

Shields Arboricultural Consultancy

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Arboricultural Implication Assessment

Reference:

WPW/05/12/AIA.

Rev:

9th May 2010

At the Site of:

The Walnut Public House
Walnut Street
Rhosddu
Wrexham

Commissioned by:

Blueprint
Architectural Services

Inspection commenced:
April 2012

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- | | |
|-------------------------------|---|
| ▪ Trees, Litigation & the Law | ▪ Tree-related Environmental Impact Assessments |
| ▪ Planning & Appeals | ▪ Subsidence Risk Assessment |
| ▪ Mortgage Surveys | ▪ Trees & Development Sites (BS 5837) |
| ▪ Tree Preservation Orders | ▪ Tree Hazard & Risk Assessment |



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Arboricultural Implication Assessment

Land at
The Walnut Public House
Walnut Street
Rhosddu
Wrexham

Introduction

- 1.1 Shields Arboricultural Consultancy received instructions from Mr D. Edwards on behalf of Blueprint Architectural, to provide an arboricultural implication assessment in respect of the above site.
- 1.2 Planning permission is being sought to re-develop this brown field site to provide residential housing.

Scope & Limitations

- 2.1 The purpose of the report is to assess the environmental and amenity values of all trees on or adjacent to the area affected by the proposed development. The report will assess the long-term contribution that the trees can make to the area and the arboricultural implications of retaining them and seek to find a satisfactory juxtaposition between the trees and the new development. The report will assess the potential impact that may arise as a result of the proposed construction works and make recommendations for protecting trees, hedges and shrubs where appropriate
- 2.2 The report is prepared in accordance with the recommendations of the British Standard Document BS 5837: 2012 'Trees in Relation to Construction'.
- 2.3 This report is not an ecological assessment and does not identify habitats or constitute a protected species survey.

Statutory Controls & Obligations

- 3.1 Forestry Act; the felling of trees is controlled by the Forestry Act, which requires that a felling licence is obtained prior to cutting down any trees. The Forestry Act does not apply to the felling of trees growing within an orchard, private garden, churchyard or public open space. The Forestry Commission has the responsibility for enforcing the Forestry Act.

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- 3.2 Tree Preservation Orders & Conservation Areas; Local Authorities have specific powers under the Town & Country Planning Act 1990 as amended, to protect trees through the use of Tree Preservation Orders. Where trees are protected under such orders it is a criminal offence (subject to any exemptions for which provision may be made by the act or order) to undertake, cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of trees except with the consent of the local planning authority. Similar controls apply to all trees growing within a designated Conservation Area.
- 3.3 Bats, wild birds and other protected species; The Wildlife & Countryside Act & the Conservation (Natural Habitats & C.) Regulations make it an offence to disturb or destroy bats and bat roosts and wild birds and their nests. Other species of plant and animal are also protected. These creatures often inhabit trees and sufficient care must be taken to ensure they are not affected during forestry and arboricultural works.

Site Description

- 4.1 The proposed development site is a former public house and associated car park situated at a cross roads, within a residential area of Rhosddu, Wrexham. The site is square in shape and extends to approximately 0.08ha. It shares boundaries with public highways to the north, west and south and with the garden areas of adjacent residential properties to the east.
- 4.2 The existing building stands in the north west corner of the site and the remainder is currently car parking and under hard standing. There is a small paved area immediately to the south of the building, separated from the car park by a dwarf wall. The site boundaries are in the form of high brick walls, with the main entrance in the north boundary.
- 4.3 There are two trees on the site, the first is a large walnut tree situated centre east in the site with the second in a raised bed within the paved area to the south west.
- 4.4 Owing to the nature of the site, soils are not easily assessed but are considered to be of typically variable and disturbed nature across the site. There is no evidence of any water logging and, as much of the site is under non-porous surfaces there may be a permanent moisture deficit. It is recommended that soils be tested to establish their plasticity and current soil moisture deficit and foundations designed to take account of the presence of a large mature tree.

