Landmark Trees

ARBORICULTURAL IMPACT ASSESSMENT REPORT FOR:

The Hillingdon Hospitals NHS Foundation Trust
Pield Heath Road
Uxbridge
UB8 3NN

INSTRUCTING PARTY:

Hillingdon Hospital
Pield Heath Road
Uxbridge
UB8 3NN

REPORT PREPARED BY

David Gardner
BSc MSc MArborA
&
Adam Hollis
MSc ARB MICFor FArbor A MRICS C Env

Ref: HFT/THH/AIA/02c

Date: 19th May 2022

PART 1: MAIN TEXT

PART 2 - APPENDICES

PART 3 - PLANS

DOCUMENT HISTORY

Revision	Status	Comments
Rev 0	DRAFT	For Internal Review (Client / Design Team)
Rev 02a	APPROVED	For External Issue (Planning)
Rev 02b	APPROVED	For External Issue (Planning)
Rev 02c	APPROVED	For External Issue (Planning)

1. SUMMARY

1.1 The existing site comprises a large hospital with numerous outbuildings standing in a substantive estate containing a number of trees potentially constraining development. The hybrid proposal includes the redevelopment of the site as well as the provision of residential units. As part of these works, it will be necessary to install a temporary sewage run to the north of the site.

1.2 There are 192 trees on the property and adjoining land outside of the application boundary that are within close proximity to the development and need to be assessed. These are judged mostly moderate and low-quality trees, but with 6 high quality trees as standout specimens. All trees are material constraints on development, but these latter require particular consideration. At the other end of the spectrum, one or two trees, T113 in particular, require prompt attention regardless of development as poor-quality specimens.

1.3 The report has assessed the impacts of the development proposals and concludes there would be at moderate impact on the resource: a moderate portion of the site's canopy cover will be removed or pruned to facilitate construction. Those removed generally 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. Similarly, though pruning here is to serve development, if undertaken to best practice, the scale envisaged should not be altogether untoward in an occupied site. This loss of canopy cover must of course be balanced against the benefits that result from the delivery of a new hospital to serve the local community.

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 no, or 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 This Arboricultural Impact Assessment report has been prepared by Landmark Trees (LT) on behalf of The Hillingdon Hospitals NHS Foundation Trust ('the Applicant'), to support a full planning application submitted to the London Borough of Hillingdon ('LBH').

2.1.2 This is a hybrid planning application for:

• FULL application seeking planning permission for demolition of existing buildings (excluding the Tudor Centre and the Old Creche) and redevelopment of the site to provide the new Hillingdon Hospital, multi-storey car park and mobility hub, vehicle access, highways works, associated plant, generators, substation, new internal roads, landscaping and public open space, utilities, servicing area, surface car park/ expansion space, and other works incidental to the proposed development.

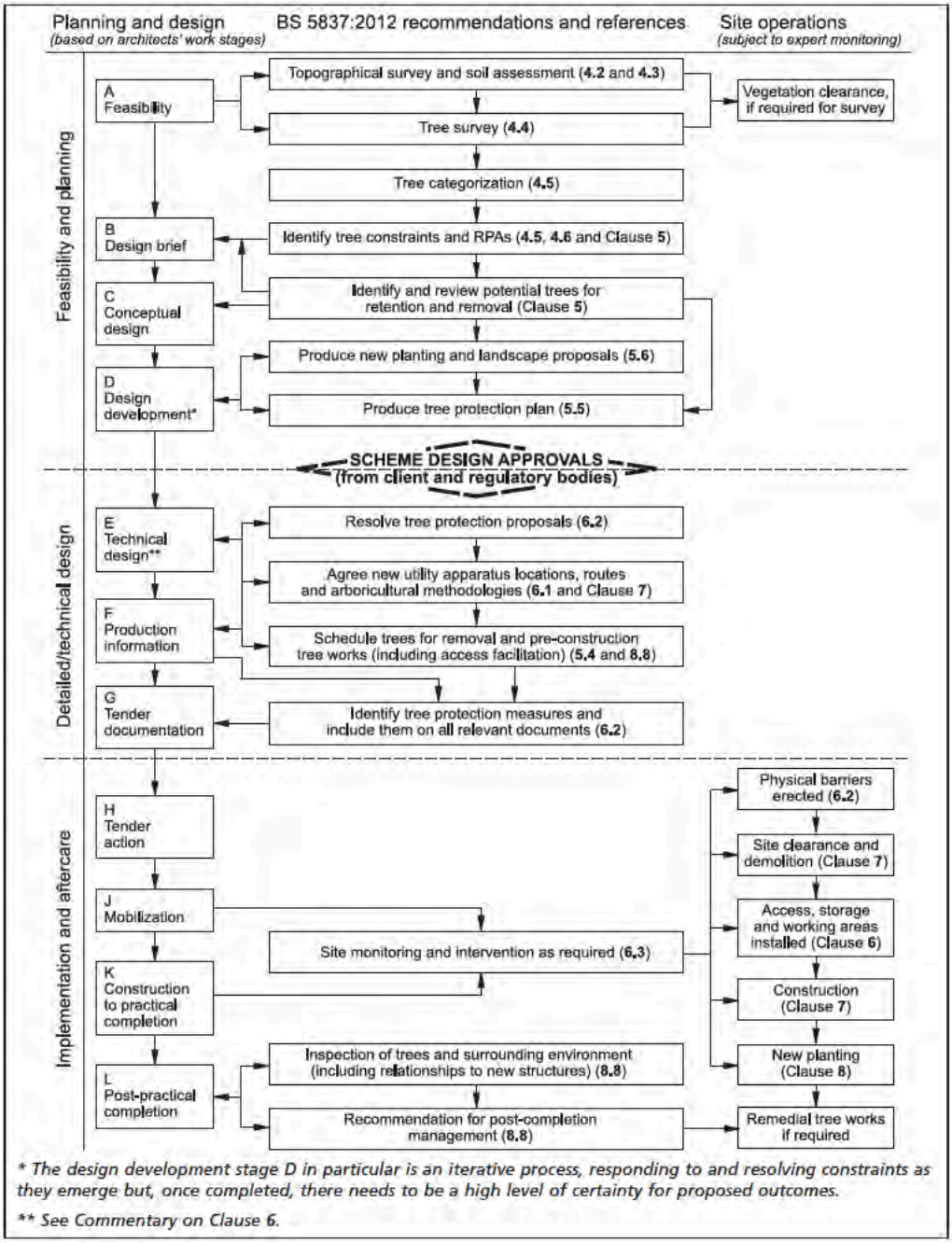
• OUTLINE planning application (all matters reserved, except for access) for the demolition of buildings and structures on the remaining site (excluding the Grade II Furze) for a mixed-use development comprising residential (Class C3) and supporting Commercial, Business and Service uses (Class E), new pedestrian and vehicular access; public realm, amenity space, car and cycling parking.

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') 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: Site Infrastructure

Proposals: THHR_Landscape GA live model (25_03_2022)

2.3 Scope & Limitations of Survey

2.3.1 As Landmark Trees' (LT) arboricultural consultants, Kim Dear & Adam Hollis surveyed the trees on site between November 2020 and January 2021, 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

2.3.3 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.

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

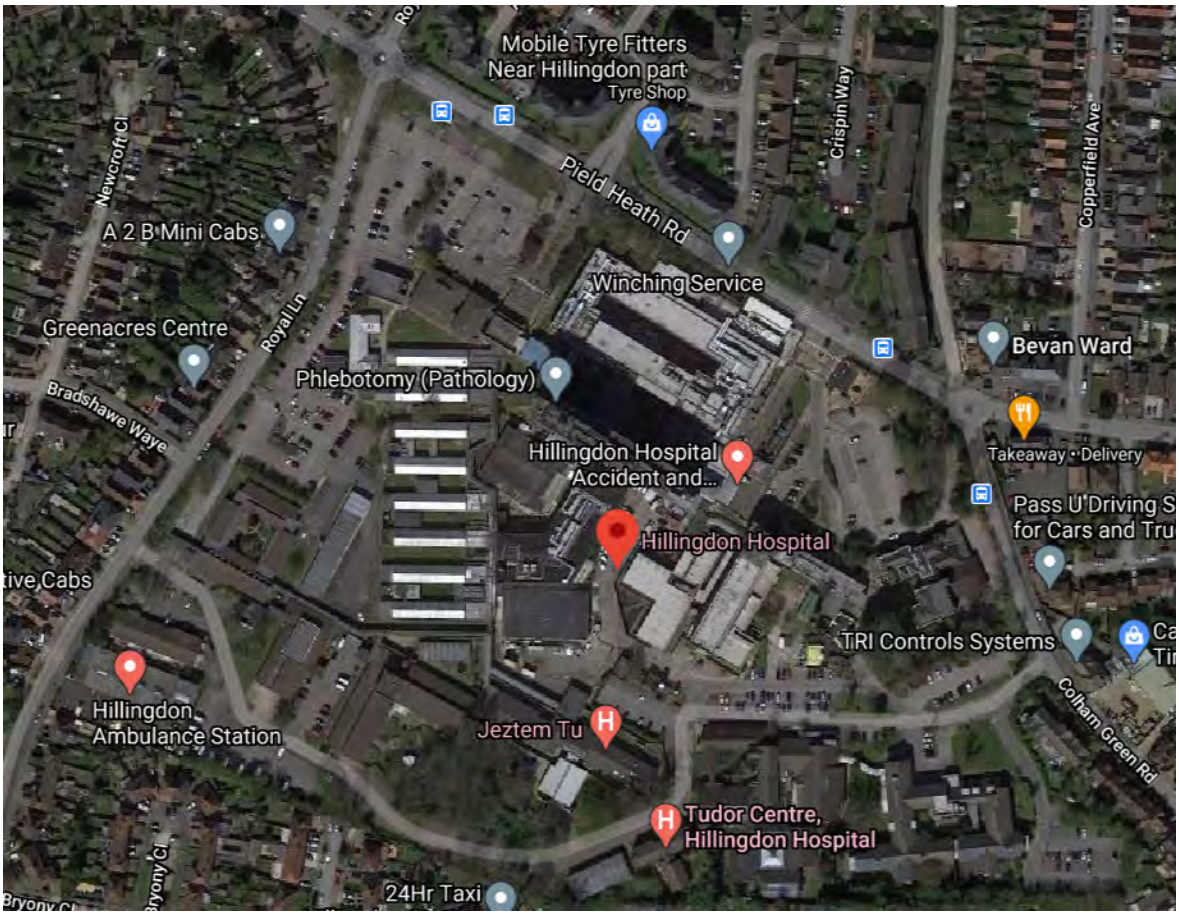
2.4 Survey Data & Report Layout

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 (RPA's), 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. General observations, discussion, conclusions and recommendations follow, below.

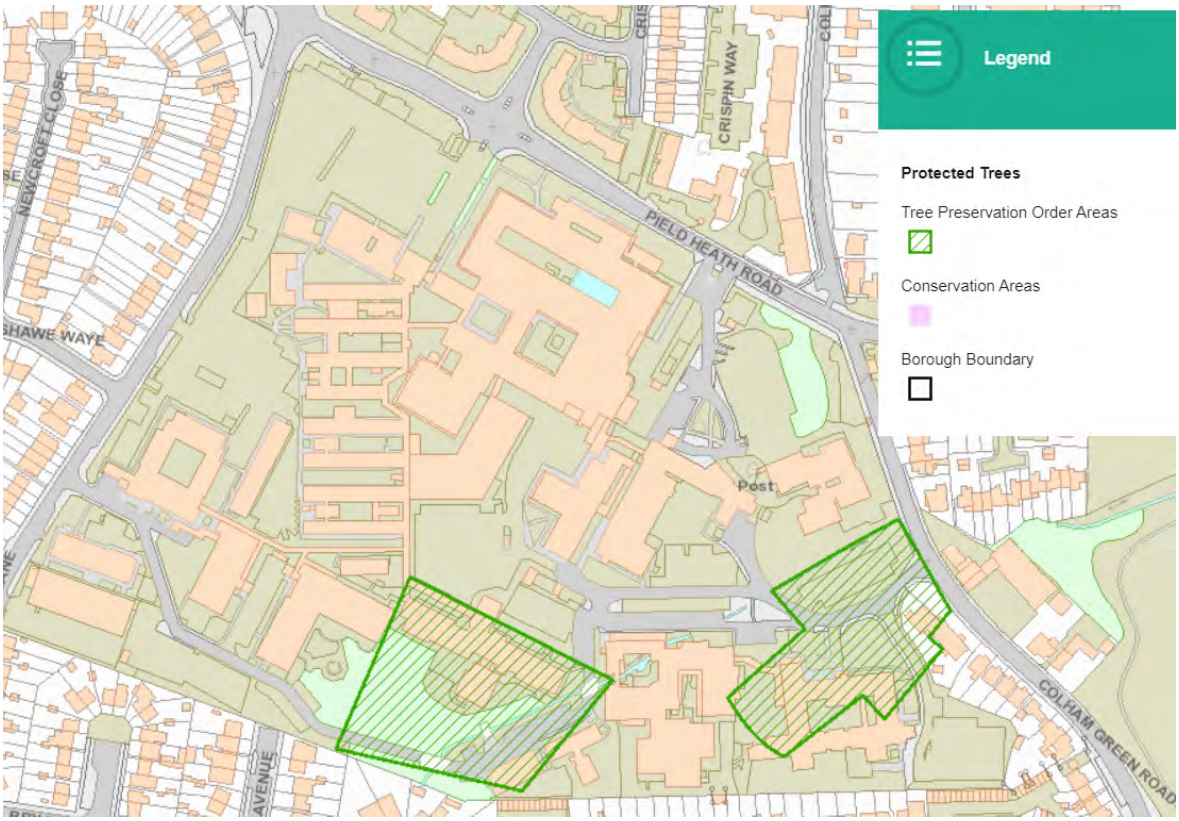
3.0 SITE CHARACTERISTICS

3.1 Property Description & Planning Context



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

3.1.1	The Hillingdon Hospital is an acute and specialist services provider in North West London, close to Heathrow Airport.
3.1.2	The site is relatively level throughout.
3.1.3	LB Hillingdon's online mapping system indicates the presence of Tree Preservation Orders on the site (see Plan Extract overleaf) which will affect the subject trees in those areas: 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.
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 Orders on / near the site

