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Arboricultural survey, constraints and impact assessment

22b Harley Road London NW3 3BN

Client and Address:	Sei Howe, 22b Harley Road, London NW3 3BN		
Inspector:	B.Larkham, Dip.Arb.(RFS),		
	Tech.Cert.(Arbor.A), F.Arbor.A.		
Date of Inspection:	1 st August 2022 and 27 th October 2024		
Date of Report:	31 st October 2024		
Reference no.:	tr-1823-24		

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Introductions

Instructions

I was instructed by Sei Howe of 22b Harley Road, London to provide arboricultural survey and constraints planning of trees within the subject property and adjoining gardens. To further provide arboricultural impact assessment in respect of the proposed remodelling and extension of the existing property.

Purpose of report

To identify and survey those trees within and immediately adjacent to the subject site. The survey will assess current condition, grade the trees according to their size and vigour, and make recommendations for any pruning or remedial action that may be necessary. The report will provide comment on the implications to trees from the proposed works within current planning application 2024/3830/P – 'Alterations and additions to existing house including part one part two storey extension, raising roof level and recladding.

Documents Supplied

The constraints plan uses as its base the topographic survey provided by MSA survey, Unit 15c, Oakcroft Road, Chessington, Surrey KT9 1RH

Drawing suite reference P-24.030 numbers A-01 through 08 Revisions E prepared by Projection Architects, 122 Carr Road, Northolt, Greater London UB5 4RF.

1.0 Scope of survey

- 1.1 The survey is concerned with the arboricultural aspects of the site identifying those existing trees, assessing their current condition and their relationship to the redevelopment of this site, as detailed above.
- 1.2 The survey was conducted in accordance with the guidance contained within British Standard 5837: 2012 'Trees in relation to design, demolition and construction recommendations' [BS5837]. It should be understood that the standard provides recommendations and that there remains opportunity for discussion and negotiation between the professions involved to find the most appropriate balance between the existing trees, proposed development and new tree and landscape planting.
- 1.3 The survey has included in detail those trees within, or just beyond the boundary, of the subject site. A total of six trees, or groups of trees, have been recorded in respect of this application.
- 1.4 Recommended pruning works will need to undertaken in accordance with British Standard 3998:2010 Tree Work and current best practice.
- 1.5 Detailed considerations relating to existing and proposed underground and over ground services do not form part of this report. Also see paragraph 7.21.

2.0 Survey method

- 2.1 The survey was conducted from ground level with the aid of binoculars.
- 2.2 Normal arboricultural measurement practices were followed.
- 2.3 No soil samples were taken from site.
- 2.4 The positions of the subject trees can be found at Appendix B. This plan utilises the topographic drawing as its base. Tree positions have not been verified. Tree numbers corresponding with the schedule of trees at Appendix A have been added and colour coded. Trees not identified on the topographic survey have been added in cyan colour. Their position is indicative and should not be scaled. All tree dimensions should be taken from the schedule at Appendix A.
- 2.5 Tree height has been estimated with the aid of a digital clinometer.

3.0 The Site

- 3.1 The subject site comprises the property and garden of 22b Harley Road, London. Number 22b is small detached residential property set back behind the gardens of larger properties along Harley Road and it backs onto the Swiss Cottage School, Development and Research Centre. The property is served by a pedestrian access only. There is no vehicular access. The property and garden principally sits on level ground although there is a small reduction in levels between the southeast and northwest halves of the plot.
- 3.2 Pedestrian access is gained via a path to the side of 22 Harley Road with a stepped access from Harley Road down to the side path.
- 3.3 The application proposes the partial demolition of the existing property and 'Alterations and additions to existing house including part one part two storey extension, raising roof level and recladding'.
- 3.4 It is understood that the property is situated over a rail line tunnel, approximately 4.0 metres below existing ground levels.

4.0 Subject trees

- 4.1 A schedule of the six individual and groups of trees is included at Appendix A.
- 4.2 The London Borough of Camden online resource identifying Conservation Areas indicates the site falling entirely within the Elsworthy Conservation Area. It has not been established from the online resource whether any Preservation Orders are applicable to the trees on site or to the adjacent property although current planning applications 2024/3599/T and 2024/3622/T submitted on behalf of 22 Harley Road in respect of a building movement case relate to a False Acacia and Tree of Heaven respectively, of which both are identified as protected trees.
- 4.3 The written consent of the Local Authority will therefore be required prior to undertaking any works to the surveyed trees, regardless of the outcome of the above applications. The consent of the respective owner would also be required in respect of any works to offsite trees.

