David Clarke Chartered Landscape Architect and Consultant Arboriculturist

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ARBORICULTUAL REPORT:

ARBORICULTURAL METHOD STATEMENT

In relation to the introduction of a lightwell

adjacent to a Horse Chestnut at:

39 Fitzjohn's Avenue, London, NW2 5JY

Compiled by:
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June 2020

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1.0 Instruction

1.1 I have been instructed by my client – 39 Fitzjohns Avenue LTD - to provide an appraisal of the likely impact to, and implications for, a Horse Chestnut (T6 within this report) in relation to the introduction of a lightwell within its potential Root Protection Area. This forms part of a new Planning Application which includes the conversion of the existing property into 35 smaller apartments in the original Victorian house. The tree is located within a raised landscaped area at 39 Fitzjohn's Avenue, London, NW2 5JY – see Photograph A.

Photograph A – Showing position of Horse Chestnut (T6) within raised landscaped area.

2.0 Introduction

2.1 Qualifications and Experience

2.1.1 I am David Clarke, I have a Bachelor of Science Honours Degree in Landscape Management from Reading University and I am a Chartered Landscape Architect and Chartered Member of the Chartered Landscape Institute (1998). I hold the Professional Diploma in Arboriculture (RFS) (2012) and I am a Professional Member of the Arboricultural Association. I have 29 year's experience of working in both the private and public sector in relation to arboricultural and landscape issues.

2.2 Scope of this Report

2.2.1 This Arboricultural Method Statement forms the Arboricultural Report for the Planning Application. It should be read in conjunction with Tree Plan (TP/39FAL/010 B), Tree Removal Plan and Demolition Phase (DPTPP/39FAL/010 A1) and Tree Protection Plan Construction Phase (CPTPP/39FAL/010 B2). The Arboricultural Report is aimed at identifying and addressing those matters concerning a Horse Chestnut (T6 within this report) in relation to the introduction of a lightwell within its potential Root Protection Area (RPA). It will clarify these issues:

- The impact of the proposed lightwell upon this tree (and vice versa).
- Any measures that are required to protect retained trees specifically in relation to the proposed works.

2.2.2 BS 5837: 2012 provides recommendations for the assessment of trees on development sites and suggests four categories into which trees should be placed for assessment purposes. These categories have been used as part of the assessment of trees within this report.

2.3 Relevant Background Information

2.31 A recent planning application (Plan Ref. 2018/2415/P) has been granted subject to a S106 agreement. This is to enlarge and extend the existing property and convert to 20 large apartments. This new application follows the principles of the approved design but includes the conversion of the property into 35 smaller apartments in the original Victorian house. The new scheme provides a more appropriate mix for the current demand for smaller units.

2.3.2 It is recommended that this information on protected trees be confirmed by anyone proposing to undertake any works to trees on the site. This information should include trees adjacent to the site which may potentially be protected. This should be undertaken in writing with the Local Authority before proceeding with any tree works.

2.4 Documents and Information Provided

2.4.1 All plans within this report are based upon drawings supplied by CHMRP Architects, London.

2.4.2 This document has been prepared in accordance with guidance set out in British Standard BS 5837: 2012 `Trees in relation to design, demolition and construction. Recommendations' (BS 5837:2012).

3.0 Report Limitations

3.1 The report is for the sole use of the client and its reproduction or use by anyone else is prohibited unless written consent is given by the author.

3.2 The report observations are to be considered as correct at the time of inspection only. Trees are a growing, living organism, and are readily affected by many environmental factors. As such their condition and circumstances can change in a very short period of time. Therefore this report should be construed as valid for an absolute maximum of 12 months from the date of survey provided all factors remain unchanged.

3.3 This is an arboricultural report and as such no reliance should be given to comments relating to buildings, engineering, soils or other unrelated matters. The inspection of trees was undertaken from ground level and they were not climbed. No samples of wood, roots, soils or fungus were taken for analysis. Observations of the trees were confined to what was visible from within the site and surrounding public places. A full hazard risk assessment of the trees was not undertaken.

3.4 The presence of TPOs, a Conservation Area, or other designations, may affect the use of the site and the management of trees on the site. These designations can be served on the application, or adjacent, sites at any time. The landowner, or his representatives, should therefore satisfy themselves as to the presence (or absence) of these designations prior to:

- Undertaking any works to trees on, or adjacent to, the site. Where necessary written permission from the Local Authority will be required prior to undertaking tree works.
- Undertaking any of the works specified in this Arboricultural Report before planning permission is granted.

4.0 General Principles for Protection of Trees during Development

4.1 It is equally important to ensure the protection of trees both above and below ground. Guidance is provided in BS 5837: 2012 as to the protection of trees, before, during and after development.

4.2 The Arboricultural Impact Assessment will set out the potential impact of the proposals on trees and vice-versa. There is a need to protect trees and provide an Arboricultural Method Statement where proposals will impinge, or impact on the Root Protection Areas (RPAs) of retained trees. Root Protection Areas (RPAs) are 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. These are set out as Construction Exclusion Zones and have been calculated as part of the Arboricultural Survey.

