



Tree Surveys

BS5837 – Pre Planning – Mortgage – Risk Management & Prediction

BS 5837:2012 TREE SURVEY FOR LAND ADJACENT HIGHLANDS AVENUE WOKINGHAM



**Prepared on behalf of:
Mr & Mrs Pike
Highlands House
Highlands Avenue
Barkham
RG41 4SP**

Ref: PB/5837-24/03.14

22 March 2024



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BS5837 – Pre Planning – Mortgage – Risk Management & Prediction

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Newnham Bridge
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Summary

We inspected all the trees that may have been affected by the development at land adjacent Highlands Avenue, Barkham, Wokingham, RG41 4SP. The tree details are contained in the tree survey schedule included at Appendix 1.

A total of twelve individual trees and three groups were assessed in accordance with the cascade chart for tree quality (Table 1: Section 4) of British Standard (BS) 5837:2012. They are categorised as follows:

- One tree is in Category 'A' - "Trees of high quality".
- Seven trees and one group are in Category 'B' - "Trees of moderate quality".
- Four trees and two groups are in Category 'C' - "Trees of low quality",

Mitigation may be required to demonstrate how the retained tree root protection areas (RPA) will be protected during and after any development, including access to the proposed development area. The RPAs are shown on the drawing included at Appendix 3.

1. Introduction

1.1 Instructions

- 1.1.1 Tree Surveys were instructed by James McConnell of McConnell Planning to visit the ongoing development at land adjacent Highlands Avenue, Barkham, Wokingham, RG41 4SP and survey any trees implicated in the retrospective planning application for the installation of a footpath and 9No street lights on land adjacent to Highlands Avenue, Barkham.
- 1.1.2 The trees were surveyed in accordance with 'British Standard (BS) 5837:2012' a guide for 'Trees In Relation To Design, Demolition and Construction - Recommendations' (Section 4).

1.2 Validation

- 1.2.1 This report fulfils the recommended national listed criteria for tree survey information as set out in BS 5837:2012 and includes the following:
- A tree survey, undertaken by a qualified arboriculturist, and tree schedule, included at Appendix 1.
 - A drawing at 1:200 scale with a north point, indicating the tree locations and colour coded, ref PB/5837-24/03.14 included as Appendix 2.
 - The root protection area, ref PB/RPA-24/03.14 included at Appendix 3.
 - A shade constraint drawing, ref PB/SC-24/03.14 included at Appendix 4.
 - Default tree protection fencing from BS 5837:2012 and tree protection barrier sign included at Appendices 5 and 6.

1.3 Statutory designation

- 1.3.1 A search of the Wokingham Borough Council online Protected Tree Map was undertaken on 21 March 2024 to assess the legal status of the trees on this site. This showed that parts of the site are protected by Tree Preservation Orders No. 20/1973 and No. 199/1981.
- 1.3.2 The search revealed that the site is not within a Conservation Area.



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2. Scope of this report

- 2.1 The purpose of this report is to quantify the trees most likely to be impacted upon by the development and to highlight how potential damage to retained trees may be avoided and mitigation may be undertaken to address any impacts.
- 2.2 The tree survey provides the basic data on any trees implicated in the planning application. It does not set out to put arguments for or against the development. It does set out how to decide upon the retention of the trees, means of protecting the retained trees during development and on means of incorporating the trees into the developed landscape, along with appropriate management and protective measures.
- 2.3 The primary purpose of this report is for the client and council to review the information provided and use it for the purpose of considering the planning application or engaging in further discussions towards the same end. The information is provided on the basis that it will be available to people other than arboriculturists i.e. those without specialist knowledge of the subject.

3. Site visit and the collection of data

3.1 Site visit

- 3.1.1 The trees were surveyed by Paul Billin BSc MICFor on 14 March 2024. The trees were inspected from ground level and without any form of detailed investigations; binoculars were used to aid the inspection process. The measurements we undertook on site were made with the aid of a rounded down diameter tape to assist the estimate of the tree diameter and TruPulse™ laser hypsometer. The trees were not tagged as they are easily identified on site and with reference to the attached tree location plan. The weather at the time of the inspection was sunny and clear.