- 4.4 The trees have not been tagged as their respective positions are readily distinguished on site and from the plan at Appendix B.
- 4.5 Each of the trees surveyed has been given a lettered category in accordance with the recommendations of table 1: BS5837. These letters are also colour coded for plan purposes.
- 4.6 In brief the four categories are described within the standard as:
 - A High quality and value: trees whose retention is most desirable (green), a remaining contribution of more than 40 years is suggested.
 - B Moderate quality and value: trees where retention is desirable (blue) a remaining contribution of a minimum of 20 years is suggested.
 - C Low quality and value: trees of adequate condition which could be retained (grey)

 Adequate condition to remain until new planting is established. A remaining contribution of a minimum of 10 years is suggested, or trees with a stem Ø below 150mm.
 - U Fell category: trees for removal (dead, dying or dangerous) (red)

Further subcategories to grade A, B and C trees are provided as suffix 1, 2 or 3. The definitions of each are simply described as –

- 1 Mainly arboricultural values
- 2 Mainly landscape value
- 3 Mainly cultural values including conservation
- 4.7 Of the six schedule entries I have categorised one tree as A grade, three trees as B grade, two trees as C grade and no trees as U grade.
- 4.8 The grading of trees in this manner can be subjective and there will often be a degree of variance between an individuals allocation of category. The large offsite Oak (T4) within the garden to the north of the application site is the most dominant local tree and which provides the highest amenity contribution. The Tree of heaven (T1) and False Acacia (T2) are both asymmetric and have outgrown their position in relation to the adjacent properties. A decision on the applications to remove both trees is currently being awaited. Birch tree (T6) to the southeastern part of the site is a good developing tree.

5.0 Potential impact from development – general considerations

- 5.1 Aside from direct removal the process of development can place a number of pressures on existing trees and these are recognised within BS5837. These can include damage from demolition, excavation, movement of site plant, construction methods, site storage and general operations.
- 5.2 The above problems can be overcome through the adequate protection of the canopies, stems and root zones of the subject trees. This protection can be achieved through the provision of a root protection area enclosed by appropriate protective fencing. The quality and construction of the protective fencing will depend upon site-specific characteristics. The details of the protective fencing recommended for this site are detailed at section 6.0 below.

- 5.3 The distance that the protective fencing, as given at table 2 of BS5837, should be erected from the subject trees is detailed as the Root Protection Area or RPA. This distance is converted to a radial measurement to be taken from the stem centre of each tree. This radial dimension is provided in the schedule at Appendix A. This gives a benchmark distance within which no construction should ideally occur, as well as other specified operations. Should construction be necessary within the protection area then further discussion would be required to establish acceptable points of compromise, including possible revision of constructional methods to minimise damage to the retained trees with consideration to temporary working access as defined within paragraph 6.2.3.3 of the standard.
- 5.4 Trees are living organisms and whilst often of significant longevity, they do have a finite lifespan. Tree loss can be mitigated by suitable new planting often providing greater opportunities to soften new development and provide future continuity.

6.0 Protective fencing – general considerations

- 6.1 The detail of protective fencing will depend upon the requirements of the Local Authority but should be erected prior to any site development and to meet the requirements of the standard should comprise a horizontal and vertical framework of scaffold poles securely clamped and internally braced. To this, panels of weldmesh at a minimum of 2.0 metres height should be securely fixed and tied on the inside face from within the protection area. The fencing should accord with the detail inset Fig 2 at Appendix D.
- 6.2 The fencing should be installed to encompass the protection radius from the centre of the stem of the tree, prescribed within the schedule at Appendix A. These protection areas have been indicated on the plan at Appendices B, C and D with an orange line. The recommended position for the protective fencing is shown at Appendices D with a dark blue line.
- 6.3 The protective fencing should be erected at the earliest opportunity following the recommended tree works and prior to any other site works. It is recommended that the installation of the fencing and any special surfaces within the protection area should be overseen by a person competent in Arboriculture.
- 6.4 Awareness should be raised of the importance of the retained trees on and off site amongst the operatives undertaking the construction. They should have a full understanding of the purpose of the protective fencing and ideally a permanent member of site staff should be allocated specific responsibility for tree issues on site. They can then liaise directly with the Tree Officer, or Planning Officers, of the Local Authority and also any retained Arboricultural specialist should any problems arise.

