



ANDERSON

TREE CARE

Arboricultural Contractors and Consultants

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Tree Survey: Land at the junction of
Haigh Lane and Barnsley Road,
Hoylandswaine.

Client: **Simon Elliott,**
9 Farnaby Gardens, High Green,
Sheffield, S35 4FZ.

Date of Survey: **June 12th 2018.**

Weather at time of Survey: **Fine, somewhat dull.**

File reference: Cricket Pitch View 02

Appendices: 1. Tree location plan.
2.

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Introduction.

This site is the rear garden of a terrace of houses. It adjoins the village cricket pitch to the north. There are several mature trees within the site, some are Apple trees

Tree Preservation Orders.

The site is almost squarely in the centre of the Hoylandswaine Conservation Area. I understand there is also a Tree Preservation Order on some of the trees, although I have not seen the documentation.

British Standard 5837 2012 Trees in relation to design demolition and construction – Recommendations.

I have taken the above document as the basis for this report. The Standard was revised in 2012 and the 2005 version withdrawn. The Local Planning Authority should consider this Standard in its deliberations about this site. The Standard states its objectives of achieving “a harmonious and sustainable relationship between trees and structures.”

The preoccupation of this standard is the categorisation method and the Root Protection Area (RPA). The logic for this is that resources should not be wasted attempting to retain trees that do not justify retention, nor should a project set out to retain a tree only to ensure its rapid demise by failing to take account of its growing conditions.

While the Standard covers much more than these matters, at this stage in this project these are the major concerns. This survey is intended to supply the information necessary to ascertain which trees are suitable for inclusion in the project and how their retention will affect the manner in which the site is developed. BS5837 anticipates that an Arboricultural Impact Assessment (AIA) will be undertaken once the layout is finalised and that the planning application will be accompanied by a Tree Protection Plan (TPP).

The TPP is a drawing that shows which trees are to be retained and where the protection measures are to be installed. This should be accompanied by a “Method Statement” detailing the measures to protect the trees and when they can be removed. The AIA will contain details of tree work to be undertaken to facilitate the development and a summary of any tree planting.

BS5837; Tree Categorisation Method.

The categorisation method is summarised in BS5837 at section 4.5 where it emphasises the need for it to be undertaken by an Arboriculturist. Elsewhere the Standard tells us that an Arboriculturist should be a “person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.”

There are 4 retention categories; U, A, B & C. The criteria for inclusion in each category and subcategory are summarised in Table 1 “Cascade chart for tree quality assessment,” an interpretation of which follows:

Trees unsuitable for retention.			
Category and definition			
Category U: Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees. Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality. <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve.</i>		
Trees to be considered for retention.			
Category and definition	Subcategories		
	1. Mainly arboricultural qualities	2. Mainly landscape qualities	3. Mainly cultural qualities
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years.	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal Arboricultural features (e.g. the dominant or principal trees within an avenue).	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural value.
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural value.

NB. This is an interpretation of table 1, not a copy, although much of the text is verbatim.

BS5837 contains details about what colours should be used to indicate their categories on any drawings; these are U = dark red, A = light green, B = mid blue, and C = grey.

BS5837 goes into greater detail (at 4.5.10) about the appraisal of small trees; those of less than 150mm diameter, as these are easily replaced with similar sized new trees. It notes that they might even be transplanted.

It includes further detail (at 4.5.11) about the importance of veteran trees and the measures that are likely to be needed to avoid damaging them and to ensure they are not an imposition upon a development.

BS 5837; Root Protection Area.

The Root Protection Area (RPA) is defined as a circular area of radius 12 times the trunk (stem) diameter (TD). BS5837 contains details as to where and how it should be measured, and also as to how to treat trees with more than one stem; an equivalent diameter is calculated. I use a diameter tape to measure this and use common sense to adjust this measurement where Ivy or other factors affect the measurement. Despite the Standard's attempts to standardise the measurement conventions there will be times when there is little choice but to estimate the measurement.

