



Land North of Solent Road, Havant

Arboricultural Baseline Report & Impact Assessment

Portsmouth Water Limited

Prepared by:

SLR Consulting Limited

Mountbatten House, 1 Grosvenor Square,
Southampton SO15 2JU

SLR Project No.: 402.064821.00002

3 June 2025

Revision: 03

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
01	27 May 2025	AG	MMS	RB
02	2 June 2025	AG	MMS	RB
03	3 June 2025	AG	MMS	RB

Basis of Report

This document has been prepared by SLR Consulting Limited (SLR) with reasonable skill, care and diligence, and taking account of the timescales and resources devoted to it by agreement with Portsmouth Water Limited (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.



Executive Summary

On behalf of Portsmouth Water Limited, SLR Consulting Limited has carried out a Tree Survey in accordance with BS 5837:2012 'Trees in Relation to Design, Demolition and Construction-Recommendations' (BS 5837:2012) on the 30th April 2025.

The survey records all trees within and adjacent to the site, recording a number of parameters including species, crown spread and Root Protection Area (RPA).

The RPA of any given tree is the area of ground around that tree which should not be disturbed by excavation, compaction, changes in level or other construction/demolition operations. The extent of the RPA is calculated in accordance with BS 5837:2012 and is an important metric for understanding the impact a proposal will have on tree removal and retention and how to protect those trees retained.

The survey recorded:

- Twenty-six individual trees:
 - Twelve category A
 - Five category B
 - Seven category C
 - Two category U trees
- Twelve tree groups:
 - One category A
 - Two category B
 - Eight category C
- One category C hedgerow.

Six trees and three groups are subject to a Tree Preservation Order, the protected trees are T22, T25, T26, T30 T31, T32, T33, T34, T35 and T38, there are also trees located within G23, G28, G29 and G36 covered by the preservation order, see tree survey schedule (Appendix A). The Havant Borough Council reference number for this preservation order is: HBC_1801.

The Conservation Area (CA) boundary plan showed that a small section of the site is located within a Conservation Area. This area has been illustrated on the TCP and is referred to within the Tree Survey Schedule (Appendix A)

There is no Ancient Woodland within the site, and no veteran trees were identified during the survey or are listed on the Ancient Woodland Inventory.

The proposed development will require:

- the removal of the following:
 - One category A (T7), one category B (T37) and five category C trees (T18), (T15, T16, T17 located within the Conservation Area), (T30 subject to TPO HBC_1801).
 - One category B (G29, subject to TPO HBC_1801) and one category C tree group (G8, located with the Conservation Area).
- The partial removal of:
 - One category C hedgerow (H27).
 - One category C tree group (G14, located with the Conservation Area).



- Two category U trees and one category U tree group are also recommended for removal regardless of the development proceeding.
- Incursions into the RPAs of the following retained trees:
 - Three category C tree groups (G19, G20 & G24), one tree (T39) and one hedgerow (H27).
 - Seven category A trees (T2, T5, T6, T9, T11, T12) and (T38, subject to TPO HBC_1801).
- One category B tree (T34, subject to TPO HBC_1801).

It is considered the above incursions are fully mitigable through the use of appropriate hand-dig and no-dig measures as summarised in Section 6.

All remaining trees/groups and hedgerows are to be retained. However, six category A (T2, T9 & T11), three category C tree groups (G19, G20 & G24) and one category C hedgerow (H27) are to have their canopies reduced or lifted to provide suitable clearances for the development.

It is considered that this level of pruning will not have a significant negative impact on the health or amenity value of these trees.



Table of Contents

Basis of Report	i
Executive Summary	ii
Acronyms and Abbreviations	vi
Glossary of Arboricultural Terms	vi
1.0 Introduction	1
1.1 Purpose of the report.....	1
1.2 Methodology and Scope.....	1
1.3 Limitations and Assumptions	2
2.0 General Arboricultural Principles.....	4
2.1 General Principles	4
2.2 Below Ground Constraints.....	4
2.3 Soils	4
2.4 Above Ground Constraints	5
2.5 Trees and Risk in the Context of Development.....	5
2.6 Trees and Wildlife.....	5
3.0 Planning and Legal Considerations.....	6
3.1 Town and Country Planning Act	6
3.2 Felling Licence	6
4.0 Tree Survey.....	7
4.1 Desk Study.....	7
4.2 Field Survey	8
5.0 Arboricultural Impact Assessment	10
5.1 Proposed Development.....	10
5.2 Trees to be Removed.....	10
5.3 Trees Works.....	10
6.0 Conclusions.....	16
6.1 Tree Survey.....	16
6.2 AIA Summary	16
7.0 References.....	18

Tables

Table 1-1: Colour Coding of BS 5837:2012 Categories.....	1
Table 3-1: Arboricultural Features by BS 5837:2012 Category.....	9
Table 4-1: Summary of Tree Removals and Tree Works.....	14
Table A-1: Tree Survey Schedule	A-1



Table A-2: Tree Survey Schedule Key A-5

Table A-3: Cascade Chart of Tree Quality Assessment (Taken from BS 5837:2012) A-7

Figures

Figure D-1: Default specification for protective barrier (Figure 2 of BS 5837:2012)....D-1

Figure D-2: Examples of above ground stabilising systems (Figure 3 of BS 5837:2012)
.....D-2

Figure D-3: Example of Protective Fencing Signs D-3

Appendices

Appendix A Tree Survey Schedule

Appendix B Tree Constraints Plans

Appendix C Tree Protection Plan

Appendix D Preliminary Arboricultural Method Statement



Acronyms and Abbreviations

AIA	Arboricultural Impact Assessment
AMS	Arboricultural Method Statement
CEZ	Construction Exclusion Zone
DBH	Diameter at Breast Height
RPA	Root Protection Area
TCP	Tree Constraints Plan
TPO	Tree Preservation Order
TPF	Tree Protection Fencing
TPP	Tree Protection Plan

Glossary of Arboricultural Terms

Ancient tree: An ancient tree is exceptionally valuable attributed with great age/size/cultural heritage/biodiversity value as a result of significant wood decay and the habitat created from the ageing process. All ancient trees are veteran trees with very few trees of any species reaching the ancient life-stage.

Bark: A term usually applied to all the tissues of a woody plant lying outside the vascular cambium.

Buttress zone: The region at the base of a tree where the major lateral roots join the stem, with buttress-like formations on the upper side of their junction.

Canker: A lesion formed by the death of bark and cambium often due to fungal or bacterial infection.

Condition: An indication of the physiological vitality the tree. Where the term 'condition' is used in a report, it should not be taken as an indication of the stability of the tree.

Conservation Area: A designated area that requires notice (currently six weeks) to be given to the local planning authority prior to the commencement of any tree works.

Crown/Canopy: The main foliage bearing section of the tree.

Crown lifting: A term used to describe the removal of limbs and small branches to a specified height above ground level.

Deadwood: Branch or stem wood bearing no live tissues. Retention of deadwood provides valuable habitat for a wide range of species and seldom represents a threat to the health of the tree. Removal of deadwood can result in the ingress of decay to otherwise sound tissues and climbing operations to access deadwood can cause significant damage to a tree. Removal of deadwood is generally recommended only where it represents an unacceptable level of hazard.

Dieback: The death of parts of a woody plant, starting at shoot-tips or root-tips.

Habit: The overall growth characteristics, shape of the tree and branch structure.

Hazard beam: An upwardly curved part of a tree in which strong internal stresses may occur without being reduced by adaptive growth; prone to longitudinal splitting.

Minor deadwood: Dead wood of a diameter less than 25mm and or unlikely to cause significant harm or damage upon impact with a target beneath the tree.



Notable: Notable trees are usually mature trees which may stand out in the local environment because they are large in comparison with other trees around them

Pollarding: is the removal of the tree canopy, back to the stem or primary branches. Pollarding may involve the removal of the entire canopy in one operation or may be phased over several years. The period of safe retention of trees having been pollarded varies with species and individuals. It is usually necessary to re-pollard on a regular basis, annually in the case of some species.

Primary branch: A major branch, generally having a basal diameter greater than 0.25 x stem diameter.

Pruning: The removal or cutting back of twigs or branches, sometimes applied to twigs or small branches only, but often used to describe most activities involving the cutting of trees or shrubs.

Snag/stub: In woody plants, a portion of a cut or broken stem, branch or root which extends beyond any growing-point or dormant bud; a snag usually tends to die back to the nearest growing point.

Stem/s: The main supporting structure/s, from ground level up to the first major division into branches.

Topping: In arboriculture it is the removal of the crown of a tree, or of a major proportion of it.

Veteran tree: A loosely defined term for an old specimen that is of interest biologically, culturally or aesthetically because of its age, size or condition and which has usually lived longer than the typical upper age range for the species concerned.



1.0 Introduction

1.1 Purpose of the report

On behalf of Portsmouth Water Limited, SLR Consulting Limited has undertaken a Tree Survey of the Land North of Solent Road, Havant. The Tree Survey Report has been produced with reference to 'BS 5837:2012 – Trees in relation to design, demolition and construction – Recommendations' (BSI, 2012).

1.2 Methodology and Scope

The tree survey was conducted in line with the methodology detailed within BS 5837:2012 and included all trees within the proposed development boundary and adjacent off-site trees where there is potential for development within the site to cause direct impact. The data recorded is shown in Appendix A (Tree Survey Schedule) and methodology used is summarised in Tables A-1 (Tree Survey Schedule Key) and A-2 (Cascade Chart of Tree Quality Assessment (Taken from BS 5837:2012)).

The tree survey data and has been used to produce Tree Constraints Plans (TCP) (Appendix B). This depicts the Root Protection Area (RPA) and canopy constraints posed by the arboricultural features within the survey area.

Trees are recorded as the following arboricultural features: individual trees, tree groups, woodlands or hedgerows. In accordance with paragraph 4.4.2.3 of BS 5837:2012, trees that *“form cohesive arboricultural features either aerodynamically (e.g. trees that provide companion shelter), visually (e.g. avenues or screens) or culturally, including for biodiversity (e.g. parkland or wood pasture) have been recorded as groups.*

The locations of all arboricultural features illustrated on the TCP have been based on a topographical survey supplied by Greenhatch Group (drawing reference Topographic Survey – Solent Road, Havant 34028_T_Rev 3 (dated July 2019).

1.2.1 Categorisation of Arboricultural Features

In accordance with BS 5837:2012, all arboricultural features have been categorised as A, B, C or U, categories A to C are also categorised for their quality within the three subcategories of 1 (Arboricultural), 2 (Landscape) and/or 3 (Cultural). A description of each category can be found in Table A-2 (Cascade Chart of Tree Quality Assessment) of Appendix A.

The trees illustrated by the TCP are presented in line with 'Table 2: Identification of tree categories' of BS 5837:2012, reproduced below.

Table 1-1: Colour Coding of BS 5837:2012 Categories

Category	Colour	RGB Code
U	Dark red	127-000-000
A	Light green	000-255-000
B	Mid blue	000-000-255
C	Grey	091-091-091

1.2.2 Root Protection Areas (RPA)

The RPA provides a notional circular buffer around a tree, based on the stem diameter measured at 1.5m (also known as Diameter at Breast Height (DBH)) above ground level in accordance with Annex C of BS 5837:2012.



BS 5837:2012 defines the RPA as representing “*the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure is treated as a priority.*”

However, this is not necessarily representative of the full extent of a tree’s root system e.g., the roots may extend beyond the RPA boundary on one side and remain inside it on the opposite, dependent on ground conditions and/or other pre-existing site conditions. The root network extent is dependent on many factors including species, age, soil conditions, topography and exposure etc.

The RPA illustrated for tree groups and woodland have been calculated based on the maximum stem diameter taken for tree groups, and the maximum stem diameter for trees along the edge of woodland.

In accordance with paragraph 5.2.1 of BS 5837:2012, the TCP illustrates the RPA of category A, B and C trees only. It should be noted that although category U trees are defined as “*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*” they may provide conservation, heritage or landscape value, and be desirable to retain where issues concerning their safety can be appropriately managed.

The RPA for trees identified as Veteran have been calculated in accordance with current standing advice ([Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK](#)) which states: “*the buffer zone should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5 metres from the edge of the tree’s canopy if that area is larger than 15 times the tree’s diameter.*”

In accordance with the above standing advice, a 15m buffer has been applied to all ancient woodland.

1.3 Limitations and Assumptions

Limitations to the tree survey include the following key points:

- No soil survey data is included in this report.
- No data for individual trees within surveyed groups was recorded. An exception to this is when a tree was deemed notable within a group.
- Where access was restricted, tree measurement data has been estimated. This has been indicated within the Tree Survey Schedule (Appendix A) with the use of an ‘#’ next to the tree number.
- The health and condition of trees can change rapidly and all trees, even healthy ones, are at risk from unpredictable climatic and man-made events. This report is based on the observed health and structural condition of the trees at the time of survey by suitably qualified inspectors. The health, condition and safety of trees should be checked on a basis commensurate with the level of risk and preferably on an annual basis, as recommended in Common Sense Risk Management of Trees (National Tree Safety Group, 2024). The tree survey conducted for this report is not a tree health and safety survey and should not be used as such.
- A search for symptoms of disease, parasites, or fungi that may be affecting trees was undertaken as part of the survey and noted where identified. However, symptoms are not always apparent, therefore it is possible that trees affected by disease / parasites / fungi are present within the survey area but could not be identified by surveyor.
- Where the main trunks of trees have limited access due to dense vegetation, epicormic growth or are ivy (*Hedera helix*) clad, a full inspection of the tree(s) was not possible.



As such, the category grading for these trees should be considered provisional. Further inspection may be necessary following the removal of the obstruction.

- The identification of veteran trees is limited to the definition within NPPF Annex 2 only. Trees meeting the definition of 'veteran' as defined within the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024 are not recorded.



