



Tree Survey & Arboricultural Impact Assessment

16 Keble Road, Chandlers Ford

August 2019



Report Name: Tree Survey and Arboricultural Impact Assessment

Our Reference: 19/02/28/SV

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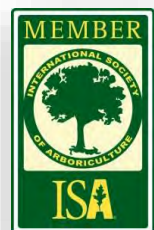
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Summary

This is a tree survey and arboricultural impact assessment.

The report has been written following the recommendations and guidance given within British Standard 5837:2012 Trees in relation to design, demolition and construction.

The proposed development is to demolish the existing property and to construct four new residential dwellings with associated garages and parking.

I have inspected all the trees of material consideration within and immediately adjacent to the proposed development site. These trees are listed at Appendix 1 and annotated on the Tree Plan at Appendix 4.

The proposed development does not require the removal of any trees.

The proposed development requires T3 and T4 (both Willow) to be pollarded. The trees have been pollarded previously so to re-pollard them is an appropriate form of management.

The proposed development will or may marginally encroach within the root protection areas of T1, G2, T3 and T5. The encroachment will not compromise the successful long term retention of these trees.

The shadow patterns of T3 and T4 will create shade for units 1 and 2 but the trees can be managed by pollarding, so the shade cast is unlikely to be a significant problem.

None of the retained trees should cause undue apprehension to occupiers or users of the proposed building or space.

Due consideration has been given to the proximity of retained trees.

Due consideration has been given to the access and working area required to enable the construction of the proposed development.

Due consideration must be given to requirements of infrastructure including above and below ground services.

Shane Verrion MArborA

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1.0 Instructions

- 1.1 I have been instructed by Mr. Ben Kelly of Atlas Planning Group Ltd to prepare a tree report on behalf of Mr. Keith Warren to assess the influence that the trees on and adjacent to the site may have on any proposed development and vice versa.
- 1.2 The proposed development is to demolish the existing dwelling and to construct 4 new residential dwellings, with associated garages and parking.

2.0 Report Limitations

- 2.1 Trees are living organisms whose health and overall condition can change rapidly. The conclusions and recommendations contained within this report are valid for a period of three years. The period of validity may be reduced if significant changes occur to either the trees or to the landscape within the immediate proximity of the trees.
- 2.2 This report is neither intended nor suitable for any purpose other than the stated rationale.

3.0 Introduction

- 3.1 The report has been written following the recommendations and guidance given within British Standard 5837:2012 Trees in relation to design, demolition and construction - Recommendations (hereinafter BS:5837).
- 3.2 The report is intentionally concise with minimal background explanations. Where appropriate, further guidance and information is included as appendices.
- 3.3 The report contains the following appendices:
 - a) a tree survey and a tree quality assessment at Appendix 1;
 - b) a cascade chart for tree quality assessment at Appendix 2;
 - c) site photographs at Appendix 3; and
 - d) a scale drawing showing existing site features and the proposed development. This drawing has been amended to show tree quality assessment, root protection areas and shadow patterns, as appropriate and should be read in conjunction with this report at Appendix 4.

4.0 Report Rationale

4.1 The following rationale underlies this report:

- a) to identify the quality and value (in a non-fiscal sense) of the existing tree stock within the context of proposed development, allowing informed decisions to be made concerning which trees should be removed or retained in the event of development occurring;
- b) to identify the constraints and considerations, both above and below ground, associated with retained trees in the context of proposed development. However, care should be taken to avoid misplaced tree retention; attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal; and
- c) to prepare an arboricultural impact assessment that evaluates the direct and indirect effects of the proposed design and where necessary recommends mitigation.

5.0 Site Survey

5.1 The site survey included within the Tree Plan at Appendix 4 contains:

- a) the location of all trees, shrub masses, hedges etc. of material consideration;
- b) other relevant features, such as buildings, other structures and boundary features;
- c) the approximate location of trees on land adjacent to the development site that might influence the site or might be important as part of the local landscape character.

6.0 Tree Survey

6.1 The tree survey and tree quality assessment were carried out on Wednesday 20th March 2019.

6.2 The tree survey, at Appendix 1, includes the trees or hedges on the proposed development site and trees or hedges immediately adjacent to the proposed development site that could influence the development or might be important as part of the local landscape character with a stem diameter of 150mm or greater.

- 6.3 The quality and value of existing trees is allocated to one of four categories, namely A, B, C or U (Unsuitable for retention). The category allocated to each tree depends in part upon the information gathered in the tree survey and in part upon the 'cascade chart for tree quality assessment' contained within BS:5837. It is also in part, subjective.

