Arboricultural Implications Assessment and Method Statement

ecourban Limited

The Old Vicarage, Fringford Road, Caversfield

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THE OLD VICARAGE, FRINGFORD ROAD, CAVERSFIELD

Produced by:

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Report Ref: **191199 - AIA 2**

Report Date: **31 October 2019**

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1 INTRODUCTION

1.1 **Instruction:** I am instructed by SC Architecture Ltd to report on trees that could be affected by a development proposal at The Old Vicarage, Fringford Road, Caversfield and prepare an Arboricultural Implications Assessment (AIA) and preliminary Arboricultural Method Statement (AMS) to support a planning application on the site.

1.2 **Document disclosure:** I was provided with a plan showing the existing site configuration and trees (drawing reference '4176-P-03-A') and which also included details of the proposed new site layout.

1.3 **Scope of report:** All my tree observations are of a preliminary nature, with the tree survey carried out from ground level without any investigations using invasive or diagnostic equipment. I was not able to fully view all the trees detailed in this report from all directions, as some were located on an adjacent private property. I have therefore confined observations of them to what was visible from within the site. I have not checked the accuracy of the positions of the trees shown on the provided plan and I have estimated all dimensions unless otherwise indicated.

1.4 **The Tree Protection Plan**: This is included in Appendix 1 and is a composite drawing derived from the information provided. It shows the existing site configuration in grey superimposed over the proposed layout shown in colour. This allows the relationship between the two to be clearly seen and an appropriate analysis of the implications of the proposed site changes to be undertaken. The Tree Protection Plan has also been annotated to show protection measures for the trees that could realistically be affected by the proposed development. It shows any activities in Root Protection Areas (RPAs) and if any trees are to be removed, they are shown with a red dashed crown outline.

1.5 **Qualifications and experience:** This report is based on my site observations and I have come to my conclusions in the context of my experience as a former local government tree officer and a private practice arboricultural consultant. I have qualifications in both arboriculture and forestry and details of these, together with a career summary are provided in Appendix 6.

1.6 **Ecological issues and statutory tree protection:** Providing guidance on ecological issues is not within my sphere of expertise. However, trees and other vegetation can often provide nesting, roosting and feeding opportunities for protected species. Therefore, before any tree work proceeds on site, I advise that appropriate advice is sought to see whether the trees to be removed are being utilised by any protected species. At the time of writing, I have made no checks to ascertain whether any of the trees discussed are covered by tree preservation orders, or if the site is located in a conservation area. Therefore, any person intending to carry out any operations involving trees (before a formal planning consent is issued) should consult the council before any such works are undertaken.

1.7 **Relevant background information:** This report is an updated version of an earlier document that has been revised following comments received from the council's tree officer. These remarks have led to an alteration to the site layout to give greater separation between the northern boundary vegetation and the closest dwelling. In addition, details of replacement trees and hedging are also provided on the plan included in Appendix 1.

2 SITE VISIT, DESCRIPTIONS, OBSERVATIONS AND SURVEY METHODOLOGY

2.1 **Site visit and description:** I visited the site on 2 September 2019 to gather my tree data. The Old Vicarage is located in Fringford Road, which is situated in the village of Caversfield. The site is positioned on the western side of the road and consists of a single dwelling, with a large detached garage and an area of land further to the west that is currently under grass. A small number of trees are growing on the grassed area and the site has additional groupings of trees and shrubs positioned on (or close to) the northern and western site boundaries.

2.2 **Description of proposed development:** This development proposal is to construct four new dwellings on the land located to the west of the main dwelling and garage.

2.3 **Soil assessment:** British Standard (BS) 5837: 2012 Trees in relation to design, demolition and construction – Recommendations advocates that a soil assessment should be carried out to inform decisions relating to Root Protection Areas (RPAs), tree protection, new planting and foundation design. I have consulted the British Geological Survey (BGS) website and their Geology of Britain viewer and this advises that the bedrock geology for the site is Cornbrash Formation - Limestone. I did not undertake any excavations on site to confirm this and a full geotechnical site investigation may need to be undertaken to provide a more in-depth level of information regarding soil type for the site.

