



**Arboricultural Impact Assessment,  
7 Avondale Road  
Waterlooville,  
Hampshire  
PO7 7ST**

**19.11.2016**

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**Document information**

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|                       |                                            |
|-----------------------|--------------------------------------------|
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**Notice to Interested Parties**

To achieve the study objectives stated in this report, we were required to base our conclusions on the best information available during the period of the investigation and within the limits prescribed by our client in the agreement.

No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information. Thus, we cannot guarantee that the investigations completely defined the degree or extent of e.g. species abundances or habitat management efficacy described in the report.

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## 1 INTRODUCTION

- 1.1 Arbeco Ltd were instructed by Mr Aaron Cook to identify and assess significant trees at 7 Avondale Road, Waterlooville, Hampshire PO7 7ST identifying all trees which might be affected by the proposed development of a summerhouse. This report has been used to inform the design proposals to minimise possible damage to trees.
- 1.2 A site visit was carried out by Chris Agnew on the 24<sup>th</sup> October 2016, who surveyed all the significant trees throughout the site, including those with a diameter at breast height (DBH) of more than 15cm (where possible, DBH is taken at 1.5m above ground level).

### Site Description

- 1.3 The site is located in the town of Waterlooville in the county of Hampshire (Ordnance Survey Grid Reference for centre of site SU 68611 09822). The site comprises a residential property with associated gardens to the front and rear. The rear garden contains a mixture of native and non-native broadleaved and non-native coniferous tree species. The immediate surrounding area comprises residential properties and gardens, recreation grounds and deciduous woodland copses to the north and east including The Queen's Enclosure, an area of ancient replanted woodland to the north.

### Development Proposals

- 1.4 The development proposals comprise the construction of a single story summerhouse of timber construction to the rear of the property.

## 2 METHODS

### **Arboricultural Survey**

- 2.1 All the trees surveyed were individually assessed from ground level using the Cascade Chart for Tree Quality Assessment, taken from BS 5837: 2012 (Appendix 1). Surveyed trees have been given a reference number which can be found within the Tree Survey (Appendix 5), and on the supplied drawings (Appendix 6).
- 2.2 Assessment is based around the useful life expectancy of the tree(s) and their condition and their contribution to the amenity value of the environment, categorised using four letters A, B, C and U, the values of which are described in Appendix 1.
- 2.3 Branch spread has been measured on four sides together with a letter denoting which side the measurement was taken, which correlates to the cardinal points north, east, south and west. Stem diameters are measured at 1.5m above ground where possible.
- 2.4 Current tree heights have been measured using a Forestry Pro height meter. Where trees were inaccessible, measurements were estimated using Pythagoras' theory of trigonometry.
- 2.5 Where, due to local constraints such as impenetrable vegetation or tree location in private property to which direct access to trees was not possible, field data will have been estimated and referenced by a letter rather than a number.
- 2.6 Where base topographical plans are not available or additional trees are added, it will sometimes be necessary to calculate the approximate position of these trees. Where this occurs, trees will be marked with the letters 'AP' (approximate position).

### 3 PLANS

#### **Tree Constraints Plan**

- 3.1 The Tree Constraints Plan (TCP) given in Figure 3.1, shows the Root Protection Areas (RPAs) for each tree or group of tree. The RPA radius is calculated by measuring the tree's DBH in mm and then dividing by 12. Once calculated, the measurement provides a minimum area around the tree that should be left undisturbed during the development, in order to remove the risk of decline and ensure the survival of the tree.
- 3.2 In certain circumstances, there may be scope to carry out some construction works within RPAs using proven measures. Where such works are required they must be detailed within an Arboricultural Method Statement (AMS). The AMS can be written once planning permission has been granted. In such circumstances, the AMS is usually submitted to the LPA for scrutiny.
- 3.3 Care will be taken during the construction process where tree canopies extend further than the RPA. Pruning works may be able to mitigate this, however, work should only be carried out after further assessment from the project Arboriculturalist and in accordance with BS 3998: 2010 "Tree Work: Recommendations".

