



Arbor-Eco Consultancy

**ARBORICULTURAL SURVEY
AND ASSESSMENT OF IMPACT**

**27 WARBLINGTON AVENUE,
HAVANT, PO9 2SD**

A Report to Mr & Mrs Lines

Report Number: MB1414

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*This report is the responsibility of Arbor-Eco Consultancy.
It should be noted that whilst every effort is made to meet the client's brief,
no site investigation can ensure complete assessment
or prediction of the natural environment.*

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1. INTRODUCTION

1.1 PROJECT BRIEF

Mr and Mrs Lines commissioned Arbor-Eco Consultancy to undertake a Pre-development Arboricultural Survey of trees at 27 Warblington Road, Havant, Hampshire. In addition, Arbor-Eco Consultancy has been requested to compile an Arboricultural Impact Assessment in accordance with BS5837:2012 in order to discharge the Condition of Havant Borough Council of letter reference GEN/15/00479 dated 12th May 2015 to provide a report that has examined the impact of the proposed development.

This combined report will:

- Record the current condition of the trees found on the site and categorise them using criteria outlined in BS5837:2012 "Trees in relation to design, demolition and construction - Recommendations".
- Provide a Tree Constraints Plan that identifies any constraints to development presented by the trees to include root protection areas for the retained trees as described in BS5837:2012.
- Provide guidance detailing arboricultural constraints to development and factors to be considered during the detailed design of the proposed development.
- Detail the impact that the proposed development will have upon the site's existing tree stock and set out recommendations for the subsequent mitigation or avoidance of impact.

It is understood that the development works proposed for the site includes the construction of a new flat-pack self-assembly oak beam car-port in proximity to two Large-Leaved Lime trees (*Tilia platyphyllos*) that are protected by a Tree Preservation Order.

1.2 SITE DESCRIPTION

The proposed development site is located off Warblington Avenue on the eastern fringes of Havant. The site is centred at National Grid Reference SU 72851 06185.

At the time of the survey, the site predominantly comprised a residential buildings surrounded to the front aspect by large areas of hardstanding forming car parking facilities. Areas of introduced trees and shrubs formed the western boundary.

The site is bound by residential properties to the north, east and south aspects by residential properties whilst the western boundary abuts Warblington Avenue.

The location of the trees surveyed can be found on Drawing Number MB1414-01.

2. ARBORICULTURAL SURVEY METHODOLOGY

2.1 DESK STUDY

A desk study was undertaken to identify if any of the trees present within or in close proximity to the site are covered by Tree Preservation Orders (TPOs) or if the site is situated within a Conservation Area. This involved consultation with the Local Planning Authority.

2.2 CONDITION STATUS

To determine the status of the trees within the site a full arboricultural survey has been undertaken, assessing the species and status of all trees present. This survey has been carried out in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

All trees have been given a unique reference number. Individual trees above 75 mm (diameter at 1.5 m above ground level) have had their position plotted to a survey drawing. The trees were visually assessed and a schedule prepared listing tree number, species, trunk diameter at 1.5 m above ground level (or in accordance with Annex C of BS5837:2012), tree height, crown spread (cardinal points), crown clearance (cardinal points), height of first branch and growth direction, age class and estimated remaining years. Any specific observations or recommendations with regard to management were also noted. All these observations and measurements are summarised in Section 3.3.

Each tree was assessed and assigned to one of the following categories:

- Category A: Those trees of high quality and value with an estimated remaining life expectancy of at least 40 years.
- Category B: Those trees of moderate quality and value with an estimated remaining life expectancy of at least 20 years.
- Category C: Those trees of low quality and value with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150 mm.
- Category U: 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.

Categories A, B and C have further sub-categories with regards to the reasons for tree retention:

- 1: Mainly arboricultural qualities.
- 2: Mainly landscape qualities.
- 3: Mainly cultural values, including conservation.

2.3 ROOT PROTECTION AREA (RPA)

In order to avoid damage to the roots or rooting environment of retained trees, the RPA has been calculated for each of the Category A, B and C trees. This is a minimum area around a tree which is deemed to contain sufficient roots and rooting volume to maintain the trees viability. Protection of the roots and soil structure in this area should be treated as a priority.

These figures have been calculated utilising the formulas within Section 4.6 and Annex D of British Standard 5837:2012.

3. RESULTS

3.1 DESK STUDY

Mr D Gender-Sherry (Enquiry Officer) confirmed in a letter (Havant Borough Council, 2015, *Pers. Comm.*) on the 12th May 2015 that a Tree Preservation Order (TPO) exists that covers the two Large-Leaved Lime trees towards the western boundary of the site. Further information regarding this TPO can be obtained from the Local Planning Authority.

