

Arboricultural Implications Assessment for Land at Knowle Lane, Fair Oak

eco **urban**
ARBORICULTURAL

Ash Fraxinus excelsior Aspen Populus tremula Beech Fagus sylvatica Blackthorn Prunus spinosa Black poplar Populus nigra Box elder Acer negundo Catalpa Catalpa bignonioides Coast redwood Sequoia sempervirens Dawn redwood Metasequoia glyptostroboides Deodar cedar Cedrus deodara Douglas fir Pseudotsuga menziesii Elder Sambucus nigra False acacia Robinia pseudoacacia Field maple Acer campestre Goat willow Salix caprea Hawthorn Crataegus monogyna Hazel Corylus avellana Holm oak Quercus ilex Holly Ilex aquifolium Hornbeam Carpinus betulus Horse chestnut Aesculus hippocastanum Indian bean tree Catalpa bignonioides Japanese cedar Cryptomeria japonica Judas tree Cercis siliquastrum Lawson cypress Chamaecyparis lawsoniana Leyland cypress x Cupressocyparis leylandii Liquidambar Liquidambar styraciflua Lombardy poplar Populus nigra 'Italica' London plane Platanus x hispanica Maidenhair Ginkgo biloba Mimosa Acacia dealbata Monkey puzzle Araucaria araucana Monterey cypress Cupressus macrocarpa Monterey pine Pinus radiata Norway maple Acer platanoides Norway spruce Picea abies Oak Quercus robur Persian ironwood Parrotia persica Red horse chestnut Aesculus carnea Red oak Quercus rubra Rowan Sorbus aucuparia Scots pine Pinus sylvestris Sitka spruce Picea sitchensis Swedish whitebeam Sorbus intermedia Sweet chestnut Castanea sativa Sycamore Acer pseudoplatanus Tulip tree Liriodendron tulipifera Turkey oak Quercus cerris Walnut Juglans regia Western Hemlock Tsuga heterophylla Western red cedar Thuja plicata Whitebeam Sorbus aria Wild cherry Prunus avium Wellingtonia Sequoiadendron giganteum White poplar Populus alba White willow Salix alba Wild Cherry Prunus avium Yew Taxus baccata Ash Fraxinus excelsior Aspen Populus tremula Beech Fagus sylvatica Blackthorn Prunus spinosa Black poplar Populus nigra Box elder Acer negundo Catalpa Catalpa bignonioides Coast redwood Sequoia sempervirens Dawn redwood Metasequoia glyptostroboides Deodar cedar Cedrus deodara Douglas fir Pseudotsuga menziesii Elder Sambucus nigra False acacia Robinia pseudoacacia Field maple Acer campestre Goat willow Salix caprea Hawthorn Crataegus monogyna Hazel Corylus avellana Holm oak Quercus ilex Holly Ilex aquifolium Hornbeam Carpinus betulus Horse chestnut Aesculus hippocastanum Indian bean tree Catalpa bignonioides Japanese cedar Cryptomeria japonica Judas tree Cercis siliquastrum Lawson cypress Chamaecyparis lawsoniana Leyland cypress x Cupressocyparis leylandii Liquidambar Liquidambar styraciflua Lombardy poplar Populus nigra 'Italica' London plane Platanus x hispanica Maidenhair Ginkgo biloba Mimosa Acacia dealbata Monkey puzzle Araucaria araucana Monterey cypress Cupressus macrocarpa Monterey pine Pinus radiata Norway maple Acer platanoides Norway spruce Picea abies Oak Quercus robur Persian ironwood Parrotia persica Red horse chestnut Aesculus carnea Red oak Quercus rubra Rowan Sorbus aucuparia Scots pine Pinus sylvestris Sitka spruce Picea sitchensis Swedish whitebeam Sorbus intermedia Sweet chestnut Castanea sativa Sycamore Acer pseudoplatanus Tulip tree Liriodendron tulipifera Turkey oak Quercus cerris Walnut Juglans regia Western Hemlock Tsuga heterophylla Western red cedar Thuja plicata Whitebeam Sorbus aria Wild cherry Prunus avium Wellingtonia Sequoiadendron giganteum White poplar Populus alba White willow Salix alba Wild Cherry Prunus avium Yew Taxus baccata Ash Fraxinus excelsior Aspen Populus tremula Beech Fagus sylvatica Blackthorn Prunus spinosa Black poplar Populus nigra Box elder Acer negundo Catalpa Catalpa bignonioides Coast redwood Sequoia sempervirens Dawn redwood Metasequoia glyptostroboides Deodar cedar Cedrus

