# ARBORICULTURAL REPORT AND ARBORICULTURAL IMPACT ASSESSMENT to BS 5837:2012 at land off Kenyon Lane Blackburn Lancashire BB6 8AN

**Client:**
Craven Design Partnership

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Arboricultural & Ecological Consultants

# Contents

# 1. Introduction

## 1.1 Purpose of the Report

1.1.1 This report is required at **Kenyon Lane, Dinckley** to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.1.2 The purpose of this report is to assess the impact of the proposals on the existing tree stock and outline mitigation actions, where appropriate, to minimise potential damage to the trees which are to be retained. The report includes an assessment of the existing vegetation, along with recommendations based on the current context of the site; clearly defined from those required to facilitate the development.

## 1.2 Terms of Reference

1.2.1 JCA Ltd has been instructed by **Craven Design Partnership** to survey the trees and prepare the findings in a report.

1.2.2 A topographical survey has been provided (**Drawing ref: Toppo Survey.dwg**), which forms the basis for the Tree Constraints Plan at **Appendix 6**. The topographical survey, along with all other documents supplied to JCA, is assumed to be correct. No checking of such documents will be undertaken and JCA cannot be held responsible for incorrect data supplied by other parties.

## 1.3 Scope of the Report

1.3.1 This report is compiled in accordance with *BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'* and is based on an independent and objective assessment of the existing vegetation.

1.3.2 Preliminary recommendations are given with a view to the long-term management of a sustainable tree cover and to uphold the interests of health and safety.

1.3.3 Where applicable trees outside the site boundary, but close enough to be affected by a proposed development have been included.

1.3.4 The specific design of the proposed development has been considered within the Arboricultural Implication Assessment in **Section 6** and is detailed on the plan at **Appendix 7**.

### 1.4 Survey Details

1.4.1 The survey took place during the month of March 2019 and was carried out by

Phil Humeniuk *FdSc (Arboriculture)*.

1.4.2 During this survey, all trees were inspected from ground level. Further investigation, such as climbed inspections or decay detection surveys, have not been undertaken but may have been recommended where this is considered appropriate.

1.4.3 Measurements were obtained using clinometers, specialist tapes or electronic distometers. Where this was not possible, measurements were estimated to the best ability of the surveyor. JCA endeavour to provide accurate information and will always take measurements unless inhibited by restricted access or other mitigating circumstances. Where measurements have been estimated, they are clearly highlighted at **Appendix 1.**

## 2. Site Description

### 2.1 Land Use

2.1.1 The site is currently the grounds and adjoining land of a detached residential property.

### 2.2 Topography

2.2.1 The site levels gently slope down towards the western portion of the site.

### 2.3 Treescape

2.3.1 Surrounding the site is a predominantly rural area containing many mature trees.

2.3.2 The trees on this site have a moderate impact on the local treescape.

### 2.4 Visual Amenity Value

2.4.1 The trees on site collectively provide a reasonable visual amenity to the surrounding area. Occasional specimens have higher amenity values.

### 2.5 Age Class Mix

2.5.1 The trees surveyed ranged in age from young to mature. However, the trees were predominantly early mature.

## 2.6 Species Diversity

2.6.1 Species surveyed include Alder, Ash, Beech, Cedar, Cherry, Cherry Plum, Cypress, Elder, Horse Chestnut, Norway Spruce, Oak, Sycamore and Goat Willow. The predominant species were Common Alder and Spruce.

# 3. Status of the Trees

3.1 A check was made on 28th February 2019 with ***Blackburn with Darwen Council.***

3.2 We are informed that there is no Tree Preservation Order (TPO) in force and that the site is not within a Conservation Area.

3.3 Due to the large potential penalties for illegally carrying out work to protected trees, JCA recommend that a further check is carried out prior to any works being undertaken. This is especially relevant as the Local Authority can serve a TPO at any time.

3.4 The presence of a Tree Preservation Order (TPO) represents the Local Authority's desire to retain trees within the landscape. As such, trees covered by a TPO are generally more likely to require retention within a proposed scheme and this should be considered during the design process. In some cases, the removal of TPO trees may be agreed upon, providing the benefits of the proposed development are deemed greater than the material loss of the trees. The value of existing vegetation is just one factor in the decision-making process; all benefits of the proposed development will be taken into consideration in the usual manner.

# 4. Tree Descriptions and Recommendations

4.1 Full details of all individual trees surveyed are recorded in the tables at **Appendix 1.** A full explanation of the tables can be found at **Appendix 2**. Please refer also to the Tree Constraints Plan at **Appendix 6** for tree locations.

# 5. Discussion Relating to the Existing Treescape

## 5.1 Tree Condition & Recommended Works

5.1.1 The tree survey revealed a total of **60** items of vegetation (**42** individual trees, **14** groups of trees and **4** hedges). Of these, **3** trees were identified as retention category 'A', **24** trees and **7** groups were identified as retention category 'B', **13** trees, **7** groups and **4** hedges were identified as retention category 'C' and **2** trees were identified as category 'U' items. Please refer to **Appendix 2** for retention category and definition criteria.

5.1.2 Within the survey, tree works have been identified for reasons of public safety, to ensure the long-term health of the trees or for general maintenance purposes. These recommendations have been made without regard to any proposed layout designs and should be undertaken irrespective of development. For full details of all recommendations, please refer to **Appendix 1.** For an explanation and timescales of the priority ratings, please refer to **Appendix 2 (A2.2.5).**

## 5.2 Removals Irrespective of Development

5.2.1 **Two** trees (**T4** and **T5**) were identified as retention category 'U'. These trees require removal because they pose an imminent health and safety risk.

- **T5** is unsafe and should be removed as soon as it is reasonably practicable; its removal is of **highest priority**.
- **T4** has been recommended for removal to prevent it from becoming dangerous; its removal is of **moderate priority**.

## 5.3 Remedial Tree Works

5.3.1 Remedial tree works have been recommended to manage foreseeable risks, to prevent the development of defects or for general maintenance purposes. This is relevant to **T14, T18, T28, G33, T35, T36, T37, G40** and **T46**.

- The work recommended for **T18, T35, T36** and **T37** should be carried out as a matter of **high priority**.
- The work recommended for **G40** should be carried out as a matter of **moderate priority**.
- The work recommended for **T14, T28, G33** and **T46** are of a **lower priority**.

5.3.2 Those trees which overhang public footpaths or public highways shall require future maintenance in order to maintain clearance heights for vehicular or pedestrian traffic. These heights should be 5.6m above a road and 2.5m above a footpath.

5.3.3 On this occasion, **T36** & **T37** are not recommended for complete removal but for monolithing instead. This entails a drastic reduction in height, with the removal of all significant branches and stems above this point. Whilst the tree is still effectively removed the remaining monolith will potentially remain for many years and, as it decays will provide a niche habitat for invertebrates. This operation is recommended to be undertaken as a matter of **high priority**.

## 5.4 Further Investigations

5.4.1 **T3, T6, T34, T38, T43, T51, G52** and **G56** were noted to have structural or physiological defects, as detailed at **Appendix 1.** Although these trees were in an acceptable condition at the time of the inspection, the defects observed may lead to their early demise or render them unsafe in the future. As such, it is recommended that these trees be re-inspected and assessed on a biennial (2 yearly) basis to assess if their condition is still acceptable (as advised at **Appendix 1**).

5.4.2 In addition, all trees to be retained within the site should be re-inspected on a regular basis, in the interests of risk management.

5.4.3 Where a full detailed inspection of trees was inhibited by the presence of Ivy, it is advised that these trees be re-inspected for any possible defects when the Ivy has been removed or when access has been made available.

# 6. Arboricultural Implications Assessment (AIA)

## 6.1 Proposed Development

6.1.1 The proposed development will consist of the construction of a new access road leading to a single two storey detached residential dwelling with turning circle and separate stable building and paddock.