While the RPA is defined as a circle the Standard accepts the impracticality of erecting circular fences and it implies that other shapes are acceptable as long as the impact of the alteration is properly appraised. As a general rule, the 12 times the TD sum can be interpreted as a "tree to building distance" that is easy to calculate. It would usually be acceptable to plot the RPA on any drawing as a square with sides of twice the tree to building distance, notwithstanding the fact that this would have a greater area than the circular area.

The two previous versions of BS 5837 have contained advice about offsetting the RPA. The 2012 version does not but allows (at 4.6.2) deviation based upon "a soundly based Arboricultural assessment of likely root distribution."

The 12 times the TD rule is often seen as a mathematical method of calculating where a tree might have grown roots, plainly it is not. It might be helpful to consider it as a system of calculating the size of pot that might be needed were it possible to transplant a mature tree into a pot. The calculation is actually for a volume of soil, although as the pot is predetermined to be 600mm deep (most tree root action is in the upper 600mm of a soil profile), it is only necessary to calculate an area.

Clearly if a tree has grown on very shallow soils it might be necessary to have a larger RPA. I anticipate that a tree grown in such conditions would be of relatively poor quality, although making firm predictions about such things should be avoided.

At Annex D, BS5837 contains a table of RPA areas for single stem diameters, and at Annex C the measuring conventions are illustrated. Annex D rounds the TD to multiples of 25mm and the RPA to the nearest whole square metre.

While damage to tree roots is paramount, other factors need to be taken into consideration; factors such as shade from nearby trees, future growth and even access for machinery in order to undertake future tree management. These factors may affect the categorisation.

The Survey Schedule.

While BS5837 suggests numerous factors that should be recorded on the schedule the information presented in this survey is as follows:

1. **Tree no & species.** I hope this is self-explanatory. I routinely use common names but will use scientific names to clarify the identification where necessary. Some trees are dealt with as groups. Hedges are dealt with similarly.
2. **Height.** (Ht) measured in metres. This is estimated from ground level. I use a clinometer and laser range finder to assist. While these are reasonably accurate, actually seeing the top of a tree from ground level can be difficult so the height should always be regarded as an estimate.
3. **Trunk Diameter.** (TD) measured in millimetres using a tape. This is rounded up to the nearest 10, greater accuracy is unnecessary. Where I have been forced to estimate the measurement due to basal growths or some-such, the figure is appended with an "E."
4. **Age class.** BS 5837 uses the term "life stage." I consider this to mean the same as age class. The categories are Young (Y), Middle-aged (EM for early-mature), Mature (M), Over-mature (OM) and Veteran (V). BS5837 uses the class "semi-mature" but this appears too similar to early-mature for me to make a meaningful distinction. A veteran tree is one that has probably exceeded its 'normal' life span and has developed attributes such as wildlife habitat, biodiversity benefits, historic association or such-like. To quote from the Standard: It is a tree that *by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.*
5. **Category.** The retention category as detailed above.
6. **Comments.** This column is simply to impart additional information and may cover reasons for the trees' categorisation or anything else that I feel is worthy of mention. Peculiar crown formation might be mentioned, or an unusual branch configuration. BS5837 recommends we measure the *"radius of branch spread at the four cardinal points."* This section will contain that information if I feel it necessary to measure unusual crown formation. Otherwise the presumption is that the trees are fairly typical for the species. The Standard also suggests that we record the height of crown-clearance; that is how far from the ground the branches grow. I shall not mention this unless it is unusual or particularly relevant. I shall broadly confine my assessment of the trees physiological condition to poor, fair, good, or dead and mention it here. All trees are assumed to be in good condition unless mentioned otherwise. The Standard asks us to include the *"estimated remaining contribution in years."* This is rather a "how long is a piece of string" question. I shall include a rough assessment of remaining life where I deem it necessary. By and large this will have been included as part of the 'category' assessment. If necessary I shall comment here.
7. **Root Protection Area.** As detailed above. Taken from Annex D. (NB. The RPA is 'capped' at 707m², i.e. a circle with 15m radius or a square with 26m sides.)

