

Reserved Matters Submission & Condition Compliance Statement

Condition 7

Land at
Haresfield
Badgers Road
Badgers Mount
Sevenoaks
TN14 7AY

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1.0 Introduction

1.1 Site details:

The subject site is on land at Haresfield, Badgers Road, Badgers Mount, Sevenoaks, TN14 7AY.

1.2 Proposal summary:

The proposal is to construct a single residential dwelling, with a detached garage and associated vehicle access and parking.

2.0 Background

2.1 Planning consent:

Planning consent was granted on appeal on 2nd October 2019 (APP/G2245/W/19/3230759).

2.2 Planning Conditions:

Eleven individual conditions were attached to that consent and this report will address the issues/requirements raised in one of those conditions.

3.0 Condition 7

3.1 Condition 7 states that:

'Before any equipment, machinery or materials are brought on to the land for the purposes of the development, the means of protection of any trees located within the vicinity of the proposed works in accordance with BS5837: 2012 Trees in Relation to Construction shall be submitted and approved in writing by the local planning authority. Thereafter the land so enclosed shall be kept clear of all contractor's materials and machinery. The existing soil levels around the boles of the trees shall not be altered. The means of protection shall be maintained until all equipment, machinery and surplus materials have been removed from the land.'

4.0 Site details

4.1 Site description: The subject site is located on land at Haresfield, Badgers Road, Badgers Mount, Sevenoaks, TN14 7AY.

4.2 Proposal details: The proposal is to construct a single residential dwelling, with a detached garage and associated vehicle access and parking.

4.3 Existing structures: There is an existing outdoor swimming pool and an associated open sided timber shelter adjacent to it on site.

4.4 **Existing topography:** The central portion of the site is essentially level, but the ground rises steeply to the north, west and south from this central area.

4.5 **Existing vegetation:** The predominant vegetation within the garden is short mown amenity grassland in regular maintenance.

4.6 **Soils:** The soil type is of relevance because soils with a high clay content can be compacted, which in turn can be extremely damaging to tree roots. The British Geological website indicates the bedrock geology to be undifferentiated chalk from Lewes Nodular Chalk, Seaford Chalk and Newhaven Chalk formations. The clay content within such soils is likely to be low, but the tree protection measures advocated in this report are still set at the highest level of current technical specifications.

5.0 Planning history

5.1 The proposed development was allowed on appeal, granted on 2nd October 2019.

6.0 Protected trees

6.1 I have been given no information to indicate if any of the trees within the site, or adjacent to it, are protected by a tree preservation order, or are located within a Conservation Area.

7.0 Documents supplied

7.1 I have been supplied with scheme and proposal plans by Robert Shreeve Associates Ltd. Dwg No: 20.50.BP01. Dated: January 2021.

8.0 Existing trees

8.1 I surveyed six individual trees and two groups of trees both on and off-site in February 2021. These have been plotted on the existing tree plan at Appendix A, and described within the schedule at Appendix C.

8.1.1 I classed the trees according to the classifications outlined within BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations' (See Appendix E).

9.0 Arboricultural Method Statement (AMS)

9.1 Root Protection Areas (RPAs)

The identification of Root Protection Areas is the primary means by which retained trees are protected on construction sites. No unspecified activity should occur within any prescribed RPA, access should only be permitted with prior approval of the Local Planning Authority, and encroachment should normally only take place if the ground beneath is suitably protected.

- 9.1.1 BS 5837:2012 provides arboriculturists with a method to determine the extent to which excavations associated with construction works might have a damaging effect on the roots of adjacent trees. The Standard enables an RPA to be calculated from the diameter of each retained tree, and this is usually described as a circle with a radius at the prescribed distance from that tree.

9.2 RPAs and the subject site:

I have calculated the RPAs of the retained trees as recommended within BS 5837:2012. This area is shown as a dashed red line around retained trees at Appendix B.

- 9.2.1 Some aspects of the proposed development will potentially encroach into the nominal RPAs of retained trees on site, while other activity will occur close to them.

