ARBORICULTURAL IMPACT ASSESSMENT

Bridge Farm,
Twyford

September 2025
(Revision B)

Barton Hyett Associates
Arboricultural Consultants

Barton Hyett
Arboricultural Consultants

Summary table		
Site Name:	Land at Bridge Farm	
Project reference:	3523	
Site Address:	Bridge Farm, Twyford	
Nearest Postcode:	RG10 9RU	
Central Grid reference:	SU 78334 76694	
Local Planning Authority:	Wokingham Borough Council (WBC)	
Relevant planning policies:	Adopted Wokingham Borough Managing Development Delivery Local Plan (MDD) 2014: Policy CC03: Green Infrastructure, Trees and Landscaping. Emerging policy within the Draft Local Plan for Consultation (February to March 2020): Policy DH1: Place Making and Quality Design. Policy NE1: Biodiversity and Nature Conservation. Policy NE3: Trees, woodland and hedgerows.	
Planning consent:	WBC Outline permission: 212720; dated: 05.07.23	
Statutory Controls:	Tree Preservation Order	Conservation Area
	No	No
Ancient trees/ woodlands?	No ancient woodland associated with the site. A single veteran tree (T38) was identified but this has collapsed since the original survey	
Soil Type: (Source: BGS online soils map © NERC 2025)	Superficial/Drift	Bedrock
	Kempton Park gravel member - Sand and gravel	Seaford chalk formation and Newhaven chalk formation - chalk
Proposed site plan:	*DES-703-101-3 - Site Layout Rev 4*	
Report author:	Richard Hyett *MSc, BSc (Hons), MICFor, MArborA*	
Date of first issue:	06/12/2024	
Revisions:	Rev A - 17th March 2025 - updated layout and TRRP and report text	
	Rev B - 5th September 2025 - updated TRRP	

Arboricultural ASSOCIATION Professional Member
PR: 3525

Institute of Chartered Foresters registered

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1. INTRODUCTION

1.1. Barton Hyett Associates Ltd have been instructed by Croudace Homes Ltd to survey trees located on land at Bridge Farm, Twyford, ('the site') in accordance with the recommendations of British Standard 5837:2012 '*Trees in relation to design, demolition and construction - recommendations*'.

1.2. The scope of the instruction was to re-inspect trees relevant to a Reserved Matters planning application for residential development at the site and provide written advice on how they inform the feasibility and detailed design options for the site. 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. Bridge Farm is located to the north west of the settlement of Twyford, approximately 5 miles to the east of Reading.

2.2. The site consists of four agricultural fields that have been used for arable crop production and grazing of cattle. In the centre of the site is a complex of barns and farm buildings along with a residential dwelling.

2.3. Access to the site is gained via an access track that links New Bath Road (A4) in the north, to Wargrave Road (A321) to the south-east of the site.

2.4. The site is bound to the east by a railway line and associated embankments containing a linear belt of establishing trees. Beyond the railway line are existing residential dwellings within Twyford. To the north of the site is New Bath Road with a plant nursery located beyond. To the west the site is bordered by the River Loddon with mature willow and London plane trees lining its banks. To the south of the site is Cedar Park Day Nursery and Preschool.

3. TREE SURVEY FINDINGS

3.1. A tree survey was undertaken in 2020 to inform the now consented outline planning application. As part of the preparation of the Reserved Matters application a resurvey of the site was undertaken in April 2024.

3.2. The resurvey recorded 86 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 and within the Tree Survey Schedule (**Section 4**).

3.3. **Nb**: Since the original tree survey was undertaken the offsite trees T18, T19 and G12 have been felled.

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	**58**	9	25	23	1
Groups	**23**	-	11	12	-
Hedgerows	**5**	-	-	5	-
Total	**86**	**9**	**36**	**40**	**1**

4. KEY ARBORICULTURAL FEATURES

4.1. As can be seen from the summary table above the tree groups identified at the site are evenly split between low and moderate quality. The low quality groups mainly consist of boundary tree (G1 and G22) to the north of the site, a group of understorey trees central to the site (G10), and further understorey trees to the west of the site (G18).

4.2. A more mature and prominent group of moderate quality trees (G19), all with varying structural and physiological conditions, are located within the linear group of trees that divide the fields in the north-west. A further prominent, moderate quality group is comprised of mature crack willow pollards that form a linear belt of riverbank trees in the south west of the site (G16).

4.3. Off-site groups located along the railway (G2 and G7) provide a reasonable visual screen to the railway and the residential dwellings beyond. The trees on this boundary are beneficial to the development and have a potential for significant future growth. Other off-site groups are located within the residential property at the centre of the site (G21 and G23), with some parts of the trees within G21 overhanging the site by up to 10m.

4.4. The individual trees on the site are predominantly of high or moderate quality. The primary area of high quality trees is on the western boundary of the site along the River Loddon. Single high quality trees are also located on the northern and southern boundaries of the site (T4 and T34). These (along with the moderate quality trees T30, T29 and T22) are mature and significant London plane trees that can be integrated in to the proposed development and form feature trees within the proposed layout.

4.5. To the south of the site is a significant and mature poplar tree T38 (T7 of the Ecological assessment). The tree is most likely to be a hybrid black poplar. Irrespective of precise species, this tree has a large stem

diameter (as per Fig. 1.3 in Lonsdale, 2013[1]) and has been historically managed as a pollard. This tree also displays numerous characteristics, such as branch tear out scars, stem wounds, deadwood etc, (e.g. characteristic features found on veteran trees as described in para. 2.1.1 in Read, 2000 [2]). that have resulted in the tree being assigned 'Veteran' status. Since the original survey was undertaken it its unfortunate that the stem of T38 has failed at circa 7m leaving a pole with some small regrowth. Irrespective, the veteran status of the tree has been maintained.

4.6. There is no Ancient Woodland associated to the site.

5. PROPOSED DEVELOPMENT

5.1. Reserved Matters planning consent is sought for residential development at the site. The application description is as follows:

Reserved matters application for the approval of the details of the appearance, landscaping, layout and scale for the development of 200 dwellings including 40% affordable housing and associated infrastructure, open space, biodiversity enhancements, landscaping and green infrastructure, following demolition of existing agricultural buildings (pursuant to Outline permission: 212720; dated: 05.07.23)

5.2. The proposed site layout is shown on the proposed site plan (drawing ref: *DES-703-101-3 - Site Layout* Rev 4 - as amended and submitted).

6. IMPACT ASSESSMENT

6.1. The AIA considers the effects of any tree loss required to implement the layout design 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 and the context of the outline planning consent. These impacts can include tree removal to facilitate design, demolition of buildings and removal of existing hard surfacing, soil compaction in close proximity to trees and direct impact damage to canopy and roots of retained trees from construction activities. A combined Tree Retention/Removal and Protection Plan is provided at **Section 3**. A summary of anticipated impacts resulting from the proposed development is provided below.

Tree losses:

6.2. In order to establish the approved main highway access point from New Bath Road, it will be necessary to remove six individual trees and a single tree group. The majority of these removals were approved at outline planning stage. The six individual trees to be removed for the accesses are T1 (C1), T54 (B1) , T55 (C1), T56 (B1), T57 (B1) and T58 (C1). The tree group that requires removal is G22 (C2). This removal is required to allow the formation of a safe and appropriate highway access into the site.

