TREE CONSULTANTS

ARBORICULTURAL REPORT

to BS 5837:2012 at:

Land at:

Garstang Road,
Broughton,
Preston
PR3 5JA.

Prepared for:
Hollins Strategic Ltd

Date: *July 2021*

Reference: *AWA3718*

Institute of Chartered Foresters
Registered Consultant

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Contents

1. Introduction

1.1 Instructions and Brief

1.1.1 We have been instructed by Hollins Strategic Ltd 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 2021.

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 an Ordnance Survey map base-layer 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. The tree survey and data collection were carried out by Mr Tom Readman Cert Arb L3, Level 4 Forestry and Arboriculture, 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 please refer to the Tree Constraints Plan at **Appendix 5**.

2. The Site

2.1 Location and Description

2.1.1 The site is located south of Broughton, a village and civil parish in the City of Preston, Lancashire.

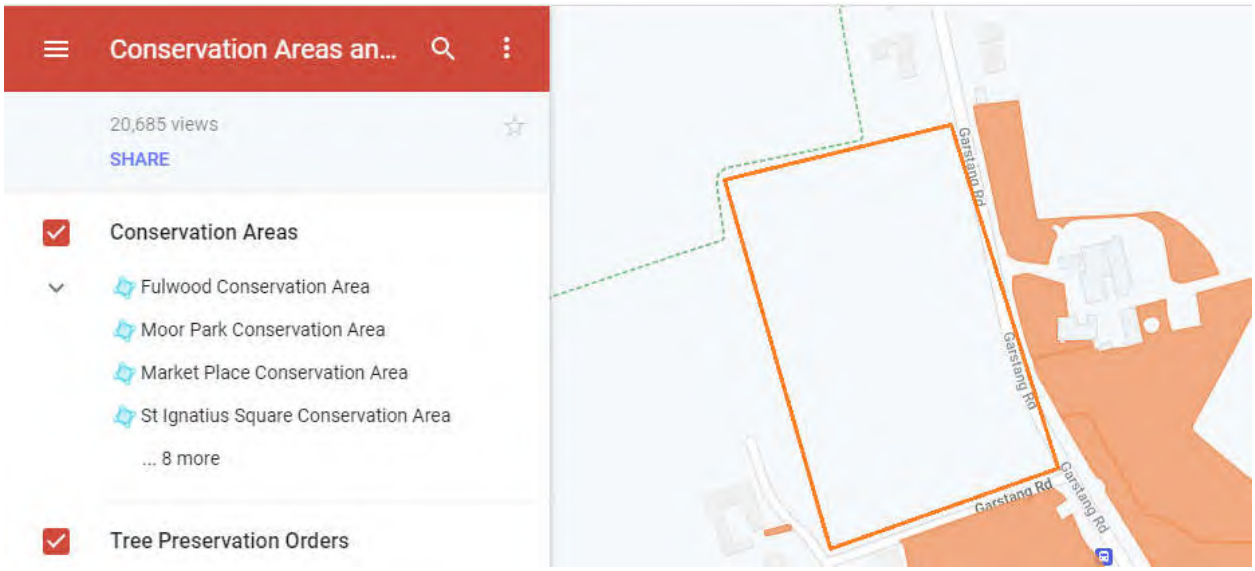
2.1.2 The surveyed area comprises arable farmland, which had been recently ploughed prior to survey. To the north is a public right of way and a residential property, to the east is a road, to the south is a separate field that appeared to be used as arable farmland, and to the south-west is a small number of residential properties.

2.1.3 The approximate area of the survey is highlighted in the image below (Google Earth, 2020):

3. The Trees

3.1 Legal

3.1.1 An online search has been carried out with Preston City Council on 14/05/21 to ascertain whether any trees at the site are located within a Conservation area or are protected by a Tree Preservation Order (TPO). As of this date no trees within the site are legally protected, as shown in the image below (Preston City Council, 2021), however a number of adjacent trees are legally protected.



3.1.2 It is likely that the protected trees adjacent to the surveyed area are T31, G48 and T49.

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 confirm if any trees are covered by a Tree Preservation Order or are within a Conservation Area. If either applies, then statutory permission is required before any works can take place. Statutory permission is not required for the removal of deadwood.

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.

3.1.5 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 49 items of woody vegetation, comprised of 36 individual trees and 13 groups of trees or hedges.

3.2.2 Of the surveyed trees: 1 tree is retention category 'U', 6 trees are retention category 'A', 17 trees and 1 group are retention category 'B', and the remaining 24 trees and groups are retention category 'C' (explanatory details regarding the retention categories are included at Appendix 3).

