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Arboricultural Implications Report

Proposed re-development at

Darwin Court

Gloucester Avenue, Camden

August 2024

Ref. SJA air 24272-01

SUMMARY

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

S2. Our assessment of the impacts of the proposals on the existing trees concludes that no trees are to be removed and as such, the proposed installation of 8 modular residential units on top of the existing apartment blocks will represent no alteration to the main arboricultural features of the site, and no alteration to the overall arboricultural character of the site; and will not have adverse impact on the arboricultural character and appearance of the local landscape or the conservation area.

S3. The proposed pruning of two trees (nos. 20 and 21) is minor in extent, will not detract from the health or appearance of these trees, and complies with current British Standards. Should further detailed design identify the need for additional pruning to enable access by the main boom of the mobile crane for the installation of the proposed modular units, such pruning is expected to be minor and can be controlled by appropriate planning conditions.

S4. The incursions into the Root Protection Areas of trees are minor, and subject to implementation of the measures recommended on the Tree Protection Plan and set out at **Appendix** 2**,** no significant or long-term damage to their root systems or rooting environments will occur.

S5. None of the proposed modular residential units are likely to be shaded by retained trees to the extent that this will interfere with their reasonable use or enjoyment by incoming occupiers, which might otherwise lead to pressure on the Local Planning Authority to permit felling or severe pruning that it could not reasonably resist.

S6. As the proposed development will not result in the removal of trees which are of significant amenity, historic, cultural or ecological value, it complies with Policy A3 of The London Borough of Camden Council Local Plan.

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APPENDICES

1. INTRODUCTION AND BACKGROUND INFORMATION

1.1. Instructions

1.1.1. SJAtrees has been instructed by Airspace Group Ltd to visit Darwin Court, Gloucester Road 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 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 The London Borough of Camden Council ("the LPA") and complies with local validation requirements.

1.2.2. It complies also with the recommendations of British Standard BS 5837:2012, *Trees in relation to design, demolition and construction – Recommendations* ('BS 5837'). However, the British Standard is not a Code of Practice that consists of written rules outlining how actions or decision must be taken and it "should not be quoted as if it were a specification[1]"; it is a set of recommendations intended to "assist decision-making with regard to existing and proposed trees in the context of design, demolition and construction[2]". It doesn't form part of planning policy; but it is a material consideration to which weight is likely to be given.

1.2.3. The proposed development comprises the delivery of 8 high-quality roof extension modules using modern modular methods of construction to each of the 5 x buildings comprising Darwin Court that respect and compliment the architecture and

[1] British Standard BS 5837:2012. Trees in relation to design, demolition and construction – Recommendations; Foreword. The British Standards Institution.

[2] Ibid., p.1, Introduction.

history of the existing buildings and the surrounding, along with improvements to the existing users of Darwin Court such as improved common parts, landscaping.

1.2.4. This report summarises and sets out the main conclusions of the baseline data collected during the tree survey and identifies those trees, 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 individual trees and groups of trees, including those to be removed (Section 4), those to be pruned (Section 5), those which might incur root damage that might threaten their viability (Section 6) and those that might become under pressure for removal after occupation because of shading or apprehension (Section 7). A summary and conclusions, with regard to local planning policy, are presented in Section 8.

1.3. Site inspection

1.3.1. A site visit and tree inspection were undertaken by Anthony Harte and Tom Southgate of SJAtrees, on Thursday the 25th July 2024. Weather conditions at the time were overcast, with occasional showers. Deciduous trees were in full leaf.

1.4. Site description

1.4.1. The site is 0.7ha in size and is located on the northeast side of Gloucester Avenue opposite Cecil Sharp House, as shown at ***Figure 1*** below. The north boundary adjoins the business centre know as 'The Vineyards'. The west and southern boundaries front onto Gloucester Avenue while the east boundary abuts national railway land servicing the main rail lines to London Euston Station to the southeast.

1.4.2. The site is on ground that rises by approximately 1m from its northern end adjacent to 'The Vineyards' to its southern end adjacent to the junction with Oval Road, and currently comprises x5 six storey blocks of apartments with associated front hard standing and rear amenity space.

1.4.3. Historical maps and aerial photographs indicate that the site was developed residential housing since the mid-nineteenth century with detached properties within spacious gardens.

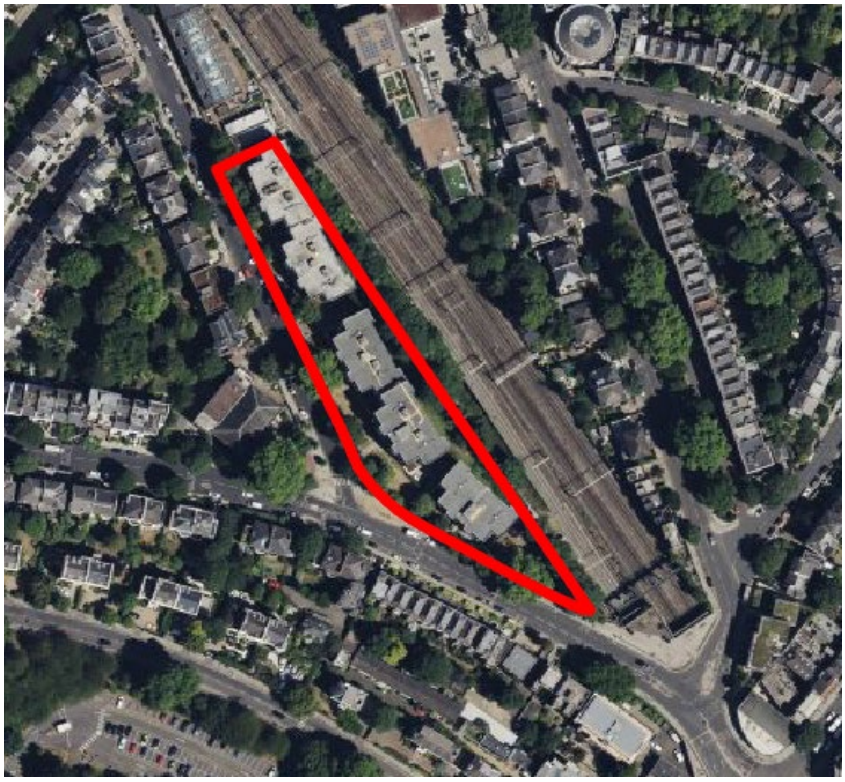

Figure 1: Site location shown on AutoCAD satellite image

1.4.4. The earliest Ordnance Survey map dated 1868 - 1873, shows several trees growing within the site and fronting Gloucester Avenue; it is clear that none of these trees are still present, but some, possibly the two London planes (nos. 10 & 56) and are sufficient size and age that we consider they may have been planted or became established in the late nineteenth or early twentieth century.

Figure 2: Left - Extract from OS map of 1868 - 73, showing some of the trees present at that time; Right - Aerial photograph 10th May 1046

1.5. Soil type

1.5.1. The British Geological Survey Solid and Drift Geology map of the area indicates the site overlies a bedrock of London clay. There are no superficial deposit records.

1.5.2. The class of soil in this area is recorded on the Soilscape (England) maps on the Department for Environment, Food & Rural Affairs ('Defra') Magic website as a slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soil with impeded drainage.

1.5.3. We are not aware of a site investigation or soil analysis having been undertaken; but the class of soil and the indications of the British Geological Survey map suggest that trees may be moderately-rooted and that the soil is likely to be susceptible to compaction.

1.6. Statutory controls

1.6.1. At the time of writing, the LPA website does not make information available as to whether trees are covered by a tree preservation order (TPO). However, a review of the planning section of the LPA website reveals that a number of trees have been subject to applications for works to trees covered by a TPO.

1.6.2. The site is within the boundaries of the Primrose Hill Conservation Area. The Character Appraisal for this area mentions mature trees throughout the document located within front and rear gardens and are readily visible from the principal roads including Regents Park Road and Gloucester Avenue. Most notably it mentions trees within the Regents Park Road South sub-area stating ***"…with a large number of mature street trees and private tress to garden areas creating green corridors to the principle roads."***

1.7. Non-statutory designations

1.7.1. 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.

1.7.2. 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. PLANNING CONTEXT

2.1. Planning history

2.1.1. A review of the planning history of this site on the planning section of the LPA website reveals two recent applications for minor development works along with multiple applications for pruning works to trees subject to Tree Preservation Orders; but no recent applications for its re-development.

2.2. Planning policy - national

2.2.1. 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.

2.2.2. The National Planning Policy Framework ('NPPF')[3] 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.**"

2.2.3. In paragraph 135, within Section 12 "Achieving well-designed and beautiful 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;

[3] The National Planning Policy Framework (NPPF) (December 2023). Department for Levelling Up, Housing & Communities

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."

2.2.4. Paragraph 136 in this section states: "**Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users.**"

2.2.5. The section titled "Meeting the challenge of climate change, flooding and coastal change" states at paragraph 158: "**Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure."**

2.2.6. In paragraph 180, 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;

[…] d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans;

2.2.7. In paragraph 186, under the 'Habitats and biodiversity' section, 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…."

2.3. Regional planning policy

2.3.1. Policy G1 'Green infrastructure' of the London Plan[4] states:

"A London's network of green and open spaces, and green features in the built environment, should be protected and enhanced. Green infrastructure should be planned, designed and managed in an integrated way to achieve multiple benefits.

[4] The London Plan (March 2021); Greater London Authority

B Boroughs should prepare green infrastructure strategies that identify opportunities for cross-borough collaboration, ensure green infrastructure is optimised and consider green infrastructure in an integrated way as part of a network consistent with Part A.

C Development Plans and area-based strategies should use evidence, including green infrastructure strategies, to:

1) identify key green infrastructure assets, their function and their potential function

2) identify opportunities for addressing environmental and social challenges through strategic green infrastructure interventions.

D Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network."

2.3.2. Policy G7 'Trees and woodlands' of the London Plan states:

"A London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.

B In their Development Plans, boroughs should:

1) protect 'veteran' trees and ancient woodland where these are not already part of a protected site[139]

2) identify opportunities for tree planting in strategic locations.

C Development proposals should ensure that, wherever possible, existing trees of value are retained.[140] If planning permission is granted that necessitates the removal of trees there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

[140] Category A, B and lesser category trees where these are considered by the local planning authority to be of importance to amenity and biodiversity, as defined by BS 5837:2012".

2.4. Local planning policy

2.4.1. Local planning policies are contained in The London Borough of Camden Council Local Plan adopted 2017.

2.4.2. The relevant section of Policy A3 (Biodiversity) of the Local Plan states:

"A3. The Council will protect, and seek to secure additional, trees and vegetation. We will:

j. resist the loss of trees and vegetation of significant amenity, historic, cultural or ecological value including proposals which may threaten the continued wellbeing of such trees and vegetation;

k. require trees and vegetation which are to be retained to be satisfactorily protected during the demolition and construction phase of development in line with BS5837:2012 'Trees in relation to Design, Demolition and Construction' and positively integrated as part of the site layout;

l. expect replacement trees or vegetation to be provided where the loss of significant trees or vegetation or harm to the wellbeing of these trees and vegetation has been justified in the context of the proposed development;

m. expect developments to incorporate additional trees and vegetation wherever possible."

2.4.3. The relevant section of Policy D1 (Design) of the Local Plan states, inter alia:

"D1. The Council will seek to secure high quality design in development. The Council will require that development:

(…) K. incorporates high quality landscape design (including public art, where appropriate) and maximises opportunities for greening for example through planting of trees and other soft landscaping, (…)"

2.4.4. The relevant section of Policy D2 (Heritage) of the Local Plan states, inter alia:

"The Council will preserve and, where appropriate, enhance Camden's rich and diverse heritage assets and their settings, including conservation areas, listed buildings, archaeological remains, scheduled ancient monuments and historic parks and gardens and locally listed heritage assets.

Designated heritage assets

Designed heritage assets include conservation areas and listed buildings. The Council will not permit the loss of or substantial harm to a designated heritage asset, including conservation areas and Listed Buildings, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

a. the nature of the heritage asset prevents all reasonable uses of the site;

b. no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation;

c. conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible; and

d. the harm or loss is outweighed by the benefit of bringing the site back into use.

The Council will not permit development that results in harm that is less than substantial to the significance of a designated heritage asset unless the public benefits of the proposal convincingly outweigh that harm.

Conservation areas

Conservation areas are designated heritage assets and this section should be read in conjunction with the section above headed 'designated heritage assets'. In order to maintain the character of Camden's conservation areas, the Council will take account of conservation area statements, appraisals and management strategies when assessing applications within conservation areas.

The Council will:

e. require that development within conservation areas preserves or, where possible, enhances the character or appearance of the area;

f. resist the total or substantial demolition of an unlisted building that makes a positive contribution to the character or appearance of a conservation area;

g. resist development outside of a conservation area that causes harm to the character or appearance of that conservation area; and

h. preserve trees and garden spaces which contribute to the character and appearance

of a conservation area or which provide a setting for Camden's architectural heritage."

2.4.5. The LPA has prepared a Supplementary Planning Document (SPD) dealing with the protection of trees on development sites (Camden Planning Guidance: Trees March 2019). The guidance presented in this document has been closely followed in the preparation of this report.

2.5. Neighbourhood planning policy

2.5.1. At the time of writing there is no Neighbourhood Plan covering the area within which the site is found.

3. THE TREES

3.1. Survey findings

3.1.1. We surveyed 43 individual trees and 6 groups of trees growing within or immediately adjacent to the site. Their details can be found in the tree survey schedule at **Appendix 3**.

3.1.2. The arboricultural character of the site is defined by native and naturalised broadleaved trees of mostly semi-mature age. To the front of Darwin Court, the trees comprise planted specimens located in a single line parallel with the footway along Gloucester Avenue. These trees comprise a mix of lime, horse chestnut, whitebeam and sycamore along with two mature London planes which represent the largest and most prominent arboricultural elements of the site. Most of these trees have previously been pruned consistent with their management as urban street trees.

3.1.3. To the rear of Darwin Court, within the land adjacent to the railway line, the trees are dominated by self-seeded sycamore which represents the most commonly found species, and which grows amidst dense scrub. In contrast to the prevalence of deciduous broadleaved trees on site, there is a line of Lawson cypress and cherry laurel planted off-site along the east boundary parallel with the railway line.

3.1.4. Overall, the arboricultural character of the site is consistent with the trees in the surrounding area.

3.2. Assessment of suitability for retention

3.2.1. As noted above in Section 2.3, local planning policies require the retention of trees that are of **"significant amenity, historic, cultural or ecological value**." The individuals and groups of trees within or adjacent to the site, whose attributes we consider meet these criteria, are the essential and significant components (nos. 1, 3, 4 - 11, 13, 15, 26, 41, 42, 44, 45, 55 and 56) of those trees growing alongside the footway of Gloucester Avenue.

3.2.2. One individual tree (Crack willow no. 50) is unsuitable for retention, irrespective of the proposals, in that it is in such a condition that it cannot realistically be retained as a living tree in the context of the current land use for longer than 10

years. However, as can be seen below, this tree is not shown to be removed as part of the proposals. The category ‘U’ tree no. 50 is indicated on the accompanying tree protection plan by a **bracketed red** number.

3.2.3. There are nine mature trees (nos. 1, 3, 9, 11, 24, 44, 50, 51, 56) growing on or immediately adjacent to the site; but one of these, crack willow no. 50 is of short-term potential and has been assessed as category U, as discussed above. Of the remaining eight mature trees of large ultimate size and long-term potential, all but two of these (nos. 24 and 51) are readily visible in views from public viewpoints and so make a significant contribution to the landscape.

3.2.4. There is one category ‘A’ tree (London plane no. 56) and 10 category 'B' specimens. The remaining 31 trees are assessed as category 'C' trees, 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 young trees with trunk diameters below 150mm; or a combination of these.

3.2.5. All of the groups of trees have been assessed as category ‘C’.

3.3. Assessment of arboricultural impacts

3.3.1. The arboricultural impacts of the proposed landscape layout by James Aldridge Landscape and Garden Design, drawing no. DC-001 Rev B, have been assessed by overlaying this onto the TCP and are discussed in the following sections of this report and are shown on the tree protection plan (TPP) presented at **Appendix 4**.

3.3.2. The exact specifications of the proposed modular residential units are subject to further detailed design, but it is understood that a mobile crane will be required to install the proposed modular units onto the roofs of the existing apartment blocks. However, as the details for the proposed units will inform the working range of the main boom of the mobile crane, some of the potential arboricultural impacts, such as the pruning of trees required to enable access by the crane boom (see Section 5 below), will be subject to further arboricultural assessment at a later design stage; and this can be controlled by appropriate planning conditions.

3.3.3. The TPP shows how trees will be protected from damage during construction

and installation of the modular units, and the measures identified are set out and described in the outline arboricultural method statement at **Appendix 2** of this report. The implementation of, and adherence to, these measures can readily be secured by the imposition of appropriate planning conditions.

3.3.4. Details of the impacts identified within these categories, and our assessment of their respective significance, are analysed in Sections 4 to 7 below.

3.3.5. 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.