6.3. With regards to the site interior, all high and moderate quality trees within the site interior can be successfully retained. However, the proposed site layout shows that a small number of trees/tree groups require removal for the development to be implemented. These are:

- T59, a low quality (Category C) common walnut, and H6, a small low quality (Category C) hedgerow for an internal access road.
- The partial removal (8 linear metres) of H3, a low quality (Category C) hedgerow to facilitate a recreational mown grass path and the installation of the surface and foul water drainage.
- The partial removal of G9 and G10 (both low quality, Category C tree groups) and the removal of T26 (al low quality, Category C, small leaved lime) for access, and to accommodate a proposed visitor parking bays.

6.4. As demonstrated within the proposed Landscape Masterplan (*CH038-002 L*) extensive replacement tree planting can be provided along the site frontage with New Bath Road. Given the overall quality of the existing trees along the frontage with New Bath Road it is possible to deliver an overall increase in tree numbers as well as provide an enhancement in tree quality. This will however rely on any new trees being planted appropriately and maintained to allow them to establish successfully in the landscape.

Summary:

6.5. The removal of existing trees along the New Bath Road frontage his required for the construction of the new highway accesses, and this was approved at outline planning stage. Appropriate mitigation and enhancement planting is proposed.

6.6. Only the loss of small, low quality vegetation within the site interior will be required in order to allow the development to be constructed. All trees of value within the interior of the site, and around its periphery, can be retained and adequately protected during construction activities to sustain their health and longevity.

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

[2] Read, H. 2000. Veteran Trees: A guide to good management. London: English Nature.

6.7. New trees are likely to have an extended useful life expectancy compared to some of those retained on site. In addition, enhancement planting beyond that required to mitigate the loss at the highway accesses will be provided.

Impacts upon on retained trees:

6.8. Demolition and site clearance - there are no extensive existing structures within the site, however the existing complex of farm buildings to the west T21 to T26 will require removal. Given the relatively light weight construction and low rise nature of the buildings it will be possible to demolish these buildings without impacting upon the adjacent trees. A full methodology for demolition will need to be prepared by the demolition contractors and reflected in a detailed Arboricultural Method Statement (AMS). The topsoil from across the main part of the site (where housing parcels are located) will be stripped snd stockpiled prior to the construction work. Existing soil levels within RPAs of retained trees must be maintained as existing.

6.9. Facilitation pruning - the proposed Site Layout plan demonstrates that no facilitation pruning is required to allow the proposed development to be implemented.

6.10. Service installation - No detailed service plans have been prepared at this stage in the planning and design process. The installation of all services and utilities must be undertaken outside of the RPAs of retained trees. From an assessment of the site layout and potential service access points from the north and east, it is feasible that this can be achieved. Ensuring all service are located within the alignment of the primary internal access roads will ensure RPAs are avoided. Should it become apparent that services are required within the RPAs of retained trees, further arboricultural assessment will be required. If this is the case, alternative solutions should be explored, including alternative techniques such as trench less installation methods (e.g directional drilling, hand excavation or Airspade excavation) to allow tree roots to be retained.

6.11. Street Lighting - the lighting design is shown on drawings *WLC1233-1300-001_R2_Lighting* and *WLC1233-1300-002_R2_Lighting.* The proposed street lighting design has been prepared and amended in response to the presence of existing trees and those trees proposed on the Landscape Masterplan. This has involved moving lamp columns away from retained trees to ensure the above ground lighting and below ground cabling do not result in an arboricultural impact. The only area where a lamp column is proposed near retained trees is column L9 that is positioned next to next to G21. This may result in some minor pruning to trees within G21 (dependent on specific branch locations). However, the pruning is not expected to be significant due the form of the trees and the existing canopy height. The extent of the pruning will need to be agreed and set out in a detailed AMS. It is recommend that lamp columns L8 and L9 are connected by cables located to the north of the adjacent access road to avoid any trenching along the northern side of the RPAs associated to G20 and G21.

6.12. *Ground level changes* - the site is broadly flat with very limited level change across its extent. As such, no significant ground level changes are required to allow the proposed development to be implemented. The detailed proposed levels plan will be prepared in phases as part of the detailed design and submitted for approval under Condition 12 of the outline planning consent. It is important that all ground levels within the RPAs of retained trees (where there is an absence of any existing infrastructure, such as roads that would potentially inhibit rooting) are retained as existing. The detailed level strategy must be reviewed by the project arboriculturist as it is being developed and prior to submission. .

6.13. *Surface water drainage* - The proposed surface and foul water drainage strategy (7236.401-RevB) has been designed to avoid impacts on retained trees where possible. The main surface water attenuation basin is located outside of RPA's of retained trees and the outfall to the River Loddon, although close to some of the crack willows to be pollarded within G17, avoids the RPA of T40 London plane (A2). A number of swales are proposed as part of the drainage strategy and these are, on the whole, located away from RPAs. The only exception to the this is along the east side of the north south trending tree belt (T21 to T33) where the swale is located within (or just to the east) the existing tarmac road. Given the presence of the road and the shallow nature of the swales no arboriculture impacts are expected to arise. However, the swale installation should still be carried out in accordance with an approved AMS.

6.14. In addition the above, it proposed to install pipes that are part of the surface water and foul water drainage system within the RPA of T22 (A2) and pipes that are part of the surface water drainage system within the RPAs of T25 (B2) and T29 (A1). The proposed pipes are located within the existing road that runs through the site but it is anticipated that roots will be encountered during the excavation required to install the pipes. At their closest point the drainage pipes are circa 5m from the base of T25 (B2). Based on the current alignment, the installation options are limited. It is proposed that a series of trial holes will be excavated within the existing road and in the location of the proposed pipes in order to confirm the presence or absence of roots. Once undertaken the findings will inform an appropriate working methodology that will need to be agreed with the works contractor and set out in a detailed AMS. It is likely that if roots are present, some roots will need to be pruned back to the edge of the excavation where they cannot be feasibly retained whilst allowing the pipe to be installed.

6.15. *Foundations* - the proposed Site Layout plan demonstrates that all the proposed dwellings could be accommodated outside of the RPAs of retained trees.

6.16. Hard surfacing - the proposed Site Layout plan shows that the vast majority of proposed hard surfacing is located outside of the RPAs of retained trees. However, some new hard surfacing will likely be required within the RPAs of T1 (C1), G20 (B2), G21 (B2), T4 (A2), T50 (B2) and T52 (A1). With regards to T1, G20 and G1 the hard surfacing forms part of the internal path network that runs through the site. It is recommended that a 'no dig' approach to the construction of the path is adopted. This may include the construction of the

new hard surfacing upon the existing ground surface (leaving any suitable existing sub base material in situ where possible) and, depending on the underlying soil conditions and levels may also utilise a 3D cellular confinement system to assist in distributing loads applied and preventing compaction of underlying soil. The areas where the use of a 3D cellular confinement system may be sited are shown on the plan in **Section 3**.

