February 2017
CBA10696 v1

James Youngman via
vPPR Architects

ARBORICULTURAL DEVELOPMENT STATEMENT

Site:
092: 133-137 Brecknock Road,
London

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The Complete Arboricultural Consultancy

ARBORICULTURAL DEVELOPMENT STATEMENT

Arboricultural Implications Assessment and Method Statement

guided by recommendations within BS5837:2012

Client:	James Youngman via vPPR Architects
Site:	092: 133-137 Brecknock Road
Arboricultural Consultant:	Dominic Poston *F.Arbor.A, MICFor, CEnv, Prof Dip (RFS), BSc (Hons), HND*
Date:	February 2017

SUMMARY

The proposal is for the construction of a new, detached residential property to the rear of 133-137 Brecknock Road.

This Arboricultural Development Statement (ADS) will demonstrate the protection measures for the trees and should be read in association with the Tree Protection Plan CBA10696 TPP which identifies tree retention measures. It follows the initial tree survey, implications assessment and on-going discussions to minimise the impact upon the existing tree stock.

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.

CBA Trees believes that all existing trees detailed within this report can be retained without undue stress on their long-term health.

PART 1
ARBORICULTURAL IMPLICATIONS ASSESSMENT

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SUPPORTING INFORMATION/APPENDICES:

CB1 Tree Survey Schedule and Tree Survey Plan (CBA10696.01 TSP)
CB2 Root Protection Area Schedule
CB3 Tree Protection Plan (CBA10696.02 TPP)

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CB4 Tree Protection Guidance Leaflet
Construction Exclusion Zone Site Notice
Common Causes of Damage During Construction Works
CB5 Qualifications and Experience

PART 1
ARBORICULTURAL IMPLICATIONS ASSESSMENT

1.0 INTRODUCTION

1.1 There is a development proposal for the site occupying the rear of 133-137 Brecknock Road, London.

1.2 The proposal is for the portioning of part of the three rear gardens and construction of a new detached property accessed off of Ospringe Road / Montpellier Grove.

1.3 Document disclosure provided:

- Existing and proposed site layout drawings by vPPR Architects

1.4 The client 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.

1.5 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 that is acceptable in arboricultural terms.

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, appended at CB1.
- To produce an AutoCAD compliant Tree Survey Plan that relies on the accuracy of the plans provided by the client. (Plan CBA10696.01 appended with the Tree Survey Schedule at CB1).
- To produce a schedule of Root Protection Areas in accordance with BS5837:2012 Annex D, appended at CB2.
- To provide Tree Constraints advice.
- To undertake an Arboricultural Implications Assessment (AIA) of the 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.
- 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 (Plan CBA10696.02 TPP appended at CB3).

2.2 The advice provided is in support of the current planning application and has been formulated without discussion with the main construction contractors who at this stage have not been appointed. Once the main contractors are appointed, amendments to this Method Statement may be required for construction purposes.

All amendments will be assessed by the retained arboricultural consultant and approved in writing by the local authority.

3.0 DESCRIPTION OF THE SITE

3.1 The consists of residential rear garden space, bounded by a mix of timber fencing and brick built retaining walls.

4.0 THE TREE STOCK

4.1 A tree survey was undertaken by CBA Trees on 16th December 2016. The tree survey exercise identified 4 (four) individual trees and 1 (one) group of trees; a Tree Survey Schedule and Plan (CBA10696.01 TSP) are appended at CB1.

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 were no 'U' grade trees on or adjacent to the site at the time of surveying.

Note: BS5837:2012 states -
"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 no individual 'A' grade trees on or adjacent to the site 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 was 1 (one) individual 'B' grade tree adjacent to the site at the time of surveying (Tree 1)**.**

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 were 2 (two) individual 'C' grade trees in adjacent to the site at the time of surveying (Trees 2, 3 and 4).

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 There was 1 (one) group of trees immediately adjacent to the site which have been categorised as moderate 'B' grade (Group 1).

4.4 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 the London Borough of Camden CBA Trees has been made aware that the site is not located within a Conservation Area and none of the identified trees are covered by an existing Tree Preservation Order.

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) (appended at CB2). 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 development drawing prepared and modified, to include the relevant Tree Survey data and the information as shown on plan CBA10696.02 TPP, appended at CB3.

7.0 SUMMARY OF ARBORICULTURAL IMPLICATIONS

7.1 The following summary of implications relates to only those trees which will require mitigation measures to allow for construction operations. Trees, groups and woodlands not listed below can be fully protected in accordance with BS5837:2012 as indicated on Plan CBA10696.02 TPP.

