

Arboricultural Method Statement

Mr Lindsay Kennedy

**6 Mapledene,
Caversham,
Reading,
Berkshire,
RG4 7DQ**

06 November 2023

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This report has been released electronically and the appendices have been included at the end of this report. Plans are included as A0, A1, A2 or A3 as appropriate.

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Introduction

Arbtech Consulting Limited (Arbtech) received written instruction on 23rd August 2023 from Mr Lindsay Kennedy to attend 6 Mapledene, Caversham, Reading, RG4 7DQ; grid reference, SU 70129 75383 (site) to undertake an arboricultural survey a to BS5837:2012 guidance to assess trees, hedges and major shrub groups growing on and within influencing distance of the site and to produce a Schedule of trees, Tree Constraints Plan, Arboricultural Impact Assessment, Arboricultural Method Statement and Tree Protection Plan.

Executive Summary

This report describes the extent and effect of the proposed development at Site on individual trees and groups of trees within and adjacent to the site.

Trees within the site were surveyed; using a methodology guided by British Standard 5837:2012 'Trees in relation to design, demolition and construction – Recommendations' ("BS5837").

Subsequently, this report has been produced, balancing the layout of the proposed development against the competing needs of trees. This report comprises all of the requisite elements of an arboricultural implications assessment, method statement and supporting plans.



Figure 1: OS Map (Bing Maps)

Proposed scheme

The proposal is to the replacement of an existing conservatory with a wooden orangery.



Figure 2: Proposed block plan, drawing No. 12730/03 A (David Salisbury)

It is likely that arboricultural impacts can be addressed with arboricultural methodology or minor amendments to the proposal.

Checklist for Submission to Local Planning Authority

Tree survey	
Tree constraints plan	
Arboricultural impact assessment	
Arboricultural method statement	
Tree protection plan	

This report and its appendices precisely follow the strategy for arboricultural appraisal intended to provide local planning authorities with evidence that trees have been properly considered throughout the development process.

It is the conclusion of this report that the overall quality and longevity of the amenity contribution provided for by the trees and groups of trees within and adjacent to the site will not be adversely affected as a result of the local planning authority consenting to the proposed development. It is considered that any issues raised in this report, or beyond the scope of it can be dealt with by planning conditions.

General Information

Client: Mr Lindsay Kennedy

Site: 6 Mapledene, Caversham, Reading, RG4 7DQ.

Brief proposal description: Replacement of an existing conservatory by a wooden orangery.

Table 1: Documents referred to.

Document	Reference No.
Survey base drawing	O/S tile
Proposed layout drawing	13-1363-03 A
British Standard 5837:2012	“BS5837”
Arboricultural Impact Assessment	Arbtech AIA 01
Tree Protection Plan	Arbtech TPP 01 – Demolition
	Arbtech TPP 01 - Construction

Tree Survey

Survey: An arboricultural survey to BS5837 of all trees within impacting distance of the site was undertaken by Rob Dennis on 05th of September 2023.

A total of 13No individual trees and 1No group of trees were surveyed. Details for each of the trees surveyed are provided in the Schedule of Trees (see Appendix 1).

Table 2: Documents upon which this tree survey has been based.

Document	Originator	Reference Number	Title
Survey base drawing	-	O/S tile (mastermap DWG)	-

Limitations: The survey was made at ground level using visual observation only. Detailed examinations, such as climbing inspections and decay detection equipment were not employed, though may form part of the survey's management recommendations. Measurements were taken using specialist tapes, laser, and GPS devices. Where this was not possible, measurements are estimated.

Scope: Pre-development tree surveys make arboricultural management recommendations based exclusively upon the individual tree or group of trees condition relative to their present context (*i.e. not in relation to the proposed development*).

Legal Status: No statutory protection check has been performed. BS5837 does not draw any distinction between trees subject to statutory protection, such as a Tree Preservation Order ("TPO"), and those trees without, stating at Annex B:

*The potential effect of development on trees, **whether statutorily protected** (e.g. by a tree preservation order or by their inclusion within a conservation area) **or not**, is a material consideration that is taken into account in dealing with planning applications.*

Consequently, we do not seek to offer any comparison between or infer any difference in the quality or importance of TPO trees and other trees.

For more information on the surveyed trees please see Arbtech Consulting Ltd, Tree Survey Schedule (**Appendix 1**), Tree Survey Report and Tree Constraints Plan.

Arboricultural Impact Assessment

Table 3: Documents upon which this assessment has been based.

Document	Originator	Reference Number	Title
Survey base drawing	-	O/S tile (mastermap DWG)	-
Proposal drawing	David Salisbury	12730/03 A	Proposed block plan

Several issues may need to be addressed in an arboricultural impact assessment between the trees and the proposed development, these are as follows:

- The effect and extent of the proposed development within the root protection areas (RPAs) of retained trees.
- The potential conflicts of the proposed development with canopies of retained trees.
- The likelihood of any future remedial works to retained trees beyond which would have been scheduled as a part of usual management.

Table 4: Impacts upon the RPAs of retained trees.

Tree Number	Species	Structure	RPA (m ²)	Incursion (m ²) (%)	
1	Common Oak	Orangery	452.4	16.2	3.6

These impacts can be seen on the Arboricultural Impact Assessment drawing number Arbtech AIA 01.

Trees to be removed

No trees are required to be removed to facilitate the proposed.

Arboricultural Method Statement

The purpose of this method statement is to demonstrate how any aspect of the development that has potential to result in loss or damage to a tree may be implemented and provide an adequate level of protection for those trees that are to be retained during the proposed works.

Details of key site personnel, including site/project manager will be submitted to the Council's Tree Officer before the commencement of site works.

