BS 5837
Arboricultural Report

CROWN Tree Consultancy

Branching out through England and Wales

Impact Assessment

at

Ashby Farm
Ducks Hill Road
Northwood
HA6 2SS

Dated

2nd February 2026

Contents

1. Introduction

1.1. Instruction

1.1.1. We are instructed by McDonald Architects to:

- Undertake a Tree Survey to BS 5837 at Ashby Farm and assess all trees potentially within influencing distance of proposed development within the site.
- Plot the trees on a Tree Constraints Plan and record the data in a Tree Data Schedule.
- Provide preliminary management recommendations for the tree stock (independent of development proposals).
- Assess the potential impact of the development proposals and provide guidance as to appropriate mitigation measures.
- Produce an Arboricultural Impact Assessment for submission to the local authority.
- Produce a Tree Protection Plan showing locations of tree protection barriers and where ground protection will be required.

1.2. Purpose of this Report

1.2.1. This report is produced according to the guidance and recommendations within *BS 5837: 2012 - Trees in Relation to Design, Demolition, and Construction.* It is tailored to accompany a planning application. It assesses the impact of all proposed construction works on the tree population. Tree removal, canopy pruning, and the impact upon roots from various groundworks are all considered in detail. Best practice mitigation is specified wherever appropriate.

1.2.2. Consideration is also given to the impact of the changed juxtaposition between trees and buildings and how that may influence future tree management.

1.2.3. This document should not be used to inform management decisions relating to liability or risk management. Such decisions should be based on a more detailed inspection of the trees than was carried out for this report.

1.3. References

1.3.1. We have liaised with our client to attain an adequate understanding of the project to enable us to carry out an accurate assessment of the proposals.

1.4. Author

1.4.1. This report was compiled by Joe Taylor - FdSc (Arboriculture), M. Arbor A. Joe's resumé can be found in Appendix 3.

2. The Survey

2.1.1. A visual ground-level assessment of all trees was undertaken on the 7th of October 2025 by Carl Lothian. No climbed inspections or specialist decay detection were undertaken.

2.2. Methodology

2.2.1. Structural condition was assessed by inspecting the stem and scaffold branches, looking for weak branch junctions, symptoms of decay, or other structural defects. Any recommended works were made to ensure the trees are in acceptable structural condition. The position of the tree and its potential targets were considered.

2.2.2. Physiological condition was assessed by inspecting the stem, branches, and foliage for symptoms of disease. The vigour of the tree was also considered.

2.2.3. Key measurements were obtained using a diameter tape, clinometer, distometer and logger's tape. Where this was not practical, measurements were estimated.

2.2.4. Some trees may be surveyed as groups, though this is usually avoided close to areas likely to be developed.

2.2.5. The tree locations shown on the accompanying drawings are based on a measured drawing of the site supplied to Crown Tree Consultancy. This drawing had the tree positions already plotted. Where applicable, additional trees have been plotted by us according to measurements taken on-site.

2.2.6. Finally, a *Retention Category* was allocated. The relevant BS5837 2012 cascade chart is duplicated below.

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

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, 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) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	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)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable 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	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	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	See Table 2

2.2.7. Further guidance on interpreting BS 5837 and our survey methodology is given in Appendix 1.

2.3. Survey Extent

2.3.1. The area indicated below[1] shows the extent of the survey. Our survey included all trees within the curtilage of the property and those adjacent to it.

2.4. Summary of Observations

2.4.1. The survey area encompasses the grounds of Ashby Farm, which includes several horse paddocks, stables and a detached dwelling.

2.4.2. Throughout the survey area, we identified three Retention Category B trees, numerous Retention Category C trees, and several Retention Category U trees.

2.4.3. The Tree Constraints Plan and Tree Data Schedule (see Appendix 4) should be referred to for descriptions and locations of all trees.

[1] Image taken from Google Earth and may not be current

3. Vegetation Overview (independent of proposals)

This section summarises all the recommendations within the Tree Data Schedule regardless of whether trees are to be retained, felled or pruned to facilitate the proposed development. It does not specify works that may be required to facilitate the development proposals.

3.1. Preliminary Management Recommendations

3.1.1. The following recommendations are made in order to maintain the trees in an acceptable condition:

3.1.2. T017 is potentially hazardous due to extensive internal decay and will require removal to prevent possible damage due to tree or limb failure.

3.1.3. All other trees were deemed to be in satisfactory condition.

3.2. Work Priority and Future Inspections

3.2.1. The table below suggests a schedule for completing the works recommended in the Tree Data Schedule based on the perceived risk. **Where funds permit, works should be undertaken sooner, though it is not recommended that the timescales below are extended.**

Work Priority	Definition	Tree Number
Urgent	As soon as possible	None
Very High	Within 1 Month	None
High	Within 3 Months	T017
Moderate	Within 1 year	None
Low	Within 3 years	None

3.2.2. The table below suggests a schedule of future inspections based on the condition and location of each tree:

Inspection Frequency (years)	Tree Number
0.5	None
1	None
1.5	None
3	All trees surveyed

3.2.3. The trees should be inspected sooner if there is a noticeable decline in their condition or following extreme weather events.

4. Statutory Protection – TPOs and Conservation Area Status

4.1. Species Present – Additional Information

4.1.1. The table below contains general information about the tree *species* (rather than the actual tree *specimens*) included in the survey. Its purpose is to assist readers who are unfamiliar with the characteristics of the various species.

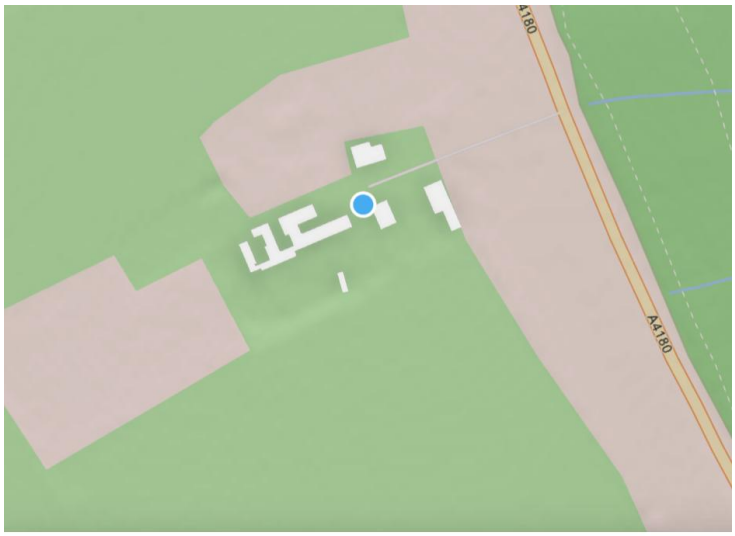
Species	Typical Height at Maturity (m)	Typical Canopy Spread at Maturity (m)	General Notes
Blackthorn	5	5	Also known as Sloe. This thorny, shrubby species is commonly found in hedgerows alongside roads and fields. Covered in white blossom in late winter followed by small purple fruits favoured for flavouring gin. Native to Britain. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Prunus+spinosa for more info.
Elder	8	8	Deciduous tree native throughout Europe, N Africa and W Asia. Untidy, shrubby habit. Very fast growing. Covered in dense creamy flowers and deep red berries which are excellent for making wine. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Sambucus+nigra for more info.
Elm	25	14	Several species of elm may be found in the UK. The most common being Wych Elm, English Elm and the Narrow-Leafed Elm. Many specimens are likely to be a cross as they freely hybridise. Attractive golden varieties are occasionally seen. The English Elm was once a common feature of the British landscape but has been decimated by Dutch Elm Disease. Visit http://en.wikipedia.org/wiki/Elm for more info.
Hawthorn	6	6	Arguably Britain's most common tree due to its abundance in field and roadside hedges. Deciduous, prickly and one of our most hardy trees, it will tolerate almost all conditions including drought, pollution and coastal winds. Also known as Mayflower because of its abundance of white flowers in May. Red 'haws' ripen from September to November and have only one pip (unlike Midland hawthorn which contains 2 pips). Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Crataegus+monogyna for more info.
Horse Chestnut	25	18	Deciduous tree native to Albania and N Greece. Naturalised throughout the UK. Iconic landscape tree. Susceptible to attack by Bleeding Canker, as well as Leaf Miner and Leaf Blotch. Should be inspected regularly if located close to high public use areas. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Aesculus+hippocastanum for more info.
Lime	25	12	Very common street tree. Several species exist; the one most often found in woods is 'common lime' which produces a mass of suckers at the stem base, making it very cheap to propagate. Limes have non-symmetrical heart shaped leaves which are much loved by aphids (hence the sticky honeydew on cars parked beneath). Limes are tolerant of heavy pruning and are often managed as pollards. Old limes tend to support a lot of small dead branches. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Tilia+x+europaea for more info.
Pedunculate Oak	20	16	Deciduous, long lived tree native and common throughout Europe with very durable timber. Excellent habitat tree - provides food and shelter for thousands of native species. Can be very attractive as a mature open grown specimen though not particularly ornamental, having no autumn colour or showy flowers. Responds well to pruning. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Quercus+robur for more info.
Sycamore	25	16	Deciduous tree native to S. Europe, widely naturalised in the UK. Often regarded as a weed species due to its invasive nature and ability to tolerate most conditions. Responds well to pruning. Not a good tree to park beneath in summer due to the sticky sap secreted by aphids. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Acer+pseudoplatanus for more info.
Willow	20	18	Fast growing deciduous tree with many different species which often hybridise. A high water demand tree which is often implicated in subsidence cases. Most willows have little ornamental value due to their lack of noticeable flowers, sizeable fruits autumn colour or ornamental bark.
Black elder	-	-	Also known as Sloe. This thorny, shrubby species is commonly found in hedgerows alongside roads and fields. Covered in white blossom in late winter followed by small purple fruits favoured for flavouring gin. Native to Britain. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Prunus+spinosa for more info.
Common ash	25	18	Large deciduous tree with a straight bole and a high open domed crown. Native to Britain and commonly found in woodlands and adjacent roadsides. Not suitable for small gardens. Easily identified by its oppositely arranged pinnate leaves and black buds. Branches are relatively brittle resulting in a fairly high incidence of small branch failure in windy conditions. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Fraxinus+excelsior for more info.