#### **Tree Protection Plan**

- 3.4 A draft Tree Protection Plan (TPP) is shown in Figure 3.2 of this report. The TPP shows the required locations and specifications of protective barriers and any other relevant protection measures, including ground protection, which creates a Construction Exclusion Zone (CEZ).
- 3.5 A CEZ is to be created where only pedestrian access is permitted. Tree protection fencing in the form of stem boards is required to protect the stems of the retained trees.
- 3.6 The final draft of the TPP will form part of the AMS and will be issued once planning permission has been granted and will detail specific protection measures detailed in the accompanying AMS if required by the LPA.

## 4 RESULTS

### Observations

- 4.1 Five trees were subject to assessment during the survey. The trees were categorised and comprised one category A1 tree (T3), two category B1 trees (T4 and T5), one category C1 tree (T1) and one category U tree (T2).
- 4.2 T3 is a category A1 mature pedunculate oak *Quercus robur*, located on the norther site boundary which has been allocated a Tree Preservation Order (TPO). This tree was in good overall health, although ivy covered the stem and deadwood was evident in the crown. This is common for this species and age class. An in-depth visual basal assessment could not be made at the time of the survey due to the presence of ivy. The ivy will need to be severed and allowed to die off followed by a re-inspection of the tree to determine its overall structural health. The removal of deadwood is to be completed prior to the construction works
- 4.3 T4 is a category B1 pedunculate oak and T5 is a category B1 sycamore *Acer pseudoplatanus* both located on the western boundary. Access to these trees was limited at the time of survey and crown spread has been estimated on the western side of the trees. Ivy covered the stem of T4 therefore a re-inspection after the ivy is severed will be required to observe the structural health of this tree. T5 was in good overall condition although has been reduced on the eastern side recently.
- 4.4 T1 is a category C1 Leyland cypress *Cupressocyparis leylandii* located on the eastern site boundary. T1 is a small specimen in good overall physiological condition.
- 4.5 T2 is a mature Ash *Fraxinus excelsior* located on the eastern site boundary which has been heavily reduced back to stumps recently and has a significant lean towards the garden. Root disturbance is also evident and this tree has therefore been categorised as U.

## 5 ARBORICULTURAL IMPACT ASSESSMENT

- 5.1 After establishing the position of the trees and calculating their RPAs, the footprint of the new development was overlaid onto the TPP to identify whether the development proposals impact the trees in any way. Showing which trees may be affected will allow for changes or mitigation and this may have a bearing on the final design layout.
- 5.2 In general, the older a tree specimen is the more susceptible it is to disturbance and environmental change. Damage is commonly caused by:
- Compaction of soil around the tree, especially in the RPA, markedly reducing root function in gaseous exchange and absorption of water and minerals;
  - Physical damage to roots by cutting, bark removal or severing;
  - Spillage of contaminants within the RPA;
  - Physical damage to the stem and branches
- 5.3 The effects of damage may not be immediately apparent and the damaged tree may not display symptoms until a year has passed. Symptoms may include: dieback in the crown, retreat to a 'secondary crown', and even death of the specimen. Such symptoms are dependent on the extent and severity of the damage and the ability of the tree to regrow new, undamaged roots, wood and branches.
- 5.4 The arboricultural impact assessment is summarised in Table 5.1 below.

**Table 5.1:** Arboricultural Impact Assessment

| Tree number | Tree species    | Retention category | Age class | RPA Affected | Nature of impact                                            | Comments and observations                    | Mitigation Required                                                                                  |
|-------------|-----------------|--------------------|-----------|--------------|-------------------------------------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------|
| 1           | Leyland Cypress | C1                 | J         | <3%          | General construction impacts, foundations design inside RPA | Small specimen                               | 1. CEZ pedestrian access only.2. Pad and beam hand dig foundation design inside RPA. 3. Stem boards. |
| 2           | Ash             | U                  | M         | NA           | General construction impacts, foundations design inside RPA | Root disturbance evident, significant lean.  | Fell to ground level                                                                                 |
| 3           | Pedunculate Oak | A1                 | NA        | <20%         | General construction impacts, foundations design inside RPA | TPO tree                                     | 1. CEZ pedestrian access only.2. Pad and beam hand dig foundation design inside RPA. 3. Stem boards. |
| 4           | Pedunculate Oak | B1                 | M         | <10%         | General construction impacts, foundations design inside RPA | Located on the western boundary of the site. | 1. CEZ pedestrian access only.2. Pad and beam hand dig foundation design inside RPA. 3. Stem boards. |
| 5           | Sycamore        | B1                 | M         | 50% CEZ      | General construction impacts                                | Located on the western boundary of the site. | 1. CEZ pedestrian access only.<br>2. Stem boards.                                                    |