9.3 Site specific considerations:

The illustrated Root Protection Areas at Appendix B are based upon a notional representation of the RPA as a circle centred upon the base of the stem. However, the British Standard recognises the potential for this to be a crude oversimplification of actual root spread, and that specific site conditions can result in the development of asymmetrical root systems – See Paragraph 4.6.2 of BS 5837:2012. In such situations the British Standard suggests that it should be demonstrated that the trees in question should remain 'viable and that the area lost to encroachment can be compensated for elsewhere, contiguous with its RPA' – See paragraph 5.3.1 of BS 5837:2012.

9.3.1 The subject site:

Given the nature of the site, it would be reasonable to generally expect the soils within and adjacent to the illustrated RPAs to be capable of supporting root growth. As a consequence, it would not be unreasonable to exert a degree of flexibility - if required - in the interpretation of individual RPAs.

9.4 Site specific tree protection measures

I make the following recommendations with respect to specific tree protection measures:

9.5 Protective barriers

9.5.1 BS 5837:2012 recommends that the RPAs of the subject trees should be protected by the erection of barriers, the preferred form of which consists of welded mesh ‘Heras’ type panels 1.8 metres high, mounted on a braced scaffolding frame as detailed in Figure 2 & 3 of BS 5837:2012. (See Appendix F). The barriers should carry laminated signs stating: “Construction exclusion zone – No Access,” or similar. (See Appendix G). It is recommended that gaps should be left beneath the bottom of any perimeter site fencing and the ground to allow for the passage of foraging mammals.

9.5.2 **The subject site:** The requirement for two Tree Protection Barriers has been identified and these have been illustrated as a purple dashed line at Appendix B.

- **TPB 1** - This barrier is located around T1 in the south eastern corner of the site. It is designed to protect the RPAs and stem of T1 from potential damage resulting from construction activity.
- **TPB 2** - This barrier is located along the site’s southern, western, and northern boundaries. It is designed to protect the RPAs and stems of trees and shrubs beyond the barrier from potential damage resulting from construction activity.

9.6 Temporary ground protection

9.6.1 BS 5837 recognises that temporary ground protection may be needed within construction sites and provides sample specifications for that protection.

9.6.2 **The subject site:** A requirement for one area of temporary ground protection has been identified and this is illustrated in pink at Appendix B.

- **TGP 1** – This area is located to the south and west of the proposed garage and recycling store. The area is designed to protect the RPAs of adjacent trees and shrubs during the construction period.

9.6.3 BS 5837 states that any ground protection should be appropriately specified and capable of supporting any activity without being distorted or causing compaction of the underlying soil.

9.6.4 A specification for temporary ground protection where pedestrian movement and/or pedestrian operated plant with a gross weight of 2 t only is anticipated, might typically consist of proprietary inter-linked ground protection boards, placed on top of a compression-resistant layer (e.g., 150 mm depth of woodchip), laid onto a geotextile membrane.

- 9.6.5 If a greater – or lesser – degree of activity is envisaged than that described above, the specification of ground protection required can be adjusted accordingly depending upon the weight and frequency of the proposed activity within the RPA; guidance for such amendments should be sought from an appropriately qualified arboriculturist and structural engineer.

9.7 Construction of driveway retaining walls

- 9.7.1 The proposal includes a new driveway access from Badgers Road to the south. The footprint of the driveway falls predominately outside of the RPAs of adjacent trees. However, this will only be the case if the retaining wall to the east of the driveway is constructed vertically, with no battering back into the adjacent RPA. The specification for the wall should ensure this method of construction is implemented.

9.8 Demolition

- 9.8.1 Demolition of the existing swimming pool and its adjacent structures are identified as part of this proposal. However, this work should not commence until the tree protection barriers specified above have been installed.

9.9 Utilities

- 9.9.1 Where supply of any underground utilities passes through the RPAs of retained trees, BS 5837:2015 recommends that detailed plans should be drawn up in conjunction with an appropriately qualified arboriculturist.

9.10 Other general activities

- 9.10.1 Many of the activities which occur on construction sites are potentially damaging to trees. These include the location of site huts, parking arrangements, the storage of materials, the storage of rubbish, and the movement and operation of plant. It is important to understand the range of potentially damaging activities that might occur on a particular site and ensure at an early stage that these possible conflicts are recognised and avoided. Therefore, areas designated for site huts, parking and storage of materials should be identified prior to the commencement of works.
- 9.10.2 **The subject site:** There appears to be adequate space within the site to ensure that areas for storage and other aspects of site accommodation are not in conflict with the tree protection measures recommended in this report. However, this aspect of site management should be established and agreed prior to the commencement of works.

