Landmark Trees

ARBORICULTURAL IMPACT ASSESSMENT REPORT FOR:

Hillingdon Hospital

Pield Heath Road

Uxbridge

UB8 3NN

INSTRUCTING PARTY:

The Hillingdon Hospitals NHS Foundation Trust

Pield Heath Road

Uxbridge

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PART 1: MAIN TEXT

PART 2 - APPENDICES

PART 3 - PLANS

DOCUMENT HISTORY

Revision	Status	Comments	Date
Rev 0	DRAFT	For Internal Review (Client / Design Team)	12/12/23
Rev 01a	Authorised	For External Issue (to Planning)	22/02/24
Rev 01b	Authorised	For External Issue (to Planning)	23/02/2024
Rev 01c	Authorised	For External Issue (to Planning)	26/02/2024

1. SUMMARY

1.1 The existing site contains a large hospital whose grounds contain a number of trees potentially constraining development. The proposal includes the creation of a new access route to an existing bin store.

1.2 There are approximately 200 trees across the entire hospital site but only 28 of these are adjacent to The Furze. These are judged mostly moderate and low-quality trees, but with high quality trees T12 and T14 as standout specimens. All trees are material constraints on development, but these latter require particular consideration. At the other end of the spectrum, T7 and T9 are poor-quality specimens.

1.3 The report has assessed the impacts of the development proposals and concludes there would be at most a low impact on the resource: one tree and a number of small shrubs will be removed to facilitate construction. Those removed have more collective than individual specimen value, such that their loss could be mitigated with new planting, bringing its own benefits to a relatively unmanaged resource.

1.4 Whilst the default position is that structures be located outside the Root Protection Area* (RPA) of trees to be retained, there are some modest encroachments that could not be avoided in the design of the scheme. The report has demonstrated that the tree(s) can remain viable; the report also proposes a series of mitigation measures to improve the soil environment that is used by the tree for growth. Net impacts are assessed therefore as being low.

1.5 Notwithstanding the above assurances, the report sets out a series of recommendations prior and during construction that will ensure impacts to trees are minimised. These are detailed in sections 6.3 and 8 of this report.

1.6 In conclusion, the proposal, through following the above recommendations, will have very limited impact on the existing trees and is acceptable.

* British Standards Institute: Trees in relation to design, demolition and construction BS 5837: 2012 HMSO, London

2. INTRODUCTION

2.1 Terms of Reference

2.1.1 The Hillingdon Hospitals NHS Foundation Trust instructed Landmark Trees (LT) to prepare this Arboricultural Impact Assessment on behalf of their client, to support a full planning application submitted to the London Borough of Hillingdon ('LBH').

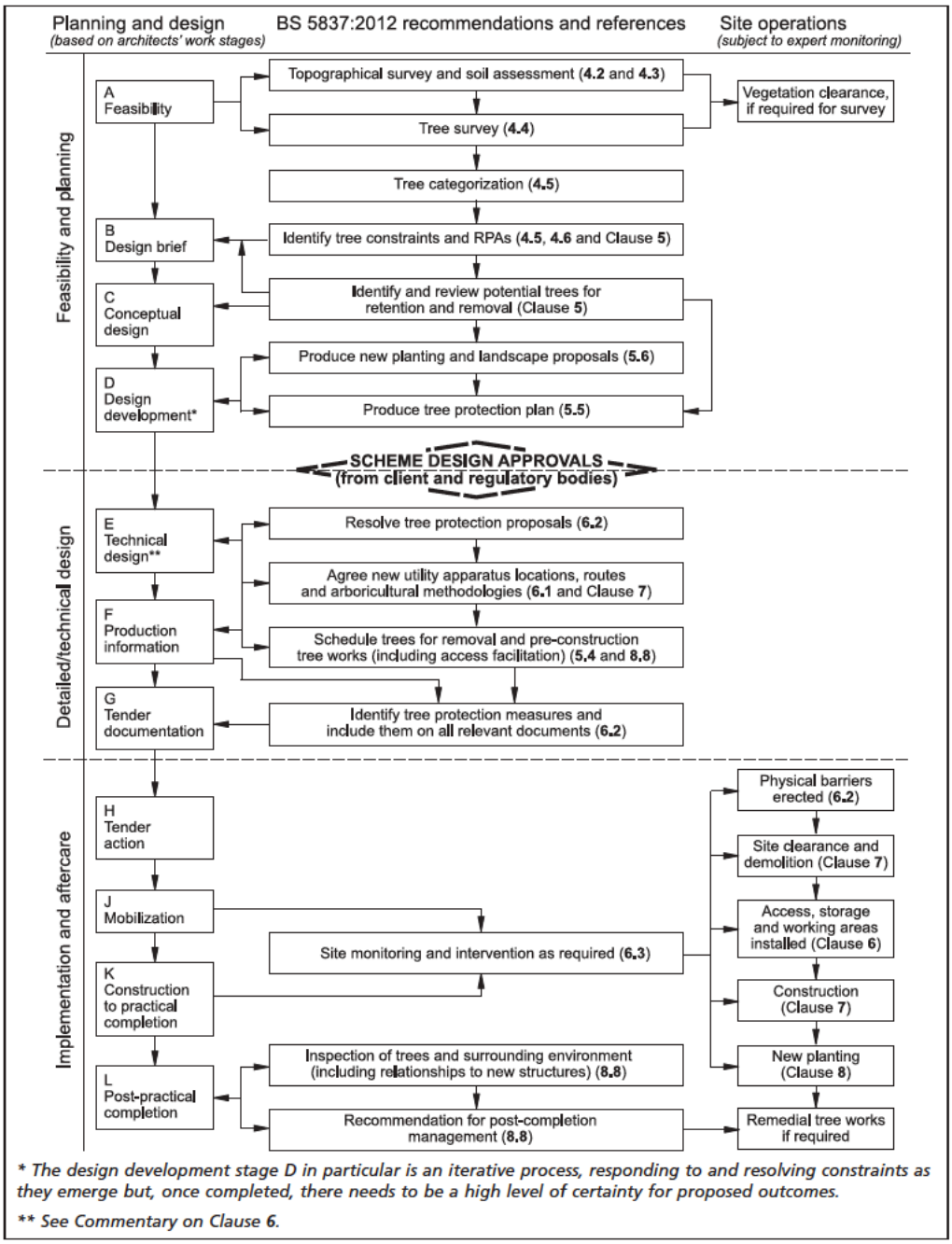
2.1.2 The application relates to the provision of a new paved route to an existing bin store.

2.1.3 This report will assess the impact on trees and their constraints, identified in our survey. Although the proposals were known at the time of the survey, Landmark Trees endeavour to survey each site blind, working from a topographical survey, wherever possible, with the constraints plan informing their evolution. The purpose of the report is to provide guidance on how trees and other vegetation can be integrated into construction and development design schemes. The overall aim is to ensure the protection of amenity by trees which are appropriate for retention.

2.1.4 Trees are a material consideration for a Local Planning Authority when determining planning applications, whether or not they are afforded the statutory protection of a Tree Preservation Order or Conservation Area. British Standard BS 5837:2012 Trees in Relation to Design, Demolition and Construction sets out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and new developments. The Standard recommends a sequence of activities (see Fig.1 overleaf) that starts in the initial feasibility and design phase (RIBA Stage 2 'Concept Design' as defined in 2012) with a survey to qualify and quantify the trees on site and establish the arboricultural constraints to development (above- and below-ground) to inform the design in an iterative process, and continues with an assessment of the arboricultural impacts of the final design and measures to mitigate such impacts should they be negative. Detailed technical specifications for mitigation and protection measures are devised in the design phase that follows (RIBA Stage 3-4 'Developed and Technical design'), and the sequence ends with the Implementation and Aftercare phase (RIBA Stages 5-7) with the implementation of those measures once planning permission is granted, guided by Arboricultural Method Statements (RIBA Stage 4-5, 'Technical Design and Construction) and professional guidance where appropriate.

2.1.5 **This report is produced to support the Design Team to the Scheme Design Approvals stage in the process chart overleaf.**

Figure 1 The design and construction process and tree care



** The design development stage D in particular is an iterative process, responding to and resolving constraints as they emerge but, once completed, there needs to be a high level of certainty for proposed outcomes.*

*** See Commentary on Clause 6.*

2.2 Drawings Supplied

2.2.1 The drawings supplied by the client and relied upon by Landmark Trees in the formulation of our survey plans are:

Existing site survey: ISSUED PRELIM SURVEY 2d

Proposals: THHFP1-LDW-ZZ-00-DR-A-SKET23

2.3 Scope & Limitations of Survey

2.3.1 As Landmark Trees' (LT) arboricultural consultant, Adam Hollis surveyed the trees immediately adjacent to The Furze on 8/12/2023, recording relevant qualitative data in order to assess both their suitability for retention and their constraints upon the site, in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations [BS5837:2012].

2.3.2 Our survey of the trees, the soils and any other factors, is of a preliminary nature. The trees were SURVEYED on the basis of the Visual Tree Assessment method expounded by Mattheck and Breloer (The Body Language of Trees, DoE booklet Research for Amenity Trees No. 4, 1994). LT have not taken any samples for analysis and the trees were not climbed but inspected from ground level.

2.3.3 The results of the tree survey, including material constraints arising from existing trees that merit retention, should be used (along with any other relevant baseline data) to inform feasibility studies and design options. For this reason, the tree survey should be completed and made available to designers prior to and/or independently of any specific proposals for development. Tree surveys undertaken after a detailed design has been prepared can identify significant conflicts: in such cases, the nature of and need for the proposed development should be set against the quality and values of affected trees. The extent to which the design can be modified to accommodate those trees meriting retention should be carefully considered. Where proposed development is subject to planning control, a tree survey should be regarded as an important part of the evidence base underpinning the design and access statement

2.3.4 A tree survey is generally considered invalid in planning terms after 2 years, but changes in tree condition may occur at any time, particularly after acute (e.g. storm events) or prolonged (e.g. drought) environmental stresses or injuries (e.g. root severance). Routine surveys at different times of the year and within two - three years of each other (subject to the incidence of the above stresses) are recommended for the health and safety management of trees remote from highways or busy access routes. Annual surveys are recommended for the latter.

