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 weld mesh panels with words such as "Construction Exclusion Zone – KEEP OUT".

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

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

Ground Protection

The existing/ replacement hard surfacing within the RPA 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 manually and under the direct supervision of the Project Arboriculturist; it must be replaced immediately with either the new hard 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:

Pedestrian movments 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;

Pedestrian-operated plant up to 2t (gross weight): 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;

Wheeled/Tracked traffic exceeding 2t (gross weight): An alternative system (e.g. proprietary system or pre-cast reinforced concrete slabs) to be designed by a suitably qualified person to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

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

Supervised Demolition

All demolition works situated either partially of completely within the RPAs of retained trees or in close proximity to their canopies are to be undertaken manually; unless other wise permitted and under the direct supervision of the Project Arboriculturist.

Hard surfacing:
The wearing course will be broken up using hand tools, such as a hand held pneumatic breaker, etc,. If it is necessary to remove the sub base this is to be undertaken using hand tools such as a fork to loosen the material and removed using shovels and wheels barrows. In some situations and at the discretion of the Project Arboriculturist, it may be possibly to use an excavator combined with 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 suitably constructed ground boarding. Which ever system is used there is to be **NO** disturbance of the soil beneath. If roots are found they are to be covered with damp hessian and a layer of either sharp sand, wood chip or top soil to prevent desiccation.

Structures: Where it is necessary for the foundations to be removed they are to only be removed where critical to the proposed development and to the minimum depth required. The foundations will be broken up using hand tools, such as a hand held pneumatic breaker, etc,. In some situations and at the discretion of the Project Arboriculturist, it may be possibly to use an excavator combined with 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 suitably constructed ground protection. If it is likely that there will be any collapse of the soil within the rooting environment excavation is to be stopped immediately and the trench is to be shored up to prevent loss of the rooting environment. Which ever system is used there is to be **NO** disturbance of the soil on the tree side of the foundations. If roots are found they are to be covered with damp hessian and a layer of either sharp sand, wood chip or top soil to prevent desiccation.

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.

Supervised Excavation

All excavations situated either partially of 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 shuttered 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 air-vac.

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 / scrapping 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 of 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.

Foundations within RPAs

The use of traditional strip foundations within the RPAs of retained trees can result in excessive root loss and as such should be avoided. Designs for foundations that would minimize the adverse impact upon trees should include particular attention to the existing levels, proposed finished levels and cross sectional details. Site specific and specialist advice should be sought from the Project Engineer and Arboriculturist. Root damage can be minimized by using:

-- Piles located so as to avoid damage to roots in excess of 25mm diameter through the use of site investigations.
-- Beams, laid at or above ground level, and cantilevered as necessary to avoid tree roots identified by site investigation.

Site investigations for the location of piles and/or beams are to be carried out manually and under the direct supervision of the Project Arboriculturalist to a minimum depth of 600mm.

Where a slab for minor structures such as a shed base, etc,, is to be formed within the RPAs of retained trees, it should be constructed so as to bear on the existing ground level, and should not exceed an area greater than 20% of the existing unsurfaced ground within the RPA(s).

Slabs for larger structures such as dwellings, etc,, should be constructed with a ventilated air space between the underside of the slab and the existing soil surface (to enable gas exchange and venting through the soil surface. In such cases, a specialist irrigation system should be employed (e.g. roof run-off redirected under the slab). The design of the foundation should take into account the effect on the load bearing properties of the underlying soil from the redirected roof run-off. Approval in principle for a foundation that relies on topsoil retention and roof run-off under the slab should be sought from building control authority prior to this approach being relied upon.

Where piling is to be installed near to trees, the smallest practical pile diameter is to be used, as this reduces the possibility of striking major tree roots, and reduces the size of the rig required to sink the piles. If a piling mat is required, this should conform to the parameters for ground protection. Use of the smallest practical piling rig is also important where piling within the canopy spread is proposed, as this can reduce the need for access facilitation pruning. The pile type should be selected bearing in mind the need to protect the soil and adjacent roots from the potentially toxic effects of uncured concrete, e.g. sleeved bored piles or screw piles.

