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1.0 INTRODUCTION

1.1 This report has been prepared by FPCR Environment and Design Limited on behalf of Gladman Developments to present the findings of an arboricultural assessment and survey of trees located at Lightwood Road, Yoxall, Staffordshire (hereafter referred to as the site). The site was centered on OS Grid Ref SK 138 186 and is shown in Figure 1. The survey was carried out on 21st May 2014.

1.2 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.

1.3 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.

1.4 The site, covering an area of 7.36 Ha was situated on the south western side of Yoxall and consisted of three field parcels enclosed by well-established hedgerows on most of their boundaries. At the time of the assessment the southern field was supporting a crop of oilseed rape and the central and northern fields contained long grass. The southern boundary of the site met with Bondfield Lane. The eastern side of the site met existing residential properties of Lightwood Road, Hollys Road and Ferrers Road. There was a Public Right of Way which ran along the eastern boundary from Bondfield Lane in the south to Ferrers Road in the north. The northern boundary of the site met with Yoxall playing field and the western boundary of the site was bounded by arable field parcels beyond which was further agricultural land.

1.5 The tree cover on the site was not extensive and was all confined to the hedgerows which formed both the site boundaries and the field parcels. The dominant tree species present was English oak Quercus robur examples of which, by virtue of their open grown forms and physical proportions, formed key features of the local landscape. Further species present consisted of smaller numbers of ash Fraxinus excelsior, holly ilex aquifolium, field maple Acer campestre, hawthorn Crataegus monogyna and purple plum Prunus cerasifera Pissardi. The hedgerows mostly comprised of hawthorn and elder Sambucus nigra and have generally been maintained.

1.6 It is understood following consultation with the Local Planning Authority, East Staffordshire Borough Council, that there are no tree preservation orders or conservation area designations that would apply to any trees present on, or in close proximity to the assessment site. Therefore there would not be any statutory constraints applied to the development in respect of trees.
1.7 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 the 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 principal recommendations for mitigation planting and 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.

1.8 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 the 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 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.
2.4 **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 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 and 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 and 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, groups and hedgerows 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 By definition, a hedgerow is described as any boundary line of trees or shrubs less than 5m wide at the base, provided that the trees or shrubs are under a regular pruning regime.

2.11 For the tree survey and arboricultural assessment undertaken in accordance with BS 5837:2012, hedgerows and substantial internal or boundary hedges (including evergreen screens) have been recorded including lateral spread, height and stem diameter(s). 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.

2.12 A tree survey in accordance with British Standard 5837:2012 does not assess hedgerows against the Hedgerow Regulations 1997 or specifically from an ecological perspective, as such would be outside the scope of the British Standard assessment.

**Conditions of Tree Survey**

2.13 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**

2.14 The individual positions of trees and groups have been shown on the Tree Survey Plan, Figure 2 (drawing no. 6235-A-02 Rev A). 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.

2.15 As part of the Arboricultural Impact Assessment, a Tree Retention Plan, Figure 3 (drawing no. 6235-A-03 Rev B) has been prepared to show the proposed layout in relation to the existing tree cover allowing an assessment of any potential conflicts.
2.16 The plan also identifies which trees 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).

**Tree Constraints and Root Protection Area (RPA)**

2.17 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.

2.18 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 sixteen individual trees, one group of trees and twelve 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 as per the description. Refer to Figure 2 – Tree Survey Plan (drawing no. 6235-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 indicated on the following table have been discussed in more detail, owing to their physical condition or arboricultural significance.

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<td>Category B (Moderate Quality / Value)</td>
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3.2 T2 was a mature English oak *Quercus robur* approximately 10m in height situated within the hedgerow forming the western boundary of the site. The specimen displayed an evenly balanced crown and had light ivy cover on the stem as well as a small quantity of dead wood present. It is considered typically characteristic of the species with no obvious defects. For its good condition and considerable future life expectancy by virtue of the species, T2 was considered to be retention category A.
T13 was a mature English oak approximately 8m in height which presented an even crown form with no obvious defects. It was situated approximately 5m offsite and is part of a small group of trees within the grounds of the playing field. For its good condition and considerable future life expectancy by virtue of the species, T2 was considered to be retention category A.