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Tree Survey Methodology

- 5.1 All trees within and adjacent to the site have been assessed where they are within 15 m of any area that may be disturbed as a result of the proposed development and have a stem diameter over 120mm (over 150mm in woodland) at 1.5 metres. Measurements have been taken in accordance with the procedures and protocols set out in BS 5837 and the Forest Mensuration Handbook. Height measurements are approximate unless otherwise stated. Trees have been assessed as individuals, groups or woodlands as appropriate. Where access to trees has been restricted, either as a result of their situation on private land or where vegetation or ground conditions are unfavourable, an estimation of trunk diameter has been made. This entails using a set of callipers to approximate the measurement. Estimates are rounded up to provide a margin. This technique has only been used where there is a sufficient buffer between the RPAs and any area disturbed by development. Where trees are in woodland or groups only the boundary trees are assessed unless there are larger trees with RPAs or crowns that would overlap the edge trees. In these cases maximum crown extension into the site is used for assessment of crown position,
- 5.2 BS 5837: 2012 provides the framework through which tree can be categorised in terms of their health, amenity value and long-term viability for retention on a development site. There are four categories, A,B,C & U. The most significant or valuable trees are placed in the categories, A & B. Site design should make provision to retain trees in these categories and most Local Planning Authorities will insist upon this (or in exceptional circumstances will require that significant compensation planting is incorporated into the design), whilst trees that should not be a constraint to development are recorded with a C category. Trees categorised as U are in a poor condition and should be removed prior to the commencement of work.
- 5.3 Where trees are to be retained, it is necessary to ensure that they are suitably protected to avoid damage during the construction phase of the development. It is also important to consider any long term implications, such as issues with shading or leaf litter that may arise as a result of tree retention.
- 5.4 To ensure that trees are not adversely affected by the construction works it is necessary to:
- The avoidance of physical damage to the aerial parts of the trees (i.e. Impact and other damage to trunk and branches)
 - The avoidance of damage to retained trees as a result of the severance or other physical damage to their roots

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- c. Preserve of the character of the soil, through the avoidance of any activity that would cause it to become compacted or otherwise disturbed or disrupted, and to avoid contamination by potentially harmful substances
- d. To ensure free gaseous exchange is permitted between the upper layers of soil and the atmosphere
- e. To ensure adequate (but not excessive) water supply to the soil and hence to tree roots

This would normally be achieved by establishing an area, known as a construction exclusion zone (CEZ) around each tree. The CEZ is derived from the root protection area (RPA) and the crown spread of the tree. The RPA represents the area occupied by the tree's root system and is calculated for each tree based on its stem diameter and the ground conditions present taking account of and any impediment to rooting. The RPA should represent the most probable position of the tree's root system.

The CEZ must be considered sacrosanct and be maintained completely undisturbed. No construction should take place within this area and it should not be used for storage of materials or fuels. Access for vehicles machinery or personnel is prohibited and to ensure that it is not damaged by construction activity it must be suitably protected during the construction phase, using robust fencing or alternative ground protection methods, to prevent disturbance and damage occurring.

- 5.5 In addition to the implications that a new development may have for existing trees it is also important to assess any long term issues or concerns that may arise as a result of retaining trees close to a new dwelling or structure. This can include problems associated with leaf litter and other debris that may fall from trees, the potential that a tree has to cause damage to a structure in the future, any on going maintenance requirements that may arise and the level of shade that the tree may cast. Trees can also cause feelings of apprehension to the occupiers of nearby buildings and can have an over bearing impact on a property if adequate space is not provided.
- 5.6 The report assesses all trees with regard to their size, position and natural characteristics, and taking into account of their future growth provides recommendations as to their long term suitability for retention within the proposed development.

