

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.
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.

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. Whilst I have not personally undertaken soil surveys, I have had sight of the extensive soil survey and root analysis which was undertaken by SAS.
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 although I do not know whether the Magnolia was ever made the subject of a Tree Preservation Order as a result. Consequently I would recommend that such checks are made prior to any tree works.

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/sub floor area and the existing patio (as well as the proximity of No.29's existing single storey rear extension) 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. Soil analysis was undertaken as well as the uncovering of roots present in the excavation. Photographs 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 the majority of 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 basement. 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 negates the need for specialist foundations.
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 affect on either the health or stability of the Magnolia.

Effect of Development on Amenity Value

22. The Magnolia can be viewed from nearby properties it cannot be seen from a public thoroughfare, so its contribution to the wider visual amenity is extremely limited.
23. No trees require removal to accommodate the extension therefore there will be no effect on the wider visual amenity whatsoever.

Site Access Constraints

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

The Construction Process

26. 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.
27. 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.

28. 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

29. 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

30. 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. This work will not unduly affect the health of T6.
31. 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

32. As mentioned previously, due to the basement area and patio, the impact on the RPA will be reduced and therefore the building works should not unduly affect the long term health of T1.

Modifications Proposed to Accommodate Building/Trees

33. I do not see that any modifications will need to be made to the design of the proposal to accommodate any trees.

Mitigation Planting

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

Arboricultural Method Statement (AMS)

Pre-development works

35. The following works should be carried out prior to the development taking place;

T1 - Magnolia - reduction in branch length to be determined at pre-commencement meeting in conjunction with the Tree Officer from the London Borough of Camden.

36. 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

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

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

38. 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

39. 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

40. 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

41. 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.

42. 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.

43. 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.

44. 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

45. 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.

46. 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

47. 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.
48. 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).
49. The remainder of the garden will be fenced off by using a continuation of the timber hoarding around T1. There will be no access point through the hoarding to remove the temptation of storing materials in the CEZ.
- 50. All fences will not be moved without the express permission of the local authority Arboricultural Officer.**
51. 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.
52. 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

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

Service runs/installation

55. 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.

56. 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

57. 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

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

Potential effect of slopes

59. 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

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

Compaction avoidance and mitigation

61. 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

62. 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

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

Final Inspection

64. 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.
65. 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

66. 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.
67. 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).
68. 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.
69. If a bat roost is suspected please contact the Bat Conservation Trust on 0845 1300 228 or at www.bats.org.uk.

Conclusion

70. No trees are to be removed so the wider visual amenity will remain unaffected.
71. The proposed extension does infringe upon the RPA for T1 but the existence of the basement and patio area reduce the impact considerably.
72. 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.
73. Only minor pruning works will be required to accommodate the extension. This will not prove detrimental to the health of the Magnolia.
74. 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.
75. 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.

Yours truly,

Dominic Blake PD Arb (RFS) MArbor A
Consultancy Manager
November 2015

Appendices

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

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*