



TECHNICAL REPORT ON A SUBSIDENCE CLAIM

Crawford Reference: SU2300734

**18 Delaunays Road
Manchester
Lancashire
M8 4QS**



Prepared for

**RSA - MORE TH>N
6th Floor, , Bowling Mill,, Dean Clough,, Halifax,, HX3 5WA**

Claim Reference 202302013658

SUBSIDENCE CLAIM

DATE 20th March 2023

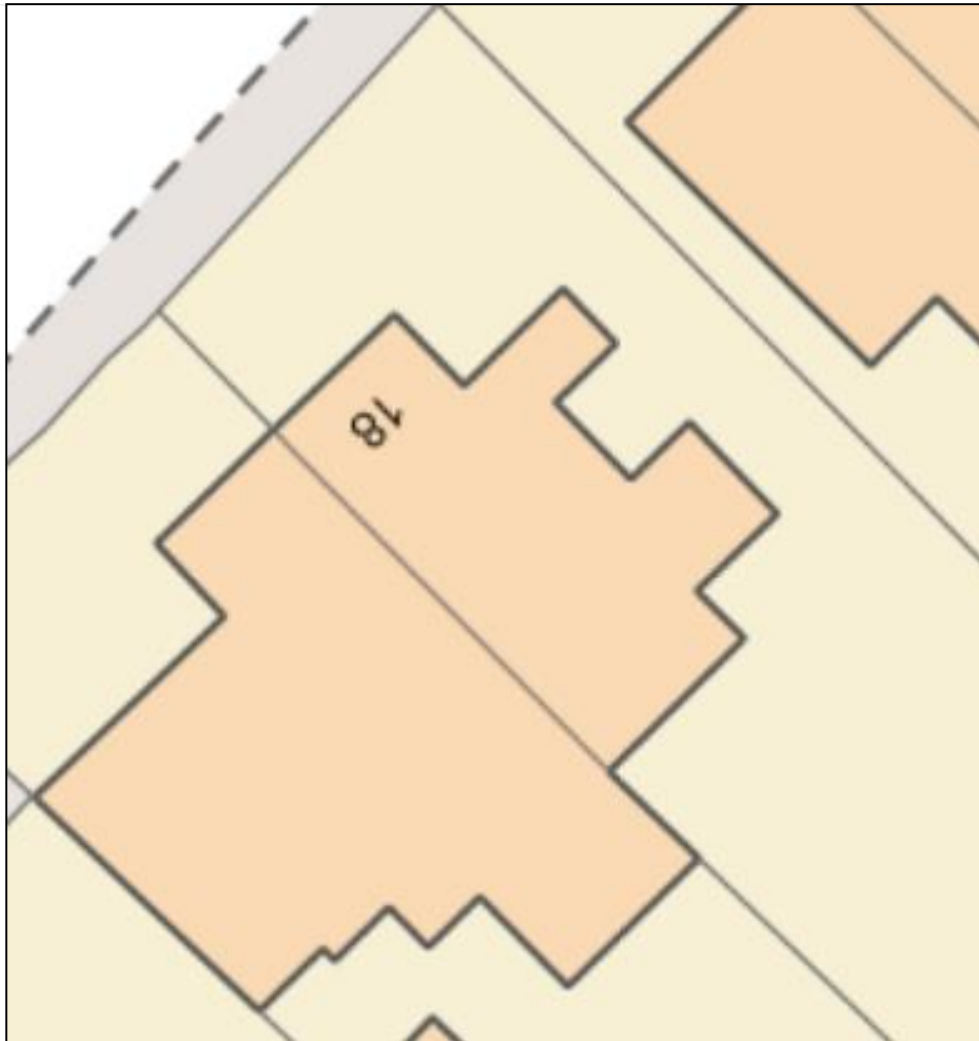


**Crawford Claims Solutions – Subsidence
Cartwright House,
Tottle Road,
Riverside Business Park, Nottingham, NG2 1RT
Tel: 0115 943 8230**

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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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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 RSA - MORE TH>N 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

We were met on site by _____ who has resided at the property since purchase in 1973.

