



**Arboricultural Impact Assessment & Method Statement in accordance
with BS5837:2012 '*Trees in relation to design, demolition and
construction – Recommendations*'**

Project name:	The Steddles, North End Road, Yapton.		
Project Ref:	2382 Rev-01	Date of report:	7 October 21
Written by:	Owen Allpress <i>Bsc (Hons) Arb</i> Working in the Arboricultural sector for over a decade I have achieved both an FdSc and a BSc (Hons) in arboriculture, am a LANTRA certified Professional Tree Inspector and a professional member of the Arboricultural Association. Starting out working as an arborist, I progressed into a management role running a large and successful tree surgery. I later took a consultant position within a large and established consultancy in the south east before becoming an independent consultant.		
Record of amendments:	- Initial version issued 15/12/19 (ref 1892) - Report update, new layout. Tree impacts re-assessed. 06/10/2021 - Minor amendments to content. 07/10/2021		

Local Authority Validation Summary

This arboricultural report contains supporting information and details regarding The Steddles and the proposal to re develop the site for a number of residential properties including associated access surfaces and vehicle storage.

To assist local authority (LA) verification this survey contains the following information:

- A complete Initial Tree Survey in compliance with *BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations*, carried out by a qualified arboricultural consultant.
- Scale plans with north indicated, detailing tree positions and tree categorisation.
- Implications for trees from the proposed development have been explored including trees retained and/or removed to facilitate the proposal.
- Arboricultural method statement for use on site. Describing a feasible means of executing the proposal including methods implemented to reduce the impact to retained trees.

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1.0 Introduction

1.1 Instruction: I have been instructed by Pallant Homes Ltd to provide an Arboricultural Impact Assessment and Method Statement as part of the proposed development at the site. The proposal is to develop the site for a number of residential property, including the creation of a formal road junction and associated surfaces to access the site.

1.2 The purpose of this report is as an Arboricultural Survey, Impact Assessment and Method Statement describing existing trees, their value and any constraint they pose to the presented development proposals. This report is compiled in accordance with guidance set out within BS5837: 2012 *'Trees in relation to design, demolition and construction – Recommendations'*

1.3 This survey is not a tree safety survey. Individual trees were assessed according to BS5837:2012 and not to ascertain detailed information relating to their condition or the risk they may pose to users of the site. This report may not be presented for that purpose in any way. If tree condition is a concern or insurers require this information a separate assessment should be undertaken.

1.4 Report contents: The following contents are included to provide a comprehensive assessment of the trees, their value and the constraint they may present to the proposed development.

- **A Tree Constraints Plan** – A location plan detailing the trees recorded at the site as it is at the time of survey.
- **A Tree Retention & Protection Plan** – A plan detailing retained trees and any protection measures required to allow the proposal to be completed with reduced risk of impact to trees at the site.
- **An Initial Tree Survey** – a written summary of the initial survey, site description and methodologies employed.
- **An Arboricultural Impact Assessment** – an assessment of the impact presented by the proposed development activities on trees.
- **Arboricultural Method Statement:** A method statement outlining working methodologies to achieve the proposed construction whilst minimising impact to trees at or adjacent to the site.
- A series of appendices including supporting documents.

1.5 Supporting documentation: The following documents were supplied prior to and in support of this assessment.

- Existing site layout
- Proposed site layout

2.0 Initial Tree Survey

2.1 Site survey: A site survey was conducted on 15th November 2019. The weather conditions at the time of the survey were dry and bright. Visibility was not impeded by weather conditions and a full visual assessment of each tree, recording the required information, was carried out.

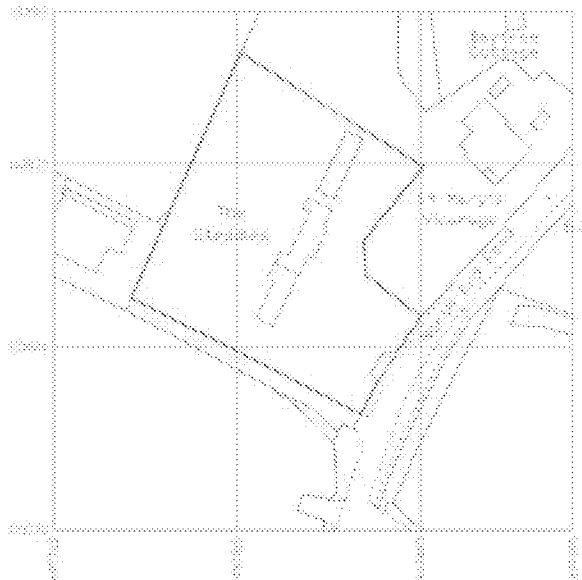


Image 1: Existing site layout image and survey boundary marked in red.

2.2 Site description and layout: The Steddles is the location of a single existing dwelling including recently constructed timber garage. Existing surfaces are present at the site along with historic foundations remnant from the sites previous use as a small nursery. The boundary wall to the west is of brick and flint construction with an unknown foundation depth. A number of trees are recorded as part of this report, the wider majority of these that are within the site are low in quality and typical of those found in a residential garden. Further information regarding trees recorded at the site can be found in the survey sheets located in appendix 2.

2.3 Statutory protection: Arun District Councils online mapping service was accessed on the 7th December 2019 to ascertain if the site was home to any Tree Preservation Orders. At the time of this check it is evident that there are no TPO within or adjacent to the site. Tree works recommended within this report may be carried out where this report forms part of full planning condition without condition. The client and contractor remain responsible for ensuring appropriate checks are made to carry out tree works not considered within this report or if seeking to execute recommended tree works outside of full planning permission. Status of trees was re-checked on 6th October 2021 as part of this update looking at online data only, no new TPOs appear to have been made that affect the site.

2.4 Tree survey methodology: The initial survey recorded information about trees at and adjacent to the site that were deemed to be relevant to the scope of the report. Third party trees are recorded where they are in such proximity that their root structure or canopy above ground may be impacted by development proposals.

2.5 Limitations: The survey was restricted to a visual assessment carried out from ground level. No aerial inspection, ground disturbance or invasive methods were implemented. All tree positions are approximate as no detailed topographical study was supplied prior to this report.

2.6 Data recorded: Trees at the site have been assessed and data recorded in accordance with the requirements set out within BS5837: 2012. The following data was collected from each tree while at the site.

- REF: This is a sequential tree reference number beginning with a letter to define individual trees (T), tree groups (G), hedges (H) and woodlands (W). It is used to locate and refer to trees throughout the remainder of this report including subsequent reports at the same site.
- SPECIES: Tree species are recorded in the following format, "Common name, (*Scientific name*)". Scientific names are italicised and placed within parenthesis.
- HEIGHT: Tree height recorded to the nearest meter.
- DBH: Diameter at Breast Height, recorded at the appropriate location along the stem dependent on tree form, (usually 1.5m from ground level however this will vary depending on the form of the tree).
- CROWN SPREAD: Crown spread of the tree recorded to the nearest meter using four cardinal points as a reference.



- **CLEARANCE:** Clearance of the crown foliage and first significant limb including orientation using one of the four cardinal points as a reference.
- **AGE CLASS:** Age classification. This is a broad description used to detail approximate age. Age class is specific to tree species and their individual growth habit ranging from juvenile, semi-mature, mature and over-mature. The classifications 'veteran' and 'dead' are also used where relevant.
- **CONDITION SUMMARY:** Details of the trees overall condition in order to qualify its classification.
- **PRELIMINARY MANAGEMENT ACTION:** Management recommendations that are recommended to be carried out regardless of the development proposal. These are based on current site use and setting and may include trees with obvious defects that should be addressed regardless of the future of the site.
- **CATEGORY GRADING:** Category grading according BS5837: 2012 (see appendix 4).
- **ROOT PROTECTION AREA (RPA):** This measurement may be useful for designers to plot RPAs during early stages of the proposal's design or at a later stage to ascertain the dimensions of the root protection area for each tree prior to construction, (see appendix 5).

2.7 A root protection area in the context of this report is, as defined in BS5837:2012, the area calculated to be the optimum minimum rooting area required by the tree in order to remain viable. This area does not necessarily contain roots however should be thought of as an allotment of space to permit future growth to sustain the tree beyond any construction works. Each trees diameter is measured and applied to the formula found in appendix 4.

2.8 Root protection areas, (RPA) for each tree are recorded and illustrated, (colour coded for tree categorisation) within the Tree Protection Plan within appendix 1.

2.9 Following the Initial Tree Survey, an Arboricultural Impact Assessment has been carried out and is included in latter sections of this report. This is done in order to assess the physical impact of construction along with recommending the necessary protective measures to be applied to trees during construction.

3.0 Arboricultural Impact Assessment

3.1 The proposal: The site is proposed to become the location of a number of new residential property. The site as it stands, although planted, does not contain any high value or significant trees in an arboricultural sense. The site however does border adjacent properties which are home to a number of larger trees, the dimensions and RPAs of these are illustrative as no access was made to measure directly.