2.3.5 The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.

2.4 Survey Data & Report Layout

2.4.1 Detailed records of individual trees are given in the survey schedule in Appendix 1. General husbandry recommendations are distinguished at Appendix 2 from minimum requirements to facilitate development which form part of the planning application at Appendix 3. The former may still be relevant to providing a safe site of work, of course. Planning considerations notwithstanding, we trust these necessary recommendations are passed on to relevant parties with due diligence and the trees to be managed appropriately.

2.4.2 A site plan identifying the surveyed trees, based on the Instructing Party's drawings / topographical survey is provided in Part 3 of this report. This plan also serves as the Tree Constraints Plan with the theoretical Recommended Protection Areas (RPAs), tree canopies and shade constraints, (from BS5837: 2012) overlain onto it. These constraints are then overlain in turn onto the Instructing Party's proposals to create a second Arboricultural Impact Assessment Plan in Part 3. Physical measures required to protect trees during construction are then added to this plan to create an Outline Tree Protection Plan.

2.4.3 Whilst we endeavour to review all relevant documentation / plans prior to producing this Outline Tree Protection Plan, there may be instances where this is not possible or they are not available at the time of writing. Those responsible for designing elements including temporary works that may affect trees should recognise the primacy of the tree protection details contained herein and follow its provisions or alert us to potential conflicts.

2.4.4 General observations, discussion, conclusions and recommendations follow, below.

3. SITE CHARACTERISTICS

3.1 Property Description & Planning Context

Photograph 1: Aerial view of application site (Source: Google Earth)

3.1.1 The original part of The Furze Building was constructed in the 19th century with an extension added in the 1970's. The building is surrounded by parking for the hospital with overgrown landscaping between.

3.1.2 There is a level change of approximately 600mm to the south of the building.

3.1.3 LB Hillingdon's online mapping system indicates the presence of Tree Preservation Orders (TPOs) to the south of The Furze Building (see Plan Extract overleaf) which will affect some of the subject trees: it is a criminal offence to prune, damage or fell such trees without permission from the local authority. The site stands outside any Conservation Area. It will be noted that two of the trees potentially included within the TPO have either fallen (T7) or been felled as a hazard (T9) since our original survey of the site.

3.1.4 Relevant local planning policies comprise Policies G1, G5 and G7 of the London Plan 2021, Policies EM4, EM5 and EM7 of LB Hillingdon's Local Plan, adopted December 2012 and Saved Policies OL26 and BE38 of their Unitary Development Plan (adopted September 2007).

Plan Extract 1: Tree Preservation Order in green to south of The Furze

3.2 Soil Description

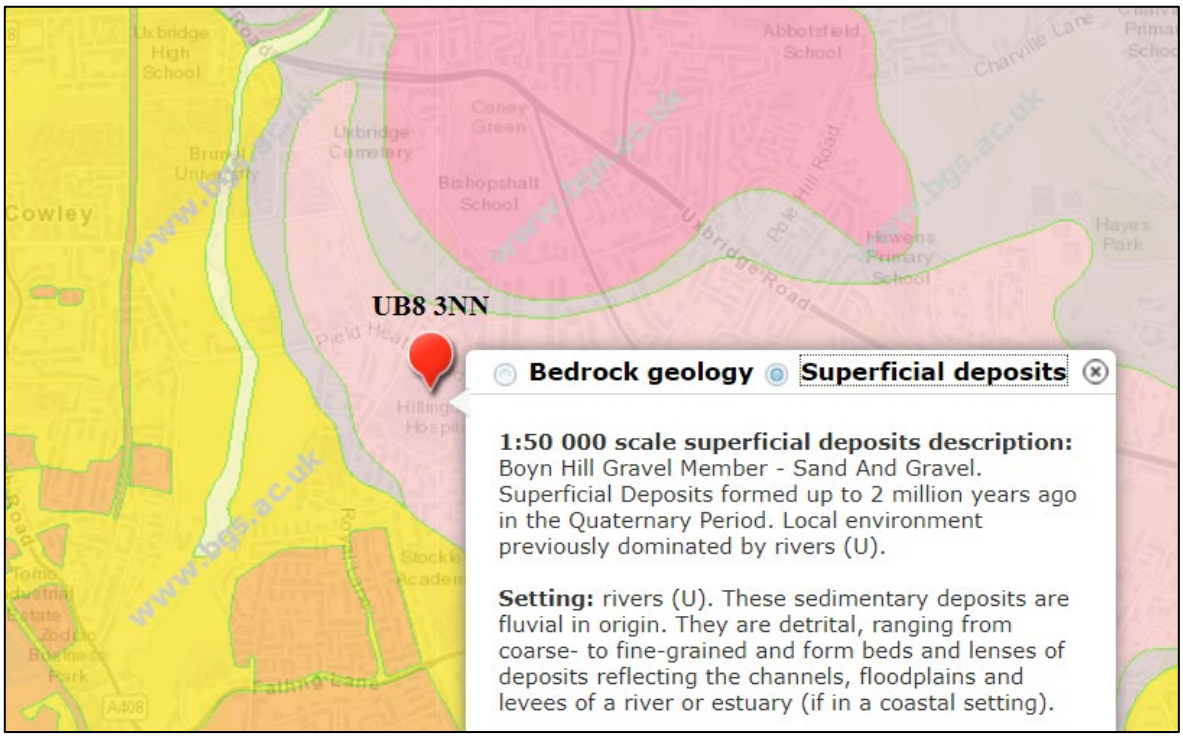


Figure 2: Extract from the BGS Geology of Britain Viewer

3.2.1 In terms of the British Geological Survey, the site overlies the London Clay Formation with Boyn Hill Gravel superficial deposits (see indicated location on Fig.1 plan extract above). The associated soils are generally, sand and gravel, but with subsoils of highly shrinkable clay; e.g. slowly permeable seasonally waterlogged fine loam over clay. Such highly plastic subsoils are prone to movement: subsidence and heave, but their influence will depend somewhat on the actual depth of that clay (sand and gravel deposits are not shrinkable). The actual distribution of the soil series are not as clearly defined on the ground as on plan and there may be anomalies in the actual composition of clay, silt and sand content.

3.2.2 Sand and gravel soils are less prone to compaction during development than clay soils, potentially reducing the threat to tree health from construction traffic. The design of foundations near problematic tree species will also need to take into consideration subsidence risk in relation to the clay subsoil and its depth. Further advice from the relevant experts on the specific soil properties can be sought as necessary.

3.3 Subject Trees

3.3.1 Of the 28 surveyed trees, 2 are category* A (High Quality), 4 are category B (Moderate Quality), 20 are category C (Low Quality) and 2 are category U (Poor Quality). For the sake of consistency, the same numbering system adopted in the previous tree survey undertaken has been maintained.

3.3.2 The tree species found on the site comprise sycamore, elder, common yew, holly, rowan, swamp cypress, elm, English oak, cedar of Lebanon, common beech and Turkey oak.

3.3.3 In terms of age demographics there are predominantly semi-mature and early mature specimens present with a few mature trees present.

3.3.4 Full details of the surveyed trees can be found in Appendix 1 of this report.

3.3.5 There are recommended works for 13 trees. These are listed in Appendix 2.

*page 9 of: British Standards Institute: Trees in relation to design, demolition and construction BS 5837: 2012 HMSO, London

4. DEVELOPMENT CONSTRAINTS

4.1 Primary Constraints

4.1.1 BS5837: 2012 gives Recommended Protection Areas (RPAs) for any given tree size. The individual RPAs are calculated in the Tree Schedule in Appendix 1 to this report, or rather the notional radius of that RPA, based on a circular protection zone. The prescribed radius is 12-x stem diameter at 1.5m above ground level, except where composite formulae are used in the case of multi-stemmed trees.

4.1.2 Circular RPAs are appropriate for individual specimen trees grown freely, but where there is ground disturbance, the morphology of the RPA can be modified to an alternative polygon, as shown in the diagram below (Figure 3). Alternatively, one need principally remember that RPAs are area-based and not linear – notional rather than fixed entities.

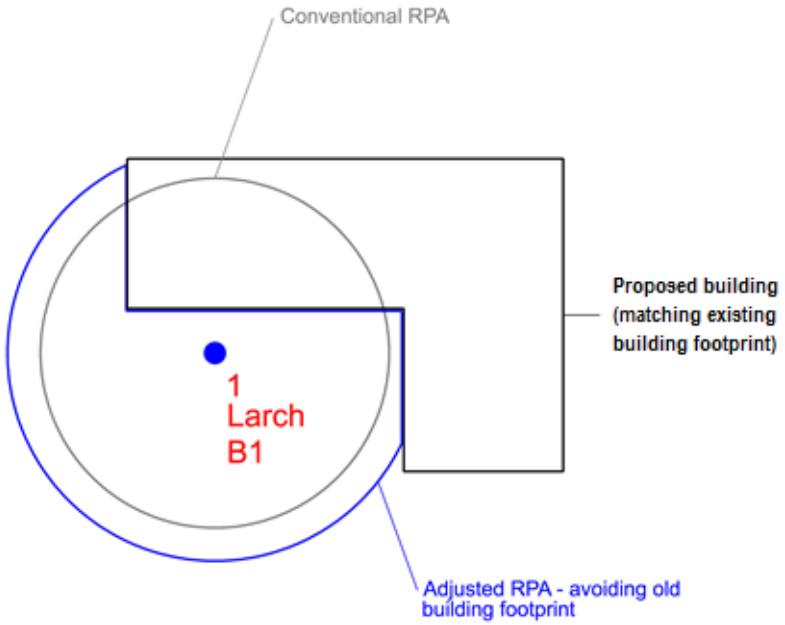


Figure 3 – Generic BS 5837 RPA Adjustments

4.1.3 In BS5837, paragraph 4.6.2 states that RPAs should reflect the morphology and disposition of the roots; where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution. This can be done as a desktop / theoretical exercise but is not altogether (scientifically) reliable and may also invite disagreement / differences of opinion as to that distribution.

