IAN KEEN
LIMITED

ARBORICULTURAL REPORT

Part 1
Tree Survey
Part 2
Arboricultural Impact Assessment

RELATING TO PROPOSED DEVELOPMENT ON LAND AT

2 KEATS GROVE,
HAMPSTEAD, LONDON

Our Reference
AP/9088/WDC

CLIENT

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Part 1

TREE SURVEY

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1. Objective

1.1 To assess the condition of the trees and provide sufficient information to enable decisions to be made on planning aspects of the site and its potential development.

2. Notes

2.1 The assessment was carried out from ground level from within the site or from any adjacent public place.

2.2 The assessment has been carried out following the guidelines set out in British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.

2.3 The survey was conducted by Andrew Poynter BSc (Hons), FArborA, MICFor, MCIHort on 6th January 2016.

3. Tree Identification and Details

3.1 As annotated on the drawing. Please note that sketch drawings or drawings marked 'not to scale' are indicative only, and tree positions should not be relied upon for design or setting out.

3.2 Details of each individual tree are recorded in the Schedule of Trees at Appendix 1 of this report.

4. Site Description

4.1 Keats Grove is a residential road located west of Hampstead.

4.2 No. 2 is a four storey dwelling with a modest front garden and a rear garden that is predominately paved. At the southern end of the rear garden is a raised area and there are remnants of past foundations of some form of structure.

5. Geology

5.1 This information is obtained from the (online) 'Geology of Britain Viewer' that contains British Geological Survey materials © NERC [2016]. The geological information given in this report should not be relied upon by other parties who are advised to carry out their own assessment of the site conditions to suit their own needs.

Bedrock Geology

5.2 1:50 000 scale bedrock geology description: London Clay Formation - Clay, Silt And Sand. Sedimentary Bedrock formed approximately 34 to 56 million years ago in the Palaeogene Period. Local environment previously dominated by deep seas.

Setting: deep seas. These rocks were formed in deep seas from infrequent slurries of shallow water sediments which were then redeposited as graded beds.

Superficial deposits

5.3 None recorded.

6. General Guidance Notes for Development

6.1 These notes are provided as a guide to the designer. They represent my personal views of the tree stock, which trees should be retained and how they should be protected. The views expressed have not been subject to consultation or discussion with any other party.

6.2 If not already provided, the site designer should establish root protection areas by creating a circle around each tree with a radius of that shown in the schedule.

6.3 Ideally, building lines should be at least 2m outside the root protection area to provide working space for construction however protection measures can be taken if such clearance, in isolated cases, is not achievable. Service runs should be routed outside the root protection area. Limited use may be made for parking, drives or hard surfaces within the root protection areas, subject to advice from a qualified arboriculturist.

6.4 On residential developments consideration must be given to future tree growth and orientation, i.e. adverse shading and blocked views from windows raise concerns for incoming residents, which may lead to pressure to fell or remove trees in the future. Wherever possible arrange or orientate windows to primary rooms parallel or tangentially to tree canopies to lessen the conflict.

Signed:  **Date:** 7th January 2016

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Appendix 1

SCHEDULE OF TREES

UPON LAND AT

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Key to Schedule of Trees

Column Heading	Explanation
Tree No.	Unique number corresponding with number on plan
Species	English names
Ht (m)	Height in metres
Branch Spread	Crown radius in metres to cardinal points of the compass
Stem diameters (cm)	All measurements conform to Annex C of BS 5837:2012 Single stem - Stem diameter in centimetres measured at 1.5m above ground level. Multi-stemmed tree with 2 to 5 stems – Diameter of each stem Multi-stemmed tree with more than 5 stems – Average stem diameter and number of stems
Height of crown clearance	Height in metres between the ground and underside of canopy
Height of first major branch and direction of growth	Height from ground level to base of first major branch and the approximate direction of growth
Abbreviations as suffix to a dimension	*Suffix 'e' denotes an estimated dimension.* *Suffix 'av' denotes an average dimension*
Age class	Age Class definitions: Y = Young S = Semi-mature E = Early mature M = Mature O = Over mature
Category grading and Estimated remaining contribution (yrs)	Summary of BS 5837: 2012 categorisation: 1. Trees that do not warrant consideration for retention: U = those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management. 2. Trees to be considered for retention: A1, 2 or 3 = trees of high quality and value (substantial contribution >40 yrs) B1, 2 or 3 = trees of moderate quality and value (significant Contribution >20 yrs) C1, 2 or 3 = trees of low quality and value (but adequate, ie >10 yrs or young trees – until new planting can be established)
Estimated remaining contribution	Useful estimated remaining contribution of the tree or tree group
Condition	Brief description including physiological and structural defects
Preliminary management recommendations	Describes current arboricultural requirement for the tree in its current context
Root protection radius	Radius of minimum root protection area in metres calculated from section 4.6 and Annex D of BS5837:2012
Root protection area	Total area of minimum root protection area extrapolated from root protection radius

