Former Sipson Garden Centre

Arboricultural Impact Assessment

Virtus Data

Project number: 60749800

2026

Delivering a better world

Quality information

Prepared by	Checked by	Verified by	Approved by
Ollie Laycock Principal Arboricultural Consultant	Georgina Tearne Principal Arboricultural Consultant	Andy Wakefield Technical Director	Andy Wakefield Technical Director

Revision History

Revision	Revision date	Details	Authorized	Name	Position
00	14.10.26	First Issue	AW	Andy Wakefield	Technical Director

Distribution List

# Hard Copies	PDF Required	Association / Company Name

Prepared for:

Virtus Data

Prepared by:

Ollie Laycock
Principal Arboricultural Consultant
M: 07741 641 652
E: ollie.laycock@aecom.com

AECOM Limited
Midpoint, Alencon Link
Basingstoke
Hampshire RG21 7PP
United Kingdom

T: +44 (0)1256 310200
aecom.com

© 2026 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Limited (“AECOM”) for sole use of our client (the “Client”) in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

1. Executive Summary 6

1.2 Limitations 7

2. Introduction 8

2.1 Background 8
2.2 British Standard BS5837:2012 8

3. Desk Study Observations 9

3.1 Trees and the Planning Process: National Policy 9
3.2 Local Policy Context 10
3.3 Statutory and Non-Statutory Designations 13
3.4 Site Soils 15

4. Field Work Observations 15

4.1 Methodology 15
4.2 The Site 15
4.3 The Trees 16

5. Arboricultural Impact Assessment 19

5.1 Purpose 19
5.2 The Proposed Development 19
5.3 Assumptions 19
5.4 Summary 19
5.5 Trees to be Removed 20
5.6 Tree Valuation 20
5.7 Third Party Trees 21
5.8 Tree Works 21
5.9 Incursions within the RPA or Canopy Spread 21
5.10 New Services within RPAs 22
5.11 Tree Planting 23
5.12 Tree Protection 23
5.13 Site Organisation, Storage and Use of Materials, Plant and Machinery. 24
5.14 Valuation of Proposed Tree Planting 24

6. The Future Impact of Trees 26

6.1 Background 26
6.2 Tree Growth 26
6.3 Shade 26
6.4 Detritus/Litter and Honeydew 26
6.5 Future Land Use and Tree Management 26

7. Conclusion 27

7.1 Summary 27
7.2 Issues to be addressed by an Arboricultural Method Statement: 28

References 28

Appendix A Tree Constraints Plan 29

Appendix B Tree Survey Schedule 30

Key to Abbreviations & Terms Used in the Survey 35

Appendix C Site Photography 37

Appendix D Tree Protection Plan 38

Appendix E Outline Tree Protection Measures 39

E.1 Outline Tree Protection Measures 39
E.2 Ground Protection 40

E.3 General Guidance for the Management of Exposed Roots 40
E.4 Storage, Use and Mixing of Materials 40

Appendix F Tree Protection Signage (Example) 41

Appendix G General Arboricultural Principles 42

G.1 General Principles 42
G.2 Below Ground Constraints 42
G.3 Soils 42
G.4 Above Ground Constraints 43
G.5 Trees and Risk in the Context of Development 43
G.6 Trees and Wildlife 43
G.7 Tree Works 43

Figures

Figure 1. Approximate tree feature age range distribution for individual trees recorded during the Site survey. ... 17
Figure 2. Tree species distribution of individual trees recorded during the Site surveys. 18
Figure 3 Default specification for protective barrier 39

Tables

Table 1. BS5837:2012 Tree Categorisation process. 8
Table 2. Local policy excerpts. 10
Table 3. Statutory designations. 13
Table 4. Non-statutory designations. 14
Table 5. Site soils. 15
Table 6. Summary of tree features by type and quality category. 16
Table 7. Species identified during the Site surveys. 17
Table 8. Summary of Removals, Incursions and Pruning to Facilitate the Proposed Development 19
Table 9: Summary Tree Features Removals for Surveyed Tree Features by Area. 20
Table 10: CAVAT value for individual trees to be removed. 21

1. Executive Summary

1.1.1 In total, 62 tree features were identified during the survey, formed of 29 individual trees, 31 tree groups and 2 hedgerows. Of these identified tree features, one is of high quality (category A); 20 of moderate quality (category B); 31 of low quality (category C); and 10 identified as unsuitable for retention as living trees for more than ten years in the context of the current land use (category U).

1.1.2 One area Tree Preservation Order (TPO) designation was identified to the south of the Site and is considered to correlate with T61. No further TPOs were identified.

1.1.3 No Conservation Areas are present and no Sites of Special Scientific Interest or Scheduled Monuments have been identified which could influence trees within or adjacent to the Site.

1.1.4 The Site includes no recorded ancient woodland or priority habitat designations relating to trees.

1.1.5 In total, one individual tree of moderate quality (Category B); and three tree groups of low quality (Category C) are likely to be removed to facilitate the Proposed Development. With the exception of G10 all of the trees to be removed are located within the red line application boundary. It is recommended that the owner of G10 be determined at the earliest stage. Prior written consent must be in place before any tree works outside those permitted under established rights in common law are carried out and it is recommended that this is secured prior to the submission of any planning application.

1.1.6 In addition, seven individual trees, identified as unsuitable for retention for more than ten years as living trees in the context of the current land use (Category U) are recommended to be removed to facilitate the Proposed Development. It is considered that these tree features would require removal regardless of any development proposals; as such they are not considered further within this report.

1.1.7 Tree feature loss to facilitate the Proposed Development represents approximately 317.5m^2 or 4.32% of the total tree canopy cover surveyed with 95.68% (7,038.1m^2) of surveyed canopy cover retained.

1.1.8 Replacement planting will provide an estimated 148m^2 of canopy cover at the time of planting which will increase over time as trees grow.

1.1.9 The total value of individually surveyed trees of low to high quality to be removed is £45,035.00 (excluding category U trees). The total estimated CAVAT value of proposed new tree planting at the time of planting is £96,283.53 which provides a CAVAT value net gain of £51,248.53. After 20 years, it is estimated that the CAVAT value of all proposed tree planting is predicted to increase to approximately £1,340,319.67which provides a net gain of £1,295,284.67after 20 years.

1.1.10 Tree pruning is likely to be required to T16 to facilitate construction access beneath the canopy for the removal of the existing hard surfacing. Pruning will comprise localised crown lifting over the existing hard surface to a height of 5m. These minor pruning works are considered unlikely to significantly negatively impact the physiological condition of the tree.

1.1.11 The existing hard surfacing is to be removed from within the RPA of T16. This will be achieved carefully and any works with the potential to impact on tree roots will be carried out by hand under the supervision of an arboriculturist. This work will result in improved growing conditions for this tree.

1.2 Limitations

1.2.1 This document has been prepared by AECOM Limited ("AECOM") for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

1.2.2 Trees are dynamic organisms which grow adaptively in response to their environment. Tree dimensions and condition can change over time due to weather, pests, disease and other factors. This report considers the trees as observed at the time of the tree survey only. Where necessary the tree survey data should be reviewed, verified and updated after 12 months to account for potential changes in baseline conditions. Where data is to be utilised beyond this date, its validity may be challenged by stakeholders such as the local planning authority.

1.2.3 This report is not specifically concerned with tree safety but rather considers tree condition, dimensions and quality in relation to development. Surveyed trees have been visually assessed via a walkover, ground based survey from accessible locations only. No aerial inspection, excavations or detailed investigations have been undertaken.

1.2.4 Because tree related designations such as Tree Preservation Orders can change periodically, all desk study information contained within this report is valid only up to the date of the checks stated within this report. Tree status and any necessary consents should be confirmed with the relevant authority in advance of any tree works or other activities which could damage or impact on the health or condition of the tree.

2. Introduction

2.1 Background

2.1.1 AECOM has been instructed by the Virtus Data Centres Ltd (the Applicant) to carry out an Arboricultural Impact Assessment of the development proposals in Sipson, West Drayton (hereafter referred to as 'the Site' and 'Proposed Development') in support of an outline planning application.

2.1.2 This report identifies the likely direct and indirect impacts of the Proposed Development along with suitable mitigation measures, as appropriate. The Tree Protection Plan (included within Appendix D) identifies trees to be removed and how retained trees are to be successfully protected.

2.2 British Standard BS5837:2012

2.2.1 *'BS5837:2012 Trees in relation to design demolition and construction – Recommendations'* (BS5837:2012) provides a framework which sets out how trees should be considered in this context and also explicitly applies to development where planning consent is not required.

2.2.2 BS5837:2012 recommends that a tree survey is undertaken to identify the quality and benefits of trees and the spatial constraints associated with them. This is then used to produce a Tree Constraints Plan (TCP) showing the above and below ground constraints associated with trees. This drawing is used to inform the design process and to allow the retention of higher quality trees where appropriate.

2.2.3 An Arboricultural Impact Assessment is then developed to identify the likely direct and indirect impacts of the development proposals, and a Tree Protection Plan is prepared to identify trees to be removed or retained and to illustrate how retained trees are to be protected. An Arboricultural Method Statement is often required as a condition of planning consent to detail how sensitive operations are to be achieved in proximity to retained trees. These elements are the minimum normally required for a planning application and are intended to ensure both a sustainable and harmonious relationship between trees and new development.

2.2.4 The tree categorisation process recommended by BS5837:2012 is summarised in the table below and corresponds with the tree canopy outline shown on the Tree Constraints Plan (Appendix A) and the information in the Tree Survey Schedule (Appendix B).

Table 1. BS5837:2012 Tree Categorisation process.

Category	Definition
A	High quality, minimum of 40+ years remaining contribution
B	Moderate quality, minimum of 20+ years remaining contribution
C	Low quality, minimum of 10+ years remaining contribution
U	Unsuitable for retention, <10 years remaining contribution
1	Arboricultural value
2	Landscape value
3	Conservation or cultural value

2.2.5 A Tree Constraints Plan showing the position of trees and the spatial constraints associated with them is included as Appendix A of this report, which corresponds with the Tree Survey Schedule presented in Appendix B.

2.2.6 The Root Protection Area (RPA) is the notional extent of what is considered to be the key rooting area for tree health and function. This is generally depicted as a circle but can be amended to a polygon with an equivalent area in accordance with Section 4.6.2 of BS5837:2012 where the RPA is likely to have developed asymmetrically.

2.2.7 The RPA of the existing tree stock is an important material consideration when considering site constraints and planning development activities. The RPA of trees on the Site are shown on the TCP (Appendix A).

2.2.8 The RPA of all surveyed trees is depicted as a circle and no RPAs have been amended.

3. Desk Study Observations

3.1 Trees and the Planning Process: National Policy

3.1.1 The National Planning Policy Framework (NPPF, 2026) seeks to ensure that new development is sustainable and underlines the importance of Green Infrastructure, of which trees form an integral part. This encompasses a recognition of the importance of trees in relation to the management of air, soil and water quality along with other associated ecosystem services and climate change adaption. The NPPF also seeks to achieve the protection and enhancement of landscapes and a net gain in biodiversity. Finally, it specifically identifies veteran and ancient trees and woodland as a highly valuable and irreplaceable habitat.

3.1.2 The NPPF (2026) includes the following key policies in relation to trees:

3.1.3 Policy DP3: Key principles for well-designed places states:

"Nature: incorporate and/or connect to a network of high quality, accessible, multi-functional green infrastructure to provide opportunities for recreation and healthy living, strengthen habitats, improve climate change resilience and improve air and water quality. This should include maintaining and enhancing tree cover".

Policy N2: Improving the natural environment states:

"c. Take suitable opportunities to connect to and strengthen ecological networks that extend beyond the site, drawing on the measures proposed by Local Nature Recovery Strategies, National Forest Strategies and Community Forest Plans, where present, and other relevant assessments;

d. Conserve and enhance existing natural features of visual, historic or nature conservation value (such as established trees and hedgerows) where possible; and use appropriate landscaping to help create a well-designed place and integrate the development into its surroundings;

2. If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated or, as a last resort, compensated for, then the development should be refused."

3.1.4 Policy N3: Trees in new development states:

3.1.5 "1. In recognition of the benefits which trees can provide for biodiversity, climate change mitigation and adaptation, and the character and quality of the built environment, development proposals should:

3.1.6 a. Make new streets tree-lined (unless there are strong reasons why this would be inappropriate in specific streets), and incorporate trees in other suitable locations, such as in parks and through the provision of community orchards;

3.1.7 b. Ensure that the selection of species and their placement is compatible with highways and other infrastructure requirements and the needs of different users of public spaces; and will be effective in helping to adapt to the effects of climate change and delivering other environmental benefits. Suitable arboricultural advice should be sought, and proposals discussed with highways and trees officers where necessary, so that the right trees are planted in the right places; and

3.1.8 c. Make provision for the long-term maintenance of both existing and newly-planted trees which form part of the development".

Policy N6: Areas of particular importance for biodiversity and geodiversity states:

3.1.9 "2. Irrespective of a site's status in nature conservation terms, development proposals which would entail the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists".

3.2 Local Policy Context

3.2.1 Local Planning Authorities (LPA) in the UK have a statutory duty to consider both the protection and planting of trees when considering planning applications. The potential impact of development on all trees (including those not protected by a Tree Preservation Order or other statutory designation) is therefore a material consideration.

3.2.2 The Site is within the planning authority of the London Borough of Hillingdon (LBH). A desktop review of LBH's planning policies relating to trees was undertaken on 28th July 2026, including the LBH Local Plan: Part 1[1] (Adopted November 2012), LBH Local Plan Part 2[2] (Adopted 12th January 2020), LBH Tree Strategy (Adopted 2023 and updated March 2025)[3], Supplementary Planning Document Planning Obligations (Adopted July 2014)[4]. Other planning policies that apply to the Site include the London Plan (Adopted 2021)[5] which sets out a framework for how London will develop over the next 20-25 years and the Major's 'Vision for Good Growth'. The findings of the desk based planning policy study are shown in Table 2 below.

Table 2. Local policy excerpts.