Tree No.	Species	BS 5837:2012 Cat	Potential cause of harm	Implication	Mitigation
Grp 1	Lime	B	• RPA encroachment	• Root loss (physiological harm)	• Likely asymmetrical root growth due to existing boundary wall and stepped foundation slab to reduce excavation within RPA.
1	Lime	B	• RPA encroachment	• Root loss (physiological harm)	• Likely asymmetrical root growth due to existing boundary wall and stepped foundation slab to reduce excavation within RPA.
2	Sycamore	C	• RPA encroachment	• Root loss (physiological harm)	• Likely asymmetrical root growth due to existing boundary wall and stepped foundation slab to reduce excavation within RPA.

8.0 PRE-COMMENCEMENT SITE MEETING

8.1 It is recommended that a pre-commencement site meeting should be held prior to any works commencing on site, to agree all approved processes with the arboricultural consultant, the construction personnel and the local authority. 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 CB4 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 substantially in the form of the specimen provided at appendix CB4 and replaced as and when necessary.

10.0 TREE PROTECTION MEASURES

10.1 *Reasons for Tree Protection*

The correct and timely installation and maintenance of tree protection measures is the most important action necessary to ensure retained trees, groups, woodlands and hedgerows on and adjacent to the site, remain unaffected by development operations. Exclusion of construction activity from the outset of site preparation will ensure those trees identified for retention are maintained in a safe and healthy condition.

Although aerial parts of the tree, trunk, branches and twigs are obvious, extensive and irreparable damage can be caused to the roots and rooting environment without any immediately noticeable effect. Severance of large roots in close proximity to the stem can result in the immediate loss of stability and/or rapid death whilst damage to more distal parts of the root system or rooting environment will result in a slow decline in tree health over a period of several years, resulting in premature loss.

10.2 *Damage to Trunks Stems and Branches*

Impact damage to the crown of the tree can result in the loss of leaves which produce starch and sugars (carbohydrates) and a reduction in the visual amenity which established trees provide. These carbohydrates are necessary for maintaining all biological functions within the tree, including growth, reproduction and defence. Extensive crown damage will reduce the tree's ability to produce carbohydrates and increase physiological stress on the tree.

The bark protects the underlying vascular tissue and cells responsible for growth from drying, disease and decay. Bark is loosely attached to the underlying tissue and can be easily damaged or removed through direct contact. It is particularly susceptible to damage when trees are young or in early spring following the onset of growth.

Impact damage which removes bark, results in dysfunction of the underlying vascular tissue preventing transport of water, mineral nutrients and carbohydrates to parts of the tree to which they are connected. If damage to the bark extends around the whole circumference, the root, branch or trunk the section beyond the damage will be killed.

Branches which are either broken or are torn from the trunk of the tree, create wounds which are prone to colonization by wood destroying organisms. These organisms cause internal decay, which result in future tree failure and premature loss.

10.3 *Purpose of Tree Protection*

All site operations will be planned, implemented and supervised so as to prevent the following:

- 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

10.4 *Tree Protection*

Existing boundary walls separating Trees 1, 2, 3 and Group 1 will act as sufficient tree protection. A new boundary treatment, preferably in the form of a 6-foot timber fence will be installed along the newly defined boundary with 133-137 Brecknock Road and this will act as tree protection for Tree 4.

The area within the CEZ will be regarded as **sacrosanct**, and no storage of materials or construction access may be permitted within it without written approval of the local authority.

11.0 EXISTING SERVICES

11.1 No information has been provided on the location and size of existing services.

11.2 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.

11.3 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 a foamed concrete.

12.0 AVOIDING DAMAGE TO STEMS AND BRANCHES

12.1 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 retained trees. Such contact could 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, will be conducted under the supervision of a banksman, in order to ensure adequate clearance from trees is maintained at all times.

13.0 VEHICULAR MOVEMENTS

13.1 There shall be no vehicular plant movement within the RPA of any retained tree/group.

14.0 SITING OF TEMPORARY OFFICES, TOILETS AND MATERIAL STORAGE COMPOUNDS

14.1 It is anticipated that all storage materials and deliveries shall avoid unnecessary damage to tree roots.

14.2 The locations shall be agreed in writing with the local authority 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 local authority. 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.

