

# CAMBRIDGE NORTH

## ARBORICULTURAL IMPACT ASSESSMENT

JUNE 2022

PREPARED BY

HAYDEN'S  
Arboricultural Consultants





**Tree Survey, Arboricultural Impact Assessment  
Preliminary Arboricultural Method Statement & Tree Protection Plan  
In Accordance with BS 5837:2012**

Proj. No <b>9251</b>	<b>Chesterton Sidings, Cowley Road, Cambridge</b>		
Client:		Brookgate	
Date of Report:	13/05/2022	Revision:	Original

# **Tree Survey, Arboricultural Impact Assessment, Preliminary Arboricultural Method Statement & Tree Protection Plan – In Accordance with BS 5837:2012**

## **Summary**

The purpose of this report is to provide a preliminary consideration of the arboricultural implications created by the proposed development. In accordance with the feasibility and planning sections of BS5837:2012 “*Trees in relation to design, demolition and construction – Recommendations*”, trees deemed to be within the influencing distance of the projected construction have been evaluated for quality, longevity, and initial maintenance requirements. Where trees do not have to be removed for health and safety reasons, a detailed and objective assessment has been made of the consequences of the intended layout.

In this circumstance it is intended to redevelop and relandscape the existing usage of the land with the curtilage of the site boundary. As a result, twenty-eight individual trees, eight groups of trees, eighteen areas of trees and one hedge were inspected. The arboricultural related implications of the proposal are as follows:

- 1 In addition to trees which require felling irrespective of development, it is necessary to fell one low quality individual tree, five full landscape features and the section/selective felling of a further two landscape features in order to achieve the proposed layout.
- 2 Two trees have been identified for removal irrespective of any development proposals.
- 3 The alignment of the newly proposed structures does not encroach within the Root Protection Areas of any trees that are to be retained. In view of this, and as assessed in accordance with BS5837:2012, no specialist foundation designs or construction techniques will be required to prevent damage to tree roots. Specialist foundations may still be required for other reasons, including mitigating the influencing distance of tree roots, subject to expert advice from a structural engineer.
- 4 The alignment of the proposed footpath and footbridges encroach within the Root Protection Areas of an area of trees that is to be retained but given the use of modern “no dig” construction techniques this is not considered to be a substantial issue.
- 5 This report recommends that specialist advice is obtained by expert practitioners in other disciplines. Such input should always be sought prior to the submission of this report in support of a planning application in order to demonstrate that the techniques and methods hereby proposed are achievable. In this particular circumstance it is necessary to contact the following:
  - Structural Engineer (item 4.4.1)
  - Civil Engineer (“no dig” surfacing, item 4.4.2)



- 6 All trees and landscape features that are to remain as part of the development should suffer no structural damage provided that the findings with this report are complied with in full. This includes ensuring that protective fencing is erected as detailed at items 4.6 and 5.1 of this report.
- 7 Post Planning Permission – Subject to achieving Planning Permission, a detailed Arboricultural Method Statement and Tree Protection Plan will be required. This will include the following: fencing type, ground protection measures, “no dig” surfacing, phasing and an auditable monitoring schedule.
- 8 As shown on the on drawing no.9251-D-AIA it is proposed to offer extensive tree planting across the whole site as part of the redevelopment of the area.

Given the above, there are no overt or overwhelming arboricultural constraints that can be reasonably cited to preclude the proposed construction.



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# 1.0 Introduction

## 1.1 Terms of Reference

1.1.1 Hayden's Arboricultural Consultants Limited has been commissioned by Brookgate to prepare a Tree Survey, Arboricultural Impact Assessment, Preliminary Arboricultural Method Statement and Preliminary Tree Protection Plan for the existing trees at Chesterton Sidings, Cowley Road, Cambridge.

1.1.2 The site survey was carried out on 15/12/2021. 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 and construction specifications required to allow their retention as a sustainable and integral part of the completed 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 by Alan Barrett dated 26<sup>th</sup> November 2021
- Definition of site boundary
- Description of requirements/deadlines
- Topographical survey/map
- Proposed site layout



## 2.0 The Site

### 2.1 Overview

2.1.1 The site is Chesterton Sidings, Cowley Road, Cambridge.

### 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 Cambridge City Council prior to commencing works to trees. It should be noted however, that Cambridge City 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 in perpetuity.

It is recommended professional legal advice be sought before removing hedgerows to determine whether the hedgerow might be protected by the Inclosure Act. Details of the Inclosures Act are held by the Local Records Office.

## 3.0 Tree Survey

- 3.1 As part of this survey a total of twenty-eight individual trees, eight groups of trees, eighteen areas of trees and one hedge have been identified. These have been numbered T001 – T028, G001 – G008, A001 – A018 and H001 respectively.
- 3.2 A topographical survey was provided which showed the position of the trees on site. It should be noted however that topographical surveys are not always comprehensive and sometimes it is considered appropriate to record details of trees and landscape features omitted from or beyond the scope of the plan. If this circumstance occurs, the location of the individual tree or landscape feature is estimated. The position of each tree is shown on the attached drawing no. 9251-D-AIA.



- 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 Several items would benefit from tree surgery or additional investigation, be it for health and safety, cultural, aesthetic, or structural reasons as detailed in the attached Schedule of Trees. Including the trees recommended for felling, the items requiring the **most urgent** intervention are as follows:

Within six months:

T025	Fell
T026	Fell

- 3.6 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 Arboricultural Impact Assessment

### 4.1 The Proposal

- 4.1.1 The proposal is to redevelop and relandscape the existing usage of the land within the curtilage of the site boundary.

### 4.2 Access

- 4.2.1 Site access will be via Cowley Road, this is well established hard surfacing and is not proposed to be altered. Therefore, and from a purely arboricultural perspective, it will not be necessary to install a proprietary temporary load bearing road to protect tree roots.

### 4.3 Demolition

- 4.3.1 Demolition of existing structures or the removal of hard surfaces does not impact on the RPA of any retained trees.



#### **4.4 Construction**

- 4.4.1 Construction of foundations or structural supports do not encroach within the Root Protection Area (RPA) of any trees to be retained. Therefore from an arboricultural perspective, no specialised construction or foundation techniques will be required to protect tree roots. However, dependent on the soil type, species and topography, trees may have an influence on the soil beyond their calculated RPA. Given the proximity of the proposed construction to the trees to be retained, it is recommended that a Structural Engineer is consulted to assess the implications of the tree retention on the required foundation design.
- 4.4.2 Installation of new hard surfaces are proposed to be constructed within the RPA of the following item to be retained – A002. It is intended that these footpaths and footbridges are installed without causing damage to the retained vegetation and trees. Given this and provided that it works with finished levels and required load bearings without cutting into the ground, the surfaces should be attended to by the use of “no dig” construction methods. In the detailed Arboricultural Method Statement & Tree Protection Plan, Hayden’s Arboricultural Consultants will supply a sample design of “no dig” surfacing. However, the exact specification (adhering to the principles of the sample design) must be designed by a Civil Engineer who can confirm that the finished levels and load bearings are achievable with this type of design without cutting into the ground. As shown at item number 4.11, A003 is subject to selective removals to ensure that the higher value specimens are retained. Due to the density of this feature, the exact location these specimens is not known until clearance work begins the footpath and footbridge locations should therefore be considered as indicative.
- 4.4.3 Excavation and soil re-modeling is not shown to encroach within the RPA of any retained trees. Therefore, no adverse arboricultural implications are expected.

#### **4.5 Implications of Sloping Ground**

- 4.5.1 The arboricultural implications of the proposed structures are based on an assumption that because there are no significant existing slopes on site, level changes will not occur within the RPA of trees that are shown to be retained.