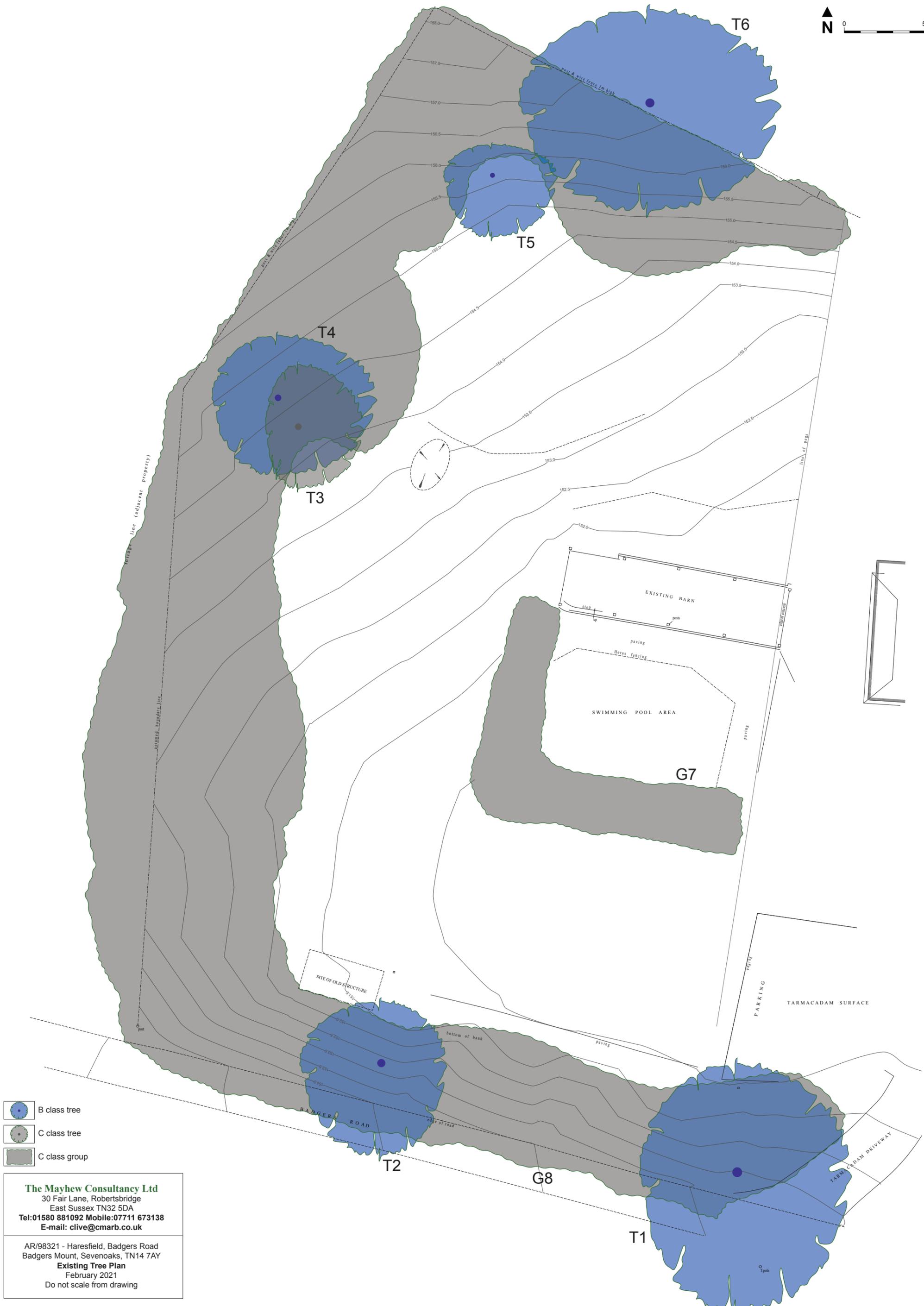
10.0 Sequence of works

10.1 The sequence of works should be as follows:

1. Tree works
2. Erection of tree protection barriers
3. Installation of temporary ground protection
4. Construction works
5. Removal of temporary ground protection
6. Removal of tree protection barriers

11.0 Conclusion

11.1 The tree protection measures specified within this report address the concerns listed within Condition 7 of the consent. If these measures are implemented during the construction period, I consider that the retained on and off-site trees will be adequately protected during the construction process.