BS5837 contains a suggestion of information that might be gathered for a tree survey. This includes information such as the height of a tree's first branch, and the

crown spread to the four cardinal points. I note that the Blue Book (that is "Tree Preservation Orders; a guide to the law and good practice" DETR 2000 (since 2014 replaced by internet guidance that says much the same thing)) contains the very useful advice that local planning authorities should not ask for any more information *than is necessary to decide an application (to work on a protected tree)*. This is a sensible approach and one that I apply to all matters related to planning and trees. I note that the recent National Planning Policy Framework (NPPF) contains similar advice (at paragraph 193).

If something is particularly notable about a tree, say the crown spread is particularly broad or lop-sided, I shall mention it and expand upon the characteristic and its relevance in the discussion section of the report.

The previous version of BS5837 contained the instructions for preparing a "Tree Constraints Plan." While this was a sensible idea it was probably over complicated. It was intended to be a tool to inform the designer of a site layout more than an essential component of a planning application. It was meant to show the various retention categories of each tree or group, the tree positions and the heights and accurate spreads of each tree. It was also supposed to show the areas likely to be affected by shade. Shade would clearly differ from June to December and on slopes of different orientations, so this would be a complicated drawing. In fact I think it would be likely to be so convoluted as to be unusable.

Experienced designers are fully capable of working with different levels, neighbouring buildings, slopes of differing orientation, and interpreting where shade might be a problem, so the tree constraints plan could be seen as unnecessary. It is our intention that the tree schedule should provide sufficient information for a suitably experienced and skilled designer to prepare some sort of Tree Constraints Plan should he or she consider it necessary.

"An iterative process."

BS5837's Figure 1 is a flow chart illustrating the processes in developing a site. It emphasises that a development project should be an "iterative" process, meaning that advice from the Arboriculturist should be ongoing. This might mean that a sketch of a proposal should be discussed with the Arboriculturist, and the impact on trees appraised before preparing more detailed plans.

On large spacious sites it might be feasible to simply position structures and services outside of the RPAs, but on more typical sites it might be necessary to sacrifice a poor quality tree in order to give a better quality tree more space.

If these matters are addressed before a planning application is submitted it ought to speed up the decision-making process for the local planning authority. Figure 1 anticipates that the planning application will be accompanied by a *Tree Protection Plan, which shows the positions of RPA protection fencing, and an Impact Assessment*. This should be a summary of tree work that the project will require. This will include trees that are to be removed as well as those that might need pruning. It will also include an appraisal of the benefits of any tree planting and the likelihood of improved tree management upon the project's completion. By definition the impact assessment will take into account the surrounding area's tree population and the condition and management (or lack of) currently in operation.

The Trees.

A tree location plan is appended to the rear of this report.

Tree No.	Species.	Ht	TD	Age class	Category	Comments.	RPA
1.	Beech.	16	740	M	C1	One sided crown due to a removed companion-tree. This has resulted in the crown spreading 15 metres north to south, but less than 8 metres west to east. Numerous compression forks and pruning wounds and also lightly infested with Felted Beech Coccus. See discussion below.	255
2.	Oak	14	590	M	B3	4 stems giving the impression of coppice growth although it could be that they were separate trees closely planted. 15 metre spread. Not unattractive. (TD calculated.)	163
3.	Sycamore	11	260	EM	C1	Nondescript; in the shade of tree 2. Not much more than a sapling. Large pruning wound on the trunk.	34
4.	Lodgepole Pine	7	260	M	C1	Poor. Lodgepole Pine was planted extensively in the UK for forestry, but didn't do well. Just like this specimen.	34
5.	Oak	8	200	Y	C1	Not much more than a sapling but if tree 4 is removed and it is nurtured it would possibly become a good specimen.	18
6.	Silver Birch	11	440	M	C1	One-sided crown, ivy clad; an uninspiring tree. It would be more accurate to describe this as being late maturity.	92
7.	Sycamore	16	670	M	C1	3 stems. Crown somewhat one-sided due to competing with tree 6 & others. OK but it would be better if it was a different species.	206
8.	Silver Birch	11	340	M	C1	Another tree in late maturity.	55
9.	Horse Chestnut	12	370	EM	C1	A relatively young tree growing vigorously.	

