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APPENDIX 7.11

ARBORICULTURAL ASSESSMENT

Client

Hallam Land Management Limited

Project

**Land east of Knowsley Lane,
Knowsley**

Date

July 2026

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Rev	Issue Status	Prepared/Date	Approved/Date
-	Draft	EC / 13/06/25	MHE / 17/06/25
-	Final	EC / 04/08/25	MHE / 04/08/25
A	Final	EC / 08/08/25	MHE / 08/08/25
B	Final	EC / 18/06/26	MHE / 18/06/26
C	Final	EC / 09/07/26	MHE / 09/07/26
D	Final	EC / 16/07/26	MHE / 16/07/26

1.0 INTRODUCTION

- 1.1 This report has been prepared by FPCR Environment and Design Limited on behalf of Hallam Land Management Limited to present the findings of an Arboricultural Assessment and survey of trees located at Land east of Knowsley Lane, Knowsley (hereafter referred to as the site), OS Grid Ref SJ 436 947.

Site Description

- 1.2 The site lies to the south of Knowsley village and consists of several field parcels used for agricultural purposes. Knowsley Lane forms the site's western boundary with Home Farm Road to the north. The site abuts the grounds of Knowsley Hall to the south and east. Tree stock on the site included two blocks of woodland within the site, along with further mature tree cover situated within the grounds of Knowsley Hall and some boundary tree cover.

Planning History

- 1.3 The site is identified as Safeguarded Land for post-2028 development needs under Policy SUE1 within the Knowsley Local Plan Cores Strategy January 2016 for 1,093 dwellings.

Scope of Assessment

- 1.4 A tree survey and assessment of existing trees was carried out by FPCR Environment and Design on **15th April 2025** in accordance with guidance contained within British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction - Recommendations' (hereafter referred to as BS5837).
- 1.5 This report has been produced to accompany an outline planning application for up to 700 units with all matters reserved except for access.
- 1.6 The purpose of this report is therefore to firstly, present the results of this 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.

2.0 PLANNING POLICY

National Planning Policy Framework December 2024

- 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 December 2024.
- 2.2 In relation to arboriculture, the NPPF states that:
- 136 *'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 52), 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 52: unless, in specific cases, there are clear, justifiable and compelling reasons why this would be inappropriate)*
 - 193 (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 70) and a suitable compensation strategy exists'.*
and provides specific guidance that:
 - 193 (d) *'development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate'.*
- 2.3 With reference to paragraph 193 (c), examples of what is deemed to be 'wholly exceptional' are included within Footnote 70 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

- 2.4 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.
- 2.5 Within the context of the adopted Knowsley Local Plan Cores Strategy January 2016, there are several policies relating to trees. The following is the most relevant.

Policy CS21 - Greenspaces and Trees

Enhancement of Natural and Semi-Natural Greenspace and Tree Protection

10) The Council will encourage proposals for new development to incorporate:

- a) Retention of existing trees, woodland, vegetation and other habitat features which offer a positive contribution to the local environment in terms of visual amenity, recreation value or biodiversity/wildlife interest;*
- b) Appropriate planting of trees, other soft landscaping and installation of habitat features for the benefit of biodiversity; and*
- c) Adequate replacement provision where tree loss is unavoidable, comprising two additional trees for every tree lost and taking account of species and size.*

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, hedgerows or woodland 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.
 - 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.
 - For the purposes of this assessment woodland is described as a habitat where 'trees are the dominant plant form. The individual tree canopies generally overlap and interlink, often forming a more or less continuous canopy'¹. Woodlands however, are not just formed of trees and generally include a great variety of other plants. These will include 'mosses, ferns and lichens, as well as small flowering herbs, grasses and shrubs'².
- 3.3 An assessment of individual trees within groups, hedgerows and woodland has been made where a clear need to differentiate between them, for example, to highlight significant variation between attributes including physiological or structural condition or where a potential conflict may arise.

BS5837 Categories

- 3.4 Trees, groups, hedgerows, and woodland 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.
- 3.6 Categories A, B and C are applied to trees that should be of material consideration 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.
- 3.7 **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:

¹ Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

² http://www.countrysideinfo.co.uk/woodland_manage/whatis.htm

- 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.

3.8 **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:

- Subcategory (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.
- Subcategory (ii) trees, groups or woodlands of particular visual importance as arboricultural and / or landscape features.
- Subcategory (iii) trees, groups or woodlands of significant conservation, historical, commemorative or other value for example veteran or wood pasture.

3.9 **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:

- Subcategory (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.
- Subcategory (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.
- Subcategory (iii) trees with material conservation or other cultural value.

3.10 **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:

- Subcategory (i) unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.
- Subcategory (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.
- Subcategory (iii) trees with no material conservation or other cultural value.

Ancient and Veteran Trees

- 3.11 Various published methodologies are currently available for the identification of Ancient and Veteran trees which, due to the complexity and subjectivity of the process of defining and assessing these trees, often have conflicting definitions.
- 3.12 BS:5837 defines veteran trees as.
- “Tree that, by recognized criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned”.
- NOTE These characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem
- 3.13 BS:5837 does not provide a definition for ancient trees and therefore the assessment and the criterion being used for identifying ancient tree is based upon government guidance on, Ancient woodland, ancient trees and veteran trees: advice for making planning decisions³ which states.
- “All ancient trees are veteran trees, but not all veteran trees are ancient. The age at which a tree becomes ancient, or veteran will vary by species because each species ages at a different rate.”*
- 3.14 Ancient and veteran trees are also material considerations within the planning process and their importance is specifically recognised within the National Planning Policy Framework (NPPF) 2024, which includes its own definition of ancient and veteran trees:
- ‘A tree which, because of its age, size, and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage.’⁴
- 3.15 Stem girth is the most reliable guide when determining the age of trees and in normal growing conditions, ancient and veteran trees are those which have a large girth by comparison with other trees of the same species. To inform the assessment of chronological age reference has been made to the chart provided within Lonsdale (2013) (shown below in Figure 1).

³ Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

⁴ Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

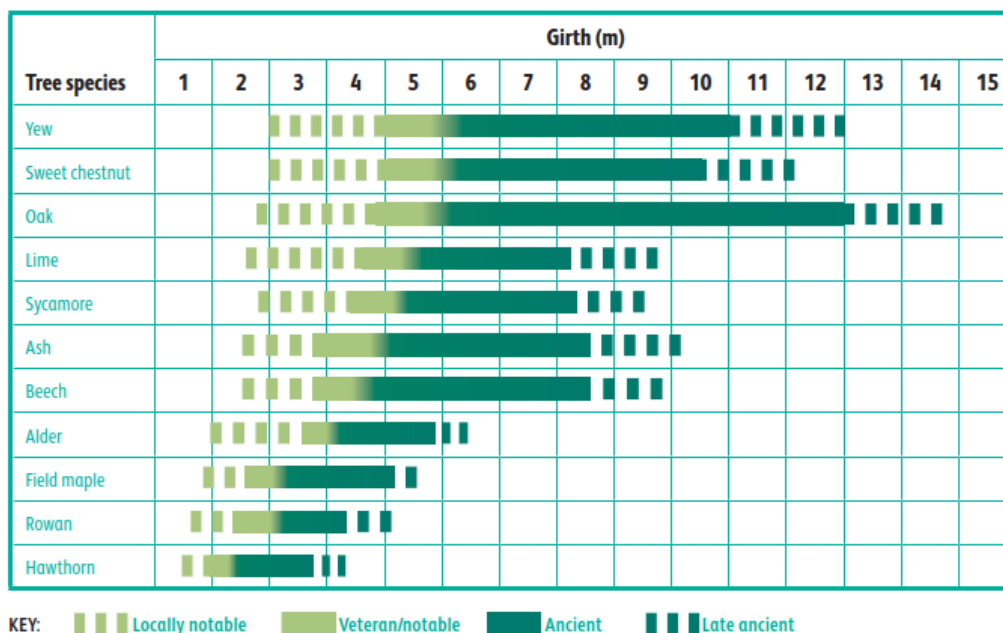


Figure 1: The chart of girth in relation to age and development classification of trees, as shown in Lonsdale (2013)⁵.

- 3.16 RAVEN 2 (Recognition of Ancient, Veteran & Notable trees) Julian Forbes-Laird (2023)⁶ has been adopted for gathering survey information as this provides a standardised framework for recording characteristic ancient/veteran features and this Arboricultural Assessment has also considered any potential candidates against this framework.

Ancient Woodland

- 3.17 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) website did not identify any tree cover within or immediately adjacent to the site as Ancient Woodland.
- 3.18 However, Ancient woodland in England is defined as an area that has been continuously wooded since at least 1600 AD. 'Continuously wooded' does not require there to have been a continuous cover of trees and shrubs across the entire area. Habitats such as glades, deer lawns, rides, ponds and streams, as well as gaps created by natural occurrences, and forestry may all occur within woodland.
- 3.19 Ancient woodland includes both ancient semi-natural woodland and plantations on ancient woodland sites:
- Ancient semi-natural woodland (ASNW) is where the stands are composed predominantly of trees and shrubs native to the site that do not obviously originate from planting. However, woodlands with small planting of trees native to the site would still be included in this category. The stands may have been managed by coppicing or pollarding or the tree and shrub layer may have grown up by natural regeneration.

⁵ Lonsdale, D. (Ed.). 2013). Ancient and other veteran trees: further guidance on management. London: The Tree Council.

⁶ Recognition of Ancient, Veteran & Notable Trees – RAVEN 2 (2023) – Julian Forbes-Laird Consultancy.

- Plantations on ancient woodland sites (PAWS) these are areas of ancient woodland where the former native tree cover has been felled and replaced by planted trees, predominantly of species not native to the site. These sites often retain some of the ancient woodland features such as soils, ground flora, fungi and woodland archaeology.

3.20 Ancient woodland is a resource of great importance for its wildlife, soils, recreation, cultural value, history and the contribution to diverse landscapes and their importance is specifically recognised within the National Planning Policy Framework (NPPF) 2024.

Considerations and Limitations of the Tree Survey

3.21 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.

3.22 The statements made in this report regarding the assessed trees applies to the date of survey and cannot be assumed to remain unchanged. 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.

3.23 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.

3.24 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 NHBC Chapter 4.2 Building near Trees.

4.0 RESULTS

- 4.1 A total of 12 individual trees, 13 groups of trees, four woodlands and two hedgerows were surveyed as part of the Arboricultural Assessment. Trees were surveyed as individual trees, groups, hedgerows and woodland as per the survey methodology.
- 4.2 Appendix A presents details of all individual trees, groups, hedgerows and woodlands recorded during the assessment including heights, diameters at 1.5m from ground level, 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 (RPA), calculated in accordance with Annex C, D and Section 4.6 of BS5837:2012.
- 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 The individual positions of trees, groups, hedgerows and woodlands 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.

Results Summary

- 4.5 The site included two areas of woodland with a further two woodlands recorded just beyond the site boundary within the grounds of Knowsley Hall. Further tree cover on the site was largely restricted to the site boundaries and included both maintained and unmaintained hedgerows, boundary tree groups and occasional individual trees.
- 4.6 Table 1 below summarises the trees assessed and several of the trees have been discussed in more detail following the table, owing to their physical condition or arboricultural significance.

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)	T6, T9	2	W1, W2, W3, W4	4
Category B (Moderate Quality / Value)	T1, T10	2	G4, G5, G6, G8, H1, H2	6
Category C (Low Quality / Value)	T2, T3, T4, T5, T7, T8, T11, T12	8	G1, G2, G3, G7, G9, G10, G11, G12, G13	9

Woodlands

- 4.7 W1, stood beyond a 2.5m high stone wall which defined the site's eastern boundary with the adjoining Knowsley Hall. The woodland contained a mixture of broadleaf and coniferous species of differing ages, with occasional mature English oak *Quercus robur* and blocks of immature Norway spruce *Picea abies*. Storm damage was noted within the woodland with occasional failed trees some of which had failed into the site and damaged the boundary wall. Collectively however the woodland was of high quality both arboriculturally and for its landscape value from an arboricultural perspective and was recorded as retention Category A.
- 4.8 W2, was situated within the site boundary comprising an irregularly shaped block situated centrally within the site. The woodland was predominantly made up of mature sycamore *Acer pseudoplatanus* with occasional English oak. The trees were of similar proportions with it being evident that the woodland was planted. *Rhododendron ponticum*, was present throughout the woodland which is listed under Schedule 9 of the Wildlife and Countryside Act 1981, meaning it is illegal to plant it into the wild or allow it to spread from your property. Vandalism was noted within the woodland along with dead trees, however again W2 was of high quality and recorded as retention Category A.
- 4.9 W3, was also situated within the site boundary to the west of W2 and connected to this woodland by an outgrown hedgerow (G11) predominantly comprising of goat willow *Salix caprea*. W3 had a greater mix of species and was of more diverse age than W2. There were two large bodies of water within the woodland along with wet area which favoured riparian species including crack willow *Salix fragilis*. A small number of coppiced hazels *Corylus avellana* were recorded within the east of the woodland. *Rhododendron ponticum*, was similarly present throughout the woodland but again W3 was of high quality and recorded as retention Category A.
- 4.10 W4, stood beyond a 2.5m high stone wall which defined the site's southern boundary with the adjoining Knowsley Hall. The woodland included a linear tree belt associated with the adjoining Knowsley Park, and an area of plantation woodland of Scots pine *Pinus sylvestris* just beyond the south west corner of the site. Trees which made up the linear belt were of varying ages but there were several very large English oak and sweet chestnut *Castania sativa*, access to these trees was not possible at the time of the assessment but several displayed features associated with veteran trees, including large stems with cavities and hollowing and signs of crown reorganisation. There were sparse sections and occasional gaps along the length of this woodland which was not a continuous belt of trees but was of high arboricultural value and recorded as retention Category A.
- 4.11 While the Multi Agency Geographic Information for the Countryside (MAGIC) website did not identify any woodlands within or immediately adjacent to the site as Ancient Woodland. Ecological surveys identified ancient woodland indicator species and with ancient woodland in England being defined as an area that has been continuously wooded since at least 1600 AD due to the proximity of the woodlands to an historic estate which dates to the late 15th century, all the recorded woodland is assumed to be ancient and a 15m ancient woodland buffer has been provided in accordance with government guidance on ancient woodland, ancient trees and veteran trees: advice for making planning decisions.

