



Arboricultural Method Statement

Dave Varns

**16 Castelnau
Barns
London
SW13 9RU**

21 November 2024

Phil Gower Dip Arb Lv4 (ABC)

Table of Contents

- Introduction 4**
- Tree Survey..... 5**
- Arboricultural Impact Assessment..... 6**
- Arboricultural Method Statement 7**
 - Tree Work..... 7
 - Protected Species (general informative for tree works) 8
 - Sequencing of works 9
 - Protective Measures 10
 - Demolition..... 13
 - Construction..... 14
 - Prohibition..... 16
 - Site Management..... 17
 - Services..... 18
 - Landscaping..... 19
 - Monitoring and Supervision..... 20
- Arboricultural Monitoring & Supervision Sign-Off Checklist 22**
- Appendices..... 23**
 - Appendix 1: Tree Schedule 24**
 - Appendix 2: Arboricultural Impact Assessment..... 30**
 - Appendix 3: Tree Protection Plan 32**
 - Appendix 4: Tree Protection Notice 34**
 - Appendix 5: Contact Details 36**
- Document Production Record 38**

- Table 1: Documents referred to..... 4
- Table 2: Documents upon which this tree survey has been based 5
- Table 3: Documents upon which this tree survey has been based 6
- Table 4: Impacts upon the RPAs of retained trees 6

Table 5: Documents upon which this tree survey has been based 7

Table 6: Summary of tree works 7

Table 7: Sequencing of works 9

Figure 1: Example of protective barrier fencing with above-ground stabilising system (BS5837) 11

Introduction

Arbtech Consulting Limited (Arbtech) received written instruction on 07 August 2024 from Dave Varns to attend 16 Castelnau, Barns, London, SW139RU (the site) to undertake an arboricultural survey guided by British Standard 5837:2012: Trees in Relation to Design, Demolition and Construction – Recommendations of all trees, hedges and major shrub groups growing on and/or within influencing distance of the site and to produce a Schedule of Trees, Tree Constraints Plan (TCP) and Arboricultural Impact Assessment (AIA).

A further written instruction was received on 20 November 2024 from Dave Varns to produce an, Tree Protection Plan (TPP) and Arboricultural Method Statement (AMS).

Executive Summary

This report describes the extent and effect of the proposed development 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.

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.

Table 1: Documents referred to

Document	Reference No.
Survey base drawing	007/105-SK01
Proposed layout drawing	007/100-W02_02
British Standard 5837:2012	“BS5837”
Tree Survey Schedule	Arbtech TS 01
Arboricultural Impact Assessment	Arbtech AIA 01
Tree Protection Plan	Arbtech TPP 01

Tree Survey

An arboricultural survey guided by British Standard 5837:2012: Trees in Relation to Design, Demolition and Construction - Recommendations of all trees within impacting distance of the site was undertaken by Chris Poplett on 21 August 2024.

A total of 23no. individual trees and 1no. groups of trees were surveyed.

For full details of all the trees surveyed, see Appendix 1: Tree Schedule.

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

Document	Originator	Reference Number	Title
Survey base drawing	Attic Design and Build	007/105-SK01	Site Location Plan

Survey Limitations: The survey was made at ground level using visual observation only. Detailed examinations, such as climbing inspections and advanced decay detection equipment, were not employed, though they may form part of the survey’s management recommendations. Measurements were taken using specialist tapes, lasers, and GPS devices. Where this was not possible, measurements are estimated. Inaccessible trees will have the best estimates made about their location, physical dimensions, and characteristics. Trees have been grouped where BS5837 guides us that it is expedient to do so. Trees have been excluded from the survey if they are found by us to be sufficiently far away from the proposed developable area or if they are outside of the red line boundary plan showing the expectations of our client for the extent of the survey.

Scope: Pre-development tree surveys make arboricultural management recommendations based exclusively upon the condition of the individual tree or group of trees 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, starting 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.

Arboricultural Impact Assessment

An Arboricultural Impact Assessment (AIA) guided by British Standard 5837:2012: Trees in Relation to Design, Demolition and Construction - Recommendations was undertaken by Phil Gower on 05 October 2024 to determine the potential conflicts between the proposed development scheme and existing trees located on and near the site and has subsequently produced this Arboricultural Method Statement to demonstrate how the proposed scheme can be successfully implemented without causing harm to retained trees.

Table 3: Documents upon which this tree survey has been based

Document	Originator	Reference Number	Title
Survey base drawing	Attic Design and Build	007/105-SK01	Site Location Plan
Proposed layout drawing	Attic Design and Build	007/100-W02_02	Ground Floor Layout as Proposed

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 and;
- The likelihood of any future remedial works to retained trees beyond those that would have been scheduled as part of usual management.

Table 4: Impacts upon the RPAs of retained trees

Tree Number	Species	Structure	RPA (m2)	Incursion	
				(m2)	(%)
T14	Cultivated Apple	Extension	43.5	0.3	0.6

These impacts can be seen on the Arboricultural Impact Assessment (Arbtech AIA 01). See Appendix 2: Arboricultural Impact Assessment.

Arboricultural Method Statement

This Arboricultural Method Statement (Arbtech AMS 01) demonstrates how any aspect of the development that could potentially result in tree loss or damage may be implemented and provides an adequate level of protection for trees that are to be retained during the proposed works.

Details of key site personnel, including the Site/Project Manager, will be submitted to the Council’s Tree Officer before site works commence. This Arboricultural Method Statement (Arbtech AMS 01) is to be approved and agreed to in writing by all key personnel before the commencement of any site works.

No site personnel are to be present, and no demolition, site clearance, building work, or material delivery is to occur until the protective measures are in accordance with this Arboricultural Method Statement (Arbtech AMS 01) and the Tree Protection Plan (Arbtech TPP 01). Unless otherwise specified, protective measures will remain unaltered and in situ for the entire duration of the construction.

Table 5: Documents upon which this tree survey has been based

Document	Originator	Reference Number	Title
Survey base drawing	Attic Design and Build	007/105-SK01	Site Location Plan
Proposed layout drawing	Attic Design and Build	007/100-W02_02	Ground Floor Layout as Proposed

Tree Work

For reasons of public safety, all tree works referred to herein must be carried out before site personnel commence work or building materials are delivered.

