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 extension at

# Navigators House,

# River Lane, Petersham

**September 2024**

**Ref. SJA air 24282-01**

## 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 all existing trees are to be retained, including all mature trees, category 'A' and 'B' trees, and trees of high landscape or biodiversity. As no trees are to be removed, this will represent no alteration to the main arboricultural features of the property, its overall arboricultural character and will not have an adverse impact on the arboricultural character and appearance of the local landscape or the conservation area.

S3. The proposed pruning is minor in extent, will not detract from the health or appearance of these trees, and complies with current British Standards.

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

S5. As the proposal does not necessitate the removal of any existing trees, provides adequate protection for the retained trees, and ensures that there is a harmonious relationship between the layout and existing trees, it complies with Policy LP 16 the London Borough of Richmond upon Thames Core Strategy (2018) and Policy DM DC 4 of the Development Management Plan (2011)

# CONTENTS



# APPENDICES

# 1. INTRODUCTION AND BACKGROUND INFORMATION

## 1.1. Instructions

1.1.1. SJAtrees has been instructed by Mr and Mrs Bradley to visit Navigators House, River Lane, Petersham 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 London Borough of Richmon upon Thames 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 demolition of an existing conservatory extension and the construction of a ground floor extension along with minor hard landscaping and footpath access to River Lane.

---

[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.

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 or woodlands 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 Edward Janes of SJAtrees on the 13th of August 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 1,558m$^2$ in size and is located on the west side of River Lane, as shown at ***Figure 1*** below. The north and south boundaries adjoin residential dwellings and amenity gardens of 'The Manor House' and 'Petersham Lodge' on River Lane. The west boundary adjoins the rear gardens and dwellings located behind the properties mentioned above while the east boundary fronts River Lane.

***Figure 1: Site location shown on AutoCAD Geolocation satellite imagery***

1.4.2. The site is on level ground, and currently comprises a detached two storey dwelling adjacent to a boundary wall with associated front hard standing and garden adjacent to River Lane.

1.4.3. Historical maps indicate that the site was developed in the late eighteenth century, being formerly linked with a neighbouring 17th Century Glen Cottage. The dwelling currently known as Navigators House was constructed in 1773 and was known as Craigmyle, then Navigators Cottage before becoming its present name. It is a Grade II listed building.

### 1.5. Soil type

1.5.1. The British Geological Survey Solid and Drift Geology map of the area indicates the property overlies superficial deposits of Langley Silt Member – clay and silt above a bedrock of London clay.

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 loamy and clayey floodplain soils with naturally high groundwater.

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 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 Petersham Conservation Area 6. The Character Appraisal for this area mention trees twice at paragraphs 2 and 3, where it states that "***The village remains subservient to this landscape, its trees and the topography of the hill.; They are set in generous grounds with mature trees, behind high brick walls and fine ironwork railings and gates which enclose the street.***"

## 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 multiple previous applications for re-development which mainly comprise construction and demolition of small single and two storey extensions; internal alterations as well as multiple tree work applications for trees within the site ownership, dating from 1971 up to 2023. The most pertinent and recent re-development application is listed below:

- App 13/2766/HOT (September 2013). Demolition of existing and erection of new rear extension. Granted.

### 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**

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

**but over the lifetime of the development;**

**b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;**

**c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);**

**d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;**

**e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and**

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

2.2.4. 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.**

**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**

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

**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 adopted London Borough Richmond upon Thames Core Strategy (2018) and Development Management Plan (2011)

2.4.2. Policy LP 16 of the core strategy states:

**"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. Policy DM DC 4 of this Development Management Plan 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."**

## 2.5. Neighbourhood planning policy

2.5.1. The Ham and Petersham Neighbourhood Plan 2018-2033 (January 2010) does not mention trees within any specific policy. However, policy, C1 does relate to ‘Protecting Green Character’, to which this policy relates to maintaining the distinction between the built-up areas and green spaces of Ham and Petersham but does not relate specifically to individual trees.

# 3. THE TREES

## 3.1. Survey findings

3.1.1. We surveyed 15 individual trees, and four groups of trees within or immediately adjacent to the property. Their details can be found in the tree survey schedule at **Appendix 2**.

3.1.2. The trees are mainly growing around the periphery of the property. The most visually important specimens are located adjacent to the east boundary fronting onto River Lane and comprises planted broadleaf and coniferous specimens of native, semi-naturalised and exotic species.

