Vistry Homes Ltd

Buntingford West, Buntingford, Hertfordshire

Arboricultural Assessment

June 2023

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1.0 INTRODUCTION

1.1 This report has been prepared by FPCR Environment and Design Limited on behalf of Vistry Homes Ltd to present the findings of an Arboricultural Assessment and survey of trees located at Buntingford West, Buntingford, Hertfordshire (hereafter referred to as the site), OS Grid Ref TL 359 287.

1.2 The survey was carried out on 26th May 2023.

Scope of Assessment

1.3 The tree survey and assessment of existing trees has been carried out in accordance with guidance contained within British Standard 5837:2012 *'Trees in Relation to Design, Demolition and Construction - Recommendations'* (hereafter referred to as BS5837). The guidelines set out a structured assessment methodology to assist in determining which trees would be deemed either as being suitable or unsuitable for retention.

1.4 The guidance also provides recommendations for considering the relationship between existing trees and how those trees may integrate into designs for development; demolition operations and future construction processes so that a harmonious and sustainable relationship between any retained trees and built structures can be achieved.

1.5 The purpose of the report is therefore to firstly, present the results of an assessment of the existing trees' arboricultural value, based on their current condition and quality and to secondly, provide an assessment of impact arising from the proposed development of the site.

1.6 This report has been produced to accompany an Outline planning application (with all matters reserved except for access) for: Development of 350 dwellings, with up to 4,400 sqm of commercial and services floorspace (Use Class E and B8), and up to 500 sqm of retail floorspace (Use Classes E) and other associated works including drainage, access into the site from the A10 and Luynes Rise (but not access within the site), allotments, public open space and landscaping. The survey has focused on any trees present within or bordering the site that may potentially be affected by the future proposals or will pose a constraint to any proposed development.

Site description

1.7 The site was in Buntingford, a small town east of Stevenage and comprised three field parcels (currently agricultural land). Then northern, eastern and southern boundaries were formed by new and existing residential properties, and the Watermill Industrial Estate respectively. The western boundary was formed by the A10.

2.0 PLANNING POLICY

National Planning Policy Framework July 2021

2.1 National Planning Policy is defined by the National Planning Policy Framework (NPPF). This sets out the Government's most current and up to date planning policies for England and how these should be applied. The current NPPF is dated July 2021.

2.2 Paragraphs 10 and 11 of the NPPF state that there is a presumption in favour of sustainable development and states that for decision making, the LPA should be '*c) approving development proposals that accord with an up-to-date development plan without delay'.* In the absence of a development plan or the development plan is out of date, the acting LPA should grant planning consent so far as the development proposals do not breach the policies and guidance outlined in the NPPF.

2.3 In relation to arboriculture, the NPPF also states that:

- *131 'Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined (footnote 50), that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users' (footnote 50: unless, in specific cases, there are clear, justifiable and compelling reasons why this would be inappropriate)*
- *180 (c) 'development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons (footnote 63) and a suitable compensation strategy exists';*

  and provides specific guidance that:

- *180 (d) 'development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity'.*

2.4 With reference to paragraph 180 (c), examples of what is deemed to be *'wholly exceptional'* are included within Footnote 63 and provides the examples of '*infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat'.*

Local Planning Policy

2.5 Local planning decisions regarding all future developments are assessed against a framework to ensure that the district or county in question is developed in a well-informed and coherently systematic manner, this may include decisions to ensure that the right number and types of houses are built and incorporating the correct type of shopping and recreation facilities, whilst protecting the local ecological resources, landscape context and intrinsic heritage value of an area.

2.6 Within the context of East Herts District Council name, there are several policies relating to trees. The following lists the relevant policies -

- Policy NE3 Species and Habitats – States that a '*development which would result in loss or significant damage to trees, hedgerows or Ancient Woodlands will not be permitted'*.

- Policy NE4 Green Infrastructure – States that development proposals should 'maximise opportunities for urban greening, e.g. landscaping schemes and street trees'.

Statutory Considerations

2.7 Local authorities have a duty under the Town and Country Planning Act to create Tree Preservation Orders (TPO) in order to protect and preserve specific trees and woodlands that bring significant amenity benefit to a particular site or location. Under a TPO it is a criminal offence to cut down, top, lop, uproot or wilfully destroy a tree protected by that Order, or to cause or permit such actions, if carried out without the prior written consent of the acting LPA. Anyone found guilty of such an offence is liable and in serious cases, may result in prosecution and incur an unlimited fine.

2.8 Following consultation with the Local Planning Authority, East Herts District Council, it is understood that there is a Tree Preservation Order, namely Land at Watermill Industrial Estate TPO Number 312, which applies to a number of trees present within the assessment site and therefore statutory constraints apply to the development in respect of trees.

2.9 Information provided on Tree Preservation Orders and Conservation Areas is accurate to the date of this assessment and cannot be assumed to remain unchanged. The last check was carried out on the Monday 22nd May 2023.

Non-Statutory Considerations

2.10 In order to compile existing baseline information on relevant arboricultural considerations information was requested from both statutory and non-statutory nature conservation organisations. The Multi Agency Geographic Information for the Countryside (MAGIC)[1] website highlighted no tree cover within the site as or included within the following:

- The Priority Habitat Inventory, Deciduous Woodland
- The National Forestry Inventory

3.0 SURVEY METHODOLOGY

3.1 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 has recorded information relating to all those trees within the site and those adjacent to the site which may be of influence to any proposals. Trees were assessed for their arboricultural quality and benefits within the context of the proposed development in a transparent, understandable and systematic way.

3.2 Trees have been assessed as groups and hedgerows 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.

[1] http://magic.defra.gov.uk/

- For the purposes of this assessment, a hedgerow is described as any boundary line of trees or shrubs less than 5m wide at the base and are managed under a regular pruning regime.

3.3 An assessment of individual trees within groups and hedgerows has been made where a clear need to differentiate between them, for example, in order to highlight significant variation between attributes including physiological or structural condition or where a potential conflict may arise.

BS5837 Categories

3.4 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).

3.5 Category U trees are those which would be lost in the short term for reasons connected with their physiology or structural condition. They are, for this reason not considered in the planning process on arboricultural grounds. Categories A, B and C are applied to trees that should be of material considerations in the development process. Each category also having one of three further sub-categories (i, ii, iii) which are intended to reflect arboricultural, landscape and cultural or conservation values accordingly.

3.6 **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.

3.7 **Category (A) – (Green):** Trees that are considered for retention and are of high quality with an estimated remaining life expectancy of at least 40 years with potential to make a lasting contribution. Such trees may comprise:

- Sub category (i) trees that are particularly good examples of their species, especially if rare or unusual, or are essential components of groups such as formal or semi-formal arboricultural features for example the dominant and/or principal trees within an avenue.
- Sub category (ii) trees, groups or woodlands of particular visual importance as arboricultural and / or landscape features.
- Sub category (iii) trees, groups or woodlands of significant conservation, historical, commemorative or other value for example veteran or wood pasture.

