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**CORRELATION BETWEEN SPT 'N' VALUES
AND SHEAR STRENGTH PARAMETERS OF
LATERITE SOIL**

BY

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SYNOPSIS.


This project is based on the analysis of laterite soil through out Malaysia. The purposed of this analysis is to determine the correlation between Standard Penetration Test (SPT) N value and the soil strength parameters, cohesion (c) and Angle of friction (ϕ) . We can determine the strength, consistancy and allowable bearing pressure of soil if the geotechnical parameters are known.

It is known that parameters of American and Malaysian laterite soil are different. It's important that our local engineers analyse Malaysian laterite soil in . Order to determine how different the local laterite is compared that design parameters should be based on results of local soil analysis.

In future, the design and construction of engineering project will be safer and economical if our soil strength in Malaysia is better understood.

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1.0 INTRODUCTION.

1.1 General

Currently, in Malaysia, the most popular method of evaluating the soil properties prior to the design of a foundation is the Standard Penetration Test.

The N value obtained from the test is then correlated to the soil parameters by referring to the correlation chart produced by Terzaghi (1978) for the American soil in the nineteen thirties by assuming that the soil is either cohesive or cohesionless since no correlation has been developed for c- ϕ soil. The difference behavior between American and Japanese soil has been proven (Foukoka , 1980) .His results showed that Japanese laterite has a much higher cohesion for the same SPT N value compare to American soil.

Malaysian geotechnical engineers should analyse the laterite soil in Malaysia in order to get a better correlation between SPT N values and the shear strength parameters. The land area of Malaysia consists mainly of residual and laterite soil yet very minimal amount of effort has been made to correlate their properties . Any foundation construction needs to refer this correlation in order to determine the soil strength, in the absence of any laboratory testing.