Examination of the Havant Borough Council website

(<http://www.havant.gov.uk/sites/default/files/documents/Warblington%20CA.pdf>, accessed on 11/06/15) confirmed that the site is not situated within a Conservation Area.

3.2 WEATHER CONDITIONS AND PERSONNEL

The survey was completed on 9th June 2015 by Marco Bartolini, Arboricultural Consultant. The weather conditions at the time of the survey are shown in Table 3.1.

Conditions	Result
Temperature (°C)	14
Cloud Cover (%)	90
Precipitation	Nil
Wind Speed (Beaufort)	F1-2

Table 3.1: Weather Conditions at Time of Survey

3.3 SURVEY RESULTS

Tree and shrub species recorded during the survey are listed in Table 3.2.

Common Name	Scientific Name
Large-Leaved Lime	<i>Tilia platyphyllos</i>
Lawson Cypress	<i>Chamaecyparis lawsoniana</i>
Beech	<i>Fagus sylvatica</i>
Silk Tassel Bush	<i>Garryia elliptica</i>
Holly	<i>Ilex aquifolium</i>

Table 3.2: Tree and Shrub Species Recorded During Survey

The full results of the Arboricultural Assessment are detailed in Table 3.3. Details of the shrubs present and their heights is included in Table 3.4.

Arboricultural Survey and Assessment of Impact

Tree No.	Species	No. Stems	Diam (mm)	H't (m)	Ht 1 st Branch (m)	Branch Spread (m)				Crown Clearance (m)				Age	Phys Cond	Struc Cond	Est. Remain Contrib (Years)	Cat	Comments	Preliminary Management Recommendations
						N	E	S	W	N	E	S	W							
1	Large-Leaved Lime	1	820	15.0	4.0 E	4.5	2.5	5.5	4.0	5.0	5.0	5.0	5.0	M	G	G	20+	B1,2,3	• Hard surfacing within RPA. • Previously pollarded. • No visible significant defects.	-
2	Large-Leaved Lime	1	900	15.0	3.0 N	5.0	4.5	4.0	3.0	5.0	5.0	5.0	5.0	M	G	G	20+	B1,2,3	• Hard surfacing within RPA. • Previously pollarded. • No visible significant defects.	-
3	Lawson Cypress	1	360	10.0	2.5 W	2.0	<u>3.5</u>	2.0	1.5	4.0	4.0	2.0	3.0	M	F	F	<10	U	• Off-site tree. • Hard surfacing, boundary fence and underground services within RPA. • Tree leans to north approx. 10 degrees. • Crown die back to north. • Major deadwood in crown.	Remove major deadwood in crown.
H1	Beech Holly Silk Tassel Bush	1	100	4.0	0.5 N	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	EM	G	G	20+	B2,3	• Hard surfacing, boundary fence and underground services within RPA. • No visible significant defects.	-

Key

Age Class

Y: Young = tree within first third of average life expectancy
 EM: Early mature = tree within second third of average life expectancy
 M: Mature = tree within final third of average life expectancy
 OM: Over mature = tree beyond average life expectancy

Physiological Condition

G: Good = no health problems
 F: Fair = symptoms of ill health that may be remedied
 P: Poor = poor health

Structural Condition

G: Good = no structural defects
 F: Fair = remedial structural defects
 P: Poor = significant structural defects

000: Estimated measurement due to access restrictions
 RPA: Root Protection Area

Major deadwood: branches in excess of 50 mm diameter
 Minor deadwood: branches/twigs less than 50 mm diameter

Table 3.3: Results of Arboricultural Survey

3.4 ROOT PROTECTION AREA (RPA)

Table 3.4 provides details of the Root Protection Area (RPA) of all trees and hedgerow surveyed which were classified as Category A, B or C specimens. This table also gives an approximate root protection radius for the trees and hedgerow surveyed.

Tree No.	Species	Diam (mm)	Approximate Root Protection Radius (m)	Root Protection Area (m ²)
1	Large-Leaved Lime	820	9.9	308
2	Large-Leaved Lime	900	10.8	366
H1	Beech Holly Silk Tassel Bush	100	1.2*	5*
Key: *: Around centre of each tree within hedgerow.				

Table 3.4: RPA and Approximate Root Protection Radius of Category A, B and C Groups Surveyed

4. DISCUSSION AND CONCLUSIONS

4.1 DESK STUDY

The desk study identified that tree numbers 1 and 2 within the study site are subject to Tree Preservation Orders (TPO). The site is not situated within a Conservation Area.

4.2 TREE QUALITY

Three trees and one hedgerow have been inspected in accordance with BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

- None of the trees present were considered to be Category A – Trees of high quality and value.
- Two of the trees present were considered to be Category B – Trees of moderate quality and value.
- One hedgerow present was considered to be Category B – Hedgerow of moderate quality and value.
- One tree present was considered to be Category U – Trees whose long term contribution is limited.

