



Redrow Homes Limited

**Great Wilsey Park, Haverhill**

**Arboricultural Assessment**

March 2019

**FPCR Environment and Design Ltd**

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**CONTENTS**

1.0 INTRODUCTION ..... 2

2.0 SURVEY METHODOLOGY ..... 5

3.0 RESULTS..... 10

4.0 ARBORICULTURAL IMPACT ASSESSMENT..... 14

5.0 NEW TREE AND HEDGEROW PLANTING..... 18

6.0 TREE PROTECTION MEASURES ..... 20

7.0 CONCLUSION ..... 23

**TABLES**

Table 1: Example of calculating Soil Volume for New Tree Planting

**PHOTOGRAPHS**

Photograph 1: Elevated view of W5 and W7

**PLANS**

Tree Survey Plan (8755-T-01)

Tree Retention Plan (8755-T-02)

**APPENDICES**

Appendix A: Tree Schedule

Appendix B: Protective Fencing Specifications

Appendix C – Veteran Tree Schedule

## 1.0 INTRODUCTION

- 1.1 This report has been prepared by on behalf of Redrow Homes Limited to present the findings of an Arboricultural Assessment and survey of trees located at Phase 1A, 1B and 1C only of Great Wilsey Park, Haverhill (hereafter referred to as the site), OS Grid Ref TL 688 457.
- 1.2 FPCR originally conducted a walkover tree survey to inform the constraints posed by trees in support of an Outline Planning Application (ref: DC/15/2151/OUT) in October 2014 which has been recently updated upon the instruction of Redrow Homes (4<sup>th</sup> December 2018) in support of the Reserved Matters Application.
- 1.3 The tree survey and assessment of existing trees has been carried out in accordance with guidance contained within British Standard 5837:2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations*' (hereafter referred to as BS5837). The guidelines set out a structured assessment methodology to assist in determining which trees would be deemed either as being suitable or unsuitable for retention.
- 1.4 The guidance also provides recommendations for considering the relationship between existing trees and how those trees may integrate into designs for development; demolition operations and future construction processes so that a harmonious and sustainable relationship between any retained trees and built structures can be achieved.
- 1.5 The purpose of this report is therefore to firstly, present the results of an updated assessment of the existing trees' arboricultural value, based on their current condition and quality and to secondly, provide an assessment of impact arising from the **development of the Phase 1 areas of the site only**. The survey has therefore focused on any trees present within or bordering the site that may potentially be affected by the future proposals or will pose a constraint to any proposed development.

### Supplied Plans

- 1.6 As part of this review, the individual positions of trees and groups within the Phase 1 areas have been shown on the Tree Survey Plan. The positions of trees are based on a topographical / land survey, as far as possible, supplied by the client. Where topographical information has not identified the position of trees and hedgerows, these have been plotted using a global positioning system and aerial photography to provide approximate locations. The crown spread, root protection area and shade pattern (where appropriate) are also indicated on this plan.
- 1.7 As part of this assessment, a Tree Retention Plan has been prepared to show the proposed layout in relation to the existing tree cover allowing an assessment of any potential conflicts. The plan also identifies which trees would be required to be removed or retained as part of the proposed development.

## Background

- 1.8 FPCR Environment and Design Limited were appointed in 2014 to provide an arboricultural survey and arboricultural impact assessment in accordance with the guidelines contained within British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction - Recommendations' to support an outline planning application (Reference: DC/15/2151/OUT) for residential development of up to 2,500 units (within use classes C2/C3); two primary schools; two local centres including retail, community and employment uses (with use classes A1/A2/A3/A4/A5, B1 and D1/D2; open space; landscaping and associated infrastructure.
- 1.9 The survey considered all of the arboricultural features across the entirety of the site area, 166 Ha of land located to the north east of the town of Haverhill and is bordered by nearby villages of Little Wratting to the north and Kedington to the east. As part of this assessment a total of seventy-one individual trees, thirty groups of trees, seven woodlands and twenty-four hedgerows were surveyed.
- 1.10 The arboricultural impact assessment concluded that the outline proposals would allow for the retention of the majority of the existing vegetation within the site and provides significant levels of enhancement through additional provision of green infrastructure incorporating new trees and hedgerows.

## Planning Conditions and Reserved Matters

- 1.11 On the 15<sup>th</sup> August 2018 St. Edmundsbury Borough Council granted the outline application subject to compliance with the specified condition(s) and the submission of 'Reserved Matters'.
- 1.12 This arboricultural assessment forms part of the supplementary information to be submitted as part of an application to address and discharge planning conditions for the development Great Wilsey Park (reference: DC/15/2151/OUT). This review is concerned with the arboricultural matters only of Condition 41 of DC/15/2151/OUT. Condition 41 outlines the following:

### Condition 41

*Within any phase or reserved matters application, no development shall commence (including demolition, archaeological investigation, ground works and vegetation clearance) until there has been submitted to and approved in writing by the Local Planning Authority a tree survey for that particular phase or reserved matters application, containing details of all trees, woodlands, treebelts and hedgerows to be retained and indicating those to be removed. Where features are to be removed up-to-date bat surveys including details of bat roosts must be submitted. Any hedgerow removal shall be in accordance with the hedgerow removal plan ref. 5055-L-112 rev C and notwithstanding openings indicated on that plan, hedgerow gaps shall not exceed 12 metres unless specifically agreed in writing by the Local Planning Authority. Proposals must demonstrate how habitat connectivity is maintained both through the site and to adjacent suitable habitats.*

**Reason:** *To ensure that wildlife habitats are considered as part of the design process and not affected adversely by the development.*

- 1.13 This arboricultural assessment is **concerned solely with the matters arising from the development of the Phase 1 areas of the site only** and does not comment upon Archaeological and Geotechnical Investigations. Reference should be made to the supporting letters produced by FPCR Environment and Design Ltd (December 2018) and February 2019 (document reference: 8755 Condition 41 - Geotechnical Investigation) for further information on any arboricultural impacts pertaining to these aspects of the development.
- 1.14 These documents were provided to support DCON(A)/15/2151 - *Application to Partially Discharge Conditions 39 (archaeology) in relation to phases 1a, 1b and 1c only, and Conditions 41 (tree survey), 42 (ecological implementation strategy), and 45 (biodiversity monitoring) of application DC/15/2151/OUT | Great Wilsey Park Wilsey Road Little Wrating Suffolk.*

## **Planning Policy**

### **National Planning Policy Framework 2019**

- 1.15 National Planning Policy is defined by the National Planning Policy Framework (NPPF). This sets out the Government's most current and up to date planning policies for England and how these should be applied. The current NPPF is dated February 2019.
- 1.16 Paragraph 11 of the NPPF states that there is a presumption in favour of sustainable development and states that for decision making, the LPA should be '*c) approving development proposals that accord with an up-to-date development plan without delay*'. In the absence of a development plan or the development plan is out of date, the acting LPA should grant planning consent so far as the development proposals do not breach the policies and guidance outlined in the NPPF.
- 1.17 In relation to arboriculture, the NPPF also states that:
- *175(c) 'development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists';*  
and provides specific guidance that:
  - *175(d) 'development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity'.*
- 1.18 Examples of what is deemed to be '*wholly exceptional*' are included within Footnote 58 and provides the examples of '*infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat*'.

## **Statutory Considerations**

- 1.19 The arboricultural assessment carried out in 2014 consulted with the Local Planning Authority, St Edmundsbury Borough Council, and were informed that there were no tree preservation orders or conservation area designations that would apply to any trees present on site and therefore no statutory constraints would apply to the development in respect of trees.

- 1.20 It was understood however that there is a Tree Preservation Order, TPO number 348(2002), which applies to a number of trees within close proximity to the assessment area.
- 1.21 The presence of any Tree Preservation Orders or Conservation Area designations that may now affect the site has yet to be confirmed by St Edmundsbury Borough Council. Once this information has been received, the report will be updated accordingly. Before any tree works are undertaken confirmation of the presence of the statutory constraints should be sought from the Local Authority.

### **Non-Statutory Considerations**

- 1.22 In order to compile existing baseline information on relevant arboricultural considerations information was requested from both statutory and non-statutory nature conservation organisations. The Multi Agency Geographic Information for the Countryside (MAGIC)<sup>1</sup> website highlighted tree cover within the site as or included within the following:
- W5 & W7 'Great Field Plantation' - Priority Habitat Inventory - Deciduous Woodland (England). The National Forestry Inventory 2014
- 1.23 The Priority Habitat Inventory is a spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.<sup>2</sup>
- 1.24 The deciduous woodland inventory is a rolling programme designed to provide accurate information about the size, distribution, composition and condition of forests and woodlands.<sup>3</sup>
- 1.25 Priority habitat designation and inclusion within the National Forestry Inventory does not provide any statutory protection.

## **2.0 SURVEY METHODOLOGY**

- 2.1 The survey of trees has been carried out in accordance with the criteria set out in Chapter 4 of BS5837. The survey has been undertaken by a suitably qualified and experienced arboriculturalist and has recorded information relating to all those trees within the site and those adjacent to the site which may be of influence to any proposals. Trees were assessed for their arboricultural quality and benefits within the context of the proposed development in a transparent, understandable and systematic way.
- 2.2 An assessment of individual trees within groups or hedgerows has been made where a clear need to differentiate between them, for example, in order to highlight significant variation between attributes including physiological or structural condition or where a potential conflict may arise.

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<sup>1</sup> <http://magic.defra.gov.uk/>

<sup>2</sup> Contains public sector information licensed under the Open Government Licence v3.0.

<sup>3</sup> <https://www.forestresearch.gov.uk/tools-and-resources/national-forest-inventory/>

## Veteran Trees

- 2.3 Veteran trees and Ancient Woodland are important components of the landscape, their importance can be for a number of reasons including that of their ecological, social, cultural and historic value. Veteran Trees and Ancient Woodlands are material considerations within the planning process and their importance is specifically recognised within the National Planning Policy Framework 2019.
- 2.4 One of the assessed trees within the Phase 1 developable areas was considered to be a veteran tree in accordance with accepted published methodologies and guidance. Further details have been provided in Section 3.0 and Appendix C – Veteran Tree Schedule.
- 2.5 This assessment, and the criteria for identification of attributable veteran features, was based on currently available industry guidance and resources including the Level 2 and 3 of the *Specialist Survey Methodology (SSM)* and as detailed within *Ancient and other Veteran Trees: Further Guidance on Management (Lonsdale, D (ed.) (2013). The Tree Council & Ancient Tree Forum.*
- 2.6 For the purpose of affording these trees greater protection the RPA calculation has been calculated in accordance with the guidelines detailed within *Ancient and other Veteran Trees: Further Guidance on Management (Lonsdale, D (ed.) (2013). The Tree Council & Ancient Tree Forum.* The RPA is defined as a distance equal to 15 times the trees stem diameter, or five metres beyond the canopy, whichever is the greater (Read, 2000).
- 2.7 Where this assessment has identified veteran trees, further survey work of those trees and their communities will be required. From an ecological perspective veteran trees provide a rare and specialist niche habitat and therefore preservation of this habitat is considered highly important. Veteran trees and many of their associated specialised species are becoming increasingly rare within the landscape and therefore some veteran tree landscapes and their associated species are now protected, both nationally and Europe wide through the Natura 2000 Directive.

## BS5837 Categories

- 2.8 Trees have been divided into one of four categories based on Table 1 of BS5837, '*Cascade chart for tree quality assessment*'. For a tree to qualify under any given category it should fall within the scope of that category's definition (see below).
- 2.9 Category U trees are those which would be lost in the short term for reasons connected with their physiology or structural condition. They are, for this reason not considered in the planning process on arboricultural grounds. Categories A, B and C are applied to trees that should be of material considerations in the development process. Each category also having one of three further sub-categories (i, ii, iii) which are intended to reflect arboricultural, landscape and cultural or conservation values accordingly.
- 2.10 **Category (U) – (Red):** Trees which are unsuitable for retention and are 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 within this category are:
- Trees that have a serious irremediable structural defect such that their early loss is expected due to collapse and includes trees that will become unviable after removal of other category U trees.



- Trees that are dead or are showing signs of significant, immediate or irreversible overall decline.
  - Trees that are infected with pathogens of significance to the health and/ or safety of other nearby trees or are very low-quality trees suppressing adjacent trees of better quality.
  - Certain category U trees can have existing or potential conservation value which may make it desirable to preserve.
- 2.11 **Category (A) – (Green):** Trees that are considered for retention and are of high quality with an estimated remaining life expectancy of at least 40 years with potential to make a lasting contribution. Such trees may comprise:
- Sub category (i) trees that are particularly good examples of their species, especially if rare or unusual, or are essential components of groups such as formal or semi-formal arboricultural features for example the dominant and/or principal trees within an avenue.
  - Sub category (ii) trees, groups or woodlands of particular visual importance as arboricultural and / or landscape features.
  - Sub category (iii) trees, groups or woodlands of significant conservation, historical, commemorative or other value for example veteran or wood pasture.
- 2.12 **Category (B) – (Blue):** Trees that are considered for retention and are of moderate quality with an estimated remaining life expectancy of at least 20 years with potential to make a significant contribution. Such trees may comprise:
- Sub category (i) trees that might be included in category A but are downgraded because of impaired condition for example the presence of significant though remediable defects, including unsympathetic past management and storm damage.
  - Sub category (ii) 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.
  - Sub category (iii) trees with material conservation or other cultural value.
- 2.13 **Category (C) – (Grey):** Trees that are considered for retention and are of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm. Such trees may comprise:
- Sub category (i) unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.
  - Sub category (ii) trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value or trees offering low or only temporary / transient screening benefits.
  - Sub category (iii) trees with no material conservation or other cultural value.