This method statement is to be approved and agreed to in writing by all key personnel before the commencement of site works.

No site personnel are to be present and no demolition, site clearance, building work or delivery of materials is to occur until the protective measures are in accordance with this method statement and the Tree Protection Plan drawing number Arbtech TPP 01 – Demolition & Arbtech TPP 01 – Construction.

Protective measures will be in accordance with this method statement and the Tree Protection Plan; drawing number TPP 01 – Demolition & Arbtech TPP 01 – Construction will remain unaltered and in situ, unless otherwise specified, for the entire duration of the construction.

Table 5: Documents upon which this assessment has been based.

Document	Originator	Reference Number	Title
Survey base drawing	-	O/S tile (mastermap DWG)	-
Proposal drawing	David Salisbury	12730/03 A	Proposed block plan

Protected Species (general informative)

Conservation Status of British Bats

The consensus in Britain and Europe is that virtually all bat species are declining and vulnerable. Our understanding of population status is poor as there is very little historical data for most bat species. Certain species, such as the horseshoe bats, are better understood and have well-documented contractions in range and population size.

Given this general picture of decline in UK Government within the UK Biodiversity Action Plan has designated five species of bats as priority species (greater and lesser horseshoe bats, barbastelle, Bechstein's and pipistrelle). These plans provide an action pathway whereby the maintenance and restoration of the former populations' levels are investigated.

Legal Status of British Bats

Given the above position, all British bats, as well as their breeding sites and resting places, enjoy national and international protection.

All bat species in the UK are fully protected under the Wildlife and Countryside Act 1981 (as amended) through inclusion in Schedule 5. All bats are also listed on Annex IV (and some on Annex II) of the EC Habitats Directive giving further, European protection. Taken together, the Act and Conservation of Habitats and Species Regulations 2012 (as amended) * make it an offence to; intentionally or deliberately kill, injure or capture (take) bats.

- Deliberately disturb bats (whether in a roost or not).
- Damage, destroy or obstruct access to bat roosts.
- Possess or transport a bat or any part of a bat, unless acquired legally.
- Sell, barter or exchange bats, or parts of bats.

The legislation although not strictly affording protection to foraging grounds does protect roost sites. Bat roosts are protected at all times of the year whether or not bats are present. Any disturbance of a roost due to development must be licenced.

**The regulations that delivered by the UK's commitments to the Habitats Directive.*

Breeding birds

All nesting birds are protected under the Wildlife and Countryside Act (as amended) 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. Furthermore, several birds enjoy further protection under that Act and are listed on Schedule 1 of the Act. These further protected birds are also protected from disturbance and it may be necessary to operate “no-go” buffer zones around such nests – typically out to 100m.

Planning policy guidance on the treatment of species identified as priorities under the biodiversity action programme suggests that local authorities should take measures to protect the habitats of these species from further decline through policies in local development documents and should ensure that they are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations. The conservation of these species should be promoted through the incorporation of beneficial biodiversity designs within developments.

Sequencing of works

A logical sequence of events is to be observed and shall be phased as follows.

Table 6: Sequence of Events

Stage	Event
Stage 1	Site investigations to inform foundation design
Stage 2	Installation of protective measures in accordance with the approved tree protection plans
Stage 3	Pre-commencement site meeting
Stage 4	Undertake demolition of conservatory
Stage 5	Re-location of protective measures (ground protection)
Stage 6	Undertake and complete construction works
Stage 7	Removal of all machinery and materials from site
Stage 8	Dismantle and removal of protective measures
Stage 9	Sign off from Project Arboriculturist

Site investigations

Site investigations are to be undertaken within the RPAs of retained trees to determine the size, depth and location of any roots that may be present for the purpose of informing foundation design.

All excavation within the RPAs are to be initially undertaken to a minimum depth of 800mm deep for any excavation or to the full depth of the proposed foundations. The soil is to be loosened with the use of a fork or pick and then cleared with the aid of an air-spade and air-vac using a specialist arboricultural contractor; If an air-spade is not used and all excavations are to be undertaken using hand tools (e.g. forks, shovel, trowel, brush).

Where an air spade or specialist arboricultural contractor is not employed, all excavations are to be undertaken under direct arboricultural supervision. All roots are to be retained in situ and the project arborist will visit the site to recorded and photograph the depth, location, and size of any roots present; during this visit the project arborist may be able to cut specific roots with the use of a hand saw or secateurs. The edge of the excavation closest to the retained trees and all uncovered roots will be covered over with a minimum of two layers of damp hessian to prevent drying out, and where necessary, be shuttered to prevent soil collapse or contamination. If appropriate soil beneath the depth of 800mm may be sheet piled with any deeper excavations being undertaken by a machine with an appropriate bucket under direct arboricultural supervision. If a decision is made for a machine to be used it must work from outside of the RPA or have appropriate ground protection in place to move and work upon.

Upon the completion of the site investigations all trial excavations are to be back filled with the original material or inert fill. It may be suitable to insert a root barrier in locations where the proposed roots are not present or are beginning to enter to prevent root activity within areas deemed to be root free.

The project arborist will take the site investigations results and with input from the project engineers, determine what foundation types will be acceptable.

Protective Measures

Protective measures are to be installed immediately and are to be sited and aligned in accordance with the tree protection plans (Arbtech TPP 01 – Construction & Arbtech TPP 01 – Demolition) before the commencement of any works or the introduction of any machinery or material to Site.

Upon installation of the protective measures around the retained trees, the Project Arboriculturist will visit the site to inspect and document the position and specifications of the protective measures.