The figures quoted regarding typical height and canopy spread should be treated as approximate. Actual heights and spreads vary according to several environmental factors such as soil conditions, climate, and the presence of competing vegetation. The figures quoted are not the maximum dimensions that the species may attain.

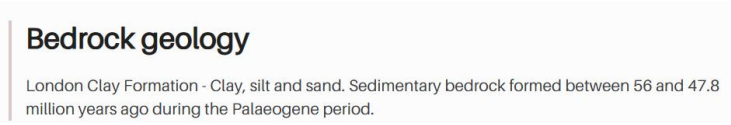
5. Local Geology and Soils

5.1. Desktop Research

5.1.1. Desktop research into local geology based on the postcode HA6 2SS obtained the following results:



Geology



Source: https://geologyviewer.bgs.ac.uk/?_ga=2.100849601.17774785.1660229567-1737936254.1660229567

Source http://www.landis.org.uk/soilscapes/

5.2. Site Investigations

5.2.1. We are unaware of any specific investigations into soil properties at the site.

5.3. Conclusion and Relevance

5.3.1. Based on the information reproduced above, local soils are assumed to have a clay texture.

5.3.2. Clay soils may be especially prone to compaction and slurrying caused by general construction activity. Both of which significantly impair root function. This must be guarded against using boards to protect any soils where roots are growing. When planting new trees, species that can tolerate heavy soils should be selected.]

5.3.3. Trees of most species are less likely to root deeply in clay soils. Any new surfacing over tree roots should avoid deep excavation and have good load-spreading properties.

6. Arboricultural Impact Assessment

6.1. Overview

6.1.1. It is proposed to demolish the existing buildings and construct a new workshop and associated buildings as indicated on the drawings in Appendix 4. The existing layout is indicated in light blue, and the footprint of the proposed layout is overlaid.

6.1.2. It is also proposed to widen the existing vehicular access.

6.1.3. The table below summarises the potential impact on trees due to various activities.

Activity	Trees Potentially Affected
Tree Removal: Retention Category A	None
Tree Removal: Retention Category B	None
Tree Removal: Retention Category C	G025, the 5m tall elder and blackthorn, the 3m tall mixed hedge, the 4.5m tall hawthorn, sycamore and blackthorn hedge and the 4.5m tall hawthorn and blackthorn hedge
Tree Removal: Retention Category U	T022
Tree Pruning	The scattered dead elm with occasional thorn and ivy
RPA: Foundations	None
RPA: New Hard Surface	T017
RPA: Replace Existing Hard Surface	T013, T014, T015 and T017
RPA: Underground Services	Unknown – To be confirmed
RPA: Change of Ground Levels	None
RPA: Soil Compaction	Trees adjacent the construction area (preventable by installing tree protection measures)

6.1.1. Other potentially damaging activities often associated with construction sites include demolition or the careless use of plant machinery, hazardous materials, or fires. All of the above potential impacts are considered in detail throughout this Section.

6.2. Tree Removal

6.2.1. To enable the development, it is proposed to remove three Retention Category C trees, several Retention Category C hedges and one Retention Category U tree. The trees to be removed are specified in the above table.

6.2.2. None of these trees are considered to have significant landscape value so the impact on local amenity levels shall be minimal.

6.3. Tree Pruning

6.3.1. The table below specifies the proposed pruning works:

Tree No	Recommendation	Reason
The scattered dead elm with occasional thorn and ivy	Trim back to provide clearance of the proposed parking spaces.	To enable adequate clearance between the proposal and the canopy.

6.3.2. The proposed pruning shall not have a significant impact on tree health or local levels of visual amenity. Hence it works are not considered to be a material planning consideration.

6.3.3. All other tree canopies shall be unaffected by the proposals.

6.4. Mitigation Planting

6.4.1. The site offers opportunity to plant additional new trees as part of a post-development landscaping scheme.

6.5. Impact of Foundations

6.5.1. No foundations are proposed within the Root Protection Area of any retained tree. Consequently, no restrictions on foundation design or implementation are considered necessary from an arboricultural perspective.

6.6. Impact of Surfacing

6.6.1. The table below assesses the impact of proposed surfacing in Root Protection Areas:

Tree No	Nature of Surfacing	Portion of RPA	Proposed Mitigation
T013, T014, T015 and T017	Hard surface replaced with new hard surface	<20%	• No excavation to occur below the existing surface and sub-base. • New surface to be porous.
T017	Soft surface replaced with hard surface	Circa 8%	None (impact shall be minimal due to reduced demand on the root system from main stem failure)

6.6.2. These measures accord with industry best-practice[2] and shall ensure minimal impact on roots.

6.7. Underground Services

6.7.1. The location of any underground services is yet to be determined. Wherever possible, these should be located outside of Root Protection Areas. Otherwise, the project arborist must be consulted, and approval obtained from the local authority.

6.8. Changes in Ground Levels

6.8.1. No changes to ground levels are proposed over Root Protection Areas.

6.9. Soil Compaction

6.9.1. The majority of tree roots lie within the upper soil horizons. This is because the availability of oxygen decreases with depth, and roots need to breathe to stay alive. In addition, nutrients are more readily available in the form of organic matter close to the soil surface.

[2] BS 5837(2012 section 7.4) and Arboricultural Association Guidance Note 12: The Use of Cellular Confinement Systems near Trees

6.9.2. Healthy soils contain about 25% air space between solid particles. Increased loading of the soil caused by construction activity causes air to be squeezed out as the soil becomes compacted, preventing roots from breathing. Even an increase in pedestrian activity may cause some soil compaction.

6.9.3. It is important, therefore, that ground compaction and soil disturbance over Root Protection Areas should be avoided during the construction phase. Where access is required over Root Protection Areas, suitable ground protection measures must be installed.

6.10. Demolition Activities

6.10.1. Care is required to avoid damaging trees when removing adjacent surfaces or structures. Surfaces must be lifted using hand tools or a carefully marshalled mechanical excavator. Walls must be demolished away from stems and in a manner that doesn't damage branches. Removal of underground foundations requires extra special care to avoid root damage. During the implementation of this project, the following activities require special care:

- Demolition of structure close to T019 and T020
- Removal of foundations close to T019 and T020

6.11. Waste and Materials Storage

6.11.1. All hazardous materials (including cement and petrochemical products) will need to be controlled according to COSHH regulations in order to ensure there is no detrimental impact on tree health. Provision shall need to be made to ensure that cement spillage avoids all Root Protection Areas.

6.11.2. Areas designated for the storage of building materials and waste products will need to be approved by the local authority. Root Protection Areas should be avoided. Where this is not possible, suitable ground protection measures will need to be installed.

6.12. Cabins and Site Facilities

6.12.1. Any cabins and welfare facilities should be located outside of Root Protection Areas wherever possible. Otherwise, the project arborist should be consulted, and approval obtained from the local authority.

6.13. Boundary Treatments

6.13.1. No changes are proposed to the existing boundary features that might impact trees.

6.14. Impact of Retained Trees on the Development

6.14.1. Adequate space has been allowed between retained trees and the proposal. Consequently, the proposal shall not result in increased pressure to remove or overly prune any of the retained trees.

6.14.2. The foundations and any new surfaces should be designed to accommodate all potential impacts due to future tree-rooting activity. These include potential vegetation-related subsidence, vegetation-related heave, and lifting of surfaces / light structures due to direct root pressure.

6.15. Arboricultural Method Statement

6.15.1. BS 5837 recommends that a detailed methodology is agreed in the form of an Arboricultural Method Statement, which shall ensure that trees are well protected during the construction phase. This should detail all tree protection measures and limitations on construction activity. All of the issues raised within this Impact Assessment should be covered by the Method Statement.

7. Photographs

Refer also to the Tree Constraints Plan for photo locations

Photo 1.

Photo 2.

Photo 3.

Photo 4.

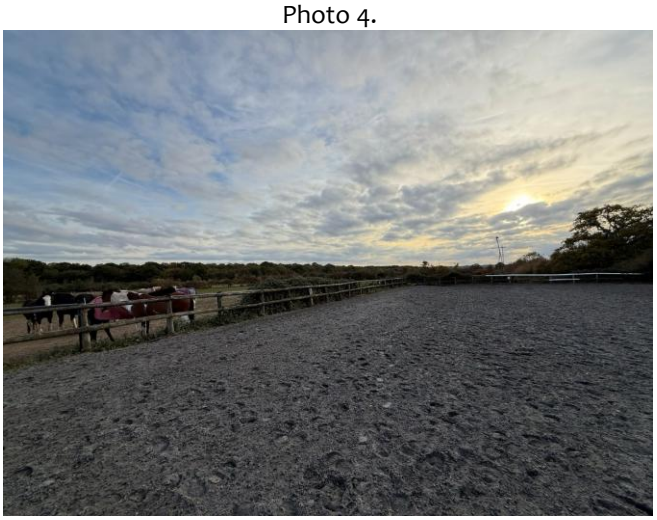


Photo 5.

