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

<table>
<thead>
<tr>
<th>Proj. No</th>
<th>5271</th>
<th>Rear of 258 Old Kent Road, London, SE1 5UB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client:</td>
<td></td>
<td>Arcademy Design</td>
</tr>
<tr>
<td>Date of Report:</td>
<td></td>
<td>12/04/2016</td>
</tr>
</tbody>
</table>
# Contact Details

<table>
<thead>
<tr>
<th>Client – Arcademy Design</th>
<th>Contact</th>
<th>Tel:</th>
<th>E-mail:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Address</strong></td>
<td>Mr Peter French</td>
<td>0207 9987756/07834 175347</td>
<td><a href="mailto:peter_french@arcademy.com">peter_french@arcademy.com</a></td>
</tr>
<tr>
<td>Unit 11 Flamingo Court</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>81 Crampton Street</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>London</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE17 3BF</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Local Planning Authority – London Borough of Southwark Council</th>
<th>Trees Officer</th>
<th>Tel:</th>
<th>E-mail:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Address</strong></td>
<td></td>
<td>0207 525403</td>
<td><a href="mailto:planning.enquiries@southwark.gov.uk">planning.enquiries@southwark.gov.uk</a></td>
</tr>
<tr>
<td>29 PO Box 645</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>London</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE1P 5LX</td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Arboricultural Consultant – Hayden’s Arboricultural Consultants Limited</th>
<th>Principal</th>
<th>Tel:</th>
<th>E-mail:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Address</strong></td>
<td>Stephen Hayden</td>
<td>01284 765391</td>
<td><a href="mailto:info@treesurveys.co.uk">info@treesurveys.co.uk</a></td>
</tr>
<tr>
<td>5 Moseley’s Farm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Centre</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fornham All Saints</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bury St Edmunds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suffolk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP28 6JY</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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1.0 Introduction

1.1 Terms of Reference

1.1.1 Hayden’s Arboricultural Consultants Limited has been commissioned by Arcademy Design to prepare a Tree Survey and Constraints Plan for the existing trees at Rear of 258 Old Kent Road, London, SE1 5UB.

1.1.2 The site survey was carried out on the 17/03/2016. The relevant qualitative tree data was recorded in order to assess the condition of the existing trees, their constraints upon the prospective development and the necessary protection required to allow their retention as a sustainable and integral part of any future permitted development.

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

1.2 Scope of Works

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

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

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

1.3 Documentation

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

- Email of instruction from Peter French dated 11/04/2016
- Definition of site boundary
2.0 The Site

2.1 Site Overview

2.1.1 The site is an existing mechanics garage located on Madron Street, just off of Old Kent Road, London, SE1 5UB. The site comprises of the existing garage building and hard surfacing, including a hard surfaced vehicular ramp/slope located on the south western aspect of the site, abutting the boundary. The site is located north of an apartment block, east of Madron Street, south of neighbouring shops on Old Kent Road and west of neighbouring properties on Kinglake Street. The majority of the site is relatively level with the exception of the south western boundary, which features a hard surfaced ramp/slope.

2.2 Soils

2.2.1 The soils type commonly associated with this site are loams with naturally high groundwater. They are of low fertility and mainly support wet acid meadows and woodland type habitats. This soil type constitutes approximately 1.7% the total English land mass.

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

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

2.3 Statutory Tree Protection

2.3.1 Hayden’s Arboricultural Consultants Limited have been informed via Southwark on-line mapping systems 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 London Borough of Southwark Council prior to commencing works to trees. It should be noted however, that London Borough of Southwark District Council have the power to serve Tree Preservation Orders very rapidly, and therefore it is incumbent upon owners, managers or any persons wishing to undertake work to any trees to contact the local planning authority prior to commencing works to ensure that the situation has not changed.
3.0 Tree Survey

3.1 As part of this survey a total of two individual trees have been identified. These have been numbered T001 – T002 respectively.

