

Mr and Mrs N Mitchell

ARBORICULTURAL DEVELOPMENT STATEMENT

Site:
34 Lovedean Lane,
Waterlooville



ARBORICULTURAL DEVELOPMENT STATEMENT

Arboricultural Implications Assessment and Method Statement

guided by recommendations within BS5837:2012

Client:	Mr and Mr. N Mitchell
Site:	34 Lovedean Lane, Waterlooovile, PO8 8HJ
Arboricultural Consultant:	Mark Harrison <i>M.Arbor.A, Nat.Dip.Arb</i>
Date:	January 2017

SUMMARY

The proposal is for the extension of the existing dwelling on the eastern side extended into the rear garden to the north, at the site of 34 Lovedean Lane, Waterlooovile, PO8 8HJ.

This Arboricultural Development Statement (ADS) will demonstrate the protection measures for the trees and should be read in association with the Tree Protection Plan CBA10697.02 TPP which identifies tree retention measures. It follows the initial tree survey, implications assessment and on-going discussions to minimise the impact upon the existing tree stock.

The emphasis of the report is predominantly that of preservation and tree protection. It identifies methodologies to provide protection for trees, to ensure their healthy and safe retention during and post development, as guided by BS5837:2012 and current best practice.

A total of 10 (ten) individual trees can be retained within the development as detailed within this report. There are no trees that will be lost to facilitate the development.

There are 2 (two) trees that will be removed for sound arboricultural management regardless of any development proposals.

CBA Trees believes that the trees highlighted for retention within this report can be retained without undue stress on their long-term health.

CONTENTS

Section Title **Page No.**

PART 1

ARBORICULTURAL IMPLICATIONS ASSESSMENT

1.0	INTRODUCTION.....	3
2.0	CLIENT'S BRIEF.....	3
3.0	DESCRIPTION OF THE SITE	4
4.0	THE TREE STOCK.....	4
5.0	TREE PRESERVATION ORDER/CONSERVATION AREA.....	5
6.0	PROPOSED TREE RETENTION AND TREE LOSS	5
7.0	SUMMARY OF ARBORICULTURAL IMPLICATIONS	5

PART 2

ARBORICULTURAL / CONSTRUCTION METHOD STATEMENTS

8.0	PRE-COMMENCEMENT SITE MEETING.....	7
9.0	ADDITIONAL ARBORICULTURAL ADVICE FOR SITE PERSONNEL.....	7
10.0	TREE PROTECTION MEASURES.....	7
11.0	EXISTING SERVICES.....	10
12.0	AVOIDING DAMAGE TO STEMS AND BRANCHES.....	10
13.0	VEHICULAR MOVEMENTS.....	10
14.0	SITING OF TEMPORARY OFFICES, TOILETS AND MATERIAL STORAGE COMPOUNDS.....	10
15.0	GENERAL CONSIDERATIONS WITHIN AND OUTSIDE THE CONSTRUCTION EXCLUSION ZONE	11
16.0	UTILITY SERVICE CONNECTIONS	11
17.0	FOUNDATION DESIGN AND CONSTRUCTION.....	11
18.0	SITE MONITORING AND SUPERVISION.....	13
19.0	REPORT DAMAGE TO TREES AND TREE PROTECTION BARRIERS	13
20.0	REMOVAL OF PROTECTIVE BARRIERS	14
21.0	CONCLUSIONS	14
22.0	CONTACT LIST	15

SUPPORTING INFORMATION/APPENDICES:

CB1	Tree Survey Schedule including Root Protection Area Schedule
CB2	Tree Survey Plan CBA10697.01 TSP
CB3	Tree Protection Plan CBA10697.02 TPP
CB4	Tree Works Schedule

GUIDING PRINCIPLES/APPENDICES:

CB5	Tree Protection Guidance Leaflet
	Construction Exclusion Zone Site Notice
	Common Causes of Damage During Construction Works
CB6	Qualifications and Experience

PART 1

ARBORICULTURAL IMPLICATIONS ASSESSMENT

1.0 INTRODUCTION

- 1.1 The development proposal for the site proposes the extension of the existing dwelling on the eastern side extended into the rear garden to the north, located at 34 Lovedean Lane, Waterlooovile, PO8 8HJ.
- 1.2 Document disclosure provided:
- Site plan
 - Layout Plan
- 1.3 The client provided the original site plans which have been the basis for the production of subsequent plans. Whilst CBA Trees has had a limited input in defining the contents of the development plan, it broadly conforms to the requirements of BS5837:2012 *“Trees in Relation to Design, Demolition and Construction – Recommendations”* and current best practice advice.
- 1.4 Our advice has been sought on the principles of the development in relation to the potential impact on the existing tree stock, to inform and to facilitate the development layout that is acceptable in arboricultural terms.

2.0 CLIENT'S BRIEF

- 2.1 In line with our written quotation and verbal instructions, information has been compiled in accordance with BS5837:2012 and current best practice advice.
- To undertake a Tree Survey including a schedule of Root Protection Areas in accordance with BS5837:2012 Annex D, appended at CB1.
 - To produce an AutoCAD compliant Tree Survey Plan (Plan CBA10697.01 TSP) appended at CB2).
 - To provide Tree Constraints advice.
 - To undertake an Arboricultural Implications Assessment (AIA) of the development provided by the client to identify which trees can be retained and suggest mitigating build techniques in order to retain trees.
 - Based on the above and further on-going discussions, to provide an Arboricultural Development Statement detailing the methodologies for the retention of the tree stock where feasible, in relation to the approved development layout including a Tree Protection Plan (Plan CBA10697.02 TPP) appended at CB3.
- 2.2 The advice provided is in support of the current planning application and has been formulated without discussion with the main construction contractors. Once the main contractors are appointed, amendments to this Method Statement may be required for construction purposes. All amendments will be assessed by the retained arboricultural consultant and approved in writing by Havant Borough Council.

3.0 DESCRIPTION OF THE SITE

- 3.1 The site is a two storey residential property with landscaped rear gardens laid to grass in the centre with shrub beds around the periphery. A paved area supporting a wooden garden building lies around 2m from the northern boundary with a raised area between it and the stone boundary wall to the north.

To the front of the property is a landscaped garden supporting formal shrub beds to the west and a gravel drive accessed from Lovedean Lane.

The eastern and western boundaries are bordered by a 1.5 m high wooden panel boundary fence with stone or brick walls to the north and south.

The significant trees present on the site are situated around the periphery, both within and close to the site.

4.0 THE TREE STOCK

- 4.1 A tree survey was undertaken by CBA Trees on 22 December 2017. The tree survey exercise identified 12 (twelve) individual trees; a Tree Survey Schedule and Plan (CBA10697.01 TSP) are appended at CB1.

4.2 Tree Categorisation Method

Category U = Trees in such a condition that any value would be lost within 10 years, or should be removed for reasons of sound arboricultural management. There were 2 (two) 'U' grade trees on and adjacent to the site at the time of surveying – Trees 1 and 6.

