

Introduction

1. I have been instructed by Mr & Mrs Patel to produce an Arboricultural Impact Assessment (AIA), Tree Constraints Plan (TCP), Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) for a proposed extension at 31 Briardale Gardens, NW3 7PN. This report updates and replaces my earlier report so as to reflect information incorporated in responses following submission of the application, including the results of site investigations as to the root protection area.
2. The purpose of the Method Statement is to demonstrate how works will be undertaken at 31 Briardale Gardens to avoid unacceptable arboricultural impact and provide an adequate level of protection for those trees shown to be retained. This is shown diagrammatically on the TPP, indicating the positions of protective fences delineating the Construction Exclusion Zones (CEZ).
3. The client has provided an existing site plan and a proposed site plan.
4. I have not seen any plans indicating service runs or detailed landscaping at this moment in time.
5. I undertook the BS 5837:2012 tree survey on the 23rd May 2014.

Proposed Development

6. It is proposed to construct a single storey rear extension to the existing property and to enlarge the existing basement under the deemed permission under permitted development rights.

Tree Survey

7. I assessed the trees with due regard to the recommendations and guidelines contained in BS 5837:2012 - 'Trees in relation to design, demolition and construction - Recommendations'. The tree details were recorded in tabular form (appendix a) and have been categorised in accordance with the cascade chart for tree quality.
8. The survey detail provides the data to arrive at the Root Protection Areas for the trees shown to be retained.
9. No soil samples were taken as a part of the original survey in May but I have caused soil samples to be taken for the purpose of updating this report (see below).
10. The trees were inspected from the ground utilising the Visual Tree Assessment method as developed by Mattheck and Breloer (The Body Language of Trees, DoE leaflet No.4).

General Site/Tree Condition

11. 31 Briardale Gardens Denali is a large, semi detached residential property. All the surrounding properties are of a similar size and age.
12. The rear garden is mainly set to lawn with mature shrub borders. The closest tree to the rear of the property is a mature Magnolia.
13. It is clear that the garden has been well maintained.

Arboricultural Impact Assessment

Presence of Statutory Protection

14. The website for Camden Council shows that a Conservation Area notification was made in 2005 (ref: 2005/0635/T) for proposed works to the Magnolia. Records show no objection was raised. The Magnolia is not the subject of a Tree Preservation Order.

Above & Below Ground Constraints

15. The extension covers approximately 30% of the total area of the RPA for the Magnolia. However, in my opinion, the combination of the existing basement area and the existing patio will mean most of the rooting material from the Magnolia will be growing into the garden area. Therefore the percentage of the RPA encroached upon, in reality, will be considerably less.
16. A trial hole was excavated in close proximity to the Magnolia by Site Analytical Services Ltd on the 1/12/2014. The location of this trial hole is shown on the attached plan at appendix F. Soil analysis was undertaken as well as the uncovering of roots present in the excavation. Photographs (appendix D) taken on site clearly show some roots being present however they are very sparse in number and of small diameter. All the roots discovered were 20mm diameter or less. This falls below the 25mm threshold stipulated in BS 5837:2012.
17. No formal root identification was carried out to ascertain whether the roots were from the Magnolia or the other mature shrubs nearby. However even if all the roots were from the Magnolia the number and size of roots does not constitute a significant proportion of the rooting area.

18. The roots from the Magnolia will be exploiting the more favourable rooting habitat in the rest of the rear garden rather than seeking moisture and nutrients from underneath the existing patio. This suggests that the Magnolia will not be harmed by the excavation and construction works for either (1) the ground floor rear extension or (2) for the proposed enlargement of the existing basement which is within the present footprint of the dwelling and which will be well behind the line of the existing patio and the proposed rear extension. Consequently the garden area will require protection during the construction process as detailed in the Arboricultural Method Statement.
19. It is my opinion that given the result of the soil investigation and the number of roots found therein clearly negates the need for specialist foundations for either the proposed enlargement of the existing basement beneath the dwelling or for the rear extension to which the planning application relates.
20. The orientation of the property means that the Magnolia will not block any direct sunlight.
21. The branches extending towards the south will require a minor reduction in length to prevent contact with the new extension both during and after the build. This particular work will have no long term effect on either the health or stability of the Magnolia.
22. The existing basement is already 1.5m deep and it is to be lowered by a further 0.5m within the footprint of the existing building. Due to the fact that it is not proposed to extend the basement further into the garden it is my opinion that there will be no impact on the root system of the Magnolia from these works.