Impact	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 impacts[5]

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

4. TREES TO BE REMOVED

4.1. Details

4.1.1. No trees are to be removed to accommodate the proposed development, as shown on the proposed layout plan.

4.1.2. As the main development is comprised of the installation of modular units, affixed to the existing Darwin Court apartment block roofs, and the units will be lifted and craned into position, there is no foreseen requirement for tree removal.

4.1.3. Two groups (G1 and G3) are to be partially removed to facilitate the proposed landscaping scheme including the installation of a footway and bin store to the rear of Darwin Court and for the proposed widening of the existing pedestrian footpaths that front onto Gloucester Avenue.

4.2. Assessment

4.2.1. As no trees are to be removed, the proposals represent no alteration to the main arboricultural features of the site and as such the contribution these make 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. The partial removal of groups G1 and G3 comprises the clearance of young understorey scrub of low arboricultural quality, and the removal of small ornamental shrubs no greater than 1.5m in height, respectively. The partial removal of either group will therefore not result in any significant adverse impacts on the arboricultural character or quality of the site or of the conservation area.

4.2.3. The proposed landscape plan submitted with the application shows extensive new planting of shrubs, hedges and trees which will not only mitigate the partial removal of the existing scrub and ornamental shrubs but also result in a net increase in trees and vegetation across the site thereby enhancing the local landscape.

5. TREES TO BE PRUNED

5.1. Details

5.1.1. Two trees are to be pruned to facilitate implementation of the proposals. These are shown at ***Table 2*** below.

Tree no.	Species	Age class	Proposed works
20	Lawson cypress	Semi-mature	Laterally reduce west and southwest crown extents by up to 2m, leaving new crown extents no closer than 2m from trunk, to provide clearance for proposed bin store
21	Sycamore	Semi-mature	Crown lift southwest crown extent to height of 3m above ground level to provide overhead clearance for proposed bin store

Table 2: Trees to be pruned to facilitate development

5.1.2. It is anticipated that some of the trees growing at the front of Darwin Court, along Gloucester Avenue, may require some pruning to provide the working space necessary to allow for a crane's boom to lift the proposed rooftop modular units into place.

5.1.3. Details of the potential working space and any associated pruning that might be required to enable access for the crane's boom will be informed by the specifications of the proposed modular residential units (such as their weight and size) which are subject to further detailed design. The details of any potential pruning (if required) will therefore need to be assessed at a later stage and which can be controlled by appropriate planning conditions.

5.2. Assessment

5.2.1. The extent of pruning proposed to trees nos. 20 and 21 is minor. In no cases will the diameter of the final cut need to exceed one-third of that of the parent stem or branch. Branches to be removed from each tree are few in number and small in size and will result in a maximum wound size no greater than 100mm in diameter; this will have an insignificant effect on the health and physiological condition of these trees and complies with the recommendations at paragraph 7.2.4 and at Table 1 of British Standard BS 3998:2010, *Tree work – Recommendations*.

5.2.2. In terms of impact upon the landscape, the proposed pruning is minor in

extent, and will be largely screened in views by the remainder of the trees' canopies, by other trees growing within or adjacent to the site and by the apartment blocks comprising Darwin Court. As such, it will have little effect on the appearance of the trees when viewed from outside the site itself, and accordingly will not detract from the character or appearance of the conservation area.

5.2.3. Whilst some of the trees along Gloucester Avenue may require pruning to allow for the operating space required for the crane's main boom to facilitate installation of the modular rooftop units, every effort will be made to locate and angle the mobile crane appropriately to obviate or minimise the need for any pruning.

5.2.4. Consideration of the existing trees and site layout reveals that there are at least four sizeable gaps between existing tree canopies along Gloucester Avenue where a crane could be located to enable installation of the modular residential units whilst reducing the potential need for pruning (these are shown on the TPP at **Appendix 4**).

5.2.5. Although there is no gap between the canopies of trees nos. 13, 14, 15, and 41 – 45 located towards the southern-most end of the site and adjacent to Block E of Darwin Court, these trees are not especially tall, attaining heights of between 11m – 18m. In view of their limited height and taking into account the likely restrictions to the main boom's working range due to the distance from the apartment blocks, the angle of the boom and the weight of the modular units, it is anticipated there will still be sufficient clearance for a crane with a maximum boom height of 68m to be able install the modular units over the tree canopies without necessitating their pruning.

5.2.6. However, following further detailed design, should the need to prune any of the trees to provide operating space for the crane boom become apparent, such pruning is likely to be minor and comprise nothing greater than the cutting back or reducing the length of small-sized regrowth from the trees previous pruning points. Such pruning is likely to be minor will not have a significant adverse impact on the health or potential of the trees, and will not detract from their amenity value or diminish the contribution they make to the conservation area.

5.2.7. To ensure that no excessive or harmful pruning occurs, any proposed pruning of the trees is to be assessed at a later stage upon receipt of further engineering details

and this can be controlled by appropriate planning conditions.

5.2.8. Whilst the crown extents of many of the existing trees grow less than 2m from the existing apartment blocks, as the proposed modular units will be located on top of the existing building blocks at an elevation higher than the surrounding trees, none of these are likely to require pruning for clearance from the proposed units. In time, should the upper branches of any of the existing trees begin to grow towards the new roof extensions in the future, it is expected that such encroaching branches can be cut back to maintain clearance in much the same way as the adjacent trees are currently pruned and managed and hence represents no difference to the existing situation.

6. ROOT PROTECTION AREA INCURSIONS

6.1. Details

6.1.1. Parts of the proposed hard surfacing for the widening of the existing pedestrian footpath, proposed gravel footpath, bin store and replacement steps will encroach within the RPAs of fifteen of the trees to be retained. These are shown in ***Table 3*** below.

6.1.2. The proposed hard surfacing also encroaches within the structural root plate of lime tree no. 4 and London plane no. 10.

Tree no.	Species	Incursion	Extent of incursion	% of RPA	Incursion - currently unsurfaced ground	% of RPA
3	Horse chestnut	Proposed widening of existing pedestrian footpath	11.2m^2	5.3%	3.2m^2	1.5%
4	Common lime	Proposed widening of existing pedestrian footpath	11.2m^2	13%	3.2m^2	3.7%
5	Common lime	Proposed widening of existing pedestrian footpath	11.2m^2	5.5%	3.2m^2	1.6%
10	London plane	Proposed widening of existing pedestrian footpath	43.1m^2	10.5%	22m^2	5.3%
11	Sycamore	Proposed widening of existing pedestrian footpath	14m^2	5.4%	-	-
13	Sycamore	Proposed widening of existing pedestrian footpath	17.7m^2	21.1%	13.9m^2	16.6%
16	Lawson cypress	Proposed replacement steps	1.2m^2	1.6%	-	-
20	Lawson cypress	Proposed gravel footpath and bin store	13.2m^2	23.8%	-	-
21	Sycamore	Proposed gravel footpath	1.4m^2	8%	-	-
22	Sycamore	Proposed gravel footpath and bin store	4.2m^2	12.9%	-	-
23	Wild cherry	Proposed gravel footpath and bin store	3.1m^2	8.9%	-	-
42	Common lime	Proposed widening of existing pedestrian footpath	16.7m^2	16.4%	-	-
44	Sycamore	Proposed widening of existing pedestrian footpath	15.1m^2	11.5%	16.5m^2	12.5%
51	Sycamore	Proposed gravel footpath and replacement steps	12.7m^2	7.7%	-	-
52	Sycamore	Proposed gravel footpath	5.1m^2	5.8%	-	-

Table 3: Proposed incursions within RPAs

6.2. Assessment

6.2.1. The incursions by parts of the proposed hard surfacing for the widening of the existing pedestrian footpath, proposed gravel footpath, bin store and replacement steps into the RPAs of the fifteen trees listed at ***Table 3*** equate to no more than 23.8% of individual RPAs. Any potential adverse impacts can be satisfactorily mitigated as set out below.

6.2.2. The incursions into the RPAs of trees nos. 3, 4, 5, 10, 11, 13, 42 and 44 are by proposed hard surfacing for the widening of the existing pedestrian footpaths at the main access points into Darwin Court and, owing to the need to tie in with existing levels, some degree of excavation will be required. To minimise impacts on these specimens, excavation will be minimal and should not exceed 300mm. Excavation within these RPAs will be undertaken manually, under the 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.

6.2.3. Where the proposed access widening and hard surfacing encroaches within the structural root plate of lime tree no. 4 and of London plane no. 10, trial excavation under arboricultural supervision will be undertaken prior to installation of the new surfacing so as to ascertain the presence of any significant structural roots in this area. Should significant roots be encountered, alternative options will be explored to avoid the disturbance, damage or severance of such roots, for example, by locally raising the proposed finished levels to obviate the need for excavation. This can be assessed at the detailed stage and ensured by planning condition.