3.2 An accurate topographical survey was not available at the time of inspection. Therefore, the position of each tree shown on the attached drawing no. 5271-D has been fixed by use of a hand-held GPS surveying unit. Given this, the position of the trees must be considered indicative, although drawing no. 5271-D provides a fair representation of the relationship of the trees as distributed across the site.

3.3 In order to provide a systematic, consistent and transparent evaluation of the trees included within this survey, they have been assessed and categorised in accordance with the method detailed in item 4.3 of BS 5837:2012 “Trees in Relation to Design, Demolition and Construction - Recommendations”. For further information, please see the attached Explanatory Notes.

3.4 The detailed assessment of each tree and its work requirements with priorities are listed in the attached Schedule of Trees.

3.5 In accordance with item 4.2.4 (c) of BS 5837:2012, the items inspected and detailed within this report have been selected for inclusion due to the likely influence of any proposed development on the trees, rather than strictly adhering to the curtilage of the site. However, it must be understood that there may be trees beyond the site and not included in this survey which may exert an influence on the development. Where works for cultural, health and safety, quality of life, or development purposes have been recommended on trees outside the ownership of the site, these can only progress with the agreement of the owner, except where it involves portions of the trees overhanging the boundary.
4.0 Constraints Upon Proposed Development

4.1 Physical Extent of the Trees

4.1.1 The Root Protection Areas (RPA) for the trees deemed worthy of retention are indicated on the attached Drawing No.5271-D. These define the below ground constraints of the trees.

4.1.2 The crown spreads of the trees deemed worthy of retention are also indicated on the attached Drawing No.5271-D. These define the above ground constraints of the trees.

4.1.3 As is shown on attached Drawing No.5271-D, there are no trees located within the curtilage of the site, although there are two trees located close to the site boundary – T001 and T002, which are located close to the south-western boundary. The constraints posed by these trees (in the form of the RPA and crown spreads) are such that demolition, construction or excavations/renovation could not take place within much of the south-western aspect of the site and includes the majority of the existing hard surfaced ramp/slope. Given the relatively small scale of the site and the existing levels, it is unlikely that development (particularly in the southern portion) could be achieved without removing T001. Given that these trees are located outside of the ownership of the site, removal of these trees would have to be agreed by the owner of the land on which the trees reside.

4.2 Design Considerations

4.2.1 The combination of the above and below ground constraints outlined at 4.1 above, should be used to inform the layout and design of any proposed development by considering the following principal factors;

4.2.2 Shade. Consideration will be needed regarding the size, positioning and aspect of windows, together with the internal layout of dwellings in close proximity to trees to ensure sufficient daylight enters rooms or buildings. Consideration should also be given to the future growth potential of trees in close proximity to prospective development.

4.2.3 Water Demand. The water demand of the trees deemed worthy of retention, as listed by the NHBC, is given in the attached Schedule of Trees in order to inform the foundation design process.

4.2.4 Siting. Ideally, the footprint of any proposed building should be no closer than 2 metres from the edge of any RPA or crown spread of any trees to be retained. This is to ensure that sufficient room is provided to allow the construction of the proposed development without any encroachment into the RPA or under the crown spread. If it is considered acceptable and appropriate to construct within the RPA, specialist engineering techniques (e.g. cantilever, piling, or pad and above ground beam foundations) and ground protection measures will be required to minimise the impact on the roots.

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

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

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

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

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

5.1 The site is land at Madron Street and rear of 258 Old Kent Road, London, SE1 5UB. This location has been subjected to a total health and safety inspection, together with a consideration of the tree related constraints on development.

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

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

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

6.0 Recommendations

6.1 It is recommended that the siting and design of the layout considers the presence of trees, particularly the highest quality, and where feasible seeks to incorporate them within any proposed development.
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, but will become invalid if any building works are carried out upon the property, soil levels altered in any way close to the property, or tree work undertaken. It must also be appreciated that recommendations proposed within this report may be superseded by extreme weather, or any other unreasonably foreseeable events.

