

TREE SURVEY, ARBORICULTURAL IMPACT ASSESSMENT AND ARBORICULTURAL METHOD STATEMENT

A report to accompany a planning application for the demolition of the existing house and construction of a new two storey dwelling and garage at 201 Reading Road, Wokingham, Berks, RG41 1LJ

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On the instructions of Riorden Welby

3rd January 2025

MDA reference V23



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1. Instructions

- 1.1 Martin Dobson Associates Ltd (MDAL) was instructed by Riorden Welby on 17th December 2024 to carry out a BS5837: 2012 compliant survey of trees at 201 Reading Road, Wokingham, Berks, RG41 1LJ, and prepare a tree survey schedule and tree constraints plan, to inform architects of potential tree-related constraints on the site. MDAL was further instructed to prepare an arboricultural impact assessment to consider potential impacts of the proposal for the demolition of the existing house and construction of a new two storey dwelling and garage, and to recommend suitable mitigation for any impacts identified. The final instruction was to prepare a tree protection plan and an arboricultural method statement to provide a specification for tree protection during the proposed development.
- 1.2 The documents that have been provided for reference are as follows:
- 1) Topographical survey prepared by Land and Building Surveyors (plan reference number LDS/19098)
 - 2) Proposed plans by Jonathon Connolly Construction Studio Ltd – 290_DAS_01

2. Introduction

- 2.1 The British Standard 5837: 2012 *Trees in relation to design, demolition and construction – Recommendations* provides a framework for considering trees in the planning process. It gives guidance on categorising the qualities of trees in order to enable decisions to be made as to which trees are appropriate for retention within a development. It then advises on options for protecting trees to be retained during the development (at all stages including demolition, construction and hard landscaping), and the means of incorporating trees into the developed landscape. This report has been prepared with reference to the recommendations of BS5837: 2012.
- 2.2 The proposed development that is considered in this report is for the demolition of the existing house and construction of a new two storey dwelling and garage.
- 2.3 Trees that are assigned a BS5837: 2012 category of A or B, are considered to be of high value and should be considered for retention. Trees in category C should be retained where possible, but should not be considered a material constraint to development. Trees categorised as U are unsuitable for retention, usually because they are dead or dangerous, or have a very short safe useful life.
- 2.4 Oak T1 is protected by a Tree Preservation Order (TPO 1402/2011) and this means no work can be carried out to it (including cutting roots or branches or felling) without an application to the local planning authority. However, the granting of planning permission allows work to be conducted on or near to a protected tree if it is approved as part of a planning consent.
- 2.5 This report considers which trees are suitable for retention within the proposed development, and makes recommendations for methods to ensure that retained trees will be protected from harm during preparatory works, demolition, and construction.

3. Tree survey

- 3.1 The tree survey was carried out by Philip Walker on 23rd December 2024. Tree heights and crown spreads were measured using a Nikon Range Finder or Trupulse laser and trunk diameters were measured at 1.5m above ground level using a diameter tape. Dimensions were estimated where access or visibility was restricted (e.g. if the tree was on neighbouring land).
- 3.2 Appended at **MD1** is the tree survey schedule which provides details of the five trees present within or immediately adjacent to the property.
- 3.3 The site survey drawing appended at **MD2**, based on the Land and Building Surveyors' topographical survey shows the positions of the surveyed trees and gives a reasonable indication of their comparative branch spreads. The drawing has been colour coded as follows:

A trees (high quality and value, minimum 40 years useful life) **LIGHT GREEN**

B trees (moderate quality and value, minimum 20 years useful life) **MID BLUE**

C trees (low quality and value, minimum 10 years useful life) **GREY**

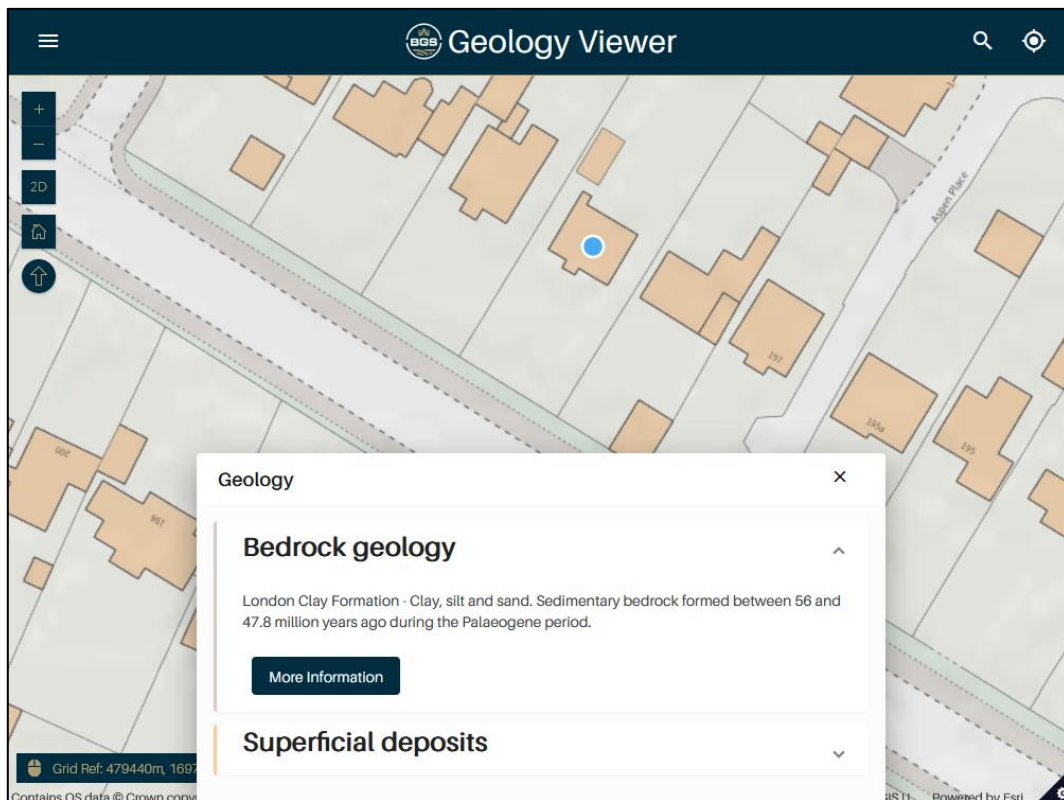
U trees (unsuitable or dead/dying/dangerous, less than 10 years useful life) **RED**

