

BS5837:2012 Tree Survey
Land at 82 Main Street
Carlton
Leicestershire
NGR SK40003 05120

Survey by
Christopher Barker CEnv dipHort ACIEEM

 smas* worksafe consultant www.smasltd.com as recognised by SSIP SAFETY SCHEMES IN PROCUREMENT	Report prepared by: C Barker	Date Issued: 16 August 2023
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BS5837 Tree Survey, Land at 60 Main Street, Carlton

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1. Introduction

1.1 Site Description and Location

The site surveyed comprises a parcel of residential garden land containing outbuildings and small builders yard workshops, located to the rear of 60 Main Street, Carlton, Leicestershire, centred at NGR SK40003 05120. The location of the site is shown on the plan within **Figure 1** and an aerial photograph has been provided within **Figure 2** to place the site in context.

The site lies within Hinckley and Bosworth and is not within a designated Conservation Area. Assessment of the survey area using the Hinckley and Bosworth Borough Council online mapping service has not identified any Tree Preservation Orders associated with the survey area.

In order to facilitate an application to obtain permission to develop the area surveyed the Applicant has requested a BS5837 (2012) Tree Survey should be completed to assess the quality of the trees within and close to the boundary of the field and the impact any development may have on these. An inspection of the site was completed on 07th July 2023. A photographic record of the trees at the site is included within the report.



Figure 1: Site location.

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1.2 Neighbouring Land Uses

The defined site area comprises part of a residential garden and an area used as a small builder's yard and workshop on the south side of Main Street, Carlton. There are houses and gardens to the east and west of the survey area. Main Street runs along the northern side of the access and there are residential houses and garden to the north of this. To the south is a parcel of open arable land. The site is in a rural location on the edge of a small village.



Figure 2: Site Contextual Aerial Photograph

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In undertaking the tree survey the assessment has been carried out in accordance with the specifications contained within BS 5837 Trees in Relation to Design, Development and Construction (2012). An inspection of the site and the immediate surrounding areas was completed by Christopher Barker, dipHort, CEnv, an experienced arboricultural consultant.

2. Tree Survey Appraisal Methodology

2.1 Survey Objectives

This tree survey has been carried out with the objective of:

- Identifying the individual tree species present at the site by means of visual inspection;
- To define the approximate age, condition and canopy spread of all individual mature and semi-mature trees identified and the value of these within the development context;
- To identify any trees that present a risk to existing or proposed foundations or other structures that may be constructed on the site and recommend action to remove this risk; and
- Recommend tree management / mitigation measures where appropriate.

The survey broadly assessed the condition and arboricultural value of the trees lying in or adjacent to the site area, paying attention to any mature individual trees present within or adjacent to the site area in order to prepare an assessment in accordance with BS 5837 Trees in Relation to Design, Development and Construction (2012).

2.2 Survey Methodology

The methodology set out below is a summary of the suggested approach to tree assessment as described in British Standard 5837:2012.

Trees have been broadly assessed based on guidance set out within the British Standard BS 5837:2012 'Trees in Relation to Design, Development and Construction'. This standard provides recommendations and guidance on the principles to be applied to achieve successful integration of development with trees, shrubs and hedgerows.

Trees on the site have been divided into one of four categories (based on the cascade chart for tree quality assessment). These are classed as A, B, C or U (Section 4 of BS 5837) within the table in Appendix 1. This gives an indication as to the tree's importance in relation to the site, the local landscape and, also, the value and quality of the existing trees on site.

Category (A): Trees whose retention is most desirable and are of high quality and value. These trees are considered to be in such a condition as to be able to make a lasting contribution (a minimum of 40 years).

Category (B): Trees whose retention is considered desirable and are of moderate quality and value. These trees are considered to be in such a condition as to make a significant contribution (a minimum of 20 years).

Category (C): Trees that could be retained and are considered to be of low quality and value. These trees are in an adequate condition to remain until new planting could be established (a minimum of ten years) or are young trees with a stem diameter below 150 mm.

Category (U): Trees that are considered to have no significant landscape value but it is not presumed that there is any overriding need to remove these unless stated otherwise in the description and recommendations. These include any trees in such poor condition that they cannot be retained in the context of current land use for more than 10 years. They are for this reason not considered as being significant within the planning process.

