

Arboricultural Implications Report

Proposed access point at Cemetery Lodge Thornton Road Croydon



February 2024

Ref. SJA air 23645-01a

SUMMARY

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

S2. Our assessment of the impacts of the proposals on the existing trees concludes that three trees would need to be removed to facilitate access to the site. The proposed removals represent a partial alteration to the main arboricultural features of the site, only a partial alteration to the overall arboricultural character of the site and will not have a significant adverse impact on the arboricultural character and appearance of the local landscape.

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 proposed development will result in the removal of only one tree that, “**makes a contribution to the character of the area**”, it broadly complies with Policies DM10.8 and DM28 of the London Borough Croydon Local Plan.

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1. INTRODUCTION AND BACKGROUND INFORMATION

1.1. Instructions

1.1.1. SJAtrees has been instructed by London Borough of Croydon to visit Cemetery Lodge, Thornton Road, Thornton Heath and to survey the trees growing on or immediately adjacent to this site.

1.1.2. We are further asked to identify which trees are worthy of retention; to assess the implications of the proposed access 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 Croydon (“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 specification¹”; 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 construction²”.

1.2.3. The proposed development is for the construction of a new access point from Thornton Road.

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

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.

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), and those which might incur root damage that might threaten their viability (Section 6). A summary and conclusions, with regard to local planning policy, are presented in Section 7.

1.3. Site inspection

1.3.1. A site visit and tree inspection were undertaken by Tom Southgate of SJAtrees on Tuesday the 16th of January 2024. Weather conditions at the time were clear, dry and bright. Deciduous trees were not in leaf.

1.4. Site description

1.4.1. The site is approximately 0.17ha in size and is located on the north side of Thornton Road (A23), as shown at **Figure 1** below, which forms the south site boundary. The west and north boundaries adjoin the cemetery access and the wider cemetery respectively. The east site boundary abuts a commercial property (ATS Euromaster and Sainsbury's local).

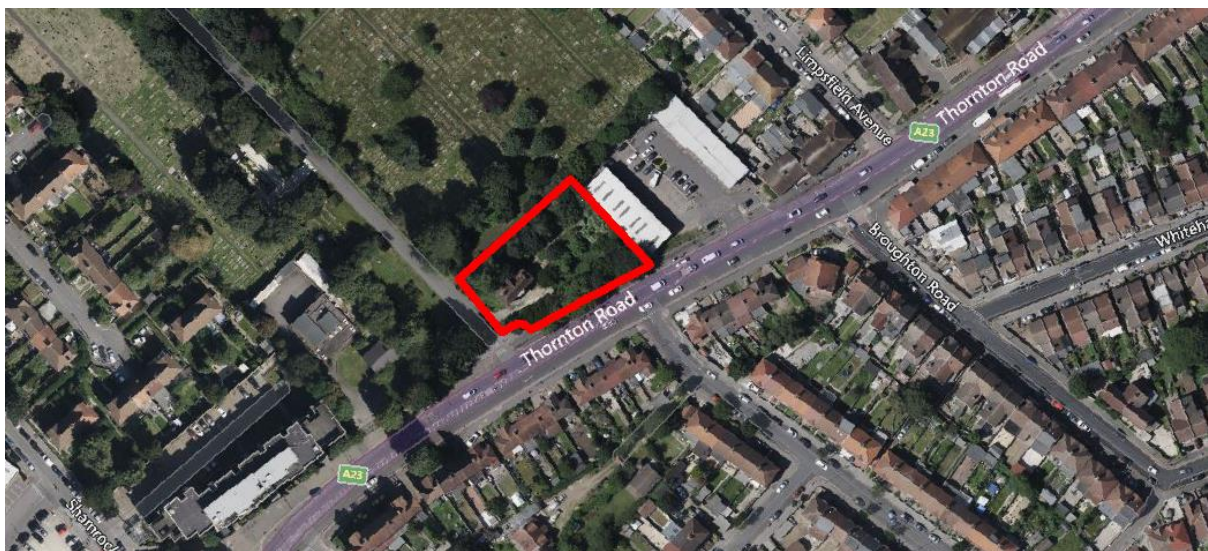


Figure 1: Site location shown on Google aerial image

1.4.2. The site is on level ground, and currently comprises the vacant Cemetery Lodge with associated outbuildings and areas of hard and soft landscaping.

1.4.3. Historical maps indicate that the site was undeveloped agricultural land until at least 1914, when the surrounding areas were developed for residential use. Cemetery Lodge itself appears on maps dated 1932, with the commercial area to the east being developed much later.

1.5. Soil type

1.5.1. The British Geological Survey Solid and Drift Geology map of the area indicates the site overlies superficial deposits of Lynch Hill Gravel Member (sand and gravel) 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 loamy with naturally high ground water.

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 deep-rooted and that 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 site is not within a conservation area, and therefore there are no constraints relating to existing trees in this regard.

1.7. Non-statutory designations

1.7.1. There are no woodlands within or abutting the site that are classified as 'Ancient'. Ancient woodland is defined as "any area that's been wooded continuously since at least 1600 AD" and is considered an important and irreplaceable habitat.

1.7.2. There are no trees within or abutting the site that can be classified as 'Ancient' or 'Veteran'. Ancient and veteran trees are also considered to be irreplaceable

habitats, and contribute to a site's biodiversity, cultural and heritage value, and the National Planning Policy Framework (see below) states that development resulting in the loss or deterioration of ancient or veteran trees should be refused, unless there are wholly exceptional reasons, and a suitable compensation strategy exists.

