# ***شعار الجامعة.jpgRepublic of Iraq***

***Ministry of Higher Education and***

***Scientific Research***

***University of Technology***

***Building and Construction Engineering Department***

***Highway and Bridge Engineering Branch***

**Study Some Geotechnical Properties of Nasiriya Soil**

**A Project**

**Submitted to the Building & Construction Engineering Department**

**University of Technology in Partial Fulfillment of the Requirements for the Degree of Bachelor's in Building and Construction Engineering**

**By**

**Yaser Abdul Wahab**

**Under Supervision**

**Prof. Dr. Hussein HameedKarim**

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**ABSTRACT**

Site investigations are done for obtaining the information about subsurface conditions at the site of proposed construction. A complete understanding of the characteristic features of a site is essential prior to embarking on a civil engineering construction project.

The major objective of thisproject is to develop scientific studies in the field of site investigation for Nasiriya soil in Iraq to study some geotechnical properties of soil. Therefore, it is very important to investigate the sub-soil characteristics and conditions. For this purpose, a case study for soil investigation was chosen in the Al-Hussein Hospital Site in Al-Nassiriya City in Thi-Qar Governorate southern Iraq.

##### The purpose of this investigation is to investigate the subsoil conditions of the site to facilitate and evaluate the foundation design for the main structures of Al-Hussein Hospital Site. Besides, the study will investigate the present foundation bearing capacity and evaluate the ability of adding a new story to the building.

It is found for the two drilling boreholes that the soil properties at depth 6 m show different index properties (L.L, P.L. and P.L.) and water content compared with the other depths.The water content values are in general increase with depth.Higher shear parameters and lower consolidation parameters are obtained for lower clay content and higher dry unit weight.In general, the net allowable bearing capacity at the subject site was evaluated for a depth of 1.0 meter below the existing ground level. The recommended allowable bearing capacity will not be more than (60 kN/m2).A strip foundation is suggested at a depth of (1.0 to 1.5) m below the ground surface level.For the imposed load on soil by the structures expected in the range of about (30 to 40) kN/m2, the following values of the settlement are estimated between (17-22) mm for shallow foundations.