

Arboricultural Impact Assessment (AIA)

Baileys Lane Halewood
Prepared for: FAS

Prepared by Simon Brain

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- 1 Tree Protection Plan
- 2 Survey sheets (updated as a result of AIA)

1.0 Introduction

1.1 Instruction, Scope, Methodology, Mitigation & Limitations

- 1.2 My name is Simon Brain I am arboriculturist, with 25 years' experience holding the LANTRA Professional Tree Inspection certificate. I have been instructed by the client to prepare the following Arboricultural Impact Assessment for land at Baileys Lane, Halewood, Liverpool L26 0UA.
- 1.3 This Arboricultural Implications Assessment (AIA) is based on the proposed developments as shown on the Proposed Plan 1354-010E-Proposed Site Plan and incorporated into the Tree Protection Plans (TPP) in Appendix 1 of this report.
- 1.4 The assessment will be carried out in line with the recommendations in BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations* and will evaluate the direct and indirect impacts of the proposed design and where necessary recommend mitigation.
- 1.5 The AIA considers constraints posed above and below ground and where appropriate makes recommendations to mitigate impacts associated with development sites and retained trees.
- 1.6 Where specialist design, construction techniques or in areas where supervision of the works is required a Special Measure Area (SMA) has been shown on the TPP for the study areas.
- 1.7 Below ground constraints are influenced by the root protection area and are determined in line with the recommendations set out in BS 5837:2012. These recommendations quantify the root protection area based on a measured stem diameter in accordance with Annex C, and the root protection area determined from Annex D.
- 1.8 It is important to understand that when considering the Root Protection Area (RPA) with regards to the circular plot as delineated on the TPP

that a number of site factors can influence root morphology and disposition of tree roots.

- 1.9 Above ground constraints are considered above and below ground and in line with the recommendations in BS 5837:2012 to include; shade, dominance, current and future crown spread as well as the ultimate height of those retained trees.
- 1.10 Impacts associated with development sites and retained trees can be associated with single or multiple site operations that can subject trees to multiple impacts (*root severance, compaction, loss of photosynthetic material*), where this is applicable it will be highlighted in the AIA.
- 1.11 The mitigation measures proposed in this report are essential to ensure that trees marked for retention are adequately protected during the period of post/preconstruction.

2.0 Arboricultural Impact Assessment

2.1 Area for proposed development

2.2 The proposed development has been embedded within the Tree Constraints Plan which indicates the following developments associated with this site to have an arboricultural impact:

- New surfacing in the vicinity of retained trees
- Installation of proposed development infrastructure requiring tree removal

2.3 The arboricultural impacts of these items have been identified below.

2.3.1 New surfacing (including existing surface removal) in the vicinity of retained trees.

New surfacing is within the RPA of T1, T3, T17, T19 and H3 is within a designated Special Measure Area (SMA) and construction of this can only be proposed as 'no dig' construction if the following items can be achieved:

- A cross section of the existing and proposed ground levels is submitted for arboriculture review.
- A detailed engineer-based drawing specification of the no dig driveway is produced for arboriculture review
- The California Bearing Ratio and soil structure are acquired and have undergone arboriculture review.
- Future maintenance, water interception, pollution potential and deformation potential of the new surface is assessed.
- No walls of any kind will be acceptable in the RPA.
- A full AMS is needed when these matters have been managed to support a planning application which will detail sequencing, methods, materials, tree protections, personnel and a detailed supervisory

timetable with the provision of compliance reporting at regular intervals.

These items are required as the trees are due to be retained

Typical no dig construction can consist of:

- Establishment of the California Bearing Ratio of the land in question order to inform engineers of type and capacity of load bearing cellular confinement system to be used.
- Appoint and confirm engineer for design and supply of a suitable load bearing geo cellular confinement system requiring no more than 25cm of excavation for topsoil preparation only.
- New surfacing is constructed and finished to the agreed specifications before any other general building activity commences on site.
- The cellular confinement system shall be guaranteed by the supplier so as not to cause subsequent compaction for a period of ten years.
- Typically, a 'no dig' approach (based on APN12 Driveways close to trees) will be taken with the confinement system being laid directly onto the existing ground level; where local cuts and fills are required this shall be no more than 75-100mm in depth.
- Typically, a confinement system of 150mm in depth is used.
- Edge restraints shall be required, and they shall be secured by means of small metal ties approximately 50cm+ long at appropriate intervals.
- The cellular confinement system shall be laid by pedestrian means under the consultant's on-site supervision. Small excavators can

be used on the surface when it is newly laid and when ground boarding is provided.