#### **4.6 Requirement for Tree Barrier Fencing**

- 4.6.1 Prior to the commencement construction and immediately after the completion of the necessary tree surgery and felling work, protective fencing will be erected on site. This must be fit for purpose (including any ground protection if necessary) in full accordance with the requirements of BS 5837:2012 and positioned as shown on the attached Preliminary Arboricultural Impact Assessment & Tree Protection drawing. Full details of fencing will be supplied by Hayden’s Arboricultural Consultants in the detailed Arboricultural Method Statement & Tree Protection Plan.

#### **4.7 Compound**

- 4.7.1 The site provides adequate internal space to locate a construction compound outside the RPA of any trees and landscape features that are to be retained.



#### 4.8 Phasing

4.8.1 The proposal involves the integration of a number of aspects that affect tree protection (e.g. – but not exclusively – movement of materials and the installation of services/swale). For this reason, the project must be carefully phased to ensure the highest level of protection for retained trees at all times. As part of the detailed Arboricultural Method Statement & Tree Protection Plan, Hayden’s Arboricultural Consultants will produce an in-depth phasing recommendation to cover the major operations on site as they affect retained trees.

#### 4.9 Monitoring

4.9.1 In accordance with item 6.3 of BS 5837:2012, the site and associated development should be monitored regularly by a competent Arboriculturalist to ensure that the arboricultural aspects of the planning permission are complied with. As part of the detailed Arboricultural Method Statement & Tree Protection Plan, Hayden’s Arboricultural Consultants will produce an extensive auditable monitoring schedule to assess the progress of key site events/activities.

#### 4.10 Tree Surgery to Facilitate Proposed Development

4.10.1 It is not necessary to undertake tree surgery works to retained trees in order to facilitate the proposed development.

#### 4.11 Landscape Implications

4.11.1 In addition to trees and landscape features necessitating removal for health and safety, cultural or quality of life reasons, (as detailed in the attached Schedule of Works - Irrespective of Development) the items listed in the table below require felling to permit the proposed development to proceed: -

Feature No.	Reason for Removal.	BS * Category	Visual Amenity Assessment*
A001	Conflicts with proposed landscape plan.	C	Moderate
A002 (Selective)	To allow higher value vegetation both existing and proposed to succeed. (Assessed on site to ensure high value trees are retained)	C	Low
A003 (Section)	Conflicts with location of proposed swale.	B	Moderate
A004	To allow space for construction of proposed footpath.	C	Low
G004	To facilitate planting of a larger growing species (London plane) to increase shading and visual impact.	C	Low
G005	Conflicts with proposed buildings.	C	Low
H001	Conflicts with proposed landscaping plan.	U	Low
T024	Conflicts with proposed footpath.	C	Low

\* Please see definitions in the Explanatory Notes attached to this report.



4.11.2 The following trees, T020, T021, T022, T023, are scheduled to be carefully transplanted to the Wildlife Park area as detailed as part of the landscaping design. Further details of tree protection or these trees will be provided as part of the Arboricultural Method Statement.

#### **4.12 Post Development Implications**

4.12.1 No adverse arboricultural implications are considered reasonably foreseeable for the trees that remain provided that the recommendations of this report are complied with in full.

4.12.2 Due to the dynamic nature of trees and their interaction with the environment, their health and structural integrity is liable to change over time. Because of this it is recommended that all trees on or adjacent to the site be inspected on an annual basis.

4.12.3 As stated in BS 5837:2012, regular maintenance of newly planted trees is of particular importance for at least three years during the critical post-planting period and might, where required by site conditions, planning requirements or legal agreement, be necessary for five years or more. Therefore, the designer of the new landscaping should, in conjunction with the landscape design proposals, prepare a detailed maintenance schedule covering this period, and appropriate arrangements made for its implementation.

## **5.0 Design Advice, Preliminary Arboricultural Method Statement & Tree Protection Plan**

### **5.1 Securing of Tree Structure and Root Protection Areas (RPA)**

5.1.1 The trees to be retained will be protected by the use of stout barrier fencing erected in the positions indicated on the attached Preliminary Arboricultural Impact Assessment & Tree Protection drawing no. 9251-D-AIA. This fencing will be in accordance with the requirements of BS 5837:2012 including any necessary ground protection.

5.1.2 All fencing provided for the safeguarding of trees will be erected prior to any demolition or development commencing on the site, therefore ensuring the maximum protection. This fencing, which must have all weather notices attached stating "Construction Exclusion Zone – No Access" will be regarded as sacrosanct and, once erected, will not be removed or altered without the prior consent of the Local Planning Authority.

5.1.3 Where footpaths, access drives, or parking bays are constructed within the RPA of retained trees, careful attention will be paid to the type of surface treatment used in these areas, details of which are given in item 5.8, below. If possible, these should be installed as a final phase of the project, thereby protecting the RPA throughout the major construction phase of the proposed development.

5.1.4 Where fencing is impractical, consideration must be given to other forms of effective above ground tree structure protection. An example of this would be a combination of Barksavers to secure the stems and a temporary load bearing surface to shield the ground.



## 5.2 Location of Site Office, Compound and Parking

5.2.1 The position of the office, compound and parking will be agreed in writing with the Local Planning Authority prior to commencement of any permitted development works. Any proposed re-location of these items through the various phases of development will be agreed prior to re-siting with the Local Planning Authority.

## 5.3 On Site Storage of Spoil and Building Materials

5.3.1 Prior to and during all construction works on site, no spoil or construction materials will be stored within the RPA of any tree on, or adjacent to the site, even if the proposed development is to be within the RPA. This is to reduce to a minimum the compaction of the roots of the trees. Details of the RPA for each tree where no spoil or building materials will be stored are indicated on the attached Preliminary Arboricultural Impact Assessment & Tree Protection drawing no. 9251-D-AIA. Any encroachment within this protected area will only be with the prior agreement of the Local Planning Authority.

5.3.2 Any facilities for the storage of oils, fuels or chemicals shall be sited on impervious bases and surrounded by impervious bund walls. The volume of the bund compound shall be at least equivalent to the capacity of the tank plus 10%. If there is a multiple tankage, the compound shall be at least equivalent to the capacity of the largest tank, or the combined capacity of interconnected tanks, plus 10%. All filling points, vents, gauges and sight glasses shall be located within the bund. The drainage system of the bund shall be sealed with no discharge to any watercourse, land or underground strata. Associated pipe-work shall be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets shall be detailed to discharge downwards into the bund.

5.3.3 All material storage facilities and work areas must consider the effects of sloping ground on the movement of potentially harmful liquid spillages towards or into protected areas.

## 5.4 Programme of Works

5.4.1 All tree surgery works, once approved by the Local Planning Authority, will be carried out prior to any other site works. Once completed, the proposed protective fencing will be erected along the lines indicated above. All of this will be carried out prior to commencement of any development works on the site. Outline details of the proposed programme are given in the Design and Construction and Tree Care flow chart attached (Appendix G-1).

## 5.5 Tree Surgery

5.5.1 All tree work will be agreed with the Local Planning Authority and will be carried out in line with BS 3998:2010 (Recommendations for Tree Works). An appropriately qualified, experienced and insured arboricultural contractor will carry out the work. Any alterations to the proposed schedule of works will be agreed with the Local Planning Authority prior to commencement of works.

## 5.6 Levels

5.6.1 Other than for any specific exception which may be referred to at item 4.0, no alterations to soil levels within the RPA of retained trees are envisaged. However, if it is necessary for these to occur, appropriate measures must be taken to prevent or minimise any detrimental effects on the affected root systems as detailed in 5.6.2 and 5.6.3 below.





5.6.2 If it is necessary to excavate so close to trees that roots greater than 50mm diameter are likely to be encountered, particular care will be taken to avoid damage. Excavation in these areas will be undertaken by hand or using an air spade, avoiding any damage to the bark. The roots will be surrounded with sharp sand prior to the replacing of any soil or other material in the vicinity.