Photo 6.

Photo 7.

Photo 8.

Photo 9.

Photo 10.

Photo 11.

Photo 12.

Photo 13.

Photo 14.

Photo 15.

Photo 16.

Photo 17.

Photo 18.

Photo 19.

Photo 20.

Photo 21.

Photo 22.

Photo 23.

Photo 24.

Photo 25.

Photo 26.

Photo 27.

Photo 28.

Photo 29.

Photo 30.

Appendix 1: BS 5837: 2012 – Interpretation Guide

This Standard prescribes the principles to be applied to achieve a satisfactory juxtaposition of trees and structures. It sets out to assist those concerned with planning applications to form balanced judgments.

Stage 1: Survey Details and Notes

A ground-level visual survey is undertaken. Only trees with a stem diameter over 75mm, which lie within the site boundary or relatively close to it, are included.

Where applicable, trees with significant defects are highlighted and appropriate remedial works are recommended.

Wherever practicable dimensions are obtained using diameter tapes, logger's tapes, distometers and clinometers. Where obstacles prevent accurate measurement, dimensions are estimated. Trees on privately owned third-party land are surveyed from the best available vantage point and observations relating to the condition of these trees should be treated accordingly. All height measurements should be regarded as approximate.

Data is recorded for each tree and is presented in a Tree Data Schedule. Each tree is allocated a ***Retention Category*** according to its size, amenity value, condition, and safe useful life expectancy. The categories are allocated independently of development proposals. Our interpretation of the Retention Categories is explained below:

Retention Categories

A Category: Trees of high quality and amenity value. Usually, mature trees with a significant life expectancy which would enhance any development. Retention of these trees is strongly encouraged.

B Category: Trees of moderate quality and amenity value. Usually these are maturing trees or younger trees with exceptional form. Retention of these trees is desirable though the removal of occasional specimens may be acceptable.

C Category: Trees of low quality or small specimens with a relatively low amenity value. These trees are not considered to be a material planning constraint and their removal will generally be seen as acceptable in order to facilitate development.

U Category: Trees of such low quality that their removal is recommended regardless of development proposals.

Occasionally trees are borderline and do not fall neatly into one of these categories. In such cases we apply a superscript (**+/-**) such that:

C^{+} Indicates borderline C/B, though Category C is deemed to be most appropriate.

B^{-} Indicates borderline C/B, though Category B is deemed to be most appropriate.

The British Standard suggests that each of the A, B and C categories may be further subdivided (A1, A2, A3, B1, B2, B3 etc) such that subcategory 1 denotes mainly arboricultural values, subcategory 2 denotes mainly landscape values and subcategory 3 denotes mainly cultural values (including conservation). Multiple subcategories may be used.

Our experience suggests that these subdivisions lack clarity and can be confusing. Within this report subcategories are **not** denoted. Where appropriate, the use of phrases such as '*Part of a formal group'*, or '*Has a high ecological value', or 'Offers good screening to the site'* are incorporated into the observation section of the Tree Data Schedule. We believe this conveys all relevant landscape and cultural information without any confusion.

Tree Constraints Plan (TCP). This indicates the position, crown spread, Retention Category and Root Protection Area of each tree. It is used to inform where development may proceed without causing damage to trees.

Root Protection Area (RPA). This is the area around each tree likely to contain the majority of roots. It should ideally remain undisturbed to avoid a detrimental impact on tree health. For single stemmed trees It is calculated according to the formula "radius of RPA" = "12 x stem diameter". Where a tree has more than one stem, the equivalent-single-stem diameter is usually recorded. This is calculated by adding the squares of the stems and then finding the square root of this total. The radius of the Root Protection Area is then calculated by multiplying the equivalent-stem-diameter by 12.

Stage 2: Arboricultural Impact Assessment

After the initial survey and the production of the Tree Constraints Plan, arborists and designers are encouraged to work together to establish a design proposal with minimal impact on the high-quality trees. An assessment should be made of all possible impacts including the impact that the trees may have on the proposal. The arborist may recommend mitigation strategies to minimise these impacts and help achieve a more harmonious juxtaposition between buildings and trees.

Stage 3: Arboricultural Method Statement

This type of report specifies the measures necessary to protect trees against damage from construction activity. The Method Statement should be written in a manner that it may be conditioned and enforced by the local authority upon granting of planning permission. The site manager should be familiar with all aspects of the Method Statement and should ensure that all persons working on the site are aware of those aspects which appertain to their work. This includes service installation engineers and operators of plant machinery.

Appendix 2: Glossary

This section explains the terms used in the **Tree Data Schedule** (see Section 3 and Appendix 4).

A2.1 General Observations

Numbering System:	Each item of vegetation has its own unique number prefixed by a letter such that T1=Tree 1, G2=Group 2, H3=Hedge 3 and W4=Woodland 4, S5=Shrub 5.
Age Categories:	
Young	Usually less than 10 years old.
Semi-Mature	Significant future growth to be expected, both in height and crown spread (typically below 30% of life expectancy).
Early-Mature	Full height almost attained. Significant growth may be expected in terms of crown spread (typically 30-60% of life expectancy).
Mature	Full height attained. Crown spread will increase but growth increments will be slight (typically 60% or more of life expectancy).
Veteran	Notable tree with features associated with atypically advanced age (such as unusually large girth, crown retrenchment or significant stem decay). Veteran trees have a high habitat value and require a Buffer Zone / RPA with a radius of at least 15x stem diameter and extending at least 5m beyond the dripline. Any natural or semi-natural habitats within the buffer zone should be well protected and retained (or improved) as part of the development. Lawns and cultivated gardens should be discouraged. See https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions
Over Mature	Tree with declining health but not worthy of veteran status.
Species:	Common names and Latin names are given.
Height:	Measured from ground level to the top of the crown.
Stem Diameter:	Taken at 1.5m above ground level where possible. On multi-stemmed trees this measurement may be taken at ground level, though usually an indication of the number of stems and average diameter is given, e.g. 3 x 30cm.
Crown Height:	Measured from ground level to the height at which the main crown begins. Where the crown is unbalanced it is measured on the side deemed to be most relevant. This is usually the side facing the area of anticipated development.
Tree Diagram:	This scaled drawing is computer generated based on measurements taken for stem diameter, crown height and spread, and overall height. It is designed to help the reader rapidly assess the data. It is not an accurate representation of the form of the tree.
Crown Spread:	Measured N, E, S & W, taken from the centre of the stem and usually rounded up to the nearest metre.
Observations:	If a tree's position is considered to be relevant it will be commented upon (e.g. overhanging a children's play area). Tree form and pruning history are also recorded along with an account of any significant defects. Defects and descriptive terms are dealt with in more detail at the end of this section.
Recommendations:	Usually based on any defects observed and intended to ensure that the tree is in an acceptable condition.
Priority Scale:	Depending upon the threat posed by the tree, and the likelihood of failure, recommendations should be carried out according to the following priority scale:
Urgent	To be carried out as soon as possible.
Very High	To be carried out within 1 month.
High	To be carried out within 3 months.
Moderate	To be carried out within 1 year.
Low	To be carried out within 3 years.
	Where funds permit, works should be undertaken sooner, though **it is not recommended that the timescales above are extended**.
Inspection Frequency:	An interval of 6 months, 1 year, 1.5 years or 3 years is allocated before the next inspection is due. Wherever practical, consideration should be given to seasonal changes so that deciduous trees are not always surveyed in winter when they have no leaves, or in summer when leaves may obscure branches within the upper crown.
Vigour:	An indication of growth rate and the tree's ability to cope with stresses:
High	Having above average vigour.
Moderate	Having average vigour.
Low	Having below average vigour.
Very Low	Tree is struggling to survive and may be dying.
Physiological Condition:	
Good	Healthy and with no symptoms of significant disease.
Fair	Disease present or vigour is impaired.
Poor	Significant disease present or vigour is extremely low.
Very Poor	Tree is dying.
Structural Condition:	
Good	Having no significant structural defects.
Fair	Some defects observed though no high priority works are required.
Poor	Significant defects found. Tree requires monitoring or remedial works.
Very Poor	Major defects which will usually require significant remedial works or tree removal.
Amenity Value:	
Very High	Exceptional specimen, observable by a large number of people.
High	Attractive specimen, observable by a significant number of people.
Moderate	One of the above factors is not applicable.
Low	Unattractive specimen or largely hidden from view.
Life Expectancy:	The estimated number of years before the tree may require removal. Classified as (<10), (10 – 20), (20 – 40), or (40+).
Retention Category:	These are explained in detail in Appendix 1.

A2.2 Evaluation of Defects

Cavities, wounds, deadwood etc are all evaluated as follows:

Major	Such that structural integrity is, or will become, compromised and the tree is, or will inevitably become, hazardous.
Significant	A defect that may over time become a major defect, though not necessarily so. This will depend on the vigour of the tree and its ability to deal with decay etc.
Minor	A defect that is unlikely to develop into a major defect.

General Glossary

A general glossary of arboricultural terms may be found on our website at
https://www.crowntrees.co.uk/crown-tree-consultancy/glossary-tree-terms/

Appendix 3: Author's / Arborist's Qualifications

Qualifications & Experience of Joe Taylor – M. Arbor. A, FdSc (Arboriculture)

Joe began his career in Arboriculture as a tree surgeon/climber. During his time as a tree surgeon, Joe has achieved City & Guilds NPTC qualifications in Chainsaw Maintenance and Cross Cutting, Tree Climbing and Rescue, Safe Use of Manually Fed Wood-chipper and Supporting Colleagues Undertaking Tree Related Operations.

