

Arboricultural Survey

15 Horndean Road
Emsworth
PO10 7PT

18th May 2017



PJC ref: 4443/17-01

This report has been prepared by
PJC Consultancy Ltd
on behalf of
Mr Paul Melbert

Prepared by	Peter Davies FdSc Arboriculture M.Arbor.A Peter has a Foundation Degree in Arboriculture and is a professional member of the Arboricultural Association. He has ten years experience in the arboricultural industry, originally working as a groundsman and feller, and progressing into consultancy. He is a Lantra accredited professional tree inspector.
Checked by	Nick Betts HND For M.Arbor.A Nick has attained an HND in forestry management and is a professional member of both the Arboricultural Association and the Consulting Arborists Society. He has worked in the arboricultural and forestry industries for 14 years. He started his career as a forestry worker before qualifying as a tree surgeon, working in both the private and commercial sectors. He has been a practising consultant since 2004. He is a Lantra accredited professional tree inspector.

CONTENTS

1 Introduction

2 Site visit and survey methodology

3 Site details and survey findings

4 Conclusions

5 Other considerations

Appendices:

1. Tree Constraints Plan
2. Tree Survey Schedule
3. Cascade Chart for tree quality assessment
4. Root protection area formulas
5. Photographs

1 INTRODUCTION

1.1 **Instruction:** PJC Consultancy has been instructed by Mr Paul Melbert to provide an arboricultural survey of 15 Horndean Road in Emsworth.

1.2 **Brief:** PJC Consultancy has been commissioned to undertake an initial arboricultural survey following the guidelines set out in BS5837: 2012 '*Trees in relation to design, demolition and construction – Recommendations*'.

1.3 **Scope of this report:** This report is concerned with all significant trees located within the property boundaries of the site. Additionally, trees located around the curtilage of the site have also been surveyed when they are considered likely to have the potential to impact on the development (in relation to root and crown protection or foundation design).

1.4 **Purpose of report:** This survey has been undertaken to record the condition and value of all significant trees at the site as well as the material constraints they pose on the development. The information in this report should be used to guide the design proposals.

1.5 **Documents and information provided:** The following documents were provided by the client to produce this report:

- OS Site Plan

2 SITE VISIT AND SURVEY METHODOLOGY

2.1 Site visit: A site visit was carried out on 12th May 2017. The weather conditions at the time were light cloud but dry. The visibility was adequate for visual tree inspection from ground level.

2.2 Tree information: The following information was recorded in the Tree Survey Schedule for each individual tree (average dimensions are recorded for groups):

- Tree reference number. (T=tree, G=group, H=hedgerow).
- Species (common and scientific name).
- Overall tree height (m).
- Stem diameter (mm) per stem or average diameter for multi-stemmed trees with six or more stems.
- Branch spread (m) measured to the four cardinal points.
- Existing height (m) above ground level of lowest significant branch and direction of growth (for individual trees only).
- Existing height (m) above ground level of canopy.
- Age class (young, semi mature, early mature, mature, over mature or veteran).
- Physiological condition (good, fair, poor).
- Structural condition (good, fair, poor).
- Comments (general description of tree including any notable features).
- Preliminary management recommendations (prescriptions for tree management processes based on the current land use and not related to the proposed development).
- Tree categorisation (see below).
- Root protection area (m²).
- Root protection radius (m).

2.3 Tree categorisation: The condition and value of each tree was evaluated based on the current land use. Each tree or tree group has been awarded either category A, B, C or U and a sub category of either 1,2 or 3 or a combination of the sub categories.

2.4 Tree categorisation summary:

- A – Trees of good condition or high value, with a predicted life span in excess of forty years.
- B – Trees of moderate condition or value, with a predicted life span in excess of twenty years.
- C – Trees of poor condition or low value, with a predicted life span in excess of ten years.
- U – Trees of such impaired condition that they cannot realistically be retained as living trees in the context of the current land use for more than ten years.