This information is compliant with British Standard BS5837:2012 Trees in relation to design demolition and construction – Recommendations, section 7.5 Special engineering for foundations within the RPA.

'No-dig' Surfacing

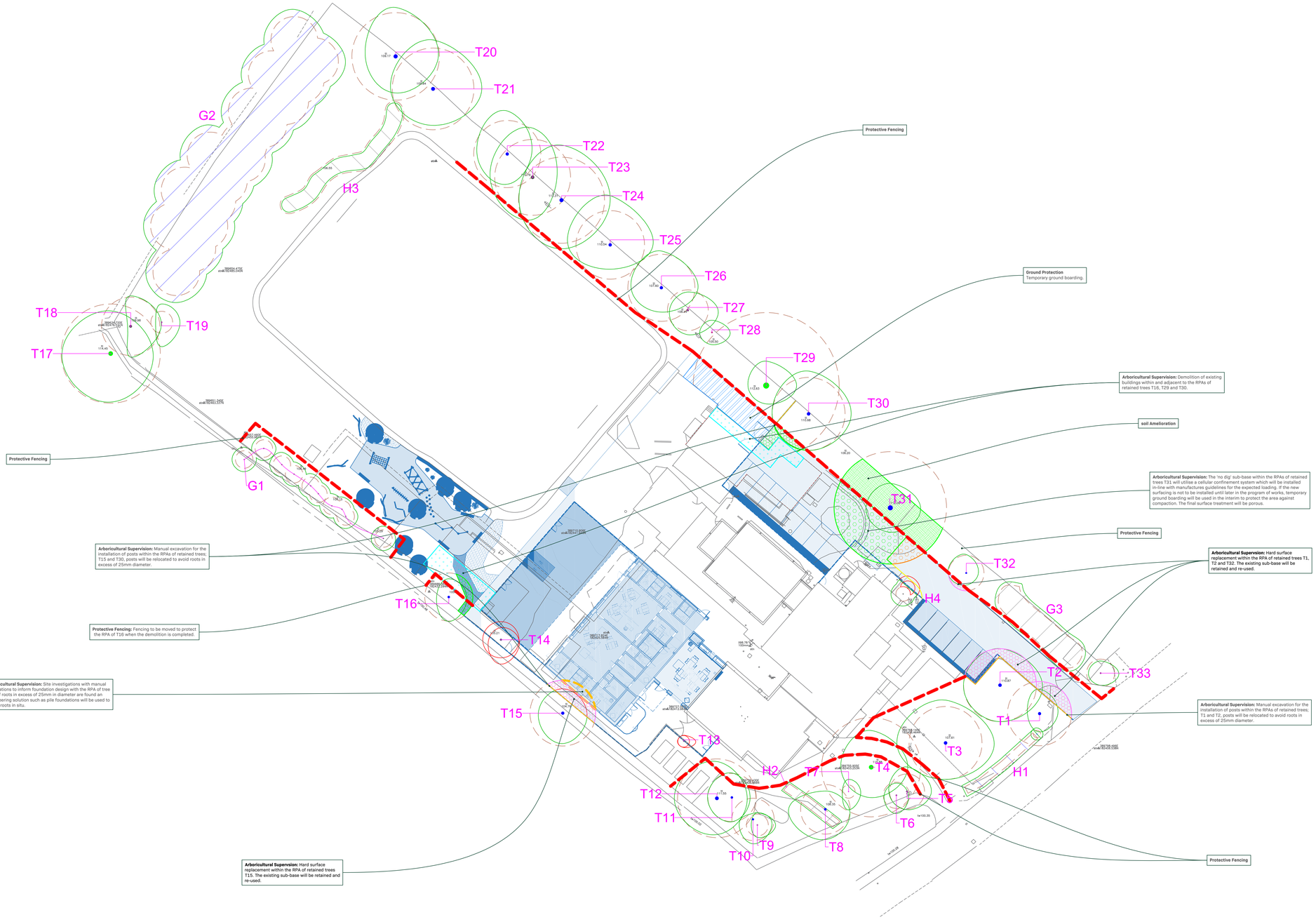
Multi-dimensional confinement system: Prior to the installation of the new 'no-dig' surfacing, existing vegetation may be removed either with hand tools or sprayed with an approved non-residual herbicide such as 'Glyphosate'. Any small hollows on the surface may be filled with clean sharp sand (not builders sand) to a maximum depth of 150mm.

