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Tree Constraints Report

For

**51 Kingsend, Rusilip, Middlesex
HA4 7DD**

Prepared for Amit Desai

Prepared by Trevor Heaps BSc, MICFor, M. Arbor. A.

Date: 14th July 2020

Ref: TH 2444

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1.0 Introduction

1.1 I am Trevor Heaps, Director of Trevor Heaps Arboricultural Consultancy Ltd. I have experience and qualifications in the field of Arboriculture. Further information is provided in Appendix 1.

1.2 Contact details:

Who	Contact	Organisation	Details
Arboricultural consultant	Trevor Heaps	Trevor Heaps Arboricultural Consultancy Ltd., 12 Plover Drive, Milford-on-Sea, Hampshire, SO41 0XF	Tel: 07957 763 533 trevor@trevorheaps.co.uk
Client	Amit Desai		
London Borough of Hillingdon - LPA	Tree Officer	The London Borough of Hillingdon, Civic Centre, High Street, Uxbridge, UB8 1UW	Tel: 01895 556000 E-mail: trees@hillingdon.gov.uk

2.0 Instruction

2.1 In accordance with British Standard 5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*' (hereafter referred to as BS5837), we are instructed to survey all significant trees within and adjacent to the subject property / site.

2.2 Based on the data collected in the tree survey, we are to produce a tree survey report and tree constraints plan.

2.4 The purpose of this information is to assist the design process towards the preparation of an arboriculturally defensible scheme and to demonstrate that due consideration has been given to the trees on and adjacent to the site.

3.0 Drawings provided

3.1 None.

4.0 The tree survey

4.1 The site was surveyed by Trevor Heaps on the 10th July 2020.

4.2 The trees were surveyed from within the site at ground level. No climbed inspections were carried out and no root/soil samples were taken for analysis.

4.3 The trees were inspected based on the Visual Tree Assessment (VTA) developed by Mattheck & Breloer (The Body Language of Trees, 1994).

4.4 Tree heights, crown spreads and stem diameters were measured with a clinometer, a Disto laser measure and a diameter measuring tape respectively.

4.5 Most large shrubs or small trees (with stem diameters less than 150mm) were not surveyed because BS 5837 states that these can be transplanted or replaced.

4.6 The report is based on the information provided (i.e. site plans, proposed drawings, scales, measurements etc.) and observations during the site visit.

4.7 We were not instructed to investigate the statutory protection status of trees on or adjacent to the site; but will check the LPAs website for any relevant information.

4.8 This report comprises stage 1 of a 5-stage arboricultural process relating to planning. The other stages are as follows:

- Stage 2 is the arboricultural input and advice given during the layout design, taking account of any arboricultural features and constraints.
- Stage 3 is the preparation of supporting documentation (Arboricultural Implication Assessment) when the layout designed has been finalised.
- Stage 4 is the preparation of an Arboricultural Method Statement and Tree Protection Plan specifying how trees will be physically protected during the development process.
- Stage 5 is the implementation, supervision and on-going monitoring of the works during development.

5.0 Statutory tree protection

5.1 According to the Council's website, this property is covered by TPO 477; which means that if any tree works are required to the trees covered by the TPO (Scots Pine T6 in this report), an application must be made to the LPA.

5.2 The property is also within the Ruislip Village Conservation Area. This means that if any works are required to any trees with a stem diameter of 75mm or above, then a Section 211 Notice must be served on the LPA (to give them six weeks' prior notice).

6.0 Ecological constraints

6.1 The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) provides statutory protection to birds, bats and other species that inhabit trees.

6.2 In addition to any tree matters considered in this report, these animals could impose significant constraints on the use and timing of access to the site.

7.0 The site

7.1 This site is situated within a leafy, residential part of Ruislip.

8.0 The soil and topography

8.1 The soils at this site were determined using information provided by the British Geological Survey and my observations during the site visit.

8.2 The site is level with no adverse features, and the soil texture is clayey loam to silty loam. The soil parent material is prequaternary marine / estuarine sand and silt.

8.3 The soil is deep, and so a thick soil profile is likely. Soil (and any underlying parent Material) should be easily dug to a depth of more than one metre.

8.4 Given the information above, the soil has the potential of becoming compacted (which is harmful to tree roots) and so tree protection should not be relaxed.