Tree No.	Species.	Ht	TD	Age class	Category	Comments.	RPA
10.	Group	15 max	400 max	M	C2	9 Silver Birch with a young Sycamore and a Holly sapling. Planted along the boundary wall. The Birch are all in late maturity.	72
11.	Group	15 max	400 max	M	C2	4 more Silver Birch which could reasonably be described as being in late maturity. Growing from the midst of a Cherry Laurel hedge, which is competition for the trees and may have affected their condition.	72
12.	Orchard group.	7 max	350 max	M	C2	Apple trees growing in the garden, describing these trees as an Orchard is something of a stretch but it allows me to introduce the topic of "old orchards." I do not think it is appropriate to describe these as an old orchard, as defined in the UK Biodiversity Action Plan (UKBAP). See discussion below.	55

Discussion.



Photograph 1.

Photograph 1 is a view of the site looking southeast from the side of the cricket pitch. I have to say I was a little surprised to discover that any of the trees on this site were protected by a Tree Preservation Order (TPO). Councils can only protect trees in the interests of amenity, and although amenity is not defined (in the Planning Act) Government guidance, issued to accompany the NPPF, states fairly categorically that “amenity” should mean something more than mere visibility. In this case it’s hard to see anything about any of the trees here that is remotely out-of-the-ordinary.

Although TPOs can be used to prevent people from cutting down trees, in the long run this does not ensure that a tree stock is renewed. Although the Forestry Commission understand the importance of renewing the tree stock (to maintain the Country’s timber reserve), many people in urban areas seem to think that maintaining the urban or amenity tree population will be achieved by simply protecting what we have already got. It will not; a healthy tree population will only be maintained by ensuring that it is regularly renewed.

It is my experience that if people are left alone they will grow trees. If our political masters attempt to interfere and tell people to plant or grow trees, (for example by serving a Tree Preservation Order) they are likely to do nothing. On this site it is worth noting that the property owner has planted all the trees on the site, although he now understands that there is little point in planting any more as the existing trees are creating so much shade that the Apple trees in the garden do not produce fruit and any new planting is likely to fail. To look at it another way, the renewal of the local tree stock is prevented because of a group of nondescript trees.



Photograph 2.

Photograph 2 is a view of the site seen from the War memorial at the opposite side of Barnsley Road. The Birch trees are part of group 11 and hiding tree 1 from view. The hedge at the base of the Birch is Cherry Laurel, which is, in terms of biodiversity, is something of a suppressant. Biodiversity is something of a preoccupation with the NPPF, much more so than trees per se. Native plants are believed to be good for biodiversity because they usually support a host of other species, that is insects and birds.

The reason that Cherry Laurel has low biodiversity value is that it is non-native and is therefore taking up space that might be better utilised by native plants with better biodiversity value. Just to add to Cherry Laurel's poor value, it is also allelopathic. That is it suppresses other species by producing chemicals that prevent germination of seed other than its own. It is likely that most plants have some allelopathic ability but in the case of many non-native and invasive species, they are worse because nothing has managed to evolve to tolerate the allelopathy.

Native plants, because they've been around longer, have evolved to tolerate one another's allelopathy and thus plant communities with good biodiversity have evolved. In the case of Oak I believe some 300 other species indirectly depend on it for their existence.



Photograph 3 is a view of the site from the cricket pitch looking westwards. This is tree group 10.