Note: BS5837:2012 states -

"Category U trees are those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years."

Category A = Trees of high quality and value: in such a condition as to make a substantial contribution, (40 years or more is recommended). There were no individual 'A' grade trees on the site at the time of surveying.

Category B = Trees of moderate quality and value, capable of making a significant contribution for in excess of 20 years. There were 5 (five) individual 'B' grade trees on and adjacent to the site at the time of surveying – Trees 4, 5, 7, 9 and 10.

Category C = Trees of low quality and value which might remain for a minimum of 10 years or young trees with stems of less than 150mm diameter. There were 5 (five) individual 'C' grade trees in total on and adjacent to the site at the time of surveying – Trees 2, 3, 8, 11 and 12.

PART 1

ARBORICULTURAL IMPLICATIONS ASSESSMENT

Note:

Trees under these categories are trees that should be a material consideration in the development process; the subcategories are intended to reflect arboricultural, landscape and cultural values respectively.

- 4.3 For more details of the existing tree stock, refer to the Tree Survey Schedule (appended at CB1).

5.0 TREE PRESERVATION ORDER/CONSERVATION AREA

- 5.1 CBA Trees was not instructed to investigate whether trees on or adjacent to the site are protected by a Tree Preservation Order or located within a Conservation Area. The client has advised that none protect the trees on the site but it is suggested that written confirmation from Havant Borough Council is sought formally establishing the legal status of these trees prior to any works being undertaken, outside the remit of an approved planning application.

6.0 PROPOSED TREE RETENTION AND TREE LOSS

- 6.1 In accordance with the recommendations contained within BS5837:2012, an experienced arboriculturist has assessed the requirements for tree protection and the Root Protection Area (RPA) (appended at CB2). The implications of the proposed development are detailed below, along with any mitigating measures to ensure the retention of these trees.
- 6.2 As part of the assessment, dimensions have been scaled from the proposed development drawing 011044301 prepared and modified, to include the relevant Tree Survey data and the information as shown on plan CBA10697.02 TPP, appended at CB3.
- 6.3 Trees numbered 1 and 6 are advised for removal for reasons of sound arboricultural management, regardless of any approved development.

7.0 SUMMARY OF ARBORICULTURAL IMPLICATIONS

- 7.1 The following summary of implications relates to only those trees which will require mitigation measures to allow for construction operations. Trees not listed below can be fully protected in accordance with BS5837:2012 as indicated on Plan CBA10697.02 TPP.

PART 1
ARBORICULTURAL IMPLICATIONS ASSESSMENT

<i>Tree No.</i>	<i>Species</i>	<i>BS 5837:2012 Cat</i>	<i>Potential cause of harm</i>	<i>Implication</i>	<i>Mitigation</i>
5	Scots Pine <i>Pinus sylvestris</i>	B1	The requirement for the proposed extension foundations within the recommended root protection area.	Significant root damage.	Use techniques to avoid trenching and reduce the amount of excavation necessary i.e. pile and beam.

8.0 PRE-COMMENCEMENT SITE MEETING

- 8.1 It is recommended that a pre-commencement site meeting should be held prior to any works commencing on site, to agree all approved processes with the arboricultural consultant, the construction personnel and Havant Borough Council. This meeting could be used to formally agree the methods of work, position of site offices, material storage, compounds, parking and tree protection measures prior to commencement of the development and the associated clearance work.

9.0 ADDITIONAL ARBORICULTURAL ADVICE FOR SITE PERSONNEL

- 9.1 To provide site personnel with additional information regarding the requirements of Tree Protection, a leaflet, appended at CB5 shall be issued to all staff at the time of their site induction. Spare copies of this leaflet shall be available in the site office as replacements.
- 9.2 In order to inform site personnel of the purpose of the barriers, information notices shall be fixed to the barriers at 5m intervals. These notices shall be of all-weather construction and shall be substantially in the form of the specimen provided at appendix CB5 and replaced as and when necessary.

10.0 TREE PROTECTION MEASURES

10.1 Reasons for Tree Protection

The correct and timely installation and maintenance of tree protection measures is the most important action necessary to ensure retained trees, groups, woodlands and hedgerows on and adjacent to the site, remain unaffected by development operations. Exclusion of construction activity from the outset of site preparation will ensure those trees identified for retention are maintained in a safe and healthy condition.

Although aerial parts of the tree, trunk, branches and twigs are obvious, extensive and irreparable damage can be caused to the roots and rooting environment without any immediately noticeable effect. Severance of large roots in close proximity to the stem can result in the immediate loss of stability and/or rapid death whilst damage to more distal parts of the root system or rooting environment will result in a slow decline in tree health over a period of several years, resulting in premature loss.

10.2 Damage to Trunks Stems and Branches

Impact damage to the crown of the tree can result in the loss of leaves which produce starch and sugars (carbohydrates) and a reduction in the visual amenity which established trees provide. These carbohydrates are necessary for maintaining all biological functions within the tree, including growth, reproduction and defence. Extensive crown damage will reduce the tree's ability to produce carbohydrates and increase physiological stress on the tree.

The bark protects the underlying vascular tissue and cells responsible for growth from drying, disease and decay. Bark is loosely attached to the underlying tissue and can be easily damaged or removed through direct contact. It is particularly susceptible to damage when trees are young or in early spring following the onset of growth.

Impact damage which removes bark, results in dysfunction of the underlying vascular tissue preventing transport of water, mineral nutrients and carbohydrates to parts of the tree to which they are connected. If damage to the bark extends around the whole circumference, the root, branch or trunk the section beyond the damage will be killed.

Branches which are either broken or are torn from the trunk of the tree, create wounds which are prone to colonization by wood destroying organisms. These organisms cause internal decay, which result in future tree failure and premature loss.

10.3 **Purpose of Tree Protection**

All site operations will be planned, implemented and supervised so as to prevent the following:

- Root Severance
- Damage to the bark, branches and trunks
- Compaction of the soil within the Construction Exclusion Zone
- Alterations in soil level
- Soil contamination by phytotoxic materials such as herbicides, petrol, oils, diesel, cement and concrete washings or other construction additives

10.4 **Tree Protection**

Before starting demolition works tree protection will be installed in accordance with Tree Protection Plan (Plan CBA10697.02 TPP) appended at CB3. This will occur immediately following the completion of tree works and prior to any site preparation works starting.

During the demolition process it will be necessary to install protective barriers and ground protection in such locations as to allow demolition of existing structures and the removal of hard surfacing. Several phases of barriers may be required to ensure retained trees are undamaged. Positioning and phasing of protection will be in accordance with Plan CBA10697.02 TPP.

Once site preparation has been complete and all demolition and ground remediation works have been completed, tree protection for the construction phase will be implemented in accordance with Plan CBA10697.02 TPP.

A copy of the Tree Protection Plan will be displayed in the site office and canteen as a point of reference for all site operatives.

