



Arboricultural Impact Assessment

in Relation to Proposed Light Industrial Development at



**35 Wilson Road,
Huyton Business Park, Huyton,
Merseyside, L36 6AE**

Prepared by:

Bowland 
Tree Consultancy Ltd

May 2022

**ARBORICULTURAL IMPACT ASSESSMENT
35 WILSON ROAD, HUYTON**

Control sheet

Project No.: BTC2375

Site: 35 Wilson Road, Huyton Business Park, Huyton, L36 6AE

Client: Linden Hill – Capital Assets – ALX Limited

Council: Knowsley Metropolitan Borough Council

Survey Dates: 1 March 2022

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DISCLAIMER

Survey Limitations: Unless otherwise stated all trees are surveyed from ground level using non-invasive techniques, in sufficient detail to gather data for and inform the design of the current project only. The disclosure of hidden crown and stem defects, in particular where they may be above a reachable height or where trees are ivy clad or located in areas of restrictive ground vegetation, cannot therefore be expected. Detailed tree safety appraisals are only carried out under specific written instructions. Comments upon evident tree safety relate to the condition of said tree at the time of the survey only. Unless otherwise stated all trees should be re-inspected annually in order to appraise their on-going mechanical integrity and physiological condition. It should, however, be recognised that tree condition is subject to change, for example due to the effects of disease, decay, high winds, development works, etc. Changes in land use or site conditions (e.g. development that increases access frequency) and the occurrence of severe weather incidents are also significant considerations with regard to tree structural integrity, and trees should therefore be re-assessed in the context of such changes and/or incidents and inspected at intervals relative to identified and varying site conditions and associated risks. For these reasons the tree assessment advice only remains valid for one year from the date that the trees were last inspected.

Where trees are located wholly or partially on neighbouring private third-party land then said land is not accessed and our inspection is therefore restricted to what can reasonably be seen from within the site. Stem diameters and other measurements of trees located on such land are estimated. Any subsequent comments and judgments made in respect of such trees are based on these restrictions and are our preliminary opinion only. Recommendations for works to neighbouring third-party trees are only made where a potential risk to persons and/or property has been identified during our survey or, if applicable, where permissible works are required to implement a proposed development. Where significant structural defects of third-party trees are identified and associated management works are considered essential to negate any risk of harm and/or damage then we will inform the relevant Council of the matter. Where a more detailed assessment is considered necessary then appropriate recommendations are set out in the Tree Survey Schedule.

Where tree stem locations are not included on the plan(s) provided then they are plotted by the arboriculturist at the time of the survey using, where appropriate and/or practicable, a combination of measurement triangulation and GPS co-ordination. Where this is not possible then locations are estimated. Restrictions in these respects are detailed in the report.

This document is intended as a guide to identify key tree related constraints to site development only, and the potential influence of trees upon existing or proposed buildings or other structures resulting from the effects of their roots abstracting water from shrinkable load-bearing soils is not considered herein. The tree survey information in its current form should not therefore be considered sufficient to determine appropriate foundation depths for new buildings. Accordingly, an updated survey, with reference to the current NHBC Standards Chapter 4.2 - Building Near Trees, must therefore be prepared for the specific purpose of informing suitable foundation depths subsequent to planning approval being granted. The advice of a structural engineer must also be sought with regard to appropriate foundation depths for new buildings.

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**ARBORICULTURAL IMPACT ASSESSMENT
35 WILSON ROAD, HUYTON**

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1.0 INTRODUCTION

Terms of Reference

- 1.1 Bowland Tree Consultancy Ltd was instructed to:
- a) Survey, as individuals or by group, all trees having reasonable potential to affect or to be adversely affected by the proposed development of the site under consideration;
 - b) Annotate the existing and proposed site plans to produce a Tree Constraints Plan and a Tree Impact Plan, identifying tree retention categories, crown spreads, Root Protection Areas, projected tree related impacts, trees proposed for retention, etc.;
 - c) Prepare a tabulated Tree Survey Schedule based on guidance specified BS5837:2012 - Trees in Relation to Design, Demolition and Construction – Recommendations;
 - d) Evaluate the potential tree related impacts and design conflicts of the proposals, based on the supplied development proposal plan(s);
 - e) Advise on removal, retention and management options for the trees in the current context and in the context of the proposed development;
 - f) Advise on suitable retained tree protection measures required during development; and
 - g) Produce an Arboricultural Impact Assessment report outlining the main tree related issues and reasonably foreseeable tree impacts in relation to the proposals and commenting on suitable compensation and mitigation provisions and retained tree protection measures.

Scope and Purpose of Report

- 1.2 By detailing foreseeable tree related issues this report is intended to assist the Local Planning Authority (LPA), in this case Knowsley Metropolitan Borough Council (Knowsley MBC) in their review of the proposed development and, as such, should be supplied to them in support of the planning application to which it pertains. Essentially, it provides an initial analysis of the impacts that the proposed development is projected to have on trees located within the site and, where practicable, on land immediately adjacent to its boundaries. It also offers guidance on suitable retained tree management and compensation for projected losses, along with advice on appropriate tree protection measures in accordance with current guidance in the context of the proposals.

Site Visit, Data Collection and Tree Plans

- 1.3 Further to the instruction it is confirmed that a tree survey was undertaken on 1 March 2022, in accordance with the preceding disclaimer, and all tree data collected on site is set out in the attached tabulated Tree Survey Schedule (TSS) at Appendix One which, for ease of interpretation, should be read alongside the appended BS5837:2012 Table 1.
- 1.4 The survey identified 29 individual trees (prefixed 'T') and five groups of trees (prefixed 'G'), which have been numbered accordingly on the Tree Constraints Plan (TCP) and Tree Impact Plan (TIP) appended. The plans, which together detail the existing and readily definable tree constraints along with an overlay of the development proposals and the projected impacts, are based on the existing topographical survey plan and the proposed site plan, which were provided in electronic format by the client, Linden Hill – Capital Assets – ALX Limited. In turn, for the purpose of this report, it is presumed that the provided plans' details are accurate and up to date.
- 1.5 In this respect the TCP details the existing site with the readily definable tree constraints, whilst the purpose of the TIP is to give an initial indication of the impacts that the proposed development is projected to have on trees. This should subsequently be used by the LPA's tree specialist to preliminarily assess if the proposed development can potentially be constructed in accordance with BS5837:2012 and, along with the information provided in this report, as a basis for the LPA to request further details regarding specific matters relating to trees at suitable stages in the planning process.

2.0 STATUTORY PROTECTION IN RESPECT OF TREES AND ASSOCIATED WILDLIFE

Tree Preservation Orders and Conservation Area Designations

- 2.1 The Town and Country Planning Act (1990) (the Act) and associated Regulations empower Local Planning Authorities (LPAs) to protect trees in the interests of amenity by making Tree Preservation Orders (TPOs). The Act also affords protection for trees of over 75 mm diameter that stand within the curtilage of a Conservation Area (CA). Subject to certain exemptions, an application must be made to the LPA in question to carry out works upon or to remove trees that are subject to a TPO, whilst six weeks' notice of intention must be given to carry out works upon or to remove trees within a CA that are not protected by a TPO.
- 2.2 According to the Knowsley MBC planning department website (accessed 26 April 2022), the site does not stand within a CA, and none of the surveyed trees are the subject of TPO protection. However, it should be noted that online information is not always up to date or fully accurate and, as such, it is essential that the LPA be contacted directly to check for any statutory protection prior to scheduling or carrying out any tree works that are not directly related to the implementation of a detailed (i.e. full) planning permission.

