

Addendum Arboricultural Report

Subsidence Damage Investigation at:

Ely St Mary's Junior School
 High Barns
 Ely
 CB7 4RB



CLIENT: Gateley Smithers Purslow
 CLIENT REF: 222801
 MWA REF: SUB230216-12412
 MWA CONSULTANT: Richard Percival (TechArborA)
 REPORT DATE: 01/11/2023

SUMMARY

Statutory Controls		Mitigation (Current claim tree works)	
TPO current claim	No	Policy Holder	Yes
TPO future risk	No	Domestic 3 rd Party	No
Cons. Area	No	Local Authority	No
Trusts schemes	No	Other	No
Local Authority: -	East Cambridgeshire District Council		

Introduction

The is an addendum to our initial report dated 06/07/2023 following the receipt of further level and crack monitoring readings as well as confirmation from Gateley Smithers Purslow that damage observed to the left portions of the main building has been attributed to root induced clay shrinkage. The property was visited on 28/03/2023.

We are instructed by Gateley Smithers Purslow to provide opinion on whether moisture abstraction by vegetation is a causal factor in the damage to the property and give recommendations on what vegetation management, if any, may be carried out with a view to restoring stability to the property. The scope of our assessment includes opinion relating to mitigation of future risk. Vegetation not recorded is considered not to be significant to the current damage or pose a significant risk in the foreseeable future.

This report does not include a detailed assessment of tree condition or safety. Where indications of poor condition or health in accessible trees are observed, this will be indicated within the report. Assessment of the condition and safety of third-party trees is excluded and third-party owners are advised to seek their own advice on tree health and stability of trees under their control.

Property Description

The property comprises a two-storey detached house of traditional construction built during the 1960's. There is a garage to the right of the property which is linked to the main building by the utility/porch area. The house sits in the grounds of a primary school and is currently occupied by the caretaker.

External areas comprise a large car-park to the front with open access lawned area to the front and left-flank of the property. There is a privet garden to the rear. The site is generally level with no adverse topographical features.

Damage Description & History

Damage considered in this report relates to the left side of the main building, including the lounge and 1st floor bedrooms. Damage is also present to the utility/porch area to the right-side of the property between the main house and the garage. This damage has been attributed to a lack of foundations below the utility area. For a more detailed synopsis of the damage please refer to the surveyor's technical report.

We have not been made aware of any previous claims.

Site Investigations

Site investigations were carried out by Smart Drain UK on 08/02/2023, when a single trial pit was excavated to reveal the foundations, with a borehole sunk through the base of the trial pit to determine subsoil conditions. A drains survey was also undertaken with recommendations for repairs contained within the Site Investigation report.

Discussion

Opinion and recommendations are made on the understanding that Gateley Smithers Purslow are satisfied that the current building movement and the associated damage to the left side of the property is likely the result of clay shrinkage subsidence.

Site investigations and soil test results have confirmed a sand subsoil directly below the foundations of the building in the location of TP/BH1. Soils of this type are not susceptible to undergoing volumetric change in relation to changes in soil moisture. Soils with a clay fraction were observed between a depth of 1.5m to 3m bgl in TP/BH1. Soils of this type are subject to volumetric changes due to changes in soil moisture contents and this soil type may be present directly below the foundations in other parts of the building. No roots were observed during the Site Investigations.

Irrespective of the lack of observed roots, it remains likely that the roots of the trees/vegetation recorded in Table 1 (see below) are present below foundation level. These trees/shrubs are capable of influencing soil moisture and volumes.

Level monitoring commenced on 05/12/2022. Readings taken on 30/01/2023 and 17/02/2023 recorded a pattern of movement uncharacteristic of root induced clay shrinkage subsidence; however, 2 further points were added to the property in February 2023 so as to monitor movement to the left of the building (points 8 & 9). Readings taken on 20/06/2023 demonstrated minimal change across all points, however the readings from 20/09/2023 recorded significant downward movement at point 8 and, to a lesser extent, point 9. Downwards movement observed during the drier summer months is attributable to a seasonal volumetric reduction in a clay subsoil in direct relation to moisture contents. Conversely, we would expect to see upwards movement (recovery) during the coming winter. Further level monitoring data will provide more conclusive evidence as to the pattern and nature of the current movement and associated damage.

Crack monitoring also began on 05/12/2022 and readings of Crack 1 taken up to 20/09/2023 have recorded crack closure during the winter, spring and early summer, with a widening of the crack recorded between June 2023 and September 2023. This is consistent with a seasonal volumetric change in a clay soil. Other cracks monitored have recorded little to no change.

Based on the technical reports currently available, engineering opinion and our own site assessment we conclude the damage observed to the left side of the building is consistent with shrinkage of the clay subsoil related to moisture abstraction by vegetation.

Having considered the information currently available, it is our opinion that the vegetation recorded in Table 1 is either the principal cause of or are materially contributing to the current subsidence damage and, should an arboricultural solution be implemented to mitigate the influence of the implicated trees/vegetation, the works specified in Table 1 should be carried out.

Other vegetation recorded presents a potential future risk to building stability and management is therefore recommended.

Recommended tree works may be subject to change upon receipt of additional information.

