ARBORICULTURAL IMPACT ASSESSMENT

(INC. TREE SURVEY TO BS 5837:2012)

CLIENT -	Dejo Abolade
PROJECT -	1 Alison Close
DOC. REF -	P2379–AIA01 V1
PLANNING REF -	n/a
CREATION DATE -	09/05/2022

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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	P2379-AIA01	V1	09/05/2022
Arb. Site Plan (Existing)	P2379-ASP01	V1	28/04/2022
Arb. Site Plan (Proposed)	P2379-ASP02	V1	28/04/2022

1. SUMMARY

1.1 PROPOSED DEVELOPMENT

1.1.1 Demolition of existing garage and the erection of a new single storey outbuilding.

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: 5 individual trees , and 2 groups of trees .

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 New tree plantings are not 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/groups to be removed (* groups to have sections removed)	-	-	-	-
Hedges/shrubs to be removed (* hedges to have sections removed)	-	-	-	-
Trees/groups/hedges to be pruned	-	-	G1	-
Trees to be subjected to RPA incursions (excl. no-dig techniques)	-	-	-	-

Trees to be protected through arboricultural measures / supervision (other than barriers and ground protection)	-	T2, T4	G1
Trees requiring specialist design considerations (for purposes of minimising arboricultural impact)	-	T2, T4	G1

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 **low**.

2 GENERAL INFORMATION

2.1 BRIEF

2.1.1 Ligna Consultancy Ltd were instructed by the client, Dejo Abolade, to undertake a tree survey in accordance with BS 5837:2012 and to prepare an arboricultural impact assessment for the proposed scheme at 1 Alison Close.

2.2 PROPOSED DEVELOPMENT

2.2.1 Demolition of existing garage and the erection of a new single storey outbuilding.

2.3 SITE

2.3.1 The site discussed within this report is located at:

1 Alison Close
Pinner
HA5 2QZ

2.4 PROJECT CONTACT

Role	Name	Telephone	Email
Arboricultural Consultant	Jennifer Sinclair	01284 598008	jennifer@lignaconsultancy.co.uk

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) (P2379-ASP01 V1)
- Arboricultural Site Plan (Proposed) (P2379-ASP02 V1)

2.6 DOCUMENTS PROVIDED

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

- Existing Site Plan (2021-0106 – P04)
- Proposed Site Plan (2021-0106 – P04)

2.7 AUTHOR

2.7.1 Jennifer Sinclair is a technician 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 Benjamin Hallinan 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 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 *(BS 5837:2012 - Trees in relation to design, demolition and construction – Recommendations)*
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

2.12.1 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	n/a
Impact Appraisal & Mitigation	No trees are to be removed as part of the proposed scheme.
Significance (with mitigation)	n/a

3.2 TREES TO BE PRUNED AS PART OF THE PROPOSED SCHEME

Affected Trees	Cat. C: - G1 (*Cupressus x leylandii*)
Pruning works	As part of the proposed scheme G1 will require part of its eastern crown being reduced by 1m back to stems so as to facilitate the construction of the proposed outbuilding.
Significance (with mitigation)	Negligible

3.3 REMOVAL OF EXISTING HARD SURFACING

Affected Trees	Cat. B: - T2, T4 (*Fraxinus excelsior*) Cat. C: - T3 (*Prunus laurocerasus*), G1 (*Cupressus x leylandii*)
Impact Appraisal & Mitigation	As part of the proposed scheme an existing area of hard surfacing is to be removed from within the RPAs of T2, T3, T4 and G1. This has the potential to cause damage to the trees and their rooting areas if done incorrectly. Therefore, to ensure damage is not caused the surfacing must be removed in an arboriculturally sensitive manner. <u>This must include:</u> *i) Any machinery required must operate externally to any RPA or from existing hard surfacing or temporary ground protection matting.* *ii) The surfacing should be broken up into manageable pieces.* *iii) The surfacing should then be carefully scraped backwards away from the RPA.*

	iv) Once the native layer of soil is reached all excavations in that area must halt. *v)* *vi) Should any roots be exposed they will require covering with a layer of topsoil within 72 hours. Once the RPA has been exposed it must be cordoned off to any pedestrian or vehicular access for the implementation of the project.*
Significance ***(with mitigation)***	Negligible