2. PLANNING CONTEXT

2.1. Planning history

2.1.1. A review of the planning history of this site on the planning section of the LPA website reveals no previous applications for its re-development.

2.2. Planning policy - national

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

2.2.2. The National Planning Policy Framework ('NPPF')³ sets out the Government's planning policies for England and how these should be applied in both plan and decision-making. Paragraph 2 makes it clear that the NPPF is itself a material consideration in the determination of planning application. Paragraph 11 states that **"Plans and decisions should apply a presumption in favour of sustainable development."**

2.2.3. In paragraph 135, within Section 12 "Achieving well-designed and beautiful places" the NPPF states: **"Planning policies and decisions should ensure that developments:**

a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;

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

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

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

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

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

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

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

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

or making provision for the possible future relocation of vulnerable development and infrastructure.”

2.2.6. In paragraph 180, within Section 15 “Conserving and enhancing the natural environment” the NPPF states: **“Planning policies and decisions should contribute to and enhance the natural and local environment by:**

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

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

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

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

2.2.7. In paragraph 186, under the ‘Habitats and biodiversity’ section, the NPPF states: **“When determining planning applications, local planning authorities should apply the following principles:**

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

2.3. Regional planning policy

2.3.1. Policy G1 'Green infrastructure' of the London Plan⁴ 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 site¹³⁹**
- 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 Croydon Local Plan (February 2018).

2.4.2. The relevant section of Policy DM10.8 of the Local Plan states:

"To ensure a cohesive approach is taken to the design and management of landscape within the borough the Council will require proposals to: [...]

C. Seek to retain existing landscape features that contribute to the setting and local character of an area;

d. Retain existing trees and vegetation including natural habitats."

2.4.3. Policy DM28 of the Local Plan states:

"The Council will seek to protect and enhance the borough’s woodlands, trees and hedgerows by:

a. Ensuring that all development proposals accord with the recommendations of BS5837 2012 (Trees in relation to design, demolition and construction) or equivalent;

b. Not permitting development that results in the avoidable loss or the excessive pruning of preserved trees or retained trees where they make a contribution to the character of the area;

c. Not permitting development that could result in the future avoidable loss or excessive pruning of preserved trees or trees that make a contribution to the character of the area;

d. Not permitting development resulting in the avoidable loss or deterioration of irreplaceable habitats, including ancient woodland, hedgerows and veteran trees."

2.5. Neighbourhood planning policy

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

3. THE TREES

3.1. Survey findings

3.1.1. We surveyed 24 individual trees and three groups of trees growing within or immediately adjacent to the site. Their details can be found in the tree survey schedule at **Appendix 3**.

3.1.2. The arboricultural quality of the site is mixed, being comprised of three mature specimens, alongside a mixture of semi-mature coniferous and broadleaved specimens that include examples of both self-seeded and planted specimens. No trees appear to have had any maintenance works carried out in recent years.

3.1.3. The most commonly found tree species are yew and sycamore; although due to the comparatively small size of the majority of these specimens, no single species is dominant across the site as a whole.

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 “**make a contribution to the character of the area.**” The individuals and groups of trees within or adjacent to the site, whose attributes we consider meet these criteria, are as follows:

- the row of conifers growing along the north site boundary.
- the significant components (trees nos. 601, 604, 615 and 616) that form the south boundary tree line adjacent to Thornton Road.
- The cedar of Lebanon in the north-west corner of the site.

3.2.2. There are three mature trees of large ultimate size and long-term potential, (tree nos. 606, 615 & 616) some of these are readily visible in views from public viewpoints and so make a significant contribution to the landscape; others do not.

3.2.3. There are no category 'A' trees, but there are five category 'B' specimens (horse chestnut no. 601, cedar of Lebanon no. 606, sycamore no. 610, yew no. 615

and English oak no. 616). The remaining 19 individuals and three groups of 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.

3.3. Assessment of arboricultural impacts

3.3.1. The arboricultural impacts of the proposed site layout by Transport Planning Associates, drawing no. 2311-020 SP02 have been assessed by overlaying this onto the TCP, 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 identifies the trees to be removed to accommodate the proposed access, either because they are situated within the footprint of the proposed surface, or because in our judgment they are too close to this surface to enable them to be retained. 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 of the wall and construction of the new access, and the measures identified are set out and described in the outline arboricultural method statement at **Appendix 2** of this report. The implementation of, and adherence to, these measures can readily be secured by the imposition of appropriate planning conditions.

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

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

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

Table 1: Magnitude of impacts⁵

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. To accommodate the proposed development, as shown on the proposed layout plan, three individual trees (nos. 601, 602 and 621) are to be removed, either because they are situated within the footprints of proposed structures or surfaces, or because they are too close to these to enable them to be retained.

4.1.2. Details of the trees to be removed, including their dimensions, age class and British Standard categorisation, are shown and listed on the TPP and at **Table 2** below.