T14 was a further mature English oak approximately 13m in height situated within the site and within the hedgerow between the central and northern field parcels. The specimen displayed a low hanging yet evenly balanced crown with no obvious defects other than a small amount of minor flail damage to the lower crown on its south side. For its good condition and considerable future life expectancy by virtue of the species, T2 was considered to be retention category A.

T16 was a notable English oak approximately 11m in height situated within the hedgerow forming the southern boundary of the site along Bondfield Lane. The specimen housed some broken branch material which is likely to have been the result of past storm damage. Within the crown also was noted other incidental sections of both minor and major dead wood. It appeared that the specimen is beginning to “re-trench”, a process whereby the crown dies back from the outer edges to form a reduced live crown. Re-trenchment can be a natural process in the species as part of the onset of maturity. In this condition and at this particular life stage, specimens of oak can often form “stag-headed” appearances whereby dead wood form “antlers” which protrude from the live canopy. There was no apparent cause or any other reason at the time of the assessment why T16 would be in such a condition and therefore it leads to the conclusion that the current condition is part of its natural aging process. The trunk and canopy did support dense ivy growth thus limiting the extent of the visual ground level assessment and it would be recommended that to complete a thorough assessment, the ivy is removed and that the tree is inspected aerially for any hidden defects. However notwithstanding this, for its reduced physical quality and onset of maturity, T16 was downgraded to retention category B accordingly. When assessed against criteria for Veteran Trees, T16 was deemed to not possess the required minimum number of characteristic features and was therefore not considered of such a status. There may also be some re-trenching taking place as there are some staghead features visible in the higher crown.

T7 was a large and prominent common ash *Fraxinus excelsior* approximately 16m in height situated within the hedgerow between the southern and central field parcels. The specimen presented an evenly balanced crown which had a spread of up to 7m radially. There were no obvious defects and the tree was considered to be retention category B.

T12 was another large and mature common ash approximately 14m in height situated on the northern boundary of the site. It too had an evenly balanced crown which spread up to 7m radially and on to the site. The stem supported dense ivy to a height of approximately 10m and the crown contained a small amount of minor dead wood. It was considered to be retention category B.

T1 and T3 were large (for species) multi-stemmed holly *Ilex aquifolium* being approximately 6m and 8m in height respectively. They were situated along the western boundary of the site within the hedgerow of the southern field. They both possessed balanced crown forms and presented no obvious defects. It was noted at the time of the assessment that the lower growth of T3 had been mechanically flailed. They were both considered to be retention category B.
3.9  T15, situated within the hedgerow on the western side of the site was a large (for species) multi-stemmed hawthorn being approximately 6m in height with a balanced crown. There were a small number of bark wounds on the lower stem and some crown dieback noted however overall the specimen was in fair general condition. Subsequently, T15 was considered to be retention category B.

3.10  T4 was a common ash situated in the corner of the westerly field parcel where H1 and H2 met. The stem of the specimen had previously failed at approximately 4m and the current crown material was formed by three lead stems from re-growth emanating from the old main stem, each being approximately 300mm in diameter). The stem is physically positioned on the opposite side of the field ditch at a slightly elevated level to the field atop a bank feature. Visible was decay within the original stem and signs of the onset of hollowing. The specimen could certainly be retained as habitat for contributing to the sites bio-diversity and if necessary crown growth controlled by regular cutting back. For its reduced physical quality and limited future life expectancy, T4 would be regarded as retention category C.

3.11  T6 was a sizable field maple approximately 5m in height situated within the hedgerow between the southern and central field parcels. It possessed a limited amount of live growth and was therefore considered to be retention category U.

