Great Ormond Street Hospital Children's Cancer Centre (GOSHCCC)
Archaeology Desk Based Assessment

20/05/2022

NHS
Great Ormond Street Hospital for Children
NHS Foundation Trust

ADAS

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Quality Assurance

Author	Checked	Approved
Edmund Lusk *HND Arb. M.Arbor.A* Arboricultural Consultant	Roy Dyer *NDF, DMS, MICFor* Director	Roy Dyer *NDF, DMS, MICFor* Director

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This work has been undertaken in accordance with the quality management system of RSK ADAS Ltd.

Version History

Version	Date	Amendment
A	February 2020	Initial report
B	January 2022	Updated redline boundary Methodology updated
C	February 2022	Report statement updated
D	May 2022	Updated executive summary

1 Executive Summary

This Arboricultural Planning Statement has been prepared on behalf of the Applicant, Great Ormond Street Hospital for Children NHS Foundation Trust (referred to hereafter as the 'Applicant') in collaboration with the appointed design and build contractor John Sisk & Son (Holdings) Ltd (referred to hereafter as Sisk) to support an application to the London Borough of Camden (LBC) for full planning permission for the redevelopment of the Great Ormond Street Hospital (GOSH) Frontage Building on Great Ormond Street WC1N 3JH X (referred to hereafter as the 'site'), to provide a new Children's Cancer Centre (CCC).

The description of development comprises:

> *redevelopment of the Great Ormond Street Hospital (GOSH) Frontage Building comprising demolition of the existing building and erection of a replacement 8 storey hospital building (Class C2 Use) together with 2 basement floors, roof top, balcony and ground floor landscaped amenity spaces, cycle storage, refuse storage and other ancillary and associated works pursuant to the development.*

This planning application relates to Phase 4 of the five-phase redevelopment programme for Great Ormond Street Hospital which aims to rebuild two thirds of the hospital over a 20-year period, to upgrade and better meet forecast future healthcare needs.

For the purposes of this report, reference to 'the site' means land encompassed by the red line shown on the Tree Constraints Plan contained in **Appendix 2**.

The appointed design and build contractor John Sisk & Son (Holdings) Ltd, have commissioned ADAS to provide arboricultural advice in relation to the proposed development in line with the requirements of 'BS5837:2012 Trees in Relation to Design, Demolition and Construction: Recommendations' (BS5837:2012). This report has been prepared to comply with the requirements set out in Table B.1 of Annex B of BS5837:2012.

An ADAS Arboricultural Consultant carried out a full arboricultural survey of the site on Tuesday 7th January 2020. The tree survey identified a total of 14 individual trees and 1 group of trees, which have the potential to be impacted by the development proposals. In line with the recommendations contained within Table 1 of BS5837:2012 which is contained in Appendix 9, of these tree features, 13 were awarded a low C grade and 2 (T4 and G1) were awarded a moderate B grade. None were awarded a high A grade or a very low U grade.

To facilitate construction of the proposed development it is proposed to remove all of the individual trees (T5 -T14) within the redline boundary. The tree group surveyed, which is located off-site, are to be retained. Replacement landscaping and tree planting within the public realm is proposed upon completion of development to mitigate the loss of trees required for the development.

A search of the London Borough of Camden's Proposals Map has confirmed that the site is partially within the Bloomsbury Conservation Area. A copy of the plan from the search is provided in **Appendix 9**.

The existence of the Conservation Area confers a degree of statutory legal protection upon the trees, with a stem diameter of greater than 75 mm (at 1.5 m above ground level), growing within it. In particular, it should be noted that prior to undertaking any works to trees within the Conservation Area it is necessary to submit a Section 211 notice to the Local Planning Authority giving six weeks' notice of the proposed works. In practice, the submission of a planning application containing fully specified details of proposed tree works will usually meet this requirement.

In order to ensure the successful integration of retained trees into the proposed development, various tree protection measures will be incorporated into the design which are intended to maintain the trees in a safe and healthy condition. Further details of these are contained in section 6.0 of this report.

2 Introduction

2.1 The Author

This document has been prepared by Edmund Lusk, an Arboricultural Consultant, on behalf of ADAS. Edmund is a Professional Member of the Arboricultural Association, a Professional Member of the Consulting Arborist Society and holds the Higher National Diploma in Arboriculture. Edmund has 21 years of experience within the arboricultural industry, both in the Public Sector as a Tree Officer and in the Private Sector as an Arboricultural Consultant.

2.2 Client Instruction

This report was commissioned by the appointed design and build contractor John Sisk & Son (Holdings) Ltd on 16th April 2018 and is pertinent to the site known as Great Ormond Street Hospital Children's Cancer Centre (GOSHCCC).

2.3 Purpose of Report

The purpose of this document is to provide reference and clarification on aspects of tree protection and any necessary tree management works for the proposed development. It is proposed to achieve this by setting out a methodology for all proposed works that may affect trees which are to be retained on and adjacent to site.

This document is also intended as a reference point for all site operatives and a copy will remain with the site manager for the duration of the development.

This document may be used as a point of reference if there were to be a dispute over compliance with related planning conditions.

2.4 Tree Survey Methodology

An initial tree survey, to establish the tree constraints on the site, was carried out by Edmund Lusk on behalf of ADAS on 7th January 2020. The tree survey was carried out in accordance with the recommendations contained within BS 5837:2012. The results are included in **Appendix 1.** The location of the trees are plotted on the Tree Constraints Plan in **Appendix 2** and the Tree Protection Plan in **Appendix 3**.

All trees have been visually inspected from ground level unless otherwise stated, with no climbing or boring tests being undertaken. The comments made on their condition are based on observable factors present at the time of inspection.

The information, shown in **Table 1** below, was recorded as part of the tree survey.