### **Tree Surgery Work**

- 5.5 A schedule for tree surgery works should be produced before construction work commences. This should include details of what works are required to each tree assessed in the survey and take into account the recommendations made in this report . Preventative measures thought pertinent in respect of raising crowns of trees likely to be affected by passage of machinery beneath or by the erection of tree protection barriers must also be taken into account. An assessment of such works should be made by the project arboriculturalist.
- 5.6 All works will be carried out by a competent tree surgery firm, to standards recommended in the BS 3998: 2010 "Tree works – recommendations" document.

### **Tree Protection**

- 5.7 Tree protection barriers should be erected around any trees that are to be retained prior to any materials or machinery being brought onto the site and before any demolition or soil stripping occurs. The location of the barriers (fencing) is shown on the Tree Protection Plan.
- 5.8 Once erected any barriers or ground protection should be thought of as impermeable and should not be removed or altered without consultation and approval from the project arboriculturalist, who may require the production of an AMS as mitigation (except where there has been planned prior proposed development within these areas and special construction methods have been agreed). Such incidences will be detailed in the report and alternative routes and locations of protective barriers will be shown in the TPP.
- 5.9 The barriers should remain in situ and intact for the duration of the works. If breaches occur during this period work will stop and the breach must be repaired. Once the construction work is complete the barriers may be removed to facilitate soft landscaping. However, it is important that no heavy machinery is used at this stage within the RPAs unless suitable ground protection is employed, following further consultation with the project arboriculturalist.
- 5.10 A pad and beam foundation design is required, where a trial hole can be dug by hand to find areas with minimal root systems. Any roots below 25mm can be severed using sharp arborist tools and wrapped in a hessian bag. Roots above 25mm cannot be severed unless advice is sort from either the project arboriculturalist or the LPA.
- 5.11 The number of pads, depths and width of holes, and infill material will all be determined by the trial holes, and the final design will need to be approved by the LPA. All work inside the RPA will need to be in accordance with an AMS.

### **Pad and beam advice and preliminary method statement for construction of the summer house.**

- 5.12 It is worth noting that access to this site is limited through a small pedestrian gate where a piling rig will not fit. A tradition piling design for this site is not suitable for this reason and new pad and beam foundation design is required as the solution to minimise any negative impacts caused by the retained trees on the site.

5.13 A pad and beam design in this scenario is an adequate form of protection to minimise negative impacts such as root severance and soil compaction. The specification is as follows:

- The depth of the pads is in the first 200mm of the soil and an additional 40mm for the infill granular material, this means the trial holes are less likely to find larger roots in comparison with a traditional strip or raft foundation.
- The pads are 400mm x 400mm minimizing the working area needed for the construction of the summer house. The load of the house can be spread across the area, and soil penetration in the form of spiking can improve soil structure and gaseous exchange.
- The total area compromised by the pads inside the RPA is less than 5% and any negative impacts can be reduced by following the correct working methodology.
- No machinery is allowed inside the CEZ and all excavations are to be completed by hand.
- Sixteen trial holes are to be dug to 240mm depth. If roots are found with a diameter of less than 25mm, these roots can be severed using shape arborist tools covered in soil and wrapped in a hessian bag.
- If roots are found to be larger than 25mm in diameter they cannot be severed unless approved by the project arborist or the LPA. If a particular area is not suitable then an adjacent trial hole can be dug to located the most suitable location for the pads. This is to be repeated until the final location of the pads is confirmed, this can then inform the design of the summer house.
- Once the location of the pads has been finalised ground spiking is required throughout the base of the hole to a further depth of 300mm. This can be done using a garden fork.
- Clean granular infill material is to be laid to a depth of 40mm, this is the support base for the pads. No concrete is to be used inside the RPA and the design needs to be approved by an engineer and the LPA.
- The pads are to be laid into the hole and any hessian bags are to be removed at this stage.
- Brackets are to be placed on the pads, and the spoil is to be placed back into the hole, filling to ground level.
- Beams are to be laid across, and then the above ground construction can then be completed. Only pedestrians access is permitted inside the CEZ as specified in the AIA.