- 3.4 It should be understood that no individual safety inspection has been carried out on any tree. Similarly, any suggestions for tree work should not be taken as a specification for tree works.
- 3.5 Of the five trees surveyed one is considered to be category A and of high value (T1 oak) and the remainder are category C and of low value (T2 laburnum, T3 Leyland cypress, T4 poplar, and T5 laurel). Additional trees are present at the rear of the rear garden, but they were not included in the survey as the development is relatively remote from them, and they can easily be isolated from the development by protective fencing.
- 3.6 Adequate protection, both above and below ground, is essential for trees that are to be retained as part of a development. The British Standard BS5837: 2012 *Trees in relation to design, demolition and construction - Recommendations* advises that there should be a root protection area (RPA) around trees which is kept free of construction activities by means of an exclusion zone enforced by protective fencing and/or ground protection. The RPA is calculated as the area equivalent to a circle with a radius of 12 times the trunk diameter at a height of 1.5 m above ground level. Based on the tree survey data root protection areas (and radial distances from the trunk to be protected) have been calculated and these are shown as circles around the trees on the tree constraints plan at **MD2** and are tabulated at **MD3**.

4. Soil assessment

- 4.1 BS5837: 2012 advises that soil properties should be considered as part of a tree survey report. This is necessary because trees can cause damage to structures founded on soils that shrink and swell with changes in moisture content (principally clays). Such movement is exacerbated by the influence of trees and therefore if a shrinkable soil is suspected foundations should be designed to extend below the likely zone of seasonal moisture change.
- 4.2 The British Geological Survey 1: 50,000 scale map indicates that the underlying geology of the site is shrinkable London Clay Formation – Clay, Silt and Sand (Figure 1). Thus, foundations will need to be designed to take account of trees. Oak is a high water demand species and the soil is likely to have a high volume change potential and thus foundations in excess of 2m deep are likely to be required. If site specific investigations confirm shrinkable clay then foundations must be designed with reference to the National House Building Council's Standards Chapter 4.2 *Building near trees* or similar guidance.

Figure 1. British Geological Survey 1: 50,000 scale map showing that the site is underlain by the London Clay Formation – Clay, Silt and Sand



5. Arboricultural impact assessment

- 4.1 The purpose of an arboricultural impact assessment (AIA) is to evaluate the direct and indirect effects of proposed development on trees and, where necessary, to consider appropriate mitigation. It should set out which, if any, trees are to be removed to facilitate the development and should consider the possible effects on retained trees of potentially damaging activities on the site (for example changes in ground level and installation of below ground services). Requirements for access around trees should be considered and potential conflicts identified, for example, where branches overhang the development area and may require pruning.
- 4.2 Mitigation for any issues identified should be proposed and addressed in the arboricultural method statement (AMS).

Tree removals

- 4.3 The proposed development requires the removal of one category C tree, T2 Laburnum.
- 4.4 T2 is a small category C tree within the overgrown hedge area at the front of the property. It will need to be removed to facilitate construction of the proposed new garage.

Summary of trees to be removed		
Category A	Category B	Category C
		T2 Laburnum

Tree pruning

- 4.5 No pruning work is required to facilitate the proposed development as there is sufficient space between the buildings and retained trees for all works to take place without conflicts arising.

Tree protection

- 4.6 Trees T1 and T3 – T5 are to be retained and will be protected from mechanical damage to their trunk, branches and roots by the installation of 2m high protective fencing to create a construction exclusion zone (CEZ) to exclude site workers, machinery and storage of materials.. The fencing around T1 is to extend around the trunk and the part of its RPA not currently covered by the existing tarmac driveway. There are mature trees northeast of T4 and T5, further into the garden. The fencing at the rear of the property will extend across the entire width of the garden to prevent any access to this area.
- 4.7 The current driveway is laid with tarmac and will remain intact within the RPA of T1 to serve as ground protection during the demolition of the existing house and throughout the construction of the proposed new house and garage.
- 4.8 The proposed new garage is within the RPA of T1. It is therefore proposed that it will be constructed on a piled raft, with a suspended no-dig floor slab. This will avoid the need for a continuous trench for conventional footings and will create 'hit and miss' situation which will minimise root loss. The floor slab of the garage will be constructed on the piles, at the same level as the existing tarmac ground level.
- 4.9 Once construction of the house and garage is complete the tarmac can be removed ensuring that any machinery used operates from the driveway, moving out of the RPA of T1 towards the road. The tarmac driveway is to be replaced with a permeable final surface, constructed using an above-ground no-dig construction comprising a cellular confinement system such as Cellweb.

This will minimise soil compaction and create a physical barrier above the soil which will prevent inadvertent damage to soil and roots.

6. Arboricultural method statement and tree protection plan

- 5.1 Trees can very easily be damaged during construction activities through their branches being broken by construction traffic passing close to the canopy or by root severance during the digging of foundation or service trenches. The majority of roots are to be found in the upper 600mm of soil and so even relatively shallow trenches can sever a significant number of roots growing across the direction of the trench. Similarly, the diameter of tree roots tapers sharply within a few metres of the trunk of a tree, so that what might seem to an uninitiated site worker to be an insignificant root (perhaps only a few centimetres in diameter) may actually be highly important.
- 5.2 Tree roots can also be damaged indirectly, often inadvertently, through soil compaction, which disrupts soil structure and can lead to root death through the development of anaerobic soil conditions. Spillage of toxic materials (e.g. oil or diesel) can also result in root damage and ultimately the death of a tree. Protection of the soil around trees by means of a construction exclusion zone (CEZ) is therefore vitally important in order to preserve roots undamaged.

Fencing and ground protection

- 5.3 Tree protection will comprise of 2m tall fencing installed in the positions shown at **MD4** before the building is stripped out, demolition commences, materials are delivered to site, or construction commences. The fencing will consist of a scaffold framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3 m (Figure 2). Onto this, weld mesh panels or 2 m high shuttering board will be securely fixed with wire or scaffold clamps. Un-braced weld mesh panels on unsecured rubber or concrete feet will not be used as these are not resistant to impact and are too easily removed by site operatives. An alternative system of bracing which does not require a scaffold framework is shown in Figure 3.

Figure 2. Diagram to illustrate design of protective fencing with scaffolding anchored into the ground.