3.1.3. The most commonly-found species is yew, however, most visually dominant are three individuals one each of false acacia (no.3) common lime (no. 4) and holm oak (no. 5) which are located along the east boundary with River Lane. The sizes of the established trees range from 11m to 21m with only five individuals being greater than 15m tall. All of the individual trees range in age from semi-mature to mature. The arboricultural character is consistent with the surrounding area, which is defined by historic buildings, many Grade II with boundaries planted with native and exotic trees softening the built form within the historically developed local 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 considered to be of townscape or amenity value**." The individuals and groups of trees within or adjacent to the property, whose attributes we consider meet these criteria, are as follows:

- the row of established trees (nos. 1 - 5) growing alongside the eastern boundary of the property, readily visible from River Lane and contributing to the character of the site and local area;

- the on-site individual yew (no. 9) and off-site row of common lime trees (G3) growing to the north and readily visible from the public right of way footpath no. 122 providing pedestrian access to Ham to the west.

3.2.2. There are no category ‘A’ trees, but there are six category 'B' specimens. The remaining nine 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.

3.2.3. Of the groups of trees, one (G3) has been assessed as category ’B’, the remaining three 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. 2038.03.03.Pln03.002 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 3**.

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

3.3.3. The TPP also 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.

3.3.4. 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 2*** 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 2: 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 existing trees are to be removed to accommodate the proposed extension.

## 4.2. Assessment

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

4.2.2. Our assessment of the impacts of the proposals on the existing trees concludes that all existing trees are to be retained, including all mature trees, category ‘A’ and ‘B’ trees, and trees of high landscape & biodiversity. As no trees are to be removed, this will represent no alteration to the main arboricultural features of the property to the overall arboricultural character of the property and will not have an adverse impact on the arboricultural character and appearance of the local landscape or the conservation area.

# 5. TREES TO BE PRUNED

## 5.1. Details

5.1.1. The north canopy of poplar no. 13 is to be reduced back to boundary line by up to 1.25m from the trunk to facilitate the construction of the extension.

5.1.2. The east canopy of the holm oak no. 6 is to be crown lifted to 2.5m over the footpath from ground level to accommodate its construction and use.

## 5.2. Assessment

5.2.1. The north canopy of the off-site poplar no. 13 extends over the boundary wall by 1m, which will conflict with the construction of the extension and demolition of the existing conservatory. To provide sufficient clearance for construction working space the north canopy will be reduced back to the boundary by 1m from branch tips to 1.25m from the trunk.

5.2.2. The pruning back to the boundary is consistent with the common law legal right to cut un-protected off-site trees back to one's boundary. Consequently, these works are not required just because of the proposed development: subject to LPA consent they could legally be undertaken irrespective of this scheme and could be repeated whatever the future use of the site. Indeed, there is clear evidence that this tree has already been cut back in the past.

5.2.3. A proposed footpath is routed underneath the periphery of the east canopy of the holm oak no. 6. The current canopy clearance is 1.5m, so the proposed crown lift will result in the canopy oversailing the footpath to be lifted by 1m to provide working space for construction and use. The proposed pruning will be minor and will have no appreciable impact on the specimens health or amenity.

5.2.4. The extent of pruning proposed to the two trees (nos. 6 & 13) 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; and in no cases will the total cross-sectional area of all the cuts that need to be made exceed one-third of that of the main trunk, measured at 1.5m above ground. Branches to be removed from this tree are mostly few in number and small in

size and will result in a maximum wound size no greater than 70mm 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*.

5.2.5. In terms of impact upon the landscape, the proposed pruning is minor in extent, and will be largely screened in views by either the remainder of the trees' canopies, or by other trees growing within or adjacent to the property. It will have a negligible effect on the appearance of the trees when viewed from outside the property itself, and accordingly will not detract from the character or appearance of the local landscape or the conservation area.

5.2.6. In terms of the relationship between the existing and projected tree canopies and the proposed extension, the extension only extends a further 1.6m from the existing building, so there will be no material change in the relationship and the status quo will ultimately remain the same.

# 6. ROOT PROTECTION AREA INCURSIONS

## 6.1. Details

6.1.1. Parts of a proposed footpath and the single storey extension will encroach within the RPAs of four of the trees to be retained. The impacts are shown in ***Table 5*** below.

| Tree no. | Species | Incursion | Extent of incursion | % of RPA |
|---|---|---|---|---|
| 3 | False acacia | Proposed footpath | 4.2m$^2$ | 1.5% |
| 4 | Common lime | Proposed footpath | 6.4m$^2$ | 3.1% |
| 5 | Holm oak | Proposed footpath | 6.5m$^2$ | 1.9% |
| 6 | Holm oak | Proposed footpath | 6.1m$^2$ | 9.7% |
| 13 | Poplar | Proposed extension | 11.2m$^2$ | 16% |

***Table 5: Proposed incursions within or abutting RPAs***

## 6.2. Assessment

6.2.1. The incursions into the RPAs of trees nos. 3, 4, 5 and 6 are by a proposed footpath. These areas extend to no more than 9.7% of individual RPAs, and do not exceed the 20% maximum incursion into currently unsurfaced ground recommended in BS 5837[6].