PART 2

ARBORICULTURAL/CONSTRUCTION METHOD STATEMENTS

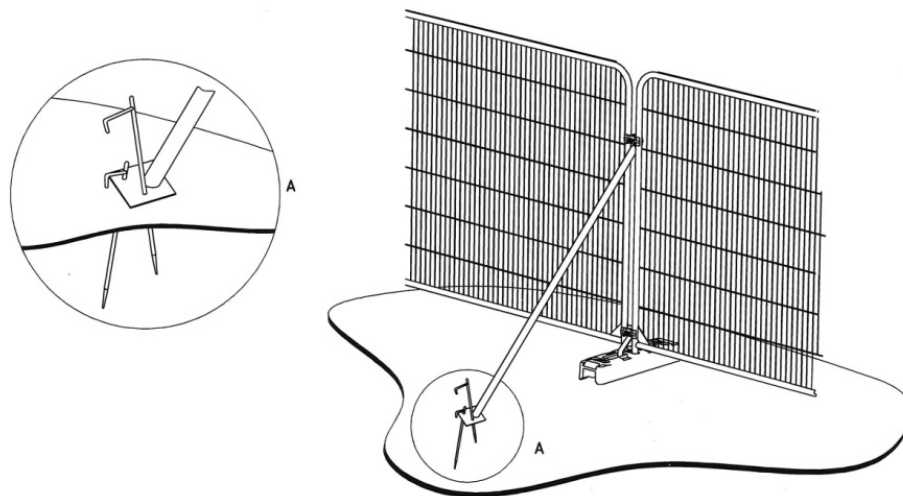
10.5 Tree Protective Barrier

Tree 5 is adjacent to construction activity and will be protected by installing the following protective barrier as indicated on Tree Protection Plan (CBA10697.02 TPP).

The protection barrier should be constructed with weld mesh panels, at least 2m high, securely fixed with wire or scaffold clamps, to ground supports as per Figure 3 of BS5837:2012.

Figure 1: Protective Barrier

BS5837 Figure 3 - example of fence stabilization system



a) Stabilizer strut with base plate secured with ground pins

Example of protective barrier:



PART 2

ARBORICULTURAL/CONSTRUCTION METHOD STATEMENTS

Once the barrier is in place it must remain *in-situ* throughout the following list:

- Contractor occupancy
- Plant and Materials delivery
- Construction works
- Utility installation
- Completion of development
- Landscaping

The area within the CEZ will be regarded as **sacrosanct**, and the tree protective barrier shall not be taken down or relocated at any time without the written approval of Havant Borough Council. An example of a CEZ notice is appended at CB5.

11.0 EXISTING SERVICES

- 11.1 No information has been provided on the location and size of existing services.

12.0 AVOIDING DAMAGE TO STEMS AND BRANCHES

- 12.1 Care shall be taken when planning site operations, to ensure that wide or tall loads, or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact could result in serious damage to them, and might make their safe retention impossible. Consequently, any transit or traverse of plant in close proximity to trees, will be conducted under the supervision of a banksman, in order to ensure adequate clearance from trees is maintained at all times.

13.0 VEHICULAR MOVEMENTS

- 13.1 There shall be no vehicular plant movement in the protected rooting zone outside the CEZ identified on Plan CBA10697.02 TPP.

14.0 SITING OF TEMPORARY OFFICES, TOILETS AND MATERIAL STORAGE COMPOUNDS

- 14.1 It is anticipated that all storage materials and deliveries shall make use of the existing access and hard surfaces within the site confines, in order to avoid unnecessary damage to tree roots.
- 14.2 The locations shall be agreed in writing with Havant Borough Council prior to the commencement of works on site, and will remain in only those agreed locations throughout the construction phases. If an alternative location is required, this must be agreed in writing with Havant Borough Council. This will also include the delivery; storage and movement of all essential facilities, as well as aspects such as temporary contractor vehicle parking and site location of chemical mixing (e.g. concrete). All such locations will be outside of the RPAs, and avoid areas where 'run off' of chemicals may flow into RPAs.

PART 2

ARBORICULTURAL/CONSTRUCTION METHOD STATEMENTS

14.3 Site Huts

Site huts will not be necessary for this site.

14.4 Material Storage

This shall be accommodated outside of the CEZ, particularly to avoid harmful spillages of fuel, or phytotoxic substances that may damage the health of retained trees.

15.0 GENERAL CONSIDERATIONS WITHIN AND OUTSIDE THE CONSTRUCTION EXCLUSION ZONE

15.1 Inside the CEZ formed by the protective barriers and ground protection measures, the following prohibitions shall apply:

- No construction activity will occur within the CEZ unless otherwise stated in this report, or agreed in writing with Havant Borough Council prior to the specific activity taking place.

15.2 In addition to the above, further precautions are necessary adjacent to trees outside the CEZ:

- Materials, which will contaminate the soil e.g. concrete mixing, diesel oil and vehicle washings, shall not be discharged within 10 metres of the tree stem. This should take into consideration the topography of the site and slopes, to avoid materials such as concrete washings running towards trees.
- Fires shall not be lit in a position where their flames can extend to within 5 metres of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.
- Notice boards, telephone cables or other services shall not be attached to any part of the tree. (See appendix CB5 Common Causes of Damage During Construction Works)

16.0 UTILITY SERVICE CONNECTIONS

16.1 Details of service location proposals have not been forwarded to CBA Trees at the time of compiling this assessment. It is however assumed, given the location of the trees, that services will be installed outside the root protection areas of retained trees, and connected to the existing where practicable, this will avoid disturbance of tree roots and ensure their healthy retention.

17.0 FOUNDATION DESIGN AND CONSTRUCTION

17.1 Building foundations are proposed within the calculated RPA of Tree 5.

PART 2

ARBORICULTURAL/CONSTRUCTION METHOD STATEMENTS

- 17.2 It has been recognised that traditional trench fill foundations cannot be installed in this location, and that specialist foundations as advocated within BS5837:2012 will be required.
- 17.3 Construction details are not yet available but will be engineer designed, assessed by the retained arboricultural consultant and submitted for approval in writing to Havant Borough Council prior to the commencement of works on site.
- 17.4 Foundations will be designed to:
- Minimise direct damage and severance of roots within the RPA of retained trees
 - Maintain soil structure
 - Prevent compaction of rooting environment during construction
 - Minimise ground level increases within the RPA
 - Maintain soil moisture beneath the structure
 - Maintain aeration beneath the structure
 - All for future root growth
 - Be sufficient to withstand soil volumetric change as a result of future growth or loss of adjacent trees.

17.5 Construction Considerations

Ground beams and floor slabs will be designed so as not to require excavation of the existing ground level.

Where piles are to be used, these will be installed by hand, be as small as possible to reduce the need for the use of heavy machinery within the RPA, and to minimise the risk of root damage. Pile layout will be designed so as to allow 150mm movement each way from their centre line, to avoid damage to any roots discovered at the time of construction.