Protected Species

- 2.3 Nesting birds are afforded statutory protection under the Wildlife & Countryside Act (1981) (as amended) and their potential presence should therefore be considered when clipping hedges, removing climbing plants and pruning and removing trees. The breeding period for woodlands runs from March to August inclusive. Hedges provide valuable nesting sites for many birds and clipping should therefore be avoided during March to July. Trees, hedges and ivy should be inspected for nests prior to pruning or removal and any work likely to destroy or disturb active nests should be avoided until the young have fledged.
- 2.4 All bat species and their roosts are protected under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and under Schedule 2 of the Conservation of Habitats & Species Regulations 2017 (as amended). In this respect it should be noted that it is possible that unidentified bat habitat features may be located high up in tree crowns and all personnel carrying out tree works at the site should therefore be vigilant and mindful of the possibility that roosting bats may be present in trees with such features. If any bat roosts are subsequently identified then it is essential that works are halted immediately and that a suitably qualified and experienced ecologist investigates and advises on appropriate actions prior to works continuing.
- 2.5 In turn, any subsequent works carried out in relation to any protected species must be carried out under guidance from a suitably qualified and experienced ecologist and in strict accordance with the guidance provided in BS42020:2013 - Biodiversity – Code of Practice for Planning and Development and, with regard to bats, in strict accordance with BS8596:2015 - Surveying for Bats in Trees and Woodlands.

Felling Licences

- 2.6 Subject to certain exemptions the Forestry Act (1967) requires that a 'Felling Licence' be obtained to remove growing trees amounting to more than five cubic metres of timber in a calendar quarter. Felling Licences are administered by the Forestry Commission and contravention of the associated controls can incur substantial penalties. A felling licence is, however, not required for the felling of trees immediately required for the purpose of carrying out development authorised by a full planning permission granted under the Town and Country Planning Act 1990.

3.0 THE SITE AND THE SURROUNDINGS

- 3.1 The site under consideration is located in an industrial estate approximately 1.5 kilometres south west of Huyton town centre. The north and east of the site comprise of areas of hard standing, whilst a two-storey brick-built industrial building occupies the south-western section of the site (see TCP). Ground surfaces within the site are a mixture of tarmac, concrete and heavily compacted gravel hardstanding, which extend over many of the indicated Root Protection Areas (see section 6.1) of the surveyed trees.
- 3.2 The wider site is bordered to the north-west and south-east by neighbouring industrial units on Wilson Road, to the west by Wilson Road, and to the east by a watercourse (Logwood Mill Brook), and there are areas of ruderal growth adjacent to the north-eastern boundary fence.
- 3.3 The surveyed trees are located around the perimeters of the site, with a number standing outside the ownership boundaries within the grass road verge on Wilson Road to the west that are understood to be under the ownership of Knowsley MBC, as detailed in Table A, overleaf.
- 3.4 As indicated on the TCP, the topographical survey plan provided shows that the ground levels across the site vary by up to approximately 2 metres, from the lowest point to the south-east to the highest point to the north.

4.0 THE TREE POPULATION

- 4.1 As noted previously, a total of 29 individual trees and five groups of trees were surveyed for the purpose of this appraisal. They range from young to mature in age, with heights up to approximately 16 metres, maximum diametrical crown spreads up to approximately 10 metres, and stem diameters up to approximately 700 millimetres. Detailed tree dimensions and other pertinent information, such as structural defects and physiological deficiencies, are included in the Tree Survey Schedule (TSS) at Appendix One.
- 4.2 In respect of the survey it should be noted that tree quality is categorised within the existing context without taking any development proposals into account. However, recommendations for works included in the TSS take both current site usage and the proposed development into consideration where there are definable issues with regard to specific trees.
- 4.3 Under the UK's planning system trees are a material consideration in the planning and development process. Nonetheless, only trees of a suitable quality and value should be considered a material constraint to development. In this respect the TSS includes a column ('Cat. Grade') listing the trees' respective retention values, where they are rated either 'A', 'B', 'C' or 'U', as per BS5837:2012 Table 1 (Appendix One). 'A' category trees are those considered to be of 'high quality' and, accordingly, the most suitable for retention, whilst 'B' category trees are those considered to be of 'moderate quality', and 'C' category trees are those considered to be of 'low quality' with a correlated low retention value. In turn, 'U' category trees are those that are considered to be 'unsuitable for retention'.
- 4.4 As detailed in Table A, overleaf, 23 trees and three groups were categorised as low quality (i.e. 'C' category), and six trees and two groups were classed as unsuitable for long term retention (i.e. 'U' category) regardless of the development proposals. As also detailed in Table A, as denoted with an asterisk, a number of the trees are located on neighbouring third-party (i.e. Council) owned land.

Table A: BS5837-2012 Retention Categories of the Surveyed Trees and Groups

	Ret. Cats.	Tree/Group Numbers	Totals
Those of a moderate or high quality that should be afforded appropriate consideration in the context of development	'A'	-	-
	'B'	-	-
Those of a low quality that should not be considered a material constraint to development	'C'	T1*, T2*, T3*, T4*, T5*, T6*, T7*, T8*, T9*, T10*, T11*, T12*, T13*, T14*, T15*, T17*, T18*, T19*, T20*, T21, T23, T25, T26, G1*, G4*, G5*	23 Trees 3 Groups
Those that should be removed for sound management reasons regardless of site proposals	'U'	T16, T22, T24, T27, T28, T29, G2, G3	6 Trees 2 Groups
			= 29 Trees & 5 Groups in Total

*Note: Trees/groups denoted with an asterisk are located on areas of neighbouring third-party (i.e. Council) owned land

5.0 THE DEVELOPMENT PROPOSAL AND ITS PROJECTED ARBORICULTURAL IMPACTS

The Development Proposal

- 5.1 As indicated on the proposed site plan and the appended TIP, the proposal is for the demolition of the existing industrial building and all other ancillary structures along with associated site clearance works, and the subsequent construction of a replacement industrial warehouse building with associated vehicular parking areas, an improved vehicular access onto Wilson Road to the south-west, and associated soft landscaping (see TIP).

Projected Arboricultural Losses Relating to the Proposal

- 5.2 In turn, as detailed in Table B, below, it is projected that construction of the development as proposed will require the removal of five low quality (i.e. category 'C') trees. Additionally, as also detailed in Table B and previously identified, six trees and two groups are considered unsuitable for retention (i.e. 'U' category), both in the context of the existing site and that of the proposed development.

Table B: Projected Arboricultural Impacts of Proposed Development & Other Tree Removal Proposals

	Ret. Cats.	Removals necessary to implement development	Removals recommended regardless of development	Total no. of removals
Those of a high quality that should be afforded appropriate consideration in the context of development	'A'	-	-	-
Those of a moderate quality that should be afforded appropriate consideration in the context of development	'B'	-	-	-
Those of a low quality that should be afforded appropriate consideration in the context of development	'C'	T1*, T2*, T23, T25, T26	-	5 Trees
Those that should be removed for sound management reasons regardless of plans	'U'		T16, T22, T24, T27, T28, T29 G2, G3	6 Trees 2 Groups
Totals		5 Trees	6 Trees 2 Groups	= 11 Trees & 2 Groups in Total

*Note: Trees/groups denoted with an asterisk are located on areas of neighbouring third-party (i.e. Council) owned land, and permission for their removal will subsequently need to be agreed with the Council in question

- 5.3 In addition to the above it should also be noted that it is projected that pruning works will be required to the south-eastern side of the canopies of the trees in two low quality (i.e. 'C' category) groups that are located on areas of neighbouring land, as detailed in Table 3 C, overleaf.