Table 1 Current Claim - Tree Details & Recommendations

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T1	Box Elder	12	400	13	7	Similar Age to Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T4	Sorbus	10 *	450 *	12	11	Similar Age to Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
SG1	Rose, holly, elder, privet	Up to 2.5	Up to 20 *	Up to 0.8 *	0.1	Similar Age to Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stumps to inhibit regrowth.					
SG2	Pyracantha, rose, holly, clematis, spirea, cotoneaster	Up to 3	Up to 30 *	Up to 1 *	0.2	Younger than Property	Policy Holder
Management history		Subject to past management/pruning.					
Recommendation		Remove (fell) to near ground level and treat stumps to inhibit regrowth.					
HG1	Beech, elder, bramble	10	80 Ms *	4	0.2	Similar Age to Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stumps to inhibit regrowth.					

Ms: multi-stemmed * Estimated value

Table 2 Future Risk - Tree Details & Recommendations

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T2	Maple (Japanese)	8	340	7	5	Similar Age to Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Do not allow to exceed current dimensions. Subject to review if movement persists.					
T3	Elder	7 *	300 *	6	10 *	Younger than Property	Policy Holder
Management history		No recent management noted.					
Recommendation		No works at present. Subject to review if movement persists.					
T5	Beech	14 *	600 *	15	20	Older than Property	Policy Holder
Management history		Diameter estimated at below crown-break. No recent management noted.					
Recommendation		No works at present. Subject to review if movement persists.					
T6	Elder	7 *	300 *	6	10 *	Younger than Property	Policy Holder
Management history		No recent management noted.					
Recommendation		No works at present. Subject to review if movement persists.					
TG1	Leylandii	8 *	600 Ms *	12	12 *	Similar Age to Property	Policy Holder
Management history		Recently reduced/pruned.					
Recommendation		Do not allow to exceed current dimensions. Subject to review if movement persists.					
S1	Elder	4.5 *	80 Ms *	4 *	6 *	Younger than Property	Policy Holder
Management history		No recent management noted.					
Recommendation		Do not allow to exceed current dimensions. Subject to review if movement persists.					

Ms: multi-stemmed

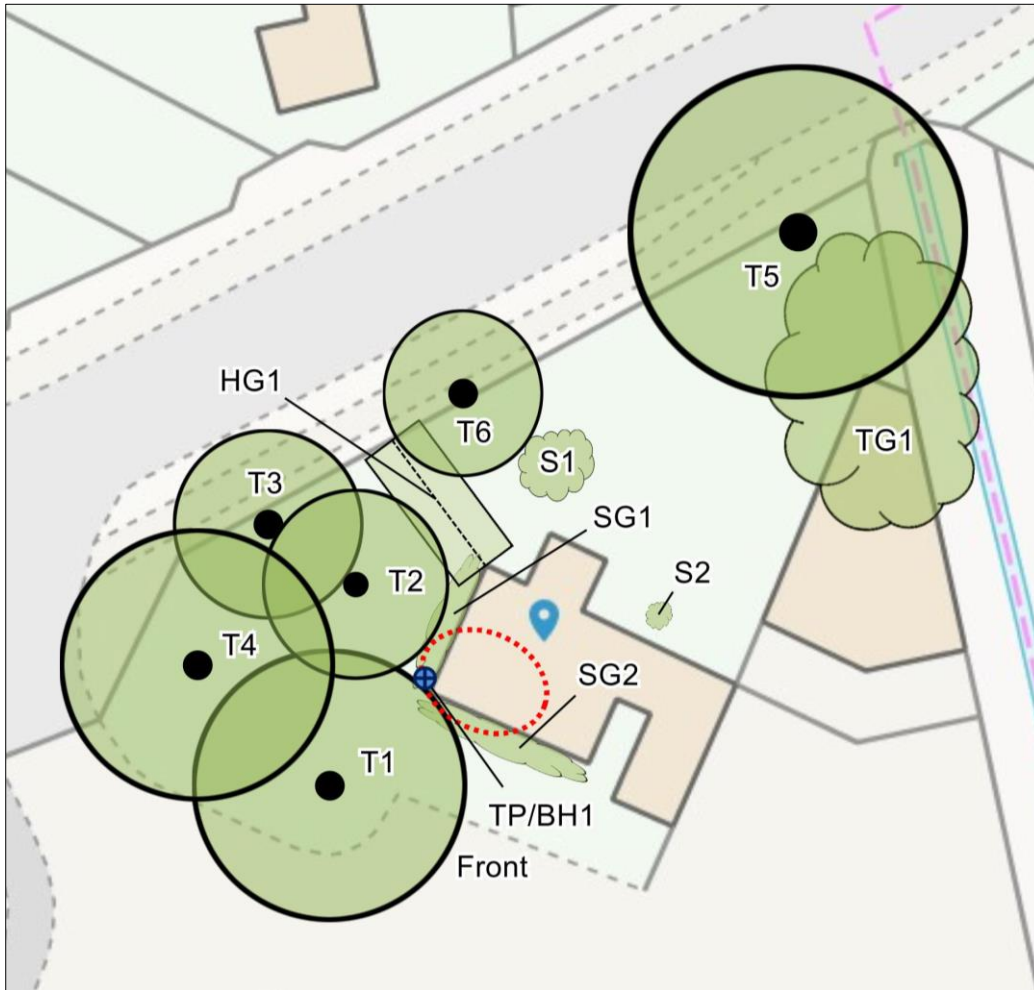
* Estimated value

Table 2 Future Risk - Tree Details & Recommendations

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
S2	Bay	1	50 *	1	1.4 *	Younger than Property	Policy Holder
Management history		Subject to past management/pruning.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					

Ms: multi-stemmed * Estimated value

Site Plan



Plan not to scale – indicative only



Approximate areas of damage

Images