3.2.3 Significant tree cover is comprised of the large mature trees situated in and adjacent to the boundary hedges. As the surveyed area is a managed farm field, there is nothing of arboricultural significance in the central areas of the site.

3.2.4 Species diversity is reasonable. The dominant species is Oak, with occasional Sycamore, Lime and one Walnut. The boundary hedge groups are predominantly comprised of Hawthorn, with occasional Ash, Blackthorn, Elder and Holly. There was good age diversity, with a mix of semi-mature trees and hedges and mature trees.

3.2.5 At the boundaries of the surveyed area there are a number of mature Oak trees; T3 to T6, T12, T13 at the northern boundary; T15 to T20 at the eastern boundary; T25 to T27 at the southern boundary and T41 and T44 at the west boundary. Of these trees, T3, T5, T12, T19 and T41 have high individual value, while the remaining trees have more moderate individual value. T13, situated just beyond the north-east boundary, shows signs of moderate dieback, with a relatively sparse crown and notable epicormic growth and saprophytic fungi in the crown, and so may have slightly more limited long-term prospects. However, the tree still provides moderate ecological value. T44, at the western boundary, has more limited landscape value due to its smaller size, being effectively screened by nearby vegetation.

3.2.6 The mature Oak trees are typically situated in managed boundary hedges, including G1, G14, G29 and G30. These hedges are predominantly comprised of Hawthorn, with occasional other species. While these hedges have limited arboricultural value, they provide reasonable screening.

3.2.7 Beyond the northern boundary, extending along the public footpath, is G7. Comprised of Alder and Ash, with a range of semi-mature and early-mature trees, the group is reasonably visible in the surveyed area and wider area, offering good screening at the northern boundary. The compacted footpath may have limited some root development into the site.

3.2.8 At the north-east boundary, in an adjacent garden, is Walnut T9. While not a particularly prominent tree in the landscape, within the context of the surveyed area and adjacent garden it has moderate value as a relatively uncommon species, of arboricultural interest.

3.2.9 In the south-east corner, by what appears to be a dried pond with little remaining standing water, are T21 to T24, and T28. These are all large, mature trees with moderate amenity value. A number of the trees have defects that may indicate more limited long-term prospects. Sycamore T23 has notable dieback and deadwood in the crown, which overhangs the highway to the east, in addition to a slightly bulged base with some epicormic growth which suggests some decay in the lower stem. Remedial work will likely be required to retain T23 in the longer term. Limes T24 and T28 have prominent deadwood, with T28 in particular having a considerable amount of dead wood, likely due in part to its proximity to the regularly ploughed field.

3.2.10 At the western boundary there is a number of trees situated on the banking of a small drainage channel; T42 to T46. Of these trees, Sycamores T42 and 43 have more moderate amenity value. Sycamore T45 had signs of significant dieback, and likely has very limited long-term value, although as it is currently situated in a very low target area it does not present an intolerable risk. The remaining trees have more limited value in the wider landscape, being screened by adjacent vegetation, but have reasonable screening value within the context of the surveyed area.

3.2.11 Beyond the boundary of the surveyed area are two prominent, mature trees, Horse Chestnut T31 and Oak T49, that appear to be protected by a preservation order. T31 is situated in a raised, bricked shrub bed, with no notable disturbance in the brick work or in the adjacent roads and driveway. The brick structure may have limited the root spread of the tree. T49 is situated to the south of the surveyed area, beyond a drainage ditch and a tarmac road, which will have similarly limited root development into the site. However, the crowns of both trees may need to be considered in the event of development, due to their proximity to the existing access.

3.2.12 Symptoms consistent with Ash dieback were noted in a number of the smaller Ash trees situated in the boundary hedges. Once a tree is infected, the disease is usually fatal, either directly or indirectly. While the identified Ash may continue to provide landscape and wildlife benefits for some time, their long-term prospects are likely to be limited as a result of Ash dieback.

3.2.13 T23 and T24 have prominent, moderate deadwood in the crown and are situated close to the highway, and so have an intolerable level of risk. Deadwood with the potential to fall into the highway should be removed (as detailed in Appendix 4).

3.2.14 Some trees were covered in dense Ivy or were inaccessible (as detailed in appendix 4) in such cases measurements were estimated and the condition values are indicative only.

3.2.15 The tree Root Protection Area (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.

3.2.16 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.

3.3 Photographs

Photo 1: The site, as viewed from the access at Garstang Road

Photo 2: G4, and large Oaks T5 and T6, at the northern boundary

Photo 3: Mature Oaks T15 to T20, at the eastern boundary

Photo 4: T21 to T24, and T28, in the south-east corner of the site. Deadwood in T23 is circled in red

Photo 5: Managed hedge G29, at the southern boundary

Photo 6: Smaller trees T44 to T46, at the west boundary

3.4 Arboricultural Development Advice

3.4.1 The central area is a managed, regularly ploughed field, and as such there are no arboricultural constrains on development in the central areas.

