

**Arboricultural Impact Assessment Report**  
**Arboricultural Impact Assessment Plan**

**LAND AT CHEPSTOW ROAD, RAGLAN, USK,  
NP15 2EN**



*On behalf of*

Monmouthshire County Council / Cyngor Sir Fynwy  
County Hall / Neuadd Sir  
Y Rhadyr / Y Rhadyr  
Usk / Brynbuga  
Monmouthshire / Sir Fynwy  
NP 16 1GA

*prepared by*

Alister Rankine BSc. (Forestry); Tech. Cert. (Arbor. A.)  
*Arboricultural Consultant*

September 2017

## **1.0 Introduction**

### **1.1 Brief**

This report is prepared by Hillside Trees Ltd. on behalf of Monmouthshire County Council

### **1.2 Purpose of the Report**

**1.2.0** This report is intended to inform the potential for development on land at Chepstow Road, Raglan. This document has been produced to demonstrate that the implications of any proposed development in relation to the arboricultural and landscape value of the trees on the site should be fully considered during the detailed design process.

**1.2.1** This report, and the accompanying information, is supplied in order to:

- Identify individual trees, groups of trees and hedgerows that could be considered for removal or retention and require protection during the site preparation and construction phase of any future development project.

### **1.3 Documents Provided to Hillside Trees Ltd.**

- Pages from Adopted-LDP-Mapping
- Plan of land at Chepstow Road Raglan
- Topo Plan MC2635-01

### **1.4 Limitations**

**1.4.1** This is a preliminary assessment from ground level and observations have been made solely from visual inspection for the purposes of assessment in terms relevant to planning and development.

**1.4.2** The conclusions relate to conditions found at the time of inspection.

**1.4.3** It should be noted that this survey is not a tree safety inspection. It is carried out in order to inform the planning process.

### **1.5 Site Visit and Tree Assessment Methodology**

**1.5.1** A site visit was undertaken on 7th September 2017 by an Arboricultural Consultant of Hillside Trees Ltd.

Hillside Trees Ltd.  
2 Hillside, Bowden Hill, Chilcompton, Radstock, BA3 4EN  
Tel: 01761 233244 E: alister@hillside-trees.co.uk

**2**

Directors: A. Rankine BSc. (Forestry), Tech. Cert. (Arbor. A.), S. J. Rankine BSc. (Hons)

Registered in England No. 07175569  
Registered Office: Broadway House, Third Avenue, Westfield Industrial Estate, Radstock. BA3 4XD

**1.5.2** The inspection took place from ground level aided by the Visual Tree Assessment method (Mattheck and Breloer, 1994).

**1.5.3** Weather conditions were overcast and dry.

**1.5.4** While this appraisal is not a tree risk assessment it nonetheless takes into account observed structural defects of the inspected trees in order to inform conclusions with regard to their retentive worth.

## **1.6 Data Collection**

**1.6.1** Data collected includes designated tree, group and hedgerow number, tree, group and hedgerow species, height, number of stems, stem diameter, crown clearance (height of periphery of crown spread above ground level), branch spread (to N, S, E and W), age class, physiological condition, useful life expectancy, tree structural condition, site notes (where this has a bearing on the present or future health or structural condition of the tree, group or hedgerow), and tree, group and hedgerow category.

**1.6.2** All measurements are metric.

## **1.7 Presentation of the Data Collected**

**1.7.1** Data collected regarding individual trees and groups of trees are presented in the Tree Schedule table in Appendix A in accordance with BS5837:2012 ‘Trees in relation to design, demolition and construction – Recommendations’.

**1.7.2** The data significant to the proposed site layout is also presented on the Arboricultural Impact Assessment Plan (Drawing Number 170918-CR-AIA-AM, Appendix B).

**1.7.3** All other relevant data are presented within the main body of this report.

**1.7.4** Trees, groups and hedgerows have been allocated an individual tree, group., hedgerow number. This number is used to identify individual trees, groups of trees and hedgerows throughout this report, within the Tree Schedule and on the Arboricultural Impact assessment Plan presented in Appendix B of this report. Trees have not been identified on site with individual tags in this instance.