2.5 Tree sub categorisation summary:

- 1 – Trees have mainly arboricultural value, e.g. trees of good condition, form and vitality or rare tree species.
- 2 – Trees have mainly landscape value, e.g. trees of landscape prominence, that serve to screen unsightly views or that are required for privacy.
- 3 – Trees with mainly cultural value including conservation, e.g. commemorative trees, trees of historical significance, trees of ecological significance or veteran trees.

2.6 Each tree can only be categorised as A, B or C but may comply with more than one sub category. A cascade chart further explaining how tree categorisation is decided is included in Appendix 3.

2.7 **Root protection areas:** Each tree's stem diameter was recorded, and applied to the formula found in Appendix 4 to establish its root protection area. A root protection area represents a calculation of the minimum area of root growth required to support the tree, not the total rooting area.

2.8 The root protection areas are plotted onto the Tree Constraints Plan in Appendix 1, and recorded in the Tree Survey Schedule in Appendix 2. These are represented as a circle on the plan and are colour coded depending on the category the tree has been awarded.

2.9 The disturbance of a tree's root system can result in crown dieback and even death of the tree. Roots are used to support the tree structurally and act as transport for water and nutrients. Direct damage such as root severance can lead to ill health, as can compaction of the soil by construction traffic, heavy plant and storage of materials. Changing the nature of the surface above the growing medium, (i.e. from porous to non-porous), can alter the resources available to the tree, which in turn can lead to its decline.

2.10 The root protection areas must be left free from excavation and disturbance, and protected from compaction or contamination during any proposed works. The majority of root growth is usually found within the top meter of soil. As such, even shallow disturbance within root protection areas can potentially have a significant impact on the trees.

2.11 **Limitations of site visit:** The survey methodology was restricted to a visual tree assessment from ground level. No tree climbing or ground investigation was carried out for this report. Where existing site constraints are present such as ivy covered trees, a very dense under-storey, or where trees are located on third party land to which access was not granted, tree dimensions were estimated by eye as accurately as possible.

2.12 No topographical survey with measured tree positions was provided to produce this report. All tree positions on the Tree Constraints Plan were approximated during the initial tree survey and must be checked on site before setting out the development or tree protection measures.

3 SITE DETAILS AND SURVEY FINDINGS

3.1 Site location: The site is situated on the west side of Horndean Road, more broadly to the north of A27 in Emsworth. It has a central OS national grid reference of SU745068. The surrounding land use is comprised of residential properties to the north, St James Primary School to the east, Emsworth Park to the south and agricultural land to the west. The location of the site within its environs is shown in figure 1.



Figure 1: Location of Site and Environs

3.2 Site layout: The site comprises a detached residential dwelling with a gravel driveway and long rear garden. The trees located within the site comprise a mature holly on the road frontage, a number of poor quality shrubs at the western end of the garden and a large oak on the south-west corner of the garden. Mixed hedgerows line the southern boundary and further trees are located in the park to the south of the site.

3.3 Tree T5 is the mature oak in the corner of the garden. It the largest specimen at the site, and forms one of a group of oaks that extends into the park. T5 has a one sided crown containing some deadwood but possesses no major visible defects. The stem straddles a chain link fence, which prevents an accurate measurement of the stem diameter (estimated to be approximately 900mm). T5 has been awarded category A and should be incorporated into any development at the site. The remaining trees and shrubs located within the rear garden of either small or of poor quality and should not be considered a constraint to development.

3.4 T12 is the mature variegated holy located on the road frontage. It does not possess significant arboricultural value but is of reasonable condition and it contributes visual amenity to Horndean Road. This has lead to its categorisation as B2.

3.5 Several trees and shrubs are located in the park to the south of the site, beyond an unmade track. Of these trees, the only ones deemed to have the potential to impact the site during the initial tree survey were four large white poplars (G13). The trees in G13 are located in a row, which is measured as being approximately 9m from the boundary hedgerow. The height of these trees makes them prominent features in the park, leading to their categorisation as B2.

