TECHNICAL REPORT ON A SUBSIDENCE CLAIM

Crawford Reference: SU1701605

The Society of Analytical Psychology
1 Daleham Gardens,
London
NW3 5BY

prepared for

AIG Europe Limited
The AIG Building,2-8 Altyre Road,Croydon,CR9 2IG

Claim Reference 3799024214GB

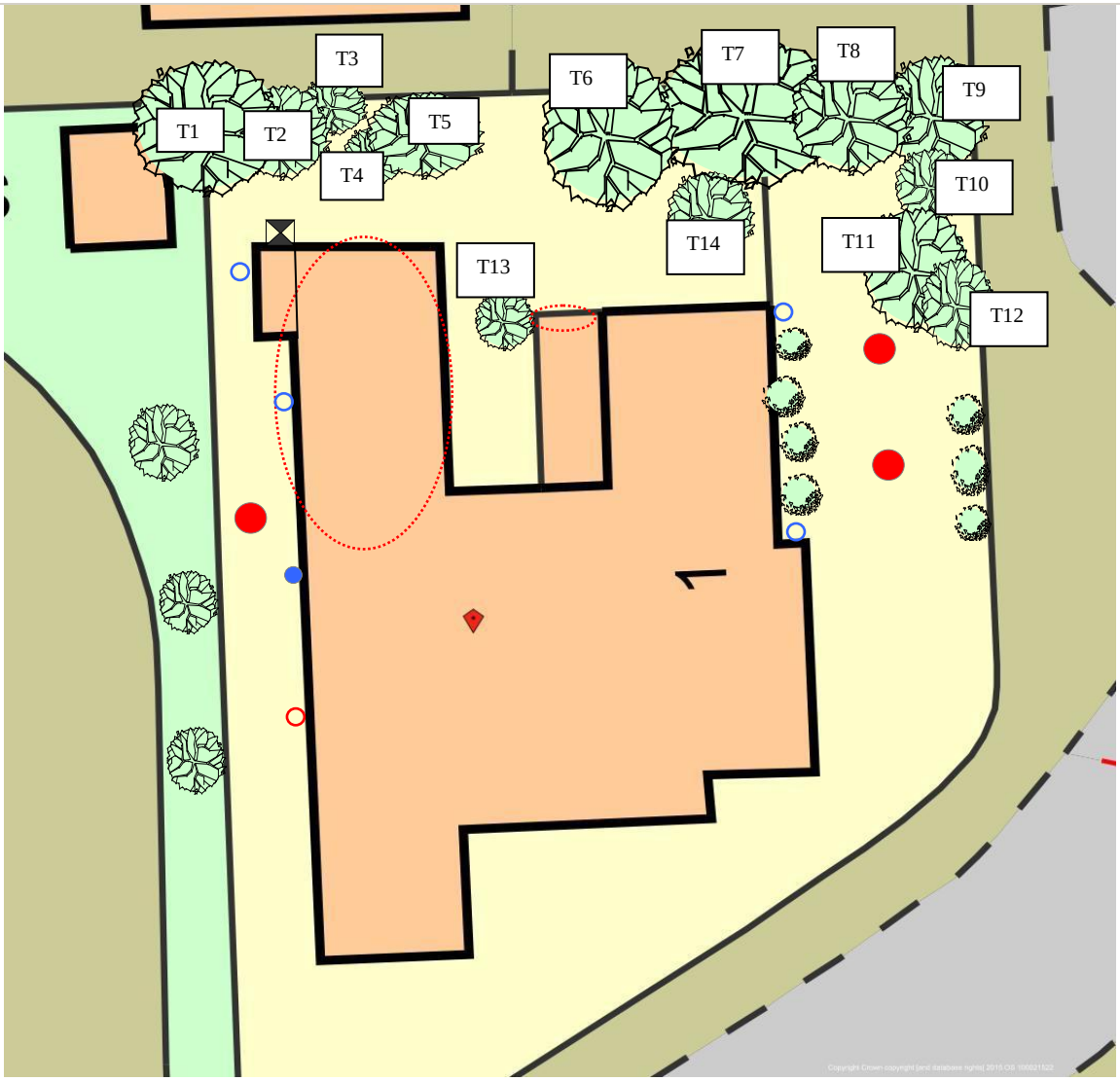
SUBSIDENCE CLAIM

DATE 19 May 2017

Crawford®
Specialist Property Services UK
1st Floor, Cassiobury House,
11-19 Station Road,
Watford,
WD17 1AP
Tel: 01923 471755

Site Plan	This plan is Not to Scale

This is an Aerial Photograph of the property and the immediate surrounding area. The positions of utilities etc are only indicative and contractors must satisfy themselves regarding actual location before commencing works.