## Site Description

**1.7.5** The site covers land to the west of Chepstow Road, Raglan. Central grid reference: SO413074

**1.7.6** The site currently comprises rough grazing pasture.

## 2.0 Arboricultural Constraints

An assessment of the trees surveyed, presented in the Tree Schedule table in Appendix A, is also considered in the main body of the report below and recommended remedial works and mitigating measures are presented in Sections 3.1 and 2.3.

An Arboricultural Impact Assessment Plan has been produced showing the Root Protection Areas (RPAs) for the individual trees, groups of trees and hedgerows identified in the Tree Schedule (Appendix A). This represents the minimum area in m<sup>2</sup> which ideally, should be left undisturbed around each tree, group or hedgerow were it to be retained. The RPA has been calculated in accordance with Section 4.6 of BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

The Arboricultural Impact Assessment Plan also shows a representation of the crown spread of each tree, group and hedgerow measured in four cardinal directions.

The preparation of the Arboricultural Impact Assessment Plan described above should inform and assist in the design of any proposed development site layout through presenting the above and below ground constraints posed to the development of the site by the trees, groups of trees, and hedgerows present.

A search of Monmouthshire County Council's web site on 14th September 2017 confirmed that the site is not located within the Raglan Conservation Area. It is believed that T9 (Oak) is subject to Monmouthshire County Council Tree Preservation Order No.32.

### 2.1 Trees identified as desirable for Retention

In the consideration of any future development of this site it would be desirable to retain and integrate the following 'B' and 'C' Category trees:

**T1, T9 - Pedunculate Oak (*Quercus robur*)**

**T4 - Copper Beech (*Fagus sylvatica 'Purpurea'*)**

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Directors: A. Rankine BSc. (Forestry), Tech. Cert. (Arbor. A.), S. J. Rankine BSc. (Hons)

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## 2.2 Trees and Groups of Trees identified as those which could be removed to accommodate any proposed development

The Arboricultural Impact Assessment Plan (Appendix B) indicates that the following 'C' Category trees, groups of trees and hedgerows could be removed or partly removed to accommodate any proposed development scheme:

**T2 - Holly (*Ilex aquifolium*)**

**T10, T16, T17 - Ash (*Fraxinus excelsior*)**

**T11, T13 ,T14 - Hawthorn (*Crataegus monogyna*)**

**G12, T15 - Crack Willow (*Salix fragilis*)**

**H18 - Hawthorn (*Crataegus monogyna*), Crab Apple (*Malus sylvestris*)**

**H19 - Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Hazel (*Corylus avellana*)**

## 2.3 Mitigation

The removal of all or some of the aforementioned trees, groups of trees or hedgerows may be necessary in order for any proposed development of the site to go ahead and could be mitigated for by the establishment of an appropriate detailed landscaping scheme.

## 2.4 Trees Outside Site Boundary

The following trees currently growing outside the site boundary fence but may be on Council owned land, whose Root Protection Areas extend into the site, should be considered in the layout design for any proposed development:

**T3 - Pedunculate Oak (*Quercus robur*)**

**T5, T6, T7 - Common Lime (*Tilia x europaea*)**

The following tree outside the site boundary whose Root Protection Area extends into the site, should be considered in the layout design for any proposed development:

**T8 - Holly (*Ilex aquifolium*)**

**NB.** The canopies of trees growing on land to the south of the site beyond the stream (Nant Wilcae) overhang the southern boundary of the site. These trees have an average height of 14m. In the detailed design of any future development layout shading from these should be considered.

### **3.0 Tree Protection**

Any trees to be retained on site during and after any proposed development will require both above and below ground protection.

Above ground protection may involve remedial tree surgery works. This may include access facilitation pruning (where a tree crown overhangs the appropriate RPA) or pruning works to allow the erection of scaffolding or to manage a tree in close proximity to a proposed structure. These works where applicable are presented in the Tree Schedule table (Appendix A) and are discussed in Section 3.1 below.