Policy Document	Section	Context
London Borough of Hillingdon Local Plan: Part 1, Strategic Policies (Adopted November 2012).	Policy EM4: Open Space and Informal Recreation	*The Council will identify new opportunities for open space through an Open Space Strategy. Major developments will be expected to make appropriate contributions to the delivery of new opportunities, or to the improvement and enhancements of existing facilities.* *The Council will seek to protect existing tree and landscape features and enhance open spaces with new areas of vegetation cover (including the linking of existing fragmented areas) including front and back gardens for the benefit of wildlife and a healthier lifestyle, mitigating climate change.*
London Borough of Hillingdon Local Plan Part 2, Development Management Policies (Adopted version 16 January 202).	Policy DMH 6: Garden and Backland Development	*There is a presumption against the loss of gardens due to the need to maintain local character, amenity space and biodiversity. In exceptional cases a limited scale of backland development may be acceptable, subject to the following criteria:* *iii) development on backland sites must be more intimate in mass and scale and lower than frontage properties; and* *iv) features such as trees, shrubs and wildlife habitat must be retained or re-provided.*

[1] https://pre.hillingdon.gov.uk/downloads/file/2206/local-plan-part-1-strategic-policies
[2] https://pre.hillingdon.gov.uk/downloads/file/2211/hillingdon-local-plan-part-2-development-management-policies
[3] https://pre.hillingdon.gov.uk/downloads/file/1318/hillingdon-tree-strategy-march-2025
[4] https://pre.hillingdon.gov.uk/downloads/file/2252/document-b-planning-obligations-spd
[5] https://www.london.gov.uk/sites/default/files/the_london_plan_2021.pdf

Policy Document	Section	Context
	Policy DMHB 14: Trees and Landscaping	*A) All developments will be expected to retain or enhance existing landscaping, trees, biodiversity or other natural features of merit.* *B) Development proposals will be required to provide a landscape scheme that includes hard and soft landscaping appropriate to the character of the area, which supports and enhances biodiversity and amenity particularly in areas deficient in green infrastructure.* *C) Where space for ground level planting is limited, such as high rise buildings, the inclusion of living walls and roofs will be expected where feasible.* *D) Planning applications for proposals that would affect existing trees will be required to provide an accurate tree survey showing the location, height, spread and species of trees. Where the tree survey identifies trees of merit, tree root protection areas and an arboricultural method statement will be required to show how the trees will be protected. Where trees are to be removed, proposals for replanting of new trees on-site must be provided or include contributions to offsite provision.*
London Borough of Hillingdon Tree Strategy 2023 – Updated March 2025	Protection	*The council will enforce and prosecute where appropriate tree related contraventions and where appropriate apply the maximum penalty possible.* *The council will seek compensation from any external organisation or individual responsible for significant damage to, or removal of, any council owned tree(s) to the value calculated by the Capital Asset Value of Trees (CAVAT).* *On construction sites all work must be in accordance with BS 5837 2012 "Trees in relation to Construction" and that foundation details follow the recommendations of the National House Building Council's Practice Note 3 "Building Near Trees".* *In the processing of planning applications the council will aim to retain trees of high amenity/environmental value, taking consideration of both their individual merit and their interaction as part of a group or broader landscape feature.*
	Development and private trees	*Where tree loss occurs through development replacement trees will be sought either to be planted within the site or within the public realm through the Section 106 agreement and CIL process.*

Policy Document	Section	Context
Supplementary Planning Document Planning Obligations (Adopted July 2014)	Landscape and Trees	*8.9 The nature of impacts and the required mitigation or compensation measures will depend on the nature and scale of proposals and the character of areas that are affected but they will need to meet the following objectives:* • *maintain and enhance landscapes and waterscapes in terms of their ecological, conservation, amenity and historic value;* • *improve the integration, relationship and visual impact of new development to areas of acknowledged importance and environmental sensitivity;* • *safeguard existing areas of landscape, nature conservation or historic interest from inappropriate and poorly designed development;* • *preserve nature conservation assets through the protection and management of habitats and geological features; and* • *provide accessible facilities and opportunities for recreation and passive enjoyment which do not compromise the protection of habitats of acknowledged importance and environmental sensitivity.* *8.10 In certain circumstances, where landscape requirements cannot be achieved or trees retained onsite through design or conditions, planning obligations could be required to ensure the provision of compensatory landscape or replacement trees off-site, but in close proximity to the scheme e.g. a local park or nature reserve that could benefit from improvement. Replacement planting must be of suitable species (ideally of locally native species), size and density to the local context and character.* *8.11 In order to safeguard the sustainability of development, obligations may be sought to cover the provision of on-site landscape including natural landscape features such as trees, hedgerows and ponds and where appropriate, the Council will seek to secure their administration through management agreements.* *8.12 Developers may be required to enter into a planning obligation to safeguard provision of landscape or replacement planting and its subsequent maintenance, security and insurance. In some cases, where the measures secured are predominantly for the benefit of the users of the associated development it may be appropriate for developers to make a commuted sum payment for maintenance in perpetuity.*

Policy Document	Section	Context
London Plan (Adopted 2021)	Policy G7	*A. London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.* *B. In their Development Plans, boroughs should:* *1) protect 'veteran' trees and ancient woodland where these are not already part of a protected site* *2) identify opportunities for tree planting in strategic locations.* *C. Development proposals should ensure that, wherever possible, existing trees of value are retained. If planning permission is granted that necessitates the removal of trees there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.*

3.3 Statutory and Non-Statutory Designations

3.3.1 Statutory Designations

3.3.2 The following statutory designations which may influence the management of trees on and immediately adjacent to the Site were checked on 28th July 2026. The details of the desk study are shown in Table 3 below.

3.3.3 Prior to any tree works the status of trees to be removed or pruned must be verified with the LBH and the Forestry Commission as appropriate.

Table 3. Statutory designations.

Information Reviewed	Statutory Designation	Recorded on or immediately adjacent to the Site and Reference	Associated Recorded Tree Feature
London Borough of Hillingdon online protected trees mapping[6]*	Tree Preservation Order (TPO)	Area TPO 262 – Inglenook, Sipson Lane, Sipson (date: 14/05/1980)	T61
	Conservation Area	No	N/a
Magic Map[7]	Site of Special Scientific Interest (SSSI)	No	N/a
Magic Map	Scheduled Monument	No	N/a

*** The LBH protected tree map only showed TPO Areas and Conservation Areas. It did not include individual tree TPO information.**

[6] https://lbhillingdon.maps.arcgis.com/apps/instant/sidebar/index.html?appid=fadc51652908490dae731accc1ebb356
[7] https://magic.defra.gov.uk/MagicMap.html

3.3.4 The Hedgerow Regulations (1997) protect agricultural or countryside hedgerows which meet the requirements of an 'important hedgerow'. These include hedgerows which are a minimum age of 30 years or more and meet one of the other significance criteria listed in the regulations, which include a wide range of other ecological and archaeological/heritage features. Advice is therefore required from qualified ecologists and heritage specialists in respect of works which could impact established hedgerows on or bordering agricultural or countryside land. Prior to the removal or destruction of a protected hedgerow an application must be made to the Local Planning Authority. Full planning consent is an exemption to this requirement.

3.3.5 The Management of Hedgerows (England) Regulations 2024 prevents the cutting or trimming of (or the permitting of another person to cut or trim) an important agricultural hedgerow that is covered by the legislation from 1st March to 31st August, subject to the relevant exemptions. Any trees growing in a hedgerow are treated as part of the hedgerow.

3.3.6 A felling licence may be required by the Forestry Commission to fell more than $5m^3$ in any calendar quarter (subject to relevant exceptions such as 'necessary' works by statutory undertakers, works required to fulfil an act of parliament, works to trees in gardens, designated public open spaces or churchyards).

3.3.7 Section 115 of the Environment Act (2021) requires local highway authorities in England to consult with the public in relation to the proposed felling of 'street trees' (a tree on an urban road) unless the works are required to implement planning permission granted under section 70, 73, 76D, 77 or 79, or outline planning granted under section 92 of the Town and Country Planning Act (1990). Other exceptions also may apply and are detailed at https://www.legislation.gov.uk/ukpga/2021/30/section/115

3.3.8 A new TPO can be made by the LBH at any time. A TPO makes it a criminal offence to cut down, lop, top, uproot, wilfully damage or wilfully destroy the subject tree without the consent of the LPA. Anyone found guilty of contravening a TPO may be subject to a fine of up to £20,000 in a Magistrates Court or an unlimited fine in a Crown Court. Consent is not required for carrying out work on trees subject to a TPO so far as such work is necessary to implement a full planning permission. Other exemptions may also apply (e.g., to dead or dangerous trees).

3.3.9 Full planning consent is an exemption from the need to apply for consent for works to trees protected by a Tree Preservation Order so far as such work is necessary to implement a full planning permission, the need to give notice of the intention to undertake works within a Conservation Area and the need to apply for a Felling Licence with the Forestry Commission.

3.3.10 Non-Statutory Designations

3.3.11 The following non-statutory designations which might influence the management of trees on and immediately adjacent to the Site were checked on 28th July 2026. The details of the desk study are shown in Table 4 below.

Table 4. Non-statutory designations.

Information Reviewed	Non- Statutory Designation	Recorded on or immediately adjacent to the Site and Reference	Associated Recorded Tree Feature
Magic Map	Ancient Woodland	No	N/a
Magic Map	Wood Pasture or Parkland	No	N/a
Magic Map	Priority Habitat (Deciduous Woodland or Traditional Orchards)	No	N/a
Woodland Trust Ancient Tree Inventory[8]	Ancient and Veteran Trees	No	N/a

[8] The Ancient Tree inventory is populated with volunteer entries (which are reviewed by the Woodland Trust's team of verifiers) and is therefore not considered a complete record.

3.3.12 Ancient semi natural woodland (and replanted ancient woodland) are considered to be irreplaceable habitats. Ancient semi natural woodland is any woodland within England that has been wooded continuously since at least 1600 AD.

3.3.13 Natural England are currently undertaking an exercise to identify all ancient woodland (including ancient wood pasture which is a form of ancient woodland) between 0.25-2 ha across England; however, no information within the Site is available at this time.

3.3.14 No ancient or veteran trees were recorded during the tree survey.

3.4 Site Soils

3.4.1 The British Geological Survey's Geology of Britain Viewer and Cranfield University's LandIS's Soilscapes mapping were reviewed on 28th July 2026 to identify Site soils. The results of this review are presented in Table 5 below.

Table 5. Site soils.

Information Reviewed	Recorded Geology/Soil Conditions
British Geological Survey's Geology of Britain Viewer[9]	Bedrock is identified as London Clay Formation-Clay, silt and sand. Superficial deposits are recorded as Langley Silt Member-Clay and silt.
LandIS's Soilscapes mapping[10]	Freely draining slightly acid loamy soils.

4. Field Work Observations

4.1 Methodology

4.1.1 No topographical plan has been provided showing trees; trees have been plotted indicatively with reference to Site features and publicly available aerial photography. As such all positions for these trees must be considered to be indicative only and the relative distances of features must be measured out on the Site as required.

4.1.2 The survey was otherwise conducted in accordance with the requirements of BS5837:2012.

4.1.3 The fieldwork informing this report has comprised a preliminary, non-intrusive, visual walkover survey undertaken from ground level with the specific intention of evaluating the quality and benefits of trees on the Site. The initial fieldwork was undertaken on 1st July 2026, during which dimensional data and observational information were collected.

4.1.4 A diameter tape measure was used to measure stem diameters where feasible. Average dimensions or dimensional ranges have occasionally been used, where appropriate, to best describe features.

4.1.5 Where further inspection is deemed appropriate to ascertain the condition of the tree or other arboreal features, this has been identified within the preliminary management recommendations.

4.2 The Site

4.2.1 The Site is shown on the TCP included within Appendix A of this report.

4.2.2 The Site is irregular in shape and comprises the former Sipson Garden Centre and associated land. The northern part of the Site contains the former garden centre buildings, areas of hardstanding, a car park, and external areas previously used for the display and storage of goods associated with the garden centre use. The southern part of the Site comprises an undeveloped field.

[9] https://geologyviewer.bgs.ac.uk/?_ga=2.120388296.1314596318.1696506787-1350890113.1696506787
[10] https://www.landis.org.uk/soilscapes/

4.2.3 The Site is bounded to the east by a section of the M4 motorway in the vicinity of Heathrow Airport. A further section of the M4 motorway runs immediately to the north of the Site. The western boundary is formed by the A408, from which the Site gains vehicular access. A small number of residential properties are located to the south-west of the Site, fronting the A408.

4.2.4 The Holiday Inn Hotel, which is currently being refurbished, is situated immediately north of the Site, while The Plough public house occupies the north-western corner of the Site boundary. The Plough is designated as a locally listed building. To the south of the Site are residential properties forming part of the settlement of Sipson.

4.3 The Trees

4.3.1 In total, 62 tree features were identified during the survey, formed of 29 individual trees, 31 tree groups and 2 hedgerows.

4.3.2 Of these identified tree features, one is of high quality (category A); 20 of moderate quality (category B); 31 of low quality (category C); and 10 identified as unsuitable for retention as living trees for more than ten years in the context of the current land use (category U).

4.3.3 Table 6 below indicates a breakdown by type and quality category for the tree features recorded within or adjacent to the Site.

Table 6. Summary of tree features by type and quality category.

Quality Category	A	B	C	U	Totals
Number of individual trees	1	13	6	9	29
Numbers of tree groups	-	7	23	1	31
Number of hedges	-	-	2	-	2
Number of woodlands	-	-	-	-	-
Total number of tree features	1	20	31	10	62

4.3.4 The trees on the Site range from young to mature life stages, with semi-mature trees dominating the life stage distribution (see Figure 1 below). They are generally in good physiological and structural condition.

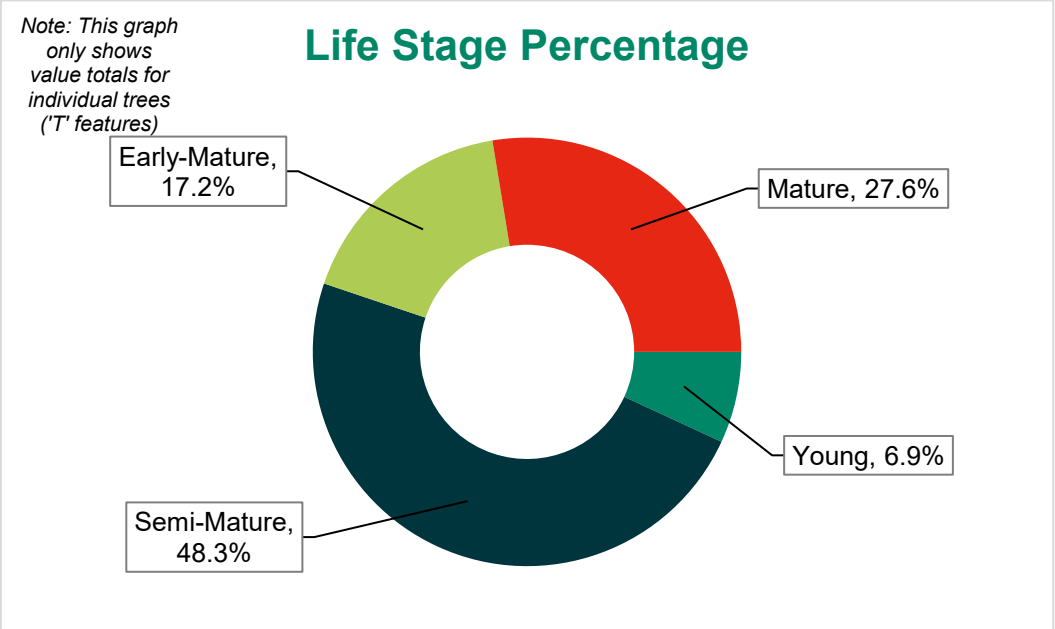


Figure 1. Approximate tree feature age range distribution for individual trees recorded during the Site survey.

4.3.5 Tree species identified during the site surveys are shown in Table 7 below.

Table 7. Species identified during the Site surveys.

Species Common Name (*Scientific Name)*
Field maple (*Acer campestre*)
Sycamore (*Acer pseudoplatanus)*
Lawson cypress (*Chamaecyparis lawsoniana)*
Monterey cypress (*Cupressus macrocarpa*)
Common ash (*Fraxinus excelsior)*
Apple (*Malus sp.)*
Poplar (*Populus sp.*)

Species Common Name (*Scientific Name)*
Wild cherry (*Prunus avium)*
Cherry plum (*Prunus cerasifera)*
Goat willow (*Salix caprea*)
Elder (*Sambucus nigra*)
Rowan (*Sorbus aucuparia*)
Swedish whitebeam (*Hedlundia intermedia*)
Leyland cypress (*X Cupressocyparis leylandii*)

4.3.6 The most significant tree identified during the survey is T16 a mature lime tree located along the northern boundary of the Site. This tree is considered to provide significant landscape and amenity value to the Site.

