BS5837:2012 'Trees in Relation to Design, Demolition and Construction Report.

Project: Arboricultural Impact Assessment & Arboricultural method Statement for the proposed new cabins at Glenny wood scout camp.

Site: Glenny Wood Scout Camp.
Wood Lane,
Clapton in Gordano.
N. Somerset.
BS20 7RQ.
Grid ref: ST472 733

Client: Glenny wood scout camp.

Date: 20th February 2025

Consultation and report prepared by Oliver Frost **BSc (Hons), HNC Arb,**
of O. Frost Forestry & Arboriculture Ltd.

Contents

1.0 Introduction.

1.1 O Frost Forestry & Arboriculture Ltd has been instructed by the managers of Glenny wood scout campsite to provide an initial Arboricultural Impact Assessment (AIA) for the specified site at Glenny Wood Scout Camp. This is to inform on the arboricultural implications when considering the proposed development of installing camping cabins.

1.2 The purpose of the survey has been to initially establish the location, and ascertain the value and quality, of the trees present on and adjacent to the site in accordance with BS5837:2012 'Trees in Relation to Design, Demolition and Construction'. The survey therefore includes all on-site trees and any off-site trees likely to be of significance to proposals for the development area. Small individual trees below 75mm in diameter at 1.5m in height from ground level may not been surveyed. In addition, trees under 150mm dbh when growing in groups as these individuals are classified as low retention value as per BS5837 guidelines. Where trees are near each other, the more dominant trees with the greatest stem diameter and the edge trees have been surveyed as it is considered that their root protection areas and crown spreads will envelope the smaller specimens.

1.3 The survey is to be used to inform layout design and justifiably amalgamate appropriate elements of existing tree cover with proposed developments. A proposed layout for the site has been made available to the consultant and has been illustrated in the tree protection plan in the Appendix.

1.3.1 Supported by a Tree Schedule as viewed in Appendix 1, this document firstly provides a summary of the existing tree cover consistent with the requirements of BS5837:2012. The document continues to provide an overview of the constraints the trees present and makes recommendations for tree protection and integration during the construction process in the form of the arboricultural method statement (AMS) also included in this report. A tree protection plan is included that sets out points to consider when carrying out construction work around the retained trees.

1.3.2 This summary report in no way constitutes a health and safety survey. Where concerns for tree health and safety exist, the necessary and appropriate tree inspections should be commissioned.

2.0 The Site.

2.1 Land Designations.

Planning Authority.

North Somerset District Council is the planning authority for the surveyed site.

TPO Status,

A woodland TPO exists for part of the Glenny wood campsite.
The reference is: 278W. (Resource: https://map.n-somerset.gov.uk/dande.html)
In terms of the trees close to the proposed build area, this affects T1.

Conservation Areas and other Land Designations.

The surveyed site is not within a conservation area.
Resource used: https://map.n-somerset.gov.uk/dande.html

2.2 Site Description and Tree Asset Description.

The survey site for the tree constraints plan as viewed in in Appendix 3 is currently a grass area clear of trees. The area is used for camping by scout groups. There are trees around the proposed area that will, in part, use the area as a favourable rooting environment.

As part of the survey process the trees have been categorised as determined by the BS5837 standard. These categories can be viewed in Appendix 2. Of the tree surveyed it is considered T1 is an A1 category due to size, current health and prominence. T8, T9, T11 & T12 are considered to be of category B trees due to age, condition, life expectancy and form. T8 is an ash with no specific ash dieback disease at present. The remaining trees, shrub and hedge are considered as C category due to the relatively young age or poor condition and reduced life expectancy. Where young tree age may mean removal, replacement and growth to a similar size can be achieved within 10yrs

It should be noted that there is no evidence of recent tree removal in close proximity to the build area.

3.0. The Trees, Constraints & Opportunities for Development.

As discussed, the trees that may potentially be impacted upon have been surveyed and are illustrated in Appendix 3 – The constraints plans. The plan details the tree's location and canopy spread.

A TOPO was supplied to the surveyor and this has been used to plot the stem centres.

3.1 Root Protection Areas. (RPA's).

The root protection area is an area calculated on a radius of 12 times the stem diameter at breast height (DBH). This gives a rooting area that is deemed sufficient for the sustained survival of the trees in question. In its simplest form, it is plotted as a circle around the stem. In practice, a rooting area is potentially not likely to be evenly spread. Abiotic factors such as physical boundaries, excavations and compacted ground will limit a favourable rooting environment. Conversely, roots will be opportunistic of favourable rooting environments and may defy perceived rooting patterns set as guidance in BS5837. In the event of an adjusted rpa, the m2 must still equal that of the original calculation. The constraints plan illustrates the RPAs of trees surveyed.

In this case the RPAs of the surveyed trees T1 and T8 have been amended due to perceived less favourable rooting areas under the existing building and compacted footfall areas.

For retained trees, protection measures must be implemented to protect the trees and their RPAs during and after construction with fencing, ground protection and engineering solutions if considered necessary.

The constraints plans in Appendix 3 illustrates the RPA's of the surveyed trees. The arboricultural method statement (AMS) in section 4.0 sets out measures to be considered to protect roots during a construction phase.

3.1.1 Foundations and soil type.

No root investigation trial pits or trenches have been carried out at this stage. However, if the soil have a clay content with impeded drainage they will be susceptible to shrinkage. The ability for clay soils to seasonally shrink due to adjacent trees should be a consideration when designing foundation specifications in terms of depth and compressibility. It is advised to consult with NHBC section 4.2 – Building near trees.

3.2 Shade impact on the proposed build.

Shade cast throughout the day & crown size of the surveyed trees are illustrated on the constraints plan. This information is to be used by the architect to inform the design.

3.3 Tree health comments.

Tree health is taken into consideration in influencing the life expectancy.

T2, T8 and T10 are ash (*Fraxinus excelsior).* T2 and T10 have specific signs of ash dieback disease where the considered outcome is a decline to death as the disease progresses. T8 does not currently have specific signs. T8 has been surveyed based on its current state.

4.0 Arboricultural Method Statements (AMS) & Tree Protection Plan (TPP).

The AMS is based on the factors to consider when planning and designing a proposed development with the site's retained trees. The tree protection plan has been provided in Appendix 4 having been influenced by the Arboricultural Impact Assessment (AIA) in section 3.0 of this report.

4.1 Timings of Operations.

Before any site clearance, material storage, demolition or construction works commence, a suitably qualified arboricultural consultant should be appointed to oversee the development works from commencement to completion.

The timing of all operations is essential if trees are to be effectively protected. Figure 1 of BS5837 provides guidance for the sequential order of events on development sites. The timing for the site operations shall occur in the following sequence guide.

1. Carry out tree/hedge removal and tree surgery works as necessary.
2. Site meeting. (See section 4.3 for details)
3. Erect Tree Protection Fencing (TPF) & Ground protection (See section 4.4 for details).
4. Set up site office/car parking and storage area if required away from root protection zones.
5. Carry out construction work as required. (See Section 4.4 to 4.11 for details and TPP in Appendix 4).
6. After construction and landscaping activity is completed on the build, remove protective fencing after approval from the project arboriculturist.
7. Re-Inspection of trees (See Section 4.12 for details)

The appointed arboricultural consultant may be retained to approve commencement and completion of each phase before progression to the next phase.

4.2 Tree Surgery Works & Tree Removal.

4.2.1 If Crown pruning works are deemed required as the development progresses, pruning works must be carried out by an appropriately experienced and qualified arborist so as to conform with the recommendations within Paras 7.7, 7.7.1 & 7.7.2 pages 27-28 ("Crown Reduction and Re-Shaping") of British Standard 3998:2010 – Tree Works.

Due to direct impacts to site trees and declining health of ash trees, it is considered necessary for T2, T3, T4, T5, T6 & T10 to be removed as shown on the tree protection plan.

4.2.3 The Presence of Statutory Protection.

Contractors must satisfy themselves that all necessary permissions from the local planning authority or 3rd party tree owners are in place before carrying out any tree works.

Trees may be protected by: -

- Tree Preservation Orders
- Conservation Area status – As discussed.
- Planning Conditions
- Or be owned by a third party

4.2.4 Tree Work Quality.

Tree work will be conducted by suitably qualified and experienced contractors. These works will be conducted in accordance with BS 3998:2010 Tree Work Recommendations and current best practice.

4.2.5 Disturbance of Wildlife

Checks will be made for: -

- Nesting birds
- Bat roosts
- Badger sets
- Hibernating animals

This will be made before pruning or tree removal works are undertaken as negligent disturbance is an offence under the EC Habitat Directive 1992, The Habitat Regulations (as amended 2017) and the Wildlife & Countryside Act 1981.

4.3 Arboricultural Supervision & Monitoring.

A site meeting before works starts between the parties below will be held: -

- Local Authority Tree Officer (TO) if deemed necessary by the TO.
- Architect
- Site Manager
- Main Contractor
- Landscape Architect (if applicable)
- Appointed Arboricultural Consultant.

The purpose of the pre-commencement meeting is to state the exact locations of Tree Protection Fencing and ground protection in accordance with the approved tree protection plan and the approved arboricultural method statement,
Measurements to aid in locating the tree protection fence are marked on the protection plan in Appendix 4.

4.4 Tree Protection fence.

Where construction is not taking place and access is not required a protective fence will be positioned in accordance with the approved tree protection plan.

The tree protection fence will be installed after any tree removal works and before construction works take place.

The fence protects the RPA, the stem and crown of retained trees from direct damage; including root damage and mechanical damage to the above ground parts. It also prevents the stacking of materials on the RPA and prevents the spillage of contaminants such as cement onto the RPA. It also protects the rooting areas from soil compaction by machinery and pedestrian movements.

The location of the fence is to be agreed with the planning officer as per the AMS and is laid out to encompass the RPA's where access is not required as shown on the Tree Protection Plan in Appendix 4

Appendix 5 is an extract from the BS5837:2012 and illustrates the default protective fence specification. The positioning of the fence and build quality is to be approved by the appointed arboriculturalist. Where existing timber fences are in place, this is considered to serve the same purpose.

The approved Tree Protection Fencing and signage installations shall remain un-disturbed and in-situ in their entirety for the duration of the construction of the development and may only be moved, removed or dismantled with the prior consent of the appointed arboricultural consultant.

The signs on the fence will draw attention to the no access requirement. Examples of signs are shown in Appendix 5. These signs will be durable, and all weather and they will clearly state 'Tree Protection Zone, No Access to Site Traffic' so that all site operatives understand the significance of the construction exclusion zone (CEZ).
Confirmation (to include photographs) that the Tree Protection Fencing and signage has been installed in-accordance with the final approved Tree Protection Plan will be provided to the local authority by the project manager.

4.5 Works within the RPAs.

Construction-related activities and excavations are not encouraged to take place within the designated RPA's of retained trees. Based on the site there may well be a need for works within RPA of T1. There needs to be engineering solutions to avoid strip foundations which will lead to root severing.

4.5.1 Ground protection.

Where access within the RPAs is required, ground protection must be used to prevent soil compaction and root damage. The ground protection must be in place and approved by the project arboriculturalist before construction works take place. The type of protection will depend on the type and weight of machinery and materials to be used. The aim of the ground protection is to allow access to site traffic without distorting or compacting the underlying soil.

The specification of the ground protection will depend on the following:

i/ For pedestrian movements only, a single thickness of scaffold boards on a compression resistant layer of 100mm depth of woodchip laid onto a geotextile membrane.

ii/ For pedestrian operated plant up to a gross weight of 2 tons, interlinked ground protection board on top of 150mm of compression resistant woodchip laid onto a geo textile membrane.

iii/ For wheeled or tracked construction exceeding 2tons, an alternative system is required specified by an engineer in conjunction with an arboriculturalist. This may comprise of precast concreate slabs, steel plates or a cellular confinement system that does not distort under compression. The figure in section 4.7.3 illustrates example specifications for working within the rpa.

4.6 Demolition and Construction Works within the RPAs.

Demolition of existing structures will not be necessary. Ground works will involve levelling the platforms for the cabin installation in the grass area. There is the potential for root damage to T1 in this process. In this area as shown on the protection plan, the groundworks will be carried out using hand tools.

Appropriate manual tools are: -
- Pneumatic drill
- Crowbar
- Sledgehammer
- Pick/shovel/spade/fork/mattock
- Wheelbarrow

Debris not to be removed across retained RPAs to prevent soil compaction.

It is possible that roots of T1 will be exposed during the foundation works and the lowering of soil levels. The following specification will be adhered to:
It must be the approach that all roots with a diameter of 25mm and over must be retained as well as the majority of finer roots. It is appreciated this is not always possible to avoid the removal of the finer roots, but this must be kept to a minimum. Where these roots have to be cut then this shall extend back to a side root and be undertaken using a sharp tool such as secateurs to leave the smallest wound. If it is found that roots over 25mm in diameter are required to be removed unavoidably it will be necessary to consult further with an Arboriculturalist or the Local Authority Tree Officer.

Directly following excavation all exposed roots must be covered and wrapped in damp hessian until back filling is carried out. Approved topsoil will be used for back filling and not excavated soils. Sharp sand (not building sand) or structured tree soils such as Amsterdam soil can be lightly compacted but will still allow water and air to reach the roots uninhibited. This is to be approved by the project arboriculturalist as excessive use of structured soils can cause drought stress. The replacement soil will be free from contaminates that could be potentially damaging to tree roots.

- If plant machinery is necessary, they will not encroach on the RPA of the retained trees, unless the ground is adequately protected & the machinery is incapable of damaging the canopy or tree stem. If plant machinery is to encroach on protected RPA of retained trees, this will be supervised by the appointed arboriculturist.
- No excavator bucket tines must cause damage to the underlying soil.
- Once erected, the protective fencing on the site will be retained in situ until landscaping operations are to be undertaken. This will provide additional protection for the Root Protection Areas.
- Debris from any preparation work will not be stored within any RPA of retained trees at any time.
- The tree protection measures will be retained in the positions specified on the approved Protection Plan.

4.7 Construction Works.

For the cabin within the potential RPA of T1, there needs to be a solution that avoids strip foundations. The material and construction method for the base of the cabin should be one that minimises direct root damage and also minimises long term root retrenchment. A favourable rooting environment requires oxygen, moisture and nutrients for effective root health. The scheme should aim to retain this.

- A rainwater channelling design should be considered to channel rain water from the roof into the rooting area.
- Strip foundations should be avoided to prevent severing of roots.
- Possible use of helical piles with a beam, slab and void former would minimise root damage.

Further Consideration must be given to ground protection when considering the erection of scaffolding if required. The figure below illustrates the method of erecting scaffolding within RPAs.

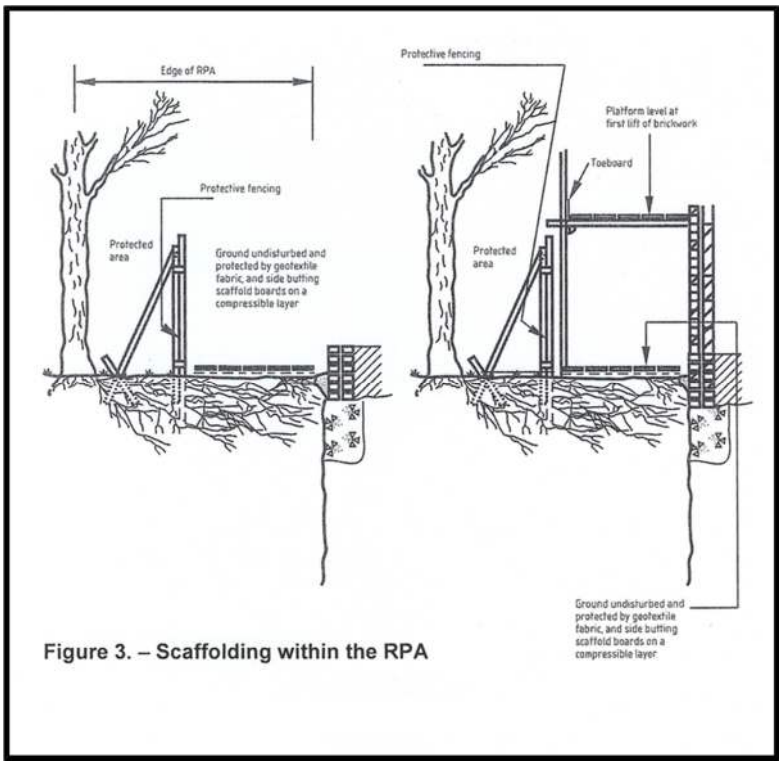

Figure 3. – Scaffolding within the RPA

4.7 Arboricultural Methods and restrictions during all phases of development.

- Careful consideration will be required to ensure the existing trees are protected during construction and the works are carried out whilst causing minimal damage to the trees.

- Additional precautions outside of the construction exclusion zone include planning site operations to ensure that wide or tall loads or plant with booms or jibs and counterweights can operate without coming into contact with the retained trees.

- Protective fencing will be maintained and inspected on a weekly basis by the site manager. Inspections will be recorded on an inspection form.

- All damage to protective fencing or accidental damage to trees will be reported to the site manager and/or the appointed arboricultural consultant immediately. Works occurring within the incident vicinity will cease immediately until adequate tree protection measures are re-established. A record of the damage will be made by the site manager and, in consultation with the appointed Arboricultural consultant, remediation measures carried out.
- No materials and/or plant will be stored within the designated root protection area of any of the trees and/or within the delimited construction exclusion areas. Any liquid materials to be stored on site, will be located where, in any event of spillage, will allow for natural run-off to be away from the designated root protection areas and buffer zones and/or stored within a pre-constructed spillage containment area.
- The mixing of concrete and mortar will be performed outside any root protection areas, in such an area where in the event of any spills, any liquid will drain away from the root protection areas and any buffer zones and/or within a pre-constructed spillage containment area.
- The use and movement of any cranes/heavy lifting arms/digger arms and booms of delivery vehicles will be carried out without damage to any part of the retained trees.
- No dry construction materials will be stored within the RPA of the retained trees, unless adequate ground protection (approved by the appointed arboriculturist), has been installed within the storage area.
- No soil, demolition debris, or any other arisings will be stored within the RPA or under canopies of the retained trees, whichever is the greater.
- No ground level changes will occur (no grading/levelling/raising), within any RPA of the retained trees, unless consented & supervised by the appointed arboriculturist. Changes to the ground levels within RPA of retained trees will follow the advice of the appointed arboriculturist.
- No additional tree work will be carried out unless consented to in writing by the LPA.
- The positions of all site welfare and storage areas will also be located outside any canopy areas and RPA of the retained tree.
- No fires will be lit within any RPA or canopies of retained trees, whichever is the greater.

4.8 <u>Underground Services.</u>

Specifications for the routing of any underground services have not been provided for this arboricultural assessment. A plan of the routing of underground services and drainage illustrating that the rooting areas must be supplied by the project architect to the planning officer for approval at the point of application.

4.8.1 Consideration must be given to the routing of any underground services and how they may impact on the rooting areas of existing trees and the tree's future root growth. Trenching for the installation of underground services severs any roots present and may change the local soil hydrology in a way that adversely affects the health of the trees. For this reason, care must be taken in the routeing and methods of excavation used.

At all times where services are to pass within Root Protection Areas, detailed plans showing the proposed routeing will be drawn up in conjunction with an arboriculturalist. Such plans will also show the levels and access space needed for installing the services.

4.8.2 The preferable method for trenching within RPA's to avoid damage is via excavation using 'airspade' or similar with a vacuum. This tool utilises compressed air to remove soil from around tree roots causing minimal damage. Impact mole trenching may also be considered. These approaches shall be utilised whenever possible. A more detailed AMS would be required in the event of use.

4.9 Drainage.

Any soak-away system must be designed so that it does not add to, or decrease, ground water in retained trees' rooting zones. Existing systems will be used where possible to minimize change in tree root zones. It has been discussed the requirement to be able to channel rainwater that falls on the cabin roof into the root zone beneath.

4.10 Access, Post construction works, and landscaping.

Tree protection does not finish when the main works have been completed or only in the immediate vicinity of the construction works. Hard landscaping works can also cause damage to tree roots in the form of excavations and subbase laying. The laying of patios and foundation excavations for possible walls and posts will also comply with the method statement made regarding tree protection for the main works.

4.10.1 Landscaping.

The presence of a landscape plan is not known at this stage. However, in the event of a plan, compliance with the following method will be required when working within RPAs.

- Landscaping operations will commence only when all main construction work has ceased. The protective fencing will be removed immediately prior to commencing these operations and only on approval by the by the appointed arboricultural consultant.
- The use of rotavators is not permitted with the root protection zones of retained trees.
- No soil lowering will occur within any RPA. The existing soil levels will not be raised by more than 150mm within RPA of retained trees without seeking advice from the appointed Arboricultural consultant.
- Excavations for planting within RPAs will be carried out by hand not exceeding 400mm. The same will apply for introduction of topsoil, plant transport & mulching.
- All landscaping work within RPA will also be carried out by hand only.
- Any exposed roots will be covered with damp Hessian. Debris from the excavation will not be stored in this area but will be immediately removed from the RPA.
- General purpose topsoil to BS3882:2007 will be used to replace the previous hard surfaces if necessary.
- Where new boundary fences are proposed to be installed within the RPA of retained trees, this will be carried out using hand tools only. Excavations will be undertaken using hand tools only at proposed fence post locations to confirm the existence of significant or insignificant roots. If significant roots are found, then an alternate location will be

sought using the same method. Fence post holes will not exceed 400mm in depth or diametre. Ready mix Post Crete is to be used to avoid mixing of concrete within RPAs.

- Where patios and terraces are required, depending on the depth of excavation, a cellular confinement system is to be used in accordance with the guide to good practise as viewed at: https://www.trees.org.uk/Trees.org.uk/media/Trees-org.uk/Misc%20images/Bookshop/AA_GuidanceNote12_CellularConfinementSystems-Web.pdf

4.11 Monitoring tree health & condition following construction.

Reinspection of all trees for five years after completion of development is recommended as any decline in tree's vitality may not occur for a number of years. Remedial tree work may be required to rectify damage incurred during construction or to allow additional clearance works.

- Any additional works may be subject to Local Authority agreement in writing due to the conservation area designation.

5.0 Tree Planting.

Loss of tree canopy cover should be replaced wherever possible to mitigate the loss to biodiversity, natural capital and eco-system services. The Glenny wood site has planted multiple trees in recent years. The site is large enough and has the capacity to accommodate mitigating replacement tree planting on site.

6.0 Site Management and Supervision

Supervision requirements are set out within the arboricultural method statement with each relevant section and tree protection related specification. However, General requirements are set out below:

6.1 Appointed Arboricultural Consultant.

Demolition, site clearance and construction works should not commence until a suitably qualified arboricultural consultant is appointed for the duration of the works in relation to the arboricultural aspects.

Before any site works begins a verbal or site meeting between the appointed arboricultural consultant, the local authority tree officer, (If deemed necessary by the TO) and the site manager will be held. The purpose of the meeting will be to discuss tree protection measures detailed in this report and to agree the sequence of events where they impact on trees.

6.2 Site management

It is the responsibility of the main contractor to ensure all details of this report are known, understood and followed by all site personnel. Copies of the report and plans shall be available on site and form part of the site induction for site personnel who could have an impact on trees.

6.3 Site monitoring and supervision

Once the work begins on site the arboricultural consultant shall visit the site at the stated times within this method statement. A logbook and a photographic record is to be kept by the development project manager of the key phases identified in this report to create

evidence of compliance to be made available to the local authority as set out within this method statement.

The relevant points for the arboriculturalist to visit for this project may be:

- Pruning and tree removal works.
- The erection and approval of the tree protection fence and ground protection.
- The supervision of construction works within RPAs
- The approval for the removal of the tree protection fence and ground protection.
- Where an amendment may be required to the construction process where impact on the RPA's of the retained trees is possible.

7.0 Conclusion and points to consider.

7.1 The trees on site have been subject to a detailed inspection and guidance has been given in regard to their potential constraints when designing the proposal

7.2 The proposed build will possibly involve works within the RPAs of retained trees.

7.3 The objective assessment has resulted in a tree constraints plan being produced with the method statement and a tree protection plan to inform on possible tree protection issues and solutions.

7.4 Tree protection measures specified to mitigate root and crown damage will possibly cause additional cost to the build and this shall be factored in.

7.5 The need for supervision and monitoring to ensure the tree protection plan is being carried out has been described.

7.6 All works are to be in accordance with BS5837:2012 'Trees in relation to Design, Demolition & Construction' and BS3998:2010 'Recommendations for tree work'. The timing of the tree related recommendations is to be programmed with input from a qualified arboricultural consultant.

Appendices

Appendix 1 **Tree survey Schedule**
Appendix 2 **Categories for tree quality assessment.**
Appendix 3 **Tree constraints plan**
Appendix 4 **Tree Protection Plan**
Appendix 5 **Tree Protection Fence Specification & Signage.**
Appendix 6 **Site Supervision Schedule**
Appendix 7 **Tree Survey explanatory notes**
Appendix 8 **References.**

BS5837:2012 'Trees in Relation to Demolition, Design & Construction' Survey Schedule.

Proposed installation of cabins at Glenny Wood

Date: 12th February 2025

Surveyor: Oliver Frost

Location: Glenny Wood Scout Camp

Local Authority: North Somerset Local Authority

Stage: Pre-construction.

Conservation Area? - No (Resources used: https://maps.bristol.gov.uk/pinpoint/)

Tree Preservation Order Status: Yes. T1 within TPO woodland Area, Ref: 278W. ***(Resource: https://map.n-somerset.gov.uk/dande.html)***

Tree ID	Tag No.	Common Name	Latin Name	Maturity	Measurement Estimate	No. Stems	DBH (mm)			RPA m2	Amended RPA?	Height (m)	Spread (m)				Height & direction of 1st branch (m)	Crown height (m)				Condition/Form			Phys Condition	Bat Habitat	Life Expectancy	BS5837 Category	Comments
							Stem 1	Stem 2	Stem 3				N	E	S	W		N	E	S	W	Crown	Stem	Base					
T1	5457	Common Oak	Quercus robur	Mature	No	1	960			417	Yes	20	8.3	7	14	10	3.9m, S	15	8	5.5	5	Good	Good	Good	Good	Unknown	>40 yrs	A1	Crown weighted towards build site. Constraints affecting the RPA's favourable rooting areas due to proximity to the existing building, decking, compacted ground and steeply sloping ground. The grass area is considered an important rooting area.
T2		Common Ash	Fraxinus excelsior	Young	No	6	35			3.3	No	2.9	1	3	1	0.5	1m, N	1.6	1	2	2	Poor	Poor	Poor	Decline	No	<10 yrs	C1	4 of the 6 stems are dead from ash dieback disease. Recommend to remove stems.
T3		Common Ash	Fraxinus excelsior	Young	No	1	90			3.7	No	6.5	0.3	0.5	2	2	1.3m	5	4	1	4	Poor	Poor	Fair	Poor	No	<10 yrs	C1	Ash dieback disease lesions on stem and small diameter dieback in extension growth. Companion canopy with a group of cherry stems. Directly conflicts with the planned steps. Recommend to remove tree.
T4		Wild Cherry	Prunus avium	Young	No	1	110			5.5	No	8.7	4	1	1	3.5	2m, W	2.5	4	3	2.3	Good	Good	Good	Good	No	20 to 40 yrs	C1	Close to rear of existing building. Companion group of cherry and ash. Remove due to the proximity to the proposed steps. Directly conflicts with the planned steps. Recommend to remove tree.
T5		Wild Cherry	Prunus avium	Young	No	1	85			3.2	No	8	1	1	2	1	2m, N	3	3	3	3	Good	Good	Good	Good	No	20 to 40 yrs	C1	Directly conflicts with the planned steps. Recommend to
T6		Wild Cherry	Prunus avium	Young	No	3	100	90	90	11.8	No	8	2	2.5	3	1.2	1.5m, S	3.5	1.8	1.4	3.5	Good	Good	Fair	Fair	No	20 to 40 yrs	C1	Companion canopy. On the slope. Directly conflicts with the planned steps. Recommend to remove tree.
T7		Common Hawthorn	Crataegus monogyna	Young	No	1	75			2.55	No	3.8	1.7	1.8	2.8	1	1.2m, S	0.4	0.4	0.4	0.4	Good	Good	Fair	Good	No	20 to 40 yrs	C1	Located on slope.
T8		Common Ash	Fraxinus excelsior	Mature	No	1	685			212	Yes	25	3	5	11	6	10.8, NW	17	13	13	11	Fair	Fair	Fair	Fair	No	>40 yrs	B1	Currently no specific sign of ash dieback disease. Companion canopy with adjacent mature ash and turkey oak.
H1		Common Hawthorn	Crataegus monogyna	Semi-mature	No		25				No	900						0.2				Good	Good	Good	Good	No	>40 yrs	C1	Planted hawthorn hedge around the gas tank enclosure
T9		Lawson Cypress	Chamaecyparis lawsoniana	Mature	No	1	630			180	No	16	1.5	1.5	1.5	1.5	1.5m, W	1.5	1.6	2.5	1.7	Good	Good	Good	Good	No	20 to 40 yrs	B1	
S1		Buddleja sp.	Buddleja sp.	Mature	No	1	260			20	No	4	5	1	0.5	2.2	0.5m, N	0.3	1	1	2	Fair	Fair	Fair	Fair	No	10 to 20 yrs	C1	Crown growth towards proposed build area. On bank.
T10		Common Ash	Fraxinus excelsior	Mature	No	1	390			69	No	11.2	6.1	4	3.5	5.5	1.4m, N	4	3.5	2.1	2	Poor	Fair	Good	Fair	No	<10 yrs	C1	Ash dieback disease symptoms in small diameter crown wood. Crown weighted towards proposed build area. On the bank of made up ground.
T11		Silver Birch	Betula pendula	Mature	No	1	360			59	No	18.3	5.1	3	1.7	2.8	3.4m, NE	5.2	6	8	6	Good	Good	Good	Good	No	20 to 40 yrs	B1	Growing on the fill bank.
T12		Small-Leafed Lime	Tilia cordata	Mature	No	6	330			296	No	18.3	6.7	4	6.5	7.1	2m, S	0.5	7.5	1.5	1.3	Good	Good	Good	Fair	No	>40 yrs	B1	

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Trees - Forestry - Consultancy

Appendix 2.

Cascade Chart for Tree quality Assessment.

Category and definition	Criteria (including subcategories where appropriate)			Identification on Plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			**Red**
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	**Green**
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	**Blue**
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	**Grey**

