

Arboricultural Report

26 CARDINAL DRIVE
WATERLOOVILLE
HAMPSHIRE
PO7 8LZ

JULY 2015

16 Manor Close, Wickham, Hampshire, PO17 5BZ
07814 403146
johnstontreeconsultancy@gmail.com

CONTENTS

Arboricultural Report and Arboricultural Implications Assessment

1.0	Introduction	3
2.0	Site Visit	3
3.0	Site Description	3
4.0	Tree Survey Data	3
5.0	Tree Quality Assessment	7
6.0	Root Protection Areas	7
7.0	Legal Constraints	7
8.0	Arboricultural Implications Assessment	7
9.0	Conclusions	9
	<i>Important notes and Inspection caveats</i>	10

Arboricultural Method Statement

1.0	Contact details	11
2.0	Introduction	12
3.0	Phasing of Development	12
4.0	General Arboricultural Considerations	13
5.0	Supervision and Monitoring	14
	<i>Authors Credentials</i>	14

Appendix 1	Tree Survey Plan showing Tree Quality Categories
Appendix 2	Root Protection Area Plan
Appendix 3	Tree Protection Plan
Appendix 4	Extract from BS5837:2012 – Figure 2 Default Specification for Protective Fencing
Appendix 5	Extract from BS5837:2012 – Figure 3 Examples of Above-Ground Stabilizing Systems.

1.0 INTRODUCTION

- 1.1 This report was instructed by Mr and Mrs Clayton with regard to the proposed development at 26 Cardinal Drive, Waterlooville, Hampshire. The report details all trees over 75mm at 1.5m above ground level that are relevant to the siting of the proposed development. The position of the trees on the site is illustrated at **Appendix 1** on the site plan.
- 1.2 The existing tree stock has been identified and graded in line with the current British Standard BS 5837 2012: Trees in relation to design, demolition and construction - Recommendations to enable informed decisions to be made regarding tree retention. The report also details methods of construction to be implemented to safeguard the retained trees.
- 1.3 This report details the constraints placed on the proposed development from the rooting area of the trees below ground and above ground by their size and position.
- 1.4 This report will therefore minimise any negative impact on the existing tree stock and ensure that retained trees shall be in harmony with the proposed development enabling their long-term retention.

2.0 SITE VISIT

- 2.1 The site visit was undertaken on 23rd June 2015. The trees were surveyed visually, externally and from ground level only. No samples or internal decay detection readings were taken for further analysis. All dimensions have been measured unless stated otherwise. Weather conditions at the time of the survey were dry, still and overcast.

3.0 SITE DESCRIPTION

- 3.1 The site is located on the outskirts of Waterlooville in a residential area. The house is detached with an established driveway and parking to the front. The rear garden is mostly laid to lawn. In the rear garden there is a patio, conservatory and small pond. Two mature trees are within the curtilage, a mature Oak along the rear boundary and a small woodland group to the north.

4.0 TREE SURVEY DATA

In accordance with BS 5837 2012: Trees in relation to design, demolition and construction – Recommendations, the characteristics of single-stemmed trees over 75mm stem diameter measured at 1.5m above ground level have been recorded and they have been categorised in accordance with Table 1 of BS5837: 2012. The following tree data tables should be read in conjunction with the annotated site plan shown at **Appendix 1** and the legend on the page following the tables.

Tree Number and Species	Height (m)	DBH (mm)	Branch Spread (m)				Existing Height Above Ground Level of Canopy and 1 st Significant Branch (m)	Age Class	Estimated Remaining Contribution (Years) & Physiological Condition	Comments	BS Category & Tree Work Necessary for Development	RPA (m ²)	RPA (m)
			N	S	E	W							
T1 Lime <i>Tilia sp.</i>	10	840	5	4	2	5	2 4 4 Southwest	M	20 Fair	Within flower bed within patio area. Sound base with no obvious signs of defects. Stem bifurcates at 1.8m, the north stem bifurcates again at 3m. Branch unions currently appear sound. Asymmetric crown where adjacent tree has been removed. Poor past management, tree has been 'topped'. No immediate work required.	B2 Retain and protect ??	327	10.20
T2 Common Beech <i>Fagus sylvatica</i>	18	760	7	7	7	7	8 8 South	M	40 Good	In lawn area. Ivy on stem. Sound base and lower stem with no obvious signs of defects. Stem bifurcates at approximately 4m, included branch union with 'raised ears'. Limb previously removed at this point leaving a cavity. Previous crown raise good wound occlusion. Very minor die back at some branch tips. No immediate work required. Advisory: Inspect cavity at crown break.	B2 Retain and protect	272	9.30