Table 6: Summary of tree works

Tree Number	Species	Works	Category
T14	Cultivated Apple	Crown reduce western aspect by 0.5m	C1

Protected Species (general informative for tree works)

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 the UK Government, 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 for investigating the maintenance and restoration of the former populations' levels.

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 in Annex IV (and some in 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

Although the legislation does not strictly protect foraging grounds, it 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 7: Sequencing of works

Stage	Event
Stage 1.	Undertake and complete tree works as specified within Table 6: Summary of tree works
Stage 2.	Installation of protective measures in accordance with the approved Tree Protection Plan(s) (Arbtech TPP 01).
Stage 3.	Pre-commencement site meeting.
Stage 4.	Undertake and complete demolition of existing site features.
Stage 5.	Undertake and complete ground works.
Stage 6.	Undertake and complete construction works
Stage 7.	Undertake and complete external landscaping outside of the construction exclusion zones (CEZs).
Stage 8.	Removal of all machinery and materials from the site.
Stage 9.	Dismantle and removal of protective tree measures.
Stage 10.	Undertake and complete external landscaping within the construction exclusion zones (CEZs).
Stage 11.	Site completion and sign-off from Project Arboriculturalist.

Protective Measures

Protective measures are to be installed immediately following the completion of the tree works and sited and aligned in accordance with the Tree Protection Plan (Arbtech TPP 01) before the commencement of any works or the introduction of any machinery or material to the site.

Upon installing the protective measures around the retained trees, the client will instruct on a pre-commencement site meeting, during which 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 (Arbtech AMS 01) dated: 21 November 2024 and Tree Protection Plan (Arbtech TPP 01), the Project Arboriculturist shall inform the client and Fencing Contractor so adjustments can be made.

When the protective measures comply with this Arboricultural Method Statement (Arbtech AMS 01) and Tree Protection Plan (Arbtech TPP 01), the Project Arboriculturist will sign-off the protective measures in writing to the client for which a copy can be sent to the Fencing Contractor, Site Agent and Local Authority Tree Officer.

If the protective measures become damaged or there is an accident or emergency 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. 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, the mixing of concrete or other products, the access of machinery, equipment, or pedestrians, or any other way disturbed by construction activity.

The protective measures will remain in place until the completion of Stage 8 (see Table 7: 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 as possible 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 banksman. Damage to trees will be considered a breach of this Tree Protection Plan and Arboricultural Method Statement, 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 the direct supervision of the Project Arboriculturalist.

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. The protective barrier fencing will be fixed with signage denoting the words “tree protection area” at 5.0m intervals. See Appendix 4: Tree Protection Notice

Secondary specification: The fence will comprise 2m tall welded mesh panels on rubber or concrete feet. The 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.

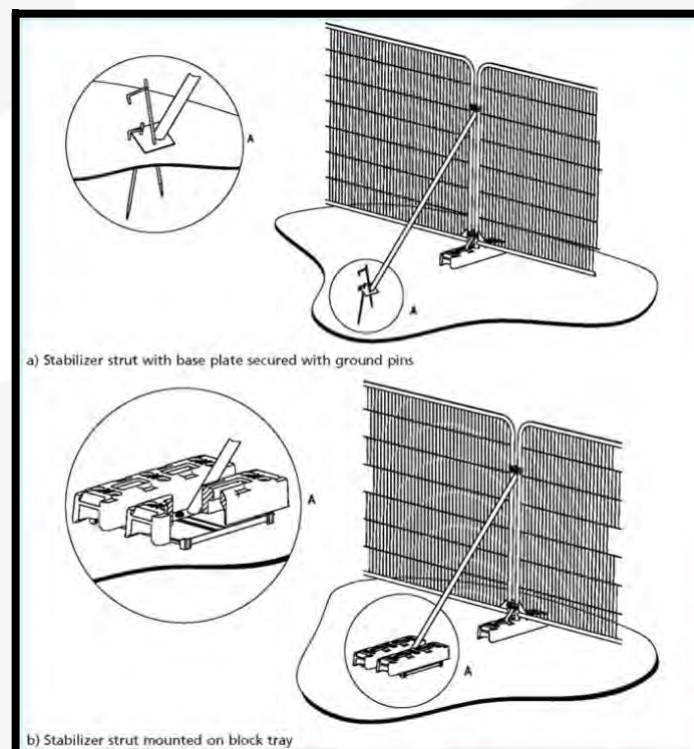


Figure 1: Example of protective barrier fencing with above-ground stabilising system (BS5837)

Trunk Protection

Protective trunk wrapping: Protective trunk wrapping is to comprise a minimum of three wrappings of clean, dry hessian around the trunk from ground level up to 2.4m high and held in place with sisal. Onto the hessian, there is to be a minimum of three wraps of chestnut paling around the trunk; the chestnut paling is to be held in place by 2.50mm galvanized mild steel wire at the top, middle and bottom of each wrap of chestnut paling. The wire is to be secured to the chestnut paling by fencing staples.

Ground Protection

The existing hard surfacing within the RPAs of retained trees provides passive protection against compaction to the underlying soil and, therefore, must be retained for the duration of the project. If this is removed, it shall be done so under direct supervision of the Project Arboriculturalist and replaced with suitable ground protection, capable of withstanding the likely loading for the site.

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 the Project Engineer determines 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 on the ground boarding within the RPAs of retained trees, an impervious barrier and/or bunding to prevent oils, fuel, or chemicals from leaching into the soil within or adjacent to the RPAs is to be installed.

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 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 for 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.

At this stage, no contractors have been approached, so it is not possible to know exactly what equipment they have available and will be using.

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 must 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 works are to have been completed, tree protection measures are to be in place as per Tree Protection Plan document (Arbtech TPP 01) and have been signed-off, and a copy of the demolition method statement submitted and approved by the Project Arboriculturist to ensure that there is no conflict with this Arboricultural Method statement.

Structures / Buildings / Walls

Demolition of the existing features is to be undertaken carefully and so that all debris and materials fall outside the RPAs and away from the canopies of all retained trees.

