LPH UK 1 Ltd (‘Lysara’)

HEATHROW FLIGHTPATH CAR PARK

Arboricultural Impact Assessment

2024UK337123-ARB-AIA-001
JULY 2025

PUBLIC

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Arboricultural Impact Assessment

TYPE OF DOCUMENT (VERSION) PUBLIC

PROJECT NO. 2024UK337123

OUR REF. NO. 2024UK337123-ARB-AIA-001

DATE: JULY 2025

WSP

Amber Court
William Armstrong Drive
Newcastle
NE4 7YQ

Phone: +441912262000

WSP.com

QUALITY CONTROL

Issue/revision	First issue	Revision 1	Revision 2	Revision 3
Remarks	First Issue	Updated site information	Amended general arrangement	
Date	13 January 2025	20 June 2025	30 July 2025	
Prepared by	Carly Robison	Carly Robison	Carly Robison	
Signature			Robison, Carly (GBCR137411) Digitally signed by Robison, Carly (GBCR137411) DN: cn=Robison, Carly (GBCR137411), ou=Active, email=Carly.Robison@wsp.com Date: 2025.07.30 14:19:55 +01'00'	
Checked by	Ryan Gledhill	Ryan Gledhill	Ryan Gledhill	
Signature			Ryan.Gledhill@wsp.com Digitally signed by Ryan.Gledhill@wsp.com DN: cn=Ryan.Gledhill@wsp.com Date: 2025.07.30 15:30:00 +01'00'	
Authorised by	Mark Watson	Ryan Gledhill	Ryan Gledhill	
Signature			Ryan.Gledhill@wsp.com Digitally signed by Ryan.Gledhill@wsp.com DN: cn=Ryan.Gledhill@wsp.com Date: 2025.07.30 15:30:40 +01'00'	
Project number	2024UK337123	2024UK337123	2024UK337123	
Report number	2024UK337123-ARB-AIA-001	2024UK337123-ARB-AIA-001	2024UK337123-ARB-AIA-001	
File reference	V1	V2	V3	

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1. WSP has been instructed by LPH UK 1 Ltd ('Lysara') to provide arboricultural support for the Heathrow Flightpath Car Park scheme (hereafter referred to as the 'Proposed Development') This comprises of:

- A hybrid application consisting of full planning permission for the creation of a mixed-use sustainable vehicle parking facility (Sui Generis) and food and beverage unit (Class E), alongside ancillary welfare and staff buildings, and other supporting infrastructure and site levelling, and outline planning permission for a future extension to the facility, with all associated matters reserved except for access.

1.2 SCOPE OF REPORT

1.2.1. The purpose of this report is to identify all trees which may be affected by the Proposed Development, to assess the impact of the Proposed Development upon those trees and to recommend such protection measures as are necessary to ensure the health of the retained trees.

1.2.2. The scope and level of detail included within this report is commensurate with that required for the consideration of arboricultural features as part of the Proposed Development.

1.2.3. Information provided complies with the requirements of British Standard BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations* (BS 5837), and includes reference to the following:

- results of a BS 5837 arboricultural survey;
- an Arboricultural Impact Assessment (AIA); and,
- an Outline Arboricultural Method Statement (AMS).

1.2.4. Impacts should be defined as an assessment of arboricultural removals and identification of matters to be addressed within an AMS.

1.3 LIMITATIONS

1.3.1. WSP have provided this report solely for the use of the recipient and accepts no liability to any third parties or any other party using or reviewing the report or any part thereof. WSP makes no warranties or guarantees, actual or implied, in relation to this report, or the ultimate commercial, technical, economic, or financial effect on the project to which it relates, and bears no responsibility or liability related to its use other than as set out within the scope of the contract under which it was supplied.

1.3.2. Provisional Tree Preservation Orders (TPOs) may be made whenever a local planning authority deems it appropriate with only those persons interested in the land served with a copy of the Order. Because of this, any reference to the presence of TPOs is only valid on the date at which the desk study search was undertaken. In instances where works unspecified in this report are to be undertaken, and which may impact trees, a further search for the presence of TPOs should be carried out prior to commencement.

1.3.3. Trees are dynamic organisms which are influenced by a variety of environmental variables and whose health and condition can rapidly change. Because of this, any recommendations made within

this report are valid for a period of 24 months from the date of survey, when any site conditions change or pruning or other works unspecified in the report are carried out to, or affecting, the subject trees, whichever is the sooner.

1.3.4. This report does not constitute a health and safety survey. Where concerns for tree health and safety exist then necessary and appropriate tree inspections should be carried out.

1.3.5. Assessment of statutory and non-statutory constraints have been carried out using third-party information and aerial imagery with a combination of Google Earth and Google Streetview. While this is deemed to be broadly accurate, in some instances no specific date is given for the information and images used.

1.4 RELEVANT LEGISLATION, POLICY AND GUIDANCE

1.4.1. This report has been compiled with reference to the following legislation, policy and guidance:

LEGISLATION

- The Town and Country Planning Act 1990
- Town and Country Planning (Tree Preservation) (England) Regulations 2012
- Highways Act 1980

POLICY

- National Planning Policy Framework (NPPF) (revised 12 December 2024)
- Hillingdon Council Local Plan Part 2: Development Management Policies 2020[1]
- Hillingdon Tree Strategy 2023[2]

GUIDANCE

- British Standards Institute. BS 3998: 2010 Tree Work – Recommendations. London: BSI
- British Standards Institute. BS 5837: 2012 Trees in relation to design, demolition and construction – Recommendations. London: BSI

1.5 ABBREVIATIONS OF TERMS USED

Table 1-1 – List of abbreviations used within this report

Abbreviations	Definition
ACoW	Arboricultural Clerk of Works
AIA	Arboricultural Impact Assessment

[1] The Proposed Development has taken cognisance of Policy DMHB 14: Trees and Landscaping.

[2] The Proposed Development has taken the Protection aspect of this strategy, which states that on construction sites all work must be in accordance with BS 5837 2012 “Trees in relation to Construction” and that foundation details follow the recommendations of the National House Building Council’s Practice Note 3 “Building Near Trees”.