Joe obtained a Foundation Degree in Arboriculture at Askham Bryan College in 2015 which he passed with merit. Joe is a professional member of the Arboricultural Association, the International Society of Arboriculture, and the Royal Forestry Society and regularly attends industry-related seminars in to keep abreast of industry best practices.

Studying at Askham Bryan College reinforced Joe's passion for trees and drove his enthusiasm to learn more. Learning how trees interact with their surrounding environment and their importance within our urban and rural landscapes highlighted an interest in pursuing a career in consultancy.

Since working for Crown Consultants Joe has undertaken numerous surveys and produced numerous reports for the purpose of planning (BS 5837), tree condition surveys, subsidence risk assessments, root surveys and decay detection investigations.

Qualifications & Experience of Carl Lothian – BSc (Hons) (Arboriculture).

Carl began his career undertaking a Level 3 extended diploma in arboriculture and forestry at Merrist Wood College in 2015. Upon completion of his diploma, Carl worked with several tree surgery firms completing a range of arboricultural works. In 2018 Carl began his BSc (Hons) in arboriculture and urban forestry, graduating with a first-class degree and attaining the Institute of Chartered Foresters student of the year award.

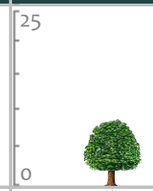
After graduating, Carl worked as a TreeRadar technician where he carried out tree root and decay surveys with specialist ground-penetrating radar equipment. During this time Carl was fortunate enough to work at prestigious sites, such as the Palace of Westminster and the National Maritime Museum.

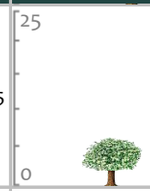
Whilst working at Crown, Carl has undertaken a range of tree surveys and written reports relating to development, safety, subsidence, and decay detection. Carl is a professional member of the Consulting Arborist Society and an associate member of the Institute of Chartered Foresters.

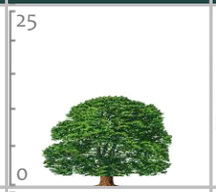
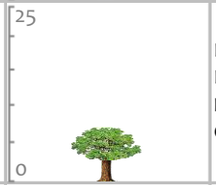
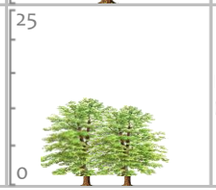
Appendix 4: Tree Data Schedule and Drawings

The Tree Data Schedule and any drawings accompanying this report follow this page. They are also provided as separate documents for ease of printing and screen viewing.

Reference (G = Group, H = Hedge)	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) N W E S	Scaled Tree Diagram (m)	Notes	Recommendations (Independent of any development proposals) Priority	Inspect Freq (yrs)	Vigour / Physiological Condition / Structural Condition	Amenity Value / Life Expectancy (yrs) / Retention Category
T001	Early-Mature **Pedunculate Oak** Quercus robur.	10	2	58	N 4.5 W 4.5 E 4.5 S 4.5		Position: Off-site. **Defects:** **Significant deadwood (low target occupancy).**	No action required. n/a	3	Moderate Fair Fair	Low 40+ **B**
H002	Young **Mixed Species** Mixed species.	5	0	8	N 1 W 1 E 1 S 1		Position: Adjacent field boundary. Form: Mixed hedge including elm, hawthorn and blackthorn. **Defects:** **Occasional dead and declining elm.**	No action required. n/a	3	Moderate Fair Fair	Moderate 40+ **C**
T003	Semi-Mature **Elm** Ulmus sp.	7	3	17	N 1.5 W 1.5 E 1.5 S 1.5		Position: Within hedge. **Defects:** **Dead.**	No action required. n/a	3	Dead **Dead** **Dead**	Dead Dead **U**
T004	Semi-Mature **Elm** Ulmus sp.	7	3	12	N 1.5 W 1.5 E 1.5 S 1.5		Position: Within hedge. **Defects:** **In decline.**	No action required. n/a	3	Low Poor Poor	Low <10 **U**
T005	Semi-Mature **Elm** Ulmus sp.	7	3	22	N 2 W 2 E 2 S 2		Position: Within hedge. **Defects:** **Dead.**	No action required. n/a	3	Dead **Dead** **Dead**	Dead Dead **U**
H006	Semi-Mature **Mixed Species** Mixed species.	4	0	13	N 2 W 2 E 2 S 2		Form: Row of multiple stemmed specimens including blackthorn, hawthorn and elder. **Defects:** **No significant defects observed.**	No action required. n/a	3	Moderate Good Fair	Low 40+ **C**
T007	Semi-Mature **Hawthorn** Crataegus sp.	4	1.5	14.5	N 3 W 3 E 3 S 3		Position: Off-site. **Defects:** **No significant defects observed.**	No action required. n/a	3	Moderate Fair Fair	Low 20-40 **C**

Reference (G = Group, H = Hedge)	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) N W E S	Scaled Tree Diagram (m)	Notes	Recommendations (Independent of any development proposals)		Vigour / Physiological Condition / Structural Condition	Amenity Value / Life Expectancy (yrs) / Retention Category
								Priority	Inspect Freq (yrs)		
T008	Young **Horse Chestnut** Aesculus hippocastanum.	8	2	18	N 2.5, W 3, E 3, S 2.5		Position: Adjacent boundary fence. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate Good Good	Low 40+ C
H009	Semi-Mature **Mixed Species** Mixed species.	5	0	12	N 2, W 2, E 2, S 2		Position: Adjacent field boundary. Form: Row of multiple stemmed specimens including elder, hawthorn and blackthorn. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate Good Good	Low 40+ C
T010	Semi-Mature **Willow** Salix sp.	4.5	1	40.6	N 6, W 5.5, E 5.5, S 5		Position: Within hedge. Form: Multiple stemmed at ground (stem diameter calculated for multiple stems). History: Topped and maintained as part of hedge in past. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate Fair Fair	Low 40+ C
T011	Semi-Mature **Blackthorn** Prunus spinosa.	5	1	26	N 3.5, W 3.5, E 3.5, S 3.5		Position: Within dense group of young blackthorn. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate Good Good	Low 40+ C
T012	Young **Black Elder** Sambucas nigra.	3.5	1	15.6	N 1, W 3.5, E 2.5, S 3.5		**Defects:** Very poor condition, mostly dead.	No action required. n/a	3	**Very Poor** Poor	Low <10 **U**
T013	Mature **Hawthorn** Crataegus sp.	5	1.5	43	N 3, W 2, E 3.5, S 3		Form: Leaning. History: Topped at 2m. **Defects: Major decay and splitting to stem.**	No action required. n/a	3	Moderate Fair **Very Poor**	Low 10-20 C+
G014	Young **Horse Chestnut** Aesculus hippocastanum.	av 9	av 1.5	av 20	N av, W 3.5, E 4, S 4 each		Form: Row of 6 specimens. History: No significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate Fair Good	Low 40+ C+

Reference (G = Group, H = Hedge)	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) N / W / E / S	Scaled Tree Diagram (m)	Notes	Recommendations (Independent of any development proposals)		Vigour / Physiological Condition / Structural Condition	Amenity Value / Life Expectancy (yrs) / Retention Category
								Priority	Inspect Freq (yrs)		
T015	Semi-Mature **Hawthorn** Crataegus sp.	5	1.5	18	N 3.5 / W 1 / E 2.5 / S 2		Position: Within row of young elm. History: Topped. **Defects: No significant defects observed.**	No action required.	n/a / 3	Moderate / Fair / Fair	Low / 20-40 / C
T016	Semi-Mature **Willow** Salix sp.	12	2	31.5	N 3.5 / W 5 / E 5 / S 5		Position: Off-site. History: No significant pruning. **Defects: No significant defects observed.** Other: Limited inspection, dimensions estimated.	No action required.	n/a / 3	Moderate / Good / Good	Low / 40+ / B
T017	Mature **Common Ash** Fraxinus excelsior.	12	3.5	65	N 6 / W 6 / E 4.5 / S 5		Position: Adjacent busy road. **Defects: Failure of main stem at circa 6m, extensive internal decay apparent.**	Remove.	High / 3	Moderate / Fair / Very Poor	High / <10 / U
T019	Young **Elder** Sambucus nigra.	4.5	2.5	11.3	N 2 / W 2 / E 2 / S 2		**Defects:** No significant defects observed. Other: Limited inspection, dimensions estimated. Vegetation prevented a detailed inspection.	No action required.	n/a / 3	Moderate / Good / Good	Low / 20-40 / C
T020	Young **Elm** Ulmus sp.	5.5	1.5	10	N 1.5 / W 1.5 / E 1.5 / S 1.5		**Defects:** Dead.	No action required.	n/a / 3	Dead / Dead / Dead	Dead / Dead / U
T021	Young **Elm** Ulmus sp.	5.5	1.5	10	N 1.5 / W 1.5 / E 1.5 / S 1.5		**Defects:** Dead.	No action required.	n/a / 3	Dead / Dead / Dead	Dead / Dead / U
T022	Semi-Mature **Elm** Ulmus sp.	8.5	4	30	N 1.5 / W 1.5 / E 1.5 / S 1.5		**Defects:** Dead.	No action required.	n/a / 3	Dead / Dead / Dead	Low / Dead / U