## Tree Schedule

- 2.14 Appendix A presents details of any individual trees, groups, hedgerows and woodlands found during the assessment including heights, diameters at breast height, crown spread (given as a radial measurement from the stem), age class, comments as to the overall condition at the time of inspection, BS5837 category of quality and suitability for retention and the root protection area.
- 2.15 The term group has been applied where trees form cohesive arboricultural features either aerodynamically, visually or culturally including biodiversity or habitat potential for example parkland or wood pasture.
- 2.16 Hedgerows are identified as a Habitat of Principle Importance (HPI) as listed within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. The tree survey conducted, in accordance with BS5837, does not assess hedgerows against the Hedgerow Regulations 1997 or specifically from an ecological perspective, and is outside the scope of this assessment.
- 2.17 For the purposes of this assessment, a hedgerow is described as any boundary line of trees or shrubs less than 5m wide at the base and are managed under a regular pruning regime. Hedgerows and substantial internal or boundary hedges (including evergreen screens) have been recorded including lateral spread, height and stem diameter(s). Where trees are present within a hedgerow that are significantly different in character from the remainder, these have been identified and recorded separately.
- 2.18 For the purposes of this assessment woodland is described as a habitat where *'trees are the dominant plant form. The individual tree canopies generally overlap and interlink, often forming a more or less continuous canopy'*<sup>4</sup>.
- 2.19 Woodlands however, are not just formed of trees and generally include a great variety of other plants. These will *include 'mosses, ferns and lichens, as well as small flowering herbs, grasses and shrubs'*<sup>5</sup>.
- 2.20 General observations particularly of structural and physiological condition for example the presence of any decay and physical defect and preliminary management recommendations have also been recorded where appropriate.

## Tree Constraints and Root Protection Areas

- 2.21 Below ground constraints to future development are represented by the area surrounding the tree containing sufficient rooting volume for the specimen to have the best chance of survival in the long term which is identified as the root protection area (RPA). The RPA has been calculated in accordance with section 4.6 of BS5837 and requires suitable protection in order for the tree to be successfully incorporated into any future scheme.
- 2.22 Where applicable the shape of the Root Protection Area has been modified to consider the presence of any nearby obstacles (existing or past) which may have restricted root growth and the likely root distribution i.e. the presence of hard standing, structures and underground apparatus.

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<sup>4</sup> [http://www.countrysideinfo.co.uk/woodland\\_manage/whatis.html](http://www.countrysideinfo.co.uk/woodland_manage/whatis.html)

<sup>5</sup> [http://www.countrysideinfo.co.uk/woodland\\_manage/whatis.html](http://www.countrysideinfo.co.uk/woodland_manage/whatis.html)

- 2.23 Where groups of trees have been assessed, the Root Protection Area has been shown based on the maximum sized tree in any one group and so may exceed the Root Protection Area required for some of the individual specimens within the group. Further detailed inspection of the individual trees forming a group may be required where development impacts upon the group.
- 2.24 Above ground constraints such as the current crown spread of the trees and an illustration of the shade pattern (where appropriate) have been considered and identified within the Tree Survey Plan and Tree Retention Plan indicates their potential area of shading influence.

### **Considerations and Limitations of the Tree Survey**

- 2.25 The areas proposed for development as part of Phases 1A, 1B and 1C are accurate to the date of this assessment and the dates cited on the supplied drawings (dwg.no. ExA\_1868\_P\_101 LANDSCAPE GENERAL ARRANGEMENT PLAN1 and PB8301-RHD-DE-H1-DR-D-0150 General Arrangement) and any further amendments or alterations to the positioning of the developable areas shown on these plans may require further arboricultural review.
- 2.26 The survey was completed from ground level only and from within the boundary of the site. Aerial tree inspections or an assessment of the internal condition of the stem/s or branches were not undertaken at this stage as this level of survey is beyond the scope of the initial assessment.
- 2.27 The statements made in this report regarding defects in assessed trees does not take into account the effects of extreme / adverse weather conditions, changes in land use prior to the site's development as detailed within Section 4.0, unforeseen accidents or anti-social behaviors, such as vandalism, which occur since the date of the survey. As such, the assessment of tree condition given within applies to the date of survey and cannot be assumed to remain unchanged.
- 2.28 It will be necessary to review all comments and observations made within this report, in accordance with sound arboricultural practice, within two years of the date of survey (unless explicitly stated elsewhere within this report). Further review may also be necessary where site conditions change or works to trees are carried out which have not been specified in detail within this report.
- 2.29 It may be necessary during detailed design to undertake further assessment and accurate positioning of woody species within tree groups to assist structural calculations for foundation design of structures in accordance with current building regulations. Knowledge of soil type was not known at the time of this tree assessment. If a current soil survey of the site has taken place then it must be read in conjunction with the results of the tree survey.
- 2.30 The exact position of individual trees or species included as part of a tree group should be checked and verified on site prior to any decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculating foundation depths in accordance with NHBC Chapter 4.2 Building near Trees.

### 3.0 RESULTS

- 3.1 A total of sixty-nine individual trees, thirty groups of trees, seven woodlands and twenty-four hedgerows were surveyed as part of the updated arboricultural assessment for the wider Great Wilsey Park, Haverhill. Trees were surveyed as individual trees and groups of trees where examples are clearly present. Refer to Tree Survey Plan and Appendix A – Tree Schedule for full details of the trees included in this assessment. The table below summarises the trees assessed.
- 3.2 It should be highlighted that not all of these trees are situated within the Phase 1 developable areas and as such, reference should be made to Tree Survey Plans provided as part of this assessment.
- 3.3 Several of the trees have been discussed in more detail owing to their physical condition or arboricultural significance.

#### Results Summary

- 3.4 The tree stock was predominantly distributed along the central water course and also within two prominent blocks of mixed species woodland (W5 and W7) referred to locally as Great Field Plantation. Tree cover across the whole site comprised mainly of early mature and mature specimens most of which were native mixed species with none being particularly dominant. Higher concentrations of tree cover could be found in areas associated within either established woodlands or newly planted blocks of trees (G5) offering a wide range of species. Species present across the whole site consisted mainly of English oak *Quercus robur*, ash *Fraxinus excelsior*, English elm *Ulmus procera*, field maple *Acer campestre*, hawthorn *Crataegus monogyna* and blackthorn *Prunus spinosa*. The western boundary supported semi and early mature specimens within boundary tree groups as this boundary met with existing residential areas in part.
- 3.5 Trees across the site were generally found to have grown reactively to their environmental conditions. Specimens typically associated those growing in areas of open countryside, having seen little in the way of targeted management, whilst trees within areas of woodland exhibited characteristics of trees growing in close proximity to one another resulting in etiolated forms.
- 3.6 Most of the trees were of fair and good overall physical condition containing some dead wood of varying proportions along with past storm damage and naturally occurring structural conditions such as branch socket cavities, branch stubs through limb loss and crossing and rubbing material.
- 3.7 Where pruning had occurred on individual specimens across the site, branch material had generally been removed in an unsympathetic manner leaving a combination of flush cuts and branch stubs. These minor defects leave open wounds exposing heartwood which can allow the potential ingress of decay and fungal pathogens which can lead to premature loss of mature trees over time.

#### Veteran and Ecologically Beneficial Trees

- 3.8 A single individual veteran tree specimen is situated within the Phase 1 developable area, to the west of the proposed spine road running along from north to south along the western boundary of the site. T64 exhibited a number of characteristics associated with Veteran trees. The

characteristics observed included large girth for the species concerned, major trunk or stem cavities with progressive hollowing, physical damage to the trunk, bark loss, large quantities of dead wood and an old look and appearance.

- 3.9 T64 was situated within the northern portion of the site, south of the existing school field and on the edge of G27. This English oak had been subjected to extensive damage in the past possibly resulting in significant structural failure reducing the crown to a main stem with a couple of lateral branches and epicormic growth. The now hollow stem had been drastically weakened through vandalism which had caused the central stem material to have been lost entirely through fire damage leaving a thin wall of functional tissue. The remains of either past fallen or removed branches were scattered around the base of the tree with a single piece of timber acting as a support to the precariously balanced main stem of T64.
- 3.10 As part of the original arboricultural assessment (FPCR August 2015) produced in support of the outline planning application, T64 was categorised as a Category U, as *'this specimen would be deemed to be in such a condition that it could not be realistically retained as a living tree in the context of the current land use for longer than 10 years'* however, it was discussed that *'due to the fact that Veteran trees are important components of the landscape for a number of reasons including ecological, social, cultural and historical value it is recommended that this tree is allowed to decline over time naturally reaching its own demise. It would be recommended however that T64 is managed sympathetically through similar techniques used on veteran trees to prevent the decline being accelerated'*.
- 3.11 During the re-survey carried out in 2018 it was apparent that T64 had been fairly resilient and demonstrated good signs of vitality and successive growth with no significant decline in the structural integrity of the main stem since the last assessment, despite a more recent run of adverse weather including several storms. As a result of this it was decided best to re-categorise the tree as retention category A(iii) in accordance with BS5837 to acknowledge its *'significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)* and also in light of the recent changes to the National Planning Policy Framework (NPPF) which now gives Veteran trees greater consideration.

### **Central Watercourse and Newly Planted Tree Groups**

- 3.12 A small watercourse bisects the site in a northwest to southeast orientation with G11 providing the majority of vegetative cover along the length. The group included riparian species such as crack willow *Salix fragilis* and alder *Alnus glutinosa* along with a mixture of outgrown understory species of blackthorn, elder *Sambucus nigra*, hawthorn, field maple *Acer campestre*, sycamore *Acer pseudoplatanus* and dogwood *Cornus sp.* which had formed either side of the watercourse. Tree cover towards the south east contained a high percentage of English elm trees resulting in a large number of standing dead stems due to the presence of Dutch elm disease *Ophiostoma ulmi*. The majority of the willow and alder specimens throughout G11 were multi stemmed from ground level or had multi leadered forms due to the characteristics of the species. Many of these specimens may possibly have been managed in the past through coppicing or pollarding to produce poles and firewood. The maintenance of the trees within the group had generally lapsed

and had subsequently formed dense structures, although the occasional collapsed stems or dead specimen created gaps amongst the tree cover.

- 3.13 Two areas of recent new tree planting were observed towards the north east corner of the site consisting of G3 and G5. G3 consisted of young to semi mature specimens possibly planted to provide a landscape buffer to the new residential development off Green Road. A wide range of native species were noted in either single or multi stemmed forms. Planting guards and stakes were still present and trees displayed no major defects due to their age although the majority of these trees had become established with a low proportion of failures.
- 3.14 G5 consisted of an extensive linear belt of young and semi mature specimens planted approximately at 2m intervals. These trees exhibited larger proportions of those observed within G3 and had successfully established themselves with a low number of failures. Little management had been carried out since the trees had been planted and only limited evidence of the occasional removal of individual trees was noted at the time of the assessment. Due to the close proximity of stems, specimens had started to develop upright forms and some crowns had become interlocked causing branches to cross and rub against each other. Despite these factors the tree cover of G5 was considered to be of moderate quality providing a key landscape feature.
- 3.15 Symptoms of Chalara dieback of ash *Hymenoscyphus fraxinus* were observed throughout both G3 and G5 during the 2015 survey and during the 2018 survey carried out to inform this assessment, the distribution of trees affected, and the affect this has had on the health and vigour of ash trees amongst the groups, had significantly worsened. This disease is spread by spores from the fruiting bodies of the fungus produced on fallen ash leaves. The fungus blocks the water transport systems (xylem) in trees causing leaf loss, lesions in the wood and on the bark and ultimately the dieback in affected trees and is usually fatal in young trees however, research is ongoing at this current time.
- 3.16 The younger ash trees within G3 displayed significant dieback and declining health and ash trees within G5 also exhibited dieback alongside some trees indicating signs of recovery. The removal and burning of these infected specimens would be recommended to reduce the potential for spread of this disease within the surrounding area. Although unfortunate, the removal of the infected trees would also act as a method of thinning G5 to allow the remaining tree cover to mature into quality specimens as part of the group's future management in accordance with industry best practice.

### Woodlands

- 3.17 Woodland parcels W5 and W7 towards the north formed the largest portions of continuous tree cover within the site. W5 was surrounded by numerous high-quality mature specimens positioned along the western edge which, due to their linear position, had possibly been planted as part of the original landscape. Research of mapping of 1886 identifies these mature specimens positioned around an open field compartment which had since formed a framework within which younger tree planting had been established as Great Field Plantation. The eastern portion of the new woodland was planted around 1900 with an addition of further planting to the west of this group following the cessation of the First World War. The extent of the woodland has not changed since and the species content was predominantly conifer offering limited value in terms of ecological habitats.

- 3.18 Immediately to the east and adjacent to woodland W5 was W7. Although these two areas of woodland had merged together there was a clear distinction between the two when observed from an elevated view point. Trees within W7 displayed younger proportions in comparison to the neighbouring specimens of W5 along with a more regular spaced pattern giving the impression that this woodland was planted at a later date. Discussions with the land owner confirmed that this plantation was intended to produce a crop of Christmas trees which had never been harvested and had subsequently been allowed to outgrow. Species also differed slightly with a higher content of deciduous trees such as common larch *Larix decidua*, grand fir *Abies grandis* and Norway spruce *Picea abies*.



