

ARBORICULTURAL IMPACT ASSESSMENT

CLIENT - Cassion Castle Architects
PROJECT - 11 Wolseley Road
DOC. REF - P1284-AIA01 V3
PLANNING REF - n/a
DATE OF ISSUE - 24/07/2020

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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	P1284-AIA01		X	X	X				
Arb. Site Plan (Existing)	P1284-ASP01		X	-	X				
Arb. Site Plan (Proposed)	P1284-ASP02		X	-	X				

1. SUMMARY

1.1 PROPOSED DEVELOPMENT

1.1.1 Demolition of existing structure and erection of 1x new dwelling.

1.2 TREE SURVEY

1.2.1 10 individual trees and 1 group 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 3.5*.

1.4 TECHNICAL DESIGN CONSIDERATIONS

1.4.1 The design team must consider and implement the design advice provided in *Section 3.6* of this document.

1.5 OPPORTUNITIES FOR NEW TREE PLANTING

1.5.1 2x new tree plantings are to be included within a 1.3m deep planting pit adjacent to the proposed dwelling.

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 (See Appendix 1 For Methodology)			
	A	B	C	U
Trees to be removed	-	-	T1, T2, T3, T5, T6, G1	T4, T7
Trees to be subjected to RPA incursions (excl. no-dig techniques)	-	T10	-	

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 acceptable.

2 GENERAL INFORMATION

2.1 BRIEF

- 2.1.1 Ligna Consultancy Ltd were instructed by the client, Cassion Castle Architects, to undertake a tree survey in accordance with BS 5837:2012 and to prepare an arboricultural impact assessment for the proposed scheme at 11 Wolseley Road.

2.2 PROPOSED DEVELOPMENT

- 2.2.1 Demolition of existing structure and erection of 1x new dwelling.

2.3 SITE

- 2.3.1 The site discussed within this report is located at:

11 Wolseley Road
London

2.4 PROJECT CONTACTS

Role	Name	Telephone	Email
Arboricultural Consultant	Ligna Consultancy Ltd	01284 598008	benjamin@lignaconsultancy.co.uk
Client	Cassion Castle Architects	-	-

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) (P1284-ASP01 V3)
 - Arboricultural Site Plan (Proposed) (P1284-ASP02 V3)

2.6 DOCUMENTS PROVIDED

- 2.6.1 The following documents were submitted to Ligna Consultancy Ltd for consideration:
- Existing Site Plan / Topographical Survey
 - Proposed Site Plan

2.7 AUTHOR

- 2.7.1 Benjamin Hallinan is a professional member of the Arboricultural Association. He has worked in arboriculture for over nine years, including management and supervisory roles undertaking both domestic and commercial arboricultural work. He possesses a FdSc in arboriculture, LANTRA Professional Tree Inspection training, and has also received advanced training in tree related subsidence and BS 5837. 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 COPYRIGHT

- 2.9.1 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

<i>Affected Trees</i>	T1, T2, T3, T5, T6, G1 (Cat C), T4, T7 (Cat. U)
<i>Impact Appraisal</i>	T1, T2, T3, T5, T6 are a selection of small trees and large shrubs of low arboricultural and amenity value which will require removal in order to facilitate the layout of the proposed scheme. G1 (Cat C) is a large leylandii hedge that has previously been topped and since the site survey has recently been heavily reduced. The hedge is considered to have exceeded its safe useful life expectancy and will be removed as part of the proposed scheme. Owing to its status as an urban hedge the removal is considered acceptable without the need for mitigation. T4 and T7 (Cat. U) are trees of poor condition and lack any significant future potential, and as such will be removed.
<i>Mitigation</i>	i) New small tree and shrub plantings shall be included within the landscaping of the site, to ensure a continued contribution to the 'urban greening' of the area.
<i>Significance</i>	Acceptable

3.2 POSITIONING AND CONSTRUCTION OF PROPOSED STRUCTURE

<i>Affected Trees</i>	T10 (Cat. B)
<i>Impact Appraisal</i>	T10 will be subjected to a minor 4.5% RPA incursion as a result of the layout of the proposed building. Owing to the small size of the incursion, and the good tolerance of eucalyptus to root loss and disturbance, any associated impact on its overall health and condition is considered to be negligible. Furthermore, owing to the distance of the tree from the incursion area, no significant woody roots are likely to be encountered, as such, supervision during the excavation within the RPA is not considered necessary.
<i>Mitigation</i>	n/a
<i>Significance</i>	Negligible

