



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

Proj. No 9050 1.2	North Bersted		
Client:		Hyland Edgar Driver	
Date of Report:	24/03/2022	Revision:	A

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 demolish a former primary school and construct 21 residential dwellings comprising of detached and semi-detached houses with associated hard and soft landscaping. As a result, twenty five individual trees, two groups of trees, and three hedges 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 two category ‘B’, thirteen category ‘C’ and two category ‘U’ individual trees, part of one category ‘C’ and one category ‘U’ group of trees and three category ‘C’ hedges in order to achieve the proposed layout. Additionally, five trees require minor surgery to permit construction space or access.
- 2 One tree has been identified for removal irrespective of any development proposals. The removal of this tree coincides with the requirements of the proposed layout.
- 3 The alignment of proposed dwellings do 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 proposed bicycle stores and driveways encroach within the Root Protection Areas of seven trees that are 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 (impact on neighbouring structures, 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 is likely to be required by the LPA in order to discharge a tree protection condition. This will include the following: fencing type, ground protection measures, “no dig” surfacing, access facilitation pruning specification, phasing and an auditable monitoring schedule.



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1.0 Introduction

1.1 Terms of Reference

- 1.1.1 Hayden's Arboricultural Consultants Limited has been commissioned by Hyland Edgar Driver, on behalf of the applicant West Sussex Property Development LLP, to prepare a Tree Survey, Arboricultural Impact Assessment, Preliminary Arboricultural Method Statement and Preliminary Tree Protection Plan for the existing trees at North Bersted, West Sussex; the site of the former Bartons Infant School.
- 1.1.2 The site survey was carried out on 22/09/2021. The relevant qualitative and quantitative 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 received 28/7/21 from Mr Ian Newton.
 - Revised topographical survey received 3/2/22.
 - Proposed site layout received 23/3/22 drawing no.1444-HED-SK-005 A.



2.0 The Site

2.1 Overview

- 2.1.1 The site is in North Bersted, West Sussex and occupies the former Bartons Infant School. The trees are positioned predominantly on or immediately adjacent to the site's boundaries and comprise of mixed species and maturity that provide a range of amenity benefits.

2.2 Soils

- 2.2.1 The soil type commonly associated with this site are generally freely draining slightly acid loams. They are of low fertility and typically support neutral and acid pastures, and deciduous woodland type habitats. This soil type constitutes approximately 15.5% 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 (LPA) Arun District Council prior to commencing works to trees. However, it should be noted that Arun District Council have the power to serve Tree Preservation Orders very rapidly it is therefore incumbent upon anyone wishing to undertake work to any trees to contact the LPA prior to commencing works to ensure that the situation has not changed.

This information was sourced using the LPA'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 LPA 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.

3.0 Tree Survey

- 3.1 As part of this survey a total of twenty five individual trees, two groups of trees, and three hedges have been identified. These have been numbered T001 – T025, G001 – G002, and H001 – H003 respectively.
- 3.2 A topographical survey was provided which showed the position of the trees on site. However, it should be noted 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. 9050-D-1.2-AIA Rev A.
- 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 *BS5837:2012 "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 work 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:

As soon as possible:

T007	Remove Ivy and reinspect.
T008	Remove Ivy and reinspect.
T010	Remove Ivy and reinspect.
T022	Remove Ivy and reinspect.
T024	Remove hanging broken branch. Remove Ivy and reinspect.



- 3.6 Over and above the general and prudent recommendation that all trees are inspected on an annual basis, the following items have been identified as requiring enhanced monitoring to assess any changes in faults and weaknesses etc as detailed in the Schedule of Trees:

T021	Monitor (annually) physiological condition.
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- 3.7 In accordance with item 4.2.4 (c) of BS5837:2012, 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 demolish a former primary school and construct 21 residential dwellings comprising of detached and semi-detached houses with associated hard and soft landscaping within the curtilage of the site.

4.2 Access

- 4.2.1 Site access is unencumbered by the Root Protection Areas (RPA) of any trees to be retained. From a purely arboricultural perspective, it will therefore 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 and the removal of hard surfaces does not impact on the RPA of any retained trees. Other than the provision of protective fencing, no additional specialist protection measures are therefore required.

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. From an arboricultural perspective, no specialised construction or foundation techniques are therefore 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 encroach within a small portion of the RPA of the following trees to be retained – T001, T006, T007, T010, T022 and T023. Provided that these work 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. In order to protect the RPA of the affected trees, these areas should be constructed as a first phase of the development – i.e. immediately after the necessary tree work has been completed and protective fencing erected. It is recognised that the final top dressing of the hard surfaces could be added at the completion of the project, however during the construction phase the permeable surface must be sealed and protected to prevent contamination and compaction. Whatever method of sealing and protection is used, this must be removed at the completion of construction to allow for moisture penetration and gaseous exchange. Alternatively, the protective fencing could be re-sited to the edge of the RPA of these trees and the “no dig” construction completed as a final phase of development.

4.4.3 Excavation and soil re-modelling is not shown to encroach within the RPA of any retained trees. No adverse arboricultural implications are therefore 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 of demolition or construction and immediately after the completion of the necessary tree 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 BS5837:2012 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 – access, movement of materials and the installation of services). 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 BS5837:2012, 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 Cultural Implications for Retained Trees

- 4.10.1 Details of specific works are listed in the attached Schedule of Works to Permit Development.

4.11 Landscape Implications

- 4.11.1 In addition to trees that require 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*
G001	To facilitate construction of proposed dwellings.	U	Moderate
G002 (part)	Fell part as shown on drawing 9050-D-1.2-AIA Rev A to facilitate creation of proposed dwellings amenity space.	C	Moderate
T003	Fell to facilitate construction of proposed dwelling.	C	Moderate
T004	Fell to facilitate construction of proposed dwelling.	C	Low
T005	Fell to facilitate construction of proposed driveway.	U	Low
T008	Fell to facilitate construction of proposed driveway.	C	Moderate
T009	Fell to facilitate construction of proposed driveway.	C	Low
T015	Fell to facilitate construction of proposed dwellings.	C	Moderate
T016	Fell to facilitate construction of proposed dwellings.	C	Moderate
T017	Fell to facilitate construction of proposed dwellings.	C	Moderate
T018	Fell to facilitate construction of proposed driveway.	C	Moderate
T019	Fell to facilitate construction of proposed dwellings.	B	High
T020	Fell to facilitate construction of proposed dwellings.	B	High
T021	Fell to facilitate construction of proposed dwellings.	C	High
T024	Fell to facilitate construction of proposed dwellings.	U	Moderate
T025	Fell to facilitate construction of proposed dwellings.	C	Moderate

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



4.12 Post Development Implications

- 4.12.1 Retained trees situated adjacent to the site's southern boundary have the potential to create shading effects within the rear gardens of proposed dwellings; 15, 16, 17, 19 and 20 parallel to this boundary. These trees; two individuals within G002, T011, T012 and T014 are relatively modest sized trees with light coloured foliage and/or open crowns, as a result it is not considered likely that future occupiers would seek to fell or undertake other tree work to address concerns regarding shading.
- 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 BS5837:2012, 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. 9050-D-1.2-AIA Rev A. This fencing will be in accordance with the requirements of BS5837:2012 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. 9050-D-1.2-AIA Rev A. 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 work, 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 BS3998:2010 (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 Where it is shown that the construction of a boundary wall or dwelling encroaches within the RPA of a retained tree, the foundations of the wall or dwelling will be designed in such a manner so as to minimise the detrimental effect of the construction on the tree's roots. In these situations, any excavations within the RPA of an affected tree will only be undertaken following exploration of the existing root system with an air spade (or by hand digging if soil conditions preclude) and the necessary root pruning undertaken to allow excavation without unnecessary pulling and tearing of the roots to be retained. This will ensure minimal damage to tree roots where pad and beam or cantilever foundations are considered appropriate. Should a piling rig be required to create piles, any access facilitation pruning or felling necessary to allow access must be undertaken before the commencement of works and only with prior consent of the Local Planning Authority.
- 5.8.3 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 BS5837:2012, 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 Hyland Edgar Driver 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 demolition 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, access facilitation pruning specification, project phasing and an auditable monitoring schedule.
- 6.3 Tree work 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 work 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:



March 2022.....

For and on Behalf of Hayden's Arboricultural Consultants Limited



8.0 References

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9050-D-1.2-AIA Rev A LB/BJ Survey Date: 22/09/2021 REVISION: A
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9.0 Appendices

Appendix	A	Species List & Tree Problems
Appendix	B	Schedule of Trees
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Appendix	H	Drawing No 9050-D-1.2-AIA Rev A



Appendix A - Species List & Tree Problems

Species List:

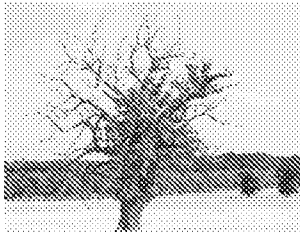
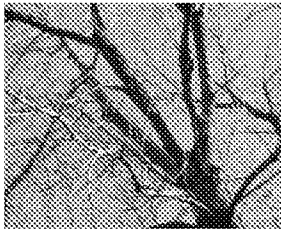
Ash	<i>Fraxinus excelsior</i>
Alder	<i>Alnus sp</i>
Birch	<i>Betula sp</i>
Cherry	<i>Prunus sp</i>
Cherry Laurel	<i>Prunus laurocerasus</i>
Copper Beech	<i>Fagus sylvatica</i> 'purpurea'
Cypress	<i>Cupressus sp.</i>
Elm	<i>Ulmus sp</i>
Field Maple	<i>Acer campestre</i>
Goat Willow	<i>Salix caprea</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Hornbeam	<i>Carpinus betulus</i>
Oak	<i>Quercus robur</i>
Raywood Ash	<i>Fraxinus angustifolia</i> 'Raywood'
Sycamore	<i>Acer pseudoplatanus</i>
Weeping Birch	<i>Betula pendula</i> 'Youngii'
Whitebeam	<i>Sorbus aria</i>

Tree Problems:

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

Name: Canker	
Symptoms/damage type and cause:	This is a clearly defined patch of dead and sunken, or malformed bark which can be caused by either bacterial or fungal agents. Affected branches or stems can die due to being girdled by cankers.
Consequence:	Depending upon the affecting organism can cause death of limbs or in extreme cases death of whole tree.
Control:	In some instances, it may be possible to excise the infected area by tree surgery operations however this is dependent upon the distribution of infected tissues and outcomes may vary.
Species affected:	A wide range of tree species



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>Ophiostoma novo-ulmi</i> (Dutch Elm Disease)	
Symptoms/damage type and cause:	The first symptom is the yellowing of the leaves from July onwards. It spreads rapidly often causing death in the same season - it is very rare for a tree to survive once the fungus has occurred. Dark brown streaks are evident when the bark and outer wood are peeled from the infected branches. Brown blotches may also be seen on infected branches if they are cut cleanly in a transverse section. The tree is infected by the Elm Bark Beetle which carries the disease (through fungal spores on their backs). Once active in the tree, the fungus produces yeast like cells in the wood which are transported within the trees water conducting tissues. These cause blockages of the tissue and hence both the wilting of the leaves and the brown staining of the infected wood mentioned above. Galleries (tunnels) can be found between the bark and the wood where the beetles have fed and laid their eggs. The beetles eat through the bark of stems and larger limbs and thus form emergence holes which contribute to disease identification.
Consequence:	This is the most serious disease in Elm trees and is still common in Britain. Infected trees decline and die rapidly.
Control:	Control by fungicidal injections has been successful in specimen trees of high value however the cost of this recurrent procedure usually outweighs the value of the affected tree.
Species affected:	<i>Ulmus</i> spp. and <i>Zelkova</i>



Appendix B

Schedule of Trees

SCHEDULE OF TREES (AIA) North Bersted, West Sussex

Surveyed By: Liz Beckett

Date:

Managed By: Liz Beckett

TreeNo	Species	DBH Min Dist	Height Crown Base Lowest Branch	Visual Age	Crown Spread Water Demand Ground Cover	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
On site		RPA (m²)	Aspect	Aspect	SULE						
G001	Elm and Sycamore	300	10	Moderate	N2.5, E2, S2, W2	Restricted access and dense undergrowth restricting inspection therefore measurements estimated. Likelihood of infection with Dutch Elm Disease is considered to be reasonably high thus limiting the trees' SULE. One of the Elm and a Sycamore have chainlink fence embedded in their stems. Estimated stem diameters plotted. Not on TOPO.	U	No work required.	4	Fell to facilitate construction of proposed dwelling.	0
Yes		3.6 40.7	2		EM <10 years	Moderate Dense undergrowth, Off-site/no access					
G002	Ash, Birch, Hawthorn and Goat Willow	350	17	Moderate	N5, E5, S3, W5	Group of 15 trees comprising of Ash, Birch and Goat Willow with one off-site Hawthorn not plotted on topo. Three of the larger Raywood Ash have been unsympathetically pruned or have had branch failures as a result of included bark union failures which has compromised the trees amenity and SULE. Stems plotted individually. This group of trees has value in terms of the privacy and screening that it affords to the offsite residences. However, given the trees poor management and structural condition they should not be considered as a constraint to the development of the site. Consideration should be given to their replacement if removal is necessary to facilitate any proposed development.	C2	No work required.	4	Fell part as shown on drawing 9050-D-1.2-AIA Rev A to facilitate construction of proposed dwellings amenity space.	0
Yes		4.2 55.4	2		M 10+ years	Moderate Grass, Light undergrowth					
H001	Hornbeam and Hazel	20	3	Low	N1.5, E1, S1, W1	Unmaintained Hornbeam and Hazel hedge.	C2	No work required.	4	Fell to create amenity space for proposed dwellings.	0
Yes		0.24 0.2	0.5		EM 10+ years	Moderate Grass					
H002	Hawthorn and Hazel	50	2	Moderate	N1, E1, S1, W1	Maintained Hawthorn and Hazel hedge.	C2	No work required.	4	Fell to create amenity space for proposed dwellings.	0
Yes		0.6 1.1	0.1		M 10+ years	Moderate Grass					