3.12  TG1 was an outgrown part of hedgerow H10 consisting of a group of three large multi-stemmed hawthorn being up to 7m in height and having interlocked crowns. There were no obvious defects although the lower stems were obscured by ivy thus limiting the assessment. The group was situated along the eastern boundary of the site adjacent to Lightwood Road. Collectively the group was considered to be retention category B

3.13  All the hedges on site with the exception of H4, H5 and H7 consisted predominantly of hawthorn with some elder and the occasional holly, blackthorn Prunus spinosa, field maple, English oak and common ash. From an arboricultural perspective H2 and H6 were considered retention category B due to being more established, generally larger stem diameters, species mix and overall condition. The remainder were considered to be retention category C.

3.14  Hedges H4 Leyland cypress Cupressocyparis leylandii, H5 pyracantha and H7 plum Prunus domestica were all forming part of the eastern residential boundary and thought to have been planted at the time of the residential properties.

4.0  ARBORICULTURAL IMPACT ASSESSMENT (AIA)

4.1 The following paragraphs present 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 (Drawing No. 5448 / ASP03 rev E) 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, with access from Bondfield Lane and potential secondary access from Lightwood Road. 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.
4.3 The development framework plan illustrates a series of developable parcels linked by a number of internal secondary access roads which will be accessed through a proposed new access positioned at the eastern end of the southern boundary. A large area of public open space is to be positioned in the western most field parcel, along with a further area in the south eastern corner which would accommodate the flood attenuation pond. It is anticipated that the open spaces would include areas of structured amenity planting including provision for new ornamental trees and shrubs, and in the westernmost open space there would be a play area.

4.4 The vast majority of the existing tree cover along the southern, western and eastern boundaries as well as the two tree / hedged internal field boundaries shall be retained and enhanced with new planting in landscaped corridors, the aim being to reducing the level of overall visual impact of the proposed development to the adjacent residential areas through buffer screening to be in keeping and to maintain the rural landscape character of the area.

4.5 An existing public footpath is situated along the eastern boundary and will be further strengthened and enhanced through structured tree planting as part of a landscape scheme. The footpaths would be utilised to provide links to the existing residential areas to the east.

4.6 A retained permissive footpath link along the southern boundary will pass within the site.

4.7 The arboricultural impacts are as follows:

4.8 For the most part the layout is able through its design and to retain and incorporate the majority of existing individual trees and hedgerows by virtue of their peripheral locations around the boundaries of the site, only requiring the removal of small sections of hedgerows H3, H9 and H12 to facilitate the new road links. T16, the mature oak along Bondfield Lane will also need to be removed as the lane requires widening in order to deliver a new access point. These removals are further described in paragraphs below.

4.9 In order to facilitate the primary access off Bondfield Lane a small section of H12 would need to be removed. It is considered from an arboricultural perspective that the removal of this short section of hedgerow would have a low level of impact on the sites overall value as the remainder of the hedge along the lane is to be retained and new planting near the new entrance would mitigate for its loss.

4.10 Close to the proposed new access point is T16, a mature oak whose position is adjacent to the existing field gate entrance. The tree would need to be removed to facilitate the new access as part of the access provision it will be necessary to widen the lane which would impact directly on the tree. As mitigation for its loss, it is proposed to plant a series of new hedgerow oak along the southern boundary which would seek to not only replace the loss of T16 but would increase the tree cover along the lane which is currently devoid of any other trees. Although the loss of T16 in arboricultural terms would be regrettable, it is unavoidable if widening is to be undertaken however, through planting of new oak it would provide future trees in keeping with the rural character of the lane therefore being a net gain.

4.11 For the proposed secondary access point positioned along the eastern boundary off Lightwood Road there will not be any loss of trees or hedges, as this part of the boundary is devoid of any vegetation.
4.12 All of the hedgerows within the site were regarded from an arboricultural perspective to be of limited to moderate arboricultural value and as a result were considered to present a retention category B and C accordingly. All of the hedgerows surveyed would be retained albeit removal of small sections for a number of internal link roads.