Table C: Projected Construction Facilitation Tree Pruning Requirements

Ret. Cats.	Trees/groups projected to require pruning works in order to facilitate development	Total no. of trees/groups requiring facilitation pruning
'A'	-	-
'B'	-	-
'C'	G1*, G5*	2 Groups
'U'	-	-
Totals	2 Groups	= 2 Groups in Total

*Note: Trees/groups denoted with an asterisk are located on areas of neighbouring third-party (i.e. Council) owned land, and it will therefore be necessary to undertake all pruning works from within site curtilage following notification to applicable tree owner(s)

Compensation for Projected Arboricultural Losses as Part of the Scheme's Landscaping

- 5.4 It is evident from the plans provided that the proposed development has sufficient space set aside for landscaping purposes that could accommodate prudently planned new tree, shrub and hedge planting, with suitable species in appropriate locations, as a component of its landscaping scheme. As such, it is initially projected that adequate compensation can be achieved for the tree removals identified as necessary to construct the development as proposed.
- 5.5 In turn, the provision of the new tree, shrub and hedge planting as a component of a detailed landscaping scheme, in agreement with the LPA, can be assured through the imposition of a suitably worded condition attached to a planning approval.

6.0 RECOMMENDATIONS FOR SUCCESSFUL TREE RETENTION IN THE CONTEXT OF DEVELOPMENT

Root Protection Areas and Construction Exclusion Zones

- 6.1 Adequate protection of the Root Protection Areas (RPAs) of retained trees during construction is essential if their long-term viability is to be assured. RPAs, which are calculated through a method provided in BS5837:2012, are ground areas that should be protected by temporary protective fencing as Construction Exclusion Zones (CEZs) throughout the development process, thereby keeping the trees' root zones free from disturbance. Consequently, the RPA distances, as detailed in the TSS (see 6.2) and on the TCP, give an idea of the on-site below-ground constraints in respect of tree roots and assist in planning for appropriate tree retention in relation to feasible development. However, where site conditions suggest rooting has taken place asymmetrically the RPA's should be modified to reflect the ground conditions as indicated on the TIP.
- 6.2 The TSS includes two columns listing the RPAs of the individually surveyed trees and, where applicable, the largest of the trees in any surveyed groups as overall areas in square metres and as radial distances. The radial RPAs are indicated as magenta-coloured circles on the TCP. The RPA's shown on the TIP have been modified in accordance with BS5837:2012 to reflect the existing ground conditions.
- 6.3 With regard to the above it is noted that, whilst Root Protection Areas (RPAs) should initially be plotted as a circle centred on the tree stem, the applicable British Standard guidance recommends that, where pre-existing site conditions indicate that rooting has occurred asymmetrically, the RPAs should be plotted as polygons, with modifications to RPA shapes reflecting an assessment of likely root distribution by the project arboriculturist. The factors to take into account when assessing the likely root distribution include ground conditions, such as heavy ground compaction and the presence of hard surfaces including roads and footpaths. Consequently, due to the heavily compacted ground and impervious surfaces throughout the majority of the site it is unlikely that there will be any significant rooting beneath the existing

surfaces. Therefore, the RPAs of certain trees, where appropriate, have been modified on the TCP and TIP to reflect the ground conditions.

- 6.4 With regard to CEZs the design, materials and construction of the fencing should be appropriate for the intensity and type of site construction works, should conform to at least section 6.2 of BS5837:2012, and should be secured by the imposition of a suitably worded planning condition. A default Temporary Protective Fencing Specification is included at Appendix Two.

Underground Utilities and Drainage

- 6.5 The installation of underground utilities in close proximity to trees can cause serious damage to their roots. As such, it is essential that utilities be routed outside RPAs unless there is no other available option. Where RPAs cannot be avoided then guidelines set out in the National Joint Utilities Group publication 'Volume 4: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2) – Operatives Handbook' should be followed (e.g. trenches of a very limited width to be hand dug or the use of directional drilling).
- 6.6 To date, no service plan showing proposed service and/or drainage runs has been provided in respect of the development under consideration. Nonetheless, the proposed site plan provided indicates that, if correctly planned, there should be sufficient space to run the services and drainage outside the RPAs of the surveyed trees to be retained. In turn, in order to ensure that this advice is adhered to, the provision of a service plan, with all service runs and drainage routed outside retained tree RPAs, can be conditioned to a planning approval.

Arboricultural Method Statement and Tree Protection Plan

- 6.7 Government guidance recommends that, where considered expedient by the LPA, an Arboricultural Method Statement (AMS) and a Tree Protection Plan (TPP) be prepared detailing special mitigation construction issues in relation to the development under consideration, as detailed at Table C. Essentially, the AMS and TPP describe and detail the procedures, working methods and protective measures to be used in relation to retained trees in order to ensure that they are adequately protected during the construction process.
- 6.8 In order to ensure that any special working methods are followed, and that the retained trees are adequately protected throughout the development process, the production of and adherence to an AMS and a TPP can be conditioned to a planning approval if deemed necessary.

7.0 OTHER RECOMMENDATIONS

Non-Development Related Tree Works and Recommendations

- 7.1 Any general management pruning works for retained trees that are stated to be non-development related, as detailed in the TSS, are recommended in accordance with prudent arboricultural management and should therefore be carried out regardless of any site development proposals and potential changes in land usage. All tree works should be carried out in accordance with BS3998:2010 - Tree Work – Recommendations.

Tree Work Related Consents

- 7.2 No tree pruning or removal works should commence on site until necessary consents have been obtained from the LPA as part of a planning approval or in respect of any statutory tree protection (e.g. CA and/or TPO protection).

Arboricultural Contractors

- 7.3 All tree works should be carried out by suitably qualified and experienced arboricultural contractors carrying appropriate public liability insurance cover and be implemented to the minimum current CE and UK industry standards and in accordance with industry codes of practice. Only certificated personnel should, in accordance with The Control of Pesticides Regulations, apply any pesticides.

Contractors and Subsequently Identified Tree Defects

- 7.4 Tree contractors should be made aware that, should any significant tree defects become apparent during operations that would not have been immediately obvious to the surveyor, then such defects should be notified immediately to the client and subsequently confirmed to the consultant within five working days.

New Tree Planting

- 7.5 All tree planting at the site should be carried out in accordance with BS8545:2014 Trees: from nursery to independence in the landscape – Recommendations, and in accordance with the guidance detailed in section 5.6 and Table A.1 of BS5837:2012.

Landscaping Within and Close to Retained Trees' RPAs

- 7.6 Any landscaping carried out within and close to retained trees' RPAs should be carried out in strict accordance with the guidance detailed in section 8 of BS5837:2012. As is the case with 7.5, above, a requirement for these works to conform with the current guidance detailed in BS5837:2012 can be conditioned to a planning approval.

Retained Tree Management

- 7.7 Any tree risk management appraisals and subsequent recommendations made in this report were based on observations and site circumstances at the time of the survey. Trees are dynamic living organisms whose structure is constantly changing and even those evidently in good condition can succumb to damage and/or stress.
- 7.8 In this respect, it should be noted that, under the Occupiers' Liability Act (1957 & 1984), site occupants have a duty of care to take reasonable steps to prevent or minimise the risk of personal injury and/or damage to property from any tree located within the curtilage of the land they occupy. In turn, it is accepted that these steps should normally include commissioning a qualified and experienced arboriculturist to survey their trees in order to identify any risk of harm to persons or damage to property that they may present and, where unacceptable risks are identified, taking suitable remedial action to negate those risks.

8.0 SUMMARY AND CONCLUSIONS

- 8.1 Twenty-nine individual trees and five groups of trees were surveyed in respect of a proposal to demolish the existing buildings and to subsequently construct an industrial warehouse unit with associated infrastructure, vehicular parking and access, and landscaping, at the site under consideration.
- 8.2 Twenty-three trees and three groups were categorised as low quality, and six trees and two groups were classed as unsuitable for retention regardless of the development proposals.

