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Arboricultural Implications Report

Proposed development at

Prospect Park Hospital

Reading

Berkshire



February 2019

Ref. SJA air 19025-01

SUMMARY

S1. On the basis of our assessment, we conclude that the arboricultural impact of this scheme is of low magnitude, as defined according to the categories set out in **Table 1** of this report.

S2. Our assessment of the impacts on trees concludes that no mature, veteran or ancient trees, no category 'A' or 'B' trees, and no trees of high landscape or biodiversity value are to be removed. None of the main arboricultural features of the site are to be removed. The proposed removal of individual trees will represent a no alteration to the main arboricultural features of the site and will not have an adverse impact on the arboricultural character and appearance of the local landscape.

S3. As no trees are to be pruned, and none of the proposed building structures will be located at the bottom of a slope the structures will not be within 3m of the extents of the canopies of trees to be retained, there will be adequate working space for construction close to trees, and a reasonable margin of clearance for future growth.

S4. The incursions into the Root Protection Areas of trees to be retained are minor, and subject to implementation of the measures recommended on the Tree Protection Plan and set out at **Appendix 1**, no significant or long-term damage to their root systems or rooting environments will occur.

S5. As the proposed development will not result in the removal of trees which make a significant contribution to Reading's urbanised character, and will continue to protect the adjacent woodland by retaining the young native woodland edge planting, it complies with Policy CS38 of the Reading Borough Council Core Strategy.

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1. INTRODUCTION AND BACKGROUND INFORMATION

1.1. Instructions

1.1.1. SJAtrees has been instructed by Berkshire healthcare NHS Foundation Trust to visit Prospect Park Hospital, Reading and to survey the trees growing on or immediately adjacent to this site.

1.1.2. We are further asked to identify which trees are worthy of retention within a proposed re-development of the site; to assess the implications of the development proposals on these specimens, and to advise how they should be protected from unacceptable damage during demolition and construction.

1.2. Scope of report

1.2.1. This report and its appendices reflect the scope of our instructions, as set out above. It is intended to accompany a planning application to be submitted to Reading Borough Council (the LPA), and complies with local validation requirements, and with the recommendations of British Standard BS 5837:2012, *Trees in relation to design, demolition and construction – Recommendations* ('BS 5837').

1.2.2. The proposed development comprises the extension and connection of existing buildings, Hazelwood and Campion.

1.2.3. This report summarises and sets out the main conclusions of the baseline data collected during the tree survey and identifies those trees or groups of trees whose removal could result in a significant adverse impact on the character or appearance of the local area (Section 3). It then details and assesses the impacts of the proposed development on trees, including those to be removed (Section 4), those to be pruned (Section 5), and those which might incur root damage that might threaten their viability (Section 6). A summary and conclusion, with regard to local planning policy, are presented in Section 7.

1.3. Site inspection

1.3.1. A site visit and tree inspection were undertaken by Finn Cullerne of SJAtrees on Wednesday the 13th February 2019. Weather conditions at the time were clear, dry and bright. Deciduous trees were not in full leaf.

1.4. Site description

1.4.1. The proposed development area is located in the north east corner of the Prospect Park Hospital site, adjacent to Honey End Lane. The north and east boundaries adjoin public amenity space and woodland. The west boundary adjoins the Honey End Lane and the south boundary abuts the Prospect Park Hospital.

1.4.2. The site is located on a gradient running downwards from the north to the south. The ground has been battered back for existing buildings resulting in a steep bank separating the existing buildings from the amenity space to the north. The site currently comprises two buildings, Campion and Hazelwood with associated hard standing.

1.5. Statutory controls

1.5.1. We understand that all of the on-site trees are covered by a tree preservation order (TPO). This is TPO no. 12/10 of 2010 made by Reading Borough Council, which protects all individuals on the site. The trees protected by this TPO are identified within our tree survey schedule at **Appendix 1** and on the accompanying tree protection plan.

1.5.2. The site is not within a conservation area, and therefore there are no constraints relating to existing trees in this regard.

1.5.3. There are no hedgerows on site which could meet the criteria to be deemed “Important” in the context of the landscape and wildlife criteria of the Hedgerows Regulations, 1997¹.

¹ The Hedgerows Regulations 1997; STATUTORY INSTRUMENTS 1997 No. 1160.

1.6. Non-statutory designations

1.6.1. There are no woodlands within or abutting the site that are classified as 'Ancient'. Ancient woodland is defined as "any area that's been wooded continuously since at least 1600 AD" and is considered an important and irreplaceable habitat. This statement is corroborated by the Magic map website, which is in contradiction to the statement made in Reading Borough Council Core Strategy 2008, see below in section 2.1.7. As the magic map website has been updated more recently, we are of the view that Magic maps provides the most current and relevant information.

1.6.2. There are no trees within or abutting the site that can be classified as 'Ancient' or 'Veteran'. Ancient and veteran trees are also considered to be irreplaceable habitats, and contribute to a site's biodiversity, cultural and heritage value, and the National Planning Policy Framework (see below) states that development resulting in the loss or deterioration of ancient or veteran trees should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.

2. METHODOLOGY

2.1. National policy context

2.1.1. Under Section 197 of the Town and Country Planning Act 1990, local authorities have a statutory duty to consider the protection and planting of trees when considering planning applications. The effects of proposed development on trees are therefore a material consideration, and this is normally reflected in local planning policies.

2.1.2. The National Planning Policy Framework (NPPF) (February 2019), sets out the Government's planning policies for England and how these should be applied in both plan and decision-making. Paragraph 2 makes it clear that the NPPF is itself a material consideration in the determination of planning application. Paragraph 11 states that **"Plans and decisions should apply a presumption in favour of sustainable development."**

2.1.3. At paragraph 127, within Section 12 "Achieving well-designed places" the NPPF states: **"Planning policies and decisions should ensure that developments:**

- a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;**
- b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;**
- c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);**
- d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;**
- e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and**

f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.”