Abbreviations	Definition
AMS	Arboricultural Method Statement
BS 5837	British Standard BS 5837:2012 ‘Trees in relation to design, demolition and construction – Recommendations’.
CEZ	Construction Exclusion Zone.
NJUG	National Joint Utilities Group
RPA	Root Protection Area
TRPP	Tree Removal and Protection Plan
TPO	Tree Preservation Orders

2 METHODOLOGY

2.1 ARBORICULTURAL STUDY AREA

2.1.1. The site is located north of Heathrow Airport, bordered by Bath Road and the M4. It is centred on National Grid Reference TQ 07447 77074. The extent of the site is indicated by the Red Line Boundary (RLB) in the Tree Removal and Protection Plan (TRPP), included in Appendix C (drawing number: 2024UK337123-ARB-TRPP-2.0).

2.1.2. The arboricultural study area is defined by the RLB plus a further area of up to 15m (hereafter the Study Area). The purpose of this 15m beyond the RLB is to ensure compliance with BS 5837 which recommends that all arboricultural features whose Root Protection Areas (RPAs) may be impacted are identified and surveyed. BS 5837 has a maximum RPA radius of 15m, hence the extent of the study area.

2.2 BASELINE DATA COLLECTION

2.2.1. Baseline data collection has been undertaken with reference to BS 5837 and has been undertaken using the following data sources:

- an arboricultural desk study;
- a field-based survey of arboricultural features within the study area.

2.3 DESK STUDY

2.3.1. A desk study was originally undertaken in December 2024, and later reviewed in July 2025, to identify specific statutory and non-statutory arboricultural constraints which may apply to arboricultural features within the Study Area. The desk study, as outlined in Appendix A, was undertaken to establish the following statutory and non-statutory arboricultural constraints.

- tree preservation orders;
- conservation areas;
- ancient woodland; and
- ancient or veteran trees.

2.4 BASELINE SURVEY

2.4.1. An arboricultural baseline survey of trees within the Study Area was undertaken on 6 December 2024. The survey was undertaken to comply with BS 5837 and details of the method used are presented in Appendix A.

2.5 PROVIDED DESIGN INFORMATION

2.5.1. The following information has been viewed and used to prepare this report and arboricultural assessment:

- General Arrangement (DWG): 7935-SMR-00-ZZ-DR-A-8218-S3-P1
- General Arrangement (DWG): 7935-SMR-00-ZZ-DR-A-8219-S3-P1

3 ARBORICULTURAL SURVEY FINDINGS

3.1 DESK STUDY FINDINGS

3.1.1. The desk study found no record of TPOs, conservation areas, ancient woodland, or individual ancient and veteran trees within the Study Area.

3.2 GENERAL SITE DESCRIPTION

3.2.1. The site is centred on Ordnance Survey National Grid Reference: TQ 07447 77074. The site is the Heathrow Flightpath Car Park, currently comprising of over 700 parking spaces across four acres.

3.2.2. The hard landscaping of the car park has resulted in a relatively flat topography across the site. However, along the eastern edge, the land slopes downward away from the site, where trees are positioned on embankments. Additionally, trees are located around the boundary of the car park, both within the site's ownership extents and extending into the neighbouring land.

3.3 BASELINE SURVEY FINDINGS

3.3.1. An arboricultural survey schedule detailing information about trees around the Proposed Development is presented at Appendix B. Table 3-1 summarises the number of trees surveyed and their tree quality categories. The locations of arboricultural features are shown on the Tree Removal and Protection Plan (TRPP) of Appendix C.

Table 3-1 – Summary of tree quality categories

BS5837 Quality	Category	Tree	Group	Total
Moderate	B	3	6	**9**
Low	C	3	4	**7**
Very low	U	2	1	**3**
	Total	8	11	**19**

3.3.2. The arboricultural features on the site were recorded exclusively along the site boundaries, with the trees categorized from Category B to Category U.

3.3.3. The majority of the surveyed features were of moderate quality, predominantly consisting of sycamore, along with a mix of other tree species, details are shown in the Arboricultural Survey Schedule of appendix B.

3.3.4. All of the features observed to be of very low quality were sycamore, situated to the west of the site.

4 ARBORICULTURAL IMPACT ASSESSMENT

4.1 SCOPE OF ASSESSMENT

4.1.1. The scope of this assessment has been established with reference to BS 5837. The scope of assessment is to evaluate the effects of the Proposed Development on arboricultural features and where necessary recommend mitigation.

4.1.2. The assessment includes specific reference to the effects of tree loss and other potentially damaging activities which could foreseeably occur in the vicinity of retained trees. Further reference is made concerning recommendations for mitigation, including those matters which require inclusion within an AMS.

4.2 ASSUMPTIONS AND LIMITATIONS

4.2.1. This AIA report has been compiled on the basis of the following assumptions:

- All construction and demolition activities will be confined to the planning application boundary of the Proposed Development.
- All construction and demolition activities will be excluded from Construction Exclusion Zones (CEZ) identified on the TRPP.
- Existing areas of hard surfacing will remain in-situ or be utilised for construction access, site compounds and material storage as specified in this AIA.

4.2.2. The following limitations apply to this AIA report:

- Enabling works (such as the installation or diversion of services by statutory undertakers beyond the red line boundary) have not been considered.
- Where the location of arboricultural features is not recorded in topographic surveys they have been indicatively plotted using aerial imagery relative to other site features. The accompanying TRPP therefore has features plotted with approximate locations only which could have an error of up to 5m.

4.3 ARBORICULTURAL FEATURES TO BE REMOVED

4.3.1. The Proposed Development in relation to arboricultural features is shown in the TRPP of Appendix C. The Proposed Development would result in the removal of two moderate quality groups (G6 and G7) and one very low-quality tree (T8).

4.3.2. The removal of tree T8 is required to facilitate the site emergency ingress/ egress, and the removal of groups G6 and G7 is necessary due to their location directly within the proposed hardstanding car park area and welfare facilities.

4.4 ARBORICULTURAL FEATURES TO BE PRUNED

4.4.1. There are no current requirements to undertake tree pruning to facilitate development. However, if during development, the need for canopy reduction and/or lift pruning is identified, written approval from the Local Planning Authority will be required.

