



Indicative only

No.	Species	Works	Category
G01	A Group	Arched A/A 01	B2
T02	Common Hornbeam	Arb and remove stump	C1
T13	Tulip Tree	Arb and remove stump	C1
T14	Small-Leafed Lime	Arb and remove stump	C1
T15	Tulip Tree	Arb and remove stump	C1
T16	Small-Leafed Lime	Arb and remove stump	C1
T17	Small-Leafed Lime	Arb and remove stump	C1
T18	Small-Leafed Lime	Arb and remove stump	C1
T19	Small-Leafed Lime	Arb and remove stump	C1
T20	Small-Leafed Lime	Arb and remove stump	C1
T21	Small-Leafed Lime	Arb and remove stump	C1
T22	Small-Leafed Lime	Arb and remove stump	C1
T23	Goat Willow	Arb and remove stump	C1
T24	Silver Birch	Arb and remove stump	C1

All tree work is to be undertaken in accordance with British Standard BS 3998:2010 Tree Work - Recommended Practice. All existing trees are to be retained and the site to be left as found. Care is to be taken of the ground retained trees to make sure that all earthworks and ground operations are carried out safely. No equipment or vehicles such as timber lorries, tractors, excavators or cranes shall be parked or driven beneath the crowns of any retained trees, to prevent subsequent compaction and root death.

#### Protective Fencing

To be erected prior to the commencement of all works on site, and removed prior to the completion of all works. To comprise either 2.4m wooden site hoarding or 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a combination of site fixings and zip ties so that they can only be removed from inside the fence. The panels should be supported by a base plate and secured to ground. The fence should be attached to a base plate and secured with ground pins. All weather covers should be erected at regular intervals on the weld mesh panels with words such as "Tree Protection Area - Keep out".

#### Tree Protection Area KEEP OUT

Do not move this fence

(TOWN & COUNTRY PLANNING ACT 1990)  
TREES INCLUDED IN THE PROTECTED AREA ARE SUBJECT TO THE TREE PRESERVATION ORDER  
CONTINUATION OF A TREE PROTECTION ORDER IS SUBJECT TO CONSENT BY THE LOCAL PLANNING AUTHORITY  
PROTECTION

ANY INCLUSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN  
PERMISSION OF THE LOCAL PLANNING AUTHORITY

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#### Ground protection

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

Note The ground protection might comprise one of the following:

- a) for pedestrian movement only, a single thickness of scaffold boards placed either on top of a geotextile membrane, as to form a subsoil protection layer, or on top of a compressed aggregate (e.g. 100mm depth of woodchip), laid onto a geotextile membrane;
- b) by using a geotextile membrane, followed by a single thickness of proprietary inter-linked ground protection boards placed on top of a compressed aggregate layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane;
- c) for wheeled or tracked construction traffic exceeding 2t gross weight, a single thickness of geotextile membrane, followed by a reinforced concrete slab(s) to an engineering specification designed in conjunction with structural advice, to accommodate the likely bearing of wheeled or tracked vehicles;

For situations other than those described in a or b), the ground boarding is to be designed by a suitably qualified person to an engineering specification designed in conjunction with structural advice, to be able to state the required expected loading to be placed upon it.

In all cases, the objective of the ground boarding is to avoid compaction of the soil beneath, so that tree root function remains unperturbed.

#### Foundations within RPAs

The use of traditional strip foundations can result in excessive root loss and as such should be avoided.

Designs for foundations that would minimize the adverse impact upon trees should be considered. Foundations should be designed to finished levels and cross sectional details. Site specific and specialist advice should be sought from the project engineers and arboriculturist.

Root damage can be minimized by using:

- Pile foundations, which should be determined their optimal location whilst avoiding damage to roots important for the stability of the tree, by means of hand tools or compressed air soil displacement methods, or by using a vibratory pile driver;
- Beams, laid at or above ground level, and cantilevered as necessary to avoid tree roots identified by site investigation.

Where a pile for a new structure (e.g. shed) is to be installed within the RPA, a 'no dig' surfacing should be provided, and should not exceed an area greater than 20% of the existing unsurfaced ground.

Slabs for larger structures (e.g. dwellings) should be constructed with a ventilated air space between the underside of the slab and the existing soil surface (to enable gas exchange and venting through the soil surface). The slab should be supported by a geotextile membrane and employed (e.g. root cut-off redirected under the slab). The design of the foundation should take into account of the effect on the local bearing of the soil beneath the slab, and the potential for surface run-off. Approval in principle for a foundation that relies on topsoil retention and root management should be obtained from the building control authority prior to this approach being relied upon.

Where piling is to be installed near to trees, the smallest practical pile diameter should be used, as this reduces the possibility of striking major roots. The pile should be positioned to the side of the tree or the piles. If a piling rig is required, this should conform to the parameters for ground boarding. Use of the smallest practical piling rig is also important to reduce the potential for soil disturbance. The use of piles in this area can reduce the need for access facilitation pruning. The pile type should be determined by the project engineer, to avoid damage to soil and adjacent roots from the potentially toxic effects of uncured concrete, e.g. sleeved piles or screen piles.

The information is compliant with British Standard BS8547:2012 Trees in relation to design, construction and protection. References to the standard are to the 2012 edition, unless otherwise specified.

#### 'No Dig' Surfacing

Multi-dimensional confinement system

Existing vegetation may be removed with hand tools or sprayed with an approved non residual herbicide such as 'Glyphosate'. The new hard surface (e.g. CellWeb™) should be installed as a single thickness above the existing soil surface and where needed using a proprietary cellular confinement system (Geové® or similar) laid over a bi-axial geotextile membrane. The new hard surface should be installed on the surface may be filled with clean sharp sand (not building sand) to a maximum thickness of 100mm. The new hard surface should be laid with a no-fines aggregate of 20mm - 30mm. The area of Geové® will be covered with a permeable geotextile fabric and the finished wearing course should be applied. The new hard surface should be set above ground level and secured with haunching or steel pins. The new hard surface should be edge capped and edges may be banked up with clean top soil.

**NOTE:** The use of a multi-dimensional confinement system to protect the existing trees has the potential of raising the levels and needs to be taken into consideration when designing foundations and setting the finished floor levels of adjacent buildings.

#### Arboricultural Supervision

The arboricultural supervisor will be required to attend site to directly undertake all demolition and construction works that have to be undertaken within the RPAs of retained areas. This will include:

1. Pre-commencement site meeting.
2. Location of protective measures.
3. Manual excavation of hotel foundations within and immediately adjacent to the RPAs of retained trees.
4. Installation of underpinning foundation slab within and immediately adjacent to the RPAs of retained trees.
5. Installation of 'No Dig' hard surfacing.

6. Any excavations within and immediately adjacent to RPAs, including foundations, hard surfacing, or underground services.

7. Removal of protective measures and sign off.

#### Arboricultural Method Statement

Please refer to Arbtech Consulting Ltd. Tree Schedule and Arboricultural Method Statement for full details on all surveyed trees and how all aspects of the development maybe implemented without detriment to retained trees.

All groups

Category 'A' trees

Category 'B' (Top):

Category 'C' trees

Category 'C' groups

Tree to be removed

Existing Site (Top):

Proposed Site

Arboricultural supervision

Ground protection

Protective fencing

Arboricultural supervision

Ground protection

Arboricultural supervision