2.0 General Arboricultural Principles

2.1 General Principles

Trees are dynamic living organisms which provide essential benefits to society and the wider environment. Any proposed development with the potential to impact on trees must take into consideration the value of trees on site, the impact of any proposed activity, and any potential future conflicts on the site. Suitable measures to safeguard retained trees or mitigate the loss of trees (to be removed) will need to be fully considered and may be subject to a condition of planning consent.

Tree branches and roots frequently grow across site boundaries and off-site trees can pose a constraint and should be carefully considered when assessing the developable space within a site.

2.2 Below Ground Constraints

Tree roots and the soil environment in which they grow need to be protected if the tree is to be retained. Trees grow in association with fungi and other soil organisms which are of key importance to tree health. Roots are essential for anchorage, the uptake of water and nutrients, and the storage of energy (carbohydrates) for the future growth and function of the tree.

Roots can be damaged by physical severance or wounding (e.g., following excavation of the soil) which can lead to the development of decay and a decline in vitality and/or instability. Raising the soil level can compact the soil, and create soil unsuitable for root growth. Toxic materials discharged into the soil (such as cement based aggregates, fuel and chemicals) can lead to root death and dysfunction. Soils can be compacted to levels inhospitable to tree growth with even a single pass of machinery, regular pedestrian traffic or the storage of plant and materials. Relieving compaction can be problematic and may require costly remedial works. Changes in drainage/water levels can also have significant long-term impacts for tree health.

The effects of these incursions may take many years to manifest, with a resulting decline in amenity value and potentially the death or failure of the tree. It should be noted that older trees are particularly sensitive to damage and changes in conditions.

The RPA is a notional area considered to be the minimum zone that must be protected to avoid any adverse impacts on retained trees. This area is deemed to be particularly important for tree stability, growth, function and health. However, roots may extend far greater distances, with the distribution of the root system relating directly to the availability of suitable conditions for growth (namely oxygen, water and nutrients). It is accepted that tree roots grow predominantly near the surface, with 80-90% being located in the upper 60cm of soil, however, roots may develop at deeper levels where conditions allow.

The RPA of the existing tree stock is an important material consideration when assessing site constraints and planning development activities. The default position should be that all development, including any associated services will occur outside the RPAs of retained trees. Where this is unavoidable, it may be appropriate to use special measures to install structures, services or surfacing within RPAs which allow the protection of roots and soil structure which are essential for tree growth and keep any incursion to a minimum. Further steps to improve or increase the useable rooting area available to the tree may also be required.

2.3 Soils

On shrinkable clay soil, tree growth can lead to the differential movement of structures as moisture is removed from the soil during the growing season. Soils must be carefully



assessed. Where trees which predate existing structures are to be removed, this can result in heave as the soils are re-wet.

The advice of a suitably qualified engineer should be obtained to inform any potential issue of heave. Specific advice in relation to this issue is beyond the scope of this report.

2.4 Above Ground Constraints

Tree stems and branches can restrict available space on a development site. Damage or wounding (including excessive pruning) can significantly reduce the amenity contribution of the tree and may lead to the development of dysfunction and decay, with significant long-term implications for tree health. The future impact of existing trees should be carefully considered, including individual species characteristics (such as potential future size, fruit fall, shade etc.) and how the tree will interact with any proposed development and future land use. Annual tree growth can lead to direct damage if stems/branches (or roots) come into physical contact with structures and this should also be taken into consideration.

2.5 Trees and Risk in the Context of Development

Tree owners/managers have a legal duty to prevent foreseeable harm. It is generally accepted that this duty can be fulfilled by undertaking proactive inspections of significant trees to identify obvious defects and by taking appropriate remedial action or gaining further advice as appropriate.

Further guidance is available from the National Tree Safety Group (<https://ntsgroup.org.uk/>)

The tree survey carried out as the basis of this report is primarily for planning purposes, focusing on the quality and benefits of the trees and is not specifically designed to assess the safety of the trees identified. However, when obvious issues have been identified recommendations have been included in the Tree Survey Schedule (Table 3-2, Section 3.5).

The Construction (Design and Management) Regulations (2015) states that developers and contractors have responsibilities for health and safety as a result of their actions. Should trees be left in an unstable or hazardous condition the Health and Safety Executive (HSE) could seek to prosecute those responsible along with the potential for further civil claims for damages.

2.6 Trees and Wildlife

Full consideration must be given to the presence of species protected under the Wildlife and Countryside Act (1981 - as amended), the Countryside Rights of Way Act (2000) and the Conservation of Habitats and Species Regulations (2017), in particular the presence of bats and nesting birds. It is recommended that wherever possible, significant tree/hedge works take place outside of the typical bird nesting season, typically March to August, but this may vary regionally and advice from a suitably qualified ecologist should be sought. The advice of a suitably qualified ecologist is also recommended in relation to any potential impacts on protected species.



3.0 Planning and Legal Considerations

3.1 Town and Country Planning Act

In planning terms lower quality trees can generally be removed to facilitate development where their loss can be mitigated with replacement tree planting or where no replacement planting is necessary. This is likely to apply to C category and U category trees where there are no other constraints in place (e.g., ecological or heritage). Whereas higher quality trees (A and B category) should be retained and protected wherever possible; however, in some cases it may also be feasible to remove trees of this quality where there is no reasonable alternative and where the benefit of the development outweighs the impact of the loss of the tree(s).

Prior to the removal of the trees or groups listed in this report, or any tree surgery works being undertaken, it is essential that the trees are assessed again for legal protected status. These include TPOs and Conservation Areas (CA), Sites of Special Scientific Interest, locally or nationally designated sites, designed landscapes and ancient woodland.

Works (either above or below ground) to trees protected by TPO or CA is an offence under the Town and Country Planning Act 1990 (as amended), and in the Town and Country Planning (Tree Preservation) (England) Regulations 2012 and Section 192 of the Planning Act 2008.

3.2 Felling Licence

The felling of trees is regulated in England by the Forestry Act 1967 (the Act). Forestry England (FE) is the government regulator that enforces the provisions of the Act.

The felling of growing trees in England is restricted under section 9 of the Act. It requires that felling is either authorised by a felling licence issued by the FE or the felling activity is exempt from the need for a licence.

There are many exceptions to the need for a licence, based on the type of the tree, the location of the tree, the size of the tree, the nature and scope of the felling activity and the person responsible for the felling. These are primarily set out in section 9 of the Act as well as the Forestry (Exceptions from Restriction of Felling) Regulations 1979.

The most relevant exemption is;

'Section 9-Requirement of licence for felling (1) A felling licence granted by the appropriate forestry authority shall be required for the felling of growing trees, except in a case whereby or under the following provisions of this Part of this Act this subsection is expressed not to apply...

(d) is immediately required for the purpose of carrying out development authorised by planning permission granted or deemed to be granted under the Town and Country Planning Act 1990 or the enactments replaced by that Act, or under the Town and Country Planning (Scotland) Act 1997.

Advice from a suitably qualified arboriculturist should be sought before any felling takes place on site.

The granting of permission to remove trees covered by a TPO by the Local Planning Authority does not remove the need to obtain a felling licence from the Forestry Commission if more than 5m³ of timber are to be felled in a calendar quarter and none of the exemptions apply.



4.0 Tree Survey

The site was visited and surveyed by a qualified SLR arboriculturist on the 30th April 2025.

4.1 Desk Study

4.1.1 Tree Preservation Orders

A Tree Preservation Order (TPO) check was conducted using the interactive map found on the Havant Borough Council website (<https://maps.havant.gov.uk/havant.aspx>) on the 1st May 2025 to identify the presence of any TPOs within the survey area.

This check confirmed that there are trees within the site that are covered by a Tree Preservation Order reference HBC_1801.

The protected trees are T22, T25, T26, T30 T31, T32, T33, T34, T35 and T38, there are also trees located within G23, G28, G29 and G36 covered by the preservation order, see tree survey schedule (Appendix A).

4.1.2 Tree Preservation Orders (TPO)

There are four types of Tree Preservation Order;

- Individual trees TPO - specify the exact position, number and species of the protected trees;
- Tree Group TPO (Group TPO) - specify the exact position, number and species of the protected trees;
- Woodland (TPO) – Protect all trees within demarked area, young and old, including the woodland floor regeneration; and
- Area TPO – Protects trees within a demarked area that were present at the time the TPO was confirmed (trees younger than the date of the TPO are not covered).

The Land North of Solent Road contains trees that are subject to a Group TPO.

If in doubt over the protection of specific trees, the local Tree Officer/ Arboricultural Officer should be contacted for clarification prior to site layout proposals being finalised.

The Tree Preservation Order prohibits the topping, lopping, damaging, wilful destruction and uprooting of the trees covered by the TPO without prior consent of the Local Authority. This includes any works included in the preliminary management recommendations in the Tree Survey Schedule and any work proposed in close proximity that may have an impact on both above and/or below parts of these trees.

Consent needs to be sought from the Local Planning Authority if tree removal work or tree management work affect protected trees within the site or those which overhang the site boundary. Tree works must not be carried out without permission.

Work will also be permitted if it is included in an Arboricultural Impact Assessment, Arboricultural Method Statement and/or Tree Protection Plan approved by the Local Planning Authority where development proposals for a site have been granted Planning Permission.

4.1.3 Conservation Areas

A Conservation Area check was conducted using the interactive map found on the Havant Borough Council website (<https://maps.havant.gov.uk/havant.aspx>) on the 1st May 2025 to identify the presence of Conservation Areas within the survey area.



The Conservation Area boundary plan showed that a small section of the site is located within the Brockhampton Conservation Area. This area has been illustrated on the Tree Constraints Plans (Appendix B) and is referred to within the Tree Survey Schedule (Appendix A)

Trees located within a Conservation Area are protected similarly to trees covered by Tree Preservation Orders. In order to be able to carry out any work to those trees, the Local Authority should be notified of the intention to carry out the work. This process is commonly referred to as a Section 211 notice. The authority then has six weeks to respond. Objections to the works will lead to a Tree Preservation Order being placed on tree groups or individual trees. No response indicates no objections to the work.

Work will also be permitted if it is included in an Arboricultural Method Statement and Tree Protection Plan approved by the Local Planning Authority where development proposals for a site have been granted Planning Permission.

4.1.4 Ancient Woodland

The Ancient Woodland Inventory was checked on the 30th April 2025 for the presence of ancient woodland within or adjacent to the study area. This inventory is located on the Multi-Agency Geographical Information for the Countryside (MAGIC) website (<https://magic.defra.gov.uk/MagicMap.html>). This is a spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

No part of site is listed in the Ancient Woodland Inventory.

4.1.5 Ancient and Veteran Trees

The Ancient Tree Inventory (<https://ati.woodlandtrust.org.uk>) was checked on 30th April 2025 for the presence of verified veteran/ancient trees within the survey area. National Planning Policy Framework (Ministry of Housing, Communities & Local Government, 2024) refers to veteran trees as “*irreplaceable habitat*” which due to their “*age, size and condition, is of exceptional biodiversity, cultural or heritage value*”.

No trees within the site boundary appeared within this inventory. SLR’s qualified arboriculturists did not identify any trees, during survey, which they considered ancient or veteran (as defined within NPPF Annex 2, Dec 2024).

4.2 Field Survey

4.2.1 General Site Observations

The site comprises an open area of grassland with vegetation predominantly located along the site boundaries. The southern boundary is defined by a line of trees providing screening to Solent Road. To the east, the site is bordered by an established hedgerow and the Bosmere Medical Centre, while the western boundary is enclosed by a brick wall separating the site from adjacent residential properties. To the north, a stream runs along the boundary, separating the site from a lake and associated landscaped grounds, which form part of the Brockhampton Conservation Area. Trees are primarily located around the site’s periphery and exhibit a range of species and age classes.

4.2.2 Tree Survey Results

The full findings of the tree survey are presented in the Appendix A (Tree Survey Schedule) and Appendix B (Tree Constraints Plans).



Table 4-1: Arboricultural Features by BS 5837:2012 Category.

Category	Trees	Tree Groups	Hedgerows	Totals
A	12	1	0	13
B	5	2	0	7
C	7	8	1	16
U	2	1	0	3
Totals	26	12	1	39

The following general principles should be applied when considering development within the site:

- Category 'A' trees are of high quality and value and should be retained.
- Category 'B' trees are of moderate quality and value and should be considered for retention where possible, although care should be taken to avoid misplaced retention. Any scheme should consider the retention and protection of trees, but also the tree's future growth.
- Category 'C' trees are of low quality and value and should not place a constraint on the proposals.
- From an arboricultural point of view, the Category 'U' trees cannot realistically be considered for retention as a living tree in the context of the current land use due to their low life expectancy of less than 10 years in their current poor condition.



5.0 Arboricultural Impact Assessment

The Arboricultural Impact Assessment (AIA) sets out the direct and indirect impacts of the proposed development on the trees on or immediately adjacent to the site and provides suitable mitigation measures to allow for the successful retention of all the retained trees or to compensate for trees to be removed, where appropriate.

5.1 Proposed Development

The proposals for the site are for the construction of an office building, access road, car park and associated landscaping.

5.2 Trees to be Removed

Six individual trees are to be removed to facilitate the proposed office building, car park, access road and drainage strategy, this includes one tree (T7) classed as high quality (Category A), one tree (T37) classed as moderate quality (Category B) and the remaining five trees (T15, T16, T17, T18 & T30) classified as low quality (Category C).

Two tree groups are to be removed; this includes one tree group (G29) classed as moderate quality (Category B) and one tree group (G8) classified as low quality (Category C).

Additionally, there is one tree group (G14) and one hedgerow (H27) classified as low quality (Category C) to be partially removed. G14 will require 70% of the southern canopy extent to be removed, leaving approximately two trees in the north to be retained. H27 will require 30% of the southern canopy extent to be removed to facilitate the proposed access road and footpath.

The majority of the trees to be removed are within the red line application boundary with the exception of tree T37 which is located within the highway network to the south and H27 which borders the adjacent grounds to the east. These trees are likely to be the responsibility of Hampshire County Council Highways and Bosmere Medical Practice. Prior to any works the ownership of these trees must be established and the consent of the tree owner obtained in writing.

