



ARBORICULTURAL REPORT & Impact Assessment to BS5837:2012 at:

*Land at
**Shepherd Lane,
Thurnscoe,
Barnsley
South Yorkshire
S63 0JS***

Prepared for:
Castle Owen Construction & Property
*1 Hussar Court,
Hillsborough Barracks,
Sheffield
S6 2GZ*

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1. Introduction

1.1 Instructions and Brief

- 1.1.1 We are instructed by John McSeveney of Castle Owen Construction & Property to visit the site and prepare our findings in a report.
- 1.1.2 The report is required in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations*, to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.2 Survey Details

- 1.2.1 The survey took place during May 2019.
- 1.2.2 The trees were surveyed visually from the ground using “Visual Tree Assessment” techniques and in accordance with the guiding principles of British Standard 5837:2012.
- 1.2.3 Any additional off-site trees that could impact a new development design have been included in the tree survey parameters.
- 1.2.4 The tree positions were plotted on Ordnance Survey map base-layer using enhanced GPS technology (1m accuracy) and laser distance measurer.
- 1.2.5 This report has been prepared by Mr Adam Winson, Chartered Arboriculturist, MSc, BSc (Hons), MICFor, MArborA, Principle and Director of AWA Tree Consultants Ltd. The tree survey data collection was carried out by Mr Patrick Rowntree, Cert Arb L3, TechArborA, Arboriculturist at AWA Tree Consultants Ltd.
- 1.2.6 Full qualifications and experience are included within **Appendix 1**. Explanatory details regarding the survey methodology are included within **Appendix 2**. A full explanation of the tree data can be found at **Appendix 3**. Full details of all the trees surveyed are found in **Appendix 4**. For tree locations refer to the Tree Constraints Plan at **Appendix 5** and for detail of the impacts of the new development refer to the Tree Impacts Plan at **Appendix 6**.

2. The Site

2.1 Location and Description

- 2.1.1 The site is located south of Thurnscoe, a village in the Metropolitan Borough of Barnsley.
- 2.1.2 The site comprises a private garden area with residential properties to the north and east. Manor Farm Drive runs along the southern boundary, and Shepherd Lane is situated to the west.
- 2.1.3 The approximate area of the survey is highlighted in the (2018) image below:



3. The Trees

3.1 Legal

- 3.1.1 An online check was undertaken on 15th May 2019 with Barnsley Metropolitan Council. This showed that the trees to the north of the site (T1 and T2 in this report) are covered by a Tree Preservation Order. Barnsley Reference Number: 12 / G1. Category: GROUP OF TREES. Description: GROUP OF 1 ASH, 1 HORSE CHESTNUT, 1 BEECH, AND 2 LIME.
- 3.1.2 Due to the large potential penalties for illegally carrying out work to protected trees, before authorising any tree works statutory permission is required from the Local Planning Authority before any works can take place.
- 3.1.3 When appointing a tree surgeon, only properly qualified and experienced companies should be used, who have adequate Public Liability and Employer's Liability Insurance. All tree work should be carried out according to British Standard 3998:2010 *Tree Work - Recommendations*.

3.2 Tree Survey Results

- 3.2.1 The tree survey revealed 5 individual trees. Of the surveyed trees: 2 trees are retention category 'B', and the remaining 3 trees are retention category 'C' (explanatory details regarding the retention categories are included within Appendix 3).
- 3.2.2 The tree cover consists of a large mature Horse Chestnut and Lime beyond the north of the site (T1 and T2). Within the site the tree cover was limited to three small low value Ash trees (T3 to T5). The central area of the site contains nothing of arboricultural significance, consisting of a managed lawn area and driveway.
- 3.2.3 The site's most significant tree is the large, mature Horse Chestnut T1, situated in the adjacent property to the north. This large tree forms one of a line of four trees that are adjacent to Shepherd Lane. As such they are visually prominent and have good amenity value. The Horse Chestnut had a slightly unbalanced crown as a result of the adjacent trees, yet no major visible defects were noted, and it has good prospects.

