Arboricultural Report

REPORT ON THE TREES AT
THE COACH HOUSE
MILL LANE
BEDHAMPTON
PO9 3JH

FEBRUARY 2011



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CONTENTS

Arboricultural Report including Arboricultural Implications Assessment

1.0	Introduction	2
2.0	Site Visit	2
3.0	Site Description	2
4.0	Tree Survey Data	3
5.0	Tree Quality Assessment	7
6.0	Root Protection Areas	7
7.0	Legal Constraints	8
8.0	Arboricultural Implications Assessment	8
9.0	Conclusions	11
	Authors Credentials	11

Arboricultural Method Statement (Draft)

1.0	Contact details	12
2.0	Introduction	13
3.0	Phasing of Development	13
4.0	General Arboricultural Considerations	15
5.0	Supervision and Monitoring	16
6.0	Suggested sequence for Works Affecting Trees	17

Appendix 1 Tree Survey Plan showing Tree Quality Categories
Appendix 2 Extract from BS5837 2005 – Tree Quality Assessment Chart
Appendix 3 Root Protection Area Plan
Appendix 4 Tree Protection Plan
Appendix 5 Extract from BS5837 2005 – Figure 2 Specification for Protective Fence
Appendix 6 Sample Signage for Protective Fencing
Appendix 7 Extract from BS5837 2005 – Figure 3 Specification for Scaffolding within the RPA

1.0 INTRODUCTION

1.1 Mr Franklin instructed this report in relation to the proposed development of land within the grounds of The Coach House, Mill Lane, Bedhampton. The report details all trees over 75mm at 1.5m above ground level that would be affected by the proposal. The position of the trees on or adjacent to the site is illustrated at **Appendix 1** on the site plan.

1.2 The existing tree stock has been identified and graded in line with the current British Standard BS 5837 2005: Trees in Relation to Construction – Recommendations to enable informed decisions to be made regarding tree retention. The report also details methods of construction to be implemented to safeguard the retained trees.

1.3 This report details the constraints placed on the proposed development from the rooting area of the trees below ground and above ground by their size and position.

1.4 This report will therefore inform the planning process for the proposed development to minimise any negative impact on the existing tree stock and ensure that retained trees shall be in harmony with the proposed development enabling their long-term retention.

2.0 SITE VISIT

2.1 The site was undertaken on 31st January 2011. The trees were surveyed visually, externally and from ground level only. No samples or internal decay detection readings were taken for further analysis. All dimensions have been measured unless stated otherwise. Weather conditions at the time of the survey were dry, overcast and still.

2.2 Plans made available prior to survey included: existing site layout, proposed site layout, block plan proposed roof layout and proposed elevation and floor layouts.

3.0 SITE DESCRIPTION

3.1 The site is situated in the area of Bedhampton which lies within the borough of Havant. The site is located in Mill Lane which is north of the A27 and has two other domestic residences adjacent; one directly to the south, the other to the east. The original dwelling was burnt down in a fire; the foundation remains as does the original double garage and associated hard standing. There are no trees remaining on site but several in the adjacent properties. It is these trees that are the subject of this report.

4.0 TREE SURVEY DATA

In accordance with BS 5837:2005 'Trees in Relation to Construction – Recommendations', the characteristics of trees over 75mm stem diameter measured at 1.5m above ground level (or immediately above root flare if multi-stemmed) have been recorded and they have been categorised in accordance with Table 1 of BS5837: 2005. The following tree data tables should be read in conjunction with the annotated site plan shown at **Appendix 1** and the legend that follows the Table.