4.1.4 LT prefer where possible and practical to raise the issue of modification but suspend judgment until such time as more reliable site investigations have been undertaken (Tree Radar scans and / or trial pits). Of course, the justification for these investigations will depend upon whether trees are (or are likely to be once modified) subject to impacts and also upon their quality / condition: it is generally not worth commissioning a radar study to locate the roots of a poor- or low-quality tree. On other occasions, there may not be the opportunity to commission investigations, either because the access is restricted by ownership / tenancy or the report's turnaround simply does not allow it, and they may need to follow on or be conditioned. **No a priori RPA modifications have been made in this instance.**

4.1.5 The quality of trees will also be a consideration: U Category trees are discounted from the planning process in view of their limited useful life expectancy. Again, Category-C trees would not normally constrain development individually, unless they provide some external screening function.

4.1.6 At paragraph 5.1.1. BS5837: 2012 notes that "Care should be exercised over misplaced tree preservation; attempts to retain too many or unsuitable trees on a site are liable to result in excessive pressure on the trees during demolition or construction work, or post-completion demands on their removal."

4.1.7 In theory, only moderate quality trees and above are significant material constraints on development. However, low quality trees comprise a constraint in aggregate, in terms of any collective loss / removal, where replacement planting is generally considered appropriate.

4.1.8 In this instance, the high and moderate quality trees have the potential to pose significant constraints to development.

4.3 Secondary Constraints

4.3.1 The second type of constraint produced by trees that are to be retained is that the proximity of the proposed development to the trees should not threaten their future with ever increasing demands for tree surgery or felling to remove nuisance shading (Figure 4), honeydew deposition or perceived risk of harm.

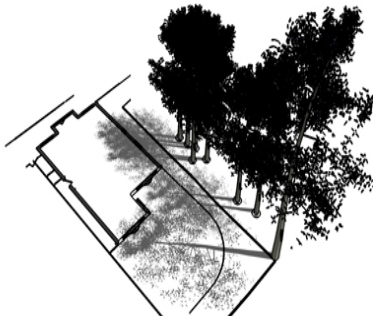


Figure 4 –
Generic Shading Constraints

4.3.2 The shading constraints are crudely determined from BS5837 by drawing an arc from northwest to east of the stem base at a distance equal to the height of the tree, as shown in the diagram opposite. Shade is less of a constraint on non-residential developments, particularly where rooms are only ever temporarily occupied.

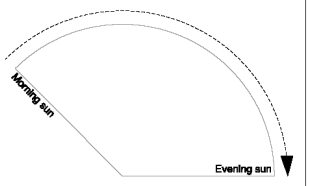


Figure 5 – Shading Arc

4.3.3 This arc (see Figure 5) represents the effects that a tree will have on layout through shade, based on shadow patterns of 1x tree height for a period May to Sept inclusive 10.00-18.00 hrs daily.

4.3.4 Assuming that they will be retained, the orientation of the on-site trees will ensure that shading constraints are minimal, with leaf deposition and honey-dew likely to be as it is today. The significance of these constraints will vary depending on the location and proximity to the proposed re-development which is considered below (in Sections 5 & 6). As specified by BS5837, this section (4) of the report considers only the site as it is, not in the light of pending proposals.

Note: Sections 5 & 6 below will now assess the impacts of the proposals upon constraints identified in Section 4 above. Table 1 in Section 5 presents the impacts in tabular form (drawing upon survey data presented in Appendices 1 & 2). Impacts are presented in terms of whole tree removal and the effect on the landscape or partial encroachment (% of RPA) and its effect on individual tree health. Section 6 discusses the table data, elaborating upon the impacts' significance and mitigation.

5.0

Table 1: Arboricultural Impact Assessment

(Impacts assessed prior to mitigation and rated with reference to Matheny & Clark (1998))

Hide irrelevant | Show All Trees

Ref: HFT_THH_AIA

B.S. Cat.	Tree No.	Species	Impact	Tree / RPA Affected	Age	Growth Vitality	Species Tolerance	Impact on Tree Rating	Impact on Site Rating	Mitigation
B	1	Sycamore	Bin Store Construction within RPA Path Construction within RPA	17.9 m^2 6.34 % 	Mature	Poor	Moderate	Low	Low	No-dig construction No-dig construction
C	5	Yew, Common	Path Construction within RPA	m^2 N/A %	Early Mature	Moderate	Moderate	Very Low	Very Low	No-dig construction
C	10	Sycamore	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Low	New planting / landscaping
B	11	Oak, English	Path Construction within RPA	m^2 N/A %	Mature	Normal	Moderate	Very Low	Very Low	No-dig construction
A	12	Cedar of Lebanon	Path Construction within RPA Path Construction within RPA	m^2 N/A % 	Mature	Normal	Moderate	Very Low	Very Low	No-dig construction
A	14	Oak, English	Path Construction within RPA	m^2 N/A %	Mature	Normal	Moderate	Very Low	Very Low	Airspade / manual excavation

6. ARBORICULTURAL IMPLICATIONS

6.1 Rating of Primary Impacts

6.1.1 The principal impacts in the current proposals are the removal of the sycamore T10 and various small shrubs that do not pose planning constraints. In terms of resource management, these comprise a relatively small portion of the whole. Those removed have more collective than individual specimen value such that their loss could be mitigated with new planting, bringing its own benefits of enrichment and diversification to a relatively unmanaged and subsisting resource. The immediate reduction in canopy cover through felling is therefore rated as a low impact unlikely to harm either the resource or the wider area.

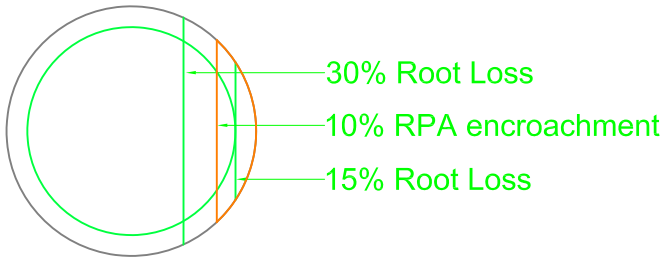
6.1.2 The principal impact to retained trees comprises the installation of the bin store within the RPA of T1. In order to prevent potentially significant root damage to this tree, it will be necessary for the bin store and footpath accessing it to be constructed using a no-dig methodology.

6.1.3 Further impacts to retained trees comprise the encroachments of 4 trees' RPAs by new / widened footpaths. It is also proposed to extend an existing ramp within the RPA of one of these trees (T12), this ramp will be above ground rather than dug into it.

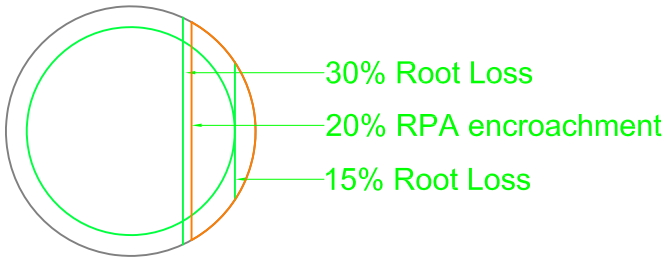
6.1.4 In our view, the tree(s) are of a species, age and condition sufficient to remain viable in the circumstances, given that the area lost to encroachment can be compensated for elsewhere, contiguous with the RPA, and provided the series of mitigation measures outlined below are followed to both reduce the immediate impact of working methods and also improve the soil environment that is used by the tree for growth. Supervision and monitoring of such measures will also be essential. Subject to these provisos the net impacts are assessed as being low.

6.1.5 There is no set RPA encroachment that is immediately permissible. However, at para 5.3.a of BS5837, the project arboriculturist is charged with demonstrating that the tree(s) will remain viable in the instance of RPA encroachment. Whilst there is little research on RPA encroachment itself, there have been various commonly cited studies of root severance (see overleaf). Whilst the RPA is not coextensive with the wider root system, one can make some correlations after Thomas (2014): in average (sic) conditions, a straight line tangential with a tree's canopy would transect 15% of the root system, for another mid-way to the trunk that figure would be 30%. In the current cases, **the impacts would be below the lower of these two parameters** as can be seen in Plan 2 in the Appendix or where more irregular in profile, can be gleaned from the percentage RPA encroachments in Table 1. There is no precise correlation between % RPA and root impairment or loss. However, in our experience, most RPA tend to exceed the free-grown canopy spread a little (c. x 1.2 -1.5), suggesting by reference to both Thomas and Fig. 6a - 6c overleaf, RPA encroachments marginally understate the percentage root loss. The informal 20% RPA threshold may equate to c. 30% root loss, and 10% RPA encroachment to c. 20% root loss. The assumptions made here are relatively crude and apply more to open grown trees but are nonetheless illustrative.

RPA: 5m



Area 7.98 sq.m. (10.0%)



Area 15.96 sq.m. (20.0%)

Figure 5a: approximate correlation between RPA encroachment and actual root loss on a free-grown tree of 5m RPA radius (after Thomas (2014))

