Property Risk Inspection
LIMITED

ARBORICULTURAL ASSESSMENT REPORT



Risk Address: Butler Cottage, South Wraxall Manor, Upper South Wraxall, Bradford-On-Avon, BA15 2SD

For:

Client: Bryer Consulting Limited
Insurer: [redacted]

Client Ref: MUK.215704
Insurer Ref: [redacted]

Policy holder: [redacted]
PRI Ref: 250890
Arborist: Ryan Ollman
Survey Date: 01/02/2023
QC: Margaret MacQueen
QC Date: 04/02/2023

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1.0 INTRODUCTION AND BRIEF

1.1 Property Risk Inspection has been instructed on behalf of the building insurers of the insured property. We have been advised that the insured property has suffered differential movement and damage that is considered to have been caused by trees growing adjacent to the property influencing soils beneath its foundations.

1.2 We have been instructed to undertake a survey of the vegetation growing adjacent to the insured property in order to provide our opinion as to whether, based on the available information, any of this vegetation is likely to be influencing soil moisture levels beneath the foundations of the property, and if so, to provide recommendations as to what tree management could be implemented to effectively prevent damage continuing.

1.3 The vegetation growing adjacent to the risk address has been surveyed from the ground. All distances are measured to the nearest point of the risk address unless otherwise stated.

2.0 LIMITATIONS

2.1 Recommendations with respect to tree management are associated with the risk address as stated on the front cover of this report and following consultation with investigating engineers. The survey of trees and any other vegetation is associated with impacts on the risk address subject of this report. Matters of tree health, structural condition, and/or the safety of vegetation under third party control are specifically excluded. Third party land owners are strongly advised to seek their own professional advice as it relates to the health and stability of trees under their control.

2.2 Recommendations do not take account of any necessary permission (statutory or otherwise) that must be obtained before proceeding with any tree works.

2.3 Recommendations do not take account of any requirements for survey or mitigation relating to European or other protected species, e.g. bird nesting or bats. Land owners must obtain their own professional advice in respect of any protected species.

3.0 DISCUSSION AND ANALYSIS

3.1 Soils, soil water and vegetation

All vegetation requires water to live, and this water is substantially accessed from the soil within which the plants' roots grow.

If the soil is classified as a clay soil, then it will hold very much more water than sands, gravels and loam soils. As plants abstract water from the clay soil, the soil volume will "shrink" and "swell" during the summer as water is first removed and then added by summer rainfall. In years in which rainfall during the summer is less than the total amount of water taken from the soil by plants, shrinkage will occur. This shrinkage may remove support from building foundations, leading to cracking in the fabric of the building.

3.2 Vegetation management

The control of trees, shrubs, and climbers, by removal or pruning as appropriate, are proven techniques that can control total soil water loss thereby minimising soil shrinkage and allowing repairs to proceed.

If vegetation management works are carried out promptly, then repairs can usually proceed very quickly and the duration and distress associated with the disruption that tree related subsidence brings can be minimised.

3.3 Third party liaison and statutory controls

Tree roots do not respect physical or property boundaries and can travel for many metres beyond the above ground "dripline" of the canopy of the vegetation.

The purpose of this report is to ascertain which vegetation is the most likely substantial and/or effective contributory cause of the damage witnessed to allow for liaison with third parties or with local administrative Councils as necessary.

3.4 Evidential framework

The engineer has determined on a preliminary basis the damage to the property, its location and the likely mechanism of movement, and has concluded that the building failure is related to differential subsidence damage caused as a result of the action of vegetation. Where a factual geotechnical report has been completed, this will describe the below ground foundation design, soil and geotechnical conditions, as well as any root identification where available.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Recommendations

On the basis of our findings, we have considered a practical vegetation management specification.

This specification will assist in reducing the impact of the adjacent vegetation on soil moisture levels, thereby potentially stabilising foundations of the affected area of the building.

Where felling has been proposed, this will be on the basis that the vegetation in question would not respond well to a severe reduction in leaf area that would inevitably lead to decay, the development of potential hazards, and an annual or other on-going management commitment and cost.

If pruning is recommended, the specification will be designed to allow continual ease of re-pruning with a reasonable prospect of a reduction in soil water use.

4.2 Recommended vegetation management to address the current subsidence:

Tree No:	Species	Works Required
T1	Whitebeam	Fell and treat stump with eco plugs (broadleaved)
T2	Ash	Fell and treat stump with eco plugs (broadleaved)

5.0 STATUTORY CONTROLS

Wiltshire Unitary Council has confirmed that none of the implicated vegetation is subject to a Tree Preservation. However, there are Conservation Area controls.