-  B class tree
-  C class tree
-  C class group

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AR/98321 - Haresfield, Badgers Road
 Badgers Mount, Sevenoaks, TN14 7AY
Existing Tree Plan
 February 2021
 Do not scale from drawing



- B class tree
- C class tree
- C class group
- Root protection area
- Tree protection barrier
- Area of temporary ground protection

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Tree Protection Plan
February 2021
Do not scale from drawing

Tree Survey – 9th February 2021

Tree No	Species	Ht.	Stem dia.	RPA Rad	RPA Area	Crown spread N – S – E - W				CB	Age class	Phy con	Str con	ECR	Class	Observations & recommendations
T1	Oak	11	60	7.2	163	7	9	7	6	4	SM	G	G	L	B	Good, established tree on road frontage.
T2	Poplar	21	50	6.0	113	4	6	5	4	4	M	F	F	M	B	Established tree on road frontage.
T3	Poplar	13	40	4.8	72	4	4	4	2	1	SM	F	F	L	C	Unexceptional, multi-stemmed tree.
T4	Eucalyptus	18	40	4.8	72	4	5	6	4	9	SM	G	F	L	B	Established tall, long stemmed tree.
T5	Swamp cypress	15	30	3.6	41	2	4	4	3	2	SM	G	G	L	B	Good specimen tree with slightly uneven crown.
T6	Horse chestnut	15	55	6.6	137	6	7	8	8	2	M	G	G	L	B	Mature off-site tree.
G7	Portuguese laurel	<7	<10	1.2	5	As per plan				GL	M	G	G	M	C	Screen plating around swimming pool.
G8	Mixed deciduous and evergreen	<12	<30	3.6	41	As per plan				GL	M	G	G	M	C	Individually, generally unexceptional specimens, though collectively more significant.