2.4 **Tree survey methodology:** My inspection of the trees was visual and did not involve any climbing or exploratory investigations. During my visit, I identified individual trees and obvious groups where this was appropriate and I assigned an identification number to each, as shown on the plan in Appendix 1. I have included the BS categorisations in Appendix 5 for easy reference. I then collected the tree data included in Appendix 2 and placed the vegetation in one of four categories (U, A, B or C), as set out in British Standard (BS) 5837: 2012. However, some of the trees were located offsite and/or in areas of dense planting and this, together with their close proximity to one another meant that clear line of sight was not always achievable. I have therefore relied on estimates of tree attributes in such situations given the clear limitations on survey efficacy. Where of relevance, I also estimated the crown spreads for each tree/group at the appropriate

cardinal compass points and this information is also shown in the tree schedule in Appendix 2. Although this document is not a full and detailed report on tree health and safety, any significant visible structural defects or physiological conditions identified, together with preliminary tree works, are also noted in the appropriate columns in the tree schedule in Appendix 2. However, this report is not a tree condition survey and a full post development tree inspection is recommended to establish that the trees retained pose acceptable levels of risk once the development has been completed.

2.5 **Data interpretation:** The Root Protection Area (RPA) calculations are included in Appendix 2. As set out in paragraphs 4.6.2 and 4.6.3 of the BS, the RPAs may have been adjusted as a matter of arboricultural judgement, to indicate the estimated likely position of tree roots. These modified (or unmodified) RPAs dictate the location of the tree protection barriers (which encompass the Construction Exclusion Zones - CEZs) and also determine the position of any ground protection measures. Tree protection details are shown on the plan included in Appendix 1. Where there is a need for incursions into RPAs, an assessment of the implications of these activities is set out in Section 3 (Arboricultural Implications Assessment) of this report. Where appropriate, details of suitable work methodologies to mitigate any impact are set out in Section 5 (Arboricultural Method Statement).

3 ARBORICULTURAL IMPLICATIONS ASSESSMENT

3.1 **Introduction to the implications of the development proposal on trees:** BS 5837: 2012 sets out in some detail how trees on development sites should be managed. It is usually accepted amongst arboriculturists that Category A (high quality) and Category B (moderate quality) trees are potential constraints on any development proposal, whereas vegetation belonging to Category C (low quality) is considered to be generally less important. Category U trees/hedges are in such poor condition that they are considered unsuitable for retention. This is because they cannot realistically be retained as living entities in respect of the current land use for longer than 10 years. Therefore, these can be effectively discounted in the context of a planning application. On this site a total of SIX individual trees/groups were recorded during the tree survey and were assigned to the BS 5837 (2012) categories, as set out in Table 1 below:

Category A and B trees	A total of ONE tree (T1) was rated Category A
Category C trees	A total of FIVE trees/groups (G2, G3, T4, G5 and G6) were rated Category C
Category U trees	No trees, groups or hedges were rated Category U

Table 1: Tree numbers and BS categories

I have focussed on the implications of the development proposal on the Category A and C trees in terms of tree loss/retention and by the extent of any incursions into and/or disturbance to Root Protection Areas (RPAs). Of the total of SIX trees/groups surveyed, THREE are scheduled to be removed to facilitate this development proposal. Additionally, TWO groups will have activities arising from the development occurring close to their positions. I have summarised the development related implications on trees in Table 2 below and set these aspects out in more detail in the following paragraphs.

Trees to be removed for development		Activities arising from the development proposal	
Category A and B	**Category C**	**Category A and B**	**Category C**
n/a	G3, T4 and G5	n/a	G2 and G6 (new surfacing and structures)

Table 2: Trees lost and activities arising from the development proposal

3.2 **Direct implications of the development proposal - Tree retention and tree loss**

3.2.1 **BS Category A tree to be retained (tree of high quality):** The only Category A surveyed will be retained and protected in accordance with the guidance set out in BS 5837 (2012). Consequently, no high or moderate category trees will need to be removed to facilitate this development proposal.