The new hard surfacing will utilise a 'No-dig' sub-base such as a a proprietary cellular confinement system (GeoWeb or similar) laid over a bi-axel geo-grid (tensar TriAx or similar) so that it can be constructed entirely above the existing soil level. The 'GeoWeb' is to be back filled by hand with a no-fines aggregate of 20mm – 30mm. The area of 'GeoWeb' will be covered with a permeable geotextile fabric and the finished wearing course laid on top. Edge supports of an appropriate size and strength are to be set above ground level and secured with haunching or steel pins driven into the ground. the outer edge of the supports may be banked up with clean top soil.

Note: The use of a multi-dimensional confinement system will affect the finished level of the hard surfacing by raising the levels and needs to be considered when designing foundations and setting the finished floor levels of adjacent buildings.

Engineered solution: Where an engineered solution is to be used it is to be designed by a suitably qualified person in conjunction with the advice of the Project Engineer, Arboriculturist and the resulting site specific investigations. Any and all excavations required during the site investigation and design stage or for the installation of foundations are to be undertaken manually and under the direct supervision of the Project Arboriculturist. A full and detailed design for the proposed engineered surfacing and the associated foundations will be provided by the Project Engineer and design team.

Indicative only



0m 5m 10m 15m 20m 25m

Soil Amelioration

On completion of the proposed development, the area indicated in the Arboricultural Tree Portection Plan (Arbtech TPP01) will be subject to soil amelioration to restore the soil conditions where the existing structure was situated and mitigate the loss of the notional RPAs for retained trees T31 therefore improving the soil conditions for root development within the on-site RPAs of retained trees.
Soil is a natural medium in which plant roots propagate. It is formed of a combination of mineral aggregates of varying sizes, organic matter, macropores, and micropores. Macropores are larger spaces between aggregates that allow the soil to be aerated. Micropores are smaller, generally holding water that is available to plants via their roots. Roots use the air in the soil and grow through this medium when the bulk density of the soil is below a particular threshold.
The action of downward loads to the surface of the soil from installation and the use of hard surfacing can cause the soil to be compressed, closing up first the macropores and, ultimately, micropores. This increases the bulk density of the soil and is referred to as compaction. A compacted soil is less aerated and has a greater bulk density than a well-formed soil. This has two significant negative effects on roots within that growing medium:
1) Root cells respire. They use oxygen from the soil for chemical processes and expel carbon dioxide into the soil. Gaseous exchange must be possible between the soil and the atmosphere to enable the ingress of oxygen and the egress of expelled carbon dioxide to the soil around a healthy root. Soil compaction closes the macropores between the soil aggregates and reduces/stops this gaseous exchange.
2) Root elongation is only possible within soil bulk densities below a particular threshold. soil compaction increases soil bulk density and can limit/stop new root development.
Installation of an impermeable surface over the rooting volume can also limit irrigation and ventilation of soil.
To improve the soil structure in the rooting area of retained trees it will be decompacted and organic matter added

Arboricultural Method Statement

All tree works must be undertaken in accordance with British Standards. Please refer to the Tree Schedule, Arboricultural Method Statement & Tree Protection Plan, for full details of all surveyed trees and how the development maybe implemented without detriment to retained trees.