6.1.2 Drawing ref: **Scheme Layout 1** has been supplied by the client; this plan can be found at **Appendix 7** and is the basis for which this AIA has been prepared.

6.1.3 All tree works required to accommodate the proposals are included at **Appendix 1,** which lists all works recommended during the initial survey and those required for the development.

## 6.2 Tree Removals for Development

6.2.1 **Seven** items (**T6, H7, T49, G50, T51, G52** and a portion of **G54**) totalling **26** trees require removal to accommodate the proposal. These include **2** category 'B' trees, **3** groups and **1** category 'C' tree and **1** hedge.

6.2.2 Most of the trees requiring removal can be removed without significantly affecting the visual amenity of the surrounding area.

6.2.3 **T49, G50, T51, G52** and **G54** are category 'B' items and require removal to facilitate the proposal.

6.2.4 Whilst the removal of trees will be of detriment to the arboricultural values of the site, it is recognised that the retention of trees is only one consideration in the design process. The loss of trees must be weighed against the benefits of the proposed development in the usual manner.

6.2.5 The removal of trees for development can often be mitigated (either partially or entirely) by the replacement of suitable specimens within a tailored tree planting scheme. Whilst not always necessary, the planting of appropriate new tree species can greatly improve the aesthetic value of the surrounding area and may be conditioned in the usual manner.

## 6.3 Pruning for Development

6.3.1 To accommodate this proposal, it will be necessary to prune some of the items for retention, in order to provide suitable access and clearance for pedestrians and vehicles. Also known as 'access facilitation pruning' this is relevant for **H2** and **T15**.

6.3.2 Where the footprint of the proposed structure passes within the RPA of trees, root pruning may be required, although strictly under the supervision of an appointed arboriculturalist. Root pruning will accommodate the proposed structures whilst preventing any 'ripping' damage, a problem commonly associated with mechanical excavations. Root pruning is relevant to **T15** and **G54**.

## 6.4 Implications for Retained Trees

### 6.4.1 The Protective Barrier

6.4.1.1 In order to ensure the effective protection of retained trees during development, a protective barrier will be installed, in accordance with BS5837: 2012 and may comprise of protective fencing and ground protection. This will be the first job on site following the tree removal and pruning works. The fencing should ideally be positioned to protect the entire **Root Protection Area** (**RPA**) of the retained trees, in order to create a **Construction Exclusion Zone** (**CEZ**).

6.4.1.2 Routes for pedestrian and site traffic will be located outside, and diverted away from, the RPAs of the retained trees wherever possible. Where this is not practicable, temporary protective surfaces (ground protection) must be laid over the exposed RPAs to reduce any soil compaction. The ground protection must therefore distribute the weight of site vehicles, machinery or pedestrians whilst allowing moisture to reach the tree rooting area beneath. Such surfaces must be constructed in accordance with BS5837: 2012.

6.4.1.3 Where work is required within the RPA of a tree which is to be retained, specialist measures must be adopted during the construction phase to avoid ground compaction and minimise root damage. Such areas are highlighted in blue on the Arboricultural Implications Plan at **Appendix 7** and are addressed in the following sections.

### 6.4.2 Access/Construction of Hard Surfacing

6.4.2.1 This proposal entails the construction of hard surfacing within the RPA of **H2, T3, T15** and **G54**. This takes the form of a new access road and turning circle for the new residential dwelling.

6.4.2.2 In order to prevent foreseeable damage to tree roots, a 'no-dig' method of construction will be utilised for the turning circle. This is relevant to **T3**.

6.4.2.3 The chosen system will be fit for purpose and of suitable construction to dissipate compaction damage to tree roots, allow gaseous diffusion to/from the soil and the percolation of water to the soil surface. This may require the use of specialist materials and sensitive edging systems to prevent damage to tree roots. It is recommended that this surfacing be constructed as an initial phase of construction, in order to afford the maximum protection throughout the construction process. Design principles should be included in an Arboricultural Method Statement and confirmed by an appropriately qualified engineer.

6.4.2.4 Proposed hard surfacing is located within the RPA of **T15** and **G54**. Due to the minimal nature of the incursion, it is not considered necessary to install specialised surfaces. Instead, root pruning will be undertaken under the supervision of an appointed arboriculturalist to minimise potential damage to tree roots and prevent 'ripping' damage, which is commonly associated with mechanical excavation.

### 6.4.3 Demolition

6.4.3.1 In this case, no significant demolition activities are required adjacent to retained trees and as such, no mitigation measures are considered necessary.

### 6.4.4 Construction/ Foundation Design.

6.4.4.1 Prior to any construction activity on site near trees, all tree protective measures required will need to be correctly installed to prevent unnecessary damage.

6.4.4.2 The footprint of the proposed residence borders the predicted RPA of a mature tree (**T3**) which is to be retained. Due to this, a specialist foundation design may be required. This must reduce excavations and reduce any detrimental impact this can have on tree roots (minimum diameter piles or pad and beam).

6.4.4.3 Trial holes to assess the soil type are recommended. Mature trees and certain soil classifications can influence buildings if not built on adequate foundations.

6.4.4.4 Such a method will minimise root damage and allow the retention of these trees, whilst accommodating the proposal. Full details of these works should be included in an associated Arboricultural Method Statement, along with any phasing of protection methods and arboricultural supervision which may be necessary.

6.4.4.5 Advice should always be sought from a suitably qualified Structural Engineer. In some cases, the water demand of trees can be an important consideration when determining the appropriate foundation design. Because of this, water demands for the trees identified on this site are included at **Appendix 1**, in accordance with **NHBC chapter 4.2**, for the use of the appointed structural expert.

### 6.4.5 Site Compound

6.4.5.1 The site compound, which typically includes the site office, mess facilities, toilets, storage of materials and parking, must be located away from all trees and outside their RPAs.

6.4.5.2 Care should also be taken to prevent soil contamination with chemical spillages, including petrol, diesel and oils.

### 6.4.6 Landscaping

6.4.6.1 Any proposed fence lines may be constructed within the RPA if necessary, providing that appropriate considerations are made to the protection of the tree. This is providing that no continual trenching is undertaken (e.g. for small walls onto which panel fencing is installed). Excavation must be kept to a minimum and therefore only fence designs requiring intermittent posts will be acceptable within the RPA of retained trees.

6.4.6.2 No ground level changes are to be undertaken within the RPA of retained trees, unless otherwise stated or agreed with the appointed Arboricultural consultant or the LPA. The requirement to raise/lower ground levels within RPAs should be communicated to these parties at the earliest convenience.

## 6.5 Remedial Measures

6.5.1 In order to protect the trees during the construction phase, protective fencing will need to be installed. Protective fencing specifications and on-site positioning, along with details of any necessary specialist construction methods can be provided in an Arboricultural Method Statement (**AMS**).

6.5.2 Part of the proposed development will encroach into the RPAs of trees being retained, resulting in possible root loss. It would therefore be prudent to apply mycorrhizal fungi to the soils around these trees after the construction phase is complete. Mycorrhizae are fungi that form symbiotic relationship with tree roots. A tree root associated with mycorrhizae takes up nutrients more effectively and this will therefore help the trees to produce new roots more effectively, so benefitting their recovery.

6.5.3 The site offers scope for landscaping and tree planting. All areas identified for the new trees should also be protected by fencing during the construction phase to prevent the compaction or contamination of the soil.

# 7. Conclusions

7.1 The trees surveyed were generally found to be in fair condition.

7.2 No trees are protected by a Tree Preservation Order or by virtue of them being in a Conservation Area.

7.3 **Two** trees have been recommended for removal for arboricultural reasons. These are discussed in **Section 5.2.1** and detailed at **Appendix 1**.

7.4 **Nine items** have been recommended for pruning work for reasons of public safety and to enhance their long-term health. These are summarised in **Section 5.3.1** and detailed at **Appendix 1**.

