Arboricultural Impact Assessment
Arboricultural Method Statement
Tree Constraints Plan,
&
Tree Protection Plan

With regard to the proposed development at:

1A Beech Road, Emsworth, Hampshire

For

Mr & Mrs Stepien

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1 INTRODUCTION

1.1 BS5839:2012

The current British Standard for trees in relation to design, demolition, and construction is BS5837:2012. This became current in May 2012, and supersedes the old 2005 standard.

1.2 Terms and Definitions

1.2.1 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.

1.2.2 Arboricultural Method Statement (AMS)

Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in the loss of, or damage to a tree to be retained.

1.2.3 Arboriculturist

Person who has through relevant education training and experience, gained expertise in the field of trees in relation to design, demolition, and construction.

1.2.4 Competent Person

Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task which is being approached.

1.2.5 Construction

Site-based operations with the potential to affect existing trees.

1.2.6 Construction Exclusion Zone (CEZ)

Area based on the root protection area (2.7) from which access is prohibited for the duration of the project.

1.2.7 Root Protection Area (RPA)

Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain a tree's viability, and where the protection of roots and soil structure is treated as a priority.

1.2.8 Services

Any above or below-ground structure or apparatus required for utility provision.

1.2.9 Stem

Principal above-ground structural component(s) of a tree that supports its branches.

1.2.10 Structure

Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork.

1.2.11 Tree Protection Plan

Scale drawing, informed by descriptive text where necessary, based on the finalised proposals, showing trees for retention, and illustrating the tree and landscape protection measures.

1.2.12 Veteran Tree

Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

1.3 The Proposal/Relevant History

The proposal, in this instance, is to construct a new dwelling on the land to the rear of the current dwelling along with a new access to serve it.

1.4 Brief and Purpose

This report has been commissioned by Mr & Mrs Stepien to;

- Survey the trees on site in accordance with BS5837:2012.
- Detail the arboricultural implications of the proposed project.
- Present an effective tree protection strategy for the duration of the development.
- Provide the necessary arboricultural information to accompany a planning application to Havant Borough Council.

1.5 Scope

The trees have been surveyed in accordance with the BS. Trees on and immediately adjacent to the site with a stem diameter over 75mm have been included.

A full hazard assessment of the trees (including the assessment of decay or defects and their implications), has not been undertaken as this is considered beyond the scope of this report. Any obvious hazards and defects have, however, been identified in the Tree Survey Schedule and appropriate works recommended for action.

1.6 Documents Supplied/Used

Document	Supplied by	Format/Reference
15-037/AP1	Potton Homes	Pdf
15-037/SP1	Potton Homes	Pdf

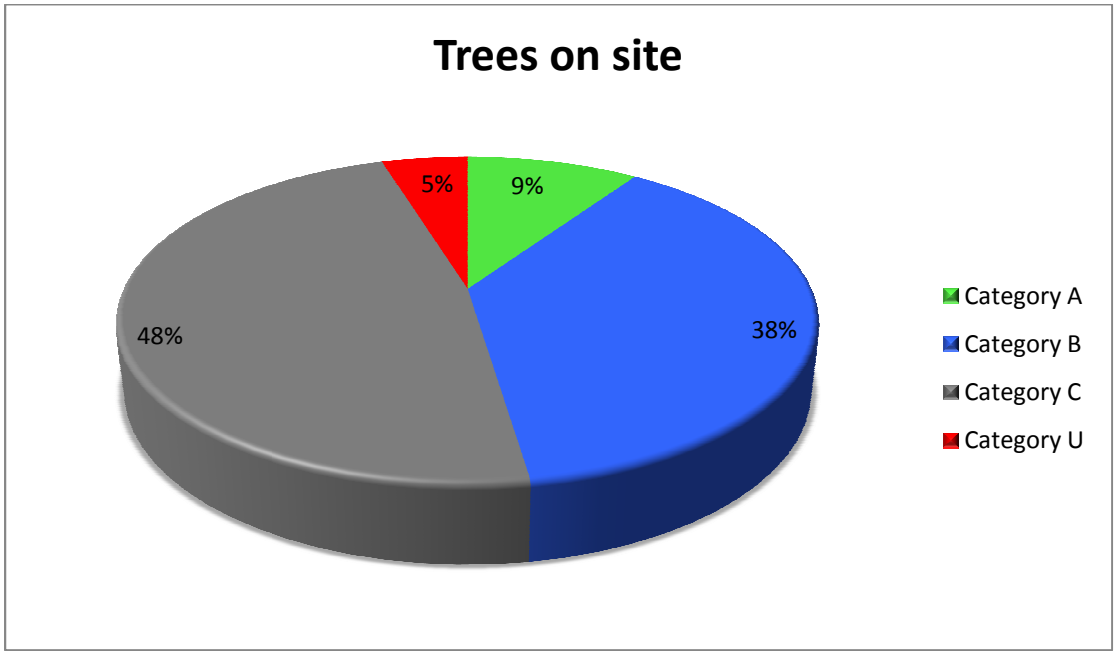
1.7 Site Details

See site plan.