14.3 ***Site Huts***

All site huts (if required) 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 protective barrier boundary, and in some cases, can be beneficial where installation does not conflict with the aerial parts of the tree.

If it is proposed that site huts, ground protection or stores are to be located within the RPA of retained trees for more than 3 months, a temporary irrigation and aeration system will be installed to ensure that the rooting environment is maintained in a good condition. The system will included with a compressible layer of composted wood chip or forest bark over a geotextile separation layer, on which ground protection or site huts can be placed. Watering will depend on permeability of the soil, weather conditions and the extent of the area covered, but should include weekly watering from April to September, when no rainfall has occurred for more than four consecutive days.

14.4 ***Material Storage***

This shall be accommodated outside of the CEZ, particularly to avoid harmful spillages of fuel, or phytotoxic substances that may damage the health of retained trees.

15.0 GENERAL CONSIDERATIONS WITHIN AND OUTSIDE THE CONSTRUCTION EXCLUSION ZONE

15.1 Inside the CEZ formed by the protective barriers and ground protection 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 local authority prior to the specific activity taking place.

15.2 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 CB4 Common Causes of Damage During Construction Works)

16.0 UTILITY SERVICE CONNECTIONS

16.1 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 root protection areas of retained trees, and connected to the existing where practicable, this will avoid disturbance of tree roots and ensure their healthy retention.

17.0 FOUNDATION DESIGN AND CONSTRUCTION

17.1 Building foundations are proposed within the calculated RPA of Trees 1 and 2 and Group 1.

17.2 It has been recognised that traditional trench fill foundations cannot be installed within these locations, and that specialist foundations as advocated within BS5837:2012 will be required.

17.3 Although final construction detail is not yet available, the foundation slab has been designed to step up over the identified RPA's. This is indicated on the submitted vPPR drawing ref: 092_A_01_10 by the final floor levels in the sitting room and study.

17.4 ***Construction Considerations***

Ground beams and floor slabs will be designed so as not to require significant excavation below the existing ground level.

Where piles are to be used, these will be as small as possible to reduce the need for the use of heavy machinery within the RPA, and to minimise the risk of root damage. Pile layout will be designed so as to allow 150mm movement each way from their centre line, to avoid damage to any roots discovered at the time of construction.

Consideration will be given to the type of machinery required for pile installation and necessary operating clearance, particularly where the crown overhangs the work area. Crown heights are given within the attached tree survey information appended at CB1.

Piles located within the RPA of retained trees should be sheathed to protect the soil and adjacent roots from the potential toxic effects of the concrete. Bored and poured piles are preferential to driven piles, as these require smaller machines which have a reduced risk of soil compaction and root disturbance

Prior to commencement of construction works, the arboricultural consultant in association with structural engineer will carry out a root mapping exercise. This will determine the location of roots greater than 25mm diameter or clusters of smaller roots which, if severed, will have a detrimental impact on the health and longevity of retained trees. This root mapping will be carried out using either ground penetrating radar (GPR) physical excavation, using a compressed air lance, or hand excavation using non-metallic tools. Piles will then be positioned so as to minimise root damage.

Provision will be made for the venting of the void beneath the floor slab either through the installation of ventilation bricks or by the incorporation of ducts connected to external grills.

Subject to the agreement of the local Building Control Officer, perforated pipe will be installed beneath the floor slab and connected to building rainwater discharge pipes. The purpose will be to maintain the current levels of soil hydration and assist soil aeration. Care will be taken when designing the system, so as not to provide excess water which can waterlog the rooting environment resulting in root death.

Voids beneath ground beam/ floor slab may be filled with 20-40mm gravel or similar no fines material to prevent the ingress of pests.

Ground surface around and beneath the ground slab will be covered with fit for purpose ground protection which is maintained throughout the construction process. Ground protection beneath the proposed slab will only be removed just prior to the final formation of the floor slab.

Diagrams below show the principles of the various methods which are acceptable in arboricultural terms, however other designs which comply with the above performance specification may be equally acceptable.

18.0 GROUND LEVEL ALTERATIONS

18.1 Existing ground levels within the RPA of retained trees and groups will be reduced by approximately 100mm and consist of a soil scrape to remove surface humus and turf. Furthermore, it is anticipated that in this situation, tree roots will have been deflected deeper into the soil in these areas due to the need to negotiate beneath the retaining walls foundations.