3.8 **Category (B) – (Blue):** Trees that are considered for retention and are of moderate quality with an estimated remaining life expectancy of at least 20 years with potential to make a significant contribution. Such trees may comprise:

- Sub category (i) trees that might be included in category A but are downgraded because of impaired condition for example the presence of significant though remediable defects, including unsympathetic past management and storm damage.
- Sub category (ii) trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.
- Sub category (iii) trees with material conservation or other cultural value.

3.9 **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.

Site Plans

3.10 The individual positions of trees and groups have been shown on the Tree Survey Plan. The positions of trees are based on a topographical / land survey, as far as possible, supplied by the client. Where topographical information has not identified the position of trees these have been plotted using a global positioning system and aerial photography to provide approximate locations. The crown spread, root protection area and shade pattern (where appropriate) are also indicated on this plan.

3.11 As part of this assessment, a Tree Retention Plan has been prepared to show the proposed layout in relation to the existing tree cover allowing an assessment of any potential conflicts. The plan also identifies which trees would be required to be removed or retained as part of the proposed development.

Tree Constraints and Root Protection Areas

3.12 Below ground constraints to future development are represented by tree roots and the soil environment in which they grow which needs to be protected if the tree is to be retained. Tree rooting systems are essential for the uptake of water and nutrients, serving the storage of carbohydrates for the future growth and function of the tree, and form structural anchorage and support for the stem and crown. The perceived rooting area of the tree; referred to as the root protection area (RPA) needs to be protected if the tree is to be retained.

3.13 The RPA is a notional area considered to be the minimum zone that must be protected to avoid any adverse impacts on retained trees. The RPA has been calculated in accordance with Annex C, D and Section 4.6 of BS5837:2012 and requires suitable protection in order for the tree to be successfully incorporated into any future scheme. As such, the RPA of existing trees is an important material consideration when considering site constraints and planning development activities.

3.14 Where applicable the shape of the Root Protection Area has been modified to consider the presence of any nearby obstacles (existing or past) which may have restricted root growth and the likely root distribution i.e. the presence of hard standing, structures and underground apparatus. Where groups of trees have been assessed, the Root Protection Area has been shown based on the maximum sized tree in any one group and so may exceed the Root Protection Area required for some of the individual specimens within the group. Further detailed inspection of the individual trees forming a group may be required where development impacts upon the group.

3.15 Whilst it is generally accepted that a trees roots may extend far greater distances than the notional RPA, with the distribution of the root system relating directly to the availability of suitable conditions for growth (namely oxygen, water and nutrients), with roots predominantly located in the upper 1,000 mm of the soil horizon; the RPA offers an accepted protective buffer from development.

3.16 Above ground constraints such as the current crown spread of the trees and an illustration of the shade pattern (where appropriate) have been considered and identified within the Tree Survey Plan and Tree Retention Plan indicates their potential area of shading influence.

Considerations and Limitations of the Tree Survey

3.17 The survey was completed from ground level only and from within the boundary of the site. Aerial tree inspections or an assessment of the internal condition of the stem/s or branches were not undertaken at this stage as this level of survey is beyond the scope of the initial assessment.

3.18 The statements made in this report regarding the assessed trees does not take into account the effects of extreme / adverse weather conditions, changes in land use prior to the site's development, unforeseen accidents or anti-social behaviours, such as vandalism, which occur since the date of the survey. As such, the assessment of tree condition given within applies to the date of survey and cannot be assumed to remain unchanged.

3.19 It will be necessary to review all comments and observations made within this report, in accordance with sound arboricultural practice, within two years of the date of survey (unless explicitly stated elsewhere within this report). Further review may also be necessary where site conditions change or works to trees are carried out which have not been specified in detail within this report.

3.20 Hedgerows are identified as a Habitat of Principal Importance (HPI) as listed within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. The tree survey conducted, in accordance with BS5837, does not assess hedgerows against the Hedgerow Regulations 1997 or specifically from an ecological perspective, and is outside the scope of this assessment.

3.21 It may be necessary during detailed design to undertake further assessment and accurate positioning of woody species within tree groups and hedgerows to assist structural calculations for foundation design of structures in accordance with current building regulations. The exact position of individual trees or species included as part of a tree group should be checked and verified on site prior to any decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculating foundation depths in accordance with NHBC Chapter 4.2 Building near Trees.

4.0 RESULTS

4.1 A total of thirteen individual trees, thirteen groups of trees and one hedgerow were surveyed as part of the Arboricultural Assessment. Trees were surveyed as individual trees and groups of trees where examples are clearly present as per the description. Refer to the Tree Survey Plan and Appendix A – Tree Schedule for full details of the trees included in this assessment. The table below summarises the trees assessed.

Tree Schedule

4.2 Appendix A presents details of any individual trees, groups, hedgerows and woodlands found during the assessment including heights, diameters at breast height, crown spread (given as a radial measurement from the stem), age class, comments as to the overall condition at the time of inspection, BS5837 category of quality and suitability for retention and the root protection area.

4.3 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.

4.4 Several of the trees have been discussed in more detail following the table, owing to their physical condition or arboricultural significance.

Results Summary

Table 1: Summary of Trees by Retention Category

	Individual Trees	Total	Groups of Trees	Total
Category U - Unsuitable		0		0
Category A (High Quality / Value)	T10, T12	2		0
Category B (Moderate Quality / Value	T3, T7, T8, T9, T11, T14, T15	7	G2, G4, G5, G6, G7, G8, G9, G10, G11, G13	10
Category C (Low Quality / Value)	T5, T6, T16, T17	4	G1, G3, G12, H2	4

Category A Specimens

4.5 Trees of high arboricultural quality were limited to two individuals. These were located along the northern boundary of the site that abutted the dwellings on Luynes Rise and comprised of mature

English oak *Quercus robur*. For the most past, due to the good overall condition and positions within the landscape a retention category A was recorded.

Category B Specimens

4.6 A total of seven individual trees and ten groups of trees were recorded as being moderate in quality and retention category B. These specimens were evenly distributed across the site and ranged from semi-mature to mature in proportions. Collectively these trees provided key landscape features and contained only minor defects such as branch stubs, pruning wounds and established ivy growth. Due to the close proximity to each other, the majority of these trees have formed conjoining crowns which would limit the possibility of removing some specimens without impact upon others.

Category C Specimens

4.7 Trees of low quality comprised of four individuals, three groups and 1 hedgerow. Individual specimens were predominantly outgrown boundary trees or unmanaged garden trees. Tree groups and the hedgerow were for the most part, outgrown boundary features between the site and properties. Due to either the lack of management or low collective landscape value, this tree cover was regarded as retention category C.

4.8 The common features observed throughout the tree stock comprised of features associated with continuous growth such as basal suckers and epicormic growth within crowns. Features resulting from natural abscission of material creating branch stubs, broken branches, branch socket cavities and bark wounds. Dead branches were also regularly observed in various proportions.

