

TECHNICAL REPORT

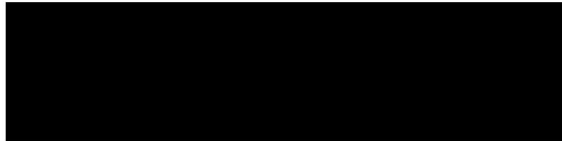
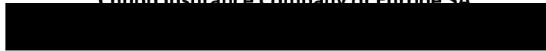


28 Park Village East
London
NW1 7PZ



Prepared for

Chubb Insurance Company of Europe SA

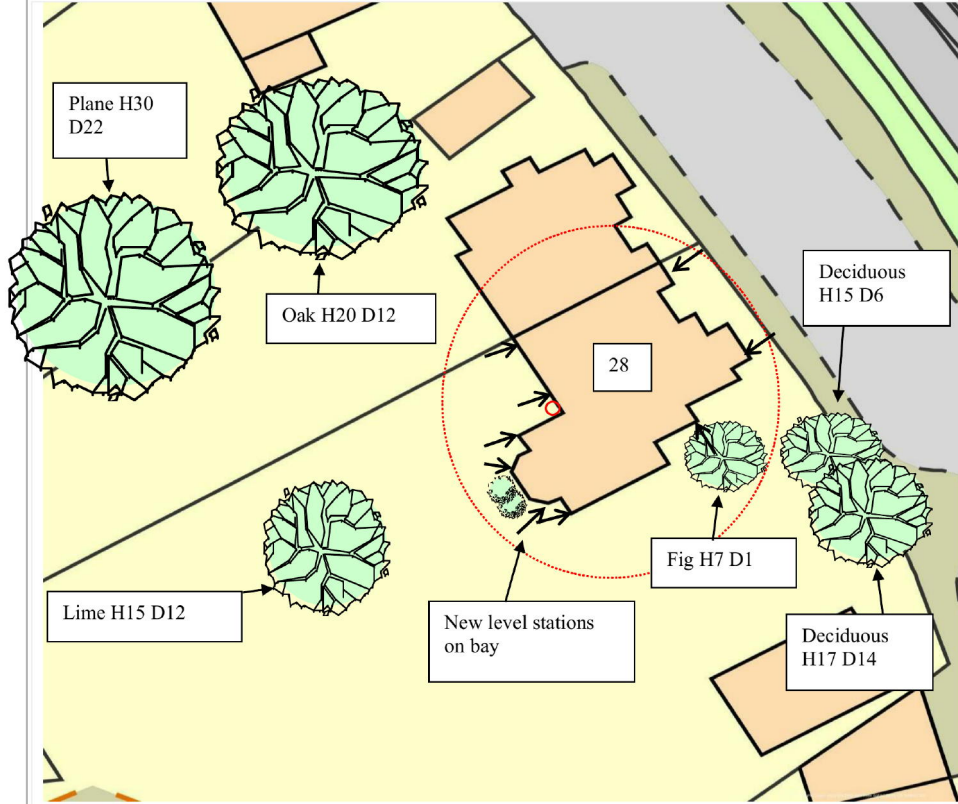


DATE 25 March 2019


























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 Gully		Rain Water Pipe
	Waste Water Manhole		Waste Water Gully		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 Chubb Insurance Company of Europe SA 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

The central spine wall section of the property was locally underpinned around 35 years ago and there was a previous claim for subsidence investigated in 2007. This was around the time that the property was completely refurbished and the crack repairs were completed as part of the refurbishment works. The property was level monitored as part of the previous claim however, no significant movement was noted. Some of the cracking, notably to the rear bay structure was found not to be the result of subsidence and was due to issues with the bressemer beam above the bay window. The current cracking was noted by Mr Robinow around 6 months ago however he was not unduly concerned by this. Mr Robinow mentioned the cracking when renewing his insurance recently and Crawford & Company were appointed to visit and inspect.

PROPERTY

The risk address is a three storey semi-detached house of traditional construction with rendered walls surmounted by a hipped, slated roof.

HISTORY & TIMESCALE

We await insurer's advice on how they wish us to proceed with the claim.

Date of Construction	Circa 1837
Purchased	1979
Policy Inception Date.....	14/12/1996
Damage First Noticed	September 2018
Claim Notified to Insurer.....	16/01/2019
Date of our Inspection.....	21/03/2019
Issue of Report.....	21/05/2019
Anticipated Completion of Claim	To be confirmed

SITE DETAILS

TOPOGRAPHY

The property occupies a site sloping from the front down to the rear.

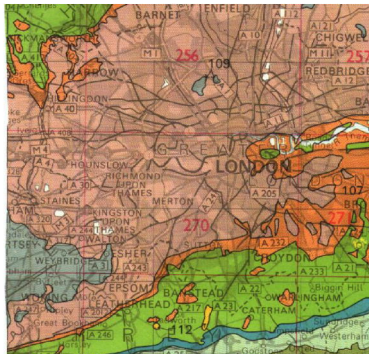
GEOLOGY

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). Tomlinson¹ 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.

The solid geology appears to outcrop in this location, although we cannot rule out the presence of superficial deposits at shallow depth.



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C03/129-CSL CSL British Geological Survey. ©NERC. All rights reserved.

¹ Tomlinson M.J. (1991) *"Foundations Design & Construction"* Longman Scientific Publishing.

² B.S. 5930 (1981) *"Site Investigations"*

³ Driscoll L.R. (1983) *"Influence of Vegetation on Clays"* Geotechnique. Vol 33.

⁴ Table 1, Chapter 4.2, Para. 2.3 of N.H.B.C. Standards, 1986.

