

CHUBB.



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04/06/2010  
16:56

To <subsidence@crawco.co.uk>  
cc "Margaret MacQueen"  
<Margaret.MacQueen@oca-arb.co.uk>  
bcc

Subject SU1000736

A/Rep.

Our Ref: 44251

Good day,

Please find attached our Report and Invoice for the above reference number.

Kind regards,

David Scoines  
Admin Assistant

**Landscape Planning Limited**

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## Consultant Report Advice Note

**Insurer:** Chubb Insurance Company of Europe S.A  
**Crawford & Company Ref:** SU1000736  
**OCA UK Ltd Reference:** 44251  
**Policyholder:** Mr A Seabright  
**Risk address:** The Old Rectory, Little Gransden, Sandy, Bedfordshire, SG19 3DU  
**Project Engineer:** Simon Chesher  
**OCA UK Ltd Consultant:** Margaret MacQueen  
**Date:** 28 May 2010

<b>1: Mitigation Recommendations</b>			
<b>Tree No.</b>	<b>Species</b>	<b>Recommendations</b>	<b>Tree Owner</b>
T1	Cedar	Consider mitigating influence by means of a root barrier	Policyholder

**2: Statutory Controls**

Cedar T1 is owned by the policyholder and is not subject to a Tree Preservation Order. But the property is both listed and located with a Conservation Area.

**3: Local Authority/Third Party Profile**

The Local Authority Conservation section is likely to oppose any attempt to remove the Cedar which will be seen as impacting on the setting of a listed building as well as contrary to Conservation Regulations.

**4: Evidential Comment:**

The timing of damage is consistent with a tree related subsidence event.

Clay soils were encountered beneath the foundations of the Insured Property; albeit only to a depth of 1500mm.

Roots relating to Cedar were recovered from the underside of the foundations of the Insured Property. In addition the position of Cedar T1 is entirely consistent with the area of damage.

The monitoring results have not yet been released for comment but need to show a pattern of movement consistent with the influence of adjacent vegetation.



**5: Comments in relation to continued mitigation and recovery:**

I consider that the key issues relating to both mitigation in this instance are:

Clay soils are present beneath the foundations of the Insured Property; given that the soils are described as clay they will have the potential to shrink and swell due to fluctuations in their moisture content.

Roots from the Cedar tree were present under the foundations of the Insured Property

The monitoring results need to show a pattern of seasonal movement consistent with the influence of vegetation.

We suggest that the programme of monitoring continues in order that further movement can be recorded.

**5: Comments in relation to recovery (continued):**

I consider that the Cedar and Wellingtonia may be contributing to drying the soils to the extent that damage has occurred. It is my opinion that damage would not have occurred in the absence of the trees.

I am presuming that Engineers do not intend to proceed with repairs at the property until such time as the influence of the trees has been removed by an agreed means.

Continued monitoring through until summer 2010 will confirm a clear pattern of movement that can only be attributable to the Cedar.

Installation of a root barrier would need to across virtually the entire 40 m rear garden width.

To discuss the above or the contents of our Consultant Report please contact:

Margaret MacQueen,  
**Arboricultural Consultant**

**OCA UK Limited**

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# Arboricultural Implication Assessment

## Consultant Report on Trees

<b>For:</b>	<b>Client:</b>	Crawford & Company
	<b>Insurer:</b>	Chubb Insurance Company of Europe S.A
<b>Site:</b>	<b>Policyholder:</b>	Mr A Seabright
	<b>Risk Address:</b>	The Old Rectory, Little Gransden, Sandy, Bedfordshire, SG19 3DU.
<b>Refs:</b>	<b>OCA Ref:</b>	44251
	<b>Client Ref:</b>	SU1000736

<b>Survey By:</b>	Margaret MacQueen		
<b>Title:</b>	Arboricultural Consultant	<b>Date:</b>	28 May 2010
<b>Report By:</b>	Margaret MacQueen		
<b>Title:</b>	Arboricultural Consultant	<b>Date:</b>	28 May 2010



Consulting Arboriculturists

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## **1.0 Introduction & Brief**

**1.1** OCA UK Limited has been instructed by Crawford & Company on behalf of Chubb Insurance Company of Europe S.A, the building insurers of The Old Rectory, Little Gransden, Sandy, Bedfordshire, SG19 3DU (the Insured Property). We have been advised by Crawford and Company that the Insured Property has suffered differential movement and damage which is considered to have been caused by vegetation growing adjacent the property influencing soils beneath foundations.