Photograph 3.

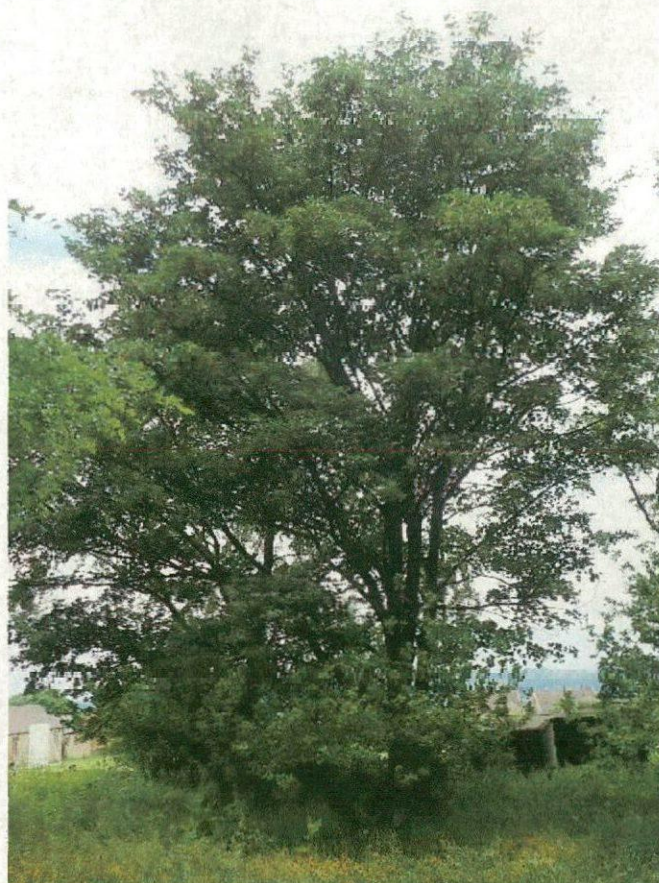


Photograph 4.

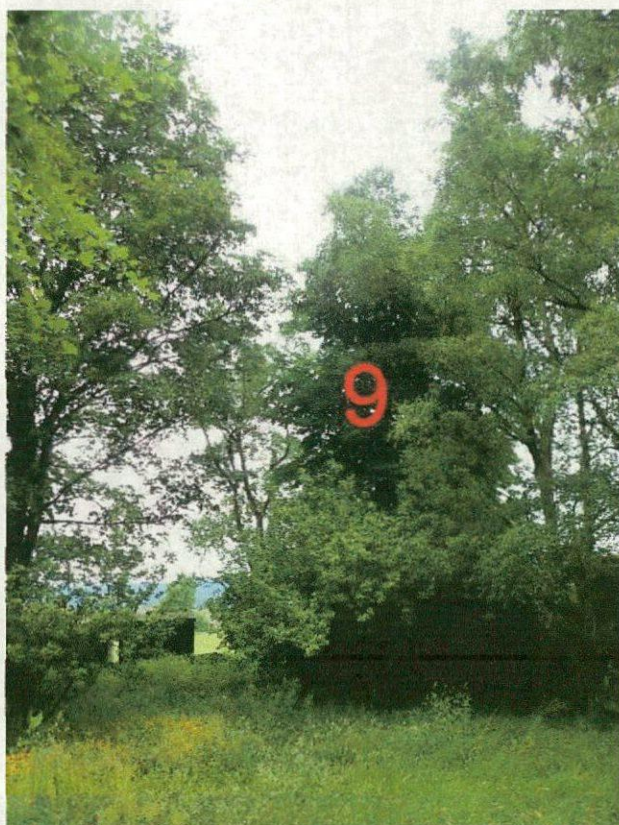
Photograph 4 is a view from the cricket pitch looking south. It is hard to distinguish the individual trees, so I've attempted to number them, although it is still not clear where one finishes and the next one starts. This is an area in which TPOs are unhelpful; plainly it would be sensible to remove some of the competing trees to allow the better trees to develop without competition, but the TPO actually prevents this work. That is the requirement to complete an onerous application form puts many tree owners off and the work is neglected.