3.2 The trees

- 3.2.1 A total of twelve individual trees and three groups were recorded with stem diameter of 75 millimetres and above. The tree details have been entered into a tree schedule included at Appendix 1.
- 3.2.2 For ease of identification the trees are shown on the tree location drawing ref PB/5837-24/03.14 and have been allocated numbers. This numbers are cross-referenced within the BS 5837:2012 survey schedule.
- 3.2.3 In making the assessment, consideration has been given to:
 - The health, vigour and condition of the trees.
 - Any structural defects and safe life expectancy.
 - The size and form of the trees.
 - The rare, unusual or component part of a formal feature.
 - Groups or individual trees that provide definite screening or softening effect.
 - Groups which are to be removed in order to construct the new driveway and dwelling approved in the outline planning permission.
 - Trees forming distinct landscape features.



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4. Constraints

4.1 Ecological constraints

- 4.1.1 The Conservation of Habitats and Species Regulations 2017 (as amended), and The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000, provides statutory protection to birds, bats, and other tree dwelling species. They could impose significant constraints on the use and timing of any tree matters considered in this report.

4.2 Root protection areas (RPAs)

- 4.2.1 Using BS 5837:2012 the RPAs have been calculated for the trees by reference to section 4.6.1 (a) and/or (b). The RPA is frequently described as a circle with a radius of prescribed distance within which no unspecified activity should occur and a high level of care is needed during any activities that are authorised within them, if it is to be successfully retained.
- 4.2.2 Specified intrusions into the RPAs can take place only where the ground is adequately protected in accordance with the requirements of section 6 (6.2.3.3) of the BS or as may be agreed with the Local Planning Authority (LPA). The RPAs have been plotted as dodecagons taking account of the site constraints on drawing PB/RPA-24/03.14.
- 4.2.3 The shape and position of the RPA may only be modified by an arboriculturist to meet the pre-existing site conditions or other factors that indicate that rooting has occurred asymmetrically. In all cases, we have considered the adjacent constraints including such things as the existing site access, buildings, boundary walls, retaining walls and foundations, existing hard surfaces, and site topography.

4.3 Shade constraints

- 4.3.1 Large trees that cast dense shade may result in pressure to prune or remove them. Whilst either shade or sunlight might be desirable depending on the potential use; the design should avoid unreasonable obstruction of light. The shade constraints posed by the trees are plotted onto drawing ref PB/SC-24/03.14.

5. Tree protective measures

- 5.1 To protect the retained trees from construction activities, they must be protected by suitable protection barriers and ground protection; the accompanying root protection area drawing shows the RPAs.
- 5.2 The tree protection barrier (TPB) is designed to provide construction exclusion zones around the RPAs of the trees to be retained.
- 5.3 The tree protection fencing should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree. The default specification for protective barriers is that specified in BS 5837:2012 Figure 2, section 6; and is reproduced at Appendix 5. All weather signs must be attached by cable ties to each Heras panel as set out in Appendix 6.



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6. Tree survey key

No:	Tree number on survey drawing		
Species:	Common/English and or Latin name		
Height:	Height in metres above ground level		
Number of stems:	Single stem, or number of stems if more than one		
Canopy spread:	In metres taken at the four cardinal points (N.E.S.W.)		
Diameter:	In millimetres measured or estimated in accordance with BS 5837 2012		
Height & direction of 1st branch:	In metres and by cardinal compass points. This can be found on the detailed tree assessment		
Age class:	Young Semi-mature Early-mature Mature Over-mature		
Root protection area:	In square metres and the nominal radius of a circle required to achieve this in metres		
Health - Physiological Condition (Phy Con):	Good Fair Poor Decline Dead		
Structural Condition: Crown, Stem, Basal Area:	Good Fair Poor Ivy		
Survey Comment:	i.e. Further investigation, aerial inspection, decay detection, wildlife study.		
Estimated Remaining Contribution (ERC) in years:	i.e. less than 10, 10 to 20, 20 to 40, 40+		
Category Grading:	Code U	Trees unsuitable for retention	RED
	Code A	High quality category	GREEN
	Code B	Moderate category	BLUE
	Code C	Low category	GREY



