

PMC Construction

ARBORICULTURAL DEVELOPMENT STATEMENT

Site:
Lovedean Lane,
Waterlooville



ARBORICULTURAL DEVELOPMENT STATEMENT

Arboricultural Implications Assessment and Method Statement
guided by recommendations within BS5837:2012

Client:	PMC Construction and National Regional Property Group
Site:	Lovedean Lane, Waterloooville
Arboricultural Consultant:	Stefan Rose <i>BSc (Hons), TechCert (Arbor.A), TechArborA</i>
Date:	February 2019

SUMMARY

There is a development proposal to demolish the existing built form and construct three new dwellings with associated access, car parking and associated garden space at land off Lovedean Lane, Waterloooville; the proposal has been assessed broadly in accordance with BS5837:2012 *“Trees in Relation to Design, Demolition and Construction – Recommendations”*.

This Arboricultural Development Statement (ADS) will demonstrate the protection measures for the trees and should be read in association with the Tree Protection Plan CBA11004.02A TPP that identifies tree retention and protection measures. It follows the initial tree survey assessment.

The emphasis of the report is predominantly that of preservation and tree protection. It identifies methodologies to provide protection for trees, to ensure their healthy and safe retention during and post development, as guided by BS5837:2012 and current best practice.

Six of the seven individual trees and the 3 (three) groups of trees can be retained. Six of the noted trees within Group 2 will be removed with 46 (forty six) noted trees within Group 2 being retained during the associated site works.

CBA Trees believes that the trees highlighted for retention within this report can be retained without undue stress on their long-term health.

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SUPPORTING INFORMATION/APPENDICES:

CB1	Tree Survey Schedule including Root Protection Area Schedule
CB2	Tree Survey Plan CBA11004.01 TSP
CB3	Tree Protection Plan CBA11004.02A TPP
CB4	Tree Works Schedule

GUIDING PRINCIPLES/APPENDICES:

CB5	Tree Protection Guidance Leaflet Construction Exclusion Zone Site Notice Common Causes of Damage During Construction Works
CB6	Qualifications and Experience

PART 1

ARBORICULTURAL IMPLICATIONS ASSESSMENT

1.0 INTRODUCTION

- 1.1 There is a development proposal to demolish the existing built form and construct three new dwellings with associated access, car parking and associated garden space at land off Lovedean Lane, Waterloooville. The proposal has been assessed broadly in accordance with BS5837:2012 *“Trees in Relation to Design, Demolition and Construction – Recommendations”*.
- 1.2 Document disclosure provided:
- Topographical plan
 - Proposed Ground Floor Plan by HGP Architects Drawing no.18.065.201 RevC
 - Proposed Site First Floor Plan by HGP Architects Drawing no.18.065.202 RevC
 - Proposed Site Section (North, South) by HGP Architects Drawing no.18.065.212
 - Proposed Site Section (North, South) by HGP Architects Drawing no.18.065.208B
 - Proposed soft landscaping plan by Deacon Design Drawing no.DD264L01
- 1.3 The client and project architects provided the original site plans and locations of the trees, and these have been the basis for the production of subsequent plans. Whilst CBA Trees has had a limited input in defining the contents of the development plan, it broadly conforms to the requirements of BS5837:2012 *“Trees in Relation to Design, Demolition and Construction – Recommendations”* and current best practice advice.
- 1.4 Our advice has been sought on the principles of the development in relation to the potential impact on the existing tree stock, to inform and to facilitate the development layout.

2.0 CLIENT'S BRIEF

- 2.1 In line with our written quotation and verbal instructions, information has been compiled in accordance with BS5837:2012 and current best practice advice.
- To undertake a Tree Survey including a schedule of Root Protection Areas in accordance with BS5837:2012 Annex D, appended at CB1.
 - To produce an AutoCAD compliant Tree Survey Plan that relies on the accuracy of the topographical survey provided by the client (plan CBA11004.01 TSP appended at CB2).
 - To undertake an Arboricultural Implications Assessment (AIA) of the proposed development provided by the client to identify which trees will be lost, which can be retained and suggest mitigating build techniques in order to retain trees as appropriate.
 - Based on the above and further on-going discussions, to provide an Arboricultural Development Statement detailing the methodologies for the retention of the tree stock where feasible, in relation to the approved development layout including a Tree Protection Plan (CBA11004.02A TPP appended at CB3).

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- 2.2 The advice provided has been formulated without discussion with the main ground or construction contractors who at this stage have not been appointed. Once the main contractors are appointed, amendments to this statement may be required for construction purposes. All amendments will be assessed by the retained arboricultural consultant and approved in writing by Havant Borough Council Planning Officer/Tree Officer or representative.

3.0 DESCRIPTION OF THE SITE

- 3.1 The site is set within the residential area of Waterloooville. The site is to the east of Lovedean Lane together with the site access.
- 3.2 Levels significantly change within the site, with trees dominating the western side.
- 3.3 There is a Tree Preservation Order that protects trees on site (see section 5).

4.0 THE TREE STOCK

- 4.1 CBA Trees undertook a tree survey on 11th June 2018. The tree survey exercise identified 7 (seven) individual trees and 2 (two) groups of trees containing 55 (fifty five) noted trees within them). The Tree Survey Schedule and Tree Survey Plan (CBA11004.01 TSP) are appended at CB1 and CB2 respectively.

4.2 Tree Categorisation Method

Category U = Trees in such a condition that any value would be lost within 10 years, or should be removed for reasons of sound arboricultural management. There was one noted tree (G2.12) categorised within this grade at the time of surveying.

Note:

“Category U trees are 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.”

Category A = Trees of high quality and value: in such a condition as to make a substantial contribution, (40 years or more is recommended). There were three individual trees (Trees 1, 2 and 3) and 1 (one) group of trees (Grp 2) categorised within this grade at the time of surveying.

Category B = Trees of moderate quality and value, capable of making a significant contribution for in excess of 20 years. There were 3 (three) individual trees, 1 (one) group of trees (Group 1) and 17 (seventeen) noted trees (G2.2, -2.5, 2.11, 2.21, 2.24, 2.33, 2.36-2.39, 2.44, 2.46 and 2.47) classified as a moderate ‘B’ grade category at the time of surveying.

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Category C = Trees of low quality and value which might remain for a minimum of 10 years or young trees with stems of less than 150mm diameter. There was 1 (one) individual tree, and 17 (seventeen) noted trees (G1.1-1.3, G2.1, 2.6-2.10, 2.13-2.20, 2.22, 2.23, 2.25-2.32, 2.40-2.43, 2.45, 2.48-2.52) at the time of surveying.

Note:

"Trees under these categories are trees that should be a material consideration in the development process; the subcategories are intended to reflect arboricultural, landscape and cultural values respectively."

- 4.3 For more details of the existing tree stock, refer to the Tree Survey Schedule (appended at CB1).

5.0 TREE PRESERVATION ORDER/CONSERVATION AREA

- 5.1 Following consultation with Havant Borough Council, CBA Trees has been made aware that some of the existing trees are protected by a Tree Preservation Order (TPO 2072/2017, The Old Builders Yard, Lovedean Lane and Adjacent Land, Waterlooville, Hampshire).
- 5.2 If it is intended to carry out works to the protected trees prior to the granting of Full Planning Consent and Discharge of Planning Conditions, it will be necessary to obtain written consent from Havant Borough Council.

6.0 PROPOSED TREE RETENTION AND TREE LOSS

- 6.1 In accordance with the recommendations contained within BS5837:2012, an experienced arboriculturist has assessed the requirements for tree protection and the Root Protection Area (RPA). The implications of the proposed development are detailed below, along with any mitigating measures to ensure the retention of these trees.
- 6.2 As part of the assessment, dimensions have been scaled from the proposed drawing by HGP Architecture, prepared and modified, to include the relevant Tree Survey data (tree protection plan CBA11004.02A TPP appended at CB3).

7.0 SUMMARY OF ARBORICULTURAL IMPLICATIONS

- 7.1 The following is a summary of arboricultural implications as indicated on Tree Protection Plan CBA11004.02A TPP.

Table 1: Arboricultural Implications (shown on next page)

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Tree No.	Species	BS 5837:2012 Cat	Potential cause of harm	Implication	Mitigation
1 TPO T1	Pedunculate Oak <i>Quercus robur</i>	A1	- Damage to roots - Loss of roots for driveway - Ground compaction of rooting environment - Damage to crown during construction - General site activities and movements - Deliveries and storage of building materials - Removal of stone driveway and level increase with soils - Connection and installation of new services - Retaining wall construction	Retained	- Protected as detailed in Section 2 of this report - Fit for purpose ground protection - Prune southern crown edge as detailed in the Tree Works Schedule - Specific arboricultural method statement and supervision for stone removal and soil replacement
2* TPO T2	Pedunculate Oak <i>Quercus robur</i>	B1+2 Interim	- Ground compaction - Damage to roots and/or crown during general site activities and movements	Retained	Protected as detailed in Section 2 of this report
3 TPO T6	Pedunculate Oak <i>Quercus robur</i>	B1+2	- Damage to roots - Ground compaction - Damage to roots and crown during general site activities and movements - Minor infringement of rooting area for retaining wall construction	Retained	- Protected as detailed in Section 2 of this report - Retaining wall using steel stanchions and timber sleepers
4 TPO T8	Common Yew <i>Taxus baccata</i>	B1+2	- Damage to roots - Ground compaction - Damage to roots and/or crown during general site activities and movements	Retained	Protected as detailed in Section 2 of this report
5	Wild Cherry <i>Prunus avium</i>	C1+2	- Damage to roots - Ground compaction - Damage to crown - General site activities and movements	Removed	Low quality tree removed to improve visual aspect of TPO'd trees and provide a more open garden space
6 TPO T11	Pedunculate Oak <i>Quercus robur</i>	A1+2	- Damage to roots - Ground compaction - Damage to roots and crown during general site activities and movements - Minor infringement of rooting area for retaining wall construction	Retained	- Protected as detailed in Section 2 of this report - Retaining wall using steel stanchions and timber sleepers
7 TPO T14	Pedunculate Oak <i>Quercus robur</i>	A1+2	- Damage to roots - Ground compaction - Damage to roots and crown during general site activities and movements - Minor infringement of rooting area for retaining wall construction	Retained	- Protected as detailed in Section 2 of this report - Retaining wall using steel stanchions and timber sleepers
Grp 1	Yew x3	B2	Unaffected by development	Retained	Protected as detailed in Section 2 of this report
G1.1 TPO T3	Common Yew	C1+2	Unaffected by development	Retained	Protected as detailed in Section 2 of this report
G1.2 TPO T4	Common Yew	C1+2	Unaffected by development	Retained	Protected as detailed in Section 2 of this report
G1.3 TPO T5	Common Yew	C1+2	Unaffected by development	Retained	Protected as detailed in Section 2 of this report
Grp 2	Yew Pedunculate Oak (Some Oak trees protected by TPO) Wild Service Tree Wild Cherry Hawthorn Holly Plum	A2	- Damage to roots - Ground compaction - Damage to crown - General site activities and movements - Installation of garden fencing	Removed /Retained (as detailed below)	Retained trees protected as detailed in Section 2 of this report

