



**TREE SURVEY & CONSTRAINTS PLAN
IN ACCORDANCE WITH BS 5837:2012**

Proj. No 7993	49 Cambridge Road, Impington, Cambridgeshire, CB24 9PS
Client:	Chivers Farm Ltd c/o Bidwells
Date of Report:	17/02/2020

Contact Details

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1.0 Introduction

1.1 Terms of Reference

1.1.1 Hayden's Arboricultural Consultants Limited has been commissioned by Chivers Farms Ltd c/o Bidwells to prepare a Tree Survey and Constraints Plan for the existing trees at 49 Cambridge Road, Impington, Cambridgeshire, CB24 9PS.

1.1.2 The site survey was carried out on the 12th February 2020. The relevant qualitative tree data was recorded in order to assess the condition of the existing trees, their constraints upon the prospective development and the necessary protection required to allow their retention as a sustainable and integral part of any future permitted development.

1.1.3 Information is given on condition, age, size and indicative positioning of all the trees, both on and affecting the site. This is in accordance with the British Standard 5837:2012 *Trees in relation to design, demolition and construction - Recommendations*.

1.2 Scope of Works

1.2.1 The survey of the trees and any other factors are of a preliminary nature. The trees were inspected on the basis of the Visual Tree Assessment (VTA) method as developed by Mattheck and Breloer (1994). The trees were inspected from ground level with no climbing inspections undertaken. It is not always possible to access every tree and as such some measurements may have to be estimated. Trees with estimated measurements are highlighted in the schedule of trees. No samples have been removed from the site for analysis. The survey does not cover the arrangements that may be required in connection with the removal of existing underground services.

1.2.2 Whilst this is an arboricultural report, comments relating to non arboricultural matters are given, such as built structures and soil data. Any opinion thus expressed should be viewed as provisional and confirmation from an appropriately qualified professional sought. Such points are clearly identified within the body of the report.

1.2.3 An intrinsic part of tree inspection in relation to development is the assessment of risk associated with trees in close proximity to persons and property. Most human activities involve a degree of risk with such risks being commonly accepted, if the associated benefits are perceived to be commensurate. In general, the risk relating to trees tends to increase with the age of the trees concerned, as do the benefits. It will be deemed to be accepted by the client that the formulation of the recommendations for all tree management will be guided by the cost-benefit analysis (in terms of amenity), of the tree work.

1.3 Documentation

1.3.1 The following documentation was provided prior to the commencement of the production of this report;

- Email of instruction from Mr Kennedy Durrant on the 6th February 2020
- Definition of site boundary



2.0 The Site

2.1 Site Overview

2.1.1. The site is land at 49 Cambridge Road, Impington, Cambridgeshire, CB24 9PS.

2.2 Soils

2.2.1 The soils type commonly associated with this site are freely draining lime-rich loams. They are of moderate fertility and mainly support herb-rich chalk and limestone pastures, and lime-rich deciduous woodland type habitats. This soil type constitutes approximately 3.7% the total English land mass.

2.2.2 The data given was obtained from a desk top study which provides indications of likely soil types. By definition, this information is not comprehensive and therefore any decisions taken with regards the management, usage or construction on site should be based on a detailed soil analysis.

2.2.3 Further to item 2.2.2, this report provides no information on soil shrinkability. It may be necessary for practitioners in other disciplines (e.g. engineers considering foundation design) to obtain this data as required.

2.3 Statutory Tree Protection

2.3.1 Hayden's Arboricultural Consultants Limited have been informed that at the *date of the tree inspection* the trees concerned were not located within a Conservation Area or the subject of a Tree Preservation Order. As such, no written permission would be required from the local planning authority South Cambridgeshire District Council prior to commencing works to trees. It should be noted however, that South Cambridgeshire District Council have the power to serve Tree Preservation Orders very rapidly, and therefore it is incumbent upon owners, managers or any persons wishing to undertake work to any trees to contact the local planning authority prior to commencing works to ensure that the situation has not changed.

This information was sourced using the Local Planning Authority's Online Mapping System (as instructed by them) and to our best knowledge was current and accurate at the time the information was accessed. We would advise it prudent that before any tree work commences, this is checked directly with the Local Planning Authority to confirm that their online mapping system is definitive.

2.3.2 Felling Licence

All trees within the United Kingdom are protected under the Forestry Acts. In general, anyone felling more than 5 cubic metres of timber in any calendar quarter requires a Felling Licence from the Forestry Commission. There are exemptions however and these are as follows.



A Felling Licence is not required in the following instances:

- To fell trees in a garden, an orchard, a churchyard, or a designated open space (Commons Act 1899).
- To carry out surgery operations such as pruning, reduction, dead wooding or pollarding.
- To fell less than 5 cubic metres in a calendar quarter. (Please note that not more than 2 cubic metres in a calendar quarter may be sold).
- To fell trees that are 8 centimetres or less in diameter when measured 1.3 metres from the ground. Trees removed for thinning may have a diameter of up to 10 centimetres and trees managed under a coppice regime may have a diameter of up to 15 centimetres.
- To fell trees previously approved for removal under a Dedication Scheme, or where Detailed Planning Permission has been granted.

Substantial fines exist for not complying with the requirements of a Felling Licence.

2.3.3 Hedgerow Regulations and Inclosure Act

Certain hedgerows within the United Kingdom are protected under The Hedgerow Regulations 1997. The regulations apply to any hedgerow growing in, or adjacent to, any common land, protected land (local nature reserves and SSSIs), or land used for agriculture, forestry or the breeding or keeping of horses, ponies or donkeys, if it: (a) has a continuous length of, or exceeding 20m; or (b) it has a continuous length of less than 20m and, at each end, meets another hedgerow. The regulations do not apply to hedgerows within the curtilage of, or marking a boundary of the curtilage of, a dwelling house.

Anybody wishing to remove or destroy a hedge must apply to their Local Planning Authority (LPA) for consent. Substantial fines exist for not complying with the requirements The Hedgerow Regulations.

Older hedges could be protected by old Inclosure Acts. These Acts may require that hedges are retained and managed forever more.

It is recommended professional legal advice be sought before removing hedgerows to determine whether the hedgerow might be protected by an Inclosure Act. Many Inclosure Acts are deposited in Local Records Offices.

3.0 Tree Survey

- 3.1 As part of this survey a total of two individual trees, two groups of trees and one area of trees have been identified. These have been numbered T001 – T002, G001 – G002 and A001 respectively.
- 3.2 An accurate topographical survey was not available at the time of inspection. Therefore, the position of each tree shown on the attached drawing no. 7993-D-CP has been estimated by use of a hand-held GPS surveying unit. Given this, the position of the trees must be considered indicative, although drawing no. 7993-D-CP provides a fair representation of the relationship of the trees as distributed across the site.



- 3.3 In order to provide a systematic, consistent and transparent evaluation of the trees included within this survey, they have been assessed and categorised in accordance with the method detailed in item 4.3 of *BS 5837:2012 "Trees in Relation to Design, Demolition and Construction - Recommendations"*. For further information, please see the attached Explanatory Notes.
- 3.4 The detailed assessment of each tree and its work requirements with priorities are listed in the attached Schedule of Trees.
- 3.5 In accordance with item 4.2.4 (c) of BS 5837:2012, the items inspected and detailed within this report have been selected for inclusion due to the likely influence of any proposed development on the trees, rather than strictly adhering to the curtilage of the site. However, it must be understood that there may be trees beyond the site and not included in this survey which may exert an influence on the development. Where works for cultural, health and safety, quality of life, or development purposes have been recommended on trees outside the ownership of the site, these can only progress with the agreement of the owner, except where it involves portions of the trees overhanging the boundary.

4.0 Constraints Upon Proposed Development

4.1 Physical Extent of the Trees

- 4.1.1 The Root Protection Areas (RPA) for the trees deemed worthy of retention are indicated on the attached Drawing No.7993-D-CP. These define the below ground constraints of the trees.
- 4.1.2 The crown spreads of the trees deemed worthy of retention are also indicated on the attached Drawing No.7993-D-CP. These define the above ground constraints of the trees.

4.2 Design Considerations

- 4.2.1 The combination of the above and below ground constraints outlined at 4.1 above, should be used to inform the layout and design of any proposed development by considering the following principal factors;
- 4.2.2 **Shade.** Consideration will be needed regarding the size, positioning and aspect of windows, together with the internal layout of dwellings in close proximity to trees to ensure sufficient daylight enters rooms or buildings. Consideration should also be given to the future growth potential of trees in close proximity to prospective development.
- 4.2.3 **Water Demand.** The water demand of the trees deemed worthy of retention, as listed by the NHBC, is given in the attached *Schedule of Trees* in order to inform the foundation design process.
- 4.2.4 **Siting.** Ideally, the footprint of any proposed building should be no closer than 2 metres from the edge of any RPA or crown spread of any trees to be retained. This is to ensure that sufficient room is provided to allow the construction of the proposed development without any encroachment into the RPA or under the crown spread. If it is considered acceptable and appropriate to construct within the RPA, specialist engineering techniques (e.g. cantilever, piling, or pad and above ground beam foundations) and ground protection measures will be required to minimise the impact on the roots.



4.2.5 **Practicality.** It is important to ensure that any garden attached to a dwelling has a significant area of open ground that is not covered by the crowns of retained trees.

4.3 Construction Measures

4.3.1 In order to ensure that trees intended for retention are not harmed during the construction processes, the following matters require consideration and implementation as necessary. Please note that once the design is finalised, Hayden's Arboricultural Consultants will provide a Preliminary Arboricultural Method Statement & Tree Protection Plan that will satisfy the requirements for obtaining planning permission.

4.3.2 **Protective Fencing.** The trees to be retained will need to be protected by the use of stout barrier fencing. This fencing must be in accordance with the requirements of BS 5837:2012 and will be erected prior to any development on the site, therefore ensuring the maximum protection. All tree protection barrier fencing will be regarded as sacrosanct and, once erected, will not be removed or altered without the prior consent of the Local Planning Authority Arboricultural Officer.

4.3.3 **Services.** Ideally, all service runs will be routed outside of the RPA of any retained trees. If a service has to be installed across an RPA, works must be undertaken in accordance the guidance of the National Joint Utilities Group Guidance Note 4 "*Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees*" (NJUG 4 paragraph 4) and installation of such a method as to reduce any possible detrimental effect on roots to an absolute minimum.

4.3.4 **Hard Surfaces.** Hard surfaces may be constructed under the crown spreads of retained trees and within the RPA if specific detail is paid to the design and specification. In these areas, the design will comply with the principles of the Arboricultural Advisory Information Services (AAIS) Practice Note 12 "*Through the Trees to Development*" - the only difference being that instead of a geo-grid, a geo-textile base is provided, and the no-fines road stone is incorporated in, and retained by, a geo-web cellular confinement system. Given the individual requirements of each site, it is essential that a specialist engineer is consulted to specify the construction detail. Where the hard surface proposed is impermeable, it must not cover more than 20% of the RPA. Larger extents of permeable surfacing may be acceptable, dependent on the individual circumstances of the site.

5.0 Conclusions

5.1 The site is 49 Cambridge Road, Impington, Cambridgeshire, CB24 9PS. This location has been subjected to a total health and safety inspection, together with a consideration of the tree related constraints on development.