If alterations to the property or soil levels are carried out, or tree work undertaken, it is strongly recommended that a new tree inspection be carried out.

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 reasonable 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:

April 2016................................................................
For and on Behalf of Hayden’s Arboricultural Consultants Limited
8.0 References


Tree Preservation Orders and trees in conservation areas (2014). Department for Communities and Local Government.


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


### 9.0 Appendices

<table>
<thead>
<tr>
<th>Appendix</th>
<th>A</th>
<th>Species List &amp; Tree Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix</td>
<td>B</td>
<td>Schedule of Trees</td>
</tr>
<tr>
<td>Appendix</td>
<td>C</td>
<td>Explanatory Notes</td>
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<tr>
<td>Appendix</td>
<td>D</td>
<td>Tree Preservation Order Enquiry/Response</td>
</tr>
<tr>
<td>Appendix</td>
<td>E</td>
<td>Advisory Information &amp; Sample Specifications</td>
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</table>

1. BS 5837:2012 Figure 1 - Flow Chart – Design and Construction & Tree Care
2. European Protected Species and Woodland Operations Decision Key to aid planning of woodland operations and protecting EPS (v.1)
3. BS 5837:2012 Figure 2 - Default specification for protective barrier
4. BS 5837:2012 Figure 3 - Examples of above-ground stabilizing systems

<table>
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<th>Appendix</th>
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</table>
Appendix A - Species List & Tree Problems

Species List:

Common Lime  
*Tilia x europaea*

Tree Problems:

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

<table>
<thead>
<tr>
<th>Name: Deadwood</th>
<th>Description</th>
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<tbody>
<tr>
<td>Symptoms/Damage Type:</td>
<td>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.</td>
</tr>
<tr>
<td>Consequence:</td>
<td>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.</td>
</tr>
<tr>
<td>Control Measures:</td>
<td>Detailed monitoring should be undertaken on those trees showing signs of excessive deadwood production to identify the underlying cause.</td>
</tr>
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Appendix B

Schedule of Trees
# SCHEDULE OF TREES

**Rear of 258 Old Kent Road, London,**  
**Surveyed By: Becky Barton**  
**Managed By: Becky Barton**  
**Date: 17/03/2016**

<table>
<thead>
<tr>
<th>TreeNo</th>
<th>Species</th>
<th>DBH</th>
<th>Height</th>
<th>Visual</th>
<th>Crown Spread</th>
<th>Problems / Comments</th>
<th>BS Cat</th>
<th>Work Required</th>
<th>Priority</th>
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<tbody>
<tr>
<td>T001</td>
<td>Common Lime</td>
<td>430</td>
<td>15</td>
<td>Moderate</td>
<td>N6.5, E5.0, S1.0, W5.0</td>
<td>Early mature Lime located directly next to the site. No significant indicators of disease or decay. Stem leans slightly to the north. Crown supported on 2 main scaffold limbs with a seemingly stable union. Asymmetric crown due to competition with neighbouring tree.</td>
<td>B2</td>
<td>No work required.</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.16</td>
<td>4.1-6m</td>
<td>EM</td>
<td>Moderate</td>
<td>No work required.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T002</td>
<td>Common Lime</td>
<td>400</td>
<td>15</td>
<td>Moderate</td>
<td>N0.5, E5.0, S5.0, W5.0</td>
<td>Early mature Lime located offsite. No significant indicators of disease or decay stem leans slightly to the north. Crown supported on 3 main scaffold limbs with a potentially weak included bark union. Asymmetric crown due to competition with neighbouring tree.</td>
<td>B2</td>
<td>No work required.</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.8</td>
<td>4.1-6m</td>
<td>EM</td>
<td>Moderate</td>
<td>No work required.</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>72.4</td>
<td>20+ years</td>
<td>Bare earth</td>
<td></td>
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</tr>
</tbody>
</table>
Appendix C