Species have been recorded by common and scientific name. Height has been estimated in metres and stem diameter measured in centimetres unless impractical, taken at a height of 1.5 m from the base of the tree.

The overall condition of any individual tree, or group of trees, has been referred to using one of the definitions listed below. A more detailed description of condition has been noted in the Tree Schedule.

- G **Good:** A sound tree or trees needing little, if any, attention
- F **Fair:** A tree or trees with minor but rectifiable defects or in the early stages of stress, from which it may recover
- P **Poor:** A tree or trees with major structural and physiological defects or stressed such that it would be very expensive and inappropriate to retain
- D **Dead:** A tree or trees no longer alive. However, this could also apply to those trees that are dying and will be unlikely to recover, or are becoming or have become dangerous

The survey was completed from ground level only. Aerial inspections were not undertaken. Evaluations of tree conditions given within this assessment apply to the date of survey and cannot be assumed to remain unchanged, and it may be necessary to review these within 24 months, in accordance with good arboricultural practice.

2.3 Site Plans & Tree schedules

The position of significant individual trees or groups of trees measured out on the site is shown on the Tree Location Plan **Figure 3**. Within the summary table (**Appendix 1**) a calculated corresponding radius of the circle for each RPA has been calculated. The Root Protection Areas are formulated to assist when designing layouts in relation to trees and the calculated RPA's in Appendix 1 should be used to inform the design layout of this site. At the time this survey was completed conceptual development plan was provided and this has been used to show the calculated root protection areas and impact on the trees within the survey area within **Figure 4**.

3. Tree Survey Findings

3.1 Survey Details

The tree inspection took the form of a walkover inspection completed by Christopher Barker dipHort, CEnv. Each individual semi-mature or mature tree of significance that could be impacted by any proposed new development within the survey area was identified, visually inspected and classified. The character of the trees at the site is shown in photographs contained within this section.

3.2 Mature and Semi-Mature Trees

A total of seven individual trees, one tree group and four hedgerows have been identified and assessed as part of the tree survey. There are no veteran or mature trees of significant stature identified within the area surveyed.

Birch T1 and Lilac / Damson G2 are situated either side of the existing access facing Main Street. Both are very close to the gated entrance and show evidence of trimming back with T1 having had one trunk removed entirely. Both T1 and G2 are placed within Category C2.



Birch T1



Lilac Damson G2

Trees T3 and T4 are fruit trees within the interior of the garden. Damson T3 is in poor condition and appears to be in decline and has been placed into Category U as a result. Apple T4 is larger and whilst quite old appear in good condition and has been placed into Category C2.

Purple Damson T5 and Cherry T6 are juvenile trees of small stature located within the former garden area comprising the northern part of the survey area. T5 is a solitary specimen tree within the central part of the former garden but T6 is a Cherry which is crowded by the large Cherry Laurel hedge to the north and may be a result of suckering. Both trees are placed within Category C2. **Ash T8** is a similar small sapling positioned at the western end of this former garden growing out of the hedgerow (H12) and also placed within Category C2.

Goat Willow T7 is situated in the garden to the north of the survey area behind the Cherry Laurel hedge (H11). This has a large, dense round crown which is visible from the survey area and appears to be around 4-5m back from the hedge. The crown of this tree does not extend past the hedge and the tree has been placed into Category B2.



