John Booth Arboricultural Consultants Ltd
***John A Booth** MBA, MSc, CEnv, FArborA, RCArborA, DipArb(RFS), CUEW, LCGI(Hort), NDArb.*
Director & Principal Consultant
Chartered Environmentalist, Certificated Expert Witness &
Arboricultural Association
Registered Consultant

Arboricultural Survey Report & Method Statement

at

8 Burland Green Lane
Weston Underwood
Derbyshire
DE6 4PF

for and on behalf of

Keith Edmondson

2 March 2026

242 Highfields Park Drive
Broadway
Derby
DE22 1JY

Mobile: 07783 968714
Email: info@jabooth.co.uk
Web: www.jabooth.co.uk

SUMMARY

This report concerns a tree located at 8 Burland Green Lane, Weston Underwood, DE6 4PF; it specifically concerns a proposal to erect a garden building and associated drive.

The report and accompanying tree survey schedule is produced in accordance with the guiding principles of British Standard 5837:2012 '*Trees in Relation to Design, Demolition and Construction – Recommendations'.*

The Root Protection Area (RPA) of the trees surveyed are calculated and recorded in the Tree Survey Schedule where they are expressed both in linear and square metres; it is at this distance/around this area that tree protective barriers should usually be erected around any trees to be retained. Any construction activity within these areas requires special techniques and guidance is contained herein.

The findings of my survey are that the proposal necessitates a significant intrusion within the RPA of the subject tree; special techniques pertaining to foundation design and new hard surfaces must be employed if any arboricultural impact is to be avoided, guidance is provided herein. The erection of protective barriers enclosing the entire RPA is impractical, thus vehicles/plant must not be operated within the RPA and all works must be undertaken by pedestrian means.

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1 INTRODUCTION

1.1 ***Author's Qualifications and Experience*****:** I am a Chartered Arboriculturist and a Chartered Environmentalist, a Fellow and Registered Consultant of the Arboricultural Association; I am also a past national chairman of the Arboricultural Association. I am also a Fellow and registered consultant of the Institute of Chartered Foresters. I have over forty years' experience of arboriculture and amenity tree management and have written papers published in respected journals such as the International Journal of Urban Forestry and was a member of drafting group responsible for the writing of the National Tree Safety Groups publication 'Common sense management of trees'. I am trained in the use of the Quantified Tree Risk Assessment (QTRA) methodology and am a Bond Solon/Cardiff University certificated Expert Witness.

For your assurance I carry £1,000,000.00 Professional Indemnity insurance.

This report is based on my site observations and any information provided.

1.2 ***Instructions and Brief***: I was instructed to provide guidance associated with the arboricultural implications of a proposal to erect a garden building and associated drive at 8 Burland Green Lane, Weston Underwood, DE6 4PF (the site). Advice was sought as to what arboricultural constraints might be associated with the proposal and how any such might be overcome/minimised. A Tree Survey Schedule compliant with the guiding principles of British Standard 5837:2012 '*Trees in Relation to Design, Demolition and Construction – Recommendations'* is contained in this report, and all survey data is recorded in this Schedule.

1.3 ***Documents & Information Provided***: A plan illustrating the proposed layout was provided; it has been annotated to support the accompanying Tree Survey Schedule.

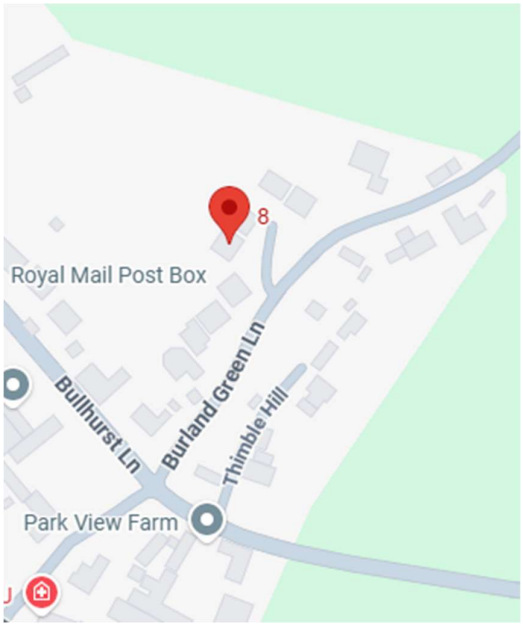


Fig 1 - Location Plan

1.4 Scope:

1.4.1 This report has been prepared for the sole use of the client. Any third party referring to this report or relying on the information contained herein does so entirely at his or her own risk.