4.9 A number of linear tree groups were recorded across the assessment area providing clear defined boundaries between each field parcel and the surrounding landscape. The majority of these groups had formed from past hedgerows becoming outgrown due to either a lapse in past management or no management being prescribed. A wide range of species were present across these groups with hawthorn, blackthorn, elder, elm and ash being dominant. Other species such as goat willow *Salix caprea*, and sycamore *Acer pseudoplatanus.*

Ancient and Veteran Trees

4.10 None of the assessed trees were considered as ancient or veteran trees in accordance with accepted methodologies and guidance.

Statutory Constraints

4.11 The following table details which trees are included in the East Herts District Council Tree Preservation Order (TPO), Land at Watermill Industrial Estate TPO Number 312. The trees identified within the TPO are protected by law from felling or uprooting, pruning including ‘topping/lopping’ and wilful damage or destruction. The granting of full planning permission would override the protection afforded by the Tree Preservation Order to those trees shown as removed to facilitate the proposals within the approved plans. The line of Scots Pine trees within G10 were

located outside of the site boundary but had been assessed within the overall group due to their close proximity to the site.

Table 2: Tree Preservation Order / Conservation Area details

Tree No. taken from FPCR	TPO reference no.
G10	G2, G3

Plan showing location of Land at Watermill Industrial Estate TPO Number 312.

4.12 Prior to any tree surgery and / or felling of protected trees it will be necessary to apply to the relevant local planning authority to gain consent for the works. For more information regarding Conservation Areas and Tree Preservation Orders it is advised that contact is made with the Local Planning Authority's arboricultural officer, or other such relevant person.

5.0 ARBORICULTURAL IMPACT ASSESSMENT

5.1 The following paragraphs present a summary of the tree survey and discussion of particular trees and groups recorded in the context of any proposed development in the form of an Arboricultural Impact Assessment in accordance with section 5.4 of BS5837. Any final tree retentions will need to be reconciled with the advice contained within this report.

5.2 The AIA has been based upon the development framework plan (10537-FPCR-XX-XX-DR-A-1002-P05_DFP) and seeks to outline the relationship between the proposals and the existing trees and hedgerows. The drawing shows the proposals for residential development. An overlay of the layout has been incorporated in the Tree Retention Plan (10537-T-02H) to assist in identifying the relationship and any potential conflicts between the proposals and the existing trees and hedgerows. This drawing shows proposals which seek to provide several residential parcels along with new tree planting serviced off a new roundabout along the A10 in the southern field parcel plus a new sustainable transport link from Luynes Rise.

5.3 The development would also include a flood attenuation facility by way of a balancing pond which would provide an opportunity for new habitat creation, areas of public open space and extensive new landscaping and a play area. There will also be an area of employment land in the eastern section of the southern section of the site.

Table 3: Summary of Impact on Tree Stock

	Trees to be Removed	Reason/s for Removal	Total
Category U - Unsuitable			
Category A (High Quality / Value)			
Category B (Moderate Quality / Value	G5, G8, G13	G5 – Partial removal to create primary road. G8 – Partial removal to create primary road. G13 – Partial removal to facilitate the construction of the proposed roundabout.	3
Category C (Low Quality / Value)	G1, G12	G1 – Partial removal to create proposed bus link, pedestrian and cycle access from Luynes Rise. G12 – Partial removal to facilitate construction of Proposed vehicular, pedestrian and cycle access from A10.	2

5.4 Having appraised the above plan for any arboricultural implications that may arise as a result of the layout it would appear that the layout will, through its design, retain and incorporate the majority of the existing individual trees by virtue of their positions around the boundaries of the site.

5.5 The point of main vehicular access into the site will be created off the A10, and there will be a secondary access point off the existing residential road Luynes Rise which will provide a link to the new development.

5.6 To facilitate the main access point, the removal of a section of trees from groups G12 and G13 is required. The trees were young to early-mature in age and had not yet become fully established so the removal of these sections, considering that the majority of the group will be retained, should not prove detrimental to the visual amenity being provided by the groups.

5.7 To facilitate the secondary entrance into the site off Luynes Rise a small section of G1 will be removed. G1 was a mixed species group of low quality specimens, the majority of which will also be retained along the boundary and likewise the loss of this short section should not be detrimental to the overall visual amenity of the group.

5.8 Within the site the internal road will pass through two groups allowing access throughout the site and linking the developable parcels. To facilitate the internal road a small section from G5 and G8 will need to be removed, again both groups were formed by multiple species of moderate quality, however as the majority of each group will again be retained the loss of these sections should not prove detrimental to the visual amenity of the overall group in each case.

5.9 The material to be removed for the proposed layout comprises moderate to lower grade material arboriculturally and therefore removal of these relatively short sections to accommodate access points should not raise objection from an arboricultural perspective, providing that a sufficient amount and type of replacement tree planting forms part of the supporting landscaping scheme.

5.10 Tree losses are to be suitably mitigated for through delivery of a supporting landscaping scheme which should be designed to be reflective of the present character of the local treescape and include both tree planting and hedges, thereby compensating for the loss of cover and securing continuation of trees and hedges into the future.

5.11 The landscaping proposals shown in the development framework plan indicates there to be generous buffers around the edges of the new development, new open space provisions and green infrastructure around the new access roundabout and internal roads all of which will be capable of accommodating tree and hedgerow planting. To the west of the developable area, to the west of the A10 existing agricultural land will be retained and subject to proposed ecological enhancement which will seek to improve the biodiversity of the site and wider area.

5.12 Overall, from an arboricultural perspective, the proposals should not be constrained on arboricultural grounds. The removals required to facilitate the proposed development would not lower the overall arboricultural value of the site. The development of this land would provide an opportunity to increase canopy cover and convert arable land into a highly treed, high quality residential area.

Tree Management

5.13 The layout of the development is currently reserved for subsequent approval. In the course of a reserved matters application pursuant to layout, a review of the relationship between the layout and the retained trees should be undertaken by a qualified arboriculturist to assess the existing tree cover and prepare a schedule of tree works.

5.14 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 safety risks and to agree remedial works as required.

5.15 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.

5.16 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

5.17 Ground investigation through the use of pneumatic excavation, such as an Air Spade and digging of trial pits, may be required should there be areas where it is not possible to modify the layout to avoid conflict with retained trees. Ground investigations would aim to determine the actual location of the physical roots without causing them damage in the process. Such an assessment would enable consideration of the practicality and suitability of certain 'tree friendly' construction methods and would better inform decision making for a design.

5.18 Further assessment of the impact to actual roots found during the ground investigations can then be made and solutions reached thus, greatly reducing any potential future impacts on retained trees whilst allowing the development to proceed and minimising risks to future tree health. Ultimately the aim would be to reduce conflicts between trees and buildings, and achieve successful tree retention.

5.19 The use of "no-dig" construction methods should be considered prior to decisions being made as to the removal of each tree concerned, where conflicts between trees identified for retention and the layout arise. Such methods of construction and the use of industry led specialist engineering solutions i.e. three dimensional "load bearing" cellular confinement systems can be used particularly in the case of carriageways, footways and driveways in order to avoid unnecessary losses of trees.