2 TREE SURVEY

2.1 Survey Summary

Total number of trees	21
Category A	2
Category B	8
Category C	10
Category U	1



2.2 Survey Method

The trees were surveyed on 28/03/2015.
Locations of the trees were plotted using a Truepulse laser range finder.
All trees were inspected from ground level only using widely accepted Visual Tree Assessment techniques, and no trees were climbed during the survey.
No trees were internally investigated. Should a more detailed inspection be required then this will be pointed out in the recommendations on the survey schedule.

2.3 Tree Details

With regard to their desirability for retention, the trees surveyed have been graded with their trunks colour coded on the tree constraints plan, and tree protection plan using the criteria contained in BS5837:2012. A summary of this grading is as follows.

A= Light Green. Trees of high quality and value, in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested in the British Standard). Usually worthy of consideration as a material constraint to any proposed development.

B= Mid Blue. Trees of moderate quality and value in such a condition as to make a significant contribution (a minimum period of 20 years is suggested in the British Standard). Usually worthy of consideration as a material constraint to any proposed development.

C= Grey. Trees of low quality and value, in adequate condition to remain until new planting could be established (a minimum of 10 years is recommended in the British Standard), or trees

with a stem diameter below 150mm. Not usually worthy of consideration as a material constraint to any proposed development.

U= Red. Trees in such a condition that they cannot be realistically be retained as living specimens in the context of the current land use for longer than 10 years.

In our survey schedule, the RPA for each tree is indicated as the radius of a circle as well as in M^2. This is also plotted on the tree constraints plan and tree protection plan denoted by a heavy black line which merges the individual RPAs together where there is more than one tree.

Section 4.6 of BS5837:2012 provides for the shape of the RPA to be modified from the starting point of a circle to account for site features such as hard surface treatments where root growth may be restricted, as long as the total remains the same. In this case, no RPAs were modified. **Please Note:** The facility for offsetting an RPA by 20% for open grown trees was withdrawn on May 01st 2012.

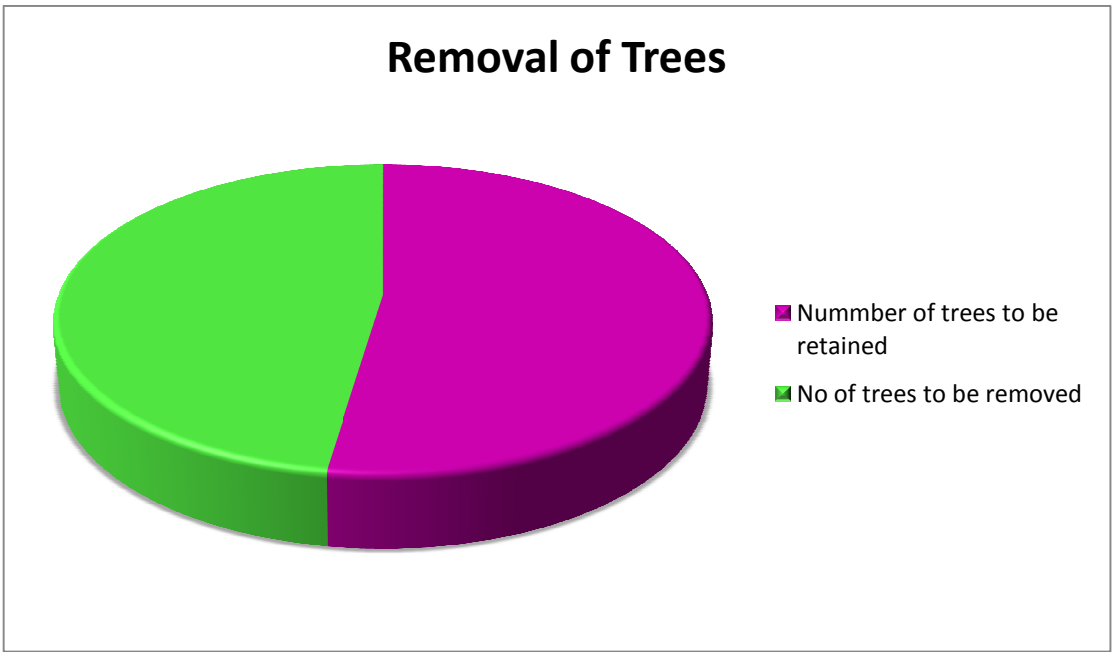
2.4 Legal Protection Status of Trees.