1.4.2 Whilst every effort has been made to detect defects within the subject tree, no guarantee can be given as to the absolute safety or otherwise of any individual tree. This report represents a survey and should not be construed to be a detailed tree inspection report. Any recommendations given are intended to reduce the likelihood of tree collapse and are intended to reduce the likelihood of tree collapse but absolute safety is not a realistic goal; even apparently sound trees can fail particularly during inclement weather eg Gale force winds of 8 (39 - 46 mph) may result in the shedding of small twigs and branches whereas Gale force 10 winds (55 – 63 mph) may result in trees being uprooted. All recommendations are given in the context of the site's current usage; any change will dictate a further survey.

1.4.3 The findings and recommendations contained within this report are, assuming its recommendations are observed, valid for a period of twelve months from the date of survey. Trees are living organisms subject to change – best practice dictates they are inspected on a regular basis for reasons of safety.

1.4.4 My expertise is ARBORICULTURE, any non-arboricultural references made within this report are made as a lay person.

2 SITE VISIT AND OBSERVATIONS

2.1 ***Site Visit*****:** I undertook a site visit on 2 March 2026 accompanied by my client. The tree was surveyed visually from the ground. No drilling or excavation was carried out on this occasion. The weather at the time of the visit was dry and still, visibility was adequate for the purposes of the visit.

2.2 ***Tree Survey Methodology:*** The survey was undertaken in accordance with the guiding principles of British Standard 5837:2012 '*Trees in Relation to Design, Demolition and Construction – Recommendations'* (BS5837) and the trees were assessed objectively and without reference or influence being given to any proposed site layout. Using 'Visual Tree Assessment' (VTA) techniques, the trees were surveyed from the ground. VTA is a methodology, employed by arboriculturists, to evaluate the structural integrity of a tree, relying on observation of a tree's biomechanical and physiological features; this is the method generally adopted and is appropriate in this instance.

Further explanatory details regarding the survey methodology can be found in Appendix 1.

3 TREE RETENTION – GENERAL

3.1 ***Below Ground Constraints:*** to achieve any development various construction activities are required and great care and consideration needs to be given as to how such activity can proceed whilst avoiding damage to retained trees.

3.1.2 Generally, and contrary to common belief, in the UK, most of a tree's roots can be found in the upper 600mm of soil (See Figure 2). To avoid damage to these roots, trees should usually be protected using protective barriers as are detailed in British Standard 5837:2012 '*Trees in Relation to Design, Demolition and Construction – Recommendations'* (BS5837) and as illustrated in Figure 3. Such barriers should be erected around the RPA prior to the commencement of the demolition/construction activity; it must remain in situ and intact until completion.

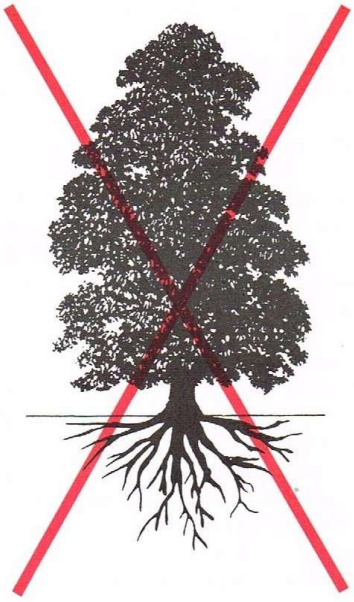


Figure 1. This is the commonly held idea of what a tree's root system is like. In fact it is quite wrong.

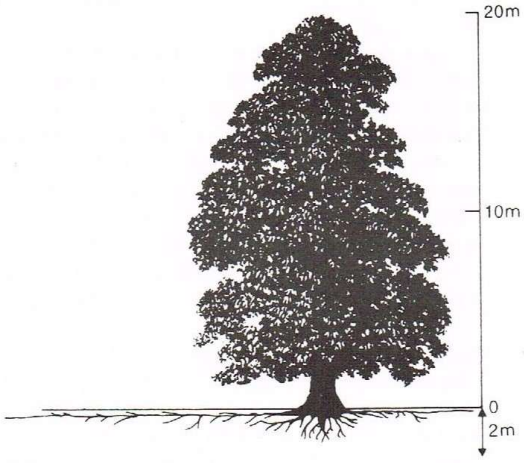


Figure 2. A tree's root system is typically fairly shallow (frequently no deeper than 2 m), but is widespreading, with the majority of roots found in the upper 60cm of soil.