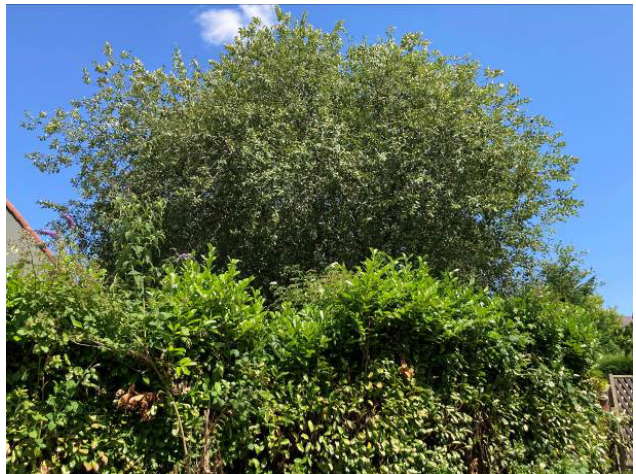
Damson T3 and Apple T4



Purple Damson T5



Cherry T6



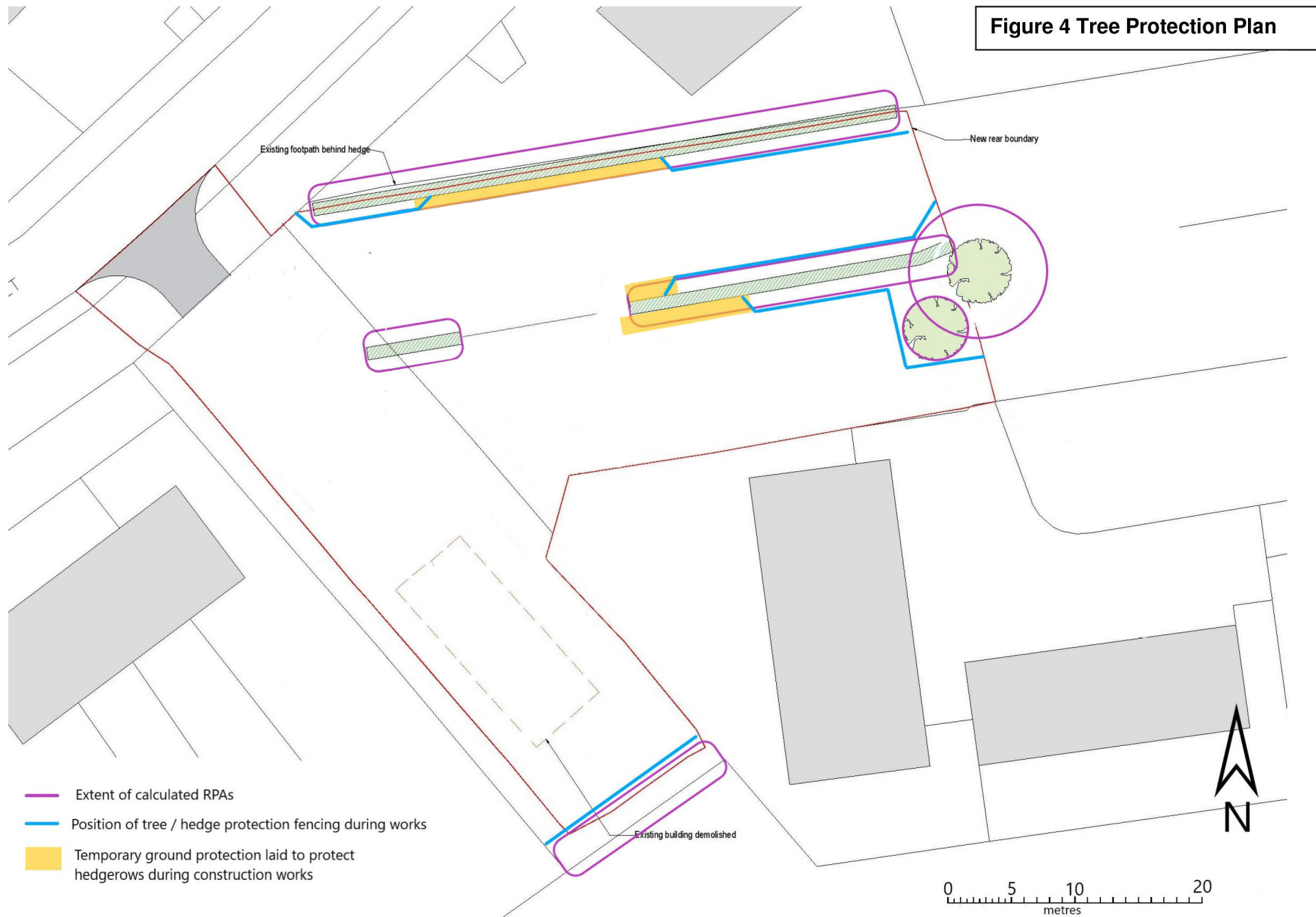
Goat Willow T7 behind H11

There are three hedgerows around the boundaries of the survey area and one crossing the centre. H9 and H12 comprise Hawthorn and Blackthorn with other species such as Elm and Beech present. H10 and H11 are dominated by Cherry Laurel with some Holly and Hawthorn.