Column Heading	Description
Tree Ref No.	All individual trees and groups of trees have been given a unique reference number. Each number is prefixed by a letter. ▪ T = Individual tree ▪ G = Groups of trees.
Species	The English common name has been used, with the scientific name in brackets.
Single or Multiple stem (S or M)	▪ 'S' represents a tree which has a single clear stem to at least 1.5m above ground level. ▪ 'M(a)' represents a tree where the main stem divides into two to five stems below 1.5m above ground level, and ▪ 'M(b)' represents a tree where the main stem divides into 6 or more stems below a height of 1.5m.
Height (m)	Where possible tree heights are measured using a laser. In some instances such as in close groups of trees, one height may be measured and other nearby trees estimated from this height. Measurements are provided in metres.
Stem Diameter (mm)	S_n represents the stem number. Measurements are provided in millimetres at 1.5m above ground level for single stemmed trees.
Branch Spread (m)	Measured in metres to the four cardinal compass points (N, E, S, W).
Crown Clearance	(1) Height in metres of the first significant branch, and the direction of growth. (2) Height in metres of lowest part of crown.
Life Stage	The stage at which the tree is within its lifecycle (Y = young, SM = semi-mature, EM = early-mature, M = mature, OM = over mature, V = veteran)
General Observations	Any relevant observations are recorded, with particular reference to structural and/or physiological condition.
Preliminary Management Recommendations	Recommendations are made where management work is required for reasons of health and safety or sound arboricultural management.
Estimated Remaining Contribution (years)	An estimation of how long the feature will contribute to its surroundings. This is recorded in bands of either <10 years, 10+ years, 20+ years and 40+ years.
Tree Quality Grading	The trees are graded to the categories prescribed within BS5837:2012 (U, A, B & C). Details of this grading system can be found in **Appendix 8.**
Root Protection Area	Calculated as prescribed in section 4.6 of BS5837:2012, provided as an area (m^2) and a radius from the tree's stem (m).
Note: Those measurements shown in *italics* have been estimated, usually where access has restricted it being taken.	

Table 1: Tree Survey Schedule heading descriptions

2.5 Assumptions and Limitations

The Tree Protection Plan (TPP) contained in **Appendix 3** has developed from the tree survey information and the Level 2 layout plan from the 'GOSH CCC Outline Architectural Design - Interim Report, GOSHCCC-BDP-ZZ-ZZ-RP-A-2000-0001'.

This report also assumes that the design layout demonstrated on the TPP is the final layout.

This report is not a full hazard or risk assessment of trees and should not be used as such.

Trees are living organisms and are constantly adapting to their ever-changing environment. No tree is completely safe and there is no guarantee that problems or deficiencies may not arise in the future, which have not been identified in this report. ADAS has provided continued arboricultural support to the project from the initial survey in 2020. Therefore, the finding in the tree survey schedule in Appendix 1 are still valid. This report is only valid for a period of 1 year from the date shown on the report.

3 Legislation

3.1 Tree Preservation Orders and Conservation Areas

Local Planning Authorities (LPAs) have the power to preserve selected trees and woodlands through the making of Tree Preservation Orders (TPOs). Similarly, special provision is provided to trees located within Conservation Areas (CAs) which are not the subject of a TPO. The LPAs powers to do this are provided by the following Act of Parliament and its associated regulations:

- *Town and Country Planning Act 1990*
- *Town and Country Planning (Determination of Appeals by Appointed Persons) (Prescribed Classes) (Amendment) (England) Regulations 2008*
- *Town and Country Planning (Trees) (Amendment) (England) Regulations 2012*

The principle effect of a TPO is to prohibit the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of trees without first obtaining the consent of the relevant Local Authority.

Where works to trees within a CA are proposed, six weeks notification must first be given to the relevant Local Authority.

Unauthorised works to trees either protected by a TPO or those that are located within a CA, could result in an unlimited fine for each tree.

A search of the London Borough of Camden's Planning & Building Development section of their website has confirmed that the site is partially within the Bloomsbury Conservation Area. A copy of the plan from the search is provided in **Appendix 9**.

3.2 Wildlife Legislation

The following Acts and Regulations are the main pieces of legislation that protect wildlife and habitats in England and Wales:

- Wildlife and Countryside Act 1981 (as amended)
- Conservation of Habitats and Species Regulations 2017
- Protection of Badgers Act 1992
- The Hedgerows Regulations 1997
- Countryside and Rights of Way Act 2000
- Natural Environment and Rural Communities Act 2006 & Environment (Wales) Act 2016

The Wildlife and Countryside Act 1981 provides statutory protection to wild birds, their nests (whether in use or being built), as well as other wild animals such as bats and their roosts. It is a criminal offence to recklessly or intentionally destroy any wild bird, its nest or eggs, or any bat or its roost (even if it is not occupied at the time). Other wild animals afforded statutory protection and which may be affected by

tree works include: badgers and their setts, otters and their places of shelter (often in exposed tree roots along river banks), hazel dormice, their breeding sites and resting places (well-structured woodland and scrub), and red squirrels and their nests (dreys). Where works might result in an offence being committed, advice will be required from a suitably experienced ecologist before they can be undertaken. For example, it may be necessary to programme tree work outside of the bird nesting period, typically March to August inclusive.

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are strictly protected sites designated respectively under the EC Habitats Directive and the EC Birds Directive. In England and Wales, SACs and SPAs are given legal protection by The Conservation of Habitats and Species Regulations 2017, which transpose the EC Habitats Directive and EC Birds Directive into national law. The Regulations ensure that any plan or project that may damage an SAC or SPA can only proceed if certain strict conditions are met.

The Conservation of Habitats and Species Regulations 2017 also provide additional legal protection to some species, including bats (all species), otters and hazel dormice.

Sites of Special Scientific Interest (SSSIs) are areas notified under the Wildlife and Countryside Act 1981 as being of special interest for nature conservation or their geology with additional protection afforded to them by the Countryside and Rights of Way Act 2000. Under the legislation Natural England (NE) or Natural Resources Wales (NRW) must be notified of any planned works or operations that could potentially damage an SSSI or its features of interest before they are able to proceed.