5.6.3 If it is necessary to raise levels, it is essential that adequate supplies of water and oxygen pass through the soil to the trees' roots. Therefore, where necessary, a granular material will be used which will not inhibit gaseous diffusion. Possible options are no-fines gravel, cobbles or, Type 2 road-stone. All hard surfaces will be of suitable specification to allow such gaseous diffusion, e.g. brick pavers.

## 5.7 Services

5.7.1 At the time of writing this report, no details on proposed services were available. However, the following principles should be adhered to when planning for their installation.

5.7.2 It is proposed that all underground service runs will be placed outside the RPA of the trees on or adjacent to the site. Where it is not possible to do this, the proposed length infringing the RPA will be hand dug 'broken trenches' (NJUG 4 paragraph 4) to ensure the maximum protection of the trees' roots. The trenches may also be excavated using an air spade, or trenchless technology can be employed if this methodology is considered appropriate by the relevant service company (thus allowing services to pass below and through the roots without the need for traditional excavation). If it is necessary to cut any small roots as part of any of these processes, they should be severed in such a way as to ensure that the final wound is as small as possible and free from ragged, torn ends.

5.7.3 All routes for overhead services will aim to avoid the trees. Where this is not possible, any tree work will be agreed prior to commencement with the Local Planning Authority.

5.7.4 All service providers (Statutory Authorities) will be consulted prior to commencement of works with the aim of minimising the number of service runs on the site.

5.7.5 All service runs/trenches where they encroach within the RPA of retained trees will be agreed with the Local Planning Authority prior to commencement of works.

## 5.8 Hard Surface Types & Construction within the Root Protection Area

5.8.1 Where it is necessary to construct footpaths, driveways, non-adoptable roads, and other hard surfaces within the RPA as calculated in accordance with BS 5837:2012 (item 4.6.1), it is proposed that the design will comply with the 'no-dig' 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 it is necessary to remove any existing hard surface, or lower the ground level within the RPA, this may expose roots. This operation must be undertaken using hand tools or an air spade. Any roots found should be treated with the greatest care and surrounded by sharp sand to provide a level base. Please note that 'no-dig' surfaces are not always considered acceptable for adoption.



5.8.2 If boundary fencing is to be erected within the RPA of retained trees, it is proposed that the fence posts will be secured by the use of “Met-Posts” or similar design in order to keep the disturbance and damage of the roots of the trees to a minimum.

## 5.9 Reporting and Monitoring Procedures

5.9.1 In accordance with item 6.3 of BS 5837:2012, the site and associated development should be monitored regularly by a competent arboriculturalist to ensure that the arboricultural aspects of the planning permission (e.g. the installation and maintenance of protective measures and the supervision of specialist working techniques) are implemented. Furthermore, regular contact between the Site Manager and the Arboriculturalist allows them to effectively deal with and advise on any tree related problems that may occur during the development process. This system should be auditable. Should any issues arise during the arboricultural monitoring of the development the Arboriculturalist will contact the Local Planning Authority and appropriate action taken only with the prior permission of Brookgate and the Local Planning Authority.

## 6.0 Recommendations

6.1 It is recommended that the measures outlined in this report are implemented in full to provide retained trees with the highest level of protection during the process of and construction.

6.2 Subject to achieving Planning Permission, it is recommended that a detailed Arboricultural Method Statement & Tree Protection Plan should be provided. This will include the following: fencing type, ground protection measures, “no dig” surfacing, project phasing and an extensive auditable monitoring schedule.

6.3 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.

6.4 The tree surgery works proposed as part of this Survey are recommended to mitigate any identified problems that may be caused by trees in close proximity to the proposed development. 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:**



May 2022.....

**For and on Behalf of Hayden's Arboricultural Consultants Limited**



## 8.0 References

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## 9.0 Appendices

Appendix	<b>A</b>	Species List & Tree Problems
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		1. BS 5837:2012 Figure 1 - Flow Chart – Design and Construction & Tree Care
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Appendix	<b>H</b>	Drawing No 9251-D-AIA



## Appendix A - Species List & Tree Problems


### Species List:


Alder	<i>Alnus glutinosa</i>
Ash	<i>Fraxinus excelsior</i>
Aspen	<i>Populus tremula</i>
Blackthorn	<i>Prunus spinosa</i>
Cherry	<i>Prunus</i>
Cypress	<i>Cupressus</i>
Dogwood	<i>Cornus controversa</i>
Elder	<i>Sambucus nigra</i>
European Lime	<i>Tilia x europaea</i>
English Oak	<i>Quercus robur</i>
Field Maple	<i>Acer campestre</i>
Goat Willow	<i>Salix caprea</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Lawson Cypress	<i>Chamaecyparis lawsoniana</i>
Leyland Cypress	<i>X Cuprocyparis leylandii</i>
Norway Maple	<i>Acer platanoides</i>
Pine	<i>Pinus</i>
Rowan	<i>Sorbus aucuparia</i>
Silver Birch	<i>Betula pendula</i>
Sorbus	<i>Sorbus</i>
Sycamore	<i>Acer pseudoplatanus</i>
White Willow	<i>Salix alba</i>
Willow	<i>Salix</i>



## Tree Problems:

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

<b>Name: Deadwood</b>	
<b>Symptoms/damage type and cause:</b>	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.
<b>Consequence:</b>	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.
<b>Control:</b>	Detailed monitoring should be undertaken on those trees showing signs of excessive deadwood production to identify the underlying cause.
<b>Species affected:</b>	Most tree species.
<b>Images:</b>	

<b>Name: <i>Hedera helix</i> (Ivy)</b>	
<b>Symptoms/damage type and cause:</b>	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.
<b>Consequence:</b>	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.
<b>Control:</b>	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.
<b>Species affected:</b>	Most trees can be affected.
<b>Images:</b>	



# **Appendix B**

Schedule of Trees

**SCHEDULE OF TREES (AIA)** Chesterton Sidings, Cowley Road, Cambridge,

Surveyed By: Matthew Plane-Da'Silva Date: 15/12/2021  
 Managed By: Matthew Plane-Da'Silva

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
			Min Dist	Crown Base								
			On site	RPA (m <sup>2</sup> )	Aspect	Aspect						
A001	Goat Willow, Silver Birch	120	7		Moderate	N2, E2, S2, W2	Dense area of mixed species. Good ecological value.	C2	No work required.	4	Fell landscape feature as shown on drawing no.9251--D-AIA.	0
		1.44	0		Young	High						
		6.5			20+ years	Dense undergrowth						
A002	Silver Birch, Cypress Spp, Alder	100	10		Low	N2, E2, S2, W2	Unable to access feature to dense vegetation. Area predominantly consisting of young Birch trees. Some more established trees located in the eastern side of the feature, however deemed to be of the same overall value.	C2	No work required.	4	Selective removal as shown on drawing no.9251--D-AIA.	0
		1.2	2		Young	High						
		4.5			20+ years	Dense undergrowth						
A003	Silver Birch, Willow Spp, Elder, Rowan, English Oak, Goat Willow, Cherry Spp, Alder, Ash	200	13		Moderate	N3, E3, S3, W3	Area of mixed species. Unable to access feature. Good landscape and ecological value.	B2	No work required.	4	Section fell landscape feature as shown on drawing no.9251--D-AIA.	0
		2.4	0		Semi-matur	High						
		18.1			20+ years	Dense undergrowth						
A004	Hawthorn, Sycamore, Cherry Spp, Goat Willow, Alder	200	6		Low	N2, E2, S2, W2	Area of mixed species, area is heavily colonised by Ivy which has affected a large proportion of the trees in the feature. Dense presence of bramble.	C2	No work required.	4	Section fell landscape feature as shown on drawing no.9251-D-AIA.	0
		2.4	0		Early-matu	High						
		18.1			10+ years	Dense undergrowth						
A005	White Willow, Sycamore, Field Maple, English Oak	300	15		Moderate	N5, E5.1, S5, W5	Area of mixed species, area is heavily colonised by Ivy which has affected a large proportion of the trees in the feature, this has restricted a full detailed inspection of the base of the trees. Dense presence of bramble. Good landscape feature. Some of the trees do appear to have suboptimal union points, however due to Ivy unable to fully investigate.	C2	No work required.	4		
		3.6	2		Early-matu	High						
		40.7			20+ years	Dense undergrowth						
A006	Field Maple, Sycamore, Elder, Hawthorn	250	8		Low	N2, E2, S2, W2	Area of mixed species, area is heavily colonised by Ivy which has affected a large proportion of the trees in the feature. Dense presence of bramble.	C2	No work required.	4		
		3	0		Semi-matur	High						
		28.3			20+ years	Dense undergrowth						