Table 1 Tree Data Tables

Tree Number & Species	Height (m)	Diameter at Breast Height (mm)	Branch Spread (m)	Height (m) Above Ground Level of Crown Clearance	Age Class	Estimated Remaining Contribution (Years) and Physiological Condition	Comments and Management Recommendations	Category in Accordance with Table 1 of BS5837:2005 and Arboricultural Works Necessary for Proposed Development
T1 Cypress *Cupressus* sp.	15	810 @ Ground level	N – 1.0 S – 10.4 E – 4.8 W – 9.5	6-7m North	M	20 Fair	Situated in adjacent garden. Sound base and stem, low lateral branches to the south. Lean 20 degrees southwest. Asymmetric canopy, poor form. Past management. Some branch die back. No immediate work required (NIWR).	B2 Retain and protect

Tree Number & Species	Height (m)	Diameter at Breast Height (mm)	Branch Spread (m)	Height (m) Above Ground Level of Crown Clearance	Age Class	Estimated Remaining Contribution (Years) and Physiological Condition	Comments and Management Recommendations	Category in Accordance with Table 1 of BS5837:2005 Arboricultural Works Necessary for Proposed Development
T2 Willow *Salix* sp.	20	990	N – 2.1 S – 10.7 E – 7.0 W – 8.6	12m North	M	20 – 40 Good	Sound base and stem, one girdled root. Large buttress roots to south. Past management evident good wound occlusion. NIWR.	A1 Retain and protect
T3 Horse Chestnut *Aesculus hippocastanum*	20	1130	N – 8.6* S – 10.1 E – 9.2 W – 6.7	4.5	M	20 – 40 Fair	Northern side of access driveway to garage of The Old Coach House, root patterns adapted to this. Sound base and lower stem. Fence attached by nails on east side, tree has grown over fence rails on west side. Evidence of past management, good wound occlusion. Splits in bark on several scaffold limbs, most likely past drought stress. No signs of Chestnut canker. NIWR.	B1 Retain
T4 London Plane *Platanus* x *hispanica*	24	1820	N – 10* S – 11.1 E – 10.9 W – 10.6	5	M	40 + Good	Northern side of access driveway to garage of The Old Coach House, root patterns adapted to this. Sound base and lower stem. Tree has grown over an old metal gate by 1m on east side. Minor past wood, good wound occlusion. NIWR.	A1 Retain

Tree Number & Species	Height (m)	Diameter at Breast Height (mm)	Branch Spread (m)	Height (m) Above Ground Level of Crown Clearance	Age Class	Estimated Remaining Contribution (Years) and Physiological Condition	Comments and Management Recommendations	Category in Accordance with Table 1 of BS5837:2005 Arboricultural Works Necessary for Proposed Development
T5 Bay Laurel *Laurus noilis*	5	500* @ Ground level	N – 2.5 S – 6.0 E – 3.2 W – 3.5	0	M	20 Fair	Near to garage of The Old Coach House. Multi-stemmed tree. Dense basal shoots prevented inspection of base and lower stems. NIWR.	B1 Retain

Key to terms.

- Identification numbers have been used and correspond to the site plan shown at **Appendix 1.**
- Vegetation type has been categorized as one of the following: Tree (T), Hedge (H), Shrub (S), Group (G), Stump (ST)
- Species are listed by common and botanical name where appropriate.
- Where possible, measurements have been made in accordance with the conventions detailed below. Where this was not possible, due to site conditions or the vegetation being in third party ownership, dimensions have been estimated. * Indicates estimated measurement.
- Height has been estimated to the nearest metre.
- Stem diameter has been measured at 1.5m and recorded in millimetres. Where this was not possible the actual height where the diameter was measure is recorded.
- Crown spread has been recorded in metres.
- Age class has been recorded as follows:

Y	Young recently planted or establishing tree that could be transplanted without specialist equipment, i.e. up to 12-14cms-stem girth.
S/M	Semi mature. An established tree but one that has not reached its potential ultimate height and has significant growth potential.
E/M	Early mature. A tree reaching its ultimate potential height, whose growth rate is slowing down but will increase in stem diameter and crown spread, and has a safe life expectancy.
M	Mature. A mature specimen with limited potential for any significant increase in size but with a reasonable safe life expectancy.
O/M	Over mature. A senescent or moribund specimen with a limited safe life expectancy. Possibly also containing significant structural defects with attendant safety and/or duty of care implications.

- Physiological condition has been recorded as Poor, Fair or Good.
- Recommendations for tree management have been based on current Arboricultural Best Practice as set out by the Arboricultural profession and all relevant publications.

5.0 TREE QUALITY ASSESSMENT

5.1 The trees have been categorized according to BS5837: 2005 as a guide to their condition and value in terms of visual amenity.

5.2 The trees are coloured on the plan attached at **Appendix 1** and the colours are explained in the key of the plan.

5.3 The full Tree Quality Assessment Chart, which gives a more detailed explanation of the definition of the subcategories, has been attached at **Appendix 2.**

6.0 ROOT PROTECTION AREAS

6.1 In accordance with BS5837 2005, the root protection area (RPA) of each tree has been calculated and shown in the following table. This is the minimum area in m^2, which if being retained, must be left undisturbed around each tree to ensure its safe retention during the development process. It is calculated as an area equivalent to a circle with a radius twelve times stem diameter or ten times base diameter for multi-stem trees. Where the tree is in an open grown situation, the RPA can be shown as a circle. In some circumstances, the incorporation of hard surfaces and other construction can take place within the RPA. Where the tree is in an 'open grown' situation, the RPA can also be moved by 20% in any direction if proposed construction work is on one side only. The root protection areas (RPAs) are shown on the Root Protection Area Plan at **Appendix 3.**

Table 2 Root Protection Area (RPA radii shown in ¼ metre graduations)

Tree No	RPA in m^2	Recommended radial distances for RPAs (in metres from the centre of the tree to protective fencing)
T1	296.85	9.75
T2	443.44	11.75
T3	577.73	13.50
T4	1498.68	21.75 **(CAPPED @ 15m)**
T5	78.55	5.0

7.0 LEGAL CONSTRAINTS

7.1 The site falls within the Old Bedhampton Conservation Area. As a result the trees are all afforded protection as prior to any work being undertaken, a notification of intent must be made to Havant Borough Council. There are also a few trees within the grounds of The Mill House that are afforded protection by a Tree Preservation Order but these trees are not affected by the proposal at all.

8.0 ARBORICULTURAL IMPLICATIONS ASSESSMENT

8.1 Description of Proposed Development

It is proposed to build a detached five bedroom family home within the footprint of the original building. The existing double garage and associated hard standing is to be retained. A new access is proposed at the front directly onto Mill Lane.

8.2 Drawings Used

B.H. Architecture Limited provided drawing number 1 scale 1: 100 and this has been used as a template for the Tree Quality Assessment Plan **Appendix 1.** Drawing number 3 at the same scale has been used for the Root Protection Area Plan **Appendix 3** and the Tree Protection Plan **Appendix 4**.

8.3 Direct Loss of Trees

8.3.3 It is not proposed to remove any trees to facilitate the proposed development. The proposal will not require any remedial tree work.

8.4 Position of Trees in Relation to Proposed Development

It is not considered that there will be an increased pressure to fell the trees or undertake tree work than when the original dwelling was occupying the site, as the proposed building will be virtually within the same footprint. The Conservation Area status will afford all trees adjacent to the property protection as any proposed tree work would require a notification of intent to Havant Borough Council.

8.5 Changes in Ground Surface within RPAs

The only changes of ground surface within the RPAs of T1 Cypress and T2 Willow are detailed below.

It is proposed to remove part of the existing patio and decking that falls within the RPAs of T1 and T2. This is to be undertaken by hand using tools that use air or water to prevent causing damage to any tree roots in this area.

A new patio is to be established within part of the RPAs of T1 Cypress and T2 Willow. The remainder of this area where hard standing has been removed will then be laid to lawn.

8.7 Changes in Ground Level within the RPA

There are no proposed level changes on site to facilitate the proposed development.

8.8 Services

No overhead services are proposed.

It is proposed that all underground services where practicable be sited outside of the RPAs of the trees adjacent to the site. However, if this is not feasible, to afford the tree roots maximum protection, special techniques should be used in order of preference.