## 6 SCHEDULING OF WORK

- 6.1 It is advised that consultation with the developer, architects and planners is carried out during the development of the AMS, including an on-site pre-commencement meeting before any of the demolition and construction work begins. The site manager/agent, the project arboriculturalist and a Council representative, if available, should be in attendance. If a representative from the council is not present, details of discussions and agreements made in the meeting can be presented, in writing, to the LPA, by the project arboriculturalist.
- 6.2 All the tree protection measures detailed in this report must be discussed, so that details and timings of their implementation are understood by all relevant parties. Clarifications or modifications resulting from the meeting must be circulated to all in writing. It may be advisable that the tree surgery contractor(s) attend this meeting.
- 6.3 Thereafter it will be necessary to monitor and assess progress throughout the development. If guidelines are followed the trees to be retained and of value will be retained successfully and with minimal impact and damage.

**Table 6.1:** Proposed schedule of works

| <b>Timescale</b>   | <b>Task</b>                                                                    | <b>Responsibility</b>                                       |
|--------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------|
| Pre development    | Pre-commencement meeting with all relevant parties                             | To be arranged by contractor                                |
| Pre development    | Preliminary tree works identified, approved & sent for tender                  | To be arranged by developer, with arboricultural consultant |
| Pre development    | Pre-construction tree work implemented and supervised                          | To be arranged by developer, with arboricultural consultant |
| Pre development    | Erection of protective barriers and ground protection, as agreed and approved  | To be arranged by developer, with arboricultural consultant |
| Pre development    | Carry out supervisory visits as agreed and report findings and recommendations | To be arranged by developer, with arboricultural consultant |
| During development | Carry out supervisory visits as agreed and report findings and recommendations | To be arranged by developer, with arboricultural consultant |
| Post development   | Phased removal of protective barriers with soft landscaping                    | To be arranged by developer, with arboricultural consultant |
| Post development   | Inspect retained trees and carry out remedial tree work as necessary           | To be arranged by developer, with arboricultural consultant |

## 7 SUMMARY AND CONCLUSIONS

- 7.1 The development proposal comprises the construction of a single story summerhouse of timber construction to the rear of the property at the end of the garden.
- 7.2 Five trees were subject to assessment during the survey. The trees were categorised and comprised one category A1 tree (T3), two category B1 trees (T4 and T5), one category C1 tree (T1) and one category U tree (T2). The A1 tree is a mature oak tree T3, which has a Tree Preservation Order (TPO) associated with it.
- 7.3 T2, a category U tree, can be removed for health and safety reasons. T3, a category A1 tree, requires remedial tree works and further inspection after the ivy is severed from its stems. T4, a category B1 tree requires further inspection after the ivy is severed from its stems.
- 7.4 The RPAs of T1, T3 and T4 are inside the summerhouse footprint and will require additional protection and sound arboricultural methodology to minimize any negative impacts caused by the construction phase.
- 7.5 A pad and beam foundation design is required, where a trial hole can be dug by hand to find areas with minimal root systems. Any roots below 25mm can be severed using sharp arborist tools and wrapped in a hessian bag. Roots above 25mm cannot be severed unless advice is sought from either the project arborist or the LPA.
- 7.6 The number of pads, depths and width of holes, and infill material will all be determined by the trial holes, and the final design will need to be approved by the LPA. All work inside the RPA will need to be in accordance with an AMS.
- 7.7 It is my considered opinion that any negative impacts caused by the construction of this summerhouse can be greatly reduced by using the above correct working methodology and there is no reason why this project cannot go ahead.

## APPENDIX 1 – Cascade chart for tree quality assessment

Table 1 Cascade chart for tree quality assessment

| Category and definition                                                                                                                                                   | Criteria (including subcategories where appropriate)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                   |                                                                                                                                       | Identification on plan |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Trees unsuitable for retention (see Note)                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                   |                                                                                                                                       |                        |
| <b>Category U</b><br>Those 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 | <ul style="list-style-type: none"><li>• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)</li><li>• Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li><li>• Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality</li></ul> <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i></p> |                                                                                                                                                                                                                                                                   |                                                                                                                                       | See Table 2            |
|                                                                                                                                                                           | 1 Mainly arboricultural qualities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2 Mainly landscape qualities                                                                                                                                                                                                                                      | 3 Mainly cultural values, including conservation                                                                                      |                        |
| Trees to be considered for retention                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                   |                                                                                                                                       |                        |
| <b>Category A</b><br>Trees of high quality with an estimated remaining life expectancy of at least 40 years                                                               | Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features                                                                                                                                                            | Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture) | See Table 2            |
| <b>Category B</b><br>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years                                                           | Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation                                                                                                                                                                                                                                                                                                                                                                                                                  | Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality | Trees with material conservation or other cultural value                                                                              | See Table 2            |
| <b>Category C</b><br>Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm              | Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits                                                              | Trees with no material conservation or other cultural value                                                                           | See Table 2            |

