British Standards 5837:2012 Tree Survey
Arboricultural Impact Assessment,
Arboricultural Method Statement &
Tree Protection Plan

Barncroft, Dodsleigh Lane
Uttoxeter
for
Mr. Gordon Smith

Report Reference: JH0614DODSBIDS
Outline Trees
Arboricultural Consultancy
September 2014
QUALITY ASSURANCE

<table>
<thead>
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<th>Client:</th>
<th>Mr Gordon Smith</th>
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<td>Project:</td>
<td>Barncroft, Dodsleigh Lane, Uttoxeter ST10 4SJ</td>
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<tr>
<td>Report Content:</td>
<td>BS 5837:2012 Tree Survey, Arboricultural Impact Assessment (AIA), Arboricultural Method Statement (AMS) &amp; Tree Protection Plan (TPP)</td>
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<td>Amended and Approved for issue by:</td>
<td>Jason Humphreys</td>
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1 Executive Summary

1.1 The Project and Commissioned Work

1.1.1 Outline Trees was instructed by Luke Gittens of BiDesign Architecture on behalf of Mr. Gordon Smith to carry out a British Standards 5837:2012 Tree Survey in order to order to accompany a planning application whilst providing guidance on the constraints posed by the trees on the site and an Arboricultural Impact Assessment that the proposals might have on the trees.

1.1.2 A current topographical survey of the site in AutoCAD format has formed the basis for the Tree Survey Plan (Appendix B), whilst an AutoCAD copy of the proposed draft layout has been used to produce the Arboricultural Impact Assessment and has formed the basis of the Tree Protection Plan (Appendix C).

1.1.3 The content and scope of this report is listed below:

- BS 5837:2012 Tree Survey and Categorisation
- Arboricultural Impact Assessment
- Arboricultural Method Statement
- Tree Protection Plan

1.2 Findings and Recommendations

1.2.1 The initial survey assessed 31 individual trees, 2, shrubs, 4 groups of trees/shrubs and 4 sections of amenity hedgerow with only 2 of the trees on the site attaining a Category ‘B’ assessment value. Since the survey was carried out several of the trees on site were removed and this is reflected in the broken sequential order of the tree survey schedule and associated plans.

1.2.2 At best and with the exception of several more notable trees, the overall condition of the trees can best be described as fair and regardless of any development proposals the recommended tree works made in the context of the sites’ current use should be considered in the interests of good arboricultural practice.

1.2.3 None of the trees proposed for removal in Table 7.1 have been assessed as either Category ‘A’ or ‘B’ whilst their loss from a public amenity aspect is not considered to be detrimental to the wider area and that that their loss will have only a negligible impact the immediate street scene.

1.2.4 It is considered that the removal of the aforementioned trees in Table 7.1 should not preclude the possibility of development of the site.

1.2.5 The erection of protective fencing, in this instance, is considered likely to place localised constraints on elements of the construction and its associated activities and/or possibly limit the working space available, with the subsequent result that incursions into the RPAs of some of the retained trees, specifically trees T20, T21, T23 & G2 are anticipated. Consequently, additional ground protection measures will be required (Section 6.5.6).

1.2.6 In the context of the sites current use, the Tree Survey Schedule at appendix A details appropriate arboricultural works solely in the context of the sites current use that should be considered irrespective of any development proposals.
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Appendix G  National Joint Utilities Group (Volume 4 Operatives Guide)
2 Introduction and Background

2.1 Purpose and Scope of this Report

2.1.1 The purpose of the report is to accompany a planning application to the Local Planning Authority, identify the constraints that the trees on site place on the proposed development, assess the impact that the proposals will have on the trees on site and also to provide guidance on how the proposed development can be achieved by minimising the potential for any detrimental impact to any of the retained trees on site.

2.1.2 In preparing this report, consideration has been given to the proposed layout, the condition of the trees and the final use of the site with a focus on providing a desirable living environment.

2.1.3 Whilst not definitive, the findings and any associated recommendations detailed within this report are considered to be reasonable, practicable and in the interests of promoting sensible arboricultural management.

2.1.4 Recommendations included within this report are the professional opinion of an experienced Arboriculturist and are the view of Outline Trees. This is based on a review of the information provided by The Client, the brief and a survey of the site. This report pertains to these results only.

2.1.5 This report and the survey(s) on which it depends have been carried out by a competent Arboriculturist¹.

2.2 Regulatory and Policy Framework

2.2.1 Tree Preservation Orders (TPOs) and Conservation Areas place various statutory restrictions on the felling, pruning or damaging of trees, subject to various exemptions (Department for Communities and Local Government, 2000).

2.2.2 Tree felling on non-residential land is also controlled by the need to obtain a Felling Licence from the Forestry Commission before felling more than 5m³ of timber in any calendar quarter subject to various exemptions and variations (Forestry Commission, 2007).

2.2.3 There is an overriding exemption for the above statutory controls for tree felling and pruning for works where it has been deemed necessary to implement development that has already received full planning permission.

¹ As per the Terms and Definitions detailed in British Standards 5837:2012-Trees in relation to design, demolition and construction – Recommendations.
2.3 Site Location

2.3.1 The application site is Barncroft, Dodsleigh Lane, Uttoxeter ST10 4SL (approximate OS Grid reference SK 016 349) pedestrian access to the site was made directly from Station Road.

2.3.2 The location of the site is shown in Figure 2.1 below, with the approximate extents of the tree survey area indicated by a red line.

Figure 2.1: Map view of the Site © Crown Copyright and Database rights 2014 Ordnance Survey
3 Survey Methodology

3.1 Survey Methods

3.1.1 The site was visited on Friday 13th June 2014 to carry out an assessment in accordance with BS 5837:2012 – Trees in relation to Design, Demolition and Construction - Recommendations. The weather at the time was dry, bright, still and adequate for conducting the survey during which, the following information was collected for each tree:

- Sequential reference number;
- Species;
- Height;
- Stem diameter;
- Branch spread;
- Existing height above ground level of:
  1. First significant branch and direction of growth (e.g. 3 NW);
  2. Canopy;
- Life stage;
  Y – Young,
  SM – Semi Mature,
  EM – Early Mature,
  M – Mature,
  OM – Over Mature;
- General observations, particularly of structural and/or physiological condition;
- Estimated remaining contribution;
- Category ‘U’ or ‘A’ to ‘C’ grading with the subcategory 1, 2 or 3 reflecting arboricultural, landscape or cultural values, respectively.

3.2 Survey Personnel

3.2.1 Jason Humphreys (The Author) is a former Local Planning Authority Arboricultural Officer and experienced Arboriculturalist with approximately 13 years of experience in the Arboricultural Industry.

