



The Repair Project at Highway No. 27 in Kaohsiung

Location : Kaohsiung, Taiwan

Application : Reinforced Retaning Wall

Problem :

In 2009, Typhoon Morakot combined with southwesterly flow and invaded Taiwan; it affected southern Taiwan and brought high rainfall. This case was located at Highway No. 27, riparian area of Laonong River in Liouguei of Kaohsiung City in Taiwan. It was the main road from Liouguei to Laonong. However, the regional cumulative rainfall was over 2,600mm during the typhoon. The upper stream carried a large number of rocks and debris and constantly scoured the slope toe of the jobsite, resulting in road infrastructure loss and damage to overall structure which declined to cause interruption of traffic.



Solution :

Due to this region was in the attack side, the concave bank of the river, a semi-gravity retaining wall was built below the normal water level, and above it, a reinforced retaining wall was built by using ACEGrid[®] and other geosynthetic materials including ACEBag[®], ACETex[®] and drainage system. Besides, in-situ soil was used as the backfill of the reinforced structure. The design significantly reduced using more than 2/3 amount of concrete at least, which definitely meets the main goal of energy saving and carbon emission reduction. Thanks to the suitable design, this project was presented better than expected after Typhoon Nanmadol hit in 2011.