5.20 The routing of below ground services should also be considered with regard to the retained trees as part of a subsequent reserved matters application pursuant to layout. As recommended by the guidance given in section 7.7 of BS5837 services, where possible, should not encroach within the Root Protection Areas of retained trees. If below-ground services are proposed within a Root Protection Area, modifications to the alignment of the service route may need to be made in order to minimise adverse effects on root stability and overall tree health.

5.21 Consideration may also need to be given to the potential for tree roots of newly planted trees and hedgerows to affect or compromise the future services. As far as feasible, it would be preferable that proposed services near both the existing and any new planting should be ducted for ease of access and maintenance and grouped together to minimise any future disturbance.

6.0 NEW TREE AND HEDGEROW PLANTING

Trees

6.1 The landscaping scheme should consider the use of both native tree species (for their low maintenance requirements and nature conservation value) and ornamental species (for their contribution to urban design and amenity value). Species choices should be selected on the

basis of their suitability for the final site use. Furthermore, during the design process consultation should be made with the Local Planning Authority to obtain information on their tree strategy and incorporate the planting proposals with any local policies and initiatives and/or Biodiversity Action Plans (BAP).

6.2 In line with the NPPF all schemes should aim achieve a net gain in biodiversity value. Nationally recognised biodiversity metrics allow for the inclusion of, not limited to, newly planted scattered trees, woodlands and hedgerows as a means of compensating for loss of habitat as part of the development. Tree and shrub planting can therefore be used to contribute to this biodiversity gain.

6.3 To maximise biodiversity value (and contribution to net gain) native species or varieties should be specified. Such provisions can be incorporated into both the hard and soft landscaping of the scheme. It is recommended that tree and hedgerow specifications are made following consultation with guidance published by the Local Planning Authority.

6.4 When deciding upon suitable tree species, careful consideration would need to be given to the following: ultimate height and canopy spread, form, habit, density of crown, potential shading effect, colour, water demand, soil type and maintenance requirements in relation to both the built form of the new development and existing properties.

6.5 Through careful species selection, the landscape scheme shall reduce the risk of trees being removed in the future on the grounds of nuisance. Nuisance can be perceived in a number of ways and vary from person to person however most commonly, within the context of trees, low overhanging branches, excessive shading, seasonal leaf fall and the misinformed perception that trees close to buildings cause damage.

Hedgerows

6.6 Hedgerows are identified as a Habitat of Principle Importance (HPI) as listed within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Consequently, it is important that the proposed scheme delivers a net gain in terms of linear hedgerows through new planting to compensate for any losses. Species should be native, and characteristic of the locality.

Rooting Environment and Soil Volumes

6.7 The success of any landscaping scheme relies on an adequate provision of a high-quality rooting environment within which trees can thrive and reach their full potential. Planting trees with due care and consideration can, in the long term, provide a greater return on a schemes green investment and ensure trees remain healthy and grow to mature proportions. Healthy mature trees integrate well into the built environment; increase the maturity of the landscape; help provide a natural green and leafy urban environment in which people would want to reside whilst also benefiting local wildlife.

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

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

General Planting Recommendations

6.10 Wherever possible, following discussions with the developer and utility companies, common service trenches should be specified to minimise land take associated with underground service provision and facilitation access for future maintenance.

6.11 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.

7.0 TREE PROTECTION MEASURES

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

General Information and Recommendations

7.2 All trees retained on site will be protected by suitable barriers or ground protection measures around the calculated RPA, crown spread of the tree or other defined constraints of this assessment as detailed by section 6 and 7 of BS5837.

7.3 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 Arboriculturist.

7.4 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.

7.5 Where it has been agreed, construction access may take place within the root protection area if suitable ground protection measures are in place. This may comprise single scaffold boards over a compressible layer laid onto a geo-textile membrane for pedestrian movements. Vehicular movements over the root protection area will require the calculation of expected loading and the use of proprietary protection systems.

7.6 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

7.7 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.

7.8 In most situations, fencing should comprise typical construction fencing panels attached to scaffold poles driven vertically into the ground. For particular areas where construction activity is anticipated to be of a more intense nature, supporting struts, acting as a brace should be added and fixed into position through the application of metal pins driven into the ground to offer additional resistance against impacts.

7.9 Where site circumstances and the risk to retained trees do not necessitate the default level of protection an alternative will be specified appropriate to the level / nature of anticipated construction activity. The recommended methods of fencing specifications for this site have been illustrated in Appendix B.

7.10 It may be appropriate on some sites to use temporary site offices, hoardings and lower level barrier protection as components of the tree protection barriers. Details of the specific protection barriers for the site can be provided should the application be approved, as part of a site specific Arboricultural Method Statement for a Reserved Matters application and in accordance with the guidance contained within BS5837.

Protection outside the exclusion zone

7.11 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.

7.12 All weather notices should be attached to the protective fencing to indicate that construction activities are not permitted within the fenced area. The area within the protective barriers will then remain a construction exclusion zone throughout the duration of the construction phase of the proposed development. Protection fencing signs can be provided upon request.

7.13 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.

7.14 Oil, bitumen, cement or other material that is potentially injurious to trees should not be stacked or discharged within 10m of a tree stem. No concrete should be mixed within 10m of a tree. Allowance should be made for the slope of ground to prevent materials running towards the tree.

7.15 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.

7.16 Notice boards, telephone cables or other services should not be attached to any part of a retained tree.

7.17 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

7.18 A number of trees were located on the boundaries of the site and therefore the root protection area and crown spread of these trees will need to be protected in the same way as all the

retained trees within the site. All trees located outside the boundaries of the assessment site yet within close proximity to works should be adequately protected during the course of the development by barriers or ground protection around the calculated root protection area.

7.19 Any trees which are to be retained and whose Root Protection Areas may be affected by the development should be monitored, during and after construction, to identify any alterations in quality with time and to assess and undertake any remedial works required as a result.

Protection for Aerial Parts of Retained Trees

7.20 Where it is deemed necessary to operate wide or tall plant within close proximity to trees it is best advised that appropriate, but limited tree surgery, be carried out beforehand to remove any obstructive branches as any such equipment would have potential to cause damage to parts of the crown material, i.e. low branches and limbs, of retained trees within the protective barriers. This is termed as 'access facilitation pruning' within BS5837. Any such pruning should be undertaken in accordance with a specification prepared by an arboriculturist.

7.21 A pre-commencement site meeting with contractors who are responsible for operating machinery is advised to firstly highlight the potential for damage occurring to tree crowns and to ensure that extra care is applied when manoeuvring machinery during such operations within close proximity to retained trees to avoid any contact.

7.22 In the event of having caused any branch or limb damage to retained trees it is strongly recommended that suitable tree surgery be carried out, in accordance with British Standard 3998:2010 and in agreement with the Local Planning Authority prior to correcting the damage, upon completion of development.