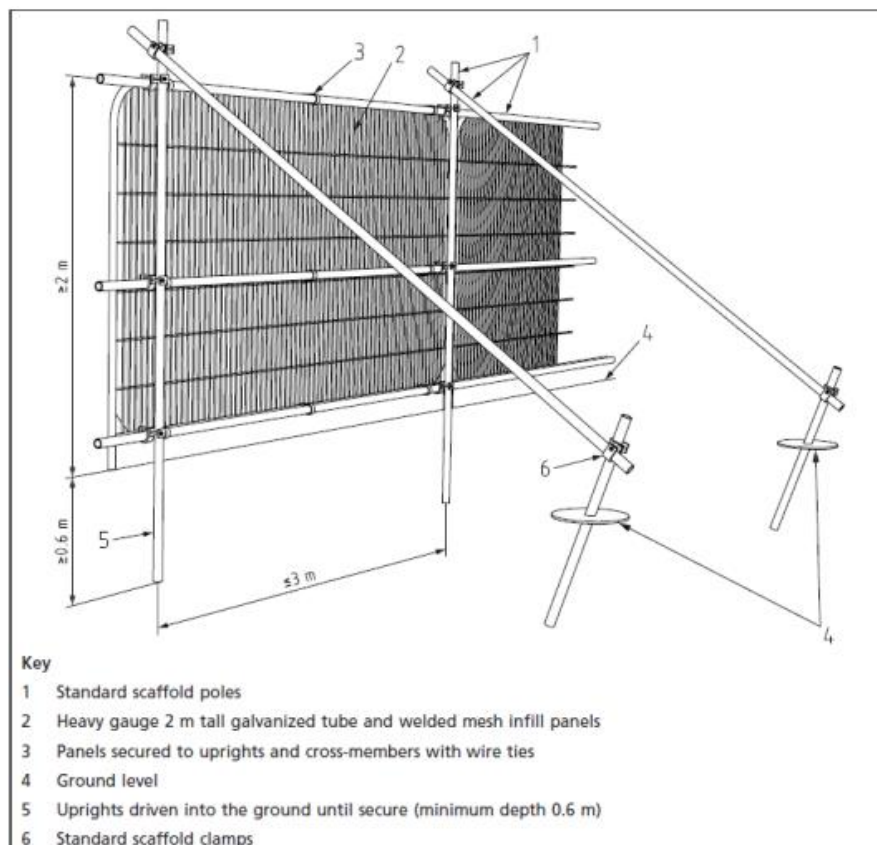


Figure 3. Diagram to illustrate alternative design of protective fencing.

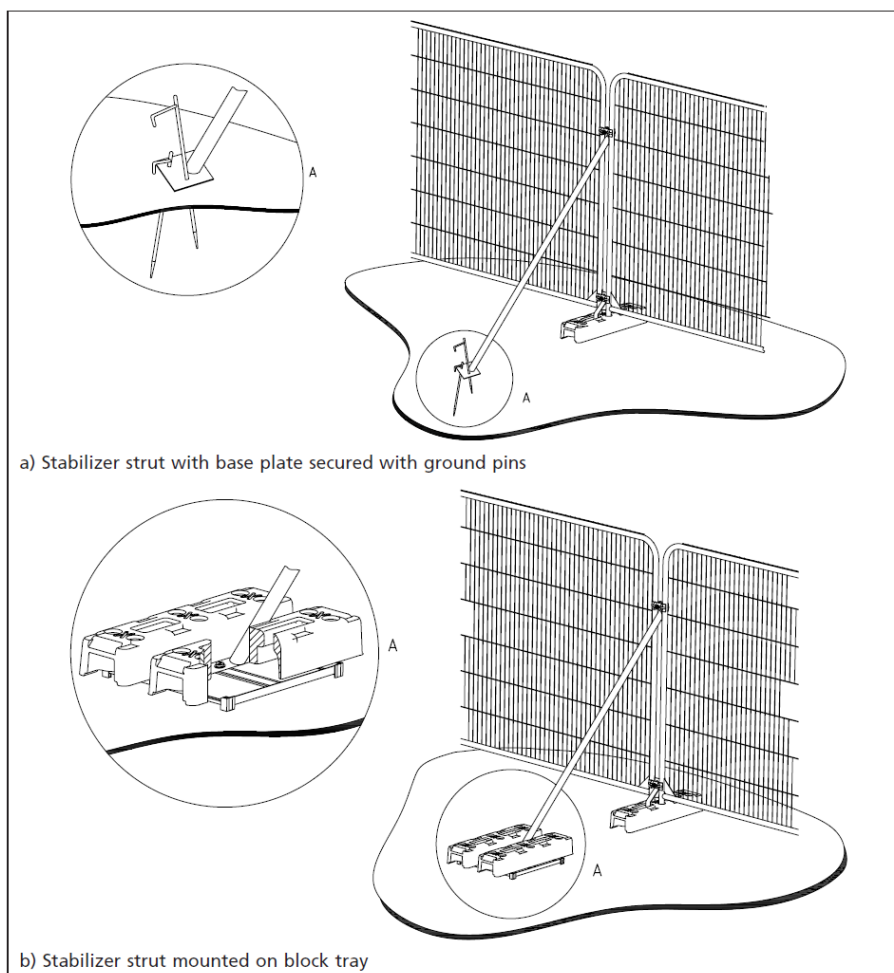


Figure 4. Photograph to illustrate installed protective fencing



- 5.4 High visibility all weather notices at a size no less than A3 will be securely attached to every second panel of the barrier around the CEZ with wording as shown in Figure 5.

Figure 5. Wording to be included in high visibility all-weather sign attached to protective fencing



- 5.5 In order to allow access for construction workers around the development it is proposed that part of the RPA will be protected by ground protection. This area, shaded blue on the tree protection plan (**MD4**), is currently a tarmac driveway and will be kept intact during demolition and throughout construction.