3.6 The hedgerow on the southern boundary has been sub-divided into H9, H10 and H11. H9 and H10 are third party hedgerows that appear to partially encroach the site boundary. H9 is of poor condition. It is smothered by ivy in places and also contains gaps in the planting. H10 is comprised predominantly of cherry laurel which has been pruned to a formal line within the site. This section of the hedgerow has good screening quality compared with H9. H11 is predominantly comprised by cypress trees and has been pruned to a formal hedgerow by the front driveway.

3.7 A number of white poplars sapling (assumed to be suckers from G13) are present within H9. It is recommended that these suckers be removed before they mature in order to prevent future conflict with the site. Having mature white poplars on the southern boundary would have an overbearing presence and also over-shade the garden of 15 Horndean Road.

3.8 Measurements and information for each tree can be viewed in the Tree Survey Schedule in Appendix 2.

3.9 **Tree categorisation summary:** A total of eight trees, two groups and three hedgerows were surveyed and recorded in the Tree Survey Schedule.

Table 1: Tree categorisation summary

Categorisation	Individual tree	Tree group	Hedgerow
A	1	-	-
B	1	1	-
C	6	1	3
U	-	-	-
Total	8	2	3

3.10 **Statutory tree protection:** Havant District Council's online mapping service was used on 18th May 2017 to establish restrictions to tree works at the site. No Tree Preservation Order (TPO) was shown to protect the trees on or adjacent to this site and the site is not located within a Conservation Area. However, any persons proposing to undertake tree works must check the status of the trees with the local authority, and gain necessary consent before works are undertaken.

3.11 Financial penalties and/or criminal proceedings can result if tree works are carried out on a protected tree without consent. The entirety of the tree is protected, both above and below ground.

4 CONCLUSIONS

4.1 To comply with BS5837: 2012, it is recommended that an arboricultural impact assessment be produced when the proposed layout has been fixed. The arboricultural impact assessment should include a schedule of trees to be retained and removed as well as pruning required to enable the construction works. It should also evaluate the likely effects of the construction works on retained trees including post development pressures and provide recommendations on mitigation measures to be implemented. The arboricultural impact assessment should be accompanied by an arboricultural method statement and a dimensioned Tree Protection Plan to show how retained trees will be protected whilst the development is constructed.

4.2 As far as possible new buildings and areas of hard surfacing should be located outside of the root protection areas of retained trees. In certain situations, engineered solutions are available to allow construction within the root protection areas. Further input from an arboriculturalist should be sought regarding their site-specific viability before these methods are relied upon.

4.3 Over-shading of gardens and dwellings for prolonged periods, nuisance caused by leaf/fruit drop or honeydew drip (particularly onto footpaths, parking areas or roof guttering) and an over-bearing presence of large trees can result in significant pressure from future residents to carry out harsh remedial pruning works or to remove trees post development. All of these factors should be considered at the design stage.

4.4 Allowance should be made for future canopy growth of both existing and newly planted trees. Trees growing in areas of limited space may require regular future pruning works. The suitability of different species for regular crown reductions, the affect on their amenity value and the cost of future tree works should be considered.

4.5 The final design should show service locations and their routing. New utilities should be located outside of the trees root protection areas where they are underground and outside of the anticipated area of mature crown spread where above ground. If this is not possible, recommendations outlined in NJUG10 '*Guidelines for the planning, installation and maintenance of utilities in proximity to trees*' should be followed. Advice should also be sought from the project arboriculturalist.

4.6 Where tree removal is necessary to facilitate the wider regeneration benefits associated with development, a tree replacement strategy could be implemented to mitigate tree loss. If further tree planting does occur, consideration should be given to species selection (in relation to form and potential size) and planting locations to ensure their successful integration into the new development.