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Tree No.	Species	BS 5837:2012 Cat	Potential cause of harm	Implication	Mitigation
G2.1 TPO T7	Common Yew	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements	• Retained	• Protected as detailed in Section 2 of this report
G2.2 TPO T9	Common Yew	B1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements • Installation of garden fencing	• Retained	• Protected as detailed in Section 2 of this report
G2.3 TPO T10	Pedunculate Oak	B1+2 Interim	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements • Installation of garden fencing	• Retained	• Protected as detailed in Section 2 of this report
G2.4 TPO T12	Common Yew	B1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements • Installation of garden fencing	• Retained	• Protected as detailed in Section 2 of this report
G2.5	Pedunculate Oak	B1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements • Installation of garden fencing	• Retained	• Protected as detailed in Section 2 of this report
G2.6	Common Yew	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements	• Retained	• Protected as detailed in Section 2 of this report
G2.7	Common Yew	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements • Installation of garden fencing	• Retained	• Protected as detailed in Section 2 of this report
G2.8	Common Yew	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements • Installation of garden fencing	• Retained	• Protected as detailed in Section 2 of this report
G2.9	Common Yew	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements • Installation of garden fencing	• Retained	• Protected as detailed in Section 2 of this report
G2.10	Wild Service Tree	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements • Installation of garden fencing	• Retained	• Protected as detailed in Section 2 of this report

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Tree No.	Species	BS 5837:2012 Cat	Potential cause of harm	Implication	Mitigation
G2.11	Common Yew	B1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements	• Retained	• Protected as detailed in Section 2 of this report
G2.12	Wild Service Tree	U	-	• Removed	• Remove for sound arboricultural management
G2.13	Wild Service Tree	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements	• Retained	• Protected as detailed in Section 2 of this report
G2.14	Common Yew	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements	• Retained	• Protected as detailed in Section 2 of this report
G2.15	Common Yew	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements	• Retained	• Protected as detailed in Section 2 of this report
G2.16	Pedunculate Oak	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements	• Retained	• Protected as detailed in Section 2 of this report
G2.17	Common Yew	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements	• Removed	• Low quality tree removed to improve visual aspect of TPO'd trees and provide a more open garden space
G2.18	Common Yew	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements	• Removed	• Low quality tree removed to improve visual aspect of TPO'd trees and provide a more open garden space
G2.19	Wild Cherry	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements	• Removed	• Low quality tree removed to improve visual aspect of TPO'd trees and provide a more open garden space
G2.20	Common Yew	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements	• Removed	• Low quality tree removed to improve visual aspect of TPO'd trees and provide a more open garden space
G2.21 TPO G2	Common Yew	B1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.22T PO G2	Common Yew	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.23 TPO G2	Common Yew	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.24 TPO G2	Common Ash	B1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.25 TPO T23	Common Yew	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.26	Common Holly	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.27	Plum	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.28	Common Yew	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.29	Common Yew	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.30	Common Yew	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report

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Tree No.	Species	BS 5837:2012 Cat	Potential cause of harm	Implication	Mitigation
G2.31	Common Hawthorn	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.32	Common Yew	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.33 TPO T19	Pedunculate Oak	B1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.34 TPO T18	Common Yew	B1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.35 TPO T17	Pedunculate Oak	B1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.36 TPO T16	Pedunculate Oak	B1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.37 TPO T15	Common Yew	B1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.38 TPO T13	Pedunculate Oak	B1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.39	Pedunculate Oak	B1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.40	Pedunculate Oak	C1+2	• Damage to roots • Ground compaction • Damage to crown • General site activities and movements	• Removed	• Low quality tree removed to improve visual aspect of TPO'd trees and provide a more open garden space
G2.41	Pedunculate Oak	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.42	Pedunculate Oak	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.43	Pedunculate Oak	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.44	Pedunculate Oak	B1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.45	Pedunculate Oak	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.46	Pedunculate Oak	B1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.47	Pedunculate Oak	B1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.48	Common Yew	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.49	Pedunculate Oak	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.50	Common Yew	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.51	Pedunculate Oak	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report
G2.52	Common Yew	C1+2	• Unaffected by development	• Retained	• Protected as detailed in Section 2 of this report

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ARBORICULTURAL / CONSTRUCTION METHOD STATEMENTS

8.0 PRE-COMMENCEMENT SITE MEETING

- 8.1 It is recommended that a pre-commencement site meeting is held prior to any works commencing on site, to agree all approved processes with the arboricultural consultant, the construction personnel and Havant Borough Council Tree Officer or their appointed representative. This meeting could be used to formally agree the methods of work, position of site offices, material storage, compounds, parking and tree protection measures prior to commencement of the development and the associated clearance work.

9.0 ADDITIONAL ARBORICULTURAL ADVICE FOR SITE PERSONNEL

- 9.1 To provide site personnel with additional information regarding the requirements of Tree Protection, a leaflet (appended at CB5) shall be issued to all staff at the time of their site induction. Spare copies of this leaflet shall be available in the site office as replacements.
- 9.2 In order to inform site personnel of the purpose of the barriers, information notices shall be fixed to the barriers at 5m intervals. These notices shall be of all-weather construction and shall be in the form of the specimen provided at appendix CB5 and replaced as and when necessary.

10.0 PRE-DEVELOPMENT TREE WORKS

- 10.1 All tree works will be undertaken prior to the commencement of site preparation and construction works once full planning permission has been granted and any detail for planning conditions have been agreed with the Planning Case Officer/Tree Officer of Havant Borough Council.
- 10.2 **All permitted or approved tree work** should be carried out in accordance with the British Standard “*Recommendations for Tree Work*” BS3998:2010, by suitably qualified and experienced professional arborists. Under no circumstances shall site personnel undertake any tree pruning operations. All tree surgery works should be carried out prior to the development of the site, and erection of protective barriers.
- 10.3 Consideration should be given to the timing of any tree works to avoid the active growing period of trees. Therefore, all tree work should ideally be carried out during the dormant period from November through to February and then again from June to August.
- 10.4 Due to the bird-nesting season, considered to be from 1st March through to the 31st July (Natural England) depending on weather conditions, consideration must also be given to the potential for nesting birds. It is advised that, where tree work is to be carried out within these months that an ecologist be consulted to:
- Complete or advise on a pre-works survey that needs to be carried out by a suitably competent person. As a general rule, it should be assumed that birds will be nesting in trees, and it is down to contractors to assess, record and confirm

that any works carried out in the management of trees and other vegetation has not disturbed actively nesting birds.

- Ground vegetation, and therefore ground nesting birds, can often be overlooked by tree workers so additional care and controls should be taken when access and egress to the work site may also cause disturbance or damage to a nesting site. This is also true for retained trees on site as the removal of adjacent trees or remedial works on a tree may lead to an established nest being abandoned, exposed to the elements or predation. This action is also a breach of the Act and therefore could lead to prosecution due to the infringement of the Wildlife and Countryside Act 1981 and breaching the Conservation of Habitats and Species Regulations 2010 (as amended).

- 10.5 Although not apparent at the time of the site visit, consideration should also be given to the presence of bats, and a full visual assessment should be undertaken before any works are carried out on the trees. Where bats are identified as a serious concern, a bat survey should be undertaken by qualified and trained personnel to identify the needs of the bats (roosts, resting place etc) and no tree works can be carried out until the 'all clear' is given, or a programme of recommendations is received in writing.
- 10.6 Should additional tree works become apparent during the construction process; written consent will be required from Havant Borough Council tree team prior to these additional works being undertaken.
- 10.7 All tree works that are required to facilitate the development are detailed within the Tree Works Schedule appended at CB4.

11.0 TREE PROTECTION MEASURES

- 11.1 All site operations will be planned, implemented and supervised to prevent the following unless otherwise agreed within this report:
- Root severance
 - Damage to the bark, branches and trunks
 - Compaction of the soil within the Construction Exclusion Zone
 - Alterations in soil level
 - Soil contamination by phytotoxic materials such as herbicides, petrol, oils, diesel, cement and concrete washings or other construction additives
- 11.2 Before starting any site works in relation to this development proposal, tree protection barriers will be installed in accordance with Tree Protection Plan CBA11004.02A TPP (appended at CB3). This will occur immediately following the completion of tree works and prior to any site preparation works starting.
- 11.3 It is of paramount importance that the fit for purpose ground protection is also established in accordance with Tree Protection Plan CBA11004.02A TPP (appended

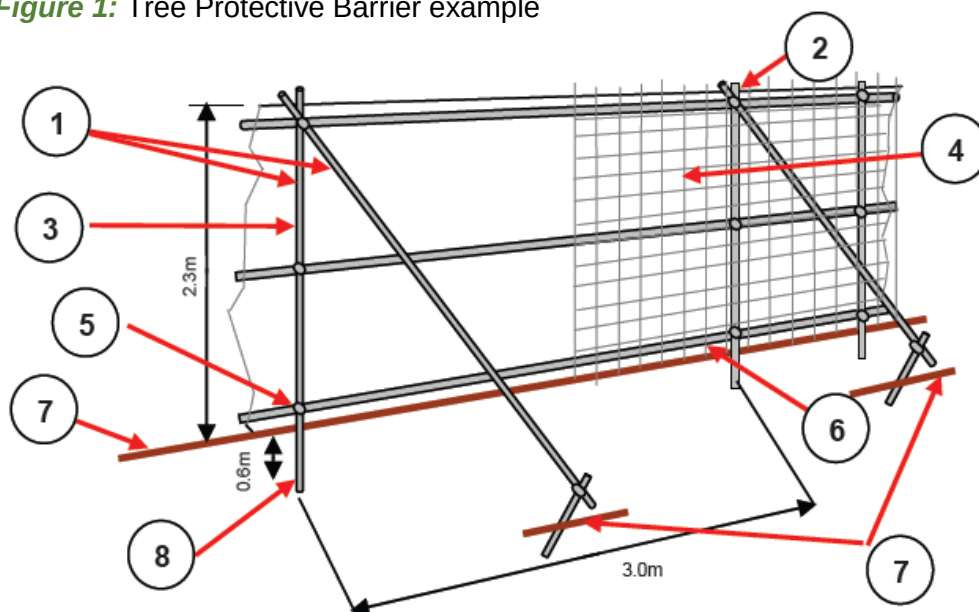
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at CB3) prior to site occupation or any other preliminary/enabling works relating to the development of the site.

- 11.4 A copy of the Tree Protection Plan CBA11004.02A TPP will be displayed in the site office and canteen as a point of reference for all site operatives.
- 11.5 Installing the following protective barrier and fit for purpose ground protection as indicated on Tree Protection Plan CBA11004.02A TPP will protect retained trees. It is recommended that the appropriate barrier will consist of a robust barrier where it (the barrier) is resistant to impact and requires a positive or considered movement/adjustment by contractors of the barrier to adjust its position.
- 11.6 Trees will be protected by installing the following protective fence as indicated on Tree Protection Plan CBA11004.02TPP. The barrier is to comprise of a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m. Onto this, weldmesh panels should be securely fixed with wire or scaffold clamps.
- 11.7 In accordance with Section 6.2.2.4 of BS5837:2012, weldmesh panels on rubber or concrete feet are not resistant to impact, and will not be used for tree protection purposes.

Figure 1: Tree Protective Barrier example



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

Example of protective barriers:



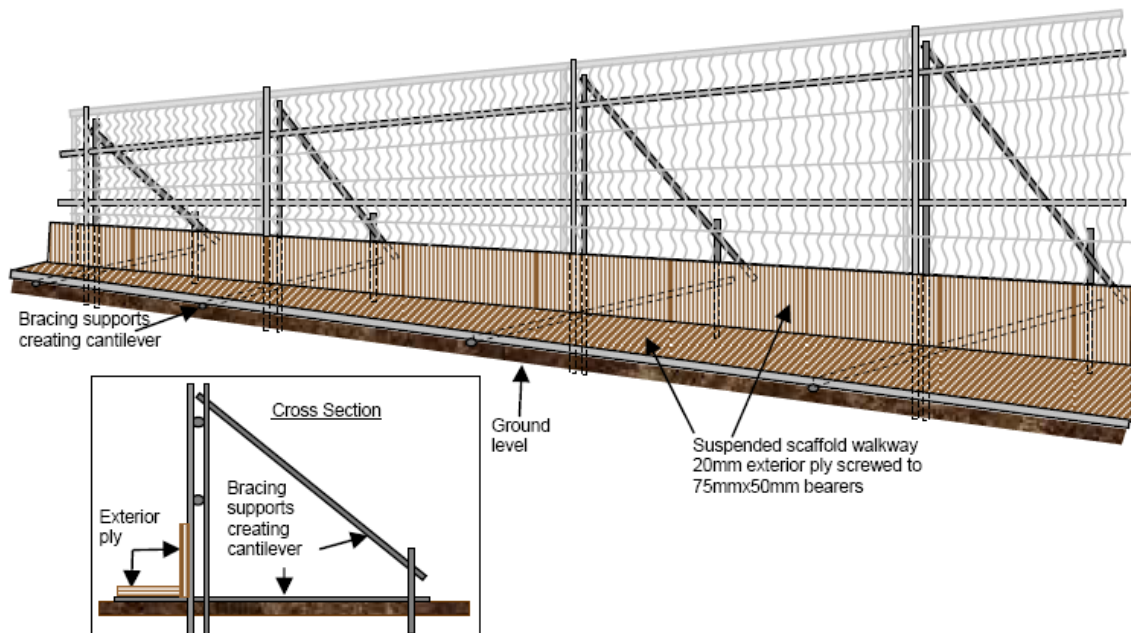
11.8 **Ground Protection**

Pedestrian movements

Tree 1 will require construction activity within the identified Construction Exclusion Zone (CEZ). Ground protection will be implemented for these trees as per the Tree Protection Plan CBA11004.02A TPP.

Ground protection will be constructed in accordance with Figure 1 below, and consist of a suspended walkway decked with 20mm exterior grade Plyboard supported on 75 x 50mm bearers. The specification provides for pedestrian access only.

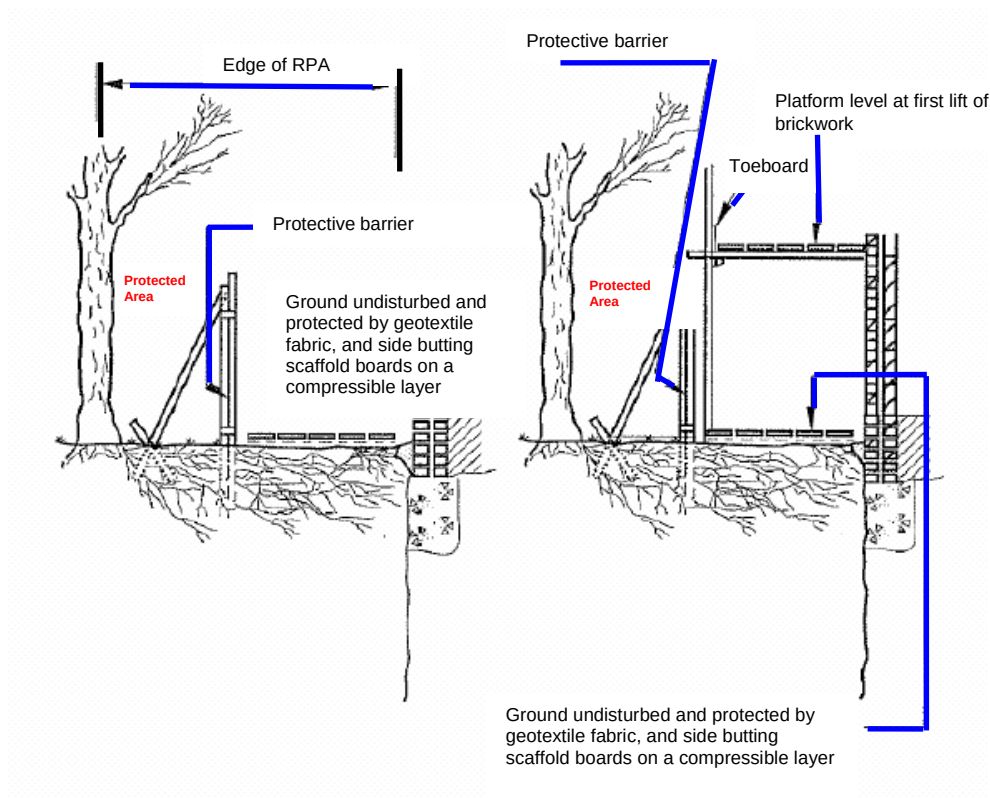
Figure 2: Pedestrian walkway within the Root Protection Area



An alternative approach is provided (Figure 3, on the next page), the method will allow for construction and working space within the CEZ of Tree 1. This method will consist of a single thickness of butt jointed scaffold boards supported on a 150mm

thick layer of composted woodchip which is prevented from mixing with the underlying soil by geotextile separation layer.

Figure 3: Ground Protection Specification (shown on next page)



Site and Machinery Access within Construction Exclusion Zone

Access and machine operation is required within the CEZ of Tree 1.

At this stage, no information has been provided as to the type, weight or ground pressure of the equipment to be deployed, and therefore the exact type of ground protection is yet to be specified. The method of ground protection will be engineer designed and fit for purpose to support the type of site plant that will be used and avoid compaction and damage to the soft ground rooting environment.

Prior to the commencement of works, ground protection will be assessed by the retained arboricultural consultant and approved in writing by the Planning Case Officer/Tree Officer of Havant Borough Council.

A compressible layer will be incorporated into the design to minimise compaction of the rooting environment. This layer could consist of a thick layer of composted wood chip or preparatory neoprene mats.

- 11.9 Tree protection barriers and ground protection will remain *in-situ* for the duration of the project. The areas protected by barriers will be regarded as **sacrosanct**, and the tree protective barriers shall not be taken down or relocated at any time without the written approval of the Planning Case Officer/Tree Officer of Havant Borough Council

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during works that relate to the planning consent. An example of a CEZ notice is appended at CB5.

12.0 EXISTING SERVICES

- 12.1 No information has been provided on the location and size of existing services. However, if there are any existing services within the RPA and CEZ of retained trees will not be chased out, but cut at the edge of any structure and left *in-situ*.
- 12.2 Cabling will only be recovered from beneath a CEZ where it is located in ducting, and can be removed by winching from an existing service manhole beyond the CEZ.
- 12.3 Service pipes and ducts, where they are located within the CEZ or RPA of retained trees, will be made redundant either by pipe bursting or by filling with an inert material such as foamed concrete.

13.0 DEMOLITION

- 13.1 Demolition of the existing built form will be carried out so as to prevent damage to existing retained trees. Ideally this will be completed by use of hand tools and working space contained to the site, outside the tree protective barriers, to avoid excessive use of the soft ground and therefore reduce the impact on the trees.
- 13.2 Demolition of the built form in close proximity to the retained trees must be done with due care and attention, in order to adequately respect overhanging canopies of all retained trees. To this end, the following rules will apply:-
 - Site personnel are to undergo an induction session prior to being allowed to work on site. The induction will introduce the contractors to the requirements of the Protection Method Statement. A copy of the Method Statement will be made available as a point of reference in respect of tree protection requirements. In addition, a copy of the Tree Protection Plan will be available on site at all times, provided by the client at the start of work and/or pinned up in the site hut. During the induction, trees that are to be retained and protected will be highlighted to the demolition personnel and they will be physically shown which trees are to be protected on site. In this way, it is hoped that unnecessary damage, by root disturbance and collision of machinery booms and operating arms with tree crowns can be avoided.
 - The roof, all walls and foundations are to be pulled in on themselves towards the centre of the building away from retained trees. This will be done in a direction away from the tree protective barriers and all plant machinery should it be required, will be operated at least 1.5 metres outside the tree protective fence line from where it is erected for the site preparation works.