5.2 Within the area specified for inspection, a total of two individual trees, one area of trees and two groups of trees have been surveyed. These were found to be of mixed condition and age providing a variety of amenity benefits.

5.3 Consideration is being given to undertaking development within the site, but no definite layout has as yet been determined.



- 5.4 Ideally, all development should take place outside the RPA of the trees considered most worthy or appropriate for retention thus allowing a traditional construction process. It is usually technically possible (though not necessarily desirable) to build within a very limited portion of the RPA of one or more trees using specialist engineering techniques, but inevitably this is more difficult and expensive than traditional construction methods and may not be acceptable to the local planning authority.

6.0 Recommendations

- 6.1 It is recommended that the siting and design of the layout considers the presence of trees, particularly the highest quality, and where feasible seeks to incorporate them within any proposed development.
- 6.2 Tree surgery should be completed as detailed in the *Schedule of Trees*. Where this has been identified for reasons other than to permit development, this work should be completed within the advised timescales irrespective of any development proposals.
- 6.3 The tree surgery works proposed as part of the Survey are recommended to mitigate any identified health and safety problems and to promote longevity in retained trees in the context of a potential development site. To this end, should these recommendations be overruled, this Survey stands as the opinion of Hayden's Arboricultural Consultants Limited, and therefore any damage or injury caused by trees recommended by this practice for felling or tree surgery works, to which the proposed schedule of works has been altered or the tree has been requested to be retained by the Local Planning Authority, cannot be the responsibility of this practice.



7.0 Limitations & Qualifications

Tree inspection reports are subject to the following limitations and qualifications.

General exclusions

Unless specifically mentioned, the report will only be concerned with above ground inspections. No below ground inspections will be carried out without the prior confirmation from the client that such works should be undertaken.

The validity, accuracy and findings of this report will be directly related to the accuracy of the information made available prior to and during the inspection process. No checking of independent third-party data will be undertaken. Hayden's Arboricultural Consultants Limited will not be responsible for the recommendations within this report where essential data are not made available or are inaccurate.

This report will remain valid for one year from the date of inspection subject to the recommendations specified within being adhered to. It must also be appreciated that recommendations proposed within this report may be superseded by extreme weather, or any other unreasonably foreseeable events.

However, if any additional alterations to the property or soil levels are carried out and/or further tree works undertaken other than specified within the report, it will become invalid and a new tree inspection strongly recommended.

It will be appreciated, and deemed to be accepted by the client and their insurers, that the formulation of the recommendations for the management of trees will be guided by the following: -

1. The need to avoid reasonably foreseeable damage.
2. The arboricultural considerations - tree safety, good arboricultural practice (tree work) and aesthetics.

The client and their insurers are deemed to have accepted the limitation placed on the recommendations by the sources quoted in the attached report. Where sources are limited by time constraints or the client, this may lead to an incomplete quantification of the risk.

Signed:

February 2020.....
For and on Behalf of Hayden's Arboricultural Consultants Limited



8.0 References

British Standards Institute. (2010). *Recommendations for Tree Work BS 3998:2010* BSI, London.

British Standards Institute. (2012). *Trees in Relation to Design, Demolition and Construction – Recommendations BS5837:2012* BSI, London.

Ministry of Housing, Communities & Local Government. (2014). *Tree Preservation Orders and trees in conservation areas*. London: Ministry of Housing, Communities & Local Government.

Mattheck & Breloer H. (1994). *Research for Amenity Trees No.4: The Body Language of Trees*, HMSO, London.

NHBC Standards (2007) *Chapter 4.2 'Building Near Trees'*. National House-Building Council.

NJUG 4 Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees. Issued 16 November 2007.

Forestry Commission (2007). *Tree Felling – Getting Permission*. Country Services Division, Forestry Commission, Edinburgh.

Patch D. Holding B. (2006) *Arboricultural Practice Note 12 (APN12), Through the Trees to Development*. Arboricultural Advisory and Information Service (AAIS).

Lonsdale D. (1999). *Research for Amenity Trees No 7: Principles of Tree Hazard Assessment and Management*, HMSO, London.

DEFRA (1997). *The Hedgerow Regulations 1997 – A Guide to the Law and Good Practice*. Department of the Environment, Transport and the Regions, HMSO, London.

Schwabe F.W.M.R. Engels J. & Mattheck C. (2000) *Fungal Strategies of Wood Decay in Trees*. Springer

Strouts R.G. & Winter T.G. (1994). *Research for Amenity Trees No.2: Diagnosis of Ill-Health in Trees*. Department of the Environment, HMSO, London.

Weber K., Mattheck C. (2003). *Manual of Wood Decays*. The Arboricultural Association



9.0 Appendices

Appendix	A	Species List & Tree Problems
Appendix	B	Schedule of Trees
Appendix	C	Schedule of Works - Irrespective of Development
Appendix	D	Explanatory Notes
Appendix	E	Tree Preservation Order Enquiry/Response
Appendix	F	Advisory Information & Sample Specifications
		1. BS 5837:2012 Figure 1 - Flow Chart – Design and Construction & Tree Care
		2. European Protected Species and Woodland Operations Checklist (v.4)
		3. BS 5837:2012 Figure 2 - Default specification for protective barrier
		4. BS 5837:2012 Figure 3 - Examples of above-ground stabilising systems
Appendix	G	Drawing No 7993-D-CP



Appendix A - Species List & Tree Problems

Species List:

Ash	<i>Fraxinus excelsior</i>
Blackthorn	<i>Prunus spinosa</i>
English Oak	<i>Quercus robur</i>
Leyland Cypress	<i>X Cuprocyparis leylandii</i>
Scots Pine	<i>Pinus sylvestris</i>
Sycamore	<i>Acer pseudoplatanus</i>

Tree Problems:

This gives a brief description of the problems identified in the attached Tree Survey.