The Natural Environment and Rural Communities Act 2006 and Environment (Wales) Act 2016 place a statutory duty on public authorities (public bodies and utility companies) to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of their functions.

The above provides only a brief summary of the legislation. It is advised that the original text of the relevant legislation is consulted for the exact wording. If necessary, advice should be sought from a suitably qualified ecologist prior to any tree works being undertaken.

4 Site Description

The majority of the site is currently occupied by the existing GOSH Frontage Building, a five storey building (inclusive of basement) dating from the 1950s that was constructed in two separate phases. The building is currently occupied by a number of GOSH departments including Audiology Department, Clinical Research Facility (CRF), Department of Child and Adolescent Mental Health and Paediatric Psychology Department.

The western most part of the site is occupied by the main GOSH Entrance providing connections to the wider GOSH hospital island site and by a small rear element (external staircase) of the Paul O'Gorman Building that will be demolished to facilitate the proposed development.

The site is bounded by the Paul O'Gorman Building to the west, Octav Botnar Wing to the east, the Variety Club Building and Premier Inn Clinical Building to the north and Great Ormond Street to the south.

A brief desk top study using the British Geological Societies website 'Geology of Britain Viewer' has revealed that the dominant soil type in this area is London Clay Formation, with superficial deposits of Lynch Hill Gravel Member, as such it is likely to have a high clay content and may be subject to volumetric change due to the action of tree roots abstracting moisture. As such, careful consideration should be given to the design of any buildings and foundations within close proximity to trees.

It is recommended that particular attention is given to the guidance provided in the National House Building Councils (NHBC) Standard Chapter 4.2. Further arboricultural advice can be provided on this subject if required.

5 Tree Survey Results

5.1 Overview

The findings of this tree survey are contained in the Tree Survey Schedule in **Appendix 1** which has been used to develop the Tree Protection Plan in **Appendix 3**.

5.2 Species

The limited range of tree species across the site is demonstrated in **Table 2** below. Most of the trees were situated along the southern boundary of the site within Great Ormond Street. All trees are significantly younger than the buildings present and were planted as ornamental specimens.

It is noted that the Tree of Heaven (T4) is recorded within the London Invasive Species Initiative as being a Category 3 concern. These are: "*Species of high impact or concern which are widespread in London and require concerted, coordinated and extensive action to control/eradicate*.".

Additionally, the False Locust trees forming G1 are recorded within the London Invasive Species Initiative as being of a Category 4 concern. These are: "*Species which are widespread for which eradication is not feasible but where avoiding spread to other sites may be required.*".

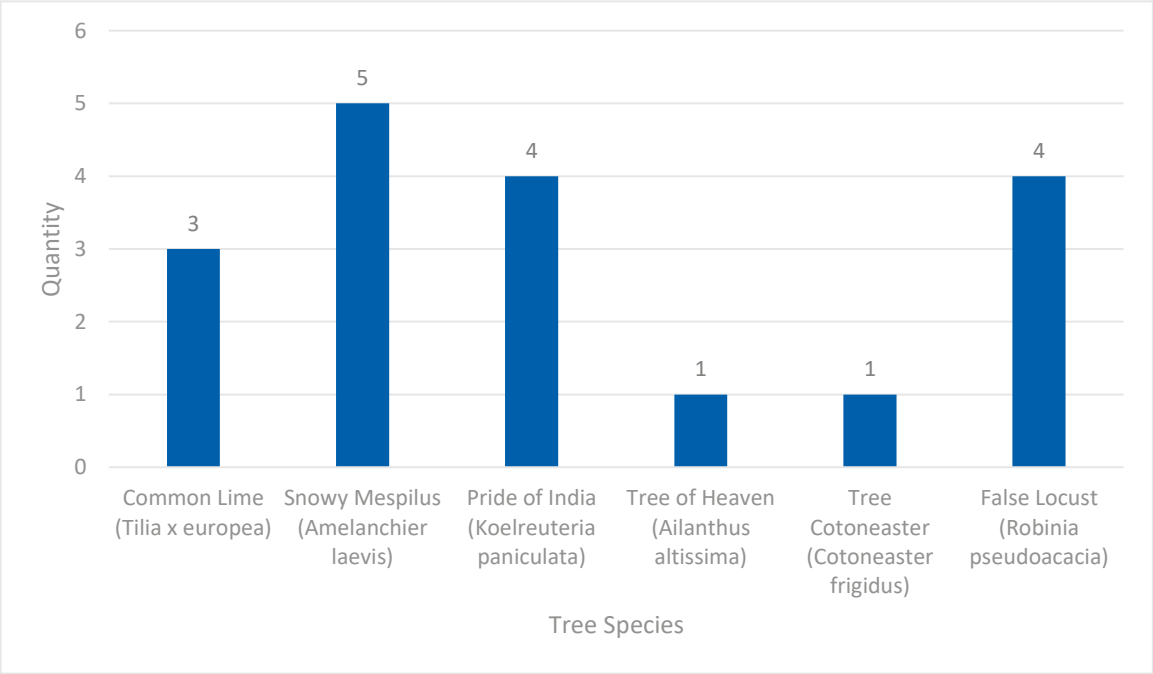

Table 2: Range of Tree Species on site

5.3 Life Stage

The majority of the trees on the site where young recently planted specimens, as is demonstrated in **Table 3** below. The remaining trees were also relatively immature, being classified as semi-mature and early-mature in age, having seemingly been planted at an earlier date.