TreeNo	Species	DBH Min Dist	Height Crown Base	Visual Lowest Branch	Visual Age	Crown Spread Water Demand Ground Cover	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
On site		RPA (m²)	Aspect	Aspect	SULE							
H003	Cypress	150	2		Moderate	N1, E1, S1, W1	Maintained Cypress hedge beginning to lapse.	C2	No work required.	4	Fell to create site access and driveways for proposed dwellings.	0
		1.8	0.1		EM	High						
Yes		10.2			10+ years	Grass, Tarmac, Block paving						
T001	Field Maple	430	7.5		Low	N4, E4.5, S4, W4	Restricted access therefore stem diameter estimated. Dense undergrowth impeding inspection. Good vigour. Not on TOPO.	C2	No work required.	4		
		5.16	0.5		EM	Moderate						
No		83.6			10+ years	Dense undergrowth						
T002	Field Maple	180	9		Low	N2, E2, S2, W2	Restricted access therefore stem diameter estimated. Dense undergrowth impeding inspection. Good vigour. Not on TOPO.	C2	No work required.	4		
		2.16	1.5		SM	Moderate						
No		14.7			10+ years	Dense undergrowth						
T003	Elm	200	7.5		Low	N3, E2.5, S2, W2	Twin stemmed with bark inclusion at fork. Within car tyre.	C2	No work required.	4	Fell to facilitate construction of proposed dwelling.	0
		2.4	0.5		SM	Moderate						
Yes		18.1			10+ years	Light undergrowth						
T004	Elm	280	9		Low	N2.5, E2, S2.5, W4	Multi-stemmed x3. Ivy. Squirrel damaged branches.	C2	No work required.	4	Fell to facilitate construction of proposed dwelling.	0
		3.36	0.5		SM	Moderate						
Yes		35.5			10+ years	Light undergrowth, Block paving						
T005	Cherry	320	7		Low	N4, E4, S3.5, W3.5	Plastic grass at base and triangular seat around stem. Thinning crown, reduced vigour, deadwood.	U	No work required.	4	Fell to facilitate construction of proposed driveway.	0
		3.84	0.5		M	Moderate						
Yes		46.3			<10 years	Light undergrowth						
T006	Hawthorn	500	7		Low	N3.5, E3, S3, W2	Restricted access therefore stem diameter estimated. Dense undergrowth and Ivy impeded inspection. Thinning crown. Not on TOPO.	C2	No work required.	4		
		6	0.5		M	Low						
Yes		113.1			10+ years	Dense undergrowth						
T007	English Oak	490	8.5		Moderate	N5, E5, S5, W4	Restricted access therefore stem diameter estimated. Dense undergrowth and Ivy impeded inspection. Twin stemmed. Not on TOPO.	C2	Remove Ivy and reinspect.	1		
		5.88	2		M	High						
Yes		108.6			10+ years	Dense undergrowth						

TreeNo	Species	DBH Min Dist	Height Crown Base	Visual Lowest Branch	Visual Age	Crown Spread Water Demand	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
On site		RPA (m²)	Aspect	Aspect	SULE	Ground Cover						
T008	English Oak	400	9.5		Moderate	N4.5, E4, S4, W5.5	Restricted access therefore stem diameter estimated. Dense undergrowth and Ivy impeded inspection. Thinning crown. Pendulous branch over sports field. Not on TOPO.	C2	Remove Ivy and reinspect.	1	Fell to facilitate construction of proposed driveway.	0
		4.8	1		M	High						
Yes		72.4			10+ years	Dense undergrowth, Grass						
T009	Copper Beech	190	5		Low	N3, E3, S3, W2.5	Poor vigour.	C2	No work required.	4	Fell to facilitate construction of proposed driveway.	0
		2.28	1		SM	Moderate						
Yes		16.3			10+ years	Grass, Dense undergrowth						
T010	English Oak	850	7		Moderate	N8.5, E9.5, S8, W7	Restricted access therefore stem diameter estimated. Dense undergrowth and Ivy impeded inspection. Pendulous branch over site. Deadwood. Not on TOPO.	B2	Remove Ivy and reinspect.	1	Crown lift to 2.5m over site, as shown in drawing 9050-D-1.2-AIA Rev A.	0
		10.2	0.5		M	High						
No		326.9			20+ years	Dense undergrowth						
T011	Cherry	300	10		Low	N3, E3.2, S3, W3.5	Bifurcates at 1 metre above ground level. Exudation from occluded pruning wound east aspect at approx. 1.7 metres above ground level.	C2	No work required.	4		
		3.6	0.5		EM	Moderate						
Yes		40.7			10+ years	Grass						
T012	Whitebeam	300	9.5		Moderate	N4.5, E4.5, S4, W4	Crossing branches and included bark between branches. Slight lean to south.	C2	No work required.	4	Crown lift to 2.5m.	0
		3.6	1		M	Moderate						
Yes		40.7			10+ years	Light undergrowth, Grass						
T013	Whitebeam	260	8		Low	N4, E4, S2, W4	Dysfunctional bark at crown break. Majority of crown dead.	U	Fell.	3		
		3.12	1		M	Moderate						
Yes		30.6			<10 years	Light undergrowth, Grass						
T014	Whitebeam	260	8.5		Moderate	N3, E3, S3, W3	Included bark at branch forks appear stable. Reasonable vigour.	C2	No work required.	4	Crown lift to 2.5m.	0
		3.12	2		M	Moderate						
Yes		30.6			10+ years	Grass, Light undergrowth						
T015	Cherry	330	6		Moderate	N3.5, E3, S3.5, W3	Mower damaged surface roots. Poor historic pruning. Included bark at branch forks appear stable.	C2	No work required.	4	Fell to facilitate construction of proposed dwellings.	0
		3.96	1		M	Moderate						
Yes		49.3			10+ years	Grass, Tarmac						