3.4.2 The higher value retention category 'A' and 'B' trees and groups should be retained, where possible, and incorporated into any new development design.

3.4.3 Where suitable, those category 'C' trees and groups with reasonable future prospects (as detailed at Appendix 4) should be retained as part of any new development. However, care should be taken to avoid misplaced tree retention. Attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal.

3.4.4 If required by the development proposals, occasional lower value, retention category 'C' trees and groups could be removed, and replacement planting would largely mitigate their losses.

3.4.5 The tree Root Protection Area (RPA), detailed on the Tree Constraints Plan at Appendix 5, should be 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.

3.4.6 If construction of new buildings is required within the RPA of retained trees it may be possible to employ special foundation design such as mini/micro pile and suspended beam or a cantilevered foundation.

3.4.7 Construction of hard surfaces, for drives and paths, within the RPA can have negative impacts on tree roots. However, the potential negative impacts can often be overcome or minimised by employing a 'no-dig' type construction method with a porous final surface.

3.4.8 The design of the new development should consider the trees crown position in relation to any new dwellings. The dappled shade of a tree is more pleasant than the deep shadow of a building, and some shade from trees may be beneficial. In particular, deciduous trees give shade in summer but allow access to sunlight in winter. Whilst either shade or sunlight might be desirable, depending on the potential use of the area affected, the design should avoid unreasonable obstruction of light and should give adequate provision for future tree growth.

3.5 Protection of the Retained Trees

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

3.5.2 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.

4. Signature

I trust this report provides all the required information.

Signed

……

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

5th July 2021

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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 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, PTI (Lantra)*
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 joined AWA in 2016, after previously working 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.

Dr Felicity Stout *Ph.D, MA, BA (Hons), Cert Ed (Forestry), TechArborA, PTI (Lantra)*
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 Tom Readman *Cert Arb L3, Level 4 Forestry and Arboriculture, Valid Tree Risk-Benefit Validator*
Tom joined AWA from his previous role as a tree risk surveyor with Harrogate Borough Council, where he undertook tree risk surveys at a range of sites and prescribed suitable works. Tom also has extensive previous experience as a climbing arborist. Tom achieved at Distinction Star, and was recognised as the student of the year, in the Extended Diploma in Forestry and Arboriculture and is now completing a Foundation Degree in Arboriculture, while working at AWA. Tom's work focuses on tree risk surveys and accurate tree data collection for development projects to BS 5837:2012.

Mr James Godfrey *BA (Hons), Cert Arb L3, Level 4 Forestry and Arboriculture, TechArborA*
James has extensive arboricultural experience working as a team leader in both the public and private sector. Achieving a Distinction Star in the Extended Diploma in Forestry and Arboriculture allowed James to utilise this knowledge in order to inform the maintenance and wellbeing of trees across the UK over the course of his career. During his time at Darlington Borough Council, James was responsible for on-site assessment and advising of remedial works for council owned trees. Currently, James is completing a Foundation Degree in Arboriculture and Tree Management, while working at AWA.

Mr David Miller *BA (Hons), PGCE education, Dip Arboriculture Level 4*
David joined AWA after having managed his own tree care team for 8 years and gained a wealth of experience in the tree care industry. Prior to this David spent 10 years working in secondary mainstream and special education. David has also travelled worldwide, mainly trekking and running. His main work at AWA consists of tree surveys for development projects and preparing Tree Protection Schemes 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 in 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 Diameter (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
G1	Hawthorn, Blackthorn, Elder, Horse Chestnut, Sycamore	*Crataegus sp., Prunus sp., Sambucus sp., Aesculus sp., Acer sp.*	Semi-mature	2	10+	50 avg	Yes	0.5	See Plan				Little-managed boundary hedge, between 2 to 4m in height. Occasional failed and ivy covered stems				Good	Fair	>40 yrs	Low	C	No works required in current site context
T2	Sycamore	*Acer pseudoplatanus*	Early-mature	10	1	350	Yes	5	1	4	5.5	2.5	Limited access around base	Single stemmed, Vertical, Stubs and pruning wounds from crown lifting	Tears, Suppressed	Access prevented detailed inspection	Fair	Good	>40 yrs	Low	C	No works required in current site context
T3	Oak	*Quercus patraea*	Mature	25	1	1200	Yes	5	10.5	10	10	10.5	Limited access around base	Single stemmed, Vertical, Old pruning wounds, Minor cavity with minor decay	Moderate deadwood, Well developed crown, Overhanging into the site, Tears, Crossing/fused branches	Large deadwood low on stem at east aspect, reduce in length and retain on site in event of development	Good	Good	>40 yrs	High	A	No works required in current site context
T4	Oak	*Quercus patraea*	Mature	12	1	600	Yes	3	5.5	5.5	5.5	5.5	No visual defects	Single stemmed at 3m, Ivy covered	Minor deadwood, Tears, Overhanging into the site	Ivy prevented detailed inspection of stem and upper crown. Occasional small, recently failed branches.Small, recently failed branches. Occasional vehicle damage south aspect	Good	Good	>40 yrs	Moderate	B	No works required in current site context