18.2 Where possible, consideration will be given to connecting roof rainwater down pipes to the aeration system to assist in the irritation and aeration of the underlying rooting environment. This connection will be subject a porosity test and drainage assessment to ensure that water logging of the rooting environment cannot occur.

18.3 A new courtyard garden is proposed within the RPA of Tree 1. Any surfacing in this location will be formed atop a three-dimensional load bearing membrane, allowing existing soil levels to be retained.

19.0 SITE MONITORING AND SUPERVISION

19.1 It is recommended that on-going arboricultural site monitoring takes place for the duration of the proposed development, to be carried out by a qualified and experienced arboriculturist at pre-determined and agreed time intervals, and governed by the type, timing, location and intensity of site works.

19.2 If Conditioned, it will take the form of regular inspections (to be agreed, but at least one visit per month during the construction phase of the development is advised, together with additional visits to supervise works with the CEZ of retained tree/s), the aim of the visits is to maintain on-going liaison with all personnel involved in the site development, the local authority and its Tree Officer.

19.3 Any defects requiring rectification shall be notified to the Contractor/Site Manager and the client.

19.4 In addition, a site logbook for tree protection measures is kept to record all stages of the development from the erection of the protective barriers, right through to the completion of the project. This will be made available to the arboricultural consultant and the London Borough of Camden if required, to show evidence of continuous site monitoring.

Example pro-forma

Date	Activity	Checked	Comments/ damage noted	By whom	Signed	Action taken
	Erection of protective barriers					
	Inspection of protective barriers					

19.5 The London Borough of Camden Tree Officer (or appropriate representative) will have agreed access to the site, and will report on any problem areas directly to the developer's retained arboriculturist, who will then visit the site and make recommendations to the developer on how best to rectify the situation and ensure the implementation.

20.0 REPORT DAMAGE TO TREES AND TREE PROTECTION BARRIERS

20.1 Should any damage be caused to trees 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 local authority.

20.2 Should protective barriers become damaged so as to impair its function in protecting trees, all work shall cease in the vicinity of the damage, until the barrier has been returned to standard.

21.0 CONCLUSIONS

21.1 The approved development proposals for the construction of a new detached property to the rear of 133-137 Brecknock Road have been assessed broadly in accordance with BS5837:2012 *"Trees in Relation to Design, Demolition and Construction – Recommendations"*.

21.2 It is our opinion that the trees identified for retention can be afforded due respect and provided adequate protection, ensuring their safe and healthy retention during the development process.

22.0 CONTACT LIST

22.1 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
- Highways Engineer
- Structural Engineer
- Drainage Engineer
- Landscape Architects
- London Borough of Camden's Tree Officer
- London Borough of Camden's Planning Case Officer
- Site Supervisor and Foreman

22.2 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.


CB1

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.

TREE SURVEY REPORT (BS5837:2012)

Site:	092: 133-137 Brecknock Road
Date:	16 December 2016
Consultant:	Dominic Poston *F.Arbor.A. MICFor, CEnv, Prof Dip (RFS), BSc (Hons), HND*
Tagged:	No

