Andrew Granger and Co LLP

Grounds of The Former Rectory, Main Street, Ratby, Leicestershire

Arboricultural Assessment

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FPCR Environment and Design Ltd
Registered Office: Lockington Hall, Lockington, Derby DE74 2RH
Company No. 07128076. [T] 01509 672772 [F] 01509 674565 [E] mail@fpcr.co.uk [W] www.fpcr.co.uk

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1.0 INTRODUCTION

1.1 This report has been prepared by FPCR Environment and Design Limited on behalf of Andrew Granger and Co LLP to present the findings of a survey of mature trees on land within the grounds of The Former Rectory, Main Street, Ratby, Leicestershire (hereafter referred to as 'the site'). The site is centered on the Ordnance Survey Grid Reference SK 514 064 and is shown as Figure 1. The survey was carried out on the 18th October 2010.

1.2 The purpose of the report is to present an initial assessment of the arboricultural value of the trees based on their current physical condition and quality in accordance with the guidance set out in *BS 5837 Trees in Relation to Construction (2005) – Recommendations,* to help inform any preliminary design and site layout considerations in support a planning application for a small number of residential dwellings to be constructed in the grounds of the existing property. The survey has focused on the major trees present that may be directly affected by the proposals

1.3 Trees, tree groups and woodlands have been considered following evaluation into one of four categories (R, A, B & C) based on tree quality as outlined in *British Standard 5837 (2005).* The categorisation of trees gives an indication of the trees importance in relation to the site and the local landscape and their current arboricultural quality. This allows for informed decisions to be made concerning which trees could be removed or retained in the context of any development proposals. For a tree to qualify under any given category it should fall within the scope of that category's definition. In addition to the categories A, B & C which collectively deal with any trees that would be material considerations in the development process, three sub-categories are applied which reflect arboricultural, landscape and cultural values respectively. Category R trees are those specimens which on arboricultural grounds, due to their poor physiological or structural condition, would be lost in the short-term and therefore would not usually considered in the planning process.

1.4 The site comprised of the grounds of a former rectory which included the principal detached dwelling and its garden. The property is set amongst mature trees on all boundaries of predominantly forest type species such as common lime *Tilia x europaea,* English oak *Quercus robur,* common beech *Fagus sylvatica* and common ash *Fraxinus excelsior.* The dwelling is located within the north eastern portion of the site, the remainder being garden space. The existing access leads of Main Street and follows the eastern boundary. Main Street forms the southern boundary and this boundary is well stocked with mature trees which screen the property effectively. The western boundary adjoins access to further houses along a private drive and is lined with a formally planted row of mature lime. The northern boundary houses several mature trees and leads to open fields beyond. Internally to the site there are only a small number of trees set out in the garden.

1.5 It is understood 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 and therefore there would not be any statutory constraints to the development in respect of trees.

1.6 The report comprises of the following: Chapter 1 provides an introduction to the assessment work, its purpose and background details. Chapter 2 describes the methodology to which the tree assessment has been undertaken.

Chapter 3 presents a written description of the results of the data collected during field work discussing any particular trees of note and thereby providing a guide to establishing any specimens that are worthy of retention. Chapter 4 evaluates the findings in respect of the development proposals in the form of an **Arboricultural Implications Assessment (AIA)** and also provides the principal recommendations for tree protection measures to be considered in terms of 'tree friendly' construction techniques, where required. Chapter 5 presents an indication of the tree protection measures to be required from a general viewpoint, however it must be understood that any specific tree protection requirements should be separately considered where needs arise and at the appropriate stage. This would be in the form of an **Arboricultural Method Statement (AMS),** produced in conjunction with a specific **Tree Constraints Plan (TCP)** and **Tree Protection Plan (TPP),** produced in accordance with guidance in *British Standard 5837 (2005) – Trees in Relation to Construction – recommendations,* and is beyond the scope of the Tree Assessment Report. Appendix A presents a summary table of the tree survey data as collected from a site visit.

2.0 METHODOLOGY

2.1 Trees have been broadly assessed based on guidance set out within the *British Standard BS 5837: (2005) Trees in Relation to Construction – Recommendations.* This standard provides recommendations and guidance on the principles to be applied to achieve successful integration of development with trees, shrubs and hedgerows. Where development (including demolition) is to occur, the standard provides guidance on the approach needed to decide which trees are appropriate for retention, on the means for protecting these trees during the development (including demolition and construction work) and on the means of incorporating trees into the developed landscape.

2.2 Trees have been divided into one of four categories (based on the cascade chart for tree quality assessment within the British Standard). These are classed as A, B, C & R (Section 4.3 of BS 5837). This gives an indication as to the tree's importance in relation to the site and the local landscape and, also, the value and quality of the existing trees on site. This assists informal decisions concerning which trees should be removed or retained should development occur. For a tree to qualify under any given category it should fall within the scope of that category's definition (see below). Categories A, B & C cover trees that should be a material consideration in the development process, each with three further sub-categories (i, ii, iii) which are intended to reflect arboricultural, landscape and cultural (nature conservation) values. Category R 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. In assigning trees to the A, B or C categories the presence of any serious disease or tree – related hazards are taken into account. If the disease is considered fatal and / or irremediable, or likely to require sanitation for the protection of other trees it may be categorised as R, even if they are otherwise of considerable value.

2.3 ***Category (A) – (Light Green):*** are trees whose retention is most desirable and are of high quality and value. These trees are considered to be in such a condition as to be able to make a lasting contribution (a minimum of 40 years) and may comprise:

(i) Trees which are particularly good examples of their species especially rare or unusual, or essential components of groups or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue);

(ii) Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups);

(iii) Trees or groups or woodlands of significant conservation, historical, commemorative or other value (eg. Veteran or wood-pasture trees).

2.4 ***Category (B) – (Blue):*** are trees whose retention is considered desirable and are of moderate quality and value. These trees are considered to be in such a condition as to make a significant contribution (a minimum of 20 years) and may comprise:

(i) Trees that might be included in the high category but because of their numbers or slightly impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage), are downgraded in favour of the best individuals;

(ii) Trees present in numbers such that they form distinct landscape features and attract a higher collective rating than they would as individuals. Individually these trees are not essential components of formal or semi-formal arboricultural features, or trees situated mainly internally to the site and have little visual impact beyond the site;

(iii) Trees with clearly identifiable conservation or other cultural benefits.

2.5 ***Category (C) – (Grey)*****:** are trees that could be retained and are considered to be of low quality and value. These trees are in an adequate condition to remain until new planting could be established (a minimum of ten years) or are young trees with a stem diameter below 50mm and may comprise:

(i) Trees not qualifying in higher categories;

(ii) Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value and or trees offering low or only temporary screening benefit;

(iii) Trees with very limited conservation or other cultural benefits.

2.6 ***Category (R) – (Dark Red)*****:** Trees for removal are those trees in such a condition that any existing value would be lost within 10 years and which should in the current context be removed for reasons of sound arboricultural management. Trees within this category are:

(i) Trees that have a serious irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category R trees;

(ii) Trees that are dead or are showing signs of significant, immediate or irreversible overall decline;

(iii) Trees infected with pathogens of significance to the health and or/safety of other trees nearby trees or very low quality trees suppressing adjacent trees of better quality.

2.7 In the tree schedule (Appendix A) species has been recorded in both common and Latin names. Tree height has been estimated in metres and stem diameter measured at 1.5 metres above ground level (recorded in millimetres). Crown spread has been measured in metres and given as a radial spread from the stem.

Crown spreads have been measured to the point of greatest spread in most cases unless a crown is clearly asymmentric, in which case measurements have been recorded as radial distance from the stem in one or more of the corresponding compass points, N, S, E or W.

2.8 In the assessment particular consideration has been given to the following when considering the appropriate British Standard Category and Sub-Category allocation:

(a) The health, vigour and condition of each tree;

(b) The presence of any structural defects in each tree and its remaining contribution in years (i.e. future life expectancy);

(c) The size and form of each tree and its suitability within the context of a proposed development for residential land use;

(d) The location of each tree relative to existing site features, e.g. its value as a screen or as a skyline feature.

2.9 Age class is assessed according to the age class categories referred to in BS 5837.

YNG; Young trees up to five years of age.

SM: Semi-mature, trees less than 1/3 life expectancy.

EM: Early mature, trees 1/3 – 2/3 life expectancy.

M: Mature trees over 2/3 life expectancy.

OM: Over mature – declining or moribund trees of low vigor.

V: – Veteran status - Veteran Characteristics have been noted where a tree possesses certain attributes relating to veteran trees.

