Department : **Civil**

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Group No: **4**

Guided By

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Project Title

"STABILIZATION OF EXPANSIVE SOIL USING RICE HUSK ASH"

Abstract:

Expansive clay soils-those that change significantly in volume with changes in water content-are the cause of destructions to structures that cost taxpayers several billion dollars annually in the India. Much has been learned about their behavior over the past 60 years, and relatively successful methods have been developed to modify and stabilize them. This project reviews some of the key advances developed over the past 60 years in improving our understanding of the nature and methods of modifying and stabilizing expansive clay soils. The swelling soils are commonly known by the name of black cotton soils. For swelling to occur, these soils must be initially unsaturated at some water content. If the unsaturated soil gains water content, it swells. On the other hand, if a decrease in water content occurs the soil shrinks. The state of the practice in stabilization is presented, and practical and research needs to help improve the state of the practice are discussed. Expansive soils contain clay or other minerals that cause them to expand when absorbing water. In This study we have used furnace ash as the additive to increase the stability of soil and decrease the swelling of soil. As furnace ash is high in silica, calcium, and other minerals it provides the necessary homogenous mass for performing the required test. New correlations of swelling pressure have been carried out for the Baroda region by statically analysis using linear regression analysis method. This statistical analysis is carried out in order to obtain the most suitable relationships. New correlations are proposed for prediction of swelling pressure using liquid limit, plasticity index, shrinkage index, field moisture content, and free swell index III different combinations for expansive soil of Baroda city in the Gujarat state of India.

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