

**TECHNICAL REPORT ON A SUBSIDENCE CLAIM**

**Crawford Reference: SU2004458**

**Mr & Mrs G Dodds  
Tasma  
16 Second Avenue  
Frinton-on-Sea  
CO13 9ER**



Prepared for

**Hiscox 606  
Hiscox House, Sheepen Place, Middlesbrough, Colchester, CO3 3XL**

**Claim Reference 151054466**

**SUBSIDENCE CLAIM**

DATE 04 November 2020

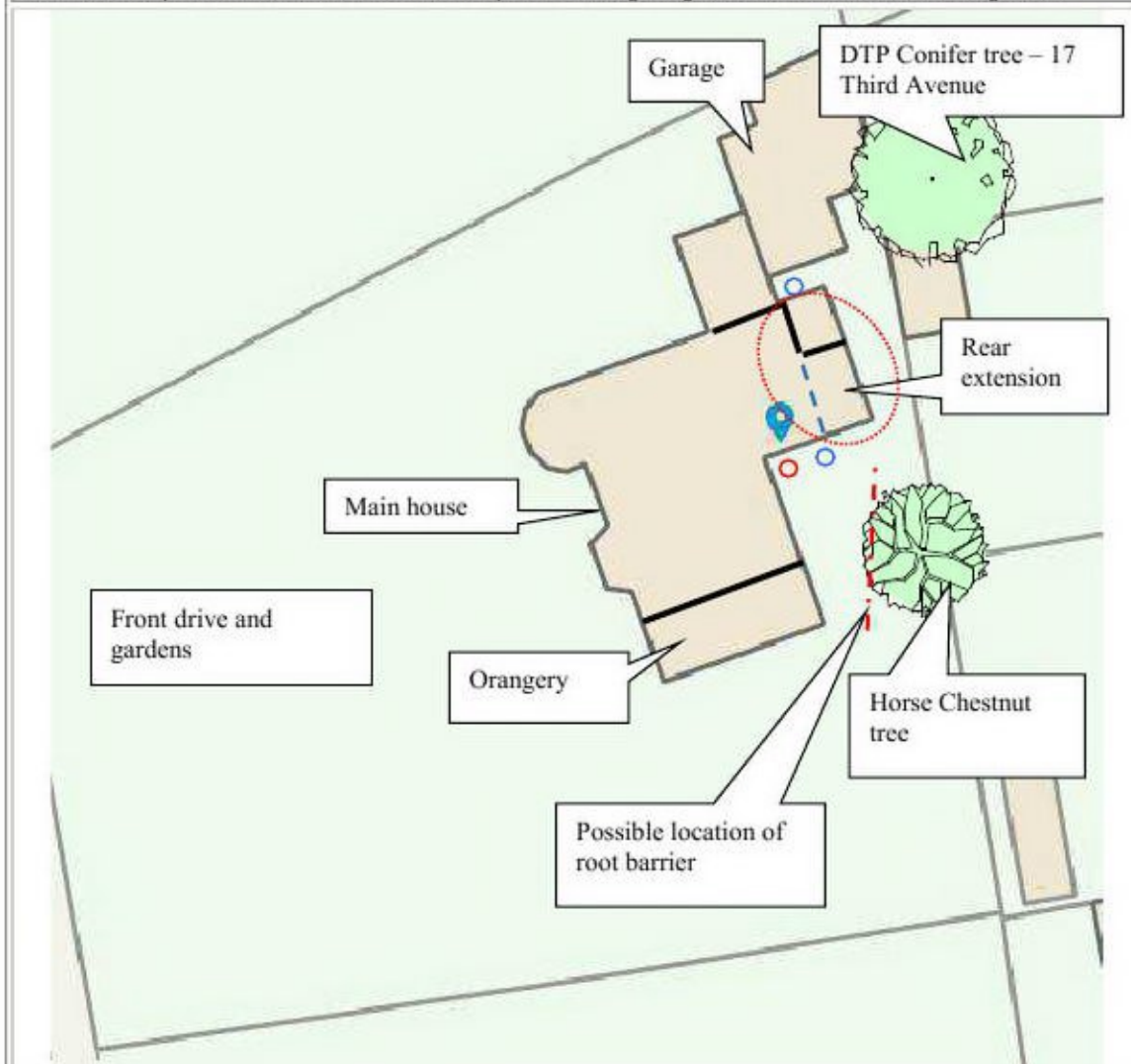


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**Site Plan****This plan is Not to Scale**