2.1.4. At paragraph 170, within Section 15 “Conserving and enhancing the natural environment” the NPPF states: **“Planning policies and decisions should contribute to and enhance the natural and local environment by:**

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland...”

2.1.5. At paragraph 175 the NPPF states: **“When determining planning applications, local planning authorities should apply the following principles:**

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists....”

2.1.6. Local planning policies are contained within the Reading Borough Council Core Strategy 2008.

2.1.7. Policy CS38: Trees, Hedges and Woodlands of the core strategy states:

“Individual trees, groups of trees, hedges and woodlands will be protected from damage or removal, and the Borough’s vegetation cover will be extended.

11.40 Reading contains a number of woodlands, including Lousehill Copse, Blundell’s Copse, The Rookery, Prospect Park and Round Copse in West Reading, and the Warren Woodlands in Caversham. Clayfield Copse LNR has been included in English Nature’s 1995 Inventory of Ancient Woodland and is noted as supporting 20 Ancient Woodland indicator species. In addition to being valuable for reasons of nature conservation, Reading’s woodlands are significant landscape features, often sited in prominent positions.

11.41 The nature conservation and landscape value of woodlands will be protected and their quality enhanced, wherever possible. Enhancement and extension of woodlands will be achieved in conjunction with relevant development proposals, and may include measures such as new planting and management plans. The effective management of new woodland areas will be promoted, recognising the economic, environmental and social benefits that woodland management and tree planting can provide.

11.42 In addition to their biodiversity value, the Borough's network of trees and hedgerows making up green corridors make a significant contribution to Reading's urbanised character, as well as contributing to the wider landscape, amenity, recreation and historical values. The continued protection of woodlands and trees will be sought. Proposals should also minimise impacts on hedgerows, wherever possible.

11.43 The current practice of protecting trees through Tree Preservation Orders (TPO's) and safeguarding existing TPO's will be continued. Significant trees will be protected in conjunction with new developments.

11.44 The Council will seek to retain and improve the quality of waterside vegetation, recognising its contributions to ecology and landscape character.

2.1.8. Policy DM18, Tree planting of the Local Development Framework states:

“New development shall make provision for tree planting within the application site, or off-site in appropriate situations, to improve the level of tree coverage within the Borough, to maintain and enhance the character and appearance of the area in which a site is located, to provide for biodiversity and to contribute to measures to reduce carbon and adapt to climate change.”

2.2. Tree survey and baseline information

2.2.1. We surveyed individual trees with trunk diameters of 75mm and above², trees with trunk diameters of 150mm and above growing in groups or woodlands, and shrub masses, hedges and hedgerows³ growing within or immediately adjacent to the site;

² BS 5837, paragraph 4.2.4 b), recommends that all trees over 75mm stem diameter should be included in a pre-planning land and tree survey.

³ Ibid, 4.4.2.7

and recorded their locations, species, dimensions, ages, condition, and visual importance in accordance with BS 5837 recommendations.

2.2.2. The baseline information collected during our site survey was recorded on site using a hand-held digital device. This information was then imported into an Excel spreadsheet and used to produce the tree survey schedule at **Appendix 2**. The numbers assigned to the trees in the tree survey schedule correspond with those shown on the appended tree protection plan.

2.2.3. We surveyed trees as groups where we considered that they had grown together to form cohesive arboricultural features, either aerodynamically (trees that provide companion shelter), visually (e.g. avenues or screens) or culturally⁴. However, where we considered that it might be necessary to differentiate between specific trees within these groups, we also surveyed these individually.

2.2.4. We inspected the trees from the ground only, aided by binoculars as appropriate, but did not climb them. We took no samples of wood, roots or fungi. We did not undertake a full hazard or risk assessment of the trees, and therefore can give no guarantee, either expressed or implied, of their safety or stability.

2.2.5. We have categorised the trees in accordance with BS 5837, and details of the criteria used for this process can be found in the notes that accompany the tree survey schedule.

2.2.6. We have applied this methodology in line with the thrust of the NPPF's presumption in favour of sustainable development, giving greater weighting to the contribution of a tree to the character and appearance of the local landscape, to amenity, or to biodiversity, where its removal might have a significant adverse impact on these factors.

2.3. Tree locations plan

2.3.1. The information in the tree survey schedule has been used to produce the tree locations plan at **Appendix 3**, which is based on an Ordnance Survey "Superplan"

⁴ Ibid, 4.4.2.3

onto which the locations of the trees have been plotted using our own measurements taken on site.

2.4. Tree constraints

2.4.1. In line with the NPPF's presumption in favour of sustainable development, we assessed whether any trees should be retained in the context of a proposed development. To do this, we identified the main arboricultural features within or immediately adjacent to the site, whose removal we considered could have an adverse impact on the character and appearance of the local landscape, on amenity or on biodiversity.

2.4.2. Whilst BS 5837 states that trees in categories 'A', 'B' and 'C' are all a material consideration in the development process, the retention of category 'C' trees, being of low quality or of only limited or short-term potential, will not normally be considered necessary should they impose a significant constraint on development.

2.4.3. Furthermore, BS 5837 makes it clear that young trees, even those of good form and vitality, which have the potential to develop into quality specimens when mature **"need not necessarily be a significant constraint on the site's potential"**⁵.

2.4.4. Moreover, BS 5837 states that **".... care should be taken to avoid misplaced tree retention; attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal"**⁶.

2.4.5. The 'Root Protection Areas' (RPAs)⁷ of the trees identified for retention were calculated in accordance with Section 4.6 of BS 5837; and were assessed taking account of factors such as the likely tolerance of a tree to root disturbance or damage, the morphology and disposition of roots as influenced by existing site conditions

⁵ Ibid. 4.5.10.

⁶ Ibid. 5.1.1.

⁷ The minimum area around a retained tree "deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority." BS 5837, paragraph 3.7.

(including the presence of existing roads or structures), as well as soil type, topography and drainage.

