

Tree Survey to BS5837:2012

Arboricultural Impact Assessment

(AIA)

At

Land to the West of Nursery Mews

Gravesend, Kent, DA11 7BU



Written By:
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Rev A – 23.08.24
Rev B – 23.10.24

Summary

An Arboricultural survey has been carried out and this report prepared to inform on the suitability of the proposed work in relation to the existing trees.

All trees that could be affected by the proposal or have an influence on it were inspected.

The purpose of this report is to allow the local planning authority to assess tree information as part of the planning submission.

The proposal is for the erection of 6no. affordable residential dwellings, emergency access/ pedestrian / cycle route with associated parking and landscaping.

The following information is a brief summary:

- To implement the planning permission being sought 1no. tree (T002 willow, category C) is proposed to be removed.
- As a mitigation measure 5no. new trees, hedging and shrubs benefiting wildlife are proposed to be planted to increase biodiversity and to provide interest.
- A very small portion of the hedgerows with trees; T004 & T007 RPAs is affected by the construction of the bin/ bike stores and the proposed car park. Any work within the Root Protection Area (RPA) along the boundary fence shall be done by hand to minimise damage to the existing trees. Impact is within acceptable parameters.

Finally, as long as the tree protection measures specified in the AMS are enforced, we do not expect any significant arboricultural impact on the health of the retained trees.

Tree protection status

The site is not located in a Conservation Area and the tree (T2) willow, is not protected by a Tree Protection Order (TPO). All other trees are located offsite.

Trees that have Tree Preservation Orders (TPOs) are protected by legislation that makes it an offence to carry out work on those trees without permission from the council.

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1. Introduction

1.1. Instructions:

1.1.1 As part of the proposed development, the following information was prepared:

- Tree survey data and key.
- Arboricultural Impact Assessment (AIA)
- Arboricultural Method Statement (AMS) – Separate document
- Tree Protection Plan (TPP).

1.1.2 As the proposal relates to development work, the advice below is produced in accordance with the British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'.

1.2. Qualifications and Experience:

1.2.1. I have based this report on the provided information, and I have come to conclusions in the light of my experience and technical knowledge.

1.2.2. My qualifications and details of my experience are shown in Appendix 1.

1.3. Documents and Information Provided:

1.3.1. All the information was provided by Helix (www.helix.limited).

1.3.2. The survey data and site observations used the supplied topographical survey to illustrate the surveyed trees in plan format as the 'Tree Constraint Plan' (TCP).

1.3.3. The TCP has an overlay of the proposed scheme to enable review. The TCP informs this assessment and is used as a base layer for the 'Tree Protection Plan' (TPP).

1.3.4. The tree survey data table, TCP, TPP can be found in Appendix.

1.4. Scope of This Report:

1.4.1. This report is only concerned with the trees listed as T1 – T15, it includes an assessment based on the documents provided, listed in 1.3 above.

1.4.2. This report is designed to support the planning application at the above site. Its purpose is to assist and inform the planning process according to guidelines laid out in BS 5837:2012.

2. Site & Trees Information

2.1 Brief Site & Trees Description:

- 2.1.1 The site is a level triangular piece of land, formerly used as parking. One small willow tree (T002) is present.
- 2.1.2 All other trees are located offsite. Many trees are growing on the perimeter of the site within hedgerows, other as a feature within the school grounds.