3.4 INSTALLATION OF SPECIALIST PILE FOUNDATIONS

Affected Trees	Cat. B: - T2, T4 (*Fraxinus excelsior*) Cat. C: - G1 (*Cupressus x leylandii)*
Impact Appraisal & Mitigation	The excavation and installation of the outbuilding's foundations has the potential to result in significant root loss and disturbance if traditional construction methods are used. *Owing to the size of the potential incursion, specialist low impact foundations will need to be used when within an RPA so as to minimise root damage. To achieve this screw or micro piles and a raised slab foundation must be used.* *The floor of the building must not require excavations for releveling or for the installation of heave protection and must therefore comprise of a raised concrete slab or raised beams. Where a raised slab floor is used, the underlying void can be formed by the installation of a Dufaylite clayboard (or similar) beneath the slab's shuttering. This can then be dissolved with water after casting leaving an air gap.* *During the installation of the foundations, nearby trees are vulnerable to indirect damage. This includes:* *- Soil compaction damage to tree roots and crown damage resulting from machinery (piling rig / excavators). To prevent this from occurring, ground protection matting must be used and machinery must at no point operate from within an unprotected RPA. In addition to this, where a piling rig is to be used, this must not require the installation of a traditional piling mat. Instead, temporary ground protection matting or another no-dig solution must be used (and be approved by the project's Arboricultural Clerk or Works). The size of machinery should consider the available canopy clearance if working beneath the crown of a tree.* *- Where concrete piles are to be installed, the pouring of the concrete has the potential to result in the poisoning of nearby tree roots (uncured cement is toxic to plants). To prevent the poisoning of surrounding tree roots, an impermeable membrane must first be laid within any excavations within the RPA of a retained tree prior to the*

	pouring of concrete. Assuming the above methodology is used, any lasting impact on the overall health and condition of the trees is believed to be negligible
Significance *(with mitigation)*	Negligible

3.5 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)*	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 outbuilding; 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 T2, T4 to protect them from soil compaction damage during the construction of the proposed scheme.

3.7.3 Stem Protection

3.7.3.1 Stem protection will be required to protect the stem of T5 during the construction of the proposed scheme.

3.7.3.2 The protection should consist of a freestanding wooden clad frame with drainage pipe wrapped around the trunk.

3.7.4 Arboriculturally Sensitive Removal of Surfacing

3.7.4.1 Any machinery involved in the removal of the surfacing from within the RPA must be situated atop intact existing surfacing, atop ground protection matting, or externally from all RPAs.

3.7.4.2 During the removal of the surfacing, no excavation of the underlying soil is to be permitted (no excavation beneath subbase).

3.7.4.3 Any roots that are exposed during the removal of the surfacing must be covered with topsoil within 48 hours.

3.7.4.4 The exposed RPA's must be cordoned off using tree protection barriers or metal stake and plastic mesh barriers. Any access within the cordoned off area must be preapproved by the Arboricultural Clerk of Works.

3.7.5 Arboricultural Supervision

3.7.5.1 Where buildings works are to be undertaken within an RPA they require supervision by the scheme's arboriculturalist.

3.8 TECHNICAL DESIGN CONSIDERATIONS

3.8.1 Installation of Specialist Building Foundations

3.8.1.1 To minimise any impact on the roots of nearby trees, specialist low impact foundations must be used when within an RPA. Suitable options include sleaved micro piles or screw piles.

3.8.1.2 The floor of the building must utilise a raised concrete slab or raised beams so as to avoid the need for excavation/regrading. To achieve a raised slab, the underlying void can be formed by the installation of a Dufaylite clayboard (or similar). This can then be dissolved with water after casting leaving an air gap.

3.8.1.3 Where concrete piles or pad foundations are to be installed, the pouring of the concrete has the potential to result in the poisoning of nearby tree roots (uncured cement is toxic to plants). To prevent the poisoning of surrounding tree roots, an impermeable membrane must first be laid within any excavations within the RPA of a retained tree prior to the pouring of concrete.

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.