4.4.2. All tree works undertaken will be under the supervision of ACoW and must comply with British Standard 3998:2010 – *Tree Work Recommendations* and should therefore be carried out by skilled tree surgery contractors.

4.5 IMPACTS ON RETAINED ARBORICULTURAL FEATURES

4.5.1. Other arboricultural impacts are activities which have the potential, if uncontrolled, to cause damage to arboricultural features which are retained. Implementation of the recommended mitigatory measures would be sufficient to ensure that arboricultural features can be retained without significant loss of value or a notable reduction in health or longevity.

ABOVE GROUND IMPACTS

4.5.2. During demolition and construction work there is potential for the stem and branches of retained arboricultural features to be damaged by the contractor making physical contact. Such damage can reduce vitality and cause decline in health. To prevent above ground damage to arboricultural features a tree protection fencing should be established as per the TRPP in Appendix C in line with the AMS recommendations. The AMS recommendations should be in effect throughout the duration of demolition and construction with appropriate levels of arboricultural supervision where work is near trees.

4.5.3. To prevent above ground damage to arboricultural features a construction exclusion zone (CEZ) should be established. The AMS recommendations should be in effect throughout the duration of demolition and construction with appropriate levels of arboricultural supervision where work is near trees.

4.5.4. Pruning may be required to enable access for construction along with pruning to ensure clearance for users of cycling and walking facilities. Any pruning must be specified by an arboriculturist to ensure that the extent of work is suitable for the required purpose and for the tree health. Tree work should be set out within an AMS through detailed design.

4.5.5. Care should be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious damage to them and might make their safe retention impossible. Consequently, any transit or traverse of plant in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from tree canopies is maintained at all times.

BELOW GROUND IMPACTS

4.5.6. During demolition and construction work there is potential for soil compaction and root damage caused by contractors. This could cause loss of vitality and decline in health with a reduction in quality of tree and potential instability or death of trees.

4.5.7. To prevent below ground damage to arboricultural features a CEZ has been established within the TRPP in Appendix C. this should be in place for the duration Proposed Development which is demarcated by a tree protection fence. Where access is required as well as the establishment of a work areas and storage facilities, then temporary ground protection measures could be installed to prevent soil compaction and root damage.

4.5.8. The indicative RPAs are based on a symmetrical circle and are shown in the TRPP. For groups of trees the RPA is based on a distance from the plotted group extent which represents tree stem locations. These RPAs are indicative, and the shape can be adjusted by an arboriculturist to ensure that sufficient area, and therefore soil volume, is protected.

4.5.9. Removal and resurfacing of hard surfaces within the RPA of trees has a risk of causing harm to tree roots. Where existing hard surfaces are to be removed and replaced within the RPA, these locations require Special Construction Measures to avoid excessive harm to trees.

SPECIAL CONSTRUCTION MEASURES

4.5.10. The Special Construction Measures will need to be designed specific to the tree and its setting. The locations where this is required is the removal and resurfacing of the existing hardstanding car park within RPAs and construction of the new boundary security fence.

4.5.11. Where excavations are necessary within an RPA, these can be controlled to reduce detrimental impact on trees. Excavating by hand or vacuum excavation could be used so that when tree roots are found they are not damaged. Exposed tree roots could be retained with geosynthetic membranes used to protect them during construction.

4.5.12. Where the existing fence is to be replaced, an on-site walkover assessment is to be undertaken by the relevant contractor and LPA representative prior to construction to identify whether bespoke fencing is required to avoid excavations within RPAs and mitigate potential root damage.

4.5.13. Details of generic methodology manual excavations within RPAs are included in the outline arboricultural method statement (Appendix D).

4.6 COMPENSATION PLANTING

4.6.1. It will be necessary to remove two moderate quality groups and one very low-quality tree to facilitate the construction of the Proposed Development. However, it should be noted that the Proposed Development includes the provision of soft landscaping areas, which may provide tree planting opportunities to compensate tree loss associated with its implementation.

4.7 ARBORICULTURAL METHOD STATEMENT

4.7.1. An outline AMS is included in Appendix D. The AMS adopts a precautionary approach to tree protection and addresses activities which have the potential to cause damage to retained trees.

4.7.2. The AMS addresses, in principle, the following matters which are of relevance to the Proposed Development:

- arboricultural site supervision;
- tree works;
- tree protection fencing; and,
- additional precautions outside the CEZ.

4.7.3. It is recommended that this AMS be viewed as a ‘living document’. It should therefore be reviewed, and if necessary, updated at the following stages of design and construction:

- Detailed design and discharge of conditions or reserved matters;
- Contractor engagement;
- Pre-commencement; and,
- Prior to any instance where the site clearance or construction methodology is amended.

4.7.4. It is anticipated that a pre-commencement site meeting would be required with the Local Planning Authority Tree Officer to confirm tree protection measures.

5 SUMMARY AND CONCLUSIONS

5.1.1. An arboricultural walkover survey of the study area was undertaken on 6 December 2024. The arboricultural survey was undertaken in accordance with BS 5837 and arboricultural features were plotted using topographical survey information and aerial imagery.

5.1.2. The desk study was originally undertaken on 11 December 2024, and later reviewed on 29 July 2025 and found no record of TPOs, conservation areas, ancient woodland, or individual ancient and veteran trees within the Study Area.

5.1.3. A total of 19 arboricultural features were surveyed, consisting of eight individual trees and 11 tree groups. Nine of these features were assessed as moderate quality, seven as low quality, and three as very low quality.

5.1.4. The Proposed Development would result in the removal of two moderate quality groups (G6 and G7) and one very low-quality tree (T8). The extent of potential tree loss is indicated on the Tree Removal and Protection Plan of Appendix C.

5.1.5. All other arboricultural features can be retained and protected through demolition and construction. Principles for tree protection are set out in an outline AMS at Appendix D which includes the need for arboricultural supervision and tree protection fencing.

Appendix A

METHODOLOGY

SURVEY METHODOLOGY

METHOD OF BASELINE DATA COLLECTION

Baseline data collection has been undertaken with reference to BS 5837 and has been undertaken using the following data sources:

- An arboricultural desk study, and;
- An arboricultural survey of all arboricultural features within the study area.

