

Teretek® Repairs and Strengthens Foundations of Aged Care Building

PROJECT PROFILE

Q20H055

mainmark



INDUSTRY

Commercial

STRUCTURE

Aged care facility

PROBLEM

Settlement of foundation concrete slab

LOCATION

Deception Bay QLD, Australia

DURATION / YEAR

1 Week / January 2021

TECHNOLOGY

Teretek®

BUSINESS UNIT

Mainmark Australia

Summary

Located in the seaside suburb of Deception Bay north of Brisbane, Seabrook is a large aged care residence operated by the McKenzie Aged Care Group. The residence comprises a single building, with several wings that accommodate 1,700 residents and is staffed by more than 2,500 aged care workers.

Over time, a large 125m long section at the back of the building had experienced settlement of up to 180mm, which had affected an approximately 2500m² area spanning three separate wings, a shed and connecting pathways between the wings.

Remediating the site posed a number of logistical issues as the three wings backed onto a neighbouring property, with limited access for vehicles and equipment. Additionally, a large 4m deep stormwater pipe ran alongside a retaining wall that was located approximately 4m from the rear of the building.

In addition to the site's access challenges, strict health and safety protocols were in place as McKenzie's first priority is to protect the comfort and wellbeing of those in its care at all times. Excavation was deemed unviable as the facility would have been forced to close three wings and relocate its residents. It would also have been very costly and time consuming.

Therefore it was important that the ground improvement work could be undertaken with minimal disturbance to residents and within strictly mandated guidelines due to the COVID-19 pandemic.

Teretek® Repairs and Strengthens Foundations of Aged Care Building continued

Objectives

Mainmark was required to fill voids to maximise ground support, and where conditions allowed, re-level the facility's three rear wings and accompanying apron slabs. It was important to accomplish this without disrupting the residents or the facility's day-to-day operations. The work also needed to be undertaken while adhering to strict COVID-19 health and safety protocols.

Solution

Mainmark identified its proprietary Teretek® resin injection solution as the most suitable solution based on its ability to increase ground bearing capacity, fill voids and re-level existing structures quickly with minimal disruption.

With the health and safety of elderly residents a priority, Teretek's non-invasive and low-impact application process ensured the work could be undertaken efficiently while allowing the residents to remain in their rooms. Alternative ground remediation methods, such as underpinning, would have required excavation, taken months to complete at great expense, and caused major disruption to residents who would have needed to vacate the building.

While site access was initially identified as a challenge, thanks to the cooperation of a neighbouring property owner who granted access to their yard, Mainmark was able to access the site through the neighbour's boundary fence. This required the removal and eventual replacement of the fence. The property owner was offered compensation for the intrusion, which they accepted and generously donated to charity.

This challenging project was carried out while adhering to strict COVID-19 health and safety protocols, which included the team undertaking additional measures such as registering on site everyday, undergoing daily health checks, and wearing approved security passes.

Over a 7-day period, more than 4,000kg of Teretek expanding polyurethane resin was injected into the ground beneath the facility's footings, consolidating the ground, filling voids and re-supporting the slab across all three wings of the facility.

The project was successfully completed on time and under budget, with the client extremely satisfied with the outcome, praising Mainmark's considered approach to the needs of the property and its residents.

"At our aged care facility at Seabrook, we had issues with the facility sinking at the rear of the property. We contacted Mainmark for a consultation at site and they came up with a solution to our issue," McKenzie's Regional Maintenance Manager, Adrian Lassig, said.

"Their approach was the most cost-effective solution that suited our needs and, from start to finish on this project, Mainmark has been the utmost professional company to deal with. They completed the work with minimal impact to our residents and did a great job. I would highly recommend Mainmark to anyone that requires this type of work."