Arboricultural Implications Assessment

Land at Knowle Lane, Fair Oak

Produced by:

Barrie Draper BSc (Hons) Arb TechCert(ArborA) CertArb(RFS)

Arboricultural Consultant

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Report Date: **30 January 2023**

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1 INTRODUCTION

- 1.1 **Instruction:** I am instructed by PC Group to report on trees which could be affected by a development proposal at Knowle Lane, Fair Oak and prepare an Arboricultural Implications Assessment (AIA) to support a planning application on the site.
- 1.2 **Document disclosure:** Initially, I was provided with a topographical survey (drawing reference '7F1A - Overlaid on Original [April 2017]'). This showed the positions of the significant trees on or near the site, together with any existing buildings and any other important site features. Subsequently, I was supplied with a copy of the proposed layout, (drawing reference 'JD_116_SLO1A') showing a new site configuration.
- 1.3 **Scope of report:** All my tree observations are of a preliminary nature, with the tree survey carried out from ground level without any investigations using invasive or diagnostic equipment. I have not checked the accuracy of the positions of the trees shown on the provided plans and I have estimated all dimensions unless otherwise indicated.
- 1.4 **The Tree Plan:** This is included in Appendix 1 and is a composite drawing derived from the information provided. It shows the existing landscape features (from the land survey) in grey superimposed over the proposed site changes shown in colour. This allows the relationship between the two to be clearly seen and an appropriate analysis of the implications of the proposed site changes to be undertaken. The Tree Plan has also been annotated to show protection measures for any retained trees which could realistically be affected by the proposed development. It shows any activities in Root Protection Areas (RPAs) and any if trees are to be removed, they are shown with a red dashed crown outline.
- 1.5 **Ecological issues and statutory tree protection:** Providing guidance on ecological issues is not within my sphere of expertise. However, trees and other vegetation can often provide nesting, roosting and feeding opportunities for protected species. Therefore, before any tree work proceeds on site, I advise that appropriate advice is sought to see whether the trees to be removed are being utilised by any protected species. At the time of writing, I have made no checks to ascertain whether any of the trees discussed are covered by tree preservation orders, or if the site is located within a conservation area. Therefore, any person intending to carry out any operations involving trees (before a formal planning consent is issued) should consult the council before any such works are undertaken.

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- 1.6 **Qualifications and experience:** This report is based on my site observations and I have come to my conclusions in the context of my experience as a former local government tree officer and a private practice arboricultural consultant. I have qualifications in both arboriculture and forestry and details of these, together with a career summary are provided in Appendix 4.
- 1.7 **Relevant background information:** This report is an updated version of an earlier document (ecourban reference '181109- AIA 2') which has been revised following changes to the proposed site layout and the submission of a new planning application.

