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), RCArborA. (Operations)

Arboricultural Implications Report

Proposed re-development at

10 Pembroke Villas

Richmond

November 2024

Ref. SJA air 24364-01

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. Therefore, the proposals represent no alteration to the arboricultural character of the property, the surrounding area or the conservation area.

S3. No pruning works are required to implement the proposals.

S4. The incursions into the Root Protection Areas of trees to be retained are minor, and subject to implementation of the measures recommended on the Tree Protection Plan and set out at **Appendix** 4**,** no significant or long-term damage to their root systems or rooting environments will occur.

S5. The proposed extension and patio will not be shaded by retained trees to any greater extent than the existing dwelling and patio. Therefore, there will be no additional 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 townscape or amenity value, it complies with Policy LP16 of the Richmond Borough Council Core Strategy.

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APPENDICES

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1. INTRODUCTION AND BACKGROUND INFORMATION

1.1. Instructions

1.1.1. SJAtrees has been instructed by Colman and Sarah McCarthy to visit 10 Pembroke Villas and to survey the trees growing on or immediately adjacent to this property.

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

1.2. Scope of report

1.2.1. This report and its appendices reflect the scope of our instructions, as set out above. It is intended to accompany a planning application to be submitted to Richmond Borough 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; and it is neither mentioned nor referenced in Policy LP16 of the Richmond Borough Council Core Strategy (2018) or the accompanying text, but it is a material consideration to which weight is likely to be given.

1.2.3. The proposed development comprises a rear extension to the existing

[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.

dwelling with associated landscaping and hard surfacing amendments.

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 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 (Section 4), those which might incur root damage that might threaten their viability (Section 5) and those that might become under pressure for removal after occupation because of shading or apprehension (Section 6). A summary and conclusions, with regard to local planning policy, are presented in Section 7.

1.3. Site inspection

1.3.1. This schedule is based on a tree inspection undertaken by Tom Southgate of SJAtrees, on Thursday the 3rd of October 2024. Weather conditions at the time were clear, dry and bright. Deciduous trees were in full leaf.

1.4. Site description

1.4.1. The property is 0.04ha in size and is located on the north-west side of Pembroke Villas, as shown at ***Figure 1*** below. The south-west and north-east boundaries adjoin other residential properties along Pembroke Villas. The north boundary adjoins the railway line between Richmond and St Margrets.

Figure 1: Site location shown on Google aerial image

1.4.2. The site is on level ground with the only significant levels change being where the sunken garden meets the rear lawn, resulting in a 1.47m level difference. The property currently comprises a single four-storey dwelling with associated front hard standing and rear garden.

1.4.3. Historical maps indicate that the site has been a dwelling and garden since at least the mid-nineteenth century.

1.5. Soil type

1.5.1. The British Geological Survey Solid and Drift Geology map of the area indicates the property overlies a bedrock of **"London Clay Formation - Clay and silt"**

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 "**Freely draining slightly acid loamy soil"**

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 the soil is unlikely to be highly susceptible to compaction.

1.6. Statutory controls

1.6.1. At the time of writing none of these trees are covered by a tree preservation order (TPO).

1.6.2. The property is within the boundaries of the Richmond Green Conservation Area (CA1). The character appraisal does not mention trees in private gardens within or immediately adjacent to 10 Pembroke Villas.

1.7. Non-statutory designations

1.7.1. There are no woodlands within or abutting the property 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 property 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 that the most recent planning applications were granted permission in June 2013, after works to the basement and hard and soft landscaping at the property were applied for.

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

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

planned, designed and managed in an integrated way to achieve multiple benefits.

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 Richmond Borough Council Core Strategy (2018).

2.4.2. The relevant section of Policy LP16 of the core strategy states, *inter alia*:

"B. To ensure development protects, respects, contributes to and enhances trees and landscapes, the Council, when assessing development proposals, will: [...]

2. resist development which results in the damage or loss of trees that are considered to be of townscape or amenity value; the Council will require that site design or layout ensures a harmonious relationship between trees and their surroundings and will resist development which will be likely to result in pressure to significantly prune or remove trees;"

2.4.3. The LPA has prepared a Supplementary Planning Document (SPD) dealing with the protection of trees on development sites, titled Development Management Plan (adopted 2011).

