Contribution ID: **33** Type: **Poster Presenter**

Effect of Lime on Engineering Properties Subgrade Soil of Gujranwala

Subgrade acts as the foundation for road structures. The life and performance of roads structures greatly depends on the strength properties of subgrade soil. It is very common in Pakistan that engineers encountered with weak subgrade layer not suitable for construction of highways. The subgrade soils of Gujranwala are mostly low and medium plastic clays. These clays have high swell potential and low strength values. Clayey soils have degraded properties like low shear strength, low bearing capacity, high shrink and swell potential, low CBR and compressive strength value and high compressibility. These degraded properties are the common reason for most of the foundation failures. With the interaction of water clayey soils undergo volumetric change. With the increase in population density and increased demand of infrastructural development avoiding clayey soils for future construction is not possible. Soil improvement techniques should be applied on such soils before construction. Engineering properties of the site should be improved by some economical mean

This study has been carried out to check the suitability of Lime for the improvement of subgrade soil of Gujranwala region. Lime is available in Pakistan at a very low cost and is also a naturally existing material in Pakistan. When subgrade soil was treated with Lime a significant amount decrease in swell potential of soil was noted. Improvement in CBR value of treated soil was more than 6 times to the CBR value of untreated soil. A change in index properties of soil was also observed. Significant decrease in Plasticity index of soil was noted. After treatment of soil a decrease in Maximum Dry Density and increase in Optimum Moisture Content was observed.

Authors: Mr LIAQAT, Nabeel (NUST Islamabad); Mr ALI, Liaqat (NUST Islamabad); Mr KHAN, Muhammad Nasir Ayaz (SCET); Mr AHMED , ibrar (SCET)

Presenter: Mr LIAQAT, Nabeel (NUST Islamabad)

Track Classification: Civil & Construction Engineering