

ARBORICULTURAL IMPACT ASSESSMENT

Land at Mill Lane &
London Road, Hitchin

September 2025



Barton Hyett Associates
Arboricultural Consultants

In association with

CSA
environmental

Summary table		
Site Name:	Land at Mill Lane and London Road, Hitchin	
Project reference:	6580	
Site Address:	Mill Lane, St Ippolyts, North Hertfordshire, Hertfordshire	
Nearest Postcode:	SG4 7NN	
Central Grid reference:	TL 19120 27427	
Local Planning Authority:	North Hertfordshire District Council	
Relevant planning policies:	Local Plan 2011-2031: SP1 - Sustainable development in Hertfordshire; SP12 - Green infrastructure, landscape & biodiversity; D1 - Sustainable design; NE2 - Landscape; NE4 - Biodiversity & geodiversity sites.	
Statutory Controls:	Tree Preservation Order	Conservation Area
	TPO 122 protects Turkey oak T3	No.
Soil Type: (Source: BGS online soils map © NERC 2025)	Superficial/Drift	Bedrock
	Deep, slightly alkaline sand to sandy loam over Glaciofluvial Deposits of sand and gravel.	Zig Zag Chalk Formation chalk.
Topographical Survey:	Oak Surveys Ltd. topographical survey Oak_19-125 (May 2019)	
Site Layout:	3922_122_C_Development_Framework_Plan	
Report author:	Ian Monger <i>BSc (Hons), MSc, MICFor, MArborA</i>	
Date of issue:	03.09.2025	

REPORT CONTENTS:

SECTION 1:	TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT
SECTION 2:	TREE SURVEY & CONSTRAINTS PLAN
SECTION 3:	COMBINED TREE RETENTION/REMOVAL & PROTECTION PLAN
SECTION 4:	TREE SURVEY SCHEDULE
SECTION 5:	METHODOLOGY
SECTION 6:	DESIGN GUIDANCE AND GENERIC ADVICE
SECTION 7:	PRINCIPLES FOR TREE PROTECTION ON DEVELOPMENT SITES

1. INTRODUCTION

- 1.1. I am Ian Monger, an arboriculturist with 18 years of experience and a professional member of the Institute of Chartered Foresters and the Arboricultural Association.
- 1.2. Barton Hyett Associates Ltd has been instructed by CSA Environmental to survey trees located at Land at Mill Lane & London Road, Hitchin ('the site') in accordance with the recommendations of British Standard 5837:2012 'Trees in relation to design, demolition and construction - recommendations'.
- 1.3. The scope of the instruction was to inspect trees relevant to a planning application at the site and provide written advice on how they inform feasibility and design options. The instruction also required an assessment of the potential impact (the Arboricultural Impact Assessment) of the proposed development on the site's arboricultural resource to be undertaken.

2. SITE DESCRIPTION

- 2.1. The site is an area of open ground and woodland of c. 3.38ha in size, located to the south of the junction of Mill Lane and London Road in the south of Hitchin in North Hertfordshire. The approximate survey area is shown edged yellow in Figure 1.
- 2.2. In the north of the site is an area of planted and naturally regenerated woodland which is dominated by horse chestnut, common walnut and a very large Turkey oak, which is individually protected by Tree Preservation Order (TPO) 122. The area includes blackthorn scrub, hawthorn and elm hedgerows and young to semi-mature trees. To the south of this area is a grass paddock which includes a lone small-leaved lime within the paddock, and loose boundary hedgerows, hedgerow trees and scrub. To the west, the paddock gives way to an area of open land formerly associated with a sandpit and bounded by field boundary common hornbeam and field maples, with predominantly hawthorn hedgerows. Here, there is natural regeneration of spinneys of young to semi-mature common ash, English oak, hawthorn and elder. Between the east and west parts of the site, the hedged garden of Sloe Hill residential home juts into the site.
- 2.3. The site neighbours other fields to the east and south, with residential areas, farms and detached dwellings scattered through the area. The site slopes down gradually from about 80m AOD in the centre-north to about 75m AOD along the southern boundary.
- 2.4. The site has no formal public access but appears to be heavily used by dog walkers and as a play area, which is evidenced by the well-trodden informal paths through the site.

3. TREE SURVEY FINDINGS

- 3.1. The survey recorded 98 arboricultural features. These are summarised in terms of quality in accordance with the recommendations of BS 5837 in Table 1 below and shown in more detail on the Tree Survey and Constraints Plan (**Section 2**) and within the Tree Survey Schedule (**Section 3**).
- 3.2. Where it has not been possible to fully access the trees at the site, for example, due to them being off-site or within dense vegetation, dimensions may have been estimated. Where this is the case, it has been highlighted within the tree survey schedules.

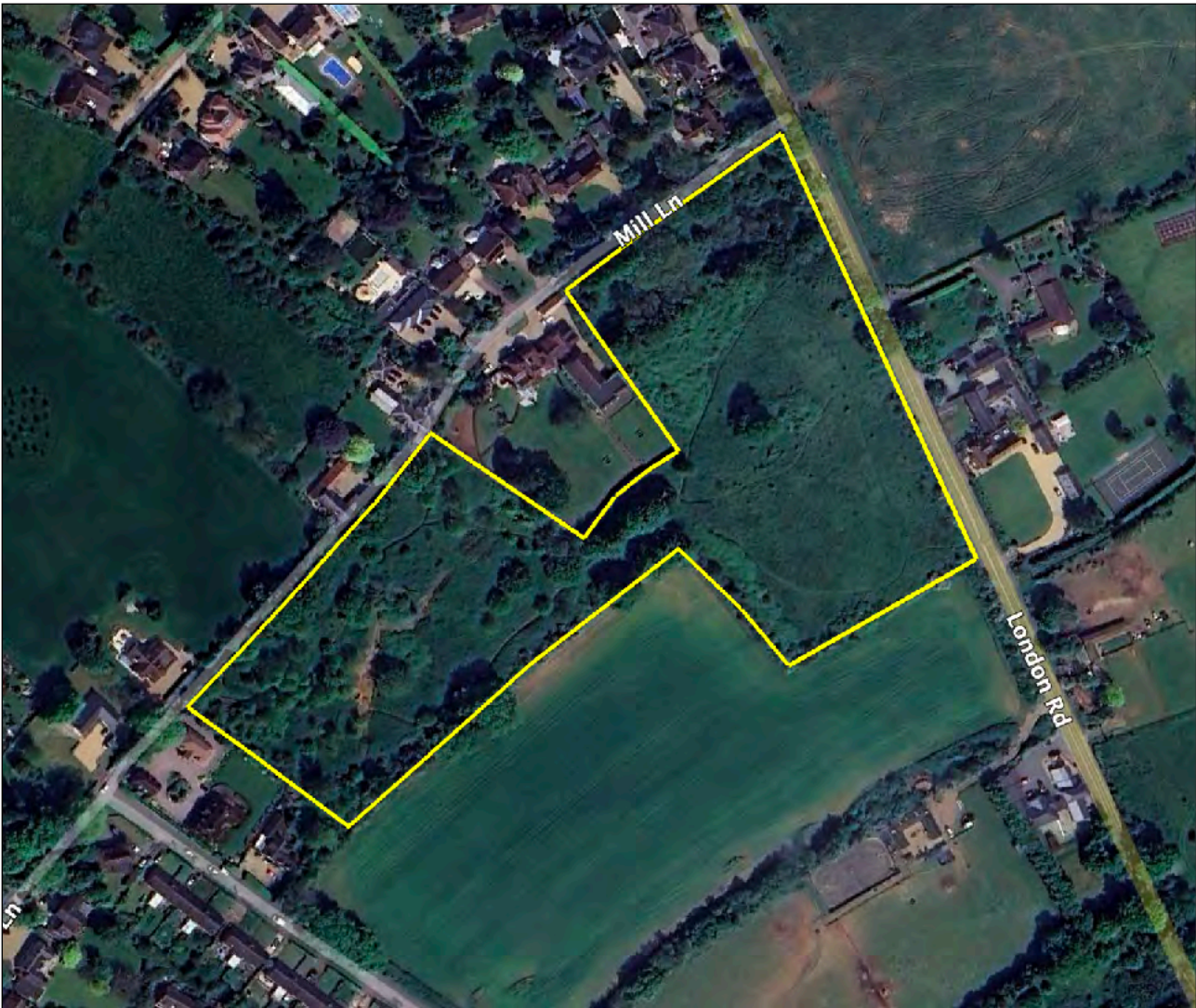


Figure 1: Approximate survey area edged yellow.

Table 1: arboricultural features by type and quality category.

	Total	A - High quality trees whose retention is most desirable.	B - Moderate quality trees whose retention is desirable.	C - Low quality trees which could be retained but should not significantly constrain the proposal.	U - Very poor quality trees that should be removed unless they have high conservation value.
Trees	67	10	41	15	1
Groups	23	-	9	14	-
Hedgerows	8	-	7	1	-
Total	98	10	57	30	1

- 3.3. During the survey, a judgment has been made as to whether a tree is located within or outside the site boundary. Again, this is highlighted within the survey schedules. Where this is the case, the judgment has been made on the presence of site features such as boundary fences, ditches and hedges, and it does not confirm definitive ownership or otherwise.
- 3.4. Occasionally, trees will not have been plotted within the topographical survey but may have been plotted during the tree survey. The location of these trees will not be as accurate as those plotted in a topographic survey and should therefore not be fully relied upon - especially where precise tree location is imperative for layout design. Where this is the case, the relevant tree reference numbers are indicated with an asterisk within the tree survey schedule and are highlighted in yellow on the tree survey plan.

4. KEY ARBORICULTURAL FEATURES

- 4.1. No ancient or veteran trees were identified in the survey. There is no ancient woodland affecting the site.
- 4.2. Ten high-quality (category A) trees were identified in and adjacent to the site. Turkey oak T3 (A1) is by far the largest tree at the site, at 27 metres in height. It is of good form and is individually protected by TPO 122.
- 4.3. Horse chestnuts T12 (A1) and T25 (A2) are the largest of five mature horse chestnuts in the north woodland area and are in the best state of health. Although both trees typically show signs of past Bleeding Canker disease infection, they appear to be coping with the presence of the disease and without the wounding present on the other mature horse chestnuts surveyed.
- 4.4. Common lime T31 (A2) is 'locally notable'¹ by virtue of its large stem girth (as per Fig. 1.3 in Lonsdale, 2013²). It is a distinctive landscape feature because it stands alone and is readily visible from the public highway.
- 4.5. Several mature common hornbeams grow along the south boundary of the west part of the site. Of these, T41 and T48 are category A1 trees. They and their companions grow on a south-facing earth bank, and their exposed root systems are an attractive feature. Field maple T57 is 'notable' by virtue of its 2.7m stem girth and is a category A1 tree.
- 4.6. Two off-site trees, false acacia T65 and English oak T67, are category A1. The false acacia grows close to others of lower quality in the front garden of a neighbouring dwelling to the north, and the oak grows on the north highway bank of Mill Lane.
- 4.7. A large proportion of the arboricultural resource is category B. Common limes G1 (B2) are a tightly-planted row of mature trees which form a contiguous canopy resembling a tall hedge. Within the woodland area are further horse chestnuts, T11, T13 and T22, which typically exhibit bleeding canker disease symptoms. However, the trees are generally of moderate landscape value. Several early-mature and mature common walnuts are also scattered through the woodland and include category B trees T6, T7, T9, T26, T27 and T29, as well as category C tree T28. Walnuts T7 and T9 have decay cavities, which, given their woodland location, may provide valuable nesting/roosting opportunities.