4.3.7 Figure 2 below shows the species distribution of individually surveyed trees on and immediately adjacent to the Site. The Site is considered to have good species distribution with the most dominant species being Swedish whitebeam at 10.3%.

4.3.8 It is generally accepted that a single species should form no more than 10% of an urban forest population, due to the potential risk to canopy cover should that species be lost (due to climate change, pests and diseases etc).

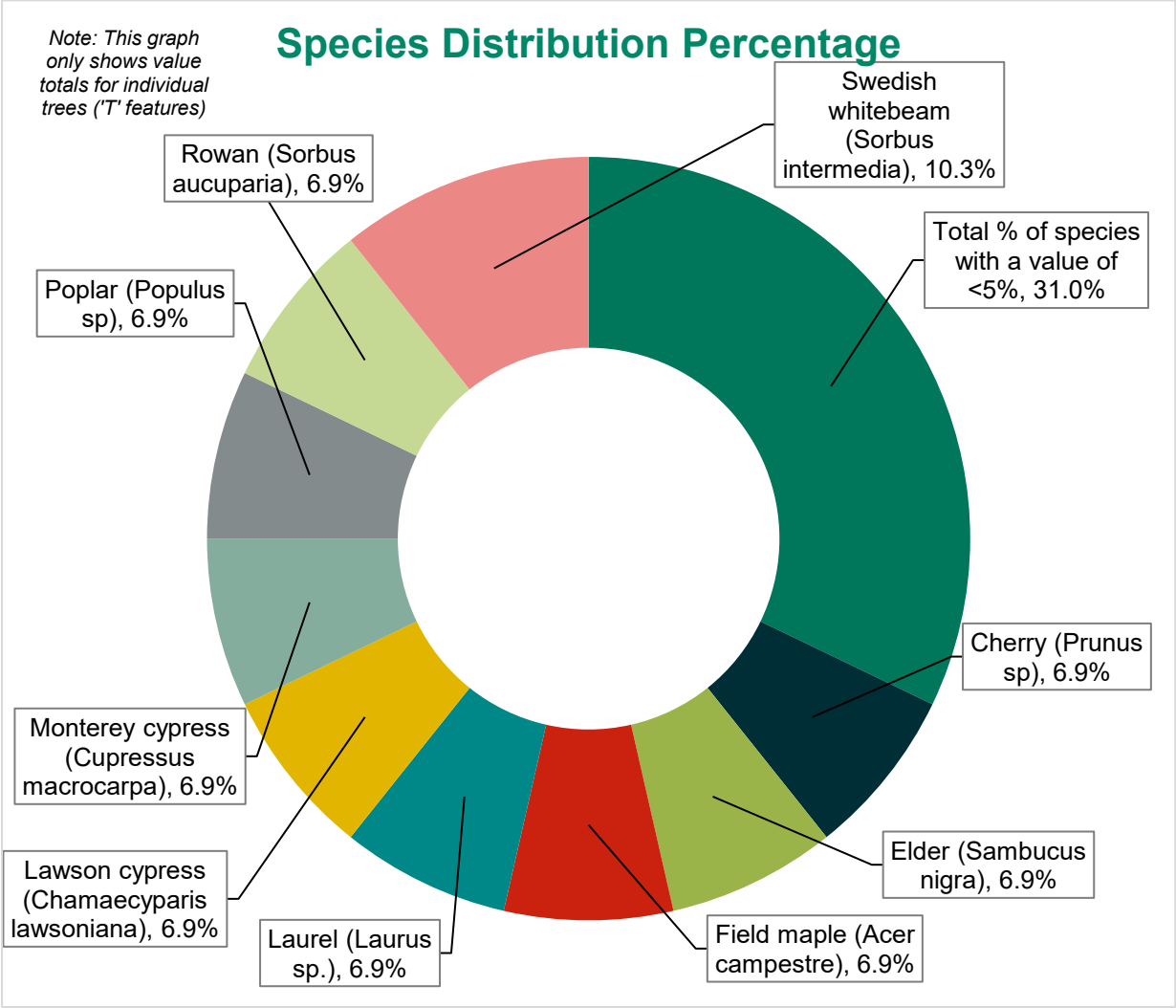


Figure 2. Tree species distribution of individual trees recorded during the Site surveys.

4.3.9 Elm species are not extensively represented across the Site but where they are present, they are often in poor condition. Native and naturalised elm trees are susceptible to the non-native fungus *Ophiostoma ulmi* and *O. novo-ulmi*, Dutch elm disease (DED). The fungus is spread by a vector, the elm bark beetle *Scolytus spp*. Dutch elm disease has eliminated the majority of mature elm trees in Britain, with few exceptions.

4.3.10 Where present, this disease is likely to affect the existing elm population, most notably the species of English elm. As such, elm trees should be monitored for signs and symptoms of DED. Where appropriate, trees in decline are recommended for removal where an unacceptable risk to a target is present.

4.3.11 Where risks are acceptable the retention of dead and dying trees can provide important habitat for biodiversity. Where trees are to be removed, retaining arisings in situ as deadwood habitat is recommended where feasible. The UK Forest Standard (2023) recommends a target of around 20m^3 of deadwood per hectare as a deadwood target for woodland management.

4.3.12 Site photography can be found at Appendix C.

5. Arboricultural Impact Assessment

5.1 Purpose

5.1.1 This impact assessment sets out the reasonable worst case likely principal direct and indirect impacts of the Proposed Development on the tree features on or immediately adjacent to the Site. Suitable mitigation measures are recommended to allow for the successful retention of significant tree features or to compensate for trees to be removed, where appropriate.

5.1.2 The detailed design will seek to reduce and/or avoid impacts to trees where possible.

5.2 The Proposed Development

5.2.1 The Proposed Development is detailed on the Tree Protection Plans included as Appendix D.

5.2.2 The Proposed Development is described as follows:

5.2.3 "Outline planning application (with all matters reserved except for access) for the redevelopment of the former Sipson Garden Centre site to provide a data centre facility, including associated energy infrastructure, security measures, landscaping, and access arrangements.

5.2.4 The proposed development comprises the demolition of existing structures and the construction of a new data centre facility with an anticipated operational capacity of approximately 54MW. The development would provide approximately up to 54,000 sqm of gross internal floorspace, including data halls, administration block, plant, and associated ancillary infrastructure".

5.3 Assumptions

5.3.1 The following details and assumptions have been utilised for this assessment:

- Where feasible the final alignment of fencing will be adjust avoid the RPAs of retained trees;
- Where feasible the final location of new hard surfacing adjacent to T16 will avoid the RPA and canopy spread.
- Working zones are only shown for change of land uses. Where there is no assumed change from an existing land use, this is considered zero impact;

5.4 Summary

5.4.1 A brief summary of tree features to be removed, tree works and incursions related to the Proposed Development are detailed within the table below.

Table 8. Summary of Removals, Incursions and Pruning to Facilitate the Proposed Development

Impact	Category A	Category B	Category C	Category U
Tree features to be removed to facilitate the Proposed Development	-	T19	G10, G46, G49	T11, T12, T14, T15, T17 and T18
Total	**-**	**1 individual tree**	**3 tree groups**	**6 individual trees**
Tree features which may require some incursion into their construction exclusion zone to allow the Proposed Development.	T16	-	-	-
Total	**1 individual tree**	**-**	**-**	**-**
Tree features likely to require pruning to facilitate the Proposed Development	T16	-	-	-
Total	**1 individual tree**	**-**	**-**	**-**

5.5 Trees to be Removed

5.5.1 In total, one individual tree of moderate quality (Category B); and three tree groups of low quality (Category C) are likely to be removed to facilitate the Proposed Development. With the exception of G10 all of the trees to be removed are located within the red line application boundary.

5.5.2 It is recommended that the owner of G10 be determined at the earliest stage. Prior written consent must be in place before any tree works outside those permitted under established rights in common law are carried out and it is recommended that this is secured prior to the submission of any planning application.

5.5.3 In addition, six individual trees, identified as unsuitable for retention for more than ten years as living trees in the context of the current land use (Category U) are recommended to be removed to facilitate the Proposed Development. It is considered that these tree features would require removal regardless of any development proposals; as such they are not considered further within this report.

5.5.4 Tree removals are required due to a direct conflict with the footprint of structures to be demolished, proposed new structures, areas of hard surfacing, perimeter fencing and the associated working space requirements to demolish/install these features. In addition, tree features in proximity to new structures have been shown as removed to avoid inappropriate tree retention where onerous ongoing tree management would be necessary to maintain adequate canopy clearances.

5.5.5 A summary of removals of surveyed tree features by canopy area is shown in Table 9 below.

Table 9: Summary Tree Features Removals for Surveyed Tree Features by Area.

Surveyed Tree Feature Canopy Cover Area (m^2)	Total Removed Canopy Cover Area (m^2)	Percentage (%) of Surveyed Tree Population Removed by Area
7355.6m^2	317.5m^2	4.32%

5.5.6 Tree removals will be mitigated with a high quality scheme of new tree planting in accordance with Landscape General Arrangement Plan (Ref: PGF-ACM-00-XX-DR-LA-20100) which will represent an opportunity to enhance the quality, benefits and resilience of trees on the Site.

5.5.7 All of the remaining recorded trees can be retained and protected.

5.6 Tree Valuation

5.6.1 Trees are highly valued features which provide a broad range of essential benefits to both rural and urban landscapes including managing flood water, improving air quality, buffering extremes in temperature, capturing carbon and improving both physical and psychological wellbeing.

5.6.2 There are a range of tree valuation methodologies available. The asset value of the individual trees included within the detailed tree survey has been calculated in monetary terms using the Capital Asset Value for Amenity Trees (CAVAT) system (Full Method Project). Many local authorities in the UK use this system to inform decision making and compensation valuations in relation to publicly owned trees and the method is specifically suggested in the London Plan as an appropriate approach to determine tree value in relation to development.

5.6.3 The following describes how the CAVAT value is derived:

5.6.4 *'CAVAT works by calculating a unit value for each square centimetre of tree stem, by extrapolation from the average cost of a range of newly planted trees. In the Full Method this basic value is adjusted to reflect the degree of benefit that the tree provides to the local population. The adjustment is designed to allow the final value to reflect realistically the contribution of the tree to public welfare through tangible and intangible benefits'*[11].

5.6.5 The CAVAT value for the individual tree to be removed has been summarised in Table 10, below.

[11] (Chris Neilan. 2010 http://ltoa.org.uk/component/docman/cat_view/98-capital-asset-value-for-amenity-trees-cavat).

Table 10: CAVAT value for individual trees to be removed.

Tree Number	Quality Category	Stem Diameter (cm)	CAVAT Valuation (£)
T19	B	41	45,035
	Total value of trees to be removed (£)		**45,035**

5.7 Third Party Trees

5.7.1 A large number of trees are located on or outside of the Site Boundary as shown on the TCP. Therefore, at the earliest stage the owner of these trees should be confirmed.

5.7.2 Prior written consent must be in place before any tree works outside those permitted under established rights in common law are carried out and it is recommended that this is secured prior to the submission of any planning application.

5.8 Tree Works

5.8.1 Tree removals and tree pruning works to facilitate the Proposed Development are detailed in the Tree Survey Schedule (included as Appendix B).

5.8.2 Contact wounding to the stem and branch structures of retained trees can lead to structural instability, a reduction in vitality and a potential ingress for pests and pathogens, including wood decay fungi. This can result in premature limb or stem failure and may lead to premature tree loss where significant. Pruning of material to mitigate against contact wounding is therefore preferential.

5.8.3 Tree pruning is likely to be required to T16 to facilitate construction access beneath the canopy for the removal of the existing hard surfacing. Pruning will comprise localised crown lifting over the existing hard surface to a height of 5m. These minor pruning works are considered unlikely to significantly negatively impact the physiological condition of the tree.

5.8.4 No additional works to retained trees are considered likely to be required at this stage. All tree work is to follow the principles of *BS3998: 2010 Treework – Recommendations* and must be carried out by suitably qualified and insured contractors. The Arboricultural Association provides a list of contractors who meet these requirements which can be found at www.trees.org.uk.

5.8.5 Should the requirement for additional tree works be identified (such as where improved access may be required for fence installation), this will be discussed with the Site Arboriculturist, and no works will be undertaken without the consent of the LBH Tree Officer.

5.9 Incursions within the RPA or Canopy Spread

5.9.1 Background

5.9.2 Standard construction methodologies for the installation of new hard surfacing within the RPAs of retained trees is likely to require significant access and excavation. This may lead to premature tree death through the compaction of soils and the severance of roots enabling colonisation of the inner wood substrate (e.g., by wood decay fungi); a reduction of water uptake and energy storage; hydraulic dysfunction of sapwood and a potentially significant negative affect on tree stability.

5.9.3 Root death may result where soil levels are increased within RPAs causing a reduction in the normal exchange of soil gases, soil water and a significant increase in mechanical resistance within the soil. Furthermore, the compaction of soil from construction access within RPAs is likely to lead to root death through the aforementioned impacts.

5.9.4 Mitigation for tree impacts must therefore avoid, reduce and/or mitigate against the above impacts, as outlined in the subsections below.

5.9.5 Restoration of Hard Surfacing to Soft Ground

5.9.6 The Proposed Development will require an incursion within the RPA of T16 to facilitate the removal of the existing hard surfacing which is to be restored to soft ground. Provided that the works are undertaken in accordance with the following principles no significant negative impacts are anticipated to the physiological or structural condition of the tree, and these works will help to improve the growing conditions for the roots of this tree.

5.9.7 The removal of the existing wearing course within the RPA must be achieved using an excavator with an untoothed bucket, working backwards away from retained trees. All plant must be positioned on existing, intact, hard surfacing at all times. The sub-base will then be carefully removed by hand with the use of a hand held pneumatic breaker. All arisings will be stored outside of RPAs or on existing hard surfacing. Any roots uncovered growing through the sub-base will be carefully worked around and retained in accordance with Appendix E.3.

5.9.8 Following removal of the sub-base a suitable uncompacted free draining topsoil will be applied to match the existing ground level and where required will be lightly hand tamped only.

5.9.9 Following these works the RPA will be fenced off with Tree Protection Fencing in accordance with the TPP.

5.9.10 This work must be supervised by the Site Arboriculturist.

5.9.11 Soft Landscaping within RPAs

5.9.12 Mechanical stripping and cultivation of soil is highly likely to sever roots creating a potential ingress for wood decay fungi, reduce physiological health and potentially significantly affect tree stability. Where impacts are significant, premature tree loss is likely.

5.9.13 No soft landscaping is identified within the RPA of any retained trees at present. Where identified, the following will apply.

5.9.14 No mechanical cultivation of soils will be undertaken within the RPAs of any retained trees. Access will be by pedestrian only. Where localised cultivation such as the excavation of tree planting pits is required, this will be undertaken by hand-dig methodologies only with locations adjusted to avoid significant roots (>25mm diameter or bundles of smaller roots). Where any raising of topsoil is required, this will not exceed 100mm in depth, will avoid the area immediately surrounding the base of retained trees and will be of good quality and freely draining.