4.13 The position of the main point of access, internal roads and footpaths would require openings to be made in H3, H9 and H12. As the majority of the hedges would be retained and unaffected by the development, the loss of these small sections for road access points should not raise any particular objection from an arboricultural perspective as there will be new tree and hedge planting as part of the supporting landscaping scheme.

4.14 The overall amount and quality of tree cover on site would be improved through the implementation of future development which will include a landscape scheme which incorporates tree planting to mitigate for the small amount of tree losses on site and to improve the overall visual amenity for local residents, as well as managing the existing trees being retained through targeted future management.

**Mitigation for Tree and Hedgerow Losses and New Tree Planting**

4.15 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 and hedges 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.

4.16 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.

4.17 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.

4.18 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

4.19 Should the layout in its current form be approved, a review of the relationship between the layout and the retained trees should be undertaken by a qualified arboriculturalist to prepare an approved 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.

4.20 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.

4.21 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.

4.22 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

4.23 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.

4.24 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.

4.25 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 required by conditioning should planning permission be granted. 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 was situated on the south western side of Yoxall and consisted of three field parcels enclosed by well-established hedgerows on most of their boundaries. At the time of the assessment the southern field was supporting a crop of oilseed rape and the central and northern fields contained long grass. The southern boundary of the site met with Bondfield Lane. The eastern side of the site met existing residential properties of Lightwood Road, Hollys Road and Ferrers Road.

6.2 The tree cover on the site was in the most part situated around the outer peripheries of the site generally found situated within field bounding hedgerows. The dominant tree species present was English oak Quercus robur examples of which, by virtue of their open grown forms and physical proportions, formed key features of the local landscape. Further species present consisted of smaller numbers of ash Fraxinus excelsior, holly Ilex aquifolium, field maple Acer campestre, hawthorn Crataegus monogyna and purple plum Prunus cerasifera Pissardi. The hedgerows mostly comprised of hawthorn and elder Sambucus nigra and have generally been maintained.

6.3 The AIA has been based upon the Development Framework Plan and seeks to outline the potential impact that the proposals would have on the existing trees. The development framework plan illustrates a series of developable parcels linked by a number of internal secondary access roads which will be accessible through a proposed new access to the eastern end of the southern boundary. Areas of public open space shall be created in the western most field parcel and south eastern corner. It is anticipated that these areas of the site would include areas of structured amenity planting including provision for new ornamental trees and shrubs. The means of flood attenuation in the form of a balancing pond will be housed in the south eastern corner.
6.4 In the most part the layout is able through its design to retain and incorporate the majority of existing individual trees and hedgerows by virtue of their peripheral locations around the boundaries of the site, only requiring the removal of short sections of hedgerows H3, H9 and H12. T16 will also need to be removed to due to the proposed widening of the lane in the vicinity of the new principal access point off Bondfield Lane.

6.5 The hedgerow losses which would need to occur are of low arboricultural value and as such their loss would not be considered to have a detrimental impact on the assessment site nor raise objection on arboricultural grounds.

6.6 The loss of T16 will be mitigated for with a series of new oak trees to be planted along the southern boundary which is currently devoid of any other tree cover. The delivery of trees along the southern boundary should be regarded as a positive gain arboriculturally in respect of the overall quantity and quality of trees to that of the current tree population in this part of the site.

6.7 Overall, the proposals would provide an opportunity to plant trees and hedgerows that would give a net increase in tree cover across the site area, create new amenity and ensure continuation of tree cover locally for both landscape quality and nature conservation through supporting local wildlife habitats by linking hedgerows and trees beyond the site boundaries for future generations.

6.8 Further assessment may however be required at the detailed design stage of to identify any potential conflicts that may arise once the built element of the scheme has been finalised. An assessment should be made regarding structures being positioned outside of the root protection areas of peripheral trees. The overall amount and quality of tree cover on site would be improved through the implementation of future development which includes a sufficient landscape scheme which incorporates tree planting to mitigate for the small amount of tree losses on site and to improve the overall visual amenity for local residents, as well as managing the existing trees being retained through targeted management.
NOTES
All dimensions to be verified on site. Do not scale this drawing. All discrepancies to be clarified with project Arboriculturalist.

Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule.

Drawing produced in colour, a monochrome copy should not be relied upon, and is based on digital information supplied by the client in dwg format. The exact position of trees are to be checked and verified on site prior to any tree work or construction work being undertaken.

Trees are living organisms that change over time; the condition of all trees illustrated herein, are to be checked by a qualified arboricultural or tree surgeon should works commence 12 months after the time of this survey. Please note that no works should be undertaken to any trees illustrated herein without first obtaining the proper authorisation to do so.

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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)

Hedges (Reaction 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

Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)

Legend:

N
50m
100m
Scale 1:2000 @ A3

T1 (A)
TG1 (A)

Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)
## Appendix A - Tree Schedule

<table>
<thead>
<tr>
<th>Measurements</th>
<th>Age Class</th>
<th>Overall Condition</th>
<th>Root Protection Area (RPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height - estimated from ground level (m).</td>
<td>YNG: Young trees up to ten years of age.</td>
<td>G - Good: Trees with only a few minor defects and in good overall health needing little, if any attention.</td>
<td>• The RPA column gives the required area (m²). • The RPA Radius column gives the radius (m) of an equivalent circle.</td>
</tr>
<tr>
<td>Stem Dia. - Diameter measured (mm) in accordance with Annex C of the BS5837.</td>
<td>SM: Semi-mature, trees less than 1/3 life expectancy.</td>
<td>F - Fair: Trees with minor, but rectifiable, defects or in the early stages of stress from which it may recover.</td>
<td>• 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.</td>
</tr>
<tr>
<td>Crown - crown spread estimated radially from the main stem (m).</td>
<td>EM: Early mature, trees 1/3 – 2/3 life expectancy.</td>
<td>P - Poor: Trees with major structural and/or physiological defects such that it is unlikely the tree will recover in the long term.</td>
<td></td>
</tr>
<tr>
<td>Abbreviations</td>
<td>M: Mature trees, over 2/3 life expectancy.</td>
<td>D - Dead: Trees no longer alive. This could also apply to trees that are dying and unlikely to recover.</td>
<td></td>
</tr>
<tr>
<td>est - Estimated stem diameter</td>
<td>OM: Over mature, declining or moribund trees of low vigour.</td>
<td>In the assessment, of the BS category, particular consideration has been given to the following • 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</td>
<td></td>
</tr>
<tr>
<td>avg - Average stem diameter for multiple stems upto - Group has a maximum stem diameter of</td>
<td>V: Veteran, tree possessing certain attributes relating to veteran trees.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations:
- est - Estimated stem diameter
- avg - Average stem diameter for multiple stems
- upto - Group has a maximum stem diameter of
The following has been considered when inspecting structural condition:

- 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.

### Structural Condition

### Quality Assessment of Retention Category

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category U</td>
<td>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.</td>
</tr>
<tr>
<td>Category A</td>
<td>Trees of high quality with an estimated remaining life expectancy of at least 40 years.</td>
</tr>
<tr>
<td>Category B</td>
<td>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.</td>
</tr>
<tr>
<td>Category C</td>
<td>Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.</td>
</tr>
</tbody>
</table>

Sub-categories: (i) - Mainly arboricultural value  
(ii) - Mainly landscape value  
(iii) - Mainly cultural or conservation value
## Appendix A - Summary

### Individual Trees vs. Totals

<table>
<thead>
<tr>
<th>Category</th>
<th>Tree Groups and Hedgerows</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category U</td>
<td>T6</td>
<td>1</td>
</tr>
<tr>
<td>Category A</td>
<td>T2, T13, T14</td>
<td>3</td>
</tr>
<tr>
<td>Category B</td>
<td>T1, T3, T7, T12, T15, T16</td>
<td>6</td>
</tr>
<tr>
<td>Category C</td>
<td>T4, T5, T8, T9, T10, T11</td>
<td>6</td>
</tr>
</tbody>
</table>