2 SITE VISIT, DESCRIPTIONS, OBSERVATIONS AND SURVEY METHODOLOGY

- 2.1 **Site visit and description:** I visited the site most recently on 15 November 2022 to update a previous tree survey from January 2020. The site is located in Knowle Lane, which is situated to the east of the village of Fair Oak and consists of a piece of unused land to the east of an office development. A site access road and areas of hard standing are already in situ and there are a small number of oak and ash trees located on the northern site boundary.
- 2.2 **Description of proposed development:** This development proposal is for the 'construction of 4 general industrial buildings (B2) containing 15 separate units, including landscaping, parking and associated works following site clearance and preparation'.
- 2.3 **Soil assessment:** British Standard (BS) 5837:2012 Trees in relation to design, demolition and construction – Recommendations advocates that a soil assessment should be carried out to inform decisions relating to Root Protection Areas (RPAs), tree protection, new planting and foundation design. I have consulted the British Geological Survey (BGS) website and their Geology Viewer and this advises that the bedrock geology for the site is Whitecliff Sand Member - Sand. I did not undertake any excavations on site to confirm this and a full geotechnical site investigation may need to be undertaken to provide a more in-depth level of information regarding soil type for the site.
- 2.4 **Tree survey methodology:** My inspection of the trees was visual and did not involve any climbing or exploratory investigations. During my visit, I identified individual trees and obvious groups where this was appropriate and I assigned an identification number to each, as shown on the plan in Appendix 1. I then collected the tree data included in Appendix 2 and placed the vegetation in one of four categories (U, A, B or C), as set out in British Standard (BS) 5837:2012. I have included the BS categorisations in Appendix 3 for easy reference. Where of relevance, I also estimated the crown spreads for each tree/group at the appropriate cardinal compass points and this information is also shown in the tree schedule in Appendix 2. Any significant visible structural defects or physiological conditions identified, together with preliminary tree works, are also noted in the appropriate columns in the tree schedule.

3 ARBORICULTURAL IMPLICATIONS ASSESSMENT

3.1 **Introduction to the implications of the development proposal on trees:** BS 5837:2012 sets out in some detail how trees on development sites should be managed. It is usually accepted amongst arboriculturists that Category A (high quality) and Category B (moderate quality) trees are potential constraints on any development proposal, whereas vegetation belonging to Category C (low quality) is considered to be generally less important. Category U trees/hedges are in such poor condition that they are considered unsuitable for retention. This is because they cannot realistically be retained as living entities in respect of the current land use for longer than 10 years. Therefore, these can be effectively discounted in the context of a planning application. A total of nine individual trees/groups are discussed in this report and these were assigned to the BS 5837:2012 categories, as set out in Table 1 below:

Category A and B trees	Category C trees	Category U trees
No trees, groups and hedges were rated Category A or B	A total of one group (G9) was rated Category C	A total of eight trees/groups (G1, T2, T3, T6, T7, G8, T10 and T11) were rated Category U

Table 1: Tree numbers and BS categories

No Category A or B trees were recorded during my survey and I have therefore confined my views on the tree issues to the Category C and U trees on or near the site. Of the total of nine trees/groups discussed in this report, all are scheduled to be removed because of their poor condition and to provide space for potential new tree planting. I have set out my brief views on the site tree issues in the following paragraphs.

3.2 **Direct implications of the development proposal – Tree removals**

- 3.2.1 **BS Category C and U trees:** All the trees discussed in this report are located on the northern site boundary and positioned so that they do not interfere with the proposed site redevelopment plans. Nonetheless, given their quality, I feel that it would be sensible to accept their loss, so as to provide space for significant and much needed new tree planting. However, even dead or declining trees have the potential to be of value from an ecological perspective. Consequently, it is proposed that the stems of the trees to be felled are left at a minimum of 2-3m in height and allowed to decay so as to potentially provide some valuable deadwood habitat over time.

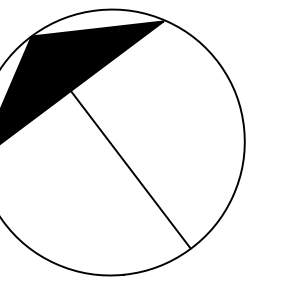
Indicative new tree planting positions are shown on the landscape layout plan prepared by UBU Design (drawing reference '3046-GA-001') and submitted to the council under a separate cover. Provided careful consideration is given to ultimate size and arboricultural attributes, then the new tree planting could deliver a sustainable and interesting treescape for incoming site users. After discussion with all interested parties, the final tree planting details could be secured and reviewed by the council by way of a suitably worded planning condition attached to any subsequently issued planning consent.