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7. Queries

Any queries regarding this tree report should be addressed, in the first instance, to Tree Surveys

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Paul Billin, BSc, MICFor
Chartered Arboriculturist
Tree Surveys

Revisions:

None



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APPENDIX 1

BS5837:2012 Tree Survey

Tree Surveys

Client: Mr & Mrs Pike
Project: Land adjacent Highlands Avenue
Survey Date: 14/03/2024
Surveyor: Paul Billin



Bramley House
Newnham Bridge
Tenbury Wells
Worcestershire
WR15 8NX
Phone: 0118 976 2902

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations		Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment		
G9											Estimated Measurements		
A Group		4.5	1	140			SM	A: 8.9	Fair	C: Fair	No action :: Unspecified		C
- -								R: 1.68		S: Fair B: Fair	Group of laurel. Average stem recorded		20 to 40 yrs
G14											Estimated Measurements		
A Group		6	1	130				A: 7.6	Fair	C: Fair	No action :: Unspecified		C
- -								R: 1.55		S: Fair B: Fair	Mixed group; laurel, Silver birch. Av stem recorded.		20 to 40 yrs
G15											Estimated Measurements		
A Group		22	1	280	N	4	5	A: 35.5	Fair	C: Fair	See Comment :: Unspecified		B
- -					E	4	5	R: 3.36		S: Fair B: Fair	Group 5no Populus (tremula). Av stem recorded. Some soil piled up around stems; remove soil by hand to restore original ground level		20 to 40 yrs
1													
Common Oak		12	1	280	N	3	6	A: 35.5	Fair	C: Fair	See Comment :: Unspecified		B.2
Quercus robur					E	3.5	5	R: 3.36		S: Poor B: Fair	Single stem. Fair form and condition. Base of stem constrained by polypropylene strap which has been in place a few years: cut and remove strap		>40 yrs
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition	ERC: Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations		Cat ERC
		No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment		
2												
Common Oak <i>Quercus robur</i>	17	1	440	N	4.5	6	SM	A: 87.6	Fair	C: Fair	No action :: Unspecified	B.2
				E	4.5	6		R: 5.28		S: Fair		>40 yrs
				S	3.5	7				B: Fair	Single stem. Slight sweep in main stem. Asymmetric canopy biased to east. Ivy recently severed. Historical ground excavation on north and east side	
3												
Common Oak <i>Quercus robur</i>	6	1	130	N	0.5	4	Y	A: 7.6	Fair	C: Poor	No action :: Unspecified	C
				E	2.5	4		R: 1.55		S: Fair		20 to 40 yrs
				S	3.5	3				B: Fair	Single stem. Ivy recently severed	
4												
Common Oak <i>Quercus robur</i>	17	1	669	N	6	7	SM	A: 202.5	Fair	C: Poor	Ivy :: Sever/remove ivy	C.2
				E	1.5	7		R: 8.02		S: Poor		20 to 40 yrs
				S	7	8				B: Fair	Single stem. Ivy obscuring stem and lower canopy. Co-dominant stem snapped out union 2.5 m AGL, further inspection required of possible cavity/decay	
