

ABSTRACT

Mega Febriana (02120020003)

BEARING CAPACITY CALCULATION OF BORED PILE AND DRIVEN PILE USING PLAXIS V7.2 SOFTWARE PROGRAM IN ACCORDANCE WITH LOADING INCREMENT AT STATIC LOAD TEST

(xviii + 113 pages: 83 pictures; 37 tables; 4 appendixes)

Foundation is part of a sub-structure used to transfer load of the upper structure to a soil layer. Interaction between soil and foundation will produce a certain value of bearing capacity. Therefore, to know bearing capacity of pile foundation is an important thing. Using static load test at field to obtain bearing capacity of pile foundation is one out of other method.

PLAXIS is a computer program used to analyze geotechnical problem. Analyze static load test using PLAXIS V7.2 in accordance with loading increment at field has been performed in this thesis, and its result was compared with static load test at field. Besides that, interpretation method toward results of static load test and calculation using conventional method were also performed.

This thesis contains four cases in Indonesia, i.e. *pier 7* bored pile at Ciujung Bridge project - Cipularang; driven pile at Mangga Dua Square project also bored and driven pile at Wisma Mulia BCA II project.

The calculation has shown that average difference bearing capacity as result between interpretation based on static load test using PLAXIS V7.2 and static load test at field is +0.94 % for Ciujung Bridge project, +7.38 % for Mangga Dua Square project, +2.17 % for bored pile foundation and +1.85 % for driven pile foundation of Wisma BCA II project. While result of the calculation using conventional method is closed to the static load test at field.

As a conclusion, static load test analysis could be calculated using PLAXIS program, as long as soil layer and soil parameter that analyzed in the program is similar with soil condition at field.

Reference : 12 (1940-2002).