2.4.4. Policy DM DC 4 of this document states:

"The boroughs trees and landscape will be protected and enhanced by: […]

requiring landscape proposals in submissions for new development, which retain existing trees and other important landscape features where practicable and include new trees and other planting. Where trees are removed, appropriate replacement planting will normally be required. There will be a presumption against schemes that result in a significant loss of trees, unless replacements are proposed and there is good reason such as the health of the trees, public amenity, street scene or restoration of an historic garden."

2.4.5. 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 property is found.

3. THE TREES

3.1. Survey findings

3.1.1. We surveyed three individual trees, and three groups of shrubs growing within or immediately adjacent to the property. Their details can be found in the tree survey schedule at **Appendix 2**.

3.1.2. The arboricultural quality of the property is comprised of planted trees with two out of the three individually surveyed trees being coniferous. Only one of these trees is within the property boundary. The majority of the on-site vegetation is made up of low shrubs and creepers. Yew tree no. 1 is the only native species surveyed.

3.1.3. The dominant specimen on or adjacent to the site is the Leyland cypress tree, no. 3, it is also the largest specimen, at 12m tall, the only mature specimen and the only individual that can be seen from Pembroke Villas.

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 townscape or amenity value."** As the only specimens within the property boundary that are visible from Pembroke Villas, are the shrubs that comprise G1, none of these meet the above criteria. Leyland cypress no. 3 is visible from Pembroke Villas, but we do not consider this to be of townscape or amenity value, as it is out of character with the surrounding area.

3.2.2. There are no category 'A' trees and no category 'B' specimens. All three 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 a combination of these.

3.2.3. All three groups of trees have been assessed as category 'C'.

3.3. Assessment of arboricultural impacts

3.3.1. The arboricultural impacts of the proposed site layout by Michael Jones Architects, drawing no. 2013.01.03.Des.022 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 TPP shows how trees to be retained will be protected from damage during demolition and construction, 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.

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

3.3.4. 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. None of the tree within, or directly adjacent to the property require removal to facilitate the proposals.

4.2. Assessment

4.2.1. As no trees are to be removed, the proposed development with have no impact on the arboricultural character of the property.

5. TREES TO BE PRUNED

5.1. Details

5.1.1. None of the trees to be retained require pruning to facilitate implementation of the proposals.

5.2. Assessment

5.2.1. As no pruning works are required to facilitate the proposals, the arboricultural quality of trees to be retained will be unchanged.

6. ROOT PROTECTION AREA INCURSIONS

6.1. Details

6.1.1. Parts of the proposed building extension, hard surfacing and steps will encroach within the RPA of Leyland cypress no. 3. These are shown in ***Table 2*** below.

Tree no.	Species	Incursion by:	Extent of incursion into RPA	% of RPA	Area of 'EUG'[6] in RPA	Extent of incursion into EUG	% of EUG
3	Leyland cypress	Building extension, hard surfacing and steps	27.8m^2	13.1%	183.8m^2	4.1m^2	2.2%

Table 2: Proposed incursions within RPAs

6.2. Assessment

6.2.1. The incursions by parts of the proposed building extension, hard surfacing and steps into the RPAs of tree no. 3 equate to no more than 13.1% of the RPA or 2.2% of currently unsurfaced ground. Any potential adverse impacts can be satisfactorily mitigated as set out below and shown at ***Table 3***.

Tree no.	Species	Incursion	Proposed mitigation
3	Leyland cypress	Proposed building extension and steps	Excavation for foundations to be undertaken under direct on-site supervision of arboricultural consultant
3	Leyland cypress	Proposed replacement hard surfacing	No excavation beneath existing sub-base and to be constructed above existing soil surface and to include a cellular confinement system to minimise soil compaction
3	Leyland cypress	Proposed new hard surfacing	To be constructed above existing soil surface and to include a cellular confinement system to minimise soil compaction

Table 3 Proposed mitigation of RPA incursions

6.2.2. The incursion into the RPA of tree no. 3 by a proposed rear building extension will be require some degree of excavation. To minimise impacts on this specimen, all excavation within the RPA will be undertaken manually, under the direct control and supervision of an appointed arboricultural consultant, so that any over dig into the

[6] 'EUG' – acronym for 'existing unsurfaced ground', as per BS5837: 2012, para. 7.4.2.3: "New permanent hard surfacing should not exceed 20% of any existing unsurfaced ground within the RPA.

