TREE CONSULTANTS

ARBORICULTURAL REPORT

& Impact Assessment

to **BS5837:2012** at:

50 Don Street
Penistone
South Yorkshire
S36 6HA

Prepared for:
Transform Architects
4 Rushmead Court
Ossett
Wakefield
West Yorkshire
WF5 0NZ

Date: *August 2019*

Reference: *AWA2814*

Institute of Chartered Foresters
Registered Consultant

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Union Forge, 27 Mowbray Street, Sheffield, S3 8EN. AWA Tree Consultants Limited. Company No. 8520123. Registered in England & Wales.

Contents

1. Introduction

1.1 Instructions and Brief

1.1.1 We have been instructed by Richard Kirk c/o Transform Architects 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 August 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 We have been provided with a topographical survey with tree positions plotted. Where surveyed trees were not included on the topographical survey the tree positions were plotted using enhanced GPS technology (1-2m 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.

1.2.6 The tree survey data collection was carried out by Mr Dave Farmer FdSc (Arb), MArborA, PTI (Lantra). Arboriculturist at AWA Tree Consultants Ltd.

1.2.7 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 in Penistone, a market town and civil parish in the Metropolitan Borough of Barnsley, South Yorkshire, approximately 6 miles to the west of Barnsley town centre.

2.1.2 The site is comprised of the garden areas of a residential property. The house is located at the centre of the site with the driveway and a small garden area to the north west and a larger garden area to the south east. Further residential properties are located to the west with wooded areas and open ground to the north, east and south.

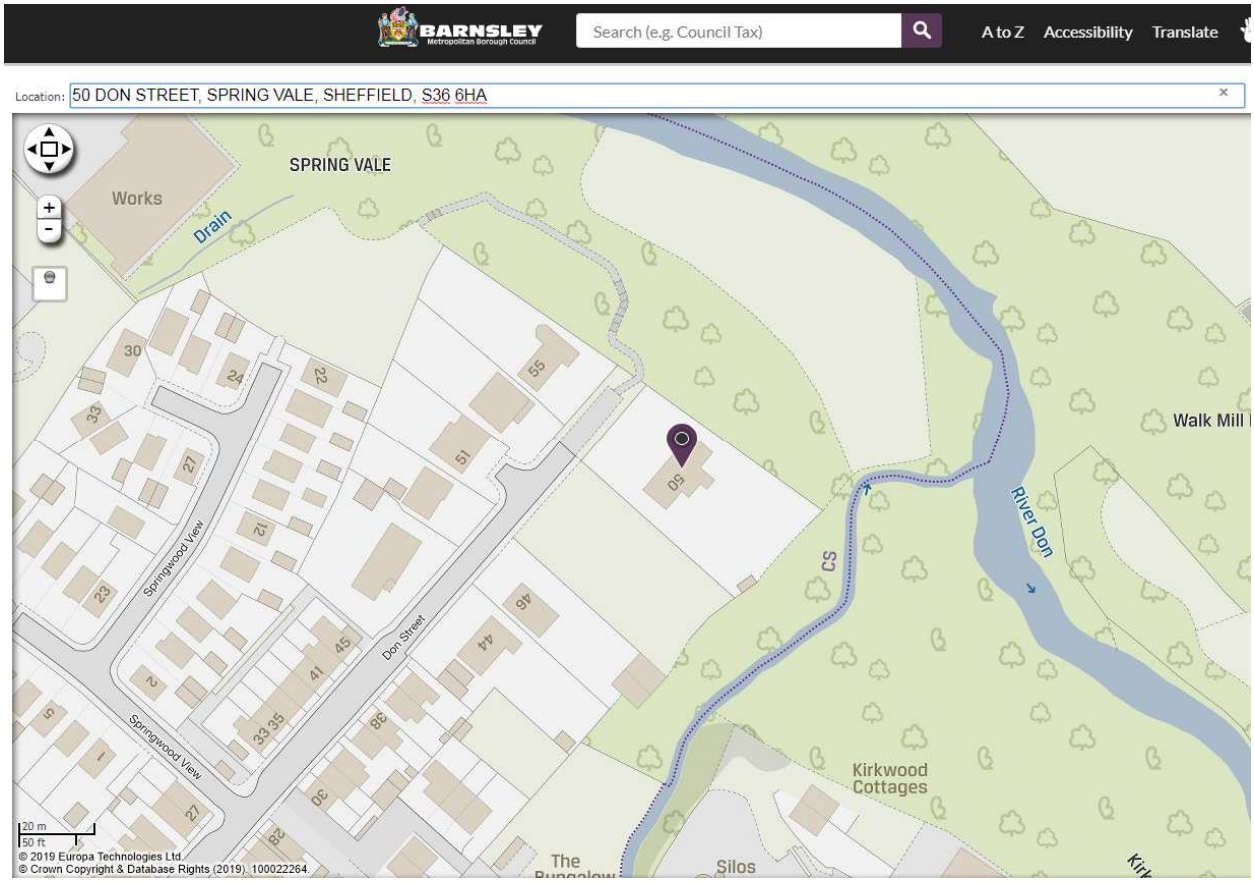
2.1.3 The approximate area of the survey is highlighted in the (2018) image below:

