PERMIT

ARBORICULTURAL REPORT AND IMPLICATIONS ASSESSMENT to BS 5837:2005 at 52 The Glade Waterlooville Hampshire PO7 7PE

Client:
Wildcry Technical services

Client Address:
1 Bealing Close
Waterlooville
PO7 7PE

JCA Ref:
9411/RG

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1. Introduction

1.1 Purpose of the Report

1.1.1 A report is needed at 52 The Glade, Waterlooville, to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.2 Terms of Reference

1.2.1 I am instructed by Wildcry Technical services to visit the site and prepare my findings in a report.

1.2.2 For this purpose I have been supplied with a topographical survey, Drawing Ref: 52 The Glade.

1.3 Scope of the Report

1.3.1 This report is compiled in accordance with *BS 5837:2005 Trees in relation to construction.*

1.3.2 Preliminary recommendations are given with a view to the long-term management of a sustainable tree cover.

1.3.3 All trees within the site boundary with a stem diameter above 75mm are included.

1.3.4 Where applicable trees outside the site boundary, but close enough to be affected by the proposed development, are included.

1.3.5 The specific design of the proposed development and has been considered within the Arboricultural Implication Assessment in **Section 6** and detailed on the plan at **Appendix 7**.

1.4 Survey details

1.4.1 The survey took place during the month of February 2010.

1.4.2 The survey was conducted by Robert Godwin.

1.4.3 Inspection was made at ground level. Further investigation, such as climbed inspections or decay detection surveys, may be recommended where appropriate.

1.4.4 Measurements were obtained using clinometers, specialist tapes or electronic distometers. Where this was not possible measurements were estimated.

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2. Site Description

2.1 Land Use

2.1.1 The site is comprised of the private residential house and surrounding gardens of 52 The Glade. There are gardens to the front and rear of the property, which are predominantly comprised of maintained grass. There is a paved patio area adjacent to the immediate rear of the house.

2.2 Topography

2.2.1 The site is approximately level.

2.3 Treescape

2.3.1 Surrounding the site is a residential area containing many mature garden trees and many mature street trees.

2.3.2 The trees on this site have a moderate impact on the local treescape.

2.4 Visual Amenity Value

2.4.1 The trees on site collectively provide a reasonable visual amenity to the surrounding area.

2.5 Age Class Mix

2.5.1 The trees surveyed ranged in age from semi-mature to mature. However, the trees were predominantly early-mature.

2.6 Species Diversity

2.6.1 Species surveyed include Oak and Yew, with the predominant species being Oak.

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3. Status of the Trees

3.1 A check was made on 4th February 2010 with: ***Havant Borough Council.***

We are informed that there is no Tree Preservation Order in force and that the site is not within a Conservation Area.

3.2 Due to the large potential penalties for illegally carrying out work to protected trees, JCA recommend that a further check is carried out prior to any works being undertaken. We are able to arrange this and to organise and supervise professional contractors.

4. Tree Descriptions and Recommendations

4.1 Full details of all individual trees surveyed are recorded in the tables at **Appendix 1**, a full explanation of the tables can be found at **Appendix 2**. Please refer also to the Tree Constraints Plan at **Appendix 6** for tree locations.

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5. Discussion

5.1 Tree Condition & Recommended Works

5.1.1 The tree survey revealed a total of 8 individual trees. Of these, 5 trees were identified as retention category 'B' and 3 trees were identified as retention category 'C'. Please refer to **Appendix 2** for retention category and definition criteria.

5.1.2 Where a full detailed inspection of some trees was inhibited by restricted access (**T1**) or by the presence of Ivy (**T3**, **T5, T7** and **T8**), as detailed at **Appendix 1**, it is advised that these trees be re-inspected for any possible defects when the Ivy has been removed.

6. Arboricultural Implications Assessment (AIA)

6.1 Proposed Development

6.1.1 The proposed development will consist of the construction of a two storey rear extension with attached garage. Drawing, Ref: 52 The Glade has been supplied by the client; this plan can be found at **Appendix 7** and is the basis for which this AIA has been prepared.

6.1.2 The extension will be constructed upon timber ground floor joists positioned on a pre-cast concrete ground beam, which in turn will be positioned on pre-cast concrete piles located at 1.5m intervals.