RPAs is avoided, and any roots encountered can be treated appropriately.

6.2.3. The area requiring excavation in the RPA equates to only 5.7% of the overall RPA and given that Leyland cypress has been identified as good at tolerating root pruning and disturbance[7]. As Leyland cypress no. 3 is of average physiological condition, there is no reason to suggest that it will not be able to tolerate the cutting of roots within these small sections of its RPA.

6.2.4. Furthermore, 80% of the proposed excavation is within an area of existing hard surfacing, there is likely to be less extensive rooting than would typically be expected in the area. This, coupled with the already small area to be excavated, means that the overall impact on tree no. 3 by the proposed excavation will be minimal.

6.2.5. The small area of proposed hard surfacing is largely contained within the footprint of the existing patio area, with only 2.5m^2 or 1.2% of the RPA covering existing soft landscaping.

6.2.6. All proposed hard surfacing can be constructed to incorporate a suitable cellular confinement system, filled with a suitable porous material, to limit any potential compaction. Therefore, as the new surfacing is largely replacing an existing patio, the rooting environment below will actually be less susceptible to compaction and, by extension, provide a better rooting environment for tree no. 3 than is currently present. In light of this, there is no reason to suggest that tree no. 3 will not be able to tolerate any soil compaction caused by the installation or use of this surfacing.

6.2.7. Implementation of measures to prevent other incursions into the RPAs of retained trees and to protect them during the lifting of the existing surface and during construction can be assured by the installation of ground protection, as shown on the TPP at **Appendix 4**. Accordingly, subject to implementation of the above measures, and considering the ages, current physiological condition and tolerance of disturbance of these retained trees, no significant or long-term damage to their root systems or environments will occur as a result of the proposed development.

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

7. RELATIONSHIP OF RETAINED TREES TO NEW DWELLINGS

7.1. Assessment

7.1.1. The proposed extension and patio will not be shaded to any greater extent than the existing dwelling and patio area. Therefore, the proposals will not result in any increased pressure to remove or heavily reduce trees to be retained than is already present.

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. Therefore, the proposals represent no alteration to the arboricultural character of the property, the surrounding area or the conservation area.

8.1.2. No pruning works are required to implement the proposals.

8.1.3. The incursions into the Root Protection Areas of trees to be retained are minor, and subject to implementation of the measures recommended on the Tree Protection Plan and set out at **Appendix 4**, no significant or long-term damage to their root systems or rooting environments will occur.

8.1.4. The proposed extension and patio will not be shaded by retained trees to any greater extent than the existing dwelling and patio. Therefore, there will be no additional 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 of the trees within and directly adjacent to the property, 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. As the proposals will not result in the loss or deterioration of any ancient

woodland or any ancient or veteran trees, they comply with paragraph 180 (c) of the NPPF.

8.3. Compliance with regional planning policy

8.3.1. As all of the existing trees will be retained, in arboricultural terms the proposed development complies with Policies G1 ‘Green infrastructure’ and 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 townscape or amenity value, it complies with Policy LP16 of the Richmond Borough Council Core Strategy.

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, shrub masses, hedges and hedgerows[9] growing within or immediately adjacent to the property; 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.

A1.2. 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:

A1.2.2. whether any trees are classed as 'ancient' or 'veteran', and thereby are designated as 'irreplaceable habitats';[11]

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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

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

A1.2.3. 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;

A1.2.4. which trees are significant features of the local landscape, such that their removal would be contrary to local planning policies, as set out above;

A1.2.5. our assessment of the tree's' quality, value and remaining life expectancy, in accordance with BS5837:2012, as summarised in the notes that accompany the tree survey schedule.