BS 5837:2012

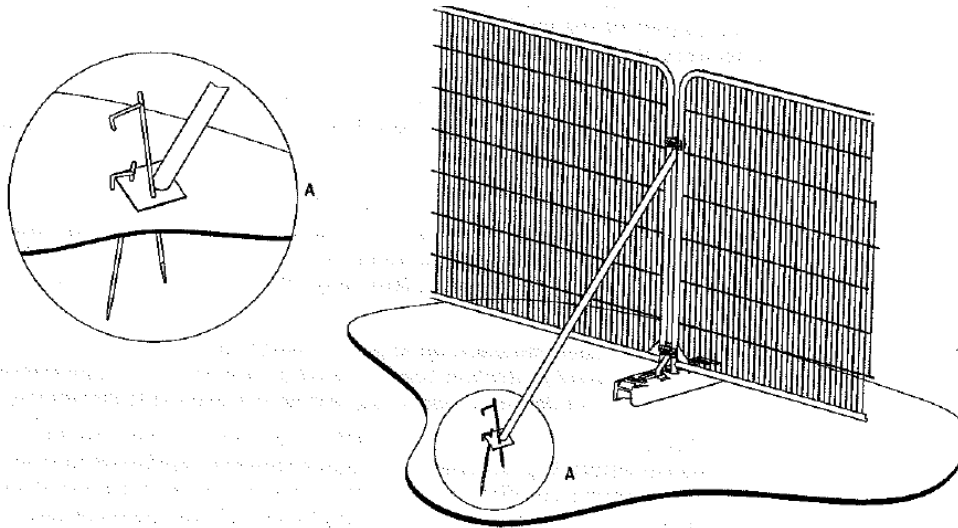
BRITISH STANDARD

Table 2 Identification of tree categories

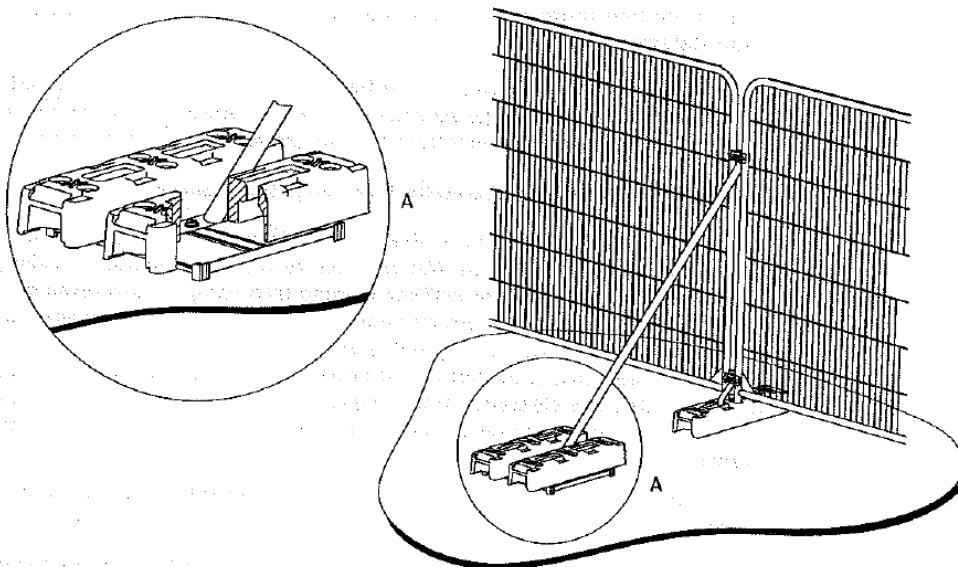
| Category (from Table 1) | Colour <sup>A)</sup> | RGB code <sup>A)</sup> |
|-------------------------|----------------------|------------------------|
| U                       | Dark red             | 127-000-000            |
| A                       | Light green          | 000-255-000            |
| B                       | Mid blue             | 000-000-255            |
| C                       | Grey                 | 091-091-091            |

<sup>A)</sup> Colours verified against <http://safecolours.rigdenage.com/palettefiles.html#files> [viewed 2012-03-26].