TreeNo	Species	DBH Min Dist	Height Crown Base	Visual Lowest Branch	Visual Age	Crown Spread Water Demand	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
On site		RPA (m²)	Aspect	Aspect	SULE	Ground Cover						
T016	Cherry	250	6		Moderate	N4, E3, S2.5, W1.5	Historic mower damage to stem north aspect.	C2	No work required.	4	Fell to facilitate construction of proposed dwellings.	0
		3	1		M	Moderate						
Yes		28.3			10+ years	Tarmac, Grass						
T017	Cherry	320	6		Moderate	N3.5, E2.5, S2.5, W2.5	Mower damaged surface roots. Poor historic pruning. Included bark at branch forks appear stable.	C2	No work required.	4	Fell to facilitate construction of proposed dwellings.	0
		3.84	1		M	Moderate	Longitudinal stem wound on western aspect extends approx. 1.2 metres.					
Yes		46.3			10+ years	Grass, Tarmac						
T018	Weeping Birch	190	6		Moderate	N3, E3, S2.5, W2.5	Disruption to block paving. Reasonable vigour.	C2	No work required.	4	Fell to facilitate construction of proposed driveway.	0
		2.28	0.1		M	Moderate						
Yes		16.3			10+ years	Block paving						
T019	Alder	460	17		High	N4, E2, S4.5, W4.5	Reasonable form and condition.	B2	No work required.	4	Fell to facilitate construction of proposed dwellings.	0
		5.52	1		M	Moderate						
Yes		95.7			20+ years	Grass, Tarmac						
T020	Alder	530	17		High	N3, E3, S4.5, W2	Reasonable form and condition.	B2	No work required.	4	Fell to facilitate construction of proposed dwellings.	0
		6.36	1		M	Moderate						
Yes		127.1			20+ years	Grass, Tarmac						
T021	Alder	600	17		High	N2, E4, S3, W5	Thinning upper crown. Nest in upper crown.	C2	Monitor annually physiological condition.	3	Fell to facilitate construction of proposed dwellings.	0
		7.2	2		M	Moderate						
Yes		162.9			10+ years	Grass, Tarmac						
T022	Elm	500	12.5		Moderate	N3.5, E3.2, S6, W3	Ivy congesting stem and crown and impeding inspection. Not on TOPO.	C2	Remove Ivy and reinspect.	1	Crown reduce as shown in drawing 9050-D-1.2-AIA Rev A.	0
		6	1		M	Moderate						
No		113.1			10+ years	Grass, Ivy						
T023	Field Maple	470	12		Moderate	N3, E3, S5.5, W3	Ivy congesting stem and crown and restricting inspection. Squirrel damage. Hanging broken branch on east aspect.	C2	Remove hanging broken branch. Remove Ivy and reinspect.	1	Crown reduce as shown in drawing 9050-D-1.2-AIA Rev A.	0
		5.64	2		M	Moderate						
Yes		99.9			10+ years	Light undergrowth, Tarmac, Grass						

TreeNo	Species	DBH Min Dist	Height Crown Base	Visual Lowest Branch	Visual Age	Crown Spread Water Demand	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
On site		RPA (m²)	Aspect	Aspect	SULE	Ground Cover						
T024	Cherry	280	7.5		Moderate	N4.5, E5, S2, W3.5	Tertiary branches touching adjacent single storey structure to east. Large stem Canker on south aspect at approx. 1.5 metres above ground level. Localised decay adjacent to Canker.	U	No work required.	4	Fell to facilitate construction of proposed dwellings.	0
		3.36	1		EM	Moderate						
Yes		35.5			<10 years	Grass, Tarmac, Light undergrowth						
T025	Cherry Laurel	440	6		Moderate	N5, E6, S5, W5	Multi-stemmed form bark inclusions between stems and partial fusing resulted in stem measurements being estimated. Stems and branches abraded by adjacent wall and storage structure.	C2	No work required.	4	Fell to facilitate construction of proposed dwellings.	0
		5.28	0.1		M	Moderate						
Yes		87.6			10+ years	Building, Tarmac, Light undergrowth						

Appendix C

Schedule of Works - Irrespective of Development

SCHEDULE OF WORK IRRESPECTIVE OF DEVELOPMENT

North Bersted, West Sussex

Surveyed By: Liz Beckett

Surveyed:

Managed By: Liz Beckett

Tree No.	Species	Work required	Priority
T007	English Oak	Remove Ivy and reinspect.	1
T008	English Oak	Remove Ivy and reinspect.	1
T010	English Oak	Remove Ivy and reinspect.	1
T022	Elm	Remove Ivy and reinspect.	1
T023	Field Maple	Remove hanging broken branch. Remove Ivy and reinspect.	1
T013	Whitebeam	Fell.	3

Schedule of Enhanced Monitoring

North Bersted, West Sussex

Surveyed By: Liz Beckett

Surveyed:

Managed By: Liz Beckett

Tree No.	Species	Work required	Priority
T021	Alder	Monitor annually physiological condition.	3

Appendix D

Preliminary Schedule of Works to Allow Development

SCHEDULE OF WORKS (AIA)

North Bersted, West Sussex

Surveyed By: Liz Beckett

Surveyed:

Managed By: Liz Beckett

Tree No.	Species	Work required	Priority
G001	Elm and Sycamore	Fell to facilitate construction of proposed dwelling.	0
G002	Ash, Birch, Hawthorn and Goat Willow	Fell part as shown on drawing 9050-D-1.2-AIA Rev A to facilitate construction of proposed dwellings amenity space.	0
H001	Hornbeam and Hazel	Fell to create amenity space for proposed dwellings.	0
H002	Hawthorn and Hazel	Fell to create amenity space for proposed dwellings.	0
H003	Cypress	Fell to create site access and driveways for proposed dwellings.	0
T003	Elm	Fell to facilitate construction of proposed dwelling.	0
T004	Elm	Fell to facilitate construction of proposed dwelling.	0
T005	Cherry	Fell to facilitate construction of proposed driveway.	0
T008	English Oak	Fell to facilitate construction of proposed driveway.	0
T009	Copper Beech	Fell to facilitate construction of proposed driveway.	0
T010	English Oak	Crown lift to 2.5m over site, as shown in drawing 9050-D-1.2-AIA Rev A.	0
T012	Whitebeam	Crown lift to 2.5m.	0
T014	Whitebeam	Crown lift to 2.5m.	0
T015	Cherry	Fell to facilitate construction of proposed dwellings.	0
T016	Cherry	Fell to facilitate construction of proposed dwellings.	0
T017	Cherry	Fell to facilitate construction of proposed dwellings.	0
T018	Weeping Birch	Fell to facilitate construction of proposed driveway.	0
T019	Alder	Fell to facilitate construction of proposed dwellings.	0
T020	Alder	Fell to facilitate construction of proposed dwellings.	0
T021	Alder	Fell to facilitate construction of proposed dwellings.	0
T022	Elm	Crown reduce as shown in drawing 9050-D-1.2-AIA Rev A.	0
T023	Field Maple	Crown reduce as shown in drawing 9050-D-1.2-AIA Rev A.	0
T024	Cherry	Fell to facilitate construction of proposed dwellings.	0
T025	Cherry Laurel	Fell to facilitate construction of proposed dwellings.	0

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.

