

ARBORICULTURAL REPORT

Site: Westerdale Birchall Lane Birchall Leek Staffordshire ST13 5RA

Client: David and Shirley Jackson-Hulme

Date: 19th December 2014



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1.0 Introduction

1.1 The site currently forms part of the garden to Westerdale, Birchall Lane and it is

proposed that the client sections this part off from the rest of the existing garden to form an independent building plot. The boundary line can be seen in red on the plan in Appendix E.

1.2 The purpose of this report is to be an aid to the design of the layout of the site. It identifies the better trees and species necessary to protective measures that are required to keep the trees within the development. It may also give recommendations for remedial work that may be desirable in order to keep or improve the quality of the trees.

1.3 The survey complies with the British Standard 5837: 2012 Trees in relation to design demolition and construction – Recommendations. All significant trees on the site have been inspected including any that may be on the boundary or on adjacent land that may be affected by any development. Included in the schedule of trees are the relevant areas of protection for the trees or the Root Protection Areas (RPA's) The relevant distance from each tree from which construction work should be excluded by the erection of a protective barrier is also listed.

1.4 The site was visited on 19th December 2014 by Edward Turner, surveyor and the weather was dry although there had been periods of rain throughout the day.



2.0 Limitations of the Report

2.1 The trees were inspected from ground level only and no invasive tools were used.

2.2 Due to the changing nature of the trees the report is valid for a period of 6 months for the condition and 2 years for all other data.

2.3 Trees may affect buildings by indirect influence of their roots on the substrate on which structures are built and by direct action of foundations, drains and other underground services. this report does not attempt to address these issues.

2.4 Trees are dynamic structures that can change rapidly and can never be guaranteed 100% safe; even if they were deemed safe on the day of inspection they can sometimes suffer damage in adverse weather conditions. All trees should be inspected following any bad weather.



3.0 Method

3.1 The survey was undertaken from ground level and includes all individual significant trees shown in position and numbered on the site plan. Low grade or sapling trees may be grouped together as numbered groups e.g. G!. The following information is collected and given in a schedule;

- Number
- Tree Species (Common Name)
- Height in meters
- Stem Diameter at 1.5 meters above ground level in millimeters
- Crown Spread at compass points NSEW in meters
- Crown Clearance (height of lowest branch above ground) in meters
- Age Class (Young, Middle aged, Mature, Over Mature and Veteran)
- Physiological Condition (Good, Fair, Poor and Dead) This is an overall assessment of the health of the tree based on leaf size, colour, density, annual growth increments and die back or dead wood.
- Structural Condition (comments of decay, cavities, disease and other defects and issues that will affect its suitability for retention)
- Recommendations (These are based on the previous two categories and may include pruning or removal amongst other recommendations)
- Estimated remaining contribution (in years, <10, 10>20, 20>40 and 40+)
- Category Grading

U = Remove (unsuitable for retention due to its poor condition or less than 10 years contribution)

A = High quality tree of good form with at least 40 years contribution

B = Moderate quality tree with 20>40 years contribution



C = Low quality tree (usually of poor form or condition) Also trees of less than 150mm stem diameter (these may be considered for relocation)

Subcategory:

- 1 = Mainly Arboricultural Merit
- 2 = Mainly Landscape Merit
- 3 = Mainly Cultural or Conservation Merit



4.0 Trees and Construction: General Overview

4.1 Trees are large dynamic organisms that have basic requirements in order to survive. The obvious part of the tree is the trunk and branches with the leaves that are essential for survival and these are easily damage by machines etc. This damage is easily avoided and very obvious which it occurs. They have root s that anchor the tree into the ground but also take up moisture and oxygen as well as nutrients from the soil. Most tree roots are in the upper 0.5 meters of the soil and also extend well beyond the extent of the trees leafy canopy. Roots are easily damaged during and construction process although sometimes the immediate effect is not obvious. The main threats from construction work come from;

- compaction of the soil prevents gaseous exchange and water drainage
- roots being severed or crushed
- drainage being affected by alteration of levels and installation of trenches for services
- physical damage to branches and trunks
- poisoning of trees with contamination from fuel and oil leaks from machinery, run off from concrete mixers or other toxic materials used during construction

The main consequences of the above in terms of damage are;

- Compaction kills roots by preventing oxygen and water take up
- Severance can lead to pathogenic fungi invading the tree and in the worst cases; it can lead to instability
- Loss of vitality caused by the above can dramatically affect the life span of the tree



• Damage to the crown can also lead to disease and instability in the worst cases



5.0 Protection of the Trees that are retained

5.1 BS 5837: 2012 is intended to give recommendations to protect the trees during development and ensure their survival following the construction work. To achieve this there are two main considerations. The first is to protect the roots of the trees and the second is to protect the upper parts of the tree, the trunk and the branches.