7.0 Assessment of the proposed redevelopment of the subject site on existing trees

- 7.1 The redevelopment for this site proposes the remodelling and extension of the existing property.
- 7.2 The current design has evolved following a previous application reference 2023/4119/P for 'Demolition of existing residential dwelling and construction of a new part single part two-storey dwellinghouse and associated works' which was withdrawn following concerns raised by the local authority.

- 7.3 In considering the application the proposal would require the removal of one schedule entry tree, namely T2 False Acacia (B grade), due to proximal relationship to the layout.
- 7.4 Tree removal will sometimes occur as part of new building proposals and, given the positive value trees provide, this needs to be fully considered in the context of the specific application.
- 7.5 Tree T2 is a reasonable, but not high quality, example of its type. The subject tree is asymmetric with bifurcation and moderate small deadwood. The tree also exhibits some historical saw cuts into the bark.
- 7.6 Tree T2 is also currently the subject of application for removal having been implicated in an ongoing building insurance movement claim at 22 Harley Road. The details of this application can be found on the Camden planning website under reference 2024/3599/T.
- 7.7 The development allows opportunities for replacement planting which can be made the subject of planning condition addressing soft landscape (see paragraph 7.22).
- 7.8 Aside from direct tree removal the potential for the new development to impact on existing trees through the construction process has also been considered. Appendix D identifies those areas of conflict between the new development and the root protection area of those trees to be retained both on and off site.
- 7.9 It is seen that the building footprint and associated construction falls within the RPA's of two principle trees, namely T1 Tree of Heaven and tree T4 Oak (offsite). The areas of 'on plan' conflict have been highlighted with red hatching on the plan at Appendix D.
- 7.10 In respect of tree T1 the footprint of the proposed development represents an area of 19.2 metres² which equates to 7.5% of the overall RPA of 254 metres². Whilst conflict exists it is likely that this area would be dominated by the root mass of tree T2 False Acacia which is to be removed as part of the proposal. It is therefore reasonable to assume that the potential impact on the root mass of tree T1 from the proposed foot print would be lower than appearing on plan.
- 7.11 Tree T1 is also the subject of current application for removal under planning reference 2024/3622/T relating to a building movement claim at 22 Harley Road.
- 7.12 With regard to offsite tree T4 Oak the 'on plan' conflict presents at two parts of the building footprint, these equate to 7.5 metres² and 5.5 metres² or 3.9% of the overall RPA of 333 metres². This extent of conflict can be regarded as *de minimis*. Also part of the conflict area is currently surfaced with concrete paving and both areas may be the subject of limited root development from T4 given the presence of a period brick boundary wall dividing the gardens.
- 7.13 Foundation design should consider the potential presence of roots from T4. The use of small bore piles and beam construction to limit the area of excavation will reduce any potential impact on roots and this form of construction may additionally be required given the presence of the tunnel beneath the site. Where possible any foundation excavation within the RPA of T4 should be undertaken by hand under the supervision of the retained arboricultural consultant with any roots encountered being cut cleanly to the exposed face of excavation.
- 7.14 Whilst the conflicts to trees T1 and T4 can be considered within acceptable limits it is evident that the proposal relates to a heavily constrained site in terms of access for construction, however these difficulties are not insurmountable subject to the appropriate levels of detail.