Figure 2
AAIS (1995) '*Tree Root Systems*'.

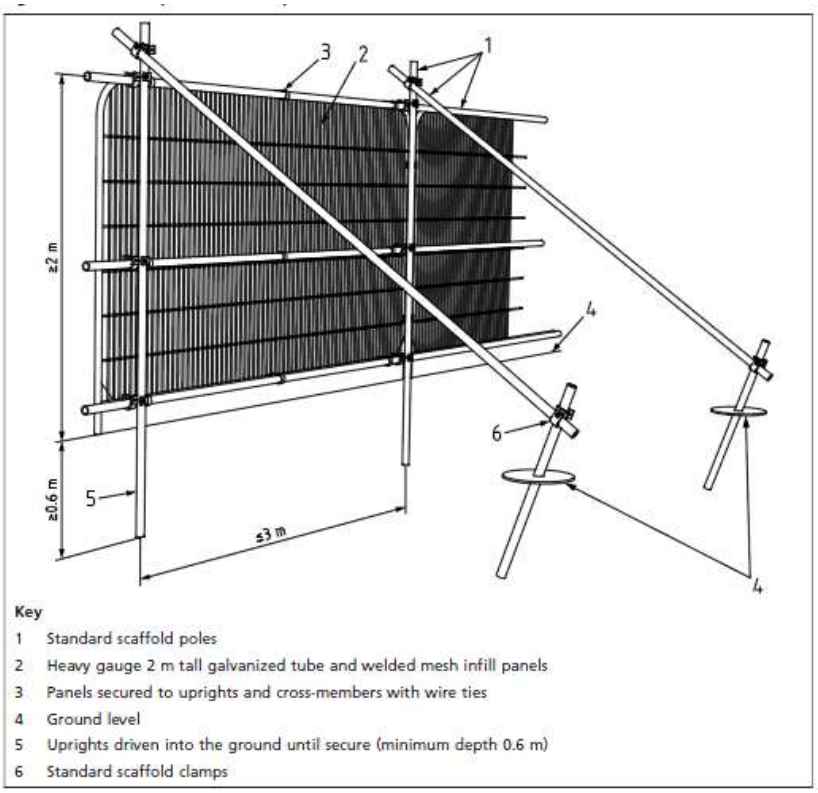


Figure 3 - Tree Protection Barrier

British Standard 5837, (2012), '*Trees in Relation to Construction: Recommendations*', *Page 20.*

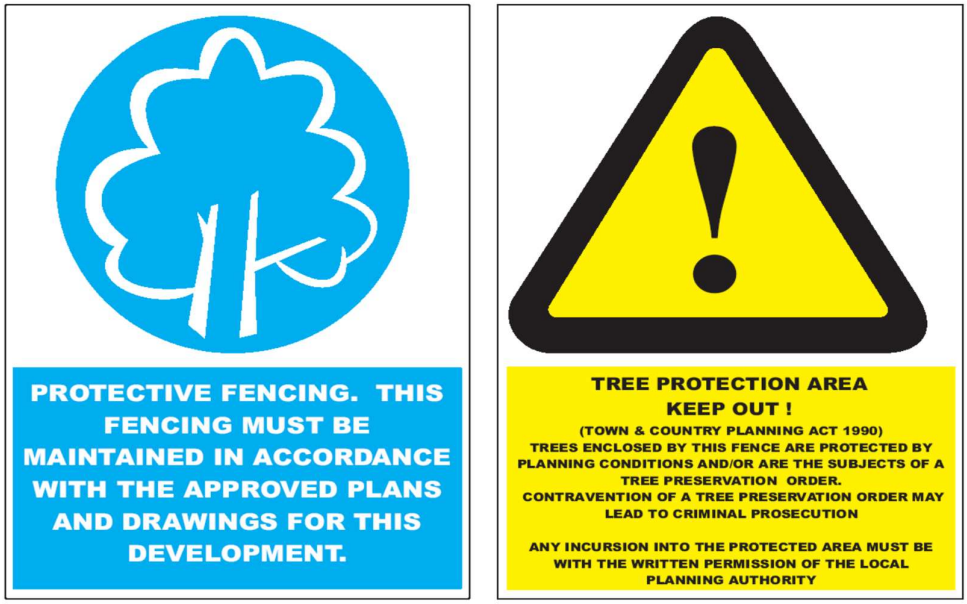


Figure 4 - Barrier Notice

4 ARBORICULTURALLY ACCEPTABLE CONSTRUCTION METHODS WITHIN RPA

4.1 ***Foundations:*** to maximise a site's development potential, it may be possible to employ special foundation design such as mini/micro pile and suspended beam or a cantilevered foundation or 'Ground Screws' (See Appendix 2). These designs enable construction within the RPA as they limit excavation to a minimum. The location of any mini piles would need to be flexible to avoid damage to major roots and the necessary excavation for the piles may need to be carried out by hand. Any ground slab must be suspended; it must not require excavation. A structural engineer must be appointed to design any foundation which should be agreed with the project arboriculturist.