Name: Deadwood	
Symptoms/damage type and cause:	This relates to dead branches in the crown of the tree. In the majority of cases, this is caused by the natural ageing process of the tree or shading due to its close proximity to neighbouring trees. However, in some situations, it may be related to fungal, bacterial or viral infection.
Consequence:	Depending upon the location and mass of dead wood removal of the affected tissue may be necessary to prevent harm to persons or property as the wood will become unstable as it decays and in some circumstances is likely to fall from the tree with little or no warning.
Control:	Detailed monitoring should be undertaken on those trees showing signs of excessive deadwood production to identify the underlying cause.
Species affected:	Most tree species.
Images:	



Name: <i>Hedera helix</i> (Ivy)	
Symptoms/damage type and cause:	Ivy may grow to varying degrees on all areas of a tree from the base to the upper crown. It is possible that in doing so it will out-compete the host tree for available light thereby suppressing the host.
Consequence:	This is generally only harmful to the tree on already unhealthy specimens which may be constricted by large ivy stems around the trunk or may have their top growth suppressed by a mass of flowering shoots in the crown. Ivy can also mask potentially dangerous faults on a tree.
Control:	Ivy should only be removed if absolutely necessary because it provides abundant cover to wildlife and then by severing twice close to the ground and removing a length of stem thereby causing the gradual dying away of the aerial parts of the plant providing extended benefit to wildlife whilst relieving the pressure on the tree.
Species affected:	Most trees can be affected.
Images:	

Name: <i>Hymenoscyphus fraxineus</i> (Ash Dieback)	
Notifiable to the Forestry Commission: If you suspect that a tree exhibits this pathogen, you should report it immediately to: Forest Research via the TreeAlert system: https://www.forestryresearch.gov.uk/tools-and-resources/tree-alert/	
Symptoms/damage type and cause:	Symptoms of the disease can be visible on leaves, shoots, stems and branches of affected trees. The primary symptom is leaves and young shoot growth wilting and turning black in the late summer months. The leaves will often drop ahead of the usual period of senescence. As the fungus spreads towards the stem, branches start to show a black diamond that marks the area of infection. The diamond will continue to grow as the fungus progresses until it girdles the branch and kills the vascular tissue. In severe cases, the entire crown shows leaf loss and dieback, which is often associated with the formation of epicormic shoots on branches and the trunk.
Consequence:	The genetic variation within the <i>Fraxinus</i> genus means that individual trees have differing levels of resistance to <i>Hymenoscyphus fraxineus</i> resulting in some trees dying in the year of infection and others displaying minimal symptoms and surviving alongside the presence of the pathogen. Infected trees will fall somewhere on this spectrum.
Control:	You can slow the spread of the Ash dieback disease by locally burning, burying or composting fallen Ash leaves.
Species affected:	<i>Fraxinus excelsior</i>
Images:	



Appendix B

Schedule of Trees

SCHEDULE OF TREES

49 Cambridge Road, Impington, Cambridgeshire

Surveyed By: Steve Holyland Date: 12/02/2020
 Managed By: Steve Holyland

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required	Priority	
			Min Dist	Crown Base	Lowest Branch	Age					Water Demand
			RPA (m ²)	Aspect	Aspect	SULE					Ground Cover
A001	Sycamore, Scots Pine, Ash, English Oak, Blackthorn	300	12.5		High	N5, E5, S5, W5	A semi-mature tree belt which runs between the site and the main road. Ownership is not clear. Ditch runs in middle of tree belt and some of the trees are situated on the bank up to the road. Ivy clads many trees preventing full assessment. Some of the Ash appear to have been affected by Ash Dieback. Overall no signs of significant defects observed and a feature of high amenity value and screening.	B2	No work required.	4	
		3.6	1		SM	Moderate					
		40.7			20+ years	Woodland floor, Ivy					
G001	Sycamore	300	13		High	N5, E5, S5, W5	A line of Sycamore along the boundary. Main stems and up into the crown are very densely covered in Ivy, preventing full assessment. Some main stems are situated very closely within 0.5 metres of each other. This creates a dense screen to the street. Visible crowns appear in good condition.	B2	Remove all Ivy and reinspect.	3	
		3.6	1.5		SM	Moderate					
		40.7			20+ years	Ivy					
G002	Sycamore, Ash	320	13.5		High	N6, E6, S6, W6	A line of Sycamore and Ash along the boundary. Main stems up into the crown are very densely covered in Ivy preventing full assessment. Some multi-stemmed specimens. Feature creates a dense screen to the street. Visible crowns appear in good condition.	B2	Remove all Ivy and reinspect.	3	
		3.84	1		SM	Moderate					
		46.3			20+ years	Ivy					
T001	Sycamore	300	13		High	N4.5, E4, S4.5, W4.5	Main stem is clad in Ivy and obscured by undergrowth preventing full inspection. Crown appears in good structural condition. Overall no signs of significant defects or disease observed.	B1	Remove all Ivy and reinspect.	3	
		3.6	1.5		SM	Moderate					
		40.7			20+ years	Dense undergrowth					
T002	Leyland Cypress	300	12		High	N4, E4, S3, W4	Unmanaged Leylandii in corner of site obscured by undergrowth. No significant defects at time of inspection.	C2	Clear undergrowth and reinspect.	3	
		3.6	1		SM	High					
		40.7			20+ years	Dense undergrowth					

Appendix C

Schedule of Works

SCHEDULE OF WORK

49 Cambridge Road, Impington, Cambridgeshire

Surveyed By: Steve Holyland

Surveyed: 12/02/2020

Managed By: Steve Holyland

Tree No.	Species	Work required	Priority
G001	Sycamore	Remove all Ivy and reinspect.	3
G002	Sycamore, Ash	Remove all Ivy and reinspect.	3
T001	Sycamore	Remove all Ivy and reinspect.	3
T002	Leyland Cypress	Clear undergrowth and reinspect.	3

Appendix D

Explanatory Notes

Explanatory Notes



Categories

Below is an explanation of the categories used in the attached Tree Survey.