**Photograph 1: Elevated view of W5 and W7**

- 3.19 W5 and W7 are classed as Priority Habitat Inventory - Deciduous Woodland (England) – ‘a Lowland mixed deciduous woodland includes woodland growing on the full range of soil conditions... *Quercus robur* is generally the commoner oak (although *Quercus petraea* may be abundant locally) and may occur with virtually all combinations of other locally native tree species’<sup>6</sup>.

### **Hedgerows**

- 3.20 The majority of the fields were bounded by maintained hedgerows through annual cutting creating, dense, clipped and consolidated structures sometimes formed from laid and coppiced material of early mature proportions.
- 3.21 A number of hedgerows had become outgrown in places due to either a lapse in management or a prolonged period between cuttings. No major defects were found within the hedgerows with the exception of some minor broken branches, branch stubs and crossing and / or rubbing branches. Gaps could be found throughout the hedgerows although the majority of these had been colonised by bramble and scrub growth.
- 3.22 A range of species were recorded for the hedgerows, most of which were of native types including field maple, dogwood, hazel *Corylus avellana*, hawthorn, blackthorn, common ash, holly *Ilex aquifolium*, English oak, elder, beech *Fagus sylvatica* and goat willow. Standard trees were also found within the vast majority of the hedgerows which consisted of common ash, English oak, English elm and sycamore. Due to the large quantity of English elm throughout the site, dead specimens were found within the majority of hedgerows, having succumbed to Dutch elm disease *Ophiostoma ulmi*.

<sup>6</sup> <https://data.gov.uk/dataset/4b6ddab7-6c0f-4407-946e-d6499f19fcde/priority-habitat-inventory-england>

- 3.23 The annually managed hedgerow forms across the site provided ecological value as natural wildlife corridors, however in arboricultural terms they were considered to be low in quality and therefore retention category C due to their limited landscape and visual amenity contribution currently.

#### **4.0 ARBORICULTURAL IMPACT ASSESSMENT**

- 4.1 The following paragraphs present a summary of the tree survey and discussion of particular trees and groups recorded in the context of any proposed development in the form of an Arboricultural Impact Assessment in accordance with section 5.4 of BS5837. Any final tree retentions will need to be reconciled with the advice contained within this report.
- 4.2 The AIA has been based upon the General Arrangement and Landscape General Arrangement plans (drwg.no. ExA\_1868\_P\_101 LANDSCAPE GENERAL ARRANGEMENT PLAN1 and PB8301-RHD-DE-H1-DR-D-0150 General Arrangement) and seeks to outline the potential impact that the proposals would have on the existing trees and vice versa. The above drawing shows the proposed Phase 1 development of the site which is to include new road infrastructure and residential parcels.
- 4.3 These plans also demonstrate the proposed roundabout junctions to the north and south of the Phase 1 areas, leading off Haverhill Road and Chalkstone Way. These roundabout accesses are consented and are to be delivered by an S278 outside of this reserved matters application. Owing to this, a number of trees recorded as G29 shall be removed to facilitate the access off Chalkestone Way whilst an expansive length of H20 shall be removed along the northern boundary. Due to the young age and relatively unestablished nature of the hedgerow cover, any mitigation planting will easily be achieved through the extensive planting situated around the proposed access point.
- 4.4 An overlay of the above layout has been incorporated in the Tree Retention Plan to assist in identifying potential conflicts with the existing trees.

#### **Arboricultural Implications**

- 4.5 The proposals allow for the retention of the majority of the existing vegetation within the site whilst providing significant levels of enhancement through additional provision of green infrastructure incorporating new trees and hedgerows.
- 4.6 The proposed layout has largely been designed around the natural features of the site, including trees and hedgerows thereby avoiding losses where possible. To facilitate the proposed development as per the above plans no significant tree losses will be required as the proposed built elements of the development are to be positioned within the existing field parcels which are largely devoid of tree cover due to their current agricultural use.
- 4.7 Tree and hedgerow losses are largely consistent with those highlighted and discussed as part of the arboricultural assessment (FPCR August 2015) provided in support of the outline planning application and as such, the arboricultural implications remain largely unchanged. Perhaps the single biggest change from the outline proposals, is the placement of several large attenuation



basins / ponds (Ponds 2.1, 2.2 and 2.3) to the south of woodlands W5 and W7 as well as the level of incursion within the RPA of T64 as a result of the positioning of the primary road layout.

- 4.8 As part of the revised tree survey conducted in 2018 and in order to better inform the positioning of these basins / ponds, the large oaks bounding the southern edge of W5 were plotted individually with a representative RPA plotted for each of the trees. In the majority, these RPA's shall be largely unaffected by the excavation and soil modelling involved during the construction of these basins / ponds. This shall ensure that the excavation and removal of any soil required in the construction of the basins / ponds does not occur within the root protection areas of any specimens and, as such, works are unlikely to present a risk of destabilisation to trees or the severance of the main roots which would threaten the future health / condition of the trees.
- 4.9 As such, providing appropriate tree protection measures are adhered to (to be detailed within an Arboricultural Method Statement), the arboricultural impact arising from these works would be considered manageable.
- 4.10 Further additions to the development proposals shall see the extent of residential development toward the south east corner of Phase 1 (Phase 1B) extend within G3, resulting in the loss of tree cover forming G1. These losses are confined to lower quality tree specimens and would be considered appropriate in order to allow for a feasible developable area. The presence of Chalara dieback of ash was observed throughout G3 and as such, any removal of infected trees should be carried out in accordance with published industry guidance.
- 4.11 Although not covered as part of this assessment, it should be acknowledged that approximately a combined 394m of H19, along with several smaller section of internal hedgerows, shall be removed to allow for the consented S278 roundabout and proposed cycleway / footway.
- 4.12 The proposed primary access roads throughout the site will require the removal of small sections of tree and hedgerow cover. These losses are confined to hedgerows of low arboricultural quality and in most instances, the loss of hedgerow does not exceed lengths of more than 20m.

#### **T64 Veteran English Oak Tree**

- 4.13 As part of the original arboricultural assessment (FPCR August 2015) produced in support of the outline planning application, T64 was categorised as a Category U, as *'this specimen would be deemed to be in such a condition that it could not be realistically retained as a living tree in the context of the current land use for longer than 10 years'* however, it was discussed that *'due to the fact that Veteran trees are important components of the landscape for a number of reasons including ecological, social, cultural and historical value it is recommended that this tree is allowed to decline over time naturally reaching its own demise. It would be recommended however that T64 is managed sympathetically through similar techniques used on veteran trees to prevent the decline being accelerated'*.
- 4.14 During the re-survey carried out in 2018 it was apparent that T64 had been fairly resilient and demonstrated good signs of vitality and successive growth with no significant decline in the structural integrity of the main stem since the last assessment, despite a more recent run of adverse weather including several storms. As such, T64 was reclassified to a category A(iii).
- 4.15 The consequence of this reclassification is that T64's root protection area (RPA) has now been plotted to inform the constraint posed by this tree (previously the RPA was unplotted due to not

posing a constraint in reflection of its Category U grading). For the purpose of affording a veteran tree greater protection, the RPA calculation is in accordance with the guidelines detailed within Ancient and other Veteran Trees: Further Guidance on Management (Lonsdale, D (ed.) (2013). *The Tree Council & Ancient Tree Forum*. The RPA is defined as a distance equal to 15 times the trees stem diameter, or five metres beyond the canopy, whichever is the greater (Read, 2000).

- 4.16 As part of the concept and design of the development proposals agreed as part of the outline planning consent, the routing of the primary road layout utilised the area close to this as it was devoid of any significant arboricultural constraints, with this tree set to be retained only as a standing habitat resource as it was considered to offer limited long-term value;
- 'Although T64 exhibited some characteristics that may be associated with Veteran trees this specimen would be deemed to be in such a condition that it could not be realistically retained as a living tree in the context of the current land use for longer than 10 years'* – Paragraph 3.20 Arboricultural Assessment, FPCR, August 2016.
- 4.17 The previous assessment of this tree concluded that due to its severely compromised structural integrity;
- 'it would be recommended however that T64 is managed sympathetically through similar techniques used on veteran trees to prevent the decline being accelerated. Access should also be restricted in order to prevent further vandalism and reduce the potential for injury to members of the public.'*
- 4.18 The result of this increased RPA measurement is that the alignment and position of the road layout now encroaches within the RPA of T64. At this stage, it is not considered feasible to amend the position of this road and as such, the level of impact shall need to be appropriately compensated<sup>7</sup>.
- 4.19 It is also important to highlight that this assessment does not agree with the position took by the previous assessment. T64 remains in a severely impaired structural condition, with the structure of the tree still unstable to which without management, shall within the foreseeable future, catastrophically fail.
- 4.20 Due to the fact that Veteran trees are important components of the landscape for a number of reasons including ecological, social, cultural and historical value it is recommended that this tree is managed and retained as oppose to being lost entirely. This is further emphasized on the grounds of public safety given the trees future position close to the primary road layout and the heightened risk of failure through the known loss of structural integrity.
- 4.21 As part of the development, T64 shall be positioned 10m from the edge of the road and accompanying pedestrian footpath. T64 is 6m in height and as a result, the failure of the tree is unlikely to place members of the public using the road at any great risk. However, in order to reduce the level of risk to as low as reasonably practicable (ALARP)<sup>8</sup> whilst prolonging the life of the tree, certain measures should be put in place. One measure considered to be most appropriate given the future context of the site would be to restrict occupancy close to the tree

<sup>7</sup> Whilst T64 is set to be retained, mitigation should only apply where measures can be taken to 'avoid or reduce negative impacts' CIEEM. (2016). Guidelines for Ecological Impact Assessment in the UK and Ireland. Available at: [www.cieem.net/data/files/Website\\_Downloads/Guidelines\\_for\\_Ecological\\_Impact\\_Assessment\\_2015.pdf](http://www.cieem.net/data/files/Website_Downloads/Guidelines_for_Ecological_Impact_Assessment_2015.pdf) and as the impact cannot be avoided, compensation 'measures taken to make up for the loss of, or permanent damage' to veteran trees shall be required; there is no appropriate mitigation.

<sup>8</sup> The concept of "reasonably practicable" lies at the heart of the British health and safety system. It is a key part of the general duties of the Health and Safety at Work etc. Act 1974. <http://www.hse.gov.uk/risk/theory/alarplance.htm>

through erecting barriers (post and rail fencing) along the western edge of the primary road layout. This would also help to mitigate any further direct damage caused by trampling, climbing or further vandalism, thus safeguarding the future health of the specimen.

- 4.22 However, a fence can often detract from the aesthetic character of the tree and may appear too intrusive. As such, it would be recommended that an area of buffer planting is provided around as much of the RPA, which is to be undisturbed by construction, to provide an informal barrier limiting public access whilst aiding in the green infrastructure provision of the site. To conserve genetic characteristics, consideration should be given to taking seeds and/or scions (cuttings for grafts) of the original tree<sup>9</sup>. Should T64 fail in the near future, the intact hulk of a veteran tree should be relocated in an upright state in close proximity to a nearby veteran tree, woodland or parkland area<sup>10</sup>.

### **Main Road Link through G5**

- 4.23 Tree cover from within G5 will be removed to provide sufficient easement for two access roads. From an arboricultural perspective this tree cover was considered to be of moderate quality (category B) and was of juvenile age. The presence of Chalara dieback of ash however was observed throughout G5 and as a result, the removal of any infected ash trees from these sections should be carefully monitored. It is recommended, in accordance with current guidance, that all felled ash specimens are burnt on site to reduce the potential for spread of the disease to the naturally grown trees in the surrounding area.
- 4.24 However, a proportion of ash trees are likely to be resistant to or tolerant of Chalara ash dieback, so removals should be limited to those ash within the areas to be cleared only with future management of the group being restricted to trees severely affected only, retaining those that are showing only limited or no symptoms for as long as possible.
- 4.25 Any material that is lost shall be replaced with new tree planting as part of the supporting landscaping scheme for the development.
- 4.26 New tree planting should focus on diversifying species to help make woodlands and urban forests more resilient to climate change and pests and diseases. Alternative species could include field maple, small-leaved lime, large leaved lime, hazel and hornbeam.

### **Tree Management**

- 4.27 All retained trees should be subjected to sound arboricultural management as recommended within section 8.8.3 of BS5837 *Post Development Management of Existing Trees*, where there is a potential for public access in order to satisfy the landowner's duty of care. Additionally, inspections annually and following major storms should be carried out by an experienced arboriculturalist or arborist to identify any potential public safety risks and to agree remedial works as required.
- 4.28 All tree works undertaken should comply with British Standard 3998:2010 and should therefore be carried out by skilled tree surgeons. It would be recommended that quotations for such work

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<sup>9,10</sup> Woodland Trust (October 2017). Planning for Ancient Woodland Planners' Manual for Ancient Woodland and Veteran Trees. Grantham: Unknown. 14.

be obtained from Arboricultural Association Approved Contractors as this is the recognised authority for certification of tree work contractors.

- 4.29 All vegetation and, particularly, woody vegetation proposed for clearance should be removed outside of the bird-breeding season (March - September inclusive) as all birds are protected under the Wildlife and Countryside Act, 1981 (as amended) whilst on the nest. Where this is not possible, vegetation should be checked for the presence of nesting birds prior to removal by an experienced ecologist.