3.2 Soil Description

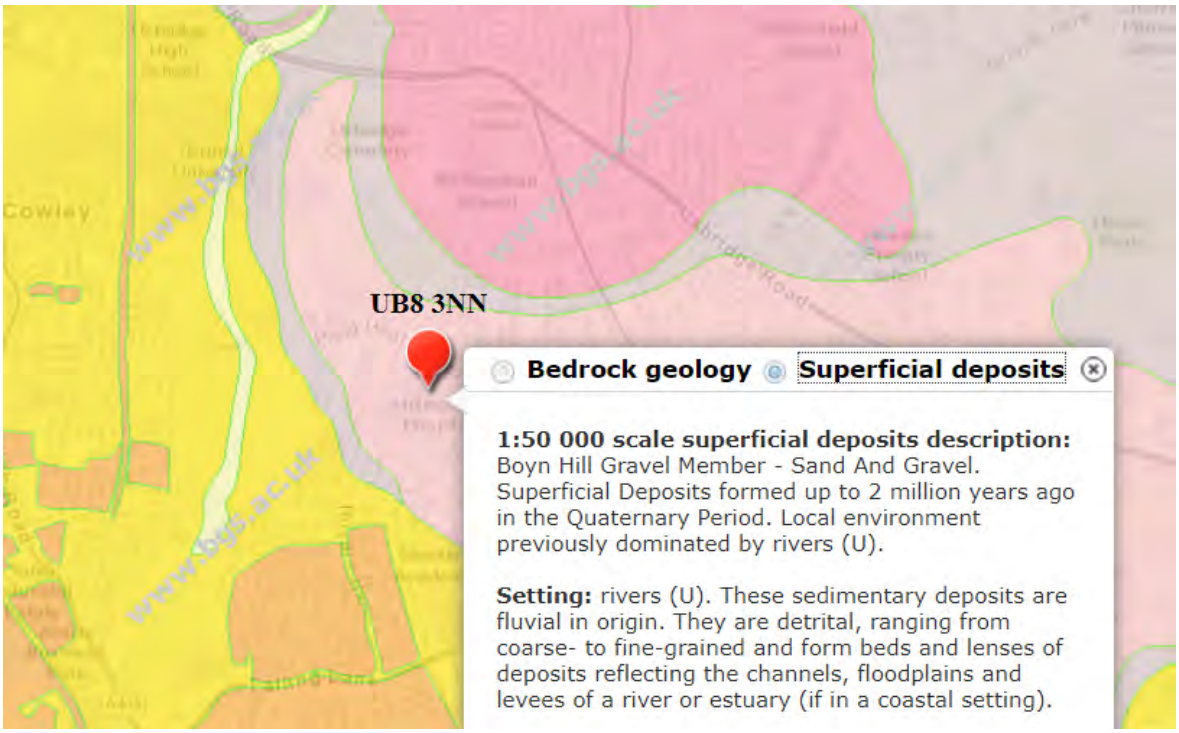


Figure 2: Extract from the BGS Geology of Britain Viewer

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 192 trees on or around the site, of which 6 are category* A (High Quality) 77 are category B (Moderate Quality), 103 are category C (Low Quality) and 6 are category U (Poor Quality.
3.3.2	The tree species found on the site include sycamore, elder, common yew, holly, rowan, swamp cypress, English oak, cedar of Lebanon, common beech, Turkey oak, common lime, maples, Lawson cypress, sweet chestnut, wild cherry, crab apple, false acacia, Holm oak, horse chestnut, silver birch, bird cherry, stag's horn sumach, common ash and London plane.
3.3.3	In terms of age demographics there are predominantly semi-mature, early mature and mature specimens present with a few young and post-mature trees present.

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

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 10 on-site trees. These are listed in Appendix 2, particular attention is drawn to the trees requiring further investigation of their condition.

4.0 DEVELOPMENT CONSTRAINTS

4.1 Primary Constraints

4.1.1 BS5837: 2012 gives Recommended Protection Areas (RPA's) for any given tree size. The individual RPA's 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 RPA's 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 2). Alternatively, one need principally remember that RPA's are area-based and not linear – notional rather than fixed entities.

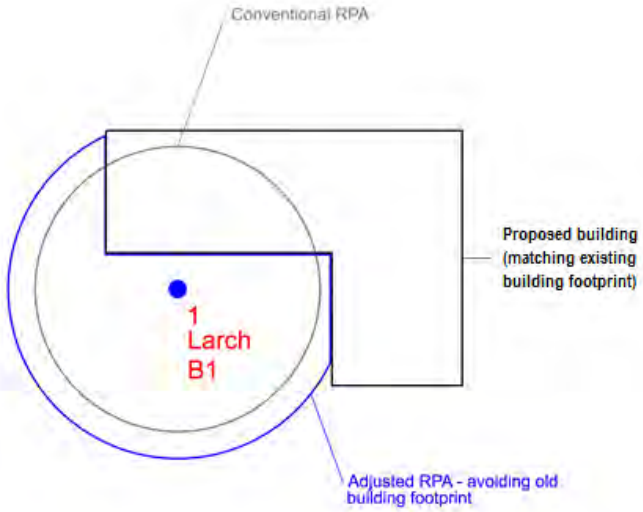


Figure 3– Generic BS 5837 RPA Adjustments (for fictitious site)

4.1.3 In BS5837, paragraph 4.6.2 states that RPA's 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 deped 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 on account of the short turnaround and low quality of tree involved.**

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 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 of the site.

4.2 Secondary Constraints

4.2.1 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 3), honeydew deposition or perceived risk of harm.

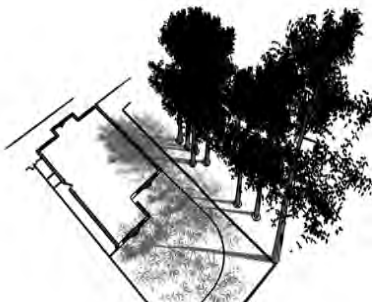


Figure 3 –
Generic Shading Constraints

4.2.2 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.

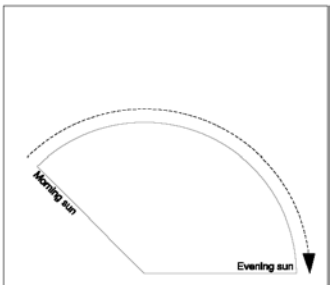


Figure 4 – Shading Arc

4.2.3 This arc (see Figure 4) 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.

4.2.4 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: HHT_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	9	Cypress, Swamp	Hard Surfacing Installation within RPA	16.7 m^2 2.56 %	Mature	Moderate	Moderate	Very Low	Very Low	No-dig construction
A	12	Cedar of Lebanon	Hard Surfacing Installation within RPA	m^2 N/A %	Mature	Normal	Moderate	Very Low	Very Low	No-dig construction
A	14	Oak, English	Hard Surfacing Installation within RPA	50.4 m^2 4.35 %	Mature	Normal	Moderate	Very Low	Very Low	No-dig construction
C	15	Yew, Common	Hard Surfacing Installation within RPA	1.9 m^2 10.5 %	Semi-mature	Normal	Moderate	Low	Low	No-dig construction
C	16	Yew, Common	Hard Surfacing Installation within RPA	7.6 m^2 26.88 %	Early Mature	Normal	Moderate	Medium	Low	No-dig construction
C	17	Yew, Common	Hard Surfacing Installation within RPA	36.7 m^2 40.06 %	Early Mature	Normal	Moderate	High	Medium	No-dig construction
C	18	Sycamore	Hard Surfacing Installation within RPA	2.9 m^2 7.12 %	Semi-mature	Moderate	Moderate	Very Low	Very Low	No-dig construction

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: HHT_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
C	19	Sycamore	Hard Surfacing Installation within RPA	8.9 m^2 12.29 %	Early Mature	Normal	Moderate	Low	Low	No-dig construction
C	20	Beech, Common	Hard Surfacing Installation within RPA	9.1 m^2 12.57 %	Early Mature	Moderate	Moderate	Low	Low	No-dig construction
B	21	Oak, Turkey	Hard Surfacing Installation within RPA	17.6 m^2 16.88 %	Early Mature	Normal	Moderate	Low	Low	No-dig construction
B	23	Sycamore	Road Construction within Canopy	m^2 N/A %	Early Mature	Normal	Good	Very Low	Very Low	Remedial tree surgery (see Rec. Works)
B	24	Sycamore	Road Construction within RPA Road Construction within Canopy	53.7 m^2 38.51 %	Mature	Normal	Moderate	High	Medium	No-dig construction Remedial tree surgery (see Rec. Works)
C	25	Lime, Common	Hard Surfacing Installation within RPA	6.4 m^2 19.06 %	Semi-mature	Moderate	Good	Low	Low	No-dig construction
B	26	Oak, English	Hard Surfacing Installation within RPA	4.1 m^2 .6 %	Post-Mature	Moderate	Moderate	Very Low	Very Low	No-dig construction

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: HHT_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	27a	Sycamore	Hard Surfacing Installation within RPA	3.9 m^2 7.24 %	Early Mature	Normal	Moderate	Very Low	Very Low	No-dig construction
B	29	Sycamore	Hard Surfacing Installation within RPA	14.8 m^2 24.55 %	Early Mature	Normal	Moderate	Medium	Medium	No-dig construction
C	45	Lime, Common	Felled to Facilitate Development	m^2 N/A %	Mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	46	Lime, Common	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	47	Lime, Common	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	48	False Acacia	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
B	49	False Acacia	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping

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: HHT_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
C	50	Oak, Turkey	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Low	New planting / landscaping
C	51	Lime, Common	Felled to Facilitate Development	m^2 N/A %	Early Mature	Moderate	N/A	N/A	Low	New planting / landscaping
B	52	Chestnut, Sweet	Felled to Facilitate Development	m^2 N/A %	Mature	Moderate	N/A	N/A	Medium	New planting / landscaping
C	53	Oak, Holm	Felled to Facilitate Development	m^2 N/A %	Early Mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	54	Oak, Holm	Felled to Facilitate Development	m^2 N/A %	Early Mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	55	Holly	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	56	Holly	Felled to Facilitate Development	m^2 N/A %	Early Mature	Moderate	N/A	N/A	Low	New planting / landscaping

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: HHT_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
C	g57	Mixed Broadleaves	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
B	58	Oak, Turkey	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Low	New planting / landscaping
C	59	Chestnut, Horse	Felled to Facilitate Development	m^2 N/A %	Mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	60	Holly	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Low	New planting / landscaping
C	61	Holly	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Low	New planting / landscaping
U	g62	Mixed Broadleaves	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Poor	N/A	N/A	Very Low	New planting / landscaping
B	63	Chestnut, Horse	Felled to Facilitate Development	m^2 N/A %	Mature	Normal	N/A	N/A	Low	New planting / landscaping

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: HHT_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	64	Oak, Turkey	Felled to Facilitate Development	m^2 N/A %	Early Mature	Moderate	N/A	N/A	Medium	New planting / landscaping
C	65	Oak, Turkey	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	66	False Acacia	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	67	Holly	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Low	New planting / landscaping
B	68	Oak, Turkey	Felled to Facilitate Development	m^2 N/A %	Mature	Normal	N/A	N/A	Medium	New planting / landscaping
C	69	Holly	Felled to Facilitate Development	m^2 N/A %	Young	Moderate	N/A	N/A	Low	New planting / landscaping
B	70	Oak, Turkey	Felled to Facilitate Development	m^2 N/A %	Mature	Normal	N/A	N/A	Medium	New planting / landscaping

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: HHT_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
U	71	Holly	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Poor	N/A	N/A	Very Low	New planting / landscaping
C	g72	Holly	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	g73	Mixed Broadleaves	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Low	New planting / landscaping
C	74	Holly	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Low	New planting / landscaping
C	75	Holly	Felled to Facilitate Development	m^2 N/A %	Early Mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	76	Holly	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Low	New planting / landscaping
C	77	Holly	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Low	New planting / landscaping

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: HHT_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
C	g80	Holly	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	81	Holly	Felled to Facilitate Development	m^2 N/A %	Mature	Normal	N/A	N/A	Low	New planting / landscaping
C	g82	Mixed Broadleaves	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Low	New planting / landscaping
C	84	Ash, Common	Felled to Facilitate Development	m^2 N/A %	Early Mature	Moderate	N/A	N/A	Low	New planting / landscaping
B	85	Maple, Norway	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping
B	86	Maple, Norway	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping
C	87	Maple, Norway	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Low	New planting / landscaping

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: HHT_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	88	Birch, Silver	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Medium	New planting / landscaping
C	89	Cypress, Lawson	Felled to Facilitate Development	m^2 N/A %	Mature	Normal	N/A	N/A	Low	New planting / landscaping
C	g90	Mixed Conifers	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Low	New planting / landscaping
C	91	Maple, variety	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Low	New planting / landscaping
B	93	Birch, Himalayan	Road Construction within RPA	1.4 m^2 7.02 %	Early Mature	Normal	Moderate	Very Low	Very Low	No-dig construction
B	95	Oak, English	Road Construction within RPA	220.7 m^2 47.82 %	Mature	Normal	Moderate	High	Medium	No-dig construction
C	96	Holly	Felled to Facilitate Development	m^2 N/A %	Early Mature	Moderate	N/A	N/A	Low	New planting / landscaping

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: HHT_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	97	Ash, Common	Road Construction within RPA	47.5 m^2 19.74 %	Mature	Normal	Moderate	Low	Low	No-dig construction
A	99	Oak, English	Road Construction within RPA	130.8 m^2 8.01 %	Mature	Normal	Moderate	Very Low	Very Low	No-dig construction
B	102	Ash, Common	Road Construction within RPA	97.9 m^2 33.81 %	Post-Mature	Moderate	Moderate	High	Medium	No-dig construction
C	107	Ash, Common	Parking Installation within RPA	m^2 N/A %	Early Mature	Moderate	Moderate	Low	N/A	No-dig construction
C	g109	Mixed Broadleaves	Road Construction within RPA	0.8 m^2 4.42 %	Semi-mature	Moderate	Moderate	Very Low	Very Low	No-dig construction
B	110	Oak, English	Road Construction within RPA Road Construction within Canopy	39.3 m^2 23.34 %	Mature	Normal	Moderate	Medium	Low	No-dig construction Remedial tree surgery (see Rec. Works)
B	111	Oak, English	Road Construction within RPA Road Construction within Canopy	73.8 m^2 23.09 %	Mature	Normal	Moderate	Medium	Low	No-dig construction Remedial tree surgery (see Rec. Works)