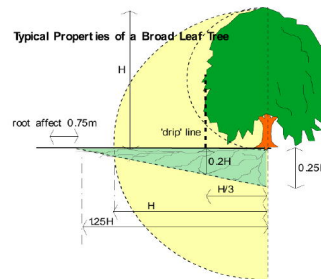
VEGETATION

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
Deciduous	7 m	1 m	Owners
Climbers	4 m	1 m	Owners
Deciduous	15 m	6 m	Owners
Deciduous	17 m	14 m	

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.

Climbers: Can be significant in subsidence cases as they are frequently planted close to the property, trained up house walls. As their roots do not need to spread to provide support they are frequently compact, and can have an intense but localised desiccation effect. Most tolerate pruning well, but respond by sprouting vigorously and need regular maintenance. Pyracantha or firethorn is common and has roots which cannot be distinguished anatomically from apple, pear and other members of the Pomoideae group of the rose family. Wistyeria roots are similar to those of other members of the pea family, including laburnum and false acacia.

OBSERVATIONS

The minor cracking throughout the property is the focal point of the Insured's concerns.

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

INTERNAL



Cracking to dining room partition in sitting room



Cracking to rear wall in rear left hand bedroom

Basement Bedroom En-Suite - Wall / ceiling junction cracking to perimeter.

Basement Bedroom - Coving / ceiling junction cracking in front left hand corner, rucking to ceiling paper.

Hall, Stairs and Landing - Cracking to hall ceiling and evidence of previous water leak staining, hairline diagonal crack to left hand side of front door, crack across ceiling on 1st floor landing, hairline vertical crack down junction of front wall and 1st floor study partition (small area of disrupted plaster at low level).

Sitting Room - 2mm vertical tapering crack to dining room partition (crack wider at bottom), various cracks noted to ceiling, hairline horizontal crack to flank wall rear window reveal.

Dining Room - Mirrored vertical crack to sitting room partition in dumb waiter lift shaft, cracking to ceiling.

Ground Floor Study - Cracking to ceiling and coving in front left hand corner, hairline vertical crack to hall partition.

1st Floor Shower Room - Various cracks noted to ceiling.

1st Floor Study / Sitting Room - Various cracks noted to ceiling, coving / wall junction cracking along right hand party wall.

Rear Left Hand Bedroom En-Suite - Hairline diagonal crack to front partition, wall / ceiling junction cracking to perimeter.

Rear Left Hand Bedroom - Cracking to ceiling, hairline diagonal crack to right hand side of rear window, hairline diagonal crack above door to en-suite.

Attic Bedroom - 1mm vertical crack down front right hand corner junction.

EXTERNAL



Cracking to rear kitchen bay



View of movement to front boundary wall

Front Elevation - 1mm diagonal previously repaired crack above left hand side of ground floor study window.

Left Hand Flank - Evidence of previous crack repairs in render.

Rear Elevation - 4mm horizontal crack to kitchen left hand bay window cill, 3mm horizontal crack at ground floor level to right hand side of bay.

Front Boundary Wall - Left hand gate pier is leaning towards the road and metal gate has been adjusted to fit increasing opening, 4mm stepped crack to wall to left hand side of left hand pier, boundary wall is generally leaning along its length towards the road, 25mm horizontal crack at left hand end of wall by gates to garage.

Garden Retaining Wall - 4mm vertical crack on left hand corner, 4mm stepped crack by gate to garage, hairline stepped previously repaired crack by boiler flue.

CATEGORY

In structural terms the damage falls into Category 4 of Table 1, Building Research Establishment⁴ Digest 251, which describes it as "severe".

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

Minor cracking was noted in various areas throughout the internal parts of the property. The external walls were redecorated in 2015 and there was very little evidence of external cracking to the main loadbearing walls noted at the time of our inspection. There was also no overall pattern to the cracking which we would normally expect to see were the damage the result of foundation movement. It is possible therefore that the damage is either not the result of foundation movement or there are a number of different movement mechanisms causing the damage.

There was a previous claim investigated in 2007. At that time, a number of different mechanisms were discussed as being potential factors, however the subsequent level monitoring exercise did not reveal any significant movement and the cracking evident was repaired as part of a larger refurbishment project which was planned for the property in any event. The principle movement to the rear bay was initially thought to be the result of a defective bressemer beam and this was confirmed to be the case during the refurbishment works.

As the cause of the damage is not clear from our initial inspection we recommended that a period of precise level monitoring and localised crack monitoring is undertaken to assist with confirming whether there is any foundation movement occurring at the property.

The movement to the front boundary wall and garden retaining wall appears to be due to a combination of foundation movement and physical damage due to the proximity of the insured's trees to the walls. The damage to the wall is such that a scheme of localised rebuilding will be required in order to properly reinstate the wall.

RECOMMENDATIONS

⁴ Building Research Establishment



Subject to insurers approval we will proceed with instructing our monitoring supplier to establish the level and crack monitoring. The level monitoring stations are still in situ from the previous claim and it should therefore be possible to re-use these.

25 March 2019

Matt Deller BSc (Hons) MCIQB Dip CII
Specialist Property Services - Subsidence Division



Chartered Loss Adjusters



PHOTOGRAPHS



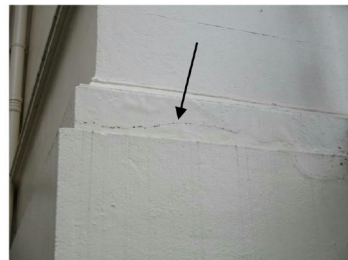
View of front boundary wall



Cracking to garden retaining wall



View of rear of property



Cracking to rear right hand corner



Cracking in hallway



Cracking to ceiling / coving in ground floor study



Cracking to ceiling in rear left hand bedroom



Cracking above en-suite door in rear left hand bedroom