

Schematic of Pile Load Test



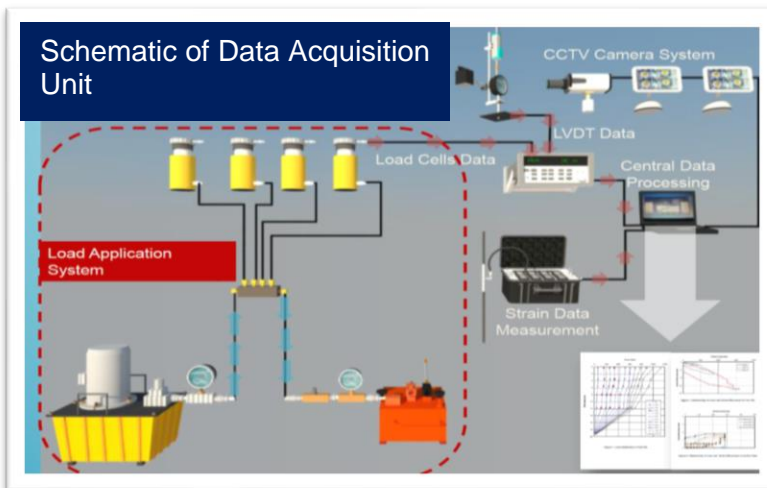
The static pile load test is widely accepted full-scale load test to determine the ultimate bearing capacity and load-settlement behaviour of the piles. Generally, there are two types of static pile load test: 1. *Ultimate Pile Load Test* (instrumented test) and 2. *Working Pile Load Test* (non-instrumented test).

The static pile load test is conducted in accordance with ASTM D 1143 item 5.1 "Standard Loading Procedure" by using kentledge or anchor piles reaction system. The hydraulic jacks, load cells, dial gauges, LVDT, vibrating wire strain gauges, reference beams and ball joints are required to conduct the test.

The test is carried out up to 2 to 3 times of the design load depending on the requirement. The loading and unloading of the test pile is done by applying load by the hydraulic jack according to standard loading procedures. The load cells, LVDT and the strain gauges, which are calibrated before testing, are connected with the computer to record the load and movement of the piles with time.

The load-settlement curve can be plotted by using the applied load from load cells and movement from LVDT. The skin-friction, end bearing and the relative movement of the pile including the shortening at each level of strain gauges can be calculated by using the data from the vibrating wire strain gauges. Based on these data, the ultimate bearing capacity of the pile,  $t-z$  curves and  $q-z$  curves can be generated for the pile design verification.

Schematic of Data Acquisition Unit



Field Test