5.9.15 All works within RPAs must be supervised by an arboriculturist.

5.10 New Services within RPAs

5.10.1 Information in relation to services is indicative only at this stage. Standard construction methodologies for the installation of new or diverted services within the RPAs of retained trees is likely to require significant excavation. This may lead to premature tree death or decline through the severance of roots enabling colonisation of the inner wood substrate (e.g., by wood decay fungi); a reduction of water uptake and energy storage; hydraulic dysfunction of sapwood and a potentially significant negative effect on tree stability.

5.10.2 The default position is that all new services be located outside of RPAs of retained trees and it is assumed that this will be feasible in the context of the Proposed Development.

5.10.3 Where this is not feasible, the use of two techniques are suggested. In order of priority, these are:

1. The use of trenchless techniques (such as impact moling) to cross underneath any RPA, with the top of the tunnel positioned at least 2m below ground level and entry and retrieval pits sited outside of the RPAs; or
2. Hand-dig excavation methodologies, utilising compressed air and a soil vacuum, or hand tools, to carefully excavate within an RPA, retaining and protecting any significant roots (>25mm in diameter or bundles of smaller roots) encountered. (Noting that this technique is less likely to be applicable for services that lack flexibility and cannot be installed around any significant roots encountered, e.g., precast concrete).

5.10.4 The installation of services is unlikely to be acceptable within the RPA of veteran or ancient trees or within the buffer zone of ancient woodland.

5.10.5 Where possible, consideration for the bundling of services should be made to avoid multiple excavations.

5.10.6 Existing services can be winched out from a manhole/chamber located outside of an RPA and redundant pipework can be decommissioned using pipe bursting techniques to avoid excavation which could damage roots.

5.10.7 These operations typically require a detailed arboricultural method statement to set out in detail how they can be successfully achieved. All works within RPAs must be supervised by the Site Arboriculturist.

5.10.8 It is widely acknowledged that trees are unable to break into drains/services. Rather, trees exploit weaknesses already present, such as faulty or weak rubber seals on pipeline joints. Utilities should be designed and installed to resist entry by tree roots. Where a survey identifies roots within services, roots may typically be cut out with the identified fault ameliorated. Where significant roots are at risk of severance the advice of an arboriculturist must be obtained.

5.10.9 Infrastructure connected to services (e.g., lighting columns or security cameras), should be positioned at appropriate distances to retained or newly planted trees to avoid onerous and damaging tree works. Carefully located low diameter footings (such as driven posts, screw piles or equivalent, positioned following trial hole excavations) can help avoid impacts to roots.

5.11 Tree Planting

5.11.1 Existing areas of unsurfaced ground must be protected during the construction phase if they are to be re-used for new plantings. Protection can be achieved using fit for purpose ground protection measures as set out in BS5837:2012 Section 6.2.3 or by creating a fenced exclusion zone. Where protection is not feasible, soil amelioration or replacement works will be required to ensure suitable growing conditions for new trees to fully establish.

5.11.2 Where new trees are to be planted, the minimum planting distances detailed in Table A.1 of BS5837:2012 must be adhered to along with project specific offsets to prevent direct damage to services and structures from future tree growth.

5.11.3 New tree planting should be implemented in accordance with the guidance set out in BS8545:2014 Trees: from nursery to establishment in the landscape – Recommendations.

5.11.4 The UK Forest Standard (2023) recommends that no more than 65% of a forest management unit area is allocated to a single species, with a minimum of 5% native broadleaved trees or shrubs, 10% of other tree species and 10% open ground, or ground managed for biodiversity as the primary objective is utilised for new tree planting.

5.11.5 In urban areas it is typically recommended that no single species should form more than 10% of the total tree population, a genus more than 20% and a family more than 30%, to reduce the risk of canopy loss to an area, caused by stand level (a contiguous community of trees) mortality (such as due to causal factors such as climate change and novel pests and diseases). A summary of the existing individually surveyed tree population on Site is included in Section 3.3 and this should inform any new planting proposals.

5.12 Tree Protection

5.12.1 Retained trees are vulnerable to damage from construction activities which can include physical damage to stems and branches following impacts with plant. Root severance following trenching, root death or dysfunction following damage to soil structure (caused by the movement of people or machinery on unsurfaced ground) or via the spillage of materials toxic to tree health. The default position is that the RPA and Canopy spread of trees to be retained will form an effective Construction Exclusion Zone, secured with robust fencing where no access will be permitted. Where access is necessary within this area special measures such as the use of ground protection and arboricultural supervision are generally required.

5.12.2 Outline tree protection measures are considered in Appendix E of this report. An arboricultural method statement is often required as a condition of planning consent to set out the phasing of site operations, the finalised tree protection measures for the Site and to provide detail on how sensitive elements of work are to be achieved in proximity to retained trees. Issues to be addressed by the Method Statement are listed in the Conclusion of this report.

5.13 Site Organisation, Storage and Use of Materials, Plant and Machinery.

5.13.1 All construction site facilities including site huts, staff and contractor parking and areas for storage will be located outside of the RPA or crown spread of retained trees, including those not specifically covered in this report. Space is likely to be constrained on the Site and will need to be carefully considered. The Construction Exclusion Zones identified on the Tree Protection Plan must be fully respected and their location and significance is to be highlighted to all site staff and contractors during the formal site briefing.

5.13.2 The use, mixing and washing of materials can lead to run off or inadvertent spillage into tree root zones. Many substances often used on construction sites can be toxic to tree roots (such as concrete, fuels, salts, builders' sand and herbicides) and can result in the death of tree roots and beneficial soil organisms and can have a significant impact on the future health and appearance of the tree.

5.13.3 The storage of materials and arising's can result in an effective raised soil level. This buries tree roots at depths where air and water are less available and can lead to the decline or death of the tree.

5.13.4 For these reasons the storage of materials and any washing, mixing or refuelling will take place in agreed allocated areas at least 10m from the edge of the RPA of retained trees.

5.13.5 Any slope effect must be taken into account and where there is a potential for run off, heavy duty polythene sheeting and sandbags must be in place as bunding to prevent toxic materials reaching RPAs.

5.13.6 Particular care is required where high sided vehicles, long reach machinery and plant with jibs, booms and counterweights are to operate with in proximity to retained trees. A banksman will be used where the movement of plant or long reach machinery occurs within 5m of any part of a retained tree to ensure no damage is sustained.

5.14 Valuation of Proposed Tree Planting

5.14.1 The estimated CAVAT value of proposed new tree planting is detailed in Table 11, below. Tree values are shown at the time of planting, after 10 years and at 20 years. AECOM has estimated tree growth over time to determine future CAVAT values (based on stem diameter). This is based on the likely radial increase in stem diameter which has been determined with reference to guidance from Mitchell (1979)[12] and White (1998)[13] which indicate an estimated 0.24cm - 0.35cm increase in stem radius each year (Rogers et al, 2014). On this basis AECOM has assumed an average radial increase of 0.3cm per year and an annual increase in diameter of 0.6cm and a 6cm increase every 10 years. This is a conservative estimate.

5.14.2 The total value of individually surveyed trees of low to high quality to be removed is £45,035.00 (excluding category U trees). The total estimated CAVAT value of proposed new tree planting at the time of planting is £96,283.53 which provides a CAVAT value net gain of £51,248.53. After 20 years, it is estimated that the CAVAT value of all proposed tree planting is predicted to increase to approximately £1,340,319.67which provides a net gain of £1,295,284.67after 20 years.

5.14.3 This demonstrates that tree loss to facilitate the Proposed Development (focusing on individual trees but arguably encompassing any loss of group trees) will be compensated at the time of planting.

5.14.4 Tree loss equates to 317.5m^2 of tree canopy cover. Replacement planting will provide an estimated 148m^2 of canopy cover at the time of planting (based on a conservative estimate of a crown diameter of 1m) which will increase over time as trees increase in size.

[12] Alan Mitchell, AM (1979); 'A Field Guide to the Trees of Britain and Northern Europe', Collins
[13] John White. JW (1998); 'Estimating the Age of Large and Veteran Trees in Britain', Forestry Commission

Table 11: Net CAVAT values of proposed planting vs individual trees to be removed.

Proposed Tree Planting Species	Estimated Stem Diameter/Girth (cm) at Planting	Number of trees	CAVAT Values of Proposed Planting		
			At time of planting	After 10 years	After 20 years
Alnus glutinosa	14-16/4.5	48	£24,907.63	£124,764.34	£346,727.81
Amelanchier lamarkii (multi stem)	14-16/4.5	7	£3,450.74	£17,285.06	£48,036.25
Betula utilis jacquemontii	14-16/4.5	7	£3,632.36	£18,194.80	£50,564.47
Carpinus betulus	14-16/4.5	22	£11,416.00	£57,183.65	£158,916.91
Cornus florida (multi stem)	14-16/4.5	5	£2,464.82	£12,346.47	£34,311.61
Corylus avellana (multi stem)	14-16/4.5	11	£5,422.56	£27,162.19	£75,485.52
Magnolia stellata (multi stem)	14-16/4.5	6	£2,957.78	£14,815.76	£41,173.93
Pinus sylvestris	14-16/4.5	16	£8,302.54	£41,588.11	£115,575.94
Sorbus aria	14-16/4.5	31	£16,086.18	£80,576.97	£223,928.38
Taxus baccata	14-16/4.5	19	£9,859.27	£49,385.88	£137,246.42
Tilia cordata	14-16/4.5	15	£7,783.64	£38,988.86	£108,352.44
Total		**187**	**£96,283.53**	**£482,292.09**	**£1,340,319.67**
Value of removed individual trees	£45,035.00				
CAVAT Net Gain/Loss			**+£51,248.53**	**+£437,257.09**	**+£1,295,284.67**

6. The Future Impact of Trees

6.1 Background

6.1.1 The impact of retained trees in conjunction with the proposed future Site use has been considered. The key issues between existing trees on Site and the proposed future Site use are considered below.

6.2 Tree Growth

6.2.1 Trees and groups to be retained have been afforded suitable space to ensure they remain viable in the long term. Trees which are currently not fully grown will increase in size and this has been considered in conjunction with the Proposed Development and future use of the Site. This is especially relevant for all young to semi mature trees, which form over half of the surveyed tree population.

6.3 Shade

6.3.1 Shading arcs equivalent to tree height and formed of a radius from northwest to due east have been plotted on the Tree Constraints Plan and the Tree Protection Plan for individual tree features. Shading arcs show the typical extent of likely shading from trees throughout the day (as the sun moves from east to west in a southerly orientation) but do not illustrate areas subject to constant shade.

6.3.2 Current shading arc radii are based on detailed tree survey height estimates, and this is included on the Tree Constraints Plan and Tree Protection Plan. This illustrates that no new above ground infrastructure will be subject to significant shading at the time of construction.

6.3.3 Trees which are identified as unsuitable for retention as living trees for more than 10 years in the context of the current land use (category U) have been excluded from this assessment.

6.4 Detritus/Litter and Honeydew

6.4.1 Sycamore and maple are often associated with aphids which secrete a sticky liquid called ‘honeydew’. This can be a nuisance for parked cars and potentially areas of hard surfacing and structures as the deposits can lead to the development of sooty moulds and staining. This can be easily cleaned with warm soapy water or equivalent and is likely to be less visible on darker surfaces.

6.4.2 Deciduous trees will drop leaves each autumn; evergreen trees will deposit leaves/needles, seeds and other detritus throughout the year. This is likely to result in a maintenance requirement to manage leaves on hard surfaced footways and to clear gutters where tree canopies extend over or immediately adjacent to roofs. Leaf fall can be easily cleared as required from hard surfacing. Nonslip surfacing can reduce the frequency that this is required. Measures such as Gutter Guards or equivalent can be used to reduce the potential for leaves to block guttering and these should be employed where trees overhang or grow in close proximity to structures.

6.5 Future Land Use and Tree Management

6.5.1 Retained trees will require periodic inspection to assess their structural condition and safety. Occasional removal of dead wood or other remedial works to address significant defects may be required in areas of frequent access. This is unlikely to be overly onerous and will be the responsibility of the tree owner.

6.5.2 All tree works recommended in the Tree Survey Schedule (Annex B) as a result of the preliminary tree surveys considered trees in the context of the present use of the Site (i.e., prior to development proposals). Where these works are not superseded by proposed tree removal, they should be actioned.

6.5.3 Tree management is not considered to be a significant constraint to developing the Site however, the Site includes many large trees of varying condition and where the land use is subject to change, tree condition and the requirement for remedial works or exclusion zones must be reviewed with further advice from an arboriculturist obtained as appropriate.

6.5.4 During the construction and operation of the Proposed Development, all staff operating on the Site are to be made aware of the need to look out for obvious signs of tree defects and to report them to the Site Manager who will seek further advice as necessary.

7. Conclusion

7.1 Summary

7.1.1 In total, 62 tree features were identified during the survey, formed of 29 individual trees, 31 tree groups and 2 hedgerows. Of these identified tree features, one is of high quality (category A); 20 of moderate quality (category B); 31 of low quality (category C); and 10 identified as unsuitable for retention as living trees for more than ten years in the context of the current land use (category U).

7.1.2 The most significant tree feature identified within or adjacent to the Site is the high quality lime tree T16.

7.1.3 One area Tree Preservation Order (TPO) designation was identified to the south of the Site and is considered to correlate with T61. No further TPOs were identified. No individual tree TPO information appeared to be available on the London Borough of Hillingdon website. Therefore, prior to any works the status of trees must be confirmed with the London Borough of Hillingdon.

7.1.4 No Conservation Areas have been identified and no Sites of Special Scientific Interest or Scheduled Monuments have been identified which could influence trees within or adjacent to the Site.

7.1.5 The Site includes no recorded ancient woodland or priority habitat designations relating to trees.

7.1.6 In total, one individual tree of moderate quality (Category B); and three tree groups of low quality (Category C) are likely to be removed to facilitate the Proposed Development. With the exception of G10 all of the trees to be removed are located within the red line application boundary. It is recommended that the owner of G10 be determined at the earliest stage. Prior written consent must be in place before any tree works outside those permitted under established rights in common law are carried out and it is recommended that this is secured prior to the submission of any planning application.

7.1.7 In addition, six individual trees, identified as unsuitable for retention for more than ten years as living trees in the context of the current land use (Category U) are recommended to be removed to facilitate the Proposed Development. It is considered that these tree features would require removal regardless of any development proposals; as such they are not considered further within this report.

7.1.8 Tree removals are required due to a conflict with the Proposed Development and the future use of the Site.

7.1.9 Tree feature loss to facilitate the Proposed Development represents approximately 317.5m^2 or 4.32% of the total tree canopy cover surveyed with 95.68% (7,038.1m^2) of surveyed canopy cover retained.

7.1.10 Replacement planting will provide an estimated 148m^2 of canopy cover at the time of planting which will increase over time as trees grow.

7.1.11 The total value of individually surveyed trees of low to high quality to be removed is £45,035.00 (excluding category U trees). The total estimated CAVAT value of proposed new tree planting at the time of planting is £96,283.53 which provides a CAVAT value net gain of £51,248.53. After 20 years, it is estimated that the CAVAT value of all proposed tree planting is predicted to increase to approximately £1,340,319.67which provides a net gain of £1,295,284.67after 20 years.