- 4.8. Several mature, category B English oaks grow along the site boundaries, including T16, T17, T19 (B1/2) and T34 (A1). English oak T62 (B1) grows within the lawn of the grounds of Sloe Hill residential home, along with category B spruce T61.
- 4.9. Common ash T38 (C3) is a remnant of a formerly large tree that has suffered stem and branch fractures due to extensive decay. Only two branches remain alive but appear to be growing well. The tree's very decayed trunk appears to be partially supported by the branches of sycamore T37. Despite its condition, the tree provides a valuable standing decay microhabitat.
- 4.10. Elsewhere within the western part of the site are young to semi-mature individual trees and spinneys of trees, including English oak, common ash, field maple, hawthorn and elder. Examples are G13 to G15, T42 to T47, T51, G17, G18 and G21. Many of the trees, and in particular the English oak, are of good form and health and could be translocated within the site. Some of the young to semi-mature ashes exhibit symptoms of Ash Dieback disease and are likely to have a reduced life expectancy.

5. PROPOSED DEVELOPMENT

- 5.1. The development proposal is an outline planning application for residential with access from a 4th arm of the existing (realigned) roundabout from London Road, a secondary access from Mill Lane to divert Mill Lane access through the site, a further access from Mill Lane to the southwest, sustainable drainage system, public open space and landscaping, with all matters reserved except for access.
- 5.2. The detailed access arrangements and illustrative site layout are shown on the Development Framework Plan.

6. IMPACT ASSESSMENT

- 6.1. The impact assessment considers the effects of any tree loss required to implement the proposed development, as well as any reasonably foreseeable, potentially damaging activities proposed in the vicinity of retained trees. This is undertaken with reference to BS5837:2012 and considering the nature of the proposed development. Actual and potential impacts can include tree removal to facilitate the development, soil compaction in close proximity to trees, and direct impact damage to the canopy and roots of retained trees from construction activities. A summary of anticipated impacts resulting from the proposed development is provided below.

¹ The terms 'locally notable' and 'notable' carry no weight in the National Planning Policy Framework (NPPF), but are used to recognise mature, often magnificent trees that stand out locally because of their size.

² Lonsdale, D. (ed.) 2013. *Ancient and other veteran trees: further guidance on management*. London: The Tree Council

Trees to be removed

- 6.2. Nineteen individual trees, nine groups of trees, two sections of groups of trees and one section of hedgerow are proposed to be removed. These removals are summarised by quality category in the table below and shown on the Tree Retention and Removal Plan in **Section 3**.

Table 2: summary of proposed removals of each BS 5837:2012 quality category

	Total	A - High quality trees whose retention is most desirable.	B - Moderate quality trees whose retention is desirable.	C - Low quality trees which could be retained but should not significantly constrain the proposal.	U - Very poor quality trees that should be removed unless they have high conservation value.
Trees	19	-	14	5	-
Groups	9	-	1 + 2 short sections	8	-
Hedgerows	1	-	1 section	-	-
Total	29	0	16	13	-

- 6.3. No trees of high quality are proposed to be removed.
- 6.4. The majority of the proposed removals are required to form the access from the reconfigured roundabout off London Road and the secondary access to Mill Lane. An existing roundabout has been constructed to serve the new development of 84 homes on the opposite side of London Road. Highway constraints have dictated the use of the roundabout for site access, with Mill Lane traffic diverted through the site to the secondary access to avoid a conflict with the primary access (and to alleviate existing safety concerns at the junction).
- 6.5. The most significant removals for the access are:
- Mature oaks T16 and T19 (B1), with large trunks (B1), one with a cavity and the other with crown retrenchment.
 - Three mature horse chestnuts, T13, T22 & T23, of which 2 are of moderate quality and one is of low quality, and all with reduced life expectancies due to bleeding canker.
 - Six common walnuts, T7, T9 and T26 to T29, of which five are of moderate quality. Most have wounds, cavities and hollowing features on their trunks.
- 6.6. The high-quality, protected Turkey oak T3 (A1) and high-quality horse chestnuts T12 (A1) and T25 (A2) will be retained without disturbance or the need for pruning. Along with retained moderate-quality walnut T6, horse chestnut T11, oak T17 and the linear group of limes G1, the retained trees will continue to provide a mature landscape quality, particularly from views from the south on the approach to Hitchin.
- 6.7. An approximately 68m northern section of predominantly blackthorn and hawthorn hedgerow H3 (B2) would be removed to accommodate the realigned roundabout access and requisite highway visibility.
- 6.8. While it is recognised that the proposed tree and hedgerow removals in the north of the site are not insignificant, this is mitigated by the retention of the best trees as well as the ecological enhancement of

large areas of public open space in the south and west of the site, which will serve to maintain much of the site's existing character. These areas include high-quality and mature hornbeams, field maples and ash trees of strong landscape quality, and also have the greatest structural diversity of trees at the site, including established young and semi-mature oak, field maple and sycamore trees with long life expectancies.

- 6.9. The proposed tree removals should therefore be considered in the context of a comprehensive landscaping strategy, comprising replacement plus new tree planting of varying sizes/maturity and species to ensure a net gain in tree canopy cover overall.
- 6.10. Elsewhere on site, the low-quality elders around lime T31, and the young natural regeneration of G23 (predominantly ash with ash dieback symptoms) would be removed as part of the indicative site design. A section of outgrown hedgerow group G22 (B2) would be removed for a proposed access to development from Mill Lane to the west, and a recreational route to Mill Lane from the westernmost corner of the site will require the removal of a small section of scrubby elder and hawthorn group G19 (B3). These removals would have a low arboricultural impact, with the mature trees along the boundary retained well away from development.

Potential impacts on retained trees

- 6.11. At the outline planning stage, it is not possible to assess the potential impacts on trees of aspects such as proposed ground level changes, drainage features and connections, other underground utilities, new hard surfacing and construction requirements such as access, materials handling/storage. These schemes will need to be reviewed during their design so that conflicts can be avoided or the feasibility of technical solutions explored to mitigate potential impacts. Subject to this, the Development Framework Plan suggests that potential impacts should be relatively straightforward to manage during the construction phase.
- 6.12. Although avoiding them, the highway edge is close to the edges of the Root Protection Areas (RPAs) of retained Turkey oak T3, horse chestnuts T12 and T25 and lime T31. Ground level changes, infrastructure such as drainage and lighting and construction access requirements can increase the overall highway footprint that is shown on even a detailed site layout. So, if it is not possible to increase the distance between highway and RPA edges, then these areas will need to be carefully designed and constructed to avoid or minimise further encroachments into the RPAs. The specification of protective barriers should be strongest in these areas, and set out once the highway edges are marked out on site to ensure that there are no unforeseen reasons to move the barriers once installed.
- 6.13. An RPA is not a prediction of the extent and disposition of a tree's root system, which will often extend further. Rather, it is the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain a tree's viability.
- 6.14. In this respect, a minor encroachment at one edge of an RPA can sometimes be accommodated if the encroached area can be offset elsewhere, contiguous with the RPA. This is naturally the case for trees T3, T12 and T26, but the detailed design should seek to provide additional open space near to oak T17, lime T31 and oak T34, rather than development (including gardens, paths, etc.) being close to all sides of the RPA and therefore having a cumulative impact.

Conclusion

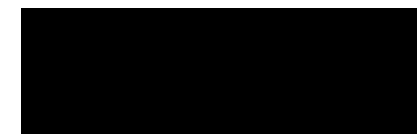
- 6.15. In summary, although a significant number of trees are proposed to be removed in the north of the site to provide a high-quality access design, the Development Framework Plan demonstrates that, in the context of a comprehensive landscaping strategy comprising new tree planting and the ecological enhancement of large areas of public open space, a sustainable relationship between the proposed development parcels and retained trees and hedgerows can be achieved.

7. HEADS OF TERMS FOR AN ARBORICULTURAL METHOD STATEMENT (AMS)

- 7.1. BS5837:2012 (Figure 1) recommends that the detailed/technical design of tree protection and arboricultural methodologies should be resolved and finalised following the approval of the feasibility of a scheme by the Local Planning Authority.
- 7.2. Annex B and Table B.1 of BS5837:2012, an informative document, advises that Arboricultural Method Statement (AMS) Heads of Terms are a sufficient level of information in order to deliver tree-related information into the planning system. The table also advises that a detailed AMS might reasonably be required as a 'reserved matter' or planning condition.
- 7.3. In relation to the site, it is anticipated that arboricultural working methods are likely to be quite straightforward. A summary of the principles of tree protection on development sites is included in **Section 7**.
- 7.4. A draft 'Heads of Terms' for an AMS is set out below:
- Project Arboriculturist – schedule of monitoring and supervision to be agreed upon with the applicant and LPA
 - Pre-commencement site meeting - to be attended by the project arboriculturist, client, site manager and other relevant parties. AMS and Tree Protection Plan (TPP) to be updated and approved by the LPA if any amendments are needed. Project Arboriculturist to ensure that all parties have copies of the finalised AMS and TPP.
 - Marking out and specification of high specification tree protection barriers in the most sensitive areas, accounting for full access requirements for construction and infrastructure installation
 - Tree removals and facilitation pruning - as shown on the Tree Retention and Removal Plan (TRR)
 - Erection of tree protection barriers, and additional temporary ground protection as may be required as per the finalised TPP
 - Site preparation and ground works - no access for any machinery within the fenced tree protection areas.
 - Main construction phase - all tree protection measures shall remain in situ and intact for the duration of the construction phase
 - Removal of tree protection barriers - only to occur following approval of site conditions by the project arboriculturist.
 - Final landscaping, including tree planting and maintenance until establishment.

8. CONCLUSIONS AND RECOMMENDATIONS

- 8.1. In conclusion, although the proposed tree and hedgerow removals in the north of the site are not insignificant, no trees of high quality are proposed to be removed, and the Development Framework Plan demonstrates that a sustainable relationship between the proposed development parcels and retained trees and hedgerows can be achieved.
- 8.2. A comprehensive landscaping strategy will include new tree planting and the ecological enhancement of large areas of public open space in the south and west of the site. These areas contain the greatest structural diversity of trees at the site, including established young and semi-mature oak, field maple and sycamore trees with long life expectancies.
- 8.3. The information contained within this report should be used in the preparation of detailed design proposals for the site (the reserved matters), to minimise negative impacts on and maximise the benefits of the arboricultural assets.
- 8.4. The potential impacts of development on trees, such as proposed ground level changes, drainage features, new hard surfacing and construction requirements such as access, will need to be reviewed during the detailed design stage so that conflicts can be avoided or reduced to an acceptable level.
- 8.5. Detailed design should also avoid cumulative encroachment of development into the RPAs of trees, particularly of trees T17, T31 and T34. Highway construction in proximity to the RPAs of trees T3, T12, T25 and T31 will require a strong level of physical exclusion, and so the detailed highway design in these areas will need to take into account ground level changes and infrastructure that might otherwise increase the overall development footprint.
- 8.6. The future reserved matters planning application will be accompanied by a detailed Arboricultural Impact Assessment (AIA), which will evaluate the direct and indirect effects of the proposals and demonstrate how retained trees and hedgerows can be protected during the groundwork and construction stages. A finalised Tree Protection Plan and Arboricultural Method Statement will be produced once the detailed design is approved.



