

LONDON BOROUGH of  
WALTHAM FOREST

# Building Control Service

**Guidance Note 28:**

**Trees and Buildings**



**Waltham Forest**

## **Trees and Buildings**

Trees in urban areas improve the quality of the environment.

Trees provide habitats for wildlife, they improve the appearance of an area, help absorb pollution, provide oxygen and moisture, shade and privacy and can help stabilise land.

It is important when trees or shrubs are planted that care is taken in the siting, selection and planting of trees and shrubs.

A tree or hedge should not threaten any building or cause a nuisance that could result in the loss of the tree and damage to buildings or structures.

Trees can affect buildings in a number of ways. Negative effects, such as loss of light, can be reduced by choosing the right tree and the right place to plant the tree.

### **How trees can adversely affect the built environment**

Trees can cause loss of natural light. This problem can be avoided or minimised by good siting and by planting the right tree. Planting trees with a light canopy such as birch or planting less vigorous cultivars can overcome the potential loss of light.

Large trees or groups of trees can affect the airflow around buildings. Wind funnelling can occur which in turn can affect the efficiency of ventilation systems, flues and chimneys.

***Trees change the moisture content in soils. These changes have most impact on shrinkable soils, such as London clay, where uneven settlement can occur leading to cracks occurring and at worst, structural failure.***

***The removal of mature trees can result in heave as the moisture content of a shrinkable soil increases. Expert advice should be sought when planting or removing trees close to buildings on shrinkable soils.***

Leaves and twigs may block gutters and make paths and roads slippery in winter. In some situations it may be better to plant evergreens.

Trees can lose branches, causing damage to property and threatening life. Some species are more prone to this behaviour, including Cedar, Crack Willow and Beech. It is wise to avoid planting such species as specimen trees in densely populated areas.

Trees produce pollen, fruit and sticky residues, which can be a nuisance as paths become slippery or sticky or hayfever is caused. Lime trees produce sticky residues. Pine trees produce abundant pollen and Rowan and Apple trees can produce much fruit.

***As trees grow, the increase in crown size, the girth of trunk and thickness of roots can damage overhead wires, push over walls and fences and lift paths.***

***Choosing the right tree species can avoid these problems. It may be that the use of small ornamental species or cultivars is appropriate.***

Drains can be damaged or blocked by invasive roots. Some species such as Willow, Poplar, Sycamore and Cherry should be avoided where pipe routes are known or are to be laid. If in doubt, consult the statutory authority involved.

### **Planning your tree planting**

Care taken in choosing the species and cultivars to be planted and where they are to be planted will be well rewarded. The following points should be borne in mind:

Check what conditions are necessary for the trees you would like to plant. Your supplier should be able to provide this information. As we live in a time of climate change, one should avoid trees likely to experience stress or disease.

If you are planting close to a boundary, bear in mind that your tree could affect your neighbour. It may be prudent to consult them. If you are planting close to a highway, footpath or public right of way, bear in mind that the trees or shrubs you plant should not cause an obstruction.

***Avoid planting close to buildings. The trees roots could damage foundations or drainage. It may be more appropriate to consider planting a wall shrub or climber in such situations.***

Do not forget that trees need room to develop and grow into. Bear in mind the position of overhead wires, proximity to walls, windows and roofs and future maintenance requirements.

### **Trees and Building Foundations**

Changes in the moisture content of shrinkable soils can cause shrinkage or heave which may in turn cause cracking and movement in the foundations, floor slabs and of whole buildings.

The soils most vulnerable to expansion and contraction, with varying moisture content, are the shrinkable clay soils found to the south and east of a line drawn between the Humber estuary and the Bristol Channel. These clay soils include Oxford, Kimmeridge and Lias clays, Gault and Weald clays and London clay. These clays are typically moderately to highly shrinkable. More detailed guidance on likely soil conditions may be obtained from the British Geological Survey.

Local variations in soil makeup are common and useful information can be obtained by having a soil investigation carried out. An assessment of the degree of shrinkage should be carried out as part of the foundation design process when building on clay soils. The best way of doing this is for representative soil samples to be taken and analysed in a laboratory.

A laboratory test will establish if the soil is low, moderately or highly shrinkable. Once the shrinkability of the soil has been established, a detailed site survey should be carried out noting the position, species and height of all trees within 30 metres of

proposed building foundations. Once this information has been gathered, it is possible using guidance produced by Zurich Municipal Insurance Company or the National House Building Council, to establish the required depth of unreinforced trench foundations for low-rise buildings on shrinkable clay. Other measures, such as incorporating steel reinforcement in the foundations and providing a compressible layer of a resilient material such as polystyrene board on at least one face of the foundations, may be taken. Alternatively, the foundations may be piled.

***Trees such as Poplars, Willows, Oaks, Leylands Cypress and Eucalypts are known to have a high water demand. This factor will influence the required depth of foundations on shrinkable soils near such trees.***

***Bear in mind that an overgrown hedge made up of trees with a high water demand can do at least as much damage as a large individual tree.***

### **Protection of Trees**

Existing trees in the vicinity of buildings help to soften the landscape and may be beneficial to the environment. When trees are being retained where buildings are being constructed or extended, they must be adequately protected. Damage can occur by vandalism, indiscriminate or accidental felling or ignorance of the trees requirements for survival. Excavations can be carried out too close to a tree, causing damage to the roots of the tree and ultimately the death of the tree. Fences should be erected around trees being retained and there must not be any burning of materials near enough to trees to cause any damage.