3.2.2 **BS Category C trees to be removed (trees of low quality):** THREE trees/groups (see Table 2) are scheduled to be removed to facilitate the development proposal. I set out my view on the implications of the loss of these trees, as follows:

- **Groups G3 and G5:** The fruit trees in these groups are relatively small in size and as such I feel that they do not make any particular contribution to local amenity. Consequently, I think that their loss is unlikely to have any significant implications in the locality. There is scope for new tree planting near the site boundary, as indicated on the architect's drawings. In my view, carefully selected new tree planting in this area could be a positive aspect of the planning application and would be able to mitigate any perceived impact arising from the loss of the existing trees. Details of this new planting could be secured by way of a suitably worded planning condition attached to any subsequently issued planning consent and as part of a comprehensive landscape scheme for the project.

- **Tree T4:** This tree is also not particularly large in size and it is not in the best structural condition, being what I think is probably regrowth from a previously cut stump. In my view, it has limited potential of maturing into a useful tree and its size also suggests that its removal is unlikely to have a significant landscape impact. Again, I feel that new tree planting on the boundary could mitigate any apparent concerns regarding tree loss on the site.

3.3 **Additional implications arising from the development proposal**

3.3.1 **BS Category C trees and nearby activities:** Groups G2 and G6 are located around the perimeter of the site and these trees are for the most part either a linear grouping dominated by unremarkable domestic conifer type planting (G2), or small fruit or nut trees/shrubs (G6). Some of the trees within the groups will have the new access, garage and a new building close to their locations. However, the provided plans do not show tree stem positions and so it is difficult to be precise as to the possibility of implications for certain trees. Nonetheless, in my view, the groups are not particularly important. Consequently, I have positioned the tree protection barriers at the edge of the construction zone and laid in some ground protection measures to provide what I perceive to be a tolerable group protection regime that would allow the trees to be retained with a limited risk of long term implications.

3.4 **Additional site tree issues**

3.4.1 **New tree planting:** As discussed, some trees and shrubs will be lost from the site to facilitate the development proposal. However, these trees are low quality and so I believe that their loss could be mitigated by the provision of new tree planting elsewhere on the site, with preliminary replacement planting proposals now set out on the plan included in Appendix 1.

3.4.2 **Tree protection during development:** A preliminary Arboricultural Method Statement is included in Section 5 and it details the various issues associated with successful tree protection in a development context on this site. If deemed appropriate by the council, this can be specifically referred to in a suitably worded planning condition attached to any subsequently issued planning consent.

4 SUMMARY OF THE IMPLICATIONS OF THE DEVELOPMENT ON TREES

4.1 **Summary:** Of the total of SIX trees/groups surveyed, THREE are scheduled to be removed to facilitate this development proposal. Additionally, TWO groups will have activities arising from the development occurring close to their positions. The trees to be removed are small in size and as such their loss is unlikely to have any implications in the locality. Provided the tree protection detailed in this report is implemented, then the proposed development is arboriculturally acceptable and there will be a relatively low risk of significant adverse impact on trees scheduled to be retained.

5 PRELIMINARY ARBORICULTURAL METHOD STATEMENT

5.1 Tree protection issues

5.1.1 **Tree Protection Plan (TPP):** The plan in Appendix 1 is illustrative, but is based on the layout drawings and topographical survey provided. Therefore, all scaled measurements should be checked against the original design documents. The attached plan and all other information in this report should only be used for dealing with the tree protection issues and all other uses are prohibited, unless authorised by Ecourban Ltd. All the existing trees will have been numbered, with any higher categories (A and B) highlighted in green and blue rectangles and any low categories (C and U) highlighted in grey and red respectively. The plan also shows the locations of the proposed protective measures and any trees to be removed are indicated with a red dashed crown outline. The TPP is an important document and a copy of it should be kept on site for reference whilst the development is under construction.