N

NOTES

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

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

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

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

KEY

- Category A - Trees / Groups of High Quality (BS 5837:2012)
- Category B - Trees / Groups of Moderate Quality (BS 5837:2012)
- Category C - Trees / Groups of Low Quality (BS 5837:2012)
- Hedgerow (Colour indicates BS5837:2012 Category)
- Root Protection Area (The RPA has been altered where appropriate to reflect underground constraints)
- T1 (A) / TG1 (A) — Individual / Group Number and BS5837:2012 Category
- Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)

Scale 1:2000 @ A3

0 50 100m

rev	date	description	by
-	03.12.2014	First Issue	TJR
A	25.07.2017	Updated Survey Data	CTT
B	14.02.2022	Updated Survey Data	CD
C	23.06.2022	Updated Client Name	AW
D	30.05.2023	Updated Survey Data	AW

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client
Vistry Homes Ltd

project
Buntingford West
Buntingford, Hertfordshire

drawing title
TREE SURVEY PLAN

scale	drawn	date
1:2000 @ A3	CD/HR	May 2023

drawing number
10537-T-01

rev
D

CAD file: L:\10500\10537\ARB\Plans\10537 Tree Survey Plan.dwg

N

NOTES

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

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

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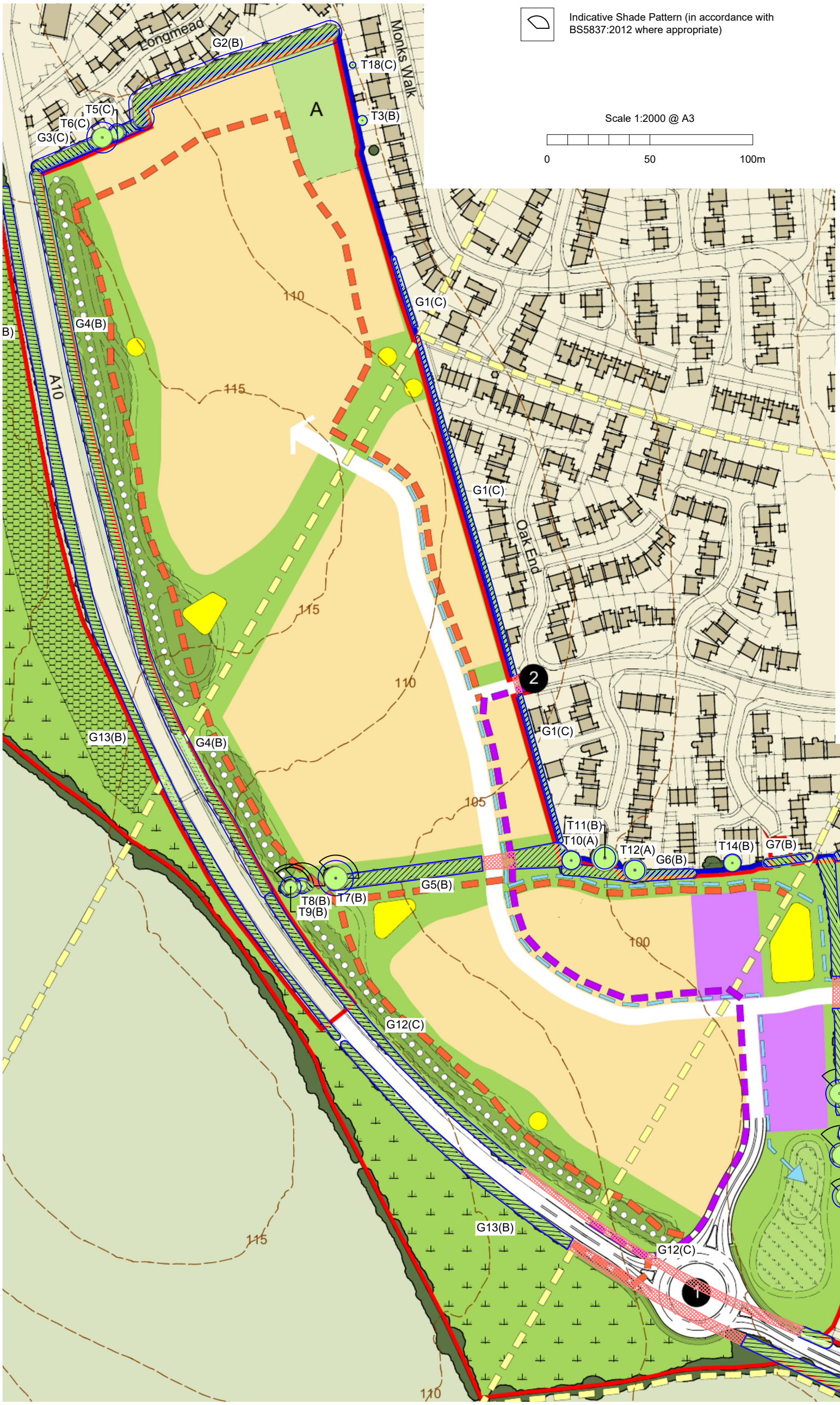
KEY

- Tree/Group to be Retained
- Tree/Group to be removed to facilitate the proposals
- Category U - Unsuitable for retention on arboricultural grounds
- Hedgerow Proposed to be Retained and Incorporated into the New Development
- Root Protection Area (The RPA has been altered where appropriate to reflect underground constraints)
- T1 (A) TG1 (A) — Individual / Group Number and BS5837:2012 Category
- Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)

Scale 1:2000 @ A3

0 50 100m



rev	date	description	by
-	03.12.2014	First Issue	TJR
A	25.07.2017	Updated Survey Data	CTT
B	14.02.2022	Updated Master	ACG
C	22.03.2022	Updated Layout	AW
D	26.05.2022	Updated Layout	AW
E	21.06.2022	Updated Layout	AW
F	23.06.2022	Updated Client Name	AW
G	24.06.2022	Updated Removals	AW
H	30.05.2023	Updated Layout	AW
I	20.06.2023	Updated Layout	AW

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client
Vistry Homes Ltd

project
Buntingford West
Buntingford, Hertfordshire

drawing title
TREE RETENTION PLAN

scale	drawn	date
1:2000 @ A3	CD/HR	June 2023

drawing number
10537-T-02

rev
I

CAD file: L:\10500\10537\ARB\Plans\10537 Tree Retention Plan.dwg

Appendix A - Tree Schedule

Measurements	Age Classes	Quality Assessment of BS Category	ULE (relates to BS Category)
Height - Measured using a digital laser clinometer (m)	**YNG**: Establishing, typically with good vigour and fast growth rates and strong apical dominance; c. less than 1/3 life expectancy	**Category U -** Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	<10 years
Stem Dia. - Diameter measured (mm) in accordance with Annex C of the BS5837	**SM:** Semi-mature trees less than 1/3 life expectancy	**Category A -** Trees of high quality with an estimated remaining life expectancy of at least 40 years.	40+ years
Crown Radius - Measured using a digital laser clinometer radially from the main stem (m)	**EM:** Established, typically vigorous and increasing in apical height and lateral spread; 1/3 - 2/3 life expectancy. Offers landscape significance	**Category B -** Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	20-40 years
Abbreviations est - Estimated stem diameter avg - Average stem diameter for multiple stems upto - Maximum stem diameter of a group	**M:** Fully established over 2/3 life expectancy, generally good vigour and achieving full height potential with crown still spreading	**Category C -** Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.	10-20 years
	OM: Fully mature, at the extremes of expected life expectancy, vigour decreasing, declining or moribund	Sub-categories: (i) - Mainly arboricultural value (ii) - Mainly landscape value (iii) - Mainly cultural or conservation value	
	V: biological, cultural or aesthetic value comprising niche saproxylic habitat. Individuals of large proportions (stem girth) in comparison to trees of the same species/surviving beyond the typical age range for their species.	**The BS category particular consideration has been given to the following:** • The presence of any structural defects in each tree/group and its future life expectancy • The size and form of each tree/group 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 and life expectancy	