2.10 The overall condition of the tree, or group of trees, has been referred to as one of the following. A summary has been noted in the Tree Schedule and discussed in the Report.

G **Good**: A sound tree/trees needing little if any attention.

F **Fair**: A tree/trees with minor but rectifiable defects or in the early stages of stress, from which it may recover.

P **Poor**: A tree/trees with major structural and physiological defects or stressed such that it would be very expensive and inappropriate to retain.

D **Dead**: A tree/trees no longer alive. However, this could also apply to those trees that are dying and will be unlikely to recover, or have become dangerous.

2.11 Major defects or diseases and relevant observations have also been recorded under Structural Condition. The assessment for structural condition has included inspection of the following defects:

- 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
- Storm damage
- Canker formations
- Loose bark
- Damage to roots
- Basal, stem or branch / limb cavities
- Crown die-back
- Abnormal foliage size and colour
- Any changes to the timing of normal leaf flush and leaf fall patterns
- Other pathological diseases affecting any part of the tree

2.12 Major defects or diseases and relevant observations have also been recorded. Dead wood has been defined as the following:

Twigs and small branch material	Up to 5cm in diameter
Minor dead wood	5cm to 10cm in diameter
Major dead wood	10cm in diameter and above

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 not been undertaken, being also beyond the immediate 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 & Tree schedules

2.14 The individual positions of trees and groups of trees recorded in the Tree Assessment Report have been shown on the Tree Location, Quality and Constraints Plan, Figure 2 (Drawing no. 4510-A-01). The tree quality element shows the relevant *BS 5837 (2005)* categories for retention considered for each tree and groups of trees.

The positions of trees have been based on a topographical plan supplied by the client in .dwg format (Drawing no. S2815/01 Phoenix Survey Services Ltd – 12/10/2010) for the purpose of accurately illustrating the Root Protection Areas (RPAs) required. The RPAs to be required by the individual and groups of trees are indicated by the Tree Constraints element of the above plan and form the basis for a Tree Constraints Plan (TCP).

Tree Constraints and Root Protection Area (RPA)

2.15 Below ground constraints to future development is represented by the area surrounding the tree that contains sufficient rooting volume to ensure survival of the tree, which need protecting in order for the tree to be incorporated into any future scheme, without adverse harm to the tree or structural integrity of buildings. This is referred to as the RPA and is shown as a circle of a given radius, calculated using the formula below. The circle may be modified in shape to maintain a similar total area depending on the presence of surrounding obstacles. Where groups of trees have been assessed, the RPA has been shown based on the maximum sized tree in any one group and so would exceed the RPAs required for many of the individual specimens within the group. A RPA is equivalent to a circle with a radius 12x the stem diameter for single stem trees and 10x the basal diameter for trees with more than one stem arising less than 1.5 meters above ground level.

Table 1: Formula for calculating Root Protection Area

RPA (m^2) = (stem diameter (mm) x 12 / 1000) ^{2} x 3.142
This figure should be capped to 707m^2, that is, equivalent to a circle with a radius of 15m, or a square with approximately 26m sides

Taken from Table 2: Calculating the RPA , contained within *BS 5837 (2005)*.

3.0 RESULTS OF TREE SURVEY

3.1 Following the survey a total of twenty eight individual trees and two groups of trees were assessed across the site as part of the survey. For the purpose of the report, the results of the assessment have been presented as individual trees and groups of trees where examples are clearly present either as free standing specimens, or naturally occurring groupings within the site. Results have also been collectively presented where commonly occurring tree species showed similar characteristics and physical conditions. Trees which displayed any specific characteristic features or from an arboricultural perspective housed certain defects of concern have been discussed separately. Refer to Figure 2 – Tree Location, Quality and Constraints Plan (drawing no. 4510-A-02) and Appendix A – Tree Schedule for full details.

3.2 Specific details of the individual trees and groups of trees including heights, diameters at breast height (measured at 1.5m), crown spread in metres given as a radial measurement from the stem, age class, comments as to the overall condition at the time of inspection, British Standard category of quality and suitability for retention and the root protection distances have been tabulated in Appendix A – Tree Schedule.

The British Standard element to the assessment derives from the values assigned principally from the individual trees contribution in terms of arboricultural quality, landscape value as being distinct landscape features and ecological value. Sub-categories (i), (ii) or (iii), in accordance with British Standard 5837 (2005) Trees in Relation to Construction have been applied in each assessment of category A, B and C trees to reflect the arboricultural, landscape and cultural values respectively.

Lawson Cypress *Chamaecyparis lawsoniana* Specimens

3.3 T1, T27 and T28 were all Lawson cypress and were located close to the existing access drive. Being between 10 and 11m in height, all three specimens were typically characteristic of the species in appearance. Having multiple-stems, as is typical for the species, there were no obvious physical defects apart from the presence of some minor dead wood and past stem removals. T1 would be considered as retention category B (i) for its visual amenity by virtue of its position close to public vantage points, however T27 and T28 would be downgraded to retention category C (i) for their limited visual amenity and lower arboricultural value.

Category C Trees (Low Quality and Value) – Site Frontage with Main Street

3.4 Amongst the trees along the southerly boundary there were several lower quality specimens. The specimens of this category were T2 and T17, holly *Ilex aquifolium;* T4, T11, T12 and T18 common ash *Fraxinus excelsior;* T5 cherry *Prunus avium* and T7 elm *Ulmus spp.* Due to the dense stocking of trees along the boundary, it was these particular specimens that had become suppressed beneath the crowns of larger and more dominant specimens. Overall heights were low, being between 4 and 12m. Commonly they displayed tall and drawn forms with an absence of lateral branch development and / or leaning stems due to having to compete for space and light. Other defects observed were the presence of minor dead wood, broken branches and light ivy growth on stems. Their future contribution would be limited due to poorer growing conditions and therefore collectively all the named examples would be considered as retention category C (i).

Category C Trees (Low Quality and Value) – Internally Positioned

3.5 A small number of trees were located within the inner parts of the site and several were considered of lower overall quality, namely T19 common lime *Tilia x europaea,* T20 sycamore *Acer pseudoplatanus* and T21 laburnum *Laburnum anagyroides.* T19 was approximately 12m in height and displayed four main stems, having possibly been once coppiced at ground level. There were light ivy cover in the crown and a small quantity of minor dead wood was noted. T20 was approximately 10m in height and displayed four main stems, two of which were side branches which extended from ground level to the east. The specimen had become suppressed in form due to being beneath an adjacent pine. T21 was approximately 3m in height and was twin stemmed from ground level. Several of the branches were broken and there were also a number of branches that had been damaged. Each of the named specimens would be considered of low arboricultural quality and of low amenity value. As such they would be considered as retention category C (i).

Category C Trees (Low Quality and Value) – Northern and Western Boundaries

3.6 The majority of the material assessed along the northern and western boundaries in closest proximity to the property was considered of lower quality, namely T22 and T23 common ash, T24 pink horse chestnut *Aesculus x carnea* and T25 and T26 purple plum *Prunus cerasifera 'Pissardii'.* T22, approximately 17m in height was triple stemmed from ground level, one of which was leaning to the north. The growth was thin and sparse at the time of inspection. T23, approximately 18m in height was also triple stemmed from below 1.5m. It had been subjected to a series of lower lateral limb removals, in which most cases wounds had fully occluded. Ivy growth had reached a height of approximately 8m and the crown supported major dead wood. T24, approximately 12m in height was twin stemmed in form from below 1m and showed active thickening around the union of the two stems in the form of a pronounced rib feature. The stems leant to the south west and there was dense growth of ivy to a height of approximately 10m. The foliage was suffering from Horse Chestnut Leaf Blotch *Guinardia aesculi.* T25 and T26 both approximately 6m were a pair of ornamental trees close to the car parking area. Both examples had been subjected to various pruning works over the years which had resulted creating asymmetrical forms. As well as pruning works, both specimens housed ivy growth and epicormic shoots. Each of the named specimens would be considered of low arboricultural quality and of low amenity value. As such they would be considered as retention category C (i).

Category B Trees (Moderate Quality and Value) – Notable Specimens

3.7 The following examples were considered to be of note by virtue of their conditions and visual prominence. Those specimens were T8 common lime, T10 English Oak *Quercus robur* and TG1 all common lime.

3.8 T8 was a mature specimen approximately 17m in height positioned within the front lawn of the property. It was single stemmed to 3.5m at which point it sub-divided into three main lead stems. The overall appearance was typically characteristic for the species and only exhibited a small quantity of minor dead wood.