Below ground protection measures, based on the RPAs presented in the Arboricultural Impact Assessment Plan will involve the erection of tree protection barriers as discussed in Section 3.2. Where the proposed site layout requires the breaching of these ideal areas, measures are recommended in order to minimise the damage to the roots and the root environment of the tree in question. Such measures acknowledge the fact that the extent, distribution and actual position of roots of a tree within the RPA are not known.

As previously discussed, it is not certain where roots of trees may or may not be and the illustrations in the Arboricultural Impact Assessment Plan (Appendix B) are only guidelines based on calculations shown in BS5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*'.

#### **3.1 Recommended Remedial Tree Surgery Works**

Any recommended remedial tree work specifications required to accommodate the implementation of any proposed development will be set out in a Tree Schedule table presented in a detailed Arboricultural Impact Assessment Report. Any works would be undertaken in accordance with BS3998:2010 Tree Work Recommendations and undertaken, by a suitably qualified and experienced Tree Surgery contractor.

#### **3.2 Tree Protection Fencing**

**3.2.1** A Tree Protection Plan would show the location of all proposed tree protection barriers where appropriate.

**3.2.2** Construction Exclusion Zones defined by the tree protection barriers would be erected in accordance with the recommendations in Section 6.2 of BS5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*'.

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The specifications for the barriers are presented in Figure 2 from BS5837:2012 presented in Appendix C.

- 3.2.3** It would be *essential* that tree protection fencing barriers are erected before any site preparation or construction work be commenced, i.e. as the first operation on site following Planning Approval. (Remedial tree works however, would be undertaken before such fencing is erected – See Section 3.1).

### **3.3 Damage Limitation – Special Measures**

Areas would be identified on a Tree Protection Plan where special measures would be required in order to minimise the impact of any proposed site layout on any retained trees where any proposed construction works breach the RPAs.

### **3.4 Underground Service Installation**

- 3.4.1** Service runs in association with the proposed project would be planned outside of any RPA. However, should this change, service runs in proximity to the retained trees would be excavated in accordance with National Joint Utilities Group (NJUG) Guidelines for installing and maintaining services close to trees (NJUG 4)

## **REFERENCES**

Mattheck, C. and Breloer, H. (1995). The Body Language of Trees: A handbook for failure analysis. Research for Amenity Trees **4**. HMSO, London, 240pp.

## **STANDARDS PUBLICATIONS**

Trees in relation to design, demolition and construction – Recommendations. (BS5837), British Standards Institution, London (2012).

Tree Work Recommendations. (BS3998), British Standards Institution, London (2010).



# Appendix A

## Tree Schedule

**Table 1 Cascade Chart taken from BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.**

## Appendix A - Tree Schedule

Client:

Surveyors:

Date of Survey:

Land at Chepstow Road, Raglan

Monmouthshire County Council

Alister Rankine

7th September 2017



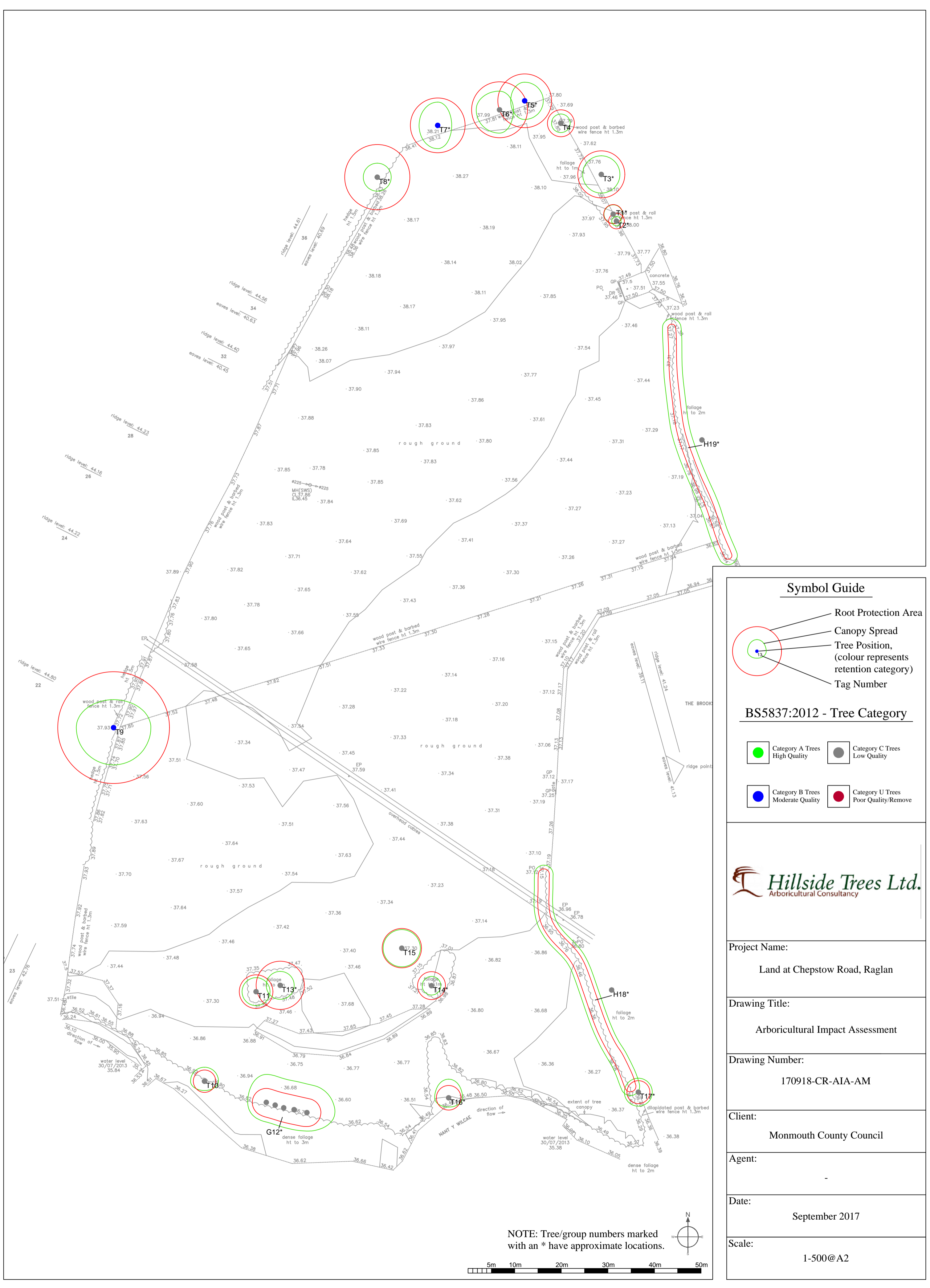
Tree Number	Single or Group	Number in Group	Scientific Name	Height (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	Crown Clearance (m)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	Age Class	Physiological Condition	ULE (Years)	Tree Structural Condition and Site Notes. Long-Term Recommendations	Immediate Recommendations	BS Category
T1	S		Quercus robur	7	170	1	2.04	2	2	2	2	2	SM	F	40+	Fair		C2
T2	S		Ilex aquifolium	6	140	1	1.68	1	1	1	1	1	SM	F	20-40	Fair. Suppressed by T1		C1
T3	S		Quercus robur	8	420	1	5.04	2	4	4	4	4	SM	G	40+	Fair. Off site		C2
T4	S		Fagus sylvatica 'Purpurea'	9	240	1	2.88	2	2	2	2	2	SM	F	40+	Fair. Tight forks at 2m		C2
T5	S		Tilia X europaea	11	480	1	5.76	3	4	4	4	3	M	F	40+	Fair. Off site		B2
T6	S		Tilia X europaea	11	500	1	6.00	3	4	5	3	5	M	F	20-40	Fair. Tight fork with included bark at 1.6m. Off site		C2
T7	S		Tilia X europaea	11	490	1	5.88	4	5	5	3	4	M	F	40+	Fair. Epicormics. Off site		B2
T8	S		Ilex aquifolium	10	582	4	6.99	3	3	3	3	3	M	F	20-40	Fair. Tight forks at 1m. Off site		C2
T9	S		Quercus robur	18	1000	1	12.00	5	6	8	8	8	M	G	40+	Good. Off site		B1
T10	S		Fraxinus excelsior	10	200	1	2.40	2	3	2	3	3	SM	F	40+	Fair		C1
T11	S		Crataegus monogyna	7	300	1	3.60	3	3	3	3	3	M	F	20-40	Fair. Tight basal forks		C1
G12	G	5	Salix fragilis	12	250	1	3.00	3	6	4	6	4	M	F	20-40	Fair	Crown lift to 4m. 2-3m crown reduction on north side	C2
T13	S		Crataegus monogyna	5	431	2	5.18	3	3	3	3	3	M	P	10-20	Fair. Weak basal fork. Ivy clad stems		C1
T14	S		Crataegus monogyna	5	250	1	3.00	2	2	2	2	2	M	P	10-20	Fair. Tight basal forks		C1
T15	S		Salix fragilis	9	352	3	4.22	3	4	4	4	4	M	F	10-20	Fair. Weak basal forks		C1
T16	S		Fraxinus excelsior	10	220	1	2.64	2	4	2	3	3	SM	F	10-20	Fair. Crown asymmetry to north. Tight fork at 1m		C1
T17	S		Fraxinus excelsior	9	205	2	2.46	3	3	3	3	3	SM	F	10-20	Fair. Tight fork at 1m		C1
H18	S		Crataegus monogyna, Malus sylvestris	5	100	1	1.20	2	2	2	2	2	M	F	20-40	Fair		C2
H19	S		Crataegus monogyna, Prunus spinosa, Corylus avellana	4	70	1	0.84	2	2	2	2	2	M	F	20-40	Fair		C2