4.2 ***New Hard Surfacing:*** It is permissible to construct hard surfacing for drives and within the RPA; however, it can have implications for tree roots. These implicatio often be overcome and/or minimised by employing a 'no-dig' construction (see Ap 2) method. These techniques result in structures which are load bearing and neg need for deep excavation. Any final surface must be porous to permit ga exchange and moisture percolation. Further advice of a structural engineer m sought to design the final specification in accordance with these parameters, w final design being agreed with a Chartered Arboriculturist.

5 OTHER CONSIDERATIONS

5.1 ***Trees Subject to Statutory Controls:*** No attempt has been made to establish the existence of any statutory controls, it is, however, understood that a Tree Preservation Order (TPO) is in force; the following is given as guidance.

Trees and hedgerows can be subject to statutory control and severe penalties can result from unauthorised works or damage. It is recommended that prior to commencement of any tree works the Local Planning Authority (LPA) are

contacted. When proposing to do works to trees within a Conservation Area, with some exceptions, eg the implementation of works directly necessary to implement a full planning permission, six weeks written notice must be given to the LPA, this notice need not take any form other than a written specification of what is proposed and a plan illustrating the position of the tree(s). This notice is often referred to as a Section 211 Notice. Many LPAs prefer that their standard pro-forma is submitted to ensure the necessary detail is included in the notice; whilst such cannot be strictly required it can assist in a speedy outcome.

Having received the notice, the LPA has essentially only one of two options at its disposal ie:

- **Impose a TPO** in respect of those trees/some of those trees subject to the notice. This prevents any work being carried out without the express, written consent of the LPA,

Or

- **Do nothing** It is considered best practice for an LPA to acknowledge receipt of the notice but there is no obligation for it to do so. After six weeks of serving the notice the tree owner may proceed with the works detailed in the Section 211 Notice.

The LPA cannot, in response to a Section 211 Notice, issue a conditional consent.

TPO's are made in the interests of preserving amenity, usually taken to mean public visual amenity. Trees largely removed from public view, and which have little visual impact are not usually made the subject of a TPO. The written consent of the LPA must be obtained prior to undertaking works to trees subject to TPO unless, as with trees in Conservation Areas, certain exemptions apply. Regarding trees subject to TPO's it is a requirement that a standardized application form is used; this form is available from the LPA.

5.2 ***Trees and Wildlife*****:** Trees play host to nesting birds, many of which are protected by law. All British bat species are also protected and can be found in trees. Great care needs to be taken to avoid disturbance, and consideration should be given to the timing of tree works to avoid disturbance. Where the presence of protected species is suspected, Natural England should be contacted for advice.

5.3 ***Implementation of Tree Works*****:** Guidance on hiring an Arborist is available the Arboricultural Association's Register of Contractors, which is available free from Ullenwood Court, Ullenwood, Cheltenham, Gloucestershire, GL53 9QS (Telephone 01242 522152, www.trees.org.uk). Any appointed contractor should carry out all tree works to BS 3998 (2010) '*Recommendations for Tree Work*.'

6 CONCLUSIONS & RECOMMENDATIONS

6.1 This report provides guidance for the design team and sets out the constraints relating to the trees on site. Tree survey and RPA details can be found in the Tree Survey Schedule.

6.2 The findings of my survey are that the proposal necessitates a significant intrusion within the RPA of one of the subject trees (No. 1); special techniques pertaining to foundation design and new hard surfaces must be employed if any arboricultural impact is to be avoided, guidance is provided herein. The erection of protective barriers enclosing the entire RPA is impractical, thus no vehicles/machinery must be operated within the RPA and all works must be undertaken by pedestrian means to avoid soil compaction, nor must there be storage of any materials within the RPA.