Figure 4 Tree Protection Plan



4. Tree Management

4.1 Initial Arboricultural Assessment

In the context of this site the proposed development is shown within **Figure 4** and this has been used to assess the impact of the development and determine the protection measures that will be required. The table below summarises the potential impact of the proposed development on the trees and hedgerows present within the area surveyed.

Ref	Tree	Category	Impact of development
1	Birch	C2	Not shown on the development plan and presumably removed.
G2	Lilac / Damson	C2	Not shown on the development plan and presumably removed.
3	Damson	U	Shown as being retained within the garden of Plot 2. RPA and canopy can be fully protected by fencing during any construction works
4	Apple	C2	Shown as being retained outside of the garden of Plot 2. RPA and canopy can be fully protected by fencing during any construction works
5	Purple Damson	C2	This tree will presumably be removed as it is not shown within the garden of Plot 1.
6	Cherry	C2	This tree will presumably be removed as it is not shown within the garden of Plot 1.
7	Goat Willow		Shown as being retained outside of the garden of Plot . RPA and canopy not impacted by any construction works
8	Ash	C2	This tree will be removed to facilitate the construction of the access into Plot 1
H9	Hedgerow	-	Retained and protected by fencing at the end of Plot 3
H10	Hedgerow	-	Retained and protected by fencing. Section of hedge close to Plots 1 and 2 will require temporary ground protection to be used to allow pedestrian access for construction purposes.
H11	Hedgerow	-	Retained and protected by fencing. Section of hedge close to Plot 1 will require temporary ground protection to be used to allow pedestrian access for construction purposes.
H12	Hedgerow	-	This hedge will be removed to facilitate the construction of the access into Plot 1

4.2 General Recommendations

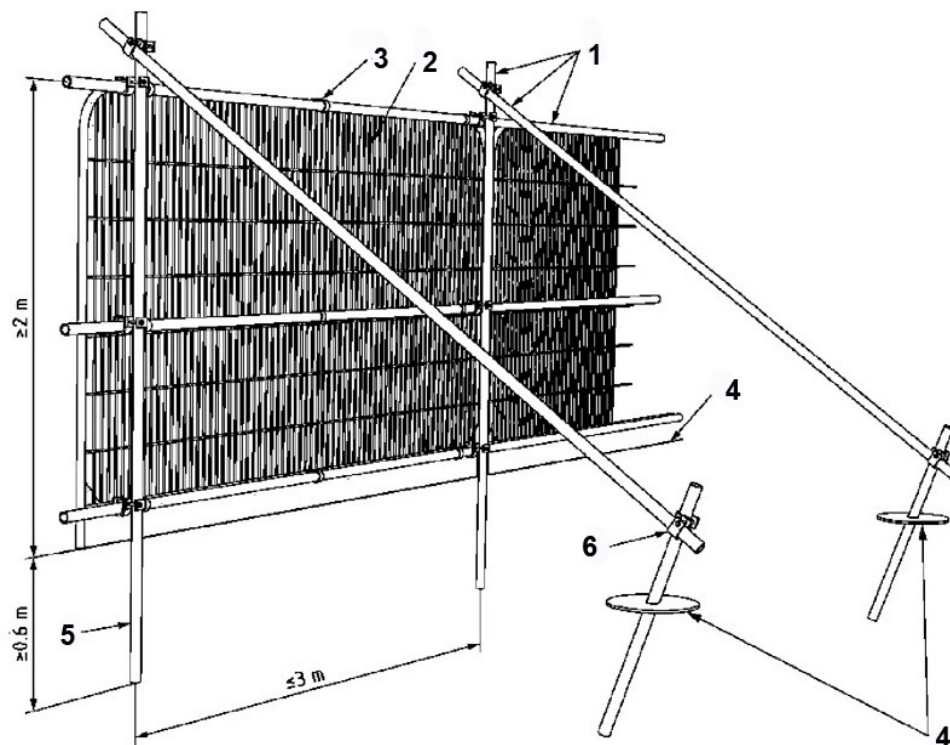
The retained trees and hedgerows will need to be adequately protected during any approved development works. As a general rule at this site, measures to protect trees should follow the best practice principles set out in BS5837: Trees in Relation to Design, Development and Construction (2012). Prior to any construction or development work proceeding, the RPA's of individual trees to be retained should be marked out using the distances provided in the table within Appendix 1.