6.2 Implications for Existing Trees

6.2.1 No trees need to be removed to accommodate the proposed extension.

6.2.2 The footprint of the extension will encroach into the RPA of **T1**, as highlighted in blue on the plan at **Appendix 7**. The pile and beam construction technique employed will ensure that there is minimal damage to the root system. There will be no major root severance and the remaining roots can remain in-situ until the tree can compensate for any root loss. It should be noted that a hard surface in the form of a paved patio area already exists within this section of RPA.

6.2.3 **T1** will require a small amount of pruning to comfortably accommodate the extension. This would involve reducing the crown back by approximately 2 metres away from the extension.

6.2.4 The remaining trees will be unaffected by the development but shall require protection by fencing to BS 5837: 2005 during the development phase.

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6.3 Protection of Retained Trees

6.3.1 The erection of protective fencing will be the very first job on site following completion of the tree works. The area within the fencing will create the Construction Exclusion Zone (CEZ), and will protect the Root Protection Area (RPA). **T1** is currently protected by a neighbour's boundary fence but the remaining RPA within the development site will need to be protected by fencing.

6.3.2 Where utilities need to be brought onto the site and then distributed, methodologies on the installation of underground services without damage to tree roots should be considered. All service providers should be consulted prior to commencement of works with the aim of minimising the number of service runs on the site.

6.3.3 Care should be taken to avoid damage to tree roots during the removal of the patio area within the Root Protection Area of **T1**.

6.3.4 Pedestrian traffic should be routed so that footpaths and walkways are diverted away from retained trees. Where vehicular traffic will affect trees during construction, temporary protective road surfaces may be installed that will distribute vehicle weight while allowing moisture to reach the tree rooting area.

6.3.5 It is recommended that any site compound that typically includes the site office, mess facilities, toilets, storage of materials and parking, is located well away from trees and outside of any Root Protection Area. Care should be taken to prevent soil contamination with chemical spillages, including petrol, diesel and oils.

6.3.6 In order to protect the retained trees during the construction phase the protective barrier needs to be erected. This should be done in an Arboricultural Method Statement (AMS), detailing all tree works from start to finish.

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7. Conclusions

7.1 The trees surveyed were generally found to be in good to fair condition.

7.2 No trees on site are protected by a Tree Preservation Order or by virtue of them being in a Conservation Area.

7.3 The arboricultural implications of the development have been considered and discussed in **Section 6**.

7.4 Pile and beam foundations will be used for the construction to minimise any root damage to **T1**.

7.5 Some pruning works have been recommended to ensure the long term health of **T1**.

7.6 All development work carried out in close proximity to trees should be done so in a manner sympathetic to their needs. Otherwise the condition of the trees may deteriorate in the months and years following the development, leading to a loss of amenity and potentially hazardous trees.

7.7 The protection of retained trees can be achieved by the creation of a Construction Exclusion Zone based on the Root Protection Area of a tree. The Root Protection Area of each tree or group is marked on the Tree Constraints Plan at **Appendix 6**.

7.8 The proposed development should be accompanied by an Arboricultural Method Statement (AMS) detailing the specific protection measures necessary for each tree. This should specify fencing standard and positions (the creation of the Construction Exclusion Zone), acceptable construction techniques and necessary tree works.

7.9 Upon instruction JCA are able to provide a comprehensive Arboricultural Method Statement in order to ensure the continued health of trees throughout the proposed development. We are also able to provide trees planting schemes and organise tree works.