Notes:-

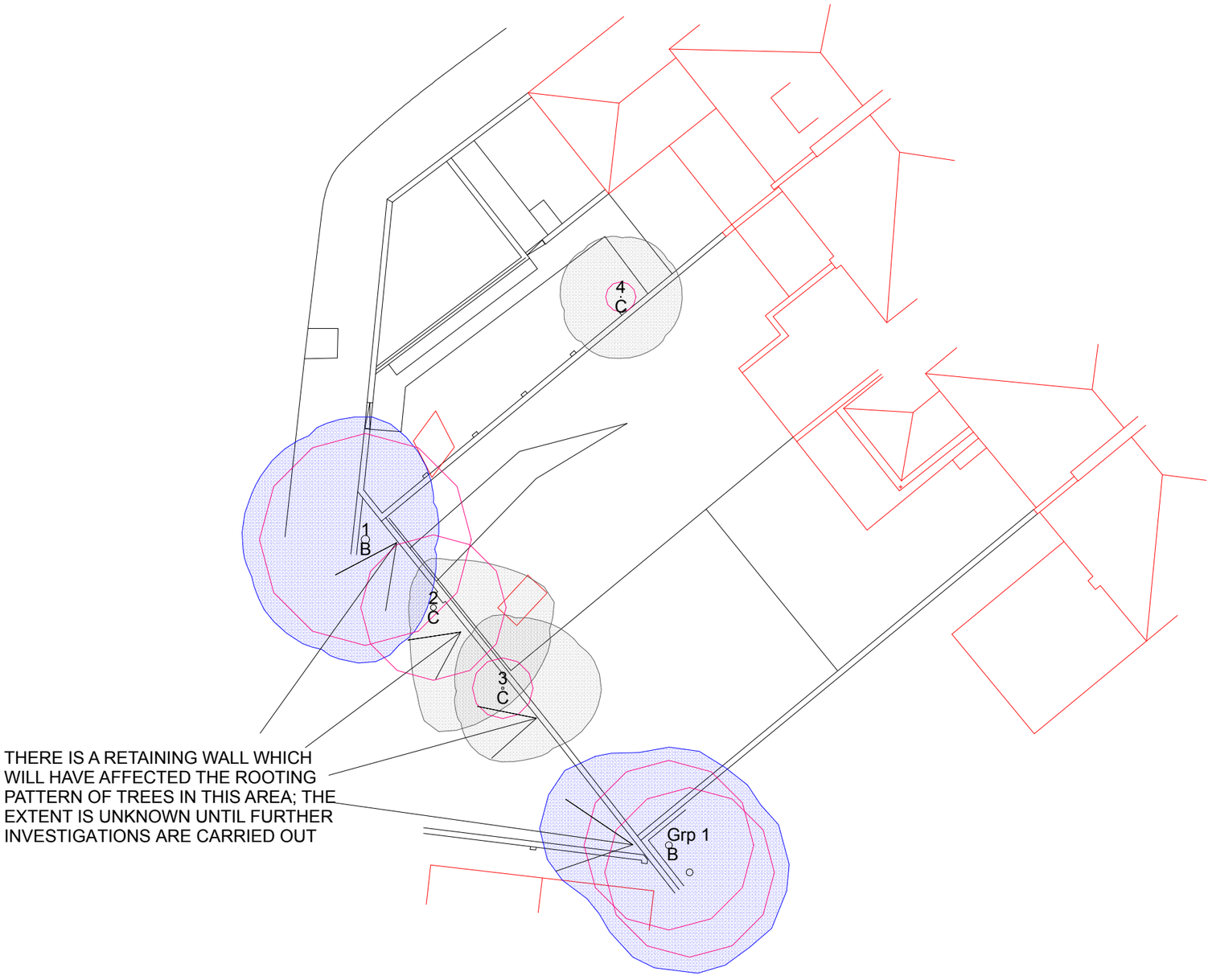
1. It may be advised that some trees should have the ivy removed to enable a re-survey to be carried out. This would also alleviate the tree from becoming suppressed; carrying additional weight that increases the chance of windthrow due to a larger dense crown area; and only receiving restricted light. 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.

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.
The Local Authority has confirmed that none of the trees are protected by Tree Preservation Order and the site does not lie within a Conservation Area.

Tree No	Species	H't (m)	Single/ Multi-Stemmed (S or MS)	Stem Diam (mm)	Branch Spread (m) N	E	S	W	H't of Crown AGL (m) N	E	S	W	Life Stage	Physio-logical Condition	Structural Condition and General Observations	Preliminary Management Recommendations	Est. Rem. Contrib. (Yrs)	Cat
1	Lime *Tilia spp*	10	S	350	5.0	3.0	5.0	5.0	2.5	2.5	2.5	2.5	M	Good	Fair Offsite tree Ivy on stem and in crown Measurements estimated due to no access	Sever and remove ivy and reinspect	40+	B1 Interim
2	Common Sycamore *Acer pseudoplatanus*	9	S	240	2.0	5.0	5.0	1.0	3.0	3.0	3.0	3.0	SM	Good	Fair Offsite tree Suppressed by T1 Measurements estimated due to no access	Gain access and reinspect	20+	C2 Interim

Tree No	Species	H't (m)	Single/ Multi-Stemmed (S or MS)	Stem Diam (mm)	Branch Spread (m) N	E	S	W	H't of Crown AGL (m) N	E	S	W	Life Stage	Physio-logical Condition	Structural Condition and General Observations	Preliminary Management Recommendations	Est. Rem. Contrib. (Yrs)	Cat
3	Flowering Cherry *Prunus spp*	8	S	100	3.0	4.0	3.0	2.0	3.0	3.0	3.0	3.0	Y	Fair	Fair Offsite tree Measurements estimated due to no access	Gain access and reinspect	20+	C2 Interim
4	Hazel *Corylus spp*	7	S	50	2.5	2.5	2.5	2.5	1.0	1.0	1.0	1.0	Y	Good	Good Measurements estimated due to no access	Gain access and reinspect	40+	C1 Interim
Grp 1	Lime *Tilia spp*	10	S	280	4.0	3.0	3.0	4.0	2.5	2.5	2.5	2.5	M	Fair	Poor Two trees previously pollarded Encroaching on adjacent building Decay evident at pollard head Measurements estimated due to no access	Recommend re-pollard	20+	B2