Tree no.	Species	Height	Trunk diameter	Age class	BS category
601	Horse chestnut	15m	745mm ivy	Mature	B (12)
602	Purple plum	8m	340mm	Semi-mature	C (12)
621	Sycamore	10m	180mm	Semi-mature	C (1)
G1	Various (partially removed)	10m	Max 200mm est.	Semi-mature	C (2)
G2	Various	8m	Max 210mm est.	Semi-mature	C (2)

Table 2: Trees to be removed

4.1.3. One group of trees (G2) is to be removed and one further group of trees (G1) is to be partially removed.

4.2. Assessment

4.2.1. With the exception of the horse chestnut no. 601, the trees that constitute the main arboricultural features of the site and which make the greatest contribution to the character and appearance of the local landscape, to amenity or to biodiversity (see paragraph 3.2.1), will be retained.

4.2.2. It is acknowledged that the removal of the horse chestnut tree is an arboricultural impact of the proposed access. We understand that without the new access, the site will be sterilised, because the current shared access with the cemetery

is no longer possible, and so the new access is vital for its continued beneficial use and associated economic and social benefits to the local area.

4.2.3. We understand that for highways reasons (i.e. based on detailed adopted standards) access is not possible from the existing access point due to the impact this would have on the cemetery. This means access must be off Thornton Road and due to the proximity of the existing access and Keston Road, opposite the site, and the highways standards that prohibit new junctions within specified proximity to existing junctions, there is only a very narrow corridor in which the new access could be located.

4.2.4. Initially, the access was designed to avoid the horse chestnut tree. However, because of the level difference between the public highway and the existing ground level on the site (which is slightly higher), it would not be possible to construct the access without excavation within the tree's root protection area, which would cause significant root damage likely to necessitate its removal. Because the location of an access that does not directly conflict with the horse chestnut would also have a significant impact on the semi-mature oak tree no. 617, we recommended that it was altered to minimise the impact on the oak but would be in direct conflict with the horse chestnut (that would need to be removed in any event).

4.2.5. In comparison to other native broadleaved species such as oak and beech, the heartwood of horse chestnut is soft, and consequently has poor resistance to fungal infection, making it particularly important to avoid inflicting very large or numerous small diameter wounds⁶.

4.2.6. The poor resistance to fungal infection results in the species being susceptible to some of the major decay fungi found in the UK, including honey fungus (*Armillaria mellea*), *Ganoderma spp.*, and *Kretzschmaria deusta*. All three of these fungal

⁶ Lonsdale, D. (2007). Principles of Tree Hazard Assessment and Management

pathogens affect the root systems, but *Ganoderma spp.* can also affect the heartwood, but in all cases can lead to trunk failure.

4.2.7. In addition to the fungal susceptibility mentioned above, horse chestnut is also susceptible to a bacterial infection, known as Horse Chestnut Bleeding Canker (*Pseudomonas syringae pv. aesculi*). The infection causes bleeding from the bark or main scaffold branches which when severe results in an unattractive sight, particularly when within a new residential development where the built form is often clean and sterile.

4.2.8. Moreover, horse chestnuts within the UK are very susceptible to the Horse Chestnut Leaf Miner (*Cameraria ohridella*). The leaf-mining moth larvae feed between the upper and lower surfaces of the leaf, leaving damaged tracks or 'mines' behind. These mines are brown in colour, and when infestation is heavy, can give the tree a very rusty and unattractive appearance.

4.2.9. All these defects are having a significant impact on the horse chestnuts in the UK, and this is affecting their life expectancy. So, whilst this specimen is readily visible from the road its life expectancy is likely to be less than might once have been expected, and significantly less than that of other long-lived trees of large ultimate size, such as oak, beech, sweet chestnut, lime, or London plane.

4.2.10. The existing oak tree no. 617 has poor form due to the proximity of the horse chestnut, but it is a healthy specimen and can be expected to put on adaptive growth to fill the space left by the removal of the horse chestnut. In this way, whilst the oak is currently of poor quality, there should be no reason why it cannot adequately replace the horse chestnut and have significantly longer-term potential.

4.2.11. To further compensate for the removal of the horse chestnut there is scope to plant at least two new trees of large ultimate size on the site. This is a goal of the London Plan and is a significant gain if the proposals were to be allowed. Our intention for the replacement trees is to plant a direct replacement on the east side of the new access drive. A further, large growing specimen could be planted on the site's western

boundary where the existing access would be closed up and reinstated as soft landscaping.

4.2.12. The locations of the proposed replacement trees are shown on the TPP at **Appendix 4**. We have recommended large growing species that are tolerant of pollution and clay soils. However, the exact size, species and location of the new trees could be resolved by condition.

4.2.13. In the light of these considerations, and taking account of the numbers, sizes and locations of the trees to be retained, including those that are off-site, the felling of the trees and groups identified for removal will not have a significant or lasting impact on the arboricultural character and appearance of the local landscape.

5. TREES TO BE PRUNED

5.1. Details

5.1.1. One of the trees to be retained is to be pruned to facilitate the visibility splay of the proposed access. This is shown at **Table 3** below.

Tree no.	Species	Proposed works
616	English oak	Crown lift south-east canopy extents over footpath to a height of 2.5m above pavement level.

Table 3: Trees to be pruned to facilitate development

5.2. Assessment

5.2.1. The extent of pruning proposed is minor. Branches to be removed are small in size and will result in a maximum wound size no greater than 100mm in diameter; this will have an insignificant effect on the health and physiological condition of these trees and complies with the recommendations of British Standard BS 3998:2010, *Tree work – Recommendations*.