2.5. Arboricultural impact assessment and tree protection plan

2.5.1. Once finalised, we assessed the arboricultural impacts of the proposed layout, by overlaying it onto our TCP, and produced the tree protection plan (TPP) presented at **Appendix 4**. This is based on the proposed site layout plan by EDTS Architects, drawing no. 15092-Proposed Site Plan.

2.5.2. The TPP identifies the trees which will be removed to accommodate the proposed development, either because they are situated within the footprints of proposed structures or surfaces, or because in our judgment they are too close to these structures or surfaces to enable them to be retained. These are shown by means of **red crosses** on the TPP.

2.5.3. The TPP also shows how trees to be retained will be protected from damage during construction, and the measures identified are set out and described at **Appendix 1** to this report. The implementation of, and adherence to, these measures can readily be secured by the imposition of appropriate planning conditions.

2.5.4. For the trees shown to be retained, all measurements for pruning specifications, percentage estimates of RPA incursions and shading issues have been calculated using AutoCAD software.

2.5.5. Details of the impacts identified within these categories, and our assessment of their respective significance, are analysed in Sections 4 to 6 below.

2.5.6. Based on these findings, we have assessed the magnitude of the overall arboricultural impact of the proposals according to the categories defined in **Table 1** below.

Category	Description
High	Total loss of or major alteration to main elements/ features/ characteristics of the baseline, post-development situation fundamentally different
Medium	Partial loss of or alteration to main elements/ features/ characteristics of the baseline, post-development situation will be partially changed
Low	Minor loss of or alteration to main elements/ features/ characteristics of the baseline, post-development changes will be discernible but the underlying situation will remain similar to the baseline
Negligible	Very minor loss of or alteration to main elements/ features/ characteristics of the baseline, post-development changes will be barely discernible, approximating to the 'no change' situation

Table 1: Magnitude of impacts⁸

⁸ Determination of magnitude based on DETR (2000) Guidance on the Methodology for Multi-Modal Studies, as modified and extended.

3. THE TREES

3.1. Survey findings

3.1.1. We surveyed a total of four individuals, and three groups of trees and one area of woodland growing within or immediately adjacent to the site. Their details are found in the tree survey schedule at **Appendix 2**.

3.1.2. There is a mix of eight species on this site, which are predominantly deciduous with a few young specimens of Scots pine. Most trees are found around the edges of the site with a few hornbeam and false acacia specimens planted in amenity areas. Most of the trees are young or semi-mature with only one specimen being assessed as mature. The off-site woodland to the north is predominantly mature to over-mature and contributes the most to the arboricultural character of the site and local landscape.

3.2. Assessment of suitability for retention

3.2.1. As noted above in Section 2.2, local planning policies require the retention of trees that make a **“significant contribution to Reading’s urbanised character.”** The individuals and groups of trees within or adjacent to the site, whose attributes we consider meet these criteria, are as follows:

- The off-site woodland (W1) located to the north of the proposed development site, which is readily visible from the site and surrounding public areas.
- The on-site individual large leaved lime (no. 4) growing adjacent to the eastern boundary, which is readily visible from public amenity space to the east and partially visible from within the site carpark.

3.2.2. No individual trees have been assessed as category 'U'.

3.2.3. There is one category 'A' tree, English oak no. 5 and one category 'B' specimen, large-leaved lime no. 4. The remaining three trees are assessed as category 'C', being either of low quality, very limited merit, only low landscape benefits, no material cultural or conservation value, or only limited or short-term potential; or a combination of these.

3.2.4. All three groups of trees have been assessed as category 'C' specimens because of their low quality, low landscape benefits or because they are comprised of young trees with trunk diameters below 150mm, or a combination of these.

3.2.5. The off-site woodland has been assessed as a category 'A'.

4. TREES TO BE REMOVED

4.1. Details

4.1.1. To accommodate the proposed development, as shown on the proposed layout plan, three individual trees (nos. 1, 2 and 3) are to be removed, either because they are situated within the footprints of proposed structures or surfaces, or because they are too close to these to enable them to be retained.

4.1.2. The three individual trees to be removed are category 'C' specimens, as shown in **Table 3** below.

Tree no.	TPO No.	Species	Height	Trunk diameter	Age class	BS category
1	G14	False acacia	11m	340mm	Semi-mature	C (1)
2	G14	False acacia	11m	310mm	Semi-mature	C (1)
3	G14	Fastigiate hornbeam	11m	225mm	Semi-mature	C (1)

Table 2: Trees to be removed

4.1.3. All three trees to be removed are covered by a TPO (see 1.5.1 above); these are shown on the TPP and identified in **Table 3** above.

4.2. Assessment

4.2.1. All those trees or groups of trees that constitute the main arboricultural features of the site, and which make the greatest contribution to the character and appearance of the local landscape, to amenity or to biodiversity (see paragraph 3.2.1), will be retained.

4.2.2. As there are no ancient or veteran trees on site, none will be removed.

4.2.3. No category 'A' or 'B' trees are to be removed.

4.2.4. Three category 'C' trees are to be removed.

4.2.5.

4.2.6. The reason for removing these trees, whilst not all of them are directly affected by the proposals, is twofold. Firstly, to make way for construction access to construct the proposed building without having to take great care around poor quality trees and secondly, to allow for new planting to take place further from the existing buildings in more sustainable locations where new trees have the space to grow to their full potential.

4.2.7. False acacia nos. 1 and 2 are too close to the existing buildings and this is not a sustainable relationship as evidenced by the fact they have already had to have their crowns reduced. These trees will never reach their full potential or attain significant amenity value.

4.2.8. Tree nos. 1, 2 and 3 have grown to become mutually suppressed resulting in the smaller fastigiata hornbeam having a heavily one-sided canopy. As the proposal requires the removal of tree no. 1 and it is desirable for tree no. 2 to be removed, this would leave the hornbeam exposed and this would not be a long term prospect. It would be prudent to remove all three trees at this juncture and replace them in a more suitable location to enhance the visual amenity of the local area.