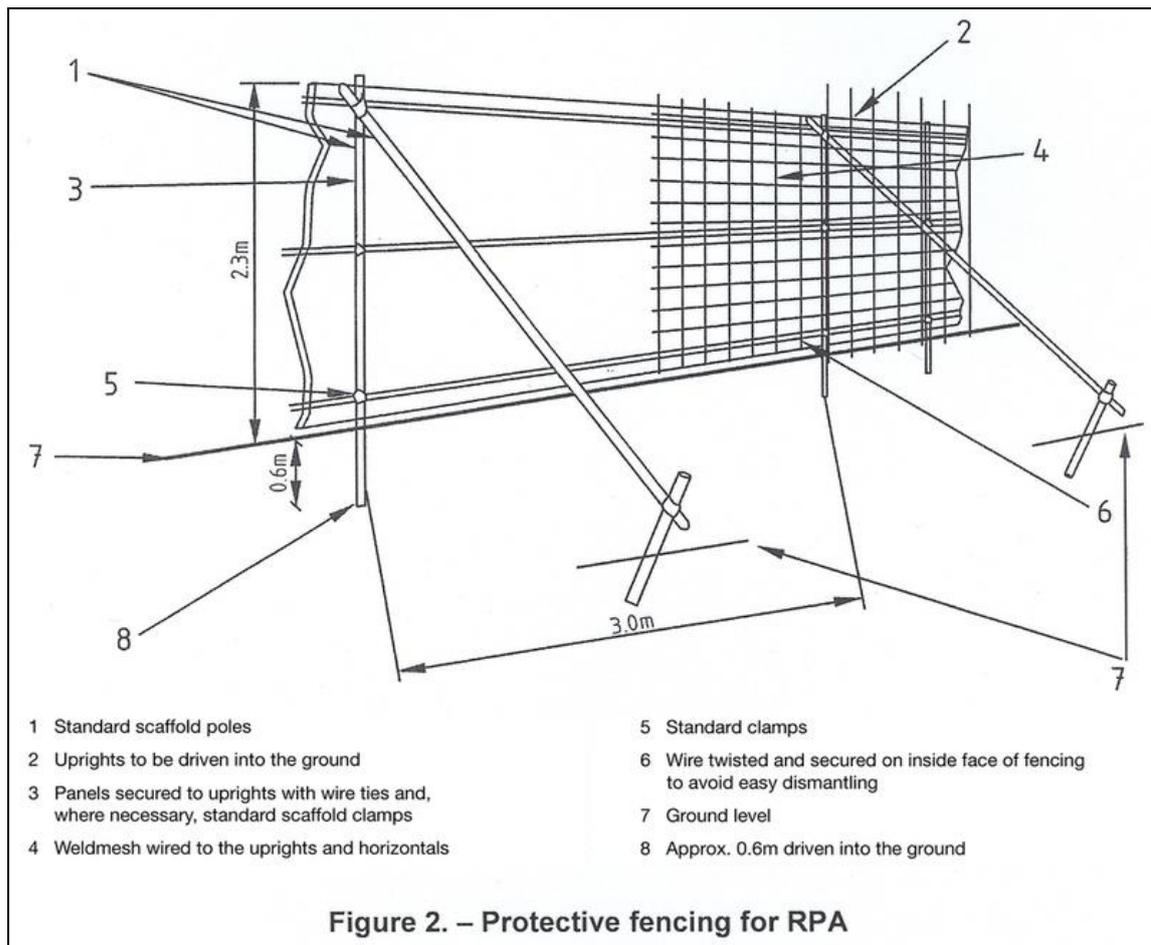
Survey sheet key

Tree No	Tree reference number as used in the report and survey plan T = Tree G = Group H = Hedge W = Woodland
Ht	Tree height in metres
Stem dia.	Stem diameter in millimetres Measured at 1.5 metres above ground level, or immediately above the root flare of multi-stemmed trees M = Multi-stemmed tree
Crown sp	Crown spread measured in metres from the stem to the four compass points
Crown break	Height of crown clearance above adjacent ground level, given in metres
Age class	Age class Y = Young: Staked or newly established tree SM = Semi-mature: An established tree at a stage of rapid growth EM = A tree nearing its ultimate canopy size for its situation M = Mature: A tree at its ultimate canopy size for its situation OM = Over mature: A mature tree smaller than its ultimate canopy size, often such trees are of great historical or ecological importance.
P. Con	Physiological condition of the tree expressed through an assessment of its general well-being G = Good, F = Fair, P = Poor, D = Dead
S. Con	Structural condition of the tree G = Good, F = Fair, P = Poor, D = Dangerous
R.C.	Estimated remaining contribution expressed in years D = <10, S = 10-20, M = 20-40, L = >40
BS Cat	Tree category graded as per the guidance given within Table 1 of BS 5837:2012 – See Appendix E A - Green = Trees of high quality with an estimated remaining life expectancy of at least 40+ years B - Blue = Trees of moderate quality with an estimated remaining life expectancy of at least 20 years C - Grey = Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm U – Red = Trees in such a condition that they cannot be realistically retained for longer than 10 years.
RPA ~ R	Root Protection Area radius, as measured in metres from the centre of the tree
RPA ~ A	Root Protection Area expressed in square metres