Above-ground no-dig driveway

- 5.6 Once construction has been completed the existing tarmac driveway and sub-base will be removed carefully under arboricultural supervision, to ensure that no roots of T1 are damaged. Removal will start close to the house and will work away from it towards the road. Machinery will operate on the existing tarmac only, not on exposed soil. Once the existing driveway has been removed the sequence of events to be followed for installation of the above-ground no-dig driveway (shaded blue at **MD4**) is as detailed below (and explained in detail at **MD5**).
- 5.7 A geotextile fabric (e.g. Terram 2000 or Treetex) will be laid over the ground exposed soil.
- 5.8 A cellular confinement system such as Geocell¹ or Geosynthetics Cellweb² up to approximately 150mm thick (specific thickness to be designed to support expected loads by engineer) will be laid out and pegged in place. Wooden or concrete edging laid above ground will be used and may be anchored by the use of wooden or metal pegs driven into the ground.
- 5.9 The cellular confinement system will be filled with clean angular stone (20 - 40mm to BSEN1342 or BSEN12620). The no fines material is to ensure high ratio void space which corresponds with ideal soil void ratios for tree root health. Crushed gravel is not permitted. Filling will take place working from the road inwards so that any machinery required works on filled cells (Figures 6 and 7). Banked soil may be used outside the construction to mask retaining boards.

Figure 6. Schematic diagram illustrating cellular confinement system used to form an above-ground no-dig driveway.

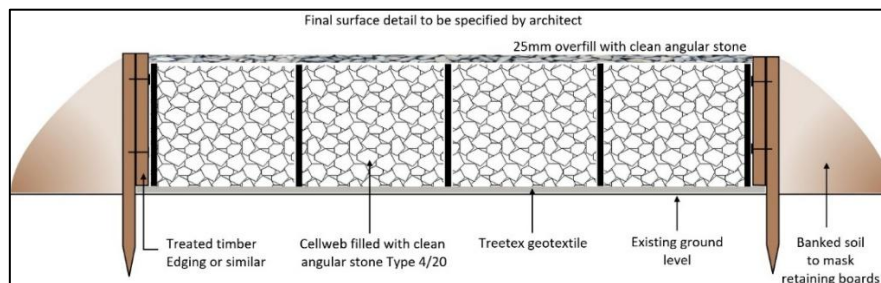


Figure 7. Photographs illustrating cellular confinement system used to form an above-ground no-dig driveway.



¹ <http://www.terram.com/products/geocells/tree-root-protection-geocell.html>

² http://www.geosyn.co.uk/products/cellweb-trees.asp?product_id=21

Figure 7. continued.



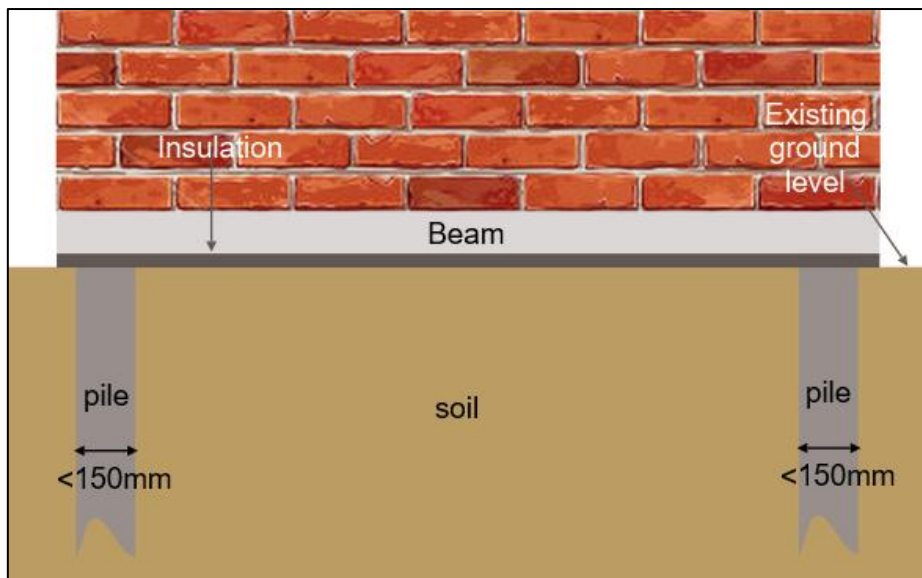
5.10 The final surface for the driveway will be porous and will be formed of gravel, porous tarmac, porous resin, or block pavements bedded on sharp sand above a geotextile.

Pile and beam foundations

5.11 Pile and beam foundations will be designed by a structural engineer but are intended to minimise ground disturbance and root severance by avoiding excavating a continuous trench (Figure 8). Piles will be installed by a piling rig and will be around 150mm diameter. Concrete beams will be installed at, or above, existing ground level. The specific position of the piles will be determined by hand digging in the proposed pile location. If roots larger than 25mm diameter are encountered the position of the pile will be moved.

5.12 Screw piles are less invasive than bored piles and would be preferred where possible.

Figure 8. Illustrative diagram to show pile and beam foundation construction.



Arboricultural supervision

5.13 A project arboricultural consultant will be appointed to oversee tree protection for the duration of the construction contract. The project arboriculturist will be consulted on any issues that may arise concerning trees and will visit the site as often as necessary to ensure that trees are protected and/or at the following key stages:

- Prior to contractors commencing works on site in order to meet with the supervising architect and/or the contractor's site manager to ensure that the principles of tree protection are understood and the procedure, timescale and materials for installation of tree protection are agreed;
- Following installation of tree protection but prior to any works commencing on site to confirm that it is fit for purpose;
- During installation of piles;
- During removal of the existing tarmac driveway and installation of the cellular confinement system;
- At any time that there are potential conflicts with tree protection.

5.14 A pre-start meeting will be held on site during which the site manager will be fully briefed on tree protection measures and procedures before any demolition/construction workers or sub-contractors are permitted onto the site. Following induction, a copy of the Induction Sheet (MD5) will be provided to and be signed by the site manager/foreman in recognition of acceptance of their role in enforcing day to day tree protection.

5.15 All contractors involved in the project have a duty to comply with all the specified tree protection measures and all workers will be provided with induction by the site manager/foreman and be required to sign an Induction Sheet confirming they have understood the protection measures. Signed sheets will be kept on site for inspection.

5.16 No enabling works will take place until after the meeting has been held and tree protection has been installed, inspected and approved as fit for purpose.

5.17 Fencing and ground protection will not be removed under any circumstances during construction unless with the express approval of the local authority. If in any doubt the site manager must contact the project arboricultural consultant.

Burning of waste

5.18 No fires will be lit on site within 3 m of root protection areas, including the area of the no-dig driveway, due to the danger of scorching of leaves and branches of overhanging trees.

Space for machinery, parking of vehicles, storage of materials and site huts

5.19 All machinery required on site will operate outside of root protection areas or from the ground protection or the driveway. Site accommodation, if required, will be located outside root protection areas.