## **5.0 NEW TREE AND HEDGEROW PLANTING**

- 5.1 As part of the development proposals an adequate quantity of structured tree planting has been demonstrated predominantly within or close to hard landscaped areas of car parking or alongside the primary access roads within the roadside verges. The purpose and function of this new tree planting should be understood from the start of any design stages so that key objectives from a landscape perspective can also be achieved.

### **Trees**

- 5.2 The landscaping scheme should consider the use of both native tree species (for their low maintenance requirements and nature conservation value) and ornamental species (for their contribution to urban design and amenity value). Species choices should be selected on the basis of their suitability for the final site use. Furthermore, during the design process consultation should be made with the Local Planning Authority to obtain information on their tree strategy and incorporate the planting proposals with any local policies and initiatives and/or Biodiversity Action Plans (BAP).
- 5.3 In line with the NPPF, all schemes should aim achieve a net gain in biodiversity value. Nationally recognised biodiversity metrics allow for the inclusion of, not limited to, newly planted scattered trees, woodlands and hedgerows as a means of compensating for loss of habitat as part of the development. Tree and shrub planting can therefore be used to contribute to this biodiversity gain.
- 5.4 To maximise biodiversity value (and contribution to net gain) native species or varieties should be specified. Such provisions can be incorporated into both the hard and soft landscaping of the scheme. It is recommended that tree and hedgerow specifications are made following consultation with guidance published by the Local Planning Authority.
- 5.5 When designing upon suitable tree species, careful consideration would need to be given to the following: ultimate height and canopy spread, form, habit, density of crown, potential shading effect, colour, water demand, soil type and maintenance requirements in relation to both the built form of the new development and existing properties.
- 5.6 Through careful species selection, the landscape scheme shall reduce the risk of trees being removed in the future on the grounds of nuisance. Nuisance can be perceived in a number of ways and vary from person to person however most commonly, within the context of trees, low overhanging branches, excessive shading, seasonal leaf fall and the misinformed perception that trees close to buildings cause damage.

## Hedgerows

- 5.7 Hedgerows are identified as a Habitat of Principle Importance (HPI) as listed within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

Consequently, it is important that the proposed scheme delivers a net gain in terms of linear hedgerows through new planting to compensate for any losses. Species should be native, and characteristic of the locality.

- 5.8 Recommended species for native hedgerow planting are as follows:

- *Crataegus monogyna*
- *Prunus spinosa*
- *Cornus sanguinea*
- *Corylus avellana*
- *Acer campestre*
- *Quercus robur*
- *Euonymus europaeus*

## Rooting Environment and Soil Volumes

- 5.9 The success of any landscaping scheme relies on an adequate provision of a high-quality rooting environment within which trees can thrive and reach their full potential. Planting trees with due care and consideration can, in the long term, provide a greater return on a schemes green investment and ensure trees remain healthy and grow to mature proportions.

Healthy mature trees integrate well into the built environment; increase the maturity of the landscape; help provide a natural green and leafy urban environment in which people would want to reside whilst also benefiting local wildlife.

- 5.10 The planting of trees within confined urban environments should consider the use of appropriately designed planting pits specifically engineered to promote tree health and longevity. Crucially the aim will be to provide an adequate volume of quality soil for roots to suitably develop by calculating the amount of available soil volumes needed and selecting species whose mature size is compatible with the site. This is an integral component of the planning stage (Lindsey & Bassuk, 1991).

- 5.11 In a natural environment free from constraints to growth, it has been proven through research that root systems can extend up to three times the radius of the tree crown and although in an urban environment there is often insufficient space to accommodate the extent of the full potential for root growth, all efforts should be made to at least provide as much soil volume as possible. One researched method of calculating the minimum required soil volume is as follows:

**Table 1: Example of calculating Soil Volume for New Tree Planting (Source: CIRIA C712 and Calculating Target Soil Volumes – Green Blue Urban)**

Projected canopy area of mature tree (m) x depth 0.6m		
Calculation 1	Projected mature canopy diameter (metres)	= 3 (Diameter)
Calculation 2	Projected mature canopy area (square metres), (n x Radius <sup>2</sup> )	= 7.1 (Area)
Calculation 3	Target soil volume (cubic metres), (Area x 0.6m)	= 4.24 (Volume)
	Target soil volume	= 4.24m <sup>3</sup>

### General Planting Recommendations

- 5.12 Wherever possible, following discussions with the developer and utility companies, common service trenches should be specified to minimise land take associated with underground service provision and facilitation access for future maintenance.
- 5.13 Tree planting should be avoided where they may obstruct overhead power lines or cables. Any underground apparatus should be ducted or otherwise protected at the time of construction to enable trees to be planted without resulting in future conflicts.

### General Design Principles in Relation to Retained Trees

- 5.14 As recommended by the guidance given in section 7.7 of BS5837 services, where possible, should not encroach within the Root Protection Areas of retained trees. If below-ground services are proposed within a Root Protection Area, modifications to the alignment of the service route may need to be made in order to minimise adverse effects on root stability and overall tree health.
- 5.15 Consideration may also need to be given to the potential for tree roots of newly planted trees and hedgerows to affect or compromise the future services. As far as feasible, it would be preferable that proposed services near both the existing and any new planting should be ducted for ease of access and maintenance and grouped together to minimise any future disturbance.

## 6.0 TREE PROTECTION MEASURES

- 6.1 Retained trees will be adequately protected during works ensuring that the calculated root protection area for all retained trees can be appropriately protected through the erection of the requisite tree protection barriers. Measures to protect trees should follow the guidance in BS5837 and will be applied where necessary for the purpose of protecting trees within the site whilst allowing sufficient access for the implementation of the proposed layout. These have been broadly summarised below.

### General Information and Recommendations

- 6.2 All trees retained on site will be protected by suitable barriers or ground protection measures around the calculated RPA, crown spread of the tree or other defined constraints of this assessment as detailed by section 6 and 7 of BS5837.
- 6.3 Barriers will be erected prior to commencement of any construction work and before demolition including erection of any temporary structures. Once installed, the area protected by fencing or

other barriers will be regarded as a construction exclusion zone. Fencing and barriers will not be removed or altered without prior consultation with the Project Arboriculturalist.

- 6.4 Any trees that are not to be retained as part of the proposals should be felled prior to the erection of protective barriers. Particular attention needs to be given by site contractors to minimise damage or disturbance to retained specimens.
- 6.5 Where it has been agreed, construction access may take place within the root protection area if suitable ground protection measures are in place. This may comprise single scaffold boards over a compressible layer laid onto a geo-textile membrane for pedestrian movements. Vehicular movements over the root protection area will require the calculation of expected loading and the use of proprietary protection systems.
- 6.6 Confirmation that tree protective fencing or other barriers have been set out correctly should be gained prior to the commencement of site activity.

### **Tree Protection Barriers**

- 6.7 Tree protection fencing should be fit for the purpose of excluding any type of construction activity and suitable for the degree and proximity of works to retained trees. Barriers must be maintained to ensure that they remain rigid and complete for the duration of construction activities on site.
- 6.8 In most situations, fencing should comprise typical construction fencing panels attached to scaffold poles driven vertically into the ground. For particular areas where construction activity is anticipated to be of a more intense nature, supporting struts, acting as a brace should be added and fixed into position through the application of metal pins driven into the ground to offer additional resistance against impacts.
- 6.9 Where site circumstances and the risk to retained trees do not necessitate the default level of protection an alternative will be specified appropriate to the level / nature of anticipated construction activity. The recommended methods of fencing specifications for this site have been illustrated in Appendix B.
- 6.10 It may be appropriate on some sites to use temporary site offices, hoardings and lower level barrier protection as components of the tree protection barriers. Details of the specific protection barriers for the site can be provided should the application be approved, as part of a site specific Arboricultural Method Statement for a Reserved Matters application and in accordance with the guidance contained within BS5837.

### **Protection outside the exclusion zone**

- 6.11 Once the areas around trees have been protected by the barriers, any works on the remaining site area may be commenced providing activities do not impinge on protected areas.
- 6.12 All weather notices should be attached to the protective fencing to indicate that construction activities are not permitted within the fenced area. The area within the protective barriers will then remain a construction exclusion zone throughout the duration of the construction phase of the proposed development. Protection fencing signs can be provided upon request.
- 6.13 Wide or tall loads etc should not come into contact with retained trees. Banksman should supervise transit of vehicles where they are in close proximity to retained trees.

- 6.14 Oil, bitumen, cement or other material that is potentially injurious to trees should not be stacked or discharged within 10m of a tree stem. No concrete should be mixed within 10m of a tree. Allowance should be made for the slope of ground to prevent materials running towards the tree.
- 6.15 No fires will be lit where flames are anticipated to extend to within 5m of tree foliage, branches or trunk, taking into consideration wind direction and size of fire.
- 6.16 Notice boards, telephone cables or other services should not be attached to any part of a retained tree.
- 6.17 Any trees which need to be felled adjacent to or are present within a continuous canopy of retained trees, must be removed with due care (it may be necessary to remove such trees in sections).

#### **Protection of Trees Close to the Site**

- 6.18 A number of trees were located on the boundaries of the site and therefore the root protection area and crown spread of these trees will need to be protected in the same way as all the retained trees within the site. All trees located outside the boundaries of the assessment site yet within close proximity to works should be adequately protected during the course of the development by barriers or ground protection around the calculated root protection area.
- 6.19 Any trees which are to be retained and whose Root Protection Areas may be affected by the development should be monitored, during and after construction, to identify any alterations in quality with time and to assess and undertake any remedial works required as a result.

#### **Protection for Aerial Parts of Retained Trees**

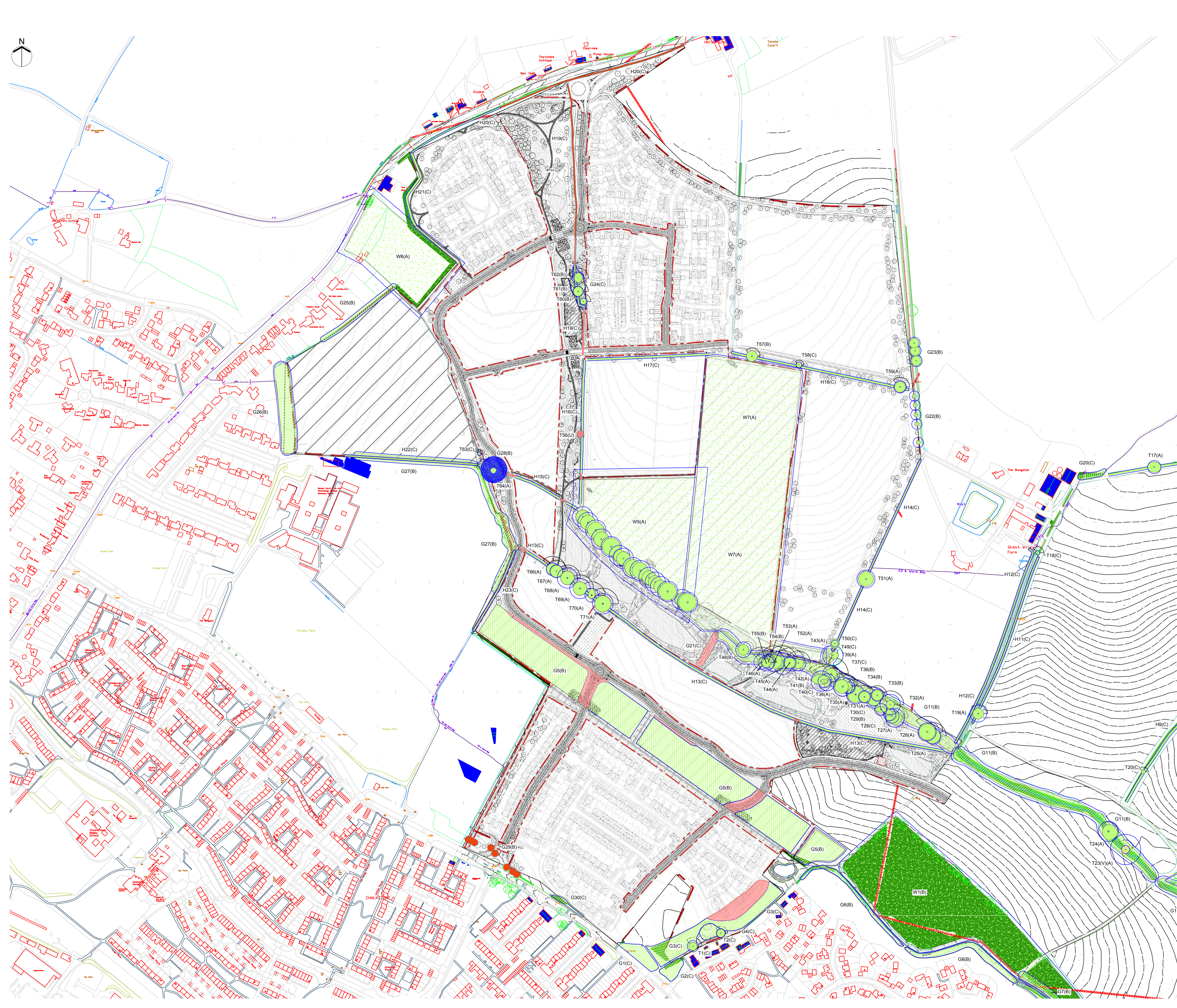
- 6.20 Where it is deemed necessary to operate wide or tall plant within close proximity to trees it is best advised that appropriate, but limited tree surgery, be carried out beforehand to remove any obstructive branches as any such equipment would have potential to cause damage to parts of the crown material, i.e. low branches and limbs, of retained trees within the protective barriers. This is termed as 'access facilitation pruning' within BS5837. Any such pruning should be undertaken in accordance with a specification prepared by an arboriculturalist.
- 6.21 A pre-commencement site meeting with contractors who are responsible for operating machinery is advised to firstly highlight the potential for damage occurring to tree crowns and to ensure that extra care is applied when manoeuvring machinery during such operations within close proximity to retained trees to avoid any contact.
- 6.22 In the event of having caused any branch or limb damage to retained trees it is strongly recommended that suitable tree surgery be carried out, in accordance with British Standard 3998:2010 and in agreement with the Local Planning Authority prior to correcting the damage, upon completion of development.