6.17. In relation to T4, T50 and T52 where the internal road network encroaches into the periphery of RPAs, the use of a cellular confinement system across the road width will not be acceptable for highway adoption. Given the RPA incursions are minor it is not proposed to install any alternative construction within the proposed adopted highway. This will mean that some loss of roots will likely occur at the periphery of the RPAs for T4, T50 and T52. Dependent on the final levels, excavations at the back of the carriageway closest to these trees shall only be undertaken under arboricultural supervision. Any roots encountered will need to be clean pruned to the back edge the excavation and any exposed cut surfaces protected from drying out. The installation of surfacing within RPA's will need to be implemented in accordance with the working methodology set out in an AMS.

6.18. *Soft landscaping* - There are no impacts arising from the implementation of the proposed landscaping works. 5No. native black poplars are proposed at the edge of the veteran tree buffer associated with T38. These trees can be planted without any arboricultural impact upon T38.

Summary:

6.19. The proposed site layout results in impacts that are broadly in line with those identified an assessed at outline planning stage. However, the implementation of the development (and specific elements of works such as drainage installation) are subject to further assessment and must be carried out in accordance with an approved AMS.

7. ENHANCEMENTS

7.1. A series of potential enhancements to the arboricultural resource of the site could be provided through the delivery of the development. These are summarised in the non-exhaustive list below:

- The planting of new trees within the proposed public open space.
- The provision of high-quality tree planting along the New Bath Frontage (in part this is replacement)
- Extensive new tree planting across the internal road network, communal areas and gardens
- The provision of a orchard tree area in the south east corner of the site.
- Management of the riverside crack willows in line with the ecology strategy

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

8.1. BS5837:2012 (Figure 1) recommends that 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.

8.2. Annex B and Table B.1 of BS5837:2012, an informative, 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 planning condition. A summary of the principles of tree protection on development sites is included in **Section 7**.

8.3. 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. Project arboriculturist to ensure that all parties have copies of the tree protection plan and this report.
- Tree removals and facilitation pruning - as shown on the final, approved Tree Retention and Removal Plan (TRR)
- Erection of tree protection barriers - as shown on the final, approved Tree Protection Plan (TPP)
- Site preparation and ground works - no access for 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 - watching brief on hard surfacing removal adjacent, for example, T22, T29 and T34. Installation of surface and foul water drainage pipes within RPA's.
- Removal of tree protection barriers - only to occur following approval of site conditions by the project arboriculturist.
- Final landscaping including tree planting.

9. CONCLUSIONS AND RECOMMENDATIONS

9.1. The baseline survey information has been used to inform the development proposal through the iterative design process. This has resulted in the preparation of design proposals for the site that minimise negative arboricultural impacts.

9.2. All the high and moderate quality, individual trees can be retained and adequately protected during construction activities to sustain their health and longevity. In particular, the significant and prominent trees within the centre of the site can be retained and, where possible, enhanced through appropriate management.

9.3. In the context of the scale of the site and the nature of the proposed development, the direct arboricultural impacts are very limited. The direct impacts are primarily related to vegetation loss required to achieve appropriate highway access into the site; and this was approved at outline planning stage.

9.4. All tree losses can be mitigated through new diverse tree and hedgerow planting, particularly within the proposed public open spaces. New trees will likely have an extended useful life expectancy compared to an of the lowest quality retained trees located around the site.

9.5. Impacts upon retained trees have been identified (e.g. drainage and hard surfacing installation) and these will be limited as far as possible by further site investigation to inform a low impact working methodology where possible.

9.6. A detailed AMS and finalised Tree Protection Plan will need to be produced. In particular this will provide the detailed working methodology for demolition, hard surfacing removal and hard surface installation. Where the feasibility of the layout has been agreed upon by the Local Planning Authority, this detail can be submitted later either during determination once the layout is fixed for approval, or as part of a pre-commencement planning condition (by agreement with the applicant).

Richard Hyett
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TS - 'Section 2'

Tree No	Ht (m)	Species	Life Stage	RPA Radius (m)	RPA Area (m2)
T1	6.5	Apple	M	4.8	72
T2	7	Damson	EM	3	28
T3	10.5	Common ash	SM	5.3	88
T4	14	English oak	M	9.6	290
T5	15	Walnut tree	EM	6	113
T6	13	Horse chestnut	EM	5.8	104
T7	16	Walnut tree	EM	9.5	282
T8	8	English oak	Y	2.3	16
T9	15.5	Sycamore	EM	7.7	185
T10	11	English oak	Y	4.2	55
T11	11	English oak	Y	3.6	41
T12	14	English oak	EM	7.2	163
T13	14	Sycamore	SM	5	80
T14	15	Norway maple	M	8.2	209
T15	15	Sycamore	SM	4.5	65
T16	15	English oak	EM	5.4	92
T17	10	Goat willow	EM	4.8	72
T18	-	False acacia - Gone	-	-	-
T19	-	False acacia - Gone	-	-	-
T20	8	Norway maple	SM	2.4	18
T21	18	Corsican pine	M	5.8	104
T22	20	London plane	M	10.8	366
T23	12	Corsican pine	SM	4.2	55
T24	1.5	Common lime	M	9	255
T25	15	Horse chestnut	M	10.8	366
T26	11	Small leaf lime	SM	4.8	72
T27	16	Cedar	SM	4.7	69
T28	11	English oak	SM	4.8	72
T29	20	London plane	M	13.2	547
T30	20	London plane	M	11.4	408
T31	17.5	Scots pine	M	7	152
T32	19	Scots pine	M	7.2	163
T33	17	Common ash	M	6.8	147
T34	20	London plane	M	11.3	400
T35	15	Horse chestnut	EM	5.6	100
T36	15	Corsican pine	EM	4.8	72
T37	15	Corsican pine	EM	4.8	72
T38	8	Hybrid black poplar	LM	15	707
T39	22	London plane	M	15	707
T40	20	London plane	M	14.4	652
T41	12	Weeping willow	EM	5.8	104
T42	21	London plane	M	15	707
T43	22	London plane	M	15	707
T44	17	Horse chestnut	M	8.9	248
T45	16	Common ash	EM	6	113
T46	16	Common beech	M	9.4	275
T47	17	False acacia	M	8	203
T48	17	Horse chestnut	M	10.4	342
T49	17	Common ash	M	8.6	235
T50	14	Horse chestnut	EM	8.5	228
T51	9	Horse chestnut	SM	5.8	104
T52	18	English oak	M	12.2	471
T53	20	Sycamore	EM	5	80
T54	16	English oak	EM	9.4	275
T55	15	Common ash	SM	4.9	76
T56	16	Walnut tree	EM	6.8	147
T57	15	Common ash	SM	5.4	92
T58	3	Ebglish Oak	Y	2.2	15
T59	4	Common walnut	Y	2.4	18
T60	7	English Oak	Y	2.4	18
G1	4-7	Hawthorn, damson, elderm walnut	SM	3	28
G2	15-18	English oak	EM	8.4	222
G3	5-14	English oak, sycamore, hawthorn	SM	3	28
G4	5-13	English oak, birch, hawthorn	SM	3.6	41
G5	6-16	Spruce, sycamore, cherry, holm oak	SM	3.8	46
G6	5-7.5	Spruce, Leyland cypress	SM	3.6	41
G7	4-8	Hawthorn, birch, sycamore, oak, blackthorn, walnut	SM	3	28
G8	5-12	Sycamore, lime, holly	SM	3.7	43
G9	2-4	Elder, blackthorn, holly , sycamore	Y	1.5	7
G10	4-8	Scots pine, sycamore, lime, elmm horse chestnut, blackthorn, Norway maple. Hawthorn.	SM	3.6	41
G11	10-13	English oak, common beech	SM	5.6	100
G12	-	Grey poplar - Gone	-	-	-
G13	10-11	Horse chestnut, Norway maple	SM	3	28
G14	13-15	Scots pine	EM	3.6	41
G15	6-16	Common ash, crack willow, hawthorn	EM	4.8	72
G16	15-17	Crack willow	LM	15	707
G17	4-7	Crack willow	SM	3.6	41
G18	7-20	Hybrid black poplar, silver birch, sycamore, holly	EM	5.4	92
G19	16-19	Norway maple, horse chestnut, common ash	M	9	255
G20	12-19	Common ash, horse chestnut, Norway maple	M	8.5	228
G21	17-20	Sycamore, London plane, common lime	M	10.2	327
G22	5-14	Common ash, sycamore, hawthorn	SM	3	28
G23	13-18	Sycamore, Corsican pine, horse chestnut	M	7.8	191
G24	4-8	Hawthorn	SM	2.4	18
H1	5	Hawthorn	SM	1.1	4
H2	2	Hawthorn	SM	1	3
H3	3	Holly, hawthorn	EM	1.3	5
H4	4	Holly, hawthorn	EM	1.3	5
H5	4.5	Hawthorn	EM	2.4	18
H6	3	Hawthorn, apple, holm oak	Y	1.8	10

