Merewood
Arboricultural Consultancy Services

Arboricultural ASSOCIATION
Professional Member
No. PRO 1047

Arboricultural Implications Assessment for a proposed development at Land at and adjacent to Streamside Harpers Road Ash Rev A

Client: Bourne Homes Ltd
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Prepared by
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Date
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1.0 Introduction

1.1 Instruction

1.1.1 I am instructed by Bourne Homes to undertake an Arboricultural Survey at Land at and adjacent to Streamside Harpers Road Ash. I am also instructed to assess the likely impact of development proposals and produce an Arboricultural Method Statement detailing how trees shall be protected from the proposed construction activity.

1.1.2 The proposals seek to re-develop the halves of the site. The southern side of the site (Streamside) will include the demolition of the existing house and the erection of 16 dwellings including a block comprising 2 no. 1-bed flats and a 2-bed semi-detached house; 2 no. 2-bed semi-detached houses; 4 no. 3-bed semi-detached houses and 3 no. 3-bed detached houses.

1.1.3 The development of the northern side of the site includes the erection of 8 dwellings including 1 no. 2-bed semi-detached house; 3 no. 3-bed semi-detached houses; 1 no. 3-bed detached house and 3 no. 4-bed detached houses. The proposals seek to create a new access off Harpers Road.

1.1.4 A full description of the proposal accompanies the planning application.

1.2 The Site

2.1 Land at and adjacent to Streamside Harpers Road Ash includes two formerly separate areas of land. To the south side of the plot there are open fields whilst to the north end of the plot there is an area of scrub vegetation and trees. The plots are separated by a belt of native woodland.

2.2 Harpers Road is a country lane running in a roughly north-south direction, just to the west of the village of Ash, east of Aldershot Town centre. The surrounding area is rural, including agricultural use with a low density of houses and other buildings.

2.3 The topography of the site is a little uneven. The northern end of the site rises gently uphill whilst a stream with steep banks runs roughly west to east across the middle of the site.

1.2.1 It has been established at the time of the survey that the trees on north side of the plot are covered by a Tree Preservation Order (Guildford BC TPO 3 2017). If any works to protected trees are proposed, other than the removal of dead wood or the implementation of operations agreed as part of a formal planning consent, a formal application must be submitted and approved by the Local Planning Authority before such works can be carried out.

1.3 Survey date

1.3.1 The trees at Land at and adjacent to Streamside Harpers Road Ash were

surveyed on Wednesday, February 2nd, 2022.

1.4 Scope and Purpose of the report

1.4.1 The tree survey and assessment of existing trees has been carried out in accordance with guidance contained within British Standard B.S. 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' (hereafter referred to as B.S. 5837). The guidelines set out a structured assessment methodology to assist in determining which trees would be deemed either as being suitable or unsuitable for retention.

1.4.2 The purpose of this report therefore is therefore to firstly, present the results of an assessment of the existing trees' arboricultural value, based on their current condition and quality and to secondly, provide an assessment of impact arising from the development of the site.

1.4.3 The report is designed to support a planning application for development proposals at the above site. The survey has therefore focused on any trees present within or bordering the site that may potentially be affected by the future proposals or will pose a constraint to any proposed development

1.5 Documents referred to

1.5.1 The tree survey and this report have been prepared with reference to the following documents:
The existing site plan
The proposed site layout plan
The schedule of tree constraints (appendix 1)
The plan of tree constraints
The arboricultural method statement dated 20/11/23 (see separate document).

2.0 Results

2.1 Results summary

2.1.1 Appendix 1 presents details of the individual trees and groups found during the assessment including heights, stem diameters and rpa's, crown spread (normally measured to cardinal points unless otherwise indicated), an indication of physiological and structural condition, age class, any appropriate management recommendations, estimated life expectancy and a BS5837 category of quality.

2.1.2 The survey has recorded 79 trees, of which 0 are rated category 'A', 43 are rated category 'B'; 26 are rated category 'C' trees; and there are 10 category 'U' trees and stumps. The survey has not included all the trees within the woodland in the centre of the site.