- 8.3 An appraisal of the proposal documentation provided to date identified that, discounting the trees and groups considered unsuitable for retention, construction of the development as proposed will require the removal of five low quality trees.
- 8.4 In this respect it is noted that two of the trees that will require removal are located outside the site ownership boundaries and within the ownership of the Knowsley Council and, as such, permission for their removal will subsequently need to be agreed with the Council in question.
- 8.5 Nonetheless, it is noted that the proposed layout evidently has sufficient space that is suitable for new tree, shrub and hedge planting within the proposed landscaped areas to adequately compensate for the tree removals identified as necessary.
- 8.6 In turn, the provision of the new tree, shrub and hedge planting can be assured through the imposition of a suitably worded condition attached to a planning approval.
- 8.7 Consequently, any new tree planting or other landscaping works subsequently carried out within and close to retained trees' RPAs, should be undertaken in strict accordance with current government guidance.
- 8.8 In addition to the above it is also concluded that, in order to ensure successful existing tree preservation over the long-term, it is essential that any retained trees are protected in strict accordance with current Government guidance and the recommendations included herein.
- 8.9 Accordingly, in order to ensure adequate protection of retained trees the provision of and adherence to a suitably detailed Arboricultural Method Statement and Tree Protection Plan can be conditioned to a planning permission.
- 8.10 In addition, it is noted that all site works must be carried out in strict accordance with any advice and recommendations made by the project ecologist where applicable and, in turn, in accordance with current government guidance relating to biodiversity, wildlife and development. As such, it may be necessary for the project arboriculturist and ecologist to converse on these matters as part of the planning process.
- 8.11 In conclusion, provided all the recommendations in this report are followed, it is considered that the proposed redevelopment of the site can be achieved in accordance with British Standard: BS 5837:2012 - Trees in relation to design, demolition and construction – Recommendations, with a minimal impact on the retained trees.

REFERENCES

- BS42020:2013 - Biodiversity – Code of Practice for Planning and Development. BSI British Standards, London.
- BS8596:2015 - Surveying for Bats in Trees and Woodlands. BSI British Standards, London.
- BS8545:2014 - Trees: From Nursery to Independence in the Landscape – Recommendations. BSI British Standards, London.
- BS3998:2010 - Tree Work - Recommendations. BSI British Standards, London.
- BS5837:2012 - Trees in Relation to Design, Demolition and Construction – Recommendations. BSI British Standards, London.
- National House Building Council (2017). NHBC Standards Chapter 4.2 - Building Near Trees. NHBC, Amersham.
- National Joint Utilities Group (2007). Volume 4: NJUG Guidelines For The Planning, Installation And Maintenance Of Utility Apparatus In Proximity To Trees (Issue 2) – Operatives Handbook.

TREE SURVEY SCHEDULE FOR ARBORICULTURAL IMPACT APPRAISAL							
Site:	35 Wilson Road, Huyton Business Park, Huyton, Merseyside, L36 6AE						
Client:	Linden Hill – Capital Assets – ALX Limited						

Surveyor:	Charles Bennett Dip Arb L6 (ABC) MICFor
Survey Date:	1 March 2022
Job Reference:	BTC2375

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No.	Species	Height	Stem Diam.	Branch Spread		Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m²)	RPA Radius (m)								
T1	Sycamore	9.5	270	N	3	3-W 3	Y	G	■ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ■ Crown lifted to clear path and road. ■ Growing through overhead telephone wires and canopy in close proximity to street light. ■ Underground services evidently run length of verge.	■ Remove tree in order to construct improved vehicular access as proposed. NB: Tree under council ownership and, as such, relevant permission for its removal will be required.	10+	C2	33	3.24								
T2	Sycamore	9	350	N	3	3-W 2.5	SM	G	■ Growing in grass verge along Wilson Road and understood to be under council ownership. ■ Stem bifurcates at 2.5m height and crown lifted to clear path and road. ■ Underground services evidently run length of verge.	■ Remove tree in order to construct improved vehicular access as proposed. NB: Tree under council ownership and, as such, relevant permission for its removal will be required.	10+	C2	55	4.2								
T3	Sycamore	8	240	N	3	3-E 3	SM	G	■ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ■ Crown lifted to clear path and road. ■ Underground services evidently run length of verge.	■ Retain tree in context of proposed development. ■ Protect tree's Root Protection Area (RPA) by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	26	2.88								
T4	Sycamore	8.5	210	N	3.5	3-E 3	SM	G	■ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ■ Crown lifted to clear path and road. ■ Underground services evidently run length of verge.	■ Retain tree in context of proposed development. ■ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	20	2.52								
T5	Sycamore	7	190	N	3	2.5-W 2.5	SM	G	■ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ■ Crown lifted to clear path and road. ■ Underground services evidently run length of verge. ■ Small basal cavity on east side approximately 75mm x 50mm.	■ Retain tree in context of proposed development. ■ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	16	2.28								

Headings and Abbreviations:

No.	Allocated sequential reference number - Tree ('T'), Group ('G'), Woodland ('W') or Hedge ('H') reference number - refer to plan and to numbered tags where applicable
Species:	Common name
Height:	In metres, to half nearest metre – where possible approximately 80% are measured using an electronic clinometer and the remainder estimated against the measured trees. In the case of Groups and Woodlands the measurement listed is that of the highest tree
Stem Diam.:	Stem diameter in millimetres, to nearest 10mm - measured and calculated as per Annex C of BS5837:2012. MS = multi-stemmed, TS = twin-stemmed
Branch Spread:	Crown radius measured (or estimated where considered appropriate) from the four cardinal points (north, east, south and west) to give an accurate visual representation of the crown
Branch & Canopy Clearances:	Existing height above ground level, in metres, of first significant branch and direction of growth (e.g. 2.5-N) and of canopy at lowest point – to inform on crown to height ratio, potential for shading, etc.
Life Stage:	Estimated age class - Y = young, SM = semi-mature, EM = early-mature, M = mature, PM = post-mature
PC:	Physiological Condition - a measure of the tree(s)' overall vitality, i.e. D = Dead, MD = Moribund, P = Poor, M = Moderate, G = Good
General Observations and Comments:	Comments relating to the tree(s)' overall condition and any other pertinent factors including structural defects, current and potential direct structural damage, physiological decline, poor form, etc.
Management Recommendations:	Either Preliminary or In Consideration of the Proposal - In the case of Arboricultural Constraints Surveys the recommended management works only take existing site and tree circumstances and conditions into account and not proposed developments. Arboricultural Impact Assessment and Method Statement related Surveys take the proposed development into consideration with recommendations made accordingly. More than one option may be given if considered appropriate
ERC:	Estimated Remaining Contribution - in years as per BS5837:2012 (i.e. <10, 10+, 20+, 40+)
Cat. Grade:	Category Grading - tree retention value listed as U, A, B or C - in accordance with BS5837:2012 Table 1
RPA m²:	Root Protection Area in m² - calculated area around the tree that must be appropriately protected throughout the development process in order avoid root damage
RPA Radius (m):	Root Protection Area Radius - in metres measured from the centre of the stem to the line of tree protection
# (Estimated Dimensions):	Where trees are located off-site, or are inaccessible for any other reason, and accurate measurements or other information cannot be taken then the information provided is estimated and is duly suffixed with a "#" symbol

TREE SURVEY SCHEDULE FOR ARBORICULTURAL IMPACT APPRAISAL							
Site:	35 Wilson Road, Huyton Business Park, Huyton, Merseyside, L36 6AE						
Client:	Linden Hill – Capital Assets – ALX Limited						

Surveyor:	Charles Bennett Dip Arb L6 (ABC) MICFor
Survey Date:	1 March 2022
Job Reference:	BTC2375

