

## 144 Oxford Road

Gauteng, South Africa

The 35000m<sup>2</sup> premium-grade 144 Oxford Road office development is an iconic, multi-tenant office building in Rosebank, Johannesburg.



### The project

A multi-story office block in the heart of Rosebank. There are five basement levels below ground to accommodate staff parking requirements.

We were responsible for the design, supply and installation of the earth retaining lateral support system and the piled foundations for this 95m x 95m x 16m deep basement development.

Our innovative design together with high quality product installation techniques produced a faultless outcome on site.

## The challenge

The Gautrain servitude prohibits the installation of anchors into this zone and the western face of the basement is situated a mere 8 meters from the Oxford Road / Gautrain servitude.

Innovative design catered for this restriction by providing a battered face over the first three meters and steeply inclined strand anchors through soldier piles to ensure the strict restrictions were met.

The earthworks contractor had to keep ahead of the lateral support operations and extended shifts were necessary at times. Careful co-ordination also required completion in certain areas of priority so that foundation piling could commence while the lateral support and earthworks were being completed in other regions.

## The solution

Verification of the design followed an observational approach on site through stringent monitoring to ensure predicted vs actual deflections aligned throughout construction. Accurate and up-to-date record keeping was critical to the project's success.

The project scope included a five-level basement to a maximum depth of 15m below natural ground level with a total of 5755m<sup>2</sup> of earth retention comprising 129 no. 600mm diameter soldier piles, 224 no. strand anchors from 12 to 24m, 281 no. soil nails, 4500m<sup>2</sup> gunite arches and 130000m<sup>3</sup> of soil excavation.

The foundation piling included 235 no. bored piles with column loads varying between 3800 and 15000kN.

## Project facts

### Owner(s)

Growthpoint

### Keller business unit(s)

Keller South Africa

### Main contractor(s)

Tiber Construction  
WBHO

### Engineer(s)

Sutherland Engineers

### Solutions

Heavy foundations  
Excavation support

### Markets

Commercial

### Techniques

Bored piles  
Anchors  
Shotcrete / Gunite

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