

1 ON OSBORNE, CLAREMONT

Cape Town, South Africa



Project Facts

Product

CFA Soldier Piles, Anchors,
Shotcrete Arches

Market

Commercial

Client

Portwild Props 33 (Pty) Ltd.

Engineers

De Villiers Sheard Consulting

- **About the project**

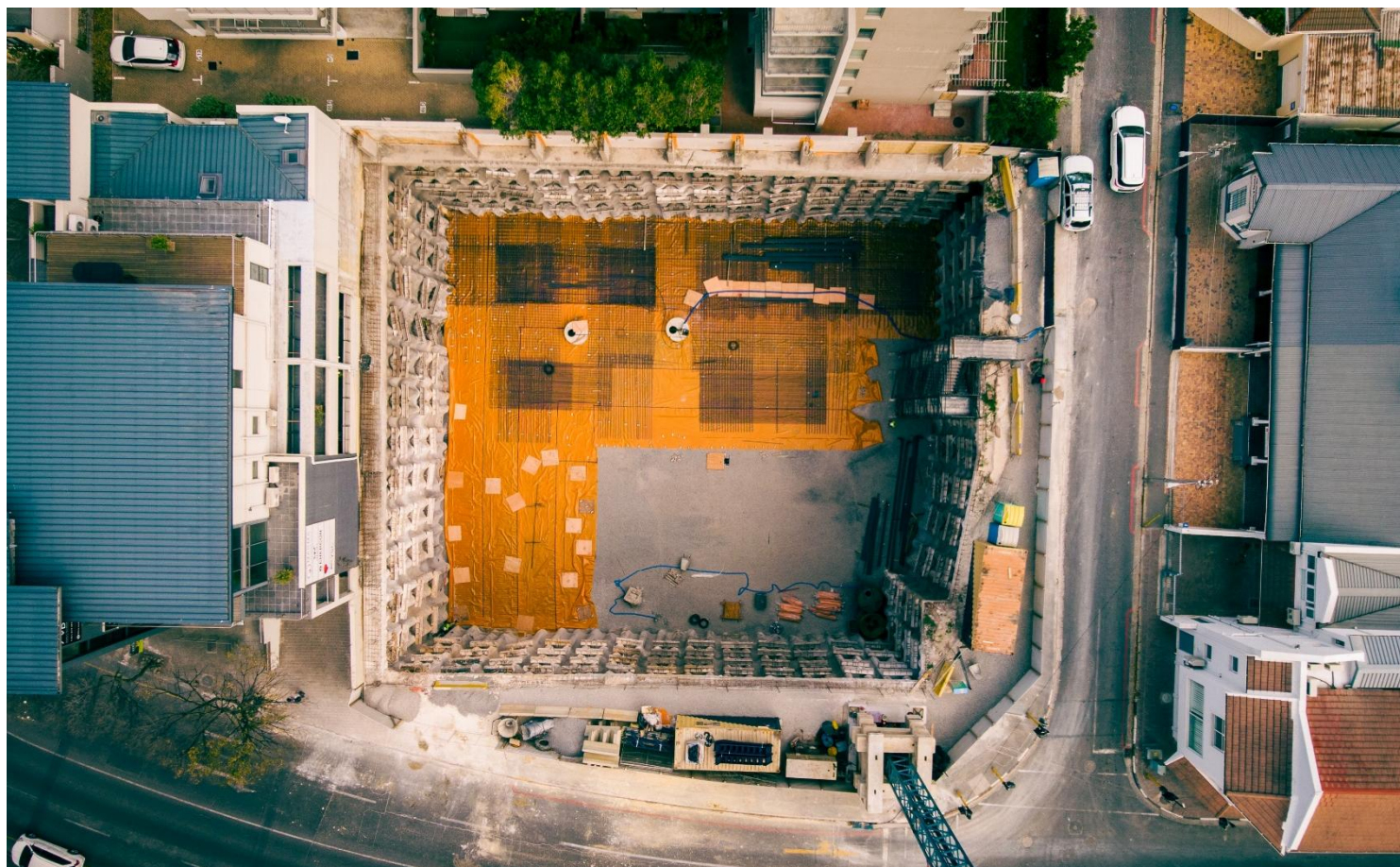
The 1 on Osborn development is situated at the intersection of Osborne and Cavendish Street in Claremont, Cape Town. The site is approximately 30m wide and 33m long ($\pm 1000\text{m}^2$). Excavation reached a depth of 16.5 m, making it the second deepest urban excavation in soil ever undertaken in Cape Town. Unlike deeper rock-based excavations on the Atlantic Seaboard, this project dealt with significantly softer and saturated residual soils, presenting unique geotechnical challenges.

- **Challenges**

The excavation was conducted in saturated residual granitic soil with low consistency, demanding constant dewatering and shallow drops to prevent collapse between soldier piles.

Restricted Site Access: The small erf and urban location required long-reach excavators and material loading directly onto busy Cavendish Street.

At just 0.5m shallower than the deepest soil excavation in Gardens, the site demanded rigorous planning to manage soil piping risks and structural integrity.



Shotcrete infill panels had to be applied immediately as excavation progressed to prevent material displacement.

Construction occurred during Cape Town's wet winter season, adding further complexity to site operations.

• Solution

Franki implemented a lateral support system capable of carrying nominal axial loads via a capping beam, enabling column construction directly on the property boundary.

Self-drilling anchors (SDA) of varying lengths were installed using special drilling procedures to preserve kaolin clay integrity and grout-ground bond strength.

A hands-on technical team employed the observational method, allowing real-time design optimisations.

Weekly survey monitoring ensured wall movements remained within tolerance, with frequency reduced as stability was reached.

Despite the technical and environmental challenges, the project was completed on time and within budget, with negligible impact on neighbouring structures.