3.9 T10 was approximately 14m in height and was positioned amongst the southern boundary planting. It would be assumed, by virtue of its appearance, to be an original hedgerow specimen. The short stubby stem possessed a southerly side branch at approximately 1m and sub-divided into two main stems at 1.5m above the ground. The sub-division point was open in form but showed evidence in the outer bark that there may be some included bark at the base of the union. The crown supported major dead wood and light ivy growth. Past pruning work had removed a minor side branch at 1m above ground level on the western side.

3.10 TG1 was a visually prominent row of trees along the western boundary and extending along part of the northern boundary. All stems were located offsite just the other side of the boundary and there was approximately 6m of overhanging crown into the site. Nearly all the examples displayed typically characteristic basal sucker growth and epicormic growth was prolific in some specimens. The line of trees formed a distinctive feature and had vantage points from outside the site.

3.11 Collectively, the described individual trees and TG1 had future potential and amenity value, and as such would therefore be considered as retention category B (i) and (ii).

Category B Trees (Moderate Quality and Value) – Other Specimens Along the Southern Boundary

3.12 The following trees were notable along the southern boundary and provided strong visual amenity by virtue of their position. Collectively the specimens form a screen to the property and can be easily seen by the general public. The following specimens have been further described below, T3 English Oak, T6 common beech *Fagus sylvatica,* T9 sycamore and oak in one position, T13, T14 and T15 common lime and T16 common ash.

3.13 T3, approximately 13m in height displayed very sparse foliage at the time of inspection. The crown also supported major dead wood. There were no distinctive signs of crown die back but T3 was clearly in overall poor physical health.

Ivy growth was present to a height of approximately 6m. At the time of inspection there was no visible evidence of the cause of decline. At the base of the stem there were several deep hollows between buttresses.

3.14 T6, approximately 16m in height showed a slight sparseness of growth at the time of inspection, although this was possibly due to the onset of autumn. The single stemmed form housed light ivy growth and a small quantity of major dead wood was observed within the crown.

3.15 T9, approximately 15m in height was comprised of both a sycamore and oak growing from the same point. The main specimen was the oak which was triple stemmed in form from ground level. The sycamore had self-seeded in the bole and stems had become fused. The northern stem leans to the north and there was a dense covering of ivy growth throughout both trees.

3.16 T13, T14 and T16 were approximately 16m in height and fairly similar. Single stemmed forms with no obvious physical defects and typically characteristic for the species. There was growth of ivy on the stems.

4.0 DISCUSSION AND RECOMMENDATIONS – ARBORICULTURAL IMPLICATIONS ASSESSMENT

4.1 The following section presents a summary of the tree survey in terms of the collective results and offers discussion of particular trees and groups recorded in the context of any proposed development in the form of an Arboricultural Implications Assessment.

Summary

4.2 The tree stock of the former Rectory property was found to be almost entirely mature and species were mainly large forest type such as oak, beech, lime and ash. There were several specimen cypress trees which added an evergreen dimension to the stock. There had been minimal management of the trees being restricted to a small amount of branch removals when required to achieve access along the drive. The trees were largely positioned around the perimeter of the plot and created an enclosed feel and offered privacy to the dwelling from the outside. Generally trees present were in good physical health and condition, and provided a good level of local visual amenity when seen from outside the boundaries of the property.

Category R - Remove

4.3 There were no trees assessed as Category R status.

Retention Category C – Low Quality and Value

4.4 Following the assessment eighteen of the individual trees were considered as retention category C (low quality and value), namely T2, T4, T5, T7, T11, T12 and T17 – T28. Category C trees are those which displayed a number of physical defects, and/or were in a poor condition or were young in age meaning their contribution to the area could be compensated for with replacement planting within a relatively short period of time. There would be a strong justification to remove category C specimens if required to facilitate the development proposals and provide replacement tree planting more appropriate to the proposed site use elsewhere within the site.

4.5 In any new development it would generally be encouraged that some category C specimens be retained where possible, providing their retention was suitable within the context of the proposals. The short term retention of such trees would provide an instant level of maturity to a new development but it would need to be appreciated that they would only have a short term benefit, a maximum of 20 years, in terms of amenity value, and could possibly be retained whilst new replacement landscape planting becomes established. Once any new planting has become fairly established there would be justification to remove them.

Retention Category B – Moderate Quality and Value

4.6 The remainder of the trees, namely ten individual trees and both groups of trees were assessed as being of a suitable condition for consideration as retention category B (moderate quality and value), namely T1, T3, T6, T8, T9, T10, T13, T14 – T16, TG1 and TG2. Category B specimens are those which displayed fewer defects than category C trees and appeared in fair or good health at the time of inspection. The individual specimens considered as category B were deemed to be of higher amenity value due to their good condition and remaining life expectancies.

4.7 Within the British Standard, those trees / tree groups considered as retention category B would be those specimens that clearly demonstrate ability to contribute a minimum of 20 years to the proposed development in terms of health and amenity value and it would therefore be encouraged to retain these specimens, if appropriate, within the context of the proposals.

Retention Category A – High Quality and Value

4.8 There were no trees assessed as being worthy of Category A status.

COMMENTS IN RESPECT OF THE DEVELOPMENT PROPOSALS

4.9 It is being proposed that the grounds of the Rectory be re-developed to facilitate sufficient space to accommodate up to two new detached dwellings. To access the new properties, it is also being suggested to position a new access point from its current position leading off Main Street. The considerations by way of arboricultural implications brought about as the result of implementation of the development layout as shown are set out below under their relevant sub headings.

4.10 The majority of the existing trees within the grounds of the former Rectory are positioned around the margins, and therefore there should be minimal tree losses overall and limited impacts to those existing trees from any proposals to build within the site. To minimise damage and disturbance to root protection areas for all retained trees it will be necessary to provide adequate tree protection through the erection of tree protection barriers, whilst still allowing sufficient room for access / construction zones for the implementation of the proposed layout. Root Protection Areas are retained in full wherever possible during the construction phases.

4.11 The final positioning of the access road point has been carefully considered from an arboricultural perspective and taking into account highway requirements, following an appraisal of the physical condition and visual quality of the material potentially being affected. The new position has attempted to be sympathetic to the presence of existing trees thereby tree losses have been kept to an absolute minimum to ensure continuity of tree cover along the site frontage, although it is accepted that the new access road in any other position along the frontage would require several trees to be removed. Following the loss of several lower quality specimens to open up a gap for the entrance, it is proposed that in order to retain as many trees as possible, that the new access road be constructed using "tree friendly" no-dig construction methods utilizing those specially engineered road systems built over existing tree roots. This too has been further discussed below. The following few paragraphs offer comments in respect of a Proposed Site Plan (Preliminary Option One Drawing no. 1723-05a-A3 – February 2010) made available at the time of writing, in relation to the existing trees on site.

4.12 In principal, following guidance within *British Standard 5837 (2005) – Recommendations*, it would always generally be encouraged that as many retention category B specimens and groups of trees are retained and integrated into the future development, as far as practically possible, within the context of the proposed development taking place. It is felt that the proposed scheme has achieved the desired balance of retentions and losses through retaining trees of high quality. Where these retentions may potentially conflict with desired layouts, further consideration should be given to the tree losses being required in favour of development and the wider implications this may have in terms of visual landscape and amenity before final decisions are taken.

4.13 If it should be deemed in terms of 'good planning' that the access point and site layout is to be set out in a certain configuration, such as that being proposed at the time of writing, ultimately the loss of any trees to facilitate the layout should be adequately compensated for through the use of suitable replacement planting.

<u>To facilitate the above layout the following trees would need to be removed:</u>

4.14 The trees identified below represent are largely specimens of low value of which their loss from the site ought not to constrain an otherwise acceptable development layout.

4.15 T27 and T28 would be directly affected by the positioning of one of the dwellings. There should not be any major objection to the loss of these particular category C specimens from an arboricultural perspective.

4.16 T19, T20, T21 and one specimen in TG2, would be directly affected by the positioning of the westernmost dwelling. There should not be any major objection to the loss of the category C specimens from an arboricultural perspective.

4.17 The plan also shows T8 to be removed, although it would be recommended that this tree be retained if possible and to carefully work around it using 'tree friendly' construction methods.

4.18 Having appraised the above losses, from an arboricultural perspective, the loss of those specimens internally to the site could be justified. A number of the individual trees were assessed as retention category C (low quality and value), namely T19, T20, T21, T27 and T28, and therefore their loss would not detract greatly from the overall landscape value of the trees on the site within the local area.

4.19 The exception would be the one tree within TG2 which was considered to be of higher value. The loss of this specimen however, due to the groups internal position within the grounds of the Rectory, would not detract greatly from the overall visual amenity being offered to the local landscape from the trees as a whole and therefore could be justified.

