

Geoduvar, Terraforce product licensee in Istanbul, Turkey, has always been a steady performer, providing the designs and applications for some impressive retaining walls using Terraforce blocks. So it comes as no surprise that they can be credited for designing the highest Terraforce earth retaining wall in the company's history, an impressive 20,5 m wall stabilising cut and fill slopes for the Karlitepe Road Project in the Beykoz region of Istanbul.



The retaining wall still bare after completion



The Karlitepe road Project was specified by the Municipality of Istanbul to provide access to a hilltop neighborhood down to the coast of Bosphorus in Istanbul, Turkey. The planned road was about 7 km, of which 1.1 km had to be built along an exceptionally high, privately owned slope. As the property value was too high to simply purchase the land, the Municipality had come to an agreement with the landowner so that they could avoid paying any compensation during the expropriation process. In exchange for free expropriation, the Landlord was granted special construction permits and also the right to decide about the type of structure to be used for the road construction.

At this stage Geoduvar, Terraforce Licensee in Turkey, was contacted by Cihangir Construction to design the retaining wall system for the road. A major requirement was the appearance of the retaining wall – the landowner did not want a 20 meter high, fully perpendicular surface to structurally support the road, especially as there were future plans of building a residential complex on this 1,000,000 m² land. Thus it was essential that the new structure would blend into the existing greenery and the surrounding forest.

Geoduvar introduced Terraforce to Cihangir Construction as a system that allows - when used with high strength geotextile reinforcement – the construction of very high retaining walls, while at same time providing a green surface cover. A preliminary design - the construction of a L15 block retaining wall with high strength geotextile reinforcement, constructed at impressive wall inclinations of 70° - was prepared and presented to the Municipality, who approved the system, being impressed with the cost efficiency and appearance of the application. Another advantage the Terraforce system provided was that installation of the walls could coincide with construction of the road, saving time and money.

The total length of the retaining wall supporting the road is about 1 km, with wall inclinations of 70°. The height of the system ranges from 1 m at either end up to 21.5 m at the lowest point of the existing grade. The block used was the light brown L15 Terraforce block, produced by Eko Moduler

Yapi, Istanbul. The total area of the retaining wall is about 6,500 m² and Geoduvar reports that there have been no problems with the structure since the completion of the wall last year.



Plant cover is established