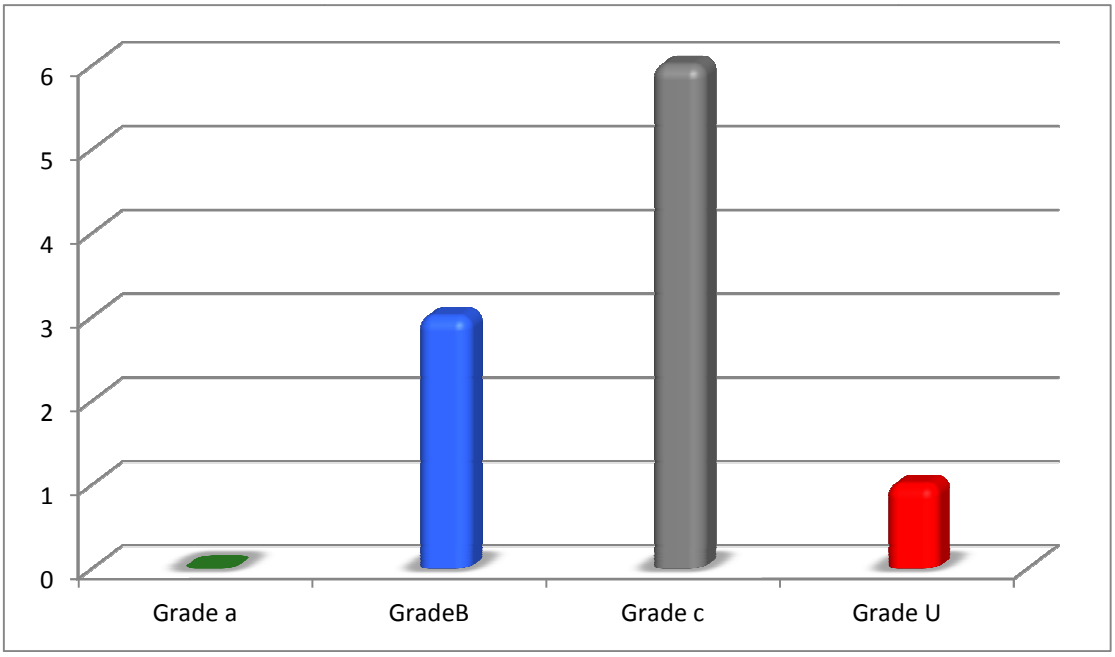
Type of Protection	Details/Reference
Conservation Area	No
Tree Preservation Order	No
Planning conditions requiring tree retention	No

3 ARBORICULTURAL IMPACT ASSESSMENT

3.1 Summary of Impact Assessment

Total number of trees surveyed	21
Number of trees to be removed	10
Number of trees to be pruned	0
Number of trees with RPA incursions	3





3.2 Removal of trees

Nine trees will be removed due to direct conflict with the proposed development, and one will be removed due to it being a category U tree. This is in line with the thinking of sound arboricultural management.
Trees to be removed are T2, T5, T6, T7, T8, T9, T10, T11, T14, T19.

3.3 Tree Works

Apart from the removals listed in section 3.2 of this report, not other tree works are required or recommended in order to facilitate the current proposal..

3.4 Incursions into RPAs

In many instances, a low degree of root disturbance can be deemed to be acceptable
Where incursions can be fully invasive, or low level invasion can sometimes be achieved by the use of specialist methods to limit the degree of disturbance. The table details the incursions and how they are to be dealt with.

Incursions into RPAs of retained trees		
Type of incursion	**Trees affected**	**Action**
New access road	T3, and T4	Use no dig cellular confinement with a porous asphalt top layer
Foundations for new dwelling	T13	Line foundation trench with a plastic membrane where within the RPA of T13

3.5 Light and Proximity Issues

There are no arboricultural light or proximity issues associated with the current proposal.

3.6 Mitigation

There is no requirement for any replanting in mitigation for tree losses in this instance, although there is scope for some replanting on the site should it prove necessary.

3.7 Conclusion

Assuming full compliance with the AMS in this report, the net arboricultural impact is negligible to moderate.

4 ARBORICULTURAL METHOD STATEMENT

4.1 Introduction

During the development process, the tree protection measures set out in this method statement must be adhered to in order to safeguard the retained trees. The principles below are specifically designed to offer a significant degree of protection to both the root systems and aerial parts of the trees for the duration of the works.

A copy of this method statement must be made available on site at all times until the cessation of any demolition, construction, and landscaping work, and the site personnel will be made familiar with the key implications of this AMS.