- The system shall be filled with granular material that retains porosity and maintain a porous finished wearing surface such as pea gravel or resin bonded gravel. Proprietary surface coverings that may be suitable for some surfaces include Flexipave and Permadrive.
- All surface construction when complete shall be covered in on ground boarding throughout the SMA for the remainder of the build period.
- All surface construction if acceptable will be located with Special Measure Areas (SMA) which is designated on the Tree Protections Plan (TPP). All construction shall be supervised on site by a qualified arboricultural consultant who shall record all progress and oversee all new surface installations in the RPA's affected and document the installation in the event of any future third party claims.

NOTE: The chronological order of events shall be as follows.

Following installation of the CEZ access is installed under supervision to no dig specification provided and all new surfacing's are protected by on ground boarding such as scaffold boards prior to any other construction activity commencing in the vicinity. It is however critical that ground boarding is proportionate to the load anticipated to be exerted on the surface. Therefore, in areas of proposed driveway where vehicular (car) and pedestrian traffic is anticipated during / post construction scaffold boarding is enough above the newly laid surface. However, heavier construction related deliveries may be required and ground boarding shall be upgraded to bog mat or similar which must bear the anticipated load. Both types of on ground boarding are required for the construction duration.

2.3.2 Installation of proposed development access requires the removal of the following tree references:

- T2, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T18, G1 and G2,
- Partial removal of H1 and H4

3.0 Tree Preservation Orders

3.1 A desktop search of the Knowsley Council Interactive Map for Tree Preservation Orders has confirmed that none of the trees on site are subject to TPO's or fall within a Conservation Area.

4.0 Trees to be removed and retained

4.1 The following trees have been identified for removal due to their condition (Category U): None (2 Cat U are stumps)

4.2 A total of 14 tree references, 2 groups and 2 partial hedge removals are identified to be removed for the direct impact of development as listed in section 2.3.2.

4.3 The remaining trees are due to be retained and protected as outlined on the TPP by methodology needed in an AMS.

5.0 Root Protection Areas (RPA)-modifications

5.1 Root Protection Areas have been plotted in line with the guidance given in BS 5837: 2012 where ground constraints have had or are likely to affect the root morphology of trees e.g. where underground utilities or building foundations have obstructed root growth this shall require formal confirmation by excavation to establish presence or absence of significant rooting material. No RPA modifications have been shown for this scheme.

6.0 Post construction considerations

6.1 Not applicable

7.0 Tree pruning to facilitate development and future pruning

7.1 There are no requirements for tree pruning to facilitate the proposed development.

8.0 New surfacing and ground level modifications

8.1 Refer to section 2.3.1 and appendix 3 for details of construction.

9.0 Construction Exclusion Zones and Special Measure Areas

9.1 The Construction Exclusion Zone has been shown as a black fenced polyline on the TPP in Appendix 1 and shall be constructed using heras panels and rubber feet securely staked to the ground.

9.2 The CEZ is purposefully located within proposed new surfacing near TPO trees in order to prompt site supervision and wider protective measures when new surfacing is installed.

9.3 The CEZ must be installed as signed off as fit for purpose before any other works commence on site.

10.0 Site supervision and monitoring

10.1 Where a tree has been delineated on the TPP as requiring retention there will be a requirement to oversee construction operations in these areas in order to ensure that no damage occurs to the retained tree.

10.2 To ensure that there is an auditable system of site monitoring, reports will be compiled by an appointed arborist and following site visits they issued to the site manager and design team, copies of which will be available on site at all times for inspection by a Council planning/Tree officer.

11.0 Installation of below ground infrastructure

- 11.1 No detailed plans have been provided specifying the location of site utilities
- 11.2 Specialist advice with regards to the position of utilities will need to be sought from engineers and must be reviewed by the consulting arboriculturist prior to commencement on site.
- 11.3 The usual construction techniques for installing site utilities within an RPA will be unacceptable due to the level of root severance that would occur. The impact of root severance will have a detrimental effect on tree health as trees require a healthy root system in order to maintain water and mineral uptake from the soil. Trees need to maintain a balance between shoot and root growth to ensure that the resources supplied by each can meet the demand of the other. Severance of tree roots caused by trenching can lead to reduced water uptake which in turn impacts on the trees ability to supply water to the canopy, resulting in desiccation. A further complication associated with root severance can be problems associated with tree stability. The tree relies on an intact root system in order to maintain stability; this stability will be compromised by root severance.
- 11.4 The use of trenchless techniques can be acceptable provided the depth of service run that is excavated is below the anticipated root depth.

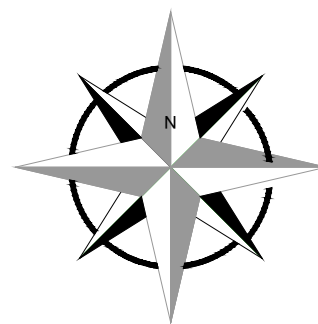
12.0 Design change requirements

- 12.1 Design change requirements have not been necessary.