Individual Trees

- 4.12 A total of twelve individual trees were recorded on the site, of these two T6 and T9 both mature English oak were recorded as high quality (Category A). T1, a silver birch *Betula pendula* situated within the rear garden of a property on Berry Hill Avenue and T11 a mature sweet chestnut associated with W4 were both considered of moderate quality (Category B). Both trees were situated outside of the application boundary. The remaining eight individual trees were all assessed as low quality (Category C) comprising of immature and self-seeded sycamore and goat willow.

Tree Groups

- 4.13 Thirteen tree groups were recorded on the site. The majority of these were assessed as being of low quality and included G2, G7, G9, G10, G11 and G12 outgrown field boundary hedgerow and G1, a blackthorn *Prunus spinosa* thicket outgrown from a maintained boundary hedgerow (H2).
- 4.14 Four tree groups were assessed as moderate quality (Category B) these included, G4 a group of aspen *Populus tremula* and G6 a mixed species group both of which were situated within adjoining garden and provided moderate screening value to the site from an arboricultural perspective.
- 4.15 G5, a large tree group along the site's northern boundary which abuts the rear gardens of properties on Sugar Lane and Parklands was also recorded as retention Category B. While the group was of high screening value to these adjoining properties G5, was predominately made up of mature ash *Fraxinus excelsior*. Ash dieback *Hymenoscyphus fraxineus* was evident within the lower growth and young self-seeded trees along the edge of the group. Ash dieback is anticipated to kill 80% of ash trees across the UK⁷ and while sycamore within the group will likely take the place of dead ash trees, G5 could only be considered of moderate quality.

Hedgerows

- 4.16 Two hedgerows were recorded on the site (H1 & H2). H1 situated along the boundary with Knowsley Lane and H2 situated along the boundary with Home Farm Road were both assessed as being of moderate quality from an arboricultural perspective. A tree survey conducted, in accordance with BS:5837, does not however assess hedgerows against the Hedgerow Regulations 1997 or specifically from an ecological perspective, and reference should be made to the Ecological Assessment.

Ancient and Veteran Trees

- 4.17 None of the assessed trees were considered as ancient or veteran trees in accordance with Raven II.

Statutory Considerations

- 4.18 Local authorities have a Duty under the Town and Country Planning Act to create Tree Preservation Orders (TPO) to protect and preserve specific trees and woodlands that bring significant amenity benefit to a particular site or location.

⁷ Ash Dieback (*Hymenoscyphus fraxineus*) - Woodland Trust

- 4.19 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.
- 4.20 No direct consultation with the Local Planning Authority has taken place, however, it is understood having used the online search facility on the website for Knowsley Council that there are no Tree Preservation Orders or Conservation Areas that would apply to any trees present within the assessment site. Before any tree works are undertaken confirmation of the online information should be sought from the Local Authority.

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 Parameters Plan and Detailed Access Proposals and seeks to outline the relationship between the proposals and the existing trees and hedgerows. The drawing shows the proposals for up to 700 dwellings showing the proposed residential development areas, proposed access points to Knowsley Lane, indicative potential pedestrian, cycle, active travel or emergency access points and proposed open space, along with two vehicular and two pedestrian access points onto Knowsley Lane.
- 5.3 An overlay of the Parameters Plan has been incorporated in the Tree Retention Plan to assist in identifying the relationship and any potential conflicts between the outline proposals and the existing trees and hedgerows. The plan also identifies which trees would be required to be removed or retained as part of the proposed development.
- 5.4 A Tree Retention Plan – Access has also been provided to demonstrate the location of the proposed vehicular and pedestrian access points on to Knowsley Lane in relation to the surrounding tree cover allowing the identification of any potential conflicts through implementation of the site access.
- 5.5 Table 2 below summarises the impact on tree stock and these impacts have been discussed in more detail following the table.

Table 2: Summary of Impact on Tree Stock

	Trees to be Retained	Total	Trees to be Removed in full or part	Total
Category U - Unsuitable		0		0
Category A (High Quality / Value)	T6, T9 W1, W2, W3, W4	2 4		0 0
Category B (Moderate Quality / Value)	T1, T10 G4, G5, G6, G8	2 4	H1 (Part Removal), H2 (Part Removal)	0 2
Category C (Low Quality / Value)	T2, T3, T4, T5, T7, T8, T11, T12 G1, G2, G3, G7, G11, G12, G13	8 9	G9(Part Removal), G10(Part Removal),	0 2

- 5.6 Development of the site would require the removal of an approximately 250m section of hedgerow (H1) from along Knowsley Lane to allow for both vehicular access to the site, through the localised widening of Knowsley Lane to create a proposed right turn lane, and for the creation of a shared use footway and cycleway. A further 7m of hedgerow H1 and 20m of H2 are also shown to be impacted to create pedestrian connections to Knowsley Road and Home Farm Road.

- 5.7 The removal of these sections of hedgerow would be mitigated for through the planting of 203m of hedgerow along Knowsley Lane and 15m of new hedgerow planting along Home Farm Road. New hedgerow planting would also be provided as part of a future development which should deliver a net gain in terms of linear hedgerows planting to compensate for the proposed hedgerow loss.
- 5.8 The proposed residential development areas have been informed by the tree constraints, with proposed open space being identified within the 15m buffers provided to the ancient woodland. The proposal are likely to require the removal of two short sections of internal hedgerow (G9 and G10) to create an internal road loop necessary to achieve a workable development layout but the layout and internal road layout has avoided tree removal where possible, with areas of open space shown between development parcels incorporating large section of internal hedgerow and recorded trees, to minimise tree removal.
- 5.9 Although not recorded as veteran in accordance with the RAVEN 2 (Recognition of Ancient, Veteran & Notable trees) Julian Forbes-Laird (2023) methodology, which assess trees against the NPPF definition of veteran. The mature high-quality trees in the southwest corner of the site are shown to be unaffected by the proposals, being situated within an area of green space which fully encompasses their RPA, with the nearest build development, a footpath connection onto Knowsley Lane, situated more than 30m from the base of T6.
- 5.10 A further pedestrian access onto Home Farm Road would require the removal of a further 7m section of hedgerow H2. Again, this minor hedgerow removal could be mitigated for through new hedgerow planting and would not result in a significant arboricultural impact.

