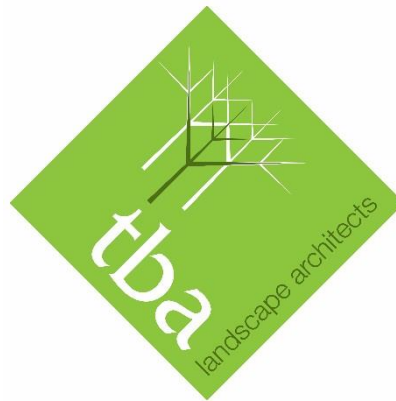


**Walshaw Road & Tottington Road  
Walshaw  
Bury**

**Redrow Homes**

**TREE SURVEY REPORT**



**tba**

landscape architects

***Landscape Architecture***  
**Arboriculture**

Ashton Old Baths  
Stamford Street West  
Ashton-under-Lyne  
Lancashire  
OL6 7FW

**Tel:** 0161 8042099

**Email:** [info@trevorbridge.co.uk](mailto:info@trevorbridge.co.uk)  
**[www.trevorbridge.co.uk](http://www.trevorbridge.co.uk)**

© Copyright reserved Trevor Bridge Associates Limited 2019  
The contents of this document must not be copied  
in whole or in part without the written consent of  
Trevor Bridge Associates Limited

October 2019

Ref: MG/6106/TSR/OCT19

## **CONTENTS**

- 1.0 Introduction
- 2.0 Scope and Limitations of Report
- 3.0 Site Location
- 4.0 Tree Survey Schedule – Methodology
- 5.0 Trees and Construction – General Issues
- 6.0 Tree Constraints
- 7.0 Structures within the Root Protection Areas of Trees
- 8.0 Wildlife issues and timing of operations
- 9.0 Tree Preservation Orders and Conservation Areas
- 10.0 Felling Licences
- 11.0 Tree Survey Schedule

Appendix A – Glossary of arboricultural terms

## 1.0 Introduction

- 1.1 Trevor Bridge Associates Ltd (TBA) have been instructed by Redrow Homes to undertake a pre-development arboricultural survey of trees and significant vegetation. The pre-development tree survey should be read in conjunction with the accompanying **Tree Survey & Root Protection Area drawings** ref: 6106.01.
- 1.2 A site visit was carried out in October 2019.
- 1.3 This pre-development tree survey should be considered the first part of a process in identifying trees that are to be retained and protected. A key part of the pre-development survey is the identifying of Root Protection Areas (RPA's). In Addition to the pre-development survey the following documents may be required to fully support a planning application:
- i) An Arboricultural Impact Assessment - This will assess the impact on trees of a proposed development.
  - ii) An Arboricultural Method Statement - This provides specific details on how a development should proceed in such a manner that avoids damage to trees being retained. It is accompanied with a tree protection plan.
- 1.4 The following information was provided for reference for the purposes of undertaking this pre-development survey.
- *SurveyEng Ltd drawings. Topographical Land Survey. Drawing no. RRH.TS.08. Rev. A. (2 sheets). Date: 19.03.19.*
- 1.5 This report has been undertaken by Mike Gregory HND Arb. M. arbor A. Mike has extensive experience working as a tree surgeon and has several years experience as a tree officer. He has provided advice and consultancy to the public sector for over 15 years. He is highly experienced in tree and development issues, having provided reports on over 600 development sites.

## 2.0 Scope and Limitations of the Report

- 2.1 This report has been prepared to inform the design layout of potential development and be submitted with a planning application.
- 2.2 Due to the changing nature of trees – and possibly other site circumstances – this report and recommendations are limited to a two year period. Similarly, this report could be invalidated if any alterations are made to the site that could change the conditions as seen at time of inspection.
- 2.3 Under certain circumstances, roots can affect foundations, drains and other underground services. These issues have not been addressed by this report.
- 2.4 Trees are dynamic structures that can never be guaranteed 100% safe; even those in good condition can suffer occasional damage under only average weather conditions. A lack of recommended work does not imply that a tree will never suffer damage.

**3.0 Site Location**

3.1 The site comprises two parcels of land. One situated off Walshaw Road, the other off Tottingham Road.

3.2 The location of the sites are marked in red within the plan extract below.



3.3 The full details of the tree cover is included within the tree survey schedule within section 11.0 of this report, and within the accompanying Tree Survey & Root Protection Area drawing.

#### 4.0 Tree Survey Schedule - Methodology

4.1 This survey complies with British Standard 5837:2012 *Trees in relation to design, demolition and Construction - Recommendations*. All significant trees or groups within the site have been inspected, identified and detailed.

4.2 Site. The survey was carried out from ground level and without the use of special diagnostic equipment (unless otherwise stated). Lower-grade material may be treated as numbered groups, for example where in rows or dense groupings.

4.3 Schedule. The following information is given in the schedule:

- **Tree reference No:** A sequential number sequence post-fixed with a T for Trees, G for groups, H for hedges and W for Woodlands.
- **Tree Species.** Common name of Species.
- **Height** (metres). An electronic hypsometer is used to measure tree heights. Tree heights are only measured where it is possible to gain a clear unobstructed view of the tree, otherwise the height is estimated.
- **Trunk diameter** (millimetres). This is a key measurement for calculating the Root Protection Areas of trees. Measurements are taken at 1.5m, height above ground level. If trees are assessed as a group or woodland feature, the trunk diameter of the largest tree within the group or woodland is estimated and used.
- **Crown spread** (metres): The maximum lateral spread of the canopy as measured from the cardinal compass points (NESW). Spreads are measured either by pacing or laser where access is available, otherwise estimated.
- **Crown clearance** (metres): The height of the lowest section of canopy measured from cardinal compass points.
- **Age class.** A classification of the age of the tree. In the case of woodlands and groups this is based in the oldest tree.