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- Any machinery used for this purpose is to stand and operate over existing hard surfaces wherever possible, but always outside the CEZ as defined by the protective barriers.
- Lightweight structures will be demolished and removed by hand. Work will be carried out from existing hard surface.

14.0 REMOVAL OF BUILT FORM AND HARD SURFACES IN CLOSE PROXIMITY TO RETAINED TREES

- 14.1 Removal of existing stone surfacing adjacent to T1 within its CEZ formed by the tree protection barriers will follow the principles set out below and be undertaken once a detailed arboricultural method statement has been provided that has had input from the appointed contractor.
- 14.2 The works must be undertaken initially by hand (where feasible and in line with Health and Safety polices) to avoid any surface root damage, and shall be supervised on-site by the retained arboricultural consultant.
- 14.3 Any removal of hard surfacing in close proximity to trees will be undertaken by working only from the existing hard surface or protected ground area (using ground mats for example).
- 14.4 The required work should then be completed with hand operated tools or appropriate machinery (under arboricultural supervision), but under the supervision of an arboriculturist. Any machinery or equipment to be used will need to be lightweight and run on additional ground protection, or working from the existing hard standing only. Ideally the loose surface stone will be removed under arboricultural supervision to ensure roots are not damaged through the potential use of a grading bucket. Then an air spade or air lance can be used to loosen compacted soil where required to be removed by the graded bucket. At no time can the graded bucket be used to removed soil/stone by excavating, it can only be used to remove loose soil. Works will need to be completed in an overhand fashion and working backwards so that the stone can be used as a working surface to prevent damage to the ground and roots beneath.
- 14.5 If the area around T1 that has been cleared of stone is to be left following the removal of the existing hard surface before the ground is made up for the garden area to match that of the surrounding area, exposed roots must be covered with hessian sacking to prevent them from drying out until such time as new soil is imported to the area.

15.0 AVOIDING DAMAGE TO STEMS AND BRANCHES

- 15.1 Care shall be taken when planning site operations, to ensure that wide, tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact could result in serious damage to them, and might

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make their safe retention impossible. Consequently, any transit or traverse of plant in close proximity to trees, will be conducted under the supervision of a banksman, in order to ensure adequate clearance from trees is maintained at all times.

16.0 VEHICULAR MOVEMENTS

- 16.1 There should be minimal vehicular movement in the potential rooting zone and outside the CEZ formed by the tree protection barriers identified on Tree Protection Plan CBA11004.02A TPP.
- 16.2 It is not anticipated that there will be a need for excess vehicular movement near the retained trees and groups at the rear of the site given the topography. However, T1 will be vulnerable during the demolition, ground works and construction phases of the site work given its location and existing stoned access to the north, east, west and south of the tree.
- 16.3 The existing access/hard standing area can be utilised on the eastern side of T1 by light weight vehicles (Ford Transit size or less) for parking to enable site works to occur whilst establishing the new access immediately at the start of site works. Then the existing access area must be blocked off by the tree protective barriers as per the Tree Protection Plan CBA11004.02A TPP.

17.0 SITING OF TEMPORARY OFFICES, TOILETS AND MATERIAL STORAGE COMPOUNDS

- 17.1 It is anticipated that all storage materials and deliveries shall make use of the access driveway area and utilise the space to the east of Plots 2 and 3, in order to avoid unnecessary damage to tree roots.
- 17.2 The locations shall be agreed in writing with the Planning Case Officer/Tree Officer of Havant Borough Council prior to the commencement of works on site, and will remain in only those agreed locations throughout the construction phases. If an alternative location is required, this must be agreed in writing with the Planning Case Officer/Tree Officer of Havant Borough Council. This will also include the delivery, storage and movement of all essential facilities, as well as aspects such as temporary contractor vehicle parking and site location of chemical mixing (e.g. concrete). All such locations will be outside of the RPAs, and avoid areas where 'run off' of chemicals may flow into RPAs.
- 17.3 **Site Huts**

All site huts that are to be situated on ground that is not existing hard surfacing, shall have appropriate footings or be situated on a temporary surface, which will aid in reducing the potential for compaction of the ground, where they are in close proximity to the existing tree protective barrier line. Site huts can be used as part of the

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protective barrier boundary, and in some cases, can be beneficial where installation does not conflict with the aerial parts of the tree.

18.0 GENERAL CONSIDERATIONS WITHIN AND OUTSIDE THE CONSTRUCTION EXCLUSION ZONE

18.1 Inside the CEZ formed by the tree protective measures, the following prohibitions shall apply:

- No construction activity will occur within the CEZ unless otherwise stated in this report, or agreed in writing with the Planning Case Officer/Tree Officer of Havant Borough Council prior to the specific activity taking place.

18.2 In addition to the above, further precautions are necessary adjacent to trees outside the CEZ:

- Materials which will contaminate the soil e.g. concrete mixing, diesel oil and vehicle washings, shall not be discharged within 10 metres of the tree stem. This should take into consideration the topography of the site and slopes, to avoid materials such as concrete washings running towards trees.
- Fires shall not be lit in a position where their flames can extend to within 5 metres of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.
- Notice boards, telephone cables or other services shall not be attached to any part of the tree. (See appendix CB5 Common Causes of Damage During Construction Works)

19.0 GROUND LEVEL ALTERATIONS

19.1 There will be no increases or decreases to the ground levels within the tree protection areas of the retained trees unless otherwise stated within this report. Where levels adjacent to the RPAs are affected, then retaining structures (steel stanchions and timber sleepers) must be designed to account for the retention of ground levels to avoid root loss through battering ground back.

19.2 Level increases can be achieved providing they are carefully designed and constructed to meet the immediate and long-term biological requirements of the trees. These requirements include:

- Preventing physical damage to roots
- Allowing water and oxygen to reach the existing rooting environment where no development of built form is to occur (Dwellings, drive, car parking etc.)
- Preventing the build-up of carbon dioxide within the existing soil
- Allowing for future growth

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- Preserving the soil structure within the existing rooting environment (particularly with clay soils)
 - Preventing soil compaction
- 19.3 The increase in ground levels may require the temporary removal of the protective barriers indicated on CBA Tree Protection Plan CBA11004.02A TPP to provide access to complete the works with arboricultural supervision.
- 19.4 The soft ground and any exposed ground within the CEZ will remain off limits for all site plant and machinery, unless fit for purpose ground protection is installed. Pedestrian traffic must be kept to an absolute minimum on soft ground.
- 19.5 In all cases, existing vegetation on the sides of the existing banking will be removed to ground level by hand, following treatment with a suitable systemic herbicide that is not toxic to existing retained trees. This prevents the build-up of methane formed as part of the composition process.
- 19.6 The increase in ground level on the existing compacted access can be accommodated by the use of a good quality top soil with a low clay content or the use of a specialist high sand content tree soil. The soil will be installed by either:
- Loose tip and manual installation (but this would require phased work to part remove and part retain the existing stone drive); or
 - Placed using a 360° excavator operating outside of the construction exclusion zone and under the control of a banks person to prevent damage to the trunk and branches of the retained tree.
- 19.7 Although detailed designs on how the levels will be made up are not available at this stage, the design will meet the following criteria principles:
- A geotextile separation layer will be placed over the existing ground surface.
 - A series of 150mm diameter interconnected perforated pipes will be laid over the membrane at spacings of not less than 1.5 metres. The system will incorporate vertical aeration pipes at centres of not more than 3 metres across the entire existing stoned area network where levels are increased within the root protection area within the proposed garden space.
 - The ground pipes and membrane will be covered with 40-60mm no fines angular stone or clean cobbles to a minimum depth of 200-300mm.
 - A geotextile separation layer will be placed over the stone to prevent contamination.
 - High quality top soil with a high sand content/low clay content or the use of a specialist high sand content tree soil will be placed on top and levelled to match the proposed level for the garden area.

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- On completion, the pipe ends will be finished with a suitable grill or perforated capping stone to the landscape architect's specification. Examples of suitable grills are shown below.

20.0 REPORT DAMAGE TO TREES AND TREE PROTECTION BARRIERS

- 20.1 Should any damage be caused to the trees or groups noted for retention, either by the above works or as the result of any other action, the damage should be reported to the site supervisor immediately. The site supervisor shall report up the chain of responsibility to the retained consultant arboriculturist, or in the absence of such an appointment, to an appropriately qualified arboriculturist, to enable remedial measures to be implemented as necessary and as agreed with the Havant Borough Council's Tree Officer.
- 20.2 Should damage occur to a protective barrier to impair its function in protecting the trees and groups, all work will cease near the damage, until the barrier has been returned to standard.

21.0 UTILITY SERVICE CONNECTIONS

- 21.1 Details of service location proposals have not been forwarded to CBA Trees at the time of compiling this assessment. It is however assumed, given the location of the trees, that services will be installed outside the RPAs of retained trees, and connected to the existing where practicable, this will avoid disturbance of tree roots and ensure their healthy retention.

22.0 SOFT LANDSCAPING WORKS

- 22.1 Any soft landscaping works within the development area will be in accordance with the approved landscape plan provided by Deacon Design, and any specification of such works approved by Havant Borough Council.
- 22.2 Landscaping will accord with following requirements:
- Landscaping works are to be carried out within the CEZ of trees after the main phase of construction has been completed. At this stage, it will be necessary to alter the line of/remove protective barriers in order to facilitate the landscaping works.
 - The CEZ will remain off limits for all site plant and machinery unless fit for purpose ground protection is installed. Therefore, contractors carrying out the landscape planting will need to man handle the plants to the areas of planting. Pedestrian traffic must be kept to an absolute minimum and only permitted for the ground preparation and landscape installation works.

