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Revise

Arboricultural

Assessment 1



Gladman Developments Ltd

Land to the West of White Post Road, Banbury

Arboricultural Assessment

April 2016

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CONTENTS

1.0	INTRODUCTION.....	2
2.0	METHODOLOGY.....	5
3.0	RESULTS.....	8
4.0	ARBORICULTURAL IMPACT ASSESSMENT.....	14
5.0	TREE PROTECTION MEASURES.....	19
6.0	CONCLUSION.....	22

TABLES

Table 1: Summary of trees by category

Table 2: Tree Preservation Order Details

PHOTOGRAPHS

Photograph 1: A view of typical tree cover around the boundaries of the arable fields

Photograph 2: Trees associated with the allotment

Photograph 3: Exposed and damaged roots

Photograph 4: Beech trees situated within amenity grassland

Photograph 5: T8 horse chestnut with dieback

Photograph 6: 7m dead branch on T8

FIGURES

Figure 1: Location Plan (5773-A-01)

Figure 2: Tree Survey Plan (5773-A-02)

Figure 3: Tree Retention Plan (5773-A-03 Rev C)

Figure 4: Detailed Access Plan (5773-A-04)

APPENDICES

Appendix A: Tree Schedule

Appendix B: Protective Fencing Specifications

Appendix C: Extract of TPO plan

1.0 INTRODUCTION

1.1 This report has been prepared by FPCR Environment and Design Limited on behalf of Gladman Developments Ltd to present the findings of an arboricultural assessment and survey of trees located on land to the west of White Post Road, Banbury (hereafter referred to as the site), Grid Ref SP 459 383 as shown in Figure 1. The original tree survey was carried out on 18th July 2013.

1.2 The trees were reassessed on Wednesday 3rd June 2015 to check their current condition and the report amended where necessary. Overall trees and hedges were found to be in a similar condition to previously albeit two trees for reasons associated with their physical health and condition. These are as follows.

- T8 showed a degree of recovery from infection by Bleeding Canker identified in the previous survey. However, due to the progressive nature of this condition the specimen, if retained should be monitored for further changes in its condition on a regular basis and appropriate action for rectification of any deterioration in its condition applied accordingly.
- T24 similarly showed improved signs of health to previously and was considered suitable for retention albeit would need to be subjected to remedial tree surgery to address some of the defective crown material, should approval be given to the development, due to its proximity to areas frequented by the public in the interests of safety.

New Access Design

1.3 **Since the submission as part of the planning application of the original Arboricultural Assessment, an alternative access arrangement for the main point of vehicular access has been made for the site and hence this report has been updated to outline the implications that this may have on the sites tree cover. Due to the change in access design the Tree Protection Plan (5773-A-03 Rev C) has been updated with an overlay of the latest Development Framework Plan (5713/ASP03 Rev H) to show the layout of the whole site including the new access. In addition a Detailed Assess Plan (5773-A-04) has also been added to the report to highlight in detail the proposed new access. The following paragraphs outline the additional impacts that have arisen due to this.**

1.4 **The alignment of the proposed new access would require one additional tree to be removed and an additional section of hedgerow. The remainder of the impacts arising from the proposals would remain the same as discussed in the version of the AIA dated 9.7.15.**

1.5 **To facilitate the proposed new alignment of White Post Road, H9 would require completely removing rather than only a small section being lost as previously stated. As this was considered to be of low value from an arboricultural perspective and of limited contribution for this reason to the local landscape, the removal of this hedgerow should not raise objection.**

1.6 **The proposed new access would also require the removal of T16, a category B specimen of common lime. This tree displayed a number of defects including large amounts of epicormic regrowth throughout its crown and exposed damaged roots around the base of its main stem. This tree was graded as a category B specimen mainly due to its landscape**

qualities rather than its arboricultural value and due to the structural defects noted it would be considered as holding a much reduced life expectancy.

- 1.7 Overall the loss of this small amount of additional tree cover would not be considered on arboricultural grounds to significantly reduce the overall amenity that is currently being provided by the existing tree stock on site. The new tree planting as part of the extensive soft landscaping throughout the site would greatly increase the tree stock on site, raise the overall arboricultural value to the site and mitigate the loss of this material.
- 1.8 The tree survey and assessment of existing trees has been carried out in accordance with British Standard 5837:2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations*' (hereafter referred to as BS5837). The guidelines give recommendations on the relationship between trees and design, demolition and construction processes to achieve a harmonious and sustainable relationship between trees and structures.
- 1.9 The purpose of the report is to present the results of an assessment of the existing trees' arboricultural value, based on their current condition and quality in accordance with the recommendations, to accompany a planning application for a residential development. The tree 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.

Site Description

- 1.10 The site is located on the south side of Banbury between the settlements of Easington and Bodicote and situated west of White Post Road. Salt Way forms the northern boundary to the site. The site comprises of four field parcels, two of which are used for agricultural purposes, one as amenity grassland to the south side of private properties and one containing an access to Banbury Cricket Club. The largest of the field compartments were those of agricultural use which covered the vast majority of the assessment area. Surrounding the site beyond the northern and eastern boundary is the residential area of Banbury, and beyond the southern and western boundary is a continuation of field parcels.
- 1.11 The tree stock comprised mostly hedgerows and groups of trees that delineated the field parcels. The hedgerows and groups of trees of the field boundaries were mostly young to semi-mature and of small proportions containing a diversity of different species including both broadleaved and coniferous specimens.
- 1.12 The area of amenity grassland located in the easternmost section of the site contained a high concentration of trees, especially along the northern border where it meets with the grounds of private properties. From an arboricultural perspective the trees within this part of the site were of the highest quality of the surveyed tree stock due to their mature proportions that contributed to the landscape character.
- 1.13 The area that contains the access drive to Banbury Cricket Club contains a group of ornamental broadleaves of various species and age classes that included a decorative double avenue of beech *Fagus sylvatica* '*Atropurpurea*'.
- 1.14 Following consultation with the local planning authority, Cherwell District Council, it is understood that there is a tree preservation order, namely 007/1994 (Salt Way, Banbury) Tree Preservation Order, which applies to a number of trees present within the assessment and therefore statutory

constraints apply to the development in respect of trees. Further details are given in paragraphs 4.15 and 4.16.

1.15 The report comprises:

- Chapter 1 provides an introduction to the assessment work, its purpose and background details.
- Chapter 2 briefly describes the methodology by which the tree survey and assessment has been undertaken.
- Chapter 3 presents a summary of the results of a tree survey.
- Chapter 4 evaluates the findings of the survey and assessment in respect of the development proposals in the form of an Arboricultural Impact Assessment and also provides principle recommendations for mitigation planting, specific tree protection measures including pruning.
- Chapter 5 presents an indication of the tree protection measures to be required from a general viewpoint such as typical fencing requirements.
- Chapter 6 provides a conclusion to the findings of the assessment.

1.16 It must be understood should any specific tree protection be required, this would need to be separately considered where needs arise prior to the commencement of construction activity following approval. This would be in the form of an arboricultural method statement produced in accordance with guidance in BS5837 and is beyond the scope of this arboricultural assessment.

2.0 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 arboriculturist and 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 proposed development in a transparent, understandable and systematic way.

2.2 Trees have been assessed as groups or woodlands where it has been determined appropriate. 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.

An assessment of individual trees within the groups or woodlands has been made where there has been 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.

2.3 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). 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 & C are applied to trees that should be 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.

2.4 **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 trees 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.

2.5 **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.

2.6 **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.

2.7 **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

2.8 Appendix A presents details of the individual trees and groups 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.

2.9 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.

2.10 Hedgerows and substantial internal or boundary hedges (including evergreen screens) have been recorded including lateral spread, height and average stem diameter. All woody species present have been recorded. Where woody plants are present within a hedgerow that are significantly different in character from the remainder of it, these have been identified and recorded separately, especially where they comprise a distinct tree form.

Conditions of Tree Survey

- 2.11 The survey was completed from ground level only and from within the boundary of the site. Aerial inspection of trees was not undertaken at this stage. Investigations as to the internal condition of a tree have also not been undertaken being beyond the scope of this assessment. Evaluation of tree condition given within this assessment applies to the date of survey and cannot be assumed to remain unchanged. It may be necessary to review these within 12 months, in accordance with sound arboricultural practice.

Site Plans

- 2.12 Figure 1 (drawing no. 5773-A-01) identifies the assessment area including trees beyond the application boundary that may be affected by future development of the site and should not be considered as the application boundary.
- 2.13 The individual positions of trees and groups have been shown on the Tree Survey Plan, Figure 2 (drawing no. 5773-A-02). The positions of trees are based on a topographical / land survey, as far as possible, supplied by the client. The crown spread, root protection area and shade pattern (where appropriate) are indicated on this plan.
- 2.14 As part of the Arboricultural Impact Assessment, an updated Tree Retention Plan, Figure 3 (drawing no. 5773-A-03 Rev A) 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 that are to be removed or retained as part of the proposed development and also trees considered unsuitable for retention through the assessment process (Category U).
- 2.15 Figure 4 (5773-A-04) shows the position of the detailed access point in relation to the surrounding tree cover allowing the identification of any potential conflicts caused through implementation of the new site access design.