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: HHT_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
U	113	Ash, Common	Road Construction within RPA	195 m^2 172.53 %	Mature	Dead	N/A	N/A	N/A	N/A
B	114	Oak, English	Road Construction within RPA	9.9 m^2 7.79 %	Early Mature	Normal	Moderate	Very Low	Very Low	No-dig construction
B	115	Oak, English	Road Construction within RPA Road Construction within Canopy	79.8 m^2 41.75 %	Mature	Normal	Moderate	High	Medium	No-dig construction Remedial tree surgery (see Rec. Works)
C	116	Oak, English	Road Construction within RPA	2.2 m^2 3.04 %	Semi-mature	Moderate	Moderate	Very Low	Very Low	No-dig construction
B	117	Oak, English	Road Construction within RPA	10.5 m^2 11.99 %	Early Mature	Normal	Moderate	Low	Low	No-dig construction
C	118	Oak, English	Road Construction within RPA	5.5 m^2 6 %	Early Mature	Moderate	Moderate	Very Low	Very Low	No-dig construction
B	123	Oak, English	Road Construction within RPA	30.2 m^2 8.24 %	Mature	Normal	Moderate	Very Low	Very Low	No-dig construction

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: HHT_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	124	Ash, Common	Plant Installation within RPA	15.3 m^2 4.27 %	Mature	Normal	Moderate	Very Low	Very Low	Low-invasive foundation design
B	132	Plane, London	Road Construction within RPA Road Construction within Canopy	16.0 m^2 22.1 %	Early Mature	Normal	Good	Medium	Low	No-dig construction Remedial tree surgery (see Rec. Works)
B	135	Lime, Common	Road Construction within RPA	51.5 m^2 31.62 %	Mature	Normal	Good	Medium	Low	No-dig construction
B	136	Ash, Common	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Medium	No-dig construction
B	137	Ash, Common	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Medium	New planting / landscaping
B	138	Ash, Common	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Medium	New planting / landscaping
B	139	Ash, Common	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping

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: HHT_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	140	Oak, English	Road Construction within RPA	3.4 m^2 3.88 %	Early Mature	Normal	Moderate	Very Low	Very Low	No-dig construction
B	141	Maple, Norway	Road Construction within RPA	1.8 m^2 9.95 %	Semi-mature	Normal	Moderate	Very Low	Low	No-dig construction
B	g143	Oak, English	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping
B	144	Ash, Common	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping
B	145	Alder, Common	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping
B	146	Alder, Common	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping
B	147	Ash, Common	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping

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: HHT_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
C	148	Ash, Common	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
B	149	Alder, Common	Felled to Facilitate Development	m^2 N/A %	Mature	Normal	N/A	N/A	Medium	New planting / landscaping
B	150	Lime, Common	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping
B	151	Lime, Common	Felled to Facilitate Development	8.8 m^2 6.55 %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping
B	152	Cherry, Wild (Gean)	Felled to Facilitate Development	m^2 N/A %	Mature	Normal	N/A	N/A	Medium	New planting / landscaping
C	g154	Cherry, Wild (Gean)	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	155	Birch, Silver	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Low	New planting / landscaping

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: HHT_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
C	g156	Whitebeam	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
B	157	Cherry, Wild (Gean)	Felled to Facilitate Development	m^2 N/A %	Mature	Normal	N/A	N/A	Medium	New planting / landscaping
U	158	Sorbus species	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Poor	N/A	N/A	Very Low	New planting / landscaping
B	159	Maple, Norway	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping
C	160	Cherry, Wild (Gean)	Felled to Facilitate Development	m^2 N/A %	Mature	Moderate	N/A	N/A	Low	New planting / landscaping
B	161	Birch, Silver	Felled to Facilitate Development	m^2 N/A %	Mature	Normal	N/A	N/A	Medium	New planting / landscaping
C	162	Birch, Silver	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping

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: HHT_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
C	163	Cherry, Wild (Gean)	Felled to Facilitate Development	m^2 N/A %	Early Mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	164	Cherry, Wild (Gean)	Felled to Facilitate Development	m^2 N/A %	Early Mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	165	Plum, Purple	Felled to Facilitate Development	m^2 N/A %	Mature	Moderate	N/A	N/A	Low	New planting / landscaping
B	166	Oak, English	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping
B	167	Birch, Silver	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Medium	New planting / landscaping
C	169	Cypress, Leyland	Felled to Facilitate Development	m^2 N/A %	Mature	Poor	N/A	N/A	Low	New planting / landscaping
C	168	Cypress, Lawson	Felled to Facilitate Development	m^2 N/A %	Mature	Poor	N/A	N/A	Low	New planting / landscaping

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: HHT_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
C	170	Birch, Silver	Felled to Facilitate Development	m^2 N/A %	Mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	171	Birch, Silver	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	172	Birch, Silver	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Low	New planting / landscaping
C	173	Birch, Silver	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	g174	Apple, Crab	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Low	New planting / landscaping
C	175	Birch, Silver	Felled to Facilitate Development	m^2 N/A %	Early Mature	Normal	N/A	N/A	Low	New planting / landscaping
A	176	Oak, English	Path Construction within RPA	55.1 m^2 7.43 %	Mature	Normal	Moderate	Very Low	Very Low	No-dig construction

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: HHT_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
A	177	Oak, English	Felled to Facilitate Traffic Management Improvements	27.9 m^2 5.1 %	Mature	Normal	N/A	N/A	High	New planting / landscaping
C	g178	Plum, Myrobalan	Felled to Facilitate Development	m^2 N/A %	Early Mature	Moderate	N/A	N/A	Low	New planting / landscaping
U	190	Ash, Common	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Poor	N/A	N/A	Very Low	New planting / landscaping
C	191	Damson	Felled to Facilitate Development	m^2 N/A %	Early Mature	Moderate	N/A	N/A	Low	New planting / landscaping
C	192	Damson	Felled to Facilitate Development	m^2 N/A %	Semi-mature	Normal	N/A	N/A	Low	New planting / landscaping
A	195	Oak, English	Building / Ramp Construction within RPA Building Construction within Canopy	17.8 m^2 3.93 %	Post-Mature	Poor	Moderate	Very Low	Very Low	Low-invasive foundation design Remedial tree surgery (see Rec. Works)

6.0 ARBORICULTURAL IMPLICATIONS

6.1 Rating of Primary Impacts

6.1.1 The principal impacts in the current proposals are the removal of the 88 individual trees and small groups of trees listed in Table 1 above. In terms of resource management, these comprise a relatively small portion of the canopy cover of the site. 28 of the 42 are category B trees with 55 being category C and 4 being category U. The highway works required to ensure public transport improvements on Pield Heath Road necessitate the removal of the category A Oak Tree T177 and have been agreed with the Council during pre-application discussions.

6.1.2 Overall though the losses detailed above could be mitigated with new planting, bringing its own benefits of enrichment and diversification to a relatively unmanaged and subsisting resource. Similarly, though pruning of 9 further trees is required here to serve development, undertaken to best practice, the scale envisaged should not be altogether untoward in a more managed and occupied site. The immediate reduction in canopy cover through felling and / or pruning is therefore is rated as a low impact unlikely to harm either the resource or the character of the wider area.

6.1.3 Whilst the proposals for The Tudor Centre remain in outline only, there are no likely significant arboricultural impacts of development. The only trees potentially affected are a group of category C, false cypresses along the eastern boundary and perhaps an apple tree a little further away within the Old Creche. Neither of these trees / groups are of any real significance.

6.1.4 Impacts to retained trees arising from the redevelopment of The Old Creche comprise the encroachments of the RPA / buffer zone of T195 by the expanded footprint of the new building, refuse store with bike storage, and ramp; and of the RPA of T107 by the creation of an additional parking space. These trees are both outside the boundary of the area Tree Preservation Order shown on LB Hillingdon's online mapping system.

6.1.5	The encroachment of the veteran tree buffer zone of T195 (defined as 15x its stem diameter) comprises approximately 10.14% of the total area – which, for the reasons identified below, is assessed in gross terms as being likely to be of low impact to the tree.
6.1.6	The incursion into the RPA of T195 is made up of three separate components – being the increased building footprint (4.1%), the refuse / bike store (3%), and the ramp (gross 4.1%). This impact will be mitigated through the use of low-invasive / cantilevered foundations meaning the encroachment in practice is only a fraction of that indicated on plan - in particular it should be noted that, apart from the footing at the bottom, the ramp is largely elevated above ground level. Current Government guidance on protecting veteran trees from development focusses on avoiding impacts as the most preferable approach, reducing or mitigating them if avoidance is not possible and compensating for loss or damage as a last resort. In this instance, the use of low-invasive discontinuous foundations for the refuse / bike store and access ramp and cantilevering the slab of the new building from outside the buffer zone will follow the principle of avoiding damage in the first instance and therefore comply with current guidance.
6.1.7	Further impacts to retained trees from the redevelopment of the site comprise the encroachments of the RPAs of some 37 trees by new roadways / hard surfacing. Given the extensive existing hard standing within the site, in our view, the tree(s) are of a species, age and condition sufficient to remain viable in the circumstances, 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(s) for growth. Supervision and monitoring of such measures will also be essential. Subject to these provisos the net impacts are assessed as being low.

6.1.8	As part of the wider works across the site it is necessary to install a temporary sewer along part of the site's northern edge. The proposed route of the diversion and method of installation was chosen with arboricultural impact from the outset to both minimise the number of trees affected and the significance of any impact. Unfortunately, the nature of the site means that it was not possible to find a route that affected no trees and thus, the route of the sewer passes through the RPAs of T181 – 188. In this instance, assessment of the percentage area encroached would underestimate potential impacts but no excavation will take place within 1m of a tree's stem. Given that the excavation is limited to 150mm depth (see Figure 5 below), it is considered unlikely that roots in excess of 25mm diameter will be affected by the works. and therefore, in our view, the tree(s) are of a species, age and condition sufficient to remain viable in the circumstances, 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.

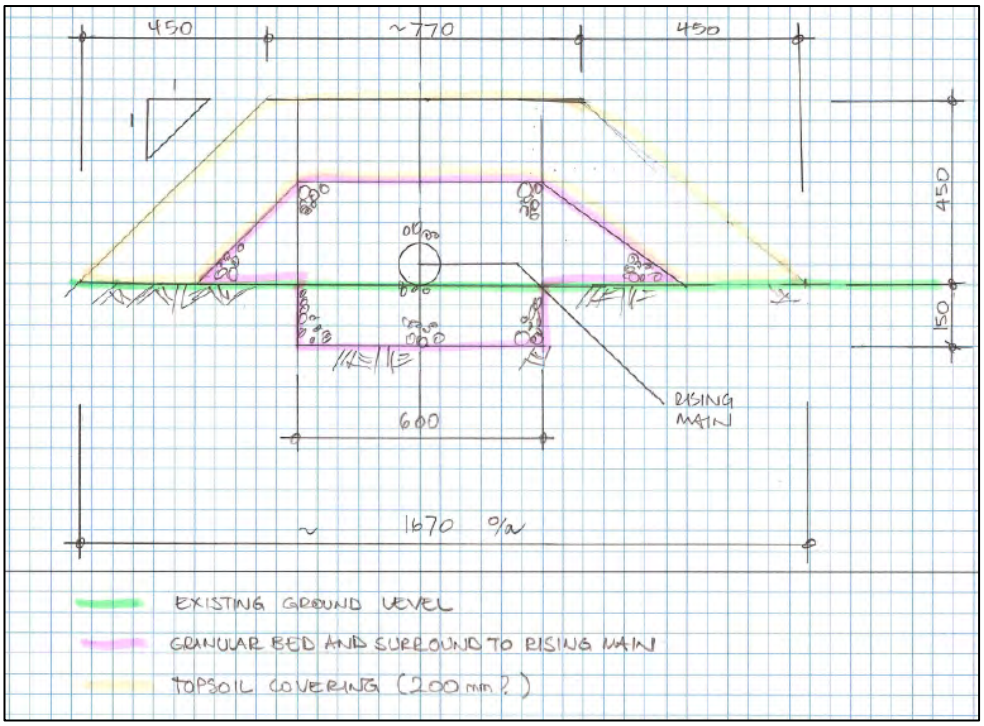
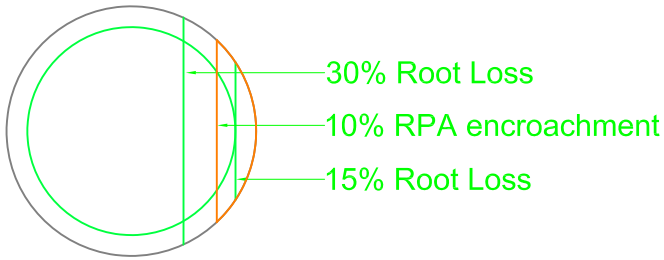


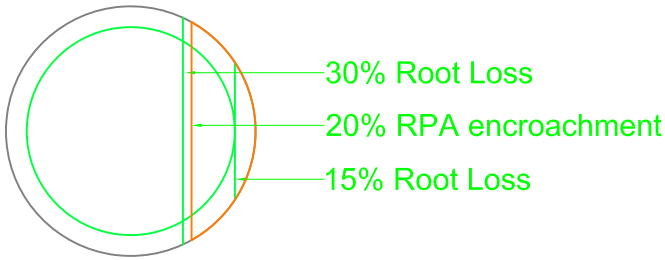
Figure 5: Proposed sewer excavation / bund design

6.1.9	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 are generally 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. 5a - 5c 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))