The trees have been differentiated on the Tree Plan by the colour and shape of the symbol allocated to each category.

7.0 Tree Constraints and Considerations

The purpose of this section is to identify the constraints and considerations, both above and below ground, associated with retained trees in the context of proposed development.

7.1 to 7.10 inclusive set out the **general principles** of tree constraints and considerations associated with a proposed development site.

7.11 to 7.20 inclusive set out the tree constraints and considerations associated with **this specific site**.

General Principles

- 7.1 In order to avoid damage to the roots or rooting environment of retained trees, the Root Protection Area (RPA) is plotted around category A and B trees as necessary to illustrate potential constraints to the proposed development. This area should be left undisturbed. However, where construction is proposed within the RPA, technical solutions may be available to enable the successful retention of trees.
- 7.2 The current and estimated height (in 40 years' time) of category A and B trees may be annotated on the Tree Plan where this would cause unreasonable obstruction of sunlight or daylight to the development. This is represented by a segment, with a radius from the centre of the stem, equal to the current or estimated height of the tree. It is drawn from due North West to due East indicating the shadow pattern through the main part of the day.
- 7.3 To maximize the probability of successful tree retention a realistic assessment of the probable impact of any proposed development on the trees and vice versa should take into account the characteristics and condition of retained trees, with due allowance and space permitted for their future growth and maintenance requirements.

- 7.4 The relationship of buildings to large trees can cause apprehension to occupiers or users of nearby buildings or spaces. Buildings and other structures should be sited allowing adequate room for retained trees, and with due allowance and space permitted for their future growth.
- 7.5 Buildings and open spaces should be designed with due consideration to the proximity of retained trees, especially in terms of the foliage, flowers, fruit and other debris associated with the normal functions of a healthy tree.
- 7.6 Tree preservation orders, conservation areas or other regulatory tree protection.
- 7.7 The access and working area required to enable the construction of the proposed development, including the effects of pruning on the amenity value of retained trees.
- 7.8 The protection of overhanging tree canopies where they could be damaged by construction.
- 7.9 The requirements of infrastructure including above and below ground services, visibility splays, refuse stores, lighting, signage, solar collectors, satellite dishes and CCTV sightlines.
- 7.10 The potential for new planting to mitigate proposed tree loss.

This Specific Site

- 7.11 The radius of the root protection areas of all trees identified within the tree survey are given in the right-hand column of the survey at Appendix 1.
- 7.12 The root protection areas of all trees are annotated on the Tree Plan.
- 7.13 The estimated heights of all trees of material consideration on and adjacent to the proposed development site are given in the third column of the tree survey at Appendix 1. The obstruction of sunlight is represented by a segment equal to the estimated height of the tree through the main part of the day.
- 7.14 The shadow patterns of T3 and T4 are annotated on the Tree Plan. The shadow patterns of T3 and T4 will create shade for adjacent units. However, the trees will continue to be managed by pollarding, which will reduce the effect of shading to an acceptable level.
- 7.15 No retained trees will cause undue apprehension to occupiers or users of the proposed building or space because of their size and close proximity. T3 and T4 are potentially within falling distance of adjacent units but the proposal is to re-pollard the tree so they should not be perceived as a threat.

- 7.16 The two Willows (T3 and T4) are believed to be subject to a Preservation Order (no. 436 made in 2002). Both trees are to be retained.
- 7.17 Units 1 and 2 (and their associated garages and parking) encroach within the RPA of adjacent trees. New/upgraded surfacing will be required within the RPA of T1 and G2. All trees can be adequately protected to ensure they can be successfully retained.
- 7.18 Due consideration has been given to access and working area required to enable the construction of the proposed development.
- 7.19 Due consideration must be given to requirements of infrastructure including above and below ground services, visibility splays, refuse stores, lighting, signage, solar collectors, satellite dishes and CCTV sightlines.

8.0 Arboricultural Impact Assessment

The purpose of this arboricultural impact assessment is to consider the direct and indirect effects of the proposed design.

Summary of Impact

- 8.1 I have assessed the impact of the proposed development on the trees, shrubs and woody vegetation (trees) of material consideration, present on and immediately adjacent to the site. All the trees that may be directly affected by the development are listed in Table 1 below.

