

HOGWOOD FARM, FINCHAMPSTEAD, WOKINGHAM – ACCESS ROAD PHASE 2

Tree Survey Report and Arboricultural Impact Assessment

JSL2891_779A
Tree Survey Report and
Arboricultural Impact
Assessment
...
11 November 2024

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

Quality Management

Version	Status	Authored by	Reviewed by	Approved by	Review date
-	Preliminary	BW	D. Cox	D. Cox	Jul 2024
A	Planning	DC	D. Cox	D. Cox	Nov 24

Approval for issue

David Cox

04 July 2024

File/Model Location

Document location: P:\2800 Series\JSL2891 - Hogwood\Access_Ph4_Report

Model / Appendices location: P:\2800 Series\JSL2891 - Hogwood\Access_Ph4_Report

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1 INTRODUCTION

- 1.1 This Tree Survey and Arboricultural Impact Assessment (AIA) has been prepared by RPS on behalf of CALA Homes (Thames) Ltd in respect of the formal approval of the access road off Sheerlands Road into the Phase 2 section of the development at Hogwood Garden Village, Finchampstead, Wokingham, RG40 4RF. The access road is currently an approved construction access point (Application Reference 210084_Outline Planning Consent O/2014/2179, as varied by 181194 dated 14/11/2018)
- 1.2 This report refers to only the Access Road connecting Sheerland Road part of the overall Hogwood Farm developmental scheme. This access is located within the western section of the overall development site. It has formed the construction access for works within this area and has been constructed to allow access for all types of construction and material delivery vehicles, including required junction visibility and management.
- 1.3 This section and impacts have been previously considered within a submitted Arboricultural Impact Assessment (Hogwood Farm, Finchampstead, Wokingham – Parcel 4 and 5 - Tree Survey Report and Arboricultural Impact Assessment Reference JSL2891_770 RevA May 2024). This document forms the basis for all the tree removals, protection and Arboricultural guidance.
- 1.4 This report has been prepared in broad accordance with the requirements set out in BS5837:2010 'Trees in relation to design, demolition and construction – Recommendations.'¹
- 1.5 The purpose of this report is to focus on and:
- Provide an assessment of the quality of the surveyed trees with reference to the categories and sub-categories listed within Table 1 - BS5837:2012.
 - Assess and quantify the arboricultural impact of the proposed development works within the survey area, based on the proposed road alignment layout.
 - Provide additional arboricultural information and advice in relation to the protection of trees throughout the development of the site. It also includes mitigation works proposed in relation to this area.
 - Provide a section of the Tree Protection and Removal Plan previously submitted within Hogwood Farm, Finchampstead, Wokingham – Parcel 4 and 5 - Tree Survey Report and Arboricultural Impact Assessment which details the proposed tree removals and protective measures to be taken in respect of the trees during development of the access.
- 1.6 The section of Tree Protection and Removal Plan (JSL2891_771) included in Appendix B includes the area of the works and identifies the following:
- Trees to be retained
 - Trees to be removed
 - Alignment and design of protective fence

¹ British Standards Institute. British Standard (BS5837) Trees in Relation to Design, Demolition and Construction - Recommendations. 2012.

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

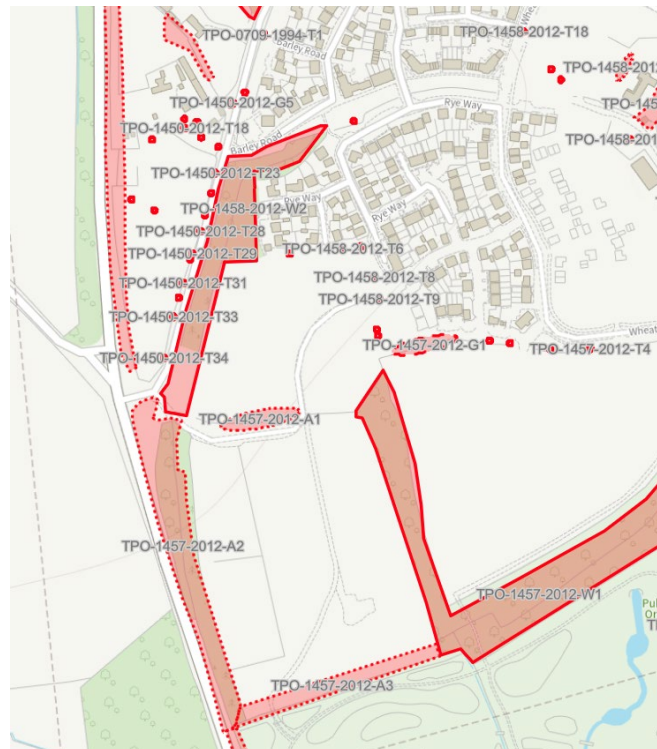
- Root Protection Area (RPA) of trees
- 1.7 The Tree Protection and Removal Plan shall be made available to all relevant site operatives prior to and throughout the construction process, so they understand the scope and importance of the tree protection measures.
 - 1.8 To minimise the potential for harm to occur to retained trees all works shall be carried out in accordance with the Tree Protection Measures and construction techniques detailed within this report and Hogwood Farm, Finchampstead, Wokingham – Parcel 4 and 5 - Tree Survey Report and Arboricultural Impact Assessment.
 - 1.9 In particular, the establishment of a Construction Exclusion Zone (CEZ) by erection of Tree Protection Fencing, will minimise the potential for harm to occur to retained trees.
 - 1.10 New tree planting has been considered as part of the mitigation works in this area; this will help to broaden the age diversity of the tree cover within the area. Where the removal of poor quality and inappropriate conifer trees is proposed a landscaping scheme has been submitted (Hogwood Farm Phase 2, Landscape Proposals Temporary Construction/Emergency Access JSL2891 132 Rev A May 2021) that will aim to complement the native woodland species. Especially adjacent to the area recognised as Ancient and Semi Natural Woodland.

2 SITE LOCATION

- 2.1 The section of trees surveyed covered a belt of trees and individual found around the current approved construction access road on the western edge of the Hogwood Development Site, Wokingham, RG40 4RF. The survey site is roughly centred on OS grid reference SU 76409 64289.
- 2.2 Wokingham is located within Berkshire in the south-east of England. The soilscape of the area in which the survey site is situated typically consists of 'slowly permeable, seasonally wet, slightly acid but base-rich loamy and clayey soils'².