5												
Common Oak <i>Quercus robur</i>	7	1	180	N	0.5	4	Y	A: 14.7	Fair	C: Poor	Ivy :: Sever/remove ivy	C
				E	2.5	4		R: 2.16		S: Ivy		20 to 40 yrs
				S	2.5	4				B: Fair	Single stem, meaning and asymmetric canopy biased to east. Ivy obscuring stem and canopy.	
6												
Common Oak <i>Quercus robur</i>	12	1	250	N	4	6	SM	A: 28.3	Fair	C: Fair	No action :: Unspecified	B.2
				E	4	6		R: 3		S: Fair		>40 yrs
				S	4.5	6				B: Fair	Single stem. Fair form and condition. Ivy recently severed	
7												
Common Oak <i>Quercus robur</i>	12.5	1	190	N	2	6	SM	A: 16.3	Fair	C: Fair	No action :: Unspecified	B.2
				E	1.5	5		R: 2.27		S: Fair		20 to 40 yrs
				S	2.5	5				B: Fair	Single stem. Fair form and condition.	
				W	3.5	5						
Age Classifications:	N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature			Condition:	C S B	Crown Stem Basal area		Stems: ERC:	Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
		No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
8													
Sycamore <i>Acer pseudoplatanus</i>	18	1	459	N	5	6	SM	A: 95.3 R: 5.5	Fair	C: Fair S: Ivy B: Fair	Ivy :: Sever/remove ivy		B
				E	5	6							>40 yrs
				S	5	6							
				W	5	3					Single stem. Ivy obscuring stem and lower canopy		
10													
Common Oak <i>Quercus robur</i>	17	1	619	N	9	6	M	A: 173.4 R: 7.42	Fair	C: Fair S: Ivy B: Fair	Ivy :: Sever/remove ivy		A
				E	9	6							>40 yrs
				S	8	6							
				W	8	6					Single stem. Co-dominant stems from 3-5m AGL, spreading canopy		
11													
Common Oak <i>Quercus robur</i>	24	4	1329 (Eq)	N	9	7	M	A: 707 R: 15	Poor	C: Fair S: Poor B: Fair	Further inspection :: Unspecified		C
				E	9	6							20 to 40 yrs
				S	9	4							
				W	9	6					Four co-dominant stems. Southwest stem (830mm) bifurcates 1.9 AGL into two co-dominant stems; union is splitting from ground level, and weeping; high likelihood of failure. Advanced tree condition inspection recommended		
12													
Common Oak <i>Quercus robur</i>	17	1	539	N	11	6	M	A: 131.4 R: 6.46	Fair	C: Fair S: Ivy B: Fair	Ivy :: Sever/remove ivy		B
				E	9	6							>40 yrs
				S	1	6							
				W	10	6					Single stem. Co-dominant stems from unions 4-6m AGL. Asymmetric canopy biased to north due to co-dominance with T11		
13													
Wild Cherry <i>Prunus avium</i>	17.5	1	449	N	9	6	M	A: 91.2 R: 5.38	Fair	C: Fair S: Ivy B: Fair	Ivy :: Sever/remove ivy		B
				E	5	6							20 to 40 yrs
				S	4	6							
				W	6	6					Single stem.		
Age Classifications:	N	Newly planted	EM	Early Mature			Condition:	C	Crown		Stems:	Ø	Diameter
	Y	Young	M	Mature				S	Stem			(Eq)	Equivalent stem diameter using BS5837:2012 definition
	SM	Semi-mature	OM	Over Mature				B	Basal area		ERC:		Estimated Remaining Contributio