Photograph 5 shows tree 7; taken looking northwards from inside the site. Tree 6 is almost entirely hidden by this Sycamore.

Sycamore is not a popular species for planting in a garden. They cast fairly dense shade and their leaves when they fall, take a long time to rot away. Also their flowers are unremarkable, they don't show much autumn colour and their leaves are only a dull shade of green. (There's something of a dispute about whether it's native or not, so I'll avoid that topic.)



Photograph 5.



Photograph 6.

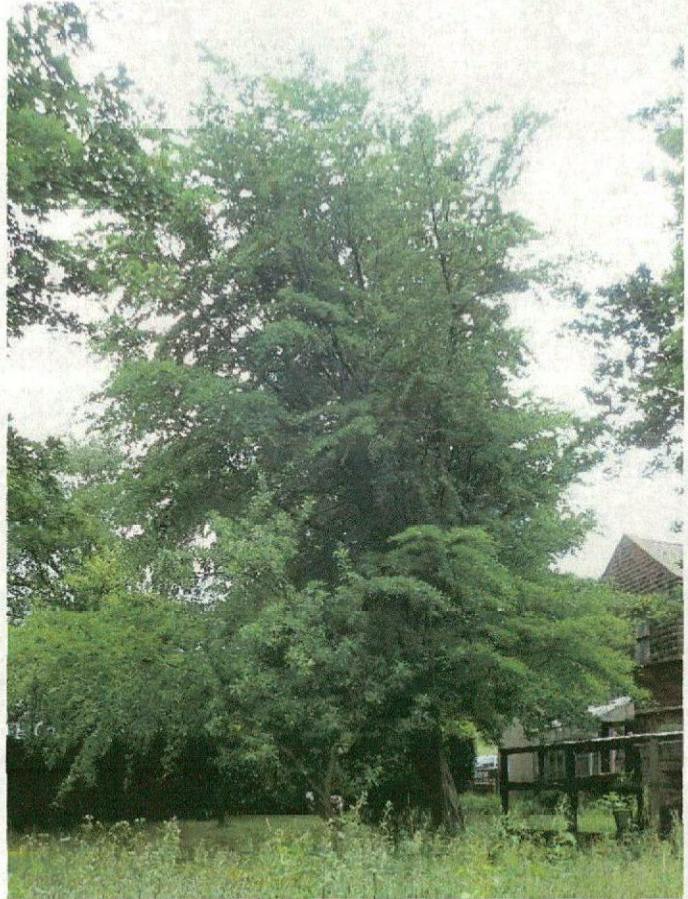
I took photograph 6 in an effort to show tree 9 competing with its neighbouring trees. Tree 7 is at the left and one of the Birch in group 10 is at the right. Tree 8 is barely visible to the left of tree 9. For tree 9 to develop it would be prudent to remove at least tree 8 and at least one Birch, possibly two. And removing the Sycamore would give it more space.

Unfortunately Horse Chestnut as a species is suffering threats from several diseases at the moment. Two sorts of bleeding canker are rife and a leaf-mining insect is also making life hard for the species.

The only real defence against these diseases is to plant more trees of different species. Also young trees are more resilient than elderly ones so keeping the average age of the tree stock low is prudent.

Photograph 7 shows tree 1 as seen from the north. From this aspect its spread is not particularly large. This is partly because it did have a companion tree (I was told), which will have caused it to grow in this manner. (The lost companion was an Ash close to the outbuilding and would have been at the right-hand side of this photo.)

However when viewed from the west or east its spread is much greater; it reaches 9 metres towards Barnsley Road and it is not much less in the opposite direction. (Towards the camera in this photo.) Unfortunately there was not a position where I could get a photo that showed the spread in that direction.