Effect of Development on Amenity Value

23. Whilst the Magnolia can be viewed from nearby surrounding properties, it cannot easily be seen from a public thoroughfare or vantage point, although there may be glimpses through gaps between surrounding buildings; therefore its contribution to the wider visual amenity and to the character and appearance of the conservation area is limited. However, I am of the view that this tree will not be harmed by the proposed development and therefore its existing value and significance as part of the conservation area will not be harmed.
24. No trees require removal to accommodate the proposed development or will be harmed by it. Therefore, there will be no effect on the wider visual amenity or the character or appearance of the conservation area whatsoever subject to compliance with the precautions identified in this report.

Site Access Constraints

25. The main access for the development will be through the house.
26. There are no access constraints which require arboricultural intervention.

The Construction Process

27. Due to the lack of space on site, it will not be possible (nor practicable) to erect protective fences to figure 2 in BS 5837:2012. The ground immediately adjacent to the tree will be afforded a protective covering (see AMS). Protective measures should be erected prior to any aspect of the development process. This means they should be the first thing to be installed on site and the last thing to be removed prior to soft landscaping.
28. A logical sequence of events must be adhered to in order to ensure the smooth running of the construction and all parties are aware of the need to recognise the importance of the CEZ.
29. The site (at the rear of the property) is not large enough to accommodate large scale material storage and site facilities without encroaching into the RPA for the retained tree/garden area.

Infrastructure Requirements

30. As mentioned previously I have not seen any plans relating to the location of drainage or service runs. I would anticipate that the existing infrastructure will be utilised. If new runs are required and they need to pass within the CEZ, careful positioning must be given consideration from the outset. Any installation must be carried out in strict accordance with National Joint Utilities Guidelines (NJUG) Volume 4 - *Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees* and BS 5837 section 7.7.

Proximity of proposal to trees

31. The lower two branches on the north side of T6 should be removed (with the owner's consent) to prevent accidental damage during the construction process in relation to the rear ground floor extension. This work will not unduly affect the health of T6.
32. The trees in the rear garden will cast shade upon the new extension. However it will be no greater than is currently being experienced as the orientation of the building is not changing.

Impact of Proposal on Trees

33. As mentioned previously, due to confinement of the basement enlargement works and the rear extension within respectively the existing basement area and patio, the impact of the proposed works on the RPA will be significantly reduced and therefore the building works should not unduly affect the long term health of T1.

Modifications Proposed to Accommodate Building/Trees

34. I do not see that any modifications will need to be made to the design of the proposal to accommodate any trees, particularly the magnolia tree (T1), because for the reasons set out in this report I do not think that the proposed development will cause any significant harm, provided the Arboricultural Method Statement (AMS) described below is carried out before and when the works commence.

Mitigation Planting

35. No trees are to be lost; therefore mitigation planting will not be required.

Arboricultural Method Statement (AMS)

Pre-development works (ground-floor rear extension only)

36. The following works should be carried out by a duly qualified tree contractor prior to the development taking place;

T1 - Magnolia - reduce the length of the branches extending south towards the existing property by 2m.

37. It will be the responsibility of the tree contractor to ensure that all the necessary consents have been sought from the local authority.

Timing of operations

38. A logical sequence of events is to be observed as follows;

- Pre - commencement site meeting
- Remedial tree works
- Installation of protective measures
- General demolition/excavation/construction phase
- Final inspection and handover

39. In general, no tree pruning works are to take place in early spring (bud break) or autumn (leaf fall) so as to minimise stress levels on the trees in question.

