

# ARBORICULTURAL IMPACT ASSESSMENT

(INC. TREE SURVEY TO BS 5837:2012)

CLIENT - Mr and Mrs S Zavahir  
PROJECT - Highcroft  
DOC. REF - P2673-AIA01 V3  
PLANNING REF - n/a  
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**PURPOSE OF DOCUMENT**

This document assesses the anticipated impact that the proposed scheme will have on the surrounding tree population, and outlines possible technical design considerations and mitigation measures that should be implemented in order to minimise the overall arboricultural impact.

**ARBORICULTURAL DOCUMENT REGISTER**

Planning Documents		Version Issued	
Document	Ref.	Current Version	Document Date
Arb. Impact Assessment	P2673-AIA01	V3	08/01/2024
Arb. Site Plan (Existing)	P2673-ASP01	V3	08/01/2024
Arb. Site Plan (Proposed)	P2673-ASP02	V3	08/01/2024

# 1. SUMMARY

## 1.1 PROPOSED DEVELOPMENT

1.1.1 Demolition of existing bungalow and garage, and the erection of a new 2 storey dwelling and detached garage and studio building.

## 1.2 TREE SURVEY

1.2.1 The following woody vegetation was considered to be of note in relation to any development of the site: 19 individual trees, 7 groups of trees, and 4 hedges.

## 1.3 PROTECTION MEASURES

1.3.1 The implementation of tree protection measures will be required to ensure that the site’s retained trees remain undamaged. Information as to the requirements of such can be found in *Section 3.7*.

## 1.4 TECHNICAL DESIGN CONSIDERATIONS

1.4.1 The design team must consider and implement the design advice provided in *Section 3.8* of this document.

## 1.5 PROVISION OF NEW TREE PLANTINGS

1.5.1 It is recommended that at least 1 tree plantings should be included within the landscaping of the site so as to mitigate against the proposed tree removals.

## 1.6 CONCLUSION

1.6.1 The table below summarises the trees which will be lost, pruned, or protected by special measures during the development project.

	Tree Category			
	A	B	C	U
Trees/groups to be removed (* groups to have sections removed)	-	-	T17, T18, *G3, *G6	-
Hedges/shrubs to be removed (* hedges to have sections removed)	-	-	-	-
Trees/groups/hedges to be pruned	-	-	T19, G7, H2	-

Trees to be subjected to RPA incursions (excl. no-dig techniques)	-	-	G3	-
Trees to be protected through arboricultural measures / supervision (other than barriers and ground protection)	-	-	-	
Trees requiring specialist design considerations (for purposes of minimising arboricultural impact)	-	T8	T7	

1.6.2 Considering the anticipated arboricultural impact from the construction and demolition activities associated with the development of the site, and the implementation of the proposed mitigation measures outlined in this document, the proposed development’s arboricultural impact is considered to be **negligible**.

## 2 GENERAL INFORMATION

### 2.1 BRIEF

2.1.1 Ligna Consultancy Ltd were instructed by the client, Mr and Mrs S Zavahir, to undertake a tree survey in accordance with BS 5837:2012 and to prepare an arboricultural impact assessment for the proposed scheme at Highcroft.

### 2.2 PROPOSED DEVELOPMENT

2.2.1 Demolition of existing bungalow and garage, and the erection of a new 2 storey dwelling and detached garage and studio building.

### 2.3 SITE

2.3.1 The site discussed within this report is located at:

Highcroft  
Darsham Road  
Westleton  
Saxmundham  
IP17 3AL

### 2.4 PROJECT CONTACT

Role	Name	Telephone	Email
Arboricultural Consultant	Jennifer Sinclair	01284 598008	<a href="mailto:jennifer@lignaconsultancy.co.uk">jennifer@lignaconsultancy.co.uk</a>

### 2.5 SCOPE OF REPORT

2.5.1 This report consists of the following:

- Appraisal of arboricultural impact
- Outline of tree protection & mitigation measures

2.5.2 Appendices included with this report are:

- Tree Survey
- Site Photos
- Arboricultural Site Plan (Existing) (P2673-ASP01 V3)
- Arboricultural Site Plan (Proposed) (P2673-ASP02 V3)

### 2.6 DOCUMENTS PROVIDED

2.6.1 The following documents were submitted to Ligna Consultancy Ltd for consideration:

- Topographical Survey
- Proposed Site Plan (21.05\_SK06\_PLANS\_Ligna\_18-12-2023) and (21.05\_SK06\_EXTENTS\_Ligna\_21-12-2023)

## 2.7 AUTHOR

2.7.1 Jennifer Sinclair is a technician member of the Arboricultural Association. She has worked in arboriculture for over thirteen years, including supervisory roles undertaking both domestic and commercial arboricultural work. She possesses a level 3 extended diploma in arboriculture and is currently furthering her academic knowledge by undertaking a level 6 professional diploma in arboriculture. A full CV and list of experience and CPD is available on request.

## 2.8 LIMITATIONS

2.8.1 Detailed inspections and recommendations relating to tree condition and health are not included within this report.

2.8.2 Any engineering solutions presented within this document are recommendations for their suitability from an arboricultural viewpoint. The architect and structural engineers should make the final decision on the suitability of the methods advised.

2.8.3 Information provided by third parties, considered in the creation of this report, is assumed to be correct.

## 2.9 PROTECTED TREES

2.9.1 Details of trees (if any) that are protected by Tree Preservation Orders (TPOs) or are situated within Conservation Area are available upon request.

2.9.2 It is the standard approach of Ligna Consultancy not to obtain this information from the LPA prior to an application, as the LPA will provide details of nearby protected trees as part of the consultation.

2.9.3 It should also be noted that granted planning permission that includes tree work specifications overrides Tree Preservation Orders and Conservation Area protections (approved works only).

## 2.10 NESTING BIRDS / BATS

2.10.1 Officially, the 'Bird Nesting Season' is between February and August (Natural England). During this time, it is recommended that vegetation works (tree or hedge cutting) or site clearance is avoided if there is a reasonable potential for the disruption of nesting birds.

2.10.2 All parties involved in the management and/or development of a site must actively avoid causing disturbance and disruption to nesting birds. Failure to do this may result in an infringement of the *Wildlife and Countryside Act 1981* and the *European Habitats Directive 1992 / Nesting Birds Directive*.

2.10.3 When tree or vegetation clearance work has to be undertaken during the nesting season, a pre works survey needs to be carried out by a suitably competent person.

2.10.4 Generally, it should be assumed that birds will be nesting in trees, and it is down to the site/project manager that any activities that have the potential to disturb nesting birds are assessed for their suitability and potential impact, and records are kept that show that any works carried out in the

management of trees and other vegetation have not disturbed nesting birds.

## 2.11 SUMMARY OF TERMS

Term	Definition
Species	The type of tree.
Stem	The main woody upright portion of a tree that is supported by the roots and supports the crown.
Branch Spread	The length of a tree's branches from stem to tip measured from the north, east, south and western sides of the crown.
BS 5837	The commonly used name for the official guidance document relating to trees and development ( <i>BS 5837:2012 - Trees in relation to design, demolition and construction – Recommendations</i> )
Canopy / Crown	The branches, leaves, and reproductive structures extending from the trunk or main stems of a tree/trees.
DBH	Diameter of a tree's stem, measured as per BS 5837:2012
RPA	The root protection area (RPA) is 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 is treated as a priority.
Facilitation Tree Works	Tree pruning/felling required in order to facilitate the implementation of the proposed development.
Tolerance	The relative tolerance the species can show to construction related activities such as root-loss, soil compaction and other development pressures.
Category (Cat.)	Categorisation of the tree's value based on the methodology shown in Appendix 1, A1.4. This rating takes into account the size, quality, condition, estimated remaining life expectancy and legal status of each tree.

## 2.12 COPYRIGHT

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## 3 ARBORICULTURAL IMPACT ASSESSMENT

### ASSESSMENT & APPRAISAL OF IMPACTS

The following section lists and discusses any aspects of the proposed design and its implementation that has the potential to harm nearby trees, and outlines possible mitigation measures:

#### 3.1 TREES TO BE REMOVED TO FACILITATE THE PROPOSED SCHEME

**Affected Trees** Cat. C: - T17 (*Pyrus spp.*), 18 (*Prunus spp.*)

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**Impact Appraisal & Mitigation** As part of the proposed scheme T17 and T18 are to be removed owing to their locations within the proposed layout.

Due to their small size and low value, any arboricultural or amenity impact resulting from their loss is considered to be negligible with minimal impact on the site and surrounding area.

*To offset the loss of both trees, 1 new tree (with a height of 3m+ at time of planting) should be planted within the site.*

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**Significance (with mitigation)** Negligible

#### 3.2 PARTIAL REMOVAL OF GROUPS TO FACILITATE THE PROPOSED SCHEME

**Affected Trees** Cat. C: - G3 (Mixed group), G6 (Mixed group)

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**Impact Appraisal & Mitigation** As part of the proposed scheme both G3 and G6 require minor partial removals to facilitate the construction of the proposed dwelling and studio area. These partial removals will allow for construction to take place whilst ensuring the groups are retained.

G3 requires a section measuring ~2m removing from its easternmost side, and G6 requires a section measuring 3.5m removing from its western side.

*Owing to the low value of both groups, the proposed removals are considered to be negligible.*

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**Significance (with mitigation)** Negligible



3.3 PRUNING WORKS AS PART OF THE PROPOSED SCHEME

*Affected Trees* Cat. C: T19 (*Ilex spp.*), G7 (Mixed group), H2 (Mixed group)

<i>Pruning works</i>	Ref.	Species	Development Related Tree Works	Cat.
	T19	<i>Ilex spp.</i> (Holly)	Reduce southern crown by up to 2.5m	C1
	G7	Mixed group	Reduce southern crown by up to ~2m	C1
	H2	Mixed group	Reduce crown by up to 0.5m (See ASP02 for exact location)	C3

These proposed pruning works will ensure the retention of the trees/ groups rather than their removals. The species that are to be pruned will withstand the proposed works and regrow the lost canopy.

These proposed pruning works will allow for easy ongoing maintenance to take place to ensure continued screening with minimal contention between the trees and the development.

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*Significance (with mitigation)* Negligible

3.4 INSTALLATION OF SPECIALIST NO-DIG SURFACING

*Affected Trees* Cat. B: - T8 (*Cupressus x leylandii*)

Cat. C: - T7 (*Cupressus x leylandii*)

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*Impact Appraisal & Mitigation* The proposed new patio area must utilise a specialist no-dig 3D cellular system (we recommend Cellweb TRP) with a minimum depth of 75mm as its subbase to avoid a significant RPA incursion for T7 and T8 (neighbouring trees).