Positioning of the Proposed New Access Road

4.20 The new position for the proposed access road would require the loss of two trees, namely T11 and T12. T11 and T12 were assessed as being of low arboricultural quality and value (retention category C). From an arboricultural perspective, the two trees would have a limited future contribution due to their suppressed and poorly formed shapes which would therefore justify their loss over the loss of other higher quality specimens forming the frontage landscape.

4.21 Using specially engineered road systems for light usage such as private drives and occasionally used car parking areas, it is possible to construct within the calculated root protection areas of trees to be retained. The principal for construction of this nature is "no-digging". Trees whose root protection areas would be directly impacted upon by the positioning of the new access road, and whose retention is desirable, are T10, T13 and T14.

4.22 It is therefore proposed that the new road would be constructed using 'tree-friendly' techniques as endorsed by *Arboricultural Advisory and Information Service (The Tree Advice Trust) – Arboricultural Practice Note No. 12 or APN 12 – Through Trees to Development (2007).* This publication embraces the principals first published by the Advice Trust as *'Driveways Close to Trees (Arboricultural Practice Note No. 1 (1996)*. APN 12 supersedes APN 1, which has now been withdrawn but should be read in conjunction with APN 12. A brief outline of the construction method is described in the following paragraphs. For tree roots to be retained undamaged and for the soil area into which the roots are growing to remain un-compacted there must be no excavation, no soil stripping, no grading of the site and no heavy machinery within the RPA – in other words, No Digging. This means that construction will be above the existing ground level.

4.23 The construction of the new road would involve the use of specialist **Cellular Confinement Systems**, such as those products manufactured by Terram. The design of such a system has evolved and been engineered to provide an above-ground load bearing structure whilst preventing soil compaction and offering protection to tree root systems.

4.24 Conventional methods used in construction of paths and driveways, roadways and car parks involve soil excavation to allow sufficient depth for installation of a compacted sub-base material that can adequately support the loading of vehicles. This method of construction causes a detrimental impact on trees by causing both root severance and soil compaction through the accumulation of loads bearing down on the soil. For example: the single passage of a machine will squeeze the soil closing up the pores (causing compaction – especially in the upper levels)

and so reduce the amount of oxygen available to roots which prevents them from growing through the soil. With each additional machinery movement the compaction increases and so do the problems for the tree and its roots.

4.25 Placing soil or other materials over the root system of a tree will impede air movement into and out of the soil around the roots and consequently reduce the availability of oxygen to the roots. The effect on the tree is usually progressive shoot and branch dieback until a new balance has been reached between reduced capacity of the damaged root system to absorb water and the demands of the leaves. If damage is progressive or so severe that such a balance cannot be achieved the tree will ultimately die.

4.26 The solution would be to use a 'no-dig' method of construction. The system is based on a **Geo-Textile Membrane** being placed on the surface of the existing soil level. It is highly important that the soil around the trees is undisturbed and not already compacted or damaged. The purpose of the membrane is to prevent material filling the cells above from penetrating the soil. On top of the membrane, the **Geocell** system is placed. The Geocell consists of a flexible cell structure which is filled with a chemically inert granular substance that will permit water and air flow between the spaces. The construction of the structure is such that it provides a stable base for vehicles passing over it and allows an even load distribution. Figure 4 demonstrates the system in profile.

4.27 In principal if correctly designed and installed, the system should allow successful integration of the road within the root protection areas of T10, T13 and T14.

4.28 It is important that the top surface or wearing course is of a permeable and gas-porous nature to allow exchange of oxygen to the roots. Such a suitable material would be porous tarmac on a sharp sand base. To prevent the fines (sharp sand) mixing with the granular fill a second layer of Geo-textile membrane is placed beneath the Geocell.

4.29 In such a construction it is also important to consider the type of retaining element used to hold the system in place. The aim is to avoid causing any major root damage. No dig construction, that is construction above ground level, will need to be contained to prevent outward creep under the weight of vehicles. This may be achieved with an edging support provided its construction does not involve excavation. A suitable material may be long-life timbers pinned through the load spreader into the underlying soil. On completion a no-dig construction will be at least 300mm above the original ground level.

4.30 The principal rules to apply when constructing such a system as described above are as follows:

a) Roots must not be severed, cut or broken – no digging

b) Ground levels must not be changed – no digging, no soil raising

c) Soils must not be compacted – no tracking of vehicles

d) Oxygen must be able to diffuse into the soil beneath the engineered surface – no tracking of vehicles

4.31 Any trenching operations and ground excavation works will be carried out in accordance with the guidance contained within *NJUG Volume 4 – Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (16th November 2007).*

This guidance has been produced by the National Joint Utilities Group and arboriculturalists. Volume 4 supersedes *NJUG 10 'Guidelines for the Planning, Installation and Maintenance of*

Utility Services in Proximity to Trees (April 1995). Set out below is a set of summary statements taken from the above guidelines, and should be adhered to during any works.

4.32 The protected or 'Precautionary Zone', in which the following operations will apply is described as the entire crown spread area beneath the crowns of the existing mature trees along the route of any proposed lighting / electricity cable installations.

4.33 Any trenching required beneath the crown spread of trees is to be hand dug, using hand tools only. Excavation of open trenches within the crown spread of any existing mature specimen by machines will be totally unacceptable.

4.34 No roots over 25mm to be severed, unless agreed by a suitably qualified arboriculturalist.

4.35 Any roots approved having been given approval to be cut to be done so using clean and sharp tools, such as secateurs and handsaws. The cut will be made cleanly and to a suitable growth point / junction. A small a wound as possible will be created.

4.36 The trenches are to not to remain open for long periods of time as it will cause the roots to dry out and be damaged. Therefore backfilling is to happen as soon as the installation works are completed, thus reducing the length of time the roots will be exposed.

4.37 Fill material is to be inert (i.e. as to not upset the balance of acids and alkaline in the existing soil), preferably with the material that has been excavated and care is to be taken when compacting the fill around the tree roots to avoid damaging the roots.

4.38 Any heavy machinery is to be avoided within the 'Precautionary Zone' as to prevent creation of compacted soil conditions.

4.39 No material or equipment to be stored within the 'Precautionary Zone' as this could cause compaction and run-off into the soil.

Design Related Considerations in Respect of Retained Trees

4.40 At the detailed design stages closer assessment of the distance of proposed development in relation to the calculated root protection areas of trees proposed for retention should be made and modifications to the layouts made where conflicts are excessive especially where there may be changes in ground levels across an area required as part of the re-development.

4.41 The tree cover along the southern and western boundary is fairly dense and therefore although its retention is thought to maintain inter-site privacy and providing a useful/desirable level of shade, there may be pressure to prune trees in the future by the new occupants who feel that the shade is excessive. A suggestion to overcome such future conflicts and to reduce the effects of shade is through good design of the properties, by considering windows with large apertures for maximum light gathering and the positions of those windows.

4.42 Layouts will need to provide suitable protection measures for those trees to be retained and consideration for ground treatment works such as 'no dig construction' techniques' in close proximity to those trees to be retained. Special engineering solutions are available for installing light surfaces within RPAs using 'no – dig construction' methods such as car parks and private driveways.

4.43 In addition, when considering layouts in relation to calculated root protection areas for retained trees, an important element of detailed design would be to consider the eventual positioning of

any utility services that may be required to supply the new development prior to its installation. Services, where possible, should not encroach upon root protection areas of retained trees. If below-ground services are proposed within or close to the calculated root protection areas, modifications to the alignment of service roots may need to be made to retain, where possible, the full extent of the RPA to minimise adverse effects of the development on tree-health. Consideration may also need to be given to the potential for tree roots of newly planted material to affect / compromise any future services.

4.44 As far as feasible, services near any new trees should be ducted for ease of access / maintenance following construction and where possible should be kept together, to minimise future disturbance to roots. If services are required within the RPA, the extent of this encroachment should be re-assessed at the time and appropriate mitigation taken to ensure the safe incorporation of the trees without potential damage to services from tree roots.

4.45 Additionally in design, account should be taken of the foundation construction of existing and proposed nearby structures where existing and new trees are concerned. Any new planting should not compromise the structural performance of foundations and root barriers or tree planting pits should be considered in the designs.

Arboricultural Method Statements (AMS) and Tree Protection Plan (TPP)

4.46 Once the layout has been finalised, a TPP should be prepared to contain the following:

- trees selected for retention, numbered and clearly identified on a plan;
- trees to be removed also clearly identified and numbered;
- the precise location for erection of protective barriers and any other relevant physical protection, including ground protection to protect the RPA and marked as a construction exclusion zone on the plan;
- design details (specifications) for the means of protection, including any necessary facilitation pruning i.e. crown lifting work.

