

GEOTECHNICAL SITE CHARACTERIZATION AND STABILIZATION OF WEAK DEPOSITS – A CASE STUDY

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ABSTRACT

Detailed soil investigation of proposed construction area in Rohtak City was carried out. Five bore holes (one at centre and four at corners) for an area of 0.4 hectares were dredged and bore hole with minimum SPT value 'N' was selected for further investigations. The index properties as well as engineering properties of soil were investigated and soil was found to be unsuitable for construction of heavy structures without stabilization. Hence, compacted soil samples stabilized with cement were prepared at maximum dry density (MDD) by adding optimum moisture content (OMC) and optimum percentage of stabilizer was chosen on the basis of maximum compaction offered by the samples. The sample with maximum value of MDD was then tested for shear strength parameters and found to be suitable for the construction of heavy structures. Liquefaction potential of proposed construction site was also evaluated and site was found to be safe against liquefaction.

KEYWORDS: SPT, Index Properties, Stabilization, MDD, OMC, Shear Strength, Consolidation, Liquefaction