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

6. ROOT PROTECTION AREA INCURSIONS

6.1. Details

6.1.1. Parts of the proposed access would encroach within the RPA of one of the trees to be retained. This is shown in **Table 4** below.

Tree no.	Species	Incursion	Extent of incursion	% of RPA
603	Bay	Proposed access road	4.9m ²	12.4%

Table 4: Proposed incursions within RPAs

6.2. Assessment

6.2.1. Only one incursion is into the RPA of a retained tree is currently proposed and that is the bay tree no. 603. The incursions into the RPAs of the bay no. 603 is by the proposed access road. As existing site levels are higher than the adjacent highway land, some degree of excavation will be required. To minimise impacts on this specimen, excavation within its RPA will be undertaken manually, under the direct control and supervision of an appointed arboricultural consultant, so that any over dig into the RPA is avoided, and any roots encountered can be treated appropriately.

6.2.2. As a species, bay is very vigorous and whilst it may be susceptible to decay if heavily pruned it is expected that it will respond well to some minor root severance by producing prolific regenerative growth. As this specimen is of average physiological condition, there is no reason to suggest that it will not be able to tolerate the cutting of roots within this small section of its RPA.

6.2.3. The works shown on the TPP at **Appendix 4** are currently to be taken as indicative. The principles of removing existing surfacing and replacing it with soft landscape are sound and are likely to benefit the retained and new trees.

6.2.4. 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**.

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

7. CONCLUSIONS

7.1. Summary

7.1.1. Our assessment of the impacts of the proposals on the existing trees concludes that three trees would need to be removed to facilitate access to the site. The proposed removals represent a partial alteration to the main arboricultural features of the site, only a partial alteration to the overall arboricultural character of the site and will not have a significant adverse impact on the arboricultural character and appearance of the local landscape.

7.1.2. The horse chestnut no. 601 is to be removed to accommodate the proposed access from Thornton Road (A23). The access into the site is constrained from a highways perspective as the access needs to balance the existing access to the cemetery to the west and the junction to Keston Road on the opposite side of Thornton Road to the east, which results in an access location that either requires the removal of the horse chestnut or results in such large incursions into its RPA, that its survival could not be guaranteed.

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

7.1.4. 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 most of the main arboricultural features of the site, its arboricultural attractiveness, history and landscape character and setting will be maintained, thereby complying with Paragraph 130 of the National Planning Policy Framework.

7.2.2. Whilst some trees are to be removed, there is no duty in planning policy to retain all existing trees in all circumstances. Paragraph 131 of the NPPF states:

“Planning policies and decisions should ensure... that existing trees are retained wherever possible”; and thereby recognises circumstances in which it might not be possible to retain every tree. Accordingly, the proposed removal of trees does not mean that this application must thereby be refused; and does not mean it conflicts with Paragraph 131 of the NPPF.

7.2.3. 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 186 (c) of the NPPF.

7.3. Compliance with regional planning policy

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

7.3.2. As most trees of significant value and importance to amenity will be retained, and space exists within the proposed layout for replacement planting, the proposed development will protect, maintain and enhance the arboricultural character of the site. As such, it complies with Policy G7 ‘Trees and woodlands’ of the London Plan.

7.4. Compliance with local planning policy

7.4.1. As the proposed development will result in the removal of only one tree that, **“makes a contribution to the character of the area”**, it broadly complies with Policies DM10.8 and DM28 of the London Borough Croydon Local Plan.

7.5. Conclusion

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

Appendix 1

Methodology

A1.1. Tree survey and baseline information

A1.1.1. We surveyed individual trees with trunk diameters of 75mm and above⁷, trees with trunk diameters of 150mm and above growing in groups or woodlands, and shrub masses, hedges and hedgerows⁸ growing within or immediately adjacent to the site; and recorded their locations, species, dimensions, ages, condition, and visual importance in accordance with BS 5837 recommendations.

A1.1.2. We attached numbered plastic tags to the trunks of all on-site trees surveyed as individuals. The numbers on these tags correspond with the numbers in the tree survey schedule and on the tree protection plan (at **Appendix 4**). In practical terms, this aids identification of trees on the ground, allows them to be cross-referenced with the survey schedule, and ensures that if or when it comes to site clearance or felling, the potential for mistakes to occur is limited, and the correct trees are retained.

A1.1.3. 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.

A1.1.4. 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 culturally⁹. However, where it might be necessary to differentiate between specific trees within these groups, we also surveyed these individually.

A1.1.5. 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.

7 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.

8 Ibid., 4.4.2.7

9 Ibid., 4.4.2.3

A1.1.6. 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

A1.1.7. 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 re-development. 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';¹⁰
- 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, "make a contribution to the character of the area", such that their removal would be contrary to local planning policies: specifically, Policy DM28 of the London Borough of Croydon Local Plan (2018), as set out above;
- 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.

¹⁰ The National Planning Policy Framework (NPPF) (July 2021). Paragraph 180 (c).

- 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.

A1.1.8. 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.

A1.1.9. 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"**¹¹.

A1.1.10. 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"**¹².

A1.1.11. The 'Root Protection Areas' (RPAs)¹³ 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.

A1.1.12. Based on these principles and recommendations, the tree survey and assessment of suitability for retention informed the production of a tree constraints

11 BS 5837, 4.5.10.

12 Ibid., 5.1.1.

13 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."

plan (TCP) which indicates the most suitable trees for retention, and their associated below-ground and above-ground constraints.