- 7.15 Working space for the development will be limited and a detailed construction management plan will be required and this needs to provide full regard to tree protection as part of the building preparation and phasing of construction. This document should further relate to an arboricultural method statement which can be made a condition of consent.
- 7.16 Full ground protection will be required to the areas identified with cyan coloured honeycomb hatching at Appendix D. The specification of this ground protection is to accord with paragraph 6.2.3.3 of BS 5837:2012 and predicted maximum loading. Given limits to access it is unlikely that any heavy plant will be used on site and excavation, partial demolition and construction will all be undertaken by hand.
- 7.17 Additional tree protection with fencing to accord with figure 2 of BS5837 is to be installed to the positions indicated with dark blue lines on the plan at Appendix D. If consent is provided for the removal of tree T1 under application 2024/3622/T then this section of fencing and the ground protection measures within the RPA of tree T1 would not be required.
- 7.18 It is essential that the protective fencing and ground protection measures are put in place prior to any other site works occurring.
- 7.19 The access for construction to the site is limited by the pedestrian access to the existing property. It is unlikely that heavy plant will be used and a conveyor system would be installed along the access for the movement of materials on and off site from/to Harley Road. If tree T1 remains under application 2024/3622/T then a maximum width of 1.5 metres would be available for delivery and removal of materials.
- 7.20 There is a further un-surveyed Tree of Heaven to the front garden of no 24 Harley Road. This tree stands behind brick retaining structures and would not be compromised by the application. However the stem and the canopy of the tree should be afforded additional protection in relation to the movement of materials from Harley Road and its protection considered within the construction management plan.
- 7.21 I have not seen service drawings for this development. All services should be site away from the RPA's of retained on and offsite trees. Should any works be necessary within the RPA of retained trees then these should be installed by hand in accordance with the National Joint Utilities Group Publication No: 10 [NJUG 10] Guidelines for the planning, installation and maintenance of utility services in proximity to trees.
- 7.22 An indicative new landscape layout has been provided at Appendix E. This is not part of the application submission, just a structural indication, and the provision of a new landscape scheme should be made a condition of consent. Two rows of pleached trees such as hornbeam or lime could be provided to the eastern boundary of the site providing mitigation of domestic views onto the site. A replacement tree of smaller genus could be provided to replace tree T1 if the application for removal under 2024/3622/T is approved. A further specimen tree could be provided to the south end of the garden. New shrub and herbaceous planting could be installed to the boundaries, and adjacent to the access path, as indicated at Appendix E.

8.0 Conclusions

- 8.1 The proposal will require the removal of one False Acacia tree graded B within the survey.
- 8.2 The extent of 'on plan' conflict to the trees to be retained under this application is considered within acceptable limits.

- 8.3 The partial demolition and installation of foundations and new build will be the subject of protective fencing, ground protection measures, arboricultural supervision and considered working practice.
- 8.4 Provided all measures to protect the retained trees identified within this report are implemented in full I consider this development to be acceptable in arboricultural terms without detriment to those trees to be retained.
- 8.5 The removal of one tree occurs under the proposal but this limited loss should be balanced against new planting opportunities and the required upgrade improvements to the existing dwelling.

9.0 Recommendations for tree works

- 9.1 Tree works are recommended within the schedule of trees at Appendix A regardless of the development ambition for this site.
- 9.2 The tree work should be carried out by a competent Arboricultural contractor in accordance with BS3998 2010 Tree Work Recommendations and current best practice. The consent of the Local Authority should be sought before any tree pruning or removal can take place due to the presence of Tree Preservation Order and Conservation Area restrictions.

The details of this report are based upon the condition of the subject tree/s present on the date of the inspection. Responsibility cannot be held for the subsequent effects of extremes of weather, vandalism or damaging acts either negligent or wilful. Liability cannot be held for any subsequent physical undertaking to the canopy, stem or roots of the tree/s. This report is valid for a period of two years from the date of the survey unless the site conditions change or works unspecified in this report are undertaken.

No	Species	Hgt	Ø at	Spread	Crown	Age	Condition and Recommendations	Erc	BS	RPA
			1.5m	NSEW	c/rance				grade	(rad)
T1	Tree of	e.17.0	75	Ø9.0	e.9.0	Mat	Large laterals removed at 3.2 and 4.6 metres.	20-	B1	9.0
	Heaven						Bifurcated at 5.6 and 6.0 metres. Previous reduction	40		
							through partial selective thinning to control			
							dimensions. Deadwood stubs at points of reduction.			
							Within pedestrian access route. Asymmetric to			
							southeast. 1.6 metres access clearance adjacent to			
							stem.			
T2	False	e.17.0	54	4.0, 6.5,	5.0-8.0	Mat	Asymmetric to southwest. Virginia creeper to stem.	20-	B1	6.4
	Acacia			2.5, 6.0			Superficial chainsaw cut to bark to east at 1.4 metres.	40		
							Branching from 6.6 metres. Bifurcated at 7.0 metres.			
							Moderate deadwood.			
T3	Leyland	6.5	e.32	Ø6.0	2.4	Mat	Offsite tree - full inspection not possible. Multi-	20-	C1	3.8
	Cypress						branched from approximately 2.5 metres. Topped.	40		
T4	Oak	e.20.5	e.86	6.0, 6.0,	5.0(w)	Mat	Offsite tree – full inspection not possible.	40+	A1	10.3
				6.0, 9.0	, ,		Asymmetric to west. Stem lean to west. Bifurcated at			
							9.5 metres. Canopy reduction in last two years.			
T5	Himalayan	5.5	<9	Ø4.0	2.5	Y	Three young offsite trees – full inspection not	20-	C1	1.5
	Birch						possible. Asymmetric to west suppressed by T4.	40		adj
										J
T6	Paper	8.0	19	Ø8.0	1.8	Med	Good developing tree.	20+	B1	2.5
	Birch									adj