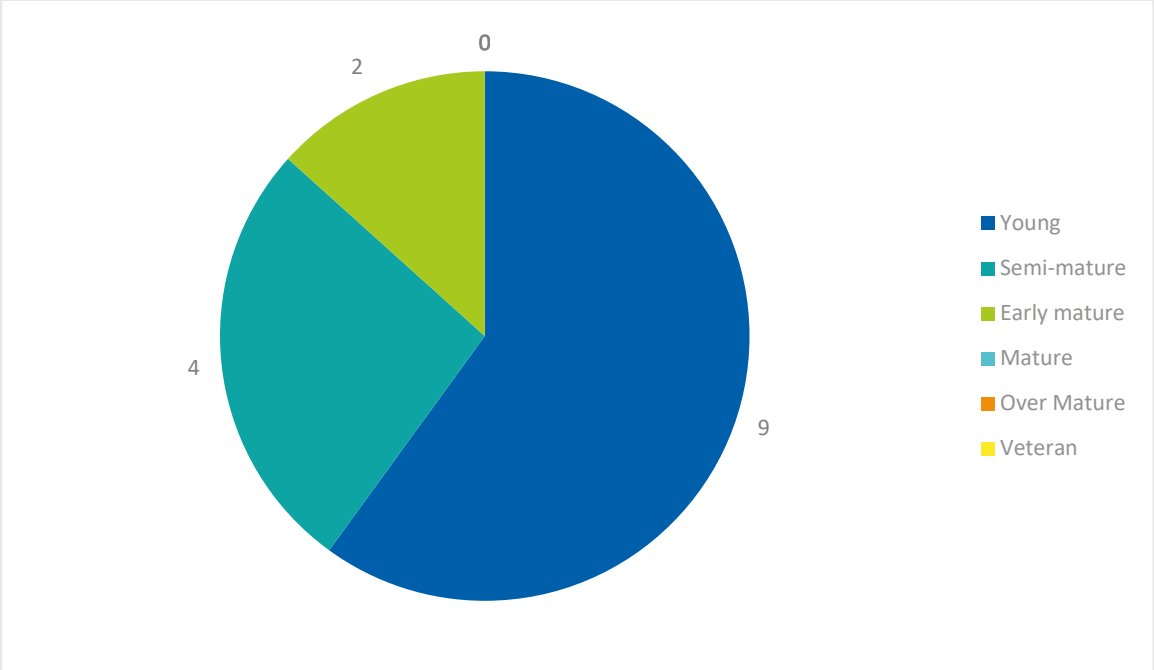

Table 3: Life Stages of trees on site

5.4 Tree Quality

As demonstrated in **Table 4** below, the majority of the trees surveyed were considered to be of a Low Quality as they were immature specimens of limited landscape prominence whose loss could be easily mitigated by replacement tree planting upon completion of development.

One tree, T4 the Tree of Heaven, and one tree group, G1, were considered to be of a Moderate Quality due to their making a more sigfnicant landscape contribution at the current time. However, it is noted that T4 is of a species considered to require eradication by the London Invasive Species Initiative and G1 is composed of species considered to require control to prevent spread to other sites. As such, it is not considered that it would be approriate to make specific attempts to retain these trees within the development and if their loss is required it should not be seen as a signficant constraint to development.

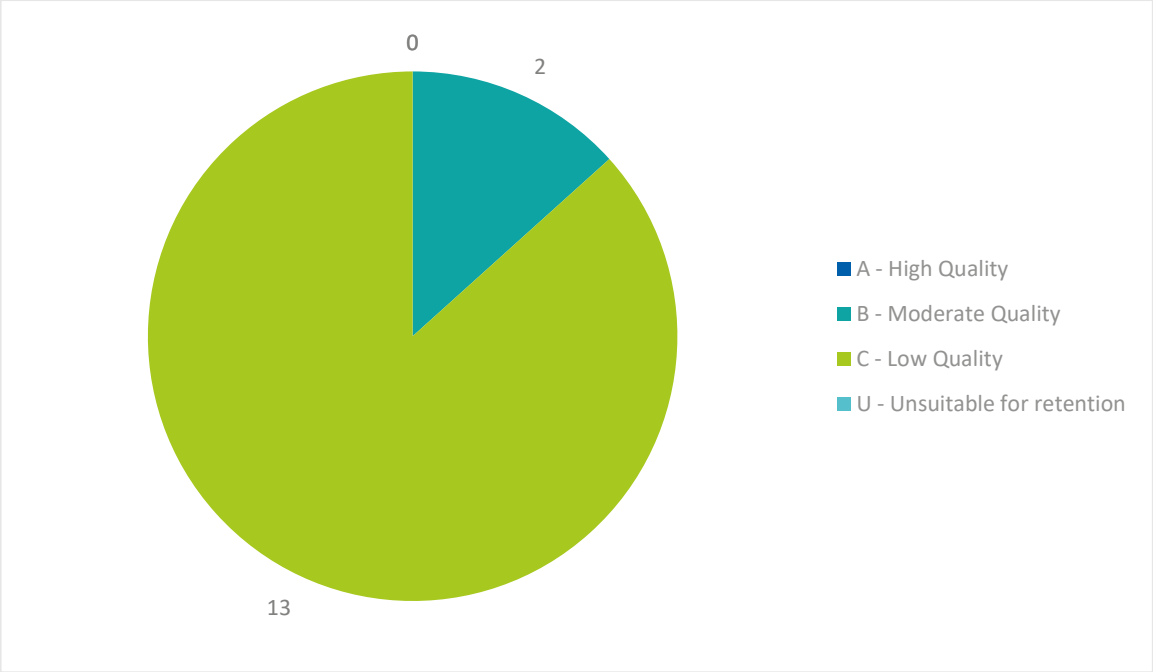

Table 4: Tree quality grading across the site

6 Arboricultural Impact Assessment

6.1 Overview

The proposals have been overlaid onto the Tree Constraints Plan to inform the Tree Protection Plan provided in **Appendix 3**. The impact the proposals were likely to have on the existing trees has been assessed under the following categories, and the findings are summarised in **Table 5**.