6.2.2. Taking account of existing ground levels and likely proposed levels of these areas, these will allow for design and construction of the new surfaces to be entirely above existing soil level, and accordingly no excavation will be required. The footpath is intended for pedestrian traffic only with relatively low frequency of use; accordingly, the footpath design can be minimal and utilise permeable surfaces (gravel or paving) to allow water and air to penetrate to the soil beneath.

[6] BS 5837, paragraph 7.4.2.3.

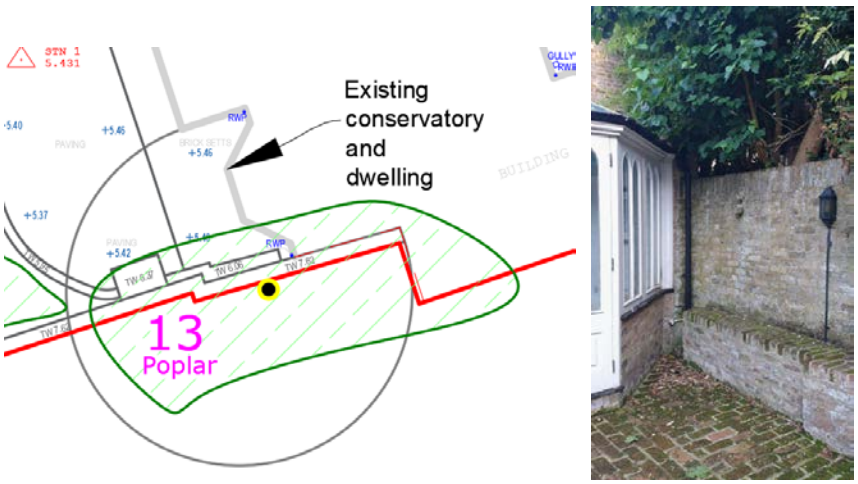
6.2.3. To ensure no damage occurs to the roots or rooting environments of the relevant trees, installation of the proposed surface will be undertaken under the control and supervision of the arboricultural consultant.

6.2.4. The construction of the extension and the party wall with the adjacent dwelling to the south is within 1m of the trunk of the poplar no. 13, so there is a potential for some RPA impact to this offsite specimen. The off-site poplar is located to the south of a 1.8m high boundary wall, which demarcated the boundary of the properties. Given the height and width of the boundary wall, we consider that it is likely acting as a restrictive rooting environment, if not a rooting barrier.

6.2.5. Typically, a trial pit/trench investigation would be sought prior to the planning submission; however, as the tree is located in the Petersham Conservation Area, a section 211 notice would be required that would introduce a six-week determination period for any trial excavation before works and analysis could commence. In this instance, the introduction of significant delay to the planning process was not practical.

6.2.6. On this basis the 'worst case' scenario has been assessed on the potential that the existing wall is not acting as a rooting barrier. As shown within ***Images 1 & 2*** below.

6.2.7. In any event, part of the existing wall and its foundations will be retained and incorporated in the new boundary extension foundation and thus minimising disturbance within the potential rooting environment.




***Images 1 & 2: Extract from topographical survey and tree constraints plan; image of existing boundary wall and patio adjacent to conservatory***

6.2.8. Consequently, SJAtrees has developed a strategy to ensure that the extension would not have a detrimental impact on the off-site specimen whether the wall is acting as a root barrier or not.

6.2.9. The strategy is outlined in the bullet points below:

- If the application is successful, a trial trench investigation will be conducted as part of the post-planning process to determine:
  - depth of foundations
  - depth of surfaces and sub-base
  - presence of rooting: if found present, the investigation will record the depth, volume and diameter of roots.
- If, following the trial pit investigation, the wall is acting as a root barrier, the foundation design of the extension can proceed without further arboricultural input.
- If the trial pit investigation determines that the wall is not a rooting barrier, the rooting information (depth, volume and diameter of roots) will be used to design an appropriately engineered extension foundation that does not result in the severance of large diameter roots (greater than 50mm) or significant rooting volumes. SJAtrees has determined along with the client and design team, that a raft and beam on mini-piles (or similar) would be a suitable solution, this could be installed so the base of the ground beam is located at the same level as the foundation of the wall or base of the sub-base, so that no significant root severance would be required.

6.2.10. The strategy set out above demonstrates that the extension can feasibly be installed without resulting in a significant impact on the RPA of the poplar, irrespective of the wall acting as a root barrier or not. If necessary, this element can be included within a suitably worded arboricultural condition to ensure that the tree is adequately protected.