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/offsite tree/out of scope (OOS)

Ancient Tree / Woodland or Veteran Trees

- Ancient tree/woodland or Veteran tree: Important trees that require special consideration
- Ancient tree/woodland or Veteran tree buffer: As per published standing advice from Natural England and the Forestry Commission

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

N
GRID NORTH

0 20 40 60 80 100
Metres

PROJECT TITLE
Land at Bridge Farm, Twyford (C.3523)

DRAWING TITLE
Tree Survey & Constraints Plan

SCALE	DRAWING NUMBER
1:2000 @ A3	BHA_692_01

DRAWN BY	APPROVED BY	REVISION	SHEET	DATE
SD	RH	A	-	02/04/2024

LAYOUT USED WITHIN DRAWING **n/a**

CLIENT **Croudace Homes**

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

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Ordnance Survey Copyright Licence number 100054267.

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TRRP - 'Section 3'

Tree No	Ht (m)	Species	Life Stage	RPA Radius (m)	RPA Area (m2)
T1	6.5	Apple	M	4.8	72
T2	7	Damson	EM	3	28
T3	10.5	Common ash	SM	5.3	88
T4	14	English oak	M	9.6	290
T5	15	Walnut tree	EM	6	113
T6	13	Horse chestnut	EM	5.8	104
T7	16	Walnut tree	EM	9.5	282
T8	8	English oak	Y	2.3	16
T9	15.5	Sycamore	EM	7.7	185
T10	11	English oak	Y	4.2	55
T11	11	English oak	Y	3.6	41
T12	14	English oak	EM	7.2	163
T13	14	Sycamore	SM	5	80
T14	15	Norway maple	M	8.2	209
T15	15	Sycamore	SM	4.5	65
T16	15	English oak	EM	5.4	92
T17	10	Goat willow	EM	4.8	72
T18	-	False acacia - Gone	-	-	-
T19	-	False acacia - Gone	-	-	-
T20	8	Norway maple	SM	2.4	18
T21	18	Corsican pine	M	5.8	104
T22	20	London plane	M	10.8	366
T23	12	Corsican pine	SM	4.2	55
T24	1.5	Common lime	M	9	255
T25	15	Horse chestnut	M	10.8	366
T26	11	Small leaf lime	SM	4.8	72
T27	16	Cedar	SM	4.7	69
T28	11	English oak	SM	4.8	72
T29	20	London plane	M	13.2	547
T30	20	London plane	M	11.4	408
T31	17.5	Scots pine	M	7	152
T32	19	Scots pine	M	7.2	163
T33	17	Common ash	M	6.8	147
T34	20	London plane	M	11.3	400
T35	15	Horse chestnut	EM	5.6	100
T36	15	Corsican pine	EM	4.8	72
T37	15	Corsican pine	EM	4.8	72
T38	8	Hybrid black poplar	LM	15	707
T39	22	London plane	M	15	707
T40	20	London plane	M	14.4	652
T41	12	Weeping willow	EM	5.8	104
T42	21	London plane	M	15	707
T43	22	London plane	M	15	707
T44	17	Horse chestnut	M	8.9	248
T45	16	Common ash	EM	6	113
T46	16	Common beech	M	9.4	275
T47	17	False acacia	M	8	203
T48	17	Horse chestnut	M	10.4	342
T49	17	Common ash	M	8.6	235
T50	14	Horse chestnut	EM	8.5	228
T51	9	Horse chestnut	SM	5.8	104
T52	18	English oak	M	12.2	471
T53	20	Sycamore	EM	5	80
T54	16	English oak	EM	9.4	275
T55	15	Common ash	SM	4.9	76
T56	16	Walnut tree	EM	6.8	147
T57	15	Common ash	SM	5.4	92
T58	3	Ebglish Oak	Y	2.2	15
T59	4	Common walnut	Y	2.4	18
T60	7	English Oak	Y	2.4	18
G1	4-7	Hawthorn, damson, elderm walnut	SM	3	28
G2	15-18	English oak	EM	8.4	222
G3	5-14	English oak, sycamore, hawthorn	SM	3	28
G4	5-13	English oak, birch, hawthorn	SM	3.6	41
G5	6-16	Spruce, sycamore, cherry, holm oak	SM	3.8	46
G6	5-7.5	Spruce, Leyland cypress	SM	3.6	41
G7	4-8	Hawthorn, birch, sycamore, oak, blackthorn, walnut	SM	3	28
G8	5-12	Sycamore, lime, holly	SM	3.7	43
G9	2-4	Elder, blackthorn, holly , sycamore	Y	1.5	7
G10	4-8	Scots pine, sycamore, lime, elmm horse chestnut, blackthorn, Norway maple, Hawthorn.	SM	3.6	41
G11	10-13	English oak, common beech	SM	5.6	100
G12	-	Grey poplar - Gone	-	-	-
G13	10-11	Horse chestnut, Norway maple	SM	3	28
G14	13-15	Scots pine	EM	3.6	41
G15	6-16	Common ash, crack willow, hawthorn	EM	4.8	72
G16	15-17	Crack willow	LM	15	707
G17	4-7	Crack willow	SM	3.6	41
G18	7-20	Hybrid black poplar, silver birch, sycamore, holly	EM	5.4	92
G19	16-19	Norway maple, horse chestnut, common ash	M	9	255
G20	12-19	Common ash, horse chestnut, Norway maple	M	8.5	228
G21	17-20	Sycamore, London plane, common lime	M	10.2	327
G22	5-14	Common ash, sycamore, hawthorn	SM	3	28
G23	13-18	Sycamore, Corsican pine, horse chestnut	M	7.8	191
G24	4-8	Hawthorn	SM	2.4	18
H1	5	Hawthorn	SM	1.1	4
H2	2	Hawthorn	SM	1	3
H3	3	Holly, hawthorn	EM	1.3	5
H4	4	Holly, hawthorn	EM	1.3	5
H5	4.5	Hawthorn	EM	2.4	18
H6	3	Hawthorn, apple, holm oak	Y	1.8	10