A1.1.13. As a design tool, the TCP also indicates how close to those trees selected for retention the proposed development could be positioned, in order to avoid unacceptable root damage.

Appendix 2

Outline Arboricultural Method Statement

Tree Protection Plan

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.

Pre-start meeting

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. If appropriate, the tree felling/surgery contractor should also attend. At that meeting contact numbers will be exchanged, and the methods of tree protection shall be fully discussed, so that all aspects of their implementation and sequencing are made clear to all parties. Any clarifications or modifications to the TPP required as a result of the meeting shall be circulated to all attendees.

Site clearance

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.

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.

Ground preparation and demolition

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).

Demolition 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.

Tree protection fencing

Construction exclusion zones (CEZs) will be formed by erecting protective fencing around the RPAs of all on-site trees to the specification recommended in BS 5837, Section 6.2, prior to the commencement of construction. This will consist of a scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at maximum intervals of 3.5m. Onto this, welded mesh panels should be securely fixed with wire or scaffold clamps, as shown in **Figure 2** of that document. "**TREE PROTECTION ZONE - KEEP OUT**" or similar notices will be attached with cable ties to every third panel.

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.

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.

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.

Manual excavation within RPAs

The first 750mm depth of excavations required within the RPAs of the trees to be retained (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.

APPENDIX 3
Tree Survey Schedule



ARBORICULTURAL PLANNING CONSULTANTS

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(Operations)

Preliminary Tree Survey Schedule

Cemetery Lodge, Thornton Road, Croydon

SJA tss 23645-01

January 2024

Tree Survey Schedule: Explanatory Notes

Cemetery Lodge, Thornton Road, Croydon

This schedule is based on a tree inspection undertaken by Tom Southgate of SJA trees (the trading name of Simon Jones Associates Ltd.), on Tuesday the 16th of January 2024. Weather conditions at the time were clear, dry and bright. Deciduous trees were not in leaf.

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

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

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

1. Tree no.

Given in sequential order, commencing at "601".

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, a crown showing retrenchment and a structure characteristic of the latter stages of life.

Ancient: Beyond typical age range and with a very large trunk diameter for species; with extensive decay or hollowing, a crown that has undergone retrenchment and 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 irreparable morphological or pathological defects, such that there may be a risk of failure or collapse.

Hazardous: Significant and irreparable 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, irreparable, 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

Cemetery Lodge, Thornton Road, Croydon

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio - logy	Structure	Comments	Category
601	Horse chestnut	15m	745mm ivy	N 7.1m NE 8.9m E 7.9m SE 6.3m S 7.5m W 7.3m NW 6.7m	2m	E 2m NW 2m	Mature	Average	Moderate	Prominent buttress roots on S side; area of exposed sapwood at base, up to 300mm dia., occluding; ivy covered trunk and main stems; lowest branch 400mm dia.; tensile unions throughout crown; readily visible from Thornton Road; makes significant contribution to the character of the local area.	B (12)
602	Purple plum	8m	340mm	N 5.8m E 3.2m SE 5.5m S 3m W 4.1m	1.6m	N 1.5m SE 1.6m	Semi-mature	Average	Indifferent	Slightly leaning trunk; four-stemmed from 1.6m; tensile unions throughout crown; asymmetrical crown as suppressed by adjacent specimens; readily visible from Thornton Road; makes inessential contribution to the character of the local area.	C (12)
603	Bay	10m	4 stems @ 60mm est. 3 stems @ 180mm est.	N 6.6m E 2.2m S 3.9m W 3m NW 5.7m	0m	S 1.8m NW 1.8m	Semi-mature	Average	Indifferent	Multi-stemmed from base; non native species; contributes to low-level screening in views from Thornton Road; makes inessential contribution to local character.	C (2)
604	Strawberry tree	7m	265mm 245mm 295mm @ 1m	N 4.2m E 1.8m S 4.5m W 4.2m	0.2m	1.5m	Semi-mature	Average	Indifferent	Multi-stemmed from base; tensile unions throughout crown; canopy readily visible from Thornton Road; of low landscape value due to small size, however is a significant component of the group in which it stands.	C (2)
605	Sycamore	10m	285mm ivy	N 3m E 4m S 4.3m W 4.5m	1.8m	N 1.7m S 2.2m	Semi-mature	Average	Moderate	Heavily ivy-covered; tensile unions throughout crown, where visible; of low landscape value due to small size; makes inessential contribution to local character.	C (1)
606	Cedar of Lebanon	22m	895mm	N 7.6m E 5.9m S 7.5m SW 8.6m W 7.5m	3m	S 1.4m	Mature	Average	Moderate	Base surrounded by soft landscaping; no significant trunk defects observed; single trunk; tensile unions throughout crown; readily visible in moderate distance views from Thornton Road; makes significant contribution to the character of the local area; of long-term potential.	B (1)