3.0 Arboricultural Impact Assessment

3.1 Overview

Development activity	Potential impact	Consequence	Mitigation
Delivery of materials to the site Plant machinery accessing the site	Soil compaction and erosion	Root damage and die back limiting the ability of the tree to take up water and nutrients	Create construction exclusion zones (CEZ's) by the erection of barrier fencing
Storage of materials on the site	Leachate from chemical based products contaminating soil	Roots die back and soil becomes contaminated inhibiting future root recovery	Provide a dedicated area for the storage of materials following delivery away from root protection areas.
Distribution of materials about the site	Damage to branches or bark due to careless handling	Wounding of the bark can lead to infection from wood decay pathogens	Erect barrier fencing that takes account of branch spread as well as roots
Foundation excavation for the walls	Severing of roots	Root damage and die back limiting the ability of the tree to take up water and nutrients. Crown die back Death of the tree	Where excavation is within the root protection areas (RPA's), use a lintel to bridge over roots
Creation of additional parking spaces	Severing of roots	Root damage and die back limiting the ability of the tree to take up water and nutrients	Use a cellular confinement product to form a 'no–dig' driveway
Mixing of cement, plaster, etc.	Leachate from chemical based products contaminating soil	Roots die back and soil becomes contaminated inhibiting future root recovery	Provide a dedicated area for mortar mixing (etc.) with a suitably thick plastic (impermeable) membrane to prevent chemicals leaching. Provide a spare reservoir of water close by to wash away spillages
Contractor parking	Soil compaction and erosion	Root damage and die back limiting the ability of the tree to take up water and nutrients	Provide dedicated area for contractor parking away from RPA's

Fig 1. Typical construction site activity likely to affect trees

3.2 Proposed tree works

3.2.1 The development to the south side of the site requires the removal of a flowering cherry (T77), a category 'C' tree.

3.2.2 The development to the north side of the site requires the removal of 10 ash trees (T23, T24, T39, T40, T41, T43, T44, T50, T51 and T79); 4 oak trees (T25, T42, T53 and T54).

3.2.3 Out of all of these trees, 3 are category 'B' trees and 11 are category 'C' trees.

3.2.4 All category 'U' trees are to be removed as a matter of good arboricultural practice, which is considered separate from the development proposals.

3.3 The Impact of Accessing the Site

3.3.1 The movement of machinery (and pedestrians) around a site has the potential to impact on soil.

3.3.2 Healthy soil is made up of different sized particles with air spaces between those particles. It is these air spaces that help with drainage of rainwater through the soil, removing carbon dioxide and replenishing oxygen thereby allowing roots to breathe. Fine roots are able to grow into these voids, gradually expanding over time as they grow larger, but where soil has become compacted growth is inhibited and roots can die.

3.3.3 Vehicles accessing the site could compact soil and destroy the layered structure, especially of topsoil. Other site activities including the movement of plant machinery (dumper trucks, excavators, cranes, forklifts and pedestrian movements) also contribute to soil erosion and compaction.

3.3.4 In order to ensure that trees which are to be retained maintain enough volume of soil around their roots to stay healthy (the calculated RPA), protective fence barriers must be erected.

3.3.5 Root Protection Areas should be considered Construction Exclusion Zones (CEZ's) which should be treated as sacrosanct. Activity within the CEZ is to be forbidden unless previously agreed with the Consulting Arboriculturist and in agreement with the Local Planning Authority.

3.3.6 The tree protection plan (Appendix 2) shows where fencing is to be erected prior to the commencement of works on the site.

The erection of protective fencing barriers and the recommended type of barrier is addressed in the Arboricultural Method Statement – section 3.3.

3.3.7 Where root protection areas unavoidably overlap areas of site activity (for example an access road within the site) and protective barriers cannot be used to their full extent, a no dig driveway will be installed as a means to protect the upper layers of soil and to minimise the impact of such activity. In accordance with best practice, the no-dig driveway will have an additional 'sacrificial' layer laid on top during the construction process.

The installation of the no-dig driveway is addressed in the Arboricultural Method Statement – section 3.4.