7.1.12 Tree pruning is likely to be required to T16 to facilitate construction access beneath the canopy for the removal of the existing hard surfacing. Pruning will comprise localised crown lifting over the existing hard surface to a height of 5m. These minor pruning works are considered unlikely to significantly negatively impact the physiological condition of the tree.

7.1.13 The existing hard surfacing is to be removed from within the RPA of T16. This will be achieved carefully and any works with the potential to impact on tree roots will be carried out by hand under the supervision of an arboriculturist. This work will result in improved growing conditions for this tree.

7.1.14 Soil structure for areas of new tree planting where the ground is currently unsurfaced will either be protected using ground protection or fenced exclusion zones; or the soil structure will be ameliorated or replaced following the completion of construction works on the Site.

7.2 Issues to be addressed by an Arboricultural Method Statement:

- Conditions of planning consent
- Pre commencement meeting and site briefing
- Order and phasing of operations
- Tree works
- Tree protection fencing
- Site storage and facilities
- Movement of people, plant and materials
- Enabling works
- Installation of new structures
- Installation of new hard surfacing
- Installation of perimeter fencing
- Removal of tree protection measures

References

Biddle, G. (1998). Tree Root Damage to Buildings, Volume 1, Causes, Diagnosis and Remedy

British Standards Institution (BSI), BS5837:2012. Trees in relation to design, demolition and construction – Recommendations.

British Standards Institution (BSI), BS3998:2010. Tree work – Recommendations.

British Standards Institution (BSI), BS8545: 2014 Trees: from the nursery to independence in the landscape – Recommendations

Crow, P. (2005). The Influences of Soils and Species on Tree Root Depth. Information Note.

Forestry Commission. (2023). The UK Forest Standard. 5th Edition.

Ministry of Housing, Communities and Local Government. (2026). National Planning Policy Framework (NPPF).

National House Building Council (NHBC) Standards. (2024). Chapter 4.2: Building Near Trees

National Tree Safety Group (NTSG). (2024). Common sense risk management of trees. 2nd ed. Forest Research and the Arboricultural Association.

Roberts, J., Jackson, N. and Smith, M. (2006). Tree Roots in the Built Environment. Centre for Ecology and Hydrology, Great Britain

Street Works UK: Publications (2026) Volume 4 – Guidelines for the planning, installation, and maintenance of Utility apparatus in proximity to Trees Issue 3

Appendix A Tree Constraints Plan

Author: OL Designer: LH Checked: AW Approved: OL



© Crown copyright and database rights [2026] Ordnance Survey AC0000808122

Last saved by: LEO.HEATLEY(2026-10-14) Last Plotted: 2026-10-14
Filename: B:\V - JOBS\VIRTUS GREEN FINGERS\CAD & GIS\VIRTUS GREEN FINGERS - TCP_01 - STANDARD\VIRTUS GREEN FINGERS - TCP_02.DWG

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

AECOM

PROJECT

FORMER SIPSON GARDEN CENTRE

CLIENT

VIRTUS DATA CENTRES LTD

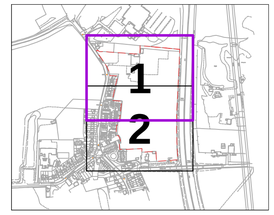
CONSULTANT

AECOM
Mid Point, Alencon Link,
Basingstoke, Hants,
RG21 7PP
Tel +44 (0) 1256 310 200
www.aecom.com

GENERAL NOTES

1. TREE CATEGORIES AS DEFINED BY BS 5837:2012
2. TREE LOCATIONS ARE BASED ON AERIAL IMAGERY, AND GPS CO-ORDINATES FROM ON SITE WALKOVER.
3. * INDICATES A TREE / GROUP WHOSE POSITION IS APPROXIMATE AS BASED UPON AERIAL PHOTOGRAPHY AND ON SITE OBSERVATIONS.
4. PLANS SHOULD BE READ IN CONJUNCTION WITH THE AECOM ARBORICULTURAL REPORT.
5. THE ORIGINAL OF THIS DRAWING WAS PRODUCED IN COLOUR - A MONOCHROME COPY SHOULD NOT BE RELIED UPON.
6. DRAWING REFERENCES:
   OS_MasterMap_Topography_Layer_1076500_1355473_OS_Mastermap.dwg
   2026.01.29 PGF Red-Line Boundary (Draft v1.0).dwg

KEY PLAN



KEY

FEATURE ID TAGS
(A PREFIX OF 'T' DENOTES A SINGLE TREE, 'G' A GROUP, 'H' A HEDGE, 'W' A WOODLAND, AND AN ASTERISK SUFFIX '' MEANS THE FEATURE WAS PLOTTED INDICATIVELY)*

SITE BOUNDARY

A CATEGORY TREE, GROUP, HEDGE, OR WOODLAND
(HIGH QUALITY & VALUE)

B CATEGORY TREE, GROUP, HEDGE, OR WOODLAND
(MODERATE QUALITY & VALUE)

C CATEGORY TREE, GROUP, HEDGE, OR WOODLAND
(LOW QUALITY & VALUE)

U CATEGORY TREE, GROUP, HEDGE, OR WOODLAND
(UNSUITABLE FOR RETENTION)

ROOT PROTECTION AREAS (RPA)
(AS DEFINED BY BS 5837:2012)

APPROXIMATE CURRENT AND MATURE SHADING ARCS
(AS DEFINED BY BS 5837:2012)

ISSUE/REVISION

P02	14.10.26	SECOND ISSUE
P01	15.07.26	FIRST ISSUE
I/R	DATE	DESCRIPTION

DRAWING STATUS

ISSUE

PROJECT NUMBER

60749800

SHEET TITLE

TREE CONSTRAINTS PLAN (SHEET 01)

SHEET NUMBER **REV.**

60749800-ACM-XX-XX-AB-TCP-001 P02

Author: OL Designer: LH Checked: AW Approved: OL



© Crown copyright and database rights [2026] Ordnance Survey AC0000808122

Last saved by: LEO.HEATLEY (2026-10-14) Last Plotted: 2026-10-14
Filename: B:\V - JOBS\VIRTUS GREEN FINGERS\CAD & GIS\VIRTUS GREEN FINGERS - TCP_01 - STANDARD\VIRTUS GREEN FINGERS - TCP_02.DWG

AECOM

PROJECT

FORMER SIPSON GARDEN CENTRE

CLIENT

VIRTUS DATA CENTRES LTD

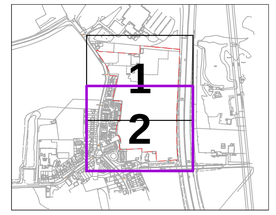
CONSULTANT

AECOM
Mid Point, Alencon Link,
Basingstoke, Hants,
RG21 7PP
Tel +44 (0) 1256 310 200
www.aecom.com

GENERAL NOTES

1. TREE CATEGORIES AS DEFINED BY BS 5837:2012
2. TREE LOCATIONS ARE BASED ON AERIAL IMAGERY, AND GPS CO-ORDINATES FROM ON SITE WALKOVER.
3. * INDICATES A TREE / GROUP WHOSE POSITION IS APPROXIMATE AS BASED UPON AERIAL PHOTOGRAPHY AND ON SITE OBSERVATIONS.
4. PLANS SHOULD BE READ IN CONJUNCTION WITH THE AECOM ARBORICULTURAL REPORT.
5. THE ORIGINAL OF THIS DRAWING WAS PRODUCED IN COLOUR - A MONOCHROME COPY SHOULD NOT BE RELIED UPON.
6. DRAWING REFERENCES:
   OS_MasterMap_Topography_Layer_1076500_1355473_OS_Mastermap.dwg
   2026.01.29 PGF Red-Line Boundary (Draft v1.0).dwg

KEY PLAN



KEY

FEATURE ID TAGS
(A PREFIX OF 'T' DENOTES A SINGLE TREE, 'G' A GROUP, 'H' A HEDGE, 'W' A WOODLAND, AND AN ASTERISK SUFFIX '' MEANS THE FEATURE WAS PLOTTED INDICATIVELY)*

SITE BOUNDARY

A CATEGORY TREE, GROUP, HEDGE, OR WOODLAND
(HIGH QUALITY & VALUE)

B CATEGORY TREE, GROUP, HEDGE, OR WOODLAND
(MODERATE QUALITY & VALUE)

C CATEGORY TREE, GROUP, HEDGE, OR WOODLAND
(LOW QUALITY & VALUE)

U CATEGORY TREE, GROUP, HEDGE, OR WOODLAND
(UNSUITABLE FOR RETENTION)

ROOT PROTECTION AREAS (RPA)
(AS DEFINED BY BS 5837:2012)

APPROXIMATE CURRENT AND MATURE SHADING ARCS
(AS DEFINED BY BS 5837:2012)

ISSUE/REVISION

P02	14.10.26	SECOND ISSUE
P01	15.07.26	FIRST ISSUE
I/R	DATE	DESCRIPTION

DRAWING STATUS

ISSUE

PROJECT NUMBER

60749800

SHEET TITLE

TREE CONSTRAINTS PLAN (SHEET 02)

SHEET NUMBER REV.

60749800-ACM-XX-XX-AB-TCP-002 P02

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

Appendix B Tree Survey Schedule

Ref. No	Species Common Name (*Scientific name*)	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (m)				First Significant Branch & direction (m)	Canopy Clearance Height (m)	Physiological Condition	Life Stage	Structural Condition	Observations	Preliminary Management Recommendations	Tree Works to Facilitate the Proposed Development	Estimated Remaining Contribution (yrs)	Category	RPA Radius (m)	Canopy Cover (m^2)
				N	S	E	W												
G1*	Hybrid black poplar (Populus x canadensis), Sycamore (Acer pseudoplatanus), Scots Pine (Pinus sylvestris), Wild Cherry (Prunus avium), Elder (Sambucus nigra)	25	<750#	7	7	7	7	n/a	1	Good	SM-M	Good	No access or visibility to bases. Surveyed from accessible area of site to south. Stems appear to be set back at least 1m from post and rail fence, which is beyond perimeter security fence.			20+	B1,2	9m	1978.7
G2*	Scots Pine (Pinus sylvestris)	18	<550#	4	4	4	4	n/a	2	Good	SM-EM	Good	No access to bases, surveyed from site area to south. Row of pine, stems setback ca.15m from perimeter fence.			20+	B1,2	6.6m	295
G3*	Sycamore (Acer pseudoplatanus), Hawthorn (Crataegus monogyna), Elder (Sambucus nigra)	6	<140#	2	2	2	2	n/a	0	Good	Y-SM	Good	Cluster hawthorn with Y sycamore trees emergent to south, within perimeter fence, and mostly elder beyond fence to north.			10+	C1,2	1.68m	162.1
G4*	Elder (Sambucus nigra), Hawthorn (Crataegus monogyna)	6	120	1	1	1	1	n/a	0	Good	Y-SM	Good	Shrub mass beyond perimeter security fence. Surveyed from distance to west.			10+	C1,2	1.44m	119.9
G5*	Elder (Sambucus nigra), Sycamore (Acer pseudoplatanus), Hawthorn (Crataegus monogyna), Apple (Malus sp), Cherry (Prunus sp), Common Oak (Quercus robur), Butterfly bush (Buddleja sp.)	12	<250#	4	4	4	4	n/a	0	Good - Fair	Y-SM	Good	Majority of trees growing beyond site boundary fence. Occasional self-set tree growing within site boundary fence. Surveyed from car park with limited visibility. Cherry dominant.			20+	B2	3m	567
G6*	Elder (Sambucus nigra), Purple leafed plum (Prunus cerasifera 'Pissardii'), Wild Cherry (Prunus avium), Apple (Malus sp)	8	<400#	4	4	4	4	n/a	0	Good - Fair	EM-M	Good - Fair	Row of trees along site boundary. Trees growing within site boundary fence. Ivy cover in group. Minor dieback and sparsity of cherry plums.			20+	B2	4.8m	185.8
T7*	Wild Cherry (Prunus avium)	11	300#	6	6	6	6	3.0/W	2	Good	SM	Good	Set well back from boundary fence.			20+	B2	3.6m	112.7
T8*	Purple leafed plum (Prunus cerasifera 'Pissardii')	6	140#	3	3	3	3	2.5/S	1.5	Fair	SM	Good - Fair	No access to base, part of boundary row. Moderately sparse upper crown.			10+	C2	1.68m	28.2
T9*	Rowan (Sorbus aucuparia)	5	70, 80, 90#	1	3	2	1.5	2.0/S	1.5	Poor	SM	Poor	In severe decline. Dead stem to north targeting car park.	Remove dead stem to north over car park. (< 1 month)		<10	U1	1.67m	11
G10*	Butterfly bush (Buddleja sp.)	4	<70#	2	2	2	2	n/a	0	Good	Y-SM	Good	Trees growing beyond site boundary fence.		Fell	10+	C2	0.84m	16.9
T11*	Purple leafed plum (Prunus cerasifera 'Pissardii')	5	220#	2	2	2	2	n/a	2	Dead	SM	Dead	Standing dead tree with cushion bracket fungus. Retain for habitat provision if feasible.		Fell	<10	U1	2.64m	12.5

Ref. No	Species Common Name (*Scientific name*)	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (m)				First Significant Branch & direction (m)	Canopy Clearance Height (m)	Physiological Condition	Life Stage	Structural Condition	Observations	Preliminary Management Recommendations	Tree Works to Facilitate the Proposed Development	Estimated Remaining Contribution (yrs)	Category	RPA Radius (m)	Canopy Cover (m²)
				N	S	E	W												
T12*	Purple leafed plum (Prunus cerasifera 'Pissardii')	5	200, 190#	4	4	4	2	1.0/E	1	Fair - Poor	SM	Fair - Poor	No access to base. Bifurcates at base, stem to east severely sparse, with cushion bracket FFBs at ca. 2.5m. Tear out wound adjacent FFB.		Fell	<10	U1	3.31m	37.6
T13*	Apple (Malus sp)	8	500#	3	3	3	3	n/a	1.2	Good	M	Fair	No access to base. Large stem for species, although dense ivy is obscuring inspection.			20+	B1,2	6m	28.2
T14*	Poplar (Populus sp)	12	270#	5	5	5	5	n/a	3	Poor	SM	Poor	In severe decline. Within falling distance of parking area.	Fell (< 1 month)	Fell	<10	U1	3.24m	78.3
T15*	Cherry (Prunus sp)	8	500#	4	4	4	4	n/a	2	Dead	EM	Dead	Ivy clad standing dead tree. No targets at present, except perimeter security fence.	Fell or monolith (to retain deadwood habitat) (< 1 month)	Fell	<10	U1	6m	50.1
T16*	Common Lime (Tilia X europaea)	15	650, 340	7	7	5	6	1.7/S	1	Good	M	Good	Dense ivy cover 0-10m obstructing survey. Two stems from 0.7m. Union not visible. Multiple stems from circa 2m. Unions not visible.	Sever ivy up to 2m. (< 12 months)	Localised crown lift to a height of 5m over the existing hard surface.	40+	A1	8.8m	120.6
T17*	Poplar (Populus sp)	11	320#	5	5	5	5	n/a	5	Dead	SM	Dead	Standing dead tree adjacent parking area.	Fell (< 1 month)	Fell	<10	U1	3.84m	78.3
T18*	Rowan (Sorbus aucuparia)	8	200#	3	3	3	3	n/a	4	Dead	SM	Dead	Standing dead tree adjacent parking area.	Fell (< 1 month)	Fell	<10	U1	2.4m	28.2
T19*	Goat Willow (Salix caprea)	6	410#	3	3	3	3	n/a	2	Good	M	Good	Previously crown lifted. Ivy severed. Minor west lean. Previously removed stem to south. Minor woundwood development. Exposed wood visually sound.		Fell	20+	B2	4.92m	28.2
T20*	Elder (Sambucus nigra)	3	50, 50, 30, 30, 60, 40, 30, 30#	1.4	1.4	1.4	1.4	n/a	1	Fair	SM	Good	Minorly sparse crown.			10+	C2	1.36m	6.1
T21*	Lawson Cypress (Chamaecyparis lawsoniana)	9	350#	4	4	4	4	n/a	0	Good	EM	Good	No access to base. Dense crown obstructing survey. Growing beneath powerline but doesn't appear to have been pruned previously. Small area of crown around powerline that is dead.			20+	B1	4.2m	50.1
T22*	Lawson Cypress (Chamaecyparis lawsoniana)	10	310#	3	3	3	3	n/a	0	Good	SM	Good	No access to base, dense ivy 0-8m. Services through crown north and east.			20+	B2	3.72m	28.2
G23*	Laurel (Laurus spp.)	14	<450#	6	6	6	6	n/a	0	Good	EM-M	Good	Row of three trees growing within site boundary fence. Trees have multiple stems from ground level.			20+	B1,2	5.4m	121.3
G24*	Elder (Sambucus nigra)	7	<120#	3	3	3	3	n/a	0	Good	Y-EM	Good	Trees growing predominantly beyond site boundary fence. Dense ivy cover within group obstructing survey.			10+	C1,2	1.44m	66.2