A summary of the trees and groups in each of the four categories is given in Table 4.1.

BS5837:2012 Category	Tree Number
A	-
B	1, 2, H1
C	-
U	3

Table 4.1: Summary of Trees and Groups in BS5837:2012 Categories

4.3 ASSESSMENT OF PROPOSALS

An assessment of the proposed Oak Port self-assembly car-port plan provided by Swift Oak indicates that the building will be self-supported and will not require excavations within the RPAs of retained trees. There is no requirement to erect scaffold or other construction apparatus.

In addition to the plan provided, the tree survey recorded a number of existing concrete slab bases in the exact locations of the proposed building. These slabs will be utilised to support the new building.

It must be noted that the proposed site of the car-port was previously covered by a concrete slab and utilised as an open car parking bay. Additionally there existed a car port and this proposed car-port will replace the previously dismantled car-port.

There is no evidence to suggest that any of the retained trees will be harmed during the self-assembly of the proposed car-port so long as good working practices are adopted. Protecting the stems from accidental damage by covering them in hessian or an additional appropriate soft covering, such as cardboard, would reduce the potential for superficial bark damage to occur.

5. RECOMMENDATIONS

The following site-specific recommendations are made:

- Provide stem protection in the form of hessian or cardboard to protect the stems from the potential harm during the construction of the car-port.
- This Arboricultural Survey is valid for a period of 12 months. If works are not commenced within this time period then it is advised that the trees are re-inspected to ensure no significant defects have developed since the original survey.

REFERENCES AND BIBLIOGRAPHY

Arboricultural Advisory Information Services. (2007). 'Practice Note 12. Through Trees to Development'.

British Standards Institution. (2012). *British Standard 5837:2012, Trees in relation to design, demolition and construction – recommendations*. British Standards Institution, London.

British Standards Institution. (2010). *British Standard 3998:2010, Trees work– recommendations*. British Standards Institution, London.

Gender-Sherry, D (2015). *Pers. Comm.* Enquiry Officer, Havant Borough Council.

Havant Borough Council Conservation Area website
<http://www.havant.gov.uk/sites/default/files/documents/Warblington%20CA.pdf>, accessed on 11/06/15).

Johnson, O. and More, D. (2004). *Tree Guide*. Collins, London.

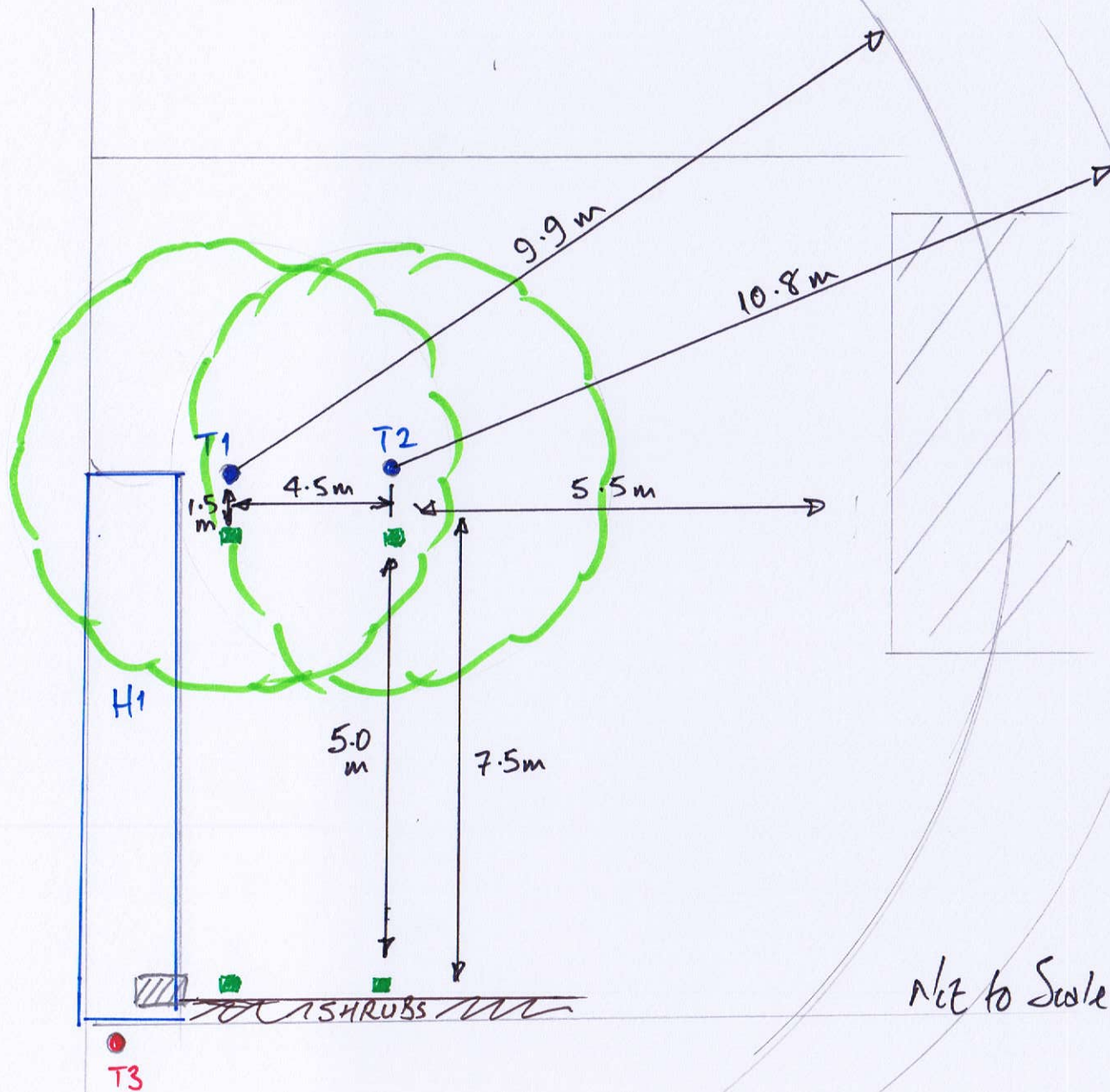
Lonsdale, D. (1999). *Principles of Tree Hazard Assessment and Management*. DETR, London.