7 BIBLIOGRAPHY

- Arboricultural Advisory and Information Service (1995), Research Note 130/95/ARB, '*Tree Root Systems*'.
- Arboricultural Association (2020), '*The Use of Cellular Confinement Systems near Trees – A Guide to Good Practice'.*
- British Standard 5837:2012 '*Trees in Relation to Design, Demolition and Construction – Recommendations'.* BSI.
- Mattheck, C., (2007), '*Updated Field Guide for Visual Tree Assessment'.*

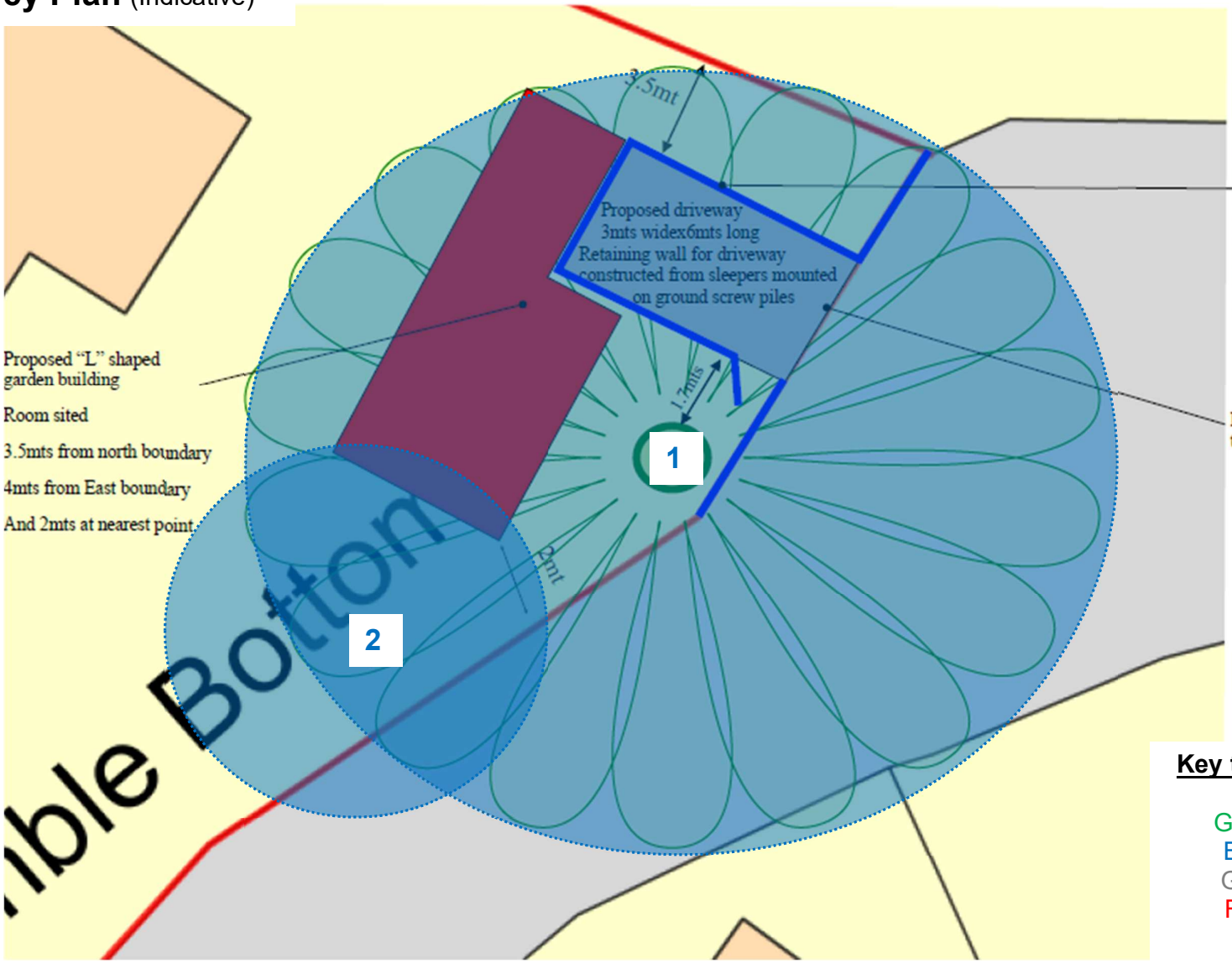
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8 Tree Survey Schedule (Explanatory Notes Found at Appendix 1)

Tree No	Species	Ht (m)	Stem Dia (mm)	Branch Spread (m)				Crown Ht. (m)	Age Class	Cond	Comments/ Preliminary Recs.	Life Exp (yrs)	Ret Cat	RPA* (Lin M)	RPA** (M^2)
				N	E	S	W								
1	Beech	22 (22)	1500 (estd.)	8	8	8	8	5	Mat	B	No work required at this moment in time.	>40	B	15.0	770
1	Yew	11 (18)	620	6	6	6	6	1	Mid	B	No work required at this moment in time.	>40	B	7.4	175

* RPA =The minimum distance, measured from the tree's trunk, at which tree protective barriers should usually be erected.
** RPA =The minimum area in M^2 around which tree protective barriers should usually be erected.