Marking out must be completed by a person with arboricultural or horticultural expertise as individual trees will have root zones that may be affected by local conditions and allowances will need to be made to accommodate this. The best practice principles have been broadly summarised below.

- All trees retained adjacent to the site must be protected by barriers or ground protection

around the calculated Root Protection Area (RPA) and as indicated on any Tree Constraints Plan (TCP) that may be produced in association with the assessment.

- Any fencing required must be erected prior to commencement of construction and before demolition including erection of any temporary structures. Once set up fences should not be removed or altered without prior consultation with the arboricultural advisor.
- Arrangements will be made for an arboriculturalist to supervise works and tree protection where trees are particularly vulnerable or sited close to access points.
- Pre-development works may be undertaken prior to the installation of fencing with the agreement of the local planning authority.
- All tree works will follow best practice procedures as set out in BS 3998 (2010). All trees will be maintained in good condition on site and be inspected annually (where overall condition requires) or every 2 years and after any major storm events, with safety a priority.
- Fencing must be clearly visible and suitable for the location, type and proximity of construction activity.



1. Standard scaffold poles
2. Heavy Gauge 2m tall galvanised tube and weld mesh infill panels
3. Panels secured to uprights and cross members with wire ties
4. Ground Level
5. Uprights driven into ground until secure (up to 0.6m)
6. Standard scaffold clamps

- It may be appropriate on some sites to use temporary site offices as components of the protection barriers.

- Where it has been agreed and shown on a Tree Protection Plan, construction access may take place within the RPA of the hedgerows if suitable ground protection measures are in place. This temporary ground protection will comprise a sheet of ¾ inch plyboard laid over a compressible layer of 150mm of coarse bark mulch which is laid onto a porous geotextile sheet for pedestrian movements.
- Once areas around trees have been protected by fencing, any works on the remaining site area may be commenced providing activities do not impinge on protected areas. Notices should be placed on fencing to indicate that operations are not permitted within the fenced area.
- Wide or tall loads etc. must not come into contact with retained trees. Banksman should supervise transit of vehicles, jibs, booms etc. where this is in close proximity to retained trees.
- Oil, bitumen, cement or other material that is potentially injurious to trees must not be stacked or discharged within 10m of a tree bole. No concrete mixing should be done within 10m of a tree. Allowance should be made for the slope of ground to prevent materials running towards the tree.
- No fires will be lit where flames are anticipated to extend to within 5m of tree foliage, branches or trunk, taking into consideration wind direction and size of fire.
- Notice boards, telephone cables or other services must not be attached to any part of a retained tree.
- Where it is deemed necessary to operate a wide or tall load, plant bearing booms, jibs and counterweights or other such equipment, as part of construction works, and such equipment would have potential to cause injurious contact with crown material i.e. low branches and limbs, of retained trees within the RPA fencing, it is best advised that appropriate, but limited tree surgery, be carried out beforehand to remove any obvious problem branches. This is classed as 'Facilitation Pruning' within BS 5837 (2012). Any such pruning should be undertaken in accordance with a specification prepared by an arboriculturalist.
- It is advised that a Pre-Commencement Site Meeting is held with contractors who are responsible for operating machinery, as described above. To firstly highlight the potential for damage occurring to tree crowns and to ensure that extra care is applied when manoeuvring machinery during such operations within close proximity to retained trees to avoid any contact.
- In the event of having caused any such branch or limb damage to retained trees it is strongly recommended that suitable tree surgery be carried out, in accordance with BS 3998 (2010) Recommendations for Tree Work, to correct the damage, upon completion of development.



