Geocomp

Technologies to manage risk for infrastructure

Project Brief

University of Cape Town Geocomp Lab Systems Equipment

Client:

University of Cape Town

Location:

South Africa

Products Provided:

- Four fully automated soil testing equipment

Value Provided:

- The Geotechnical Engineering Department will rely heavily on this equipment for their research.

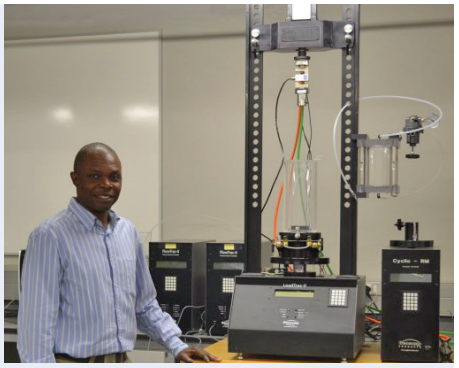
Client Testimonial:

"The new hi-tech equipment has lifted the research capacity of the group to a higher level which will greatly improve the geotechnical research output from the testing capabilities of the installed systems."

Dr. Denis Kalumba, Director of the Geotechnical Engineering Group

Background

The new Geotechnical Laboratory in the Department of Civil Engineering at the University of Cape Town, has recently gone from a manual laboratory to a fully automated one with the latest high tech soil testing equipment installed.



Dr. Kalumba with Geocomp's Cyclic Triaxial testing apparatus

Geocomp Role & Accomplishments

The Geotechnical Research Group procured from Geocomp, four fully automated soil testing equipment that will enable performance of a range of soil tests which include: Cyclic Triaxial, Consolidation, Triaxial, Direct Simple Shear, Direct Shear and Permeability.

Research students now have the capabilities required to perform fully automated soil tests and to automatically record and store experimental data which will save an enormous amount of time.

The stress-controlled cyclic triaxial testing equipment with a state-of-the-art microprocessor and a computer-controlled cyclic equipment unit completely automates triaxial testing of soils. Local companies undertaking projects requiring determination of dynamic soil parameters for designing foundations for structures such as wind turbines will now be able to request for tests using this new apparatus. This will enhance the interaction between the Department and the local South African construction industry.

The second machine is the automated consolidation and swell equipment which is used for testing incremental consolidation and swell in soils to predict structural settlement beneath foundations. The incremental consolidation test with the new equipment may be completed in 24 to 48 hours on most materials as compared to tests in manual consolidometers that may take weeks to complete.

The Direct Simple Shear (DSS) equipment, one of its kind in this country, is a universal shear system capable of performing the consolidation and shear phases of a direct simple shear test under full automatic control.

The large Direct Shear box equipment is one of the first fully automated soil shear testing systems in South Africa.

The purchase of Geocomp's fully automated soil testing equipment will greatly improve the geotechnical research output from the Department of Civil Engineering.