Ian Monger *BSc (Hons), MSc, MICFor, MArborA*
Senior Arboriculturist

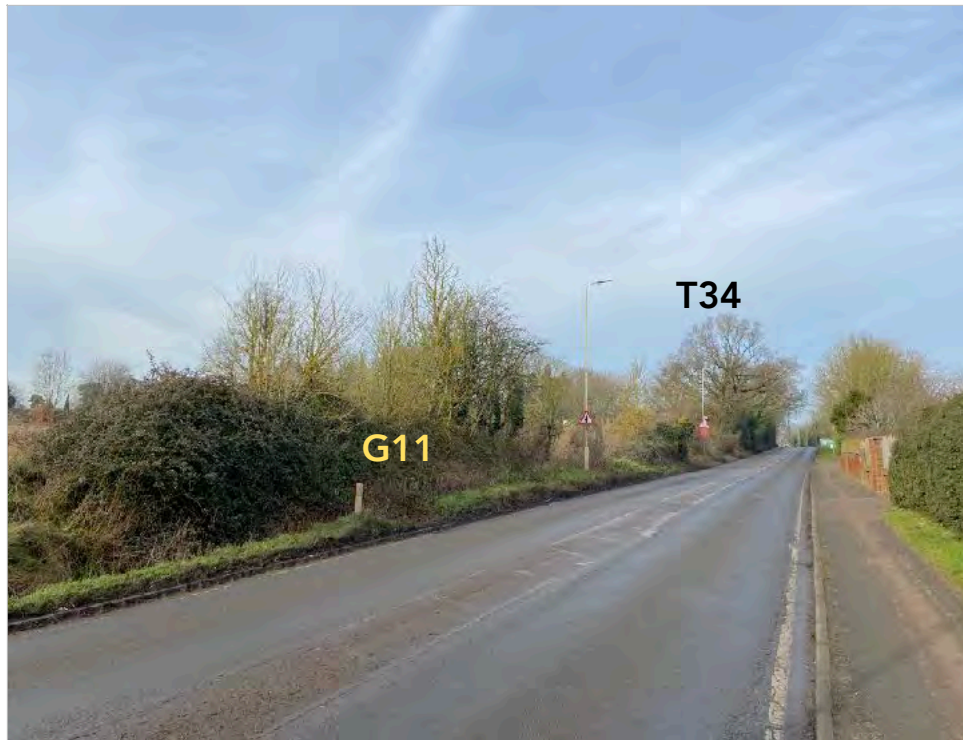


IMAGE 1: View along the site frontage with London Road, looking northwest.



IMAGE 2: View along part of the site frontage with Mill Lane, looking northeast.



IMAGE 3: View across the eastern part of the site, looking northwest.



IMAGE 4: View across the eastern part of the site, looking southeast.



IMAGE 5: View of trees growing within the narrow piece of land that connects the two main site areas, looking northeast.



IMAGE 6: Typical view across part of the western part of the site, looking west.



IMAGE 7: The edge of the wooded area in the eastern part of the site, looking northwest.



IMAGE 8: The woodland edge horse chestnuts, looking northeast.



IMAGE 9: Open-grown lime tree T31 in the eastern part of the site, looking east.



IMAGE 10: The remnant decayed ash tree T38, looking east.

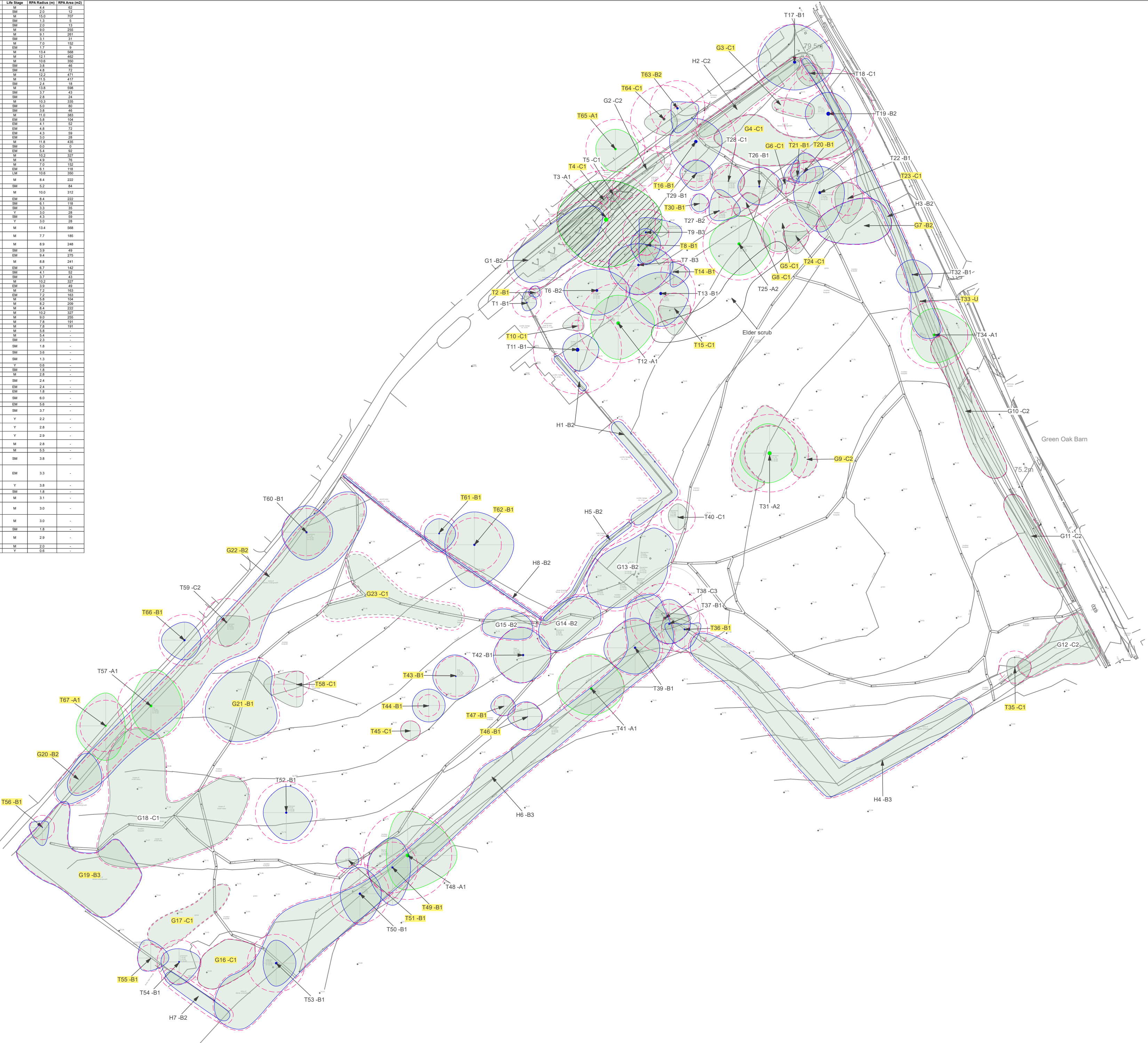


IMAGE 11: High-quality, mature hornbeam T41 growing along the southern site boundary, looking east.



IMAGE 12: View of the mature hornbeams along the southern boundary of the western part of the site, looking southeast.

Tree No	Species	HT (m)	Life Stage	RPA Radius (m)	RPA Area (m2)
T1	Leaved cypress	8	M	4.4	62
T2	Silver birch	8.5	SM	2.0	12
T3	English oak	27	M	10.0	107
T4	Hawthorn	4.5	SM	1.3	5
T5	Hornbeam	7	SM	2.0	13
T6	Common walnut	14	M	9.0	255
T7	Common walnut	15	M	9.1	261
T8	Common ash	10	SM	3.1	31
T9	Common walnut	13	M	7.0	152
T10	Elder	9	EM	1.7	9
T11	Horse chestnut	16	M	13.4	568
T12	Horse chestnut	18	M	12.1	462
T13	Horse chestnut	18	M	10.8	369
T14	Common ash	14	SM	3.9	46
T15	Horse chestnut	16	SM	4.9	72
T16	English oak	18	M	12.2	471
T17	English oak	18	M	11.5	417
T18	Hornbeam	8	SM	2.4	18
T19	English oak	18	M	13.8	588
T20	Common ash	12	SM	3.7	43
T21	English oak	8.5	SM	2.8	24
T22	Horse chestnut	17	M	10.3	335
T23	Horse chestnut	8	SM	5.0	80
T24	Horse chestnut	10	SM	3.8	49
T25	Horse chestnut	20	M	11.0	383
T26	Common walnut	10.8	EM	6.1	104
T27	Common walnut	8	EM	4.1	52
T28	Common walnut	11	EM	4.8	72
T29	Common walnut	9	EM	4.3	59
T30	Hawthorn	8	EM	3.0	28
T31	Common lime	18	M	11.8	435
T32	English oak	12	SM	0.0	0
T33	Common ash	3	EM	5.4	82
T34	English oak	16	M	10.2	327
T35	Hawthorn	4.5	M	4.0	76
T36	Crab apple	8	M	7.0	152
T37	Common ash	16	EM	6.1	119
T38	Common ash	10	LM	10.8	350
T39	Common hornbeam	14	M	8.4	222
T40	Sycamore	11	SM	2.2	84
T41	Common hornbeam	18	M	10.0	312
T42	English oak	11	EM	8.4	222
T43	English oak	9	SM	6.1	119
T44	English oak	8	SM	3.3	35
T45	Common ash	6	SM	3.0	28
T46	English oak	7	SM	4.3	59
T47	English oak	7	Y	3.0	28
T48	Common hornbeam	20	M	14.4	568
T49	Common hornbeam	16	M	7.7	185
T50	Common hornbeam	15	M	8.9	248
T51	English oak	9	SM	3.9	49
T52	Common walnut	12	EM	9.4	275
T53	Common hornbeam	13	M	8.8	241
T54	Hybrid black poplar	19	EM	6.7	142
T55	Common ash	10	SM	4.1	52
T56	Common ash	8.5	SM	3.7	43
T57	Field maple	15	M	10.2	327
T58	Hybrid black poplar	9	EM	3.9	49
T59	Field maple	10	M	7.2	163
T60	Sycamore	10	EM	7.2	163
T61	Spruce spp	15	M	5.8	104
T62	English oak	19	M	8.2	269
T63	Falae aceris	16	M	8.4	222
T64	Falae aceris	12	M	10.2	327
T65	Falae aceris	20	M	9.0	255
T66	Field maple	12	M	7.8	191
T67	English oak	19	M	7.8	191
G1	Common lime	8-22	M	5.8	-
G2	Hawthorn	5-7.5	M	5.4	-
G3	Silver birch	10-12	SM	2.3	-
G4	Blackthorn, elder, hawthorn	3-4.5	SM	1.8	-
G5	Horse chestnut, elder	4-13	SM	3.0	-
G6	Hawthorn, elder, common ash	4-5-7	SM	1.3	-
G7	Blackthorn	4	Y	0.6	-
G8	Hawthorn, elder	4-6	SM	1.8	-
G9	Elder	3-5-5	M	2.8	-
G10	Elder, English elm, hawthorn	3-5	SM	2.4	-
G11	English elm, hawthorn	3-5	EM	2.4	-
G12	Elder, blackthorn	2-3-5	EM	1.8	-
G13	Sycamore, hawthorn, common ash	5-5-15	SM	6.0	-
G14	Common ash	12-15	EM	5.8	-
G15	Common ash, common hornbeam	5-12	SM	3.7	-
G16	Common ash, blackthorn, common ash	4-10	Y	2.2	-
G17	Common ash, English oak, elder, blackthorn	3-9	Y	2.8	-
G18	Common ash, hawthorn, elder	3-5-12	Y	2.9	-
G19	Elder, hawthorn, common ash, hawthorn	4-5	M	2.8	-
G20	Field maple	8-9	M	5.5	-
G21	Field maple, hawthorn, dogwood, elder, common ash, hybrid black poplar	4-8	SM	3.8	-
G22	Hawthorn, elder, field maple, English oak, common ash, crab apple, sycamore	4-11	EM	3.3	-
G23	Common ash, sycamore, English oak	4-5-9	Y	3.8	-
H1	Leyland cypress	2-5	SM	1.8	-
H2	Hawthorn, blackthorn, dog rose, English elm	6.0	M	3.1	-
H3	Hawthorn, blackthorn, English elm, common ash, English oak	5.0	M	3.0	-
H4	Hawthorn, elder, Hawthorn, crab apple, English elm, common holly	5.0	M	3.0	-
H5	Holly, cherry birch	3.0	SM	1.8	-
H6	Hawthorn, elder, holly, hawthorn, sycamore, English oak, common ash	5.0	M	2.9	-
H7	Hawthorn, hawthorn	3-5	M	2.0	-
H8	Common birch	1-5	Y	0.6	-



