

**MANOR ROAD, HAYLING  
ISLAND**

**ARBORICULTURAL  
ASSESSMENT AND METHOD  
STATEMENT**

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**MANOR ROAD, HAYLING  
ISLAND**

**ARBORICULTURAL  
ASSESSMENT AND METHOD  
STATEMENT**

1<sup>st</sup> June 2017

**Our Ref: JSL2697\_775A**

**RPS**

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# QUALITY MANAGEMENT

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|                                    |                        |
|------------------------------------|------------------------|
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# 1 INTRODUCTION

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- 1.1 This Arboricultural Assessment and Method Statement was commissioned by Lidl UK GmbH in support of redevelopment proposals for the site on Hayling Island. The assessment is intended to support the applicant's proposals with regard any potential impact on existing trees.
- 1.2 The commission was based on a qualitative survey carried out by RPS in November 2016 of the existing trees on a land parcel located off Manor Road, Hayling Island.
- 1.3 The purpose of this report is to:
- Assess the landscape and visual amenity value of the existing trees and to identify the constraints associated with the trees prior to any potential redevelopment of the site. An assessment of the quality of the trees has been made, with reference to the categories and sub-categories listed within Table 1 - BS5837:2012<sup>1</sup>.
  - 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.
- 1.4 The Tree Protection Plan JSL2697\_701 identifies the following:
- Trees to be retained;
  - Trees requiring removal;
  - Alignment and design of protective fence;
  - Root Protection Area (RPA) of trees;
  - Methods of construction / implementation within RPA of retained existing trees
- 1.5 The Arboricultural Method Statement shall be made available to all relevant site operatives prior to and throughout the demolition and construction process, so they understand the scope and importance of the tree protection measures.
- 1.6 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.
- 1.7 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.
- 1.8 This report has been prepared by Chris Chambers BSc Arboriculture (Hons), Chartered Member of the Institute of Chartered Foresters and the Landscape Institute of RPS Group PLC.

<sup>1</sup> *British Standards Institute, (2012); 'British Standard (BS5837) "Trees in Relation to Design, Demolition and Construction - Recommendations"*

## 2 SUMMARY OF TREE SURVEY FINDINGS

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- 2.1 A tree survey of the application site was carried out by RPS in accordance with the requirements set out in BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'.

### **Methodology**

- 2.2 The tree survey involved a visual inspection from the ground of individual specimens and groups of trees in order to record their amenity value, management recommendations and dimensions. Where observed, the general condition of all the trees has been noted.
- 2.3 Trees were not climbed or inspected below ground level and inaccessible trees will have best estimates made about the location, physical dimensions and characteristics.
- 2.4 The locations of the trees were based upon topographic survey produced by RPS of Milton Keynes in October 2016.
- 2.5 Tree characteristics recorded during survey are detailed in the tables in appendix 1 of this document.

### **The Site**

- 2.6 The survey covered on a land parcel off Manor Road, Hayling Island centred on Ordnance Survey Grid Reference SU 721 005 and the nearest code is PO11 0QJ
- 2.7 The site comprises a single field bound by hedges, woodland and trees, currently in agricultural use. The field is accessed by foot from Manor Road.
- 2.8 In terms of the adjoining land uses these comprise agricultural land to the north and the west and residential properties to the east. The site adjoins another field to the south and beyond the caravan site Oven Park.

### **Generally**

- 2.9 There were variations 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.

### **Surveyed Trees and Woodland**

- 2.10 The southern and western boundary of the survey site is formed by wooded land of Honeyrings Copse. Surveyed as tree group G8, this wooded land contains a number of large well-formed climax trees and has a mid-storey of mixed native shrubs and smaller trees.
- 2.11 On the western boundary of Honeyrings Copse the survey identified T16 –T18, oak trees of high amenity value. Similarly, the southern section of the copse is bound by large oak and ash trees T25, in particular is an excellent tree, with a well- formed wide spreading crown.

- 2.12 T26 an ash shows signs of significant storm damage and large limb failure. Given the volume of exposed sapwood and woodpecker holes much internal decay in the scaffold limbs is likely. Dead wood and die-back were noted throughout and poorly undertaken tree works have left acute elbow angles and a likelihood of further failure. Remedial measures might be considered in and works to reduce the crown to extend the useful life of the tree and provide future amenity.
- 2.13 On the eastern side of the survey site is a small copse. This comprises a species-rich mid- and understorey with broadleaf and evergreen. This forms a buffer to the site from Church Road and a good green massing. Some of the trees are congested and the stand would benefit from a programme of routine thinning.
- 2.14 A number of offsite trees were recorded along Manor Road defining the road corridor similarly trees were noted off the Church Road.

### **Design and Site Layout Considerations**

- 2.15 A tree constraints plan defines the Root Protection Area (RPA) for each tree shown as a circle, this area maybe 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.
- 2.16 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).
- 2.17 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.
- 2.18 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.
- 2.19 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.
- 2.20 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 trees larger roots.
- 2.21 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.

- 2.22 New tree planting opportunities should be included as part of any redevelopment proposals, these designs should allow sufficient space for the ultimate height and crown spread of the trees at maturity. Species should be selected which are suitable for rural, residential areas.

**Trees and Management of Health and Safety**

- 2.23 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.

### 3 ARBORICULTURAL IMPACT ASSESSMENT

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#### **Introduction**

- 3.1 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.
- 3.2 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.
- 3.3 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.
- 3.4 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.
- 3.5 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.
- 3.6 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.
- 3.7 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.

#### **Brief Description of Proposed Development**

- 3.8 The redevelopment of the site consists of a new retail outlet with associated modified new vehicular and pedestrian access and car parking.

#### **Statutory Tree Protection**

- 3.9 The client provided a copy of a Tree Preservation Order, comprising groups and single tree protection. The wooded areas and trees on the southern, eastern and western boundaries fall within the order and a single oak T32 is covered by the single order. The reference of the Tree Preservation Order is 'The Council of the Borough of Havant Tree Preservation Order No.2069/2017'
- 3.10 Trees covered by a Tree Preservation Order are protected under the Town and Country Planning Act 1990 (Trees Regulation 2012) and the local authority must be consulted and permission sought for any works that may affect them.

- 3.11 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.
- 3.12 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 by contributing screening and shade, reducing wind speed and turbulence, intercepting snow and rainfall, and reducing glare.
- 3.13 Particular care is needed regarding the retention of 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.

#### **Tree Removal**

- 3.14 The proposed development will not result in the loss or significant impact of any existing trees.
- 3.15 Two sections of hedge (H1) on the northern boundary will require clearance to enable vehicular access, pedestrian access and bicycle storage for the proposed retail outlet. The hedge is category 'C', after BS5837.

#### **Works within the Root Protection Areas**

##### **Generally**

- 3.16 Root Protection Areas (RPA) for each tree and group of trees surveyed has been determined in accordance with BS5837:2012.
- 3.17 Root Protection Areas for the trees have been plotted onto the Tree Protection and Removal Plan with the tree located centrally, extending to encompass the area of ground, and thus the rootable soil volume, required for protection.
- 3.18 Using this information, and giving consideration to the constraints to root development present on site, a protective fence alignment has been plotted to the Tree Protection and Removal Plan and this typically extends to encompass the volume of soil required for root protection.
- 3.19 The trees T23 – T31, covered by TPO No.2069 (G2) are located to the south of a drainage ditch running along the front of the group. It is fair to assume that the location of the ditch may have inhibited the growth and morphology of the roots limiting their spread to the north into the site.
- 3.20 Nevertheless, we would still recommend measures to avoid disturbance or damage to the RPA in the event of roots being present. Hand dug trenches are recommended to establish the extent of root growth prior to excavations within the RPAs.

##### **Proposed works within the Root Protection Area (RPA)**

- 3.21 The proposed installation of parking will impinge on the RPA protection area of T32 a retained oak and will affect approximately 18%, of the RPA. To mitigate the impact to the roots and rooting environment the new surfacing will be completed in a 'no dig' style, where existing soil levels are retained and no positive soil excavation shall occur at all. Furthermore, the carpark will

formed with a permeable subbase that will allow the movement of water and maintain flow to the roots. In this respect it is considered that the works will not significantly affect the continued health and vigour of the tree.

- 3.22 The control measures are set out in the following sections of this document Works within Root Protection Areas shall be carried out in strict accordance with the advice contained within the Arboricultural Checklist (Section 6).
- 3.23 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.

#### **Installation of drainage**

- 3.24 The drainage shall be routed outside the existing or potential root zone of trees wherever possible, however where this is unavoidable soil levels should be carefully reduced by hand to avoid damage to the bark of larger roots and where these become exposed they should be further protected from drying out. Where limited 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.

#### **Installation of services**

- 3.25 Wherever possible drainage shall be routed outside the existing or potential root zone of trees. 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).

#### **Existing Canopy Spreads**

- 3.26 Where the Root Protection Areas for retained trees do not extend to the edge of existing canopy spreads it is possible that those parts of the trees extending beyond the Tree Protection Fencing may sustain damage during construction.

## 4 TREE WORKS

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### **Standard of Work**

- 4.1 All tree work shall be carried out by suitably qualified, competent and insured arboricultural contractors in accordance with BS 3998:2010 Tree Work and latest arboricultural best practice.
- 4.2 All green and woody waste generated by the tree works shall be removed from site and disposed of in an environmentally sustainable manner.
- 4.3 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.
- 4.4 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.
- 4.5 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**

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

## 5 TREE PROTECTION MEASURES

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### **Construction Exclusion Zone**

- 5.1 The Construction Exclusion Zone (CEZ) as defined by the protective fence line shall be regarded as sacrosanct, and the protective fencing shall not be moved or taken down at any time.
- 5.2 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.
- 5.3 Furthermore vehicular or pedestrian access and the storage of any materials is prohibited within the Construction Exclusion Zone.
- 5.4 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**

- 5.5 Once the protective fencing is in place it must remain in situ throughout the course of the development until the completion of development.
- 5.6 The Tree Protection Fence will be constructed using the heras 151 steadfast system. The system is a series of linked fence panels supported by concrete block feet. The panels will be secured to each other using at least two heraslock anti-tamper couplers, installed so that they can only be removed from inside the fence, and diagonal bracing of the structure would be achieved through the use of the heras steadfast strut secured using ground pins so that it is compliant with the guidance detailed within BS5387:2012 at 6.2.2.3.
- 5.7 Copies of the Tree Protection Plan shall be placed in the site office for reference by all site staff.
- 5.8 Signs detailing the purpose of the protective barrier shall be attached to the barriers at 10m intervals. Signs must be replaced as necessary should they be removed or become illegible.
- 5.9 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 any relevant conditions that may be attached to a grant of planning consent for the development.
- 5.10 In addition to the erection of protective fencing consideration shall be given to ground protection measures.

### **Site Compounds and Materials Stores**

- 5.11 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.

- 5.12 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.

**Reporting**

- 5.13 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.

## 6 ARBORICULTURAL CHECKLIST

| <i>Ref</i>                                            | <i>Work Activity</i>                                    | <i>Tree Reference</i>   | <i>Schedule of Works</i>                                                                                                                                                                      | <i>Refer</i>                                                                                                                          | <i>Recommendations</i>                                                                                                                                                                                                               |
|-------------------------------------------------------|---------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General site works and tree related operations</b> |                                                         |                         |                                                                                                                                                                                               |                                                                                                                                       |                                                                                                                                                                                                                                      |
| 01                                                    | Pre-start site meeting                                  |                         | Pre-start site meeting with LPA tree officer, site manager, client representative and arboriculture consultant to agree scope of works.                                                       |                                                                                                                                       |                                                                                                                                                                                                                                      |
| 02                                                    | Protect trees to be retained                            |                         | Barriers should be fit for the purpose of excluding construction activity, and should remain rigid and complete. Barriers are to be located in accordance with RPS Tree Protection Plans.     | Tree Removal and Protection Plans JSL2697_701 to 712                                                                                  | Ongoing monitoring by appointed person                                                                                                                                                                                               |
| 03                                                    | Protective barrier to be inspected by LPA (if required) |                         | Give LPA at least 2 working days' notice of the erection of the temporary protective fencing.                                                                                                 |                                                                                                                                       | Appointed person to contact LPA prior to completion of fencing.                                                                                                                                                                      |
| 04                                                    | Maintain the temporary protective barrier               |                         | Ensure the temporary protective barrier is maintained throughout the entire construction period and record any breach of the tree protection.                                                 | Tree Removal and Protection Plans JSL2697_701                                                                                         | Appointed person responsible for arboricultural protection measures shall monitor fencing at regular intervals (minimum monthly), recording details and making good as necessary to ensure tree protection is in place at all times. |
| 05                                                    | Removal identified vegetation                           | Partial clearance of H1 | Identify vegetation and agree the extent of all tree works.<br>Carry out inspection of ivy for presence of bats / nesting birds as appropriate;<br>Vegetation identified for removal shall be | Arboricultural Association Standard Conditions Of Contract And Specifications For Tree Works (2008) Edition<br>BS 3998:2010 Tree Work | All tree work should be carried out by a suitably qualified tree surgeon, preferably an Arboricultural Association approved contractor.                                                                                              |

| <b>Ref</b>                                  | <b>Work Activity</b>                           | <b>Tree Reference</b>   | <b>Schedule of Works</b>                                                                                                                                                                                                                                                                                | <b>Refer</b>                                                                                                                                                                              | <b>Recommendations</b>                                                                                                                      |
|---------------------------------------------|------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
|                                             |                                                |                         | removed with care in accordance with current H&S requirements and good arboricultural practice to avoid damage to adjacent trees / property                                                                                                                                                             | Tree Removal and Protection Plans<br>JSL2697_701                                                                                                                                          | All works shall be agreed in advance with the Tree Officer                                                                                  |
| 06                                          | Tree stump and established shrub roots removal | Partial clearance of H1 | Stumps within the RPA of retained trees should not be dug or pulled out but mechanically ground or chipped to a maximum depth of 300mm. Where this is not possible owing to the presence of roots from adjacent retained trees, only grind out the stump and leave the wider root plate <i>insitu</i> . | Arboricultural Association Standard Conditions Of Contract And Specifications For Tree Works (2008) Edition<br><br>BS 3998:2010 Tree Work Tree Removal and Protection Plan<br>JSL2697_701 | All tree work should be carried out by a suitably tree qualified tree surgeon, preferably an Arboricultural Association approved contractor |
| 07                                          | Removal of arisings                            | Partial clearance of H1 | Removal of all arisings off site unless instructed otherwise by the CA.<br><br>Fires are NOT permitted on the site                                                                                                                                                                                      | Arboricultural Association Standard Conditions Of Contract And Specifications For Tree Works (2008) Edition<br><br>BS 3998:2010 Tree Work                                                 | Ongoing monitoring by appointed person                                                                                                      |
| <b>Specific tree and construction works</b> |                                                |                         |                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                           |                                                                                                                                             |
| 08                                          | Works with Root Protection Areas (RPA)         | T32                     | All proposed surfaces within RPA areas shall be completed in a 'no dig' style, where existing soil levels are retained and no positive soil excavation shall occur at all.                                                                                                                              | Arboricultural Association Standard Conditions Of Contract And Specifications For Tree Works (2008) Edition<br><br>BS 3998:2010 Tree Work Tree Removal and Protection Plan<br>JSL2697_701 | Ongoing monitoring by appointed person                                                                                                      |
| 10                                          | Works within the Root Protection Area (RPA)    |                         | Adopt hand dig methods for reducing levels to avoid damage to roots.<br><br>Where limited root pruning is unavoidable it                                                                                                                                                                                | Arboricultural Association Standard Conditions Of Contract And Specifications                                                                                                             | Ongoing monitoring by appointed person                                                                                                      |

| <i><b>Ref</b></i> | <i><b>Work Activity</b></i> | <i><b>Tree Reference</b></i> | <i><b>Schedule of Works</b></i>                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <i><b>Refer</b></i>                                                                                                           | <i><b>Recommendations</b></i> |
|-------------------|-----------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
|                   | Hand dig methods            |                              | <p>shall be made at a suitable place within the root system, avoiding damage to surrounding tissue. Final pruning cuts shall be made at right angles to the axis of the root. The final cut wound shall be smooth and as small as possible, free from ragged torn ends.</p> <p>Where root pruning is required to roots over 25mm in diameter, works shall be overseen by a suitably qualified Arboriculturalist. Any root pruning shall be completed in accordance with BS 3998:2010.</p> | <p>For Tree Works (2008) Edition</p> <p>BS 3998:2010 Tree Work</p> <p>Tree Removal and Protection Plan</p> <p>JSL2697_701</p> |                               |

**TABLES, FIGURES & APPENDICES**

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**TABLE 1**

## Tree characteristics recorded during survey

|                                                      |                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                              |                                             |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| Tree Ref No:                                         | Sequential reference number of trees or groups of trees. Avenues, woodlands and hedgerows were also recorded on the tree survey plan.<br># - 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)                            | Measured 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)<br>SM (Semi-mature)<br>EM (Early-mature)<br>M (Mature)                                                                                                                                                                                                                                             | OM (Over-mature)<br>V (Veteran)<br>D (Dead) |
| Physical Condition                                   | Apparent condition expressed as the following categories, based upon a brief visual inspection from the ground only:-                                                                                                                                          |                                                                                                                                                                                                                                                                                                              | Good<br>Fair<br>Poor<br>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)<br>B (Vegetation of moderate quality and value)<br>C (Trees/Vegetation of low quality and value)<br>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)<br>2 (Trees with mainly <i>landscape</i> value)<br>3 (Trees with mainly <i>cultural / conservation</i> value)                                                                                                                                              |                                             |

**TABLE 2**

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Tree Survey Schedule JSL2697\_750

### Tree Survey Schedule

Site Hayling Island  
Project schedule ref: JSL2697\_750A  
Drawing reference: JSL2697\_700  
Survey date:

Surveyor: C Chambers  
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 Physiological condition | General observations Management recommendations                                                                 | Estimated remaining contribution (years) | Tree Quality Category (BS5837) |
|----------|--------------------------------------------|------------|------------------|-----|-----|-----|----------------------|------------------|-------------------------------|-------------|-----------|------------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------------------------|
|          |                                            |            | N                | E   | S   | W   |                      |                  |                               |             |           |                                    |                                                                                                                 |                                          |                                |
| 1#       | Fraxinus excelsior<br>Common Ash           | 18.0       | 9.0              | 9.0 | 8.0 | 9.0 | 2.00                 | 0.84<br>0.82     | >4.5                          | E           | M         | Fair                               | Large, twin-trunked off site tree. Snags, dead wood and die back. Ivy.                                          | + 25                                     | B2                             |
| 2#       | Populus nigra 'Italica'<br>Lombarby Poplar | 25.0       | 4.0              | 4.0 | 4.0 | 4.0 | 1.00                 | 1.05             | -                             | -           | M/OM      | Fair/Poor                          | Butressed, with dead wood typical of the species. Monitor.                                                      | + 20                                     | C2                             |
| 3        | Salix caprea<br>Goat Willow                | 7.0        | 5.0              | 6.0 | 5.0 | 5.0 | 0.22<br>0.24         | 2.00             | >3.5                          | -           | EM        | Fair                               | Dead wood snags. Tree bifurcates at base.                                                                       | + 15                                     | C2                             |
| 4        | Carpinus betulus<br>Hornbeam               | 9.0        | 4.0              | 5.0 | 4.0 | 3.0 | 0.24                 | 1.00             | 3.00                          | E           | EM        | Fair                               | Fair tree. Damage to bole likely from adjacent hedge management. Bias to the east. Some potential.              | + 15                                     | C2                             |
| 5        | Carpinus betulus<br>Hornbeam               | 6.5        | 2.0              | 2.0 | 0.0 | 2.0 | 0.19                 | 1.00             | 3.00                          | N           | EM        | Fair                               | Fair tree. Damage to bole likely from adjacent hedge management. Bias to the north. Some potential.             | + 15                                     | C2                             |
| 6        | Salix caprea<br>Goat Willow                | 7.0        | 3.0              | 5.0 | 5.0 | 5.0 | 0.22<br>0.24         | 2.00             | 2.50                          | S           | EM        | Fair                               | Bifurcates at 0.6m. Dead wood.                                                                                  | + 15                                     | C2                             |
| 7        | Carpinus betulus<br>Hornbeam               | 6.5        | 1.0              | 1.5 | 3.0 | 3.0 | 0.20                 | 1.00             | 2.50                          | W           | EM        | Fair                               | Damage to mid-crown branches noted.                                                                             | + 15                                     | C2                             |
| 8        | Salix caprea<br>Goat Willow                | 9.5        | 5.0              | 5.0 | 5.0 | 4.0 | ave 0.2              | 4.00             | 2.50                          | -           | -         | Fair                               | Multi-trunked tree with ivy on bole. Dead wood and die back.                                                    | + 20                                     | C2                             |
| 9        | Fraxinus excelsior<br>Common Ash           | 7.0        | 3.0              | 3.0 | 4.0 | 4.0 | 0.18<br>0.17<br>0.19 | 3.00             | 3.00                          | -           | -         | Fair                               | Three trunked tree.                                                                                             | + 20                                     | C2                             |
| 10       | Quercus robur<br>English Oak               | 9.5        | 6.5              | 5.0 | 3.0 | 9.5 | 0.55                 | 1.00             | 3.50                          | SW          | M         | Fair                               | Storm damage noted with exposed bark to secondary scaffold limb. Tree has north westerly bias. Minor dead wood. | + 35                                     | 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 / offsite tree

# Tree Survey Schedule

Site Hayling Island  
Project schedule ref: JSL2697\_750A  
Drawing reference: JSL2697\_700  
Survey date:

Surveyor: C Chambers  
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 Physiological condition | General observations Management recommendations                                                                                                                                                                          | Estimated remaining contribution (years) | Tree Quality Category (BS5837) |
|----------|----------------------------------|------------|------------------|---------|-----|---------|---------------|------------------|-------------------------------|-------------|-----------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------------------------|
|          |                                  |            | N                | E       | S   | W       |               |                  |                               |             |           |                                    |                                                                                                                                                                                                                          |                                          |                                |
| 11       | Quercus robur<br>English Oak     | 14.0       | 6.0              | 9.0     | 6.0 | 5.0     | 0.80          | 1.00             | 3.50                          | E           | M         | Fair                               | Dead wood nags and cut back from field edge. On edge of ditch/hedgebank. Minor Ivy on bole.                                                                                                                              | + 35                                     | A2                             |
| 12       | Quercus robur<br>English Oak     | 14.0       | 2.0              | 8.0     | 5.0 | 4.0     | 0.65          | 1.00             | 3.50                          | E           | M         | Fair                               | Dead wood nags and cut back from field edge. On edge of ditch/hedgebank. Minor Ivy on bole.                                                                                                                              | + 35                                     | A2                             |
| 13       | Quercus robur<br>English Oak     | 18.0       | 6.0              | 7<br>10 | 9.0 | 10<br>7 | 1.05          | 1.00             | 0.30                          | E           | M         | Poor                               | Storm damage noted with dead wood snags. Epicormic growth on bole. Wide spreading crown.                                                                                                                                 | + 35                                     | A2                             |
| 14       | Quercus robur<br>English Oak     | 17.0       | 7.0              | 7.0     | 7.0 | 7.0     | 0.90          | 1.00             | 3.50                          | E           | M         | Fair                               | Significant road side tree, well formed. Dead wood and minor storm damage.                                                                                                                                               | + 35                                     | A1/2                           |
| 15       | Ulmus procera<br>English Elm     | 10.0       | 2.0              | 3.0     | 2.0 | 1.0     | 0.21          | 1.00             | >3                            | E           | EM        | Fair                               | Of a good size for the species. Suppressed to the west.                                                                                                                                                                  | -15                                      | C2                             |
| 16       | Acer campestre<br>Field Maple    | 18.0       | 6.0              | 9.0     | 6.0 | 5.0     | 0.65          | 1.00             | >4                            | E           | M         | Fair/Good                          | A great size for the species and of significant amenity. Established at the foot of a bank, the tree bifurcates at 2m. The union appears sound but rot pockets were noted with dead wood and stubs throughout the crown. | + 30                                     | A1/2                           |
| 17       | Quercus robur<br>English Oak     | 19.0       | 7.0              | 9.0     | 7.0 | 8.0     | 0.87          | 1.00             | >4                            | E           | M         | Fair/Good                          | Ivy cloaks the bole. Storm damage noted and branches over hanging the field to the east, have been shortened. Great sturucture.                                                                                          | + 35                                     | A1/2                           |
| 18       | Quercus robur<br>English Oak     | 20.0       | 7.0              | 8.0     | 7.0 | 7.0     | 0.83          | 1.00             | >4                            | E           | M         | Fair/Good                          | Dead wood snags and stubs where over-hanging limbs have been reduced. Strong, well formed crown.                                                                                                                         | + 35                                     | A1/2                           |
| 19       | Fraxinus excelsior<br>Common Ash | 12.0       | 2.0              | 3.5     | 2.0 | 2.0     | 0.23          | 1.00             | >3                            | E           | EM        | Poor                               | Drawn tree, likely much suppressed by T18 neighbouring.                                                                                                                                                                  | + 15                                     | C2                             |
| 20       | Fraxinus excelsior<br>Common Ash | 13.0       | 2.5              | 1.0     | 2.0 | 4.0     | 0.29          | 1.00             | -                             | -           | EM        | Fair                               | Poor form and much cut back with crossing branches.                                                                                                                                                                      | + 15                                     | C2                             |

