عنوان مقاله:

REDUCING SOIL LIQUEFACTION POTENTIAL BY DYNAMIC COMPACTION

محل انتشار:

سومین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1378)

تعداد صفحات اصل مقاله: 6

نویسندگان:

L Behpoor - *Civil Engineering Department, Shiraz University, Shiraz, Iran*

N Hataf - *Civil Engineering Department, Shiraz University, Shiraz, Iran*

S Litkoohi - *Soils Engineering Services, Consulting Engineers, Tehran, Iran*

خلاصه مقاله:

The liquefaction of saturated granular soil during earthquakes is a well-known phenomenon today and it has been recognized as the cause of many damages to residential and industrial structures due to tilting of foundation and extensive settlement of soil, It has been shown in recent earthquakes that the use of mat and pile foundations for buildings resting on liquefiable soils is not always an acceptable solution. A more reliable procedure to confront the soil liquefaction is to replace or improve the liquefiable soil. In this paper the characteristics of soil in a site in south of Iran are presented in which the soil has been found as being potentially liquefiable for the design earthquake. A full site investigation, including drilling, sampling, laboratory and in-situ testing showed that the soil is susceptible to liquefaction. The site was used as part of an expansion program for an oil tank farm. Various methods of improving the soil were studied among which the dynamic compaction was used to reduce liquefaction potential and increase bearing capacity of foundation soil. On the basis of the investigations the compaction operation was designed for exploratory parts of the site. After dynamic compaction of the site, soil investigation was repeated and the degree of soil improvement regarding the reduction of soil liquefaction at different depths and increasing soil bearing capacity was highlighted. Changes in soil characteristics which were obtained by comparing the results of in-situ tests such as standard penetration tests, plate loading tests, were noteworthy and showed that the effect of dynamic compaction on .the site was quite satisfactory

کلمات کلیدی: