

Arboricultural Impact Assessment

St. Martins Close, Bishopstoke, Eastleigh, SO50 6BH

Client: Mr Bowen



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1 Introduction

- 1.1 Arborlogica has been commissioned by Mr Bowen to undertake an Arboricultural Impact Assessment (AIA) at St. Martins Close, Church Road, Bishopstoke. Eastleigh, SO50 6BH
- 1.2 Under s197 of the Town & Country Planning Act 1990, LPAs have a legal duty to consider the protection of trees and the planting of new trees on development sites when granting planning permission. LPAs must also consider the potential effects, whether detrimental or positive, that proposed developments will have on retained trees, and the effect that these trees will have on the users of the development.
- 1.3 This purpose of the Arboricultural Impact Assessment is to detail the results of the field survey highlighting any arboricultural constraints in order to evaluate the direct and indirect effects of the proposed development on the trees surveyed. Recommendation will be made to eliminate or mitigate any impact identified to retained trees that maybe affected by the proposed development.
- 1.4 The tree initial survey was carried out on 11th August 2022 by Oliver Johns and a walkover survey to confirm condition was carried out on 24th November 2023. All inspections were made from ground level. If the need for further investigations, for decay detection for example were identified, these are recommend in the Tree Works Schedule where required.
- 1.5 This report has been produced in accordance with BS5837:2012 Trees in Relation to Design, Demolition and Construction Recommendations. Preliminary recommendations have been given based on the quality of individual or groups of trees, from the tree survey data. The Root Protection Area (RPA), for trees and groups have been calculated and presented within the Arboricultural Assessment Plan. The survey data has been supported by a Photographic Record where appropriate.

2 Site Description & Information

- 2.1 St. Martins is a residential plot of approximately 0.6 acres. Situated approximately 360m north of Bishopstoke village centre. The site consists of a vehicular entrance and car parking area to the west, with large garden and a single story dwelling to the southeast.
- 2.2 The site is broadly level, although falls away sharply to Spring Lane at its eastern end.
- 2.3 Yew tree (T7) situated approximately midway east to west on the northern boundary of the site is protected under Tree Preservation Order 642-E, however this should be confirmed with Eastleigh Borough Councils as their interactive mapping website appears to locate the protected Yew tree approximately 14m northwest of T7.
- 2.4 The majority of the site is situated within the Bishopstoke Conservation Area, except for a small parcel to the south east of the existing dwelling.
- 2.5 Multiple mature trees also under TPO's are situated in the neighbouring property to the south, with a more heavily treed area to the southeast of the site.
- 2.6 The assessment was carried out within the boundaries of St. Martins; however trees on adjacent land have also been included where they are within influencing distance to the proposed development.
- 2.7 Topographical drawings have been supplied by the project architect therefore; trees have been plotted using the tree centres marked on the supplied drawing.

3 Description of Proposed Development

- 3.1 The design proposal consists of removal of the existing dwelling and associated outbuilding, construction of two new dwellings, including garages and new access to the east to adjoin Spring Lane.

4 Survey Limitations

- 4.1 This report has been produced for our client in accordance with the terms of contract and is to be used for planning purposes only. Information provided by third parties in this report is assumed to be correct however, we cannot be held responsible for errors or omissions in information supplied by third parties. We hold the copyright to these documents and they may not be duplicated or used by third parties without our written consent.
- 4.2 Only trees with a Diameter Breast Height (DBH) of 75mm and over have been included in this survey or 150mm DBH where trees are within woodland groups.
- 4.3 Root Protection Area (RPA) has been calculated as per BS5837:2012 recommendations. Due to limitation in predicting precise morphology of rooting areas it is recommended that trial pits are hand dug where certainty as to exact location of roots maybe required.
- 4.4 Where it was not possible to access to neighbouring properties, tree data may have been estimated.
- 4.5 Before the Arboricultural Method Statement (AMS) can be produced, the final design must be agreed. Any changes to the design that has an impact to trees must be agreed by the tree consultant. Any changes required to the AMS can then be made and implemented as required.
- 4.6 This AIA is based on the condition of the trees at the time of the assessment. Trees are dynamic structures and their condition will change. Inspections should be undertaken regularly monitoring tree health to determine appropriate management actions where necessary.
- 4.7 No soil assessments have been carried out; such analysis should be carried out by a specialist to ensure building foundations are adequate and in accordance with current Guidelines. According to the British Geological Survey, the site is “unclassified”, therefore due to the proximity of the proposed dwellings to tree rooting zones; it is recommended that advice is sought from a structural engineer for suitable foundation depths/design to reduce the risk of vegetation related subsidence.

5 The Tree Survey

- 5.1 The initial tree survey was carried out on 11th August 2022 and a walkover survey to confirm condition was carried out on 24th November 2023 using methodology set out in BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations.
- 5.2 Weather conditions on the day of the assessment were fine and clear.
- 5.3 Each individual surveyed tree (T), tree group (G) and woodland (W) was given a sequential reference number.
- 5.4 Tree height, crown spread (North, South, East & West) and height of first significant branch were measured using a Truepulse 360R laser, enabling an accurate representation of the crown spreads and RPA's to be plotted on the Tree Protection Plan (TPP). If the use of the laser was not possible or reasonable practicable, due to undergrowth around the base of the tree for example, measurement were taken using tape measures or estimates may have been used.
- 5.5 A description of the life stage of each tree surveyed is identified as follows:

Young (Y) – Newly planted trees and self-seeded trees.
 Semi-mature (SM) – Large nursery stock still in the early stages of establishment.
 Early mature (EM) – Trees in the first third of their life cycle.
 Mature (M) – Trees in the second third of their life cycle.
 Over mature (LM) – Trees in the final third of their life cycle.
 Veteran (V) – Trees that show ancient tree characteristics irrespective of their age.

- 5.6 An assessment of each tree's physiological and structural condition is identified as G (good), F (fair), P (poor) or D (dead).
- 5.7 An estimated remaining contribution in years within the context of the current site usage was identified as <10, 10+, 20+ or 40+.
- 5.8 The trees were classified in accordance with the BS5837:2012 tree quality assessment categories 'A', 'B', 'C' and 'U' (see table below) category 'A' and 'B' trees are considered as 'high' and 'moderate' quality, respectively, and are considered a constraint to development. These trees should be retained and given appropriate protection during the development works. 'C' category trees are considered 'lower' quality due condition or 'lower' amenity value, therefore usually less of a constraint to the development. 'U' category trees are those in such poor condition that they cannot usually be retained within the current site context for longer than ten years and should not be considered a constraint to design.
- 5.9 Root Protection Areas (RPAs) are calculated for individual trees utilising the methodology set out in BS 5837:2012, calculated by multiplying the stem diameter (measured at 1.5 m from ground level) by twelve for single-stemmed trees and a variant on this for multi-stemmed trees.
- 5.10 For Groups of trees and woodlands, RPA's are calculated based on the stem diameter of the largest trees at the edge of the groups and woodland.
- 5.11 Recommendations may be made if safety concerns with a particular tree are identified; however this is not a Tree Risk Survey and should not be used as one. Any safety issues identified will be brought to the client's attention and a Tree Risk Survey will be recommended.
- 5.12 Any works recommend are made in accordance with BS3998:2010 - Tree Work Recommendation or relevant industry best practices and shall ensure bio-security measures are carried out to prevent spread of pest and diseases.
- 5.13 The survey does not account for any ecological or habitat constraints however, any such constraint that come to light will be noted and an ecological survey will be recommended.
- 5.14 A detailed description of all trees and groups of trees surveyed including recommended works can be found in the Tree Survey Schedule below, this summarises the BS 5837 quality grading of the trees found on and adjacent to the site, when they are within influencing distance to the proposed development.

6 The Tree Survey Data

- 6.1 The trees assessed and surveyed on and immediately adjacent to the site included thirty two individual trees, one tree group and no woodlands. One stump was included in the survey (T9).

Tree Quality ►	A	B	C	U	Stump	Group Totals
Individual (T)	1	6	20	5		32
Groups (G)	0	0	1	0		1
Woodland (W)	0	0	0	0		0
Category Totals	1	6	21	5	1	34

7 Arboricultural Assessment Plan

- 7.1 The Arboricultural Impact Assessment Plan showing the location of all trees and groups of trees surveyed can be found below in Appendix 2.
- 7.2 Tree centres are plotted in their respective colours as per BS5837:2021 recommendations Category A (Green) Category B (Blue) category C (Grey) category U (Red)
- 7.3 Crown spreads have been plotted in the trees respective retention category colour and RPA's have been plotted in magenta.
- 7.4 A detailed description of all trees and groups of trees surveyed and recommended works can be found below in Appendix 1 - Tree Survey Data table.

8 Tree Work Required For Proposal

- 8.1 The removal of T14 (Category C) is required to enable to installation of the proposed garage associated with the eastern dwelling.
Removal of T14 will avoid RPA conflict from the installation of the garages foundations.
It is noted that ground levels to the north of this tree have been historically altered by approximately +1m.
- 8.2 The removal of T27 (Category C), T30 (Category C) and T32 (Category C) are required to enable the proposed new access adjoining Spring Lane. Alternative layouts have been investigated by the architects, however due to compliance with junction visibility splay standards; alternative layouts that remain compliant are not achievable.

9 Other Tree Work

- 9.1 The removal of T8 (Category C) & T10 (Category C) has been proposed to enable the unrestricted growth of T7 (Category A) protected under TPO 642-E. These recommendations are not directly required to enable the proposal, however it is my opinion that space should be provided for T7 to continue growing and eliminate competition that has impacted its natural crown habit. TDAG list the crown spread of a mature Yew tree up to 15m.
- 9.2 T6, T12, T22, T25, T29 & T31 have all been categorised U due their poor quality. These removals are recommended for good arboricultural management and/or safety reasons and should be removed regardless of whether the proposed development progresses.

10 RPA Encroachment

- 10.1 Encroachment in to the RPA of T5 is required for this proposal for the installation of the proposed driveway (See section 12). RPA encroachment totals approximately 0.7% and is displayed on Arboricultural Impact Assessments drawing (SM-AIA-001) as root conflict. Due to the negligible encroachment of 0.7%, root pruning will be carried out to mitigate the impact to T5, should any roots be present. Methods of how this shall be carried out will be set out in an Arboricultural Method Statement. I note that the neighbouring land to the south is approximately 1m lower than St. Martins, therefore it is possible rooting from T5 may not be found within this zone.

11 Shading

- 11.1 Proposed dwellings will be subject to an element of shading during the day due to mature trees present to the south and east. Proposed layouts position dwellings towards the northern boundary of the site where shading is not expected to be excessive and should not adversely affect reasonable enjoyment of the dwellings.

12 Hard surfacing within RPA

- 12.1 Hard surfacing within the RPA of T5 is required to install the proposed driveway. Root pruning shall be carried out, should any roots be present. Methods of how this can be carried out mitigating any impact to this tree to an acceptable level will be set out within an Arboricultural Method Statement.

13 Future Pressure for Tree Pruning/Removal

- 13.1 Proposed layouts should ensure sufficient space for future tree growth and should aim to minimise the need for significant regular pruning.
- 13.2 I consider the current layout accounts for future tree growth and no on-going pressure for significant tree pruning is expected.
- 13.3 Symptoms of Hymenoscyphus fraxineus (Ash die-back) and Pseudomonas syringae ssp. savastanoi pv. Fraxini (Ash Bacterial Canker) were observed on various Ash trees, on and close to the site. Ophiostoma novo-ulmi (Dutch Elm Disease) was also identified affecting Elm trees. It is likely these pathogens will progress across the site and result in the decline of further trees that may later require removal.

14 Removal of Existing Structures

- 14.1 RPA's of T5, T11, T12, & T14 adjacent to the existing dwelling have been modified to account for anticipated root deflection. The out-building to the east of the existing dwelling is within the RPA of T34, this structures appear to have relatively substantial foundations, however no trial excavations have been made to confirmed this, and therefore modifications to these RPA's have not been made. Nevertheless care must be taken to avoid any impact to retained tree roots in the demolition phase, wherever possible existing foundations within or immediately adjacent to RPA's should be left in place.
- 14.2 Methods of working within or adjacent to retained tree RPA's shall be set out in an Arboricultural Method Statement.

15 Mitigating Tree Loss

- 15.1 The Bishopstoke Conservation Area Appraisal and Management Proposals Supplementary Planning Document lists the view down the valley side at Spring Lane as "attractive, with the steep well-treed banks either side of the road creating a green corridor", therefore mitigation for tree loss here is highly desirable.
- 15.2 Wherever possible, new tree planting should be incorporated into the proposals landscaping scheme. Tree planting can enhance the overall design and will ensure these important views along Spring Lane are maintained.
- 15.3 Should planning permission be granted, following tree removals and the subsequent installation of the new access, sufficient planting space will be available to the north and south of the new access. Utilising these areas for replanting has the objective of regaining the green corridor and lost canopy cover. I recommend large and long lived species are selected to be planted here.

- 15.4 Additional mitigation planting is proposed by installing new screening hedgerow between dwellings, bisecting the site, running roughly north to south, to including three specimen trees planted at intervals along the hedge line.
- 15.5 Mitigation planting locations and species selection shall be included within the proposed landscaping scheme to be approved by Eastleigh Borough Council.
- 15.6 Eastleigh Borough Council has proposed a draft Trees and Development Supplementary Planning Document (SPD) which I advise the applicant to adopt within this application in relation to mitigating tree loss. Applicants must provide suitable replacement tree planting for removed trees.
- 15.7 Quantities required will depend on the stem diameter of the tree proposed for removal. The requirement will apply to A and B category trees, category C trees will be replaced on a 1:1 basis. Please refer to Table 1 below for requirements:

Table 1

Stem Diameter of Tree Proposed for Removal*	Number of Replacement Trees Required
150 – 199 mm	1
200 – 299 mm	2
300 – 399 mm	3
400 – 499 mm	4
500 – 599 mm	5
600 – 699 mm	6
700 – 799 mm	7
800 mm +	8

- 15.8 Due to the proposed loss of six category C trees, It is required that six 14-16 cm girth tree shall be planted to mitigate the loss. A ten year tree maintenance program to ensure their establishment shall also be specified. Tree species and exact planting location shall be agreed and included within a Landscaping Design however, I recommend large and long-lived species are selected where possible (refer to TDAG categorisation).

16 Conclusion

- 16.1 The arboricultural impact of the proposed development is relatively low. All trees to be removed are category C or U. The impact can be mitigated with appropriate tree planting and adequate tree protection during the demolition and construction phases.
- 16.2 Tree protection methods and methods of working within or adjacent to RPA's shall be set out in an Arboricultural Method Statement. Protection methods and locations shall be displayed within a Tree Protection Plan.
- 16.3 Tree canopy cover has great ecological importance. The proposed development should have no permanent negative effects on the local tree stock, and aims to enhance it. All tree removals shall be mitigated with tree and hedgerow planting that will compensate for and reinstate lost canopy cover.
- 16.4 The proposed landscaping scheme shall improve the current site.
- 16.5 I do not perceive any significant Arboricultural reason for this proposal not to proceed subject to adequate mitigation and appropriate planning conditions.