Foundations within and immediately adjacent to the RPAs of retained trees are to be left in situ wherever possible. Where this is not possible, the existing foundations must be demolished 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 is to be undertaken using a handheld pneumatic breaker, hand tools and wheelbarrows to break up and remove the debris from the RPAs. In some situations, and only at the discretion of the project arboriculturist, it may be possible to use a hydraulic breaker mounted on an excavator combined with a suitably sized toothless grading bucket.

Where the Project Arboriculturist permits the use of an excavator to demolish and remove foundations, it must be situated outside the RPAs of retained trees, 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 soil will collapse or the trench will begin to collapse within the RPAs of retained trees, leading to a loss of rooting environment, excavations are to be stopped immediately, and the trench shored up to prevent further soil collapse.

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

Hard Surfacing

Where hard surfacing must be removed and/or resurfaced within the RPAs of retained trees, it is to be undertaken under the direct supervision of the Project Arboriculturalist during the landscaping phase of the development.

The wearing course will be broken up using a handheld pneumatic breaker, hand tools, and wheelbarrows to remove the surfacing. Where the subbase must be removed, a fork will be used to loosen the material, and shovels and wheelbarrows will be used to move it.

In some situations, and at the discretion of the Project Arboriculturalist, an excavator using a hydraulic breaker and a suitably sized toothless grading bucket may be possible. 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 suitable ground boarding capable of withstanding the expected loading.

Whichever system is used, there is to be **NO** disturbance of the underlying soil. 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 of retained trees require upgrading, the utmost care must be taken to minimise disturbance. Trenchless techniques should be employed where feasible, and open excavations should be considered only where necessary.

Construction

Before the proposed development is constructed, a copy of the construction method statement will be submitted and approved by the Project Arboriculturalist to ensure that it does not conflict with this Arboricultural Method Statement.

All excavations and construction work within or immediately adjacent to the RPAs or canopies of retained trees is to be undertaken under the direct supervision of the Project Arboriculturalist.

Foundations Design

All and any excavations that may be required within the RPAs of retained trees will initially be undertaken manually and under the direct supervision of the Project Arboriculturalist. See manual excavation.

Concrete foundations

Before concrete is 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 the direct supervision of the Project Arboriculturist to the required depth of the foundations or to a minimum of 600mm deep of any excavation, whether for proposed foundations, hard surfacing, or underground services. The Project Arboriculturist will determine the total depth of the manual excavation while on site.

The soil is to be loosened with a fork or pickaxe and then cleared with an air spade, air vac, or shovel. The Project Arboriculturist will cleanly sever any roots found with either a hand saw or secateurs.

The Project Arboriculturist shall cleanly sever any roots found with a diameter of less than 25mm. 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, provided that it is situated outside of the RPAs of retained trees or has appropriate ground protection in place to move around 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 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 and mixing sites are 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.
- An allowance must be made for sloping 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 while setting up, moving, or operating within this distance of retained tree canopies.
- All caustic material and chemicals must be stored well clear of protected areas and preferably on lower ground if slopes are present or within a bonded area to prevent spills or leaks from 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, 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 Arboricultural Method Statement (Arbtech AMS 01) and Tree Protection Plan (Arbtech TPP 01); 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 Arboriculturalist 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.

The Site Manager will document any incidents of damage to retained trees or tree protection measures. Then, the Site Manager will report these incidents to the Project Arboriculturalist immediately and ensure that works within this area cease until the Project Arboriculturalist 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 the 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 Arboriculturalist will be informed, and a new pre-start 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 any granted 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 pruning works other than those previously approved are required at any time, permission must be sought from the Local Authority Tree Officer. 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. 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 so that they do not interfere with tree roots. If any excavations are required within the RPAs, all trenches are to be excavated by hand radially to the tree trunks under the direct supervision of the Project Arboriculturalist and carried out under NJUG guidelines.

The final positions of any proposed services will be verified and approved by the Project Arboriculturalist and Local Authority Tree Officer before implementation.

New Underground services

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

Where underground services have been impossible to prevent from passing through RPAs or within proximity to trees, these sections are to be installed in one of three ways and under the direct supervision of the Project Arboriculturalist and in accordance with the National Joint Utilities Group guidelines (NJUG 4).

Trenchless Techniques

There are three main types of trenchless techniques: guided and unguided boring and pipe replacement by lining or bursting. These techniques allow for the installation, maintenance, or renewal of underground services without disturbing soil in which roots are likely to grow. Starting and receiving pits for the boring machinery are to be located outside of the RPAs of any retained trees, with the bore depth maintained at a minimum depth of 600mm below the existing ground level. Techniques involving external lubrication of the equipment shall use only water, as other lubricants (e.g., oil, bentonite, etc.) could contaminate the soil.

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.

Manual Excavation

Excavation within RPAs will be undertaken by hand under the direct supervision of the Project Arboriculturist to the required depth of the foundations or to a minimum of 600mm deep of any excavation, whether for proposed foundations, hard surfacing, or underground services. The Project Arboriculturist will determine the total depth of the manual excavation while on site.

The soil is to be loosened with a fork or pickaxe and then cleared with an air spade, air vac, or shovel. The Project Arboriculturist will cleanly sever any roots found with either a hand saw or secateurs.

The Project Arboriculturist shall cleanly sever any roots found with a diameter of less than 25mm. 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, provided that it is situated outside of the RPAs of retained trees or has appropriate ground protection in place to move around and work upon.

Landscaping

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

All excavations within the RPAs of retained trees shall be undertaken by hand and without reducing current ground levels unless it is agreed in writing with the Local Planning Authority. 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 RPA shall be preserved.

No works will be carried out within the RPAs of any trees if the soil moisture is at a level where soil compaction may be likely. Should the soil become compacted or have a poor structure that 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 Arboricultural Method Statement (Arbtech AMS 01) and Tree Protection Plan (Arbtech TPP 01) 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. The Project Arboriculturist will supervise the work and 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 Arboriculturist, Landowner or Agent, Site Manager, contractors and Engineer (as appropriate) and the relevant Local Planning Authority Officers will be held to ensure that all aspects of the Arboricultural Method Statement and Tree Protection Plan are understood and for all parties to swap contact details. See Appendix 5: Contact Details.