BS:5837:2012 Figure 3 Examples of above-ground stabilizing systems

For more details refer to BS:5837:2012 'Trees in relation to design, demolition and construction – Recommendations' p.21

CONSTRUCTION EXCLUSION ZONE - NO ENTRY

TREE PROTECTION FENCING

THIS FENCE MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED TREE PROTECTION PLANS AND ARBORICULTURAL METHOD STATEMENT FOR THIS DEVELOPMENT.

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER. CONTRAVENTION CAN RESULT IN BREACH OF PLANNING CONDITIONS AND/OR CRIMINAL PROSECUTION. (TOWN AND COUNTRY PLANNING ACT 1990)

FOR ALL ENQUIRIES REGARDING TREES AT THIS DEVELOPMENT
PLEASE CALL 01386 576161 OR EMAIL ENQUIRIES@BARTON-HYETT.CO.UK

Barton Hyett Associates
Arboricultural Consultants

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/offsite tree/out of scope (OOS)

Ancient Tree / Woodland or Veteran Trees

- Ancient tree/woodland or Veteran tree: Important trees that require special consideration
- Ancient tree/woodland or Veteran tree buffer: As per published standing advice from Natural England and the Forestry Commission

Impacts

- Tree / Hedgerow / Group to be removed

Protection measures

- Tree Protection Barrier
- Secondary Tree Protection Barrier - location to allow works within CEZ (only in accordance with detailed AMS)
- Cellular Confinement System (see AMS report for specification)

N
GRID NORTH

0 10 20 30 40 50
Meters

Construction Exclusion Zone(s)

INSTALLING PROTECTION
Protective barriers and ground protection (as approved), must be installed before any materials or machinery are brought onto the site and before the commencement of any demolition, general site clearance, ground or construction works of any description.

RETENTION OF PROTECTION
All protective measures must remain fully intact, vertical (in the case of barriers) and in their approved locations from the outset of the development. They must be maintained, at all times, until all works have been completed on site, including any earthworks and associated soft landscaping works. Any approved phasing of protective measures must be fully observed and complied with.

RESTRICTIONS
Construction Exclusion Zone(s) are to remain completely undisturbed for the duration of all development works. No construction activity of any description including but not limited to the following must occur within these areas at any time.

- No excavation of any description.
- No storage, disposal of soil, rubble or materials of any other description.
- No alterations to existing levels or ground conditions.
- No vehicular access, parking or use of any tracked or wheeled machinery of any description.
- No tree works, without the written consent of the Council's Planning service.
- No erection of temporary structures of any description.
- No fires.
- No storage disposal handing or use of any chemicals including cement washings.
- No fixtures or fittings of any description, security lighting, signage etc shall be attached to any part of a tree.
- No fires shall be light within 10 metres of the canopies of any tree or spread of any hedge.
- No chemicals, fuel, liquids/waste residues of any other description to be stored or disposed of within close proximity to or drained towards/into protected areas.

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

PROJECT TITLE
Bridge Farm, Twyford

DRAWING TITLE
Tree Retention/Removal and Protection Plan

SCALE		DRAWING NUMBER
1:1000	@ A1	BHA_692_02

DRAWN BY	APPROVED BY	REVISION	SHEET	DATE
RH	RH	B	-	05/09/2025

LAYOUT USED WITHIN DRAWING **Site Layout DES/703/101 - Rev 4**

CLIENT **Croudace Homes**

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

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Cheltenham, Glos, GL51 8PL

TREE SURVEY SCHEDULE

PROJECT NO: 6069

SITE NAME: BRIDGE FARM, TWYFORD.

SURVEYOR: LF

CLIENT: CROUDACE HOMES

Barton Hyett
Arboricultural Consultants

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.	Special importance	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m²
T1	Apple	6.5	2	#	400	4.0-4.5-4.5-3.0	1.0	1.0	N/a	M	None	Two central co-dominant stems have failed and are in situ in the canopy	Fair	Fair	20+	C1	4.8	72
T2	Damson	7.0	1	#	250	4.0-3.5-5.0-4.0	2.0	2.0	N/a	EM	None	Located amongst the roadside verge north of the wire fence.	Good	Fair	20+	C2	3.0	28
T3	Common ash	10.5	4	#	440	4.5-6.0-6.5-7.0	3.5	3.0	N/a	SM	None	Multi stemmed from ground level, ivy establishing throughout canopy, located to the north of the wire fence	Good	Fair	40+	C2	5.3	88
T4	English oak	14.0	1	-	800	10.0-11.0-10.5-11.0	4.0	2.0	E	M	None	Significant tree that is in a prominent location central to the boundary. Ivy establishing in lower canopy, of broadly spreading form with no significant defects visible at the time of inspection	Good	Good	40+	A2	9.6	290
T5	Walnut tree	15.0	3	#	500	5.0-5.0-10.0-7.0	4.0	4.0	S	EM	None	Multi stemmed from close to ground level, ivy establishing on stems and throughout canopy.	Good	Fair	40+	B2	6.0	113
T6	Horse chestnut	13.0	1	-	480	7.0-4.0-8.0-7.0	4.0	4.0	S	EM	None	Ivy is establishing on the main stem and throughout canopy	Good	Good	40+	B2	5.8	104
T7	Walnut tree	16.0	3	-	790	8.0-9.0-9.0-7.5	4.0	3.0	S	EM	None	Multi stemmed from close to ground level, stem located just south of the wire fence	Good	Fair	40+	B2	9.5	282
T8	English oak	8.0	1	#	220	4.0-3.0-4.0-5.0	2.0	N/a	N/a	Y	None	Establishing tree located to the east of the wire fence. Side flailed to the west	Good	Fair	40+	C2	2.6	22
T9	Sycamore	15.5	3	#	640	8.0-7.0-6.5-8.0	4.0	N/a	N/a	EM	None	Located east of the wire fence and multi stemmed from close to ground level, overhangs the site by 5m	Good	Fair	40+	C2	7.7	185

TREE SURVEY SCHEDULE

PROJECT NO: 6069

SITE NAME: BRIDGE FARM, TWYFORD.