6.2.11. Furthermore, as a genus and species in general, poplar trees have been identified as good at tolerating root pruning and disturbance[7]. As this specimen is semi-mature and of average physiological condition, there is no reason to suggest that it will not be able to tolerate the cutting of roots, if they are present, within this small section of its RPA.

6.2.12. Additionally, if rooting is extending beneath the boundary wall, any area of its RPA lost to the encroachment of the proposed extension can be compensated for in the areas to the south of the tree, where there is an extensive area of soft landscaping suitable for root growth, contiguous to the RPA. There is likely to already be significant rooting within this area, and as it is offsite and 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 it will not be able to tolerate the cutting of roots within this small section of its RPA or that it will not remain viable.

6.2.13. Implementation of measures to prevent other incursions into the RPAs of retained trees and to protect them during demolition and construction can be assured by the erection of appropriate protective fencing, as shown on the TPP at **Appendix 4**.

6.2.14. 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. CONCLUSIONS

## 7.1. Summary

7.1.1. Our assessment of the impacts of the proposals on the existing trees concludes that all existing trees are to be retained, including all mature trees. No category ‘A’ and ‘B’ trees, and no trees of high landscape or biodiversity value are to be felled. As no trees are to be removed, this will represent no alteration to the main arboricultural features of the property, or to the overall arboricultural character of the property and will not have an adverse impact on the arboricultural character and appearance of the local landscape or the conservation area.

7.1.2. The proposed pruning is minor in extent, will not detract from the health or appearance of these trees, and complies with current British Standards.

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

## 7.2. Compliance with national planning policy

7.2.1. As the proposals will retain all the main arboricultural features of 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.

7.2.2. The proposals do not necessitate the removal of any trees, including the 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.

7.2.3. The retention of all the main arboricultural features of the property recognises and will maintain the local landscape, its countryside character, and the wider benefits of the existing trees within the Petersham Conservation Area, and thereby complies with Paragraph 176 of the NPPF.

7.2.4. 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.

### 7.3. Compliance with regional planning policy

7.3.1. 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.

7.3.2. As all trees will be retained, including those of significant value and importance to amenity will be retained, and space exists within the proposed layout for additional planting, the proposed development will protect, maintain and enhance the main arboricultural features of the property. As such, it complies with Policy G7 'Trees and woodlands' of the London Plan.

7.3.3. As the first sentence of section C of Policy G7 of the London Plan states, "**Development proposals should ensure that, wherever possible, existing trees of value are retained**", in this case, no trees are to be removed, so the proposals accord with this element of Policy G7.

7.3.4. The second sentence of section C of Policy G7 requires that "**[i]f planning permission is granted that necessitates the removal of trees there should be adequate replacement based on the existing values of the trees removed**". Consequently, as no existing trees are to be removed, this means that no replacement planting is required.

### 7.4. Compliance with local planning policy

7.4.1. As the proposal does not necessitate the removal of any existing trees considered to be of townscape amenity value, provides adequate protection for the retained trees, and ensures that there is a harmonious relationship between the layout and existing trees, it complies with Policy LP 16 the London Borough of

Richmond upon Thames Core Strategy (2018) and Policy DM DC 4 of the Development Management Plan (2011)

## 7.5. Conclusion

7.5.1. 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 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 extension. Our assessment of which trees might have to be retained, and which can be removed, is based on:

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

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).

- 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 important to the local landscape, such that their removal would be contrary to local planning policies: specifically, Policy LP 16 of the London Borough Richmond upon Thames Core Strategy, as set out above; and
- 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.

A1.2.2. 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) were modified based on these considerations, so that they reflect more accurately the likely root distribution of the relevant trees.

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."

A1.2.7. 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 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].

A1.2.8. 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.

A1.2.9. 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, the demolition contractor, the fencing/boarding contractor, the groundwork contractor(s) 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. 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 and demolition

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 be at least 2.1m in height, comprising welded mesh panels; every other one braced with a 45° strut that is pinned to the ground; and seated in concrete or plastic bases pinned to the ground by scaffold uprights sunk to a minimum depth of 600mm, as shown in ***Figure 3*** of that document. Individual panels will be fixed to each other with at least two clamps, one of which will be a security clamp. "**TREE PROTECTION ZONE - KEEP OUT**" or similar notices will be attached with cable ties to every third panel.