4.47 In order to avoid disturbance to the physical protection forming the construction exclusion zone, once fencing is installed consideration should be made for all construction operations which might need to be completed in the vicinity of trees, including the following. All of the listed activities have potential to cause long term damage to trees if not carefully managed. It is paramount that the calculated area around trees remains undisturbed, unless 'special circumstances' prevail, whereby specific techniques and methodologies may be required to resolve such conflicts. Section 5 – General Tree Protection Measures provides further details in respect of tree protection.

- site construction access;
- contractor's car parking;
- phasing of construction works;
- space needed for all foundation excavations and construction works;

- the location and space required for services, including foul and surface water drains, land drains, soakaways, gas, oil, water, electricity, telephone, television or other communication cables;
- all changes in ground level, including the location of retaining walls, steps and making adequate allowance for foundations of such walls and back fillings;
- space for site huts, temporary latrines (including drainage) and other structures;
- the type and extent of landscape works which will be needed within the protected areas and the effects these will have on the root system;
- space for storing (whether temporary or long-term) materials, spoil and fuel and the mixing of cement and concrete;
- the effects of slope on the movement of potentially harmful liquid spillages towards or into protected areas.

Mitigation for Tree Losses

4.48 As part of the development proposals a supporting landscaping scheme should be considered to compensate for the loss of any trees. New tree planting is an integral part of any new development and should support the future site use and improve and enhance the local tree population.

4.49 Native species (for their low maintenance requirements and nature conservation value) and ornamental species (for their contribution to urban design and amenity value), should be planted in the proposed landscape areas and include species selected on the basis of their suitability for the final site use. This should include consideration of ultimate size, canopy spread, height, blossom, autumn leaf colour, etc. Species should be selected to be suitable to the new environment, therefore focusing on species that are considered suitable for restricted spaces i.e. small to medium sized species.

Tree Surgery

4.50 All retained trees should be subjected to sound arboricultural management by means of the following where appropriate: Annual inspections and inspections following major storms by an experienced arborist or tree surgeon to identify any potential public health and safety risks and to agree remedial works as required, Tree surgery including operations such as removal of dead wood for reasons of safety; crown lifting works for access and improvement of overall visual appearance; possible crown reduction works, pollarding, crown thinning and crown balancing works; tree felling; and climbing inspections. It may be required for reasons of safety that certain defects are further investigated to establish the true conditions. All tree surgery should comply with *British Standard 3998 'Tree Work Recommendations' (2010)*

4.51 The trees subject to this report were inspected from the ground only and therefore where any tree surgery is undertaken a thorough climbing inspection should be undertaken at the same time to determine the precise condition of the crown. Any cavities or areas of decay should be described with reference to its dimensions on the surface, its depth and an estimate of the proportion of the cross-sectional area of the limb / branch or trunk affected and an assessment of the success of compartmentalisation.

It is further recommended that no action be taken on the strength of such a report until it has been seen and endorsed by a suitably qualified person. A decision could then be made on the most appropriate course of treatment.

4.52 Depending upon the results of such an inspection it may require the allocation given to the tree / trees in respect of suitability for retention within new development, in accordance with *BS 5837 (2005) 'Trees in Relation to Construction' - Recommendations* to be revised. All tree works undertaken should be carried out by skilled tree surgeons, and it is therefore recommended that quotations for such work be obtained from Arboricultural Association Approved Contractors only, as this is the recognised authority for certification of tree work contractors

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

5.0 GENERAL TREE PROTECTION MEASURES

5.1 It will be required that retained trees be adequately protected during works. Measures to protect trees should follow the best practice principles set out in BS5837: Trees in Relation to Construction - Recommendations (2005). These have been broadly summarised below.

General Information and Recommendations

5.2 All trees retained on site will be protected by barriers and may also include ground protection around the calculated Root Protection Area (RPA) as indicated within the Constraints element of Figure 2 (Drawing number 3598-A-01 and 3598-A-02).

5.3 Fencing will be erected prior to commencement of any construction / demolition activity including the erection of any temporary structures. Once in place fences should not be removed or altered without prior consultation with the arboricultural advisor or Local Authority Tree Officer if required.

5.4 Arrangements should be made for an arboriculturalist to supervise works and tree protection where trees are particularly vulnerable or sited close to access points.

5.5 Pre-development works may be undertaken prior to the installation of fencing only with the agreement of the local planning authority.

5.6 Any trees that are not retained should be felled prior to the erection of protective fencing. Particular attention needs to be given by approved contractors to minimise damage or disturbance to retained specimens. 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. Good industry practice procedures should be followed at all times.

Fencing Specifications

5.7 Fencing should be strong and suitable for the location, type and proximity of construction activity. These must remain rigid and complete throughout the duration of works. Typical fencing specifications are illustrated in Figure 3 and are in accordance with BS: 5837.

5.8 Fencing should comprise a scaffold framework comprising vertical and horizontal sections. Vertical sections should be secured into the ground.

5.9 Weld mesh panels should be wired or clamped to the above framework and diagonal supports perpendicular to the line of fencing attached to prevent the framework from falling inward (towards the protected area).

5.10 For particular areas where construction activity is anticipated to be intense higher fencing may be necessary. It may be appropriate on some sites to use temporary site offices as components of the protection barriers.

Ground protection

5.11 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 may require the use of proprietary load spreading systems.

Protection Outside the Exclusion Zone

5.12 Once the areas around trees have been protected by the fencing, any works on the remaining site area may be commenced providing activities do not impinge on protected areas. Notices should be placed on fencing to indicate that operations are not permitted within the fenced area.

5.13 Wide or tall loads etc should not come into contact with retained trees. Banksman should supervise transit of vehicles, jibs, booms etc where this is 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.

Protection of Trees Close to the Site

5.17 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. The following section describes tree protection measures in further detail. 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

5.18 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 construction works these could have potential to cause injurious contact with crown material i.e. low branches and limbs, of retained trees within the RPA fencing. It would therefore be advised that appropriate tree surgery be carried out beforehand to remove any obvious problem branches. This is classed as 'Facilitation Pruning', British Standard 5837 (2005) 9.4.2 and 11.2.1. Any such pruning should be undertaken in accordance with a specification prepared by an arboriculturalist and be carried out using suitably qualified tree surgeons.

5.19 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 maneuvering machinery during such operations within close proximity to retained trees to avoid any contact.

5.20 In the event of having caused any such branch or limb damage to retained trees during construction works it is strongly recommended that suitable tree surgery be carried out, in accordance with British Standard 3998 (2010) Tree Work Recommendations, to correct the damage, upon completion of development.

5.21 All of the above precautionary measures should be applied to minimise the effect of any damage to long-term tree health and safety.

