

LIDL HAVANT

TREE SURVEY & ARBORICULTURAL IMPACT ASSESSMENT



JSL3712_770
Tree Survey and
Arboricultural Impact
Assessment
-
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TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

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Prepared by:

RPS

David Cox

Technical Director

Lakesbury House, Hiltingbury Road
Hampshire SO53 5SS

T +44 2380 810 440

E rpsso@rpsgroup.com

Prepared for:

Lidl Great Britain

Mr Douglas Symington

Lidl, Foxes Park, Brownhill Way, Nursling,
Southampton, SO16 0AE

T 02380 742584

E douglas.symington@lidl.co.uk

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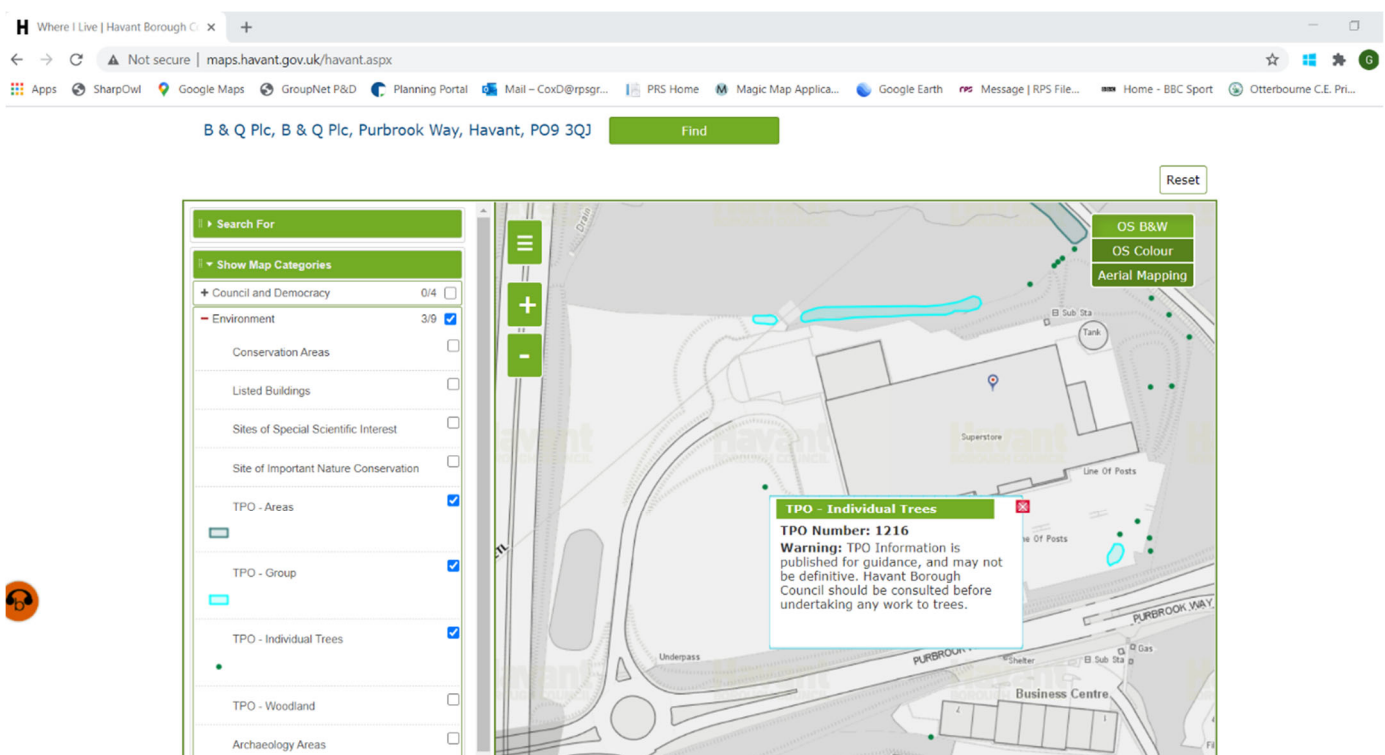
1 INTRODUCTION

- 1.1 This Tree Survey and Arboricultural Impact Assessment (AIA) has been prepared by RPS on behalf of Lidl Great Britain to support the planning application for proposed development on land at Purbrook Way, Havant, PO9 3QJ.
- 1.2 A tree survey of the application area was carried out by RPS on 8th July 2020 and the survey was revisited in February 2021 in accordance with the requirements of BS5837:2012. Refer to Tree Constraints Plan JSL3712_700 (Appendix B). The weather was calm with some cloud.
- 1.3 Further to the consultation received 22nd January 2021 and February 2021, a thorough detailed analysis of the tree stand along the sites southern boundary has been completed in February 2021. This provides a comprehensive understanding of the current arboreal setting and quality of this mature tree belt.
- 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:
 - 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 within the survey area, based on the proposed development layout.
 - Provide additional arboricultural information and advice in relation to the protection of trees throughout the development of the site.
 - Provide a Tree Protection and Removal Plan to detail the proposed protective measures to be taken in respect of the trees during development of the site.
- 1.6 The Tree Protection and Removal Plans JSL3712_701 & 702 included at Appendix C identify the following:
 - Trees to be retained;
 - Alignment and design of protective fence;
 - Treed areas to be managed;
 - 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 with regard to the Tree Protection Measures and construction techniques detailed within this report. 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 British Standards Institute. British Standard (BS5837) Trees in Relation to Design, Demolition and Construction - Recommendations. 2012.

2 SITE LOCATION

- 2.1 The survey covered an area of land located adjacent B&Q, Havant, Purbrook Way, Hampshire, PO9 3QJ. Havant is a small town located within the south-east of Hampshire. The land is roughly centred on OS grid reference SU69440784.
- 2.2 The survey site currently comprises an open field with scrub and small woodland sections. The eastern boundary of the site borders the B&Q car park. The area is located approximately two miles north of Havant Train Station and approximately three miles south of Waterlooville Golf Course. The wider environs contain residential houses, retail stores and open fields.
- 2.3 The soilscape of the area typically consists of 'Slowly permeable, seasonally wet, slightly acid but base-rich loamy and clayey soils.'²
- 2.4 Within the site, a tree protected by Tree Preservation Order (TPO) is centrally located. The TPO, served by Havant BC is referenced as "1216" which relates to T3 as part of this tree survey. See Havant BC web mapping extract below.



² Magic.gov.uk – 22.07.2020

3 SURVEY METHODOLOGY

- 3.1 This report has been authored by Alice Brown, Junior Arboricultural Consultant of RPS and authorised by David Cox, a professional member of the Arboricultural Association and Chartered Landscape Architect of RPS Group.
- 3.2 The tree survey was undertaken by Alice Brown, Junior Arboricultural Consultant of RPS Group.
- 3.3 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”.
- 3.4 The tree survey involved a visual inspection from the ground of individual specimens and groups of trees to record their amenity value, management recommendation and dimensions. Where observed, the general condition of all the trees has been noted.
- 3.5 The location of the trees is based on a topographic survey (Drawing No. 18766_Topographic and Services Survey_Final_Rev B-1) produced by EDI Surveys Ltd in June 2020.
- 3.6 The survey assesses individual trees and groups of trees for quality and benefits within the context of the 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 3.1. These categories have been differentiated on the Tree Constraints Plan JSL3712_700 (Appendix B) by colours.
- 3.7 The survey information was recorded on the attached Tree Survey Schedule (Appendix A) in general accordance with the guidance contained within Section 4 of BS 5837:2012 “Trees in Relation to Design, Demolition and Construction – Recommendations”.
- 3.8 The information recorded is detailed in Table 3.1.

Table 3.1 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 survey plan. # - denotes inaccessible trees (best estimates are made about the location, physical dimensions and characteristics.)			
Species	Species listed by common name, with scientific names (italic lettering).			
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)		

Limitations

- 3.9 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.
- 3.10 The survey does not constitute a full arboricultural condition assessment involving the detailed inspection of trees in relation to their internal structural condition, decay, and any other physical and pathogenic defects. Trees were not climbed or inspected below ground level and inaccessible trees will have best estimates made about the location, physical dimensions and characteristics.
- 3.11 Where direct access to trees was difficult or not possible a '#' denotes this within the Tree Survey Schedule JSL3712_750, Appendix A.
- 3.12 Where the locations of trees were not highlighted in the provided topographical survey – 18766/T/01-01 by EDI Surveys Ltd, they were estimated on site and highlighted within the supporting plan/s with a star - *.
- 3.13 Trees and woody vegetation were not assessed for their potential impact upon future construction issues such as foundation designs (re: NHBC chapter 4.2)³. 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.
- 3.14 Trees are dynamic, living organisms and respond rapidly to changes in their environment. The tree conditions cannot be assumed to remain unchanged.
- 3.15 Newly planted crops in the fields limited access to public rights of way only. Trees along the East and Western boundaries were viewed from site side only or were assessed from distance where they are located on private property.

³ NHBC. 'Chapter 4.2- Building Near Trees'. NHBC Standards 2016.

4 APPRAISAL AND RECOMMENDATIONS

Generally

- 4.1 In general, trees on the site appear to be young and in good health. In the main, individual condition is largely consistent with expectation for the age, management and species.
- 4.2 There was variation in species observed. However, Scots Pine (*Pinus Sylvestris*) and Ash (*Fraxinus excelsior*) were among the most common. These provide amenity and skyline value to the local area.

Surveyed Trees

- 4.3 The site is currently an unused field, primarily consisting of grassland and scrub. Small shrub groups are located across the western and southern boundaries.
- 4.4 The shrub groups located across the boundaries are species rich and contain Sycamore, Silver Birch and Common Hawthorn.
- 4.5 The most significant trees surveyed were three scots pine (T1, T2 and T3), located in the centre of the site. Due to their prominent location and height, these trees provided some skyline value.

Planning considerations

- 4.6 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.
- 4.7 TPOs: An email enquiry was submitted to Havant Borough Council which confirmed that there is one onsite individual TPO (TPO 1216) and two offsite Group TPOs (TPO 0955 G1 and G2) (Refer appendix D).
- 4.8 Conservation Areas: An email enquiry was submitted to Havant Borough Council which confirmed that the survey site is not within a conservation area (Refer to Appendix D).
- 4.9 Ancient woodlands: A desktop investigation using the Magic Maps application² confirmed that there are no ancient woodlands within or bordering the survey site.
- 4.10 The Hedgerows Regulations 1997 were made under Section 97 of the Environmental Act 1995 and came into operation in England and Wales on 1 June 1997. The regulations provide important protection by prohibiting the removal of most countryside hedgerows (or parts of them) without first notifying the local planning authority (LPA). Removal includes acts which could result in the destruction of a hedgerow.
- 4.11 Care is needed regarding the retention of large, mature trees which become enclosed within the new development. Where such trees are retained, adequate space should be allowed for their long-term physical retention and future maintenance.
- 4.12 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 in dealing with planning applications.

- 4.13 Regarding a particularly valuable tree with serious structural faults it may be decided it be retained and the proximity of the target to the tree be reduced. This could be achieved by retaining or encouraging the formation of physical barriers (e.g. dense bramble or Holly understory) to deter direct access.
- 4.14 Trees can offer many benefits, including the provision of visual amenity, softening or complementing the effect of the built environment, and adding maturity to new developments 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.
- 4.15 Existing trees on development sites, if included into plan, can offer many benefits, including the provision of visual amenity, softening or complementing the effect of the built environment, and adding maturity and value to new developments.
- 4.16 New tree planting opportunities should be considered as part of any potential redevelopment, this will help to broaden the age diversity of the tree cover within the area. Enough space should be provided for species with significant stature to grow out into maturity.
- 4.17 Trees may have the potential to provide valuable habitat for significant and/or protected species. It is therefore recommended that this report is read in conjunction with the ecology surveys for the site.

Design and Site Layout Considerations

- 4.18 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 arboriculturalist. During any site planning exercises the current and future growth potential of the trees should be considered.
- 4.19 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).
- 4.20 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.
- 4.21 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.
- 4.22 If some form of construction has to 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.
- 4.23 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.

- 4.24 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 with regard to obstruction, shading, leaf fall and root action. These are problems that can be managed provided sufficient space is allowed for.

Services

- 4.1 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.
- 4.2 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 take into account 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 with regard to obstruction, shading, leaf fall and root action. These are problems that can be managed provided sufficient space is allowed for.
- 4.3 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 Arboriculturalist.
- 4.4 Further advice can be found in NJUG Volume 4- "Guidance for the planning, installation and maintenance of utility services in proximity of trees".

Trees and Management of Health and Safety

- 4.5 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 prioritise 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 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 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.
- 5.4 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.
- 5.5 In general by adopting appropriate methods of working, precautionary and protective measures, significant harm to retained trees can be avoided.
- 5.6 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.
- 5.7 The retention and protection of significant trees and vegetation will assist in assimilating the proposed development into the wider landscape and offer long term tree cover.
- 5.8 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

- 5.9 This report relates to the following:
 - Lidl store; and,
 - Associated infrastructural works.

Retained and Proposed Trees

- 5.10 In order to facilitate the development, it will necessitate the removal of T1 to T5, T7, T8, T9, T10, G1, G5 and G6.
- 5.11 Sections of G4 and G7 will require removal to allow space for the proposed car park and footpath.
- 5.12 As part of the arboricultural management of the site's vegetation, much of the southern tree and shrub group will be managed to retain the higher quality, maiden trees set within an open, grassland/meadow setting. These works will take place within the retained sections of G2, G4 and G7, and the works will include: -
 - a. Retention of the better, individual maiden trees, including Birch, Maple, Alder and Pine.
 - b. Removal of lapsed, over mature Gorse, Elder, Willow and Hawthorn.

- c. Coppice/fell (and stump treatment) of mature to over mature Willow
 - d. Coppice/fell (and stump treatment) of immature to semi-mature Ash (some / most have been infected by Ash Die back)
- 5.13 Within the land abutting Purbrook Way, around the retained treed areas an informal grassland/meadow tree stand, and new habitat will be created.
- 5.14 The land between this retained, sloping tree belt and the proposed car park will receive a new landscape treatment, including native hedgerow planting and meadow grassland seeding.
- 5.15 Apart from T1, T2, T3, G6 and G7 all the tree and vegetation removals relate to category C trees. These are low quality trees, and their removal can easily be mitigated for by way of new tree planting included as part of the scheme.
- 5.16 T1, T2 and T3 do provide some moderate arboreal value (they have been assessed as category B trees). However, their central location on the site and the sites topography makes the efficient development of the land difficult especially if wholesale tree retention is targeted. As semi-mature trees (in terms of age classification), their replacement by new tree plantings will re-provide their amenity value in the future.
- 5.17 As part of the proposed landscape masterplan, 29No. new trees are proposed, these include a range of ornamental and native tree species, and these will all be planted as standard stock trees. Their arrangement is around the perimeter of the new site, thereby providing a good arboreal setting to the local area in the future.

Proposed works within the Root Protection Area (RPA)

- 5.18 Root Protection Areas for each tree, group of trees and hedgerows surveyed have been determined in accordance with BS5837:2012⁴.

Outline methodology within Root Protection Areas

- 5.19 Details of Tree Protection Fencing and ground protection are detailed in the following section of this document.
- 5.20 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.
- 5.21 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.
- 5.22 All new (and existing re-routed) services shall be routed outside the existing or potential RPA 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

⁴ BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'.

within Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (NJUG 4)⁵.

- 5.23 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 take into account the ultimate size of existing young and middle-aged trees at maturity. Conversely the impact of the tree/s on end user activities should also be considered with regard to obstruction, shading, leaf fall and root action. These are problems that can be managed provided sufficient space is allowed for.
- 5.24 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 3998:2010. 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.

⁵ <http://streetworks.org.uk/wp-content/uploads/V4-Trees-Issue-2-16-11-2007.pdf>

6 TREE WORKS

Standard of Work & Management

- 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.
- 6.7 The future management of the retained, southern tree belt will be managed to provide an open, treed character including retained, maiden trees set within a diverse grassland habitat. The future management of this tree group will include grassland cutting, selected coppicing and limited arboricultural intervention. Plan JSL3712_702 illustrates the areas where selected works will take place, including individual tree works / removals and retentions.

Timing of Works

- 6.8 All tree works, and tree protection measures shall be completed prior to commencement of any construction and enabling works on the site.
- 6.9 All works shall be timed to have regard to the phenological cycles of protected species that are associated with trees; notably birds and bats.
- 6.10 Selective pruning shall be undertaken with regard to the phenological cycle of trees, i.e. when energy reserves are highest; generally observed to be late winter before budburst (optimal), or mid-summer before leaf drop, dependent on species.
- 6.11 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.

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- 6.12 Similarly bats and bat roots are also protected by law and the advice of an ecologist should be sought prior to removing any trees.

7 TREE PROTECTION MEASURES

Construction Exclusion Zone

- 7.1 The Construction Exclusion Zone (CEZ) shall be defined by the protection fence line as shown on the Tree Protection and Removal Plan JSL3712_701.
- 7.2 The tree protection fence shall be erected prior to any works commencing on site (including site clearance and enabling works) and shall remain in place until after all construction activities have been completed and then only with the prior approval of the arboricultural consultant.
- 7.3 This CEZ shall not be disturbed, and the protective fencing shall not be moved or taken down at any time.
- 7.4 Within the Construction Exclusion Zone there must be no mechanical digging or scraping, no alteration to existing ground levels including soil stripping, no earthworks, no handling or discharge of any chemical substance, concrete washings or of any fuels.
- 7.5 It can be noted that T12 is located within close proximity to the proposed footpath. Although the RPA does not interact with the footpath, care must be taken when increasing ground levels around this area.
- 7.6 Vehicular or pedestrian access and the storage of any materials is prohibited within the CEZ.
- 7.7 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 tree's crown.

Tree Protection Fencing

- 7.8 The tree protection fence shall be erected as shown on the Tree Protection and Removal Plan (JSL3712_701) included with this report.
- 7.9 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.
- 7.10 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 Plan.
- 7.11 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 C and compliant with BS5837:2012.
- 7.12 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.
- 7.13 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. 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 Plan.

- 7.14 Copies of the Tree Protection Plan shall be placed in the site office for reference by all site staff.
- 7.15 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 E. Signs must be replaced as necessary should they be removed or become illegible.
- 7.16 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 Plan and that any relevant arboreal conditions attached to the planning consent have been met.

Site Compounds and Materials Stores

- 7.17 Activities related to the establishment of a temporary site compound have the potential to impact upon retained trees by various means. In particular the storage and mixing of chemicals and materials such as concrete can have a damaging effect on tree health if precautions are not taken.
- 7.18 To prevent harm occurring to trees, provision for materials storage, deliveries and other related activities shall be made available in areas away from retained trees.
- 7.19 Under no circumstances shall materials or plant be stored beneath the canopy or within or abutting the Root Protection Zone of any retained trees/hedges, whether fenced or not.

Reporting

- 7.20 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 CONCLUSIONS

- 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 For this development to be realised, several individual trees and selected parts of tree groups will require removal. Three of these trees have been afforded category B status, the remainder given category C value.
- 8.3 In providing a long-term management approach to the retention and enhancement of tree cover within the site, the tree and shrub groups along the southern boundary will be selectively cleared, coppiced and retained.
- 8.4 Tree protection fencing will be installed to protect the Construction Exclusion Zone.
- 8.5 Care must be taken when increasing ground levels around T12 when constructing the footpath.
- 8.6 The loss of a single tree protected by TPO is proposed as part of this development. As a category B tree, its loss, in future years will be mitigated for by new tree planting that will take place on the site as part of the Lidl development proposals.
- 8.7 29No. new trees will be planted as part of the new development. These include a range of ornamental and native tree species and will be planted in accordance with recognised standards. These trees, once they start to become established will provide a wider amenity value than the current trees on site. Their planting locations are publicly visible and include a mix of species, which will offer more species diversity.
- 8.8 From an arboreal perspective, the loss of category B trees is unfortunate, however their central location on the land does limit the efficient use of the site difficult. As semi-mature trees, their aged value is limited, and over time, new tree plantings implemented as part of the development should ultimately replace and increase the arboreal amenity value of the site.

APPENDICES

Appendix A

Tree Survey Schedule JSL3712_750

Tree Survey Schedule

Site Lidl Purbrook Way, Havant
Project schedule ref: JSL3712_750
Drawing reference: JSL3712_700
Survey date: 08/07/2020

Surveyor: A Brown
Status: For Information
Revision: A
Notes:



Ref. no.	Species	Height (m)	Crown spread (m)				Stem dia. (m)	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										
T1	Pinus sylvestris Scots Pine	13.0	6.0	5.0	4.0	3.0	0.40	1.00	6.50	N	SM	G	G	One of two adjacent pine trees. Stands out in landscape. Northern bias. Bifurcates at 7m.	40+	B2
T2	Pinus sylvestris Scots Pine	13.0	2.0	2.0	5.0	3.0	0.40	1.00	6.00	S	SM	G	G	One of two adjacent pine trees. Stands out in landscape. S bias.	40+	B2
T3	Pinus sylvestris Scots Pine	10.0	7.0	7.0	7.0	7.0	0.50	1.00	3.00	N	SM	G	G	Attractive tree with wide, open crown. Some deadwood present.	40+	B2
T4	Pinus sylvestris Scots Pine	5.0	2.0	2.0	3.0	2.0	0.30	1.00	0.00	S	Y	G	G	Small, young tree on slope.	10+	C2
T5	Fraxinus excelsior Common Ash	6.0	4.0	4.0	4.0	4.0	0.20	1.00	1.00	E	Y	G	G	Young, Tree located within shrubs.	10+	C2
T6	Salix Caprea Goat Willow	8.0	4.0	5.0	4.0	5.0	0.3 0.3	2.00	2.00	W	Y	G	G	Young, Tree located within shrubs.	10+	C2
T7	Quercus robur Pedunculate Oak	8.0	5.0	8.0	7.0	5.0	0.30	1.00	2.00	W	Y	G	G	Oak on boundary. Southern/eastern bias. Stands out with wide crown.	10+	C2
T8	Fraxinus excelsior Common Ash	8.0	5.0	4.0	4.0	4.0	0.1 0.2	2.00	1.00	E	Y	F	F	Young Ash on edge. Northern bias. Some deadwood.	10+	C2
T9	Quercus robur Pedunculate Oak	7.0	4.0	2.0	4.0	4.0	0.20	1.00	1.50	S	Y	G	G	One of two adjacent oaks. Ivy clad.	10+	C2
T10	Quercus robur Pedunculate Oak	7.0	5.0	4.0	4.0	2.0	0.20	1.00	1.50	N	Y	G	G	One of two adjacent oaks. Ivy clad.	10+	C2
T11	Fraxinus excelsior Common Ash	10.0	3.0	5.0	3.0	5.0	0.45	1.00	5.00	E	SM	G	G	Ash on edge of woodland. Lots of ivy.	30+	C2
T12	Pinus sylvestris Scots Pine	11.0	5.0	5.0	5.0	5.0	0.35	1.00	1.00	S	SM	G	G	Attractive tree within woodland.	40+	B2

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 Lidl Purbrook Way, Havant
Project schedule ref: JSL3712_750
Drawing reference: JSL3712_700
Survey date: 08/07/2020

Surveyor: A Brown
Status: For Information
Revision: A
Notes:



Ref. no.	Species	Height (m)	Crown spread (m)				Stem dia. (m)	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										
T13	Alnus glutinosa Common Alder	10.0	7.0	7.0	7.0	7.0	0.1 0.2 0.3 0.3	4.00	1.00	S	SM	G	G	Tree with wide crown on edge of woodland.	30+	B2
T14	Acer platinoides Norway Maple, and Malus sp. Apple	12.0	5.0	5.0	5.0	5.0	0.40	1.00	2.00	n/a	SM	G	G	Larger / better tree within group, tri-furcates at 2m. Smaller Apple to south (C2)	30+	B2
G1#	Crataegus monogyna Common Hawthorn	4.0	See Plan				-	-	0.00	-	Y	G	G	Group of young, spread out Hawthorn.	10+	C2
G2	Mixed species-Betula pendula Silver Birch, Acer pseudoplatanus Sycamore	10.0	See Plan				-	-	1.00	-	Y/SM	G	G	Group primarily consisting of young Silver Birch.	10+	C2
G3	Mixed species-Acer pseudoplatanus Sycamore, Pinus sylvestris Scots Pine, Fraxinus excelsior Common Ash, Crataegus monogyna Common Hawthorn, Malus Sylvestris Crab Apple		See Plan				-	-	1.00	-	Varies	G	G	Dense group within woodland.	40+	B2
G4	Mixed species-Acer pseudoplatanus Sycamore, Alnus glutinosa Common Alder, Salix caprea Goat Willow	10.0	See Plan				-	-	1.00	-	Varies	G	G	Group within woodland. Less dense than G3.	40+	B2
G5	Mixed species- Crataegus monogyna Common Hawthorn, Quercus cerris Turkey Oak, Rosa canina Dog Rose	3.0	See Plan				-	-	0.00	-	Y	F	F	Group located beneath T1 and T2.	10+	C2
G6#	Mixed species-Ilex aquifolium Common Holly, Crataegus monogyna Common Hawthorn, Corylus avellana Common Hazel, Fraxinus excelsior Common Ash, Betula pendula Silver Birch, Malus Sylvestris Crab Apple, Sambucus Sp. Elderberry	7.0	See Plan				-	-	0.00	-	Y	G	G	Mixture of small trees and shrubs	10+	B/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 Lidl Purbrook Way, Havant
Project schedule ref: JSL3712_750
Drawing reference: JSL3712_700
Survey date: 08/07/2020

Surveyor: A Brown
Status: For Information
Revision: A
Notes:

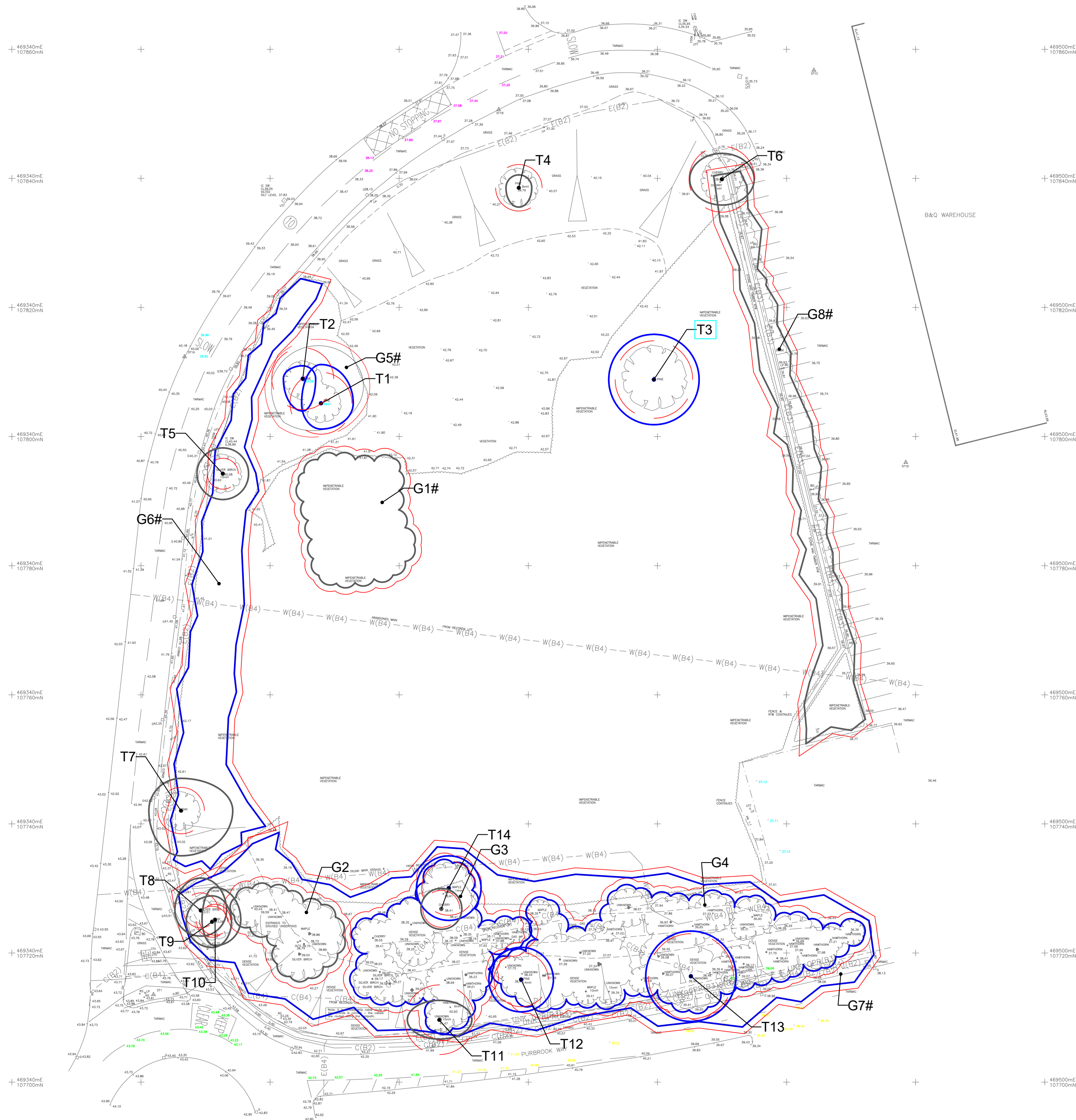
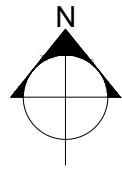


Ref. no.	Species	Height (m)	Crown spread (m)				Stem dia. (m)	Stem no. at 1.5m	Height of crown clearance (m)	Dir/ height	Age class	Structural condition	Physiological condition	General observations Management recommendations	Estimated remaining contribution (years)	Tree Quality Category (BS5837)
			N	E	S	W										
G7#	Mixed species-Betula pendula Silver Birch, Acer pseudoplatanus Sycamore, Pinus sylvestris Scots Pine, Fraxinus excelsior Common Ash, Crataegus monogyna Common Hawthorn, Malus Sylvestris Crab Apple, Alnus glutinosa Common Alder, Salix caprea Goat Willow, Quercus robur Common Oak	10.0					-	-	0.00	-	Varies	G	G	Mixture of small trees and shrubs. High species richness. Limited access.	40+	B2
G8#	Mixed species-Crataegus monogyna Common Hawthorn, Pinus Sylvestris Scots Pine, Quercus cerris Turkey Oak, Prunus Sp. Cherry						-	-	0.00	-	Y	G	G	Small trees and shrubs across boundary.	10+	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.

Appendix B

Tree Constraints Plan JSL3712_700



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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.
- Vegetation group with numbered reference.
Canopy extents 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

- Root protection area (RPA)
Calculated in accordance with Section 4.6 - BS5837:2012
- Tree protected by Tree Preservation Order
No. 1216 served by Havant BC.

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 EDI Surveys in June 2020.

B	Amendment to group numbers	SK	SK	29.10.20
Rev	Description	By	CB	Date



Lakesbury House, Hiltingbury Road, Chandlers Ford, Hampshire SO53 5SS
T: 02380 810 440 E: rpso@rpsgroup.com

Client **Lidl Great Britain**

Project **Lidl: Purbrook Way, Havant**

Title **Tree Constraints Plan**

Status **For Information** Drawn By **AB** PM/Checked by **SK**

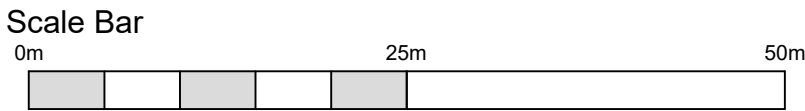
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RPS Drawing / Figure Number **700** Rev **B**

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Appendix C

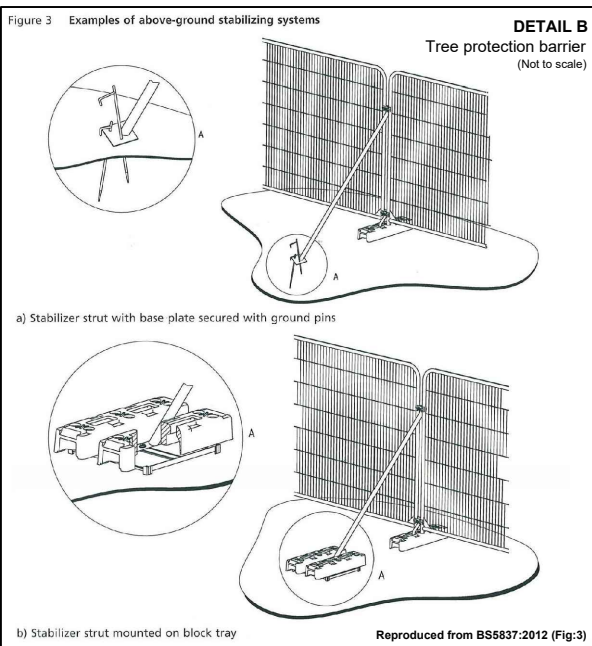
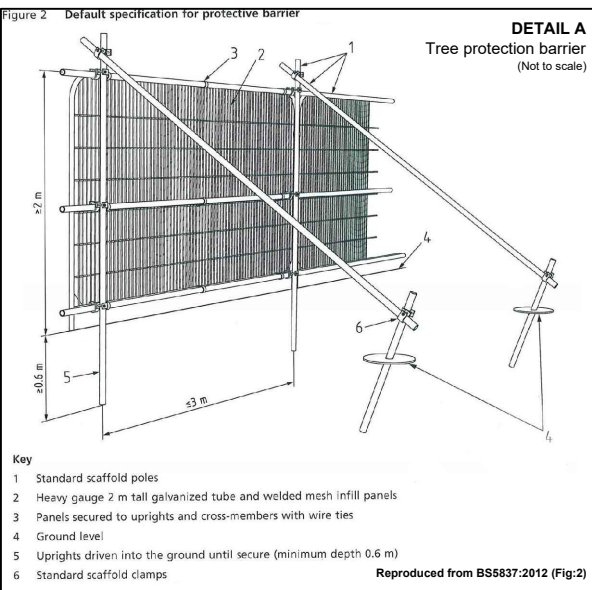
Tree Protection/Removal Plan JSL3712_701 and Management plan JSL3712_702



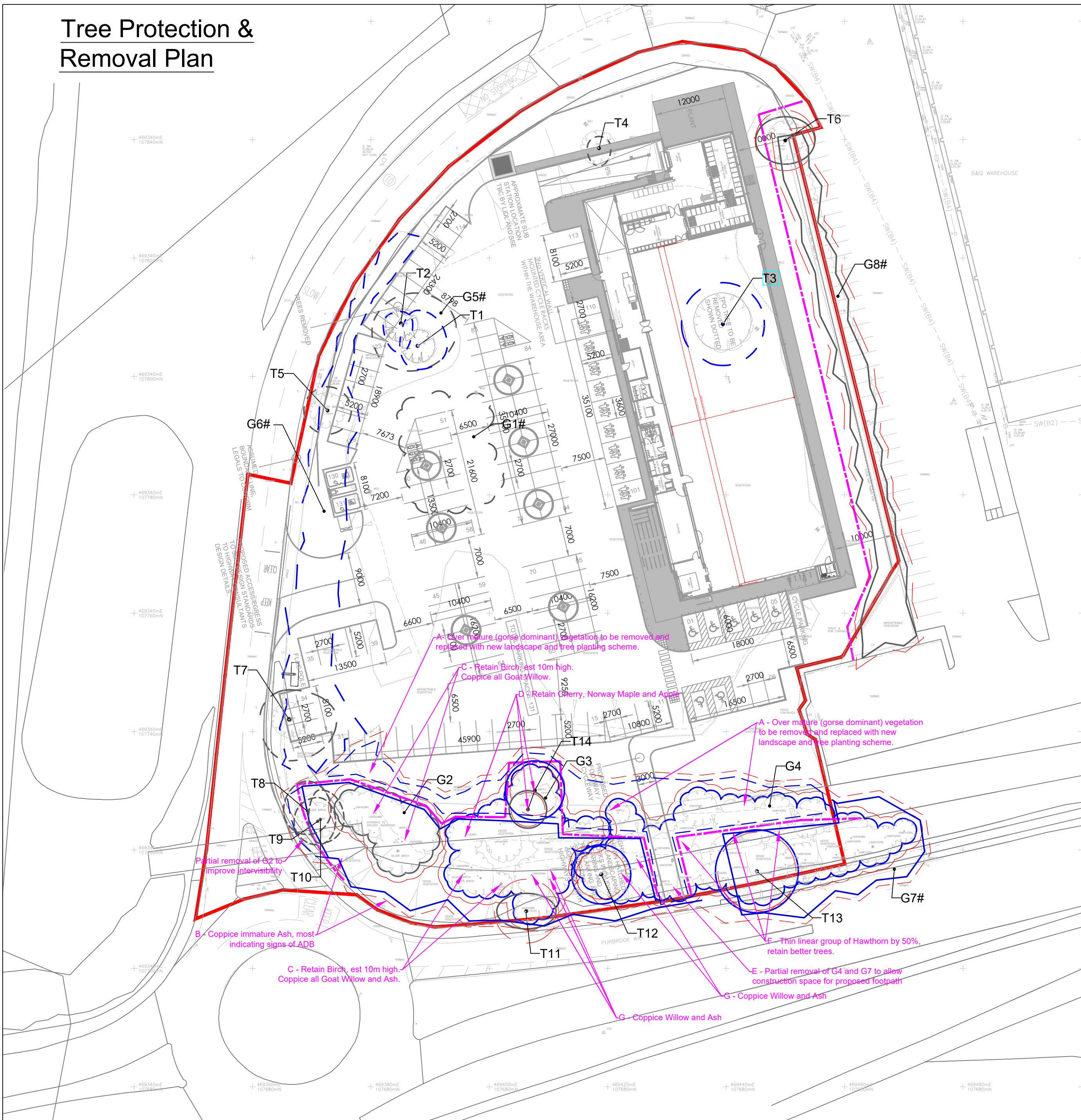
Key

- 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.
 - Vegetation group with numbered reference. Canopy extents 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
- Root protection area (RPA) Calculated in accordance with Section 4.6 - BS5837:2012
 - Vegetation group to be removed with numbered reference. Canopy spread and BS5837:2012 tree quality category.
 - Tree 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.
 - Tree protected by Tree Preservation Order No.1216 served by Havant BC.
 - Specific arboricultural management target notes, refer to arboricultural impact assessment and soft landscape proposals

- 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 EDI Surveys in June 2020.
 - 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



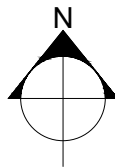
Tree Protection & Removal Plan



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F	Layout Update	AB	DC	01.04.21
E	Layout update	DC	DC	17.03.21
D	Layout and tree management update	DC	DC	03.21
C	Specific management / removal works listed	DC	DC	02.21
B	Layout updated	DC	DC	10.20
A	Layout updated	DC	DC	10.20
Rev	Description	By	CB	Date



Lakesbury House, Hittingbury Road, Chandlers Ford, Hampshire SO53 5SS
T: 02380 810 440 E: rpsso@rpsgroup.com

Client **Lidl Great Britain**

Project **Lidl:Havant**

Title **Tree Protection/Removal Plan**

Status **For Planning** Drawn By **AB** PM/Checked by **SF**

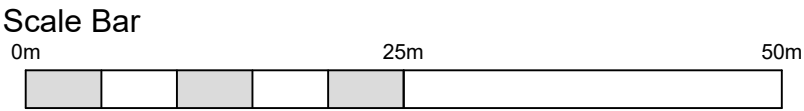
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RPS Drawing / Figure Number **701** Rev **F**

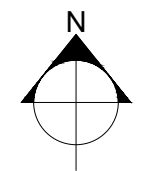
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Tree Management Areas



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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.
- Vegetation group with numbered reference. Canopy extents 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

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

Vegetation group for selected removal with numbered reference. Land to be prepared and cultivated for implementation new landscape scheme. Canopy spread and BS5837:2012 tree quality category.

Vegetation group for selected management, including coppicing, stump treatment and selected removal. Canopy spread and BS5837:2012 tree quality category.

- Tree for removal/treatment
- Tree for retention/protection

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

Tree 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.

Tree protected by Tree Preservation Order No.1216 served by Havant BC.

Specific arboricultural management target notes, refer to arboricultural impact assessment and soft landscape proposals

NOTES:

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- 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 Update	AB	DC	01:04:21
Rev	Description	By	CB	Date

rps MAKING COMPLEX EASY

Lakesbury House, Hiltburg Road, Chandlers Ford, Hampshire SO53 5SS
T: 02380 810 440 E: rpsso@rpsgroup.com

Client **Lidl Great Britain**

Project **Lidl:Havant**

Title **Tree Management Areas**

Status **For Planning** Drawn By **AB** PM/Checked by **SF**

Job Ref **JSL3712** Scale @ A3 **1:500** Date Created **March 2021**

RPS Drawing / Figure Number **702** Rev **A**

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Appendix D

Email Response from Havant Borough Council

Dear Alice

Further to your enquiry I can confirm the area indicated on the map is not within a Conservation Area however both groups of trees are subject to TPO 0955, the larger group of trees is Group G1 and the smaller group is G2.

Hope this answers your enquiry.

Regards

Appendix E

Construction Exclusion Zone (CEZ) Signage