### BS5837 category: Individuals

- Category U: 6%
- Category A: 19%
- Category B: 38%
- Category C: 37%

### BS5837 category: Groups of trees

- Category U: 0%
- Category A: 0%
- Category B: 23%
- Category C: 77%

### Age distribution of tree stock

- Young: 0%
- Semi Mature: 0%
- Early Mature: 0%
- Mature: 0%
- Over mature: 0%
- Veteran: 97%
<table>
<thead>
<tr>
<th>Tree No</th>
<th>Species</th>
<th>Height</th>
<th>Stem Dia.</th>
<th>Crown Radius</th>
<th>Age Class</th>
<th>Overall Condition</th>
<th>Structural Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Holly (Ilex aquifolium)</td>
<td>6</td>
<td>est 200</td>
<td>3</td>
<td>M</td>
<td>G</td>
<td>Hedgerow tree with 3 main leaders from approximately 1m</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>200 230</td>
<td></td>
<td></td>
<td></td>
<td>Typical form of the species with an evenly balanced crown and no obvious defects</td>
</tr>
<tr>
<td>T2</td>
<td>English Oak (Quercus robur)</td>
<td>10</td>
<td>550</td>
<td>5</td>
<td>M</td>
<td>G</td>
<td>Typical form of the species with and evenly balanced crown, minor dead wood and light Ivy on the stem</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No obvious defects</td>
</tr>
<tr>
<td>T3</td>
<td>Holly (Ilex aquifolium)</td>
<td>8</td>
<td>570 (base)</td>
<td>4</td>
<td>M</td>
<td>G</td>
<td>Multi stemmed from below 1m with one main leader and 6 other ranging from 200 to 100mm diameter.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower growth has been flailed and there are numerous side suckers Possibly and old coppice</td>
</tr>
<tr>
<td>T4</td>
<td>Common Ash (Fraxinus excelsior)</td>
<td>9</td>
<td>800 up to</td>
<td>5</td>
<td>M</td>
<td>F</td>
<td>Positioned on the opposite side of the ditch on a bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td>The old original stem has failed at approximately 4m and 3 regrowth leaders are now present (each approx 300mm dia)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>There is only a small amount of decay in the original stem</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Could be trimmed back for habitat purposes</td>
</tr>
<tr>
<td>T5</td>
<td>Holly (Ilex aquifolium)</td>
<td>6</td>
<td>est 250</td>
<td>3</td>
<td>M</td>
<td>G</td>
<td>Part of hedge</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Typical form of the species with an evenly balanced crown and no obvious defects</td>
</tr>
<tr>
<td>T6</td>
<td>Field Maple (Acer campestre)</td>
<td>5</td>
<td>est 270</td>
<td>N-3</td>
<td>M</td>
<td>P</td>
<td>In a moribund condition with limited live growth</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S-0</td>
<td></td>
<td></td>
<td>Minor basal suckers</td>
</tr>
<tr>
<td>T7</td>
<td>Common Ash (Fraxinus excelsior)</td>
<td>16</td>
<td>540 up to</td>
<td>7</td>
<td>M</td>
<td>G</td>