*This type of specialist surfacing retains any underlying tree roots whilst protecting against possible soil compaction damage and allowing the continuation of gas and water exchange between soil and air.*

*Due to the nature of the no-dig surfacing the FSL will be increased by 75mm and this will need to be taken into consideration by the design team.*

*Once installed the desired finishing surfacing can be installed atop the Cellweb.*

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*Significance (with mitigation)* Negligible

### 3.5 IMPLEMENTATION OF PROPOSED SCHEME

*Affected Trees* All retained trees

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*Impact Appraisal & Mitigation* During the construction process, all retained trees are susceptible to damage from general construction related activities.

*In order to reduce the risk of construction damage to the site's retained trees, tree protection barriers and temporary ground protection must be installed before the commencement of any site works.*

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*Significance (with mitigation)* Negligible

## TREE RELATED SHADING AND NUISANCES

### 3.6 LONG-TERM IMPACT OF RETAINED TREES ON PROPOSED SCHEME

#### 3.6.1 Shading

3.6.1.1 None of the trees observed are considered to possess a significant potential for a negative shading impact on the proposed dwelling; any tree-related shading of property is expected to be minimal, transient and well within the recommended levels outlined in BRE 209 guidance.

*Note - Shading arcs, as discussed in BS 5837, have not been included on the Arb. Site Plans owing to their poor accuracy, and the extreme unlikelihood that the shading will not be within tolerable levels. Ligna Consultancy Ltd have undertaken many detailed shading assessments, and in all situations, light levels have been shown to be well within acceptable levels (BRE 209). Situations where lighting levels may not be suitable are most likely to involve rows of large dense conifers near to dwellings.*

#### 3.6.2 Canopy Growth

3.6.2.1 The layout of the scheme has been designed with consideration of the location and growth potential of nearby trees. Owing to such, no noteworthy contention between tree canopies and property are anticipated.

#### 3.6.3 Nuisances

3.6.3.1 Owing to the tree species present within and around the site, and the layout of the proposed scheme, additional unreasonable tree-related nuisances, such as leaf and fruit-fall, are not thought to exist beyond what might generally be considered as acceptable limits.

## MITIGATION PROPOSAL

*The following proposals, if approved, should be detailed within an arboricultural method statement and tree protection plan prior to the commencement of any development associated works:*

### 3.7 PROTECTIVE MEASURES

#### 3.7.1 Tree Protection Barriers

3.7.1.1 Barriers shall be erected, and a construction exclusion zone established, to protect all retained trees during the construction of the proposed scheme.

#### 3.7.2 Temporary Ground Protection

3.7.2.1 Ground protection boards shall be installed within parts of the RPAs of T7, T8, and G3 to protect them from soil compaction damage during the construction of the proposed scheme.

### 3.8 TECHNICAL DESIGN CONSIDERATIONS

#### 3.8.1 Specialist No-Dig Surfacing

3.8.1.1 A 75mm deep no-dig 3D geocell system (we recommend Cellweb TRP) must be used for all new surfacing within root protection areas.

3.8.1.2 Owing to the nature of no-dig surfacing, the FSL will likely be increased as a result of its use.

#### 3.8.2 Routing and Installation of Utility Apparatus

3.8.2.1 Wherever possible, utility apparatus should be routed outside of any RPAs. Failing this, services should be routed together in common ducts, with any inspection chambers being located outside of the RPA.

3.8.2.2 Where it is necessary for underground services to intersect an RPA, specialist excavation methods should be used.

3.8.2.3 In such situations, the design team should consult with Ligna Consultancy in order to establish a suitable services route, and specify the specialist excavation method most suitable.

#### 3.8.3 Potential for Subsidence & Heave

3.8.3.1 Where shrinkable sub-soils may be present, the potential for tree related subsidence and/or ground heave (resultant from proposed tree removals) must be considered by a structural engineer prior to the final specification of foundation depth/type.

### 3.9 PROVISION OF NEW TREE PLANTINGS

3.9.1 It is recommended that at least 1 tree planting should be included within the landscaping of the site so as to mitigate against the proposed tree removals.

## CONCLUSION

### 3.10 SUMMARY OF THE DEVELOPMENT’S OVERALL IMPACT

3.10.1 The table below summarises the trees which will be lost, pruned, or protected by special measures during the development project.

	Tree Category			
	A	B	C	U
Trees/groups to be removed (* groups to have sections removed)	-	-	T17, T18, *G3, *G6	-
Hedges/shrubs to be removed (* hedges to have sections removed)	-	-	-	-
Trees/groups/hedges to be pruned	-	-	T19, G7, H2	-
Trees to be subjected to RPA incursions (excl. no-dig techniques)	-	-	G3	-
Trees to be protected through arboricultural measures / supervision (other than barriers and ground protection)	-	-	-	-
Trees requiring specialist design considerations (for purposes of minimising arboricultural impact)	-	T8	T7	-

3.10.2 Considering the anticipated arboricultural impact from the construction and demolition activities associated with the development of the site, and the implementation of the proposed mitigation measures outlined in this document, the proposed development’s arboricultural impact is considered to be **negligible**.

## 4 APPENDICES

### 4.1 APPENDICES

4.1.1 The following appendices are included within this document:

Appendix	Document
1	Tree Survey
2	Site Photos
3	Arboricultural Site Plan (Existing) (P2673-ASP01)
4	Arboricultural Site Plan (Proposed) (P2673-ASP02)

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# APPENDIX 1 TREE SURVEY

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## APPENDIX 1 – TREE SURVEY

### A1.1 SITE VISIT

- i) A site visit was undertaken by Jennifer Sinclair of Ligna Consultancy, on the 15/08/2022.

### A1.2 METHOD OF DATA COLLECTION

- i) Data was collected using the recommendations laid out in British Standard 5837:2012 as a guide. All observations were from ground level without detailed or invasive investigations.
- ii) Measurements have been calculated using a laser measurer and diameter tape/calipers. Where this was not possible or reasonably practical, measurements have estimated by eye.
- iii) The trees were surveyed and assessed impartially and irrespective of the proposed development. Management recommendations should be implemented regardless of any proposed development for reasons of sound arboricultural management or safety.
- iv) The method used for categorising the trees can be seen in section A1.3. This is an improved variation of the method suggested in BS 5837:2012.
- v) BS 5837:2012 recommends that better quality (category A and B trees) are retained where possible. Planning permission overrides a Tree Preservation Order and Conservation Area. Furthermore, trees are a material consideration in the UK planning system irrespective of their legal status. Trees in land adjacent to the site are considered where they may be impacted by development; for example, when roots or branches encroach onto the site.
- vi) Trees may be recorded as group or woodland where:
  - The canopies touch.
  - The trees have more group value than individual merit.
  - They are part of a formal landscape feature like an avenue.
  - It is impractical to record them individually.
- vii) Trees within groups or woodlands etc. are recorded individually where it is necessary to distinguish them from others.



### A1.3 SURVEY KEY & GLOSSARY OF TERMS

Term	Definition
Ref.	Tree reference number
Tag	Physical tag attached to some trees with unique identification number (not the same as Ref.)
Species	The trees' scientific and common name
Height	The measured/estimated height of the tree (measured in metres)
Branch Spread	The length of a tree's branches from stem to tip measured from the north, east, south and western sides of the crown.
Crown Clearance	Crown clearance is the measurement of height between the trees branches in the outer third of its crown and the floor. Crown clearance has only been recorded where it is considered to be of relevance to the proposed scheme. The height of the first significant branch is also generally recorded and is discussed where relevant.
DBH	Diameter of a trees' stem, measured as per BS 5837:2012
RPA	The root protection area (RPA) is 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 is treated as a priority.
Life Stage	A quantification of a trees' state of physical maturity: <ul style="list-style-type: none"> <li>• Young</li> <li>• Semi-mature</li> <li>• Early-Mature</li> <li>• Mature</li> <li>• Late-mature</li> <li>• Veteran</li> <li>• Dead</li> </ul>
Structural	Summary statement relating to the structural condition of a tree: <ul style="list-style-type: none"> <li>• Good (no apparent problems / normal optimal condition for a tree of its species.)</li> <li>• Fair (minor problems, no instabilities)</li> <li>• Poor (major problems, potential instabilities)</li> <li>• Unstable (extreme problems, likely to result in failure)</li> </ul>
Vitality	Summary statement relating to the overall observed vitality of a tree: <ul style="list-style-type: none"> <li>• Good (no apparent problems / normal optimal vitality for a tree of its species)</li> <li>• Fair (minor / temporary reduction in tree vitality)</li> <li>• Poor (major reduction in tree vitality, often with some branch dieback)</li> <li>• Dead / Dying (extreme / total reduction in tree vitality)</li> </ul>
General Management Recommendations	Remedial tree works recommended regardless of whether the site is developed or not.
Facilitation Tree Works	Tree pruning/felling required in order to facilitate the implementation of the proposed development.
Development Related Tree Works	Tree works that are required as part of the proposed scheme.
Tolerance	The relative tolerance the species can show to construction related activities such as root-loss, soil compaction and other development pressures.
Cat.	Categorisation of the tree's value based on the methodology shown in A1.4. This rating takes into account the size, quality, condition, estimated remaining life expectancy and legal status of each tree.

**A1.4 TREE CATEGORISATION METHODOLOGY**

Category and definition	Criteria / Subcategories			Label on plan
	1 – Mainly arboricultural qualities	2 – Mainly landscape qualities	3 – Mainly cultural values/conservation	
<b>Trees worthy of being a material constraint:</b>				
<p><b>Category A</b></p> <p>Trees of high quality, capable of providing a significant contribution to local amenity (usually large in size) and that generally possess an estimated remaining life expectancy of 40+ years.</p>	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Cat. A</div>
<p><b>Category B</b></p> <p>Trees of moderate quality and with an estimated remaining life expectancy of 20+ years, that are capable of providing a notable contribution to local amenity but are lacking the condition of category A trees (usually medium to large in size).</p>	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage); or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Cat. B</div>
<b>Trees worthy of material consideration:</b>				
<p><b>Category C</b></p> <p>Trees of a low quality, small size, or incapability to be protected within the legal framework. These trees generally possess an estimated remaining life expectancy of 10+ years.</p>	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Cat. C</div>
<b>Trees unsuitable for retention owing to condition:</b>				
<p><b>Category U</b></p> <p>Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.</p>	<ul style="list-style-type: none"> <li>• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)</li> <li>• Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> <li>• Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low-quality trees suppressing adjacent trees of better quality</li> </ul>			<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Cat. U</div>

**A1.5 SUMMARY OF DATA**

- i) The following woody vegetation was considered to be of note in relation to any development of the site: 19 individual trees, 7 groups of trees, and 4 hedges.
- ii) The following tables show the category distribution and life stage of the trees distributed within the site:

	Tree Category			
	A	B	C	U
Individual Trees	-	3	16	-
Groups	1	2	4	-
Woodland Groups	-	-	-	-
Hedges	-	-	4	-
Shrubs	-	-	-	-

Table 1 - Table showing category distribution within site.

	Life Stage						
	Young	Semi-Mature	Early-Mature	Mature	Over-Mature	Veteran	Dead
Individual Trees	-	12	1	6	-	-	-
Groups	-	3	1	3	-	-	-
Woodland Groups	-	-	-	-	-	-	-
Hedges	-	3	1	-	-	-	-
Shrubs	-	-	-	-	-	-	-

Table 2 - Table showing life stage distribution within the site.

Ref.	Tag	Species	Height (m)	Crown (N/E/S/W)	Crown Clearance (m)	DBH (mm)	Life Stage	Structural	Vitality	Additional Notes	General Management Recommendations	Priority	Development Related Tree Works	Tolerance	RPA Radius (m)	RPA Area (m <sup>2</sup> )	Cat.
T1		Malus domestica (Apple)	5	3 / 3 / 6 / 6	1.8	352	Mature	Good	Good	Minor deadwood throughout the crown - negligible risk posed.				Good	4.2	56.2	C1
T2		Ilex spp. (Holly)	8	2 / 2 / 2 / 2		267	Semi-Mature	Good	Good	Estimated stem diameter due to dense lower growth.				Good	3.2	32.3	C1
T3		Chamaecyparis Lawsoniana (Lawson cypress)	7.5	1.5 / 1.5 / 1.5 / 1.5	1	150	Semi-Mature	Good	Good					Good	1.8	10.2	C1
T4		Chamaecyparis Lawsoniana (Lawson cypress)	7.5	2 / 2 / 2 / 2		200	Semi-Mature	Good	Good					Good	2.4	18.1	C1
T5		Sorbus thuringiaca (Service tree)	9.5	4.5 / 4.5 / 4.5 / 4.5	1.5	300	Mature	Good	Good					Moderate	3.6	40.7	C1
T6		Pyrus communis (Common pear)	4.5	1.5 / 1.5 / 1.5 / 2	1.5	129	Semi-Mature	Good	Fair					Moderate	1.5	7.5	C3
T7		Cupressus x leylandii (Leylandii)	10	2 / 2 / 2 / 2		300	Mature	Good	Good	Estimated dimensions used as tree located on adjacent site with overhanging branches.				Good	3.6	40.7	C1
T8		Cupressus x leylandii (Leylandii)	14	2.5 / 2.5 / 2.5 / 2.5		453	Mature	Good	Good	Estimated dimensions used as tree located on adjacent site with overhanging branches.				Good	5.4	93.0	B3
T9		Taxus baccata (Yew)	7	3 / 3 / 3 / 3		150	Semi-Mature	Good	Good	Estimated dimensions used as tree located on adjacent site with overhanging branches.				Moderate - Good	1.8	10.2	C1
T10		Betula pendula (Silver birch)	17	5.5 / 5.5 / 5.5 / 5.5	2	450	Mature	Good	Good	Estimated dimensions used as tree located on adjacent site with overhanging branches. Stem and inner crown engulfed in ivy obscuring survey.				Poor - Moderate	5.4	91.6	B2
T11		Other	5	2.5 / 2.5 / 2.5 / 2.5		110	Semi-Mature	Good	Good					-	1.3	5.5	C1
T12		Malus domestica (Apple)	5	3 / 1 / 3 / 3	1.5	184	Semi-Mature	Good	Fair	Minor deadwood - negligible risk posed. Moderate size cavity to south side of stem - not considered to be of structural concern.				Good	2.2	15.4	C1
T13		Malus domestica (Apple)	5.5	2.5 / 2.5 / 2.5 / 2.5		267	Mature	Good	Good	Tree historically pollarded with epicormic regrowth.				Good	3.2	32.3	C1
T14		Eucalyptus spp. (Eucalyptus)	17	5 / 5 / 3 / 5	3	400	Semi-Mature	Good	Good					Moderate	4.8	72.4	B2
T15		Cupressus macrocarpa (Monterey cypress)	5.5	1.5 / 1.5 / 1.5 / 1.5	1	153	Early-Mature	Good	Good					Poor	1.8	10.6	C1
T16		Gleditsia triacanthos (Honey locust)	10	4 / 4 / 4 / 4	1.5	220	Semi-Mature	Good	Good	Minor deadwood throughout tree - negligible risk posed.				Good	2.6	21.9	C1
T17		Pyrus spp. (Pear)	4.5	2.5 / 3.5 / 4 / 2.5	1	256	Semi-Mature	Good	Good				Remove	Moderate	3.1	29.6	C1
T18		Prunus spp. (Cherry)	5.5	3 / 4 / 4 / 4		180	Semi-Mature	Good	Good				Remove	Moderate - Good	2.2	14.7	C1
T19		Ilex spp. (Holly)	8.5	4 / 4 / 4 / 4		380	Semi-Mature	Good	Good	Estimated stem diameters used due to dense lower growth. Compacted gravel driveway atop RPA.			Reduce southern crown by upto 2.5m.	Good	4.6	65.4	C1
G1		Fagus sylvatica (Beech)	22	8 / 8 / 6.5 / 9	2	520	Mature	Good	Good	Group of 10 beech along edge of driveway. Minor deadwood throughout group - negligible risk posed.				Poor	6.2	122.3	A2
G2		Betula pendula (Silver birch)	20	5 / 5 / 5 / 5	1.5	270	Mature	Good	Fair	Trees possess a thinning, browning crown most likely caused by drought. Minor deadwood throughout crown - negligible risk posed.				Poor - Moderate	3.2	33.0	B2

