



Arboricultural Report

26 LEIGH ROAD
HAVANT
HAMPSHIRE
PO9 2ET

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1.0 INTRODUCTION

- 1.1 This report was instructed by Mr Marc Patterson with regard to proposed development at 26 Leigh Road, Havant, Hampshire, PO9 2ET. 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 inform the planning process for the proposed development to 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 2nd December 2013. 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, sunny and still. A further site visit was made to supervise the hand excavation of the proposed foundation line of the garages within the RPAs of the trees.

3.0 SITE DESCRIPTION

- 4.0 The site is located within the borough of Havant, within a predominately residential area, south of the Petersfield Road and north of Havant railway station. The site currently comprises a single derelict property with a large overgrown garden and pedestrian access only.

5.0 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 Horse Chestnut <i>Aesculus hippocastanum</i>	16	1225	9.5	7.5	7	6.5	2 4 North	OM	10 Fair	On bank ownership unclear. Rooting pattern adapted to slope. Ivy and epicormic shoots limited detailed inspection of base and lower stem. Cavity at 1.5m extends 40cm into the stem, result of lost limb, good wound occlusion but decay evident. Major past management including crown raising majority of wounds have occluded well but some have signs of decay although inspection limited from ground level. Storm damaged limbs at 5m and 8m. Header cuts on several scaffold and secondary limbs. Cracked and dead bark on several branches. Decay columns may have coalesced. Stem sounded hollow when tapped with a nylon hammer. Poor extension growth. Tree maybe subject of an area order TPO made by Havant Borough Council but enquiries have resulted in differing responses to date. Advisory: Advise owners if known or Havant Borough Council of condition of tree and recommend detailed aerial inspection.	B2 Crown raise to 5m over boundary of site removing material no greater than 100mm	679	14.70

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			N	S	E	W							
T2 Horse Chestnut <i>Aesculus hippocastanum</i>	14	1200	8	7	8	7.5	1 6 Northeast	OM	10 Poor	On bank ownership unclear possibly adjacent NHS clinic. Rooting pattern adapted to slope. Ivy on stem from ground level limited detailed inspection of base and lower stem. Crown break at 2m where stem originally trifurcated but one limb historically lost, decay pocket evident but unable to inspect in detail from ground level. Historical management including crown raise, good wound occlusion but header cuts evident at branch ends, decay and lifting bark evident at old pruning sites. Advisory: Advise owners of condition of tree and recommend detailed aerial inspection.	C2 Crown raise to 5m over boundary of site removing material no greater than 100mm	652	14.50
T3 Silver Birch <i>Betula pendula</i>	8	240	3	3.5	3	2.5	3 2 South	SM	10 Fair	On east boundary between fence and garage. Access limited. Lean 15° east. Chain link fence runs through trunk at 1.5m.	C2 Remove and plant replacement once development complete	28	3

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			N	S	E	W							
TG1 Elms, Sycamore and Hawthorn <i>Ulmus, Acer</i> and <i>Crataegus</i> sp.	Up to 14	Average 130	14		7		1 2 West	Y	10 – 20 Fair	Small self-seeded tree group on bank along Leigh Road. None are good specimens but provide a significant screen. None were inspected individually.	B2 Retain and protect	7	1.5

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**. This is the minimum area in m², which if being retained, must be left undisturbed around each tree to ensure its safe retention during the development process.

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	679	14.70
T2	652	14.50
T3	28	3
TG1	7	1.5

7.0 LEGAL CONSTRAINTS

- 7.1 The situation regarding tree preservation orders is currently unclear as Havant Borough Council has verbally stated that tree T2 is and isn't covered by this legislation. The site does not fall within a Conservation Area.

8.0 ARBORICULTURAL IMPLICATIONS ASSESSMENT

8.1 Description of Proposed Development

It is proposed to seek planning permission for the refurbishment of the existing property and the addition of an extension to the rear of the existing property on the site and construction of

another detached house. Both properties are to have detached single garages with a shared driveway.

8.2 Drawings Used

A scaled plan showing the existing and proposed site layout was provided at the time of survey, drawing Number 0213/07 scale 1: 200 and has been used to prepare the Tree Quality Assessment Plan **Appendix 1**, the Root Protection Area Plan **Appendix 2** and the Tree Protection Plan **Appendix 3**.

8.3 Direct Loss of Trees

The proposal will not require the removal of any trees on the site. The two retained Horse Chestnuts T1 and T2 will require a minor crown raise. The removal of T3 Silver Birch has been recommended due to its location and condition; it will be replaced by another Silver Birch in a more suitable place once the development has been completed.

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 the site.

8.5 Protective Barriers

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.

8.6 Changes in Ground Surface within RPAs

There are no proposed changes to ground surface within the RPAs of the retained trees with the exception of the garages and a small section of the access driveway. Details of

specifications and methodology of construction are to be found within the Arboricultural Method Statement section of this report.

8.7 Changes in Ground Level within the RPA

There are no proposed changes in the existing ground levels within the RPAs of any retained tree.

8.8 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.

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

Contractors and associated machinery are to access the site by the existing access. All machinery will operate from outside of the RPAs. This ensures that no compaction of soil or mechanical disruption of the root plates of retained trees will occur.

Materials will be stored in a secure area located outside of the RPAs of the retained trees.

8.10 Foundations within RPAs

The garage foundations are to be established within the RPAs of T1 Horse Chestnut and T2 Horse Chestnut.

Supervised hand excavation along the proposed foundation line for the garages has been undertaken to determine the location of any significant roots that may provide an obstacle to the siting of the garages. The results of the findings are to be found at **Appendix 6**.

The proposed methodology for the construction of the garage foundations is to be found within the Arboriculture Method Statement section of this report.

A small section of the foundation of Plot 1 will just encroach at the edge of the RPA of T1 Horse Chestnut. As long as all machinery operates from outside of the RPA it is not considered that this will be detrimental to the tree's health or longevity.

8.11 Scaffolding within the RPAs

Scaffolding is to be established within the RPA of the retained trees but will be constructed on a protective layer to prevent soil compaction. Details are to be found within the Arboricultural Method Statement section of this report.

9.0 CONCLUSIONS

- 9.1 The trees on the site are predominately of a moderate quality providing a screening/softening role to the street scene.
- 9.2 No trees are to be removed to facilitate the proposal. T3 Silver Birch is to be removed as it is a poor specimen with defects in the wrong location. It will be replaced to ensure continuity of tree cover on the site.
- 9.3 Supervised exploratory excavations have helped determine the appropriate foundation type for the garage and will result in minor disruption to the trees and therefore not have a detrimental effect upon their health or longevity.
- 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	
Architect	Paul Nicholson	Paul Nicholson Design 36 Nichol Place, Coxford St Luke, Somerset, TA4 1JD 01823 619090 nicholson@talktalk.net
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 Leigh Road, Havant, 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 (TTP). A copy of which should be displayed prominently on site.

3.0 PHASING OF DEVELOPMENT

3.1 Phase 1 – Pre Development

Protective Barriers

Tree protection measures to be installed under the supervision of the retained Arboriculturalist for all the trees.

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 'Tree Protection Area Keep Out'

Exploratory Excavations within RPAs for Garage Foundations

Hand dug exploratory trenches were excavated as shown on the Tree Protection Plan at **Appendix 3**. Photographs of the findings are to be found at **Appendix 6**. The trenches were as wide as the proposed foundation and to a depth of approximately 600mm. No tree roots of any significance were located within the trenches dug within the RPA of T1 Horse Chestnut.

Two roots of over 50mm diameter were located within the trenches dug within the RPA of T2 Horse Chestnut. These two roots have both grown under an existing service run which was concreted in. This appeared to have foul water as well as gas and electricity all routed here. It is considered that the clean severance of these two roots with sharp tools will have no implications for the stability of tree T2 Horse Chestnut.

Given the above findings it is proposed that the foundations are to be a traditional strip design lined with a heavy duty DPM plastic to prevent lime induced root damage from leeching concrete.

3.2 Phase 2 – Construction Phase

Protective Barriers

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

Construction of the Driveway Access within RPAs of Retained Trees

The driveway access within the RPAs of the retained trees should be established prior to any other development to ensure the ground is protected from compaction by machinery. Establishment of the pedestrian access within the RPAs of the retained trees must incorporate a 3D cellular confinement system and no-fines aggregate sub-base.

Ground preparation will ensure surface is as level as possible using hand tools only. Sharp sand or no fines aggregate will be used where it is necessary to infill larger areas.

A geo-textile membrane such as Treetex T300 is to be secured in place with pins.

Placement of the cellular confinement system CellWeb 100mm (or similar product) will be stretched into position and pinned into place by reinforced steel pins.

The web is to be filled with 40/20 clean angular granite based aggregate raked into place. Note; as soon as the Web has been filled it can be used for pedestrian access without causing damage to the rooting area below.

Roll out techniques should be used to ensure machinery is above the sub-base layer at all times.

Edging is to be comprised of above ground peg and board pinned in place.

Final surface is to be porous bitumen, gravel or paving slabs with built in filtration systems laid dry jointed on sand.

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.
 - Establishment of no-dig driveway access.
- 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.