

THE IMPACT OF TREE RELATED SUBSIDENCE ON THE URBAN TREE POPULATION OF BRITAIN

Introduction

There has been much debate on the subject of the impact of tree removals in subsidence cases upon the urban tree population of this country. For example there was an interesting exchange of views on this topic between two consultants in the *Arboricultural Journal* (Bashford, 2004 and O'Callaghan, 2004), which also included some interesting comment from the Editor of the Journal. The results of the ODPM sponsored research into 'Controlling Water Use of Trees to Alleviate Subsidence Risk' (the HortLINK project) were presented to the Arboricultural Association's National Conference in September 2004. More recently, a paper in the *Journal of Building Appraisal*, (O'Callaghan & Kelly, 2005) comprehensively reviews the subject of tree related subsidence and the AA is devoting a day of its 2005 conference to this subject. In addition there have been thousands if not tens of thousands of postings on the subject a well-used Internet Arboricultural discussion forum. It is obvious therefore that the subject is important and, to say the least, very topical at the moment.

Despite the published information and the results of various research projects, the arboricultural industry still seems to be relatively uninformed on the subject of tree related subsidence, i.e. what it is and how it actually happens, which is a sad indictment. However, what continues to amaze is the fact that a number of Arboriculturists in both the private and public sectors, some quite prominent, make statements on the matter without a full understanding of the facts. This is often demonstrated in their lack of knowledge of or a refusal to acknowledge the legal framework that surrounds this area and a refusal to accept what is fundamental tree biology. In some instances, statements seem based on a mixture of anecdotal evidence, old tree myths and an ideal scenario they would like.

This article does not address the technical aspects of tree related subsidence or the model tree, as that is covered in detail elsewhere, (Lawson 2004; O'Callaghan & Kelly 2005). What is addressed here is the legal framework and the impact upon the urban tree population. The former being a key debating point in the letters to the editor of the *Arboricultural Journal* and the subject of editorial comment.

The Legal Framework

Let us be clear on the issue that the vast majority of buildings are insured and most domestic insurance policies are written on a peril basis where they set out a number of insured perils, one of which is subsidence. Let us be clear also on the fact that an insurance policy is in legal terms a commodity, goods if you will and that there is a body of common law (precedents & decisions), and indeed statute law that governs the area of subsidence damage. The legal framework is that of the rights of property owners and insurance law. This area of law has nothing to do with trees *per se*; it deals with landowners' rights and the English laws of tort. It is an unfortunate fact of life that trees cause subsidence damage, which in turn affects equity and property values and in today's climate, where the economy is driven by or at least strongly influenced by property prices, the problem will not go away, much as some Arboriculturists would like it to.

In reality if a building cracks as a result of tree related subsidence and the policyholder makes a claim, the policy only covers the repair of the building. In other words the contract between the insurer and the insured is to repair the building to the pre-damage condition. Insurance policies do not cover 'betterment', i.e. making the building better than it was before the event. Therefore, it is in the interests of both parties that the cause of the damage, the tree(s) are removed such that an effective repair can be made with a reasonable likelihood that it will not recur. This in effect means that trees that have been implicated in the damage must be removed. Research has shown that pruning has no appreciable effect on the water use of trees such that subsidence damage is alleviated, (Higgs 2004).

Implicating Trees

Before anyone overreacts to trees being implicated, it is stated here that there are two accepted evidential tests in causation that need to be applied to implicate a tree. First, have roots encroached to the underside of foundations, and second, has the building suffered damage as a result. If the answer to both questions is yes, (and it is possible to validate the first test using the second), then the tree or trees have to be removed if an effective repair is to be achieved economically. The tests are judged on the 'balance of probabilities' and can be satisfied in a number of ways about which it is not possible to be prescriptive. In other words, it is a case of 'each case on its own merits'.

Let us be clear on another important point at this stage about the current legal position about implication. In law trees do not have to be the 'substantive' or even the 'major' cause of subsidence damage, they merely have to be a 'material cause'. In other words civil law and precedent is tending against tree owners / managers and for property owners.

The Value of Urban Trees

It is accepted that trees and other vegetation in urban areas confer many benefits to the human population, (NUFU 1998 & 2005). It is now established that urban vegetation plays an important role in urban sustainability and the socio-economic stability of communities. Trees are valued and can generate high levels of emotion when they are removed or threatened with removal. Although there is no definition of a tree within English law, trees benefit from protection under a number of statutes, not least of which is the Town & Country Planning Act, which places a statutory duty upon local authorities to make provision for the protection and planting of trees and indeed provides them with the power to protect trees by means of tree preservation orders (TPO). Many trees are also planted and maintained in the public highway in close proximity to properties on shrinkable clay soils and it is these areas that generate the largest problem for technical professionals trying to resolve subsidence problems.

