

# BS5837 Arboricultural Impact Assessment



**6 The Oaks, Fleet, GU51 4HQ**

Client: **Mrs M Baker**

Job Reference: **03559R**

Local Auth Ref: **TBC**

Consultant: **Keiron Hart (BSc Hons, C.Env, F.Arbor.A, MICFor, MEWI)**

**May 2021**

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## 1. Executive Summary

- 1.1 Tamla Trees Ltd has been appointed by Mrs M Baker to provide advice on the arboricultural issues relating to proposed development which can be described as: *“Residential extensions to existing property.”*. We re-surveyed the site in May 2021. The survey accorded with BS5837:2012 *“Trees in relation to design, demolition and construction – Recommendations”*.
- 1.2 The proposal results in the removal of no trees.
- 1.3 There are no incursions into the Root Protection Areas (RPA) or retained trees. The main tree resource are 2 Oak trees within 2 separate 3<sup>rd</sup> party residential gardens. The proposed works are outside the respective RPA’s of these trees and their 3<sup>rd</sup> party garden location further enhances their protection by placing them outside the site.
- 1.4 The site benefits from a large hard standing driveway to the front away from trees where materials can be stored. There is limited side access to the rear limiting the size of machinery which can be brought on to the site.
- 1.5 The tree issues can be summarised as: **Effective Tree Protection (construction) > Site operative knowledge of tree protection issues > Soft landscaping to make good.**
- 1.6 Hart District Council interactive mapping service indicates trees the subject of this report are included within a Tree Preservation Order (TPO) but the site is not located within a Conservation Area.
- 1.7 Subject to the working practices and tree protection measures being installed prior to any on site works and maintained for the duration of works detailed there should be no discernible impact on retained trees.
- 1.8 This report is based on drawing ref: 3026\_P103 A - Proposed Plans Elevations and Sections

## 2. Statutory Protection

2.1 At the time of writing we are advised as follows:

Conservation Area Status	
Is the site located within a Conservation Area?	No
<p><b>Notes:</b> (i) All trees larger than 7.5cm diameter at 1.5m above ground level are subject to regulations within a Conservation Area. Exemptions apply for trees which are dead and dangerous but clarification before any tree works is advised. A <a href="#">notification</a> is required in many circumstances.</p>	
Tree Preservation Order Status	
Are inspected trees subject to a TPO?	Yes
Type of TPO	<p style="text-align: center;"><del>Area</del></p> <p style="text-align: center;"><b>Individual</b></p> <p style="text-align: center;"><del>Group</del></p> <p style="text-align: center;"><del>Woodland</del></p>
TPO Reference	HDC 1006 -2001
Date TPO Made	28.9.2001
<p><b>Notes:</b> (i) The type and details of any TPO determine which trees are 'protected'. Exemptions apply for trees which are dead and dangerous but clarification before any tree works is advised. An <a href="#">application</a> may be required before undertaking works. (ii) At the time of writing Hart District Council website indicates the above level of statutory protection.</p>	

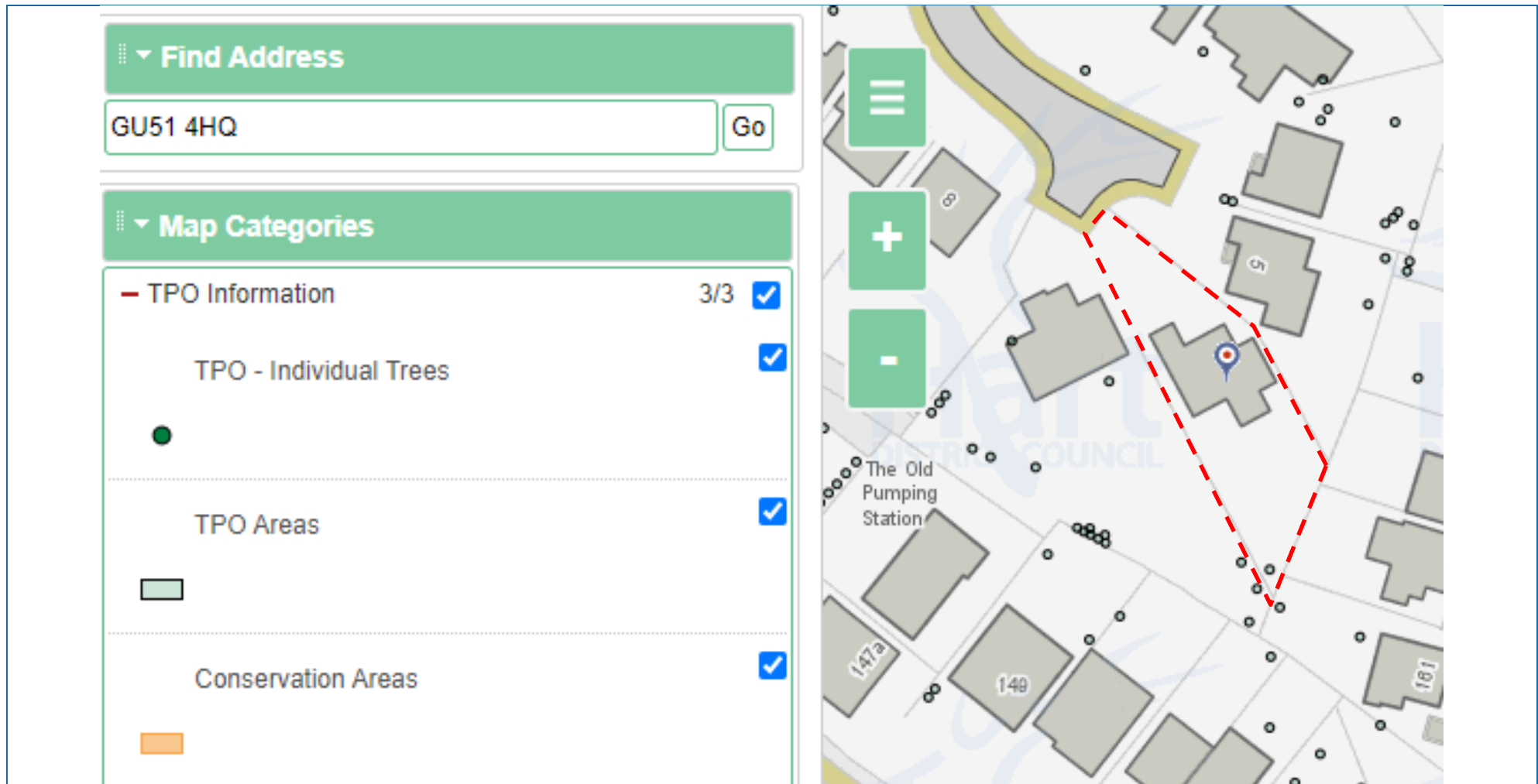


Fig 1 – Hart District Council constraint plan May 2021

### 3. Terms of Reference

- 3.1 [BS5837:2012](#) ‘Trees in relation to design, demolition and construction – recommendations’
- 3.2 [BS3998:2010](#) ‘Tree work – recommendations’
- 3.3 [NJUG 4 – National Joint Utilities Group](#) “Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees. Volume 4, issue 2. London: NJUG 2007” To include [Operatives Hand-out Guidance](#)
- 3.4 BGS Open-Source Soil Data <http://www.bgs.ac.uk/nercsoilportal/maps.html>
- 3.5 HSE (2014) Avoiding danger from underground services: <https://www.hse.gov.uk/pubns/books/hsg47.htm>
- 3.6 Eissenstat & Yanai (1997) The ecology of root lifespan. *Advances in Ecological Research*, 27, 1-60.
- 3.7 Hendricks & Pregitzer (1992) The demography of fine roots in a northern hardwood forest. *Ecology*, 73, 1094-1104.
- 3.8 BRE Digest 412: Desiccation in clay soils.
- 3.9 Matheny & Clark (1998) Trees and Development: A Technical Guide to Preservation of Trees During Land Development.
- 3.10 <https://www.trees.org.uk/Help-Advice/Help-for-Tree-Owners/Guide-to-Tree-Pruning>
- 3.11 <https://www.trees.org.uk/ARB-Approved-Contractor-Directory>
- 3.12 <https://www.hart.gov.uk/trees-hedges>

### 4. The Trees

4.1 The trees can be summarised as follows:

BS 5837 Cat	A	B	C	U
Specific Trees	-	T1, T2, T4	T3 H1, H2, H3	-
Total Number	None	3 individuals	1 individuals & 3 hedges	None

4.2 These tree locations and a summary of their visual contributions can be summarized as follows:

BS 5837 Cat	A	B	C
<b>Tavistock Road/ The Oaks</b> <b>Providing amenity between</b> <b>properties and contributing to the</b> <b>local (garden) tree scape</b>	-	T1, T2 & T4	H1, H2 & H3


4.3 There were no hedgerows that qualify for consideration under the 1997 Hedgerow Regulations. T3 (Weeping Willow) makes only a very localised garden amenity contribution. At the time of survey the tree had been pollarded to remove 100% of the tree canopy.