Tree Constraints and Root Protection Area (RPA)

- 2.16 Below ground constraints to future development are represented by the area surrounding the tree that contains sufficient rooting volume for the specimen to have the best chance of survival in the long term this is known 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 incorporated into any future scheme. Where applicable the shape of the RPA has been altered to take into account the presence of surrounding obstacles which may have restricted root growth.
- 2.17 Where groups of trees have been assessed, the RPA has been shown based on the maximum sized tree in any one group and so may exceed the RPA required for some of the individual specimens within the group.

3.0 RESULTS

3.1 A total of twenty-five individual trees, twenty two groups of trees and ten hedgerows were surveyed as part of the arboricultural assessment. Trees were surveyed as individual trees and groups / blocks of trees where examples are clearly present as such per the description. Refer to Figure 2 – Tree Survey Plan (drawing no. 5773-A-02) and Appendix A – Tree Schedule for full details of the trees included in this assessment. The table below summarises the trees assessed. Several of the trees have been discussed in more detail following the table, owing to their physical condition or arboricultural significance.

Results Summary

3.2 The site contained a wide variety of young and naturalised ornamental species that are commonly found within the UK. The assessment area covered the trees that were situated within the hedgerows, those bordering the allotment, the adjacent copse, the adjacent residential gardens, the amenity grassland, the access drive to Banbury Cricket Club, the adjacent park and the adjacent school.

3.3 The table below summarises the trees assessed. For details on each tree refer to the Tree Schedule – Appendix A.

Table 1: Summary of Trees by Retention Category

	Individual Trees	Total	Groups of Trees and Hedgerows	Total
Category U - Unsuitable		0		0
Category A (High Quality / Value)	T6, T7, T9, T11, T14, T15, T18, T21	8		0
Category B (Moderate Quality / Value)	T1, T3, T4, T5, T8, T10, T13, T16, T17, T19, T20, T21, T23, T25	13	TG12, TG15, TG16, TG17, TG18, TG19, TG20	7
Category C (Low Quality / Value)	T2, T12, T22, T24	3	TG1, TG2, TG3, TG4, TG5, TG6, TG7, TG8, TG9, TG10, TG11, TG13, TG14, TG21, TG22, H1, H2, H3, H4, H5, H6, H7, H8, H9, H10	23

Arable Field Compartments



Photograph 1: A view of typical tree cover around the boundaries of the arable fields

- 3.4 The majority of the tree stock surveyed was situated within the hedgerows that surrounded the field parcels. From an arboricultural perspective the trees were insignificant due to their young and semi-mature proportions. T3 was a mature English holly *Ilex aquifolium* that was situated within H7 hedgerow between one of the arable fields and the amenity grassland. The tree was in a good overall condition with a dense canopy (typical for the species type), that was tidy in appearance with no major defects. The tree was considered as having a moderate arboricultural value and was regarded as retention category B.



Photograph 2: Trees associated with the edge of the allotment

- 3.5 There were several trees bordering the allotment area that were young to semi-mature and of a mixture of different species; (refer to Appendix A Tree Schedule). They were sparsely distributed and of small dimensions hence were therefore considered to have only a low arboricultural value.

Wooded Copse

- 3.6 Situated towards the northern boundary of the site was TG13 that comprised of a variety of different species (refer to Appendix A Tree Schedule) and formed a copse feature). The spacing between individual trees of the group was dense and therefore inaccessible in parts, which limited a more thorough assessment. Observed however throughout the tree group was minor and major deadwood evident in many of the examples, and some of the specimens had sparse canopies most likely from competition for light and space. The group was considered to offer a low arboricultural value collectively and therefore was regarded as retention category C.

Amenity Grassland

- 3.7 The trees positioned along the borders and within the amenity grassland were regarded as being of the highest arboricultural quality with eight trees being considered a retention category A. This included T6 English oak *Quercus robur*, T7 English oak, T9 Holm oak *Quercus ilex*, T11 common lime *Tilia x europaea 'Pallida'*, T14 copper beech *Fagus sylvatica 'Purpurea'*, T15 common beech *Fagus sylvatica*, and T18 English oak.



Photograph 3: Exposed and damaged roots

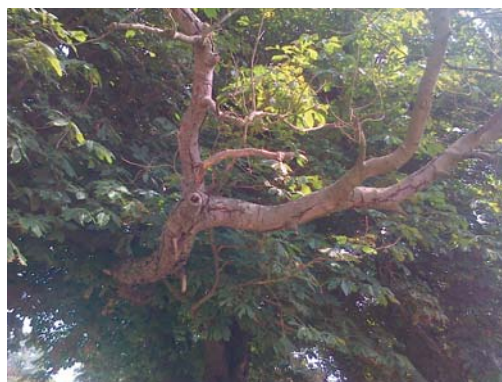
- 3.8 All of the trees within the field parcel had suffered from soil poaching with some specimens having some exposed and damage roots resulting from vehicular access to the field. From visual observations those trees that had suffered most were TG17 that comprised of two common lime, T14 copper beech, T15 common beech, and T16 common lime, which were all close to the access gate into the amenity grassland. Direct damage to some of the rooting area was evident although limited to the surfacing material however the damage had only exposed a relatively small proportion of the total root plate and as the trees appeared to be generally in a fair or good overall condition they seemed not to have been adversely affected by damaged parts. It should however be taken into account over the long-term that if the continual use of vehicles accessing the field is to occur it is more likely to cause decline to the trees overall health, as the soil in the rooting area housing the roots will become permanently compacted, and this is likely to reduce the availability of nutrients and water vital to long term good health and survival.
- 3.9 T6 was a mature English oak and in good physiological condition. The tree was a well-established mature specimen of approximately 25m in height and having a canopy spread of 12m radius. The tree subdivided from a union forming at approximately 5m above the ground into several main lead stems but the union appeared to be sound with no obvious signs of any structural weakness visually. The tree had a high canopy that formed at approximately 13m above the ground that displayed good structure. The tree was situated within a residential garden adjoining with the northern boundary of the grassland field and therefore was assessed from as close as possible yet within the site.
- 3.10 T7 was a mature free standing English oak that was considered to have aesthetical value due to its mature proportions and its position within the site. T7 was situated centrally within the amenity grassland and therefore was a prominent position visually in the locality. The crown contained deadwood that included major dead branches within the lower half of the crown. The tree also supported a number of other structural defects that included: two torn branches, an increment split on a major branch (facing east), black spots visible on one (dead) branch, bark wounds, and exposed roots from soil poaching. The tree was considered to have a fair overall condition and offer a high arboricultural value therefore despite having the abovementioned defects, was still regarded as being retention category A by virtue of the species having a considerable life expectancy.
- 3.11 T9 and T11 were both situated within a residential garden adjacent to the northern boundary. T9 was a holm oak *Quercus ilex* and T11 was a common lime and both were mature specimens of mature proportions. They were considered to be of a good overall condition containing few

defects. Of the defects visible they collectively included: crossing and rubbing branches, minor deadwood, and suppressed canopy forms. Dense ivy covered T11 up to 13m above ground that prevented a thorough visual assessment however; both trees were considered to have a high arboricultural value and were therefore regarded as category A.



Photograph 4: Beech trees situated within amenity grassland

- 3.12 Located within the field parcel were T14 copper beech and T15 common beech that individually and collectively added high aesthetic value to the locality, and were regarded therefore as retention category A accordingly. As mentioned in paragraph 3.9 both trees had also suffered from soil poaching and exposure to some of the roots caused by vehicles using the gated access point. Both trees contained both minor and major deadwood. T15 contained major deadwood within the lower half of the crown with some dead branches up to 5m long. Stubs were present on both trees from past pruning operations. The overall ground clearance of T15's canopy was 3m.
- 3.13 T18 was a mature English oak situated on the northern border that was partially obscured by the neighbouring trees. The tree was of mature proportions at 23m in height and displayed good vitality. Ivy covered the tree up to 15m that prevented a thorough inspection. Minor and major deadwood was evident with large gaps within the canopy on the north side. Observed during the assessment were torn branches situated high in canopy and stubs in the lower canopy. Due to the species type it was considered that T18 could continue offer many more years of high arboricultural value to the site and was therefore considered as retention category A



Photograph 5: T8 horse chestnut with dieback Photograph 6: 7m long dead branch on T8

- 3.14 T8 was an over-mature horse chestnut *Aesculus hippocastanum* that was previously in visibly poor physiological condition exhibiting major dieback throughout the canopy. Major deadwood was visible and included a 7m long branch in the western side of the crown. Exposed wounds and bark necrosis was also visible and particularly prevalent on the lowest 2m of the stem. A 5m

vertical large split to a primary limb was also visible that formed a potential “hazard beam”, the nature of which would have a higher likelihood of branch failure. Soil poaching had also occurred near the roots of the tree close to the stem that had resulted in minor root exposure. Visible during the observation of T8 were a number of black spots present on some of the dead branches. This is a potential indicator of Bleeding Canker of Horse Chestnut *Pseudomonas syringae* pv. *Aesculi*, a pathogen which can lead to the eventual demise of the condition of the tree and ultimately death. T8 had a low canopy in places with just 1 - 2m ground clearance.