No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m²)	RPA Radius (m)	
T6	Sycamore	7.5	190	N E S W	1 2 2.5 2	3-S 2.5	SM	M	▪ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ▪ Crown lifted to clear path and road. ▪ Underground services evidently run length of verge. ▪ Crown sparse, biased to south and impinging on street light. ▪ Deadwood <75mm diameter in crown.	▪ Retain tree in context of proposed development. ▪ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	16	2.28
T7	Bastard Service Tree	8	390	N E S W	3 3 3 3	2-S 3	EM	G	▪ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ▪ Crown lifted to clear path and road. ▪ Underground services evidently run length of verge. ▪ Tight unions with included bark where multiple branches arise from stem. ▪ Most unions evidently stable at visit except for branch fork on east side at 2m height which is splitting but supported by neighbouring branches. ▪ Canopy pruned on west side to clear streetlight. ▪ Deadwood <75mm diameter in crown.	▪ Retain tree in context of proposed development. ▪ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	69	4.68
T8	Sycamore	5.5	190	N E S W	2 2 2 2	2.5-W 2.5	SM	G	▪ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ▪ Crown lifted to clear path and road. ▪ Underground services evidently run length of verge.	▪ Retain tree in context of proposed development. ▪ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	16	2.28
T9	Sycamore	8.5	240	N E S W	2 4 3 4	2-S 3	SM	G	▪ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ▪ Crown lifted to clear path and road. ▪ Underground services evidently run length of verge. ▪ Mechanical damage to surface roots from grass cutting machinery with some areas of decay present ≤300mm x100mm. ▪ Large pruning wound 200mm x 75mm at 2m height on south side from which epicormics shoots are growing.	▪ Retain tree in context of proposed development. ▪ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	20+	C2	26	2.88
T10	Sycamore	7.5	170	N E S W	3 3 3 3	3-E 3	SM	M	▪ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ▪ Crown lifted to clear path and road. ▪ Underground services evidently run length of verge. ▪ Sparse crown.	▪ Retain tree in context of proposed development. ▪ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	13	2.04

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No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m²)	RPA Radius (m)	
T11	Sycamore	6	190	N E S W	3 3 3 3	2.5-E 3	SM	M	■ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ■ Crown lifted to clear path and road. ■ Underground services evidently run length of verge. ■ Upper crown sparse and starting to dieback.	■ Retain tree in context of proposed development. ■ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	16	2.28
T12	Sycamore	8	210	N E S W	3 3 3 3	3-W 3	SM	G	■ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ■ Crown lifted to clear path and road. ■ Underground services evidently run length of verge. ■ Canopy starting to impinge on street light to north.	■ Retain tree in context of proposed development. ■ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	20	2.52
T13	Sycamore	7.5	230	N E S W	3 3 3 3	2.5-N 3.5	SM	G	■ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ■ Crown lifted to clear path and road. ■ Underground services evidently run length of verge. ■ Forks into three stems at 2.5m height. ■ Crown sparse.	■ Retain tree in context of proposed development. ■ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	24	2.76
T14	Sycamore	7.5	260	N E S W	3 3.5 3 3	2-N 3	SM	G	■ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ■ Crown lifted to clear path and road. ■ Underground services evidently run length of verge. ■ Mechanical damage to surface roots on west side from grass cutting machinery with discreet area of decay 200mm x 100mm. ■ Wound 150mm x75mm at base of branch on west side at 3m height.	■ Retain tree in context of proposed development. ■ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	31	3.12
T15	Sycamore	7	240	N E S W	2 3 3 3	3 N 3.5	SM	G	■ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ■ Crown lifted to clear path and road. ■ Underground services evidently run length of verge. ■ Surface root damage on north side ≤200mm x 50mm.	■ Retain tree in context of proposed development. ■ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	26	2.88
T16	Whitebeam	N/A	260	N E S W	N/A N/A N/A N/A	N/A N/A	SM	D	■ Windblown tree lying on ground.	■ Remove tree irrespective of proposed development.	<10	U	31	3.12

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No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m²)	RPA Radius (m)	
T17	Sycamore	6.5	260	N E S W	3 3.5 3 2.5	2.5-E 3	SM	M	▪ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ▪ Ivy covered and growing in shrub bed, which prevented detailed inspection. ▪ Upper crown dying back and canopy starting to impinge on street light.	▪ Retain tree in context of proposed development. ▪ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	31	3.12
T18	Whitebeam	7	420	N E S W	3.5 3.5 4 4	2-N 3	SM	G	▪ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ▪ In shrub bed which restricted access and prevented detailed inspection of root area and lowest 1m of stem. ▪ Multiple branches arise at 3m height with numerous included bark unions which were evidently stable at time of survey.	▪ Retain tree in context of proposed development. ▪ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	80	5.04
T19	Sycamore	9.5	300	N E S W	3 3 3 3	2.5-S 3.5	SM	G	▪ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ▪ Crown lifted to clear path and road. ▪ Underground services evidently run length of verge.	▪ Retain tree in context of proposed development. ▪ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	41	3.6
T20	Sycamore	9	340	N E S W	3 3 3 3	2.5-W 3	SM	G	▪ Growing in grass verge along Wilson Road and understood to be under council ownership, but included within red-line planning application boundary. ▪ Crown lifted to clear path and road. ▪ Underground services evidently run length of verge. ▪ Canopy starting to impinge on street light.	▪ Retain tree in context of proposed development. ▪ Protect tree's RPA by installation of site boundary hoarding fence along eastern edge of footpath.	10+	C2	52	4.08
T21	Whitebeam	8.5	7x110 (ms)	N E S W	2 3 3 3	0-W 0	SM	G	▪ Multiple stems arising from basal suckers from root stock. ▪ Basal unions tight with included bark but were evidently stable at time of site visit.	▪ Retain tree in context of proposed development. ▪ Ensure protection of tree's RPA through establishment of Construction Exclusion Zone (CEZ) in accordance with appended temporary fencing specification (see section 6 of AIA).	10+	C2	44	3.73
T22	Goat Willow	3.5	180#	N E S W	2# 2 2 2	0-S 0	Y	G	▪ Stem arising from old coppiced stump. ▪ Growing into fence and projected to displace structure on future growth.	▪ Remove tree irrespective of proposed development due to projected causation of displacement to boundary fence.	<10	U	15	2.16