If the protective measures and their positions do not comply with this arboricultural method statement document number Arbtech AMS 01 (06 November 2023) and tree protection plans (drawing number Arbtech TPP 01 – Construction & Arbtech TPP 01 – Demolition), the Project Arboriculturist shall inform the client and fencing contractor so adjustments can be made.

When the protective measures comply with document number Arbtech AMS 01 (06 November 2023) and tree protection plans (drawing number Arbtech TPP 01 – Construction & Arbtech TPP 01 – Demolition), the Project Arboriculturist will sign off the protective measures in writing to the client and will send a copy to the fencing contractor, site agent and local authority tree officer.

If the protective measures become damaged or there is any accident or emergencies involving trees, these areas are to be cordoned off immediately with high visibility plastic mesh fencing. The site agent is to photograph and document the damage and inform the Project Arboriculturist immediately after the incident and all work within this area is to cease until the Project Arboriculturist has visited the site. Any damaged sections of protective measures shall be replaced within 48 hours of the initial incident.

The protected area is sacrosanct and will not be invaded by the storage of materials, mixing of concrete or other products, accessed by machinery, equipment, or pedestrians or in any other way disturbed by construction activity.

The protective measures will remain in place until the completion of stage 7 (see Sequencing of Works), thereafter they will be carefully dismantled only with the agreement of the Project Arboriculturist and or the local authority tree officer.

The existing site boundary measures are to be retained for the duration of the development. If for any reason the existing boundary measures are not to be used protective barrier fencing is to be installed along the line of the boundaries and is only

to be removed upon the written permission of the Project Arboriculturist upon the completion of the development or immediately before the installation of the permanent boundary measures.

No equipment, vehicles or plant shall operate beyond the tree protection fencing. Booms, hoists, and rigs should be kept as far away from the canopies of retained trees at all times. Where it is necessary to operate within 5m of a tree canopy, it will be done with the utmost caution and under the control of a banks man. Damage to trees will be considered a breach of this tree protection plan, which in turn could be a breach of planning permission.

Construction Exclusion Zone

A construction exclusion zone (CEZ) as designated by the protective barrier fencing, is an area where there is to be no construction activity. Access to the area for construction personnel or machinery is strictly prohibited, unless detailed in the tree protection plan, and there is no scope for materials or waste storage; welfare facilities etc. There may be some construction activities planned for these areas (e.g. the installation of service trenches) these activities will be undertaken under direct, on-site arboricultural supervision.

Protective Barrier Fencing

Protective barrier fencing should be appropriate for the intensity and proximity of the development to protect trees where development activity is nearby.

Default specification: To comprise either 2.4m wooden site hoarding; or a 2.3m high scaffold framework, well braced to resist impacts, with uprights to be spaced at a maximum of 3.0m intervals and driven into the ground by a minimum of 600mm. On to this, standard anti-climb welded mesh panels are to be securely fixed to each other with at least two scaffold clamps and to the scaffold framework with wire.

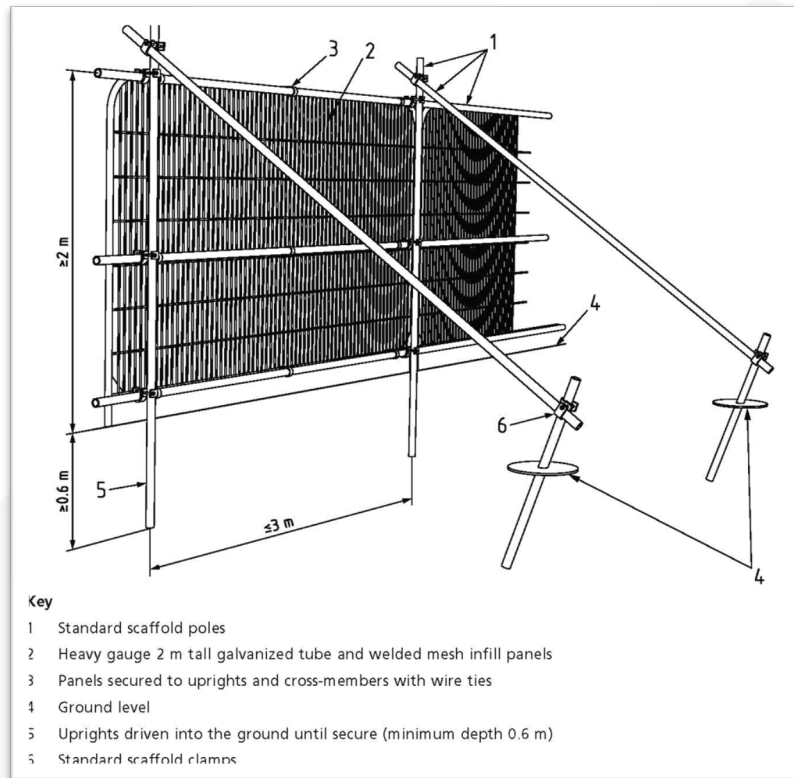


Figure 3: Default specification for protective barrier fencing (BS5837).

Secondary specification: To comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels will be supported on the inner side by stabiliser struts, which will be attached to a base plate and secured with ground pins.