3.2.2 He is a Technician grade Member of the Arboricultural Association (Tech Arbor. A), a Professional member of the Consulting Arborist Society and holds the Technician’s Certificate in Arboriculture and the LANTRA Professional Tree Inspection certificate.
4 Limitations

4.1 Survey

4.1.1 Each of the surveyed trees has been plotted and recorded as an individual tree or a tree group in accordance with the criteria detailed in section 4.4.2.5 of BS 5837:2012.

4.1.2 The information contained within this report is based on the author’s knowledge and experience of dealing with tree related issues. Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information.

4.1.3 Any survey work undertaken will have been subject to limitations, including seasonal and phenological aspects. Trees were assessed from ground level using the Visual Tree Assessment (VTA) method (Mattheck 2007). No climbed inspection, removal of ivy or detailed investigation of decay was made.

4.1.4 No liability can be accepted by the consultant in respect of the trees unless the recommendations of this report are carried out under his supervision and within his timescale. Acceptance of this report represents an agreement with the guiding principles and the terms listed.

4.1.5 The findings and recommendations contained within this report are, assuming its recommendations are observed, valid for a period of twelve months from the date of survey. Trees are living organisms and their condition can change significantly over a relatively short period of time – good practice dictates they are inspected on a regular basis for reasons of safety.

4.1.6 Tree rooting characteristics and soils are both enormously variable as are their interactions. This makes attempts to quantify subsidence risk assessment impossible. No effort has been made to assess subsidence risk potential nor should any be construed.

4.1.7 The report relates only to the trees shown on the attached tree survey schedule.

4.1.8 Where trees were extensively ivy clad this was recorded in the survey schedule. It is not possible to ascertain the presence of cavities or other defects beneath the ivy and, therefore, ivy should be removed and a re-inspection carried out.
5 Results

5.1 Statutory Tree Protection

5.1.1 No formal check has been made to establish whether any of the trees on site are afforded any degree of statutory protection from Tree Preservation Orders or Conservation Areas.

5.1.2 If it subsequently transpires that any trees are subject to Statutory Protection then it should be understood that no pruning works are to be carried out to those trees unless the works are considered exempt or prior consent for tree works has first been granted by the respective LPA following either:

- a formal tree works application (Trees protected by a TPO),
- a 6 weeks notification period is submitted to carry out works to trees (Trees in Conservation Areas)
- or the submission of a 5-day notice under section 198(6)(a) of the Town and Country Planning Act 1990.

5.1.3 Pruning works can also be carried out if the works are considered necessary to implement full planning consent.

5.2 Tree Survey

5.2.1 The survey assessed 31 individual trees, 2, shrubs, 4 groups of trees/shrubs and 4 sections of amenity hedgerow, the quality and value of which are summarised below.

5.2.2 No individually assessed trees of high quality and value (Category ‘A’) were recorded during the survey.

5.2.3 Trees assigned to this category include attractive trees with high visibility and no significant defects, which are able to make a substantial contribution for a minimum of 40 years.

5.2.4 2 individually assessed trees of moderate quality and value category (Category ‘B’) were identified during the survey.

5.2.5 Trees assigned to this category include healthy attractive trees with remediable defects that are in a condition as to be able to make a significant contribution for a minimum of 20 years.

5.2.6 27 individually assessed trees, 4 tree groups and 4 sections of hedgerow of low quality and value category (Category ‘C’) were identified during the survey.

5.2.7 Trees in this category include unremarkable trees of limited merit that are easily replaced, small-growing, young species which have a relatively low potential amenity value, and low landscape benefits.

5.2.8 Trees assigned to this category typically include self-seeded trees of limited life span, small and young trees and trees of poor form and limited amenity value.

5.2.9 2 individually assessed trees were identified as being unsuitable for retention (Category ‘U’).

5.2.10 Trees assigned to this category are in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years and/or are unsuitable for retention in the proximity of new dwellings or areas of public open space.

5.2.11 Full results of the tree survey are provided in the Tree Survey Schedule whilst a chart summarising the Individual Tree Assessment Categories for the trees can be viewed below (Figure 5.1).
Figure 5.1: Summary of Individual Tree Assessment Categories
6 Arboricultural Impact Assessment

6.1 Tree Survey

6.1.1 General tree works detailed in the Tree Schedule (Appendix A) have been identified solely in the context of the current layout and existing site use.

6.2 Trees Suitable for Retention

6.2.1 Where possible, it is generally considered desirable for Category ‘A’ and Category ‘B’ trees to be retained and incorporated into new developments and layouts. Category ‘U’ trees are not considered to be appropriate for retention.

6.2.2 In assessing the Arboricultural Impact on the trees of the proposed development and which trees might be suitable for retention in the context of the proposed layout the following factors have all been considered.

- Shading
- Future Pressure for Tree Removal and Pruning
- Seasonal Nuisance
- Infrastructure
- Direct Damage
- Root Protection Areas
- Future Management
- Demolition/Ground Works
- Construction Activity

6.3 Shading

6.3.1 Shading can be represented using drawn segments, with radii equivalent of the current tree height, taken from the centres of those surveyed tree stems that are considered to be relevant, drawn from due north-west to due-east.

6.3.2 These segments represent a basic illustration of the shade pattern through the main part of the day and based on advisory comments detailed in section 5.22, Note 1 of BS 5837:2012.

6.3.1 Upon consideration of the above points, no further investigation, illustration or mitigation is considered necessary due to the generally favourable layout orientation.

6.3.2 The new plots will be subject to an element of morning shading from the retained trees to their south although it is not considered to be excessive and is unlikely to affect the level of enjoyment one might reasonably come to expect in the respective garden areas.

6.4 Direct Damage

6.4.1 Any proposed layout should consider the likelihood of direct damage occurring from incremental root and stem growth and the possibility of the fabric of any new structure being damaged by the whipping of branches against it.

6.4.2 The implementation of the recommended tree works/removals associated with the proposals (Table 7.1) will remove the immediate likelihood of direct damage occurring in the manner described above, in respect of retained trees.

6.4.3 Table 6.1, taken from Annex A of BS 5837:2012 provides distances that are advised as minimum distances of trees from new structures for new plantings.
Table 6.1, Minimum distance between young trees or new planting and structure to avoid direct damage to a structure from future tree growth

<table>
<thead>
<tr>
<th>Type of structure</th>
<th>Minimum distance between young trees or new planting and structure, in metres (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stem dia. &lt;300 mm</td>
</tr>
<tr>
<td>Buildings and heavily loaded structures</td>
<td>—</td>
</tr>
<tr>
<td>Lightly loaded structures such as garages, porches etc.</td>
<td>—</td>
</tr>
<tr>
<td>Services &lt;1 m deep</td>
<td>0.5</td>
</tr>
<tr>
<td>Services &gt;1 m deep</td>
<td>1.0</td>
</tr>
<tr>
<td>Masonry boundary walls</td>
<td>1.0</td>
</tr>
<tr>
<td>In-situ concrete paths and drives</td>
<td>0.5</td>
</tr>
<tr>
<td>Paths and drives with flexible surfaces or paving slabs</td>
<td>0.7</td>
</tr>
</tbody>
</table>

6.5 Root Protection Areas (RPAs)

6.5.1 The erection of protective fencing as per the Tree Protection Plan (TPP) prior to the commencement of any works on site will protect the RPA of retained trees.