3. Findings and recommendations

3.1 Summary of our findings and recommendations

- 3.1.1 The following items are a summary of my recommendations.
 - Work must be in accordance with BS 3998:2010
 - All work should be done taking account of the Health and Safety at Work Act :1974
 - All works must have consent from the local planning department.
- 3.1.2 Trees to be removed for safety:
 - None
- 3.1.3 Trees to be removed for other reasons:
 - T002 (Willow) – To be removed to facilitate development.
- 3.1.4 Trees to monitor.
 - None
- 3.1.5 Trees to have work done for reasons such as crown reshaping, crown reduction, dead wood removal, stubs removal etc...
 - T004 (Field maple) Access facilitation pruning.
 - T006 (Wild cherry) Prune damaged stem back to trunk.
 - T010 (Wild cherry) Prune lowest branch back to trunk.
- 3.1.6 Trees to be cleared from Ivy:
 - None
- 3.1.7 Trees with no actions recommended: All offsite
 - T001 (Wild cherry)
 - T003 (Hawthorn)
 - T005 (Aspen)
 - T007 (Hedgerow with trees)
 - T008 (Sycamore)
 - T009 (Hedgerow with trees)
 - T011 (Ash)
 - T012 (Wild cherry)
 - T013 (Hornbeam)
 - T014 (Sycamore)
 - T015 (Red horse chestnut)

3.1.8 Trees to be re-examined with specialist equipment:

- None

3.2 Tree Protection

3.2.1 The site is not located in a conservation area and trees are not protected by TPOs.

3.2.2 Trees that have Tree Preservation Orders (TPOs) or that fall within a Conservation Area are protected by legislation that makes it an offence to carry out work on those trees without permission from the council.

4. Arboricultural Impact Assessment (AIA)

4.1 Outline of the Development

4.1.1 The proposal is for the erection of 5 affordable two-bedroom dwellings, emergency access/ pedestrian / cycle route with associated parking and landscaping.

4.2 Impact of Tree Loss

4.2.1 Proposal to remove 1no. tree (T002 willow, category C).

4.3 Impact of Tree Pruning.

4.3.1 Work to be done in accordance with BS3998:2010 by a qualified arborist.

4.3.2 T004 (Field maple) will require pruning of canopy overhanging perimeter fencing to minimise abrasion and wounding.

4.3.3 T006 (Wild cherry) will require pruning of a damaged stem to avoid further wounding.

4.3.4 T010 ((Wild cherry) will require pruning of canopy overhanging perimeter fencing to minimise abrasion and wounding.

4.4 Impact of General Construction Activity

4.4.1 Any work within the Root Protection Area (RPA) along the boundary fence shall be done by hand to minimise damage to the existing trees.

4.4.2 Any ground preparation work required near trees shall be carried out under the supervision of a professional arboriculturist to minimise damage to trees.

4.5 Impact of Demolition / Removal of Surfaces

4.5.1 The site is an empty site therefore no impact.

4.5.2 The areas on boundary near trees is a grassy area therefore no impact from removal of surfaces.

4.5.3 The ground will not be skimmed adjacent to the trees. Loose organic matter and/or turf will be removed carefully using hand tools.

4.6 Impact of Changes in Ground Levels

- 4.6.1 No change of level is proposed within the RPA of the trees so no Impact from a change in ground level.

4.7 Impact of changes in Ground Surfaces

- 4.7.1 Minimal change in ground surface near proposed car park Impact is within acceptable parameters.

4.8 Impact of the Proposed Work

- 4.8.1 The construction of the development does not require excavation into the RPAs of trees to be retained so there will be no impact from the foundations' excavations.
- 4.8.2 Heavy machinery shall not be used in the vicinity of any retained trees to reduce the chances of compaction and disturbance of root systems.

4.9 Services and Drainage

- 4.9.1 Services or drainage work will run outside the RPA of the trees so there will be no detrimental impact on tree health.

4.10 Hazardous Materials

- 4.10.1 All hazardous materials are to be controlled to ensure that there is no detrimental impact on tree health.
- 4.10.2 Material must be stored away from the RPA of the retained trees.

4.11 Effect of Retained Trees on the development.

- 4.11.1 All trees are located offsite and at a distance from the proposed development. It is believed that the proposal will not be affected by the tree and its future growth.