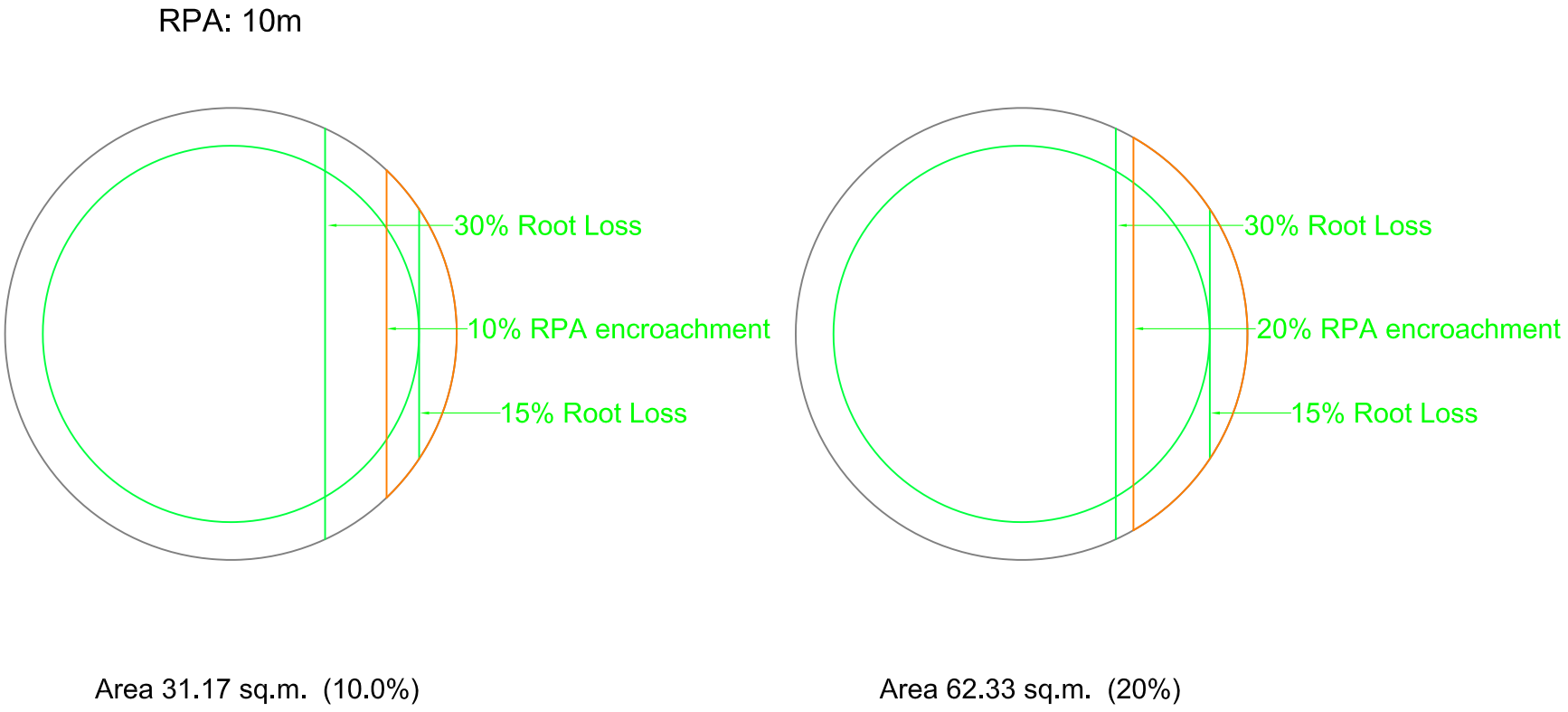


Figure 5b: approximate correlation between RPA encroachment and actual root loss on a free-grown tree of 10m RPA radius (after Thomas (2014))

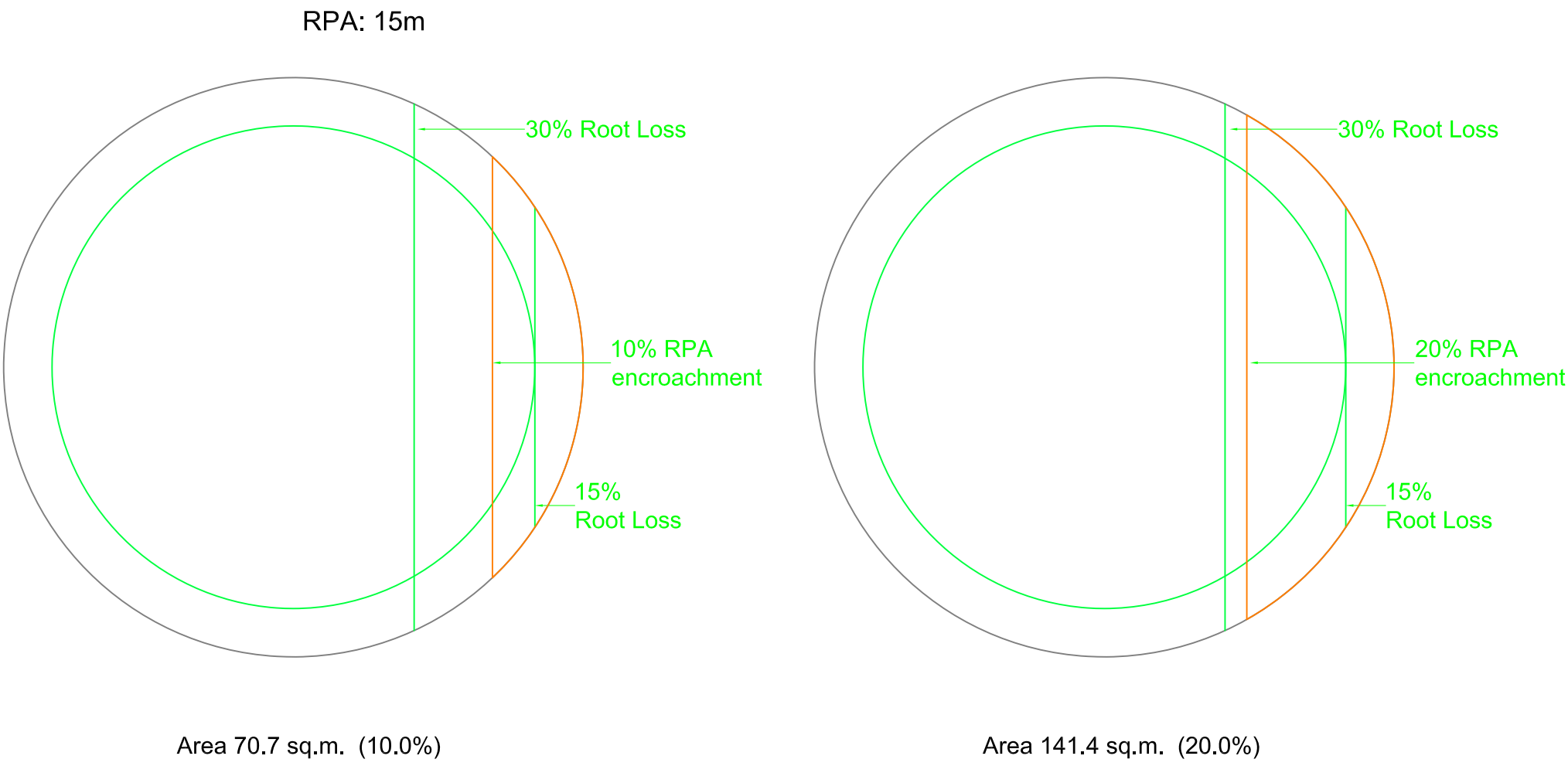


Figure 5c: approximate correlation between RPA encroachment and actual root loss on a free-grown tree of 15m RPA radius (after Thomas (2014))

6.1.10	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.
6.1.11	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.
6.1.12	As per BS5837 recommendations (at 5.3.a), the above assessment demonstrates that the tree(s) can remain viable and as per the equivalent hatching in Plan 2 of the Appendices that the area(s) lost to encroachment can be compensated for elsewhere. The guide also recommends (at 5.3.b) 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 Following the tree removals and pruning specified in Appendix 3, there will be only low levels of honeydew / litter deposition and partial shade and a limited requirement to maintain future crown clearance. Thus, the secondary impacts of development are minimal.

6.3 Mitigation of Impacts

6.3.1 The replanting scheme prepared by IBI and detailed in the submitted Design and Access Statement will offer considerable enhancement and offers the opportunity to secure a unified design for the western part of the site. 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 compliment 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 Soft ground within RPAs affected by the proposals will be treated with a 75mm layer of mulch which will be maintained in place throughout the duration of construction activities. Soft ground within the RPA / buffer zone of T195 will be treated with a 75mm layer of mulch to be maintained in place for at least 18 months. The conversion of the existing 3 spaces to 4 offers the opportunity to use minimally invasive techniques to provide ameliorated growing conditions which could improve the current situation.

6.3.3 All plant and vehicles engaged in demolition works should either operate outside the RPA, or should run on a temporary surface designed to protect the underlying soil structure. The demolition of the building should proceed inwards in a “pull down” fashion. Hard surfacing can be lifted with caution by a skilled machine operator again working away from the tree.

6.3.4 The Old Creche building encroachments will require the use of specialised foundation techniques, such as mini-piling or pad and raised beam. The foundation pits within the RPA should be trial-excavated by hand using a double-headed spade (“shove-holer”) or similar to minimise breadth of hole required for inspection.

6.3.5 The limits of excavation within RPAs will be undertaken manually; any roots encountered will be cleanly pruned back to an appropriate junction with a sharp pruning saw or secateurs. Roots larger than 25mm diameter may only be cut in consultation with an arboriculturalist.

6.3.6	The roadway / hard surfacing 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 (>20% of RPA) 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.
6.3.7	The immediate canopy encroachment can be avoided with a crown lift of lower limbs and / or minor crown reduction.
6.3.8	Nuisance deposition can be further mitigated with routine maintenance, light pruning / deadwooding and the fitting of filtration traps on guttering (see Figure 5 below).
6.3.9	The shading impacts can be mitigated by building design, with the provision of dual aspect windows and choice of room layout. Some minor crown reduction may be necessary, but not such as to impose a burden of frequent, repetitive management.

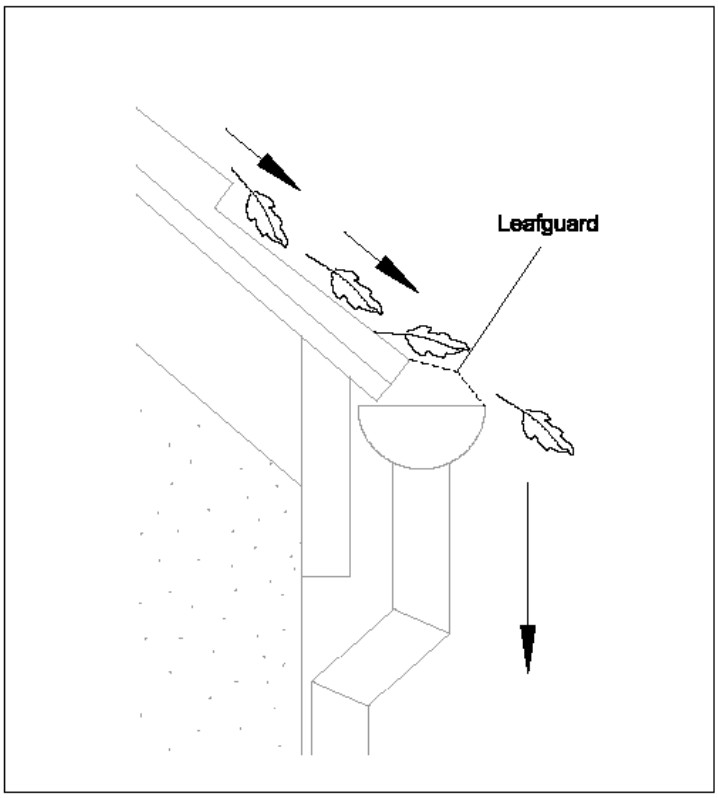


Figure 5: Filtration traps, as shown above, could be fitted on the gutters which can easily be maintained at 2-3m above ground.

7.0 CONCLUSION

7.1	The potential impacts of development are moderate - high in terms of quality of trees removed but low-moderate in terms of 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; 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	Some of the trees that are recommended for felling are of individual significance, but their loss will not unduly 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, 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). Thus, with suitable mitigation and supervision the scheme is recommended to planning.

8.0 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 RPA's 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 trees 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

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.
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.
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 and 'The Principles of Arboricultural Practice: Note 1, Driveways Close to Trees, AAIS 1996 [APN1]'.
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.

9.0 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.
- British Standards Institute. 2012. Trees in Relation to Design, Demolition and Construction - Recommendations BS 5837: 2012 HMSO, London.
- Centre for Ecology & Hydrology. 2006. Tree Roots in the Built Environment, HMSO, London.
- Helliwell R (1980) Provision for New Trees; Landscape Design; July/August issue
- International Society of Arboriculture (ISA). 1994. The Landscape Below Ground. ISA, Champaign, Ilinois. USA.
- Lonsdale D 1999. Research for Amenity Trees No.7: Principles of Tree Hazard Assessment and Management, HMSO, London.
- Matheny, N; Clark, J. R.1998. Trees and Development: A Technical Guide to Preservation of Trees during Land Development. ISA, Champaign, Ilinois. USA.
- Mattheck C. & Breloer H. 1994. Research for Amenity Trees No.2: The Body Language of Trees, HMSO, London.
- Thomas P, 2000 & 2014. Trees: Their Natural History, Cambridge University Press, Cambridge.
- Trowbridge J & Bassuk N (2004) Trees in the Urban Landscape: Site Assessment, Design, and Installation; J Wiley & Sons inc. NJ USA

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

Acacia, False (Robinia)	: Robinia Pseudoacacia	Cypress, Swamp	: Taxodium distichum
Acacia, False (Robinia)	: Robinia Pseudoacacia	Elder	: Sambucus nigra
Alder, Common/Black	: Alnus glutinosa	Hawthorn, Common	: Crataegus monogyna
Apple	: Malus sp	Holly, Common/English	: Ilex aquifolium
Apple, Crab	: Malus sylvestris	Hornbeam, Common	: Carpinus betulus
Ash, Common	: Fraxinus excelsior	Lime, Common	: Tilia x europea
Bay, Laurel	: Laurus nobilis	Maple, Norway	: Acer platanoides
Beech, Common	: Fagus sylvatica	Oak, English	: Quercus robur
Birch, Himalayan	: Betula utilis	Oak, Holm	: Quercus ilex
Birch, Silver	: Betula pendula	Oak, Turkey	: Quercus cerris
Cedar of Lebanon	: Cedrus libani	Plane, London	: Platanus acerifolia
Cherry, Wild cherry /Gean	: Prunus avium	Plum, Myrobalan	: Prunus cerasifera
Cherry, Bird	: Prunus padus	Plum, Purple	: Prunus cerasifera 'Nigra'
Chestnut, Sweet	: Castanea sativa	Sumach, Stag's Horn	: Rhus typhina
Chestnut, Horse	: Aesculus hippocastanum	Sycamore	: Acer pseudoplatanus
Cypress, Lawson	: Chamaecyparis lawsonia	Yew, Common	: Taxus baccata