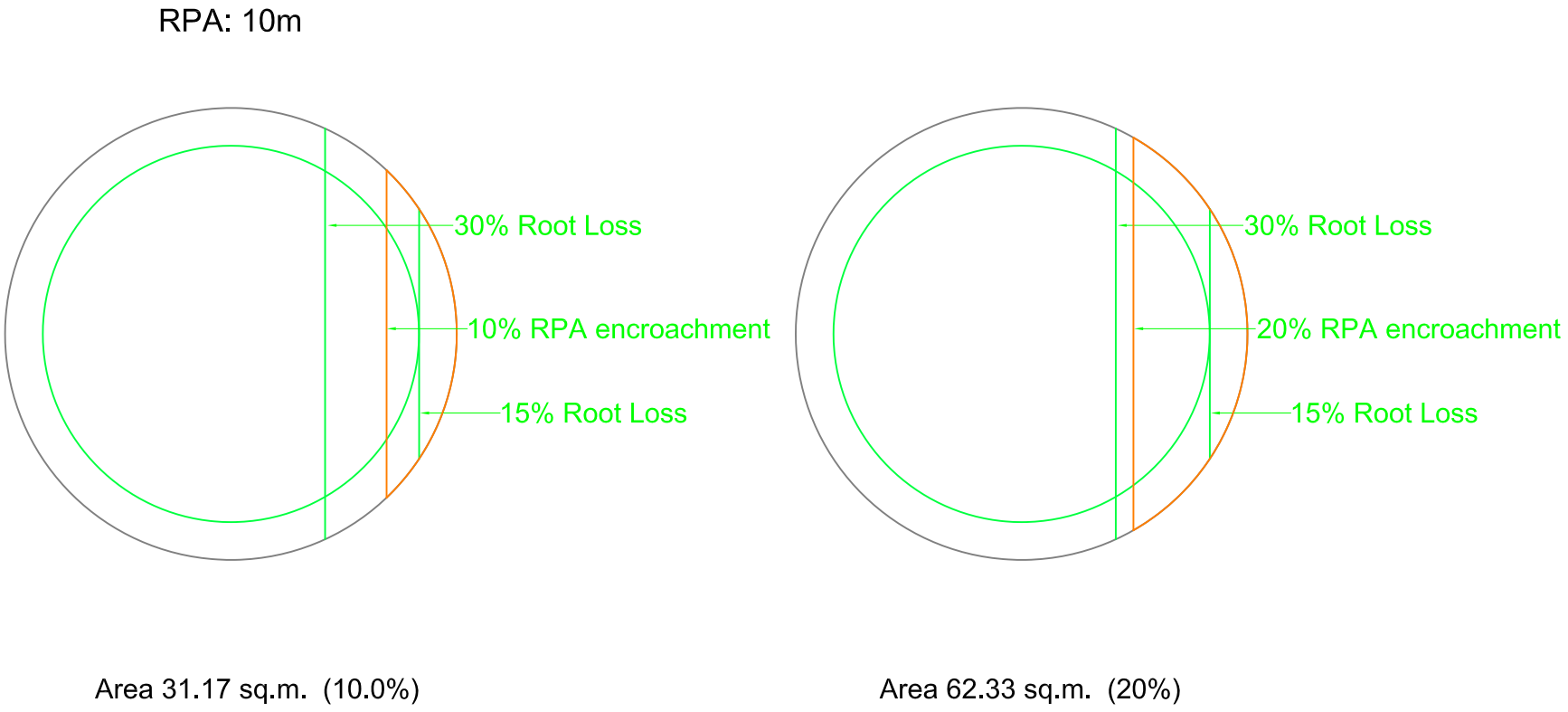


Figure 5b: approximate correlation between RPA encroachment and actual root loss on a free-grown tree of 10m RPA radius (after Thomas (2014))

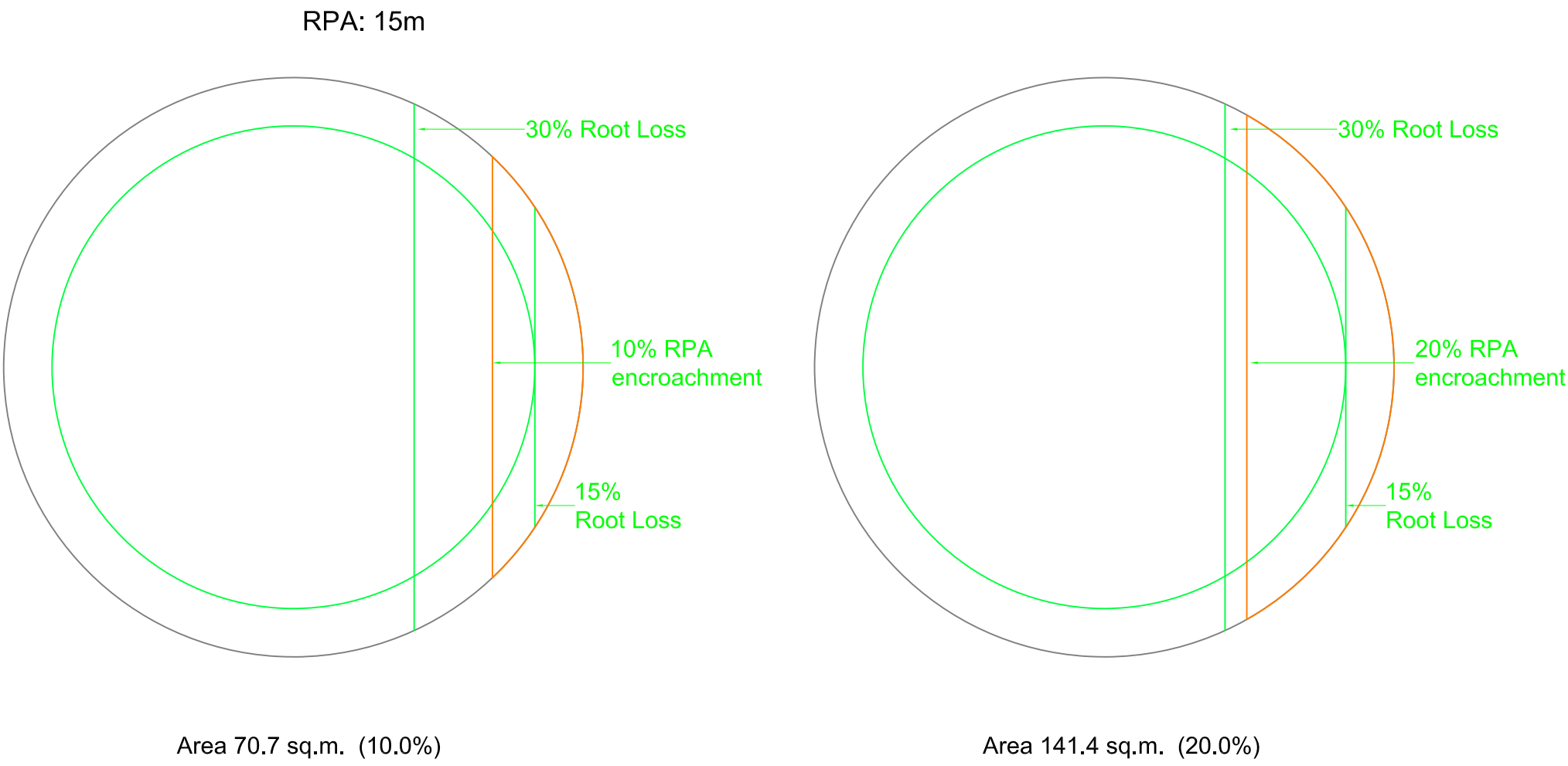


Figure 5c: approximate correlation between RPA encroachment and actual root loss on a free-grown tree of 15m RPA radius (after Thomas (2014))

6.1.6 Published references suggest healthy trees tolerating up to 30-50% root severance in general (Coder, Helliwell and Watson in CEH 2006). "**In practice 50% of roots can sometimes be removed with little problem**, provided there are vigorous roots elsewhere. Inevitably, this degree of root loss will temporarily slow canopy growth and even lead to some dieback" (Thomas 2014). Clearly, it is not the purpose of this report to sanction impacts to test a tree's physiological tolerance, where the guidance recommends the avoidance of impact / RPA encroachment as the default position. However, it has not proved possible at the design stage to avoid such encroachment altogether, and in that regard, the project arboriculturalist has determined that the retained trees can remain viable in the scheme before planning.

6.1.7 The trees in question are shown in Table 1 above to be healthy specimens of species with a good resistance to development impacts, and of an age quite capable of tolerating these limited impacts. Nor do the site characteristics suggest specific soil anomalies (e.g. heavy clay) having a bearing on such considerations, provided appropriate measures (e.g. ground protection) are taken.

6.1.8 As per BS5837 recommendations (at 5.3.1a), the above assessment demonstrates that the tree(s) can remain viable. The guide also recommends (at 5.3.1b) the arboriculturist propose a series of mitigation measures (to improve the soil environment that is used by the tree for growth). These are provided at 6.3 below.

6.2 Rating of Secondary Impacts

6.2.1 The nature of the proposals means that the assessment of secondary impacts is moot.

6.3 Mitigation of Impacts

6.3.1 The replanting scheme will offer considerable enhancement and replaces a scrubby tree of low quality. Replacement trees will have the advantage of being specifically selected for the proposed site, healthy and fit-for-purpose. Naturally regenerated trees and saplings tend to be of pioneer / opportunist species (ash and sycamore) which can cause problems for infrastructure, springing up in unsuitable locations. Design can provide for a diverse range of native and ornamental species that will complement rather than conflict with the proposals, so providing a more sustainable long-term resource for the future. A selection of tree species and cultivars for open and constricted sites is provided in Appendix 4.

6.3.2 The bin store will be constructed using a no-dig methodology utilising an above ground cellular confinement system as a sub-base. Any excavations for its enclosing panels will be carried out manually under arboricultural supervision. Roots encountered less than 25mm in diameter may be pruned back using a sharp secateurs, roots above this diameter may only be cut following consultation with the retained arboriculturalist and prior approval of the local authority.

6.3.3 With the exception of the very small encroachment of T14's RPA, the pathway encroachments will require a no-dig construction technique, using a cellular confinement system with no fines aggregate for the sub-base. The degree of encroachment means that a permeable paving surface (e.g. gravel or block paving) is required. The finished section is likely to be 150mm above grade, depending on final specification, which will need to be factored into the overall finished site levels. The cellular confinement system with a temporary hard surface (e.g. road stone) can be used for site access during construction and the surface material replaced on completion of construction.

6.3.4 The existing levels mean that the section of new, wider footpath within the RPA of T14 cannot be installed using a no-dig construction method. Accordingly, the outer limits will be excavated to the requisite depth (to a maximum of 750mm) under arboricultural supervision. Roots encountered less than 25mm in diameter can be cut back with a sharp secateurs but roots in excess of this diameter may only be pruned following consultation with the retained arboriculturalist and the prior approval of the local authority.

6.3.5 The increase in levels required for the ramp within T12's RPA will be achieved using the cellular confinement panels that will also be used to form the sub-base of the no-dig footpath which can be placed on either sloped aggregate or other geoweb panels to achieve the required grade.

7. CONCLUSION

7.1 The potential impacts of development are all relatively low in terms of both quality of trees removed and also RPA encroachments of trees retained. In the latter case, the report has demonstrated as per BS5837 paragraph 5.3.1 (a) that the tree(s) can remain viable and that the area lost to encroachment can be compensated for elsewhere, contiguous with its RPA; the report also proposes as per paragraph 5.3.1 (b) a series of mitigation measures to improve the soil environment that is used by the tree for growth.

7.2 The full potential of the impacts can thus be largely mitigated through design and precautionary measures. These measures can be elaborated in Method Statements in the discharge of planning conditions.