KEY

- Category A Tree - High quality (Retention highly desirable)
- Category A - Hedgerow, Group, Woodland - High quality (Retention highly desirable)
- Category B Tree - Moderate quality (Retention desirable)
- Category B - Hedgerow, Group, Woodland - Moderate quality (Retention desirable)
- Category C Tree - Low quality (May be retained but should not constrain development)
- Category C - Hedgerow, Group, Woodland - Low quality (May be retained but should not constrain development)
- Category U Tree - Very low quality (Mostly unsuitable for retention)
- Category U - Hedgerow, Group, Woodland - Very low quality (Mostly unsuitable for retention)
- Root Protection Area (RPA) - Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and soil volume to maintain the tree's viability
- Shrub mass/offset tree/out of scope (OOS)
- Estimated tree location where tree is not shown on topographical survey

Statutory Protection

- Tree Preservation Order (TPO): Trees under statutory protection. No tree works to be undertaken without specific consent or by relevant exception

Note: The original of this drawing was produced in colour – a monochrome copy should not be relied upon. This drawing should be interpreted with reference to the accompanying tree schedule and written advice

0 10 20 30 40 50
Meters

GRID NORTH

PROJECT TITLE
Land at Mill Lane / London Rd, Hitchin

DRAWING TITLE
Tree Survey & Constraints Plan

SCALE 1:800 @ A2		DRAWING NUMBER BHA_6580_01	
DRAWN BY IM	APPROVED BY PB	REVISION A	SHEET -
DATE 22/01/2025			

TOPOGRAPHICAL SURVEY **TOPOGRAPHICAL SURVEY - HITCHIN (May 2019)**

CLIENT **CSA Environmental**

COORDINATE SYSTEM / DATUM **British National Grid / Newlyn Datum (AOD)**

Crown copyright. All rights reserved. 2019 Emapsat Licence number 0100061264. Ordnance Survey Copyright Licence number 100054267.

Barton Hyett Associates
Arboricultural Consultants
in association with
CSA
environmental

Tel: 01366 578161 Website: www.barton-hyett.co.uk
Address: Office 5C, Deer Park Business Centre,
Eckington, Pershore, Worcestershire, WR10 3DN

Tree No	Species	HT (m)	Life Stage	RPA Radius (m)	RPA Area (m2)
T1	Leeward cypress	9	M	4.4	62
T2	Silver birch	8.5	SM	2.0	12
T3	English oak	27	M	10.0	312
T4	Hawthorn	4.5	SM	1.3	5
T5	Hawthorn	7	SM	2.0	13
T6	Common walnut	14	M	9.0	255
T7	Common walnut	15	M	9.1	261
T8	Common ash	10	SM	3.1	31
T9	Common walnut	13	M	7.0	152
T10	Elder	9	EM	1.7	9
T11	Horse chestnut	15	M	13.4	568
T12	Horse chestnut	18	M	12.1	462
T13	Horse chestnut	18	M	10.6	350
T14	Common ash	14	SM	3.9	46
T15	Horse chestnut	9	SM	4.9	72
T16	English oak	16	M	10.2	417
T17	English oak	18	M	11.5	417
T18	Hawthorn	8	SM	2.4	18
T19	English oak	18	M	13.8	588
T20	Common ash	12	SM	3.7	43
T21	English oak	8.5	SM	2.8	24
T22	Horse chestnut	17	M	10.3	335
T23	Horse chestnut	8	SM	5.0	80
T24	Horse chestnut	10	SM	3.9	46
T25	Horse chestnut	20	M	11.0	383
T26	Common walnut	10.5	EM	6.1	118
T27	Common walnut	9	EM	4.1	52
T28	Common walnut	11	EM	4.8	72
T29	Common walnut	9	EM	4.3	59
T30	Hawthorn	8	EM	3.0	28
T31	Common lime	19	M	11.8	435
T32	English oak	12	SM	0.0	0
T33	Common ash	3	EM	5.4	82
T34	English oak	16	M	10.2	327
T35	English oak	4.5	M	4.0	76
T36	Crab apple	8	M	7.0	152
T37	Common ash	16	EM	6.1	118
T38	Common ash	10	LM	10.8	350
T39	Common hornbeam	14	M	8.4	222
T40	Sycamore	11	SM	5.2	84
T41	Common hornbeam	18	M	10.0	312
T42	English oak	11	EM	8.4	222
T43	English oak	9	SM	3.3	35
T44	English oak	8	SM	3.3	35
T45	Common ash	5	SM	3.0	28
T46	English oak	7	SM	4.3	59
T47	English oak	7	Y	3.0	28
T48	Common hornbeam	20	M	14.4	568
T49	Common hornbeam	16	M	7.7	185
T50	Common hornbeam	15	M	8.9	248
T51	English oak	9	SM	3.9	49
T52	Common walnut	12	EM	9.4	275
T53	Common hornbeam	13	M	8.8	241
T54	Hybrid black poplar	19	EM	6.7	142
T55	Common ash	10	SM	4.1	52
T56	Common ash	8.5	SM	3.7	43
T57	Field maple	15	M	10.2	327
T58	Hybrid black poplar	9	EM	3.9	48
T59	Field maple	10	M	7.2	163
T60	Common ash	10	EM	7.2	163
T61	Spruce spp	15	M	5.8	104
T62	English oak	19	M	8.2	269
T63	Falsa acacia	16	M	8.4	222
T64	Falsa acacia	12	M	10.2	327
T65	Falsa acacia	20	M	9.0	255
T66	Field maple	12	M	7.8	191
T67	English oak	19	M	7.8	191
G1	Common lime	8.22	M	5.8	-
G2	Hawthorn	5.75	M	5.4	-
G3	Silver birch	10-12	SM	2.3	-
G4	Blackthorn, elder, hawthorn	3-4.5	SM	1.8	-
G5	Horse chestnut, elder	4-13	SM	3.9	-
G6	Hawthorn, elder, common ash	4.5-7	SM	1.3	-
G7	Blackthorn	4	Y	0.6	-
G8	Hawthorn, elder	4-6	SM	1.8	-
G9	Elder	3.5-5	M	2.8	-
G10	Hawthorn	3-5	SM	2.4	-
G11	English elm, hawthorn	3-5	EM	2.4	-
G12	Elder, blackthorn	2-3.5	EM	1.8	-
G13	Sycamore, hawthorn, common ash	5.5-15	SM	6.0	-
G14	Sycamore	12-15	EM	5.8	-
G15	Common ash, common hornbeam, elder, hawthorn	5-12	SM	3.7	-
G16	English oak, blackthorn, common ash	4-10	Y	2.2	-
G17	Common ash, English oak, elder, blackthorn	3-9	Y	2.8	-
G18	Common ash, hawthorn, elder	3.5-12	Y	2.9	-
G19	Elder, hawthorn, common ash, holly	4-5	M	2.8	-
G20	Field maple	8-9	M	5.5	-
G21	Field maple, hawthorn, dogwood, elder, common ash, hybrid black poplar	4-8	SM	3.8	-
G22	Hawthorn, elder, field maple, English oak, common ash, crab apple, sycamore	4-11	EM	3.3	-
G23	Common ash, sycamore, English oak	4.5-9	Y	3.8	-
H1	Leyland cypress	2.5	SM	1.8	-
H2	Hawthorn, blackthorn, dog rose, English elm	6.0	M	3.1	-
H3	Hawthorn, blackthorn, English elm, common ash, English oak	5.0	M	3.0	-
H4	Hawthorn, elder, English elm, common holly	5.0	M	3.0	-
H5	Holly, cherry laurel	3.0	SM	1.8	-
H6	Hawthorn, elder, holly, hawthorn, sycamore, English oak, common ash	5.0	M	2.9	-
H7	Hawthorn, holly	3.5	M	2.0	-
H8	Common beech	1.5	Y	0.6	-



KEY

- Category A Tree - High quality (Retention highly desirable)
- Category A - Hedgerow, Group, Woodland - High quality (Retention highly desirable)
- Category B Tree - Moderate quality (Retention desirable)
- Category B - Hedgerow, Group, Woodland - Moderate quality (Retention desirable)
- Category C Tree - Low quality (May be retained but should not constrain development)
- Category C - Hedgerow, Group, Woodland - Low quality (May be retained but should not constrain development)
- Category U Tree - Very low quality (Mostly unsuitable for retention)
- Category U - Hedgerow, Group, Woodland - Very low quality (Mostly unsuitable for retention)
- Root Protection Area (RPA) - Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and soil volume to maintain the tree's viability
- Shrub mass/offset tree/out of scope (OOS)
- Estimated tree location where tree is not shown on topographical survey

Statutory Protection

- Tree Preservation Order (TPO): Trees under statutory protection. No tree works to be undertaken without specific consent or by relevant exception
- Tree / Hedgerow / Group to be removed

Note: The original of this drawing was produced in colour – a monochrome copy should not be relied upon. This drawing should be interpreted with reference to the accompanying tree schedule and written advice

Scale: 1:800 @ A2

Drawing Number: BHA_6580_02

DRAWN BY	IM	APPROVED BY	PB	REVISION	A	SHEET	-	DATE	03/09/2025
----------	----	-------------	----	----------	---	-------	---	------	------------

SITE LAYOUT: 3922_122_C_Development Framework Plan

CLIENT: CSA Environmental

COORDINATE SYSTEM / DATUM: British National Grid / Newlyn Datum (AOD)

Crown copyright. All rights reserved. 2019 Enmapsite Licence number 0100061264. Ordnance Survey Copyright Licence number 100054267.