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio - logy	Structure	Comments	Category
607	Norway maple	13m	400mm	N 5.6m E 5.5m S 5m W 4.2m	1.6m	2m	Semi-mature	Average	Poor	Prominent buttress root; main bifurcation features acute union without bark to bark contact; co-dominant stems from 1.6m; crown touching adjacent building; upper crown visible in from glimpses Thornton Road; makes inessential contribution to the character of the local area.	C (2)
608	Yew	6m	4 stems @ 80mm est. 2 stems @ 115mm est.	N 6.4m E 2.5m S 2.2m W 3.5m	1m	1.4m	Semi-mature	Average	Poor	Multi-stemmed from 1m; asymmetrical crown as suppressed by adjacent specimens; acute main unions with no bark to bark contact.	C (2)
609	Douglas fir	14m	390mm	N 5m E 3m S 3.5m W 4.6m NW 6m	2.1m	NW 2m	Semi-mature	Average	Indifferent	No significant defects observed at base; slightly leaning trunk; tensile unions throughout crown; asymmetrical crown as suppressed by adjacent specimens; non-native species, out of character with surrounding area; upper crown visible in glimpses from Thornton Road; readily visible from footpath through cemetery; makes inessential contribution to the character of the local area.	C (2)
610	Sycamore	14m	360mm	N 5.3m E 3.6m S 6.3m W 3.2m NW 6.7m	2m	2m	Semi-mature	Average	Indifferent	Prominent buttress roots; slightly leaning trunk to S; tensile unions throughout crown; asymmetrical crown as suppressed by adjacent specimens; upper crown visible in glimpses from Thornton Road; readily visible from footpath through cemetery; makes inessential contribution to the character of the local area.	B (2)
611-612	Yew	#T611 10m #T612 9m	#T611 415mm #T612 200mm #T612 205mm #T612 170mm #T612 225mm	N 5.4m E 3.5m S 3.5m W 5.1m	0m	S 1m	Semi-mature	Average	Indifferent	No significant defects observed at base; #612 three stemmed from base; acute unions throughout crowns; #612 features fused stems at 1.6m; unremarkable trees of very limited merit.	C (2)
613	Silver birch	10m	350mm	N 4.7m E 4m S 3m W 3.8m	2.2m	2.2m	Mature	Average	Indifferent	Off-site tree; minor differences in tone when lower trunk tapped with acoustic hammer suggest some internal defects; saprophytic fungal fruiting bodies on growing on trunk bark and issuing from surrounding soil; pruning wounds at crown break consistent with crown raising; tensile unions throughout crown; readily visible from footpath through cemetery; makes inessential contribution to the character of the local area.	C (2)

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio - logy	Structure	Comments	Category
614	Yew	9m	300mm 160mm	N 3m E 3m S 3m W 5m	3m	0m	Semi-mature	Average	Indifferent	Prominent buttress roots; main bifurcation features acute union with bark to bark contact; unremarkable tree of very limited merit.	C (2)
615	Yew	13m	525mm	N 3.5m E 3.5m S 3.8m SW 3.8m W 3.8m NW 3.7m	0.5m	SW 2.2m	Mature	Average	Indifferent	Trunk diameter measured at 1m; three stemmed from base featuring acute unions with bark to bark contact; ivy covered trunk and stems; tensile unions throughout crown, where visible; readily visible from Thornton Road; makes significant contribution to the character of the local area.	B (2)
616	English oak	14m	460mm 350mm ivy	N 5.6m E 5m SE 7.4m S 6.2m W 3.8m	1m	N 3m S 2.2m	Semi-mature	Average	Indifferent	Prominent buttress roots; main trunk bifurcation at 1m features acute union without bark to bark contact; partially ivy covered trunk and stems; asymmetrical crown as suppressed by adjacent specimens; branches from different stems have fused at 9m; tensile unions throughout rest of crown; readily visible from Thornton Road; makes significant contribution to the character of the local area.	B (2)
617	English oak	12m	360mm ivy	N 4.5m NE 4m E 6m SE 6.4m W 0m	2m	NE 6m SE 2m	Semi-mature	Average	Indifferent	No significant defects observed at base; heavily ivy-covered; significantly curved stem due to phototropic growth; asymmetrical crown as suppressed and overtopped by adjacent horse chestnut; high crown with the exception of a single branch to the SE at 2m; readily visible from Thornton Road; makes inessential contribution to the character of the local area; not of long-term potential.	C (2)
618	Bay	10m	7 stems @ 140mm est.	N 3.7m E 3.2m SE 5.4m S 3.5m W 3.8m	0m	0.5m	Semi-mature	Average	Indifferent	Multi-stemmed from base; non-native species; provides low-level screening from road; readily visible from Thornton Road but makes inessential contribution to the character of the local area.	C (2)
619	Hawthorn	6m	165mm ivy 110mm 235mm	N 4.3m E 3.2m S 2.2m W 3.9m	0.6m	1.5m	Semi-mature	Average	Indifferent	Slightly leaning trunk; heavily ivy-covered; unremarkable tree of very limited merit.	C (2)
620	Purple plum	6.5m	285mm ivy	N 4.3m E 3.2m S 2.2m W 3.9m	0.6m	1.5m	Semi-mature	Average	Moderate	Heavily ivy-covered; mainly ornamental, small tree of limited merit.	C (2)
621	Sycamore	10m	180mm	N 4m E 3.2m S 3m W 3.4m	2.3m	W 2.1m	Semi-mature	Average	Indifferent	Slightly leaning trunk; prominent buttress root to SE; tensile unions throughout crown; makes inessential contribution to the character of the local area.	C (1)

