

# Existing Trees and Development

## Tree-related information in the Planning System

Leeds City Council attaches great importance to the contribution that trees make to our environment. A tree survey is a pre-requisite to considering development proposals affecting trees or proposals to fell trees. All tree related information in the planning system is governed by a national code of practice.

 **National Code of Practice: BS5837: Trees in relation to design, demolition and construction - Recommendations**

### **Publishing information**

The most recent British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 April 2012. It was prepared by Technical Committee B/213, Trees and tree work.

### **Scope**

This British Standard gives recommendations and guidance on the relationship between trees and design, demolition and construction processes.

It sets out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and structures.

The standard is applicable whether or not planning permission is required.

## General requirements summary:

### TREE SURVEY

A Tree Survey /Tree Constraints Plan and an Arboricultural Impact Assessment all in accordance with BS5837: 2012 Trees in Relation to design, demolition and construction. The survey must include not just trees but also hedges/ hedgerows and shrub masses. **The tree survey must be based on a Topographical survey** with ground levels and should cover sufficient area including any offsite trees that may influence the site (in terms of canopies, root protection areas, future growth and standoff requirements). The tree survey must include a written report.

The tree survey must include trees with an estimated stem diameter of 75 mm or more that overhang the site or are located beyond the site boundaries within a distance of up to 12 times their estimated stem diameter. TPO trees must be clearly identified on plans.

The RPA (Root Protection Areas) for each tree should initially be plotted as a circle centred on the base of the stem. Where pre-existing site conditions or other factors (eg. the presence of roads/walls etc.) indicate that **rooting has occurred asymmetrically, a polygon of equivalent area should be produced.** Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution.

Sufficient survey area must include for all construction processes. In particular, predicting where the construction access and compound location/s are likely to be. Any plan drawings must include **the RPAs and the BS colours (not just the canopies).** Abbreviated tree names are also helpful.

The surveyed trees should be identified with non - injurious durable numbered tags fixed at a consistent orientation and height above ground level.

#### Layouts

The above full tree information (including RPAs, abbreviated tree names and ID numbers) must be displayed on all the main layouts including **engineering layouts such as drainage.** This is a requirement of BS5837.

### ARBORICULTURAL IMPACT ASSESSMENT

Arboricultural Impact Assessment (AIA) in accordance with BS5837 i.e. the development proposals overlaid on the Tree Survey plan to analyse all impacts on trees including any incursions into the Root Protection Areas (RPA) of retained trees. The AIA must analyse trees for removal; **drainage strategy/services; level changes (with illustrative cross sections); retaining walls; construction requirements (5m scaffolding/mobile platforms/working space, access, and storage); facilitation pruning; sight line requirements (Highway).** **The AIA must include a clear illustrative plan drawing** that is cross referenced to any text - see Appendix 1.

#### Existing and Proposed Levels

The AIA must include detailed levels existing and proposed including cross sections with existing ground levels displayed. The retention of existing levels is sacrosanct over the RPAs of retained trees.

#### Tree Retention

In accordance with BS5837 all trees graded from A-C should be considered for retention. **The BS default position is that there should be no structures within the RPAs of retained trees.**

#### Protection of new planting areas

To ensure success, areas designated for structural landscaping will need to be protected from construction operations in order to prevent the soil structure being damaged. These areas shall be similarly protected with the default barrier.

#### Distances to Trees

Development should be offset from trees (inside or outside the boundary) in accordance with LCC "Guideline Distances from Development to Trees" combined with BS5837 to create a positive relationship.

The Guidance Distances address the amenity of residents and the longer term implications of proximity for trees. The recommended distances allow for light penetration into windows and the usability of garden spaces beyond just the physical protection of trees (i.e. clearance of RPAs and tree canopies). "Guideline Distances from Development to Trees" is referenced as a supporting document in "Neighbourhoods for Living" (SPG).

The offset requirements must be considered in the AIA and the dimensions displayed on the plans.

#### Engineering Solutions

Proposals for so called "engineering solutions" to tree impacts will be considered only as a very last case scenario in exceptional circumstances when all other alternatives have been exhausted. This accords with the BS5837 default position i.e. there shall be no structures within RPAs of retained trees (unless there is an overriding justification). An acceptable solution avoiding impacts must be found in the first instance.

