

عنوان مقاله:

ASSESSMENT OF SHEAR AND COMPRESSIBILITY PROPERTIES OF ASPHALT STABILIZED COLLAPSIBLE SOIL

محل انتشار:

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خلاصه مقاله:

One of the major problems facing the road construction engineer is the collapsible granular soil which may be used for embankment construction. Problems appears when such compacted soil come in touch with water, it exhibits cracking and uncontrolled settlement. Collapsible soils are defined as any unsaturated soil that goes through a radical rearrangement of practice and great loss of volume upon wetting, with or without additional loading. An attempt has been made in this investigation to stabilize the collapsible soil of Nasiriya with asphalt emulsion. Specimens of pure and asphalt emulsion stabilized soil have been prepared using optimum fluid content and tested. The first group of specimens of (60x60x20) cm have been tested for direct shear under various normal stresses of (27.5, 55, 83, 110, and 220)kPa. Under dry and soaked conditions. The second group of specimens of (75) mm diameter and (19) mm height have been tested for compressibility characteristics at dry and soaked test conditions. It was concluded that the cohesion has increased (30 and 9) folds and the angle of internal friction exhibits (3.7 and 8.3) folds increment for dry and soaked for asphalt stabilized soil as compared to untreated soil. The compression index (C_c) decreases by (78 and 15) % after stabilization for dry and soaked test conditions respectively, while the void ratio exhibits an increments .of (21.4 and 70.5) % for dry and soaked test as compared to untreated soil.

کلمات کلیدی:

Asphalt emulsion, Stabilization, Shear strength, Compressibility, Collapsibility

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