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	Tree Species			Measurements				Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T5	Oak	*Quercus patraea*	Mature	17	1	1280	No	6	7	9.5	11.5	8	Soil compaction	Single stemmed, Vertical, Ivy covered	Slightly unbalanced, Overhanging into the site, Minor deadwood, Old pruning wounds	Crown lifted over site. Ivy prevented detailed inspection. Some epicormic growth in crown	Good	Good	>40 yrs	High	**A**	No works required in current site context
T6	Oak	*Quercus patraea*	Mature	16	1	930	No	6	7	8	8.5	0.5	Soil compaction, Root damage /loss	Single stemmed, Vertical, Epicormic growths	Unbalanced, Suppressed , Old pruning wounds, Minor deadwood	Crown lfited over site. Minor root damage from ploughing	Good	Good	>40 yrs	Moderate	**B**	No works required in current site context
G7	Alder, Ash	*Alnus sp., Fraxinus sp.*	Early-mature	18	10+	300 avg	No	5	See Plan				Linear group of semi-mature and early-mature trees, beyond northern boundary and to far side of broken stone path. Rooting activity to south will be limited by path and compaction. Occasional ivy-covered stem, and deadwood over path				Good	Good	20 to 40 yrs	Moderate	**B**	No works required in current site context
G8	Hawthorn, Blackthorn, Field Maple	*Crataegus sp., Prunus sp., Acer sp.*	Semi-mature	2.5	10+	50 avg	Yes	0.5	See Plan				Access prevented detailed inspection. Managed boundary hedge in adjacent garden				Good	Fair	>40 yrs	Low	**C**	No works required in current site context
T9	Walnut	*Juglans sp.*	Early-mature	11	1	450	Yes	3.5	6	6	7	5.5	Limited access around base	Single stemmed at base, Twin stemmed at 3m, Vertical, Tight union, Pruning wounds from crown lifting, Minor cavities	Occasional pruning wounds and vehicle damage over site		Good	Good	20 to 40 yrs	Moderate	**B**	No works required in current site context

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	Tree Species			Measurements				Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
G10	Laurel, Maple, Yew	*Laurus sp., Acer sp., Taxus sp.*	Semi-mature	5	10+	100 avg	Yes	0.5	See Plan				Access prevented detailed inspection. Mixed ornamental tree and shrub group, in adjacent garden				Good	Fair	20 to 40 yrs	Moderate	**C**	No works required in current site context
G11	Beech, Hawthorn, Holly	*Fagus sp., Crataegus sp., Ilex sp.*	Semi-mature	2	10+	50 avg	Yes	0.5	See Plan				Access prevented detailed inspection. Managed boundary hedge in adjacent garden				Good	Good	>40 yrs	Low	**C**	No works required in current site context
T12	Oak	*Quercus patraea*	Mature	18	1	1100	Yes	5	8	7.5	10	8	Limited access around base	Single stemmed, Vertical, Minor cavity with minor decay at east aspect, Old pruning wounds	Old pruning wounds, Overhanging adjacent land, Crossing/fused branches, Moderate deadwood	Crown lifted over site. Dead wood that has failed to fuse at south aspect	Good	Good	>40 yrs	High	**A**	No works required in current site context
T13	Oak	*Quercus patraea*	Mature	14	1	700	Yes	7	4.5	6	7	4.5	Limited access around base	Single stemmed, Vertical	Moderate dieback, Moderate deadwood, Tears	Access prevented detailed inspection. Dieback in central crown with some saprophytic fungi. Epicormic in crown. Ecological value higher than amenity value	Poor	Poor	10 to 20 yrs	Moderate	**C**	No works required in current site context