Tree Number and Species	Height (m)	DBH (mm)	Branch Spread (m)				Existing Height Above Ground Level of Canopy and 1 st Significant Branch (m)	Age Class	Estimated Remaining Contribution (Years) & Physiological Condition	Comments	BS Category & Tree Work Necessary for Development	RPA (m ²)	RPA (m)
			N	S	E	W							
T3 Oak <i>Quercus</i> sp	20	800	8	8	9	10	2 3.5 Southeast	M	40 + Good	Outside of boundary, inspection of base and lower stem limited. Visible parts appear sound with no obvious signs of defects. Previous management, good wound occlusion. Good form and vigour. Minor storm damage and Squirrel damage. No immediate work required.	A1 Retain and protect	290	9.60
TG1 Scot's Pine Oak <i>Pinus sylvestris</i> <i>Quercus</i> sp.	Up to 18	450 Average	10 - 14		25		2 5 South	SM EM	20 – 40 Fair Good	Woodland group to the east of the site, predominately Scot's Pines and Oaks. Trees not inspected individually just recorded due to proximity. Ownership possibly Local Authority.	B 2 Retain and protect	92	5.4

Key to Terms

- Identification numbers have been used and correspond to the site plan shown at **Appendix 1**.
- Vegetation type has been categorized as one of the following: Tree (T), Hedge (H), Shrub (S), Group (G), Stump (ST)
- Species are listed by common and botanical name where appropriate.
- Where possible, measurements have been made in accordance with the conventions detailed below. Where this was not possible, due to site conditions or the vegetation being in third party ownership, dimensions have been estimated. * Indicates estimated measurement.
- Height has been recorded to the nearest half metre.
- Stem diameter has been measured at 1.5m and recorded in millimetres, except where forking or swelling has meant that this is not possible, stem diameter has then been recorded at the narrowest point below these features. Multi-stemmed trees have had individual stems measured at 1.5m. Where this was not possible the actual height where the diameter was measured is recorded. G.L. = Ground Level.
- Crown spread has been recorded to the nearest half metre. Rounded up for dimensions up to 10m and the nearest whole metre for dimensions over 10m.
- Age class has been recorded as follows:

Y	Young recently planted or establishing tree that could be transplanted without specialist equipment, i.e. up to 12-14cms-stem girth.
S/M	Semi mature. An established tree but one that has not reached its potential ultimate height and has significant growth potential.
E/M	Early mature. A tree reaching its ultimate potential height, whose growth rate is slowing down but will increase in stem diameter and crown spread, and has a safe life expectancy.
M	Mature. A mature specimen with limited potential for any significant increase in size but with a reasonable safe life expectancy.
O/M	Over mature. A senescent or moribund specimen with a limited safe life expectancy. Possibly also containing significant structural defects with attendant safety and/or duty of care implications.
- Physiological Condition has been recorded as Good, Fair or Poor.
- Recommendations for tree management have been based on current Arboricultural Best Practice as set out by the Arboricultural profession and all relevant publications.

5.0 TREE QUALITY ASSESSMENT

- 5.1 The trees have been categorized according to BS5837: 2012 as a guide to their condition and value in terms of visual amenity.
- 5.2 The trees are coloured on the plan attached at **Appendix 1** and the colours are explained in the key of the plan.

6.0 ROOT PROTECTION AREAS

- 6.1 In accordance with BS5837: 2012, the root protection area (RPA) of the trees has been calculated and shown in the following table and on the plan attached at **Appendix 2**.

Table 2 Root Protection Area

Tree No.	RPA in m ²	Recommended radial distances for RPAs (in metres from the centre of the tree to protective fencing)
T1	327	10.20
T2	272	9.30
T3	290	9.60
TG1	92	5.40

7.0 LEGAL CONSTRAINTS

- 7.1 Havant Borough Council has verbally confirmed that there are some trees afforded protection by a Tree Preservation Order (TPO) outside of the site, but not which ones as the information was not available at the time of enquiry. Clarification of which trees are covered by the TPO should be sought in writing from Havant Borough Council.

8.0 ARBORICULTURAL IMPLICATIONS ASSESSMENT

8.1 Description of Proposed Development

It is proposed to build a two storey extension across the rear of the property and a small front porch extension.

8.2 Drawings Used

A block plan scale 1: 500 @ A4 was made available at the time of survey showing the existing and proposed site layout. This was used to prepare the Tree Quality Assessment Plan **Appendix 1**, the Root Protection Area Plan **Appendix 2** and for the Tree Protection Plan found at **Appendix 3**.

8.3 Direct Loss of Trees

The proposal will not require the removal of any of the trees.

8.4 Position of Trees in Relation to Proposed Development

It is not considered that the proposal will increase future pressure to fell any trees retained on or adjacent to the site.