Report selection criteria.

Projects.

Land adjacent Highlands Avenue

Date Range.

Any Date

Work types.

----> Further inspection :: Unspecified

----> Ivy :: Sever/remove ivy

----> No action :: Unspecified

----> See Comment :: Unspecified

Latest Survey.

All surveys for the selected trees.

---> Last survey for each selected tree.

Work Completed.

---> Work Completed

---> Work Not Completed

Number of trees in selected Project(s)15

Number of trees in Report selection15

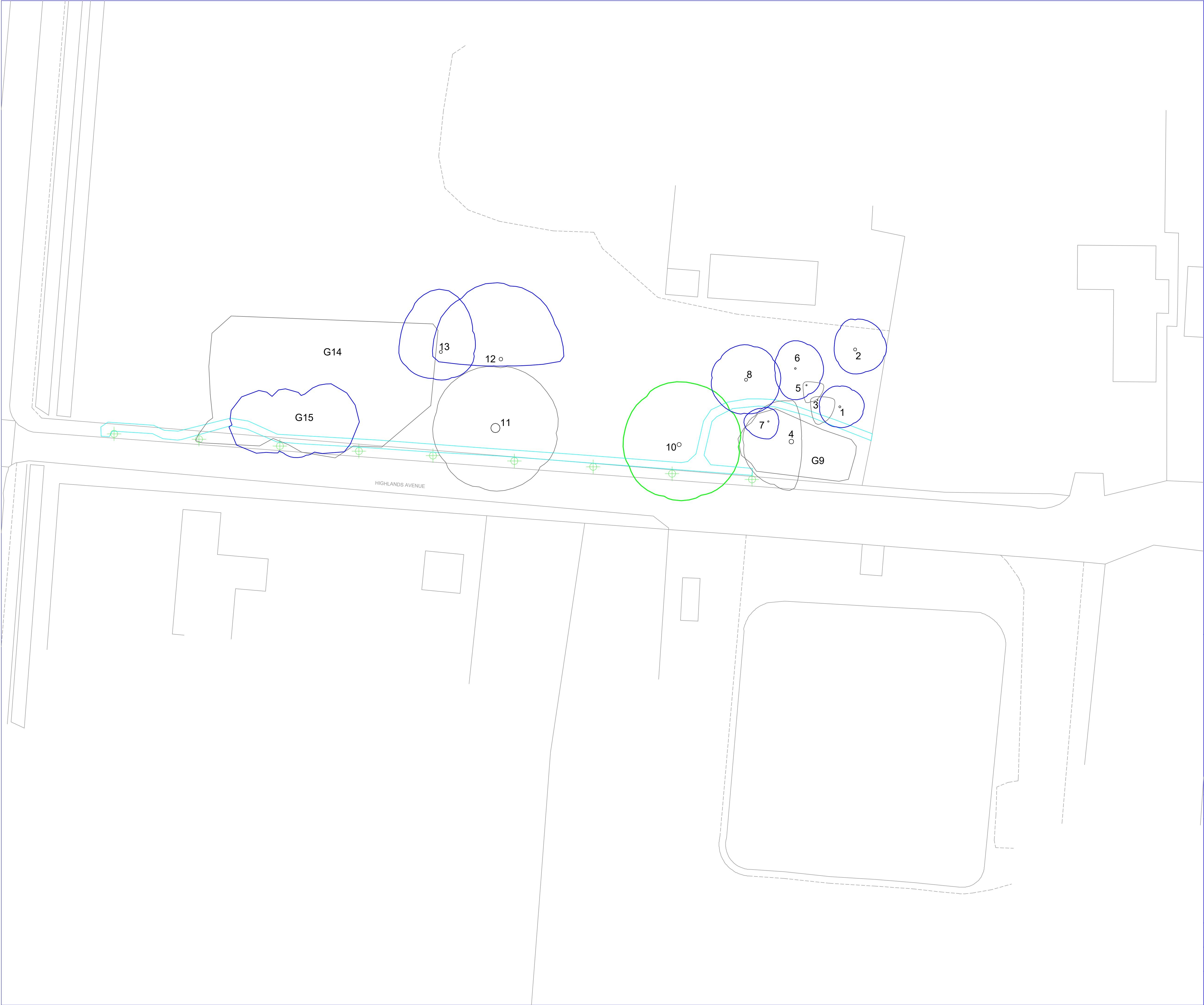
Age Classifications:	N	Newly planted	EM	Early Mature	Condition:	C	Crown	Stems:	Ø	Diameter
	Y	Young	M	Mature		S	Stem		(Eq)	Equivalent stem diameter using BS5837:2012 definition
	SM	Semi-mature	OM	Over Mature		B	Basal area		ERC:	Estimated Remaining Contributio



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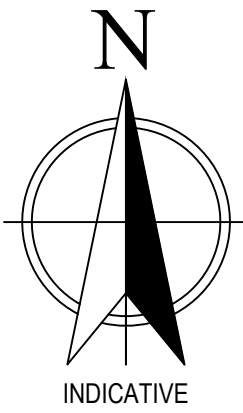
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APPENDIX 2

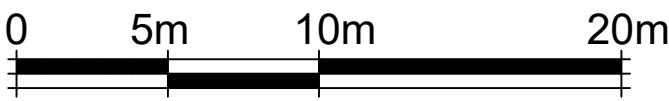


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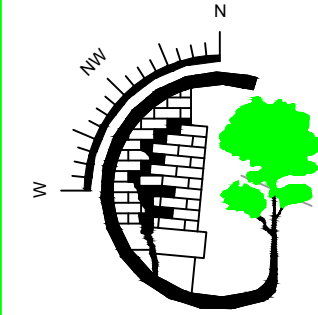
- All dimensions must be checked on site and not scaled from this drawing.
- The original of this drawing was produced in colour, a monochrome copy should not be relied upon.
- Read drawings in conjunction with arboricultural report.
- Topo based OS data. Licence number 100022432.