3.9 PROVISION OF NEW TREE PLANTINGS

3.9.1 New tree plantings are not considered to be necessary as part of the proposed scheme.

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)	-	-	-	-
Hedges/shrubs to be removed (* hedges to have sections removed)	-	-	-	-
Trees/groups/hedges to be pruned	-	-	G1	-
Trees to be subjected to RPA incursions (excl. no-dig techniques)	-	-	-	-
Trees to be protected through arboricultural measures / supervision (other than barriers and ground protection)	-	T2, T4	G1	
Trees requiring specialist design considerations (for purposes of minimising arboricultural impact)	-	T2, T4	G1	

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 **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) (P2379-ASP01)
4	Arboricultural Site Plan (Proposed) (P2379-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 27/04/2022.

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: • Young • Semi-mature • Early-Mature • Mature • Late-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) The following woody vegetation was considered to be of note in relation to any development of the site: 5 individual trees, and 2 groups of trees.

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	-	2	3	-
Groups	-	-	2	-
Woodland Groups	-	-	-	-
Hedges	-	-	-	-
Shrubs	-	-	-	-

Table 1 - Table showing category distribution within site.

	Life Stage						
	Young	Semi-Mature	Early-Mature	Mature	Over-Mature	Veteran	Dead
Individual Trees	-	1	-	4	-	-	-
Groups	-	-	2	-	-	-	-
Woodland Groups	-	-	-	-	-	-	-
Hedges	-	-	-	-	-	-	-
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^2)	Cat.
T1		Chamaecyparis Lawsoniana (Lawson cypress)	8	2.5 / 2 / 0.5 / 2	1.8	260	Mature	Good	Good					Good	3.1	30.6	C1
T2		Fraxinus excelsior (Ash)	15.5	3.5 / 5.5 / 4.5 / 3	6	310	Mature	Good	Good	Estimated northern crown as it overhangs neighbouring garden and estimated stem diameter due to dense ivy engulfing stem obscuring survey.	Sever and remove 1m section of ivy from base of tree.	Optional		Moderate	3.7	43.5	B1
T3		Prunus laurocerasus (Laurel)	9.5	3 / 3 / 3 / 3		269	Mature	Good	Good	Estimated dimensions used as tree located on adjacent site with overhanging branches.				Good	3.2	32.8	C1
T4		Fraxinus excelsior (Ash)	13.5	7.5 / 5.5 / 5.5 / 3	4	622	Mature	Good	Good	Estimated western crown as it overhangs neighbouring garden. Estimated stem diameter due to stem being engulfed in ivy obscuring survey.	Sever and remove 1m section of ivy from base of tree.	Optional		Moderate	7.5	175.0	B1
T5		Date palm (Phoenix dactylifera)	3.5	1.5 / 1.5 / 1.5 / 1.5		150	Semi-Mature	Good	Good					-	1.8	10.2	C3
G1		Cupressus x leylandii (Leylandii)	6	1.25 / 1.25 / 1.25 / 1.25		100	Early-Mature	Good	Good	Line of trees along boundary acting as screening for property.			Reduce eastern cronw by upto 1m in the area of the proposed outbuilding.	Good	1.2	4.5	C1
G2		Mixed group	2	1.5 / 1.5 / 1.5 / 1.5		30	Early-Mature	Good	Good	Group of well maintained shrubs.				-	0.4	0.4	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 eastwards at the garage to be demolished as part of the proposed scheme.