Tree Work Schedule

Ref.	Species	Works	Category
T13	Silver birch	Fell: Remove tree and remove stump	C1
T14	Common whitebeam	Fell: Remove tree and remove stump	C1
T15	Common hawthorn	Prune: Selective branch reduction pruning to the boundary line.	B1
T30	Norway maple	Prune: Crown lift to 3 m for fence line clearance	B1
T31	Weeping willow	Prune: Re-pollard	B1
H4	Privet	Prune: Reduce back to proposed fence line	C2

All tree work is to be undertaken in accordance with British Standards (BS)3998:2010 Tree Work - Recommendations. All arisings are to be removed and the site left as it was found. 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 (but not limited to) timber lorries, tractors, excavators, or cranes are to be parked or driven beneath the crowns of any retained trees to prevent subsequent compaction and root death.

Arboricultural Supervision

The arboricultural consultant will be required to attend site to directly supervise all demolition and construction works that have to be undertaken within the root protection areas. This will include:
1. Pre-commencement site meeting.
2. Location of protective measures.
3. Supervised demolition of structures within and adjacent to RPAs of tree nos.T15, T29 and T30.
4. Relocations of tree protective measures
5. Supervised excavations for fence posts within RPAs of tree nos.T1, T2, T15, T29 and T30.
6. Installation of 'No Dig' hard surfacing and replacement hard surfacing within the RPAs of tree nos. T1, T2, T15 T16, T29, T30, T31 and T32.
5. Supervised excavations/ site investigation to inform building foundations f within RPAs of tree nos. T15.
6. Any demolition and or excavations within or adjacent to RPAs, including foundations, hard surfacing or underground services (a non-exhaustive list).
7. Arboricultural sign off and removal of protective measures.

Referenced Documents

Title:	Originator:	Drawing Number:	Key
Existing Ground Floor Plan	Footprint Architects	2425-FTP-XX-HSOO-DR-A-1004	
Proposed Site Plan	Footprint Architects	2425-FTP-ZZ-HSOO-DR-A-1005	

Rev:	Date:	Notes:
01	24/04/2026	Initial arrangement.

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

Address:
Hullavington Primary School, The Street, Hullavington, Chippenham, Wiltshire, SN14 6EF

Client:
Stepnell

Drawing:
Tree Protection Plan

Project No.:	Drawing No.:	Revision No.:
43495563	TPP01	01

Date:	Scale:	Drawn:
Apr 2026	1:250@A0	AOJ

Tree Key:

Tree/Group number:	1T	Tree Canopies:		Trunks:	
Root Protection Area:		Ancient / Veteran Tree Buffer Zone:		Ancient woodland Extent (BS5837)	
Category 'U' Tree Stems (BS5837)		Category 'U' Tree Groups (BS5837)		Category 'A' Tree Stems (BS5837)	
Category 'A' Tree Groups (BS5837)		Category 'B' Tree Stems (BS5837)		Category 'B' Tree Groups (BS5837)	
Category 'C' Tree Stems (BS5837)		Category 'C' Tree Groups (BS5837)		Category 'V' Tree Stems:	
Category 'V' Groups:		Basic Shading Arc:		Trees to be Removed:	

All dimensions should be checked on site. No dimensions are to be scaled from this drawing.
Please notify us of any discrepancies found. Arbtech Consulting Ltd. cannot be held responsible for inaccuracies in the base drawing in which this plan is based.
This drawing has been designed to reflect the principles of the layout or design only, and relates only to the protection of retained trees.
This drawing is not to be read as a definitive part of the engineering or construction designs or method statement. An architect or structural engineer should be contacted over any matters of construction, detailing or specification and for any standards or regulatory requirements relating to proposed structures, hard surfacing or underground services.
This drawing was produced in colour - a monochrome copy should not be relied upon.

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