5.1.2 **Protective barriers:** The approximate location of the barriers is illustrated on the plan in Appendix 1 and information on barrier design based on BS 5837 (2012) guidance is included in Appendix 3. The protective barriers will be erected before any materials or machinery are brought onto the site, and before any clearance or construction activities occur. Once the protective barriers have been positioned, these will stay in situ for the duration of the construction, unless previously agreed with the arboricultural consultant or council's tree officer. There will be no access into the protected areas and the storage of excavated debris and building materials will be prohibited in RPAs, unless authorised by the arboricultural consultant, after discussion with the council's tree officer. No fires or fuel storage will be allowed within or near to protected areas under any circumstances.

5.1.3 **Ground protection measures:** Where the positioning of tree protection barriers is not feasible due to the need for construction access, then ground protection measures will be needed to safeguard RPAs. The position of ground protection is shown on the plan included in Appendix 1, with guidance for ground protection design from BS 5837 (2012) included in Appendix 4. The ground protection will be installed before any materials or machinery are brought onto the site, and before any clearance or construction activities

occur. In this instance it is proposed that the ground protection will consist of closely spaced scaffold boards over a compressible woodchip layer. Again, once the ground protection has been positioned, it will stay in situ for the duration of the construction phase, unless previously agreed with the arboricultural consultant or council's tree officer.

5.3 **Additional tree-related issues**

5.3.1 **Site supervision:** Site personnel will be properly briefed regarding the tree protection issues before any work starts, and the tree protection will be inspected periodically to ensure the retained trees are protected in accordance with this document and any conditions imposed by the council.

5.3.2 **Installation of new services or upgrading of existing provision:** Where practicable, all new services will be outside the protected areas indicated on the plan in Appendix 1, but where existing services within RPAs require upgrading or new provision is needed, great care will be taken to minimise any disturbance. Trenchless installation will be the preferred option, but if this is not feasible, any excavation will be carried out by hand in accordance with the guidelines set out in NJUG Volume 4 - Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.

5.3.3 **Material storage areas and site compounds:** All construction material storage areas, cement silos or cement mixing areas, fuel storage points and compounds for machinery etc. will be outside protected areas, unless otherwise agreed with the council.

5.3.4 **Contractors car parking, site offices and welfare facilities:** Whilst it is possible to have site offices and welfare facilities within RPAs, care is needed in their positioning and also in the connection of water, electricity and drainage to service them. Therefore, these will generally be sited outside the RPAs, unless agreed previously with the council. Contractor's car parking facilities will also be located away from retained trees.

5.3.5 **Tree works:** Any tree pruning or tree removal operations are set out in the tree schedule included in Appendix 2. Additionally, those trees scheduled for removal are also shown on the Tree Protection Plan included in Appendix 1.

5.3.6 **Planning, communication and preliminary timing of events:** It is not unusual for the details of timing of operations that could impact on important trees to only be finalised once planning consent has been given. Site managers, clearance and construction teams, and other important personnel are normally only appointed at this stage and it is these people who will be crucial in delivering the tree protection detailed in this report. My experience is that the pre commencement site meeting is critical in terms of avoiding damage to trees and this particular aspect, along with tree protection issues can be specifically referenced in a suitably worded planning condition imposed by the council. In the intervening time, I propose the following preliminary cascading timetable of events to help minimise any risk of impact on important trees. However, the following schedule may be modified at the pre-commencement meeting, subject to discussion with all parties and agreement with the council:

1. Pre-commencement site meeting
2. Extent of any arboricultural supervision agreed
3. Tree works undertaken
4. Protective barriers erected before any clearance or construction activities occur on site and notification to the council that this is in place
5. Ground protection installed before any clearance or construction activities occur on site and notification to the council that this is in place
6. Tree protection only removed at the end of the construction phase when there is no longer any risk to trees

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Arboricultural Consultant Date: **31 October 2019**