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand						
		RPA (m <sup>2</sup> )	Aspect	Aspect	SULE	Ground Cover						
A007	English Oak, Hawthorn, Elder, Goat Willow	380	12.2		Moderate	N5, E5, S5, W5	Area of mixed species, area is heavily colonised by Ivy which has affect a large proportion of the trees in the feature. Dense presence of bramble. Trees in this feature have more room to develop than other features detailed in the road.	C2	No work required.	4		
		4.56	1.5		Early-matu	High						
Yes		65.3			20+ years	Dense undergrowth						
A008	Field Maple, Sycamore, White Willow, Goat Willow, Dogwood - native, Hawthorn, Alder	250	14		Low	N2, E2, S2, W2	Area mainly consists of unremarkable trees with average form. Ivy and understorey of brambles have restricted full access into the feature. Good landscape value.	B2	No work required.	4		
		3	2		Semi-matur	High						
Yes		28.3			20+ years	Dense undergrowth						
A009	Elder, Field Maple, Hawthorn, Goat Willow	120	7		Low	N1.5, E1.5, S1.5, W1.5	Area contains low value trees and is densely covered by bramble.	C2	No work required.	4		
		1.44	1		Young	High						
Yes		6.5			10+ years	Dense undergrowth						
A010	Hawthorn, Elder, Field Maple, Sycamore	190	11		Moderate	N3, E3, S3, W3	Area mainly consists of unremarkable trees with average form. Understorey of Ivy. Good landscape value.	B2	No work required.	4		
		2.28	1		Semi-matur	High						
Yes		16.3			20+ years	Dense undergrowth						
A011	Sycamore, Hazel, Holly, Hawthorn, Norway Maple	350	12.5		Moderate	N5.5, E5.5, S5.5, W5.6	Small section of mixed species tree that appear to be in a fair overall condition with no significant defects at time of inspection. The base of the tree and the main stems have been colonised by Ivy.	B2	No work required.	4		
		4.2	4		Semi-matur	High						
Yes		55.4			20+ years	Light undergrowth						
A012	Hawthorn, Elder	150	3		Low	N1.5, E1.5, S1.5, W1.5	Unremarkable trees contained in feature. Mostly Hawthorns which are heavily covered by Ivy.	C2	No work required.	4		
		1.8	1		SM	High						
Yes		10.2			10+ years	Light undergrowth						



TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand						
		RPA (m <sup>2</sup> )	Aspect	Aspect	SULE	Ground Cover						
A013	Pine Spp, Alder, Ash	250	14.5		Moderate	N3, E3, S3, W3	Good landscape containing mixed species of trees. The Alder is the more well established, reaching height of approximately 13 metres. The Pines are smaller at a current height of 5 metres. The trees are located off-site therefore a full detailed inspection was not undertaken. The trees do appear to be in a good overall condition, displaying a large amount of budding material and foliage.	B2	No work required.	4		
		3	2		Semi-matur	Moderate						
Yes		28.3			20+ years	Off-site / No access						
A014	Lime Spp, Alder	350	15		Moderate	N5, E5, S5, W5	Row of Lime trees with one Alder. These trees are located off-site. Trees appear to be in a good overall condition, however this cannot be confirmed. Dimensions have been estimated.	B2	No work required.	4		
		4.2	2.5		Semi-matur	Moderate						
Yes		55.4			20+ years	Off-site / No access						
A015	Pine Spp, Alder	380	14.1		Moderate	N5, E5, S5, W5	Row of Alder and Pine trees which are located off-site. Trees appear to be in a good over condition, however this cannot be confirmed. Dimensions have been estimated.	B2	No work required.	4		
		4.56	2.5		Semi-matur	Moderate						
Yes		65.3			20+ years	Off-site / No access						
A016	Pine Spp, Field Maple	200	9		Low	N2.5, E2.5, S2.5, W2.5	Trees is located off-site. Appears to be no significant defects at time of inspection however this cannot be confirmed.	C2	No work required.	4		
		2.4	2		Young	Moderate						
Yes		18.1			10+ years	Off-site / No access						
A017	Ash, Sycamore, Hawthorn	450	14		Moderate	N7, E7, S7, W7	Trees are located in the grounds of the golf driving range. No stem locations have been provide. The trees are in a fair overall condition. Deadwood is present in the main canopies and should be removed over the road and footpath.	B2	Remove deadwood.	3		
		5.4	3		Mature	High						
Yes		91.6			20+ years	Dense undergrowth						
A018	Hawthorn	150	4		Low	N1.5, E1.5, S1.5, W1.5	Area contains Ash and Hawthorn trees which are in a fair overall condition. The feature mostly consisting of non British Standard trees.	C2	No work required.	4		
		1.8	1.5		Semi-matur	High						
Yes		10.2			10+ years	Dense undergrowth						

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand						
		RPA (m <sup>2</sup> )	Aspect	Aspect	SULE	Ground Cover						
G001	Lawson Cypress	500	20		Moderate	N6.3, E6, S6, W6	Tree are located on a small parcel of land. Ownership unknown. Unmanaged. Poor union points.	C2	No work required.	4		
		6	2.5		Mature	High						
Yes		113.1			10+ years	Light undergrowth						
G002	Cherry Spp	150	6		Low	N5, E5, S4, W2	Tree are located on a small parcel of land. Ownership unknown. Unmanaged.	C2	No work required.	4		
		1.8	2		Young	Moderate						
Yes		10.2			10+ years	Light undergrowth						
G003	Silver Birch	140	5		Low	N1.5, E1.5, S1.5, W1.5	Trees appear to be in a good physiological condition with no significant defects at time of inspection.	C2	No work required.	4		
		1.68	2		Young	Low						
Yes		8.9			20+ years	Mixed soft/hard surface						
G004	Field Maple	100	3		Low	N1, E1, S1, W1	Young Field Maple trees. No significant defects at time of inspection.	C2	No work required.	4	Fell landscape feature as shown on drawing no.9251--D-AIA.	0
		1.2	1		Young	Moderate						
Yes		4.5			20+ years	Grass						
G005	Field Maple, Silver Birch	120	2.5		Low	N1, E1, S1, W1	Young trees which are located in a car parking area. Intermittent planting of Birch and Field Maple trees. No significant defects at time of inspection.	C2	No work required.	4	Fell landscape feature as shown on drawing no.9251--D-AIA.	0
		1.44	1		Young	Moderate						
Yes		6.5			20+ years	Mixed soft/hard surface						
G006	Alder	180	6		Moderate	N2, E2, S2, W2	Small cluster of Alder trees which are located off-site. Trees appear to be in a good over condition however this cannot be confirmed.	C2	No work required.	4		
		2.16	1.8		Young	Moderate						
Yes		14.7			20+ years	Off-site / No access						
G007	Alder	180	10.7		Moderate	N2, E2, S2, W2	Small cluster of Alder trees which are located off-site. Trees appear to be in a good over condition however this cannot be confirmed.	C2	No work required.	4		
		2.16	1.8		Young	Moderate						
Yes		14.7			20+ years	Off-site / No access						
G008	Alder	200	13		Moderate	N3.5, E3.5, S3.5, W3.5	Row of Alder trees which are located off-site. Trees appear to be in a good over condition however this cannot be confirmed.	B2	No work required.	4		
		2.4	2		Semi-matur	Moderate						
Yes		18.1			20+ years	Off-site / No access						