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No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m²)	RPA Radius (m)	
T23	Wild Cherry	8	300#	N E S W	4# 4# 4# 4.5	2-W 1	EM	G	▪ Located on neighbouring land and not accessed to inspect in detail. ▪ Stem bifurcates at 1m with tight included bark union, which were evidently stable at time of survey.	▪ Remove tree in order to construct development as proposed.	10+	C1	41	3.6
T24	Sycamore	5	100#	N E S W	2# 2# 2# 2	1-N 2	Y	G	▪ Located on neighbouring land and not accessed to inspect in detail. ▪ Growing into fence and projected to displace on future growth. ▪ Stem bifurcates at 1m height.	▪ Remove tree in order to construct development as proposed.	<10	U	5	1.2
T25	Common Oak	8	100#	N E S W	4# 4# 4# 4	2-W 3.5	SM	G	▪ Located on neighbouring land and not accessed to inspect in detail.	▪ Remove tree in order to construct development as proposed.	10+	C1	5	1.2
T26	Common Oak	8	310#	N E S W	4# 4# 4# 5	1-W 2	SM	G	▪ Located on neighbouring land and not accessed to inspect in detail. ▪ Stem bifurcates at 2.5m.	▪ Remove tree in order to construct development as proposed.	10+	C1	43	3.72
T27	Goat Willow	8.5	700#	N E S W	5# 5# 5 1	0-E 3	M	M	▪ Located on neighbouring land and not accessed to inspect in detail. ▪ Growing into fence and projected to displace on future growth. ▪ Lopped on site side for clearance of 3m above ground level	▪ Remove tree in order to construct development as proposed.	<10	U	222	8.4
T28	Rowan	7	300#	N E S W	4# 4# 4 4	1-W 2	M	M	▪ Located on neighbouring land and not accessed to inspect in detail. ▪ Stem bifurcates at 1m with tight union which were evidently stable at time of survey. ▪ Canopy pruned on site side for clearance of 3m above ground level.	▪ Remove tree in order to construct development as proposed.	<10	U	41	3.6
T29	Common Oak	6	190#	N E S W	4 4# 4# 4#	2-W 2.5	SM	G	▪ Located on neighbouring land and not accessed to inspect in detail. ▪ Growing into fence and projected to displace structure on future growth.	▪ Remove tree irrespective of proposed development due to projected causation of displacement to boundary fence.	<10	U	16	2.28
G1	approx. 70no. Cypress	≤ 12	≤ 300#	N E S W	≤ 4# ≤ 4# ≤ 4# ≤ 4#	4-E ≥ 5	EM	M	▪ Located on neighbouring land and not accessed to inspect in detail. ▪ Closely spaced linear group forming boundary feature with stems located approximately 1m apart. ▪ NB: Group projected to be sufficiently protected by site boundary fencing.	▪ Cut back overhanging trees' crowns on south-east side of group to site boundary. NB: Trees located on neighbouring land and, as such, pruning works to be carried out from within site curtilage following notification to applicable tree owner(s).	10+	C2	≤ 41	≤ 3.6

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No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m²)	RPA Radius (m)
G2	Norway Maple, Willow	≤ 5	≤ 80	N ≤ 2 E ≤ 2 S ≤ 2 W ≤ 2	0-S ≥ 0	Y	G	Closely spaced group growing into fence and projected to displace structure on future growth.	Remove group irrespective of proposed development due to projected displacement of fence.	<10	U	≤ 3	≤ 0.96
G3	8no. Goat Willow	≤ 4	≤ 300	N ≤ 3 E ≤ 3 S ≤ 3 W ≤ 3	0-S ≥ 0	Y	M	- Closely spaced groups of multi-stemmed trees with saplings below. - Growing into fence and projected to displace structure on future growth.	Remove group irrespective of proposed development due to projected displacement of fence.	<10	U	≤ 41	≤ 3.6
G4	Cypress, Willow	≤ 16	≤ 600#	N ≤ 8# E ≤ 8# S ≤ 8# W ≤ 8#	2-W ≥ 1	M	G	- Located on neighbouring land and not accessed to inspect in detail. - Group of closely spaced Cypress and Willow, approximately eight trees in total.	Ensure protection of group's RPA through establishment of CEZ in accordance with appended temporary fencing specification.	10+	C2	≤ 163	≤ 7.2
G5	12no. Birch, 3no. Willow, 1no. Cherry	≤ 12	≤ 600#	N ≤ 6# E ≤ 6# S ≤ 6# W ≤ 6#	2-N ≥ 1	EM	G	- Located on neighbouring land and not accessed to inspect in detail. - Closely spaced group close to fence. - Understory of small trees and shrubs. - NB: Group projected to be sufficiently protected by site boundary fencing.	Prune applicable low hanging tree canopies overhanging site to obtain a 3.5m ground clearance to allow vehicular parking below. NB: Trees located on neighbouring land and, as such, pruning works to be carried out from within site curtilage following notification to applicable tree owner(s).	10+	C2	≤ 163	≤ 7.2

BS5837:2012 Table 1 – Cascade Chart for Tree Quality Assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those 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 that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>Note: Category U trees can have existing or potential conservation value which it might be desirable to preserve; see BS5837:2012 paragraph 4.5.7.</i>			Red
	1. Mainly arboricultural qualities	2. Mainly landscape qualities	3. Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	Green
Category B Those of moderate quality and value: those in such a condition as to make a significant contribution. A minimum of 20 years is suggested.	Trees that might be included in the high category, but are downgraded because of impaired condition. Examples include the presence of remediable defects including unsympathetic past management and minor storm damage	Trees present in numbers, usually as groups or woodlands, so they form distinct landscape features which attract a higher collective rating than they might as individuals. But which are not, individually, essential components of formal or semi-formal arboricultural features. For example, trees of moderate quality within an avenue that includes better, A category specimens. Or trees which are internal to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	Blue
Category C Those trees of low quality and value: currently in adequate condition to remain until new planting could be established - a minimum of 10 years is suggested - or young trees with a stem diameter below 150 mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits	Grey
	Note – Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation			

- TEMPORARY PROTECTIVE FENCING SPECIFICATION -

Construction Exclusion Zones (CEZs), enclosed by **Temporary Protective Fencing**, as detailed below and to be agreed with the Local Planning Authority (LPA), shall:

1. be retained in place throughout the development process, as specified in the 'Temporary Protective Fencing Construction' section below and detailed in BS5837:2012 Figure 2 (overleaf);
2. be sited in the area(s) defined by the Root Protection Areas or, if applicable, the Construction Exclusion Zones, as detailed on the associated Tree Plan;
3. be erected prior to any construction, demolition or excavation works and remain in place for the duration of the project;
4. preclude any delivery of site accommodation and/or materials and/or plant machinery;
5. preclude all construction related activity, with the sole exception of specified arboricultural works and any other works to be carried out under supervision that have been agreed by all parties; and
6. preclude the storage of all development related materials and substances including fuels, oils, additives, cement and/or any other deleterious substance.

Any incursion into CEZs must be by prior arrangement, following consultation with the LPA.

Temporary Protective Fencing Construction

1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
2. The panels shall butt together and be securely fixed to a scaffold framework, as per 3 to 5 below.
3. The scaffold framework shall comprise of upright poles of at least 3.0 metres in length driven no less than 0.6 metres into the ground at maximum 3.0 metre centres with horizontal and diagonal poles fixed to the uprights, as per 4 to 5 below.
4. The two horizontal rail poles shall be attached to the uprights at heights of 0.6 and 1.8 metres with 3 no. clamps to each joint.
5. The diagonal scaffold pole struts be clamped to the top rail of the scaffold framework at a 45° angle and extend back into the CEZ and clamped to a 0.7 metre length of scaffold tube that shall be driven no less than 0.5m into the ground.
6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1, below) shall be fixed to every 10.0 metre length of protective fencing.
8. On completion and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the LPA shall inspect and approve the Temporary Protective Fencing.