Ref. No	Species Common Name (*Scientific name*)	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (m)				First Significant Branch & direction (m)	Canopy Clearance Height (m)	Physiological Condition	Life Stage	Structural Condition	Observations	Preliminary Management Recommendations	Tree Works to Facilitate the Proposed Development	Estimated Remaining Contribution (yrs)	Category	RPA Radius (m)	Canopy Cover (m²)
				N	S	E	W												
G25*	Elder (Sambucus nigra)	8	<130#	4	4	4	4	n/a	0	Good - Fair	SM-EM	Good	Trees growing beyond site boundary fence. Crowns do not encroach within site boundary fence. Varying levels of dieback and crown sparsity.			10+	C1,2	1.56m	44.2
T26*	Laurel (Laurus sp.)	12	450#	5	3	5	5	4.0/N	0	Good	M	Good	No access to base. Multi stemmed tree. Stem diameter is estimated aggregate. Tree growing immediately adjacent to residential house. Unsuitable in current location.	Fell (< 12 months)		<10	U1	5.4m	62.6
G27*	English Elm (Ulmus procera)	6	<120#	1	1	1	1	n/a	0	Good - Dead	Y	Good - Dead	Densely populated cluster of young elm in surprisingly good condition, with rare dead young trees.			10+	C1,2	1.44m	656.7
T28*	Cherry (Prunus sp)	2	40#	1	1	1	1	1.0/N	1	Good	Y	Good				10+	C1	0.48m	3.1
G29*	Elder (Sambucus nigra), Butterfly bush (Buddleja sp.), Cherry (Prunus sp)	3	50	2	2	2	2	n/a	0	Good	Y	Good	Small cluster of trees growing within and beyond site boundary fence.			10+	C2	0.6m	58
T30*	Elder (Sambucus nigra)	7	150#	3	3	3	3	5.0/E	5	Poor	M	Fair	No access to base. Tree growing beyond site boundary fence. Significant crown dieback and sparsity. Dense ivy cover 0-6m. Very minor crown encroachment within site boundary fence. Circa 5m crown clearance within site.			10+	C1	1.8m	28.2
G31*	Elder (Sambucus nigra)	6	<150#	4	4	4	4	n/a	0	Good - Fair	SM-M	Good	Trees growing beyond site boundary fence. Minor crown dieback and sparsity present. Circa 1m crown clearance within site.			10+	C1,2	1.8m	84.7
H32*	Bay (Laurus nobilis)	4	<100#	2	2	2	2	n/a	0	Good	SM	Good	Trees growing beyond site boundary fence.			10+	C2	1.2m	5.3
G33*	Elder (Sambucus nigra)	2	<50#	1	1	1	1	n/a	0	Good	Y	Good	Growing adjacent to site boundary fence. Dense understorey obstructing visibility of stem locations.			10+	C2	0.6m	4.9
G34*	Elder (Sambucus nigra)	6	<140#	4	4	4	4	n/a	0	Good - Fair	SM-M	Good	Trees growing beyond site boundary fence. Minor crown dieback and sparsity present. Circa 2m crown clearance within site.			10+	C1,2	1.68m	33.9
G35*	Butterfly bush (Buddleja sp.)	3	<60#	2	2	2	2	n/a	0	Good	Y	Good	Trees growing either side of site boundary fence.			10+	C2	0.72m	12.8
T36*	Swedish Whitebeam (Sorbus intermedia)	9	250#	4	4	0	4	2.5/N	3	Good	SM	Good	No access to base. Growing beyond site boundary fence. Moderate form suppression from whitebeam to east. Crown does not encroach within site boundary fence.			20+	B1	3m	25.1
T37*	Leyland Cypress (X Cupressocyparis leylandii)	7	120#	3.5	0	0.5	2.5	2.5/N	2	Good - Fair	SM	Good	No access to base. Tree growing beyond site boundary fence. Significant form suppression from adjacent whitebeam. Circa 2m crown clearance within site.			10+	C1	1.44m	8.2
T38*	Swedish Whitebeam (Sorbus intermedia)	9	500#	5	4	4	3	2.0/N	1.7	Good	M	Good	No access to base. Tree growing beyond site boundary fence. Dense ivy 0-8m obstructing survey. No visibility of lower stem or inner crown. Circa 1.7m crown clearance within site.			20+	B1	6m	49.3

Ref. No	Species Common Name (*Scientific name*)	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (m)				First Significant Branch & direction (m)	Canopy Clearance Height (m)	Physiological Condition	Life Stage	Structural Condition	Observations	Preliminary Management Recommendations	Tree Works to Facilitate the Proposed Development	Estimated Remaining Contribution (yrs)	Category	RPA Radius (m)	Canopy Cover (m²)
				N	S	E	W												
G39*	Elder (Sambucus nigra)	4	<70#	2	2	2	2	n/a	0	Good	Y-SM	Good	Trees growing beyond site boundary fence. Circa 1.2m crown clearance within site.			10+	C2	0.84m	12.3
G40*	English Elm (Ulmus procera)	6	<100#	1	1	1	1	n/a	0	Good - Dead	Y	Good - Dead	Densely populated cluster of young elm in surprisingly good condition, with rare dead young trees.			10+	C1,2	1.2m	152.6
G41*	Elder (Sambucus nigra), Cherry (Prunus sp), Butterfly bush (Buddleja sp.)	5	<100#	3	3	3	3	n/a	0	Good	Y-SM	Good	Trees growing beyond site boundary fence. 0m crown clearance within site.			10+	C1,2	1.2m	42.7
T42*	Field Maple (Acer campestre)	7	250#	4	4	4	4	n/a	1	Good	SM	Good	No access or visibility to base, beyond cluster of elm and boundary fence.			20+	B2	3m	50.1
T43*	Field Maple (Acer campestre)	7	250#	3	3	3	3	n/a	1	Good	SM	Good	No access or visibility to base, beyond cluster of elm and boundary fence.			20+	B2	3m	28.2
T44*	Ash (Fraxinus excelsior)	9	550#	5	5	5	5	2.5/E	3	Good	M	Good	No access to base. Growing beyond site boundary fence. Previously crown reduced with good regrowth. Circa 2.5m crown clearance over site.			20+	B1	6.6m	78.3
T45*	Golden leylandii (X Cupressocyparis leylandii Castlewellan)	4	100#	2	2	2	2	n/a	0	Good	Y	Good	No access to base. Tree growing beyond site boundary fence.			10+	C1	1.2m	12.5
G46*	Sycamore (Acer pseudoplatanus)	5	<120#	2	2	2	2	n/a	0	Good	Y	Good	Cluster of young stems.		Fell	10+	C1,2	1.44m	9.5
T47*	Swedish Whitebeam (Sorbus intermedia)	8	400#	4	4	4	4	2.0/E	0	Good	M	Good	No access to base. Tree growing outside of site boundary fence. Dense ivy cover obstructing survey. Circa 1.5m crown clearance over site.			20+	B1	4.8m	50.1
G48*	Elder (Sambucus nigra), Yew (Taxus baccata)	6	<130#	4	4	4	4	n/a	0	Good	Y-SM	Good	Trees growing beyond site boundary fence. Grape vine growing through tree canopies. Minor crown encroachment into site.			10+	C2	1.56m	76.7
G49*	Elder (Sambucus nigra), Ash (Fraxinus excelsior), Holly (Ilex aquifolium), Sycamore (Acer pseudoplatanus)	6	<240#	2	2	2	2	n/a	0	Good - Poor	Y-M	Good - Fair	Cluster of 2 Mature elder, with a Y holly, SM ash and Y sycamore emergent. Singular elder to west in poor condition, swamped by climber.		Fell	10+	C1,2	2.88m	49.3
G50*	English Elm (Ulmus procera)	11	<130#	2	2	2	2	n/a	0	Good - Dead	Y-SM	Good - Dead	Surveyed from accessible field to west. Densely populated group of young elm, which are in surprisingly good condition at present. Two dead young trees present, low risk due to size and location. Stems largely within site area, with few beyond perimeter fence.			10+	C1,2	1.56m	513.5
G51*	Elder (Sambucus nigra), Butterfly bush (Buddleja sp.)	5	<100#	3	3	3	3	n/a	0	Good	Y-SM	Good	Dense ivy present obstructing survey. Majority of trees growing beyond site boundary fence. Several young buddleja growing within site.			10+	C2	1.2m	150.8
H52*	Elder (Sambucus nigra), Bay (Laurus nobilis)	5	<70#	2	2	2	2	n/a	0	Good - Fair	Y-SM	Good	Trees growing beyond site boundary fence. No crown encroachment into site.			10+	C2	0.84m	22.7

Ref. No	Species Common Name (*Scientific name*)	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (m)				First Significant Branch & direction (m)	Canopy Clearance Height (m)	Physiological Condition	Life Stage	Structural Condition	Observations	Preliminary Management Recommendations	Tree Works to Facilitate the Proposed Development	Estimated Remaining Contribution (yrs)	Category	RPA Radius (m)	Canopy Cover (m²)
				N	S	E	W												
G53*	Monterey Cypress (Cupressus macrocarpa)	14	<450#	5	5	5	5	n/a	0	Good - Poor	SM-EM	Good - Fair	Tress growing beyond site boundary fence. A number of trees within group with varying levels of dieback and sparsity. Moderate sized deadwood present. Low target area. Circa 2m clearance over site.	Remove dead wood If traffic frequency beneath tree increases.		10+	C1,2	5.4m	139.8
T54*	Monterey Cypress (Cupressus macrocarpa)	14	450#	4	3	5	4	4.0/E	2.5	Good	EM	Good	No access to base. Tree growing beyond site boundary fence. Circa 2.5m crown clearance over site.			20+	B2	5.4m	49.3
G55*	Purple leafed plum (Prunus cerasifera 'Pissardii')	5	<100#	3	3	3	3	n/a	0	Good	Y-SM	Good	Dense cluster of trees growing beyond site boundary fence.			10+	C2	1.2m	25.9
G56*	English Elm (Ulmus procera)	10	<230#	3	3	3	3	n/a	0	Good	Y-SM	Good - Dead	Row of predominantly Y elm beyond perimeter fence, with no access to bases. Several dead Y trees and SM which are in poor condition. Likely DED. Surveyed from accessible field to west. the taller trees amongst group are likely to be within falling distance of M4. Not considered suitable for retention. Younger (shorter) trees are in good condition, therefore creating a hedge should be considered as opposed to removal, if feasible.	Fell dead trees and reduce to < 3m to create hedgerow (< 1 month)		<10	U1	2.76m	239
G57*	Elder (Sambucus nigra)	2	<60#	1	1	1	1	n/a	0	Good	Y	Good - Fair	Cluster of elder swamped by vegetation to periphery of site.			10+	C2	0.72m	19.6
G58*	Leyland Cypress (X Cupressocyparis leylandii), Goat Willow (Salix caprea)	10	<250#	3	3	3	3	n/a	0	Good	SM-EM	Good	Boundary row perpendicular to site. No access to bases. Nearest stem set back from perimeter fence at least 5m. Unmanaged.			20+	B2	3m	91.4
G59*	Hawthorn (Crataegus monogyna), Elder (Sambucus nigra), Butterfly bush (Buddleja sp.)	5	<180#	2	2	2	2	n/a	0	Good	Y-EM	Good	Boundary row of predominantly hawthorn, bases beyond perimeter fence and set back by at least 0.5m.			20+	B2	2.16m	334.5
G60*	Hawthorn (Crataegus monogyna)	6	<120#	2	2	2	2	n/a	0	Good	SM	Good	Boundary hawthorn shrubs. Bases set back ca. 1m beyond perimeter fence.			10+	C1,2	1.44m	40.7
T61*	Monterey Cypress (Cupressus macrocarpa)	18	650#	5	5	5	5	12.0/E	6	Poor	EM	Fair	Beyond perimeter fence with no access to base. Dense ivy covering entire primary and secondary structure. Bifurcates at ca. 1.8m, stem to north appears to be dead. Severe dieback of upper crown with associated deadwood. Targets include third party school/courtyard area. Not considered suitable for retention.	Fell (< 1 month)		<10	U1	7.8m	78.3
T62*	Sycamore (Acer pseudoplatanus)	18	320 ,330, 340, 300#	8	8	8	8	4.0/N	1	Good - Fair	EM	Good - Fair	No access to base, set back ca. 2.4m beyond perimeter fence. Bifurcates at base, then again at ca. 1.3m. Unions appear visually sound as viewed from site to north. Ivy 0-14m on all primary stems. Minorly sparse upper crown. Occasional deadwood, minor, no targets at present.			20+	B1	7.75m	200.4

Key to Abbreviations & Terms Used in the Survey

Ref No	Specific identification number given to each tree or group. T=Tree/H=Hedge/G=Group/W=Woodland.
Species	Common name followed by scientific name shown in *italics.*
RPA	Root Protection Area (As defined by BS5837:2012)
Stem diameter	Diameter of main stem, measured in millimetres at 1.5 m above ground level. (MS = Multi-stem tree measured in accordance with BS5837:2012 Annexe C).
Spread	The width and breadth of the crown. Estimated on the four compass points in metres.
Crown clearance	The estimated height (in metres) above ground level of the lowest significant branch attachments.
#	Estimated dimensions.
*	Indicates estimated position of tree (not indicated on topographical survey).
Av	Indicates an average representative measured dimension for the feature.
Category	Categorisation of the quality and benefits of trees on Site as per Table 1 and 2 of BS5837:2012. 1=Arboricultural quality/value 2=Landscape quality/value 3=Cultural quality/value (including conservation)
	A=High quality/value 40yrs+ (light green). B=Moderate quality/value 20yrs+ (mid blue) C=Low quality/value min 10yrs/stem diameter less than 150mm (grey). U=Unsuitable for retention (dark red).
Life stage	**Young (Y):** Newly planted tree 0-10 years. **Semi-Mature (SM):** Tree in the first third of its normal life expectancy for the species (significant potential for future growth in size). **Early Mature (EM):** Tree in the second third of its normal life expectancy for the species (some potential for future growth in size) **Mature (M):** Tree in the final third of its normal life expectancy for the species (having typically reached its approximate ultimate size). **Over Mature (OM):** Tree beyond the normal life expectancy for the species. **Veteran (V):** Tree of maturity which is of exceptional biodiversity, cultural or heritage value due to its age, size and condition. **Ancient (A):** Tree which is beyond maturity and is of great age for the species (typically showing ancient crown and stem form/architecture).
Structural condition	**Good:** No significant structural defects **Fair:** Structural defects which can be resolved via remedial works. **Poor:** Structural defects which cannot be resolved via remedial works. **Dead:** Dead.
Physiological condition	**Good:** Normal vitality including leaf size, bud growth, density of crown and wound wood development. **Fair:** Lower than normal vitality, reduced bud development, reduced crown density, reduced response to wounds. **Poor:** Low vitality, low development and distribution of buds, discoloured leaves, low crown density, little extension growth for the species. **Dead:** Dead **Fair/Good** = Indicates an intermediate condition **Fair – Good** = Indicates a range of conditions (e.g. within a group)
Preliminary management recommendations	Works identified during the tree survey as part of sound arboricultural management, based on the current context of the Site (where relevant reference has been made to tree management based on the potential future context of the site).