**1.2** We have been instructed to undertake a survey of the vegetation growing adjacent the Insured Property and 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 vegetation management works could be implemented to effectively prevent damage continuing.

## **2.0 Limitations**

**2.1** Recommendations with respect to tree management are associated with the risk address following consultation with Engineers. In relation to the possibility of heave damage, the owners of any trees in third party control must obtain their own advice in respect of the possibility of any damage to their own or other structures outside of the control of the insured.

**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** Investigations carried out with South Cambridgeshire DC with respect to whether there are any statutory controls in relation to the trees in question in the policyholder's rear garden confirms that the property is not the subject of a TPO but that the property is located within a CA..

### **3.0 Engineer's Description of Damage**

We have been provided with a copy of the Crawford & Company 'Technical Report' dated 12 February 2010 and Addendum Report dated 4 May 2010 relating to the damage at the Insured Property. In the Technical Report the Project Engineer states that damage is focused on the left hand side of the main house, the rear sun lounge and rear wine store/scullery area and goes on to describe this damage in more detail.

#### **3.1 Internal Damage is present in:**

- The wine store
- The utility room
- The kitchen
- The sun lounge
- The study

#### **3.2 External Damage to:**

- Minor horizontal crack to plinth brick worth of the wine store
- Minor vertical crack to upper rear wall of Victorian extension

A number of photographs of the damage are included in the Technical Report and show the cracking to these various parts of the property.

### **4.0 Engineer's Assessment of the Category of Damage**

The Project Engineer has determined that the earlier damage at the Insured Property fell within Category 2 (slight) in accordance with Table 1 of the BRE Digest 251.

### **5.0 History and Timing of Damage**

In his Technical Report the Project Engineer confirms damage was first noticed in November 2009. When a likely episode of subsidence was diagnosed by a Consulting Engineer the policyholder submitted a claim under their buildings insurance policy.

### **6.0 Engineer's Conclusion as to the Cause of Damage**

By the issue of the Addendum Technical Report 4 May 2010 the Project Engineer concluded that the cause of the movement at the Insured Property appeared to be clay shrinkage and this shrinkage was root induced.

However the trial pit investigation also indicates limited potential for significant movement as the clay band gives way to sand at relatively shallow depth.

### **7.0 Assessment of Available Evidence**

We have been provided with a copy of the Matlab Site Investigation Report dated 23 March 2010 undertaken at the Insured Property and a copy of the Matlab Laboratory Report dated 07 April 2010. The contents of these reports are referenced below.

#### **7.1 Foundation Depth**

The site investigation consisted of a single excavation hole (E/H 1) located on the left hand elevation at the rear of the porch. The foundations of the property were revealed to be constructed at a depth of 270mm below ground level.

## 7.2 Soils Analysis

Soils beneath foundation depth in Borehole 1 (E/H 1) are described as soft/firm brown slightly sandy Clay with occasional gravel at a depth of 0.27m, firm/stiff brown slightly sandy Clay with occasional gravel at a depth of 1.00m and slightly moist brown Sand with some soft/firm brown Clay at a depth of 1.50m. The borehole was terminated at a depth of 3.50m.

Soil samples taken from Borehole 1 (E/H 1) were subjected to swell/strain tests using an Oedometer.

## 7.3 Roots

Roots of <1.0mm in diameter were noted throughout E/H 1 to a maximum depth of 1.5m. Samples of these roots were sent for analysis using light microscopy and have been formally identified as:

Location	Depth	Species Identified	Starch	Root Diameter
E/H 1 site	0.27–3.5m	<i>Cedrus spp</i>	Abundant	2.0mm

## 7.4 Level Monitoring

Monitoring results will be made available and analysed for a pattern of seasonal movement consistent with the influence of adjacent vegetation.