6.2.4. As the proposed access widening and hard surfacing comprises nothing more substantial than clay pavers, being therefore only a lightly loaded structure with shallow foundations, its construction is unlikely to require excavation to a depth greater than 300mm below existing ground level. Studies have shown that typically as much as 90% of tree root length occurs in the upper metre of the soil[6] and so it is highly unlikely that these incursions into the RPAs will result in all the roots in these areas being severed. For example, as only the upper 300mm of the upper metre of soil will

[6] Roberts J., Jackson N., & Smith M. (2006). Tree Roots in the Built Environment. TSO.

be removed, the 16.6% incursion into the currently unsurfaced area within the RPA of the sycamore tree no. 13 may result in a reduction of only 6% of roots within the RPA.

6.2.5. Where parts of the proposed hard surfacing within the RPAs of trees nos. 3, 4, 5, 10, 13 and 44 are located within the footprint of existing surfacing, installation of the new surfacing is unlikely to require excavation below the existing sub-base, and any replacement surfacing being founded not deeper than any existing sub-base thereby reducing the number of roots that may potentially require remediation and so further minimising potential arboricultural impacts.

6.2.6. The tree species requiring excavation within their RPAs have been identified as poor to good at tolerating root pruning and disturbance[7], as shown in ***Table 4***. As these specimens are of reasonable physiological condition, there is no reason to suggest that they will not be able to tolerate the cutting of roots within these small sections of their RPAs.

Species	Tolerance
Sycamore	Moderate
Horse chestnut	Moderate
London plane	Poor to good
Lime	Good to moderate

Table 4: Species tolerance to root pruning and disturbance

6.2.7. The areas lost to encroachment within the RPAs of these trees can be compensated for in the areas to the east of the trees, where there is soft landscaping suitable for root growth, contiguous to the RPAs. There is likely to already be significant rooting within these areas, and as it is to remain as soft landscape, root growth can continue in the future. Therefore, there will be no net loss of suitable rooting area, and no foreseeable risk of future cumulative impacts, so there is no reason to suggest that they will not be able to tolerate the cutting of roots within these small sections of their RPAs or that they will not remain viable.

6.2.8. Furthermore, within the site boundary the opportunity exists for the soil used

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

by these trees for root growth to be improved. Subject to proposed landscaping, the soil and rooting environments within the RPAs of these specimens could be enhanced to promote improved root growth by de-compaction, aeration, fertilisation or mulching, as appropriate, and this can be ensured by condition. As these trees can remain viable by being able to root in other areas, contiguous to their RPAs, and the soil environment in which they are rooting can be improved, these incursions comply with paragraph 5.3.1 of BS5837.

6.2.9. The incursions into the RPAs of trees nos. 16, 20, 21, 22, 23, 51 and 52 are by areas of proposed hard surfacing for a new gravel footpath, bin store and replacement steps, the proposed finished levels for which can allow for the design and construction of the new surfaces to be installed entirely above existing soil level, and accordingly no excavation will be required. Furthermore, where appropriate, new surfaces could incorporate an appropriate cellular confinement system, filled and finished with suitable porous materials, to minimise soil compaction. To ensure no damage occurs to the roots or rooting environments of the relevant trees, installation will be undertaken under the control and supervision of the arboricultural consultant.

6.2.10. 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, as shown on the TPP at **Appendix 4**.

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

7. RELATIONSHIP OF RETAINED TREES TO NEW DWELLINGS

7.1. Details

7.1.1. The proposed modular residential units will be installed on top of the existing apartment blocks, and as such will be set above the heights of the surrounding tree canopies.

7.2. Assessment

7.2.1. The existing buildings at Darwin Court comprise six storey apartment blocks which are already at a similar height to the surrounding trees (which attain heights of up to 25m). Accordingly, as the proposed modular residential units will be installed on top of the existing blocks, no windows of the main habitable rooms of the proposed apartments will lie within the shadow patterns of any trees, and so they will not be shaded by trees to the extent that this will interfere with their reasonable use or enjoyment by incoming occupiers; which might otherwise lead to pressure to permit felling or severe pruning that the LPA could not reasonably resist.

7.2.2. The similarity in the elevation of the proposed modular residential units and the surrounding trees means that there is unlikely to be a “large tree, small building” concern that if a tree or part of it were to fall onto the block it could cause extensive damage and possibly harm to the occupiers.

7.2.3. Whilst the trees adjacent to proposed modular units will require regular monitoring and maintenance, so that any defects or decay are noted and acted on to prevent failures, this is no different from the monitoring and maintenance required of the existing trees surrounding the apartment blocks of Darwin Court.

7.2.4. Similarly, whilst the trees may require pruning in the future to manage any encroaching branches (as discussed in Section 5 above), any such potential requests for pruning would be no different from the routine pruning of the existing trees currently required to maintain clearance from the existing apartment blocks. There is no evidence to suggest that requests to fell any of these trees because of apprehension will be likely, or that they will be inevitable; or that, if such circumstances did occur, the LPA would not be able to resist any such requests.

8. CONCLUSIONS

8.1. Summary

8.1.1. Our assessment of the impacts of the proposals on the existing trees concludes that no trees are to be removed and as such, the proposed installation of 8 modular residential units on top of the existing apartment blocks will represent no alteration to the main arboricultural features of the site, and no alteration to the overall arboricultural character of the site; and will not have adverse impact on the arboricultural character and appearance of the local landscape or the conservation area.

8.1.2. The proposed pruning of two trees (nos. 20 and 21) is minor in extent, will not detract from the health or appearance of these trees, and complies with current British Standards. Should further detailed design identify the need for additional pruning to enable access by the main boom of the mobile crane for the installation of the proposed modular units, such pruning is expected to be minor and can be controlled by appropriate planning conditions.

8.1.3. The incursions into the Root Protection Areas of trees are minor, and subject to implementation of the measures recommended on the Tree Protection Plan and set out at **Appendix 2**, no significant or long-term damage to their root systems or rooting environments will occur.

8.1.4. None of the proposed modular residential units are likely to be shaded by retained trees to the extent that this will interfere with their reasonable use or enjoyment by incoming occupiers, which might otherwise lead to pressure on the Local Planning Authority to permit felling or severe pruning that it could not reasonably resist.

8.2. Compliance with national planning policy

8.2.1. As the proposals will retain all the main arboricultural features of the site, its arboricultural attractiveness, history and landscape character and setting will be maintained, thereby complying with Paragraph 130 of the National Planning Policy Framework.

8.2.2. The proposals do not necessitate the removal of any mature trees of large ultimate size, which make the greatest contribution to carbon sequestration and storage, surface water run-off, biodiversity and landscape and air temperature and cleanliness; for all of which, appropriate space for their retention is provided. Accordingly, insofar as this relates to existing trees, the scheme can be seen to have taken a proactive approach to mitigating climate change and thereby complies with Paragraph 153 of the National Planning Policy Framework.

8.2.3. The retention of the main arboricultural features of the site recognises and will maintain the local landscape and the wider benefits of the existing trees within the Primrose Hill Conservation Area, and thereby complies with Paragraph 176 of the NPPF.

8.3. Compliance with regional planning policy

8.3.1. As all the existing trees assessed as being features in the existing built environment will be retained, in arboricultural terms the proposed development complies with Policy G1 ‘Green infrastructure’ of the London Plan.

8.3.2. As all trees of significant value and importance to amenity will be retained, the proposed development will protect, maintain and enhance the main arboricultural features of the site. As such, it complies with Policy G7 ‘Trees and woodlands’ of the London Plan.

8.4. Compliance with local planning policy

8.4.1. As the proposed development will not result in the removal of trees which are of significant amenity, historic, cultural or ecological value, it complies with Policy A3 of The London Borough of Camden Council Local Plan.

8.5. Conclusion

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

APPENDIX 1

Methodology

A1.1. Tree survey and baseline information

A1.1.1. We surveyed individual trees with trunk diameters of 75mm and above[8], trees with trunk diameters of 150mm and above growing in groups or woodlands, and shrub masses, hedges and hedgerows[9] growing within or immediately adjacent to the site; and recorded their locations, species, dimensions, ages, condition, and visual importance in accordance with BS 5837 recommendations.

A1.1.2. The baseline information collected during the 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 3**. The numbers assigned to the trees in the tree survey schedule correspond with those shown on the appended tree protection plan.

A1.1.3. We surveyed trees as groups where they have grown together to form cohesive arboricultural features, either aerodynamically (trees that provide companion shelter), visually (e.g., avenues or screens) or culturally[10]. However, where it might be necessary to differentiate between specific trees within these groups, we also surveyed these individually.

A1.1.4. 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.