Monitoring and supervision schedule

The initial monitoring visit will check that the tree protection measures are in the correct location and as specified within the approved Arboricultural Method Statement, and if so, to sign off on 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 upon with the Local Authority 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 areas must be redesigned during the development so that they would require changes to the approved Arboricultural Method Statement or Tree Protection Plan and so affect retained trees, the Project Arboriculturist and Local Authority Tree Officer will be invited to attend a site meeting with all relevant parties. Before any changes are implemented, they must have been approved in writing by the Local Authority Tree Officer.

Supervision

The Project Arboriculturist will be required to attend the 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. Pre-commencement site meeting;
2. Location of protective measures;
3. Manual / Supervised excavation for the installation of foundations within and immediately adjacent to the RPAs of retained trees;
4. Any excavations within and immediately adjacent to RPAs, including foundations, hard surfacing, or underground services (a non-exhaustive list);
5. Removal of protective measures and sign-off.

Completion meeting

Once all construction works have been completed and all materials and machinery have been removed from the site, the Project Arboriculturalist shall be informed and will invite the Local Authority Tree Officer to meet on-site to discuss the process, final remedial works that may be required and sign the development off so that the protective measures may be removed.

Arboricultural Monitoring & Supervision Sign-Off Checklist

16 Castelnau, Barns, London, SW139RU

Tree Number	Task	Date Completed	Signed (Arboriculturalist)	Signed (Site Manager)
All	Pre-commencement site meeting			
All	Sign-off of the location and specification of the protective measures			
All	Completion of demolition			
T14	Manual excavation for the installation of 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			

Appendices

The following documents were released to the Client as appendices to this report:

- Appendix 1: Tree Schedule
- Appendix 2: Arboricultural Impact Assessment
- Appendix 3: Tree Protection Plan
- Appendix 4: Tree Protection Notice
- Appendix 5: Contact Details

If you require clarification of the information contained herein, please do not hesitate to contact us via 01244 661170.

Yours Sincerely,



Phil Gower Dip Arb Lv4 (ABC)

Senior Arboricultural Consultant

07842 416721

philgower@arbtech.co.uk

A large, light grey decorative graphic consisting of two mirrored, stylized house-like shapes pointing towards each other, one above and one below the central text.

Appendix 1: Tree Schedule

BS5837:2012 Tree Survey

Arbtech consulting ltd

Client: Dave Varns
 Project: 16 Castelnau, Barnes, London, SW13 9RU
 Survey Date: 21/08/2024
 Surveyor: Chris Poplett