## 5.0 Arboricultural Impact Assessment

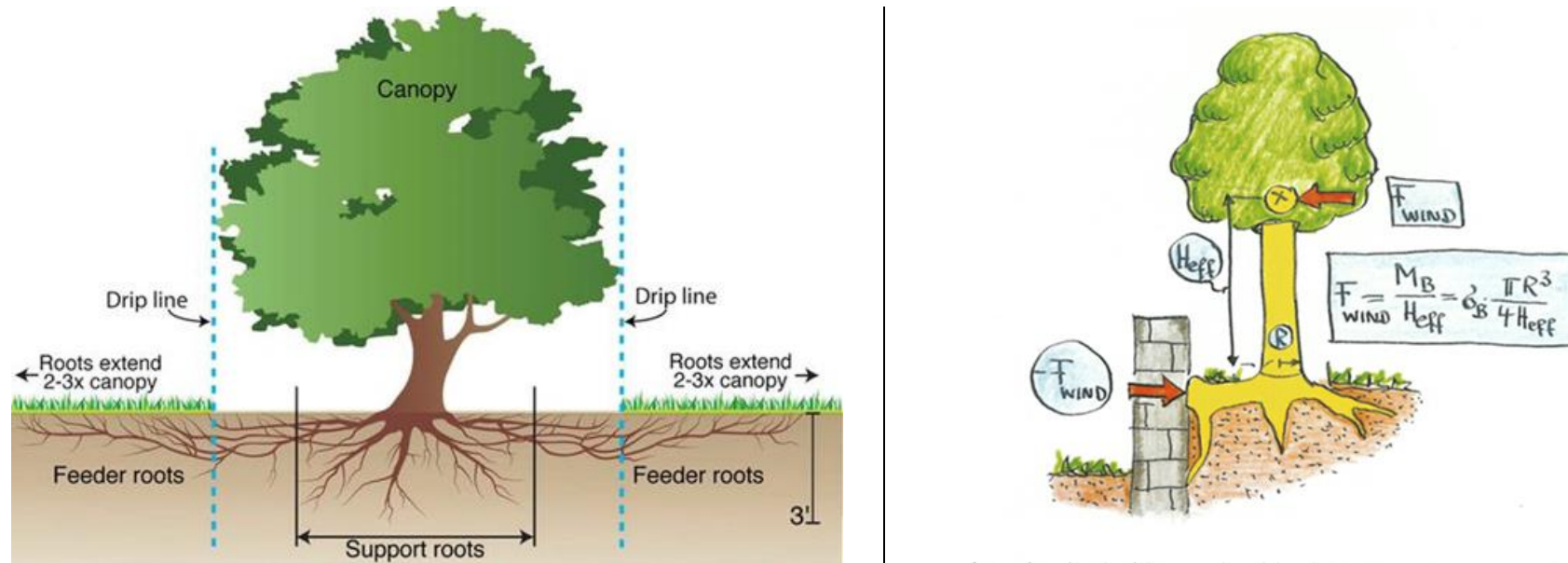
### 5.1 Site Specific Soils

- 5.1.1 Soil is an important factor in tree growth and the type of underlying soil can impact on successful integration of new developments.
- 5.1.2 A free draining sandy soil containing sand/gravel is likely to lead to water being accessible in the upper horizons during the growing season and available at greater depths and trees will generally be forced to explore a larger volume/ depth on such soils. The structure of such soil also makes compression more difficult (by heavy construction plant) and root penetration is easier for the trees. By comparison, a clay soil is more easily compressed, particularly when wet and compression can have a greater impact on tree health.
- 5.1.3 As shown below the site is located within what is defined as clay.

	Soil Description
	<p><b>Bedrock: Windlesham Formation</b> - Sand, Silt And Clay. Sedimentary Bedrock formed approximately 34 to 56 million years ago in the Palaeogene Period. Local environment previously dominated by shallow seas.</p> <p><b>Superficial: Lynch Hill Gravel Member</b> – None recorded</p>

Underlying Soil Material contains Clay	<b>Yes, with sand</b>
Soil Type increased rooting depth profile?	<b>Yes</b>
Increased risk of soil compaction due to soil type	<b>No (depending on level of sand within soil)</b>

- 5.1.4 All comments regarding soils should be verified with onsite geotechnical investigations and laboratory testing with foundation depth and design undertaken by a structural engineer in accordance with the requirements of NHBC Chapter 4.2.
- 5.1.5 BS5837 indicates: 4.6.2 *“The RPA for each tree should initially be plotted as a circle centred on the base of the stem. Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution.”* It advises at Section 4.6.3 That any deviation in the RPA from the original circular plot should take account of a number of site-specific factors.
- 5.1.6 BS5837 recognises that the root morphology of trees may be affected by a number of factors and in certain situations the plotting of RPA’s will deviate from the circle to reflect site specific considerations. It is our experience that to consider structures such as driveways, houses and garages as areas trees cannot utilise for rooting (and to then modify RPA plotting where they exist within an identified RPA) is too simplistic and not aligned with how trees actually utilise soil.
- 5.1.7 Within around 3 to 4m of the base of mature trees there will generally be a structural root system providing both support and the main structure/ root architecture for smaller roots to originate. These larger roots have the very real capacity to be influence by any significant structures (footings, roads to adoptable standard construction etc) where there may be a physical obstruction close to them and this can affect root morphology in such locations. In addition to this there will generally be a noticeable increase in structural rooting to the south west of mature trees in the UK to reflect the prevailing wind direction, particularly where a tree may be isolated/ open grown increasing its wind exposure. Root growth and location will also be influenced by the presence of other trees, structures sheltering trees etc all of which can combine to affect the shape and location of a structural root system.

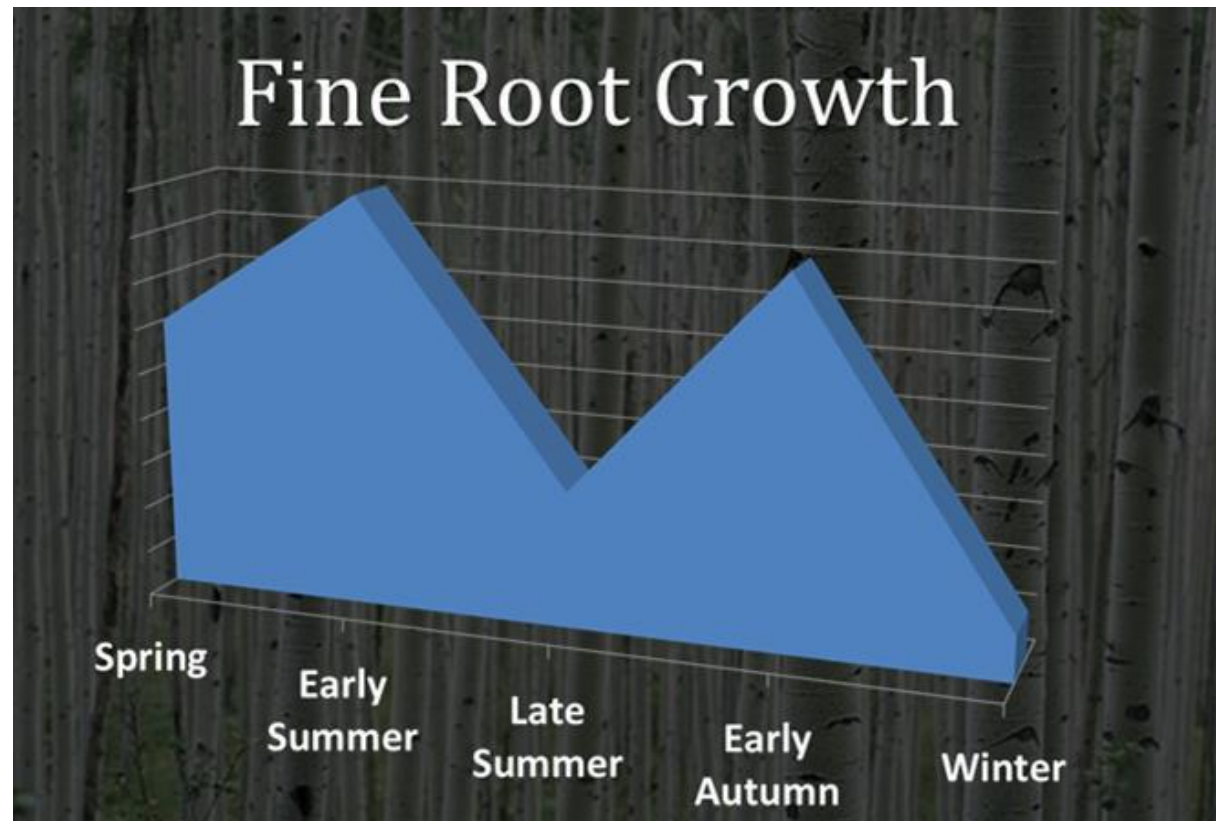


**Fig 2 – Open grown trees or those with minimal obstructions close to their stems will have a network of structural roots supporting feeder/ fine root growth beyond (above left). In certain situations root morphology can be affected by structures close to the main stem (above right: Mattheck)**

5.1.8 Beyond the structural (and generally permanent) root system will be a network of smaller roots which in turn subdivide to fine roots. Fine roots will also be found throughout the root system (i.e. both close to and distant from a tree) to maximise soil resource uptake and reflect underlying soil conditions. Some larger roots (>25mm and sometimes much larger) can extend away from this area and remain permanent particularly where there may be a constant supply of water (such as a broken downpipe on a building some distance away) which encourages a roots development. Generally the smaller roots (<10mm and particularly fibrous roots) outside of the immediate structural root plate can be considered to be in a state of constant change. They will grow seasonally and tree roots generally grow at night. Small fibrous roots are also mostly short lived (ranging from anything between 10 days to over a year<sup>1</sup>). The cyclical death and decay of roots releases both nitrogen and carbon into the soil and is an important part of soil nutrient cycling process. The extent and location of the trees fine root system reflects a trees resource requirement (as resources are removed from certain areas of the soil and exploited in others) as well as the resource capacity required to form such a fibrous root system. Fine roots produced near the soil surface tend to live longer than those deeper in the soil<sup>2</sup>.