Photograph 7.



Photograph 8.

Photograph 8 shows the trunk of tree 1. It has clearly had several branches removed over the years but the tree clearly did not receive any formative pruning in its early years. As a result the tree has numerous poorly formed branch unions and several water pockets; formed by the branch unions. None of these are currently structurally significant, but the tree's long-term prospects are not as good as they would have been had it received formative pruning.

Beech trees are prone to these poor unions, which may be a problem brought about by poor plant selection. This means collecting seed from trees with poor form. Whatever the cause, this is not a particularly good tree, and I struggle to understand why it was selected for TPO-protection.

Photograph 9 shows tree 2's trunks. This could have arisen from the stump of a cut tree, or it could be several trees planted in close proximity to one another.



Photograph 9.



Photograph 10 shows the whole of Oak tree 2, with tree 3 (at the right) almost hidden.

Photograph 10.



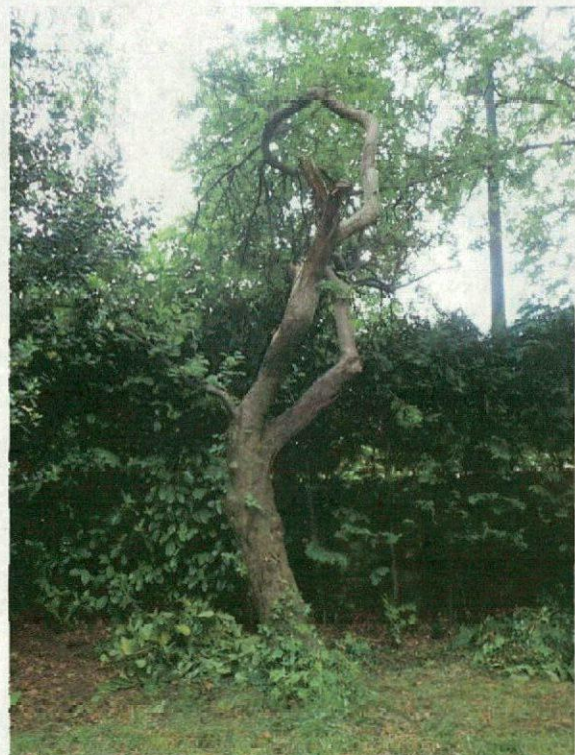
Photograph 11.

Photograph 11 shows tree 4 with tree 5 beyond. Lodgepole Pine is, I believe, something of a disappointment to the forest industry as it simply hasn't grown as well in this country as it does in the Rocky Mountains, from where it originates. The young Oak could very easily develop into a good specimen if the Pine is removed and steps are taken to remove any other competing trees.

Growing good specimen trees often depends on at least a little nurturing. This doesn't necessarily mean formative pruning; removing competing trees might be just as important.

Photograph 12 shows the largest of the Apple trees. Although this tree is decrepit; misshapen and damaged, it is not unattractive. However there is no guarantee that even if it received some remedial pruning, it would become a more attractive specimen. It might be quicker to simply plant a new tree.

I mentioned the UK Biodiversity Action Plan because in it old orchards are noted as a priority habitat. This is because old orchards have been noted as repositories of biodiversity, not just in the trees but in the grass sward beneath. In this case the grass has been mown regularly and the "niche habitats" that old trees might contain are noticeably absent.



Photograph 12.

This concludes my tour and appraisal of the trees on this site.