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 (m ²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC	
		No	Ø (mm)	Spread (m)	Clear (m)							
G01										Estimated Measurements		
Sycamore <i>Acer pseudoplatanus</i>	17	1	600	N	10	2	M	A: 162.9 R: 7.2	Good	C: Good S: Not visible B: Not visible	Off site group comprising of three individual trees. Brick boundary wall obscuring observations of stems and base. Dimensions recorded are the largest represented within the group. X2 dead branches hung up in canopy up to 200mm diameter X 5m length.	B.2 20+ yrs
T01										Estimated Measurements		
Sycamore <i>Acer pseudoplatanus</i>	18	1	260	N	7	2.5	M	A: 30.6 R: 3.12	Good	C: Good S: Not visible B: Not visible	Off site tree. Brick boundary wall obscuring observations of stem and base. Asymmetrical crown shape due to presence of partner trees.	B.2 20+ yrs
T02										Estimated Measurements		
Bay <i>Laurus nobilis</i>	6	7	423 (Eq)	N	2	2	EM	A: 81.1 R: 5.08	Good	C: Good S: Not visible B: Not visible	Off site tree. Asymmetrical crown shape due to presence of partner trees. Concrete boundary wall obscuring observations of stems and base.	C.1 20+ yrs
T03										Estimated Measurements		
Magnolia <i>Magnolia sp.</i>	5	3	175 (Eq)	N	3	2	M	A: 13.9 R: 2.1	Good	C: Good S: Not visible B: Not visible	Off site tree. Concrete boundary wall obscuring observations of stems and base.	C.1 20+ 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)								
T04 Common Yew <i>Taxus baccata</i>	10	1	610	N	3	0	M	A: 168.4 R: 7.32	Good	C: Good S: Good B: Good	Historical pruning works to maintain shape and form to current dimensions.	B.1 40+ yrs	
T05 Viburnum <i>Viburnum Viburnum</i>	4	2	120 (Eq)	N	1	1	M	A: 6.6 R: 1.44	Good	C: Good S: Good B: Good	No significant features have been observed.	C.1 10+ yrs	
T06 Tree of Heaven <i>Ailanthus altissima</i>	9	1	100	N	2	2.5	Y	A: 4.5 R: 1.19	Good	C: Good S: Good B: Good	No significant features have been observed.	C.1 20+ yrs	
T07 Tree of Heaven <i>Ailanthus altissima</i>	9	2	158 (Eq)	N	3	2.5	Y	A: 11.3 R: 1.89	Good	C: Good S: Good B: Good	No significant features have been observed.	C.1 20+ yrs	
T08 Cherry Laurel <i>Prunus laurocerasus</i>	5	1	190	N	2	2	M	A: 16.3 R: 2.27	Good	C: Good S: Good B: Good	No significant features have been observed.	C.1 20+ 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)						
T09											
Cultivated Apple <i>Malus domestica</i>	5	1	320	N E S W	3 3 3 3	2 2 2 2	M A: 46.3 R: 3.83	Fair	C: Fair S: Fair B: Not visible	100mm diameter patch of dysfunctional bark to main stem at 500mm from ground level on southern aspect. Stem angles approximately 20 degrees north. Timber prop erected under main stem. Approximately 20% lower than expected foliage density for age class and species. Vegetation obscuring observations of base.	C.1 10+ yrs
T10											
Bay <i>Laurus nobilis</i>	4	1	120	N E S W	1 1 1 1	1 1 1 1	SM A: 6.5 R: 1.43	Good	C: Good S: Good B: Good	Historically topped at 2m. 50mm diameter regrowth from points of wounding.	C.1 20+ yrs
T11											
Silver Birch <i>Betula pendula</i>	5	1	160	N E S W	3 2 2 3	2 2 2 2	EM A: 11.6 R: 1.92	Good	C: Good S: Good B: Good	Base of tree situated approximately 200mm from brick boundary wall. Tree growing within 200mm brick retained raised bed.	C.1 10+ yrs
T12											
Lawson Cypress <i>Chamaecyparis lawsoniana</i>	4	1	110	N E S W	1 1 1 1	2 2 2 2	SM A: 5.5 R: 1.32	Poor	C: Poor S: Fair B: Good	Crown defoliation by approximately 70%. Dead wisteria attached to upper 50% of canopy. Historical pruning works to raise canopy height to current dimensions.	U <10 yrs
T13											
Lawson Cypress <i>Chamaecyparis lawsoniana</i>	11	1	470	N E S W	2.5 2.5 2.5 2.5	2 2 2 2	OM A: 99.9 R: 5.63	Good	C: Good S: Good B: Good	Historical pruning works to raise canopy height to current dimensions. Root expansion lifting crazy paving on northern aspect.	B.1 20+ 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		Cat ERC	
		No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T14													
Cultivated Apple <i>Malus domestica</i>	9	1	310	N	2	2.5	M	A: 43.5 R: 3.72	Good	C: Good S: Good B: Good	Base of tree situated 200mm. From boundary brick wall. Stem in contact with top of wall at 1.8m. Historical pruning works to reduce canopy height and spread. Approximately 50mm diameter regrowth from points of wounding. Historical pruning works to raise canopy height to current dimensions.	C.1 10+ yrs	
T15													
Magnolia <i>Magnolia sp.</i>	5	3	210 (Eq)	N	4	2	M	A: 19.9 R: 2.51	Good	C: Good S: Not visible B: Not visible	Off site tree. Concrete boundary wall obscuring observations of stems and base. No significant features have been observed.	C.1 20+ yrs	
T16													
Pissards Plum <i>Prunus atropurpurea</i>	7	2	348 (Eq)	N	3	3	M	A: 54.9 R: 4.18	Good	C: Good S: Good B: Good	600mm of included bark were stems bifurcate from ground level. Historical pruning works to raise canopy height to current dimensions.	C.1 10+ yrs	
T17													
Common Horse Chestnut <i>Aesculus hippocastanum</i>	15	1	680	N	4	2	M	A: 209.2 R: 8.16	Good	C: Fair S: Not visible B: Not visible	Historically topped at approximately 8m. 200mm diameter regrowth from points of wounding. Topped again at approximately 11m. 30mm diameter regrowth from points of wounding. Historical pruning works to raise canopy height to current dimensions.	B.1 20+ yrs	
T18													
Common Horse Chestnut <i>Aesculus hippocastanum</i>	15	1	820	N	4	3	M	A: 304.2 R: 9.84	Good	C: Fair S: Good B: Fair	Root zone excavated to a depth of approximately 800mm up to base. Exposed severed ends of roots and root hair up to 20mm diameter. Historically topped at approximately 8m. 200mm diameter regrowth from points of wounding. Topped again at approximately 11m. 30mm diameter regrowth from points of wounding. Historical pruning works to raise canopy height to current dimensions. Three cavities up to 150mm diameter forming from pruning wounds at 2m from ground level on eastern aspect.	B.1 20+ 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)							
T19												
Pissards Plum <i>Prunus atropurpurea</i>	7	2	277 (Eq)	N E S W	3 5 4 4	3 3 3 3	M A: 34.6 R: 3.31	Good	C: Good S: Good B: Fair	800mm deep soil excavation 1m from base of tree on eastern aspect. Fibrous roots exposed up to 20mm diameter. Historical pruning works to reduce canopy height and spread. Approximately 20mm diameter regrowth from points of wounding. Historical pruning works to raise canopy height to current dimensions.	C.1 10+ yrs	
T20												
Pissards Plum <i>Prunus atropurpurea</i>	7	2	396 (Eq)	N E S W	2 6 6 5	2 2 2 2	M A: 71 R: 4.75	Good	C: Good S: Good B: Fair	800mm deep soil excavation 300mm from base of tree on eastern aspect. Fibrous roots exposed up to 20mm diameter. Historical pruning works to reduce canopy height and spread. Approximately 20mm diameter regrowth from points of wounding. Historical pruning works to raise canopy height to current dimensions.	C.1 10+ yrs	
T21												
Common Lime <i>Tilia europaea</i>	3	1	490	N E S W	1 1 1 1	1 1 1 1	M A: 108.6 R: 5.87	Good	C: Fair S: Fair B: Good	Historically topped at 2m. Regrowth to current dimensions. Base of tree situated 150mm from brick boundary wall.	C.1 10+ yrs	
T22												
Common Lime <i>Tilia europaea</i>	3	1	490	N E S W	1 1 1 1	1 1 1 1	M A: 108.6 R: 5.87	Good	C: Fair S: Fair B: Good	Historically topped at 2m. Regrowth to current dimensions. Base of tree situated 150mm from brick boundary wall. 200mm diameter decaying pruning wound at 1.2m from ground level on southern aspect. Existing cavity filled switch concrete.	C.1 10+ yrs	
T23												
Common Lime <i>Tilia europaea</i>	3	1	490	N E S W	1 1 1 1	1 1 1 1	M A: 108.6 R: 5.87	Good	C: Fair S: Fair B: Good	Historically topped at 2m. Regrowth to current dimensions. Base of tree situated 150mm from brick boundary wall.	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

A large, light grey decorative graphic consisting of two stylized, overlapping mountain peaks or rooflines that frame the central text.

Appendix 2: Arboricultural Impact Assessment

Tree Categories

Trees are categorised in accordance with the cascade chart in Table 1 of the British Standards (BS5837:2012) Trees in Relation to Design, Demolition and Construction - Recommendations.

Category U - Trees in such condition that they cannot realistically be retained as living trees in context of the current land use for longer than 10 years.

Category A - Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

Category C - Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter less than 75mm.