Table 1 - Summary of trees that will or may be affected by the proposed development

	Category A Trees	Category B Trees	Category C Trees	Category U Trees
Trees to be retained	-	T1, T3 & T4	G2 & T5	-
Trees to be removed	-	-	-	-
Retained trees that will or may need to be pruned to enable construction	-	T3 & T4	T5	-
Retained trees that will or may be affected by encroachment within the RPA	-	T1 & T3	G2 & T5	-

Detail of Impact

- 8.2 Trees to be retained:

The proposed development will retain all trees identified within the tree survey and annotated on the tree plan.

- 8.3 Trees to be removed:

No trees need to be removed to facilitate development.

8.4 Retained trees that will or may need to be pruned to enable construction:

The proposed development will require the repollarding of T3 and T4. Repollarding will reduce the size of these trees, so they can be safely retained, adjacent to the newly proposed dwellings (unit 1 and 2) without being over-bearing or creating too much shade. It is worth noting that some of the existing pollard points are in poor condition, and if left untouched the trees are likely to start shedding limbs. For this reason, trees that have been pollarded, need to be re-pollarded on a regular cycle, generally 3 or 5 years. If the regrowth is left longer large pruning wounds result, which will not occlude, and cavities form at the pollard point, which creates a structural weakness. This has already occurred on both trees, so the recommendation is to cut each back up to 50 cm beyond the existing pollard points, to start the process again.

The overhanging branches of T5 will need to be crown raised to a height of approximately 5 metres to facilitate the construction of the garage associated with unit 1.

8.5 Retained trees that will or may be adversely affected by encroachment within the RPA:

Unit 2, and the associated garage and parking, encroach into the RPA of T3.

The encroachment into the RPA of T3 by the dwelling and garage is minimal (less than 5%) and should not be detrimental to the long term health or retention of the tree. Willow produce new roots readily and will tolerate a degree of disturbance. The parking spaces to the west of T3 should be constructed above ground using a cellular confinement system to prevent root damage by compaction.

Unit 1, and the associated garage and parking, encroach into the RPA of T5, which is a category C tree.

The encroachment by the dwelling is minimal and the small amount of rooting area that will be lost is mitigated by the gain from the removal of existing structures. The parking area should be constructed above ground using a cellular confinement system to prevent root damage by compaction. The garage should be constructed on a concrete raft supported by pile and beam foundations.

Hard surfacing will need to be laid/upgraded through the RPA of T1 and G2. This can be achieved by using no dig methods of construction, utilising a three-dimension cellular confinement system, where necessary.

Further details of how the above can be achieved without causing damage to the trees can be provided in a method statement, requested by condition. An engineer's report may be required to provide details of the garage foundations specified for unit 1.

The activity required to construct the proposed development (vehicular movement, storage of materials, soft landscaping etc.) may encroach within said root protection areas if they are not properly safeguarded during the construction activity.

8.6 Safeguarding retained trees:

It will be necessary, prior to commencement of any demolition or construction activity, to provide Eastleigh Borough Council with an Arboricultural Method Statement, a Tree Protection Plan and a Schedule of Arboricultural Supervision in order to safeguard the retained trees.

9.0 Tree Management

Pre-development tree work

- 9.1 A schedule of tree works, including root pruning, is included within the Tree Survey and Tree Quality Assessment at Appendix 1. Tree works required to enable or facilitate the proposed development are noted within Appendix 1 in **bold orange** text. Additionally, recommended tree works to manage the existing tree stock are noted in **bold blue** italic text.
- 9.2 All pre-development tree works must be carried out in accordance with British Standard 3998:2010 Tree Works. Recommendations.
- 9.3 Specific wildlife species and their habitats are protected by law. Intentionally or recklessly damaging or destroying them, their nests, roosts or their habitats is a criminal offence. If works are proposed to a tree where protected species reside, or the tree forms a habitat for protected species, the appropriate advisory body should be consulted e.g. Natural England, Bat Conservation Trust etc.

Post-development management for existing trees

- 9.4 In the absence of specific proposals, the post development management of existing trees should follow the guidance contained within 'Managing trees for safety', written by the National Tree Safety Group and published by the Forestry Commission in 2011.
- 9.5 In general, trees should be inspected following severe weather conditions, typically:
- a) strong winds (especially of gale force 8 or greater), particularly from an atypical direction,
 - b) heavy rain reducing root adhesion due to soil saturation, and
 - c) heavy snowfall leading to branch failure.