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: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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	15	5786	4.0	790	Mature	9.5	Normal	Good	B	2	20+	Deadwood / squirrel damage to northwest crown
2	Sycamore	9	4242	2.0	300	Semi-mature	3.6	Moderate	Fair	C	2	20+	Ivy clad Suppressed by nearby tree growing on stream bank
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
5	Yew, Common	9	2424	2.0	500	Early Mature	6.0	Moderate	Fair	C	2	20+	Ivy clad
6	Holly	8	3333	0.0	280	Early Mature	3.4	Normal	Good	C	2	20+	

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
7	Rowan	3	3022	0.5	200	Early Mature	2.4	Moderate	Poor	U		<10	fallen
8	Sycamore	10	4554	3.0	262	Early Mature	3.1	Normal	Fair	C	2	20+	Ivy clad
9	Cypress, Swamp	21	4444	3.0	1200	Mature	14.4	Moderate	Fair	B	2	20+	A sparser than normal canopy Ivy clad Decay at base
10	Sycamore	8	3333	2.0	145	Semi-mature	1.7	Normal	Fair	C	2	20+	Ivy clad
11	Oak, English	16	7688	5.0	550	Mature	6.6	Normal	Good	B	2	>40	Ivy clad Deadwood (minor) throughout crown
12	Cedar of Lebanon	23	12,15,14,16	8.0	1730	Mature	20.8	Normal	Good	A	1	>40	Multiple large pruning wounds on trunk from historic crown lift Wasps nest at c.8m height

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
13	Oak, English	6	5655	2.0	400	Early Mature	4.8	Normal	Fair	B	2	20+	lost leader, flattened crown
14	Oak, English	18	8,7,12,11	3.0	1600	Mature	19.2	Normal	Good	A	2	>40	Ivy clad
15	Yew, Common	6	1223	1.0	200	Semi-mature	2.4	Normal	Fair	C	2	>40	
16	Yew, Common	6	1322	2.0	250	Early Mature	3.0	Normal	Fair	C	2	20+	
17	Yew, Common	7	3424	2.0	450	Early Mature	5.4	Normal	Fair	C	2	>40	
18	Sycamore	9	2224	3.0	300	Semi-mature	3.6	Moderate	Fair	C	2	10+	A sparser than normal canopy Ivy clad

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Kim Dear
Ref: HHT_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
19	Sycamore	9	3554	3.0	400	Early Mature	4.8	Normal	Fair	C	2	20+	Ivy clad
20	Beech, Common	9	3443	3.0	400	Early Mature	4.8	Moderate	Fair	C	2	20+	Ivy clad
21	Oak, Turkey	13	2725	3.0	480	Early Mature	5.8	Normal	Fair	B	2	>40	Leaning (slightly)
22	Holly	7	3333	0.5	225	Early Mature	2.7	Moderate	Fair	C	2	20+	
23	Sycamore	9	4535	3.0	330	Early Mature	4.0	Normal	Good	B	2	>40	slight lean
24	Sycamore	10	5445	2.5	555	Mature	6.7	Normal	Good	B	2	20+	Ivy clad bifurcated

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
25	Lime, Common	8	3233	3.5	272	Semi-mature	3.3	Moderate	Fair	C	2	20+	
26	Oak, English	10	3655	2.5	1225	Post-Mature	14.7	Moderate	Fair	B	2	20+	Decay in trunk Decay fungi present on trunk/roots residue at base, hollow, has been reduced
27	Maple, variety	7	2323	2.0	234	Semi-mature	2.8	Moderate	Fair	C	2	20+	
27a	Sycamore	8	5545	3.0	345	Early Mature	4.1	Normal	Good	B	2	>40	Ivy clad
28	Holly	8	3223	2.5	160	Semi-mature	1.9	Normal	Fair	C	2	20+	Ivy clad
29	Sycamore	8	4446	3.5	365	Early Mature	4.4	Normal	Good	B	2	>40	Deadwood (minor) throughout crown

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
30	Oak, English	18	12,13,8, 14	5.0	1725	Mature	20.7	Normal	Good	A	2	>40	
31	Oak, English	8	3324	3.5	235	Semi-mature	2.8	Moderate	Fair	C	2	20+	Suppressed by nearby tree
32	Cypress, Lawson	10	2222	1.0	280	Mature	3.4	Normal	Fair	C	2	20+	
33	Chestnut, Sweet	7	2312	3.0	290	Early Mature	3.5	Normal	Fair	C	2	20+	
34	Holly	7	3333	1.0	200	Early Mature	2.4	Normal	Fair	C	2	20+	
35	Cypress, Lawson	8	1111	2.0	219	Semi-mature	2.6	Moderate	Fair	C	2	10+	topped

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
36	Cypress, Lawson	11	2222	1.5	325	Early Mature	3.9	Normal	Fair	C	2	20+	
37	Cherry, Wild (Gean)	7	3332	2.5	212	Semi-mature	2.5	Normal	Fair	C	2	20+	
38	Apple, Crab	6	1.5,1.5, 1.5,1.5	3.0	200	Semi-mature	2.4	Normal	Fair	C	2	20+	
39	Sycamore	9.5	6554	4.0	550	Mature	6.6	Moderate	Fair	C	2	20+	epicormic
g40	Mixed Broadleaves	5	1221	0.5	150	Semi-mature	1.8	Normal	Fair	C	2	20+	hazel, maple, shrub border
g41	Mixed Broadleaves	5	1111	0.5	100	Semi-mature	1.2	Normal	Fair	C	2	20+	hazel, maple, willow shrub border

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Kim Dear
Ref: HHT_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
g42	Mixed Broadleaves	8	2112	2.0	200	Semi-mature	2.4	Normal	Fair	C	2	20+	poplar, hazel, ash, maple. along boundary, some tagged
43	Apple, Crab	6	1111	2.0	90	Young	1.1	Moderate	Fair	C	2	20+	
44	Prunus	4	1111	2.0	70	Young	0.8	Moderate	Fair	C	2	20+	
45	Lime, Common	19	2333	2.5	500	Mature	6.0	Moderate	Fair	C	2	20+	Deadwood throughout crown Ivy clad deadwood over path
46	Lime, Common	10	2212	2.0	230	Semi-mature	2.8	Moderate	Fair	C	2	20+	Ivy clad Suppressed by nearby tree
47	Lime, Common	12	2221	2.0	320	Semi-mature	3.8	Moderate	Fair	C	2	20+	Deadwood (minor) throughout crown Leaning (slightly) ivy covered

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Kim Dear
Ref: HHT_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
48	False Acacia	11	0242	3.0	300	Semi-mature	3.6	Moderate	Fair	C	2	20+	Ivy clad Leaning (slightly)
49	False Acacia	12	3243	4.5	350	Early Mature	4.2	Normal	Good	B	2	20+	Ivy clad Deadwood (minor) throughout crown
50	Oak, Turkey	9	4234	3.0	230	Semi-mature	2.8	Normal	Fair	C	2	>40	Ivy clad Leaning (slightly)
51	Lime, Common	12.5	2222	3.0	500	Early Mature	6.0	Moderate	Fair	C	2	20+	Die-back (minor) Deadwood throughout crown remove deadwood
52	Chestnut, Sweet	12	4566	4.0	650	Mature	7.8	Moderate	Fair	B	2	20+	Deadwood throughout crown Ivy clad
53	Oak, Holm	9	1677	3.0	323	Early Mature	3.9	Moderate	Fair	C	2	20+	Multi stem habit/weakness Ivy clad bark damage

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
54	Oak, Holm	7	0321	2.0	315	Early Mature	3.8	Moderate	Fair	C	2	20+	Leaning (slightly) Broken branches
55	Holly	6	1122	0.5	198	Semi-mature	2.4	Moderate	Fair	C	2	10+	Suppressed by nearby tree
56	Holly	7	2222	2.5	375	Early Mature	4.5	Moderate	Fair	C	2	20+	outside boundary fence alongside public pavement
g57	Mixed Broadleaves	8	1211	2.0	200	Semi-mature	2.4	Moderate	Fair	C	2	20+	sorbus, elm. remove dead elm.
58	Oak, Turkey	12	4154	3.0	330	Early Mature	4.0	Normal	Fair	B	2	20+	Ivy clad
59	Chestnut, Horse	17	6577	2.0	1040	Mature	12.5	Moderate	Fair	C	2	<10	Honey fungus at base Leaning (slightly) broken out limb, leans towards road

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Kim Dear
Ref: HHT_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
60	Holly	6	2222	2.0	200	Semi-mature	2.4	Normal	Fair	C	2	20+	
61	Holly	8	3222	2.0	225	Semi-mature	2.7	Normal	Fair	C	2	20+	Ivy clad
g62	Mixed Broadleaves	5	1122	1.0	150	Semi-mature	1.8	Poor	Poor	U		<10	holly and dead elm
63	Chestnut, Horse	17	5665	3.0	600	Mature	7.2	Normal	Fair	B	2	20+	Ivy clad bark wound
64	Oak, Turkey	13	5243	4.5	400	Early Mature	4.8	Moderate	Fair	B	2	20+	Leaning (slightly)
65	Oak, Turkey	11	4214	5.0	300	Semi-mature	3.6	Moderate	Fair	C	2	20+	Ivy clad

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
66	False Acacia	8	3113	2.0	205	Semi-mature	2.5	Moderate	Fair	C	2	10+	Deadwood (minor) throughout crown
67	Holly	5	2222	1.5	90	Semi-mature	1.1	Normal	Fair	C	2	20+	
68	Oak, Turkey	21	6563	4.0	875	Mature	10.5	Normal	Good	B	2	>40	Ivy clad
69	Holly	4	1111	2.0	107	Young	1.3	Moderate	Fair	C	2	10+	
70	Oak, Turkey	22	6847	6.5	975	Mature	11.7	Normal	Good	B	2	>40	Deadwood (minor) throughout crown
71	Holly	5	1.5,111	2.0	225	Semi-mature	2.7	Poor	Poor	U		<10	

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
g72	Holly	5	1111	1.5	85	Semi-mature	1.0	Moderate	Fair	C	2	10+	
g73	Mixed Broadleaves	9	3323	2.0	200	Semi-mature	2.4	Normal	Fair	C	2	20+	holly, oak,
74	Holly	6	2212	2.5	369	Early Mature	4.4	Normal	Fair	C	2	20+	Ivy clad
75	Holly	6.5	2122	3.0	228	Early Mature	2.7	Moderate	Fair	C	2	<10	A sparser than normal canopy
76	Holly	8	2221	3.0	200	Early Mature	2.4	Normal	Fair	C	2	20+	
77	Holly	8	3212	3.0	300	Early Mature	3.6	Normal	Fair	C	2	20+	

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Kim Dear
Ref: HHT_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
78	Holly	8	3113	3.0	250	Early Mature	3.0	Normal	Fair	C	2	20+	
g79	Mixed Broadleaves	6	1111	0.5	125	Semi-mature	1.5	Normal	Fair	C	2	20+	holly, oak, mixed shrubs
g80	Holly	6	2212	3.0	135	Semi-mature	1.6	Moderate	Fair	C	2	<10	A sparser than normal canopy Ivy clad
81	Holly	9	4233	3.0	490	Mature	5.9	Normal	Fair	C	2	20+	bifurcated 2 m
g82	Mixed Broadleaves	7	3221	2.0	145	Semi-mature	1.7	Normal	Fair	C	2	20+	holly, yew, laurel
83	False Acacia	9	3233	2.0	185	Semi-mature	2.2	Normal	Good	B	2	20+	

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
83a	Bay, Laurel	4	2222	0.0	150	Semi-mature	1.8	Normal	Fair	C	2	10+	
84	Ash, Common	12	3343	2.0	230	Early Mature	2.8	Moderate	Fair	C	2	20+	Broken branches Suppressed by nearby tree
85	Maple, Norway	9	6555	2.5	310	Early Mature	3.7	Normal	Fair	B	2	20+	bark wound
86	Maple, Norway	9.5	3444	3.0	340	Early Mature	4.1	Normal	Fair	B	2	20+	
87	Maple, Norway	7	3223	2.0	200	Semi-mature	2.4	Normal	Fair	C	2	20+	
88	Birch, Silver	9	3233	2.0	160	Semi-mature	1.9	Normal	Good	B	2	>40	

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
89	Cypress, Lawson	10	2222	1.0	390	Mature	4.7	Normal	Good	C	2	20+	
g90	Mixed Conifers	5	2122	1.0	200	Semi-mature	2.4	Normal	Fair	C	2	20+	yew, holly
91	Maple, variety	7	3332	2.0	180	Semi-mature	2.2	Normal	Fair	C	2	20+	
92	Cherry, Bird	8	2322	3.0	180	Early Mature	2.2	Normal	Good	B	2	20+	
93	Birch, Himalayan	10	3333	2.5	210	Early Mature	2.5	Normal	Good	B	2	>40	paper bark
94	Stag's Horn Sumach	5	3122	1.0	150	Early Mature	1.8	Moderate	Fair	C	2	10+	

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Kim Dear
Ref: HHT_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
95	Oak, English	16	7665	4.0	1010	Mature	12.1	Normal	Fair	B	2	>40	Ivy clad crown has been reduced
96	Holly	6	2232	2.0	400	Early Mature	4.8	Moderate	Fair	C	2	20+	multi stem
96a	Ash, Common	11	3222	4.0	346	Semi-mature	4.2	Moderate	Fair	C	2	20+	3 close self seeded
97	Ash, Common	16	4654	3.0	729	Mature	8.8	Normal	Fair	B	2	20+	trifurcated on stream bank
98	Ash, Common	15	7464	5.0	600	Mature	7.2	Normal	Good	B	2	>40	Ivy clad
99	Oak, English	16	10,998	5.0	1900	Mature	22.8	Normal	Good	A	1	>40	old pruning wounds

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
100	Apple, Cultivated	8	4344	2.0	350	Mature	4.2	Normal	Good	C	2	20+	Remote survey only (RS)
101	Ash, Common	10	2552	4.0	270	Semi-mature	3.2	Normal	Fair	C	2	10+	Deadwood (minor) throughout crown Leaning (slightly)
102	Ash, Common	14	2334	2.0	800	Post-Mature	9.6	Moderate	Fair	B	2	20+	recent reduction, on stream edge
g103	Hawthorn, Common	6	1221	2.0	150	Mature	1.8	Moderate	Fair	C	2	10+	
104	Hawthorn, Common	6	2331	2.0	145	Mature	1.7	Moderate	Fair	C	2	10+	Leaning (significantly) leans East over stream
g105	Ash, Common	12	3332	4.0	190	Semi-mature	2.3	Moderate	Fair	C	2	20+	group 5 self seeded

