INNOVATION GROUP

Engineering Final 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	Shree Swaminarayan Agyna Upasana Satsang Mandal UK Temple	**Date of Discovery**	22/03/2024
Risk Address	Bridle Road Pinner Greater London HA5 2SH	**Our Ref**	IFS-AVI-SUB-24-0112106
		Date Affected Area(s) Constructed	N/A (Addition/Conservatory); 1940 (Main House/Original Building)
Location of Damage	Rear left of the building.	**Property Type**	Semi-detached Property
Nature of Damage	Stepcracking to rear left and rear right. Some cracks noted centrally. Rear left and right corners are affected with significant step cracks.	**Indicated Mechanism of Movement**	Downward and rotational movement towards the implicated trees.
Crack Widths	Cat 2, 1mm to 5mm - slight.	**BRE Classification**	Category 2
Occupiers' Observations	None	**Previous Relevant Movement**	None
Comments	N/A		

Site Investigation & Monitoring Evidence

Examination by Building Professional	Yes	Nigel Buxton	Cert CILA ACABE						
Arboriculture Assessment	Yes	**Report Ref(s):**	SA-254771 - T2, T3, T6, TG1 (Oaks) implicated					**Date(s)**	12/06/2024
Geotechnical TP/BH Logs & Pens	Yes	**Report Ref(s):**	C77956G34394					**Date(s)**	08/05/2024
Soil Laboratory Testing	Yes	**Ref:**	L27879	**Plasticity**	High	**Desiccated?**	Yes	**Date(s)**	16/05/2024
Root Analysis	Yes	**Report Ref(s):**	R57662	Quercus (Oak) roots to 1.8m				**Date(s)**	08/05/2024
Drainage Survey	Yes	**Ref(s):**	C77956 D27190	Drains unlikely to be contributory - now repaired				**Date(s)**	18/09/2024
Heave Risk after Tree Removal	Low/None	**Assessed By**	Nigel Buxton	Cert CILA ACABE					
Building Monitoring	Level	**Crack Width (+/- mm)**	N/A	**Level/Dist (+/- mm)**	34	**Date of last reading**	16/10/2025		
Monitoring Confirms	Significant seasonal movement (34mm) to the left and rear elevations.								
Supporting Comments	We have obtained all necessary evidence to confirm causality, demonstrate property damage and implicate the outlined vegetation without a reasonable doubt. Seasonal movement can only be caused by the effect of moisture extraction and rehydration within Clay soils.								

Mitigation Actions / Scope of Repair

Previous Mitigation?	Ownership	Species	Label	Action	Date Completed
No					

Date Drain Repairs Completed/ No Defects Confirmed: 08/11/2024

Ongoing Seasonal Movement? Yes

If Effective Mitigation is REFUSED or Is a Root Barrier Possible? (All Estimated & Subject to Feasibility Study)

Stabilisation scheme PLUS enhanced Superstructure repairs will be required.

'Stabilisation' costs (excl. Superstructure) £ 132,000.00 **or**

Is a Root Barrier Possible?	**Location**	**Estimated Depth (m)**	**Length (m)**	**Estimate**
No	N/A (Ownership of land for potential install)	N/A (Depth of Deepest Root +0.5m)	N/A (Across Zone of Influence)	N/A + VAT

Mitigation Statement

Should the effective mitigation, or the funding/installation of a root barrier be refused, we will have no other option but to stabilise the building with a scheme of traditional mass concrete underpinning (stabilisation), and pursue the local authority for a recovery of these significant costs as noted above.

Conclusion & Recommendations

Building/Construction:
The affected building is a detached property, constructed circa 1940 under a pitched and tiled roof with a solid concrete ground bearing floor slab. The building is constructed of traditional design, with external masonry walls and masonry single skin partition walling with a suspended timber first floor.

Circumstances & Damage:
The damage was first noticed in early spring 2024 but was likely present since late summer of the previous year. The building has suffered separation and step cracking to the left flank and rear left elevations, with diagonal cracking and distortion to some of the door and window openings. At the time this damage was noted to be less than 5mm in width but has worsened since, on a seasonal and progressive basis.

Site Investigations & Monitoring:
Foundations to the frontof the building were estimated at 1.3m (minimum) BGL. Foundations to the rear were measured at 900mm BGL. This is below the depth of naturally occurring moisture evaporation and as such any influence on soil moisture content can only be caused by the seasonal effects of vegetation. Shrinkable, high plasticity Clay soils were encountered, and Penetrometer testing below foundation depth confirmed these soils to hold an adequate bearing capacity. Oak roots were found to 1.8m deep. The discovery of these roots has assisted the Arboriculturalist with the identification of the causal vegetation. The roots are of the same species as the trees identified within the Arboricultural report, located to the front right of the subject building and closest to the area of damage.
The defective drainage within all areas of potential influence has been repaired as described above.
Monitoring has evidenced ongoing seasonal movement following the drainage repairs and the mitigation of other significant vegetation within influential distance.

Conclusion:
Our investigations have confirmed that the cause of the property damage is clay shrinkage subsidence. Causal vegetation has been identified as Oak trees, labelled T2, T3, T6 and TG1 in the Arboriculturalist report mentioned above. These trees are located within influencing distance of the areas of damage and geotechnical investigations have confirmed their roots penetrate underneath affected foundations.
Drainage has no possibility of being contributory or causal. All drainage within possible influential distance has been surveyed, and repaired where necessary.
In order to prevent any further and progressive damage to the building, we now require you to mitigate the effects that your vegetation is having on our insured's property. As experts in subsidence, we have outlined what will resolve the issue in our Arboriculturalist report (noted above).
Should you ignore this letter or fail to allow mitigation of the cause of the ongoing property damage, we will have no other option but to stabilise the building using a traditional underpinning scheme and pursue a recovery of these costs from you by legal means.

Report Prepared By	Nigel Buxton	Cert CILA ACABE	**Date**