



Indicative only

Arboricultural Impacts

Impacts	No. of trees
Trees to be removed	13
Groups / hedges to be removed (Partial removal of groups)	0 (1)
Trees with proposed incisions into RPAs	0
Groups / hedges with proposed incisions into RPAs	2
Trees that will require pruning	0
Groups / hedges that will require pruning	0
Trees to be transplanted	0
Groups / hedges to be transplanted	0

No.	Species	Proposed structure	Incision
G03	A Group	Hotel	RPA
G03	A Group	Hard surface	RPA
G03	A Group	Outbuilding	RPA
G03	A Group	Hard surface	RPA
W01	A Woodland	Hotel	RPA
W01	A Woodland	Hard surface	RPA
W01	A Woodland	Outbuilding	RPA

Arboricultural Impacts - RPAs (Area)

No.	Species	RPA	Incision (m²) (%)
G03	A Group	366.4	2.6
G03	A Group	366.4	4.9
G03	A Group	366.4	3.3
G03	A Group	366.4	0.3
W01	A Woodland	299.5	2
W01	A Woodland	299.5	3.5
W01	A Woodland	299.5	0.6

Tree Work Schedule

No.	Species	Works	Category
G01	A Group	Partial fall group - Fall group as shown in A01	B2
T02	Common Hornbeam	Fall and remove stump	C1
T13	Tulip Tree	Fall and remove stump	C1
T14	Small-Leaved Lime	Fall and remove stump	C1
T15	Tulip Tree	Fall and remove stump	C1
T16	Small-Leaved Lime	Fall and remove stump	C1
T17	Small-Leaved Lime	Fall and remove stump	C1
T18	Small-Leaved Lime	Fall and remove stump	C1
T19	Small-Leaved Lime	Fall and remove stump	C1
T20	Small-Leaved Lime	Fall and remove stump	C1
T21	Small-Leaved Lime	Fall and remove stump	C1
T22	Small-Leaved Lime	Fall and remove stump	C1
T23	Goat Willow	Fall and remove stump	C1
T24	Silver Birch	Fall and remove stump	C1

All tree work is to be undertaken in accordance with British Standard BS 3996:2010 Tree work - Recommendations.

All stumps and roots are to be left as found.

Care is to be taken of the ground around retained trees to make sure that it does not become compacted as a result of tree surgery operations. Wherever possible, the use of tracked vehicles, excavators, excavators or cranes shall be parked or driven beneath the crowns of any retained trees, to prevent subsequent compaction and root death.

No. of individual trees to be removed

U	A	B	C
0 (0)	0 (0)	0 (1)	0 (0)

(1) Partial removal of a group

Arboricultural Method Statement

All tree work is to be undertaken in accordance with British Standard Please refer to Arbtech Consulting Ltd. Tree Schedule, Arboricultural Method Statement and Arboricultural Impact Assessment for all surveyed trees and how all aspects of the development may be implemented without detriment to retained trees.

Foundations within RPAs

The use of traditional strip foundations can result in excessive root loss and such should be avoided. Design of foundations within RPAs should include careful attention to the existing levels, proposed finished levels and cross sectional details. Site specific and specialist advice should be sought from structural engineers and arboriculturist.

Root damage can be minimised by:

- Piles with site investigation used to determine their optimal location whilst avoiding damage to trees important for the stability of the site. Piles should be located to minimise root loss or root displacement, to a minimum depth of 600mm.
- Beams, piles and other structures should be located as necessary to avoid tree roots identified by the investigation.

Where a slab for minor structures (e.g. shed) is to be formed within the RPA, it should bear on the existing ground level, and should not exceed an area greater than 20% of the existing unshaded ground.

Slabs for larger structures (e.g. dwellings) should be constructed with a ventilated air space beneath the underside of the slab and the existing soil surface. The slab should be designed to sit on the existing soil surface. In such cases, a specialist irrigation system should be employed (e.g. root run-off restricted under the slab). The design of the foundation should be such that it does not compromise the bearing properties of the underlying soil from the restricted root run-off. Approval for the use of the proposed foundation should be sought and root run-off under the slab should be sought from building control authority prior to this approach being relied upon.