Tree Survey Plan (Indicative)



Key to Retention Category's

Green Text – Ret Cat A
Blue Text – Ret Cat B
Grey Text – Ret Cat C
Red Text – Ret Cat U

9 APPENDICES

Appendix 1: Tree Survey Methodology

The survey was undertaken in accordance with the guiding principles of British Standard 5837:2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations.*' The positions of any trees omitted from the plan provided were plotted by eye. Information recorded in the survey includes:

Species – the species identification is based on visual observations and the common English name of what the tree appeared to be is listed.

Tree Heights – are estimated in metres. Estimated mature heights are given in brackets.

Crown Height – the height to the lowest branch is estimated in metres.

Trunk Diameters – measured at 1.5 metres above ground and recorded in millimetres to the nearest 10mm.

Crown Radius – was recorded in metres along each of the cardinal points.

Crown Height – height from ground level to lowest principal limb.

Age Class – recorded as follows:

Yng	-	Young tree; <1/3 of normal life expectancy
Mid	-	Middle aged tree; between 1/3 & 2/3 normal life expectancy
Mat	-	Mature tree; has attained optimum stature
OM	-	Over Mature tree; declining
Vet	-	Veteran tree; tree of great age which is of exceptional value culturally, in the landscape or for nature conservation.

The ***Condition*** of the trees is based upon a preliminary assessment categorised thus:

A - Good

B - Fair

C - Poor

D - Very Poor/Dead

Preliminary Recommendations – works required regardless of development proposals.

Life Expectancy – estimated, ie less than 10 years, 10-20 years, 20-40 years, more than 40 years.

A ***Retention Category*** is given as follows which corresponds with Table 1 of British Standard 5837:2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations.*' ie:

- **A** - Trees of a high quality and value, including public visual amenity value. It is usual for such trees to be retained unless the planning merits of a particular scheme or layout over-ride.

- **B** - Trees of moderate quality and value, including public visual amenity value. Such trees should be considered for retention.

- **C** - Trees with a stem diameter of less than 150mm or which are of low quality/value, including public visual amenity value and/or have and life expectancy of less than 10 years value. ***The retention of Category C trees should not be allowed to impose a constraint on development.*** Trees with a stem diameter of less than 150mm are classified as Retention Category C, they should be considered for transplanting.

- **U** - Trees in such a condition that they are unsuitable for retention. Where category U trees have identifiable conservation, heritage or landscape value, even though only for the short term (less than 10 years), they may be retained where they are (or can be) sited such that concerns over safety are at (or can be reduced to) acceptable levels.

It must be noted that Retention Categories are awarded purely on arboricultural/amenity grounds and that in some instances the planning merits of a particular scheme may well over-ride the retention of even those trees qualifying for Retention Category 'A'.

Root Protection Area (RPA) – In respect of all trees surveyed the RPA has been calculated and is given in the Tree Survey Schedule. The figures given represent both the radial distance from the tree's trunk, at which the barriers should be erected and the entire area which should be encompassed by the barriers.

Appendix 2: Ground Screws

Screw Pile Foundations within a Root Protection Area (RPA) - Method Statement

Introduction

Stop Digging Screw piles are widely regarded as a very localised, low impact option upon which to mount structures within an RPA.

The use of hand held hand portable equipment and a no dig approach ensures that any damage to tree roots is heavily mitigated. This not only protects the major roots (over 25mm) but also the important fibrous root system often found close to the surface.

Construction Methodology

The location of the screw piles is important to provide adequate foundation support to the structure, whilst avoiding major tree roots above 25mm in diameter. The following procedure must be adhered to:

1. Mark out the proposed location of the structure, and the screw pile locations with shallow depth pegs.

2. Using a long metal bar such as a fencing bar or pin, drive a hole by hand into the proposed screw pile locations, rotating the bar to slightly enlarge the hole as it goes down in stages, to a depth of at least 500mm. The purpose of this is to ensure that there are no significant tree roots in that location. If roots above 25mm in diameter are discovered, then the screw pile pilot hole must be relocated to the nearest possible position that is free of roots.