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		

INTRODUCTION

We have been asked by AIG Europe Limited 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

Operations manager Lykke Leszczynski noticed damage to the right side of building over the last 12 months. The area of concern is to the rear single storey extensions.

Previously on the 8th of May 2015 a structural appraisal of the building was carried out by Martin Redston Associates. The report highlighted movement to various parts of the property. The report was commissioned as there were plans to construct an extension.

PROPERTY

Three storey large detached house of traditional construction with brick walls surmounted by a pitched tiled roof with flat roof construction to rear single storey extensions.

HISTORY & TIMESCALE

Date of Construction	1900
Policy Inception Date	01/06/2013
Damage First Noticed	08/05/2015
Claim Notified to Insurer	10/05/2017
Date of our Inspection	12/05/2017
Issue of Report	19/05/2017
Anticipated Completion of Claim	19/05/2017

TOPOGRAPHY

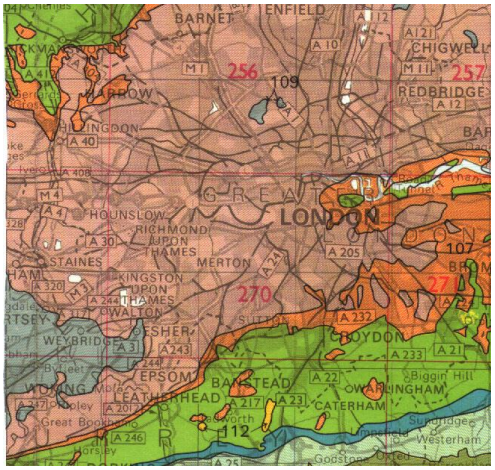
The property occupies a reasonably level site with no unusual or adverse topographic features.

GEOLOGY

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

London Clays are marine deposits characterised by their silty, sandy composition. They are typically stiff, dark or bluish grey, weathered dark to mid-brown superficially with fine particle size (less than 0.002mm). Tomlinson[1] describes it as a 'fat' clay with high loadbearing characteristics due to pre-consolidation pressures in its geological history.

The upper horizon is often encountered at shallow depth, sometimes just below ground level. They have high shrink/swell potentials[2],[3] and can be troublesome in the presence of vegetation.



Geology. Reproduced with consent of The British Geological Survey at Keyworth. Licence IPR/34-7C CSL British Geological Survey. ©NERC. All rights Reserved.

VEGETATION

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

Type	Height	Distance	Ownership
T1 Deciduous	8 m	3 m	Owners
T2 Deciduous	4 m	3 m	Owners
T3 Deciduous	10 m	4 m	Owners
T4 Deciduous	8 m	4 m	Owners
T5 Deciduous	4 m	4 m	Owners
T6 Deciduous	3 m	3 m	Owners
T7 Deciduous	3 m	12 m	Owners
T8 Deciduous	10 m	4 m	Owners
T9 Deciduous	8 m	5 m	Owners
T10 Deciduous	4 m	5 m	Owners

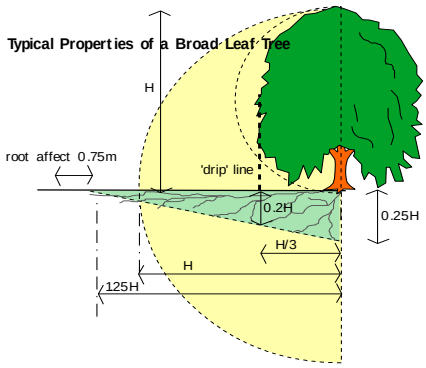
[1] Tomlinson M.J. (1991) *"Foundations Design & Construction"* Longman Scientific Publishing.
[1] B.S. 5930 (1981) *"Site Investigations"*
[2] DriscollL R. (1983) *"Influence of Vegetation on Clays"* Geotechnique. Vol 33.
[3] Table 1, Chapter 4.2, Para. 2.3 of N.H.B.C. Standards, 1986.