- Key:
- Tree Category A 1,2 or 3
- trees of high quality
 - Tree Category B 1,2 or 3
- trees of moderate quality
 - Tree Category C 1,2 or 3
- trees of low quality
 - Tree Category U
- trees that cannot realistically be retained
 - Tree number
- refer to report for information
 - Existing site features
 - New path
 - New lighting column



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Client	Mr & Mrs Pike		
Job Title	Land Adjacent Highlands Avenue		
Drawing Title	TREE LOCATION PLAN		
Scale	1:250 @ A1		
Date	March 2023	Drawn: MjE	Checked: SPH
Drg. No.	PB/5837-24/03.14	Rev.	



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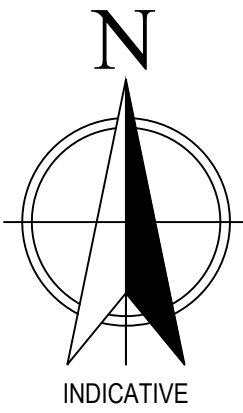
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APPENDIX 3

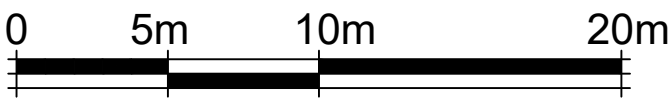


NOTES

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- Read drawings in conjunction with arboricultural report.
- Topo based OS data. Licence number 100022432.



- Key:
- Tree Category A 1,2 or 3
- trees of high quality
 - Tree Category B 1,2 or 3
- trees of moderate quality
 - Tree Category C 1,2 or 3
- trees of low quality
 - Tree Category U
- trees that cannot realistically be retained
 - Tree number
- refer to report for information
 - Existing site features
 - New path
 - New lighting column
 - Root protection area (RPA)