8.5 Protective Barriers and Ground Protection

Protective barriers in accordance with Figure 2 of BS 5837: 2012 (**Appendix 4**) should be erected around the trees to be retained. The fencing is to be supported with an appropriate stabilizing system (**Appendix 5**). Where possible, the positions of these fences should be based on a distance equivalent to the radius of each tree's RPA. All site personnel shall be made aware of the importance of root protection areas and shall ensure that they are properly maintained at all times. Once established the fencing will define the boundary of the Construction Exclusion Zone (CEZ).

Once erected all weather signage should be displayed stating 'Construction Exclusion Zone'.

No development works shall commence within the CEZ until written confirmation has been obtained from the Local Planning Authority. The project Arboriculturalist shall supervise all work within the RPAs.

Ground protection will ensure there is no adverse damage to the rooting areas of the trees from soil compaction within the RPAs.

8.6 Changes in Ground Surface within the RPAs

There will be no change in the ground surface within the RPAs of any retained tree except the extension itself. The extension will marginally breach the RPA of T1 Lime by 11% and T2 Common Beech by 5%.

8.7 Changes in Ground Level within the RPAs

There are no proposed changes to the ground level within the RPAs of any retained tree, except for the small area for the pads of the extension.

8.8 Foundation within the RPAs

A small area within the RPAs of T1 Lime and T2 Common Beech will need to be excavated to install the mini piles that will support the ground beams. Details will be supplied by engineers in response to an appropriately worded planning condition.

8.9 Services

No overhead services are proposed.

At the time of writing this report there are no details that underground services are to be installed within the RPAs of any retained tree. If this changes this report will be revised to detail their installation and methodology.

8.10 Access for Contractors, Plant Machinery and Storage of Materials.

There is an existing access driveway that serves the property this can be used for machinery access and materials can be stored within the front garden outside the RPAs of any retained tree. Machinery will be operated from appropriate ground protection to prevent damage to the rooting area within the RPAs of T1 Lime and T2 Common Beech.

9.0 CONCLUSIONS

- 9.1 The trees on and adjacent to the site are predominately of a moderate/high quality providing a screening/softening role.
- 9.2 No trees are to be removed to facilitate the proposal.
- 9.3 The protective barriers and ground protection will ensure the RPAs of trees are protected.
- 9.4 The establishment of the protective barriers and ground protection should be supervised by the Project Arboriculturalist and confirmation of adherence with the Arboricultural Method Statement and Tree Protection Plan should be made to the Local Authority Tree Officer before any development starts.
- 9.5 Given these conclusions the following section 'Arboricultural Method Statement' details the recommendations/methodology for the construction of the proposed works in terms of the effect on trees on the site.

Details within this AIA are considered correct at the time of writing but modifications may need to be made as more information becomes available.

Important Notes

The comments made with regard to the health and stability of the trees within this report were correct at the time of inspection. It should be recognized that trees are dynamic structures that can never be completely predictable and may become unstable or partially unstable even in average weather conditions. Changes can occur not only to environmental triggers but also in response to biological or mechanical events.

Inspection Caveats

The inspection was carried out from ground level. Binoculars were used to observe features higher in the canopies.

Foliage, extension growth and/or bud proliferation were assessed visually.

No soil or tissue samples were taken during this inspection.

No invasive diagnostic equipment was used to detect decay.

A nylon hammer was used to test for possible decay and dead or loose bark around the lower stems and bases of the trees.

Ivy has been removed during the inspection process only where reasonable and practicable. Where this has not been possible it has been noted as a recommendation to be removed to allow detailed re-inspection.

No tree is ever absolutely safe due to the unpredictable laws and forces of nature.

ARBORICULTURAL METHOD STATEMENT**1.0 CONTACT DETAILS**

Developer	Unknown at Present	
Chartered Surveyor and Building Engineer	Andrew Dunks B.Sc. (Hons.) MRICS MBEEng.	Andrew Dunks Unit 1 Bramble Enterprise Centre, Waterberry Drive, Waterlooville, Hampshire, PO7 7 TH 02392 253 034 plans@dunks.freeseve.co.uk
Arboricultural Consultant	Sarah Johnston M.Arbor.A. B.Sc. (Hons.) Arboriculture	Johnston Tree Consultancy 16 Manor Close, Wickham, Hampshire, PO17 5BZ 07814 403146 johnstontreeconsultancy@gmail.com
Local Authority Case Officer	Unknown at Present	Havant Borough Council Public Service Plaza, Civic Centre Road, Havant, PO9 2AX 02392 44 60 19 planning.development@havant.gov.uk
Local Authority Tree Officer	Jamie Gargett	Havant Borough Council Public Service Plaza, Civic Centre Road, Havant, PO9 2AX 02392 44 60 19 jamie.gargett@havant.gov.uk

2.0 INTRODUCTION

- 2.1 This Arboricultural Method Statement (AMS) has been produced in line with BS 5837 2012: Trees in relation to design, demolition and construction-Recommendations to aid the successful retention of trees on and adjacent to the proposed development at 26 Cardinal Drive, Waterlooville, Hampshire. No development shall take place on the site until this document has been submitted to and approved in writing by Havant Borough Council.
- 2.2 This document sets out the methodology for all proposed works that affect trees on and adjacent to the site. Compliance with this method statement will be a requirement of all relevant contracts associated with the development proposals. Copies of this document will be available on site for inspection.
- 2.3 For details of trees to be retained and location and types of special protection methods, reference should be made to the Tree Protection Plan (TPP). A copy of which should be displayed prominently on site.