First Floor, Cassiobury House, 11-19 Station Road, Watford, WD17 1AP. Tel 01923 471755■ www.crawfordandcompany.com
Registered Office ■ Crawford & Company Adjusters (UK) Ltd, 70 Mark Lane, London, EC3R 7NQ ■ Registered in England No 2908444

T11 Deciduous	3 m	5 m	Owners
T12 Deciduous	3 m	5 m	Owners
T13 Deciduous	4 m	1 m	Owners
T14 Deciduous	3 m	2 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.

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.

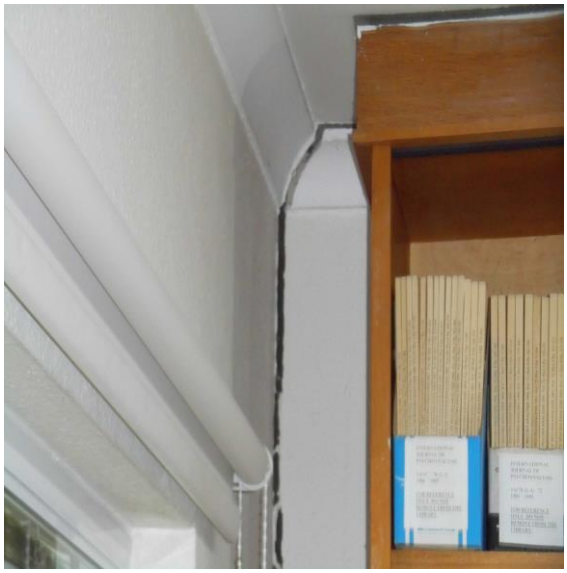
However heavy pruning of any tree should be avoided if possible, as it stimulates the formation of dense masses of weakly attached new branches which can become dangerous if not re-cut periodically to keep their weight down.

OBSERVATIONS

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

INTERNAL

Library ceiling crack to rear of room



Close up of crack to right of window in the library

Ground floor library

- Diagonal crack of 1 to 4mm to top left of window
- Straight ceiling crack of 2mm extending down the wall of 5mm
- Separation gap of 2mm to ceiling wall junction

Corridor to library

- Cracking to ceiling wall junction with central cracks to ceiling joints
- Vertical tapering crack along door to meeting room on the left

Meeting room

- Vertical tapering crack to right of door
- Vertical tapering crack below all windows with small vertical crack top left of right side window
- ceiling crack

Rear corridor

- Vertical wall crack to top right of right side WC
- Visible patch repairs to top right of door to main hallway
- Diagonal cracks to top right of cupboard door
- Separation gap to ceiling wall junction

Rear cupboard no. 23

- Diagonal crack of 2.5m length to right partition wall
- Diagonal crack to top left of door

Left side WC

- Separation crack along the right hand side ceiling wall junction

Front small office

- Small crack above left of window
- Localised separation crack to ceiling wall junction

Unrelated Damage

Entrance hall

- Ceiling crack across the centre

EXTERNAL

~Stepped diagonal crack below window along flank wall to library

Evidence of previous repairs to rear elevation of single storey extension

Rear elevation of single storey projection

- Evidence of previous repairs to the brickwork below all windows

Library right flank

- Stepped diagonal crack of 3mm below right of window

CATEGORY

In structural terms the damage falls into Category 2 of Table 1, Building Research Establishment[4] 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

[4] Building Research Establishment, Garston, Watford. Tel: 01923.674040

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

DISCUSSION

Right hand side of building and rear single storey extension

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

Clay soils shrink and swell seasonally, and this can cause minor damage following particularly dry spells of weather where footings are relatively shallow.

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.

Entrance hall

The cracks in the ceiling appear to be due to normal deterioration.

Ceilings crack for many reasons. For example, older lath and plaster ceilings suffer as a result of the shrinkage of the underlying laths or fail simply due to age.

Unfortunately, this type of damage is not covered by the insurance policy.

RECOMMENDATIONS

Right hand side of building and rear single storey extension

The cause of the movement needs to be dealt with first. We recommend site investigations and will likely recommend tree removal works be undertaken by the owners, subject to statutory checks for Preservation Orders or whether the tree(s) are in a Conservation Area first.