Piles located within the RPA of retained trees should be sheathed to protect the soil and adjacent roots from the potential toxic effects of the concrete.

Subject to the agreement of the local Building Control Officer of Havant Borough Council, perforated pipe will be installed beneath the floor slab and connected to building rainwater discharge pipes. The purpose will be to maintain the current levels of soil hydration and assist soil aeration. Care will be taken when designing the system, so as not to provide excess water which can waterlog the rooting environment resulting in root death.

Voids beneath ground beam/ floor slab may be filled with 20-40mm gravel or similar no fines material to prevent the ingress of pests.

Ground surface around and beneath the ground slab will be covered with fit for purpose ground protection which is maintained throughout the construction process. Ground protection beneath the proposed slab will only be removed just prior to the final formation of the floor slab.

PART 2

ARBORICULTURAL/CONSTRUCTION METHOD STATEMENTS

Diagrams below show the principles of the various methods which are acceptable in arboricultural terms, however other designs which comply with the above performance specification may be equally acceptable.

18.0 SITE MONITORING AND SUPERVISION

- 18.1 It is recommended that on-going arboricultural site monitoring takes place for the duration of the proposed development, to be carried out by a qualified and experienced arboriculturist at pre-determined and agreed time intervals, and governed by the type, timing, location and intensity of site works. Havant Borough Council to Condition site monitoring if required.
- 18.2 If Conditioned, it will take the form of regular inspections (to be agreed, but at least one visit per month during the construction phase of the development is advised, together with additional visits to supervise works with the CEZ of retained tree/s), the aim of the visits is to maintain on-going liaison with all personnel involved in the site development, Havant Borough Council and its Tree Officer.
- 18.3 Any defects requiring rectification shall be notified to the Contractor/Site Manager and the client.
- 18.4 In addition, a site logbook for tree protection measures is kept to record all stages of the development from the erection of the protective barriers, right through to the completion of the project. This will be made available to the arboricultural consultant and Havant Borough Council if required, to show evidence of continuous site monitoring.

Example pro-forma

Date	Activity	Checked	Comments/ damage noted	By whom	Signed	Action taken
	Erection of protective barriers					
	Inspection of protective barriers					

- 18.5 The Havant Borough Council Tree Officer (or appropriate representative) will have agreed access to the site, and will report on any problem areas directly to the developer's retained arboriculturist, who will then visit the site and make recommendations to the developer on how best to rectify the situation and ensure the implementation.

19.0 REPORT DAMAGE TO TREES AND TREE PROTECTION BARRIERS

- 19.1 Should any damage be caused to trees noted for retention, either by the above works or as the result of any other action, the damage should be reported to the site supervisor immediately. The site supervisor shall report up the chain of responsibility

PART 2

ARBORICULTURAL/CONSTRUCTION METHOD STATEMENTS

to the retained consultant arboriculturist, or in the absence of such an appointment, to an appropriately qualified arboriculturist, to enable remedial measures to be implemented as necessary and as agreed with Havant Borough Council.

- 19.2 Should protective barriers become damaged so as to impair its function in protecting trees, all work shall cease in the vicinity of the damage, until the barrier has been returned to standard.

20.0 REMOVAL OF PROTECTIVE BARRIERS

- 20.1 When the development phase is complete, all drainage and service runs are in place, all site machinery has been removed and any landscaping for the principal area of the site has been implemented, the protective barriers will be dismantled.
- 20.2 This barrier dismantling must be undertaken with great care, and will need to be supervised to avoid heavy machinery being used within the root protection areas. Hoarding, scaffolding and other barrier materials will need to be removed from site immediately.

21.0 CONCLUSIONS

- 21.1 The development proposals for the extension of the existing dwelling on the eastern side extended into the rear garden to the north, at the site of 34 Lovedean Lane, have been assessed broadly in accordance with BS5837:2012 *"Trees in Relation to Design, Demolition and Construction – Recommendations"*.
- 21.2 It is our opinion that the trees identified for retention can be afforded due respect and provided adequate protection, ensuring their safe and healthy retention during the development process.
- 21.3 All of the trees can be retained. However, Trees 1 and 6 which are graded as U and are in a poor condition should be removed for arboricultural reasons.
- 21.4 It is our opinion that the loss of the two U grade trees will not have a detrimental effect on the local visual amenity or significantly alter the visual character of the local area. Replanting can be undertaken, selecting species to suit the site conditions and the space available, and be implemented to mitigate for the removal of the two U grade trees (Trees 1 and 6).
- 21.5 Provided the recommendations included within this report are strictly adhered to, CBA Trees believes the trees highlighted for retention within this report can be retained without undue stress on their long-term health.

PART 2

ARBORICULTURAL/CONSTRUCTION METHOD STATEMENTS

22.0 CONTACT LIST

22.1 It is suggested that points of contact and lines of communication are established prior to commencement of the works on site including:-

- Arboricultural Consultant
- Project Architect
- Highways Engineer
- Structural Engineer
- Drainage Engineer
- Landscape Architects
- Havant Borough Council's Tree Officer
- Havant Borough Council's Planning Case Officer
- Site Supervisor and Foreman

22.2 It is advised that the site supervisor establishes their own listing of contact details at the pre-start site meeting, and displays this in their office for general use as necessary.







The Professional Arboricultural Consultancy

TREE SURVEY NOTES

This Tree Survey has been undertaken within the recommendations of British Standards 5837:2012 and current arboricultural best practice.

- Each tree has been numbered and, where instructed, for future identification on site, has been tagged using small durable metal or plastic tags.
- Due to variations of existing ground levels through the site, height dimensions are estimated and are given in metres. Accurate heights, measured with the aid of optical instruments can be provided where instructed.
- Trunk/stem diameters are measured in mm at 1.5 metres above ground level, using a standard measuring tape as defined by British Standards, unless otherwise stated.
- Estimated branch spread is taken in metres from the centre of the trunk, at the four cardinal points of a compass, to achieve an accurate representation of the crown shape which will be recorded on the tree survey plan.

- An assessment of a tree's age classification is made in terms of its maturity within the site's landscape and defined as:

Y	=	young trees
SM	=	semi-mature trees
EM	=	early mature trees
M	=	mature trees
OM	=	over-mature trees

- An assessment of a tree's physiological condition is defined as:

Good	=	fully functioning biological system showing average vitality i.e. normal bud growth, leaf size, crown density and wound closure
Fair	=	fully functioning biological system showing below average vitality i.e. reduced bud growth, smaller leaf size, lower crown density and reduced wound closure
Poor	=	a biological system with limited functionality showing significantly below average vitality i.e. limited bud growth, small and chlorotic leaves, low crown density and limited wound closure
Dead	=	dead

- An assessment of a tree's structural condition is defined as:

Good	=	no significant structural defects
Fair	=	structural defects which could be alleviated through remedial tree surgery or management practices
Poor	=	structural defects which cannot be alleviated through tree surgery or management practices
Dead	=	dead

- An assessment of a tree's future life expectancy is defined as: **<10, 10+, 20+ or 40+ years.**

Categorisation of Trees

The category for each tree is assessed using the recommendations of BS5837:2012. The assessment has not considered any site-specific development proposals, but will have considered any changes on or off-site which may have an effect on the conditions surrounding the surveyed trees.