7.5 **Eight** trees require a biennial inspections as they have structural or physiological defects. These are discussed in **Section 5.4** and detailed at **Appendix 1**.

7.6 The arboricultural implications of the development have been considered and discussed in **Section 6**.

7.7 Some trees require removal in order to facilitate the proposed development. These are discussed in **Section 6.2** and detailed on the plan at **Appendix 7**.

7.8 All development work carried out near trees must be executed in a manner sympathetic to their needs. Otherwise, the condition of the trees may deteriorate in the months and years following development, leading to a loss of amenity and resulting in potentially hazardous trees. Care must therefore be taken to ensure that the retained trees are suitably protected.

7.9 In accordance with **Section 6.1** of **BS 5837: 2012**, the next stage on this site should be the preparation of an **Arboricultural Method Statement (AMS)**, to ensure that all the retained trees survive the development process. An **AMS** details which trees are to be removed, which trees are to be retained and any other tree works which are required to facilitate development. The **AMS** will also advise on temporary protective barriers, temporary ground protection, site supervision, location of services and it will detail specialist construction techniques.

7.10 It is advised that in accordance with **Section 5.6** of **BS 5837: 2012** that a **Tree Planting Scheme** is prepared which will help to ensure that the site retains a sustainable tree cover. A carefully designed **Tree Planting Scheme** will incorporate tree species in harmony with the development whilst seeking to improve the overall age range and species diversity.

7.11 In accordance with **Section 6.3** of **BS 5837: 2012**, monthly site supervision is likely to be advisable during this development.

# Appendices

# Appendix 1: Tree Descriptions and Recommendations

| Tree Ref. | Age<br>Common Name<br>*Botanical Name* | Height (m) | Crown Height (m) | Height (m) and Direction of the Lowest Branch | Diameter (cm) | Crown Spread<br>N<br>W E<br>S | Observations | Recommendations<br>Priority | Physiological Condition | Structural Condition | Amenity Value | NHBC Water Demand | Life Expectancy (yrs) | Retention Category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T 1 | Early mature<br>Common Alder<br>*Alnus glutinosa* | 12 | 4 | 4.5<br>SE | 43 | 2<br>2.5 6.5<br>6 | Single stemmed with an optimised stem and biased crown due to competition. Canopy overhangs the road and contains minor deadwood. Vegetative spoil at base. | No action required<br>n/a | GOOD | GOOD | LOW | MOD | 20+ | B 2 |
| H 2 | Semi mature<br>Mixed<br>*Details in observations* | 2.5 | 0 | 0<br>n/a | Av. <10 | See plan | Linear boundary hedgerow; originally Hawthorn & Elder now supplemented by Lawson cypress to the west; appears regularly managed. Occasional Sycamore and Elm saplings observed. | No action required<br>*Prune back to provide adequate visibility splay for new access*<br>n/a | GOOD | GOOD | LOW | HIGH | 40+ | C 1 |
| T 3 | Early mature<br>Horse Chestnut<br>*Aesculus hippocastanum* | 12 | 5 | 5<br>W | 85 | 8<br>7 5.5<br>9 | Single stemmed becoming multi-stemmed at 3m; slightly asymmetric canopy overhangs the road. Multiple pruning wounds due to crown lifting over road. Epicormic shoots from base. | Remove epicormic shoots and re-inspect biennially<br>High | GOOD | GOOD | MOD | MOD | 20+ | B 2 |
| T 4 | Semi mature<br>Common Alder<br>*Alnus glutinosa* | 13 | 5 | 5<br>W | 35 | 2<br>6.5 2.5<br>4 | Inspection limited due to Ivy upto 5m; single stemmed with an asymmetric crown. Multiple pruning wounds due to crown lifting over road. Partial root-plate failure, decay observed in exposed roots at base. Limited long term future. | Remove to ground level<br>Moderate | FAIR | FAIR | LOW | MOD | 10+ | U |
| T 5 | Early mature<br>Sycamore<br>*Acer pseudoplatanus* | 14 | 5 | 5<br>W | 55 | 4<br>7 7<br>6.5 | Single stemmed with an asymmetric crown overhanging the road. Ivy to upper crown. Major decay in stem at base. | Remove to ground level<br>High | FAIR | POOR | LOW | MOD | <10 | U |
| T 6 | Early mature<br>Common Alder<br>*Alnus glutinosa* | 10 | 6 | 6<br>NW | 3 x Av. 35 | 3.5<br>#4 3<br>4.5 | Three-stemmed, previously four with slight crown asymmetry. Recent excavations in rooting zone at base. | No action required<br>*Remove to facilitate development*<br>Low | FAIR | FAIR | LOW | MOD | 20+ | C 1 |
| H 7 | Semi mature<br>Golden Lawson cypress<br>*Chamaecyparis lawsoniana 'Lane'* | to 4.5 | 0 | 0<br>n/a | to 15 | See plan | Regularly topped at 3m with good re-growth. | No action required<br>*Remove to facilitate development*<br>n/a | GOOD | GOOD | LOW | HIGH | 40+ | C 1 |
| G 8 | Semi mature<br>Mixed<br>*Details in observations* | to 5 | 0 | 0<br>N | to 18 | See plan | Limited inspection due to impassable vegetation. Native hedgerow former linear boundary hedgerow; Hawthorn, Elm & Ash. Lapsed management provides screening. No major visible defects. | No action required<br>n/a | FAIR | FAIR | LOW | HIGH | 20+ | C 1 |
| H 9 | Semi mature<br>Golden Lawson cypress<br>*Chamaecyparis lawsoniana 'Lane'* | to 6 | 0 | 0<br>N | #Av. 15 | See plan | Linear boundary hedgerow providing screening. Appears regularly maintained with good vigour. | No action required<br>n/a | GOOD | GOOD | LOW | HIGH | 40+ | C 1 |