7.3 The species affected are generally tolerant of root disturbance / crown reduction and the retained trees are generally in good health and capable of sustaining these reduced impacts.

7.4 The trees that are recommended for felling are of little individual significance, such that their loss will not affect the visual character of the area.

7.5 Therefore, the proposals will not have any significant impact on either the retained trees or wider landscape thereby complying with Policies G1 and G7 of the London Plan 2021 and Policies EM4, EM5 and EM7 of LB Hillingdon's Local Plan, adopted December 2012 and Saved Policies OL26 and BE38 of their Unitary Development Plan (adopted September 2007). Thus, with suitable mitigation and supervision the scheme is recommended to planning.

8. RECOMMENDATIONS

8.1 Specific Recommendations

8.1.1 Tree works recommendations in Appendix 2 are not part of the current application, but requirements of general maintenance that will need to be applied for (subject to para. 3.3 of this report and any other relevant constraints in planning or leasehold) by the client separately. Consent for the current planning application does not impart any consent for the Appendix 2 maintenance works. Please note, though, the owner and / or manager of a property have a duty to maintain a safe site of work and to protect occupiers of the surrounding land / members of the public from tree hazards. Works recommended in this report should be enacted in a timely fashion by the relevant party regardless of the progress of the development.

8.1.2 Recommendations for works required to facilitate development are found in Appendix 3 and a selection of columnar tree species cultivars for constricted sites provided in Appendix 4. Any tree removals recommended within this report should only be carried out with local authority consent.

8.1.3 Excavation and construction impacts within the RPAs of trees identified in Table 1 above, will need to be controlled by method statements specifying mitigation methods suggested in para 6.3 above and by consultant supervision as necessary. These method statements can be provided as part of the discharge of conditions.

8.1.4 Replace felled tree T10 with native ornamental nursery stock under current best practice; i.e. conforming to and planted in accordance with the following:

- BS8545: 2014 Code of Practice for Trees from Nursery to Landscape
- BS 3936-1: 1992 Nursery stock. Specification for trees and shrubs; and
- BS 5236:1975 Cultivation and Planting of Trees in the Advanced Nursery Stock Category.
- All replacement stock should be planted and maintained as detailed in BS 4428:1989 (Section 7): Recommendations for General Landscape Operations.

8.2 General Recommendations for Sites Being Developed with Trees / Outline Arboricultural Method Statement

8.2.1 Any trees which are in close proximity to the proposed development should be protected with a Tree Protection Barrier (TPB). Protective barrier fencing should be installed immediately following the completion of the tree works, remaining in situ for the entire duration of the development unless otherwise agreed in writing by the Council. It should be appropriate for the intensity and proximity of the development, usually comprising steel, mesh panels 2.4m in height ('Heras') and should be mounted on a scaffolding frame (shown in Fig 2 of BS5837:2012). The position of the TPB can be shown on plan as part of the discharge of conditions, once the layout is agreed with the planning authority. The TPB should be erected prior to commencement of works, remain in its original form on-site for the duration of works and be removed only upon full completion of works. The areas behind the TPBs are to be treated as Construction Exclusion Zones (CEZ) where no access, material, spoil or plant storage is permitted.

8.2.2 A TPB may no longer be required during soft landscaping work but a full arboricultural assessment must be performed prior to the undertaking of any excavations within the RPA of a tree. This will inform a decision about the requirement of protection measures. It is important that all TPBs have permanent, weatherproof notices denying access to the RPA. Extant areas of RPA that cannot be fenced off and therefore lie outside the CEZ must be protected with fit-for-purpose ground protection. The location and type of ground protection is shown in the Tree Protection Plan in the Appendices

8.2.3 The use of heavy plant machinery for building demolition, removal of imported materials and grading of surfaces should take place in one operation. The necessary machinery should be located above the existing grade level and work away from any retained trees. This will ensure that any spoil is removed from the RPAs. It is vital that the original soil level is not lowered as this is likely to cause damage to the shallow root systems.

8.2.4 Any pruning works must be in accordance with British Standard 3998:2010 Tree work [BS3998].

8.2.5 Where sections of hard surfacing are proposed in close proximity to trees, it is recommended that "No-Dig" surfacing be employed in accordance with BS5837:2012.

8.2.6 If the RPA of a tree is encroached by underground service routes then BS5837:2012 and NJUG VOLUME 4 provisions should be employed. If it is deemed necessary, further arboricultural advice must be sought.

8.2.7 Numerous site activities are potentially damaging to trees e.g. parking, material storage, the use of plant machinery and all other sources of soil compaction. In operating plant, particular care is required to ensure that the operational arcs of excavation and lifting machinery, including their loads, do not physically damage trees when in use.

8.2.8 To enable the successful integration of the proposal with the retained trees, the following points will need to be taken into account:

1) Plan of underground services.
2) Schedule of tree protection measures, including the management of harmful substances.
3) Method statements for constructional variations regarding tree proximity (e.g. foundations, surfacing and scaffolding).
4) Site logistics plan to include storage, plant parking/stationing and materials handling.
5) Tree works: felling, required pruning and new planting. All works must be carried out by a competent arborist in accordance with BS3998.
6) Site supervision: the Site Agent must be nominated to be responsible for all day-to-day arboricultural matters on site. This person must:
   - be present on site for the majority of the time;
   - be aware of the arboricultural responsibilities;
   - have the authority to stop work causing, or may cause harm to any tree;
   - ensure all site operatives are aware of their responsibilities to the trees on site and the consequences of a failure to observe these responsibilities;
   - arrange with the retained arboricultural consultant an initial pre-start briefing to inspect tree protection measures and agree a schedule of monitoring thereof on an initial monthly basis to be reviewed over the duration of works.
   - give advance notice (ideally 2 weeks) to retained arboricultural consultant to arrange for supervision of any excavation (especially for services and foundations) within RPA
   - make immediate contact with the local authority and/or a retained arboricultural consultant in the event of any tree related problems occurring.

8.2.9 These points can be resolved and approved through consultation with the planning authority via their Arboricultural Officer.

8.2.10 The sequence of works should be as follows:

i) initial tree works: felling, stump grinding and pruning for working clearances;
ii) installation of TPB for demolition & construction;
iii) installation of underground services;
iv) installation of ground protection;
v) main construction;
vi) removal of TPB;
vii) soft landscaping.

9. COMPLIANCE: Trees and the Planning System

9.1 Under the UK planning system, local authorities have a statutory duty to consider the protection and planting of trees when granting planning permission for proposed development. The potential effect of development on trees, whether statutorily protected (e.g. by a tree preservation order or by their inclusion within a conservation area) or not, is a material consideration that is taken into account in dealing with planning applications. Where trees are statutorily protected, it is important to contact the local planning authority and follow the appropriate procedures before undertaking any works that might affect the protected trees.

9.2 The nature and level of detail of information required to enable a local planning authority to properly consider the implications and effects of development proposals varies between stages and in relation to what is proposed. Table B.1 provides advice to both developers and local authorities on an appropriate amount of information. The term "minimum detail" is intended to reflect information that local authorities are expected to seek, whilst the term "additional information" identifies further details that might reasonably be sought, especially where any construction is proposed within the RPA.

9.3 This report delivers information appropriate to a full planning application and to these specific proposals as per BS5837 Table B.1 below, providing both minimum details and further additional material in the form of general tree protection recommendations and constructional variation.

Table B.1 **Delivery of tree-related information into the planning system**

Stage of process	Minimum detail	Additional information
Pre-application	Tree survey	Tree retention/removal plan (draft)
Planning application	Tree survey (in the absence of pre-application discussions)	Existing and proposed finished levels
	Tree retention/removal plan (finalized)	Tree protection plan
	Retained trees and RPAs shown on proposed layout	Arboricultural method statement – heads of terms
	Strategic hard and soft landscape design, including species and location of new tree planting	Details for all special engineering within the RPA and other relevant construction details
	Arboricultural impact assessment	
Reserved matters/ planning conditions	Alignment of utility apparatus (including drainage), where outside the RPA or where installed using a trenchless method	Arboricultural site monitoring schedule
	Dimensioned tree protection plan	Tree and landscape management plan
	Arboricultural method statement – detailed	Post-construction remedial works
	Schedule of works to retained trees, e.g. access facilitation pruning	Landscape maintenance schedule
	Detailed hard and soft landscape design	

10.0 REFERENCES

- Barlow JF & Harrison G. 1999. Shade By Trees, Arboricultural Practice Note 5, AAIS, Farnham, Surrey.
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- Centre for Ecology & Hydrology. 2006. Tree Roots in the Built Environment, HMSO, London.
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Landmark Trees

Caveats

This report is primarily an arboricultural report. Whilst comments relating to matters involving built structures or soil data may appear, any opinion thus expressed should be viewed as qualified, and confirmation from an appropriately qualified professional sought. Such points are usually clearly identified within the body of the report. It is not a full safety survey or subsidence risk assessment survey. These services can be provided but a further fee would be payable. Where matters of tree condition with a safety implication are noted during a survey they will of course appear in the report.

A tree survey is generally considered invalid in planning terms after 2 years, but changes in tree condition may occur at any time, particularly after acute (e.g. storm events) or prolonged (e.g. drought) environmental stresses or injuries (e.g. root severance). Routine surveys at different times of the year and within two - three years of each other (subject to the incidence of the above stresses) are recommended for the health and safety management of trees remote from highways or busy access routes. Annual surveys are recommended for the latter.

Tree works recommendations are found in the Appendices to this report. It is assumed, unless otherwise stated ("ASAP" or "Option to") that all husbandry recommendations will be carried out within 6 months of the report's first issue. Clearly, works required to facilitate development will not be required if the application is shelved or refused. However, necessary husbandry work should not be shelved with the application and should be brought to the attention of the person responsible, by the applicant, if different. Under the Occupiers Liability Act of 1957, the owner (or his agent) of a tree is charged with the due care of protecting persons and property from foreseeable damage and injury.' He is responsible for damage and/or nuisance arising from all parts of the tree, including roots and branches, regardless of the property on which they occur. He also has a duty under The Health and Safety at Work Act 1974 to provide a safe place of work, during construction. Tree works should only be carried out with local authority consent, where applicable.

Inherent in a tree survey is assessment of the risk associated with trees close to people and their property. Most human activities involve a degree of risk, such risks being commonly accepted if the associated benefits are perceived to be commensurate.

