

3 - NOV 2011

PLANNING DEPARTMENT

Shields Arboricultural Consultancy



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Arboricultural Implication Assessment

At the Site of:

Land at Southsea

Wrexham

Commissioned by:

Mr. T. Mennell

Inspection commenced on:
October 2011

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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 Southsea
Wrexham

Introduction

- 1.1 Shields Arboricultural Consultancy received instructions from Mr T. Mennell to provide an arboricultural implication assessment in respect of the above development site.
- 1.2 Planning permission is being sought to develop the land to provide four plots for chalets and caravans.

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: 2005 '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 under 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.
- 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

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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 site of the proposed development is an area of land located to the north of the village of Southsea, near Wrexham. The B5101 runs to the west of the site, whilst to the north there is a steep wooded bank running up to the Brymbo / Wrexham link road. To the south and east a footpath runs along the site boundary, separating it from an open field. The site is accessed from the B5101.
- 4.2 The site extends to approximately 0.2ha and is set at the bottom of a small hollow with a level area of land that then rises to the north, east and south. There are a number of trees on and adjacent to the site. The most significant is an area of amenity woodland in early maturity situated on the bank to the north of the site, a number of mature trees on the banks to the south and east boundary and an early mature tree immediately adjacent to the entrance gateway. A native species hedgerow runs along the west boundary.
- 4.3 It is not known if any of the trees or hedgerows on the site are subject to statutory protection.

Tree Survey Methodology

- 5.1 All trees adjacent to and within 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. 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 a woodland or groups only the



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outside edge trees are assessed unless there are larger trees with RPAs or crowns that would overlap the edge trees.

- 5.2 BS 5837: 2005 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 & R. 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, whilst trees that should not be a constraint to development are recorded with a C category. Trees categorised as R 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:
- a. The avoidance of physical damage to the aerial parts of the trees (i.e. Impact and other damage to trunk and branches)
 - b. The avoidance of damage to retained trees as a result of the severance or other physical damage to their roots
 - 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

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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 makes provides recommendations as to their long term suitability for retention.

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 The survey identified 12 trees on the proposed development plot of which the most important trees in terms of public amenity were the groups of trees on the banks to the south and west. Also of importance is the area of woodland to the north of the site. This woodland is in early maturity and was presumably planted as part of the landscaping for the adjacent link road. Of these trees it is recommended 2 (T6 & T12) are removed for reasons of good arboricultural management. The remainder of the trees can be retained and protected.
- 6.3 A hedgerow runs along the west boundary of the site. Although a section of this will need to be removed to create a visibility splay at the site entrance the remainder can be protected and retained.
- 6.4 A single sycamore tree (T1) adjacent to the site entrance will need to be removed to facilitate the development. The loss of amenity could be mitigated through the replanting of a suitable replacement as part of the landscaping of this site.
- 6.5 The majority of the important trees on the site can be protected and retained and the proposed development will not result in the loss of trees with a significant amenity value. Any minor impact to amenity from the removal of T1 or the section of hedgerow could be reasonably mitigated through a landscape planting scheme.

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Arboricultural Operations

- 7.1 Tree removal will be required subject to a grant of planning permission. All 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.

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 remain undisturbed during the construction process (except where work is identified and undertaken in accordance with this report) 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 works or demolition, (with the exception of those works outlined in the arboricultural works specification detailed below) 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 and ground protection.
- 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

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'herres' fencing panels must be securely fixed using scaffolding clamps.

- 8.9 Where ground protection is specified this will consist of a proprietary system such as Ground Guard. This must be suitable for the type of traffic and equipment using the site and must be installed to the manufacturer's specification.
- 8.10 The fencing and ground protection 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.
- 8.13 No fires will be lit within 20m of the trunk of any tree that is to be retained.
- 8.14 Positions of site huts and toilets can be on top of the ground protection, all materials storage and mixing areas must be outside areas enclosed by fencing or protected with ground protection, as identified on the TPP. Contractor parking should be off site.
- 8.15 Access to the work area is via the route indicated on the TPP.
- 8.16 All service and drainage routes, below or above ground must avoid the RPAs. All services are to be installed in accordance with NJUG volume 4 Guidelines.
- 8.17 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.

Schedule of Inspection

- 1. On completion of erection of fencing and installation of ground protection prior to commencement of development works
- 2. Monthly through out project
- 3. On completion of project

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Conclusion

- 9.1 If the recommendations of this report are followed, the landscaping and amenity of the site will be much improved in the medium to long term and the short term impact will be minimal.