This plan is diagrammatic only and has been prepared to illustrate the general position of the property and its relationship to nearby trees etc. The boundaries are not accurate, and do not infer or confer any rights of ownership or right of way. Position of utilities is only indicative and contractors must satisfy themselves regarding actual location before commencing works.



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Map Reproduced with the Permission of Ordnance Survey License Number #####

**Key:**

	Tree: Deciduous		Tree: Conifer		Shrub
	Hedge		Area of Damage		Bore Hole
	Trial Hole		Trial & Bore Hole		Level Monitoring
	Rain Water Manhole		Rain Water Gulley		Rain Water Pipe
	Waste Water Manhole		Waste Water Gulley		Toilet Pipe
	Rain Water Drain		Waste Water Drain		Electricity Cable
	Water Supply Pipe		Gas Supply Pipe		Incoming Gas Pipe
	Incoming Water		Incoming Electrics		

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## INTRODUCTION

We have been asked by Hiscox 606 to comment on movement that has taken place to the above property. We are required to briefly describe the damage, establish a likely cause and list any remedial measures that may be needed.

Our report should not be used in the same way as a pre-purchase survey. It has been prepared specifically in connection with the present insurance claim and should not be relied on as a statement of structural adequacy. It does not deal with the general condition of the building, decorations, timber rot or infestation etc.

The report is made on behalf of Crawford & Company and by receiving the report and acting on it, the client - or any third party relying on it - accepts that no individual is personally liable in contract, tort or breach of Statutory duty. Where works address repairs that are not covered by the insurance policy we recommend that you seek professional advice on the repair methodology and whether the works will involve the Construction (Design & Management) Regulations 2015. Compliance with these Regulations is compulsory; failure to do so may result in prosecution. We have not taken account of the regulations and you must take appropriate advice.

We have not commented on any part of the building that is covered or inaccessible.

## TECHNICAL CIRCUMSTANCES

In early September 2020, the Insured became aware of cracks to the rear of the house in the breakfast room, kitchen and rear bedroom. Upon discovery, the Insured notified Insurers.

## PROPERTY

Two storey large detached house of traditional construction with rendered masonry walls surmounted by a pitched tiled roof.

## HISTORY & TIMESCALE

To proceed with site investigations.

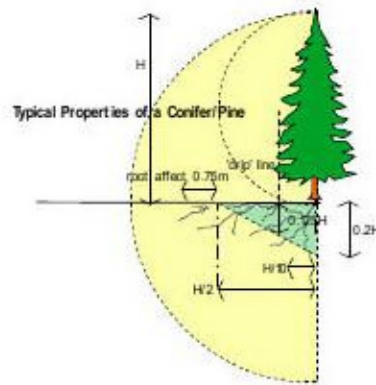
Date of Construction .....	1904
Purchased .....	1998
Policy Inception Date .....	01/09/2017
Damage First Noticed .....	28/09/2020
Claim Notified to Insurer .....	28/09/2020
Date of our Inspection .....	12/10/2020
Issue of Report .....	29/10/2020
Anticipated Completion of Claim .....	September 2021

## TOPOGRAPHY

The property occupies a reasonably level site with no unusual or adverse topographic features.



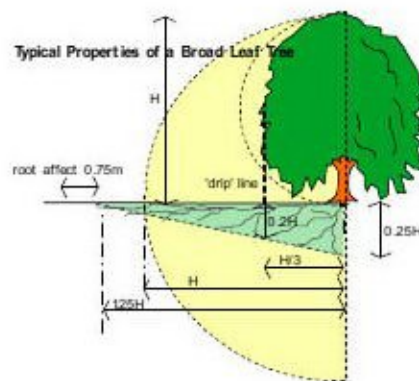




Typical tree proportions showing the root zone. This is a conservative estimate, as the zone can equal the height of the tree.