Risks associated with trees tend to increase with the age of the trees concerned, but so do many of the benefits. It will be appreciated, and deemed to be accepted by the client, that the formulation of recommendations for all management of trees will be guided by the cost-benefit analysis (in terms of amenity), of tree work that would remove all risk of tree related damage.

Prior to the commencement of any tree works, an ecological assessment of specific trees may be required to ascertain whether protected species (e.g. bats, badgers and invertebrates etc.) may be affected.

Landmark Trees

PART 2 – APPENDICES

APPENDIX 1

TREE SCHEDULE

Botanical Tree Names

Beech, Common	: Fagus sylvatica	Oak, English	: Quercus robur
Cedar of Lebanon	: Cedrus libani	Oak, Turkey	: Quercus cerris
Cypress, Swamp	: Taxodium distichum	Rowan, Mountain Ash	: Sorbus aucuparia
Elder	: Sambucus nigra	Sycamore	: Acer pseudoplatanus
Elm, English	: Ulmus procera	Yew, Common	: Taxus baccata
Holly, Common/English	: Ilex aquifolium		

Notes for Guidance:

1. Height describes the approximate height of the tree measured in metres from ground level.
2. The Crown Spread refers to the crown radius in meters from the stem centre and is expressed as an average of NSEW aspect if symmetrical.
3. Ground Clearance is the height in metres of crown clearance above adjacent ground level.
4. Stem Diameter (Dm) is the diameter of the stem measured in millimetres at 1.5m from ground level for single stemmed trees. BS 5837:2012 formula (Section 4.6) used to calculate diameter of multi-stemmed trees. Stem Diameter may be estimated where access is restricted and denoted by '#'.
5. Protection Multiplier is 12 and is the number used to calculate the tree's protection radius and area
6. Protection Radius is a radial distance measured from the trunk centre.
7. Growth Vitality - Normal growth, Moderate (below normal), Poor (sparse/weak), Dead (dead or dying tree).
8. Structural Condition - Good (no or only minor defects), Fair (remediable defects), Poor - Major defects present.
9. Landscape Contribution - High (prominent landscape feature), Medium (visible in landscape), Low (secluded/among other trees).
10. B.S. Cat refers to (British Standard 5837:2012 section 4.5) and refers to tree/group quality and value: 'A' – High, 'B' - Moderate, 'C' - Low, 'U' - Unsuitable for retention. The following colouring has been used on the site plans:
    - High Quality (A) (Green),
    - Moderate Quality (B) (Blue),
    - Low Quality (C) (Grey),
    - Unsuitable for Retention (U) (Red)
11. Sub Cat refers to the retention criteria values where 1 is Arboricultural, 2 is Landscape and 3 is Cultural including Conservational, Historic and Commemorative.
12. Useful Life is the tree's estimated remaining contribution in years.

Landmark Trees

Site: The Furze
Date: 08/12/23

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Adam Hollis
Ref: HFT_THH_AIA

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Stem Diamete	Age Class	Protection Radius	Growth Vitality	Structural Condition	B.S. Cat	Sub Cat	Useful Life	Comments
1	Sycamore	17	6784	4.0	790	Mature	9.5	Poor	Fair	B	2	20+	Dying back (unilateral) Deadwood / drought damage to northwest crown
2	Sycamore	12	5342	2.0	320	Early Mature	3.8	Moderate	Fair	C	2	20+	Ivy clad Suppressed by nearby tree growing on stream bank. Lost codominant stem
2a	Sycamore	7	2	1.0	168	Young	2.0	Normal	Fair	C	2	40+	Ivy clad
3	Elder	2	1111	0.0	90	Young	1.1	Moderate	Fair	C	2	10+	
4	Yew, Common	9	0131	2.0	450	Early Mature	5.4	Moderate	Fair	C	2	20+	Ivy clad Suppressed by nearby tree Low live crown ratio
5	Yew, Common	9	3434	2.0	650	Early Mature	7.8	Moderate	Fair	C	2	20+	Ivy clad Sparse / dieback in top

Landmark Trees

Site: The Furze
Date: 08/12/23

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Adam Hollis
Ref: HFT_THH_AIA

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Stem Diamete	Age Class	Protection Radius	Growth Vitality	Structural Condition	B.S. Cat	Sub Cat	Useful Life	Comments
G6	Holly	8	3333	0.0	375	Mature	4.5	Normal	Good	C	2	20+	2 members
7	Rowan	3	3022	0.5	200	Early Mature	2.4	Moderate	Poor	U		<10	fallen
8	Sycamore	10	4333	3.0	283	Early Mature	3.4	Normal	Fair	C	2	20+	Ivy clad
9	Cypress, Swamp	21	4444	3.0	1200	Mature	14.4	Moderate	Poor	U		<10	A sparser than normal canopy Ivy clad Decay at base
G9a	Sycamore	9	3	2.0	173	Semi-mature	2.1	Normal	Fair	C	2	40+	
9b	Elm	7	0633	2.5	200	Semi-mature	2.4	Normal	Fair	C	2	10+	Asymmetry (major) Leaning over car park

Landmark Trees

Site: The Furze
Date: 08/12/23

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Adam Hollis
Ref: HFT_THH_AIA

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Stem Diamete	Age Class	Protection Radius	Growth Vitality	Structural Condition	B.S. Cat	Sub Cat	Useful Life	Comments
10	Sycamore	10	4354	2.0	425	Early Mature	5.1	Normal	Fair	C	2	20+	Ivy clad
11	Oak, English	16	7649	5.0	640	Mature	7.7	Normal	Fair	B	2	>40	Ivy clad Deadwood (minor) throughout crown Storm-damaged hanger NE Long low lateral S over drive
11a	Sycamore	9	4222	2.0	141	Semi-mature	1.7	Normal	Fair	C	2	40+	Ivy clad Suppressed by nearby tree
12	Cedar of Lebanon	23	12,15,14,16	8.0	1730	Mature	20.8	Normal	Fair	A	1	>40	Decay fungi present on trunk/roots Wasps nest at c.8m height Multiple large pruning wounds on trunk from historic crown lift
13	Oak, English	8	7885	2.0	360	Early Mature	4.3	Normal	Fair	B	2	20+	Deadwood (minor) throughout crown lost leader, flattened crown
14	Oak, English	20	9, 10, 12,11	2.0	1600	Mature	19.2	Normal	Good	A	2	>40	Ivy clad Minor deadwood over car park

Landmark Trees

Site: The Furze
Date: 08/12/23

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Adam Hollis
Ref: HFT_THH_AIA

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Stem Diamete	Age Class	Protection Radius	Growth Vitality	Structural Condition	B.S. Cat	Sub Cat	Useful Life	Comments
15	Yew, Common	7	1422	1.0	200	Semi-mature	2.4	Normal	Fair	C	2	>40	Suppressed by nearby tree
16	Yew, Common	7	2422	2.0	354	Early Mature	4.2	Normal	Fair	C	2	20+	Asymmetry (minor)
17	Yew, Common	9	3445	1.5	496	Early Mature	5.9	Normal	Fair	C	2	>40	
18	Sycamore	12	3434	3.0	323	Semi-mature	3.9	Moderate	Fair	C	2	10+	A sparser than normal canopy Ivy clad
19	Sycamore	13	4553	3.0	400	Early Mature	4.8	Normal	Fair	C	2	20+	Ivy clad Deadwood throughout crown Long low lateral dead over stream
20	Beech, Common	10	4553	3.0	490	Early Mature	5.9	Moderate	Fair	C	2	20+	Deadwood throughout crown Ivy clad base

Landmark Trees

Site: The Furze
Date: 08/12/23

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Adam Hollis
Ref: HFT_THH_AIA

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Stem Diamete	Age Class	Protection Radius	Growth Vitality	Structural Condition	B.S. Cat	Sub Cat	Useful Life	Comments
21	Oak, Turkey	15	?	3.0	530	Early Mature	6.4	Normal	Fair	B	2	>40	Leaning (slightly) Deadwood throughout crown Long low lateral branches over parking with hanging
g80	Holly	6	2212	3.0	150	Semi-mature	1.8	Moderate	Fair	C	2	<10	A sparser than normal canopy Ivy clad Cherry saplings growing throughout
81	Holly	9	3434	3.0	530	Mature	6.4	Poor	Fair	C	2	20+	A sparser than normal canopy bifurcated 2 m but naturally braced
g82	Mixed Broadleaves	7	3221	2.0	145	Semi-mature	1.7	Normal	Fair	C	2	20+	holly, yew, laurel

APPENDIX 2

RECOMMENDED TREE WORKS

Notes for Guidance:

Priority 1 - Urgent (ASAP), 2 - Standard (within 3 months), 3 - Non-urgent (2-3 years)

CB - Cut Back to boundary/clear from structure.
CL# - Crown Lift to given height in meters.
CT#% - Crown Thinning by identified %.
CR#% - Crown Reduce by given maximum % (of outermost branch & twig length)
DWD - Remove deadwood.
Fell - Fell to ground level.
FInv - Further Investigation (generally with decay detection equipment).
Pol - Pollard or re-pollard.
Mon - Check / monitor progress of defect(s) at next consultant inspection which should be <18 months in frequented areas and <3 years in areas of more occasional use. Where clients retain their own ground staff, we recommend an annual in- house inspection and where practical, in the aftermath of extreme weather events.
Svr Ivy / Clr Bs - Sever ivy / clear base and re-inspect base / stem for concealed defects.

Landmark Trees

Site: The Furze
Date: 08/12/23

Appendix 2

Recommended Tree Works

Surveyor(s): Adam Hollis
Ref: HFT_THH_AIA

Hide irrelevant
Show All Trees

Tree No.	English Name	B.S. Cat	Height	Ground Clearance	Crown Spread	Recommended Works	Comments/ Reasons
1	Sycamore	B	17	4.0	6784	DWD	Dying back (unilateral) Deadwood / drought damage to northwest crown Recommended husbandry 1
4	Yew, Common	C	9	2.0	0131	Svr Ivy Monitor ongoing condition	Ivy clad Suppressed by nearby tree Low live crown ratio Recommended husbandry 2
5	Yew, Common	C	9	2.0	3434	Mon	Ivy clad Sparse / dieback in top Recommended husbandry 3
9b	Elm	C	7	2.5	0633	Fell	Asymmetry (major) Leaning over car park Recommended husbandry 2
12	Cedar of Lebanon	A	23	8.0	12,15,14,16	FInv 2m Climbing inspection	Decay fungi present on trunk/roots Wasps nest at c.8m height Multiple large pruning wounds on trunk from historic crown lift Recommended husbandry 2
13	Oak, English	B	8	2.0	7885	CB 2m Cut back to provide 2m clearance to building	Deadwood (minor) throughout crown lost leader, flattened crown To facilitate development

Landmark Trees

Site: The Furze
Date: 08/12/23

Surveyor(s): Adam Hollis
Ref: HFT_THH_AIA

Appendix 2

Recommended Tree Works

Hide irrelevant
Show All Trees

Tree No.	English Name	B.S. Cat	Height	Ground Clearance	Crown Spread	Recommended Works	Comments/ Reasons
14	Oak, English	A	20	2.0	9, 10, 12,11	Mon Svr Ivy Climbing inspection	Ivy clad Minor deadwood over car park Recommended husbandry 3
18	Sycamore	C	12	3.0	3434	CB 2m Cut back to provide 2m clearance to building	A sparser than normal canopy Ivy clad To facilitate development
19	Sycamore	C	13	3.0	4553	DWD	Ivy clad Deadwood throughout crown Long low lateral dead over stream Recommended husbandry 3
20	Beech, Common	C	10	3.0	4553	DWD	Deadwood throughout crown Ivy clad base Recommended husbandry 3
21	Oak, Turkey	B	15	3.0	?	CL 5m DWD	Leaning (slightly) Deadwood throughout crown Long low lateral branches over parking with hanging deadwood Recommended husbandry 2
g80	Holly	C	6	3.0	2212	SFell Fell southern stems to provide sufficient clearance to building / scaffolding	A sparser than normal canopy Ivy clad Cherry saplings growing throughout To facilitate development

Landmark Trees

Site: The Furze
Date: 08/12/23

Surveyor(s): Adam Hollis
Ref: HFT_THH_AIA

Appendix 2

Recommended Tree Works

Hide irrelevant
Show All Trees

Tree No.	English Name	B.S. Cat	Height	Ground Clearance	Crown Spread	Recommended Works	Comments/ Reasons
81	Holly	C	9	3.0	3434	Mon	A sparser than normal canopy bifurcated 2 m but naturally braced Recommended husbandry 3

APPENDIX 3

RECOMMENDED TREE WORKS TO FACILITATE DEVELOPMENT (See Table 1)

Notes for Guidance:

RP - Pre-emptive root pruning of foundation encroachments under arboricultural supervision.
CB - Cut Back to boundary/clear from structure.
CL# - Crown Lift to given height in meters.
CT#% - Crown Thinning by identified %.
CCL - Crown Clean (remove deadwood/crossing and hazardous branches and stubs)*.
CR#% - Crown Reduce by given maximum % (of outermost branch & twig length)
DWD - Remove deadwood.
Fell - Fell to ground level.
FInv - Further Investigation (generally with decay detection equipment).
Pol - Pollard or re-pollard.
Mon - Check / monitor progress of defect(s) at next consultant inspection which should be <18 months in frequented areas and <3 years in areas of more occasional use. Where clients retain their own ground staff, we recommend an annual in- house inspection and where practical, in the aftermath of extreme weather events.
Svr Ivy / Clr Bs - Sever ivy / clear base and re-inspect base / stem for concealed defects.

*Not generally specified following BS3998:2010

Landmark Trees

Site: The Furze
Date: 08/12/23

Surveyor(s): Adam Hollis
Ref: HFT_THH_AIA

Appendix 3

Recommended Tree Works To Facilitate Development

Hide irrelevant
Show All Trees

Tree No.	English Name	B.S. Cat	Height	Ground Clearance	Crown Spread	Recommended Works	Comments/ Reasons
10	Sycamore	C	10	2.0	4354	Fell	Ivy clad To facilitate development

APPENDIX 4: A GUIDE TO TREE SELECTION FOR URBAN LOCATIONS

Table A4.1: Small Ornamental Tree Species

Common Name	Species	(Columnar Form for discrete usage)
Hawthorn	Crataegus monogyna	Stricta
Cockspur	Crataegus prunifolia	Splendens
Cherry	Prunus x hillieri	Spire
Bird cherry	Prunus padus	Albertii
Rowan / Mountain ash	Sorbus aucuparia	Cardinal Royal
Swedish whitebeam	Sorbus intermedia	Brouwers
B. whitebeam	Sorbus x thuringiaca	Fastigiata

Table A4.2: Medium Specimen Tree Species

Common Name	Species	(Columnar Form for discrete usage)
Chinese red bark birch	Betula albosinensis	Fascination
Mongolian lime	Tilia mongolica	
Hornbeam	Carpinus betulus	Fastigiata Frans Fontaine
Turkish hazel	Corylus colurna	
Maidenhair tree	Gingko biloba	
Pride of India	Koelreuteria paniculata	Fastigiata
European larch	Larix decidua	Sheerwater Seedling
Tulip tree	Liriodendron tulipfera	Fastigiata

Table A4.3: Larger Specimen Tree Species

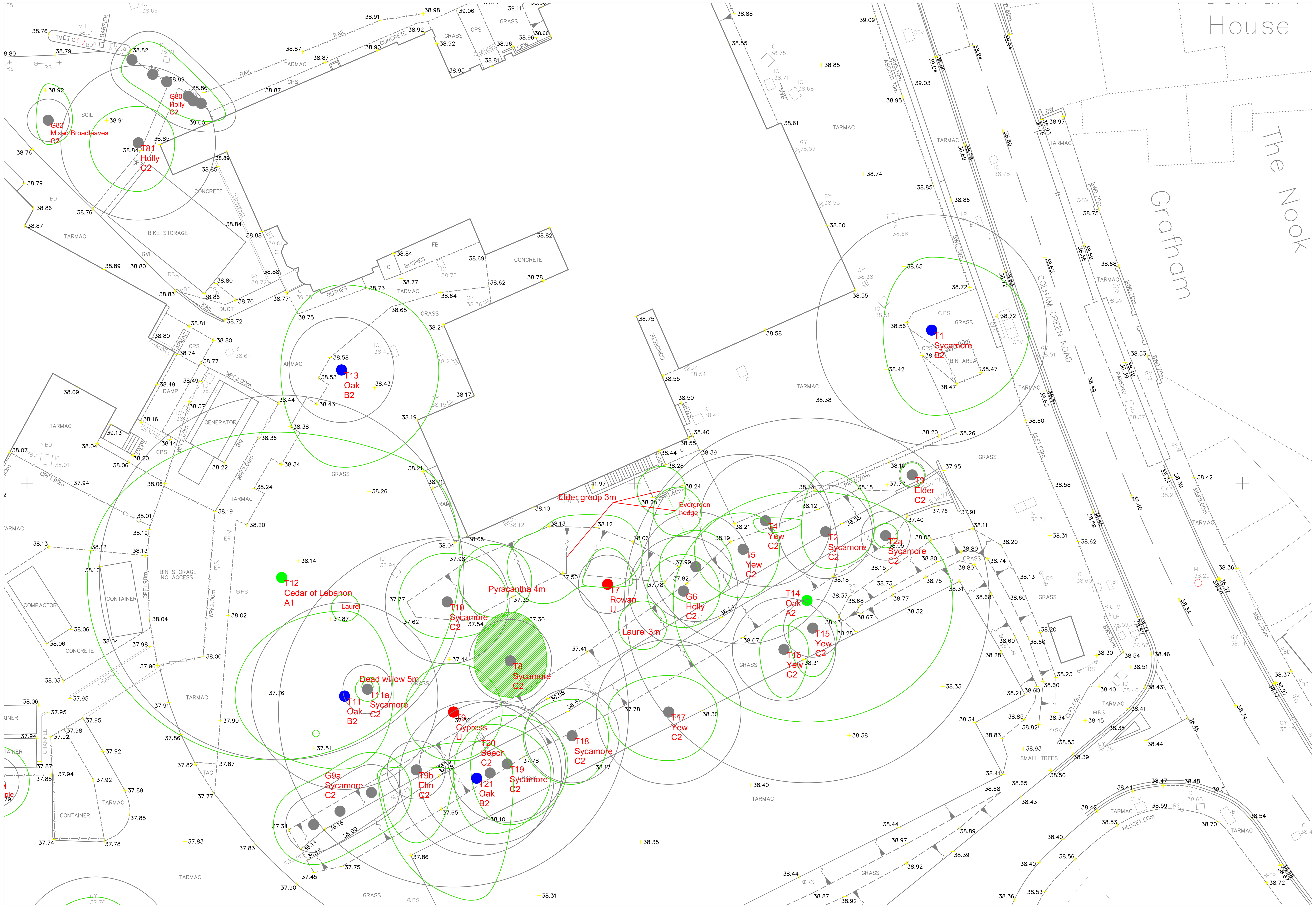
Common Name	Species	(Columnar Form for discrete usage)
English oak	Quercus robur	f. Koster
American elm	Ulmus americana Princeton	
Cedar of Lebanon	Cedrus libani	

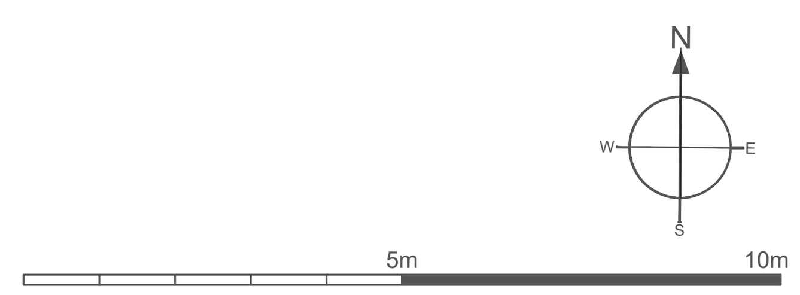
Landmark Trees

PART 3 – PLANS

PLAN 1

TREE CONSTRAINTS PLAN





NOTE:

This survey is of a preliminary nature. The trees were inspected from the ground only on the basis of the Visual Tree Assessment method. No samples were taken for analysis. No decay detection equipment was employed. The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.

Branch spread in metres is taken at the four cardinal points to derive an accurate representation of the crown.

Root Protection Areas (RPA) are derived from stem diameter measured at 1.5 m above adjacent ground level (taken on sloping ground on the upslope side of the tree base).

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Site: The Furze, Hillingdon Hospital	1:200@ A1
Drawing Title: Tree Constraints Plan	December 2023

Key:

- Category A High Quality
- Category B Moderate Quality
- Category C Low Quality
- Category U Trees Unsuitable for Retention

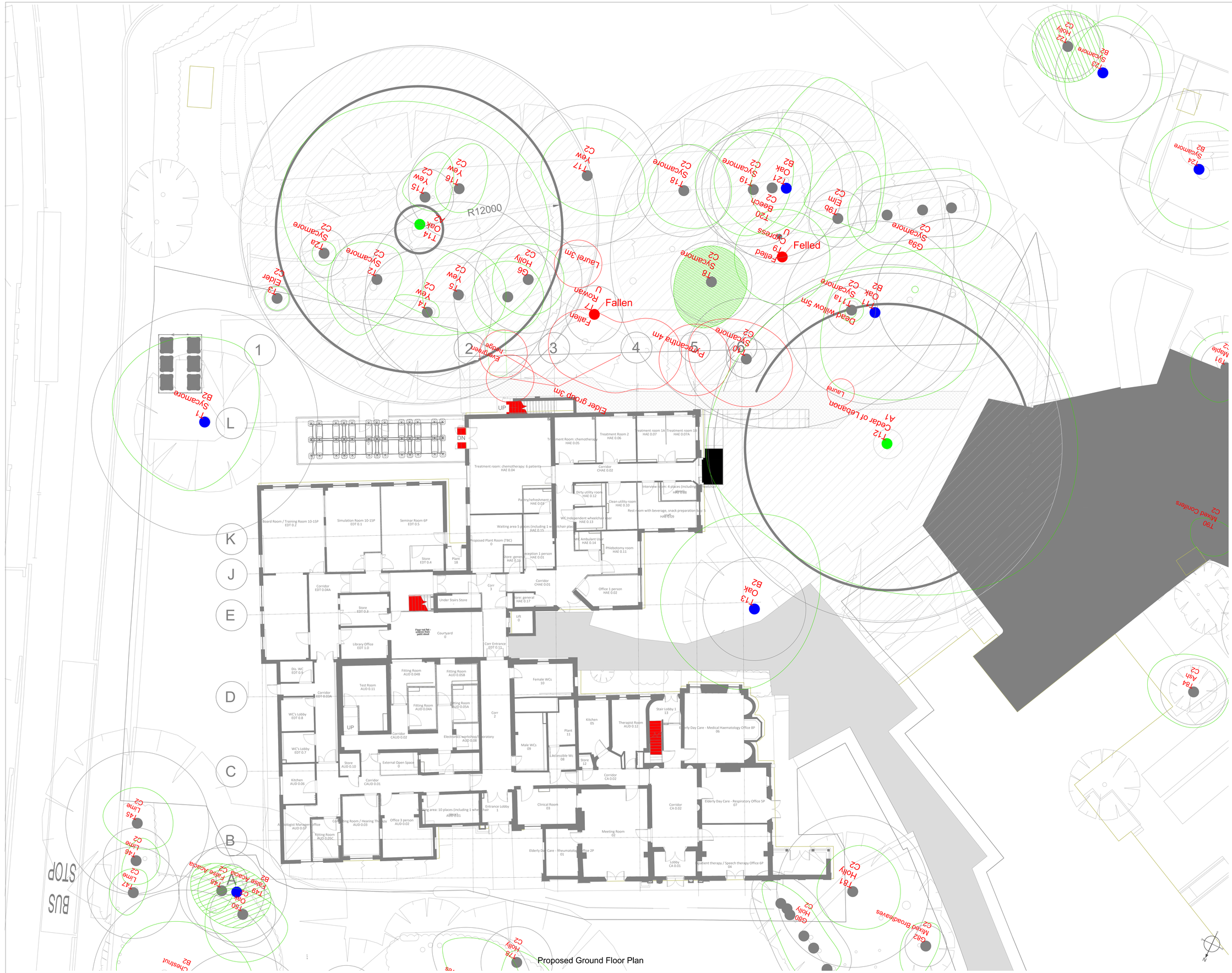
Category — Crown Spread — Tree Number — Species — Category — Root Protection Area (13 Birch B2)

Tree Position Approximate (not shown on original survey)

PLAN 2

ARBORICULTURAL IMPACT ASSESSMENT PLAN (S)

i. Ground Floor



Proposed Ground Floor Plan

Area displaced from RPA
Area from RPA redistributed

NOTE:
This survey is of a preliminary nature. The trees were inspected from the ground only on the basis of the Visual Tree Assessment method. No samples were taken for analysis. No decay detection equipment was employed. The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.

Branch spread in metres is taken at the four cardinal points to derive an accurate representation of the crown.

Root Protection Areas (RPA) are derived from stem diameter measured at 1.5 m above adjacent ground level (taken on sloping ground on the upslope side of the tree base).

Landmark Trees
Holden House, 4th Floor, 57 Rathbone Place, London W1T 4JU
Tel: 0207 851 4544 Mobile: 07812 989928
e-mail: info@landmarktrees.co.uk Web: www.landmarktrees.co.uk

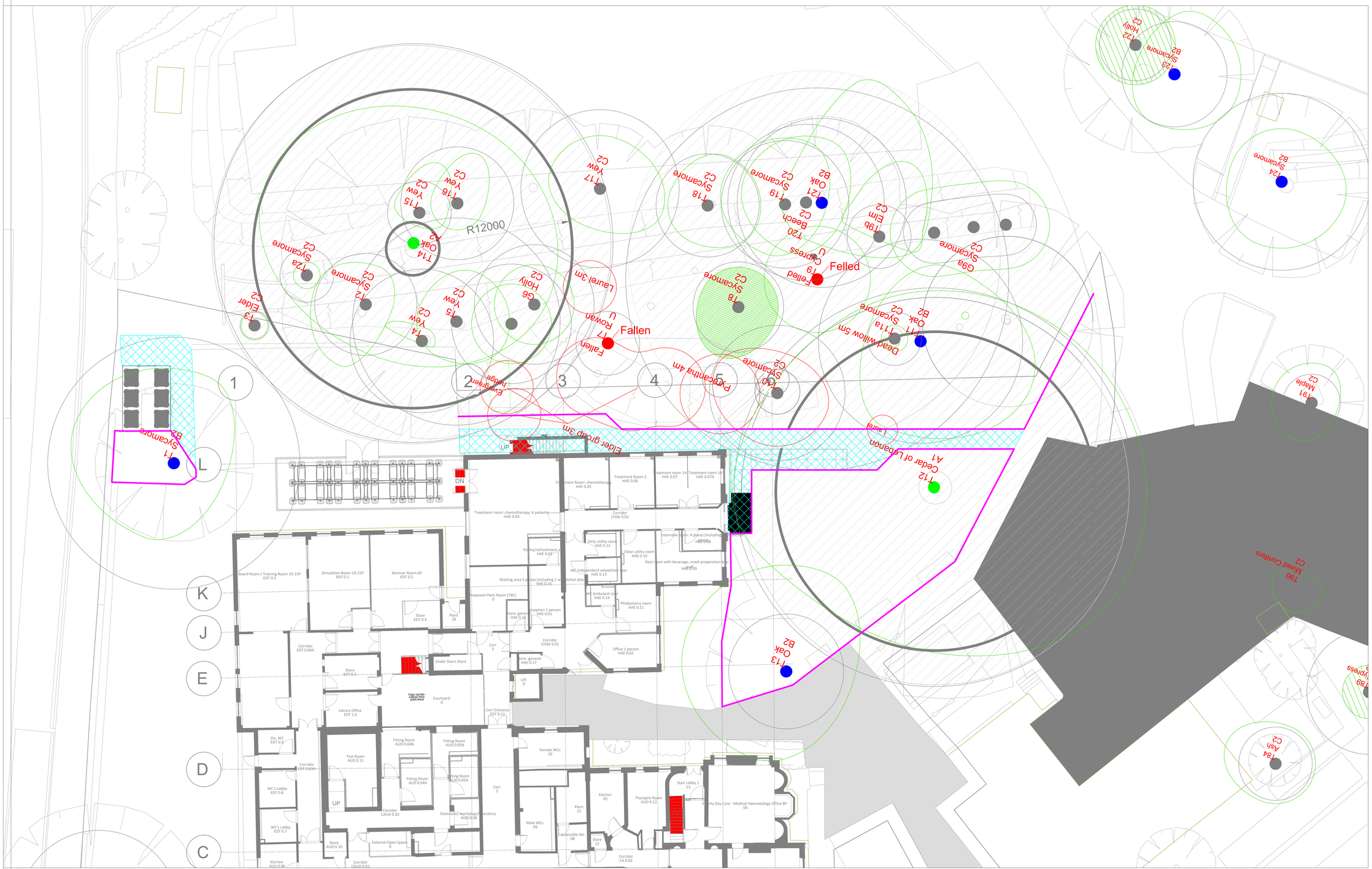
Site: Hillingdon Hospital, The furze Building	1:200@ A0
Drawing Title: Arboricultural Impacts Assessment	February 2024

Key:
- Category A High Quality
- Category B Moderate Quality
- Category C Low Quality
- Category U Trees Unsuitable for Retention

Category
Root Protection Area
Crown Spread
Tree Number
Species
Category
Tree Position Approximate (not shown on original survey)
Tree Felled To Facilitate Development

PLAN 3

OUTLINE TREE PROTECTION PLAN



Proposed Ground Floor Plan

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Site: Hillingdon Hospital, The Furze Building	1:100@ A0
Drawing Title: Outline Tree Protection Plan	February 2024

Key:

- Category A High Quality
- Category B Moderate Quality
- Category C Low Quality
- Category U Trees Unsuitable for Retention
- Ground Protection
- Tree Protection Fencing
- Category
- Crown Spread
- Tree Number
- Species
- Category
- Root Protection Area
- Tree Position Approximate (not shown on original survey)
- Tree Felled To Facilitate Development