6.5.2 Existing ground levels should be retained within the RPAs. Intrusions into soil within the RPAs is generally not acceptable and topsoil within it should remain in situ.

6.5.3 The erection of protective fencing, in this instance, is considered likely to place constraints on elements of the construction and its associated activities and/or possibly limit the working space available, with the subsequent result that incursions into the RPAs of some of the retained trees, specifically trees T20, T21, G2 & T1, are anticipated. Consequently, additional ground protection measures will be required.

6.5.4 Guidance is provided below, which upon adoption, will help to minimise the potential for any detrimental effect that associated ground works and construction might have in respect of retained trees.

6.5.5 Suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during the construction and, development rather than being removed. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate (BS 5837:2012).

6.5.6 British Standards 5837:2012 advises that new temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction to underlying soil and further provides the following note:

NOTE The ground protection might comprise one of the following:

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;

b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;
Final on-site measurements should be taken to ascertain the extent of any tree protection measures and provide an indication of whether further incursions into the RPAs of retained trees might prove necessary.

6.6 **Excavation/Ground Works**

6.6.1 The erection of protective fencing and/or use of ground protection, prior to the commencement of any works on site, will allow excavations and ground works to take place without any adverse effect and/or impact on the retained trees.

6.6.2 All plant and vehicles engaged in ground works should either operate outside the RPAs, or run on ground protection (see 6.5.6) in the proximity of retained trees.

6.6.3 Where trees stand adjacent to hard surfaces and/or buildings to be removed, excavation should be undertaken inwards, from within the footprint of the existing hard surfacing or outside of the RPAs.

6.7 **Hard Surfacing Within the Root Protection Area**

6.7.1 It is not anticipated that the installation of a ‘no-dig’ type surface will be necessary. General guidance however, is provided below in the event that a subsequent need transpires.

6.7.2 Arboricultural Practice Note No. 12 describes in detail the requirements of no-dig type installation whilst BS 5837:2012 suggests ‘Appropriate sub-base options for new hard surfacing include three-dimensional cellular confinement systems’.

6.7.3 An assessment should be made to establish whether or not the existing site topography lends itself to the installation of a three-dimensional cellular no-dig product upon anticipation of the required and final level changes. Final on-site measurements should be taken to ascertain the extent of any incursions into the RPA and provide subsequent guidance on the extent of any ‘no-dig’ installation.

6.7.4 Cross sectional drawings of a suitable product can be seen below (figures 6.1 & 6.2)

![Figure 6.1, Composition of the CellWeb™ system](image_url)
6.8 **Construction Activity**

6.8.1 The erection of protective fencing and/or use of ground protection, prior to the commencement of any works on site will allow the development to take place without any adverse effect and/or impact on the retained trees.

6.8.2 All plant and vehicles engaged in construction works should either operate outside the RPA, and/or run on ground protection (see section 6.5.6).

6.9 **Future Pressure for Tree Pruning/Removal**

6.9.1 Whilst the presence of retained trees can often enhance the immediate environment upon completion, any proposed layout should provide sufficient space that will allow for future tree growth and to provide a subsequently reduced need for future, frequent remedial pruning.

6.9.2 The tree works detailed in Table 7.1 are considered, in this instance, to provide an environment and layout juxtaposition that will allow for the future growth of the retained trees without anticipated pruning pressures.

6.10 **Seasonal Nuisance**

6.10.1 Foliage, fruit and cone fall can be considered by some to be a nuisance and requests to Local Planning Authorities to carry out pruning works to negate these issues are often refused due in part to their brief, seasonal nature of the problem.

6.10.2 Providing a suitable juxtaposition when considering new layouts will help in minimising issues experienced by people living in close proximity to trees.

6.10.3 Autumnal leaf fall will be evident due to the generally deciduous nature of the retained trees on the site; it is however, considered acceptable to a reasonable level.

6.10.4 The use of ‘gutter guards’ would help reduce the seasonal likelihood of blocked guttering often associated with autumnal leaf fall.

6.11 **Infrastructure**

6.11.1 Infrastructure requirements have been considered and there is/no evidence to suggest that retained trees will have an impact on lighting, signage, CCTV sightlines or visibility splays.
6.11.2 Where the installation of any underground apparatus and drainage is considered necessary then particular care should be taken in its routing and methods of installation and wherever possible be routed outside RPAs.

6.11.3 Where routing services outside RPAs is not possible then detailed plans showing the proposed routing should be drawn up in conjunction with the project Arboriculturist. Trenchless insertion methods are considered to be appropriate for this purpose and British Standards 5837:2012 details solutions for differing utility apparatus requirements (see table 6.2 below).

6.11.4 British Standards 5837:2012, Section 7.7.2 suggests that in the event roots can be retained and appropriately protected during exposure, then excavation using hand-held tools might be acceptable for shallow service runs.

### Table 6.2 Trenchless solutions for differing utility apparatus installation requirements

<table>
<thead>
<tr>
<th>Method</th>
<th>Accuracy</th>
<th>Bore dia. a)</th>
<th>Max. sub. e)</th>
<th>Applications</th>
<th>Not suitable for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microtunnelling</td>
<td>&lt;20</td>
<td>100 to 300</td>
<td>40</td>
<td>Gravity-fall pipes, deep apparatus, watercourse, roadway undercrossings</td>
<td>Low-cost projects due to relative expense</td>
</tr>
<tr>
<td>Surface-launched</td>
<td>=100</td>
<td>25 to 1 200</td>
<td>150</td>
<td>Pressure pipes, cables including fibre optic</td>
<td>Gravity-fall pipes, e.g., drains and sewers</td>
</tr>
<tr>
<td>directional drilling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipe ramming</td>
<td>=150</td>
<td>150 to 2 600</td>
<td>70</td>
<td>Any large-bore pipes and ducts</td>
<td>Rocky and other heavily obstructed soils</td>
</tr>
<tr>
<td>Impact mowing b)</td>
<td>=50 c)</td>
<td>30 to 180 f)</td>
<td>40</td>
<td>Gas, water and cable connections, e.g., from street to property</td>
<td>Any application that requires accuracy over distances in excess of 5 m</td>
</tr>
</tbody>
</table>

a) Dependent on strata encountered.

b) Maximum subterranean length.

c) Pit-launched directional drilling can be used for gravity fall pipes up to 20 m subterranean length.

d) Impact mowing (also known as thrust-bore) generally requires soft, cohesive soils.

e) Substantial inverse relationship between accuracy and distance.

f) Figures given relate to single pass; up to 300 mm bore achievable with multiple passes.