Pre-Commencement Site Meeting

40. A pre-commencement meeting will take place on site, with the appointed arboricultural consultant, the tree contractor, the site manager and the local authority arboricultural officer in attendance. The purpose of this meeting is to ensure that everyone fully understands the implications of the Arboricultural Method Statement and to agree on finer points of detail prior to any works commencing.

Site Monitoring

41. All site monitoring will be undertaken by a suitably qualified and experienced Arboriculturalist. Key operational points will be agreed in writing with the client and LPA prior to commencement of works. Typically these will include;
- Remedial tree works
 - Installation of protective measures (fences and ground)
 - Demolition works
 - Installation of services
 - Landscaping within RPA's
 - Site completion
42. Monitoring will be undertaken at intervals requested by the LPA. A checklist will be completed and a copy will be retained by the Site Manager with a copy sent to the LPA.
43. Any defects requiring attention will be notified to the Site Manager and Client (copied to the LPA by e-mail). Any emergencies will be notified to the Client and LPA by phone.
44. Day to day site supervision will be the responsibility of the Site Manager. They will be aware of the tree protection measures and significant steps in the development process which have arboricultural implications. To ensure compliance the Site Manager will undertake a site briefing with the retained Arboriculturalist before the commencement of works.
45. A final sign off visit will be carried out at the end of the development and a formal letter sent both to the client and the LPA to indicate the end of the monitoring period.

Where responsibilities lie

46. It will be the responsibility of the Site Manager to ensure that the AMS is adhered to at all times by site operatives, sub contractors and hauliers during the construction process.
47. Should any problems arise the Site Manager will immediately inform the arboricultural consultant who will assess the situation and make recommendations accordingly. If modifications to the AMS are proposed the arboricultural consultant will immediately advise the local authority arboricultural officer.

Erection and Location of Protective Measures

48. It will not be possible to erect fencing in accordance with BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*. Therefore the main stem of T1 will be afforded protection prior to any development works on site.
49. To guard against impact damage, the stem of T1 shall be protected by timber hoarding. The protective hoarding must be freestanding and not attached to the tree in any manner. It will consist of a vertical and horizontal frame well braced to resist accidental impact. Either weldmesh panels or hoarding should be securely fixed to the framework. It should not be possible to move the protective cladding. The hoarding should reach up to a height of at least 3m up the main stem or to the main crown break (whichever is greater).
50. The remainder of the garden will be fenced off using orange hazard fencing mounted on poles made fast in the ground.
- 51. All such fences will not be moved without the express permission of the local authority Arboricultural Officer.**
52. All site operatives will be made fully aware of the function of the protective fencing and its importance in the construction process as part of their site induction.
53. In order to safeguard against further compaction, side butting scaffold boards shall be placed on a compressible layer (100mm bark mulch) shall be placed adjacent to T1 (see TPP). These boards must remain in situ for the duration of the construction process.

Surplus Arisings

54. No demolished material will be stockpiled against any protective fencing.
55. No fires shall be lit on site.

Service runs/installation

56. If existing utilities are not to be used, the routing of all the drainage and services needs to be considered from an early stage. This will ensure that any encroachment into the CEZ is avoided or kept to an absolute minimum. If the CEZ cannot be avoided then it will be a contractual requirement that all excavations are undertaken by hand and in strict accordance with the 'National Joint Utility Guidelines (NJUG) Volume 4 - Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to trees' and BS 5837 section 7.7.

57. All excavations for service runs in this area must be undertaken by hand. No roots larger than 25mm diameter will be cut. If any roots smaller than 25mm require pruning to facilitate installation, this will be done by a suitably qualified and experienced Arboriculturalist using sharp bypass secateurs/handsaw. Roots larger than 25mm should only be severed following consultation with an Arboriculturalist as such roots might be essential to the trees health and stability. Any exposed roots should be immediately wrapped or covered to prevent desiccation. Any wrapping should be removed prior to backfilling.

