

## DALRRD Building

Pretoria, South Africa

Franki pile foundations for multi-storey structure for the Department of Agriculture, Land Reform and Rural Development (DALRRD) building.



### The project

The completed development will be the new centralized head office for the Department of Agriculture, Land Reform and Rural Development. The South African government has combined all these ministries under one roof.

## The challenge

High column loads from the proposed structure, as well as challenging geotechnical conditions, reinforced the need for a detailed specialized piled foundation solution to be used from the outset.

Keller's team studied the soil conditions and found the local geology comprised a predominantly north/south trending deeply weathered Syenite dyke with an undulating bedrock profile. Weathering of the syenite tends to form core stones. A shallow groundwater table was also present.

## The solution

The solution called for over 1000 piles to be constructed at a rate of just under 21 piles per day. This required over 120 tons of reinforcing, 2,340m<sup>3</sup> of structural site batched concrete, as well as approximately 980m<sup>3</sup> of dry lean mix for the bulbous bases.

This enabled the sinking and construction of piles comprising of 59 no. 410mm diameter piles, 477 no. 520mm diameter piles and 511 no. 620mm diameter piles. Keller also installed 16 no. 410mm and 16 no. 520mm diameter piles for the main contractor's cranes. This necessitated a total of 1079 no. piles to complete the project. In a total duration of eleven weeks.

A total of 36 000-man hours were registered on the project without incurring any injuries.

## Project facts

### Owner(s)

Department of Agriculture, Land Reform and Rural Development (DALRRD)

### Keller business unit(s)

Keller Geotechnics SA (Pty) Ltd.

### Main contractor(s)

WBHO

### Solutions

Heavy foundations

### Markets

Institutional / public

### Techniques

Franki (DCIS) piles

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