9.0 The tree survey data and constraints

9.1 The trees (and other relevant vegetation) have been allocated a number prefixed by a letter: T for trees, S for stumps or shrubs, G for groups, H for hedges and W for woodlands.

9.1.1 Their locations are shown on the tree constraints plan in Appendix 4.

9.2 Data relating to each tree / shrub is included within the tree data schedule (see Appendix 2).

9.3 The following data was collected:

- Dimensions (height, crown spread, stem diameter, and clearance beneath crown)
- Life stage and physiological condition
- Structural defects of significance, and general condition
- An assessment of the likely remaining useful contribution in years.

9.4 Based on the above information, each tree has been allocated a category (A, B, C or U) indicating its quality and value (in accordance with BS5837). This information must be properly considered when proposing development.

9.5 Four different colours are used to distinguish between the following four categories:

- Category U trees (red) should be removed for reasons of sound arboricultural management.
- Category C trees (grey) are of low quality; they should not impose significant constraints to design layout and, if necessary, can defensibly be removed to facilitate good design. If, however, they can be retained within the proposed layout, then consideration should be given for this.
- Category B trees (blue) are of moderate quality, which covers a large range. It is likely that most of these trees should be retained and regarded as a constraint to development. Some Category B trees, particularly smaller individuals, are of insufficient value to impose significant design constraints and the removal of such trees can sometimes be justified to promote good design (usually on the basis that mitigation is provided elsewhere on the site in the form of high-quality new planting).
- Category A (green) are of high quality and there should be a general presumption against the removal of these trees.

9.6 At the design stage, detailed advice should be given by the arboriculturalist, specifically in relation to the above ground constraints, namely:

- Future growth predictions for the higher value trees where this is likely to be significantly different to their existing dimensions.
- The effects of dominance and shading posed by trees in a) their current context, and b) taking account their future likely growth.

9.7 The tree constraints plan also shows the position of the Root Protection Areas (RPAs) as a dotted magenta circle. BS5837 (Section 3.7) defines the RPA as a '*layout design tool indicating 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*'. In other words, the RPA represents the minimum area around each tree in which the ground should remain largely undisturbed.

9.8 The RPA is an area based on a circle with a radial distance of $12 \times$ the stem diameter at 1.5 metres in the case of single-stemmed trees, or $12 \times$ the combined stem diameter (calculated in accordance with a formula set out in BS5837) for trees with more than one stem. In situations where the site conditions clearly prevent consistent rooting around the tree (for example the presence of roads or buildings within the notional RPA) the shape of the RPA should be modified to take this into account.

10.0 Design considerations

10.1 Foundations

10.1.1 Non-invasive foundations (such as pile and beam, floating concrete rafts, ground screws, cantilevered slabs etc) should be specified where proposed buildings conflict with the RPAs of retained trees (especially category A and B trees); however, LPAs will also usually require over-riding justification for building within the RPAs of such trees. It is normally unacceptable to build within the RPAs of veteran trees.

10.1.2 Where non-invasive foundations are specified, the supporting ground beams must sit at or above ground level - they cannot sit beneath ground level (i.e. there can be no excavations). This will have implications on floor levels within the proposed building.

10.1.3 Where non-invasive foundations are specified, there is usually a requirement to leave a void (for gaseous exchange) between the base of the proposed structure and the existing ground level. Rainwater should also be directed into the void using guttering (subject to Building Control approval).

10.1.4 Foundations usually extend slightly beyond the footprint of a building. This should be taken into account at the design stage.

10.2 Basements and excavations

10.2.1 It is sometimes acceptable to excavate within RPAs of retained trees (e.g. for traditional strip foundations or basements); however, this should be limited to the RPA periphery and should not exceed about 5-10% of an RPA - if this can be offset within soft areas that are contiguous (linked) to it (the RPA).

10.2.1 Depending on the construction technique, the excavations needed to construct a basement usually extend beyond its footprint by a metre or two. This should be taken into account at the design stage.

10.3 New surfaces

10.3.1 'No-dig' construction techniques (such as 3D Cellweb or Gravel Grids) should be specified where vehicular access or parking is required within the RPAs of retained trees. However, it should be noted that these 'no-dig' surfaces will be about 100-150mm higher than the existing / surrounding ground levels.