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
g106	Ash, Common	9	2222	3.0	175	Semi-mature	2.1	Moderate	Fair	C	2	<10	group 2 elm, 1 ash alongside stram
107	Ash, Common	10	3454	4.0	480	Early Mature	5.8	Moderate	Fair	C	2	20+	Ivy clad Leaning (slightly) poor sucker growth
g108	Hawthorn, Common	6	3322	2.5	200	Early Mature	2.4	Moderate	Fair	C	2	20+	
g109	Mixed Broadleaves	9	2333	2.5	200	Semi-mature	2.4	Moderate	Fair	C	2	20+	group ash, hawthorn
110	Oak, English	15	6675	5.0	610	Mature	7.3	Normal	Good	B	2	>40	Deadwood (minor) throughout crown Ivy clad
111	Oak, English	16	8776	5.0	841	Mature	10.1	Normal	Good	B	2	>40	remove deadwood over carpark

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
112	Oak, English	17	5551	4.0	500	Early Mature	6.0	Moderate	Fair	C	2	20+	Deadwood (minor) throughout crown Leaning (slightly) weak fork
113	Ash, Common	14	4451	7.0	500	Mature	6.0	Dead	Poor	U		<10	
114	Oak, English	16	6352	5.5	530	Early Mature	6.4	Normal	Fair	B	2	20+	Deadwood (minor) throughout crown
115	Oak, English	16	8357	4.0	650	Mature	7.8	Normal	Good	B	2	>40	Deadwood throughout crown remove deadwood
116	Oak, English	16	1434	6.0	400	Semi-mature	4.8	Moderate	Fair	C	2	10+	Suppressed by nearby tree
117	Oak, English	16	6352	4.0	440	Early Mature	5.3	Normal	Good	B	2	>40	Deadwood (minor) throughout crown Ivy clad

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Kim Dear
Ref: HHT_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
118	Oak, English	12	5152	3.0	450	Early Mature	5.4	Moderate	Fair	C	2	20+	Ivy clad leans north
119	Oak, English	23	5677	8.0	640	Mature	7.7	Normal	Fair	B	2	20+	Deadwood (minor) throughout crown Ivy clad
120	Oak, English	18	4323	6.0	275	Semi-mature	3.3	Moderate	Fair	C	2	20+	Deadwood (minor) throughout crown
121	Oak, English	20	6566	5.5	600	Mature	7.2	Moderate	Fair	B	2	20+	Leaning (slightly) Deadwood (minor) throughout crown
122	Oak, English	10	3361	3.0	590	Mature	7.1	Moderate	Fair	C	2	20+	Deadwood (minor) throughout crown Ivy clad leans over garden
123	Oak, English	18	6685	4.0	900	Mature	10.8	Normal	Good	B	2	>40	Deadwood (minor) throughout crown bifurcated at 2 m

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Kim Dear
Ref: HHT_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
124	Ash, Common	20	9998	5.0	890	Mature	10.7	Normal	Good	B	2	20+	Ivy clad Deadwood (minor) throughout crown
125	Oak, English	22	9910,7	5.0	770	Mature	9.2	Normal	Good	B	2	>40	Deadwood (minor) throughout crown
126	Oak, English	19	8897	5.0	700	Mature	8.4	Normal	Good	B	2	>40	
127	Oak, English	20	6,11,7,9	5.0	1050	Mature	12.6	Normal	Good	B	2	20+	woodpecker damage at 12 m
128	Oak, English	22	7356	7.0	500	Early Mature	6.0	Normal	Fair	B	2	20+	
129	Oak, English	22	7466	7.0	490	Early Mature	5.9	Normal	Fair	B	2	20+	

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
130	Ash, Common	23	7858	6.0	0	Mature	0.0	Normal	Fair	B	2	20+	Deadwood (minor) throughout crown
131	Ash, Common	22	8,10,8,10	8.0	715	Mature	8.6	Moderate	Fair	B	2	20+	bifurcated
132	Plane, London	11	5466	3.5	400	Early Mature	4.8	Normal	Good	B	2	>40	
133	Plane, London	12	3583	3.0	500	Early Mature	6.0	Normal	Fair	B	2	>40	
134	Hawthorn, Common	7	1250	2.0	450	Post-Mature	5.4	Poor	Poor	U		<10	
135	Lime, Common	18	9666	7.0	600	Mature	7.2	Normal	Good	B	2	20+	Ivy clad

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
136	Ash, Common	10	3334	2.0	280	Semi-mature	3.4	Normal	Fair	B	2	20+	
137	Ash, Common	9	4243	3.0	260	Semi-mature	3.1	Normal	Fair	B	2	20+	
138	Ash, Common	10	5444	3.0	250	Semi-mature	3.0	Normal	Fair	B	2	20+	
139	Ash, Common	12	6664	3.0	430	Early Mature	5.2	Normal	Good	B	2	20+	
140	Oak, English	12	6566	4.0	440	Early Mature	5.3	Normal	Fair	B	2	>40	Ivy clad
141	Maple, Norway	8	3343	3.0	200	Semi-mature	2.4	Normal	Fair	B	2	20+	

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
g142	Maple, Norway	9	2322	2.5	200	Semi-mature	2.4	Moderate	Fair	C	2	20+	as boundary hedge
g143	Oak, English	10	3343	3.0	350	Early Mature	4.2	Normal	Fair	B	2	20+	Ivy smothered group 3
144	Ash, Common	10	4544	3.5	390	Early Mature	4.7	Normal	Good	B	2	20+	
145	Alder, Common	10	2332	3.0	285	Early Mature	3.4	Normal	Good	B	2	20+	Leaning (slightly)
146	Alder, Common	12	3333	3.0	305	Early Mature	3.7	Normal	Good	B	2	20+	
147	Ash, Common	11	5545	4.0	330	Early Mature	4.0	Normal	Good	B	2	20+	

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
148	Ash, Common	9	4441	3.0	200	Semi-mature	2.4	Moderate	Fair	C	2	20+	
149	Alder, Common	12	4344	3.0	470	Mature	5.6	Normal	Good	B	2	20+	
150	Lime, Common	13	5545	3.0	400	Early Mature	4.8	Normal	Good	B	2	20+	
151	Lime, Common	14	4544	3.0	545	Early Mature	6.5	Normal	Fair	B	2	20+	narrow fork
152	Cherry, Wild (Gean)	10	6662	3.0	450	Mature	5.4	Normal	Good	B	2	20+	
g153	Ash, Common	8	2232	2.5	150	Semi-mature	1.8	Moderate	Fair	C	2	20+	Remote survey only (RS) behind building

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
g154	Cherry, Wild (Gean)	7	2222	2.0	200	Semi-mature	2.4	Moderate	Fair	C	2	20+	Remote survey only (RS)
155	Birch, Silver	10	2212	3.0	190	Semi-mature	2.3	Normal	Fair	C	2	20+	
g156	Whitebeam	6	1221	2.0	140	Semi-mature	1.7	Moderate	Fair	C	2	20+	
157	Cherry, Wild (Gean)	7	3344	3.0	390	Mature	4.7	Normal	Good	B	2	20+	
158	Sorbus species	5	3122	2.0	140	Semi-mature	1.7	Poor	Poor	U		<10	poor decayed tree
159	Maple, Norway	9	5444	3.0	415	Early Mature	5.0	Normal	Good	B	2	20+	

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
160	Cherry, Wild (Gean)	9	5442	3.0	290	Mature	3.5	Moderate	Fair	C	2	10+	
161	Birch, Silver	9	4443	3.0	340	Mature	4.1	Normal	Good	B	2	20+	
162	Birch, Silver	5	2011	2.0	90	Semi-mature	1.1	Moderate	Fair	C	2	20+	
163	Cherry, Wild (Gean)	8	3333	2.0	300	Early Mature	3.6	Moderate	Fair	C	2	20+	
164	Cherry, Wild (Gean)	7	3323	2.0	390	Early Mature	4.7	Moderate	Fair	C	2	20+	
165	Plum, Purple	6	3343	2.5	235	Mature	2.8	Moderate	Fair	C	2	20+	

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Kim Dear
Ref: HHT_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
166	Oak, English	8	4434	3.0	400	Early Mature	4.8	Normal	Good	B	2	>40	
167	Birch, Silver	9	3333	2.0	230	Early Mature	2.8	Normal	Good	B	2	20+	
169	Cypress, Leyland	10	2211	3.5	540	Mature	6.5	Poor	Poor	C		<10	A sparser than normal canopy Remote survey only (RS) in decline
168	Cypress, Lawson	10	4311	3.5	700	Mature	8.4	Poor	Poor	C	2	10+	trifurcated Remote survey only (RS)
170	Birch, Silver	9	3222	3.0	310	Mature	3.7	Moderate	Fair	C	2	<10	Basal cavity
171	Birch, Silver	9	2212	2.0	185	Semi-mature	2.2	Moderate	Fair	C	2	20+	

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
172	Birch, Silver	11	3211	2.0	200	Semi-mature	2.4	Normal	Fair	C	2	10+	
173	Birch, Silver	7	3111	2.0	210	Semi-mature	2.5	Moderate	Poor	C		<10	
g174	Apple, Crab	8	3323	2.0	240	Early Mature	2.9	Normal	Fair	C	2	20+	
175	Birch, Silver	10	3233	3.0	285	Early Mature	3.4	Normal	Fair	C	2	20+	
176	Oak, English	22	8799	4.0	1280	Mature	15.4	Normal	Good	A	1	>40	lovely!
177	Oak, English	20	9,10,8,9	4.0	1100	Mature	13.2	Normal	Good	A	1	>40	

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
g178	Plum, Myrobalan	7	3233	3.0	260	Early Mature	3.1	Moderate	Fair	C	2	10+	in avenue towards entrance
g179	Plum, Myrobalan	8	2322	3.0	270	Early Mature	3.2	Moderate	Fair	C	2	20+	group 7 in line towards entrance
180	Oak, English	9	4443	3.5	280	Early Mature	3.4	Normal	Good	B	2	>40	
181	Oak, English	12	9342	5.0	1300	Post-Mature	15.6	Moderate	Fair	B	2	>40	
182	Oak, English	18	5448	4.5	1310	Mature	15.7	Normal	Fair	B	2	20+	Inonotus decay fungi at base decay detect
183	Oak, English	19	4557	5.0	1050	Post-Mature	12.6	Moderate	Fair	B	2	10+	A sparser than normal canopy deadwood

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
184	Oak, English	13	3531	5.0	600	Mature	7.2	Normal	Fair	B	2	>40	
185	Oak, English	15	3243	4.0	515	Mature	6.2	Normal	Fair	B	2	>40	
186	Oak, English	15	2663	4.5	635	Mature	7.6	Normal	Fair	B	2	20+	Deadwood (minor) throughout crown
187	Hornbeam	16	4665	4.5	590	Mature	7.1	Normal	Fair	B	2	20+	
188	Hornbeam	11	3553	3.5	330	Early Mature	4.0	Normal	Fair	B	2	>40	
g189	Cypress, Lawson	12	2322	1.0	400	Mature	4.8	Moderate	Fair	C	2	20+	Ivy clad group between buildings

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
190	Ash, Common	7	4132	1.0	200	Semi-mature	2.4	Poor	Fair	U		<10	Dying
191	Damson	4	5134	1.0	150	Early Mature	1.8	Moderate	Fair	C	2	20+	
192	Damson	9	3	1.5	120	Semi-mature	1.4	Normal	Fair	C	2	20+	Decay in parent stem of 200mm
193	Ash, Common	7	4132	1.0	200	Semi-mature	2.4	Normal	Fair	C	2		Self sown into shrub hedge
194	Cypress, Lawson	10	2	1.0	300	Semi-mature	3.6	Normal	Good	B/c	2	40+	Remote survey only (RS)
195	Oak, English	18	8	5.0	1000	Post-Mature	12.0	Poor	Fair	A	3	40+	Remote survey only (RS) Veteran tree

Landmark Trees

Site: Hillingdon Hospital

Date: 11/11/20

Appendix 1

BS5837 Tree Constraints Survey Schedule

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Kim Dear

Ref: HHT_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
H196	Mixed Pyracantha & Blackthorn	4					0.0						

APPENDIX 2

RECOMMENDED TREE WORKS

Notes for Guidance:

Husbandry 1 - Urgent (ASAP), 2 - Standard (within 6 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: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
1	Sycamore	B	15	4.0	5786	DWD	Deadwood / squirrel damage to northwest crown Recommended husbandry 2
9	Cypress, Swamp	B	21	3.0	4444	FInv Determine extent of decay at base - felling likely necessary	A sparser than normal canopy Ivy clad Decay at base Recommended husbandry 2
12	Cedar of Lebanon	A	23	8.0	12,15,14,16	FInv Determine extent of cavity wasps are found in	Multiple large pruning wounds on trunk from historic crown lift Wasps nest at c.8m height Recommended husbandry 2
26	Oak, English	B	10	2.5	3655	FInv Determine extent of basal decay	Decay in trunk Decay fungi present on trunk/roots residue at base, hollow, has been reduced Recommended husbandry 2
45	Lime, Common	C	19	2.5	2333	DWD	Deadwood throughout crown Ivy clad deadwood over path Recommended husbandry 2
51	Lime, Common	C	12.5	3.0	2222	DWD	Die-back (minor) Deadwood throughout crown remove deadwood Recommended husbandry 2

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Appendix 2

Recommended Tree Works

Surveyor(s): Kim Dear
Ref: HHT_THH_AIA

Hide irrelevant
Show All Trees

Tree No.	English Name	B.S. Cat	Height	Ground Clearance	Crown Spread	Recommended Works	Comments/ Reasons
59	Chestnut, Horse	C	17	2.0	6577	FInv Option to fell	Honey fungus at base Leaning (slightly) broken out limb, leans towards road Recommended husbandry 2
113	Ash, Common	U	14	7.0	4451	Fell	Recommended husbandry 2
115	Oak, English	B	16	4.0	8357	DWD	Deadwood throughout crown remove deadwood Recommended husbandry 2
182	Oak, English	B	18	4.5	5448	FInv	Inonotus decay fungi at base decay detect Recommended husbandry 2