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- The landscaping works will need to be undertaken in such a way as to avoid level changes, deep digging or mechanical rotovating. Excavation of planting pits with the RPA can cause serious harm the root system of retained trees. Planting pits within the RPA of retained trees will be excavated by hand to avoid roots greater than 25mm and masses of smaller roots.

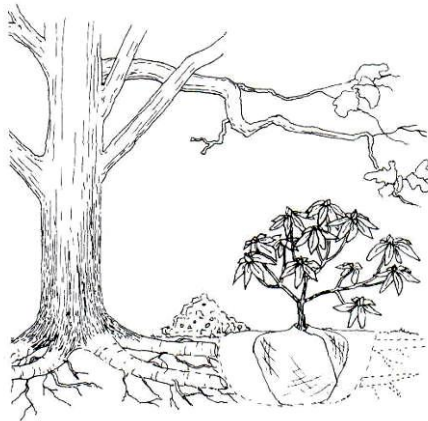


Figure 4:
Root severance as a result
of planting within RPA

Planting Trees and Shrubs. Watson G. W. and Himelick E. B. 1997

- If any planting pits are required within the CEZ of retained trees, these will be dug by hand and with care avoiding roots greater than 25mm diameter or masses of smaller roots.
- 22.3 Any surface mulch will consists of well-composted material such as bark or wood chips. This is necessary to avoid potential nutrient loss from the soil, such as Nitrogen, as the mulch breaks down, as nutrient loss can be detrimental to the health and longevity of retained trees.

23.0 REMOVAL OF PROTECTIVE BARRIERS

- 23.1 When the demolition, ground works and external construction phases of the new dwellings are complete, the parking, driveways areas have been constructed and all site machinery has been removed, the protective barriers will be dismantled.
- 23.2 This barrier dismantling must be undertaken with great care, and will need to be supervised to avoid heavy machinery being used within the Root Protection Areas. Hoarding, scaffolding and other barrier materials will need to be removed from site immediately.

24.0 CONCLUSIONS

- 24.1 The development proposal to demolish the existing built form and construct three new dwellings with associated access, car parking and associated garden space at land off Lovedean Lane, WaterlooVille has been assessed broadly in accordance with BS5837:2012 *"Trees in Relation to Design, Demolition and Construction – Recommendations"*.

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- 24.2 Six of the seven individual trees and the 3 (three) groups of trees can be retained. Six of the noted trees within Group 2 will be removed with 46 (forty six) noted trees within Group 2 being retained during the associated site works. The trees to be removed are not removed as a direct result of the footprint of the dwellings but to provide a more usable garden space and improve the local aspect of the more dominant trees in the garden setting.
- 24.3 It is our opinion that the trees and groups identified for retention can be afforded due respect and provided adequate protection, ensuring their safe and healthy retention during the development process.
- 24.4 The adoption of considered working practices on the potential impact on Trees 1, 6 and 7 with specialist working practices to minimise the working room and extent of excavations will reduce the impact on the trees.
- 24.5 Provided the recommendations included within this report are strictly adhered to, CBA Trees believes the trees and groups highlighted for retention within this report can be retained without undue stress on their long-term health.

25.0 CONTACT LIST

- 25.1 It is suggested that points of contact and lines of communication are established prior to commencement of the works on site including:-
- Arboricultural Consultant
 - Project Architect
 - Havant Borough Council's Tree Officer
 - Havant Borough Council's Planning Case Officer
 - Site Supervisor and Foreman
- 25.2 It is advised that the site supervisor establishes their own listing of contact details at the pre-start site meeting, and displays this in their office for general use as necessary.

26.0 BIBLIOGRAPHY

- British Standard 5837:2012 –
"Trees in Relation to Design, Demolition and Construction - Recommendations"
- British Standard 3998:2010 –
"Recommendations for Tree Work"
- National Joint Utilities Group Publication Volume 4 –
"Guidelines for the planning, installation and maintenance of utility services in proximity to trees"
- Wildlife and Countryside Act 1981
- Conservation of Habitats and Species Regulations 2010 (as amended)
- Town and Country Planning Acts







The Professional Arboricultural Consultancy

TREE SURVEY NOTES

This Tree Survey has been undertaken within the recommendations of British Standards 5837:2012 and current arboricultural best practice.

- Each tree has been numbered and, where instructed, for future identification on site, has been tagged using small durable metal or plastic tags.
- Due to variations of existing ground levels through the site, height dimensions are estimated and are given in metres. Accurate heights, measured with the aid of optical instruments can be provided where instructed.
- Trunk/stem diameters are measured in mm at 1.5 metres above ground level, using a standard measuring tape as defined by British Standards, unless otherwise stated.
- Estimated branch spread is taken in metres from the centre of the trunk, at the four cardinal points of a compass, to achieve an accurate representation of the crown shape which will be recorded on the tree survey plan.

- An assessment of a tree's age classification is made in terms of its maturity within the site's landscape and defined as:

Y	=	young trees
SM	=	semi-mature trees
EM	=	early mature trees
M	=	mature trees
OM	=	over-mature trees

- An assessment of a tree's physiological condition is defined as:

Good	=	fully functioning biological system showing average vitality i.e. normal bud growth, leaf size, crown density and wound closure
Fair	=	fully functioning biological system showing below average vitality i.e. reduced bud growth, smaller leaf size, lower crown density and reduced wound closure
Poor	=	a biological system with limited functionality showing significantly below average vitality i.e. limited bud growth, small and chlorotic leaves, low crown density and limited wound closure
Dead	=	dead

- An assessment of a tree's structural condition is defined as:

Good	=	no significant structural defects
Fair	=	structural defects which could be alleviated through remedial tree surgery or management practices
Poor	=	structural defects which cannot be alleviated through tree surgery or management practices
Dead	=	dead

- An assessment of a tree's future life expectancy is defined as: **<10, 10+, 20+ or 40+ years.**

Categorisation of Trees

The category for each tree is assessed using the recommendations of BS5837:2012. The assessment has not considered any site-specific development proposals, but will have considered any changes on or off-site which may have an effect on the conditions surrounding the surveyed trees.

The trees have been classified into one of the following categories (and one or more sub-categories [this will however not increase the value of the tree]) and are indicated on the associated drawings by colours as indicated.

Category U				Identification colour on plan
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	- 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			DARK RED
Category A	1 – Mainly arboricultural values	2 – Mainly landscape values	3 – Mainly cultural values	Identification colour on plan
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)	LIGHT GREEN
Category B	1 – Mainly arboricultural values	2 – Mainly landscape values	3 – Mainly cultural values	Identification colour on plan
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 down-graded 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 value or other cultural value	MID BLUE
Category C	1 – Mainly arboricultural values	2 – Mainly landscape values	3 – Mainly cultural values	Identification colour on plan
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	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

Clients are advised that Tree Surveys are a basic data collection exercise and record of tree condition at the time of survey. This will identify any visible signs of ill-health or major defects, advising a further detailed investigation where appropriate. This will most often take the form of a request for either “*full ground level inspection*” or “*climbing inspection required*”. There may also be a further reference to the need for “*decay detection equipment*” to aid diagnosis. A tree survey does not include a comprehensive schedule or specification of remedial tree works, but may contain a guide to the work which might be undertaken by a prudent tree owner, purely for reasons of health and safety.

A Tree Survey should not be confused with a Tree Inspection or Arboricultural Implication Assessment, which are totally separate exercises.

	BS5837:2012 TREE SURVEY REPORT	
	Site:	Lovedean Lane, Waterlooville
	Date:	11 th June 2018
	Consultant:	James Fuller <i>FdSc.Arb, BTEC Nat.Dip.Arb, M.Arbor.A</i>
	Tagged:	No

Notes:

1. It may be advised that some trees should have the ivy removed to enable a re-survey to be carried out. This would also alleviate the tree from becoming suppressed; carrying additional weight that increases the chance of windthrow due to a larger dense crown area; and only receiving restricted light. Unless otherwise stated, in order to prevent regrowth, it is only necessary to remove a 300mm section of ivy and clear around the base.
2. It may be advised that it was only possible to estimate the diameter of some trees because of ivy smothering, dense vegetation, or trees located off-site with no access.
3. The estimated remaining contribution in years, and the tree grading category have been calculated for the current situation and may alter where further investigation works are advised.
4. Some trees or groups may have been given an interim grade. The reason for the interim grading is addressed in the timescales given as this may have a bearing on health and safety and/or any development proposals.
5. Tree Groups have been assessed with estimated and representative data.
6. This is not a Tree Works Schedule. Any preliminary management recommendations are listed in the interests of health and safety and should be carried out by a prudent tree owner.
7. Any management recommendations are suggested for reasons of health and safety only, regardless of development proposals at this stage. However, the defects requiring remedial tree surgery are by their very nature potential wildlife habitats, including protected species which needs consideration prior to any tree surgery works commencing.
8.
 - a) At this stage the Root Protection Area (RPA) information is for your guidance and ongoing discussion purposes only as it assumes that all but the 'U' grade trees will be retained, which may not be the case.
 - b) For all single stem trees with a stem diameter greater than 1250mm, and multi-stem trees with a stem diameter greater than 1500mm, the calculated RPA has been capped at 707m² in accordance with Section 4.6.1 of BS5837:2012.
9. Trees marked with * are indicatively plotted on the associated Tree Survey Plan.

TREE PRESERVATION ORDER/CONSERVATION AREA:

CBA Trees has been instructed to investigate whether trees on or adjacent to the site are protected by a Tree Preservation Order or located within a Conservation Area. Havant Borough Council has confirmed that some of the trees are protected by a Tree Preservation Order (TPO) number 2072/2017: The Old Builders Yard Lovedean Lane and adjacent land Waterlooville Hampshire (see trees annotated in red). However, it is difficult to ascertain with any certainty which trees are protected by T19, T20, T21, T22, G1 and G3 of the TPO and therefore we would recommend that no tree works are carried out until such time as the status of these trees has been clarified by Havant Borough Council.