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 for the trial pit investigation within or abutting the RPA of poplar no. 13 (as shown by **bold light orange cross hatching** 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 path that encroaches within RPAs of trees nos. 3, 4, 5 and 6 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 **dark orange hexagonal-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

# Navigatior's House, River Lane, Petersham

SJA tss 24282-01

**August 2024**

# Tree Survey Schedule: Explanatory Notes

## Navigatior's House, River Lane, Petersham

This schedule is based on a tree inspection undertaken by Edward Janes of SJAtrees (the trading name of Simon Jones Associates Ltd.), on Tuesday the 13th August 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

## Navigatior's House, River Lane, Petersham

| No. | Species | Height | Trunk diameter | Radial crown spread | Crown break | Crown clear-ance | Age class | Physio - logy | Structure | Comments | Cate gory |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Yew | 11m | 380mm | N 3.6m<br>E 3.8m<br>S 3.8m<br>W 3.1m | 2m | 1.8m | Mature | Average | Indifferent | Prominent buttress roots; acute main unions; tensile union throughout rest of crown; minor epicormic growth throughout structure; crossing and rubbing branches throughout structure; historically topped leaving wound in excess of 150mm diameter; hidden in the majority of long direct public view; contributes to boundary screening. | B<br>(2) |
| 2 | Yew | 11m | 440mm | N 3.5m<br>E 4.5m<br>S 4.7m<br>W 3.3m | 2m | 2m | Mature | Average | Indifferent | Prominent buttress roots; trunk bifurcation at 2m showing acute union with evidence of incipient included bark; tensile union throughout rest of crown; minor epicormic growth throughout structure; crossing and rubbing branches throughout structure; historically topped leaving wound in excess of 150mm diameter; hidden in the majority of long direct public view; contributes to boundary screening. | B<br>(2) |
| 3 | False acacia | 21m | 790mm ivy | N 8.4m<br>E 5.5m<br>S 10.5m<br>W 9.2m | 6m | 7m | Mature | Average | Moderate | Full basal inspection prevented by dense ivy cover but appears sound where visible; ivy covered trunk and main scaffolds; trunk with 20° lean to S; full inspection of main unions impeded by dense ivy cover but appear well formed and tensile; historic pruning wounds in lower crown in excess of 150mm and showing no evidence of significant internal decay and poor signs of occlusion; well formed tensile main unions and tensile unions throughout rest of crown; minor deadwood throughout crown, consistent with age and species; minor epicormic growth throughout structure; dominant crown; significant component of group in which it stands; upper crown readily visible from Petersham Road and River Lane. | B<br>(12) |
| 4 | Common lime | 20m | 670mm est. | N 2.6m<br>E 5.8m<br>S 5.3m<br>W 2.8m | 4m | 2m | Mature | Below average | Indifferent | Access to tree and full basal inspection restricted by dense vegetation; many basal suckers; established epicormic growth forms lower crown; trunk with 20° lean to S; historically pollarded leading to trifurcation at 3.5m showing acute yet tensile unions; lapsed pollard historically topped; minor deadwood throughout crown, consistent with age and species; asymmetrical crown as suppressed by adjacent specimens; significant component of group in which it stands; readily visible from River Lane and PRoW. | B<br>(12) |

| No. | Species | Height | Trunk diameter | Radial crown spread | Crown break | Crown clear-ance | Age class | Physio - logy | Structure | Comments | Cate gory |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | Holm oak | 17.5m | 860mm ivy | N 6.5m<br>E 8.7m<br>SE 5.8m<br>S 1.8m<br>W 4.1m | 4m | 5.5m | Mature | Below average | Indifferent | Prominent buttress roots, with mechanical wounding; partially ivy covered trunk; trunk with 15° lean to N; tensile main unions and tensile unions throughout rest of crown; small cavities forming at sites of previous pruning wounds; minor epicormic growth throughout structure; minor deadwood throughout crown, consistent with age and species; canopy density reduction of 25%; asymmetrical crown as suppressed by adjacent specimens; significant component of group in which it stands; contributes to boundary screening; readily visible from River Lane and PRoW. | B<br>(12) |
| 6 | Holm oak | 6.5m | 200mm<br>315mm | N 3m<br>E 3.7m<br>S 6.1m<br>W 4m | 2m | 1.5m | Semi-mature | Below average | Indifferent | Twin stemmed from base showing acute yet tensile union; W trunk with 25° lean to S and E trunk with 45° lean to S; tensile unions throughout; crossing and rubbing branches throughout structure; minor epicormic growth throughout structure; minor deadwood throughout crown, consistent with age and species; infested with holm oak blotch leaf miner (*Phyllonorycter messaniella*); average canopy density for species; inessential component of the landscape; hidden in the majority of long directed public view. | C<br>(13) |
| 7 | Bay | 7m | 265mm<br>245mm<br>225mm<br>170mm<br>170mm<br>125mm<br>165mm | N 6.8m<br>E 5.2m<br>S 3.5m<br>W 3.7m | 1.9m | 1.5m | Semi-mature | Below average | Indifferent | Multi-stemmed from base showing acute yet tensile unions; tensile unions throughout crown; crossing and rubbing branches throughout structure; minor deadwood throughout crown, consistent with age and species; minor epicormic growth throughout structure; slightly chlorotic foliage; small cavities forming at sites of previous pruning wounds; hidden in the majority of long directed public view; inessential component of landscape; cavities on two stems at 1.5m 400mm in height and 50mm at widest point showing evidence of significant internal decay and poor signs of occlusion. | C<br>(1) |
| 9 | Yew | 14m | 700mm | N 4.9m<br>E 6.2m<br>S 5.9m<br>W 6.3m | 2.3m | 1.5m | Mature | Below average | Indifferent | Mechanical wounding on E side of base showing no evidence of internal decay and wound wood present; much epicormic growth on trunk; acute unions in crown break showing acute unions with compression fork and evidence of incipient included bark; minor deadwood throughout crown, consistent with age and species; much epicormic growth on major structural branches within inner canopy, suggestive of reduced physiological function; crossing and rubbing branches throughout structure; hidden in the majority of long directed public view; contributes to boundary screening. | B<br>(2) |
| 10 | Holly | 13.5m | 270mm ivy | N 1.9m<br>E 2.1m<br>S 5.1m<br>W 3m | 2.5m | 1.2m | Semi-mature | Below average | Indifferent | Two significant limbs emanating from base showing well formed union; trunk with 20° lean to S; partially ivy covered trunk; above average dead wood in crown; crossing and rubbing branches throughout structure; canopy density reduction of 20%; asymmetrical crown as suppressed by adjacent specimens; inessential component of the group in which it stands; hidden in the majority of long directed public view; contributes to boundary screening; visible from PRoW. | C<br>(1) |