3. The specialist hole punch tool can carefully be used to enlarge the start of the hole to 40mm, as part of the standard installation, paying attention to any obstructions that may be encountered. As the pointed tip is driven in, it will generally push any fibrous and small roots out of the way.



4. The pre drilling is carried out by a hand held SDS max drill with a 40mm masonry drill bit. This must be carefully and diligently undertaken by an experienced installer. The installer will be listening and watching for any indications that the drill tip has encountered a significant tree root. The feedback could include a change of speed, direction (plumb), sound and feel which the trained installer will be able to distinguish from normal drilling and from other ground obstructions such as stones.



5. If this occurs, then the screw pile must be relocated to the nearest possible position (no less than 3 times the diameter of the screw) with the process starting again from point 2. If this happens on a corner then an additional screw may be required to create a cantilever for the base frame.

6. The predrilling will continue down to suit the length of screw that will be installed. For structural integrity the predrilling should stop short of the final depth of the screw.

7. The screw is then installed, again using hand held and hand portable specialist equipment. The screw is wound in clockwise at a slow and steady rate and works on skin friction between the shaft/thread and the adjacent ground. The diameter of the screw is between 67mm – 76mm depending on which model is used.

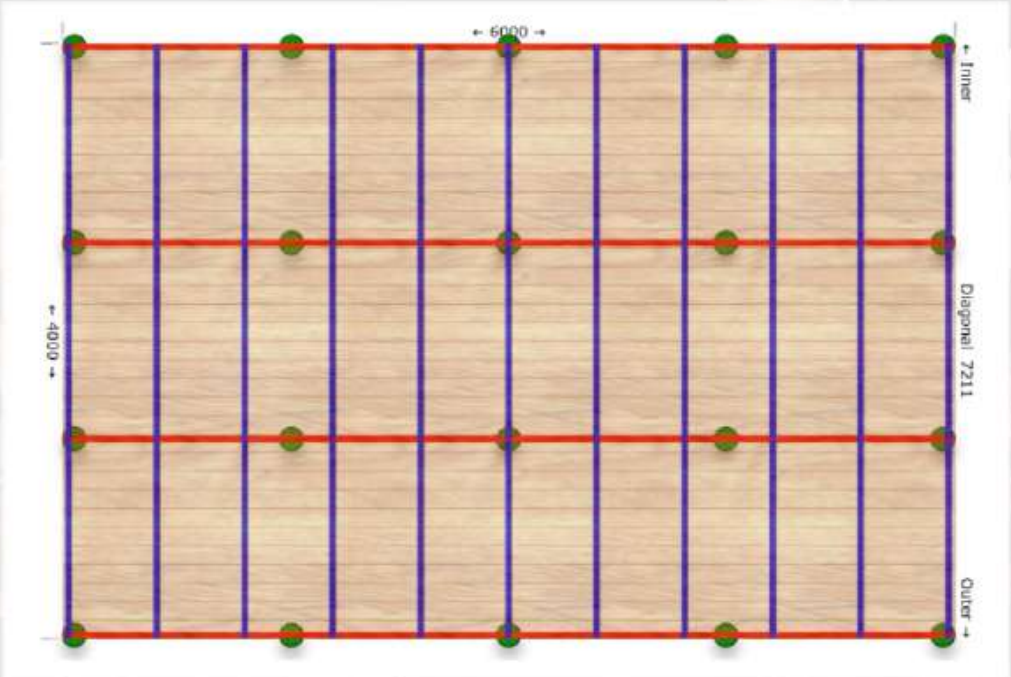


8. There is a chance the ground screw shaft may affect a very small portion of the thin fibrous roots upon installation, however this should be minimal due to the threads being relatively blunt and the installation of the ground screws should act to move the roots out of the way rather than cut through them as with driven piles.

The result of following this method will ensure that all screw piles will be inserted into the soil without significant damage to any tree roots.

Example

An example structure would be a base for a garden room or similar as below. The spacings of the screw piles would typically be 1.2m – 1.8 m apart depending on the use and design of the structure.



Additional measures

In addition to the screw pile foundations it is advisable for the structure to be raised above ground level to allow air movement for root activity to a minimum of 150mm.

It is also advised that rainwater is captured from the roof and diverted into porous soakaway pipe which has been laid out underneath the base, to supply water to the roots below the shed. The piping will only be laid on the surface of the ground to avoid any excavation.