**Y** – Young: Recently planted trees less than ¼ life expectancy.

**SM** – Semi-Mature: Established trees less than 1/3<sup>rd</sup> predicted life expectancy.

**EM** – Early mature: Trees between 1/3<sup>rd</sup> and 2/3<sup>rd</sup> predicted life expectancy.

**M** - Mature: Trees over 2/3<sup>rd</sup> predicted life expectancy.

**V** - Veteran: A tree of significant age (with a large girth) which provides cultural, landscape or ecological value.

- **Physiological condition:** (Good, Fair, Poor, Dead). An assessment of the tree’s health and vitality reflecting the tree’s potential longevity as well as its capacity for withstanding environmental stresses (such as pests and diseases).
- **Structural Condition:** (Good, Fair, Poor, Dead): A consideration of the structural integrity of the physical structure of the tree.
- **Life Expectancy:** Estimated remaining contribution (years, 0-10 10-20 20-40 40+).
- **Root Protection Area:** As calculated via BS 5837: 2012 (area in square metres and as a radius in metres). This is the basis of the Root Protection Area marked as a circle on the Tree Survey (may have been modified in light of site circumstances). This is generally the minimum position for protective fencing.
- **Retention Category:**  
Trees are categorised using the criteria shown in the table below. The purpose of the categorisation is to apply a non fiscal value to tree stock to allow informed decisions on which trees should be retained or removed within the context of development.

TREES UNSUITABLE FOR RETENTION:			
<p><b>‘U’ – [Marked red on plan]</b></p> <p>Trees of such a condition that they can not be realistically retained as living trees in the context of the current land use for longer than 10 years.</p>	<ul style="list-style-type: none"> <li>• Trees that have serious, irremediable, structural defect, such that their early loss is expected due to collapse including those which will become unviable after the removal of other category U trees ( where for what ever reason, the loss of companion shelter can not be mitigated by pruning)</li> <li>• Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> <li>• Trees infected with pathogens of significance to health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality</li> </ul> <p><i>Note Category U trees can have existing or potential conservation value which might be desirable to preserve</i></p>		
TREES TO BE CONSIDERED FOR RETENTION:			
	1. Mainly arboricultural values	2. Mainly landscape values	3. Mainly cultural values, including conservation
<p><b>‘A’ – [Marked green on plan]</b></p> <p>Trees of high quality with an estimated life expectancy of at least 40 years</p>	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (eg the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (eg veteran trees or wood pasture)
<p><b>‘B’ – [Marked blue on plan]</b></p> <p>Trees of moderate quality with a remaining life expectancy of at least 20 Years</p>	Trees which may be in the A category but are down graded due to their impaired condition ( e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such they are unlikely to be suitable for retention for beyond 40 years; trees lacking the special quality necessary to merit category A designation	Trees that are 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 clearly identifiable conservation or other cultural benefits
<p><b>‘C’ – [Marked grey on plan]</b></p> <p>Trees of low quality with an estimated life expectancy of at least 10 years, or young trees with a stem diameter below 150mm</p>	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 any greater collective landscape value ; and/or trees offering low or only temporary /transient landscape benefits	Trees with no material conservation or other cultural value

- **Observations:** This provides general information regarding the trees, providing details regarding defects, or points of merit.
- **Preliminary Recommendations:** Any management works that should be carried out. Recommendations for management works are only recommended sparingly, generally where there is a significant safety concern, or long term benefit for the tree. Works are considered within the context of the site at the time of survey. Works that are required in relation to new development proposals are considered separately (such as part of a method statement).

## 5.0 Trees and Construction – General Issues

5.1 Typically, about 80% of roots will be found in the upper half metre of soil and often extending well beyond the canopy spread. The threat to the trees by development comes from:

- (a) root severance or fracture
- (b) compaction of the soil, preventing gaseous exchange and moisture percolation
- (c) possible change to moisture gradients due to surface water run-off or interception
- (d) physical damage to low branches and trunk.
- (e) Damage from chemical run-off from construction activities

The consequences for the tree of such damage are:

- (i) instability, if severe enough
- (ii) entry points for pathogenic fungi at wounds / fractures
- (iii) loss of vitality due to reduced oxygen, mineral and moisture take-up; all leading to
- (iv) root death, and
- (iv) a general decline or possible death of the tree.

## 6.0 Tree Constraints

6.1 Constraints imposed by trees during development, both above and below ground need to be considered within the site layout design.

Protection is afforded to the tree by defining a Root Protection Area (RPA) within which no development activity should take place. The size of the RPA is defined in the British Standard and relates to trunk diameter. The RPA is normally the minimum position for placement of protective fencing.

6.2 Nominally the RPA is represented by a circle around the tree. The area of the RPA may however, subject to the consideration of the arboricultural consultant, and be altered to a polygon in order to reflect the site conditions and requirements. For example, existing hard surfaces and foundations are likely to restrict or limit root growth while good quality soil may promote and extend root growth.



6.3 Root Protection Areas primarily relate to below ground constraints (root protection). Other constraints that must be considered include:

- The current as well as ultimate height and spread of a tree.
- Large trees close to a building, particularly a dwelling, can cause apprehension to owners/occupiers that result in pressure for tree removal or inappropriate pruning. Buildings should be sited allowing for the species height, spread and overall habit.
- Species characteristics; i.e. density of foliage, fruit-fall, susceptibility to honeydew drip, or branch drop. Trees are shedding organisms. The leaves of some species may cause problems with blocking of gullies and gutters. Fruit may cause slippery patches and honeydew drop can affect surfaces (particularly cars). If conflicts may arise detailed design may address such issues, such as non-slip paths, use of car-ports, provision of leaf guards or grilles etc.
- The potential impact on direct and diffuse light of a particular location of land; shading of buildings by trees can be a problem, especially where rooms require natural light, in addition open spaces such as gardens and sitting areas should be designed to meet requirements for direct sunlight (for at least part of the day).
- Infrastructure requirements in relation to trees e.g. easements for underground or above ground apparatus and visibility splays.
- Space for the provision of new planting or landscaping.
- The proposed end use of space within Root Protection Areas.
- The requirement to protect overhanging canopies of trees that overhang or extend beyond Root Protection Areas.

## 7.0 Structures within the Root Protection Areas of Trees.

7.1 In the development layout design structures should be positioned outside of RPAs. In some exceptional instances there may be an overriding justification for construction within the RPA. In such cases technical solutions may be available to minimise (to an acceptable level) disturbance to the tree/s. Where such technical solutions may be relied upon full details will need to be included within a method statement. Advice must be sought from a suitably qualified arboriculturalist in such matters.