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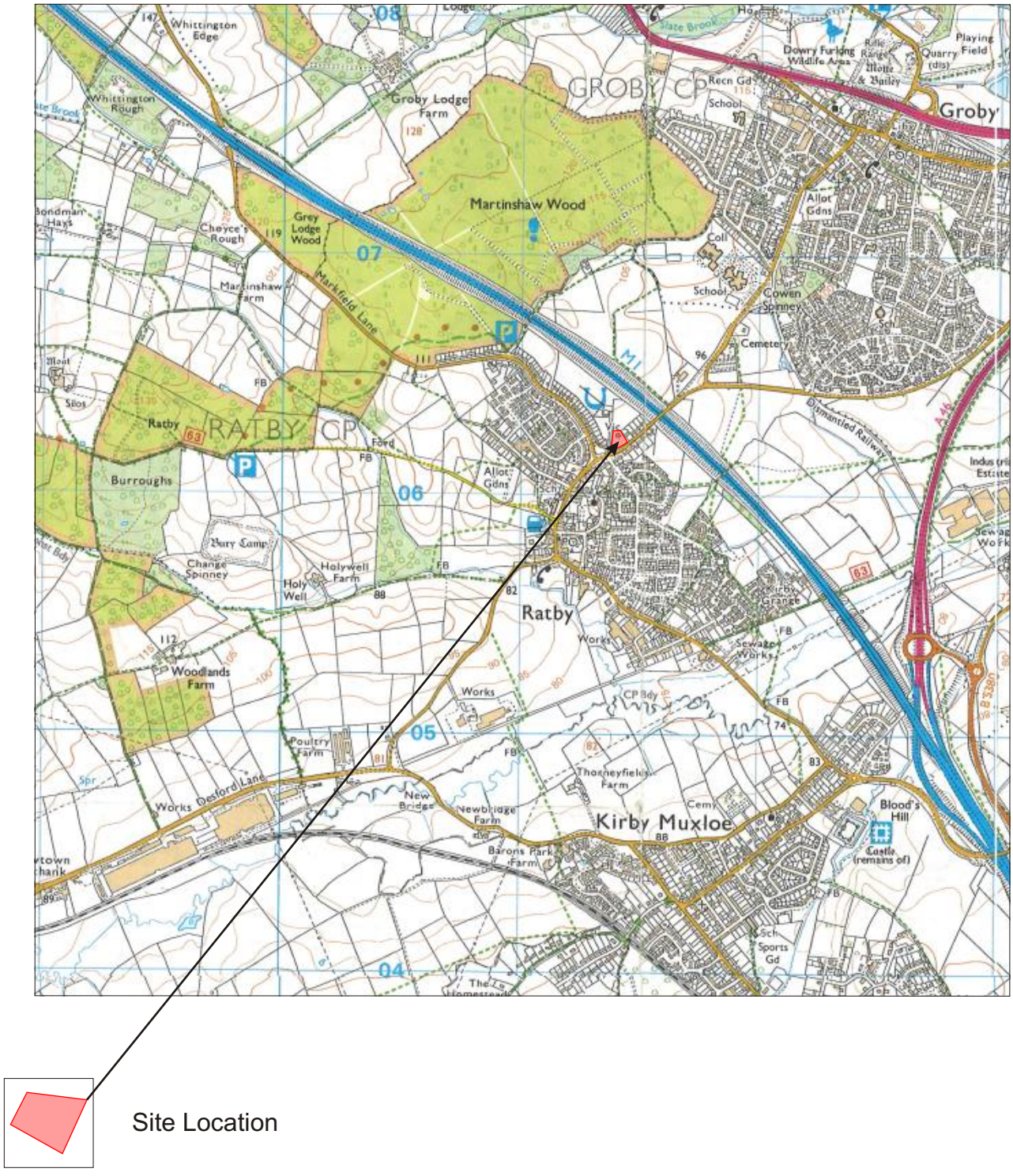

Site Location

Andrew Granger & Co

Former Rectory, Main Street
Ratby, Leicestershire

LOCATION PLAN

Figure 1

Scale 1:25000 @ A4 November 2010

fpcr FPCR Environment and Design Ltd
Lockington Hall, Lockington,
Derby, DE74 2RH, Tel: 01509 672772
Fax: 01509 674565, mail@fpcr.co.uk

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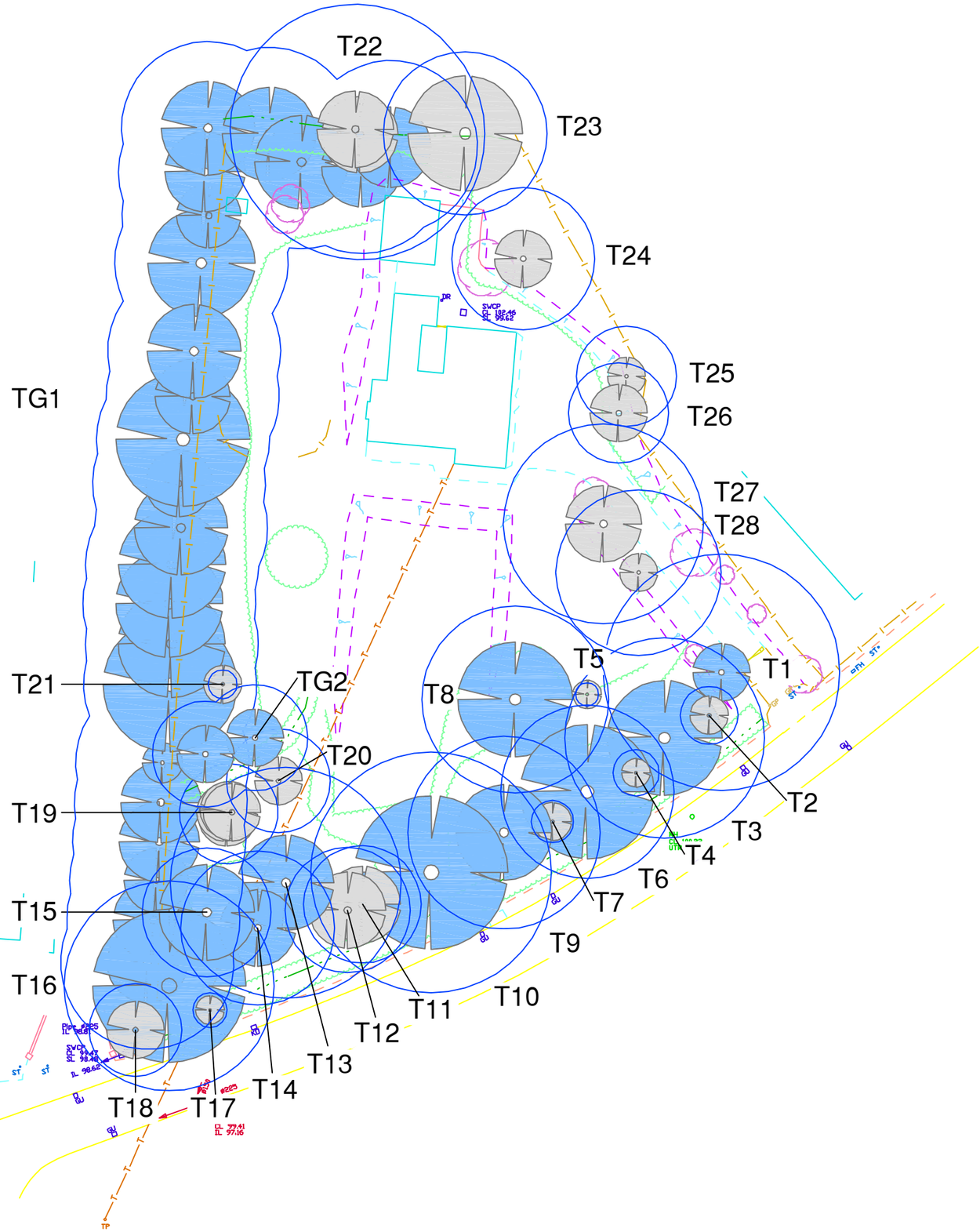

NOTES

All dimensions to be verified on site. Do not scale this drawing. All discrepancies to be clarified with project Arboriculturalist.

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KEY

- Retention Category A - High (BS 5837:2005)
- Retention Category B - Moderate (BS 5837:2005)
- Retention Category C - Low (BS 5837:2005)
- Category R - Remove (BS 5837:2005)
- Root Protection Area (Calculated according to BS 5837:2005 formula)
- T1 / TG1 — Tree Number / Tree Group Number

CAVEAT

1. Drawing for PLANNING.
2. Drawing to be read in conjunction with Tree Report and Tree Schedule.
3. Drawing based on digital information supplied by the client in dwg format.
4. The exact position of trees are to be checked and verified on site prior to construction.
5. Crown spreads are illustrative only please refer to tree schedule for measurements.
6. Trees are living organisms that change over time, the condition of all trees illustrated herein, are to be checked and verified by a qualified arboriculturalist or tree surgeon should works commence 12 months after the time of this survey.
7. Please note that no works should be undertaken to any trees illustrated herein without first obtaining the proper authorisation to do so.

rev	date	description	by
-		First issue.	FPCR

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FPCR Environment and Design Ltd
Lockington Hall
Lockington
Derby DE74 2RH