SURVEYOR: LF

CLIENT: CROUDACE HOMES

Barton Hyett
Arboricultural Consultants

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.	Special importance	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m²
T10	English oak	11.0	1	#	350	5.0-5.0-5.0-5.0	4.0	N/a	N/a	Y	None	Establishing tree located to the east of the wire fence, side flailed to the west	Good	Fair	40+	C2	4.2	55
T11	English oak	11.0	1	#	300	5.0-5.0-5.0-5.0	4.0	N/a	N/a	Y	None	Establishing tree located to the east of the wire fence, side flailed to the west	Good	Fair	40+	C2	3.6	41
T12	English oak	14.0	2	#	600	8.5-6.0-9.0-8.5	3.0	N/a	N/a	EM	None	Located to the east of the wire fence, multi stemmed from ground level, overhanging the site by 6m	Good	Fair	40+	B2	7.2	163
T13	Sycamore	14.0	2	#	450	5.0-5.0-6.0-6.0	4.0	N/a	N/a	SM	None	Located eat of the wire fence and overhanging the site by 5m. Two twin stems forming a cohesive canopy. Ivy throughout canopy	Good	Fair	40+	C2	5.4	92
T14	Norway maple	15.0	1	#	700	9.0-6.0-8.0-9.0	3.0	N/a	N/a	M	None	Located east of the wire fence and overhanging the site by 7m, of good form and condition	Good	Good	40+	B1	8.4	222
T15	Sycamore	15.0	1	#	390	5.5-5.5-5.0-5.5	3.5	2.0	S	SM	None	Located east of the wire fence and overhanging the site by 4m. Of good form and condition	Good	Good	40+	B1	4.7	69
T16	English oak	15.0	1	#	480	7.0-6.0-7.0-8.0	4.0	3.5	S	EM	None	Located to the east of the wire fence, of good form and condition, overhanging the site by 6m	Good	Fair	40+	B1	5.8	104
T17	Goat willow	10.0	7	#	400	6.0-7.0-5.5-6.0	3.0	N/a	N/a	EM	None	Off site tree located south of the boundary, overhanging the site by 5.5m	Good	Fair	40+	C1	4.8	72
T18	False acacia	-	-	-	-	-	-	-	-	-	-	Felled since original survey	-	-	-	-	-	-

TREE SURVEY SCHEDULE

PROJECT NO: 6069

SITE NAME: BRIDGE FARM, TWYFORD.

SURVEYOR: LF

CLIENT: CROUDACE HOMES

Barton Hyett
Arboricultural Consultants

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.	Special importance	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m²
T19	False acacia	-	-	-	-	-	-	-	-	-	-	Felled since original survey	-	-	-	-	-	-
T20	Norway maple	10.0	1	#	300	5.0-4.0-4.5-5.0	3.0	3.0	N	SM	None	Establishing tree located just north of the wire fence	Good	Good	40+	C1	3.6	41
T21	Corsican pine	18.0	1	#	500	2.0-6.5-2.0-7.5	9.0	9.0	E	M	None	Dense ivy on main stem and throughout canopy	Fair	Fair	20+	C2	6.0	113
T22	London plane	20.0	1	#	910	10.0-14.0-10.0-10.0	5.0	3.5	S	M	None	Tree of good form and condition but with dense ivy on main stem and throughout canopy. In a prominent location for the site.	Good	Good	40+	A2	10.9	375
T23	Corsican pine	12.0	1	#	350	2.0-5.0-2.0-4.0	4.0	4.0	E	SM	None	Dense ivy on main stem and throughout canopy, of suppressed form	Fair	Fair	20+	C2	4.2	55
T24	Common lime	1.5	1	#	750	1.0-1.0-1.0-1.0	1.0	1.0	E	M	None	Recently failed at root plate 2 meter stem leaning NE with regrowth.	Fair	Poor	20+	C2	9.0	255
T25	Horse chestnut	15.0	1	#	900	5.0-9.0-5.0-7.0	4.0	4.0	E	M	None	Dense ivy on main stem and throughout canopy, over extended low limb to the east.	Good	Fair	40+	B2	10.8	366
T26	Small leaf lime	11.0	1	#	400	5.0-5.0-5.0-5.0	2.0	2.0	S	SM	None	Tree of poor form and condition having been heavily side-pruned	Fair	Poor	20+	C2	4.8	72
T27	Cedar	16.0	1	#	450	4.0-4.5-4.5-3.5	9.0	N/a	N/a	SM	None	Establishing tree amongst the linear group. Future feature tree.	Good	Fair	40+	B2	5.4	92
T28	English oak	11.0	1	#	400	3.0-2.0-6.0-6.0	4.0	4.0	W	SM	None	Establishing tree located amongst the linear group, ivy on stem and throughout canopy	Good	Fair	40+	B2	4.8	72

TREE SURVEY SCHEDULE

PROJECT NO: 6069

SITE NAME: BRIDGE FARM, TWYFORD.

SURVEYOR: LF

CLIENT: CROUDACE HOMES

Barton Hyett Arboricultural Consultants

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.	Special importance	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m²
T29	London plane	20.0	1	#	1100	9.0-11.0-11.0-11.0	5.0	5.0	S	M	None	Significant and prominent tree, dense ivy on main stem and throughout canopy.	Good	Good	40+	A1	13.2	547
T30	London plane	20.0	1	-	950	10.0-10.0-9.0-7.0	6.0	9.0	E	M	None	Significant and prominent tree, ivy establishing on main stem	Good	Good	40+	B1	11.4	408
T31	Corsican pine	17.5	1	-	710	7.0-6.0-7.0-7.0	10.0	10.0	W	M	None	Prominent tree of good form and condition	Good	Good	40+	B2	8.5	228
T32	Corsican pine	19.0	1	-	600	3.0-2.0-3.0-3.0	15.0	N/a	N/a	M	None	Partially failed and being supported by the neighbouring London plane tree. Decay and helical cracking in lower main stem	Fair	Poor	20+	U	7.2	163
T33	Common ash	17.0	1	-	570	9.0-0.0-4.0-12.0	4.0	6.0	W	M	None	Significant stem lean to the west means the tree may not be suitable for long term retention	Good	Fair	20+	C2	6.8	147
T34	London plane	20.0	1	-	1060	10.0-11.0-14.0-15.0	4.0	6.0	W	M	None	Significant tree of good form and condition, no significant defects visible defects at the time of inspection	Good	Good	40+	A1	12.7	508
T35	Horse chestnut	15.0	1	#	470	7.0-7.0-7.0-	2.0	2.5	N	EM	None	Off site tree	Good	Fair	40+	B1	5.6	100
T36	Scots pine	15.0	1	#	400	3.5-4.5-3.5-3.0	3.0	4.5	N	EM	None	Offsite tree located close to the boundary	Good	Good	40+	B1	4.8	72
T37	Scots pine	15.0	1	#	400	3.5-4.5-5.0-3.0	3.0	4.5	N	EM	None	Offsite tree located close to the boundary	Good	Good	40+	B1	4.8	72
T38	Hybrid black poplar	8.0	1	#	1600	2.0-2.0-2.0-2.0	5.0	4.5	W	LM	Veteran	Recently failed at stem leaving 7 m high trunk with regrowth.	Poor	Good	10+	C3	15.0	707

TREE SURVEY SCHEDULE

PROJECT NO: 6069

SITE NAME: BRIDGE FARM, TWYFORD.