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: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
23	Sycamore	B	9	3.0	4535	CL CB Crown lift / cut back to provide 6m vertical clearance to roadway	slight lean To facilitate development
45	Lime, Common	C	19	2.5	2333	Fell	Deadwood throughout crown Ivy clad deadwood over path To allow landscape enhancement
46	Lime, Common	C	10	2.0	2212	Fell	Ivy clad Suppressed by nearby tree To allow landscape enhancement
47	Lime, Common	C	12	2.0	2221	Fell	Deadwood (minor) throughout crown Leaning (slightly) ivy covered To allow landscape enhancement
48	False Acacia	C	11	3.0	0242	Fell	Ivy clad Leaning (slightly) To allow landscape enhancement
49	False Acacia	B	12	4.5	3243	Fell	Ivy clad Deadwood (minor) throughout crown To allow landscape enhancement

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
50	Oak, Turkey	C	9	3.0	4234	Fell	Ivy clad Leaning (slightly) To allow landscape enhancement
51	Lime, Common	C	12.5	3.0	2222	Fell	Die-back (minor) Deadwood throughout crown remove deadwood To allow landscape enhancement
52	Chestnut, Sweet	B	12	4.0	4566	Fell	Deadwood throughout crown Ivy clad To allow landscape enhancement
53	Oak, Holm	C	9	3.0	1677	Fell	Multi stem habit/weakness Ivy clad bark damage To allow landscape enhancement
54	Oak, Holm	C	7	2.0	0321	Fell	Leaning (slightly) Broken branches To allow landscape enhancement
55	Holly	C	6	0.5	1122	Fell	Suppressed by nearby tree To allow landscape enhancement

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
56	Holly	C	7	2.5	2222	Fell	outside boundary fence alongside public pavement To allow landscape enhancement
g57	Mixed Broadleaves	C	8	2.0	1211	Fell	sorbus, elm. remove dead elm. To allow landscape enhancement
58	Oak, Turkey	B	12	3.0	4154	Fell	Ivy clad To allow landscape enhancement
59	Chestnut, Horse	C	17	2.0	6577	Fell	Honey fungus at base Leaning (slightly) broken out limb, leans towards road To allow landscape enhancement
60	Holly	C	6	2.0	2222	Fell	To allow landscape enhancement
61	Holly	C	8	2.0	3222	Fell	Ivy clad To allow landscape enhancement

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
g62	Mixed Broadleaves	U	5	1.0	1122	Fell	holly and dead elm To allow landscape enhancement
63	Chestnut, Horse	B	17	3.0	5665	Fell	Ivy clad bark wound To allow landscape enhancement
64	Oak, Turkey	B	13	4.5	5243	Fell	Leaning (slightly) To allow landscape enhancement
65	Oak, Turkey	C	11	5.0	4214	Fell	Ivy clad To allow landscape enhancement
66	False Acacia	C	8	2.0	3113	Fell	Deadwood (minor) throughout crown To allow landscape enhancement
67	Holly	C	5	1.5	2222	Fell	To allow landscape enhancement

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
68	Oak, Turkey	B	21	4.0	6563	Fell	Ivy clad To allow landscape enhancement
69	Holly	C	4	2.0	1111	Fell	To allow landscape enhancement
70	Oak, Turkey	B	22	6.5	6847	Fell	Deadwood (minor) throughout crown To allow landscape enhancement
71	Holly	U	5	2.0	1.5,111	Fell	To allow landscape enhancement
g72	Holly	C	5	1.5	1111	Fell	To allow landscape enhancement
g73	Mixed Broadleaves	C	9	2.0	3323	Fell	holly, oak, To allow landscape enhancement

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
74	Holly	C	6	2.5	2212	Fell	Ivy clad To allow landscape enhancement
75	Holly	C	6.5	3.0	2122	Fell	A sparser than normal canopy To allow landscape enhancement
76	Holly	C	8	3.0	2221	Fell	To allow landscape enhancement
77	Holly	C	8	3.0	3212	Fell	To allow landscape enhancement
g80	Holly	C	6	3.0	2212	Fell	A sparser than normal canopy Ivy clad To allow landscape enhancement
81	Holly	C	9	3.0	4233	Fell	bifurcated 2 m To allow landscape enhancement

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
g82	Mixed Broadleaves	C	7	2.0	3221	Fell	holly, yew, laurel To allow landscape enhancement
84	Ash, Common	C	12	2.0	3343	Fell	Broken branches Suppressed by nearby tree To facilitate development
85	Maple, Norway	B	9	2.5	6555	Fell	bark wound To facilitate development
86	Maple, Norway	B	9.5	3.0	3444	Fell	To facilitate development
87	Maple, Norway	C	7	2.0	3223	Fell	To facilitate development
88	Birch, Silver	B	9	2.0	3233	Fell	To facilitate development

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
89	Cypress, Lawson	C	10	1.0	2222	Fell	To facilitate development
g90	Mixed Conifers	C	5	1.0	2122	Fell	yew, holly To facilitate development
91	Maple, variety	C	7	2.0	3332	Fell	To facilitate development
96	Holly	C	6	2.0	2232	Fell	multi stem To facilitate development
110	Oak, English	B	15	5.0	6675	CL CB Crown lift / cut back to provide 6m vertical clearance to roadway	Deadwood (minor) throughout crown Ivy clad To facilitate development
111	Oak, English	B	16	5.0	8776	CL CB Crown lift / cut back to provide 6m vertical clearance to roadway	remove deadwood over carpark To facilitate development

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
112	Oak, English	C	17	4.0	5551	CL CB Crown lift / cut back to provide 6m vertical clearance to roadway	Deadwood (minor) throughout crown Leaning (slightly) weak fork To facilitate development
115	Oak, English	B	16	4.0	8357	CL CB Crown lift / cut back to provide 6m vertical clearance to roadway	Deadwood throughout crown remove deadwood To facilitate development
132	Plane, London	B	11	3.5	5466	CL CB Crown lift / cut back to provide 6m vertical clearance to roadway	To facilitate development
136	Ash, Common	B	10	2.0	3334	Fell	To facilitate development
137	Ash, Common	B	9	3.0	4243	Fell	To facilitate development
138	Ash, Common	B	10	3.0	5444	Fell	To facilitate development

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
139	Ash, Common	B	12	3.0	6664	Fell	To facilitate development
141	Maple, Norway	B	8	3.0	3343	Fell	To facilitate development
g143	Oak, English	B	10	3.0	3343	Fell	Ivy smothered group 3 To facilitate development
144	Ash, Common	B	10	3.5	4544	Fell	To facilitate development
145	Alder, Common	B	10	3.0	2332	Fell	Leaning (slightly) To facilitate development
146	Alder, Common	B	12	3.0	3333	Fell	To facilitate development

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
147	Ash, Common	B	11	4.0	5545	Fell	To facilitate development
148	Ash, Common	C	9	3.0	4441	Fell	To facilitate development
149	Alder, Common	B	12	3.0	4344	Fell	To facilitate development
150	Lime, Common	B	13	3.0	5545	Fell	To facilitate development
151	Lime, Common	B	14	3.0	4544	Fell	narrow fork To facilitate development
152	Cherry, Wild (Gean)	B	10	3.0	6662	Fell	To facilitate development

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
g154	Cherry, Wild (Gean)	C	7	2.0	2222	Fell	Remote survey only (RS) To facilitate development
155	Birch, Silver	C	10	3.0	2212	Fell	To facilitate development
g156	Whitebeam	C	6	2.0	1221	Fell	To facilitate development
157	Cherry, Wild (Gean)	B	7	3.0	3344	Fell	To facilitate development
158	Sorbus species	U	5	2.0	3122	Fell	poor decayed tree To facilitate development
159	Maple, Norway	B	9	3.0	5444	Fell	To facilitate development

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
160	Cherry, Wild (Gean)	C	9	3.0	5442	Fell	To facilitate development
161	Birch, Silver	B	9	3.0	4443	Fell	To facilitate development
162	Birch, Silver	C	5	2.0	2011	Fell	To facilitate development
163	Cherry, Wild (Gean)	C	8	2.0	3333	Fell	To facilitate development
164	Cherry, Wild (Gean)	C	7	2.0	3323	Fell	To facilitate development
165	Plum, Purple	C	6	2.5	3343	Fell	To facilitate development

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
166	Oak, English	B	8	3.0	4434	Fell	To facilitate development
167	Birch, Silver	B	9	2.0	3333	Fell	To facilitate development
168	Cypress, Lawson	C	10	3.5	4311	Fell	trifurcated Remote survey only (RS) To facilitate development
169	Cypress, Leyland	C	10	3.5	2211	Fell	A sparser than normal canopy Remote survey only (RS) in decline To facilitate development
170	Birch, Silver	C	9	3.0	3222	Fell	Basal cavity To facilitate development
171	Birch, Silver	C	9	2.0	2212	Fell	To facilitate development

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
172	Birch, Silver	C	11	2.0	3211	Fell	To facilitate development
173	Birch, Silver	C	7	2.0	3111	Fell	To facilitate development
g174	Apple, Crab	C	8	2.0	3323	Fell	To facilitate development
175	Birch, Silver	C	10	3.0	3233	Fell	To facilitate development
177	Oak, English	A	20	4.0	9,10,8, 9	Fell	To facilitate development
g178	Plum, Myrobalan	C	7	3.0	3233	Fell	in avenue towards entrance To facilitate development

Landmark Trees

Site: Hillingdon Hospital
Date: 11/11/20

Surveyor(s): Kim Dear
Ref: HHT_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
190	Ash, Common	U	7	1.0	4132	Fell	Dying To facilitate development
191	Damson	C	4	1.0	5134	Fell	To facilitate development
192	Damson	C	9	1.5	3	Fell	Decay in parent stem of 200mm To facilitate development
195	Oak, English	A	18	5.0	8	CB 1m Cut back upper crown by approximately 1m	Remote survey only (RS) Veteran tree To facilitate development

APPENDIX 4: 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 Fountaine
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

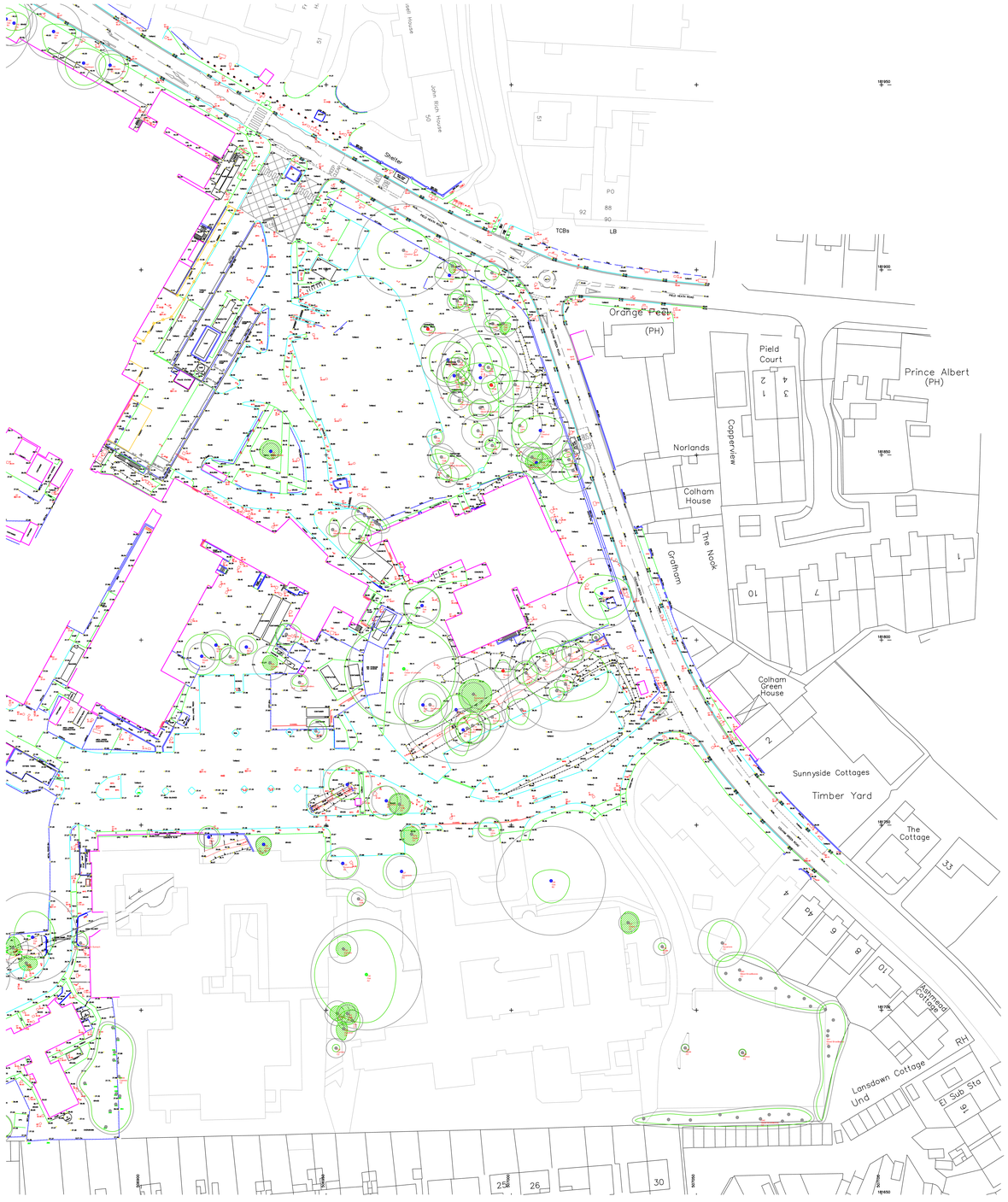
Common Name	Species	(Columnar Form for discrete usage)
English oak	Quercus robur	f. Koster
American elm	Ulmus americana Princeton	
Cedar of Lebanon	Cedrus libani	

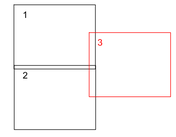
Landmark Trees

PART 3 – PLANS

PLAN 1

TREE CONSTRAINTS PLAN





0 10 20 30 40 50M

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	1:500@ A0
Drawing Title: Tree Constraints Plan	January 2021