10.4 Future pressure on trees

10.4.1 New buildings / extensions should be located away from areas that will be shaded by retained trees (the shading arcs are shown on the tree constraints plan in Appendix 4). If this is not practical, then dual-aspect and/or non-habitable rooms should be designed into the most shaded areas for the greatest chances of approval.

10.4.2 To guard against issues such as leaf or needle fall, mesh or bristle filters should be fitted to the guttering and the downpipes should be fitted with easily cleanable traps.

11.0 Conclusion

10.1 If proposals are designed around the arboricultural constraints shown on the tree constraints plan in Appendix 4 and / or appropriate and commensurate mitigation tree planting can be provided, there are no practical (arboricultural) reasons why this site cannot be re-developed.

12.0 Signature

12.1 This report represents a true and factual account of the potential arboricultural constraints within and adjacent to the subject property / site.

Signed

A handwritten signature in black ink, appearing to read 'Trevor Heaps'.

.....
Trevor Heaps

Chartered Arboriculturist

BSc (Hons), MArborA, MICFor

Dated

14th July 2020

Appendix 1 - Professional résumé

I am Trevor Heaps, director of Trevor Heaps Arboricultural Consultancy Ltd. I am a Chartered Arboriculturist, a Professional Member of the Arboricultural Association (AA) and hold a First-Class Honours Degree in Arboriculture.

Professional training

- Arboriculture and Bats: Scoping Surveys for Arborists (BCT & AA) – October 2017
- Tree Science (AA) – June 2016
- OPM (Oak Processionary Moth) Training (FC) – May 2016
- Visual Tree Assessment (Arboricultural Association) - October 2015
- Trees and the Law (Dr Charles Mynors) - June 2015
- Mortgage (Home Buyers) Report Writing (LANTRA / CAS) - February 2015
- Tree Preservation Orders - effective application (LANTRA / CAS) - November 2014
- Professional Tree Inspection 3-day course (LANTRA / AA) - July 2014
- Arboricultural Consultancy Course (AA) - May 2014
- Further down the subsidence trail 1-day course (AA) - April 2013
- Getting to grips with subsidence 1-day course (AA) - November 2012

AA – Arboricultural Association

BCT – Bat Conservation Trust

CAS – Consulting Arborist Society

FC – Forestry Commission

Appendix 2 - Tree data schedule

Ref	Name	Age	DBH (mm)	Hgt. (m)	Can. hgt. (m)	Can N (m)	Can E (m)	Can S (m)	Can W (m)	Physio cond.	Struct cond.	Life Exp.	Ret. Cat.	Comments	Rec's
T1	Prunus cerasifera (Cherry Plum)	EM	150	4.5	2	2.5	2.5	2.5	2.5	Normal	Normal	20+	C2	Insignificant tree.	No works required at present
T2	Prunus cerasifera (Cherry Plum)	EM	150	4	2	2	2	2	2	Normal	Normal	20+	C2	Insignificant tree.	No works required at present
T3	X Cupressocyparis leylandii (Leyland Cypress)	EM	250	5	2.5	2.5	2.5	2.5	2.5	Normal	Normal	40+	B2	Topped in the past.	No works required at present
T4	Prunus serrulata 'Kanzan' (Kanzan Cherry)	OM	350	4	2	2.5	2.5	2.5	1	Normal	Poor	<10	C2	Old tear-out wound noted.	No works required at present
T5	Taxus baccata (Yew)	EM	300	5	3.5	2.5	2.5	2.5	2.5	Normal	Normal	40+	B2	No comments.	No works required at present
T6	Pinus sylvestris (Scots Pine)	M	565	16	3	4	4	4	4	Fair	Normal	20+	B2	Sparse. T1 on TPO 477	No works required at present
T7	Pinus sylvestris (Scots Pine)	EM	400	14	3	4	4	4	4	Normal	Normal	20+	A2	No comments.	No works required at present
T8	Quercus robur (Common Oak)	EM	465	16	4	6.5	6.5	6.5	6.5	Normal	Normal	40+	A2	No comments.	No works required at present
T9	Taxus baccata (Yew)	EM	240	6	2	3	3	3	3	Fair	Fair	40+	B2	Growing on third-party land (dbh estimated). Tight forks noted. Sparse.	No works required at present
T10	Prunus cerasifera (Cherry Plum)	EM	250	6	2	5	2.5	0.5	2.5	Normal	Fair	40+	C2	Growing on third-party land (dbh estimated). Leaning (not significant).	No works required at present
T11	Picea abies (Norway Spruce)	EM	400	16	4	3	3	3	3	Normal	Normal	40+	A2	Growing on third-party land (dbh estimated).	No works required at present

Appendix 3 - Tree survey schedule explanatory notes

This section explains the terms used in the **Tree data schedule** (Appendix 2).