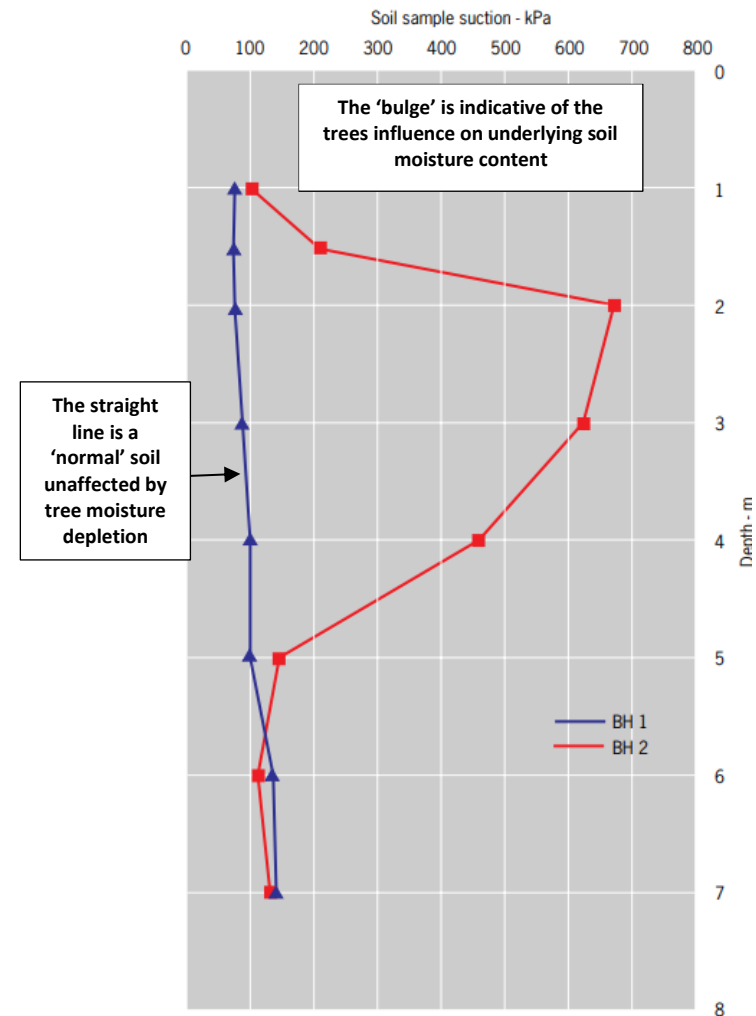
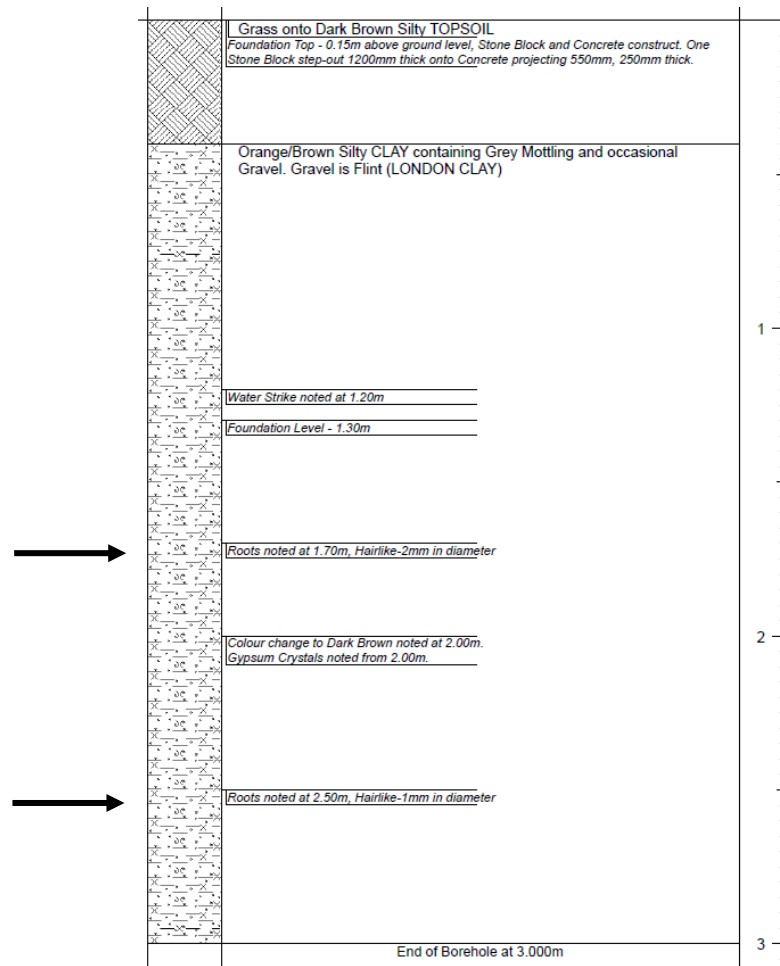
<sup>1</sup> Eissenstat & Yanai (1997) The ecology of root lifespan. *Advances in Ecological Research*, 27, 1-60.

<sup>2</sup> Hendricks & Pregitzer (1992) The demography of fine roots in a northern hardwood forest. *Ecology*, 73, 1094-1104.



**Fig 3 – Fine root growth is (generally) seasonal peaking in late spring and again in early autumn but dying back in winter dormant periods when photosynthetic production ceases. This is an important part of the soil nutrient cycle and demonstrates that a static RPA as calculated by BS5837 is a ‘simplistic’ view of the tree rooting dynamic. (Image Source: Tamla Trees)**

5.1.9 The fine root system shows species variation and will also vary in depth (depending on species dynamics and underlying soil conditions). Adopted highways generally have a footing that extends < 0.5m and most UK residential properties have footings in the range of 0.5-1.5m depth. Trees will easily root below these depths and this is evidenced by the fact that every year in the UK there are thousands of tree related subsidence cases.



**Fig 4 – Borehole log 10m from mature Oak tree on clay soil detailing fine roots to depths of 2.5m indicated with arrows (Source: Tamla Trees project) and annotated soil moisture depletion by trees showing a peak influence at 2m and extending to 5m (above right)<sup>3</sup>**

<sup>3</sup> BRE Digest 412: Desiccation in clay soils

5.1.10 Against this backdrop rooting information seeking to manipulate RPA shapes to account for the presence of houses, garages etc outside of the immediate zone of structural rooting (3-4m) is not considered appropriate. Unless ground obstructions are present within the immediate structural rooting area or to such a depth as to nullify potential fine root growth (below basements or retaining wall step changes in levels for example) Tamla Trees Ltd will show RPA's in a circular fashion but seek to maximise the quality and positioning of specified tree protection measures and encourage ground treatments (such as mulching – see Section 5.7). **Clients and developers must implement these measures for them to be effective. A failure to protect trees during the development process adversely affects soil and roots. Symptoms may not present themselves for a number of years following the development as the tree(s) enter a spiral of potentially irreversible decline.**



Fig 5 - Manion's spiral of tree decline for Norway Spruce (modified by Mrkva 1993)

5.1.11 BS5837 Section 4.6.3 Site Specific Assessment:

Section	Consideration	Site Specific Comments
4.6.3 (a)	<i>the morphology and disposition of the roots, when influenced by past or existing site conditions (e.g. the presence of roads, structures, and underground apparatus);</i>	<ul style="list-style-type: none"> <li>The nature of site conditions relative to the RPA's of retained trees mean there are no morphological issues associated with RPA representation on this project. In summary the trees are located within open grown garden areas where there is free draining water availability and undisturbed (garden) locations.</li> </ul>
4.6.3.(b)	<i>topography and drainage;</i>	<ul style="list-style-type: none"> <li>The site slopes gently down north to south meaning there will be an increasing moisture gradient as soil water drains. Whilst the area below the canopy of T3 (Weeping Willow) appears bare open ground the client informed us that water does not pool in this area.</li> </ul>
4.6.4.(c)	<i>the soil type and structure;</i>	<ul style="list-style-type: none"> <li>The underlying soil is a sand silt &amp; clay. Local experience of the soils in and around Fleet suggest the sand content will be high and soil relatively free draining.</li> </ul>
4.6.4.(d)	<i>the likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.</i>	<ul style="list-style-type: none"> <li>The design means there are no incursions into the RPA of retained trees and as such there should be no discernible damage to underlying roots.</li> </ul>

## 5.2 Root Protection Area (RPA) Incursions

5.2.1 The following incursions into the RPA's of trees to be retained have been identified:

BS 5837 Cat	A	B	C	Summary
RPA Incursion	-	-	-	<p><b>Construction</b> – All construction work is outside the RPA of retained trees.</p> <p><b>Services</b> –We have not been advised of any new service trenches being dug that may adversely affect retained tree RPA's. This will be kept under review as part of the site supervision process. The nature of the proposal is that service connections are likely to be to existing connections for the main property or to the north (away from trees) to connect with services in The Oaks. The manhole in the rear was noted during our inspection. A soak away has not been advised. Scope exists to install such a feature if required within the rear lawn area but outside the indicated RPAs of the retained trees.</p> <p><b>Landscaping</b> – Further to the proposal being completed there will be a need to make good. BS3882 compliant topsoil will be spread/ raked out by hand to a depth no greater than 100mm and any localized shrub and tree planting completed.</p> <p>Areas below retained trees are recommended for mulching with composted bark mulch where possible, this could enhance visually the area below T3 where grass is not growing. Detailed further comment on landscaping proposals is outside the scope of this report.</p>




5.2.2 The relative incursions into the RPA are summarised as follows

Tree Number	RPA Total (Sqm)	Incursion (Sqm)	As % of trees RPA
-	-	-	-

5.2.3 The assessed risk based on the likely impact to the health and safety of trees on the basis that all the tree protection measures outlined within this report are implemented and maintained for the duration of all site works is summarised below:

### Tree & Development Risk Indicator



^

- Our assessment has confirmed the presence of probable underlying SAND, SILT & CLAY soil
- Tree protective fencing combined with the available area of unaffected open ground (outside site boundary) and lack of tree root competition significantly lowers the risk.
- The Tree & Development Risk Indicator (TDRI™) is therefore **LOW**.
- Note:** This level of risk is a visual guide only and is only relevant **if all advised tree protective measures are put in place prior to any on site activity and maintained for the duration of the works.**

**Note:** Only on-site testing can confirm the local soil conditions below foundation level but available information suggests the presence of a SAND, SILT & CLAY subsoil.