3.2 Trees to be removed: A number of trees are proposed for removal as part of the illustrated design. The wide majority of these are CAT C with a handful being of CAT B. None of the tree removals within the garden itself are deemed to be significant for both the reason that they contribute little to the wider visual amenity, being of small size, and that as small garden varieties they are generally low in arboricultural. Removals are feasibly replaced as part of a landscaping proposals, which are illustrated on client plans. Trees to be removed are highlighted along with their BS5837: categorisation in plans within appendix 1.

3.3 Access facilitation pruning: Based on the information available at the time of this report, no access facilitation pruning is thought to be required. Any pruning works that cannot be predicted at this time can be specified with input from the project contractors following pre-commencement site meeting.

3.4 T1 mature Holm Oak: The following information is from the original report based on site visit at the end of 2019. No changes are understood to have occurred at site in the elapsed time since the following was written. T1, a mature Holm oak, is noted to be in particularly poor structural condition with a history of limb failure and an active stem and root decay fungi, (*Ganoderma spp*) present at the time of this survey. It is my opinion that the capped 15m, RPA of this tree is reasonably encroached upon on the understanding that, given the above mentioned defects, the tree presents a greatly reduced potential for longer term retention. In addition to this the need for remedial works or removal is exacerbated given that the majority of the remaining crown is weighted over the main road. It must also be understood that the large capped RPA is unlikely to accurately reflect the active rooting area of a tree in decline nor does its illustration suggest that root growth is present. It is recommended that as part of this report the land owner is made aware of the condition of the tree and advised to seek professional advice. Arboricultural supervision is recommended for the

establishment of access road at within the RPA of T1. The remaining trees within third party land at this location remain unaffected by the proposed development.

3.5 Works within root protection areas: A small encroachment is set to occur within the RPA of T8. Given that the RPA of this tree is capped, (making it very large), along with the encroachment, (measured at 2.9% of the total unimpeded RPA), being at the periphery the RPA it is not considered to be significant nor likely to present a detrimental impact to the trees longer term retention. Suitable foundation design should be put forward by a structural engineer based on the relevant industry best practice. No specialist foundation methods such as piles are recommended on arboricultural grounds. Ground protection will be installed at an offset of 1.8 from the line of the proposed new dwelling within the RPA of T8. Ground protection will consist of striping top soil to a depth of 200mm to allow temporary structural fill supported on an impermeable membrane for scaffold base.

3.6 Tree protection measures: Tree protection fencing will be deployed to delineate the construction exclusion zone. Specification for tree protection fencing is included in appendix 6 and consists of the light duty spec made up of HERAS panels with angled supports secured in place with driven stakes. Tree protection fencing must be installed such that its movement or adaption is purposely difficult, even impossible without the proper tools or access. To be fit for purpose it must be immovable and remain in place for the duration of construction unless otherwise discussed within the method statement in this or subsequent reports. Contravention of this amounts to a breach of planning permission where this report forms part of said permission.

3.7 The arboricultural method statement included in the final section of this report provides working methodologies as a follow on from the assessments made in the impact assessment.

3.8 The arboricultural impact assessment is based on the current layout at the time of this report. If the layout changes the associated impact on trees may also be affected and may need to be re-considered. It remains the clients' duty to inform the project arboriculturalist of significant changes to the scheme which may affect the usefulness of this report.

4.0 Arboricultural Method Statement

This section of the report is the Arboricultural Method Statement for the specified construction activities and tree protection measures at the site. This document describes how trees will be protected and managed during the demolition & construction phase. This method statement is based on information available at the time of this report and may need to be updated as necessary as new information or changes in the site arise. It is the client's responsibility to communicate these changes to ensure the effectiveness of this document as it is intended to be used as briefing material and referred to throughout the development of the site.

A copy of this method statement must remain on site for the duration of the construction phase. This document may need to be circulated at key stages prior to commencement such as:

- At tendering of works to allow the effective identification and quantification of protective measures required to be carried out by the contractor.
- Plan the timing of key operations to minimise the impact of trees
- Referred to on site by contractors for practical guidance on how to protect trees at the site.

Activity	Timing	Notes
Tree works	Prior to construction phase	Carry out tree works listed in tree survey schedule appendix 2.
Install tree protection fencing	Prior to construction phase	Tree protection fencing to be installed at locations illustrated within tree protection plan appendix 1.
Supervision	Initial stages of construction	Supervision of excavation into RPA of T8 and establishment of access road across RPA T1

Table 1: Schedule of tree protection measures and tree related actions.

4.1 Requirements: A copy of this Arboricultural Method Statement must remain on site throughout the duration of construction and be available for use both as a reference and as briefing material for any operation that may affect retained trees at the site.