A1.1.5. Whilst we categorised the trees in accordance with BS 5837 (details of the criteria used for this process can be found in the notes that accompany the tree survey schedule), we assessed the trees' suitability for retention against national, regional and local planning policies. We applied this methodology in line with 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.

A1.1.6. All measurements for pruning specifications, percentage estimates of RPA incursions and shading issues have been calculated using AutoCAD software.

A1.2. Tree constraints

A1.2.1. In line with the NPPF's presumption in favour of sustainable development, we assessed whether any trees should be retained in the context of the proposed development / re-development. Our assessment of which trees might have to be retained, and which can be removed, is based on:

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8 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.

9 Ibid., 4.4.2.7

10 Ibid., 4.4.2.3

- whether any trees are classed as ‘ancient’ or ‘veteran’, and thereby are designated as ‘irreplaceable habitats’;[11]
- which trees contribute to local character and history, including to the surrounding landscape setting; which trees contribute to biodiversity; and which trees help mitigate and adapt to climate change; and whose removal would thereby be unlikely to comply with national planning policy guidance;
- which trees are significant features of the local landscape, such that their removal would be contrary to local planning policies: specifically, Policy A3 of The London Borough of Camden Council Local Plan, as set out above; and
- our assessment of the trees’ quality, value and remaining life expectancy, in accordance with BS5837:2012, as summarised in the notes that accompany the tree survey schedule;

A1.2.2. As trees growing outside the boundaries of the site are in the control of others, we have assumed they will be retained, irrespective of their size, age or condition.

A1.2.3. Whilst we have categorised trees in accordance with BS 5837, we have not used these categorisations as the main criterion of whether specimens might be removed or should be retained. Trees in categories ‘A’, ‘B’ and ‘C’ are all a material consideration in the development process; but 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.

A1.2.4. 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**”[12].

A1.2.5. 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**”[13].

A1.2.6. The ‘Root Protection Areas’ (RPAs)[14] 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 (including the presence of existing roads or structures), as well as soil type, topography and drainage. Where considered appropriate, the shapes of the RPAs (although not their areas)

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[11] The National Planning Policy Framework (NPPF) (July 2021). Paragraph 180 (c).

12 BS 5837, 4.5.10.

13 Ibid., 5.1.1.

14 Ibid., paragraph 3.7. “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.”

were modified based on these considerations, so that they reflect more accurately the likely root distribution of the relevant trees.

A1.2.7. Based on these principles and recommendations, the tree survey and assessment of suitability for retention informed the production of a tree constraints plan (TCP) which indicates the most suitable trees for retention, and their associated below-ground and above-ground constraints.

A1.2.8. As a design tool, the TCP also indicates how close to those trees selected for retention the proposed development could be positioned, in terms of three key criteria:

a). avoidance of unacceptable root damage;

b). avoidance of the necessity for unacceptable pruning works; and

c). avoidance of future felling or pruning works to prevent unacceptable shading or apprehension on behalf of the occupants.

APPENDIX 2

Outline Arboricultural Method Statement

A2.1. Tree Protection Plan

A2.1.1. 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.

A2.2. Pre-start meeting

A2.2.1. Prior to the commencement of any site clearance, ground preparation, demolition 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.

A2.3. Site clearance

A2.3.1. No clearance of trees or other vegetation shall be undertaken until after the pre-start meeting and after the erection of the tree protection fencing (see below). If any vegetation clearance is required behind the line of the protection fencing this will be made clear at the pre-start meeting and arrangements will be made to do this prior to the fencing's erection, under the supervision of the arboricultural consultant, who will ensure it doesn't cause any soil compaction or damage to the roots of trees to be retained.

A2.3.2. Except where within the RPAs of trees to be retained, all trees and other vegetation to be removed may be cut down or grubbed out as appropriate; but within the RPAs of trees to be retained, trees and vegetation will be cut by hand to ground level and stumps will be either left in place or ground out with a lightweight self-powered stump grinding machine. No excavators, tractors or other vehicles will enter the RPAs.

A2.4. Ground preparation

A2.4.1. No ground preparation or excavation of any kind, including topsoil stripping or ground levelling, shall be undertaken until after the pre-start meeting and after the erection of the tree protection fencing (see below).

A2.4.2. Demolition of existing buildings and removal of existing areas of hard surfacing that abut or overlie RPAs will be undertaken with care, under the control and supervision of an appointed arboricultural consultant, to ensure that the adjacent soil is not unacceptably excavated, disturbed or compacted.

A2.5. Tree protection fencing

A2.5.1. 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 consist of a scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at maximum intervals of 3.5m. Onto this, welded mesh panels should be securely fixed with wire or scaffold clamps, as shown in ***Figure 2*** of that document. "**TREE PROTECTION ZONE - KEEP OUT**" or similar notices will be attached with cable ties to every third panel.

A2.5.2. 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.

A2.5.3. 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.

A2.5.4. 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.

A2.6. Manual excavation within RPAs

A2.6.1. 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, 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.

A2.7. Proposed hard surfaces within RPAs

A2.7.1. Unacceptable damage to the roots and rooting environments of the trees to be retained during the construction of proposed hard surfaces that encroach within RPAs will be avoided by building them above existing soil level, to avoid digging and thus severing of roots; and an appropriate ground covering will be used beneath the sub-base, to prevent or minimise compaction of the soil. This will be done in accordance with Section 7.4 of BS 5837. The locations where these measures will be required are marked by red **cross-hatching** on the TPP.

APPENDIX 3

Tree Survey Schedule

SJA trees
ARBORICULTURAL PLANNING CONSULTANTS

THE OLD POST OFFICE
DORKING ROAD
TADWORTH
SURREY KT20 5SA

Tel: (01737) 813058
E-mail: sja@sjatrees.co.uk

Directors: Simon R. M. Jones Dip. Arb. (RFS), FArborA., RCArborA. (Managing)
Frank P. S. Spooner BSc (Hons), MArborA, TechCert (ArborA) (Operations)

Preliminary Tree Survey Schedule

Darwin Court, Gloucester Avenue, London

SJA tss 24272-01

July 2024

Tree Survey Schedule: Explanatory Notes

Darwin Court, Gloucester Avenue, London

This schedule is based on a tree inspection undertaken by Anthony Harte and Tom Southgate of SJAtrees (the trading name of Simon Jones Associates Ltd.), on Thursday the 25th July 2024. Weather conditions at the time were overcast, with occasional showers. Deciduous trees were in full 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. Species.
'Common names' are given, taken from MITCHELL, A. (1978) A Field Guide to the Trees of Britain and Northern Europe.

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

4. 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.

5. 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.

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

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

8. Age class.
Young: Seedling, sapling or recently planted tree; not yet producing flowers or seeds; strong apical dominance.
Semi-mature: Trunk often still smooth-barked; producing flowers and/or seeds; strong apical dominance, not yet achieved ultimate height.
Mature: Apical dominance lost, tree close to ultimate height.
Over-mature: Mature, but in decline, no crown retrenchment
Veteran: Mature, with a large trunk diameter for species; but showing signs of veteranisation, irrespective of actual age, with decay or hollowing, and a crown showing retrenchment and 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.

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

10. 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.
Good: No significant morphological or structural defects, and an upright and reasonably symmetrical structure.
Moderate: No significant pathological defects, but a slightly impaired morphological structure; however, not to the extent that the tree is at immediate or early risk of collapse.
Indifferent: Significant morphological 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 morphological or pathological defects, such that there may be a risk of failure or collapse.
Hazardous: Significant and irremediable morphological or pathological defects, with a risk of imminent collapse.