Ref.	Tag	Species	Height (m)	Crown (N/E/S/W)	Crown Clearance (m)	DBH (mm)	Life Stage	Structural	Vitality	Additional Notes	General Management Recommendations	Priority	Development Related Tree Works	Tolerance	RPA Radius (m)	RPA Area (m <sup>2</sup> )	Cat.
G3		Mixed group	5.5	2 / 2 / 2 / 2		80	Semi-Mature	Good	Good	Line of young trees and semi mature shrubs located along boundary line. Power/ phone line running through crown - not considered to be of concern.			Remove ~2m section from eastern side.	-	1.0	2.9	C1
G4		Mixed group	12	6 / 6 / 6 / 6		269	Semi-Mature	Good	Good	Oak and holly growing in close proximity to each other creating 1 canopy. Estimated dimensions used as group located on adjacent site with overhanging branches and dense lower growth obscuring survey.				-	3.2	32.8	C1
G5		Chamaecyparis Lawsoniana (Lawson cypress)	11	2 / 3 / 1.5 / 6		310	Mature	Good	Good	Group of 9 stems growing in a line along back boundary. Tree house located in easternmost 3 stems - not considered to be of concern.				Good	3.7	43.5	B1
G6		Mixed group	5	2 / 2 / 2 / 2		60	Early-Mature	Good	Good	Group of small trees and shrubs growing along boundary line.			Remove 3.5m section from western side.	-	0.7	1.6	C3
G7		Mixed group	5.5	3 / 3 / 3 / 3		110	Semi-Mature	Good	Good	Group of cotoneaster growing along boundary with a high presence of ivy on the stems and crown obscuring survey. Unsure on ownership as it has the boundary line running through middle of group.			Reduce southern crown by upto ~2m.	-	1.3	5.5	C1
H1		Ligustrum ovalifolium (Privet)	1.5	0.25 / 0.25 / 0.25 / 0.25			Early-Mature	Good	Good	Well maintained hedge along edge of driveway.				Good			C1
H2		Mixed group	1.8	0.75 / 0.75 / 0.75 / 0.75			Semi-Mature	Good	Good	Line of shrubs and hedge plants along boundary line.			Reduce crown by upto 0.5m (See ASP02 for exact location)	-			C3
H3		Mixed group	2.5	1 / 1 / 1 / 1			Semi-Mature	Good	Good	Line of hedge and shrubs well maintained along boundary.				-			C1
H4		Cupressus x leylandii (Leylandii)	3	0.75 / 0.75 / 0.75 / 0.75			Semi-Mature	Good	Good	Estimated dimensions used as hedge located on adjacent site.				Good			C1

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# APPENDIX 2

# SITE PHOTOGRAPHS

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## APPENDIX 2 – SITE PHOTOGRAPHS

Note - Below is a selection of site photographs intended for general site context. Should you require supplementary site/tree photographs please contact [info@lignaconsultancy.co.uk](mailto:info@lignaconsultancy.co.uk):



*Figure 1 – Looking westwards at the existing dwelling.*



## APPENDIX 2 – SITE PHOTOGRAPHS



*Figure 2 – Looking north westwards at the existing garage to be demolished.*

APPENDIX 2 – SITE PHOTOGRAPHS



*Figure 3 – Looking eastwards at the existing garage.*



APPENDIX 2 – SITE PHOTOGRAPHS



*Figure 4 – Looking northwards at the site entrance.*



*Figure 5 – Looking southwards at the existing dwelling.*

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# APPENDIX 3

## ARB. SITE PLAN (EXISTING)

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### Use of This Document





This document should be viewed in conjunction with the relevant arboricultural impact assessment and/or tree survey schedule.

### Tree Categorisation & Numbering

The method used for categorising the trees can be seen in Appendix 1 of the Tree Survey/Arboricultural Impact Assessment. The categorisation method used is an improved variation of the method suggested in BS 5837:2012.

BS 5837:2012 recommends that better quality trees (Cat. A & B) are retained where possible. Trees in land adjacent to the site are considered where they may be impacted by development.

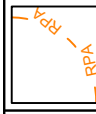
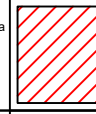

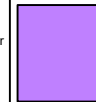
The trees considered significant within the context of the development are numbered and assigned a prefix of 'T' or 'G' to describe whether they are an individual or a group, and 'S' or 'H' for a shrub or hedge. Using this identification number, further information for each tree/group can be found within the survey schedule.

