**A Study On Performance Of Geogrid Made From Waste Material (Hay) In Soil Reinforcement**

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**Abstract**

Geogrid, one type of geosynthetics manufactured in the form of two dimensional interconnected cells forming a grid can be used as soil reinforcement for improving the bearing capacity of the soil. Generally, it is a polymeric product manufactured in industries. In the present times, reinforcements made of natural , environment friendly and locally available materials are being focussed on. Such materials are also cost effective. In this study, effort has been made to select such a material for improving the bearing capacity of soil. Hay being an abundantly available material in Assam as well as a waste material has been selected for making of the geogrid for making the movement of vehicles possible through the temporary pathways constructed near the river banks. This research work presents the results from laboratory-model tests on a square footing supported by a sand bed reinforced with the hay geogrid. The various parameters affecting the performance of the hay geogrid like the width of the geogrid, depth of placement , number of cells , thickness were studied and presented. The width of the geogrid plays a significant role in increasing the load carrying capacity. Also, providing two layers of geogrid at a certain spacing gave satisfactory results. Based on the model test results, number of layers of reinforcement has been found to be the most important factor governing the performance of the hay geogrid.

Keywords : Geogrid, Soil reinforcement, Bearing Capacity