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Appendices

Appendix 1: Tree Descriptions and Recommendations

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Tree Ref	Age Species *Latin Name*	Height (m)	Crown Height (m)	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physiological Condition	Structutral Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
T 1	Mature Oak *Quercus robur*	18	7	Est 61	6 6 5 8	Situated on adjacent land, which prevented a detailed inspection. Single stemmed and vertical with a balanced crown. Multiple pruning wounds due to crown lifting, (healing well). No major visible defects.	No action required	GOOD	FAIR	MOD	40+	B
T 2	Mature Oak *Quercus robur*	18	8	58	7 6 7 7	Single stemmed and vertical with a balanced crown. Occasional pruning wounds due to crown lifting, (healing well). No major visible defects.	No action required	GOOD	FAIR	MOD	40+	B
T 3	Early-mature Oak *Quercus robur*	15	9	42	5 2 4 1	Single stemmed and vertical with an unbalanced crown. Ivy prevented detailed inspection. Suppressed specimen.	Remove Ivy and inspect stem for defects	FAIR	POOR	LOW	20-40	C
T 4	Semi-mature Yew *Taxus baccata*	7	0	17	1 2 2 2	Single stemmed and vertical with a slightly unbalanced crown. No evidence of significant pruning.	No action required	FAIR	FAIR	LOW	40+	C
T 5	Semi-mature Oak *Quercus robur*	13	5	20	3 2 2 2	Single stemmed and leaning with an unbalanced crown. Ivy prevented detailed inspection. Poor specimen - suppressed.	Remove Ivy and inspect stem for defects	FAIR	POOR	LOW	20-40	C
T 6	Early-mature Oak *Quercus robur*	16	7	39	2 4 4 6	Single stemmed and vertical with a slightly unbalanced crown.	No action required	FAIR	FAIR	MOD	40+	B
T 7	Early-mature Oak *Quercus robur*	15	6	60	7 4 7 2	Single stemmed and leaning with a slightly unbalanced crown.	Remove Ivy and inspect stem for defects	FAIR	FAIR	MOD	40+	B
T 8	Early-mature Oak *Quercus robur*	14	6	43	3 3 6 6	Multi-stemmed at ground level with an unbalanced crown. Ivy prevented detailed inspection.	Remove Ivy and inspect stem for defects	FAIR	FAIR	MOD	40+	B

Appendix 2: Explanation of Tree Descriptions

A2.1 Measurements

A2.1.1 *HEIGHT* of the tree is measured from the stem base in metres. Where the ground has a significant slope the higher ground is selected.

A2.1.2 *CROWN HEIGHT* is an indication of the average height at which the crown begins.

A2.1.3 *STEM DIAMETER* is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; the diameter is measured close to ground level, just above the root buttress.

A2.1.4 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches in all four cardinal points.

A2.2 Evaluations

A2.2.1 *AGE CLASS* of the tree is described as young, semi-mature, early-mature, mature, or over-mature.

A2.2.2 *PHYSIOLOGICAL CONDITION* is classed as good, fair, poor, or dead. This is an indication of the health of the tree and takes into account vigour, presence of disease and dieback.

A2.2.3 *STRUCTURAL CONDITION* is classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.

A2.2.4 *LIFE EXPECTANCY* is classed as; less than 10 years, 10-20 years, 20-40 years, or more than 40 years. This is an indication of the number of years before removal of the tree is likely to be required.

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A2.3 Retention Categories

A2.3.1 ***A (marked green on the plan) = retention most desirable.***

These trees are of high quality and value with a good life expectancy. They may be further sub-divided as follows:

A1) Particularly good examples; perhaps rare or unusual species, or forming an essential part of arboricultural features e.g. avenues.

A2) Groups of trees having a significant landscape impact or with excellent screening properties, or those softening the effect of existing structures.

A3) Those having significant conservation or historical value e.g. veteran trees.

A2.3.2 ***B (marked in blue on the plan) = retention desirable.***

These trees are of moderate quality and value with a significant life expectancy. They may be further sub-divided as follows:

B1) Trees that might be included in the high category but because of their numbers or slightly impaired condition, are downgraded in favour of the better individuals.

B2) Groups of trees forming distinct landscape features, thereby attracting a higher collective rating than they might as individuals.

B3) Trees with clearly identifiable conservation or other cultural benefits.

A2.3.3 ***C (marked in grey on the plan) = trees which could be retained.***

These trees are of low quality and value, and are in adequate condition to remain until new planting could be established. They may be further sub-divided as follows:

C1) Trees not qualifying in higher categories.

C2) Groups of trees which do not form a distinct landscape feature.

C3) Trees with very limited conservation or other cultural benefits.

A2.3.4 ***R (marked in red on the plan) = trees for removal.***

These trees are in such a condition that any existing value would be lost within 10 years. This may be due to any of the following:

1) Failure is likely due to serious, irredeemable, structural defects.
2) Removal of other category R trees will render them exposed and unstable.
3) They are in serious, overall decline or are dead.
4) They are of low quality and suppressing adjacent trees of better quality.
5) Diseases are present which may affect the health of adjacent trees.