Barrie Draper BSc (Hons) Arb TechCert(ArborA) CertArb(RFS)
Arboricultural Consultant

Date: **30 January 2023**

Appendix 1: Tree Plan

1 A1 plan



Indicative
North



ECO 4 - TREE ISSUES - LAND AT KNOWLE LANE, FAIR OAK

SCALE: 1:200 @ A1

T1
xxx

BS Category C: Trees
of low quality

T1
xxx

BS Category U: Trees
unsuitable for retention

Trees to be removed

COMPOSITE PLAN:
LAND SURVEY OUTLINED IN LIGHT GREY,
PROPOSED DEVELOPMENT SHOWN IN COLOUR

This drawing was originally produced in colour, therefore any subsequent monochrome photocopies may not show appropriate levels of detail and should not be relied upon for the purposes of dealing with site tree issues

Appendix 2: Tree Schedule and Inventory

Background fill colour represents BS 5837:2012 categories: A Category trees have green backgrounds, B Category trees have light blue backgrounds, C Category trees have grey backgrounds and U Category trees have red backgrounds.

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m²)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems												
					1	2	3	4	5		Mean stem dia. (cm)	No. of stems	N	E	S	W							
G1	Oak and hawthorn	12	69	* Lgst	-	-	-	-	-	-	-	-	2	7	-	-	3	M	Closely spaced trees. Oak dying, hawthorn is small in size with canopy symptoms indicating declining vitality.	Maintain hawthorn, cut oak tree to minimum 2m in height leaving high stump.	U	215	8.3
T2	Ash	11	-	-	29	34	-	-	-	45	-	-	4	-	5	4	3	MA	Twin stemmed with tight fork. Canopy symptoms indicating declining vitality.	Cut tree to minimum 2m in height leaving high stump.	U	90	5.4
T6	Oak	10	-	-	53	64	-	-	-	83	-	-	-	-	-	-	-	-	-	Cut tree to minimum 2m in height leaving high stump	U	312	10.0
T7	Oak	16	-	-	43	54	40	-	-	80	-	-	4	-	3	5	4	M	Dying.	Cut tree to minimum 2m in height leaving high stump	U	288	9.6
G8	Oak	14	-	* Lgst	33	38	59	-	-	78	-	-	4	-	5	5	4	M	Dying.	Cut tree to minimum 2m in height leaving high stump	U	272	9.3

Appendix 2: Tree Schedule and Inventory

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m²)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems												
					1	2	3	4	5		Mean stem dia. (cm)	No. of stems	N	E	S	W							
G9	Oak and ash	15	68	* Lgst	-	-	-	-	-	-	-	-	6	-	4	5	5	M	Declining. Extensive patches of dead bark on ash. Ash Cat U.	Cut trees to minimum 2m in height leaving high stump	C1 /U	209	8.2
T10	Ash	14	57	-	-	-	-	-	-	-	-	-	3	-	4	3	5	MA/M	Dying.	Cut tree to minimum 2m in height leaving high stump	U	147	6.8
T11	Ash	14	-	*	37	38	40	-	-	66	-	-	5	-	2	3	4	MA/M	Multi stemmed with <i>Inonotus hispidus</i> infection noted previously. Declining.	Cut tree to minimum 2m in height leaving high stump	U	200	8.0

Abbreviations:

Abbreviations	Meaning	Abbreviations	Meaning	Abbreviations	Meaning
T	Individual tree	M	Mature	>	More than
G	Groups of trees	MA	Maturing	<	Less than
H	Hedge	Y	Young	Lgst	Largest tree diameter within group
W	Woodland	RPA	Root Protection Area	Avg	Average tree diameter within group

Appendix 2: Tree Schedule and Inventory

Tree Schedule Notes:

Tree number	Assigned during the site visit and also referenced on the plan in Appendix 1.
Species	Common name and referenced to scientific name in the above list. Where I have some doubt over the actual tree species, the genus will have been noted followed by sp. Where trees are numerous and present in groups, not every individual species may have been noted.
Height	Measurement of total tree height using a laser hypsometer to nearest metre or where clear line of site is not possible then an estimate based on interpolation of heights of nearby measured trees.
Stem diameters	Measurement of stem diameter either at 1.5m above ground (or in accordance with BS guidance where trees have multiple stems) with a forester's girth measuring tape. Diameters followed by asterisk symbol indicate estimated diameters because of access difficulties, presence of ivy or other obstructions. Where trees are present in a group, the tree with the largest stem diameter within the group will have been measured/estimated.
Est. Dia.	Estimated diameters due to access restrictions are indicated with an asterisk
Branch spread	Where appropriate and where ground conditions allow, an estimate of the crown spread at each of the cardinal compass points. Where only part of the site is affected by trees, measurement may be in one or two directions only
Existing height above ground level	Distance in metres to first significant branch or canopy or a height above which crown lifting operations would not be appropriate
Age class	Simplistic estimate of tree age in one of FOUR categories (young, maturing, mature or over mature).
Notes	Although this document is not intended to be a full and detailed report on tree health and safety, any significant structural defects or physiological conditions have been identified where these were visible. Where no entries are recorded, this indicates no observable issues were identified. Where there is restricted access to the base of a tree, its attributes are assessed from the nearest point of access. Climbing inspections are not carried out during a walkover tree survey and, if heavy ivy is present, tree condition is assessed from what can be seen from the ground.

Appendix 2: Tree Schedule and Inventory

Management proposals	<i>The inspection of all trees was of a preliminary nature and only defects visible from the ground have been identified. Each individual tree may not have been inspected closely because of access difficulties and only defects visible from the inspection point have been identified. Monitoring may be indicated where tree risk can be adequately managed by increased frequency of site inspections. Further investigation may be indicated where additional data may be required beyond a purely visual assessment. However, a full post development tree inspection is recommended to establish that the trees retained during construction pose acceptable levels of risk once the development has been completed.</i>
BS 5837 :2012 Category	<i>Either U, A, B or C based on the BS 5837:2012 guidance.</i>
RPA and RPA radius	<i>RPA and RPA radius calculations have been undertaken in accordance with the guidance set out in BS 5837:2012.</i>

Tree Inventory:

Common Tree Names	Scientific Tree Names		Common Tree Names	Scientific Tree Names
Ash	<i>Fraxinus excelsior</i>		Oak	<i>Quercus robur</i>
Hawthorn	<i>Crataegus monogyna</i>			

Appendix 3: BS 5837:2012 – Assessment Categories

TREES FOR REMOVAL				
Category and definition	Criteria			Identification on plan
<u>Category U</u> Those 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	• 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 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
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	Criteria — Subcategories			Identification on plan
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
<u>Category A</u> 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
<u>Category B</u> 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 remediable 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
<u>Category C</u> 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: Qualifications and Experience of Barrie Draper

- 1 Qualifications:** I have a BSc degree (with Honours) in Arboriculture from the University of Central Lancashire. I also hold a BTEC Higher National Diploma (HND) in Forestry (Lowland Management), the Arboricultural Association's Technician's Certificate in Arboriculture (Tech Cert), the Royal Forestry Society's Certificate in Arboriculture (Cert Arb) and the National Examinations Board Certificate in Forestry.

- 2 Career experience:** I began my arboricultural career in 1993 as an arborist with Portsmouth City Council. During my time with the council I worked for both the direct labour organisation and for a private contractor where I obtained valuable hands on experience in all aspects of arboriculture. From 1999 to 2002 I was employed as Senior Arborist by Parchment Housing Group, a housing association based near Portsmouth. I managed the Groups' tree stock on their behalf, carrying out tree inspections and practical management operations. I have also worked in local government, spending time with Thurrock Borough Council in Essex where I was the Tree and Landscape Officer, and with Winchester City Council, where I was Arboricultural Officer for a period of 2 years. During my time working in local government, I was responsible for making Tree Preservation Orders, administering applications to work on protected trees and advising on planning applications when trees were considered material constraints on development. Working within a planning environment allowed me to gain valuable experience in the management of trees in development situations and an understanding of the planning process and how it relates to trees. From January 2005 I worked for Barrell Tree Consultancy Ltd advising clients on a wide range of tree related issues. I left the company in September 2008 and set up **ecourban** ltd.



ecourban ltd, 13 The Greencroft, Salisbury SP1 1JD

T: 01962 877 397 M: 07532 373 563 E: barrie@eco-urban.co.uk

W: www.eco-urban.co.uk