7.2 In some cases it may be unavoidable to place permanent hard surfacing within an RPA (for example the placement of an access driveway or parking area). In such cases the following should apply:

- No excavation of the soil should take place, other than scraping of the turf/vegetation layer
- Any design must avoid compaction, allowing even distribution of weight.
- New hard surfacing should not exceed 20% of any existing unsurfaced ground within the RPA.
- If the proposed surface is likely to require de-icing salt then run-off should be directed away from the RPA.

- Permeable hard surfacing can result in soil moisture saturation for long periods (resulting in root death). Where there is a risk of water-logging a design should incorporate land drainage.

7.3 Appropriate sub-base options for new hard surfacing include three-dimensional cellular confinement systems. Piles, pads or elevated beams can support bridges over RPAs. In all cases full specifications and methodology must be included within a supporting method statement.

## 8.0 Wildlife Issues and Timing of Operations

8.1 Bats. Under current legislation it is an offence to 'intentionally or recklessly disturb a bat' or 'damage, destroy or block access to the resting place of any bat'. For further details consultation must be made with the Statutory Nature Conservancy Organisation (Natural England, 0300 060 1842, [www.naturalengland.org.uk](http://www.naturalengland.org.uk)). Where relevant any current ecological surveys for the site will take precedence in this matter.

8.2 Birds. It is an offence to kill, injure or take any wild bird; or take, damage or destroy the nest of any wild bird while it is in use or being built. Therefore work likely to disturb nesting birds must be avoided from late March to August.

8.3 The pruning of some species should avoid specific times. *Prunus* species (eg flowering and fruiting Cherry, Plum, Almond etc) should only be pruned during June – August in order to minimise the risk of infection by Silver Leaf disease. *Acer* (Maples including Sycamore), *Betula* (Birches) and, *Morus* (Mulberry) should not be pruned February – June due to sap bleeding; also *Juglans* (Walnut) should not be pruned from December – June.

## 9.0 Tree Preservation Orders and Conservation Areas

9.1 The site falls within a Conservation Area, and a Tree Preservation Area is in force for a large section of the site.

9.2 Works to protected trees require consent from the local planning authority. In the case of TPO's an application must be made. In the case of conservation areas a notification must be made. TPO applications take up to eight weeks, conservation area notifications take six weeks.

9.3 Certain exemptions apply; for example the removal of deadwood. In the case of dangerous trees 5 days written notice should be given to the local authority (in the cases of immediate danger the work should proceed, but the local authority contacted as soon as possible afterwards and evidence provided that works were necessary).

9.4 Planning consent overrides protected trees where pruning works/ tree removal are directly necessary for approved development to proceed.

## 10.0 Felling Licences

- 10.1 There are restrictions on the felling of non-garden trees. In any quarter calendar year it is permissible to fell up to 5 cubic metres of timber (as long as the timber is not sold).
- 10.2 Certain exemptions apply, this includes the felling of trees to directly implement a planning consent. For full details Forestry England (formerly the Forestry Commission) provide a leaflet entitled Tree Felling Getting Permission which can be found at [www.forestry.gov.uk](http://www.forestry.gov.uk).

11.0 Tree Schedule

Tree Group Hedge	Common Name	Age Class	Height (m)	No. of Stems	Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	> 5 stems	Root Protection Area (Radius, m)	N	E	S	W	N(H)	E(H)	S(H)	W(H)	Physiological Condition	Structural Condition	Life Expectancy	Future Growth Potential	Retention Category	Comments & Observations	Preliminary Work recommendations	
1G	Mixed Species Group	Young	5	1	70																Good	Fair	40+	Very High	C3	Recent self set trees forming dense group. Ash and Sycamore. Some Ash have symptoms of Ash die-back.	
2T	Ash	Mature	14	1	380						4.5	1	5	6	3	9	2	3	5		Fair	Fair	20+	Low	C2	Slightly suppressed form. Ivy cover on trunk. Ash dieback has caused minor distal die-back. Unable to access around tree due to ground conditions; Estimated trunk diameter and canopy spreads.	
3T	Sycamore	Mature	16	3	320	300	300				6.3	1	2	5	2			5	7		Fair	Fair/Poor	30+	Moderate	C2	Rubbing stem at 1.5m height. The canopy to the north of the tree has been topped at some 6m height. Estimated canopy spreads.	
4T	Sycamore	Mature	17	1	330						3.9	0	3	5	2	0	1	3	6		Fair	Fair	30+	Moderate	C1	Suppressed woodland growth form. Estimated canopy spreads.	
5T	Sycamore	Mature	17	1	550						6.6	3	2	6	3	5	7	2	5		Fair	Fair	30+	Moderate	C1	Suppressed woodland growth form. Estimated canopy spreads.	
6T	Sycamore	Mature	17	1	270	430					6	3	3	6	4	6	4	1	3		Good	Fair	30+	Moderate	B2	Ivy cover on trunk. Moderate value when considered as collective component of woodland.	
7T	Sycamore	Mature	17	1	350						4.2	3	2	0	2	14	14	14	14		Fair	Fair	30+	Moderate	C1	Slightly asymmetric woodland form. Ivy cover on trunk. Estimated canopy spreads.	
8T	Sycamore	Mature	17	1	550						6.6	7	6	5	6	5	6	8	7		Good	Fair	30+	Low	B2	Ivy cover on trunk. Estimated canopy spreads. Moderate values as collective component of woodland.	
9G	Laburnum, Cherry and Ash	Mature	12	1	350																Fair	Fair	30+	Moderate	C2	Group situated by woodland edge.	
10T	Common Oak	Semi-Mature	9	1	170						2.1	0	4	5	2	0	1	2	7		Good	Fair	20+	Moderate	C2	Suppressed form.	