4.2 Protection of Construction Exclusion Zone (CEZ): Fencing of the CEZ highlighted on the Tree Protection Plan within appendix 1 is to be carried out prior to any construction traffic or deliveries of material occurring at the site. Refer to paragraph 4.3 for CEZ prohibited activities. Tree protection fencing is to be installed at the location shown within the Tree Protection Plan and must remain in place for the duration of the construction works. Adjustments in position or physical breach of the CEZ is not permitted unless listed specifically within this method statement.

4.3 The areas protected by fencing or ground protection shall be referred to as the construction exclusion zones. The following actions shall be prohibited within the construction exclusion zones:

- Vehicular access (unless on suitable ground protection specified within this report).
- Regular pedestrian access unless on suitable ground protection.
- Storage of construction materials.
- Storage or handling of harmful chemicals.
- Any change in ground level unless otherwise stated in this report or under supervision of an arboriculturalist.
- Construction activities including hard surfacing.

4.4 Temporary ground protection is specified for this proposal to support pedestrian traffic around the periphery of the proposed new dwelling within the RPA of T8, the following spec is provided as suitable specified by client:

- Ground protection will consist of striping top soil to a depth of 200mm to allow temporary structural fill supported on an impermeable membrane for scaffold base. Optionally scaffold boards or OSB can be fixed in place, (secured to scaffold frame or pegged in place), over the spec above to provide a smooth level working platform for pedestrian access.

4.5 Services: No information regarding existing services was presented for assessment, however it is evident that the existing property is serviced. Adequate scope exists to distribute existing services at the site to the proposed new dwellings without impacting retained trees. New services routes must be reviewed to ensure unnecessary impact does not occur to retained trees at the site.

4.6 Arboricultural supervision: In order to accurately highlight tree protection measures and allow contractors to discuss works phasing relevant to tree protection, it is advisable to carry out a pre-commencement site meeting. A summary of the activities that require arboricultural supervision is included below:

- Site meeting, pre-commencement with appointed contractors to discuss tree protection measure and phasing of works. The local authority arboricultural officer shall be given reasonable notice of such a meeting in order that they make attendance.
- Confirmation of correct tree protection fencing installation and delineation of the CEZ.
- Supervision for excavation into RPA T8.

4.7 If significant root growth is disturbed during construction activity outside of that explored within this report, work shall cease until the project arboriculturalist has been consulted. Significant roots are defined as roots over 25mm in diameter or dense fibrous matter areas of root growth.

4.8 Root protection area calculation and interpretation is part of industry guidelines however, it should be noted that below ground root morphology is affected by a number of factors. The potential remains for discovering roots outside of root protection areas including roads as tree root growth conforms to no constant ideal.

4.9 If damage is inadvertently caused to trees at the site during construction, work shall cease until the project arboriculturalist has been consulted to assess the likely implications along with recommending any necessary remedial measures. This includes environmental accidents such as fuel spillage, fire or chemical damage.

4.10 The supervising arboriculturalist shall be appointed by the contractor, in this capacity, reporting to the local authority arboricultural officer may be required regarding changes and any unforeseen tree related matters.



Contact details:

Author: O. Allpress



Project Ref.	2382 Rev-01	Date:	7 October 21
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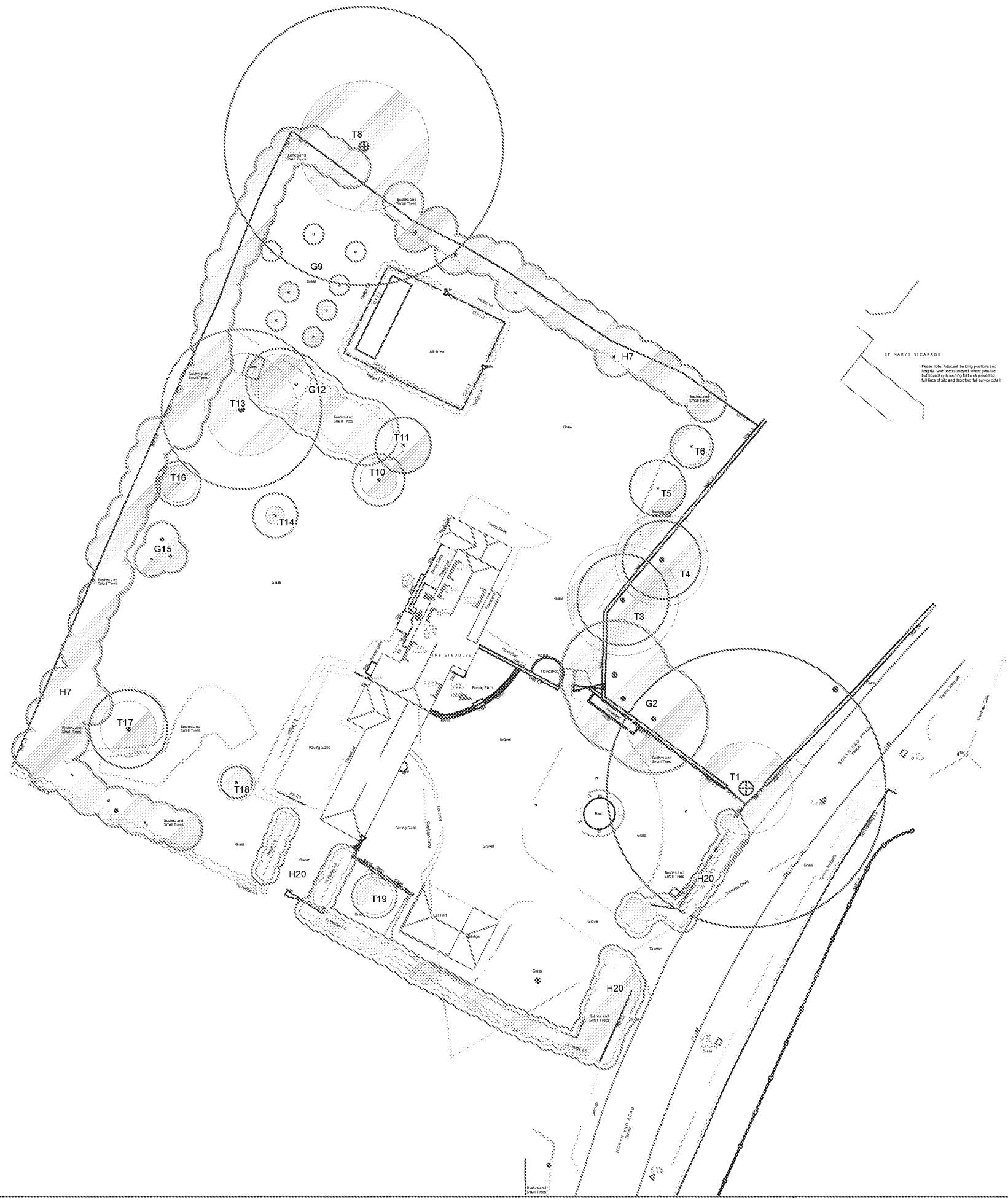
Appendix 1 - Tree Constraints Plan & Tree Retention & Protection Plan

Ref: 2382 Rev-01

Date: 7 October 21

Please refer adjacent building positions and heights have been surveyed where possible but boundary screening features permitted full view of site and therefore full survey detail.

