

THESIS INFORMATION

Title: THE RAFT BEHAVIOUR ON PILE GROUP ANALYSIS

Major: Geotechnical Engineering

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PhD. Student: CAO VĂN HÓA

Scientific supervisors: Associate Prof. Dr. Châu Ngọc Ân

Training institute: Ho Chi Minh City University of Technology, VNU-HCM

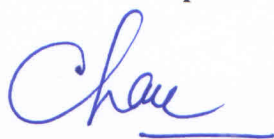
Raft is an intermediate structure between superstructure and underneath pile – soil. In practical design and construction, the superstructure and underneath pile - soil are designed separately, with assumption that the superstructure is fixed into the pile-raft-soil system. There are many researches about contact pressure between raft and soil, about interaction between raft and pile group and between raft and superstructure. However, researches on raft-foundation's behavior as in the whole interaction of superstructure-raft-soil-pile are limited on basic concept of rigid raft and soft raft only.

This research, by using PRAB program (a method which combined finite element method and elasticity theory of soil) and Theoretical and practical integrated analysis method, analyzed behavior of a raft with different stiffness and in full interaction of superstructure - pile raft - foundation.

The result indicate that rafts in most of 31 statistical sample buildings are designed based on concept of rigid raft; still, there are several building designed based on concept of soft raft, with reasonably thickness. From this, the Author of this Ph.D. research recommended a Graphical method for the designers to quickly estimate the rational raft's thickness in prior to deeper analysis using more accurate methods.

The content and result of the research opens an entirely new approach to the operation of raft, with high scientific value.

Scientific supervisors



Associate Prof. Dr. Châu Ngọc Ân

PhD. Student



Cao Văn Hóa