Root Protection Area (RPA)

In order to avoid damage to the roots or rooting environment of retained trees, the RPA should be plotted around each of the category A, B & C trees. This is a minimum area (m²) which should be left undisturbed around each retained tree.

The RPA is calculated using the British Standard (BS5837:2012) Trees in Relation to Design, Demolition and Construction - Recommendations. The calculated RPA is based at 75%r², which is the equivalent to a circle with a radius of 3.5m.

Tree Survey Report

Please refer to Arbtech Consulting Ltd. Tree Survey Report (TSR) and Tree Schedule (TS) for full details on all surveyed trees, hedge rows and major shrub groups.

All trees were surveyed and categorised in accordance with the guidance as set out in British Standards (BS5837:2012) Trees in Relation to Design, Demolition and Construction - Recommendations.

Utility Apparatus

Underground utility apparatus

Mechanical trenching for the installation of underground apparatus and drainage serves any roots present and can change the local hydrology in a way that adversely affects the health of trees. For this reason, particular care should be taken in the route and methodology of installation for all underground apparatus. Wherever possible, apparatus should be routed outside of the RPA; where this is not possible, it is preferable to keep apparatus together in common ducts. All inspection chambers should be sited outside of RPA.

Where underground apparatus is to pass within the RPA, detailed plans showing the proposed route should be drawn up in conjunction with the Project Arboriculturalist. In such cases trenchless inspection methods should be used with entry and retrieval pits being located outside of the RPA. If this option is not possible and providing roots can be retained and protected, manual excavations using hand held tools (ear-spade, forks, shovels etc.) or a combination of trenchless and manual excavations (broken trench) should be used.

Any design and installation must be undertaken in accordance with National Joint Utilities Guidelines (NJUG).

Above-ground utility apparatus

Above-ground apparatus (including CCTV cameras and lighting) should be sited to avoid the need for detrimental tree pruning, as such the current and future crown size of the tree should be assessed.

Tree branches can be pruned back with care to provide space, though it is not appropriate for repetitive and significant tree works to an initial design solution unless this is a suitable management outcome for the tree. Any pruning must be undertaken in accordance with BS3998:2019.

Note: The following trees have been removed since the date of the initial survey under the following section 211. notices:

T19 - 24/T0581/TCA
 T21, T22, T23 - 24/T0786/TCA
 T13, T04 - 24/T0668/TCA

Impact: Proposed structure situated within the RPA of tree T14.

Mitigation: The resulting incursion from the proposed structure is limited to <1% and located on the peripheral of the RPA. It is therefore considered that the use of a standard foundation design will not have a discernable impact on the longevity of the retained tree; all required excavations are to be undertaken manually and under the direct supervision of the Project Arboriculturalist.

Utility Apparatus

Underground utility apparatus

Mechanical trenching for the installation of underground apparatus and drainage serves any roots present and can change the local hydrology in a way that adversely affects the health of trees. For this reason, particular care should be taken in the route and methodology of installation for all underground apparatus. Wherever possible, apparatus should be routed outside of the RPA; where this is not possible, it is preferable to keep apparatus together in common ducts. All inspection chambers should be sited outside of RPA.

Where underground apparatus is to pass within the RPA, detailed plans showing the proposed route should be drawn up in conjunction with the Project Arboriculturalist. In such cases trenchless inspection methods should be used with entry and retrieval pits being located outside of the RPA. If this option is not possible and providing roots can be retained and protected, manual excavations using hand held tools (ear-spade, forks, shovels etc.) or a combination of trenchless and manual excavations (broken trench) should be used.

Any design and installation must be undertaken in accordance with National Joint Utilities Guidelines (NJUG).

Above-ground utility apparatus

Above-ground apparatus (including CCTV cameras and lighting) should be sited to avoid the need for detrimental tree pruning, as such the current and future crown size of the tree should be assessed.

Tree branches can be pruned back with care to provide space, though it is not appropriate for repetitive and significant tree works to an initial design solution unless this is a suitable management outcome for the tree. Any pruning must be undertaken in accordance with BS3998:2019.

Tree Categories

Trees are categorised in accordance with the cascade chart in Table 1 of the British Standards (BS5837:2012) Trees in Relation to Design, Demolition and Construction - Recommendations.

Category U - Trees in such condition that they cannot realistically be retained as living trees in context of the current land use for longer than 10 years.

Category A - Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

Category C - Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter less than 75mm.

Root Protection Area (RPA)

In order to avoid damage to the roots or rooting environment of retained trees, the RPA should be plotted around each of the category A, B & C trees. This is a minimum area (m²) which should be left undisturbed around each retained tree.

The RPA is calculated using the British Standard (BS5837:2012) Trees in Relation to Design, Demolition and Construction - Recommendations. The calculated RPA is based at 75%r², which is the equivalent to a circle with a radius of 3.5m.

Tree Survey Report

Please refer to Arbtech Consulting Ltd. Tree Survey Report (TSR) and Tree Schedule (TS) for full details on all surveyed trees, hedge rows and major shrub groups.

All trees were surveyed and categorised in accordance with the guidance as set out in British Standards (BS5837:2012) Trees in Relation to Design, Demolition and Construction - Recommendations.

Utility Apparatus

Underground utility apparatus

Mechanical trenching for the installation of underground apparatus and drainage serves any roots present and can change the local hydrology in a way that adversely affects the health of trees. For this reason, particular care should be taken in the route and methodology of installation for all underground apparatus. Wherever possible, apparatus should be routed outside of the RPA; where this is not possible, it is preferable to keep apparatus together in common ducts. All inspection chambers should be sited outside of RPA.