3.3.8 Where working space is required to meet Health and Safety requirements and these overlap the RPA's, ground protection will be used to provide a protective layer for pedestrians and light plant machinery such as wheelbarrows.

The installation of ground protection is addressed in the Arboricultural Method Statement – section 3.5.

3.4 Changes to soil levels

3.4.1 There are no significant changes to the levels across the site.

3.4.2 Soil stripping (the removal of the topsoil layer) is a pre-commencement activity that has the potential to impact on retained trees. Topsoil within RPA's is to remain undisturbed to maintain the heath of the trees.

3.4.3 If removed topsoil must be held temporarily on the site, this must remain outside the RPA's of trees to be retained. No topsoil is allowed within these construction exclusion zones.

3.5 The Impact of Demolition

3.5.1 The proposals require the demolition of the existing house to the south of the site and associated structures before other works can begin on the site. The movement of plant machinery around these buildings and the movement of hardcore arisings to a suitable holding area has the potential to cause soil compaction and branch damage.

3.5.2 The tree protection plans show that there is enough space for machinery to be able to manoeuvre without coming into contact with the crown spreads of trees. Where it is not practicable to maintain tree protection measures for the demolition of a structure (in whole or in part), the protective fencing shall be temporarily dismantled and the demolition undertaken by hand as far as possible or using a machine working with a long arm to enable the machine to remain outside of the RPA of the trees.

Demolition procedures are outlined in the Arboricultural Method Statement – section 3.6.

3.6 The Impact of Excavations

3.6.1 The proposed houses are located outside the RPA's of trees to be retained, other than a very small encroachment of the footprint of the houses and the associated cycle stores onto the RPA's of the oaks (T49) and (T55) and the ash (T65). These slight encroachments are so small that they are of no consequence. Furthermore the removal of hard standing areas and the masonry wall will improve the rooting conditions for T66.

3.6.2 The excavations of the foundations (whether a strip foundation or a pile foundation is used) will not otherwise impact on the RPA's.

3.6.3 The services and drains have not yet been detailed. Normally service trenches connecting with new houses would be routed beneath the driveways of the houses and it can be seen from the tree protection plan that this will be easily

achieved in most cases.

3.6.4 Where a cellular confinement system has been installed, the routing of services has been designed to avoid these areas. This affects the houses to the south end of the northern half of the site. The solution provided is to route the services to the north of the cellular confinement area within the driveway in front of the houses.

3.6.5 If necessary a planning condition requiring the details of the routing of services can be put into place to ensure this is so.

3.7 The Impact of Construction Site Activities

3.7.1 The primary activities (likely to affect trees) concerning the actual construction of the houses once foundations are complete will include the delivery and storage of materials, the mixing of mortar or plaster, the movement of materials around the site and welfare for construction workers.

3.7.2 It is clear that with a site this size, there is plenty of space for the delivery and storage of materials and for general site activity.

3.7.3 Site offices and welfare huts can be located at the main entrance of the site, well away from any retained trees.

3.7.4 Deliveries will be made by means of the new driveways. Materials are to be set down in the designated area to the sides and front of the houses where they can either remain in situ until needed or be brought under cover if necessary (cement dust or plaster bags for example would need protecting from the elements).

3.7.5 The driveway areas to the front of the houses are to be used for the storage of hazardous chemicals and petrochemical products and will also provide a suitable area for mortar mixing in line with COSHH regulations to ensure there is no detrimental effect on trees.

The mixing of cement and cleaning of tools is addressed in the Arboricultural Method Statement – section 3.8.

3.8 The Impact of Trees on the Development

3.8.1 The layout of the scheme has been designed so as to leave the houses unaffected by the proximity of trees, keeping issues such as excessive over shading out of the picture.

3.8.2 The scheme incorporates the significant trees including the oak (T49) and the woodland halfway down the site into the design to create communally shared features that accrue benefit to all future occupiers

3.8.3 The houses are far enough away from trees for there to be no other issues arising from this perspective.

3.9 Issues to be addressed by the Method Statement

3.9.1 The Method Statement will address the following issues

- Tree removal
- Installation of protective fencing
- Installation of ground protection
- Building site activities
- Cement mixing

3.10 Summary

3.10.1 The proposed houses can be built with minimal impact in their surrounds. Full provision can be made for the protection of existing trees to ensure their continued viability following the completion of construction works.