Where piling is to be carried out near to trees, the smallest practical pile diameter should be used to minimise the probability of hitting major tree roots, and reduces the size of the rig required to sink the piles. If a pile is required, this should conform to the parameters for ground investigation. The use of a pile driver is not recommended as it may cause significant vibration to the tree. The use of a pile driver is important when piling within the branch spread is proposed, as this can result in significant damage to the tree. A suitable alternative should be selected bearing in mind the need to protect the soil and adjacent roots from the potentially toxic effects of uncured concrete, e.g. sleeved bond piles or screws.

For further information see BS 3996:2010 Tree work - Recommendations and code of practice for foundations under the tree.

'No Dig' Surfacing

Trees can be affected by construction within the RPAs either through the direct damage caused by the removal of roots, compaction of the rooting environment or secondary damage such as poisoning through leach and spray from the construction activity (e.g. concrete mix).

Proposed hard surfacing within the RPAs of retained trees is to be designed so that it can be situated above the existing soil level and to minimise any adverse impact on the tree RPAs, as the use of traditional strip foundations in these areas will result in the direct removal of roots during excavation and by compaction of the soil beneath the tree. Such areas are often referred to as 'trees in foundations'.

When designing hard surfacing that is to be situated within the RPAs, the design should take account of the proposed usage (pedestrian, domestic traffic, delivery vans, Emergency vehicles, HGVs etc.), the proposed surface type, proposed drainage and finished floor levels, edging types and details, proximity to tree trunks and surface rooting, contamination capture, SUDS, etc.

Possible sub-bases (foundations systems) for hard surfacing situated within the RPAs of retained trees include:

- A proprietary system such as a multi-dimensional confinement system.
- Engineered solution such as a road deck, bridge, etc.

An engineered solution is likely require a level of excavation for site specific investigations to locate roots to aid foundation design so that a suitable foundation can be designed to avoid roots and the installation the structure.

NB. The use of a multi-dimensional confinement systems and an engineered solution after the finished level of the hard surfacing by raising the level of the hard surfacing into the RPA when designing foundations and setting the finished floor levels of adjacent buildings.

Utility apparatus

Mechanical trenching for the installation of underground apparatus and drainage canals can affect and can change the local hydrology in a way that adversely affects the health of the tree. For this reason, particular care should be taken when root damage is to be minimised of all underground apparatus. Wherever possible, apparatus should be routed outside of RPAs. Where this is not possible, it is preferable to keep apparatus as far from the RPAs as possible, as inspection chambers should be sited outside of the RPAs.

Wherever possible, it is preferable to pass the proposed route of the proposed trenching to be drawn up in conjunction with the project arboriculturist. In such cases trenchless inversion methods should be used to minimise the impact on the trees and root system outside of the RPAs. If this option is not feasible and providing roots can be avoided, then the trench should be excavated using a combination of hand held tools (spade, fork, shovel) or a combination of trenchless and manual excavation (broken trench).

Any digging should be undertaken in accordance with the National Joint Utilities Guidelines (NJUG).

Arboricultural Impact Assessment:

Above-ground apparatus (including CCTV cameras and lighting) should be avoided to the extent possible. If tree pruning, as such the removal of branches, is required, then this should be kept to a minimum. Tree branches can be pruned back with care to provide space, though it is not recommended to cut and light the tree to be an initial design solution unless this is a suitable management outcome for the tree. Any pruning should be undertaken in accordance with the BS3996:2010

All dimensions to be shown on the dimensions to be to the nearest 100mm.

The base drawing is to be used as the reference for the location of the proposed works.

This drawing is to be read as a reference of the engineering or technical information contained within the project documents, drawings and specifications. It is not a drawing in its own right.

Arbtech Consulting Ltd. 2024

Arbtech Consulting Ltd. 2024