ARBORICULTURAL IMPACT ASSESSMENT

CLIENT -	J Day and Sons
PROJECT -	Highfield House
DOC. REF -	P1868–AIA01 V1
PLANNING REF -	n/a
CREATION DATE -	08/09/2021

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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.	n/a	V1	V2	V3	V4	V5	V6	V7
Arb. Impact Assessment	P1868-AIA01		X						
Arb. Site Plan (Existing)	P1868-ASP01		X						
Arb. Site Plan (Proposed)	P1868-ASP02		X						

1. SUMMARY

1.1 PROPOSED DEVELOPMENT

1.1.1 The erection of two new dwellings and associated driveway to the rear of the site.

1.2 TREE SURVEY

1.2.1 23 individual trees, 2 groups of trees, 1 hedge and 1 shrub were recorded as being significant within the context of the development proposals.

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 3.6.*

1.4 TECHNICAL DESIGN CONSIDERATIONS

1.4.1 The design team must consider and implement the design advice provided in *Section 3.7* of this document.

1.5 OPPORTUNITIES FOR NEW TREE PLANTING

1.5.1 5 new tree plantings and 1 new native hedge are considered to be necessary as part of the proposed scheme.

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 to be removed	-	T13	T12, T14, T18, T19, G2, H1	-
Trees to be pruned (* groups / hedges to have sections removed)	-	T15	-	-
Trees to be subjected to RPA incursions (excl. no-dig techniques)	-	T15, T20	-	
Trees to be protected through arboricultural measures / supervision (other than barriers and ground protection)	-	T15	-	

Trees requiring specialist design considerations (for purposes of minimising arboricultural impact)	-	-	-

1.6.2 Considering the anticipated arboricultural impact from the construction 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 low.

2 GENERAL INFORMATION

2.1 BRIEF

2.1.1 Ligna Consultancy Ltd were instructed by the client, J Day and Sons, to undertake a tree survey in accordance with BS 5837:2012 and to prepare an arboricultural impact assessment for the proposed scheme at Highfield House.

2.2 PROPOSED DEVELOPMENT

2.2.1 The erection of two new dwellings and associated driveway to the rear of the site.

2.3 SITE

2.3.1 The site discussed within this report is located at:

Highfield House
London Road
Little Chesterford
CB10 1UB

2.4 PROJECT CONTACTS

Role	Name	Telephone	Email
Arboricultural Consultant	Ligna Consultancy Ltd	01284 598008	benjamin@lignaconsultancy.co.uk
Client	J Day and Sons	-	-

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) (P1868-ASP01 V1)
- Arboricultural Site Plan (Proposed) (P1868-ASP02 V1)

2.6 DOCUMENTS PROVIDED

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

- Existing Site Plan
- Proposed Site Plan

2.7 AUTHOR

2.7.1 Jennifer Sinclair is a Technical member of the Arboricultural Association. She has worked in arboriculture for over ten 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.

2.7.2 This report has been checked and edited by Oliver Halladay MArborA.

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 COPYRIGHT

2.11.1 This report was prepared for use by the Clients and their contractors for planning purposes. The report and its appendices may not be copied, modified, or distributed beyond the necessary parties without the written consent of Ligna Consultancy Ltd.

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. B: T13 *(Quercus robur),* Cat. C: T12 (Mixed group), T14 *(Prunus spp.),* T18 (Other), T19 *(Prunus avium),* H1 *(Cupressus x leylandii)* , G2 (Mixed group)
Impact Appraisal & Mitigation	T13, a category 'B' oak tree, is to be removed as part of the proposed scheme. Although it is a category 'B' tree, it is not visible to the public and does not have a significant visual impact on the existing site. Therefore, the removal of this tree is considered to be acceptable if mitigation is implemented. *To mitigate the loss of T13, 2x new native trees sould be planted within the site.* 4 trees and 1 hedge and 1 group within category C are also to be removed as part of the proposed plan. Due to their low value, any amenity or arboricultural impact resulting from their loss is considered to be low. *To help offset the loss of these trees, it is recommended that 3 new trees and new native hedging are to be planted within the site.*
Significance *(with mitigation)*	Low

3.2 TREES TO BE PRUNED AS PART OF THE PROPOSED SCHEME

Affected Trees	Cat. B: T15 (Acer platanoides)
Pruning works	T15 is to have its crown lifted to provide 4-4.5m clearance with the ground so as to provide adequate vehicular clearance over the proposed driveway.
Significance *(with mitigation)*	Negligible

3.3 INSTALLATION OF PROPOSED DRIVEWAY

Affected Trees	Cat. B: T15 *(Acer platanoides)*, T20 *(Juglans regia)*
Impact Appraisal & Mitigation	As part of the proposed scheme, a new driveway is to be installed within the RPAs of T15 and T20. This will result in shallow incursions of ~12% and ~0.5%, respectively. Owing to the good tolerance of *Acer platanoides* to root loss and disturbance, any associated impact on the overall health and condition of the tree is considered to be low; therefore, no specialist construction methods are deemed necessary. To further reduce any impact of the incursion on the T15, during the excavation of the driveway subbase, should any roots with a diameter in excess of 20mm be exposed, they will require pruning with purpose made loppers.
Significance *(with mitigation)*	Low

3.4 IMPLEMENTATION OF PROPOSED SCHEME

Affected Trees	All retained trees
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.
Significance *(with mitigation)*	Low

TREE RELATED SHADING AND NUISANCES

3.5 LONG-TERM IMPACT OF RETAINED TREES ON PROPOSED SCHEME

3.5.1 Shading

3.5.1.1 None of the trees observed are considered to possess a significant potential for a negative shading impact on any of the proposed dwellings; 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.

3.5.2 Canopy Growth

3.5.2.1 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.

3.5.3 Nuisances

3.5.3.1 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:

3.6 PROTECTIVE MEASURES

3.6.1 Tree Protection Barriers

3.6.1.1 Barriers shall be erected, and a construction exclusion zone established, to protect any retained tree during the construction of the proposed scheme.

3.6.2 Root Pruning

3.6.2.1 During the construction of the proposed driveway within the RPA of T15, should any roots with a diameter in excess of 20mm be unearthed, they will require pruning with purpose made loppers.

3.7 TECHNICAL DESIGN CONSIDERATIONS

3.7.1 Routing and Installation of Utility Apparatus

3.7.1.1 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.

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

3.7.1.3 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.

3.7.2 Foundation Design

3.7.2.1 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.

3.8 OPPORTUNITIES FOR NEW TREE PLANTING

3.8.1 5 new tree plantings and planting 1 new native hedge are considered to be necessary as part of the proposed scheme.

CONCLUSION

3.9 SUMMARY OF THE DEVELOPMENT'S OVERALL IMPACT

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

	Tree Category (See Appendix 1 For Methodology)			
	A	B	C	U
Trees to be removed	-	T13	T12, T14, T18, T19, G2, H1	-
Trees to be pruned (* groups / hedges to have sections removed)	-	T15	-	-
Trees to be subjected to RPA incursions (excl. no-dig techniques)	-	T15, T20	-	
Trees to be protected through arboricultural measures / supervision (other than barriers and ground protection)	-	T15	-	
Trees requiring specialist design considerations (for purposes of minimising arboricultural impact)	-	-	-	

3.9.2 Considering the anticipated arboricultural impact from the construction 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 low.

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) (P1868-ASP01)
4	Arboricultural Site Plan (Proposed) (P1868-ASP02)

APPENDIX 1
TREE SURVEY

APPENDIX 1 – TREE SURVEY

A1.1 SITE VISIT

i) A site visit was undertaken by Jennifer Sinclair of Ligna Consultancy, on the 17/08/2021.

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: • Newly planted • Young • Semi-mature • Mature • Over-mature • Veteran • Dead
Structural	Summary statement relating to the structural condition of a tree: • Good (no apparent problems / normal optimal condition for a tree of its species.) • Fair (minor problems, no instabilities) • Poor (major problems, potential instabilities) • Unstable (extreme problems, likely to result in failure)
Vitality	Summary statement relating to the overall observed vitality of a tree: • Good (no apparent problems / normal optimal vitality for a tree of its species) • Fair (minor / temporary reduction in tree vitality) • Poor (major reduction in tree vitality, often with some branch dieback) • Dead / Dying (extreme / total reduction in tree vitality)
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	
Trees worthy of being a material constraint:				
Category A 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.	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)	Cat. A
Category B 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).	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	Cat. B
Trees worthy of material consideration:				
Category C 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.	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	Cat. C
Trees unsuitable for retention owing to condition:				
Category U 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.	• 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) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • 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			Cat. U

A1.5 SUMMARY OF DATA

i) 23 individual trees, 2 groups of trees, 1 hedge and 1 shrub were recorded as being significant within the context of the development proposals.

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	1	6	16	-
Groups	-	-	2	-
Woodland Groups	-	-	-	-
Hedges	-	-	1	-
Shrubs	-	-	1	-

Table 1 - Table showing category distribution within site.

	Life Stage						
	Newly Planted/ Self-set	Young	Semi-Mature	Mature	Over-Mature	Veteran	Dead
Individual Trees	2	1	8	9	3	-	-
Groups	-	1	1	-	-	-	-
Woodland Groups	-	-	-	-	-	-	-
Hedges	-	-	-	1	-	-	-
Shrubs	-	-	1	-	-	-	-

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^2)	Cat.
T1		Quercus robur (English oak)	15	10 / 10 / 10 / 10	1.8	1050	Mature	i	Good	Estimated dimensions used as tree located on adjacent site with overhanging branches. Moderate ivy on lower to mid stem obscuring survey. Tree historically crown lifted over garden. Minor amount of semi mature epicormic growth on lower stem at 1.8m. Moderate amount of minor deadwood throughout crown - normal for species. Children's swing attached to branch overhanging garden - negligible risk posed.	Remove overhanging deadwood.	Optional		Moderate - Good	12.6	498.8	A2
T2		Quercus robur (English oak)	7	3 / 3 / 3 / 3	3.5	250	Semi-Mature	Good	Good	Estimated dimensions used as tree located on adjacent site with overhanging branches. high presence of ivy on stem and inner crown obscuring survey. Lower crown historically heavily reduced away from site leaving multiple stubs.		-		Moderate - Good	3.0	28.3	C1
T3		Rhus typhina (Staghorn sumac)	3	1.5 / 1.5 / 1.5 / 1.5	-	92	Semi-Mature	Good	Good			-		Good	1.1	3.8	C1
T4		Juglans regia (English Walnut)	5	2 / 2 / 2 / 2	1	156	Young	Good	Good			-		Poor	1.9	11.0	C1
T5		Salix spp. (Willow)	16	4 / 4 / 4 / 4	1	739	Over-Mature	Good	Good	Estimated dimensions used as tree located on adjacent site with overhanging branches. Half of the stems have historically been pollarded with mature regrowth. High presence of ivy on stem and inner crown obscuring survey. Tree located on edge of ditch.		-		Good	8.9	247.0	B2
T6		Salix spp. (Willow)	16	4 / 4 / 4 / 4	-	550	Over-Mature	Good	Good	Estimated dimensions used as tree located on adjacent site with overhanging branches. Half of the stems have historically been pollarded with mature regrowth. High presence of ivy on stem and inner crown obscuring survey. Tree located on edge of ditch.		-		Good	6.6	136.8	B2
T7		Salix spp. (Willow)	22	7 / 7 / 7 / 7	1	1089	Over-Mature	Good	Good	Estimated dimensions used as tree located on adjacent site with overhanging branches. High presence of ivy on mid stem to base of tree obscuring survey. Tree has historic main stem failures leaving weak unions at the base with multiple over extended limbs - tree poses a high risk of future failure. Multiple stems have been pollarded with mature regrowth. Tree is unsuitable for long term retention in current condition.	Pollard to 8-10m.	24 months		Good	13.1	536.0	B1
T8		Salix spp. (Willow)	4	1.5 / 1.5 / 1.5 / 1.5	-	150	Mature	Good	Good	Estimated dimensions used as tree located on adjacent site. Pollarded stump with epicormic regrowth.		-		Good	1.8	10.2	C1

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^2)	Cat.
T9		Prunus spp. (Plum)	3	1 / 1 / 1 / 1	-	55	Newly Planted / Self-Set	Good	Good	Cluster of self set plum saplings.		-		Moderate - Good	0.7	1.4	C3
T10		Salix spp. (Willow)	4	1.25 / 1.25 / 1.25 / 1.25	-	120	Semi-Mature	Good	Good	Estimated dimensions used as tree located on adjacent site. Old stumps with epicormic regrowth.		-		Good	1.4	6.5	C3
T11		Alnus glutinosa (Common alder)	3	1.5 / 1.5 / 1.5 / 1.5	-	68	Newly Planted / Self-Set	Good	Good	Estimated dimensions used as tree located on adjacent site. Alder saplings on edge of ditch.		-		Good	0.8	2.1	C3
T12		Mixed group	7	2.5 / 2.5 / 2.5 / 2.5	1.5	311	Semi-Mature	Good	Good	Estimated dimensions used as tree located on adjacent site with overhanging branches. Cluster of 1 willow and 1 hawthorn growing next to each other. High presence of ivy on stem and inner crown obscuring survey.		-	Remove to ground level.	-	3.7	43.8	C1
T13		Quercus robur (English oak)	9.5	6.5 / 6.5 / 6.5 / 6.5	1.5	370	Semi-Mature	Good	Good	Estimated dimensions used as tree located on adjacent site with overhanging branches. Moderate amount of minor size deadwood throughout crown. Negligible risk posed due to small size of branches.		-	Remove to ground level.	Moderate - Good	4.4	61.9	B2
T14		Prunus spp. (Cherry)	10.5	6 / 6 / 6 / 6	2	430	Mature	Good	Good			-	Remove to ground level.	Moderate - Good	5.2	83.6	C1
T15		Acer platanoides (Norway Maple)	15	7.5 / 7.5 / 7.5 / 7.5	3	530	Mature	Good	Good	Multiple torn stub cuts at 2m where tree has historically been crown lifted - not of concern.	Target prune stubs.	Optional	Crownlift to provide 4-4.5m clearance with the ground.	Moderate - Good	6.4	127.1	B2
T16		Fraxinus excelsior (Ash)	10.5	5 / 5 / 5 / 5	4.5	570	Semi-Mature	Good	Good	Estimated dimensions used as tree located on adjacent site with overhanging branches. High presence of ivy on stem and inner crown obscuring survey. Lower crown historically heavily reduced away from site leaving multiple stubs.		-		Moderate	6.8	147.0	C1
T17		Syringa vulgaris (Common lilac)	4	2 / 2 / 2 / 2	1.5	192	Mature	Good	Good	Minor cavity in base - low risk posed due to small size of tree. Minor deadwood in crown - negligible risk posed.		-	Remove to ground level.	Moderate - Good	2.3	16.7	C3
T18		Other	3	1.5 / 1.5 / 1.5 / 1.5	1	168	Semi-Mature	Good	Good	High presence of ivy on stem.		-	Remove to ground level.	-	2.0	12.7	C3
T19		Prunus avium (Cherry)	9	2.5 / 2.5 / 2.5 / 2.5	3	390	Mature	Good	Good	Minor amount of black exudate on multiple areas of the stem - not considered to be of current concern.		-	Remove to ground level.	-	4.7	68.8	C1
T20		Juglans regia (English Walnut)	12.5	5.5 / 3.5 / 7.5 / 6	3	732	Mature	Good	Good	New decking installed around tree at ~0.25m. Installed up to edge of stem leaving no room for stem growth. Tree historically crown lifted leaving multiple decayed stubs in lower crown with potential for pockets of decay - low risk posed.		-		Poor	8.8	242.5	B1
T21		Rhus typhina (Staghorn sumac)	4	1 / 1 / 1 / 1	-	119	Mature	Good	Fair	Thinning crown with moderate amount of minor deadwood throughout crown.		-		Good	1.4	6.4	C1

