Arboricultural Survey Report and Impact Assessment
Tintagel Drive, Harrow

May 2020

For: **London Borough of Harrow**

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By their very nature, ecological surveys can only assess a site or particular species at a set point in time, providing a snapshot of the environment and not a definitive evaluation. Every effort has been taken to provide an accurate assessment of the habitats or species surveyed. However, presence and population sizes of species can change over time and therefore the accuracy of this report will be affected by time and seasonality.

This document has been prepared by Ecology Link Ltd for the sole use of the client.

1. Introduction

1.1 Ecology Link Ltd. was commissioned by the London Borough of Harrow to undertake a tree assessment of an area of land at Tintagel Drive, Harrow, London HA7 4SR. This report details the results of the survey highlighting any arboricultural constraints to the proposed development works.

1.2 The client intends to put the site into the GLA Small Sites programme for the construction of residential units.

1.3 The survey was undertaken on the 4th May 2020 by Jonathan Panter, an experienced tree surveyor. All inspections were made at ground level. Any further specific investigations required (climbing or decay detection surveys) have been recommended where appropriate.

Site Description

1.4 The site was located off Tintagel Drive (Grid Ref: TQ179492450). It consisted of a row of terrace garages and associated hard standing. A short road led off Tintagel Drive between two house terraces. A number of trees were recorded on amenity grassland and in an adjacent garden.

Survey Summary

1.5 This report was compiled in accordance with BS 5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations. Preliminary recommendations have been given based on the quality of individuals or groups of trees, from the field survey data (Appendix 1). The Root Protection Area (RPA), for trees and groups have been calculated and presented within the Constraints Map (Appendix 2). The survey data has been supported by a Photographic Record (Appendix 3). However, any specific design proposals have not generally been taken into account at this stage.

1.6 The tree survey took the form of a standard ground level site survey, assessing trees and groups using BS Survey Methodology (Appendix 4 & 5). The objective was to produce:

- A schedule of all trees, or groups of trees, located within or immediately adjacent to the proposed site.
- An assessment of all trees based on BS 5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations.
- Advice on the removal, retention and management of trees.
- An assessment of the requirement for the protection of trees during construction, with a tree constraints plan identifying Root Protection Areas (RPAs) for all categorised trees.

1.7 The client provided topographic maps for the site, detailing the trees to be surveyed.

Status of Trees

1.8 A Tree Preservation Order covered the mature oaks to the north of the road. TPO-515 covered three oaks, which included T1 of this report.

2. Tree Descriptions and Recommendations

2.1 Tree T1 which is covered by the TPO is on the northern side of Tintagel Drive and is not directly located close to the proposed development site. This tree and associated oaks provided key townscape value to the wider environment (Table 2.1).

2.2 Tree T2 was a young ash tree in an adjacent front garden.

Table 2.1: Root Protection Area (RPA) and Tree Categories.

Ref.	Species	Stem Dia. (mm)	Tree Qual. Ass.	Radius of RPA Guide Circle (m)
T1	Sessile oak (*Quercus petraea*)	1390	**A**	15.0
T2	Ash (*Fraxinus excelsior*)	150	**C**	1.8

3. Arboricultural Impact Assessment

3.1 A final development design has not yet been provided, as such no specific impacts can be evaluated. Protection must be considered for any tree adjacent to the site if they are subsequently considered to be indirectly impacted by the development.

Trees to be Removed

3.2 No trees will require removal.

RPA and Tree Limb Protection

3.3 It is unlikely that any impact is likely to occur to T1 and T2. However, protection will be required from construction traffic.

4. Evaluation and Recommendations

4.1 No trees on site should be removed. Mitigation for the loss of trees should be in line with Council planting policy. This should include replacement tree planting within and where possible adjacent to the site, being identified in the landscape plan.

4.2 These recommendations are based on observations made at the time of the site visit. Trees are dynamic organisms that constantly change and are influenced by their surrounding environment. The information in this report should be considered as a 'snap shot' in time and not as a definitive record of the condition of trees on this site.