- 3.15 The re-inspection during June 2015 of T8 showed the tree to house visible signs of some improvement with healthy growth and more extensive leaf cover to that previously. The removal of the large sections of dead wood within the crown could be addressed through remedial tree surgery without detriment. Beyond this work, it is considered that the specimen would have a potential remaining life expectancy of at least 20 years in line with the threshold determined by BS 5837. It has therefore been felt appropriate to assign the specimen retention category B. However, if retained due to the progressive nature of Bleeding Canker, it is recommended that the specimen be monitored for further changes in its condition on a regular basis (annually) and appropriate action for rectification of any deterioration in its condition applied accordingly. It must be taken into account however that the tree will eventually fully succumb to the disease in the future, and would die.

Access Drive to Banbury Cricket Club

- 3.16 To the south of the amenity grassland is an access track that leads to Banbury Cricket Club. Roughly parallel to this track is an avenue of young to semi-mature trees that made up TG18, TG21, and TG22. Also within this section were some semi-mature to over-mature individual specimens that included T21 – T25.
- 3.17 T21 was a mature hornbeam *Carpinus betulus* situated adjacent to the southern border. The tree was in good physiological condition with only minor defects that included minor deadwood, exposed wounds (near the base of the tree), and a minor amount of epicormic growth on the south side. From an arboricultural perspective the tree offered a high arboricultural value from its mature proportions and good health.
- 3.18 T24 was a mature sycamore *Acer pseudoplatanus* situated adjacent to the southern border. The tree was considered to be in a poor overall condition with some noted crown dieback that included several major dead branches of 3 - 4m long and minor deadwood throughout the canopy. As with T8 above, T24 was also found to be in an improved condition compared to the 2013 survey and it would be regarded as retention category C accordingly. The current condition of the tree would indicate its potential to survive at least another 10 years albeit there would need to be remedial treatment to address any defective crown parts in the interests of public safety, should approval be given to the development, due to the proximity of the tree to proposed public areas.
- 3.19 Equally, as for T8 the specimen would need regular monitoring of its condition and action taken to rectify any deterioration appropriately should it be necessary.
- 3.20 TG18 formed two planted lines of semi-mature copper beech to either side of the existing access to the Cricket Club, that were in good overall condition. The group had canopy forms typical for the species type with no major defects observed. From an arboricultural perspective the group formed a decorative avenue and therefore was considered as retention category B.

- 3.21 Situated adjacent to the southern border and towards the south of the access area to Banbury Cricket Club was TG20 that comprised of a variety of different species (refer to Appendix A Tree Schedule). The group contained a high concentration of mature specimens that generally displayed good health however, some of the Scot's pine *Pinus sylvestris*, located towards the north of the group had major failed limbs evident.

Hedgerows

- 3.22 Situated around the perimeters of the site and most of its individual field parcels were hedgerows. The majority of these hedgerows were formed predominantly by English elm *Ulmus procera*, which included H1, H2, H3, H4, H5 and H8. Other less dominant species recorded within the hedgerows included common hawthorn *Crataegus monogyna*, elder *Sambucus nigra*, blackthorn *Prunus spinosa* and other broadleaf specimens commonly found within field hedgerows. All of the mentioned hedgerows were slightly outgrown however, they appeared to be maintained due to their relatively uniform heights and indistinct canopy forms. From an arboricultural perspective, all ten hedgerows were considered to be of low landscape value due to their small proportions, which included heights of two to three metres.

4.0 ARBORICULTURAL IMPACT ASSESSMENT

- 4.1 The following paragraphs presents a summary of the tree survey and offers 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 Development Framework plan (Aspect drwg.no.5713/ASP03 Rev H) and seeks to outline the potential impact that the proposals would have on the existing trees. The above drawing outlines the proposals for a residential development within the northern half of the western field parcel and the central field parcel. The primary access will be taken from the eastern boundary, off White Post Road interconnected via a series of internal roads. There will be a proposed link to further fields beyond to the west for possible future development.
- 4.3 The main access road will firstly pass through the amenity grassland area within the north-east section of the site to the north of the existing Cricket Club entrance before entering the residential parcels. Within this section of the site there will be proposed public open space with a children's play area, car park and youth games court. A secondary access road will be taken off the main access to the south side where it will link with the existing access to the Cricket Club entrance and serve the new car park. There will also be a proposed footway and cycleway entering the development from White Post Road, just to the south of the main vehicle access connecting through the residential area to form a circuit around the second, larger open space provision in the west. The footway and cycleway will also connect with other networks beyond the site boundaries. The existing Public Right of Way passing through the site from north to south will be maintained as to will the existing access to Banbury Cricket Club, along the southern boundary.
- 4.4 A larger area of public open space, which will include a second play area, balancing pond, and cricket pitch are to be provided in the southern half of the western field parcel.
- 4.5 An overlay of the above layout has been incorporated in the Tree Retention Plan (Figure 3) to assist in identifying potential conflicts with the existing trees.
- 4.6 From assessing the masterplan for any arboricultural impacts it appears that the layout is able, through its design, to retain and incorporate the majority of existing trees due to their locations around the boundary of the site. The plans also seek to retain the most valued trees of the site, which were positioned within the easternmost field parcel.

Tree Planting

- 4.7 As part of the proposals there will be extensive soft landscaping which would include large-scale tree planting within all four field parcels. The highest volume of new trees will be within the western parcel that seeks to have a thick belt of trees along the western boundary and a high number of scattered tree groups within a large area of public open space positioned to the southern section. This will greatly increase the existing tree stock and add more arboricultural value to the site.

Access Road and Internal Road Layout

- 4.8 The main vehicle access will lead directly off White Post Road and be constructed across the proposed open space in the eastern section of the site to serve the residential areas in the central and western parts. The new road will travel in an east to west orientation and link with an

internal road proposed in the central parcel. Part way along the access road on the south side, there will be an entrance to a small new car park taken off a secondary access road. The proposed secondary access road to service the new car park will link with the existing access to the Cricket Club.

- 4.9 The access to serve the residential development of the application will take the form of a single priority junction. The design of the junction has needed to factor possible future further development on land to the west of the application site, which would require upgrading of the junction to a roundabout. To create the required additional space to accommodate a roundabout there may need to be further tree losses.
- 4.10 The Tree Retention Plan has therefore at this stage shown all trees that may be potentially affected by the upgrading of the single priority junction to a roundabout as being retained.
- 4.11 Facilitation of the new single priority access would require the removal of T8, and small sections of H7 and H9. The eastern section of the site was an area of amenity of grassland and contained the existing access drive to the Banbury Cricket Club. Trees cover in this part of the site was extensive and therefore it is inevitable that some tree loss would need to occur in order to facilitate an access road in this location. The position of the access road has been placed as to avoid impacting on the highest quality trees and keep any losses to a minimum.
- 4.12 Only one tree would need to be removed. T8 was an over-mature horse chestnut, which is afforded statutory protection through a Tree Preservation Order however, the tree was assessed as being in a slightly poorer physiological condition than normal for what would be expected for a tree of such an age. There was major deadwood present within the canopy and indications of infection from the disease; Bleeding Canker of Horse Chestnut, a disease that has the potential to eventually cause the death of a tree in most cases where it occurs. Despite it's category B grade in its current condition the tree was considered as offering a lower overall arboricultural value due to the current compromised structural health and more importantly for having a much reduced life expectancy due to the presence and nature of the disease affecting it.
- 4.13 For these reasons therefore it would seem both sensible and reasonable to commit to the removal of T8 in favour of the higher quality category A specimen, T7 to its north west as it would be possible to move the proposed position of the road slightly further to the south in doing so. The position of the road presented in the Framework is only indicative but there would be scope in final design to consider taking it to a more southerly position and clear of the rooting area of T7 as far as possible.
- 4.14 The suggested approach, involving the removal of T8 in order to achieve this should not raise objection on arboricultural grounds especially considering the trees limited future prospects and that it can be replaced close by within the open space provision being proposed.
- 4.15 If approval is given to the development and T8 is removed to facilitate the consented layout, the status of the Tree Preservation Order would be overridden but, the manner of its replacement would need to be agreed with the LPA.
- 4.16 To accommodate the position of the proposed new car park, secondary access road and youth games court, several of the trees within TG18 would need to be removed. These trees are however of small proportions and therefore it would be possible to consider translocating those affected and move to a new position along the access road close to the original positions. Until

decisions are made, the Tree Retention Plan has therefore shown all trees potentially affected within this group as retained.

- 4.17 The only section of new road for the secondary access link will be a short length to service the car park beyond which the existing vehicular access to the Cricket Club will be used. Therefore trees within TG18 to either side of the existing access will not be affected.
- 4.18 H7 and H9 were linear hedgerows that collectively defined the eastern and western boundary of the grassland field. The proposed alignment of the access road will result in removal of small sections of both hedgerows. The hedgerows, from an arboricultural perspective, were considered to offer only a low landscape value to the area and therefore the removal of the required sections should not raise objection on arboricultural grounds.
- 4.19 H5 will also require the removal of two sections, one section to create the necessary gap for continuation of the internal road route and a further section to accommodate the proposed cycleway / footway. H5 extended the length of the western boundary of the central field parcel and it would therefore not be practical to form a road layout without removing part of the hedgerow.
- 4.20 T16 would be retained at this indicative stage, however closer assessment of any impact when designing the new junction and footway provision would need to be undertaken. Adopting “no-dig” technologies could be considered as part of this to avoid excessive root damage / disturbance.