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio - logy	Structure	Comments	Category
622	Douglas fir	16m	425mm	N 2m E 3m S 1m W 2m	4.5m	4m	Semi-mature	Below average	Indifferent	Slightly leaning trunk to E; significant dieback in lower crown to SW; tensile unions throughout crown; slightly sparse foliage in uppermost crown; non-native species, out of character with surrounding area; upper crown visible in glimpses from Thornton Road and readily visible from path through cemetery; makes inessential contribution to the character of the local area.	C (2)
623	London plane	9m	170mm	N 4m E 3.2m S 3m W 3.2m	0m	0m	Semi-mature	Average	Indifferent	Off-site street tree; slightly leaning trunk to W; tensile unions throughout crown; of low landscape value, due to small size; but of long-term potential.	C (1)
G1	Various	10m	Max 200mm est.	5m	0m	0m	Semi-mature	Average	Indifferent	Belt of trees and shrubs following N and E boundaries of site; species include bay, privet, cherry laurel, elder, bramble, hawthorn, apple, sycamore and ivy; approx. 20 individuals; no clearly dominant species present.	C (2)
G2	Various	8m	Max 210mm est.	5m	0m	0m	Semi-mature	Average	Indifferent	Row of semi-mature-mature shrubs, species include bay and cherry, laurel; six individuals present; bay dominant at W end and cherry laurel at E end.	C (2)
G3	Various	6m	Max 6 stems @ 115mm est.	5m	0m	0m	Semi-mature	Average	Indifferent	Group located in SW corner of site; species include strawberry tree, Mexican orange blossom, cotoneaster and bay; six individuals present; strawberry tree is the dominant species.	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
601	Horse chestnut	251.1m ²	8.9m
602	Purple plum	52.3m ²	4.1m
603	Bay	39.3m ²	3.5m
604	Strawberry tree	98.3m ²	5.6m
605	Sycamore	36.7m ²	3.4m
606	Cedar of Lebanon	362.4m ²	10.7m
607	Norway maple	72.4m ²	4.8m
608	Yew	22.8m ²	2.7m
609	Douglas fir	68.8m ²	4.7m
610	Sycamore	58.6m ²	4.3m
611-612	Yew	77.9m ²	5.0m
		73.1m ²	4.8m
613	Silver birch	55.4m ²	4.2m
614	Yew	52.3m ²	4.1m
615	Yew	124.7m ²	6.3m
616	English oak	151.1m ²	6.9m
617	English oak	58.6m ²	4.3m
618	Bay	62.1m ²	4.4m
619	Hawthorn	42.8m ²	3.7m
620	Purple plum	36.7m ²	3.4m
621	Sycamore	14.7m ²	2.2m
622	Douglas fir	81.7m ²	5.1m
623	London plane	13.1m ²	2.0m
G1	Various	18.1m ²	2.4m
G2	Various	20.0m ²	2.5m
		13.9m ²	2.1m
G3	Various	6.0m ²	1.4m

APPENDIX 4
Tree Protection Plan

Arboricultural Impacts: Summary
(For details, see below)

Impact	No. of Trees
Trees to be removed	3
Groups of trees or shrubs to be removed	2
TPO trees to be removed	0
Trees to be pruned	1
Trees or groups of trees where supervised demolition is needed within RPAs	2
Trees where manual excavation needed within RPAs	1
Trees where above soil surfacing needed within RPAs	0
Trees with proposed underground services within RPAs	0

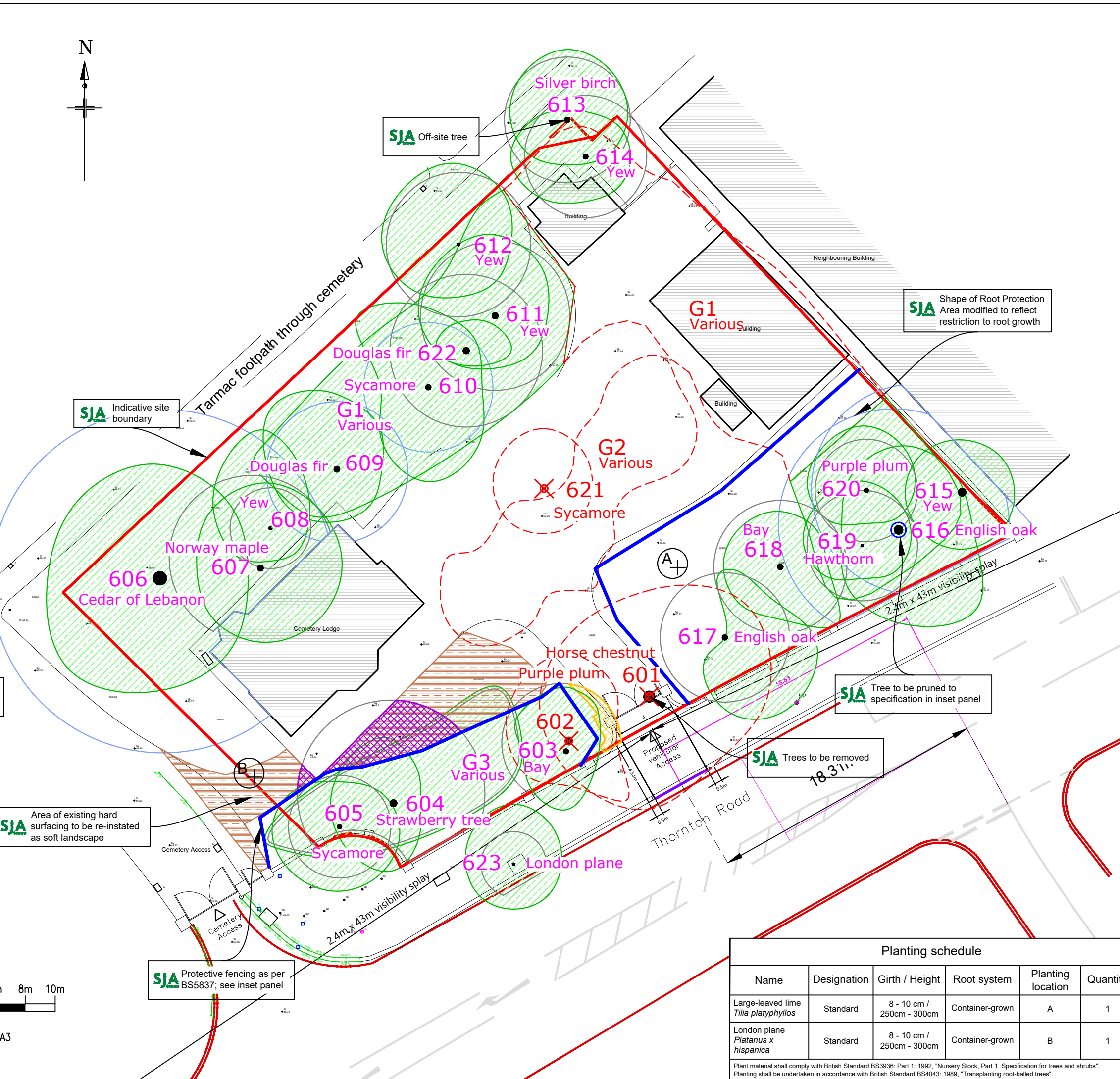
Trees to be Removed		
No.	Species	Category
601	Horse chestnut	B12
602	Purple plum	C2
621	Sycamore	C1
G1	Various (partial removal)	C2
G2	Various	C2