APPENDIX 1: TREE PROTECTION PLAN

1 A2 plan

Indicative North

G2
MIXED SP

G6
MIXED SP

T4
ASH

G5
CHERRY & CRAB APPLE

G3
APPLE & PEAR

T1
AUSTRIAN PINE

Plot 4

Plot 3

Plot 2

Plot 1

Bin Storage

Aries

The Old Vicarage

Aunt Ems Lane

Fring

0 1 2 3 4 5 6 8 10 12 14 16
SCALEBAR 1/200

NEW TREE PLANTING PROPOSALS WITH ANTICIPATED CROWN SPREADS AFTER 25 YRS AS INDICATED ON MAIN DRAWING

NEW TREE PLANTING - Silver Birch (Betula pendula 'Fastigiata) select standard 10-12cm girth RB

NEW TREE PLANTING - Snowy Mespilus (Amelanchier lamarckii 'Robin Hill') select standard 10-12cm girth

NEW TREE PLANTING - Ornamental Cherry (Prunus 'Snow Goose') select standard 10-12cm girth

NEW TREE PLANTING - Swedish Whitebeam (Sorbus intermedia) select standard 10-12cm girth

NEW HEDGE PLANTING - Beech (Fagus sylvatica) 40/60cm bare root in staggered double row at 30cm spacings

eco urban Limited	ECO 3 - TREE ISSUES AT THE OLD VICARAGE, FRINGFORD ROAD, CAVERSFIELD	SCALE: 1:200 @ A2	COMPOSITE PLAN: CURRENT CONFIGURATION AND PROPOSED LAYOUT

T1 Tree sp — **BS Category A:** Trees of high quality

T1 Tree sp — **BS Category C:** Trees of low quality

Tree protective barriers with construction exclusion zone

Area outside barriers requiring ground protection

Trees to be removed

This drawing was originally produced in colour, therefore any subsequent monochrome photocopies may not show appropriate levels of detail and should not be relied upon for the purposes of dealing with site tree issues

APPENDIX 2: TREE SCHEDULE AND INVENTORY

Background fill colour represents BS 5837 (2012) categories: A Category trees have green backgrounds, B Category trees have light blue backgrounds, C Category trees have grey backgrounds and U Category trees have red backgrounds.

Tree No.	Species	Ht (m)	Single stem diameter at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (Multi Stem)								Branch Spread (m)				Height above ground (m)	Age class	Notes	Management proposals	BS cat.	RPA area (m^2)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems												
					1	2	3	4	5		Mean stem dia (cm)	No. of stems	N	E	S	W							
All Trees																			Crown lift to 4m over site where needed and crown clean canopies				
T1	Austrian pine	19	60	*	-	-	-	-	-	-	-	-	6	-	6	5	5	M	Large offsite tree, no direct access to survey.		A1	163	7.2
G2	Mixed species including Monterey cypress, box elder and ash	11	25	* Average	-	-	-	-	-	-	-	-	-	-	4	-	3	Y/MA	Offsite linear grouping of trees. Mainly unremarkable domestic conifer type planting.		C1	28	3.0
G3	Apple and pear	4	-	* Largest	15	13	-	-	-	20	-	-	3	3	3	3	2	Y	Small fruit trees.	FELL	C1	18	2.4
T4	Ash	11	-	* Average	-	-	-	-	-	-	16	6	5	5	5	4	3	Y	Small multi stemmed tree. Regrowth from old cut stump. Decay at base.	FELL	C1	61	4.4

APPENDIX 2: TREE SCHEDULE AND INVENTORY

Tree No.	Species	Ht (m)	Single stem diameter at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (Multi Stem)							Branch Spread (m)				Height above ground (m)	Age class	Notes	Management proposals	BS cat.	RPA area (m^2)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems											
					1	2	3	4	5		Mean stem dia (cm)	No. of stems	N	E	S	W							
G5	Cherry and crab apple	8	-	* Largest	-	-	-	-	-	-	14	6	3	4	4	3	3	Y	Small fruit trees.	FELL	C1	53	4.1
G6	Mixed species including hazel, elder, hawthorn field maple and blackthorn	7	19	* Largest single stem	-	-	-	-	-	-	-	-	-	3	-	-	3	MA	Linear grouping of boundary tree and shrub planting/under managed hedge.		C1	16	2.3