Annex B from BS5837 (informative)

## Trees and the planning system

Under the UK planning system, local authorities have a statutory duty to consider the protection and planting of trees when granting planning permission for proposed development.

### Trees and the Planning System (Development)

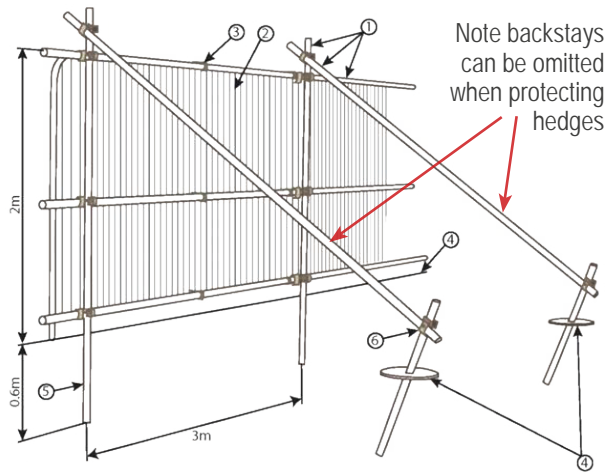
A copy of table B.1 from BS 5837 is found below. Trees whether subject to statutory protection or not are material considerations taken into account when dealing with planning applications. Table B.1 provides some advice to both developers and local planning authorities (LPA) on the appropriate amount of information required during the application process. Minimum detail includes information that is expected, additional information identifies further details that might be reasonably be sought by the LPA.

Stage of process	Minimum detail	Additional information
Pre- application	Tree survey	Tree retention/removal plan (draft)
Planning application	<p>Tree survey (in the absence of pre-application discussions)</p> <p>Tree retention/removal plan (finalised)</p> <p>Retained trees and RPA's shown on proposed layout</p> <p>Strategic hard and soft landscape design, including species and location of new planting</p> <p>Arboricultural impact assessment</p>	<p>Existing and proposed finished levels</p> <p>Tree protection plan</p> <p>Arboricultural method statement – heads of terms</p> <p>Details for all special engineering within the RPA and other relevant construction details</p>
Reserved Matters / Planning conditions	<p>Alignment of utility apparatus (including drainage), where outside the RPA or where installed using a trenchless method.</p> <p>Dimensioned tree protection plan</p> <p>Arboricultural method statement – detailed</p> <p>Schedule of works to retained trees, e.g. access facilitation pruning</p> <p>Detailed hard and soft landscape design</p>	<p>Arboricultural site monitoring schedule</p> <p>Tree and landscape management plan</p> <p>Post-construction remedial works</p> <p>Landscape maintenance schedule</p>

Table B.1 – Delivery of tree-related information into the planning system

# DEFAULT TREE PROTECTION BARRIER BS5837

This is the standard for all situations unless a justified variation is agreed with the LPA



- ① Standard scaffold poles
- ② Heavy gauge 2m tall galvanised tube and welded mesh infill panels
- ③ Panels secured to uprights and cross-members with wire ties
- ④ Ground level
- ⑤ Uprights driven into the ground until secure (minimum depth 0.6m)
- ⑥ Standard scaffold clamps



All weather notices should be attached to the barrier with words such as: **“CONSTRUCTION EXCLUSION ZONE - NO ACCESS”**

NOTE - the Tree Protection Plan must be dimensioned.