- *Trees proposed for removal. This includes trees:*
  - *that are under the footprint of the proposed development*
  - *who's RPA's are heavily affected by the development*
  - *which are to be removed for reasons of sound arboricultural management.*
- *Retained trees that require extra protection due to their proximity to proposed work areas*
- *Retained trees which are unaffected by the development proposals*

Impact	Reason	Tree Quality Assessment Category Grading*				Totals
		A	B	C	U	
Trees and groups to be removed	▪ Trees to be removed to facilitate construction of proposed development.	-		T5, T6, T7, T8, T9, T10, T11, T12, T13, T14	-	**10**
Retained trees and groups that are at risk of damage due to proximity to proposed works	▪ Construction activity and access close to trees stem.	-	G1, T4	-	-	**2**
Retained trees and groups which are unaffected by the development	▪ Trees located far enough from all construction activity that no tree protection measures are required.	-	-	T1, T2, T3,	-	**3**
					Total	**15**

Table 5: Arboricultural Implications Assessment

6.2 Additional arboricultural impacts

Following the January 2020 arboricultural survey, the Sisk construction logistics plan has identified the potential need to carry out pruning to three trees residing in Guilford Place. The works would involve

crown lifting the trees to 5m over the carriageway to facilitate construction traffic to pass. Prior to site works commencing a section 211 notice will be submitted to the London Borough of Camden following a further assessment of the three trees. This will allow for accurate recommendation of pruning works to be submitted and approved by the council to enable these works to be carried out.

7 Preliminary Tree Work

7.1 Tree Retention and Removal

To accommodate the proposed development, trees (T5-T14) will be required to be removed. All of the trees to be removed have been identified as having a low retention value due to their immaturity and limited landscape contribution. The loss of these specimens can therefore be mitigated by undertaking replacement tree planting upon completion of the development.

7.2 Tree Work Schedule

A schedule of tree work has been provided within **Appendix 4**. All tree work will be carried out prior to commencement of construction activities and prior to the erection of the tree protection measures.

7.2.1 Standard of Tree Work

All tree work and felling operations will be carried out in accordance with BS3998:2010 'Recommendations for Tree Work'; current arboricultural industry guidelines and best practice; and all relevant Health & Safety standards. Tree work is a specialist task that requires operatives to be appropriately qualified, skilled, and adequately insured. Guidance on selecting an appropriate contractor can be obtained from the Arboricultural Association, who also maintains a directory of Approved Contractors. The Arboricultural Association can be contacted on 01242 522152 or via their website http://www.trees.org.uk.

7.2.2 Wildlife Constraints

As mentioned in section 2.7 of this report, all tree work operations must comply with The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000, which provide statutory protection to birds, bats and other species, all of which could inhabit trees. Where works may constitute an offence, advice will be acquired from a suitably qualified person before works are able to proceed. For example, it may be necessary to programme tree work outside of the main bird nesting period, typically March through to August inclusive.

7.2.3 Modification to Tree Work Schedule

Should the recommended work schedule require modifying, for whatever reason, this will be agreed with the appointed Arboricultural Consultant (when applicable), and also approved in writing by the London

Borough of Camden. Under no circumstances will the appointed contractor deviate from the Tree Work Schedule contained in **Appendix 4**, unless approved in writing by the London Borough of Camden .

8 Tree Protection Measures

8.1 Overview

Although these methodologies set out the precautions to be followed in order to ensure the retained trees are protected, the final responsibility for their installation lies with the site supervisor who must ensure that all current legislation and best practice is followed and that they are installed in a safe manner.

8.2 Stem Protection

In order to diminish the risk of direct damage to the stems of retained Category B trees T4 and G1 along the perimeter of the boundary by tools or machinery, it is proposed that stems will be individually protected.

This protection will first consist of wrapping a soft, but hard-wearing material; such as a hessian around the entire stem of each tree to form a thick layer, and must be present until the lowest branch is reached.

The second phase will consist of installing a protective free-standing barrier up to 30cm from the base of each tree, so that the buttresses of the tree also remains protected throughout the course of the works. Some examples of acceptable stem protection are included in **Appendix 7**.

Once facilitation pruning has been carried out as specified in Section 6.1 above, stem protection should be extended into the lower canopies of the trees as far as possible without causing damage to any retained branches.

8.3 Ground protection

For the retained tree T4 and group of trees G1 the existing pavement surface is to be retained throughout the development. It is considered that this hardsurfacing will continue to provide adequate protection to the tree roots so that no additional ground protection is needed.

In the areas surrounding T4 and G1 the following prohibitions will be complied with:

- *No excavations, including by hand; unless approved by the London Borough of Camden;*
- *No storage of machinery;*
- *No storage or handling of building materials, fuel, chemicals or spoil;*
- *No fires;*
- *No vehicular access;*
- *No pedestrian access; unless approved by the London Borough of Camden;*

- *No alteration, increase or decrease, to existing ground levels; unless approved by the London Borough of Camden;*
- *No excavation or installation of services; unless approved by the London Borough of Camden.*

8.4 Utility Connections

At the time of producing this report ADAS have not been made aware of the locations of any other underground utility connections. However, in order to avoid damage to any of the retained trees, the following services will avoid the RPA's:

- *Foul and surface water drains*
- *Land drains*
- *Soakaways*
- *Gas*
- *Oil*
- *Electricity*
- *Telephone*
- *Lighting*
- *Signage*

If additional services must unavoidably be installed within the RPA's around retained trees, the locations of these will be chosen in consultation with the retained Arboricultural Consultant and will be agreed in writing with the London Borough of Camden. The works will be carried out using trenchless techniques such as moling, laser guided boring and/or in accordance with advice contained within NJUG 4.

9 Arboricultural Input

9.1.1 Sequence of Events

The sequence of events taken from the flow diagram within Figure 1 of BS5837:2012 has been provided in **Appendix 5**. This is to demonstrate the key timings for arboricultural input on a development site, once planning permission has been approved.