5.20 Delivery vehicles will park in the drive or off site and storage of materials will be outside root protection areas. At each delivery, where materials are unloaded by crane, a banksman will be present to ensure that sufficient clearance is allowed for to avoid conflict with branches of T1. Any incidents must be reported to the project arboriculturist.

Services

5.21 Existing services will be used. But if new connections are needed, and it is necessary for a trench to be dug through an RPA, a specific method statement will be required which will need to specify that the trench will be hand dug and that care will be taken to preserve all roots

encountered which are larger than 25mm diameter.

Tree works

5.22 Tree removals will be undertaken as preliminary works. This will be carried out by suitably qualified arboriculturists to the standards set out in BS3998: 2010 *Tree works – recommendations*.

Landscaping

5.23 Once construction has demonstrably finished (to the satisfaction of the project arboriculturist) fencing may be removed in order to allow final landscaping to be undertaken. Landscaping plans will not involve any changes in soil levels, digging of any trenches or construction of masonry or retaining walls within root protection areas.

7. Conclusions

- 6.1 A BS5837: 2012 survey of five trees has been carried out on land at 201 Reading Road, Wokingham, Berks, RG41 1LJ. One tree is considered to be category A and of high value (T1 oak) and the remainder are category C and are of low value (T2 Laburnum, T3 Leyland cypress, T4 poplar and T5 laurel).
- 6.2 The proposed development requires the removal of one category C tree (T2 laburnum).
- 6.3 The trees to be retained will be protected during development and methods for ensuring their protection have been described.
- 6.4 It is considered that the proposed development will pose no threat to trees to be retained and is sympathetic to the leafy character of the area.

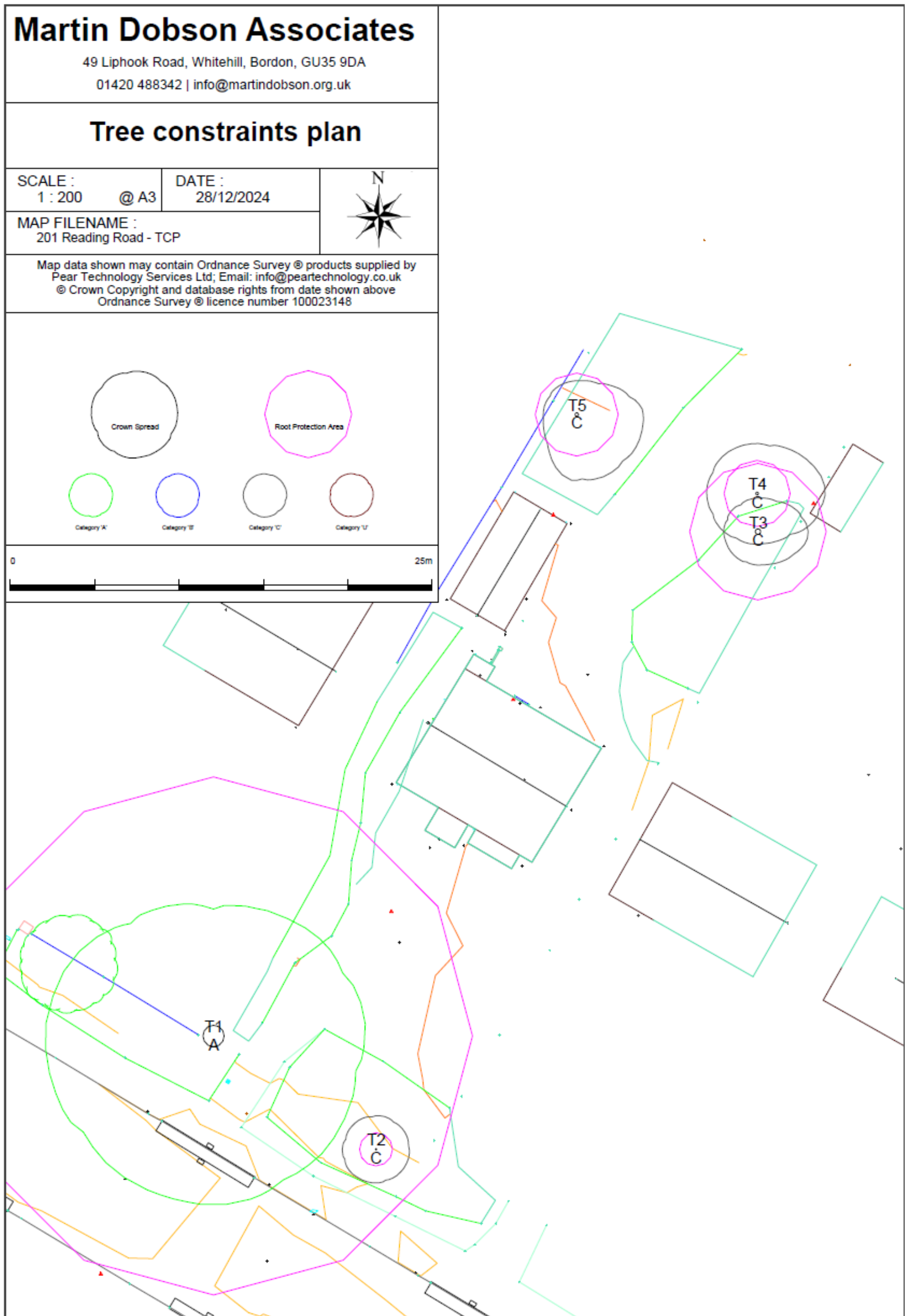
APPENDIX MD1
Tree survey schedule (BS5837: 2012)

Tree No.	Species	Height (m)	Trunk diameter (mm)	Crown spread				Height of crown clearance (m)	Age class	Physiological condition	Structural condition	Useful life	BS5837 Category	Comments
				N (m)	E (m)	S (m)	W (m)							
T1	Oak	22	1270	8	9	10	10	N4	M	Good	Good	10 to 20 yrs	A	
T2	Laburnum	5	80	2	2	2	2	S2	Y	Good	Fair	10 to 20 yrs	C	
T3	Leyland Cypress	15	330	2	3	2	2	N3	MA	Good	Poor	10 to 20 yrs	C	Multi stemmed, weak structure.
T4	Poplar	12	160	3	4	3	3	S4	Y	Good	Good	10 to 20 yrs	C	
T5	Laurel	3	200	2	4	4	2	S1	M	Fair	Poor	20 to 40 yrs	C	Part of overgrown hedge.

