

**FINAL YEAR PROJECT REPORT  
ADVANCED DIPLOMA IN CIVIL ENGINEERING  
SCHOOL OF ENGINEERING  
MARA INSTITUTE OF TECHNOLOGY  
SHAH ALAM  
SELANGOR DARULEHSAN**

**CORRELATION BETWEEN PLATE LOAD TEST  
AND J.K.R PROBE TEST.**

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NOVEMBER 1993**

## **ACKNOWLEDGEMENTS**

*In the name of Allah, Lord of the universe , the most Gracious and Most Merciful. Salam to prophet Muhammad s.a.w, his companions, friends and his followers.*

The author is indebted to his supervisor, Encik Bahardin Bin Baharom, lecturer in the Civil Engineering department, Mara Institute of Technology for his continuing advice, guidance, constructive criticism and assistance without which the work might not have been possible to its final stage.

Thanks to Encik Saadon, Encik Yusuf, Encik Shamsudin, Encik Hafiz and technicians of soil mechanics laboratory for providing necessary apparatus and assistance to make this project successful.

Thanks also to Encik Muhammad Kamal Ahmad from the ITM development division, the resident engineer, Encik Mohd Kamal Suhaimi of MKH Consultant and Encik Rashid of Kulim Enterprise (Main Contractor) for their co-operation and assistance.

Lastly the author is very grateful to his family and friends for their support and encouragement.

**Awang Ariffin**

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## **SYNOPSIS**

In this project, the field tests to determine the bearing capacity of the soil were the plate load test and the J.K.R probe test. Both tests were done on the proposed infrastructure (road) of Mara Institute of Technology. The locations for the testing taking place were chosen and named Site 1 and Site 2. Both areas were filled and compacted.

A hand auger was also used to determine the type and depth of the first layer of the soil. The depth of the first layer must more than 2 feet. This is because we want to determine the bearing capacity on a homogeneous soil. For homogeneous soil, the depth of the first layer under the plate must more than two times the diameter of the plate. The diameter of the plate used in this project was one foot.

The reason using plate load test and J.K.R probe to determine the bearing capacity of the soil were those method were practical to carry out on site and economy.

The apparatus for the plate load test comprises of 305 mm diameter steel plate, hydraulic jack, dial gauges, proving ring and dead load.

# **CHAPTER ONE**

## **1 INTRODUCTION**

Plate load test and J.K.R probe test/Mackintosh probe test are both insitu test. From insitu testing, we can obtain the properties of soil and information about the prevailing pore pressure.

The insitu test is of course done on the field and is not as accurate as the laboratory tests.

Although they are not as accurate as the laboratory tests, but certain tests cannot be done in the laboratory, such as the standard penetration test, the full scale permeability test and of course the load test and J.K.R probe test or Mackintosh probe test.

But some information cannot obtained by other way than by inspecting the soil mass.

The plate load test is done to determine the bearing capacity of soil. We need to know the bearing capacity of the soil to design the foundation for building or to know the maximum load that the soil can carry.