Cycleway, Walkway, and Right of Way and Youth Games Court

- 4.21 As part of the proposals, a cycleway/walkway is proposed that will enter and exit the site at two points along the northern boundary and pass around the site. The development would also seek to re-establish the right of way that runs through the site connecting the north and southern boundary. The facilitation of these links would result in the loss of four small sections of hedgerow, (two from H1, one from H5 and one from H8). Similar to the losses on the abovementioned hedgerows, these losses are not considered significant from an arboricultural perspective due to the small sections involved overall and opportunity to mitigate for loss through new hedgerow and tree planting as part of the overall development.
- 4.22 To accommodate the youth games court, further tree removals from TG18 may be required depending upon its final position. As for the car park, due to the small proportions of the trees it would be possible to consider translocating specimens and repositioning them within the site close to their original location. This would see the trees within TG18 retained and incorporated into the new development with no loss of amenity.

STATUTORY CONSTRAINTS

- 4.23 The following table details which trees are covered by the Cherwell District Council Tree Preservation Order, 007/1994 (Salt Way, Banbury) Tree Preservation Order. The trees covered within the TPO are protected by law from felling or uprooting, pruning including ‘topping/lopping’ and willful damage or destruction. Were planning permission to be granted for development this would override the protection afforded by the tree preservation order to those trees required for removal to facilitate the proposals.

Table 2: Tree Preservation Order details

TPO reference no.	Tree no, taken from FPCR
T4	T24
T5	T8
T6	T7
T9	T16
T10 and T11	TG17
T12	T18

- 4.24 Prior to any tree surgery and / or felling being carried out it will be necessary to apply to the relevant local planning authority to gain consent for the works. For more information regarding conservation areas and tree preservation orders it is advised that contact is made with the local planning authority's arboricultural officer, or other such relevant person.

Mitigation for Tree Losses

- 4.25 New tree planting should form an integral part of any new development however proposals for new tree planting should be appropriate for the future use of the site and not just aim to improve the existing tree population. As part of the development proposals it is recommended that any supporting landscaping scheme should seek to provide an adequate quantity of tree planting to suitably mitigate for the loss of trees required to facilitate the development. The purpose and function of any 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.
- 4.26 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. 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 and maintenance requirements in relation to both the built form of the new development and existing properties. Consideration on the effects of water demand of different tree species and soil type should also be applied where appropriate.
- 4.27 The landscaping scheme should consider providing tree planting in the following situations; new amenity planting as part of any proposed road infrastructure; private gardens; areas of incidental open space; larger areas of open space; and structural buffer planting where appropriate.
- 4.28 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. Wherever possible, following discussions with the developer and utility company concerned, particularly on new development sites, common service trenches should be specified to minimise land take associated with underground service provision and to facilitate access for future maintenance.

Tree Management

- 4.29 Once a layout for the development has been finalised and a review of the relationship between the layout with the retained trees has been undertaken, a qualified arboriculturalist should prepare a schedule of tree works listing all the trees requiring work (making use of reference numbers), accompanied by a plan showing the location of each tree.
- 4.30 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 arboriculturist or arborist to identify any potential public health and safety risks and to agree remedial works as required.
- 4.31 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 be obtained from Arboricultural Association Approved Contractors as this is the recognised authority for certification of tree work contractors.
- 4.32 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.

General Design Principles in Relation to Retained Trees

- 4.33 At the detailed design stages closer assessment of the distance of proposed development in relation to the calculated root protection area of retained trees should be made and modifications to the layout made where necessary. Should there be areas where it is not possible to modify the layout the use of no-dig construction methods will need to be considered prior to decisions being made as to the removal of each tree concerned. Such construction methods can be used particularly in the case of footways, driveways and other light use access roads.
- 4.34 When considering layouts an important element of detailed design is the consideration of the eventual positioning of any utility services. 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.
- 4.35 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.

5.0 TREE PROTECTION MEASURES

- 5.1 Retained trees will be adequately protected during works ensuring that the calculated RPA 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

- 5.2 All trees retained on site will be protected by barriers or ground protection around the calculated RPA or other defined constraints of this assessment as detailed by section 6 and 7 of BS5837.
- 5.3 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.
- 5.4 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.
- 5.5 Where it has been agreed, construction access may take place within the RPA if suitable ground protection measures are in place. This may comprise single scaffold boards over a compressible layer laid onto geo-textile materials for pedestrian movements. Vehicular movements over the RPA will require the calculation of expected loading and the use of proprietary protection systems.
- 5.6 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

- 5.7 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.
- 5.8 In most situations fencing should comprise a scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts. For particular areas where construction activity is anticipated to be of a more intense nature higher fencing may be necessary. Where site circumstances and the risk to retained trees do not necessitate the default level of protection an alternative will be specified. The standard fencing specifications as recommended in BS5837 has been illustrated in Appendix B.
- 5.9 It may be appropriate on some sites to use temporary site offices as components of the protection barriers.

Ground Protection

- 5.10 Where it has been agreed, construction access may take place within the RPA if suitable ground protection measures are in place. Guidance on examples of appropriate ground protection for several different scenarios is provided in section 6.2.3 of BS5837. The location of and design for temporary ground protection should be detailed as part of an Arboricultural Method Statement once planning condition is given. In all cases, the objective is to avoid compaction of the soil which can arise from a single passage of a heavy vehicle, especially in wet conditions, so that tree root functions remain unimpaired.

Protection outside the exclusion zone

- 5.11 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.
- 5.12 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.
- 5.13 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.
- 5.14 Oil, bitumen, cement or other material that is potentially injurious to trees should not be stacked or discharged within 10m of a tree bole. No concrete mixing should be done within 10m of a tree. Allowance should be made for the slope of ground to prevent materials running towards the tree.
- 5.15 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.
- 5.16 Notice boards, telephone cables or other services should not be attached to any part of a retained tree.
- 5.17 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

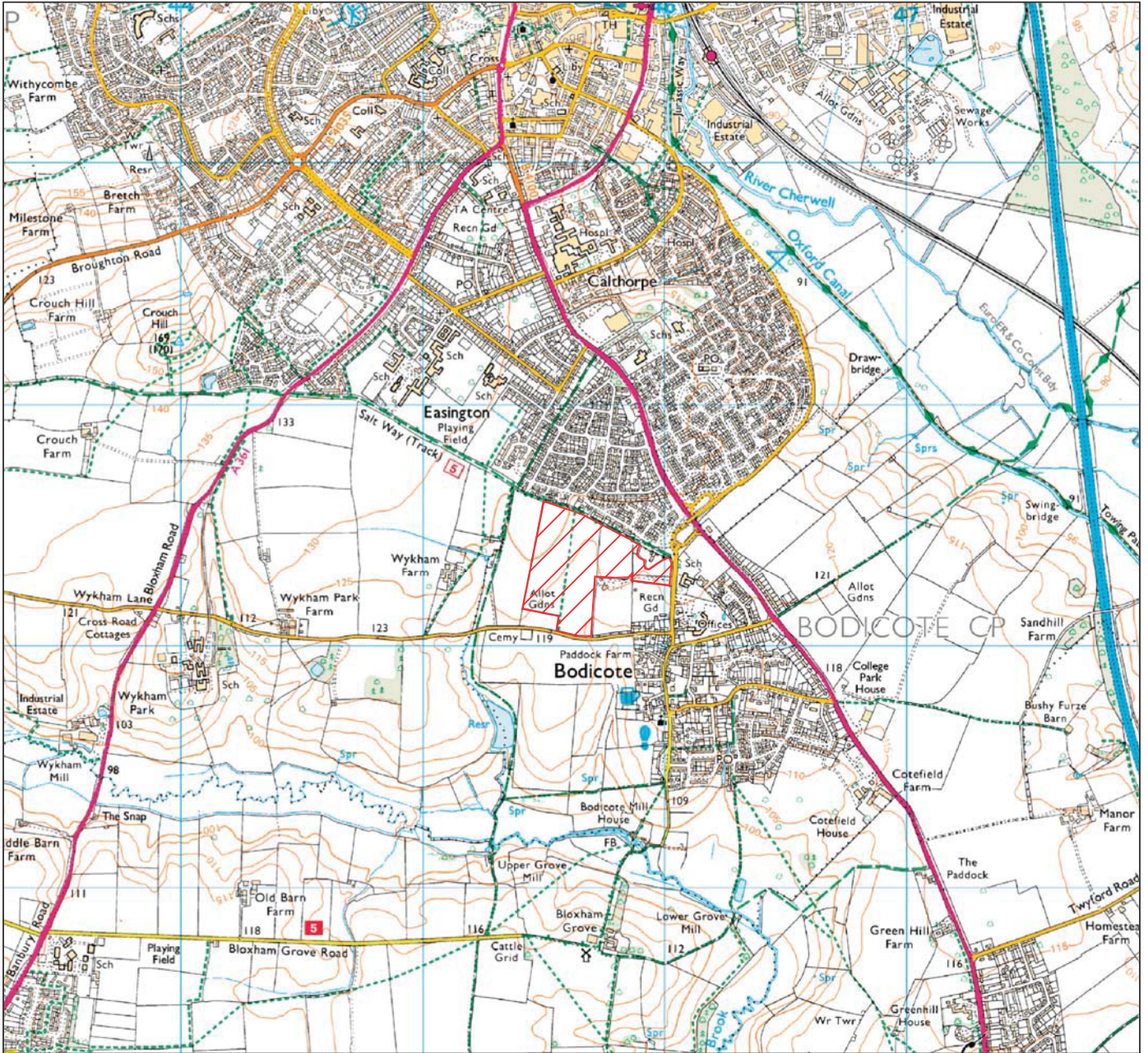
- 5.18 There were a number of trees located on the boundaries of the site. The root protection area of these trees will need to be protected in the same way as all the retained trees within the site. All trees located outside the boundaries of the assessment site yet within close proximity to works should be adequately protected during the course of the development by barriers or ground protection around the calculated RPA.
- 5.19 Any trees which are to be retained and whose RPAs may be affected by the development should be monitored 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

- 5.20 Where it is deemed necessary to operate a wide or tall load, plant bearing booms, jibs and counterweights or other such equipment as part of the construction works it is best advised that appropriate, but limited tree surgery, be carried out beforehand to remove any obvious problem branches. 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.
- 5.21 It is strongly advised that a pre-commencement site meeting is held with contractors who are responsible for operating machinery, as described above, 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.
- 5.22 In the event of having caused any such 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 to correct the damage, upon completion of development.