- No** Identifies the tree on the drawing.
- Species** Common names are given to aid understanding for the wider audience.
- BS 5837 Main Category** Using this assessment (BS 5837:2012, Table 1), trees can be divided into one of the following simplified categories, and are differentiated by cross-hatching and by colour on the attached drawing:
- Category A** - Those of high quality with an estimated remaining life expectancy of at least 40 years;
- Category B** - Those of moderate quality with an estimated remaining life expectancy of at least 20 years;
- Category C** - Those of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm;
- Category U** - Those trees in such condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.
- BS 5837 Sub Category** Table 1 of BS 5837:2012 also requires a sub category to be applied to the A, B, C, and U assessments. This allows for a further understanding of the determining classification as follows:
- Sub Category 1** - Mainly arboricultural qualities;
- Sub Category 2** - Mainly landscape qualities;
- Sub Category 3** - Mainly cultural values, including conservation .
- Please note that a specimen or landscape feature may fulfil the requirements of more than one Sub Category.
- DBH (mm)** Diameter of main stem in millimetres at 1.5 metres from ground level. Where the tree is a multi-stem, the diameter is calculated in accordance with item 4.6.1 of BS 5837:2012.
- Age** Recorded as one of seven categories:
- Y** Young. Recently planted or establishing tree that could be transplanted without specialist equipment, i.e. less than 150 mm DBH.
- S/M** Semi-mature. An established tree, but one which has not reached its prospective ultimate height.
- E/M** Early-mature. A tree that is reaching its ultimate potential height, whose growth rate is slowing down but if healthy, will still increase in stem diameter and crown spread.
- M** Mature. A mature specimen with limited potential for any significant increase in size, even if healthy.
- O/M** Over-mature. A senescent or moribund specimen with a limited safe useful life expectancy. Possibly also containing sufficient structural defects with attendant safety and/or duty of care implications.



D Dead.

Height	Recorded in metres, measured from the base of the tree.
Crown Base	Recorded in metres, the distance from ground and aspect of the lowest branch material.
Lowest Branch	Recorded in metres, the distance from ground and aspect of the emergence point of the lowest significant branch.
Life Expectancy	Relates to the prospective life expectancy of the tree and is given as 4 categories: 1 = 40 years+; 2 = 20 years+; 3 = 10 years+; 4 = less than 10 years.
Crown Spread	Indicates the radius of the crown from the base of the tree in each of the northern, eastern, southern and western aspects.
Minimum Distance	This is a distance equal to 12 times the diameter of the tree measured at 1.5 metres above ground level for single stemmed trees and 12 times the average diameter of the tree measured at 1.5 metres above ground level tree for multi stemmed specimens. (BS 5837:2012, section 4.6).
RPA	This is the Root Protection Area, measured in square metres and defined in BS5837:2012 as “a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure is treated as a priority”. The RPA is shown on the drawing.. Ideally this is an area around the tree that must be kept clear of construction, level changes of construction operations. Some methods of construction can be carried out within the RPA of a retained tree but only if approved by the Local Planning Authority’s tree officer.
Water Demand	This gives the water demand of the species of tree when mature, as given in the NHBC Standards Chapter 4.2 “Building Near Trees”.
Visual Amenity	Concerns the planning and landscape contribution to the development site made by the tree, hedge or tree group, in terms of its amenity value and prominence on the skyline along with functional criteria such as the screening value, shelter provision and wildlife significance. The usual definitions are as follows: Low An inconsequential landscape feature. Moderate Of some note within the immediate vicinity, but not significant in the wider context. High Item of high visual importance.
Problems/ Comments	May include general comments about growth characteristic, how it is affected by other trees and any previous surgery work; also, specific problems such as deadwood, pests, diseases, broken limbs, etc.
Work Required (TS)	Identifies the necessary tree work to mitigate anticipated problems and deal with existing problems identified in the “Problems/comments” category.



Work Required (AIA)

Identifies the tree work specifically necessary to allow a proposed development to proceed.

Priority

This gives a priority rating to each tree allowing the client to prioritise necessary tree works identified within the Tree Survey.

- 1 Urgent – works required immediately;
- 2 Works required within 6 months;
- 3 Works required within 1 year;
- 4 Re-inspect in 12 months,
- 0 Remedial works as part of implementation of planning consent.



BS 5837:2012 Terms and Definitions

Access Facilitation Pruning	One-off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site.
Arboricultural Method Statement	Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.
Arboriculturist	Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.
Competent Person	Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached. <i>NOTE - a competent person is expected to be able to advise on the best means by which the recommendations of this British Standard may be implemented.</i>
Construction	Site-based operations with the potential to affect existing trees.
Construction Exclusion Zone	Area based on the root protection area from which access is prohibited for the duration of a project.
Root Protection Area (RPA)	Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.
Service	Any above or below ground structure or apparatus required for utility provision. NOTE - examples include drainage, gas supplies, ground source heat pumps, CCTV and satellite communications.
Stem	Principal above ground structural component(s) of a tree that supports its branches.
Structure	Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork.
Tree Protection Plan	Scale drawing, informed by descriptive text where necessary, based upon the finalized proposals, showing trees for retention and illustrating the tree and landscape protection measures.
Veteran Tree	Tree that, by recognized criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned. NOTE - these characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem.



Appendix E

Tree Preservation Order Enquiry/Response

Please note, the map below only shows information for South Cambridgeshire, if you would like to search for something within Cambridge City, please visit the [Cambridge City Council website](#).