Discussion

- 5.11 In conclusion for arboriculture, the proposals are considered to meet the aims and objectives of both local and national policy through careful consideration of the design and retention of a high proportion of the existing trees, woodland and hedgerow vegetation.
- 5.12 A future development on the site should provide appropriate hedgerow planting to mitigate for the necessary hedgerow loss along with other soft landscaping and installation of habitat features for the benefit of biodiversity; and should any tree removal be necessary as part of a subsequent Reserved Matters application adequate replacement provision of new trees should be provided comprising two additional trees for every tree lost.
- 5.13 As part of a subsequent Reserved Matters application the final layout of the scheme should be informed by this assessment. Hard surfacing and dwellings should respect the 15m buffer provided to ancient woodland and the routing of below ground services should also consider retained trees and not encroach within their Root Protection Areas.

6.0 NEW TREE AND HEDGEROW PLANTING

- 6.1 As part of the subsequent reserved matters application, should the application be approved, an adequate quantity of structured tree planting should be provided to mitigate for any tree and hedgerow removal necessary to implement the development. The purpose and function of this new tree planting should be understood from the start of any design stages so that key objectives from a landscape perspective can also be achieved.
- 6.2 The landscaping scheme should consider the use of both native tree species (for their low maintenance requirements and nature conservation value) and ornamental species (for their contribution to urban design and amenity value). Species choices should be selected on the basis of their suitability for the final site use. Furthermore, during the design process consultation should be made with the Local Planning Authority to obtain information on their tree strategy and incorporate the planting proposals with any local policies and initiatives and/or Biodiversity Action Plans (BAP).
- 6.3 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.
- 6.4 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.
- 6.5 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. 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

- 6.6 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.
- 6.7 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).

General Planting Recommendations

- 6.8 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.
- 6.9 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 should be adequately protected during works through the erection of the requisite tree protection measures. These protection measures should be detailed as part of a site-specific Arboricultural Method Statement, which could be imposed as a condition of planning approval.
- 7.2 Measures to protect trees should follow the guidance in BS5837 and 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

- 7.3 All trees retained on site should 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.
- 7.4 Barriers should be erected prior to commencement of any construction work and once installed, the area protected by fencing or other barriers will be regarded as a construction exclusion zone.
- 7.5 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.
- 7.6 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.

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, as illustrated in Appendix B.
- 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.

Protection outside the exclusion zone

- 7.10 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.

- 7.11 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.
- 7.12 Wide or tall loads etc should not come into contact with retained trees. Banksman should supervise transit of vehicles where they are near retained trees.
- 7.13 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.
- 7.14 Notice boards, telephone cables or other services should not be attached to any part of a retained tree.
- 7.15 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).

8.0 TREE MANAGEMENT

- 8.1 The layout of the development is currently reserved for subsequent approval. During 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.
- 8.2 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 to satisfy the landowner's duty of care.
- 8.3 Landowners responsible for trees, especially those within the public domain, have a legal 'duty of care' to ensure that visitors and neighbours of their land are reasonably safe and that nobody comes to harm or injury, by his or her negligence, through taking measures to reduce risks as far as is 'reasonably practical' (The Health and Safety at Work Act 1974).
- 8.4 To ensure that risks are reduced as far as is 'reasonably practicable' it will be necessary that, a review of the relationship between retained trees and the new development should be undertaken by a qualified arboriculturist to assess the retained tree cover and prepare a schedule of tree works.
- 8.5 The Occupiers Liability Act (1957 and 1984) also places a 'duty of care' to ensure that no reasonably foreseeable harm takes place due to tree defects. That duty of care should be reasonable, proportionate, and reasonably practicable when managing the risk⁸.
- 8.6 It is currently expected that a suitably qualified Arboriculturist or tree surveyor should inspect trees with an appropriate level of regularity. The purpose of the inspections is to determine whether a tree could foreseeably cause harm by virtue of its size and physical condition.

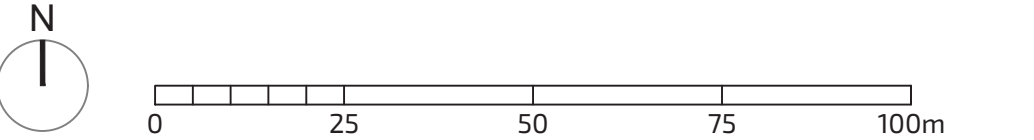
⁸ The Health and Safety at Work Act 1974

FPCR Environment and Design Ltd

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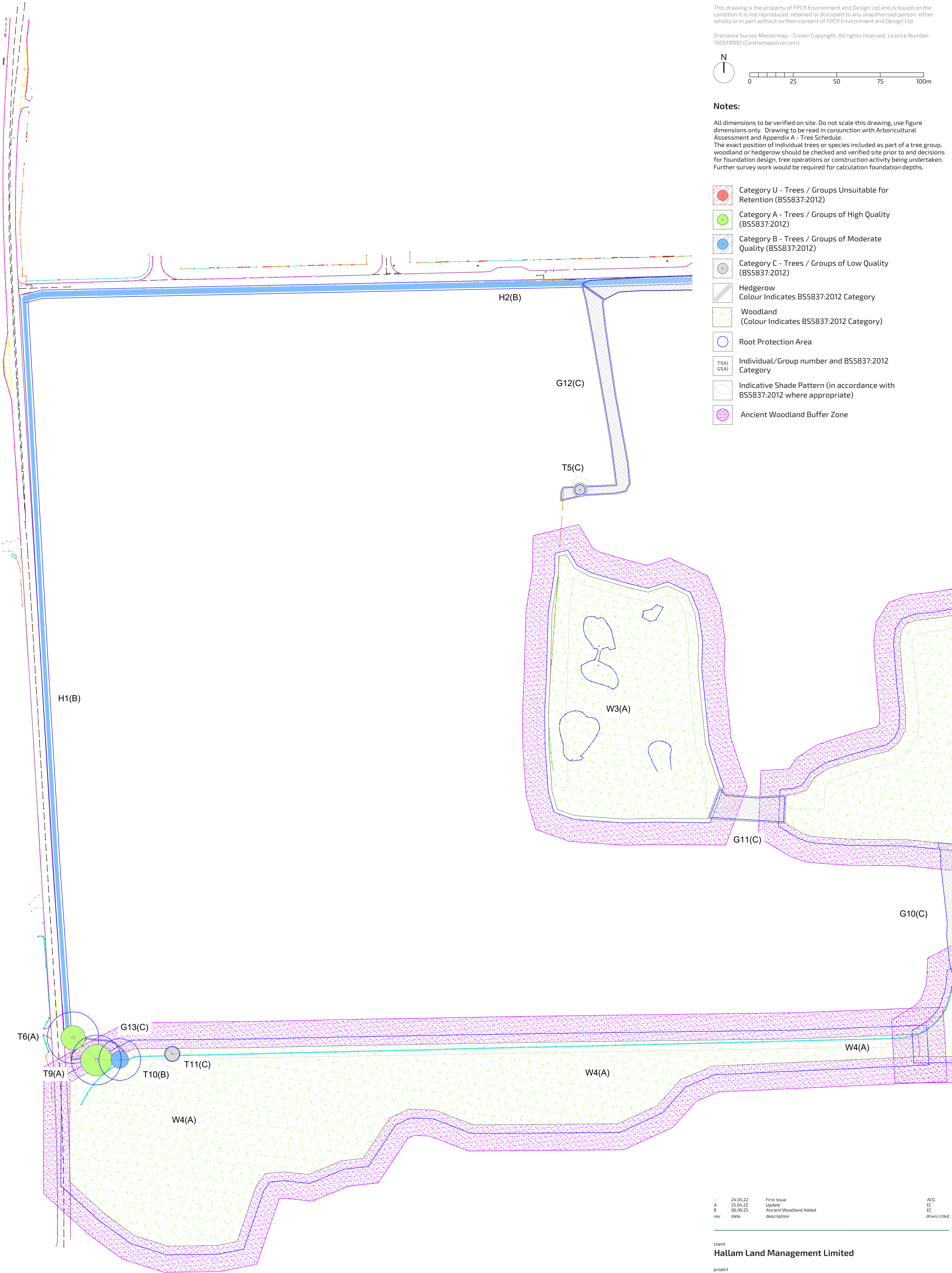
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Notes:

All dimensions to be verified on site. Do not scale this drawing, use figure dimensions only. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule.
The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified site prior to and decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculation foundation depths.

- Category U - Trees / Groups Unsuitable for Retention (BS5837:2012)
- Category A - Trees / Groups of High Quality (BS5837:2012)
- Category B - Trees / Groups of Moderate Quality (BS5837:2012)
- Category C - Trees / Groups of Low Quality (BS5837:2012)
- Hedgerow
Colour Indicates BS5837:2012 Category
- Woodland
(Colour Indicates BS5837:2012 Category)
- Root Protection Area
- Individual/Group number and BS5837:2012 Category
- Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)
- Ancient Woodland Buffer Zone

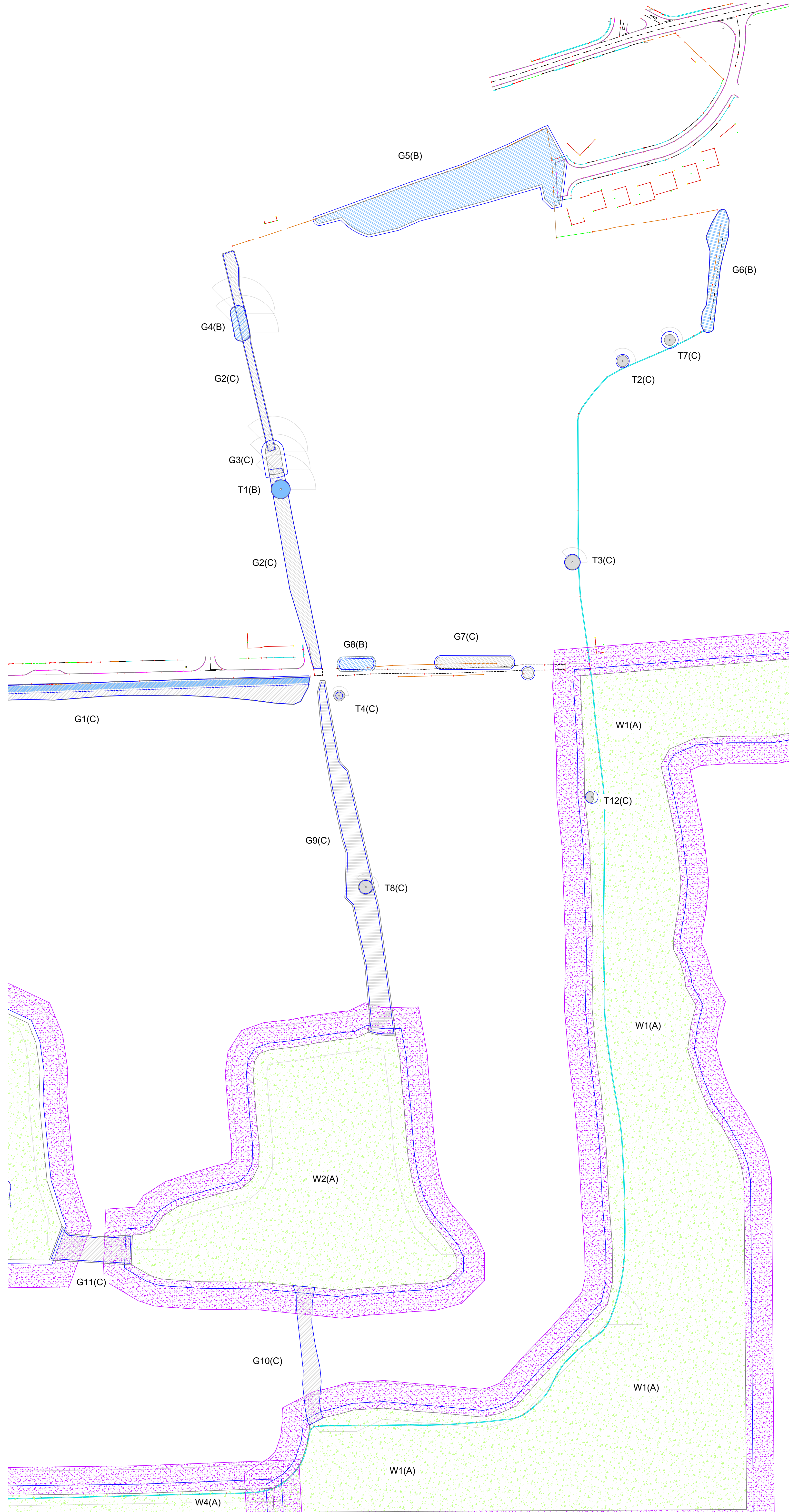


-	24.05.22	First Issue	ACG
A	25.04.25	Update	EC
B	06.06.25	Ancient Woodland Added	EC
rev	date	description	drwn/chkd

client
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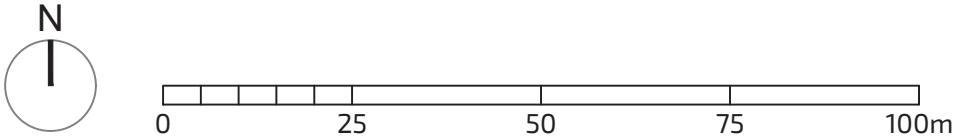
project
**Land east of Knowsley Lane,
Knowsley**