FFB	Fungal fruiting body.
ADB	Ash dieback (*Hymenoscyphus fraxineus)*
AGL	Above ground level

Appendix C Site Photography



Photo 1. Showing T16 the one high quality (category A) tree to the north of the Site.



Photo 2. Showing T21 to the north west of the Site.



Photo 3. Showing T61 the TPO'd tree to the south of the Site.

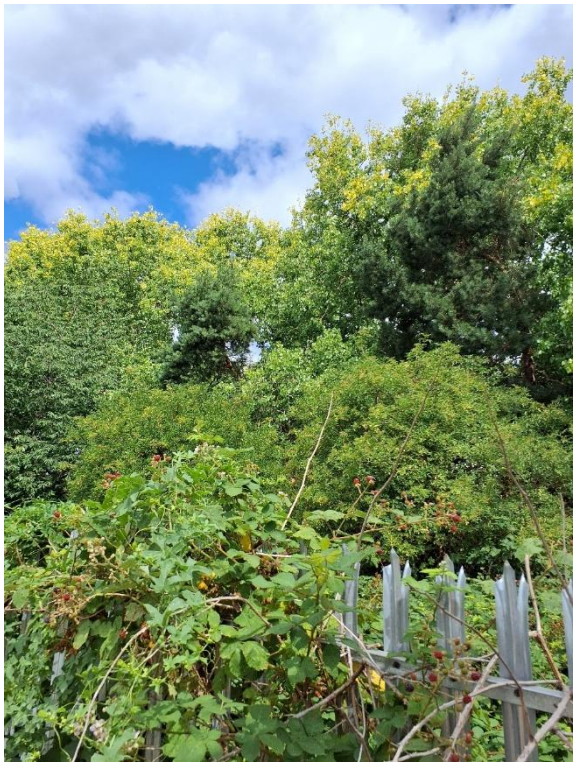
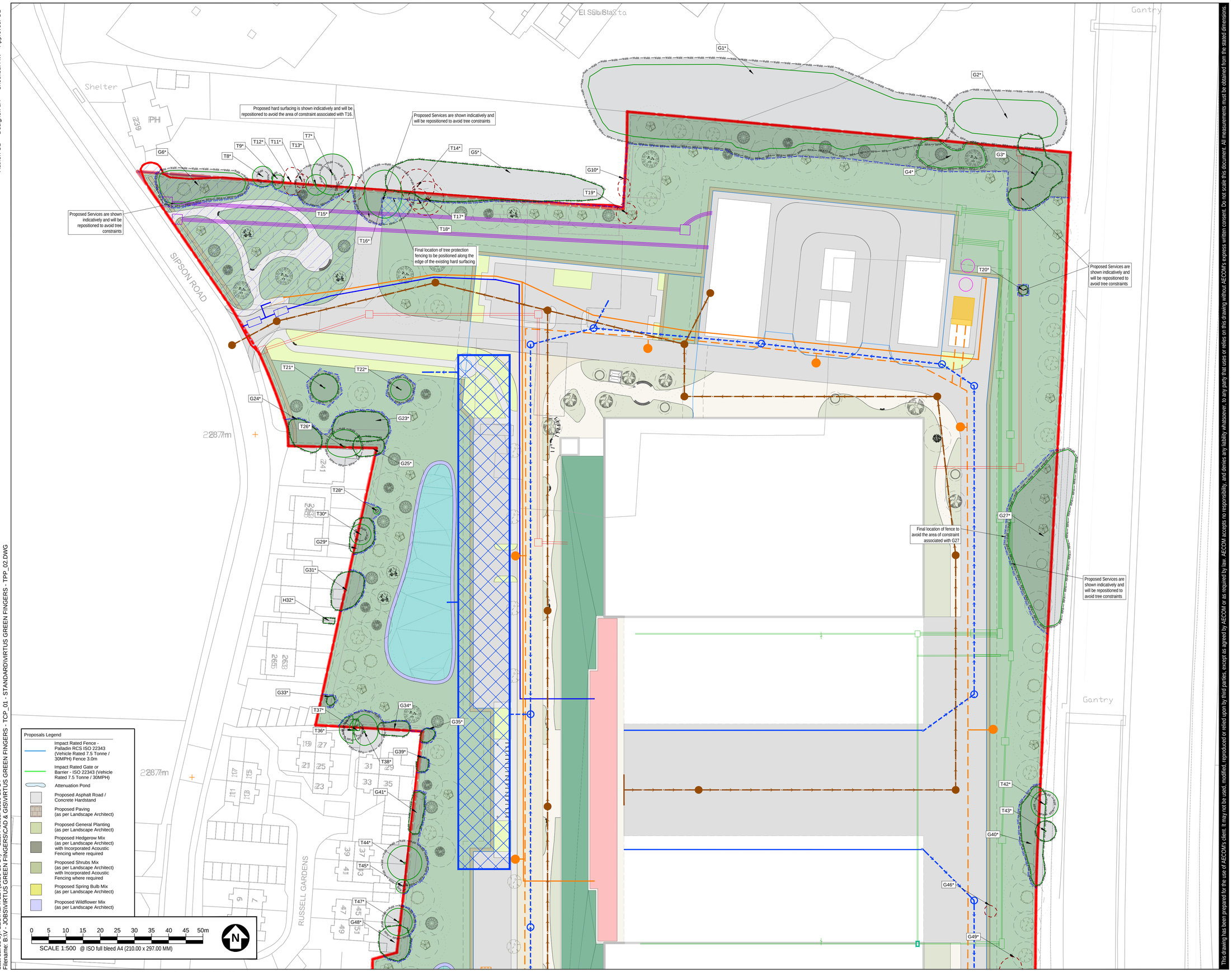


Photo 4. Showing G1 to the north of the Site.

Appendix D Tree Protection Plan

Author: OL Designer: LH Checked: AW Approved: OL



© Crown copyright and database rights [2026] Ordnance Survey AC0000808122

Last saved by: LEO.HEATLEY(2026-10-14) Last Plotted: 2026-10-14
Filename: B:\V - JOBS\VIRTUS GREEN FINGERS\CAD & GIS\VIRTUS GREEN FINGERS - TCP_01 - STANDARD\VIRTUS GREEN FINGERS - TPP_02.DWG

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

AECOM

PROJECT

FORMER SIPSON GARDEN CENTRE

CLIENT

VIRTUS DATA CENTRES LTD

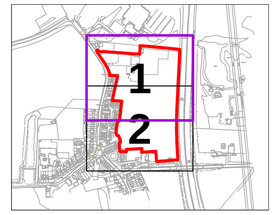
CONSULTANT

AECOM
Mid Point, Alencon Link,
Basingstoke, Hants,
RG21 7PP
Tel +44 (0) 1256 310 200
www.aecom.com

GENERAL NOTES

1. TREE CATEGORIES AS DEFINED BY BS 5837:2012
2. TREE LOCATIONS ARE BASED ON AERIAL IMAGERY, AND GPS CO-ORDINATES FROM ON SITE WALKOVER.
3. * INDICATES A TREE / GROUP WHOSE POSITION IS APPROXIMATE AS BASED UPON AERIAL PHOTOGRAPHY AND ON SITE OBSERVATIONS.
4. PLANS SHOULD BE READ IN CONJUNCTION WITH THE AECOM ARBORICULTURAL REPORT.
5. THE ORIGINAL OF THIS DRAWING WAS PRODUCED IN COLOUR - A MONOCHROME COPY SHOULD NOT BE RELIED UPON.
6. DRAWING REFERENCES:
   OS_MasterMap_Topography_Layer_1076500_1355473_OS_Mastermap.dwg
   2026.01.29 PGF Red-Line Boundary (Draft v1.0).dwg
   Proposed Utilities Model.dwg
   PGF-ACM-00-XX-DR-LA-20100- Landscape Layout General Arrangement.dwg

KEY PLAN



KEY

FEATURE ID TAGS
(A PREFIX OF 'T' DENOTES A SINGLE TREE, 'G' A GROUP, 'H' A HEDGE, 'W' A WOODLAND, AND AN ASTERISK SUFFIX '' MEANS THE FEATURE WAS PLOTTED INDICATIVELY)*

SITE BOUNDARY

EXISTING TREE, GROUP, WOODLAND, OR HEDGE TO BE RETAINED

EXISTING TREE, GROUP, WOODLAND, OR HEDGE TO BE REMOVED

ROOT PROTECTION AREA OF RETAINED TREES
(AS DEFINED BY BS 5837:2012)

TREE PROTECTION FENCING

CONSTRUCTION EXCLUSION ZONE
(TRACKING OF PLANT, MATERIALS STORAGE, EXCAVATION AND ALL OTHER CONSTRUCTION ACTIVITIES ARE EXCLUDED WITHIN THESE AREAS FOR THE PURPOSES OF PROTECTING TREE HEALTH)

CONSTRUCTION WORKING ZONE
(MANAGED CONSTRUCTION PROCESSES PERMITTED IN ACCORDANCE WITH THE PRINCIPLES SET OUT WITHIN THE ARBORICULTURAL IMPACT ASSESSMENT)

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P02	14.10.26	DESIGN UPDATE
P01	23.09.26	FIRST ISSUE

DRAWING STATUS

ISSUE

PROJECT NUMBER

60749800

SHEET TITLE

TREE PROTECTION PLAN (SHEET 01)

SHEET NUMBER **REV.**

60749800-ACM-XX-XX-AB-TPP-001 P02

Author: OL Designer: LH Checked: AW Approved: OL



© Crown copyright and database rights [2026] Ordnance Survey AC0000808122

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

Last saved by: LEO.HEATLEY(2026-10-14) Last Plotted: 2026-10-14
Filename: R:\V - JOBS\VIRTUS GREEN FINGERS\CAD & GIS\VIRTUS GREEN FINGERS - TCP_01 - STANDARD\VIRTUS GREEN FINGERS - TPP_02.DWG

AECOM

PROJECT

FORMER SIPSON GARDEN CENTRE

CLIENT

VIRTUS DATA CENTRES LTD

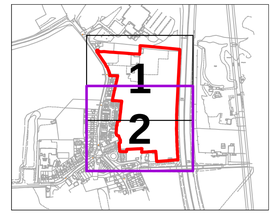
CONSULTANT

AECOM
Mid Point, Alencon Link,
Basingstoke, Hants,
RG21 7PP
Tel +44 (0) 1256 310 200
www.aecom.com

GENERAL NOTES

1. TREE CATEGORIES AS DEFINED BY BS 5837:2012
2. TREE LOCATIONS ARE BASED ON AERIAL IMAGERY, AND GPS CO-ORDINATES FROM ON SITE WALKOVER.
3. * INDICATES A TREE / GROUP WHOSE POSITION IS APPROXIMATE AS BASED UPON AERIAL PHOTOGRAPHY AND ON SITE OBSERVATIONS.
4. PLANS SHOULD BE READ IN CONJUNCTION WITH THE AECOM ARBORICULTURAL REPORT.
5. THE ORIGINAL OF THIS DRAWING WAS PRODUCED IN COLOUR - A MONOCHROME COPY SHOULD NOT BE RELIED UPON.
6. DRAWING REFERENCES:
   OS_MasterMap_Topography_Layer_1076500_1355473_OS_Mastermap.dwg
   2026.01.29 PGF Red-Line Boundary (Draft v1.0).dwg
   Proposed Utilities Model.dwg
   PGF-ACM-00-XX-DR-LA-20100- Landscape Layout General Arrangement.dwg

KEY PLAN



KEY

FEATURE ID TAGS
(A PREFIX OF 'T' DENOTES A SINGLE TREE, 'G' A GROUP, 'H' A HEDGE, 'W' A WOODLAND, AND AN ASTERISK SUFFIX '' MEANS THE FEATURE WAS PLOTTED INDICATIVELY)*

SITE BOUNDARY

EXISTING TREE, GROUP, WOODLAND, OR HEDGE TO BE RETAINED

EXISTING TREE, GROUP, WOODLAND, OR HEDGE TO BE REMOVED

ROOT PROTECTION AREA OF RETAINED TREES
(AS DEFINED BY BS 5837:2012)

TREE PROTECTION FENCING

CONSTRUCTION EXCLUSION ZONE
(TRACKING OF PLANT, MATERIALS STORAGE, EXCAVATION AND ALL OTHER CONSTRUCTION ACTIVITIES ARE EXCLUDED WITHIN THESE AREAS FOR THE PURPOSES OF PROTECTING TREE HEALTH)

CONSTRUCTION WORKING ZONE
(MANAGED CONSTRUCTION PROCESSES PERMITTED IN ACCORDANCE WITH THE PRINCIPLES SET OUT WITHIN THE ARBORICULTURAL IMPACT ASSESSMENT)

ISSUE/REVISION

P02	14.10.26	DESIGN UPDATE
P01	23.09.26	FIRST ISSUE
I/R	DATE	DESCRIPTION

DRAWING STATUS

ISSUE

PROJECT NUMBER

60749800

SHEET TITLE

TREE PROTECTION PLAN (SHEET 02)

SHEET NUMBER / REV.

60749800-ACM-XX-XX-AB-TPP-002 P02

Appendix E Outline Tree Protection Measures

E.1 Outline Tree Protection Measures

The default position as set out by BS5837:2012 is that retained trees must be protected from construction operations with the erection of robust protective fencing positioned on the outer edge of the RPA or crown spread (whichever is greatest). All site operations will be restricted to the area outside of tree protection fencing and this area will form a Construction Exclusion Zone (CEZ) unless agreed otherwise. Protection measures will be installed as set out in the Tree Protection Plan included as Appendix E of this report.