| No. | Species | Height | Trunk diameter | Radial crown spread | Crown break | Crown clear-ance | Age class | Physio -logy | Structure | Comments | Cate gory |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | Hazel | 7.5m | 12 stems @ 100mm est. | N 5.8m<br>E 6.7m<br>S 6.9m<br>W 3.9m | 0.5m | 1.5m | Semi-mature | Below average | Indifferent | Historic coppice, multi-stemmed from base showing many acute unions with compression forks; much epicormic growth on trunks; above average dead wood in crown; crossing and rubbing branches throughout structure; canopy density reduction of 10%; provides boundary screening to neighbouring drive to W; hidden in long direct public view; inessential component of the wider landscape. | C<br>(2) |
| 12 | Japanese red cedar | 16m | 270mm | 2m | 5m | 5m | Semi-mature | Low | Moderate | No significant defects observed at base; single trunk; tensile unions throughout crown; much epicormic growth on major structural branches within inner canopy, suggestive of reduced physiological function; above average dead wood in crown; canopy density reduction of 40%; inessential component of the group in which it stands; hidden in the majority of long direct public view; contributes to boundary screening. | C<br>(1) |
| 13 | Poplar | 13.5m | 2 stems @ 270mm est. | N 3.1m<br>NE 6m<br>E 7.2m<br>S 2.2m<br>SW 4.6m<br>W 5m | 2m | 2.5m | Semi-mature | Average | Indifferent | Off-site tree; access to tree and full basal inspection restricted by boundary wall; tensile unions throughout crown; minor deadwood throughout crown, consistent with age and species; average canopy density for species; species difficult to confirm as surveyed from distance but shows characteristics consistent with Chinese necklace poplar (Populus lasiocarpa); readily visible from internal views; hidden in the majority of long direct public view. | C<br>(12) |
| 14 | Walnut | 14m | 375mm est. | 4m | 2m | 1.8m | Semi-mature | Below average | Moderate | Off-site tree; access to tree and full basal inspection restricted by boundary wall; tensile unions throughout crown; minor deadwood throughout crown, consistent with age and species; slightly sparsely foliated; crossing and rubbing branches throughout; visible from internal views; hidden in the majority of long direct public view. | C<br>(12) |
| G3 | Common lime | 21m | Max 300mm est. | 5m | 3.5m | 2.5m | Semi-mature | Average | Moderate | Off-site group of trees; access to trees and full basal inspections prevented by boundary wall; all single trunk specimens; tensile main unions and tensile unions throughout rest of crown; minor deadwood throughout crowns, consistent with age and species; minor epicormic growth throughout structures; double row of specimens, forming an avenue along PRoW; no significant defects observed; aerodynamic group with meshing crowns providing companion shelter; readily visible from PRoW; contributes to boundary screening. | B<br>(2) |
| G4 | Various | 7m | Max 275mm est. | 4m | 1m | 1m | Semi-mature | Average | Moderate | Off-site group of trees; species include evergreen magnolia and yew; approx. 7 individuals; access to trees and full basal inspections prevented by boundary wall; all single trunk specimens; tensile main unions and tensile unions throughout rest of crown; minor deadwood throughout crowns, consistent with age and species; readily visible from River Lane; contributes to boundary screening. | C<br>(12) |

