

Engineers Addendum Report

This Report sets out in concise terms the nature of the evidence collected and the consultant's conclusions and recommendations

Policyholder, Property & Event Details

Policyholder Name	Mr & Mrs R. Corrigan	Date of discovery	16/12/2020
Risk Address	2 Elms Avenue Muswell Hill London N10 2JP	Our Ref	IFS-AVI-SUB-21-0093348
Location of damage	Rear Elevation	Date of relevant construction	Circa 1900
Nature of Damage	Internal and External Cracking to Rear elevation.	Property Type	Three storey mid-terrace house
Crack Widths	3 and would be classified as moderate.	Indicated mechanism of movement	Downward / Rotational movement of the foundations to the rear of the property.
Occupiers' Observations	N/A	BRE Classification	Category 3
Comments	The damage has been caused by clay shrinkage subsidence exacerbated by moisture extraction by nearby vegetation. The implicated vegetation is believed to be the C1 Wisteria and the T5 Plane, if these are removed we anticipate that the property will stabilise and superstructure repairs only will be required.		

Investigation Evidence

Examination by Building Professional	☒ Yes	Chris Sherwin		BSc (Hons) Building Surveying
Trial Hole/Bore Hole Excavations	☒ Yes	Site Investigation Report.		Date of related SI 20/07/2021
CCTV Drainage survey	☒ Yes	The drains are not implicated in the damage		Date of Drain survey 13/08/2021
Soil Laboratory Testing	☒ Yes	Shrinkable soils ☒ Yes	Desiccated soils ☒ Yes	Date of related SI 13/08/2021
Root Analysis	☒ Yes	Trial Pit 1 / Borehole 1 - Platanus Spp - Abundant Starch Levels.		Date of related SI 22/07/2021
Arboriculture Assessment	☒ Yes	Arboricultural Report Implicated the C1 Wisteria and the T5 Plane.		Date of related SI 23/08/2021
Heave Risk after tree removal	☐ No	Assessed By	Chris Sherwin	chris.sherwin@innovation.group
Building Monitoring	☒ Yes	Crack Width		Level/Distortion ☒ Yes Date of related SI
Monitoring to date confirms	Progressive Movement.			
Supporting Comments	The site investigations and level monitoring have confirmed that the damage at this property has been caused by clay shrinkage subsidence exacerbated by moisture extraction by nearby vegetation. In this instance the offending vegetation is considered to be the C1 Wisteria & T5			

Repair Scope

If prompt vegetation removal	Only Superstructure repairs required	Initial likely cost of repairs	£ 11,000.00
If NO vegetation is removed	Underpinning	Potential additional costs	£ 55,000.00
Supporting Comments	Underpinning to Rear Elevation and Right Hand Party Wall.		

Conclusions & Recommendations

The property is a 3 storey, 4 bedroom, mid terrace house constructed in circa 1900. The policyholder noted cracking to the property in December 2020 and therefore notified their insurers accordingly.

The site investigation has confirmed that the cause of the subsidence is clay shrinkage. An external trial hole/borehole (TP/BH1) was undertaken on the rear right-hand bay. TP/BH1 revealed a concrete foundation seated at a depth of 300mm beneath the existing lower ground level. The foundation was supported on a firm, firm to stiff clay. The borehole was terminated at 4000mm depth. A second external trial hole/borehole (TP/BH2) was undertaken to the rear left hand corner of the property. TP/BH2 revealed a brick, concrete, clinker foundation seated at 1400mm beneath existing ground level. The foundation was supported on firm to stiff clay. The borehole was terminated at 4000mm depth. Laboratory testing of clay extracted from TP/BH1 revealed this to have high volume change potential. Reduced moisture content in the clay was recorded at 800mm depth. The clay was also established to be desiccated between 300mm and 2300mm below ground floor level. Roots were extracted from TP/BH1 between 300mm and 800mm depth and testing revealed these to originate from the Platanus Spp. These include London plane. Laboratory testing of clay extracted from TP/BH2 revealed this to have high volume change potential. Reduced moisture content in the clay was recorded at 14000mm depth. Roots were extracted from TP/BH2 between 1400mm and 1700mm depth and testing revealed these to originate from the Platanus Spp. These include London plane.

The arboricultural report implicated and recommended the removal of the C1 Wisteria and T5 Plane.

Level Monitoring readings are showing progressive movement indicating the continued influence of the implicated vegetation.

Given the above factual evidence we conclude that the C1 Wisteria and T5 Plane are the cause of the damage and we require their removal to arrest the current episode of subsidence.

Report Prepared By

Chris Sherwin

BSc (Hons) Building Surveying