SURVEY OF TREES AT 2 KEATS GROVE, HAMPSTEAD, LONDON

Tree No.	Species	Ht (m)	Branch Spread (m)				Stem diameters (cm)								Height of crown clearance (m)	Height of first branch (m) and direction (compass point)	Age class	Category grading	Estimated remaining contribution (yrs)	Condition Physiological / Structural	Preliminary management recommendations	Root protection radius (m)	Root protection area sq.m
			N	E	S	W	Single Stem	2-5 stems					More than 5 stems										
								Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	Mean dia	No. stems									
1	Magnolia	11	4	3	2	6	40e								4.5	4W	M	C1	>10	Asymetric specimen with very heavy ivy coverage and located close to previous structure.		4.80	72
2	Sycamore	14	3	5	5	4	45e								5	5S	E	C1	>10	Twin stemmed from approximately 2m. Located offsite on ground that appears to be higher and behind a boundary wall in adjacent garden.		5.40	92
3	Hornbeam	12	4	3	2	3	<30ave								4.5	3.5N	S	B2	>20	Collective group value that provides screening.		3.60	41
4	Holly	5av	1av				<12								0	-	Y	C2	>10	Overgrown linear group located within adjacent property.		1.44	7
5	Liquidambar	8	3	0	0	5	12								3	3NW	Y	U	<10	Poor specimen located immediately adjacent to steps.		1.44	7
6	False Acacia	15	3	4	6	3		40e	30e						5	5S	M	C2	>10	Heavily reduced specimen with a main stem that divides at approximately 1m. Located in neighbours garden and southern stem is heavily covered in ivy.		6.00	113
7	Horse Chestnut	17	6	6	5	6	75e								3	4.5N	M	B1	>20	Prominent tree within adjacent property that has been crown reduced in the past.		9.00	255
8	False Acacia	8	7	3	2	4	25e								4	4N	S	C1	>10	Located in adjacent property and has spreading crown form, is cable braced to adjacent tree presumable to safe guard against any failure due to significant lean of stem.		3.00	28

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Part 2

IMPACT ASSESSMENT OF DEVELOPMENT PROPOSALS ON TREES

ON LAND AT

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1. Introduction

1.1 Instructions were received from Alan Genes to undertake an assessment of the impact upon or from trees of the construction of a garden room gazebo.

1.2 This assessment has been made by Andrew Poynter BSc (Hons), FArborA, MICFor, MCIHort on the 5th February 2015.

1.3 This assessment will consider the impact upon trees of implementing the proposals and, vice versa, the effect of trees upon the proposals shown on the drawings, and with reference to the documents, listed below.

1.4 Drawings upon which this assessment has been made:

Originator	Drg No	Title	Scale
Tony Oke Architect	2015/11/01 to 04 and 06	Various plans and elevation	As shown
Ian Keen Limited	9088/01	Tree Constraints Plan	1:200 @ A1
Ian Keen Limited	9088/02	Tree Protection Plan	1:200 @ A1

1.5 Documents referred to in this report:

Originator	Title/Reference
British Standards Institute	*BS5837:2012 Trees in relation to construction – Recommendations*
Trees and Design Action Group	*Trees in the townscape: A guide for decision makers*
Department for Communities and Local Government	*National Planning Policy Framework*

1.6 A tree survey was undertaken by Ian Keen Limited on the 20th January 2016. A schedule of trees was used as the basis to prepare the Ian Keen Limited Tree Constraints Plan numbered 9088/01. Shown on that drawing are root protection areas for category A, B and C trees as defined by *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.*

2. Brief Description of Proposals

2.1 The proposals seek to construct a garden room gazebo in the location of a previous patio area that has recently been removed.