# 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 | 65.3m² | 4.6m |
| 2 | Yew | 87.6m² | 5.3m |
| 3 | False acacia | 282.3m² | 9.5m |
| 4 | Common lime | 203.1m² | 8.0m |
| 5 | Holm oak | 334.6m² | 10.3m |
| 6 | Holm oak | 63.0m² | 4.5m |
| 7 | Bay | 120.4m² | 6.2m |
| 8 | Whitebeam | 11.6m² | 1.9m |
| 9 | Yew | 221.7m² | 8.4m |
| 10 | Holly | 33.0m² | 3.2m |
| 11 | Hazel | 54.3m² | 4.2m |
| 12 | Japanese red cedar | 33.0m² | 3.2m |
| 13 | Poplar | 66.0m² | 4.6m |
| 14 | Walnut | 63.6m² | 4.5m |
| 15 | Yew | 13.1m² | 2.04m |
| G1 | Various | 20.9m² | 2.6m |
| G2 | Various | 18.1m² | 2.4m |
| G3 | Common lime | 40.7m² | 3.6m |
| G4 | Various | 34.2m² | 3.3m |

# 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 | 2 |
| Trees where supervised demolition needed within RPAs | 4 |
| Trees where manual excavation needed within RPAs | 1 |
| Trees where above soil surfacing needed within RPAs | 4 |
| Trees with proposed underground services within RPAs | 0 |

### Trees that require supervised demolition within RPAs

| No. | Species | Type of structure / surface |
|---|---|---|
| 3 | Falsie acacia | Existing footpath |
| 4 | Common lime | |
| 5 | Holm oak | |
| 7 | Bay | |

### Trees that require manual excavation within RPAs

| No. | Species | Type of structure |
|---|---|---|
| 13 | Poplar | Proposed screw-piles and single storey extension foundation |

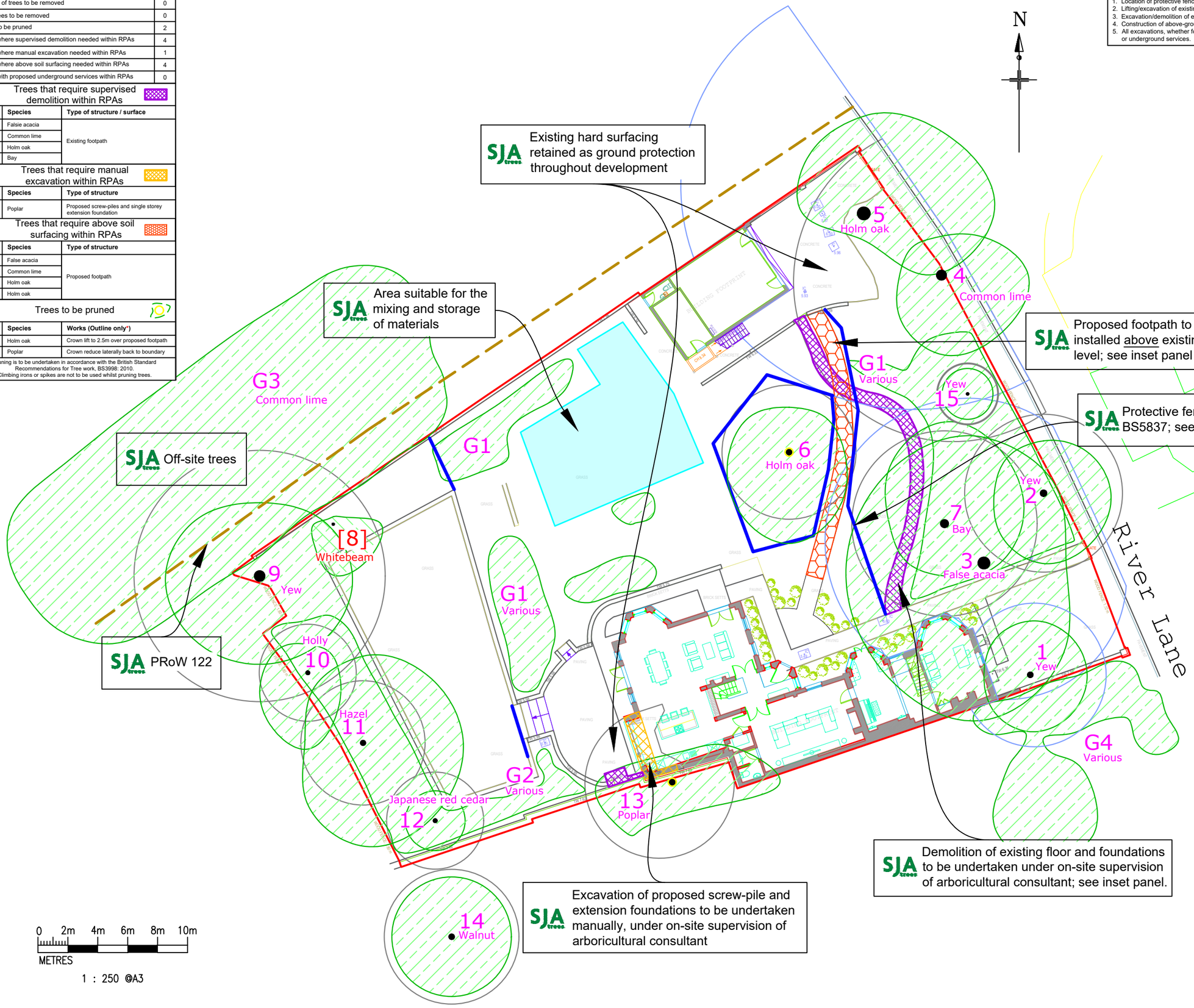
### Trees that require above soil surfacing within RPAs