- 3.2.4 The three small trees on the site are very low value. Each has been previously heavily pruned or 'topped' leaving multiple wounds to the stem and crown. This work limits their value and prospects.
- 3.2.5 The tree Root Protection Area (RPA) detailed on the Tree Constraints Plan at Appendix 5, has been used as a layout design tool, to inform on the area around a tree where the protection of the roots and soil structure is treated as a priority.
- 3.2.6 The RPA for each tree has been plotted as a polygon centred on the base of the stem. Due to the presence of roads, structures, topography (and past tree management) the RPA is likely to be a simplified representation of the tree roots actual morphology and disposition. However, detailed modifications to the shape of the RPA would largely be based on conjecture and so have been avoided.

4. Arboricultural Impact Assessment

4.1 Proposed New Development

- 4.1.1 It is proposed to build a new residential dwelling with detached garage and associated driveway, landscaping and facilities. The development proposals have been provided by my client and inform this arboricultural impact assessment and the Tree Impacts Plan at Appendix 6.

4.2 Direct Impacts

- 4.2.1 From assessing the new development proposals, 3 trees will require removal as they are situated in the footprint of the structure or their retention and protection throughout the development is not suitable.
- 4.2.2 The trees that require removal are T3, T4 and T5. The trees that require removal are all low value, retention category 'C'. Due to the low value of the trees to be removed the removals will have only a negligible negative arboricultural impact.

4.3 Indirect Impacts

- 4.3.1 The tree Root Protection Area (RPA) detailed on the Tree Constraints Plan at Appendix 5, has been used as a layout design tool, to inform on the area around a tree where the protection of the roots and soil structure is treated as a priority. As such, no significant negative indirect impacts have been identified.
- 4.3.2 Potentially damaging activities are proposed in the vicinity of retained trees. The new development encroaches close to the edge of the RPA of T1. Construction within the RPA, can have negative impacts on tree roots. However, it is very unlikely that significant roots will be within these areas and the retained tree should remain largely unaffected by the works, provided care is taken during construction.
- 4.3.3 The design of the new development has considered the trees crown position in relation to the dwelling. Some shade from trees may be beneficial. In particular, deciduous trees give shade in summer but allow access to sunlight in winter. However, the design proposals avoid excessive shading, and give adequate provision for future tree growth.

- 4.3.4 The buildability of the proposed development has been assessed in terms of access, adequate working space and provision for the storage of materials, including topsoil, in relation to the trees.

4.4 Suitable Mitigation

- 4.4.1 The development of the site provides an excellent opportunity to undertake new tree planting throughout the site as part of a soft landscaping scheme. As such, suitable new tree planting has the potential to mitigate for the required tree removals and, in the longer term, has the potential to improve the sites tree cover.

4.5 Protection of the Retained Trees

- 4.5.1 The retained trees will require protection by fencing in accordance with BS 5837: 2012, during the development phase. The protective fencing for this site should be located to protect the RPAs of the retained trees as detailed on the attached Tree Impacts Plan at Appendix 6.
- 4.5.2 The final fencing position should be agreed on by the LPA before the commencement of any site works. The protective fencing will be appropriate to the degree and proximity of likely construction works. In this instance, it is suggested (if acceptable by the LPA) an adequate level of protection for the trees could be provided by 'Heras' type fencing, of welded mesh panels on rubber or concrete feet.
- 4.5.3 The area enclosed by the fencing is referred to as the Construction Exclusion Zone (CEZ); this area should be considered a restricted area. No pedestrians, vehicles, storage of materials, equipment or machinery should be allowed within the CEZ. The site manager must ensure that all personnel are aware of the restrictions that apply to the fenced-off area.
- 4.5.4 If required by the Local Planning Authority, an associated Arboricultural Method Statement with Tree Protection Plan, can be provided. This will detail how the trees will be protected during the development phase, indicating the precise location of protective barriers to be erected to form a CEZ around the retained trees. It will detail the extent and type of ground protection, and any additional physical measures that will be needed to be installed to safeguard vulnerable sections of trees and their RPAs where construction activity cannot be fully or permanently excluded, including a timetable indicating when and how specific works adjacent to trees will be carried out.

5. Signature

I trust this report provides all the required information.

Signed



.....

Adam Winson, Chartered Arboriculturist, MSc, BSc (Hons), MICFor, ACIEEM.