5.2 The main tool to achieve the above is to create Construction Exclusion Zones (CEZ) around the trees. These are based on the Root Protection Areas (RPA) as calculated in the BS 5837: 2012 The RPA for all the trees are included in the survey schedule. In some circumstances, when advised by an Arboriculturalist and for individual open grown trees only, it may be permissible to off set the RPA by as much as 20%. It is also possible to vary the RPA from a circle to allow for specific site conditions.

5.3 To achieve an effective CEZ it is necessary to erect a protective barrier along the edge of the RPA. The details of this fencing are shown in Figure 2, which is includes as an appendix (B) to this report. The barrier should be erected a minimum distance from each tree. This minimum distance is provided as a radius in the Survey Schedule and shown on the plan. Is it essential that this barrier is well anchored into the ground to prevent is being moved. It is acceptable to use Herras fencing in concrete or rubber feet and appropriately back braced in area where site circumstance and the associated risk of damaging incursion into the RPA are low.

5.4 The tree protective fencing should be installed before any construction work takes place. This includes demolition, site clearance and drainage work.

5.5 Notices should be fixed to the fencing warning personnel not to enter. They should read 'CONSTUCTION EXLCUSION ZONE- NO ACCESS'

5.6 In some circumstances, with agreement from the Local Planning Authority LPA, it



may be necessary to work within the RPA. In these circumstances the barrier may need to be realigned and ground protection used even for access on foot. If vehicular access is required then this will have to be specifically designed to prevent compaction and agreed in writing.

5.7 If the LPA agree to work within the RPA then any excavation work would have to be done by hand and usually supervised by the Arboriculturalist. Drives or access roads will also require a specific method statement and include 'No Did' construction methods.

5.8 Some operations such as the delivery of large sections of buildings or the use of cranes for construction or demolition will need to be carefully organized and supervised to avoid accidental damage to the branches and stems of the retained trees. It may be advisable where damage in inevitable to carry out facilitation pruning to avoid initial conflict. This would need to be agreed with the Arboriculturalist and the LPA.

5.9 Trees should not be used to support notices and under no circumstances should nails, screws or bolts be driven into the trees. Likewise trees should not be used to support cables or lights.

5.10 Care should be taken to avoid the discharge of any material that could contaminate the soil within 15 meters of any tree. This would include; washings from cement mixers, fuel or oil storage etc. This distance may need to be extended if the ground slopes towards the tree.



6.0 Arboricultural Methods

6.1 The Arboriculturalist or the LA Tree Officer should be consulted if there are any unforeseen issues in relation to any tree on site including any unexpected work within the RPA.

6.2 All tree work should be carried out by highly skilled professionals and it is recommended that contractors are selected from the Approved List of Arboricultural Association Contractors.

6.3 All tree work should be carried out to the latest standards based on BS 3998: 2013 Recommendations for Tree Work



7.0 Wild life and Timing of Operations

7.1 Many animals including bats and birds are given special protection under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2001 amongst other legislation.

7.2 Bats – It is an offence to 'intentally or recklessly disturb a bat' or ' damage, destroy or block the access to the resting place of any bat'. An assessment of trees on the site for suitability of bats is an essential part of the pre planning stage. If bats are found or even reported to have used the trees to roost then it is essential that a specialist in this field is contacted for advice. It may be that a European Protected Species Habitat Regulations License is required before work can continue. Following advise it is usual that work to trees with potential for bats roosts is best done from last August to early October. March through to April is also suitable but there may be conflict with nesting birds.

7.3 Birds – It is an offence to 'disturb, injure or kill any bird whilst it is at or building a nest' this includes damage to or removal of the actual nest whilst it is in use or being built. Tree work that could lead to the above should therefore be avoided during the months of late March through until August.