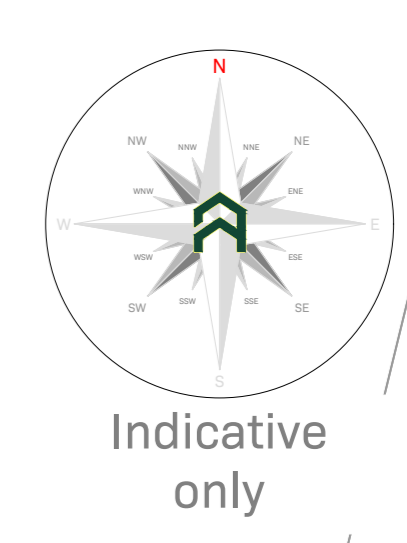
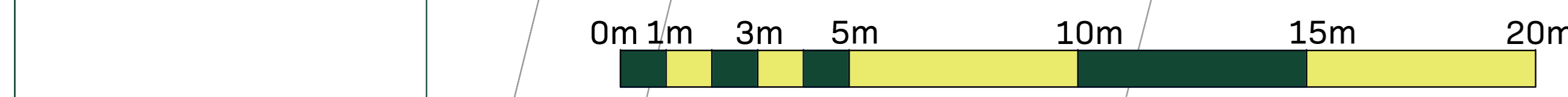
Where underground apparatus is to pass within the RPA, detailed plans showing the proposed route should be drawn up in conjunction with the Project Arboriculturalist. In such cases trenchless inspection methods should be used with entry and retrieval pits being located outside of the RPA. If this option is not possible and providing roots can be retained and protected, manual excavations using hand held tools (ear-spade, forks, shovels etc.) or a combination of trenchless and manual excavations (broken trench) should be used.

Any design and installation must be undertaken in accordance with National Joint Utilities Guidelines (NJUG).

Above-ground utility apparatus

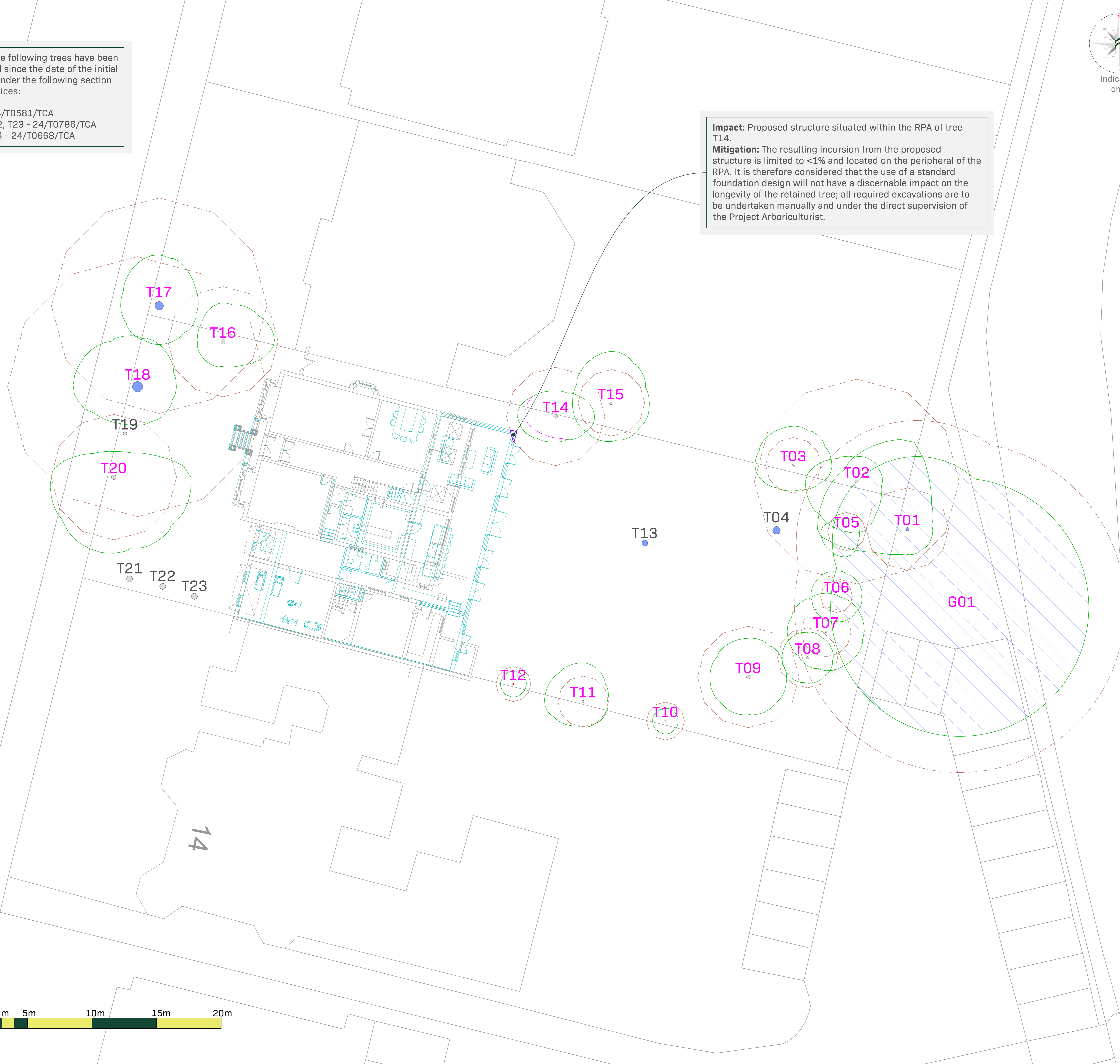
Above-ground apparatus (including CCTV cameras and lighting) should be sited to avoid the need for detrimental tree pruning, as such the current and future crown size of the tree should be assessed.

Tree branches can be pruned back with care to provide space, though it is not appropriate for repetitive and significant tree works to an initial design solution unless this is a suitable management outcome for the tree. Any pruning must be undertaken in accordance with BS3998:2019.



Indicative only

Track



Arbicultural Impacts		No. of Trees	
Trees to be removed		0	
Structures / hedgerows to be removed (partial removal)		0 (0)	
Trees with proposed structures into the RPA		1	
Structures / hedgerows with proposed structures into the RPA		0	
Trees that require pruning		1	
Structures / hedgerows that require pruning		0	
Trees to be transplanted		0	
Structure / structures to be transplanted			
No.	Species	Proposed Structure	Incursion
T14	Cultivated Apple	Extension	RPA

Arbicultural Impacts - RPAs (Area)				
No.	Species	RPA	Incursion	(%)
T14	Cultivated Apple	43.0	0.3	0.8

Tree Work Schedule				
No.	Species	Work	Weeks	Category
T14	Cultivated Apple	Crown reduce within RPA	1-2	C1

All tree work is to be undertaken in accordance with British Standards BS5837:2012 Tree Work - Recommendations. All structures are to be removed and the site left flat and level. Care is to be taken to ensure that the ground around retained trees does not become compacted as a result of tree surgery operations. No equipment or vehicles such as that used for soil compaction, tamping, excavation, or other work is to be parked or driven beneath the crowns of any retained trees to prevent subsequent compaction and tree death.