3. The Trees

3.1 Legal

3.1.1 An online check was made with Barnsley council on 22/08/2019 at https://www.barnsley.gov.uk/barnsley-maps/tree-preservation-orders/. This showed that no trees on site are covered by a Tree Preservation Order (TPO), and the site is not within a Conservation Area, as shown below:

3.1.2



3.1.3 Due to the large potential penalties for illegally carrying out work to protected trees, before authorising any tree works a further check should be made with the Local Planning Authority to see if the trees are covered by a Tree Preservation Order or if they are within a Conservation Area (unless such works are approved by planning permission). If either applies, then statutory permission is required before any works can take place.

3.1.4 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 27 items of woody vegetation, comprised of 20 individual trees and 7 groups of trees or shrubs or hedges. Of the surveyed trees: 1 tree and 1 tree group are retention category 'B', and the remaining 24 trees and groups are retention category 'C' (explanatory details regarding the retention categories are included within Appendix 3).

3.2.2 The significant tree cover within the site consists of boundary hedgerows and individual trees generally located close to the boundary lines. A larger woodland type group is located beyond the site boundary to the south west, growing on the steep bank between the site and a small stream.

3.2.3 Species diversity at the site is fair. The dominant species is Lawson Cypress with the occasional Apple, Ash, Cherry, Cedar, Horse Chestnut, Oak, Plum, Spruce, Sycamore and Willow, and hedgerows of Leyland Cypress and Beech.

3.2.4 Most of the trees are semi-mature with only occasional early mature trees.

3.2.5 The site's most significant trees are the large, early mature Ash, Horse Chestnut, Oak, Sycamore and Willow trees situated beyond the site to the south west (G24). These are part of a wider woodland group that stretches to the east and south. The woodland is of high amenity with a diverse species and age mix that provides character to the surrounding landscape.

3.2.6 The Cedar tree located close to the driveway provides a moderate level of individual amenity value (T6). This tree has several relatively large wounds on the main stem that are likely to be the result of lower limbs tearing out. There is no major decay visible within these wounds yet, but they reduce the value and long-term prospects of the tree.

3.2.7 The Beech and Leyland Cypress hedges that form the north west, north east and south west boundaries (G1, G7, G13 and G15) are of relatively low value, however they provide comprehensive screening between the site and the neighbouring areas.

3.2.8 The remaining trees within the site are generally relatively small Lawson Cypress and fruit trees with the occasional Spruce and a group of Goat Willow (T2 to T6, T8 to T12, T16 to T23 and G25 to T27). None of these low value trees should pose any significant constraint on the development potential of the site.

3.2.9 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.

3.2.10 Some lower value tree, hedge and shrub groups do not have RPAs detailed on tree plans. The detailed extent and spread of the low value groups, in conjunction with the tree schedule, is sufficient to assess the associated potential constraints.

3.2.11 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 extend the current dwelling with associated groundworks, 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, 5 trees and 1 tree group 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 T6, G14, T16, T17, T18 and T27.

4.2.3 The trees that require removal are lower value, retention category 'C'. T16 and T27 are small fruit trees and T17 and T18 are Lawson Cypress, all of negligible value. G14 is a short section of Beech hedge within the site.

4.2.4 The loss of the Cedar, T6 will result in some minor loss of amenity value, although the tree has defects that limit its prospects in the longer term. The loss can largely be mitigated through the planting of more suitable tree species within the site once construction has been completed.

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.

4.3.2 Potentially damaging activities are proposed in the vicinity of retained trees. The widening of the driveway encroaches into the RPA of T5. Construction within the RPA, can have negative impacts on tree roots. However, due to the low value of the tree it would be excessive to utilise a `no dig' type construction method in this area. Provided that care is taken during construction and no excavation or compaction of the soil occurs beyond the footprint of the driveway within the RPA, the retained tree should readily tolerate the works provided care is taken during construction.

4.3.3 As an alternative the tree T5 could be removed, however this would expose the unsightly bare interior of the adjacent conifer T4 and would be likely to precipitate the eventual removal of the conifers T2, T3 and T4 along the roadside boundary.

4.3.4 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.

4.3.5 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.

4.4.2 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

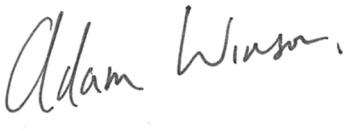
4.5.1 The retained trees will require protection by fencing in accordance with BS 5837: 2012, during the development phase.

4.5.2 If required by the Local Planning Authority, an associated Arboricultural Method Statement, detailing protective fencing specifications and construction methods close to the retained trees can be provided.

5. Signature

I trust this report provides all the required information.

Signed



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

22nd August 2019

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Appendices

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.

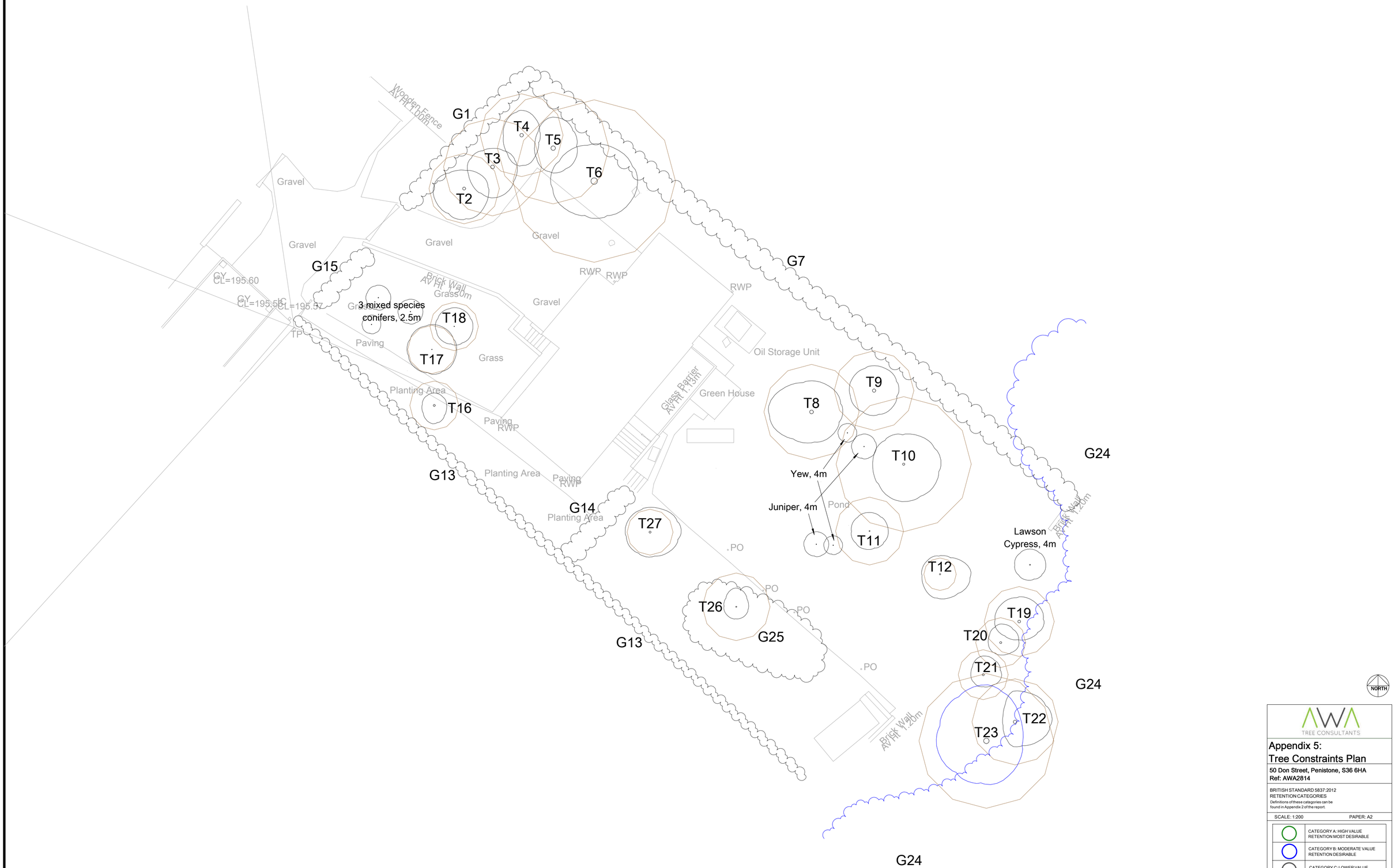
B (marked in blue on Appendix 5) = retention desirable. These trees are of good quality and value with a significant life expectancy.

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 Species		Measurements					Crown (m)					Tree Condition							Value		Management
Tree ID	*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*
G1	Leyland Cypress	*X Cuprocyparis leylandii*	Semi-mature	3	10+	70 avg	No	0	See Plan				No visual defects	Single & multiple stemmed, Vertical, Tight union	Minor dieback, Minor deadwood, Old pruning wounds	Managed hedge. Several sparse/dead sections.	Fair	Good	20 to 40 yrs	Low	**C**	No works required in current site context
T2	Spruce	*Picea pungens var glauca*	Semi-mature	8	1	230	No	0.5	1.5	2	2.5	2.5	No visual defects	Single stemmed, Vertical, Old pruning wounds	Normal, Minor deadwood		Fair	Good	>40 yrs	Moderate	**C**	No works required in current site context
T3	Lawson Cypress	*Chamaecyparis lawsoniana*	Semi-mature	8	2	240, 210	No	0.5	1.5	2	2.5	2	No visual defects	Twin stemmed at base, Vertical, Old pruning wounds, Tight union	Normal, Minor deadwood		Fair	Good	>40 yrs	Moderate	**C**	No works required in current site context
T4	Lawson Cypress	*Chamaecyparis lawsoniana*	Semi-mature	8	4	190, 120, 120, 90	No	0.5	2	1.5	2.5	1.5	No visual defects	Multiple stemmed at base, Vertical, Old pruning wounds, Stubs, Tight union	Normal, Minor deadwood	High proportion of deadwood due to shading from surrounding trees.	Fair	Fair	20 to 40 yrs	Low	**C**	No works required in current site context
T5	Lawson Cypress	*Chamaecyparis lawsoniana*	Semi-mature	8.5	4	220, 180, 170, 150	No	0.5	2.5	2	2	1.5	No visual defects	Multiple stemmed at 0.5m, Vertical, Old pruning wounds, Stubs, Tight union	Normal, Minor deadwood		Fair	Good	>40 yrs	Moderate	**C**	No works required in current site context
T6	Cedar	*Cedrus atlantica var glauca*	Early-mature	12	1	530	No	1.5	3	3.5	3	3.5	No visual defects	Multiple stemmed at 2.5m, Vertical, Moderate cavities, Tight union, Partially included bark	Normal	2 significant wounds / cavities from torn out branches low on main stem, no signs of major decay.	Fair	Fair	20 to 40 yrs	Moderate	**C**	Remove to facilitate development

	Tree Species		Measurements					Crown (m)					Tree Condition							Value		Management
Tree ID	*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*
G7	Beech	*Fagus sylvatica*	Semi-mature	3	10+	70 avg	No	0	See Plan				No visual defects	Single & multiple stemmed, Vertical, Stubs, Tight union	Old pruning wounds, Minor deadwood	Managed hedge.	Fair	Good	>40 yrs	Moderate	**C**	No works required in current site context
T8	Apple	*Malus domestica*	Early-mature	7	1	310	No	1.5	2.5	2.5	2.5	3.5	No visual defects	Single stemmed, Vertical, Old pruning wounds, Stubs, Epicormic growths, Minor cavities	Old pruning wounds, Minor deadwood	Very little fruit for time of year.	Fair	Good	>40 yrs	Moderate	**C**	No works required in current site context
T9	Lawson Cypress	*Chamaecyparis lawsoniana*	Semi-mature	7	1	260	No	0	2	2	2	2	No visual defects	Single stemmed, Vertical	Normal, Minor deadwood		Good	Good	>40 yrs	Low	**C**	No works required in current site context
T10	Lawson Cypress	*Chamaecyparis lawsoniana*	Early-mature	10	6	180 avg	No	0.5	2.5	3	3	2.5	No visual defects	Multiple stemmed at base, Vertical, Stubs, Tight union, Partially included bark	Normal, Minor deadwood	Smaller conifers at base.	Good	Fair	20 to 40 yrs	Moderate	**C**	No works required in current site context



NORTH

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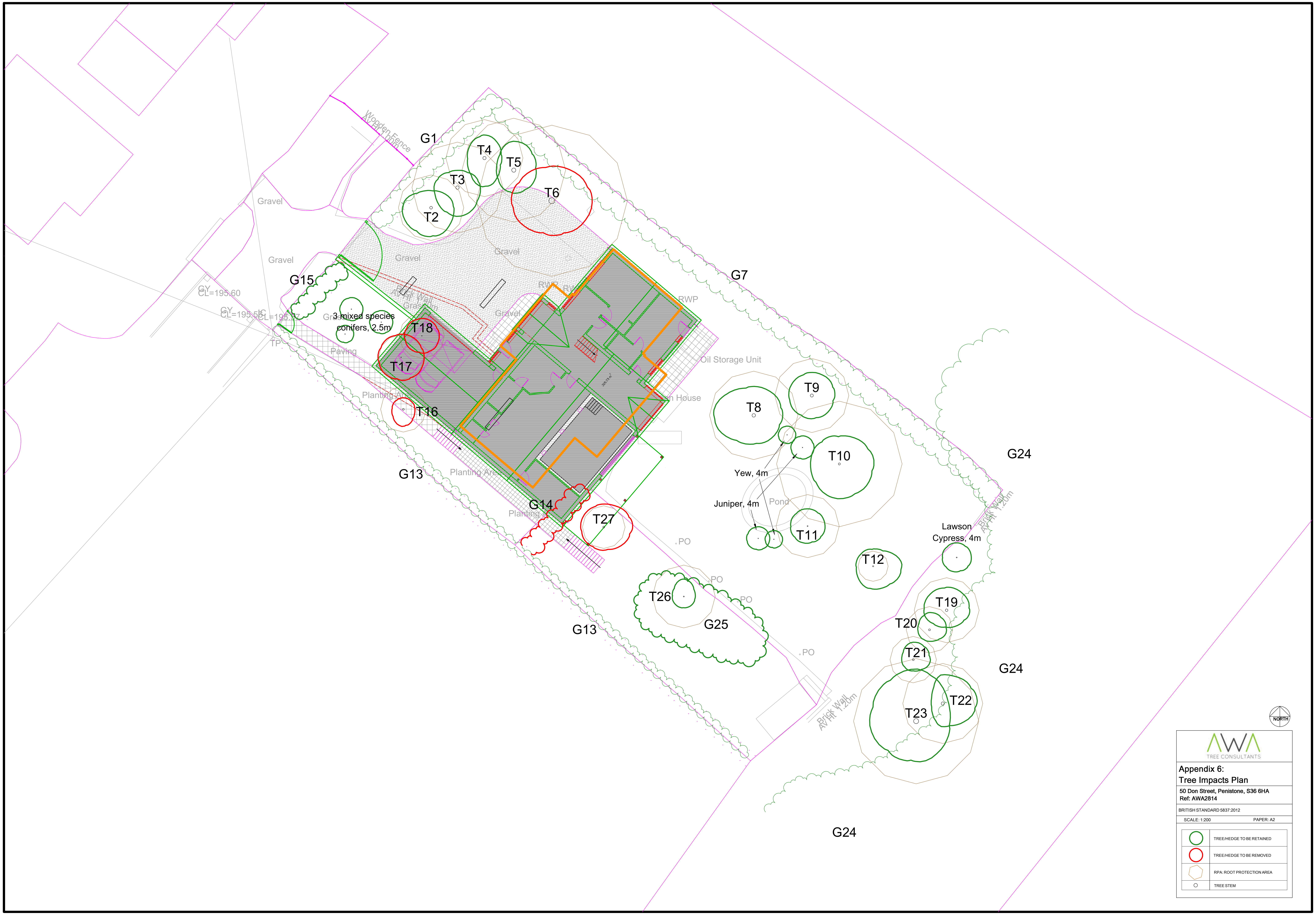
Appendix 5:
Tree Constraints Plan

50 Don Street, Penistone, S36 6HA
Ref: AWA2814

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

SCALE: 1:200 PAPER: A2

	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

50 Don Street, Penistone, S36 6HA
Ref: AWA2814

BRITISH STANDARD 5837:2012

SCALE: 1:200 PAPER: A2

(green circle)	TREE/HEDGE TO BE RETAINED
(red circle)	TREE/HEDGE TO BE REMOVED
(hexagon)	RPA: ROOT PROTECTION AREA
(small circle)	TREE STEM