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: <table><tr><td>Low</td><td>An inconsequential landscape feature.</td></tr><tr><td>Moderate</td><td>Of some note within the immediate vicinity, but not significant in the wider context.</td></tr><tr><td>High</td><td>Item of high visual importance.</td></tr></table>	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.
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.

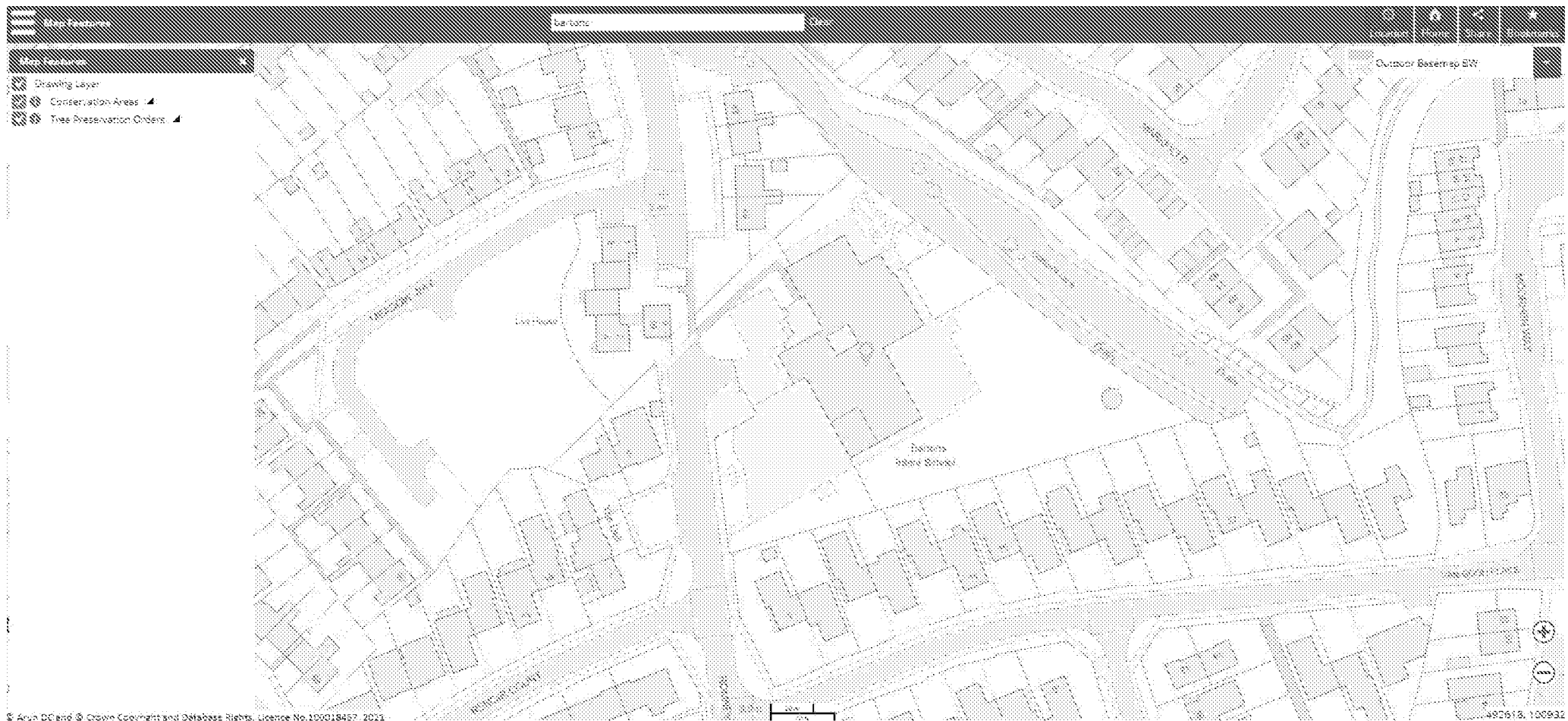


Access Facilitation Pruning	One-off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site.
Arboricultural Method Statement	Methodology for the implementation 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 F