10.0 Useful Contact Details

10.1 Useful contact details:

Shane Verrion	Arboricultural Consultant	07899 745211
Chris Stringer	Tree Consultant working on behalf of Eastleigh Borough Council	023 8068 8000
Ben Kelly	Planning Consultant Atlas Planning Group Ltd	01722 638008

Signed: *Shane Verrion*

Dated: *23rd August 2019*

Shane Verrion MArborA

Appendix 1 - Tree Survey and Tree Quality Assessment

Tree Survey and Tree Quality Assessment

Tree No.	Species	Height (m)	Stem Diameter (mm)	Average Crown Spread NESW (m)	Existing Branches	Life Stage	Observations Recommendations Management	Contribution in years	Category	RPA radius (m)
T1	Norway Maple	12.0	350	6.0	5.0	Middle	Crown raised to 5m over driveway, off site tree	40+	B1	4.2
G2	Leylandii	9.0	200	1.0	GL	Middle	Off-site trees, group of approximately 7 stems, poor quality, previously topped at 4m	20+	C2	2.4
T3	Willow	13.0	700	9.0	3.0	Mature	Previously pollarded, Ivy covered stem – recently cleared to 2m, stem sub divides at 3 and 4m Re-pollard up to 50cm below previous pruning points	20+	B1	8.4
T4	Willow	14.0	800	8.0	3.0	Mature	Previously pollarded, Ivy covered stem – recently cleared to 2m, stem sub divides at 2 and 3m, causing damage to adjacent wall Re-pollard up to 50cm below previous pruning points	20+	B1	9.6
T5	Birch	11.0	650	9.0	3.0	Middle	Off-site tree, poor form, sub divides into 3 stems at 2m Crown raise overhanging branches to 5m to facilitate construction of garage	20+	C1	7.8

There are various other small/young or otherwise unremarkable trees and shrubs present both on and immediately adjacent to the site. These trees and shrubs are not considered a constraint to any proposed design or subsequent development.

agl: above ground level #: estimated dimension

tree works required by proposed development are noted in **bold orange** type

recommended tree works to manage the existing tree stock are noted in **bold blue** italic text

T: Individual tree **H:** Hedgerow or garden hedge **G:** Cohesive group of trees **W:** Woodland

Tree survey schedule:

- a) a sequential reference number for each tree or group of trees (also recorded on the Tree Plan);
- b) species (common names only);
- c) estimated height in metres;
- d) estimated stem diameter measured in millimetres typically at 1.5 metres above ground level;
- e) estimated branch spread in metres taken at the four cardinal points, as appropriate; (also recorded on the Tree Plan, as appropriate);
- f) existing height above ground level of canopy;
- g) life stage as follows,
 - i. young - a tree in the first third of average life expectancy for species.
 - ii. middle - a tree in the middle third of average life expectancy for species.
 - iii. mature - a tree in the last third of average life expectancy for species.
 - iv. over mature - a mature tree, which by reason of its physical or structural condition, has an estimated remaining contribution of less than 20 years
 - v. ancient - 'a tree which, because of its great age, size or condition is of exceptional value culturally, in the landscape or for wildlife' English Nature.
- h) observations, particularly of structural and/or physiological condition, as appropriate and pertinent to the matter being considered;
- i) management recommendations, as appropriate;
- j) estimated remaining contribution in years e.g. less than 10, 10+, 20+, 40+;
- k) a category is allocated to each tree or group of trees depending in part upon the information gathered in the tree survey, it depends in part upon the 'cascade chart for tree quality assessment' at Appendix 2 and it is in part, subjective; and
- l) rpa is based on the guidance given within BS: 5837. The radius of the nominal circle as always rounded up to the nearest single stem diameter.

Appendix 2 - Cascade Chart for Tree Quality Assessment

Cascade Chart for Tree Quality Assessment (April 2012)

Category and definition	Criteria (including subcategories where appropriate)			Identification on Plan
Trees unsuitable for retention				
Category U Trees 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</i>			 DARK RED
Trees to be considered for retention				
	1. Mainly arboricultural qualities	2. Mainly landscape qualities	3. Mainly cultural values, including conservation	Identification on plan
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)	 LIGHT GREEN
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	 MID BLUE
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	 GREY