Tree No	Species	H't (m)	Single/ Multi-Stemmed (S or MS)	Stem Diam (mm)	Root Protection Area (m²)	Root Protection Distance (m)	Branch Spread (m)	H't of Crown AGL (m)	Life Stage	Physio-logical Condition	Structural Condition and General Observations	Preliminary Management Recommendations	Est. Rem. Contrib. (Yrs)	Cat
1 TPO T1	Pedunculate Oak <i>Quercus robur</i>	19	S	800	290	9.6	N 6 E 8 S 9 W 7	N 5 E 4 S 6 W 5	Early Mature	Good	Structural Condition - Good Bark wound Old pruning wounds Minor deadwood in crown Crown shape distorted	None required at time of survey	40+	A1
2* TPO T2	Pedunculate Oak <i>Quercus robur</i>	14	S	800	290	9.6	N 6 E 6 S 6 W 6	N 3 E 3 S 3 W 3	Early Mature	Good	Structural Condition - Good Offsite tree Unable to verify health and safety due to no access Estimated data	Gain access and resurvey within 1 month	40+	B1+2 Interim
3 TPO T6	Pedunculate Oak <i>Quercus robur</i>	15	S	740	248	8.9	N 8 E 4 S 6 W 8	N 4 E 4 S 5 W 4	Early Mature	Good	Structural Condition - Good Large buttress roots Major deadwood in crown Crown shape distorted	None required at time of survey	20+	B1+2
4 TPO T8	Common Yew <i>Taxus baccata</i>	7	S	290	38	3.5	N 4 E 5 S 5 W 4	N 0 E 0 S 0 W 1.5	Semi-mature	Good	Structural Condition - Good Good shape and form Low hanging branches	None required at time of survey	40+	B1+2
5	Wild Cherry <i>Prunus avium</i>	14	S	350	55	4.2	N 1 E 1 S 3 W 8	N 5 E 5 S 5 W 5	Early Mature	Good	Structural Condition - Fair Trunk and crown shape distorted Suppressed by larger trees	None required at time of survey	10+	C1+2
6 TPO T11	Pedunculate Oak <i>Quercus robur</i>	18	S	950	408	11.4	N 10 E 9 S 9 W 9	N 8 E 8 S 8 W 8	Mature	Good	Structural Condition - Good Large buttress roots Ivy on trunk Minor deadwood in crown	None required at time of survey	40+	A1+2
7 TPO T14	Pedunculate Oak <i>Quercus robur</i>	18	S	900	366	10.8	N 8 E 9 S 6 W 9	N 7 E 8 S 8 W 8	Mature	Good	Structural Condition - Good Ivy on trunk Epicormics on trunk Major deadwood in crown	None required at time of survey	40+	A1+2

Tree No	Species	H't (m)	Single/ Multi-Stemmed (S or MS)	Stem Diam (mm)	Root Protection Area (m²)	Root Protection Distance (m)	Branch Spread (m)	H't of Crown AGL (m)	Life Stage	Physio-logical Condition	Structural Condition and General Observations	Preliminary Management Recommendations	Est. Rem. Contrib. (Yrs)	Cat
Grp 1	Yew x3	6	S	See below	See below	See below	N - E - S - W -	N - E - S - W -	Semi-mature	Good	Structural Condition - Good Growing on bank Provides partial screening into and out of site	None required at time of survey	40+	B2
G1.1 TPO T3	Common Yew	-	S	300	41	3.6	-	-	Semi-mature	-	-	None required at time of survey	40+	C1+2
G1.2 TPO T4	Common Yew	-	S	200	18	2.4	-	-	Semi-mature	-	-	None required at time of survey	40+	C1+2
G1.3 TPO T5	Common Yew	-	S	270	33	3.2	-	-	Semi-mature	-	-	None required at time of survey	40+	C1+2
Grp 2	Yew Pedunculate Oak (Some Oak trees protected by TPO) Wild Service Tree Wild Cherry Hawthorn Holly Plum	18	S	See below	See below	See below	N - E - S - W -	N - E - S - W -	Early Mature	Good	Structural Condition - Good Trunks and crown shapes distorted Major deadwood in crowns Tall and etiolated due to group pressure Mixed species Group is located on raised ground level over site Good lanscape feature	None required at time of survey	40+	A2
G2.1 TPO T7	Common Yew	-	S	170	13	2.0	-	-	Young	-	-	None required at time of survey	40+	C1+2
G2.2 TPO T9	Common Yew	-	S	300	41	3.6	-	-	Semi-mature	-	-	None required at time of survey	40+	B1+2
G2.3 TPO T10	Pedunculate Oak	-	MS	800 400	362	10.7	-	-	Early Mature	-	Bifurcated at ground level Minor deadwood in crown Boundary edge tree Unable to fully survey as tree straddles boundary	Gain access and resurvey within 1 month	40+	B1+2 Interim
G2.4 TPO T12	Common Yew	-	MS	250 300 300	110	5.9	-	N - E - S - W -	Semi-mature	-	Trifurcated at 1.2m above ground level Boundary edge tree	None required at time of survey	40+	B1+2

Tree No	Species	H't (m)	Single/ Multi-Stemmed (S or MS)	Stem Diam (mm)	Root Protection Area (m²)	Root Protection Distance (m)	Branch Spread (m)	H't of Crown AGL (m)	Life Stage	Physio-logical Condition	Structural Condition and General Observations	Preliminary Management Recommendations	Est. Rem. Contrib. (Yrs)	Cat
G2.5	Pedunculate Oak	-	S	700	222	8.4	-	-	Early Mature	-	Trunk and crown shape distorted Major deadwood in crown	Remove major deadwood	40+	B1+2
G2.6	Common Yew	-	S	140	9	1.7	-	-	Young	-	Suppressed and stunted	None required at time of survey	40+	C1+2
G2.7	Common Yew	-	S	130	8	1.6	-	-	Young	-	-	None required at time of survey	40+	C1+2
G2.8	Common Yew	-	S	150	10	1.8	-	-	Young	-	-	None required at time of survey	40+	C1+2
G2.9	Common Yew	-	S	140	9	1.7	-	-	Young	-	-	None required at time of survey	40+	C1+2
G2.10	Wild Service Tree	-	S	150	10	1.8	-	-	Young	-	-	None required at time of survey	20+	C1+2
G2.11	Common Yew	-	S	250	28	3.0	-	-	Semi-mature	-	-	None required at time of survey	40+	B1+2
G2.12	Wild Service Tree	-	S	220	-	-	-	-	Semi-mature	-	In decline Major deadwood	Advise removal	<10	U
G2.13	Wild Service Tree	-	S	200	18	2.4	-	-	Semi-mature	-	Bifurcated at 2m	None required at time of survey	20+	C1+2
G2.14	Common Yew	-	S	70	2	0.8	-	-	Young	-	-	None required at time of survey	20+	C1+2
G2.15	Common Yew	-	S	200	18	2.4	-	-	Semi-mature	-	-	None required at time of survey	40+	C1+2
G2.16	Pedunculate Oak	-	S	330	49	4.0	-	-	Semi-mature	-	Tall and etiolated	None required at time of survey	40+	C1+2
G2.17	Common Yew	-	S	180	15	2.2	-	-	Young	-	In decline	None required at time of survey	10+	C1+2
G2.18	Common Yew	-	S	80	3	1.0	-	-	Young	-	-	None required at time of survey	40+	C1+2

Tree No	Species	H't (m)	Single/ Multi-Stemmed (S or MS)	Stem Diam (mm)	Root Protection Area (m²)	Root Protection Distance (m)	Branch Spread (m)	H't of Crown AGL (m)	Life Stage	Physio-logical Condition	Structural Condition and General Observations	Preliminary Management Recommendations	Est. Rem. Contrib. (Yrs)	Cat
G2.19	Wild Cherry	-	S	550	137	6.6	-	-	Early Mature	-	Trunk and crown shape distorted	None required at time of survey	10+	C1+2
G2.20	Common Yew	-	S	250	28	3.0	-	-	Semi-mature	-	Low crown density	None required at time of survey	10+	C1+2
G2.21 TPO G2	Common Yew	-	S	280	35	3.4	-	-	Semi-mature	-	-	None required at time of survey	40+	B1+2
G2.22 TPO G2	Common Yew	-	S	120	7	1.4	-	-	Young	-	Low crown density	None required at time of survey	10+	C1+2
G2.23 TPO G2	Common Yew	-	S	210	20	2.5	-	-	Semi-mature	-	-	None required at time of survey	40+	C1+2
G2.24 TPO G2	Common Ash	-	MS	430 320	130	6.4	-	-	Early Mature	-	Bifurcated at ground level	None required at time of survey	20+	B1+2
G2.25 TPO T23	Common Yew	-	S	190	16	2.3	-	-	Semi-mature	-	-	None required at time of survey	40+	C1+2
G2.26	Common Holly	-	S	100	5	1.2	-	-	Young	-	-	None required at time of survey	20+	C1+2
G2.27	Plum	-	S	230	24	2.8	-	-	Semi-mature	-	Trunk and crown shape distorted	None required at time of survey	10+	C1+2
G2.28	Common Yew	-	MS	190 100	21	2.6	-	-	Semi-mature	-	Bifurcated at 1.2m	None required at time of survey	40+	C1+2
G2.29	Common Yew	-	S	90	4	1.1	-	-	Young	-	-	None required at time of survey	40+	C1+2
G2.30	Common Yew	-	S	200	18	2.4	-	-	Semi-mature	-	-	None required at time of survey	40+	C1+2
G2.31	Common Hawthorn	-	S	170	13	2.0	-	-	Semi-mature	-	Trunk and crown shape distorted	None required at time of survey	10+	C1+2