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Arboricultural Implication Assessment

- 6.1 Full details of the tree surveyed are provided in appendix A. and their relative positions, crown spreads, root protection areas are indicated on the attached plans.
- 6.2 No checks have been undertaken to establish the status of the trees with regards to Tree Preservation Orders or Conservation Areas (see Section 3.2). No trees or hedges should be felled, lopped, topped or in otherwise removed or damaged without prior permission from the relevant authority.
- 6.3 The survey has identified 2 trees on the site, a large, mature common walnut (*Juglans regia*) and a small, young Himalayan birch (*Betula utilis* 'Jacquemontii'). The walnut is a very significant specimen tree, prominent in the landscape and the tree which provides the pub and adjacent street with its name. The birch is an attractive specimen but, as the tree is young and relatively small in size, any amenity it provides could easily be replaced through the planting of a new specimen tree, should this be required.
- 6.4 Two site layouts have been put forward for the site. The first layout, block 1 (plan ref: U002/014) sites the proposed building to along part of the north and the west boundary of the site, with a small area of amenity space to the south. The remainder of the site would be used as car parking. In this scenario tree 1 could be fully protected as there would be no construction or demolition within its required RPA, although in practice it would be necessary to provide working space around the building using ground protection and a special construction method would also be required for the car parking area, it would not be possible to retain tree 2. In the second scenario block 2 (plan ref: U002/015) two buildings are to be constructed. Building 1 would be again be situated along part of the north and the west boundary, but not extending so far to the south, whilst the smaller building 2 would be in the north east corner, again there is a small amenity area in the south west corner with the remainder of the site used for car parking. In this case there would be a slight encroachment into the RPA of tree 1, approximately 20 m sq. or >5% of the total RPA. Given the age, current condition and vitality of the tree, combined with the site ground conditions in the proposed location of building 2 it is considered that the tree could tolerate disturbance to this small portion of the RPA, although it should be noted that this species is sensitive to root loss. Tree 2 could be retained in this layout, although it may be considered more appropriate to remove and replace this specimen with the general landscaping of the site. As in scenario 1 it would be necessary to provide working space around the building using ground protection and a special precautions would also be required for the re-surfacing the car parking area.

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- 6.5 The location of the tree relative to the proposed buildings is such that it may cause some degree of shading, particularly to building 2 in the second scenario. However, given the nature of the building and its occupancy, this is not considered to be significant. Issues surrounding tree safety concerns can be addressed through regular professional inspection of the tree and problems associated with leaf litter and deposits will be reduced given that the surrounding area is hard surfaced.
- 6.6 Both layouts provide for the retention of tree 1 the most significant tree on the site and although tree 2 could be lost any detrimental impact on amenity could be ameliorated through landscaping of the development. If tree 1 is to be satisfactorily retained, it will be necessary to afford it proper protection during the demolition and construction phases of the development. Details of specific tree protection measures and the performance specification and method statement for re-instating the car park are given in section 8.

Arboricultural Operations

- 7.1 If tree removal or pruning will be required, subject to a grant of planning permission, to implement this development the work should be undertaken by a suitably qualified person, holding public liability insurance for the sum of £5,000 000. All operators must hold relevant NPTC certificates. A site specific risk assessment must be prepared and operators must work to a health and safety method statement.
- 7.2 The contractor undertaking the work is responsible for any loss or damage arising as a result of the operations and agrees to indemnify the owner against such occurrences.
- 7.3 All tree protection measures specified in the following section and shown on the accompanying TPP are to be fully installed prior to the commencement of the arboricultural works. Where access is required to the trees, then suitable ground protection must be used in lieu of the tree protection fences.

Arboricultural Method Statement

- 8.1 This arboricultural method statement (AMS) sets out the details of tree protection measures and the methodology for all proposed works that affect the retained trees on and adjacent to the site.
- 8.2 This document should be read in conjunction with the Tree Protection Plan (TPP). The TPP indicates the construction exclusion zone (CEZ) that must be maintained around each retained tree. These areas must

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remain undisturbed during the construction process and must be protected using suitable fencing or ground protection as specified.