Photograph 1 showing tree nos. 1, 2 and 3, small semi-mature specimens with little impact on the landscape and very limited views.

4.2.9. The three trees are subject to a Tree Preservation Order are to be removed, as shown at **Table 3** above. However, all of them are category 'C' trees of low quality and value.

4.2.10. However, it should be noted that the presence of a TPO on a tree does not mean that that specimen necessarily meets the criteria for a TPO: the tree may not have fully met the criteria for a TPO at the time it was made, the tree might have deteriorated since the time the TPO was made or its visibility or impact on the local landscape may have decreased since the time the Order was made. What must be remembered is the principle that a tree should be protected by a TPO because it is of value; it is not of value because it's covered by a TPO.

4.2.11. Current Planning Practice Guidance states (paragraph 007) that TPOs should be used to protect selected trees and woodlands if their removal would have **"a significant negative impact on the local environment and its enjoyment by the public."** In this case, the small number of TPO trees to be removed in comparison with the number of mature trees, groups and woodlands to be retained will not result in a significant negative impact on the local environment, and that the fact they are covered by a TPO should not be given any additional weight in considering the magnitude of the arboricultural impacts of this scheme.

4.2.12. Furthermore, the proposals incorporate replacement tree planting detailed in our tree protection plan **Appendix 3**. This will mitigate the proposed removals, improve the age class balance of the trees on site, enhance the local landscape, and re-establish a framework for the ongoing and long-term arboricultural character of the site.

4.2.13. In the light of these considerations, and taking account of the numbers, sizes and locations of the trees to be retained, including those that are off-site, the felling of the trees and groups identified for removal will represent no alteration to the main arboricultural features of the site.

5. TREES TO BE PRUNED

5.1. Details

5.1.1. No trees to be retained are to be pruned to facilitate implementation of the proposals.

5.2. Assessment

5.2.1. As no trees are to be pruned, and none of the proposed building structures will be located at the bottom of a slope the structures will not be within 3m of the extents of the canopies of trees to be retained, there will be adequate working space for construction close to trees, and a reasonable margin of clearance for future growth.

6. ROOT PROTECTION AREA INCURSIONS

6.1. Details

6.1.1. Parts of the proposed building will encroach within the RPA of the category 'B' large leaved lime (no. 4).

6.2. Assessment

6.2.1. The incursions by parts of the proposed buildings into the RPA of the large-leaved lime (no. 4), when the proposed building is offset by 1m to give working space, the incursion equates to no more than 13.8% of the RPA; and potential adverse impacts can be satisfactorily mitigated in the following way.

6.2.2. The proposed building will be at the same level as the existing buildings and hence some degree of excavation will be required into the bank of ground to the rear. Conventional excavation with a 45° batter would result in an incursion too great for the tree to tolerate. Therefore, the proposal is to sheet pile at the extent of the proposed foundations, then the ground will be excavated back to the proposed pile line. To minimise indiscriminate damage to tree roots, the top 750mm of ground will be excavated manually, under direct control and supervision of an appointed arboricultural consultant, so that any over dig into the RPAs is avoided, and any roots encountered can be treated appropriately. The sheet pile can then be installed within this trench, starting 750mm beneath the surface to avoid severing any other roots.

6.2.3. As a species limes have been identified as good at tolerating root pruning and disturbance⁹. As this specimen is of average physiological condition, there is no reason to suggest that it will not be able to tolerate the cutting of roots within this section of its RPA.

6.2.4. The area lost to encroachment within the RPA of tree no. 4 can be compensated for in the areas to the north and east of the tree, where there is an extensive area of woodland and soft landscaping suitable for root growth, contiguous to the RPA. There

⁹ MATHENY, N. P. and CLARK, J. R. (1998). Trees and Development. International Society of Arboriculture.

is likely to already be significant rooting within these areas possibly with beneficial root grafts within the woodland, and as it is to remain as soft landscape, there is no prospect of this being built on in the future. Therefore, there will be no net loss of suitable rooting area, and no risk of cumulative impacts in the future, so there is no reason to suggest that it will not be able to tolerate the cutting of roots within this small section of its RPA or that it will not remain viable.

6.2.1. Implementation of measures to prevent other incursions into the RPAs of retained trees and to protect them during construction can be assured by the erection of appropriate protective fencing and the installation of ground protection, as shown on the TPP at **Appendix 3**.

6.2.2. Accordingly, subject to implementation of the above measures, and considering the ages, current physiological condition and tolerance of disturbance of these retained trees, no significant or long-term damage to their root systems or environments will occur as a result of the proposed development.

7. CONCLUSIONS

7.1. Summary

7.1.1. Our assessment of the impacts on trees concludes that no mature, veteran or ancient trees, no category 'A' or 'B' trees, and no trees of high landscape or biodiversity value are to be removed. None of the main arboricultural features of the site are to be removed. The proposed removal of individual trees will represent a no alteration to the main arboricultural features of the site and will not have an adverse impact on the arboricultural character and appearance of the local landscape.

7.1.2. As no trees are to be pruned, and none of the proposed building structures will be located at the bottom of a slope the structures will not be within 3m of the extents of the canopies of trees to be retained, there will be adequate working space for construction close to trees, and a reasonable margin of clearance for future growth.

7.1.3. The incursions into the Root Protection Areas of trees to be retained are minor, and subject to implementation of the measures recommended on the Tree Protection Plan and set out at **Appendix 1**, no significant or long-term damage to their root systems or rooting environments will occur.

7.2. Compliance with national planning policy

7.2.1. As the proposals will retain all of the main arboricultural features of the site, its arboricultural attractiveness, history and landscape character and setting will be maintained, thereby complying with Paragraph 127 of the National Planning Policy Framework.

.As the proposals will not result in the loss or deterioration of any ancient woodland or any ancient or veteran trees, they comply with paragraph 175 of the NPPF.