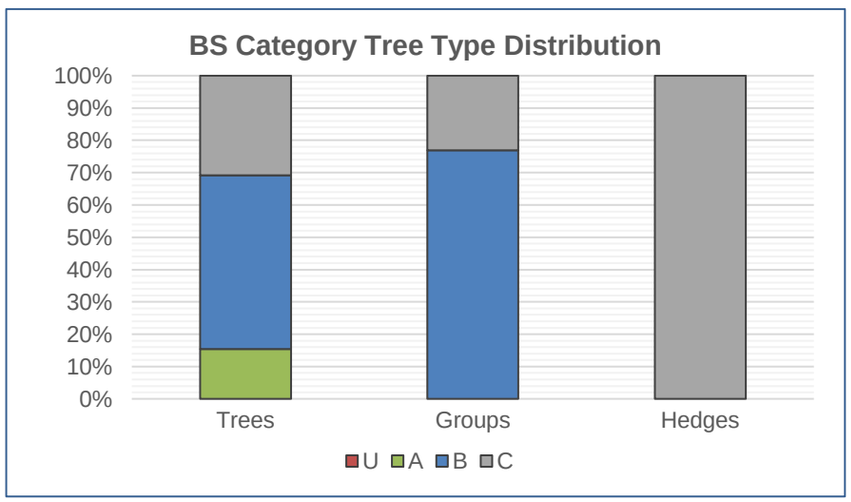
Structural Condition	Physiological Condition
Good - No significant structural defects	**Good -** No significant health problems
Fair - Structural defects that can be remediated	**Fair -** Symptoms of ill-health that can be remediated
Poor - Significant defects beyond remediation, present a risk of failure in the foreseeable future	**Poor -** Significant ill-health. Unlikely the tree will recover in the long term
Dead - Dead tree with structural integrity of tree severely compromised	**Advanced Decline / Dead -** Advanced state of decline and unlikely to recover or Dead

Root Protection Area (RPA)
• The RPA Radius column provides the extent of an equivalent circle from the centre of the stem (m). • The RPA is calculated using the formulae described in paragraph 4.6.1 of British Standard 5837: 2012 and is indicative of the rooting area required for a tree to be successfully retained. Tree roots extend beyond the calculated RPA in many cases and where possible a greater distance should be protected. • Where veteran trees have been identified the RPA has been calculated in accordance with Natural England guidance i.e. 15x the stem diameter, uncapped.

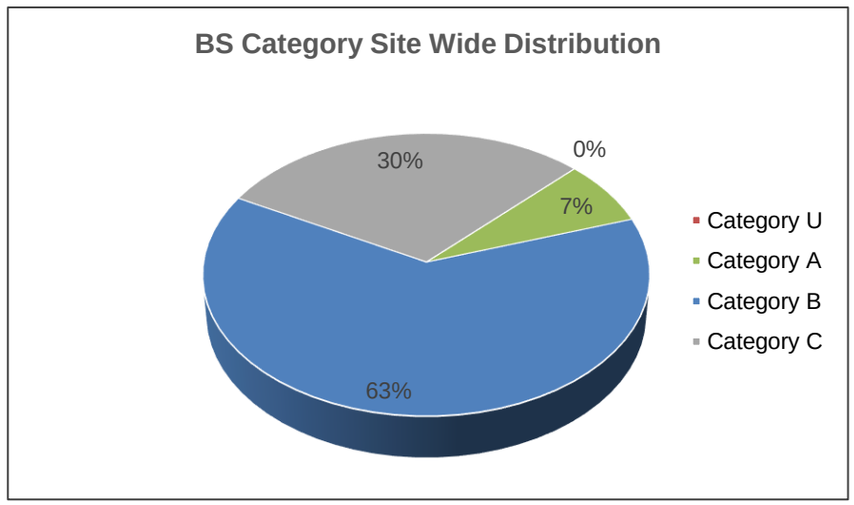
Appendix Summary

	Individual Trees	Totals	Tree Groups and Hedgerows	Totals
Category U		0		0
Category A	T10, T12	2		0
Category B	T3, T7, T8, T9, T11, T14, T15	7	G2, G4, G5, G6, G7, G8, G9, G10, G11, G13	10
Category C	T5, T6, T16, T17	4	G1, G3, G12, H2	4
	Total	13	**Total**	14

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



BS Category Site Wide Distribution shows the proportion of trees assessed in each category across the whole site which allows an interpretation of the site's overall quality.



Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
INDIVIDUAL TREES										
T1	Tree No Longer Present									
T2	Tree No Longer Present									
T3	Copper Beech Fagus sylvatica purpurea	5	est 250	3	SM	G	Private garden tree No major defects were noted Situated offsite Typical crown form	28	3.0	B (i)
T4	Tree No Longer Present									
T5	Field Maple Acer campestre	7	est 300 350	4	M	F	Dense ivy growth on the stem Base obscured Broken branches evident Dense undergrowth at the base Low crown form Twin stemmed from base	96	5.5	C (ii)
T6	Ash Fraxinus excelsior	16	320 370 380 480	6	M	P	The crown is open and heavily overhanging the new housing to the north Branch stubs evident Broken branches evident Close cultivation of the soil Compacted ground at the base Dense ivy cover on main stem Minor dead wood evident in the crown Multi stemmed from base Storm damage present	278	9.4	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T7	Sycamore Acer pseudoplatanus	16	20x 200	7	M	G	Multiple stems from ground level, likely having been coppiced in the past Some of the unions were tightly formed Located on both sides of the dry field ditch Some light ivy on several stems Low crown Close cultivation of the soil Coppiced form Minor dead wood evident in the crown Multi stemmed from base Typical crown form	362	10.7	B (ii)
T8	Sycamore Acer pseudoplatanus	14	est 200 200 200 200	3	M	G	Multiple stems from ground level, likely having been coppiced in the past Some of the unions were tightly formed Located on both sides of the dry field ditch Some light ivy on several stems Low crowns Close cultivation of the soil Coppiced form Minor dead wood evident in the crown Multi stemmed from base Typical crown form	72	4.8	B (ii)
T9	Sycamore Acer pseudoplatanus	14	est 7 x 200	4	M	G	Multiple stems from ground level, likely having been coppiced in the past Some of the unions were tightly formed Located on both sides of the dry field ditch Some light ivy on several stems Low crowns Close cultivation of the soil Coppiced form Minor dead wood evident in the crown Multi stemmed from base Typical crown form	127	6.3	B (ii)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T10	English Oak Quercus robur	14	470	6	M	G	Branch stubs evident Broken branches evident Close cultivation of the soil Minor dead wood Typical crown form Noted mature ash to the north side sharing a mutual crown	100	5.6	A (ii)
T11	Ash Fraxinus excelsior	14	550	8	M	F	Base obscured Branch stubs evident Broken branches evident Crown had been topped Dense ivy cover on main stem Dense undergrowth at the base Minor dead wood evident in the crown Situated offsite Typical crown form Unable to gain access Past pruning wounds visible where the crown has been raised over the field	137	6.6	B (ii)
T12	English Oak Quercus robur	12	510	7	M	G	Base obscured Branch stubs evident Broken branches evident No major defects were noted Situated offsite Typical crown form Unable to gain access	118	6.1	A (ii)
T13	Tree No Longer Present									