THERE IS A RETAINING WALL WHICH WILL HAVE AFFECTED THE ROOTING PATTERN OF TREES IN THIS AREA; THE EXTENT IS UNKNOWN UNTIL FURTHER INVESTIGATIONS ARE CARRIED OUT

CBA TREES

Russell House
Unit 20 Chalcroft Business Park
Burnetts Lane, West End,
Southampton, SO30 2PA
02380 986229

10696
092: 133-137 Brecknock Road
Tree Survey Plan

SCALE :	DATE :
1 : 200 @ A3	20/12/2016

MAP FILENAME :	BASE PLAN:
CBA10696.01 TSP	5200 F

N

NOTES:
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'

0 — 15m


CB2

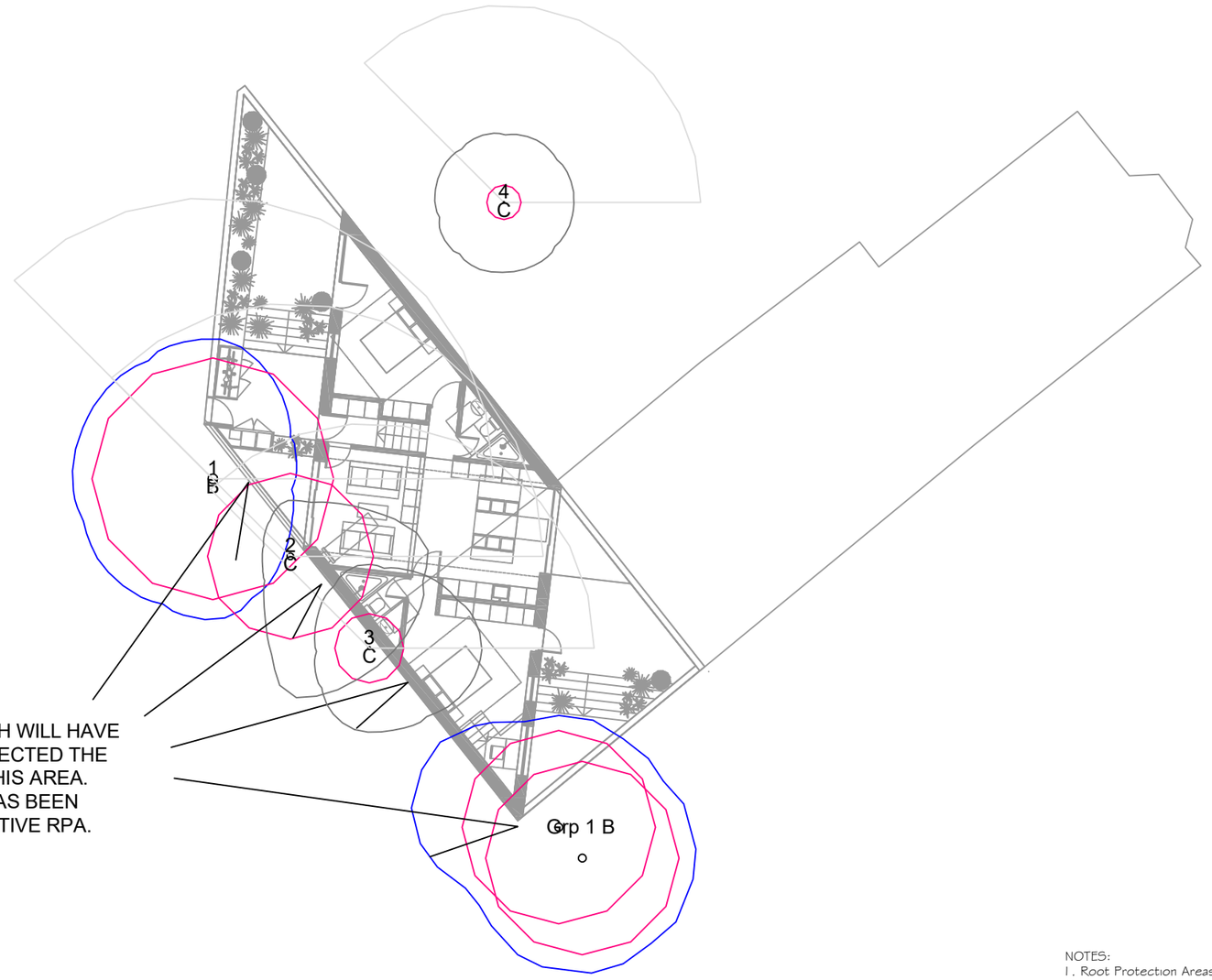
BS5837:2012 TREE ROOT PROTECTION AREA SCHEDULE	
Site:	092: 133-137 Brecknock Road
Date:	16 December 2016
Consultant:	Dominic Poston *F.Arbor.A. MICFor, CEnv, Prof Dip (RFS), BSc (Hons), HND*