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number	status	rev
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-  Category U - Trees / Groups Unsuitable for Retention (BS5837:2012)
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-  Hedgerow
Colour Indicates BS5837:2012 Category
-  Woodland
(Colour Indicates BS5837:2012 Category)
-  Root Protection Area
-  Individual/Group number and BS5837:2012 Category
-  Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)
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-	24.05.22	First Issue	ACG
A	25.04.25	Update	EC
B	06.06.25	Ancient Woodland Added	EC
rev	date	description	drwn/chkd

client
Hallam Land Management Limited

project
**Land east of Knowsley Lane,
Knowsley**

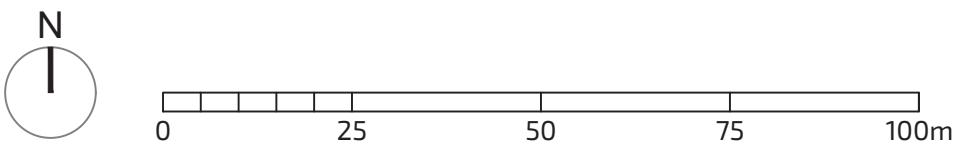
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- Tree/Group to be Retained
- Tree/Group proposed to be removed subject to relevant permissions
- Category U - Unsuitable for retention on arboricultural grounds
- Hedgerow Proposed to be Retained
- Hedgerow proposed to be removed subject to relevant permissions
- Woodland Proposed to be Retained
- Root Protection Area (Shown for retained trees only)
- Individual / Group Number and BS Category
- Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)
- Ancient Woodland Buffer Zone

rev	date	description	scale
A	06.06.25	First Issue	EC
B	04.08.25	Update	EC
C	18.06.26	Update	EC
D	09.07.26	Update	EC
rev	date	description	drwn/chkd

client
Hallam Land Management Limited

project
**Land east of Knowsley Lane,
Knowsley**

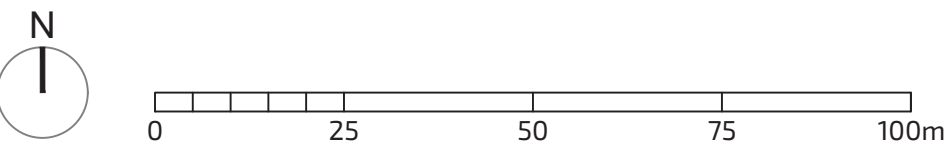
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Notes:

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The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified site prior to and decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculation foundation depths.

- Tree/Group to be Retained
- Tree/Group proposed to be removed subject to relevant permissions
- Category U - Unsuitable for retention on arboricultural grounds
- Hedgerow Proposed to be Retained
- Hedgerow proposed to be removed subject to relevant permissions
- Woodland Proposed to be Retained
- Root Protection Area (Shown for retained trees only)
- Individual / Group Number and BS Category
- Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)
- Ancient Woodland Buffer Zone

rev	06.06.25	First Issue	EC
A	04.08.25	Update	EC
B	18.06.26	Update	EC
C	09.07.26	Update	EC
D	16.07.26	Update	EC
rev	date	description	drwn/chkd

client
Hallam Land Management Limited

project
Land east of Knowsley Lane, Knowsley

title
TREE RETENTION PLAN

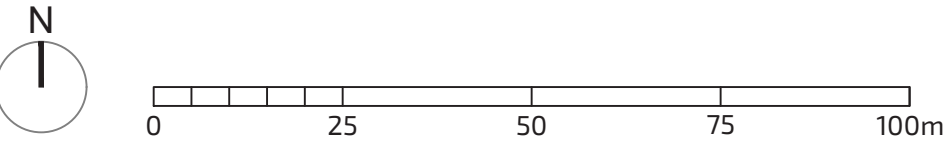
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10793-T-04

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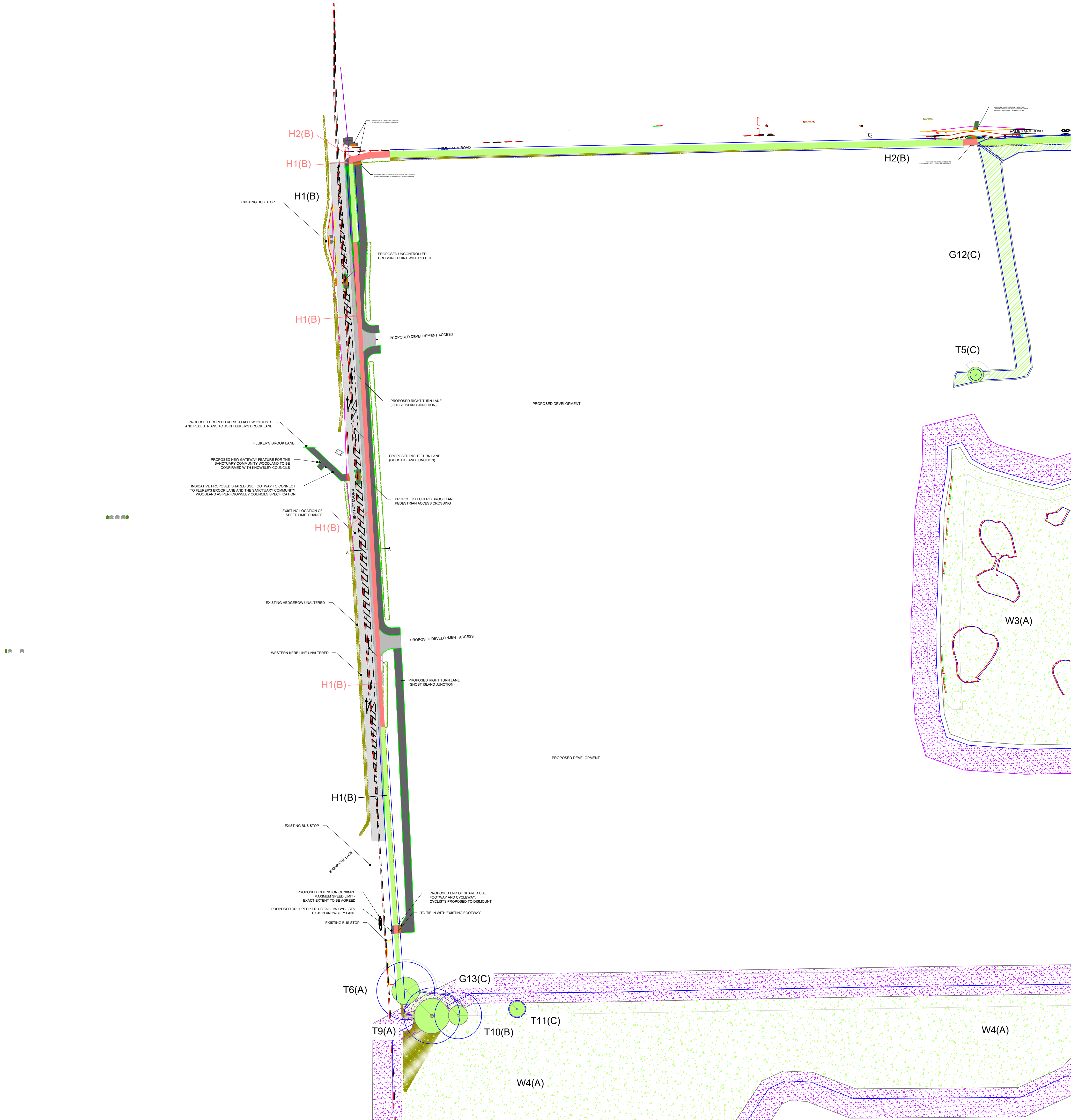
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Notes:

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The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified site prior to and decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculation foundation depths.