It should be remembered that powers were granted to Local Planning Authorities in 2005, which allow them to serve Temporary Stop Notices if agreed protection measures are strayed away from before work is completed. This can be extremely costly and very time consuming.

4.2 Pre-commencement Meeting

If the Local Planning Authority deem it necessary, a pre-commencement meeting will be held, attended by the project Arboricultural Consultant, the Site Manager, and the LPA Tree Officer. During this meeting potential problems and protection sequencing can be discussed and it is expected that all aspects of the tree protection measures set out in this AMS will be understood and agreed. Following this meeting, all parties involved will receive an email from the Arboricultural Consultant containing a record of what was discussed and agreed.

4.3 Sequencing and Supervision

Sequencing of events and effective arboricultural supervision are important elements of the tree protection process.

There is no necessity for any direct arboricultural supervision in this instance.

Key Stages:

- AMS issued to Site Manager/Building Company
- AMS to be read by all site personnel to ensure a full understanding of implications. Any raised issues are to be addressed to the project Arboricultural Consultant
- Recommended and agreed tree works to be carried out
- Tree protective fencing and ground protection installed
- Existing buildings to be demolished where appropriate
- Construction work carried out
- Tree protective fencing and ground protection removed
- Landscaping (if any) carried out

Summary of Arboricultural Monitoring and Supervision

Activity	Level of monitoring/supervision required
Erection of tree protective fencing and implementation of ground protection system	Signing off of the approved tree protection measures by the project arboricultural consultant prior to any development work commencing

It is also imperative that telephone contact between the site manager and the Arboricultural Consultant is maintained with regard to any tree protection measure issues.

4.4 Site Precautions

The following points will be observed at all times:

- No fires will be lit within 15m of any retained tree on or around the site
- No access will be permitted inside the tree protection fences
- No materials, equipment, or waste will be stored inside the tree protection fencing at all
- Notice boards, telephone cables, or other services will not, under any circumstances, be attached to retained trees
- Material which contaminate soil, such as concrete, diesel oil, vehicle washings and even builders sand, will not be allowed to enter the RPA of any retained tree

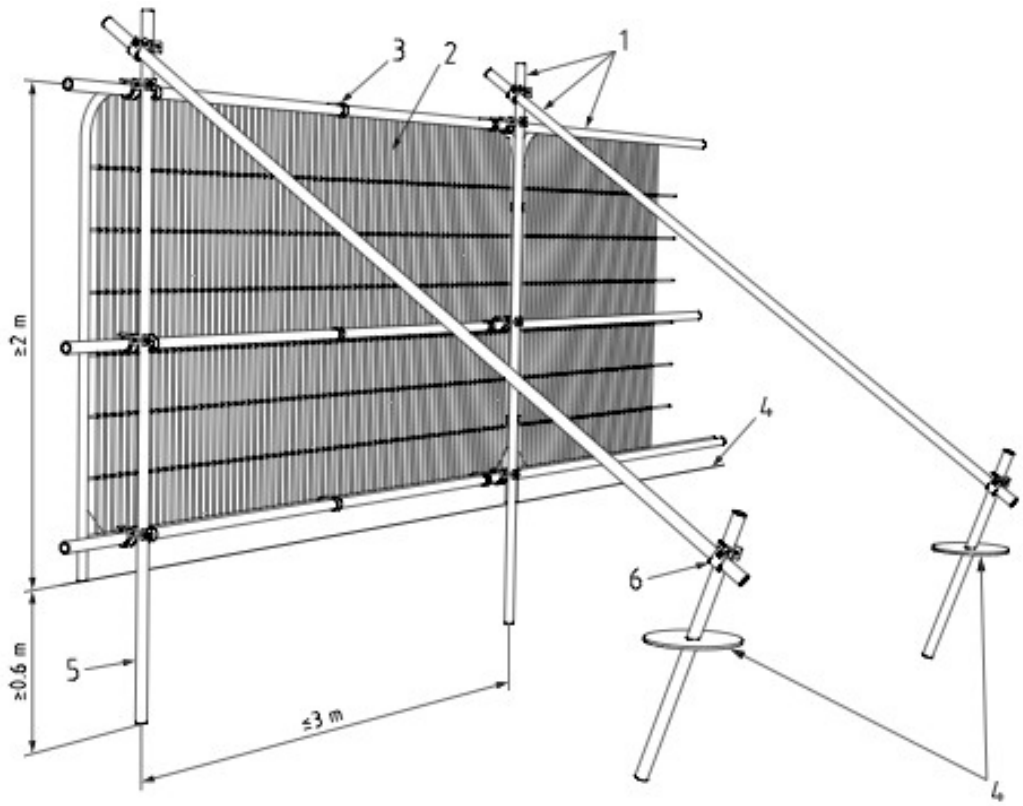
4.5 Carrying out tree works

All tree works will be carried out in accordance with BS3998:2010 (Recommendations for Tree Works), and to the current arboricultural best practice. Tree works will be carried out by a suitably qualified and insured contractor. The contractor will be solely responsible for carrying out their own site risk assessment prior to the commencement of work.
If at any time during the development a need for additional tree works is highlighted to facilitate the proposed works or access for machinery/plant, the Arboricultural Consultant will be contacted to advise on appropriate works and liaise with the LPA as necessary.