- Directional Drill Method – Where possible the entry and exit trenches should be located outside the RPA. Where this is not possible, the trench should be opened using root sensitive excavation techniques. Additional ground protection should be installed to prevent compaction of the soil by the drilling rig.

- Open trench system – Excavated using root sensitive techniques.

8.9 Protective Fencing

Protective fencing in accordance with section 9 of BS 5837 2005 should be erected around the trees to be retained. The positions of these fences would be based on a distance equivalent to the radius of each tree's RPA. All site personnel shall be made aware of the importance of root protection areas and shall ensure that they are properly maintained at all times. Protective fencing specification is at **Appendix 5**.

No development works shall commence within or adjacent to the tree protection zone until written confirmation has been obtained from the Local Planning Authority.

8.10 Foundations within the RPAs

It is considered that the root growth of both T1 Cypress and T2 Willow would have adapted to the barrier formed by the original building and conservatory.

Following a visual inspection within the remains of the footprint of the original building no roots of any kind were visible.

The original footing will need to be removed within the RPAs of T1 and T2. Careful and sensitive removal will be carried out under supervision of the project Arboriculturalist. Any machinery will be operated from within the existing footprint on load spreading ground protection to minimise soil compaction.

Where roots of 50mm diameter or greater are located they will be inspected by the project Arboriculturalist. They will then either be cleanly severed if not considered significant in terms of stability. If any significant roots are found the area of foundation surrounding them is to be removed by hand using tools that use air or water to prevent causing damage.

The foundations of the replacement dwelling will lie within the RPAs of both T1 Cypress and T2 Willow. It is proposed that the foundation for the new dwelling will comprise of mini piles with a ring beam. This site specific solution will require the utilisation of special engineering techniques; that is a structure design where the physiological requirements of the trees are paramount and require the advice of a structural engineer.

Where piles are to be installed within the RPAs the smallest practical diameter pile should be used to reduce potential damage to major roots. All piles are to be sheathed to afford the adjacent roots and soil, protection from the toxic effects of concrete.

The trees T1 Cypress and T2 Willow are considered to be vigorous enough that they will be able to tolerate minor excavation within their calculated RPAs without it being detrimental to their health or longevity.

8.11 Scaffolding within the RPA

It will be necessary to erect scaffolding within the RPAs of T1 Cypress and T2 Willow. The scaffolding should be erected under the supervision of the named Arboriculturalist once agreement has been reached with the Local Planning Authority.

The scaffolding to be installed within the RPAs should be designed in line with Figure 3 of BS 5837 2005. The design is to incorporate ground protection. Specification is attached at **Appendix 5**.

8.12 Root Protection Areas T3 Horse Chestnut, T4 London Plane and T5 Sweet Bay

It is not considered that these trees require any protective fencing. T3 and T4 are located at the far side of The Mill House access driveway and as such their rooting patterns would have adapted to this. In addition it is not proposed to use this access for delivery of materials or site traffic.

Where the RPA of T3 breaches the site it is considered to be vigorous enough that it will be able to tolerate minor excavation, which is the removal of the old tree stump and installation of a cycle stand, at the margin of its calculated RPA, without it being detrimental to its health or longevity. Any excavation in this area is to be implemented by hand.

The RPA of T4 breaches the site but this is where the existing access, garage and shed are situated. The proposal does not include any work in this area. The RPA of T5 is breached by the current access to the garage and shed, again no changes are proposed in this area.

9.0 CONCLUSIONS

9.1 It is considered that the trees adjacent to the site have a moderate to high quality and value and contribute to the character of the site and surrounding area. Predominately they provide a screening and softening role.

9.2 Scaffolding will need to be erected within the RPAs of T1 Cypress and T2 Willow.

9.3 Removal of the existing footing and installation of the new footing will be undertaken within the RPAs of T1 Cypress and T2 Willow.