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand						
		RPA (m <sup>2</sup> )	Aspect	Aspect	SULE	Ground Cover						
H001	Hawthorn, Field Maple	120	4		Low	N2, E2, S2, W2	The trees do appear to be in a good overall condition, displaying a large amount of budding material and foliage.	U	No work required.	4	Fell landscape feature as shown on drawing no.9251-D-AIA.	0
		1.44	0		Semi-matur	High						
Yes		6.5			<10 years	Dense undergrowth						
T001	Sycamore	120	6		Low	N2, E2, S2, W2	Low value and little merit.	C1	No work required.	4		
		1.44	2		Young	Moderate						
Yes		6.5			10+ years	Light undergrowth						
T002	Aspen	100	6		Low	N1, E1, S1, W1	Low value and little merit. Broken hanging branches.	C1	No work required.	4		
		1.2	2		Young	High						
Yes		4.5			10+ years	Light undergrowth						
T003	Aspen	120	6		Low	N2, E2, S2, W2	Low value and little merit.	C1	No work required.	4		
		1.44	1.8		Young	High						
Yes		6.5			10+ years	Light undergrowth						
T004	Leyland Cypress	450	15		Low	N2, E3, S3, W3	Unable to access the main stem. Tree is located behind fencing.	C1	No work required.	4		
		5.4	2		Mature	High						
Yes		91.6			10+ years	Off-site / No access						
T005	Aspen	120	6		Low	N2, E2, S2, W2	Low value and little merit.	C1	No work required.	4		
		1.44	1.8		Young	High						
Yes		6.5			10+ years	Light undergrowth						
T006	Alder Sp	90	2.5		Low	N1, E1, S1, W1	Young Alder. Low value and little merit.	C1	No work required.	4		
		1.08	1.5		Young	Moderate						
Yes		3.7			10+ years	Light undergrowth						
T007	Goat Willow	130	3		Low	N2, E2, S2, W2	Low value and little merit.	C1	No work required.	4		
		1.56	1		Young	High						
Yes		7.6			10+ years	Light undergrowth						

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand						
		RPA (m <sup>2</sup> )	Aspect	Aspect	SULE	Ground Cover						
T008	Goat Willow	400	14		Low	N3, E3.5, S3, W3	Unable to undertake a full inspection as tree is offsite. All dimensions have been estimated.	C1	No work required.	4		
		4.8	7		Early-matu	High						
Yes		72.4			10+ years	Off-site / No access						
T009	Silver Birch	100	4		Low	N1.5, E1.5, S1.5, W1.5	Young Birch tree.	C1	No work required.	4		
		1.2	1.8		Young	Low						
Yes		4.5			10+ years	Shrub bed						
T010	Silver Birch	100	4		Low	N1.5, E1.5, S1.5, W1.5	Young Birch tree.	C1	No work required.	4		
		1.2	1.8		Young	Low						
Yes		4.5			10+ years	Shrub bed						
T011	Silver Birch	100	4		Low	N1.5, E1.5, S1.5, W1.5	Young Birch tree.	C1	No work required.	4		
		1.2	1.8		Young	Low						
Yes		4.5			10+ years	Shrub bed						
T012	Hazel	90	3		Low	N1, E1, S1, W1	Young Hazel. Low value and little merit.	C1	No work required.	4		
		1.08	2		Young	Low						
Yes		3.7			10+ years	Shrub bed						
T013	Silver Birch	120	7		Low	N1, E1, S1, W1	Tree of low value and little merit.	C1	No work required.	4		
		1.44	1		Young	Low						
Yes		6.5			20+ years	Light undergrowth						
T014	Cherry Sp	250	9		Low	N3, E3, S3, W3	Tree is covered in Ivy therefore a full detailed inspection was unable to be undertaken. Tree displaying good amount of budding of material.	C1	No work required.	4		
		3	3		Semi-matur	Moderate						
Yes		28.3			10+ years	Dense undergrowth						
T015	Rowan	90	2.6		Low	N1, E1, S1, W1	Low value and little merit.	C1	No work required.	4		
		1.08	1		Young	Moderate						
Yes		3.7			10+ years	Dense undergrowth						

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand						
		RPA (m <sup>2</sup> )	Aspect	Aspect	SULE	Ground Cover						
T016	Rowan	90	2.6		Low	N1, E1, S1, W1	Low value and little merit.	C1	No work required.	4		
		1.08	1		Young	Moderate						
Yes		3.7			10+ years	Dense undergrowth						
T017	Silver Birch	200	10		Low	N2, E2, S2, W2	Unable to access the tree due to on-site vehicle activity therefore inspection was undertaken at a distance. Low value and little merit.	C1	No work required.	4		
		2.4	1		Semi-matur	Low						
Yes		18.1			10+ years	Light undergrowth						
T018	Sycamore	250	11		Low	N3, E4, S4.5, W2	Evidence of past failures. Low value and little merit.	C1	No work required.	4		
		3	3		Semi-matur	Moderate						
Yes		28.3			10+ years	Dense undergrowth						
T019	Sorbus Aucuparia	120	3		Low	N2, E2, S2, W2	Tree is located in the neighbouring car park area. Dieback present in the canopy. Poor overall condition.	C1	No work required.	4		
		1.44	1.5		Semi-matur	Moderate						
No		6.5			10+ years	Mixed soft/hard surface						
T020	Goat Willow	90	2.5		Low	N1.5, E1.5, S1.5, W1.5	Coppiced Goat Willow. Low value and little merit.	C1	No work required.	4	Tree to be transplanted to Wildlife park as shown on drawing no. 9251-D-AIA.	0
		1.08	0		Semi-matur	High						
Yes		3.7			10+ years	Grass						
T021	Goat Willow	90	2.5		Low	N1.5, E1.5, S1.5, W1.5	Coppiced Goat Willow. Low value and little merit.	C1	No work required.	4	Tree to be transplanted to Wildlife park as shown on drawing no.9251-D-AIA.	0
		1.08	0		Semi-matur	High						
Yes		3.7			10+ years	Grass						
T022	Goat Willow	90	2.5		Low	N1.5, E1.5, S1.5, W1.5	Coppiced Goat Willow. Low value and little merit.	C1	No work required.	4	Tree to be transplanted to Wildlife park as shown on drawing no.9251-D-AIA.	0
		1.08	0		Semi-matur	High						
Yes		3.7			10+ years	Grass						