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Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
G14	Hawthorn, Ash, Sycamore	*Crataegus sp., Fraxinus sp., Acer sp.*	Semi-mature	2	10+	50 avg	Yes	0.5	See Plan				Managed boundary hedge, topped at 2m and maintained to clear field				Good	Good	>40 yrs	Low	**C**	No works required in current site context
T15	Oak	*Quercus patraea*	Mature	13	1	800	Yes	4	5.5	5	5	6	No visual defects, Limited rooting area	Single stemmed, Vertical, Ivy covered, Pruning wounds from crown lifting, Stubs	Minor deadwood, Overhanging into the site	Access prevented detailed inspection	Good	Good	>40 yrs	High	**B**	No works required in current site context
T16	Oak	*Quercus patraea*	Mature	13	1	600	Yes	4	5.5	4.5	7	5	Limited rooting area	Single stemmed, Vertical, Ivy covered, Stubs, Pruning wounds from crown lifting	Overhanging into the site, Minor deadwood	Access prevented detailed inspection	Good	Good	>40 yrs	High	**B**	No works required in current site context
T17	Oak	*Quercus patraea*	Mature	9	1	550	Yes	3.5	4	3	4.5	5	Limited rooting area	Single stemmed, Vertical, Ivy covered	Minor deadwood, Overhanging into the site, Overhanging adjacent land, Tears	Access prevented detailed inspection. Ivy and epicormic in crown	Fair	Good	>40 yrs	Moderate	**B**	No works required in current site context
T18	Oak	*Quercus patraea*	Mature	15	1	700	Yes	4	6	6	7	6.5	Fungus, Limited rooting area	Single stemmed, Vertical, Ivy covered, Pruning wounds from crown lifting	Stubs, Tears	Access prevented detailed inspection	Good	Good	>40 yrs	High	**B**	No works required in current site context

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Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T19	Oak	*Quercus patraea*	Mature	18	1	900	Yes	4.5	7.5	8.5	8	8.5	Limited access around base, Limited rooting area	Single stemmed, Vertical, Ivy covered	Tears, Stubs, Snapped /hanging branches, Overhanging adjacent land, Overhanging into the site, Minor deadwood	Access prevented detailed inspection. Hanging branches at southern aspect. Deadwood over road	Good	Good	>40 yrs	High	**A**	No works required in current site context
T20	Oak	*Quercus patraea*	Mature	17	1	700	Yes	4	1	5	8.5	5.5	Limited access around base, Limited rooting area	Single stemmed at base, Twin stemmed at 3m, Vertical, Ivy covered	Suppressed , Unbalanced, Minor deadwood	Access prevented detailed inspection	Good	Fair	>40 yrs	Moderate	**B**	No works required in current site context
T21	Lime	*Tilia x europaea*	Mature	170	1	680	No	1.5	5	6	3.5	4	Soil erosion, Exposed roots, Waterlogged	Single stemmed, Vertical, Epicormic growths	Minor deadwood	Situated on banking, waterlogged soil to west	Good	Good	20 to 40 yrs	Moderate	**B**	No works required in current site context
T22	Sycamore	*Acer pseudoplatanus*	Mature	17	1	670	No	3	3	7.5	4.5	4.5	Waterlogged, Soil erosion, Exposed roots, Girdling root east aspect	Single stemmed Vertical, at base, Slight lean at 3m	Slightly unbalanced, Minor deadwood		Good	Good	>40 yrs	Moderate	**B**	No works required in current site context

	Tree Species			Measurements				Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T23	Sycamore	*Acer pseudoplatanus*	Mature	17	1	690	No	3	3	8	3	3	Soil erosion, Exposed roots, Waterlogged	Single stemmed, Vertical, Epicormic growths	Moderate deadwood, Moderate dieback, Dead central leader	Large basal stem indicates potential rot at base. Epicormic at base prevented detailed inspection. Safe useful life expectancy could be increased by removing significant deadwood	Fair	Poor	10 to 20 yrs	Moderate	**C**	Remove deadwood over highway
T24	Lime	*Tilia x europaea*	Mature	21	1	900	Yes	2	5	5	5.5	5.5	Soil erosion, Exposed roots	Single stemmed, Vertical, Epicormic growths	Minor dieback, Minor deadwood, Dead central leader	Dense epicormic prevented detailed inspection	Fair	Fair	20 to 40 yrs	Moderate	**B**	Remove deadwood over highway
T25	Oak	*Quercus patraea*	Mature	20	1	570	No	3	2	5	6	5	Exposed roots, Soil erosion	Single stemmed, Vertical, Pruning wounds from crown lifting, Minor cavities	Unbalanced, Stubs, Minor deadwood	Situated on slight banking. Lifted at southern aspect	Good	Good	>40 yrs	Moderate	**B**	No works required in current site context
T26	Oak	*Quercus patraea*	Mature	18	1	540	No	2.5	5.5	4	7.5	3	Soil erosion, Exposed roots, Girdling root	Single stemmed, Vertical	Minor deadwood	Situated on slight banking. Lifted at southern aspect	Good	Good	>40 yrs	Moderate	**B**	No works required in current site context