We understand various cracks have begun to develop over the last several weeks.

Being concerned a possible subsidence claim was reported to Insurers.

PROPERTY

The insured property comprises a two storey, four bedroom semi-detached house of traditional construction with solid brick walls surmounted by a pitched and slated roof. There is a cellar to the rear of the property.

HISTORY & TIMESCALE

Site investigations are being organised.

Date of Construction	1886
Purchased	1973
Policy Inception Date.....	05/08/2006
Damage First Noticed	February 2023
Claim Notified to Insurer.....	15/02/2023
Date of our Inspection.....	02/03/2023
Issue of Report.....	20/03/2023
Anticipated Completion of Claim	May 2024

TOPOGRAPHY

The property occupies a site slightly sloping from right to left with no adverse features.

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GEOLOGY

Reference to the 1:625,000 scale British Geological Survey Map (solid edition) OS Tile number SDSE suggests the underlying geology to be Sandstone.

Sandstones comprise cemented sand particles. They have an average porosity of around 30% or more, depending on the degree and nature of the cementitious material that binds the grains. Although not shrinkable, the superficial weathered deposits may be.

The superficial deposits are thought to be Till.

Drift deposits generally comprise a heterogeneous and variable mixture of silts, sands and/or gravels more often than not loosely bound in a clay matrix (Boulder Clays and Clay with Flints for example). They usually have low to medium shrink/swell characteristics and varying composition depending on their provenance and location.

Classified as Quaternary in age, drift deposits vary in thickness, being absent where the solid geology outcrops, and extending to depths of several metres elsewhere. Also known as Till or Boulder Clay, although the latter term is not always appropriate as there may be no clay content. Sometimes the drift deposits are sand, with no clay at all.

They are derived from weathered rock and transported, sorted, and eventually deposited by water and glacial action¹.

Although not usually unduly troublesome in the presence of vegetation, they can suffer volumetric changes in periods of exceptionally dry weather if they have an appreciable clay content. Boulder Clays might typically have a Plasticity Index in the range of between 15-25%.

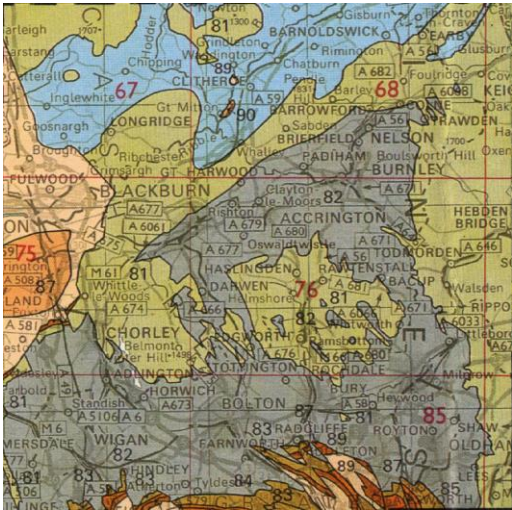
Such deposits can also suffer localised softening and/or erosion in the presence of flowing water due to the sometimes high sand content.

Their geological history is complex, but broadly glacial Till is a term used for drift deposits found north of a line joining the Thames and Severn estuaries whereas Head is encountered to the south.

For example, Boulder Clays would be termed Till, whereas Brickearth, Woolwich and Reading Beds and Clay with Flints would be described as Head.

¹ Sherlock R.L. (1962) "LONDON & THAMES VALLEY" H.M.S.O.