<td>Part of the hedgerow having a balanced even crown and only minor dead wood</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>No obvious defects</td>
</tr>
<tr>
<td>T8</td>
<td>Purple Plum (Prunus cerasifera Pissardii)</td>
<td>6</td>
<td>est 300</td>
<td>up to 3</td>
<td>M</td>
<td>G</td>
<td>Positioned 1m offsite on private property</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Typical form of the species</td>
</tr>
<tr>
<td>Tree No</td>
<td>Species</td>
<td>Height</td>
<td>Stem Dia.</td>
<td>Crown Radius</td>
<td>Age Class</td>
<td>Overall Condition</td>
<td>Structural Condition</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------</td>
<td>--------</td>
<td>-----------</td>
<td>--------------</td>
<td>-----------</td>
<td>------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>T9</td>
<td>Holly Ilex aquifolium</td>
<td>6</td>
<td>est 150</td>
<td>3</td>
<td>M</td>
<td>G</td>
<td>Positioned 1m offsite on private property Twin stemmed</td>
</tr>
<tr>
<td>T10</td>
<td>Hawthorn Crataegus monogyna</td>
<td>6</td>
<td>est 250</td>
<td>3</td>
<td>M</td>
<td>G</td>
<td>Positioned just offsite on private property it forms part of the hedgerow Typical form of the species Some dead wood in the upper crown</td>
</tr>
<tr>
<td>T11</td>
<td>Common Ash Fraxinus excelsior</td>
<td>5</td>
<td>150</td>
<td>2</td>
<td>EM</td>
<td>G</td>
<td>Offsite by approximately 1m Light ivy on stem and no obvious defects</td>
</tr>
<tr>
<td>T12</td>
<td>Common Ash Fraxinus excelsior</td>
<td>14</td>
<td>700 (over ivy)</td>
<td>up to 7</td>
<td>M</td>
<td>G</td>
<td>Thought to be just offsite (behind fence) Even balanced crown with minor dead wood Dense ivy to approximately 10m</td>
</tr>
<tr>
<td>T13</td>
<td>English Oak Quercus robur</td>
<td>8</td>
<td>est 350</td>
<td>5</td>
<td>M</td>
<td>G</td>
<td>Offsite by approximately 5m Part of a small group of trees consisting of Hawthorn, Beech &amp; Birch</td>
</tr>
<tr>
<td>T14</td>
<td>English Oak Quercus robur</td>
<td>13</td>
<td>700</td>
<td>5</td>
<td>M</td>
<td>G</td>
<td>The tree has a low evenly balance crown with minor dead wood and some minor flail damage to the south side No obvious defects</td>
</tr>
<tr>
<td>T15</td>
<td>Hawthorn Crataegus monogyna</td>
<td>6</td>
<td>360</td>
<td>N - 3</td>
<td>M</td>
<td>G</td>
<td>A large multi-stemmed example of the species with minor dead wood and some dieback There are some bad wounds present on the lower stems</td>
</tr>
<tr>
<td>T16</td>
<td>English Oak Quercus robur</td>
<td>11</td>
<td>750 (over ivy)</td>
<td>up to 6</td>
<td>M</td>
<td>G</td>
<td>Typical form of the species with evidence of storm damage (dead branch stubs) Dense ivy obscuring the base and extending into the limbs Sporadic areas of dead wood and some stagheads forming indicating the possible onset of re-trenchment</td>
</tr>
</tbody>
</table>