Simon Hawkins Dip Arb L6 (ABC), ND Arb, MArborA

Appendix 1 - Tree Survey Methodology

1. The ground level survey of the trees has been carried out in accordance with the criteria set out in Chapter 4 of B.S 5837. The survey has recorded information relating to all those trees within the site and those adjacent to the site which may be of influence on the proposals.
2. The purpose of this report is to modify the recommendation found in the tree constraints schedule for the future use of this site. Where applicable, trees with significant defects have been highlighted and appropriate remedial works have been recommended. However, this report should not be seen as a substitute for a full *Safety Survey* or *Management Plan* which are specifically designed to minimise risk and liability associated with the responsibility for trees. No climbed inspections or specialist decay detection were undertaken.
3. Evaluation of tree condition within the assessment applies to the date of survey and cannot be assumed to remain unchanged. It may be necessary to review these within 12 months in accordance with sound arboricultural practice as recommended by the National Trees Safety Group guidance 'Common Sense Risk Management for Trees'.
4. Trees have been divided into one of four categories based on Table 1 of B.S.5837, '*Cascade chart for tree quality assessment*'. For a tree to qualify under any given category it should fall within the scope of that category's definition.

Category U - Red	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.
Category A - Green	**Those trees of the highest quality and value**: in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).
Category B - Blue	**Trees of moderate to high quality and value**: in such a condition as to be able to make a significant contribution (a minimum of 20 years is suggested).
Category C - Grey	**Trees of low quality and value**: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter of below 150mm
Subcategory 1 concerns mainly arboricultural values, how good a specimen is in terms of form and physiological condition; the value of a tree as a component in a group or in a formal or semi-formal arboricultural feature such as an avenue.	
Subcategory 2 concerns mainly landscape values and considers the importance of a tree or group of trees as an arboricultural or landscape feature. Trees present in larger numbers, such as woodlands for example may attract a higher rating than they would as individuals because of their collective value.	
Subcategory 3 concerns mainly cultural values including conservation, historical, commemorative, or other value such as veteran or wood pasture.	

5. RPA's of single stemmed trees are calculated according to the following formula:
   RPA radius = 12 x stem diameter (measured at 1.5m above ground level)
6. Where a tree has more than one stem, the equivalent single stem diameter is usually recorded. This is calculated by adding the squares of the stems and then finding the square root of the total. The radius of the RPA is then calculated by multiplying the equivalent stem diameter by 12 (ref B.S. 5837:2012 para 4.6.1). Where access is restricted an estimate of the stem diameter is provided and this is indicated in the appropriate column.

Appendix 2
Schedule of tree constraints

Tree no	Species	Height	Stem diameter	Crown spread				Physiological condition	Structural condition	Age	General observations	Life expectancy	Category
				North	South	East	West						
T1	Oak	17	640	7	6	5	7	G	G	M		40+	B1 + B2
T2	Oak	18	600	8	5	3	6	G	G	M		40+	B1 + B2
T3	Oak	18	290	3	2	1	1	G	G	M		40+	C
T4	Oak	17	470	1	7	1	5	G	G	M		40+	B2
T5	Oak	21	1110	2	9	3	8	G	G	M		40+	B1 + B2
T6	Oak	21	680	3	8	6	5	F	G	M		40+	B1 + B2
T7	Oak	21	580 510	2	4	4	7	G	G	M		40+	B1 + B2
T8	Oak	20	570	2	2	2	3	F	G	M	Ivy smothering main stem	40+	C
T9	Oak	19	770	3	3	1	3	F	G	M		40+	B2
T10	Oak	19	710	3	4	4	3	F	G	M		40+	B2
T11	Oak	18	490	0	7	0	4	F	G	M		40+	C
T12	Oak	19	590	5	5	3	4	G	G	M		40+	B1 + B2