Y= young (<one-third of life expectancy), MA = mid-aged (one-third to two-thirds of life expectancy), M = mature (> two thirds of life expectancy), OM = over-mature (reaching the end of life expectancy).

APPENDIX MD2

Tree constraints plan (TCP) showing existing plot layout with tree numbers, BS5837: 2012 colour codes (A – Green, B – Blue, C – Grey, U – Red) and root protection areas (magenta circles). The plan has been provided separately as a PDF at a scale of 1: 200 @ A3.



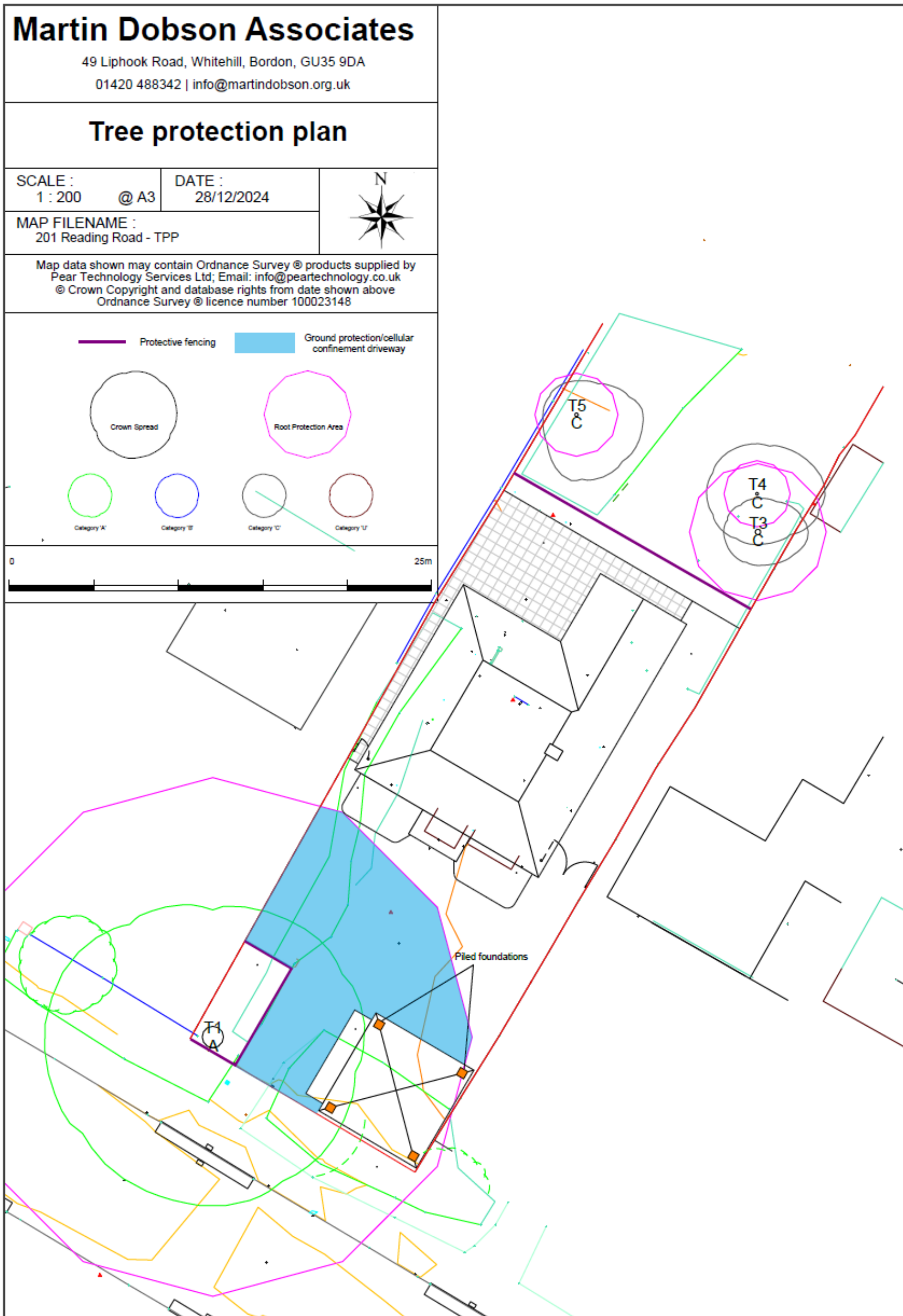
APPENDIX MD3

BS5837: 2012 schedule of root protection areas

Tree No.	Species	Trunk diameter (mm)	BS5837: 2012 Root protection area, RPA, (m ²)	BS5837: 2012 Radial protection distance (m)
T1	Oak	1270	729.8	15.2
T2	Laburnum	80	2.9	1.0
T3	Leyland Cypress	330	49.3	4.0
T4	Poplar	160	11.6	1.9
T5	Laurel	200	18.1	2.4

APPENDIX MD4

Tree protection plan (TPP) showing retained trees, tree numbers and root protection areas (magenta circles). The location of protective fencing is shown as purple lines, ground protection/above-ground no-dig driveway as blue shading, and piled foundations as orange shading. The plan has been provided separately as a PDF at a scale of 1: 200 @ A3.



APPENDIX MD5

Installation guide for above-ground no-dig driveway using Cellweb.

PRODUCT DATA SHEET

Geosynthetics Limited Tel: 01455 617 139 Fax: 01455 617 140 Email: sales@geosyn.co.uk

Cellweb® TRP Installation Guide



Step 1: Prepare Surface



Step 2: Lay out Treetex™



Step 3: Lay out Cellweb® TRP

- Cellweb® TRP is a NO DIG tree root protection measure and it is recommended that no excavation be performed without prior approval and guidance from the Local Authority Arboricultural Officer.
- Soil compaction from vehicles, machinery and materials is to be strictly prohibited during construction within Root Protection Areas (RPAs).
- Approval must be obtained from the Local Authority that the design and the method of construction is acceptable.
- Further information is available from the following two documents;
 - British Standard BS5837: 'Trees in Relation to Design, Demolition and Construction' (2012).
 - Arboricultural Advisory and Information Service: Practice note 12 – 'Through the Trees to Development' (APN12).