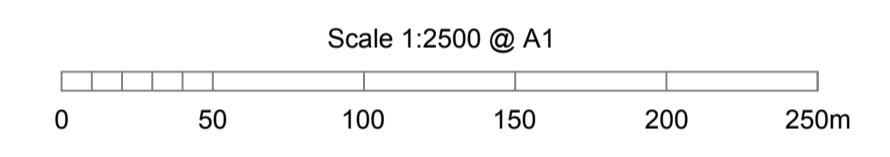
## 7.0 CONCLUSION

- 7.1 The proposals allow for the retention of the majority of the existing vegetation within the site whilst providing significant levels of enhancement through additional provision of green infrastructure incorporating new trees and hedgerows.
- 7.2 To facilitate the proposed development as per the above plans no significant tree losses will be required as the proposed built elements of the development are to be positioned within the existing field parcels which are largely devoid of tree cover due to their current agricultural use.
- 7.3 Tree and hedgerow losses are largely consistent with those highlighted and discussed as part of the arboricultural assessment (FPCR August 2015) provided in support of the outline planning application and as such, the arboricultural implications remain largely unchanged.
- 7.4 As part of the original arboricultural assessment (FPCR August 2015) produced in support of the outline planning application, T64 was categorised as a Category U. During the re-survey carried out in 2018 it was apparent that T64 had been fairly resilient and demonstrated good signs of vitality and successive growth with no significant decline in the structural integrity of the main stem since the last assessment, despite a more recent run of adverse weather including several storms. As such, T64 was reclassified to a category A(iii).
- 7.5 The result of this increased RPA measurement is that the alignment and position of the road layout now encroaches within the RPA of T64. At this stage, it is not considered feasible to amend the position of this road and as such, the level of impact shall need to be appropriately compensated.
- 7.6 It is recommended that an area of buffer planting is provided around as much of the RPA, which is to be undisturbed by construction, to provide an informal barrier limiting public access whilst aiding in the green infrastructure provision of the site.





- KEY**
-  Tree Group to be Retained
  -  Tree/Group to be removed to facilitate the proposals
  -  Category U - Unsuitable for retention on arboricultural grounds
  -  Tree and Hedgerow to be Removed to Facilitate Approved S278 Roundabout Junction and Adopted Shared Cycleway and Footpath
  -  Hedgerow Proposed to be Retained and Incorporated into the New Development
  -  Hedgerow Proposed to be Removed to Facilitate the Development upon Approval of the Application
  -  Root Protection Area (Shown for retained trees only)
  -  Veteran Tree Root Protection Area (in accordance with Ancient and Other Veteran Trees: Further Guidance on Management)
  -  T1 (A)  
G1 (A) Individual / Group Number and BS Category
  -  Indicative Shade Pattern (where appropriate)
  -  Veteran Tree Root Protection Area (in accordance with Ancient and Other Veteran Trees: Further Guidance on Management)



**NOTES**

All dimensions to be verified on site. Do not scale this drawing, use figured dimensions only. All discrepancies to be clarified with project Arboriculturalist. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule.

Drawing has been produced in colour and is based on digital information in .dwg format, aerial images and/or GPS location where appropriate. A monochrome copy should not be relied upon. The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified on site prior to any decisions for foundation design, tree operations or construction activity being undertaken. Further assessment may therefore be required where deemed necessary.

Trees are living organisms that change over time, the condition of all trees illustrated herein, are to be checked by the project Arboriculturalist should works commence 12 months after the date of this survey.

**SOME TREES MAY BE SUBJECT TO STATUTORY CONSTRAINTS. IT IS THEREFORE ADVISED THAT NO WORKS SHOULD BE UNDERTAKEN TO ANY TREES ILLUSTRATED HEREIN WITHOUT FIRST OBTAINING THE RELEVANT AUTHORISATION TO DO SO UNLESS AGREED AS PER THE APPROVED PLANS THROUGH PLANNING CONSENT.**

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**Great Wisley Park  
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### Appendix A - Tree Schedule

Measurements	Age Class	Overall Condition	Root Protection Area (RPA)
Height - Measured using a digital laser clinometer (m)	YNG: Young trees up to ten years of age	G - Good: Trees with only a few minor defects and in good overall health needing little, if any attention	<ul style="list-style-type: none"> <li>The RPA Radius column provides the extent of an equivalent circle from the centre of the stem (m).</li> <li>The RPA is calculated using the formulae described in paragraph 4.6.1 of British Standard 5837: 2012 and is indicative of the rooting area required for a tree to be successfully retained. Tree roots extend beyond the calculated RPA in many cases and where possible a greater distance should be protected.</li> <li>Where veteran trees have been identified the RPA has been calculated in accordance with Natural England guidance i.e. 15x the stem diameter, uncapped.</li> </ul>
Stem Dia. - Diameter measured (mm) in accordance with Annex C of the BS5837	SM: Semi-mature trees less than 1/3 life expectancy	F - Fair: Trees with minor rectifiable defects or in the early stages of stress from which it may recover	
Crown Radius - Measured using a digital laser clinometer radially from the main stem (m)	EM: Early mature trees 1/3 – 2/3 life expectancy	P - Poor: Trees with major structural and/or physiological defects such that it is unlikely the tree will recover in the long term	
Abbreviations est - Estimated stem diameter avg - Average stem diameter for multiple stems upto - Maximum stem diameter of a group	M: Mature trees over 2/3 life expectancy	D - Dead: This could also apply to trees in an advanced state of decline and unlikely to recover	
	OM: Over mature declining or moribund trees of low vigour	The BS category particular consideration has been given to the following <ul style="list-style-type: none"> <li>The health, vigour and condition of each tree</li> <li>The presence of any structural defects in each tree/group and its future life expectancy</li> <li>The size and form of each tree/group and its suitability within the context of a proposed development</li> <li>The location of each tree relative to existing site features e.g. its screening value or landscape features</li> <li>Age class and life expectancy</li> </ul>	
	V: Veteran tree possessing certain attributes relating to veteran trees		

Structural Condition
The following is an example of considerations when inspecting structural condition: <ul style="list-style-type: none"> <li>The presence of fungal fruiting bodies around the base of the tree or on the stem, as they could possibly indicate the presence of possible internal decay</li> <li>Soil cracks and any heaving of the soil around the base</li> <li>Any abrupt bends in branches and limbs resulting from past pruning</li> <li>Tight or weak 'V' shaped forks and co-dominant stems</li> <li>Hazard beam formations and other such biomechanical related defects (as described by Claus Mattheck, Body Language of Trees HMSO Research for Amenity Trees No. 4 1994)</li> <li>Cavities as a result of limb losses or past pruning</li> <li>Broken branches or storm damage</li> <li>Damage to roots</li> <li>Basal, stem or branch / limb cavities</li> <li>Crown die-back or abnormal foliage size and colour</li> </ul>

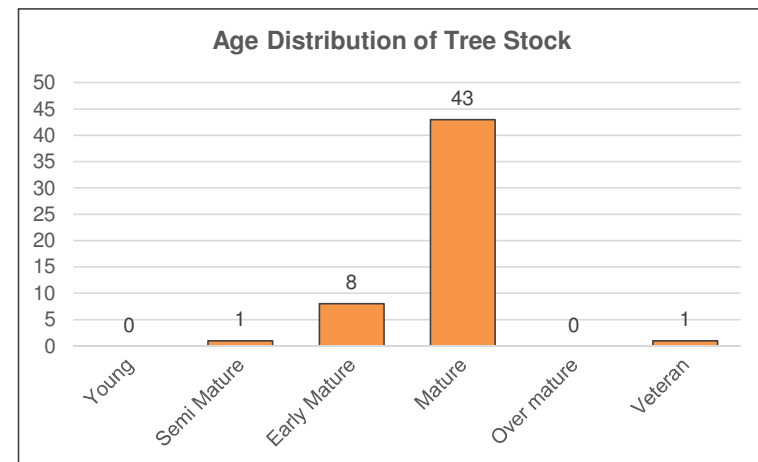
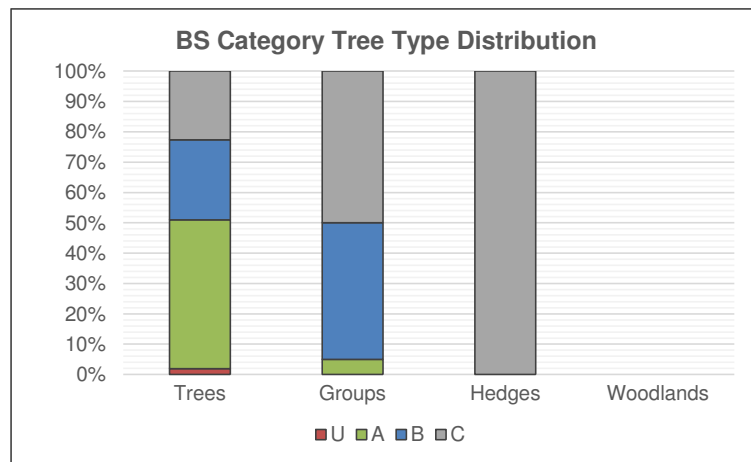
Quality Assessment of BS Category
Category U - Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.
Category A - Trees of high quality with an estimated remaining life expectancy of at least 40 years.
Category B - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
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 150mm.
Sub-categories: (i) - Mainly arboricultural value (ii) - Mainly landscape value (iii) - Mainly cultural or conservation value

### Appendix Summary

	Individual Trees	Totals	Tree Groups and Hedgerows	Totals
Category U	T56	1		0
Category A	T8, T16, T17, T19, T25, T27, T31, T32, T35, T38, T39, T42, T43, T44, T45, T46, T51, T52, T53, T59, T64, T66, T67, T69, T70, T71	26	G18, W3, W5, W7	4
Category B	T9, T29, T33, T34, T36, T41, T48, T54, T55, T57, T60, T61, T62, T68	14	G5, G11, G22, G23, G25, G26, G27, G28, G29, W6	10
Category C	T1, T2, T10, T18, T28, T30, T37, T40, T49, T50, T58, T63	12	G1, G2, G3, G4, G17, G19, G20, G21, G24, G30, H5, H6, H10, H11, H12, H13, H14, H15, H16, H17, H18, H19, H20, H21, H22, H23, H24	27
	Total	53	Total	41

**BS Category Tree Type Distribution** displays the proportion of trees assessed in each type to enable a better understanding of the category distribution.

**Age Distribution of Tree Stock** shows the number of trees in each age category across the tree stock allowing assessment of their longevity to be made.



Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
<b>INDIVIDUAL TREES</b>										
T1	Horse Chestnut Aesculus hippocastanum	13	700	6	M	F	Bark wounds noted Branch socket cavities observed Branch stubs and broken branches evident Included bark unions Minor dead wood evident in the crown Multi leaded form Pruning wounds noted Typical crown form "Cameraria ohridella Horse chestnut leaf miner" present	222	8.4	C (i)
T2	Horse Chestnut Aesculus hippocastanum	10	7x 210	6	M	F	Bark wounds noted Branch socket cavities observed Branch stubs and broken branches evident Coppiced form with Multiple stems from base Epicormic growth evident within the crown Included bark unions Minor dead wood evident in the crown "Cameraria ohridella Horse chestnut leaf miner" present	140	6.7	C (i)
T3-T7	Trees situated outside of Phase 1 area									
T8	English Oak Quercus robur	13	est 620	6	M	G	Broken branches evident Epicormic growth evident within the crown Even crown form Heartwood exposed Minor dead wood evident in the crown Storm damage present	174	7.4	A (i)
T9	English Oak Quercus robur	10	est 560	5	EM	F	Broken branches evident Dieback of the crown observed Epicormic growth evident within the crown Even crown form Heartwood exposed Minor dead wood evident in the crown Storm damage present	142	6.7	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T10	English Oak Quercus robur	4	est 250	N - 4 S - 0.5 E - 2 W - 2	SM	F	Bark wounds noted Broken branches evident Dieback of the crown observed Epicormic growth evident within the crown Heartwood exposed Minor dead wood evident in the crown Storm damage present Loss of crown to south	28	3.0	C (i)
T11-T15	Trees situated outside of Phase 1 area									
T16	English Oak Quercus robur	14.5	950	12	M	F	Branch stubs evident Heartwood exposed Minor and major dead wood evident in the crown No major defects were noted Storm damage present Woodpecker holes observed Exposed position Column of decay to branch on west at 3m	408	11.4	A (i)
T17	English Oak Quercus robur	14.5	est 820	N - 8 S - 10 E - 8 W - 10	M	F	Base obscured Branch stubs evident Dense ivy cover on main stem Epicormic growth evident within the crown Heartwood exposed Minor and major dead wood evident in the crown No major defects were noted Storm damage present Woodpecker holes observed Exposed position	304	9.8	A (i)
T18	Sycamore Acer pseudoplatanus	9	est 250	3	EM	F	Basal suckers present Base obscured Crossing and rubbing branches Dense ivy cover on main stem Dense undergrowth at the base	28	3.0	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T19	English Oak Quercus robur	14	est 1030	8	M	F	Base obscured Branch stubs and broken branches evident Dieback of the crown observed Epicormic growth evident within the crown minor and major dead wood evident in the crown Tractor mounted flail damage evident	480	12.4	A (i)
T20-T24	Trees situated outside of Phase 1 area									
T25	English Oak Quercus robur	20	1000	11	M	G	Branch socket cavities observed Branch stubs and broken branches evident Epicormic growth evident within the crown Light ivy cover on main stem Low crown form Minor and major dead wood evident in the crown No major defects were noted Typical crown form	452	12.0	A (i)
T27	English Oak Quercus robur	19	1160	10	M	G	Branch socket cavities observed Branch stubs and broken branches evident Epicormic growth evident within the crown Heartwood exposed Light ivy cover on main stem Low crown form Minor and major dead wood evident in the crown No major defects were noted Typical crown form Woodpecker holes observed	609	13.9	A (i)
T28	English Oak Quercus robur	19	870	N - 6 S - 6 E - 8 W - 10	M	F	Branch socket cavities observed Branch stubs and broken branches evident Dense ivy cover on main stem Dieback of the crown observed Epicormic growth evident within the crown Heartwood exposed Low crown form Minor and major dead wood evident in the crown Fungal brackets to base east and west "Daedalea quercina Maze gill"	342	10.4	C (i)



Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T29	English Oak Quercus robur	9	760	N - 7 S - 2 E - 5 W - 7	M	F	Branch socket cavities observed Branch stubs and broken branches evident Crossing and rubbing branches Dense ivy cover on main stem Dieback of the crown observed Epicormic growth evident within the crown Heartwood exposed Low crown form Minor dead wood evident in the crown Lost top at 5m Stream under cutting base to east	261	9.1	B (i)
T30	English Oak Quercus robur	14	750	N - 4 S - 4 E - 8 W - 8	M	P	Branch stubs and broken branches evident Epicormic growth evident within the crown Heartwood exposed Low crown form Minor and major dead wood evident in the crown Loss of main leader to north at 2m Column of decay on remaining leaders	254	9.0	C (i)
T31	English Oak Quercus robur	18	820	10	M	F	Branch stubs and broken branches evident Epicormic growth evident within the crown Heartwood exposed Light ivy cover on main stem Low crown form Minor and major dead wood evident in the crown No major defects were noted Stream cutting away bank to east	304	9.8	A (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T32	English Oak Quercus robur	20	1250	6	M	F	<p>Branch stubs and broken branches evident Dieback of the crown observed Epicormic growth evident within the crown Heartwood exposed Light ivy cover on main stem Low crown form Minor and major dead wood evident in the crown No major defects were noted Storm damage present Woodpecker holes observed Twin stemmed from 3m with swelling around area of lost of leader</p>	707	15.0	A (i)
T33	Ash Fraxinus excelsior	14	est 750	8	M	F	<p>Base obscured Branch stubs and broken branches evident Dense ivy cover on main stem Heartwood exposed Light ivy cover on main stem Low crown form Minor and major dead wood evident in the crown No major defects were noted Inonotus hispidus, Shaggy bracket on floor Twin stemmed from 2m Exposed buttress roots</p>	254	9.0	B (i)
T34	English Oak Quercus robur	17	750	8	M	F	<p>Branch stubs and broken branches evident Heartwood exposed Light ivy cover on main stem Minor and major dead wood evident in the crown Storm damage present</p>	254	9.0	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T35	English Oak Quercus robur	22	1150	12	M	F	Branch socket cavities observed Branch stubs and broken branches evident Dense ivy cover on main stem Epicormic growth evident within the crown Heartwood exposed Minor and major dead wood evident in the crown Storm damage present Typical crown form	598	13.8	A (i)
T36	English Oak Quercus robur	12	700	N - 3 S - 4 E - 7 W - 7	M	F	Branch socket cavities observed Branch stubs and broken branches evident Dense ivy cover on main stem Dieback of the crown observed Epicormic growth evident within the crown Heartwood exposed Minor and major dead wood evident in the crown Storm damage present Typical crown form Twin stemmed from 3m	222	8.4	B (i)
T37	English Oak Quercus robur	16	950	6	M	F	Basal cavity observed Branch socket cavities observed Branch stubs and broken branches evident Dense ivy cover on main stem Heartwood exposed Minor and major dead wood evident in the crown Storm damage present Significant exposed heartwood to west from ground level to 4m from loss of leader Loss of structural roots to west	408	11.4	C (i)
T38	English Oak Quercus robur	20	1170	N - 10 S - 10 E - 8 W - 13	M	G	Branch socket cavities observed Branch stubs evident Low crown form Minor and major dead wood evident in the crown No major defects were noted Storm damage present Typical crown form	619	14.0	A (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T39	English Oak Quercus robur	25	1050	N - 8 S - 8 E - 8 W - 10	M	G	Branch socket cavities observed Branch stubs evident Light ivy cover on main stem Low crown form Minor and major dead wood evident in the crown No major defects were noted Storm damage present Typical crown form	499	12.6	A (i)
T40	English Oak Quercus robur	25	1040	N - 4 S - 8 E - 5 W - 5	M	P	Branch socket cavities observed Branch stubs evident Dieback of the crown observed Light ivy cover on main stem Low crown form Minor and major dead wood evident in the crown Storm damage present Woodpecker holes observed Large pruning wounds to the west at 6 and 10m Large failed limb from adjacent tree to west	489	12.5	C (i)
T41	English Oak Quercus robur	22	770	N - 3 S - 3 E - 5 W - 5	M	F	Branch socket cavities observed Branch stubs evident Dieback of the crown observed Light ivy cover on main stem Low crown form Minor and major dead wood evident in the crown Storm damage present Suppressed crown form Woodpecker holes observed Loss of leader at 10m	268	9.2	B (i)
T42	English Oak Quercus robur	25	1370	N - 10 S - 5 E - 10 W - 14	M	F	Branch socket cavities observed Branch stubs evident Dieback of the crown observed Lateral lever arm observed Light ivy cover on main stem Low crown form Minor and major dead wood evident in the crown Storm damage present Suppressed crown form Woodpecker holes observed Two lateral limbs to west	707	Capped at 15m	A (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T43	English Oak Quercus robur	18	930	8	M	F	Branch socket cavities observed Branch stubs evident Dense ivy cover on main stem Lateral lever arm observed Low crown form Minor and major dead wood evident in the crown Storm damage present Suppressed crown form Woodpecker holes observed Loss of limb at 10m to west	391	11.2	A (i)
T44	English Oak Quercus robur	22	1100	N - 8 S - 8 E - 5 W - 10	M	F	Branch socket cavities observed Branch stubs evident Epicormic growth evident within the crown Minor and major dead wood evident in the crown Storm damage present	547	13.2	A (i)
T45	English Oak Quercus robur	22	1000	8	M	F	Branch stubs evident Epicormic growth evident within the crown Minor and major dead wood evident in the crown Storm damage present Twin stemmed at 5m	452	12.0	A (i)
T46	English Oak Quercus robur	22	890	6	M	F	Branch socket cavities observed Branch stubs evident Epicormic growth evident within the crown Minor and major dead wood evident in the crown Storm damage present	358	10.7	A (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T47							Tree no longer present			
T48	English Oak Quercus robur	20	est 950	8	M	F	Branch socket cavities observed Branch stubs and broken branches evident Dieback of the crown observed Epicormic growth evident within the crown Minor and major dead wood evident in the crown Pruning wounds noted Storm damage present	408	11.4	B (i)
T49	Crack Willow Salix fragilis	15	est 1330	N - 6 S - 5 E - 8 W - 2	M	F	Broken branches evident Crossing and rubbing branches Dense undergrowth at the base Included bark unions Light ivy cover on main stem Low crown form Minor dead wood evident in the crown Multi leadered form Major failed limb to east Hanging dead wood	707	Capped at 15m	C (i)
T50	Ash Fraxinus excelsior	11	est 330 170 210	7	EM	F	Branch stubs and broken branches evident Coppiced form with Multiple stems from base Crossing and rubbing branches Low crown form Minor dead wood evident in the crown <i>Pseudomonas syringae fraxini</i> Bacterial Ash Canker present	82	5.1	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T51	English Oak Quercus robur	21	est 1100	11	M	F	Branch stubs and broken branches evident Dense ivy cover on main stem Minor dead wood evident in the crown Multi leadered form No major defects were noted Typical crown form	547	13.2	A (i)
T52	English Oak Quercus robur	22	780	8	M	F	Branch socket cavities observed Branch stubs and broken branches evident Epicormic growth evident within the crown Minor and major dead wood evident in the crown Storm damage present Twin stemmed from base Woodpecker holes observed Twin leaders at 8m	275	9.4	A (i)
T53	English Oak Quercus robur	23	1340	11	M	F	Branch socket cavities observed Branch stubs and broken branches evident Prolific epicormic growth evident within the crown Minor and major dead wood evident in the crown Storm damage present Woodpecker holes observed Loss of leader at 2m to the west	707	Capped at 15m	A (i)
T54	English Oak Quercus robur	12	830	N - 5 S - 4 E - 6 W - 3	M	F	Branch socket cavities observed Branch stubs and broken branches evident Prolific epicormic growth evident within the crown Minor and major dead wood evident in the crown Storm damage present Suppressed crown form Woodpecker holes observed	312	10.0	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T55	English Oak Quercus robur	18	930	6	M	F	Branch socket cavities observed Branch stubs and broken branches evident Epicormic growth evident within the crown Minor and major dead wood evident in the crown Storm damage present Woodpecker holes observed Loss of leader at 3m with exposed heartwood	391	11.2	B (i)
T56	Ash Fraxinus excelsior	12	est 700	5	M	P	Dense ivy cover on main stem Dense undergrowth at the base Dieback of the crown observed Limited future potential Minor and major dead wood evident in the crown Specimen in extensive decline	N/A	N/A	U
T57	English Oak Quercus robur	12	est 590	8	EM	F	Dieback of the crown observed Minor dead wood evident in the crown	157	7.1	B (i)



Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T58	Goat Willow Salix caprea	7	est 6x 150	4	EM	F	Crossing and rubbing branches Multi stemmed from base Tractor mounted flail damage evident	61	4.4	C (i)
T59	English Oak Quercus robur	14	est 760	8	EM	F	Minor and major dead wood evident in the crown Pruning wounds noted Tractor mounted flail damage evident	261	9.1	A (i)
T60	Ash Fraxinus excelsior	11	est 400	5	EM	F	Bark wounds noted Minor dead wood evident in the crown No major defects were noted Tractor mounted flail damage evident	72	4.8	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T61	Ash Fraxinus excelsior	15	est 630	7	M	F	Bark wounds noted Branch socket cavities observed Branch stubs and broken branches evident Minor and major dead wood evident in the crown Tractor mounted flail damage evident Open wound at 8m Pseudomonas syringae fraxini Bacterial Ash Canker present	180	7.6	B (i)
T62	English Oak Quercus robur	15	750	N - 8 S - 6 E - 6 W - 6	M	F	Bark wounds noted Branch socket cavities observed Branch stubs and broken branches evident Minor and major dead wood evident in the crown No major defects were noted Tractor mounted flail damage evident	254	9.0	B (i)
T63	Hawthorn Crataegus monogyna	6	est 250	2	EM	F	Bark wounds noted Minor dead wood evident in the crown No major defects were noted Tractor mounted flail damage evident	28	3.0	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T64	English Oak Quercus robur	6	1285	N - 1 S - 5 E - 2 W - 4	V	P	Basal cavity observed Delaminating bark on main stem Prolific epicormic growth evident within the crown Heartwood exposed Limited future potential Minor dead wood evident in the crown Specimen in extensive decline Vandalism present and fire damaged Extensive internal hollowing Supported by fallen timber	1167	19.3	A (iii)
T65	Tree no longer present									
T66	English Oak Quercus robur	19	est 780	9	M	F	Branch socket cavities observed Branch stubs and broken branches evident Dense ivy cover on main stem Minor and major dead wood evident in the crown Typical crown form	275	9.4	A (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T67	English Oak Quercus robur	16	est 790	9	M	F	Branch socket cavities observed Branch stubs and broken branches evident Dense ivy cover on main stem Epicormic growth evident within the crown Minor and Major dead wood evident in the crown Typical crown form	282	9.5	A (i)
T68	English Oak Quercus robur	19	est 1260	10	M	F	Branch socket cavities observed Branch stubs and broken branches evident Dense ivy cover on main stem Epicormic growth evident within the crown Heartwood exposed Minor and major dead wood evident in the crown Pruning wounds noted Typical crown form Woodpecker holes observed Fire damage to west with hollowing to base	707	Capped at 15m	B (i)
T69	English Oak Quercus robur	20	1430	10	M	F	Branch socket cavities observed Branch stubs and broken branches evident Dense ivy cover on main stem Epicormic growth evident within the crown Heartwood exposed Minor and major dead wood evident in the crown Pruning wounds noted Typical crown form Woodpecker holes observed Lost lateral at 2m to south	707	Capped at 15m	A (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T70	English Oak Quercus robur	20	830	N - 11 S - 4 E - 5 W - 5	M	F	Branch socket cavities observed Branch stubs and broken branches evident Dense ivy cover on main stem Epicormic growth evident within the crown Heartwood exposed Minor and major dead wood evident in the crown Pruning wounds noted Typical crown form Woodpecker holes observed Loss of limb to east at 10m Large limbs removed	312	10.0	A (i)
T71	English Oak Quercus robur	23	1540	12	M	F	Branch socket cavities observed Branch stubs and broken branches evident Dense ivy cover on main stem Epicormic growth evident within the crown Heartwood exposed Minor and major dead wood evident in the crown Pruning wounds noted Storm damage present Typical crown form Woodpecker holes observed Large limbs removed Open form Wooden debris within crown	707	Capped at 15m	A (i)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
<b>GROUPS OF TREES</b>										
G1	Ash Fraxinus excelsior Blackthorn Prunus spinosa Field Maple Acer campestre Goat Willow Salix caprea Hawthorn Crataegus monogyna Goat Willow Salix caprea	8	upto 200	2.5	SM,M	F	Branch stubs and broken branches evident Crossing and rubbing branches Dense ivy cover on main stems and dense undergrowth Low interlocking crowns Sporadic self-seeded group of trees	18	2.4	C (ii)
G2	Hawthorn Crataegus monogyna English Elm Ulmus procera	10	upto 180	2.5	SM,EM	F	Branch stubs and broken branches evident Crossing and rubbing branches Dead elms noted Dense ivy cover on main stems and Dense undergrowth Low interlocking crowns Sporadic self-seeded group of trees Mostly Elm	15	2.2	C (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G3	<p>Austrian Pine Pinus nigra ssp. Nigra Scots Pine Pinus sylvestris Ash Fraxinus excelsior Blackthorn Prunus spinosa Common Lime Tilia x europaea English Oak Quercus robur Field Maple Acer campestre Goat Willow Salix caprea Hawthorn Crataegus monogyna Horse Chestnut Aesculus hippocastanum Wild Cherry Prunus avium Alder Alnus glutinosa Goat Willow Salix caprea Hazel Corylus avellana Hornbeam Carpinus betulus</p>	4	upto 80	1	Yng,SM	F	<p>Multi stemmed from base No major defects were noted Single stem forms New buffer planting as conservation area "Hymenoscyphus fraxinus Chalara Ash dieback" present</p>	3	1.0	C (ii)
G4	<p>Blackthorn Prunus spinosa English Oak Quercus robur Hawthorn Crataegus monogyna</p>	10	upto 190	2.5	SM,M	P,F	<p>Bark wounds noted Branch stubs and broken branches evident Crossing and rubbing branches Low crown forms Minor dead wood evident in the crowns Vandalism in centre Lack of understory</p>	16	2.3	C (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G5	Austrian Pine Pinus nigra ssp. Nigra Scots Pine Pinus sylvestris Ash Fraxinus excelsior English Oak Quercus robur Field Maple Acer campestre Goat Willow Salix caprea Hawthorn Crataegus monogyna Silver Birch Betula pendula Wild Cherry Prunus avium Alder Alnus glutinosa Apple Malus domestica Goat Willow Salix caprea Holly Ilex aquifolium Hornbeam Carpinus betulus Sweet Chestnut Castanea sativa Dogwood Cornus sanguinea	7	upto 150	4	Yng,SM	G	No major defects were noted Multi and single stem forms Well established buffer planting as conservation area "Hymenoscyphus fraxinus Chalara Ash dieback" present	10	1.8	B (ii)
G6-10	Trees situated outside of Phase 1 area									



Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G11	Blackthorn Prunus spinosa Crack Willow Salix fragilis Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus Alder Alnus glutinosa English Elm Ulmus procera Dogwood Cornus sanguinea	14	upto 680	5	EM,M	F,G	Bark wounds noted Branch socket cavities observed Branch stubs and broken branches evident Crossing and rubbing branches Dead elms noted Dense undergrowth at the base Minor dead wood evident in the crown Tractor mounted flail damage evident Tree group adjacent to watercourse	209	8.2	B (ii)
G12-16	Trees situated outside of Phase 1 area									
G17	Blackthorn Prunus spinosa English Elm Ulmus procera	7	upto 150	2	EM	F	Crossing and rubbing branches Dead elms noted Dense ivy cover on main stems and dense undergrowth Tractor mounted flail damage evident	10	1.8	C (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G18	English Oak Quercus robur Crab Apple Malus sylvestris	14	upto 820	7	EM,M	F,G	Branch stubs and broken branches evident Dense ivy cover on main stems and dense undergrowth Interlocking crowns Minor and major dead wood evident in the crown Typical crown form Collective crown form	304	9.8	A (i)
G19	Blackthorn Prunus spinosa Field Maple Acer campestre English Elm Ulmus procera	8	upto 120	2	SM,EM	F	Crossing and rubbing branches Dense undergrowth at the base Interlocking crowns Tractor mounted flail damage evident	7	1.4	C (ii)
G20	Blackthorn Prunus spinosa English Oak Quercus robur Field Maple Acer campestre English Elm Ulmus procera	8	upto 150	2	SM,EM	F	Crossing and rubbing branches Dense undergrowth at the base Interlocking crowns Tractor mounted flail damage evident Outgrown hedgerow	10	1.8	C (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G21	Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna English Elm Ulmus procera	8	upto 180	3	EM	F	Crossing and rubbing branches Dense ivy cover on main stems with dense undergrowth Low interlocking crowns Un-maintained hedgerow	15	2.2	C (ii)
G22	Common Lime Tilia x europaea	8	upto 630	3	EM	F	Basal suckers present Branch socket cavities observed Branch stubs and broken branches evident Crossing and rubbing branches Crowns had been pollarded Epicormic growth evident within the crown Minor dead wood evident in the crown Pruning wounds noted 5 in group	180	7.6	B (i)
G23	English Oak Quercus robur	12	upto 720	7	EM	F	Bark wounds noted Branch socket cavities observed Branch stubs and broken branches evident Crossing and rubbing branches Dense ivy cover on main stems Epicormic growth evident within the crowns Minor dead wood evident in the crowns Overhead cables, Pruning wounds noted Tractor mounted flail damage evident 3 in group	235	8.6	B (i)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G24	Ash Fraxinus excelsior Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna	8	upto 300	4	EM	F	Branch stubs and broken branches evident Crossing and rubbing branches Dense undergrowth at the base Interlocking crowns Minor dead wood evident in the crowns Understory group	41	3.6	C (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G25	Common Larch Larix decidua Yew Taxus baccata Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Field Maple Acer campestre Goat Willow Salix caprea Horse Chestnut Aesculus hippocastanum Silver Birch Betula pendula English Elm Ulmus procera Goat Willow Salix caprea Hazel Corylus avellana Lombardy Poplar Populus nigra 'Italica Dogwood Cornus sanguinea	20	upto 350	4	EM,M	G	Branch stubs and broken branches evident Crossing and rubbing branches Dead elms noted Dense ivy cover on main stems and dense undergrowth Dieback of the crowns observed Etiolated forms Low interlocking crowns Minor and major dead wood evident in the crown Suppressed crown forms Boundary group	55	4.2	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G26	Ash Fraxinus excelsior English Oak Quercus robur Goat Willow Salix caprea Horse Chestnut Aesculus hippocastanum Silver Birch Betula pendula Goat Willow Salix caprea Hornbeam Carpinus betulus	15	upto 550	5	EM,M	G	Crossing and rubbing branches Dieback of the crowns observed Etiolated forms Included bark unions Low interlocking crowns Minor dead wood evident in the crowns Situated offsite Suppressed crown forms Boundary group 5 m off-site " <i>Cameraria ohridella</i> Horse chestnut leaf miner" present	137	6.6	B (ii)
G27	Ash Fraxinus excelsior Common Lime Tilia x europaea English Oak Quercus robur Field Maple Acer campestre Horse Chestnut Aesculus hippocastanum Wild Cherry Prunus avium White Poplar Populus alba	9	upto 500	6	EM	G	Crossing and rubbing branches Dieback of the crowns observed Included bark unions Low interlocking crowns Minor dead wood evident in the crowns Situated offsite Boundary group situated within school " <i>Cameraria ohridella</i> Horse chestnut leaf miner" present	113	6.0	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G28	Blackthorn Prunus spinosa Field Maple Acer campestre Horse Chestnut Aesculus hippocastanum	15	upto 750	7	EM,M	G	Bark wounds noted Branch stubs and broken branches evident Crossing and rubbing branches Included bark unions Low interlocking crowns Minor and major dead wood evident in the crowns Understory group with large horse chestnuts vandalism present " <i>Cameraria ohridella</i> Horse chestnut leaf miner"	254	9.0	B (ii)
G29	English Elm Ulmus procera Raywood Ash Fraxinus angustifolia	11	upto 300	5	EM	G	Bark wounds noted Crossing and rubbing branches Low crown forms Minor dead wood evident in the crowns Situated offsite Roadside tree group with smaller newly planted trees	41	3.6	B (ii)
G30	Apple Malus domestica Blackthorn Prunus spinosa Ash Fraxinus excelsior Hawthorn Crataegus monogyna	8	upto 200	4	EM	F	Crossing and rubbing branches Low crown forms Out grown boundary group	18	2.4	C (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
<b>HEDGEROWS</b>										
H1-4	Trees situated outside of Phase 1 area									
H5	English Elm Ulmus procera Blackthorn Prunus spinosa Field Maple Acer campestre Hawthorn Crataegus monogyna Dogwood Cornus sanguinea	1.5	est 6x 60	1	M	F	Maintained hedgerow Tractor mounted flail damage evident	10	1.8	C (ii)
H6	English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna English Elm Ulmus procera	1.5	est 6x 60	0.5	Yng	F	Maintained hedgerow Tractor mounted flail damage evident Newly planted	10	1.8	C (ii)
H7-9	Trees situated outside of Phase 1 area									



Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H10	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Field Maple Acer campestre Crab Apple Malus sylvestris Hazel Corylus avellana Dogwood Cornus sanguinea	1.5	est 170	1	EM	F	Maintained hedgerow Tractor mounted flail damage evident Standard trees in hedge	13	2.0	C (ii)
H11	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Field Maple Acer campestre Hazel Corylus avellana Dogwood Cornus sanguinea	1.5	est 6x 60	1	EM	F	Maintained hedgerow Tractor mounted flail damage evident Patchy in places	10	1.8	C (ii)
H12	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Field Maple Acer campestre Hazel Corylus avellana Dogwood Cornus sanguinea	1.5	est 170	1	EM	F	Maintained hedgerow Tractor mounted flail damage evident Patchy in places	13	2.0	C (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H13	Blackthorn Prunus spinosa Elder Sambucus nigra Field Maple Acer campestre Hazel Corylus avellana Dogwood Cornus sanguinea	1.5	est 6x 60	1	EM	F	Maintained hedgerow Tractor mounted flail damage evident Patchy in places	10	1.8	C (ii)
H14	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hazel Corylus avellana Dogwood Cornus sanguinea	2	est 6x 60	1	EM	F	Maintained hedgerow Tractor mounted flail damage evident	10	1.8	C (ii)
H15	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hazel Corylus avellana Dogwood Cornus sanguinea	2	est 6x 60	1	EM	F	Maintained hedgerow Tractor mounted flail damage evident	10	1.8	C (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H16	Ash Fraxinus excelsior Elder Sambucus nigra Hawthorn Crataegus monogyna English Elm Ulmus procera	1	est 6x 60	1	EM	F	Gaps present in hedgerow Maintained hedgerow Tractor mounted flail damage evident	10	1.8	C (ii)
H17	Ash Fraxinus excelsior Elder Sambucus nigra Hawthorn Crataegus monogyna English Elm Ulmus procera Dogwood Cornus sanguinea	1	est 6x 60	1	SM	F	Gaps present in hedgerow Maintained hedgerow Tractor mounted flail damage evident	10	1.8	C (ii)
H18	Ash Fraxinus excelsior Elder Sambucus nigra Hawthorn Crataegus monogyna English Elm Ulmus procera Dogwood Cornus sanguinea	1	est 6x 60	1	EM	F	Gaps present in hedgerow Maintained hedgerow Tractor mounted flail damage evident	10	1.8	C (ii)
H19	Hawthorn Crataegus monogyna Field Maple Acer campestre	1	est 6x 60	1	EM	F	Gaps present in hedgerow Maintained hedgerow Tractor mounted flail damage evident	10	1.8	C (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H20	Ash Fraxinus excelsior Field Maple Acer campestre Hawthorn Crataegus monogyna Hazel Corylus avellana Dogwood Cornus sanguinea	2.5	est 6x 40	1	Yng,SM	F	Gaps present in hedgerow Maintained hedgerow Newly planted Guards still attached Standard trees within hedgerow	4	1.2	C (ii)
H21	Blackthorn Prunus spinosa Dogwood Cornus sanguinea	3	est 6x 60	1.5	EM	F	Gaps present in hedgerow Un-maintained hedgerow	10	1.8	C (ii)
H22	Blackthorn Prunus spinosa Field Maple Acer campestre Hawthorn Crataegus monogyna Dogwood Cornus sanguinea	1.5	est 6x 60	1	EM	F	Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)
H23	Blackthorn Prunus spinosa Field Maple Acer campestre Hawthorn Crataegus monogyna English Elm Ulmus procera Dogwood Cornus sanguinea	2.5	est 6x 60	1	EM	F	Gaps present in hedgerow Un-maintained hedgerow	10	1.8	C (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H24	English Elm Ulmus procera Blackthorn Prunus spinosa Field Maple Acer campestre Hawthorn Crataegus monogyna Dogwood Cornus sanguinea	1.5	est 6x 60	1	EM	F	Gaps present in hedgerow Maintained hedgerow Tractor mounted flail damage evident	10	1.8	C (ii)