Typically, these investigations would involve trial pit(s) to determine the depth and type of footings, boreholes to determine the nature of the subsoil/influence of any roots and monitoring to establish the rate and pattern of movement.

Provided the tree management works are completed by the owners, consideration may then be given to carrying out the appropriate repairs to the property.

Subject to Insurer's instructions, a schedule of repairs will be obtained and repairs may commence once the scope has been approved.

Entrance hall

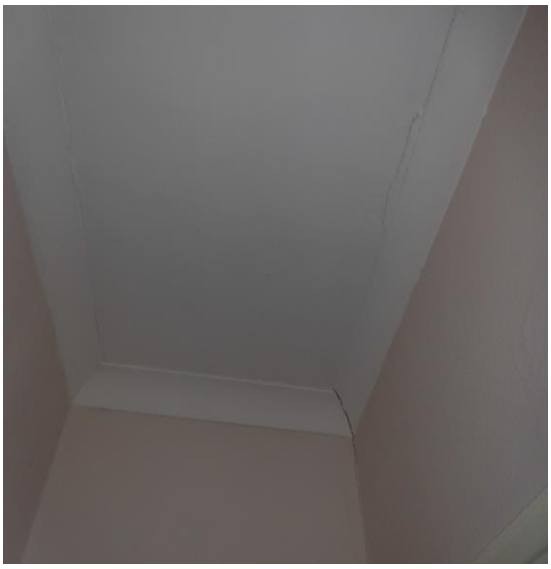
Further investigation of the damage is beyond our brief.

Consequently, you may wish to consider engaging the services of an appropriate construction professional to ensure the correct remedial action is taken.

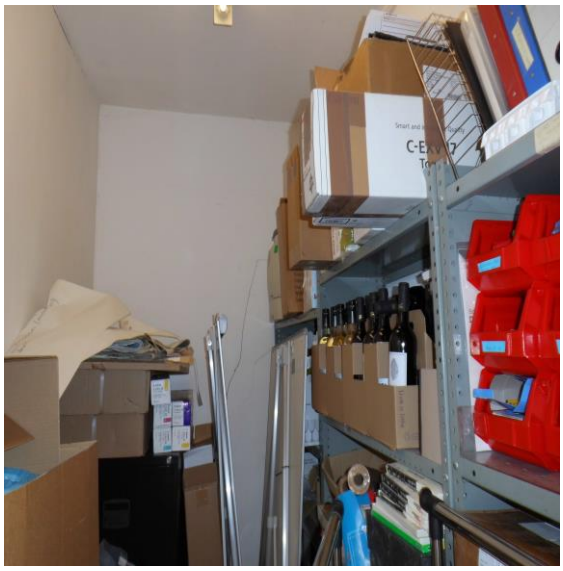
Matin Abdul BSC (Hons)
Specialist Property Services - Subsidence Division
Direct Dial : 0115 943 8260
subsidence@crawco.co.uk

19 May 2017

PHOTOGRAPHS

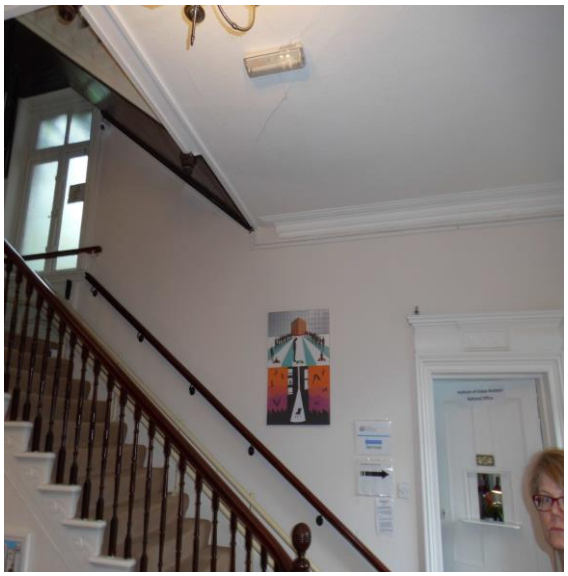


Ceiling crack in corridor near library



Fracture to partition wall to cupboard no. 23

Rear meeting room crack above right of window



Ceiling crack in hallway

Flat roof to rear extension

Ceiling crack to library cupboard