Appendix 3 - Site Photographs



Photo 1 (above): The Willow (T3) situated centrally within the site

Photo 2: The Willow (T4) located in south western corner





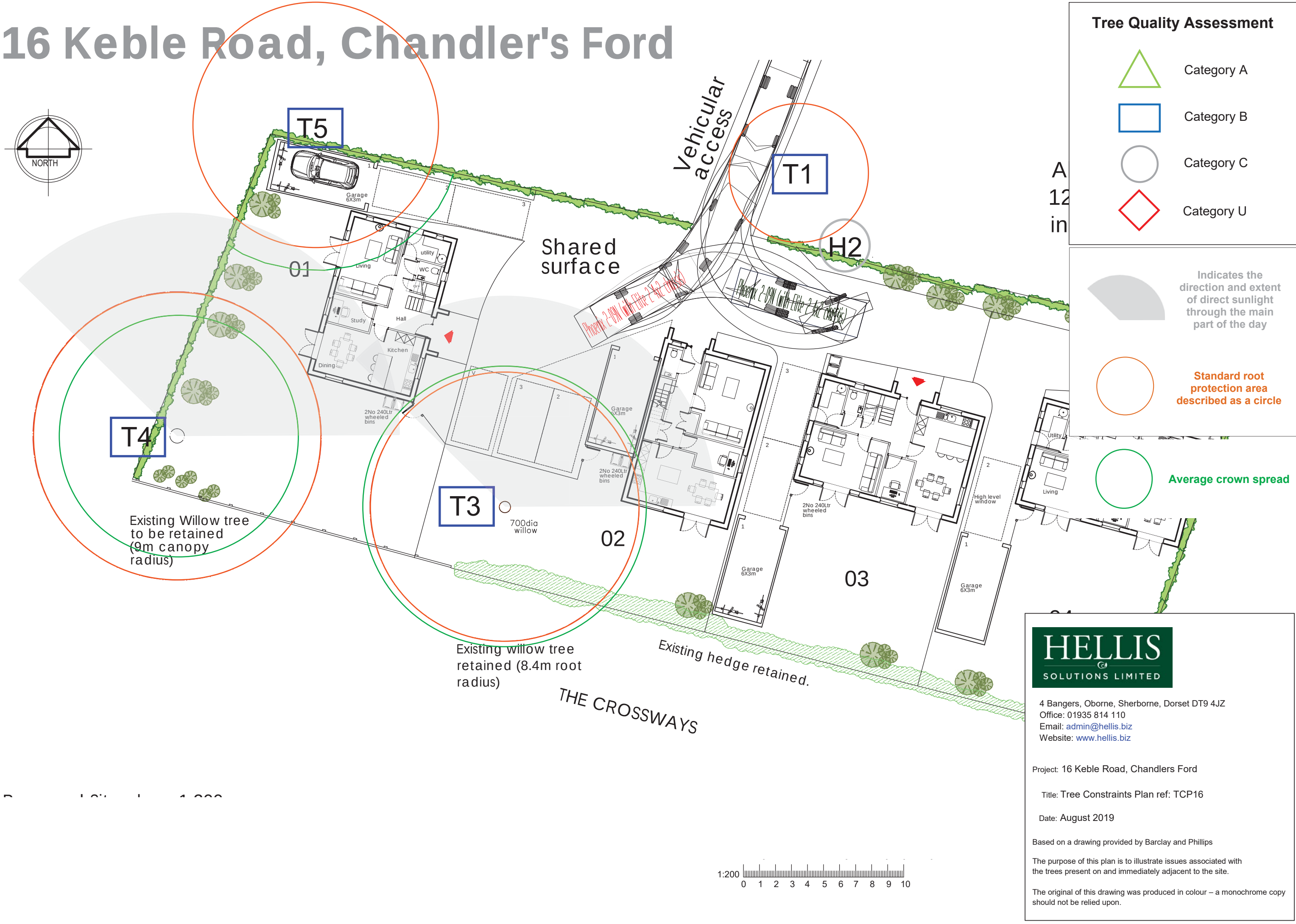
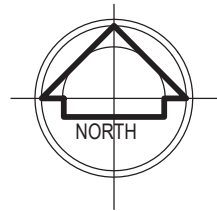
Photo 3 (above): Poor quality Birch tree in neighbours garden (T5)

Photo 4: An example of old pruning wounds and pollard point on Willow (T3)



Appendix 4 - Tree Constraints Plan

16 Keble Road, Chandler's Ford



Tree Quality Assessment

Category A

Category B

Category C

Category U

Indicates the direction and extent of direct sunlight through the main part of the day

Standard root protection area described as a circle

Average crown spread

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Project: 16 Keble Road, Chandlers Ford

Title: Tree Constraints Plan ref: TCP16

Date: August 2019

Based on a drawing provided by Barclay and Phillips

The purpose of this plan is to illustrate issues associated with the trees present on and immediately adjacent to the site.

The original of this drawing was produced in colour – a monochrome copy should not be relied upon.



END