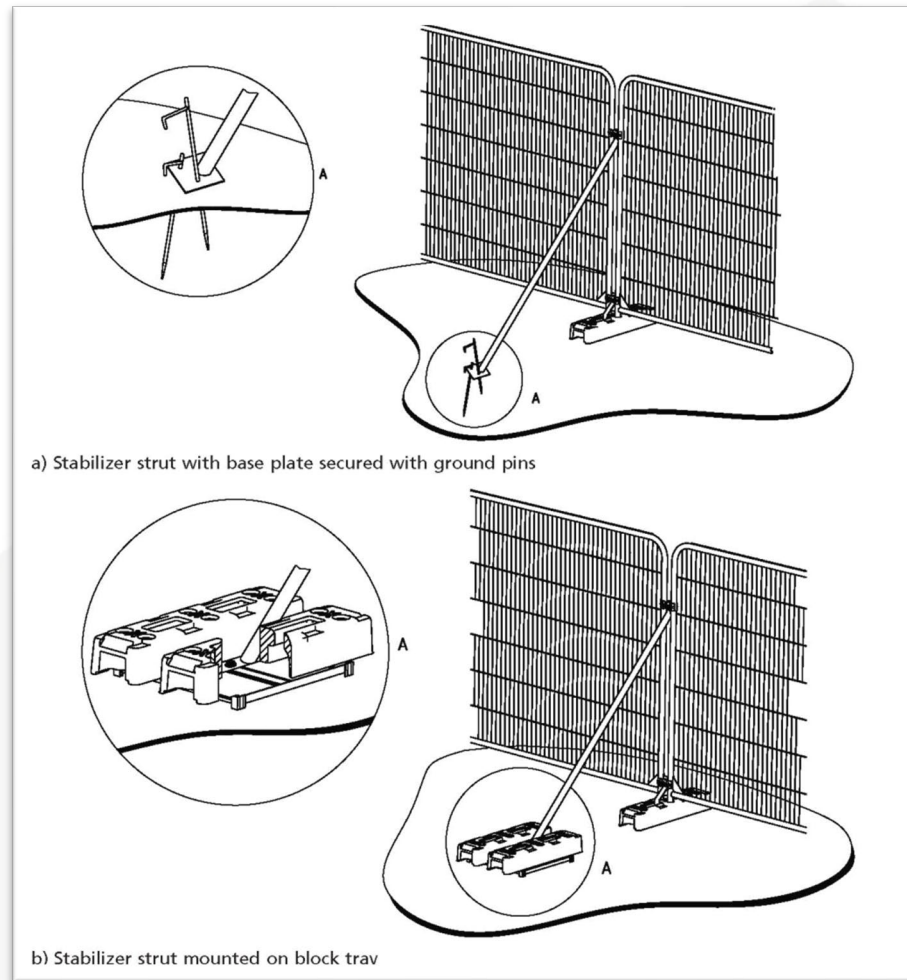


Figure 4: Examples of protective barrier fencing with above-ground stabilising systems (BS5837).

Signage denoting the words “*tree protection area*” at 5.0m intervals will be fixed to the protective barrier fencing (See Appendix 2).

Protective fencing is to be removed **ONLY** with the written permission of the Project Arboriculturist.

Ground boarding

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

Where it is determined by the project engineer that any hard surfacing is not adequate protection from any expected loading, ground boarding is to be installed to the engineer's specification on top of the hard surfacing within the root protection areas of retained trees.

Where machinery will be stored or used from the ground boarding within the RPAs of the retained trees an impervious barrier and or bunding to prevent oils, fuel or chemicals is to be installed to prevent leaching into the soil within or adjacent to the RPAs.

Note The ground protection might comprise one of the following:

- a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane.
- b) for pedestrian-operated plant up to a gross weight of 2t, proprietary inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane.
- c) for wheeled or tracked construction traffic exceeding 2t gross weight, an alternative system (e.g. proprietary system or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

For any situations other than those described in a) or b) (as above), the ground boarding is to be designed by a suitably qualified person to an engineering specification in conjunction with arboricultural advice, to be suitable of supporting the 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 functions remain unimpaired.

Due to the various sizes of demolition and construction plant available and the potential requirements for material storage within the site, the final specifications for the ground boarding will be designed and supplied to the Project Arboriculturist for their approval by the project engineer a minimum of ten (10) working days before its installation.

Demolition

Before the demolition of the existing site features, all tree protection measures are to be in place as per Arbtech Consulting Ltd. Tree Protection Plan (drawing number Arbtech TPP 01 – Construction & Arbtech TPP 01 – Demolition) and have been signed off and a copy of the demolition method statement has been submitted and approved by the Project Arboriculturist to ensure that there is no conflict with this method statement.

All demolition work within or immediately adjacent to RPAs or canopies of retained trees is to be undertaken under the direct on-site supervision of an arboriculturist.

Structures

Demolition of the existing conservatory beneath the canopies and within the RPA of retained tree number 1 as show on Arbtech TPP 01 - Demolition by a turquoise 'Cross' hatching is to be undertaken carefully under arboricultural supervision.

The structures are to be taken down so that all debris and materials are to fall outside of the RPAs and away from the canopies of all retained trees.

Foundations within and adjacent to the RPAs of retained trees are to be left in situ wherever possible. Where this is not possible demolition of the existing foundations are to be undertaken to the minimum depth required to allow for the installation of the new soft and hard landscaping.

The removal of the existing foundations within the RPA of retained trees are to be undertaken using a handheld pneumatic breaker, hand tools and wheelbarrows to break up and remove the debris out of the RPA. In some situations, and only at the discretion of the arborist it may be possible to use an excavator using a hydraulic breaker and a suitably sized toothless grading bucket.

It may be permitted by the project arboriculturalist for an excavator to undertake the demolition and removal of the foundation, but it must be situated outside of the RPA, on top of the hard surfacing working away from the RPAs or from suitable ground boarding capable of handling the expected loading.

If it is likely that there will be any soil collapse or the trench begins to collapse within the RPAs of retained trees which will lead to the loss of rooting environment, excavations are to be stopped immediately and the trench is to be shored up to prevent further soil collapse.

Where the removal of foundations occurs within the RPAs of retained trees these voids are to be back filled with clean topsoil.