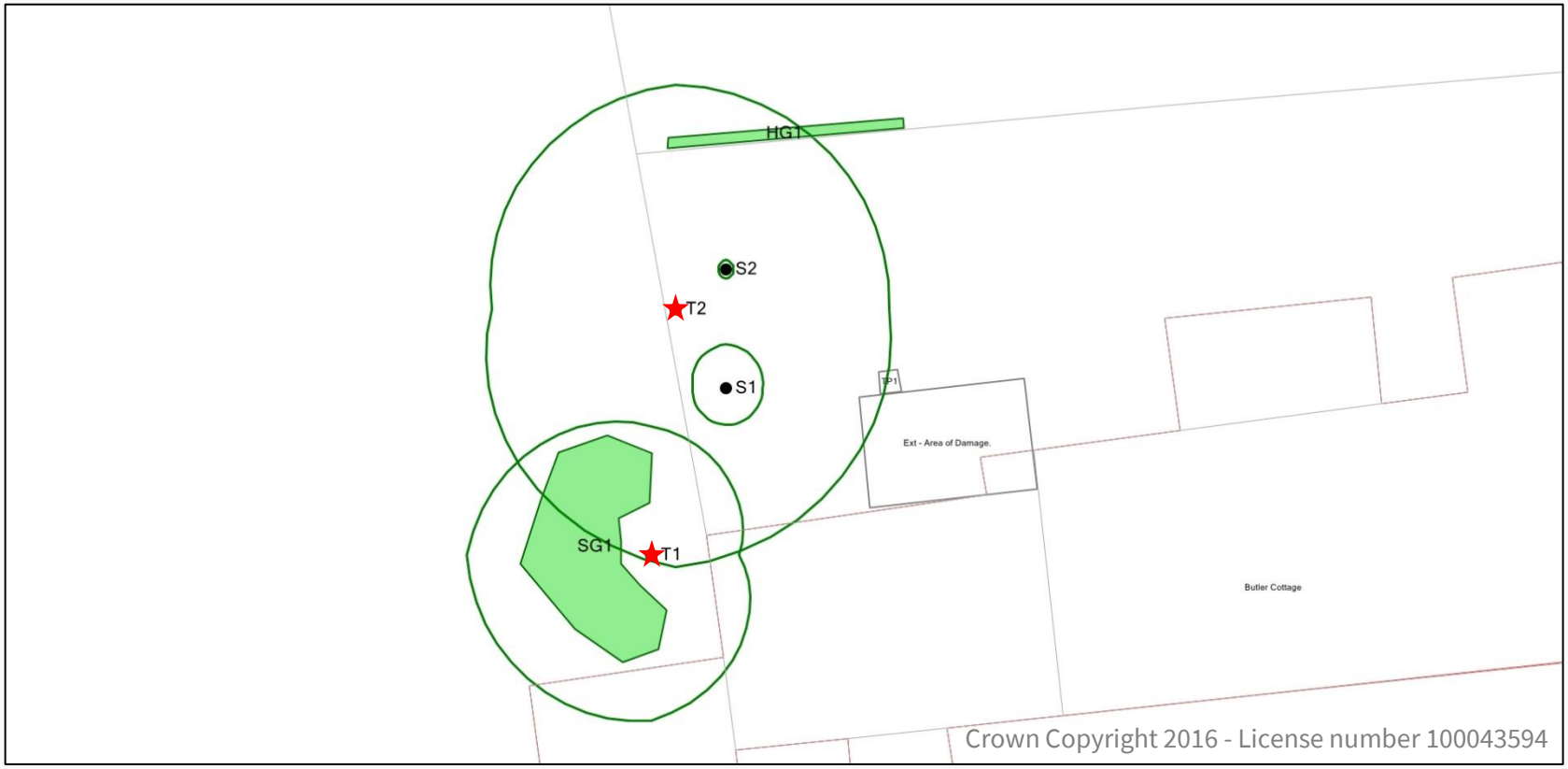
6.0 APPENDIX 1: TREE TABLES

Tree No	Common Name	Age Class	Condition	Height (m)	Crown Spread (m)	Stem diam. (mm)	Dist to bldg. (m)	Roots Implicated	Pruning history	Recommendation	Tree work constraints	Notes	Owner address	Owner
HG1	Mixed species group	Early Mature	Fair	1.4	0.8	10*	7.3	N	Managed as a hedge.	No work required.		Group consists of Privet, Dogwood, Hazel, Field Maple, and Elm.	Butler Cottage South Wraxall Manor Upper South Wraxall Bradford-On-Avon BA15 2SD	PH
S1	Aucuba	Mature	Fair	1.6	2.05	20	4.5	N	Subject to past management.	No work required.			Butler Cottage South Wraxall Manor Upper South Wraxall Bradford-On-Avon BA15 2SD	PH
S2	Box	Semi-Mature	Good	0.7	0.45	8*	5.9	N	No significant past tree works.	No work required.			Butler Cottage South Wraxall Manor Upper South Wraxall Bradford-On-Avon BA15 2SD	PH

