HAYDEN'S
Arboricultural Consultants

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

Proj. No **8619**	**11 Highgate West Hill, Highgate, London N6 6JR**		
Client:		Myles Payne	
Date of Report:	11/02/2021	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 enlarge the existing front basement and incorporate a lightwell and construct a new rear basement and ground floor extension. As a result, eleven individual trees and one group of trees were inspected. The arboricultural related implications of the proposal are as follows:

1 It is not necessary to fell any trees or landscape features in order to achieve the proposed layout. Additionally, no trees or landscape features require surgery to permit construction.

2 The alignment of the basement and rear extension do not encroach within the Root Protection Area (RPA) 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.

3 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 (foundation design and external wall design, item 4.4.1)

4 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 and ground protection are installed as detailed at items 4.6 and 5.1 of this report.

5 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, project phasing and an auditable monitoring schedule.

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

Contact Details

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1.0 Introduction

1.1 Terms of Reference

1.1.1 Hayden's Arboricultural Consultants Limited has been commissioned by Myles Payne to prepare a Tree Survey, Arboricultural Impact Assessment, Preliminary Arboricultural Method Statement and Preliminary Tree Protection Plan for the existing trees at 11 Highgate West Hill, Highgate, London, N6 6JR.

1.1.2 The site survey was carried out on 27/01/2021. 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 on 21st January 2021 from Myles Payne
- Topographical survey – drawing no. EX4
- Proposed site layout – drawing no. – 2006-D.01 to 2006-D.16

2.0 The Site

2.1 Overview

2.1.1. The site is 11 Highgate West Hill, Highgate, London, N6 6JR. The site rises steeply from street level and has two pedestrian sets of stairs accessing the property centrally situated on the front boundary and immediately adjacent to the northern boundary. The trees surveyed on and adjacent to site were found to be of mixed species and maturity and provide a range of amenity benefits to the local area.

2.2 Soils

2.2.1 The soil type commonly associated with this site are slowly permeable and seasonally wet, slightly acid but base-rich loams and clays. They are of moderate fertility and mainly support seasonally wet pastures and woodlands type habitats. This soil type constitutes approximately 19.9% of 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 Tree Preservation Order

The Local Planning Authority (LPA), London Borough of Camden Council, have deemed it appropriate to provide statutory protection to trees on and neighbouring this site through the serving of a Tree Preservation Order (TPO). The effect of this on anyone wishing to undertake work on protected trees is to require them to first obtain written permission from London Borough of Camden Council. The purpose of this process is to try to ensure that the works are appropriate, proportionate and in keeping with the long-term aims of the TPO. However, given that trees are living organisms and the locality within which they are set is liable to change, it is often the case that the situation relating to TPO applications requires regular review to reflect the current situation rather than the historical perspective of the original date of protection.

There are certain circumstances where written permission from the LPA may not be necessary before undertaking works. These include;

- Making a tree safe if it is an imminent threat to people or property.
- Removing deadwood or a dead tree.

Anyone wishing to undertake work as an exception to the application process **are required** to provide the LPA with 5 days' notice prior to attending to a tree which they deem as being dead or dangerous; unless such works are required in an emergency. It is the tree owner's responsibility to provide proof that the tree was indeed dead or dangerous should this exception be challenged; hence, it is advisable always to request an inspection by the LPA prior to carrying out such operations. Furthermore, even in the event of an emergency situation there is still a duty to notify the LPA that work has been completed including supplying an explanation of the necessity.

Failure to comply with the requirements of TPO legislation can lead to a maximum fine of up to £20,000 per tree in the Magistrates Court. Fines in the Crown Court are unlimited.

Following our enquiry, the LPA did not supply a copy of the schedule or plan identifying which trees are covered under the above Order. As such it has not been possible to identify the protected trees within this report.

2.3.2 **Conservation Area**

The site is located within a locality specifically identified by London Borough of Camden Council as a "Conservation Area". This is a planning designation that seeks to provide control over the built environment but which also has provision for tree protection. The effect of this on anyone wishing to undertake work to trees within a Conservation Area is to require them to submit 6 weeks written notice detailing the work they plan to undertake. No work may be carried during the 6-week period unless written permission has been received from London Borough of Camden Council. The LPA can only prevent works notified to them within the 6-week period by serving a Tree Preservation Order. There is a right to object to the serving of the Order.

There are certain circumstances where written permission from the LPA may not be necessary before undertaking works. These include;

- Making a tree safe if it is an imminent threat to people or property.
- Removing deadwood or a dead tree.
- Trees with stem diameters of less than 75mm (measured at 1.5m from ground level). If the works being carried out are to help promote the growth of other trees then trees with stem diameters of less than 100mm (at 1.5m) may be removed or pruned.