7.3. Compliance with local planning policies

7.3.1. As the proposed development will not result in the removal of trees which make a significant contribution to Reading's urbanised character, and will continue to protect the adjacent woodland by retaining the young native woodland edge planting, it complies with Policy CS38 of the Reading Borough Council Core Strategy.

7.4. Conclusion

7.4.1. On the basis of our assessment, we conclude that the arboricultural impact of this scheme is of low magnitude, as defined according to the categories set out in **Table 1** of this report.

APPENDIX 1

Protection of retained trees

A1.1. Tree Protection Plan

A1.1.1. The TPP at **Appendix 4** shows the general and specific provisions to be taken during construction of the proposed development, to ensure that no unacceptable damage is caused to the root systems, trunks or crowns of the trees identified for retention. These measures are indicated by coloured notations in areas where construction activities are to occur either within, or in proximity to, retained trees, as described in the relevant panels on the drawing.

A1.2. Pre-start meeting

A1.2.1. Prior to the commencement of any site clearance or construction works the developer will convene a pre-start site meeting. This shall be attended by the developer's contract manager or site manager, the fencing/boarding contractor, the groundwork contractor(s) and the arboricultural consultant. The LPA tree officer will be invited to attend. If appropriate, the tree felling/surgery contractor should also attend. At that meeting contact numbers will be exchanged, and the methods of tree protection shall be fully discussed, so that all aspects of their implementation and sequencing are made clear to all parties. Any clarifications or modifications to the TPP required as a result of the meeting shall be circulated to all attendees.

A1.3. Protective fencing

A1.3.1. Construction exclusion zones (CEZs) will be formed by erecting protective fencing around the RPAs of all on-site trees to the specification recommended in BS 5837, Section 6.2, prior to the commencement of construction. This will be at least 2.1m in height, comprising welded mesh panels; every other one braced with a 45° strut that is pinned to the ground; and seated in concrete or plastic bases pinned to the ground by scaffold uprights sunk to a minimum depth of 600mm, as shown in **Figure 3** of that document. Individual panels will be fixed to each other with at least two clamps, one of which will be a security clamp. "**TREE PROTECTION ZONE - KEEP OUT**" or similar notices will be attached with cable ties to every third panel.

A1.3.2. The RPAs of the off-site trees will also be enforced by the erection of protective fencing to the same specification, prior to the commencement of construction, thereby safeguarding them from incursions by plant or machinery, storage and mixing of materials, or other construction-related activities which could have a detrimental effect on their root systems.

A1.3.3. The recommended positions of the protective fencing are shown by **bold blue lines** on the TPP. The precise positioning of the fencing around the trees will be considered in conjunction with any other protective hoarding/fencing which may be required around the site boundary.

A1.3.4. Within the CEZs safeguarded by the protective fencing, there will be no changes in ground levels, **no soil stripping**, and no plant, equipment, or materials will be stored. Oil, bitumen, diesel, and cement will not be stored or discharged within 10m of any trees. Areas for the storage or mixing of such materials will be agreed in advance and be clearly marked. No notice boards, or power or telephone cables, will be attached to any of the trees. No fires will be lit within 10m of any part of any tree.

A1.4. Ground protection

A1.4.1. To allow space for construction and protection from soil compaction where proposed structures are in close proximity to RPAs of trees to be retained, the ground between the protective fencing and the footprints of the proposed structures will be covered by appropriate ground boarding, in accordance with the guidelines of Section 6.2.3.3 of BS 5837. The locations where these measures will be required are marked by **pink hatching** on the TPP.

A1.4.2. For purely pedestrian traffic, scaffold boards (or similar) will be used. Scaffold boards will comply with British Standard BS 2482: 2009 *Specification for timber scaffold boards* and be at least 225mm in width and 38mm thickness; they will be butted up and attached to each other with wooden battens or metal tie straps, and laid either on an above-ground scaffold framework, or secured to the ground with steel pins above a compressible material (a 75mm deep layer of woodchips may be appropriate) laid on top of a geotextile membrane of an appropriate specification.

A1.4.3. For wheeled or tracked traffic, ground boarding will be designed by a structural engineer, to take account of the type of soil and the likely loadings. Temporary aluminium roadway ('Trakway' or similar), interlocking plastic tread boards ("Ground-Guards" or similar), or reinforced concrete slabs may be appropriate. These will also be laid on top of a compressible material above a geotextile membrane.

A1.5. Manual excavation within RPAs

A1.5.1. The first 750mm depth of excavations required within the RPAs of the trees to be retained (as shown by **bold orange lines** on the TPP) will be dug by hand, using a compressed air soil pick if appropriate, and under on-site arboricultural supervision, in order to safeguard against the possibility of unacceptable root damage being caused to these specimens. Any roots encountered of over 25mm diameter will be cut back cleanly to the face of the dig nearest to the tree, using a sharp hand saw or secateurs, and their cut ends covered with hessian to prevent desiccation.

APPENDIX 2

Tree Survey Schedule



ARBORICULTURAL PLANNING CONSULTANTS

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Arboricultural Association Registered Consultant
Frank P. S. Spooner BSc (Hons), MArborA, TechCert (ArborA)

Tree Survey Schedule

Prospect Park Hospital, Reading

February 2019

Tree Survey Schedule: Explanatory Notes

Prospect Park Hospital, Reading

This schedule is based on a tree inspection undertaken by Finn Cullerne of SJAtrees (the trading name of Simon Jones Associates Ltd.), on Wednesday the 13th of February. Weather conditions at the time were clear, dry and bright. Deciduous trees were not in leaf.

The information contained in this schedule covers only those trees that were examined, and reflects the condition of these specimens at the time of inspection. We did not have access to the trees from any adjacent properties; observations are thus confined to what was visible from within the site and from surrounding public areas.

The trees were inspected from the ground only and were not climbed, and no samples of wood, roots or fungi were taken. A full hazard or risk assessment of the trees was not undertaken, and therefore no guarantee, either expressed or implied, of their safety or stability can be given.