Barton Hyett Associates
Arboricultural Consultants
in association with
CSA
environmental

Tel: 01366 578161 Website: www.barton-hyett.co.uk
Address: Office 5C, Deer Park Business Centre, Eickington, Pershore, Worcestershire, WR10 3DN

INDIVIDUAL TREES

Ref	Species	On/off site	Height (m)	No. of stems	Est diam?	Calc. / actual stem dia. (mm)	Crown radii (m) N-E-S-W	Av. low crown height (m)	1st branch ht (m)	1st branch dir.	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m²	TPO?
T1	Lawson cypress	On	9.0	3	Yes	370	3.5-3.0-2.5-1.5	0.5	2	SE	M	Off-site tree.	Good	Good	40+	B1	4.4	62	-
T2*	Silver birch	On	8.5	1	-	160	2.0-1.5-1.5-2.0	1.0	1.5	SW	SM	Natural regeneration.	Good	Good	40+	B1	2.0	12	-
T3	Turkey oak	On	27.0	1	-	1290	12.0-17.0-14.5-15.0	4.0	3	N	M	Good form. Deadwood.	Good	Good	40+	A1	15.0	707	YES - TPO 122
T4*	Hawthorn	On	4.5	1	-	100	1.0-3.0-3.0-1.0	0.5	0.5	S	SM	Ivy on stem.	Good	Fair	20+	C1	1.3	5	-
T5	Norway maple	On	7.0	2	-	170	1.0-6.0-4.5-0.5	1.0	1.5	NE	SM	Natural regeneration within debris.	Good	Fair	40+	C1	2.0	13	-
T6	Common walnut	On	14.0	1	-	750	6.5-10.0-7.5-10.0	3.0	2.5	N	M	Branch at 4m to NE has established hazard beam split near stem with callous growth. Branch loss wounds and deadwood.	Good	Fair	40+	B2	9.0	255	-
T7	Common walnut	On	15.0	1	-	760	6.5-10.5-9.0-9.0	7.0	3	SE	M	Decayed bole wound cavity to south, with audible hollowing above. Fungal brackets. Decayed branch removal wound at 2.5m NE with hollowing expected to coalesce. Deadwood.	Good	Fair	10+	B3	9.1	261	-
T8*	Common ash	On	10.0	1	-	260	5.0-4.5-6.0-4.5	1.0	3	SE	SM	Natural regeneration.	Good	Good	20+	B1	3.1	31	-
T9	Common walnut	On	13.0	1	-	580	4.5-11.0-9.5-2.0	4.0	2	E	M	Hollowed stem with branch removal cavity openings 2m south and two at 3m west (affecting branch attachment).	Good	Poor	10+	B3	7.0	152	-
T10*	Elder	On	6.0	3	-	140	3.5-2.0-1.5-4.5	1.0	1.5	n/a	EM	No significant defects.	Good	Good	40+	C1	1.7	9	-
T11	Horse chestnut	On	15.0	1	-	1120	5.0-6.5-6.5-4.5	2.5	4.5	S	M	Heavily pollarded some years ago. Included bark primary stem union at 1m with no cracking. Decayed pruning wound on bole. Bleeding canker exudate on lower bole.	Good	Good	20+	B1	13.4	568	-
T12	Horse chestnut	On	18.0	1	-	1010	8.5-11.0-11.0-8.5	0.5	3	SE	M	Excellent form. Minor Bleeding Canker exudate on bole. Minor deadwood.	Fair	Good	20+	A1	12.1	462	-
T13	Horse chestnut	On	16.0	1	-	880	6.5-8.5-10.0-9.5	2.0	3.5	W	M	Old and current Bleeding Canker exudate on bole with reaction callous growth. Minor deadwood.	Fair	Good	20+	B1	10.6	350	-
T14*	Common ash	On	14.0	1	-	320	3.0-5.0-4.5-1.0	2.0	2	S	SM	Natural regeneration.	Good	Good	20+	B1	3.8	46	-
T15*	Horse chestnut	On	7.0	4	-	400	0.5-5.0-8.0-5.0	0.0	0.5	SW	SM	Natural regeneration with poor form and suppressed. Basal included bark unions. Decayed Bleeding Canker fissures along stems.	Poor	Poor	10+	C1	4.8	72	-

TREE SURVEY SCHEDULE

LAND AT MILL LANE & LONDON ROAD, HITCHIN

PROJECT NO: 6580

SURVEYOR: IAN MONGER

CLIENT: CSA ENVIRONMENTAL

SURVEY DATE: 21/01/2025



Ref	Species	On/off site	Height (m)	No. of stems	Est diam?	Calc. / actual stem dia. (mm)	Crown radii (m) N-E-S-W	Av. low crown height (m)	1st branch ht (m)	1st branch dir.	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m ²	TPO?
T16	English oak	On	16.0	2	-	1020	7.0-8.0-9.5-8.0	1.0	3.5	S	M	Branch loss cavity in south stem at 1m with good reaction growth. Minor deadwood.	Good	Good	40+	B1	12.2	471	-
T17	English oak	On	18.0	1	-	960	11.5-12.0-8.5-11.0	4.0	5	W	M	1.5m x 15cm secondary stem loss wound on bole from 2m with occluding woundwood.	Good	Good	40+	B1	11.5	417	-
T18	Norway maple	On	8.0	1	-	200	3.0-4.0-4.0-4.0	1.5	1.5	W	SM	Suppressed form.	Good	Fair	20+	C1	2.4	18	-
T19	English oak	On	18.0	1	Yes	1150	6.5-7.0-7.5-7.0	1.5	2	SW	M	Ivy on bole and stems but not on stem base. Upper crown thinning and dieback, becoming stag-headed. Good lower growth for retrenchment.	Good	Good	40+	B2	13.8	598	-
T20*	Common ash	On	12.0	1	-	310	6.0-6.0-3.0-4.0	2.5	2	W	SM	No significant defects.	Good	Good	20+	B1	3.7	43	-
T21*	English oak	On	8.5	2	-	230	5.0-0.5-2.0-4.0	1.5	1.5	N	SM	Suppressed to SE by adjacent trees.	Good	Good	40+	B1	2.8	24	-
T22	Horse chestnut	On	17.0	1	-	860	8.0-7.5-12.0-8.0	1.5	3	S	M	Bole bark wound at 1.5m. Lowest branch to south has wounding over union with stem, with another wound below at 2.5m. Other occluded Bleeding Canker fissures on stem and branches. Generally tree appears to be coping with disease.	Fair	Good	20+	B1	10.3	335	-
T23*	Horse chestnut	On	8.0	5	-	420	5.0-4.5-7.5-4.0	2.0	0.5	E	SM	Natural regeneration with poor form and suppressed. Basal included bark unions. Bleeding Canker fissures and lifted bark along stems.	Fair	Poor	10+	C1	5.0	80	-
T24*	Horse chestnut	On	10.0	1	-	320	1.5-4.0-5.5-4.0	0.5	1	n/a	SM	Exposed root damage. Occluded Bleeding Canker fissures.	Fair	Fair	10+	C1	3.8	46	-
T25	Horse chestnut	On	20.0	1	-	920	8.5-9.5-9.5-9.0	1.5	2.5	SE	M	Possibly a lapsed pollard. Branch loss cavity at 2m north. Included bark unions. Branch loss wounds.	Good	Good	20+	A2	11.0	383	-
T26	Common walnut	On	10.5	1	-	480	6.0-7.0-5.5-6.5	4.0	2.5	E	EM	Decayed branch loss wounds.	Good	Good	40+	B1	5.8	104	-
T27	Common walnut	On	8.0	1	-	340	6.5-6.5-3.0-3.0	2.0	2.5	SW	EM	Occluded wound at 2.5m. Decayed branch loss wound.	Good	Good	40+	B2	4.1	52	-
T28	Common walnut	On	11.0	1	Yes	400	5.5-5.0-5.0-5.5	4.0	4.5	W	EM	Hollow stem cavity at 3m east.	Good	Poor	10+	C1	4.8	72	-
T29	Common walnut	On	9.0	1	-	360	4.0-5.0-5.2-5.0	3.0	2	SW	EM	Decayed branch loss wounds.	Good	Good	40+	B1	4.3	59	-
T30*	Hawthorn	On	6.0	4	-	250	3.0-3.0-2.5-2.5	1.2	2	n/a	EM	Good form.	Good	Good	40+	B1	3.0	28	-

TREE SURVEY SCHEDULE

LAND AT MILL LANE & LONDON ROAD, HITCHIN

PROJECT NO: 6580

SURVEYOR: IAN MONGER

CLIENT: CSA ENVIRONMENTAL

SURVEY DATE: 21/01/2025



Ref	Species	On/off site	Height (m)	No. of stems	Est diam?	Calc. / actual stem dia. (mm)	Crown radii (m) N-E-S-W	Av. low crown height (m)	1st branch ht (m)	1st branch dir.	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m ²	TPO?
T31	Common lime	On	18.0	1	Yes	980	9.0-8.5-9.0-9.0	0.0	3	n/a	M	Distinctive landscape feature. Low canopy and mass of dense epicormic growth on bole above 2.5m. Typical branch loss wounds on branches and minor twig dieback.	Good	Good	40+	A2	11.8	435	-
T32	English oak	On	12.0	1	Yes	0	4.5-6.0-5.5-5.0	1.0	2	W	SM	Off-site tree leaning towards carriageway.	Good	Good	40	B1	0.0	0	-
T33*	Common ash	On	3.0	1	Yes	450	0.0-0.0-0.0-0.0	0.0	0	n/a	EM	Reduced to 3m dead standing stem.	Dead	Dead	<10	U	5.4	92	-
T34	English oak	On	16.0	1	Yes	850	8.0-11.5-8.5-7.0	2.0	3	W	M	Ivy severed and dead. Tree appears to be recovering from earlier upper crown dieback, which was probably caused by ivy..	Good	Good	40+	A1	10.2	327	-
T35*	Hawthorn	On	4.5	10	Yes	410	3.0-5.0-5.5-2.5	0.0	1	n/a	M	Tree has subsided to south due to rabbit burrowing in soft ground.	Good	Fair	20+	C1	4.9	76	-
T36*	Crab apple	On	8.0	2	-	580	2.0-4.0-6.0-6.0	0.0	1.5	W	M	Basal decay cavity in south stem. Asymmetrical crown.	Good	Fair	40	B1	7.0	152	-
T37	Sycamore	On	16.0	1	-	510	7.5-6.5-6.0-6.0	2.0	2.5	N	EM	Collapsed ash branches hung-up in crown.	Good	Good	40+	B1	6.1	118	-
T38	Common ash	On	10.0	1	-	880	1.5-8.0-6.0-0.5	4.5	6	SE	LM	Hollow decayed and collapsed tree supported by adjacent sycamore branches. Two live branches remaining. Likely collapse in near future. Provides standing decay microhabitat for time being.	Fair	Poor	<10	C3	10.6	350	-
T39	Common hornbeam	On	14.0	1	-	700	9.0-7.5-8.0-9.5	0.5	3	N	M	Low branch from near ground level heads south. Exposed roots..	Good	Good	40+	B1	8.4	222	-
T40	Sycamore	On	11.0	3	-	430	3.0-4.0-3.5-4.0	0.5	1	n/a	SM	Three stems from 1m will develop included bark unions.	Good	Fair	20+	C1	5.2	84	-
T41	Common hornbeam	On	18.0	1	-	830	10.5-10.0-8.0-10.5	0.5	2.5	S	M	Exposed roots on south of boundary bank. Historic basal browsing wounds. Excellent form.	Good	Good	40+	A1	10.0	312	-
T42	English oak	On	11.0	1	-	700	8.5-8.5-8.5-9.0	0.0	0.5	S	EM	Feathered, spreading tree.	Good	Good	40+	B1	8.4	222	-
T43*	English oak	On	9.0	1	-	510	6.5-7.0-7.0-7.0	0.0	0	SW	SM	Feathered spreading tree.	Good	Good	40+	B1	6.1	118	-
T44*	English oak	On	8.0	1	-	280	5.0-5.0-5.0-5.0	0.0	0.5	S	SM	Feathered tree.	Good	Good	40+	B1	3.3	35	-
T45*	Common ash	On	6.0	2	-	250	3.0-3.0-3.0-3.0	0.5	0.5	n/a	Y	Twin-stemmed.	Good	Good	10+	C1	3.0	28	-
T46*	English oak	On	7.0	3	Yes	360	4.5-4.5-4.0-6.0	0.5	1	N/a	SM	Feathered tree.	Good	Good	40+	B1	4.3	59	-
T47*	English oak	On	7.0	2	-	250	3.5-3.5-3.0-4.0	0.0	0	E	Y	Feathered tree.	Good	Good	40+	B1	3.0	28	-