BS 5837:2012 Table 1 – Cascade chart for tree quality assessment

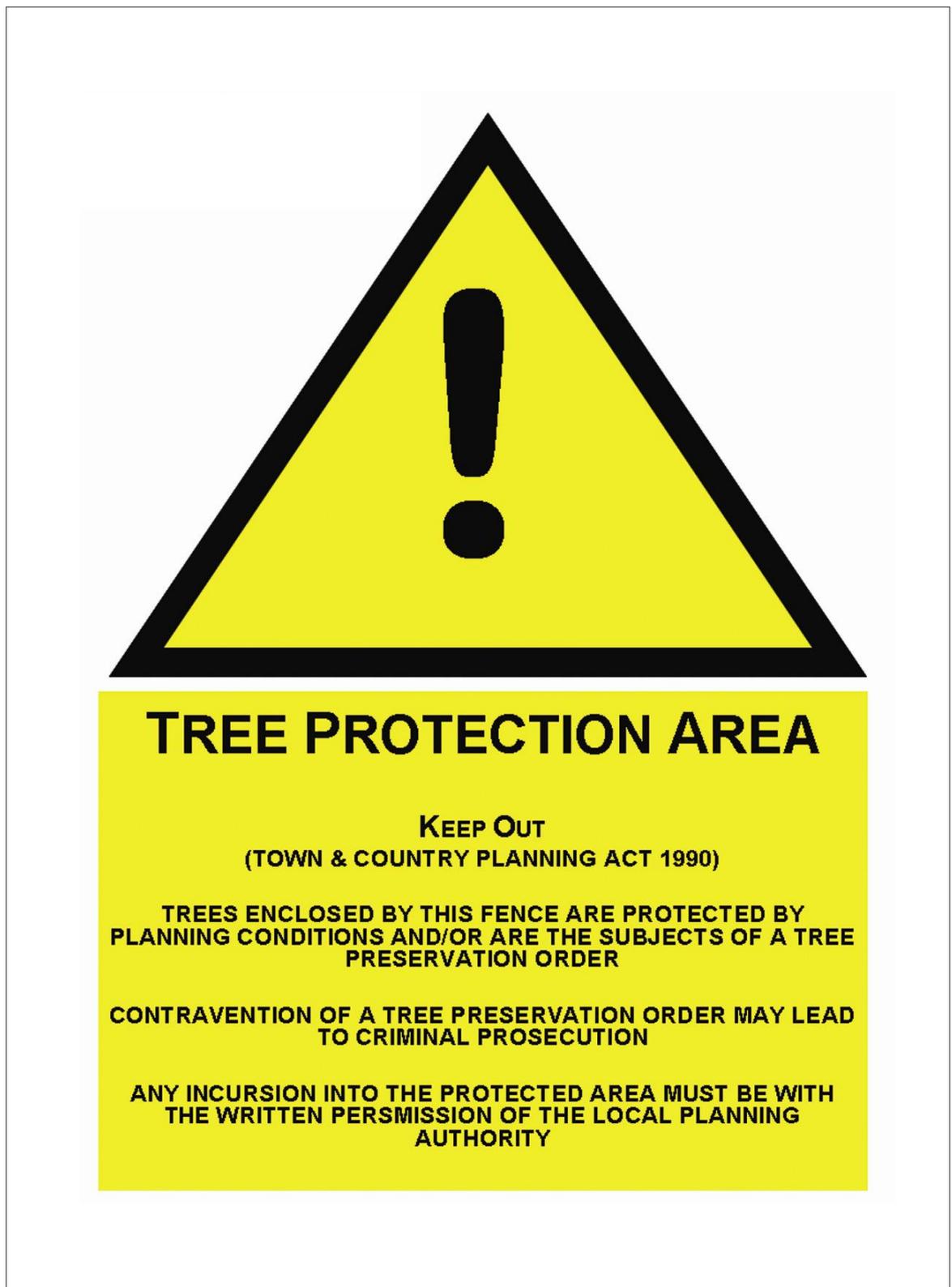
Category and Definition	Criteria (including subcategories where appropriate)	Identification on plan		
Trees unsuitable for retention				
<p>Category U Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.</p>	<ul style="list-style-type: none"> Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve.</p>	DARK RED		
	1. Mainly arboricultural values	2. Mainly landscape values	3. Mainly cultural values, including conservation	
Trees to be considered for retention				
<p>Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years</p>	<p>Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)</p>	<p>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features</p>	<p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</p>	LIGHT GREEN
<p>Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p>	<p>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</p>	<p>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</p>	<p>Trees with material conservation or other cultural value</p>	MID BLUE
<p>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 150mm</p>	<p>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories</p>	<p>Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value; and/or trees offering low or only temporary/transient landscape benefits</p>	<p>Trees with no material conservation or other cultural value</p>	GREY

BS 5837:2012 - Tree protection fencing



On site examples of appropriate tree protection fencing installed as recommended within BS5837