The trees have been classified into one of the following categories (and one or more sub-categories [this will however not increase the value of the tree]) and are indicated on the associated drawings by colours as indicated.

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

Clients are advised that Tree Surveys are a basic data collection exercise and record of tree condition at the time of survey. This will identify any visible signs of ill-health or major defects, advising a further detailed investigation where appropriate. This will most often take the form of a request for either “*full ground level inspection*” or “*climbing inspection required*”. There may also be a further reference to the need for “*decay detection equipment*” to aid diagnosis. A tree survey does not include a comprehensive schedule or specification of remedial tree works, but may contain a guide to the work which might be undertaken by a prudent tree owner, purely for reasons of health and safety.

A Tree Survey should not be confused with a Tree Inspection or Arboricultural Implication Assessment, which are totally separate exercises.

	BS5837:2012 TREE SURVEY REPORT	
	Site:	34 Lovedean Lane, Waterloooville
	Date:	22 December 2016
	Consultant:	Mark Harrison <i>M.Arbor.A, Nat.Dip.Arb</i>
	Tagged:	No

Notes:

1. It may be advised that some trees should have the ivy removed to enable a re-survey to be carried out. This would also alleviate the tree from becoming suppressed; carrying additional weight that increases the chance of windthrow due to a larger dense crown area; and only receiving restricted light. Unless otherwise stated, in order to prevent regrowth, it is only necessary to remove a 300mm section of ivy and clear around the base.
2. It may be advised that it was only possible to estimate the diameter of some trees because of ivy smothering, dense vegetation, or trees located off-site with no access.
3. The estimated remaining contribution in years, and the tree grading category have been calculated for the current situation and may alter where further investigation works are advised.
4. Some trees or groups may have been given an interim grade. The reason for the interim grading is addressed in the timescales given as this may have a bearing on health and safety and/or any development proposals.
5. Tree Groups have been assessed with estimated and representative data.
6. This is not a Tree Works Schedule. Any preliminary management recommendations are listed in the interests of health and safety and should be carried out by a prudent tree owner.
7. Any management recommendations are suggested for reasons of health and safety only, regardless of development proposals at this stage. However, the defects requiring remedial tree surgery are by their very nature potential wildlife habitats, including protected species which needs consideration prior to any tree surgery works commencing.
8.
 - a) At this stage the Root Protection Area (RPA) information is for your guidance and ongoing discussion purposes only as it assumes that all but the 'U' grade trees will be retained, which may not be the case.
 - b) For all single stem trees with a stem diameter greater than 1250mm, and multi-stem trees with a stem diameter greater than 1500mm, the calculated RPA has been capped at 707m² in accordance with Section 4.6.1 of BS5837:2012.
9. All trees are indicatively plotted on the associated Tree Survey Plan.

TREE PRESERVATION ORDER/CONSERVATION AREA:

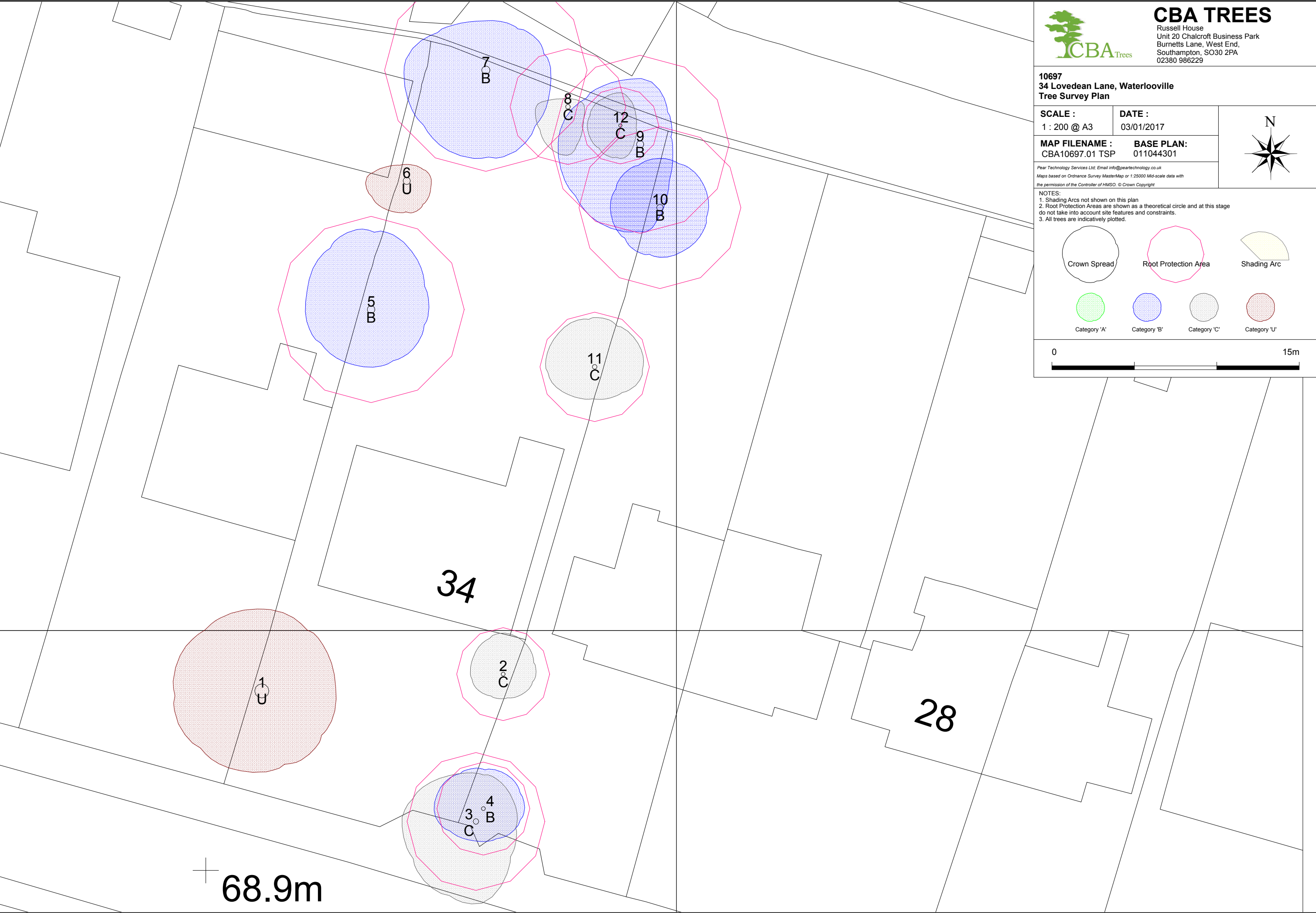
CBA Trees has not been instructed to investigate whether trees on or adjacent to the site are protected by a Tree Preservation Order or located within a Conservation Area.