TREE SURVEY SCHEDULE

LAND AT MILL LANE & LONDON ROAD, HITCHIN

PROJECT NO: 6580

SURVEYOR: IAN MONGER

CLIENT: CSA ENVIRONMENTAL

SURVEY DATE: 21/01/2025



Ref	Species	On/off site	Height (m)	No. of stems	Est diam?	Calc. / actual stem dia. (mm)	Crown radii (m) N-E-S-W	Av. low crown height (m)	1st branch ht (m)	1st branch dir.	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m ²	TPO?
T48	Common hornbeam	On	20.0	1	-	1120	13.5-15.0-10.5-6.5	1.5	4	S	M	Large tree on 1.5m height bank. Soil eroded to west.	Good	Good	40+	A1	13.4	568	-
T49*	Common hornbeam	On	16.0	1	Yes	640	9.0-5.5-11.5-7.5	1.0	3.5	N	M	Soil eroded from buttresses.	Good	Good	40+	B1	7.7	185	-
T50	Common hornbeam	On	15.0	1	-	740	8.0-6.5-9.5-6.0	0.0	3	N	M	Soil eroded from buttresses. Area of cambia dysfunction at 1m SE on main stem.	Good	Good	40+	B1	8.9	248	-
T51*	English oak	On	9.0	4	-	330	4.0-3.0-2.5-4.0	0.0	0.5	N	SM	Entwined stems.	Good	Fair	40+	B1	3.9	49	-
T52	Common walnut	On	12.0	4	-	780	8.0-8.0-8.5-7.0	0.5	2	S	EM	Included bark stem union at 0.5m.	Good	Fair	40+	B1	9.4	275	-
T53	Common hornbeam	On	13.0	1	-	730	7.0-6.0-7.0-4.0	0.5	2	S	M	Soil eroded at base. Minor bark wounds.	Good	Good	40+	B1	8.8	241	-
T54	Hybrid black poplar	On	19.0	2	-	560	4.0-6.5-7.0-5.5	2.5	2	N	EM	Lower branches lost or removed to north.	Good	Good	40+	B1	6.7	142	-
T55*	Common ash	On	10.0	2	Yes	340	5.0-5.5-4.0-4.0	2.0	2.5	E	SM	Off-site tree growing on fence line.	Good	Good	20+	B1	4.1	52	-
T56*	Common ash	On	9.5	1	-	310	2.0-2.0-5.5-4.0	2.0	2	SW	SM	Low crown over path.	Good	Good	20+	B1	3.7	43	-
T57	Field maple	On	15.0	1	Yes	850	11.0-9.5-10.0-6.0	1.0	2.5	S	M	Minor branch and twig dieback. Deadwood. 'Locally notable' tree by virtue of its large stem size.	Good	Good	40+	A1	10.2	327	-
T58*	Hybrid black poplar	On	9.0	1	-	330	4.0-2.0-7.0-10.0	0.5	0	n/a	EM	Uprooted fallen living tree, presumably sucker of dead fallen 1m diameter stem parent adjacent.	Good	Poor	20+	C1	3.9	49	-
T59	Field maple	On	10.0	1	Yes	600	2.0-7.0-7.5-3.0	0.0	0.5	S	M	Mature basal shoots to south. Tree has been lopped over road because of dieback.	Fair	Fair	20	C2	7.2	163	-
T60	Sycamore	On	15.0	1	-	600	8.0-8.0-8.5-7.5	0.0	0.5	S	EM	Low branching.	Good	Good	40+	B1	7.2	163	-
T61*	Spruce spp.	Off	15.0	1	Yes	480	4.5-5.0-5.5-4.5	2.5	3	n/a	M	No significant observable defects.	Good	Good	40+	B1	5.8	104	-
T62*	English oak	Off	19.0	1	Yes	680	10.0-12.0-13.0-9.0	3.0	4	S	M	0.75m branch tear wound at 4.5m west.	Good	Good	40+	B1	8.2	209	-
T63*	False acacia	Off	16.0	1	Yes	700	2.0-6.5-7.5-2.0	4.5	2	S	M	Basal wounding to root flare from driveway installation and/or use.	Good	Fair	20+	B2	8.4	222	-
T64*	False acacia	Off	12.0	1	Yes	850	3.0-4.0-5.0-6.0	8.0	2.5	SE	M	Advanced crown dieback and deadwood.	Poor	Poor	<10	C1	10.2	327	-
T65*	False acacia	Off	20.0	1	Yes	750	6.0-7.0-7.0-6.0	7.0	7.5	S	M	Excellent form. Stem base not visible.	Good	Good	40+	A1	9.0	255	-
T66*	Field maple	Off	12.0	1	Yes	650	5.5-5.0-6.0-7.0	4.5	3	N	M	Ivy on bole and stems.	Good	Good	40+	B1	7.8	191	-
T67*	English oak	Off	19.0	1	-	650	10.0-6.0-10.5-9.0	4.5	4.5	S	M	Excellent form. Growing on highway bank.	Good	Good	40+	A1	7.8	191	-

GROUPS OF TREES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. crown radius (m)	Av. low crown height (m)	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
G1	Common lime	On	8-22	12	-	480	4	0.5	M	Tightly planted row of trees with attenuated stems and contiguous canopy such that their stability is co-dependent. Two trees to east have been suppressed below Turkey oak. Basal shoots.	Good	Good	40+	B2	5.8
G2	Hawthorn	On	5-7.5	4	Yes	450	3.5	2.0	M	Remnant hedgerow shrubs with heavy stem and crown ivy cover. West shrub leans into next.	Fair	Fair	20+	C2	5.4
G3*	Silver birch	On	10-12	7	-	190	3	1.5	SM	Group of 12 stems in all (7 out of scope). Included bark basal unions.	Good	Fair	40+	C1	2.3
G4*	Blackthorn, elder, hawthorn	On	3-4.5	50	-	150	2	0.0	SM	Dense predominantly blackthorn scrub.	Good	Fair	20+	C1	1.8
G5*	Horse chestnut, elder	On	4-13	35	-	300	3	3.0	SM	Spinney of natural regeneration. Most have severe basal rabbit wounding and bleeding canker exudate	Fair	Poor	10+	C1	3.6
G6*	Hawthorn, elder, common ash	On	4.5-7	3	-	100	1.5	1.0	SM	Natural regeneration.	Good	Good	20+	C1	1.3
G7*	Blackthorn	On	4	500	-	50	0.5	0.0	Y	Attractive area of dense blackthorn scrub with path creating tunnel through western end.	Good	Good	20	B2	0.6
G8*	Hawthorn, elder	On	4-6	5	-	150	2	1.0	SM	Natural regeneration.	Good	Good	20+	C1	1.8
G9*	Elder	On	3.5-5	5	Yes	230	3	0.0	M	Scattered group of elder natural regeneration.	Good	Good	20+	C2	2.8
G10	Elder, English elm, hawthorn	On	3-5	10	Yes	200	2.5	0.0	SM	Scattered group of scrubby natural regeneration. Mostly dead and dying elms. One early-mature hawthorn with dieback.	Poor	Fair	10+	C2	2.4
G11	English elm, hawthorn	On	3-5	7	Yes	200	2.5	0.0	EM	Scattered group of scrubby natural regeneration. Mostly dead and dying young elms. One mature hawthorn.	Poor	Fair	10+	C2	2.4
G12	Elder, blackthorn	On	2-3.5	10	Yes	150	1.5	0.0	EM	Scrubby group.	Fair	Fair	10+	C2	1.8
G13	Sycamore, hawthorn, common ash	On	5.5-15	13	-	500	5	1.0	SM	Spinney of sycamore trees with smaller, out of scope understorey.	Good	Good	40+	B2	6.0
G14	Sycamore	On	12-15	7	-	470	5	1.5	EM	Spinney of sycamore trees.	Good	Good	40+	B2	5.6
G15	Common ash, common walnut, sycamore, elder	On	5-12	8	-	310	3.5	1.0	SM	Spinney of young to semi-mature trees with other young out of scope saplings.	Good	Good	40+	B2	3.7
G16*	English oak, blackthorn, common ash	On	4-10	8	-	180	2	0.5	Y	Scattered natural regeneration and blackthorn suckers. Largest ash growing at western end near hedge line.	Good	Good	40	C1	2.2
G17*	Common ash, English oak, elder, blackthorn	On	3-9	10	-	230	3	0.5	Y	Scattered natural regeneration. Two mature elders in west of group.	Good	Good	10+	C1	2.8
G18	Common ash, hawthorn, elder	On	3.5-12	59	-	240	2.5	0.5	Y	Young to semi-mature trees with early Ash Dieback symptoms.	Fair	Good	10	C1	2.9
G19*	Elder, hawthorn, common ash, hazel	On	4-5	15	Yes	230	3	0.0	M	Area of predominantly elder scrub with bramble. Two collapsed hawthorns at north end.	Good	Good	20+	B3	2.8

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. crown radius (m)	Av. low crown height (m)	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
G20*	Field maple	On	8-9	3	Yes	460	5	2.0	M	Heavy ivy cover.	Good	Good	40+	B2	5.5
G21*	Field maple, hawthorn, dogwood, elder, common ash, hybrid black poplar	On	4-8	20	-	320	3	0.0	SM	Young to semi-mature spinney of trees and scattered regeneration.	Good	Good	40+	B1	3.8
G22*	Hawthorn, elder, field maple, English oak, common ash, crab apple, sycamore	On	4-11	80	-	280	4	0.0	EM	Unmaintained hedgerow with gaps and natural regeneration within hedgerow line and spreading south.	Good	Good	40+	B2	3.3
G23*	Common ash, sycamore, English oak	On	4.5-9	13	-	320	3	0.5	Y	Spinney of young, predominantly ash, trees with early Ash Dieback symptoms.	Fair	Good	<10	C1	3.8