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand						
		RPA (m <sup>2</sup> )	Aspect	Aspect	SULE	Ground Cover						
<b>T023</b>	Goat Willow	90	2.5		Low	N1.5, E1.5, S1.5, W1.5	Coppiced Goat Willow. Low value and little merit.	C1	No work required.	4	Tree to be transplanted to Wildlife park as shown on drawing no.9251-D-AIA.	0
		1.08	0		Semi-matur	High						
<b>Yes</b>		3.7			10+ years	Grass						
<b>T024</b>	Blackthorn	110	5		Low	N2, E2, S2, W2	Located in an area of dense vegetation. Low value and little merit.	C1	No work required.	4	Fell tree as shown on drawing no.9251-D-AIA.	0
		1.32	2		Semi-matur	High						
<b>Yes</b>		5.5			10+ years	Dense undergrowth						
<b>T025</b>	White Willow	1100	14		Moderate	N7, E4, S7, W5	Old pollarded Willow tree. Major decay located in main stem. Cavity on the southern side.	U	Fell, structural decline.	2		
		13.2	0.5		Mature	High						
<b>Yes</b>		547.4			<10 years	Light undergrowth						
<b>T026</b>	White Willow	1100	14		Moderate	N7, E4, S7, W5	Old pollarded Willow tree. Major decay located in main stem. Cavity on the western aspect from ground level to approximately 2 metres up main stem. Densely covered in Ivy.	U	Fell, structural decline.	2		
		13.2	0.5		M	High						
<b>Yes</b>		547.4			<10 years	Light undergrowth						
<b>T027</b>	Alder	120	7		Moderate	N2, E2, S2, W2	Tree located off-site. Appears to be in a good overall condition.	C1	No work required.	4		
		1.44	4		Semi-matur	Moderate						
<b>No</b>		6.5			20+ years	Off-site / No access						
<b>T028</b>	Alder	120	82		Low	N2, E2, S2, W2	Tree is located off-site. Appears to be no significant defects at time of inspection however this cannot be confirmed.	C1	No work required.	4		
		1.44	2		Young	Moderate						
<b>Yes</b>		6.5			10+ years	Off-site / No access						

## **Appendix C**

Schedule of Works - Irrespective of Development

## SCHEDULE OF WORK IRRESPECTIVE OF DEVELOPMENT

Chesterton Sidings, Cowley Road, Cambridge,

Surveyed By: Matthew Plane-Da'Silva

Surveyed: 15/12/2021

Managed By: Matthew Plane-Da'Silva

Tree No.	Species	Work required	Priority
<b>T025</b>	White Willow	Fell, structural decline.	<b>2</b>
<b>T026</b>	White Willow	Fell, structural decline.	<b>2</b>
<b>A017</b>	Ash, Sycamore, Hawthorn	Remove deadwood.	<b>3</b>

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## **Appendix D**

Preliminary Schedule of Works to Allow Development

## SCHEDULE OF WORKS (AIA)

Chesterton Sidings, Cowley Road, Cambridge,

Surveyed By: Matthew Plane-Da'Silva

Surveyed: 15/12/2021

Managed By: Matthew Plane-Da'Silva

Tree No.	Species	Work required	Priority
<b>A001</b>	Goat Willow, Silver Birch	Fell landscape feature as shown on drawing no.9251--D-AIA.	<b>0</b>
<b>A002</b>	Silver Birch, Cypress Spp, Alder	Selective removal as shown on drawing no.9251--D-AIA.	<b>0</b>
<b>A003</b>	Silver Birch, Willow Spp, Elder, Rowan, English Oak, Goat Willow, Cherry Spp, Alder, Ash	Section fell landscape feature as shown on drawing no.9251--D-AIA.	<b>0</b>
<b>A004</b>	Hawthorn, Sycamore, Cherry Spp, Goat Willow, Alder	Section fell landscape feature as shown on drawing no.9251-D-AIA.	<b>0</b>
<b>G004</b>	Field Maple	Fell landscape feature as shown on drawing no.9251--D-AIA.	<b>0</b>
<b>G005</b>	Field Maple, Silver Birch	Fell landscape feature as shown on drawing no.9251--D-AIA.	<b>0</b>
<b>H001</b>	Hawthorn, Field Maple	Fell landscape feature as shown on drawing no.9251-D-AIA.	<b>0</b>
<b>T020</b>	Goat Willow	Tree to be transplanted to Wildlife park as shown on drawing no. 9251-D-AIA.	<b>0</b>
<b>T021</b>	Goat Willow	Tree to be transplanted to Wildlife park as shown on drawing no.9251-D-AIA.	<b>0</b>
<b>T022</b>	Goat Willow	Tree to be transplanted to Wildlife park as shown on drawing no.9251-D-AIA.	<b>0</b>
<b>T023</b>	Goat Willow	Tree to be transplanted to Wildlife park as shown on drawing no.9251-D-AIA.	<b>0</b>
<b>T024</b>	Blackthorn	Fell tree as shown on drawing no.9251-D-AIA.	<b>0</b>

## **Appendix E**

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.

<b>Height</b>	Recorded in metres, measured from the base of the tree.
<b>Crown Base</b>	Recorded in metres, the distance from ground and aspect of the lowest branch material.
<b>Lowest Branch</b>	Recorded in metres, the distance from ground and aspect of the emergence point of the lowest significant branch.
<b>Life Expectancy</b>	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.
<b>Crown Spread</b>	Indicates the radius of the crown from the base of the tree in each of the northern, eastern, southern and western aspects.
<b>Minimum Distance</b>	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).
<b>RPA</b>	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.
<b>Water Demand</b>	This gives the water demand of the species of tree when mature, as given in the NHBC Standards Chapter 4.2 “Building Near Trees”.
<b>Visual Amenity</b>	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.
<b>Problems/ Comments</b>	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.
<b>Work Required (TS)</b>	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

<b>Access Facilitation Pruning</b>	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.
<b>Arboricultural Method Statement</b>	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.
<b>Arboriculturist</b>	Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.
<b>Competent Person</b>	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>
<b>Construction</b>	Site-based operations with the potential to affect existing trees.
<b>Construction Exclusion Zone</b>	Area based on the root protection area from which access is prohibited for the duration of a project.
<b>Root Protection Area (RPA)</b>	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.
<b>Service</b>	Any above or below ground structure or apparatus required for utility provision. <b>NOTE</b> - examples include drainage, gas supplies, ground source heat pumps, CCTV and satellite communications.
<b>Stem</b>	Principal above ground structural component(s) of a tree that supports its branches.
<b>Structure</b>	Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork.
<b>Tree Protection Plan</b>	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.
<b>Veteran Tree</b>	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. <b>NOTE</b> - these characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem.



## **Appendix F**

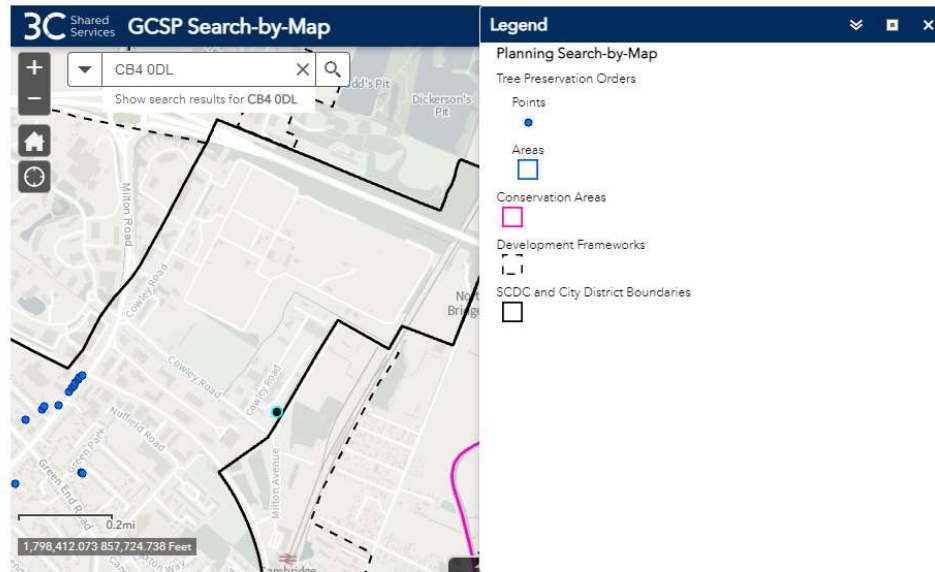
Tree Preservation Order Enquiry/Response



map: gah6666

- Select the layers you want to display on the map.
- Select the 'X' icon to close the layers list.
- Search for an address or postcode or zoom in and navigate around the map to the location you require

If the map doesn't appear to be working, please contact us using the feedback faces at the bottom of the page.