11.0 Tree Schedule

Tree Group Hedge	Common Name	Age Class	Height (m)	No. of Stems	Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	> 5 stems	Root Protection Area (Radius, m)	N	E	S	W	N(H)	E(H)	S(H)	W(H)	Physiological Condition	Structural Condition	Life Expectancy	Future Growth Potential	Retention Category	Comments & Observations	Preliminary Work recommendations
11T	Common Oak	Mature	15	1	390						4.8	5	5	5	5	0	0	1	3	Good	Good	30+	Moderate	B2		
12T	Sycamore	Mature	16	7	260						3	6	6	5	5	2	1	3	4	Good	Good	30+	Low	B2		
13T	Goat Willow	Mature	13	1	650						7.8	7	5	9	4	2	3	2	5	Good	Fair	20+	Low	B2	Large specimen for species. Situated atop an old retaining wall, the top of which is situated some 200mm from the outer trunk of the tree. Limited access to tree due to ground conditions. Estimated tree position, and dimensions.	
14T	Larch	Mature	15	1	350						4.2	4	4	4	4					Good	Good	30+	Moderate	B2	Tree viewed at distance with very limited visibility due to thick undergrowth. Estimated dimensions and classification.	
15T	Horse Chestnut	Mature	11	1	390						4.8	4	3	5	4	2	2	2	2	Good	Fair	40+	Moderate	B2		
16T	Silver Birch	Mature	19	1	410						4.8	4	4	3	4	6	6	5	8	Fair	Fair	20+	Low	C1		
17T	Beech	Mature	19	1	450						5.4	5	5	5	3	4	3	6	11	Good	Fair	40+	Moderate	B2	Tree viewed at a distance during survey; estimated dimensions.	
18T	Sycamore	Mature	20	1	1010						12	8	6	6	6	3	3	4	4	Good	Fair	40+	Low	B2	Large prominent specimen. Some major deadwood present within the canopy. Estimated canopy spreads.	
19T	Sycamore	Semi-Mature	10	2	170	160					2.7	2	3	4	3	8	3	2	4	Good	Fair	40+	High	C1	Estimated canopy spreads.	
20T	Beech	Early-Mature	16	4	260	200	130	180			4.8	3	6	4	4	2	2	2	2	Good	Fair	40+	Moderate	B2		

11.0 Tree Schedule

Tree Group Hedge	Common Name	Age Class	Height (m)	No. of Stems	Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	> 5 stems	Root Protection Area (Radius, m)	N	E	S	W	N(H)	E(H)	S(H)	W(H)	Physiological Condition	Structural Condition	Life Expectancy	Future Growth Potential	Retention Category	Comments & Observations	Preliminary Work recommendations
21T	Ash	Early-Mature	17	1	300						3.6	2	3	4	3	9	6	4	7	Good	Fair	20+	Low	C2	Soil deposited around base of tree. Estimated canopy spreads.	
22G	2x White Poplar	Early-Mature	18	1	250															Fair/Poor	Fair	10+	Moderate	C3	Soil deposited around base of tree. Estimated canopy spreads.	
23T	White Poplar	Mature	22	1	750						9	5	7	9	8	8	8	8	3	Good	Fair	40+	Low	B2	Large prominent specimen situated within adjacent garden area. Estimated dimensions.	
24T	Sycamore	Mature	15	1	330	190					4.5	3	3	2	3	5	3	5	5	Good	Fair	30+	Moderate	C1	Deposited soil around base of tree.	
25G	2x White Poplar	Mature	17	1	300															Fair	Poor	<10	Moderate	U	Longitudinal cavities within trunks.	
26T	Sycamore	Early-Mature	9	3	110	160	170				3	3	2	3	4	2	3	3	2	Fair	Fair	40+	Moderate	C1	Slightly asymmetric form.	
27T	White Poplar	Mature	20	1	350						4.2	4	5	4	4	9	10	9	9	Good	Fair	20+	Moderate	C1	Estimated canopy spreads and position.	
28G	Group of 4x Sycamore	Mature	20	1	350															Good	Fair	30+	Moderate	B2		
29T	Sycamore	Mature	20	1	400						4.8	4	2	4	4	7	8	8	7	Good	Fair	40+	Moderate	B2	Ivy cover on trunk. Estimated canopy spreads. Grows in close proximity to a White Poplar.	
30T	White Poplar	Mature	20	1	350						4.2	5	4	3	4	3	3	3	3	Good	Fair	30+	Low	C1		

11.0 Tree Schedule

Tree Group Hedge	Common Name	Age Class	Height (m)	No. of Stems	Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	> 5 stems	Root Protection Area (Radius, m)	N	E	S	W	N(H)	E(H)	S(H)	W(H)	Physiological Condition	Structural Condition	Life Expectancy	Future Growth Potential	Retention Category	Comments & Observations	Preliminary Work recommendations	
31G	2x White Poplar	Mature	18	2	250	260					4.2	6	4	1	4	5	5			5	Good	Fair	30+	Moderate	C3	Suppressed form. Estimated canopy spreads.	
32T	Norway Maple	Mature	12	1	180						2.1	2	2	2	2	12	12	12	12		Fair	Fair	30+	Moderate	C1	Soil deposits around base.	
33T	White Poplar	Mature	21	1	440						5.4	6	5	5	4	10	12	12	12		Good	Fair	30+	Low	C1		
34G	6x White Poplar	Mature	21	1	260																Fair	Fair	30+	Low	C2		
35T	Horse Chestnut	Mature	15	1	500						6	5	4	7	7	4	6	2	2		Fair	Fair	30+	Low	B2	Estimated canopy spreads.	
36T	Sycamore	Early-Mature	15	1	330						3.9	2	3	2	3	3	2	8	8		Good	Good	40+	Moderate	B2	Moderate value as part of collective component of woodland. Estimated canopy spreads.	
37T	Fallen dead Tree	Early-Mature	8	1	270						3.3	0	3	5	3						Dead	Dead	0		U	Fallen and leaning into adjacent tree.	Cur to ground level.
38T	Dead Hawthorn	Mature	5	1	300						3.6	1	2	2	2						Dead	Dead	<10		U		
39T	Sycamore	Mature	15	1	360						4.2	4	4	4	4	8	3	3	4		Good	Good	40+	Moderate	B2	Moderate value as part of collective component of woodland. Estimated canopy spreads.	
40T	Sycamore	Early-Mature	10	1	260						3	2	4	4	2	3	2	2	4		Good	Fair	30+	Moderate	C2	Slightly asymmetric form. Estimated canopy spreads.	