* Please be aware this map updates applications after 48 hours. If you cannot find the application you need, try our [alternative search](#).

Contact Details

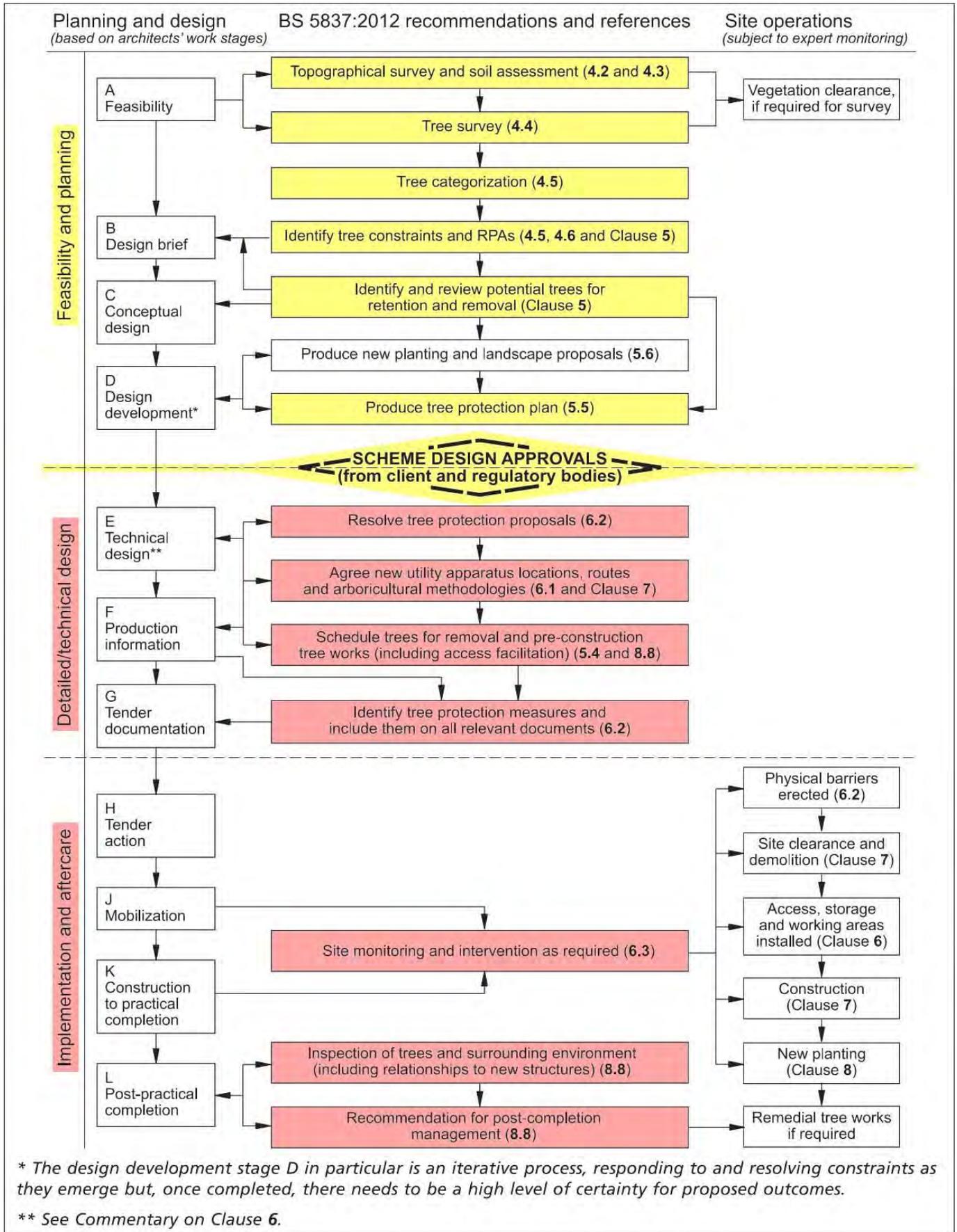


was this web page helpful?

