

## ABSTRACT

Dynamic inspection can play an important role in geotechnical site research. The Mackintosh Probe is a lightweight portable penetrometer designed to be a ground bearing capacity surveyor. The Mackintosh probe has many drawbacks that can give rise to misleading test results that are mostly contributed by human error such as incorrect calculations, inconsistent drop height and inaccurate vertical while using the tool. The application of the Mackintosh Probe must be carefully followed as it may affect the final outcome of the investigation land. To address this problem, the study focuses on the development of mechanisms that will increase the presence of Mackintosh investigations. The main objective of this study is to design and introduce New Evolution Mackintosh Probe (NEMP), increase the use of Mackintosh Probe to reduce errors and compare results between existing Mackintosh Probe NEMP. This tool consists of high yield steel rods each about 120cm long interconnected with an outer diameter of 25mm coupling with a diameter of 27.9mm 30o- angleapex; Solid trunk with a diameter of 12.7 mm and a dead weight of 4.5 kg with a standard drop height of 300mm. The application of the Mackintosh probe is to install the equipment, which is marked at every 0.3m on the rod, set up the equipment on the ground, pull the hammer to maximum height, fall freely moving the rod and cone into the ground continuously until the shot reaches more than 400 shots every 0.3 m penetration or its depth reaches 15m. Under any soil conditions, the driving rate must be from 15 to 30 beats per minute and the deviation from the vertical of the first extension rod should not exceed 2%. 'FRIENDLY USE, CONVENIENT AND FRIENDLY USE TOOL.