15th May 2019

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Appendices

Appendix 1: Authors Qualifications and Experience

Appendix 2: Survey Methodology and Limitations

Appendix 3: Explanation of Tree Descriptions

Appendix 4: Tree Data

Appendix 5: Tree Constraints Plan

Appendix 6: Tree Impacts Plan

Appendix 1: Authors Qualifications & Experience

Mr Adam Winson *Chartered Arboriculturist, MSc, BSc (Hons), MICFor, MArborA, ACIEEM, QTRA Registered.*

Adam is the company Director and Principle Consultant. He has a mix of the highest level academic qualifications and relevant work experience. He has worked within the tree care profession for over 20 years, and was awarded an MSc in Arboriculture and Urban Forestry, with distinction. Adam is a Chartered Arboriculturist and a Registered Consultant with the Institute of Chartered Foresters, a Professional Member of the Arboricultural Association and has original research published by the UK Forestry Commission. His work ranges from individual expert tree inspections to managing trees on major multimillion pound housing developments and infrastructure projects. His work often involves trees with preservation orders or litigation, and he has appeared as a tree expert, at planning appeal hearings up to the Crown Court.

Mr James Brown *BSc (Hons) Arboriculture, MArborA.*

James has a BSc (Hons) in Arboriculture, attaining first class honours, as well as being awarded the Institute of Chartered Forester's Student award. He is a Professional Member of the Arboricultural Association and an Associate of the Institute of Chartered Foresters. James previously worked in Europe's largest tree nursery and has experience of Local Authority tree officer work. His main work consists of tree surveys for development projects and preparing Tree Protection Schemes to BS 5837:2012.

Mr Dave Farmer *FdSc (Arb), MArborA, PTI (Lantra).*

Dave has a Foundation Degree in Arboriculture (with Distinction) and is qualified in Professional Tree Inspection. He is a Professional Member of the Arboricultural Association and an Associate of the Institute of Chartered Foresters. Dave has many years of experience within the tree care profession, including lecturing in arboriculture. His work focuses on diagnosing potential tree risk problems, and recommending appropriate treatments and work programmes.

Dr Felicity Stout *Ph.D, MA, BA (Hons), Cert Ed (Forestry), TechArborA.*

Felicity has worked in the tree care profession for the last 10 years. She has a Certificate in Higher Education in Forestry, with a focus on Urban Forestry. She has practical arboricultural contractor experience and is a qualified and experienced Social Forestry practitioner. Felicity has a PhD in History, with a particular interest in the history of woodland and tree management and has published in The Arboricultural Journal on this subject.

Mr Patrick Rowntree. *Arboricultural Technician. Cert Arb L3. TechArborA.*

Patrick is a trained arborist with 5 years of experience in the private and commercial sectors, both in the UK and New Zealand. Formerly a professional rugby player, Patrick was awarded a distinction in the Extended Diploma in Forestry & Arboriculture and is a technician Member of the Arboricultural Association. Patrick now uses his experience at AWA focusing on BS5837:2012 tree surveys for development projects; this involves accurate tree data collection and the preparation of tree reports to BS 5837:2012.

Appendix 2: Survey Methodology and Limitations of Report

The survey was undertaken in accordance with British Standard 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*. The trees were assessed objectively and without reference to any proposed site layout. The trees were surveyed from the ground using 'Visual Tree Assessment' (VTA) methodology. VTA is appropriate and is endorsed by industry guidance. It is used by arboriculturists to evaluate the structural integrity of a tree, relying on observation of trees biomechanical and physiological features. Measurements are obtained using a diameter tape, clinometer, laser distometer and loggers tape. Where this is not practical measurements are estimated. Tree groups have been identified in instances as defined in BS 5837:2012. Shrubs and insignificant trees may have been omitted from the survey.

This report represents a BS5837 tree survey and should not be accepted as a detailed tree safety inspection report; however, tree related hazards are recorded and commented upon where observed, yet no guarantee can be given as to the absolute safety or otherwise of any individual tree. All recommended tree work must be to BS 3998:2010 - 'Tree Work: Recommendations'.

The findings and recommendations contained within this report are valid for a period of twelve months from the date of survey. The author shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with these guidelines and terms.

Appendix 3: Explanation of Tree Descriptions

HEIGHT of the tree is measured from the stem base in metres. Where the ground has a significant slope the higher ground is selected.

CROWN HEIGHT is an indication of the average height at which the crown begins and includes information of the first significant branch and direction of growth.

STEM DIAMETER is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; the diameter is measured close to ground level or else a combined stem diameter is calculated.

CROWN SPREAD is measured from the centre of the stem base to the tips of the branches in all four cardinal points.

AGE CLASS of the tree is described as young, semi-mature, early-mature, mature, or over-mature.

PHYSIOLOGICAL CONDITION is classed as good, fair, poor, or dead. This is an indication of the health of the tree and takes into account vigour, presence of disease and dieback.

STRUCTURAL CONDITION is classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.

LIFE EXPECTANCY is classed as; less than 10 years, 10-20 years, 20-40 years, or more than 40 years. This is an indication of the number of years before removal of the tree is likely to be required.

Retention Categories

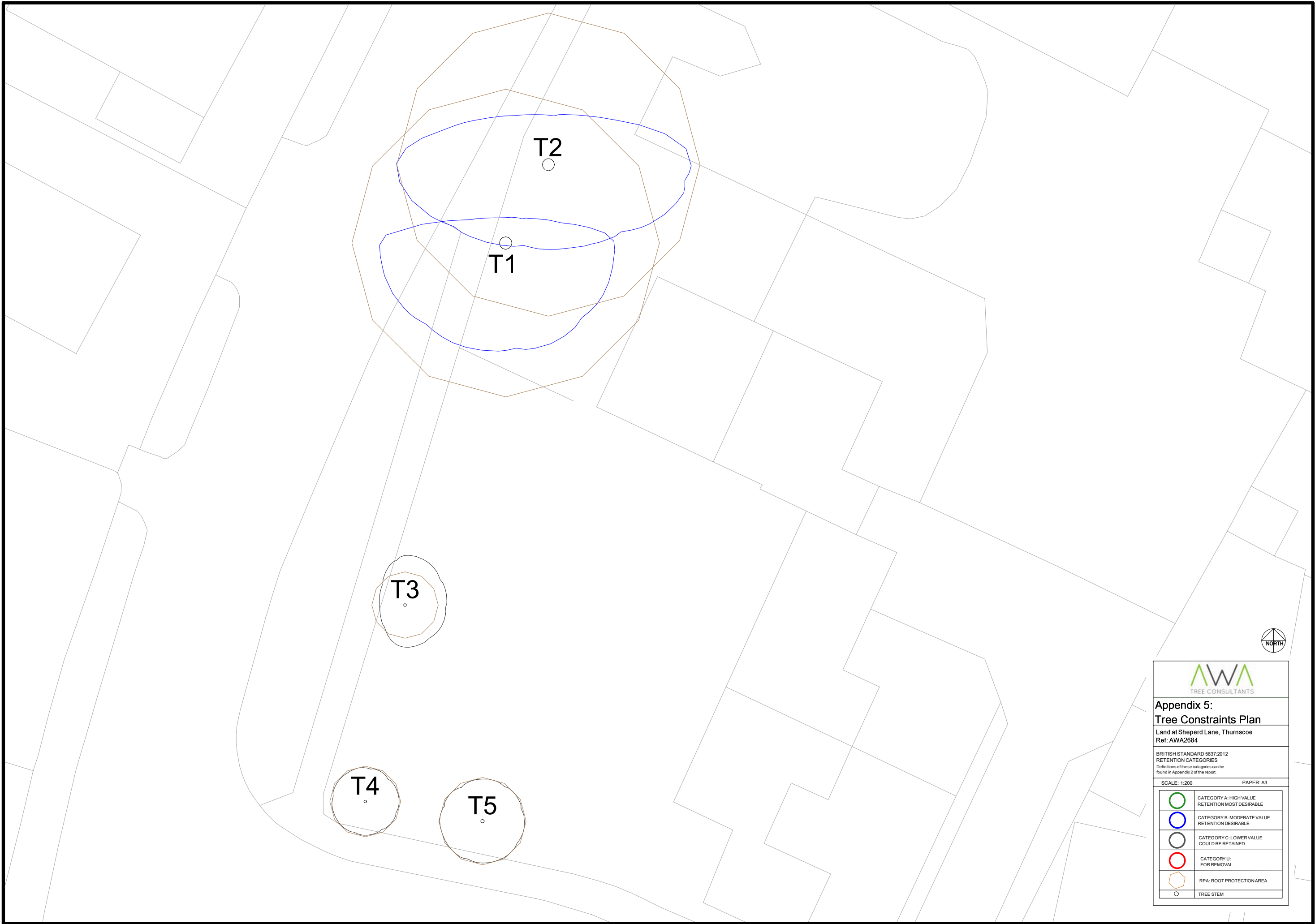
A (marked green on Appendix 5) = retention most desirable. These trees are of very high quality and value with a good life expectancy.

B (marked in blue on Appendix 5) = retention desirable. These trees are of good quality and value with a significant life expectancy.

C (marked in grey on Appendix 5) = trees which could be retained. These trees are of low or average quality and value, and are in adequate condition to remain until new planting could be established.

U (marked in red on Appendix 5) = trees for removal. These trees are in such a condition that any existing value would be lost within 10 years.

Tree ID	Tree Species		Measurements					Crown (m)					Tree Condition							Value		Management
	Common Name	Latin Name	Maturity	Height (m)	Stems	Stem Dia (mm)	Estimated	Ave Height	N	E	S	W	Roots	Stem	Crown	Comments	Physiological	Structural	Life Expectancy	Amenity	Category	Works
T1	Horse Chestnut	<i>Aesculus hippocastanum</i>	Mature	17	1	740	No	3.5	1.5	6.5	6.5	7.5	No visual defects	Single stemmed, Twin stemmed at 3.5m, Vertical, Epicormic growths, Stubs, Bark damage	Unbalanced, Minor dieback, Minor deadwood, Old pruning wounds	Moderate bark damage to east of stem from 0.5 to 1.5m.	Fair	Good	>40 yrs	High	B	No works required.
T2	Lime	<i>Tilia platyphyllos</i>	Mature	18	1	730	No	4	3	8.5	5	9	No visual defects, Limited visibility around base	Single stemmed, Twin stemmed at 3m, Vertical, Stubs, Epicormic growths, Old pruning wounds	Minor dieback, Moderate deadwood	Dense epicormic growth preventing detailed inspection of base.	Fair	Fair	>40 yrs	High	B	No works required.
T3	Ash	<i>Fraxinus excelsior</i>	Semi-mature	4	1	160	No	1.5	3	2.5	2.5	1.5	Increase in soil level	Single stemmed, Vertical, Bark damage, Stubs, Old pruning wounds	Normal, Minor deadwood, Minor dieback	Previously topped at 3.5m	Fair	Fair	20 to 40 yrs	Low	C	Removal required to facilitate development.
T4	Ash	<i>Fraxinus excelsior</i>	Semi-mature	4.5	1	170	No	1.5	2	2	2	2	No visual defects	Single stemmed, Stubs, Old pruning wounds	Old pruning wounds, Minor deadwood	Previously topped at 3.5m	Fair	Fair	20 to 40 yrs	Low	C	Removal required to facilitate development.
T5	Ash	<i>Fraxinus excelsior</i>	Semi-mature	4.5	1	210	No	1.5	2.5	2.5	2.5	2.5	Exposed roots, Mower damage	Single stemmed, Slight lean, Stubs, Old pruning wounds	Old pruning wounds, Minor deadwood, Minor dieback	Previously topped at 4m	Fair	Fair	20 to 40 yrs	Low	C	Removal required to facilitate development.





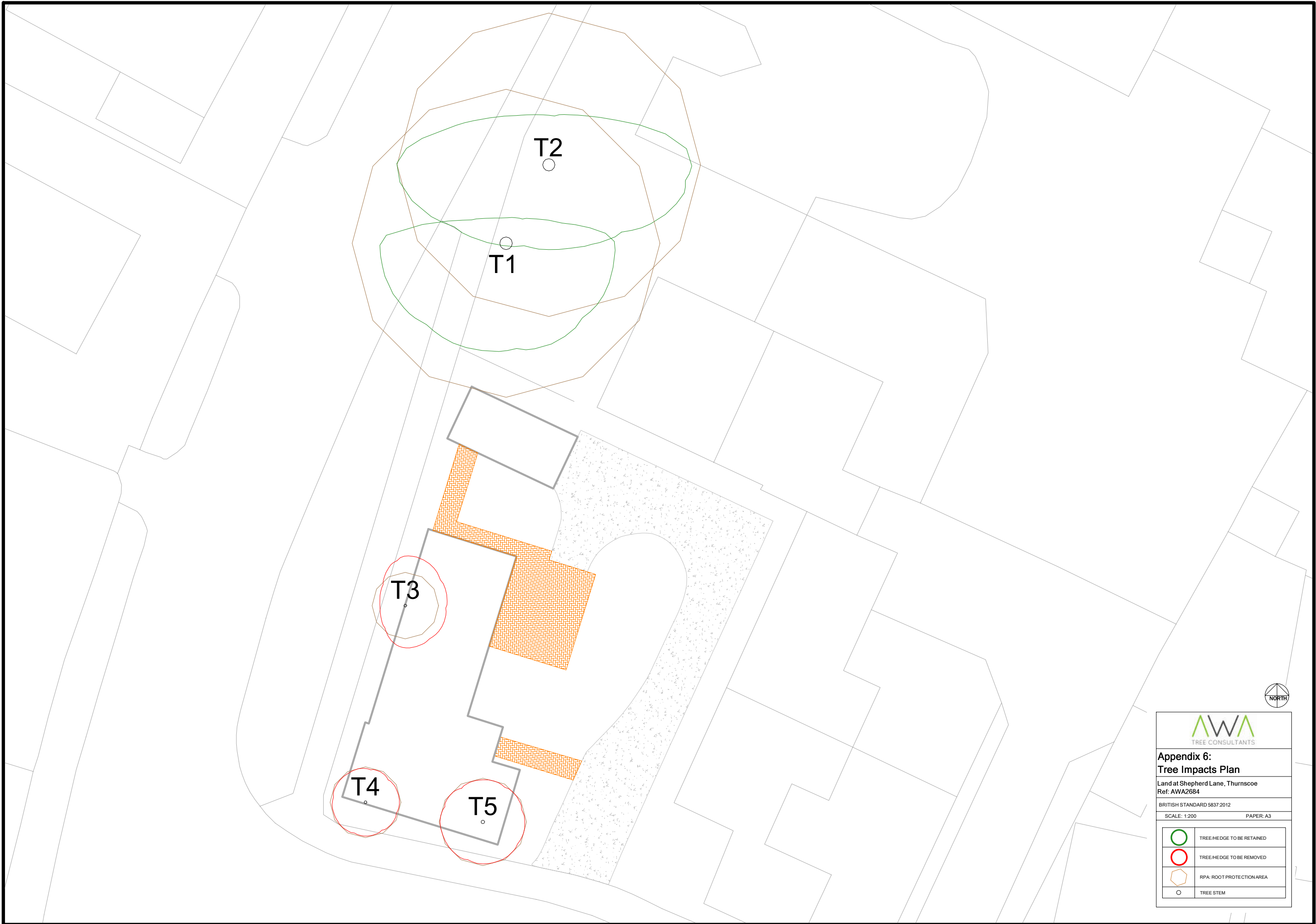
Appendix 5:
Tree Constraints Plan
Land at Sheperd Lane, Thurnscoe
Ref: AWA2684

BRITISH STANDARD 5837:2012
RETENTION CATEGORIES
Definitions of these categories can be
found in Appendix 2 of the report.

SCALE: 1:200

PAPER: A3

	CATEGORY A: HIGH VALUE RETENTION MOST DESIRABLE
	CATEGORY B: MODERATE VALUE RETENTION DESIRABLE
	CATEGORY C: LOWER VALUE COULD BE RETAINED
	CATEGORY U: FOR REMOVAL
	RPA: ROOT PROTECTION AREA
	TREE STEM



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**Appendix 6:
Tree Impacts Plan**

Land at Shepherd Lane, Thurnscoe
Ref: AWA2684

BRITISH STANDARD 5837:2012

SCALE: 1:200 PAPER: A3

	TREE/HEDGE TO BE RETAINED
	TREE/HEDGE TO BE REMOVED
	RPA: ROOT PROTECTION AREA
	TREE STEM