t: 01509 672772
f: 01509 674565
e: mail@fpcr.co.uk
w: www.fpcr.co.uk

client
Andrew Granger and Co

project
The Former Rectory,
Main Street, Ratby, Leicestershire

drawing title
TREE LOCATION, QUALITY AND CONSTRAINTS PLAN - FIGURE 2

scale	drawn	date
1:500 @ A3	NJG	November 2010

drawing number
4510-A-01

rev
-

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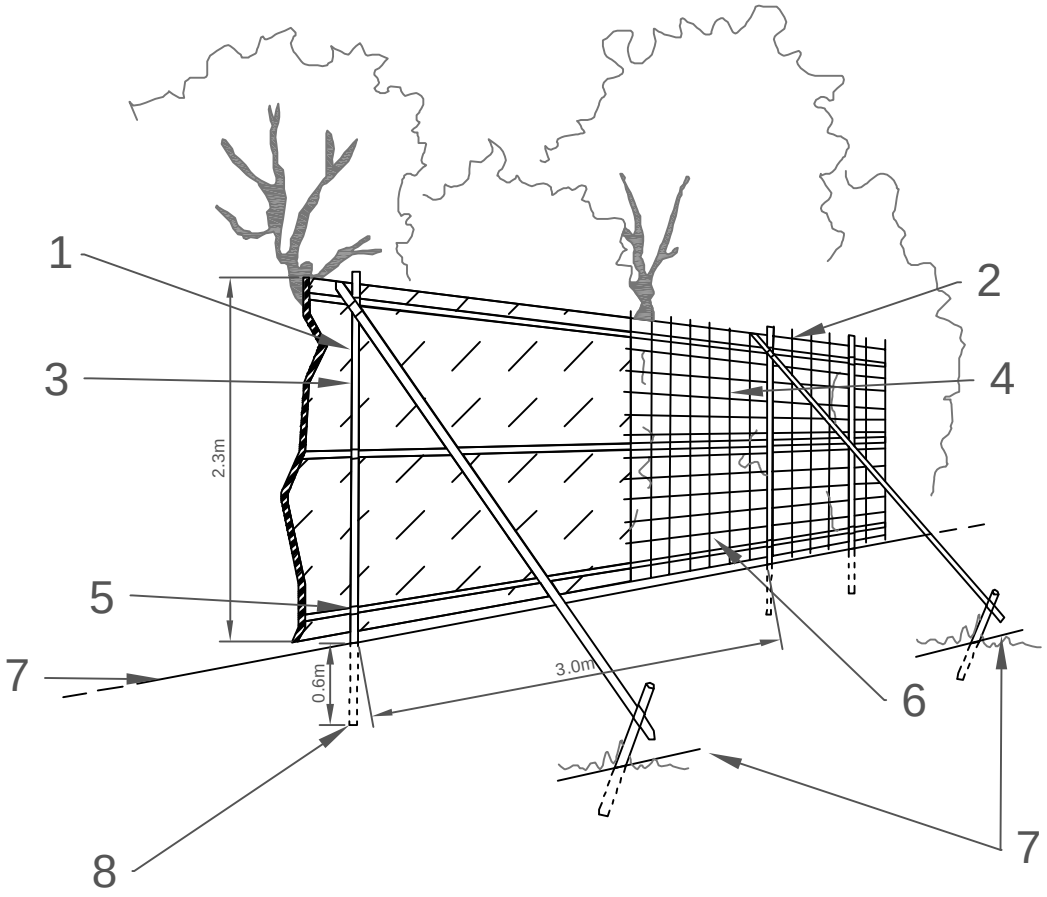
PROTECTIVE FENCING SPECIFICATIONS

Based on BS5837 *Trees in Relation to Construction (2005) - Recommendations*



1. Standard scaffold poles.
2. Uprights to be driven into the ground.
3. Panels secured to uprights with wire ties and where necessary with standard scaffold clamps.
4. Weldmesh wired to the uprights and horizontals.
5. Standard clamps
6. Wire twisted and secured on the inside face of fencing to avoid easy dismantling.
7. Ground level
8. Approximately 0.6m driven into the ground.

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Ratby, Leicestershire

PROTECTIVE FENCING SPECIFICATIONS
FIGURE 3

Not To Scale November 2010

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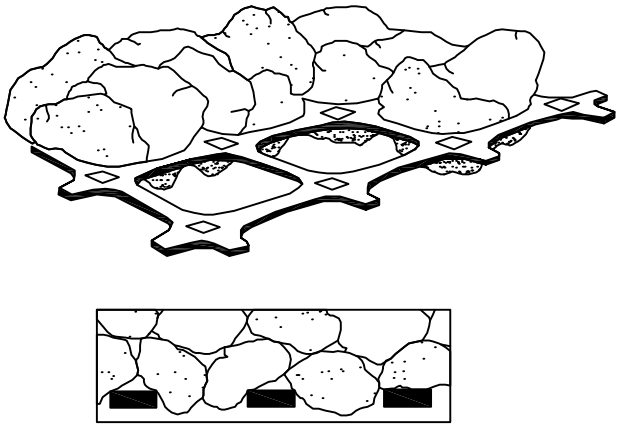
FPCR Environment and Design Ltd

Lockington hall, Lockington,
Derby, DE74 2RH, Tel:01509672772
Fax: 01509 674565, mail@fpcr.co.uk

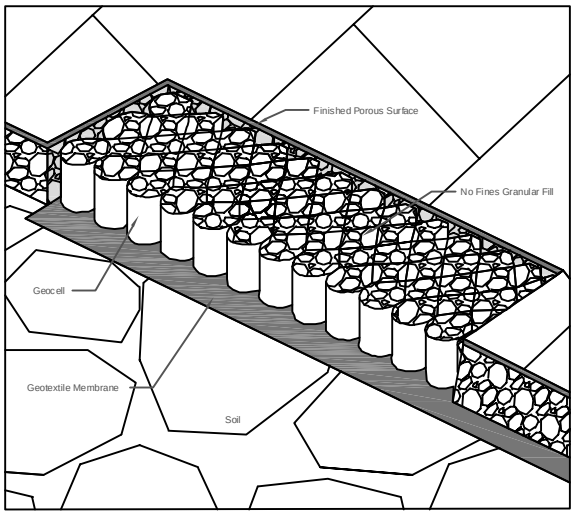
NO DIG CONSTRUCTION

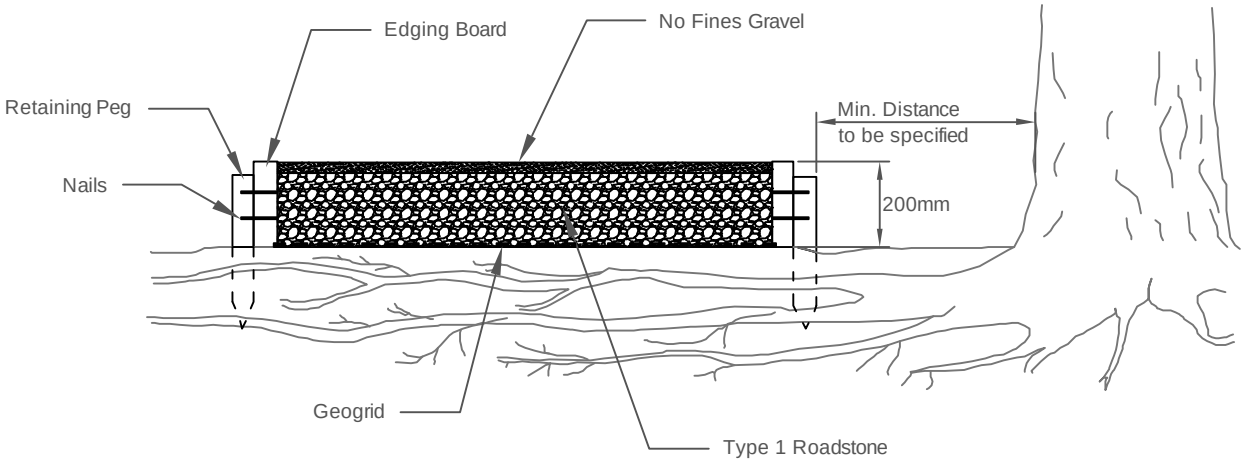
Utilising Geogrid or Cellular Confinement System

Geogrid System
The mechanism of interlock between aggregate and 2D geogrid.



Cellular Confinement System
Showing the 3D support of base material.





NOTES

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FPCR Environment and Design Ltd
Lockington Hall
Lockington
Derby DE74 2RH

t: 01509 672772
f: 01509 674565
e: mail@fpcr.co.uk
w: www.fpcr.co.uk

client
Andrew Granger and Co

project
The Former Rectory
Main Street, Ratby, Leicestershire

drawing title
NO DIG CONSTRUCTION
FIGURE 4

scale	drawn	date
Not to Scale	FPCR	May 2010

drawing number
4510-A-04

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APPENDIX A

TREE SCHEDULE

Key:	**Measurements**	**Age Class**	**Overall condition**	**BS 5837 2005: Cascade Chart for Quality Assessment / Retention Category**	
	Height - Measured In metres	YNG - Young	G - Good	A - High	
	DBH - Stem Dia. at 1.5m above ground level measured in mm	SM - Semi-mature	F - Fair	B - Moderate	
	Crown - Crown spread measured radially from the main stem in metres	EM - Early Mature	P - Poor	C - Low	
	est. - Estimated stem diameter	M - Mature	D - Dead	R - Remove for reasons of safety i.e. dead or dangerous	
		OM - Over-mature		**Sub-Categories:** (i) - Mainly Arboricultural value (ii) - Mainly Landscape value (iii) - Mainly Cultural Value	
RPA - Root protection area (equivalent to a circle with a radius 12x the stem diameter for single trees and 10x the basal diameter for trees with more than one stem arising below 1.5m above ground level					

