ISSN NO: 0972-1347

STUDY OF STABILIZATION OF RED SOIL BY USING RECRON -3S,FLYASH & LIME

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Abstract— **The Growth of Population has created a need for better and Economical vehicular operation which requires Good highway with proper Geometeric design, pavement condition and maintenance . There are Various Infra structures projects which are used in Highways , Railways, ,Water reservoir etc. which requires earth materials in very Large quantity. The Highways have to be Maintained so that comfort, convenience, and safety are provided to the travelling Public. In this project strength of the soil is increased by stabilization method by using Recron -3s as (1%, 2%), Lime (2% ,3%) and Fly ash at (10%,12% ,15%) with different proportion of soil with additive materials Califonia Bearing Ratio values ,Unconfined Compressive Strength value will be more compare to conventional materials and from that thickness of pavement can be minimized to the certain extent.**

Keywords— *recron-3S, fly ash, lime, CBR (California Bearing Ratio), Unconfined compressive strength, Optimum Moisture Content,Maximum Dry Density.*

I. Introduction

In India about 3.5 lakhs sq.km of the land (10.6% of total area) are covered with Red soil. A.valayapatti village in melure in Tamilnadu consist of2366 total population,1267 workers,318 students. In these area the nature of soil is Red soil type which has created several challenges for civil engineers. Various method can be adopted inorder to increase the engineering characteristic of Red soil.The process of soil stabilization helps to achieve the required properties in a soil needed for the construction work. Ancient civilizations of the Chinese, Romans and Incus utilized various methods to improve soil strength etc. The process of soil stabilization helps to achieve the required properties in a soil needed for the pavement,channel and reservoir lining construction work. One of the main reasons for the failure of Pavements is due to lack of strength. Strength can be increased by adding additive materials to the sub grade in different proportions. In these by using Recron-3s when mixed with soil, fly ash and lime it will give wonderful result. Recron absorbs everything and keeps the road surface in contact and many problems can be solved like potholes, cracking and failure of the pavement.

II. Materials

Following are the materials which are used for stabilization of red soil:

a) **Red soil:** The soil used in this study is red soil collected at a depth of 1m from the ground level in A.valayapatti village at Melur.

Physical properties of soil after testing are

Specific gravity – 2.69

Liquid limit -40 %

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