Appendix 1 - Tree Survey Data Table

Tree No.:	Common Name	Species	Ht (m)	Stem Diameter (mm)	N	E	S	W	Canopy Height (m)	Age Class	Retention Category	RLC	Physiological Condition	Structural Condition	Recommendation	Works Required for Proposal	Notes
1	Ash	<i>Fraxinus excelsior</i>	22	690	10.0	7.0	9.0	9.0	2.0	Ma	B1	20+	Fair	Good			DW in lower canopy. Slightly sparse foliage. Standing on adjacent land approx. 1m below site level
2	Yew	<i>Taxus baccata</i>	14	440;390;680	6.5	5.0	7.0	7.0	1.2	Ma	B1	40+	Fair	Fair			Weighted to E. standing on adjacent land approx. 1m below site level
3	Laylandii	<i>Cupressus x leylandii</i>	18	790	5.5	5.0	5.0	6.0	2.0	Lma	C1	10+	Poor	Poor			Sparse canopy. Suppressed on E. Stranding on adjacent land approx. 1m below site level
4	Pine	<i>Pinus spp.</i>	24	1000	6.0	3.0	5.0	12.0	2.0	Lma	C1	10+	Fair	Poor			Heavy pruning to South. Weighted to W. Standing on adjacent land approx. 1m below site level
5	Pine	<i>Pinus spp.</i>	24	910	10.0	10.0	9.0	9.0	4.0	Lma	B1	20+	Fair	Good			Chlorotic and dead foliage to E. Standing on adjacent land approx. 1m below site level
6	Ash	<i>Fraxinus excelsior</i>	15	220;210	4.0	4.0	5.0	4.0	4.0	Ema	U	<10	Poor	Poor	Fell due to significant ADB		Significant ADB to Northern stem, sparse and chlorotic foliage.
7	Yew	<i>Taxus baccata</i>	8	180;240;400;220	4.0	6.0	6.0	5.0	1.0	Ema	A2	40+	Good	Fair			Starting to be suppressed by adjacent trees.
8	Ash	<i>Fraxinus excelsior</i>	15	220;340;180;180	8.0	4.0	6.0	8.0	2.5	Ema	C2	10+	Good	Fair	Fell to provide space for T7		Crowding adjacent Yew tree.
9	Stump		2	490													
10	Hazel	<i>Corylus avellana</i>	6	150;150	4.0	4.0	4.0	1.0	3.0	Y	C2	40+	Fair	Fair	Fell to provide space for T7		
11	Fir	<i>Cupressus spp.</i>	11	420	2.0	2.0	4.0	4.0	3.0	Ema	C2	10+	Fair	Fair		Fell	Weighted to SE, suppressed by adjacent Ash
12	Ash	<i>Fraxinus excelsior</i>	18	570	8.0	5.0	4.0	6.0	4.0	Ema	U	<10	Fair	Fair	Fell due to suspected Amillaria infection		Sparse canopy, weighted to NW. significant strips of necrotic and missing bark at base. Suspected Amillaria rhizomorphs beneath bark
13	Field Maple	<i>Acer campestre</i>	12	340	5.0	2.0	5.0	4.0	2.0	Y	B2	20+	Good	Fair			
14	Ash	<i>Fraxinus excelsior</i>	18	300	8.0	5.0	4.0	6.0	6.0	Ema	C2	10+	Fair	Fair			Weighted to N, slightly sparse canopy, heavy pruning to E at approx. 8m
15	Fir	<i>Cupressus spp.</i>	15	470	2.0	1.0	2.0	2.0	2.0	Ma	C2	10+	Fair	Fair			
16	Fir	<i>Cupressus spp.</i>	10	210	1.0	1.0	1.0	1.0	2.0	Y	C2	<10	Poor	Poor			Significant dead foliage throughout
17	Fir	<i>Cupressus spp.</i>	13	200	1.0	1.0	1.0	1.0	2.0	Y	C2	<10	Poor	Poor			Significant dead foliage throughout
18	Fir	<i>Cupressus spp.</i>	13	250	1.0	1.0	1.0	1.0	2.0	Y	C2	<10	Poor	Poor			Significant dead foliage throughout
19	Bay (group)	<i>Laurus Nobilis</i>	10	150;150;150;150;150;150;150;150	4.0	4.0	4.0	4.0	2.0	Y	C2	10+	Fair	Fair			
20	Pine	<i>Pinus sylvestris</i>	12	530	7.0	4.0	3.0	4.0	8.0	Ema	C2	10+	Poor	Fair			Ground level built up approx. 1m to N, large amount of dead foliage in canopy.
21	Fir	<i>Cupressus spp.</i>	12	230	6.0	1.0	0.0	1.0	8.0	Ema	C2	10+	Poor	Poor			Sparse growth limited to top 2m.
22	Fir	<i>Cupressus spp.</i>	10	150	1.0	1.0	1.0	1.0	9.0	Y	U	<10	Poor	Poor	Fell		Growth limited to top ~1m.
23	Fir	<i>Cupressus spp.</i>	20	560	4.0	4.0	4.0	4.0	2.0	Ma	B2	20+	Fair	Good			
24	Elm	<i>Ulmus procera</i>	10	230	1.0	4.0	6.0	4.0	6.0	Ema	C2	10+	Good	Fair			
25	Elm	<i>Ulmus procera</i>	12	250	2.0	2.0	4.0	4.0	4.0	Ema	U	<10	Poor	Poor	Fell		90% dead
26	Elm	<i>Ulmus procera</i>	10	330	4.0	4.0	4.0	4.0	3.0	Ema	C2	+10	Fair	Poor			Decayed stem
27	Elm	<i>Ulmus procera</i>	12	340	4.0	4.0	6.0	2.0	6.0	Ema	C2	10+	Fair	Fair		Fell	
28	Laurel	<i>Prunus laurocerasus</i>	6	150;180	1.0	0.0	8.0	8.0	2.0	Ema	C2	10+	Poor	Poor			



29	Elm	<i>Ulmus procera</i>	12	230;230	5.0	8.0	3.0	3.0	4.0	Ema	U	<10	Poor	Poor	Fell		90% dead
30	Ash	<i>Fraxinus excelsior</i>	20	390;400;650	10.0	10.0	10.0	10.0	6.0	Ma	C2	20+	Fair	Fair		Fell	Included bark unions at base. Water filled cavity at base between stems - probing suggests decay within. Bacterial cankers in branch structure. Deadwood. Sparse canopy.
31	Field Maple	<i>Acer campestre</i>	12	350	6.0	4.0	0.0	2.0	8.0	Ema	U	<10	Dead	Dead	Fell		Dead
32	Field Maple	<i>Acer campestre</i>	12	330	5.0	5.0	1.0	5.0	6.0	Ema	C2	10+	Fair	Fair		Fell	Asymmetric crown spread, bias to N
33	Laurel	<i>Prunus laurocerasus</i>	4	220	1.0	6.0	5.0	2.0	2.0	Y	C2	10+	Fair	Poor			Significant Poor Pruning
34	Hazel	<i>Corylus avellana</i>	6	150;150;150;150;150	5.0	5.0	5.0	5.0	3.0	Y	C2	20+	Fair	Fair			Values estimated as offsite.