The loss of these trees is necessary to achieve the construction and landscaping proposals for the site.

In addition, two trees (T32 & T35) and one tree group (G21) of very low quality (Category U) that are also recommended for removal. These trees are arguably not suitable for long term retention and their removal is justified regardless of the Proposed Development.

Tree removals will be mitigated with a high-quality scheme of new tree planting and associated landscaping works as detailed in drawing '*Cornish-Architects_Proposed-Landscaping-Plan_23002_TP_015_RevA*' which will represent an opportunity to enhance the quality, benefits and resilience of trees on Site.

All of the remaining recorded trees can be retained and protected.

5.3 Trees Works

To ensure the necessary clearances for construction of the proposed footpath and access road, tree groups G19, G20 and G24 are to be crown lifted by 2.5m to the north (G19) and west (G20 & G24). Hedgerow H27 is to have the northern and western canopy extent reduced by approximately 2.5m back to the fence line. Given the density and number of individual trees within the hedgerow these works are not considered to have a negative impact on either tree health or the overall amenity value.



Any temporary reduction in screening will be mitigated by the proposed replacement planting within this area. Consideration should be given to the ongoing maintenance of this vegetation to ensure that the proposed footpath remains unobstructed as the vegetation matures.

No additional works to retained trees are likely to be required. All tree work is to follow the principles of *BS3998: 2010 Treework – Recommendations* and must be carried out by suitably qualified and insured contractors. The Arboricultural Association provides a list of contractors who meet these requirements which can be found at www.trees.org.uk.

Should the requirement for additional tree works be identified, this will be discussed with the Project Arboriculturist and no works will be undertaken without the consent of the Havant Borough Council where required.

5.4 Soft Landscaping

5.4.1 Tree Planting

During the detailed design stage, consideration has been given to the reasonable provision of space for new tree planting to offset any necessary tree loss and enhance biodiversity.

It is recommended that, where possible, soil structure in areas designated for new planting should be maintained and protected during the construction of the proposed development to ensure suitable conditions for future tree growth.

New trees should be planted in accordance with the minimum distances from new structures, services, and surfacing as set out in Table A.1 of BS 5837:2012. Tree stock selection, planting methods, and maintenance regimes should align with the guidance provided in BS 8545:2014 Trees: from nursery to independence in the landscape.

Proposed New Tree Planting

The following tree species are proposed for planting as part of the development:

- *Betula nigra* (River Birch)
- *Acer campestre* (Field Maple)
- *Alnus glutinosa* (Common Alder)
- *Carpinus betulus* (Hornbeam)
- *Fagus sylvatica* (Beech)
- *Liriodendron tulipifera* (Tulip Tree)
- *Prunus avium* 'Plena' (Double Gean Wild Cherry)
- *Prunus padus* (Bird Cherry)
- *Pterocarya fraxinifolia* (Caucasian Wingnut)
- *Quercus frainetto* (Hungarian Oak)
- *Quercus robur* (English Oak / Pedunculate Oak)
- *Sorbus* 'Cardinal Royal' (Cardinal Royal Rowan)
- *Sorbus aucuparia* (Rowan)
- *Tilia cordata* (Small-Leaved Lime)

Species selection aims to complement existing vegetation while enhancing biodiversity and resilience.



Tree planting locations and specifications will be detailed in drawing 'Cornish-Architects_Proposed-Landscaping-Plan_23002_TP_015_RevA'

One tree (T34), three tree groups (G14, G19 & G20) and one hedgerow (H27) will require an area of soft landscaping to be installed within their RPAs.

During this works temporary relocation of the Tree Protection Fencing may be required, allowing for an additional incursion into the RPA of retained trees. All landscape features requiring installation within the site will be constructed using a no-dig approach to protect the existing tree roots and surrounding soil structure. Where tree pits are required, excavation will be undertaken by hand to minimise the risk of root damage. This method ensures that tree roots remain undisturbed, supporting long-term tree health and stability while facilitating the successful establishment of new planting.

To facilitate access and the installation of tree protection fencing during the mitigation works associated with the Brockhampton/Lavant stream, three Category A trees (T2, T9 & T11) will require crown lifting to approximately 2.5 - 3 metres above ground level. This pruning works is not considered to have a negative impact on either tree health or the overall amenity value.

5.5 Installation of Below Ground Services/Utilities

The proposed drainage will encroach into the Root Protection Area (RPA) of T34. All works within the RPA will be undertaken in accordance with the guidance set out in *Volume 4: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees* (NJUG, 2007).

The alignment of the drainage route has been determined by a combination of factors, including topography, engineering requirements, and existing service constraints. Where the route passes through the RPA, a carefully controlled method of working will be adopted, with any excavations carried out using hand tools or an air spade.

5.6 Mitigation Works to the Brockhampton/Lavant Stream

As part of the flood mitigation strategy for the site, three drainage compensation areas are proposed directly to the north of the Brockhampton/Lavant stream. These basins are designed to provide additional storage during periods of heavy rainfall or elevated stream levels.

Excavation will be required to create the basins, with finished levels between 450mm and 700mm below existing ground level. In total, seven trees classed as high quality (Category A) are within the area affected. One tree (T7) will need to be removed to allow for the works. The remaining six trees (T2, T5, T6, T9, T11 & T12) will have an incursion into their RPAs requiring localised root pruning. The estimated levels of incursion are as follows:

- T2 – 18%
- T5 – 8%
- T6 – 3%
- T9 – 8%
- T11 – 18%
- T12 – 11%

All six retained trees are in good condition, with strong vitality and well-established root systems. Their proximity to the stream provides a consistent water source, which will help support recovery and ongoing stability following the minor root loss.



To protect these trees during construction, the outer edges of the drainage areas will be trenched by hand, allowing roots to be exposed and pruned cleanly using hand tools under the supervision of the project arboriculturist. This will ensure any root severance is controlled and that damage to the remaining root system is minimised.

Subsequent excavation works will be carried out using long-reach machinery positioned on the south side of the stream, outside of the RPAs. This approach avoids the need for plant to enter sensitive areas, significantly reducing the risk of compaction and mechanical damage.

Crown lifting will also be undertaken (as detailed in Section 5.3) to allow access and clearance for the installation of Tree Protection Fencing.

With these mitigation measures in place, and subject to arboricultural supervision during key stages, the proposed works are not expected to have a detrimental impact on the long-term health or structural condition of the retained trees.

Given the extent of the proposed works and the level of RPA incursion, it is recommended that annual tree condition surveys are undertaken for a period of at least three years following the completion of the drainage basins. These inspections should be carried out by a qualified arboriculturist and focus on monitoring the health, vitality, and structural condition of the affected trees. This will allow any signs of stress, decline, or instability to be identified at an early stage, ensuring that appropriate remedial action can be taken if required and support long-term retention.

5.7 Temporary Incursions into the RPA of Retained Trees

The proposed development has been designed to avoid the area of constraint around trees where feasible. However, the following construction/installation works will require a temporary incursion into the RPA:

- The construction of the access road and footpath will require an incursion into the RPAs of G19, G20, G24, and H27. A no-dig construction method should be employed to minimise disturbance to the underlying soil structure and tree root systems. The new surface will be installed over a geotextile layer, with a permeable sub-base used to maintain water and air exchange within the root zone. Existing fence line to act as Tree Protection Fencing.
- The installation of a 2m high weldmesh gate is proposed within the RPA of H27. All post holes should be excavated by hand to minimise the risk of root damage. If roots exceeding 25mm in diameter are encountered, they should be retained where possible, and post positions adjusted accordingly. Post holes should be backfilled with a suitable granular material or soil.
- The existing surfacing within the RPAs of T38 and T39 is to be removed using hand tools only, with all works carried out under arboricultural supervision. The underlying sub-base should be retained in situ to avoid disturbance of the underlying soil and tree roots. No changes to existing ground levels should take place, thereby preserving the soil structure and protecting the root systems of the adjacent trees. The new permeable surface should be laid directly over the retained sub-base, with the addition of a geotextile layer.
- Installation the Totem Sign will require the temporary relocation of the Tree Protection Fencing will be required, allowing for an incursion into the RPA of T34. Excavation and installation will be undertaken by hand to minimise the risk of root damage.



5.8 Summary of Trees Removal and Tree Works

The table below provides a summary of the trees to be retained, trees to be removed and any surgery, or other mitigation works required in order to keep retained trees in a safe and healthy manner and are illustrated on the Tree Protection Plans (Appendix C).

Table 5-1: Summary of Tree Removals and Tree Works

Ref No.	Species Botanical name (Common Name)	Impact	Category
T2	<i>Fagus sylvatica</i> 'Purpurea' (Copper Beech)	Incursion into RPA - Mitigation Required	A1
		Tree Works (Located within the Brockhampton CA)	
T5	<i>Thuja plicata</i> (Western Red Cedar)	Incursion into RPA - Mitigation Required	A1
		Tree Works (Located within the Brockhampton CA)	
T6	<i>Pterocarya fraxinifolia</i> (Caucasian Wingut)	Incursion into RPA - Mitigation Required	A1
		Tree Works (Located within the Brockhampton CA)	
T7	<i>Tilia cordata</i> (Small-leaved Lime)	Remove (Located within the Brockhampton CA)	A1
G8	<i>Prunus cerasifera</i> (Cherry Plum) <i>Sambucus nigra</i> (Elder)	Remove (Located within the Brockhampton CA)	C2
T9	<i>Pterocarya fraxinifolia</i> (Caucasian Wingut)	Incursion into RPA - Mitigation Required	A1
		Tree Works (Located within the Brockhampton CA)	
T11	<i>Fagus sylvatica</i> (Beech)	Incursion into RPA - Mitigation Required	A1
		Tree Works (Located within the Brockhampton CA)	
T12	<i>Crataegus monogyna</i> (Hawthorn) <i>Prunus spinosa</i> (Blackthorn) <i>Sambucus nigra</i> (Elder) <i>Acer campestre</i> (Field Maple) <i>Fraxinus excelsior</i> (Ash)	Incursion into RPA - Mitigation Required	A1
		Tree Works (Located within the Brockhampton CA)	
G14	<i>Acer pseudoplatanus</i> (Sycamore) <i>Fraxinus excelsior</i> (Ash) <i>Crataegus monogyna</i> (Hawthorn) <i>Sambucus nigra</i> (Elder) <i>Taxus baccata</i> (Yew)	Partially Remove (Located within the Brockhampton CA)	C2
T15	<i>Acer pseudoplatanus</i> (Sycamore)	Remove (Located within the Brockhampton CA)	C1
T16	<i>Populus X canadensis</i> (Hybrid Black Poplar)	Remove (Located within the Brockhampton CA)	C1
T17	<i>Fraxinus excelsior</i> (Ash)	Remove (Located within the Brockhampton CA)	C1
T18	<i>Sambucus nigra</i> (Elder)	Remove	C1
G19	<i>Acer campestre</i> (Field Maple)	Incursion into RPA - Temporary Mitigation Required	C2
		Tree Works	



Ref No.	Species Botanical name (Common Name)	Impact	Category
G20	<i>Acer campestre</i> (Field Maple)	Incursion into RPA - Temporary Mitigation Required Tree Works	C2
G21	<i>Fraxinus excelsior</i> (Ash) <i>Sambucus nigra</i> (Elder)	Remove	U
G24	<i>Acer campestre</i> (Field Maple)	Incursion into RPA - Temporary Mitigation Required Tree Works	C2
H27	<i>Crataegus monogyna</i> (Hawthorn) <i>Prunus spinosa</i> (Blackthorn) <i>Sambucus nigra</i> (Elder) <i>Acer campestre</i> (Field Maple) <i>Fraxinus excelsior</i> (Ash)	Partially Remove Incursion into RPA - Temporary Mitigation Required Tree Works	C2
G29	<i>Acer pseudoplatanus</i> (Sycamore) <i>Aesculus hippocastanum</i> (Horse Chestnut) <i>Fraxinus excelsior</i> (Ash) <i>Chamaecyparis lawsoniana</i> (Lawson Cypress)	Remove (Subject to TPO HBC_1801)	B2
T30	<i>Fraxinus excelsior</i> (Ash)	Remove (Subject to TPO HBC_1801)	C1
T32	<i>Betula pendula</i> (Silver Birch)	Remove (Subject to TPO HBC_1801)	U
T34	<i>Betula pendula</i> (Silver Birch)	Incursion into RPA - Temporary Mitigation Required (Subject to TPO HBC_1801)	B1
T35	<i>Ulmus</i> sp. (Elm)	Remove (Subject to TPO HBC_1801)	U
T37	<i>Acer platanoides</i> (Norway Maple)	Remove	B1
T38	<i>Pinus radiata</i> (Monterey Pine)	Incursion into RPA - Temporary Mitigation Required (Subject to TPO HBC_1801)	A1
T39	<i>Acer platanoides</i> (Norway Maple)	Incursion into RPA - Temporary Mitigation Required	C1



6.0 Conclusions

6.1 Tree Survey

The BS 5837:2012 compliant tree survey conducted on 30th April 2025, recorded:

- Twenty-six individual trees:
 - Twelve category A
 - Five category B
 - Seven category C
 - Two category U trees
- Twelve tree groups:
 - One category A
 - Two category B
 - Eight category C
- One category C hedgerow.

Six trees and three groups are subject to a Tree Preservation Order, the protected trees are T22, T25, T26, T30 T31, T32, T33, T34, T35 and T38, there are also trees located within G23, G28, G29 and G36 covered by the preservation order, see tree survey schedule (Appendix A). The Havant Borough Council reference number for this preservation order is: HBC_1801.

The Conservation Area (CA) boundary plan showed that a small section of the site is located within a Conservation Area. This area has been illustrated on the TCP (Appendix B) and is referred to within the Tree Survey Schedule (Appendix A)

There is no Ancient Woodland within the site, and no veteran trees were identified during the survey or are listed on the Ancient Woodland Inventory.