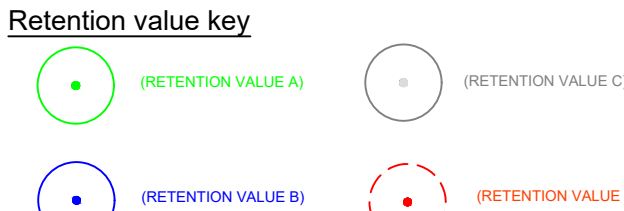
13.0 Concluding statement

- 13.1 The proposed scheme was assessed in line with guidance provided in BS 5837:2012 *Trees in relation to design demolition and construction – Recommendations* with the aim to achieve a harmonious relationship between trees and structures that can be sustained in the long term.

Appendix 1 Tree Protection Plan

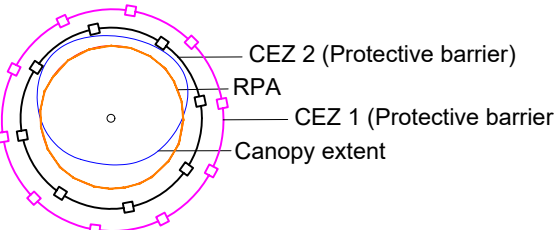


TREE PROTECTION PLAN



Root Protection Areas (RPA) & Construction Exclusion Zones (CEZ)

Root Protection Areas (RPA's) have been identified and are based on BS5837:2012. RPA's and Construction Exclusion Zones (CEZ) have been shown as detailed below. The CEZ shall act as the protective barrier for retained trees.

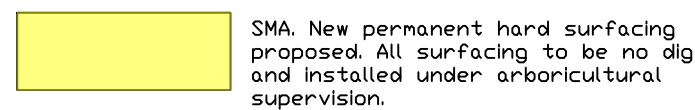


CEZ and re-positioning during build period

The CEZ's will require installation as shown on the TPP. The CEZ shall be repositioned only under ACDW

Special Measure Areas (SMA)

Special Measure Areas (SMA's) have been identified for construction in these areas and they have been shown as detailed below.



Refer to Arboricultural Implications Assessment (AIA) for details of recommended construction in SMA's.

NOTES
This drawing shall not be reproduced in black and white.
This drawing is produced for Planning and Construction



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School Lane, Burwardsley, Chester.
CH3 9NX
Tel. 01829 770075

Client:
DK Architects

Project:
Baileys Lane, Halewood, Liverpool L26 0UA
12180

Detail:
TREE PROTECTION PLAN - Overview

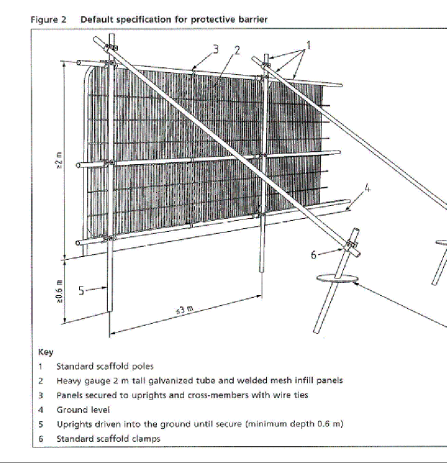
Drawn By: PS Date: 11/12/2025 Scale: 1:250 - A1

Drg No: TR-01-Overview Sheet Revision: V1

Proposed Site Plan
20.03.2025
1354-010
1:500 @ A3
KJ

Please refer to Amenity Tree Care Drawings for soft / hard landscaping:
AT 25.12180.100
AT 25.12180.101

Construction Exclusion Zone (CEZ). Default specification for protective barrier



BAILEYS LANE

Roseneath

Drain

Appendix 2 Survey sheets (updated as a result of AIA)