Tree no	Species	Height	Stem diameter	Crown spread				Physiological condition	Structural condition	Age	General observations	Life expectancy	Category
				North	South	East	West						
T13	Ash										Storm damaged –stump remaining		U
T14	Ash	13	470 410	5	0	0	8	G	F	M	Bark damaged by horses grazing	20 - 40	B2
T15	Ash	19	360 470 390 420 320	6	6	7	8	G	F	M	Bark damaged by horses grazing	40+	B1 + B2
T16	Oak	14	650	5	4	0	8	G	F	M		40+	B2
T17	Ash	18	690 380	3	7	4	7	G	F	M		40+	B1 + B2
T18	Field maple	-	-	-	-	-	-	-	-	-	Tree has fallen over	-	U
T19	Stump	-	-	-	-	-	-	-	-	-	-	-	U
T20	Hawthorn										Storm damaged –stump remaining		U
T21	Hawthorn	8	420	2	1	1	3	F	F	M		20 - 40	C
T22	Ash	20	430	4	3	3	4	G	G	M		40+	B2
T23	Ash	17	370	1	1	0	7	F	F	M	Large deadwood appearing in crown	10 - 20	C
T24	Ash	20	450	4	2	1	8	G	G	M		40+	B2

Tree no	Species	Height	Stem diameter	Crown spread				Physiological condition	Structural condition	Age	General observations	Life expectancy	Category
				North	South	East	West						
T25	Oak	21	640	9	3	5	3	G	G	M		40+	B1 + B2
T26	Oak	-	-	-	-	-	-	-	-	-	Dead	-	U
T27	Ash	20	580	8	6	4	5	F	G	M	Ivy smothering main stem	40+	B1 + B2
T28	Oak	19	540	3	3	6	2	G	F	M	Ivy smothering main stem	40+	B1 + B2
T29	Oak	18	520	2	4	2	3	G	G	M		40+	B2
T30	Ash	18	500	4	2	2	4	F	G	M		40+	B2
T31	Oak	17	310	1	0.5	0.5	0.5	F	F	M		40+	C
T32	Oak	17	390	2	1	2	0.5	F	F	M		40+	B2
T33	Ash	17	440	2	1	2	2	F	G	M	Ivy smothering main stem	40+	B2
T34	Oak	20	700	4	3	5	4	G	G	M		40+	B1 + B2
T35	Ash	19	220	0.5	0.5	0.5	1	F	F	M/A		40+	C
T36	Oak	20	760	7	4	5	3	G	G	M		40+	B1 + B2