A1.2.6. 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.

A1.2.7. 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.

A1.2.8. 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].

A1.2.9. 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].

A1.2.10. 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) were modified based on these considerations, so that they reflect more accurately the likely root distribution of the relevant trees.

A1.2.11. To assess whether the trees identified for retention would be in a sustainable relationship with the proposed development (without casting excessive shade or otherwise unreasonably interfering with incoming residents' prospects of

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."

enjoying their properties, and thereby leading inevitably to requests for consents to fell), we plotted a segment or “shading arc” from each trunk, with a radius equal to the current height of the tree concerned, from due north-west to due east. This gave an indication of potential direct obstruction of sunlight and the shadow pattern cast through the main part of the day[15].

A1.2.12. 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.

A1.2.13. 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.

15 Ibid., paragraph 5.2.2 Note 1.

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 and the arboricultural consultant. The LPA tree officer will be invited to 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. Ground preparation and demolition

A2.3.1. 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).

A2.3.2. Lifting of the existing area of hard surfacing that or overlies the RPA of tree no. 3 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.

A2.4. Ground protection

A2.4.1. To allow space for construction and protection from soil compaction, the area of soft landscaping to the rear of the property will be covered by appropriate ground boarding, in accordance with the guidelines of Section 6.2.3.3 of BS 5837. The locations where these measures will be required are marked by **pink hatching** on the TPP.

A2.4.2. For purely pedestrian traffic, scaffold boards (or similar) will be used. Scaffold boards will comply with British Standard BS 2482: 2009 *Specification for timber scaffold boards* and be at least 225mm in width and 38mm thickness; they will be butted up and attached to each other with wooden battens or metal tie straps, and laid either on an above-ground scaffold framework, or secured to the ground with steel pins above a compressible material (a 75mm deep layer of woodchips may be appropriate) laid on top of a geotextile membrane of an appropriate specification.

A2.4.3. For wheeled or tracked traffic, ground boarding will be designed by a structural engineer, to take account of the type of soil and the likely loadings. Temporary aluminium roadway ('Trakway' or similar), interlocking plastic tread boards ("Ground-Guards" or similar), or reinforced concrete slabs may be

appropriate. These will also be laid on top of a compressible material above a geotextile membrane.

A2.5. Manual excavation within RPAs

A2.5.1. The first 750mm depth of excavations required within the RPAs of the tree no. 3 (as shown by **bold yellow 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.

A2.6. Proposed hard surfaces within RPAs

A2.6.1. 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, or no deeper than the sub-base of the existing surface 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 **orange honeycomb-hatching** on the TPP for new surfacing and **cyan honeycomb-hatching** for areas of replacement surfacing.

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

10 Pembroke Villas, Richmond-upon-Thames

SJA tss 24364-01

October 2024

Tree Survey Schedule: Explanatory Notes

10 Pembroke Villas, Richmond-upon-Thames

This schedule is based on a tree inspection undertaken by Tom Southgate of SJAtrees (the trading name of Simon Jones Associates Ltd.), on Thursday the 3rd of October 2024. Weather conditions at the time were clear, dry and bright. 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