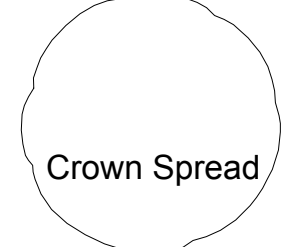
Tree No	Species	H't (m)	Single/ Multi-Stemmed (S or MS)	Stem Diam (mm)	Root Protection Area (m²)	Root Protection Distance (m)	Branch Spread (m)	H't of Crown AGL (m)	Life Stage	Physio-logical Condition	Structural Condition and General Observations	Preliminary Management Recommendations	Est. Rem. Contrib. (Yrs)	Cat
G2.32	Common Yew	-	S	70	2	0.8	-	-	Young	-	-	None required at time of survey	20+	C1+2
G2.33 TPO T19	Pedunculate Oak	-	MS	250 240	54	4.2	-	-	Semi-mature	-	Bifurcated at ground level	None required at time of survey	20+	B1+2
G2.34 TPO T18	Common Yew	-	S	230	24	2.8	-	-	Semi-mature	-	-	None required at time of survey	40+	B1+2
G2.35 TPO T17	Pedunculate Oak	-	S	380	65	4.6	-	-	Semi-mature	-	Stem from north side previously removed Trunk and crown distorted	None required at time of survey	20+	B1+2
G2.36 TPO T16	Pedunculate Oak	-	S	700	222	8.4	-	-	Early Mature	-	-	None required at time of survey	40+	B1+2
G2.37 TPO T15	Common Yew	-	S	230	24	2.8	-	-	Semi-mature	-	-	None required at time of survey	40+	B1+2
G2.38 TPO T13	Pedunculate Oak	-	S	700	222	8.4	-	-	Early Mature	-	Trunk and crown shape distorted	None required at time of survey	40+	B1+2
G2.39	Pedunculate Oak	-	MS	300 350	96	5.5	-	-	Semi-mature	-	Bifurcated at 1m	None required at time of survey	20+	B1+2
G2.40	Pedunculate Oak	-	S	180	15	2.2	-	-	Young	-	Trunk and crown shape distorted	None required at time of survey	10+	C1+2
G2.41	Pedunculate Oak	-	S	270	33	3.2	-	-	Semi-mature	-	Tall and etiolated	None required at time of survey	10+	C1+2
G2.42	Pedunculate Oak	-	MS	380 240 230	115	6.1	-	-	Semi-mature	-	Trifurcated at ground level Larger stem has large branch tear out wound on south side	Remove larger stem	10+	C1+2
G2.43	Pedunculate Oak	-	S	100	5	1.2	-	-	Young	-	-	None required at time of survey	40+	C1+2
G2.44	Pedunculate Oak	-	MS	300 220	62	4.5	-	-	Semi-mature	-	Bifurcated at ground level	None required at time of survey	20+	B1+2

Tree No	Species	H't (m)	Single/ Multi-Stemmed (S or MS)	Stem Diam (mm)	Root Protection Area (m²)	Root Protection Distance (m)	Branch Spread (m)	H't of Crown AGL (m)	Life Stage	Physio-logical Condition	Structural Condition and General Observations	Preliminary Management Recommendations	Est. Rem. Contrib. (Yrs)	Cat
G2.45	Pedunculate Oak	-	MS	310 370	105	5.8	-	-	Semi-mature	-	Bifurcated at ground level	None required at time of survey	20+	C1+2
G2.46	Pedunculate Oak	-	MS	330 370	111	5.9	-	-	Semi-mature	-	Bifurcated at ground level	None required at time of survey	20+	B1+2
G2.47	Pedunculate Oak	-	MS	300 240	69	4.7	-	-	Semi-mature	-	Minor decay at base Bifurcated at 1.3m	None required at time of survey	20+	B1+2
G2.48	Common Yew	-	S	90	4	1.1	-	-	Young	-	-	None required at time of survey	20+	C1+2
G2.49	Pedunculate Oak	-	S	290	38	3.5	-	-	Semi-mature	-	Tall and etiolated	None required at time of survey	20+	C1+2
G2.50	Common Yew	-	S	100	5	1.2	-	-	Young	-	Trunk and crown shape distorted	None required at time of survey	20+	C1+2
G2.51	Pedunculate Oak	-	S	280	35	3.4	-	-	Semi-mature	-	Tall and etiolated	None required at time of survey	20+	C1+2
G2.52	Common Yew	-	MS	130 70	10	1.8	-	-	Young	-	-	None required at time of survey	40+	C1+2





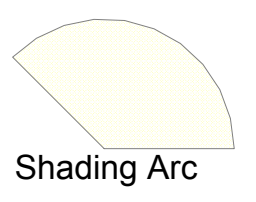
- 1. Shading Arcs not shown on this plan
- 2. Root Protection Areas are shown as a theoretical circle and at this stage do not take into account site features and constraints.
- 3. Group outlines are indicatively plotted.



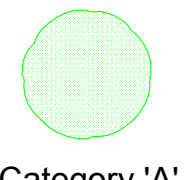
Crown Spread



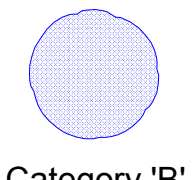
Root Protection Area



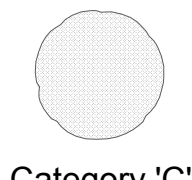
Shading Arc



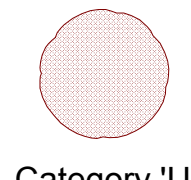
Category 'A'



Category 'B'



Category 'C'



Category 'U'



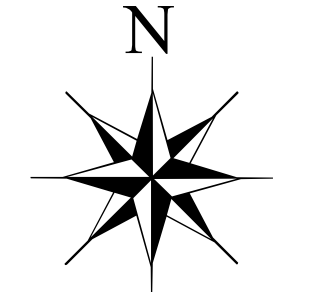


CBA Trees
East Lodge, Leylands Business Park
Colden Common, Winchester
Hampshire, SO21 1TH
Tel: 02380 986229 Email: info@cbatrees.co.uk
Website: www.cbatrees.co.uk

11004
Lovedean Lane, Waterloooville
Tree Survey Plan

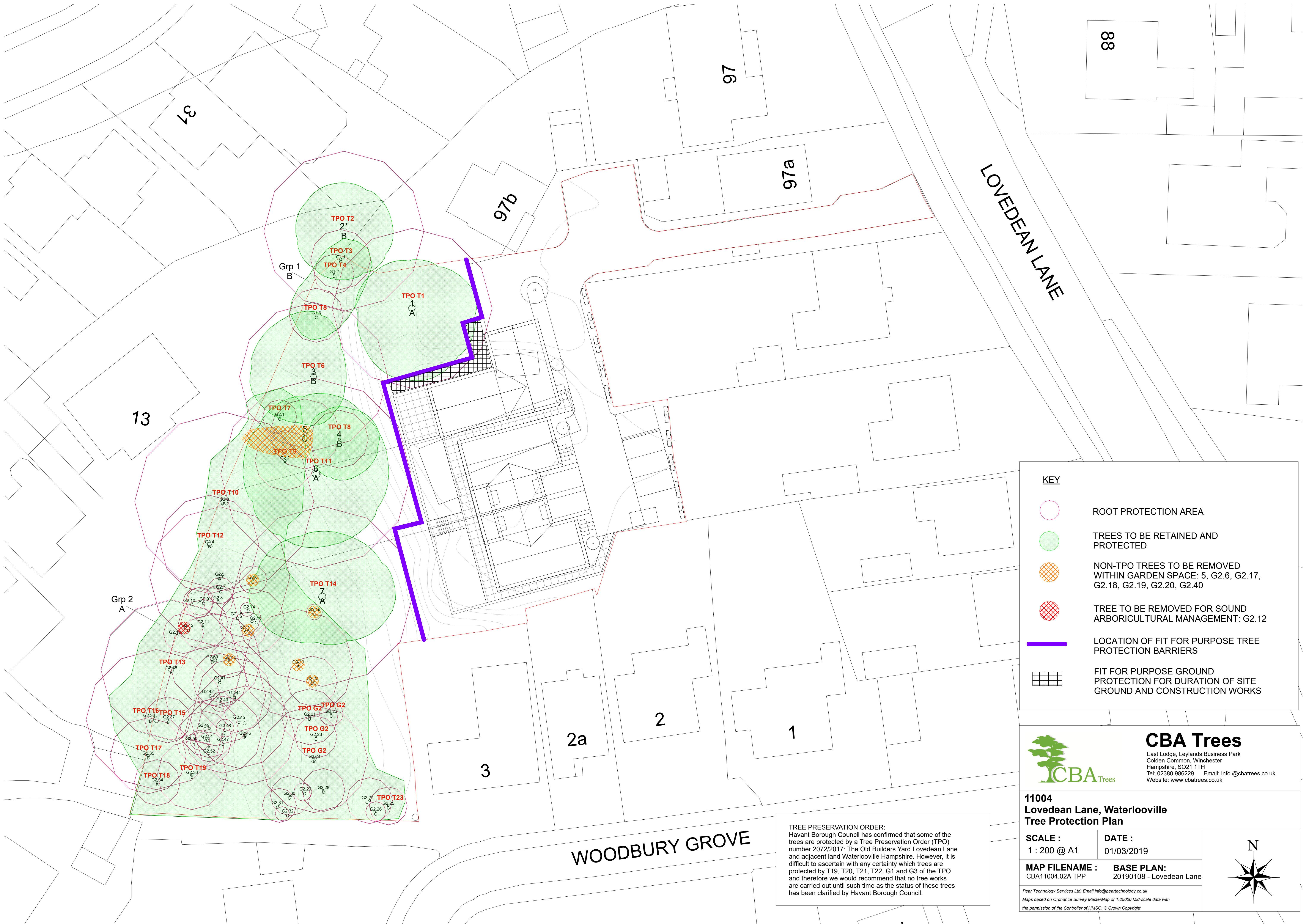
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MAP FILENAME : CBA11004.01 TSP	BASE PLAN: 6985/01

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TREE PRESERVATION ORDER:
Havant Borough Council has confirmed that some of the trees are protected by a Tree Preservation Order (TPO) number 2072/2017. The Old Builders Yard Lovedean Lane and adjacent land Waterloooville Hampshire. However, it is difficult to ascertain with any certainty which trees are protected by T19, T20, T21, T22, G1 and G3 of the TPO and therefore we would recommend that no tree works are carried out until such time as the status of these trees has been clarified by Havant Borough Council.