- Tree/Group to be Retained
- Tree/Group proposed to be removed subject to relevant permissions
- Woodland to be Retained
- Hedgerow Proposed to be Retained
- Hedgerow proposed to be removed subject to relevant permissions
- Root Protection Area (Shown for retained trees only)
- Individual / Group Number and BS Category
- Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)
- Ancient Woodland Buffer Zone (in accordance with Ancient and Other Veteran Trees: Further Guidance on Management)



-	28.01.26	First Issue	EC
A	18.06.26	Update	EC
B	16.07.26	Update	EC
rev	date	description	drwn/chkd

client
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project
Land at Home Farm Road,
Knowsley

title	scale	
TREE RETENTION PLAN - ACCESS	1:1000 @ A1	
number	status	rev
10793-T-07	-	B

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	

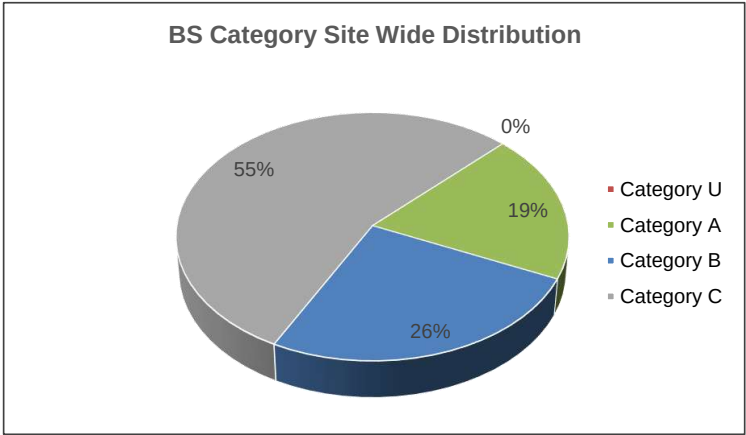
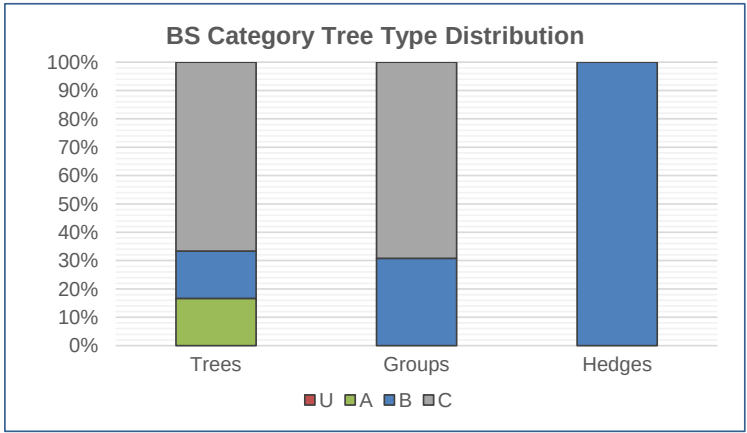
Structural Condition	Physiological Condition	Root Protection Area (RPA)
Good - No significant structural defects	Good - No significant health problems	• The RPA Radius column provides the extent of an equivalent circle from the centre of the stem (m). • The RPA is calculated using the formulae described 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.
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	

Appendix Summary

	Individual Trees	Totals	Tree Groups and Hedgerows	Totals
Category U		0		0
Category A	T6, T9	2	W1, W2, W3, W4	4
Category B	T1, T10	2	G4, G5, G6, G8, H1, H2	6
Category C	T2, T3, T4, T5, T7, T8, T11, T12	8	G1, G2, G3, G7, G9, G10, G11, G12, G13	9
	Total	12	Total	19

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	Silver Birch <i>Betula pendula</i>	19	est 430	5	M	G	Base obscured Minor dead wood evident in the crown (<75mm) No major defects were noted Situated offsite	84	5.2	B (i)
T2	Sycamore <i>Acer pseudoplatanus</i>	7	9x 100	3	SM	F	Broken branches evident Coppiced form Self seeded within site next to wall	41	3.6	C (i)
T3	Sycamore <i>Acer pseudoplatanus</i>	8	9x 120	4	M	F	Broken branches evident Coppiced form Self seeded within site at base of wall	59	4.3	C (i)
T4	Sycamore <i>Acer pseudoplatanus</i>	5	160	3	SM	F	Self set tree	12	1.9	C (i)
T5	Sycamore <i>Acer pseudoplatanus</i>	7	6x 100	4	EM	F	Broken branches evident Coppiced form Outgrown from hedgerow	27	2.9	C (i)
T6	English Oak <i>Quercus robur</i>	16	1230	7	M	F	Situated within boundary hedgerow burring noted on main stem past pruning to raise crown footpath within 1m of base to west large diameter dead branches typical of species	684	14.8	A (i)
T7	Sycamore <i>Acer pseudoplatanus</i>	7	10x 120	3	SM	F	Broken branches evident Coppiced form Self seeded within site next to wall	65	4.6	C (i)
T8	Goat Willow <i>Salix caprea</i>	7	est 300	4	M	F	Outgrown from hedgerow dense undergrowth restricts access to base	41	3.6	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T9	English Oak Quercus robur	18	1190	9	M	G	Situated beyond site boundary part of adjoining woodland group large diameter dead branches Japanese knotweed at base	641	14.3	A (i)
T10	Sweet Chestnut Castanea sativa	10	est 1000	5	M	F	Situated beyond site boundary part of adjoining woodland group large area of exposed heartwood on main stem dieback of main stem with secondary leader developing from base	452	12.0	B (iii)
T11	Sycamore Acer pseudoplatanus	11	370	4	EM	F	Self seeded within site 0.5m from boundary wall unsuitable for long term retention due to risk of damage to wall	62	4.4	C (i)
T12	Goat Willow Salix caprea	6	200 200	N - 3 S - 3 E - 1 W - 4	EM	P	Self seeded within site suppressed by larger woodland to west	36	3.4	C (i)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
GROUPS OF TREES										
G1	Blackthorn Prunus spinosa Hawthorn Crataegus monogyna Laural Prunus Laurocerasus	4	upto 150	2	EM / M	F	Dense undergrowth at the base Outgrown hedgerow Blackthorn creep into site	10	1.8	C (ii)
G2	Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus	5	upto 80 80 80 80	2	EM / M	F	Dense outgrown hedgerow predominantly hawthorn with self seeded trees sections have been reduced and maintained as hedgerow	12	1.9	C (ii)
G3	Lawson Cypress Chamaecyparis lawsoniana	19	est 500	4	M	P	Failed tree to south of group leaving exposed crown situated on site boundary within adjoining garden recent storm damage to exposed section of crown	113	6.0	C (ii)
G4	Aspen Populus tremula	15	est 350	4	EM	F	Situated beyond site boundary within adjoining garden dense ivy cover obscures stems unable to access young self seeded trees within site	55	4.2	B (ii)
G5	Ash Fraxinus excelsior Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus	20	upto 600	6	M	F	Boundary tree group dense undergrowth restricts access to stems ivy cover obscures stems and lower crowns predominantly ash ash die back evident in young trees along edge of group	163	7.2	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G6	Hawthorn Crataegus monogyna Hybrid Black Poplar Populus x canadensis Sycamore Acer pseudoplatanus Weeping Willow Salix x sepulcralis 'Chrycosoma'	10	est 350	4	EM	F	Tree group situated along boundary with adjoining property dense undergrowth restricts access to stems hawthorn maintained as hedgerow in sections	55	4.2	B (ii)
G7	Hawthorn Crataegus monogyna	7	upto 7x 120	3	M	F	Outgrown hedgerow with gaps between specimens situated both sides of track very sparse to south	46	3.8	C (ii)
G8	Field Maple Acer campestre	8	upto 240	4	EM	G	Small linear group of trees within site along track crowns maintained along track by flail mowing interlocking crowns	26	2.9	B (ii)
G9	Hawthorn Crataegus monogyna	5	avg 120	2	M	F	Outgrown hedgerow dividing field parcel sparse in sections with gaps dense undergrowth throughout	7	1.4	C (ii)
G10	Goat Willow Salix caprea Hawthorn Crataegus monogyna Silver Birch Betula pendula	7	upto 120 120	2	EM	F	Outgrown hedgerow dividing field parcel sparse in sections with gaps dense undergrowth throughout	13	2.0	C (ii)
G11	Goat Willow Salix caprea	6	avg 120	2	EM	F	Dense undergrowth at the base Outgrown hedgerow connects two woodland parcels	7	1.4	C (ii)
G12	Hawthorn Crataegus monogyna	6	upto 120	2	EM	F	Outgrown hedgerow dividing field parcel sparse in sections with gaps dense undergrowth throughout	7	1.4	C (ii)