10 Pembroke Villas, Richmond-upon-Thames

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clear-ance	Age class	Physio - logy	Structure	Comments	Cate gory
1	Yew	3.5m	3 stems @ 80mm est. 185mm	N 2.9m E 3.4m S 2.5m W 3.4m	0.6m	E 1.2m	Semi-mature	Average	Indifferent	Slightly leaning trunk to E; of low landscape value due to small size.	C (1)
2	Flowering cherry	9.5m	320mm ivy est.	N 5m E 4m S 5.9m W 4.3m	2m	SW 2m	Semi-mature	Average	Indifferent	Off-site tree; heavily ivy-covered; tensile unions throughout crown, where visible; asymmetrical crown as suppressed by adjacent specimens.	C (12)
3	Leyland cypress	12m	380mm est. 570mm est.	N 6m E 6m S 7m W 3.2m	2m	SW 2m	Mature	Average	Indifferent	Off-site tree; twin-stemmed from base, showing a tensile union; multiple historic pruning wounds on stems consistent with crown raising, up to 120mm dia. est.; historically topped at 4m above ground; canopy readily in short views from Pembroke Villas.	C (12)
G1	Various	3m	Max 130mm est.	2.5m	0m	0m	Semi-mature	Average	Indifferent	Group of shrubs at front of property; species include smoke bush, firethorn, pittosporum, camelia, hydrangea and rose.	C (2)
G2	Various	3.5m	Max 85mm est.	2m	0m	0m	Semi-mature	Average	Indifferent	1.2m high yew hedge in from of row of young apple specimens; providing low level screening from railway line to N.	C (2)
G3	Various	2.2m	Max 50mm est.	2m	0m	0m	Semi-mature	Average	Indifferent	Group of small shrubs and climbing plants on wall; species include Mexican orange blossom, rose, dwarf crab apple, passion flower and buddleia.	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	Yew	24.2m²	2.8m
2	Flowering cherry	46.3m²	3.8m
3	Leyland cypress	212.3m²	8.2m
G1	Various	7.6m²	1.6m
G2	Various	3.3m²	1.0m
G3	Various	2.5m²	0.9m

APPENDIX 4

Tree Protection Plan

Arboricultural Impacts: Summary

(For details, see below)

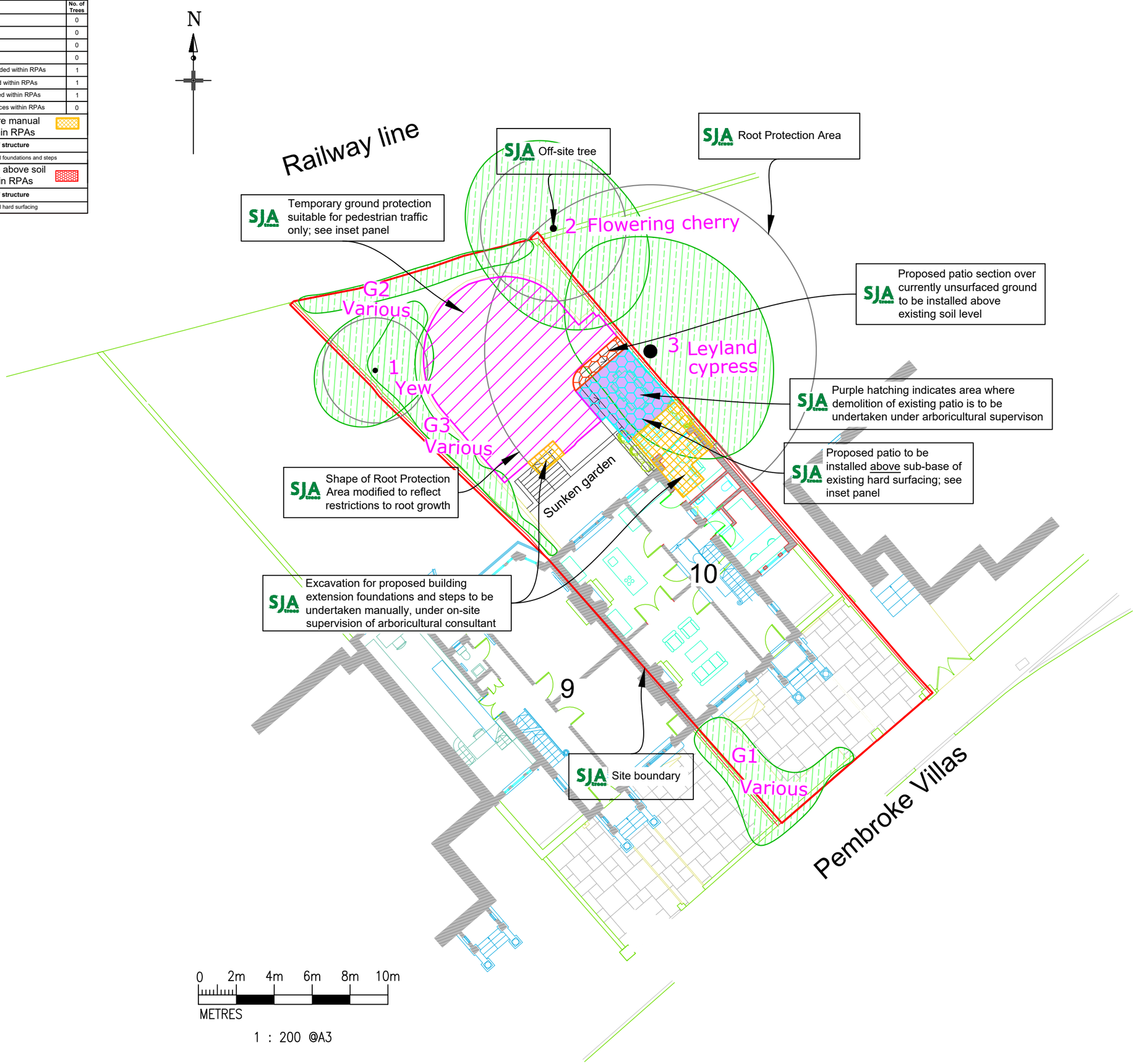
Impact	No. of Trees
Trees to be removed	0
Groups of trees to be removed	0
TPO trees to be removed	0
Trees to be pruned	0
Trees where supervised demolition needed within RPAs	1
Trees where manual excavation needed within RPAs	1
Trees where above soil surfacing needed within RPAs	1
Trees with proposed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