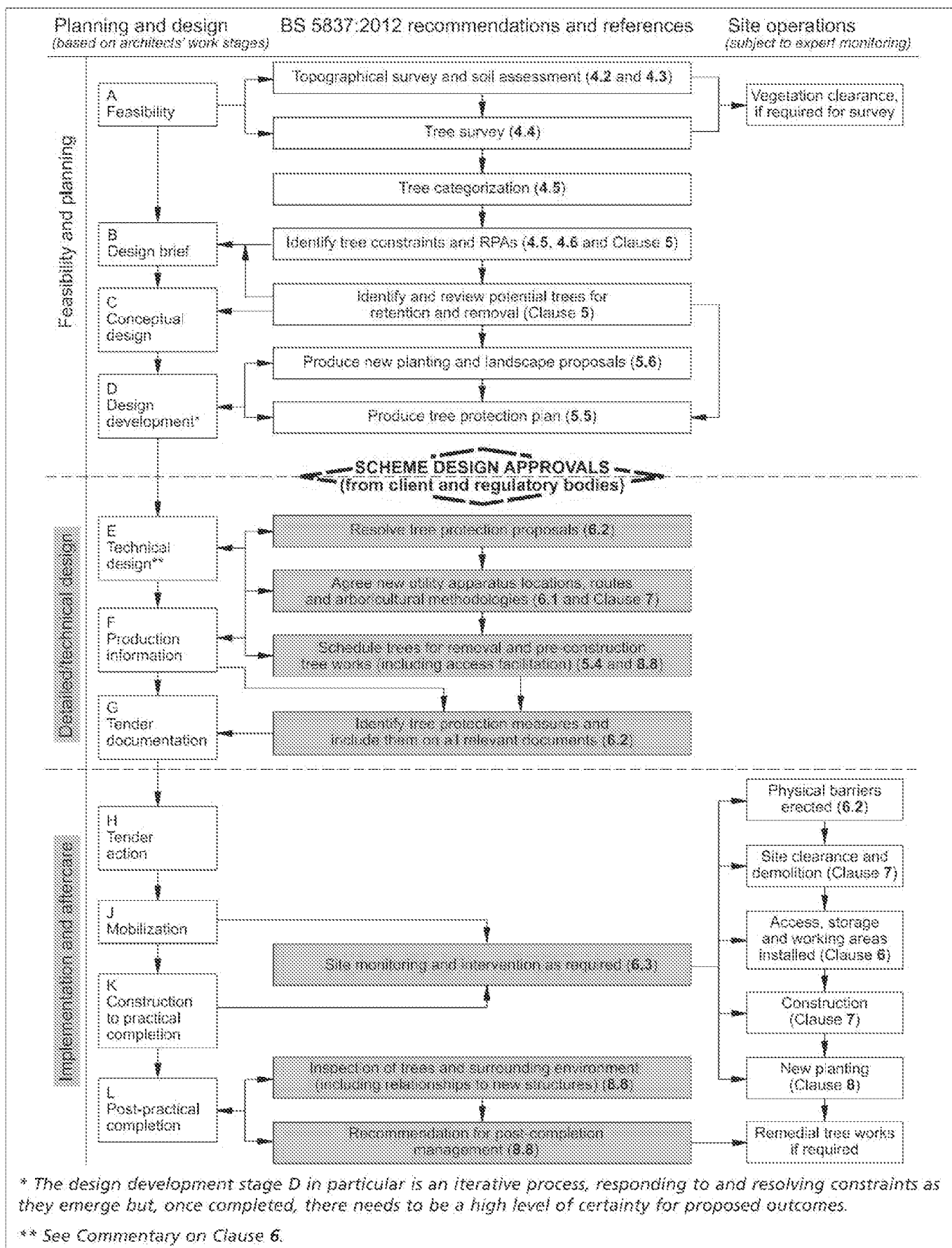
Tree Preservation Order Enquiry/Response



Appendix G

Advisory Information & Sample Specifications

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



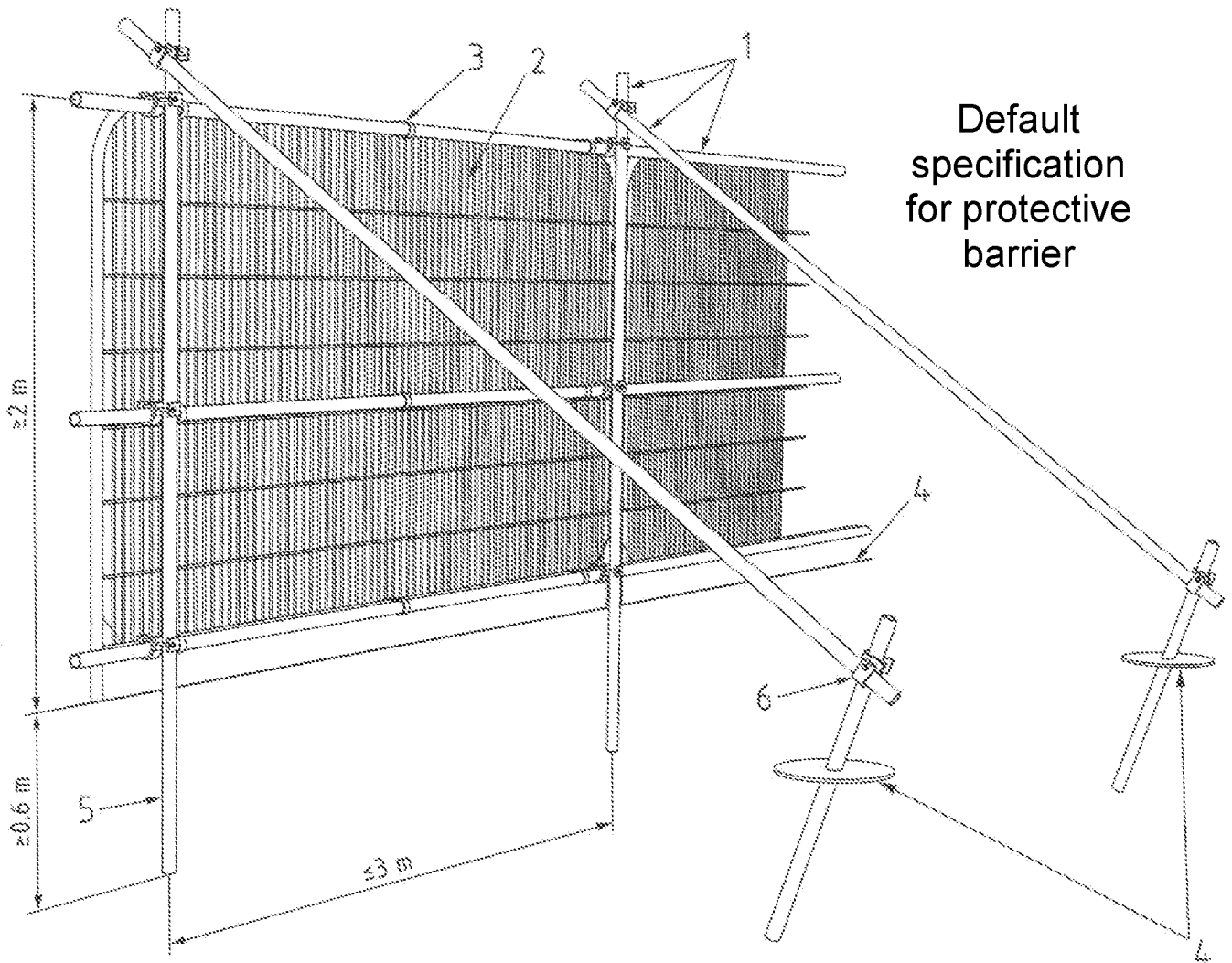
European Protected Species and woodland operations. (V4)