For key and comments see accompanying key

Key and general comments

Hgt Height (estimated)

Stem ØTrunk diameter in centimetres measured at 1.5 metres above ground level.SpreadCrown radii in metres to compass points or crown diameter suffixed ØCrown c/ranceHeight in meters of crown clearance above adjacent ground level

Life Stage Age class (Y – young, Mid Age – middle aged, Mat – mature, OM – over mature, V – veteran)

Phys cond Physiological condition – Good, Fair, Poor, Dead

Condition and

Recommendations Structural condition and record of defects together with any preliminary management recommendations as

underlined.

RPA (rad) Recommended protection area. Dimension in metres = radius of circle from the centre of stem.

Adj may be suffixed where RPA is increased based upon crown spread or other changes at discretion of surveyor.

Erc Estimated remaining contribution in years (less than 10, 10-20, 20-40, more than 40)

BS grade U–Remove, A1-A3:Category A High quality, B1-B3:Category B Moderate quality, C1-C3:Category C Low quality

Bifurcated Main stem divides into two stems

Asy Asymmetric canopy to compass direction

NSEW Compass point direction, may also appear as NE

Vig Vigour (N-normal, L-Low)

Maturity (OM-Over Mature, M-Mature, Med-Medium, Y-Young)

e. Estimated dimension

g/l Ground level
c/l Centre line
m/s Multi-stemmed

Remove deadwood Remove deadwood, significantly diseased or decayed growth, crossing or torn branches. Branch stubs and tears to be cut

clean. All work to be carried out in accordance with BS3998 and current best practice.

Key and comments continued.

The survey relates to trees at 22b Harley Road, London NW3. The drawing uses as its base the topographic survey reference ordnance survey based site survey provided by MSA survey, Unit 15c, Oakcroft Road, Chessington, Surrey KT9 1RH. Tree positions have not been checked. All dimensions should be checked before marking out.

The site was surveyed on 1st August 2022 and subsequently re-visited on 27th October 2024. The weather at the time of both surveys was fair.

The tree survey and constraints information has been prepared to assist proposals to remodel and extend the existing dwelling. The survey has been undertaken in accordance with British Standard 5837:2012. No internal investigation of any trees was undertaken.

The London Borough of Camden online resource identifying Conservation Areas indicates the site falling entirely within the Elsworthy Conservation Area. It has not been established whether any Preservation Orders are applicable to the trees on site or to the adjacent property although all recorded trees are protected by virtue of the Conservation Area status. The written consent of the Local Authority will therefore be required prior to undertaking any works to the surveyed trees. The consent of the owner will also be required in respect of works to offsite trees.

TreesT1 and T2 within this survey are currently the subject of application to remove following claims of influence within a building movement assessment at no 22 Harley Road. The details of that application are not considered within this survey and report.

Birds and bats are protected by law and any works to trees recommended within this schedule should be undertaken with due consideration to current legislation and recommended timing for works. The assessment for the presence of bats should be undertaken by a qualified assessor.

A person professionally competent in Arboriculture should undertake all future tree inspections recommended within this schedule.

All tree surgery work should be undertaken in accordance with BS3998:2010 Tree work - Recommendations and current best practice.

The details of this survey are based upon the condition of the subject tree/s present on the date of the inspection. Responsibility cannot be held for the subsequent effects of extremes of weather, vandalism or damaging acts either negligent or wilful. Liability cannot be held for any subsequent physical undertaking to the canopy, stem or roots of the tree/s. This survey is valid for a period of two years from the date of the site inspection unless the site conditions change or works unspecified in this report are undertaken.