| Tree Ref. | Age<br>Common Name<br>*Botanical Name* | Height (m) | Crown Height (m) | Height (m) and Direction of the Lowest Branch | Diameter (cm) | Crown Spread<br>N<br>W E<br>S | Observations | Recommendations<br>Priority | Physiological Condition | Structural Condition | Amenity Value | NHBC Water Demand | Life Expectancy (yrs) | Retention Category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T 10 | Mature<br>Sessile Oak<br>*Quercus petraea* | 16 | 5 | 5<br>N | 80 | 9.5<br>9.5 9.5<br>#9 | An excellent specimen. Single stemmed with a good form and balanced crown. No significant defects. | No action required<br>n/a | GOOD | GOOD | MOD | HIGH | 40+ | A 1 |
| T 11 | Mature<br>Common Alder<br>*Alnus glutinosa* | 9 | 2 | 2<br>E | 52 | 5<br>#6 5<br>5 | Inspection limited due to dense Holly at base; presumed multi-stemmed. Dead stem at 3m NW. Good re-growth observed. | No action required<br>n/a | FAIR | FAIR | LOW | MOD | 20+ | C 1 |
| T 12 | Early mature<br>Elder<br>*Sambucus nigra* | 7 | 1 | 1<br>n/a | 32 | 3<br>3 3<br>3 | Multi-stemmed from ground level with a balanced crown. No major visible defects. | No action required<br>n/a | GOOD | FAIR | LOW | LOW | 20+ | C 1 |
| T 13 | Mature<br>Common Alder<br>*Alnus glutinosa* | 8 | 1 | 1<br>E | 40<br>35<br>75 | 2<br>#4 7.5<br>4 | Three-stemmed from ground level; 1 stem sweeps horizontally east. Minor deadwood and branch cavities observed. | No action required<br>n/a | GOOD | FAIR | LOW | MOD | 20+ | C 1 |
| T 14 | Mature<br>Ash<br>*Fraxinus excelsior* | 16 | 2 | 2<br>E | 86 | 4.5<br>#7 8<br>6 | Adjacent to the brook with a good root flare; single stemmed becoming twin-stemmed at 2.5m with an asymmetric crown. Bacterial knot of Ash (*Pseudomonas syringae pv. savastanoi* ) observed on southern stem at 5m. | Remove southern stem & pollard remainder at 7m<br>Moderate | FAIR | FAIR | LOW | MOD | 20+ | B 2 |
| T 15 | Early mature<br>Hawthorn<br>*Crataegus monogyna* | 6 | 0 | 0<br>n/a | 25<br>31 | 5<br>5 4<br>5 | Twin-stemmed from 0.3m with a balanced crown containing deadwood, reasonable vigour. | *Crown lift eastern portion of canopy in line with BS:3998 to provide clearance; root prune* | GOOD | FAIR | LOW | HIGH | 20+ | C 1 |
| T 16 | Semi mature<br>Ash<br>*Fraxinus excelsior* | 9 | 1 | 1<br>S | 24 | 1<br>2.5 2<br>4 | Single stemmed with an asymmetric crown due to suppression. | No action required<br>n/a | GOOD | GOOD | LOW | MOD | 20+ | C 1 |
| T 17 | Early mature<br>Common Alder<br>*Alnus glutinosa* | 11 | 3 | 3<br>E | 2<br>x Av.<br>45 | 5.5<br>5.5 5<br>5.5 | Twin-stemmed from 0.2m with a balanced crown containing minor deadwood. | No action required<br>n/a | GOOD | GOOD | MOD | MOD | 40+ | B 2 |
| T 18 | Mature<br>Goat Willow<br>*Salix caprea* | 11 | 1 | 1<br>E | 4<br>x<br>Av.<br>40 | 9<br>9 10<br>9 | Multi-stemmed from ground level with a balanced crown; major decay in base, several limb failures present. | coppice to 0.5m<br>High | GOOD | POOR | LOW | HIGH | 10+ | C 3 |
| G 19 | Semi mature<br>Norway Spruce<br>*Picea abies* | 12 | 0 | 0<br>n/a | Av.<br>20 | See plan | Small even age stand of 15 trees surrounding soak-away structure. One Oak with a good form and balanced crown central to group, 2 Cherries to the west; crowns merge and prevent a full detailed inspection. Good vigour and no significant defects. | No action required<br>n/a | GOOD | GOOD | LOW | MOD | 40+ | B 2 |

| Tree Ref. | Age<br>Common Name<br>*Botanical Name* | Height (m) | Crown Height (m) | Height (m) and Direction of the Lowest Branch | Diameter (cm) | Crown Spread<br>N<br>W E<br>S | Observations | Recommendations<br>Priority | Physiological Condition | Structural Condition | Amenity Value | NHBC Water Demand | Life Expectancy (yrs) | Retention Category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T 20 | Mature<br>Common Alder<br>*Alnus glutinosa* | 11 | 1 | 1<br>E | 55<br>75<br>25 | 8<br>8 9<br>8.5 | Adjacent brook, multi-stemmed from ground level with a balanced crown. Ivy establishing to upper crown, occasional deadwood and branch cavities noted. Epicormic shoots from base. | No action required<br>n/a | GOOD | GOOD | MOD | MOD | 40+ | A 1 |
| G 21 | Early mature<br>Hawthorn<br>*Crataegus monogyna* | to 6 | 1 | 1<br>SE | #<br>Av.<br>25 | See plan | Two in group; both suppressed with south-biased canopies. Dense Ivy and Elder noted. | No action required<br>n/a | FAIR | FAIR | LOW | HIGH | 20+ | C 1 |
| G 22 | Mature<br>Common Alder<br>*Alnus glutinosa* | to 12 | 2 | 2<br>E | 70 | See plan | Two in group; both multi-stemmed from ground level. Northern specimen contains deadwood, southern specimen has Ivy to stem and crown. Both are currently in an acceptable condition. | No action required<br>n/a | GOOD | GOOD | MOD | MOD | 40+ | B 2 3 |
| T 23 | Mature<br>Hawthorn<br>*Crataegus monogyna* | 7.5 | 3 | 3<br>n/a | 22<br>20<br>48 | 4<br>2.5 2<br>4 | Multi-stemmed at 0.4m with crossing stems and branches. Stem wounds and deadwood noted yet good growth. | No action required<br>n/a | GOOD | GOOD | LOW | HIGH | 40+ | B 2 |
| G 24 | Young<br>Mixed<br>*Details in observations* | to 5 | 0 | 0<br>n/a | <10 | See plan | Young Alder and Willow surrounding pond area. | No action required<br>n/a | GOOD | GOOD | LOW | HIGH | 20+ | C 1 3 |
| T 25 | Mature<br>Common Alder<br>*Alnus glutinosa* | 14 | 2 | 2<br>W | 69<br>17 | #5<br>#7 4<br>7 | Twin-stemmed with an asymmetric crown overhanging the boundary due to competition from neighbouring trees. | No action required<br>n/a | GOOD | GOOD | MOD | MOD | 40+ | B 2 |
| T 26 | Early mature<br>Common Alder<br>*Alnus glutinosa* | 12 | 7 | 7<br>S | 53 | #6<br>3 #7<br>6.5 | Swollen stem at ground level. Single stemmed with an asymmetric crown overhanging the boundary. | No action required<br>n/a | GOOD | FAIR | MOD | MOD | 20+ | B 2 |
| G 27 | Semi mature<br>Norway Spruce<br>*Picea abies* | to 12 | 0 | 0<br>n/a | Av.<br>23 | See plan | Group of eight; crowns merge and show no significant defects. | No action required<br>n/a | GOOD | GOOD | LOW | MOD | 40+ | C 1 |
| T 28 | Semi mature<br>Hawthorn<br>*Crataegus monogyna* | 6 | 1 | 1<br>S | #15<br>12<br>10 | 2<br>2 2<br>3.5 | Three stemmed from ground level with an asymmetric crown consumed in dense Ivy. | Remove crowns to leave 1m stumps for re-growth<br>Low | POOR | POOR | LOW | HIGH | <10 | C 1 |
| T 29 | Early mature<br>English Oak<br>*Quercus robur* | 9 | 2 | 2<br>S | 67 | #9<br>9 8<br>8 | Twin-stemmed at 1.8m with a balanced crown overhanging the boundary. Deadwood observed yet no significant defects. | No action required<br>n/a | GOOD | GOOD | MOD | HIGH | 40+ | A 1 |