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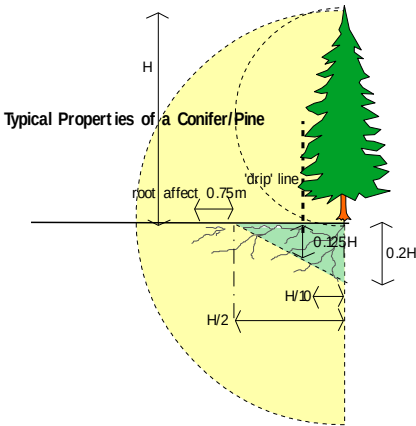
Geology. Reproduced with consent of The British Geological Survey at Keyworth.
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VEGETATION

There are several trees and shrubs nearby, some with roots that may extend beneath the house foundations. The following are of particular interest:-

Type	Height	Distance	Ownership
Fir	18 m	7 m	Owners
Deciduous	18 m	7 m	Owners

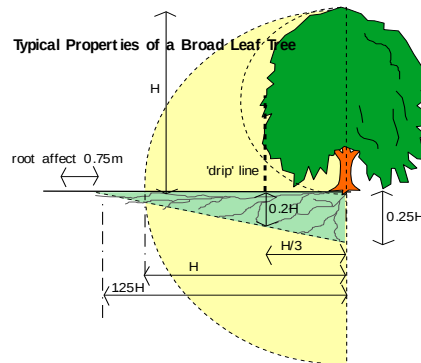
See sketch. Tree roots can be troublesome in cohesive (clay) soils because they can induce volumetric change. They are rarely troublesome in non-cohesive soils (sands and gravels etc.) other than when they enter drains, in which case blockages can ensue. True firs, Abies, species are mainly large growing trees related to spruces. Most prefer cool moist climates and grow best on the western fringes of the British Isles where clay soils are comparatively rare.



Typical proportions of a fir tree. Note the root zone.

Spanish and Grecian firs are quite large growing and more widespread but are rarely associated with soil shrinkage problems. They do not tolerate heavy pruning, other than light crown lifting and thinning.

Broadleaf trees typically have wider spreading roots and higher water demands than coniferous species and many are better adapted to growing on heavy clay soils. Some are capable of sprouting from cut stumps or bare wood and most will tolerate pruning better than conifers.



Typical proportions of a broadleaf tree. Note the potential root zone. It must be noted that every tree is different, and the root zone will vary with soil type, health of the tree and climatic conditions.

However heavy pruning of any tree should be avoided if possible, as it stimulates the formation of dense masses of weakly attached new branches which can become dangerous if not re-cut periodically to keep their weight down.

OBSERVATIONS

Front left corner of flank wall and rear kitchen addition.

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

INTERNAL



Crack in hallway



Crack in rear dining room

Front lounge

- To the rear wall, slight diagonal cracking was noted above the hall door. The door head slopes to the left by 11mm.

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Hallway

- To the front dividing wall, slight diagonal cracking was noted above the lounge and porch doors. The porch door head slopes to the left by 23mm.
- To the rear dividing wall, slight diagonal cracking extends up to towards the left hand external wall.

Rear dining room

- The left wall, slight diagonal cracking was noted to the bottom rear corner of the window. Further cracking was noted above the window which then extends along the ceiling junction.

Front entrance porch

- Slight cracking was noted at the wall junction with the main house.

Cellar

- Slight cracking was noted centrally to the front wall of the cellar.

EXTERNAL

None.

CATEGORY

In structural terms the damage falls into Category 2 of Table 1, Building Research Establishment² Digest 251, which describes it as "slight".

Category 0	"negligible"	< 0.1mm
Category 1	"very slight"	0.1 - 1mm
Category 2	"slight"	>1 but < 5mm
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.

DISCUSSION

The pattern and nature of the cracks is indicative with an episode of subsidence to the front left corner of the flank wall and further possibly movement to the rear kitchen addition.

² Building Research Establishment, Garston, Watford. Tel: 01923.674040

Further investigations are now required which will assist in determining the cause of movement and the extent of your Insurers liability.

These investigations will include trial pits to determine the depth and type of footing and boreholes to determine the nature of the subsoil at depth.

An investigation will also be undertaken to establish the condition of the drains in the vicinity of the subsidence damage. We will also check the mains water supply for possible leakage.

RECOMMENDATIONS

We will report further once these investigations have been completed.

Andrew Wyse BSc (Hons) CEng MICE FGS
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20th March 2023

PHOTOGRAPHS



Crack in rear dining room



Crack in cellar wall.

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