

# **Simon Pryce Arboriculture**

## **Report**

**Client:** Ms Afsaneh Knight

**Site:** 40A Primrose Gardens, London, NW3 4TP

**Subject:** Tree and proposed building work

**Inspection date:** 3 December 2019

**Report date:** 21 December 2019

**Reference:** 19/092

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## **I Introduction**

- 1.1 This report has been prepared for Ms A Knight in connection with building work at 40A Primrose Gardens, London, NW3 4TP.
- 1.2 I have been asked to inspect a tree in the rear garden and to prepare a report assessing its condition and the impact of the proposal on it, with a tree protection plan, as set out in British Standard 5837: 2012, Trees in relation to design, demolition and construction.

## **Survey method**

- 1.3 This report is based on a site visit and inspection of the tree on 3 December 2019. The inspection was visual and made from ground level. A yew tree in the adjacent garden was noted and the trunk is shown on the plan, but is well away from the area concerned, so was not assessed in detail
- 1.4 Their maturity, health and structural condition assessed and each was assigned to one of the four retention categories [A,B,C,U] specified by BS5837. The individual descriptions and other relevant information are contained in the attached schedule and they are shown on the attached plans, based on originals supplied by the architect, Kris Bela.
- 1.5 The first attached plan shows the site and tree as existing. The other two show the proposed layout with different options for tree protection measures and are the tree protection plans (TPPs) specified by BS5837.

## **2 Background**

### **The site**

- 2.1 The site is the rear garden of no.40 and is about 13m long by 6m wide and more or less level. It has low brick walls on each side separating it from similar sized rear gardens in Primrose Gardens and a higher wall at the rear, separating it from the communal garden to the rear of Antrim Gardens. The walls appear to be in good condition, although they are similar in age to the houses and the foundations are unlikely to be very deep.

### **Proposal**

- 2.2 This is shown on the drawings produced by Kris Bela and involves various internal works in the house and the construction of a rear extension, projecting 3m into the back garden, with about 4m of paving beyond that. A similar extension is currently being built onto the back of no.42, to the left.

### **The tree**

- 2.3 The only tree in the garden is a Leyland cypress growing close to the left hand side boundary wall well back from the house. It leans and has a one sided crown due to the proximity of a mature yew tree in the rear garden of no.42, which is smaller but much older. It has slightly sparse foliage and some branch ends are dying indicating possible early *Coryneum* canker, a disease that can affect whole trees, although it is slow acting. It is close to the side boundary wall, which looks sound at present, but the trunk and main roots will start to damage it as the tree grows.
- 2.4 Camden Council's website shows that the site is in Belsize Park Conservation area. The website has no site specific information about tree preservation orders (TPOs), so an enquiry would need to be made. It appears unlikely that the tree is protected by a TPO but that is not critical for the purposes of this report.

- 2.5 The tree is completely surrounded by high buildings, so is not visible from any public areas and is growing among other trees, some of them much larger, so it will not be prominent from most of the surrounding viewpoints. Its contribution to the character and amenity of the Conservation Area is therefore slight and localised.

### **3 Tree protection**

- 3.1 The two main functions of tree roots are 1) physical support and 2) the supply of water and nutrients from the soil. Roots will grow wherever conditions are favourable i.e. there is a suitable supply of air and water, so most tend to be in about the upper 600mm of the soil and even shallow excavation or minor level changes can be harmful. Construction near trees can also be harmful in less direct ways, such as soil compaction caused by heavy machinery and spillage of toxic materials such as diesel oil and cement.

#### **Root protection areas**

- 3.2 British Standard 5837: 2012, Tree in relation to design, demolition and construction – Recommendations, specifies measures to avoid or minimise construction damage to trees. One of these is that root protection areas (RPAs) are established round retained trees and fenced to exclude construction access. No ground work should take place within RPAs without suitable safeguards, such as protecting soft ground against compaction or contamination. This can be done with heavy duty plywood laid over a layer of compressible material, such as woodchips, spread over a geotextile membrane laid on the ground, or there are proprietary systems.
- 3.3 The starting point is that a single trunked tree's RPA has an area equivalent to a circle with a radius 12 times the trunk diameter measured at 1.5m above ground. The 12x figure is not based on any research, but is intended to safeguard enough rooting space for the tree's current and future needs, in fact most root systems spread much farther, so the RPA is smaller than the root system as a whole. Where existing site conditions or other factors indicate that root spread is asymmetrical the RPA shape can be adjusted to a polygon of the same area, provided this reflects a sound assessment of likely root distribution. RPA shapes can be adjusted, provided incursion into the original circles is not excessive and the equivalent undisturbed rooting space can be allowed in other directions.

### **4 Discussion**

#### **Implications of the proposal**

- 4.1 The RPA has been shown as a circle in order to illustrate the area concerned. The left hand side and rear boundary walls run through it and might affect root spread to some degree, but their foundations are unlikely to be deep enough to be a complete barrier, so the circle shown on the plans will be a suitably accurate reflection of actual root spread.
- 4.2 The existing house is well clear of the RPA, so are the new extension and paving across the back, the far edge of which is about 0.7m from the RPA, which allows some working space. This is a small scale project, the only access route is though the building on the far side from the tree and it is not possible to use heavy plant or machinery, so the tree is not vulnerable to direct or indirect harm from the proposed work.

## Protection measures

- 4.3 The tree can be retained and protected during the work with a simple fence, as shown on the first tree protection plan, TPP1. TPP2 shows a second option, which allows more space in the rear garden if that is required. This involves running part of the fence through the RPA back to the rear boundary, creating an open area next to the right hand boundary. That leaves part of the RPA outside the fence, although the area concerned is about 4.25m<sup>2</sup> or 4.7% of the circle, which is barely significant, given that the tree has little restriction on root spread in other directions. TPP2 shows ground protection between the fence and the boundary, not all of which is within the RPA, but it will be more practical to protect a rectangular area. If the work is done during the winter protecting all the soft ground would make the building work safer and easier.
- 4.4 The two attached plans of the proposed layout illustrate the measures discussed above and serves as the tree protection plans (TPPs) recommended by BS5837:2012. As this is a small scale project the welded mesh panels illustrated in the standard as example would be excessive as well as being very difficult to get through the building. A more practical option would be pedestrian control fencing or a scaffolding post and rail fence. Once the layout is finalised, these measures could be specified in more detail in an arboricultural method statement if required.

## 5 Summary and conclusions

- 5.1 The Leyland cypress is in reasonable condition at present, but has early signs of foliage disease and will start to damage the boundary wall if left to grow on for much longer, so is not suited for long term retention.
- 5.2 The site is in Belsize Park Conservation Area, but the tree's contribution to it is minor.
- 5.3 The wall foundations will not be major obstructions to root growth, so the circular RPA will be a suitably accurate reflection of actual root spread.
- 5.4 The new extension and paving to the rear are all clear of the RPA and this is a small scale project with the only access through the building and no scope for using heavy machinery. As a result the tree is not vulnerable to direct or indirect damage.
- 5.5 The tree can be retained and safeguarded during the works with some basic protective measures. Two options have been shown, one fences the tree off completely, while the other provides more space by fencing through part of the RPA and protecting the exposed soft ground.
- 5.6 If required these measures can be specified in more detail in an arboricultural method statement.

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Tree no.	Species	Age / vigour	Ht. m	Spread				Dia. mm	RPA rad m	RPA area m <sup>2</sup>	Crwn ht. m	Comments and recommendations	Cat
				N	S	E	W						
1	Leyland cypress	MA/N	16	4	6	6	6	450	5.4	90	4	Trunk leans to the south and the crown is one sided due to the proximity of the yew in the garden of no.42 to the left. Lower branches have been removed in the past, but there are no signs of any other pruning. Inner foliage is slightly sparse, and there are a few dead branch ends, which look like early signs of Coryneum canker, a foliage disease, which can affect entire trees, although it is slow acting. Close to the boundary wall and will start to damage it if left to continue growing, so is not suited for long term retention.	C

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### Notes

Observations are made from ground level unless stated otherwise.

Trunk diameters are measured in millimetres at 1.5m above ground or at the narrowest point between the root buttresses and branch flare in multiple trunked trees; in such cases this is indicated by [c].

Crown spreads are taken from the trunk centre to the end of the longest live branches in the directions indicated [usually the four cardinal compass points]

Crown height is the clearance under the lowest significant branches.

Tree ages are estimated as below, based on the normal life expectancy of a tree of the species concerned on the site:

Immature.	[IM]	Newly planted or self-set tree.
Young	[Y]	Young tree that is established but has not yet attained the size or form of a fully developed example of its type.
Middle aged	[MA]	Between one third and two thirds of its estimated lifespan.
Mature	[M]	Over two thirds of its estimated life span.
Veteran	[V]	Old tree with characteristic features including hollow trunk, old wounds etc. that give high landscape, ecological and cultural value.
Dying/Dead	[D]	Dead/dying or so badly decayed that it should be removed without delay if a potential threat.

Vigour is assessed on the basis of what is normal for that the species concerned as:

High	[H]
Normal	[N]
Low	[L]
Dead / dying	[D]

### Root protection areas [RPAs] - BS5837:2012

For single trunked trees these are calculated as an area equivalent to a circle with a radius 12 times the trunk diameter at 1.5m. For multiple trunked trees it is based on the diameter of a single trunk that would have the same cross sectional area at 1.5m.

Any deviation from a circular plot should take into account the following factors whilst still providing adequate protection for the roots.

- The shape and disposition of the root system when known to be influenced by past or existing site conditions, such as the presence of roads, structures and underground services.
- Topography and drainage.
- The soil type and structure.
- The likely tolerance of the tree to root disturbance based on factors such as species, age and past management.

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**Tree categories – based on BS5837: 2012, Trees in relation to design, demolition and construction - Recommendations**

<b>Trees for removal</b>				
<b>Category and definition</b>				<b>Colour code</b>
<b>Category U</b>				<b>Red</b>
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	<ul style="list-style-type: none"> <li>Trees that have a serious, irremediable structural defect, such that their early loss is expected due to collapse in the foreseeable future, including any that will become unviable after the removal of other U category trees. (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning.)</li> <li>Trees that are dead or showing signs of significant immediate and irreversible decline.</li> <li>Trees infected with pathogens significant to the health and/or safety of other trees nearby, or very low quality trees suppressing better ones nearby.</li> </ul> <p><i>NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve.</i></p>			
<b>Trees for retention</b>				
<b>Category and definition</b>	<b>Criteria – sub categories</b>			<b>Colour code</b>
	<b>1 – mainly arboricultural values</b>	<b>2 – mainly landscape values</b>	<b>3 – mainly cultural / conservation values</b>	
<b>Category A</b>				
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 historical, commemorative or conservation value. (e.g. veteran trees or wood -pasture)	<b>Green</b>
<b>Category B</b>				
Trees of moderate quality with an estimated remaining life expectancy 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 benefits.	<b>Blue</b>
<b>Category C</b>				
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 benefit.	<b>Grey</b>