DESK STUDY

The desk study for the Proposed Development was originally undertaken on 11 December 2024, and later reviewed on 29 July 2025.

The desk study reviewed existing arboricultural information available in the public domain. The desk-study has considered the following sources:

TPOs

Hillingdon Council is responsible for implementing any legal controls imposed through TPOs within the study area. The location of TPOs is information publicly accessible on their website[3] which was accessed on 29 July 2025.

Conservation Areas

Hillingdon Council is responsible for implementing any legal controls imposed through conservation areas within the study area. The location of conservation areas is information publicly accessible on their website[4] which was accessed on 29 July 2025.

Ancient woodland

The potential presence of ancient woodland within the study area was checked using the web based Multi-Agency Geographic Information for the Countryside (MAGIC) map database which was accessed on 29 July 2025 [5].

[3] Hillingdon Council, *Carrying out work on protected trees* [online] Available at: < https://www.hillingdon.gov.uk/protected-trees > [Accessed 29 July 2025]

[4] Hillingdon Council, *Conservation and heritage assets* [online] Available at: < https://www.hillingdon.gov.uk/conservation-areas > [Accessed 29 July 2025]

[5] Magic (DEFRA), *Multi Agency Geographic Information for the Countryside* [online] Available at: < https://magic.defra.gov.uk/MagicMap.aspx> [Accessed 29 July 2025]

Ancient and Veteran Trees

The potential presence of ancient and veteran trees within the study area was checked using the Woodland Trust's Ancient Tree Inventory[6] which was accessed 29 July 2025.

ARBORICULTURAL SURVEY

An arboricultural survey was undertaken on 6 December 2024 with aerial imagery and topographical survey used as base mapping.

The arboricultural survey was undertaken in accordance with the following criteria:

- Arboricultural features have been recorded as tree groups or linear areas where this has been deemed appropriate. Tree groups have been recorded on the basis that they form distinct arboricultural features either aerodynamically, visually or because they contain trees of similar cultural and biodiversity value.
- The trees have been visually inspected from ground level only;
- No tissue samples were taken nor was any internal investigation of the subject trees undertaken;
- Tree heights and crown spreads have been estimated to the nearest 1m;
- Notes have been recorded where they relate to the quality of the arboricultural feature;
- Management recommendations have been provided where work is necessary for the abatement of a hazard which presents a high level of risk to persons or property. Such management recommendations have been communicated to the tree owner/manager separately from this report;
- Stem diameters have been measured in accordance with Annex C of BS 5837;
- Diameters of single stem trees on level ground have been measured at 1.5m above ground level. The diameters of other commonly encountered stems have been measured as per the guidance. The combined stem diameters for multi-stemmed trees have been calculated in accordance with BS 5837 paragraph 4.6.1.
- By default, Root Protection Areas (RPAs) are calculated as an area equivalent to a circle with a radius 12 times the stem diameter and are capped at a distance of 15 metres.

QUALITY ASSESSMENT

The quality of arboricultural features has been determined in accordance with BS 5837 Table 1 a copy of which is provided in Figure A-1**.** The purpose of the quality assessment is to enable informed decisions to be made regarding the removal and retention of arboricultural features in the context of development. For an arboricultural feature to be included within a particular quality category it should accord with the description provided.

The quality of each arboricultural feature is defined based on its sub-category. Sub-categories carry equal weight, do not influence retention priority and are simply included to indicate the primary value

[6] Ancient Tree Inventory, 2024. *Ancient Tree Inventory* [online] Available at: < https://ati.woodlandtrust.org.uk> [Accessed 29 July 2025]

associated with each surveyed item. Sub-categories 1, 2 and 3 are intended to reflect arboricultural, landscape and cultural values, respectively.

The quality and sub-category assigned to each arboricultural feature are identified within the Arboricultural Survey Schedule included in Appendix B of this report.

Figure A-1 - BS 5837 Table 1 - Cascade Chart for Tree Quality Assessment

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 *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			See Table 2
	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)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	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	Trees with material conservation or other cultural value	See Table 2
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 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

NOTES AND LIMITATIONS

Arboricultural survey data is of a preliminary nature and has been collected based on a field-based survey.

Only defects visible from the ground have been noted and each individual feature may not have been inspected closely due to access difficulties, the presence of dense ivy, other vegetation or safety constraints. Safety related features have not been recorded on the basis that the arboricultural features will be subject to a normal programme of tree hazard assessment and only those features which materially affect the quality of the feature or pose a real and immediate safety concern have been recorded.

Arboricultural survey data is typically valid for a period of two years unless otherwise stated. Significant environmental events (such as extreme weather conditions) or changes to the site may render it invalid within a shorter timescale.

Records held on the Ancient Tree Inventory are collected on a voluntary basis, therefore the absence of records does not demonstrate the absence of ancient or veteran trees but may simply indicate a gap in recording coverage.

Whilst arboricultural surveys are not seasonally limited it is the case that certain pests and diseases may be more or less evident at different times of the year. This is especially true of certain wood decaying fungi such as the Giant Polypore (*Meripilus giganteus*) where fruiting bodies are short-lived, and the early stages of root decay may not result in other identifiable symptoms. Field-based survey data is therefore based upon observations made at the time of the site visit and may be subject to change should further or more detailed inspections be undertaken.

The survey has only been undertaken from land within the client's ownership, from public land or from areas where formal access has been arranged.

The position of arboricultural features not recorded on a topographical survey has been estimated using aerial photography. The position and extent of these features should be regarded as approximate only.