These trees should be removed or treated in such a way as to make them safe where they have high ecological value, such as in a woodland setting.

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Appendix 3: General Guidelines

A3.1 All work must be to BS 3998: 1989 '*Recommendations for tree work'*.

A3.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors. They should be covered by adequate public liability insurance.

A3.3 This report is based upon a visual inspection. The consultant shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.

A3.4 Any defects seen by a contractor or the employer that were not apparent to the consultant must be brought to the consultant's attention immediately.

A3.5 No liability can be accepted by JCA in respect of the trees unless the recommendations of this report are carried out under the supervision of JCA and within JCA's timescale.

A3.6 It is advisable to have trees inspected by an arboricultural consultant regularly. In this instance it is recommended that these inspections are made every year.

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Appendix 4: Glossary of Terms & Abbreviations

Arboriculture	The cultivation of trees in order to produce individual specimens of the greatest ornament, for shelter or any primary purpose other than the production of timber.
Canker	Disease damaged area of a tree, usually caused by fungus or bacteria.
Co-dominant Stem	A stem which has grown in direct competition to the main stem and which has formed a substantial size influencing the appearance of the tree.
Crown Lift	The removal of the lowest branches, usually to a given height. It allows more residual light and greater clearance underneath for vehicles etc.
Crown reduce	The reduction of a tree's height or spread while preserving its natural shape.
Crown thin	The removal of some of the density of a tree's crown, usually 5-25% allowing more light through its canopy and reducing wind resistance.
Deadwood	Either dead branches, or a procedure involving the removal of dead, dying and diseased branches.
Dieback	Where branches are beginning to show signs of death usually at the tips in the crown.
Epicormic shoots	Small branches that grow in uncharacteristic clusters around the base or the stem of a tree, usually as a result of bad pruning or some other stress factor.
Formative pruning	The trimming of a tree to remove weaknesses and irregularities which may lead to problems. The formative pruning operation is aimed at reducing the potential for future weaknesses or problems within the tree's crown.
Included bark	Where the bark on two adjoining branches or stems is growing tight together, forming a joint with limited physical strength.
Pollarding	A method of tree management in which the main trunk of the tree is cut at about 4m, and the resulting branches are then cropped on a regular basis.
Remedial pruning	The removal of old stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown. Sometimes referred to as crown cleaning.
RPA	Root Protection Area – Theoretical rooting area of a tree as defined in BS5837:2005 *Trees in relation to construction*.
Topping	Topping is a form of pruning that removes terminal growth leaving a 'stub' cut end. Topping causes serious health problems to a tree.

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Appendix 5: The Author's Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *FRES PDipArb (RFS) FArborA CBiol MIBiol. MICFor.* Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 28 years experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. He has since developed JCA's portfolio of services and its extensive client base. Jonathan is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Consulting Arboriculturists

Toby Thwaites *BSc (Hons), HND (Arboriculture).* Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Lancashire. Toby is a JCA team leader, is QTRA qualified and manages an office of Consulting Arboriculturists.

Andrew Bagshaw *FD (Arboriculture).* Andrew joined JCA in 2005 having gained several years experience in tree surgery and landscaping. He is trained in aerial rescue and is JCA's principal first aid person. Andrew is a JCA team leader, is QTRA qualified and manages an office of Consulting Arboriculturists. He is currently working towards a degree in Arboriculture at the University of Lancashire.

Adam Winson *BSc (Hons), ND (Arboriculture).* Adam is a Professional Associate of the Institute of Chartered Foresters and an Associate Member of the Institute of Ecology and Environmental Management. Prior to joining JCA Adam worked as a tree surgeon. During his BSc in Environmental Conservation he gained the CPRE award for best dissertation and he is currently working towards an MSc in Arboriculture and Urban Forestry.

Robert Godwin *BA (Hons) (Landscape Planning), MArborA.* Robert is a Professional Member of the Arboricultural Association and a Professional Associate of the Institute of Chartered Foresters. He has a degree in Landscape Planning & Management and has several years experience as a Consulting Arboriculturist. Robert is currently working towards an MSc in Arboriculture and Urban Forestry.

Rafael Skerratt *BSc (Forestry) FArborA.* Rafael covers the London area for JCA. He ran his own Arboricultural businesses since 1972 and is experienced in tree surveys for development, safety and subsidence purposes, and is an Expert Witness.