3.3 IMPLEMENTATION OF THE PROPOSED SCHEME

Affected Trees T10 (Cat. B), T8, T9 (Cat. C)

<i>Impact Appraisal</i>	The site's retained trees are susceptible to damage from general demolition and construction related activities.
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<i>Mitigation</i>	i) Tree protection barriers shall be erected, and a construction exclusion zone established.
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<i>Significance</i>	Negligible
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TREE RELATED SHADING AND NUISANCES

3.4 LONG-TERM IMPACT OF RETAINED TREES ON PROPOSED SCHEME

3.4.1 Shading

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

3.4.2 Canopy Growth

3.4.2.1 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.

3.4.3 Nuisances

3.4.3.1 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:

3.5 PROTECTIVE MEASURES

3.5.1 Tree Protection Barriers

3.5.1.1 Barriers shall be erected, and a construction exclusion zone established, to protect T8-T10 during the implementation of the

proposed scheme.

3.6 TECHNICAL DESIGN CONSIDERATIONS

3.6.1 Routing and Installation of Utility Apparatus

- 3.6.1.1 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.
- 3.6.1.2 Where it is necessary for underground services to intersect an RPA, specialist excavation methods should be used.
- 3.6.1.3 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.

3.6.2 Foundation Design

- 3.6.2.1 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.

3.7 OPPORTUNITIES FOR NEW TREE PLANTING

- 3.7.1 2x new tree plantings are to be included within a 1.3m deep planting pit adjacent to the proposed dwelling.
 - 3.7.1.1 These will consist of 2x *Betula albosinensis* 'Fascination', and will be 3.5-4m tall at the time of planting.
 - 3.7.1.2 The full planting pit specifications will be finalized at a later date.

CONCLUSION

3.8 SUMMARY OF THE DEVELOPMENT'S OVERALL IMPACT

- 3.8.1 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	-	-	T1, T2, T3, T5, T6, G1	T4, T7
Trees to be subjected to RPA incursions (excl. no-dig techniques)	-	T10	-	

- 3.8.2 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 acceptable.

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) (P1284-ASP01)
4	Arboricultural Site Plan (Proposed) (P1284-ASP02)

APPENDIX 1 TREE SURVEY

APPENDIX 1 – TREE SURVEY

A1.1 SITE VISIT

- i) A site visit was undertaken by Benjamin Hallinan of Ligna Consultancy, on the 20/01/2020.

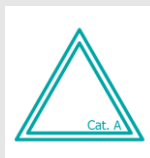
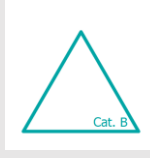
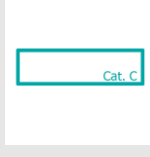
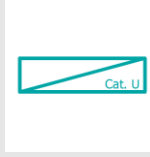
4.2 METHOD OF DATA COLLECTION

- 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. Measurements were taken using a diameter tape.
- 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.

A1.2 SURVEY KEY

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)
DBH	Diameter of a trees' stem, measured as per BS 5837:2012
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 impact	Aspects of the proposed scheme that may result in a direct impact to the tree
Impact Magnitude	The scale/extent of any development related impact
Tolerance	The relative tolerance the species can show to construction related activities (root-loss/compaction)
Impact Significance	The significance that a development impact will likely have on a tree. This considers the nature and magnitude of the impact, assuming the implementation of the recommended arboricultural protective/mitigation measures, in relation to the trees' susceptibility to any resultant damage.
Cat.	Categorisation of the tree's value based on the methodology shown in A1.4

A1.3 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).	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)	
Category B Trees of moderate quality, capable of providing a contribution to local amenity, but 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	
Trees worthy of material consideration:				
Category C Trees of a low quality, small size, or incapability to be protected within the legal framework.	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	
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			

A1.4 SUMMARY OF DATA

- i) 10 individual trees and 1 group 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	7	2
Groups	-	-	1	-

Table 1 - Table showing category distribution within site.