Tree No	Species	H't (m)	Single/ Multi-Stemmed (S or MS)	Stem Diam (mm)	Root Protection Area (m²)	Root Protection Distance (m)	Branch Spread (m)	H't of Crown AGL (m)	Life Stage	Physio-logical Condition	Structural Condition and General Observations	Preliminary Management Recommendations	Est. Rem. Contrib. (Yrs)	Cat
1	Poplar <i>Populus sp.</i>	11	S	870	-	-	N 5 E 4.5 S 5 W 5.5	N 5 E 5 S 5 W 5	Mature	Fair	Structural Condition - Poor Old pruning wounds Previously pollarded Previously crown reduced - significant pruning wounds showing extensive decay in main stem at 4m and at pruning points	Advise removal for reasons of sound arboricultural management	<10	U
2	Scots Pine <i>Pinus sylvestris</i>	7	S	230	24	2.8	N 2.5 E 2 S 1.5 W 2	N 4 E 5 S 4 W 4.5	Semi-mature	Fair	Structural Condition - Fair Stunted individual with poor shape and form	None required at time of survey	10+	C1
3	Pedunculate Oak <i>Quercus robur</i>	9	S	340	52	4.1	N 3 E 2.5 S 5 W 4.5	N 6 E 6 S 5 W 4	Semi-mature	Fair	Structural Condition - Fair One sided canopy with a bias to the south Lateral branches over hanging the road have previously been reduced Minor deadwood throughout the canopy Straddles boundary	None required at time of survey	40+	C1
4	Common Hornbeam <i>Carpinus betulus</i>	8	S	230	24	2.8	N 2.5 E 2.5 S 2 W 3	N 2 E 3 S 4 W 3	Semi-mature	Good	Structural Condition - Good No visible defects Offsite tree	None required at time of survey	40+	B1
5	Scots Pine <i>Pinus sylvestris</i>	13	S	460	96	5.5	N 5 E 3.5 S 3.5 W 4	N 7 E 5 S 6 W 3	Early Mature	Good	Structural Condition - Good Minor deadwood in crown Several minor dead branches throughout the canopy	Remove deadwood	40+	B1

Tree No	Species	H't (m)	Single/ Multi-Stemmed (S or MS)	Stem Diam (mm)	Root Protection Area (m²)	Root Protection Distance (m)	Branch Spread (m)	H't of Crown AGL (m)	Life Stage	Physio-logical Condition	Structural Condition and General Observations	Preliminary Management Recommendations	Est. Rem. Contrib. (Yrs)	Cat
6	Sweet Chestnut <i>Castanea sativa</i>	7	S	440	-	-	N 1 E 1.5 S 2 W 2.5	N 5 E 3 S 4 W 3	Mature	Decline	Structural Condition - Poor Apical dieback Bark wound In decline Suppressed and stunted	Advise removal	<10	U
7	Common Beech <i>Fagus sylvatica</i>	9	S	500	113	6.0	N 3 E 4 S 5.5 W 5	N 10 E 4 S 2 W 4	Early Mature	Good	Structural Condition - Good Previously reduced back from the neighbouring property Dead stubs left north Canopy south resting on garden building Stem base touching boundary wall Screening adjacent property	None required at time of survey	40+	B1
8	Apple <i>Malus sp.</i>	4	MS	170 230	37	3.4	N 0.5 E 1 S 3 W 2	N 4 E 3 S 2.5 W 3	Mature	Poor	Structural Condition - Poor Previously crown reduced One sided suppressed tree with bias to the south	None required at time of survey	10+	C1
9	Honey Locust <i>Gleditsia triacanthos</i>	11	S	440	88	5.3	N 4 E 2 S 5.5 W 5	N 8 E 9 S 4 W 6	Early Mature	Good	Structural Condition - Good Minor dead wood throughout the canopy Situated on a raised area Screens adjacent property	None required at time of survey	40+	B1
10	Common Hornbeam <i>Carpinus betulus</i>	6	S	400	72	4.8	N 3 E 3 S 3 W 3	N 3 E 3 S 3 W 3	Mature	Fair	Structural Condition - Fair Offsite tree Previously crown reduced	None required at time of survey	40+	B1
11	Common Beech <i>Fagus sylvatica</i>	8	S	270	33	3.2	N 3 E 3 S 2 W 3	N 2 E 4 S 3 W 3	Semi-mature	Good	Structural Condition – Good No visible defects Branches overhanging the neighbouring garden have been removed back to stem – stubs left	None required at time of survey	40+	C1

Tree No	Species	H't (m)	Single/ Multi-Stemmed (S or MS)	Stem Diam (mm)	Root Protection Area (m²)	Root Protection Distance (m)	Branch Spread (m)	H't of Crown AGL (m)	Life Stage	Physio-logical Condition	Structural Condition and General Observations	Preliminary Management Recommendations	Est. Rem. Contrib. (Yrs)	Cat
12	Lawson Cypress <i>Chamaecyparis lawsoniana</i>	5	S	190	16	2.3	N 2 E 1 S 2 W 2	N 2 E 4 S 1.3 W 2	Semi-mature	Good	Structural Condition - Good Growing underneath the canopy of T9 - suppressed canopy to the east	None required at time of survey	20+	C1





CBA TREES

Russell House
Unit 20 Chalcroft Business Park
Burnetts Lane, West End,
Southampton, SO30 2PA
02380 986229

10697
34 Lovedean Lane, Waterlooville
Tree Survey Plan

SCALE :
1 : 200 @ A3

DATE :
03/01/2017

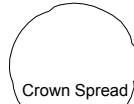
MAP FILENAME :
CBA10697.01 TSP

BASE PLAN:
011044301

Pear Technology Services Ltd. Email info@peartechnology.co.uk
Maps based on Ordnance Survey MasterMap or 1:25000 Mid-scale data with
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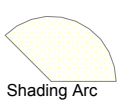
NOTES:
1. Shading Arcs not shown on this plan
2. Root Protection Areas are shown as a theoretical circle and at this stage
do not take into account site features and constraints.
3. All trees are indicatively plotted.