Total numbers of trees to be removed			
Category	No. of trees	Category	No. of trees
A	0	B	1
C	2	U	0

Trees to be pruned		
No.	Species	Works (Outline only)
616	English oak	Crown lift south-east canopy extents over footpath to a height of 2.5m above pavement level

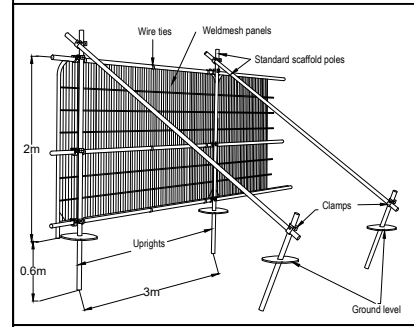
Pruning is to be undertaken in accordance with the British Standard Recommendations for Tree work, BS3998: 2010. Climbing irons or spikes are not to be used whilst pruning trees.

Trees that require manual excavation within RPAs		
No.	Species	Type of structure
603	Bay	Proposed access driveway



Protective Fencing

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



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

Manual Excavation

Within the root protection area of bay no. 603, the first 750mm depth of any excavation, 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.

SJA ARBORICULTURAL PLANNING CONSULTANTS

Project: Cemetery Lodge, Thornton Road, Croydon

Client: Croydon Borough Council

Drawing: TREE PROTECTION PLAN

Drawing no.: SJA TPP 23645-041

Based on: 2312_PLA_02_PROPOSED_REV02 EXPORT

Drawn by: TES **Date of issue:** Feb 2024 **Scale:** 1: 250 @ A3

Checked by: FPS **Tel.:** (01737) 813058 **sja@sjatrees.co.uk**

Tree nos.:	● 617	Canopies of trees to be retained:	○	Category 'B' RPA:	○
Category 'C' RPA:	○	Trees to be removed:	⊗ 601	Protective fencing:	—
Above soil surfacing:	■	Manual excavation:	■	Supervised demolition:	■

Area of hard landscaping to be reinstated as soft

For further information refer to the SJA Trees Tree Survey Schedule. Do not scale from this drawing; please check all dimensions on site, and notify us of any discrepancies. SJA Trees (the trading name of Simon Jones Associates Ltd.) cannot be held responsible for inaccuracies in the topographical plan on which this drawing is based. © Simon Jones Associates Ltd. 2024. This drawing is copyright and may not be used or changed without the written consent of SJA Trees. This drawing is designed to reflect only the principles of layout and for design insofar as these relate to the protection of trees to be retained, and should NOT be read as a definitive engineering or construction method statement. Reference should be made to the architect or structural engineer, as appropriate, over any matters of construction detail or specification, or any engineering standards or regulatory requirements relating to proposed structures, hard surfaces or underground services.

Planting schedule

Name	Designation	Girth / Height	Root system	Planting location	Quantity
Large-leaved lime <i>Tilia platyphyllos</i>	Standard	8 - 10 cm / 250cm - 300cm	Container-grown	A	1
London plane <i>Platanus x hispanica</i>	Standard	8 - 10 cm / 250cm - 300cm	Container-grown	B	1

Plant material shall comply with British Standard BS3936: Part 1: 1992, "Nursery Stock, Part 1. Specification for trees and shrubs". Planting shall be undertaken in accordance with British Standard BS4043: 1989, "Transplanting root-balled trees".