**Typical form of the species with evidence of storm damage (dead branch stubs) Dense ivy obscuring the base and extending into the limbs Sporadic areas of dead wood and some stagheads forming indicating the possible onset of re-trenchment**
<table>
<thead>
<tr>
<th>Group No</th>
<th>Species</th>
<th>Height</th>
<th>Stem Dia.</th>
<th>Crown Radius</th>
<th>Age Class</th>
<th>Overall Condition</th>
<th>Structural Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG1</td>
<td>3 Hawthorn Crataegus monogyna</td>
<td>up to 7</td>
<td>150</td>
<td>up to 4</td>
<td>M</td>
<td>G</td>
<td>Outgrown part of the hedgerow Multi stemmed specimens with typical form having interlocking crowns Bases obscured by ivy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPA</th>
<th>RPA Radius</th>
<th>BS5837 Cat</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>3.1</td>
<td>B (i)</td>
</tr>
<tr>
<td>Hedge No</td>
<td>Species</td>
<td>Height</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td>H1</td>
<td>Elder Sambucus nigra Hawthorn Crataegus monogyna Holly Ilex aquifolium</td>
<td>2</td>
</tr>
<tr>
<td>H2</td>
<td>Hawthorn Crataegus monogyna Field Maple Acer campestre Elder Sambucus nigra Holly Ilex aquifolium Blackthorn Prunus spinosa</td>
<td>up to 6</td>
</tr>
<tr>
<td>H3</td>
<td>Hawthorn Crataegus monogyna Elder Sambucus nigra Blackthorn Prunus spinosa</td>
<td>1.5</td>
</tr>
<tr>
<td>H4</td>
<td>Leyland Cypress Cupressocyparis leylandii</td>
<td>2</td>
</tr>
<tr>
<td>H5</td>
<td>Pyracantha</td>
<td>1</td>
</tr>
</tbody>
</table>
**Hedge No** | **Species** | **Height** | **Stem Dia.** | **Crown Radius** | **Age Class** | **Overall Condition** | **Structural Condition** | **RPA** | **RPA Radius** | **BS5837 Cat** |
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
H6 | Hawthorn
Crataegus monogyna
Elder
Sambucus nigra
Blackthorn
Prunus spinosa
Holly
Ilex aquifolium | 2 | av 150
100
80 | 0.5 | M | G | Old field hedge now forming a private residential boundary
Clipped to maintain a consolidated form | 18 | 2.4 | B (ii) |
H7 | Plum
Prunus domestica | 2 | av 100
100
100 | 0.5 | M | F | Short length of hedgerow with has been topped at 2m consisting of separate stems planted 0.5m apart | 14 | 2.1 | C (ii) |
H8 | Hawthorn
Crataegus monogyna
Elder
Sambucus nigra | 1.5 | Est av 150
100
80 | 0.5 | M | G | Regularly cut to maintain a consolidated form
Predominantly hawthorn with elder interspersed throughout | 18 | 2.4 | C (ii) |
H9 | Hawthorn
Crataegus monogyna
Elder
Sambucus nigra | 1.5 | Est av 150
100
80 | 0.5 | M | G | Regularly cut to maintain a consolidated form
Predominantly hawthorn with elder interspersed throughout | 18 | 2.4 | C (ii) |
H10 | Hawthorn
Crataegus monogyna
Elder
Sambucus nigra
Flowering Cherry
Prunus 'Kanzan'
Silver Birch
Betula pendula | 4 | av 80
80
80 | 0.5 | M | G | Well established hedgerow predominantly hawthorn with elder interspersed plus the occasional cherry and birch
Maintained up to a height of 4m with the occasional outgrown hawthorn being higher | 9 | 1.7 | C (ii) |
H11 | Hawthorn
Crataegus monogyna
Elder
Sambucus nigra
Holly
Ilex aquifolium | 1.5 | av 150
100
80 | 0.5 | M | G | Regularly cut to maintain a consolidated form
Predominantly hawthorn with elder interspersed throughout
There are occasional gaps | 18 | 2.4 | C (ii) |
<table>
<thead>
<tr>
<th>Hedge No</th>
<th>Species</th>
<th>Height</th>
<th>Stem Dia.</th>
<th>Crown Radius</th>
<th>Age Class</th>
<th>Overall Condition</th>
<th>Structural Condition</th>
</tr>
</thead>
</table>
| H12      | Hawthorn, Crataegus monogyna, Elder, Sambucus nigra, Holly, Ilex aquifolium, Quercus robur, Common Ash, Fraxinus excelsior | 1.5    | av 150    | 0.5          | M          | G                  | Road side hedgerow
Regularly cut to maintain a consolidated form
Predominantly hawthorn with elder interspersed throughout |
|          |                                |        | 100       |              |            |                    | RPA 18  
RPA Radius 2.4  
BS5837 Cat C (ii) |
Default specification for protective barrier
1. Standard scaffold poles
2. Heavy gauge 2m tall galvanised tube and welded mesh 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

Above ground stabilising systems
1. Stabiliser strut with base plate secured with ground pins
2. Stabiliser strut mounted on block tray