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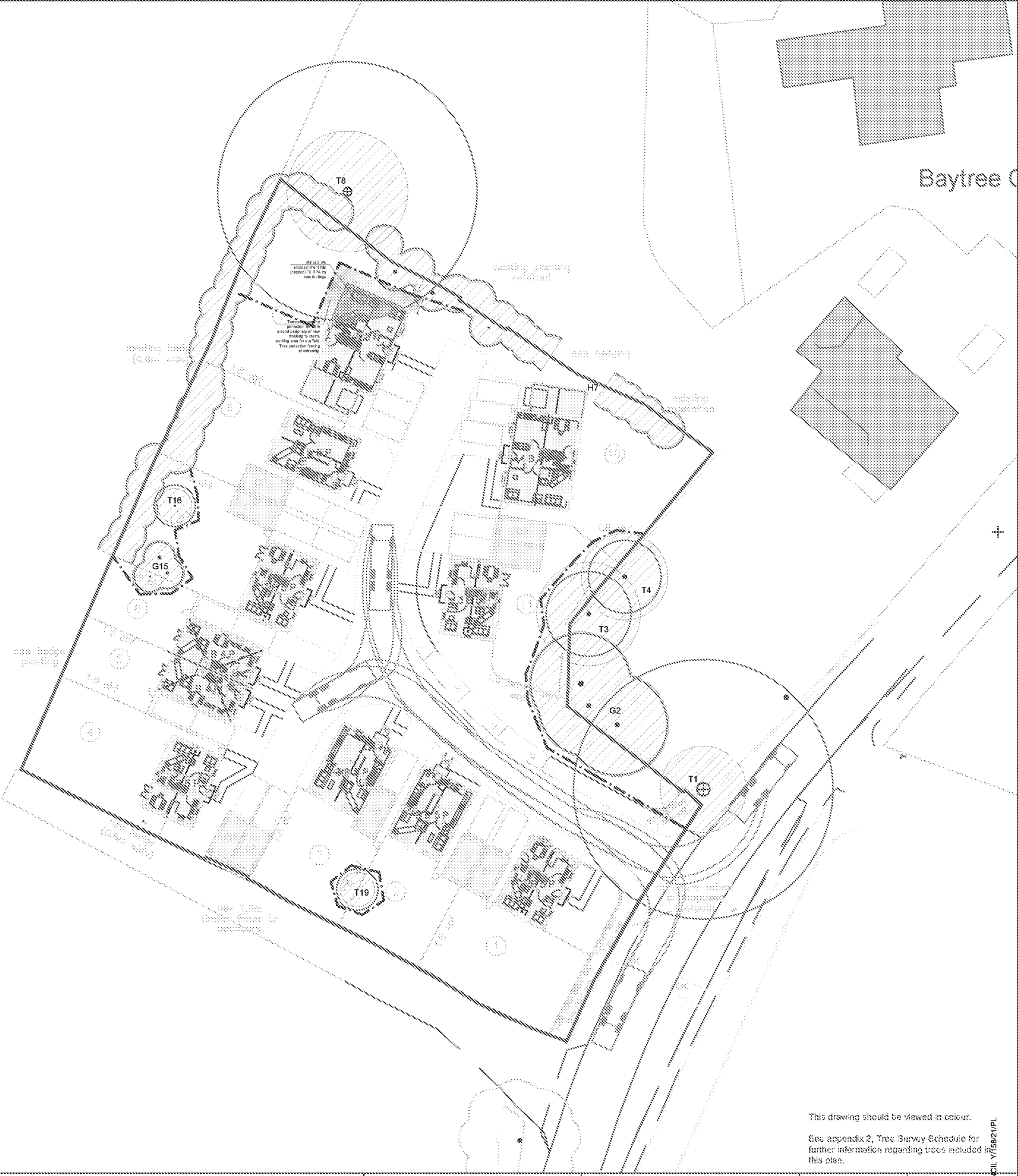


This drawing should be viewed in colour.
See appendix 2, Tree Survey Schedule for further information regarding trees included in this plan.

Detail: 1:100 at A3

Minor 2.9%
encroachment into
(capped) T8 RPA by
new footings

Temporary ground
protection for 1.8m
around periphery of new
dwelling to create
working area for scaffold.
Tree protection fencing
at extremity.



This drawing should be viewed in colour.
See appendix 2, Tree Survey Schedule for further information regarding trees included in this plan.

Appendix 2 - Tree Survey Schedule

Ref: 2382 Rev-01

Date: 7 October 21

Client:	Elberry Properties			Tree Survey Schedule				 Owen Allpress Independent Arboricultural Consultant		
Site address:	The Steddles, North End Rd.									
Survey Date:	15th November 2019									
Surveyor:	O.Allpress									
Ref	Species	Est height (m)	DBH (mm)	Crown spread (m)	Est clearance (m)	Age class	Condition summary	Preliminary management action	Category grading	Root Protection Radius (m)
T1	Holm oak, <i>(Quercus ilex)</i>	8	1400	N E S W	Foliage	Mature	Third party tree at road frontage. Previous crown failure into site, remainder of tree over road, active Ganoderma fungus present.	Land owner should be advised to action suitable remedial works.	U	15m (Capped)
			est	5 avg	3					
					Significant branch					
					4					
G2	Holm oak, <i>(Quercus ilex)</i> x 3	9	480	N E S W	Foliage	Mature	Third party trees no access to measure or visually assess stems.	None at time of survey	B2	5.8
			Avg est	6 avg	3					
					Significant branch					
					4					
T3	Holm oak, (Quercus ilex)	7	410	N E S W	Foliage	Mature	Third party tree no access to measure or visually assess stems. Smaller tree within rear garden boundary line.	None at time of survey	B2	4.9
			ms est	6 avg	3					
					Significant branch					
					4					
T4	Common ash, (Fraxinus excelsior)	6	350	N E S W	Foliage	Mature	Third party tree no access to measure or visually assess stems. Ash adjacent rear boundary wall.	None at time of survey	B1	4.2
			ms est	5 avg	4					
					Significant branch					
					4					
T5	Portugal laurel, <i>(Prunus lusitanica)</i>	3	250	N E S W	Foliage	Semi-mature	Garden planting. some screening value off set from boundary.	Remove to facilitate proposal	B1	3.0
			ms	3 Avg	1					
					Significant branch					
					1					
T6	Walnut, <i>(Juglans spp)</i>	3	190	N E S W	Foliage	Semi-mature	Garden planting. Some screening value, off set from boundary.	Remove to facilitate proposal	B1	2.3
				2 avg	1					
					Significant branch					
					1					
H7	Mixed deciduous	4	150	N E S W	Foliage	Semi-mature	Boundary mix, some sporadic screening value.	None at time of survey	C2	1.8
			avg est	2 avg	1					
					Significant branch					
					1					
T8	Monterey cypress, <i>(Cupressus macrocarpa)</i>	18	1250	N E S W	Foliage	Mature	Third party tree, historic limb failure. Deadwood present, no access to visually assess or measure stem.	None at time of survey	B1	15.0
				7 avg	8					
					Significant branch					
					8					