11. 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

12. Category.
Based on the British Standard "Trees in relation to design, demolition and construction - Recommendations", BS 5837: 2012; adjusted to give a greater weighting to trees that contribute to the character and appearance of the local landscape, to amenity, or to arboricultural 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.
(1) 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).
(2) Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.
(3) 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

Darwin Court, Gloucester Avenue, London

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clear-ance	Age class	Physio - logy	Structure	Comments	Cate gory
1	Horse chestnut	20m	840mm	N 6.8m NE 7m E 4.7m SE 4.3m S 4.5m SW 7.9m W 7.4m NW 8.5m	2.3m	NE 3m SE 4.5m	Mature	Below average	Moderate	No significant defects observed at base; located in raised planting bed, split in brick wall at base; single trunk; tensile main unions; foliage affected by horse chestnut leaf miner; readily visible from Gloucester Avenue.	B (12)
2	Flowering cherry	9m	150mm	N 4.3m E 4.6m S 3.7m W 3.9m	2m	NE 1.8m	Semi-mature	Average	Moderate	Of low landscape value, due to small size.	C (1)
3	Horse chestnut	20m	680mm	N 6.6m E 2.6m S 7.3m SW 8.5m W 7.8m	3m	E 1.8m W 2m	Mature	Below average	Indifferent	Slightly leaning trunk to E; located in raised planting bed; tensile main unions; asymmetrical crown; foliage affected by horse chestnut leaf miner; readily visible from Gloucester Avenue.	B (2)
4	Common lime	20m	435mm	N 2.3m E 3.1m S 7.6m W 3.6m	3m	1.6m	Semi-mature	Average	Moderate	Located in raised planting bed; much epicormic growth on trunk; twin-stemmed from 3m, showing a tensile union; readily visible from Gloucester Avenue.	B (12)
5	Common lime	20m	570mm 340mm	N 4.9m NE 3.9m E 3.4m SE 3.7m S 5.7m SW 6.7m W 6m NW 4.5m	1.5m	1.5m	Semi-mature	Average	Indifferent	Twin-stemmed from 1.5m; tensile main unions; located in raised planting bed; readily visible from Gloucester Avenue.	B (2)
6	Common lime	11m	530mm	N 5.1m E 4.9m S 4.4m W 5.3m	3m	E 1.9m W 1.5m	Semi-mature	Average	Indifferent	Differences in tone when lower-trunk on E side tapped with acoustic hammer suggest internal defects; cavity on NE side of trunk, 1.5m high x 50mm wide entrance dia. with 300mm penetration; maintained as a pollard; readily visible from Gloucester Avenue.	C (2)

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clear-ance	Age class	Physio -logy	Structure	Comments	Cate gory
7	Common lime	11m	390mm	N 5.2m E 4.8m S 2.9m W 4m NW 5.5m	3.2m	S 1m	Semi-mature	Average	Indifferent	Much epicormic basal growth; tensile main unions; cavity in historic pruning wound at 2m, 110mm wide, occluding; asymmetrical crown as suppressed by adjacent specimens; readily visible from Gloucester Avenue.	C (1)
8	Common lime	15m	435mm	N 3.5m E 2.9m SE 3.9m S 5.6m W 3.7m	2m	1.5m	Semi-mature	Average	Moderate	Located in raised planting bed; much epicormic growth on trunk; tensile unions throughout crown; deadwood up to 100mm diameter in crown; asymmetrical crown as suppressed by adjacent specimens; readily visible from Gloucester Avenue.	B (12)
9	Common lime	21m	695mm	N 3.5m E 4.6m SE 5.3m S 5.7m W 3m	4m	1.6m	Mature	Average	Moderate	Prominent buttress roots to NE; much epicormic growth on trunk; twin-stemmed from 4m, showing a tensile union; tensile unions throughout crown; maintained as a pollard; crown touching adjacent building; readily visible from Gloucester Avenue.	B (12)
10	London plane	25m	1230mm	N 10.2m NE 6m E 4.5m SE 8m S 8.8m W 14.7m	6m	NW 2.2m	Semi-mature	Average	Moderate	Soft landscaping to E and NE; no significant defects observed at base; prominent buttress roots; single trunk; slightly curved mid-trunk; multi-stemmed from 6m; tensile main unions; essential component of the group in which it stands; readily visible from Gloucester Avenue and the W terminus of Regents Park Road.	B (1)
11	Sycamore	20m	755mm	N 6.8m E 6m S 5.5m W 7m NW 8.8m	3m	3.5m	Mature	Average	Moderate	No significant defects observed at base; twin-stemmed from 3m, showing a tensile union; multi-stemmed from 5m; tensile unions throughout crown; readily visible from Gloucester Avenue and the W terminus of Regents Park Road.	B (1)
12	Ash	8m	230mm	N 6.5m E 2.2m SE 4.2m S 6m W 5m	2.2m	S 1m	Semi-mature	Below average	Indifferent	Off-site tree; tensile main unions; slightly sparse foliage as a result of insect feeding.	C (1)
13	Sycamore	15m	430mm	N 4.4m E 3.2m SE 3.9m S 5.4m SW 6m W 5.1m NW 5.6m	3m	W 3m	Semi-mature	Average	Moderate	Slightly leaning trunk to NE; multi-stemmed from 3m; tensile main unions; readily visible from Gloucester Avenue and the W terminus of Regents Park Road.	B (1)

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clear-ance	Age class	Physio -logy	Structure	Comments	Cate gory
14	Whitebeam	12m	265mm	N 5.3m E 5.3m S 2.2m W 3.6m NW 4.4m	2m	1m	Semi-mature	Average	Poor	Surface roots to N, NE and E up to 2.5m long; acute main union with external features suggesting included bark; of low landscape value, due to small size; inessential component of the group in which it stands.	C (1)
15	Sycamore	11m	320mm 265mm 190mm	N 4.7m NE 4.7m E 6.3m SE 4.7m S 4.3m W 5.7m NW 5.5m	1m	SE 1m	Semi-mature	Average	Moderate	Ivy-covered near ground; multi-stemmed from 1m; tensile unions throughout crown; readily visible from Gloucester Avenue and the W terminus of Regents Park Road.	C (1)
16	Lawson cypress	17m	415mm	N 2.9m E 3m S 3.3m W 2.9m	1.6m	W 0.1m	Semi-mature	Average	Moderate	Partially ivy covered trunk; non-native species, out of character with surrounding area; of low landscape value, due to small size.	C (1)
17	Sycamore	17m	325mm 235mm 250mm	N 7m E 5.5m S 5.2m W 5.2m NW 6.2m	0m	W 2.2m	Semi-mature	Average	Indifferent	Three-stemmed from base; acute main union with external features suggesting included bark; canopy visible from railway line and properties to E; significant component of group in which it stands.	C (12)
18-19	Sycamore	13m	#18 250mm #19 315mm	N 7m E 7m S 7.5m W 7.4m	2.5m	NW 1.8m	Semi-mature	Average	Moderate	#19 Prominent buttress roots; self-seeded specimens contributing to boundary screening; tensile unions throughout crowns; significant components of group in which they stand.	C (1)
20	Lawson cypress	13m	350mm ivy	N 3m E 3m S 4.1m W 4m	0.25m	0m	Semi-mature	Average	Moderate	Unremarkable tree of very limited merit; non-native species, out of character with surrounding area.	C (1)
21	Sycamore	9m	200mm	N 3m E 3m S 4m W 4.1m	2.2m	W 1.9m	Semi-mature	Below average	Indifferent	Slightly leaning trunk to SW; heavily ivy-covered; significant dieback at branch tips in upper-crown; unremarkable tree of very limited merit.	C (2)
22	Sycamore	14m	270mm	N 3m E 1m S 3.6m W 5.3m	2.3m	W 3m	Semi-mature	Average	Indifferent	Slightly leaning trunk to E; tensile unions throughout crown; ivy-covered; asymmetrical crown as suppressed by adjacent specimens.	C (12)
23	Wild cherry	13m	250mm 120mm	N 2m E 2m S 1.5m W 1.5m	1m	3.5m	Semi-mature	Average	Indifferent	Twin-stemmed from 1m; ivy-covered; drawn-up and mutually supressed.	C (12)

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clear-ance	Age class	Physio -logy	Structure	Comments	Cate gory
24	Sycamore	18m	500mm ivy est.	N 7m E 5m S 2m W 2.5m	2.5m	W 5m	Mature	Average	Indifferent	Off-site tree; heavily ivy-covered; unions obscured by ivy.	B (2)
25	Sycamore	17m	3 stems @ 300mm ivy est.	N 6m E 4m S 4.5m W 4m NW 5m	0m	SW 2m	Semi-mature	Average	Indifferent	Off-site tree; heavily ivy-covered; unions obscured by ivy.	C (12)
26	Sycamore	17m	480mm 500mm both est.	N 7.3m E 7m S 6m W 8m	0m	NW 1m	Semi-mature	Average	Indifferent	Off-site tree; twin-stemmed from base; acute main union with external features suggesting included bark.	C (2)
41	Small-leafed lime	15m	320mm	N 5m NE 4.5m E 4m SE 4m S 5.75m SW 4m W 4.25m NW 4.25m	E 2.5m	2m	Semi-mature	Below average	Indifferent	Sparse epicormic growth on trunk at 2.5m E and 3m W; twin-stemmed from 4.5m with tight compression fork; drawn-up and mutually suppressed; slightly sparsely foliated; readily visible from Gloucester Avenue to W; significant component of group in which it stands.	C (2)
42	Common lime	18m	475mm	N 5.25m NE 5.5m E 4m SE 3.75m S 5.5m SW 5m W 6m NW 7m	2m	2m	Semi-mature	Average	Indifferent	Dense epicormic growth (up to 50mm diameter) at trunk base and on trunk from a height of 2m upwards which impedes inspection; crown previously pollarded; comprises established epicormic regrowth of average 100mm diameter arising from pruning wounds; occasional dieback at branch tips scattered throughout; readily visible from Gloucester Avenue to W; significant component of group in which it stands.	C (2)
43	Silver birch	13m	160mm	N 5m NE 4m E 3.5m S 4.25m W 1.5m NW 2.5m	NE 3.5m	N 2.75m	Young	Average	Indifferent	Drawn-up and mutually suppressed with one-sided crown; crown visible from Gloucester Avenue to W; significant component of group in which it stands but of impaired form.	C (2)