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.
V Veteran. An over-mature specimen, usually of high value due to either its age, size and/or ecological significance.
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.
<table>
<thead>
<tr>
<th>Work Required (AIA)</th>
<th>Identifies the tree work specifically necessary to allow a proposed development to proceed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority</td>
<td>This gives a priority rating to each tree allowing the client to prioritise necessary tree works identified within the Tree Survey.</td>
</tr>
<tr>
<td>1 Urgent – works required immediately;</td>
<td></td>
</tr>
<tr>
<td>2 Works required within 6 months;</td>
<td></td>
</tr>
<tr>
<td>3 Works required within 1 year;</td>
<td></td>
</tr>
<tr>
<td>4 Re-inspect in 12 months,</td>
<td></td>
</tr>
<tr>
<td>0 Remedial works as part of implementation of planning consent.</td>
<td></td>
</tr>
</tbody>
</table>
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 D

Tree Preservation Order Enquiry/Response
Appendix E

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.
European Protected Species and woodland operations

Decision tree to aid planning of woodland operations and protecting EPS (v.1)

The diagram below illustrates the questions that woodland managers and operators should consider when deciding whether they need to apply for an EPS licence. It should be noted that the diagram presents a simplified overview of the decision-making process.

1. Are any 'European Protected Species' likely to be found in this site location and in this type of woodland or forest?
   - Any species of bat (any wood with old trees)
   - Dormouse (coppice with low growth or under-storey in southern England)
   - Otter (woodland adjoining many rivers in England)
   - Great crested newt (many long-established ponds) and natterjack toad (very few sites)
   - Sand lizard and smooth snake (sandy sites, Dorset/Surrey heaths and scattered coastal locations).

   **YES**
   **NO**

2. Are they known or likely to be present in this particular wood?
   - Check the National Biodiversity Network (www.nbn.org.uk)
   - Seek advice from County Wildlife Trust or specialist organisation
   - Consult individual local naturalists/keepers
   - Signs of their presence observed in the wood (e.g. bat roost holes or hazelnuts gnawed by dormice).

   **YES**
   **NO**

3. Are the proposed operations or activities likely to involve ANY of the following:
   A) Capture, injure or kill a protected animal
   B) Cause a significant disturbance to a protected animal
   C) Take or destroy the eggs of a protected animal
   D) Damage or destroy a breeding site or resting place of one of the protected species?

   **YES**
   **NO**

   *Note: If 'Yes' to 3A, 3B or 3C then go to 4 below.
   If 'Yes' to 3D only, then skip 4 and proceed directly to 5 below.*

4. Will any capture, injury, killing, disturbance or taking or destruction of eggs be 'deliberate' i.e. is the harm indicated in 3A, 3B or 3C above intentional, or foreseen as an most likely result of carrying out the operation?

   **YES**
   **NO**

5. Can the operations be modified to avoid committing an offence (i.e. 3D or deliberate 3A, 3B or 3C) by following good practice guidance for EPS such as:
   - Leaving some areas undisturbed and/or phasing the work
   - Avoiding the areas or times in which EPS are likely to be concentrated
   - Doing the work at a particular time of year
   - Using a different machine or technique or route?

   **YES**
   **NO**

6. Can you make an EPS licence application which satisfies the following 3 tests:
   - The purpose of the operation is to help deliver the Government's Biodiversity and/or Forestry Strategies and is therefore required by reason of overriding public interest
   - There is no satisfactory alternative, and
   - The operation will not adversely affect the conservation status of the EPS concerned?

   **YES**
   **NO**

The decision process above has been produced by the Forestry Commission and further information can be obtained from www.forestry.gov.uk.

Operations can proceed

Operations can proceed

Operations can proceed, taking care to avoid such harm

Modified operations can proceed

If an EPS licence has been granted the operations can proceed, but any conditions must be complied with

An EPS Licence cannot be granted and the operations cannot be carried out without a significant risk of committing an offence.
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 F

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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