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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	Sycamore (<i>Acer pseudoplatanus</i>)	12	424	4.2	3.6	4.0	4.2	Structural Condition: Good Physiological Condition: Good RPA: Circular AIA: T1 can not be retained with the current site layout and access. It is considered that the loss of this tree could be satisfactorily mitigated through planting a suitable replacement as part of an over all landscaping scheme for the development.	81	B
T2	Sycamore (<i>Acer pseudoplatanus</i>)	10	485	7.0	0.0	2.4	4.8	Structural Condition: Good Physiological Condition: Good RPA: Circular AIA: This tree forms part of a group of trees on the bank towards the south boundary of the site. The tree can be protected during the construction and retained in the long term.	106	B2
T3	Sycamore (<i>Acer pseudoplatanus</i>)	15	450	6.5	0.0	3.5	5.1	Structural Condition: Good Physiological Condition: Good	92	C2

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								RPA: As T2 AIA: As T2		
T4	Sycamore (<i>Acer pseudoplatanus</i>)	18	490	8.0	3.0	6.0	3.8	Structural Condition: Good Physiological Condition: Good RPA: As T2 AIA: As T2	109	C2
T5	Ash (<i>Fraxinus excelsior</i>)	18	415	7.1	1.6	4.7	4.2	Structural Condition: Good Physiological Condition: Good RPA: As T2 AIA: As T2	78	B2
T6	Ash (<i>Fraxinus excelsior</i>)	17	1000	3.9	6.3	3.0	4.3	Structural Condition: Poor Physiological Condition: Poor AIA: This tree is in poor condition with significant decay in the main stem. It is recommended that the tree be removed as part of good arboricultural management.	452	R
T7	Sycamore (<i>Acer pseudoplatanus</i>)	12	382	5.3	4.2	3.0	3.6	Structural Condition: Good Physiological Condition: Good RPA: As T2 AIA: As T2	66	B2
T8	Sycamore (<i>Acer</i>	12	430	1.0	4.5	5.4	3.6	Structural Condition: Good	84	B2

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	<i>pseudoplatanus</i>)							Physiological Condition: Good RPA: As T2 AIA: As T2		
T9	Oak (<i>Quercus robur</i>)	14	498	2.8	6.4	5.7	3.9	Structural Condition: Fair, tree has a significant lean to the south. Physiological Condition: Good RPA: As T2 AIA: As T2	112	B2
T10	Sycamore (<i>Acer pseudoplatanus</i>)	12	357	3.3	3.5	3.8	2.0	Structural Condition: Good Physiological Condition: Good RPA: As T2 AIA: As T2	58	B2
T11	Sycamore (<i>Acer pseudoplatanus</i>)	12	329	4.2	0.0	2.9	3.8	Structural Condition: Good Physiological Condition: Good RPA: As T2 AIA: As T2.	49	B2
T12	Ash (<i>Fraxinus excelsior</i>)	8	177	3.0	3.0	3.0	3.0	Structural Condition: Poor Physiological Condition: Poor	14	R

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								AIA: This tree is in poor condition and is suppressed by tree T10 & T11. It is recommended that the tree be removed as part of good arboricultural management.		
T13	Birch (<i>Betula pendula</i>)	14	250	3.0	3.0	5.9	3.0	Structural Condition: Good Physiological Condition: Good RPA: The land level drops by approximately 1 metre at the boundary between the woodland and the site of the proposed development. Root development will be biased away from the site. AIA: T13 is part of wider woodland planting in early maturity. This woodland is situated on the steeply sloping bank to the north of the site. Due to changes in soil levels and to the size of the trees there will be very little root encroachment into the site. There is some minor branch encroachment, which will increase as the trees mature, this could be addressed through pruning or silvacultural thinning of the woodland as required. The trees within the woodland can be satisfactorily protected through the development and retained in the long term. The woodland is to the north of the site and this will limit any shading of the new dwellings by the trees.	28	B2
T14	White poplar (<i>Populus alba</i>)	18	335	3.0	3.0	4.4	3.0	Structural Condition: Good Physiological Condition: Good RPA: As T13 AIA: As T13	51	B2
T15	Sycamore (<i>Acer pseudoplatanus</i>)	14	250	3.0	3.0	4.3	3.0	Structural Condition: Good	28	B2