Suitability

Screw piles are suited to a wide range of soil types, with the main specification adaptation being the length of pile required for various soil types. Their site specific load capacities can be assessed by way of a pull, or load test. This involves installing a test screw(s) and assessing their performance. With the exception of the screw installation, the test is surface based and completely non-invasive. Please refer to the Stop Digging Design Specification Document for more information.

Consultation

Each project or site must be treated on its own merits and we would always advise that an Arboriculturist is consulted. Particular attention must be given if the site has trees with TPO's (Tree Preservation Order) and the local authority tree officer must be consulted.

Example Images



Screws installed ready for base frame

Appendix 3 ‘Cellweb’ ‘No-Dig’ 3-Dimensional Cellular Confinement System
Example Specifications

Cellweb® TRP
Tree Root Protection

Cellweb® TRP is a 3D cellular confinement tree root protection system. The system provides a ‘no dig’ solution for the construction of new hard surfaces within root protection areas (RPAs). Cellweb® TRP has been designed and independently tested to comply with recommendations made in Arboricultural Practice Note 12 and BS 5837 2012 – Trees in relation to design, demolition and construction.



Cellweb® TRP Key Functions

Cellweb® is a ‘no dig’ solution which is constructed directly on the existing ground surface. This eliminates the requirement for excavation, preventing root severance.

Cellweb® is a completely porous system allowing continued water permeation and gas exchange between the rooting environment and atmosphere.

Cellweb® spreads point loads, minimising increases in soil compaction within the rooting environment. This maintains an open graded soil structure allowing continued root growth, water, gas and nutrient migration.

The Cellweb® TRP system comprises the following three components

Treetex™ Geotextile. Following minimal ground preparation the Treetex™ is laid onto the existing ground and top soil. This acts as a separation layer, separating the system above from the soil and rooting environment below. Treetex™ performs as a hydrocarbon pollution control measure in accordance with BS5837, holding 1.7lt of oil per square meter.

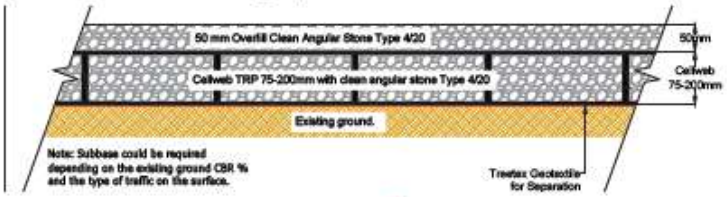
Cellweb® 3D Cellular Confinement. The Cellweb® is installed on top of the Treetex™ layer. This is fixed to the ground using ten steel J pins per panel. The panels can be cut to the required shape and adjoining panels can be connected using heavy duty staples or cell ties.

4-20mm Clean Angular Stone. The expanded Cellweb® is infilled with a 4-20mm clean angular stone. The confined angular stone locks together to produce a rigid stone mattress, while maintaining air pockets for continued water permeation and gas exchange. The low fines content of the stone prevents the Treetex™ layer from becoming blocked over time.

Which depth of Cellweb® TRP?

The Cellweb® System is provided in four different depths; 200mm, 150mm, 100mm and 75mm. The depth required is determined by the proposed traffic loadings and the site ground conditions. Geosynthetics in house engineering department can provide a free site specific technical recommendation. For free technical and engineering support please contact Geosynthetics Ltd 01455 617139 or the full installation guide can be found on our website www.geosyn.co.uk.

Indicative Cellweb with overfill



Web: www.geosyn.co.uk | Tel: 01455 617139
Fax: 01455 617140 | Email: Sales@geosyn.co.uk

Geosynthetics
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3 Dimensional ‘No-dig’ Installation Methodology

- Lay G4 Geotextile over existing ground between pegged timber edgings if used, ensuring overlaps of 300mm minimum. Temporarily retain G4 Geotextile with either stakes or weights.

- Install 8 Number 12mm diameter steel pins across the area to be covered by one panel of the confinement system (the product). The pins shall be orientated in order that each panel of the product may be laid over and remain in an expanded state.

- Install the product over steel pins; where necessary, remove surplus product with a craft knife.

- Immediately adjacent panels of the product shall be connected by providing four staples at each overlap.

- The expanded product panels shall be infilled with 40/20mm clean angular stone using a Mini Excavator, under the direction of a chartered arboriculturist.

- The infilled aggregate shall be rolled and whacked to ensure compaction.

- Apply final surface eg block paving, porous tarmac etc.



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