Reference G = Group H = Hedge	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) N W E S	Scaled Tree Diagram (m) 9 0 9	Notes	Recommendations (Independent of any development proposals) Priority / Inspect Freq (yrs)	Vigour Physiological Condition Structural Condition	Amenity Value Life Expectancy (yrs) Retention Category
T023	Semi-Mature **Lime** Tilia sp.	12	1	44.7	5.5 (W) 5.5 (N) 5 (E) 5 (S)		Position: Growing from side of ditch. Form: Twin stemmed. **Defects: No significant defects observed.**	No action required. n/a / 3	Moderate Good Good	Low 40+ **B**
T024	Semi-Mature **Sycamore** Acer pseudoplatanus.	6	3	29	1 (W) 2 (N) 4 (E) 4 (S)		Position: Growing from side of ditch. Form: Leaning. Unbalanced crown. **Defects: No significant defects observed.** Other: Suppressed by adjacent tree.	No action required. n/a / 3	Moderate Fair Fair	Low 40+ **C**
G025	Young **Common Ash** Fraxinus excelsior.	av 11	av 0.5	av 17.9	4 (W) av (N) 4 (E) 3 (S) each		Form: Group of 3 close growing specimens all multiple stemmed. **Defects: No significant defects observed.**	No action required. n/a / 3	Moderate Good Good	Low 40+ **C**

Tree Data Schedule

Ref. Prefix: T = Tree G = Group H = Hedge	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) W	N	E	S	Scaled Tree Diagram (m)	Notes	Recommendations (independent of any development proposals) Priority	Inspect (Yes/ blank)	Vigour Physiological Condition / Structural Condition	Amenity Value Life Expectancy (yrs) / Retention Category
T001	Early-Mature **Pedunculate Oak** *Quercus robur.*	10	2	58	4.5	4.5	4.5	4.5		Position: Off-site. **Defects: Significant deadwood (low target occupancy).**	No action required. n/a	3	Moderate / Fair	Low 40+ B
H002	Young **Mixed Species** Mixed species.	5	0	8	1	1	1	1		Position: Adjacent field boundary. Form: Mixed hedge including elm, hawthorn and blackthorn. **Defects: Occasional dead and declining elm.**	No action required. n/a	3	Moderate / Fair	Moderate 40+ C
T003	Semi-Mature **Elm** *Ulmus sp.*	7	3	17	1.5	1.5	1.5	1.5		Position: Within hedge. **Defects: Dead.**	No action required. n/a	3	Dead / Dead	Dead Dead U
T004	Semi-Mature **Elm** *Ulmus sp.*	7	3	12	1.5	1.5	1.5	1.5		Position: Within hedge. **Defects: In decline.**	No action required. n/a	3	Low / Poor	Low <10 U
T005	Semi-Mature **Elm** *Ulmus sp.*	7	3	22	2	2	2	2		Position: Within hedge. **Defects: Dead.**	No action required. n/a	3	Dead / Dead	Dead Dead U
H006	Semi-Mature **Mixed Species** Mixed species.	4	0	13	2	2	2	3		Form: Row of multiple stemmed specimens including blackthorn, hawthorn and elder. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate / Good / Fair	Low 40+ C
T007	Semi-Mature **Hawthorn** *Crataegus sp.*	4	1.5	14.5	3	3	3	3		Position: Off-site. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate / Fair	Low 20-40 C
T008	Young **Horse Chestnut** *Aesculus hippocastanum.*	8	2	18	3	3	2.5	3		Position: Adjacent boundary fence. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate / Good / Good	Low 40+ C
H009	Semi-Mature **Mixed Species** Mixed species.	5	0	12	2	2	2	2		Position: Adjacent field boundary. Form: Row of multiple stemmed specimens including elder, hawthorn and blackthorn. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate / Good / Good	Low 40+ C
T010	Semi-Mature **Willow** *Salix sp.*	4.5	1	40.6	5.5	6	5.5	5		Position: Within hedge. Form: Multiple stemmed at ground (stem diameter calculated for multiple stems). History: Topped and maintained as part of hedge in past. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate / Fair	Low 40+ C
T011	Semi-Mature **Blackthorn** *Prunus spinosa.*	5	1	26	3.5	3.5	3.5	3.5		Position: Within dense group of young blackthorn. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate / Good / Good	Low 40+ C
T012	Young **Black Elder** *Sambucas nigra.*	3.5	1	15.6	3.5	1	3.5	2.5		**Defects:** Very poor condition, mostly dead.	No action required. n/a	3	Very Poor / Poor	Low <10 U
T013	Mature **Hawthorn** *Crataegus sp.*	5	1.5	43	2	3	3	3.5		Form: Leaning. History: Topped at 2m. **Defects: Major decay and splitting to stem.**	No action required. n/a	3	Moderate / Fair / Very Poor	Low 10-20 C+
G014	Young **Horse Chestnut** *Aesculus hippocastanum.*	av 9	av 1.5	av 20	3.5	av 5	4	4 each		Form: Row of 6 specimens. History: No significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate / Fair / Good	Low 40+ C+
T015	Semi-Mature **Hawthorn** *Crataegus sp.*	5	1.5	18	1	3.5	2	2.5		Position: Within row of young elm. History: Topped. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate / Fair / Fair	Low 20-40 C
T016	Semi-Mature **Willow** *Salix sp.*	12	2	31.5	5	3.5	5	5		Position: Off-site. History: No significant pruning. **Defects: No significant defects observed.** Other: Limited inspection, dimensions estimated.	No action required. n/a	3	Moderate / Good / Good	Low 40+ B
T017	Mature **Common Ash** *Fraxinus excelsior.*	12	3.5	65	6	6	5	4.5		Position: Adjacent busy road. **Defects: Failure of main stem at circa 6m, extensive internal decay apparent.**	Remove. High	3	Moderate / Fair / Very Poor	High <10 U
T019	Young **Elder** *Sambucus nigra.*	4.5	2.5	11.3	2	2	2	2		**Defects:** No significant defects observed. Other: Limited inspection, dimensions estimated. Vegetation prevented a detailed inspection.	No action required. n/a	3	Moderate / Good / Good	Low 20-40 C
T020	Young **Elm** *Ulmus sp.*	5.5	1.5	10	1.5	1.5	1.5	1.5		**Defects:** Dead.	No action required. n/a	3	Dead / Dead / Dead	Dead Dead U
T021	Young **Elm** *Ulmus sp.*	5.5	1.5	10	1.5	1.5	1.5	1.5		**Defects:** Dead.	No action required. n/a	3	Dead / Dead / Dead	Dead Dead U
T022	Semi-Mature **Elm** *Ulmus sp.*	8.5	4	30	1.5	1.5	1.5	1.5		**Defects:** Dead.	No action required. n/a	3	Dead / Dead / Dead	Low Dead U
T023	Semi-Mature **Lime** *Tilia sp.*	12	1	44.7	5.5	5.5	5	5		Position: Growing from side of ditch. Form: Twin stemmed. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate / Good / Good	Low 40+ B
T024	Semi-Mature **Sycamore** *Acer pseudoplatanus.*	6	3	29	1	2	4	4		Position: Growing from side of ditch. Form: Leaning. Unbalanced crown. **Defects: No significant defects observed.** Other: Suppressed by adjacent tree.	No action required. n/a	3	Moderate / Fair / Fair	Low 40+ C
G025	Young **Common Ash** *Fraxinus excelsior.*	av 11	av 0.5	av 17.9	4	av 4	4	3 each		Form: Group of 5 close growing specimens all multiple stemmed. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate / Good / Good	Low 40+ C

Drawing No:	CCL 12409	/ TCP	Rev: 1
Title:	Tree Constraints Plan (Existing Layout)		
Site:	Ashby Farm HA6 2SS		
Scale:	1:500 (0 5 10 15 20m)	Paper Size:	A1

CROWN Tree Consultancy 08000 14 13 30

Tree Retention Categories Stems & canopies shown

Category A tree	Trees of high quality with an estimated life expectancy of 40+ years. Usually large trees with significant presence or smaller trees with excellent form. Retention of these trees is highly desirable.
Category B tree	Trees of moderate quality with a life expectancy of 20+ years. Usually maturing trees, or younger trees with good form. Retention of these trees is desirable though less than Category A trees
Category C tree	Unremarkable trees of low quality and merit. Individual specimens are not considered to be a material planning consideration.
Category U tree	Trees unsuitable for retention due to their very poor condition.

Tree Constraints Plan

Status: Final

BS 5837 Root Protection Area (radius = 12xstem diameter)

Root Protection Area needing amendment due to site conditions, e.g. presence of exising road or building.