Installation Method

1. Prepare the Surface

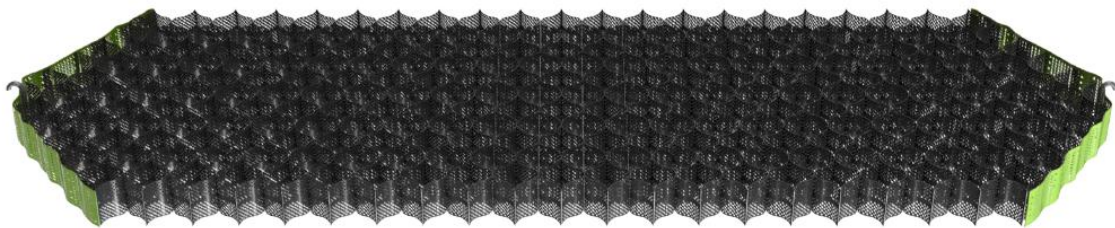
- Remove the surface vegetation using appropriate hand held tools or herbicide (see Note 1).
- Remove any surface rocks, debris and organic material.
- Create a level surface by filling any hollows with clean angular stone or sharp sand.
- Do not level off high spots or compact the soil through rolling.

2. Lay out the Treetex™ Non-Woven Geotextile

- Lay out the Treetex™ over the prepared area, overlaying the edges of the required area by 300mm.
- Overlap any joins by 300mm minimum or more, depending on soil structure (see Note 2).

3. Lay out the Cellweb® TRP Cellular Confinement System

- Lay out the collapsed Cellweb® TRP on-top of the Treetex™.
- Place one of the supplied J pins into the centre cell at the end of the panel and secure into the ground.



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Cellweb® TRP - Installation Guide

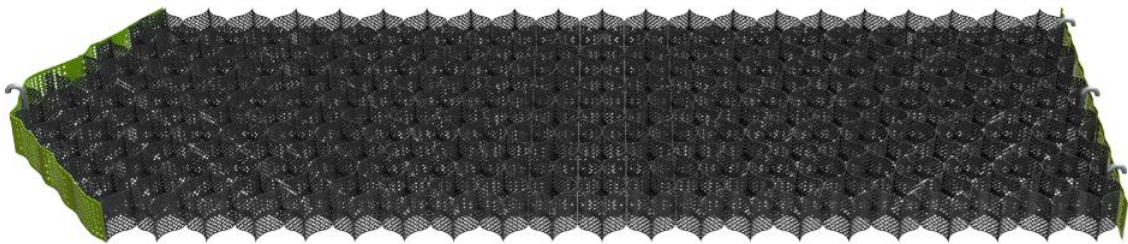


Step 3: Pinning Cellweb® TRP

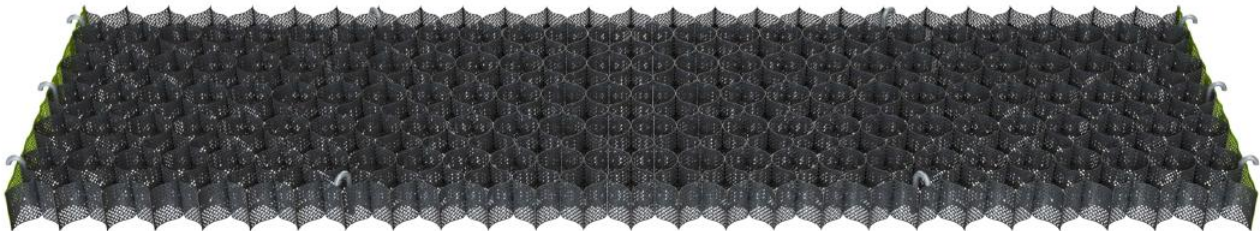


Step 3: Stapling Cellweb® TRP

- Pull out the Cellweb® TRP to its full 8.1m length and secure its length with another J pin.



- Now measure its width to 2.56m and secure in each of the corners with the J pins.
- Use 10 pins per panel to create a panel measuring 8.1m x 2.56m.



- This will produce a cell size of 259mm x 224mm which is the required cell diameter. Each cell must be fully extended and under tension.
- Staple adjacent panels together at each cell (see Note 3).
- If a curved path or shape is required, this should be cut when the Cellweb® TRP panel is pinned out to 8.1 x 2.56m, ensuring complete cells remain. Do not try to curve or bend the Cellweb® TRP panels into place.
- All cells must be fully opened to the required diameter.



Cellweb® TRP - Installation Guide



Step 4: Clean Angular Stone



Step 5: Edge Restraints



Step 6: Surface Options

4. Infill the Clean Angular Stone

- The infill material must be a clean angular stone, Type 4/20mm or Type 20/40mm (see Note 4).
- Do not use M.O.T type 1 or crushed stone with fines for tree root protection.
- Infill the Cellweb® TRP cells with the clean angular stone, working towards the tree and using the infilled panels as a platform.
- Minimum 25mm overfill of clean angular stone when used in conjunction with a hard surface.
- No compaction is required of the infill. Do not use a whacker plate or other means of compaction.
- Encourage settlement of the stone with the use of a light roller or with 2-3 passes of the construction plant used for installation.
- If the clean angular stone is being used as the final surface; regular maintenance will be required to ensure a minimum overfill of 50mm.

5. Edge restraints

- Excavations for kerbs and edgings should be avoided within the RPAs.
- Where edging is required for footpath and light structures, a peg and treated timber board edging is acceptable
- Other options include wooden sleepers, kerb edging constructed on-top of the Cellweb® TRP system, plastic and metal edging etc.

6. Surface options

- All surfaces in Root Protection Areas must be porous. Surfaces can include block paving, asphalt, loose gravel, grass and gravel retention systems (e.g Golpla), resin bound gravel, concrete etc.

NOTES

1. **Herbicide:** According to BS5837:2012 "The use of herbicides in the vicinity of existing trees should be appropriate for the type of vegetation to be killed, and all instructions, warnings and other relevant information from the manufacturers should be strictly observed and followed. Care should be taken to avoid any damaging effects upon existing plants and trees to be retained, species to be introduced, and existing sensitive habitats, particularly those associated with aquatic or drainage features."
2. **Geotextile:** We recommend the installation of a Treetex™ under the Cellweb® TRP, or under the sub-base, if installed. The overlapping between adjacent rolls of Geotextile should be: CBR > 3%: 300mm minimum, CBR between 1% and 3%: 500mm minimum. CBR ≤ 1%: 750mm minimum.
3. **Staples:** Number of staples per join: 200mm: 5 staples. 150mm: 4 staples. 100mm: 3 staples. 75mm: 3 staples.
4. **Granular Fill:** Open graded sub-base, clean angular stone Type 4/20 or Type 20/40. Please refer to BS7533-13:2009 and to the Design Manual for Roads and Bridges (DMRB), Volume 4 Geotechnics and Drainage, Section 1 Earthworks, HA44/91, Volume 7 – IAN 73/06 Design Guidance for road pavement foundations and Manual of Contract Documents for Highway Works (MCHW), Volume 1 Specification for Highway Works for the construction and maintenance of the fill material.