Figure 1: CEZ Warning Sign

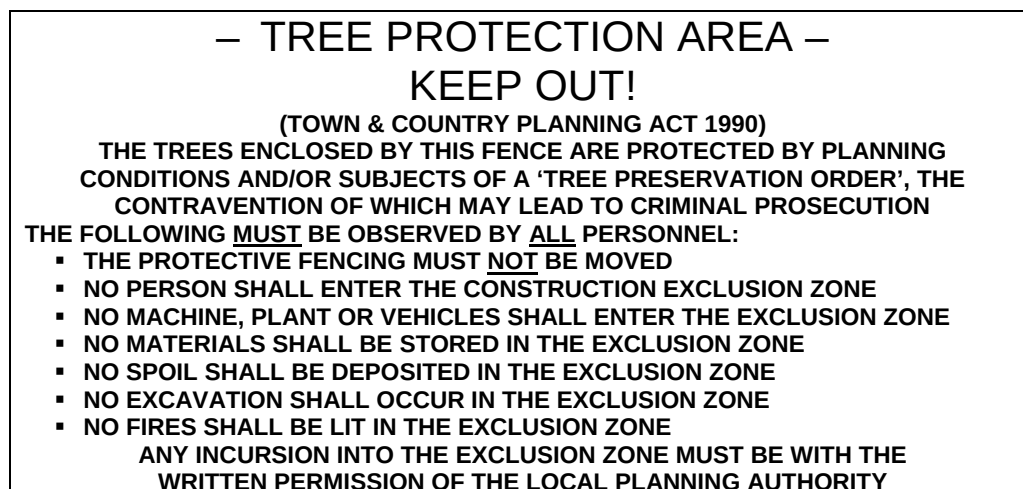
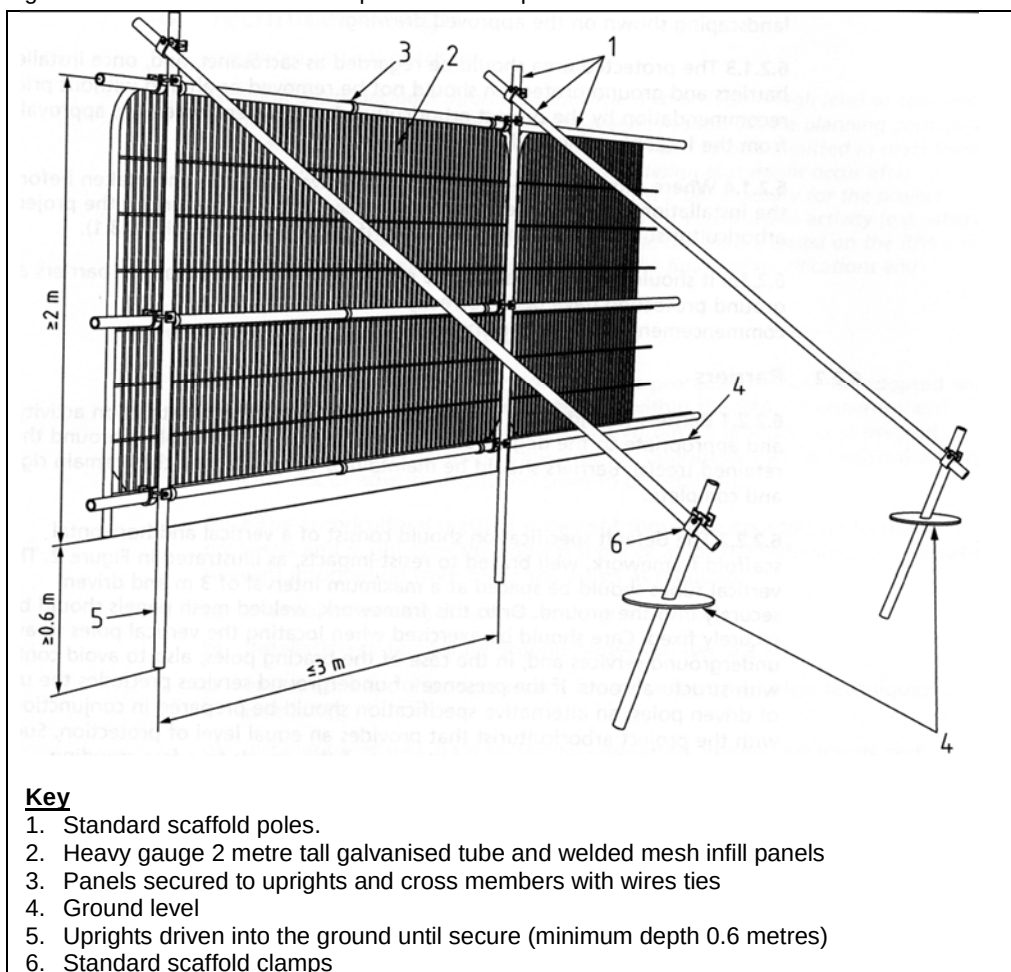


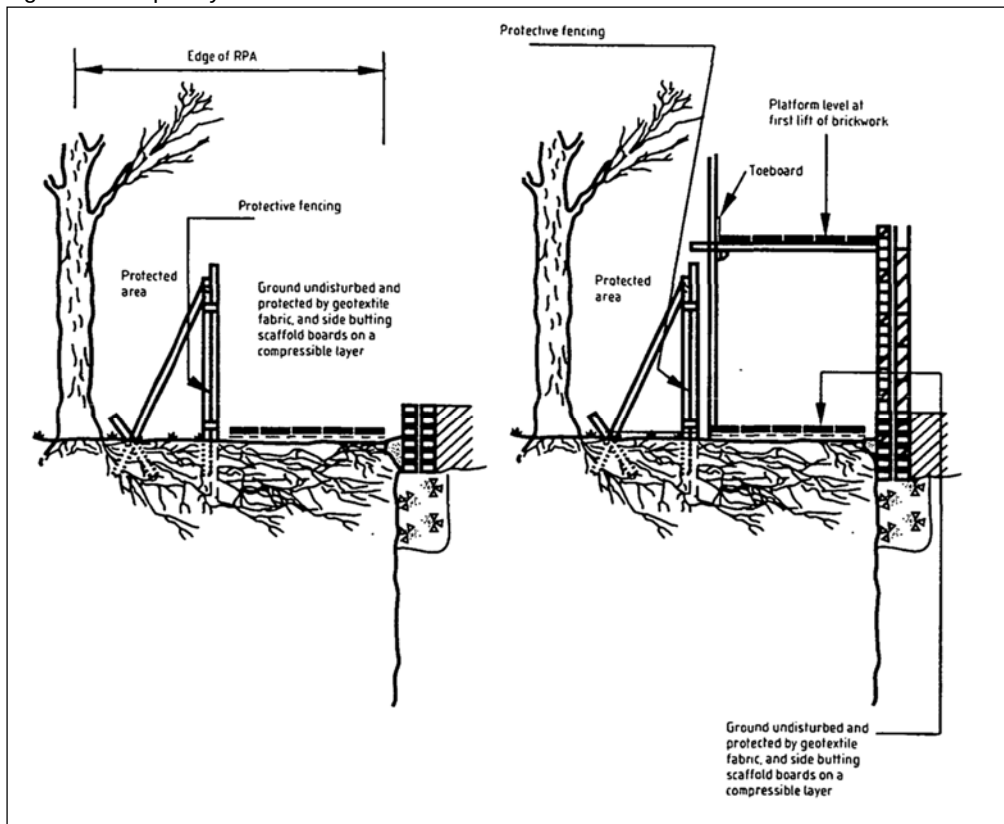
Figure 2: BS5837:2012 Default specification for protective barrier

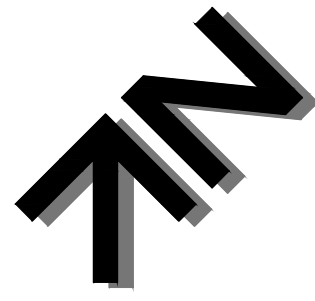


Temporary Ground Protection

1. Any necessary Temporary Ground Protection areas shall conform to Figure 3, below, unless otherwise agreed with the LPA.
2. The Ground Protection Area shall be left undisturbed and covered by a semi-permeable geotextile membrane which shall, in turn, be covered by a compressible layer consisting of a material such as woodchip.
3. Side-butting scaffold boards shall then be fitted to cover the Ground Protection Area.
4. On completion of installation, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Ground Protection.
5. The Temporary Ground Protection shall remain in place until completion of the project and only removed following receipt of written permission from the LPA.

Figure 3: Temporary Ground Protection – Recommended Construction





DISCLAIMER: The original version of this plan was produced in colour. Where it is essential to the plan's interpretation and clarity, as such, a monochrome copy should not be relied upon.