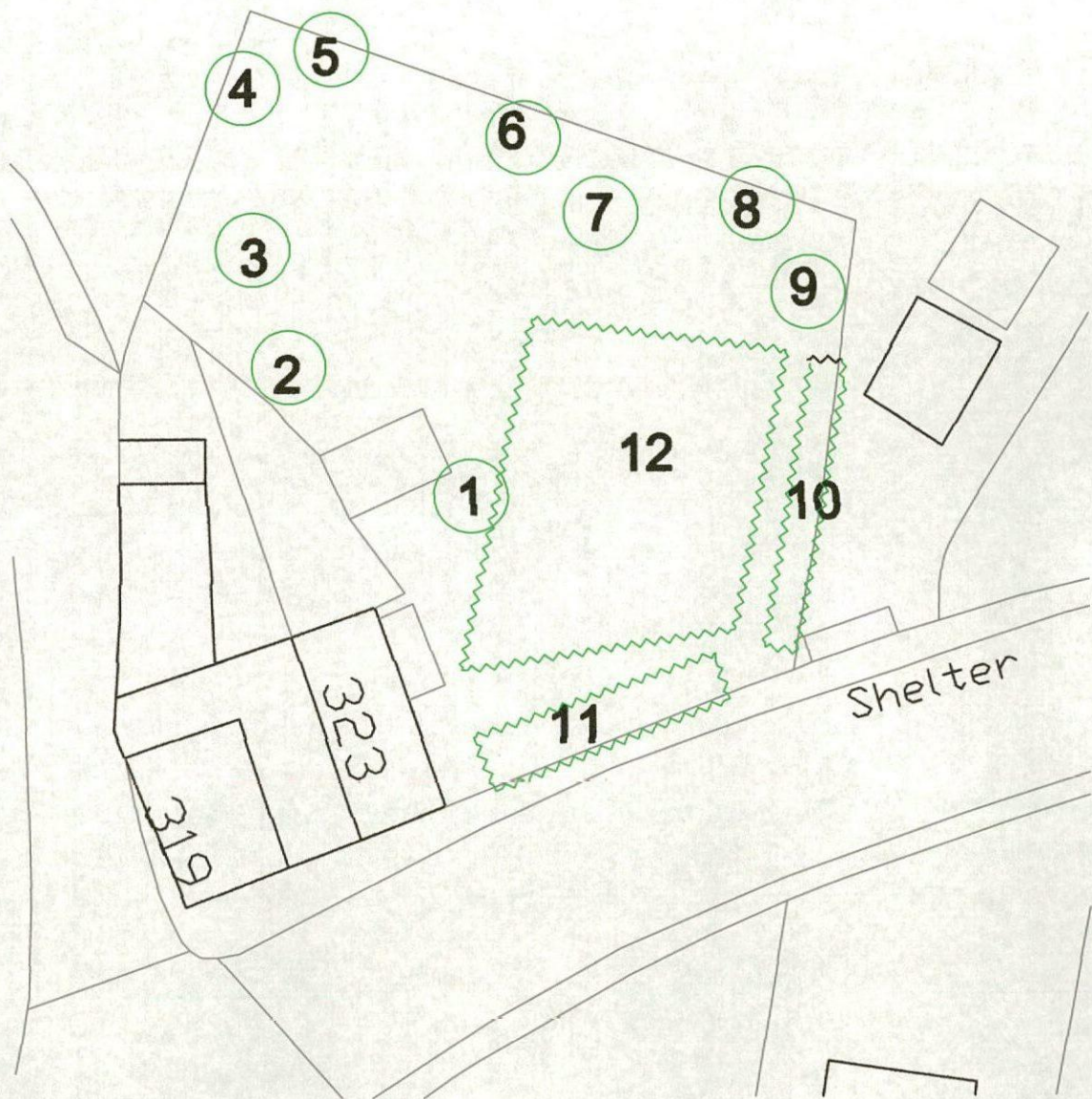
Conclusion.

None of the trees on this site stand out as good individual specimens. And while a couple have potential, this is not likely to be realised without some care and attention.

I see no reason why trees should stand in the way of a modest development.

W. L. Anderson. Dip.Arb. (RFS) M.Arbor.A.
ANDERSON TREE CARE LIMITED.

June 2018.



**Tree Location plan Greenside House,
Haigh Lane. Hoylandswaine. June 2018**