

# Teretek® Used to Re-level and Stabilise Home Following Subsidence

PROJECT PROFILE

N19GW145

mainmark



## INDUSTRY

Residential

## STRUCTURE

Single-storey home

## PROBLEM

Soil subsidence

## LOCATION

North Strathfield,  
Sydney, NSW

## DURATION / YEAR

1 day / January 2019

## TECHNOLOGY

Teretek®

## BUSINESS UNIT

Mainmark Australia

## Summary

A single-storey, heritage-listed, Victorian era home in North Strathfield started to show significant signs of subsidence, including widespread cracking of walls. Additionally, the doors and windows of the property no longer functioned properly and the pool gate failed to close securely. The homeowner was unable to secure the front door or the bedroom window.

The subsidence was attributed to broken stormwater pipes that may have been leaking water under the home for as long as a decade. The four-bedroom, two-bathroom home was built on highly reactive clay ground which needed to be strengthened to prevent further settlement and damage.

Mainmark was contracted to help strengthen the soil and stabilise the foundations, to help prevent further damage from occurring, and re-level the house.

## Objectives

The priority was to return the structure to as close to level as possible by addressing the soft clay soil beneath the foundations and surrounding the house. The subsidence and damage to the home was severe, with settlement up to 78mm affecting two-thirds of the 173m<sup>2</sup> property.

Due to the extent of the subsidence and extremely poor soil condition, the Mainmark team acknowledged from the outset that it might not be possible to return the structure back to 100 per cent level. However, by strengthening the foundation ground and then

## Teretek® Used to Re-level and Stabilise Home Following Subsidence continued

incrementally lifting the structure using its proprietary Teretek engineered resin injection solution, Mainmark was confident that much of the damage could be reversed.

It was also important that the solution was suitable for the unstable clay ground conditions, which can be difficult to work with, and to carry out the project with minimal disruption to the residents who continued to live in the home while the work was carried out.

### Solution

Mainmark's resin injection solution, [Teretek®](#), was identified as a suitable solution to both strengthen the ground and achieve the necessary amount of lift to bring the home back into alignment.

Teretek engineered resin is injected directly into the ground via very small injection holes. Once the engineered resin is injected, it immediately expands, compacting and strengthening the soil, helping to create a solid foundation. Teretek is environmentally inert and is suitable for most soil types.

Teretek is also a far more cost-effective and less invasive solution than the alternative approach of traditional concrete underpinning, which was estimated to cost up to four times more in this case and requires earthmoving equipment and other heavy machinery.

Mainmark used a fully self-contained rig to house all of the equipment required on-site. Sealed hoses extended from the rig by up to 60m, enabling technicians to pump the Teretek resin solution quickly and efficiently at the remote injection points, providing easy access, minimising mess and resulting in very fast treatment time.

The project was conducted over the course of a single day, limiting disruption to the homeowner while returning the home as close to level as possible.

The homeowner was impressed with the results and has since recommended Mainmark to a neighbour, whose home has also experienced significant subsidence damage.

The homeowner, Stephanie, said, *"The Mainmark team proved to be very knowledgeable and capable and I was pleased with the work they did for me. From the first point of contact through to the accounts team, everyone was a pleasure to deal with. I believe the Mainmark team was honest and would not hesitate to recommend Mainmark to anyone who has experienced significant subsidence issues."*



Before injection of Teretek engineered resin



After injection - ready for final patching and painting.