7.4 To avoid problems with either it would be advisable to program all necessary site clearance work and tree pruning during August to late October



8.0 Planning Considerations

8.1 Full planning consent that includes any proposed tree work usually overrides the requirement to get specific permission even for trees that are within a Conservation Area or protected by a Tree Preservation Order.

8.2 If work is to be carried out prior to planning consent being sought then it may be necessary to apply for permission separately. In a Conservation Area it is a requirement to give six weeks written notice of any intended works. In the case of a Tree Preservation Order an application is required to the LPA on a 1APP form, in this case it may take 8-10 weeks before permission is given. It should be noted that permission is not required from the LPA to remove 'dead or dangerous' trees although it is always best to inform the LPA of your intentions and supply suitable evidence to support your actions.



9.0 Overall Considerations for this site

9.1 The overall condition of the trees referred to is of a generally good health with most of the mature trees subject to having been reduced at some point. Some younger trees have had suppressed growth due to the reduced levels of light.

9.2 The trees that have been issued a category U will be removed due to some form of fault or defect in the tree restricting the growth and overall health of the tree. Life span of these species is low and the removal is not considered to be detrimental to the aesthetics of the site.

9.3 T3, T4 and T13 are all mature and even through some have been subject to crown reduction are good specimen which should be retained to reduce the environmental impact and maintain the aesthetics of the site.

9.4 T2 is Beech Tree with a dogleg lean and a large pruning wound. This tree is a poor specimen. The future life span of this tree is vastly limited to due the structure of the tree and may at some point become unsafe. It is recommended that this tree be removed.

9.5 In my opinion none of the trees should pose any severe constraints on the proposal but the trees in category rating B or C should be retained if this fits into the scheme.

9.6 It is considered that given the RPA of T1 and the indication of the new boundary that there is sufficient distance for this tree to remain unharmed by any construction works.

9.6 None of the trees on this site are subject to a Tree Preservation Order.

9.7 All retained trees will require protection during the construction work to make sure they are not damaged. This can be achieved by the use of barriers to exclude vehicles, details of this are found in this report.



10.0 Cascade Chart for Tree Quality Assessment – Table 1 BS 5837: 2012

ategory and definition	Criteria (including subcategories where a	ppropriate)		Identification on plan
rees unsuitable for retention	(see Note)			
ategory U hose in such a condition bat they cannot realistically	 Trees that have a serious, irremediats including those that will become unv reason, the loss of companion shelte 	ele, structural defact, such that their early loss viable after removal of other category U trees r cannot be mitigated by pruning)	is expected due to collapse, (e.g. where, for whatever	See Table 2
e retained as living trees in	 Trees that are dead or are showing s 	igns of significant, immediate, and irreversibl	e overall decline	
he context of the current and use for longer than 0 vears	 Trees infected with pathogens of sig quality trees suppressing adjacent tr 	nificance to the health and/or safety of other ees of better quality	trees nearby, or very low	
	NOTE Category U trees can have existin see 4.5.7.	g or potential conservation value which it mic	tht be desirable to preserve;	
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
ees to be considered for rete	ention			
ategory A ees of high quality with an tatmated remaining life cpectancy of at least) 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 andior 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. vetran trees or wood-pasture)	See Table 2
ategory B	Trees that might be included in	Trees present in numbers, usually growing	Trees with material	See Table 2
ees of moderate quality (it) an estimated remaining e expectancy of at least)years	category A, but are downgraded because of inpaired condition (e.g. presence of significant though creaters of significant though unsympathetic past management and storm damage), such that they are unikely robe suitable for retention for uplikely robe suitable of retention for beyond 40 years; or trees lacking the special quality necessary to merit the	is groups or woodlands, such that they attract a higher collective artifle than they might as individuals, or treas occurring as collectives but situated so as to make little visual contribution to the wider locality	conservation or other cultural value	
tegory C ees of low quality with an titimated remaining life tectany of at least Vears, or young trees with stem diameter below	Unremarkable treas of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodiands, but without this conferring on them applicantly preater collective landscape velue: and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

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APPENDIX A: TREE SURVEY SCHEDULE

KEY:

Measurements	Life Stage	Physiological Condition	Category Grading	Symbols
Height - Metres	Y - Young	G - Good	A - High (green)	<- Less than
Stem Diameter - Millimetres at 1.5m above	SM - Semi-Mature	F - Fair	B - Moderate (blue)	 Approximately
ground level	EM - Early Mature	P - Poor	C - Low (grey)	> - Greater than
Branch Spread - Metres (North, South, East and	M - Mature	D - Dead	U - Poor/Trees for removal (red)	
(Mest)	OM - Over-Mature		Sub-Categories:	
Crown Clearance - Metres	V - Veteran		1 - Mainly Arboricultural value	
RPA Radius - Metres			2 - Mainly Landscape value	
Estimated Remaining Contribution - Years			3 - Mainly Cultural value	
FSB - First Significant Branch - Metres				
RPA - Root protection area (equivalent to a circle	with a radius 12x the stem diamet	er measured at 1.5m above ground	evel)	

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12.0 Appendix B: Tree Protection Barriers





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Figure 3 Examples of above-ground stabilizing systems



13.0 Appendix C: Site Plan





14.0 Appendix D: Block Plan





15.0 Appendix E: Tree Constraints Plan and Arboricultural Implications Assessment





Site: Westerdale, Birchall Lane, Leek ST13 5RA

Surveyor: Edward Turner

Date: 19th December 2014

Tree Ref	Species	Height (m)	Stem Diameter (mm)	Bran	nch Spr	read	(m)	Crown Clearance (m)	FSB Height and Direction	Life Stage	Phys. Condition	Structural Condition	Recommendations	Estimated Remaining Contributi on	Category Grading	RPA Radi us (m)
ΤI	Magnolia (Magnolia Salicifolia)	5.34	280	1.5	1.5	1.5	1.5	2	0.5 (SW)	м	F	Epitomic Growth through crown due to crown reduction	N/A	10>20	В	3.3
T2	Beech (Fagus)	11	470	2	2	1.5	3	3	2.5 (W)	м	Ρ	Bend in trunk at 1.5m with old pruning cut	To be removed	0	U	5.6
T3	Beech (Fagus)	12.6	400	3	2	2	2	3	3 (W)	м	F	Crown reduced causing weak new growth	N/A	20>40	В	4.8
T4	Beech (Fagus)	13.5	421	2	3	3	3	3	2	м	F	Poor fork at 2m high. Dead wood throughout crown	N/A	20>40	В	5



T5	Laburnam (Laburnum anagyroides)	4	120	0.5	0.5	1.5	0.5	1.5	1.5 (E)	ОМ	Р	Suppressed by Beech Tree. Heavy lean toward East	To be removed	<10	U	1.4
T6	Diadora (Cedus deodara)	6	180	1.5	1.5	1.5	1.5	1	1	Y	F	Suppressed by Beech Tree	To be removed	40+	В	2.1
Τ7	Yew (Taxus baccata)	3.5	150	1	1	1	1	1	1	Y	F	N/A	N/A	40+	В	1.8
T8	Pine (Pinus)	8	180	1.5	1.5	2	2	1	1	SM	F	At 3m there has been damage to the trunk causing a new main leader	N/A	40+	В	2.1
Т9	Lawson Cyprus Conifer(Chamae cyparis lawsoniana)	11	340	1.5	1.5	2	1.5	0.5	1	SM	F	Stem has a lean towards East. Scar to stem from previous staking	N/A	20>40	В	4
T10	Laburnam (Laburnum anagyroides)	8	360	1	1	1	1	3	2(W)	м	Ρ	Multi- stemmed with major deadwood, poor condition	To be removed	<10	U	4.32
TII	Holly (llex aquifolium)	5.6	280	1.5	1.5	1.5	1.5	3	2 (W)	SM	Р	Poor large fork at 2m high	To be removed	<10	U	3.2



T12	Yew (Taxus baccata)	4	150	0.5	0.5	0.5	0.5	1	1	Y	Р	Suppressed by shrubs and other trees	To be removed	<10	U	1.8
T13	Beech (Fagus)	10	700	3	3	3.5	3	3	0.5 (E)	Μ	F	Week lower forks major deadwood throughout the crown	N/A	20>40	В	8.4
T14	Laburnam (Laburnum anagyroides)	5	180	2	0	0	0	2	1.5 (N)	М	Р	Multi- stemmed large deadwood	N/A	<10	С	2.1