Tree Survey and Arboricultural Impact Assessment
In Accordance with BS5837:2012

Project No **11307**	**Glebelands House, Woolf Drive, Wokingham, RG40 1DU**		
Client:		OWL Architects	
Date of Report:	07/03/2025	Revision:	Original
Prepared by:		Liz Beckett	

Summary

In this circumstance it is intended to construct a single storey extension to The Cloister at Glebelands House, Wokingham. The arboricultural related implications of the proposal are summarised in Table 1 and detailed where necessary within the report.

All trees and landscape features that are to remain as part of the development should suffer no structural damage provided that the findings within this report are complied with in full.

Table 1 - Construction and ongoing constraints from an arboricultural perspective (subject to necessary tree work being completed):

Potential Design/ Build Constraints	Arboricultural Impact?	Comments/Solution
Construction Access	No	
Demolition	No	
New Structures	Yes	See section 4.1.
New Hard Surfaces	Yes	See section 4.2.
Compound	No	
Phasing	No	

Contents

1.0 Introduction

1.1 Purpose

1.1.1 As part of the United Kingdom planning process, applicants are required to supply local planning authorities with a detailed evaluation of how their proposals will impact trees. The nationally recognised procedure for doing this is laid out in *BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations".* In summary, this must include the following information as a minimum: -

- A Tree Survey and Tree Constraints Plan.
- An Arboricultural Impact Assessment of sufficient detail to confirm the feasibility of the design from a tree perspective.
- A scaled Tree Retention and Removal drawing showing retained trees and their root protection area on the proposed layout.

1.1.2 This report has been prepared to ensure that this information is provided to the Local Planning Authority in a straightforward and clear way so that they can make an informed decision about how (if at all) trees are affected.

1.1.3 When planning permission is granted it is typically the case that the Local Planning Authority will require specific conditions to be fulfilled. This means that a subsequent detailed Arboricultural Method Statement and Tree Protection Plan may be required. This will be detailed on the Local Planning Authority's decision notice.

1.2 Scope

1.2.1 In accordance with the above, OWL Architects have commissioned Hayden's Arboricultural Consultants to prepare a Tree Survey and Constraints Plan, Arboricultural Impact Assessment and scaled Tree Retention and Removal drawing for the existing trees at Glebelands House, Woolf Drive, Wokingham, RG40 1DU.

1.2.2 Unless stated within the survey, all trees were inspected from ground level with no climbing inspections undertaken. As such, the findings are of a preliminary nature. It is not always possible to access every tree and therefore some measurements may have to be estimated.

1.2.3 The tree was inspected on the basis of "*Visual Tree Assessment" (Mattheck & Breloer - 1994)* and *"Common Sense Risk Management of Trees" National Tree Safety Group guidance – 2011*.

1.2.4 Whilst this is an arboricultural report, comments relating to non arboricultural matters are given, such as built structures and soil data. Any opinion thus expressed should be viewed as provisional and confirmation from an appropriately qualified professional sought. Such points are clearly identified within the body of the report.

1.3 Documentation

1.3.1 The following documentation was provided prior to the commencement of the production of this report;

- Email instruction from Simon Smeaton dated 21/10/2024.
- Proposed site layout received 28/10/2024.

2.0 The Site

2.1 Overview

2.1.1 The site is Glebelands House, Woolf Drive, Wokingham, RG40 1DU. The site comprises of a large, residential property set within an established garden. A large, mature Cedar tree that positively contributes to the building's setting is adjacent to the area proposed for development.

2.2 Soils

2.2.1 The soil type commonly associated with this site are generally freely draining slightly acid loams. They are of low fertility and typically support neutral and acid pastures, and deciduous woodland type habitats. This soil type constitutes approximately 15.5% the total English land mass.

2.2.2 The data given was obtained from a desktop study which provides indications of likely soil types. By definition, this information is not comprehensive and therefore any decisions taken with regards the management, usage or construction on site should be based on a detailed soil analysis.

2.2.3 Further to item 2.2.2, this report provides no information on soil plasticity. It may be necessary for practitioners in other disciplines (e.g. engineers considering foundation design) to obtain this data as required.

2.3 Statutory Tree Protection

2.3.1 Information on any Local Planning Authority or Forestry Commission controlled statutory tree protection (Tree Preservation Orders, Conservation Areas and Felling Licenses etc) is recorded on the attached drawing no. 11307-D-AIA.

2.3.2 Further details regarding any existing Statutory Tree Protection is recorded at Appendix B.

3.0 Tree Survey

3.1 The tree survey was carried out on 30/10/2024 in accordance with *BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations",* the relevant qualitative and quantitative tree data was recorded in order to assess the condition of the existing tree and the constraints upon the proposed development.

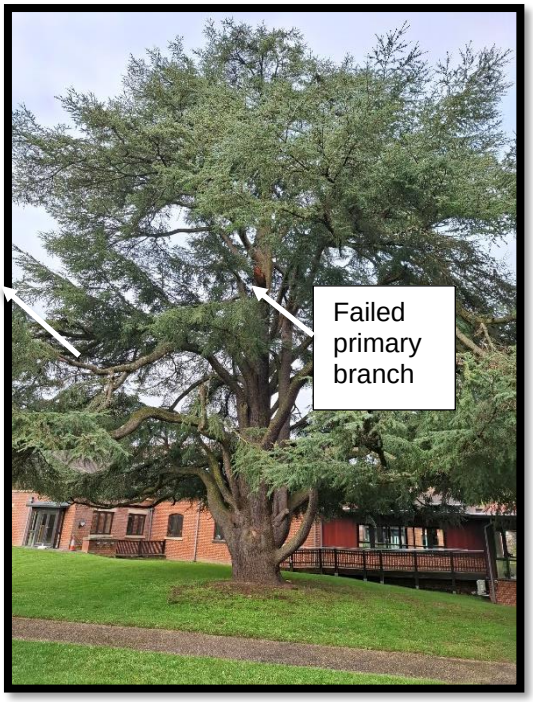
3.2 A topographical survey was not available. However, the position of T001 is reasonably represented on the attached drawing no. 11307-D-AIA.

3.3 In order to provide a systematic, consistent and transparent evaluation of the tree included within this survey, it has been assessed and categorised in accordance with the method detailed in item 4.3 of *BS5837:2012 "Trees in Relation to Design, Demolition and Construction - Recommendations"*. For further information, please see the attached Explanatory Notes.

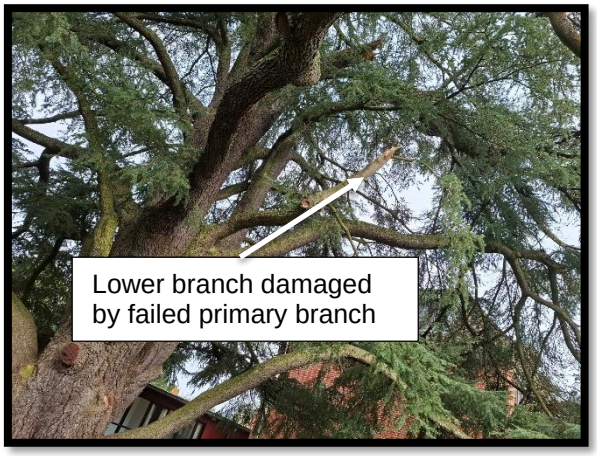
3.4 The detailed assessment of the tree and its work requirements with priorities is listed in the attached Schedule of Trees.

3.5 On the south aspect of Cedar T001 a lateral branch approximately 40cm in diameter extending south has failed at circa 10m above ground level (agl) see photograph 1. This failure occurred in the summer of 2024 after a heavy rainfall preceded by a period of hot, dry weather indicating that branch failure occurred as a result of 'summer branch drop'. The remaining stub is approximately 5m in length. A secondary vertical branch was also damaged as a result of this failure at circa 6m agl, see photograph 2. The tree has historically had lateral branches shortened, the proposed specification of work detailed below therefore corresponds to an established pattern of management that the tree tolerates, will reduce the risk of losing further end-loaded branches and will not have an adverse effect on the tree's health or amenity, see photograph 3.

Photograph 1 – T001 viewed from the south



Photograph 2 – T001 viewed from south-west



Photograph 3 – T001 following proposed specification of work

This tree requires **urgent** intervention detailed as follows:

Within six months:

T001	Cut back branches to clear the buildings by 2.5m and shorten remaining lateral growth by 2m to leave a crown spread of 18m north-south and east-west.

3.6 In accordance with item 4.2.4 (c) of BS5837:2012, the item inspected and detailed within this report has been selected for inclusion due to the likely influence of any proposed development on the trees, rather than strictly adhering to the curtilage of the site. However, it must be understood that there may be trees beyond the site and not included in this survey which may exert an influence on the development. Where works for cultural, health and safety, quality of life, or development purposes have been recommended on trees outside the ownership of the site, these can only progress with the agreement of the owner, except where it involves portions of the trees overhanging the boundary.

4.0 Arboricultural Impact Assessment (Additional or Specific Comments)

4.1 Construction – Foundations

4.1.1 Construction encroaches within the RPA of T001. As such, OWL Architects have developed a cantilevered construction design where the footprint of the structure coincides with the RPA, this is detailed in drawing 11307-D-AIA. This will result in very minimal disturbance within the RPA. As long as tree protective measures are installed, implementation of the proposed development should not have an adverse effect on the tree's health or safe retention.

4.2 Construction – Hard Surface

4.2.1 Installation of new hard surfaces encroach within the RPA T001. Provided that these work with finished levels and required load bearings without cutting into the ground, the surfaces should be attended to by the use of "no dig" construction methods. In the detailed Arboricultural Method Statement & Tree Protection Plan, Hayden's Arboricultural Consultants will supply a sample design of "no dig" surfacing. However, the exact specification (adhering to the principles of the sample design) must be designed by a Civil Engineer who can confirm that the finished levels and load bearings are achievable with this type of design without cutting into the ground. In order to protect the RPA of the affected trees, these areas should be constructed as a first phase of the development – i.e. immediately after the necessary tree work has been completed and protective fencing erected. It is recognised that the final top dressing of the hard surfaces could be added at the completion of the project, however during the construction phase the permeable surface must be sealed and protected to prevent contamination and compaction. Whatever method of sealing and protection is used, this must be removed at the completion of construction to allow for moisture penetration and gaseous exchange. Alternatively, the protective fencing could be re-sited to the edge of the RPA of this tree and the "no dig" construction completed as a final phase of development.

4.3 Services

4.3.1 New service routes are not available. However, it is important to establish the principle that wherever possible, all underground service runs will be placed outside the Root Protection Areas (RPA) of the trees on or adjacent to the site. Where it is not possible to do this, any infringement must be addressed by hand digging or trenchless technology. Similarly, all routes for overhead services will aim to avoid the trees and where this is not possible, any necessary tree work must be agreed with the Local Planning Authority.

4.4 Phasing

4.4.1 The proposal involves the integration of aspects that affect tree protection (e.g. – but not exclusively –movement of materials and the installation of services). For this reason, the project must be carefully phased to ensure the highest level of protection is maintained for retained trees. As part of the detailed Arboricultural Method Statement & Tree Protection Plan, Hayden's Arboricultural Consultants will produce an in-depth phasing recommendation to cover the major operations on site as they affect retained trees.

5.0 Limitations & Qualifications

Tree inspection reports are subject to the following limitations and qualifications.

General exclusions

Unless specifically mentioned, the report will only be concerned with above ground inspections. No below ground inspections will be carried out without the prior confirmation from the client that such works should be undertaken.

The validity, accuracy and findings of this report will be directly related to the accuracy of the information made available prior to and during the inspection process. No checking of independent third-party data will be undertaken. Hayden's Arboricultural Consultants Limited will not be responsible for the recommendations within this report where essential data are not made available or are inaccurate.

This report will remain valid for one year from the date of inspection subject to the recommendations specified within being adhered to. It must also be appreciated that recommendations proposed within this report may be superseded by extreme weather, or any other unreasonably foreseeable events.

Tree surgery should be completed as detailed in the Schedule of Trees. Where this has been identified for reasons other than to permit development, this work should be completed within the advised timescales irrespective of any development proposals.

Tree surgery works may also be proposed as part of this Survey to mitigate any identified problems that may be caused by trees in close proximity to the proposed development. To this end, should these recommendations be overruled, this Survey stands as the opinion of Hayden's Arboricultural Consultants Limited, and therefore any damage or injury caused by trees recommended by this practice for felling or tree surgery works, to which the proposed schedule of works has been altered or the tree has been requested to be retained by the Local Planning Authority, cannot be the responsibility of this practice.

Moreover, if any additional alterations to the property or soil levels are carried out and/or further tree works undertaken other than specified within the report, it will become invalid and a new tree inspection required.

It will be appreciated, and deemed to be accepted by the client and their insurers, that the formulation of the recommendations for the management of trees will be guided by the following: -

1. The need to avoid reasonably foreseeable damage.
2. The arboricultural considerations - tree safety, good arboricultural practice (tree work) and aesthetics.

The client and their insurers are deemed to have accepted the limitation placed on the recommendations by the sources quoted in the attached report. Where sources are limited by time constraints or the client, this may lead to an incomplete quantification of the risk.

Signed:

March 2025
For and on behalf of Hayden's Arboricultural Consultants Limited

6.0 References

British Standards Institute. (2010). *Recommendations for Tree Work BS3998:2010* BSI, London.

British Standards Institute. (2012). *Trees in Relation to Design, Demolition and Construction – Recommendations BS5837:2012* BSI, London.

Ministry of Housing, Communities & Local Government. (2014). *Tree Preservation Orders and trees in conservation areas.* London: Ministry of Housing, Communities & Local Government.

Mattheck & Breloer, H. (1994). *Research for Amenity Trees No.4: The Body Language of Trees*, HMSO, London.

NHBC Standards (2007) *Chapter 4.2 'Building Near Trees'.* National House-Building Council.

NJUG 4 Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees. Issued 16 November 2007.

Patch, D. Holding, B. (2006) *Arboricultural Practice Note 12 (APN12)*, *Through the Trees to Development.* Arboricultural Advisory and Information Service (AAIS).

Lonsdale, D. (1999). *Research for Amenity Trees No 7: Principles of Tree Hazard Assessment and Management*, HMSO, London.

National Tree Safety Group (2011). *Common Sense Risk Management of Trees.* Forestry Commission.

7.0 Appendices

Appendix	**A**	Species List & Tree Problems
Appendix	**B**	Statutory Tree Protection Advice & Tree Preservation Order Enquiry/Response
Appendix	**C**	Schedule of Trees
Appendix	**D**	Schedule of Works - Irrespective of Development
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1. BS 5837:2012 Figure 1 - Flow Chart – Design and Construction & Tree Care
2. European Protected Species and Woodland Operations Checklist (v.4)
3. BS 5837:2012 Figure 2 - Default specification for protective barrier
4. BS 5837:2012 Figure 3 - Examples of above-ground stabilising systems
5. Cellweb TRP
6. Supa-Trac Ground Protection

Appendix	**G**	Drawing No 11307-D-AIA.

Appendix A - Species List & Tree Problems

Species List:

Atlantic Cedar *Cedrus atlantica*

Tree Problems:

This gives a brief description of the problems identified in the attached Tree Survey.

Name: Deadwood	
Symptoms/damage type and cause:	This relates to dead branches in the crown of the tree. In the majority of cases, this is caused by the natural ageing process of the tree or shading due to its close proximity to neighbouring trees. However, in some situations, it may be related to fungal, bacterial or viral infection.
Consequence:	Depending upon the location and mass of dead wood removal of the affected tissue may be necessary to prevent harm to persons or property as the wood will become unstable as it decays and in some circumstances is likely to fall from the tree with little or no warning.
Control:	Detailed monitoring should be undertaken on those trees showing signs of excessive deadwood production to identify the underlying cause.
Species affected:	Most tree species.
Images:	 

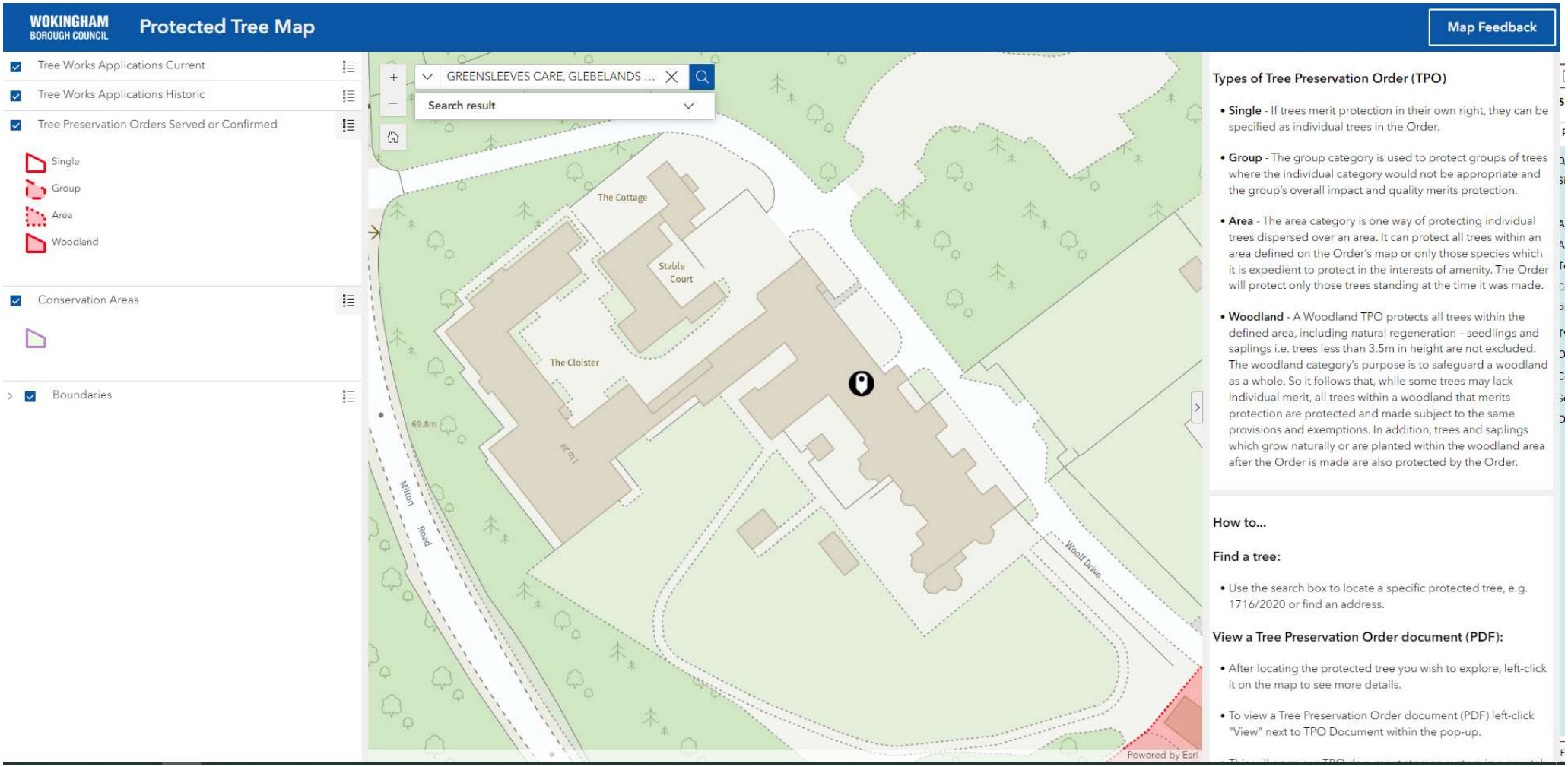
Appendix B - Statutory Tree Protection Advice & Tree Preservation Order Enquiry/Response

Statutory Tree Protection Advice

Hayden's Arboricultural Consultants Limited have been informed that at the *date of the tree inspection* the trees concerned were not located within a Conservation Area or the subject of a Tree Preservation Order. As such, no written permission would be required from the Local Planning Authority prior to commencing tree work. However, it should be noted that the Local Planning Authority have the power to serve Tree Preservation Orders very rapidly, it is therefore incumbent upon anyone wishing to undertake work to trees to first contact the Local Planning Authority to ensure that the situation has not changed.

This information was sourced using the Local Planning Authority's Online Mapping System (as instructed by them) and to our best knowledge was current and accurate at the time the information was accessed. We would advise it prudent that before any tree work commences, this is checked directly with the Local Planning Authority to confirm that their online mapping system is definitive.

Tree Preservation Order / Conservation Area Online Mapping Extract



Appendix C

Schedule of Trees

SCHEDULE OF TREES (AIA)

Glebelands House, Woolf Drive, Wokingham,

Surveyed By: Liz Beckett Date: 30/10/2024
Managed By: Liz Beckett

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand						
On site		RPA (m²)	Aspect	Aspect	SULE	Ground Cover						
T001	Atlantic Cedar	1560	21.0		High	N12.5, E11.5, S11.5, W11	Stem measured at 90cm above ground level (agl) due to vertical secondary stems. Mower damaged surface root north west aspect. Multiple pruning wounds on lower stem are well calloused. Fused stem and secondary branch at approximately 3m agl east aspect. Crossing/rubbing secondary branches extending north-east at circa 5m agl, these have been shortened historically and are stable. Crossing secondary branches extending south east at circa 7m agl and north west at circa 3m agl. Small diameter tertiary growth approximately 1m from adjacent buildings to north and east. A lateral branch approximately 40cm in diameter extending south has failed at circa 10m agl. This failure occurred in the summer of 2024 after a heavy rainfall preceded by a period of hot dry weather indicating that branch failure occurred as a result of 'summer branch drop'. The remaining stub is approximately 5m in length. A secondary vertical branch was also damaged as a result of this failure at circa 6m agl.	B1	Cut back branches to clear the buildings by 2.5m and shorten remaining lateral growth by 2m to leave a crown spread of 18m north-south and east-west.	2		
		18.72	2.5		M							
Yes		1100.9			20+	Building, Tarmac, Grass						

Appendix D

Schedule of Works – Irrespective of Development

SCHEDULE OF WORK IRRESPECTIVE OF DEVELOPMENT

Glebelands House, Woolf Drive, Wokingham,

Surveyed By: Liz Beckett
Surveyed: 30/10/2024
Managed By: Liz Beckett

Tree No.	Species	Work required	Priority
T001	Atlantic Cedar	Cut back branches to clear the buildings by 2.5m and shorten remaining lateral growth by 2m to leave a crown spread of 18m north-south and east-west.	**2**

Appendix E

Explanatory Notes

Explanatory Notes

Categories

No	Identifies the tree on the drawing.
Species	Common names are given to aid understanding for the wider audience.
BS 5837 Main Category	Using this assessment (BWS 5837:2012, table 1), trees can be divided into one of the following simplified categories, and are differentiated by cross-hatching and by colour on the attached drawing. **Category A** - Those of high quality with an estimated remaining life expectancy of at least 40 years; **Category B** - Those of moderate quality with an estimated life expectancy of at least 40 years; **Category C** - Those of low quality with an estimated remaining of at least 10 years, or young trees with a stem diameter below 150 mm; **Category U** - Those trees in such condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.
BS 5837 Sub Category	Table 1 of BS 5837:2012 also requires a sub category to be applied to the A, B, C, and U assessments. This allows for a further understanding of the determining classification as follows: **Sub Category 1** - Mainly arboricultural qualities; **Sub Category 2** - Mainly landscape qualities; **Sub Category 3** - Mainly cultural values, including conservation. Please note that a specimen or landscape feature may fulfil the requirements of more than one Sub Category.
DBH (mm)	Diameter of main stem in millimetres at 1.5 metres from ground level. Where the tree is a multi-stem, the diameter is calculated in accordance with item 4.6.1 of BS 5837:2012.
Height	Recorded in metres, measured from the base of the tree.
Crown Base	Recorded in metres, the distance from ground and aspect of the lowest branch material.
Lowest Branch	Recorded in metres, the distance from ground and aspect of the emergence point of the lowest significant branch.

Age	Recorded as one of seven categories: **Y** Young. Recently planted or establishing tree that could be transplanted without specialist equipment, i.e. less than 150 mm DBH. **S/M** Semi-mature. An established tree, but one which has not reached its prospective ultimate height. **E/M** Early-mature. A tree that is reaching its ultimate potential height, whose growth rate is slowing down but if healthy, will still increase in stem diameter and crown spread. **M** Mature. A mature specimen with limited potential for any significant increase in size, even if healthy. **O/M** Over-mature. A senescent or moribund specimen with a limited safe useful life expectancy. Possibly also containing sufficient structural defects with attendant safety and/or duty of care implications. **V** Veteran. A tree considered a 'survivor' having endured injury, disease and/or decay, developing important habitat features such as decay, trunk hollowing, deadwood, fungal fruiting bodies (plus others) not solely as a consequence of time. Veteran trees are afforded additional protection within the planning system where they may be influenced by change. **A** Ancient. A tree that has the features of a Veteran tree but has also surpassed the typical lifespan for its species. These trees may differ in appearance from a Veteran tree, such as having a thick/wide trunk and a small crown. Ancient trees are usually considered to have exceptional cultural significance. Ancient trees are afforded additional protection within the planning system where they may be influenced by change.
Safe Useful Life Expectancy (SULE)	Relates to the prospective life expectancy of the tree and is given as 4 categories: 1 = 40 years+; 2 = 20 years+; 3 = 10 years+; 4 = less than 10 years.
Crown Spread	Indicates the radius of the crown from the base of the tree in each of the northern, eastern, southern and western aspects.
Minimum Distance	This is a distance equal to 12 times the diameter of the tree measured at 1.5 metres above ground level for single stemmed trees and 12 times the average diameter of the tree measured at 1.5 metres above ground level tree for multi stemmed specimens. (BS 5837:2012, section 4.6).
RPA	This is the Root Protection Area, measured in square metres and defined in BS5837:2012 as "a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority". The RPA is shown on the drawing.. Ideally this is an area around the tree that must be kept clear of construction, level changes of construction operations. Some methods of construction can be carried out within the RPA of a retained tree but only if approved by the Local Planning Authority's tree officer.
Water Demand	This gives the water demand of the species of tree when mature, as given in the NHBC Standards Chapter 4.2 "Building Near Trees".

Visual Amenity	Concerns the planning and landscape contribution to the development site made by the tree, hedge or tree group, in terms of its amenity value and prominence on the skyline along with functional criteria such as the screening value, shelter provision and wildlife significance. The usual definitions are as follows: Low — An inconsequential landscape feature. Moderate — Of some note within the immediate vicinity, but not significant in the wider context. High — Item of high visual importance.
Problems/ Comments	May include general comments about growth characteristic, how it is affected by other trees and any previous surgery work; also, specific problems such as deadwood, pests, diseases, broken limbs, etc.
Works Required (TS)	Identifies the necessary tree work to mitigate anticipated problems and deal with existing problems identified in the “Problems/comments” category.
Work Required (AIA)	Identifies the tree work specifically necessary to allow a proposed development to proceed.
Priority	This gives a priority rating to each tree allowing the client to prioritise necessary tree works identified within the Tree Survey. 1 Urgent – works required immediately; 2 Works required within 6 months; 3 Works required within 1 year; 4 Re-inspect in 12 months, 0 Remedial works as part of implementation of planning consent.

BS 5837:2012 Terms and Definitions

Access Facilitation Pruning	One-off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site.
Arboricultural Method Statement	Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.
Arboriculturist	Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.
Competent Person	Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached. NOTE - a competent person is expected to be able to advise on the best means by which the recommendations of this British Standard may be implemented.
Construction	Site-based operations with the potential to affect existing trees.
Construction Exclusion Zone	Area based on the root protection area from which access is prohibited for the duration of a project.
Root Protection Area (RPA)	Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.
Service	Any above or below ground structure or apparatus required for utility provision. **NOTE** - examples include drainage, gas supplies, ground source heat pumps, CCTV and satellite communications.
Stem	Principal above ground structural component(s) of a tree that supports its branches.
Structure	Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork.
Tree Protection Plan	Scale drawing, informed by descriptive text where necessary, based upon the finalized proposals, showing trees for retention and illustrating the tree and landscape protection measures.

Veteran/Ancient Tree Buffer

A diagrammatic representation of the additional protection measures afforded to Veteran and Ancient Trees by the imposing of a geographical 'buffer' space between the Veteran/Ancient Trees and any potential activity such as construction, that may affect the trees. The buffer zones are calculated as follows:

For ancient woodlands, the proposal should have a buffer zone of at least 15 metres from the boundary of the woodland to avoid root damage (known as the root protection area). Where assessment shows other impacts are likely to extend beyond this distance, the proposal is likely to need a larger buffer zone. For example, the effect of air pollution from development that results in a significant increase in traffic.

For ancient or veteran trees (including those on the woodland boundary), the buffer zone should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5 metres from the edge of the tree's canopy if that area is larger than 15 times the tree's diameter. This will create a minimum root protection area.

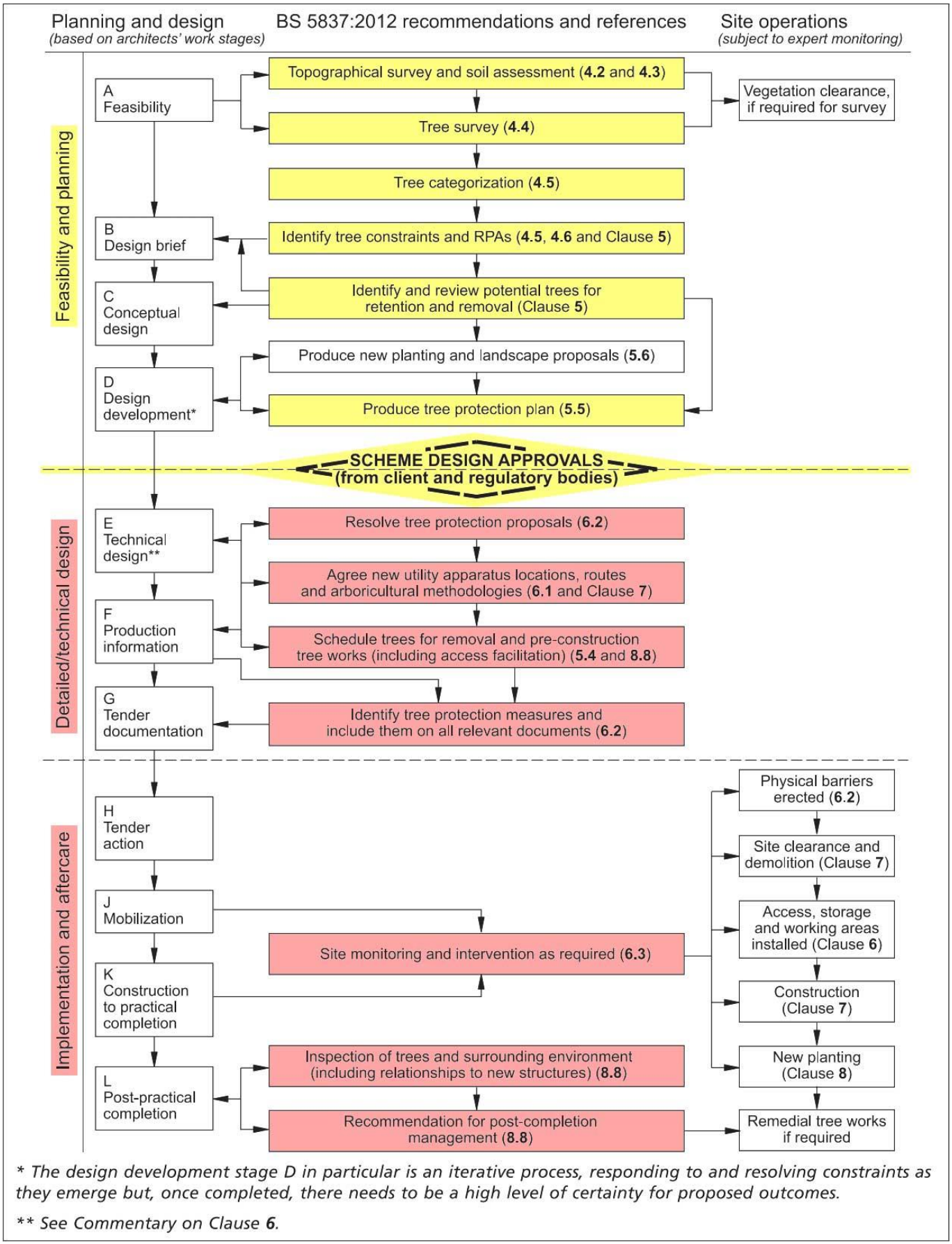
Where assessment shows other impacts are likely to extend beyond this distance, the proposal is likely to need a larger buffer zone.

Source: Natural England; The Forestry Commission; The UK Government Dept. for The Environment.

Appendix F

Advisory Information & Sample Specifications

1. BS 5837:2012 Figure 1 - Flow Chart – Design and Construction & Tree Care



** The design development stage D in particular is an iterative process, responding to and resolving constraints as they emerge but, once completed, there needs to be a high level of certainty for proposed outcomes.*

*** See Commentary on Clause **6**.*

2.

European Protected Species and woodland operations. (V4)

Complete all sections of the Checklist

✔

Checklist

1 **Are you within, or close to, the known mapped range of any of the protected species OTHER THAN BATS which are potentially everywhere? Tick any that apply.**
See distribution maps in the Good Practice Guidance for each species -

- ☐ Dormice
- ☐ Otters
- ☐ Great crested newts
- ☐ Sand lizards
- ☐ Smooth snakes

YES ☐ NO ☐

2 **Does your wood contain any of the following habitats? Tick any that apply.**

- ☐ Old trees with holes and crevices which might be used bats
- ☐ Species rich scrub/coppice, early growth stage plantations and forest interfaces
- ☐ Rivers on which otters might be found
- ☐ Ponds which might be occupied by great crested newts
- ☐ Open areas on heathy soils

YES ☐ NO ☐

3 **Have any of the protected species been recorded in this wood or on adjoining sites? Tick any that apply.**
Indicate which sources of information you have checked:

- ☐ National Biodiversity Network (www.nbn.org.uk)
- ☐ Local Biological Records Centre
- ☐ Local Wildlife Trust
- ☐ Other

Specify Other:

YES ☐ NO ☐

4 **Have your inspections or any expert surveys found any of the following signs or evidence? Tick any that apply.**

- ☐ Signs (e.g. otter spraint, nuts gnawed by dormice, leaves folded by newts)
- ☐ Sightings (or echo-location)
- ☐ Potential breeding or roosting sites (e.g. veteran trees, old trees with crevices, riverside hollow trees, ponds, timber stacks, large fallen deadwood)
- ☐ Confirmed breeding or roosting sites (i.e. evidence of sites actually being used)

Details:

YES ☐ NO ☐

Details

Name of Wood:

Grid Reference:

Area: (ha) .

Date of Assessment:

Name of Assessor:

CHECK POINT

If you have answered NO to ALL of the above then only bats need to be considered in your operations.

If you have answered YES to any of the above then the species concerned must be considered as well as bats.

Notes

5 **Do the operations comply with Good Practice for bats and any other species found (or likely to be found in your wood) or can the operations be modified to do so?**
Details: Use reverse of form to expand as required:

YES ☐ A licence is not required but continue to sections 6 and 7 below

NO ☐ You will need to obtain a licence BEFORE carrying out the work (see EPS Licence Application Forms and Notes)

6 **Whether or not a licence is required...**
Has the information been communicated to operators (including the location of breeding sites and sensitive areas)? Tick any that apply.

- ☐ Included in documentation (e.g. contract, letter of instruction, site assessment or other management plan)
- ☐ Shown to operators and/or their supervisor
- ☐ Marked with paint or hazard tape
- ☐ Shown on the site plan

Other means:

YES ☐

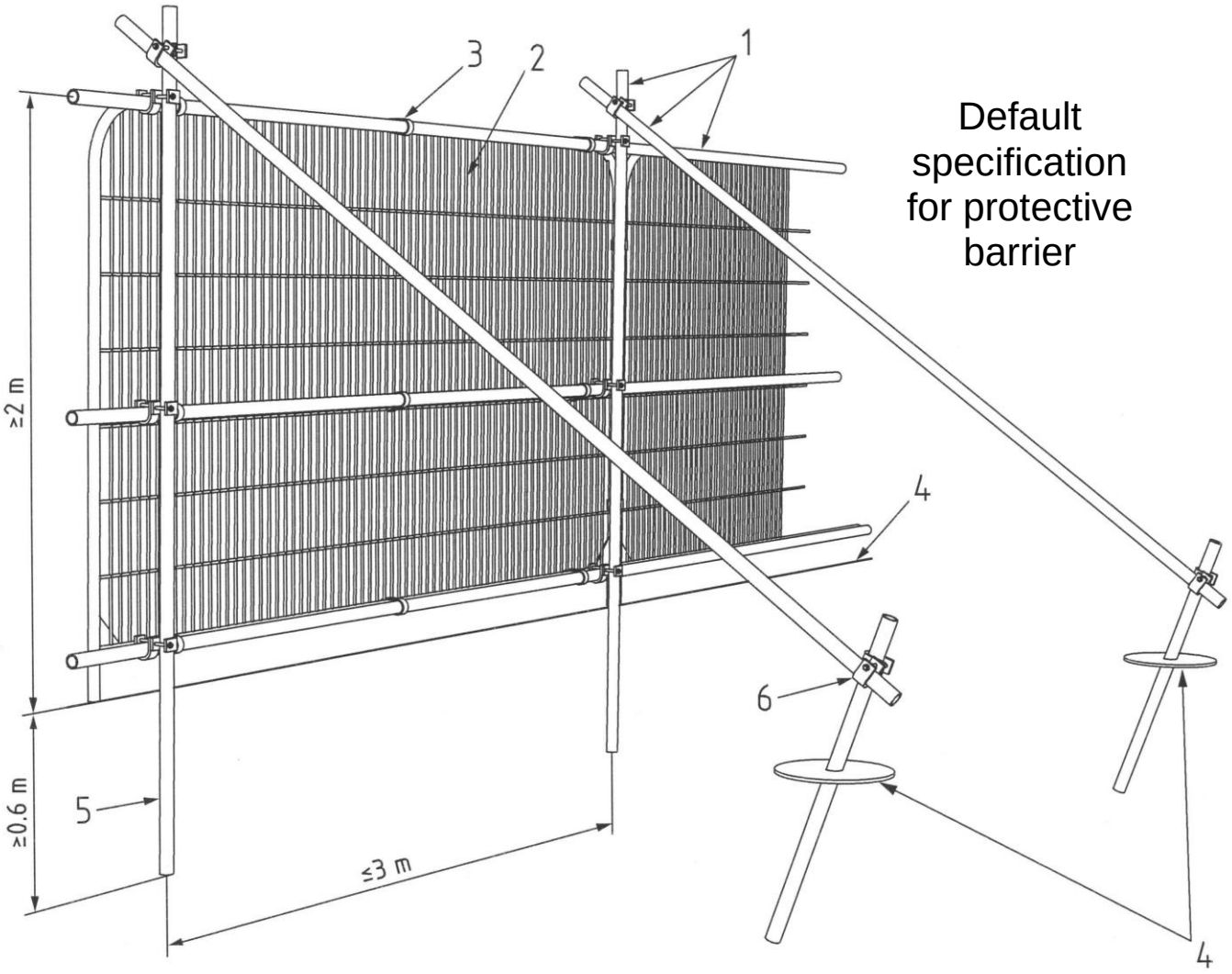
NO ☐ You may commit an offence if you do not tell your operators about the protected species in your wood.

7 **Have arrangements for supervision been made to ensure Good Practice guidance is complied with during the operations?**
Details:

YES ☐

NO ☐ You may commit an offence if you do not take steps to ensure that your operators comply with the Good Practice guidance.

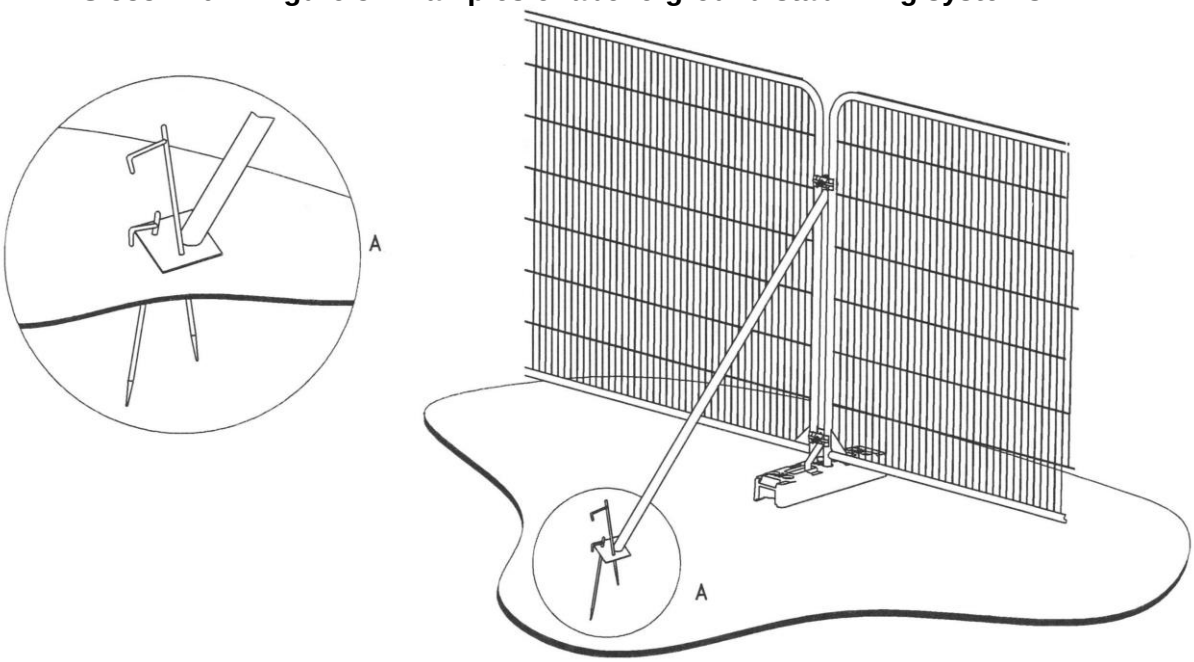
3. BS 5837:2012 Figure 2: Default specification for protective barrier



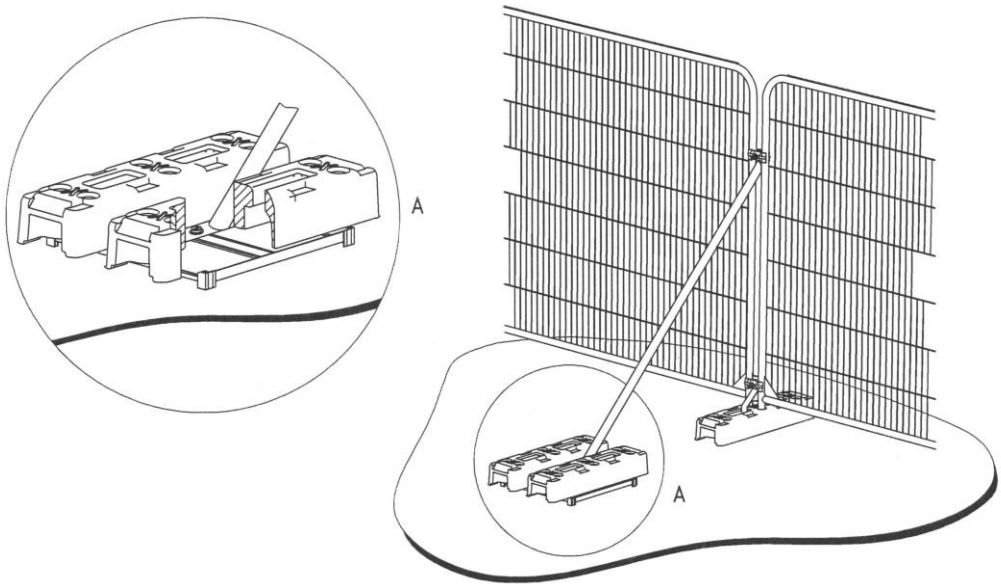
Key

1	Standard scaffold pole
2	Heavy gauge 2m tall galvanised tube and welded mesh infill panels
3	Panels secured to uprights and cross-members with wire ties
4	Ground level
5	Uprights driven into the ground until secure (minimum depth 0.6m
6	Standard scaffold clamps

4. BS 5837:2012 Figure 3: Examples of above-ground stabilizing systems

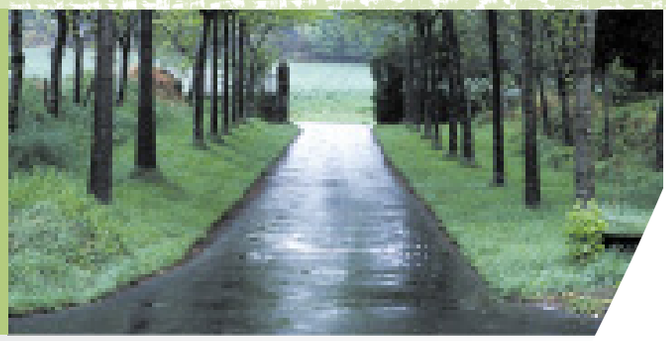


a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

CellWeb TRP®



Tree Root Protection Guaranteed

Geosynthetics

www.geosyn.co.uk

CellWeb TRP® System

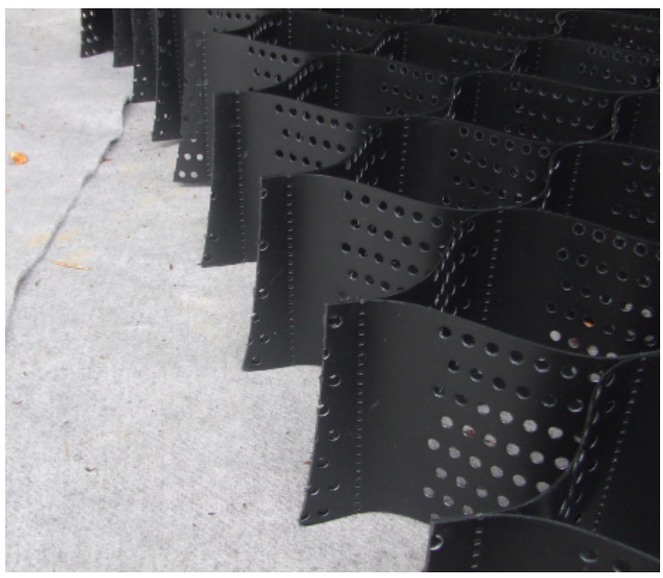
Tree Root Protection System



The Consquences Of Tree Root Damage During Construction

It is an offence to cut down, lop, uproot, top, wilfully damage or destroy a protected tree without authorisation. Trees can be protected under the Town and Country Planning Act 1990 and the Town and Country Planning (Trees) Regulations 1999. Trees are protected when they are the subject of Tree Preservation Orders (T.P.O) or within Conservation Areas, subject to certain exemptions. Retention and protection of trees on development sites is also secured through the use of planning conditions.

On a construction site all trees with a Tree Preservation Orders need to be managed in accordance with BS5837 2012 (Trees in relation to construction); failure to comply with these orders can be a costly affair as many parties have discovered.



Fishponds, Ketton

There are two offences which apply equally to trees protected by Tree Preservation Orders and those within Conservation Areas:

- Firstly, anyone who cuts down, uproots or wilfully destroys a tree, or who lops, tops or wilfully damages it in a way that is likely to destroy it is liable, if convicted in the Magistrates Court, to pay a fine of up to £20,000. If the person is committed for trial in the Crown Court, they are liable on conviction to an unlimited fine. The Courts have held that it is not necessary for a tree to be obliterated for it to be "destroyed" for the purposes of the legislation. It is sufficient for the tree to have been rendered useless as an amenity.
- Secondly, anyone who carries out works on a tree that are not likely to destroy it is liable, if convicted in the Magistrates Court, to a fine of up to £2,500. In addition to directly carrying out unauthorised works on protected trees, it is an offence to cause or permit such works.

Developers and building contractors are often completely unaware that 'compaction of soils within the Root Protection Area (RPA)' constitutes wilful damage to the tree. When vehicular or pedestrian access within the RPA is necessary, either for the construction operation or final site access, the effects of this activity must be addressed and the ground must be protected. When tracked or wheeled traffic movements are involved, the ground protection system should be designed by an engineer and take into account the loading involved.

Shelton Road, Shewsbury

The Solution:

Geosynthetics CellWeb TRP® System



The Solution According to BS 5837:2012

"Appropriate sub-base options for new hard surfacing include three-dimensional cellular confinement systems ....."

(BS 5837 2012 section 7.4.2 Note 1)

The CellWeb TRP® Solution

CellWeb TRP® is the market leader in the United Kingdom and Ireland for tree root protection. CellWeb TRP® cellular confinement system protects tree roots from the damaging effects of compaction and desiccation, while creating a stable, load bearing surface for vehicular traffic. CellWeb TRP® complies with BS 5837:2012 and APN 12. It provides a no-dig solution, is tried and tested having been used successfully since 1998. It is the only tree root protection system which has been independently tested and it is the only tree root protection system which is guaranteed for 20 years. See page 6 for the full terms and conditions of the guarantee.

Fishponds, Ketton

Field Trials

Geosynthetics Limited are the only company in the UK and Ireland to carry out live, completely independent field tests on the performance of a 3 dimensional cellular confinement system when used in a no-dig tree root protection system application. The results prove that CellWeb TRP® significantly reduces the compaction of sub-soils within the root growth limiting parameters established by K D Coder, 'Soil damage from compaction'. University of Georgia. July 2000. A copy of the report is available upon request.

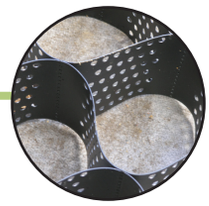
CellWeb TRP® Product Guarantee

Geosynthetics Limited prides itself on a providing a reliable, consistent service; including technical advice, on site support and installation guidance. Geosynthetics Limited provides a 20 year guarantee for the CellWeb TRP® tree root protection system. This guarantee gives the client, the tree officer and arboricultural consultant the confidence that the designed system will perform as intended without damaging the health of the tree.

See page 6 for the full terms and conditions of the guarantee.

CellWeb TRP® System

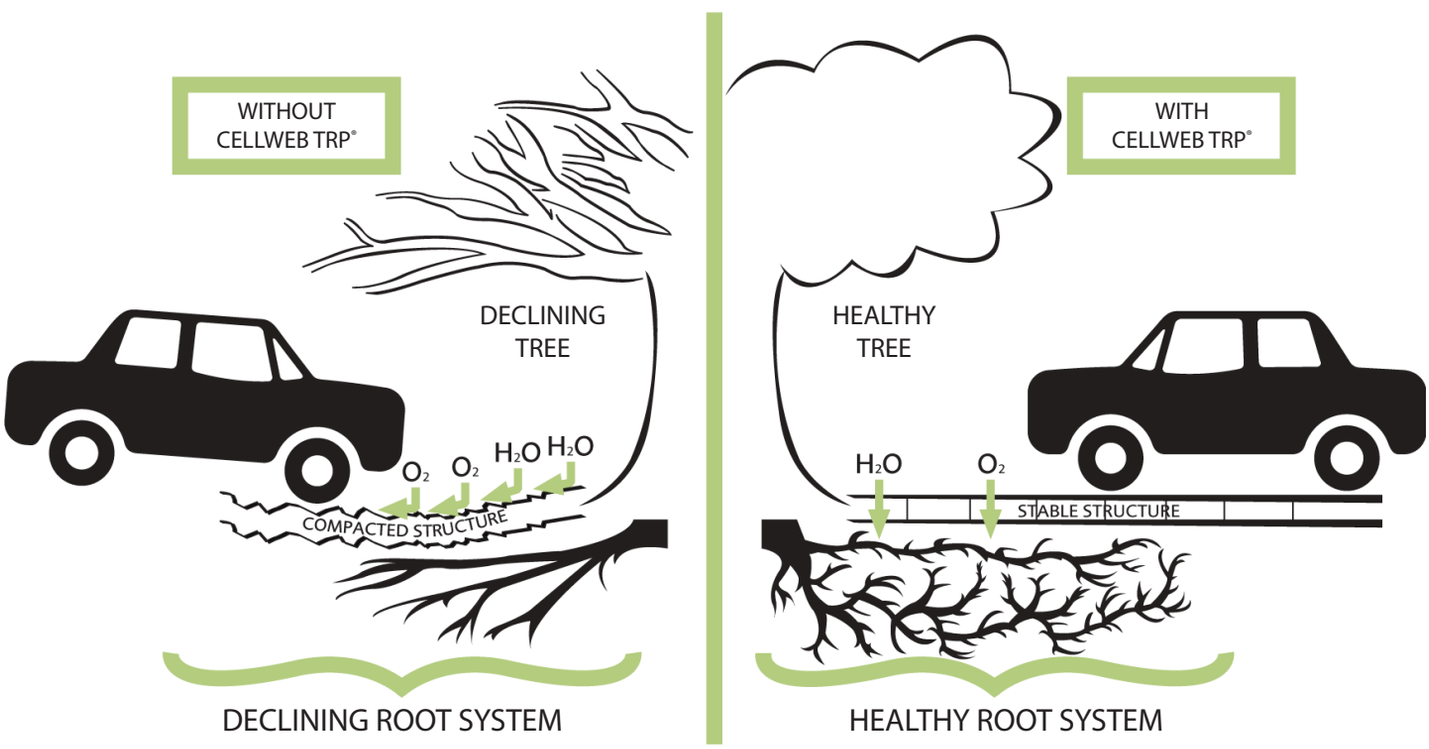
How the System Works



How CellWeb TRP® Works

CellWeb TRP® is a cellular confinement system that confines aggregate materials and makes them stronger, thus increasing the bearing capacity of the sub base materials. Research shows that CellWeb TRP® acts as a stiff raft to distribute wheel loads and reduce their magnitude at the base of the construction, thus maintaining the soil bulk density at levels that are suitable for tree root growth.