## 5.3 Tree Loss

5.3.1 No trees will be pruned or removed to facilitate the proposal.

### Tree Surgery

Tree No.	Species	Proposed Tree Works	BS Cat

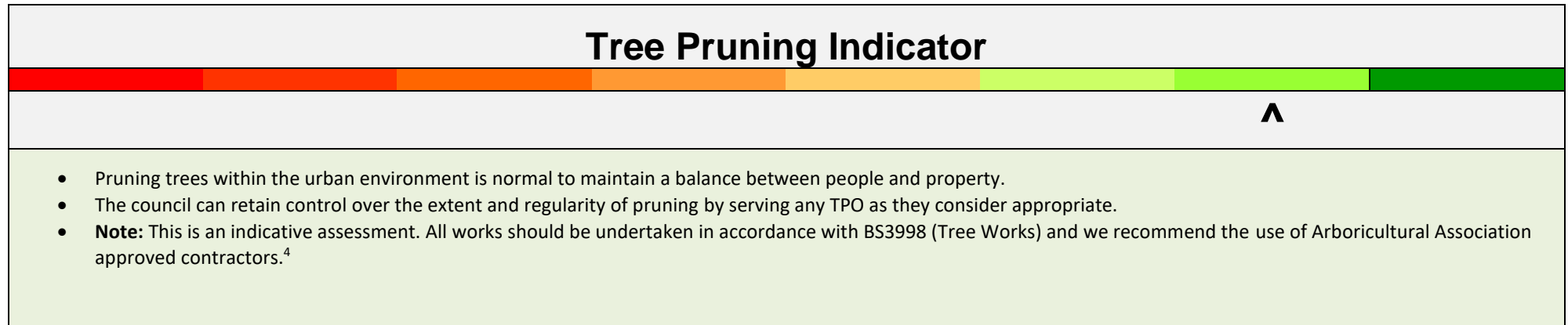
### Proposed Removal

Tree No.	Species	Proposed Tree Works	BS Cat

5.3.2 **Birds** - In the event future tree works are required to be completed between 1st March & the 31st July (inclusive) a due diligence check for nesting birds must be completed before work starts in order to comply with the Wildlife & Countryside Act 1981. This check should be recorded in the Site-Specific Risk Assessment. If active nests are found work should not take place until the young have fledged.

5.3.3 **Bats** – It should be noted that in England and Wales, the relevant legislation is the Wildlife and Countryside Act (1981) (as amended); the Countryside and Rights of Way Act, 2000; the Natural Environment and Rural Communities Act (NERC, 2006); and by the Conservation of Habitats and Species Regulations (2010).

5.3.4 Below is a visual representation of the likelihood of pruning requests in light of the proposal. On the basis that retained trees are well away from people and property and the extension and the relationship remains largely unchanged the tree pruning risk from approving the scheme appears LOW.

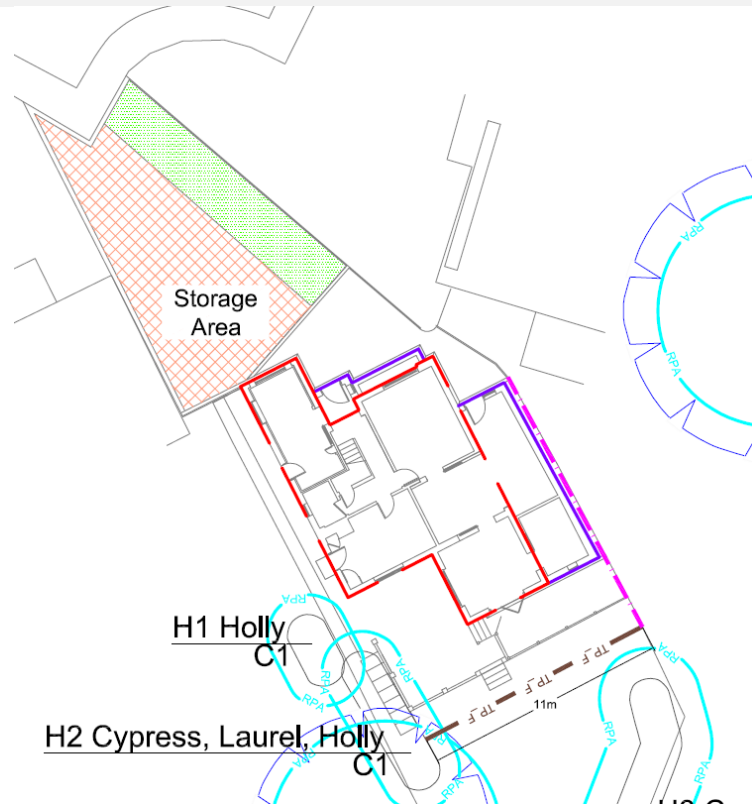


<sup>4</sup> <https://www.trees.org.uk/ARB-Approved-Contractor-Directory>

## 5.4 Demolition & Foundations

5.4.1 The proposal requires no demolition but new foundations will be created. These are outside the RPA of retained trees but to avoid any adverse modifications of the underlying soil designated site storage (driveway) and localised tree protective fencing (rear) are advised.

### Tree Protection



#### Overview

- *Tree protection installed prior to any on site activity.*
- *Inspection to sign off.*
- *Retained for the duration of the project.*
- *Tree Protection Plan extract shown left.*

**Threat level to Retained Trees**

**LOW**

5.4.2 The proposed tree protection procedure can be summarised as follows:



Stage 1

- Install BS5837 protective fencing as indicated at Appendix 6.
- Retain for all site works.



Stage 2

- Undertake construction works.

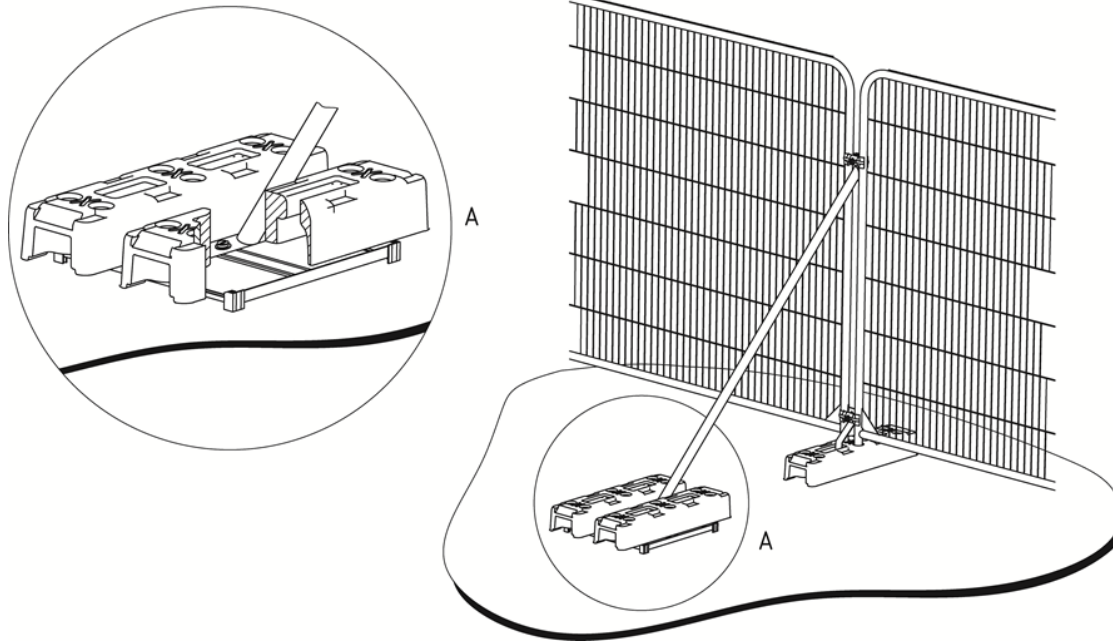


Stage 3

- Maintain fencing protection for the duration of all site works.
- Combine with site inspections.