Tree No	Common Name	Age Class	Condition	Height (m)	Crown Spread (m)	Stem diam. (mm)	Dist to bldg. (m)	Roots Implicated	Pruning history	Recommendation	Tree work constraints	Notes	Owner address	Owner
SG1	Mixed species group	Mature	Fair	3*	3.0*	20	2.6	N	Subject to past management.	No work required.	Access through side/rear gate.	Distance is to rear LHS corner - Distance to area of damage is 7.6m. Group consists of Yew, Pittosporum, and Aucuba.	Butler Cottage South Wraxall Manor Upper South Wraxall Bradford-On-Avon BA15 2SD	PH
T1	Whitebeam	Mature	Fair	10.5*	7.7*	360	1.56	N	Subject to past management. No significant recent management.	Fell and treat stump with eco plugs (broadleaved)..	Access through side/rear gate.	Distance is to rear LHS corner - Distance to area of damage is 6.6m.	Butler Cottage South Wraxall Manor Upper South Wraxall Bradford-On-Avon BA15 2SD	PH
T2	Ash	Mature	Fair	11*	11.95	545	6.3	Y	Subject to past management. No significant recent management.	Fell and treat stump with eco plugs (broadleaved).	Located against stone wall and is pushing said wall to crack.	Has beginnings of Ash dieback.	Butler Cottage South Wraxall Manor Upper South Wraxall Bradford-On-Avon BA15 2SD	PH

* Value is estimated

7.0 APPENDIX 2: SITE PLAN



Location: Butler Cottage, South Wraxall Manor, Upper South Wraxall, Bradford-On-Avon, BA15 2SD

Job Ref: 250890

Survey Date: 01/02/2023 – NTS

By Property Risk Inspection - Insurance Services

8.0 APPENDIX 3: SITE PHOTOGRAPHS



Front Elevation



T1 - Whitebeam



T1 - Whitebeam



T1 - Whitebeam



T1 - Whitebeam



SG1 - Mixed species group



SG1 - Mixed species group



SG1 - Mixed species group



Rear Elevation



T1 - Whitebeam



S1 - Aucuba



S1 - Aucuba



S1 - Aucuba



T2 - Ash



T2 - Ash



T2 - Ash

	
T2 - Ash	S2 - Box
	
Observed remains of bracket fungi on floor however unable to confirm if originated from T2.	Bracket Fungi Remains
	
Underside of Bracket Fungi	HG1 - Mixed species group
	
HG1 - Mixed species group	

9.0 APPENDIX 4: ENVIRONMENTAL STATEMENT & CO2e POLICY

Tree removal as a remedy for subsidence of low-rise buildings

When subsidence occurs to a residential home which has foundations within clay soils one common cause of movement is the presence of trees, hedges and other vegetation removing moisture from the clay causing a shrinkage of the soil and downward movement of foundations.

There are a variety of ways in which subsidence of low-rise buildings can be mitigated and this report details the vegetation options that can be implemented and that should effectively deal with the cause of movements.

It is acknowledged that removal of trees has impacts on visual amenities for owners and the wider community and that trees play an important role in our towns, cities, and the countryside in a variety of positive ways.

Trees are not recommended for removal without a clear understanding of all these impacts and increasingly of the importance of due consideration relating to the climate crisis, of global climate change and of potential negative impacts in the UK and abroad.

The subsidence event must be remedied to secure the property, its energy efficiency and weather tightness, to maintain its saleability and suitability for mortgage or re-mortgage finance if sold and as a requirement of the insurers commitment under the terms of the policy.

In considering a vegetation remedy the insurer, their advisors and arboricultural specialists are seeking to minimise impacts to the policyholder, to remedy the cause of movement quickly and effectively, and allow subsequent repairs to commence without risk of recurrence of damage. To simply leave the property exposed to intermittent periods of repair based on dry periods would also be hugely disruptive to homeowners and costly in repeat super-structural repairs, vehicle movements, materials and other claim costs in CO2e production and would not comply with a Net Zero agenda.

If vegetation management is not possible or was unsuccessful other remedies that might be attempted whether property underpinning, extensive root barriers or other soil and ground stabilisation have their own issues and impacts. Not least of these is the cost to the environment in CO2e generation from creation of cement and cement substitutes, of steel and other metals production, from costs in plastics and then the material transport, insertion, and excavation effort with heavy machinery.

A single tree removal on a site has a relatively modest annual impact on the CO2e budget loss for a site subject to subsidence of around 25kg CO2e per tree per annum. The cost in total of materials and fuel in tree removal are significantly less than 100kg CO2e.

Heavy engineering and ground stabilisation solutions can range in impacts from around 3000kg CO2e to 10,000kg CO2e in carbon cost and are often difficult to effectively mitigate relative to tree management.

However, this is not simply a “site” consideration and insurers and their advisors through PRI are committed to replace every tree lost on a subsidence scheme in sustainable forests and reforestation projects across the globe with thousands of trees already planted and through carbon reduction investments that stop CO2e being generated to have immediate positive impacts whilst new trees grow.

It’s always sad to see a tree lost but we ensure that the loss is mitigated and replaced with new trees, and this avoids heavy engineering solutions far more costly to the planet. You can learn more about our work in tree planting, climate change and carbon capture by visiting our web site at: www.propertyrisk.co.uk.

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SME Climate Hub COMMITTED 2022

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