4.6 Protective Fencing and Ground Protection

The required tree protective fencing should be installed to fence off the construction exclusion zone(s), or CEZ, shown on the tree protection plan (Figure 2). This must only be altered or moved as agreed in writing by the Local Planning Authority following advice from a competent Arboricultural Consultant.

The Tree Protective fencing will be 2.4m Heras fencing as specified in the BS**.** The fencing will be supported by a scaffold framework with supporting struts firmed into the ground on the side of the trees. The purpose of the supports is to prevent the fencing being moved during the development. Clear signs will be attached to the fencing (e.g. Tree Protective Fencing – Keep Out).



Key

1 Standard scaffold poles

2 Heavy gauge 2 m tall galvanized 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 0.6 m)

6 Standard scaffold clamps

Where ground protection is specified on the tree protection plan, it must conform to the specification in BS5837:2012. This specification is as follows:-

- A geotextile membrane
- 100mm depth of a compressible layer such as wood chippings or sharp sand
- Scaffold boards or plywood of at least 19mm thickness pinned to the ground with steel pins

There are also proprietary ground protection systems available for hire where heavier duty protection is required, such as the ones offered by Eve Trakway®.

Where required, Scaffolding can be erected on top of a ground protection system as illustrated in the diagram below.

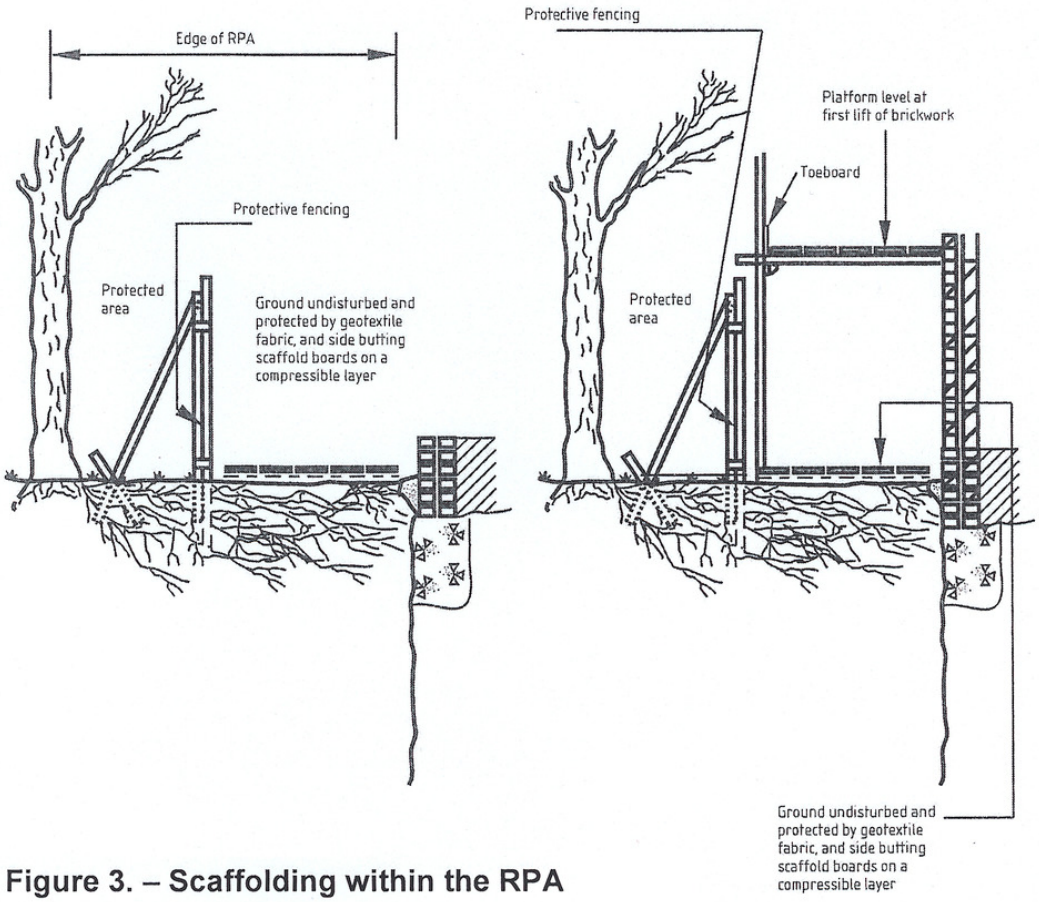


Figure 3. – Scaffolding within the RPA

4.7 Site Access

Site access is only available via Beech Road for pedestrians and vehicles. This will be via the new access road, which will be put in place before the new dwelling is constructed in order to protect the roots of T3 and T4.