5.4.3 High quality BS5837 compliant tree protection will be installed prior to any on site works:

## Tree Protection



### Overview

- *Tree protection required internally to site.*
- *Installed prior to any on site works.*
- *Note: To be marked with signs (inset) and purpose to be briefed to all ground workers.*
- *Maintained for duration of the build.*

**Threat Level to Retained Trees**

**LOW**

5.4.12 All internal tree protection must be appropriately signed to ensure that all site operatives know its purpose.



e: [info@tamlatrees.com](mailto:info@tamlatrees.com) w: [tamlatrees.com](http://tamlatrees.com) o: 01252 811 233  
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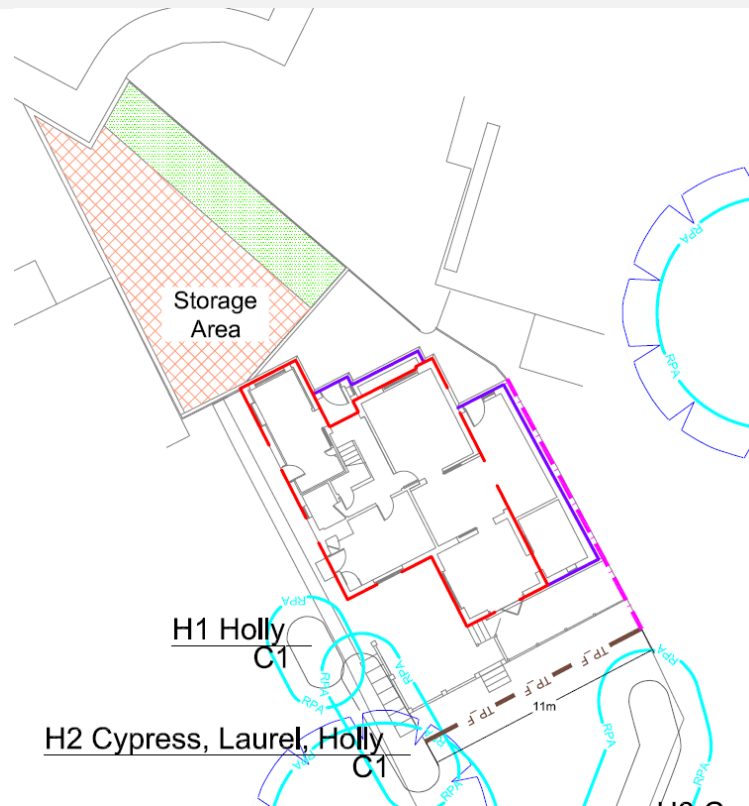
**Fig 6 – Professional grade weatherproof tree protection signs no smaller than 297 x 420 mm (A3) will be located at 5m intervals and all ‘return’ faces for tree protective fencing.**

*(Note: High resolution png. image file of above available upon request)*

## 5.5 Surfaces near Trees

5.5.1 No temporary or new surfaces are proposed within the RPA of retained trees.

### Surfaces within RPA's



#### Overview

- *No temporary or new surfaces are proposed within the RPA of retained trees.*

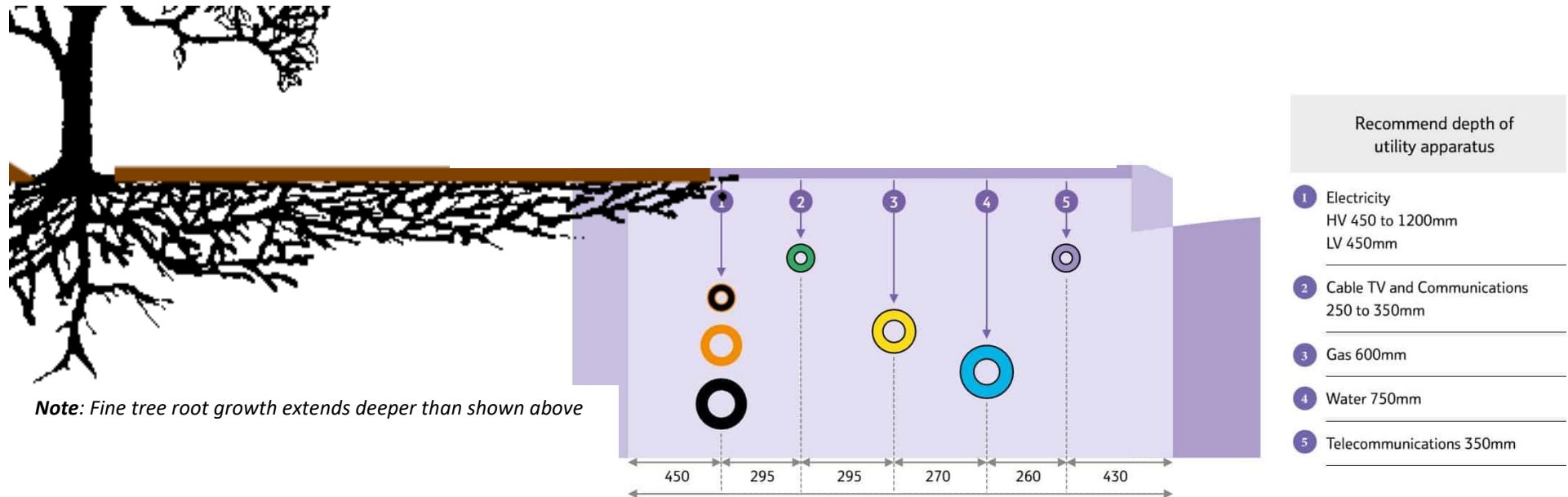
**Threat Level to Retained Trees**

**LOW**



## 5.6 Site Service Provision

5.6.1 Service drawings and proposals are not yet available. They should be designed to be located outside the protected areas given the available space to allow that to happen.



**Fig 7 – Annotated service installation depth drawing (source: Thorne & Derrick). Service installations occupy the same soil volume/ depth where the greatest level of tree roots will likely be found but on this project, none are proposed. Services are normally kept under review as part of the site monitoring process.**

## 5.7 Ground Level Changes & Landscaping

- 5.7.1 Following completion of the project any 'making good' will be with BS3882 compliant topsoil raked out by hand (to no more than 100mm depth within any tree RPA) and then seeded/ planted as appropriate.



**Fig 8 – All 'making good' topsoil will be BS3882 compliant and raked out by hand to no greater depth than 100mm**

5.7.2 Please note that spoil/ soil excavated from site for the footings etc. **must not** be spread within RPA's as this will adversely affect the trees. We encourage the use of composted bark mulch below tree canopies where possible to aid water retention and increase soil microbial activity. This is particularly relevant to mature retained trees.

## Mulching



### Overview

- *Circular area edged to 50-100mm depth to stop mulch from 'creeping' on to surround lawn.*
- *Composted mulch then spread around below tree by hand – no need to lift or remove underlying grass.*
- *Mulch topped up annually/ as required.*
- *Positive benefits for mulched trees*
- *Image Kew Gardens (left) (Source: Tamla Trees)*

**Threat Level to Retained Trees**

**LOW**

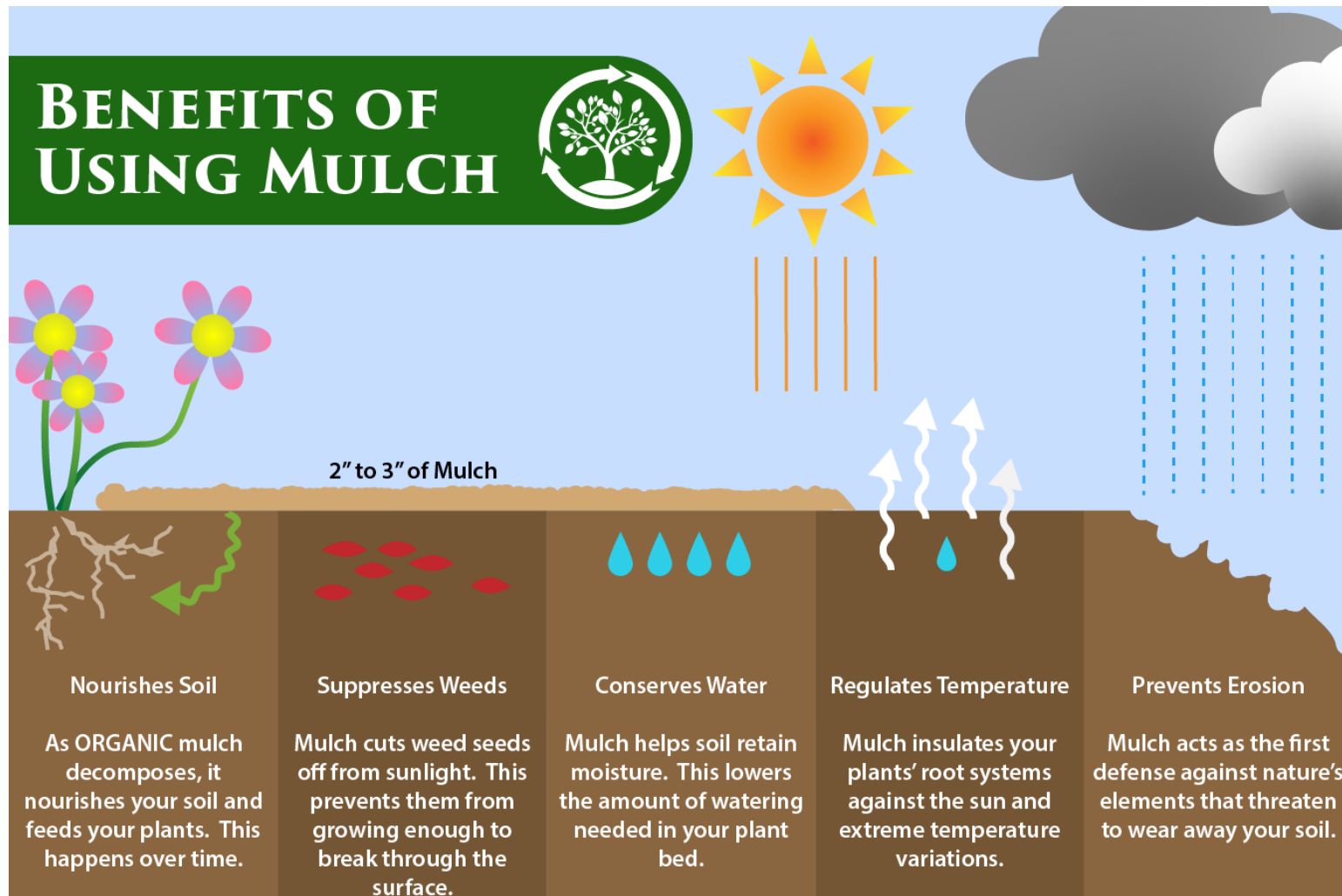


Fig 9 – Benefits of Mulch (Image Source 1<sup>st</sup> Stop Landscape Supply (US))

## 5.8 Tree Shading of Proposal

5.8.1 The nature of the design relative to the location of retained trees is such that no shading issues have been identified. In summary there is a wide-open aspect southerly facing garden and the overall relationship remains largely unchanged. The council also retain control over the trees by way of their inclusion within an existing TPO.