**Table 1 – Cascade chart for tree quality assessment**

<b>TREES FOR REMOVAL</b>				
<b>Category and definition</b>	<b>Criteria</b>			<b>Identification on plan</b>
<p><b>Category U</b> Those in such condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years</p>	<ul style="list-style-type: none"> <li>• Trees that have a serious, irremedial, 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 show signs of significant, immediate, and irreversible overall decline</li> <li>• Trees infected by pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing other trees of better quality</li> </ul> <p><i>NOTE Category U trees can have existing potential conservation value which might be desirable to preserve; see 4.5.7</i></p>			<p><b>DARK RED</b></p> <p>RGB code 127-000-000 AutoCAD 246</p>
<b>TREES TO BE CONSIDERED FOR RETENTION</b>				
<b>Category and definition</b>	<b>Criteria - Subcategories</b>			<b>Identification on plan</b>
	<b>1 Mainly arboricultural qualities</b>	<b>2 Mainly landscape qualities</b>	<b>3 Mainly cultural values, including conservation</b>	
<p><b>Category A</b> Trees of high quality with an estimated remaining life expectancy of at least 40 years</p>	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)	<p><b>LIGHT GREEN</b></p> <p>RGB code: 000-255-000 AutoCAD 90</p>
<p><b>Category B</b> Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p>	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant 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	<p><b>MID BLUE</b></p> <p>RGB code: 000-000-255 AutoCAD 170</p>
<p><b>Category C</b> Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm</p>	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	<p><b>GREY</b></p> <p>RGB code: 091-091-091 AutoCAD 252</p>

# **Appendix B**

**Arboricultural Impact Assessment Plan -  
Drawing 170918-CR-AIA-AM**



### Symbol Guide

- Root Protection Area
- Canopy Spread
- Tree Position, (colour represents retention category)
- Tag Number

**BS5837:2012 - Tree Category**

Category A Trees High Quality	Category C Trees Low Quality
Category B Trees Moderate Quality	Category U Trees Poor Quality/Remove



Project Name:	Land at Chepstow Road, Raglan
Drawing Title:	Arboricultural Impact Assessment
Drawing Number:	170918-CR-AIA-AM
Client:	Monmouth County Council
Agent:	-
Date:	September 2017
Scale:	1-500@A2

NOTE: Tree/group numbers marked with an \* have approximate locations.