 <b>Cat. A</b>	<b>Category A</b> : High or exceptional arboricultural, landscape or ecological value. (Worthy of being a material constraint.)	 <b>Cat. B</b>	<b>Category B</b> : Moderate arboricultural, landscape or ecological value. (Worthy of being a material constraint.)
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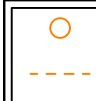
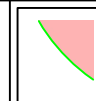
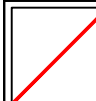

### Root Protection Areas

In order to avoid damage to the roots or rooting environment of retained trees, the Root Protection Areas (RPA's) should be plotted around each of the category A, B and C trees. This is a notional depiction of the minimum rooting area in m2 which should be left undisturbed around each tree. The RPA is calculated using the *British Standard BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'*, unless otherwise stated within the survey schedule.

Where there appears to be restrictions to root growth the root protection area is reshaped to more accurately reflect the likely distribution of the roots.

 <b>Root Protection Area (RPA)</b>	The notional area around each tree which should be left undisturbed during the development of the site.	 <b>RPA Incursion:</b>	Anticipated incursion into the root protection area of a proposed tree which may result in root loss/damage.
 <b>Arboriculturally Sensitive Demolition/Removal:</b>	A structure or surfacing is to be removed using special methods to avoid damage to trees.	 <b>Specialist Foundations:</b>	Low impact foundations to be used to preserve underlying tree roots.

### Further Object Key

 <b>Tree Stem / Stem line:</b>	Diameter of stem at ~1.5m	 <b>Tree Removal:</b>	Trees designated for removal will comprise of a red filled canopy.
 <b>Site Boundary:</b>	Extent of site boundary (illustrative only)	 <b>Buildings/Surfacing to be Removed:</b>	Buildings or surfacing to be removed will generally be depicted with a dashed red line

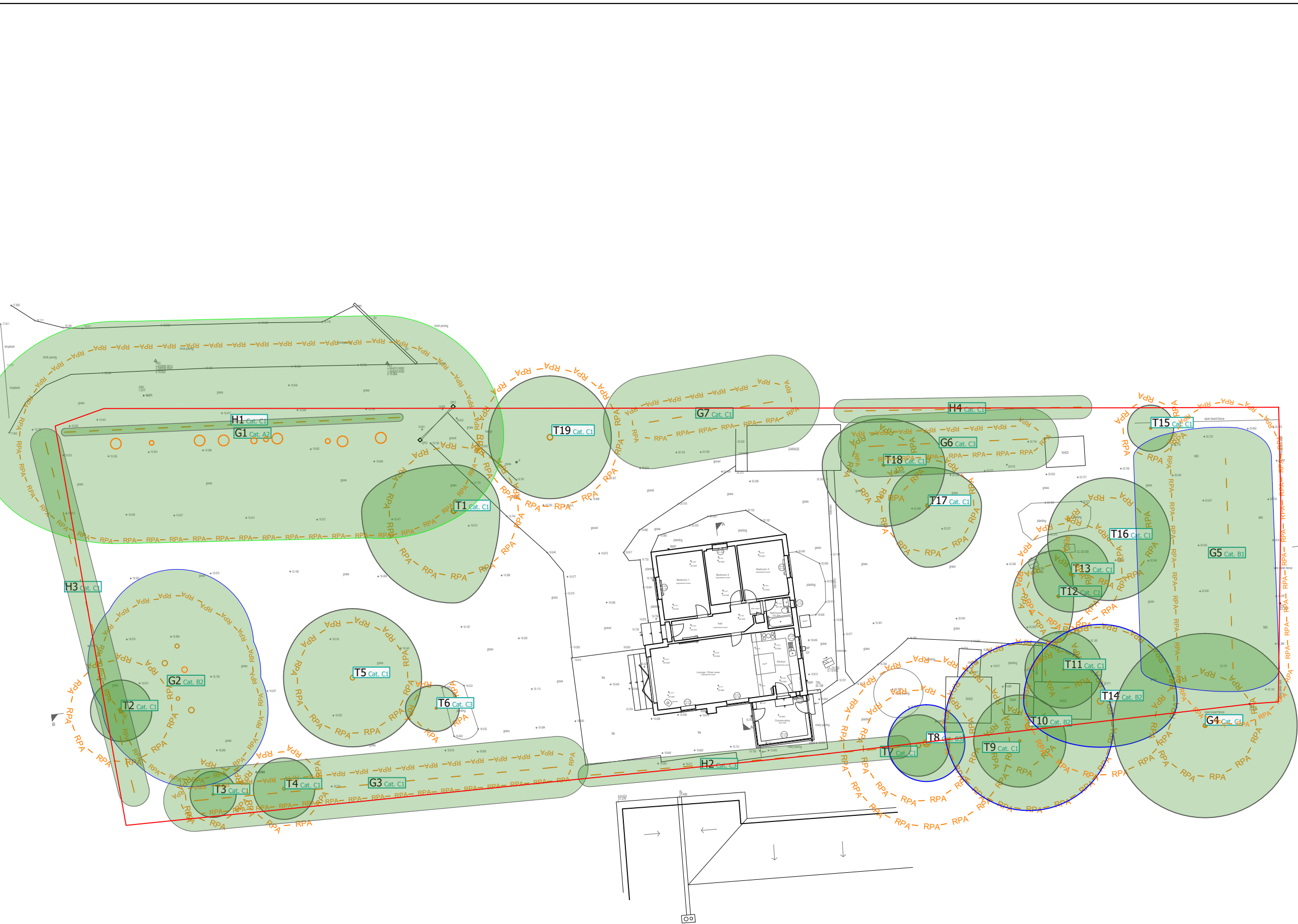


Project:	Highcroft		
Client:	Mr and Mrs Zavahir		
Drawing:	Arboricultural Site Plan (Existing)		
Drawing Ref:	Rev:	Date:	
P2673-ASP01	V3	08/01/2024	
Scale:	Drawn By:		
1:250 - A3	J. Sinclair		
Based on:	Topographical Survey		

All dimensions should be checked on site. No dimensions to be scaled from this drawing. Please notify us of any discrepancies found. Ligna Consultancy Ltd. cannot be held responsible for inaccuracies in the base drawing in which this plan is based. This drawing is designed to reflect the principles of the layout or design only, and relates only to the protection of retained trees.