Generally they have less invasive roots and lower water demands than broadleaved species, but cypresses are often associated with subsidence as they are very fast growing, popular hedge plants that are frequently planted near houses.

Horse chestnuts and the less common buckeyes, *Aesculus* species, are mainly large growing trees reaching heights of between 20 - 27mtrs that will tolerate heavy pruning, although the timber does not resist decay and this can lead to structural weakness unless regrowth is controlled.



Typical proportions of a Horse Chestnut, showing the potential root zone.

The timber is also inherently brittle and even healthy tree can shed large branches in relatively calm conditions. They are moderate water demanders, but common in gardens so are quite frequently associated with subsidence damage.

Quite a fast growing tree (400mm per year) with medium water demand<sup>2</sup>.

<sup>2</sup> Richardson & Gale 1994) "Tree Recognition" Richardson's Botanical Identifications  
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**OBSERVATIONS**

The area of damage is to the rear two and single storey extensions.

The following is an abbreviated description. Photographs accompanying this report illustrate the nature and extent of the problem.

**INTERNAL**

Crack damage in the kitchen above the wall units.



Crack damage in the rear first floor bedroom.

**Breakfast room**

3mm wide vertical crack at low level on the opening to the kitchen. Above this there is cracking to the coving at ceiling level.

Over the window to the side there is cracking to the coving and which extends around to the rear elevation.

**Kitchen**

There is a 2mm wide crack to the ceiling between a former chimney breast and the rear external wall.

To the left of the same chimney breast is a 2mm wide horizontal crack between the chimney and ceiling. This then extends into a 3mm wide vertical and diagonal crack which continues down behind the wall units. Below the units the crack can be seen in the wall tile grouting.

**Rear First Floor Bedroom**

Extending along the down stand to the beam/lintel between the extension and the original house is a 3mm wide horizontal crack which extends down the walls to the left and right.

One of these cracks extends down along the side window reveal where damage has occurred to the window frame. This crack then extends down to floor level.

**EXTERNAL**

Rear 2 storey extension.



Location of Insured's tree.

Right side wall of rear two storey addition and extension.

There is a maximum 4mm wide tapering crack at the junction between the original addition and the extension, commencing at ground level and continuing up to the roof.

Left side wall of rear two storey addition and extension.

There is a 1mm wide diagonal crack at high level to the internal angle. This has occurred on the line of an old render repair.

Rear elevations.

Below the ground floor window reveals are a number of hairline vertical cracks.

Rear external paving

To the rear of the property and in the area of damage, the paving blocks/setts are uneven due to ground movement.

**CATEGORY**

In structural terms the damage falls into Category 2 of Table 1, Building Research Establishment<sup>3</sup> Digest 251, which describes it as "slight".

Category 0	"negligible"	< 0.1mm
Category 1	"very slight"	0.1 - 1mm
<b>Category 2</b>	<b>"slight"</b>	<b>&gt;1 but &lt; 5mm</b>
Category 3	"moderate"	>5 but < 15mm
Category 4	"severe"	>15 but < 25mm
Category 5	"very severe"	>25 mm

**Extract from Table 1, B.R.E. Digest 251**  
Classification of damage based on crack widths.

<sup>3</sup> Building Research Establishment, Garston, Watford. Tel: 01923.674040

## DISCUSSION

The pattern and nature of the cracks is indicative of an episode of subsidence. The cause of movement appears to be clay shrinkage.

The timing of the event, the presence of shrinkable clay beneath the foundations and the proximity of vegetation where there is damage indicates the shrinkage to be root induced. This is a commonly encountered problem and probably accounts for around 70% of subsidence claims notified to insurers.

Fortunately, the cause of the problem (dehydration) is reversible. Clay soils will re-hydrate in the winter months, causing the clays to swell and the cracks to close. Provided the cause of movement is dealt with (in this case, vegetation) there should not be a recurrence of movement.

