B. MAULE & CO. LTD
Technical Claims Consultants

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UPDATED ENGINEERING REPORT ON

FINDINGS OF SITE INVESTIGATION

AT

3 SOMERSET TERRACE

EAST BOLDON

TYNE & WEAR

NE36 0TE



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Introduction

The property comprising 3 Somerset Terrace, East Boldon, Tyne & Wear NE36 0TE is an end terraced 3-bedroomed house which is thought to have been built in the 1920`s and subsequently extended to the rear in the 1980`s, this by the previous owners.

3 Somerset Terrace is of solid wall construction with a render finish to the front elevation at first floor level only. The roof is hipped and pitched with a tile covering and the floor slab is believed to be of both suspended timber and solid concrete (Extension). To the rear right boundary is a double garage.

The building is on a site which is level and features trees within the property boundary and within the surrounding properties boundaries.

It is understood that the property falls under South Tyneside Council and the vegetation which requires attention is subject to a tree preservation order (TPO184).

The property has been owned by the current owner, [redacted], since 2011.

Synopsis of Damage and Timing

At the time of our inspection, we were met by [redacted] who advised that during the latter months of the summer 2022 and following their return from holiday, cracking developed within the partition wall with the kitchen. Becoming concerned and as the property had suffered from subsidence to the front porch area, prior to the purchase in 2011, advice of a local builder was sought.

The builder recommended for insurers to be notified in respect of a potential claim due to clear indications of movements. Our appointment followed thereafter.

Following our visual inspection, pattern of cracking and experience it was concluded that subsidence movement was occurring to the rear left of the original building, near to the junction of the extension, which was believed to be due to shrinkage of the clay subsoil exacerbated by the extraction of moisture by roots from adjacent vegetation. Defective drainage was also a possibility of being a factor.

Description of Damage

The observed cracking recorded at the property is as follows:-

External Damage

At the time of our initial inspection there was no evidence of damage to the external walls of the property.

Internal Damage

Cracking can be seen on the partition wall in the rear lounge and adjacent kitchen. This is raking from the rear edge of the lounge door at floor level to the rear corner which extends onto the rear elevation wall. The width at floor level was hairline with this being in the region of 2-3mm to the rear corner.

Site Investigations

Ground Investigation

A trial pit and borehole investigation were carried out on 8th August 2022 by Bradgate Surveying and a copy of the report is enclosed in Appendix A. The findings are summarised as follows: -

1. A trial pit was excavated at the rear left corner at the junction with the extension, this being in the location of the damage and the nearby drainage. No defects were found with the drainage.
2. The investigations revealed the base of the foundation to be located at a depth of 800mm where it was bearing upon a stiff, brown clay. This material continues to a depth in excess of 3000mm.
3. Laboratory testing of the soil samples revealed the clay to be generally of a medium to high plasticity and to be desiccated at the time of testing.
4. Roots were recovered to a depth of 2500mm during the investigations and following laboratory testing, these were found to emanate from the Acer species.

Arboricultural Investigations.

In light of the amount of surrounding vegetation, MWA Arboriculture Ltd were appointed to prepare an appraisal report to assess the potential role of vegetation in respect of clay shrinkage subsidence damage. Their report dated 8th August 2023 is included in Appendix B.

Level Monitoring

A programme of level monitoring has been ongoing at the property since 4th May 2023. The monitoring program has revealed a pattern of cyclical movement consistent with damage caused by clay shrinkage subsidence. The monitoring readings are included in Appendix C.

Discussions

Cracking was identified within the structure in Summer 2022, and it was noted to continue to deteriorate thereafter.

It is evident that the cracking is consistent with subsidence of the site with the cyclical pattern of movement demonstrating the problem is due to seasonal shrinkage and swelling of the clay subsoil as recovery to the soils can be seen in January 2025 of 3.1mm.

In the case that movements continued through a typical hot prolonged summer and the adjacent trees were not attended to, we would expect costs of superstructure repairs to be in the region of £8,000 - £10,000.00. However, should underpinning be required, then this could increase costs to £60,000 - £70,000.00.

Conclusions

In view of the monitoring which has been undertaken to date and the findings of the site investigations we conclude that the cause of the movement, which is predominantly to the rear left corner of the original building, is due to root induced clay shrinkage subsidence.

Recommendations

The Arboreal Consultants recommendations are to remove the Sycamore and all sycamore stems on the neighboring land within a 10-12m distance of the left elevation of the house.

If tree management works are not undertaken it is evident from the ongoing monitoring exercise that seasonal movement will continue and therefore consideration will need to be given to stabilising the affected part of the property by costly foundation works.



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