Notes:
1. This is an assessment of the Root Protection Area (RPA) required, based on the individual tree data collected and Section 4.6.1 of BS5837:2012.
2. At this juncture this document is for your sole guidance and ongoing discussions purposes only and is not intended for general circulation, as it assumes that all but the 'U' trees will be retained, which clearly may not be the case.
3. 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.

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.
The Local Authority has confirmed that none of the trees are protected by Tree Preservation Order and the site does not lie within a Conservation Area.

Tree No	Species	Category	Single/ Multi-Stemmed (S or MS)	Stem Diameter (mm)	Initial Linear Root Protection Distance (Radius m)	Root Protection Area (m2)
1	Lime Tilia spp	B1 Interim	S	350	4.20	55.42
2	Common Sycamore Acer pseudoplatanus	C2 Interim	S	240	2.88	26.06
3	Flowering Cherry Prunus spp	C2 Interim	S	100	1.20	4.52
4	Hazel Corylus spp	C1 Interim	S	50	0.60	1.13
Grp 1	Lime Tilia spp	B2	S	280	3.36	35.47


CB3



THERE IS A RETAINING WALL WHICH WILL HAVE DEFLECTED ROOTS DEEP AND AFFECTED THE ROOTING PATTERN OF TREES IN THIS AREA. HOWEVER FOUNDATION DESIGN HAS BEEN ADAPTED TO FLOAT ABOVE INDICATIVE RPA.

NOTES:
1. Root Protection Areas are shown as a theoretical circle and at this stage do not take into account site features and constraints.
2. Group outlines are indicatively plotted.

N
W
E
S

5m 10m

KEY

INDICATIVE SHADE PATH

ROOT PROTECTION AREA (RPA)
CROWN SPREAD
TREE NUMBER
CATEGORY

JOB TITLE
92: Brecknock Road

DRAWING TITLE
TREE PROTECTION PLAN

CBA DRAWING No.
CBA10696.02 TPP

BASE PLAN DRAWING No.
092_A_OF_Plan

SCALE
1-200@a3

DRAWN
AM/DP

DATE
February 2017

CBA Trees.
Russell House, Unit 20 Chilcroft Business Park, Burnetts Lane, West End, Southampton, SO30 2PA
Tel: 02380 986229


CB4

TREES AT_____:

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 tree protection barriers.

These barriers must be respected at all times and no attempts shall be made to damage, bypass or ignore them.

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 leaved 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: 020 8098 6229

REMEMBER:

ALL TREE DAMAGE IS AVOIDABLE –

SO AVOID IT!