Appendix F

Advisory Information & Sample Specifications

1. BS 5837:2012 Figure 1 - Flow Chart – Design and Construction & Tree Care

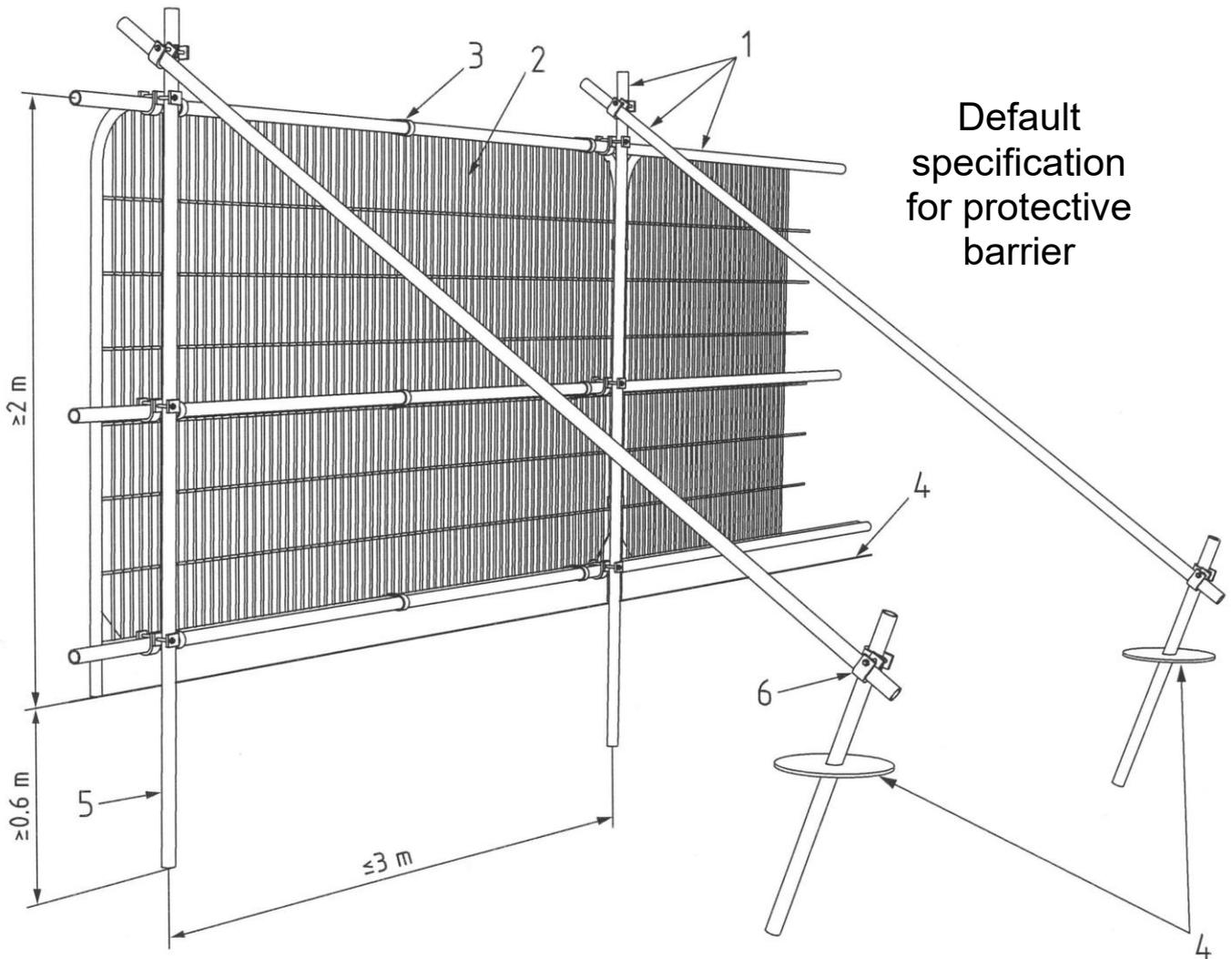


2.

European Protected Species and woodland operations. (V4)
Complete all sections of the Checklist

Checklist		Details																												
1	<p>Are you within, or close to, the known mapped range of any of the protected species OTHER THAN BATS which are potentially everywhere? Tick any that apply. See distribution maps in the Good Practice Guidance for each species -</p> <p><input type="checkbox"/> Dormice <input type="checkbox"/> Otters <input type="checkbox"/> Great crested newts <input type="checkbox"/> Sand lizards <input type="checkbox"/> Smooth snakes</p>	<p>Name of Wood:</p> <hr/> <p>Grid Reference:</p> <table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 20px; height: 20px;"></td> </tr> </table> <p>Area: (ha)</p> <table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 20px; height: 20px;"></td> </tr> </table> <p>Date of Assessment:</p> <table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 20px; height: 20px;"></td> </tr> </table> <p>Name of Assessor:</p> <hr/>																												
2	<p>Does your wood contain any of the following habitats? Tick any that apply.</p> <p><input type="checkbox"/> Old trees with holes and crevices which might be used bats <input type="checkbox"/> Species rich scrub/coppice, early growth stage plantations and forest interfaces <input type="checkbox"/> Rivers on which otters might be found <input type="checkbox"/> Ponds which might be occupied by great crested newts <input type="checkbox"/> Open areas on heathy soils</p>	<p>YES</p> <p>NO</p>																												
3	<p>Have any of the protected species been recorded in this wood or on adjoining sites? Tick any that apply. Indicate which sources of information you have checked:</p> <p><input type="checkbox"/> National Biodiversity Network (www.nbn.org.uk) <input type="checkbox"/> Local Biological Records Centre <input type="checkbox"/> Local Wildlife Trust <input type="checkbox"/> Other <i>Specify Other:</i></p>	<p>YES</p> <p>NO</p>																												
4	<p>Have your inspections or any expert surveys found any of the following signs or evidence? Tick any that apply.</p> <p><input type="checkbox"/> Signs (e.g. otter spraint, nuts gnawed by dormice, leaves folded by newts) <input type="checkbox"/> Sightings (or echo-location) <input type="checkbox"/> Potential breeding or roosting sites (e.g. veteran trees, old trees with crevices, riverside hollow trees, ponds, timber stacks, large fallen deadwood) <input type="checkbox"/> Confirmed breeding or roosting sites (i.e. evidence of sites actually being used) <i>Details:</i></p>	<p>YES</p> <p>NO</p>																												
CHECK POINT	<p>If you have answered NO to ALL of the above then only bats need to be considered in your operations.</p> <p>If you have answered YES to any of the above then the species concerned must be considered as well as bats.</p>																													
5	<p>Do the operations comply with Good Practice for bats and any other species found (or likely to be found in your wood) or can the operations be modified to do so? <i>Details: Use reverse of form to expand as required:</i></p>	<p>YES</p> <p>NO</p>	<p>A licence is not required but continue to sections 6 and 7 below</p> <p>You will need to obtain a licence BEFORE carrying out the work (see EPS Licence Application Forms and Notes)</p>																											
6	<p><u>Whether or not a licence is required...</u> Has the information been communicated to operators (including the location of breeding sites and sensitive areas)? Tick any that apply.</p> <p><input type="checkbox"/> Included in documentation (e.g. contract, letter of instruction, site assessment or other management plan) <input type="checkbox"/> Shown to operators and/or their supervisor <input type="checkbox"/> Marked with paint or hazard tape <input type="checkbox"/> Shown on the site plan <i>Other means:</i></p>	<p>YES</p> <p>NO</p>	<p>You may commit an offence if you do not tell your operators about the protected species in your wood.</p>																											
7	<p>Have arrangements for supervision been made to ensure Good Practice guidance is complied with during the operations? <i>Details:</i></p>	<p>YES</p> <p>NO</p>	<p>You may commit an offence if you do not take steps to ensure that your operators comply with the Good Practice guidance.</p>																											