Appendix 3

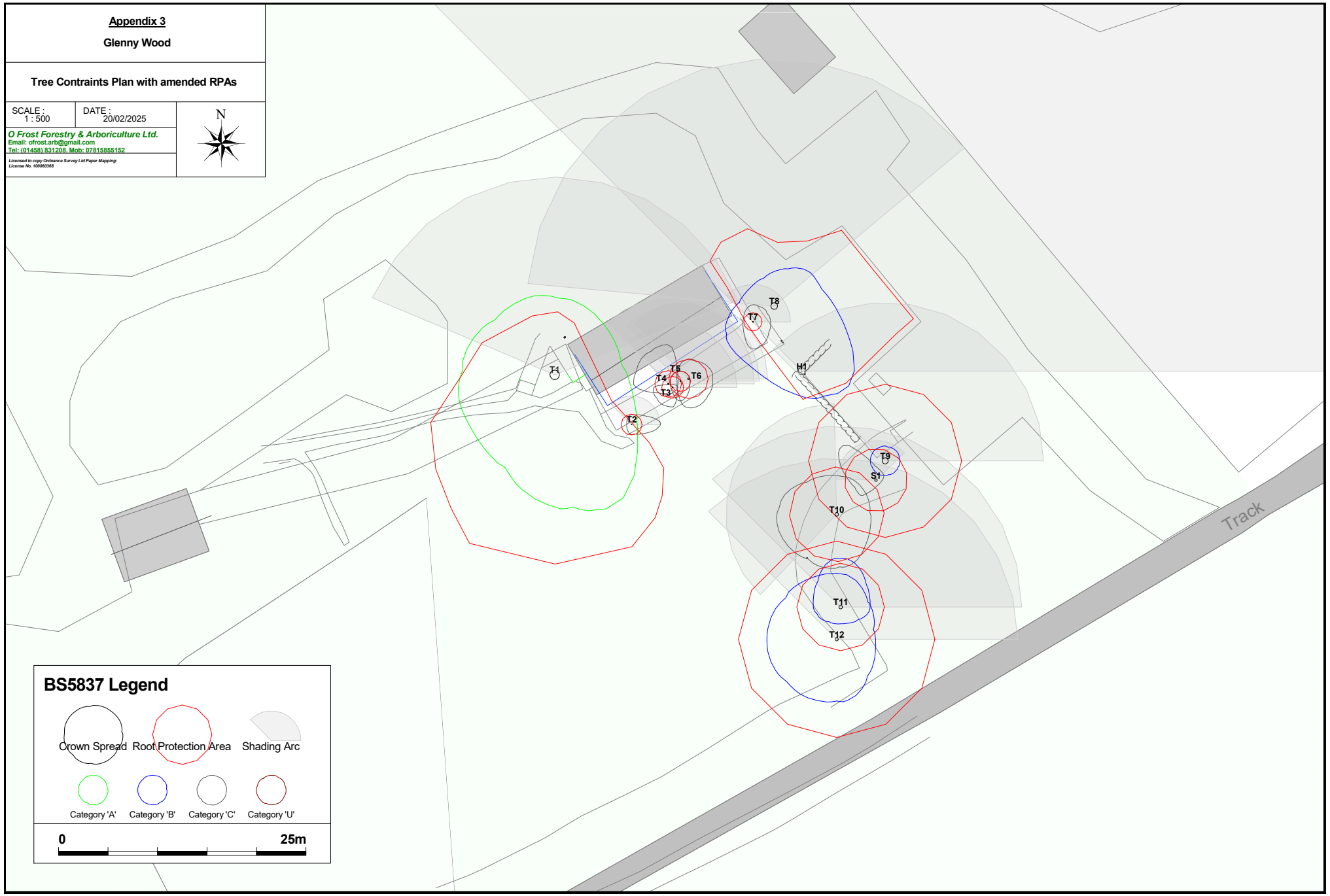
Glenny Wood

Tree Contraints Plan with amended RPAs

SCALE : 1 : 500

DATE : 20/02/2025

O Frost Forestry & Arboriculture Ltd.
Email: ofrost.arb@gmail.com
Tel: (01458) 831208, Mob: 07815855152



Appendix 4

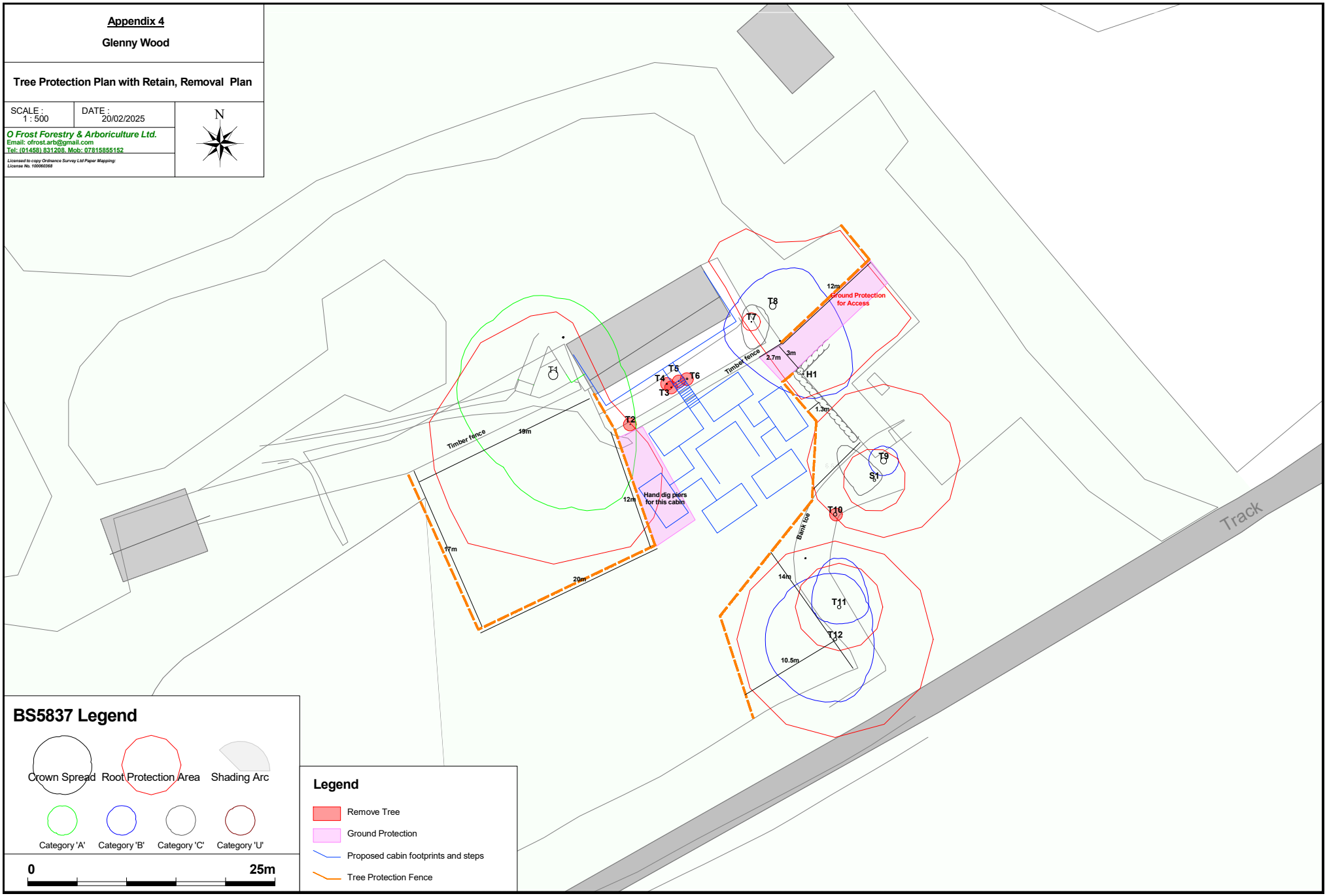
Glenny Wood

Tree Protection Plan with Retain, Removal Plan

SCALE : 1 : 500

DATE : 20/02/2025

O Frost Forestry & Arboriculture Ltd.
Email: ofrost.arb@gmail.com
Tel: (01458) 831208, Mob: 07815855152