Trees that require manual excavation within RPAs

No.	Species	Type of structure
3	Leyland cypress	Proposed foundations and steps

Trees that require above soil surfacing within RPAs

No.	Species	Type of structure
3	Leyland cypress	Proposed hard surfacing



Ground Protection

To be installed prior to commencement of demolition or construction works, at same time as erection of protective fencing. For purely pedestrian traffic: scaffold boards or similar, of at least 35mm thickness, butted together and attached to each other with wooden battens or steel tie straps, laid either on an above ground scaffold framework, or on a compressible material (a 75mm deep layer of woodchips may be appropriate) above a biaxial geotextile grid ('geogrid' - "Tensar" or similar) and pinned to the ground with steel pins to prevent movement.
For wheeled or tracked traffic: temporary aluminium roadway ("Trakway" or similar), interlocking polyethelene tread boards ("Ground-Guards" or similar), or reinforced concrete slabs laid on an appropriate compressible layer above a biaxial geotextile grid - to be designed by a structural engineer to accommodate likely loadings.

Supervised demolition

Within the root protection area ('RPA') of Leyland cypress no. 3 existing hard surfacing shall be removed with care, under the direct supervision of the arboricultural consultant. Surfacing will be broken up with handheld breakers, and then removed by hand or wheelbarrow. Once completed, the base of the excavation and/or the edge closest to the trees will be covered immediately with hessian sacking to prevent drying out of the soil.

Manual Excavation

Within root protection areas the first 750mm depth of any excavation, whether for proposed foundations, hard surfacing, or underground services shall be undertaken by hand under arboricultural supervision. The soil will be loosened with a pick or fork, and then will be cleared from roots with a compressed air soil pick. All roots 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, and if necessary be shuttered with an appropriate material to prevent soil collapse. Where appropriate, the soil beneath this depth may be sheet piled; and deeper excavation may be undertaken by a machine provided it works from outside the root protection areas.

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, 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 — ARBORICULTURAL PLANNING CONSULTANTS

Project:	10 Pembroke Villas, Richmond
Client:	Mr & Mrs McCarthy
Drawing:	TREE PROTECTION PLAN
Drawing no:	SJA TPP 24364-041
Based on:	2013.01.03.Des.022

Drawn by: TES		Date of Issue: Nov 2023		Scale: 1: 200 @ A3	
Checked by: TBA		Tel:(01737) 813058		sja@sjatrees.co.uk	
Tree nos.:	● 1	Canopies of trees to be retained:		Ground protection:	
Category 'C' RPA:		Replacement hard surfacing:		Above soil surfacing:	
Manual excavation:		Supervised demolition:			

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.

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