Trees are dynamic organisms and are subject to continual growth and change; therefore the dimensions and assessments presented in this schedule should not be relied upon in relation to any development of the site for more than twelve months from the survey date.

1. Tree no.

Given in sequential order, commencing at "1".

2. TPO no.

Number assigned to tree in the Reading Borough Council Tree Preservation Order no. 109/002, as shown in the TPO schedule and plan.

3. Species.

'Common names' are given, taken from MITCHELL, A. (1978) A Field Guide to the Trees of Britain and Northern Europe.

4. Height.

Estimated with the aid of a hypsometer, given in metres.

5. Trunk diameter.

Trunk diameter measured at approx. 1.5m above ground level; or where the trunk forks into separate stems between ground level and 1.5m, measured at the narrowest point beneath the fork. Given in millimetres.

6. Radial crown spread.

The linear extent of branches from the base of the trunk to the main cardinal points, rounded up to the closest half metre, unless shown otherwise. For small trees with reasonably symmetrical crowns, a single averaged figure is quoted.

7. Crown break.

Height above ground and direction of growth of first significant live branch.

8. Crown clearance.

Distance from adjacent ground level to lowest part of lowest branch, in metres.

9. Age class.

Young: Age less than 1/3 life expectancy

Semi-mature: 1/3 to 2/3 life expectancy

Mature: Over 2/3 life expectancy

Over-mature: Mature, and in a state of decline

Veteran: Mature, with a large trunk diameter for the species; but showing signs of ancientness, irrespective of actual age, with decay or hollowing, and a crown that has undergone some retrenchment and has a structure characteristic of the latter stages of life.

Ancient: Beyond the typical age range and with a very large trunk diameter for species; with extensive decay or hollowing; and a crown that has undergone retrenchment and has a structure characteristic of the latter stages of life.

10. Physiology.

Health, condition and function of the tree, in comparison to a normal specimen of its species and age.

11. Structure.

Structural condition of the tree – based on both the structure of its roots, trunk and major stems and branches, and on the presence of any structural defects or decay.

Very good: No significant physiological or structural defects, an upright and reasonably symmetrical structure; a particularly good example of its species.

Good: No significant physiological or structural defects, and an upright and reasonably symmetrical structure.

Moderate: No significant pathological defects, but a slightly impaired physiological structure; however, not to the extent that the tree is at immediate or early risk of collapse.

Indifferent: Significant physiological or pathological defects; but these are either remediable or do not put the tree at immediate or early risk of collapse.

Poor: Significant and irremediable physiological or pathological defects, such that there may be a risk of collapse.

Hazardous: Significant and irremediable physiological or pathological defects, with a risk of imminent collapse.

12. Comments.

Where appropriate comments have been made relating to:

- Health and condition
- Safety, particularly close to areas of public access
- Structure and form
- Estimated life expectancy or potential
- Visibility and impact in the local landscape

13. Category.

Based on the British Standard "Trees in relation to design, demolition and construction - Recommendations", BS 5837: 2012, Table 1, adjusted to give a greater weighting to trees that contribute to the character and appearance of the local landscape, to amenity, or to biodiversity.

Category U: Trees 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.

- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category 'U' trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning).
- Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.
- Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality.

Category A: Trees of high quality with an estimated remaining life expectancy of at least 40 years.

- (1) Trees that are particularly good examples of their species, especially if rare or unusual.
- (2) Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.
- (3) Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

Category B: Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

- (1) 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 minor 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.
- (2) Trees present in numbers, usually growing as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals; or trees present in numbers but situated so as to make little visual contribution to the wider locality.
- (3) Trees with material conservation or other cultural value.

Category C: Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.

- (1) Unremarkable trees of very limited merit or of such impaired condition that they do not qualify in higher categories.
- (2) 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 landscape benefits.
- (3) Trees with no material limited conservation or other cultural value.