Hard Surfacing

Where it is required for hard surfacing is to be removed and or re-surfaced within the RPAs of retained trees it is to be undertaken under direct on-site arboricultural supervision, during the landscaping phase of the development.

The wearing course will be broken up using a handheld pneumatic breaker, hand tools and wheelbarrows to break up and remove the surfacing. Where is necessary to remove the subbase, this is to be undertaken using a fork to loosen the material and moved using shovels and wheelbarrows.

In some situations, and at the discretion of the arborist it may be possible to use an excavator using a hydraulic breaker and a suitably sized toothless grading bucket. If an excavator is to be used it must be situated outside of the RPAs, on top of the hard surfacing working away from the RPAs or from ground boarding.

Whichever system is used there is to be **NO** disturbance of the soil beneath. If roots are found they are to be covered over with damp hessian and a layer of either sharp sand, wood chip or topsoil will be applied as soon as practicably possible to prevent desiccation.

Existing Underground Services

Existing services within the site should be retained wherever possible. Where existing services within RPAs require upgrading, the utmost care must be taken to minimise disturbance, and where feasible trenchless techniques are to be employed, and only where necessary should open excavations be considered.

Construction

Before the construction of the proposed development, a copy of the construction method statement will have been submitted and approved by the Project Arboriculturist to ensure that there is no conflict with this method statement.

All excavations and construction work within or immediately adjacent to RPAs or canopies of retained trees is to be undertaken under the direct on-site supervision of an arboriculturist.

Foundations design

The use of strip foundations within RPAs of retained trees can cause extensive root loss and as such are to be avoided.

The final foundation design will be influenced by the results of the site investigations, either justifying the use of traditional strip foundations or showing the need for a minimum impact foundation.

Design of foundations for the orangery within the RPAs of trees number 1 are to be designed to minimise the adverse impact upon trees and should pay particular attention to the existing ground levels and proposed finished floor level. Foundation design will be undertaken using site-specific information in conjunction with the Project Arboriculturist and engineer.

Root damage can be minimised using:

- Piles, with a site investigation it is possible to determine their optimal location whilst avoiding damage to roots important for the stability of the tree. Investigative excavations are to be undertaken with the use of hand tools or compressed air displacement to a minimum depth of 600mm.
- Beams laid at or above ground level and or cantilevered as necessary to avoid tree roots identified by the site investigation.
- Multi-dimensional confinement systems.

These are just an example of a few types of foundations that can be used to minimise root damage. To arrive at a suitable solution, site-specific and specialist advice regarding foundation design should be sought from the Project Arboriculturist and engineer.

Concrete foundations

Before concrete being poured to form the foundations within or immediately adjacent to the RPAs of retained trees the excavation is to be lined and sealed to prevent any leaching of the concrete into the soil and causing desiccation of retained roots by concrete runoff.

Manual excavation

Excavation within RPAs will be undertaken by hand under direct on-site arboricultural supervision of the required depth of the foundation; Or to a minimum of 600mm deep of any excavation, whether for proposed foundations, hard surfacing, or underground services. The total depth of the manual excavation will be determined by the arboriculturist whilst on site.

The soil is to be loosened with the aid of a fork or pickaxe and then cleared with the aid of an Air-spade, Air-vac and or shovel. Any roots found will be cleanly severed by the Project Arboriculturist with either a hand saw or secateurs.

Any roots found with a diameter of less than 25mm shall be cleanly severed by the Project Arboriculturist. Any roots of 25mm and above shall be excavated around without damaging them; the Project Arboriculturist shall decide if it is feasible or necessary to retain the root, if not it shall be severed.

The edge of the excavation closest to the trees will be covered with damp hessian to prevent soil collapse or contamination by concrete.

The soil beneath the depth may be sheet piled, regular piled or excavated deeper. Machinery may be used for this providing that it is situated outside of the RPA or has appropriate ground protection in place to move around on and work upon.

Prohibition

- Mechanical digging or scraping is not permitted within a defined root protection area or areas cordoned off by protective barrier fencing.
- No access will be permitted within the protected areas.
- No materials, equipment or debris will be stored within any of the fenced areas, or against the fencing.
- Fires are not permitted within 10m of any vegetation.
- Leaning objects against or attaching of objects to a tree is not permitted.
- Machinery, plant, and vehicles are not permitted to be washed down within 10m of vegetation.
- Chemicals and materials are not to be transported, stored, used, or mixed within a root protection area or areas cordoned off by protective barrier fencing.
- Cement silos, mixing site to be situated within a bunded area to prevent spillage/leaking of chemicals harmful to trees. These areas are to be sited well clear of protected trees.
- Refuelling of plant or machinery is prohibited within 10m of the construction exclusion zones.
- Allowance must be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.
- Where machinery is to be used within 5m of retained tree canopies a banks man will be required at all times whilst setting up, moving, or operating within this distance of retained trees canopies.
- Storage of all caustic material and chemicals are to be situated well clear of protected areas and preferably on lower ground if slopes are present, or to be situated within a bonded area to prevent any spills or leaks entering the ground.

Site Management

The site manager will be responsible for briefing and inducting all personnel who will be working on any stage of this development and especially those who will be working within or adjacent to the canopies or RPAs of retained trees, and will make them aware of, and provide a copy of this method statement and tree protection plan drawing number Arbtech TPP 01 – Construction & Arbtech TPP 01 – Demolition; this is to include but not exclusively the movement and or operation of plant, excavations, unloading deliveries, mixing and or pouring of cement and concrete.

The site manager will be responsible for the day to day running and protection of all retained trees and for liaising with the project arborist about any tree-related matters and before any works that may or will affect the RPAs or canopies of retained trees; this is to include but not exclusively the movement and or operation of plant, excavations, unloading deliveries, mixing, pouring and storage of all caustic materials that may cause harm to retained trees.