Appendix B

ARBORICULTURAL SURVEY SCHEDULE

Ref.	Species	Height (m)	Stem Dia. (mm)	Crown Spread N - E - S - W	LCH (m)	Life Stage	Physiological Condition	Structural Condition	Tree Condition Notes & Observations	RPA Rad. (m)	Estimated Remaining Contribution	BS5837 Category
T1	Sycamore	9	250	4 - 4 - 4 - 4	3	SM	F	F	Growing next to telegraph pole	3.0	40+	C2
T2	Elder	6	390	5 - 3 - 3 - 3	3	M	F	F	Close to boundary fence	4.6	20+	C2
T3	Sycamore	11	380	4 - 4 - 4 - 4	4	EM	F	F	Third party tree	4.6	40+	B2
T4	Pine species	8	790	7 - 7 - 9 - 6	2	M	F	F	Third party tree with past mechanical damage to lower limbs	9.4	20+	B2
T5	Sycamore	13	400	6 - 6 - 5 - 6	4	EM	F	F	Third party tree	4.8	40+	B2
T6	Apple	5	180	4 - 4 - 4 - 4	2	EM	F	F	Ivy clad and growing between fences	2.2	20+	C2
T7	Sycamore	12	550	4 - 4 - 4 - 4	2	EM	D	P	Standing dead tree with habitat value only	6.6	<10	U3
T8	Sycamore	6	280	3 - 3 - 3 - 3	3	SM	P	F	Deadwood less than 75mm in top of canopy, poor shoot elongation and chain link fence within lower stems	3.3	<10	U2
G1	Sycamore	9	140	3 - 3 - 3 - 3	1	Y	F	F	Stems located between fence lines	1.7	40+	C2
G2	Lawson cypress, Common hawthorn, Portuguese laurel	5	230	3 - 3 - 3 - 3	0	EM	F	F	Third party vegetation with prolific ivy	2.8	20+	C2
G3	Common lime	15	620	7 - 7 - 7 - 7	3	M	F	F	Line of third party trees approximately 4m from boundary fence	7.4	40+	B2
G4	Sycamore, Common hawthorn, Wych elm	7	110	3 - 3 - 3 - 3	1	Y	F	F	Self set sapling trees	1.3	40+	C2
G5	Sycamore, Common hawthorn, Common ash, Apple, Hybrid poplar, Wild cherry	11	310	4 - 4 - 4 - 4	1	SM	F	F	Stems mainly located outside of fencing with prolific ivy on the larger trees	3.7	40+	C2
G6	Sycamore	14	350	6 - 6 - 6 - 6	1	EM	F	F	Limited access to assess with prolific ivy on 50% of stems	4.2	40+	B2
G7	Norway maple, Sycamore, Cotoneaster species	16	300	6 - 6 - 6 - 6	1	EM	F	F	Limited access to assess with prolific ivy on 50% of stems	3.6	40+	B2

Ref.	Species	Height (m)	Stem Dia. (mm)	Crown Spread N - E - S - W	LCH (m)	Life Stage	Physiological Condition	Structural Condition	Tree Condition Notes & Observations	RPA Rad. (m)	Estimated Remaining Contribution	BS5837 Category
G8	Sycamore	19	650	10 - 10 - 10 - 10	3	M	F	F	Stems located between fence lines with deadwood less than 75mm diameter	7.8	40+	B2
G9	Sycamore, Common ash, Pedunculate oak	19	850	10 - 10 - 10 - 10	3	M	F	F	Stems located between fence lines with deadwood less than 75mm diameter in ash tree and evidence of past crown lifting over car park.	10.2	40+	B2
G10	Sycamore	18	480	6 - 6 - 6 - 6	3	EM	F	F	Stems located between fence lines with prolific ivy on some trees to upper stem	5.8	40+	B2
G11	Sycamore	6	190	4 - 4 - 4 - 4	2	SM	D	P	Standing dead trees with habitat value only	2.3	<10	U3

SURVEY SCHEDULE EXPLANATORY NOTES

REFERENCE ABBREVIATIONS

- T – Tree
- G – Group

MEASUREMENTS

Height is estimated to provide a relative indication of tree size.

Stem Diameter are in accordance with BS 5837 paragraph 4.6.1, Annex C. Stem diameter for the group is the largest size within the tree group. Abbreviations used:

- e – Estimated

Crown spread for individual trees and groups was estimated in the four cardinal points.

LCH – lowest canopy height. It is an estimate of the lowest point of foliage above ground level of the tree indicating the clearance below the tree.

LBH – lowest branch height. It is the height above ground level of the first branch union with the main stem of the tree.

ASSESSMENTS

Life stage: Y – Young, SM – Semi-mature, EM – Early Mature, M – Mature, V – Veteran

Physiological condition: G – Good, F – Fair, P – Poor, D – Dead

Structural condition: G – Good, F – Fair, P – Poor

ERC - Estimated remaining contribution: <10 years, 10+ years, 20+ years or 40+ years.

BS 5837 Category: A, B, C or U with sub-category recorded as 1, 2 or 3.

