Teretek® Used to Re-Support Subsided Cambridgeshire Semi-Detached Bungalow

PROJECT PROFILE
UK21-433

mainmark

INDUSTRY
Residential

STRUCTURE
Semi-detached bungalows

PROBLEM
Subsidence

LOCATION
Girton, Cambridge, United Kingdom

DURATION / YEAR
4 days / April 2021

TECHNOLOGY
Teretek®

BUSINESS UNIT
Mainmark UK

Summary

A pair of semi-detached brick bungalows in a rural Cambridgeshire village had been left vacant and in a state of disrepair for several months as a result of subsidence, partially caused by defective drainage on the property.

The ETEC Group were contracted by the local council to refurbish the property with the aim of letting it out again to tenants, but the structural damage needed to be addressed before other works could be completed. The building, which measures 14m by 6.5m, had subsided by as much as 26mm at its lowest point and the foundation ground needed to be strengthened and re-levelled before any further construction or refurbishment work could take place. Requiring this to be done in a timely manner, the client chose geopolymer resin-injection as their preferred solution for underpinning, after researching the different alternatives available.

Mainmark was chosen by the ETEC Group based on its technical expertise and experience in lifting and level correction. When compared with the option of traditional underpinning, the local council found that the resin injection method allowed the process to be carried out in a fraction of the time and with significantly less mess and disruption.

Objectives

The objective of the project was to strengthen the foundation ground in order to raise, re-level and re-support the building, preparing the property for refurbishment by the ETEC Group and making it liveable again.

Solution

The Mainmark team utilised its Teretek® resin injection solution to improve the soil conditions underneath the perimeter wall and party wall foundations. Teretek also filled the voids under the concrete floor slab of the property and strengthened the ground in the process. In total, 45 linear metres of foundation and 90m^2 of floor slab were treated. Additionally, the geopolymer injection worked to lift the sloping building by as much as 14mm, closing several visible cracks both in and outside of the building.

There was a surface and foul water drainage system present in close proximity of the treatment area. This meant that the team had to be extra careful whilst carrying out the works in order to avoid the pipes. Mainmark's technicians used CCTV equipment on site to closely monitor the situation, and were able to successfully avoid any interference with the drainage.

The job was completed in time and on budget in just four days, saving the ETEC Group a month's delay which could have been caused if it had opted for traditional underpinning methods.

After the job was completed, Steve Koeck of the ETEC Group said *"thank you for your help with the stabilisation works on our project. Your guys on site have been very professional and you managed to get the job turned round quickly and with no fuss. We look forward to working with again you in the future."*