Anyone wishing to undertake work as an exception to the written notification process are **required** to provide the LPA with 5 days' notice prior to attending to a tree which they deem as being dead or dangerous; unless such works are required in an emergency. It is the tree owner's responsibility to provide proof that the tree was indeed dead or dangerous should this exception be challenged; hence, it is advisable always to request an inspection by the LPA prior to carrying out such operations. Furthermore, even in the event of an emergency situation, there is still a duty to notify the LPA that work has been completed including supplying an explanation of the necessity. Failure to comply with the requirements of Conservation Area legislation can lead to a maximum fine of up to £20,000 per tree in the Magistrates Court. Fines in the Crown Court are unlimited.

2.3.3 If detailed planning permission is granted and as part of the relevant approval works (felling or surgery) to trees located within a Conservation Area or subject of a TPO are agreed as acceptable by the LPA , no additional written permission to proceed will be required provided that:

(i) the planning permission remains live
(ii) the works are in strict accordance with the specification of the extant planning permission
(iii) the works are being completed solely to implement the detailed planning permission.

3.0 Tree Survey

3.1 As part of this survey a total of eleven individual trees and one group of trees have been identified. These have been numbered T001 – T011 and G001 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. 8619-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 (if required) are listed in the attached Schedule of Trees.

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

T008	Monitor annually (stem decay)

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 enlarge the existing front basement and incorporate a lightwell and construct a new rear basement and ground floor extension within the site's curtilage.

4.2 Access

4.2.1 Site access is encumbered by the theoretical Root Protection Area (RPA) of the following retained tree – T011. In this case the existing access (i.e. footpath) is set circa .1m below the base of the tree's stem and beyond a retaining boundary wall.

It is therefore considered unlikely that roots from this tree will have extended beneath the footpath and within the existing area of lawn, as identified on the attached drawing no. 8619-D-AIA. Nevertheless, the existing hard surfacing will be retained thereby ensuring the tree's theoretical RPA is safeguarded.

4.2.2 Site access is encumbered by the RPA of one further retained tree – T009. Although this has been used as a regular pedestrian site access, it is considered unlikely to be sufficiently robust to protect the vulnerable tree roots during the construction process. From a purely arboricultural perspective, it will therefore be necessary to install ground protection at the location shown on the attached drawing no. 8619-D-AIA. This must be installed as a first stage of development, immediately after the installation of protective fencing.

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. Other than the provision of protective fencing and ground protection, 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 RPA of any trees to be retained. From an arboricultural perspective, no specialised construction or foundation techniques will therefore 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's retention on the basement's foundation and external wall design.

4.4.2 Installation of new hard surfaces does not encroach within the RPA of any retained trees. From a purely arboricultural perspective, it will therefore not be necessary for these items to be of specialist design.

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 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 construction, protective fencing and ground protection will be installed on site. This must be fit for purpose, in full accordance with the requirements of BS 5837:2012 and positioned as shown on the attached drawing no. 8619-D-AIA. 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 and movement of materials). 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 auditable monitoring schedule to assess the progress of key site events/activities.

4.10 Access Facilitation Pruning

4.10.1 It is not necessary to undertake access facilitation pruning (AFP) to any retained trees or landscape features to meet the needs of this proposal (e.g. crown lifting, reducing, reshaping or root pruning).

4.11 Landscape Implications

4.11.1 It is not necessary to fell any trees in order to achieve the proposed layout.

4.12 Post Development Implications

4.12.1 As there are no trees within the influencing distance of the proposed layout, there will be no reasonably predictable post development implications from an arboricultural perspective.

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. It is therefore recommended that all trees on or adjacent to the site be inspected on an annual basis.

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 and ground protection installed in the positions indicated on the attached Preliminary Arboricultural Impact Assessment & Tree Protection drawing no. 8619-D-AIA. This fencing and ground protection will be in accordance with the requirements of BS 5837:2012.

5.1.2 All fencing and ground protection provided for the safeguarding of trees will be installed prior to any 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 LPA.

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 LPA 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 LPA.

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. 8619-D-AIA. Any encroachment within this protected area will only be with the prior agreement of the LPA.

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 Levels

5.4.1 No alterations to soil levels within the RPA of retained trees are proposed. 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.

5.4.2 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.

5.4.3 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 granite. All hard surfaces will be of suitable specification to allow such gaseous diffusion, e.g. brick pavers.

5.5 Services

5.5.1 At the time of writing this report no details on proposed services were available. However, it is expected that all new services will connect to existing services within the property. If this is not possible, the following principles should be adhered to when planning for their installation.

5.5.2 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.

5.5.3 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.

5.5.4 All service runs/trenches where they encroach within the RPA of retained trees will be agreed with the LPA prior to commencement of works.

5.6 Reporting and Monitoring Procedures

5.6.1 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 LPA and appropriate action taken only with the prior permission of Myles Payne and the LPA.

6.0 Recommendations

6.1 It is recommended that the measures detailed 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 It is recommended that in view of the siting and design of the layout, the lack of impact on trees and landscape features within the immediate vicinity, together with the detailed tree protection measures listed in this report, the trees should not be considered a constraint on the proposed development.

6.3 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, project phasing and an auditable monitoring schedule.

6.4 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.

6.5 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 LPA, cannot be the responsibility of this practice.