Client:	Elberry Properties			Tree Survey Schedule				 Owen Allpress Independent Arboricultural Consultant		
Site address:	The Steddles, North End Rd.									
Survey Date:	15th November 2019									
Surveyor:	O.Allpress									
Ref	Species	Est height (m)	DBH (mm)	Crown spread (m)	Est clearance (m)	Age class	Condition summary	Preliminary management action	Category grading	Root Protection Radius (m)
G9	Mixed fruit trees,	2	90	N E S W	Foliage	Juvenile	<5 recently planted fruit trees.	Remove to facilitate proposal	C2	1.1
			avg	1 avg	1					
					Significant branch					
T10	Hawthorn, (<i>Crataegus Laevigata</i>)	3	230	N E S W	Foliage	Mature	Small ornamental hawthorn in garden.	Remove to facilitate proposal	C1	2.8
	2 avg	1								
		Significant branch								
T11	Silver birch, (<i>Betula pendula</i>)	2	250	N E S W	Foliage	Mature	Birch within gardens.	Remove to facilitate proposal	S1	3.0
	3 avg	2								
		Significant branch								
G12	Mixed ornamental	4	300	N E S W	Foliage	Mature	Mixed laurel	Remove to facilitate proposal	C2	3.6
avg est	3 avg	1								
		Significant branch								
T13	Cherry, (<i>Prunus spp</i>)	7	720	N E S W	Foliage	Mature	Swept buttresses, physical damage. Historically heavily pruned asymmetric crown basal cavities.	Remove to facilitate proposal	C1	8.6
	6 6 5 4	3								
		Significant branch								
T14	Apple (<i>Malus spp</i>)	4	200	N E S W	Foliage	Mature	Historically heavily pruned reduced vitality.	Remove to facilitate proposal	C1	2.4
	1 avg	2								
		Significant branch								
G15	Silver birch x 3	<10	150	N E S W	Foliage	Semi mature	Smaller trees in group suppressed due to competition from adjacent trees.	None at time of survey	S2	1.8
Avg	2 avg	1								
		Significant branch								
T16	Elder, (<i>Sambucus nigra</i>)	4	200	N E S W	Foliage	Mature	Elder	None at time of survey	C1	2.4
ms est	2 avg	1								
		Significant branch								

Client:	Elberry Properties			Tree Survey Schedule				 Owen Allpress Independent Arboricultural Consultant				
Site address:	The Steddles, North End Rd.											
Survey Date:	15th November 2019											
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Ref	Species	Est height (m)	DBH (mm)	Crown spread (m)		Est clearance (m)	Age class	Condition summary	Preliminary management action	Category grading	Root Protection Radius (m)	
T17	Golden Leyland, (~~x~~ <u>Cupressocyparis leylandii</u> 'Castlewella')	8	350	N	E	S	W	Foliage	Limited access to visually inspect base. Measurements est.	Remove to facilitate proposal	B1	4.2
			est	3 Avg	0	Mature						
					Significant branch							
					1							
T18	Rowan, (~~Sorbus~~ <u>aucuparia</u>)	3	140	N	E	S	W	Foliage	Small tree in lawns	Remove to facilitate proposal	B1	1.7
				2 avg	1	Semi-mature						
					Significant branch							
					1							
T19	Viburnum, (<u>Viburnum tinus</u>)	3	200	N	E	S	W	Foliage	Mature ornamental woody shrub.	None at time of survey	C1	2.4
			ms	2 avg	0	Mature						
					Significant branch							
					1							
H20	Leylandii, (~~x~~ <u>Cupressocyparis leylandii</u>)	<4	250	N	E	S	W	Foliage	Leylandii hedging at various locations throughout garden.	Remove sections illustrated, retain remainder for screen.	C2	3.0
			Avg est	N/a	0	Mature						
					Significant branch							
					1							