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### Tree Survey Schedule

Site Hayling Island  
Project schedule ref: JSL2697\_750A  
Drawing reference: JSL2697\_700  
Survey date:

Surveyor: C Chambers  
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 Physiological condition | General observations Management recommendations                                                                                                                                                                                                                                                            | Estimated remaining contribution (years) | Tree Quality Category (BS5837) |
|----------|---------------------------------------|------------|------------------|------|------|------|---------------|------------------|-------------------------------|-------------|-----------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------------------------|
|          |                                       |            | N                | E    | S    | W    |               |                  |                               |             |           |                                    |                                                                                                                                                                                                                                                                                                            |                                          |                                |
| 21       | Crataegus monogyna<br>Common Hawthorn | 8.0        | 3.0              | 3.0  | 2.0  | 0.0  | 0.21<br>0.19  | 2.00             | -                             | -           | M         | Fair                               | On field edge. Dead wood.                                                                                                                                                                                                                                                                                  | + 15                                     | C2                             |
| 22       | Quercus robur<br>English Oak          | 20.0       | 7.0              | 6.0  | 5.0  | 5.0  | 0.69          | 1.00             | >4                            | N           | M         | Fair                               | Strong apical growth. Dead wood. Ivy on bole.                                                                                                                                                                                                                                                              | + 35                                     | A1/2                           |
| 23       | Acer campestre<br>Field Maple         | 6.5        | 3.0              | 3.0  | 3.0  | 0.0  | 0.36          | 1.00             | -                             | -           | M         | Fair/Poor                          | Ivy clad and suppressed.                                                                                                                                                                                                                                                                                   | + 15                                     | C2                             |
| 24       | Acer campestre<br>Field Maple         | 8.0        | 3.0              | 4.0  | 3.0  | 1.0  | 0.29<br>0.22  | 2.00             | -                             | -           | M         | Fair/Poor                          | Stong bias to the east. Ivy.                                                                                                                                                                                                                                                                               | + 15                                     | C2                             |
| 25       | Quercus robur<br>English Oak          | 23.0       | 8.0              | 12.0 | 10.0 | 9.0  | 1.10          | 1.00             | >2                            | E           | M         | Good                               | An excellent tree, well formed crown, wide spreading.                                                                                                                                                                                                                                                      | + 50                                     | A1/2                           |
| 26       | Fraxinus excelsior<br>Common Ash      | 17.0       | 7.0              | 8.0  | 6.0  | 6.0  | 0.85          | 1.00             | >4                            | -           | OM        | Poor                               | Signs of significant storm damage and large limb failure. Much internal decay in scaffold limbs likely given the volume of exposed sapwood and woodpecker holes. Dead wood and die back noted throughout and poorly undertaken tree works have left acute elbow angle and a likelihood of further failure. | + 20                                     | B2                             |
| 27       | Acer campestre<br>Field Maple         | 16.0       | 8.0              | 7.0  | 5.0  | 7.0  | 0.57<br>0.32  | 2.00             | >4                            | -           | M         | Fair                               | Two-limbed tree. Dead wood and rot pockets noted. The crown is full nonetheless.                                                                                                                                                                                                                           | + 25                                     | B2                             |
| 28       | Quercus robur<br>English Oak          | 22.0       | 12.0             | 8.0  | 9.0  | 10.0 | 0.74          | 1.00             | >4                            | N           | M         | Fair                               | Storm damage noted with the secondary scaffold limb fractured and lost.                                                                                                                                                                                                                                    | + 35                                     | A1/2                           |
| 29       | Quercus robur<br>English Oak          | 22.0       | 7.0              | 6.0  | 3.0  | 6.0  | 0.58          | 1.00             | >4                            | N           | M         | Fair                               | Dead wood stubs and snags.                                                                                                                                                                                                                                                                                 | + 35                                     | A1/2                           |
| 30       | Quercus robur<br>English Oak          | 0.0        | 0.0              | 0.0  | 0.0  | 0.0  | 0.0           | 1.00             | -                             | -           | -         | D                                  | Previously moribund tree – felled in early/mid 2017 by neighbouring land owner. Now a standing stump.                                                                                                                                                                                                      | -                                        | U                              |

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

### Tree Survey Schedule

Site Hayling Island  
Project schedule ref: JSL2697\_750A  
Drawing reference: JSL2697\_700  
Survey date:

Surveyor: C Chambers  
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 Physiological condition | General observations Management recommendations                                                                                                                            | Estimated remaining contribution (years) | Tree Quality Category (BS5837) |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------|-----|-----|-----|---------------|------------------|-------------------------------|-------------|-----------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------------------------|
|          |                                                                                                                                                    |            | N                | E   | S   | W   |               |                  |                               |             |           |                                    |                                                                                                                                                                            |                                          |                                |
| 31       | Acer campestre<br>Field Maple                                                                                                                      | 15.0       | 8.0              | 8.0 | 8.0 | 6.0 | 0.75          | 1.00             | -                             | N           | -         | Fair                               | Twin trunked tree into which wooden farm buildings have been incorporated Dead wood stubs.                                                                                 | + 25                                     | B2                             |
| 32       | Quercus robur<br>English Oak                                                                                                                       | 16.0       | 7.0              | 6.0 | 6.0 | 6.0 | 0.92          | 1.00             | 2.00                          | N           | M         | Fair                               | Storm damaged noted and subs. Established on side of a bank.                                                                                                               | + 35                                     | A2/1                           |
| 33       | Quercus robur<br>English Oak                                                                                                                       | 17.0       | 7.0              | 7.0 | 6.0 | 7.0 | 0.88          | 1.00             | >4                            | -           | M         | Fair                               | Within wooded area.                                                                                                                                                        | + 25                                     | A2                             |
| 34#      | Acer campestre<br>Field Maple                                                                                                                      | 8.0        | 4.0              | 3.0 | 3.0 | 3.0 | 0.28          | 1.00             | 2.50                          | N           | M         | Fair                               | In garden.                                                                                                                                                                 | + 25                                     | B2                             |
| 35       | Acer campestre<br>Field Maple                                                                                                                      | 8.0        | 4.0              | 4.0 | 4.0 | 4.0 | 0.23          | 1.00             | 2.00                          | N           | M         | Fair                               | In grass.                                                                                                                                                                  | + 20                                     | B2                             |
| G1       | Quercus robur, Fraxinus excelsior<br>English Oak, Common Ash                                                                                       | 18.0       | as shown         |     |     |     | -             | -                | -                             | -           | M         | Fair                               | Mix of deciduous trees bounding The Manor Road. Varied age with early mature Ash in poor structural condition and larger, more substantial Oak. Scrubby hedge to boundary. | + 30                                     | A2                             |
| G2       | Fraxinus excelsior, Acer campestre<br>Common Ash, Field Maple                                                                                      | 16.0       | as shown         |     |     |     | -             | -                | -                             | -           | M         | Fair                               | Ash dominated. Mixed condition. Some screening.                                                                                                                            | + 25                                     | B2                             |
| G3       | Prunus avium, Quercus robur,<br>Fraxinus excelsior, Acer campestre,<br>Prunus sp.<br>Wild Cherry, English Oak, Common Ash, Field Maple, Prunus sp. | 11.0       | as shown         |     |     |     | -             | -                | -                             | -           | M         | Fair                               | Mixed native species. Screening.                                                                                                                                           | + 25                                     | B2                             |
| G4       | Tilia sp., Quercus robur, Acer<br>pseudoplatanus, Sambucus nigra<br>Lime, English Oak, Sycamore,<br>Elder                                          | 16.0       | as shown         |     |     |     | -             | -                | -                             | -           | M         | Fair/Good                          | Attractive Oak-rich grouping offers screening and enhances the roadside scene. Occasional moribund tree within the group, otherwise apparently in good condition.          | + 30                                     | B2                             |
| G5       | Fraxinus excelsior, Acer campestre<br>Common Ash, Field Maple                                                                                      | 11.0       | as shown         |     |     |     | -             | -                | -                             | -           | -         | Fair/Poor                          | Trees bounding the field.                                                                                                                                                  | + 20                                     | B2                             |

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# - Indicates estimated / offsite tree

# Tree Survey Schedule

Site Hayling Island  
Project schedule ref: JSL2697\_750A  
Drawing reference: JSL2697\_700  
Survey date:

Surveyor: C Chambers  
Status: For information  
Revision: .  
Notes:



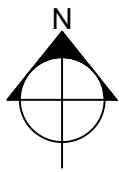
| Ref. no. | Species                                                                                                                                                                                                                      | Height (m) | Crown spread (m) |   |   |   | Stem dia. (m) | Stem no. at 1.5m | Height of crown clearance (m) | Dir/ height | Age class | Structural Physiological condition | General observations Management recommendations                                                                                                                                                      | Estimated remaining contribution (years) | Tree Quality Category (BS5837) |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------|---|---|---|---------------|------------------|-------------------------------|-------------|-----------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------------------------|
|          |                                                                                                                                                                                                                              |            | N                | E | S | W |               |                  |                               |             |           |                                    |                                                                                                                                                                                                      |                                          |                                |
| G6       | Quercus robur<br>English Oak                                                                                                                                                                                                 | >17        | as shown         |   |   |   | -             | -                | -                             | -           | M         | Fair/Good                          | Trees within woodland areas of great stature adding much to the street scene of Church Road and the wider landscape amenity. Typical of the age and structure - dead wood and die back.              | + 35                                     | A1/2                           |
| G7       | Quercus robur, Fraxinus excelsior, Ilex aquifolium, Ruscus asculatus, Viburnum lantana<br>English Oak, Common Ash, Common Holy, Butcher's-broom, Wayfaring Tree                                                              | 12.0       | as shown         |   |   |   | -             | -                | -                             | -           | EM/M      | Fair/Good                          | Species-rich mid and understory with broadleaf and evergreen. This forms a buffer to the site and a good green massing. Some of the trees are congested and the stand would benefit from a thinning. | + 25                                     | B2                             |
| G8       | Sambucus nigra, Ilex aquifolium, Acer pseudoplatanus, Fraxinus excelsior, Ruscus asculatus, Aesculus hippocastanum, Laurus nobilis<br>Elder, Common Holly, Sycamore, Common Ash, Butcher's-broom, Horse Chestnut, Bay Laurel | 8.0        | as shown         |   |   |   | -             | -                | -                             | -           | EM        | Fair                               | Group formed of mid story shrubs and smaller trees. Some invasive ornamental have formed localised thickets, otherwise a good native-rich buffer.                                                    | + 20                                     | A2                             |
| H1       | Cornus sanguinea, Sambucus nigra<br>Common Dogwood, Elder                                                                                                                                                                    | 1.3        | as shown         |   |   |   | -             | -                | -                             | -           | EM        | Fair                               | Scrappy hedge, unkept, flailed to a wide and low form.                                                                                                                                               | + 15                                     | C2                             |

Note: This survey is based on a brief visual inspection from the ground.  
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# - Indicates estimated / offsite tree