| Tree Ref. | Age<br>Common Name<br>*Botanical Name* | Height (m) | Crown Height (m) | Height (m) and Direction of the Lowest Branch | Diameter (cm) | Crown Spread<br>N<br>W E<br>S | Observations | Recommendations<br>Priority | Physiological Condition | Structural Condition | Amenity Value | NHBC Water Demand | Life Expectancy (yrs) | Retention Category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T 30 | Early mature<br>Hawthorn<br>*Crataegus monogyna* | 7.5 | 4 | 4<br>SE | 31<br>22 | #1<br>1.5 3<br>5 | Twin-stemmed from ground level with with an unbalanced crown due to suppression. Two young Elder at base. | No action required<br>n/a | GOOD | FAIR | LOW | HIGH | 20+ | C 1 |
| T 31 | Semi mature<br>Hawthorn<br>*Crataegus monogyna* | 7 | 2 | 2<br>S | 20<br>15 | #2.5<br>2.5 2.5<br>2.5 | Good form and balanced crown. No major visible defects. | No action required<br>n/a | GOOD | GOOD | LOW | HIGH | 40+ | C 1 |
| T 32 | Semi mature<br>Sessile Oak<br>*Quercus petraea* | 9.5 | 3 | 3<br>S | 38 | #5<br>5 5<br>4 | Single stemmed with a good form and balanced crown. Barbed-wire boundary fencing occluded into stem. Good future potential with no significant defects. | No action required<br>n/a | GOOD | GOOD | MOD | HIGH | 40+ | B 1 |
| G 33 | Mature<br>Hawthorn<br>*Crataegus monogyna* | to 9 | 4 | 4<br>S | # Av. 55 | See plan | Two in group, both showing reasonable vigour; western specimen is single-stemmed with a slightly unbalanced crown, eastern specimen is twin-stemmed from 0.4m with an asymmetric crown. Young Holly and Cypress species hindered full basal inspections. | Reduce in height by 3m in line with BS:3998<br>Low | GOOD | GOOD | MOD | HIGH | 40+ | B 1 2 |
| T 34 | Semi mature<br>Common Alder<br>*Alnus glutinosa* | 10 | 7 | 7<br>W | 44 | 3<br>2 4.5<br>2.5 | Single stemmed with a swollen base. An asymmetric crown overhangs the road. | Re-inspect biennially<br>Moderate | GOOD | FAIR | LOW | MOD | 20+ | B 2 |
| T 35 | Mature<br>Common Alder<br>*Alnus glutinosa* | 13 | 4 | 4<br>W | 55<br>65 | 9<br>6.5 8<br>6 | Twin-stemmed at 0.5m with an asymmetric crown overhanging the road. Deadwood noted over road. | Crown clean over road<br>High | GOOD | GOOD | MOD | MOD | 40+ | B 1 2 |
| T 36 | Early mature<br>Ash<br>*Fraxinus excelsior* | 17 | 5 | 5<br>W | 63<br>51 | 6<br>7.5 7<br>8 | Twin-stemmed from ground level with a slightly unbalanced crown overhanging the road. Suspected canker on eastern stem at 6m overhanging the road. | Remove eastern canopy and stem with canker to leave a 5m monolith<br>High | FAIR | FAIR | MOD | MOD | 40+ | B 2 3 |
| T 37 | Semi mature<br>Common Alder<br>*Alnus glutinosa* | 9 | 4 | 4<br>W | 34 | 1<br>2 5<br>3 | Single stemmed and sweeping slightly over road, an unbalanced crown contains multiple pruning wounds due to crown lifting. Cavity in stem observed at 3.9m. | Remove crown to leave a 4m monolith<br>High | FAIR | FAIR | LOW | MOD | 10+ | C 1 |
| T 38 | Mature<br>Ash<br>*Fraxinus excelsior* | 16 | 4 | 5<br>W | 86 | 6<br>9 7<br>9.5 | Single stemmed with a balanced crown overhanging the road. Ivy to stem and crown limited inspection. Multiple pruning wounds due to crown lifting (east). | Sever Ivy at ground level and 1m; remove when dessicated. Re-inspect biennially<br>High | GOOD | FAIR | MOD | MOD | 40+ | B 1 2 |

| Tree Ref. | Age<br>Common Name<br>*Botanical Name* | Height (m) | Crown Height (m) | Height (m) and Direction of the Lowest Branch | Diameter (cm) | Crown Spread<br>N<br>W E<br>S | Observations | Recommendations<br>Priority | Physiological Condition | Structural Condition | Amenity Value | NHBC Water Demand | Life Expectancy (yrs) | Retention Category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G 39 | Semi mature<br>Cypress<br>*Cupressus sp.* | to 5 | 0 | 0<br>n/a | # Av. 15 | See plan | Mixed variety of Cypress species/cultivars forming high hedging surrounding a storage area. No major visible defects. | No action required<br>n/a | GOOD | GOOD | LOW | HIGH | 40+ | C 1 |
| G 40 | Semi mature<br>Mixed<br>*Details in observations* | to 5.5 | 0 | 0<br>n/a | Av. 13 | See plan | Cypress continuing on from G39 and providing some screening value. Two Apple trees (see plan) present, the specimen nearest the house has a split primary limb revealing heartwood. | Remove broken limb to branch bark ridge<br>Moderate | GOOD | FAIR | LOW | HIGH | 20+ | C 1 |
| T 41 | Early mature<br>Common Alder<br>*Alnus glutinosa* | 12 | 6 | 6<br>NE | 65 | 6<br>7 7<br>6 | Single-stemmed and vertical with a balanced crown overhanging the road. Ivy to stem and crown limited inspection. | Sever Ivy at ground level and 1m; remove when dessicated.<br>Moderate | GOOD | GOOD | MOD | MOD | 40+ | 1<br>B<br>2 |
| T 42 | Early mature<br>Oak<br>*Quercus robur* | 10 | 5 | 5<br>n/a | 46 | 5.5<br>7 7<br>5 | Single-stemmed and vertical with a balanced crown overhanging the road. No significant defects. | No action required<br>n/a | GOOD | GOOD | MOD | HIGH | 40+ | 1<br>B 2<br>3 |
| T 43 | Early mature<br>Sycamore<br>*Acer pseudoplatanus* | 13 | 6 | 6<br>S | 49 | 4<br>4.5 4<br>4 | Twin-stemmed at 1.6m with a tight union and narrow crown overhanging the road. Suspected severed roots at base. | Re-inspect biennially<br>High | FAIR | FAIR | LOW | MOD | 40+ | C 1 |
| T 44 | Early mature<br>Beech<br>*Fagus sylvatica* | 14 | 2 | 3<br>SW | 47 | 5<br>5 5<br>7 | Single-stemmed and vertical with a slightly unbalanced crown overhanging the road. Occasional pruning wounds due to crown lifting. | No action required<br>n/a | GOOD | GOOD | MOD | MOD | 40+ | B 2 |
| T 45 | Early mature<br>Sessile Oak<br>*Quercus petraea* | 15 | 5 | 5<br>SW | 39<br>48 | 4<br>7 7<br>6 | Twin-stemmed at 1.2m with a slightly unbalanced crown overhanging the road. Occasional pruning wounds due to crown lifting. Rhododendron at base limited inspection. | No action required<br>n/a | GOOD | GOOD | MOD | HIGH | 40+ | 1<br>B<br>2 |
| T 46 | Early mature<br>Beech<br>*Fagus sylvatica* | 12 | 4 | 4<br>N | 58 | 4.5<br>7 8<br>3 | Single stemmed becoming twin-stemmed at 4m with an asymmetric crown due to competition. Occasional pruning wounds due to crown lifting with stubs noted. | Remove stubs in line with BS:3998<br>Low | GOOD | GOOD | MOD | MOD | 40+ | B 2 |
| T 47 | Semi mature<br>Common Alder<br>*Alnus glutinosa* | 13 | 5 | 5<br>S | 41 | 4<br>2 8<br>6 | Single stemmed with an asymmetric crown overhanging the road. Vegetative spoil at base. | Re-locate spoil pile outside all tree rooting areas<br>Moderate | FAIR | FAIR | MOD | MOD | 20+ | B 2 |
| G 48 | Semi to early mature<br>Mixed<br>*Details in observations* | to 14 | 1 | 1<br>n/a | upto 35 | See plan | Mixed age Ash & Cypress growing in proximity; crowns merge and provide valuable screening. Vegetative spoil and sawn logs noted in rooting areas. | Re-locate spoil pile outside all tree rooting areas<br>Moderate | GOOD | GOOD | MOD | HIGH | 40+ | B 2 |