9.4 Existing hard surfaces within the RPAs of T1 Cypress and T2 Willow will be removed and replaced with a combination of patio and lawn.

9.5 Specialist construction techniques and supervision of all work within RPAs will be paramount in the successful retention of trees on/adjacent to the site.

Details within this AIA are considered correct at the time of writing but modifications may need to be made as more information becomes available.

Credentials of Author

Sarah Johnston M. Arbor. A., B.Sc. Arboriculture has worked in the Arboricultural profession for ten years. Her experience has been gained from undertaking practical tree work as well as working as an Arboricultural Surveyor and Tree Officer for Eastleigh and Havant Borough Councils respectively. In addition Sarah worked as a consultant for Marishal Thompson for two years from 2005 when she became self-employed. Sarah is a Professional Member of the Arboricultural Association and holds both Professional Indemnity and Public Liability insurance cover trading as Johnston Tree Consultancy.

DRAFT ARBORICULTURAL METHOD STATEMENT

1.0 CONTACT DETAILS

Architect	Bernard Harding	B H Architecture Ltd Heath Cottage, Newlands Lane, Waterlooville, Hampshire, PO7 5SQ 02392 232322 bernard@bernardharding.com
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Structural Engineer	Unknown at Present	
Arboricultural Consultant	Sarah Johnston	Johnston Tree Consultancy 16 Manor Close, Wickham, Hampshire, PO17 5BZ 07814 403146 johnstontreeconsultancy@googlemail.com
Local Authority Case Officer	Unknown at present	Havant Borough Council Civic Centre, Centre Road, Havant, Hampshire, PO9 2AX 02392 446015 planning.development@havant.gov.uk
Local Authority Arboriculturalist	David Harris	Havant Borough Council Civic Centre, Centre Road, Havant, Hampshire, PO9 2AX 02392 446525 dave.harris@havant.gov.uk

2.0 INTRODUCTION

2.1 This Arboricultural Method Statement (AMS) has been produced in line with BS 5837 2005 Trees in Relation to Construction-Recommendations to aid the successful retention of trees on and adjacent to the proposed development site at The Coach House, Mill Lane, Bedhampton. No development shall take place on the site until this document has been has been submitted to and approved in writing by Havant Borough Council.

2.2 This document sets out the methodology for all proposed works that affect trees on and adjacent to the site. Compliance with this method statement will be a requirement of all relevant contracts associated with the development proposals. Copies of this document will be available on site for inspection.

2.3 For details of trees to be retained and location and types of special protection methods, reference should be made to the Tree Protection Plan (TTP) **Appendix 4** appended to this document. A copy of which should be displayed prominently on site.

3.0 PHASING OF DEVELOPMENT

3.1 Phase 1 – Pre Development Phase

The LPA, client and project Arboriculturalist meet on site to discuss all aspects of the development that affects the trees on or adjacent to site and to ensure understanding of this document and the TPP. Following discussion any clarifications or amendments to be copied to all site personnel.

Tree protection measures to be installed under the supervision of the project Arboriculturalist for T1 Cypress and T2 Willow.

The protective fencing erected will be in accordance with Section 9 Figure 2 of BS 5837 2005 **Appendix 5**. The positions of the fencing would be based on a distance equivalent to the radius of each tree's RPA. Once erected all weather signage should be displayed stating Tree Protection Area Keep Out **See Appendix 6**.

An area for site office/toilet and for storage of materials is to be established away from all retained trees and their RPAs. Location of this area is shown on the TPP.

Other than works detailed within this Method Statement and approved in writing by the LPA, no works shall take place within the RPAs of the retained trees. The LPA Tree Officer or the named Arboriculturalist must supervise any such works.

3.2 Phase 2 – Construction Phase

Removal of Existing Foundation within RPAs of T1 Cypress and T2 Willow

Careful and sensitive removal will be carried out under supervision of the project Arboriculturalist. Machinery will be operated from within the existing footprint on load spreading ground protection to minimise soil compaction.