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	Tree Species			Measurements				Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T27	Oak	*Quercus patraea*	Mature	17	1	520	No	3	3.5	2	5.5	5	Soil erosion, Exposed roots	Single stemmed, Vertical	Minor deadwood	Situated on slight banking. Lifted at southern aspect	Good	Good	>40 yrs	Moderate	**B**	No works required in current site context
T28	Lime	*Tilia x europaea*	Mature	17	1	670	No	2	4.5	5	4	2.5	Soil erosion, Exposed roots, Waterlogged	Single stemmed at base, Twin stemmed at 3m, Vertical, Tight union, Cup-like union collecting dirt/water	Stubs, Snapped /hanging branches, Minor deadwood, Minor dieback	Dead central leader. Stubs and hanging branches over field. Bark damage from grazing or vehicles	Fair	Fair	20 to 40 yrs	Moderate	**C**	No works required in current site context
G29	Hawthorn, Ash, Elder, Sycamore	*Crataegus sp., Fraxinus sp., Sambucus sp., Acer sp.*	Semi-mature	2	10+	50 avg	No	0.5	See Plan				Boundary hedge on banking, south aspect regularly managed while north aspect bushy and unmanaged. Occasional ivy covered stem. Some Ash dieback				Good	Fair	>40 yrs	Low	**C**	No works required in current site context
G30	Hawthorn, Elder, Sycamore	*Crataegus sp., Sambucus sp., Acer sp.*	Semi-mature	2	10+	50 avg	No	0.5	See Plan				Boundary hedge on banking, west aspect regularly managed while east aspect bushy and unmanaged. Occasional ivy covered stem.				Good	Fair	>40 yrs	Low	**C**	No works required in current site context
T31	Horse Chestnut	*Aesculus hippocastanum*	Mature	15	1	870	No	2.5	4	6	5.5	4	Limited rooting area	Single stemmed, Vertical, Epicormic growths, Cup-like union collecting dirt/water	Well developed crown	In raised shrub bed, which will have limited root development	Good	Good	20 to 40 yrs	High	**B**	No works required in current site context

	Tree Species			Measurements				Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T32	Hawthorn	*Crataegus monogyna*	Early-mature	4	4	100, 100, 50, 50	Yes	0.5	2.5	2	2.5	1	Exposed roots, Soil erosion	Twin stemmed at base, Multiple stemmed at 1m, Vertical, Tight union with partially included bark	Crossing/fused branches	Situated on banking	Good	Fair	>40 yrs	Low	C	No works required in current site context
T33	Hawthorn	*Crataegus monogyna*	Semi-mature	4	5	100, 70, 70, 70, 70, 50	Yes	1	2	2	2	2	Soil erosion, Exposed roots	Twin stemmed at base, Multiple stemmed at 0.5m, Vertical, Tight union with partially included bark	Moderate dieback, Minor deadwood	Situated on banking. Thin crown	Poor	Fair	10 to 20 yrs	Low	C	No works required in current site context
G34	Cherry Laurel, Hawthorn	*Prunus sp., Crataegus sp.*	Semi-mature	3.5	10+	50 avg	Yes	0.5	See Plan				Access prevented detailed inspection. Managed hedge and trees in adjacent garden. Laurel hedge managed at 2m, Hawthorn trees 3.5m				Good	Fair	20 to 40 yrs	Low	C	No works required in current site context
T35	Birch	*Betula pendula*	Semi-mature	10	1	200	Yes	3	3	3	3	2.5	Limited access around base	Single stemmed, Slight lean east	Overhanging into the site	Access prevented detailed inspection	Good	Good	>40 yrs	Low	C	No works required in current site context
T36	Hawthorn	*Crataegus monogyna*	Semi-mature	6	6	80 avg	Yes	1	1.5	1	2.5	2	No visual defects	Single stemmed at base, Multiple stemmed at 1m, Vertical, Old pruning wounds, Stubs, Tight union with partially included bark, Bark damage	Crossing/fused branches	Bark damage from grazing or vehicles	Fair	Fair	>40 yrs	Low	C	No works required in current site context

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	Tree Species			Measurements				Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
G37	Hawthorn	*Crataegus monogyna*	Semi-mature	5.5	10+	70 avg	Yes	1	See Plan				Unmanaged, linear group. Occasional ivy covered and dead stems, occasional bark damage from grazing or vehicles				Good	Fair	>40 yrs	Low	C	No works required in current site context
T38	Sycamore	*Acer pseudoplatanus*	Semi-mature	8	2	200, 200	No	3.5	3	3	3	3	No visual defects	Single stemmed at base, Twin stemmed at 1m, Vertical, Tears	Tears, Stubs	Bark damage from vehicles	Good	Good	>40 yrs	Low	C	No works required in current site context
T39	Sycamore	*Acer pseudoplatanus*	Early-mature	9	4	250, 250, 200, 150	Yes	3.5	3.5	3	4	4	Soil erosion, Exposed roots	Multiple stemmed at base, Vertical, Partially included bark, Tight union	Minor deadwood	Top of very steep drainage banking	Good	Fair	>40 yrs	Moderate	C	No works required in current site context
G40	Blackthorn	*Prunus spinosa*	Semi-mature	4	10+	50 avg	Yes	0.5	See Plan				Unmanaged boundary group, occasional leaning and failed stems, with some stems at the top of a steep banking				Fair	Fair	20 to 40 yrs	Low	C	No works required in current site context
T41	Oak	*Quercus patraea*	Mature	23	1	1160	No	5	8	7.5	7.5	7.5	Limited access around base, Soil erosion, Exposed roots, Waterlogged	Single stemmed, Vertical, Bark damage south and east aspect, Minor decay, Pruning wounds from crown lifting	Tears, Stubs, Minor deadwood	Top of drainage banking. Recent pruning at east and west aspect	Good	Good	>40 yrs	High	A	No works required in current site context

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	Tree Species			Measurements				Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T42	Sycamore	*Acer pseudoplatanus*	Mature	15	2	730, 380	No	4.5	4	6.5	7	6	Soil erosion, Exposed roots, Waterlogged	Single stemmed at base, Twin stemmed at 1m, Vertical, Stubs, Pruning wounds from crown lifting	Slightly unbalanced	Opposite banking. Drainage channel and waterlogging between tree and site	Good	Good	20 to 40 yrs	Moderate	**B**	No works required in current site context
T43	Sycamore	*Acer pseudoplatanus*	Mature	15	1	600	No	5	4.5	4.5	2	4.5	No visual defects	Pruning wounds from crown lifting, Old pruning wounds, Single stemmed, Vertical, Epicormic growths	Slightly unbalanced, Suppressed. Rough pruning wounds north and east aspect	Opposite banking. Drainage channel and waterlogging between tree and site	Good	Good	>40 yrs	Moderate	**B**	No works required in current site context
T44	Oak	*Quercus patraea*	Mature	8	1	450	Yes	3	3	3	4.5	4.5	Soil erosion, Exposed roots	Single stemmed, Slight lean east, Epicormic growths, Bark damage from grazing	Minor deadwood, Stubs, Snapped /hanging branches	Situated top of banking. Hanging branches and stubs from crown lifting.	Good	Good	>40 yrs	Moderate	**C**	No works required in current site context
T45	Sycamore	*Acer pseudoplatanus*	Early-mature	10	1	350	Yes	3.5	3	3	3	3	Limited access around base, Soil erosion, Exposed roots	Single stemmed, Vertical	Major dieback, Moderate deadwood	Situated on banking of drainage. Limited long-term value. Very low target value	Poor	Poor	<10 yrs	Low	**U**	No works required in current site context
T46	Sycamore	*Acer pseudoplatanus*	Early-mature	14	5	450, 250, 250, 250, 200	Yes	3	5	4.5	4.5	5	Limited access around base, Exposed roots, Soil erosion	Multiple stemmed at base, Epicormic growths, Pruning wounds from crown lifting	Minor dieback, Minor deadwood	Access prevented detailed inspection. Situated top of drainage banking	Good	Good	>40 yrs	Moderate	**C**	No works required in current site context

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	Tree Species			Measurements				Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
G47	Hawthorn, Elder, Sycamore, Willow	*Crataegus sp., Sambucus sp., Acer sp., Salix sp.*	Semi-mature	2.5	10+	100 avg	Yes	0.5	See Plan				Boundary hedge, mostly topped. Mostly on banking, but occasional situated in drainage channel				Fair	Fair	20 to 40 yrs	Low	**C**	No works required in current site context
G48	Hawthorn, Elder, Holly, Sycamore	*Crataegus sp., Sambucus sp., Ilex sp., Acer sp.*	Semi-mature	2	10+	50 avg	No	0.5	See Plan				Boundary hedge on banking. Ditch to north aspect				Good	Fair	20 to 40 yrs	Low	**C**	No works required in current site context
T49	Oak	*Quercus patraea*	Mature	21	1	1250	Yes	4	6	8.5	10	8	Limited access around base, Soil erosion, Exposed roots	Single stemmed at base, Multiple stemmed at 3m, Vertical, Ivy covered, Bark damage, Stubs, Minor decay	Slightly unbalanced, Minor deadwood	Access prevented detailed inspection. Ditch and tarmac road to immediate north, which will have limited root development. Minor pruning may be required for access	Good	Good	>40 yrs	High	**A**	No works required in current site context

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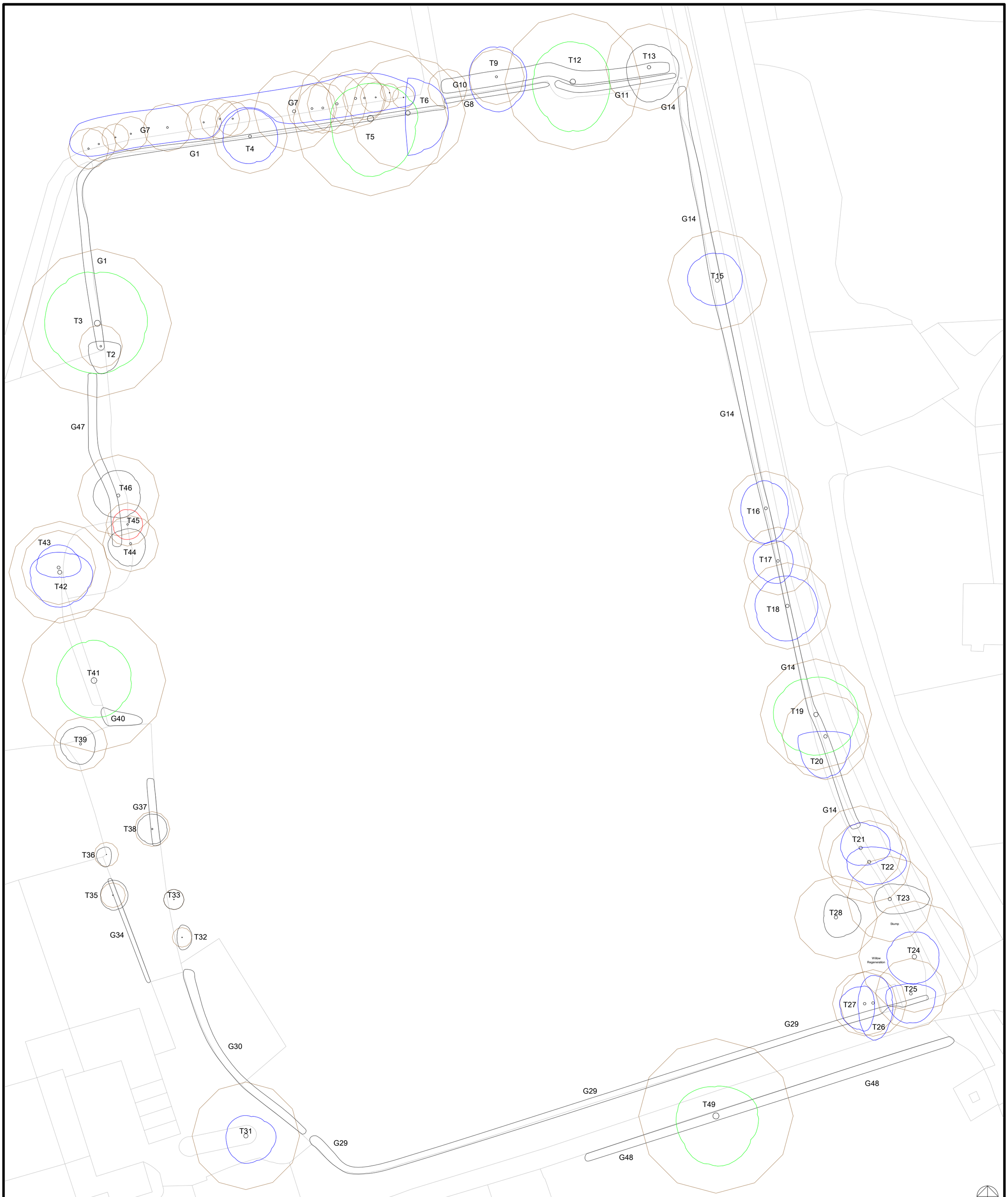
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Appendix 5:
Tree Constraints Plan
Land off Garstang Road, Broughton
Ref: AWA3718
BRITISH STANDARD 5837:2012
RETENTION CATEGORIES
Definitions of these categories can be found in Appendix 2 of the report.
SCALE: 1:500
PAPER: A2
CATEGORY A: HIGH VALUE 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