KEY

T = Individual Tree
G = Group of Trees

Please refer to associated Tree Survey Schedule and appendices for specific details in respect of items below:

Tree Categorisations:

Those to be Considered for Retention:

- Category 'A' Tree/Group**
Those of a High Quality with an Estimated Remaining Life Expectancy of at Least 40 Years
- Category 'B' Tree/Group**
Those of a Moderate Quality with an Estimated Remaining Life Expectancy of at Least 30 Years
- Category 'C' Tree/Group**
Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees

Those Considered Unsuitable for Retention:

- Category 'U' Tree/Group**
Those in Such a Condition that they Cannot Practically be Retained as Living Trees in the Context of the Current Land Use for Longer Than 10 Years

Note: The stem locations of surveyed trees T22 to T28 and T29, and the stem locations and full extents of groups were not included on the topographical survey plan provided, and their locations, including the extents of groups, were subsequently plotted by the arboricultural surveyor at the time of the survey using GPS siting and, where possible, measurement from existing site features. As such, the plotted locations of these trees and the extents of the groups cannot therefore be considered to be wholly accurate.

Root Protection Areas (RPAs):

- RPAs**
Areas of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone - see Appended Temporary Protective Fencing Specification

Project:
35 WILSON ROAD
HUYTON BUSINESS PARK
HUYTON
MERSEYSIDE
L36 6AE

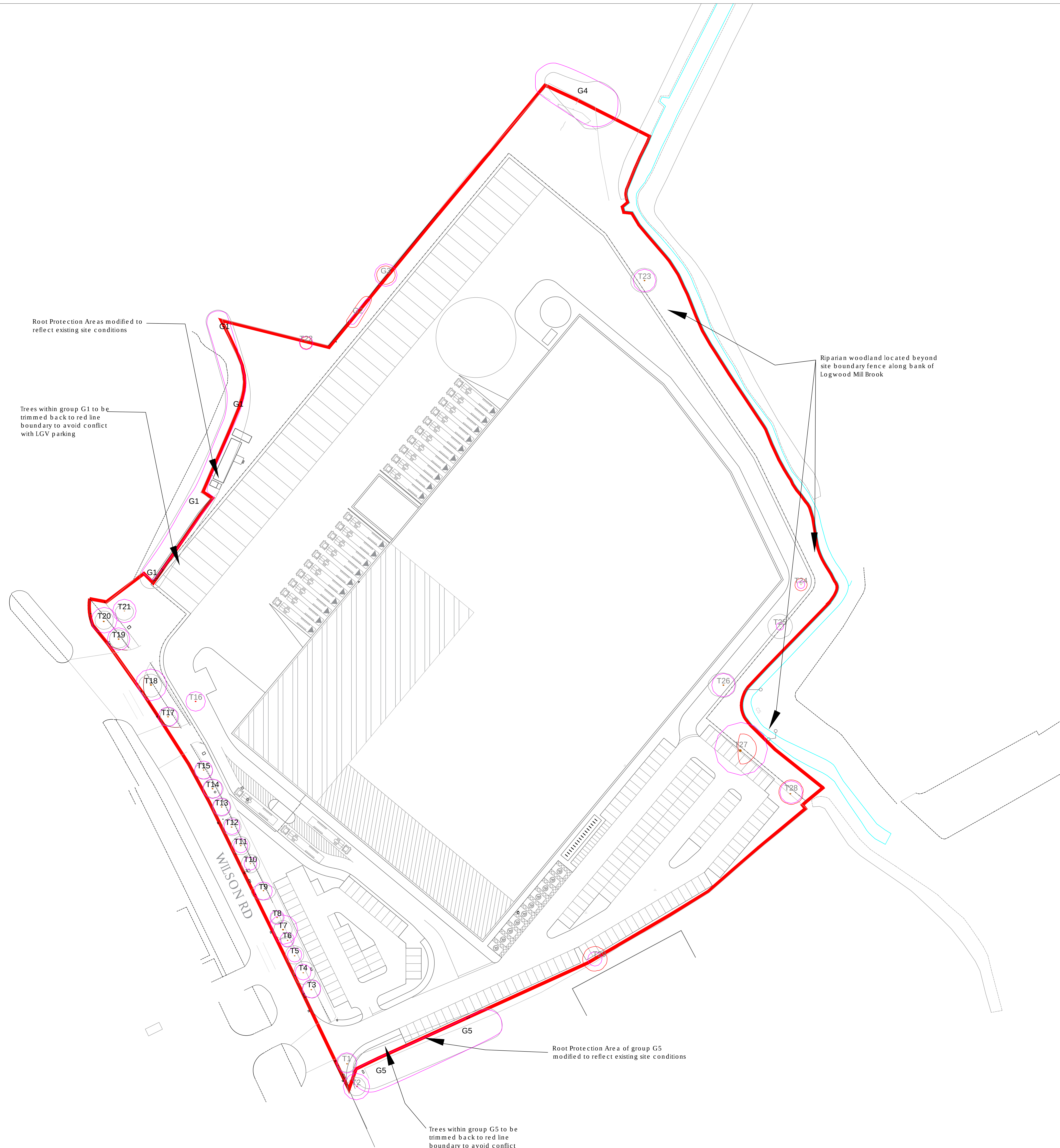
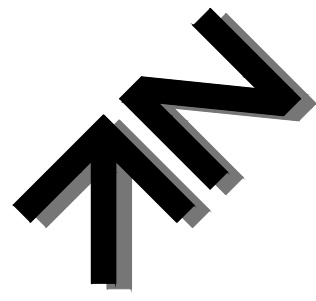
Client:
LINDEN HILL - CAPITAL ASSETS -
ALX LIMITED

Title:
TREE CONSTRAINTS PLAN
in Relation to Proposed Light Industrial Development

Scale: 1:500@A0
Date: March 2022
Drawn by: CB
Checked by: JL

Bowland
Tree Consultancy Ltd
info@bowlandtreeconsultancy.co.uk
01707 451000

Ref: BTC2375-TCP Rev:



KEY

T = Individual Tree
G = Group of Trees

Please refer to associated Arboricultural Impact Assessment and appendices for specific details in respect of items below.

Tree Categorisations:

Those to be Considered for Retention:

- Category 'A' Tree/Group**
Those of a high Quality with an Estimated Remaining Life Expectancy of at Least 40 Years
- Category 'B' Tree/Group**
Those of a Moderate Quality with an Estimated Remaining Life Expectancy of at Least 20 Years
- Category 'C' Tree/Group**
Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees

Those Considered Unsuitable for Retention:

- Category 'U' Tree/Group**
Those in Such a Condition that they Cannot Immediately be Retained as Living Trees in the Context of the Current Land Use for Longer Than 10 Years

Note 1: The item locations of surveyed trees T21 to T28 and T29, and the item locations and full extents of groups were not included in the topographical survey data provided, and their locations, including the extents of groups, were subsequently plotted by the arboricultural surveyor at the time of the survey using GPS using and, where possible, measurement from existing infrastructure. As such, the plotted locations of these items and the extents of the groups cannot therefore be considered to be wholly accurate.
Note 2: Trees with item numbering identified in grey are proposed for removal in the context of the proposed development.

Root Protection Areas (RPAs):

- RPAs**
Areas of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone and Appointed Temporary Protective Fencing Specification

DISCLAIMER: The original version of this plan was produced for the client and is intended to be used for the purposes of planning and design only. It is not to be used for any other purpose without the written consent of the client.

Project:
35 WILSON ROAD
HUYTON BUSINESS PARK
HUYTON
MERSEYSIDE
L36 6AE

Client:
LINDEN HILL - CAPITAL ASSETS -
ALX LIMITED

Title:
TREE IMPACT PLAN
in Relation to Proposed Light Industrial Development

Scale: 1:500@A0
Date: May 2022
Drawn by: CB
Checked by: JL



Ref: BTC2375-TIP Rev: