



Arboricultural Report

Tree at 47 Belsize Square

London

NW3 4HN

Client: Ms S. Tappis-Offer

Date: May 2021

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1. Introduction

1.1 Scope of report

- 1.1.1 David Archer Associates are instructed by Ms Stacey Tappis-Offer of 48 Belsize Square, London NW3 to undertake an arboricultural inspection of a tree situated within the neighbouring rear garden of 47 Belsize Square. The date of our instruction was the 19th April 2021.
- 1.1.2 This report considers the tree's structural and physiological condition, likely age and potential future growth; and if appropriate, makes recommendations for tree work or other actions arising from our findings, in accordance with industry guidelines, in respect of any safety risk it may pose to persons or property.
- 1.1.3 The report also comments on our client's proposal to construct a garden building towards the north-west corner of the garden of 48 Belsize Square, in terms of any protective measures necessary to prevent damage being caused to the tree as a result of this proposal.

1.2 Report author

- 1.2.1 I am Mark Mackworth-Praed, a Senior Arboricultural Consultant of David Archer Associates. I am a Chartered Arboriculturist, a Fellow and Registered Consultant of the Arboricultural Association, and a Member of the Expert Witness Institute. I hold the LANTRA Professional Tree Inspection Certificate, and have 40 years' experience in the inspection, assessment and management of trees.

1.3 Tree inspection

- 1.3.1 I inspected the tree on the morning of Friday the 7th May 2021. Weather conditions were fine and dry. The tree was not in leaf at the time, but leaf buds were about to flush out.
- 1.3.2 The inspection was an external visual inspection from the ground, assisted as necessary with binoculars, a 500mm steel probe to investigate cavities, clefts between root buttresses, or other areas of potential or suspected decay; and a nylon-headed mallet to test for areas of dead or delaminating bark, and to detect internal decay by comparative acoustic resonance.
- 1.3.3 Whilst I have taken care in my observations and the conclusions I have drawn from them, the nature of a visual inspection is such that no guarantee can be given as to the structural integrity or safety of a tree, or of its internal condition. Also, trees are dynamic organisms subject to growth and change, and are susceptible to environmental changes or extreme weather events, the effects of which, by their nature, cannot be predicted. Inspection findings as to the structural integrity or safety of any tree should therefore not be relied upon for more than 24 months from the date of inspection.

1.4 Site description

- 1.4.1 47 and 48 Belsize Square are a pair of semi-detached substantial four-storey town houses situated on the north side of Belsize Square, and are both split into a number of apartments. Their rear gardens are at lower ground floor level, and are each divided widthways across approximately half their length to provide separate garden areas for the lower ground floor apartments and those above. The boundary between the gardens of 47 and 48 is defined by a timber close-board fence. The gardens are level over most of their length, but rise in level by around 1m towards their rear boundaries.

2. Results of inspection

2.1 Tree inspected

- 2.1.1 The tree inspected is a mature Hybrid Black Poplar (*Populus X canadensis 'Serotina'*), also known as Black Italian Poplar. It stands very close to the north-west corner of the rear garden of No. 47 Belsize Square, on the raised bank or mound at the rear end of the garden, which extends around 3m from the tree's base down to the level area. It is approximately 22m from the main rear elevations of the houses, measured to the nearest point, and about 2m from the rear garden boundary. The western face of its trunk is very close (c.300mm) to the close-board fence dividing the properties.
- 2.1.2 Nos. 47 and 48 Belsize Square are located within the Belsize Park Conservation Area, and as such, the tree enjoys a degree of statutory protection. The interactive mapping system on Camden Council's website does not show the locations of trees protected by Tree Preservation Orders (TPOs), and the website has no list or register of addresses where trees are protected by TPOs. However, the register of past planning applications shows that previous works to the tree have been determined as notifications of intended work under the Conservation Area regulations, not as applications for consent under TPO. It is therefore reasonable to conclude that the tree is not the subject of a TPO, but is protected only by virtue of it being within a Conservation Area.

2.2 The Poplar tree

- 2.2.1 *Dimensions.* The Poplar tree stands an estimated 23m in overall height. It is single-trunked, with a trunk diameter of 1430mm, measured at the conventional height of 1.5m above ground level.
- 2.2.2 The tree's radial crown spread ranges between 9.0m and 10m to the south and south-west, and approximately 5.0m to the north and east, such that it predominantly overhangs the rear garden of No. 48.
- 2.2.3 *Structural form and condition.* Inspection of the tree's base reveals no signs of instability, root-plate lifting, or evidence of fungal infection or basal decay. The lower trunk has pronounced root buttresses, particularly on the south side, with a deep (500mm) cleft between the two

main buttresses on this side, which extends to around 300mm below the surrounding ground level. Inspection and probing of this cleft, however, indicate no evidence of internal basal decay. Acoustic resonance testing of the lower trunk also yields no evidence of internal hollowing, or decay on the undersides of major buttress roots.

- 2.2.4 The trunk leans to the south-west at an angle of about 5°, bearing two short previously lopped lateral branch stubs on its north side at between 5m-6m, and a larger lopped branch stub of c.400mm diameter, with a further short stub on the south side about 1m above these. All of these stubs bear dense clusters of vigorous shoots which have regrown since the last occasion on which they were pruned, and their cut ends shown varying degrees of incipient decay of internal wood. Some minor stress cracking was noted across bark plates on the north-east face of the trunk at around 2m, but not of an extent indicative of likely failure.
- 2.2.5 The main trunk divides into three main ascending stems at 8m, the two on the eastern side exhibiting a tight V-shaped fork formation between them, while the union between the western and central stems appears more U-shaped and thus structurally more optimised. Inspection of the fork unions was slightly impeded by the presence of dead and partially surviving severed ivy stems around the trunk and main crown fork.
- 2.2.6 The ascending stems bear some epicormic (sucker) growth, below high crowns comprised of previously high-pollarded stout radial branches, which have all been cut back to lengths of between 3m and 5m from their points of origin. Inspection through binoculars suggests all branch unions with the main stems to be sound, with no obvious splitting, cracks, or evidence of incipient failure.
- 2.2.7 As with the branch stubs lower on the main trunk, all the cut ends of the upper lateral branches exhibit dense clusters of regrown shoots, which from their lengths, diameters and overall appearance, I estimate to represent around three years' growth since the last occasion when the tree was re-pollarded. It is evident, from the development of swollen 'knuckle' formations at the main branch ends, that the tree has been re-pollarded back to the same pruning points on several successive occasions, and has been managed in this way for some considerable time.
- 2.2.8 In structural terms, therefore, the tree appears sound, exhibiting no features giving rise to concern as to any major foreseeable structural failure either of the whole tree, nor of its major stems or branches.
- 2.2.9 *Physiological health.* The tree bears vigorous clusters of regrown shoots on all main branches and branch stubs, all of which show normal bud formation and density, and shoot extension lengths normal for a tree of this species and subject to this management regime. There are no signs of dieback of branch tips, nor presence of significant dead wood. The tree therefore appears to be in good physiological health, with no indications of disease or decline. Although it had not flushed out into leaf at the date of inspection, this is not unusual for the species, which is typically very late to come into leaf in the spring.

- 2.2.10 *Age, life expectancy and future growth.* The tree is a very large, mature specimen, which dominates the rear garden spaces of both 47 and 48 Belsize Square. An approximate calculation, based on its measured trunk diameter and allowing for the rapid girth growth rate of the species, suggests it to be around 90 years old. As a species, Hybrid Black Poplar is considered to have a normal potential effective life expectancy of 60-100 years under typical conditions in parks and gardens in lowland Britain¹, but regular pollarding management, as has been applied in this case, can result in a tree being capable of being safely retained beyond the normal expected range.
- 2.2.11 Hybrid Black Poplar is capable of growing to a significant height and size (35m), but this is typically only achieved in open parkland situations where sufficient growing space is available. In urban or suburban situations, ultimate heights of around 28m are more usual².
- 2.2.12 In this case, the tree's growth to its potential maximum size has been restricted or prevented by repeated instances of pruning and re-pollarding, which an examination of past applications on the London Borough of Camden Council's website³ indicates have occurred at varying intervals in the past, ranging from around two up to nine years.
- 2.2.13 However, it can be argued that the need for, and implementation of, these repeated re-pollarding operations (which the Council has consented to on all past occasions) clearly demonstrate that the tree is inherently unsuited to its situation within the context of the relatively restricted rear gardens in which it stands.
- 2.2.14 Continuation of this management, preferably at more regular intervals of 3-4 years, will be necessary in order to continue to restrict the tree's growth, thereby preventing it from growing to an even more excessively dominant size for its location, and also to prevent regrown branches from achieving a size, length and weight which could render them susceptible to breakage or failure at the pollarding points, to which they are only weakly attached in structural terms. Ultimately, this potential issue will become exacerbated by the eventual (and probable) progression of internal decay within the pollarded ends of the main lateral branches, which will increase such future failure risks.

3. Relationship of tree to proposed garden building

- 3.1.1 Our client proposes to construct a garden building towards the north-west corner of the garden of 48 Belsize Square, and we are asked to comment on this in relation to the mature Poplar in the garden of No. 47.
- 3.1.2 Under the provisions of British Standard BS 5837: 2012, *Trees in relation to design, demolition and construction – Recommendations*, the Poplar tree in this case would be assigned a root

¹ HELLIWELL, D. R., (2008), *Visual amenity valuation of trees and woodlands*, Arboricultural Association Guidance Note 4.

² CUTLER, D.F. & RICHARDSON, I.B.K., (1989), *Tree Roots and Buildings*, Longman Scientific & Technical.

³ Accessed 19th May 2021. Applications and decisions relating to the tree (most of which relate to its re-pollarding) are recorded in 1985, 1986, 1988, 1995, 2002, 2004, 2006, and most recently 2016.

protection area ('RPA') of 707m², which equates to a circular area of 15m radius centred on the tree's trunk, based on its trunk diameter of 1430mm. Given the tree's location close to the garden boundary between the two properties, it is apparent that the RPA would extend over and encompass almost the whole area of the rear garden of 48.

- 3.1.3 The RPA is defined in BS 5837: 2012 as a *"layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain a tree's viability, and where the protection of the roots and soil structure is treated as a priority."* Within the RPA, therefore, construction operations involving excavations, trenches, or reductions of soil level likely to sever or damage tree roots should be avoided.
- 3.1.4 I am advised that the proposed garden building in this case is to measure 5m by 3m, to be used as a garden office or studio. It is to be constructed on a timber base or raft formed on the existing soil level, towards the north-western corner of the garden (i.e. the further side of the garden from where the tree stands). As this form of construction will not involve the need for any trenching or excavation, in my view there is little or no possibility of any direct damage being caused to the root system of the Poplar.
- 3.1.5 Moreover, as the proposed garden building is, as I am advised, to be of a lightweight or modular form of construction, and in view of its modest size, I do not consider that it is likely to result in significant compaction of the soil underlying its position to any extent which would be likely to have adverse consequences for the health of roots beneath it.
- 3.1.6 The selection of a location on the further side of the garden from the tree will avoid the proposed building being directly overhung by the Poplar tree's crown. As such, and in view of this report's findings as to the tree's current general condition and safety, the tree is unlikely to pose an unacceptable risk to the safety of the users of the proposed garden building, or to be a source of apprehension to the extent of creating further pressure for its removal. This consideration assumes, as seems reasonable, that the tree's current management of regular re-pollarding will be continued on an ongoing basis.
- 3.1.7 For these reasons, I consider that the proposed siting of a garden studio/office within the garden of 48 Belsize Square will not pose any risk of damage to the Poplar tree, subject to its construction methodology being as described and envisaged.

4. Conclusions

4.1 Assessment

- 4.1.1 In structural terms, the Poplar tree appears to be generally sound, with currently no indications of any major foreseeable structural failure either of the whole tree, nor of its major stems or branches which could impact upon the properties, or cause damage or injury to their occupants. The tree appears to currently be in good health and of normal physiological vigour, with no signs of incipient or progressive decline or dieback.

- 4.1.2 The tree has achieved a height and size where it is the dominant feature of the two gardens, and it has been necessary for its size and growth to have been repeatedly controlled and restricted by successive episodes of heavy pruning or re-pollarding over many years. It will be necessary for this management to be continued on an ongoing basis in the future, preferably at shorter and more regular intervals than it appears may have been the case in the past.
- 4.1.3 The proposed siting of a garden building towards the north-west corner of the garden of 48 Belsize Square can be satisfactorily achieved, subject to this being built on a timber base or raft as proposed, on existing soil levels, without requiring excavation for its foundations.

4.2 Recommendations

- 4.2.1 On the basis of this inspection, no immediate remedial or preventative works to the tree are considered to be necessary, but further re-pollarding, removing all regrown shoots back to the former pollarding points, should be undertaken within the next one to two years, and repeated at three- to four-yearly intervals thereafter.
- 4.2.2 The tree should continue to be inspected at regular intervals of not more than 18 months to two years, by a suitably qualified arboriculturist. Informal inspections should also be undertaken immediately following extreme weather events (storms, gales, heavy snowfalls), and qualified assistance sought in the event of any significant changes being noted.

4.3 Conclusion

- 4.3.1 This report has been prepared on the basis of the inspection undertaken, and the information provided to or obtained by me at the date of its preparation. Should any information provided be found to be incorrect or incomplete, or should further information become available as a result of further investigations (whether recommended in this report or not), the corrected or further information should be referred to me, in order to determine whether any of the findings or conclusions of this report require revision in the light of it.

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