Arboricultural Technicians

Victoria Black *FD (Arboriculture).* Victoria has been with JCA for over 6 years building her knowledge of the Arboricultural business. She has recently obtained her foundation degree in Arboriculture at the University of Lancashire.

Andrew Bussey Andrew joined JCA having spent 12 years doing tree surgery for various private companies and a Local Authority. He has various NPTC qualifications, is QTRA qualified and is currently studying for his Arboricultural Technicians Certificate.

Toby Parsons *Tech. Arbor.A.* Toby joined JCA in 2008 after spending 6 years working as a senior climber for various Arboricultural contractors in the East Midlands and the South-West. He recently gained the Level 3 Technicians Certificate in Arboriculture, is QTRA qualified and is a member of the Arboricultural Association at Technicians level.

David Venables *BSc (Forestry).* David joined JCA in 2009 having achieved his degree at University of Wales, Bangor. David's work experience prior to joining JCA was as a Management Support Officer for the Forestry Commission at Delamere Nursery, Cheshire, where his responsibilities included carrying out health and safety inspections to ensure all sites and staff met relevant standards, assisting with the supervision of the workforce and the initiation of a GIS system for the nursery.

Administrative Staff

Andrew C Parker *GM, BA (Hons), PGCE.* Practice Manager.
Catherine Cocking Accounts Manager.
Sue Guest Administrative Officer.
Yasmin Hussain Administrative Assistant.
Simeon Haigh *BSc (Hons).* IT Officer.
Sally Whitwam Administrative Assistant.
Alec Fielden Cert. Arb. (RFS). CAD Technician.

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Appendix 6: Tree Constraints Plan

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N
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T1
T2
T3
T4
T5
T6
T7
T8

52

THE GLADE

Appendix 6:
Tree Constraints Plan

TITLE: 52 The Glade
Waterlooville
Ref: 9411/RG

SCALE : 1:200 | PAPER SIZE : A3

BRITISH STANDARD 5837:2005: 4.3.1
RETENTION CATEGORIES

Detailed definitions of these categories are at Appendix 2 of our report. N.B. These categories do not necessarily represent or correspond to recommendations for action made in this report.

	CATEGORY A: 'RETENTION MOST DESIRABLE'
	CATEGORY B: 'RETENTION DESIRABLE'
	CATEGORY C: 'TREE WHICH COULD BE RETAINED'
	CATEGORY R: 'TREE FOR REMOVAL'
	ROOT PROTECTION AREA

CENTRE OF TREE/SHRUB

CENTRE OF TREE/SHRUB TO BE REMOVED

Root Protection Area: RPA

THE ROOT PROTECTION AREA (RPA) INDICATES THE LIKELY ROOTING ZONE OF A TREE. THE RPA SHOULD IDEALLY REMAIN UNDISTURBED IF A TREE IS TO BE RETAINED.

THE DEVELOPMENT PROPOSALS SHOULD THEREFORE BE DESIGNED TO AVOID THE RPA OF ANY TREE WHICH IS TO BE RETAINED.

IF IT IS NECESSARY FOR THE DEVELOPMENT TO ENCROACH INTO THE RPA OF A TREE WHICH IS TO BE RETAINED THEN SPECIALIST CONSTRUCTION TECHNIQUES AND MATERIALS MUST BE CONSIDERED.

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Arboricultural & Forestry Consultants
Arboricultural Association Consultant

Appendix 7: Arboricultural Implications Plan

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N
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T7
T3
T5
T8
T6
T2
T4
T1
52
THE GLADE

Appendix 7:
Development Proposals

TITLE: 52 The Glade
Waterlooville
Ref: 9411/RG

SCALE : 1:200	PAPER SIZE : A3

	TREE TO BE RETAINED
	TREE TO BE REMOVED
	CENTRE OF TREE
	CENTRE OF TREE TO BE REMOVED
	ROOT PROTECTION AREA
	ROOT PROTECTION AREA ENCROACHED BY THE PROPOSED DEVELOPMENT
	PROPOSED DEVELOPMENT

JCA LTD
Arboricultural & Forestry Consultants
Arboricultural Association Consultant

I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed

.....

Robert Godwin BA (Hons), M Arbor A.

17th May 2010

For and on behalf of ***JCA Ltd***

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