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^2)	Cat.
T22		Betula pendula (Silver birch)	8	2.5 / 2.5 / 2.5 / 2.5	1.8	230	Semi-Mature	Good	Fair	Tree appears to be in decline with a thinning crown and moderate amount of deadwood throughout crown. Due to location tree is not suitable for long term retention.	Remove to ground level and replant.	3 years		Poor - Moderate	2.8	23.9	C1
T23		Prunus avium (Cherry)	8	3.5 / 3.5 / 3.5 / 3.5	-	433	Mature	Good	Good	Tip dieback throughout crown. Minor deadwood throughout crown, high presence of ivy on 1 stem.		-		-	5.2	84.8	C1
G1		Mixed group	7	2 / 2 / 2 / 2	-	100	Semi-Mature	Good	Good	Estimated dimensions used as group located on adjacent site with overhanging branches. Line of hedgerow trees along boundary consisting of hawthorn, elm and prunus. High presence of ivy on stems and inner crowns . Gaps within group.		-		-	1.2	4.5	C1
G2		Mixed group	4	1.5 / 1.5 / 1.5 / 1.5	-	90	Young	Good	Good	Estimated dimensions used as group located on adjacent site with overhanging branches. Group has oak, horse chestnut, berberis, sycamore, plum, and lilac.		-	Remove to ground level.	-	1.1	3.7	C3
H1		Cupressus x leylandii (Leylandii)	4	1.5 / 1.5 / 1.5 / 1.5	-	120	Mature	Good	Good	Well maintained hedge.		-	Remove to ground level.	Good	1.4	6.5	C3
S1		Corylus maxima 'Purpurea' (Purple-leaved filbert)	3	1.5 / 1.5 / 1.5 / 1.5	-	49	Semi-Mature	Good	Good			-		-	0.6	1.1	C3

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:

Figure 1 – Looking northwards at the area for the proposed development.

APPENDIX 2 – SITE PHOTOGRAPHS

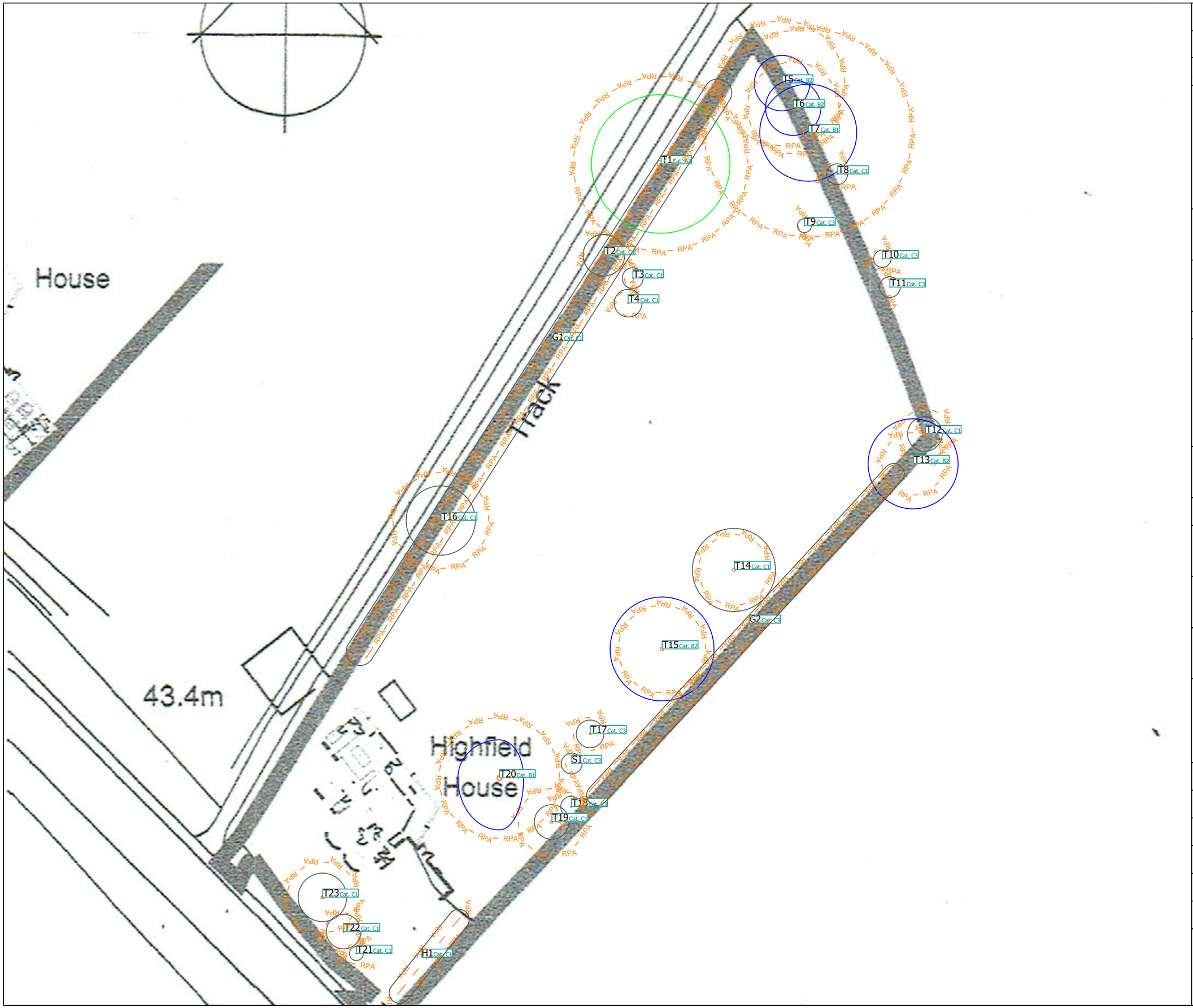
Figure 2 - Looking eastwards at the area for the proposed driveway with T12-T14 and G2 pictured.

APPENDIX 2 – SITE PHOTOGRAPHS

Figure 3 – Looking eastwards at H1 at the front of the site.

Figure 4 – Looking eastwards at T15, which will be subjected to a 12.4% RPA incursion.

APPENDIX 3
ARB. SITE PLAN (EXISTING)



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.

Cat. A — **Category A** : High or exceptional aboricultural, landscape or ecological value. (Worthy of being a material constraint.)	Cat. B — **Category B** : Moderate arboricultural, landscape or ecological value. (Worthy of being a material constraint.)
Cat. C — **Category C** : Low quality or small in size. (Not worthy of being a material constraint.)	Cat. U — **Category U** : Such poor quality or condition that renders it unsuitable for retention. (Not worthy of being a material constraint.)

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.

RPA — **Root Protection Area (RPA)**: The notional area around each tree which should be left undisturbed during the development of the site	**RPA Incursion**: Anticipated incursion into the root protection area of a proposed tree which may result in root disturbance.