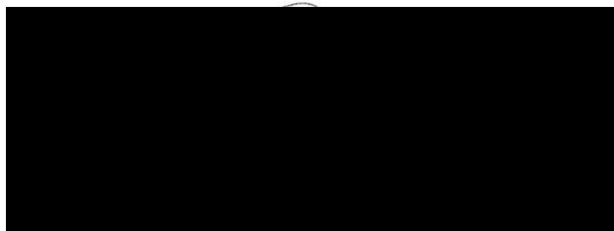
4.12 Issues to be addressed.

- 4.12.1 The table below summarises the main areas where trees could become damaged by the proposed development and the methods that need to be adopted in order to prevent damages.

Impact	Mitigation	Reference	Trees Affected
General site access and material storage etc.	Protection of ground to acceptable standards	Tree protection plan in Appendix 4	All trees
Damage to roots.	Work in RPA area shall be done by hand to minimise damages.	Section 4.4, 4.7	All offsite trees adjacent to perimeter fencing.
Damage to trees from pruning.	Work in accordance with BS3998:2010	Section 4.3	All trees

Damage to trees and soil.	Protective barriers to RPA	Refer to AMS & TPP	T001 (Wild cherry)
Damage to roots caused by compaction	Temporary ground protection	Refer to AMS & TPP.	All offsite trees adjacent to perimeter fencing.

4.13 Signed & dated.



15.07.24

5 Appendix

Appendix 1; Brief qualifications and experience of Sylvie Gabbey

After qualifying in Horticulture, I worked (1981-1989) for the city of Montreal, landscaping public gardens, supervising a team of gardeners, pruning trees and shrubs, grafting young trees, watering and maintaining flower beds.

After moving to UK I worked (1992-1993) as a plant technician maintaining interior arrangement and offering advice on plants installations.

After qualifying in Landscape Architecture, I worked (1995-2008) for a firm of Architects within the landscape division designing external spaces, preparing drawing and specification packages for tender and construction site involvement.

With over twenty year of experiences in horticulture, arboriculture and landscape architecture I now work as a freelance offering a wide range of landscape services including tree surveys and report writing.

Experience:	2009-	Freelance Landscape Services
	1995-2008	Landscape Architect
	1992-1993	Plant Technicians
	1980-1989	Gardener (head of team)

Qualifications:

1981 Horticulture
1995 Degree in Landscape Architecture, BA (Hons), Dip La (Hon)
2000 Diploma in Landscape Architecture
2003 Qualifying examination part 4 - (Landscape Design Division)
2009 ABC Cert Arboriculture, Level 2 (theory)
2018 ABC Diploma Arboriculture, Level 4

Should you have any queries about this report please do not hesitate to contact me.

Sylvie Gabbey. Landscape Architect BA(Hons), Dip La (Hons), Dip Arb L4 (ABC)

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Appendix 2- Survey - Schedule of trees & Key

Ref.	Species	Full Structure	Measurements	Survey Notes	Retention Category	RPA	Recommendations	Photo
T001	Wild cherry (<i>Prunus avium</i>)	Tree	Height (m): 9 Stem Diam(mm): 270 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 3 Lowest Branch (m): 3 Rem. Contrib.: 30+ Years	Good overall Physiological and Structural condition.	B1	Radius: 3.2m. Area: 32 sq m.	No action required.	
T002	Willow (<i>Salix sp.</i>)	Coppiced 7 stems	Height (m): 13 7 stems, avg.(mm): 90 Spread (m): 1N, 1E, 1S, 1W Life Stage: Young Rem. Contrib.: 20+ Years	Fair overall Physiological and Structural condition.	C2	Radius: 2.9m. Area: 26 sq m.	No action required.	
T003	Hawthorn (<i>Crataegus sp.</i>)	Tree	Height (m): 9 Stem Diam(mm): 100 Spread (m): 1N, 2E, 3S, 2W Rem. Contrib.: 10+ Years	Poor view, hedgerow type. Offsite	C2	Radius: 1.2m. Area: 5 sq m.	No action required.	
T004	Field maple x10 (<i>Acer campestre</i>)	Group 10 trees	Height (m): 10 10 stems, avg.(mm): 100 Spread (m): 2N, 3E, 3S, 3W	Hedgerow Offsite	C2	Area: 656 sq m.	Prune low branches	No Photo
T005	Aspen (<i>Populus tremula</i>)	Tree	Height (m): 9 Stem Diam(mm): 200 Spread (m): 2N, 2E, 2S, 2W Life Stage: Young	Poor view Offsite	C2	Radius: 2.4m. Area: 18 sq m.	No action required.	

