



The Effect of Granular Trench's Depth on Bearing Capacity of Shallow Foundations on the Soft Ground

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ABSTRACT

The rapid growth of construction in urban areas has resulted in building structures on soft and weak soils. These soils possess the low bearing capacity and high settlements. One of the common ways to increase bearing capacity in weak soils is to use granular trench. Trenching can be built easier, faster and cheaper than deep foundations. The function of granular trench is similar to stone columns. However, the difference is that instead of a column of granular material, a large area of granular material is used. In this research, we compare the results of static bearing capacity for shallow foundation with and without trench obtained from numerical modeling using FLAC2D. Furthermore, the effect of depth of granular trench on bearing capacity has been studied and finally the optimum depth is presented.

Key words: *Shallow foundations, Static bearing capacity, Trench, Optimum depth, FLAC 2D.*