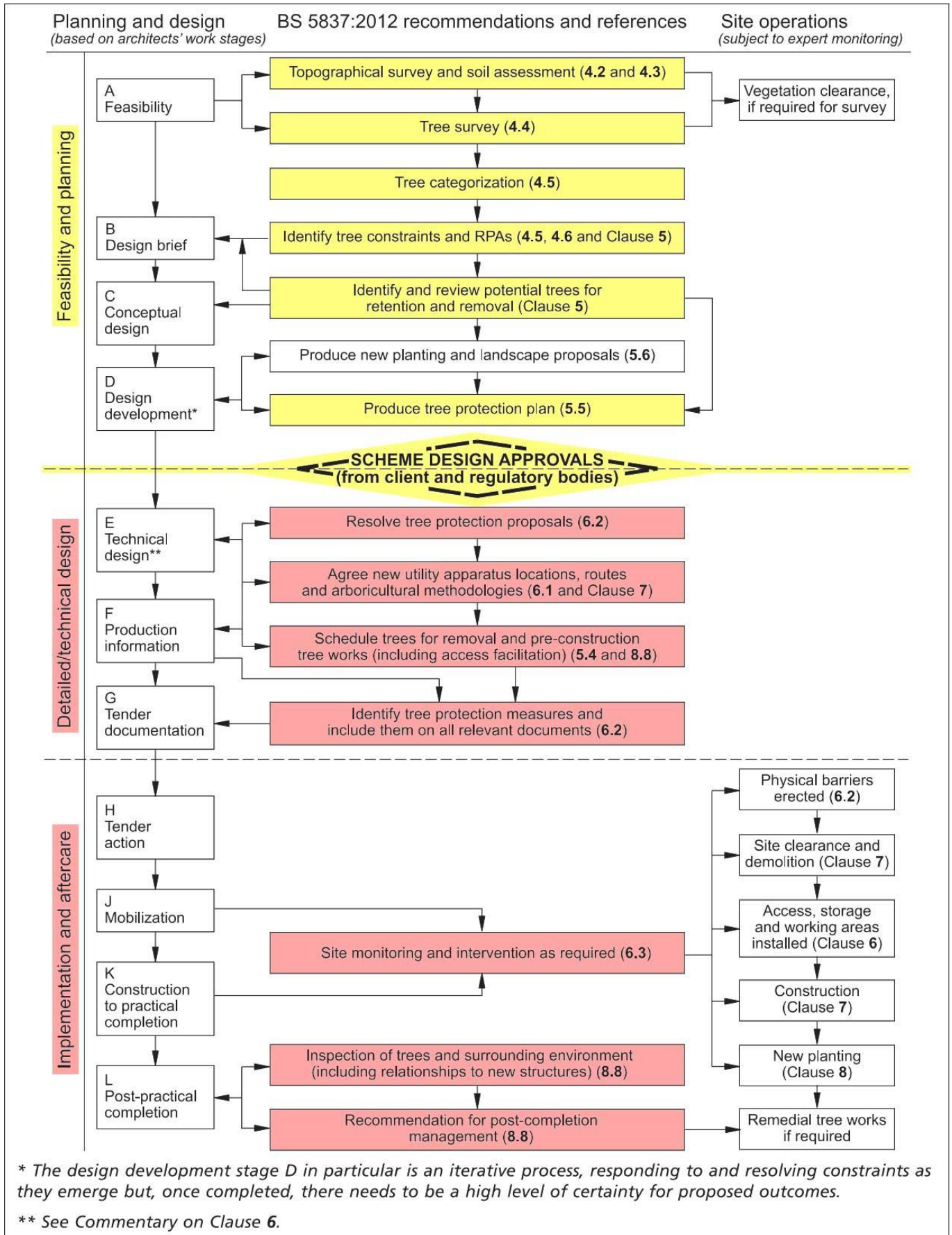
\* Please be aware this map updates applications after 48 hours. If you cannot find the application you need, try our [alternative search](#).

## Contact Details

## **Appendix G**

Advisory Information & Sample Specifications

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

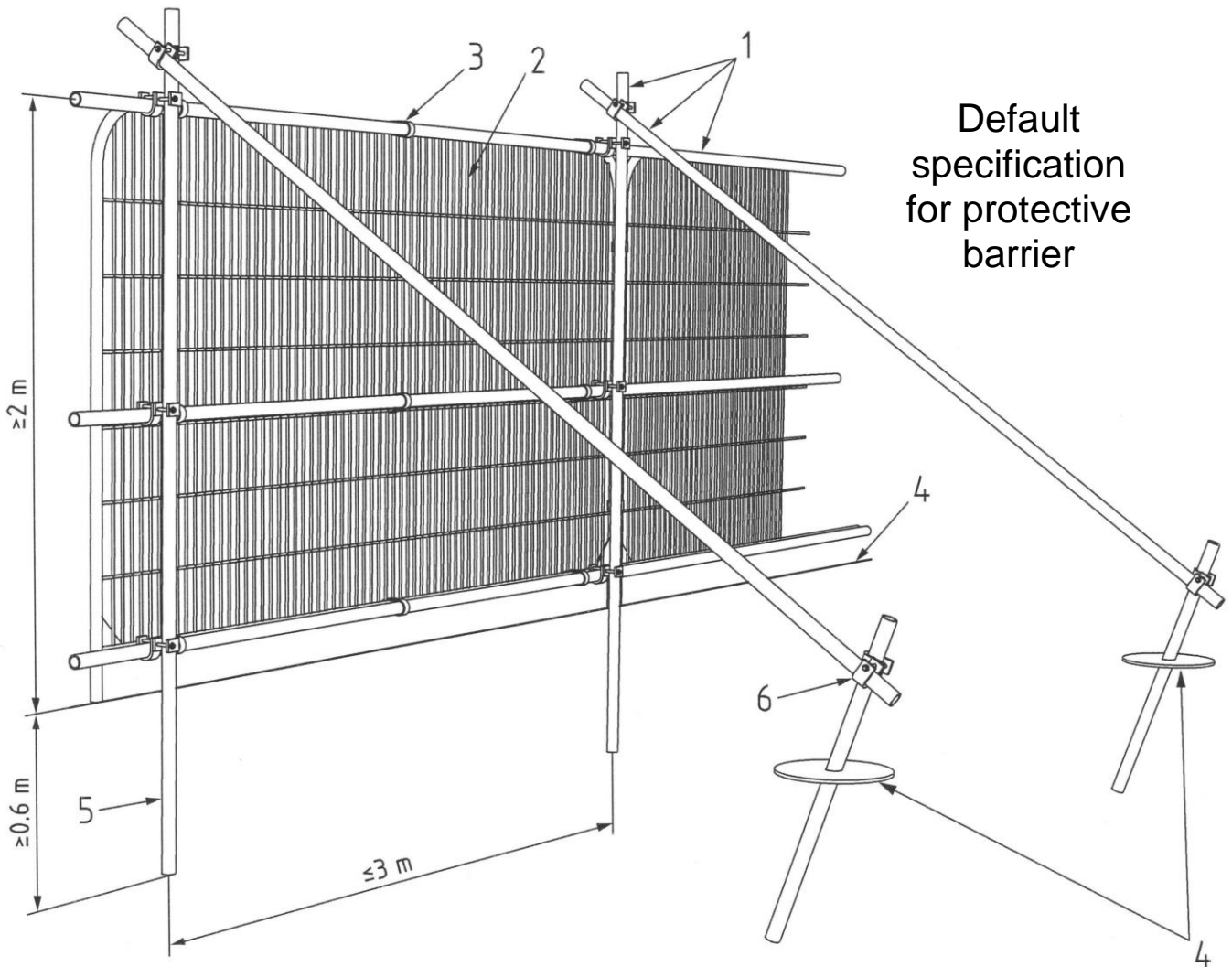


2.