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clear-ance	Age class	Physio - logy	Structure	Comments	Cate gory
44	Sycamore	16m	540mm	N 5.25m NE 4.5m E 5.5m SE 5.75m S 6m SW 6m W 5.5m NW 5.25m	N 4m	N 4m	Mature	Average	Poor	Partially exposed surface root located at 1.8m from trunk centre, aligned NE towards building and extending to 3.2m from trunk with mechanical damage on upper surface; trunk shows significant wound measuring 150mm width x 2.75m height with cavity formation to inward depth of 150mm; trunk reduced at 3.5m; crown comprises established regrowth forming new stems up to 350mm diameter at point of origin; secondary reduction of crown at 14m height with regrowth of average 40mm diameter arising from pruning points; readily visible from Gloucester Avenue to W; significant component of group in which it stands but of impaired structure.	C (2)
45	Whitebeam	14m	330mm	N 5.75m NE 7m E 6.75m SE 6.75m S 6.75m SW 5.25m W 5.5m NW 5.75m	NE 2m	2m	Semi-mature	Average	Moderate	Partially exposed surface roots extending 3.5m N, 2m NE, 2.7m E and 1.2m SW, with mechanical damage on upper surfaces; three-stemmed from 2.5m with tight compression forks and evidence of included bark; readily visible from Gloucester Avenue to W; significant component of group in which it stands.	C (2)
46	Himalayan tree-cotoneaster	3m	5 stems @ 100mm est.	NE 4m SE 4.75m SW 4m NW 3.5m	1m	1m	Young	Average	Indifferent	Small ornamental tree; inessential component of group in which it stands.	C (2)
47	Sycamore	15m	380mm ivy est.	NE 5m SE 6m SW 5m NW 7m	SW 3.5m	SW 2.75m	Semi-mature	Average	Indifferent	Off-site tree; trunk heavily ivy-covered to 8m; drawn-up and mutually suppressed; slightly dominant over adjacent Lawson cypresses; hidden in views from Gloucester Avenue to W by Darwin Court; inessential component of group in which it stands.	C (2)
48	Sycamore	22m	435mm ivy	NE 4m SE 8m SW 7.5m NW 7.5m	SW 5.5m	SW 5m	Semi-mature	Average	Indifferent	Drawn-up and mutually suppressed; forms meshing crown and single aerodynamic mass with adjacent sycamore tree no. 49; hidden in views from Gloucester Avenue to W by Darwin Court; significant component of group in which it stands.	C (2)
49	Sycamore	22m	540mm ivy	NE 9m SE 8m SW 4m NW 8.5m	E 6m	NE 4.5m	Semi-mature	Average	Indifferent	Drawn-up and mutually suppressed; forms meshing crown and single aerodynamic mass with adjacent sycamore tree no. 48; hidden in views from Gloucester Avenue to W by Darwin Court; significant component of group in which it stands.	C (2)

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clear-ance	Age class	Physio -logy	Structure	Comments	Cate gory
50	Crack willow	5m	500mm	N 14m E 4m S 0m W 5m	0m	0m	Mature	Below average	Poor	Windthrown tree; trunk prostrate on ground but base still rooted and canopy showing live growth; inessential component of group in which it stands.	U
51	Sycamore	18m	605mm ivy	NE 9m SE 8m SW 4.5m NW 7.5m	S 5m	SW 4m	Mature	Average	Indifferent	Twin-stemmed from 2.75m with tensile union; drawn-up and mutually suppressed; stems show moderate phototrophic lean NE consistent with suppression; deadwood up to 100mm diameter in lower crown consistent with shading of lower limbs; hidden in views from Gloucester Avenue to W by Darwin Court; significant component of group in which it stands.	C (2)
52	Sycamore	20m	245mm 370mm both ivy	NE 3m SE 5m SW 6.75m NW 6.75m	W 4.5m	SW 3.5m	Semi-mature	Average	Indifferent	Twin-stemmed from base; W stem bifurcates from 2m; stems ivy-covered to 6m height which obscures main unions; drawn-up and mutually suppressed with asymmetrical crown; hidden in views from Gloucester Avenue to W by Darwin Court; significant component of group in which it stands.	C (2)
53	Sycamore	20m	305mm ivy	NE 2m SE 4.5m SW 5m NW 3m	7m	SW 8m	Semi-mature	Average	Indifferent	Trunk partially ivy-covered to 6m; trunk bifurcates from 9m with tensile union; drawn-up and mutually suppressed specimen with Height/Diameter ratio greater than 50: at risk of failure if companion shelter removed; hidden in views from Gloucester Avenue to W by Darwin Court; significant component of group in which it stands.	C (2)
54	Sycamore	17m	245mm ivy	NE 4m SE 2.5m SW 4m NW 4m	7m	8m	Semi-mature	Average	Indifferent	Trunk partially ivy-covered to 5m; drawn-up and mutually suppressed specimen with Height/Diameter ratio greater than 50: at risk of failure if companion shelter removed; inessential component of group in which it stands.	C (2)
55	Common lime	14.5m	400mm est.	N 5m NE 5m E 4.5m S 5m W 4.5m NW 4.5m	3m	2.5m	Semi-mature	Average	Indifferent	Dense basal growth impedes inspection of trunk base; twin-stemmed from 3.5m with tensile union; moderate epicormic growth on trunk and main stems; crown heavily reduced ('pollarded') at 10m height; regrowth of average 100mm diameter arising from pruning points; occasional dieback of branch tips scattered throughout but otherwise full crown; readily visible from Gloucester Avenue to W; significant component of group in which it stands.	C (2)
56	London plane	25m	1210mm ivy	N 12.5m NE 12m E 13.5m SE 13m S 11m W 12m NW 12m	NE 7m	NE 5m	Mature	Average	Indifferent	Trunk ivy-covered to 4m height which impedes inspection; trunk divides into six main stems from 7m with tensile unions; broad, spreading, open-grown crown; lower limbs at 7m reduced consistent with crown lifting, resulting in regrowth of average 100mm diameter arising from occluded pruning wounds; readily visible from Gloucester Avenue to W; essential component of the group in which it stands.	A (2)

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clear-ance	Age class	Physio - logy	Structure	Comments	Cate gory
57	Himalayan tree-cotoneaster	7m	6 stems @ 110mm est.	NE 6m SE 4m SW 3.5m NW 5m	2.5m	3m	Semi-mature	Average	Indifferent	Multi-stemmed from base with compression forks; suppressed crown as overtopped by adjacent specimens; small ornamental tree; inessential component of group in which it stands.	C (2)
G1	Various	7m	Max 110mm est.	4m	0m	0m	Semi-mature	Average	Indifferent	Belt of young self-seeded trees and mostly non-native shrubs; species include elder, firethorn, ash, holm oak, bramble, ivy, Lawson cypress, buddleia, sycamore, privet and exotic shrub species.	C (2)
G2	Sycamore and Leyland cypress	18m	Max 2 stems @ 280mm est.	5m	1m	W1m	Semi-mature	Average	Indifferent	Off-site group of trees on Network Rail land; including two sycamore and three Leyland cypress specimens; ivy covered trunks; contributes to boundary screening.	C (2)
G3	Various	3m	Max 60mm est.	1.5m	0m	0m	Young	Average	Moderate	Group comprising small ornamental shrubs growing within landscaped border along frontage of Darwin Court; species include pyracantha, fatsia and cotoneaster; inessential feature of the local landscape.	C (2)
G4	Lawson cypress	15m	Max 430mm ivy est.	3.5m	1m	1m	Semi-mature	Average	Indifferent	Off-site group of trees; planted densely together in single line; drawn-up and mutually suppressed; contributes to boundary screening; inessential feature of the local landscape.	C (2)
G5	Sycamore	20m	Max 350mm est.	5m	4m	4m	Semi-mature	Average	Indifferent	Group of trees; comprises self-seeded sycamore; includes trees nos. 22, 23 and 52-54; drawn-up and mutually supressed; contributes to boundary screening; inessential feature of the local landscape.	C (2)
G6	Cherry Laurel	9m	Max 200mm est.	3m	0m	0m	Semi-mature	Average	Indifferent	Off-site group of trees growing along site boundary adjacent to railway line; planted densely together in single line; multi-stemmed from bases; mutually suppressed; contributes to boundary screening; inessential feature of the local landscape.	C (2)

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.