BS5837 Legend

Crown Spread | Root Protection Area | Shading Arc

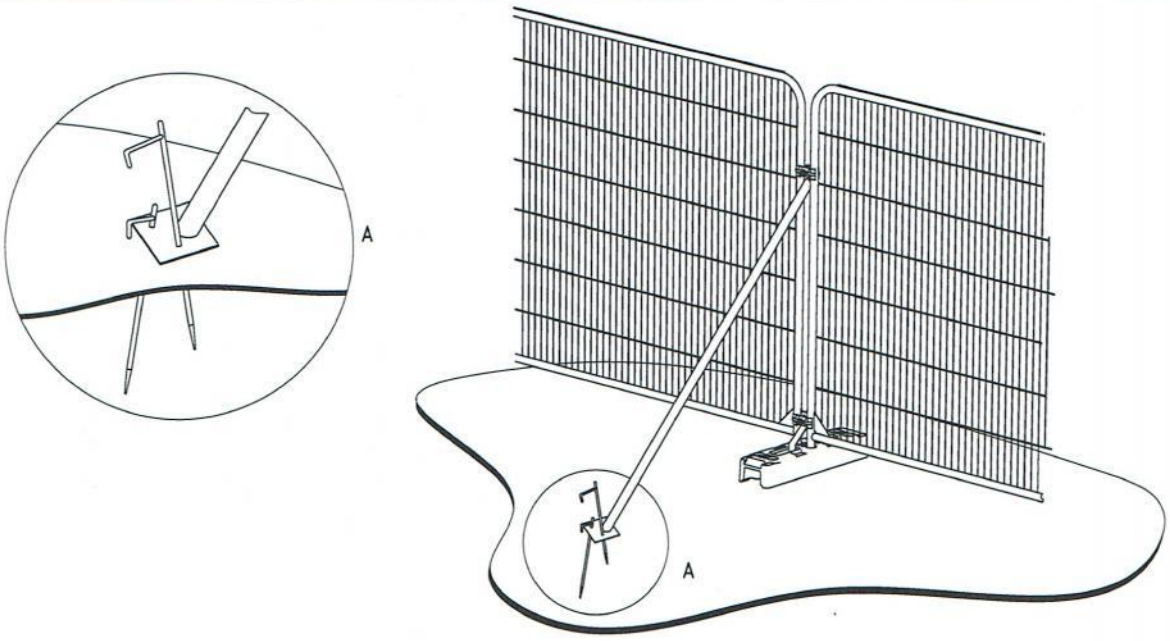
Category 'A' | Category 'B' | Category 'C' | Category 'U'

0 — 25m

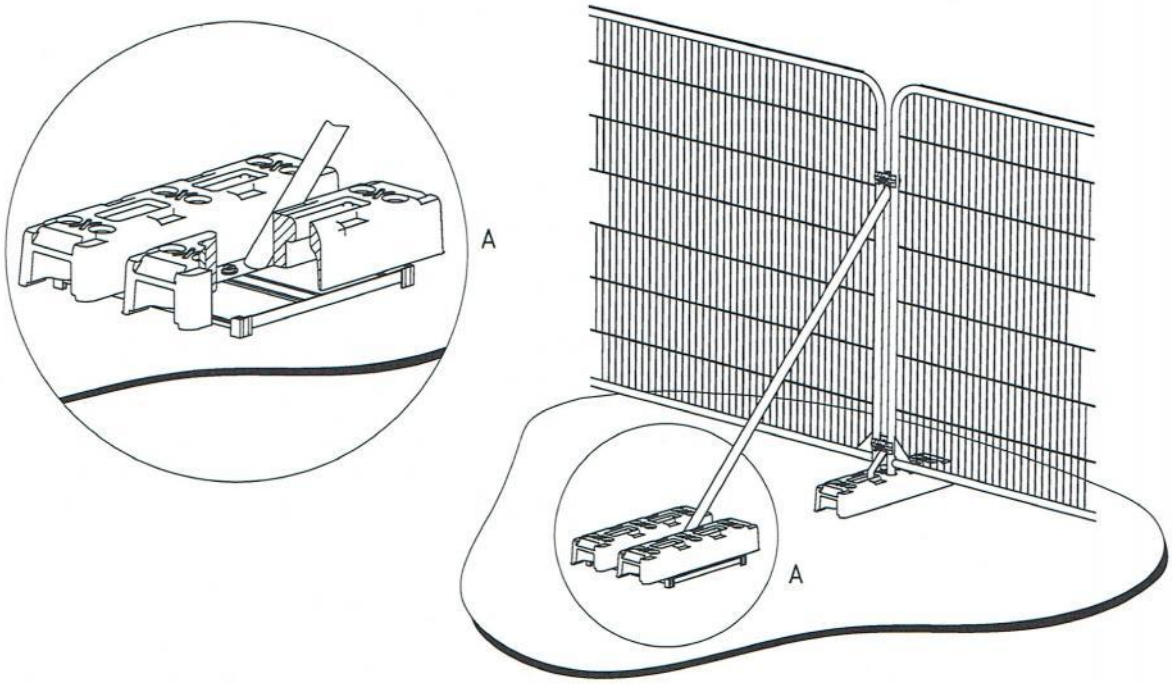
Legend

- Remove Tree
- Ground Protection
- Proposed cabin footprints and steps
- Tree Protection Fence

Figure 3 **Examples of above-ground stabilizing systems**



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

6.2.3 Ground protection during demolition and construction

6.2.3.1 Where construction working space or temporary construction access is justified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate.

Example signs to be placed on the Tree Protection Fence.

Appendix 6.

Site Monitoring & Supervision Schedule (to be filled in at pre-commencement meeting)

Constraints Item	Supervision Required?	Number or frequency of visits expected	Timing of site visits
Tree Works operations	Yes/No		Prior to construction
Establishment of construction exclusion zones for retained trees incl. barriers and ground protection and ongoing maintenance of protection	Yes/No		Prior to site clearance and throughout development
Changes in soil levels in close proximity to trees	Yes/No		During site clearance phase
Special method of foundations construction (i.e. Pile and Beam foundation construction within RPA's)	Yes/No		During construction phase
Excavation for foundations within RPA's	Yes/No		During construction phase
Construction of hard surfaces within RPAs	Yes/No		Post site clearance During construction phase
Protection and prevention of damage to retained tree canopies during construction	Yes/No		Post site clearance During construction phase
Site access for construction vehicles and avoidance of compaction to the RPA of retained trees	Yes/No		During construction phase
Excavation of service trenches within RPA's of retained trees	Yes/No		During construction phase
Generic construction site constraints 1.Site hut location 2.Temporary toilets 3.Siting of bonfires 4.Location of contaminant storage and washout areas 5.Location of stripped topsoil	Yes/No		During construction phase
Replacement tree planting conforms with NHBC CH.4.2 and planning conditions	Yes/No		Post construction

Appendix 7. Survey Explanation.

The survey explicitly relates to specimens within and adjacent to the proposed development area boundaries. The Survey schedule can be viewed in Appendix 1.
All maps and plans digitised for use in the report have been created from plans supplied Ordnance Survey master map.