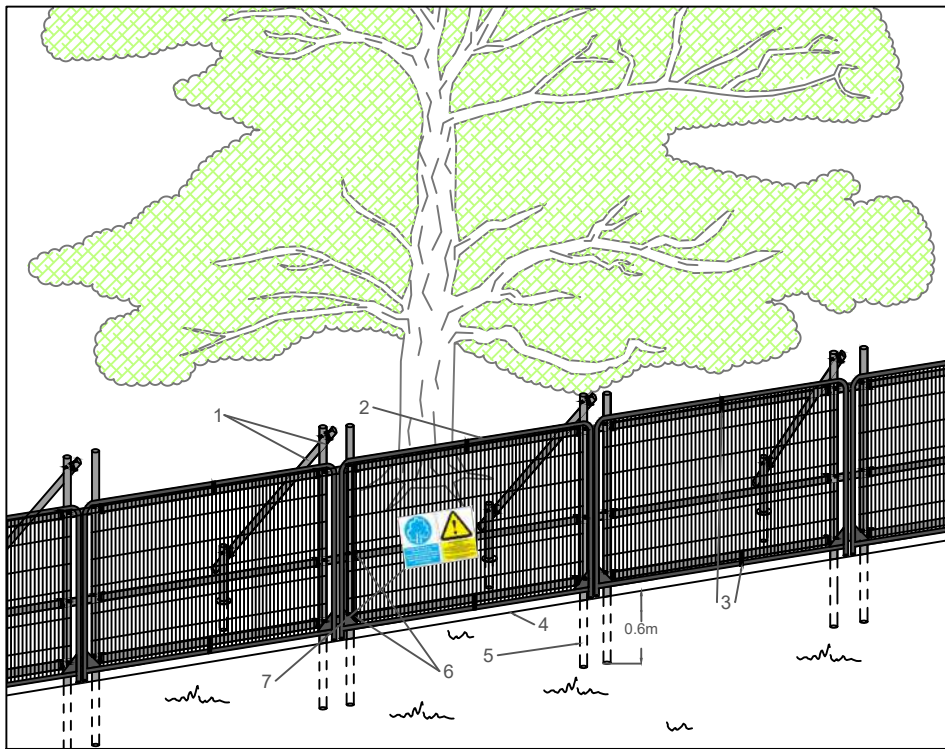
Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G13	Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus Holly Ilex aquifolium	5	upto 120	2	EM	F	Unmaintained tree group along short section of boundary understorey to mature trees	7	1.4	C (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
HEDGEROWS										
H1	Hawthorn Crataegus monogyna	1.5	avg 6x 80	1	M	G	Maintained hedgerow	17	2.4	B (ii)
H2	Hawthorn Crataegus monogyna	2.5	avg 6x 80	1.5	M	G	Maintained hedgerow	17	2.4	B (ii)

Wood No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
WOODLANDS										
W1	English Oak Quercus robur Sycamore Acer pseudoplatanus English Elm Ulmus procera Hazel Corylus avellana Norway Spruce Picea abies Scots Pine Pinus sylvestris	20	upto 800	6	M	G	Area of woodland associated with adjoining Knowsley park situated beyond 2.5m wall unable to access self seeded trees within site along wall conifer trees set back from edge of site mixture of ages with occasional mature oak storm damage with failed trees some overhanging site	290	9.6	A (i)
W2	English Oak Quercus robur Hawthorn Crataegus monogyna Silver Birch Betula pendula Sycamore Acer pseudoplatanus Holly Ilex aquifolium	18	upto 800	6	M	F	Copse within site rhododendron throughout woodland predominantly sycamore with occasional oak wet areas vandalism noted dead trees noted	290	9.6	A (ii)

Wood No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
W3	Ash Fraxinus excelsior Crack Willow Salix fragilis English Oak Quercus robur Field Maple Acer campestre Silver Birch Betula pendula Sycamore Acer pseudoplatanus Hazel Corylus avellana Holly Ilex aquifolium Rowan Sorbus aucuparia Bird Cherry Prunus padus	16	upto 600	5	M	F	Ash dieback present on young ash trees to north east of woodland two ponds within woodland Hazel coppice to east of woodland rhododendron throughout Greater mix of species with more diverse age crack willow around pond with failed trees noted dead trees noted	163	7.2	A (ii)

Wood No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
W4	Ash Fraxinus excelsior Common Lime Tilia x europaea English Oak Quercus robur Horse Chestnut Aesculus hippocastanum Silver Birch Betula pendula Sycamore Acer pseudoplatanus Wild Cherry Prunus avium Sweet Chestnut Castanea sativa Scots Pine Pinus sylvestris	20	upto 1000	7	M	F / G	Linear tree belt associated with adjoining Knowsley park situated beyond 2.5m stone wall conifer plantation in South west corner unable to access mixture of ages with occasional mature oak and sweet chestnut occasional gaps within woodland	452	12.0	A (ii)



Specification for High Intensity Protection 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



Specification for Low Intensity Protection Barrier

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

APPENDIX B PROTECTIVE FENCING SPECIFICATIONS

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