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

Checklist		Details												
<b>1</b>	<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> <ul style="list-style-type: none"> <li><input type="checkbox"/> Dormice</li> <li><input type="checkbox"/> Otters</li> <li><input type="checkbox"/> Great crested newts</li> <li><input type="checkbox"/> Sand lizards</li> <li><input type="checkbox"/> Smooth snakes</li> </ul>	<p>Name of Wood:</p> <hr/> <p>Grid Reference:</p> <table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table> <p>Area: (ha)</p> <table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table> <p>Date of Assessment:</p> <table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table> <p>Name of Assessor:</p> <hr/>												
<b>2</b>	<p>Does your wood contain any of the following habitats? Tick any that apply.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Old trees with holes and crevices which might be used bats</li> <li><input type="checkbox"/> Species rich scrub/coppice, early growth stage plantations and forest interfaces</li> <li><input type="checkbox"/> Rivers on which otters might be found</li> <li><input type="checkbox"/> Ponds which might be occupied by great crested newts</li> <li><input type="checkbox"/> Open areas on heathy soils</li> </ul>	<p>YES</p> <p>NO</p>												
<b>3</b>	<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> <ul style="list-style-type: none"> <li><input type="checkbox"/> National Biodiversity Network (<a href="http://www.nbn.org.uk">www.nbn.org.uk</a>)</li> <li><input type="checkbox"/> Local Biological Records Centre</li> <li><input type="checkbox"/> Local Wildlife Trust</li> <li><input type="checkbox"/> Other</li> </ul> <p>Specify Other:</p>	<p>YES</p> <p>NO</p>												
<b>4</b>	<p>Have your inspections or any expert surveys found any of the following signs or evidence? Tick any that apply.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Signs (e.g. otter spraint, nuts gnawed by dormice, leaves folded by newts)</li> <li><input type="checkbox"/> Sightings (or echo-location)</li> <li><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)</li> <li><input type="checkbox"/> Confirmed breeding or roosting sites (i.e. evidence of sites actually being used)</li> </ul> <p>Details:</p>	<p>YES</p> <p>NO</p>												
<b>CHECK POINT</b>	<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>													
<b>5</b>	<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>												
<b>6</b>	<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> <ul style="list-style-type: none"> <li><input type="checkbox"/> Included in documentation (e.g. contract, letter of instruction, site assessment or other management plan)</li> <li><input type="checkbox"/> Shown to operators and/or their supervisor</li> <li><input type="checkbox"/> Marked with paint or hazard tape</li> <li><input type="checkbox"/> Shown on the site plan</li> </ul> <p>Other means:</p>	<p>YES</p> <p>NO</p>												
<b>7</b>	<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>												
		<b>Notes</b>												
		<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>												
		<p>You may commit an offence if you do not tell your operators about the protected species in your wood.</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

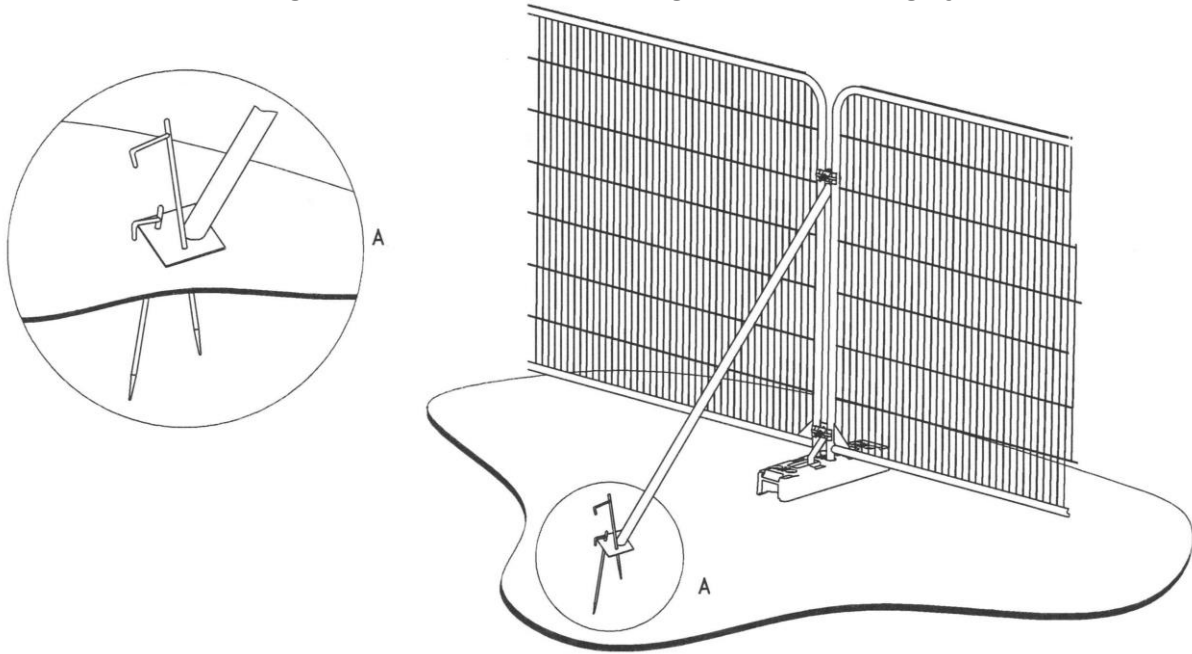


Default  
specification  
for protective  
barrier

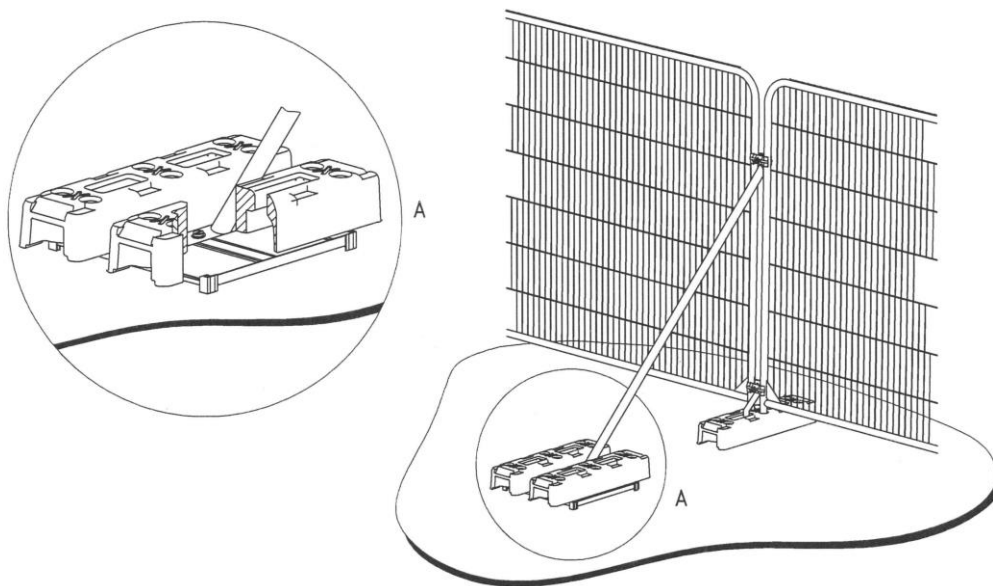
Key

- 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 H**

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 ●



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