Christopher Barker CEnv dipHort

Appendix 1: BS5837 Tree Schedule

Key:	Measurements	Age – Class	Overall Condition	BS 5837 2012 : Cascade Chart for Quality Assessment/Retention Category	Symbols:
	MS – Multi-stemmed	YNG-MAT-Young Mature	G – Good	A – High	< = less than
	Ht - Height in metres	SM – Semi-mature	F – Fair	B – Moderate	~ = approximately
	Stem – Stem Diameter at 1.5m in mm	Mat – Mature	P – Poor	C – Low	> = greater than
	Crown – Crown spread in metres	OM – Over mature	D – Dead	U – Trees of negligible significance	
	TD - Trunk division (height in metres)	Est Yrs – estimate of years remaining (>40 years; 20 –40 years; <20 years)		Sub-categories: 1 = mainly arboricultural values 2 = mainly landscape values 3 = mainly cultural values.	

RPA = Root protection area (equivalent to a circle with a radius 12 x the stem diameter for single stem trees and 10 x the basal diameter for trees with more than one stem arising below 1.5m above ground level).

Tree No	Species	Ht (m)	Stem Diam mm@ 1.5m	Canopy Spread (m)	Height of Crown Clearance	Age Class	Est yrs	Overall Condition	Structural condition	Recommendations	BS 5837 Category	RPA Radius (m)
T1	Birch <i>Betula pendula</i>	8	155	N-5 S-3 E-3 W-3	1	Y	10+	F	One trunk removed at 250mm agl. Single remaining trunk growing through fence and crowding access. Open irregular lightly branching crown.	Damage to fence and crowding of access will require work to this tree if retained.	C2	1.9
G2	Lilac <i>Syringa vulgaris</i> Damson <i>Prunus domestica</i>	5/6	<175	Varies up to 3m	0	Y	10	F	Very dense merging growth trimmed back adjacent to the access. No structural faults visible from ground level	None	C2	2.1
T3	Damson <i>Prunus domestica</i>	6	230	N-1 S-1 E-1 W-2	2	SM	10	P	Irregular lifted crown with basal epicormic growth. Appears to be in decline.	In decline. Consider removal and replacement	U	2.7
T4	Apple <i>Malus domestica</i>	6	310 280 240	N-4 S-5 E-3 W-5	3	M	10+	F	Very open and irregular crown. No structural faults visible from ground level	None	C2	5.7
T5	Purple Damson <i>Prunus domestica</i>	3	50	N-1 S-1 E-1 W-1	1	Y	10	F	Lightly branching ascending crown. No structural faults visible from ground level	None	C2	1.8
T6	Cherry <i>Prunus avium</i>	3	50 50 40 30	N-1 S-1 E-1 W-1	1	Y	10	F	Crowded by the hedge. No structural faults visible from ground level	None	C2	1.8

Tree No	Species	Ht (m)	Stem Diam mm@ 1.5m	Canopy Spread (m)	Height of Crown Clearance	Age Class	Est yrs	Overall Condition	Structural condition	Recommendations	BS 5837 Category	RPA Radius (m)
T7	Goat Willow <i>Salix caprea</i>	7	300est	N-4 S-3 E-3 W-4	1	SM	20	F	Dense round crown reaching the boundary hedge but not extending across this. No structural faults visible from ground level	None	B2	3.6
T8	Ash <i>Fraxinus excelsior</i>	5	90	N-1 S-1 E-1 W-1	0	Y	10	F	Juvenile openly ascending emerging from bramble and hedgerow. No structural faults visible from ground level	None	C2	1.8
H9	Hedgerow	2	-	Varies up to 2m	0	SM	-	F	Untrimmed. Hawthorn dominates with Blackthorn also present.	Trim	C2	1.8
H10	Hedgerow	1	-	Varies up to 1m	0	Y		G	Box trimmed internal hedgerows. Cherry Laurel dominates eastern end. Hawthorn, Elm and Holly also present.	Maintain trimmed	C2	1.8
H11	Hedgerow	4	-	Varies up to 3m	0	M		F	Timed along sides but not topped. Cherry Laurel dominates	Maintain trimmed. Consider reducing the height.	C2	1.8
H12	Hedgerow	2	-	Varies up to 1m	0	Y		P	Hawthorn and Elm dominate with Ash sapling and bramble beginning to choke.	Clear bramble and trim if retained.	C2	1.8