ADDENDUM TECHNICAL REPORT

Crawford Reference: [redacted]

Kenham Property Company Limited
Flat 2
1F Oval Road
NW1 7EA

Prepared for

[redacted]

SUBSIDENCE CLAIM

09th March 2021

[redacted]

Chartered Loss Adjusters

[redacted]

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INTRODUCTION

We have been instructed by insurers to investigate a claim for subsidence at the above property. The area of damage, timescale and circumstances are outlined in our initial Technical Report. This report should be read in conjunction with that report.

To establish the cause of damage, further investigations have been undertaken and these are described below.

TRIAL PITS

An attempt was made to excavate Trial Hole 1 beneath the front projection but this had to be aborted due to the proximity of the front drive and the foundation profile could not be established.

Trial Hole 2 was excavate beneath the rear of the rear projection and this concrete strip footing founded at a depth of 600mm below ground level which bears onto firm brown fine to medium gravelly silty CLAY.

Root activity of live appearance was noted to the underside of the foundations.

BOREHOLES

Borehole 1 was excavated close to the front elevation and confirmed the continuation of the clay subsoil encountered within the trial pit to a depth of 3000mm, with roots to a depth of 2000mm below ground level. The borehole remained dry and open upon completion.

Borehole 2 was excavated through the base of Trial Hole 2 and confirmed the continuation of the clay subsoil encountered within the trial pit to a depth of 3000mm with roots to a depth of 1600mm below ground level. The borehole remained dry and open upon completion.

In-situ shear vane testing confirmed the clay subsoil to be firm to stiff in nature.

SOILS TESTING

The following laboratory tests were carried out on soil samples retrieved from the boreholes :-

Moisture Content

Values ranged from 22% to 36% over the depth of Borehole 1
Values ranged from 30% to 36% over the depth of Borehole 2

Atterberg Limits

Results indicate that the clay subsoil can be classified as very high high plasticity clay in accordance with the Casagrande chart.

Roots in Borehole 1 were identified as the Species Lime, Ivy and Birch.

Starch was present in the Ivy and Birch roots which indicate that the roots were alive at the time of retrieval. No starch was present in the Lime roots.

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DISCUSSION

The results of the site investigations confirm that the cause of subsidence is root-induced clay shrinkage. The clay is plastic and thus will shrink and swell with changes in moisture content. Roots have extracted moisture below the depth of the footings, thus causing differential foundation movement to occur. This is supported by the following investigation results :-

- The moisture content profile indicates a reduction in moisture content between a depth of 0.5m and 1.5m at the front of the property which is indicative of desiccation at this level. This is also co-incident with the depth of root activity.
- Atterberg limit testing indicates that the soil has a very high plasticity and hence will shrink and swell with changes in moisture content.
- Roots were found to a depth of 2.0m.
- Monitoring has recorded significant seasonal movement consistent with root induced clay shrinkage.

RECOMMENDATION

The cause of the movement needs to be dealt with first. From the results of the site investigation, we are satisfied that the Ivy, Birch and Lime trees can be removed. Based on our analysis, we are satisfied there is no adverse heave risk to the property.

A report has been obtained from an independent Arboricultural Consultant which confirms that the Birch, Ivy, Lime and Cypress trees should be removed to stabilise ground conditions.

The Birch and Ivy are owned by the council and the Lime and Cypress are owned by the Policyholder. The Lime is known to be subject to a TPO.

Following completion of the tree management works, we will continue a suitable period of level monitoring to confirm stability has been achieved before undertaking repairs to the property.

A schedule of remedial works will be obtained and works may commence once the scope has been approved.

Yours faithfully,

Mark Lacy BSc (Hons) Building Surveying, MCIOB FCABE
Subsidence Division
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