The survey includes:

i. TREE ID. Allocated tree number for reference with the schedule and associated plans.
ii. The tree's common and scientific name.
iii. The Age Class. Described as Newly planted, Young, Semi-mature, Mid-age, Mature, Over mature, Dead and Veteran.
iv. Bat Habitat: Has the tree the potential for providing bat habitat.
All species of British bat are listed as European Protected Species (EPS) on Schedule 2 of the Conservation Regulations (Annex IV(a) to the Habitats Directive). This affords bats protection under the Conservation of Habitats and Species Regulations 2010, making it an offence to:
• Damage or destroy a breeding site or resting place of a wild individual of an EPS;
• Deliberately capture, injure or kill a wild individual of an EPS;
• Deliberately disturb a wild individual of an EPS wherever they are occur, in particular any disturbance which is likely to impair their ability to survive, to or reproduce or, in the case of hibernating or migratory species, to hibernate or migrate; or
• Affect significantly the local distribution or abundance of the species to which they belong.

Additional protection for bats is also afforded under the Wildlife and Countryside Act 1981 (as amended) and the Countryside Rights of Way Act 2000, making it an offence to intentionally or recklessly disturb bats whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place. As bats tend to re-use the same roosts, legal opinion is that roosts are protected whether or not bats are currently occupying these resting places/places of shelter.

v. Measurements: n/b. It is stated if the measurements are estimates due to inaccessibility of the trees.
HEIGHT: Height of tree in meters to centre of crown top or highest point.
Height and direction of first branch.
The number and diameter at breast height of stems.
The canopy spread based on the cardinal points.
The height to the canopy base.

vi. The structural and physiological condition based on a description of Dead, Decline, Poor, Fair and Good.

vii. Tree Quality assessment categorization.
The survey categorises each tree based on their quality and non-fiscal value. this allows informed decisions on the removal or retention of the tree stock in regards to development proposals. The criteria applied can be viewed in Appendix 2**.**

viii. Life expectancy. Each tree is given an estimated period of expected future lifespan.

ix. Recommendations or comments may be given based on their retention or removal in regards to the proposed development. Recommendations for remedial works may also be given for the trees identified for retention. A priority timescale may also be given for the remedial works and re-inspection periods.

Due to the changing nature of trees and other site circumstances, this report and any recommendations made are limited to a 12-month period from the survey date. Any alterations to the site or the development proposals could change the current circumstances and may invalidate this report and any recommendations made.

Trees are dynamic structures that can never be guaranteed 100% safe; even those in good condition can suffer damage under average conditions. Regular inspections can help to identify potential problems before they become acute. A lack of recommended work does not imply that a tree is safe and likewise it should not be implied that a tree will be made safe following the completion of any recommended work.

APPENDIX 8
REFERENCES & Relevant Organisations.

British Standards

British Standards Institution Publication (2010), BS 3998: Recommendations for Tree Work, BSI, London.

British Standards Institution Publication (2012), BS 5837: Trees in Relation to Design, Demolition & Construction, BSI, London.

British Standards Institution (1984) BS 1192:1984 Recommendations for Landscape Drawings Part 4. Milton Keynes

British Standards Institution (1989) BS 4428:1989 Code of Practice for General Landscape Operations (Excluding Hard Surfaces) Milton Keynes.

British Standards Institution (2014) BS 8545 gives recommendations for transplanting young trees, with a view to achieving their eventual independence in any landscape.

Roberts, J. Jackson, N. Smith, M. 2006. Tree roots in the built environment. TSO.

NHBC Standards, 2020. Section 4.2 Building Near Trees.
Web Address:
http://nhbccampaigns.co.uk/landingpages/techzone/previous_versions/2011/Part4/section2/default.htm#D4

Arboricultural Association, 2020.
New guide to use of cellular confinement systems near trees

Other Publications

Barrell J.D. (1995) Pre-development Tree Assessments. In: Trees on Building Sites: Proceedings
of an International Conference on Trees and Building Sites. (G.W. Watson & D.Neely, eds) International Society of Arboriculture, Illinois.

Biddle. P.G (1998) Tree Roots and Foundations. Arboriculture Research and Information Note 142/98/EXT. Arboricultural Advisory and Information Service.

Dobson, M. (1995) Tree Root Systems. Arboriculture Research and Information Note. 130/95/ARB. Arboricultural Advisory and Information Service.

Hodge, S.J. & White, J.E.J (1990) The Ultimate Spread of Trees Grown on Towns. Arboriculture Research and Information Note 84/90/ARB. Arboriculture Advisory and Information Service.

Organisations

Arboricultural Advisory and Information Service
Forest Research Station
Alice Holt Lodge
Wrecclesham
Farnham
Surrey. GU10 4LH
Tel: 01420 22022
Fax: 01420 22000

Arboricultural Association
Ampfield House
Ampfield
Nr Romsey
Hants. SO51 9PA
Tel: 01794 368717
Fax: 01794 368978

British Association of Landscape Industries
Landscape House
9 Henry Street
Keighley
W. Yorks BD21 3DR
Tel: 01535 606139
Fax: 01535 610269

Institute of Chartered Foresters
7A St Colme's Street
Edinburgh
EH3 6AA
Tel: 0131 2252705
Fax: 0131 2206128

Institute of Civil Engineers
1 – 7 Great George Street
London
SW1P 3AA
Tel: 0207 2227722
Fax: 0207 2227500

Institute of Ecology & Environmental Management
45 Southgate Street
Winchester
Hants. SO23 9EH
Tel: 01962 868626
Fax: 01962 868625

The Landscape Institute
6 – 7 Barnard Mews
London
SW11 1QU
Tel: 0207 7389166
Fax: 0207 7389134

Institute of Structural Engineers
11 Upper Belgrave Street
London
SW1X 8BG
Tel: 0207 2354535
Fax: 0207 2354294

International Society of Arboriculture
ISA European Office
Troy House
Suite C & D
Elm Grove Road
Harrow
Middlesex. HA1 2QQ
Tel: 0208 8616852
Fax: 0208 8616858

National House Building Council
Buildmark House
Chiltern Avenue
Amersham
Bucks. HP6 5AP

Royal Institute of British Architects
66 Portland Place
London
W1N 4AD
Tel: 01494 434477
Fax: 01494 728521

Royal Institute of Chartered Surveyors
12 St George Street
London
SW1P 3AD
Tel: 0207 2227000
Fax: 0207 2229430

Town & Country Planning Association
17 Charlton House Terrace
London
SW1Y 5AS
Tel: 0207 9308903
Fax: 0207 9303280