Crown Spread



Root Protection Area



Shading Arc



Category 'A'



Category 'B'



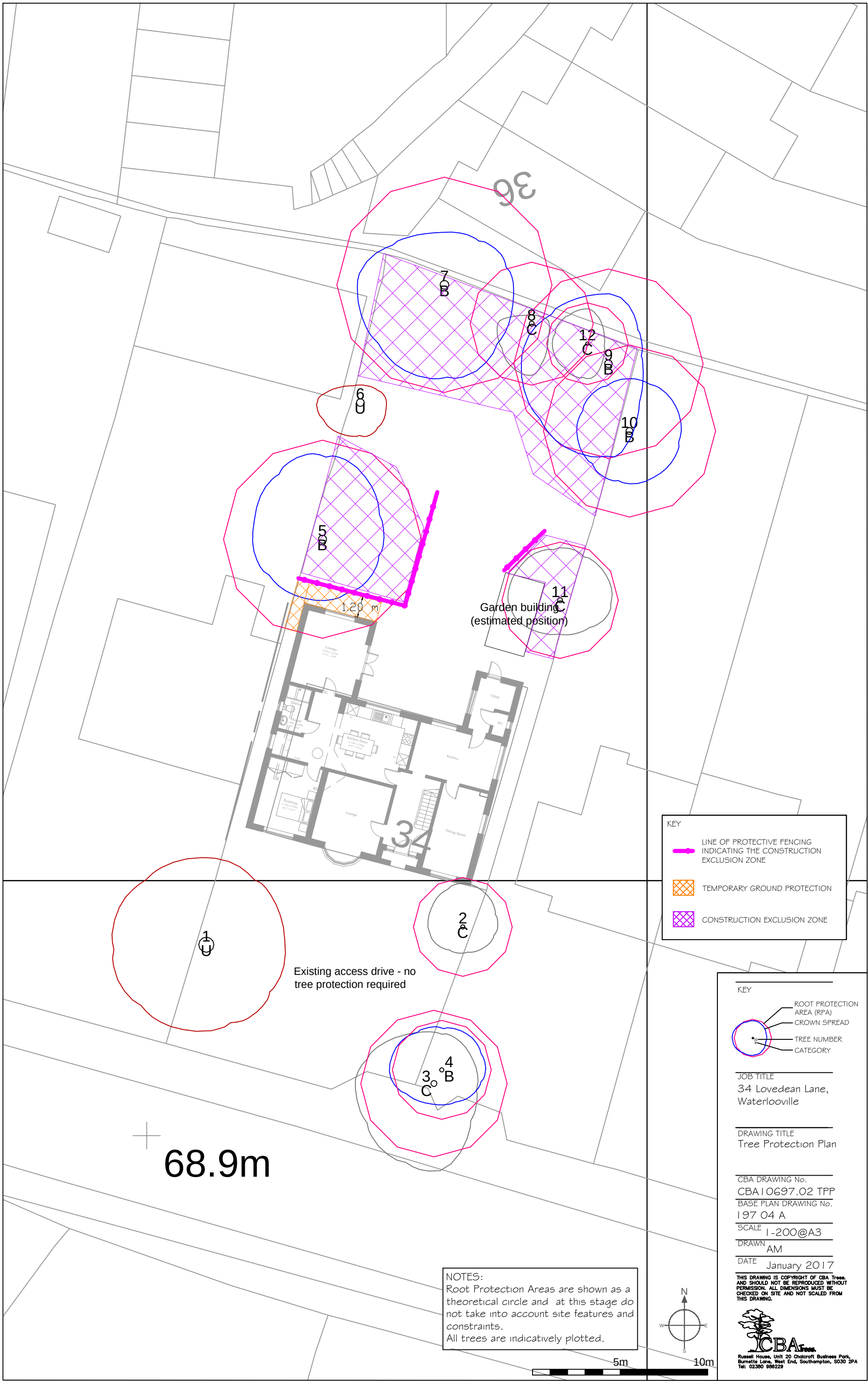
Category 'C'



Category 'U'

0 15m





KEY

- LINE OF PROTECTIVE FENCING INDICATING THE CONSTRUCTION EXCLUSION ZONE
- TEMPORARY GROUND PROTECTION
- CONSTRUCTION EXCLUSION ZONE

KEY

- ROOT PROTECTION AREA (RPA)
- CROWN SPREAD
- TREE NUMBER
- CATEGORY

JOB TITLE
34 Lovedean Lane,
Waterlooville

DRAWING TITLE
Tree Protection Plan

CBA DRAWING No.
CBA I 0697.02 TPP
BASE PLAN DRAWING No.
197 04 A
SCALE 1-200@A3
DRAWN AM
DATE January 2017

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CBA Trees
Russell House, Unit 20 Chalcraft Business Park,
Burnette Lane, West End, Southampton, SO30 2PA
Tel: 02380 956229

NOTES:
Root Protection Areas are shown as a theoretical circle and at this stage do not take into account site features and constraints.
All trees are indicatively plotted.



	TREE WORKS SCHEDULE			
	Client:	Mr & Mrs N Mitchell	Site:	34 Lovedean lane, Waterlooville
	Date:	January 2017	Consultant:	Mark Harrison <i>M.Arbor.A, Nat.Dip.Arb</i>

Tree No.	Species	Recommended Works
1	Poplar <i>Populus sp.</i>	• Remove for reasons of sound arboricultural management
2	Scots Pine <i>Pinus sylvestris</i>	• N/A
3	Pedunculate Oak <i>Quercus robur</i>	• N/A
4	Common Hornbeam <i>Carpinus betulus</i>	• N/A
5	Scots Pine <i>Pinus sylvestris</i>	• N/A
6	Sweet Chestnut <i>Castanea sativa</i>	• Remove for reasons of sound arboricultural management
7	Common Beech <i>Fagus sylvatica</i>	• N/A
8	Apple <i>Malus sp.</i>	• N/A
9	Honey Locust <i>Gleditsia triacanthos</i>	• N/A
10	Common Hornbeam <i>Carpinus betulus</i>	• N/A
11	Common Beech <i>Fagus sylvatica</i>	• N/A
12	Lawson Cypress <i>Chamaecyparis lawsoniana</i>	• N/A

- All tree works are advised to be carried out between July and September or November and February. Tree works should also avoid the season for nesting birds.
- All tree works should be carried out in accordance with current best practice guidelines and BS3998:2010 – Tree Work Recommendations.
- We recommend the use of an Arboricultural Association Approved Contractor or an ISA Certified Arborist/Tree Worker suitably insured and experienced to carry out the tree works.





TREES AT _____ :

SUMMARY OF

TREE PROTECTION MEASURES

Introduction

This leaflet shall be issued to all site personnel as part of their induction briefing.

It describes in summary form the precautions that site personnel shall at all times follow, to ensure that the existing trees on the site come to no harm.

The precautions described are neither arbitrary nor reducible and must be adhered to in full.

These precautions are necessary because unprotected trees are very vulnerable to damage during demolition and construction works.

Furthermore, many of the trees on the site are under **LEGAL PROTECTION** and damaging them can result in heavy fines.

Two common misconceptions about trees:

MYTH: Trees have deep taproots and so shallow excavations will not harm the tree.

FACT: 90% of all tree's roots are found in the top 600mm of soil; all excavations near to trees are likely to cause root damage which can kill the tree.

MYTH: Trees will quickly heal over any bark wound, with no ill effect.

FACT: Bark wounds take years to heal and larger ones never do; missing bark can lead to disease and even the death of the tree.

Tree Protection

All trees adjacent to unsupervised work areas have been protected by tree protection barriers.

These barriers must be respected at all times and no attempts shall be made to damage, bypass or ignore them.