Tree No.	*Species*	*RPA*	*RPA Radius*
1	Horse chestnut	319.2m²	10.1m
2	Flowering cherry	10.2m²	1.8m
3	Horse chestnut	209.2m²	8.2m
4	Common lime	85.6m²	5.2m
5	Common lime	199.3m²	8.0m
6	Common lime	127.1m²	6.4m
7	Common lime	68.8m²	4.7m
8	Common lime	85.6m²	5.2m
9	Common lime	218.5m²	8.3m
10	London plane	684.4m²	14.76m
11	Sycamore	257.9m²	9.1m
12	Ash	23.9m²	2.8m
13	Sycamore	83.6m²	5.2m
14	Whitebeam	31.8m²	3.2m
15	Sycamore	94.4m²	5.5m
16	Lawson cypress	77.9m²	5.0m
17	Sycamore	101.0m²	5.7m
18-19	Sycamore	28.3m² 44.9m²	3.0m 3.8m
20	Lawson cypress	55.4m²	4.2m
21	Sycamore	18.1m²	2.4m
22	Sycamore	33.0m²	3.2m
23	Wild cherry	34.8m²	3.3m
24	Sycamore	113.1m²	6.0m
25	Sycamore	122.1m²	6.2m
26	Sycamore	217.3m²	8.3m
41	Small-leafed lime	46.3m²	3.8m
42	Common lime	102.1m²	5.7m
43	Silver birch	11.6m²	1.9m
44	Sycamore	131.9m²	6.5m
45	Whitebeam	49.3m²	4.0m
46	Himalayan tree-cotoneaster	22.6m²	2.7m
47	Sycamore	65.3m²	4.6m
48	Sycamore	85.6m²	5.2m
49	Sycamore	131.9m²	6.5m
50	Crack willow	113.1m²	6.0m
51	Sycamore	165.6m²	7.3m
52	Sycamore	89.1m²	5.3m
53	Sycamore	42.1m²	3.7m
54	Sycamore	27.2m²	2.9m
55	Common lime	72.4m²	4.8m
56	London plane	662.3m²	14.5m
57	Himalayan tree-cotoneaster	32.8m²	3.2m
G1	Various	5.5m²	1.3m

G2	Sycamore and Leyland cypress	35.5m²	3.4m
G3	Various	2.5m²	0.9m
G4	Lawson cypress	83.6m²	5.2m
G5	Sycamore	55.4m²	4.2m
G6	Cherry Laurel	18.1m²	2.4m

APPENDIX 4

Tree Protection Plan

Arboricultural Impacts: Summary

(For details, see below)

Impact	No. of Trees
Trees to be removed	0
Groups of trees to be removed	0
Groups of trees/shrubs to be partially removed	2
TPO trees to be removed	0
Trees to be pruned	2
Trees where manual excavation needed within RPAs	8
Trees where above soil surfacing needed within RPAs	7
Trees with proposed underground services within RPAs	0

Groups of Trees to be Partially Removed

No	Species	Category
G1	Various	C (2)
G3	Various	C (2)

Trees to be pruned

No.	Species	Works (Outline only)
20	Lawson cypress	Laterally reduce W and SW crown extents by up to 2m, leaving new crown extents no closer than 2m from trunk, to provide clearance for proposed bin store
21	Sycamore	Lift SW crown extent to height of 3m above ground level to provide overhead clearance for proposed bin store

Pruning is to be undertaken in accordance with the British Standard Recommendations for Tree work, BS3998: 2010.
Climbing irons or spikes are not to be used whilst pruning trees.

Trees that require manual excavation within RPAs

No.	Species	Type of structure
3	Horse chestnut	Proposed widening of existing entrance path
4	Common lime	
5	Common lime	
10	London plane	
11	Sycamore	
13	Sycamore	
42	Common lime	
44	Sycamore	

Manual Excavation

Within root protection areas the excavation for new footpath access widening shall be undertaken by hand under arboricultural supervision and extend no greater than 300mm beneath the existing soil surface. The soil will be loosened with a pick or fork, and then will be cleared from roots with a compressed air soil pick and hand tools. All roots less than 25mm diameter will be cut cleanly with a hand saw or secateurs. The edge of the excavation closest to the trees will be covered with hessian sacking to prevent drying out. If roots larger than 25mm diameter are identified they will retained, protected and incorporated into the final access arrangement.

Trees that require new above soil surfacing within RPAs

No.	Species	Type of structure
16	Lawson cypress	Replacement steps
20	Lawson cypress	Proposed gravel footpath and bin store
21	Sycamore	Proposed gravel footpath
22	Sycamore	Proposed gravel footpath and bin store
23	Wild cherry	Proposed gravel footpath and bin store
51	Sycamore	Proposed gravel footpath and replacement steps
52	Sycamore	Proposed gravel footpath

Above Soil Surfacing

Proposed hard surfacing within root protection areas (RPAs) of retained trees to be constructed in accordance with section 7.4 of BS 5837: 2012, Trees in relation to design, demolition and construction - Recommendations. Other than the careful removal, using hand tools, of any turf layer, surfaces will be installed above existing soil level, or no deeper than the base of any existing surfacing it is replacing (**cyan hatch**), so that the soil is not disturbed and no roots are severed; and an appropriate ground covering, possibly using a geogrid, a geoweb, or a combination of the two will be placed beneath the sub-base to minimise compaction of the soil in which tree roots are growing. Edge supports will also be installed above existing soil level.

SJA Trees to be pruned to specification in inset panel

SJA Protective fencing as per BS5837; see inset panel

SJA Existing hard surfacing retained as ground protection suitable for wheeled or tracked construction traffic

SJA Within RPAs, proposed footpath, bin store and replacement steps to be installed above existing soil level; see inset panel

SJA Shallow excavation for proposed widening of existing pedestrian access path to be undertaken manually, under on-site supervision of arboricultural consultant

SJA Proposed hard surfacing to be founded no deeper than base of existing; soil beneath not to be disturbed

SJA Potential working locations for mobile crane during installation

SJA Shallow excavation for proposed widening of existing pedestrian access path to be undertaken manually, under on-site supervision of arboricultural consultant

SJA Existing ornamental shrubs to be removed to facilitate proposed widening of entrance path

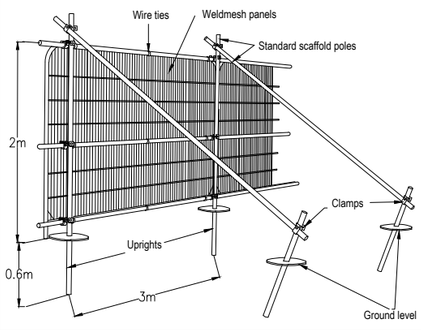
Arboricultural Supervision

The arboricultural consultant will directly supervise all construction works that have to be undertaken within root protection areas. These include:

1. Location of protective fencing.
2. Lifting/excavation of existing hard surfaces.
3. Construction of above-ground surfacing.
4. All excavations, whether for proposed foundations, hard surfacing, or underground services.

Protective Fencing

To be erected prior to the commencement of all works on site, and retained in place throughout construction. To comprise either 2.4m wooden site hoarding; or a 2m high scaffolding framework, with uprights at maximum 3m spacings, every other one braced to the ground with 45 degree struts; supporting standard anti-climb 'Heras' welded mesh fence panels secured with anti-lift devices to concrete or plastic bases pinned to the ground by scaffold uprights sunk to a minimum depth of 600mm; individual panels fixed to each other with at least 2 clamps and to scaffolding with heavy-duty cable ties. "TREE PROTECTION ZONE - KEEP OUT" or similar notices to be attached to every fifth panel.



TREE PROTECTION FENCING as shown in BS 5837: 2012, Section 6.2.2 & Figure 2.

0 5m 10m 15m 20m 25m

METRES

1 : 400 @A2

SJA trees ARBORICULTURAL PLANNING CONSULTANTS

Project:	Darwin Court, Gloucester Avenue, London
Client:	Airspace Group Ltd
Drawing:	TREE PROTECTION PLAN
Drawing No:	SJA TPP 24272-041
Revision No:	n/a
Based On:	Proposed Communal Garden Layout DC-001 Rev B
Drawn By: APH	Date: Aug 2024
Scale: 1:400 @ A2	
Checked by: NHK	Tel:(01737) 813058
sja@sjatrees.co.uk	

Tree nos.: ● 49 | Category 'U' trees: ● [50] | Canopies of trees to be retained:

Category 'A' RPA: | Category 'B' RPA: | Category 'C' RPA:

Protective fencing: | Manual excavation: | Crane access:

Above soil surfacing:

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.

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.