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6.12 Trees to be Removed

6.12.1 The proposed layout identified the tree removals detailed within table 7.1 as being necessary and appropriate in order to directly implement the proposals.

6.13 Trees to be Pruned

6.13.1 The proposed layout identified the tree pruning detailed within table 7.1 as being necessary and appropriate in order to directly implement the proposals.

6.13.2 The complete Tree Survey Schedule (Appendix A) details pruning works only in the context of the site’s current use that should be considered to facilitate future inspection regimes and to promote the development of retained trees irrespective of any development proposals.

6.14 Landscaping

6.14.1 No formal details of any new landscaping have been provided at the time of writing. BS 5837:2012 advises that any new tree planting and associated landscaping proposals should consider the ultimate height and spread, form, habit and colour, density of foliage and
maintenance implications, in relation to both the built form of the new development, and the retained landscape features.

6.14.2 Consideration should also be given to the advice detailed in section 6.4.3 and Table 6.1 in respect of distances of newly planted trees in relation to new structures.

6.15 Tree Loss Evaluation

6.15.1 In terms of the level of Public Amenity Value that the trees currently provide, the tree removals detailed in Table 7.1 are not considered to be detrimental to the wider area and that their loss will have a relatively low impact on the immediate street scene.

6.15.2 None of the trees proposed for removal in Table 7.1 have been assessed as either Category ‘A’ or ‘B’ and consequently it is considered that their removal should not preclude the proposed development of the site.

6.15.3 It is considered that the most arboriculturally significant trees on the site have been retained.

6.16 Issues to be addressed by an Arboricultural Method Statement

6.16.1 The Arboricultural Method Statement (Section 7) details the general methodology for the implementation of those aspects that have the potential to result in loss or damage to retained trees.

6.17 Tree Protection Plan

6.17.1 The TPP (Appendix C), when read in conjunction with this report, will inform on and describe the required tree protection measures for the retained trees in the context of the proposed layout.

6.17.2 The TPP should be read in conjunction with the Tree Survey Schedule (Appendix A) in order to establish the linear radial distances for the erection of the protective fencing and the extent of ground protection measures from the retained trees.
# Arboricultural Method Statement

## 7.1 Facilitation Tree Works/Removals

### 7.1.1 Tree works tabled below (Table 7.1) have been identified as a result of one or more of the following reasons;

- to directly implement the proposal,
- to facilitate the implementation and construction of the proposals,
- to assist in the creation of a balanced and desirable layout juxtaposition and
- in the interests of sensible and reasonable arboricultural management.

### 7.1.2 Any tree works should be carried out using the principles and practices described in British Standards 3998:2010 – *Tree Work - Recommendations*

Table 7.1: Summary of Necessary Tree Works/Removals

<table>
<thead>
<tr>
<th>Tree Ref. No.</th>
<th>Species</th>
<th>BS 5837:2012 Category</th>
<th>Nature of Works and Necessity</th>
</tr>
</thead>
<tbody>
<tr>
<td>T7</td>
<td>Yew</td>
<td>C</td>
<td>Crown lift to approx. 2m height <em>(facilitate installation of new post and rail fence).</em></td>
</tr>
<tr>
<td>T8</td>
<td>Leyland Cypress</td>
<td>C</td>
<td>Remove trees to directly implement proposals <em>(visibility splay).</em></td>
</tr>
<tr>
<td>T19</td>
<td>Apple</td>
<td>C</td>
<td>Remove tree to facilitate construction and provide desirable layout juxtaposition <em>(dominant tree within plot 2 garden area).</em></td>
</tr>
<tr>
<td>T24, T25</td>
<td>Apple</td>
<td>U</td>
<td>Remove trees; unsuitable for retention – poor condition &amp; structure.</td>
</tr>
</tbody>
</table>
7.2 Erection of Protective Fencing

7.2.1 Protective fencing should be erected as per the Tree Protection Plan at the linear distances specified in the Tree Survey Schedule prior to the commencement of any works on site.

7.2.2 The default specification should consist of a vertical and horizontal scaffold framework, well braced to resist impacts, as illustrated in Figure 7.2 (see below).

![Figure 7.2 Default specification for protective barrier © British Standards Institute](image)

7.2.3 All-weather notices should be attached to the fencing; a suitable example for use has been attached at Appendix D.

7.2.4 Once erected, the protected area should be regarded as sacrosanct and should not be removed or altered without prior recommendation by the project Arboriculturist (7.3.1) and, where necessary, approval from the local planning authority.

7.2.5 Where the site circumstances and associated risk of damaging incursion into the RPA do not necessitate the default level of protection, an alternative specification should be prepared by the project Arboriculturist. For example, 2m tall welded mesh panels on rubber or concrete feet as illustrated in Figure 7.3 (see below).
7.3 Site Monitoring

7.3.1 Final on-site measurements should be taken to ascertain the extent of any incursions into the RPAs of the retained trees and to provide guidance on the extent of the tree protection measures.

7.3.2 It is recommended that a Project Arboriculturist is appointed prior to the commencement of any works and retained for the duration of the project.

7.3.3 The appointed person can assist in monitoring Arboricultural site activity using an auditable system.

7.3.4 The appointed person should be consulted in the event that additional ground protection measures are considered necessary, root pruning is required or incursions into the RPAs are considered necessary.

7.4 Ground Works & Demolition

7.4.1 The erection of protective fencing and use of ground protection measures as per the TPP, combined with the retention of existing hard surfacing within the RPAs of retained trees, prior to the commencement of any works on site will allow the ground works to take place whilst minimising any adverse effect and/or impact on the retained trees.

7.4.2 All plant and vehicles engaged in ground works should either operate outside the RPA, or run on ground protection (see 6.5.6).

7.5 Soil Compaction and Remediation Measures

7.5.1 Soil that has been compacted will not provide suitable conditions for the survival and growth of vegetation, whether existing or new, and is a common cause of post-construction tree loss on development sites.

7.5.2 Compacted soil will adversely affect drainage, gas exchange, nutrient uptake and organic content, and will seriously impede or restrict root growth.

7.5.3 Soil compaction should be avoided around existing vegetation, including trees, and in areas where new planting or seeding is proposed.
7.5.4 Where soil compaction has occurred in the vicinity of existing trees, remedial works might include sub-soil aeration using compressed air, and the addition of other materials, preferably of a bulky, organic nature (but excluding peat), to improve structure.

7.5.5 Heavy mechanical cultivation such as ploughing or rotavation should not occur within the RPA.

7.5.6 Any cultivation operations should be undertaken carefully by hand in order to minimize damage to the tree, particularly the roots.

7.6 Construction Works

7.6.1 Protective fencing and use of ground protection measures as per the Tree Protection Plan should be erected prior to the commencement of any works on site.