ABBREVIATIONS:

Abbreviations	Meaning	Abbreviations	Meaning	Abbreviations	Meaning
T	*Individual tree*	**M**	*Mature*	**RPA**	*Root Protection Area*
G	*Groups of trees*	**MA**	*Maturing*	**<**	*Less than*
H	*Hedge*	**Y**	*Young*	**>**	*More than*

APPENDIX 2: TREE SCHEDULE AND INVENTORY

TREE SCHEDULE GUIDANCE NOTES:

Tree number	*Assigned during the site visit and also referenced on the plan in Appendix 1.*
Species	*Common name and referenced to scientific name in the above list. Where I have some doubt over the actual tree species, the genus will have been noted followed by sp. Where trees are numerous and present in groups, not every individual species may have been noted.*
Height	*Measurement of total tree height using a laser hypsometer to nearest metre or where clear line of site is not possible then an estimate based on interpolation of heights of nearby measured trees.*
Stem diameters	*Measurement of stem diameter either at 1.5m above ground (or in accordance with BS guidance where trees have multiple stems) with a forester's girth measuring tape.* ***Diameters followed by asterisk symbol indicate estimated diameters because of access difficulties, presence of ivy or other obstructions.*** *Where trees are present in a group, the tree with the largest stem diameter within the group will have been measured/estimated.*
Est. Dia.	*Estimated diameters due to access restrictions are indicated with an asterisk*
Branch spread	*Where appropriate and where ground conditions allow, an estimate of the crown spread at each of the cardinal compass points. Where only part of the site is affected by trees, measurement may be in one or two directions only*
Existing height above ground level	*Distance in metres to first significant branch or canopy or a height above which crown lifting operations would not be appropriate*
Age class	*Simplistic estimate of tree age in one of FOUR categories (young, maturing, mature or over mature).*
Notes	*Although this document is not intended to be a full and detailed report on tree health and safety, any significant structural defects or physiological conditions have been identified where these were visible. Where no entries are recorded, this indicates no observable issues were identified. Where there is restricted access to the base of a tree, its attributes are assessed from the nearest point of access. Climbing inspections are not carried out during a walkover tree survey and, if heavy ivy is present, tree condition is assessed from what can be seen from the ground.*
Management proposals	*The inspection of all trees was of a preliminary nature and only defects visible from the ground have been identified. Each individual tree may not have been inspected closely because of access difficulties and only defects visible from the inspection point have been identified. Monitoring may be indicated where tree risk can be adequately managed by increased frequency of site inspections. Further investigation may be indicated where additional data may be required beyond a purely visual assessment. However, a full post development tree inspection is recommended to establish that the trees retained during construction pose acceptable levels of risk once the development has been completed.*