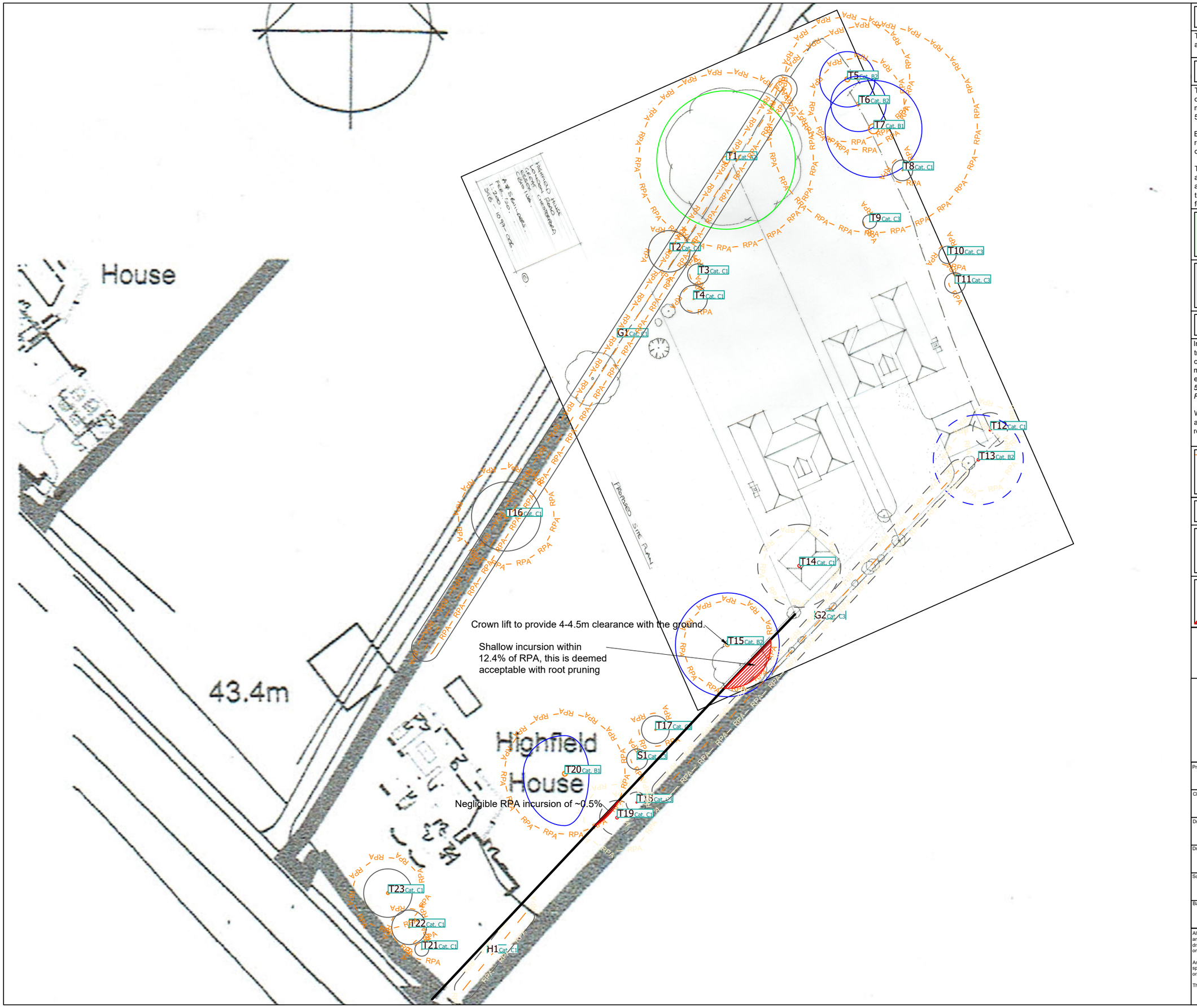
Further Object Key

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

Ligna Consultancy

Project:	Highfield House	
Client:	J Day and Sons	
Drawing:	Arboricultural Site Plan (Existing)	
Drawing Ref: P1868-ASP01	Rev: V1	Date: 27/08/2021
Scale: 1:500 - A3		Drawn By: J. Sinclair
Based on:	Existing Site Plan	

APPENDIX 4
ARB. SITE PLAN (PROPOSED)



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.

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Root Protection Areas

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RPA — **Root Protection Area (RPA)**: The notional area around each tree which should be left undisturbed during the development of the site	**RPA Incursion**: Anticipated incursion into the root protection area of a proposed tree which may result in root disturbance.

Further Object Key

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

Ligna Consultancy

Project: Highfield House		
Client: J Day and Sons		
Drawing: Arboricultural Site Plan (Proposed)		
Drawing Ref: P1868-ASP02	Rev: V1	Date: 27/08/2021
Scale: 1:500 - A3		Drawn By: J. Sinclair
Based on: Proposed Site Plan		

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.

This drawing was produced in colour - a monochrome copy should not be relied upon.

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