7.6.2 All plant and vehicles engaged in construction activity should either operate outside the RPAS, or run on ground protection (see 6.5.6).

7.6.3 Where the erection of new post & rail fencing is proposed within the RPA of retained trees then its installation should be carried out adopting the principles of the National Joint Utilities Guidance (NJUG). An operatives copy has been provided at Appendix G.

7.7 Contractors Storage, Parking & Access

7.7.1 Provision should be made for welfare facilities, the site office, contractor parking, storage for materials, plant and spoil and space for mixing outside of the RPAs of retained trees.

7.8 No-Dig Surfacing

7.8.1 It is not considered likely that the use of no-dig surfacing will be required for use in this development. Generic guidance however is given below in respect of its installation methodology.

7.8.2 Existing hard surfacing should be retained as temporary ground protection within the RPA for the duration of the construction and then only removed when ready, by hand tools, immediately prior to the installation of the No-Dig surfacing.

7.8.3 Once the RPA beneath the existing hard surfacing has been exposed it should be treated as sacrosanct and excavation, skimming or scraping should not take place within it.

7.8.4 Manufacturer’s installation guidelines specific to the product used should be adhered to.

7.9 Completion

7.9.1 Upon completion of the project, advice of the project Arboriculturist should be sought in coordination of the removal of the protective fencing and ground protection if necessary, to survey the retained trees for signs or symptoms of damage and/or stress that the construction might have had.

7.9.2 The protective fencing and ground protection measures should remain in situ until its use is considered unnecessary and any risk of damage to the retained trees and/or their respective RPAs e.g. soil compaction from vehicular plant or machinery, has passed.