The local planning authority has powers to protect trees of high amenity value. They may issue an order, known as a ***Tree Preservation Order (TPO)***, which makes it an offence to cut down, lop, uproot or wilfully damage a tree without the planning authority's permission. TPO's can cover individual trees, rows or groups of trees and woodlands. Trees in conservation areas are generally protected to a similar degree, as planning permission is required before any work can be carried out on them. Dead, dying, diseased or dangerous trees are exempt from TPO's, as are commercial fruit trees.

#### ***If building work is being carried out close to trees:***

Reinstate ground around exposed tree roots with a mixture of sand and topsoil.

Keep compaction to a minimum where there are likely to be tree roots.

When tree roots must be cut, use only sharp cutting or pruning tools.

If roots are likely to be exposed for more than one hour or in sunny hot conditions, they should be covered with wet sacking.

Hand dig within 3 metres of any tree trunk.

Reinstate tree pits with good quality soil.

#### ***Do not:***

Cut large tree roots without having taken advice from a horticulturalist or arboriculturalist.

Do not mix or store building materials within 1 metre of a tree trunk.

Do not chain equipment or machinery to a tree.

Do not damage trees with construction machinery.

Do not excavate with mechanical excavating equipment within 3 metres of a tree.

## **Hedges**

Hedges can be an attractive feature in gardens, where they can provide shelter, privacy and security. Hedges provide a habitat for wildlife; they can provide food, shelter and nesting sites for birds. Compared to walls or fences, hedges can be more cost effective.

Hedgerows with native species are particularly good for wildlife. There is guidance available elsewhere with useful information on hedge planting, trimming and restoration. In managing hedges, cutting should not be carried out when birds are nesting. Similarly, hedges with edible berries should be trimmed after berries have been eaten by wildlife.

High hedges have received much publicity in recent years. The Anti-Social Behaviour Act 2003 contains provisions, which allow the local authority to intervene in disputes between neighbours if a complaint is made. These provisions are described in more detail elsewhere in the council's website, including how to complain about a high hedge. See below for further information on hedges and trees.

## **Final words**

Please do not allow these cautionary notes to discourage you from planting trees or shrubs. They can please the eye, provide a habitat for wildlife and improve the local environment.

There is a place for large trees in our environment, where there is sufficient space for trees to grow to maturity without encountering services, buildings or other structures.

Be guided by the mature size of trees and shrubs and remember that a large tree will have an extensive network of roots in the ground. These roots could cause problems with existing buildings or future buildings and services.

A moderate or slow growing hedge is likely to be an asset, whereas a fast growing hedge could become an expensive headache.

## **Further information:**

### **Online resources:**

The council's website contains general advice on tree management and preservation and lists useful links other than those listed here.

Durham County Council website ([www.durham.gov.uk](http://www.durham.gov.uk)) has information sheets on:

Trees and Buildings,  
Garden Hedgerows,  
Hedgerow Planting and Restoration,  
Hedgerow Species mixtures,  
Hedge Trimming and  
Hedge Laying and Coppicing.

Department of Communities and Local Government ([www.communities.gov.uk](http://www.communities.gov.uk)) has the following publications that can be downloaded or requested from Communities and Local Government Publications, PO Box 236, Wetherby LS23 7NB:

Protected trees: A Guide to Tree Preservation Procedures,  
Over the Garden Hedge,  
The Right Hedge for You: a guide to choosing a garden hedge,  
Hedge Selector,  
Hedge Height and Light Loss,  
High Hedges Complaints: Prevention and Cure and  
High Hedges: complaining to the Council.

British Geological Survey ([www.bgs.ac.uk](http://www.bgs.ac.uk))

The Royal Horticultural Society ([www.rhs.org.uk](http://www.rhs.org.uk))

Hedgeline ([freespace.virgin.net/clare.h/](http://freespace.virgin.net/clare.h/))

Arboricultural Information Exchange ([www.aie.org.uk](http://www.aie.org.uk))

Earth Day Canada ([www.ecokidsonline.com](http://www.ecokidsonline.com) and [www.ecokids.ca](http://www.ecokids.ca))

**Hardcopy references:**

BS 5837 Code of Practice for Trees in relation to construction

NHBC Standards Chapter 4.2 Building near trees

Zurich Municipal Builders Guidance Notes BGN 3A Foundations: Proximity of trees in clay soils

Tree Roots in the Built Environment, published by the Department of Communities and Local Government  
ISBN 978 0 11 753620 3

Collins Garden Trees Handbook by Alan Toogood  
ISBN 0-00-412578-9

Collins Field Guide: Trees of Britain and Northern Europe by Alan Mitchell  
ISBN 0-00-218213-6

Collins Tree Guide by Owen Johnson and David More  
ISBN 0-00-719163-4

The Hillier Manual of Trees and Shrubs published by David & Charles  
ISBN 0-7153-9942-X

The Complete Guide to Trees of Britain and Northern Europe by Alan Mitchell and David More, published by Parkgate Books  
ISBN 1-85585-349-3

Trees for Small Gardens (a Wisley handbook), published by The Royal Horticultural Society  
ISBN 0-304-31108-1

The Tree and Shrub Expert by Dr D G Hessayon, published by Expert Books  
ISBN 0-903505-17-1

The Evergreen Expert by Dr D G Hessayon, published by Expert Books  
ISBN 0-903535-51-7

The Flowering Shrub Expert by Dr D G Hessayon, published by Expert Books  
ISBN 0-903505-39-8

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