4.3 The RPA for each tree is initially 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 may be produced.

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6.0 Further Site Investigations

6.1 As stated above British Standard recommendations (BS5837: 2012 `Trees in relation to design, demolition and construction. Recommendations.') provides a formula for calculating the Root Protection Area (RPA) recommended to protect existing trees that are to be retained. The shape of the root protection area and its exact location will depend upon arboricultural considerations but the area will normally be represented on a plan as a circle. Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area may be produced. However in certain circumstances the exact rooting spread cannot be identified due to significant constraints in the area. In this instance RPAs are shown as circular and further site investigations may be undertaken to establish the rooting activity of trees. The purpose of the RPA is to prevent physical damage to tree roots and to prevent damage to the soil structure in which they live by soil compaction, changes in soil levels or prevention of gas exchange to living roots.

6.2 These RPAs are shown Tree Plan (TP/39FAL/010 B), Tree Removal Plan and Demolition Phase (DPTPP/39FAL/010 A1) and Tree Protection Plan Construction Phase (CPTPP/39FAL/010 B2). The proposal will have a potential impact on Horse Chestnut (T6) where the lightwell will be excavated within its potential RPA. This may necessitate incursions within the potential RPA of this trees. Therefore further investigations have been undertaken to confirm the rooting spread from T6. These were undertaken using the Air Spade Methodology (set out below) and a further assessment of the trenches by myself.

6.3 Air Spade Methodology

6.4 The area that will form the lightwell was previously partly covered by a building on the site and the capping of the soil profile and associated impact on gaseous exchange and water percolation will have prevented rooting activity here. Part of the building extends out to the road (Nutley Terrace). However the lightwell will occupy approximately 4.0 m^2 (2.0 x 2.0 m) outside the previous building footprint and within an area of hardstanding including a change of levels around some steps. It will be within the potential RPA of Horse Chestnut (T6). To confirm the root spread of T6 further site investigations were undertaken using an Air Spade.

6.5 Air Spading is used for excavations related to root investigations where conventional digging could sever roots or damage root bark. This can impact on the health and stability of trees. Air Spading can also confirm if roots are present within a specified area and can allow an

Arboriculturist to determine the significance of any roots uncovered. Air Spading uses a jet of air that flows past impervious items such as roots and large stones or rocks. The soil that is disturbed is collected and placed to one side leaving roots in situ.

6.6 These Air Spading works were undertaken in June 2020 – see Photographs B-C. The line of excavation followed the proposed line of the lightwell. Any existing hard standing materials such as paving slabs were carefully removed using hand held tools down to the sub-base level. Trial Trenches were then excavated to between 500-600 mm – or until impervious material was reached - which is a depth where most rooting activity will be expected to occur. Where roots were exposed (including the side wall of the trenches) these were protected with damp hessian. Backfilling of the trenches was undertaken using hand held tools at the earliest opportunity – see Photograph D.

6.7 <u>Findings from Trench Assessment</u>

6.8 Located beneath the area of existing paving slabs. The soil profile within the trench (below the surface/sub-base level) was composed of compacted soil and made up ground with occasional brick and building material remnants present. The profile was relatively dry. The air spading uncovered some fibrous roots adjacent to the building and 3 no. roots below 25 mm diameter at approximately 2.5-3.5 m to the west of the extended part of the building. It is assumed that these roots originate from Horse Chestnut (T6).

Photograph B – Showing the excavated trench.

Photograph C – Showing fibrous roots adjacent to the existing building and 3 no. roots below 25 mm diameter which are outside the area of the proposed lightwell.

Photograph D – Showing trial trench being backfilled at the end of the investigations.

6.9 Assessment of Proposed Lightwell on Horse Chestnut (T6)

6.10 The trial trenches were excavated along the line of the proposed lightwell. This is within an area of existing hardstanding (paving slabs).

6.11 The surfacing imposes some constraints on rooting activity through soil/substrate compaction and the physical presence of hard standing materials. The capping of these soils by the hard standing has reduced the availability of resources (such as water) to T6 and reduce gaseous exchange between the soils and the atmosphere. These factors have reduced rooting activity from this tree beneath the surface. Also the tree is situated to the top of a raised landscaped area approximately 600 mm above the level of the surface. This raised area is retained by paving slabs standing upright but leaning back to create the required wall. It is assumed that this landscape area will contain the majority of the rooting requirement of T6 as soil conditions for root growth will be more favourable here.

6.12 The trial trench contained some fibrous roots – less than 10 mm diameter and assumed to be from T6 – adjacent to the existing building. Three roots with a stem diameter less than 25 mm were located just outside the area of the proposed lightwell.

6.13 The excavation for the lightwell will require the removal of some fibrous roots beneath the surfaced area. These are roots of insignificant size. Their removal is considered to have a minor and insignificant impact on the long term viability of T6 as long as the works are:

- undertaken in a planned and controlled way (see methodology below) and
- improvements to the growing area of T6 are made – as set out in Section 9.0 below.