6.0 CONCLUSION

- 6.1 The site is located towards to the south of Banbury and situated south west of Salt Way. The site comprises of four field parcels, two of which are used for agricultural land, one for amenity grassland, and one for an access route to Banbury Cricket Club.
- 6.2 The amenity grassland contained a high concentration of trees that from arboricultural perspective were of the highest quality of the surveyed tree stock. This included a number of mature specimens of beech, English oak, sycamore and common lime, which had developed large crowns and contributed a high visual amenity to the surrounding area. The remaining tree stock comprised mostly of young to semi-mature groups of trees that delineated situated within the field hedgerows that demarked the separate field parcels.
- 6.3 The proposals are to build a residential development within the northern half of the site within the western and centrally located field. An access point will be on the eastern boundary, off White Post Road, and would result in the removal of T8, T16, H9 and small sections of H7 .
- 6.4 Other tree removals will include small sections of hedgerows H1, H5, and H8, which will accommodate the proposed cycle link / walkway, and to re-establish the Public Right of Way. A small number of trees from TG18 may need to be translocated, but due to their small and young proportions this should be a feasible option.
- 6.5 T8, an over-mature horse chestnut subject of a Tree Preservation Order, was assessed as being in a poor physiological condition. The tree displayed symptoms of the often fatal disease; Bleeding Canker of Horse Chestnut. For this reasons it would seem reasonable to remove the tree to facilitate the development and seek a replacement specimen as part of the landscaping proposals, in favour of retaining the higher quality category A specimen T7 to its north west as there would be scope to consider moving the indicative position of the main access road to the south in order to avoid the rooting constraint of the specimen. If the tree was removed as part of the facilitation of the layout, the status of the Tree Preservation Order would be overridden and the manner of a replacement would need to be agreed with the LPA.
- 6.6 To facilitate the alignment of the proposed new access design into the site an additional tree T16, a category B specimen of common lime would require removal. This tree displayed a number of defects including large amounts of epicormic regrowth throughout its crown and exposed damaged roots around the base of its main stem. T16 was graded as a category B specimen mainly due to its landscape qualities rather than its arboricultural value and due to the structural defects noted it would be considered as holding a much reduced life expectancy. The loss of this tree would be mitigated for with the extensive new planting within the site proposed landscaping scheme.
- 6.7 Part of the proposals will see an extensive soft landscaping scheme to support the new development which will include large-scale tree, shrub and hedge planting covering different areas in all four of the field parcels. The new landscaping will greatly increase the existing tree stock and add more arboricultural value to the site ensuring future generations of tree cover.
- 6.8 Overall the proposals will increase the volume of tree stock by high proportions in terms of both number and land coverage. The new landscape creation along with seeing the highest valued trees being retained and incorporated into the development would demonstrate that the development proposals will have a positive impact in terms of arboriculture



KEY



Assessment Boundary

rev	date	description	by
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- masterplanning ■
 - environmental assessment ■
 - landscape design ■
 - urban design ■
 - ecology ■
 - architecture ■
 - arboriculture ■
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project
 Land to the West of White Post Road
 Banbury

drawing title
 SITE LOCATION PLAN
 FIGURE 1

scale
 1:2500 @ A4

drawn
 TCB

date
 June 2015

drawing number
 5773-A-01

rev
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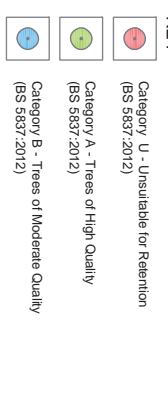
CAD file: J:\5700\5773\ARB\2nd Application 2015\Plans\Fig 1 Site Location Plan.dwg

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KEY

- Category U - Unsuitable for Retention (BS 5837:2012)
- Category A - Trees of High Quality (BS 5837:2012)
- Category B - Trees of Moderate Quality (BS 5837:2012)
- Category C - Trees of Low Quality (BS 5837:2012)
- Group hatching (Colour indicates BS Category)
- Hedgehog hatching (Colour indicates BS Category)
- Root Protection Area (the RPA has been altered where appropriate to reflect underground constraints)
- Individual / Group Number and BS Category
- Indicative Shade Pattern (where appropriate)



NOTES

All dimensions to be verified on site. Do not scale the drawing. All discrepancies to be identified and reported to the client in writing. The drawing is to be used in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule.

Colour hatching to be used in conjunction with the drawing to indicate the condition of trees as to be checked and verified on site prior to any tree work or construction work being undertaken.

These are living organisms that change over time, the condition of all trees illustrated herein, are to be checked by a qualified arboriculturist or tree surgeon should works undertaken to any tree illustrated herein without first obtaining the proper authorisation to do so.

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rev	date	description	by	TCB
-	04.08.2016	Final Issue		

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environmental assessment

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- urban design
- ecology
- architecture
- arboriculture

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client: **Gladhan Developments Ltd**

project: **Land to the West of White Post Road Banbury**

drawing title: **TREE SURVEY PLAN**

FIGURE 2

scale	date	rev
1:2500 @ A3	TCB	
drawing number	5773-A-02	

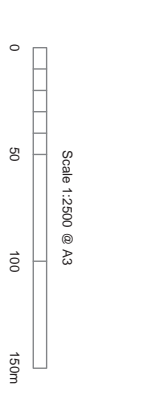
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KEY

- Category U - Trees / Groups Unsuitable for Retention (BS 5837:2012)
- Category A - Trees / Groups of High Quality (BS 5837:2012)
- Category B - Trees / Groups of Moderate Quality (BS 5837:2012)
- Category C - Trees / Groups of Low Quality (BS 5837:2012)
- Hedgerow (Colour indicates BS5837:2012 Category)
- Root Protection Area (The RPA has been altered where appropriate to reflect underground constraints)
- Individual / Group Number and BS5837:2012 Category
- T1(B) 01(A)
- Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)



Scale 1:2500 @ A3

0 50 100 150m

rev	date	description	by	checked
1	18.04.2016	Final Issue	AAB	

fpcr Environmental Assessment, Landscape Design, Urban Design, Architecture, Arboriculture

Client: Gladman Developments Ltd
Product: Salt Way
Location: Banbury, Oxfordshire

Project Title: TREE RETENTION PLAN
Figure 3

Scale: 1:2500 @ A3
Drawing Number: 5773-A-03
Date: April 2016

Author: AAB
Checked: AAB
Rev: C

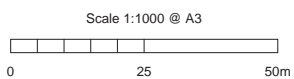
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CAO Ref: 1457005773AARB2016Phase3 Tree Retention Plan.dwg

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- KEY**
- Tree/Group to be Retained
 - Tree/Group to be removed to facilitate the proposals
 - Category U - Unsuitable for retention on arboricultural grounds
 - 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)
 - T1 (A)
G1 (A) Individual / Group Number and BS Category
 - Indicative Shade Pattern (where appropriate)



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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-	11.04.2016	First Issue	HR

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client
Gladman Developments Ltd

project
**Land to the West of White Post Road
 Banbury**

drawing title
**DETAILED ACCESS PLAN
 FIGURE 4**

scale
 1:1000 @ A3

drawn
 HR

date
 April 2016

drawing number
5773-A-04

rev
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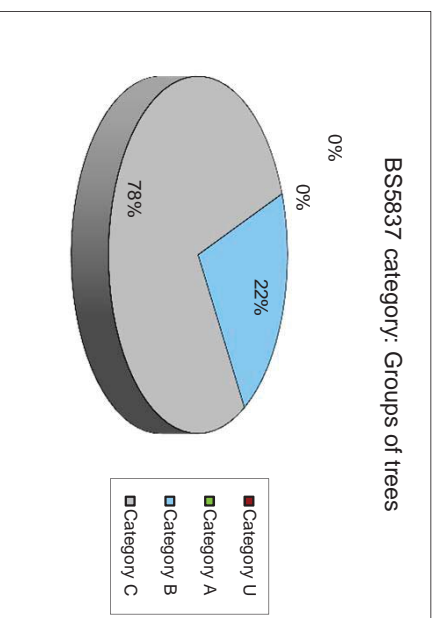
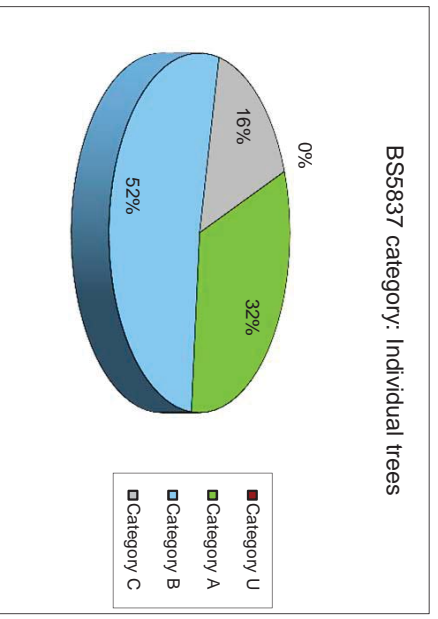
Appendix A - Tree Schedule