National Joint Utilities Group. (2007). *Volume 4: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees*. NJUG, London.

DRAWINGS

Drawing Number MB1441.01 Tree Constraints Plan

↑
N



MB 1414.01
11 June 15
Arbor-Eco Consultancy
Tree Constraints Plan

- B Category tree
- U Category tree
- B Category hedgerow

○ RPA
☁ Canopy

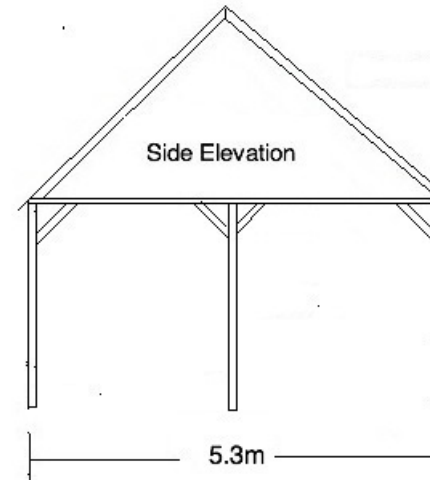
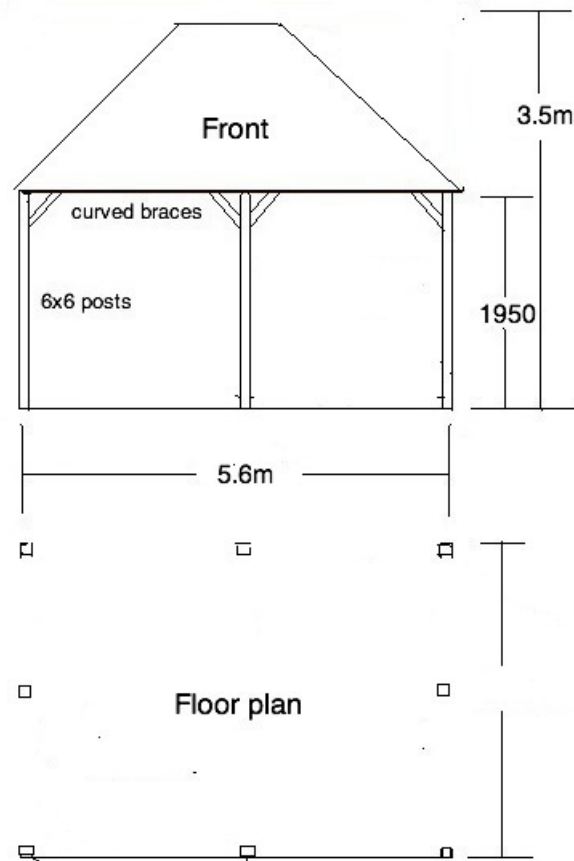
- NOT TO SCALE
- INDICATIVE TREE POSITIONS

Not to Scale

APPENDIX

Appendix 1 2 Bay Car Port (Swift Oak) – Floor Plan

2 Bay Carport



Oak framed car port
150x150mm posts
150x150mm top plate
Curved oak braces

2 Bay Carport
-SwiftOak-