## 5.9 Arboricultural Project Supervision

5.9.1 Most damage to trees on developments sites is caused inadvertently and to ensure continued protection during development a system of site monitoring is normal. Basic checks will be undertaken as the construction phase progresses to ensure that protective fencing remains intact and ensure the proposed works close to trees are completed in accordance with this report. Any unforeseen issues can be identified and discussed with the consulting arboriculturalist before any damage to trees occurs.

5.9.2 This approach allows a strong working relationship with the site manager/ construction staff to identify issues that may affect retained trees and ensure they are addressed before they escalate.

5.9.3 After each site inspection is completed, a formal record will be sent to the local authority. On this basis we would advise the following inspection regime:

Visit Detail	Date	Status
<b>Site Inspection (x 1 given small size of project)</b> Attend site once tree protection is in place. Inspect/ Toolbox talk with site operatives regarding tree protection measures. Discuss services/ soakaway if one to be installed. Update local authority on findings.	TBC	Incomplete

Note: Actual visit dates subject to change/ confirmation depending on project program.

## Appendix 1 – BS5837 Survey Key

BS 5837 Cat	Description
A	Those of high quality and value: in such a condition as to be able to make a substantial contribution (> 40 years)
B	Those trees of moderate quality and value: those in such a condition as to make a significant contribution (> 20 years)
C	Those trees of low quality and value: currently in an adequate condition to remain until new planting could be established (> 10 years)
U	Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed regardless of development (< 10 years)

**Note:** Subcategories are denoted in the tree survey data (A1, B1, C2 etc.). You are referred to BS5837 for further detail if required.

<b>Tree No.</b>	T (tree), G (group), H (hedge), W (woodland) + Ref No.
<b>Species</b>	Common Name
<b>Ht (m)</b>	Measured height in metres
<b>DBH (m)</b>	Diameter at 1.5m above ground level
<b>No of stems</b>	An indication of the trees form @1.5m (1 = single stem, m/s = multi-stemmed)
<b>Branch Spread</b>	In m to cardinal points
<b>Cr Ht Clearance (m)</b>	Overall height of lowest branches from the ground level on side of proposed development
<b>Life Stage</b>	Young, Semi-Mature, Early Mature, Mature, Over-Mature
<b>General Observations</b>	Observations on the condition of the tree(s)
<b>Tree Work Specification</b>	Proposed tree works in accordance with BS3998
<b>BS Cat</b>	See above
<b>Life Exp</b>	Estimated remaining contribution in years.
<b>RPA Radius(m)</b>	Radius of the trees Root Protection Area measured from the trunk to the edge of the RPA circle in metres

**Note:** Topographical surveys are sometimes not provided (most commonly for smaller residential surveys) or trees may not be included on supplied topographical surveys but added given their presence/ potential constraints. In such circumstances the positioning is indicative only.

## Appendix 2 – BS5837 Tree Classification

The classification of trees is undertaken during the survey to inform decisions as they relate to designs and retention/ removal. The 'value' of a tree in terms of its visual amenity is subjective and the full condition of a tree may not be apparent given access and other site-specific factors. If a tree is proposed for retention in many respects its BS category is irrelevant. We encourage the retention of all trees where the design realistically allows this with the exception of U cat trees (as these are usually 'defect' trees). There should not be a presumption that all C category trees can or should be removed. Generally A & B Category trees are those of greatest value to a development and designs should be manipulated to retain these where possible. Further detail on classification of trees is contained at Section 4.5 of BS5837. Some selective extracts are detailed below:

*4.5.2 The purpose of the tree categorization method, which should be applied by an arboriculturist, is to identify the quality and value (in a non-fiscal sense) of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained in the event of development occurring.*

*4.5.5 When determining the appropriate category for any given tree, group, or woodland (see 4.4), the arboriculturist should start by considering whether the tree falls within the scope of category U. Assuming that it does not, the arboriculturist should then proceed on the presumption that all trees are considered according to the criteria for inclusion in category A. Trees that do not meet these criteria should then be considered in light of the criteria for inclusion in category B. This process should be repeated, as required, until the appropriate quality or value assessment is reached.*

*4.5.6 Trees of generally high quality and/or value which have a defect or defects that do not reduce their retention span below the suggested 40-year threshold, should be placed in category A, i.e. they should not be downgraded as a result of minor imperfections. **Tamla Trees Note:** We do not apply a simple >40 = Cat A approach as many trees will have retention values in excess of 40 years but not be considered Cat A.*

*4.5.11 The tree survey might identify the presence of veteran trees on the site. The implications of their presence on the use of the surrounding land should be assessed at the earliest possible stage of the design process. Where such trees are to be retained, particular care should be taken in the design to accommodate them in a setting that aids their long-term retention.*

**Please note assessments are made based on available access and factors can affect full inspections (3<sup>rd</sup> party tree location, extensive basal undergrowth, Ivy etc). This survey is not a full health and safety inspection although obvious defects (where noted) will be identified.**

**BS5837 Table 1 is shown on the following page and provides detail on the relevant categorisation. Elements of this remain subjective and if a tree is shown for retention its category is somewhat irrelevant as we consider all trees should be afforded the same value/ protection if to be retained.**

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (Including subcategories where appropriate)			Identification on plan
<b>Trees unsuitable for retention</b> (see Note)				
<b>Category U</b> 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	<ul style="list-style-type: none"> <li>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)</li> <li>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> <li>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</li> </ul> <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i></p>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
<b>Trees to be considered for retention</b>				
<b>Category A</b> 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)	See Table 2
<b>Category B</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	See Table 2
<b>Category C</b> 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	See Table 2



**Appendix 3 – BS5837 Survey Data**

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	Crown Spread				BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPR (m)
					N	E	S	W							
T1	Oak	0.45	1	20	6	5	6	6.4	B1	Mature	> 40	4	Ivy covered lower stem and 3rd party location mean full inspection not possible. Twig density suggests good health.	No works	5.4
T2	Oak	0.45	1	20	7.7	7.8	7	7	B1	Mature	> 40	4	3rd party location mean full inspection not possible. Twig density suggests good health.	No works	5.4
T3	Willow (Weeping)	0.33	1	4.5	0.5	0.5	0.5	0.5	C1	Mature	20 to 40	3.5	Recently pollarded.	No works	4
T4	Oak	0.45	1	20	7	7	7	7	B1	Mature	> 40	4	3rd party location mean full inspection not possible. Twig density suggests good health. 3rd party property has been recently extended.	No works	5.4
H1	Holly	0.16	1	2.2	1	1	1	1	C1	Mature	20 to 40	1	3rd party managed hedge offering localised screening between properties.	No works	1.9

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	Crown Spread				BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPR (m)
					N	E	S	W							
H2	Cypress, Laurel, Holly	0.16	1	3	1	1	1	1	C1	Mature	20 to 40	0.3	Managed hedge offering localised screening between properties.	No works	1.9
H3	Cypress	0.2	1	4	1	1	1	1	C1	Mature	20 to 40	0.1	Managed hedge offering localised screening between properties. Shrubs at western end.	No works	2.4