Any incidents of damage to retained trees or tree protection measures will be documented by the site manager who will then report these incidents to the Project Arboriculturist immediately and make sure that works within this area cease until the project arborist has had an opportunity to inspect the damage and where appropriate, agree on a mitigation plan with the local planning authority tree officer.

The site manager may designate another person to take charge of briefing and inducting process of new site personnel or visitors in his absence.

If the site manager is replaced or is absent from the site for more than three consecutive working days, the project arborist will be informed, and a prestart meeting will be held with the new or acting site manager.

It is the responsibility of the site manager to ensure that the planning conditions attached to the planning consent are adhered to at all times and that a monitoring regime and supervision of any works within or adjacent to the RPAs are adopted.

If at any time pruning works are required other than those previously approved, permission must be sought from the LPA tree officer and once permission is granted, they are to be carried out by a suitably qualified person in accordance with BS3998:2010 Tree work – Recommendations.

Services

Detailed drawings of proposed underground services are not available at this time; hence it is not possible to identify any specific potential impacts associated with the scheme at this stage.

Existing services within the site will be retained wherever possible. Where existing services within RPAs require upgrading, the utmost care must be taken to minimise disturbance, and where feasible trenchless techniques are to be employed, and only where necessary should open excavations be considered.

Where new services are to be introduced into the site they will be located outside of RPAs, where they will not interfere with tree roots. If any excavations are required within the RPAs all trenches are to be excavated by hand and radially to the tree trunks under direct on-site arboricultural supervision and are to be carried out under NJUG guidelines.

Final positions of any proposed services will be verified and approved by the Project Arboriculturist and local authority tree officer before implementation.

New Underground services

Trenching for installation of underground services and drainage routes could sever any roots that may be present and as such adversely affects the health of the tree. For this reason, particular care will be taken in routing and methods of installation of all underground services. All underground services and drainage routes will be located so that no excavations are required within RPAs.

Where it has been impossible to keep underground services from passing through RPAs or within proximity to trees, these sections are to be installed in one of three ways in accordance with the guidance set out in National Joint Utilities Group guidelines (NJUG 4), under on-site arboricultural supervision.

Trenchless Techniques

There are three main types of trenchless techniques, these include, guided and unguided boring and pipe replacement by lining or bursting. These allow for the installation, maintenance, or renewal of underground services, without the disturbance of soil in which roots are likely to be growing. Starting and receiving pits for the boring machinery are to be located outside of the RPAs of any retained trees, with the bore depth being maintained at a minimum depth of 600mm below the existing ground level.

Techniques involving external lubrication of the equipment shall use no material other than water as other lubricants could contaminate the soil (e.g. oil, bentonite, etc.).

Manual Excavation

Excavation within RPAs will be undertaken by hand under direct on-site arboricultural supervision of the required depth of the foundation; Or to a minimum of 600mm deep of any excavation, whether for proposed foundations, hard surfacing, or underground services. The total depth of the manual excavation will be determined by the arboriculturist whilst on site.

The soil is to be loosened with the aid of a fork or pickaxe and then cleared with the aid of an Air-spade, Air-vac and or shovel. Any roots found will be cleanly severed by the Project Arboriculturist with either a hand saw or secateurs.

Any roots found with a diameter of less than 25mm shall be cleanly severed by the Project Arboriculturist. Any roots of 25mm and above shall be excavated around without damaging them; the Project Arboriculturist shall decide if it is feasible or necessary to retain the root, if not it shall be severed.

The edge of the excavation closest to the trees will be covered with damp hessian to prevent soil collapse or contamination by concrete.

The soil beneath the depth may be sheet piled, regular piled or excavated deeper. Machinery may be used for this providing that it is situated outside of the RPA or has appropriate ground protection in place to move around on and work upon.

Broken Trench – Hand Dug

This technique combines both trenchless techniques and manual excavation where excavation is unavoidable. Excavations will be limited to where there is clear access around and below the roots. All trenches shall be excavated by hand with the same precautions taken as for manual excavation. The open section of the trench will only be large enough to allow access for linking to the next section.

Landscaping

Landscaping around retained trees may only be carried out once all tree protection measures have been removed (planting, turfing, fencing etc.).

All excavations within the Root Protection Areas shall be undertaken by hand and without reducing current ground levels unless it is agreed in writing with the LPA. At no time is the use of a rotavator permitted within the RPAs of retained trees.

Any tree roots discovered will be left in-situ and shall not be cut or otherwise damaged. Where possible, the soil structure within the Root Protection area shall be preserved.

No works will be carried out within the RPAs of any trees if the soil moisture is of such a level that soil compaction may be likely. Should the soil become compacted or has a poor structure which would hinder the development of the existing trees and plants or any new plantings the arboriculturist will be consulted about soil decompaction techniques.

Monitoring and Supervision

Where trees have been identified within this method statement and tree protection plan drawing numbers Arbtech TPP 01 – Construction & Arbtech TPP 01 – Demolition for retention, there will be an auditable system of arboricultural monitoring. This is to extend to arboricultural supervision whenever demolition or construction activity is to take place within or adjacent to any canopy or RPA.

The development's tree protection measures are to be monitored and all demolition and construction works are to be undertaken within or adjacent to the RPAs of retained trees are to be supervised by Project Arboriculturist, who will be retained to record and report observations to the council at appropriate intervals.

Pre-commencement site meeting

Before the commencement of any works or machinery and materials arriving on site a pre-commencement site meeting involving the project arborist, landowner or agent, site manager, contractors and engineer (as appropriate) and the relevant LPA officers will be held to ensure that all aspects of the arboricultural method statement and tree protection are understood and for all parties to swap contact details (see Appendix 3).