## 8.0 Adjacent Vegetation

Within the garden of the Insured Property is an individual Cedar tree which is visually prominent and located approximately 19m from the rear elevation of the property: it is the closest source of the Cedar roots found underside of foundations.

All of the closest garden vegetation located further north and east of the large Cedar is very clearly under a maintenance regime.

Details of the above mentioned vegetation is included in the vegetation survey table at s.11.0 of this report and its location is shown on the site plan at the end of this report.

## 9.0 Conclusions

Clay soils have been encountered beneath the property to a depth of 1.5m and roots formally identified as *Cedrus spp* have been recovered from the underside of the house foundations in the trial hole located at the left hand elevation at the rear of the porch. Given its species and proximity to the location of the excavation we consider that these roots almost certainly emanated from the Cedar tree situated close to the rear patio of the Old Rectory.

The level monitoring results are not yet available and need to show a pattern of seasonal movement consistent with the influence of adjacent vegetation.

The Cedar tree (T1) is one of two very significant trees growing proximate the area of damage (the other being Wellingtonia T2). The Cedar will be acting as a significant influence on soil moisture levels beneath the foundations of the property. Therefore we consider that this tree is the material cause of the current damage.

I do not consider any other vegetation growing adjacent the Insured Property to be a factor in current damage.

## 10.0 Recommendations

I do not consider that pruning to reduce the crown volume of the Cedar tree will provide an effective or sustainable means of controlling its water use. Therefore I consider that the most appropriate remedy to the subsidence damage is to remove the influence of the tree completely. In my opinion the mitigation/recovery strategy needs all parties advising the insurer to discuss options.

### 10.1 Recommended vegetation management to address the current subsidence:

Tree No:	Species	Works Required	Ownership
T1	Cedar	Considered retention in conjunction with a root barrier	Policyholder



## 11.0 Vegetation Survey

The vegetation growing adjacent the risk address has been surveyed in accordance with the Brief set out at s.1.0 of this report. All vegetation has been surveyed from the ground using digital measuring devices and/or standard tape measures. All distances are measured to the nearest point of the risk address unless otherwise stated.