7.0 Limitations & Qualifications

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

General exclusions

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

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

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

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

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

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

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

Signed:

February 2021
For and on Behalf of Hayden's Arboricultural Consultants Limited

8.0 References

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

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

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

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

NJUG 4 Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees. Issued 16 November 2007.
British Standards Institute. (1999). *Code of Practice for Site Investigations BS 5930:1999* HMSO, London.

Roberts, J., Jackson, N. & Smith, M. (2006). *Research for Amenity Trees No.8: Tree Roots in the Environment*: Department for Communities and Local Government, HMSO, London.

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

9.0 Appendices

Appendix	**A**	Species List & Tree Problems
Appendix	**B**	Schedule of Trees
Appendix	**C**	Schedule of Works - Irrespective of Development
Appendix	**D**	Explanatory Notes
Appendix	**E**	Tree Preservation Order Enquiry/Response
Appendix	**F**	Advisory Information & Sample Specifications

1. BS 5837:2012 Figure 1 - Flow Chart – Design and Construction & Tree Care
2. European Protected Species and Woodland Operations Checklist (v.4)
3. BS 5837:2012 Figure 2 - Default specification for protective barrier
4. BS 5837:2012 Figure 3 - Examples of above-ground stabilising systems

Appendix	**G**	Drawing no. 8619-D-AIA

Appendix A - Species List & Tree Problems

Species List:

Apple	*Malus sp*
Bay Laurel	*Laurus nobilis*
English Yew	*Taxus baccata*
Himalayan Birch	*Betula utilis*
Holm Oak	*Quercus ilex*
Horse Chestnut	*Aesculus hippocastanum*
Magnolia	*Magnolia sp*
Norway Maple	*Acer platanoides*
Plum	*Prunus sp*

Tree Problems:

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

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

Name: *Hedera helix* **(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 whist relieving the pressure on the tree.
Species affected:	Most trees can be affected.
Images:	 

Appendix B

Schedule of Trees

SCHEDULE OF TREES (AIA) 11 Highgate West Hill, Highgate,

Surveyed By: Liz Beckett Date: 27/01/2021
Managed By: Liz Beckett

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						
On site		RPA (m²)	Aspect	Aspect	SULE	Ground Cover						
G001	7x Himalayan Birch	70	7.5		Moderate	N3, E2, S1, W2	Group of 7 x semi mature Himalayan birch. Good form and physiological condition. Stem diameters measure less than 75mm. Woodchip at base.	C2	No work required.	4		
		0.84	0-2m		Y	Moderate						
Yes		2.2			10+ years	Other						
T001	Holm Oak	240	4.5		Low	N0.5, E2.5, S2.5, W2	Topped/pollarded at 2 and 2.5m above ground level (agl) respectively, pollard point integrity sound. Crossing/fused branches. Low pendulous tertiary branches and crown asymmetry (crown over no.12 removed).	C1	No work required.	4		
		2.88	0-2m		EM	High						
Yes		26.1			10+ years	Gravel, Light undergrowth, Grass						
T002	Plum	220	5		Low	N1.5, E2, S1.5, W1	Offsite tree therefore stem diameter and crown spread estimated. Trifurcates at approx. 2.4m agl with central leader cankered and upper crown dead. Not plotted on topo.	C1	No work required.	4		
		2.64	2.1-4m		EM	Moderate						
No		21.9			10+ years	Shrub bed						
T003	Apple	450	6		Moderate	N4, E4, S4, W4	Offsite tree with no access therefore all measurements estimated approx. Cavities visible at crown break, full inspection not possible. Not plotted on topo.	C1	No work required.	4		
		5.4	0-2m		M	Moderate						
No		91.6			10+ years	Grass						
T004	Apple	130	2.5		Low	N0.1, E2, S0.1, W2	Espaliered apple. Bifurcates at approx. 1m agl. Western branch upper surface exposed and decayed.	C2	No work required.	4		
		1.56	0-2m		EM	Moderate						
Yes		7.6			10+ years	Grass, Bare earth						
T005	Apple	60	2		Low	N0.1, E1, S0.1, W2	Espaliered apple. Bifurcates at approx 70cm agl. Multiple stem and branch bark wounds.	C2	No work required.	4		
		0.72	0-2m		SM	Moderate						
Yes		1.6			10+ years	Bare earth, Light undergrowth, Grass						
T006	Magnolia	210	4.6		Low	N2.5, E1.5, S1, W2	Offsite tree therefore stem diameter and crown spread estimated. Twin stemmed from ground level. Not plotted on topo.	C2	No work required.	4		
		2.52	0-2m		EM	Moderate						
No		20			10+ years	Shrub bed						