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								Physiological Condition: Good RPA: As T13 AIA: As T13		
T16	White poplar (<i>Populus alba</i>)	18	340	3.0	3.0	4.5	3.0	Structural Condition: Good Physiological Condition: Good RPA: As T13 AIA: As T13	52	B2
T17	White poplar (<i>Populus alba</i>)	18	268	3.0	3.0	5.5	3.0	Structural Condition: Good Physiological Condition: Good RPA: As T13 AIA: As T13	32	B2
T18	White poplar (<i>Populus alba</i>)	18	290	3.0	3.0	5.3	3.0	Structural Condition: Good Physiological Condition: Good RPA: As T13 AIA: As T13	38	B2
W1	Mixed							Structural Condition: Good Physiological Condition: Good RPA: As T13		

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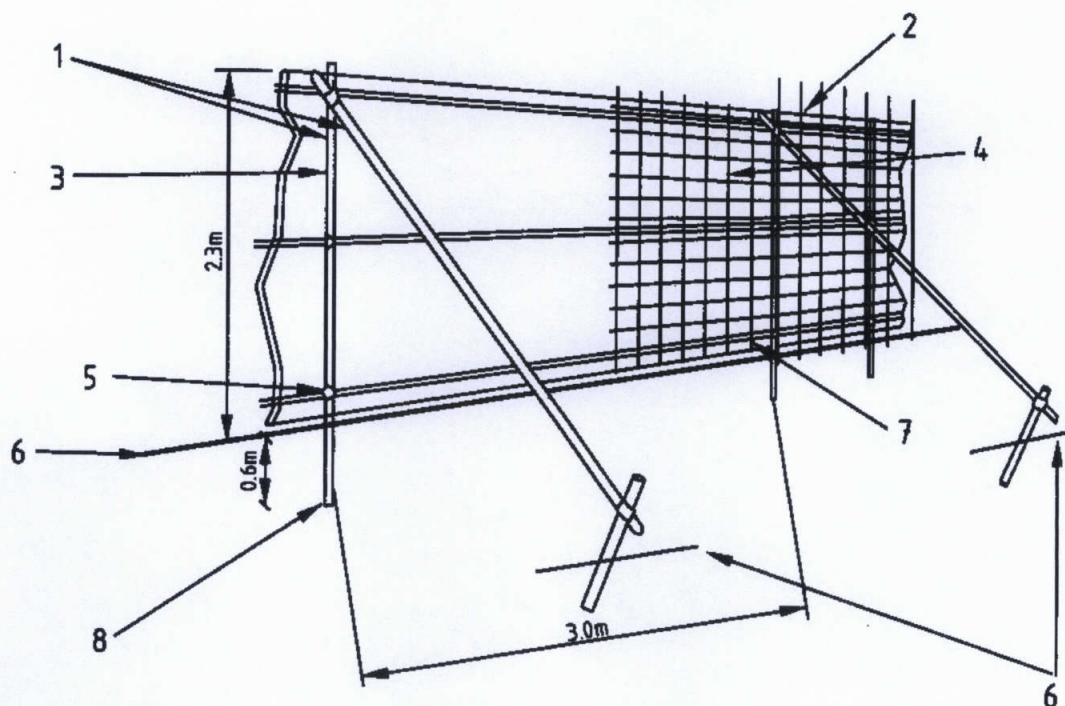
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								AIA: The remainder of the woodland is minor trees and shrubs. Their RPAs do not extend into the site and any encroachment by the crowns is very minor.		
H1	Mixed Hedgerow	8 aver.						RPA: Linear approximately 1.5 metres from the centre line of the hedge. AIA: The hedgerow can be protected and retained.		



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Recommended Design of Tree Protection Fencing



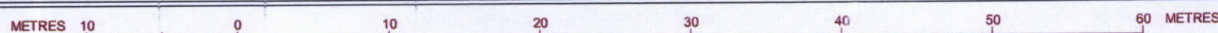
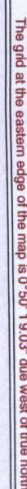
1 Standard scaffold poles **2** Uprights to be driven into the ground **3** Panels secured to uprights with wire ties and/or standard scaffold clamps **4** Weldmesh wired to the uprights and horizontals **5** Standard clamps **6** Ground level **7** Wire twisted and secured on inside face of fencing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

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Land at Southsea
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Canopy Spread