No structural changes to the building have been carried out which has contributed to the current subsidence related damage under investigation. We are not aware of any previous underpinning.

The foundations to the Orangery (constructed 2006) on the left of the property and close to the Horse Chestnut tree was built with 4m deep foundations because of the ground conditions and adjacent trees and bushes. We have also been advised that a root barrier was installed in the area between the Orangery and trees, although the exact location or details of the type and size of the root barrier are not known as this was installed prior to ownership.

This would suggest that root induced clay shrinkage is the cause with the moisture being extracted by the adjacent trees which include a neighbour's conifer at the rear.

## RECOMMENDATIONS

The cause of the movement needs to be dealt with first and therefore we will arrange for site investigations to be carried out. This will identify the foundation type & depth, soil type & condition and any roots.

Following completion of the site investigations, we may obtain an arboriculture report on the trees and whether any tree management work is required. If this implicates the tree in the neighbour's garden, then our Mitigation Unit will liaise with your neighbour in this respect to ensure the appropriate tree management work is carried out in order to prevent further damage to your property.

We have completed a soil risk analysis (VISCAT Assessment) and we are satisfied that your neighbour's and your trees can be removed.

VISCAT models ground movement taking into account seasons, soil type, tree species, tree height and distance between the tree and the building. To accomplish this it refers to a database of investigations and soil results.

Following completion of the tree management works, we will undertake a suitable period of monitoring to confirm stability has been achieved before undertaking repairs to the property.



**Anthony Rose MRICS**  
**Crawford Claims Solutions – Subsidence**



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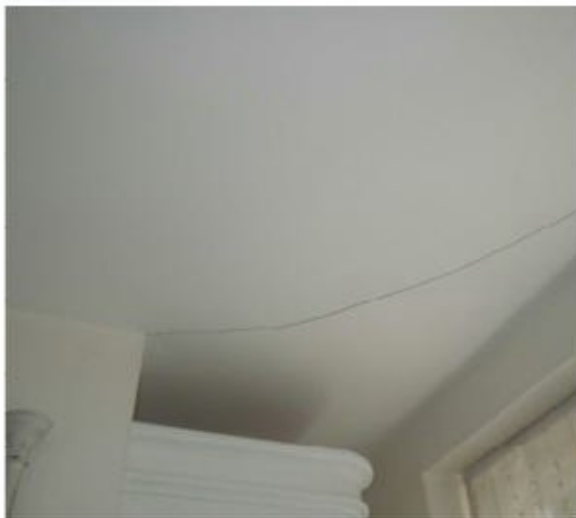
## PHOTOGRAPHS



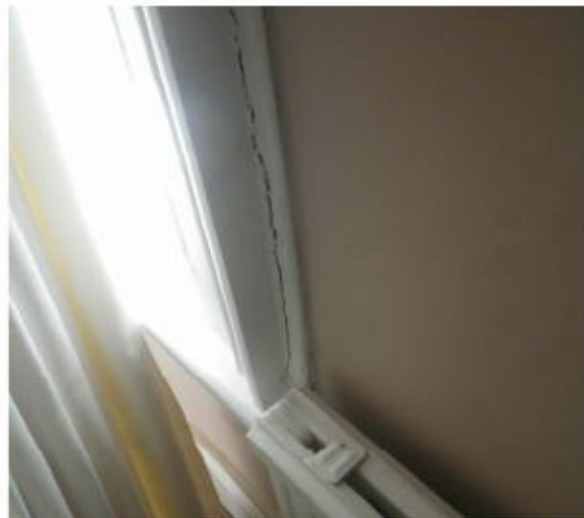
Crack damage in breakfast room with the kitchen.



Crack damage at high level between the breakfast room and kitchen and also between the original house and 1930's extension.



Crack damage to the kitchen ceiling close to the rear wall.



Crack damage to the bedroom between the original house and the 1930's rear extension.



Crack damage above the breakfast room window.



Crack damage below the breakfast room window.



High level crack damage between the rear extension and original house.



Rear neighbours conifer tree close to the rear boundary and area of damage.