9.1.2 Site Monitoring

The developer should appoint an Arboricultural Consultant to monitor the tree protection measures on site. The purpose of this is to ensure the protection measures remain in situ and continue to provide sufficient protection to the trees.

This role will initially entail the Arboricultural Consultant liaising with the John Sisk & Son Ltd and the London Borough of Camden to ensure the recommended protection measures are suitably installed. Once the tree protection measures have been installed, and construction activity commences, the extent of any on-going site monitoring is at the discretion of the London Borough of Camden.

A formal record of these supervisory visits should be recorded and kept on file; a copy should also be circulated to all relevant parties, including the London Borough of Camden.

9.1.3 Key Contacts during Development

A list of key contacts relevant to this site that may be required throughout the duration of the development has been included in **Appendix 6**.

10 Conclusions

The tree survey undertaken by Edmund Lusk on behalf of ADAS on 7th January 2020 identified a total of 15 tree features consisting of 14 individual trees on site and 1 group of trees off-site.

Of the 15 tree features identified at the time of the survey, it is understood that 10 trees (T5 – T14), comprising of low quality grade C trees will be removed to facilitate the proposed development. The Category B grade tree T4 and group, G1, are to be retained and protected throughout.

It is noted that the grade C trees to be removed are immature specimens of limited landscape value and that their loss will be mitigated for by undertaking replacement tree planting upon completion of the development.

An additional section 211 notice is required following an assessment of three additional trees not included in the original survey. This is for accurate pruning recommendations to be submitted to Camden Council to allow for construction traffic to pass along Guilford Place.

ADAS are satisfied that, providing the recommendations contained within this report are followed, the proposed development of the site can be successfully achieved without causing undue harm to those trees identified for retention.

Appendix 1: Tree Survey Schedule

See following page.

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm) S1	Branch Spread (m) N	E	S	W	Crown Clearance (m) (1)	(2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Root Protection Area (m^2)	(radius in m)
T1	Lime (*Tilia x europaea*)	S	9	160	2	0	2.5	2	4.0-W	3	Y	Asymmetrical canopy due to pruning works undertaken for scaffolding installation.	None required.	20+	C1	11.6	1.9
T2	Lime (*Tilia x europaea*)	S	9	150	2.5	0.5	2.5	2.5	3.5-W	2.5	Y	Asymmetrical canopy due to pruning works undertaken for scaffolding installation.	None required.	20+	C1	10.2	1.8
T3	Lime (*Tilia x europaea*)	S	9	150	2	0	0.5	2	4.0-S	3	Y	Asymmetrical canopy due to pruning works undertaken for scaffolding installation.	None required.	10+	C1	10.2	1.8
T4	Tree of Heaven (*Ailanthus altissima*)	S	11	200	5	6	5.5	3.5	2.5-E	2	SM	Spreading crown. Crown obscures street lamp and is touching building. Exposed and damaged surface roots.	None required.	20+	B1	18.1	2.4
T5	Pride of India (*Koelreuteria paniculata*)	S	4	50	1	1	1	1	2.0-S	2	Y	Recently planted young tree.	None required.	20+	C1	1.1	0.6
T6	Snowy Mespilus (*Amelanchier laevis*)	S	4	40	0.75	0.75	0.75	0.75	2.0-W	2	Y	Recently planted young tree.	None required.	20+	C1	0.7	0.5
T7	Tree Cotoneaster (*Cotoneaster frigidus*)	S	6.5	130	3.5	3.5	3	3.5	2.0-N	1.5	EM	Epicormic growth at base. Low spreading crown.	None required.	10+	C1	7.6	1.6
T8	Pride of India (*Koelreuteria paniculata*)	S	4	40	0.75	0.75	0.75	0.75	2.0-E	2	Y	Recently planted young tree.	None required.	20+	C1	0.7	0.5
T9	Snowy Mespilus (*Amelanchier laevis*)	S	6.5	90	1.5	2	0.5	0.5	2.0-E	2.5	Y	Broken branch in crown. Old decayed fungal fruting body at stem base. Stem bark wounds.	None required.	10+	C1	3.7	1.1
T10	Snowy Mespilus (*Amelanchier laevis*)	S	6.5	130	1.5	2.5	1	2.5	2.0-W	2.5	SM	Stem leaning east. Broken branches in crown to south.	None required.	20+	C1	7.6	1.6
T11	Snowy Mespilus (*Amelanchier laevis*)	S	6.5	120	2	2	1.5	2.5	2.0-E	2	SM	Large stem wound from ground level to 0.3m. Epicormic growth at base.	None required.	20+	C1	6.5	1.4
T12	Snowy Mespilus (*Amelanchier laevis*)	S	7.5	130	2	2	1.5	2.25	2.5-N	2.5	SM	Stem bark wound at base.	None required.	20+	C1	7.6	1.6
T13	Pride of India (*Koelreuteria paniculata*)	S	3	50	0.75	0.75	0.75	0.75	2.0-N	2	Y	Recently planted young tree.	None required.	20+	C1	1.1	0.6
T14	Pride of India (*Koelreuteria paniculata*)	S	4	50	0.75	1	0.75	0.75	2.0-N	1.5	Y	Recently planted young tree.	None required.	20+	C1	1.1	0.6
G1	False Locust (*Robinia pseudoacacia*)	S	10	230	4.5	4.5	4.5	4.5	2.5-S	2	EM	Group of four off-site trees. Minor deadwood in crowns.	None required.	20+	B2	23.9	2.8

Appendix 2: Tree Constraints Plan

See following page.

LEGEND

TREE CATEGORIES - NOTE: Quality class description derived from BS5837:2012

Category A
Trees / Groups of high quality: with an estimated remaining life expectancy of at least 40 years.

Category B
Trees / Groups of moderate quality: with an estimated remaining life expectancy of at least 20 years.

Category C
Trees / Groups of low quality: with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.

Category U
Trees / Groups: in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years.