Rev.	Date	Notes
1	25/03/2024	Issue assessment

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

Project: 16 Castelnau Barns, London SW13 9RU

Client: Dave Varns

Drawing: Arbicultural Impact Assessment

Based on: 007/100-W02_02

Drawing No: Arbtech AIA 01 **Rev:** --

Date: Oct 2024 **Scale:** 1:100 @ A0 **Drawn:** PDG

Key:

- Existing Site Layout
- Proposed Site Layout
- Tree Numbers
- Tree Trunk
- Tree Canopy
- Root Protection Area
- Category 'U' Tree
- Category 'B' Tree
- Category 'C' Tree
- Category 'U' Tree
- Tree Removed
- Proposed Pruning / Reduction
- Incursion / Structures

A large, light grey, stylized house icon that serves as a background for the page. It is composed of several thick, geometric shapes forming a roof and walls.

Appendix 3: Tree Protection Plan

Protective Fencing (Trees)

Protective fencing is to be erected prior to the commencement of any and all works on site and retained in place for the duration of the development.

Default Specification: To comprise of either 2.4m wooden site hoarding; or a 2.3m high scaffold framework comprising of vertical and horizontal 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.

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 should be supported on the inner side by stabilizer struts, which should be attached to a base plate and secured with ground pins.

All weather notices are to be attached at regular intervals on the field mesh panels with words such as "Construction Exclusion Zone - KEEP OUT".



Trunk Protection

Protective Trunk Wrapping: To be attached to the trunks of retained trees prior to the commencement of any and all works on site, and retained in place for the duration of the development. Wrapping is to comprise of a minimum of three layers of clean dry hessian around the trunk from ground level up to a minimum of 2.3m high and held in place using sisal. Once the hessian a minimum of three wraps of chestnut palling held in place by 2.5mm mild steel galvanized wire in three locations and fixed into place using fencing staples fixed into the chestnut palling.

Protective Hoarding: To be erected prior to the commencement of any and all works on site, and retained in place for the duration of the development. Hoarding is to comprise of 2.4m wooden site hoarding constructed upon a timber frame work, where the timber frame is constructed around the trees trunk a minimum of four layers of clean dry hessian is to be wrapped around the trunk to protect the bark.

All weather notices are to be attached with words such as "Construction Exclusion Zone - KEEP OUT".

Ground Protection

The existing hard surfacing within the RPAs of retained trees provides passive protection against compaction to the underlying soil and therefore must be retained for the duration of the project. If removed, it shall be done so under the direct supervision of the Project Arboriculturist and be replaced either with the new surface treatment or with suitable ground protection, capable of withstanding the likely loading for the site.

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 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 2 t 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 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 in conjunction with arboricultural advice, to be able to support 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 function remains unimpacted.

Supervised Excavation

All excavations situated within partially or completely within the RPAs of retained trees are to be undertaken manually, unless other wise permitted and under the direct supervision of the Project Arboriculturist.

Any roots that are to be cut will be cleanly severed by the Project Arboriculturist using a suitably sharp hand saw or secateurs. The edge of all excavations closest to the retained trees will be covered with damp hessian to prevent drying out, and where necessary be shrouded to prevent soil collapse or contamination by concrete. If appropriate soil beneath the depth of the excavation may be sheet piled, regular piled or have individual piles installed.

Manual excavation: Excavations within the RPAs of retained trees will initially be undertaken by hand under the direct supervision of the Project Arboriculturist to a minimum depth of 600mm (to be confirmed by the Project Arboriculturist, whether its for proposed foundations, hard surfacing or underground services. The soil is to be loosened with the use of a fork or pick and/or air-spade and then cleared with a shovel and/or the aid of an arctic.

Mechanical excavation: In some situations and at the discretion of the Project Arboriculturist, excavation within the RPAs may be able to consist of a mixture of mechanical and manual excavation. Where an excavator is used it will be fitted with a suitably sized toothless grading bucket, using a grading / scraping motion rather than digging. During each motion the excavator should be restricted to removing no more than 10 - 20mm of soil in any one pass. If any roots are discovered, mechanical excavation will be stopped immediately and manual excavation will take over to expose the root, upon the root being uncovered and either severed or protected the excavations can then continue. Any excavator or other machinery that is to be used will be situated outside the RPAs of all retained trees or on top of suitably constructed ground protection.

Where an excavator or any other machinery is to be used within RPAs or beneath canopies the Project Arboriculturist will clearly instruct the operator about what they want and expect to happen prior to any works may commence.

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective Fencing

Supervised Excavation

Arboricultural Supervision:
Manual excavations for the installation of foundations within the RPAs of retained trees T14.

Trunk Protection

Ground Protection

Protective

A large, light grey, stylized house shape that serves as a background graphic for the page. It has a wide base, a vertical stem on the left, and a peaked roof with a small chimney-like protrusion on the left side.

Appendix 4: Tree Protection Notice

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

A large, light grey, stylized house graphic that serves as a background for the page. It has a simple, geometric design with a gabled roof and a chimney-like structure on the left side.

Appendix 5: 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		

Document Production Record

Document number	Editor	Signature	Position	Issue number	Date
Arbtech AMS 01	Phil Gower		Senior Arboricultural Consultant	01	21/11/24

Report Limitations

Arbtech Consulting Ltd has prepared this report for the sole use of the above-named Client/Agent in accordance with our terms of business, under which our services were performed. No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Ltd. The assessments made assume that the sites and facilities will continue to be used for their current purpose without significant change. The conclusions and recommendations contained in this report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested. Information obtained from third parties has not been independently verified by Arbtech Consulting Ltd.

Copyright

© This Report is the copyright of Arbtech Consulting Ltd. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.