This will consist of 150mm cellweb on top of a geotextile membrane, which will be filled with a granular material. This will be the surface that is used during construction of the new dwelling. Once construction is complete, a porous asphalt layer will be added to finish. Edging will be stone filled gabions pinned to the ground with steel pins. There will be no excavation within the RPA of T3 and T4.

4.8 Demolition Work

The only demolition involved in the current proposal is that of the double garage at the front of the site. There is already an area of hard standing in front of the garage where a skip can be situated, so there is no risk to any of the retained trees on this site.

4.9 Underground Services

New underground services will be installed along the access road, but will need to deviate into the garden of the existing dwelling in order to avoid the RPA of T3..

4.10 Foundations and Construction

Because the proposed dwelling foundations only cause an RPA incursion of 3.7% into the RPA of T13, a traditional strip foundation will be employed. Where the incursion occurs, the trench for the

foundation will be lined with a plastic membrane in order to protect tree roots from toxic substances released by curing concrete.

4.11 Fencing and Landscaping

During the landscaping phase of the development (if any landscaping takes place), the following precautions will be observed:

- No compaction of soil within the RPAs (or where new tree planting is to be carried out).
- No changes in ground levels.
- Unwanted vegetation to be removed manually or using contact herbicides that will not damage existing tree roots.
- No underground irrigation or drainage pipes to be installed
- If soil has been compacted in areas where planting is proposed, measures to improve soil structure (e.g. decompaction) may be necessary to facilitate successful plant establishment.

If any fence posts are installed within the RPAs of retained trees, excavation will be carried under direct arboricultural supervision using hand tools. Posts will be re-positioned if roots in excess of 25mm in diameter are encountered. Post holes will be lined with heavy gauge polythene where concrete is used to safeguard the rooting environment of the trees from the potentially toxic effects of leaching concrete.

4.12 Amendments

Issues may arise on development sites that require amendments to the previously agreed tree protection details. Any amendments to this AMS will be approved in writing by the LPA prior to being implemented. Copies of paperwork relating to any amendments will be communicated by the Arboricultural Consultant to the Client and LPA.

This concludes the advice given in this report
Compiled and presented by
Jon Harper cert.Arb (RFS)

TREE SCHEDULE

Tag	Name	Botanical Name	Category	Age	Diameter (Stems)	Height	L/Hgt	Spread	Condition	Comments	Recommendations	RPA-Radius	RPA-Area
T1	Walnut	Juglans regia	A1	M	430(1)	12	3	N: 5S: 4E: 3W: 5	Good	None at present time.	None at present time.	5.16	83.6
T2	White Willow	Salix alba	B1	M	300(1)	9	1	N: 2.5S: 3E: 3W: 2	Good	None at present time.	None at present time.	3.6	40.7
T3	Locust Tree	Robinia pseudoacacia	B1	M	390(1)	13	3	N: 4S: 5E: 5W: 3.5	Good	None at present time.	None at present time.	4.68	68.8
T4	Cabbage Palm	Cordyline Astralis	B1	M	250(1)	4	3	N: 1S: 1E: 1W: 1	Good	Diameter estimated.	None at present time.	3	28.3
T5	Bay	Laurus Nobilis	C1	M	310(1)	4	0.5	N: 1S: 4E: 1W: 1	Good	None at present time.	None at present time.	3.72	43.5
T6	Bay	Laurus Nobilis	C1	M	180(1)	4	0.5	N: 1S: 3E: 1W: 1	Good	None at present time.	None at present time.	2.16	14.7
T7	Bay	Laurus Nobilis	C1	M	280(1)	4	0.5	N: 1S: 2.5E: 1W: 1	Good	None at present time.	None at present time.	3.36	35.5
T8	Apple	Malus	C1	M	140(1)	4	3	N: 1S: 1E: 1W: 1	Good	None at present time.	None at present time.	1.68	8.9
T9	Apple	Malus	C1	M	140(1)	4	2	N: 1S: 1E: 1W: 1	Good	None at present time.	None at present time.	1.68	8.9
T10	Apple	Malus	C1	M	180(1)	4	1.5	N: 1S: 1E: 2W: 1	Good	None at present time.	None at present time.	2.16	14.7
T11	Silver Birch	Betula pendula	B1	M	260(1)	14	3	N: 3S: 3E: 2.5W: 3	Good	None at present time.	None at present time.	3.12	30.6
T12	Cappadocian Maple	Acer cappadocicum	B1	M	320(1)	7	2	N: 1S: 1.5E: 2.5W: 3	Good	Diameter estimated. Pollard.	None at present time.	3.84	46.3
T13	Pittosporum	Pittosporum	B1	M	420(1)	7	3	N: 4S: 1E: 3.5W: 4	Good	Diameter estimated. None at present time.	None at present time.	5.04	79.8
T14	Bird Cherry	Prunus padus	B1	M	120(1)	5	2	N: 1S: 1E: 1W: 1	Good	None at present time.	None at present time.	1.44	6.5
T15	Bird Cherry	Prunus padus	C1	M	110(2)	4	1	N: 1S: 1E: 1W: 1	Good	None at present time.	None at present time.	1.1	3.8
T16	Locust Tree	Robinia pseudoacacia	B1	M	170(1)	9	4	N: 2S: 4E: 3W: 1	Good	None at present time.	None at present time.	2.04	13.1
T17	Coast Redwood	Sequoia sempervirens	A1	M	1400(1)	22	5	N: 6S: 7E: 5W: 6	Good	Diameter estimated. None at present time.	None at present time.	15	706.9
T18	Cherry Plum	Prunus cerasifera	C1	M	240(1)	7	2	N: 2.5S: 1E: 2W: 2	Good	None at present time.	None at present time.	2.88	26.1
T19	Bird Cherry	Prunus padus	R	M	150(2)	4	1	N: 2.5S: 1E: 1W: 1.5	Good	Declining.	Remove tree and root.	1.5	7.1
T20	Silver Birch	Betula pendula	C1	EM	90(1)	7	1	N: 1S: 1E: 1W: 1	Good	None at present time.	None at present time.	1.08	3.7
T21	Elder	Sambucus nigra	C1	M	150(1)	6	3	N: 2S: 2E: 2W: 2	Good	None at present time.	None at present time.	1.8	10.2