Measurements	Age Class	Overall Condition	Root Protection Area (RPA)
Height - estimated from ground level (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"> The RPA column gives the required area (m²). The RPA Radius column gives the radius (m) of an equivalent circle. The RPA is calculated using the formulae described in paragraph 4.6.1 of British Standard 5837: 2012 and is indicative of the required rooting area in order for a tree to be retained.
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, but rectifiable, defects or in the early stages of stress from which it may recover.	
Crown - crown spread estimated 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 Max - Maximum stem diameter	M: Mature trees, over 2/3 life expectancy.	D - Dead: Trees no longer alive. This could also apply to trees that are dying and unlikely to recover.	
	OM: Over mature, declining or moribund trees of low vigour.		
	V: Veteran, tree possessing certain attributes relating to veteran trees.		In the assessment, of the BS category, particular consideration has been given to the following <ul style="list-style-type: none"> The health, vigour and condition of each tree The presence of any structural defects in each tree and its future life expectancy The size and form of each tree and its suitability within the context of a proposed development The location of each tree relative to existing site features e.g. its screening value or landscape features Age class Life expectancy

Structural Condition	Quality Assessment of Retention Category
<p>The following has been considered when inspecting structural condition:</p> <ul style="list-style-type: none"> • 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. • Soil cracks and any heaving of the soil around the base. • Any abrupt bends in branches and limbs resulting from past pruning. • Tight or weak 'V' shaped forks and co-dominant stems. • 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). • Cavities as a result of limb losses or past pruning. • Broken branches or storm damage. • Canker formations. • Loose or flaking bark. • Damage to roots. • Basal stem or branch / limb cavities. • Crown die-back or abnormal foliage size and colour. • Any changes to the timing of normal leaf flush and leaf fall patterns. 	<p>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.</p> <p>Category A - Trees of high quality with an estimated remaining life expectancy of at least 40 years.</p> <p>Category B - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.</p> <p>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.</p> <p>Sub-categories: (i) - Mainly arboreal/cultural value (ii) - Mainly landscape value (iii) - Mainly cultural or conservation value</p>

Appendix A - Summary

Trees/Groups In each Category	Individual Trees	Totals	Groups of Trees and Hedgerows	Totals
Category U		0		0
Category A	T6, T7, T9, T11, T14, T15, T18, T21	8		0
Category B	T1, T3, T4, T5, T8, T10, T13, T16, T17, T19, T20, T23, T25	13	TG12, TG15, TG16, TG17, TG18, TG19, TG20	7
Category C	T2, T12, T22, T24	4	TG1, TG2, TG3, TG4, TG5, TG6, TG7, TG8, TG9, TG10, TG11, TG13, TG14, TG21, TG22, H1, H2, H3, H4, H5, H6, H7, H8, H9, H10	25
	Total	25	Total	32



Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
INDIVIDUAL TREES										
T1	Field Maple Acer campestre	12	180	4	EM	G	Situated within residential gardens Typical species form with no major defects	103	5.7	B (i)
T2	Horse Chestnut Aesculus hippocastanum	3	est 100	1	Y	F	Situated within H5 hedgerow Minor deadwood	5	1.2	C (i)
T3	English Holly Ilex aquifolium	6	est 400	3	M	G	Dense canopy typical characteristic of species Previously maintained as a shrub with a tidy appearance. No major defects.	72	4.8	B (i)
T4	Common Ash Fraxinus excelsior	13	430 660 230	9	M	G	Multiple stem union situated at 1.2m above ground. Dense ivy covering 6 - 7m of the tree stem, which prevented a thorough assessment Minor deadwood evident within the crown	305	9.8	B (i)
T5	Common Beech Fagus sylvatica	10	440 480 350	7	M	G	Fall damage evident on lower half of the southern canopy Stubs had resulted from flail damage Few areas of major deadwood Suppressed canopy forms from the present of competing trees Interlocking branches within canopy and against T4	247	8.9	B (i)
T6	English Oak Quercus robur	25	est 1000	12	M	G	Multiple stem union forming at approximately 5m above ground. High canopy forming at approximately 13m Situated within a residential garden and therefore I was unable to gain access	452	12.0	A (i)
T7	English Oak Quercus robur	18	1180	11	M	F	Lower branch removals to raise height of crown to 3m above ground Minor deadwood evident sporadically spread across crown Two torn branches on the south side of the tree's canopy Increment split on major branch, facing east Stubs from past pruning operations Black spots on increment split Major deadwood in lower crown Bark wounds evident on the stem and the canopy Exposed roots resulting from poaching of the soil with damage observed	630	14.2	A (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T8	Horse Chestnut <i>Aesculus hippocastanum</i>	13	940	N - 9 S - 10 E - 11 W - 11	M	P	Major deadwood evident 5m large split on major limb forming a potential hazard beam Exposed wounds and bark necrosis on the stem; most prevalent in the lowest 2m Low canopy in places Soil poaching near the roots has occurred that has resulted in exposure Bleeding canker <i>Pseudomonas syringae</i> pv. <i>aesculi</i> present	400	11.3	B (i)
T9	Holm Oak <i>Quercus ilex</i>	12	est 1250	N - 7 S - 7 E - 9 W - 9	M	G	Minor deadwood evident Dense canopy with a minor amount of interlocking branches Suppressed canopy by the competing trees TG15 and T10 Ivy covering up to 4m of the stem Situated offsite by 1m No major defects	707	Capped at 15m	A (i)
T10	Yew <i>Taxus baccata</i>	9	est 550	S - 3 5	M	G	Situated offsite by approximately 2m Ivy was covering the tree up to 5m Suppressed growth to the canopy caused by the close presence of T9	137	6.6	B (i)
T11	Common Lime <i>Tilia x europaea</i> 'Pallida'	25	est 1000	N.E - 6 9	M	G	Dense ivy covering the tree up to 13m above ground Good canopy form Minor deadwood Offsite by 2 - 3m Minor deadwood evident	452	12.0	A (i)
T12	Common Ash <i>Fraxinus excelsior</i>	13	est 250	4	SM	G	Positioned offsite by 1.5m Ivy covering the tree at 9m above ground Suppressed canopy caused by T11 and T13	28	3.0	C (i)
T13	Common Ash <i>Fraxinus excelsior</i>	18	est 750	7	M	G	Positioned offsite by approximately 2m Stem bifurcates at 5m Minor deadwood evident Ground clearance of 3m No major defects	254	9.0	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T14	Copper Beech Fagus sylvatica 'Purpurea'	22	1480	E - 6 9	M	G	Exposed roots on the east side caused by vehicular access Poached soil all round the tree Numerous bulges up to 1m Few areas of major deadwood Typical species form with no major defects	707	Capped at 15m	A (i)
T15	Common Beech Fagus sylvatica	21	1110	10	M	G	High proportion of major deadwood in the lower canopy; up to 5m long Small quantity of minor deadwood located sporadically throughout the crown Poached soil all round the tree Exposed and damaged roots on the west side of the tree caused by vehicular access Stubs in the lower half of the canopy from past pruning operations The ground clearance of the canopy was 3m	557	13.3	A (i)
T16	Common Lime Tilia x europaea 'Pallida'	17	est 1000	8	M	F	Major epicormic growth throughout the tree; typical for cultivar type Exposed and damaged roots on the west side due to vehicular access A very dense canopy with many interlocking branches Minor deadwood mostly on the west side	452	12.0	B (i)
T17	Common Lime Tilia x europaea	17	est 850	7	M	F	Lower branch removals have occurred to raise height of crown to approximately 8m Stubs present on the previous branches below the canopy The canopy is dense with minor deadwood	327	10.2	B (i)
T18	English Oak Quercus robur	23	830	10	M	G	Ivy covering the tree up to 15m Minor and major deadwood evident within the canopy Large gaps within the crown on the north side Torn branches high in the crown Stubs in lower crown on south side	312	10.0	A (i)
T19	Common Lime Tilia x europaea	18	est 900	7	M	F	Minor and major deadwood evident within the canopy Major epicormic growth; typical for cultivar type Offsite by approximately 3m	366	10.8	B (i)
T20	English Oak Quercus robur	18	est 900	N - 9 S - 5 E - 7 W - 7	M	G	Ivy has covered the tree up to 13m above ground Minor amount of deadwood No major deadwood	366	10.8	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T21	Hornbeam Carpinus betulus	16	620	8	M	G	Minor amount of deadwood evident within the crown Exposed wounds near the base of the tree at 1.5m long Minor amount of epicormic growth on the south side	174	7.4	A (i)
T22	Common Beech Fagus sylvatica	7.5	260	4	SM	G	Typical species form with no major defects	31	3.1	C (i)
T23	Sycamore Acer pseudoplatanus	13	650	6	M	G	Minor epicormic growth on the south side at the base Major deadwood in a few areas of the tree's canopy Bifurcated at 8m above ground	191	7.8	B (i)
T24	Variegated Sycamore Acer pseudoplatanus 'variegatum'	16	640	6	M	P	Dense ivy covering the tree up to 8m above ground Minor amount of epicormic growth on the south side situated at base Major deadwood evident including branches 3 - 4m long Minor deadwood also evident Low ground clearance of 1m	185	7.7	C (i)
T25	Hornbeam Carpinus betulus	16	660	8	OM	F	Lightly sparse canopy	197	7.9	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
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GROUPS OF TREES