Complete all sections of the Checklist



Checklist		Details
1	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 - ☐ Dormice ☐ Otters ☐ Great crested newts ☐ Sand lizards ☐ Smooth snakes YES NO	Name of Wood:
		Grid Reference:
		Area: (ha)
		Date of Assessment:
		Name of Assessor:
2	Does your wood contain any of the following habitats? Tick any that apply. ☐ Old trees with holes and crevices which might be used by bats ☐ Species rich scrub/coppice, early growth stage plantations and forest interfaces ☐ Rivers on which otters might be found ☐ Ponds which might be occupied by great crested newts ☐ Open areas on healthy soils YES NO	
3	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: ☐ National Biodiversity Network (www.bbn.org.uk) ☐ Local Biological Records Centre ☐ Local Wildlife Trust ☐ Other Specify Other: YES NO	
4	Have your inspections or any expert surveys found any of the following signs or evidence? Tick any that apply. ☐ Signs (e.g. otter spraint, nuts gnawed by dormice, leaves folded by newts) ☐ Sightings (or echo-location) ☐ Potential breeding or roosting sites (e.g. veteran trees, old trees with crevices, riverside hollow trees, ponds, timber stacks, large fallen deadwood) ☐ Confirmed breeding or roosting sites (i.e. evidence of sites actually being used) Details: YES NO	
CHECK POINT If you have answered NO to ALL of the above then only bats need to be considered in your operations. If you have answered YES to any of the above then the species concerned must be considered as well as bats.		
		Notes
5	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? Details: Use reverse of form to expand as required: YES NO	A licence is not required but continue to sections 6 and 7 below You will need to obtain a licence BEFORE carrying out the work (see EPS Licence Application Forms and Notes)
6	<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. ☐ Included in documentation (e.g. contract, letter of instruction, site assessment or other management plan) ☐ Shown to operators and/or their supervisor ☐ Marked with paint or hazard tape ☐ Shown on the site plan Other means: YES NO	You may commit an offence if you do not tell your operators about the protected species in your wood.
7	Have arrangements for supervision been made to ensure Good Practice guidance is complied with during the operations? Details: YES NO	You may commit an offence if you do not take steps to ensure that your operators comply with the Good Practice guidance.