3. BS 5837:2012 Figure 2: Default specification for protective barrier

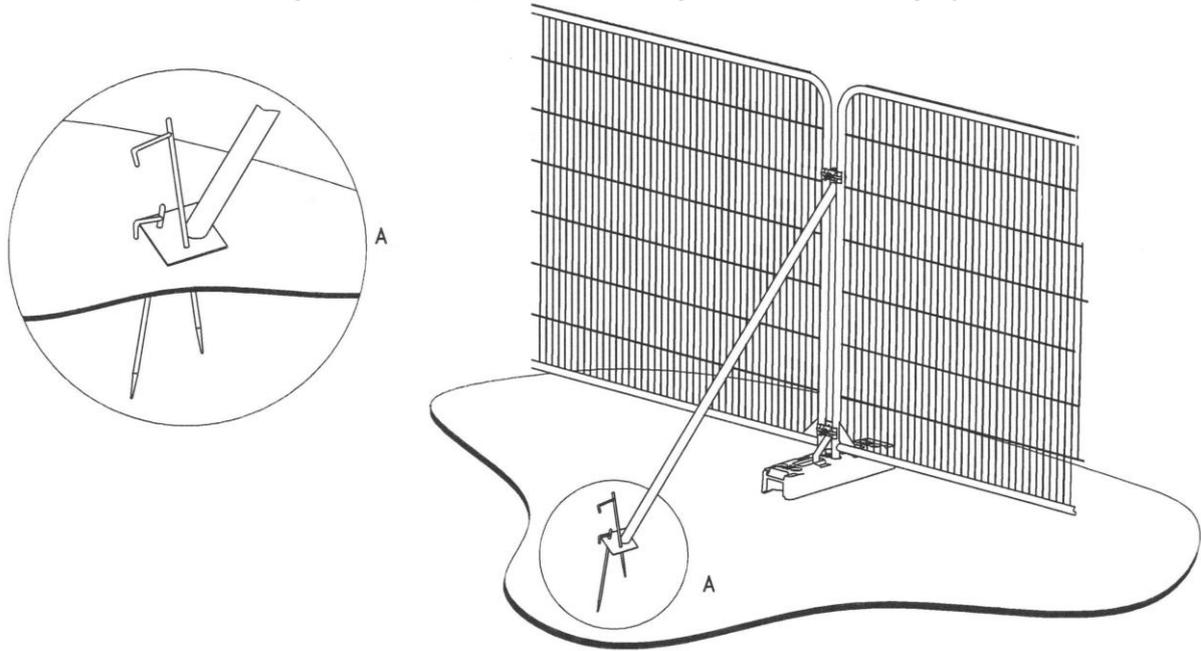


Default
specification
for protective
barrier

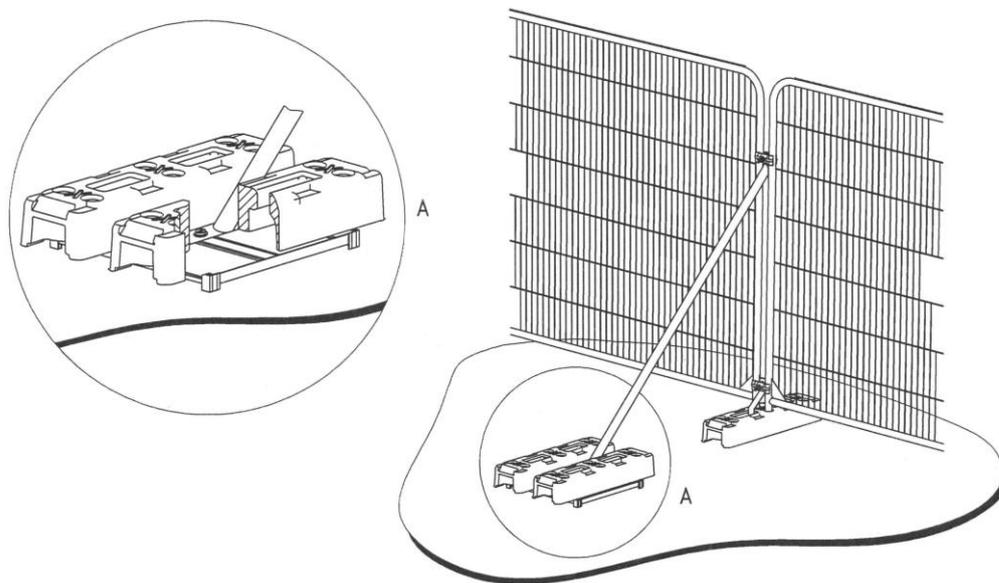
Key

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

4. BS 5837:2012 Figure 3: Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Appendix G

Hayden's Drawing

- Arboricultural Impact Assessments ●
- Arboricultural Method Statements ●
- Tree Constraints Plans ●
- Arboricultural Feasibility Studies ●
- Shade Analysis ●
- Picus Tomography ●
- Arboricultural Consultancy for Local Planning Authority ●
- Quantified Tree Risk Assessment ●
- Health & Safety Audits for Tree Stocks ●
- Tree Stock Survey and Management ●
- Mortgage and Insurance Reports ●
- Subsidence Reports ●
- Woodland Management Plans ●
- Project Management ●
- Ecological Surveys ●