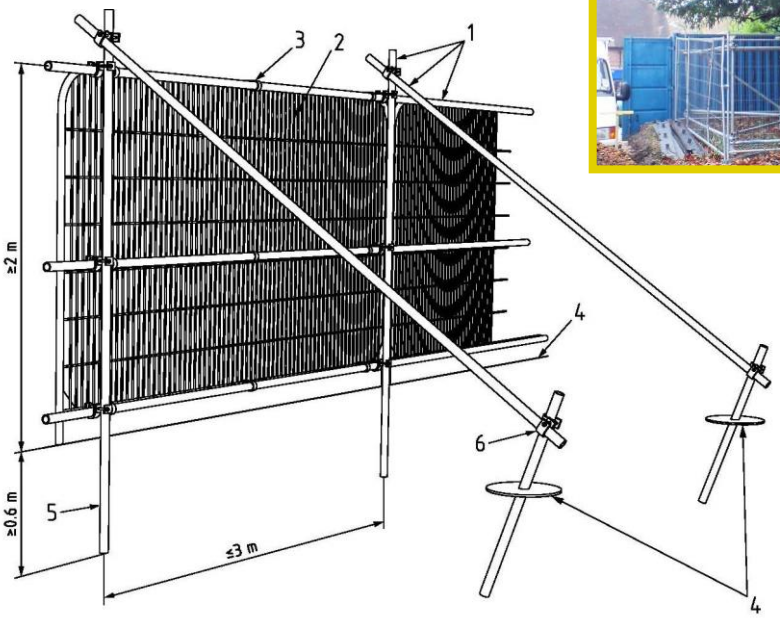
APPENDIX 2: TREE SCHEDULE AND INVENTORY

BS 5837 (2012) Category	*Either U, A, B or C based on the BS 5837 (2012) guidance.*
RPA and RPA radius	*RPA and RPA radius calculations have been undertaken in accordance with the guidance set out in BS 5837 (2012).*

TREE INVENTORY:

Common Tree Names	Scientific Tree Names		Common Tree Names	Scientific Tree Names
Apple	*Malus domestica*		Crab apple	*Malus* sp
Ash	*Fraxinus excelsior*		Box elder	*Acer negundo*
Austrian pine	*Pinus nigra*		Monterey cypress	*Cupressus macrocarpa*
Cherry	*Prunus* sp		Pear	*Pyrus* sp

APPENDIX 3: ILLUSTRATIVE SPECIFICATION FOR TREE PROTECTION BARRIERS



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Illustration taken from British Standard 5837 (2012): Trees in relation to design, demolition and construction – Recommendations.

The default specification should consist of a vertical and horizontal scaffold framework, well braced to resist impacts. The vertical tubes should be spaced at a maximum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels should be securely fixed.

– BS 5837 (2012)

Ref: Tree Protection Barriers (Type 1)	**Drawing No. TPB1**
Scale: N/A	

APPENDIX 4: ILLUSTRATIVE SPECIFICATION FOR GROUND SURFACE PROTECTION IN RPAs

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

NOTE The ground protection might comprise one of the following:

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame **(Photograph 1)**, *so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;*

b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards **(Photograph 2)**, *placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;*

c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

– BS 5837 (2012)

Ref: Ground Protection	**Drawing No. GP1**
Scale: N/A	

APPENDIX 5: BS 5837 (2012) – ASSESSMENT CATEGORIES

TREES FOR REMOVAL		
Category and definition	**Criteria**	**Identification on plan**
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 (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 *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve.*	RED

TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	**Criteria — Subcategories**			**Identification on plan**
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
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 and/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)	GREEN
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	BLUE
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	GREY

APPENDIX 6: QUALIFICATIONS AND EXPERIENCE OF BARRIE DRAPER

1 **Qualifications:** I have a BSc degree (with Honours) in Arboriculture from the University of Central Lancashire. I also hold a BTEC Higher National Diploma (HND) in Forestry (Lowland Management), the Arboricultural Association's Technician's Certificate in Arboriculture (Tech Cert), the Royal Forestry Society's Certificate in Arboriculture (Cert Arb) and the National Examinations Board Certificate in Forestry.

2 **Career experience:** I began my arboricultural career in 1993 as an arborist with Portsmouth City Council. During my time with the council I worked for both the direct labour organisation and for a private contractor where I obtained valuable hands on experience in all aspects of arboriculture. From 1999 to 2002 I was employed as Senior Arborist by Parchment Housing Group, a housing association based near Portsmouth. I managed the Groups' tree stock on their behalf, carrying out tree inspections and practical management operations. I have also worked in local government, spending time with Thurrock Borough Council in Essex where I was the Tree and Landscape Officer, and with Winchester City Council, where I was Arboricultural Officer for a period of 2 years. During my time working in local government I was responsible for making Tree Preservation Orders, administering applications to work on protected trees and advising on planning applications when trees were considered material constraints on development. Working within a planning environment allowed me to gain valuable experience in the management of trees in development situations and an understanding of the planning process and how it relates to trees. From January 2005 I worked for Barrell Tree Consultancy Ltd advising clients on a wide range of tree related issues. I left the company in September 2008 and set up ecourban ltd, where I am currently the sole practitioner.

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