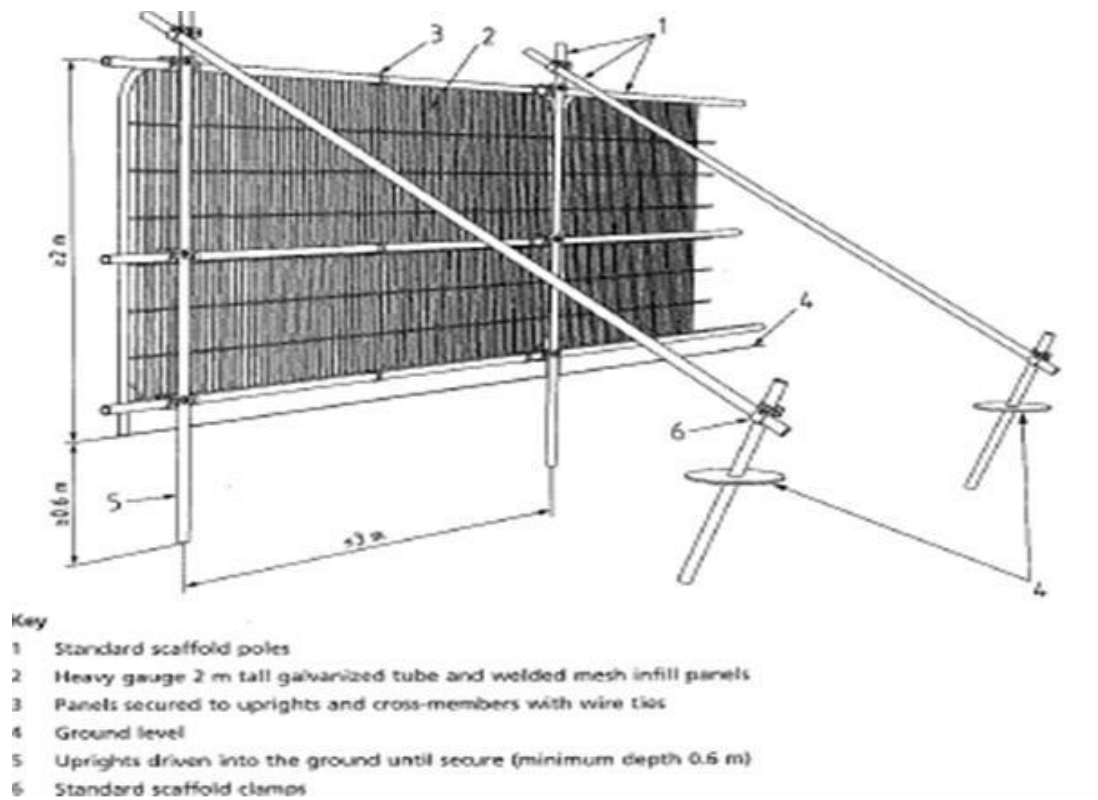
## APPENDIX 2 – BS5837 Recommended protective barrier (Fence A-Herras fence)



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray



## APPENDIX 3 – Pad and beam design

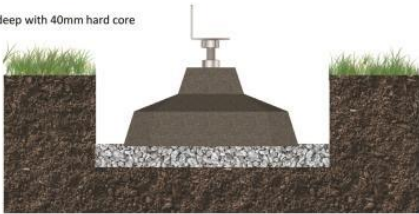


**EasyPad Installation Guide for Small Garden Buildings**

In order to help prevent the impact of seasonal movement on your foundations, we recommend that your foundations extend a minimum of 200mm into the ground. The depth of your footings will depend on the loads placed on the EasyPads and the ability of the ground to bear this load. The higher the load the bigger the footing. The poorer the ground conditions the wider and deeper the footings. The pads can sit on top of MOT or DOT compacted hard core.

The EasyPads can be inserted into the ground or they can be surface mounted.