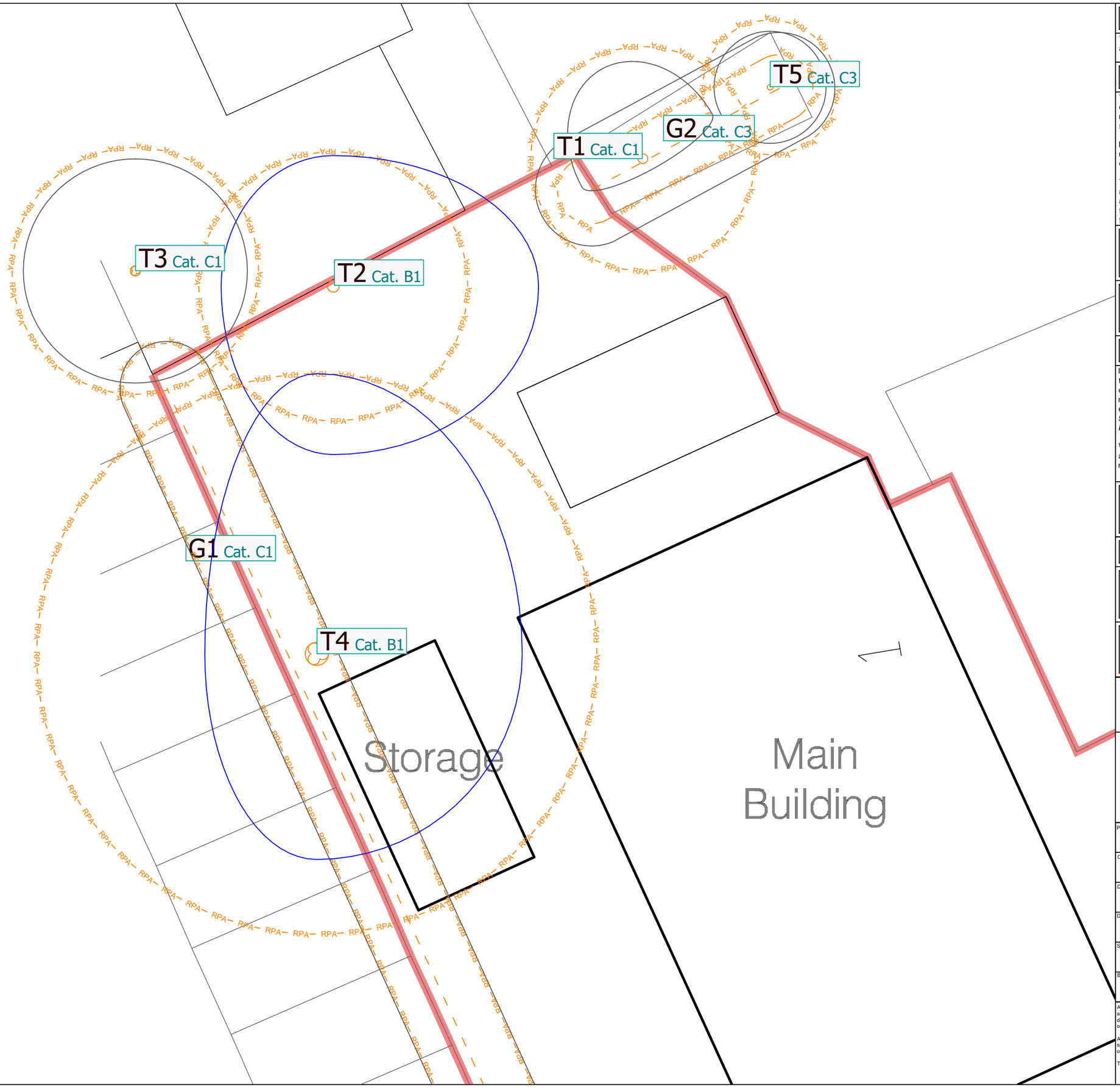
APPENDIX 2 – SITE PHOTOGRAPHS

Figure 2 – Looking westwards at the area for the proposed development.

APPENDIX 2 – SITE PHOTOGRAPHS

Figure 3 – Looking westwards at the existing driveway and garage.

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.