5. Appendices

Appendix 1 – Tree Survey Data Sheets

Appendix 2 – Tree Constraints Map

Appendix 3 – Photographic Record

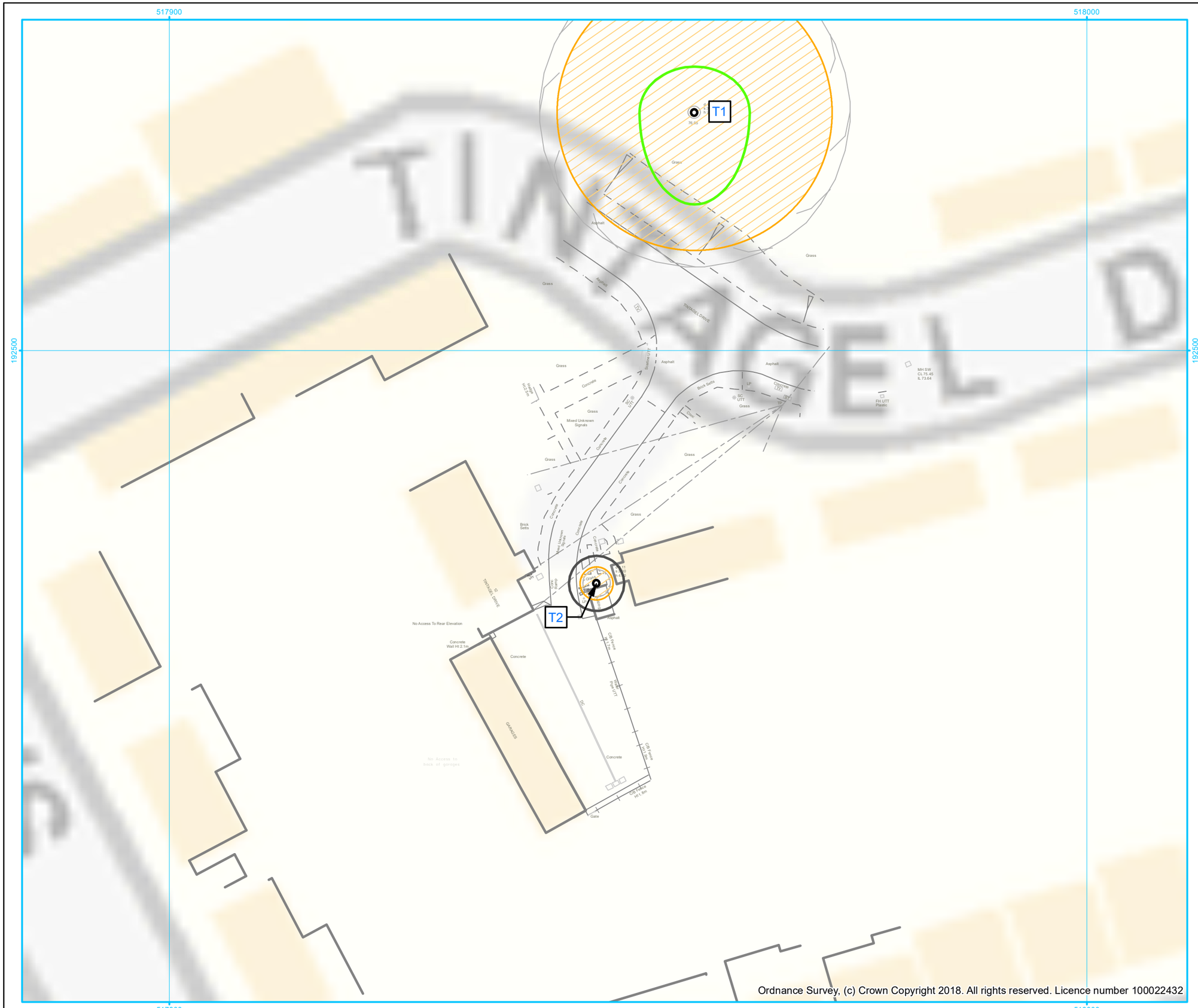
Appendix 4 – Methodology

Appendix 5 – Cascade Chart for Tree Quality Assessment

Appendix 1: Tree survey data sheet.

Ref.	Species	Height (m)	Stem dia. (mm)	stem No.	Branch spread (m)				Crown height (m)	Age	Condition	Comments	BS5873 Tree Qual. Ass.	Ret. Cat.	Life Expect. (yrs)
					N	E	S	W							
T1	Sessile oak (*Quercus petraea*)	17.0	1390	1	5.0	6.0	10	8.0	3.0	Mat	Good	Mature tree within amenity grassland, provided good townscape value.	**A**	1	+40
T2	Ash (*Fraxinus excelsior*)	3.0	150	1	3.0	3.0	3.0	3.0	1.0	Yng	Good	Developing tree within adjacent front garden. Probably self-set.	**C**	1	+20

= denotes measurements which have been estimated, due to trees outside site boundary with no access.



Legend

- Individual tree
- RPA

Tree Category

- Category A
- Category C

Scale: 1:400

0 10 20m

Title: **Appendix 2 – Tree Constraints**

Client: MEPK Architects

Project: Tintagel Drive

Date: May 2020

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This plan is provided for reference only and its accuracy is not guaranteed

Appendix 3: Photographic Record



Photo 1: T1 Providing good townscape value. Listed under part of TPO-515.



Photo 2: T2 young ash tree in adjacent front garden.

Appendix 4 – Tree Survey Methodology

This document summaries the survey requirements for an arboricultural survey, set out in British Standard 5837 (2012) Trees in Relation to Design, Demolition and Construction.

Methodology

All trees, or groups of trees, within the defined work area, were surveyed from ground height, for their quality and value, in accordance with the BS5837: 2012. Any trees situated outside the area of the work, but may be affected by proposed works, were also included in the survey.

Tree locations to be mapped, GPS readings were taken in the field, for all recorded trees. This allowed the plotting of trees on a topographic survey base map (supplied by the client) and Root Protection Areas to be calculated.