200mm deep with 40mm hard core



Slightly raised above ground level



Surface mounted pads



Bracket at ground level



Clients are responsible for assessing their site ground conditions

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## APPENDIX 4 – Glossary of terms

**Arboricultural Implications Assessment (AIA)** A study, undertaken by an arboriculturalist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.

**Arboricultural Method Statement (AMS)** The methodology for the implementation of any aspect of development that has potential to result in loss of or damage to a tree.

**Construction Exclusion Zone** Area based on the RPA (in square metres) identified by an arboriculturalist, to be protected during development, including demolition and construction work, by the use of barriers and/or ground protection fit for purpose to ensure the long-term retention of a tree.

**Crown clearance** The height or spread in metres of the lowest significant branches above ground level.

**Diameter** Trunk diameter measured at 1.5m above ground level or at the base of trees where they are twin or multi-stemmed.

**DBH** Diameter at breast height.

**Height** The height of a tree measured using a clinometer.

**Management recommendations** General comments on the condition of the tree, group or woodland and recommendations for future works.

**Pruning** The removal of living or dead parts of a tree. Such parts may be soft growth (leaves) branches limbs or sections of the trunk or stem.

**Root Protection Area (RPA)** Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form, in square metres.

**Species** The species is based on field observation and lists the common and botanical name of the specimen.

**Spread** Measurement of the largest extent of the trees branch growth.

**Structural condition** Description of any decayed or physical defects.

**Tree Constraints Plan (TCP)** Plan prepared by an arboriculturalist for the purpose of layout design showing the RPA and representing the effect that mature height and spread of retained trees will have on layouts through shade, dominance etc.

**Tree Protection Plan (TPP)** Scale drawing prepared by arboriculturalist showing the finalised layout proposals, tree retention and tree and landscape protection measures detailed within the AMS, which can be shown graphically.

## APPENDIX 5 – Tree Survey

| Tree # | Tree species    | Age class | Estimated remaining contribution (years) | Tree Height (m) | Number of stems | Stem diameter (mm) | Crown spread (m) |     |     |      | Height to underside of canopy (m) | Physiological condition | Structural condition | Quality Assessment Category | Comments and observations                                           | Recommended works                                                            | Root Protection Area Radius (m) for retained trees |
|--------|-----------------|-----------|------------------------------------------|-----------------|-----------------|--------------------|------------------|-----|-----|------|-----------------------------------|-------------------------|----------------------|-----------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------|----------------------------------------------------|
|        |                 |           |                                          |                 |                 |                    | N                | E   | S   | W    |                                   |                         |                      |                             |                                                                     |                                                                              |                                                    |
| 1      | Leyland Cypress | J         | 10                                       | 5               | 1               | 250                | 1.0              | 1.0 | 2.5 | 2.5  | 2.0                               | Good                    | Fair                 | C1                          | Fair specimen                                                       |                                                                              | 3.0                                                |
| 2      | Ash             | M         | 10                                       | 11              | 1               | 520                | 1.0              | 3.0 | 5.4 | 5.6  | 6.5                               | Poor                    | Fair                 | U                           | Heavily reduced in past, significant lean, root disturbance evident | Fell to ground level                                                         | N/A                                                |
| 3      | Oak             | M         | 40                                       | 12              | 1               | 920                | 6#               | 7.5 | 9.0 | 4.5  | 5.0                               | Good                    | Fair                 | A1                          | Ivy covering stem, basal cavity present, major deadwood in crown    | Server ivy, remove deadwood, reduce crown by 1-2m overall re inspect 6 month | 11.0                                               |
| 4      | Oak             | M         | 40                                       | 11              | 1               | 520                | 5.0              | 5.0 | 4.5 | 5#   | 5.0                               | Good                    | Fair                 | B1                          | Deadwood in crown, ivy covering base                                | Server ivy remove deadwood reinspect 6 months                                | 6.2                                                |
| 5      | Sycamore        | M         | 20                                       | 11              | 3               | 450 300 200        | 4.0              | 3.0 | 6.5 | 6.5# | 6.0                               | Good                    | Fair                 | B1                          | Recently reduced on garden side                                     |                                                                              | 11.4                                               |

\*\*Tree Species Scientific names

\* Estimated measurements annotated with

## **APPENDIX 6 - Figures**

**Figure 3.1: Tree Constraints Plan**

**Figure 3.2: Tree Protection Plan**