The area inside the fence and any additional tree protection measures will be sacrosanct and must not be removed or altered without the prior approval of the LBH Tree Officer. Any damage to tree protection measures must be reported immediately.

Fencing shall be constructed with robust vertical and horizontal scaffold framework with weldmesh panels firmly attached as per BS5837:2012 Figure 2 (included below). Vertical support poles and bracing poles must be located with care to avoid underground utility services and will be sited to avoid the structural roots of retained trees.

Alternative equivalent robust and immovable fencing specification including site hoarding will also be appropriate.

Suitable all weather signage will be fixed to fencing to notify site staff and visitors of the construction exclusion zone and its purpose (example included as Appendix F).

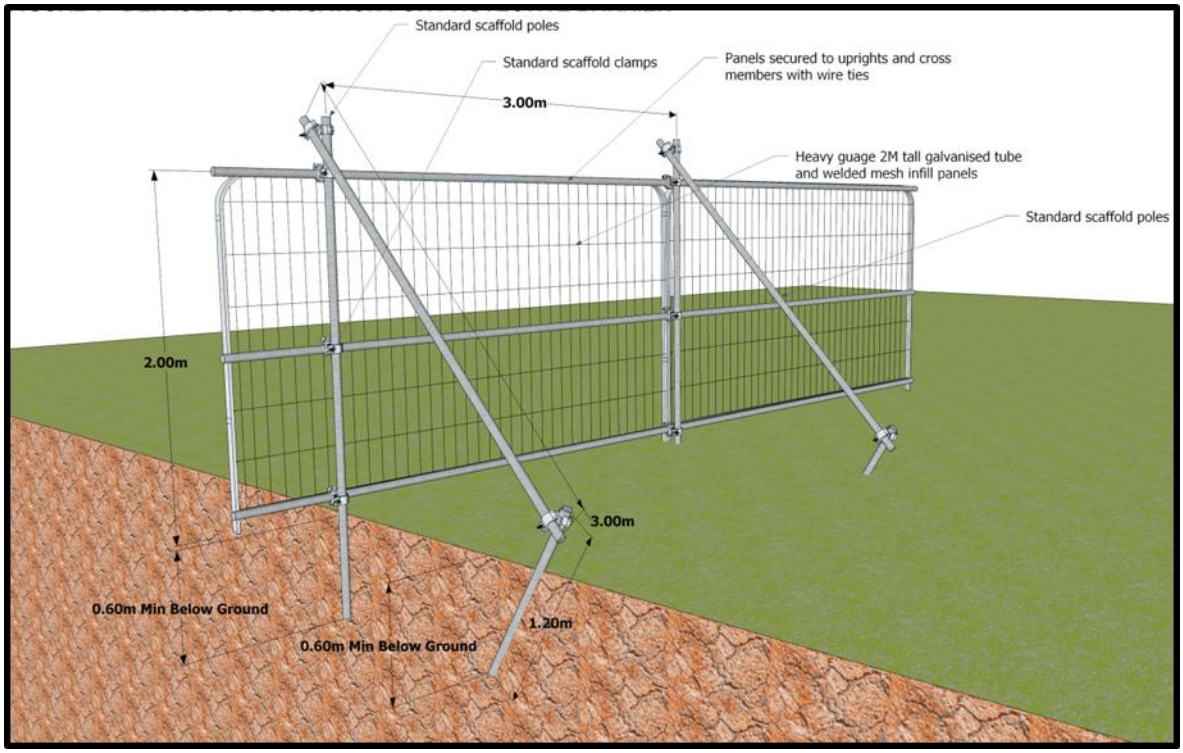


Figure 3 Default specification for protective barrier

When entering and exiting the Site the fencing contractor must avoid the production of ruts on the unprotected surface of the ground.

Protective fencing and ground protection shall stay in place until all development operations have been completed and the prior consent of the LBH Tree Officer and Site Arboriculturist has been obtained.

E.2 Ground Protection

Should access be unavoidable within the RPA of a retained tree, fit for purpose ground protection must be in place which is sufficient to protect the structure of the soil from damage based on the heaviest anticipated load.

As set out in section 6.2.3.3 of BS5837:2012 the following ground protection measures will be appropriate:

- Suitable ground protection for pedestrian only access will comprise a single thickness of scaffold boards set on a compressible layer of 100mm of woodchip on a geotextile separation layer.
- Pedestrian operated plant up to two tonnes in weight would require the use of a proprietary ground protection system (such as Ground Guards or Eve Trakway or equivalent) set on a minimum depth of 150mm woodchip or sharp sand.
- Heavier loads will require ground protection to an engineering specification in conjunction with arboricultural advice.

As a guide the threshold beyond which root development is significantly affected is a bulk density ranging from 1.4g per cm^3 for clay soils, to 1.75g per cm^3 for sandy soils.

Tree protective measures shall stay in place until all construction operations are completed and removal is agreed with the Site Arboriculturist and LBH Tree Officer as appropriate.

E.3 General Guidance for the Management of Exposed Roots

Excavation must only take place within the RPA of a retained tree with the prior agreement of an arboriculturist and the Local Authority Tree Officer. All excavation must be undertaken using hand tools or compressed air (such as an air spade).

The following general principles will apply:

- Individual or small groups of roots less than 25mm in diameter will be retained where possible but can be severed with a sharp tool such as secateurs or pruning saws to leave a clean cut end (ideally 100mm back from the face of the excavation to account for future regrowth) where they pose an obstruction.
- Where roots are encountered which are larger than 25mm in diameter or where significant groups of smaller roots are found, the advice of an arboriculturist must be sought to decide an appropriate course of action (following consultation with the LBH Tree Officer where appropriate).
- Roots must only be exposed for the minimum period possible. In the interim period any exposed roots must be completely covered with dampened hessian sacking (which may require ongoing re wetting) to avoid drying out and exposure to light (which can result in the death of roots). Backfill for excavations should utilise the parent material and must not be significantly compacted.

E.4 Storage, Use and Mixing of Materials

The use, mixing and washing of materials can lead to run off or inadvertent spillage into tree root zones. Many substances often used on construction sites can be toxic to tree roots (such as concrete, fuels, salts, builders' sand and herbicides), can result in the death of tree roots and beneficial soil organisms; and have a significant impact on the future health and appearance of trees.

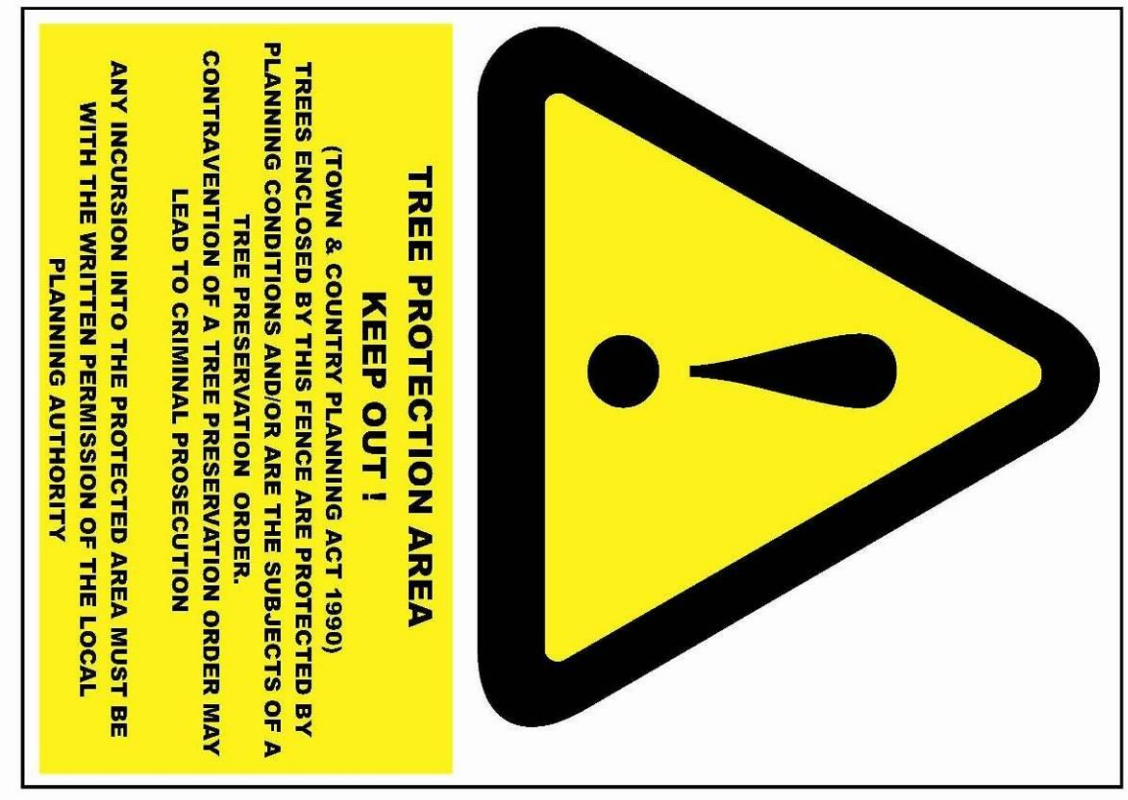
The storage of materials can result in an effective raised soil level. This buries tree roots at depths where air and water are less available and can lead to the decline or death of the tree.

For these reasons the storage of materials and any washing, mixing or refuelling must take place in agreed allocated areas at least 10m from the edge of the RPA of retained trees.

Any slope effect must be taken into account and where there is a potential for run off, heavy duty polythene sheeting and sandbags must be in place as bunding to prevent toxic materials reaching RPAs.

Appendix F Tree Protection Signage (Example)





Appendix G General Arboricultural Principles

G.1 General Principles

7.2.1 Trees are dynamic living organisms which provide essential benefits to society and the wider environment. Any Proposed Development with the potential to impact on trees must take into consideration the value of trees on the Site; the impact of any proposed activity along with any potential future conflicts on the Site. Suitable measures to safeguard retained trees or mitigate the loss of trees (to be removed) will need to be fully considered and may be subject to a condition of planning consent.

7.2.2 Tree branches and roots frequently grow across site boundaries and off-site trees can pose a significant constraint and should be carefully considered when assessing the developable space within a site.

G.2 Below Ground Constraints

7.2.3 Below ground tree roots and the soil environment in which they grow need to be protected if the tree is to be retained. Trees grow in association with fungi and other soil organisms which are of key importance to tree health. Roots are essential for anchorage, the uptake of water and nutrients, and the storage of energy (carbohydrates) for the future growth and function of the tree.

7.2.4 Roots can be damaged by physical severance or wounding (e.g. following excavation of the soil) which can lead to the development of decay and a decline in vitality and/or instability. Raising the soil level can bury tree roots at a depth where suitable conditions for growth are less available. Toxic materials discharged into the soil (such as cement-based aggregates, fuel and chemicals) can lead to root death and dysfunction. Soils can be compacted to levels inhospitable to tree growth with even a single pass of machinery, regular pedestrian traffic or the storage of plant and materials. Relieving compaction can be problematic and may require costly remedial works. Changes in drainage/water levels can also have significant long-term impacts for tree health.

7.2.5 The effects of these incursions may take many years to manifest, with a resulting decline in amenity value and potentially the death or failure of the tree. It should be noted that older trees are particularly sensitive to damage and changes in conditions.

7.2.6 The RPA is a notional area considered to be the minimum zone that must be protected to avoid any adverse impacts on retained trees. This area is deemed to be particularly important for tree stability, growth, function and health. However, roots may extend far greater distances, with the distribution of the root system relating directly to the availability of suitable conditions for growth (namely oxygen, water and nutrients). It is generally accepted that tree roots are predominantly located in the upper 1000mm of soil; however, roots may develop at deeper levels where conditions allow.

7.2.7 Root Protection Areas are calculated as per BS5837:2012 Annexe C, D and Section 4.6.

7.2.8 The RPA of the existing tree stock is an important material consideration when considering site constraints and planning development activities. The RPA of significant trees on the Site are shown on the Tree Constraints Plan (Appendix A).

7.2.9 The default position must be that all development, including any associated services will occur outside the RPAs of retained trees. Where this is unavoidable, it may be appropriate to use special measures to install structures, services or surfacing within RPAs which allow the protection of roots and soil structure which are essential for tree growth and keep any incursion to a minimum.

7.2.10 Further steps to improve or increase the useable rooting area available to the tree may also be required.

G.3 Soils

7.2.11 On shrinkable clay soil, tree growth can lead to the differential movement of structures as moisture is removed from the soil during the growing season. Soils must be carefully assessed, and any foundations must be installed following the recommendations of National House Building Council (NHBC) Standards Chapter 4.2: Building Near Trees (2024) to avoid potential future damage. Where trees which predate existing structures are to be removed, this can result in heave as the soils are re-wet.

7.2.12 The advice of a suitably qualified engineer must be obtained to inform any potential issue of heave. Specific advice in relation to this issue is beyond the scope of this report.

G.4 Above Ground Constraints

7.2.13 Tree stems and branches can restrict available space on a site. Damage or wounding (including excessive pruning) can significantly reduce the amenity contribution of the tree and may lead to the development of dysfunction and decay, with significant long term implications for tree health. The future impact of existing trees should be carefully considered, including individual species characteristics (such as potential future size, fruit fall, shade etc.) and how the tree will interact with any proposed development and future land use. Annual tree growth can lead to direct damage if stems/branches (or roots) come into physical contact with structures and this must also be taken into consideration.

G.5 Trees and Risk in the Context of Development

7.2.14 Tree owners/managers have a legal duty to prevent foreseeable harm. It is generally accepted that this duty can be fulfilled by undertaking proactive inspections of significant trees to identify obvious defects and by taking appropriate remedial action or gaining further advice as appropriate.

7.2.15 Further guidance is available from the National Tree Safety Group.

7.2.16 The tree survey carried out as the basis of this report is primarily for planning purposes, focusing on the quality and benefits of the trees and is not specifically designed to assess the safety of trees on the Site. However, when obvious issues have been identified, recommendations have been included in the Tree Survey Schedule.

7.2.17 The Construction (Design and Management) Regulations (2015) states that developers and contractors have responsibilities for health and safety as a result of their actions. Should trees be left in an unstable or hazardous condition the Health and Safety Executive (HSE) could seek to prosecute those responsible along with the potential for further Civil claims for damages.

G.6 Trees and Wildlife

7.2.18 Full consideration must be given to the presence of species protected under the Wildlife and Countryside Act (1981 - as amended), the Countryside Rights of Way Act (2000) and the Conservation of Habitats and Species Regulations (2017), in particular the presence of bats and nesting birds. It is recommended that wherever possible, significant tree/hedge works take place outside of the typical bird nesting season of March to September. The advice of a suitably qualified Ecologist is recommended in relation to any potential impacts on protected species.

G.7 Tree Works

7.2.19 Any tree surgery recommendations contained within this report are to be undertaken in accordance with BS3998:2010 Tree work – Recommendations (BS3998:2010) by suitably qualified and insured contractors. Significant pruning works are best undertaken when trees are dormant or outside periods of high functional activity to reduce the overall impact on energy available to the tree for growth and processes. In general, the optimum period for works is between November to February and July to August (subject to the presence of protected species) when the tree is less active and better placed to respond to wounding and a reduction in leaf area.