Where roots of 50mm diameter or greater are located they will be inspected by the project Arboriculturalist. They will then either be cleanly severed if not considered significant in terms of stability. If any significant roots are found the area of foundation surrounding them is to be removed by hand using tools that use air or water to prevent causing damage.

Removal of Existing Hard Surfaces within RPAs of T1 Cypress and T2 Willow

All existing hard surfaces within RPAs are to be removed by hand using tools that use air or water to prevent causing damage to any tree roots in this area. This activity is to be carried out under supervision of the project Arboriculturalist.

Establishment of New Foundation within RPAs of T1 Cypress and T2 Willow

No specific detail available at the time of writing. It is proposed that the foundation where it lies within the RPAs will comprise of mini piles and ring beam design. Full specifications and methodology to be provided either at the time of formal application or in response to an appropriate planning condition.

Services

Currently it is not proposed to have any service runs within the RPAs of the trees to be retained. However, if this changes this Method Statement will be revised to detail any methodology required to prevent damage to tree roots.

Scaffolding within the RPA

T1 Cypress and T2 Willow will require scaffolding within their RPAs.

The establishment of scaffolding within the RPA will conform to Figure 3 of BS 5837 2005.

Ground protection measures within the RPAs will be in line with Figure 3 –BS 5837 2005 **Appendix 7**, and comprise the undisturbed ground protected by geo-textile fabric, and side butting scaffold boards on a compressible layer.

Installation of the scaffolding within the RPAs will be carried out under the supervision of the project Arboriculturalist.

3.3 Phase 3 - Landscaping Phase

These activities are to be supervised by the project Arboriculturalist. Further detail will be provided once a landscaping scheme has been provided.

Soft Landscaping

New trees are to be planted in line with BS 3936 Nursery Stock – Specifications for Trees and Shrubs. A species selection and aftercare management plan to be submitted to and approved in writing by Havant Borough Council.

Lawn Establishment within the RPAs of T1 Cypress and T2 Willow

Ground preparation will ensure surface is as level as possible. Small dips and humps will be scraped level by hand; sharp sand or no fines aggregate will be used where it is necessary to infill larger areas. The lawn will either then be seeded or turf will be laid.

Hard Landscaping within the RPAs of T1 Cypress and T2 Willow

A new patio is to be established within the RPAs of the retained trees T1 Cypress and T2 Willow. Ground preparation will ensure surface is as level as possible. Small dips and humps will be scraped level by hand; sharp sand or no fines aggregate will be used where it is necessary to infill larger areas.

4.0 GENERAL ARBORICULTURAL CONSIDERATIONS

4.1 Tree work may only be undertaken by a qualified Arborist and must be undertaken under the supervision of the named Arboriculturalist

4.2 Protective fencing must be regarded as sacrosanct, and must only be moved under direct supervision of the LPA or named Arboriculturalist, to enable the undertaking of works within the RPAs of trees as set out in this AMS, and approved in writing by the LPA. It is of paramount importance the fencing is repositioned correctly after any agreed operations.

4.3 No materials, chemicals, machinery or vehicles must be stored within the RPAs as defined on the TPP and identified on site by protective fencing and aboveground root protection.

4.4 Ground protection must not be lifted or removed without prior consultation with the LPA or named Arboriculturalist.

4.5 Damage caused to protective fencing or ground protection must be reported to the site supervisor and the named Arboriculturalist to ensure appropriate repair.

4.6 Any damage to retained trees must be reported without delay to the site supervisor and the named Arboriculturalist so appropriate remedial work can take place without delay.

4.7 No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10 metres of the trunk of the retained tree.

4.8 No fires will be lit within 20m of the trunk of any retained tree.

4.9 Notice boards, telephone cables or any other signage or services are not to be attached to any part of the retained trees.