Monitoring and supervision schedule

The initial monitoring visit will be to check that the tree protection measures are in the correct location and as specified within the approved method statement, if so to sign off their installation.

Thereafter, monitoring visits are to take place at regular intervals, to ensure that tree protection measures are in place and are functioning as designed or whenever necessary to undertake works to be carried out under arboricultural supervision. The frequency of the monitoring visits is to be agreed with the LPA tree officer at the pre-commencement site meeting.

A record of all arboricultural monitoring and supervision visits will be kept, and any faults will be logged, this will then be copied to the site agent, developer, and local planning authority in a digital format.

If during the development areas must be re-designed so that they would require changes to the approved arboricultural method statement or tree protection plan and so affecting retained trees the project arborist and LPA tree officer will be invited to

attend a site meeting with all relevant parties. Before any changes being implemented these must have been approved in writing by the LPA tree officer.

Supervision

The Project Arboriculturist will be required to attend site to directly supervise all demolition and construction works that are to be undertaken within or adjacent to the RPAs of all retained trees and will be advised a minimum of 72 hours before the commencement of any works that require his attendance, these will include:

1. Site investigations
2. Pre-commencement site meeting.
3. Location of protective measures.
4. Supervised demolition of the structures within or immediately adjacent to the canopies and RPAs of all retained trees.
5. Re-location of protective measures.
6. Supervised excavation of foundations, within and immediately adjacent to the RPAs of retained trees.
7. Any excavations within and immediately adjacent to RPAs, including foundations, hard surfacing, or underground services.
8. Removal of protective measures and sign off.

Completion meeting

Once all construction works have been completed all materials and machinery has been removed from site the project arborist shall be informed and will invite the LPA tree officer to meet on site to discuss the process and discuss any final remedial works that may be required and to sign the development off so that the protective measures may be removed.

Arboricultural Monitoring and Supervision Sign Off Checklist

6 Mapledene, Caversham, Reading, RG4 7DQ

Tree Number	Task	Date Completed	Signed (Project Arboriculturist)	Signed (Site Manager)
1	Site investigations			
All	Pre-commencement site meeting			
All	Sign off of the location and specification of the protective measures			
1	Supervised demolition of the conservatory and foundations			
All	Completion of demolition			
1	Manual excavation of orangery foundations			
	Additional excavations (if required)			
All	Completion of groundworks			
All	Completion of construction			
All	Removal of machinery and materials from Site			
All	Dismantle & removal of protective measures			
All	Completion of Landscaping			
All	Sign off from Project Arboriculturist			

Appendix 1: Tree Survey Schedule

BS5837:2012 Tree Survey

Arbtech Consulting Ltd.

Client: Mr Lindsay Kennedy
 Project: 6 Mapledene, Caversham, Berkshire RG4 7DQ
 Survey Date: 05/09/2023
 Surveyor: Rob Dennis



Unit 3, Well House Barns
 Chester Road
 Chester
 Cheshire
 CH4 0DH
 Phone: 01244661170

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
G1														
A Group <i>See comments for details</i>		8	1	80	N	3	0	Y	A: 2.9 R: 0.96	Fair	C: Good S: Fair B: Not visible	Group understory to main trees. Consisting off but not wholly to, ash, Norway maple and snowbell, hawthorn and Hazel, leylandii and wild privet. Measurements taken from the largest stem of this group. Runs north to south along the rear boundary fence, maximum of 5.2 meters deep. Most small developing trees in this group are growing phototrophically to the north and north east.		C.2 10+ yrs
1														
Common Oak <i>Quercus robur</i>		14	1	1000	N	8.5	7.5	M	A: 452.4 R: 12	Good	C: Good S: Good B: Good	Off-site tree. TPO. Mature Oak growing on a bank, 1.2 meters higher than the lawn area in site garden. Western side of the bank is at 1.4 meters and climbing. Approximately 0.3 meter south of the boundary wooden fence line. To the stems east, the ground stops at a brick wall that is 1.1 meter high, the off-site garage is 1. meters east of this wall. North easterly stem at 2 meters has a large occluded wound, exposed heartwood has decayed extensively. On the stem from 2 meters to where the crown divides there are several old occluded pruning wounds on all aspects. Very healthy crown, slightly suppressed on the south side from other Oaks. Understory of cherry laurel.		A.1.2 40+ yrs
2														
Norway Maple <i>Acer platanoides</i>		8	3	138 (Eq)	N	4.5	1	Y	A: 8.7 R: 1.66	Fair	C: Good S: Fair B: Fair	Growing on the edge of the lawn bank to the rear section of the garden, large exposed structural root to the north. Asymmetrical growth to the north, beside the boundary fence with lawn away to the south. Old fence wire occluded into the stem at 1 meter.		C.1 10+ yrs
Age Classifications:		N	Newly planted	EM	Early Mature		Condition:		C	Crown	Stems:		Ø	Diameter
		Y	Young	M	Mature				S	Stem			(Eq)	Equivalent stem diameter using BS5837:2012 definition
		SM	Semi-mature	OM	Over Mature				B	Basal area	ERC:		Estimated Remaining Contributio	