Tree Preservation Orders\ Conservation Areas

- 2.3 A desktop investigation using the Wokingham Borough Council Interactive map³ confirmed that there are a number of TPOs on site, but that it does not fall within a conservation area, as shown below:

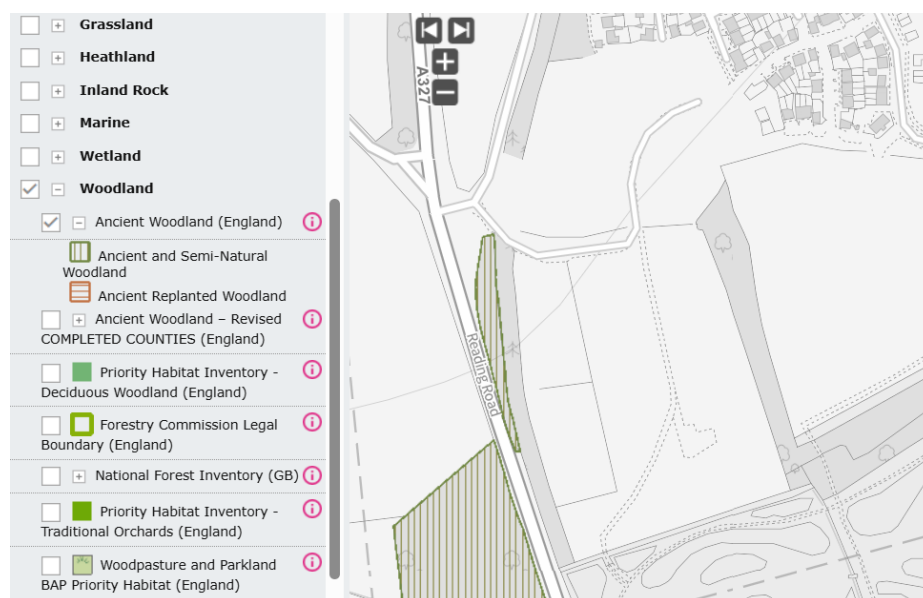


- 2.4 A desktop investigation using Magic Map Application² confirmed that one section of Ancient Woodland is located to the western edge of these parcels and is protected by TPO as above. This section is located to the south of the Access Road.

² <https://magic.defra.gov.uk/MagicMap.aspx>

³ <https://wokingham.maps.arcgis.com/apps/webappviewer/index.html?id=19b3599d951e42dfaf32aa09568f5fcd>

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT



Veteran Trees

- 2.5 The wider Hogwood tree survey identified five large oaks of great stature however, no Veteran trees were identified within this area of land.

Tree Preservation Orders

- 2.6 A desktop investigation into the planning constraints on this site using the Wokingham Borough Council web map confirmed that there are several Tree Preservation Orders (TPOs) within close proximity to the site, albeit outside of the redline boundary. These orders have been plotted on the tree survey plan with the respective TPO reference and date. There are two types of TPO in relation to The Site:
- 2.7 Individual order – None within this area
- 2.8 Area TPO – Wokingham Borough Council reference –
A2 TPO-1457-2012, RPS Tree Constraints Plan Reference – W10 plus all individual trees and tree groups noted within it G135, T853 - 852
- 2.9 Woodland TPO – Wokingham Borough Council reference –
W2 TPO-1458-2012, RPS Tree Constraints Plan Reference – W6 plus all individual trees and tree groups noted within it – G134, T849 – T855
- 2.10 'Individual' orders are applied to trees if they merit protection in their own right.
- 2.11 A 'Woodland' order protects trees which are planted or grow naturally within the woodland area after the TPO is made regardless of how old they are. The order will protect trees and saplings of any size in the specified area, including those planted or grown after the order was issued.
- 2.12 Trees covered by a Tree Preservation Order are protected under the Town and Country Planning Act 1990 (Trees Regulation 2012) and the local authority must be consulted and permission sought for any works that may affect them.

3 SURVEY METHODOLOGY

- 3.1 The report and survey were carried out in general accordance with the requirements set out in BS 5837:2012 "Trees in Relation to Design, Demolition and Construction – Recommendations".
- 3.2 The tree survey involved a visual inspection from the ground of individual specimens and groups of trees in order to record their amenity value, management recommendations and dimensions. Where observed, the general condition of all the trees has been noted. The survey does not constitute a full arboricultural condition assessment involving the detailed inspection of trees in relation to their structural condition, decay, and any other physical and pathogenic defects.
- 3.3 The locations of the trees were based upon topographic survey (22890-500-01) produced by Brunel Surveys Ltd in March 2021.
- 3.4 The survey assesses individual trees and groups of trees for quality and benefits within the context of proposed development. The quality of each tree or group of trees has been recorded by allocating it to one of four categories as described in table 1. These categories have been differentiated in Appendix A & B by colour.
- 3.5 The survey information was recorded on the attached schedule (Appendix C) in general accordance with the guidance contained within Section 4 of BS 5837:2012 "Trees in Relation to Design, Demolition and Construction - Recommendations". This schedule details trees that are likely to be influencing distant of any works in relation to the formation of the upgraded access.
- 3.6 See Table 1 for a breakdown of the information recorded during the survey.

Limitations

- 3.7 The findings of this survey are not valid following adverse or unpredictable weather conditions or for any failure due to 'force majeure' or unpredictable events.
- 3.8 Trees were not climbed or inspected below ground level and inaccessible trees will have best estimates made about the location, physical dimensions and characteristics. Where direct access to trees was difficult a '#' denotes this within the Tree Survey Schedule (Appendix C).
- 3.9 Trees and woody vegetation were not assessed for their potential impact upon future construction issues such as foundation designs (re: NHBC chapter 4.2)⁴. Whilst this report may assist in assessing likely future impacts, it should not be classed as a comprehensive vegetation survey in relation to impact upon future designs.
- 3.10 It is recommended that further arboricultural assessments be undertaken in order to assess the full health and safety of all trees which may possess structural or pathogenic conditions.

⁴ NHBC. 'Chapter 4.2- Building Near Trees'. NHBC Standards 2016. 2016.

4 APPRAISAL AND RECOMMENDATIONS

Generally

- 4.1 A total of 10 individual trees, 2 groups, 2 woodlands blocks were identified as being in relation to the access.
- 4.2 The majority of trees were located adjacent or part of the tree belts that formed the boundaries to Sheerlands Road.
- 4.3 T852, T855 and G135 are proposed for removal to facilitate the development access upgrade. G135 is a tree group was of low grade (category C) and should not pose a constraint to development. Only two trees were considered to be of high quality (T852 and T855).

Planning considerations

- 4.4 Trees can offer many benefits, including the provision of visual amenity, softening or complementing the effect of the built environment, adding maturity to new developments and by making places more comfortable in tangible ways e.g. contributing screening and shade, reducing wind speed and turbulence, intercepting snow and rainfall, and reducing glare.
- 4.5 New tree planting has been considered as part of the mitigation works in this area; this will help to broaden the age diversity of the tree cover within the area. Where the removal of poor quality and inappropriate conifer trees is proposed a landscaping scheme has been submitted (Hogwood Farm Phase 2, Landscape Proposals Temporary Construction/Emergency Access JSL2891 132 Rev A May 2021) that will aim to complement the native woodland species. Especially adjacent to the area recognised as Ancient and Semi Natural Woodland.
- 4.6 Under the UK planning system, local authorities have a statutory duty to consider the protection and planting of trees when granting planning permission for proposed development. The potential effect of development on trees, whether statutorily protected (e.g. by a tree preservation order or by their inclusion within a conservation area) or not, is a material consideration that is taken into account when dealing with planning applications.
- 4.7 Trees covered by a Tree Preservation Order are protected under the Town and Country Planning Act 1990 (Trees Regulation 2012). The local authority must be consulted, and permission sought for any works that may affect them.

Design and Access Layout Considerations

- 4.8 A tree constraints plan defines the Root Protection Area (RPA) for each tree shown as a circle. This area may be adjusted should physical constraints or topographical features limit root activity in a particular area, however the total area should remain the same. Prior to any adjustment of the trees RPA zones the changes should be assessed by an arboriculturist. During any site planning exercises the current and future growth potential of the trees should be considered.
- 4.9 The RPA for single stem trees broadly equates to a radius 12 times the stem diameter of the tree at 1.5m above ground level or the extent of canopy spread, whichever is the greater. For multi-stemmed, low branching trees or those with trunks with an irregular girth the point of stem diameter measurement is adjusted in consideration of these factors and in accordance with the illustrations in BS5837:2012 (Annex C).

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

- 4.10 The RPA should become an exclusion zone during construction works and for any development. It should be fenced-off and protected in accordance with BS5837:2012. The canopy is likewise susceptible to damage during construction work and requires similar protection.
- 4.11 No activities that result in excavations, changes in level or soil compaction should take place within the RPA of any retained trees, especially older mature trees. This would include the storage of materials, any construction work, trafficking by vehicles or even excessive trafficking by pedestrians.
- 4.12 If some form of construction must take place within the RPA, then certain measures need to be adopted to avoid disturbance or damage to the roots and to maintain moisture infiltration and gaseous diffusion into the soil.

Services

- 4.13 Services likewise should be routed outside the existing or potential root zone of trees. Where it is unavoidable, then certain measures should be employed to avoid damage to the tree's larger roots.
- 4.14 The location and siting of new facilities near trees should consider the potential impact on and conflict with both tree roots and canopy. This should consider the ultimate size of existing young and middle-aged trees at maturity. Conversely the impact of the tree on the activities should also be considered regarding obstruction, shading, leaf fall and root action. These are problems that can be managed provided sufficient space is allowed for.
- 4.15 Any new services should avoid the RPAs of any retained tree. Where it is unavoidable, then the route of the services must be designed by an Engineer in consultation with an Arboriculturist.
- 4.16 Further advice can be found in NJUG Volume 4- "Guidance for the planning, installation and maintenance of utility services in proximity of trees".⁵

Trees and Management of Health and Safety

- 4.17 It is recommended that a programme of periodic arboricultural assessments be undertaken in order to regularly assess the full health and safety of all trees both in full leaf and bare stemmed. The assessments should prioritize areas based on levels of access and presence of target (i.e. exposure of people to hazard) and accord with arboricultural advice, taking account of relevant factors (where known) that affect safety such as the age class, condition, size and species of the trees.

⁵ N.J.U.G. 4: Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees. 2007

5 ARBORICULTURAL IMPACT ASSESSMENT

Introduction

- 5.1 Trees have finite energy reserves, developed each year throughout the growing season, which are utilised for biological processes such as growth and defence against pests or diseases throughout the following year.
- 5.2 Any development in proximity to trees has the potential to cause harm to those trees unless control measures are identified and acted upon; as such it is essential to consider the relationship between the proposed development and the retained trees to identify what precautions are necessary, proportionate and appropriate.
- 5.3 Development has the potential to impact upon the above ground and below ground parts of trees. Whilst some damage that can occur, such as physical damage to the trees stems and branches from machinery movements, is clearly visible, the impact from other aspects of work common on development sites, which can have a significant effect upon the continued health of trees, are not always immediately evident.
- 5.4 Damage that is not immediately evident, but which can cause long term harm to retained trees, includes things such as damage to the soil structure by compaction causing root damage and levels changes altering the water table and affecting moisture availability.
- 5.5 To minimise the potential for harm to occur to retained trees all works must be carried out with regard to the Tree Protection measures detailed within this report.
- 5.6 In general, it can be seen that, by adopting appropriate methods of working, precautionary and protective measures, significant harm to retained trees can be avoided.
- 5.7 In particular the establishment of a Construction Exclusion Zone (CEZ) by erection of Tree Protection Fencing will minimise the potential for harm to occur to retained trees.
- 5.8 The retention and protection of significant trees and vegetation will assist in assimilating the proposed development works into the wider landscape and offer long term tree cover.
- 5.9 Furthermore, redevelopment of the site may offer an excellent opportunity to actively manage any retained vegetation and accordingly we recommend restorative tree works be undertaken as appropriate. This will further improve the amenity value and landscape setting of the site and increase the useful life of any retained trees.

Brief Description of Proposed Development

- 5.10 This document relates to the development of an vehicular access off Sheerlands Road into Phase 2 of the wider Hogwood Development, involving:
 - Upgrade of the existing construction vehicle access.
 - The installation of any required utility infrastructure.
 - Any additional drainage works associated with the access.

Proposed Tree Removal and Works

- 5.11 Appendix C shows the Schedule of Trees impacted by the removal and development works. The location of these trees is also highlighted on the Tree Protection and Removal Plan (Appendix B).
- 5.12 In order for this development to be realised the removal of 2 individual and 1 group is proposed, of which their categories are shown below - T852, T855, G135..

Category	Total number	% of Total Removals
A	2	66%
B	0	0%
C	1	33%
U	0	0%
GROUPS		
C	1	100%

- 5.13 The number of each individual tree species to be removed is as follows:

Species	Total number
Fagus sylvatica - Beech	1
Ilex aquifolium - Holly	1
Total	4

Group was:

G135 X Cupressocyparis leylandii – Leyland Cypress

Root Protection Areas

- 5.14 Following the erection of tree protective fencing, all of the proposed development will take place outside of the RPA of trees to be retained.

Ancient Woodland

- 5.15 An Ancient Woodland buffer is proposed and will provide the Construction Exclusion Zone required under current planning guidance.

Outline methodology within Root Protection Areas

- 5.16 All new (and existing re-routed) services shall be routed outside the existing or potential RPA of retained trees. Where it is unavoidable, then hand excavation shall be employed to avoid damage to the larger roots and the services slid through or below the root system. Ducting shall be used to carry cables. Reference shall be made to the recommendations included within Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (NJUG 4)⁶.
- 5.17 Details of Tree Protection Fencing and ground protection are detailed in section 7 of this document.

⁶ <http://streetworks.org.uk/wp-content/uploads/V4-Trees-Issue-2-16-11-2007.pdf>

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

- 5.18 The RPA should become an exclusion zone during construction works and for any development. It should be fenced-off and protected in accordance with BS5837:2012. The canopy is likewise susceptible to damage during construction work and requires similar protection.
- 5.19 No activities that result in excavations, changes in level or soil compaction should take place within the RPA of any retained trees, especially older mature trees. This would include the storage of materials, any construction work, trafficking by vehicles or even excessive trafficking by pedestrians.
- 5.20 Where works within the RPA are unavoidable works must be undertaken by hand and the soil levels should be carefully reduced by hand to avoid damage to the bark of larger roots directly beneath and adjacent to the excavation. Where these become exposed, they should be further protected from drying out. Where root pruning is unavoidable it should be made at a suitable place within the root system, avoiding damage to surrounding tissue in accordance with BS 3998:2010⁷. Final pruning cuts shall be made at right angles to the axis of the root and the final cut wound should be smooth and as small as possible, free from ragged torn ends.

⁷ British Standards Institute. British Standard (BS3998) Trees Work - Recommendations. 2010.

6 TREE WORKS

Standard of Work

- 6.1 All tree works shall be carried out in accordance with BS3998:2010 and latest arboricultural best practice.
- 6.2 All tree work shall be carried out by suitably qualified, competent and insured arboricultural contractors in accordance with Arboricultural Association Standard Conditions of Contract and Specifications for Tree Works (2008) Edition and BS 3998:2010 Tree Work.
- 6.3 All green and woody waste generated by the tree works shall be removed from site and disposed of in an environmentally sustainable manner.
- 6.4 When a branch is removed at its point of attachment, injury of the wood and bark of the parent stem or branch above the cut shall be avoided. If a branch collar is visible, the final cut shall be just outside it and care shall be taken to avoid tearing retained wood and bark when the cut is made. Preliminary cuts shall be made, if necessary, so as to remove weight, before a final cut is made. Care shall be taken to prevent falling branches from harming other parts of the tree (including its roots), its surroundings, people or property. Heavy branches shall be removed in sections and, where necessary, shall be lowered with ropes.
- 6.5 Prior to the commencement of any tree works an appropriate risk assessment shall be produced to describe the measures required to fulfil the statutory safety obligations. It shall aim to identify and prioritise the necessary control measures and precautions.
- 6.6 Following the works, it is recommended that the trees are monitored on a regular basis to ensure their ongoing vitality and health. These inspections shall be completed by a suitably qualified and experienced person.

Timing of Works

- 6.7 Any tree works required shall be completed prior to any construction and enabling works on the site.
- 6.8 All works shall be timed to have regard to the phenological cycles of protected species that are associated with trees; notably birds and bats.
- 6.9 Nesting birds are protected by law and any removal / tree works should not be carried out during the bird nesting season (March-August inclusive). Should any vegetation be outlined for removal during this period, then an ecological inspection would be required to check that no nesting birds are present. Should checks reveal nesting birds the vegetation must remain until September or until an ecologist has certified that the fledglings have left the nest. A visual inspection for bats shall also be carried on mature / ivy clad trees prior to commencing operations.

7 TREE PROTECTION MEASURES

Construction Exclusion Zone

- 7.1 The protective fence line defines the Construction Exclusion Zone (CEZ) and the fencing shall not be moved or taken down at any time. Within the Construction Exclusion Zone there must be no mechanical digging or scraping; no alteration to existing ground levels including soil stripping; no earthworks; and no handling or discharge of any chemical substance, concrete washings or of any fuels.
- 7.2 Furthermore, vehicular or pedestrian access and the storage of any materials is prohibited within the Construction Exclusion Zone.
- 7.3 Additionally, no materials that may contaminate the soil such as concrete mixings, diesel oil and vehicle washings shall be discharged within 10m of the stem of any tree and no fires shall be lit within 10m of the maximum extent of a trees crown.

Tree Protection Fencing

- 7.4 Unless otherwise agreed in writing with the Arboricultural Consultant and/or LPA Tree Officer, the fencing system to be utilised shall be in accordance with Appendix E and compliant with BS5837:2012.
- 7.5 The tree protection fence shall be erected as shown on the Tree Protection and Removal Plan (Appendix B) included with this report.
- 7.6 The fence line shown is the minimum required and the length of the fence shall be extended or adjusted on site as agreed with the Arboricultural Consultant to ensure satisfactory protection of all retained trees and RPAs.
- 7.7 Where proposed (permanent) construction site-hoarding provides the same level of protection to the retained trees and RPAs as the proposed tree protection fence, subject to agreement with the Arboricultural Consultant, the hoarding may serve as the tree protection fence. Notwithstanding, depending on the form and alignment of the construction site-hoarding it may be necessary to provide additional tree protection fence to ensure adequate protection of retained trees and RPAs as shown on the Tree Protection and Removal Plan.
- 7.8 Once the protective barrier is in place it must remain in situ throughout the course of the development until the completion of development, other than to facilitate agreed tree removal; see below.
- 7.9 Where necessary, tree protection fencing may be temporarily re-aligned in order to facilitate tree removal. Fencing is to be re-instated immediately following removal in a manner that encompasses the remaining trees and their respective RPAs.
- 7.10 During tree removal, no wheeled or tracked machinery is to enter the area previously encompassed by tree protective fencing as shown in the Tree Protection and Removal Plan.
- 7.11 Copies of the Tree Protection and Removal Plan shall be placed in the site office for reference by all site staff.

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- 7.12 Signs detailing the purpose of the protective barrier shall be attached to the barriers at 10m intervals. Such signs should be weatherproof and shall be substantially in the form of the specimen provided at Appendix F. Signs must be replaced as necessary should they be removed or become illegible.
- 7.13 Following erection of the protective barriers and prior to commencement of the development it is recommended that an inspection of the site, by either the Council's Tree Officer or the Arboricultural Consultant, is arranged to confirm fencing has been installed in accordance with the Tree Protection and Removal Plan and that any relevant arboreal conditions attached to the planning consent have been met.

Monitoring

- 7.14 Following erection of the protective fencing and prior to commencement of the construction Parcel, an inspection of the site by either the Council's Tree Officer or the Arboricultural Consultant should be arranged to confirm fencing has been installed in accordance with the Tree Protection and Removal Plan (Appendix B).
- 7.15 It is also recommended that further monitoring visits be carried out following commencement of the works on site, ideally on at least a monthly basis to ensure ongoing functionality of the CEZ and to check on tree condition.

Reporting

- 7.16 Should any arboricultural issues become apparent during the works the site manager should immediately contact the Arboricultural Consultant or the Council's Tree Officer for advice upon how to proceed.

8 CONCLUSION

- 8.1 A comprehensive tree survey has been completed on the site and its immediate surroundings. The survey was completed in accordance with BS5837:2012.
- 8.2 The proposed development of the area is the upgrading of an existing approved construction vehicular access off Sheerlands Road (Planning Reference 210084_Outline Planning Consent O/2014/2179, as varied by 181194 dated 14/11/2018) associated with the building of residential housing and its associated infrastructure at the Hogwood Development, Wokingham.
- 8.3 A desktop investigation using the Wokingham Borough Council Interactive map confirmed that there are a number of TPOs fall inside of the red line boundary of the access, but that the site does not fall within a conservation area.
- 8.4 There no Veteran Trees within the surveyed area.
- 8.5 Ancient woodland was identified to the south of the Access.
- 8.6 In order for this development to be realised the removal of 2 individual and 1 group is proposed, of which their categories are shown below - T852, T855 and G135.
- 8.7 New tree planting has been considered as part of the mitigation works in this area; this will help to broaden the age diversity of the tree cover within the area. Where the removal of poor quality and inappropriate conifer trees is proposed a landscaping scheme has been submitted (Hogwood Farm Phase 2, Landscape Proposals Temporary Construction/Emergency Access JSL2891 132 Rev A May 2021) that will aim to complement the native woodland species. Especially adjacent to the area recognised as Ancient and Semi Natural Woodland.
- 8.8 Following the erection of tree protective fencing, the majority of the proposed works will take place outside of the RPA of trees to be retained.
- 8.9 If any arboricultural issues relating from works being carried out occurs, then they should be reported to the Arboricultural Consultant or Tree Officer immediately.

APPENDICES

Table 1. Tree characteristics recorded during survey

Tree Ref No:	Sequential reference number of trees or groups of trees. Avenues, woodlands and hedgerows were also recorded on the tree constraints plan. # - denotes inaccessible trees (best estimates are made about the location, physical dimensions and characteristics.)				
Species	Species listed by common name, with scientific names (<i>italic lettering</i>).				
Height (m)	Estimated height of canopy to nearest metre.				
Branch Spread	branch spread, taken as a minimum at the four cardinal points, to derive an accurate representation of the crown				
Stem diameter @ 1.5 m (m)	Estimated diameter of trunk at 1.5 m above ground level in metres unless otherwise indicated, multi-stemmed trees being measured in accordance with Annex C: BS5837				
Existing height above ground level	To inform on ground clearance, crown/stem ratio and shading the estimated height of the first significant branch and direction of growth and canopy above ground level.				
Stem No.	Number of stems (if necessary) of individual tree.				
Life Stage	Expressed as:-	Y SM EM M	(Young) (Semi-mature) (Early-mature) (Mature)	OM V D	(Over-mature) (Veteran) (Dead)
Physical Condition	Apparent condition expressed as the following categories, based upon a brief visual inspection from the ground only:-				Good Fair Poor Dead
Comments / Management Recommendations	General observations, particularly of structural and/or physiological condition (e.g. the presence of any decay and physical defect), and/or preliminary management recommendations and potential for wildlife habitats (not exhaustive).				
Estimated remaining contribution (years)	Estimated remaining contribution, in years (<10, 10+,20+,40+)				
Tree Quality Assessment Value: <u>Category</u>	Criteria grading with regards to Table 1: BS 5837:2012, expressed as:-	A (Trees/Vegetation of high quality and value) B (Vegetation of moderate quality and value) C (Trees/Vegetation of low quality and value) 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)			
	* Category U trees can have existing or potential conservation value which might be desirable to preserve.				
Tree Quality Assessment Value: <u>Sub - Category</u>	Criteria grading with regards to Table 1: BS 5837:2012, expressed as:-	1 (Trees with mainly <i>arboricultural</i> value) 2 (Trees with mainly <i>landscape</i> value) 3 (Trees with mainly <i>cultural / conservation</i> value)			

Appendix A

Tree Constraints Plan (Figure 708C)



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Notes

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2. If received electronically it is the recipient's responsibility to print to correct scale. Only written dimensions should be used.

3. Where applicable Ordnance Survey (c) Crown Copyright 2019
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KEY PLAN (NTS)

Key

- Survey boundary.
- Tree with numbered reference. Canopy spread and BS5837:2012 tree quality category as shown below.
- Tree (location estimated) with numbered reference. Canopy spread and BS5837:2012 tree quality category.
- Tree off-site with numbered reference. Canopy spread and BS5837:2012 tree quality category.
- Vegetation group with numbered reference. Canopy extends and BS5837:2012 tree quality category as shown below.
- Hedge with numbered reference. Width and BS5837:2012 tree quality category as shown below.

BS 5837:2012 Tree Quality Categories - Table 1

- Category A - High quality
- Category B - Moderate quality
- Category C - Low quality
- Category U - Unsuitable for retention

- Tree protected by Tree Preservation Order issued by Wokingham District Council number reference relates to the various TPO Schedules.
- Root protection area (RPA) Calculated in accordance with Section 4.6 - BS5837:2012
- Ancient Woodland (© Natural England Copyright 2018)
- 15m Offset from Ancient Woodland (line taken from Natural England GIS Database)
- 15m Offset from suggested Aged Woodland
- Veteran Tree
- 5m offset from hedgerow edge (measured from edge of canopy)

NOTES:

- Refer to RPS Tree Survey Report & Schedule for further details.
- Survey based on a visual inspection from the ground and is not intended as a full arboricultural inspection.
- Plan produced in accordance with recommendations set out in BS 5837:2012 - 'Trees in Relation to design, demolition and construction'.
- Due to the legal protection afforded to breeding birds vegetation removal should not take place during the bird nesting period, generally, although not restricted to, March - August inclusive.
- Survey based upon topographic survey produced by in 2017

C	Tree survey updated	11/03/24	DC	DC
B	Added trees	16/04/21	AB	DC
A	First Issue	22/12/17	SH	DC
Rev	Description	Date	Initial	Checked

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Project **Hogwood Farm Finchampstead**

Title **Tree Survey**

Status **Planning** Drawn By **SH** PM/Checked by **DC**

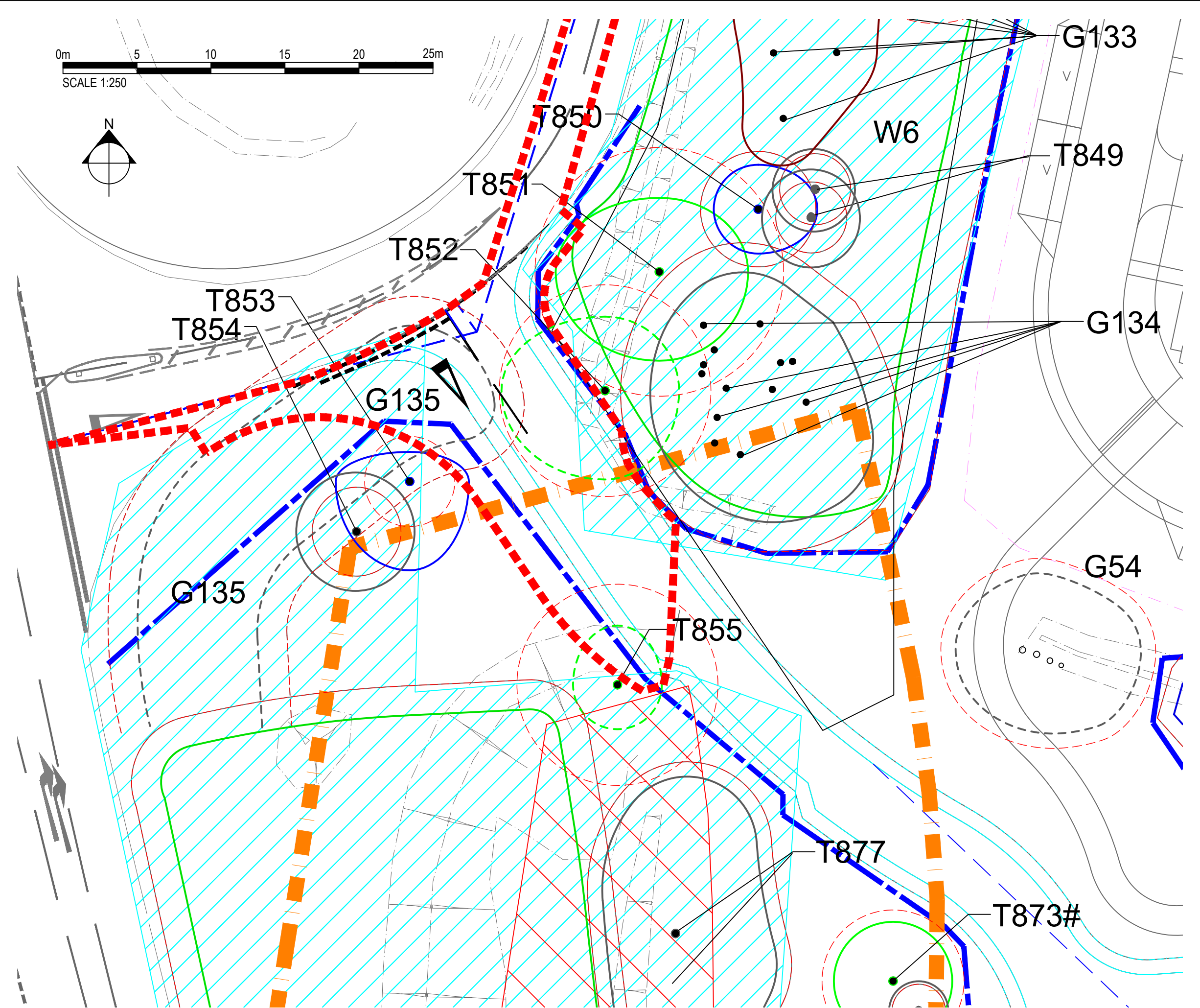
Job Ref **JSL2891** Scale @ A1 **1:500** Date Created **Dec 2017**

Drawing Number **708** Rev **C**

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Appendix B

Tree Protection and Removal Plan (Section of JSL2891_771)



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Notes

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Key

Survey boundary.

Tree with numbered reference. Canopy spread and BS5837:2012 tree quality category as shown below.

Tree (location estimated) with numbered reference. Canopy spread and BS5837:2012 tree quality category.

Tree off-site with numbered reference. Canopy spread and BS5837:2012 tree quality category.

Vegetation group with numbered reference. Canopy spread and BS5837:2012 tree quality category as shown below.

Hedge with numbered reference. Width and BS5837:2012 tree quality category as shown below.

Tree outside of survey area (Shown for context only)

Tree protected by Tree Preservation Order No.xxx, xx xxxx. Bracketed number reference relates to the TPO Schedule.

Root protection area (RPA) Calculated in accordance with Section 4.6 - BS5837:2012

Tree to be removed with numbered reference. Canopy spread and BS5837:2012 tree quality category.

Vegetation group or hedge to be removed with numbered reference. Canopy spread and BS5837:2012 tree quality category.

Temporary protective fencing in accordance with Section 6.2 - BS5837:2012. See inset details for example barriers.

BS 5837:2012 Tree Quality Categories - Table 1

- Category A - High quality
- Category B - Moderate quality
- Category C - Low quality
- Category U - Unsuitable for retention

NOTES:

- Refer to RPS Tree Survey Report & Schedule for further details.
- Survey based on a visual inspection from the ground and is not intended as a full arboricultural inspection.
- Plan produced in accordance with recommendations set out in BS 5837:2012 - 'Trees in Relation to design, demolition and construction'.
- Due to the legal protection afforded to breeding birds vegetation removal should not take place during the bird nesting period; generally, although not restricted to, March - August inclusive.
- Survey based upon topographic survey produced by XXX in XXXX, 201X.
- Pedestrian/ vehicular emergency access routes to be maintained at all times.
- All protective fencing to be completed and approved by LPA / CA prior to commencement of any site works.
- All works to conform with requirements of:
BS 3998:2010 - Tree Works
BS 5837:2012 - Trees in relation to design, demolition and construction

A	Layout updated	DC	DC	11.24
Rev	Description	By	CB	Date

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Project **Hogwood Farm Finchampstead**

Title **TREE PROTECTION & REMOVAL PLAN - Section of 771**

Status	Drawn By	PM/Checked by
For Information	BW	DC

Job Ref	Scale @ A3	Date Created
JSL2891	1:250	July 2024

RPS Drawing / Figure Number	Rev
771A	A

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Appendix C

Tree Survey Schedule

Tree Survey Schedule

Site Hogwood / Finchampstead
Project schedule ref: JSL2891_754 Access
Drawing reference: JSL2891_708C
Survey date: Dec 2017 / Jan 2018 / Jun 2019/ April 2021/Jan 2022/ Aug2023 (P11,12&13) / Feb 2024 (P4/5 & Sports Hub)

Surveyor: Various
Status: For Information
Revision: C (issue date March 2024)



Ref. no.	Access	Species	Height (m)	Crown spread (m)				Stem dia. (mm)	Stem no. at 1.5m	Height of crown clearance (m)	Dir/ height	Age class	Structural condition	Physiological condition	General observations Management recommendations	Estimated remaining contribution (years)	Tree Quality Category (BS5837)
				N	E	S	W										
T849	2	Betula pendula	7.0	1.0	3.0	1.0	1.0	0.20	1.00	+3	E	Y	Good/Fair	Good	Immature Birch.	+ 20	C2
T850		Corylus avellana	5.0	3.0	4.0	3.0	3.0	ave 0.01	+10	1.00	E	M	Good	Good	Hazel coppice.	+ 30	B3
T851		Acer campestre	7.0	5.0	6.0	6.0	7.0	0.6 0.3 0.2	3.00	1.00	E	M	Good	Good	Fine, mature Maple. Some ivy. Contact wood.	+ 40	A2
T852		Fagus sylvatica	12.0	5.0	5.0	6.0	7.0	0.60	1.00	4.00	-	EM	Good	Good	Bifurcates at 2m, westerly bias.	+ 40	A2
T853		Quercus robur	10.0	2.0	4.0	6.0	5.0	0.25	1.00	2.00	S	EM	Good	Fair/Good	Lacking some vigour. Bias to south.	+ 30	B2
T854		Quercus robur	10.0	4.0	4.0	4.0	4.0	0.25	1.00	+4	-	Y	Fair	Fair	Suppressed, etiolated.	+ 20	C2
T855		Ilex aquifolium	9.0	4.0	3.0	3.0	3.0	0.4 0.4	2.00	2.00	S	M	Good	Good	Fine, aged Holly. Twin-stem from 0.5m.	+ 30	A1/2
T873	#	Douglas Fir Pseudotsuga menziesii	ave 20	ave 4	ave 4	ave 4	ave 4	ave 0.4	1.00	ave +5	-	EM	Good/Fair	Good/Fair	Series of individual Fir within linear copse. Even aged/scale, some with leader issues. Fine collection.	+ 40	A1/2
T876		Crataegus monogyna	4.0	2.0	2.0	2.0	2.0	ave 0.15	1.00	1.00	-	M	Fair	Good	Low, stubby thorn.	+ 20	C3
T877		Chamaecyparis lawsoniana (var) Lawson Cypress	8.0		see plan			est 0.2	var	0.00	-	EM	Good	Good	Ornamental conifer on edge of copse.	+ 20	C2
G54		x3 Cupressocyparis x leylandii Leyland Cypress	13.0		>4m			0.4	3	-	-	M	Fair	Fair	Three closely established trunks.	+ 15	C2
G135		Cupressocyparis x leylandii Leyland Cypress	+10		see plan			ave 0.5	1.00	1.00	-	M	Good	Good/Fair	Linear conifer group.	+ 20	C2

Note: This survey is based on a brief visual inspection from the ground.
It is not intended as a full arboricultural inspection.
- Indicates estimated tree. * - Indicates off site tree.

Tree Survey Schedule

Site Hogwood / Finchampstead
Project schedule ref: JSL2891_754
Drawing reference: JSL2891_701 to 718
Survey date: Dec 2017 / Jan 2018 / Jun 2019/ April 2021/Jan 2022/ Aug2023 (P11,12&13) / Feb 2024 (P4/5 & Sports Hub)

Surveyor: Various
Status: For Information
Revision: C (issue date March 2024)



Ref. no.	Species	Height (m)	Crown spread (m)				Stem dia. (mm)	Stem no. at 1.5m	Height of crown clearance (m)	Dir/ height	Age class	Structural condition	Physiological condition	General observations Management recommendations	Estimated remaining contribution (years)	Tree Quality Category (BS5837)
			N	E	S	W										
W6	Fraxinus excelsior, Populus sp., Quercus robur, Betula pendula, Corylus avellana, Crataegus monogyna, Acer campestre Common Ash, Poplar, Pedunculate Oak, Silver Birch, Common Hazel, Common Hawthorn, Field Maple	>19	as shown.				-	-	-	-	M	Fair	Poor	Upper canopy dominated by large Poplar. These are typically drawn but visible from some distance forming a significant green massing and backdrop to the site. Mid-story and field edge comprise Hazel and Hawthorn.	+ 25	A2/3
W10	Pseudotsuga; Douglas Firs - Norway spruce Larix decidua - European Larch Fraxinus excelsior - Common Ash Quercus robur - Pedunculate Oak	17.0	Ave 0.6				-	-	-	-	SM-M	Fair	Good	Mixed linear copse, with distinct east/west variance. West, more aged mixed and native, east planted including strong theme of Douglas Fir. Mixed understory. Douglas Fir providing consistent skyline feature.	40+	A2/3

Note: This survey is based on a brief visual inspection from the ground.
It is not intended as a full arboricultural inspection.
- Indicates estimated tree. * - Indicates off site tree.

Appendix E

Example Tree Protection Barriers (BS5837:2012 Fig 2 & 3)

Figure 2 Default specification for protective barrier

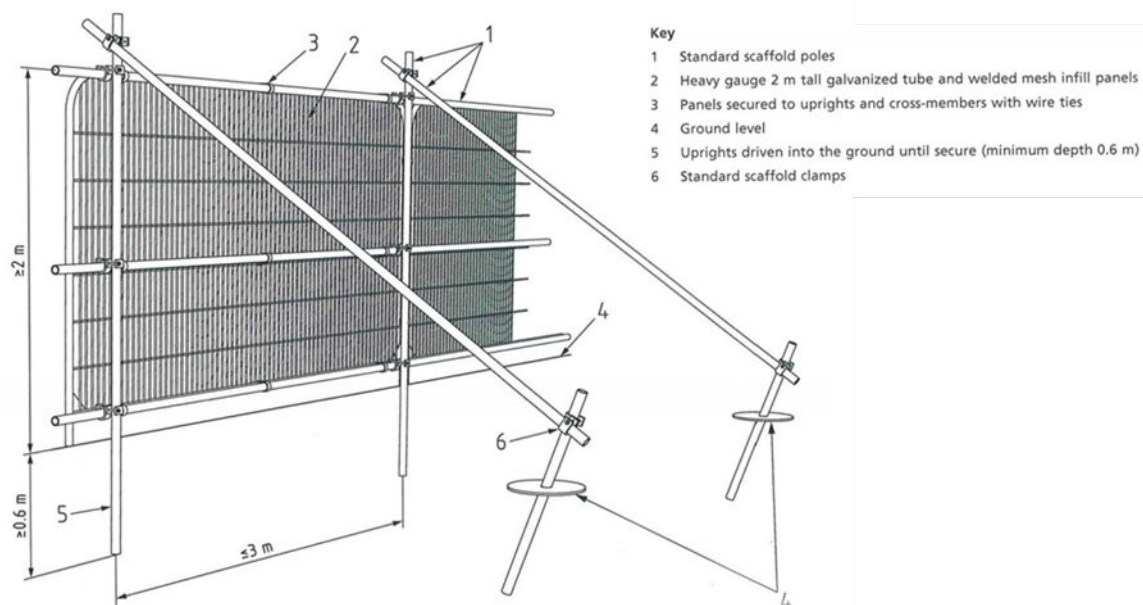
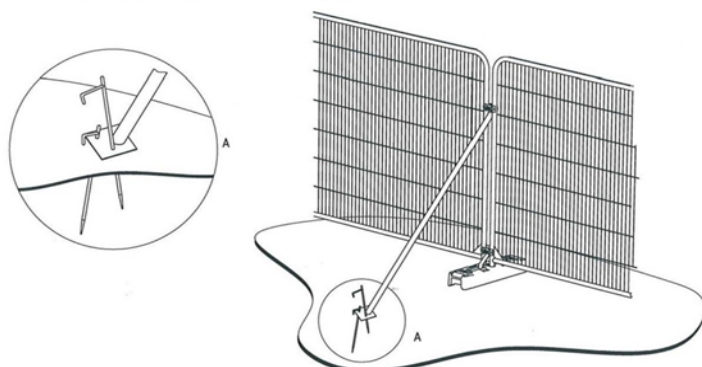
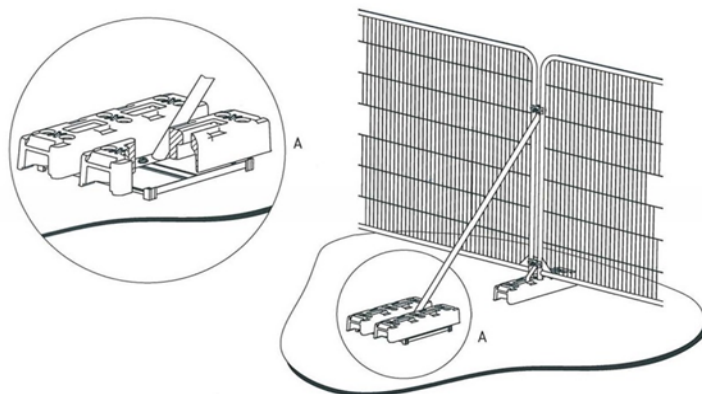


Figure 3 Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Appendix F

Construction Exclusion Zone (CEZ) Signage



Appendix G

Arboricultural Glossary

Age-class - A general classification of the tree into either - young, semi-mature, early mature, mature, over-mature, or veteran.

Apical Bud/Shoot – The apical bud, also known as the leading shoot, is responsible for shoot extension and is dominant.

Apical Dominance – A singular, leading shoot remains dominant.

Arboreal - In connection with, or in relation to, trees.

Arboriculturalist – Person who has, through relevant education, training and experience, gained recognised qualifications and expertise in the field of trees in relation to construction.

Arboricultural Implications Assessment (AIA) – Study, undertaken by an arboriculturalist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.

Arboricultural Method Statement (AMS) – Methodology for the implementation of any aspect of development that has the potential to result in the loss of or damage to a tree. Note The AMS is likely to include details of an on-site tree protection monitoring regime.

Asymmetric crown- Crowns that have a morphological bias in a particular direction. This can give the tree an aesthetically unfavourable appearance, but can also subject the tree to uneven wind- loading forces and potentially result in failure.

Basal – Referring to the bottom part of a tree's stem.

Basifugal mortality – A natural process seen in trees in an advanced life stage whereby the trees extremities die back and the inner crown expresses new growth, in order to conserve energy reserves.

Bifurcated - A growth characteristic, where two stems of similar size grow from the same point. Can create an inherent weakness.

Branch union/junction - The point at which a branch joins a larger stem. Can be a point of weakness, especially in certain species.

Brown Rot- Decay caused by certain species of fungus which results in the affected wood becoming brittle and liable to suddenly 'break out', especially if in key structural areas.

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

Buttress flares – Extensions of the basal stem of a tree that provide additional structural support. See reaction wood.

Bifurcated- A growth characteristic, where two or more stems of similar size grow from the same point. Can create an inherent weakness.

1 **Cable braces** – Cable braces used to support the crown of a tree, reduce impacts caused by wind- throw oscillation.

Canker – A clearly defined area of dead and sunken or malformed bark, caused by bacteria or fungi. Can have a bearing on structural integrity of infected limb(s) depending on size and location.

Central leader- See apical dominance.

Chalara ash dieback- A disease affecting ash trees caused by the fungus *Hymenoscyphus fraxineus*. Usually fatal, the disease causes leaf loss and crown dieback in infected trees. It was first confirmed in Britain in 2012.

Chlorosis- yellowing of leaves which can be caused by a range of factors, often an indicator of nutrient deficiency.

Compaction - The compressing & hardening of soil around tree root systems, due to vehicular/pedestrian use etc. Loss of pore space between soil granules limits water movement and gaseous exchange, and inhibits root growth.

Companion shelter- Shelter provided by neighbouring trees in groups to one another, factors such as wind throw are reduced due to supporting branches and interlocking root systems. Removing individual trees on the peripheries of such groups can expose neighbouring trees to environmental factors they have not previously been subjected to and can lead to individual failure.

Competent person – Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached

Note 1 A competent person understands the hazards and the methods to be implemented to eliminate or reduce the risks that can arise. For example, when on site, a competent person is able to recognise at all times whether it is safe to proceed.

Note 2 A competent person is able to advise on the best means by which the recommendations of this British Standard may be implemented.

Condition – Assessment based on a visual and professional view giving consideration to many factors such as tree health, structural integrity and suitability of its position.

Conservation dead- wooding- Removal of deadwood using ‘coronet cuts’ that mimic the way a branch would naturally break off, maximising deadwood habitat availability for invertebrates.

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

Coppice - The method of managing trees by cutting the stems at between 1.0 inch and 1.0 foot from the ground level on a regular cycle, the cut stumps of the trees or shrubs are allowed to re-grow many new stems.

Crown spread - Gives distances between extreme limits of the crown and the stem, usually along the four compass points. Helps to show crown symmetry.

Crown Reduction – The removal of branch ends to reduce the extreme limits of a trees branch spread and height.

Crown Thin – The removal of selected branches within the crown to thin the internal branch structure.

D.B.H. - 'Diameter at Breast Height', an industry standard to gauge tree stem size and development. Within arboriculture, breast height is taken to be 1.5m above ground level.

Dieback - The reduction in crown vigour and extension growth progressing to death of distal parts; often associated with decline.

Epicormic growth - New growth from dormant buds that can often form tenuous attachments. Although some species readily form such shoots, it can be an indication of stress.

Form - A general assessment of the shape and position of the tree within its environment.

Hanger – Term used to describe a branch that has become detached and is being supported by other branches. Can be a hazard to persons and property below.

Hazard Beam – After the loss of a distal part, a limb concentrates growth upwards creating adverse end weights that can render the limb susceptible to failure. .

Included bark – Growth characteristic usually caused when two or more stems/branches growing in close proximity 'fuse' together entrapping the bark from when the parts were separate in the middle, creating a structural weakness.

Invertebrate tower – Pollarding of a (usually dead) tree to a safe height that leaves part of the main stem as a deadwood habitat for invertebrate species.

Occlusion/Occluded – Normally used to describe the overgrowth of a wound. Also, immovable foreign objects in contact with a tree part can become encased or 'occluded' by the tree as it grows incrementally.

Pathogen - An agent that causes disease, especially a living microorganism such as a bacterium or fungus.

Phototropic growth – Growth responding to a light stimulus i.e. the sun. This can influence the form of a tree, particularly where other factors e.g. buildings or other trees, affect the amount/ direction light is received.

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

Pollard – The removal and subsequent regular re-removal of the crown of a tree above animal browsing height. Can be an effective method of controlling the size of trees in urban areas. This is ideally begun in the trees early stages and maintained throughout its life.

Reaction wood - Essentially additional wood laid down by the tree to compensate for structural defects such as cavities.

Rhizosphere - The rhizosphere is the narrow region of soil that is directly influenced by root secretions and associated soil microorganisms. In particular, mycorrhizal fungi form a symbiotic relationship with trees and assist in the assimilation of phosphates essential to the trees health.

Ring barking/Girdling – the removal of bark around the entire circumference of a stem or branch, causing the death of all distal parts.

Root Protection Area (RPA) – Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form in m².

Scaffold limbs - The main structural branches within the crown.

Tree protection plan – scale drawing prepared by an arboriculturalist showing the finalised layout proposals, tree retention and tree and landscape protection measures detailed within the arboricultural method statement (AMS), which can be shown graphically.

U.L.E – ‘Useful Life Expectancy’ is an estimate based on currently known factors of the possible remaining life of the tree as an asset. AKA ‘Estimated remaining contribution’.

Veteran tree – Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

Vigour - A general classification, as to the present and future potential growth and development of a tree. A comment regarding the health status of the tree specific to its species.

White Rot - A type of decay caused by certain species of fungi which results in the affected wood becoming flexible with little compressive strength.