Trees for Removal

Tree Cat B

Tree Cat C

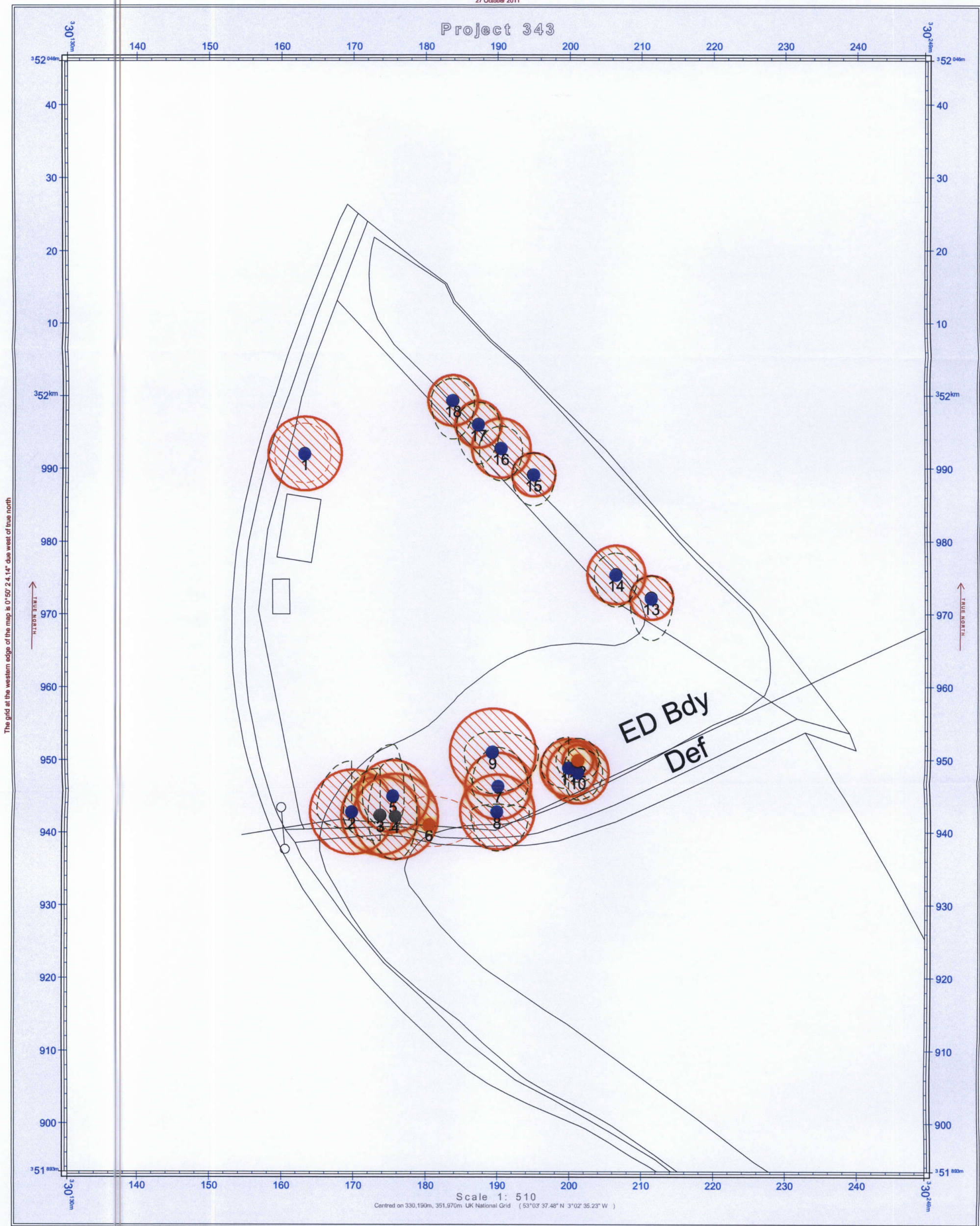
Tree Cat R

Revision:

Do not scale from this drawing

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Project 343



Root Protection Areas

Land at Southsea
Wrexham

Project Legend

- Canopy Spread
- RPA
- RPA Cat C

Drawing No: RPA/SS/10/11/01

Drawn By: S. Shields

Scale: 1:500 @ A3

Date: 27th October 2011

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Project 343



Tree Protection Plan

Land at Southsea
Wrexham

Project Legend

- CEZ
- Tree Protection Fencing
- Tree Cat B
- Tree Cat C
- Tree Cat R

Drawing No: TPP/SS/10/11/01

Drawn By: S. Shields

Scale: 1:500 @ A3

Date: 27th October 2011

Revision:

Do not scale from this drawing