11.0 Tree Schedule

Tree Group Hedge	Common Name	Age Class	Height (m)	No. of Stems	Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	> 5 stems	Root Protection Area (Radius, m)	N	E	S	W	N(H)	E(H)	S(H)	W(H)	Physiological Condition	Structural Condition	Life Expectancy	Future Growth Potential	Retention Category	Comments & Observations	Preliminary Work recommendations
41T	Sycamore	Early-Mature	12	1	230						2.7	2	3	4	3	2	2	3	4	Good	Fair	40+	Moderate	C2	Tree in contact with boundary fence. Beginning to form suppressed lean over adjacent garden. Various house hold rubbish dumped close to tree including general rubbish and white goods.	
42T	Goat Willow	Mature	13	8					200		6.79	7	7	5	8	3	3	3	3	Good	Fair	30+	Low	C1	Estimated canopy spreads.	
43T	Sycamore	Mature	16	1	280						3.3	3	3	3	3	8	8	8	8	Good	Fair	40+	Moderate	C1	Estimated canopy spreads. Estimated position.	
44T	Sycamore	Mature	15	6					300		8.82	5	6	6	5	4	3	2	2	Fair	Fair	30+	Moderate	C1	Weak fork developed within two central scaffold stems at some 1.5 m height. Estimated canopy spreads.	
45T	Sycamore	Mature	13	5	220	290	300	210	310		7.2	3	5	5	5	6	4	2	3	Good	Fair	40+	Moderate	B2	Moderate value tree when considered as a collective woodland component. Estimated canopy spreads.	
46T	Sycamore	Early-Mature	14	2	170	250					3.6	4	4	2	3	3	6	7	7	Good	Fair	40+	Low	C2	Estimated canopy spreads.	
47T	Sycamore	Mature	16	1	340						4.2	3	4	4	4	5	6	4	4	Good	Fair	40+	Moderate	B2	Moderate value tree when considered as a collective woodland component. Estimated canopy spreads.	
48G	Group of Leyland Cypress	Early-Mature	12	1	150															Fair	Fair	30+	Moderate	C2	End section of conifer hedge that abuts and slightly overhangs the woodland boundary.	
49T	Sycamore	Mature	16	1	370						4.5	3	4	6	6	6	2	3	2	Good	Fair	40+	Moderate	B2	Moderate value tree when considered as a collective woodland component. Estimated canopy spreads.	
50G	Area of dense vegetation	Semi-Mature	5	1	120															Good	Fair	30+	Low	C3	Unable to access. Viewed at a distance. Holly, Privet, young Ash.	



Tree Group Hedge	Common Name	Age Class	Height (m)	No. of Stems	Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	> 5 stems	Root Protection Area (Radius, m)	N	E	S	W	N(H)	E(H)	S(H)	W(H)	Physiological Condition	Structural Condition	Life Expectancy	Future Growth Potential	Retention Category	Comments & Observations	Preliminary Work recommendations
51T	Sycamore	Early-Mature	14	3	200	180	210				4.2	2	2	4	4	7	6	5	7	Fair	Fair	30+	Moderate	C1	Slightly suppressed form.	
52T	Hawthorn	Early-Mature	4	7						50	1.59	3	3	3	3					Good	Fair	40+	Low	C2	Estimated position and dimensions as tree was viewed at a distance.	
53T	Sycamore	Semi-Mature	7	10						70	2.66	3	3	3	3					Good	Fair	40+	High	C3	Estimated position and dimensions; tree viewed at a distance. Regrowth from coppice.	
54W	Woodland Area	Mature	20	1	500															Good	Fair	40+	Moderate	B3	General area of woodland. The predominant species are Sycamore, but also contains Ash, Wild Cherry, White Poplar, Goat Willow, Hawthorn, Elm and Holly. There are no trees of significance, but the woodland area nonetheless retains an intrinsic value as woodland with the potential to be managed and improved. Some sections have general waste and debris dumped by neighbouring residents.	
55G	Group of White Poplar	Early-Mature	8	1	200															Fair	Fair	30+	Very High	C3	Group of white Poplar some of which are situated within neighbouring domestic garden	
56T	Goat Willow	Mature	9	2	370	320					6	4	3	4	4	2	3	2	2	Good	Fair	20+	Low	C1		
57H	Hawthorn Hedge	Mature	1.5	1	35															Good	Good	40+	Low	B3	Section of field boundary hedging	
58T	Wild Cherry	Mature	14	1	400						4.8	5	5	5	5	5	5	5	5	Good	Good	40+	High	B2	off site tree situated within neighbouring residential garden. Estimated position and dimensions.	
59G	Hawthorn, Elderberry and Privet	Mature	5	1	200															Fair	Fair	20+	Low	C2		