5 OTHER CONSIDERATIONS

5.1 Trees should be checked for protected species before works are undertaken. It is against the law to disturb bats or their roosts under the Conservation of Habitat and Species Regulations. Nesting birds are protected by the Wildlife and Countryside Act. If protected species are discovered, Natural England should be contacted for advice.

5.2 The tree works contractors should carry out all tree works to BS3998: 2010 '*Tree works – recommendations*', as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance.

5.3 It is also recommended that all tree works be carried out by an Arboricultural Association approved contractor. Approved contractors are expected to work to industry best standards, and the Arboricultural Association website contains contact details and information on engaging a suitable contractor.

5.4 The trees at this site were assessed for their condition and safety in relation to the average range of weather conditions that the region experiences. Any weather events that exceed the average norm cannot be predicted, and so their effects are not considered within this report.

5.5 The views and opinions contained within this report are entirely those of the author.

Contact details

PJC Consultancy Ltd
Chapter House
Priesthawes Farm
Hailsham Road
Polegate
East Sussex
BN26 6QU

Tel: 01323 400311

E-mail: pete@pjconsultancy.com



Author: Peter Davies

Date: 18th May 2017

APPENDIX 1

Tree Constraints Plan



- Key:**
- RPA for CAT A* tree
 - RPA for CAT B* tree
 - RPA for CAT C* tree
 - Tree canopy

** Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.*

Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref. no. PJC/4443/17-01 contains further information for each tree.

This drawing should be viewed in colour.

All tree positions on this drawing are approximate and must be checked on site.

Drawing no: PJC/4443/17/A **Rev:** - **Sheet number:** 1 of 1

Client and site:
Mr Paul Melbert

Farmview
15 Hordean Road
Emsworth

Drawing title: Tree Constraints Plan

Date drawn: 17/05/2017

Scale: 1:200 at A3

Drawn by: PD **Checked by:** NB

APPENDIX 2

Tree Survey Schedule

Tree Survey Schedule

				Client: Mr Paul Melbert Site: 15 Horndean Road, Emsworth Survey date: 12/05/2017 Surveyor: Peter Davies							T: Individual tree or shrub G: Group of 2 or more trees H: Hedgerow W: Woodland block		
Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T1	Hawthorn (Crataegus monogyna)	6	200, 100, 80	N: 1 E: 2 S: 3 W: 1	Crown: 2 south Branch: 1 south	Mature	Good	Fair	Secondary stem recently removed and under-storey surrounding tree cleared. Foliage only at top	No action required on date of survey.	C1	25.5	2.8
T2	Holly (Ilex aquifolium)	7	270	N: 3 E: 2 S: 0 W: 1	Crown: 0 west Branch: 1 west	Mature	Good	Fair	One sided crown with minor defects. Adjacent vegetation recently cleared.	No action required on date of survey.	C1	33.0	3.2
T3	Pittosporum (Pittosporum tenuifolium)	6	140, 100, 100, 100 est	N: 1 E: 4 S: 2 W: 1	Crown: 0 average Branch: 0 average	Early mature	Good	Fair	One sided crown with minor defects. Adjacent vegetation recently cleared.	No action required on date of survey.	C1	22.4	2.7
G4	Mixed (including blackthorn, hawthorn, bramble, holly)	1-3 average	Under 75 average	1-3 average	0 average	Semi mature	Fair	Fair	Largely unmanaged scrub on site boundary.	No action required on date of survey.	C1	2.5 average	0.9 average
T5	Pedunculate oak (Quercus robur)	18	900 est	N: 6 E: 6 S: 2 W: 7	Crown: 1 west Branch: 3 west	Mature	Good	Good	Ivy clad. Chain link fence presents accurate stem measurement. Uneven crown due to suppression.	Sever ivy. Remove deadwood over 50mmØ over site if frequency of land use increases.	A1/2	366.4	10.8
T6	Ornamental pear (Pyrus spp.)	4	100 est	N: 1 E: 1 S: 1 W: 1	Crown: 1 average Branch: 1 average	Semi mature	Good	Good	Third party fruit tree, only viewed from site.	No action required on date of survey.	C1	4.5	1.2