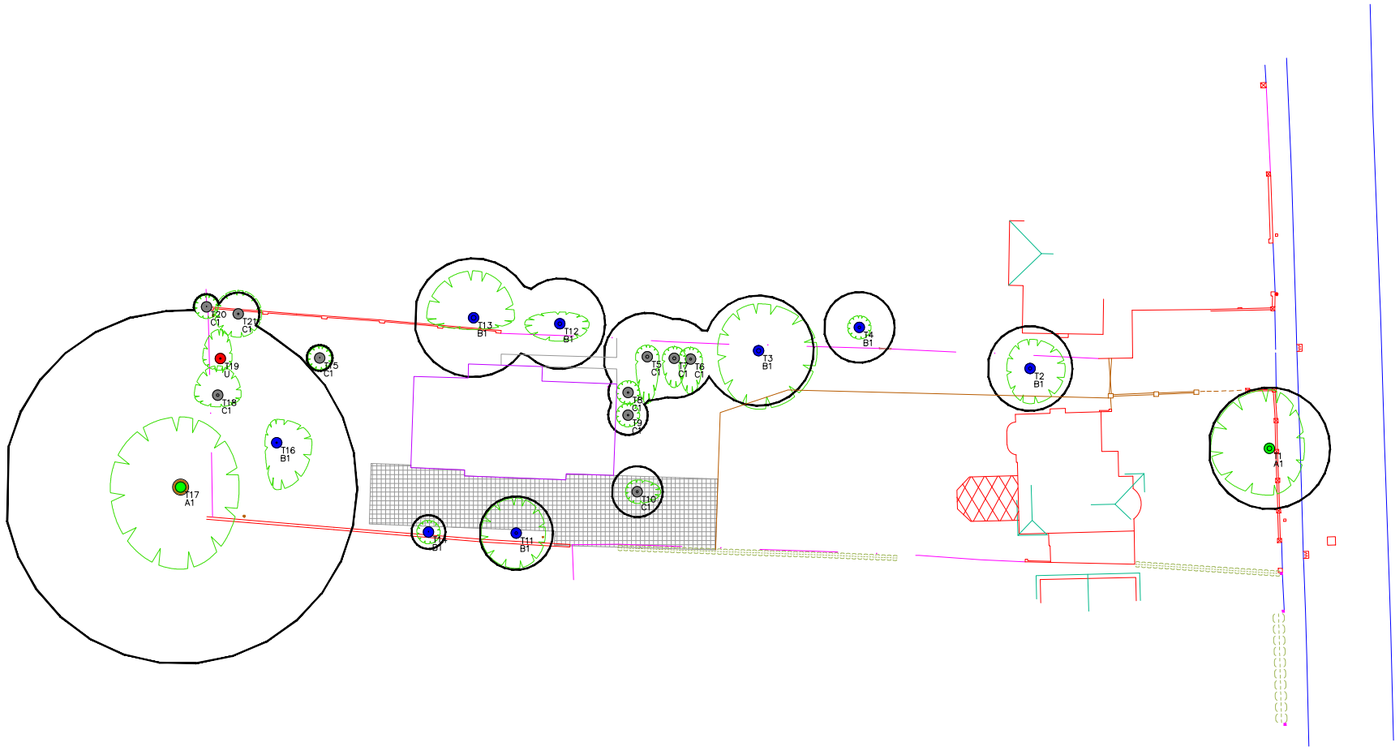
TREE CONSTRAINTS PLAN

Tree Constraints Plan

Proposed new fencing

Proposed new Hard surface treatment

Proposed new dwelling



1a Beech Road
Scale @ A3 1:500

Category A
Category B
Category C
Category U
RPA

TREE PROTECTION PLAN

Tree Protection Plan

Proposed new fencing