An architect or structural engineer should be contacted over any matters of construction, detailing or specification and for any standards or regulatory requirements relating to proposed structures, hard surfacing or underground services.

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# APPENDIX 4

## ARB. SITE PLAN (PROPOSED)

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### Use of This Document





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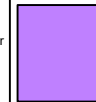
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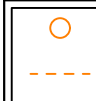
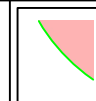
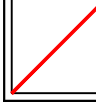
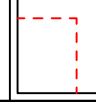
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Project: **Highcroft**

Client: **Mr and Mrs Zavahir**

Drawing: **Arboricultural Site Plan (Proposed)**

Drawing Ref: **P2673-ASP02** Rev: **V3** Date: **20/12/2023**

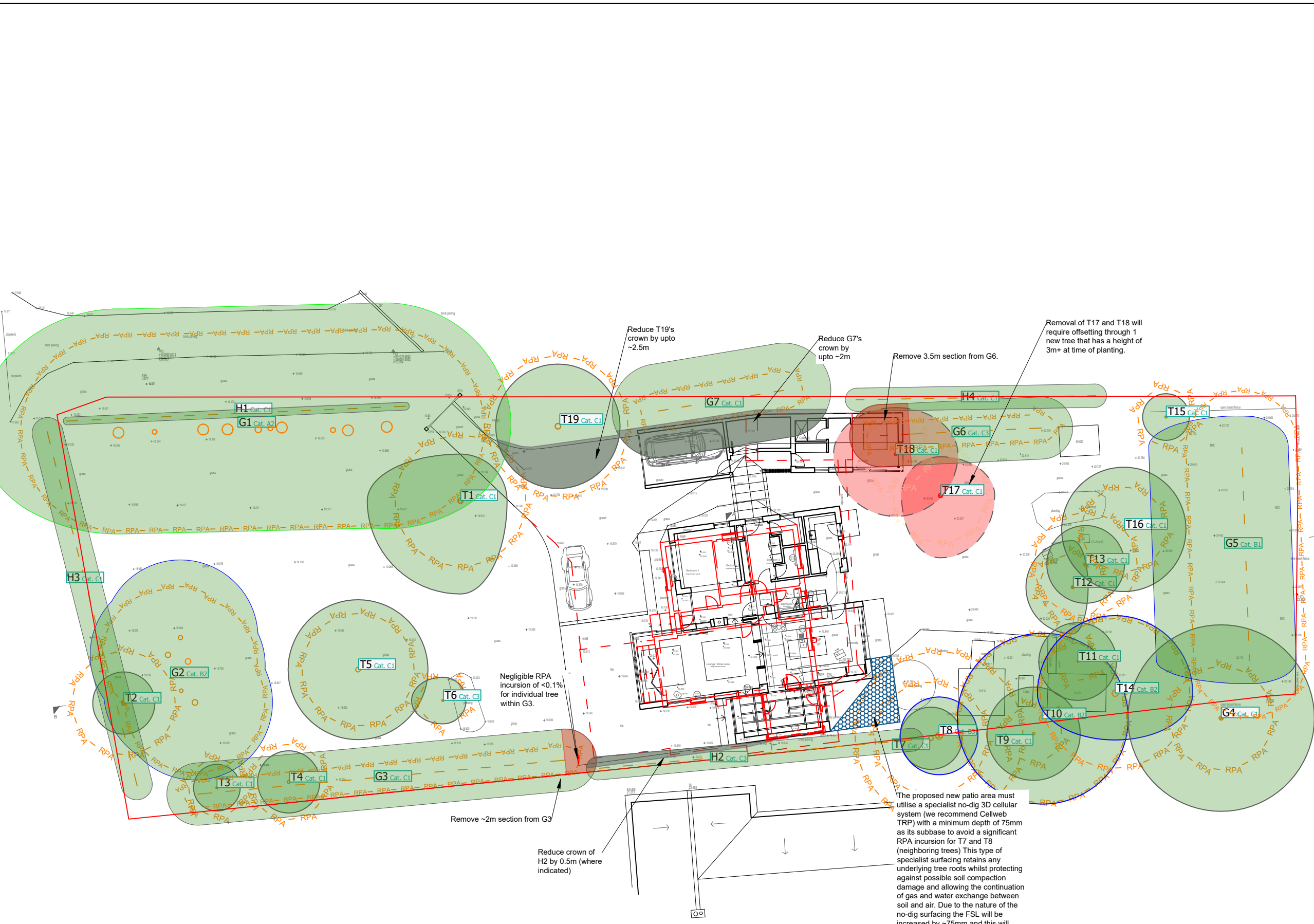
Scale: **1:250 - A3** Drawn By: **J. Sinclair**

Based on: **21.05\_SK06\_EXTENTS\_Ligna\_21-12-2023**

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