	Life Stage						
	Newly Planted	Young	Semi-Mature	Mature	Over-Mature	Veteran	Dead
Individual Trees	-	1	5	3	1	-	-
Groups	-	-	-	1	-	-	-

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

Ref.	Species	Height (m)	DBH (mm)	Life Stage	Structural	Vitality	Additional Notes	General Management Recommendations	Priority	Tree Works	Tolerance	RPA Radius (m)	RPA Area (m ²)	Cat.
T1	Prunus laurocerasus (Laurel)	8	266	Mature	Good	Good	Large tree-like shrub.		n/a	Remove	Good	3.2	32.1	C1
T2	Magnolia grandiflora (Magnolia)	7	150	Semi-Mature	Good	Good			n/a	Remove	Moderate	1.8	10.2	C1
T3	Prunus laurocerasus (Laurel)	8	256	Mature	Good	Good	Large tree-like shrub		n/a	Remove	Good	3.1	29.7	C1
T4	Prunus laurocerasus (Laurel)	6	113	Young	Fair	Dead/dying	Heavily overshadowed. Notable dieback.		n/a	Remove	Good	1.4	5.8	U
T5	Ilex spp. (Holly)	8	160	Semi-Mature	Good	Good			n/a	Remove	Good	1.9	11.6	C1
T6	Prunus laurocerasus (Laurel)	6	110	Semi-Mature	Good	Good	Large tree-like shrub		n/a	Remove	Good	1.3	5.5	C1
T7	Pyrus communis (Common pear)	6.5	290	Over-Mature	Poor	Poor	Declining crown, decay and cavities at base. Tree lacks significant future potential.		n/a	Remove	Moderate	3.5	38.0	U
T8	Magnolia grandiflora (Magnolia)	6.5	140	Semi-Mature	Good	Good			n/a		Moderate	1.7	8.9	C1
T9	Ilex spp. (Holly)	6	184	Semi-Mature	Good	Good			n/a		Good	2.2	15.4	C1
T10	Eucalyptus spp. (Eucalyptus)	24	570	Mature	Good	Good	Tree crown recently heavily reduced.		n/a		Moderate	6.8	147.0	B1
G1	Mixed conifer	8	Varies	Mature	Good	Good	Overgrown urban hedge, recently heavily topped. Tree considered to lack significant remaining safe useful life expectancy. HEAVILY REDUCED SINCE SURVEY.		n/a	Remove	Good	Varies	Varies	C3