HEDGEROWS

Ref	Species	On/off site	Av. height (m)	Av. width (m)	Av. stem diam (mm)	Av. low crown height (m)	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
H1	Leyland cypress	Off	2.5	1.5	150	0.0	SM	Clipped garden hedge.	Good	Good	10+	B2	1.8
H2	Hawthorn, blackthorn, dog rose, English elm	On	6.0	5	260	0.5	M	Predominantly mature hawthorn. Height reaches 8m at west end. Heavy ivy cover.	Fair	Fair	20+	C2	3.1
H3	Hawthorn, blackthorn, English elm, common ash, English oak	On	5.0	5	250	0.0	M	Mature, predominantly blackthorn and hawthorn hedgerow with occasional semi-mature oak and ash in south.	Good	Fair	40+	B2	3.0
H4	Hawthorn, elder, blackthorn, crab apple, English elm, common holly	On	5.0	5	250	0.0	M	Unmaintained hedgerow with dieback in hawthorn. DED in elms. One holly to 7m. Largely inaccessible beyond bramble.	Good	Fair	20+	B3	3.0
H5	Holly, cherry laurel	Off	3.0	1.5	150	0.0	SM	Clipped garden hedge in separate holly and laurel sections.	Good	Good	40+	B2	1.8
H6	Hawthorn, elder, holly, hazel, sycamore, English oak, common ash	On	5.0	5	240	0.0	M	Unmaintained mature hedgerow with heavy ivy cover. Remnants in some sections, particularly beneath trees from pedestrian use/play. Some areas of blackthorn scrub and oak/ash young natural regeneration creeping north from hedgerow.	Fair	Fair	20+	B3	2.9
H7	Hawthorn, hazel	On	3.5	2	160	0.5	M	Maintained garden hedge.	Good	Good	40+	B2	2.0
H8	Common beech	Off	1.5	0.5	50	0.0	Y	Planted and trimmed garden hedge.	Good	Good	40	B2	0.6

- The tree survey was carried out with reference to the methodology set out in BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.
- Trees were surveyed individually or as groups where it was considered that they had grown together to form cohesive arboricultural features either aerodynamically (trees that provide companion shelter), visually (e.g. avenues or screens) or culturally (including for biodiversity). However, where it was considered that there was an arboricultural need to differentiate between attributes trees within groups and/or woodlands were also surveyed as individuals.
- Within the tree survey schedule, each surveyed TREE (T), GROUP (G), HEDGEROW (H), WOODLAND (W) or SHRUB MASS on or adjacent to the site is given a reference number which refers to its position on the tree survey and constraints plan.
- TREE SPECIES are listed by common name.
- OOS: The recorded Out Of Scope trees and features refer to either a dead-standing or failed tree; a stump or minor shrubs; where trees are inaccessible or located off-site and unlikely to be affected by the development or, it is found that the trees are undersized according to BS 5837:2012, which stipulates a minimum recordable diameter of 75mm.

The **DIMENSIONS** taken are:

- STEM-No. indicates the number of main stems (i.e. whether the trunk divides at or below 1.5m; (used in the calculation of root protection area (RPA)) "m-s" = Multi-stemmed.
- STEM DIAMETER (measured in millimetres), obtained from the girth measured at approx. 1.5m. For trees with 2 to 5 sub-stems, a notional figure is derived from the sum of their cross-sectional areas. For multi-stemmed trees, the notional diameter may be estimated on the basis of the average stem size x the number of stems. Note: a notional diameter may be estimated where measurement is not possible.
- HEIGHT (measured in metres), recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- The CROWN SPREAD, taken at the four cardinal points to derive an accurate representation of the tree crown, recorded up to the nearest half metre for dimensions up to 10m and to up the nearest whole metre for dimensions over 10m.
- CROWN CLEARANCES, expressed both as the existing height above ground level of the first significant branch along with its direction of growth (e.g., 2.5m-N) and also in terms of the overall crown e.g., the average height of the crown above ground level. Measurements are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- ESTIMATES: where any measurement has had to be estimated, e.g., due to inaccessibility, this is indicated by a "#" suffix to the measurement as shown in the Tree Survey Schedule.

LIFE STAGE is defined as follows:

- Y Young: Normally stake dependent, establishing trees. Should be growing fast, usually primarily increasing in height more than spread but as yet making a limited impact upon the landscape.
- SM Semi-mature: Established young trees, normally of good vigour and still increasing in height but beginning to spread laterally. Beginning to make an impact on the local landscape and environment. Semi-mature are still capable of being transplanted without preparation, up to 300mm girth and not yet sexually mature.

- EM Early-mature: Not yet having reached 75% of expected mature size. Established young trees, normally of good vigour and still increasing in height but beginning to spread laterally. Beginning to make an impact on the local landscape and environment.
- M Mature: Well-established trees, still growing with some vigour but tending to fill out and increase spread. Bark may be beginning to crack and fissure. In the middle half of their safe, useful life expectancies.
- LM Late-mature: In full maturity but possibly beyond mature and in a state of natural decline. Still retaining some vigour but any growth is slowing.
- A Ancient: A tree that has passed beyond maturity and is old/aged compared with other trees of the same species. Typically having a very wide trunk and a small canopy.

PHYSIOLOGICAL CONDITION (HEALTH & VITALITY):

Essentially a snapshot of the general health of the tree based upon its general appearance, its apparent vigour and the presence or absence of symptoms associated with poor health, physiological stress etc. (fungal infections may be recorded here but decay giving rise to structural weakness would be recorded under 'Structural Condition' – see next parameter):

- Good: No significant health issues.
- Fair: Indications of slight stress or minor disease (e.g., the presence of minor dieback/deadwood or epicormic shoot growth).
- Poor: Significant stress or disease noted; larger areas of dieback than above.
- Dead: (or Moribund).

STRUCTURAL CONDITION:

Features affecting the structural stability of the tree include decay, significant deadwood, root-plate instability or significant damage to structural roots, weak forks (e.g. those where bark is included between the members) etc. Classified as:

- Good: No obvious structural defects: basically sound.
- Fair: Minor, potential or incipient defects.
- Poor: Significant feature(s) likely to lead to actual failure in the medium- to long-term.
- Dead: (or Moribund).

ESTIMATED REMAINING CONTRIBUTION:

An estimate of the length of time in years that a tree might be expected to continue to make a useful contribution to the locality at an acceptable level of risk (based on an assumption of continued routine maintenance):

- Less than 10 years
- 10+ years
- 20+ years
- 40+ years

SPECIAL IMPORTANCE:

Trees that are particularly notable as high-value trees such as ancient trees/woodland or veteran trees. Such trees may be regarded as the principal arboricultural features of a site and pose a significant constraint to potential development.

An **ancient** tree is one that has passed beyond maturity and is very old compared with other trees of the same species. Very few trees reach the ancient life stage. **Veteran** trees are often very old but not necessarily so; they may be regarded as 'survivors' that have developed some of the characteristic features of an ancient tree but have not necessarily lived as long. All ancient trees are veterans but not all veteran trees are ancient.

The term '*notable*' carries no weight within the National Planning Policy Framework (NPPF), but is a term that recognises a mature tree which may stand out in the local environment because it is large in comparison with other trees around it.

Ancient woodland is an area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland (ASNW), plantations on ancient woodland sites (PAWS) and ancient replanted woodland (ARW).

QUALITY CATEGORY:

Trees are classed as category U, A, B or C, based on criteria given in BS 5837:2012; summary definitions as follows (see BS 5837 for further details). Categories A, B and C are further characterised by the use of sub-categories, which attempt to identify what aspect of the tree is the main source of its perceived value, These are:

- (1) arboricultural qualities
- (2) landscape qualities, and
- (3) cultural, historic or ecological/conservation qualities.

Examples of these qualities for each of the three categories are given below, although these are indicative only.

Note: This is NOT a health and safety classification; the classification does not take into account any requirement for remedial tree care or ongoing maintenance apart from that which may affect the trees' general suitability for retention.

CATEGORY A: HIGH QUALITY:

Trees or groups whose retention should be given a particularly high priority within the design process. Normally with an expected useful life expectancy of at least 40 years.

- A1: Notably fine specimens; rare or unusual specimens; essential component trees within groups, semi-formal or formal plantings (e.g., dominant trees within an avenue etc.).
- A2: Trees, groups or woodlands of particular visual importance as landscape features.
- A3: Trees, groups or woodlands of particular significance by virtue of their conservation, historical, commemorative or other value (e.g., veteran trees or wood pasture).

CATEGORY B: MODERATE QUALITY

Trees or groups of some importance with a likely useful life expectancy in excess of 20 years. Their retention would be desirable; selective removal of certain individuals may be acceptable but only after full consideration of all alternative courses of action.

- B1: Fair quality but not exceptional; good specimens showing some impairment (e.g., remediable defects, minor storm damage or poor past management).
- B2: Acceptable trees situated such as to have little visual impact within the wider locality. Also the number of trees, perhaps in groups or woodlands, whose value as landscape features is greater collectively than would warrant as individuals (such that the selective removal of an individual would not impact greatly upon the trees' overall, collective value).
- B3: Trees, groups or woodlands with clearly identifiable conservation or other cultural benefits.

CATEGORY C: LOW QUALITY:

Trees or groups of rather low quality, although potentially capable of retention for at least approx. 10 years. Also small trees with stems below 150mm diameter.

Potentially retainable, but not of sufficient value to be regarded as a significant planning constraint.

- C1: Unremarkable trees of very limited merit or significantly impaired condition.
- C2: Trees offering only low- or short-term landscape benefits; also secondary specimens within groups or woodlands whose loss would not significantly diminish their landscape value.
- C3: Trees with extremely limited conservation or other cultural benefits.

CATEGORY U: VERY LOW QUALITY

Trees likely to prove to be unsuitable for retention for longer than 10 years should any significant increase in site usage arise as a result of development. E.g., dead or moribund trees; those at risk of collapse or in terminal decline; trees that will be left unstable by other essential works such as the removal of nearby category U trees; trees infected by pathogens that could materially affect other trees; low-quality trees that are suppressing better specimens. (Category U trees may have conservation values that it might be desirable to preserve. This category may also include trees that should be removed irrespective of any development proposals.)

ROOT PROTECTION AREA (RPA):

These are normally represented as a circle centred on the base of each tree stem with a radius of 12 times the stem diameter, measured at 1.5m above ground level. The shape of the RPA may be altered where site conditions dictate that there are sound reasons to do so.

VETERAN OR ANCIENT TREE BUFFER (VTB/ATB)

In line with the Standing Advice produced by the Forestry Commission and Natural England, this is a buffer zone (in metres) around an ancient or veteran tree that should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's stem diameter.

ANCIENT WOODLAND BUFFER (FOR ASNW, PAWS OR ARW)

In line with the Standing Advice produced by the Forestry Commission and Natural England, this is a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, a larger buffer zone may be required.

THE IMPORTANCE OF TREES

Wider benefits:

There is a growing body of evidence that trees bring a wide range of benefits to the places people live.

Some *Economic* benefits of trees include:

- Trees can increase property values
- As trees grow larger, the lift they give to property values grows proportionately
- They can improve the environmental performance of buildings by reducing heating and cooling costs, thereby cutting bills
- Mature landscapes with trees can be worth more as development sites
- Trees create a positive perception of a place for potential property buyers
- Urban trees improve the health of local populations, reducing healthcare costs

Some *Social* benefits of trees include:

- Trees help create a sense of place and local identity
- They benefit communities by increasing pride in the local area
- They can create focal points and landmarks
- They have a positive impact on people's physical and mental health
- They can have a positive impact on crime reduction

Some *Environmental* benefits of trees include:

- Urban trees reduce the 'urban heat island effect' of localised temperature extremes
- They provide shade, making streets and buildings cooler in summer
- They help remove dust and particulates from the air
- They help to reduce traffic noise by absorbing and deflecting sound
- They help to reduce wind speeds
- By providing food and shelter for wildlife they help increase biodiversity
- They can reduce the effects of flash flooding by slowing the rate at which rainfall reaches the ground
- They can help remediate contaminated soil

On new development sites:

Trees bring many benefits to new development. Where retained successfully they can form important and sustainable elements of green infrastructure, contribute to urban cooling and reduce energy demands in buildings. Their importance is acknowledged in relation to adaptation to the effects of climate change. Other benefits brought by trees include:

- increasing property values;
- visual amenity
- softening, complementing and adding maturity to built form
- displaying seasonal change
- increasing wildlife opportunities in built-up areas
- contributing to screening and shade
- reducing wind speed and turbulence

NATIONAL PLANNING POLICY

The National Planning Policy Framework 2024 (NPPF) (amended 2025) paragraph 193 states that, when determining planning applications, local planning authorities should apply the following principle:

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

In this respect, the following definitions apply:

'Ancient woodland: An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)', and

'Ancient or veteran tree: A tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species. Very few trees of any species reach the ancient life stage.'