7.10 Contacts

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Email: info@outlinetrees.co.uk
Appendix A  Tree Survey Schedule
<table>
<thead>
<tr>
<th>Tree Ref. No.</th>
<th>Species</th>
<th>Height (m)</th>
<th>Stem Ø (mm)</th>
<th>Protective Linear Radius (m)</th>
<th>Branch Spread (m)</th>
<th>Height (m)</th>
<th>Life Stage</th>
<th>General Observations and Preliminary Management Recommendations (In bold).</th>
<th>Estimated Remaining Contribution</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Western Balsam Poplar (<em>Populus trichocarpa</em>)</td>
<td>16</td>
<td>550</td>
<td>6.6</td>
<td>137</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>2.5 N</td>
<td>2</td>
</tr>
<tr>
<td>T2</td>
<td>Ash (<em>Fraxinus excelsior</em>)</td>
<td>9</td>
<td>260</td>
<td>3.1</td>
<td>31</td>
<td>1.5</td>
<td>2.5</td>
<td>4</td>
<td>2.5</td>
<td>2 N</td>
</tr>
<tr>
<td>T3</td>
<td>Lilac (<em>Syringa vulgaris</em>)</td>
<td>2.5</td>
<td>85</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>0.1</td>
<td>1</td>
<td>0 N</td>
</tr>
<tr>
<td>Tree Ref. No.</td>
<td>Species</td>
<td>Height (m)</td>
<td>Stem Ø (mm)</td>
<td>Protective Linear Radius (m)</td>
<td>RPA m²</td>
<td>Branch Spread (m)</td>
<td>Height (m)</td>
<td>Canopy</td>
<td>Life Stage</td>
<td>General Observations and Preliminary Management Recommendations (In bold).</td>
</tr>
<tr>
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<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>T4</td>
<td>Yew <em>(Taxus baccata)</em></td>
<td>6</td>
<td>208</td>
<td>2.5</td>
<td>20</td>
<td>2.5</td>
<td>2.5</td>
<td>O</td>
<td>M</td>
<td>Fair condition. Multi stemmed tree with ivy cover obscuring assessment of upper crown. Growing immediately below overhead utilities. <strong>No tree works necessary.</strong></td>
</tr>
<tr>
<td>T5</td>
<td>Sycamore <em>(Acer pseudoplatanus)</em></td>
<td>7</td>
<td>225</td>
<td>2.7</td>
<td>23</td>
<td>0.5</td>
<td>3</td>
<td>O</td>
<td>EM</td>
<td>Fair condition. Multi stemmed tree with suppressed crown development and limited future potential. Some ivy cover beginning to establish on northern stem. <strong>Sever Ivy.</strong></td>
</tr>
<tr>
<td>T6</td>
<td>Yew</td>
<td>5</td>
<td>368</td>
<td>4.4</td>
<td>61</td>
<td>3</td>
<td>3</td>
<td>0.5</td>
<td>E</td>
<td>Fair condition. Evidence of past crown reduction at approximately 2.5m height. Suppressed crown development with limited future potential. <strong>No tree works necessary.</strong></td>
</tr>
<tr>
<td>Tree Ref. No.</td>
<td>Species</td>
<td>Height (m)</td>
<td>Stem Ø (mm)</td>
<td>Protective Linear Radius (m)</td>
<td>RPA m²</td>
<td>Branch Spread (m)</td>
<td>Height (m)</td>
<td>Life Stage</td>
<td>Canopy</td>
<td>General Observations and Preliminary Management Recommendations (In bold).</td>
</tr>
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<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>T7</td>
<td>Yew</td>
<td>10</td>
<td>608</td>
<td>7.3</td>
<td>167</td>
<td>2 4 8 5</td>
<td>1 S</td>
<td>1</td>
<td>M</td>
<td>Fair condition. Essentially a twin stemmed tree with further stem division at approximately 1m height. Suppressed crown development to the north. Dense ivy cover obscuring assessment of branch unions and upper crown. Evidence of past branch pruning to east in proximity of utilities column with western aspect of crown in direct contact with another column. <strong>Sever Ivy/reinspect.</strong></td>
</tr>
<tr>
<td>T8</td>
<td>Leyland Cypress (<em>X Cupressocyparis leylandii</em> ‘Castlewellan Gold’)</td>
<td>5</td>
<td>90</td>
<td>1.1</td>
<td>4</td>
<td>0.5 1 1.5 1</td>
<td>2 S</td>
<td>1.5</td>
<td>EM</td>
<td>Fair condition. Unremarkable tree with suppressed crown development and limited useful future potential. <strong>No tree works necessary.</strong></td>
</tr>
<tr>
<td>Tree Ref. No.</td>
<td>Species</td>
<td>Height (m)</td>
<td>Stem Ø (mm)</td>
<td>Protective Linear Radius (m)</td>
<td>RPA m²</td>
<td>Branch Spread (m)</td>
<td>Height (m)</td>
<td>General Observations and Preliminary Management Recommendations (In bold).</td>
<td>Estimated Remaining Contribution</td>
<td>Category</td>
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<td>---------------------------------------------------------------------------</td>
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<td>----------</td>
</tr>
<tr>
<td>T11</td>
<td>Ash</td>
<td>12</td>
<td>220</td>
<td>2.6</td>
<td>22</td>
<td>5 3 2 3</td>
<td>4 NE</td>
<td>Fair condition. Notable lean to the north by approximately 30 degrees. Suppressed crown development with ivy cover beginning to establish at base of main stem. Sever Ivy.</td>
<td>10+</td>
<td>C2</td>
</tr>
<tr>
<td>T16</td>
<td>Sycamore</td>
<td>11</td>
<td>260</td>
<td>3.1</td>
<td>31</td>
<td>1.5 1.5 2 1</td>
<td>5 SE</td>
<td>Fair condition. Tall, multi stemmed, spindly tree with suppressed crown development and limited future potential. No tree works necessary.</td>
<td>10+</td>
<td>C2</td>
</tr>
<tr>
<td>T17</td>
<td>Sycamore</td>
<td>11</td>
<td>380</td>
<td>4.6</td>
<td>65</td>
<td>2 2 4.5 4</td>
<td>5 SE</td>
<td>Fair condition. Tall, multi stemmed, spindly tree with suppressed crown development and limited future potential. Ivy cover obscuring assessment of main stems. Sever Ivy.</td>
<td>10+</td>
<td>C2</td>
</tr>
<tr>
<td>Tree Ref. No.</td>
<td>Species</td>
<td>Height (m)</td>
<td>Stem Ø (mm)</td>
<td>Protective Linear Radius (m)</td>
<td>RPA m²</td>
<td>Branch Spread (m)</td>
<td>Height (m)</td>
<td>Significant Branch</td>
<td>Canopy</td>
<td>Life Stage</td>
</tr>
<tr>
<td>--------------</td>
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<td>------------</td>
</tr>
<tr>
<td>T19</td>
<td>Apple (Malus spp.)</td>
<td>6</td>
<td>330</td>
<td>4</td>
<td>49</td>
<td>4 6 2 1</td>
<td>1.5 NE</td>
<td>3</td>
<td>M</td>
<td>Fair condition. Significant lean to the east by approximately 45 degrees. Ivy cover obscuring assessment of main stem. Suppressed crown development. <strong>Sever Ivy.</strong></td>
</tr>
<tr>
<td>T20</td>
<td>Sycamore</td>
<td>11</td>
<td>396</td>
<td>4.8</td>
<td>71</td>
<td>3 3 3 2</td>
<td>3 N</td>
<td>6</td>
<td>M</td>
<td>Fair condition. Unremarkable tree with suppressed crown development, growing within linear group providing useful screening value. <strong>No tree works necessary.</strong></td>
</tr>
<tr>
<td>T21</td>
<td>Sycamore</td>
<td>11</td>
<td>563</td>
<td>6.8</td>
<td>143</td>
<td>4 4 3 4</td>
<td>2 N</td>
<td>3</td>
<td>M</td>
<td>Fair condition. Unremarkable multi stemmed tree with suppressed crown development, growing within linear group providing useful screening value. <strong>No tree works necessary.</strong></td>
</tr>
<tr>
<td>Tree Ref. No.</td>
<td>Species</td>
<td>Height (m)</td>
<td>Stem Ø (mm)</td>
<td>Protective Linear Radius (m)</td>
<td>Branch Spread (m)</td>
<td>Height (m)</td>
<td>General Observations and Preliminary Management Recommendations (In bold).</td>
<td>Estimated Remaining Contribution</td>
<td>Category</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>T22</td>
<td>Common Lime (Tilia X europaea)</td>
<td>11</td>
<td>290</td>
<td>3.5</td>
<td>38</td>
<td>2 SE</td>
<td>Fair condition. Slightly suppressed crown development, growing within dense linear group. No tree works necessary.</td>
<td>10+</td>
<td>C2</td>
<td></td>
</tr>
<tr>
<td>T23</td>
<td>Apple</td>
<td>8</td>
<td>300</td>
<td>3.6</td>
<td>41</td>
<td>2</td>
<td>Fair condition. Dense ivy cover obscuring assessment of main stem, branch unions and upper crown. Suppressed crown development. Sever Ivy/reinspect.</td>
<td>10+</td>
<td>C2</td>
<td></td>
</tr>
<tr>
<td>T24</td>
<td>Apple</td>
<td>8</td>
<td>424</td>
<td>5.1</td>
<td>81</td>
<td>0.5</td>