- 8.3 Copies of the TPP & the AMS must be available on site and all tree protection requirements explained to all persons undertaking activities on the site during the site induction process.
- 8.4 All tree protection measures must be installed and inspected prior to bringing onto the site any plant, materials or equipment or undertaking any construction works or demolition or any arboricultural works. The LPA must be informed in writing once the tree protection measures are installed.
- 8.5 The site is to be inspected by the consulting arboriculturalist in accordance with the schedule of inspections.
- 8.6 All measurements are given in metric using standard abbreviations.

Fencing and Ground Protection

- 8.7 The TPP indicates the position all protective fences.
- 8.8 Protective fencing will comprise a 2.4 m high scaffold frame work with vertical and horizontal poles, driven into the ground to a depth of 0.6 m and well braced to resist impact. Onto this framework 'weldmesh' or 'herres' fencing panels must be securely fixed using scaffolding clamps or as agreed with the Local Planning Authority.
- 8.9 Where ground protection is specified it will consist of a proprietary system such as Ground Guard protective plates which must extend over the entire area indicated on the TPP and be securely fastened in place. The type of guard used must be suitable for loads up to 40 tonnes or more.
- 8.10 The protective fencing and ground protection must be inspected on installation and will remain in place until completion of the construction phase and then only removed with the consent of the LPA.
- 8.11 Other than works approved in writing by the LPA, no works including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing.

General Precautions

- 8.12 No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10m of the trunk of a tree that is to be retained or within any part of the CEZ.
- 8.13 No fires will be lit within 20m of the trunk of any tree that is to be retained.
- 8.14 Storage and mixing areas must be outside the CEZ and must be identified prior to the commencement of the construction work.

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Contractor parking should be off site. It may be possible to situate site huts and toilets within the CEZ, providing that they are:

1. Placed on load distributing pads.
2. Can be positioned and serviced without coming into contact with the crown of the tree or allowing any vehicle to operate within the RPA.
3. All services are connected above ground level.
4. The buildings can be accessed from outside the CEZ or all routes are ground protected.

The site buildings would then form part of the tree protection barrier.

- 8.15 Access to the work area is via the main site entrance and must not traverse the CEZ.
- 8.16 All service and drainage routes, below or above ground must avoid the CEZ. All services are to be installed in accordance with NJUG volume 4 Guidelines.

Specific Details

- 8.17 Should re-surfacing of the car park be required the following precautions must be adhered to. Work must not be undertaken until all other site work has been completed. Protective fences and ground protection is removed. The soft landscape area immediately around the tree is to be protected by Tree Protection Fencing as specified above and this area is to remain completely undisturbed. The new surface is to be applied as a top dressing only with no disturbance to the existing surface or its sub base with the exception a of removing loose debris and localised repairs, which must be undertaken using hand tools. In addition to the general precautions listed above, no heat sources such as tar boilers are to by kept or used within the CEZ around the tree. This area must be clearly marked once the fencing has been removed.
- 8.18 Should it be necessary to remove the existing surface or change levels or alter the existing sub base then an additional method statement will be required.
- 8.19 To ensure that all tree protection measures are properly installed it is recommended that the site be monitored by Shields Arboricultural Consultancy to the following schedule. Details of the findings and photographic evidence of the site inspection visits will be reported to the LPA by email within 24 hrs of the visit.

Schedule of Inspection

1. On completion of erection of fencing and installation of ground protection prior to commencement of development works

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2. Monthly through out the project
 3. Prior to the removal of the tree protection measures to allow for the re-surfacing of the car park area.
 4. during re-surfacing works
 5. On completion of project
- 8.20 Prior to the commencement on site of any work, a competent person is to be appointed to monitor the day to day activities on site. In the case of a tree being damaged or where an unexpected event arises it will be for this person to contact Shields Arboricultural Consultancy to seek advice on contingency measures.

Conclusion

- 9.1 If the recommendations in this report are followed the proposed development will not have a significant detrimental impact on the arboreal environment of the site and surrounding area in the long-term.