TG1	Field Maple Acer campestre Common Ash Fraxinus excelsior	6	avg est 200	2.5	SM	G	Situated within H2 hedgerow Some of the specimens within the group were closely positioned that resulted in some suppressed canopy forms One ash within the group is north of adjacent high voltage electric line (approximately 4m)	18	2.4	C (ii)
TG2	3 x Wild Cherry Prunus avium	5	110 180	2	SM	G	Situated within H2 hedgerow Numerous dense canopies within the group Twin stemmed forms within the group forming at approximately 1 - 1.5m Typical species form with no major defects	20	2.5	C (ii)
TG3	Common Ash Fraxinus excelsior Common Beech Fagus sylvatica Common Alder Alnus glutinosa Wild Cherry Prunus avium Field Maple Acer campestre English Oak Quercus robur	4	130 120	2	SM	G	Situated within H2 hedgerow Some twin stems forming at 1m Typical species form with no major defects	14	2.1	C (ii)
TG4	Common Ash Fraxinus excelsior English Elm Ulmus procera Common Hawthorn Crataegus monogyna	5	170	2	Y / SM	F / G	Sparse canopies with elm specimens The hawthorn appeared as though they were once maintained as shrubs Minor deadwood The ash specimens are good condition	13	2.0	C (ii)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
TG5	Common Ash Fraxinus excelsior English Elm Ulmus procera Norway Spruce Picea abies Wild Cherry Prunus avium Apple Malus x domestica Sycamore Acer pseudoplatanus Common Pear Pyrus communis	max 3	avg 140	1 - 2	Y / SM	F	Situated within the allotment that was located towards the south-west corner Trees were sparsely situated Typical species form with no major defects	9	1.7	C (ii)
TG6	Turkey Oak Quercus cerris Small-Leaved Lime Tilia cordata	max 5	230	2	Y	G	Situated sporadically within H4 hedgerow Typical species canopy forms with no major defects	24	2.8	C (ii)
TG7	4 x Common Ash Fraxinus excelsior	5	200	2	Y	G	Typical species form with no major defects	18	2.4	C (ii)
TG8	Common Ash Fraxinus excelsior Common Alder Alnus glutinosa	9	est 250	3	SM	G	Minor deadwood on many specimens within the group One specimen that was situated towards the northernmost area of the group had major dieback The group was densely populated that had resulted in numerous crossing and rubbing limbs	28	3.0	C (ii)
TG9	2 x Norway Maple Acer platanoides	6	220	3	SM	G	Situated within hedgerow Both specimens contain dense canopies Due to the close proximity of the trees to each other they have resulted in a small amount of interlocking branches	22	2.6	C (ii)
TG10	Common Ash Fraxinus excelsior Field Maple Acer campestre	Max 6	110	N - 0.5 2.5	SM	F	A minor amount of frail damage on the north side but the tree has maintained a tidy appearance Minor deadwood evident Densely positioned trees have resulted in numerous interlocking branches	5	1.3	C (ii)

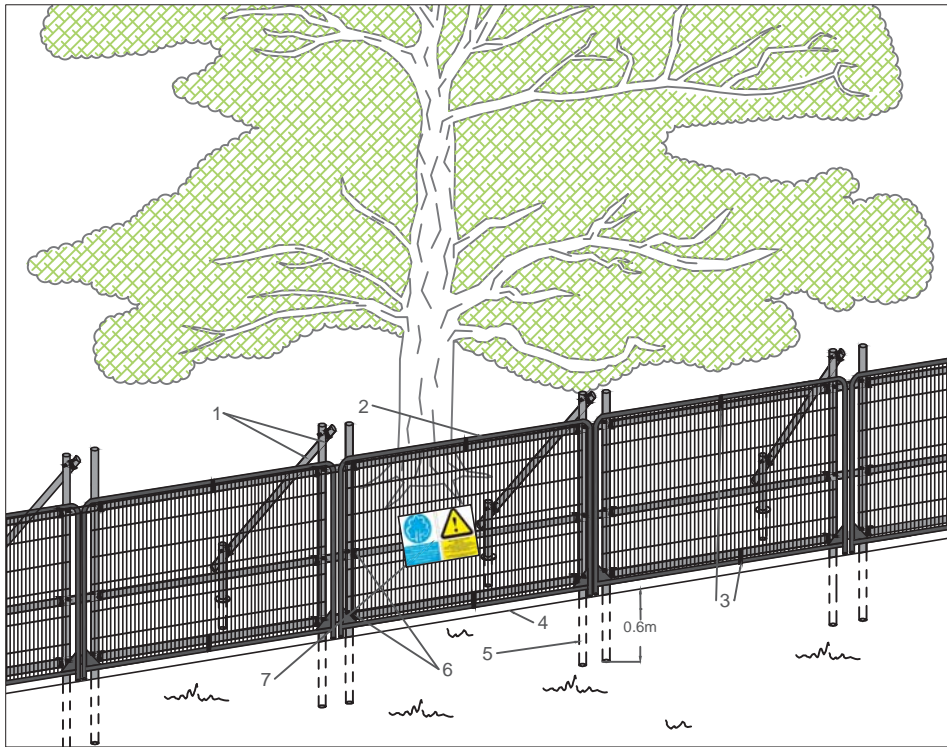
Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
TG11	Midland Hawthorn Crataegus laevigata English Elm Ulmus procera English Holly Ilex aquifolium Hazel Corylus avellana Common Ash Fraxinus excelsior	5	avg 350	2 - 3	SM / EM	G	Densely populated group resulting in interlocking branches Foli damage on the western side	55	4.2	C (ii)
TG12	3 x Common Beech Fagus sylvatica	10	500	7	EM	G	Less than a 2 metre clearance on parts of the southern canopy Interlocking branches present Light ivy cover of the tree up to 4m above ground Leaning stem that is corrected at 1.5m Lightly sparse upper canopy	113	6.0	B (ii)
TG13	Lawson Cypress Chamaecyparis lawsoniana English Oak Quercus robur Elder Sambucus nigra Plum Prunus domestica English Elm Ulmus procera Whitebeam Sorbus aria	Max 9	avg 400	2 - 3	EM	G	Dense copse that is inaccessible in parts that prevented a thorough assessment Minor and major deadwood evident on many of the trees Some of the specimens had sparse canopies	72	4.8	C (ii)
TG14	Common Hawthorn Crataegus monogyna Elder Sambucus nigra English Holly Ilex aquifolium Small-Leaved Lime Tilia cordata	4	40	1 - 2	EM	F	The group has been trimmed on the southern side (facing the site) The group is densely populated Small quantity of minor deadwood evident	4	1.2	C (ii)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
TG15	1 x Sycamore Acer pseudoplatanus 1 x Common Ash Fraxinus excelsior	Max 11	avg 400	4 - 5	EM	F	Ivy covering the tree up to 7m Sycamore is multi-stemmed from base Interlocking branches within canopy and amongst neighbouring vegetation	72	4.8	B (ii)
TG16	2 x False Acacia Robinia pseudoacacia	16	710 360	7	M	G	The easternmost specimen is twinned stemmed at base Bifurcated stem at 2m on the easternmost tree's most dominant stem The westernmost stem is slightly leaning but no visible signs of bark splitting or soil heave to indicate a hazardous lean Ivy covering the tree Minor and major deadwood	287	9.6	B (ii)
TG17	2 x Common Lime Tilia x europaea	23	avg 760	6.5	M	F	The trees were roughly 5m apart Major epicormic growth throughout typical for the cultivar type Minor and major deadwood Exposed and damaged root on the south side due to vehicular access Compression fork formed at stem union Wounds present at base highly dense canopies Numerous interlocking branches	261	9.1	B (ii)
TG18	Copper Beech Fagus sylvatica 'Purpurea'	Max 7.5	240	1 - 4	SM	G	Generally the group had no major defects	26	2.9	B (ii)
TG19	Cappadocicum Maple Acer cappadocicum Common Larch Larix decidua English Oak Quercus robur Common Hawthorn Crataegus monogyna Yew Taxus baccata Sycamore Acer pseudoplatanus	21	550	6 - 10	M	G	Major dieback within the crowns including major deadwood Typical species forms The majority of the specimens had no major defects	137	6.6	B (ii)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
TG20	English Oak Quercus robur Scott's Pine Pinus sylvestris Wild Cherry Prunus avium Field Maple Acer campestre Common Ash Fraxinus excelsior	11	est avg 300	3 - 5	M	G	Failed limbs evident on the Scott's pines located towards the north of the group Ivy present on some of the specimens Minor deadwood throughout	41	3.6	B (ii)
TG21	Hornbeam Carpinus betulus	6	avg 180	1	Y	G	Typical species form with no major defects	15	2.2	C (ii)
TG22	English Holly Ilex aquifolium Common Ash Fraxinus excelsior	6	avg 140	1	Y	G	Typical species form with no major defects	9	1.7	C (ii)
HEDGEROWS										
H1	Elder Sambucus nigra English Elm Ulmus procera Privet Ligustrum ovalifolium	3	140	1	EM	F	Predominantly privet Tidy in appearance with a consistent shape and height with very few gaps	9	1.7	C (ii)
H2	Elder Sambucus nigra English Elm Ulmus procera Privet Ligustrum ovalifolium English Oak Quercus robur Hazel Corylus avellana	Max 2.5	110	1	EM	F	The hedgerow continues from H1 Predominantly English elms Some dead specimens within the group	5	1.3	C (ii)