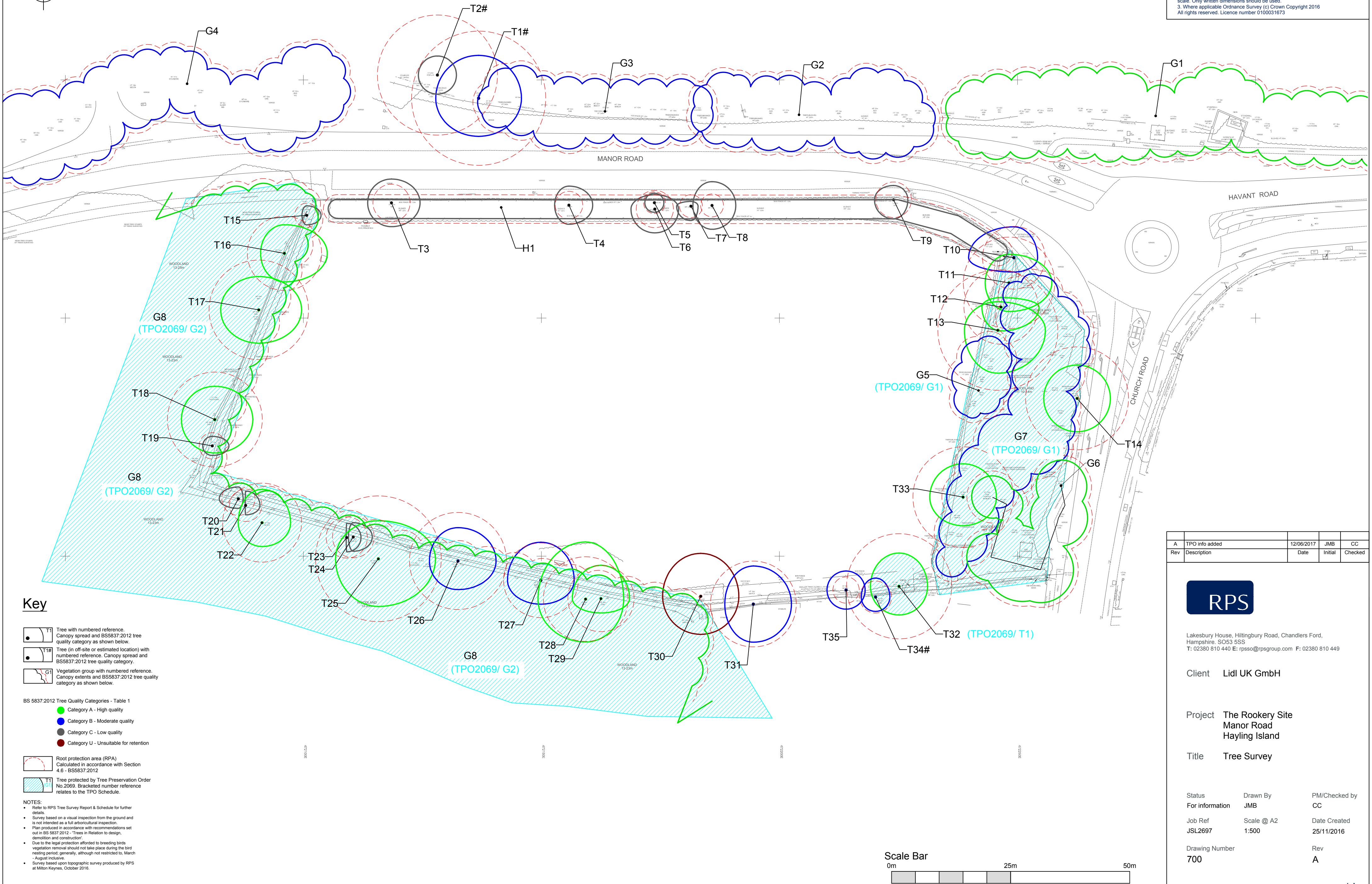
## APPENDIX 1

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Tree Survey Plan JSL2697\_700



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Notes  
1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.  
2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.  
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Key

- 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

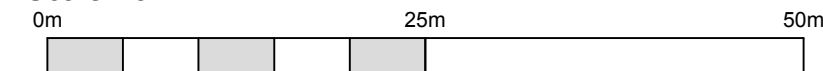
- Root protection area (RPA) Calculated in accordance with Section 4.6 - BS5837:2012

- Tree protected by Tree Preservation Order No. 2069. Bracketed number reference relates to the TPO Schedule.

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 RPS at Milton Keynes, October 2016.

Scale Bar



| A   | TPO info added | 12/06/2017 | JMB     | CC      |
|-----|----------------|------------|---------|---------|
| Rev | Description    | Date       | Initial | Checked |



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Client Lidl UK GmbH

Project The Rookery Site  
Manor Road  
Hayling Island

Title Tree Survey

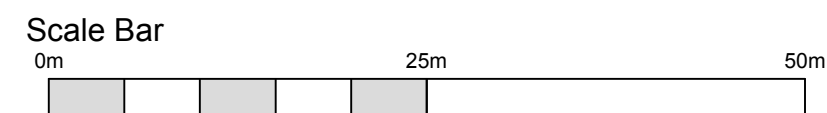
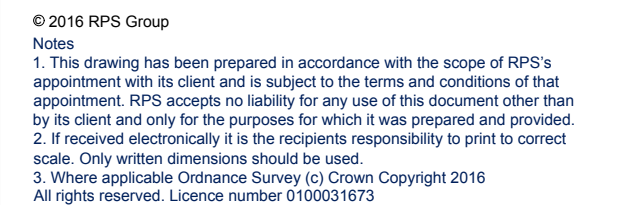
|                 |            |               |
|-----------------|------------|---------------|
| Status          | Drawn By   | PM/Checked by |
| For information | JMB        | CC            |
| Job Ref         | Scale @ A2 | Date Created  |
| JSL2697         | 1:500      | 25/11/2016    |
| Drawing Number  | Rev        |               |
| 700             | A          |               |

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## **APPENDIX 2**

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Tree Removal and Protection Plan JSL2697\_701



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## APPENDIX 3

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

Figure 2 Default specification for protective barrier

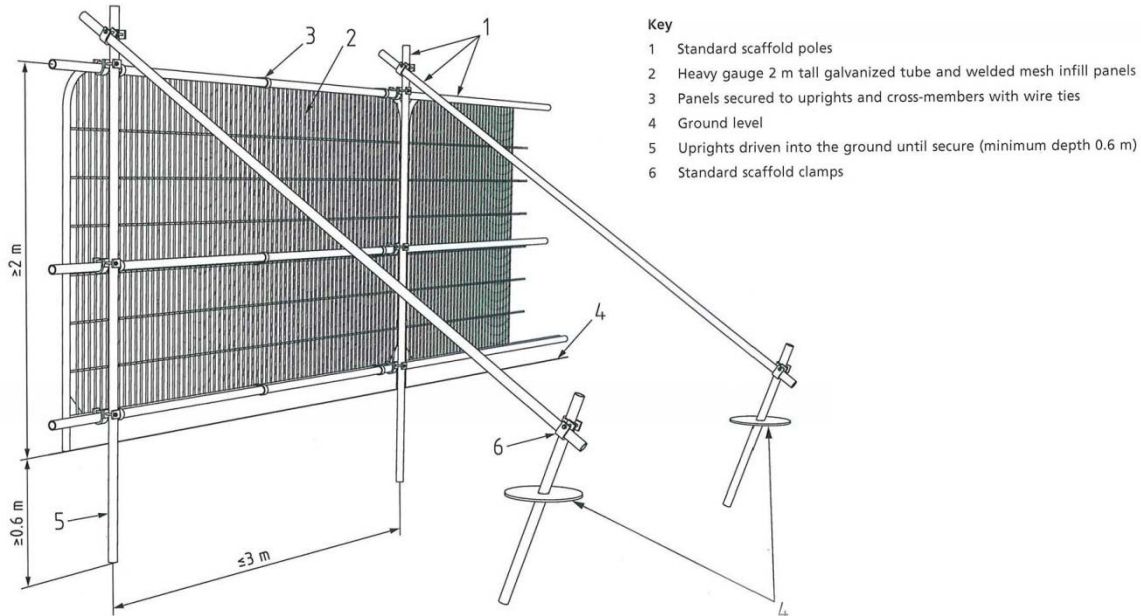
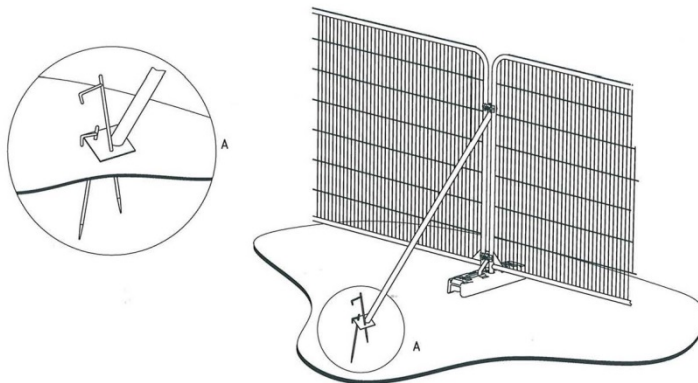
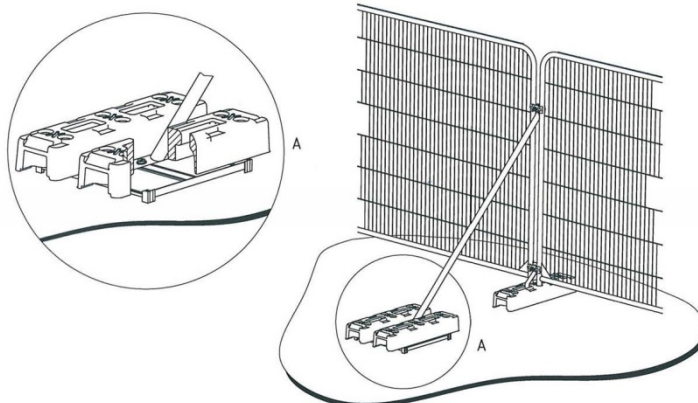


Figure 3 Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins

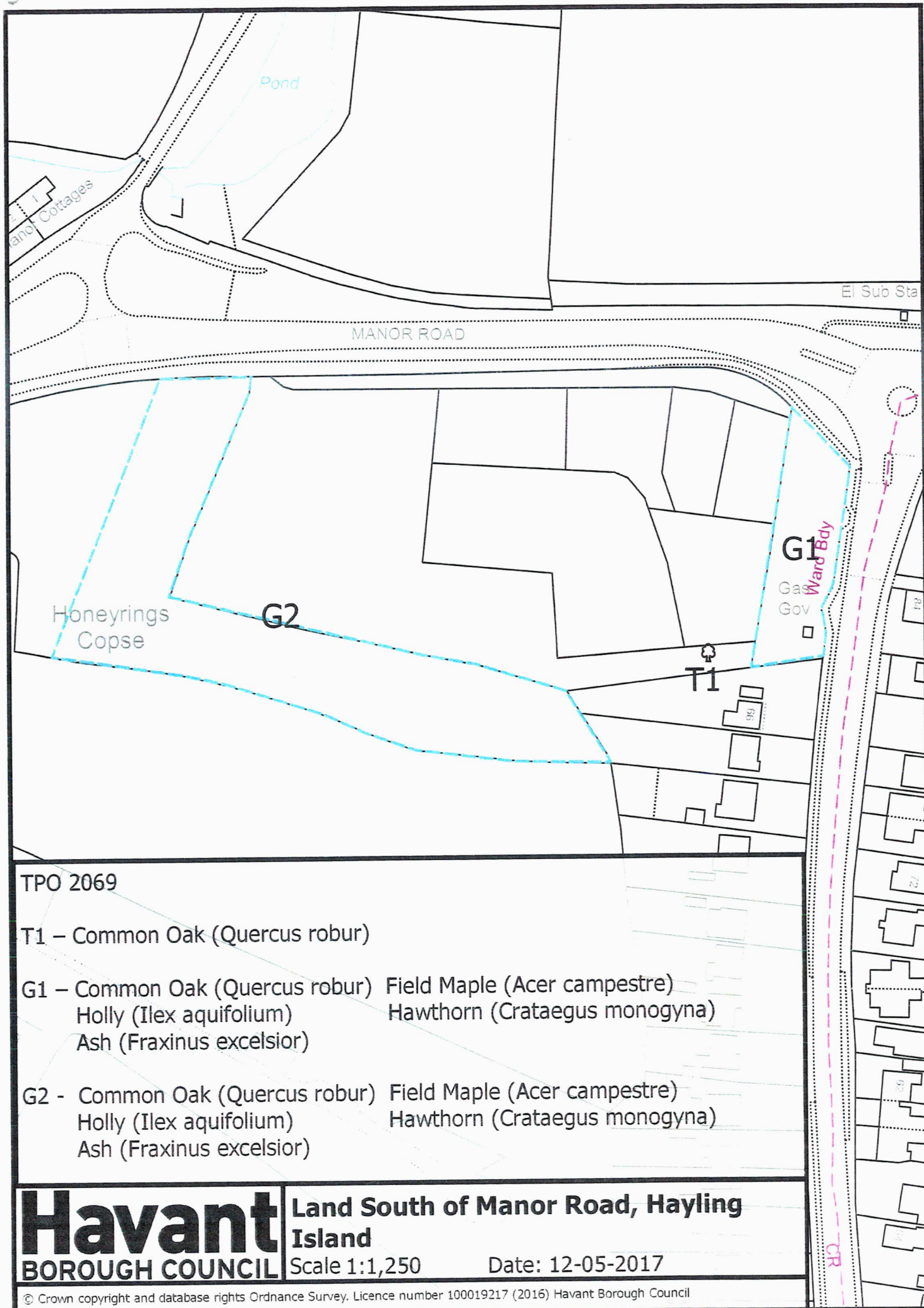


b) Stabilizer strut mounted on block tray

## **APPENDIX 4**

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Council of the Borough of Havant Tree Preservation Order No.2069/ 2017



## APPENDIX 5

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### 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.

**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. AKA root flare.

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

**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.

**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.

**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.

**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.

**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 m<sup>2</sup>.

**Scaffold limbs** - The main structural branches within the crown.

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

**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.