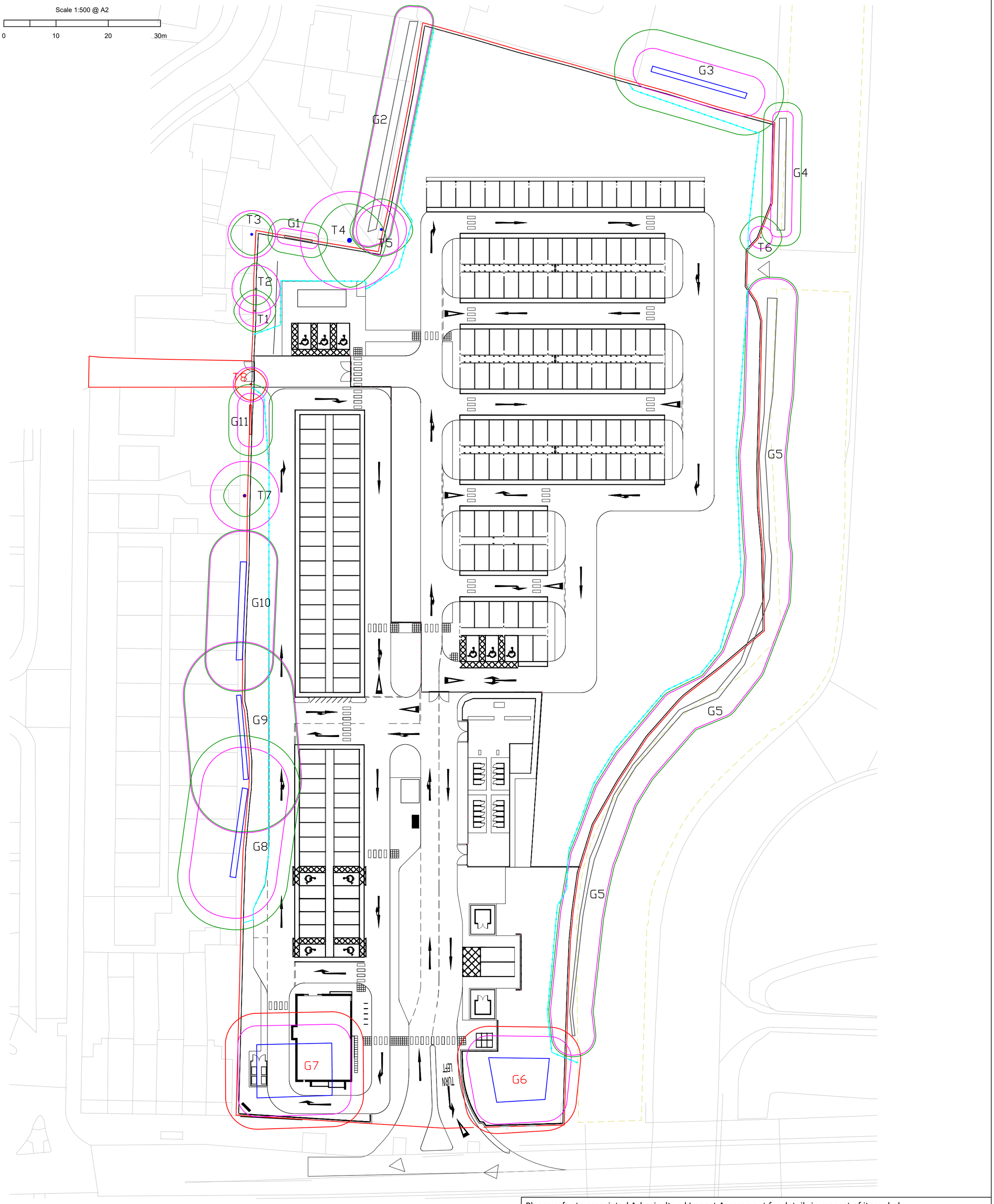
RPA Radius is the radius of a circular Root Protection Area associated with the tree as measured from the centre of the stem. For arboricultural features, where more than one stem diameter is recorded the RPA radius is calculated using the largest dimension. Unless otherwise noted the RPA for groups is based on the equivalent RPA for the largest tree in that group.

Appendix C

TREE REMOVAL AND PROTECTION PLAN

Scale 1:500 @ A2

0 10 20 30m



Important:

- The original version of this plan was produced in colour, which is essential to the plans interpretation and usability. as such, a monochrome copy should not be relied upon.
- All dimensions to be verified on site.
- Do not scale this drawing.
- All discrepancies to be clarified with project arboriculturalist.
- This drawing is the property of WSP and is issued on the condition it is not reproduced, retained, or disclosed to any unauthorised person, either wholly or in part without written consent of WSP. WSP accepts no liability for third party use or the use of this drawing for the purposes beyond the agreed scope as a BD5837 arboricultural assessment.

Please refer to associated Arboricultural Impact Assessment for details in respect of items below:

LEGEND:

- Proposed Red Line Boundary
- Indicative Root Protection Area (RPA)
- Indicative Tree Canopy
- Indicative Tree Removal
- Indicative Protective Fencing
- T - Single Tree
- G - Tree Group

BS:5837(2012) Tree Category

B Tree Stem	B Group Stems
C Tree Stem	C Group Stems
U Tree Stem	U Group Stems

Note: The full extents of groups G4, G5, G6 and G7 were not included on the topographical survey plan and were subsequently plotted by the arboricultural surveyor at the time of the survey using GPS and aerial imagery. As such the locations of these features cannot therefore be considered to be wholly accurate.

REV	DATE	BY	DESCRIPTION	CHK	APP
2.0	29/08/2025	RG	GA AMENDMENTS	MW	MW
1.0	09/01/2025	RG	FIRST ISSUE	MW	MW

CLIENT: LPH UK 1 Ltd ('Lysara')

PROJECT: Heathrow Flightpath Car Park

TITLE: Tree Removal and Protection Plan

PROJECT No:	SCALE @ A2:	DATE:
2024UK337123	1:500	29-08-2025

DRAWING No: 2024UK337123-ARB-TRPP-2.0 REV: 2.0

Appendix D

OUTLINE ARBORICULTURAL METHOD STATEMENT

OUTLINE ARBORICULTURAL METHOD STATEMENT

INTRODUCTION

This, heads of terms, outline AMS describes arboricultural protection measures to protect retained trees as part of the Proposed Development. An AMS is a dynamic document that shall be reviewed prior to the issuing of any tender documentation. It shall be revised to accommodate any design amendments or known construction methodologies and must be read in conjunction with the Tree Removals and Protection Plan included within Appendix C of this report.

ARBORICULTURAL SITE SUPERVISION

Effective tree protection can only be achieved by adherence to a logical sequence of works combined with effective arboricultural supervision. The purpose of arboricultural monitoring is to ensure that all tree protection measures are fit for purpose, are implemented in accordance with any approved details and as a means of enabling any previously unforeseen arboricultural issues to be promptly identified and suitably addressed.

An Arboricultural Clerk of Works (ACoW) shall be appointed to oversee the tree protection during the demolition and construction phase.

The role of the ACoW is to:

- Advise the client and principal contractor on tree protection issues;
- Attend site as required to advise on variations;
- Supervise works undertaken within construction exclusion zones (CEZ);
- Inspect and report on the status of tree protection measures in place during the construction phase; and,
- Inform the client and principal contractor of any pruning works that may be needed to facilitate the works.

The ACoW shall attend site:

- Prior to commencement of works to ensure tree protection fencing is in place; and
- Periodically during the construction phase.

TREE WORKS

A schedule of identified tree works should be provided in a works schedule as shown below should tree works be identified, by an ACoW, to accommodate the Proposed Development:

Table D-1 - Example schedule of identified tree work.