6.2 AIA Summary

The proposed development will require:

- the removal of the following:
 - One category A (T7), one category B (T37) and five category C trees (T18), (T15, T16, T17 located within the Conservation Area), (T30 subject to TPO HBC_1801).
 - One category B (G29, subject to TPO HBC_1801) and one category C tree group (G8, located with the Conservation Area).
- The partial removal of:
 - One category C hedgerow (H27).
 - One category C tree group (G14, located with the Conservation Area).
- Two category U trees and one category U tree group are also recommended for removal regardless of the development proceeding.
- Incursions into the RPAs of the following retained trees:
 - Three category C tree groups (G19, G20 & G24), one tree (T39) and one hedgerow (H27).



- Seven category A trees (T2, T5, T6, T9, T11, T12) and (T38, subject to TPO HBC_1801).
- One category B tree (T34, subject to TPO HBC_1801).

It is considered the above incursions are fully mitigable through the use of appropriate hand-dig and no-dig measures as summarised in Section 6.

All remaining trees/groups and hedgerows are to be retained. However, six category A (T2, T9 & T11), three category C tree groups (G19, G20 & G24) and one category C hedgerow (H27) are to have their canopies reduced or lifted to provide suitable clearances for the development.

It is considered that this level of pruning will not have a significant negative impact on the health or amenity value of these trees.



7.0 References

British Standards Institution (BSI). 2010. *BS 3998:2010. Trees Work – Recommendations*. London: British Standards Institution. 3rd ed. London: British Standards Institution.

British Standards Institution (BSI). 2012. *BS 5837:2012. Trees in relation to design, demolition and construction – Recommendations*. 4th ed. London: British Standards Institution.

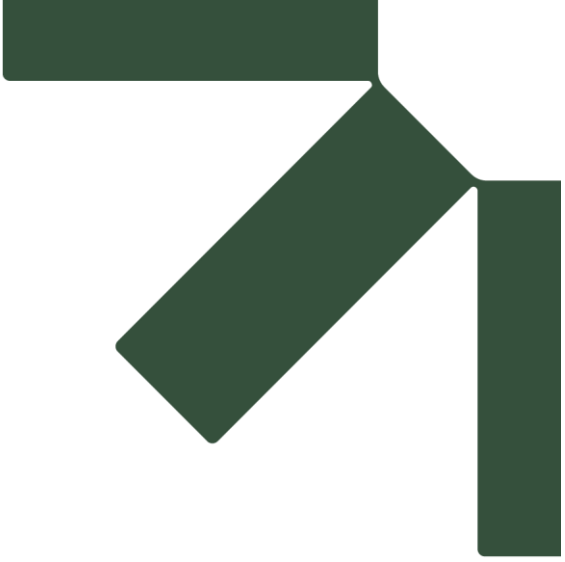
DLUHC, 2024 *National Planning Policy Framework*. London: HMSO.

Lonsdale, D., 1999. *Principles of tree hazard assessment and management*. London: TSO.

Mattheck, C. and Breloer, H., 1994. *The body language of trees*. London: Stationery Office.

National Tree Safety Group. 2024. *Common sense risk management of trees*. (2024)





Appendix A Tree Survey Schedule

Land North of Solent Road, Havant

Tree Survey Report & Arboricultural Impact Assessment

Portsmouth Water Limited

SLR Project No.: 402.064821.00002

May 2025



Table A-1: Tree Survey Schedule

Ref No.	Species Botanical name (Common Name)	Estimated Height (m)	Stem Diameter (mm)	Canopy Extent (m)				First Significant Branch (m) and Direction	Canopy Clearance Height (m)	Life Stage	Observations	Estimated Remaining Contribution (years)	Category	RPA Radius (m)
				N	S	E	W							
T1	<i>Thuja plicata</i> (Western Red Cedar)	17	1000	5	5	5	5	2 - W	1 - 2	Mature	Ivy clad stem Not fully surveyed Tearouts Deadwood less than 150mm diameter Crossing branches Dieback – Minor Located within the Brockhampton Conservation Area	40+	A1	12
T2	<i>Fagus sylvatica</i> 'Purpurea' (Copper Beech)	20	620	6	7	7	8	2 - S	1 - 2	Mature	Old pruning wounds Crown lifted Ivy clad stem Not fully surveyed Located within the Brockhampton Conservation Area	40+	A1	7.4
T3	<i>Tilia X europaea</i> (Common Lime)	18	700	6.5	10	9	8	2 - W	1 - 3	Mature	Ivy clad stem Not fully surveyed Old pruning wounds Located within the Brockhampton Conservation Area	40+	A1	8.4
T4	<i>Pterocarya fraxinifolia</i> (Caucasian Wingut)	21	680, 800, 750, 1050, (1664)	12	15	10.5	7	2 - N	2 - 5	Mature	Not fully surveyed Crown lifted Deadwood less than 150mm diameter Ivy clad stem Located within the Brockhampton Conservation Area	40+	A1	20
T5	<i>Thuja plicata</i> (Western Red Cedar)	15	1100	9	5	12.5	10	2 - S	1 - 3	Mature	Ivy clad stem Not fully surveyed Tearouts Deadwood less than 150mm diameter Crossing branches Located within the Brockhampton Conservation Area	40+	A1	13.2
T6	<i>Pterocarya fraxinifolia</i> (Caucasian Wingut)	21	1250	11.5	10	11.5	8	1 - NE	2 - 4	Mature	Not fully surveyed Crown lifted Deadwood less than 150mm diameter Ivy clad stem Included bark Located within the Brockhampton Conservation Area	40+	A1	15
T7	<i>Tilia cordata</i> (Small-leaved Lime)	14	680	8	8	9	9	2 - W	1 - 2	Early-mature	Old pruning wounds Not fully surveyed Not accessible Ivy clad stem Located within the Brockhampton Conservation Area	40+	A1	8.2
G8	<i>Prunus cerasifera</i> (Cherry Plum) <i>Sambucus nigra</i> (Elder)	3 - 5	200	As shown on Tree Constraints Plan. Average canopy spread 2m				N/A	2.5 - 1	Young	Multi-stemmed Located within the Brockhampton Conservation Area	20-40	C2	2.4
T9	<i>Pterocarya fraxinifolia</i> (Caucasian Wingut)	21	650, 620, 600, 600, (1236)	7	12	10.5	9	2 - S	2 - 5	Mature	Not accessible Not fully surveyed Crown lifted Deadwood less than 150mm diameter Located within the Brockhampton Conservation Area	40+	A1	14.8



Ref No.	Species Botanical name (Common Name)	Estimated Height (m)	Stem Diameter (mm)	Canopy Extent (m)				First Significant Branch (m) and Direction	Canopy Clearance Height (m)	Life Stage	Observations	Estimated Remaining Contribution (years)	Category	RPA Radius (m)
				N	S	E	W							
G10	<i>Salix fragilis</i> (Crack Willow)	5 - 7	180#	As shown on Tree Constraints Plan. Average canopy spread 3.5m				N/A	2 - 3	Semi-mature	Within neighbouring property Not fully surveyed Not accessible Located within the Brockhampton Conservation Area	40+	C2	2.2
T11	<i>Fagus sylvatica</i> (Beech)	16	810	5.5	6	7	6.5	2 - S	1 - 2	Mature	Old pruning wounds Crown lifted Tight union Fungal fruiting bodies (<i>Ganoderma</i> sp.) Located within the Brockhampton Conservation Area	40+	A1	9.7
T12	<i>Crataegus monogyna</i> (Hawthorn) <i>Prunus spinosa</i> (Blackthorn) <i>Sambucus nigra</i> (Elder) <i>Acer campestre</i> (Field Maple) <i>Fraxinus excelsior</i> (Ash)	15	770	7	8.5	8	6	2 - S	1 - 2	Mature	Old pruning wounds Crown lifted Tight union Located within the Brockhampton Conservation Area	40+	A1	9.2
G13	<i>Crataegus monogyna</i> (Hawthorn) <i>Prunus</i> sp. (Cherry)	4 - 5	150#	As shown on Tree Constraints Plan. Average canopy spread 2m				N/A	1 - 2	Young	Within neighbouring property Not accessible Not fully surveyed Located within the Brockhampton Conservation Area	40+	C2	1.8
G14	<i>Acer pseudoplatanus</i> (Sycamore) <i>Fraxinus excelsior</i> (Ash) <i>Crataegus monogyna</i> (Hawthorn) <i>Sambucus nigra</i> (Elder) <i>Taxus baccata</i> (Yew)	4 - 6	250	As shown on Tree Constraints Plan. Average canopy spread 4.5m				N/A	0 - 2	Semi-mature	Not fully surveyed Not accessible Dense undergrowth Located within the Brockhampton Conservation Area	20-40	C2	3
T15	<i>Acer pseudoplatanus</i> (Sycamore)	13	620	5.5	5	5#	5.5	2 - W	2 - 3	Early-mature	Not fully surveyed Ivy clad stem Dense undergrowth Located within the Brockhampton Conservation Area	40+	C1	7.4
T16	<i>Populus X canadensis</i> (Hybrid Black Poplar)	12	250, 300, 100, (403)	2	3	4.5#	3.5	2 - W	0.5 - 2	Semi-mature	Multi-stemmed Not fully surveyed Ivy clad stem Located within the Brockhampton Conservation Area	40+	C1	4.8
T17	<i>Fraxinus excelsior</i> (Ash)	4	80, 80, 100, 110, 100, (212)	3	3	3	3	0.5 - All	0.5 - 1	Young	Multi-stemmed Located within the Brockhampton Conservation Area	<10	C1	2.5
T18	<i>Sambucus nigra</i> (Elder)	4	100	4	3.5	4	3.5	0.5 - All	0.5 - 1	Semi-mature	Multi-stemmed	20-40	C1	3.4
G19	<i>Acer campestre</i> (Field Maple)	5 - 7	200#	As shown on Tree Constraints Plan. Average canopy spread 4m				N/A	1 - 1.5	Semi-mature	Within neighbouring property Not fully surveyed	40+	C2	2.4
G20	<i>Acer campestre</i> (Field Maple)	5 - 7	200#	As shown on Tree Constraints Plan. Average canopy spread 4m				N/A	1 - 1.5	Semi-mature	Within neighbouring property Not fully surveyed	40+	C2	2.4
G21	<i>Fraxinus excelsior</i> (Ash) <i>Sambucus nigra</i> (Elder)	3 - 5	200	As shown on Tree Constraints Plan. Average canopy spread 2m				N/A	1 - 1.5	Young	Ash die back	<10	U	0



Ref No.	Species Botanical name (Common Name)	Estimated Height (m)	Stem Diameter (mm)	Canopy Extent (m)				First Significant Branch (m) and Direction	Canopy Clearance Height (m)	Life Stage	Observations	Estimated Remaining Contribution (years)	Category	RPA Radius (m)
				N	S	E	W							
T22	<i>Alnus glutinosa</i> (Common Alder)	6	550	7	6	6	2	1.5 - NW	1 - 3	Early-mature	Deadwood greater than 150mm diameter Hanging branch Ivy clad stem Not fully surveyed Significant upper crown loss Subject to Tree Preservation Order HBC_1801	20-40	C1	6.6
G23	<i>Alnus glutinosa</i> (Common Alder) <i>Crataegus monogyna</i> (Hawthorn) <i>Sambucus nigra</i> (Elder)	16 - 20	1000	As shown on Tree Constraints Plan. Average canopy spread 7.5m				N/A	1 - 3	Early-mature Mature	Not fully surveyed Ivy clad stem Deadwood less than 150mm diameter Crossing branches Hanging branch Mutual suppression Subject to Tree Preservation Order HBC_1801	40+	A2	12
G24	<i>Acer campestre</i> (Field Maple)	5 - 7	220#	As shown on Tree Constraints Plan. Average canopy spread 5m				N/A	1 - 1.5	Semi-mature	Within neighbouring property Not fully surveyed	40+	C2	2.6
T25	<i>Betula pendula</i> (Silver Birch)	20	600	7	7.5	4.3	7.5	2 - W	1 - 2	Early-mature	Not fully surveyed Ivy clad stem Mutual suppression Crossing branches Subject to Tree Preservation Order HBC_1801	20-40	B1	7.2
T26	<i>Betula pendula</i> (Silver Birch)	20	580	3	7	6.5	6	3 - S	1 - 2	Early-mature	Not fully surveyed Ivy clad stem Mutual suppression Crossing branches Subject to Tree Preservation Order HBC_1801	20-40	B1	7
H27	<i>Crataegus monogyna</i> (Hawthorn) <i>Prunus spinosa</i> (Blackthorn) <i>Sambucus nigra</i> (Elder) <i>Acer campestre</i> (Field Maple) <i>Fraxinus excelsior</i> (Ash)	4 - 5	120	As shown on Tree Constraints Plan. Average canopy spread 2m				N/A	0 - 0	Semi-mature	Viburnum, lapsed hedgerow, plot as hedge?, canopy extent comes out to 3.5m from fence.	40+	C2	1.4
G28	<i>Fagus sylvatica</i> (Beech) <i>Betula pendula</i> (Silver Birch) <i>Acer pseudoplatanus</i> (Sycamore)	10 - 13	250	As shown on Tree Constraints Plan. Average canopy spread 6m				N/A	1 - 3	Semi-mature	Not fully surveyed Ivy clad stem Dense bramble undergrowth	20-40	C2	3
G29	<i>Acer pseudoplatanus</i> (Sycamore) <i>Aesculus hippocastanum</i> (Horse Chestnut) <i>Fraxinus excelsior</i> (Ash) <i>Chamaecyparis lawsoniana</i> (Lawson Cypress)	12 - 17	600	As shown on Tree Constraints Plan. Average canopy spread 5.5m				N/A	2 - 4	Semi-mature Early-mature	Ivy clad stem Mutual suppression Not fully surveyed Not accessible Ash die back Dead specimen(s) Dense bramble undergrowth Subject to Tree Preservation Order HBC_1801	40+	B2	7.2