This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own experimentation. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. This information may be subject to revision as new knowledge becomes available. Since we cannot anticipate all variations in actual end use conditions, Geosynthetics Limited makes no warranties and assumes no liabilities in connection with this information. Nothing in this publication is to be considered as a licence to operate under or a recommendation to infringe any patent right.
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APPENDIX MD6

TREE AWARENESS – SITE INDUCTION SHEET

SITE NAME: 201 Reading Road, Wokingham, Berks, RG41 1LJ

Trees are an important part of this development and all trees noted on the Tree Protection Plan are protected by planning conditions and by virtue of being in a Conservation Area. Trees must not be damaged in any way, including indirectly through compaction/contamination of soil, so that they can fully integrate into the finished project and stay healthy well into the future. All persons working on this site have a responsibility to be aware of trees and to abide by tree protection procedures.

How can trees can be damaged?

Above the ground – contacts and impacts with branches and trunk (for example by machine operations: piling rigs, high-sided vehicles, crane use, fixings to trunk, unauthorised cutting back of branches). Make sure there is adequate clearance under the tree canopy and don't stray close to the trunk. Damage to bark allows infections to enter the tree.

Below the ground – roots spread out from the trunk horizontally at shallow depth and are therefore easily damaged. Vehicle and pedestrian movements and storage of materials on unprotected ground causes compaction, especially in wet weather, and must be avoided. Soil stripping during site clearance or landscaping is prohibited in root protection areas. The effects of root damage may take some time to become obvious, but can result in disfiguring dieback of leaves and branches, or even death.

Tree protection procedures

Provided that the simple steps below are followed most tree protection is straightforward:

- Stay out of tree Construction Exclusion Zones (CEZs). These are the areas of ground surrounding retained trees that are protected by barriers and/or ground protection. If you need to go into a CEZ, you must first gain authorisation from the Site Manager.
- No construction activity of any description within CEZs, e.g. soil stripping, cement mixing, services installation, storage of materials etc.
- No fires within 20m of trunk of any retained tree.
- If authorised to work within a CEZ, for example, for installation of an above-ground no-dig driveway you must follow the procedures set out in the **Arboricultural Method Statement**.
- If damage occurs, you must inform the Site Manager who must, in turn, inform the project arboriculturist.

Planning Authority enforcement action needs to be avoided:

- 'Breach of Conditions' notices can prevent a site from being signed-off.
- 'Temporary Stop Notices' halt site operations and result in associated high costs.
- Wilful damage/destruction of TPO/Conservation Area trees can result in company and/or individual prosecutions - fines can be anything up to £20,000 (County Court fines are unlimited). Remember that fines may apply to the person committing the offence as well as the site owner and main contractors!

I have received site induction in tree awareness and tree protection procedures

PRINT NAME

SIGN

DATE

APPENDIX MD7

Qualifications and Experience

Dr Martin Dobson has been engaged in research and advisory work on trees since graduating in 1986 with a BSc (Hons) Degree in Biology. Subsequent postgraduate research led to the award of a Doctor of Philosophy (DPhil) Degree in Tree Physiology in 1990.

Postgraduate studies began in 1986 at the University of Ulster and continued in 1987 at the Forestry Commission's Research Station in Hampshire and focussed on the influence of air pollution on trees. Upon completion of this research in 1989 Dr Dobson was employed by the Forestry Commission and worked in both the Tree Pathology and Environmental Research Branches carrying out research on air pollution, climate change, de-icing salt damage to trees, woodland establishment on landfills and tree root development. He has authored two books: *De-icing Salt Damage to Trees and Shrubs* and *The Potential for Woodland Establishment on Landfill Sites*. He concluded his time at the Forestry Commission with research into the interaction between trees, roots and clay soils which included laboratory investigations, testing of root barriers and a three-year field-scale monitoring programme investigating the influence of woodland and grassland on the moisture status of clay soils.

In 1995 Martin joined the Arboricultural Advisory and Information Service as a senior Arboricultural Advisor. The AAIS advised the (then) Department of the Environment on matters concerning amenity trees and was the principal source of technical advice and information to the arboricultural profession as well as landscape architects, engineers, the horticultural industry and private individuals. A large proportion of advisory work focussed on issues relating to tree diseases and interactions between trees and buildings.

In 1997 Martin started an arboricultural consultancy practice specialising in subsidence and tree root claims, planning and development, tree safety and disease diagnosis. He was a local authority retained consultant providing expertise on tree protection practice and legislation from 1999 - 2006 and has dealt with several thousand Tree Preservation Order and Conservation Area applications.

He has extensive experience as an Expert Witness in the High Court, County Court and Magistrates Court. Notable cases he has been involved in include *Raphael v London Borough of Brent*, *Khan v London Borough of Harrow and Kane* and *Hoyle v Hampshire County Council* and others.

From 1995 to 2011 he was an examiner for the Professional Diploma in Arboriculture for the Royal Forestry Society/ABC Awards and he is currently the Lead Assessor and chairman of the Quality Assurance panel for the Arboricultural Association's Registered Consultant scheme. He has been a guest lecturer for the Middlesex University Countryside Management MSc course and for Portsmouth University. He teaches introductory and advanced courses on trees and subsidence for the Arboricultural Association and a course on professional report writing skills.

In addition to over 30 publications in scientific and technical journals he is the author of Arboriculture Research and Information Note 130/95/ARB *Tree Root Systems*, and leading author of:

Driveways Close to Trees. Arboricultural Practice Note 1. AAIS, Farnham.

Trees in Dispute. Arboricultural Practice Note 3. AAIS, Farnham.

Root Barriers and Building Subsidence. Arboricultural Practice Note 4. AAIS, Farnham.

He is a Fellow and Registered Consultant of the Arboricultural Association and is a Member by examination of the Expert Witness Institute.