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m ²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
		No	Ø (mm)	Spread (m)	Clear (m)						
3											
Sycamore <i>Acer pseudoplatanus</i>	18	1	310	N E S W	5.5 7 5.5 6	10 10 10 10	SM A: 43.5 R: 3.72	Good	C: Good S: Ivy B: Not visible	Suppressed tree on north aspect. Stem spreads to 4 stems at approximately 4 meters. Tight fork unions with included bark at the spread point. Ivy to mid point on the stems. Hawthorn growing directly from the Sycamore's stem.	B.1.2 20+ yrs
4											
Sycamore <i>Acer pseudoplatanus</i>	18	2	666 (Eq)	N E S W	8 2 9 9	12 12 12 8	SM A: 200.9 R: 7.99	Good	C: Good S: Ivy B: Fair	Tightly bifurcated stem at ground level with included bark and ivy up towards the canopy on the northern stem. Southern stem bifurcates at 2 meters , tight fork unions and included bark.	B.1.2 20+ yrs
5											
Sycamore <i>Acer pseudoplatanus</i>	20	4	791 (Eq)	N E S W	9.5 8.5 9.5 9	5 5 9 6	EM A: 283.2 R: 9.49	Good	C: Good S: Fair B: Not visible	Large diameter stems spreading from ground level with a large pocket in the centre which may have decay within it. Tight fork unions and bark scaling, expected of this species and age. Unable to see the eastern side of the basal area. Ivy into the crown.	B.1.2 20+ yrs
6											
Wild Cherry <i>Prunus avium</i>	12	1	190	N E S W	5 4 3 4	3 3 4 3	SM A: 16.3 R: 2.27	Good	C: Good S: Fair B: Good	Stem slightly leans north, suggesting phototropic growth, stem bifurcates at 2.5 meters, suppressed growth due to mature large species trees over and around it. Suspected damaged lateral root on lawn edge. Developed Hazel understory.	B.1.2 20+ yrs
7											
Sycamore <i>Acer pseudoplatanus</i>	18	1	390	N E S W	4.5 5 5 5	3 5 8 8	SM A: 68.8 R: 4.67	Good	C: Fair S: Fair B: Fair	Growing directly beside the rear boundary fence, asymmetrical crown suppressed in the mid to upper canopy on the northern side. Garden and building waste deposited up against the basal area. Minimal basal tapering with another larger specimen 0.8 meter from its northern side.	B.1 20+ yrs
Age Classifications: N Newly planted EM Early Mature Y Young M Mature SM Semi-mature OM Over Mature Condition: C Crown S Stem B Basal area Stems: Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition ERC: Estimated Remaining Contributio											

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
		No	Ø (mm)	Spread (m)	Clear (m)						
8											
Sycamore <i>Acer pseudoplatanus</i>	18	1	470	N	4.5	3	SM	A: 99.9 R: 5.63	Good	C: Good S: Good B: Fair	B.1 20+ yrs
				E	5	5				Growing directly beside the rear boundary fence. Garden and building waste deposited up against the basal area. Minimal basal tapering with another smaller specimen 0.8 meter from its southern side. Tar spots visible throughout leaf lower and mid canopy. Cross bracing within mid canopy with included bark.	
				S	5	8					
				W	5	8					
9											
Wild Cherry <i>Prunus avium</i>	4.5	2	208 (Eq)	N	2.5	3	EM	A: 19.6 R: 2.49	Fair	C: Fair S: Fair B: Not visible	C.1.2 10+ yrs
				E	4.5	0.5				Cherry growing within formal borders at 1 meter above the garden lawn area at building level. Previous pruning wounds throughout the tree, predominately growing east and south, main stem has fissures and lenticels as per species and age. Ants nest within the bifurcation point at 1 meter indicating a decayed section of the fork union.	
				S	3	1.5					
				W	1.5	3					
10											
Paper Birch <i>Betula papyrifera</i>	8	1	270	N	6.5	6	EM	A: 33 R: 3.24	Good	C: Good S: Fair B: Not visible	B.1.2 20+ yrs
				E	6	4				Birch growing within a formal border 1 meter above the upper lawn area. Shrubs growing directly around it's base. Northeasterly pruning wound not yet occluded. Tight fork unions and included bark typical of species and age. Stand out tree when viewed from the house.	
				S	5	3					
				W	5	3					
11											
Irish Yew <i>Taxus baccata 'Fastigiata'</i>	3	5	67 (Eq)	N	0.5	0	Y	A: 2 R: 0.79	Good	C: Good S: Good B: Good	C.1.2 20+ yrs
				E	0.5	0				Yew growing beside steps to upper lawn from main lawn. Multi stemmed as per species growth habit.	
				S	0.5	0					
				W	0.5	0					
12											
Irish Yew <i>Taxus baccata 'Fastigiata'</i>	2.5	10	95 (Eq)	N	0.5	0	Y	A: 4.1 R: 1.14	Good	C: Good S: Good B: Good	C.1.2 20+ yrs
				E	0.5	0				Yew growing beside steps to upper lawn from main lawn. Multi stemmed as per species growth habit.	
				S	0.5	0					
				W	0.5	0					
Age Classifications: N Newly planted EM Early Mature Condition: C Crown S Stem B Basal area Y Young M Mature SM Semi-mature OM Over Mature Stems: Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition ERC: Estimated Remaining Contributio											

Appendix 2: Tree Protection Notice

(To be printed at A3 or larger)

Tree Protection Area **KEEP OUT**

Do not move this fence

(TOWN & COUNTRY PLANNING ACT 1990)

**TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS
AND/OR ARE THE SUBJECT OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL
PROSECUTION**

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



Unit 3, Well House Barn, Chester Road, Chester, CH4 0DH
<https://arbtech.co.uk> - 01244 661170

Appendix 3: Contact Details

Name	Position	Company	Contact
	Client		
	Agent / Project Manager		
	Tree Officer		
	Project Arboriculturist	Arbtech Consulting Ltd.	01244 661170 https://arbtech.co.uk
	Site Manager		
	Main contractor		

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