Ref.	Species	Full Structure	Measurements	Survey Notes	Retention Category	RPA	Recommendations	Photo
T006	Wild cherry (<i>Prunus avium</i>)	Tree	Height (m): 10 Stem Diam(mm): 200 Spread (m): 1N, 2E, 3S, 2W Lowest Branch (m): 2(S) Life Stage: Semi Mature Rem. Contrib.: <10 years	Damage from fencing Poor specimen	C2	Radius: 2.4m. Area: 18 sq m.	Prune damaged stem back to trunk.	
T007	Elder x2 (<i>Sambucus nigra</i>) Wild cherry x2 (<i>Prunus avium</i>) Sycamore x3 (<i>Acer pseudoplatanus</i>) Ash (<i>Fraxinus sp.</i>)	Group 8 trees	Height (m): 15 8 stems, avg.(mm): 100	Hedgerow Fair overall Physiological and Structural condition. Offsite	C2	Area: 656 sq m.	No action required.	
T008	Sycamore (<i>Acer pseudoplatanus</i>)	Tree	Height (m): 25 Stem Diam(mm): 500 Spread (m): 6N, 6E, 6S, 6W Crown Clearance (m): 3 Life Stage: Mature	Good overall Physiological and Structural condition. Offsite	A1	Radius: 6.0m. Area: 113 sq m.	No action required.	
T009	Ash (<i>Fraxinus sp.</i>) Rowan (<i>Sorbus aucuparia</i>) Crab apple (<i>Malus sylvestris</i>) Common dogwood (<i>Cornus sanguinea</i>) Blackthorn (<i>Prunus spinosa</i>)	Group 4 trees	Height (m): 12 4 stems, avg.(mm): 100	Fair overall Physiological and Structural condition. Hedgerow. Offsite.	C2	Area: 656 sq m.	No action required.	

Ref.	Species	Full Structure	Measurements	Survey Notes	Retention Category	RPA	Recommendations	Photo
T010	Wild cherry (<i>Prunus avium</i>)	Tree 3 stems	3 stems (mm): 200,100,250 Spread (m): 3N, 3E, 3S, 3W Lowest Branch (m): 1(S)	Fair overall Physiological and Structural condition. Offsite.	C2	Radius: 4.0m. Area: 50 sq m.	Limb removal of lowest branch back to trunk.	
T011	Ash (<i>Fraxinus sp.</i>)	Tree	Height (m): 7 Stem Diam(mm): 100 Spread (m): 1N, 1E, 2S, 1W Life Stage: Young	Fair overall Physiological and Structural condition. Offsite.	C2	Radius: 1.2m. Area: 5 sq m.	No action required.	
T012	Wild cherry (<i>Prunus avium</i>)	Tree 3 stems	Height (m): 10 3 stems (mm): 200,100,100 Spread (m): 2N, 2E, 3S, 2W Life Stage: Young	Fair overall Physiological and Structural condition. Offsite.	C2	Radius: 2.9m. Area: 26 sq m.	No action required.	
T013	Hornbeam (<i>Carpinus betulus</i>)	Tree	Height (m): 15 Stem Diam(mm): 300 Spread (m): 4N, 4E, 4S, 4W Life Stage: Over Mature	Poor overall Physiological and Structural condition. Offsite.	C1	Radius: 3.6m. Area: 41 sq m.	No action required.	
T014	Sycamore (<i>Acer pseudoplatanus</i>)	Tree	Stem Diam(mm): 300 Spread (m): 5N, 5E, 5S, 5W	Good overall Physiological and Structural condition. Offsite.	A1	Radius: 3.6m. Area: 41 sq m.	No action required.	

