

LAND AT FATHOMS REACH HAYLING ISLAND

Tree Survey Report and Arboricultural Impact Assessment



JSL4207_770
Tree Survey and
Arboricultural Impact
Assessment
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TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

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TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

Contents

1	INTRODUCTION.....	1
2	SITE LOCATION	2
3	SURVEY METHODOLOGY	3
4	APPRAISAL AND RECOMMENDATIONS.....	6
5	ARBORICULTURAL IMPACT ASSESSMENT.....	9
6	TREE WORKS.....	13
7	TREE PROTECTION MEASURES	14
8	CONCLUSION	15

Appendices

Appendix A Tree Constraints Plan JSL4207_700
Appendix B Tree Survey Schedule JSL4207_750
Appendix C Tree Protection and Removal Plan JSL4207_710
Appendix D Arboricultural site register
Appendix E TPO Information
Appendix F Example Tree Protection Barriers (BS5837:2012 Fig 2 & 3)
Appendix G Construction Exclusion Zone (CEZ) Signage
Appendix H Site Photographs
Appendix I Arboricultural Glossary

1 INTRODUCTION

- 1.1 This Tree Survey and Arboricultural Impact Assessment (AIA) has been prepared by RPS on behalf of Taylor Wimpey (Southern Counties) to support the application for proposed development on land located off Fathoms Reach, Hayling Island.
- 1.2 A tree survey of the application area was carried out by RPS on the 23rd November 2020 in accordance with the requirements of BS5837:2012. Refer to Tree Constraints Plan JSL_700 (Appendix A). Weather conditions were variable, with some cloud.
- 1.3 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
- 1.4 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.
- 1.5 The Tree Protection and Removal Plan JSL4207_710 included at Appendix B identifies the following:
- Trees to be retained;
 - Alignment and design of protective fence;
 - Root Protection Area (RPA) of trees;
- 1.6 The Tree Protection 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.
- 1.7 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.
- 1.8 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 the existing trees and hedges on a land located off Fathoms Reach, Hayling Island. The nearest postcode is PO11 0RS and the site is centred on OS Grid Reference SZ 715995.
- 2.2 Hayling Island is an island off the south coast of England, in the borough of Havant in the county of Hampshire, near Portsmouth. The soil-scape of the area typically consists of 'loamy and clayey floodplain soils with naturally high groundwater.'²
- 2.3 The survey site comprises an area of semi- improved grassland bordered by trees and hedgerows. It is partly bound by the rear gardens of the properties off Fathoms Reach. The wider site context consists of land in agricultural usage to the north and east.

² *Magic.gov.uk* – 30.09.2020

3 SURVEY METHODOLOGY

- 3.1 This report was authored by Alice Brown of RPS and authorised by David Cox, a professional member of the Arboricultural Association and Chartered Landscape Architect of RPS.
- 3.2 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".
- 3.3 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.
- 3.4 The locations of the trees were based upon topographic survey produced by Digital Terrain Surveys LLP, Land Survey Partnership in Romsey, May 2017.
- 3.5 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 3.1. These categories have been differentiated on the Tree Constraints plan (JSL4207_700-Appendix A) by colours.
- 3.6 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".
- 3.7 The information recorded includes the following-

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

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 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 (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	(Young)	OM (Over-mature)
		SM	(Semi-mature)	V (Veteran)
		EM	(Early-mature)	D (Dead)
		M	(Mature)	
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)		

- 3.8 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.

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

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 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, or where trees were located offsite, a '#' denotes this within the Tree Survey Schedule (JSL4207_750).
- 3.11 Where the locations of trees were not highlighted in the provided topographical survey – DTS080517-5W2 by Digital Terrain Surveys LLP, they were estimated on site and highlighted within the supporting plan/s with a star - *.
- 3.12 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 NHBC. 'Chapter 4.2- Building Near Trees'. NHBC Standards 2016. 2016.

4 APPRAISAL AND RECOMMENDATIONS

Generally

- 4.1 There was some variation in the structural condition of the surveyed trees and hedgerows. However, in the main, their condition was largely consistent with expectations for the age, management and species.
- 4.2 It can be noted that a number of the larger mature trees display typical structural defects – inner rot, altered wood, poorly attached limbs deadwood and decay. Consideration should be given to routine monitoring of the structural condition of these trees particularly within the context of increased pedestrian traffic associated with the re-development of the site. Should a decline in condition be noted remedial tree surgery works should be undertaken as a matter of urgency.

Surveyed Trees

- 4.3 The most significant tree on the survey was the large poplar tree possessing a wide spreading form (T1). Located off Fathoms Reach, the limbs of the tree have been reduced with vigorous regrowth to the tips. Accordingly, the tree met the criteria required of a category 'A' tree in the BS5837 tree quality categorisation.
- 4.4 The number of fine hardwood oak and field maple bound the central part of the survey site. These have established in the hedge/ buffer and effectively enclose the site.
- 4.5 The line of Lombardy poplar trees (T46 – T52) in the centre of the site were over-mature and in states of decline displaying both poor structural and physiological condition and an associated limited useful lifetime. In respect of their structural condition consideration should be given to removing or managing these trees regardless of development proposals for the site.
- 4.6 Poplar species can also be particularly problematic to incorporate into re-development proposals. They have a vigorous and expansive root systems that often stretch out from the tree to considerable distances. Furthermore, when the roots become damaged they often produce vigorous suckers.
- 4.7 T12, a crack willow on the northern boundary of the site has collapsed.

Planning considerations

- 4.8 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.
- 4.9 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. Sufficient space should be provided for species with significant stature to grow out into maturity.

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

- 4.10 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.
- 4.11 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.
- 4.12 TPOs: A desktop investigation using the Havant Borough Council interactive web map⁴ confirmed that a number of trees and tree groups are covered by Tree Preservation Orders 1249 (1985). (Refer to appendix E).
- 4.13 Conservation Areas: desktop investigation using the Havant Borough Council interactive web map⁴ confirmed that the site does not form part of a conservation area.
- 4.14 Ancient woodlands: A desktop investigation of this site using the magic maps application² confirmed that no trees within the site boundaries are identified as ancient woodland.

Design and Site Layout Considerations

- 4.15 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.
- 4.16 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).
- 4.17 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.
- 4.18 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.
- 4.19 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 <http://www.havant.gov.uk/planning-policy-design/interactive-policies-map> - 30/11/2020

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

- 4.20 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.
- 4.21 The location and siting of new services 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.

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 trees 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 For further advice, read in full - NJUG Volume 4- "Guidance for the planning, installation and maintenance of utility services in proximity of trees". (The National Joint Utilities Group. *NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees*. 2007).⁵

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 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 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 report relates to the following:
 - Residential Housing.
 - Associated works

Identified Tree Removal and Specific Works

- 5.11 In order for this development to be realised, T63, T64, T65 and G14 require removal. Partial removal of G11 will also be necessary.

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

- 5.12 Additionally, T46, T47, T48, T49, T50, T51, T52 are considered unsuitable for retention (Category U) and therefore require removal. It can be noted that T12 and G6 were also given category U status. However, these are located offsite.
- 5.13 Where T38, G3, G4, G7 and G9 overlap with the development and construction access routes, minor shrub/vegetation removal and/or 'face back' pruning faceback will be required.

Future Planting

- 5.14 Any future tree planting associated with the landscaping proposals for the site should be undertaken in accordance with the guidelines detailed in BS8545 Young Trees: From Nursery to Independence in the Landscape.⁶

Above Ground Constraints

- 5.15 Where tree canopies overlap with the proposed development and construction access routes, tree works will be required on several trees:
- T12 – To be pollarded/coppiced
 - T53/ T54/T56 - Minor crown lifting works, to provide 2.5m clear headroom for footpath
 - T57 - Crown reduction works to provide construction space for house. Crown reduce by 3m to eastern side of canopy only

Root Protection Areas

- 5.16 Construction activities have the potential to disturb the root system and this must be monitored and carefully managed in accordance with the checklist in the appendix of this document.
- 5.17 Root Protection Areas for each tree, group of trees and hedgerows surveyed have been determined in accordance with BS5837:2012.¹
- 5.18 Following the erection of tree protective fencing, the majority of the proposed development will take place outside the RPAs of retained trees.
- 5.19 Where the proposed development overlaps with the RPA of T57 excavation is to be completed by small plant or by hand in accordance with BS 3998, to protect the roots.
- 5.20 Where the development overlaps with the RPAs of T53, 54, T56, 'no-dig' design principles are to be utilised in accordance with APN12.
- 5.21 The installation of garden fences overlaps with the RPAs T43 and G7. In order to protect the roots, fence poles are to only be dug by hand.
- 5.22 Ground protection will be installed to protect the RPAs of trees which overlap with construction access.

⁶ British Standards Institute. *British Standard (BS8545) Young Trees: From Nursery to Independence in the Landscape*

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

Table 1: Analysis of impact on RPAs

Tree No.	Existing incursion	Impact with RPA
T53	11% of RPA overlaps with proposed footpath	Above ground construction requiring 'no-dig' design principles in accordance with APN12.
T54	11% of RPA overlaps with proposed footpath	Above ground construction requiring 'no-dig' design principles in accordance with APN12.
T56	11% of RPA overlaps with proposed footpath	Above ground construction requiring 'no-dig' design principles in accordance with APN12.
T57	16% of RPA overlaps with proposed house	Excavation to be completed by plant or by hand in accordance with BS 3998.

Outline methodology within Root Protection Areas

- 5.23 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)⁷.
- 5.24 Details of Tree Protection Fencing and ground protection are detailed in the following section of this document.
- 5.25 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.
- 5.26 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.
- 5.27 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

⁷ <http://streetworks.org.uk/wp-content/uploads/V4-Trees-Issue-2-16-11-2007.pdf>

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

- 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.
- 5.28 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 3998:2010⁸. 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.
- 5.29 To minimise harm occurring as a result of the works existing hardstanding should be reused. Any necessary hard surface removal within the Root Protection Area (RPA) shall be carried out by low impact hand held pneumatic tools. Removal of the surface shall occur in strips working from the undisturbed surface, working in a retreating manner away from the retained trees. Subsequent removal of arisings / debris shall also be carried out by hand.

⁸ British Standards Institute. *British Standard (BS3998) Trees Work - Recommendations*. 2010.

6 TREE WORKS

Standard of Work (If required)

- 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.

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 The tree protection fence shall be erected as shown on the Tree Protection and Removal Plan (JSL4207_710) included with is report.
- 7.5 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.
- 7.6 Fencing will be utilised in two stages:
 - Primary stage fencing: Fencing will be aligned to protect trees from the main construction of residential housing and associated works.
 - 2nd stage Fencing: Fencing will be realigned to permit construction of minor footpaths/ play equipment only.
- 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 Plan.
- 7.8 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 B and compliant with BS5837:2012.
- 7.9 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.
- 7.10 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

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

- 7.11 wheeled or tracked machinery is to enter the area previously encompassed by tree protective fencing as shown in the Tree Protection and Removal Plan.
- 7.12 Copies of the Tree Protection and Removal Plan shall be placed in the site office for reference by all site staff.
- 7.13 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 G. Signs must be replaced as necessary should they be removed or become illegible.
- 7.14 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.

Site Compounds and Materials Stores

- 7.15 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.
- 7.16 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.
- 7.17 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

- 7.18 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 In order for this development to be realised, T63, T64, T65 and G14 require removal. Partial removal of G11 will also be necessary.
- 8.3 The following trees are considered unsuitable for retention (Category U) and therefore require removal: T46, T47, T48, T49, T50, T51, T52. It can be noted that T12 and G6 were also given category U status. However, these are located offsite.
- 8.4 Where T38, G3, G4, G7 and G9 overlap with the development and construction access routes, minor shrub/vegetation removal and/or 'face back' pruning faceback will be required.
- 8.5 Tree works will be required from the crowns of T12, T53, T54, T56 and T57 where they overlap with the proposed development and construction routes.
- 8.6 Where the proposed development overlaps with the RPA of T57 excavation is to be completed by small plant or by hand in accordance with BS 3998, to protect the roots.
- 8.7 Where the development overlaps with the RPAs of T53, 54, T56, 'no-dig' design principles are to be utilised in accordance with APN12.
- 8.8 The installation of garden fences overlaps with the RPAs T43 and G7. In order to protect the roots, fence poles are to only be dug by hand.



APPENDICES

Appendix A

Tree Constraints Plan JSL4207_700

Appendix B

Tree Survey Schedule JSL4207_750

Tree Survey Schedule

Site Fathoms Reach, Hayling Island
Project schedule ref: JSL4207_750
Drawing reference: JSL4207_700
Survey date: 23/11/2020

Surveyor: A Brown
Status: For Information
Revision: -
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 Physioological condition	General observations Management recommendations	Estimated remaining contribution (years)	Tree Quality Category (BS5837)
			N	E	S	W									
1	Populus sp. Poplar sp.	30.0	12.0	13.0	11.0	12.0	1.80	1.00	>4.5	W	M	Fair/Good	Limbs have been reduced with vigorous regrowth to the tips. Acute angles formed on the regrowing limbs and a hazard beam noted on a large scaffold appears to have healed. Huge form, impressive with significant amenity value. Apparently the 'largest tree on the island'.	+ 50	A1/2
2--5	N/A														
6	Acer platanoides 'golden' Norway Maple	4.5	4.0	4.0	2.5	4.0	0.18	1.00	1.75	N	EM	Fair	Decorative, brightly coloured yellow leaves. Ivy on bole.	+ 15	C2
7	Quercus robur Pedunculate Oak	14.0	8.0	7.0	7.0	7.0	0.58	1.00	2.50	N	M	Fair	Vigorous upright form. Main union formed of numerous scaffold limbs.	+ 30	A2
8	Quercus robur Pedunculate Oak	18.0	7.0	4.0	7.0	7.0	0.71	1.00	3.00	N	M	Fair/Good	Tree appears narrow crowned, likely the result of a lost suppressing tree (T9).	+ 30	A2
9	Fraxinus excelsior Common Ash	6.5	0.5	0.5	0.5	0.5	0.43	1.00	-	-	OM	-	Invertebrate tower.	-5	U
10	Quercus robur Pedunculate Oak	17.0	11.0	7.0	11.0	11.0	0.95	1.00	4.00	N	M	Fair/Good	Adjacent footpath, large well formed tree with a wide girth. Acute branch attachments from crown reduction works noted. Some deadwood.	+ 40	A1/2
11	Quercus robur Pedunculate Oak	14.0	10.0	7.0	8.0	8.0	0.85	1.00	2.50	N	M	Fair/Good	Dead wood snags noted, typical of the species at this age. Ivy on bole into mid=crown. On ditch side.	+ 35	A2
12	Salix fragilis Crack Willow	-	12.0	9.0	6.0	9.0	1.50	1.00	-	N	OM	Poor	Fallen tree.	+ 20	U
13	Populus sp. Poplar sp.	17.0	7.0	7.0	10.0	7.0	0.64	1.00	>4	SE	M	Fair	Typically vigorous, slight bias to the south east. Snags noted. Ivy on bole. Dead wood.	+ 20	B2
14	Populus sp. Poplar sp.	17.0	8.0	7.0	9.0	7.0	0.52	1.00	>4	SE	M	Fair	Vigorous. Bias to south east. Ivy. Dead wood.	+ 20	B2
15	Populus sp. Poplar sp.	15.0	2.0	7.0	7.0	1.0	0.33	1.00	>4	SE	M	Fair/Poor	Bias/lean to the south east. Etiolated, strongly apical growth. Dead wood.	+ 20	C2

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			N	E	S	W									
16	Populus sp. Poplar sp.	22.0	10.0	9.0	11.0	9.0	0.66	1.00	>4	S	M	Fair	Tree divides at 2.5m with secondary limb strongly leaning south. Appears to be satisfactorily attached. Main trunk vigorous.	+ 25	B2
17	Acer campestre Field Maple	7.0	4.5	5.0	3.0	3.0	0.31	1.00	0.50	N	EM	Fair	Fair form, slightly dominated by larger climax neighbour.	+ 20	C2
18	Populus sp. Poplar sp.	19.0	8.0	8.0	10.0	7.0	0.65	1.00	0.30	S	M	Fair	Heavily Ivy clad to mid-crown which may conceal defects. Dead wood.	+ 20	B2
19	Populus sp. Poplar sp.	19.0	9.0	5.0	10.0	9.0	0.56	1.00	>4	S	M	Fair	Dead wood in crown. Ivy into mid crown.	+ 20	B2
20	Populus sp. Poplar sp.	15.0	9.0	7.0	7.0	7.0	0.47	1.00	>4	N	M	Fair	Dead wood in crown. Ivy into mid crown.	+ 20	C2
21	Quercus robur Pedunculate Oak	7.0	7.0	5.0	1.0	5.0	0.35	1.00	2.50	N	EM	Fair	One sided crown strongly suppressed to the south. Ivy into mid-crown.	+ 25	B2
22	Quercus robur Pedunculate Oak	13.0	9.0	9.0	9.0	8.0	0.95	1.00	-	N	M	Good	Tree is formed of two large scaffold limbs - the union is at 1.5m and appears wide and robust. Dead wood noted and slight cavity on bole, otherwise vigorous. Located at the corner of the path and likely visible from some distance.	+ 40	A1/2
23	Quercus robur Pedunculate Oak	10.0	9.0	9.0	4.0	8.0	0.68	1.00	1.25	N	M	Fair	Bole is effectively divided at base with a cavity clear through the bole either rot or two closely grown and partially fused trunks. Appears stable, nevertheless. Dead wood snags.	+ 35	A1/2
24	Populus sp. Poplar sp.	16.0	7.0	7.0	7.0	7.0	0.48	1.00	>3	E	M	Fair	Dead wood snags, typically vigorous.	+ 25	B2
25	Quercus robur Pedunculate Oak	13.0	6.0	1.0	7.0	8.0	0.43	1.00	1.75	W	M	Fair	One sided with a strong bias to the west.	+ 20	B2
26	Acer campestre Field Maple	8.0	5.0	5.0	5.0	4.0	0.32 0.22 0.20	3.00	1.75	E	M	Fair	On field boundary. Dead wood in crown.	+ 15	C2
27	Quercus robur Pedunculate Oak	17.0	12.0	14.0	11.0	9.0	0.92	1.00	1.75	S	M	Good	Large, well-formed tree on field boundary. Dead wood in crown to minor extent. In good vigorous health.	+ 50	A2/1

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			N	E	S	W									
28	Quercus robur Pedunculate Oak	8.0	5.0	5.0	5.0	3.5	0.33	1.00	1.75	E	EM	Good	Potential. Minor dead wood.	+ 30	B2
29	Fraxinus excelsior Common Ash	9.0	6.0	6.0	6.0	6.0	0.32 0.40 0.22 0.21	4.00	1.75	E	M	Fair/Poor	Formed of four boles. Rot pockets noted with dead wood and die back in the tips.	-15	C2
30	Fraxinus excelsior Common Ash	11.0	2.0	5.0	3.0	5.0	0.27 0.34	2.00	1.75	E	M	Fair/Poor	Twin-trunked. Dead wood and die back in tips.	-15	C2
31	Acer campestre Field Maple	8.0	2.0	4.0	7.0	4.0	0.26 0.40	2.00	1.75	E	M	Fair/Poor	Dead wood noted, established on ditch side on field boundary.	+ 15	C2
32	Salix caprea Goat Willow	6.0	7.0	3.0	3.0	3.0	ave 0.14	M	-	S	OM	Poor	Multi-trunked tree, locally vigorous.	+ 15	C2
33	Populus sp. Poplar sp.	13.0	6.0	6.0	6.0	6.0	0.31	M	>3	W	M	Fair	Typically vigorous with dead wood. Ivy.	+ 20	C2
34	Populus sp. Poplar sp.	13.0	6.0	6.0	6.0	6.0	0.32	M	>3	W	M	Fair	Typically vigorous with dead wood. Ivy.	+ 20	C2
35	Populus sp. Poplar sp.	12.0	3.0	4.0	3.0	4.0	0.25	1.00	>4	E	M	Fair	Typically vigorous with minor dead wood throughout. Ivy on bole.	+ 20	B2
36	Populus sp. Poplar sp.	17.0	4.0	5.0	5.0	5.0	0.39	1.00	>4	E	M	Fair	Typically vigorous with minor dead wood throughout. Ivy on bole.	+ 20	B2
37	Populus sp. Poplar sp.	16.0	5.0	7.0	5.0	5.0	0.37	1.00	>4	E	M	Fair	Typically vigorous with minor dead wood throughout. Ivy on bole.	+ 20	B2
38	Populus sp. Poplar sp.	20.0	6.0	8.0	7.0	7.0	0.44	1.00	>4	E	M	Fair	Typically vigorous with minor dead wood throughout. Ivy on bole.	+ 20	B2
39	Quercus robur Pedunculate Oak	12.0	5.0	5.0	5.0	5.0	0.37	1.00	1.75	E	M	Fair	Fair form. Tree works undertaken in the past.	+ 15	C2
#40	Eucalyptus gunnii Cider gum	16.0	6.0	6.0	6.0	6.0	0.49	1.00	>3	W	M	Fair	Vigorous, off site tree.	+ 25	B2

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			N	E	S	W									
41	Populus sp. Poplar sp.	10.0	7.0	7.0	7.0	7.0	0.42	1.00	>2	-	M	Fair	In densely vegetated area.	+ 25	C2
42	Populus sp. Poplar sp.	9.0	5.0	5.0	5.0	5.0	0.41	1.00	>2	-	M	Fair	In densely vegetated area.	+ 25	C2
43	Quercus robur Pedunculate Oak	12.0	10.0	10.0	10.0	10.0	0.73	1.00	0.50		M	Fair/Good	Attractive, wide spreading tree. Dead wood.	+ 50	A1/2
44	Salix babylonica Weeping Willow	10.0	5.0	5.0	4.0	3.0	0.48	1.00	-	N	M	Fair/Poor	Main trunk twins at 2.5m. Extensive work undertaken to raise the crown on otherwise low hanging species. Numerous rot pockets, water shoots and acute branch angles form an altogether unsatisfactory and contorted tree. In roundabout.	+ 20	B2/C2
45	Fagus sylvatica Common Beech	8.0	4.0	3.0	2.0	3.0	0.27	2.00	2.00	N	EM	Fair	Species wholly unsuited to the cramped conditions of a brick bound roundabout.	+ 20	C2
46	Populus nigra 'Italica' Lombardy Poplar	16.0	4.0	4.0	4.0	4.0	0.48	1.00	>2	-	OM	Poor	Ivy clad, over mature. Leans west.	-15	U
47	Populus nigra 'Italica' Lombardy Poplar	18.0	6.0	6.0	6.0	6.0	0.85	1.00	>2	-	OM	Poor	Ivy may conceal defects. Typical slender columnular form with tightly bound trunks and suckers.	-15	U
48	Populus nigra 'Italica' Lombardy Poplar	20.0	7.0	7.0	7.0	7.0	0.80	1.00	>2	-	OM	Poor	Large cavity with soft rot. Remove on H&S grounds	-5	U
49	Populus nigra 'Italica' Lombardy Poplar	20.0	7.0	7.0	7.0	7.0	0.90	1.00	>2	-	OM	Poor	Large cavity in bole. Remove on H&S grounds	-5	U
50	Populus nigra 'Italica' Lombardy Poplar	20.0	6.0	6.0	6.0	6.0	0.74	1.00	>2	-	OM	Poor	Typical slender columnular form with tightly bound trunks and suckers. Cavity in bole. Limited useful life.	-15	U
51	Populus nigra 'Italica' Lombardy Poplar	20.0	6.0	6.0	6.0	6.0	0.78	1.00	>2	-	OM	Poor	Typical slender columnular form with tightly bound trunks and suckers. Limited useful life.	-15	U
52	Populus nigra 'Italica' Lombardy Poplar	17.0	3.5	3.5	3.5	3.5	0.34	1.00	>2	-	M	Poor	Typical slender columnular form with tightly bound trunks and suckers. Limited useful life.	-15	U

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			N	E	S	W									
53	Fraxinus excelsior Common Ash	20.0	8.0	8.0	8.0	8.0	0.95	1.00	>2	E	M	Fair	Dead wood and die back in tips. Some storm damage. Large sprawling form.	+ 35	A1/2
54	Quercus robur Pedunculate Oak	20.0	11.0	11.0	11.0	11.0	1.00	1.00	2.50	-	M	Fair	Large, well-formed tree. Small Ganoderma noted on bole, likely indicated decay in the central column. Vigorous nonetheless.	+ 35	A1/2
55	Fraxinus excelsior Common Ash	9.0	5.0	5.0	5.0	5.0	0.75	1.00	2.00	W	M/OM	Fair/Poor	Large vertical scar with much insect damage and rot within. Shortened limbs following works. Dead wood and die back.	+ 20	C2
56	Quercus robur Pedunculate Oak	14.0	7.0	7.0	8.0	8.0	0.76	1.00	-	-	M	Fair/Good	Large, well formed tree.	+ 30	A2
57	Populus sp. Poplar sp.	20.0	7.0	8.0	7.0	7.0	0.64	1.00	>4	E	M	Fair	Vigorous. Dead wood snags noted.	+ 20	B2
58	Sorbus intermedia Swedish Whitebeam	6.5	4.0	4.0	4.0	4.0	0.24	1.00	>1.75	-	EM	Fair	Fair form. Tree works undertaken in the past.	+ 15	C2
59	Betula pendula Silver Birch	9.0	2.5	2.5	2.5	2.5	0.22	1.00	1.75	-	EM	Fair	Strong apical growth.	+ 15	C2
60	Betula pendula Silver Birch	10.0	2.5	2.5	2.5	2.5	0.24	1.00	1.75	-	EM	Fair	Strong apical growth.	+ 15	C2
61	Fraxinus excelsior Common Ash	8.0	4.0	4.0	4.0	4.0	0.28	1.00	1.50	-	EM	Fair	Fair form. Dead wood.	+ 15	C2
62	Sorbus intermedia Swedish Whitebeam	7.0	4.0	4.0	4.0	4.0	0.24	-	-	-	EM	Fair	Fair form.	+ 15	C2
63	Fraxinus excelsior Common Ash	10.0	4.0	4.0	4.0	4.0	0.41	1.00	1.25	-	M	Fair	Minor dead wood. Vigorous.	+ 15	C2
64	Acer pseudoplatanus Sycamore	8.0	4.0	4.0	4.0	4.0	0.36	1.00	-	-	EM	Fair	Dead wood. Vigorous.	+ 15	C2
65	Cupressus macrocarpa Monterey Cypress	8.0	3.0	3.0	3.0	3.0	0.35	1.00	-	-	M	Fair	Scrappy	+ 15	C2

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			N	E	S	W									
66	Acer campestre Field Maple	10.0	4.5	4.5	4.5	4.5	0.36	1.00	1.50	-	M	Fair	Established in grass.	+ 15	C2
67	Juglans regia Common Walnut	7.0	3.0	3.0	3.0	3.0	0.16	1.00	1.50	-	M	Fair	Established in grass.	+ 15	C2
68	Prunus sp. Prunus sp.	4.0	2.5	2.5	2.5	2.5	0.15	1.00	-	-	EM	Fair	Scrappy	+ 15	C2
69	Crataegus crus-galli Cockspur Thorn	9.0	1.5	1.5	1.0	1.5	0.14	1.00	-	-	EM	Fair	Beside road	+ 15	C2
70	Crataegus crus-galli Cockspur Thorn	10.0	2.0	1.5	1.5	2.5	0.15	1.00	-	-	EM	Fair	Beside road	+ 15	C2
#71	Fraxinus excelsior Common Ash	6.0	4.0	4.0	4.0	4.0	0.20	1.00	1.00	W	EM	Fair	Small ash with westerly bias.	+ 15	C2
G1	Ulmus procera, Prunus avium, Sambucus nigra, Quercus robur English Elm, Wild Cherry, Elder, Pedunculate Oak	10.0	as shown				-	-	-	-	EM	Fair	Elm dominates this group bounding the footpath. Vigorous, dense, forming a screen and defining the path.	+ 15	B2
G2	Acer campestre Field Maple	8.5	as shown				-	-	-	-	M	Fair	Line of multi-trunked trees bounding the ditch, limbs typically 20Ø centres with exposed roots. Collectively these form an attractive treed edge to the footpath.	+ 25	B2
G3	Crataegus monogyna, Quercus robur, Ulmus procera, Acer campestre Common Hawthorn, Pedunculate Oak, English Elm, Field Maple	8.0	as shown				-	-	-	-	M	Poor	Vegetation bounding the field forming a sense of enclosure. Occasional Oak within the group may have long term potential depending on the nature over the upper canopy.	+ 15	C2
G4	Crataegus monogyna Common Hawthorn	6.0	as shown				-	-	-	-	M	Fair	Ivy clad, small group remnant.	+ 15	C2
G5	Ulmus procera English Elm	7.0	as shown				-	-	-	-	Y/EM	Good	Vigorous.	+ 10	C2
G6	Quercus robur, Sambucus nigra Pedunculate Oak, Elder	4.0	as shown				-	-	-	-	-	Poor	Poor.	-5	U

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			N	E	S	W									
G7	Acer pseudoplatanus, Fraxinus excelsior, Crataegus monogyna Sycamore, Common Ash, Common Hawthorn	8.0	as shown				-	-	-	-	-	Fair	Within Ivy understorey, congested, poor. Some deadwood on floor.	+ 15	C2
G8	Fraxinus excelsior Common Ash	7.0	as shown				-	-	-	-	Y/EM	Fair/Poor	Ash poles. Vigorous, drawn.	+ 15	C2
G9	Quercus robur Pedunculate Oak	7.0	as shown				-	-	-	-	Y/EM	Fair	Mid-sized 10-20Ø trees with potential. Some cut down.	+ 25	B2
G10	x3 Populus sp. Poplar	10.0	as shown				-	-	-	-	EM	Fair	Trees bounding field. Typically vigorous. Some strong north-west bias bithin.	+ 15	C2
#G11	Crataegus monogyna, Prunus sp., Fraxinus excelsior, Prunus spinosa, Populus sp., Quercus robur Common Hawthorn, Prunus, Common Ash, Blackthorn, Poplar, Pedunculate Oak	9.0	as shown				-	-	-	-	EM	Fair	Mixed species group, scrappy and congested much over-run by Bramble. Some trees have strong westerly bias. Some deadwood within.	+ 15	C2
#G12	Acer campestre Field Maple	12.0	as shown				-	-	-	-	M	Fair	Fair group	+ 15	C2
#G13	Prunus cerasifera 'nigra', Acer campestre, Carpinus betulus, Alnus cordata, Castanea sativa, Fraxinus excelsior, Purple Cherry, Field Maple, Hornbeam, Italian Alder, Sweet Chestnut, Common Ash	13.0	as shown				-	-	-	-	EM-M	Fair/Good	Attractive group. Trees not in close proximity and stand out. Ornamental value.		B2
#G14	Cupressus macrocarpa Monterey Cypress	12.0	as shown				-	-	-	-	EM	Good	Attractive conifers.		C2

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Appendix C

Tree Protection and Removal Plan JSL4207_710

Key

- Survey boundary.
- Tree with numbered reference.
Canopy spread and BS5837:2012 tree quality category as shown below.
- Tree (in off-site or estimated location) 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

Tree protected by Tree Preservation Order
Havant Borough Council. 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.

Minor shrub/vegetation removal and/or 'face back' pruning to provide construction space

Excavation to be completed by small plant or by hand, any required root pruning to be in accordance with BS 3998. Pruning of roots over 25mmØ to be monitored by arboriculturalist, with ongoing monitoring of trees condition by an arboriculturalist being recommended.

Surface area to be protected in accordance with Section 6.2.3 BS - 5837:2012.

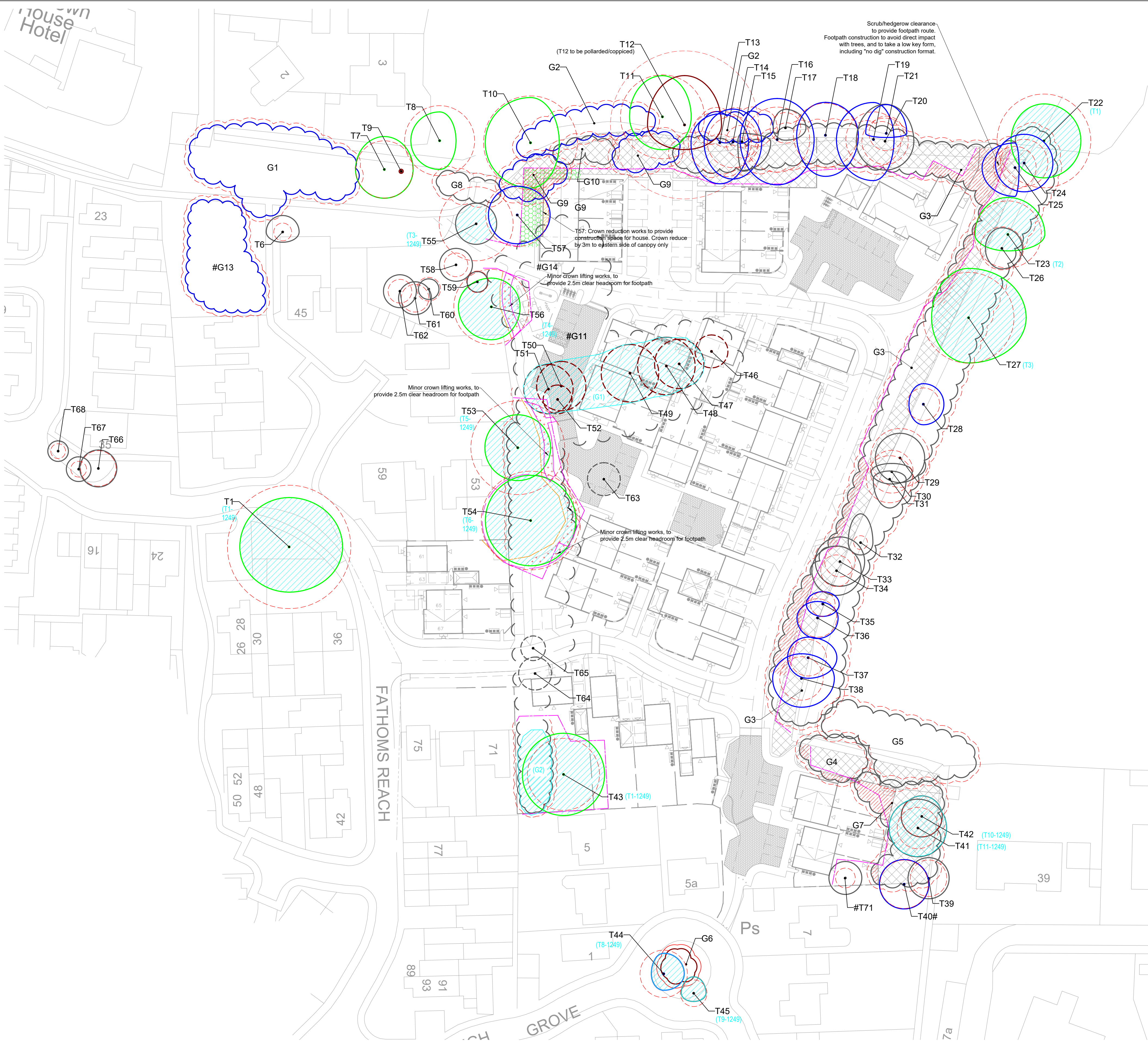
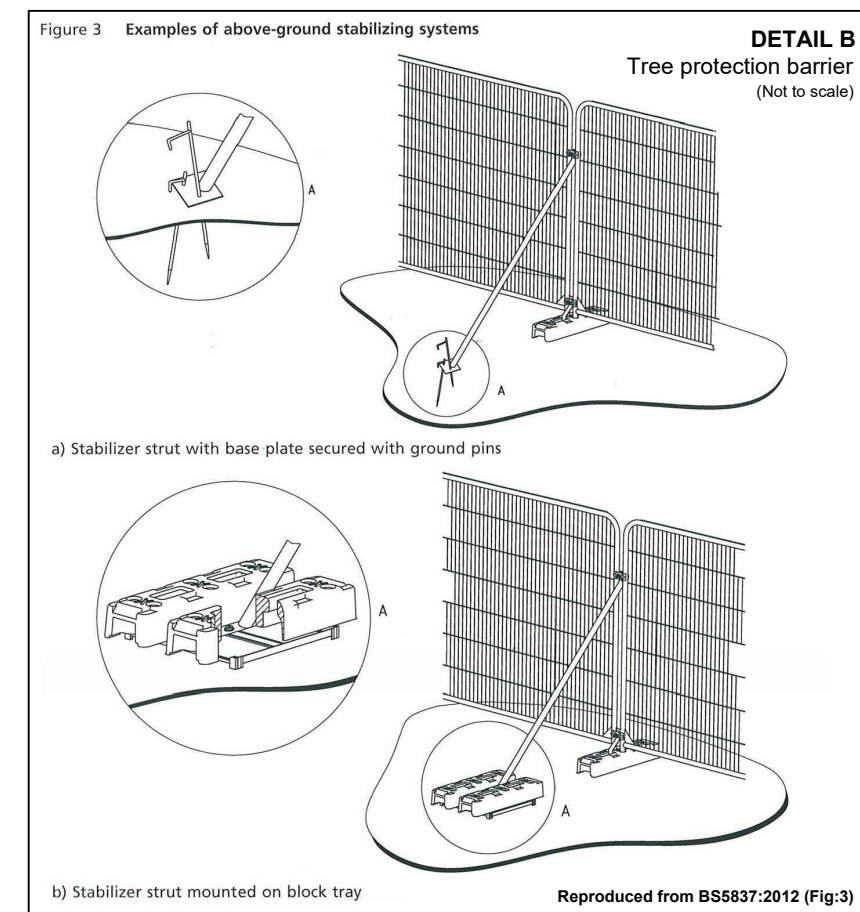
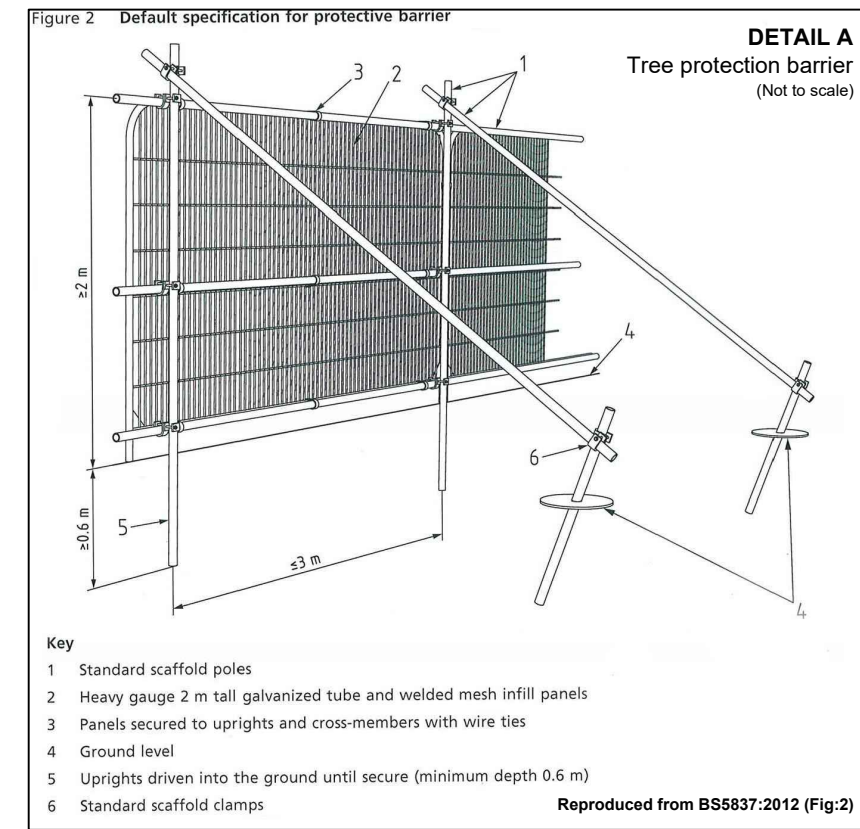
Primary stage: Temporary protective fencing in accordance with Section 6.2 - BS5837:2012. See inset details for example barriers.

2nd stage: Temporary protective fencing in accordance with Section 6.2 - BS5837:2012. See inset details for example barriers - **Fence to be realigned to permit construction of minor footpaths / play equipment only**

Above ground construction requiring 'No-dig' design principles in accordance with APN12.

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 Digital Terrain Surveys LLP, Land Survey Partnership in Romsey, May 2017.
- 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



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Notes

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Rev	Description	Date	Initial	Checked
A	Updated layout	Nov 2021	AB	DC



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

Client **Taylor Wimpey Southern Counties**

Project **Land at Fathoms Reach
Hayling Island
Hampshire**

Title **Tree Protection and Removal Plan**

Status For Planning	Drawn By AB	PM/Checked by DC
Job Ref JSL4207	Scale @ A1 1:500	Date Created November 2021
RPS Drawing / Figure Number 710		Rev A

rpsgroup.com

Appendix D

Arboricultural site register

(Example template only)

ARBORICULTURAL SITE REPORT

PROJECT: XXX, XX Street, XXX Town	SITE CONTACT: Mr XXX	REPORT NO: 001
INSPECTION COMPLETED BY: Mr XXX	DATE AND TIME: XXX	SHEET: X OF X

1.1 IT EM	LOCATION	NOTES / RECOMMENDATIONS	ACTION
1	E.g. Adjacent to T999, north of building	E.g. Damaged fence, materials spilled into RPA, further inspection requirements, damage to tree	E.g. Reinstate fencing, make good levels with topsoil
2			
3			

CIRCULATION:
 Mr XXX
 Mr XXX

Appendix E

TPO Information

THE COUNCIL OF THE BOROUGH OF HAVANT

TOWN AND COUNTRY PLANNING ACTS 1971 - 1974

TREE PRESERVATION ORDER No.1249

Southleigh Holiday Camp St. Mary's Road Hayling Island

THE COUNCIL OF THE BOROUGH OF HAVANT, in this order called "the authority" in pursuance of the powers conferred in that behalf by Section 60 of the Town and Country Planning Act 1971 (as amended by section 10 (1) of the Town and Country Amenities Act 1974 and Section 90 of the Local Government Planning and Land Act, 1980) and subject to the provisions of the Forestry Act, 1967, hereby make the following order:-

1. In this Order:-

"The Act" means the Town and Country Planning Act, 1971;

"owner" means the owner in fee simple, either in possession or who has granted a lease or tenancy of which the unexpired portion is less than three years; lessee (including a sub-lessee) or tenant in possession, the unexpired portion of whose lease or tenancy is three years or more; and a mortgagee in possession; and "the Secretary of State" means the Secretary of State for the Environment.

2. Subject to the provisions of this Order and to the exemptions specified in the Second Schedule hereto, no person shall, except with the consent of the Authority and in accordance with the conditions, if any, imposed on such consent, cut down, top, lop, uproot, wilfully damage or wilfully destroy or cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of any tree specified in the First Schedule hereto or comprised in a group of trees or in a woodland therein specified, the position of which trees, groups of trees and woodlands is defined in the manner indicated in the said First Schedule on the map annexed hereto, which map shall, for the purpose of such definition as aforesaid, prevail where any ambiguity arises between it and the specification in the First Schedule.
3. An application for consent made to the Authority* under Article 2 of this Order shall be in writing stating the reasons for making the application, and shall by reference if necessary to a plan specify the trees to which the application relates, and the operations for carrying out of which consent is required.
4. (1) Where an application for consent is made to the Authority under this Order, the Authority may grant such consent either unconditionally, or subject to such conditions (including conditions requiring the replacement of any tree by one or more trees on the site or in the immediate vicinity thereof), as the Authority may think fit, or may refuse consent:

Provided that where the application relates to any woodland specified in the First Schedule to this Order the Authority..../....

NOTE:* If it is desired to fell any of the trees included in this Order whether included as trees, groups of trees or woodlands, and the trees are trees for the felling of which a licence is required under the Forestry Act, 1967, application should be made not to the Authority for consent under this Order but to the Conservator of Forests for a Licence under that Act (section 15(5))

shall grant consent so far as accords with the principles of good forestry, except where, in the opinion of the Authority, it is necessary in the interests of amenity to maintain the special character of the woodland or the woodland character of the area, and shall not impose conditions on such consent requiring replacement or replanting.

(2) The Authority shall keep a register of all applications for consent under this Order containing information as to the nature of the application, the decision of the Authority thereon, any compensation awarded in consequence of such decision and any directions as to replanting of woodlands; and every such register shall be available for inspection by the public at all reasonable hours.

5. Where the Authority refuse consent under this Order or grant such consent subject to conditions they may when refusing or granting consent certify in respect of any trees for which they are so refusing or granting consent that they are satisfied -

(a) that the refusal or condition is in the interest of good forestry;

or

(b) in the case of trees other than trees comprised in woodlands, that the trees have an outstanding or special amenity value.

6. (1) Where consent is granted under this Order to fell any part of a woodland other than consent for silvicultural thinning then unless -

(a) such consent is granted for the purpose of enabling development to be carried out in accordance with a permission to develop land under Part III of the Act, or

(b) the Authority with the approval of the Secretary of State dispense with replanting,

the Authority shall give to the owner of the land on which that part of the woodland is situated a direction in writing specifying the manner in which and the time within which he shall replant such land and where such a direction is given and the part is felled the owner shall, subject to the provisions of this Order and Section 175 of the Act, replant the said land in accordance with the direction.

(2) Any direction given under paragraph (1) of this Article may include requirements as to -

- (a) Species;
- (b) number of trees per acre (hectare);
- (c) the erection and maintenance of fencing necessary for protection of the replanting;
- (d) the preparation of ground, draining, removal of brushwood, lop and top
- and
- (e) protective measures against fire.

7. On imposing any condition requiring the replacement of any tree under Article 4 of the Order, or on giving a direction under Article 6 of this Order with respect to the replanting of woodlands, the Authority shall if such condition or direction relates to land in respect of which byelaws made by a Water Authority since 31st March 1974 by any other authority (whose functions are now exercised by a Water Authority who at any time prior to 1 April 1974 exercised the functions in respect of which the byelaw was made, by a drainage board, or by the Greater London Council in the exercise of any of its functions in

relation to the maintenance improvement or construction of watercourses or of drainage works restrict or regulate the planting of trees, notify the applicant or the owner of the land, as the case may be, of the existence of such byelaws and that any such condition or direction has effect subject to the requirements of the water authority, the drainage board, or the Greater London Council under those byelaws and the condition or direction shall have effect accordingly.

8. The provisions set out in the Third Schedule to this Order, being provisions of Part III of the Act adapted and modified for the purposes of this Order, shall apply in relation thereto.

9. Subject to the provisions of this Order, any person who has suffered loss or damage in consequence of any refusal (including revocation or modification) of consent under this Order or of any grant of any such consent subject to conditions, shall, if he makes a claim on the Authority within the time and in the manner prescribed by this Order, be entitled to recover from the Authority compensation in respect of such loss or damage; Provided that no compensation shall be payable in respect of loss or damage suffered by reason of such refusal or grant of consent in the case of any trees the subject of a certificate in accordance with Article 5 of this Order.

10. In assessing compensation payable under the last preceding Article account shall be taken of:

(a) any compensation or contribution which has been paid whether to the claimant or any other person, in respect of the same trees under the terms of this or any other Tree Preservation Order under Section 60 of the Act or under the terms of any interim Preservation Order made under section 8 of the Town and Country Planning (Interim Development) Act, 1943 or any compensation which has been paid or which could have been claimed under any provision relating to the preservation of trees or protection of woodlands contained in an operative scheme under the Town and Country Planning Act 1932, and

(b) any injurious affection to any land of the owner which would result from the felling of the trees the subject of the claim.

11. (1) A claim for compensation under this Order shall be in writing and shall be made by serving it on the Authority, such service to be effected by addressing the claim to the Authority and leaving it or sending it by post to the principal office of the Authority.

(2) The time within which any such claim shall be made as aforesaid shall be a period of twelve months from the date of the decision of the Authority, or of the Secretary of State, as the case may be, or where an appeal has been made to the Secretary of State against the decision of the Authority, from the date of the decision of the Secretary of State on the appeal.

12. Any question of disputed compensation shall be determined in accordance with the provisions of section 179 of the Act.

13. (X) The provisions of Section 61 of the Act shall apply to this Order and the Order shall take effect on the date on which this Order is made as set out in the execution hereto.

(2) ~~This order shall apply to any trees specified in the First Schedule hereto, which is to be planted as mentioned therein, as from the time when that tree is planted.~~

NOTE: Any persons contravening the provisions of this Order by cutting down, uprooting or wilfully destroying a tree, or by wilfully damaging, topping, or lopping a tree in such a manner as to be likely to destroy it is guilty of an offence and liable on summary conviction to a fine not exceeding £1,000 or

twice the sum which appears to the court to be the value of the tree, whichever is the greater, or on indictment to a fine. The penalty for any other contravention of this Order is a fine not exceeding £200 on summary conviction and, in the case of a continuing offence when the contravention is continued after conviction a person is liable on summary conviction to an additional fine not exceeding £5 for every day on which the contravention is so continued.

If a tree other than one to which an Order applies as part of a woodland is removed, uprooted or destroyed in contravention of an Order or is removed, uprooted or destroyed or dies at a time when its cutting down or uprooting is authorised only by section 60 (6) of The Town and Country Planning Act 1971 relating to trees which are dying or dead or have become dangerous, it is the duty of the owner of the land, unless on his application the local Planning authority dispense with the requirement, to plant another tree of appropriate size and species at the same place as soon as he reasonably can. Except in emergency, not less than 5 days previous notice of removal etc., should be given to the authority to enable the latter to decide whether or not to dispense with the requirement.

FIRST SCHEDULE
Trees Specified Individually.
(encircled in black on the map)

<u>No. on map.</u>	<u>Description.</u>	<u>Situation.</u>
T.1	Black Poplar (Populus Nigra)	{ Southleigh Holiday Camp St. Mary's Road Hayling Island
T.2 T.8 and T.14	Willow (Salix)	
T.3 and T.5	Ash (Fraxinus Excelsior)	
T.4 T.6 and T.7	Oak (Quercus Robur)	
T.9	Beech (Fagus Sylvatica)	
T.10 and T.11	Lombardy Poplar (Populus Nigra Italica)	
T.12	Monterey Cypress (Cupressus Macrocarpa)	
T.13	Sycamore (Acer Pseudoplatanus)	

Trees Specified by Reference to an Area.
(within a dotted black line on the map)

<u>No. on map.</u>	<u>Description.</u>	<u>Situation.</u>
--------------------	---------------------	-------------------

NONE

Groups of Trees
(Within a broken black line on the map)

<u>No. on map.</u>	<u>Description</u>	<u>Situation.</u>
G.1	5 Lombardy Poplars (Populus Nigra Italica)	{ Southleigh Holiday Camp St. Mary's Road Hayling Island
G.2	6 Maples (Acer) and 1 Hawthorn (Crataegus)	
G.3	24 Monterey Cypressess (Cupressus Macrocarpa)	
G.4	6 Monterey Cypressess (Cupressus Macrocarpa)	
G.5	5 Limes (Tilia) and 3 Cypressess (Cupressus)	
G.6	6 Limes (Tilia) and 3 Cypressess (Cupressus)	

Woodlands.
(Within a continuous black line on the map)

<u>No. on map.</u>	<u>Description.</u>	<u>Situation.</u>
--------------------	---------------------	-------------------

NONE

NOTE for Office Use. Every heading should be included in the Schedule and the word "NONE" written in where necessary.

SECOND SCHEDULE

This Order shall not apply so as to require the consent of the authority to

(1) the cutting down of any tree on land which is subject to a forestry dedication covenant where

(a) any positive covenants on the part of the Owner of the land contained in the same deed as the forestry dedication covenant and at the time of the cutting down binding on the then owner of the land are fulfilled;

(b) the cutting down is in accordance with a plan of operations approved by the Forestry Commission under such deed.

(2) the cutting down of any tree which is in accordance with a plan of operations approved by the Forestry Commission under the approved woodlands scheme or other grant scheme under section 4 of the Forestry Act 1967 except a scheme which applies to a forestry dedication covenant;

(3) the cutting down, uprooting, topping or lopping of a tree

(a) in pursuance of the power conferred on the Post Office by virtue of Section 5 of the Telegraph (Construction) Act, 1908; and section 21 of the Post Office Act 1969 or by or at the request of the Post Office where the land on which the tree is situated in operational land as defined by the Post Office Operational Land Regulations* and either works on such land cannot otherwise be carried out or by the cutting down, topping or lopping is for the purpose of securing safety in the operations of the undertaking.

(b) by or at the request of.

(i) a statutory undertaker where the land on which the tree is situated is operational land as defined by the Act and either works on such land cannot otherwise be carried out or the cutting down, topping or lopping is for the purpose of securing safety in the operation of the undertaking;

(ii) an electricity board within the meaning of the Electricity Act 1947, where such tree obstructs the construction by the board of any main transmission line or other electric line within the meaning respectively of the Electricity (Supply) Act, 1919. and the Electric Lighting Act, 1882, or interferes or would interfere with the maintenance or working of any such line;

(iii) a Water authority established under the Water Act 1973, a drainage board constituted or treated as having been constituted under the Land Drainage Act, 1930, or the Greater London Council, where the tree interferes or would interfere with the exercise of any of the functions of such water authority, drainage board or Council in relation to the maintenance, improvement or construction of water courses or of drainage works; or

* (a) S.1. 1973/310.

(iv) The Secretary of State for Defence, the Secretary of State for Trade, the Civil Aviation Authority or the British Airport Authority where in the opinion of such Secretary of State or Authority the tree obstructs the approach of aircraft to, or their departure from, any aerodrome, or hinders the safe and efficient use of aviation or defence technical installations.

(c) where immediately required for the purpose of carrying out development authorised by the planning permission granted on an application made under Part III of the Act, or deemed to have been so granted for any of the purposes of that Part;

(d) which is a fruit tree cultivated for fruit production growing or standing on land comprised in an orchard or garden;

THIRD SCHEDULE.

Provisions of the following parts of Part III of the Town and Country Planning Act, 1971, as adapted and modified to apply to this Order.

33(1) Without prejudice to the following provisions as to the revocation or modification of consents, any consent under the Order, including any direction as to replanting given by the authority on the granting of such consent, shall (except insofar as the consent otherwise provides), enure for the benefit of the land and of all persons for the time being interested therein.

Reference of Applications to the Secretary of State.

35 (1) The Secretary of State may give directions to the authority requiring applications for consent under the Order to be referred to him instead of being dealt with by the authority.

35 (2) A direction under this section may relate either to a particular application or to applications of a class specified in the direction.

35 (3) Any application in respect of which a direction under this section has effect shall be referred to the Secretary of State accordingly.

35 (4) Where an application for consent under the Order is referred to the Secretary of State under this section, the provisions of Articles 4 and 5 of the Order shall apply as they apply to an application which falls to be determined by the authority.

35 (5) Before determining an application referred to him under this section, the Secretary of State shall, if either the applicant or the authority so desire, afford to each of them an opportunity of appearing before and being heard by, a person appointed by the Secretary of State for the purpose.

35 (6) The decision of the Secretary of State on any application referred to him under this section shall be final.

Appeals against decisions.

36 (1) Where an application is made to the authority for consent under the Order and the consent is refused by that authority or is granted by them subject to conditions, or whether any certificate or direction is given by the authority, the applicant, if he is aggrieved by their decision on the application, or by any such certificate, or the person directed if he is aggrieved by the direction, may by notice under this section appeal to the Secretary of State.

36 (2) A notice under this section shall be served in writing within twenty-eight days from the receipt of notification of the decision, certificate or direction, as the case may be, or such longer period as the Secretary of State may allow.

36 (3) Where an appeal is brought under this section from a decision, certificate or direction of the authority, the Secretary of State, subject to the following provisions of this section, may allow or dismiss the appeal, or may reverse or vary any part of the decision of the authority, whether the appeal relates to that part thereof or not, or may cancel any certificate or cancel or vary any direction, and may deal with the application as if it had been made to him in the first instance.

36 (4) Before determining an appeal under this section, the Secretary of State shall, if either the appellant or the authority so desire, afford to each of them an opportunity of appearing before, and being heard by, a person appointed by the Secretary of State for the purpose.

36 (6) The decision of the Secretary of State on any appeal under this section shall be final.

Appeal in default of decision.

37. Where an application for consent under the Order is made to the authority, then unless within two months from the date of receipt of the application, or within such extended period as may at any time be agreed upon in writing between the applicant and the authority, the authority either -

- (a) give notice to the applicant of their decision on the application; or
- (b) give notice to him that the application has been referred to the Secretary of State in accordance with directions given under Section 35 above;

the provisions of the last preceding section shall apply in relation to the application as if the consent to which it relates had been refused by the authority, and as if notification of their decision had been received by the applicant at the end of the said period of two months, or at the end of the said extended period, as the case may be.

Power to revoke or modify the consent under the Order.

45 (1) If it appears to the authority that it is expedient to revoke or modify any consent under the Order granted on an application made under Article 3 of the Order, the authority may by Order revoke or modify the consent to such extent as they consider expedient.

(2) Subject to the provisions of Sections 46 and 61 of the Act, an Order under this section shall not take effect unless it is confirmed by the Secretary of State; and the Secretary of State may confirm any such Order submitted to him either without modification or subject to such modifications as he considers expedient.

(3) Where an authority submit an Order to the Secretary of State for his confirmation under this section, the authority shall furnish the Secretary of State with a statement of their reason for making the Order and shall serve notice together with a copy of the aforesaid statement on the owner and on the occupier of the land affected, and on any other person who in their opinion will be affected by the Order, and if within the period of twenty-eight days from the service thereof any person on whom the notice is served so requires, the Secretary of State, before confirming the Order, shall afford to that person, and to the authority, an opportunity of appearing before, and being heard by, a person appointed by the Secretary of State for the purpose.

(4) The power conferred by this section to revoke or modify a consent may be exercised at any time before the operations for which consent has been given have been completed.

Provided that the revocation or modification of consent shall not affect so much of those operations as has been previously carried out.

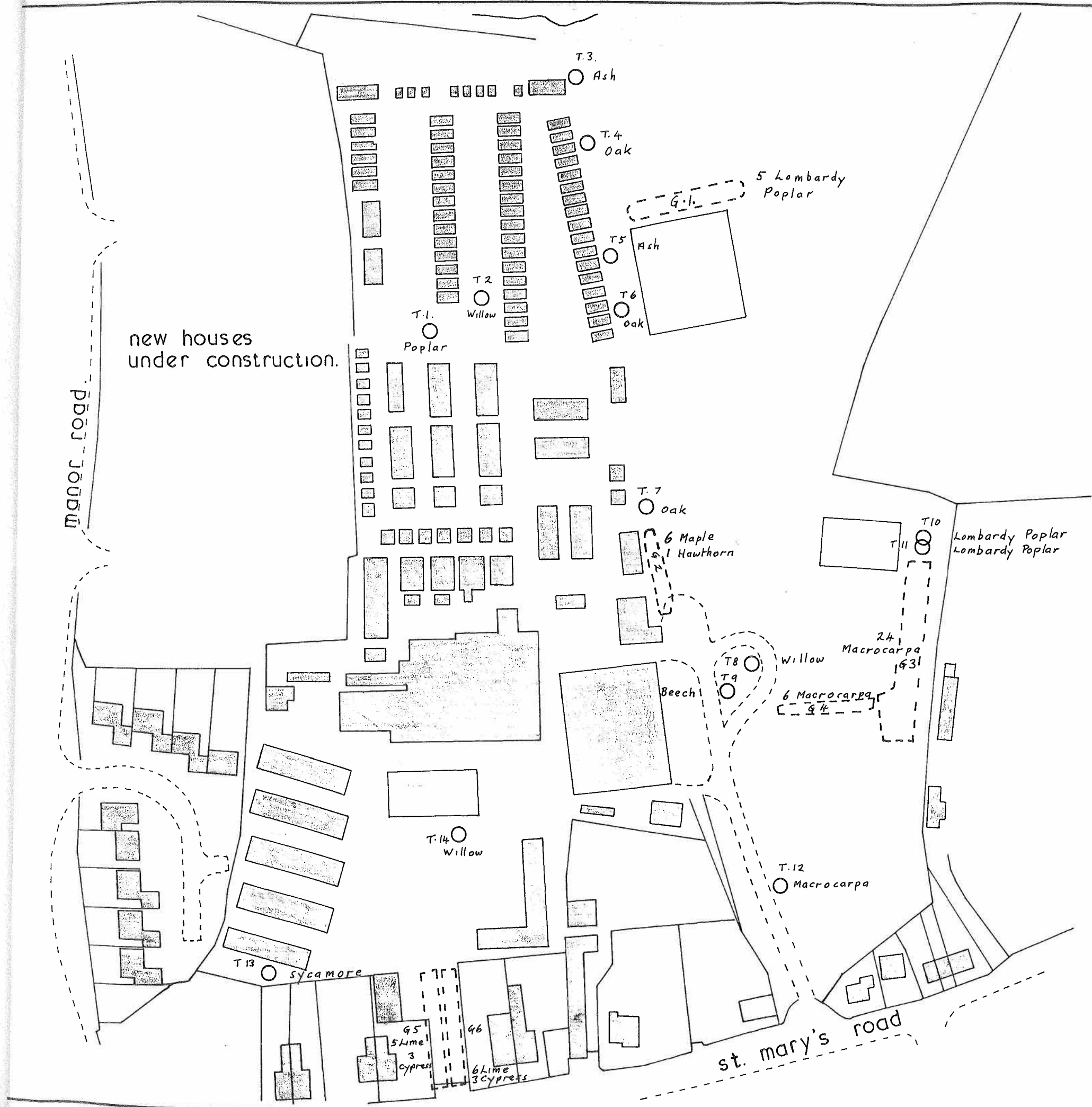
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SZ 7199 7160 9970

No	COMMON NAME	BOTANICAL NAME
T1.	Black Poplar	<i>Populus Nigra</i>
T2, T8, T14.	Willow	<i>Salix</i>
T3, T5.	Ash	<i>Fraxinus Excelsior</i>
T4, T6, T7.	Oak	<i>Quercus Robur</i>
T9.	Beech	<i>Fagus Sylvatica</i>
T10, T11.	Lombardy Poplar	<i>Populus Nigra Italica</i>
T12	Monterey Cypress	<i>Cupressus Macrocarpa</i>
T13	Sycamore.	<i>Acer Pseudoplatanus.</i>
G1.	5 Lombardy Poplar	5 <i>Populus Nigra Italica</i>
G2.	6 Maple, 1 Hawthorn.	6 <i>Acer</i> 1 <i>Crataegus.</i>
G3.	24 Monterey Cypress	24 <i>Cupressus Macrocarpa</i>
G4.	6 Monterey Cypress	6 <i>Cupressus Macrocarpa</i>
G5	5 Lime 3 Cypress	5 <i>Tilia</i> 3 <i>Cupressus</i>
G6	6 Lime 3 Cypress	6 <i>Tilia</i> 3 <i>Cupressus.</i>

REV	DESCRIPTION	DATE	INITS.
 Borough of Havant			
Technical Services Department			
Director: JW Hancock, CEng. FICE. FIMunE. MIHE. MIStructE.			
Civic Offices Civic Centre Road Havant, Hants. PO9 2AX Telephone: Havant(0705)474174			
TITLE			
TREE PRESERVATION ORDER No 1249. SOUTHLEIGH HOLIDAY CAMP, ST MARY'S ROAD, HAYLING IS			
DRAWN BY		DRG No.	
G.S.		3001-6-649	
SCALE		NEG No.	
1:1250		22,562	
DATE			
SEP. '85			

(5) Where a notice has been served in accordance with the provisions of sub-section (3) of this section, no operations or further operations as the case may be, in pursuance of the consent granted, shall be carried out pending the decision of the Secretary of State under sub-section (2) of this section.

Unopposed revocation or modification of consent

(1) The following provisions shall have effect where the local planning authority have made an Order (hereinafter called "such Order") under Section 45 above revoking or modifying any consent granted on an application made under a tree preservation order but have not submitted such Order to the Secretary of State for confirmation by him and the owner and the occupier of the land and all persons who in the authority's opinion will be affected by such Order have notified the authority in writing that they do not object to such Order.

(2) The Authority shall advertise the fact that such Order has been made and the advertisement shall specify (a) the period (not less than twenty eight days from the date on which the advertisement first appears) within which persons affected by such Order may give notice to the Secretary of State that they wish for an opportunity of appearing before, and being heard by, a person appointed by the Secretary of State for the purpose and (b) the period (not less than 14 days from the expiration of the period referred to in paragraph (a) above) at the expiration of which, if no such notice is given to the Secretary of State, such Order may take effect by virtue of this section and without being confirmed by the Secretary of State.

(3) The Authority shall also serve notices to the same effect on the persons mentioned in sub-section (1) above.

(4) The Authority shall send a copy of any advertisement published under sub-section (2) above to the Secretary of State, not more than three days after the publication.

(5) If within the period referred to in sub-section (2) (a) above no person claiming to be affected by such Order has given notice to the Secretary of State as aforesaid and the Secretary of State has not directed that such Order be submitted to him for confirmation, such Order shall at the expiration of the period referred to in sub-section (2) (b) of this section take effect by virtue of this section and without being confirmed by the Secretary of State as required by Section 45 of the Act.

(6) This section does not apply to such Order revoking or modifying a consent granted or deemed to have been granted by the Secretary of State under Part III or Part IV or Part V of the Act.

THE COMMON SEAL of the)
Council of the Borough of)
Havant was hereunto affixed)
this *Twenty fifth*)
day of *October* nineteen)
hundred and *eighty five*)
in the presence of 

Borough Secretary

DATED

25th October

1985

THE COUNCIL OF THE BOROUGH OF

HAVANT

Town and Country Planning Acts 1971-4

TREE PRESERVATION ORDER

No. 1249

Southleigh Holiday Camp St. Mary's Road
Hayling Island

P.T. ADAMS

ADMIN. AND LEGAL DEPARTMENT

CIVIC OFFICES

HAVANT

HAMPSHIRE

Confirmed by the Council of the Borough of Havant
in pursuance of the Town and Country Planning (Tree
Preservation Order) Regulations, 1969, as modified by the
Town and Country Planning (Tree Preservation Order)
(Amendment) Regulations, 1981, this *Third* day
of *January* 198*6*.

THE COMMON SEAL of the Council)
of the Borough
hereunto affix
this
day of *January*
hundred and ei
in the presence of.

Borough Secretary

Ap. 1976/11Y -

Appendix F

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

Figure 2 Default specification for protective barrier

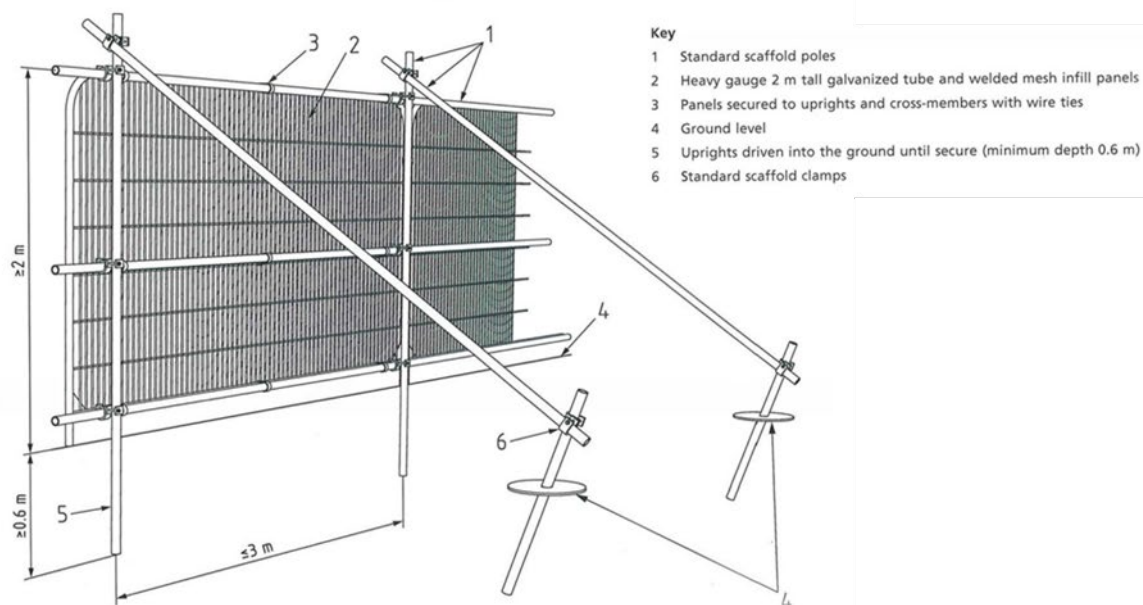
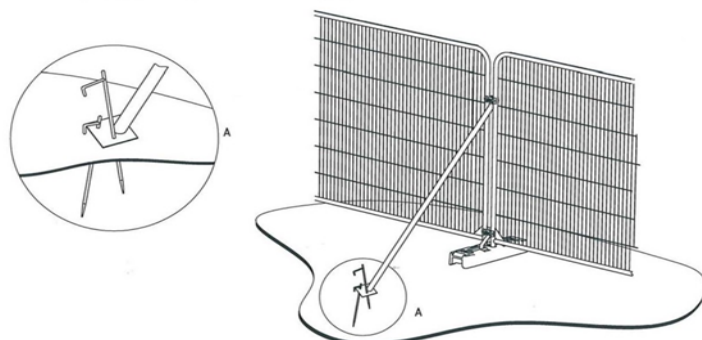
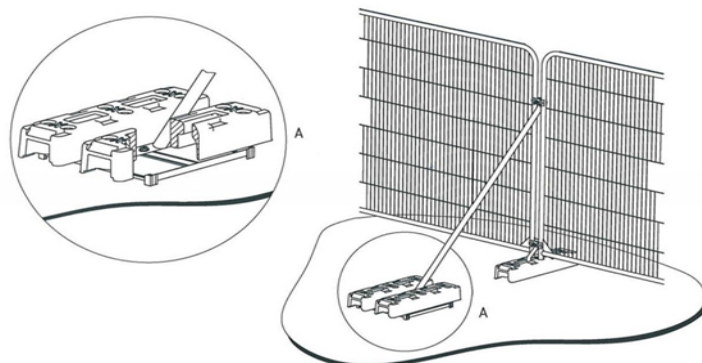


Figure 3 Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Appendix G

Construction Exclusion Zone (CEZ) Signage



Appendix H

Site Photographs



Appendix I

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.

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.

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.

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.

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.