| Tree Ref. | Age<br>Common Name<br>*Botanical Name* | Height (m) | Crown Height (m) | Height (m) and Direction of the Lowest Branch | Diameter (cm) | Crown Spread<br>N<br>W E<br>S | Observations | Recommendations<br>Priority | Physiological Condition | Structural Condition | Amenity Value | NHBC Water Demand | Life Expectancy (yrs) | Retention Category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T 49 | Early mature<br>Leyland Cypress<br>*X Cupressocyparis leylandii* | 13 | 2 | 2<br>n/a | 48<br>26 | 2.5<br>2 2.5<br>2.5 | Twin-stemmed at 0.6m with a balanced crown. No major visible defects. | No action required<br>*Remove to facilitate development*<br>n/a | GOOD | GOOD | MOD | HIGH | 40+ | B 2 |
| G 50 | Semi mature<br>Norway Spruce<br>*Picea abies* | to 12 | 0 | 0<br>n/a | Av. 18 | See plan | Seven in group; crowns merge and provide screening value. No significant defects. | No action required<br>*Remove to facilitate development*<br>n/a | GOOD | GOOD | MOD | MOD | 40+ | B 2 |
| T 51 | Early mature<br>Ash<br>*Fraxinus excelsior* | 17 | 4 | 5<br>S | 52 | 8<br>6 7<br>8 | Single-stemmed with a slightly unbalanced crown showing signs of dieback. Minor deadwood. | *Remove to facilitate development*<br>High | FAIR | GOOD | MOD | MOD | 20+ | B 2 |
| G 52 | Semi to early mature<br>Mixed<br>*Details in observations* | to 13 | 3 | 3<br>S | upto 37 | See plan | A screening group containing Ash, Beech, Cherry and Cedar. An understorey of Rhododendron hindered inspection. Beech tree (see plan) has onset of decay at the base of stem (possibly strimmer damage). | No action required<br>*Remove to facilitate development*<br>High | GOOD | FAIR | MOD | HIGH | 40+ | B 2 |
| T 53 | Semi mature<br>Norway Maple<br>*Acer platanoides* | 12 | 4 | 4<br>n/a | 35 | 4<br>4 4<br>5 | Single-stemmed and vertical with a balanced crown. Occasional pruning wounds due to crown lifting. | No action required<br>n/a | GOOD | GOOD | LOW | MOD | 40+ | B 2 |
| G 54 | Semi mature<br>Norway Spruce<br>*Picea abies* | 11 | 0 | 0<br>n/a | 22 | See plan | Ten in group; crowns merge and provide screening. No major visible defects. | *Root prune and remove **7** specimens to facilitate development (See Plan at **Appendix 7**)* | GOOD | GOOD | LOW | MOD | 40+ | B 2 |
| T 55 | Early mature<br>Ash<br>*Fraxinus excelsior* | 16 | 4 | 4<br>n | 46 | 6<br>8.5 5<br>6 | Single stemmed becoming twin-stemmed at 3m with a good union and asymmetric crown. Occasional pruning wounds due to crown lifting. | No action required<br>n/a | FAIR | GOOD | LOW | MOD | 40+ | B 2 |
| G 56 | Semi to early mature<br>Mixed<br>*Details in observations* | to 8 | 1 | 1<br>n/a | 46<br>17<br>15 | See plan | Garden ornamentals, three in group; North-Purple plum with significant decay at base (partial failure). Central-suppressed Cherry. South-Apple with significant stem wound at base. | Consider drastic reductions/remove & replace<br>Low | FAIR | FAIR | LOW | MOD | 10+ | C 1 |
| T 57 | Semi mature<br>Beech<br>*Fagus sylvatica* | 9 | 1 | 1<br>n/a | 26 | 3.5<br>3.5 3.5<br>3.5 | Single-stemmed and vertical with a balanced crown. Good future potential. | No action required<br>n/a | GOOD | GOOD | MOD | MOD | 40+ | 1<br>B<br>2 |

| Tree Ref. | Age<br>Common Name<br>*Botanical Name* | Height (m) | Crown Height (m) | Height (m) and Direction of the Lowest Branch | Diameter (cm) | Crown Spread<br>N<br>W E<br>S | Observations | Recommendations<br>Priority | Physiological Condition | Structural Condition | Amenity Value | NHBC Water Demand | Life Expectancy (yrs) | Retention Category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T 58 | Semi mature<br>Sessile Oak<br>*Quercus petraea* | 7.5 | 2 | 2<br>n/a | 28 | 3.5<br>4 4<br>4 | Single-stemmed and vertical with a balanced crown. Good future potential. | No action required<br>n/a | GOOD | GOOD | MOD | HIGH | 40+ | 1<br>B 2<br>3 |
| T 59 | Young<br>Flowering Cherry<br>*Prunus sp* | 4 | 1 | 1<br>n/a | <15 | 1<br>1 1.5<br>2 | Single-stemmed and vertical with a balanced crown. Young Hawthorn growing at base. | No action required<br>n/a | GOOD | FAIR | LOW | MOD | 20+ | C 1 |
| H 60 | Semi mature<br>Beech<br>*Fagus sylvatica* | 2 | 0 | 0<br>n/a | <10 | See plan | Well maintained linear hedge, good vigour and no visible defects. | No action required<br>n/a | GOOD | GOOD | LOW | MOD | 20+ | C 3 |

# Appendix 2: Explanation of Tree Descriptions

## A2.1 Measurements/ Reference Information

A2.1.1 *REF NUMBER.* All items surveyed are allocated a reference number preceded with a letter, identifying the type of vegetation surveyed: T = an individual tree, G = a group of trees or an area of vegetation, W = woodland, H = a hedgerow.

A2.1.2 *SPECIES: COMMON AND BOTANICAL NAME*. The common and botanical names of the species present are noted. If the species is not clear or identifiable, then a general common name and genus will be noted.

A2.1.3 *AGE CLASS* of the tree is described as young, semi-mature, early-mature, mature, over-mature, veteran or dead.

A2.1.4 *HEIGHT* of the tree is measured in metres from the stem base to the top of the crown.

A2.1.5 *CROWN HEIGHT* is an indication of the height above ground level at which the crown begins.

A2.1.6 *STEM DIAMETER* is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; diameter measurements are taken for each stem. If more than five stems are present, an average stem diameter is taken. If for whatever reason it is not practical to measure multiple-stemmed trees in this way, the diameter is measured close to ground level, just above the root buttress.

A2.1.7 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches to all four cardinal points.

A2.1.8 *HEIGHT AND DIRECTION OF LOWEST BRANCH.* The height and direction of the lowest significant branch is noted because of potential issues relating to clearances and the need for tree pruning.

A2.1.9 *NHBC WATER DEMAND.* The water demand of each tree, as listed in NHBC Standards 2010 Chapter 4.2 ‘Building near trees’. This is included to aid structural engineers, architects and other members of the design team as it determines foundation depth and other considerations with regard to trees.

## A2.2 Evaluations

A2.2.1 *PHYSIOLOGICAL CONDITION* is classed as good, fair, poor, or dead. This is an indication of the health and vitality of the tree and takes into account vigour, presence of disease and dieback.

A2.2.2 *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.

A2.2.3 *LIFE EXPECTANCY* is classed as; 0, less than 10 years, 10+ years, 20+ years, or 40 + years. This is an indication of the minimum number of years before removal of the tree is likely to be required.

A2.2.4 *AMENITY VALUE.* A general indication is given in respect to the amenity/landscape value of the tree/group within the surrounding area.

A2.2.5 *PRIORITIES.* A priority rating is given concerning the time periods in which the recommended works should be undertaken. LOW priority works should be undertaken within 12 months of the survey, MOD (moderate) priority works should be undertaken within 6 months and HIGH priority works should be completed as soon as practically possible. If no works are recommended, N/A (not applicable) will be used.

## A2.3 Retention Categories

A2.3.1 ***A (marked green on the Tree Constraints Plan) = Trees of high quality.***

These trees are of high quality and value with a good life expectancy (usually with an estimated remaining life expectancy of 40 years).

A2.3.2 ***B (marked in blue on the Tree Constraints Plan) = Trees of moderate quality.***

These trees are of moderate quality and value with a reasonable life expectancy (usually with an estimated life expectancy of at least 20 years).