Tree Reference	Tree Work
G6	Remove group to facilitate development as proposed.
G7	Remove group to facilitate development as proposed.
T8	Remove tree to facilitate development as proposed.

- All tree works shall adhere to British Standard BS 3998:2010 *Tree work – Recommendations;*
- All operations shall be carefully carried out to avoid damage to the trees being retained; and

- No trees to be retained shall be used for anchorage or winching purposes.

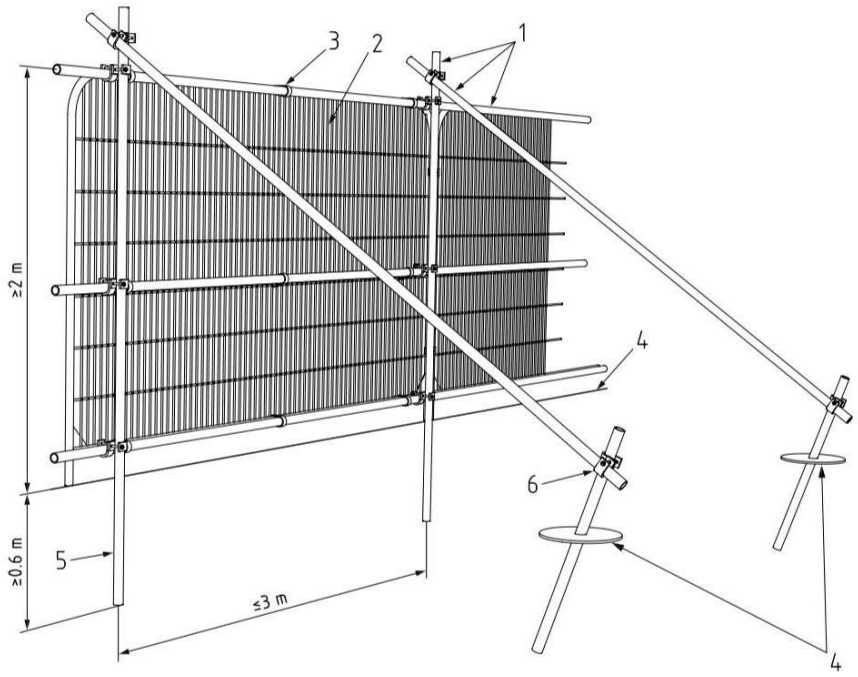
Should the requirement for a tree felling or pruning arise which is additional to that identified above then the following process shall be applied:

- Any specification shall be technically approved by the ACoW; and
- Written approval shall be obtained from the Local Planning Authority prior to implementation of the work.

TREE PROTECTION FENCING

Tree protection fencing shall be fit for the purpose of excluding construction activity and appropriate for the degree and proximity of work taking place. An example of the type of tree protection fencing which may be required is included in Figure AMS-1.

Figure AMS-1 - Example of appropriate tree protection fencing



Key:

1. Standard scaffold poles
2. Heavy gauge 2m tall galvanised tube and welded mesh infill panels
3. Panels secured to uprights and cross-members with wire ties
4. Ground level
5. Uprights driven into the ground until secure (minimum depth 0.6m)
6. Standard scaffold clamps

Tree protection fencing would be used to prevent access to the root protection areas (RPAs) of retained trees and this will form the CEZ. In all instances the following shall be adhered to:

- Tree protection fencing shall be erected prior to any works onsite including site clearance, groundwork or the importation of plant and materials;
- Tree protection fencing shall be erected in accordance with the layout shown on the Tree Removals and Protection Plan at Appendix C;

- All weather notices should be attached (at eye level) to the tree protection fencing at suitable intervals and shall include suitably sized informative text stating “Tree Protection Fencing, Construction Exclusion Zone – No Access”;
- Once erected tree protection fencing shall remain in-situ until construction activities are complete;
- No construction activities, storage of materials or pedestrian or vehicular access shall take place within the CEZ; and
- Regular daily checks should be carried out by an appointed person to ensure that all tree protection fencing is still in place and functioning; any damage should be rectified without delay.

INSTALLATION OF NEW FENCING WITHIN ROOT PROTECTION AREAS

On-site walkover assessment is to be undertaken by the relevant contractor and ACoW prior to construction, to identify whether bespoke fencing is required to accommodate installation within RPAs and mitigate potential root damage.

Excavations within RPAs shall be undertaken under the direct supervision of the appointed ACoW.

Post holes shall be excavated manually using hand tools and lined with joined visqueen or similar impervious membrane, to prevent leaching of materials associated with installation of fence post footings.

Post holes to be re-positioned to avoid and retain large diameter (i.e. >25mm diameter) roots encountered during hand-digging of post holes.

REMOVAL OF EXISTING HARD SURFACING WITHIN ROOT PROTECTION AREAS

Existing hard surfacing within RPAs shall be carefully removed using hand-held tools or appropriate machinery, under the supervision of an ACoW, with arisings and debris deposited outside the root protection area.

Excavations closest to the tree(s) shall be carried out first, so that subsequent excavations are completed backwards over the area to avoid working over exposed ground.

Where possible, the existing sub-base will remain in situ, with new surfacing laid over the area.

If tree roots are uncovered, then they shall be treated in the following manner:

- Roots less than 25mm diameter shall be cleanly cut back to the edge of the excavation using a sharp saw or pair of secateurs.
- Roots greater than 25mm diameter shall only be severed following technical approval from an ACoW. If approval is given, then roots shall be cleanly cut back to the edge of the excavation using a sharp saw.
- Once excavation has reached the desired depth the final soil surface shall be inspected for the presence of roots which could become damaged during construction. The advice of the ACoW shall be sought regarding the most suitable means of protecting any roots which may have been identified.

NEW PERMANENT HARD SURFACING WITHIN ROOT PROTECTION AREAS

Purpose

To enable permanent hard surfacing to be installed without significant damage to retained trees. To prevent sudden changes to the rooting environment of retained trees thereby giving them time to adapt.