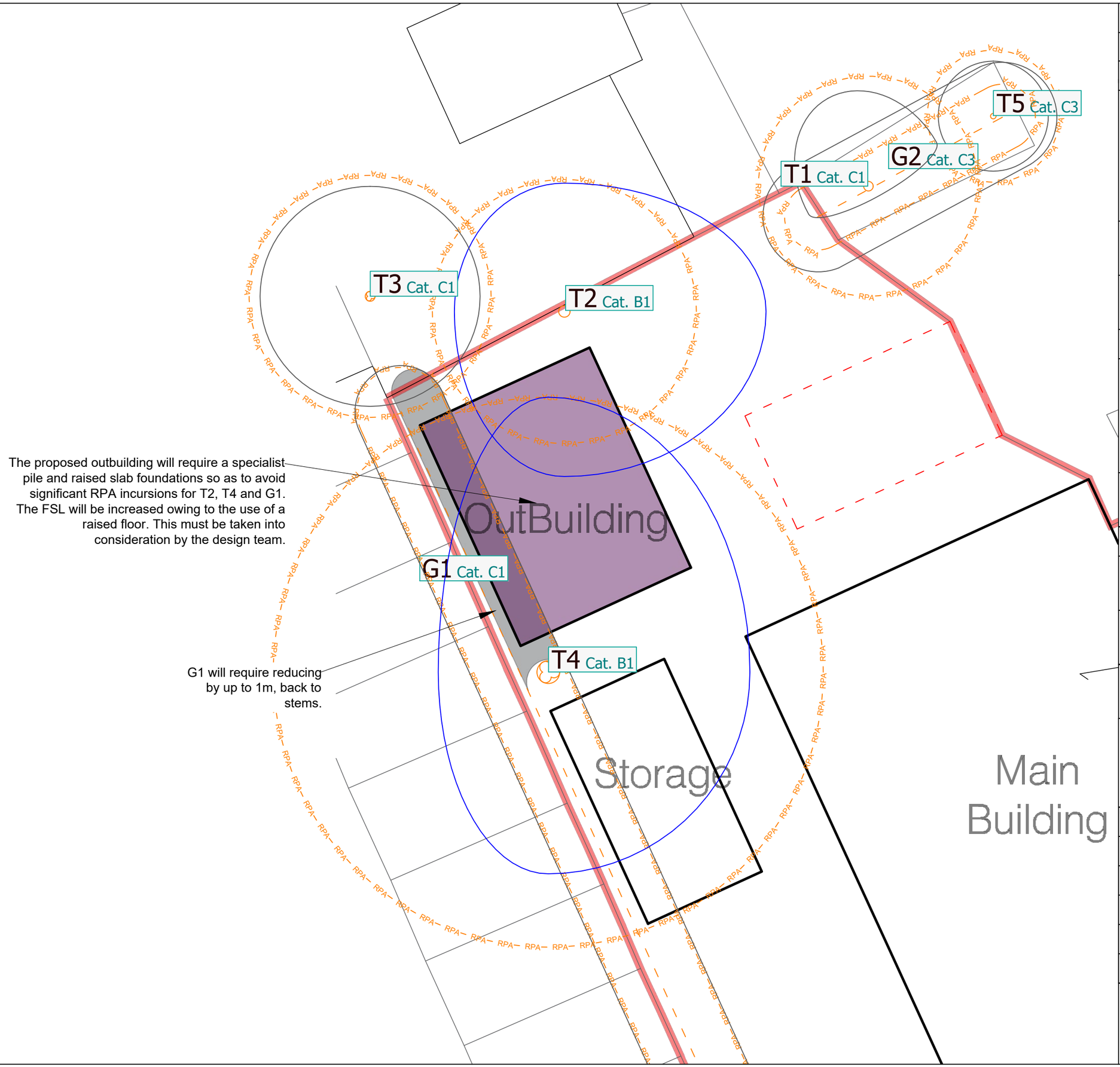
Further Object Key

	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:	1 Alison Close	
Client:	Dejo Abolade	
Drawing:	Arboricultural Site Plan (Existing)	
Drawing Ref: P2379-ASP01	Rev: V1	Date: 28/04/2022
Scale: 1:100 - A3		Drawn By: J. Sinclair
Based on: OS Map		

APPENDIX 4
ARB. SITE PLAN (PROPOSED)



The proposed outbuilding will require a specialist pile and raised slab foundations so as to avoid significant RPA incursions for T2, T4 and G1. The FSL will be increased owing to the use of a raised floor. This must be taken into consideration by the design team.

G1 will require reducing by up to 1m, back to stems.

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: 1 Alison Close		
Client: Dejo Abolade		
Drawing: Arboricultural Site Plan (Proposed)		
Drawing Ref: P2379-ASP02	Rev: V1	Date: 28/04/2022
Scale: 1:100 - A3		Drawn By: J. Sinclair
Based on: Proposed Site Plan (2021-0106 - P04)		

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