Tree No.	latin name	Life Stage	Diameter(mm)	Stem Count	Height(m) / Crown Height (m)	North(m)	South(m)	East(m)	West(m)	Category	Estimated Remaining Life Expectancy (yrs)	Pick Comments	Comments	Recommendations	RPR(m)	RPA(m)
T1	Acer pseudoplatanus (Sycamore)	Y	220	1	9(1)	3	3	3	3	C1	40+			SMA No Dig for the proposed car parking spaces. Install initial CEZ 1 as shown in a magenta polyline on the TPP. Once SMA works have been completed the CEZ can be relocated the secondary position (CEZ 2)	2.64	21.9
T2	Acer pseudoplatanus (Sycamore)	Y	150	1	6(1.5)	2	2	2	2	C1	40+			Remove for proposed bike storage	1.8	10.18
H1	Crataegus monogyna (Hawthorn)	EM	70	1	2.5(0)	2	2	2	2	B1	40+		Mixed species hedge including Privet, Ivy, Sycamore and Hawthorn.	Partial remove of hedge for proposed bike storage. Install CEZ as per TPP	0.84	2.22
T3	Acer pseudoplatanus (Sycamore)	EM	450	9	17(1.5)	10	10	10	10	B1	20+		The tree is located off site	Minor RPA incursion for the new build. SMA no dig for the proposed footway. Install initial CEZ 1 as shown in a magenta polyline on the TPP. Once SMA works have been completed the CEZ can be relocated the secondary position (CEZ 2)	15	706.95
T4	Crataegus monogyna (Hawthorn)	EM	250	3	8(0.5)	1	4	4	1	C1	20+			Not affected install CEZ as per TPP	5.2	84.96
T5	Salix caprea (Goat Willow)	SM	340	1	11(2)	4	5	2	5	B1	40+			Remove for development	4.08	52.3
T6	Salix caprea (Goat Willow)	EM	350	9	10(0)	7	2	7	5	C1	40+			Remove for development	12.6	498.82
T7	Crataegus monogyna (Hawthorn)	SM	320	4	10(0.5)	4	5	4	4	B1	40+			Remove for development	7.68	185.32
T8	Crataegus monogyna (Hawthorn)	EM	250	3	8(1)	3	3	3	2	B1	40+			Remove for development	5.2	84.96
T9	Acer pseudoplatanus (Sycamore)	SM	310	1	15(1)	7	6	7	6	B1	40+		Wire fence imbedded into the main stem.	Remove for development	3.72	43.48
T10	Prunus laurocerasus (Cherry Laurel)	EM	280	1	12(0.5)	5	1	4	4	C1	20+			Remove for development	3.36	35.47
T11	Prunus laurocerasus (Cherry Laurel)	EM	200	2	11(1)	2	3	4	4	C1	20+			Remove for development	3.4	36.32
T12	Prunus laurocerasus (Cherry Laurel)	EM	200	3	11(0)	2	2	4	3	C1	20+			Remove for development	4.15	54.11
T13	Prunus laurocerasus (Cherry Laurel)	EM	190	2	8(0.5)	2	2.5	4	3	C1	20+			Remove for development	3.23	32.78
T14	Acer pseudoplatanus (Sycamore)	EM	280	3	12(2)	4	4	1	4	B1	40+			Remove for development	5.82	106.43
T15	Acer pseudoplatanus (Sycamore)	SM	150	1	9(2)	3	1	1	3	C1	40+			Remove for development	1.8	10.18
T16	Acer pseudoplatanus (Sycamore)	EM	320	1	12(1)	4	5	3	4	B1	40+			Remove for development	3.84	46.33
G1	X Cupressocyparis leylandii (Leyland Cypress)	EM	600	1	17(2)	3	3	3	4	B1	20+			Remove for development	7.2	162.88
G2	Prunus laurocerasus (Cherry Laurel)	SM	150	1	5(0)	2	2	2	2	C1	20+		Mixed group including conifer and holly.	Remove for development	1.8	10.18
S1	X Cupressocyparis leylandii (Leyland Cypress)	EM	400	1	2(0)	0	0	0	0	U	<10			Off site not affected	4.8	72.39
S2	X Cupressocyparis leylandii (Leyland Cypress)	EM	400	1	2(0)	0	0	0	0	U	<10			Off site not affected	4.8	72.39
T17	Chamaecyparis lawsoniana (Lawson Cypress)	EM	160	4	6(0)	2	2	2	2	C1	20+			SMA no dig for the proposed footway and soft landscape works. Install initial CEZ 1 as shown in a magenta polyline on the TPP. Once SMA works have been completed the CEZ can be relocated the secondary position (CEZ 2)	3.84	46.33
H2	Ligustrum Ovalifolium (Privet)	SM	50	1	2(0)	1	1	1	1	B1	40+			Not affected install CEZ as per TPP	0.6	1.13
T18	Malus (Apple)	EM	380	1	6(2)	3	3	3	3	B1	20+		Ivy on the main stem.	Remove for development	4.56	65.33
T19	Acer pseudoplatanus (Sycamore)	Y	100	1	6(2)	2	2	2	2	C1	40+			Retain and no dig to footway	1.2	4.52
H3	Ligustrum Ovalifolium (Privet)	EM	50	1	1.5(0)	1	1	1	1	B1	40+			Not affected install CEZ as per TPP	0.6	1.13
H4	Ligustrum Ovalifolium (Privet)	EM	50	1	2(0)	1	1	1	1	B1	40+			Partial removal for access. Install CEZ as per TPP	0.6	1.13
G3	Malus sylvestris (Crab Apple)	SM	50	1	2(0)	1	1	1	1	C1	10+		Mixed group of shrubs including Buddleia and Conifers.	Remove for development	0.6	1.13