Root Protection Area having been amended to account for for site conditions

T1 = Tree No 1 G2 = Group No 2 H3 = Hedge No 3

1 Photo 1

MN = Measured North:

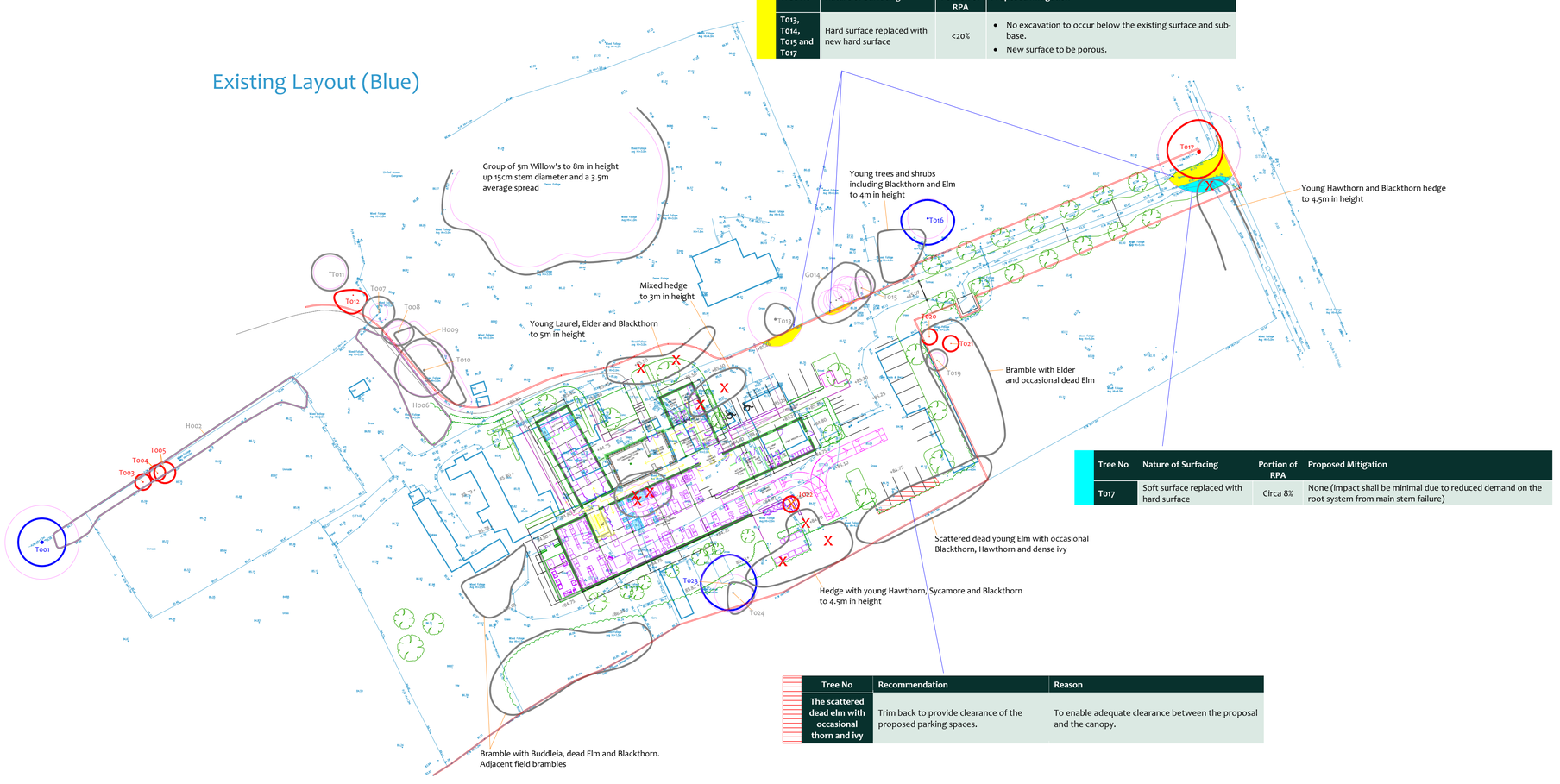
Canopy spreads are sometimes measured to an approximate N defined by site features. Often more accurate, especially where rows of trees are not aligned N-S or E-W.

Tree Ref.	Species	Height (m)	Root Protection Area Radius (m)	m²	Square (m)
T001	Pedunculate Oak	10	7.0	152	12.3
H002	Mixed Species	5	1.0	3	1.7
T003	Elm	7	2.0	13	3.6
T004	Elm	7	1.4	7	2.6
T005	Elm	7	2.6	22	4.7
H006	Mixed Species	4	1.6	8	2.8
T007	Hawthorn	4	1.7	10	3.1
T008	Horse Chestnut	8	2.2	15	3.8
H009	Mixed Species	5	1.4	7	2.6
T010	Willow	4.5	4.9	75	8.6
T011	Blackthorn	5	3.1	31	5.5
T012	Black Elder	3.5	1.9	11	3.3
T013	Hawthorn	5	5.2	84	9.1
G014	Horse Chestnut	9	2.4	18	4.3
T015	Hawthorn	5	2.2	15	3.8
T016	Willow	12	3.8	45	6.7
T017	Common Ash	12	7.8	191	13.8
T019	Elder	4.5	1.4	6	2.4
T020	Elm	5.5	1.2	5	2.1
T021	Elm	5.5	1.2	5	2.1
T022	Elm	8.5	3.6	41	6.4
T023	Lime	12	5.4	90	9.5
T024	Sycamore	6	3.5	38	6.2
G025	Common Ash	11	2.1	14	3.8

Tree Data Schedule

Reference (T = Tree) (G = Group) (H = Hedge)	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) W	N	E	S	Scaled Tree Diagram (m)	Notes	Recommendations (Independent of any development proposals) Priority	Impact Plan (IMP)	Vigour Physiological Condition	Structural Condition	Amenity Value Life Expectancy (yrs)	Retention Category
T001	Early-Mature **Pedunculate Oak** Quercus robur.	10	2	58	6.5	4.5	6.5	4.5		Position: Off-site. Defects: **Significant deadwood (low target occupancy).**	No action required.	n/a	3	Moderate	Fair	40+	B
H002	Young **Mixed Species** Mixed species.	5	0	8	1	1	1	1		Position: Adjacent field boundary. Form: Mixed hedge including elm, hawthorn and blackthorn. Defects: **Occasional dead and declining elm.**	No action required.	n/a	3	Moderate	Fair	Moderate 40+	C
T003	Semi-Mature **Elm** Ulmus sp.	7	3	17	1.5	1.5	1.5	1.5		Position: Within hedge. Defects: **Dead.**	No action required.	n/a	3	Dead	Dead	Dead	U
T004	Semi-Mature **Elm** Ulmus sp.	7	3	12	1.5	1.5	1.5	1.5		Position: Within hedge. Defects: **In decline.**	No action required.	n/a	3	Low	Poor	Low <10	U
T005	Semi-Mature **Elm** Ulmus sp.	7	3	22	2	2	2	2		Position: Within hedge. Defects: **Dead.**	No action required.	n/a	3	Dead	Dead	Dead	U
H006	Semi-Mature **Mixed Species** Mixed species.	4	0	13	2	2	2	2		Form: Row of multiple stemmed specimens including blackthorn, hawthorn and elder. Defects: **No significant defects observed.**	No action required.	n/a	3	Moderate	Good	Low 40+	C
T007	Semi-Mature **Hawthorn** Crataegus sp.	4	1.5	14.5	3	3	3	3		Position: Off-site. Defects: **No significant defects observed.**	No action required.	n/a	3	Moderate	Fair	Low 20-40	C
T008	Young **Horse Chestnut** Aesculus hippocastanum.	8	2	18	2.5	3	2.5	3		Position: Adjacent boundary fence. Defects: **No significant defects observed.**	No action required.	n/a	3	Moderate	Good	Low 40+	C
H009	Semi-Mature **Mixed Species** Mixed species.	5	0	12	3	2	2	2		Position: Adjacent field boundary. Form: Row of multiple stemmed specimens including elder, hawthorn and blackthorn. Defects: **No significant defects observed.**	No action required.	n/a	3	Moderate	Good	Low 40+	C
T010	Semi-Mature **Willow** Salix sp.	4.5	1	40.8	5.5	6	5.5	5		Position: Within hedge. Form: Multiple stemmed at ground (stem diameter calculated for multiple stems). History: Topped and maintained as part of hedge in past. Defects: **No significant defects observed.**	No action required.	n/a	3	Moderate	Fair	Low 40+	C
T011	Semi-Mature **Blackthorn** Prunus spinosa.	5	1	26	3.5	3.5	3.5	3.5		Position: Within dense group of young blackthorn. Defects: **No significant defects observed.**	No action required.	n/a	3	Moderate	Good	Low 40+	C
T012	Young **Black Elder** Sambucus nigra.	3.5	1	15.6	3.5	1	3.5	2.5		Defects: Very poor condition, mostly dead.	No action required.	n/a	3	Very Poor	Poor	Low <10	U
T013	Mature **Hawthorn** Crataegus sp.	5	1.5	43	2	3	3	3.5		Form: Leaning. History: Topped at 2m. Defects: **Major decay and splitting to stem.**	No action required.	n/a	3	Moderate	Fair	Low 10-20	C+
G014	Young **Horse Chestnut** Aesculus hippocastanum.	av 9	av 1.5	av 20	3.5	av 5 4 each	4			Form: Row of 6 specimens. History: No significant pruning. Defects: **No significant defects observed.**	No action required.	n/a	3	Moderate	Fair Good	Low 40+	C+
T015	Semi-Mature **Hawthorn** Crataegus sp.	5	1.5	18	3.5	1	2	2.5		Position: Within row of young elm. History: Topped. Defects: **No significant defects observed.**	No action required.	n/a	3	Moderate	Fair	Low 20-40	C
T016	Semi-Mature **Willow** Salix sp.	12	2	31.5	5	3.5	5	5		Position: Off-site. History: No significant pruning. Defects: **No significant defects observed.** Other: Limited inspection, dimensions estimated.	No action required.	n/a	3	Moderate	Good Good	Low 40+	B
T017	Mature **Common Ash** Fraxinus excelsior.	12	3.5	65	6	6	4.5	5		Position: Adjacent busy road. Defects: **Failure of main stem at circa 6m, extensive internal decay apparent.**	Remove. High	3		Moderate	Fair Very Poor	High <10	U
T019	Young **Elder** Sambucus nigra.	4.5	2.5	11.3	2	2	2	2		Defects: No significant defects observed. Other: Limited inspection, dimensions estimated. Vegetation prevented a detailed inspection.	No action required.	n/a	3	Moderate	Good Good	Low 20-40	C
T020	Young **Elm** Ulmus sp.	5.5	1.5	10	1.5	1.5	1.5	1.5		Defects: Dead.	No action required.	n/a	3	Dead	Dead	Dead	U
T021	Young **Elm** Ulmus sp.	5.5	1.5	10	1.5	1.5	1.5	1.5		Defects: Dead.	No action required.	n/a	3	Dead	Dead	Dead	U
T022	Semi-Mature **Elm** Ulmus sp.	8.5	4	30	1.5	1.5	1.5	1.5		Defects: Dead.	No action required.	n/a	3	Dead	Dead	Low Dead	U
T023	Semi-Mature **Lime** Tilia sp.	12	1	44.7	5.5	5.5	5	5		Position: Growing from side of ditch. Form: Twin stemmed. Defects: **No significant defects observed.**	No action required.	n/a	3	Moderate	Good Good	Low 40+	B
T024	Semi-Mature **Sycamore** Acer pseudoplatanus.	6	3	29	1	2	4	4		Position: Growing from side of ditch. Form: Leaning. Unbalanced crown. Defects: **No significant defects observed.** Other: Suppressed by adjacent tree.	No action required.	n/a	3	Moderate	Fair	Low 40+	C
G025	Young **Common Ash** Fraxinus excelsior.	av 11	av 0.5	av 17.9	4	av 4 3 each	4			Form: Group of 3 close growing specimens all multiple stemmed. Defects: **No significant defects observed.**	No action required.	n/a	3	Moderate	Good Good	Low 40+	C

Existing Layout (Blue)



Tree No	Nature of Surfacing	Portion of RPA	Proposed Mitigation
T013, T014, T015 and T017	Hard surface replaced with new hard surface	<20%	• No excavation to occur below the existing surface and sub-base. • New surface to be porous.

Tree No	Nature of Surfacing	Portion of RPA	Proposed Mitigation
T017	Soft surface replaced with hard surface	Circa 8%	None (impact shall be minimal due to reduced demand on the root system from main stem failure)

Tree No	Recommendation	Reason
The scattered dead elm with occasional thorn and ivy	Trim back to provide clearance of the proposed parking spaces.	To enable adequate clearance between the proposal and the canopy.

Tree Ref.	Species	Height (m)	Root Protection Area Radius (m)	m²	Square (m)
T001	Pedunculate Oak	10	7.0	152	12.3
H002	Mixed Species	5	1.0	3	1.7
T003	Elm	7	2.0	13	3.6
T004	Elm	7	1.4	7	2.6
T005	Elm	7	2.6	22	4.7
H006	Mixed Species	4	1.6	8	2.8
T007	Hawthorn	4	1.7	10	3.1
T008	Horse Chestnut	8	2.2	15	3.8
H009	Mixed Species	5	1.4	7	2.6
T010	Willow	4.5	4.9	75	8.6
T011	Blackthorn	5	3.1	31	5.5
T012	Black Elder	3.5	1.9	11	3.3
T013	Hawthorn	5	5.2	84	9.1
G014	Horse Chestnut	9	2.4	18	4.3
T015	Hawthorn	5	2.2	15	3.8
T016	Willow	12	3.8	45	6.7
T017	Common Ash	12	7.8	191	13.8
T019	Elder	4.5	1.4	6	2.4
T020	Elm	5.5	1.2	5	2.1
T021	Elm	5.5	1.2	5	2.1
T022	Elm	8.5	3.6	41	6.4
T023	Lime	12	5.4	90	9.5
T024	Sycamore	6	3.5	38	6.2
G025	Common Ash	11	2.1	14	3.8

Drawing No:	CCL 12409 / IAP Rev: 1
Title:	Impact Assessment Plan
Site:	Ashby Farm HA6 2SS
Scale:	1:500 Paper Size: A1

CROWN Tree Consultancy 08000 14 13 30

Tree Retention Categories Stems & canopies shown

Category A tree	Trees of high quality with an estimated life expectancy of 40+ years. Usually large trees with significant presence or smaller trees with excellent form. Retention of these trees is highly desirable.
Category B tree	Trees of moderate quality with a life expectancy of 20+ years. Usually maturing trees, or younger trees with good form. Retention of these trees is desirable though less than Category A trees
Category C tree	Unremarkable trees of low quality and merit. Individual specimens are not considered to be a material planning consideration.
Category U tree	Trees unsuitable for retention due to their very poor condition.

Impact Assessment Plan

Status: Final - for submission

BS 5837 Root Protection Area (radius = 12xstem diameter)

Root Protection Area needing amendment due to site conditions, e.g. presence of existing road or building.

Root Protection Area having been amended to account for for site conditions

T1 = Tree No 1 G2 = Group No 2 H3 = Hedge No 3

X Tree to be removed to facilitate the proposal

X Tree to be removed due to its low quality

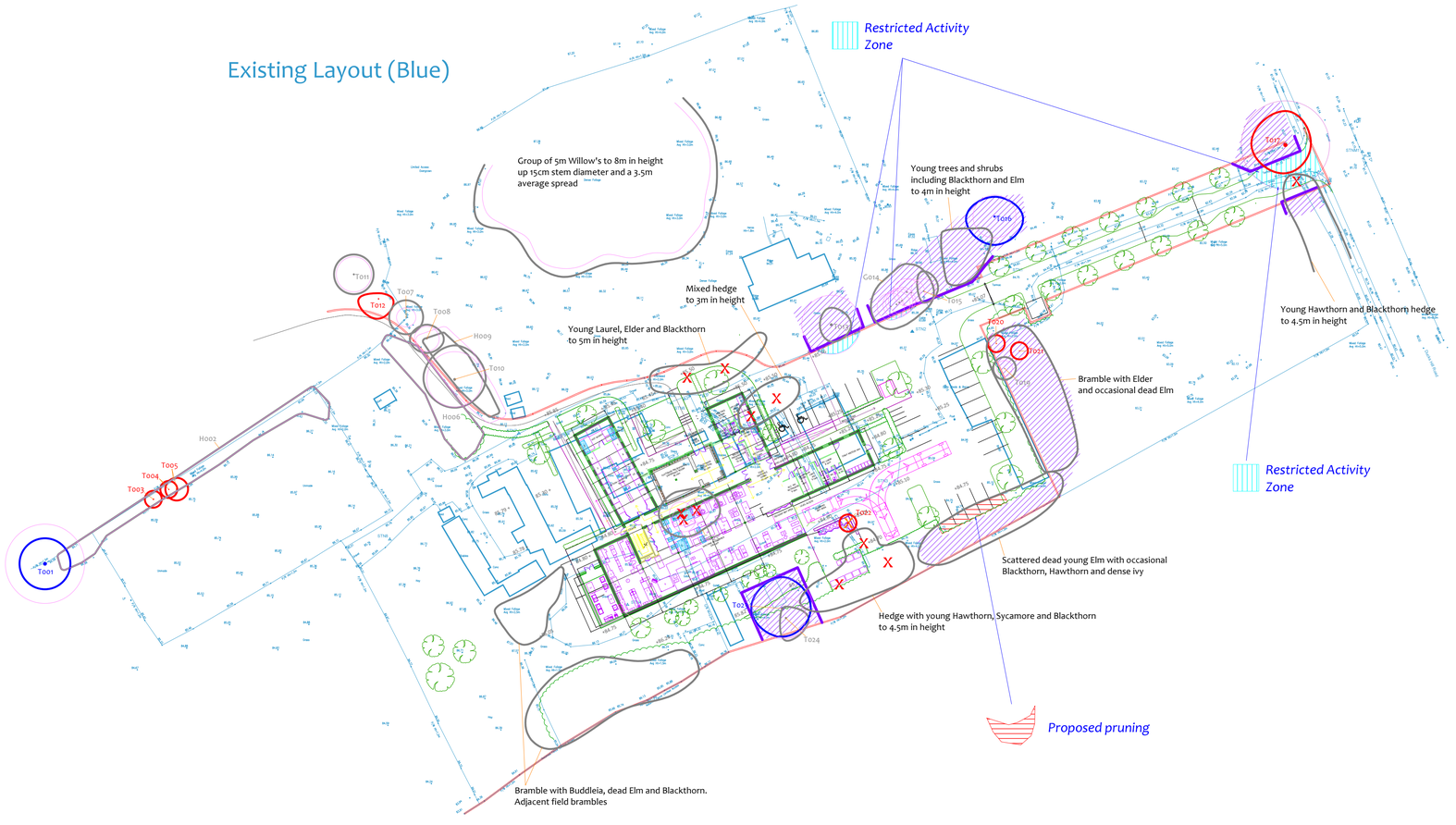
Proposed pruning

MN = Measured North:

Canopy spreads are sometimes measured to an approximate N defined by site features. Often more accurate, especially where rows of trees are not aligned N-S or E-W.

Tree Data Schedule

Reference (T = Tree) (G = Group) (H = Hedge)	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) N W S E	Scaled Tree Diagram (m)	Notes	Recommendations (independent of any development proposals) Priority	Impact (See note)	Vigour: Physiological Condition	Vigour: Structural Condition	Amenity Value: Life Expectancy (yrs)	Amenity Value: Retention Category
T001	Early-Mature **Pedunculate Oak** Quercus robur.	10	2	58	4.5 6.5 4.5 6.5		Position: Off-site. **Defects: Significant deadwood (low target occupancy).**	No action required.	n/a	3	Moderate	Fair	Low 40+ B
H002	Young **Mixed Species** Mixed species.	5	0	8	1 1 1 1		Position: Adjacent field boundary. Form: Mixed hedge including elm, hawthorn and blackthorn. **Defects: Occasional dead and declining elm.**	No action required.	n/a	3	Moderate	Fair	Moderate 40+ C
T003	Semi-Mature **Elm** Ulmus sp.	7	3	17	1.5 1.5 1.5 1.5		Position: Within hedge. **Defects: Dead.**	No action required.	n/a	3	Dead Dead	Dead	Dead U
T004	Semi-Mature **Elm** Ulmus sp.	7	3	12	1.5 1.5 1.5 1.5		Position: Within hedge. **Defects: In decline.**	No action required.	n/a	3	Low Poor	Poor	Low <10 U
T005	Semi-Mature **Elm** Ulmus sp.	7	3	22	2 2 2 2		Position: Within hedge. **Defects: Dead.**	No action required.	n/a	3	Dead Dead	Dead	Dead U
H006	Semi-Mature **Mixed Species** Mixed species.	4	0	13	2 2 2 2		Form: Row of multiple stemmed specimens including blackthorn, hawthorn and elder. **Defects: No significant defects observed.**	No action required.	n/a	3	Moderate Good	Fair	Low 40+ C
T007	Semi-Mature **Hawthorn** Crataegus sp.	4	1.5	14.5	3 3 3 3		Position: Off-site. **Defects: No significant defects observed.**	No action required.	n/a	3	Moderate Fair	Fair	Low 20-40 C
T008	Young **Horse Chestnut** Aesculus hippocastanum.	8	2	18	2.5 3 3 3.5		Position: Adjacent boundary fence. **Defects: No significant defects observed.**	No action required.	n/a	3	Moderate Good	Good	Low 40+ C
H009	Semi-Mature **Mixed Species** Mixed species.	5	0	12	2 2 2 2		Position: Adjacent field boundary. Form: Row of multiple stemmed specimens including elder, hawthorn and blackthorn. **Defects: No significant defects observed.**	No action required.	n/a	3	Moderate Good	Good	Low 40+ C
T010	Semi-Mature **Willow** Salix sp.	4.5	1	40.8	5.5 6 5 5.5		Position: Within hedge. Form: Multiple stemmed at ground (stem diameter calculated for multiple stems). History: Topped and maintained as part of hedge in past. **Defects: No significant defects observed.**	No action required.	n/a	3	Moderate Fair	Fair	Low 40+ C
T011	Semi-Mature **Blackthorn** Prunus spinosa.	5	1	26	3.5 3.5 3.5 3.5		Position: Within dense group of young blackthorn. **Defects: No significant defects observed.**	No action required.	n/a	3	Moderate Good	Good	Low 40+ C
T012	Young **Black Elder** Sambucus nigra.	3.5	1	15.6	1 3.5 3.5 2.5		**Defects:** Very poor condition, mostly dead.	No action required.	n/a	3	Very Poor	Poor	Low <10 U
T013	Mature **Hawthorn** Crataegus sp.	5	1.5	43	3 2 3 3.5		Form: Leaning. History: Topped at 2m. **Defects: Major decay and splitting to stem.**	No action required.	n/a	3	Moderate Fair	Very Poor	Low 10-20 C+
G014	Young **Horse Chestnut** Aesculus hippocastanum.	av 9	av 1.5	av 20	av 5 3.5 4 4 each		Form: Row of 6 specimens. History: No significant pruning. **Defects: No significant defects observed.**	No action required.	n/a	3	Moderate Fair	Good	Low 40+ C+
T015	Semi-Mature **Hawthorn** Crataegus sp.	5	1.5	18	3.5 1 2 2.5		Position: Within row of young elm. History: Topped. **Defects: No significant defects observed.**	No action required.	n/a	3	Moderate Fair	Fair	Low 20-40 C
T016	Semi-Mature **Willow** Salix sp.	12	2	31.5	5 3.5 5 5		Position: Off-site. History: No significant pruning. **Defects: No significant defects observed.** Other: Limited inspection, dimensions estimated.	No action required.	n/a	3	Moderate Good	Good	Low 40+ B
T017	Mature **Common Ash** Fraxinus excelsior.	12	3.5	65	6 6 4.5 5		Position: Adjacent busy road. **Defects: Failure of main stem at circa 6m, extensive internal decay apparent.**	Remove.	High	3	Moderate Fair	Very Poor	High <10 U
T019	Young **Elder** Sambucus nigra.	4.5	2.5	11.3	2 2 2 2		**Defects:** No significant defects observed. Other: Limited inspection, dimensions estimated. Vegetation prevented a detailed inspection.	No action required.	n/a	3	Moderate Good	Good	Low 20-40 C
T020	Young **Elm** Ulmus sp.	5.5	1.5	10	1.5 1.5 1.5 1.5		**Defects:** Dead.	No action required.	n/a	3	Dead Dead	Dead	Dead U
T021	Young **Elm** Ulmus sp.	5.5	1.5	10	1.5 1.5 1.5 1.5		**Defects:** Dead.	No action required.	n/a	3	Dead Dead	Dead	Dead U
T022	Semi-Mature **Elm** Ulmus sp.	8.5	4	30	1.5 1.5 1.5 1.5		**Defects:** Dead.	No action required.	n/a	3	Dead Dead	Dead	Low Dead U
T023	Semi-Mature **Lime** Tilia sp.	12	1	44.7	5.5 5.5 5 5		Position: Growing from side of ditch. Form: Twin stemmed. **Defects: No significant defects observed.**	No action required.	n/a	3	Moderate Good	Good	Low 40+ B
T024	Semi-Mature **Sycamore** Acer pseudoplatanus.	6	3	29	2 1 4 4		Position: Growing from side of ditch. Form: Leaning. Unbalanced crown. **Defects: No significant defects observed.** Other: Suppressed by adjacent tree.	No action required.	n/a	3	Moderate Fair	Fair	Low 40+ C
G025	Young **Common Ash** Fraxinus excelsior.	av 11	av 0.5	av 17.9	4 av 4 3 each 4		Form: Group of 3 close growing specimens all multiple stemmed. **Defects: No significant defects observed.**	No action required.	n/a	3	Moderate Good	Good	Low 40+ C



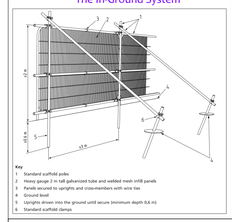
Tree Protection Plan

Tree Protection Barriers:

1 Fixed protective barrier: The 'In-Ground System'. To remain in place for all construction activity

- Ground Protection Measures required
- Restricted Activity Zone
- Construction Exclusion Zone

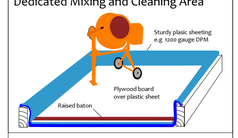
The In-Ground System



Construction Exclusion Zone

Within this area the following restrictions shall apply:
No excavation or land regrading will occur.
No other excavation will occur.
No storage of materials, rubble, soil or spoil.
No site cabins or other temporary structures.
No discharge of polluted water, cement or chemicals of any kind.
No use of any machinery, no passage or parking of vehicles.
No tree works without the council's consent.
No fires are permitted.

Dedicated Mixing and Cleaning Area



Ground Protection Measures

Within Restricted Activity Zones, soils containing roots may be subject to compaction due to general construction activity (including pedestrian activity and use of plant machinery). In order to minimise compaction, a suitable load-spreading surface must be in place at all times, as stated in BS5837:2012.

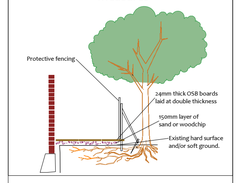
Where pedestrian activity is required, ground protection will consist of 24mm-thick OSB boards laid at double thickness and will be screwed together to retain them in place.

Where pedestrian-operated plant is to operate (up to a gross weight of 2 tonne), 24mm thick OSB ground protection boards will be laid at double thickness and screwed together to prevent slippage. These will be laid on top of a 150mm thick layer of woodchip, placed on top of a geotextile membrane.
Alternatively, the ground protection measures may consist of a scaffold framework creating a suspended walkway /access. The scaffold will be founded on poles driven into the ground and/or onto blocks (to raise the scaffold) with additional couplings to make the framework secure.

Where wheeled or tracked machinery is required exceeding a gross weight of 2 tonne, an alternative, sturdier solution such as road plates, or 100mm of 7–40mm angular gravel installed in 3D cellular confinement system (e.g. CellwebTM) will be installed. If a piling mat is required, specifications will be agreed upon between the engineers and the project arborist.

The ground protection measures will be installed and approved before commencement of demolition and construction activity and before the arrival of plant machinery or materials. They shall remain in place until all heavy construction activity is complete or until they are due to be replaced with a new hard surface.

Ground Protection Measures



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Drawing No:	CCL 12409 / TPP Rev: 1
Title:	Tree Protection Plan (Existing Layout with Proposals Overlaid)
Site:	Ashby Farm HA6 2SS
Scale:	1:500 (0 5 10 15 20m) Paper Size: A1

CROWN
Tree Consultancy
08000 14 13 30

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Tree Protection Plan

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