KEY

ROOT PROTECTION AREA

TREES TO BE RETAINED AND PROTECTED

NON-TPO TREES TO BE REMOVED WITHIN GARDEN SPACE: 5, G2.6, G2.17, G2.18, G2.19, G2.20, G2.40

TREE TO BE REMOVED FOR SOUND ARBORICULTURAL MANAGEMENT: G2.12

LOCATION OF FIT FOR PURPOSE TREE PROTECTION BARRIERS

FIT FOR PURPOSE GROUND PROTECTION FOR DURATION OF SITE GROUND AND CONSTRUCTION WORKS



CBA Trees

East Lodge, Leylands Business Park
Colden Common, Winchester
Hampshire, SO21 1TH
Tel: 02380 986229 Email: info@cbatrees.co.uk
Website: www.cbatrees.co.uk

11004
Lovedean Lane, Waterlooille
Tree Protection Plan

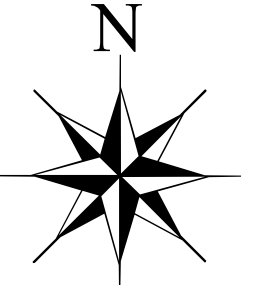
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01/03/2019

MAP FILENAME :
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BASE PLAN:
20190108 - Lovedean Lane

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	TREE WORKS SCHEDULE		
	Site:	Lovedean Lane, Waterlooille	
	Date:	January 2019	Consultant: Stefan Rose <i>BSc (Hons), Tech Cert ArborA, TechArborA</i>

Tree No.	Species	Recommended Works
1 TPO T1	Pedunculate Oak <i>Quercus robur</i>	- Remove major deadwood with an attachment diameter of >50mm - Prune the southern lateral spread by no more than 1.5m to allow for working space and separation from new dwelling
4 TPO T8	Common Yew <i>Taxus baccata</i>	Crown lift to no more than 2.0m above ground level on the southern side of the crown to allow for garden fence installation
5	Wild Cherry <i>Prunus avium</i>	Fell to ground level
G2.2 TPO T9	Common Yew	Crown lift to no more than 2.0m above ground level on the southern side of the crown to allow for garden fence installation
G2.5	Pedunculate Oak	Crown lift to no more than 2.0m above ground level on the southern side of the crown to allow for garden fence installation
G2.6	Common Yew	Fell to ground level to provide a more open garden space
G2.7	Common Yew	Crown lift to no more than 2.0m above ground level on the northern side of the crown to allow for garden fence installation
G2.8	Common Yew	Crown lift to no more than 2.0m above ground level on the northern side of the crown to allow for garden fence installation
G2.9	Common Yew	Crown lift to no more than 2.0m above ground level on the northern side of the crown to allow for garden fence installation
G2.10	Wild Service Tree	Crown lift to no more than 2.0m above ground level on the northern side of the crown to allow for garden fence installation
G2.12	Wild Service Tree	Fell to ground level to provide a more open garden space
G2.17	Common Yew	Fell to ground level to provide a more open garden space
G2.18	Common Yew	Fell to ground level to provide a more open garden space
G2.19	Wild Cherry	Fell to ground level to provide a more open garden space
G2.20	Common Yew	Fell to ground level to provide a more open garden space
G2.40	Pedunculate Oak	Fell to ground level to provide a more open garden space

- It is advised that all remedial tree works such as pruning is carried out between July and September or November and February. Tree works should also avoid the season for nesting birds.
- All tree works should be carried out in accordance with current best practice guidelines and BS3998: 2010 – Tree Works. Only natural target pruning method to be used.
- We recommend the use of an Arboricultural Association Approved Contractor or an ISA Certified Arborist/Tree Worker suitably insured and experienced to carry out the tree works.





SUMMARY OF TREE PROTECTION MEASURES

Introduction

This leaflet shall be issued to all site personnel as part of their induction briefing.

It describes in summary form, the precautions that site personnel shall at all times follow, to ensure that the existing trees on the site come to no harm.

The precautions described are neither arbitrary nor reducible and must be adhered to in full.

These precautions are necessary because unprotected trees are very vulnerable to damage during demolition and construction works.

Furthermore, many of the trees on the site are under LEGAL PROTECTION and damaging them can result in heavy fines.

Two common misconceptions about trees:

MYTH: Trees have deep taproots and so shallow excavations will not harm the tree.

FACT: 90% of all tree's roots are found in the top 600mm of soil; all excavations near to trees are likely to cause root damage which can kill the tree.

MYTH: Trees will quickly heal over any bark wound, with no ill effect.

FACT: Bark wounds take years to heal and larger ones never do; missing bark can lead to disease and even the death of the tree.

Tree Protection

All trees adjacent to unsupervised work areas have been protected by fencing.

This fencing must be respected at all times and no attempts shall be made to damage, bypass or ignore it.

In areas designated for supervised working, no works shall be undertaken without the supervisor being present or without him/her issuing a "carry on" chit.

Prohibitions Adjacent to Trees

Inside the exclusion area of the tree protection, the following prohibitions shall apply.

- No digging or scraping
- No storage of plant or materials
- No vehicular access
- No fire lighting
- No handling, discharge or spillage or any chemical substance
- No water-logging

In addition to the above, further precautions shall be taken near to trees.

- A 10m separation distance shall be observed between trees and any substance injurious to their health, including fuels, oil, bitumen, cement (including washings) builders' sand, concrete mixing and other chemicals.
- No fire shall be lit such that flames come within 5m of any foliage; this shall be taken to mean a fire separation distance to the leaves of 20m.

Avoiding Damage to Stem and Branches

Care shall 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 trees.

Consequently, any transit or traverse of plant in proximity to trees shall be conducted under the supervision of a spotter to ensure that adequate clearance is at all times maintained.

In some circumstances, it may be impossible to achieve this, necessitating the pruning of the tree.

If this is necessary, a specialist team shall be called in following referral to the project Arboriculturist.

No tree pruning shall be undertaken by demolition or construction personnel.

Asking for Help

If you see any damage to a tree or its protective fencing, or if you need a tree pruning for plant clearance, contact **CBA Trees** as follows:

Office Telephone: 02380 986229

**REMEMBER:
ALL TREE DAMAGE
IS AVOIDABLE –
SO AVOID IT!**



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



**TREE PROTECTION AREA
KEEP OUT !**

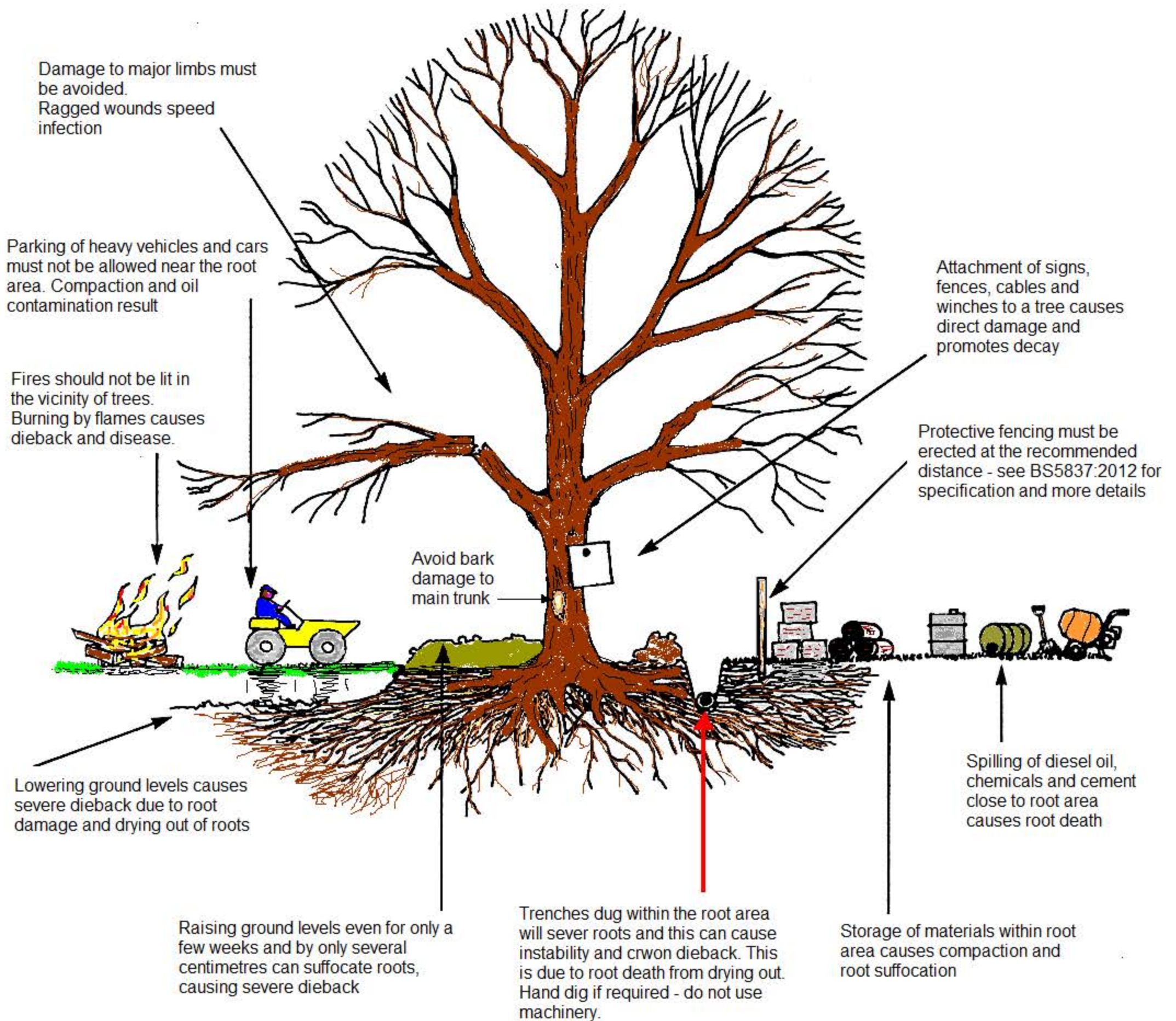
(TOWN & COUNTRY PLANNING ACT 1990)

**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**

COMMON CAUSES OF TREE DEATH

The use of properly positioned protective barriers can prevent tree deaths occurring.







The Professional Arboricultural Consultancy

Qualifications of Stefan Rose Senior Consultant

Stefan Rose BSc (Hons) TechCert (Arbor.A) joined CBA Trees in 1998 as a junior surveyor and having gained extensive knowledge has become a respected Senior Consultant. He has considerable experience in working as a locum for Local Authorities, assessing new and extant Tree Preservation Orders, and continues to work on a number of major development projects nationwide.

As a retained Senior Consultant, Stefan undertakes Health and Safety Audits and BS5837:2012 Tree Surveys using the latest data capture equipment, together with site assessments and site monitoring. He also provides advice to prominent development companies and produces Implications Assessments and Method Statements for the submission of planning applications.