TREE SURVEY SCHEDULE

Prospect Park Hospital, Reading

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
1	G14	False acacia	11m	340mm	N 5.6m E 4.5m S 3.2m W 3.2m	2.5m	3m	Semi-mature	Average	Indifferent	No significant defects in rooting area or base; several pruning wounds consistent with lifting works and reduction away from building with epicormic response in the inner canopy; deadwood within crown above average for age and species; mutually suppressed in a group with adjacent trees, and therefore has an asymmetric crown; very limited impact on landscape; partially visible from one view from hospital car park and in no public views.	C (1)
2	G15	False acacia	11m	310mm	N 4m E 2.5m S 3m W 6m	2m	4m	Semi-mature	Average	Indifferent	No significant defects in rooting area or base; several pruning wounds consistent with lifting works and reduction away from building with epicormic response within inner canopy; deadwood within crown above average for age and species; mutually suppressed in a group with adjacent trees, and therefore has an asymmetric crown; very limited impact on landscape; partially visible from one view from hospital car park and in no public views; given proximity to adjacent buildings, seems unlikely it will be able to be retained in any desirable form and the larger these trees get, the more of an issue they will be for adjacent buildings.	C (1)
3	G16	Fastigate hornbeam	11m	225mm	N 1m E 2m SE 3m W 1.5m	1.5m	3.5m	Semi-mature	Average	Indifferent	Assymetrical crown as overtopped by adjacent specimens; small suppressed specimen of very limited merit.	C (1)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
4	W1	Large-leafed lime	26m	835mm	N 6m E 5.2m S 3.1m W 3.9m	3.5m	2m	Mature	Average	Moderate	Located at top of steep bank, 1m from top directly in line with Hazelwood building; no significant defects in rooting area; good buttressing; dense epicormic reaction from ground level into top of crown; mechanical contact wounds on SW section of trunk, of minor significance only 30mm in diameter and 200mm in length, consistent with mower damage with good occlusion; complex pruning history and has been lifted and reduced with pruning wounds varying in size, age and are distributed relatively evenly across crown; some small pruning wounds have formed small cavities and above an area where they can be probed; wounds vary in size from 50mm to 100mm; response growth no 40mm in diameter and 3m in length; lifted to a height of 8m; main unions within canopy are tensile with no significant defects visible; historically reduced to 22m with pruning wounds varying in size from 100 to 200mm in diameter, reaction response growth 3-4m in length and 50 to 100mm in diameter; no significant structural defects throughout crown; contributes to wooded character of area and is a continuation of off-site W1 under TPO; only mature specimen on E boundary; screened in most views by adjacent buildings and smaller trees; top of canopy visible from car park and adjacent residential properties to N.	B (123)
5		English oak	22m	1000mm est	6m	9	5	Mature	Average	Moderate	Off-site tree; specimen located in woodland to the north of the site with no access available all measurements estimated; tree showing signs of veteranisations and with large stem diameter; essential component of the woodland.	A(3)
G1	G13	False acacia and Fastigate hornbeam	11m	Min 150mm Max 315mm Avg 230mm	7m	2m	2.5m	Semi-mature	Average	Indifferent	Comprises fastigate hornbeam and two robinia; hornbeams are young to semi-mature, robinia are semi-mature; of moderate quality but low landscape impact due to small size; limited views, with just one partial view from small off-shoot car park from main car parking area; heavily screened by adjacent buildings and have little impact on landscape.	C (12)
G2	W1	Scots pine, English oak and Field maple	9m	Min 25mm Max 170mm Avg 100mm	2m	0.5m	0m	Young	Average	Moderate	Group comprising young specimens including Scot's pine, field maple, oak with some ash and holly regeneration coming through; dominant species Scot's pine followed by oak; recently planted and immature; ground dominated by ivy and bramble; all specimens readily replaceable and may be of moderate quality, but due to small size have limited impact on surrounding public and non-public views; low-level screening value and conservation value.	C (13)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio - logy	Structure	Comments	Category
G3		Ash, Field maple and Hawthorn	12m	Avg 300mm	3m	3m	4m	Semi-mature	Average	Indifferent	Row of off-site trees growing along NW boundary; comprises predominantly ash standards with ivy-covered hawthorn and field maple understory; provide some screening; partially visible from adjacent residential properties and from access road to the properties; impact on landscape is low; of moderate quality but low value due to limited size.	C (12)
W1		English oak, Large-leaved lime and Ash	25m	Avg 800mm	6m	5m	5m	Mature	Average	Moderate	Off site woodland; large diameter, potentially veteran oak 9m from boundary fence; lime 6m from boundary fence set in middle of boundary line between Hazelwood and NE boundary corner; showing signs of veteranisation, even with the small diameter limes; good dead wood habitat visible; multiple cavities; standing dead wood; sitting dead wood; predominantly oak throughout woodland with some lime; understory consists oak saplings and ash regeneration; ground cover is ground ivy and bramble; readily visible from site and based on top of a hill so visible from N; makes significant contribution to landscape; main arboricultural feature of site.	A (123)

Root Protection Areas (RPAs)

Root Protection Areas have been calculated in accordance with paragraph 4.6.1 of the British Standard 'Trees in relation to design, demolition and construction – Recommendations', BS 5837:2012. This is the minimum area which should be left undisturbed around each retained tree. RPAs are portrayed initially as a circle of a fixed radius from the centre of the trunk; but where there appear to be restrictions to root growth the circle is modified to reflect more accurately the likely distribution of roots.

<i>Tree No.</i>	<i>Species</i>	<i>RPA</i>	<i>RPA Radius</i>
1	False acacia	52.3m ²	4.1m
2	False acacia	43.5m ²	3.7m
3	Fastigate hornbeam	22.9m ²	2.7m
4	Large-leafed lime	315.4m ²	10.0m
5	English oak	452.4m ²	12m
G1	False acacia and Fastigate hornbeam	44.9m ²	3.8m
G2	Scots pine, English oak and Field maple	13.1m ²	2.0m
G3	Ash, Field maple and Hawthorn	40.7m ²	3.6m
W1	English oak, Large-leafed lime and Ash	289.5m ²	9.6m

APPENDIX 3

Tree Protection Plan

Arboricultural Impacts: Summary
(For details, see below)

Impact	No. of Trees
Trees to be removed	3
Groups of trees to be removed	0
TPO trees to be removed	3
Trees to be pruned	0
Trees where manual excavation needed within RPAs	1
Trees where above soil surfacing needed within RPAs	0
Trees with proposed underground services within RPAs	0