In areas designated for supervised working, no works shall be undertaken without the supervisor being present or without him/her issuing a "carry on" chit.

Prohibitions Adjacent to Trees

Inside the exclusion area of the tree protection, the following prohibitions shall apply.

- **No** digging or scraping
- **No** storage of plant or materials
- **No** vehicular access
- **No** fire lighting
- **No** handling, discharge or spillage of any chemical substance
- **No** water-logging

In addition to the above, further precautions shall be taken near to trees.

- A 10m separation distance shall be observed between trees and any substance injurious to their health, including fuels, oil, bitumen, cement (including washings) builders' sand, concrete mixing and other chemicals.
- No fire shall be lit such that flames come within 5m of any foliage; this shall be taken to mean a fire separation distance to the leaved of 20m.

Avoiding Damage to Stem and Branches

Care shall be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights, can operate without coming into contact with trees.

Consequently, any transit or traverse of plant in proximity to trees shall be conducted under the supervision of a spotter to ensure that adequate clearance is at all times maintained.

In some circumstances, it may be impossible to achieve this, necessitating the pruning of the tree.

If this is necessary, a specialist team shall be called in following referral to the project Arboriculturist.

No tree pruning shall be undertaken by demolition or construction personnel.

Asking for Help

If you see any damage to a tree or its protective fencing, or if you need a tree pruning for plant clearance, contact **CBA Trees** as follows:

Office Telephone: 020 8098 6229

REMEMBER:

**ALL TREE DAMAGE IS
AVOIDABLE –**

SO AVOID IT!

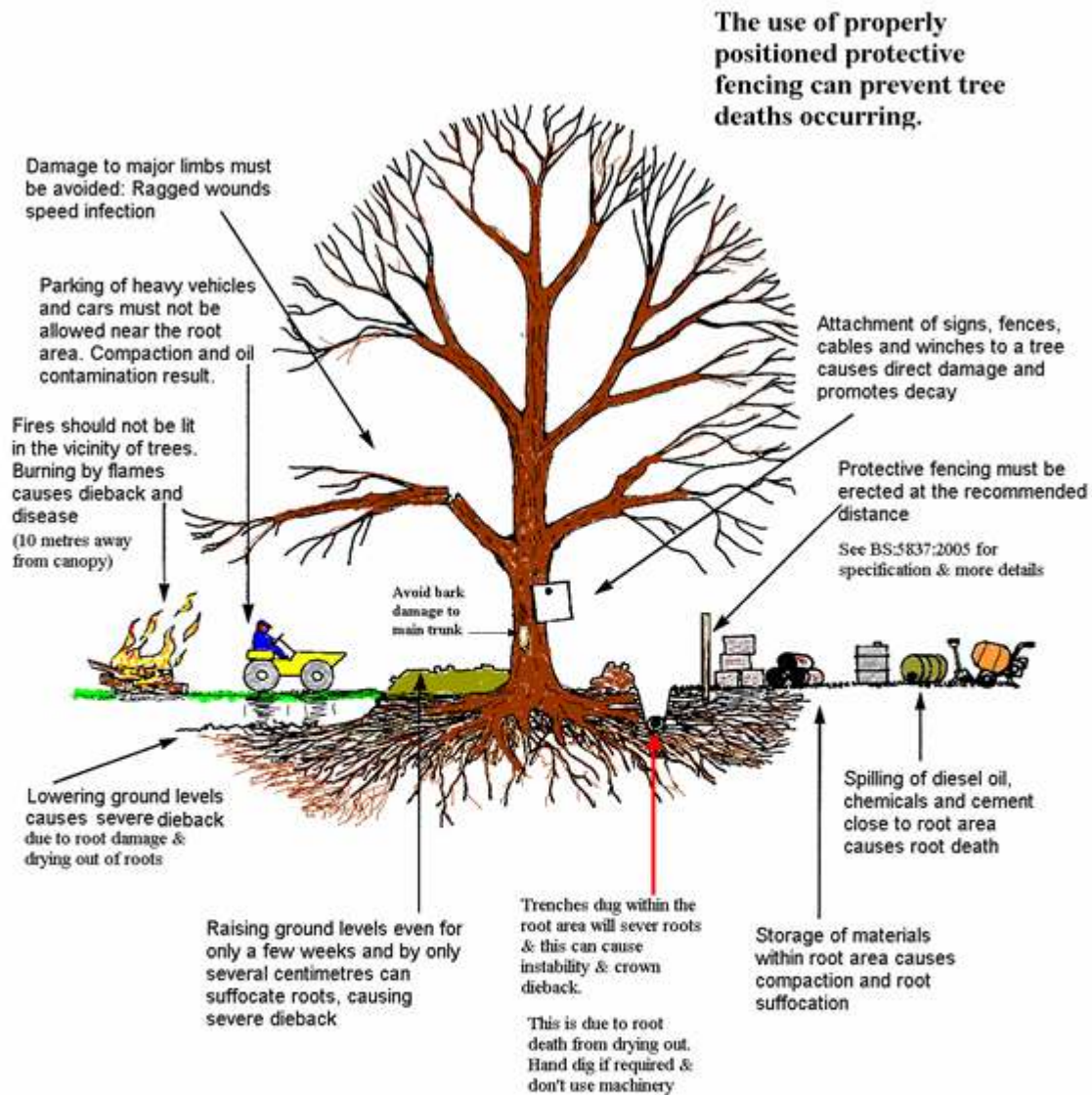


**PROTECTIVE BARRIERS.
THESE BARRIERS MUST BE
MAINTAINED IN ACCORDANCE
WITH THE APPROVED PLANS
AND DRAWINGS FOR THIS
DEVELOPMENT.**



**TREE PROTECTION AREA
KEEP OUT !**
(TOWN & COUNTRY PLANNING ACT 1990)
**TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A
TREE PRESERVATION ORDER.**
**CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION**
**ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL
PLANNING AUTHORITY**

Common causes of Tree Death



Please use copies of this as an on-site poster for personnel

(Source: Arboricultural Information Exchange website, 2005)







The Professional Arboricultural Consultancy

Qualifications of Mark Harrison Senior Consultant

Mark Harrison *MArborA, Nat.Dip.Arb* has recently joined CBA Trees as a Senior Consultant and brings with him sound knowledge and experience gained from his career in arboriculture over the past 30 years.

Mark gained a National Diploma in Arboriculture from Merrist Wood Agricultural College in 1986 and has been employed by various Borough and District Councils in the post of Arboricultural Officer. Mark operates his own arboricultural consultancy carrying out surveys and producing reports for planning applications, tree management etc.in conjunction with his work for CBA Trees.

In addition to a National Diploma, Mark is qualified in Lantra professional tree inspection, and holds qualifications for Bats in Trees and also Bats and Fibrescopes.

Mark is a professional member of the Arboricultural Association, Consulting Arborists' Society and the International Society of Arboriculture, as well as an associate member of the Institute of Chartered Foresters.