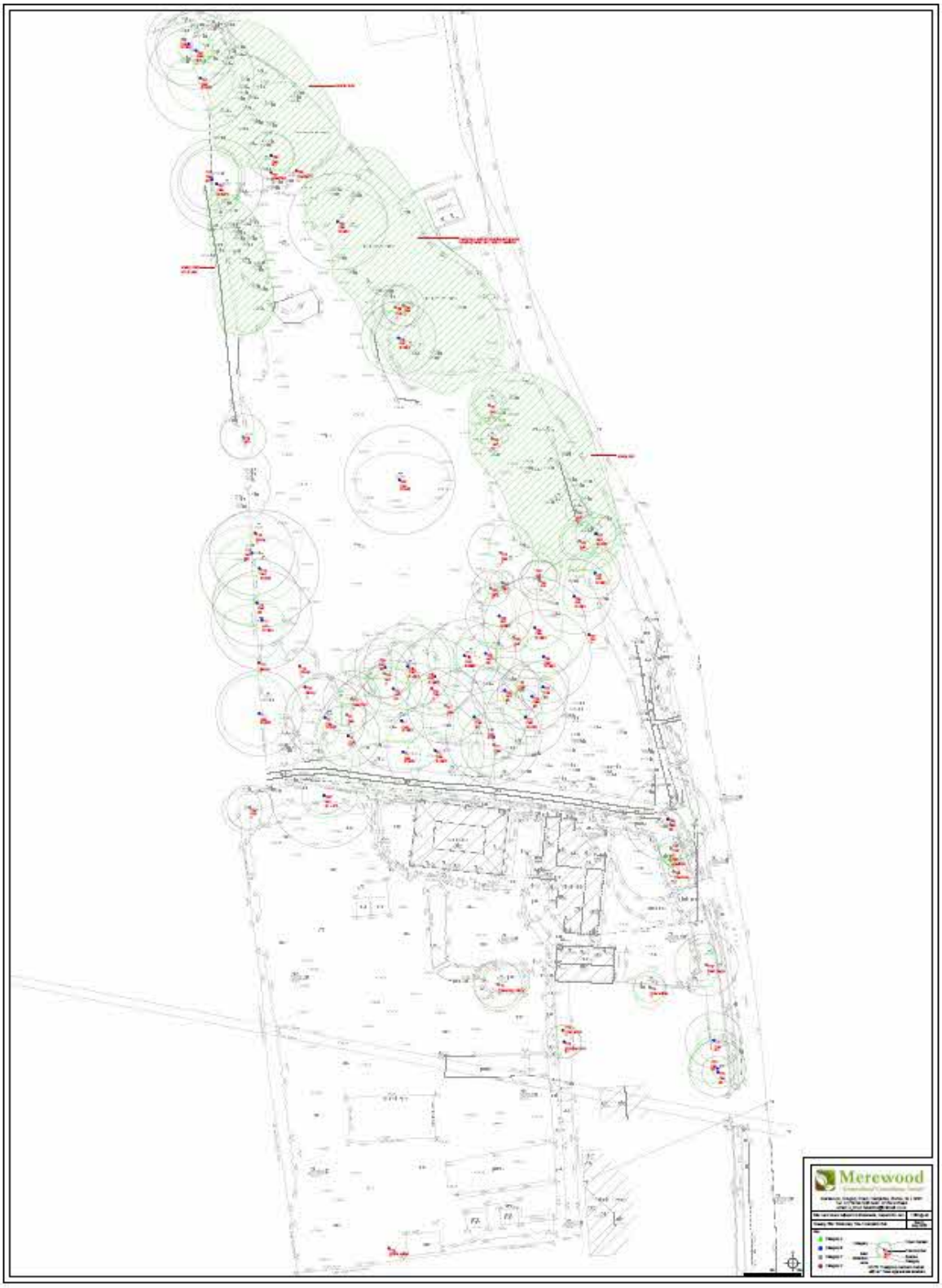
Tree no	Species	Height	Stem diameter	Crown spread				Physiological condition	Structural condition	Age	General observations	Life expectancy	Category
				North	South	East	West						
T37	Ash	-	-	-	-	-	-	-	-	-	Tree has uprooted	-	U
T38	Ash	19	560	5	3	6	2	G	G	M		40+	B1 + B2
T39	Ash	19	490	5	2	3	3	G	G	M		40+	B1 + B2
T40	Ash	19	270	3	1	2	1	F	F	M		40+	C
T41	Ash	18	180	2	0	2	0	F	F	M		40+	C
T42	Oak	18	390 290	5	1	4	2	G	P	M	V-shaped fork at base creating a weak union	40+	C
T43	Ash	16	260	6	0	4	0	F	F	M		40+	C
T44	Ash	18	300	5	0	3	1	F	F	M		40+	C
T45	Ash	17	380	3	3	3	2	G	G	M/A		40+	B1 + B2
T46	Ash	16	200 210	3	3	3	3	F	P	M/A	Tightly forked union of stems	40+	C
T47	Ash	15	300	3	2	4	2	G	G	M/A		40+	B1 + B2
T48	Ash	8	160	3	3	2	0	G	G	M/A		40+	C