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T14	Field Maple Acer campestre	14	300 350	5	M	F	Base obscured Crown lifted in the past Bark wounds noted No major defects were noted Twin stemmed from close to ground level Typical crown form	96	5.5	B (ii)
T15	Ash Fraxinus excelsior	16	700	6	M	F	Branch socket cavities observed Located in a dry field ditch Close cultivation of the soil Dense undergrowth at the base Open and spreading crown form Dieback of crown	222	8.4	B (ii)
T16	Ash Fraxinus excelsior	16	est 6x 260	6	M	P	Basal cavity observed Branch stubs evident Broken branches evident Close cultivation of the soil Coppiced form Dense undergrowth at the base Multi stemmed from base Sparse crown Major dead wood throughout crown Very little live growth Morinund condition	183	7.6	C (ii)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T17	Crack Willow Salix fragilis	11	est 600	5	M	F	Base obscured Close cultivation of the soil Dense undergrowth at the base Low crown form The main stem had collapsed previously with larger regrowth also collapsed and the crown was formed by regrowth, which appeared healthy	163	7.2	C (ii)
T18	Apple Malus domestica	5	150	2	EM	G	Planted specimen situated offiste within rear garden	10	1.8	C (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
GROUPS OF TREES										
G1	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Field Maple Acer campestre Hawthorn Crataegus monogyna Wayfaying Tree Viburnum lantana Sycamore Acer pseudoplatanus	2-5	est 6x 40	1.5	M	F	Outgrown field boundary for the most part having only been maintained in a few sections by individual houses No major defects were noted Typical crown form Some dead trees were noted, mostly small proportioned elder and hawthorn	4	1.2	C (ii)
G2	Ash Fraxinus excelsior Blackthorn Prunus spinosa Crack Willow Salix fragilis Field Maple Acer campestre Goat Willow Salix caprea Weeping Willow Salix babylonica Hybrid Black Poplar Poplus x canadensis Elder Sambucus nigra	Upto 15	Upto 400	5	SM, EM, M	F	Base obscured Broken branches evident Close cultivation of the soil Dense ivy cover on main stem Dense undergrowth at the base Interlocking crowns Minor dead wood evident in the crown Multi stemmed from base Single stem forms Twin stemmed from base Typical crown form Unable to gain access Along the field was multi stemmed forms of blackthorn with taller and larger trees set back to the north There are several larger ash specimens close to the boundary with the development to the north	72	4.8	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G3	Field Maple Acer campestre Common Ash Fraxinus excelsior Elder Sambucus nigra	8	Upto 350	3	M	F	Broken branches evident Dense ivy cover on main stem Interlocking crowns Multi stemmed from base Twin stemmed from base Typical crown form Dead elm present Patchy group with many gaps and several dead stems Past pruning work has been carried out to reduce crown growth to the north Old field boundary hedgerow	55	4.2	C (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G4	Ash Fraxinus excelsior Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus Wild Cherry Prunus avium Aspen Populus tremula Hazel Corylus avellana Sweet Chestnut Castanea sativa Dogwood Cornus sanguinea Silver Birch Betula pendula Walnut Juglans regia Crab Apple Malus sylvestris	13	up to 350	4	M	G	Dominated by ash Interlocking crowns No major defects were noted Situated offsite Typical crown form Buffer planting along the A10 set behind a post and rail fence Could benefit from management through thinning to reduce overcrowding and numbers, to allow better development of trees to improve future growth and appearence Group becomes patchier in cover towards the northern end	55	4.2	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G5	Blackthorn Prunus spinosa Field Maple Acer campestre Goat Willow Salix caprea Sycamore Acer pseudoplatanus Hazel Corylus avellana Crab Apple Malus sylvestris Hawthorn Crataegus monogyna	9	est 300	3	EM	F	Large and prominent field boundary hedgerow dividing the northern and southern field parcels Good quality with few gaps Close cultivation of the soil Crossing and rubbing branches Dense undergrowth at the base Interlocking crowns Low crown forms Multi stemmed from base No major defects were noted Typical crown forms Mainly goat willow, hazel and blackthorn with a several larger sycamore at the eastern end recorded as individual trees and a larger field maple in the western third Growth is formed either side of a large dry field ditch	41	3.6	B (ii)
G6	Field Maple Acer campestre Hawthorn Crataegus monogyna Hornbeam Carpinus betulus Spindle Euonymus europaeus Dogwood Cornus sanguinea Blackthorn Prunus spinosa	6-10	est 150 150 100 120	3	EM	G	Large outgrown field boundary hedgerow Lots of bramble growth Field maples are fully formed and hazel are large coppice stools Base obscured Close cultivation of the soil Dense undergrowth at the base Interlocking crowns Low crown forms Multi stemmed from base No major defects were noted Typical crown forms	31	3.2	B (ii)