5.0 SUPERVISION AND MONITORING

5.1 The project Arboriculturalist shall be responsible for supervising the following works.

- Removal of existing hard surfaces within RPAs of T1 Cypress and T2 Willow.
- Levelling of ground within RPAs of T1 Cypress and T2 Willow.
- Establishment of protective fencing.
- Removal of existing foundations within RPAs of T1 Cypress and T2 Willow.
- Establishment of new foundation within RPAs of T1 Cypress and T2 Willow.
- Establishment of scaffolding within RPAs of T1 Cypress and T2 Willow.
- Planting of trees and landscaping within RPAs of T1 Cypress and T2 Willow.

5.2 In addition the named Arboriculturalist will visit the site once a month to check on the tree protection on site.

5.3 A written record of site visits will be kept and a copy made available for the LPA.

6.0 TABLE SHOWING SUGGESTED SEQUENCE OF WORKS AFFECTING TREES

Suggested Sequence of Works Affecting Trees
Supervised removal of existing hard standing within RPAs of T1 Cypress and T2 Willow
Supervised levelling of ground within RPAs of T1 Cypress and T2 Willow
Erection of protective fencing and ground protection as per TPP
Supervised removal of existing foundation within RPAs of T1 Cypress and T2 Willow
Supervised establishment of new foundation within RPAs of T1 Cypress and T2 Willow
Supervised establishment of scaffolding within RPAs of T1 Cypress and T2 Willow
Supervision of tree planting and landscaping within RPAs of T1 Cypress and T2 Willow

PLEASE NOTE THAT THIS AMS IS NOT A CONTRACT. THE RETENTION AND SERVICES OF A PROJECT ARBORICULURALIST FOR SUPERVISION AND MONITORING MUST BE AGREED PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATIONS

Table 1 — Cascade chart for tree quality assessment

TREES FOR REMOVAL		
Category and definition	**Criteria**	**Identification on plan**
Category R Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management	• 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 R category 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 (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality NOTE: Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost; installation of bat box in nearby tree).	DARK RED

TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	**Criteria — Subcategories**			**Identification on plan**
	1 Mainly arboricultural values	**2 Mainly landscape values**	**3 Mainly cultural values, including conservation**	
Category A **Those of high quality and value:** in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood pasture)	LIGHT GREEN
Category B **Those of moderate quality and value:** those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better). A category specimens, or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	MID BLUE
Category C **Those of low quality and value:** currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested) or young trees with a stem diameter below 150 mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits	GREY
	NOTE: Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation.			

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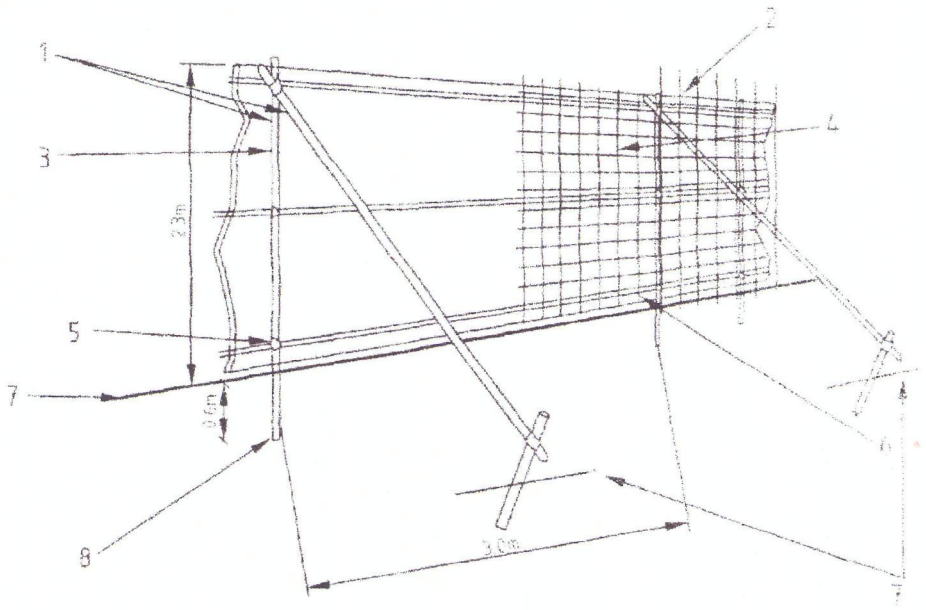
APPENDIX 2