Ref: Each item of vegetation has its own unique number prefixed by a letter such that:

T1=Tree

S2=Shrub or stump

G3=Group

H4=Hedge

W5=Woodland

Species: Latin (and common names in brackets) are given.

Age:

- **Y - Young** - Usually less than 10 years' old
- **SM - Semi-mature** - Significant future growth to be expected, both in height and crown spread (typically below 30% of life expectancy)
- **EM - Early-mature** - Full height almost attained. Significant growth may be expected in terms of crown spread (typically 30-60% of life expectancy)
- **M - Mature** - Full height attained. Crown spread will increase but growth increments will be slight (typically 60% or more of life expectancy)
- **V - Veteran** - A level of maturity whereby significant management may be required to keep the tree in a safe condition
- **OM - Over-mature** - As for veteran except management is not considered worthwhile

DBH (mm): Stem diameter, measured in mm, taken at 1.5m above ground level where possible.

Hgt. (m): Height: Measured from ground level to the top of the crown in metres.

Can Hgt. (m): Crown height: Measured from ground level to the lowest tips of the main crown begins in metres. Where the crown is unbalanced it is measured on the side deemed to be most relevant. This is usually the side facing the area of anticipated development.

Can N, S, E, W: - Canopy extents

Approximate radial crown spread measured to the four cardinal points (for individual trees only)

Physio cond.: Indicates the physiological condition of the tree as one of the following categories:

- **Normal** - Healthy tree with no symptoms of significant disease
- **Fair** - Tree with early signs of disease, small defects, decreased life expectancy, or evidence of less-than-average vigour for the species
- **Poor** - Significant disease present, limited life expectancy, or with very low vigour for the species and evidence of physiological stress
- **Very poor** - Tree is in advanced stages of physiological failure and is dying
- **Dead** - No leaves or signs of life

Struct cond.: Indicates the structural condition of the tree as one of the following categories:

- **Normal** - No significant structural defects noted
- **Fair** - Some structural defects noted but remedial action not required at present
- **Poor** - Significant defects noted resulting in a tree that requires regular monitoring or remedial action
- **Very poor** - Major defects noted that compromise the safety of the tree. Remedial works or tree removal is likely to be required.
- **Dead** - No leaves or signs of life

Life Exp.: The estimated number of years before the tree may require removal (<10), (10 – 20), (20 – 40), or (40+).

Ret. Cat.: - Retention category: BS5837:2012 Category where:

- **U = Trees unsuitable for retention.** Trees in such a condition that cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. These trees are shown on the tree plans with red centres.
- **A = Trees of high quality.** Trees of high quality with an estimated remaining life expectancy of at least 40 years. These trees are shown on the tree plans with green centres.
- **B = Trees of moderate quality.** Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. These trees are shown on the tree plans with blue centres.
- **C = Trees of low quality.** Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm. These trees are shown on the tree plans with grey centres.

Trees of notable quality are graded as Cat A or Cat B. These trees are sometimes divided further into sub-categories:

- Sub-category 1 is allocated where it has been assessed that the tree has mainly arboricultural qualities.
- Sub-category 2 is allocated where it is assessed that the tree has mainly landscape qualities.
- Subcategory 3 is allocated where it is assessed that the tree has mainly cultural qualities, including conservation.

Trees may be allocated more than one sub-category. All sub-categories carry equal weight, with for example an A3 tree being of the same importance and priority as an A1 tree.

Comments: Tree form and pruning history are also recorded along with an account of any significant defects.

Rec's - Recommendations: Usually based on any defects observed and intended to ensure that the tree is in an acceptable condition.

Appendix 4: Tree Constraints Plan