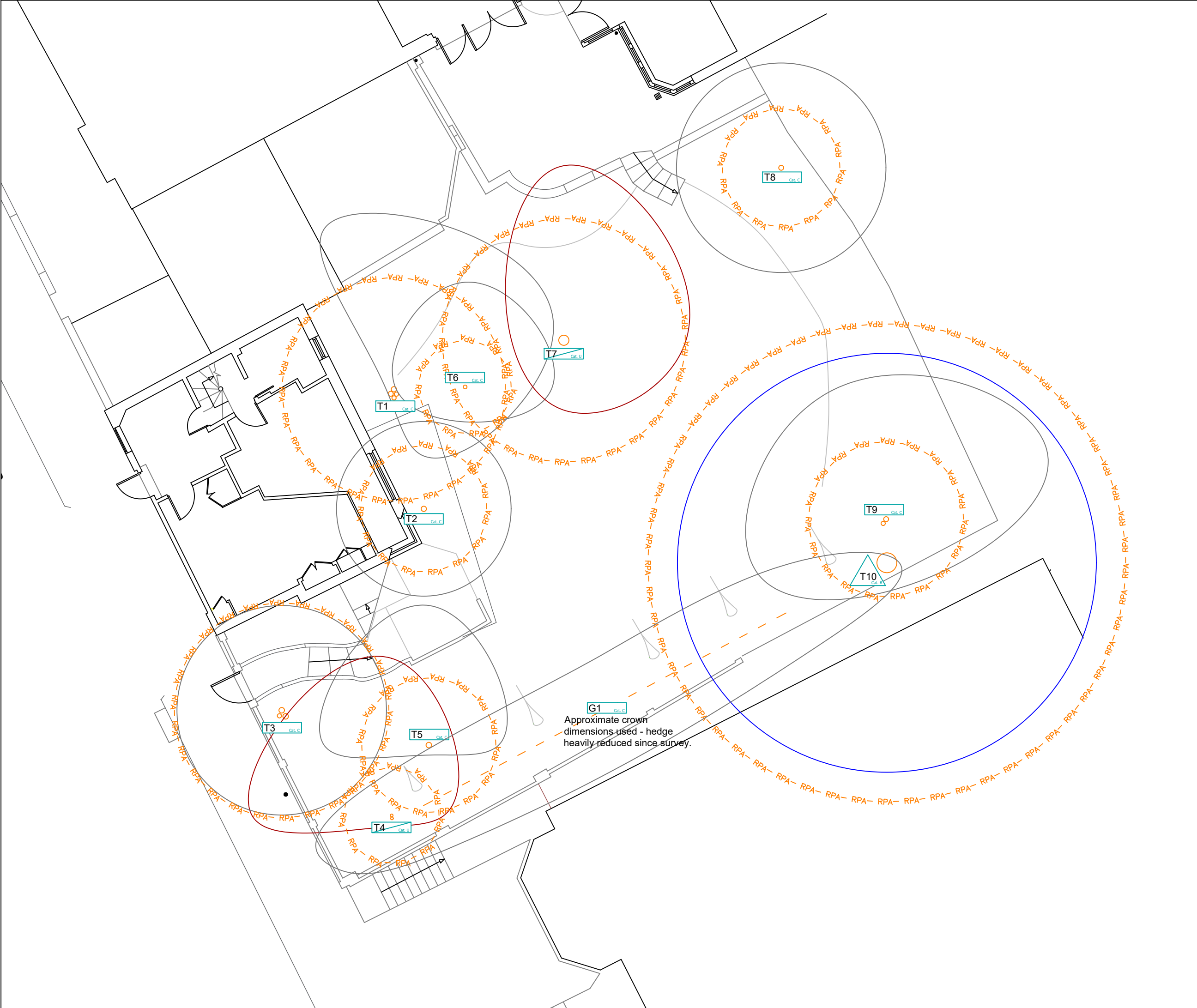
APPENDIX 2 SITE PHOTOGRAPHS





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 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. Using this identification number, further information for each tree/group can be found within the survey schedule of the Arboricultural Report.

Category A : High or exceptional arboricultural, landscape or ecological value. (Worthy of being a material constraint.)

Category B : Moderate arboricultural, landscape or ecological value. (Worthy of being a material constraint.)

Category C : Low quality or small in size. (Not worthy of being a material constraint.)

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 minimum tree 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.

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 Canopy: Spread of tree canopy. Line colour represents category designation. (Green = Cat A) (Blue = Cat B) (Grey = Cat C) (Red = Cat U)

Tree Removal: Trees designated for removal will comprise of a dashed canopy outline & red category label)

Tree Stem: Diameter of stem at ~1.5m

Facilitation Tree Works: Trees requiring facilitative tree works as part of the proposed scheme

Site Boundary: Extent of site boundary (illustrative only)

Project:

11 Wolseley Road

Client:

Cassion Castle Architects

Drawing:

Arboreal Site Plan (Existing)

Drawing Ref:

P1284-ASP01

Rev:

V3

Date:

23/07/2020

Scale:

1:100 - A3

Drawn By:

A. Beighton

Based on:

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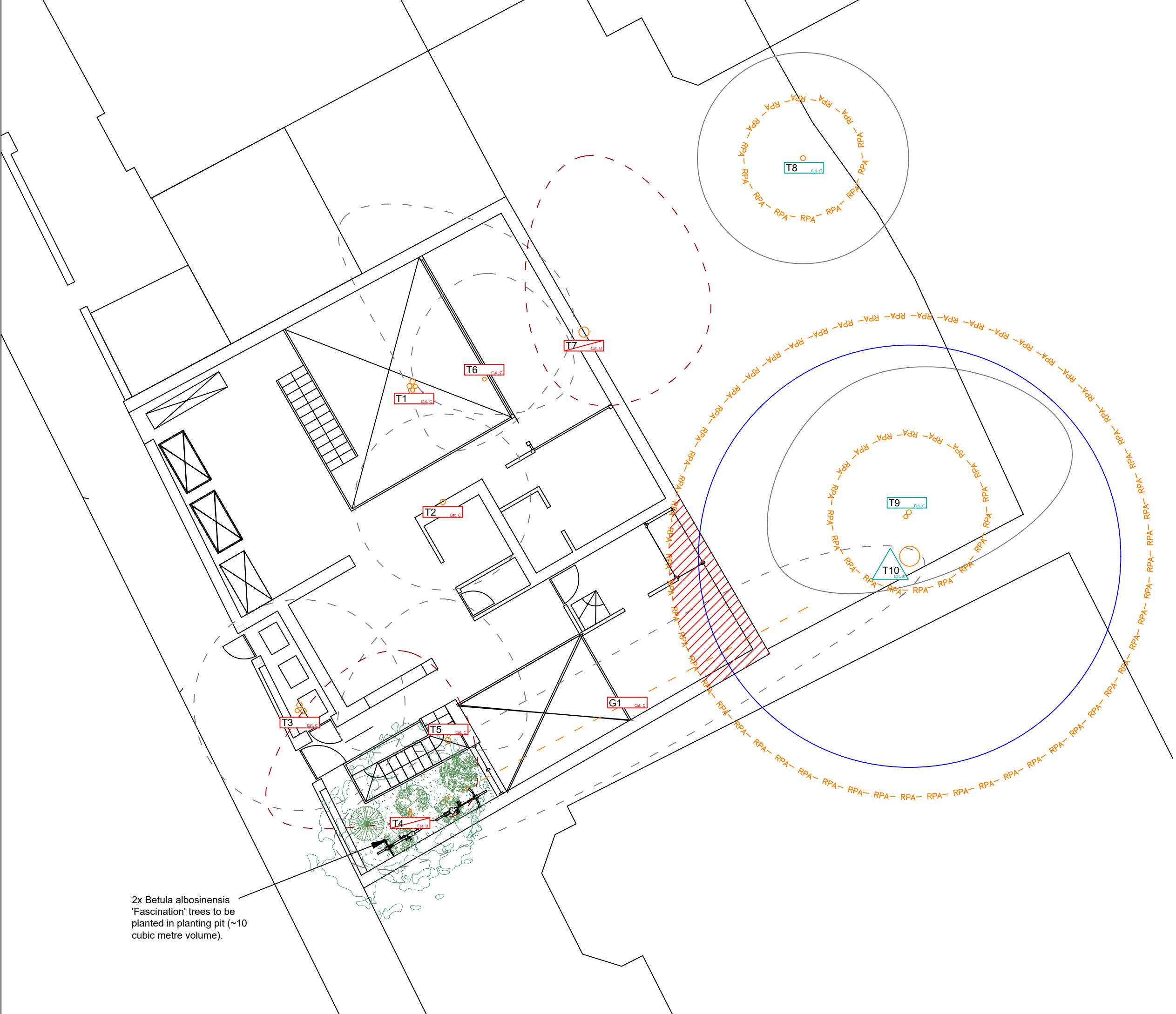
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APPENDIX 4

ARB. SITE PLAN (PROPOSED)



Use of This Document

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Tree Categorisation & Numbering

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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. Using this identification number, further information for each tree/group can be found within the survey schedule of the Arboricultural Report.

Category A : High or exceptional arboricultural, landscape or ecological value. (Worthy of being a material constraint.)

Category B : Moderate arboricultural, landscape or ecological value. (Worthy of being a material constraint.)

Category C : Low quality or small in size. (Not worthy of being a material constraint.)

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Root Protection Areas

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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.

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 Canopy: Spread of tree canopy. Line colour represents category designation. (Green = Cat A) (Blue = Cat B) (Grey = Cat C) (Red = Cat U)

Tree Removal: Trees designated for removal will comprise of a dashed canopy outline & red category label)

Tree Stem: Diameter of stem at ~1.5m

Facilitation Tree Works: Trees requiring facilitative tree works as part of the proposed scheme

Site Boundary: Extent of site boundary (illustrative only)

Project:

11 Wolseley Road

Client:

Cassion Castle Architects

Drawing:

Arboricultural Site Plan (Proposed)

Drawing Ref:

P1284-ASP02

Rev:

V3

Date:

23/07/2020

Scale:

1:100 - A3

Drawn By:

A. Beighton

Based on:

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