Trees were recorded and assessed individually or, when appropriate, as groups. All data was recorded on Arboricultural Survey Sheets using BS 5837 criteria (Table 2.1). Each tree was given an individual reference.

Any other important observations were also noted. This included evidence of present or past maintenance (including coppicing), damage to the trees, potential hazards, and health and safety issues.

Tree Categories and Implications for Development

Category A trees or groups are considered to be of high quality and value. Where possible, Category A trees should be retained and incorporated into the development design.

Category B trees or groups are considered to be of moderate quality and value. Such trees may be downgraded from Category A due to slight damage or lack of previous management. Category B trees should be considered for retention and incorporated into development design where possible.

Category C trees or groups are considered to have little value and are of poor quality. Such trees may be retained or removed, dependent on development priorities.

Category U trees or groups are considered likely to lose the little value they have within ten years and should be removed.

Retention and removal recommendations provided are not definitive and some trees recommended for retention may be considered for removal to facilitate particular construction activities. It may be justifiable to remove those trees within the site considered to be at an early growth stage, or individuals in close proximity to each other. Tree removal under these circumstances can be justified on the basis of sound design rationale and appropriate levels of mitigation, such as the planting of native species and local provenance stock. However, mature trees should be considered for retention if they are in sound health and are of significant arboricultural or landscape value.

Root Protection Areas

The Root Protection Area (RPA) is the minimum area (m2) surrounding a tree that should be protected during construction, to avoid root damage. This ensures long term survival and resource availability.

The RPA for each tree or group of trees surveyed was calculated using the standard formulae given in BS 5837. For single stem trees, each circular RPA has a radius 12 times the stem diameter. For those trees with multiple stems the calculation is based on the combined stem diameter (two to five stems), or the mean stem diameter (more than five stems).

The calculated RPAs should be used to define Construction Exclusion Zones (CEZ). These CEZs must be fenced-off prior to any construction phase commencing to help ensure adequate tree protection.

Table 2.1: Standard data recorded during the arboricultural survey.

Category	Specific Information Collected
Reference	Trees are referenced T1, T2, etc. Groups are referenced G1, G2, etc.
Species	The common English and scientific names are given.
Height	Estimated from ground level and given in metres (recorded to nearest 0.5m, or to 1.0m for dimensions over 10m).
Stem Diameter	Measured in millimetres, 1.5 metres above ground level. For multi-stemmed trees (coppiced) combined (2-5 stems), or mean (>5 stems), are calculated. Trees with a diameter of less than 75mm are not included in the survey as their value can be considered negligible (particularly as a replacement value).
Number of Stems	Number of stems on an individual tree.
Branch Spread	The north, south, east and west branch spread is estimated in metres (recorded to nearest 0.5m, or to 1.0m for dimensions over 10m).
Crown Height	The point at which the first branches start, estimated in metres. Trees which are coppiced (naturally or through management), are expressed with a 'C'. First significant branch (if different from above) and direction of growth (e.g. 3.0-N)
Life Stage	In accordance with BS 5837, trees are classified as: **Young –** 1/3 life expectancy **Semi-mature –** tree 1/3 - 2/3 life expectancy **Early mature** – later stages of growth **Mature –** mature tree **Over-mature** – over-mature tree **Vet** – Veteran tree
Condition	In accordance with BS 5837, trees are classified as: **Good** **Moderate** **Poor** **Very poor**
Tree Quality Assessment & Retention Category	Based on BS 5837 Table 1: Cascade chart for tree quality assessment (Appendix 3) **A** - Trees of high quality and value (sub categories 1, 2, 3) **B** - Trees of moderate quality and value (sub categories 1, 2, 3) **C** - Trees of low quality and value (sub categories 1, 2, 3) **U** - Trees in such a condition they should be removed Category **U** trees do not need to be considered in the development plan process.
Life Expectancy	Estimated in years (in terms of natural growth rates) such as <10, 10+, 20+, 40+.

Appendix 5 - Cascade Chart for Tree Quality Assessment

TREES FOR REMOVAL				
Category and Definition	**Criteria**			**Identification on plan**
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 U category trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). ▪ Trees that are dead or are showing sign 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. NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve.			**DARK RED** **RGB code:** **127-000-000** **AutoCAD 246**
TREES TO BE CONSIDERED FOR RETENTION				
Category and Definition	**1. Mainly arboricultural qualities**	**2. Mainly landscape qualities**	**3. Mainly cultural values, including conservation**	**Identification on plan**
Category A **Those of high quality** with an estimated remaining life expectancy of a least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that area 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)	**LIGHT GREEN** **RGB code:** **000-255-000** **AutoCAD 90**
Category B **Trees of moderate quality** with an estimated remaining life expectancy of a 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 minor 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 attracting a higher collective rating than they might as individuals; or trees occurring as collective but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	**MID BLUE** **RGB code:** **000-000-255** **AutoCAD 170**
Category C **Those trees of low quality** with an estimated remaining life expectancy of a least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualifying 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 benefit	Trees with no conservation or other cultural value	**GREY** **RGB code:** **091-091-091** **AutoCAD 252**

Text extracted from BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'

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