Tree Survey Schedule

				Client: Mr Paul Melbert Site: 15 Horndean Road, Emsworth Survey date: 12/05/2017 Surveyor: Peter Davies							T: Individual tree or shrub G: Group of 2 or more trees H: Hedgerow W: Woodland block		
Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T7	Ornamental pear (Pyrus spp.)	5	200 est	N: 4 E: 3 S: 2 W: 3	Crown: 1 average Branch: 1 average	Early mature	Good	Fair	Third party tree only viewed from site.	No action required on date of survey.	C1	18.1	2.4
T8	Lilac (Syringa vulgaris)	2	160, 140	N: 0 E: 1 S: 0 W: 1	Crown: 0 average Branch: 0 east	Mature	Good	Poor	Pollarded shrub.	No action required on date of survey.	C1	20.4	2.6
H9	Mixed (including box, white poplar, Euonymus japonicus)	3-4 average	Under 75 average	N: 1 E: 1 S: 2 W: 1	0 average	Semi mature	Fair	Poor	Sporadic hedgerow with poplar suckers. Smothered by ivy in places. Part third party.	Strip ivy where possible. Recommend removing poplar suckers (third party).	C2	2.5 average	0.9 average
H10	Mixed (Leyland cypress, cherry laurel, box)	3-4 average	Under 75 average	N: 1 E: 1 S: 3 W: 1	0 average	Semi mature	Good	Good	Managed hedgerow, part third party. Good overall condition.	No action required on date of survey.	C2	2.5 average	0.9 average
H11	Mixed (Leyland cypress dominant and privet)	3 average	Under 75 average	1 average	0 average	Semi mature	Good	Good	Formal hedgerow extending to front boundary.	No action required on date of survey.	C2	2.5 average	0.9 average
T12	Varigated holly (Ilex aquifolium spp.)	6	360 over ivy	N: 2 E: 2 S: 2 W: 2	Crown: 2 average Branch: 2 east	Mature	Good	Good	Ivy clad. Crown previously lifted over driveway. Located on road frontage.	No action required on date of survey.	B2	58.6	4.3

Tree Survey Schedule

				Client: Mr Paul Melbert Site: 15 Horndean Road, Emsworth Survey date: 12/05/2017 Surveyor: Peter Davies							T: Individual tree or shrub G: Group of 2 or more trees H: Hedgerow W: Woodland block		
Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
G13	4x white poplar (Populus alba)	Up to 25 average	Up to 640 average	7 average	2-3 average	Mature	Good	Good	Third party trees located in park. No major visible defects.	No action required on date of survey.	B1/2	185.3	7.7

APPENDIX 3

Cascade Chart for Tree Quality Assessment

Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of their 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 the 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. <i>Note Category U trees can have existing or potential conservation value which it might be desirable to preserve</i>			Red
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A 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).	Green
Category B 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 downgraded because of impaired condition (e.g. presence of significant though remedial 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 or other cultural value.	Blue
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.	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

APPENDIX 4

Root Protection Area Formulas

CALCULATING THE RPA

For single stemmed trees

$$\text{RPA(m}^2\text{)} = \frac{(\text{stem diameter (mm)} @ 1.5 \text{ m x } 12)^2 \times 3.142}{1000}$$

For trees with two to five stems, a combined stem diameter is calculated as follows:

$$\sqrt{(\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots + (\text{stem diameter } 5)^2}$$

For trees with more than five stems, the combine stem diameter is calculated as follows:

$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

APPENDIX 5

Photographs



Photograph 1 – Tree T5



Photograph 2 – Tree T1



Photograph 3 – Tree T3



Photograph 4 – Western garden boundary



Photograph 5 – Hedgerow H9



Photograph 6 – Hedgerow H10



Photograph 7 – Hedgerow H11



Photograph 8 – Tree T12



Photograph 9 -



Photograph 10 – Group G13 over hedgerow H9