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

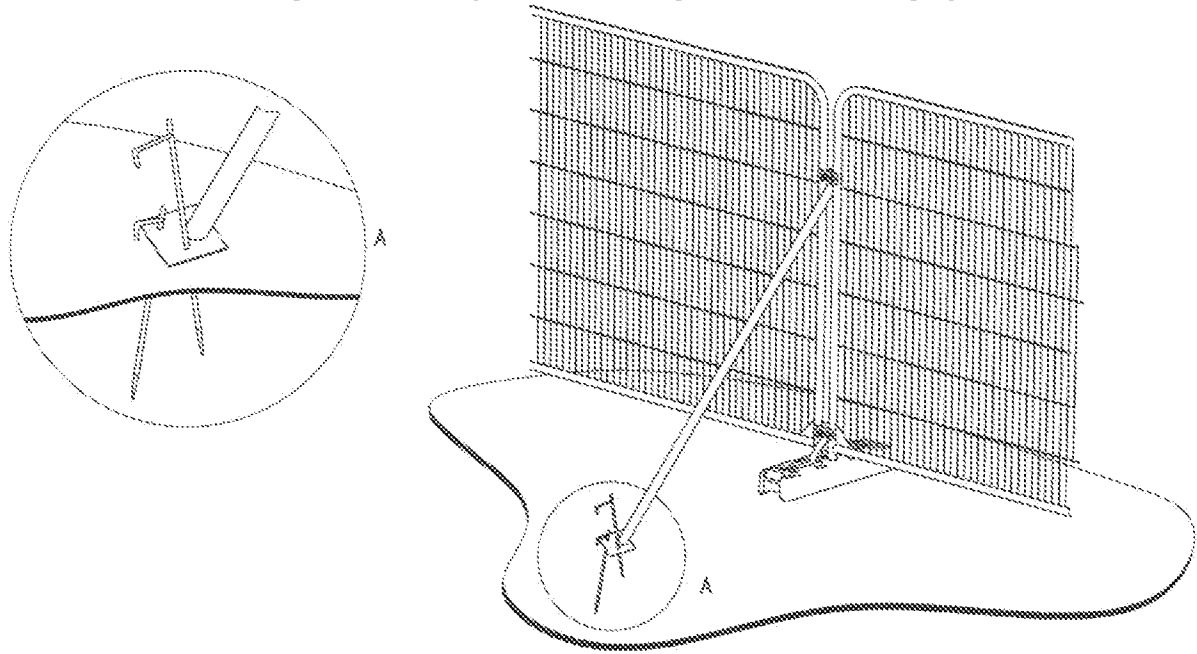


Default
specification
for protective
barrier

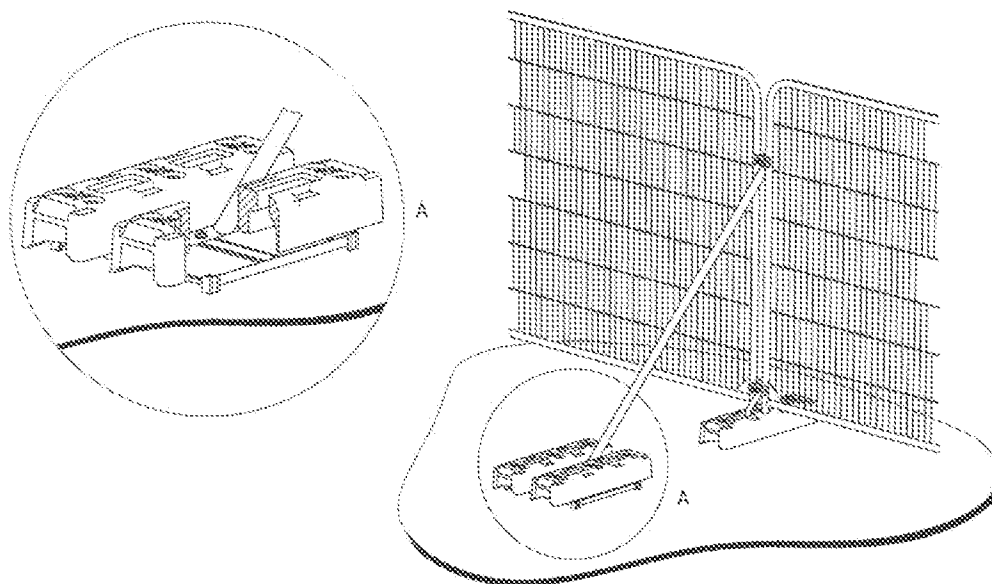
Key

- 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



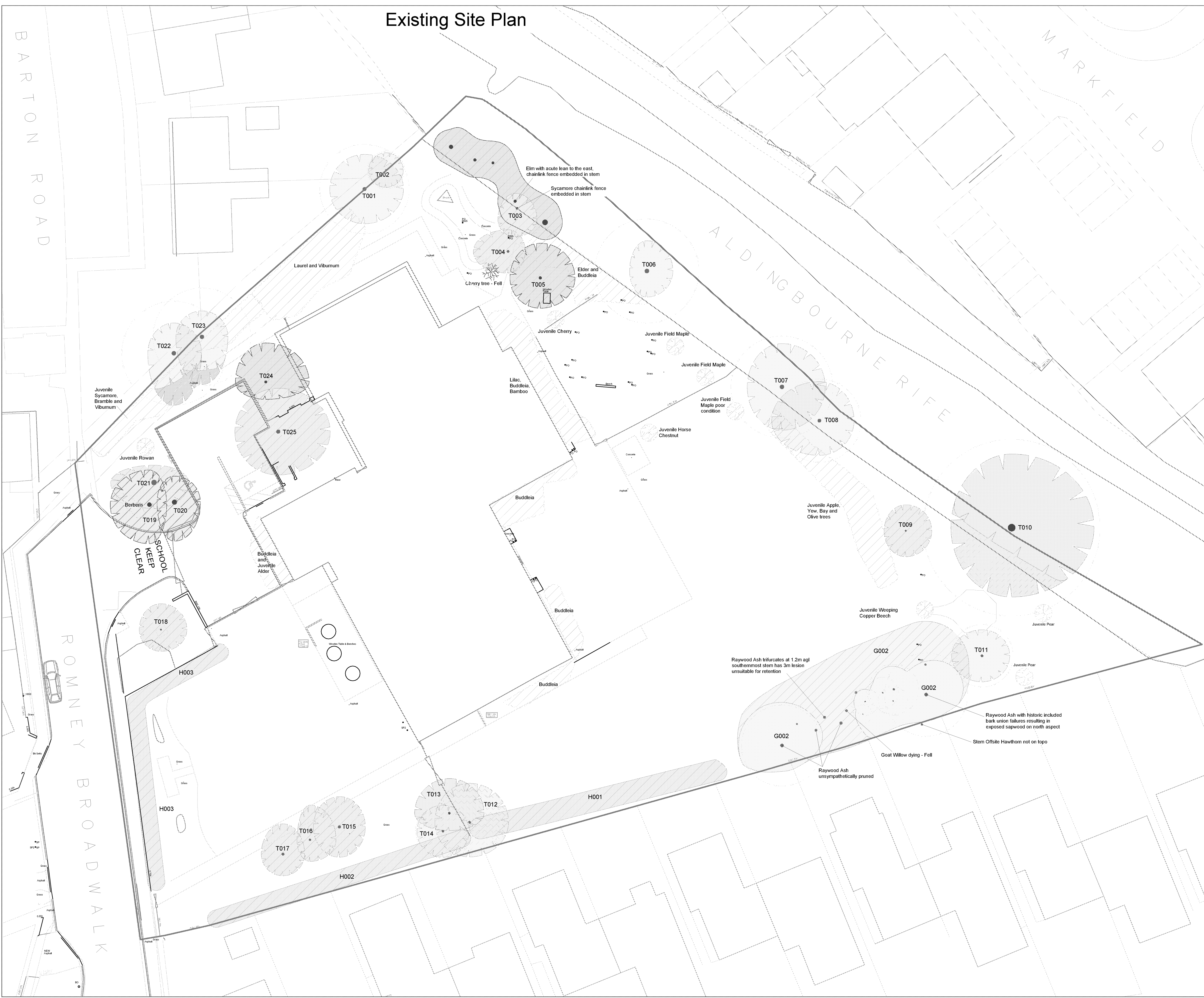
a) Stabilizer strut with base plate secured with ground pins



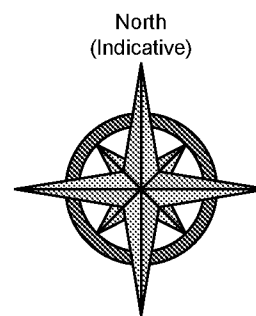
b) Stabilizer strut mounted on block tray

Appendix H

Hayden's Drawing



CATEGORY AND DEFINITION	
Trees unsuitable for retention	
Category U	Those in such condition that they cannot realistically be retained as living trees in the current land use for longer than 10 years
Trees to be considered for retention	
Category A	Trees of high quality with an estimated remaining life expectancy of at least 40 years
Category B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years
Category C	Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
NOTE:	
Hayden's Arboricultural Consultants were provided with a Topographical Survey but these do not always show the positions of all the trees/features on site. The locations of any additional features have been fixed using GPS. As such the position of the trees/landscape features should not be taken as exact but gives a fair distribution of their locations on site.	



LEGEND	
	Existing Tree/Feature BS 5837:2012 Category B
	Existing Tree/Hedge to be crown lifted to allow for development
	Existing Tree/Feature BS 5837:2012 Category C
	Existing Tree/Hedge to be crown lifted to allow for development
	Trees which require crown reduction to facilitate the prospective development
	Existing Tree/Feature BS 5837:2012 Category U
	Line of Root Protection Area (RPA) - calculated following guidelines set in BS 5837:2012
	Existing Tree/Feature to be Removed BS 5837:2012 Category U
	Existing Tree/Hedge to be removed to allow for development BS 5837:2012 Category B
	Existing Tree/Hedge to be removed to allow for development BS 5837:2012 Category C
	Existing Tree/Hedge to be removed to allow for development BS 5837:2012 Category U
	Additional feature which doesn't meet BS 5837:2012 categorisation but is included for reference
	Additional feature which doesn't meet BS 5837:2012 categorisation to be removed for development
	Dead or Dying Tree
	Line of proposed temporary protective barrier
	Area of temporary Ground Protection
	Proposed development within and close to the RPA to be constructed following the No Dig Specification

A	23/03/2022	KFJ	Drawing updated to reference additional trees from G002 for retention as referenced from HED Drawing: 1444-HD-DR-02-008 Rev E
	10/02/2022	KFJ	Based on Subvision Surveys Ltd Topographical Survey Drawing: 58-LOV-001 Rev 4 & HED Proposed Site Plan: 1444-HD-DR-005 A
Rev	Date	By	Revised
The position, condition, and dimensions of the trees are based on a site survey undertaken on 01/09/21			
"The original of this drawing was produced in colour - a monochrome copy should not be relied upon"			
Scale 1:200			
0m 4m 8m 12m 16m 20m			
© HAYDEN'S 2021			
5 Moseleys Farm Business Centre Fornham All Saints, Bury St Edmunds Suffolk IP28 6JY			
www.treesurveys.co.uk		Head Office: 01284 765391 Southern Office: 01722 657423 Email: info@treesurveys.co.uk	
Drawn	Hyland Edgar Driver	Drawing Title	TS & AIA
Site	North Bersted, West Sussex, PO22 9BH		
Date	23/03/2022	Drawn By	KFJ
Scale	1:200 (A1)	Checked By	LB
		Drawn No	9050-D-1.2-AIA
		Rev	A

- 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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