Arborweald Environmental Planning Consultancy

LANDSCAPE, ARBORICULTURE & ECOLOGY
SURVEYS* PLANS* ASSESSMENTS* MITIGATION* SOLUTIONS & METHODOLOGY*

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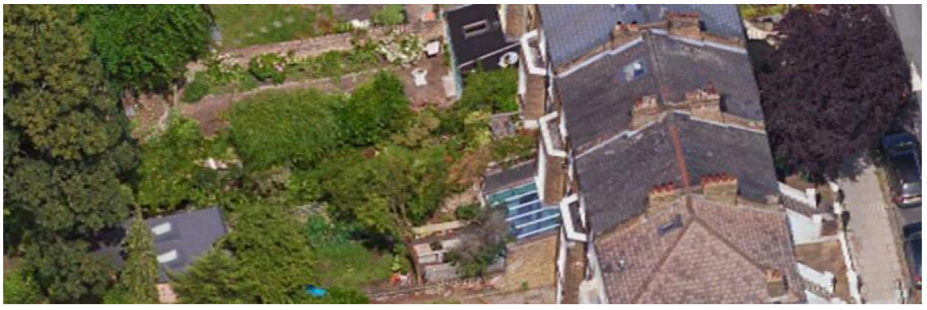

Tree and Shrub Survey @ 25 Marquis Road

Camden, London NW1 9UD

April 2018

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DKS/589

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1.0. Introduction

Arborweald Environmental Planning Consultancy (AEPC) has been commissioned by Mr D Godfrey to carry out a survey of vegetation which has the potential to impact on the property of 25 Marquis Road, Camden, NW1 9UD in particular, on the structural integrity of the dwelling. The survey consisted of visual assessments of plant condition and assessments of the relationship between the plants and the property. I recommend that this report is utilised to meet property insurance requirements and liability obligations required under the law. Names and dates provided in brackets are relevant to sourced information with full references provided at the end of this report.

The plants were assessed from ground level with the aid of binoculars, diameter tape, true metre wheel, drag tape, clinometer, probe, acoustic hammer and compass. No specialist high technology devices were utilised such as tomography decay mapping machines. Assessment is based upon professional qualifications and knowledge, and published professional guidance/recommendations and legislation. The survey was carried out on 27 March 2016; weather conditions were good and therefore did not impede the survey.

1.1. Legal Considerations/Risk Assessment

Although the potential risk to someone passing beneath a tree when the tree or part of it fails is relatively remote, the risk is present. This increases significantly in areas of consistent and regular usage on a year round basis, such as pedestrian and vehicular highways and amenity areas. Where static structures exist, the risks become constant and an assessment should be made as to whether complete or partial failure of a tree could cause damage to such structures. Buildings and drainage constructed without taking into account the location of nearby trees and other woody plants (and vice versa) may also be damaged through root pressure and ground movement. Newly constructed built form and drainage can also significantly damage plants, of particular concern where trees may become unstable. Within the scope of any tree survey it is a fact that not all risks of stem or crown failure can be covered, particularly in relation to freak occurrences of weather when even trees of a sound condition can be the subject of structural failure. Trees also have the rare propensity to drop limbs that appear to be in an acceptable condition. These rare occasions have been known to occur in spring and summer on calm days. Although rare, trees shedding limbs should be acknowledged as a risk that cannot be entirely mitigated. The law requires that properties are retained safely for residents, visitors and neighbours (Occupiers Liability Act, 1957/84, Defective Premises Act, 1972 and as Common Law Duty of Care) this includes the reasonable care of trees.

2.0. Survey Findings

Tree and shrub roots can influence soil conditions through moisture uptake, shrinking or with tree removal possibly swelling of soils. Should roots be located under building foundations particularly within high plasticity soils there is accordingly the potential for structural movement. Most woody roots are found in the top 600 millimetres (mm) of soil, it is not unusual however for roots to be found extending at greater than 1 metre's (m) depth. Woody plants therefore which are close to buildings can influence soil structure under relatively shallow foundations potentially causing structural movement. Root pressure can also impact on drainage and ingress of roots into damaged drains can occur.

From the mid to late 20th Century Building Regulations have sought to ensure that foundation depth and design have taken proper account of tree location, tree species and soil geology particularly through requiring compliance with the National House Building Confederation (NHBC) publication *Chapter 4.2. Building near trees*; first published in the late 1960's (current version 2010) and other various publications particularly from the Building Research Establishment (BRE). Construction requiring planning permission which has taken place post late 1960's therefore is more likely to have taken proper account of trees and soil type.

Trees also have the potential to cause harm due to their size and therefore management of trees is often necessary to ensure that they can be safely retained.

2.1. The Trees and Shrubs

Recent development has taken place at the rear of the dwelling which was subject to planning approval and up-to-date building regulations. Woody vegetation is present within the rear garden but nothing significant or that could contribute to built-form structural movement concern. With regard to the studio building at the end of the garden, an etiolated/poor taper (drawn up) Lawson cypress (possibly Nootka false cypress) is located adjacent to and in conflict with the rear of the studio, creating a notch stress point in the tree. This tree is an insignificant arboricultural specimen in a location that is not sustainable and accordingly should be removed to prevent further damage to the tree and the studio building. There is a good level of surrounding tree cover including mature specimens and the arboricultural impact of the tree's removal will be neutral. Given that the studio will have been subject to up-to-date building regulations and that there will remain other woody plant cover there is no concern regarding potential ground heave from the removal of the Lawson cypress. **There are no indicators of built-form structural movement at the rear of the building nor regarding the studio building, neither are there concerns of future plant related structural movement.**

Within the property's front amenity area is located a Buddleja shrub, a small amount of ivy (attached to front boundary wall) and a purple plum tree located close to the north east corner of the amenity area. All of these woody plants are established in a

purpose-built planting area on concrete foundation elevated above the rest of the levels in this area by at least 300mm, with planting area contained rooting medium (soil). Outside of the purpose-built planting area no appropriate rooting medium is present (all hardstanding). The front elevation of the dwelling shows no indicators of structural movement and none would be expected however, it would be prudent to regularly prune the Buddleja annually (late winter) to maintain it at a size which appropriately limits its impact to surrounding built structures; ***<3 metres (m) height and <2m radial spread.*** The impact of the ivy is de minimus and this will continue to be the case where it is retained in a self-contained rooting medium and managed prudently to ensure that it does not become over-dominant. The purple plum is in poor structural condition due to basal decay; fruiting bodies indicating, Willow Bracket (*Phellinus ignarius* [Fig 1]) resulting in an intensive white rot; *Phellinus* per se result in breaking down the structural elements of the wood (white rot; *Phillips, 2006; Lonsdale, 1999*). The tree was probed and acoustic hammer tested and was found to have incipient basal decay requiring removal of the tree (fell to ground level and stump grind). Given the tree's location (adjacent public byway/highway), size (Table 1) and poor response to *Phellinus* decay (personal experience) retaining it in any managed form is not a safe or sustainable option. I am given to understand that the tree is the subject of a Tree Preservation Order (TPO) and accordingly a tree work application should be made to the LPA for permission to remove the tree. An application can be made digitally through the Government's Planning Portal; this report should be attached to the application with this Section referred to in the application.

Table 1: Tree and Shrub Size Dimensions

T= Single trees; G= Tree/shrub groups; S= Woody shrub; mm= millimetres; & m= metres.

No.	Species	Age Class	Diameter @ Breast Height (mm)	Height (m)	Radial Crown Spread to Cardinal Points (m)
T1	Purple plum	Mature	360	11	4 North & 3 to all other points
T2	Lawson cypress	Early-mature	<150	10	<2 to all points

Fig 1: Fruiting bodies @ tree base on eastern side

Due to the purple plum being located in a self-contained planting area with poor rooting medium existing outside of the area it is highly unlikely that it would have had a deleterious impact on any surrounding built-form. Cracking and some movement is present in boundary walls and whilst the tree cannot be entirely discounted other causal factors are more likely including; seasonal movement on moderate – high plasticity soils and potential faulty drainage. It would be prudent to check drains to ensure that faulty drains are not resulting in poor soil structure and resulting ground movement causing cracking and movement in boundary walls. Nevertheless the removal of the purple plum tree and any replacement planting conducted as recommended (Section 2.1.) will help to prevent future plant related built-form structural movement. **There are no indicators of structural movement to the front of the property dwelling and neither are there concerns of future plant related movement.**

2.1. Replacement Tree Planting

The Local Planning Authority (LPA) may require replacement planting for the removal of the purple plum tree. It is recommended that new planting should be placed in an extended self-contained planting area; at a level 300 – 600mm higher than surrounding ground levels, lined with a root barrier and providing at least 12m² root medium area. The tree should be planted at least 1.75m distant from the boundary walls to prevent potential future structural root pressure. Recommended replacement species (Table 2).

Species	Attributes
Pillar apple (*Malus tschonoskii*)	Conic shape appropriate for confined spaces. Attractive silver bark, white flowers and, autumn gold and scarlet leaf colour.
Strawberry dogwood (*Cornus kousa* Chinensis)	Small tree appropriate for relatively small garden space. Attractive flaky, cream/orange/grey bark, large creamy-white bracts and brilliant bronze and crimson autumn leaf colours.
Variegated Chinese privet (*Ligustrum lucidum* Variegata)	Small tree appropriate for relatively small garden space. All year round attractive gold margined evergreen leaves, grey fluted bark and white autumn flowers.

3.0. Discussion

There are no indicators of plant caused structural movement in the property's dwelling and under normal environmental conditions there are no reasons why this situation should change. Drains and guttering in disrepair can be the cause of structural movement and it would be prudent to ensure all drainage and guttering is in good repair. With regard to plants and drainage it should be noted that; older drainage pipes up to ca. 1960s are likely to have had bell and spigot joints which were relatively easily broken; pipes may also have been rigid, made of vitrified clay or metal putting pressure on the bell and spigot joints if any ground movement occurred. Once these old drains are fractured or joints broken plant root ingress often results in drain blockage. Later designs were of a more flexible plastic with sealed joints therefore less vulnerable to root ingress.

With regard to any tree works, legislative status should be checked with the LPA. Trees can be the subject of Conservation Area status (6 week notification of works required to be submitted to the LPA) or Tree Preservation Order (permission required from the LPA).

4.0. Recommendations

Remove the Lawson cypress adjacent to the rear garden studio building and, remove the purple plum with replacement planting in extended self-contained planting area as recommended (Section 2).

5.0. Conclusion

There are no indicators of plant related dwelling structural movement. Continued good vegetation management will help to ensure vegetation has a sustainable relationship with the dwelling and the built form that surrounds it.

Appendix 1

Title Tree & Shrub Survey **Project & Client** Plant & Property Sustainable Relationship & Management. Mr D Godfrey **Drawn by:** D K-Spall (*Not to scale)* **Date:** 16/04/2018 **Ref:** DKS/589/P01	Arborweald Environmental Planning Consultancy [redacted]

References

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Phillips R. (2006). Mushrooms, Macmillan