### Key to Abbreviations

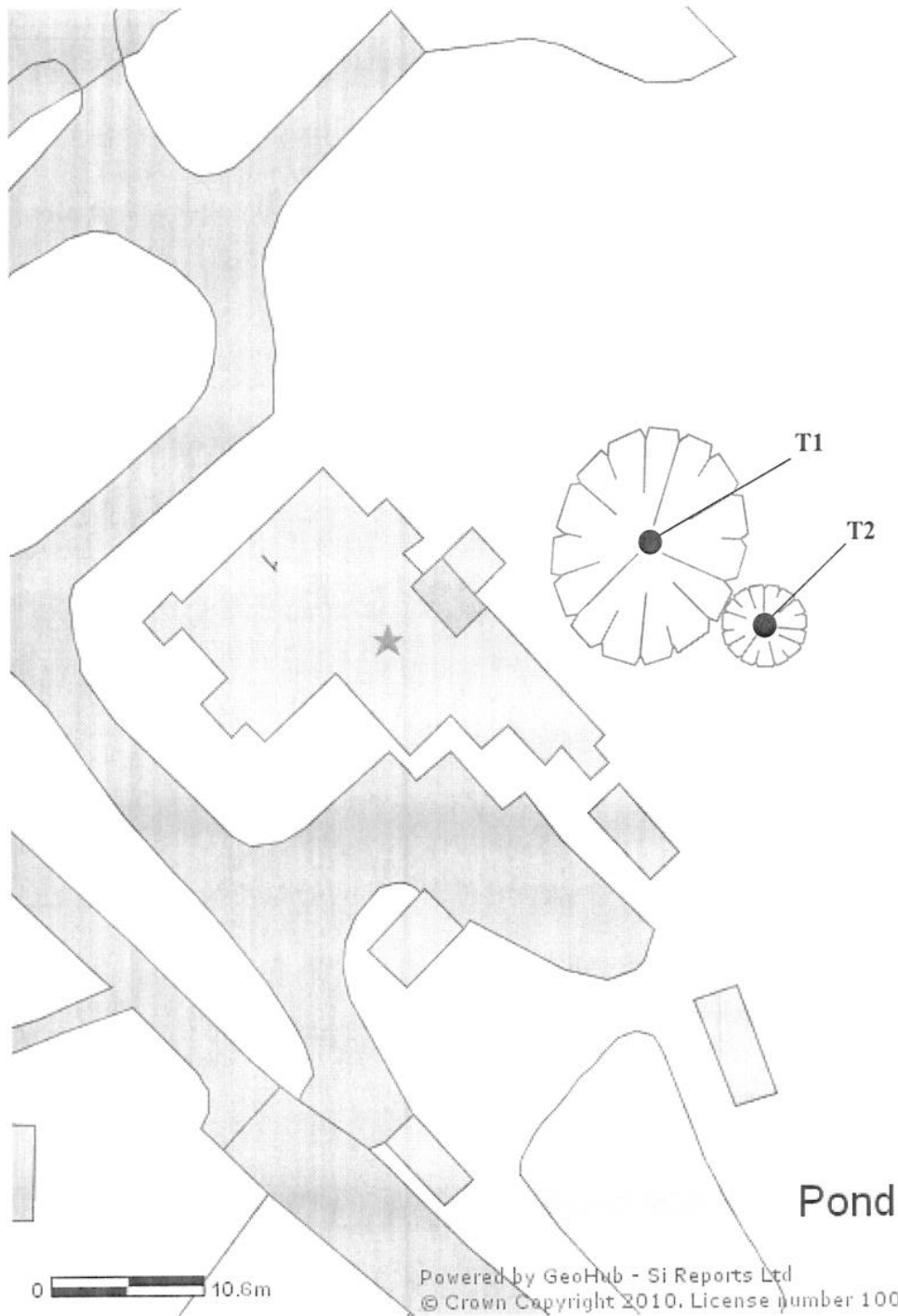
Age Class	Y – Young. <b>EM</b> - Early Mature. <b>M</b> – Mature. <b>FM</b> - Fully Mature. <b>OM</b> - Over Mature
Condition	<b>A</b> – Good. <b>B</b> - Minor problems. <b>C</b> - Major problems. <b>D</b> – Dead, Dying or Dangerous
Stem Diameter	<b>MS</b> - Multi-stemmed tree
Ownership	<b>PH</b> - Within boundary of risk address. <b>3</b> – Within boundary of third party properties. <b>LA</b> – Within land owned by a Local Authority. <b>U</b> – Within land of indeterminable ownership.

Tree No.	Species	Estimated Age	Age Class	Cond.	Height (m)	Crown Spread (m)	Diam. (mm)	Dist.to bldg (m)	Owner-ship
T1	Atlantic Cedar	101+	FM	B	29.5	26	1570	19.2	PH


**Comments:** Atlantic Cedar T1 is situated within the grounds of the insured Property, to the left of the main house. This tree appears to have been the subject of minor pruning works in the past.

Tree No.	Species	Estimated Age	Age Class	Cond.	Height (m)	Crown Spread (m)	Diam. (mm)	Dist.to bldg (m)	Owner-ship
T2	Wellingtonia	101+	FM	B/C	31	4-5	1510	21.6	PH

**Comments:** Wellingtonia T2 is situated within the grounds of the Insured Property, to the left of the main house. There is evidence that this tree has been struck by lightning in the past. The western side of the canopy of this tree has been suppressed by the close proximity of Atlantic Cedar T1. This tree does not appear to have been the subject of any pruning works in the recent past.



(NB: This plan identifies the vegetation considered within the report and may not be a comprehensive record of site features.)

<p>Title: The Old Rectory, Little Gransden, Sandy, Bedfordshire, SG19 3DU</p> <p>Client: Chubb Insurance Company of Europe S.A</p>	<p>Scale: N T S</p> <p>Drawn Date: 25.05.10</p> <p>Job Ref: 44251</p>	
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