| No. | Species | Type of structure |
|---|---|---|
| 3 | False acacia | Proposed footpath |
| 4 | Common lime | |
| 5 | Holm oak | |
| 6 | Holm oak | |

### Trees to be pruned

| No. | Species | Works (Outline only*) |
|---|---|---|
| 6 | Holm oak | Crown lift to 2.5m over proposed footpath |
| 13 | Poplar | Crown reduce laterally back to boundary |

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.




## Arboricultural Supervision

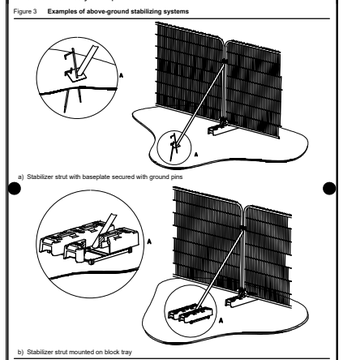
The arboricultural consultant will directly supervise all construction works that have to be undertaken within root protection areas. These include:

1. Location of protective fencing.
2. Lifting/excavation of existing hard surfaces.
3. Excavation/demolition of existing foundations.
4. Construction of above-ground hard surfacing.
5. 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 2m tall 'Heras' welded mesh panels on rubber or concrete feet. The panels shall be joined together with two anti-tamper couplers, installed so that they can only be removed from inside the fence. Distance between the couplers should be at least 1m and should be uniform throughout the fence. Panels should be supported (where possible) on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins (see Figure 3a below). Where the fencing is to be erected on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabilizer struts shall be mounted on a block tray (see Figure 3b). "TREE PROTECTION ZONE - KEEP OUT" or similar notices to be attached to every fifth panel.

Figure 3 **Examples of above-ground stabilizing systems**



a) Stabilizer strut with baseplate secured with ground pins

b) Stabilizer strut mounted on block tray

TREE PROTECTIVE FENCING as shown in BS 5837: 2012, Section 6.2.2 & Figure 3.

## Supervised demolition

Within root protection areas ('RPAs') existing hard surfaces shall be removed with care, under the direct supervision of the arboricultural consultant. Surfaces will be broken up with handheld breakers, and then removed by hand, wheelbarrow, or in the bucket of an excavator standing outside the RPA. At the discretion of the arboricultural consultant, an excavator positioned outside the RPA and using an appropriately sized toothless bucket may be used in some instances. 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, and where necessary be shuttered to prevent soil collapse.

## Manual Excavation

Within root protection areas the first 750mm depth of any excavation, whether for proposed foundations, screw-piles, 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 hand tools. 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: | Double click here |
| Client: | Mr & Mrs Bradley |
| Drawing: | TREE PROTECTION PLAN |
| Drawing no: | SJA TPP 24282-041 |
| Based on: | 2038.03.03.Pln03.002 |

| | | | | | |
|---|---|---|---|---|---|
| Drawn by: FJC/NHK | | Date of Issue: Sept 2024 | | Scale: 1: @ A3 | |
| Checked by: TBA | | Tel:(01737) 813058 | | sja@sjatrees.co.uk | |
| Tree nos.: | ● 3 | Category 'U' trees: | ● [8] | Canopies of trees to be retained: | |
| Category 'A' RPA: | | Category 'B' RPA: | | Category 'C' RPA: | |
| Protective fencing: | | Above soil surfacing: | | Manual excavation: | |