SURVEYOR: LF

CLIENT: CROUDACE HOMES

Barton Hyett Arboricultural Consultants

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.	Special importance	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m²
T39	London plane	22.0	1	-	1510	14.0-13.0-13.0-14.0	2.0	5.5	N/a	M	None	Significant and prominent tree with no significant defects visible at the time of inspection	Good	Good	40+	A1	15.0	707
T40	London plane	20.0	1	#	1220	12.0-12.0-11.0-11.0	2.0	3.0	E	M	None	Significant and prominent tree with no significant defects visible at the time of inspection. Located at the stream edge	Good	Good	40+	A1	14.6	673
T41	Weeping willow	12.0	1	#	500	7.0-7.5-5.0-6.5	2.0	3.0	E	EM	None	Located at the stream edge, some torn out branches in situ below the tree	Good	Fair	40+	B2	6.0	113
T42	London plane	21.0	1	-	1360	12.0-14.0-13.0-12.0	2.0	5.0	N	M	None	Significant and prominent tree with no significant defects visible at the time of inspection	Good	Good	40+	A1	15.0	707
T43	London plane	22.0	1	-	1300	13.0-14.0-13.0-13.0	4.0	4.0	N	M	None	Significant and prominent tree with no significant defects visible at the time of inspection	Good	Good	40+	A1	15.0	707
T44	Horse chestnut	17.0	1	-	740	7.0-4.0-7.0-6.0	2.0	2.0	S	M	None	Mechanical damage on main stem at 2m, significant decay present. Part of the linear tree feature	Good	Fair	20+	C2	8.9	248
T45	Common ash	16.0	1	-	500	6.5-5.0-5.0-5.0	3.0	4.0	S	EM	None	Forming a cohesive canopy with neighbouring tree. Part of the linear tree feature	Good	Fair	40+	B2	6.0	113
T46	Common beech	16.0	1	#	780	7.0-7.0-10.0-9.0	3.0	4.0	S	M	None	Beech with a slightly weeping form located amongst a fenced and densely vegetated area	Good	Good	40+	B2	9.4	275
T47	False acacia	17.0	3	#	690	7.0-8.0-9.0-8.0	5.0	6.0	S	M	None	Multi stemmed from close to ground level, 1 contorted stem could be removed to improve the form	Good	Fair	40+	B2	8.3	215

TREE SURVEY SCHEDULE

PROJECT NO: 6069

SITE NAME: BRIDGE FARM, TWYFORD.

SURVEYOR: LF

CLIENT: CROUDACE HOMES

Barton Hyett
Arboricultural Consultants

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.	Special importance	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m²
T48	Horse chestnut	17.0	1	-	870	7.0-3.0-8.0-7.0	2.0	2.0	E	M	None	Mechanical damage on main stem at 2m, significant decay present. Part of the linear tree feature	Good	Fair	20+	C2	10.4	342
T49	Common ash	17.0	1	-	720	7.5-5.0-11.0-9.0	2.0	5.0	S	M	None	Forming a cohesive canopy with neighbouring tree. Part of the linear tree feature. Some significant hollowing of the structural limb to the south, good habitat potential	Good	Good	40+	C3	8.6	235
T50	Horse chestnut	14.0	1	-	710	5.5-5.0-6.0-5.0	2.0	1.0	W	EM	None	Tree of good form and condition, dead tree is hung up in canopy	Good	Good	40+	B2	8.5	228
T51	Horse chestnut	9.0	1	#	480	5.0-5.0-4.5-6.0	3.0	3.5	N	SM	None	Dense ivy on main stem and throughout canopy, located amongst the hedgerow	Good	Good	40+	B1	5.8	104
T52	English oak	18.0	1	-	1020	12.0-11.5-12.0-10.0	4.0	5.0	S	M	None	Significant tree with a large stem diameter located just west of the wire fence and overhanging the site by 11m. Ivy on main stem and throughout canopy	Good	Good	40+	A1	12.2	471
T53	Sycamore	16.0	1	#	420	7.0-7.0-7.5-7.0	4.0	2.5	S	EM	None	Located on the boundary amongst the hedgerow	Good	Good	40+	B1	5.0	80
T54	English oak	20.0	1	#	780	10.0-10.0-10.0-10.0	5.0	3.5	N/a	EM	None	Located north of the wire fence. Tree of good form and condition	Good	Good	40+	B1	9.4	275
T55	Common ash	16.0	3	#	430	8.0-7.0-9.0-8.0	4.0	4.5	S	SM	None	Multi stemmed from ground level	Good	Fair	40+	C1	5.2	84
T56	Walnut tree	16.0	2	#	590	9.0-9.0-9.0-9.5	3.0	3.0	W	EM	None	Located on the boundary. Twin stemmed from close to ground level	Good	Fair	40+	B1	7.1	157
T57	Common ash	15.0	2	#	450	7.0-7.0-8.0-7.5	3.0	2.0	S	SM	None	Establishing tree of good form and condition	Good	Good	40+	B1	5.4	92

TREE SURVEY SCHEDULE

PROJECT NO: 6069

SITE NAME: BRIDGE FARM, TWYFORD.

SURVEYOR: LF

CLIENT: CROUDACE HOMES

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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.	Special importance	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m²
T58	Oak	3.0	1	-	180	3.0-3.0-3.0-3.0	1.0	0.5	S	Y	None	Compact tree. Previously topped to give spreading form.	Good	Good	20+	C1	2.2	15
T59	Walnut	4.0	1	-	200	3.0-1.0-3.0-2.0	1.0	1.0	N	Y	None	Poor form and low future potential.	Fair	Good	20+	C1	2.4	18
T60	Oak	7.0	1	-	200	2.0-2.0-2.0-2.0	3.0	2.0	SE	Y	None	Small establishing tree along fence line.	Good	Good	40+	C2	2.4	18

GROUPS OF TREES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. low crown height (m)	General Observations	Health & vitality	Structural condition	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G1	Hawthorn, damson, elder, walnut	4-7	150	#	250	4	0.5	None	Establishing self sewn trees located on the embankment, creates a good screen from the road and provides good habitat potential	Good	Fair	40+	C3	3.0
G2	English oak	15-18	4	#	700	7	4.0	None	Located east of the wire fence and overhanging the site by up to 7m, trees of the same species forming a largely cohesive canopy	Good	Good	40+	B2	8.4
G3	English oak, sycamore, hawthorn	5-14	7	#	250	5	2.0	None	Oak and sycamore forming a cohesive canopy with a hawthorn understorey, all located to the east of the wire fence, good screening from the railway track	Good	Good	40+	B2	3.0
G4	English oak, birch, hawthorn	5-13	6	#	300	5	2.0	None	Oak and birch forming a largely cohesive canopy with a hawthorn understorey, all located to the east of the wire fence, good screening from the railway track	Good	Good	40+	B2	3.6
G5	Spruce, sycamore, cherry, holm oak	6-16	8	#	320	4.5	4.0	None	Establishing linear group of trees just north of the wire fence providing a degree of screening from the neighbouring farm buildings	Good	Good	40+	B2	3.8
G6	Spruce, Leyland cypress	7-14	3	#	300	4	0.5	None	Off site establishing screening trees located close to the fence	Good	Good	40+	C2	3.6
G7	Hawthorn, birch, sycamore, oak, blackthorn, walnut, gladitsia.	4-8	100	#	250	3	0.5	None	Establishing trees located to the east of the wire fence on the railway embankment. Understorey to the more significant trees that have been identified as individual trees, providing a valuable screen to the railway track	Good	Fair	40+	B2	3.0
G8	Sycamore, lime, holly	5-12	4	#	310	5	2.0	None	Understorey to the more dominant trees, contains some suppressed trees and dead stems	Poor	Poor	20+	C2	3.7

TREE SURVEY SCHEDULE

PROJECT NO: 6069

SITE NAME: BRIDGE FARM, TWYFORD.