## Appendix 4 – Tree Works Schedule

### Tree Surgery

Tree No.	Species	Proposed Tree Works	BS Cat

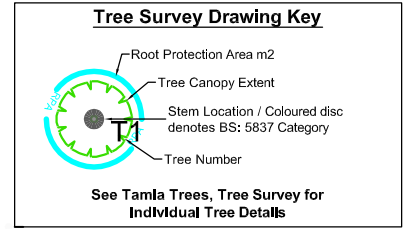
### Proposed Removal

Tree No.	Species	Proposed Tree Works	BS Cat

**NOTE:** All tree works to be undertaken in accordance with BS 3998:2010 'Tree work - Recommendations'.

**Note:** We recommend using Arboricultural Association approved contractors who can be sourced [here](#)

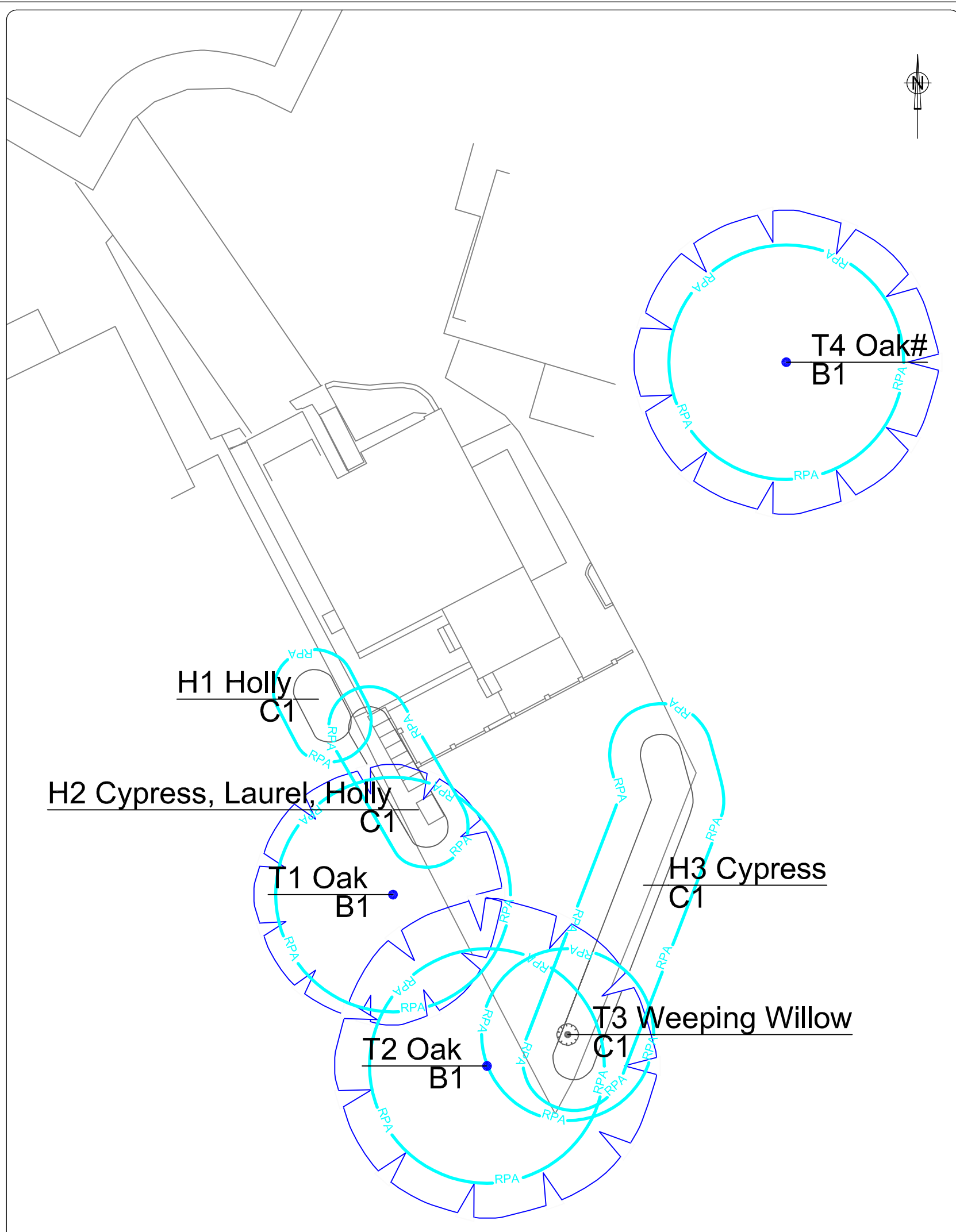
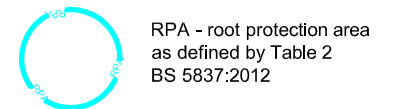
# Appendix 5 - Tree Constraints Plan



**KEY**

Please refer to Tamla Trees report for details

- Category A - Trees of high quality
- Category B - moderate quality
- Category C - low quality
- Category U - Dead, Dying or Defect trees with <10 years retention value



**NOTE #** Tree positions indicatively mapped due to lack of detailed topographical plan

REV AMENDMENTS DRAWN DATE AUTH'D

PROJECT  
**6 The Oaks, Fleet, GU51 4HQ**

CLIENT  
**Mrs M Baker**

TITLE  
**Tree Constraint Plan (TCP)**

Job	03559R	Scale	1:200 @ A3	DRG NO		Revision	
Date	07/05/2021	Type	a		03559P_TCP_01		-

Tel: 01252 811 233  
Email: info@tamlatrees.com  
Web: www.tamlatrees.com

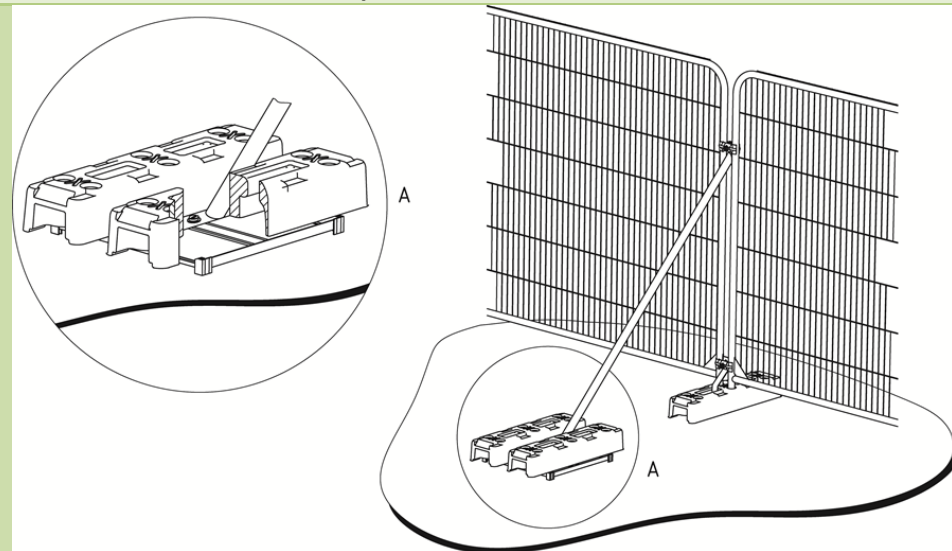
Tree No	Species	DBH	Height	Age Class	Life exp	Observations	BS Cat	RPR
T1	Oak	0.45	20	Mature	> 40	Ivy covered lower stem and 3rd party location mean full inspection not possible. Twig density suggests good health.	B1	5.4
T2	Oak	0.45	20	Mature	> 40	3rd party location mean full inspection not possible. Twig density suggests good health.	B1	5.4
T3	Willow (Weeping)	0.33	4.5	Mature	20 to 40	Recently pollarded.	C1	4.0
T4	Oak	0.45	20	Mature	> 40	3rd party location mean full inspection not possible. Twig density suggests good health. 3rd party property has been recently extended.	B1	5.4
H1	Holly	0.16	2.2	Mature	20 to 40	3rd party managed hedge offering localised screening between properties.	C1	1.9
H2	Cypress, Laurel, Holly	0.16	3	Mature	20 to 40	Managed hedge offering localised screening between properties.	C1	1.9
H3	Cypress	0.2	4	Mature	20 to 40	Managed hedge offering localised screening between properties. Shrubs at western end.	C1	2.4