3.0 PHASING OF DEVELOPMENT

3.1 Phase 1 – Pre Development Phase

Protective Barriers

Tree protection measures to be installed for T1 Lime and T2 Common Beech and TG1 Scots Pines and Oak

The protective barriers erected will be in accordance with Figures 2 and 3 of BS 5837:2012 (**Appendix 4 and 5**) and will form the boundary of the construction exclusion zone (CEZ). Where feasible, the positions of the fencing will be based on a distance equivalent to the radius of each tree's RPA. Once erected all weather signage should be displayed stating 'Construction Exclusion Zone Keep Out'.

Removal of the Existing Conservatory Base and Foundation

This will be undertaken using hand tools only under arboricultural supervision.

Removal of Existing Patio and Establishment of Ground Protection

Where the existing patio is to be removed this will be undertaken by hand under arboricultural supervision within the RPAs of T1 Lime and T2 Common Beech. Where at all possible sections of the patio will be retained during the construction process to allow for machinery and pedestrian access.

Ground protection will be established where required within the RPAs. The specification is to be a geo-textile membrane spread across the ground with a compression resistant layer of wood chip 150mm – 200mm depth with proprietary interlinked ground protection boards laid on top.

Storage Area

Materials and machinery are to be stored on the driveway/access area outside of the RPA of any retained tree.

3.2 Phase 2 – Construction Phase

Establishment of Foundation

The rear extension will sit upon a series of mini piles supporting ground beams. Details are to be supplied in response to an appropriately worded planning condition.

Protective Barriers

Once established the protective barriers or ground protection are not to be moved without written consent from Havant Borough Council.

4.0 GENERAL ARBORICULTURAL CONSIDERATIONS

- 4.1 Protective barriers must be regarded as sacrosanct, and must only be moved under direct supervision of the LPA or named Arboriculturalist to enable the undertaking of works within the RPAs of trees, as set out in this AMS, and approved in writing by the LPA. It is of paramount importance the fencing is repositioned correctly after any agreed operations.
- 4.2 No materials, chemicals, machinery or vehicles must be stored within the RPAs as defined on the TPP and identified on site by protective fencing and aboveground root protection.
- 4.3 Ground protection must not be lifted or removed without prior consultation with the LPA or named Arboriculturalist.
- 4.4 Damage caused to protective fencing or ground protection must be reported to the site supervisor and the named Arboriculturalist to ensure appropriate repair.
- 4.5 Any damage to retained trees must be reported without delay to the site supervisor, the LPA and the named Arboriculturalist so appropriate remedial work can take place without delay.

- 4.6 No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 5 metres of the trunk of the retained trees or any other trees on the site.
- 4.7 No fires will be lit on site.
- 4.8 Notice boards, telephone cables or any other signage or services are not to be attached to any part of the retained trees.

5.0 SUPERVISION AND MONITORING

- 5.1 The project Arboriculturalist shall be responsible for monitoring/supervising the following works.
- Removal of existing conservatory base and foundation.
 - Establishment of the protective barriers and ground protection.
 - Establishment of mini-piles and ground beams.
- 5.2 The project Arboricultural Consultant will be responsible for periodical monitoring and will inspect the protective fencing to ensure the CEZ is intact and monitor any works necessary within the exclusion zone. A record of site visits will be maintained for inspection on site and copies forwarded to the agent and planning authority when requested.

Please note this AMS is not a contract. The retention and services of a project Arboriculturist for supervision and monitoring must be agreed prior to commencement of construction operations.



CREDENTIALS OF THE AUTHOR

Sarah Johnston M. Arbor. A., B.Sc. Arboriculture has worked in the Arboricultural profession for thirteen years. Her experience has been gained from undertaking practical tree work as well as working as an Arboricultural Surveyor and Tree Officer for Eastleigh and Havant Borough Councils respectively. In addition Sarah worked as a consultant for Marishal Thompson for two years from 2005 when she became self-employed. Sarah is a Professional Member of the Arboricultural Association and holds both Professional Indemnity and Public Liability insurance cover trading as Johnston Tree Consultancy.