11.0 Tree Schedule

Tree Group Hedge	Common Name	Age Class	Height (m)	No. of Stems	Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	> 5 stems	Root Protection Area (Radius, m)	N	E	S	W	N(H)	E(H)	S(H)	W(H)	Physiological Condition	Structural Condition	Life Expectancy	Future Growth Potential	Retention Category	Comments & Observations	Preliminary Work recommendations	
60W	Woodland Area	Mature	16	1	300																Good	Fair	40+	Moderate	B3	Woodland belt of trees situated adjacent footpath. Predominantly Sycamore, but also includes Goat Willow, White Poplar, Hawthorn and a single Horse Chestnut.	
61T	Sycamore	Mature	12	1	650						7.8	7	5	8	7	5	3	4	5		Good	Fair	30+	Moderate	B2	Basal growth on root collar. Ivy cover on trunk and within mid-canopy. Cavity in previous pruning wound at some 3m height to south.	
62T	Goat Willow	Mature	12	2	420	500					7.8	5	3	5	5	4	4	4	5		Fair	Fair	20+	Low	C2		
63T	Sycamore	Mature	12	7					260		8.25	4	5	6	6	5	4	5	4		Good	Fair	<10	Moderate	U	Multi-stemmed near ground level. Tree is causing direct damage to boundary walls.	Fell to near ground level and treat stump to prevent regrowth.
64T	Goat Willow	Mature	13	2	280	350					5.4	3	3	4	11						Poor	Poor	<10	Very Low	U	Two stems growing in close proximity. One stem is in terminal decline, the other has fallen to the west and lies lodged in The branches of adjacent trees.	Fell.
65T	Sycamore	Mature	16	1	500						6	5	4	4	4	5	5	7	6		Fair	Fair/Poor	40+	Moderate	B2	Ivy cover on trunk. Bark wound at base to north.	
66T	Sycamore	Mature	17	3	340	250	250				6	3	3	6	4	5	6	5	7		Good	Fair	40+	Low	B2	Ivy cover on trunk. Slightly asymmetric form.	
67G	Group of Sycamore	Mature	17	4	300	250	300	250													Good	Fair	20+	Moderate	C2	Group of matured self seeded trees. Predominately multi-stemmed Sycamore but contains single Alder and Goat Willow. Some Sycamore trees grow adjacent a boundary wall and are causing displacement of brickwork.	Removal of Sycamore trees that are causing disturbance to the boundary wall.
68T	Ash	Mature	17	1	390						4.8	6	4	4	4	4	6	6	7		Good	Fair	30+	Moderate	C1	Slightly asymmetric form. Pruning wounds on lower trunk. Some minor deadwood.	
69G	Leyland Cypress	Early-Mature	7	1	250																Good	Fair	20+	Moderate	C2	Screening group.	

11.0 Tree Schedule

Tree Group Hedge	Common Name	Age Class	Height (m)	No. of Stems	Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	> 5 stems	Root Protection Area (Radius, m)	N	E	S	W	N(H)	E(H)	S(H)	W(H)	Physiological Condition	Structural Condition	Life Expectancy	Future Growth Potential	Retention Category	Comments & Observations	Preliminary Work recommendations
69aH	Leyland Cypress Hedge	Early-Mature	2	1	200															Good	Fair	20+	Moderate	C2		
70G	2x Leyland Cypress	Mature	9	1	340															Good	Fair	20+	Moderate	C2		
71H	Leyland Cypress Hedge	Mature	3	1	200															Good	Good	30+	Moderate	C1		
72T	Deodar Cedar	Mature	18	1	700						8.4	5	5	6	6					Good	Good	30+	Low	B1	Off-site situated within neighbouring residential garden. Viewed at distance with estimated dimensions. Adjacent brook and culvert will act as a root barrier.	
73G	Group of Ash	Mature	15	1	300															Good	Fair	20+	Low	C1	Group of several mature Ash that have self seeded within a stone culvert on the embankment of a brook.	
74G	Group of Hawthorn	Mature	7	1	200															Fair	Fair	20+	Low	C2	Group of mature Hawthorn growing within the embankment of a brook culvert.	
75G	Group of Norway Spruce	Mature	15	1	450															Fair	Good	30+	Low	C1	Row of trees planted for screening purposes. While this group has some prominence, it is a species that will become increasingly sparse looking within the canopy as they mature.	
76G	Ornamental Group	Semi-Mature	4	1	140															Good	Fair	30+	Low	C3	Small ornamental planting arrangement growing within a raised rockery. Juniper and 2x Lawson's Cypress.	
77T	Ash	Mature	16	3	290	290	320				6.3	8	7	7	5	3	3	3	8	Fair	Fair	40+	Moderate	B2		
78T	Sycamore	Mature	17	2	350	380					6.3	4	4	6	3	8	4	4	8	Fair	Fair	40+	Moderate	B2	Some major dead wood present.	

11.0 Tree Schedule

Tree Group Hedge	Common Name	Age Class	Height (m)	No. of Stems	Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	> 5 stems	Root Protection Area (Radius, m)	N	E	S	W	N(H)	E(H)	S(H)	W(H)	Physiological Condition	Structural Condition	Life Expectancy	Future Growth Potential	Retention Category	Comments & Observations	Preliminary Work recommendations	
79G	Mixed Species Group	Mature	17	1	450																Good	Fair	40+	Moderate	B2	Group of Sycamore and Ash.	
80T	Sycamore	Early-Mature	10	1	320						3.9	3	3	3	3	2	2	2	3		Good	Good	20+	Moderate	C2	Situated close to boundary wall with lake. It is foreseeable that direct disturbance will be caused to the wall from future growth of the tree.	
81T	Goat Willow	Mature	12	4	240	240	260	320			6.3	5	5	5	4	3	5	3	5		Good	Fair	30+	Low	C2		
82T	Ash	Early-Mature	13	1	230						2.7	3	3	4	3	3	4	3	5		Good	Fair	40+	Moderate	C1	Estimated position.	
83T	Common Oak	Early-Mature	13	1	290						3.6	7	4	5	4	3	7	2	3		Good	Fair	40+	High	B2	Estimated position.	
84T	Deodar Cedar	Early-Mature	15	2	420	320					6.3	5	5	5	3	2	2	2	2		Good	Good	40+	High	B2		
85T	Sycamore	Early-Mature	12	1	370						4.5	4	3	3	4	3	3	4	4		Good	Good	40+	Moderate	B2		
86T	Beech	Mature	22	1	650						7.8	9	7	7	5	4	4	4	7		Good	Good	40+	Low	A2	Large prominent specimen. Estimated diameter. Unable to access around the base of this tree due to dense undergrowth.	
87T	Beech	Mature	23	1	1120						13.5	12	11	9	7	2	3	4	4		Good	Good	40+	Low	A1	Very large prominent specimen.	
88T	Horse Chestnut	Mature	22	2	650	800					12.3	9	4	8	7	3	3	3	3		Good	Fair	30+	Low	B2	Slightly weak fork within the trunk.	