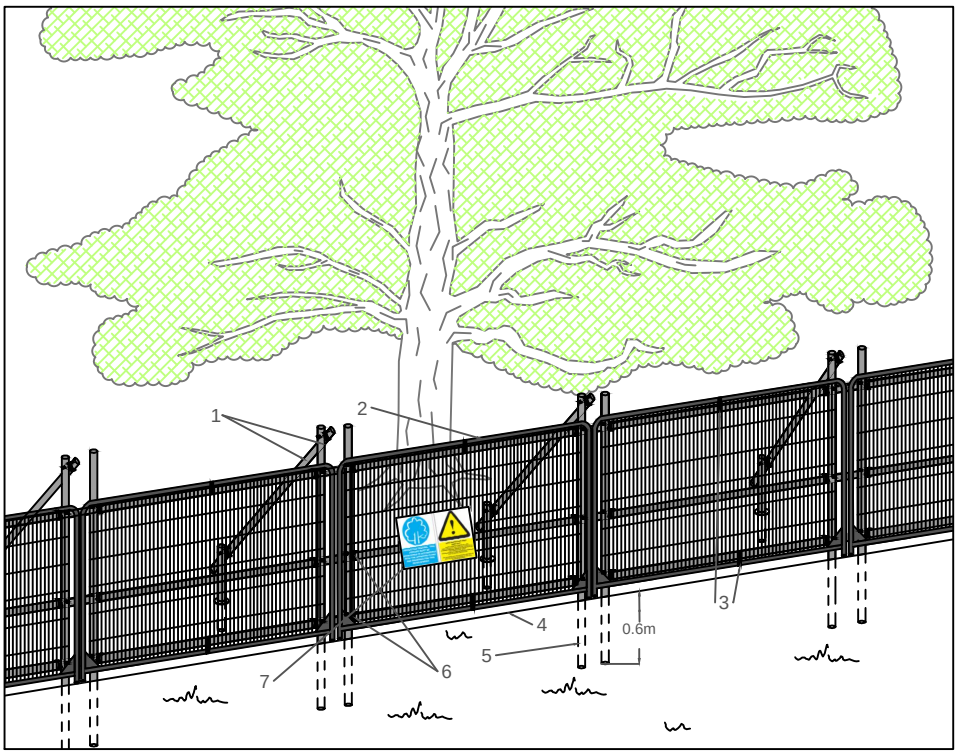
Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G7	Blackthorn Prunus spinosa Field Maple Acer campestre Hazel Corylus avellana	8	6x 80	3	SM, EM	F	Base obscured Broken branches evident Close cultivation of the soil Crossing and rubbing branches Dense undergrowth at the base Interlocking crowns Low crown forms Multi stemmed from base No major defects were noted Typical crown forms Screens dwellings	17	2.4	B (ii)
G8	Blackthorn Prunus spinosa Field Maple Acer campestre English or Field Elm Ulmus minor Hazel Corylus avellana Spindle Euonymus europaeus Wayfaying Tree Viburnum lantana Hawthorn Crataegus monogyna Elder Sambucus nigra	11	est 300	5	SM, EM	G	Large outgrown field boundary hedgerow with some standard trees present along its length Dry ditch running through the centre Close cultivation of the soil Crossing and rubbing branches Dead elms noted Dense undergrowth at the base Interlocking crowns Low crown form Multi stemmed from base Typical crown forms	41	3.6	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G9	Ash Fraxinus excelsior Field Maple Acer campestre Wych elm Ulmus glabra Elder Sambucus nigra Hawthorn Crataegus monogyna Blackthorn Prunus spinosa	16	500	8	M	F	Group surrounding the sewage works Running beneath the group is an outgrown field boundary hedgerow comprised of hawthorn, dogwood, elder, blackthorn and English / field elm Major and minor dead wood Bases obscured Low crown forms Branch stubs evident Broken branches evident Close cultivation of the soil Dense ivy cover on main stem Multi stemmed from base Pruning wounds noted Typical crown form	113	6.0	B (ii)
G10	Black Pine Pinus nigra Blackthorn Prunus spinosa English or Field Elm Ulmus minor Field Maple Acer campestre Elder Sambucus nigra Hazel Corylus avellana	16	400	4	SM, EM	F	Close cultivation of the soil Situated offsite behind the chain link fence Typical crown forms Black pine located outside the site behind a fence Dead elms noted Screens commerical premises to the east	72	4.8	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G11	Leyland Cypress x Cupressocyparis leylandii Blackthorn Prunus spinosa Field Maple Acer campestre Wild Cherry Prunus avium Hazel Corylus avellana Elder Sambucus nigra Dogwood Cornus sanguinea Laurel Goat Willow Salix caprea	8	6x 80	3	M	F	Outgrown field boundary hedgerow and in some sections individual houses had maintained the hedge to lower heights Base obscured Close cultivation of the soil Low crown form No major defects were noted Typical crown form	17	2.4	B (ii)
G12	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus Crab Apple Malus sylvestris Dogwood Cornus sanguinea Swedish Whitebeam Sorbus intermedia Spindle Euonymus europaeus	9	up to 250	3	EM	F	Noted some dead elms present Base obscured Broken branches evident Close cultivation of the soil Low crown form Multi leadered and single stemmed forms Many self set ash No major defects were noted Situated offsite Typical crown forms Dieback of ash noted	28	3.0	C (ii)

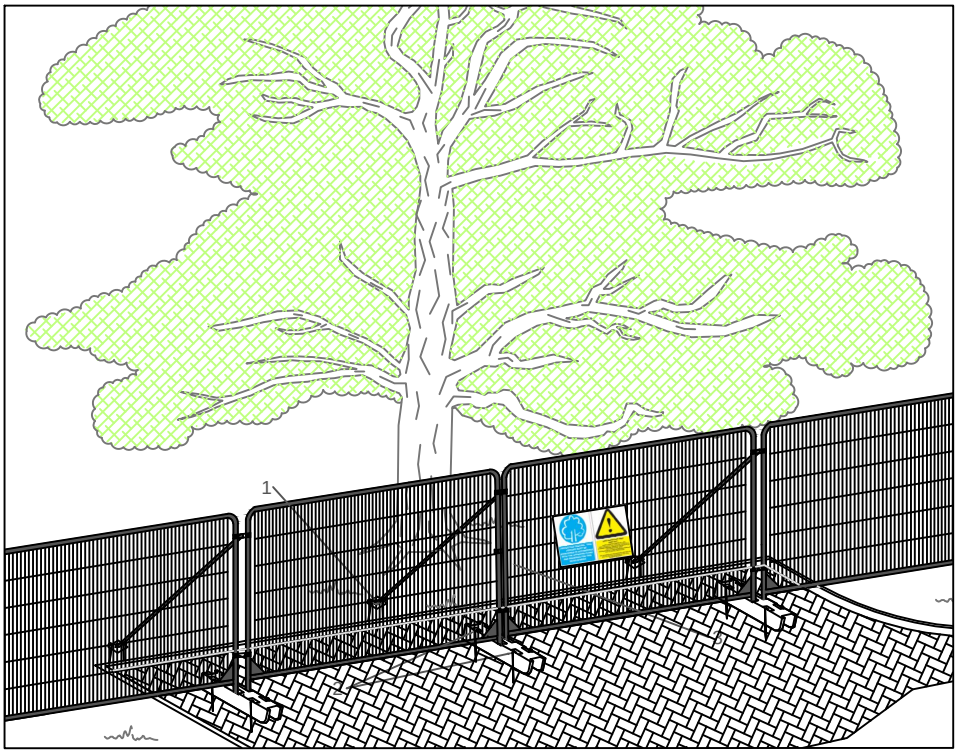
Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G13	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Goat Willow Salix caprea Hawthorn Crataegus monogyna Hybrid Black Poplar Populus x canadensis Silver Birch Betula pendula Sycamore Acer pseudoplatanus Apple Malus domestica Bird Cherry Prunus padus	12	est 250	3	EM	F	Similar in composition and structure to G4 and G12 Branch stubs evident Broken branches evident Minor dead wood evident in the crown No major defects were noted Situated offsite Typical crown form Buffer planting along the A10	28	3.0	B (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
HEDGEROWS										
H1	Hedgerow No Longer Present									
H2	Elder Sambucus nigra Blackthorn Prunus spinosa	3	est 6x 80	1	M	F	Outgrown field boundary hedgerow Sporadic	17	2.4	C (ii)



Standard specification for protective barrier

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



Above ground stabilising systems

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

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NOTES

drawing title

APPENDIX B
PROTECTIVE FENCING SPECIFICATIONS

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