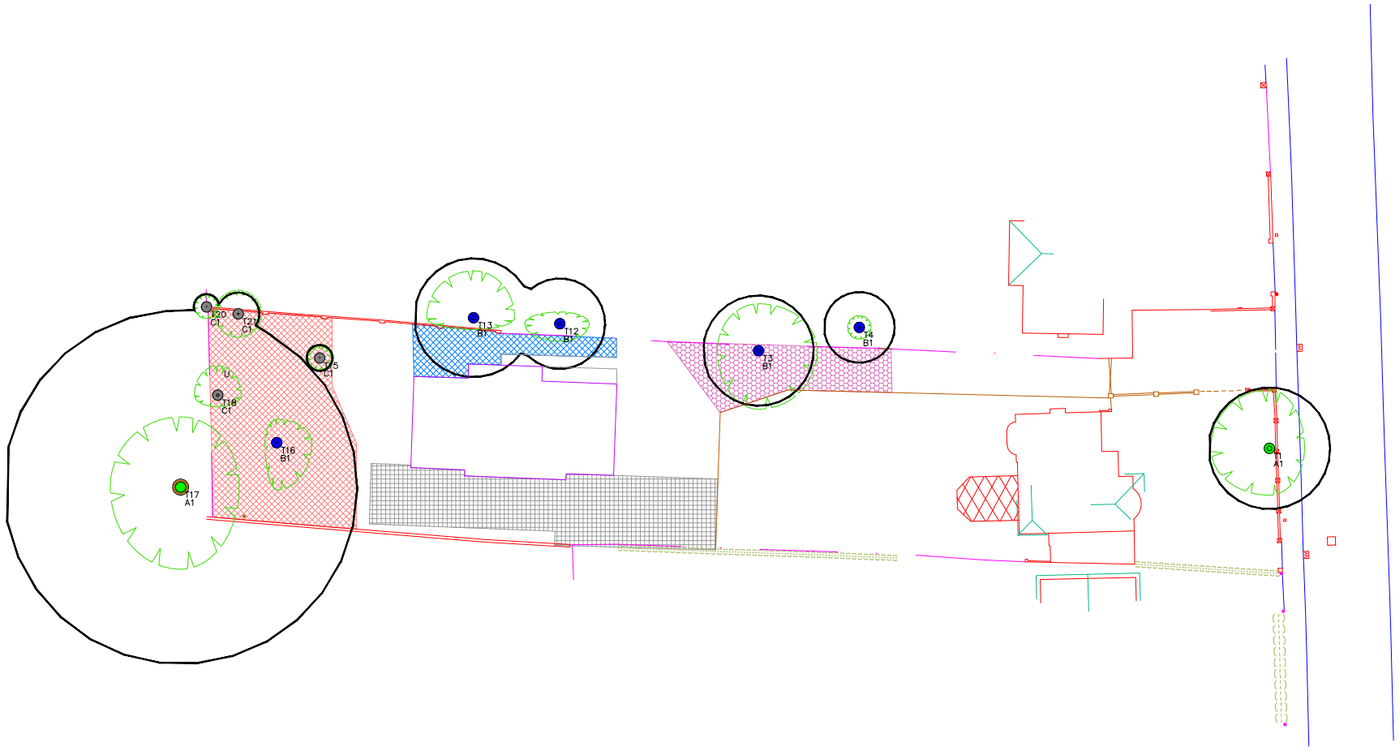
Proposed new Hard surface treatment

Proposed new dwelling

Area where cellular confinement surfacing will be used

CEZ surrounded with type 1 tree protective fencing

BS5837:2012 specification ground protection system



1a Beech Road
Scale @ A3 1:500

Category A
Category B
Category C
Category U

RPA