11.0 Tree Schedule

Tree Group Hedge	Common Name	Age Class	Height (m)	No. of Stems	Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	> 5 stems	Root Protection Area (Radius, m)	N	E	S	W	N(H)	E(H)	S(H)	W(H)	Physiological Condition	Structural Condition	Life Expectancy	Future Growth Potential	Retention Category	Comments & Observations	Preliminary Work recommendations
89T	Horse Chestnut	Mature	14	1	690						8.4	5	5	6	5	1	5	3	1	Good	Fair	30+	Moderate	B1	Exudation on trunk to south at some 2m height. Additional exudation/bacterial discharge on lower trunk to east.	
90T	Sycamore	Mature	15	1	840						10.2	5	6	8	4	8	6	8	11	Good	Fair	40+	Moderate	B1		
91T	Horse Chestnut	Mature	18	1	680						8.1	7	4	8	5	1	4	4	8	Good	Fair	40+	Moderate	B1		Reduce lateral limbs extending over road to south-west by some 3m in length to lessen end weight.
92T	Horse Chestnut	Mature	19	1	710						8.4	8	5	7	6	1	2	8	3	Fair	Fair	20+	Low	C2	Previous branch failures within canopy to south. Bark dysfunction function and exudation present.	
93T	Horse Chestnut	Mature	17	1	780						9.3	5	6	5	5	3	2	4	4	Fair	Poor	<10	Low	U	Lesions and exudation throughout. Significant dieback its upper canopy.	Fell tree.
94T	Horse Chestnut	Mature	15	1	710						8.4	6	7	5	5	8	5	7	5	Good	Good	40+	Moderate	B2	Small cavity at some 3m height to west.	
95T	Horse Chestnut	Mature	18	1	840						10.2	5	7	6	5	5	4	5	5	Good	Fair	40+	High	B2	Estimated position.	
96T	Lime	Mature	18	1	670						8.1	4	5	6	5	3	4	4	5	Good	Good	40+	Low	A2		
97T	Lime	Mature	18	1	500						6	1	4	5	4	9	5	4	3	Good	Good	30+	Moderate	B2	Slightly asymmetric form.	
98G	Mixed Species Group	Mature	12	1	500															Good	Fair	30+	Moderate	B2	Rhododendron, young Beech, sapling Oak, early mature Beech, mature Sycamore, Beech and Goat Willow. Group of trees growing within the embankment of the lake, with suppressed forms.	

11.0 Tree Schedule

Tree Group Hedge	Common Name	Age Class	Height (m)	No. of Stems	Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	> 5 stems	Root Protection Area (Radius, m)	N	E	S	W	N(H)	E(H)	S(H)	W(H)	Physiological Condition	Structural Condition	Life Expectancy	Future Growth Potential	Retention Category	Comments & Observations	Preliminary Work recommendations	
99G	Wild Cherry and Sycamore	Early-Mature	9	1	200																Good	Fair	40+	Moderate	U	Self seeded by outbuilding. Likely to cause direct damage to the building.	
100T	Sycamore	Mature	15	1	450						5.4	5	5	5	5	4	4	4	4	4	Good	Good	40+	Moderate	B2	Off-site tree viewed at a distance. Estimated position and dimensions.	
101G	Hawthorn Hedge	Mature	4	1	80																Good	Good	40+	Moderate	B2		
102T	Field Maple	Early-Mature	8	1	300						3.6	4	4	4	4	2	2	2	2	2	Good	Good	40+	Moderate	B1		
103T	Flowering Cherry	Early-Mature	6	1	250						3	5	3	3	3	2	2	2	2	2	Fair	Fair	20+	Low	C2		
104H	Hawthorn Hedge		2	1	30																Good	Good	40+	Low	B3		

## Appendix A - Glossary of Arboricultural Terms

### **Adventitious shoots**

Shoots that develop from tissue other than a growing shoot apex or bud. Such shoots will often develop in circumstances where a tree has been pruned or is under physiological stress.

### **Bifurcation**

The point at where a single tree trunk forks into two stems.

### **Bottle-butt/Bottling**

Usually occurring in the base of a tree trunk where decay results in a tree developing additional **secondary growth** to structurally compensate. See also **Reaction wood**.

### **Brown-rot**

A type of wood decay where cellulose is primarily degraded resulting in a brittle decay where affected wood can retain hardness but lose toughness and flexibility. Affected wood can fracture acutely.

### **Buckling**

The physical deformation of bark and wood when subjected to significant compression loading. For example buckling may occur at base of a leaning trunk that has not developed sufficient growth to withstand **compression loading**, or whose structural integrity is reduced via internal decay.

### **Cable Brace**

The use of cables to form a linkage between two or more stems/branches in order to reduce the possibility of stem/branch failure.

### **Canker**

A wound or lesion that has formed on the bark of a tree. This may be caused by a fungal or bacterial pathogen.

### **Co-dominance**

See also **dominance** and **suppressed form**. Co-dominance occurs where two or more trees grow in close proximity to each other forming a group, but no one tree has attained structural dominance over the neighbouring trees. In some cases one or more trees may visually appear as having one large canopy. This is most often the case with groups of trees of the same species and similar age.

### **Compression Loading**

Mechanical loading creating a compressive force.

### **Construction Exclusion Zone**

An area or areas, usually within a root protection area, which is to remain undisturbed during development processes. Such areas are generally fenced off with tree protective fencing during development.

### **Coronet cuts**

Pruning technique often associated with **monoliths**, but may be applied to branches in any tree. Coronet cuts are multiple jagged cuts made at a pruning point to the remaining branch stub to emulate, as far as is possible, a natural branch fracture in order to promote a habitat conditions beneficial to wildlife.

### **Crown lifting**

The pruning of lower limbs within a tree canopy, usually specified by indicating a required height in metres above ground level.

### **Crown reduction**

The reduction of the outer section of a tree's canopy either partially or all over. Specified by an amount in metres, but may also be specified as a % of the total canopy spread. The natural form of the canopy should be retained, as far as possible.

### **Crown thinning**

The removal of selected branches within the internal structure of a tree canopy, usually to lessen canopy density. This is achieved by removal of secondary or tertiary branches.