CellWeb TRP® is used around the world to provide cost effective hard surface construction over tree roots and is the system of choice for Tree Officers and Arboriculturists. For more information on this subject see CellWeb TRP® Fact Sheet No 1.



Water and Oxygen Transfer Through the CellWeb TRP® System

The CellWeb TRP® system is constructed using open aggregate infill and CellWeb TRP® has perforated cell walls. The pore spaces between the aggregate particles are greater than 0.1mm in diameter. This open structure is far more permeable than typical soils and allows the free movement of water and oxygen so that supplies to trees are maintained.

For more information on this subject see CellWeb TRP® Fact Sheet No 2.

CellWeb TRP® and Pollution

How CellWeb TRP® Deals With Catastrophic Oil Spills

How CellWeb TRP® Deals With Pollution

Where possible a permeable pavement system should always be constructed above the CellWeb TRP® system. The effective removal of pollution from runoff by permeable pavements is well known. Worldwide research has shown runoff that has passed through permeable pavements has low concentrations of pollutants.

Small spills of oil will be dealt with within the joints between the paving blocks and in the aggregate used within the system. However, large catastrophic spills are a different matter.

For more information on this subject see CellWeb TRP® Fact Sheet No 3.

Castle Gardens

Ambleside Lake District

Harcourt Aboretum

The Treetex® geotextile used in the CellWeb TRP® system has two functions. Treetex® separates the sub base aggregates from the soil beneath and it traps oil within its structure and allows it to degrade aerobically within the pavement construction. The structure, thickness and weight of Treetex® creates the perfect environment for this to happen. Most importantly tests prove that Treetex® will absorb 1.7 litres of oil per square metre, this is 4 times more effective than standard geotextiles.

Treetex® is an intrinsic part of the CellWeb TRP® system; and must be in conjunction with the CellWeb TRP® in order to guarantee the success of the system.

Please see page 6 for full details of the guarantee.

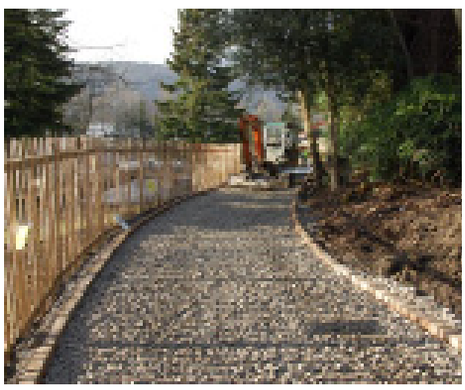
Geosynthetics CellWeb TRP® System:

A Proven No Dig Solution

Advice, Design and Product Selection

Geosynthetics Limited has been supplying the CellWeb TRP® system since 1998 and has vast experience in its application. No two contracts are the same and we understand the factors that need to be taken into account to specify the correct CellWeb TRP® product.

We provide a free consultation, design and advisory service to find the solution that is most cost effective and beneficial for your site. Our service includes product selection, engineering calculations, CAD drawings and full instructions to help you from project conception to completion.



Fallbarrow Park, Windermere: Prior to CellWeb TRP® Installation

Fallbarrow Park, Windermere: CellWeb TRP® Installation

Fallbarrow Park, Windermere: Completed CellWeb TRP® Installation

Final Surfacing

The benefits of the CellWeb TRP® system can only be maintained if a suitably porous final surface is selected. An ideal surfacing is the Golpla grass reinforcement and gravel retention system, a visually attractive surface that has the advantage of being fully porous. Alternatives include block paviors, porous asphalts and loose or bonded gravel.

Always Use CellWeb TRP®

The CellWeb TRP® system is the only research backed system of its kind in the UK with a 100% success rate. CellWeb TRP® has been specifically developed for the Tree Root Protection market. The system is supported by 15 years of data and thousands of installations making it the system of choice for the majority of Tree Officers and Arboriculturists in the UK.

CellWeb TRP® is uniquely identifiable. It is manufactured with a bright green panel on each side. When installed the green panels are laid adjacent, creating a green band across the construction.

Woodcock Hall, Yorkshire

Geosynthetics Limited

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Please call **01455 617 139**

or email sales@geosyn.co.uk for more technical advice.

Visit our website www.geosyn.co.uk for further information.

6. Supa-Trac Ground Protection

SUPA-TRAC™

TEMPORARY TRAFFICABLE EVENT SURFACE

Supa-Trac™ is suitable for medium or heavy weight use and protects the ground underneath as well as protecting the cars, vehicles or people from the ground. The **Supa-Trac™** panels are quick and easy to install with up to 70m² laid per hour and no tools are required.

The temporary flooring panels can be laid on any ground covering and can be fitted to any shape.

With super quick installation and extraction – up to 70m2 per hour – it's the simplest, fastest ground cover solution of its type on the market. No tools or expertise needed.

Additionally, the flooring panels are easy to remove and can be stacked and stored easily. If required the panels can be cleaned by hosing them down.

Supa-Trac™ creates a firm surface for walkways, roadways, temporary building and structures. Even heli-pads and car parks.

MADE IN BRITAIN

Data Sheets, Installation & Design Guidances
and Case Studies can be downloaded from www.groundtrax.com/downloads

SUPA-TRAC™

TEMPORARY TRAFFICABLE EVENT SURFACE

Suitable for:

- ✓ Light Duty Roadway
- ✓ Pedestrian Walkway
- ✓ Pitch Covering
- ✓ Self Installation

Benefits:

- ✓ Pedestrian-friendly surface
- ✓ Light vehicle access
- ✓ Hi-Vis ramps
- ✓ Quick and easy to install

TECHNICAL SPECIFICATIONS

Dimensions & Materials

Panel Dimesions:	966mm x 275mm x 34mm
Panel Weight:	2.025kg (9.7kg/m²)
Material:	Nucleated Polypropylene Co-polymer
Colour:	Grey/Black/Green (Other colours available to order)
Edging Ramps:	Black/Yellow
Locks:	Black (Acetal)

Operating Conditions

Temperature:	-49c > +49c
Static Load:	80 Tons/m²
Max GVW:	3.5t (Ground dependant)
Max GVW with Geotech substrate:	40t (Ground dependant)

Resistance to sunlight and ultra violet light exposure
The product will not be detrimentally afected with regard to strength and structure for a minimum of 5 years, however over exposure could lead to slight fading of colour.

Resistance to petrol and oil derivatives
PP is impervious to the exposure of mort substances and the only effect of such contact could be slight discolouration.

Resistance to corrosion
We are not aware of any substance thal would lead to the product corroding.

External storage
The product is suitable for outside, uncavered storage - the only impact being the possibility of slight fading of colour.

Lateral inclines of 20%
The product is able to support slopes and inclines. Should it be felt the situation dictates, stakes can be used to secure the roadway.

Permeable to liquid
The product is not permeable to liquid. The panels have been designed to ensure liquid drains from the panel surface using the designed holes.

Usability in muddy conditions
The product can be used in muddy conditions. By using geotech substrate the product can successfully be deployed, adding value by improving traction and protecting the underlying surface from further deterioration. Should the surface of the roadway become too muddy through traffic movement, this can be easily removed by either pressure washing or sweeping with a hard brush.

For more information, contact us today or visit our website:

www.groundtrax.com

GROUNDTRAX
Ground Protection and Reinforcement
Telephone: 03456 800008 | Fax: 03456 800208
E-Mail: info@groundtrax.com | Website: www.groundtrax.com

Appendix G

Haydens Drawing

- Arboricultural Impact Assessments
- Arboricultural Method Statements
- Tree Constraints Plans
- Arboricultural Feasibility Studies
- Shade Analysis
- Picus Tomography
- Arboricultural Consultancy for Local Planning Authority
- Quantified Tree Risk Assessment
- Health & Safety Audits for Tree Stocks
- Tree Stock Survey and Management
- Mortgage and Insurance Reports
- Subsidence Reports
- Woodland Management Plans
- Project Management
- Ecological Surveys

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