Appendix 3 – Cascade chart for tree categorisation

BS5837:2012 Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)		
Trees unsuitable for retention (see Note)			
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 <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see [BS5837:2012] 4.5.7.</i>		
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation
Trees to be considered for retention			
Category A Trees of high quality with an estimated remaining life expectancy of at least 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)
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	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), such that they are unlikely to be suitable for retention for beyond 40 years; 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
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	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

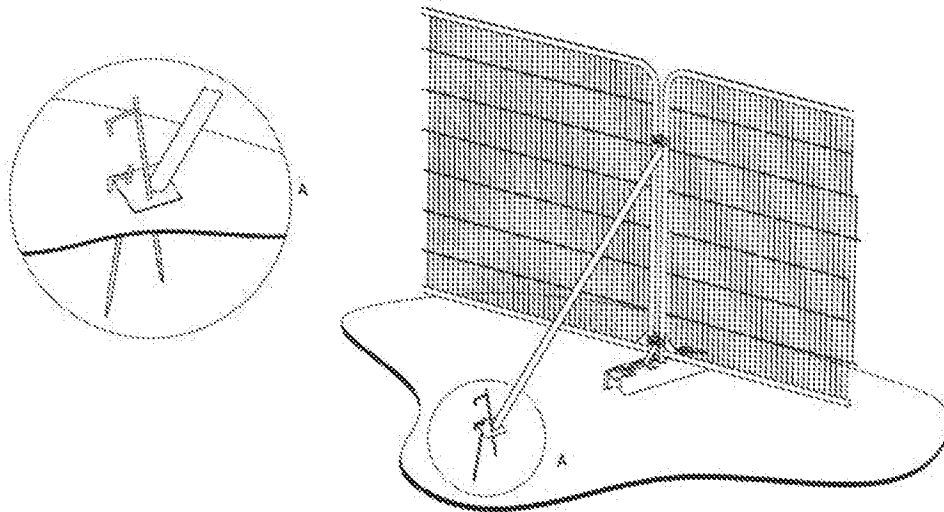
The above is an extract from BS5837:2012. The key in plans provided in appendix 1 illustrates categorisations described above.

Appendix 4 – Root Protection Area Formulas

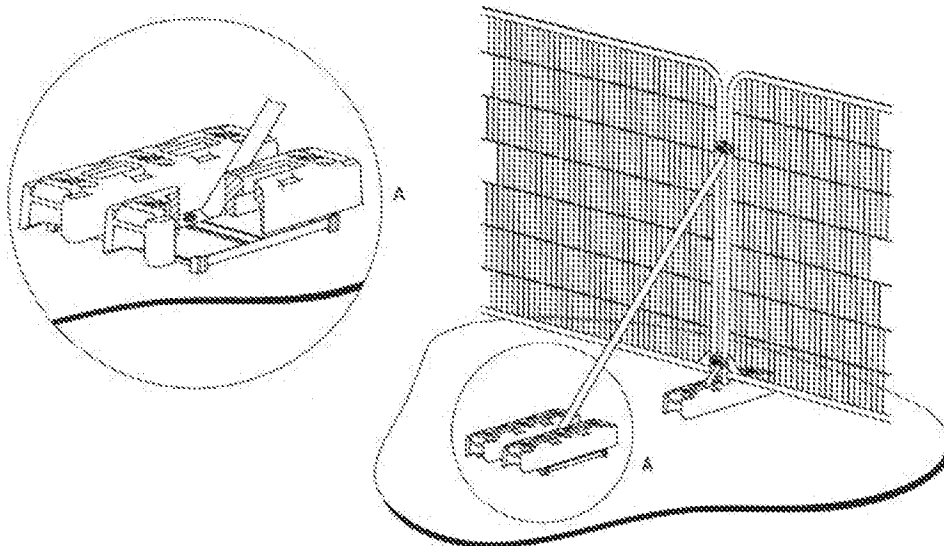
Tree type	Formula used (Taken from BS5837: 2012)
Single Stem	$\text{RPA(m}^2\text{)} = \frac{(\text{stem diameter (mm)} @ 1.5 \text{ m} \times 12)^2 \times 3.142}{1000}$
Up to five stems	$\sqrt{(\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots + (\text{stem diameter } 5)^2}$
Trees with more than five stems	$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$



Appendix 5 – Tree Protection Fencing Specification



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Appendix 6 – Tree Protection Fencing Signage



Contravention of TPOs can result in criminal prosecution

No access beyond this point is permitted unless part of planned operations described within arboricultural method statement.