Tree no	Species	Height	Stem diameter	Crown spread				Physiological condition	Structural condition	Age	General observations	Life expectancy	Category
				North	South	East	West						
T49	Oak	20	820	5	6	9	8	G	G	M		40+	B1 + B2
T50	Ash	16	160	4	1	3	3	F	F	M/A		40+	C
T51	Ash	16	210	3	3	3	3	F	F	M/A		40+	C
T52	Ash	18	550	5	6	4	5	F	F	M		40+	B1 + B2
T53	Oak	10	340	4	1	3	2	G	G	M/A		40+	C
T54	Oak	7	310	0	0.5	2	0	G	G	M/A	Ivy smothering main stem	20 - 40	C
T55	Oak	16	730	6	5	9	6	G	G	M		40+	B1 + B2
T56	Hawthorn	-	-	-	-	-	-	-	-	-	Tree has uprooted	-	U
T57	Hawthorn	-	-	-	-	-	-	-	-	-	Dead	-	U
T58	Oak	12	340	4	3	4	2	G	G	M		40+	B2
T59	Oak	16	620	4	5	2	6	G	G	M		40+	B1 + B2
T60	Oak	16	580	4	2	3	3	G	G	M		40+	B2

Tree no	Species	Height	Stem diameter	Crown spread				Physiological condition	Structural condition	Age	General observations	Life expectancy	Category
				North	South	East	West						
T61	Oak	16	630 480	4	6	6	6	G	G	M		40+	B1 + B2
T62	Oak	16	450	6	4	6	0	G	G	M		40+	B2
T63	Oak	16	680	7	6	4	7	G	G	M		40+	B1 + B2
T64	Ash	14	340	3	5	2	5	F	F	M/A		40+	C
T65	Ash	18	380 370 410	4	4	6	4	F	F	M	Multiple stemmed tree. Stream to north side of stems	40+	B1 + B2
T66	Oak	12	580 240	3	5	5	5	G	F	M		40+	B2
T67	Oak	6	180	1	3	2	2	F	F	Y		40+	C
T68	Hawthorn	5	80	1	1	1	1	F	F	Y		40+	C
T69	Hawthorn	3	80	2	1	1	1	F	F	Y		40+	C
T70	Field maple	7	6 x 190	4	4	2	3	F	F	M		40+	C
T71	Oak	11	420	2	4	4	3	G	G	M	Neighbour's tree	40+	B2
T72	Oak	20	170 210 260 190	6	1	5	5	G	G	M	Neighbour's tree	40+	B2

Tree no	Species	Height	Stem diameter	Crown spread				Physiological condition	Structural condition	Age	General observations	Life expectancy	Category
				North	South	East	West						
T73	Oak	19	240	6	2	3	5	G	G	M	Neighbour's tree	40+	B2
T74	Goat willow	7	230	2	4	3	3	F	F	M	Neighbour's tree	20 - 40	C
T75	Mountain ash	7	250	3	3	3	4	F	F	M		40+	B1
T76	Crab apple	-	-	-	-	-	-	-	-	-	Dead	-	U
T77	Flowering cherry	9	280 220	4	5	5	4	F	F	M		10 - 20	C
T78	White willow	-	-	-	-	-	-	-	-	-	Dead	-	U
T79	Ash	11	340	6	4	2	4	F	F	M		40+	C

Appendix 3
Plan of tree constraints



Appendix 4
Impact Assessment Plan

Appendix 5
Qualifications and experience

- I am Simon Hawkins, proprietor of Merewood Arboricultural Consultancy Services.

- I hold the Level 6 Professional Diploma in Arboriculture. This is the highest level of award in the industry.

- I hold the National Diploma in Arboriculture which I attained in 1987. I have studied and practised Arboriculture for over 30 years, during which time I have been involved with both the private and public sector.

- I hold the LANTRA award for professional tree inspections

- I hold professional member status of the Arboricultural Association (M. Arbor A.), recognised as a higher vocational level within the industry.

- I have undertaken an intensive course in the principles and application of VTA Visual Tree Assessment. I have been assessed and found to have attained the advanced level of technical competence of a VTA Practitioner with Elite Training.

- I have over 18 years' experience working in the public sector, during which time I have dealt with all aspects of trees and development in the town planning context, within the inner city; in a greater London Borough; and in the Green Belt. Typically, I have worked with planners, developers, architects and other professionals in the construction industry in which I provide advice and assistance in dealing with arboricultural matters.

- I have appeared at numerous appeals, informal hearings and public enquiries to make formal representations. I have also appeared as an expert witness in court with regard to breaches of a Tree Preservations Order.