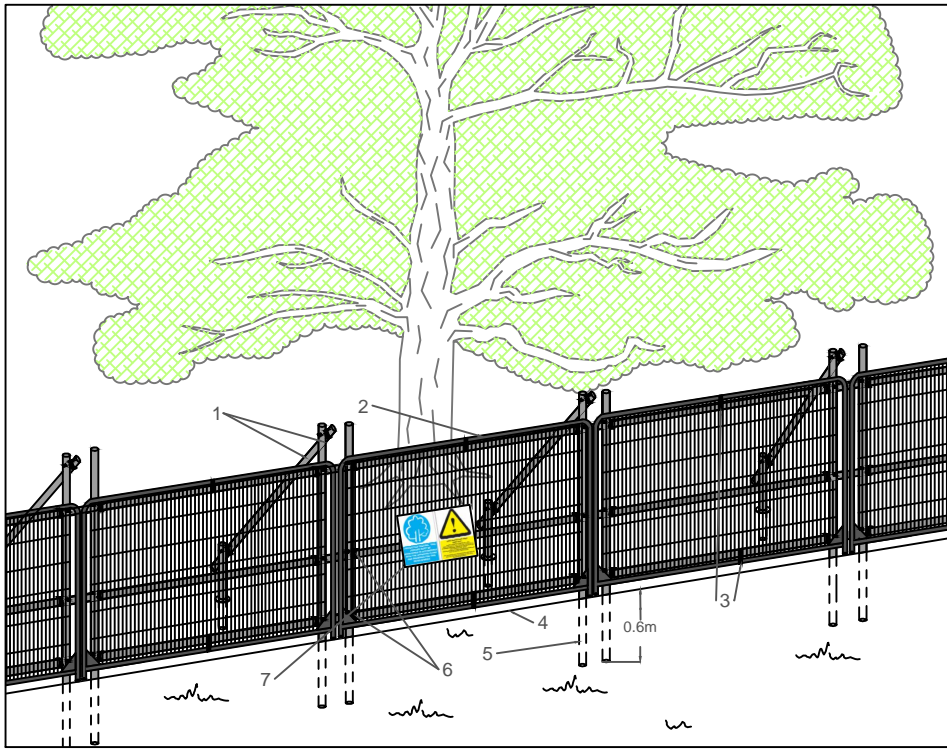
Wood No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
<b>WOODLANDS</b>										
W1-2	Trees situated outside of Phase 1 area									
W3	Austrian Pine Pinus nigra ssp. Nigra Scots Pine Pinus sylvestris Ash Fraxinus excelsior Blackthorn Prunus spinosa English Oak Quercus robur Hawthorn Crataegus monogyna English Elm Ulmus procera Dogwood Cornus sanguinea	14	upto 700	7	EM,M	G	Branch stubs and broken branches evident Crossing and rubbing branches Dead elms noted Dense ivy cover on main stems with dense undergrowth Etiolated forms Low interlocking crowns Minor and major dead wood evident in the crowns Typical woodland form Woodpecker holes observed	222	8.4	A (ii)
W4	Trees situated outside of Phase 1 area									

Wood No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
W5	<p>Austrian Pine Pinus nigra ssp. Nigra Common Larch Larix decidua Grand Fir Abies grandis Norway Spruce Picea abies Scots Pine Pinus sylvestris Beech Fagus sylvatica Elder Sambucus nigra Sycamore Acer pseudoplatanus English Elm Ulmus procera Hazel Corylus avellana Holly Ilex aquifolium Hornbeam Carpinus betulus</p>	25	upto 1480	12	EM,M	G	<p>Branch stubs and broken branches evident Crossing and rubbing branches Dense ivy cover on main stems with dense undergrowth Dieback of the crown observed Etiolated forms Low interlocking crowns Minor and major dead wood evident in the crowns Storm damage present Typical woodlans forms Woodpecker holes observed Large oaks on woodland edge Fungi present</p>	707	Capped at 15m	A (i), A(ii), A(iii)

Wood No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
W6	Ash Fraxinus excelsior Blackthorn Prunus spinosa Field Maple Acer campestre Goat Willow Salix caprea English Elm Ulmus procera Goat Willow Salix caprea Hazel Corylus avellana Dogwood Cornus sanguinea	23	upto 650	6	EM,M	G	Branch stubs and broken branches evident Crossing and rubbing branches Dead elms noted Dense ivy cover on main stems with dense undergrowth Dieback of the crowns observed Etiolated forms Low interlocking crowns Minor and major dead wood evident in the crowns Storm damage present Typical woodland forms Woodpecker holes observed	191	7.8	B (ii)



Wood No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
W7	<p>Austrian Pine Pinus nigra ssp. Nigra Common Larch Larix decidua Grand Fir Abies grandis Norway Spruce Picea abies Scots Pine Pinus sylvestris Beech Fagus sylvatica Elder Sambucus nigra Sycamore Acer pseudoplatanus English Elm Ulmus procera Hazel Corylus avellana Holly Ilex aquifolium Hornbeam Carpinus betulus</p>	22	upto 700	6	EM,M	G	<p>Branch stubs and broken branches evident Crossing and rubbing branches Dense ivy cover on main stems with dense undergrowth Dieback of the crown observed Etiolated forms Low interlocking crowns Minor and major dead wood evident in the crowns Storm damage present Typical woodlans forms Woodpecker holes observed</p>	222	8.4	A (ii)



### Standard specification for protective barrier

1. Standard scaffold poles
2. Heavy gauge 2m tall galvanized tube and welded mesh infill panels
3. Panels secured to scaffold frame with wire ties
4. Ground level
5. Uprights driven into the ground until secure (min depth of 0.6m)
6. Standard scaffold clamps
7. Construction Exclusion Zone signs



### Above ground stabilising systems

1. Stabiliser strut with base plate secured with ground pins
2. Feet blocks secured with ground pins
3. Construction Exclusion Zone signs

### NOTES

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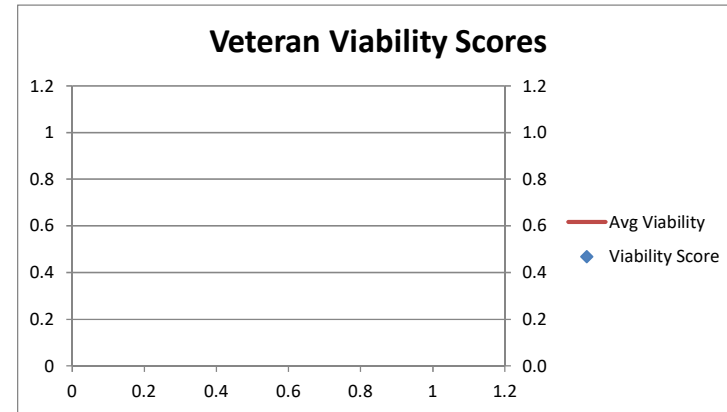
## APPENDIX B PROTECTIVE FENCING SPECIFICATIONS

CAD file: S:\Arb resources\Basic Templates\Tree Protection\Appendix B - Protective Fencing A4.dwg

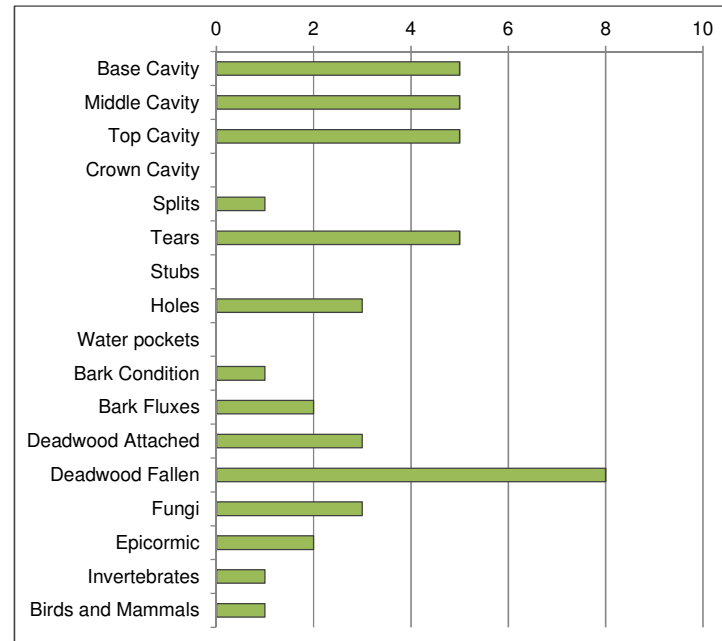
## Appendix C - Veteran Tree Schedule

### Veteran Survey Details

Veteran Tree Classifications	Age Class	Defining features
Ancient Veteran	Ancient	Trees which display hollowing and present a qualifying stem diameter for its species and possess 4 or more veteran features.
Veteran	Mature to Over-Mature	Trees which display hollowing and present a qualifying stem diameter for its species and possess 3 or less veteran features.
Transitional Veterans	Early-mature to Mature	Trees which do not display hollowing yet possess more than the minimum required stem diameter for their species and that show 4 or more veteran features.



Species	True Ancient Veteran Stem Diameter	Minimum Required Stem Diameter
Birch species, Hawthorn	60cm	50cm
Field maple, Rowan, Grey and Goat willow, Hornbeam, Cherry, Alder	75cm	60cm
Oak species, Ash, Scots pine	100cm	80cm
Lime species, Sycamore, Horse chestnut, Poplar species, other Pine species, Beech, Sweet chestnut, White and Crack willows	150cm	120cm



Tree No	Species	Height	Crown	Stem Dia	Form	Stem position	Live Growth	Crown loss	Epicormic	Fungi Species	Epiphytes	Associated Wildlife	Past Management	Shade	Causes of Damage	Additional Notes
AV64	English Oak, Quercus robur	8	N - 1 S - 5 E - 2 W - 4	1285	NP	More or less upright	Live residual canopy	Remnant crown	Established stems,Strong, S,C		Moss, lichen	5, 1	None	Light shade	Vandalism,Fire damage	

## Appendix C

### Veteran Tree Management Schedule

Viability Score	Viability Assessment Definitions
1 – 5	Low viability: these trees are of an imminent risk of progressive and rapid decline, increased structural instability and/or eventual death.
6 – 10	Moderate viability: their risk of failure or decline within the next 5-10 years is considered likely to be remediable with appropriately specified management.
11 – 15	High viability: their risk of failure over the next ten to twenty years is unlikely and therefore is not at as greater risk to failure or decline as the lower grades of viability.

Priority	Management Priority Definitions
2 to 4 Years	Trees whose conditions are not considered to be in poor condition but may include the presence of remediable defects.
12 - 24 Months	Trees that would require additional remedial action due to their position and potential defects that may affect their structural integrity.
6 Months	Trees that display serious structural weakness or pests, diseases or fungal fruiting bodies associated with advanced decline.
1 Month	Trees that display indications of imminent failure, extensive infection of pathogens associated with tree failure or display significant defects and stand within a high target area.

Vitality Assessment		Decline Assessment		Structural Assessment	
Vitality Score	Definitions	Decline Score	Definitions	Structural Score	Definitions
1	Dead or Moribund trees	1	Dead tree/extensive	1	Very high likelihood
2	Advanced decline or low	2	Advanced decline	2	High likelihood
3	Moderate vitality	3	Moderate decline	3	Moderate likelihood
4	High vitality	4	Low decline	4	Low likelihood
5	Exceptionally high	5	Improbable/unlikely	5	Improbable/unlikely

Habitat Value
The habitat value takes into account the various features such as stem hollowing, crown features, bark features, dead wood and associated flora and fauna. Observing and recording such information quantifies each tree's potential for supporting such habitats and wildlife.
The higher a tree's Habitat Value the greater potential the tree has for supporting specialist veteran habitats

<b>Tree No.</b> AV64	<b>Height</b> 8m	<b>BNG Co-ordinates</b>
<b>Species</b> English Oak, Quercus robur	<b>Stem Dia</b> 1285	<b>E:</b> 567927.3
	<b>Tree Form</b> NP	<b>N:</b> 246364.6

<b>Tree vitality</b>	<b>3</b>
<b>Likelihood of future decline</b>	<b>3</b>
<b>Likelihood of structural failure</b>	<b>2</b>

<b>Viability Assessment</b>	<b>8</b>
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<b>Habitat Value</b>	<b>33</b>
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Damage / Threats	Previous Management
Vandalism, Fire damage	None

Management Recommendations	Phasing	Priority
No pruning works required to the tree at present. During the development phase the tree will need to be protected with tree protection fencing.		