9.3 Ground protection

9.3.1 Where it has been agreed during the design stage, and shown on the tree protection plan, that vehicular or pedestrian access for the construction operation may take place within the root protection area (RPA), the possible effects of construction activity should be addressed by a combination of barriers and ground protection. The position of the barrier may be shown within the RPA at the edge of the agreed working zone but the soil structure beyond the barrier to the edge of the RPA should be protected with ground protection.

9.3.2 For pedestrian movements within the RPA the installation of ground protection in the form of a single thickness of scaffold boards on top of a compressible layer laid onto a geotextile, or supported by scaffold, may be acceptable (see Figure 3).

9.3.3 For wheeled or tracked construction traffic movements within the RPA the ground protection should be designed by an engineer to accommodate the likely loading and may involve the use of proprietary systems or reinforced concrete slabs (see **11.8** and **11.9**).



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and where necessary with standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of barrier to avoid easy dismantling
7 Ground level
8 Approx. 0.6 m driven into the ground

Figure 2 — Protective barrier

APPENDIX 5



PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.

APPENDIX 6



TREE PROTECTION AREA

KEEP OUT !

(TOWN & COUNTRY PLANNING ACT 1990)

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.

CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

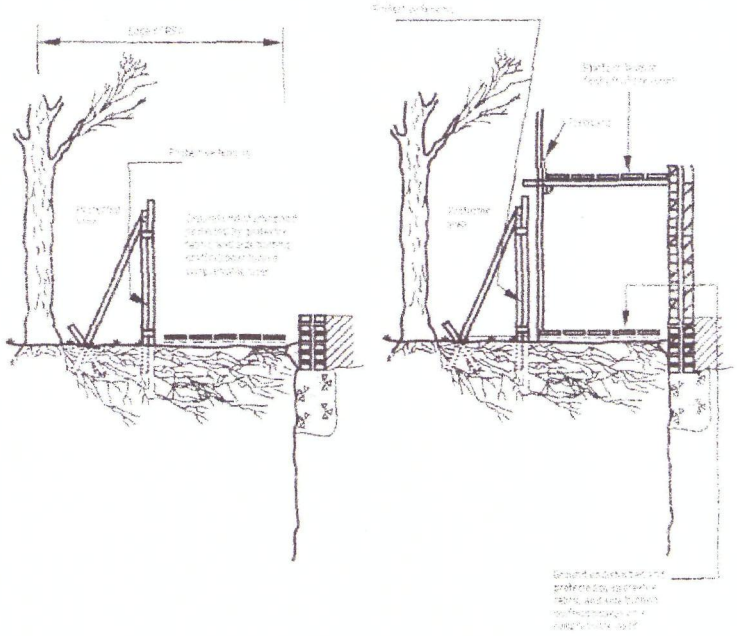


Figure 3 — Scaffolding within the RPA

9.4 Additional precautions outside the exclusion zone

9.4.1 Once the exclusion zone has been protected by barriers and/or ground protection, construction work can commence. All weather notices should be erected on the barrier with words such as:

"Construction exclusion zone — Keep out".

9.4.2 In addition the following should be addressed or avoided.

a) Care should be taken when planning site operations to ensure that wide or tall loads, or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious damage to them and might make their safe retention impossible. Consequently, any transit or traverse of plant in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from trees is maintained at all times. In some circumstances it may be impossible to maintain adequate clearance thus necessitating access facilitation pruning (see **11.2.1**).

b) Material which will contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, should not be discharged within 10 m of the tree stem.

c) Fires should not be lit in a position where their flames can extend to within 5 m of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.

d) Notice boards, telephone cables or other services should not be attached to any part of the tree.

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APPENDIX 7