Root Protection Area (RPA)

GOSH CCC - Redline Boundary

Rev.	Issue Details.	Date.
B	Redline Boundary	18/01/2021
First Issue	-	12/02/2020

Client:
John Sisk & Son Ltd

Project:
Great Ormond Street Hospital

Drawing Title:
Tree Constraints Plan

Drawing No: 1050736-JSS-GOSH-A-TCP

Scale: 1:750 at A3

Drawn by: EL Date: 12/02/2020

Checked by: RT Date: 12/02/2020

ADAS, 11d Park House, Milton Park,
Milton, Abingdon, Oxford, OX14 4RS

Tel: 01235 355630

Appendix 3: Tree Protection Plan

See following page.

LEGEND

TREE CATEGORIES - NOTE: Quality class description derived from BS5837:2012

Category A
Trees / Groups of high quality: with an estimated remaining life expectancy of at least 40 years.

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Category C
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Category U
Trees / Groups: in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years.

Root Protection Area (RPA)

GOSH CCC - Redline Boundary

Stem protection

Rev.	Issue Details.	Date.
First Issue	-	18/01/2021

Client:
John Sisk & Son Ltd

Project:
Great Ormond Street Hospital

Drawing Title:
Tree Protection Plan

Drawing No: 1050736-JSS-GOSH-A-TPP

Scale: 1:750 at A3

Drawn by: EL Date: 12/02/2020

Checked by: RT Date: 12/02/2020

ADAS, 11d Park House, Milton Park,
Milton, Abingdon, Oxford, OX14 4RS

Tel: 01235 355630

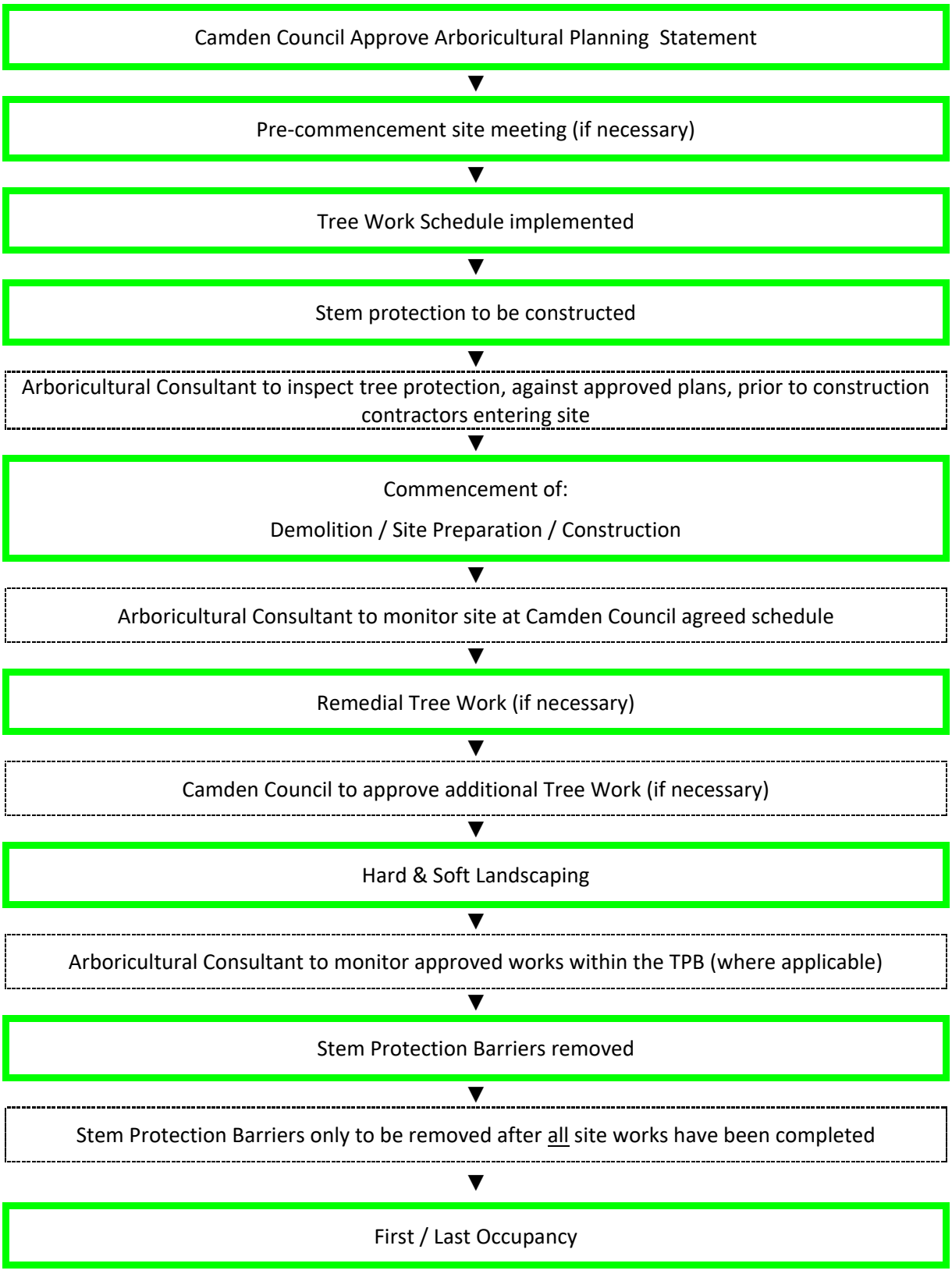
Appendix 4: Tree Work Schedule

Tree No:	Species	Proposed Work
T5	Pride of India	Remove to facilitate development.
T6	Snowy Mespilus	Remove to facilitate development.
T7	Tree Cotoneaster	Remove to facilitate development.
T8	Pride of India	Remove to facilitate development.
T9	Snowy Mespilus	Remove to facilitate development.
T10	Snowy Mespilus	Remove to facilitate development.
T11	Snowy Mespilus	Remove to facilitate development.
T12	Snowy Mespilus	Remove to facilitate development.
T13	Pride of India	Remove to facilitate development.
T14	Pride of India	Remove to facilitate development.