Ref No.	Species Botanical name (Common Name)	Estimated Height (m)	Stem Diameter (mm)	Canopy Extent (m)				First Significant Branch (m) and Direction	Canopy Clearance Height (m)	Life Stage	Observations	Estimated Remaining Contribution (years)	Category	RPA Radius (m)
				N	S	E	W							
T30	<i>Fraxinus excelsior</i> (Ash)	20	700	8	7#	8#	6	4 - SW	5 - 6	Mature	Ash die back Deadwood greater than 150mm diameter Bark wound Tight union Not fully surveyed Dense bramble undergrowth. Subject to Tree Preservation Order HBC_1801	<10	C1	8.4
T31	<i>Pinus radiata</i> (Monterey Pine)	21	850	10	7#	7	6#	4 - N	3 - 5	Mature	Not fully surveyed Ivy clad stem Deadwood greater than 150mm diameter Mutual suppression Subject to Tree Preservation Order HBC_1801	40+	A1	10.2
T32	<i>Betula pendula</i> (Silver Birch)	15	360	5	3#	2#	3#	2 - N	2 - 3	Semi-mature	Dead specimen(s) Subject to Tree Preservation Order HBC_1801	<10	U	0
T33	<i>Betula pendula</i> (Silver Birch)	15	400	6.5	4.5#	6	4#	2.5 - E	1 - 3	Early-mature	Not fully surveyed Dense bramble undergrowth Subject to Tree Preservation Order HBC_1801	20-40	B1	4.8
T34	<i>Betula pendula</i> (Silver Birch)	16	380#	4	2.5#	5#	7	2.5 - E	1 - 3	Early-mature	Not fully surveyed Dense bramble undergrowth, crown suppression Subject to Tree Preservation Order HBC_1801	20-40	B1	4.6
T35	<i>Ulmus</i> sp. (Elm)	7	250	3.5	3#	3#	4	1.5 - All	2 - 3	Semi-mature	Dead specimen(s) Subject to Tree Preservation Order HBC_1801	<10	U	0
G36	<i>Pinus sylvestris</i> (Scots Pine) <i>Betula pendula</i> (Silver Birch) <i>Acer pseudoplatanus</i> (Sycamore)	15 - 20	500	As shown on Tree Constraints Plan. Average canopy spread 6.5m				N/A	1 - 3	Semi-mature Mature	Ivy clad stem Not fully surveyed Multi-stemmed Mutual suppression Screening to Solent Road and industrial buildings Subject to Tree Preservation Order HBC_1801	40+	B1	6
T37	<i>Acer platanoids</i> (Norway Maple)	16	500#	3#	6	6	5	1.5 - W	3 - 4	Early-mature	Mutual suppression Bark wounds Tight union Crossing branches Located on highway verge	40+	B1	6
T38	<i>Pinus radiata</i> (Monterey Pine)	21	950#	6	5	9	6	3 - W	3 - 5	Mature	Mutual suppression Old pruning wounds Deadwood less than 150mm Subject to Tree Preservation Order HBC_1801 Within neighbouring property	40+	A1	11.4
T39	<i>Acer platanoids</i> (Norway Maple)	7	300#	3#	4	5	4	1.5 - N	1 - 3	Semi-mature	Located on highway verge Mutual suppression	40+	C1	3.6



Table A-2: Tree Survey Schedule Key

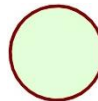
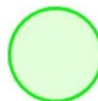
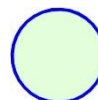
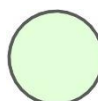
Parameters Assessed	Details
Tree ID	'T' denotes Tree, 'G' denotes Tree Group, 'W' denotes Woodland, 'H' denotes Hedgerow. The original tree survey numbering is shown in brackets.
Species	Botanical and common name.
Height	Measured using a clinometer. Measured to the nearest metre.
Stem Diameter	Measured at 1.5 m above ground level. For multi-stem trees each stem diameter is recorded. For trees with 2-5 stems the overall diameter is calculated by squaring each stem diameter, adding these figures together and square rooting the result. For trees with more than 5 stems the mean stem diameter is squared and multiplied by the number of stems. The result is then square rooted to give the overall diameter. The results of the calculations for multi-stemmed trees are shown in bold and in brackets on the schedule. Where the tree is inaccessible due to vegetation or obstacles then the stem diameter has been estimated. For groups and woodlands, the stem diameter shown is the maximum recorded.
RPA Radius	The Root Protection Area (RPA) is calculated using the stem diameter. The RPA is an area equivalent to a circle with a radius 12 times the stem diameter for a single stem tree. BS 5837:2012 limits the maximum RPA to 707 square metres (m²), i.e. equivalent to a circle with a radius of 15m or a square with approximately 26m sides. The RPA of veteran/ancient trees is calculated using the standing advice Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK. this states that the RPA for ancient or veteran trees should be an area equivalent to a circle with a radius at least 15 times the stem diameter or 5m beyond the tree canopy, whichever is the greater. All ancient woodland requires an RPA of at least 15m.
Branch Spread	Measured at the four cardinal points to derive an accurate representation of the crown and is recorded on the tree survey plan. Where the tree is inaccessible due to vegetation or obstacles then the branch spreads have been estimated. Measured to the nearest metre using a laser measurer. Direction measured using a compass.
Life Stage	Young: Newly planted tree 0-10 years. Semi-Mature: Tree in the first third of its normal life expectancy for the species (significant potential for future growth in size). Early Mature: Tree in the second third of its normal life expectancy for the species (some potential for future growth in size) Mature: Tree in the final third of its normal life expectancy for the species (having typically reached its approximate ultimate size). Over Mature: Tree beyond the normal life expectancy for the species. Veteran: Tree, which is of interest biologically, aesthetically or culturally because of its condition, size or age.
General Observations	Particularly of structural and / or physiological condition (e.g. the presence of any decay and physical defect) and / or preliminary management recommendations. External features assessed based upon – The Body Language of Trees, Research for Amenity Trees No 4. (Mattheck and Breloer, 1994).



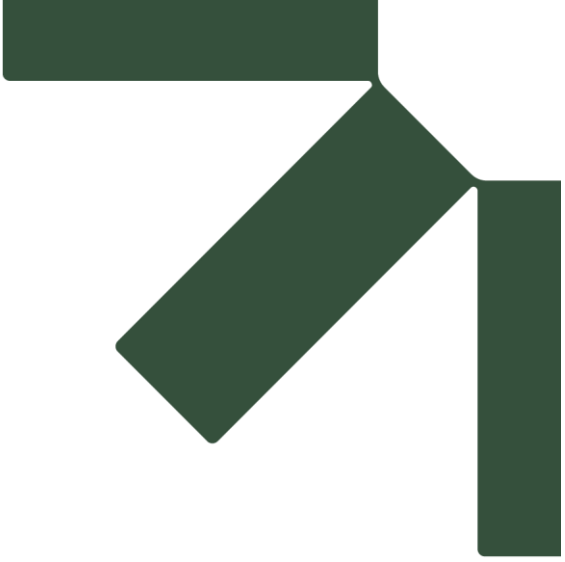
Parameters Assessed	Details
Category Grading	Recorded on the tree survey plans and schedule. See Section 4.3 for Cascade Chart for Tree Quality Assessment. British Standard (BS) 5837 (2012), "Trees in relation to design, demolition and construction – Recommendations". Occasionally trees are given more than one category grading, where trees would otherwise be categorised as U, but have identifiable conservation, heritage or landscape value, even though only for the short term, they may be upgraded, although they might be suitable for retention only where issues concerning their safety can be appropriately managed. A – Trees of high quality with an estimated remaining life expectancy of at least 40 years. (Shown as green on the tree survey plans). B – Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. (Shown as blue on the tree survey plans). C – Trees of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150 mm. (Shown as grey on the tree survey plans). 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. (Shown as red on the tree survey plans). 1 – Mainly arboriculture qualities. 2 – Mainly landscape qualities. 3 – Mainly cultural values, including conservation
Notes	Trees can be grouped if they form cohesive arboricultural features either aerodynamically (e.g. trees that provide companion shelter), visually (e.g. avenues or screens) or culturally, including for biodiversity (e.g. parkland or woodland pasture). The category grading for a group of trees does not necessarily imply that the individual trees within that group are the same grading. The group is viewed as a whole and individual trees within it may have a lower grading.
#	Estimated dimensions
*	Indicates estimated position of tree (not indicated on topographical survey).



Table A-3: Cascade Chart of Tree Quality Assessment (Taken from BS 5837:2012)

Category and definition		Criteria (including subcategories where appropriate)			Identification on plan #
Trees unsuitable for retention (see Note)					
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>				
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation		
Trees to be considered for retention					
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)		
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value		
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value		





Appendix B Tree Constraints Plans

Land North of Solent Road, Havant

Tree Survey Report & Arboricultural Impact Assessment

Portsmouth Water Limited

SLR Project No.: 402.064821.00002

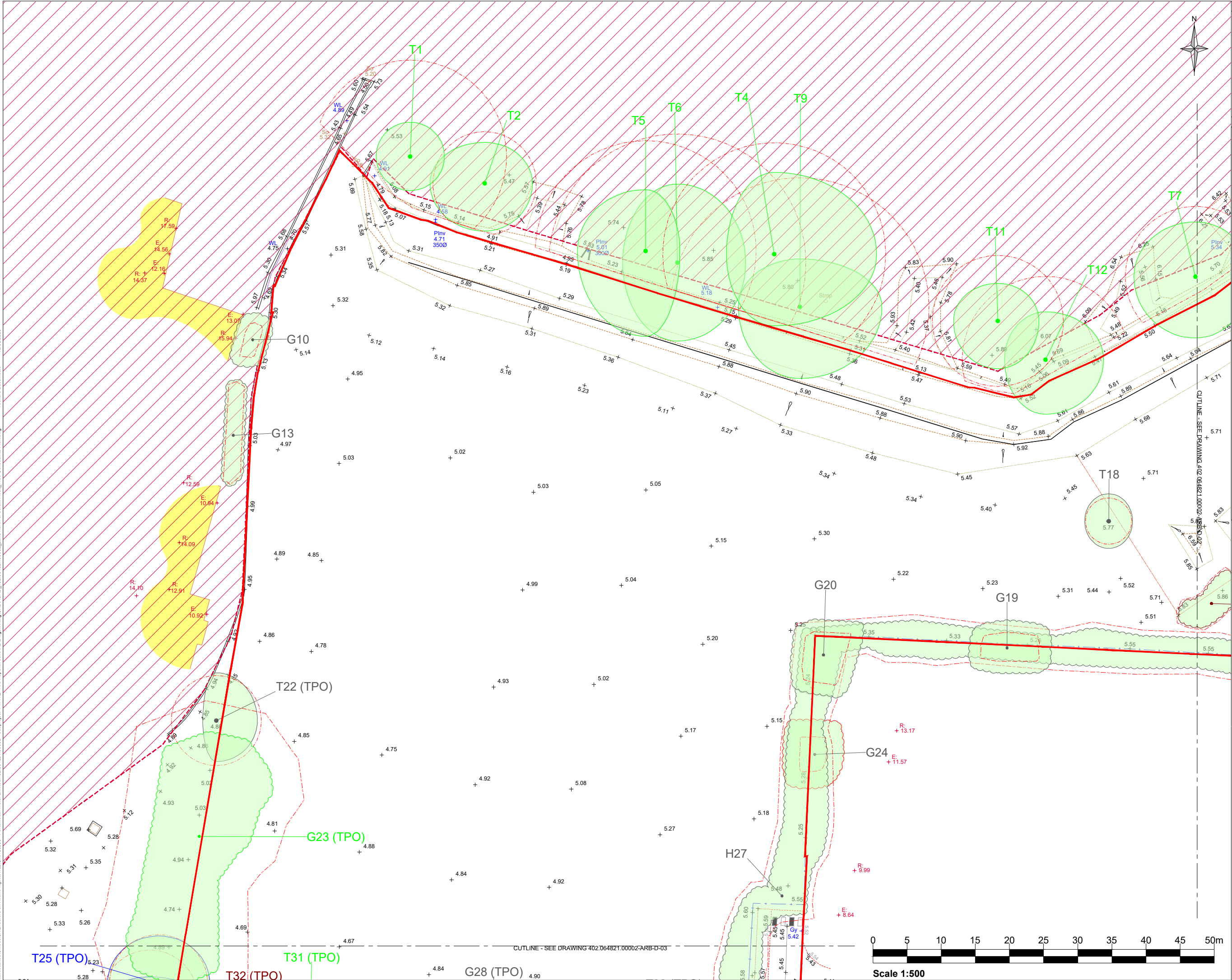
May 2025



16/05/2025

Richard Bassindale

\\slr-local\au\Offices\UK\Bradford on Avon\Projects\402\UK\133590 - Portsmouth Water Limited\402.064821.00002 - Subproject PW HQ - Arb Report\Tch\ARB\Drawings\Wkg\CAD\CAD_402.064821.00002_Land North of Solent Road_Tree Constraints Plan.dwg



Notes:

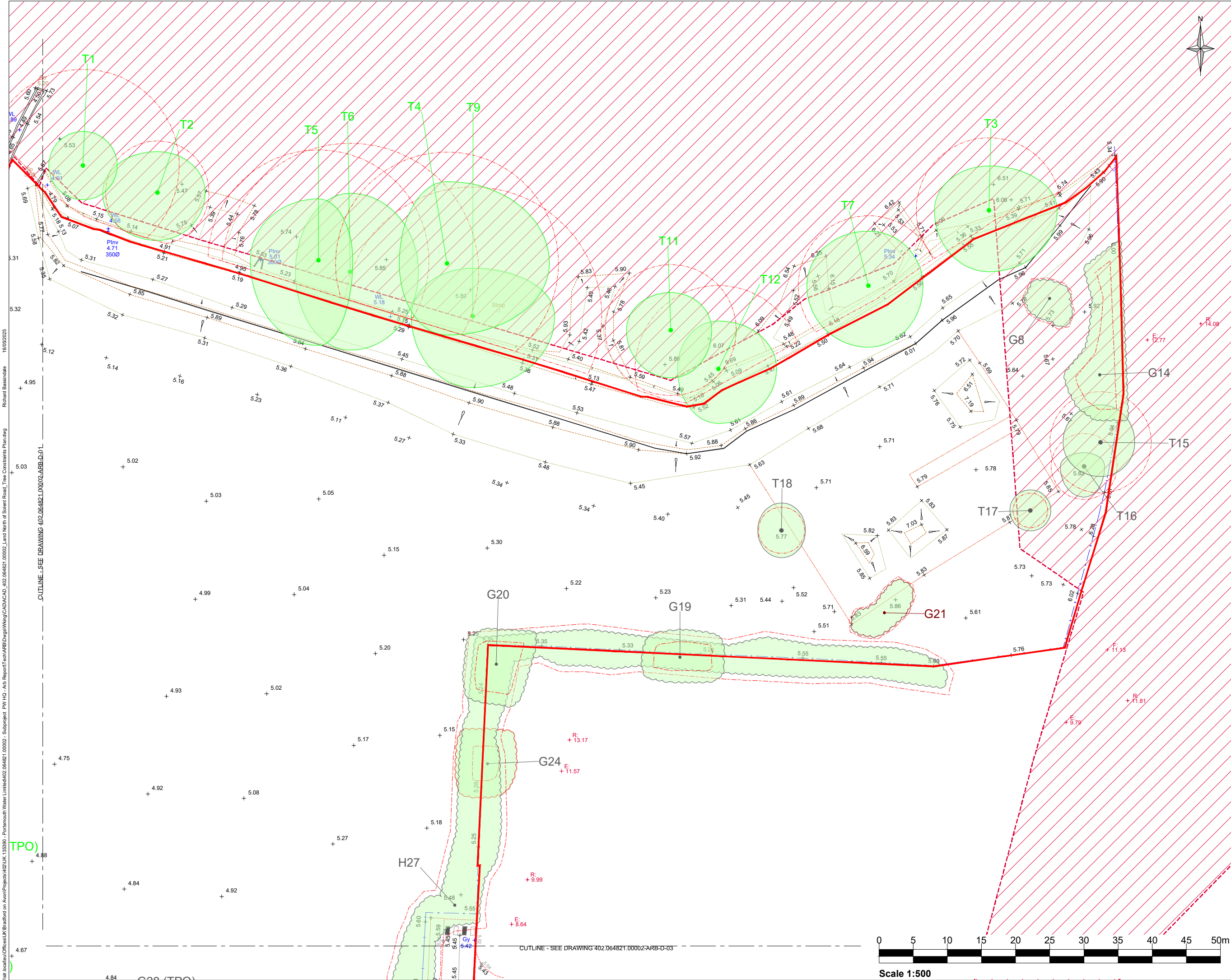
Trees subject to a Tree Protection Order (TPO):

TXX
TXX
GXX
TXX
GXX

Legend:

- Application Boundary
- T1 Tree of high quality and value (Category A)
- T1 Tree of moderate quality and value (Category B)
- T1 Tree of low quality and value (Category C)
- T1 Tree unsuitable for retention (Category U)
- Tree (T)
- Tree Group (G), Woodland (W) or Hedgerow (H)
- Root Protection Area (RPA)
- Conservation Area (CA)

Rev	Amendments	Date	By	Chk	Auth
 www.slrconsulting.com					
Drawing Status & Suitability Code					
For Planning					
Client Portsmouth Water Limited					
Project Land North of Solent Road, Havant					
Drawing Title Tree Constraints Plan (1 of 3)					
Scale 1:500		@ A3		SLR Project No. 402.064821.00002	
Designed AG	Drawn AG	Checked MMS	Authorised RB		
Date May 25	Date May 25	Date May 25	Date May 25		
Drawing Number 402.064821.00002-ARB-D-01					Rev. 01



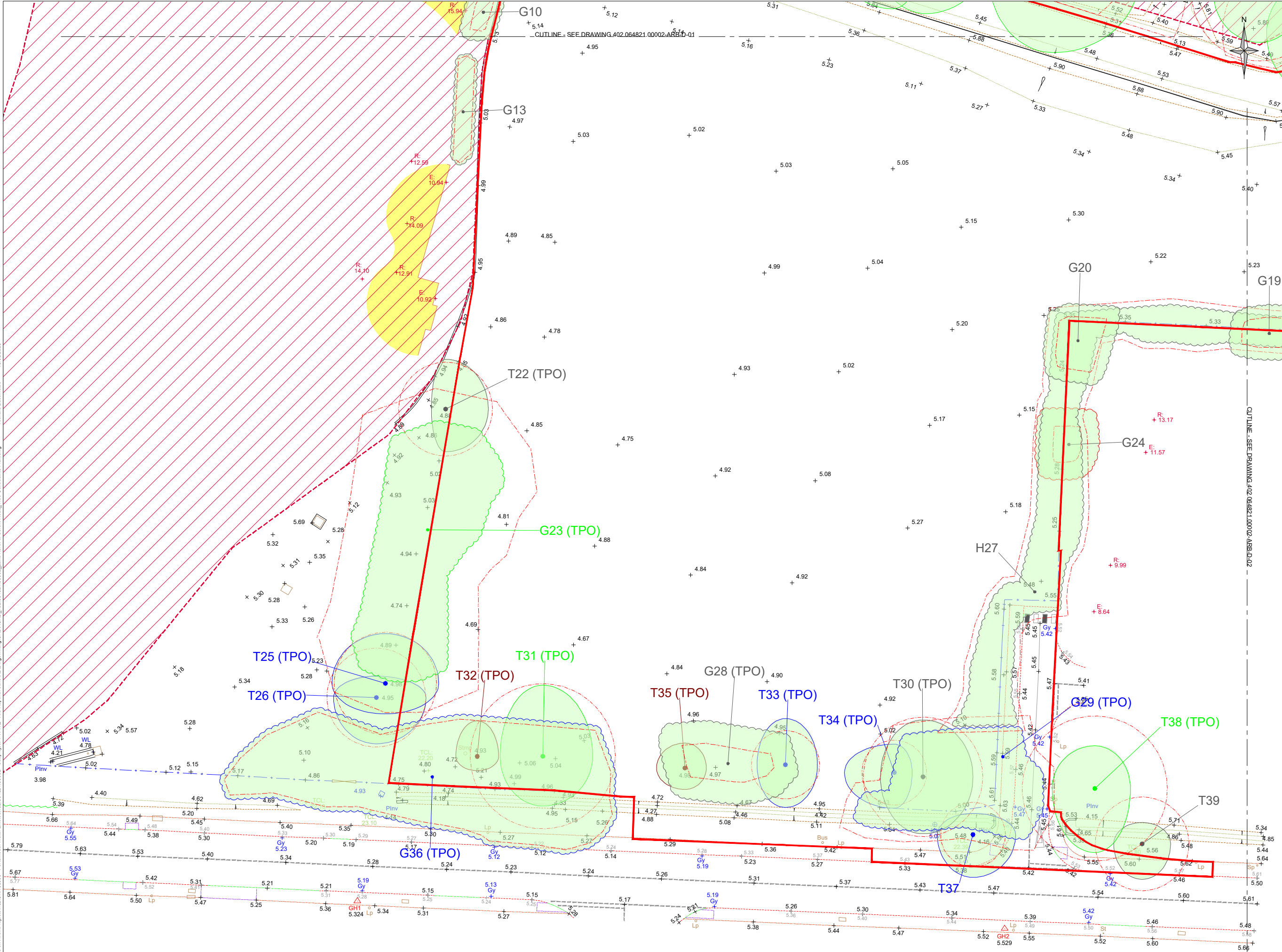
Key Plan:

Legend:

- Application Boundary
- T1 Tree of high quality and value (Category A)
- T1 Tree of moderate quality and value (Category B)
- T1 Tree of low quality and value (Category C)
- T1 Tree unsuitable for retention (Category U)
- Tree (T)
- Tree Group (G), Woodland (W) or Hedgerow (H)
- Root Protection Area (RPA)
- Conservation Area (CA)

Rev	Amendments	Date	By	Chk	Auth
 www.slrconsulting.com					
Drawing Status & Suitability Code					
For Planning					
Client					
Portsmouth Water Limited					
Project					
Land North of Solent Road, Havant					
Drawing Title					
Tree Constraints Plan (2 of 3)					
Scale		SLR Project No.			
1:500		402.064821.00002			
Designed	Drawn	Checked	Authorised		
AG	AG	MMS	RB		
Date	Date	Date	Date		
May 25	May 25	May 25	May 25		
Drawing Number				Rev	
402.064821.00002-ARB-D-02				01	

© Crown copyright and database rights 2024 Ordnance Survey Licence number AC0000808122
© This drawing and its content are the copyright of SLR Consulting Ltd and may not be reproduced or amended except by prior written permission. SLR Consulting Ltd accepts no liability for any amendments made by other persons.



Key Plan:

Legend:

Application Boundary

T1

Tree of high quality and value (Category A)

T1

Tree of moderate quality and value (Category B)

T1

Tree of low quality and value (Category C)

T1

Tree unsuitable for retention (Category U)

Tree (T)

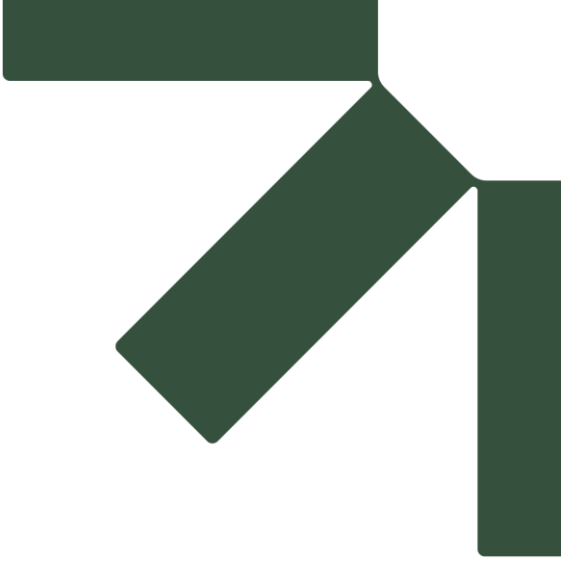
Tree Group (G), Woodland (W) or Hedgerow (H)

Root Protection Area (RPA)

Conservation Area (CA)

Rev	Amendments	Date	By	Chk	Auth
www.slrconsulting.com					
Drawing Status & Suitability Code					
For Planning					
Client					
Portsmouth Water Limited					
Project					
Land North of Solent Road, Havant					
Drawing Title					
Tree Constraints Plan (3 of 3)					
Scale		SLR Project No.			
1:500 @ A3		402.064821.00002			
Designed	Drawn	Checked	Authorised		
AG	AG	MMS	RB		
Date	Date	Date	Date		
May 25	May 25	May 25	May 25		
Drawing Number				Rev.	
402.064821.00002-ARB-D-03				01	

© Crown copyright and database rights 2024 Ordnance Survey Licence number AC0000808122 © This drawing and its content are the copyright of SLR Consulting Ltd and may not be reproduced or amended except by prior written permission. SLR Consulting Ltd accepts no liability for any amendments made by other persons.



Appendix C Tree Protection Plan

Land North of Solent Road, Havant

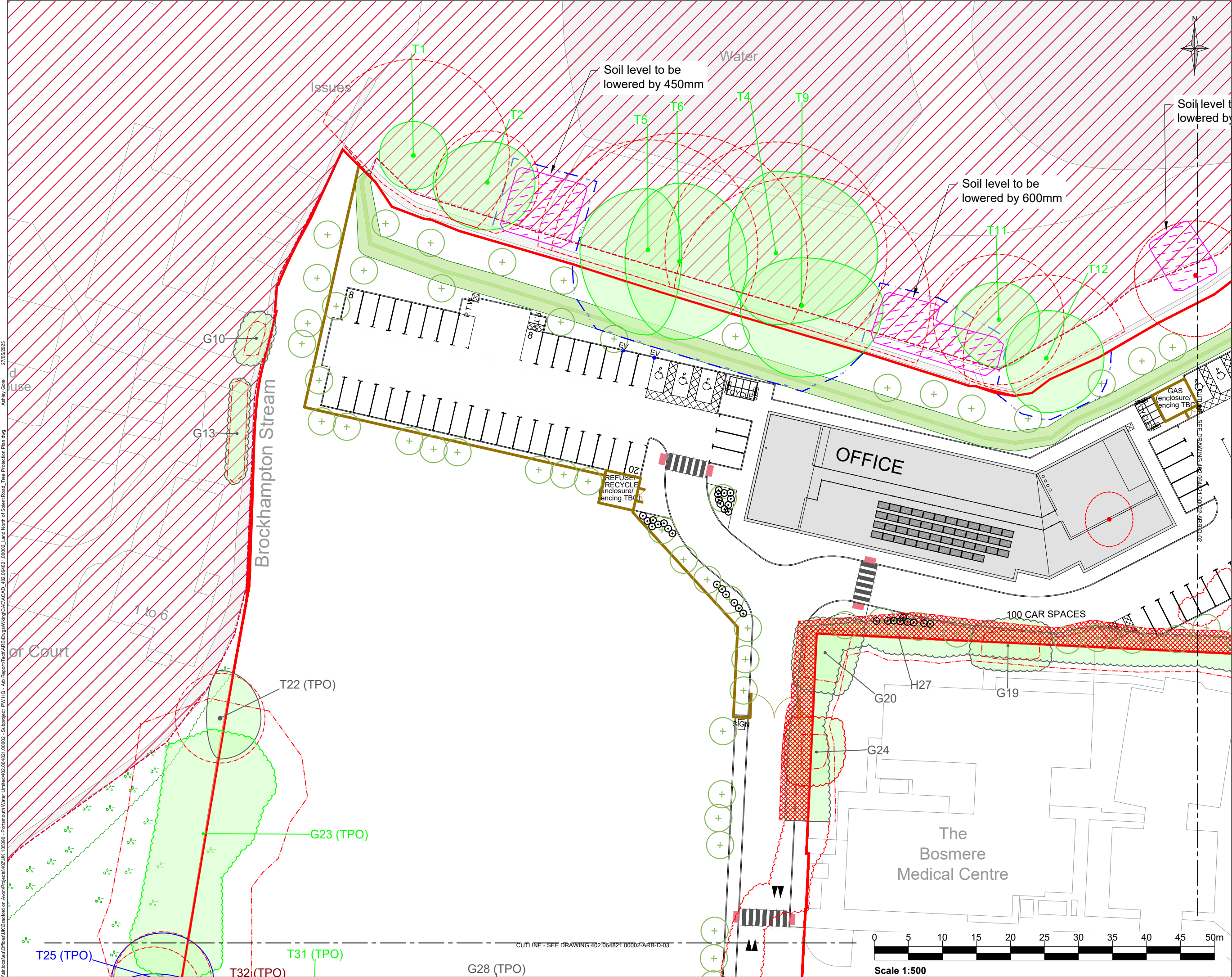
Tree Survey Report & Arboricultural Impact Assessment

Portsmouth Water Limited

SLR Project No.: 402.064821.00002

May 2025



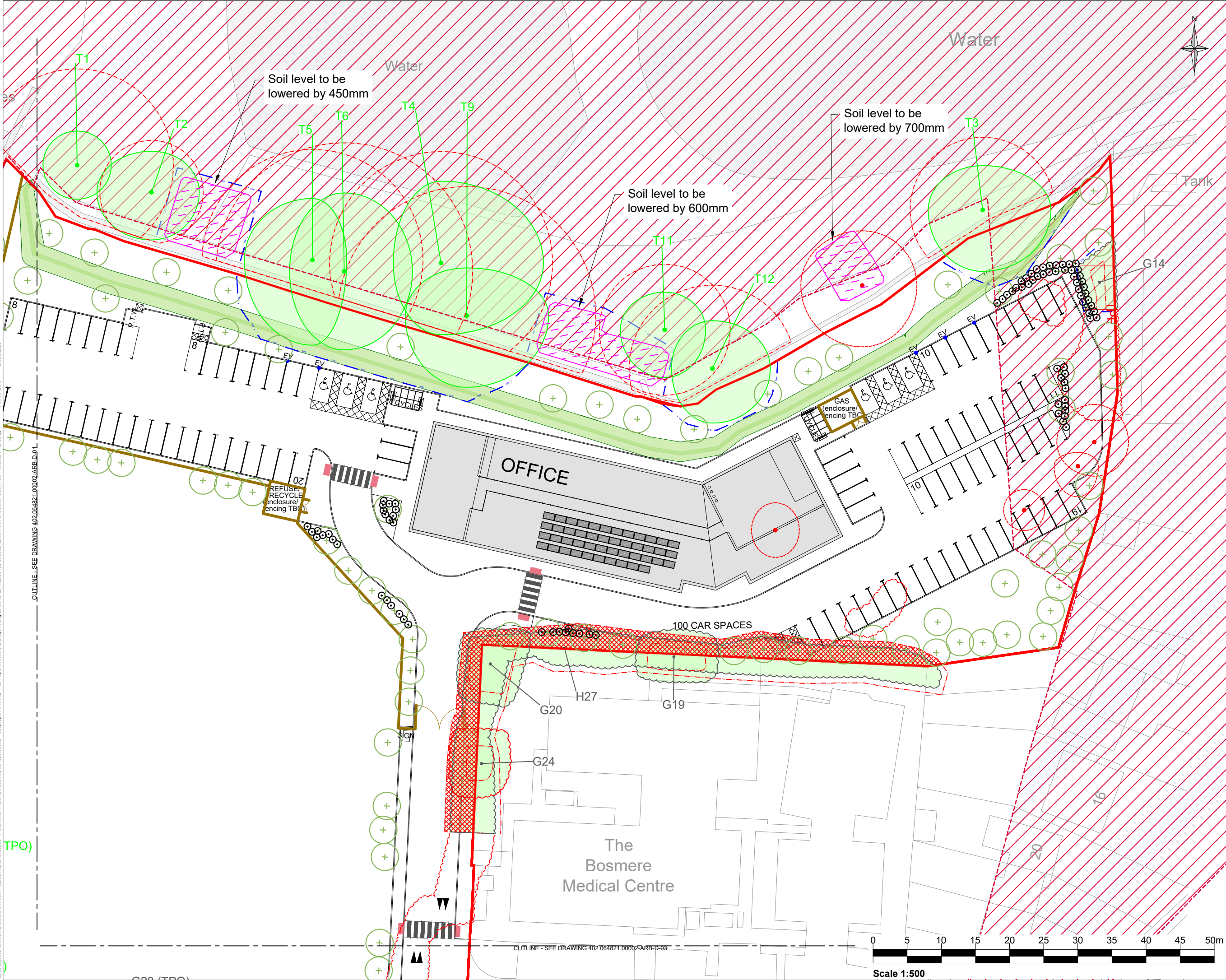


Notes:

Legend:

- Application Boundary
- T1 Tree of high quality and value (Category A)
- T1 Tree of moderate quality and value (Category B)
- T1 Tree of low quality and value (Category C)
- T1 Tree unsuitable for retention (Category U)
- Tree (T)
- Tree Group (G) or Hedgerow (H)
- Root Protection Area (RPA)
- Tree Protection Fencing (TPF)
- Tree to be Removed
- Conservation Area (CA)
- No-dig zone
- Drainage Compensation Area

Rev	Amendments	Date	By	Chk	Auth
 www.slrconsulting.com					
Drawing Status & Suitability Code					
For Planning					
Client Portsmouth Water Limited					
Project Land North of Solent Road, Havant					
Drawing Title Tree Protection Plan (1 of 3)					
Scale 1:500		@ A3		SLR Project No. 402.064821.00002	
Designed AG	Drawn AG	Checked MMS	Authorised RB		
Date May 25	Date May 25	Date May 25	Date May 25		
Drawing Number 402.064821.00002-ARB-D-04					Rev. 01

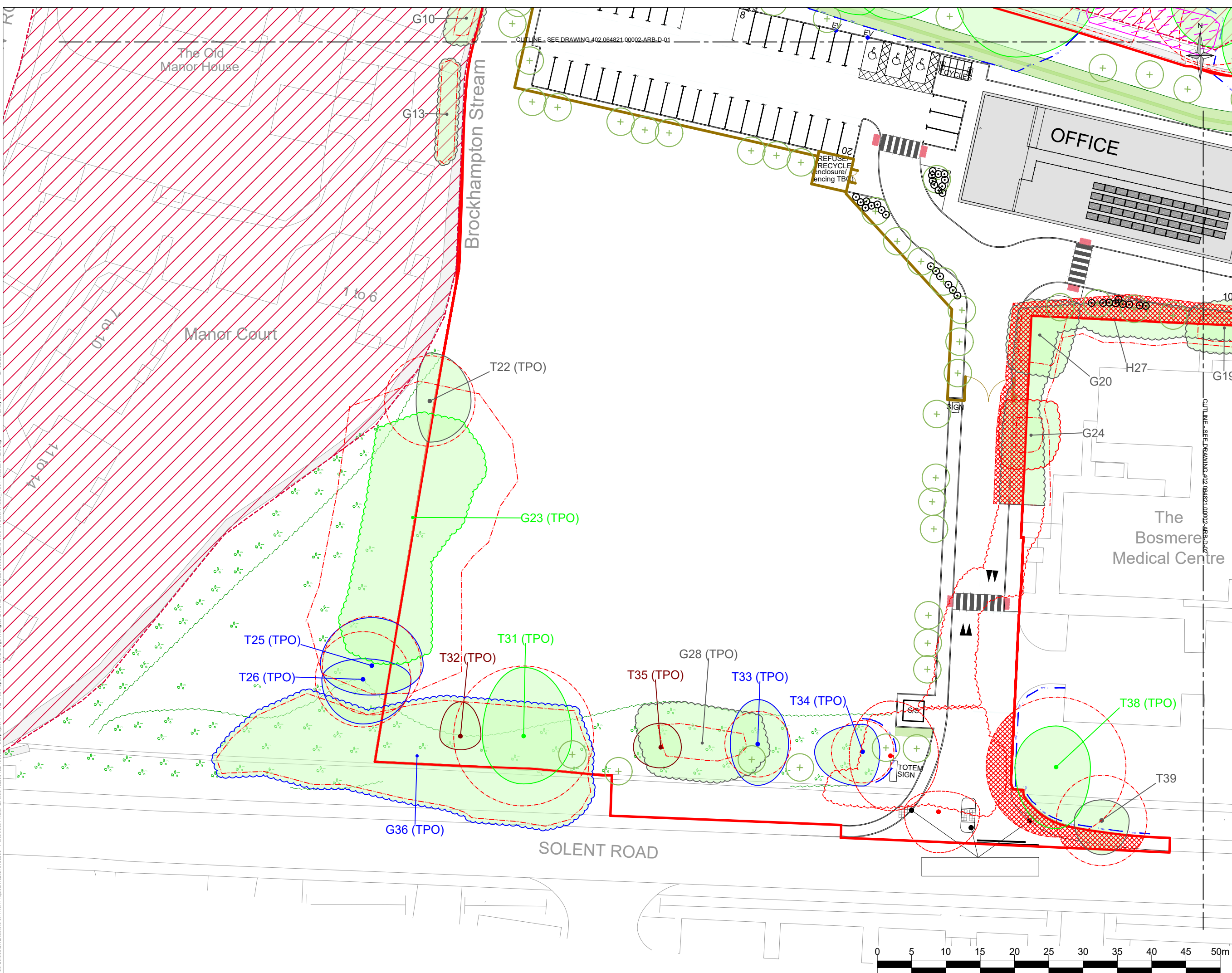


Notes:

Legend:

- Application Boundary
- T1 Tree of high quality and value (Category A)
- T1 Tree of moderate quality and value (Category B)
- T1 Tree of low quality and value (Category C)
- T1 Tree unsuitable for retention (Category U)
- Tree (T)
- Tree Group (G) or Hedgerow (H)
- Root Protection Area (RPA)
- Tree Protection Fencing (TPF)
- Tree to be Removed
- Conservation Area (CA)
- No-dig zone
- Drainage Compensation Area

Rev	Amendments	Date	By	Chk	Auth
 www.slrconsulting.com					
Drawing Status & Suitability Code					
For Planning					
Client Portsmouth Water Limited					
Project Land North of Solent Road, Havant					
Drawing Title Tree Protection Plan (2 of 3)					
Scale 1:500		@ A3		SLR Project No. 402.064821.00002	
Designed AG	Drawn AG	Checked MMS	Authorised RB		
Date May 25	Date May 25	Date May 25	Date May 25		
Drawing Number 402.064821.00002-ARB-D-05					Rev. 01

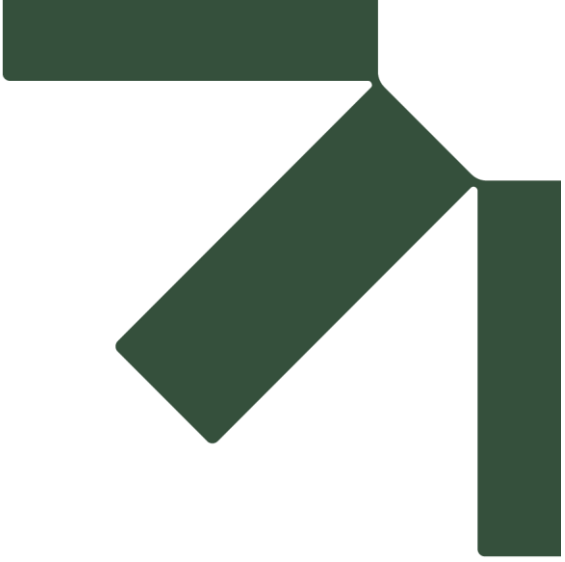


Notes:

Legend:

- Application Boundary
- T1 Tree of high quality and value (Category A)
- T1 Tree of moderate quality and value (Category B)
- T1 Tree of low quality and value (Category C)
- T1 Tree unsuitable for retention (Category U)
- Tree (T)
- Tree Group (G) or Hedgerow (H)
- Root Protection Area (RPA)
- Tree Protection Fencing (TPF)
- Tree to be Removed
- Conservation Area (CA)
- No-dig zone
- Drainage Compensation Area

Rev	Amendments	Date	By	Chk	Auth
 www.slrconsulting.com					
Drawing Status & Suitability Code					
For Planning					
Client Portsmouth Water Limited					
Project Land North of Solent Road, Havant					
Drawing Title Tree Protection Plan (3 of 3)					
Scale 1:500		@ A3		SLR Project No. 402.064821.00002	
Designed AG	Drawn AG	Checked MMS	Authorised RB		
Date May 25	Date May 25	Date May 25	Date May 25		
Drawing Number 402.064821.00002-ARB-D-06				Rev. 01	



Appendix D Preliminary Arboricultural Method Statement

Land North of Solent Road, Havant

Tree Survey Report & Arboricultural Impact Assessment

Portsmouth Water Limited

SLR Project No.: 402.064821.00002

May 2025



D.1 Overview

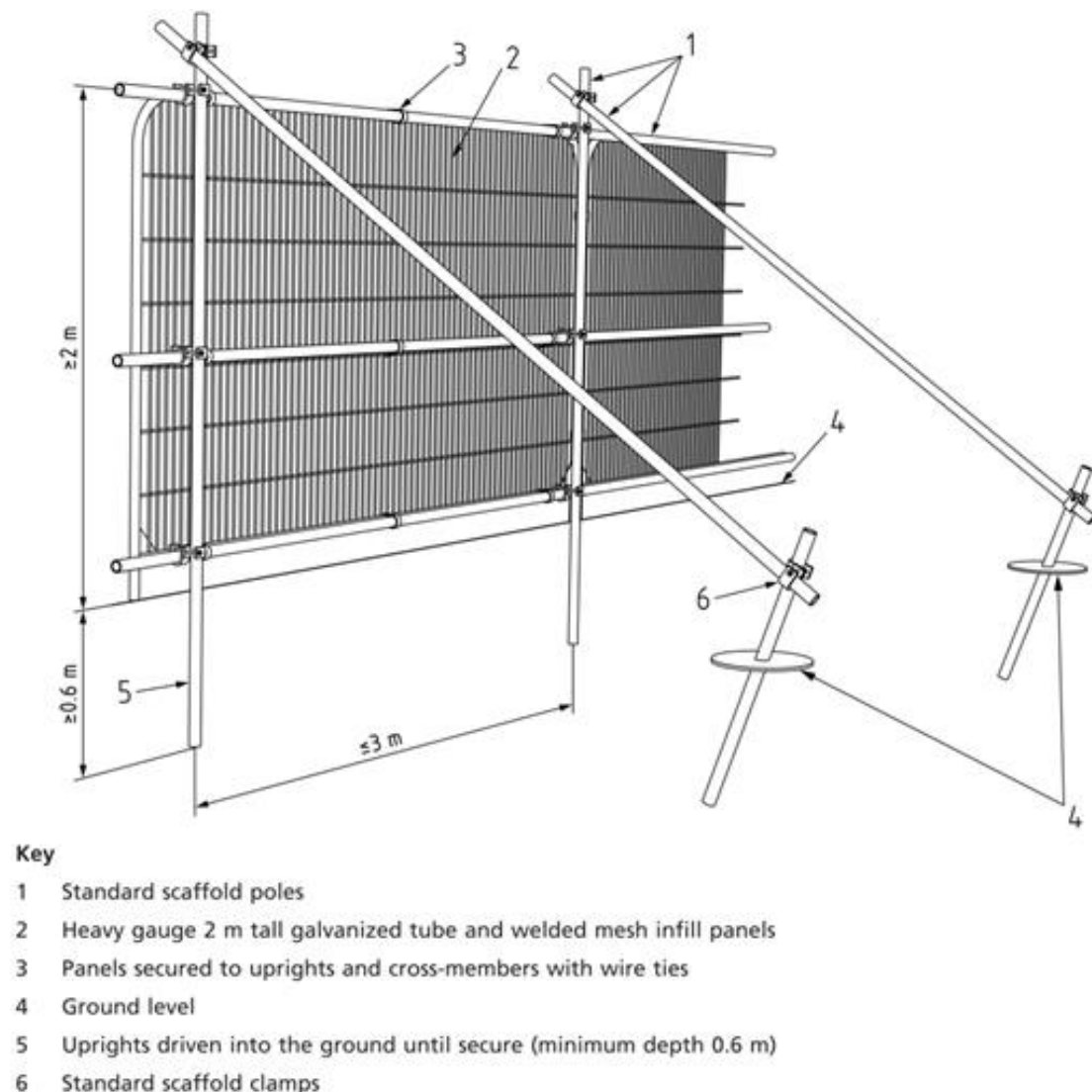
This Preliminary Arboricultural Method Statement (AMS) provides generic best practice measures to be adopted in order to protect retained trees during the development process. It has been prepared in order to inform the planning and the construction/ development process. Should a bespoke AMS be required, this shall be produced by a suitably qualified arboriculturist in liaison with the contractor undertaking the works.

D.2 Protective Fencing

The purpose of this fencing is to provide protection to the RPAs of retained trees and tree groups. Paragraph 6.2.2.1 of BS 5837:2012 states that “*Barriers should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s). Barriers should be maintained to ensure that they remain rigid and complete.*”

The default specification for Tree Protection Fencing (extract from BS 5837:2012) shall be as illustrated in Figure D-1 below.

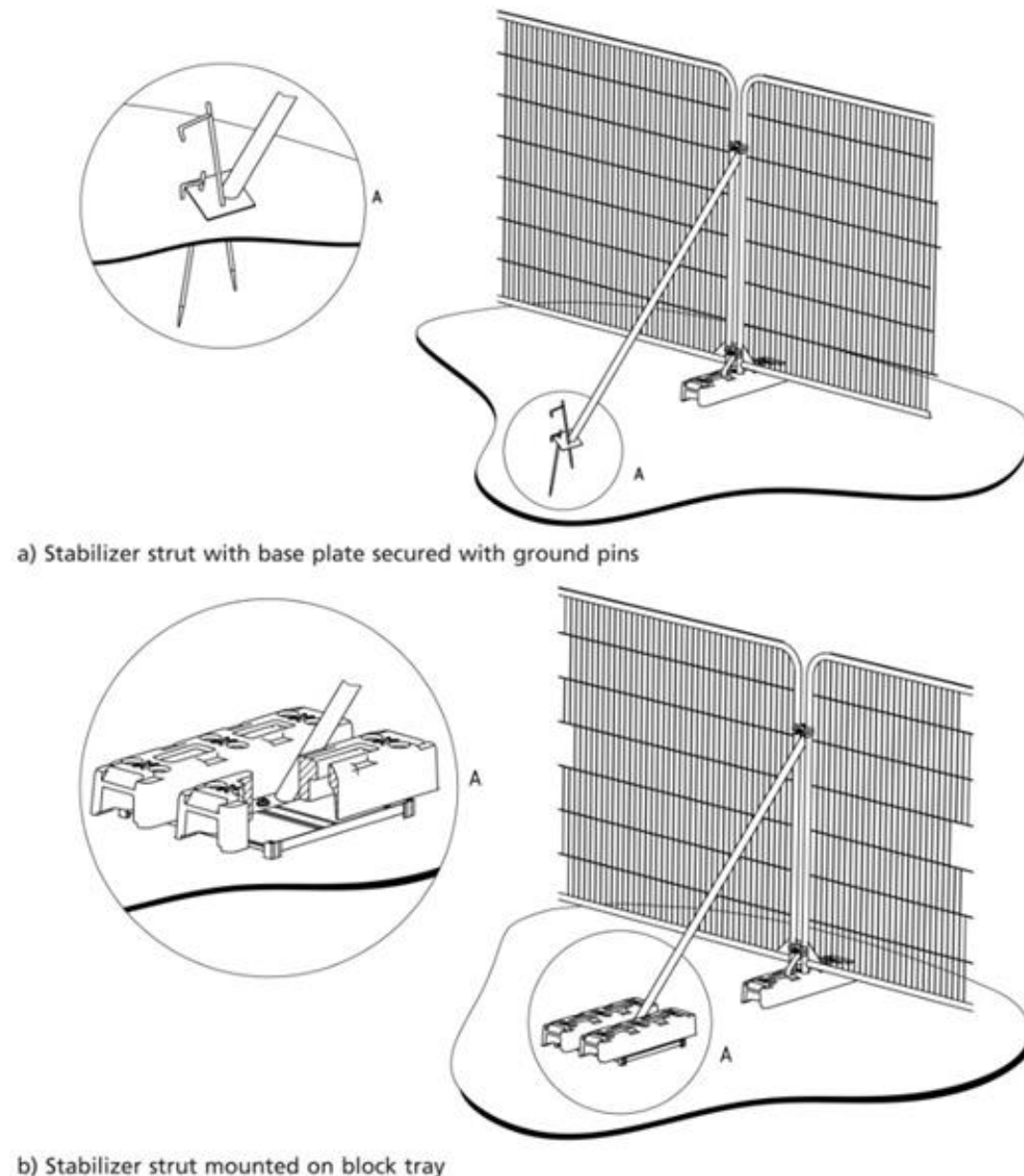
Figure D-1: Default specification for protective barrier (Figure 2 of BS 5837:2012)



In accordance with paragraph 6.2.2.3 of BS 5837: 2012 states “Where the site circumstances and associated risk of damaging incursion into the RPA do not necessitate the default level of protection, an alternative specification should be prepared by the project arboriculturist and, where relevant, agreed with the local planning authority.”

Where the default specification is deemed disproportionate, the specification illustrated in Figure D-2 below, shall be used.

Figure D-2: Examples of above ground stabilising systems (Figure 3 of BS 5837:2012)



Weather-proof notices shall be attached to any protective fencing located adjacent to retained trees displaying the words “Construction Exclusion Zone” and listing restrictions which apply. All personnel must be made aware of these restrictions.



Figure D-3: Example of Protective Fencing Signs



D.3 Construction Exclusion Zones

The Construction Exclusion Zone (CEZ) is the area identified by a suitably qualified arboriculturist as the area to be protected during development, from site clearance and construction work through the use of barriers and/or ground protection to ensure the successful long-term retention of a tree. Fencing or ground protection shall not be taken down or relocated at any time without prior agreement and/or site supervision as recommended by the arboriculturist.

All areas protected by Tree Protection Fencing shall be treated as CEZs, and the following restrictions shall apply:

- No construction activity must occur within these areas.
- No works on trees unless agreed by a suitably qualified arboriculturist.
- No alterations of ground levels or conditions.
- No chemicals or cement washings.
- No excavation.
- No temporary structures.*
- No storage of soil, rubble or other materials.
- No vehicles or machinery to be used or parked without appropriate ground protection measures as per BS5837:2012. This will require the use of a proprietary system of reinforced concrete slabs/steel road plates on a compressible layer, or side butting scaffold boards/ 18mm plywood sheets on a compressible layer. The type of ground protection used shall be appropriate for the likely loading applied.



- No fixtures (lighting, signs etc.) to be attached to trees.
- No fires within 10 metres of the canopies of any tree or hedgerow.
- *Site huts, provided they are of the “Jack Leg” type, can be sited to act as ground protection for the duration of the construction.

D.4 Temporary Ground Protection

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil. The ground protection might comprise one of the following:

- For pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g., 100 mm depth of woodchip), laid onto a geotextile membrane.
- For pedestrian-operated plant up to a gross weight of 2t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g., 150 mm depth of woodchip), laid onto a geotextile membrane.
- For wheeled or tracked construction traffic exceeding 2t gross weight, an alternative system (e.g., proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

D.5 Soil Excavation within RPAs

The following guidelines should be followed when excavating ground within the RPA of a retained tree:

- All machine excavation within RPAs is strictly prohibited.
- Use compressed air tools or hand tools like forks and spades for excavation, with a preference for air tools.
- When using hand tools, avoid bark damage by loosening soil with a fork to locate substantial roots and then clearing soil with smaller tools.
- Remove soil from the excavation without disturbing the adjacent root environment.
- Retain and, if possible, reposition flexible clumps of smaller fibrous roots beyond the excavation area without damage.
- Individual roots and clumps less than 25mm in width can be cut cleanly without arboriculturist consultation; larger roots should be retained and only cut with authorisation from the supervising arboriculturist and LA tree officer.
- Cover exposed roots to prevent light exposure, drying, and temperature extremes. If roots will be exposed for extended periods, ensure hessian coverings are kept damp by watering.
- When backfilling, use an inert granular material mixed with topsoil or sharp sand around roots greater than 25mm before light compaction.

D.6 New Permanent Surfacing Within RPAs

Any new surfacing within the RPAs shall occur above ground level without soil stripping. New surfaces shall be constructed on a cellular confinement system to prevent localised



compaction of the rooting medium post development. Porous geotextile membranes shall be used both above and below the cellular confinement system to prevent mixing of materials with the binding layer or the soil. The new surface needs to be permeable to air and water (resin bound gravel or similar is recommended). This is to allow roots to respire without there being a build-up of carbon dioxide, and to ensure the roots continue to receive the moisture and oxygen they require to function. Traditional kerbing requires excavation to install and will therefore not be suitable within the root protection areas of retained trees. As an alternative, haunched kerbing, treated timber edging, aluminium L-shaped edging, galvanised metal edging or no fixed edging shall be used. Construction of the new surface will require access into the CEZ defined by the temporary ground protection. The ground protection shall not be removed until new surface is installed. The root protection areas should not be left exposed during construction.

D.7 General Canopy Protection

Since the canopies of retained trees may be in close proximity to areas of plant operation, the following restrictions will apply:

- All plant will be sited outside the defined RPAs of retained trees / groups, and the appointed contractor will ensure all relevant personnel shall be made aware of the location of branches and the need to avoid causing damage to them.
- Prior to the implementation of lifting operations, a representative from the equipment supply company shall visit the site and ensure all operations can be completed without causing damage to retained trees. A lifting plan will be prepared and submitted for approval prior to all lifting operations. The lifting plan will make provision for the potential for damage of retained trees.
- All lifting operations will be completed under the close direction of a qualified banksman, who will be briefed by the appointed contractor as to the need to avoid damage the stems and branches of retained trees.
- Should additional tree removal or pruning be required the Local Authority Tree Officer shall be contacted and the scope of works agreed in writing.

D.8 Hazardous Materials

The delivery, storage, mixing and discharge of hazardous materials shall be carried out so that there is no run-off and spillage near the RPAs of retained trees. No substances that are potentially injurious to plant tissue (including diesel, bitumen, concrete, mortar, salts, builders' sand, herbicides and other phyto-toxic materials) shall be stored, discharged, prepared or used, where direct contact, infiltration or run-off might reasonably be considered liable to harmfully affect existing root growth, other parts of retained trees or beneficial soil organisms.

Hazardous chemicals are to be stored in suitable containers as specified by the Control of Substances Hazardous to Health (COSHH) Regulations (2002) (Ref 4). It is now standard practice to have emergency spillage kits available to minimise the impacts of any accidental spillages to the local environment. All cement mixing, vehicle washing or any other activity where toxic chemicals are used shall have the provision to contain any accidental spillage. This can be achieved by creating a bunded area using concrete slabs, timber framework or sandbags. Heavy duty plastic sheeting should be used to line the area as necessary to prevent leaking. Alternatively, all activities should take place on suitable spill trays or on an existing impermeable surface with runoff controls and at least 10m from the edge of the RPA of retained trees.





Making Sustainability Happen