Total numbers of trees to be removed

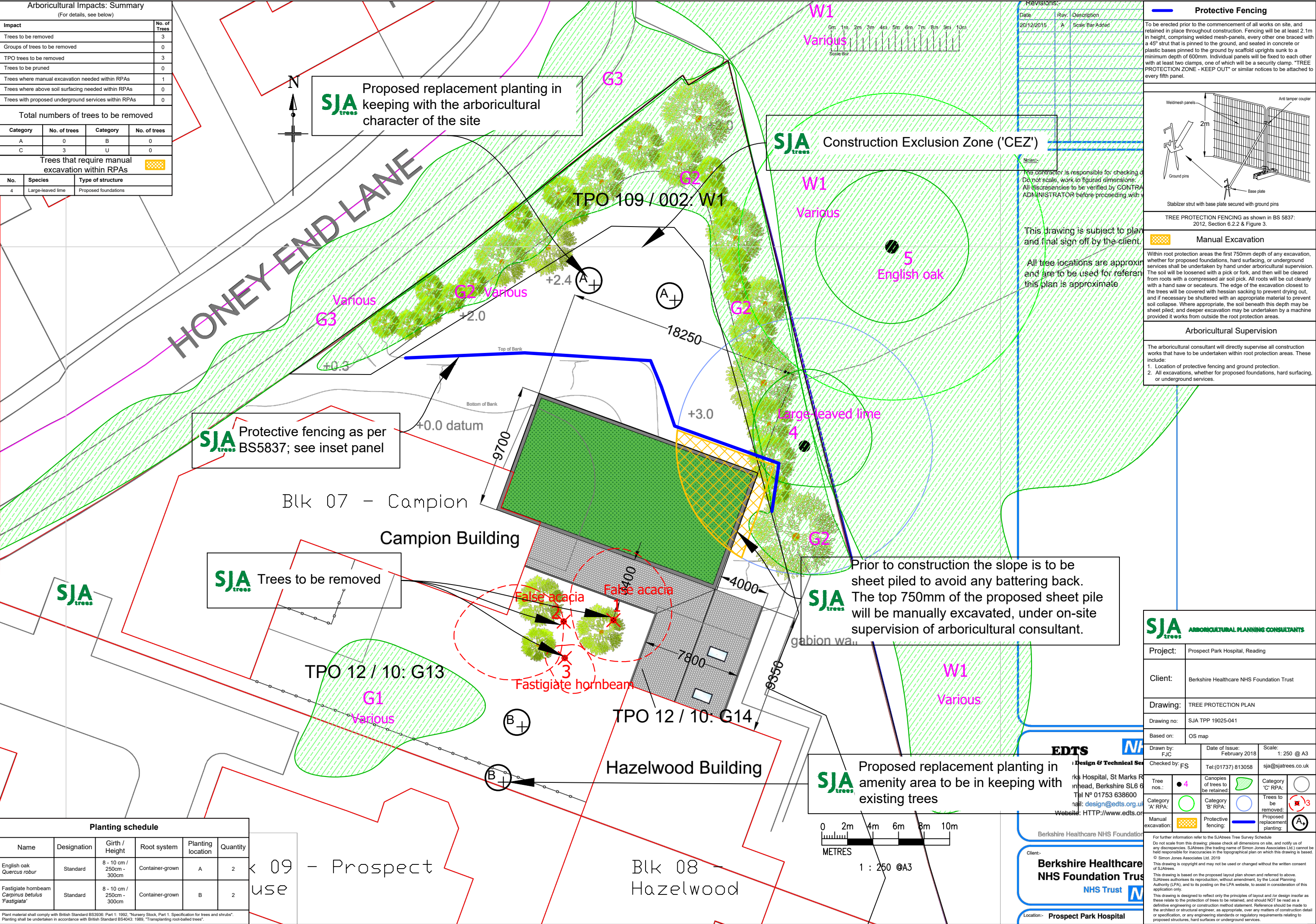
Category	No. of trees	Category	No. of trees
A	0	B	0
C	3	U	0

Trees that require manual excavation within RPAs

No.	Species	Type of structure
4	Large-leaved lime	Proposed foundations

Planting schedule					
Name	Designation	Girth / Height	Root system	Planting location	Quantity
English oak <i>Quercus robur</i>	Standard	8 - 10 cm / 250cm - 300cm	Container-grown	A	2
Fastigate hornbeam <i>Carpinus betulus 'Fastigiata'</i>	Standard	8 - 10 cm / 250cm - 300cm	Container-grown	B	2

Plant material shall comply with British Standard BS3098: Part 1: 1992, "Nursery Stock, Part 1: Specification for trees and shrubs".
Planting shall be undertaken in accordance with British Standard BS4043: 1989, "Transplanting root-balled trees".



Revisions:

Date	Rev.	Description
20/12/2015	A	Scale Bar Added

Notes:

The contractor is responsible for checking dimensions on site. Do not scale, work to figured dimensions. All discrepancies to be verified by CONTRACTOR before proceeding with work.

This drawing is subject to plan and final sign off by the client.

All tree locations are approximate and are to be used for reference only. This plan is approximate.

Protective Fencing

To be erected prior to the commencement of all works on site, and retained in place throughout construction. Fencing will be at least 2.1m in height, comprising welded mesh panels, every other one braced with a 45° strut that is pinned to the ground, and seated in concrete or plastic bases pinned to the ground by scaffold uprights sunk to a minimum depth of 600mm. Individual panels will be fixed to each other with at least two clamps, one of which will be a security clamp. "TREE PROTECTION ZONE - KEEP OUT" or similar notices to be attached to every fifth panel.

Manual Excavation**Arboricultural Supervision**

SJA ARBORICULTURAL PLANNING CONSULTANTS

Project: Prospect Park Hospital, Reading

Client: Berkshire Healthcare NHS Foundation Trust

Drawing: TREE PROTECTION PLAN

Drawing no: SJA TPP 19025-041

Based on: OS map

Drawn by: FJC

Date of Issue: February 2018

Scale: 1: 250 @ A3

Checked by: FS

Tel: (01737) 813058

sja@sjatrees.co.uk

Tree nos.: 4

Canopies of trees to be retained:

Category 'A' RPA:

Category 'B' RPA:

Manual excavation:

Protective fencing:

Proposed replacement planting:

Category 'C' RPA:

Trees to be removed:

Proposed replacement planting:

For further information refer to the SJATrees Tree Survey Schedule. Do not scale from this drawing; please check all dimensions on site, and notify us of any discrepancies. SJATrees (the trading name of Simon Jones Associates Ltd.) cannot be held responsible for inaccuracies in the topographical plan on which this drawing is based. © Simon Jones Associates Ltd. 2019. This drawing is copyright and may not be used or changed without the written consent of SJATrees. This drawing is based on the proposed layout plan shown and referred to above. SJATrees authorises its reproduction, without amendment, by the Local Planning Authority (LPA), and to its posting on the LPA website, to assist in consideration of this application only. This drawing is designed to reflect only the principles of layout and/or design insofar as these relate to the protection of trees to be retained, and should NOT be read as a definitive engineering or construction method statement. Reference should be made to the architect or structural engineer, as appropriate, over any matters of construction detail or specification, or any engineering standards or regulatory requirements relating to proposed structures, hard surfaces or underground services.

Client: Berkshire Healthcare NHS Foundation Trust

Location: Prospect Park Hospital