# Stability Analysis of a High Stone Retaining Wall: A Case of Eskipazar/Turkey

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***Abstract*— The use of natural stones in retaining wall has been a tradition and common practice throughout human history. Stone retaining walls are load bearing retaining walls, which have long been analyzed by considering the equilibrium of forces and moments applied to the wall treated as a rigid solid. Stone retaining walls can be designed for the provision of some slope stability. This paper provides a review of stability analysis of high stone retaining walls. This paper provides a review of stability analysis of high stone retaining walls using Geo5 software. The stone retaining wall examined in this study is located in Karabük (Turkey). The study area was located near of the North Anatolian Fault Line (NAF) which are the most important fault lines in Turkey. For that reason, the stability analyzes were carried out considering the earthquake situation. The stone retaining wall is made of traverten type rock. This rock is a commonly observed rock type. The height of the analyzed wall is 10 m. A 5 kPa uniformly distributed load was adopted in the stability analysis to accommodate for the heaviest loading condition during construction. The analysis with Geo5 found a wall factor of safety 1.78. At this value, it shows that the wall will stable although it is very high.**

***Index Terms*— Stone masonry walls, slope stability, Geo5, Turkey**

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