Note: Further information from the National Planning Policy Guidance Suite and Standing Advice is provided in the design guidance section.

Other paragraphs of the NPPF 2024 of relevance to this report are:

Paragraph 136: *'Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and*

community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users.'

Paragraph 187: *'Planning policies and decisions should contribute to and enhance the natural and local environment by:*

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

STATUTORY CONTROLS

Statutory tree protection

Works to trees which are covered by Tree Preservation Orders (TPOs) or are within a Conservation Area (CA) require permission or consent from the Local Planning Authority. Where information is available on any Statutory designations such as this they are identified within the summary table in Section 1 and on the Tree Survey and Constraints Plan at Section 2.

Notwithstanding specific exceptions and in general terms, a TPO prevents the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of protected trees or woodlands without the prior written consent of the LPA.

Penalties for contravention of a TPO tend to reflect the extent of damage caused but can, in the event of a tree being destroyed, result in a fine of up to £20,000 if convicted in a Magistrates' Court, or an unlimited fine if the matter is determined by the Crown Court.

Similarly, and again notwithstanding specific exceptions, it is an offence to carry out any works to a tree in a Conservation Area with a trunk diameter greater than 75mm diameter at 1.5 height without having first provided the LPA with 6 weeks written notification of intent to carry out the works.

On many non-residential sites (excluding specific exemptions) there is also a statutory restriction relating to tree felling that relates to quantities of timber that can be removed within set time periods. In basic terms, it is an offence to remove more than 5 cubic metres of timber in any one calendar quarter without having first obtained a felling licence from the Forestry Commission.

Any proposed tree works that are planned to be carried out on site must be carried out in accordance with the statutory controls outlined. Therefore, we recommend that a further check is made with the LPA before any tree works are carried out.

Statutory Wildlife Protection

Although preliminary visual checks from ground level of likely wildlife habitats are made at the time of surveying, detailed ecological assessments of wildlife habitats are not made by the arboriculturist and fall outside of the scope for this report.

Trees which contain holes, splits, cracks and cavities could potentially provide a habitat for protected species such as bats in addition to birds and small mammals. It is advised that in some instances specialist ecological advice may be required. This may result in tree works being carried out following a detailed climbing inspection to the tree to ensure that protected species or their nests/roosts are not disturbed. If any are found, the site manager, site owner or consulting arboriculturist should be informed and appropriate action taken as recommended by the appointed Ecologist or Natural England.

It is advised that tree/hedgerow works are carried out with the understanding that birds will generally nest in trees, hedges and shrubs between March and August. This time period only provides an indication of likely nesting times and as such diligence is required when undertaking tree works at all times.

Irrespective of the time of year and other than any actions approved under General Licence, it is an offence to intentionally kill, injure or take any wild bird or to intentionally take, damage or destroy the nest or eggs of any wild bird. Ideally, tree operations should be avoided during the likely bird nesting period. However, any tree works should always only be carried out following a preliminary visual check of the vegetation.

For information, the Wildlife and Countryside Act 1981 (as amended), The Countryside and Rights of Way Act 2000 (as amended) and the Conservation of Habitat and Species Regulations 2010, form the basis of the statutory legislation for flora and fauna in England and Wales. A different legislative framework applies in Scotland and Northern Ireland.

Any proposed tree works that are planned to be carried out on site must be carried out in accordance with any relevant statutory controls, outlined above.

DESIGN GUIDANCE

Approach

The approach adopts the guidelines set out in the British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations. The process is broken down to coordinate with the key elements within both the RIBA Plan of Work (2013) and British Standard 5837:2012 as set out in the table below:

Information Stage	RIBA Stage	BS5837:2012
Stage A – Tree Survey	2: Concept	4: Feasibility
Stage B – Arboricultural Impact Assessment	3: Developed design	5: Proposals
Stage C – Arboricultural Method Statement	4: Technical design	6: Technical Design
Stage D – Arboricultural Site Supervision	5: Construction	7: Demolition and construction

A hierarchical approach is adopted in order to achieve optimum use of the site and location of built structures. This is set out below:

Avoid

The starting point of Site layout design should be to avoid the RPA of retained trees and provide suitable clearance from above ground constraints [tree canopies]. Where possible building lines should be at least 2m outside the RPA to provide working space for construction. However, protection measures can be taken if such clearance is not achievable.

Mitigate

Where intrusion within the RPA is unavoidable then its impact on the tree can be mitigated by specialist measures:

Foundations that avoid trenching e.g. screw piles, suspended floor slabs or casting at ground level for lightweight structures such as bin and cycle stores.

Limited use may be made for parking, drives or hard surfaces within the root protection areas, subject to advice from a qualified arboriculturist. Cellular confinement systems that enable hard surfaces to be built above existing soil levels are acceptable methods subject to site-specific soil conditions.

Service runs that cannot be routed outside the RPA(s) can be installed by, for example, thrust boring, directional drilling, air excavation or hand digging. These operations often require supervision by the project arboriculturist.

Compensate

Replacement planting can ensure the continuity of tree cover where tree removal is unavoidable or desirable. Off-site provision may be considered in some circumstances but this will require negotiation with the local planning authority.

Considerations:

For proposed residential developments, consideration must be given to numerous factors future tree growth and orientation.

Tree constraints

Root Protection Areas:

With reference to BS5837:2012, a root protection area (RPA) is defined as “a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure should be treated as a priority”. **“The default position [when considering design layout in relation to RPAs] should be that structures are located outside the RPAs of trees to be retained”.**

BS5837:2012 states (4.6.2) that, “where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced.” The BS goes on to state that, “modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution,” and that any deviation from the original circular plot should take into account:

- Morphology and disposition of roots;
- topography and drainage;
- soil type and structure;
- the likely tolerance of the tree to root damage/disturbance.

Additional buffer zones beyond the RPA:

The following text is taken from the Standing Advice produced by the Forestry Commission and Natural England as included in the National Planning Policy Guidance:

‘A buffer zone’s purpose is to protect ancient woodland and individual ancient or veteran trees. The size and type of buffer zone should vary depending on the scale, type and impact of the development’.

Ancient woodland buffer:

‘For ancient woodlands, you should have a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, you’re likely to need a larger buffer zone. For example, the effect of air pollution from development that results in a significant increase in traffic’.

Ancient and veteran tree buffer:

'A buffer zone around an ancient or veteran tree should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's diameter'.

Above ground:

Above ground constraints posed by trees describe the capacity for trees to have an overbearing or dominating effect on new developments; usually post occupancy. Typical above ground constraints include a number or combination of inconveniences including shading, branch spread, movement of trees during strong winds and so on. If not adequately considered, above ground constraints can lead to repeated requests to fell or heavily prune retained and protected trees.

Shade:

Adverse shading and blocked views from windows raise concerns for incoming residents, which may lead to pressure to fell or remove trees in the future. Wherever possible it is advisable to arrange fenestration away from tree canopies to lessen the conflict, or increase window size to accommodate ambient light.

Conversely, appropriate designed development can use existing or new trees to create necessary and welcome shade and screening.

As part of the adopted approach the above considerations and constraints are assessed cumulatively in order to provide clear and site-specific advice on the areas of a site most suitable for the location of development.

Dependent on the site and nature of the proposed development, the Tree Survey and Constraints Plans may show the following:

Recommended Developable area - an advisory area defined in order to minimise arboricultural impacts using standard approaches to construction. Restricting proposed development to this area will limit the risk of harm to retained trees and of the Local Planning Authority objecting to the proposed development. It may be possible to propose development outside of this area but specific 'low impact' construction techniques may be needed recommended.

Recommended Buffer to development - similar to the Recommend Developable Area but defined as a line marking a suitable buffer to retained trees. More commonly used on large sites or sites where the presence of trees is localised.

Tree Opportunities

Depending on the scale of developments existing trees can often provide opportunities to enhance the existing arboricultural resource of a site by bringing it into good management or by putting in place remedial measures e.g. soil amelioration.

Appropriately designed new tree planting is extremely important in maintaining healthy and sustainable tree populations. For the reasons highlighted, new trees can bring many benefits to new developments. It is critical to the establishment of new tree planting that the locations, species and specification of new trees is appropriate. Subsequently the sourcing of high-quality stock, suitable planting and the provision of post planting maintenance are essential to allow new trees to establish and to allow them to mature.

HOW TREE DAMAGE CAN OCCUR

Above the ground

Damage can occur as a result of knocks and scuffs, breakages of branches and/or tree trunks. This is often but not always associated with machine operations, groundworks excavations, tele handlers, high sided vehicles and crane use. Other forms of above ground damage include fixings to trunk and unauthorised cutting back of branches. Wounds will harm a tree's health and shorten its life by letting in disease-causing organisms.

Below the ground

It is often not appreciated that the majority of most tree roots are generally located within the top 600mm of the ground. On this basis it needs to be understood that damage to roots can occur in three ways:

- Root severance can occur as a result of, for example, soil stripping during site clearance or excavations.
- Root dieback and death can result from compaction of the soil. Compaction can occur as a result of vehicle weight, weight of stored materials or increased pedestrian access. Compaction crushes out soil pore space and prevents tree respiration from occurring (respiration requires gas exchange between the ground and the atmosphere). Compacted soil is denser and therefore inhibits/prevents any further new root growth.
- Pollution of the soil with chemicals such as oil or cement washings can destroy the soil environment, making it inhospitable for the tree cause causing it stress.

The effects of these impacts can be disfiguring to a tree's appearance and also weaken a tree making it more liable to attack by pest and diseases. In addition, root damage or death results in corresponding decline above the ground with dieback occurring within the tree crown.

The effects of damage to trees generally take some time to become fully apparent. In many cases, damaged trees decline slowly after the completion of a new development, until they eventually need to be removed due to ill health.

Tree protection barriers and load distributing 'no-dig' paths are specified in order to prevent soil compaction from taking place.

GENERAL SITE RULES FOR TREE PROTECTION

Do not independently carry out any activity that is at odds with the site scheme of tree protection. This is contained within an approved Arboricultural Method Statement (AMS) and accompanying Tree Protection Plan.

In simple terms: do not carry out any work within any Construction Exclusion Zone (CEZ) without prior liaison with the Project Arboriculturist and written authorisation from the Local Planning Authority.

Within the CEZ:

- No mixing of cement
- No soil/turf stripping, raising/lowering of ground levels (unless advised), deposit or excavation of soil or rubble
- No excavations for services or installation of services
- No storage of materials, machinery fuel, chemicals or other materials of any other description
- No parking/use of tracked or wheeled machinery
- No siting of temporary structures including hard standing areas, portaloos, site huts
- No lighting of fires or disposal of liquids
- Fires on site should be avoided if possible. Where they are unavoidable, they must not be lit in a position where heat could damage foliage or branches. Fires must be a minimum of 20m from the trunk of any retained tree or the centre line of any hedgerow to be retained
- No signs, cables, fixtures or fittings of any other description shall be attached to any part of a retained tree.