A2.3.3 ***C (marked in grey on the Tree Constraints Plan) = Trees of low quality.***

These trees are of low quality and value but which are in adequate condition to remain or are young trees with a stem diameter below 15cm (usually with an estimated life expectancy of at least 10 years).

A2.3.4 Trees categorised as retention category ‘A’, ‘B’ or ‘C’ are then justified by being further divided into 3 subcategories:

1 = Mainly arboricultural qualities.

2 = Mainly landscape qualities.

3 = Mainly cultural values, including conservation value.

A2.3.5 ***U (marked in red on the Tree Constraints Plan) = Trees usually unsuitable for retention due to poor condition.***

These trees are in such a condition that they cannot be realistically retained as living trees in the context of the current land use for longer than 10 years. This may be due to any of the following:

1) Failure is likely due to serious, irredeemable, structural defects.
2) Removal of other category U trees will render them exposed and unstable.
3) They are in serious, overall decline or are dead.
4) They are of low quality and suppressing adjacent trees of better quality.
5) Diseases are present which may affect the health of adjacent trees.

These trees should be removed or treated in such a way as to make them safe where they have high ecological value, such as in a woodland setting.

# Appendix 3: General Guidelines

A3.1 All tree work must be undertaken to BS 3998: 2010 '*Recommendations for tree work'* or other recognised industry practice.

A3.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors. They should be covered by adequate public liability insurance.

A3.3 This report is based upon a visual inspection. The consultant 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 the guidelines and the terms listed in this report.

A3.4 Any defects seen by a contractor or the employer that were not apparent to the consultant must be brought to the consultant's attention immediately.

A3.5 No liability can be accepted by JCA in respect of the trees unless the recommendations of this report are carried out under the supervision of JCA and within JCA's timescale.

A3.6 It is advisable to have trees inspected by an arboricultural consultant regularly.

# Appendix 4: Glossary of Terms & Abbreviations

**Arboriculture** The cultivation of trees in order to produce individual specimens of the greatest ornament, for shelter or any primary purpose other than the production of timber.

**Canker** Disease damaged area of a tree, usually caused by fungus or bacteria affecting the bark.

**Co-dominant stem** A stem which has grown in direct competition to the main stem and which has formed a substantial size influencing the appearance of the tree.

**Crown lift** The removal of the lowest branches, usually to a given height. It allows more residual light and greater clearance underneath for vehicles etc.

**Crown reduction** The reduction of a tree's height and spread while preserving its natural shape.

**Crown thin** The removal of some of the density of a tree's crown**,** usually 5-15% allowing more light through its canopy and reducing wind resistance.

**Deadwood** Either dead branches, or a procedure involving the removal of dead, dying and diseased branches.

**Dieback** Where branches are beginning to show signs of death usually at the tips in the crown.

**Epicormic shoots** Small branches that grow in clusters around the base of the stem of a tree or within the crown. This is usually as a result of bad pruning or some other stress factor, although can be a natural growth pattern for some species of tree (eg Lime species).

**Formative pruning** The pruning of a tree to remove weaknesses and irregularities which may lead to future problems. The formative pruning operation is aimed at reducing the potential for future weaknesses or problems within the tree's crown and to encourage an optimal canopy shape.

**Included bark** Where the bark on two adjoining branches or stems is growing tight together, forming a joint with limited physical strength.

**Pollarding** A method of tree management in which the main trunk and principle branches of the tree are cut to the same height, and the resulting branches are then cropped on a regular basis.

**Remedial pruning** The removal of old stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown. Sometimes referred to as crown cleaning.

**RPA** Root Protection Area – Theoretical rooting area of a tree as defined in BS5837:2012 *Trees in relation to construction*.

**Topping** Topping is a form of pruning that removes terminal growth leaving a 'stub' cut end. Topping causes serious health problems to a tree.

# Appendix 5: Author Qualifications

## Principal Consultant and Managing Director

**Jonathan Cocking** *F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor.* Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

## Technical Director

**Toby Thwaites** *BSc (Hons), HND (Arboriculture).* Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby is now Technical Director and oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

## Consulting Staff: Arboriculture

**Toby Parsons** *Cert. Arb. (RFS), Tech. Cert. (Arbor.A).* Toby joined JCA after spending 6 years working as a senior climber for various Arboricultural contractors in the East Midlands and the South-West. He has gained the Level 2 Certificate in Arboriculture (RFS) and an Arboricultural Technicians Certificate. Toby is LANTRA certified in Professional Tree Inspection.

**Andrew Bussey.** Andrew joined JCA having spent 12 years working as a tree surgeon for various private companies and a Local Authority. He has various NPTC qualifications, is QTRA qualified and is currently studying for his Arboricultural Technicians Certificate.

**Phil Humeniuk** *FdSc (Arboriculture).* Phil joined JCA having spent 3 years working for various tree surgery companies and as a Tree Officer for a Local Authority. He also has several years experience working as a consultant both for JCA and for another consultancy. Phil obtained his foundation degree in Arboriculture at the University of Central Lancashire and has various NPTC's and is LANTRA certified in Professional Tree Inspection.

**Emily Wilde** *FdSc (Arboriculture).* Emily joined JCA having previously worked for various private tree surgery and consultancy companies over the past 8 years. She initially obtained a ND in Forestry & Arboriculture, followed by a FdSc in Arboriculture at Askham Bryan College, York. Emily has various NPTC certificates and is QTRA qualified.

**Mick Eltringham** *ND (Forestry).* Mick joined JCA after spending 12 years working in the industry for various private companies in the north and south of England. He has also spent the last five years working as a consultant for two canopy research projects in the Amazon Rainforest, working with Oxford University and the University of Arizona. He has various NPTC Qualifications.

**Charles Cocking** *(FdSc Arboriculture).* Charles joined JCA in January 2014 as an Apprentice having previously worked for the company on a part time basis during 2013. Charles obtained his Foundation Degree in Arboriculture at Askham Bryan College, York, and is now part of our qualified Arboricultural consultancy team.

**Paul Hodgson** *Cert Arb (RFS), FdSc Arb, MArborA*. Paul joined JCA after spending 11 years working in the industry and for various organisations, which included practical tree work, surveying, lecturing at Myerscough College, Arb team leader at Royal Botanic Gardens, Kew, and a number of senior management positions. Paul is a professional member of the Arboricultural Association and a member of the Kew Guild.

**Dan Kemp** *FdSc (Arboriculture).* Dan joined JCA with nearly 30 years' experience in arboriculture. He worked as a London Tree Officer for 12 years and in several arboricultural and horticultural management posts, specialising particularly in tree risk assessments and tree related subsidence.

## Consulting Staff: Ecology

**David Bodenham** *BSc Ind (Hons) Zoology, MSc Biodiversity and Conservation.* David joined JCA as an addition to the expanding ecology department. An advocate of evidence based conservation, he studied Zoology (Ind) at University and moved onto an MSc in Biodiversity and Conservation where he gained the myriad of skills needed as an ecologist. With over 7 years of experience, David specialises in bat and amphibian ecology.