Site Deliveries / Storage space

58. Consideration should be given to staggered deliveries to guard against stockpiling on site and the temptation to move protective fences to gain more room.

Location of huts, toilets

59. No site huts or toilets will be placed within any CEZ.

Potential effect of slopes

60. Storage and/or mixing of materials which have the potential to spill and contaminate the soil (such as concrete and fuel) will not take place within 5m of any tree shown to be retained.

Use of Herbicides

61. It is not proposed to use any herbicides on the site.

Compaction avoidance and mitigation

62. As mentioned previously, all CEZ's are to be clearly marked on site and will be avoided. If for any reason the CEZ is compromised it will be the duty of the site supervisor to contact the arboricultural consultant immediately. Remedial measures will be discussed and an agreed course of action implemented in consultation with the local authority arboricultural officer.

Use of sub-contractors

63. Any sub-contractors will be made fully aware of the AMS and the importance of the offsite trees as a part of their site induction by the site supervisor.

Fence removal

64. The protective fences shall be the last item removed from site prior to the implementation of the soft landscaping.

Final Inspection

65. Prior to handover, following the completion of the development an Arboriculturalist will inspect the trees on site to check for any indications of accidental damage or change in the condition of the Magnolia tree.
66. A schedule of remedial works will be drawn up to ensure that there are no outstanding tree work issues prior to handover.

Remedial tree works

67. Any tree works must be undertaken in accordance with BS 3998 - 2010 Tree Work - Recommendations and only once the necessary procedure has been undertaken with the Local Authority.
68. Under the Wildlife and Countryside Act 1981 (Section 1) it is an offence to take damage or destroy the nest of any wild bird while that nest is in use or being built. Planning consent for a development does not provide a defence against prosecution under this act. Trees and scrub are likely to contain nesting birds between 1 March and 31 July. In order not to contravene the Wildlife and Countryside Act 1981 the timing of the tree surgery works should avoid the bird nesting season (March - May).
69. Under the Wildlife & Countryside Act 1981, The Countryside Rights of Way Act 2000 and The Conservation Regulations 1994 (known as the Habitats Directive) it is an offence to:
- Intentionally kill, injure or take a bat.
 - Possess or control a live or dead bat, any part of a bat, or anything derived from a bat.
 - Intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection.
 - Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection.
70. If a bat roost is suspected please contact the Bat Conservation Trust on 0845 1300 228 or at www.bats.org.uk.

Conclusion

71. No trees are to be removed so the wider visual amenity will remain unaffected.
72. The proposed extension does infringe upon the RPA for T1 but the existence of the basement and patio area reduce the impact considerably.
73. Site investigations have revealed the presence of very few, small diameter roots in the line of the proposed foundations. The diameter of the roots falls below the threshold stipulated in BS 5837:2012 and by no way represents a significant proportion of the rooting area for the Magnolia. Consequently calls for specialist foundations would be superfluous and fears over widespread root damage are unfounded.
74. Only minor pruning works will be required to accommodate the extension. This will not prove detrimental to the health of the Magnolia.
75. Magnolia is a slow growing species and should not cause a conflict with the new extension. Although it is accepted that the canopy will require periodic pruning to prevent encroachment.
76. If the recommendations listed in the AMS and shown on the TPP are adhered to, I see no reason why this development should not be able to proceed without undue pressure on the existing tree cover.

Signed

Dominic Blake PD Arb (RFS) MArbor A
Consultancy Manager
December 2014

Appendices

- a) Survey schedule
- b) Tree Constraints Plan (1:100)
- c) Tree Protection Plan (1:100)
- d) Site Photographs
- e) Site monitoring checklist
- f) Plan showing trial pit location

References

- *BS 5837:2012 - Trees in relation to design, demolition and construction - Recommendations*
- *BS 3998:2010 - Tree Works - Recommendations*
- *National Joint Utilities Group (NJUG) Volume 4*