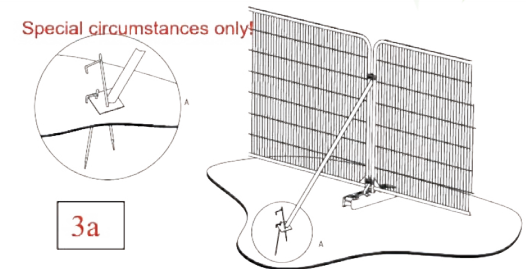


BS default barrier

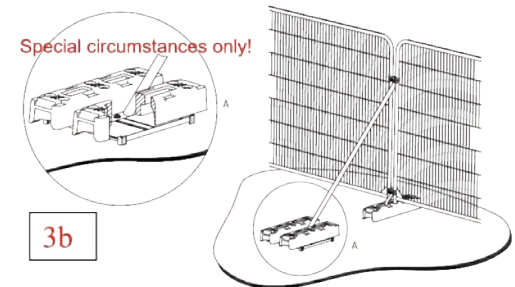
## Circumstances where default level of protection is not necessary

Where the site circumstances and associated risk of damaging incursion into the RPA do not necessitate the default level of protection, an alternative specification can be considered but must be agreed with the local planning authority.

NOTE: Reports/ plans displaying multiple options for protective barriers in the absence of any justification/ proposed locations or agreed in advance with the LPA, will not be accepted.



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

3a - For example, 2m tall welded mesh panels on rubber or concrete feet might provide an adequate level of protection from cars, vans, pedestrians and manually operated plant. In such cases, the fence panels should be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The distance between the fence couplers should be at least 1 m and should be uniform throughout the fence. The panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins (Figure 3a).

3b - Where the fencing is to be on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabilizer struts should be mounted on a block tray (Figure 3b)

## GUIDANCE

### Arboricultural Impact Assessment (AIA)

A Tree Survey/Arboricultural Impact Assessment (AIA) is required as per BS5837 based on a topographical tree survey. Trees may be off site/ outside red line but still influencing the site therefore they must be included in accordance with BS5837. The AIA must be accompanied by a clear graphical plan that illustrates the precise impacts (on tree canopies and RPAs) not just trees for removal. The graphical plan can be cross referenced to a written report document.

The AIA must assess the implications under the following topics:

**NOTE - the following will require multi-disciplinary input across disciplines including Architect, Engineer etc. and is not the sole domain of an Arboriculturist.**

The AIA must distinguish between trees being removed for health reasons (U cat) and those being removed to facilitate development. The AIA must clearly identify TPO trees on all Arb layouts.

Focused cross sections are required where development is adjacent to trees. These cross sections must include existing alongside proposed levels to understand the changes.

**The tree survey information must be displayed (including RPAs) on all the main layouts including those dealing with engineering information such as drainage etc. as required by BS5837**

## CHECKLIST

• RPA calculations must reflect the site history and the existing site limitations to likely root development	
• Demolition – buildings, structures, surfaces, walls etc.	
• Likely construction access point from public road (consider route)	
• Construction requirements (scaffolding, mobile platforms including feeder access) and a default minimum of 5m construction standoff must be demonstrated to any tree canopies (or RPAs whichever is greater). This is the default position however a greater distance may be required depending on the site specifics. Lopping back tree canopies to provide this space will not be accepted.	
• Construction compound location/crane position (multi-disciplinary input)	
• Any facilitation pruning back of tree canopies or crown lifting for vehicular access.	
• Site drainage strategy- including collection around the building and utility services (multi-disciplinary input)	
• Electric Vehicle charging points (EVs) - this will include trenching etc. (1 EVCP per apartments and for dwellings; 1 or 2 bedroom – 1 EVCP and for 3-bedroom and over at least 2 EVCP's)	
• Level changes (show existing & proposed) consider cross sections (multi-disciplinary input). Information must be based on a topographical survey plan.	
• Impacts of any retaining walls/ structures (including working room and grading back requirements) (multi-disciplinary input)	
• Future tree canopy growth	
• Light penetration into the building	
• Future building maintenance (including mobile elevating platforms) etc.	
• <u>LCC guideline distances to trees</u> (LCC website under Landscape Planning And Development)- apply distances to this site (display dimensions on plan)	
• Any proposed access point – sight line requirements/ highway requirements (multi-disciplinary input)	
• A comparison of existing and proposed layout is also required to understand the changes.	
• Remediation implications (ground contamination if applicable). Contamination proposals – conflicts with trees need to be addressed clearly with tree specific information including full specifications. This then needs to be included in the Arb Method Statement and added to the supervision schedule	
• Archaeological test digs (if applicable)	