following to this architectural concept. In addition, a drainage project has been prepared due to the high groundwater level. Although the total wall height is 15.00 m, a wall analysis has been made in 3 stages with variable cross-sections. Each stage is 5.00 m high and the total length of the wall is 250.00 m. Green terramesh modules are used on the front of the wall. The Paragrid 80 geogrid is placed at every 0.76 m as the main carrier.

It was planned to use graywacke material from the foundation excavation of another construction site close to the construction site as the material used in the structural filling, upon the request of the employer, and it was deemed appropriate to use this material in the calculations as a results of the laboratory tests.

After the green terramesh retaining wall application was completed, spray grass was applied to the front surface of the wall.

**Client:** EMLAK KONUT**Designer / Consultant:** MACCAFERRI TURKEY**Contractor:** GÜRYAPI İNŞAAT**Products used (Qty.)**

- |                   |          |
|-------------------|----------|
| - Green Terramesh | 1.400 m2 |
| - ParaGrid        | N/A      |

**Date of construction:** 03/2011 - 05/2011**Green Terramesh****Green Terramesh Retaining Wall Construction Phase**



Green Terramesh Retaining Wall Construction Phase



Green Terramesh Retaining Wall Construction Phase



After The Completion of Green Terramesh Retaining Wall



After The Completion of Green Terramesh Retaining Wall