### **Deadwood**

Dead branches within the tree. Most deadwood results from the natural dying off of branches within a tree canopy. It is natural for deadwood to form in mature trees. Where deadwood forms on the outer section of tree canopies, referred to as **die-back**, it is generally an indication that the tree is under physiological stress. Deadwood plays an important role for habitat and biodiversity and should not be removed unnecessarily. Within TBA reports deadwood is referred to in three different sizes based on estimated girth:

Minor deadwood:	Girth up to 20mm.
Moderate deadwood:	Girth from 20 to 40mm
Major deadwood:	Girth 40mm and larger

**Die-back**

The dead of branches in the outer canopy, beginning with shoot-tips. Die-back is usually an indication of severe physiological stress within a tree, often associated with root dysfunction. Die-back can manifest in the long term with significant dying off of larger branches. Other symptoms are usually present, such as small leaf development, late bud-burst, early dropping of leaves, thin leaf cover and the presence of **epicormic growth** in the main canopy. For some species such as Common Oak, die-back is a natural part of the tree's life-cycle; as the tree ages and its vitality reduces, the tree will naturally retrench canopy cover to reduce resource/energy expenditure.

**Dominant/dominance**

A tree may be referred to as being visually dominant within a landscape. Dominance may also refer to a tree's structural dominance over neighbouring trees. As plants, trees require sunlight to photosynthesise. The more a tree can develop canopy cover with access to sunlight the more chance that tree will remain healthy. Groups of trees will effectively compete for sunlight, adapting growth to achieve this. Dominant trees are those which achieve dominance over neighbouring trees. See also **co-dominance** and **suppressed form**.

**Dysfunction**

The disturbance to physiological aspects of a tree. This may be caused by a pathogen or by physical damage.

**Epicormic growth**

A shoot that forms from an adventitious bud (see **adventitious shoots**). Sometimes triggered by physiological stress or pruning. Some species produce epicormic growth when healthy, such as common Lime.

**Flush-cut**

A poor pruning technique in which a branch is removed by cutting into the tissue of the 'parent' branch or trunk, thus unnecessarily harming tissue on parts of the tree being retained. Flush-cut branch wounds are more likely to decay and form cavities.

**Hazard Beam**

An upwardly curved lateral branch/limb that has strong compressive and tensile mechanical forces acting within it, which can result in a longitudinal splitting referred to as hazard beam failure. These most often result in **incipient failure**.

**Incipient failure**

The fracture or breakage of a part of a tree that remains partially attached within the tree.

**Included bark**

Usually occurs within the fork of a tree where two opposed stems grow adjacent each other forming a split to form. This will often result in mechanically weakened forks or **bifurcations**.

**Laterals**

Limbs that form the sides of a tree canopy.

**Layering**

The ability of some species to propagate themselves by developing adaptive root growth on stems that become embedded in soil, such as Willow. This can result in a single 'parent tree' falling into decline, but creating out new growth from fallen stems, branches.

**Lions tailing**

A branch with little or no side branches along its length other than the branch end. This is usually the result of poor pruning technique when **crown thinning**. Such branches are more likely to oscillate and fracture in wind, or simply become structurally overloaded.

**Loading**

Mechanical force applied to a tree or parts of a tree, either through the structure of the tree itself, or external forces such as wind.

**Longitudinal**

Along the length of a stem, branch etc.

**Mulch**

A material placed around the base of a tree in order to improve growth potential or health by suppressing competition of other plants, conserving moisture, reducing fluctuations in soil temperature, and depending on the material used, improving the upper soil nutrients. Mulch can range from mats for newly planted trees, to woodchip or other organic material placed around mature trees.

**Monolith**

An alternative to tree felling, where the trunk of a tree is retained at a height usually no greater than several metres above ground level. The purpose is to retain deadwood habitat for wildlife. The canopy is fully removed though some primary branches may be retained as stubs. The pruning points around the tree are **coronet cut** to emulate natural branch fractures in order to promote more natural decay patterns and increase potential for habitat and biodiversity.

**Occlusion**

Also referred to as wound-wood. New wood formation that forms from the exposed cambium around wounds, particularly pruning wounds. Full occlusion occurs when the wound wood covers the wound.



**Pioneer species**

Species of trees that are adept at colonising land which becomes derelict or unmanaged. Such species are commonly Silver Birch, Willow (particularly Goat Willow), Ash, Alder and Common Oak.

**Pollarding**

The removal of a tree canopy back to a section of the trunk of primary branches (usually no more than several metres above ground level) and allowing the tree to re-generate. It is a severe form of pruning that is most appropriate in only a few species. Such pruning will normally require re-pollarding to be undertaken on a cyclic basis. Generally between three to five years. Pollarding as a management option is best undertaken when a tree is at a young age, but is most often used on mature trees as an intervention measure.

**Reaction Wood**

Woody material formed in parts of a tree in order to increase structural support. Such growth is an adaptive response to changes in mechanical loading which may result from changes in exposure, mechanical defects and wood decay. Trees are mechanically 'self optimising'; structurally responding and adapting to the environmental conditions they are in, be that decay, wind exposure, light suppression etc.

**Retrenchment pruning**

A form of **crown reduction** in over-mature or veteran trees to anticipate or keep pace with decline within the canopy. This may be a phased form of crown reduction which is intended to emulate the progressive shrinkage of canopy into the lower crown.

**Root-collar**

The point at the base of the trunk between the above ground and underground portion of the tree.

**Secondary growth**

The growth of wood stems to increase in girth.

**Suppressed Form**

See also **dominance** and **co-dominance**. A tree develops a suppressed form when neighbouring trees (or structures) block light. A tree depends on sunlight in order to function. Where light may be restricted by larger, more dominant neighbouring trees, a suppressed tree may have little option than to grow towards available light sources in order to survive. This can result in trees forming lateral and leaning growth forms.

**Structural root plate**

The portion of the roots that are closest to the root-collar. These roots are most important in providing structural support for the tree.

**Taper**

The rate in which the girth of a branch or stem reduces along its length.

**Targets**

The potential objects or persons that may be impacted should a tree or parts of a tree fail. A tree within an urban environment would tend to have a much higher target potential than a tree in a field. In the case of development the target potential of a tree may be significantly increased.

**Topping**

The removal of the upper portions of a tree, usually in a crude manner that results in disfigurement of a tree and potential long term structural and physiological damage. Not to be misinterpreted as Crown reduction.