Tree No	Species	Height	DBH	Crown	Age Class	Overall Condition	Structural Defects	RPA m²	RPA radius (m)	BS:5837 Category
INDIVIDUAL TREES										
T1	Lawson cypress *Chamaecyparis lawsoniana*	11	1230 at base	up to 3	M	G	Triple stemmed from ground level Light ivy cover on all stems Typical form for the species Minor dead wood 510, 370, 426mm DBH for each stem	475.4	12.3	B (i)
T2	Common Holly *Ilex aquifolium*	5	250	2	M	C	Typical form for the species Supressed form Basal sucker growth Squirrel drey or birds nest observed within crown NB - there is a small elm specimen between T2 and T3 of twin stemmed form (160mm DBH) and has a leaning stem	28.3	3.0	C (i)
T3	English Oak *Quercus robur*	13	870	up to 6	M	F	Very sparse foliage Major dead wood No signs of crown die back but in overall poor physical health Ivy cover on stem to 6m No noted evidence of the cause of decline Base of stem, there were several deep hollows between buttresses	342.5	10.4	B (i)
T4	Common Ash *Fraxinus excelsior*	7	200 over ivy	1.5	EM	P	Suppressed form Ivy cover to top of main stem Weak growth Tall and drawn appearance	18.1	2.4	C (i)
T5	Cherry *Prunus sp*	4	100	1.5	EM	G	Side branch forks at below 1m No obvious defects Twisted/S - shaped stem Typical form for the species Stand alone specimen	4.5	1.2	C (i)
T6	Common Beech *Fagus sylvatica*	16	750	up to 7	M	F	Sparse crown appearance although this could be early autumn state Light ivy cover and major dead wood noted within crown Straight stem form	254.5	9.0	B (i)

Tree No	Species	Height	DBH	Crown	Age Class	Overall Condition	Structural Defects	RPA m²	RPA radius (m)	BS:5837 Category
T7	Elm *Ulmus sp*	6	180	S - 4 1	EM	F	Suppressed form/leaning stem in upper crown towards Main Street (S) Light ivy cover on main stem	14.7	2.2	C (i)
T8	Common lime *Tilia x europaea*	17	810	up to 6	M	G	Epicormic growth Single stem to 3.5m whereupon it subdivides into 3 main leads Minor dead wood observed within crown	296.9	9.7	B (i)
T9	Oak and Sycamore *Quercus robur a*nd *Acer pseudoplatanus*	15	est 1000	N - 7 S - 5 E & W - 4	M	G	Dense ivy cover throughout Triple stemmed oak with self-set sycamore growing between 2 stems Main stems fused at base Northern stem leaning to N Minor dead wood	314.2	10.0	B (i)
T10	English Oak *Quercus robur*	14	1040	up to 8	M	F	Short stubby stem - S side branch at approximately 1m 2 main stems at 1.5m - open fork but some included bark likely at the base of the union Major dead wood and light ivy cover within crown Past pruning - removed minor side branch at 1m on W side	489.4	12.5	B (i)
T11	Common ash *Fraxinus excelsior*	16	510	N - 4 S - 8 E - 3 W - 3	M	F	Leaning stem to SW Sparse asymmetric crown Light ivy cover and minor dead wood evident Side limb to S at 1.5m low and heavy in form	117.7	6.1	C (i)
T12	Common Ash *Fraxinus excelsior*	12	540	W - 5	M	P	Suppressed form due to proximity of T11 Leaning stem to W Dense ivy cover in crown	131.9	6.5	C (i)
T13	Common lime *Tilia x europaea*	16	est 1000 + base 700	up to 5	M	F	Basal sucker growth/epicormic growths dense in lower stem Typical form for the species Dense vegetation restricting close basal inspection	452.4	12.0	B (i)
T14	Common lime *Tilia x europaea*	16	670	N - 4 S - 3 E - 3 W - 3	M	F	Single straight stemmed form Major dead wood, broken branches and light ivy cover noted in crown Epicormic growth	203.1	8.0	B (i)

Tree No	Species	Height	DBH	Crown	Age Class	Overall Condition	Structural Defects	RPA m²	RPA radius (m)	BS:5837 Category
T15	Common lime *Tilia x europaea*	16	560	up to 5	M	F	Single stemmed form Most branch development to south Light ivy cover in crown	141.9	6.7	B (i)
T16	Ash *Fraxinus excelsior*	16	910	up to 8	M	F	Three main stems, 1 main stem and 2 smaller - partially fused Dense ivy cover in crown Most of structure obscurred by ivy growth E stem was leaning Minor dead wood	374.7	10.9	B (i)
T17	Holly *Ilex aquifolium*	4	150	1.5	M	F	Located in hedgerow Basal sucker shoots Possibly lost main lead stem Branches regularly pruned over footpath	10.2	1.8	C (i)
T18	Ash *Fraxinus excelsior*	5	obscured, est 400	up to 3	M	F	Old coppice stool - ivy covered Numerous small diameter stems Overhead telephone cables in crown	72.4	4.8	C (i)
T19	Common lime *Tilia x europaea*	12	est 750	up to 3	M	F	Four main stems - possible coppice at ground level Light ivy cover in crown Minor dead wood noted	176.7	7.5	C (i)
T20	Sycamore *Acer pseudoplatanus*	10	est 450	up to 2.5	M	F	4 Main stems - 2 almost side branches extending from ground level to E Suppressed form beneath adjacent pine Epicormic growth	91.6	5.4	C (i)
T21	Laburnum *Laburnum anagyroides*	3	150	2	EM	F	Twin stemmed form at ground level Broken branches visible Damage to branches visible and several branch tear out wounds / branch fractures	7.1	1.5	C (i)
T22	Ash *Fraxinus excelsior*	17	1300	up to 4	M	P	Triple stemmed form at ground level Thin, sparse growth One stem leaning to N	531.0	13.0	C (i)
T23	Ash *Fraxinus excelsior*	18	850	up to 6	M	F	Triple stemmed at 1.5m Past pruning - mostly fully occluded wounds in lower section Ivy cover up to 8m on both stems Open and spreading form Major dead wood in crown	227.0	8.5	C (i)

Tree No	Species	Height	DBH	Crown	Age Class	Overall Condition	Structural Defects	RPA m²	RPA radius (m)	BS:5837 Category
T24	Pink Horse chesnut *Aesculus x carnea*	12	740	up to 3	M	F	Twin stemmed from below 1m - pronounced rib of union indicates thickened growth around union Horse chestnut leaf blotch, *Guingardia* present Leaning stem slightly to SW Dense ivy cover to 10m	172.1	7.4	C (i)
T25	Purple Plum *Prunus cerasifera Nigra*	5	520	up to 2	M	F	Pair of trees to side of car parking area (includes T26) Twin stemmed from 0.5m above ground level Past pruning - large side limbs removed Crown topped at 3.5/4m Epicormic growth Dense ivy cover at base	85.0	5.2	C (i)
T26	Purple Plum *Prunus pissardii* 'Cerasifera'	6	430	up to 3	M	F	NW stem removed Ivy cover at base Another NW direction limb removed at 3m One sided form - all to S side	83.7	5.2	C (i)
T27	Lawson cypress *Chamaecyparis lawsoniana*	11	1040	W - 4 2	M	G	Low side limb to W at 2m - swing attached 4 main stems (2 main and 2 subsidery) - possible bark inclusions 3 further previous stems removed at ground level Light ivy cover in crown Typical form for the species Minor dead wood	339.8	10.4	C (i)
T28	Lawson cypress *Chamaecyparis lawsoniana*	10	860	up to 2	M	G	2 main stems from below 1m (one stem - S - further splits at 3m) 2 minor stems removed at ground level Minor dead wood noted Typical form for the species	232.4	8.6	C (i)

Tree No	Species	Height	DBH	Crown	Age Class	Overall Condition	Structural Defects	RPA m²	RPA radius (m)	BS:5837 Category
GROUPS OF TREES										
TG1	Common Lime *Tilia x europaea*	up to 16	750	up to 7	M	G	All tree stems located offsite just the other side of the boundary 6m crown over hang into the site Mature row of lime situated adjacent to ditch course Basal sucker growth present - typical for the species Epicormic growth prolific in some specimens Typical form for the species	254.5	9.0	B (ii)
TG2	Scots Pine *Pinus sylvestris*	up to 15	550	SE - 2 3	M	F	Typical form for the species Crown of the easterly most specimen trends towards the E Ivy cover on both stems Needle cast disease evident - browing of foliage generally Minnor dead wood noted	95.0	5.5	B (ii)