SURVEYOR: LF

CLIENT: CROUDACE HOMES

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Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. low crown height (m)	General Observations	Health & vitality	Structural condition	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G9	Elder, blackthorn, holly , sycamore	2-4	5	#	120	1	0.0	None	Young suppressed understorey trees choked by bramble	Poor	Poor	<10	C2	1.5
G10	Scots pine, sycamore, lime, elm, horse chestnut, blackthorn, Norway maple. Hawthorn.	4-11	30	#	300	3	1.0	None	Understorey trees to the more significant individual trees, mostly of suppressed form with ivy throughout, some dead stems present	Good	Fair	40+	C2	3.6
G11	English oak, common beech, Norway maple	10-13	5	#	470	5	4.0	None	Understorey to the more dominant London plane, of slightly suppressed form	Good	Fair	40+	B2	5.6
G12	Grey poplar	-	-	-	-	-	-	-	Felled since original survey	-	-	-	-	-
G13	Horse chestnut, Norway maple	10-11	3	#	250	4	1.0	None	Trees of poor form and condition suppressed by neighbouring trees with a failed dead stem hung up in the canopies of neighbouring trees	Fair	Fair	20+	C2	3.0
G14	Scots pine	13-15	3	#	300	4	5.0	None	Offsite trees of the same species and condition located close to the boundary	Good	Good	40+	B2	3.6
G15	Common ash, crack willow, hawthorn	6-16	5	#	400	6	1.0	None	Located at the stream edge, one willow is partially failed and hung up in the neighbouring trees	Good	Fair	40+	C2	4.8
G16	Crack willow	15-17	10	#	1700	9	1.0	None	Historically Pollarded trees. Some located on the eastern and some on the western bank of the stream. Significant hollowing of stems and numerous branch tear outs due to their lapsed pollard form. Important trees for the site in need of re-pollarding	Good	Fair	40+	B3	15.0
G17	Crack willow, hawthorn.	4-7	9	#	300	6	1.0	None	Located at the stream edge, establishing trees	Good	Fair	40+	C2	3.6
G18	Hybrid black poplar, silver birch, sycamore, holly	7-20	15	#	450	6	2.0	None	The more mature trees within the group are hybrid poplar (x3) all have either stem defects such as wounding or stem leans to the east. The rest of the trees are of suppressed form with the mature plane trees being the preferred arboricultural feature. Some poplars have failed at base.	Good	Fair	20+	C2	5.4
G19	Norway maple, horse chestnut, common ash	16-19	7	-	750	7	2.5	None	Broadleaf trees forming a cohesive canopy/ linear tree feature. All with significant defects ranging from mechanical damage, reduced vitality and suppressed form	Fair	Fair	20+	C2	9.0
G20	Common ash, horse chestnut, Norway maple	12-19	3	-	710	8	3.0	None	Broadleaf trees forming a cohesive canopy, some deadwood and partially failed branches throughout canopies but generally of good form and condition	Good	Fair	40+	B2	8.5
G21	Sycamore, London plane, common lime	17-20	111	#	850	10	5.0	None	Offsite group of prominent broadleaf trees overhanging the site by up to 10m	Good	Good	40+	B2	10.2
G22	Common ash, sycamore, hawthorn	5-14	30	#	330	3.5	1.0	None	Young to semi mature linear tree feature forming a linear tree feature and understorey to the more mature trees. If limited maturity but provides a good screen from the road	Good	Good	40+	C2	3.9

TREE SURVEY SCHEDULE

PROJECT NO: 6069

SITE NAME: BRIDGE FARM, TWYFORD.

SURVEYOR: LF

CLIENT: CROUDACE HOMES

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Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. low crown height (m)	General Observations	Health & vitality	Structural condition	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G23	Sycamore, Corsican pine, horse chestnut	13-18	11	#	650	7	6.0	None	Offsite trees located within a neighbouring garden, observed from a distance and obscured by a wooden fence	Good	Good	40+	**B2**	7.8
G24	Hawthorn	4-8	5	-	200	2	1.0	None	Offsite trees along railway track. Dense scrubby group.	Good	Good	40+	C2	2.4

HEDGEROWS

Ref	Species	On/off site	Av. height (m)	Av. width (m)	Av. stem diam (mm)	Av. low crown height (m)	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
H1	Hawthorn	4-5	2.5	90	1.0	SM	Remnant of a poor quality and unmaintaned hedgerow	Poor	Poor	10+	**C2**	1.1
H2	Hawthorn	3.0	1.0	80	0.2	SM	Hedgerow of poor form, sparse lower growth	Fair	Fair	20+	**C2**	1.0
H3	Holly, hawthorn	3.0	2.0	100	0.2	EM	Remnant of a hedgerow, now unmaintaned	Good	Fair	40+	**C2**	1.3
H4	Holly, hawthorn	5.0	2.0	100	0.2	EM	Outgrown hedgerow with some gaps along the length due to shading from mature trees	Good	Fair	40+	**C2**	1.3
H5	Hawthorn	4.5	3.0	200	0.5	EM	Remnant of a hedgerow, now unmaintaned	Good	Fair	40+	**C2**	2.4
H6	Hawthorn, apple, holm oak	3.0	2.0	150	0.5	Y	Fragmented hedgerow along track	Good	Good	20+	**C2**	1.8

- 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

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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.

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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 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 186: *'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 is 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 the relevant Statutory Nature Conservation Organisation (SNCO): Natural England, Scottish Natural Heritage or Natural Resources Wales.

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.

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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'.

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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.

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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

CONSTRUCTION EXCLUSION ZONE - NO ENTRY

TREE PROTECTION FENCING

THIS FENCE MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED TREE PROTECTION PLANS AND ARBORICULTURAL METHOD STATEMENT FOR THIS DEVELOPMENT.

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.
CONTRAVENTION CAN RESULT IN BREACH OF PLANNING CONDITIONS AND/OR CRIMINAL PROSECUTION.
(TOWN AND COUNTRY PLANNING ACT 1990)

FOR ALL ENQUIRIES REGARDING TREES AT THIS DEVELOPMENT
PLEASE CALL 01386 576161 OR EMAIL ENQUIRIES@BARTON-HYETT.CO.UK

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