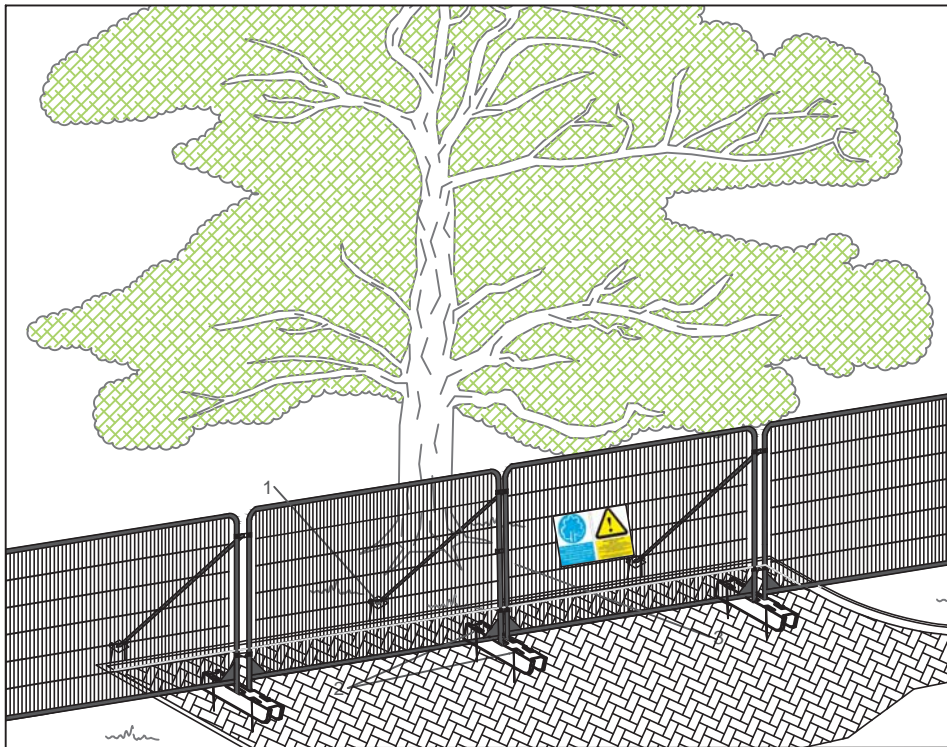
Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H3	Elder Sambucus nigra Field Maple Acer campestre English Elm Ulmus procera Common Hawthorn Crataegus monogyna	2.5	120	1.5	EM	G	Situated on the south and west border of the allotment Consistent hedgerow with a tidy appearance	7	1.4	C (ii)
H4	English Elm Ulmus procera Elder Sambucus nigra Field Maple Acer campestre	2.5	110	1	SM / EM	G	predominantly elder No major defects	5	1.3	C (ii)
H5	Lawson Cypress Chamaecyparis lawsoniana Small-Leaved Lime Tilia cordata Elder Sambucus nigra English Elm Ulmus procera	2.5	120	1.5	Y	G	Only a minority of the group were lime or cypress. Situated on a western border of a residential garden. The hedgerow contained gaps towards the north of the group. No major defects.	7	1.4	C (ii)
H6	Common Hawthorn Crataegus monogyna	3	80	1	SM	F	Small hedgerow possibly once linked with TG10 No major defects	3	1.0	C (ii)
H7	Common Hawthorn Crataegus monogyna Elder Sambucus nigra	2.5	40	1	SM	G	predominantly hawthorn Tidy appearance	4	1.2	C (ii)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H8	Elder Sambucus nigra Common Hawthorn Crataegus monogyna English Elm Ulmus procera Field Maple Acer campestre	2.5	60	1.5	SM	G	Numerous gaps within the hedgerow No major defects	13	2.0	C (ii)
H9	Common Hawthorn Crataegus monogyna	2	30	1	SM	G	Tidy appearance with no major defects	2	0.9	C (ii)
H10	Elder Sambucus nigra	2.5	20 20 20 20	1	EM	F	No major defects	1	0.5	C (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

Protective Fencing to be positioned to the specified dimensions in accordance with Figure 3 Tree Retention Plan

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

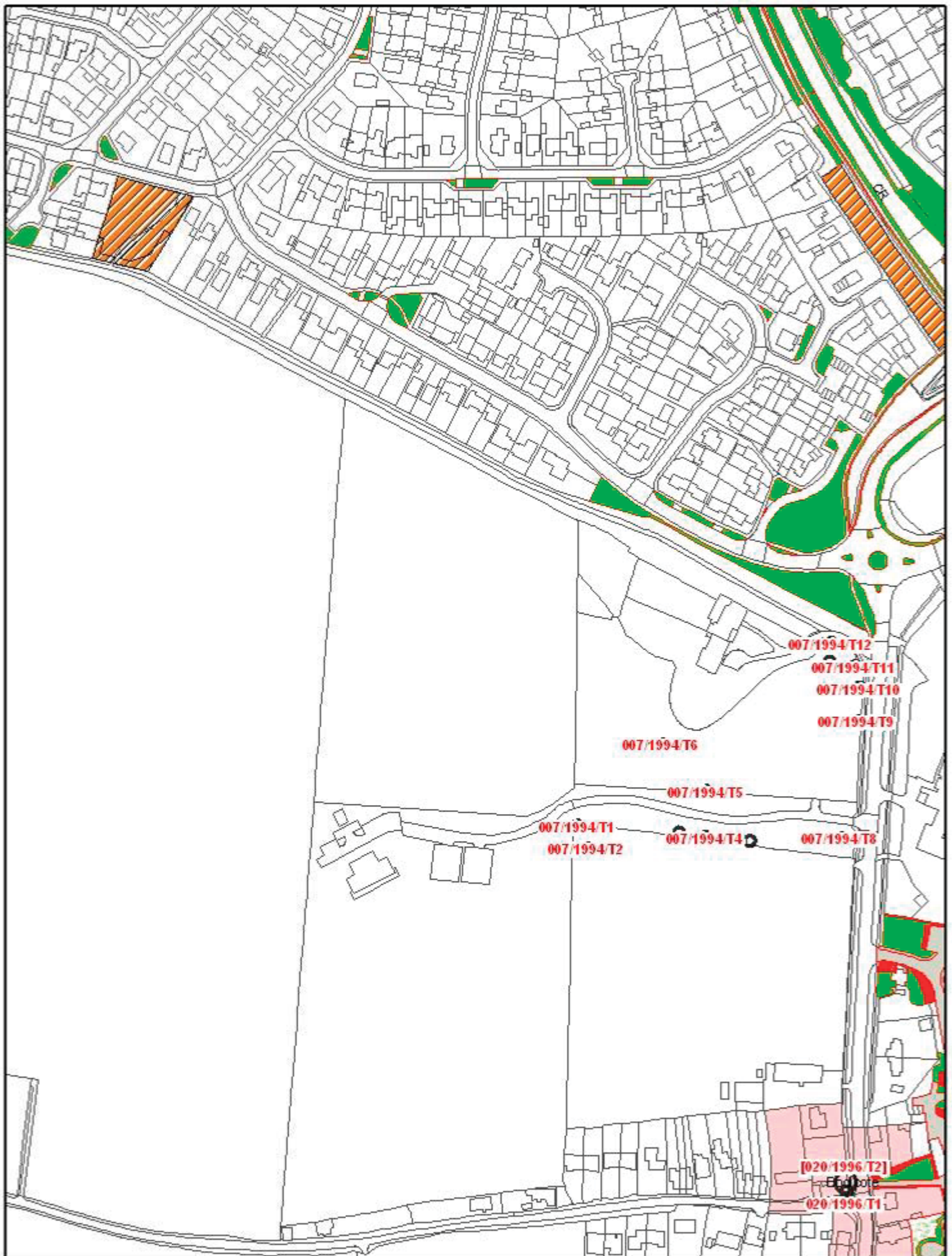
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Appendix C

Extract of Tree Preservation Order Plan

Cherwell District Council

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