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						
On site		RPA (m^2)	Aspect	Aspect	SULE	Ground Cover						
T007	Horse Chestnut	620	11.5		Moderate	N2.5, E3.5, S5.5, W5	Offsite tree therefore stem diameter and crown spread measurements estimated. As well as the garden boundary fencing there is a brick wall separating the tree from site measuring a metre in height. The tree has been crown reduced routinely and lateral branches extending over the garden have been shortened or removed. Cavities visible at pruning points. Historically pollarded at approx. 4m agl with 4 stems emanating from pruning point.	B2	No work required.	4		
		7.44	2.1-4m		M	Moderate						
No		173.9			20+ years	Tarmac, Shrub bed						
T008	Magnolia	280	10		Low	N4, E4, S5, W2	Lean and crown asymmetry to north and east. Bark wound on southern aspect of stem from approx. 0.2 to 1m agl and at bifurcation point. Decay evident at fork on branch extending east, central stem also has bark wound ascending to approx. 3m agl and decay evident. Deadwood in crown	C1	Remove deadwood. Monitor annually (stem decay).	3		
		3.36	0-2m		M	Moderate						
Yes		35.5			10+ years	Grass						
T009	English Yew	710	7		High	N3.5, E3.5, S2, W3.5	Offsite tree therefore stem diameter and crown spread estimated. Twin stemmed from approx. 1m agl. Union appears stable. Cables attached to stem. Not plotted on topo.	B2	No work required.	4		
		8.52	0-2m		M	Moderate						
No		228			20+ years	Shrub bed						
T010	Bay Laurel	190	7		High	N3.5, E3, S3, W3	Multi stemmed coppice form with Ivy ascending into crown. Front lawn and access steps recently installed.	C2	No work required.	4		
		2.28	0-2m		M	Moderate						
Yes		16.3			10+ years	Bare earth, Grass						
T011	Norway Maple	450	16		High	N5.5, E4.5, S5.5, W6	Offsite tree stem diameter therefore estimated. Positioned at a higher elevation than site. Bifurcates at 3m. Reasonable form and physiological condition although some tip dieback evident. Not plotted on TOPO.	B2	No work required.	4		
		5.4	4.1-6m		M	Moderate						
No		91.6			20+ years	Block paving, Grass, Shrub bed						

Appendix C

Schedule of Works - Irrespective of Development

SCHEDULE OF WORK

11 Highgate West Hill, Highgate,

Surveyed By: Liz Beckett
Surveyed: 27/01/2021
Managed By: Liz Beckett

Tree No.	Species	Work required	Priority
T008	Magnolia	Remove deadwood.	**3**

Schedule of Enhanced Monitoring

11 Highgate West Hill, Highgate,

Surveyed By: Liz Beckett
Surveyed: 27/01/2021
Managed By: Liz Beckett

Tree No.	Species	Work required	Priority
T008	Magnolia	Monitor annually (stem decay).	**3**

Appendix D

Explanatory Notes

Explanatory Notes

HAYDEN'S Arboricultural Consultants

Categories

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

No Identifies the tree on the drawing.

Species Common names are given to aid understanding for the wider audience.

BS 5837 Main Category Using this assessment (BS 5837:2012, Table 1), trees can be divided into one of the following simplified categories, and are differentiated by cross-hatching and by colour on the attached drawing:

Category A - Those of high quality with an estimated remaining life expectancy of at least 40 years;

Category B - Those of moderate quality with an estimated remaining life expectancy of at least 20 years;

Category C - Those of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm;

Category U - Those trees in such condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

BS 5837 Sub Category Table 1 of BS 5837:2012 also requires a sub category to be applied to the A, B, C, and U assessments. This allows for a further understanding of the determining classification as follows:

Sub Category 1 - Mainly arboricultural qualities;

Sub Category 2 - Mainly landscape qualities;

Sub Category 3 - Mainly cultural values, including conservation .

Please note that a specimen or landscape feature may fulfil the requirements of more than one Sub Category.

DBH (mm) Diameter of main stem in millimetres at 1.5 metres from ground level. Where the tree is a multi-stem, the diameter is calculated in accordance with item 4.6.1 of BS 5837:2012.

Age Recorded as one of seven categories:

Y Young. Recently planted or establishing tree that could be transplanted without specialist equipment, i.e. less than 150 mm DBH.

S/M Semi-mature. An established tree, but one which has not reached its prospective ultimate height.

E/M Early-mature. A tree that is reaching its ultimate potential height, whose growth rate is slowing down but if healthy, will still increase in stem diameter and crown spread.

M Mature. A mature specimen with limited potential for any significant increase in size, even if healthy.

O/M Over-mature. A senescent or moribund specimen with a limited safe useful life expectancy. Possibly also containing sufficient structural defects with attendant safety and/or duty of care implications.

D Dead.

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

Work Required (AIA)	Identifies the tree work specifically necessary to allow a proposed development to proceed.
Priority	This gives a priority rating to each tree allowing the client to prioritise necessary tree works identified within the Tree Survey. **1** Urgent – works required immediately; **2** Works required within 6 months; **3** Works required within 1 year; **4** Re-inspect in 12 months, **0** Remedial works as part of implementation of planning consent.

BS 5837:2012 Terms and Definitions

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

Appendix E

Tree Preservation Order Response/Enquiry

Gabrielle Justesen

From: Curry, Rav <Rav.Curry@camden.gov.uk>
Sent: 26 January 2021 10:36
To: Gabrielle Justesen
Subject: RE: TPO Enquiry - 8619 - 11 Highgate West Hill, Highgate, N6 6JR

Importance: High

Hi Gabby

The whole of the area on your photo is within The Highgate Village Conservation Area and there is a TPO at the front of number 11 on a mature crab apple tree.

There are also several TPO just beyond the rear boundary at West Hill Court on Millfield Lane.

Regards

Rav Curry
Planning Assistant
London Borough of Camden

Telephone: 0207 974 3770

From: Gabrielle Justesen <Gabby@treesurveys.co.uk>
Sent: 22 January 2021 12:15
To: Planning <Planning@camden.gov.uk>
Subject: TPO Enquiry - 8619 - 11 Highgate West Hill, Highgate, N6 6JR

Dear Sir or Madam,

Could you please advise if the above mentioned site and adjacent areas (and the neighbouring properties) are covered by TPO or located within a Conservation Area?

I have attached a map for your use.

I look forward to hearing from you.

Kind regards

Gabby Justesen
Office Manager – Southern Office

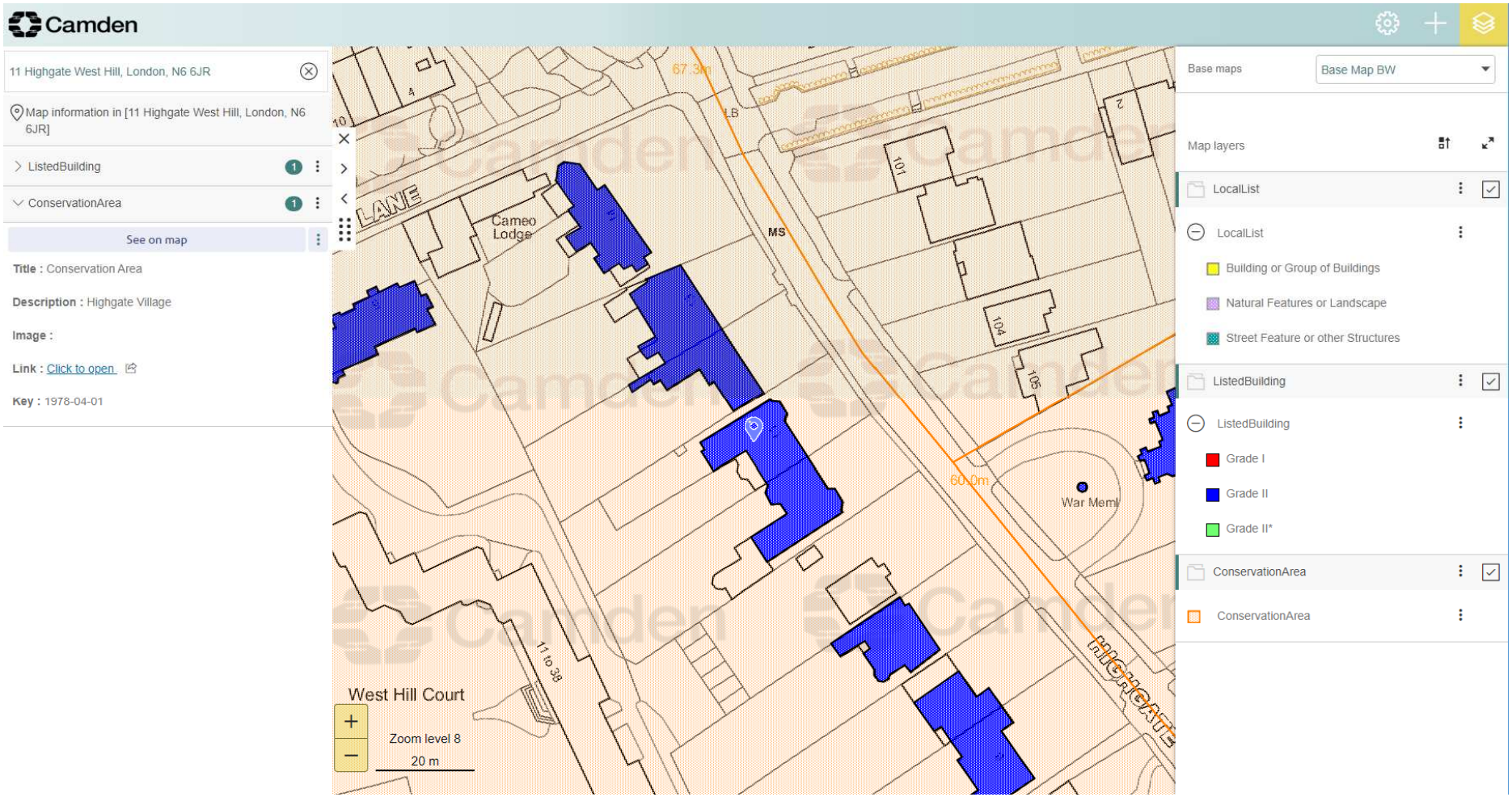
(Please note my working hours are 9am – 3pm)

CORONAVIRUS PROCEDURES:
Due to the nature of our work, a large percentage of the site work is lone working and consequently low risk. Therefore, we are still operating as normal providing we can lone work on site and avoid meetings, albeit with reduced staff numbers, meaning there shouldn't be any delay with the service you normally receive from Hayden's. If you have a site visit currently booked with us you will have been contacted by our Head Office. Our office-based staff are all working remotely. We remain vigilant and are carefully following the Government's advice on hygiene and quarantine/movement. We will update this notice as and when operating procedures may change. Rest assured we have both our clients' and employees' best interests at heart and will not compromise these in any way

Tel: 01722 657423 gabby@treesurveys.co.uk **www.treesurveys.co.uk**

Head Office: 5 Moseley's Farm Business Centre, Fornham All Saints, Bury St. Edmunds, Suffolk, IP28 6JY
Southern Office: Unit 6 Enterprise House, Cherry Orchard Lane, Salisbury, Wiltshire, SP2 7LD

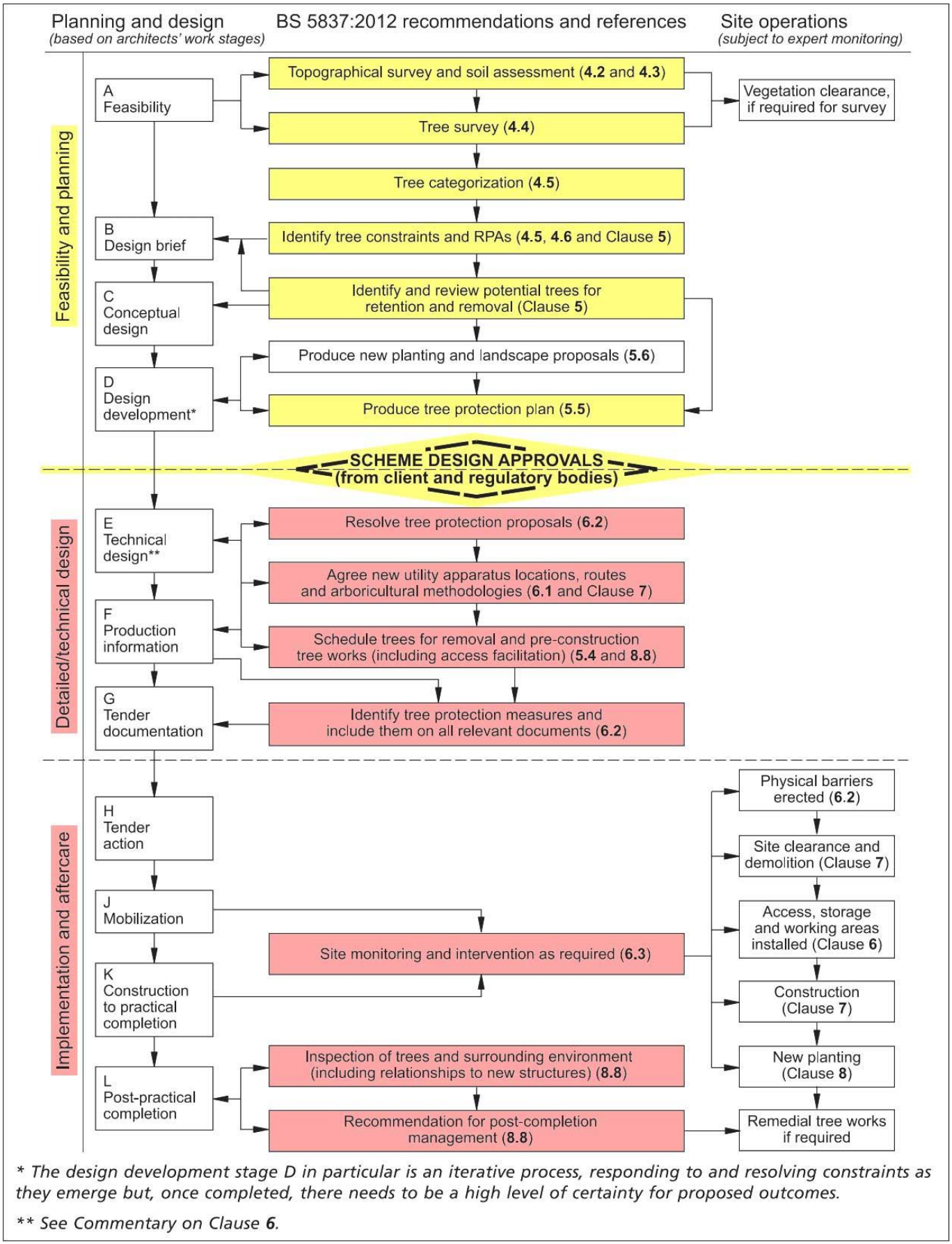
FACEBOOK TWITTER LINKEDIN INSTAGRAM


Camden
11 Highgate West Hill, London, N6 6JR
Map information in [11 Highgate West Hill, London, N6 6JR]
ListedBuilding 1
ConservationArea 1
See on map
Title : Conservation Area
Description : Highgate Village
Image :
Link : Click to open
Key : 1978-04-01
Cameo Lodge
West Hill Court
11 to 38
War Mem
60.0m
67.3m
Zoom level 8
20 m
Base maps
Base Map BW
Map layers
LocalList
Building or Group of Buildings
Natural Features or Landscape
Street Feature or other Structures
ListedBuilding
Grade I
Grade II
Grade II*
ConservationArea

Appendix F

Advisory Information & Sample Specifications

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



** The design development stage D in particular is an iterative process, responding to and resolving constraints as they emerge but, once completed, there needs to be a high level of certainty for proposed outcomes.*

*** See Commentary on Clause **6**.*

2.

European Protected Species and woodland operations. (V4)

Complete all sections of the Checklist

✔

Checklist

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 ☐

2 **Does your wood contain any of the following habitats? Tick any that apply.**

- ☐ Old trees with holes and crevices which might be used 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 heathy 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.nbn.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 ☐

Details

Name of Wood:

Grid Reference:

Area: (ha) .

Date of Assessment:

Name of Assessor:

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 ☐ A licence is not required but continue to sections 6 and 7 below

NO ☐ You will need to obtain a licence BEFORE carrying out the work (see EPS Licence Application Forms and Notes)

6 **Whether or not a licence is required...**
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 ☐

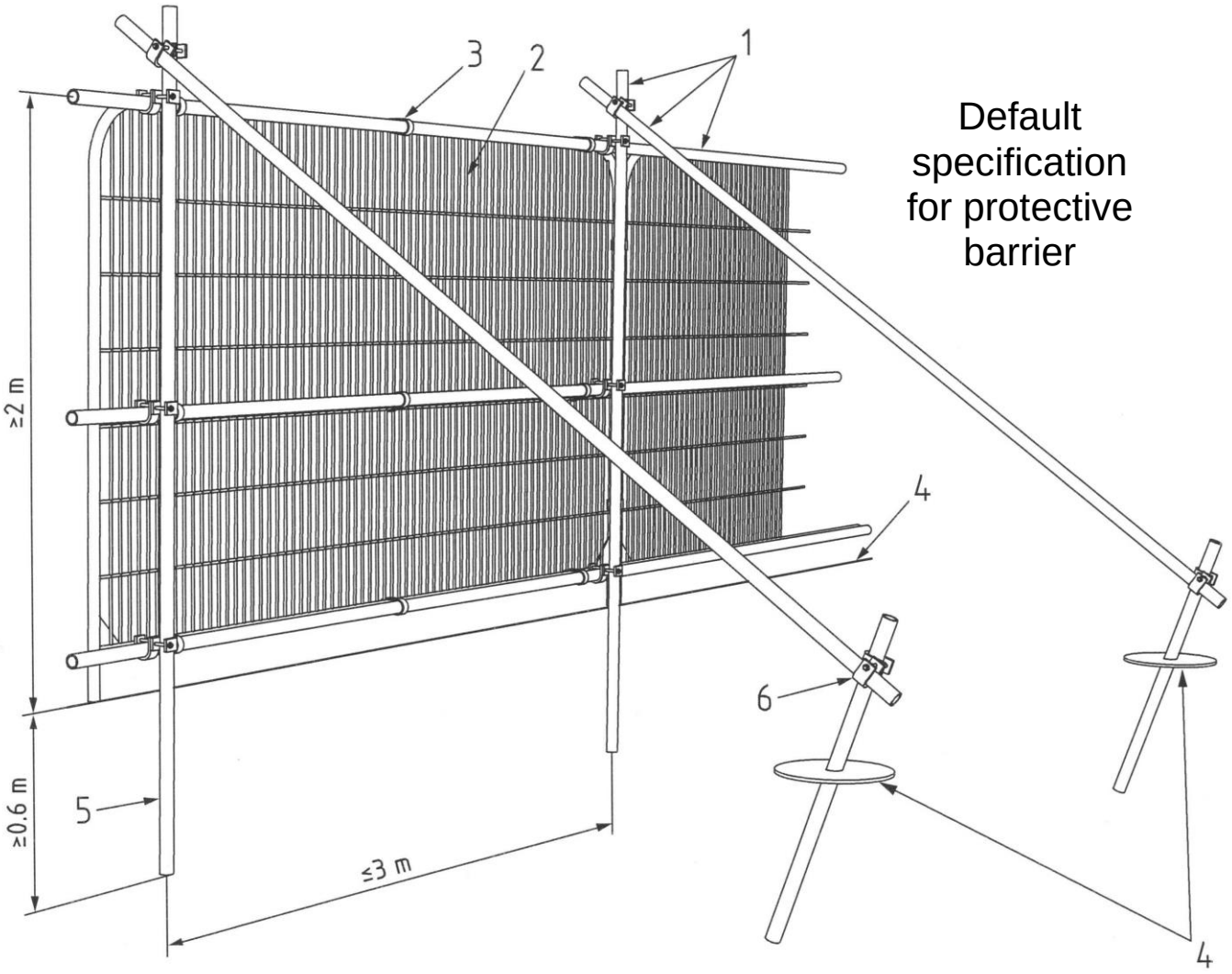
NO ☐ You may commit an offence if you do not tell your operators about the protected species in your wood.

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.

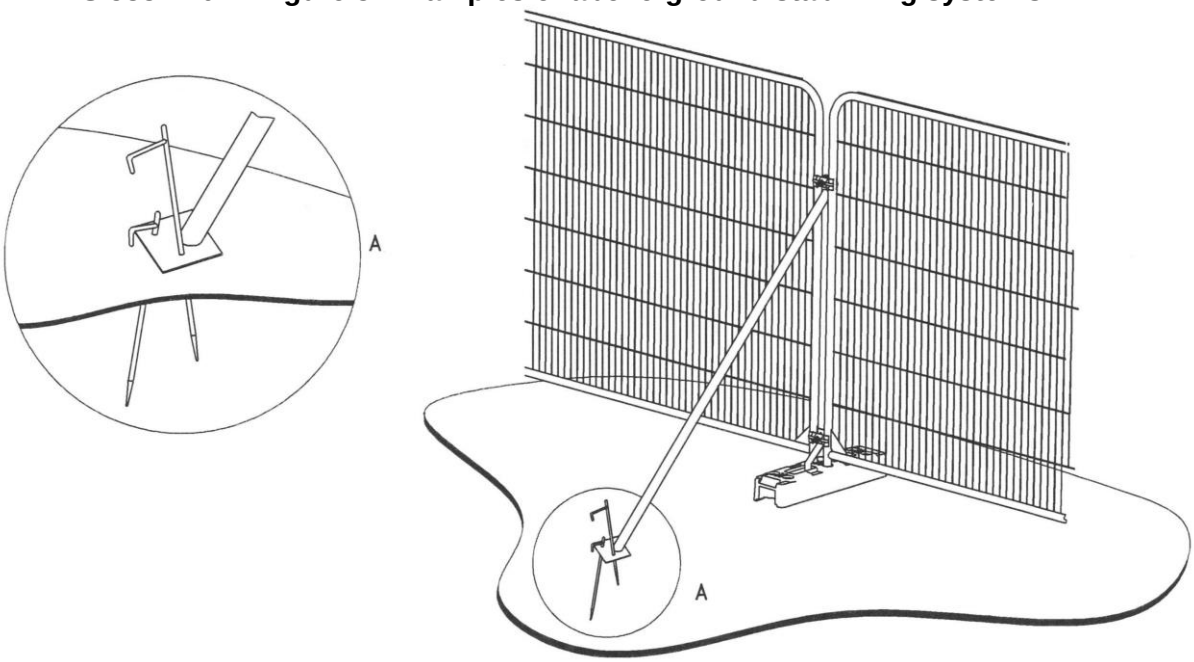
3. BS 5837:2012 Figure 2: Default specification for protective barrier



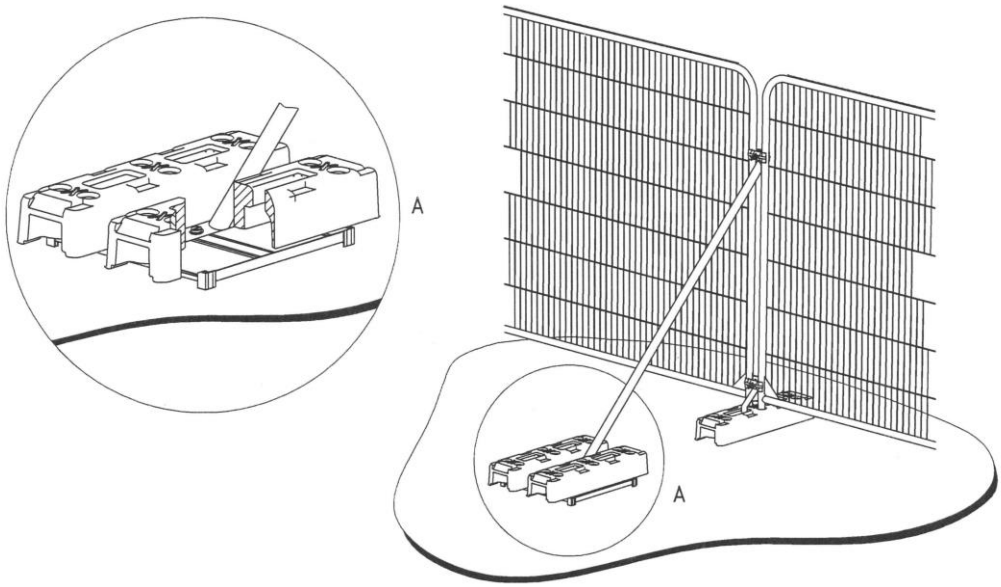
Key

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

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



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Appendix G

Haydens 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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