The Impact of Subsidence

Tree related subsidence has always been perceived in some quarters as a significant threat to the urban tree population. This perception has become more entrenched in light of recent legal precedents, (*Delaware Mansions v Westminster City Council*, House of Lords 2002 and *Loftus-Brigham v LB Ealing* 2003 EWCA Civ.1490) and the results of the HortLINK Project 212 as presented to the Arboricultural Conference in September 2004, (Hipps 2004). There is no doubt that it is a significant Arboricultural problem for insurance companies but in the context of 150 million urban trees it is hardly a threat to the future of the urban tree population. The issue must be assessed in its proper context.

Data from the Association of British Insurers (ABI) show that in an average year about 40,000 subsidence claims are made. Usually between 50% and 70% are repudiated leaving 12,000 to 20,000 valid claims per year, of which a further 10% or so will not be tree-related. Therefore in an average year there are between 8,000 and 16,000 valid claims the majority of which involve relatively minor vegetation and in reality only 30% of the remainder, i.e. 2,400 to 4,800 involve significant trees, highway trees or trees covered by TPO. If each claim resulted in the removal of one tree, that is 2,400 to 4,800 trees per annum out of a total urban / amenity tree population of over a 150 million. Therefore in round figures, the loss of less than 5,000 highway or TPO trees per year is not a significant threat to the country's urban tree population, as only a very small proportion of the urban tree population is affected, i.e. about 0.003%. Even in an event year like 2003, the number of trees lost to subsidence would be double that of a typical year, i.e. about 10,000 trees or 0.0067% of the extant urban tree population.

In reality many of the trees are replaced with more suitable species in terms of subsidence threat and the insurance companies more often than not will pay for the replacement as part of the remedial work, (Parvin 2005).

Far from being a threat to our urban tree population, tree related subsidence should be viewed as an opportunity for local authorities to review and implement researched and reasoned policies for urban tree management. If local authority arboricultural officers really want to address this issue, a good way forward would be to include a policy on tree related subsidence linked to urban tree management policies within local and unitary development plans or the new Local Development Frameworks (LDF). If arboricultural officers worked more closely with their colleagues in forward planning and introduced such policies, management plans and strategies the situation would be less confrontational and better for the urban tree population, better for sustainability and better for the built structures. Given that the problem won't go away, or is unlikely to in the near future, there is a unique opportunity for tree officers to act positively on this matter and leave a solid legacy for their successors.

References

- Bashford C G (2004) 'Letter to the Editor'. *Arboric. J* 27 (4): 315-319
- Lawson M P (2004) 'Tree related subsidence of low-rise buildings and the management options'. *Arboric. J* 27 (3): 191-219.
- Hipps, N (2004) 'Controlling Water Use of Trees to Alleviate Subsidence Risk' Horticulture LINK Project 212 – Final Report, East Malling Research & University of Cambridge.
- National Urban Forestry Unit (NUFU) (1998) 'Trees Matter – The Benefits of Trees and Woodlands in Towns' 20pp NUFU Publications, NUFU, Wolverhampton.
- National Urban Forestry Unit (NUFU) (2005) 'Trees Matter – Bringing Benefits of Trees to People in Towns' (20pp) NUFU Publications, NUFU, Wolverhampton.
- O'Callaghan D P (2004) 'Letter to the Editor'. *Arboric. J* 28 (1 & 2): 121-125
- O'Callaghan D P & O J Kelly (2005) 'Tree related subsidence: Pruning is not the answer'. *J Building Appraisal* 1 (2): 113-129.
- Parvin J (2005) 'Risk assessment and evaluation: the implications of cracking for insurance cover warranties'. *J Building Appraisal* 1 (2): 113-129.

LEGENDS FOR PICTURES

- Picture 1:** Trees adjacent a recently built detached house outside Stratford.
- Picture 2:** Tree related subsidence cracking in the recently built house near Stratford.
- Picture 3:** Category 5 cracking to a gable wall in Leicestershire the result of tree related subsidence.
- Picture 4:** Category 5 cracking as a result of subsidence caused by a Leyland Cypress hedge within 2 metres of this gable wall.