General requirements

The design of any new permanent hard surfacing should seek to comply with the following specification:

- Avoid the need for any excavation or lowering of soil levels other than the removal, using hand tools only, of any turf, surface vegetation or organic matter. Levels may be raised using a granular fill which will remain gas and water permeable for the duration of its design life.
- Avoid any localised compaction of the underlying soil by evenly distributing any anticipated loading over a suitably large area.
- Utilise a sub-base and wearing course that is permeable to air and water (this includes and separation membranes that may be required).
- Must not exceed 20% of any existing un-surfaced ground within the RPA.
- Should either avoid the need for the use of de-icing salt or, if undesirable, should include a system whereby contaminated run-off is directed outside of the RPA.
- Should be resistant to or tolerant of deformation by tree roots and should be set back from the stem and above ground buttressing of the tree by a minimum of 500mm to allow for growth and movement.
- Should be buildable without the need for machinery or plant to operate on areas of unprotected soil.

Timing

Permanent hard surfacing may be installed at any time during the development process provided that:

- Installation does not leave the root protection area at risk of damage (e.g. through the removal of protective fencing whilst other potentially damaging activities are taking place nearby).
- If it is to be used as temporary ground protection it is robust enough to withstand any anticipated loadings without deformation.

Specification

Design

- Hard surfacing should be designed by a structural engineer.
- Hard surfacing should utilise a sub-base formed from a three-dimensional cellular confinement system, an above ground slab supported by piles, pads or elevated beams or a permeable membrane/substrate capable of load bearing.
- Exploratory investigations to determine suitable locations for piles and pads should be undertaken as part of the design process.
- Hard surfacing should be designed to withstand deformation by tree roots and should be sufficient distance from the tree to account for future tree growth.

- Excavations associated with the installation of kerbs and edging should be avoided. Above ground products which can be pinned in place should be used in preference to those which require foundations and haunches. Examples include pegs and boards, sleepers and gabion baskets.

Construction

- Compaction of soil surrounding and beneath any new hard surfacing shall be prevented. This may be achieved through the use of temporary ground protection or by constructing the new surface with machinery working forward from the surface as it is constructed (i.e. “rolling out”).
- Vegetation control beneath the new surface may be achieved via the use of herbicide to be applied in accordance with manufacturer’s instructions or through the installation of a permeable weed inhibiting membrane.
- Loose organic matter may be removed using hand tools only.
- The soil surface should not be lowered to remove high spots. Soil levels may be raised using granular infill which will remain permeable to air and water for the duration of its design life.
- If uncured concrete is to be used, then an impermeable membrane will be required in order to prevent leachate from entering the surrounding soil.

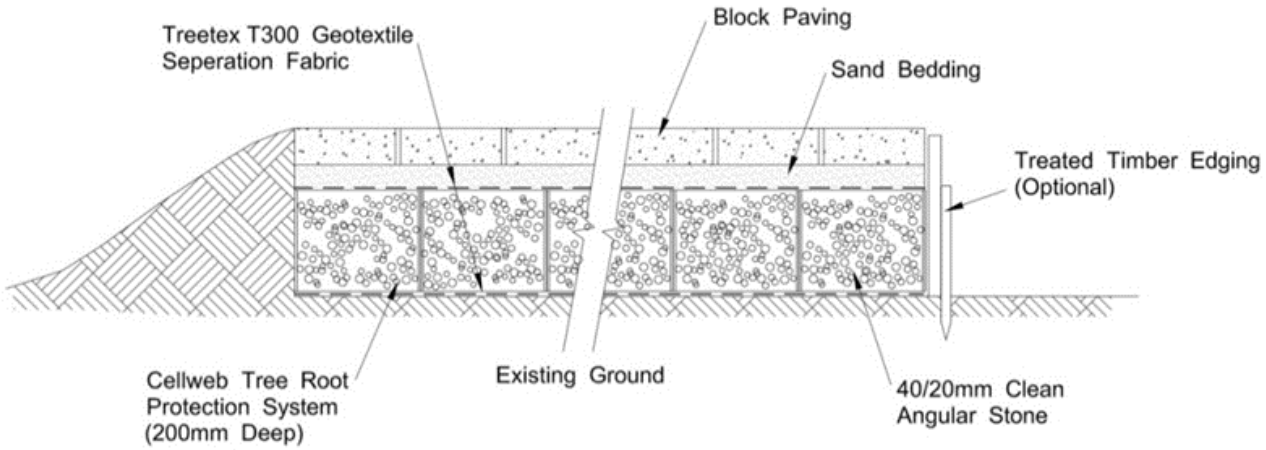


Figure A-1 - Illustrative cross-section of no dig hard surfacing utilising a cellular system

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ADDITIONAL PRECAUTIONS OUTSIDE THE CEZ

PURPOSE

To provide a precautionary approach to working near retained trees and limit the risk of accidental damage from direct contact with the tree or contamination of the rooting area.

PLANT MACHINERY AND OPERATIONS

Care should be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious damage to them and might make their safe retention impossible. Consequently, any transit or traverse of plant in close proximity to trees should be conducted under

the supervision of a banksman to ensure that adequate clearance from trees is maintained at all times.

In some circumstances it may be impossible to maintain adequate clearance thus necessitating access facilitation pruning in consultation with the project ACoW.

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

SITE HUTS, STORAGE OF MATERIALS AND SPOIL

Temporary site compounds, including mobile WCs and all their service connections, are to be positioned clear of the RPAs of retained trees.

The delivery, storage, mixing and discharge of concrete and all other cement-based materials shall be carried out so that there is no run-off and spillage near the RPAs of retained trees.

No substances that are potentially injurious to plant tissue (including diesel, bitumen, concrete, mortar and other phyto-toxic materials) shall be stored, discharged, prepared or used, where direct contact, infiltration or run-off might reasonably be considered liable to harmfully affect existing root growth or other parts of retained trees.

Emergency spillage kits should be available and easily accessed to minimise the impacts of any accidental spillages to the local environment.

All cement mixing, vehicle washing or any other activity where toxic chemicals are used shall have the provision to contain any accidental spillage.

No building materials shall be stored within RPAs of retained trees. Spoil from any site activity, including demolition and any materials from the project designated for re-use, shall either be removed from site; or, if kept on site, shall be stored or piled well clear of RPAs of retained trees.

Amber Court
William Armstrong Drive
Newcastle
NE4 7YQ

wsp.com