<td>In decline. Dense ivy cover obscuring assessment of main stem, branch unions and upper crown. Suppressed crown development. Significant broken main stem. Minimal future potential; unsuitable for retention in proximity of new development. Sever Ivy.</td>
<td>&lt;10</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Tree Ref. No.</td>
<td>Species</td>
<td>Height (m)</td>
<td>Stem Ø (mm)</td>
<td>Protective Linear Radius (m)</td>
<td>RPA m²</td>
<td>Branch Spread (m)</td>
<td>Height (m)</td>
<td>General Observations and Preliminary Management Recommendations (In bold)</td>
<td>Estimated Remaining Contribution</td>
<td>Category</td>
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</tr>
<tr>
<td>T25</td>
<td>Apple</td>
<td>8</td>
<td>350</td>
<td>4.2</td>
<td>55</td>
<td>1 1 4 2</td>
<td>5 NW</td>
<td>In decline. Dense ivy cover obscuring assessment of main stem, branch unions and upper crown. Notable amount of dead wood present. Suppressed crown development. Significant broken main stem to the east. Little future potential; unsuitable for retention in proximity of new development. <strong>Clear fell.</strong></td>
<td>&lt;10</td>
<td>U</td>
</tr>
<tr>
<td>T26</td>
<td>Ash</td>
<td>12</td>
<td>240</td>
<td>2.9</td>
<td>26</td>
<td>0.5 2 3 2</td>
<td>3 N</td>
<td>Fair condition. Unremarkable tree with tall spindly form and suppressed crown development. <strong>No tree works necessary.</strong></td>
<td>10+</td>
<td>C2</td>
</tr>
<tr>
<td>T27</td>
<td>Wild Cherry</td>
<td>12</td>
<td>212</td>
<td>2.5</td>
<td>20</td>
<td>3 3 0.5 2</td>
<td>4 NW</td>
<td>Fair condition. Unremarkable twin stemmed tree with tall spindly form. <strong>No tree works necessary.</strong></td>
<td>10+</td>
<td>C3</td>
</tr>
<tr>
<td>Tree Ref. No.</td>
<td>Species</td>
<td>Height (m)</td>
<td>Stem Ø (mm)</td>
<td>Protective Linear Radius (m)</td>
<td>RPA m²</td>
<td>Branch Spread (m)</td>
<td>Height (m)</td>
<td>General Observations and Preliminary Management Recommendations (In bold).</td>
<td>Estimated Remaining Contribution</td>
<td>Category</td>
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</tr>
<tr>
<td>T29</td>
<td>Rowan (Sorbus aucuparia)</td>
<td>5</td>
<td>130</td>
<td>1.6</td>
<td>8</td>
<td>3 1 3 2</td>
<td>1.5 S</td>
<td>2.5 Y Poor condition. Suppressed crown development with limited future potential. Stem divides at approximately 1m height. <strong>No tree works necessary.</strong></td>
<td>10+</td>
<td>C2</td>
</tr>
<tr>
<td>T30</td>
<td>Silver Birch (Betula pendula)</td>
<td>12</td>
<td>160</td>
<td>1.9</td>
<td>12</td>
<td>2 1.5 1.5 1.5</td>
<td>2 N</td>
<td>1 EM Fair condition. Balanced crown shape. <strong>Crown lift clear of adjacent building.</strong></td>
<td>20+</td>
<td>B3</td>
</tr>
<tr>
<td>T31</td>
<td>Silver Birch</td>
<td>12</td>
<td>190</td>
<td>2.3</td>
<td>16</td>
<td>2.5 2 1.5 2</td>
<td>2 SW</td>
<td>1 EM Fair condition. Tall spindly form with slightly suppressed crown development to the south. <strong>No tree works necessary.</strong></td>
<td>20+</td>
<td>C3</td>
</tr>
<tr>
<td>B1</td>
<td>Cherry Laurel (Prunus laurocerasus)</td>
<td>1.2</td>
<td>60</td>
<td>0.7</td>
<td>2</td>
<td>0.6 0.6 0.6 0.6 0 0</td>
<td>0 EM</td>
<td>Fair condition. <strong>No tree works necessary.</strong></td>
<td>10+</td>
<td>C3</td>
</tr>
<tr>
<td>Tree Ref. No.</td>
<td>Species</td>
<td>Height (m)</td>
<td>Stem Ø (mm)</td>
<td>Protective Linear Radius (m)</td>
<td>RPA m²</td>
<td>Branch Spread (m)</td>
<td>Height (m)</td>
<td>Life Stage</td>
<td>General Observations and Preliminary Management Recommendations (In bold)</td>
<td>Estimated Remaining Contribution</td>
</tr>
<tr>
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<td>-------------------------------------------------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>B2</td>
<td>Cherry Laurel</td>
<td>5</td>
<td>150</td>
<td>1.8</td>
<td>10</td>
<td>4 4 4 4</td>
<td>0</td>
<td>M</td>
<td>Fair condition. No tree works necessary.</td>
<td>10+</td>
</tr>
<tr>
<td>H1</td>
<td>Snowberry, Holly (Symphoricarpos albus, Ilex aquifolium)</td>
<td>1.2</td>
<td>50</td>
<td>0.6</td>
<td>1</td>
<td>10 1 5 1</td>
<td>0</td>
<td>EM</td>
<td>Fair condition. Sparse section of managed amenity hedgerow. No tree works necessary.</td>
<td>10+</td>
</tr>
<tr>
<td>H2</td>
<td>Snowberry, Holly, Hawthorn</td>
<td>3</td>
<td>50</td>
<td>0.6</td>
<td>1</td>
<td>9 1 9 1</td>
<td>0</td>
<td>M</td>
<td>Fair condition. Section of unmanaged hedgerow presenting frontage of tree group to the adjacent highway. No tree works necessary.</td>
<td>10+</td>
</tr>
<tr>
<td>H3</td>
<td>Holly</td>
<td>7</td>
<td>100</td>
<td>1.2</td>
<td>5</td>
<td>8 2 6 2</td>
<td>0</td>
<td>M</td>
<td>Fair condition. Tall, unmanaged section of holly hedge. No tree works necessary.</td>
<td>10+</td>
</tr>
<tr>
<td>Tree Ref. No.</td>
<td>Species</td>
<td>Height (m)</td>
<td>Stem Ø (mm)</td>
<td>Protective Linear Radius (m)</td>
<td>RPA m²</td>
<td>Branch Spread (m)</td>
<td>Height (m)</td>
<td>General Observations and Preliminary Management Recommendations (In bold).</td>
<td>Estimated Remaining Contribution</td>
<td>Category</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------</td>
<td>------------</td>
<td>-------------</td>
<td>-----------------------------</td>
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<td>------------------</td>
<td>------------</td>
<td>--------------------------------------------------------------------------</td>
<td>----------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>H4</td>
<td>Hawthorn, Elder, Holly</td>
<td>6</td>
<td>170</td>
<td>2</td>
<td>13</td>
<td>15 2 10 2 0 0 0</td>
<td>M</td>
<td>Fair condition. Unmanaged section of hawthorn hedgerow with some other species present. <strong>No tree works necessary.</strong></td>
<td>10+</td>
<td>C2</td>
</tr>
<tr>
<td>G1</td>
<td>Sycamore</td>
<td>11</td>
<td>529</td>
<td>6.3</td>
<td>127</td>
<td>6 3 2 6 3 NW 4 4</td>
<td>EM</td>
<td>Fair condition. Small clump of multi stemmed trees growing immediately adjacent to a stone boundary wall. <strong>No tree works necessary.</strong></td>
<td>10+</td>
<td>C2</td>
</tr>
<tr>
<td>G2</td>
<td>Snowberry, Sycamore, Holly, Wild Cherry, Leyland Cypress, Hawthorn</td>
<td>10</td>
<td>150</td>
<td>1.8</td>
<td>10</td>
<td>4 10 4 10 0 0 0</td>
<td>EM</td>
<td>Fair condition. Group of trees providing useful screening value. Ivy cover obscuring assessment of main stems. <strong>No tree works necessary.</strong></td>
<td>10+</td>
<td>C2</td>
</tr>
<tr>
<td>Tree Ref. No.</td>
<td>Species</td>
<td>Height (m)</td>
<td>Stem Ø (mm)</td>
<td>Protective Linear Radius (m)</td>
<td>Branch Spread (m)</td>
<td>Height (m)</td>
<td>Life Stage</td>
<td>General Observations and Preliminary Management Recommendations (In bold).</td>
<td>Estimated Remaining Contribution</td>
<td>Category</td>
</tr>
<tr>
<td>--------------</td>
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<td>-------------</td>
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<td>------------</td>
<td>------------</td>
<td>---------------------------------------------------------------</td>
<td>-------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>G3</td>
<td>Snowberry, Elder</td>
<td>3</td>
<td>100</td>
<td>1.2</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>G4</td>
<td>Silver Birch, Hawthorn</td>
<td>11</td>
<td>170</td>
<td>2</td>
<td>13</td>
<td>3</td>
<td>7</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>
Appendix B  Existing Layout and Tree Survey Plan
Appendix C  Proposed Layout & Tree Protection Plan
British Standards BS 5877:2012 advises that new temporary ground protection should be capable of supporting any traffic entering or using the site without being disturbed or causing compaction to underlying soil and further provides the following note:

NOTE The ground protection might comprise one of the following:

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), clad onto a geotextile membrane;

b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), clad onto a geotextile membrane;

c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in consultation with arboricultural advice, to accommodate the likely loading to which it will be subjected.

Notes
Protective fencing for retained trees should be erected at the linear distances specified in the main tree survey schedule.

Hatched No-Dig areas denote those areas where additional ground protection measures have been specified in section 6.5.6 of the main report Ref: JH0614DODSBIDS

Table 7.1: Summary of Necessary Tree Works/Removals

<table>
<thead>
<tr>
<th>Tree Ref. No.</th>
<th>Species</th>
<th>BS 5877:2012 Category</th>
<th>Nature of Works and Necessity</th>
</tr>
</thead>
<tbody>
<tr>
<td>T7</td>
<td>Yew</td>
<td>C</td>
<td>Crown lift to approx. 2m height (facilitate installation of new post and rail fence).</td>
</tr>
<tr>
<td>T8</td>
<td>Leyland Cypress</td>
<td>C</td>
<td>Remove trees to directly implement proposals (visibility splay).</td>
</tr>
<tr>
<td>T19</td>
<td>Apple</td>
<td>C</td>
<td>Remove tree to facilitate construction and provide desirable layout juxtaposition (dominant tree within plot 2 garden area).</td>
</tr>
</tbody>
</table>
Appendix D  Protective Fencing Signage
PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.

TREE PROTECTION AREA KEEP OUT!
(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER. CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION
ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY
Appendix E  References


(BSi) BS 3998:2010, Tree Work - Recommendations.


Arboricultural Practice Note Number 12 (2007) Through the Trees to Development. Arboricultural Advisory and Information Service


## Appendix F  Life Stage & Condition Key

<table>
<thead>
<tr>
<th>Condition</th>
<th>Life Stage *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Newly Planted</td>
</tr>
<tr>
<td></td>
<td>Those trees that have been planted in the past 5 years.</td>
</tr>
<tr>
<td>Fair</td>
<td>Young</td>
</tr>
<tr>
<td></td>
<td>Those trees that are considered to be in the first third of their life expectancy.</td>
</tr>
<tr>
<td>Poor</td>
<td>Semi to Early Mature</td>
</tr>
<tr>
<td></td>
<td>Those trees that have not yet reached maturity and can be considered to be in the second third of their life expectancy.</td>
</tr>
<tr>
<td>In Decline</td>
<td>Mature</td>
</tr>
<tr>
<td></td>
<td>Those trees that can be described as being in the final third of their life expectancy.</td>
</tr>
<tr>
<td></td>
<td>Over Mature</td>
</tr>
<tr>
<td></td>
<td>Those trees that can be described as having exceeded their life expectancy that have yet to replicate those features typical of Veteran trees.</td>
</tr>
<tr>
<td></td>
<td>Veteran</td>
</tr>
<tr>
<td></td>
<td>A tree that exhibits typical signs and characteristics of such as described in the introduction of Veteran Trees: A guide to risk and responsibility (Davis, Fay &amp; Mynors 2000)</td>
</tr>
</tbody>
</table>

* Typical useful life expectancy of common trees. (Taken from Helliwell's Amenity Tree Valuation notes)

<table>
<thead>
<tr>
<th>Life Stage</th>
<th>Trees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newly Planted</td>
<td>Yew</td>
</tr>
<tr>
<td>Young</td>
<td>Oak, Sweet Chestnut, Plane, Sycamore, Lime</td>
</tr>
<tr>
<td>Semi to Early Mature</td>
<td>Scots Pine, Hornbeam, Beech, Tulip tree, N Maple, Lebanon Cedar</td>
</tr>
<tr>
<td>Mature</td>
<td>Ash, Spruce, Walnut, Red Oak, Horse Chestnut, F Maple, Monkey, Puzzle, Mulberry, Pear</td>
</tr>
<tr>
<td>Over Mature</td>
<td>Rowan, Whitebeam, Apple, Wild Cherry, Catalpa, Robinia, Ailanthus</td>
</tr>
<tr>
<td>Veteran</td>
<td>Poplars, Willows, Cherries, Alders, Birches</td>
</tr>
</tbody>
</table>

* Typical useful life expectancy of common trees. (Taken from Helliwell's Amenity Tree Valuation notes)
Appendix G  National Joint Utilities Guidance
TREE PROTECTION ZONE

Key to Diagram

- Trunk of Tree
- Spread of canopy or branches

**PROHIBITED ZONE – 1m from trunk.** Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.

**PRECAUTIONARY ZONE – 4 x tree circumference.** Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with Local Authority Tree Officer if in any doubt.

**PERMITTED ZONE – outside of precautionary zone.** Excavation works may be undertaken within this zone however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.
NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Issue 2

DAMAGE TO TREES
Tree roots keep a tree healthy and upright. Most roots are found in the top 600mm of soil and often grow out further than the tree’s height. The majority of these roots are very fine; even close to a tree few will be thicker than a pencil. Most street tree roots grow under the footway but may also extend under the carriageway. If roots are damaged the tree may suffer irreversible harm and eventually die.

PROTECTING ROOTS - DO’S and DON’TS
There are three designated zones around a tree each of which has its own criteria for working practices.

THE PROHIBITED ZONE

Don’t excavate within this zone.
Don’t use any form of mechanical plant within this zone
Don’t store materials, plant or equipment within this zone.
Don’t move plant or vehicles within this zone.
Don’t lean materials against, or chain plant to, the trunk.
Do contact the local authority tree officer or owner of the tree if excavation within this zone is unavoidable.
Do protect any exposed roots uncovered within this zone with dry sacking.
Do backfill with a suitable inert granular and top soil material mix as soon as possible on completion of works.
Do notify the local authority tree officer or the tree’s owner of any damage.

THE PRECAUTIONARY ZONE

Don’t excavate with machinery. Where excavation is unavoidable within this zone excavate only by hand or use trenchless techniques.
Don’t cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.
Don’t repeatedly move / use heavy mechanical plant except on hard standing.
Don’t store spoil or building material, including chemicals and fuels, within this zone.
Do prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.
Do backfill the trench with an inert granular material and top soil mix. Compact the backfill with care around the retained roots. On non highway sites backfill only with excavated soil.
Do protect any exposed roots with dry sacking ensuring this is removed before backfilling.
Do notify the local authority tree officer or the tree’s owner of any damage.

THE PERMITTED ZONE

Don’t cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.
Do use caution if it is absolutely necessary to operate mechanical plant within this zone.
Do prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.
Do protect any exposed roots with dry sacking ensuring this is removed before backfilling.
Do notify the local authority tree officer or the tree’s owner of any damage.