Accompanying Notes:

- No works shall be completed in advance of the grant of detailed planning consent unless otherwise authorised by the prior submission of a Section 211 Conservation Area Notification giving Camden Council notice of intent to undertake the works.
- All tree work and felling to be carried out in accordance with BS 3998 (2010) 'Recommendations for Tree Work', current industry guidelines and best practice, and all relevant Health & Safety standards;
- All operatives to be appropriately qualified, skilled, and adequately insured, for the task they are undertaking;
- All tree work and felling must comply with The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000;
- Modification to, or deviation from, the above schedule must first gain approval from Camden Council.

Appendix 5: Key Sequence of Events after Planning Approval



Appendix 6: Contact Details

	Name	Main Contact and Details
Site Details	Great Ormond Street Hospital	TBC
Developer	John Sisk & Son Ltd	2410 Regents Court The Crescent B37 7YE
Site Manager	TBC	TBC
Arboricultural Consultant	Iain Waddell	RSK ADAS Ltd 11D Park House Milton Park Milton Abingdon, OX14 4RS Tel. no: 07391866564
Local Authority:	Camden Council	Contact Camden Reception 5 Pancras Square London N1C 4AG

Appendix 7: Example Stem Protection

Improvised use of drainage pipe wrapped around the trunk can provide an added layer of protection beneath a layer of plywood.

Boards attached to a supporting framework surrounding the trunk reduces the risk of accidental impact.

A wood frame around the trunk can be used to support a plywood surround.

Source: Barrell Tree Consultancy 'Site Guidance Note 2: Fencing protected trees (v3)'

Appendix 8: Cascade Chart for Tree Quality Assessment

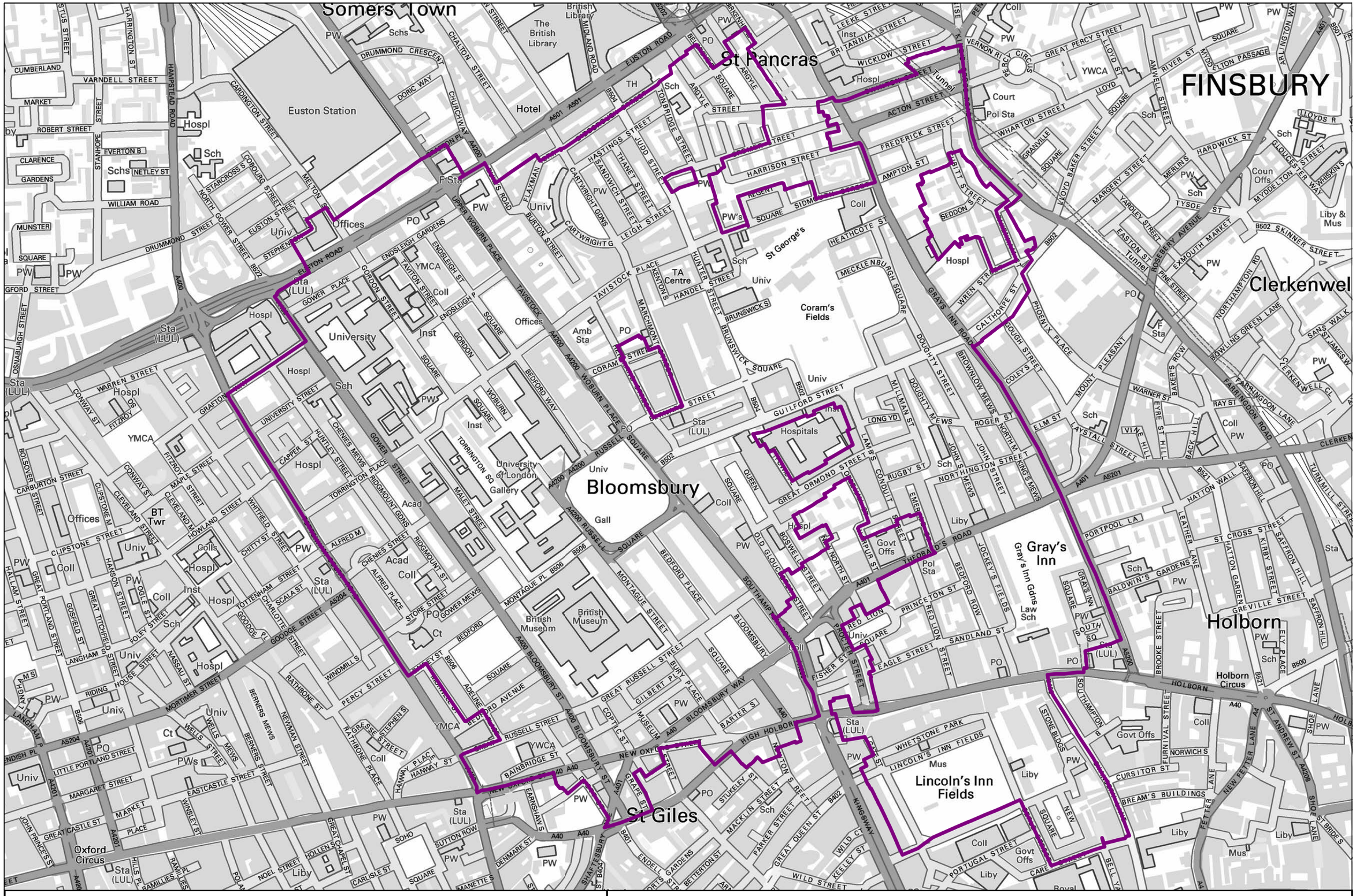
See following page.

Table 1 **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix 9: Bloomsbury Conservation Area Map

See following page.



Bloomsbury CA

N W E S

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Scale 1: Not Usable Scale

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