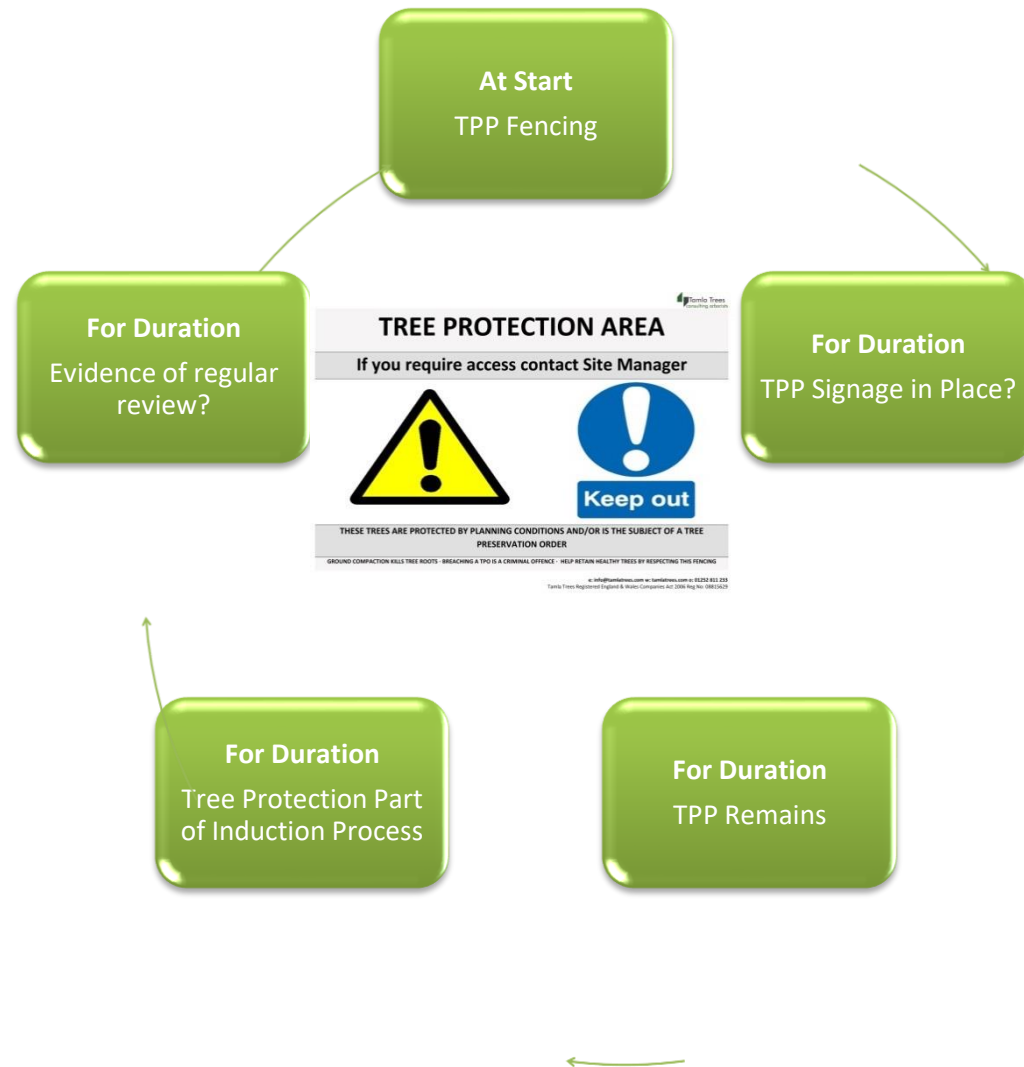
# Appendix 6 - Tree Protection Plan

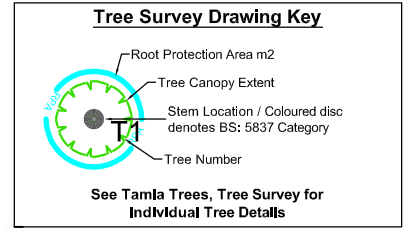
Tree protection is essential to successfully integrate the proposal into the surrounding trees. It is designed to manage the impact on the underlying soil and rooting environment. It must therefore be installed prior to any further site activity. Even apparently minimal tracking of the soil near trees has the capacity to irretrievably modify the soil environment to the detriment of tree health and stability.

All our fencing specifications accord with advice and guidance within BS 5837. Modifications to fence types are possible but should be discussed prior to implementation. In all other instances the form detailed below should be shown. This offers the best protection to retained trees.

- All tree protection must be in place prior to any site activities. It is recommended that this fencing is installed prior to any site works (including demolition).
- To be effective Tree Protection must remain in place for the duration of the development and form part of the site induction process.
- Fencing spec (right) proposed and installed prior to any on site activity.







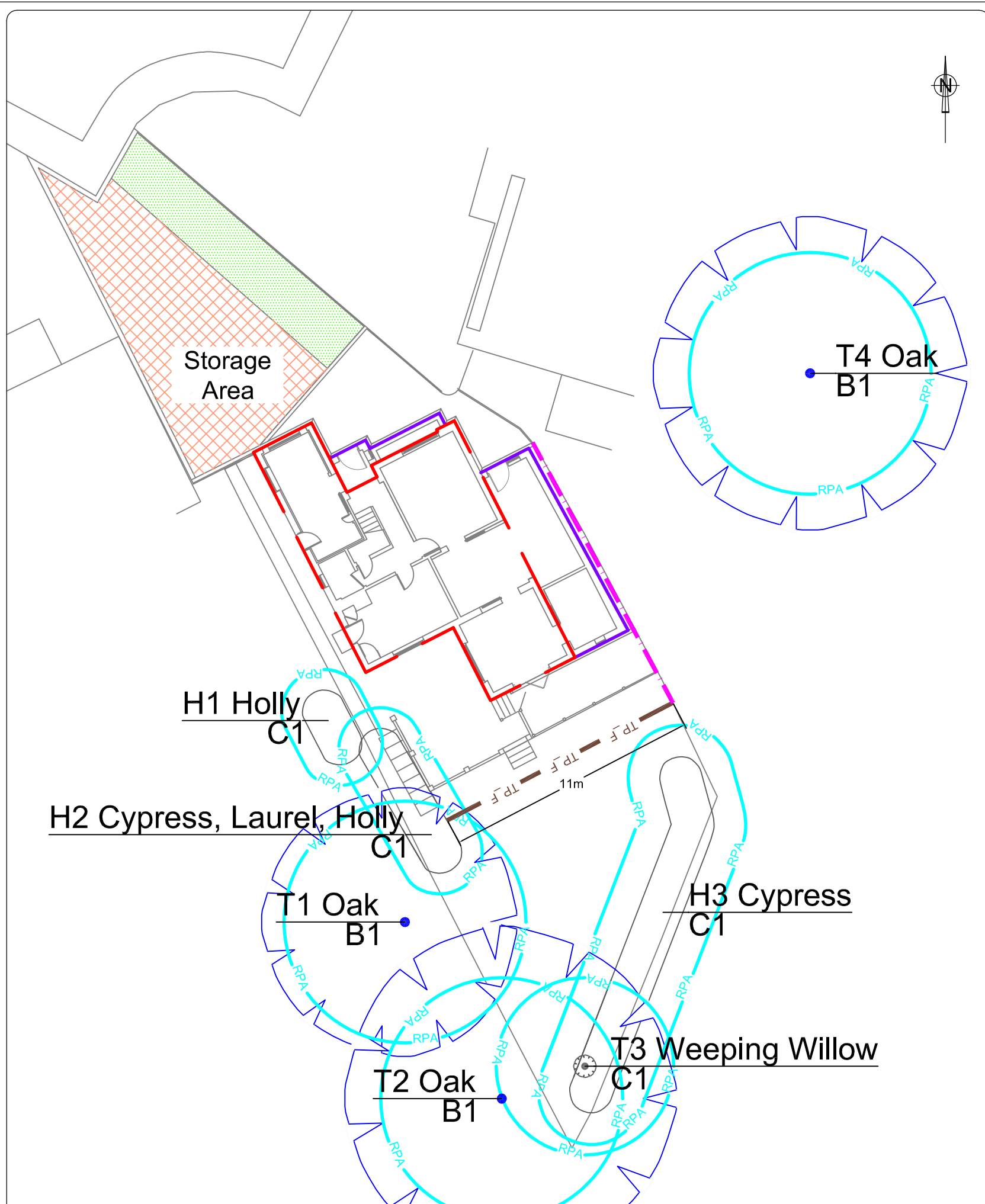
**KEY**

Please refer to Tamla Trees report for details

- Category A - Trees of high quality
- Category B - moderate quality
- Category C - low quality
- Category U - Dead, Dying or Defect trees with <10 years retention value

- RPA - root protection area as defined by Table 2 BS 5837:2012
- Existing building
- Proposed extension
- Location of protective fencing - BS 5837 Feet Fence (or similar)
- Existing boundary
- Driveway
- Grass verge

**Note:** Neighbours Oak outside BS5837 RPA distance and not shown



**NOTE #** Tree positions indicatively mapped due to lack of detailed topographical plan

REV AMENDMENTS DRAWN DATE AUTH'D

PROJECT  
**6 The Oaks,  
Fleet,  
GU51 4HQ**

CLIENT  
**Mrs M Baker**

TITLE  
**Tree Protection Plan (TPP)**

Job 03559R	Scale 1:200 @ A3	DRG NO	Revision
Date 07/05/2021	Type a	03559P_TPP_01	-

**TREE PROTECTION AREA**

If you require access contact Site Manager

THESE TREES ARE PROTECTED BY PLANNING CONDITIONS AND/OR IS THE SUBJECT OF A TREE PRESERVATION ORDER

GROUND COMPACTION KILLS TREE ROOTS - BREACHING A TPO IS A CRIMINAL OFFENCE - HELP RETAIN HEALTHY TREES BY RESPECTING THIS FENCING

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- Warning signs to be located every 5m and to be minimum A3 in size (i.e. 42cm x 29.7cm)
- To be checked and replaced as necessary.

**Deviations from the advised tree protection compromises tree roots and should be avoided. The purpose of tree protection measures should be briefed to all on site staff.**

**Tree Protection Specification**

**Fencing to be installed prior to any on site activity (demolition or construction)**



Appendix 7 – Site Photographs



**Image 1** – Looking towards the property (rear) with H2 visible (left)



**Image 2 – T1 3<sup>rd</sup> party Oak**



**Image 3 –Site storage (front)**

## Appendix 8 – Limitations

### **Full Legal Disclaimer**

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### **Specific - Trees**

*All tree inspections, unless specified, have been undertaken from ground level and using non-invasive techniques. Comments contained within the report on the condition and risk associated with any tree relate to the condition of the tree at the date and time of survey. Please note that the condition of trees is subject to change. This change may occur but is not limited to biological and non-biological factors as well as mechanical/ physical changes to conditions in the proximity of the tree. Trees should be inspected at intervals relative to risk/ target areas and in accordance with relevant [HSE guidance](#). Tamla Trees Ltd can provide further information on this matter if required. Where full access to trees (Ivy, materials at base, location on 3<sup>rd</sup> party land) was not possible Tamla Trees Ltd accept no liability for issues that arise.*

*Please note no statutory control checks have been undertaken (unless specified). Where tree surgery works have been identified these works are based on the assumption that planning is approved, no tree works should be undertaken prior to determination of this application without up to date confirmation of the Tree Preservation Order / Conservation Area Status of the vegetation. All works should be undertaken in accordance with the appropriate Duty of Care. This should include, for example, site specific risk assessments and due diligence inspections for the presence of protected species.*

*Any comment/ measurements relating to 3<sup>rd</sup> party trees have been made without full access to the tree(s). Should these trees have any impact on the proposed development we would advise you to instruct us to contact the 3<sup>rd</sup> party and undertake further detailed inspection work.*

***A legal Duty of Care requires that any tree works specified in this report should be performed by qualified, arboricultural contractors who have been competency tested to determine their suitability for such works in line with Health & Safety Executive Guidelines. Additionally all works should be carried out according to British Standard 3998 (2010) Recommendations for Tree Work.***