6.14 The methodology will include the use of Tree Protection Fencing and Ground Protection Measures and the use of retaining methods to prevent the collapse of the soil profile as the basement and lightwell are excavated. The impact on retained trees from this Planning Application will not be significant as long as the proposals set out in this report are followed.

6.15 Horse Chestnut (T6) is a mature specimen and the retention and protection of this tree is seen as a priority as part of the scheme. Overall it is therefore recommended that this (and other trees) are prioritized as part of the site layout and site management. These will include the use of specific items such as permeable surfacing together with cultural methods such as the de-compaction of soils and general improvements to the rooting environment.

7.0 General

7.1 This document sets out the methodology for proposed works that comprise the excavation and construction of the lightwell and proposals to improve the rooting environment of retained trees. Where relevant it should be read in conjunction with the arboricultural information which accompanied the current Planning Approval. Copies of this document will be available for inspection on site. The developer will inform the local planning authority if the arboricultural consultant is replaced. This method statement should be read in conjunction with Tree Plan (TP/39FAL/010 B) - which shows the position of further site investigations -, Tree Removal Plan and Demolition Phase – DPTPP/39FAL/010 A1 and Tree Protection Plan Construction Phase (CPTPP/39FAL/010 B2).

8.0 Construction of Lightwell

8.1 The following methodology has been proposed to prevent the excavation of the lightwell area having significant direct or indirect impacts on retained trees such as through the collapse of the soil profile which could affect the integrity of an RPA. This would be agreed as part of Planning Conditions for a Planning Approval.

8.2 A trench will be hand-dug along the line of the proposed lightwell to expose any roots. Alternatively compressed air soil displacement (air spading) may be used. This will be to a depth of 500-600 mm which is a reasonable depth to expect roots to be encountered – this will be 1.1-1.2 m below the level of the tree. Any roots that are encountered will be pruned back, preferably to a side branch, using a proprietary cutting tool such as bypass secateurs or handsaws. They will be pruned back to just beyond the line of excavation prior to the main excavation works commencing. Excavation of these areas can then be undertaken without damaging any roots to be retained and will limit any potential impact on roots.

8.3 Access to excavate the basement area and lightwell will take place from within the footprint of the existing building. The methodology used will be that set out under the current Planning Approval (Plan Ref. 2018/2415/P) and as shown on Tree Protection Plan Construction Phase (CPTPP/39FAL/010 B2). This will include the use of retaining structures to prevent the collapse of the soil profile.

9.0 Landscape Proposals - Improvements to Rooting Environment of Horse Chestnut (T6)

9.1 It is proposed to improve the rooting environment for T6 partly to mitigate for the removal of fibrous roots to construct the lightwell and to generally ensure the long term retention of this tree. All landscaping will avoid soil re-grading and unnecessary disturbance within the RPA of T6. Any ground works, such as spreading of top soil or mulch, within T6 will be undertaken using hand held tools.

9.2 The existing surfacing adjacent to the raised landscape area where T6 is located will be removed and incorporated into the landscaped area of the site or be laid as a permeable surface such as gravel.

9.3 The soil structure of the raised landscaped area will be improved through the use of the following measures:

- the use of air injection machines to fracture areas of compacted soil using a blast of high pressure air and/or to inject nutrients into the soil.

- Lay 80 mm depth of bark mulch over the entire landscaped area. This will help prevent water evaporation and retain moisture within the soil. As the mulch breaks down it will provide nutrients for the tree to utilise.

10.0 Conclusion

10.1 This report refers to the introduction of a lightwell within 4.0 m^2 of the RPA of a Horse Chestnut (T6) located within a raised landscaped area at 39 Fitzjohn's Avenue, London, NW2 5JY. This forms part of a new Planning Application which includes the conversion of the existing property into 35 smaller apartments in the original Victorian house. A recent planning application (Plan Ref. 2018/2415/P) has been granted subject to a S106 agreement. This is to enlarge and extend the existing property and convert to 20 large apartments. The construction of the lightewell will not require the removal of trees. However it will occur within the potential RPA of T6. Site investigations have been undertaken using an Air Spading Methodology to uncover the rooting spreads of this tree and therefore determine the impact of the lightwell on this tree. A trench was excavated along the line of the proposed lightwell.

10.2 These investigations have shown that rooting activity within the area of the proposed lightwell is fibrous – less than 10 mm diameter. These roots will need to be removed to enable the construction of the lightwell. These are roots of insignificant size. Their removal is considered to have a minor and insignificant impact on the long term viability of T6 as long as the works are:

- undertaken in a planned and controlled way and
- improvements to the growing area of T6 are made.

These measures are set out in the Arboricultural Method Statement. It is assumed that the raised landscape area will contain the majority of the rooting requirement of T6 as soil conditions for root growth will be more favourable here.

10.3 Horse Chestnut (T6) will be protected during the Construction Phase. This report sets out how this tree is an important part of the development of the site and how protection and retention of this tree will be achieved. The effect on T6 from the proposals will be minimal providing that the Arboricultural Method Statement is implemented.

10.4 The proposals are acceptable in arboricultural terms and should receive planning consent.