2.2 Access to the garden room gazebo will be through the property.

2.3 The proposals require the removal of trees, but retains the overwhelming majority of trees on and off site.

2.4 Retaining existing trees ensures a resource of trees in places where residents and visitors alike will enjoy multiple benefits provided by the tree stock. In so doing the tree stock will be able to withstand climate change, protecting and enhancing the resources of soil, air, water, landscape, amenity value, culture and biodiversity, and increasing the contribution that trees make to the quality of life. In that respect the proposals are in line with the very latest guidance, in terms of integrating trees with built form, contained in *Trees in the townscape: A guide for decision makers* produced by the Trees and Design Action Group

2.5 The proposals do not require the removal of, nor impact upon, 'aged or veteran trees' or 'ancient woodland' as defined in the *National Planning Policy Framework*.

2.6 The retention of trees adjoining the proposals safeguards their intrinsic contribution to biodiversity, the support of biodiversity, the contribution to the landscape and ecological network, and the wide provision of ecosystem services attributable to trees.

2.7 With regard to paragraphs 2.5 and 2.6 above, combined with the new tree planting, the proposals provide sustainable development in accordance with the *National Planning Policy Framework*.

2.8 The relationship between proposals and trees is discussed further below.

3. Relationship of proposals to the trees

3.1 All trees are to be retained with the exception of the small sweet gum (5) and the magnolia (1) within the rear garden.

4. Effect upon the amenity of the trees and their surrounds

4.1 The retention of all trees surrounding the site means there is no impact upon the local landscape of the rear gardens, essentially it will be unchanged as the nearby trees will continue to provide screening.

5. Relationship of the proposal and nearby trees

5.1 The gazebo is not inhabited so shading will not be an issue, in fact it may be advantageous with the installation of sports simulators. Windows will provide natural light sufficient for the general tasks being undertaken.

5.2 It is considered the relationship between the gazebo will be acceptable and should remain so for the foreseeable future.

6. Requirements of the construction process and its relationship to the trees

6.1 Guidance within *BS5837:2012: Trees in relation to design, demolition and construction* requires us to consider the effect of the construction process upon the retained trees and the spaces in which new trees will be incorporated.

6.2 Application of *BS5837:2012: Trees in relation to design, demolition and construction,* through careful construction management, can ensure the construction process has the minimum effect upon the trees.

Protection of trees

6.3 In order to demonstrate tree protection measures during construction can be provided and implemented, a tree protection drawing that shows protection of the retained trees within, and adjoining, the application site is provided. The schemes of temporary protective measures, devised with reference to *BS5837:2012: Trees in relation to design, demolition and construction*, are achieved through adoption of the protective measures shown on the Ian Keen Limited drawing number 9088/02.

6.4 It is therefore reasonable to assume the trees can be protected and come to no harm as a result of these development proposals.

6.5 The plans supplied show the gazebo close to the southern boundary. The Tree Portection Plan shows the gazebo has moved one metre north to minimise the impact of excavations upon the retained trees.

6.6 This adjustment means the proposed gazebo is on the edge or beyond all root protection areas other than for sycamore tree 2. It will impact some $5m^2$ which equates to less than 6% of the overall root protection area, the presence of the boundary wall is likely to reduce these figures. The impact is not sufficient to have an adverse consequence for this robust tree species.

Relationship of proposed drainage, mechanical and electrical installations upon the trees

6.7 The location and route of the electrical supply should be routed outside the optimum root protection area of retained trees. The is plenty of opportunity to achieve this.

6.8 No other services installations are required.

7. Facilitative pruning

7.1 Trees 1 and 5 will be removed.

7.2 The crowns of the neighbouring trees may need to be crown lifted in due course to prevent lower branches rubbing against the structure, but this is simple routine maintenance.

8. Conclusions

8.1 The proposal to construct the gazebo requires the removal of two trees within the site.

8.2 Amenity provided by the retained trees is therefore preserved for the enjoyment of many.

8.3 Trees along the boundaries will continue their role in 'greening' the nearby gardens. From a public perception there will be no significant change in the character and appearance of the gardens .

8.4 The trees can be adequately protected during the construction phase of the works. Some minor pruning may be required in the future but the gazebo can be constructed without significant pruning.

8.5 The proposed relationship between the retained trees and the gazebo can be sustained throughout the life of the gazebo with appropriate management.

8.6. There are no arboricultural reasons to prevent this scheme going forward.

8.7 The proposals do not impact upon the special categories of trees that are given prominence within the *National Planning Policy Framework* and make provision for new tree planting as part of the ecological network. The proposals therefore accord with national planning policy.

Signed:  **Date:** 20th January 2016