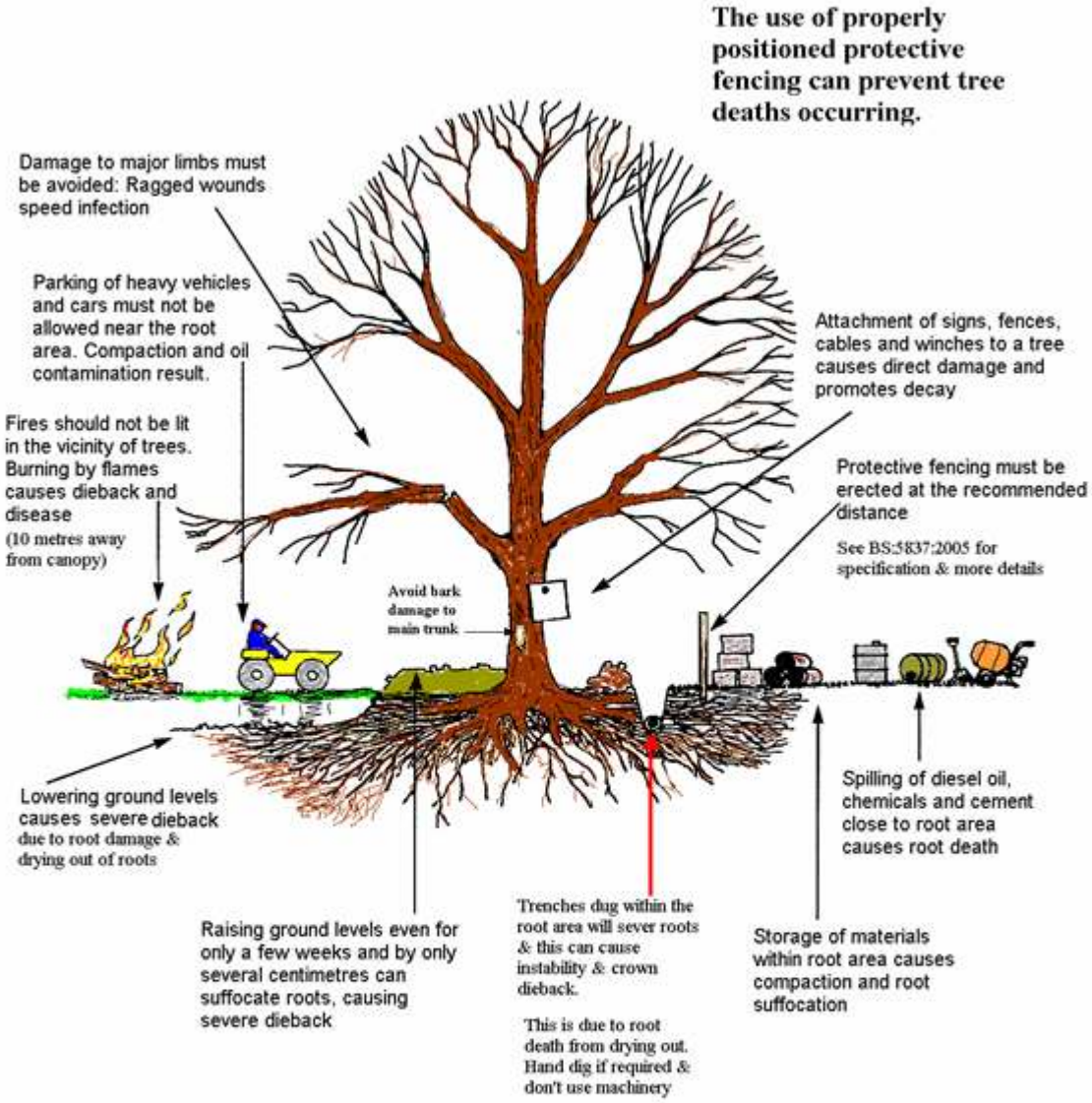
PROTECTIVE BARRIERS.
THESE BARRIERS MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.

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



Please use copies of this as an on-site poster for personnel

(Source: Arboricultural Information Exchange website, 2005)


CB5

The Professional Arboricultural Consultancy

Qualifications of
Dominic Poston
Senior Consultant

Dominic Poston F.Arbor.A. MICFor, CEnv, Prof Dip (RFS), BSc (Hons), HND has recently joined CBA Trees as a Senior Consultant and brings with him a wealth of knowledge and experience. He has over 15 years' experience of undertaking a variety of arboricultural assessments for a wide range of public, corporate and private clients.

Having attained a Bachelor of Science Degree in Horticulture, a Higher National Diploma in Landscape Management and the prestigious Royal Forestry Society's Professional Diploma in Arboriculture, Dominic is now a fellow of the Arboricultural Association, a Chartered Arboriculturist and Chartered Environmentalist and has attained Registered Consultant status with the Institute of Chartered Foresters.

He has considerable experience as an advisor to planning teams, currently acting as lead arboriculturist on three high volume (<1000units) active development sites in East Anglia as well as several smaller developments nationwide.

Dominic has appeared numerous times at planning related Public Inquiries, and also undertakes advocacy at Inquiries on behalf of Rule 6 parties. Additionally he has been instructed as an expert witness on several occasions to assist local authorities with prosecutions for offences under Tree Preservation Order legislation, and has appeared at Crown Court.