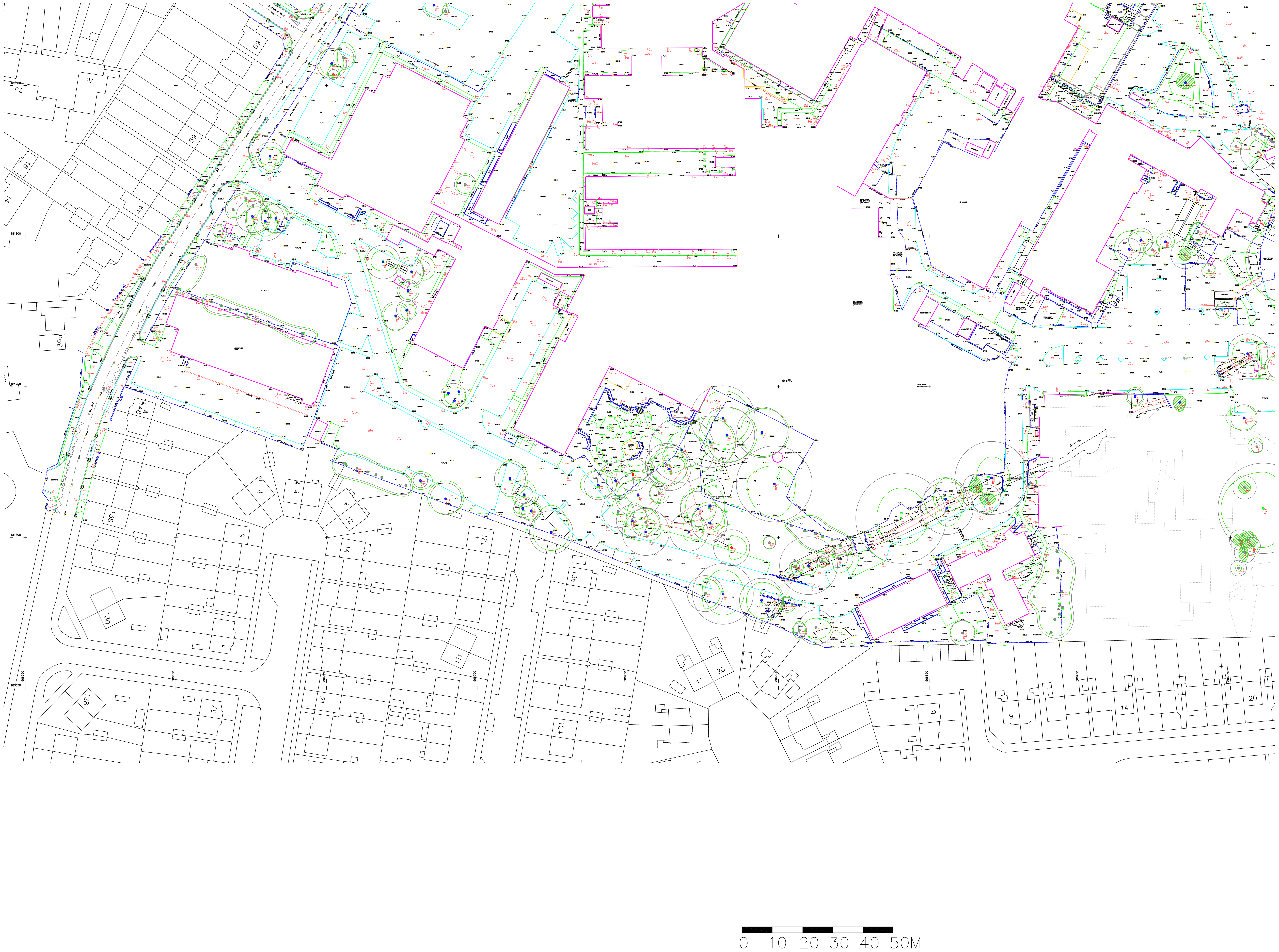
Key:

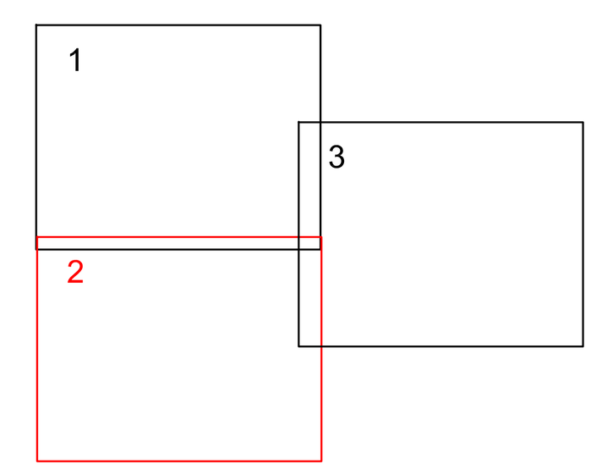
- Category A — High Quality
- Category B — Moderate Quality
- Category C — Low Quality
- Category U — Trees Unsuitable for Retention

Category · Crown Spread · Root Protection Area · Tree Number · Species · Category

Tree Position Approximate (not shown on original survey)

N





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

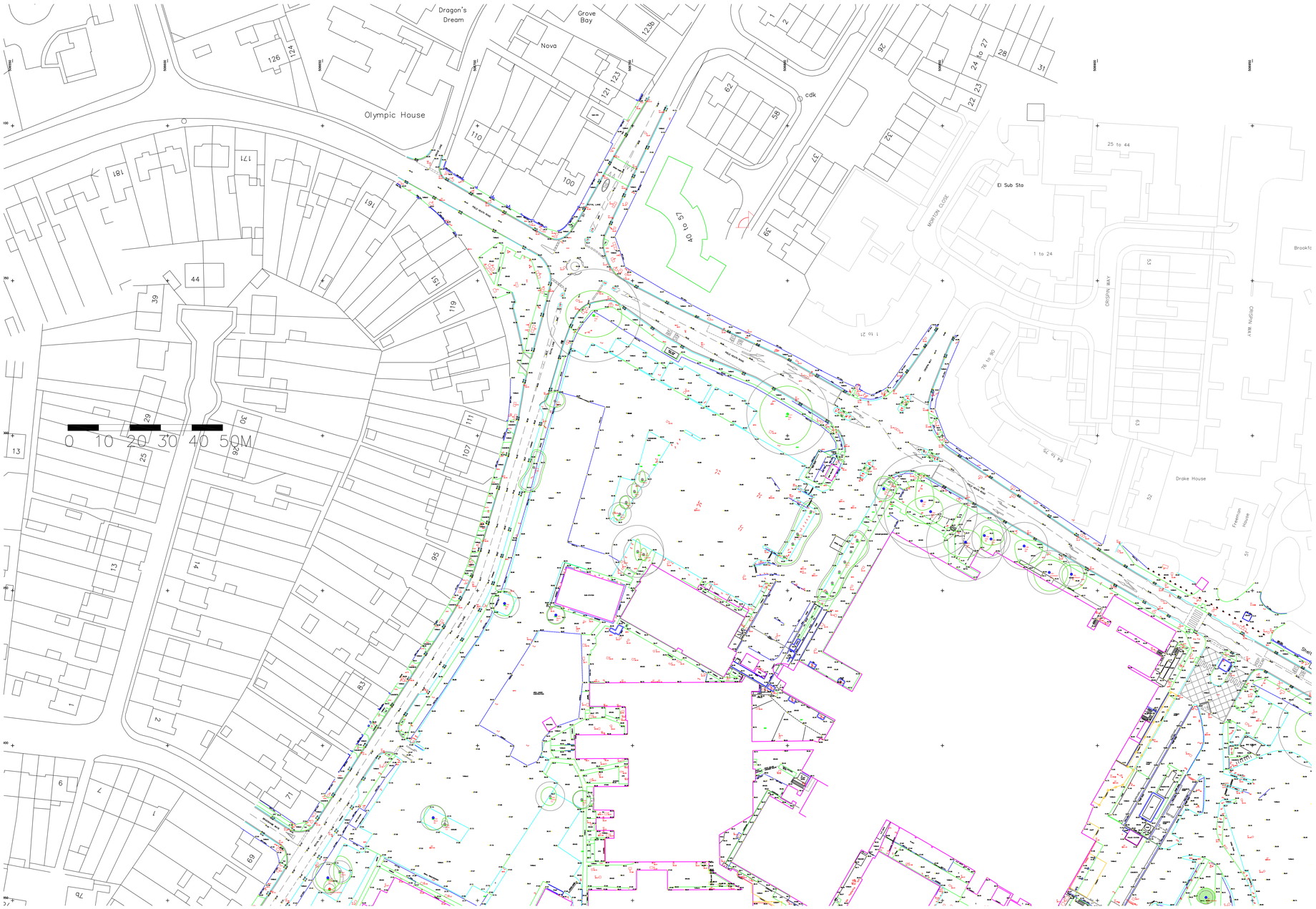
Site: Hillingdon Hospital	1:500@ A0
Drawing Title: Tree Constraints Plan	January 2021

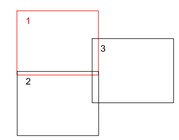
Key:
- Category A High Quality
- Category B Moderate Quality
- Category C Low Quality
- Category U Trees Unsuitable for Retention

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

Tree Position Approximate (not shown on original survey)

N W E S





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	1:500@ A0
Drawing Title: Tree Constraints Plan	January 2021

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

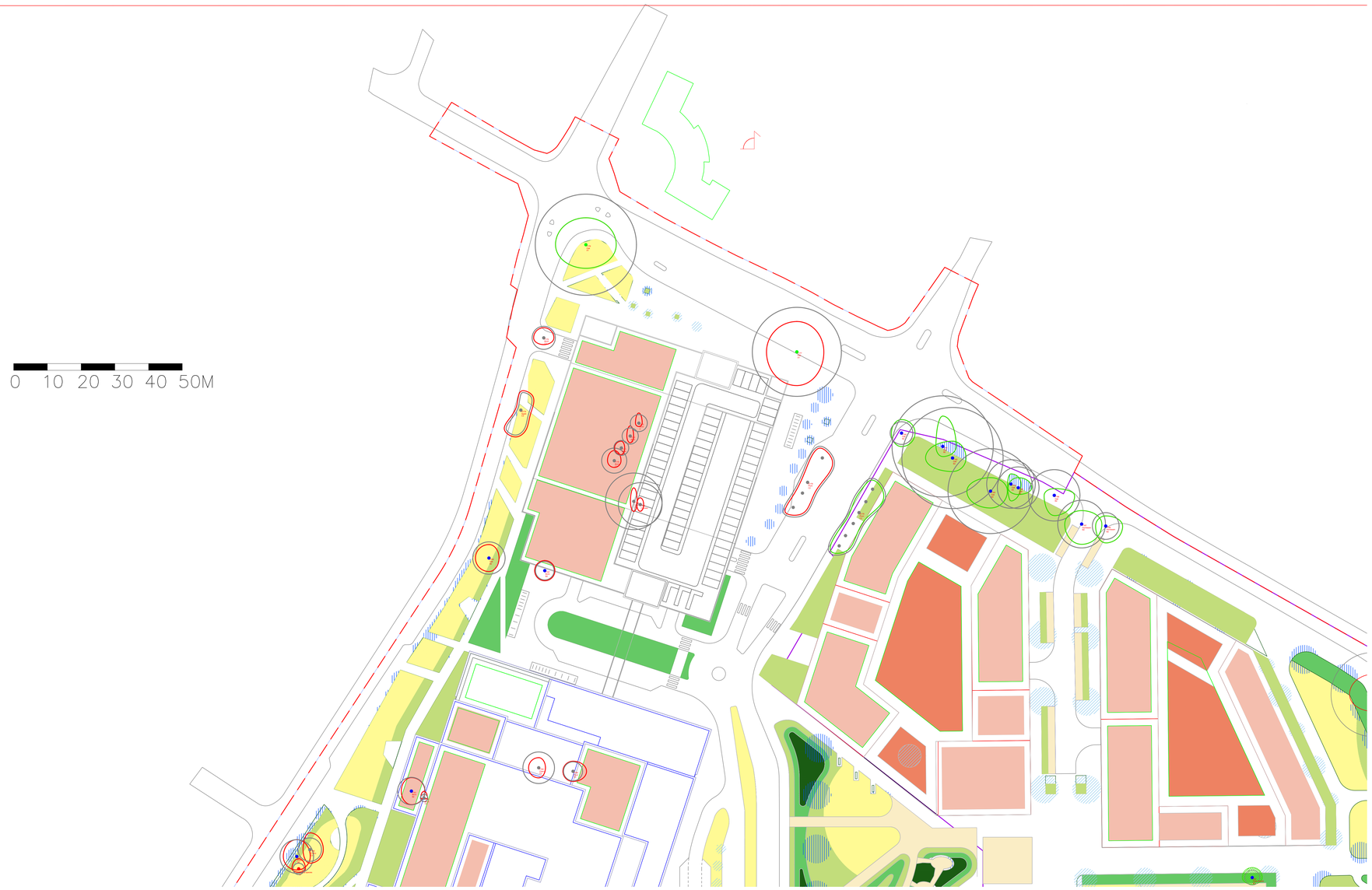
Category / Crown Spread / Tree Number / Species / Category / Root Protection Area
Tree Position Approximate (not shown on original survey)

N

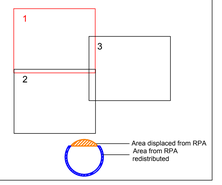
PLAN 2

ARBORICULTURAL IMPACT ASSESSMENT PLAN (S)

i. Ground Floor



Proposed Landscape 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).

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	1:500@ A0
Drawing Title: Arboricultural Impacts Assessment	May 2022

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

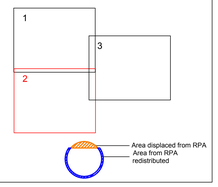
Tree Position Approximate (not shown on original survey)

Tree Felled To Facilitate Development

N

0 10 20 30 40 50M

Proposed Landscape 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.

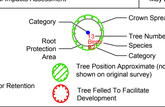
Root Protection Areas (RPA) are derived from stem diameter measured at 1.5 m above adjacent ground level (taken on sloping ground on the upslope side of the tree base).

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	1:500@ A0
Drawing Title: Arboricultural Impacts Assessment	May 2022

Key:

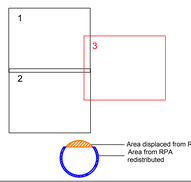
- Category A High Quality
- Category B Moderate Quality
- Category C Low Quality
- Category U Trees Unsuitable for Retention



Tree Position Approximate (not shown on original survey)

Tree Felled To Facilitate Development

Proposed Landscape 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).

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	1:500@ A0
Drawing Title: Arboricultural Impacts Assessment	May 2022

Key:

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