S.J.A. Shields

**Dip. Arb. (RFS), M.Arbor.A, MICFor.
Chartered Forester**

9th May 2012

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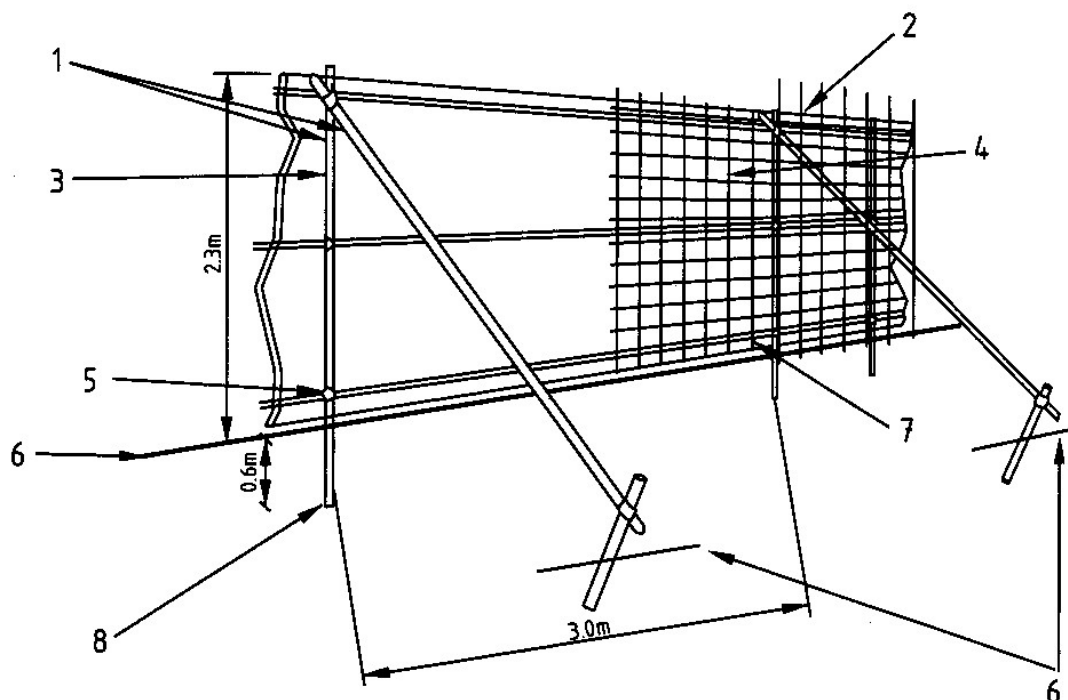
Arboricultural Implications and Recommendations

Tree No.	Species	Height (m)	Stem Dia (mm)	Crown Spread (m)				Comments	RPA (m2)	Cat
				N	E	S	W			
T1	Common Walnut (<i>Juglans regia</i>)	20	1015	8.8	8#	9.9	7.1	Structural Condition: Good Physiological Condition: Good RPA: The RPA would have been influenced by the presence of the adjacent public house and car park, creating a slight bias towards the more amenable soils in the garden area to the east. AIA: T1 is to the rear of the existing public house. It is a prominent tree with a high public amenity value. The tree should be retained and accommodated within the site design.	466	A1
T2	Himalayan Birch (<i>Betula utilis</i> 'Jacquemontii')	6	100	3	3.2	3.1	3.1	Structural Condition: Good Physiological Condition: Good RPA: A circular RPA is appropriate for this specimen. AIA: A young tree, which whilst attractive in its own right could easily be replaced. This tree should not be a constraint to development.	5	C1



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Recommended Design of Tree Protection Fencing



1 Standard scaffold poles **2** Uprights to be driven into the ground **3** Panels secured to uprights with wire ties and/or standard scaffold clamps **4** Weldmesh wired to the uprights and horizontals **5** Standard clamps **6** Ground level **7** Wire twisted and secured on inside face of fencing to avoid easy dismantling **8** Approx. 0.6 m driven into the ground

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