Tree protection area warning sign



1.0 Scope of this report

- 1.1 I have been commissioned to produce base line survey data for trees, with a view to identifying constraints and opportunities for sustainable tree cover in the context of the development proposal for the site. The survey has been undertaken in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' and was made in the context of the site's current usage.
- 1.2 This report comprises the prerequisite information for the planning process recommended in BS 5837:2012
- The production of a Tree Survey
 - The production of an Arboricultural Impact Assessment
 - The production of a Tree Protection Plan if required.
 - The production of an Arboricultural Method Statement, if required.
- 1.3 The tree locations and canopy spreads are plotted on the indicative plans at Appendix A.
- 1.4 A detailed condition survey or hazard assessment of each tree has not been undertaken within the scope of this report. If a tree was noted as being in such a condition as to require more detailed assessment, then that observation is included in the tree survey notes at Appendix B.
- 1.5 The findings within this report have been made on the basis of evidence seen on the day of inspection. It should be understood that some indications of tree hazard, such as leaf appearance and density, fungal fruiting bodies, and specific pests and diseases, are only visible at specific times of the year. Should significant additional information become apparent following the submission of this report I would reserve the right to modify the conclusion made accordingly.
- 1.6 This report is valid until:
- The re-inspection dates given for any tree in the survey schedule
 - An episode of adverse weather conditions - for example winds over land measured at Beaufort scale force 8 or above.
 - For two years from the date of inspection.
- Whenever any of the above occurs first, the trees must be re-inspected, and any recommendations carried out. The presence of a hazard, the probability of harm and the value of the target area all help to determine the frequency of re-inspection.
- 1.7 Some trees are protected in law. Prior to any works to trees being undertaken a check should be made with the relevant Local Authority to ensure that prior permission is not required with regard to Tree Preservation Orders (TPOs), Conservation Areas (CAs) or planning conditions that may affect the site or its trees.
- 1.8 Works to trees can also be regulated because of the risk of harming wildlife which may live on, or around them. Wild birds and bats are protected under the Wildlife and Countryside Act (1981) for example, and it is an offence to knowingly disturb their nests or roosts, while works to trees in proximity to badger setts may require a license.
- 1.9 Any tree works should be undertaken in accordance with British Standard 3998:2010 'Tree work - Recommendations'.

1.10 If hard surfacing needs to be installed close to trees the principles prescribed in BS 5837:2012 and modified specifications contained within Arboricultural Practice Note 12, 'Through the Trees to Development,' should be adopted.

1.11 My expertise is within the field of arboriculture and this report is limited to the arboricultural aspects of the site only. Any comments made with regard to other matters are from a lay person's point of view.

2.0 Survey method

2.1 Each tree was inspected from ground level, noting only external features and defects. The Visual Tree Assessment (VTA) method was used to carry out the tree survey; this is an industry standard, best practice method for assessing the health, stability and, to some degree, the amenity of urban trees. A tree may be physiologically healthy, with vigorous growth, but also exhibit mechanical defects and therefore be structurally weak, consequently presenting a risk. VTA involves an assessment of each tree's physiological and structural condition. It is carried out from ground level, with the aid of binoculars as necessary.

2.2 No climbing inspection was made of the crown, no excavation was made of the root system, and no specific decay detection equipment was used.

2.3 The following instruments were available to carry out the inspection:

- Diameter tape – To measure stem diameters
- Nylon headed mallet – To sound trees for audible indications of decay
- Steel probe – To indicate the presence and extent of cavities
- Binoculars – To visually inspect above ground parts of the tree

2.4 No soil samples were taken, and no tissue samples were collected.

2.5 The following publications have been used to inform this survey, and the recommendations which follow from it:

1. British Standard 5837:2012
'Trees in relation to design, demolition and construction – Recommendations.'
2. British Standard 3998:2010 'Tree work - Recommendations.'
3. 'Diagnosis of ill-health in trees' by R.G. Strouts and T.G. Winter.
DoE booklet Research for Amenity Trees No. 2, 1994.
4. 'The body language of trees - A handbook for failure analysis'
by C. Mattheck and H. Breloer.
DoE booklet Research for Amenity Trees No. 4, 1994.