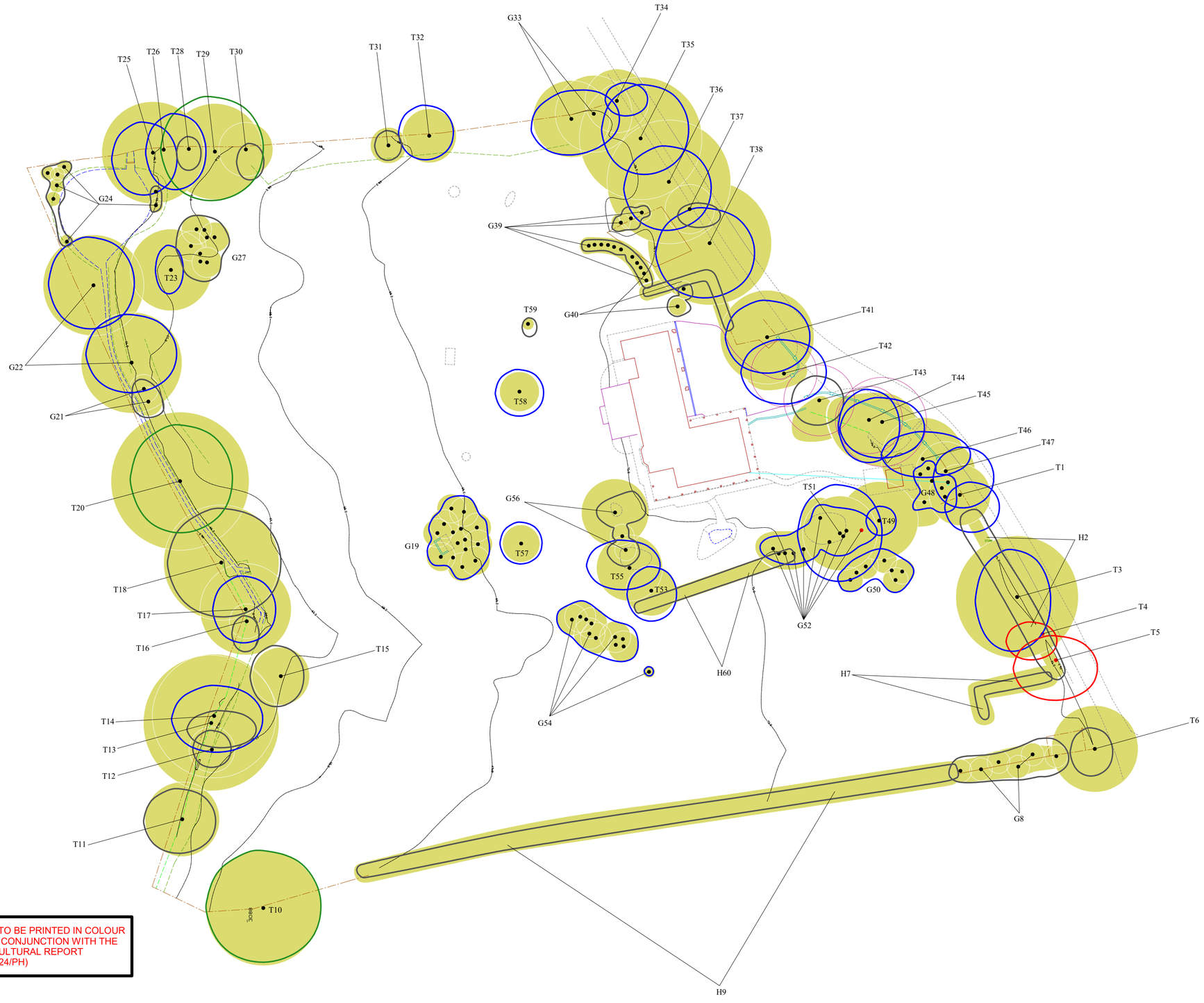
**Jenny Butler** *Bsc (Hons) Environmental Science.* Jenny joined JCA's ecology department in 2017, bringing with her a bachelor degree in Environmental Science from Bangor University. Jenny has previously worked as an Environmental Consultant for an Agri-Environment company and as a freelance ecological consultant. Jenny specialises in great crested newt and bat ecology.

**Amanda Beck** *Cert He in Field Ecology.* Amanda joined JCA's ecology department in 2018, previously working as a freelance Ecological Consultant in North Wales and Liverpool and as a trainee Ecologist in South Wales. Amanda has extensive practical experience in surveying for botanical, amphibians, terrestrial and marine mammals along with invertebrate research work. She has practical experience in habitat management and creation and is a CIEEM student member.

## Administrative Staff

**Sue Guest** Administrative Team Leader.
**Catherine Cocking** Accounts Manager.
**Lisa Hampson** Marketing Manager.
**Simeon Haigh** *BSc (Hons).* IT Director.
**Lorraine Spink** Administrative Assistant.
**Kelly Saunders** Accounts Assistant.

# Appendix 6: Tree Constraints Plan

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# Appendix 6: Tree Constraints Plan

**Land off Kenyon Lane, nr Clitheroe**
**Blackburn, BB6 8AN.**
**JCA REF: 14824/PH**

| SCALE : 1:500 | PAPER SIZE : A2 |
|---|---|

| SURVEYED BY: PH | DRAWN BY: PH | APPROVED BY: EW |
|---|---|---|

BRITISH STANDARD 5837:2012: 4.5 RETENTION CATEGORIES

Detailed definitions of these catagories are at Appendix 2 of our report. N.B. These categories do not necessarily represent or correspond to recommendations for action made in this report.

| | |
|---|---|
| | CATEGORY A: 'RETENTION MOST DESIRABLE' |
| | CATEGORY B: 'RETENTION DESIRABLE' |
| | CATEGORY C: 'TREE WHICH COULD BE RETAINED' |
| | CATEGORY U: 'TREE FOR REMOVAL' |
| • | STEM OF TREE TO BE RETAINED |
| • | STEM OF TREE TO BE REMOVED |
| | ROOT PROTECTION AREA |
| | ROOT PROTECTION AREA (PRIOR TO OFF-SETTING) |

JCA Limited
**Arboricultural & Forestry Consultants**

THIS PLAN IS TO BE PRINTED IN COLOUR AND READ IN CONJUNCTION WITH THE JCA ARBORICULTURAL REPORT (JCA REF: 14824/PH)

## Root Protection Area: RPA

THE ROOT PROTECTION AREA (RPA) INDICATES THE LIKELY ROOTING ZONE OF A TREE.

**THIS AREA SHOULD IDEALLY REMAIN UNDISTURBED IF THE TREE IS TO BE RETAINED.**

THE DEVELOPMENT PROPOSALS SHOULD THEREFORE BE DESIGNED TO AVOID THE RPA OF ANY TREE WHICH IS TO BE RETAINED.

IF IT IS NECESSARY FOR THE DEVELOPMENT TO ENCROACH INTO THE RPA OF A TREE WHICH IS TO BE RETAINED THEN SPECIALIST CONSTRUCTION TECHNIQUES AND MATERIALS MUST BE CONSIDERED.

0 1 5 10 15 20 30 40 50 metres

# Appendix 7: Arboricultural Implications Plan


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# Appendix 7: Arboricultural Implications Plan

**Land off Kenyon Lane, nr Clitheroe**
**Blackburn, BB6 8AN.**
**JCA REF: 14824/PH**

| SCALE : 1:500 | PAPER SIZE : A2 |
|---|---|

| | |
|---|---|
| | TREE TO BE RETAINED |
| | TREE TO BE REMOVED |
| | STEM OF TREE TO BE RETAINED |
| | STEM OF TREE TO BE REMOVED |
| | ROOT PROTECTION AREA |
| | ROOT PROTECTION AREA ENCROACHED BY THE PROPOSED DEVELOPMENT |
| | PROPOSED DEVELOPMENT |

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I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed

P. Humeniuk

.....

Phil Humeniuk *FdSc (Arboriculture)*.

22nd March 2019

For and on behalf of ***JCA Ltd***

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# JCA Ltd. Arboricultural and Ecological Consultants
# Professional Tree and Ecology Advice nationwide

## ARBORICULTURAL SERVICES

### Guidance for Architects and Developers

- British Standard 5837 Tree Surveys
- Arboricultural Implication Assessments (AIA)
- Arboricultural Method Statements (AMS)

### Advice for Engineers, Loss Adjusters and Insurers

- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

### Advice for Local Authorities and Social Housing

- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

### Tree Advice for the Legal Profession

- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

### Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

### Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control

## ECOLOGICAL SERVICES

### Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected Species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes

### Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)


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