Ref.	Species	Full Structure	Measurements	Survey Notes	Retention Category	RPA	Recommendations	Photo
T015	Red horse chestnut (<i>Aesculus x carnea</i>)	Tree	Height (m): 14 Stem Diam(mm): 300 Spread (m): 4N, 4E, 4S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	Good overall Physiological and Structural condition. Offsite, restricted view.	B1	Radius: 3.6m. Area: 41 sq m.	No action required.	

Note to schedule:

- Species are listed in Common name and in Latin
- Height describes the approximation of the height of the tree from ground level in metres.
- Stem diameter in millimetres at 1.5m above adjacent ground level.
- Branch spread describes the approximation in metres.
- Age is indicated as Young (Y), Semi mature (SM), Early mature (EM) Mature (MA) Over Mature (OM) Veteran (V)
- Physiological condition (good, fair, poor, dead)
- Structural condition (good, fair, poor, dead)
- General comments and comments on preliminary management recommendations
- Estimated remaining contribution in years (less than <10, >10, >20, >40,)
- Category refers to table 1, Cascade chart for tree quality assessment of BS 5837:2012 where A is the most desirable and C the least desirable, with U for removal

Key - Cascade Chart for tree quality assessment.

This identifies the existing trees and gives each a retention category.

Tree Categories

Category U: Identify in **dark red colour**.

Trees are in such condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

These trees should usually be removed if the development is to proceed.

However, they can have conservation value which it might be desirable to preserve.

Category A, B & C are categorised within the context of the proposed development.

Category A: Identify in **light green colour**.

Trees of high quality and value in such condition as to be able to make a significant contribution.

(a minimum of 40 years is suggested)

Usually, mature trees or younger tree with exceptional form. Trees that are particularly a good example of their species, especially rare or unusual.

Retention of these trees is strongly encouraged.

Category B: Identify in **mid blue colour**.

Trees of moderate quality and value in such condition as to make a significant contribution.

(a minimum of 20 years is suggested)

Trees that could be included in the high category but are downgraded because of impaired condition (remediable defects)

Retention of these is desirable though the removal of occasional specimens may be acceptable.

Category C: Identify in **grey colour**.

Trees of Low quality and value in adequate condition to remain until new planting can be established.

(a minimum of 10 years is suggested)

The removal of these trees should generally be seen as acceptable in order to facilitate development.

Subcategories are as followed:

- 1- Mainly arboricultural qualities
- 2- Mainly landscape quality.
- 3- Mainly cultural values, including conservation.

Please note veteran & Ancient trees are almost always categorised as A3 category.

Where dimensions are estimated for off-site or inaccessible trees it is identified with this symbol #.

Appendix 3; Tree Constraint Plan (TCP) Rev A

The TCP indicates the location, crown spread, retention category and root protection area (RPA) of each tree. The drawing informs where development may proceed without causing damage to trees.



Within the context of the current use.

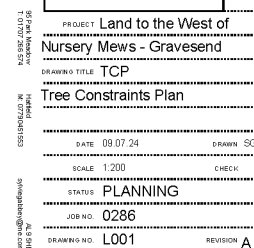
Within the context of the proposed development.

Category B tree - Medium quality & value
with an estimated remaining life expectancy
of at least 20 years

Root Protection Area (RPA)
Minimum area of roots and rooting volume to maintain the tree's viability.
Priority protection of the roots and soil structure.

--- Site boundary

A	SRe Address revised Boundary line removed			23.09.24	50
DATE OF RAINN					



REFER TO DWG. L002 FOR TREE PROTECTION PLAN