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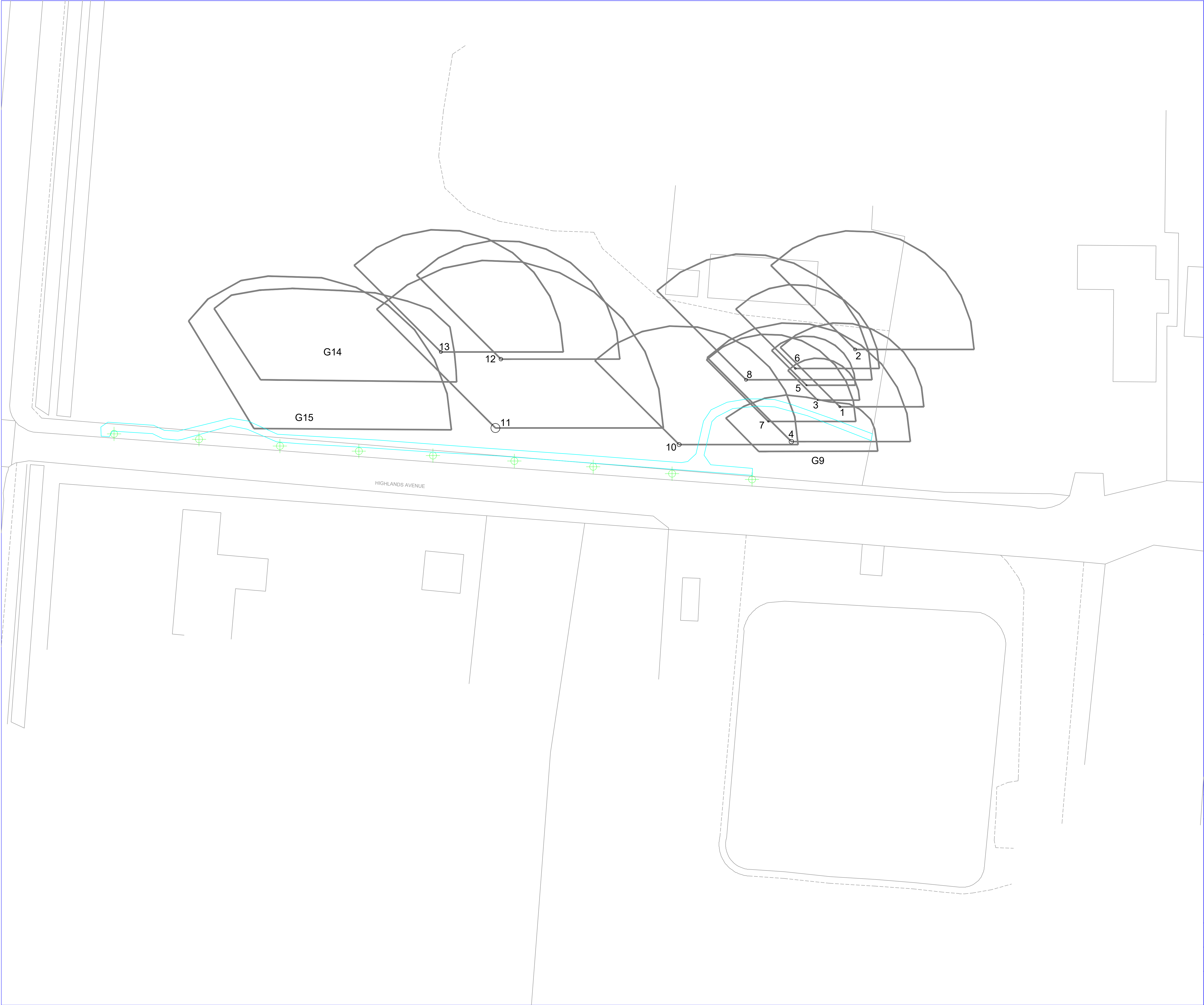
Client	Mr & Mrs Pike		
Job Title	Land Adjacent Highlands Avenue		
Drawing Title	ROOT PROTECTION AREA PLAN		
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Drg. No.	PB/RPA-24/03.14	Rev.	



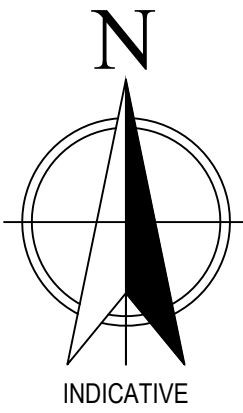
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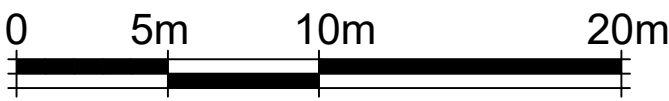
APPENDIX 4



- NOTES
- All dimensions must be checked on site and not scaled from this drawing.
 - The original of this drawing was produced in colour, a monochrome copy should not be relied upon.
 - Read drawings in conjunction with arboricultural report.
 - Topo based OS data. Licence number 100022432.



- Key:
- Tree Category A 1,2 or 3
- trees of high quality
 - Tree Category B 1,2 or 3
- trees of moderate quality
 - Tree Category C 1,2 or 3
- trees of low quality
 - Tree Category U
- trees that cannot realistically be retained
 - Tree number
- refer to report for information
 - Existing site features
 - New path
 - New lighting column
 - Area of shade



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Client	Mr & Mrs Pike		
Job Title	Land Adjacent Highlands Avenue		
Drawing Title	SHADE CONSTRAINTS PLAN		
Scale	1:250 @ A1		
Date	March 2023	Drawn: MjE	Checked: SPH
Drg. No.	PB/SC-24/03.14	Rev.	



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APPENDIX 5



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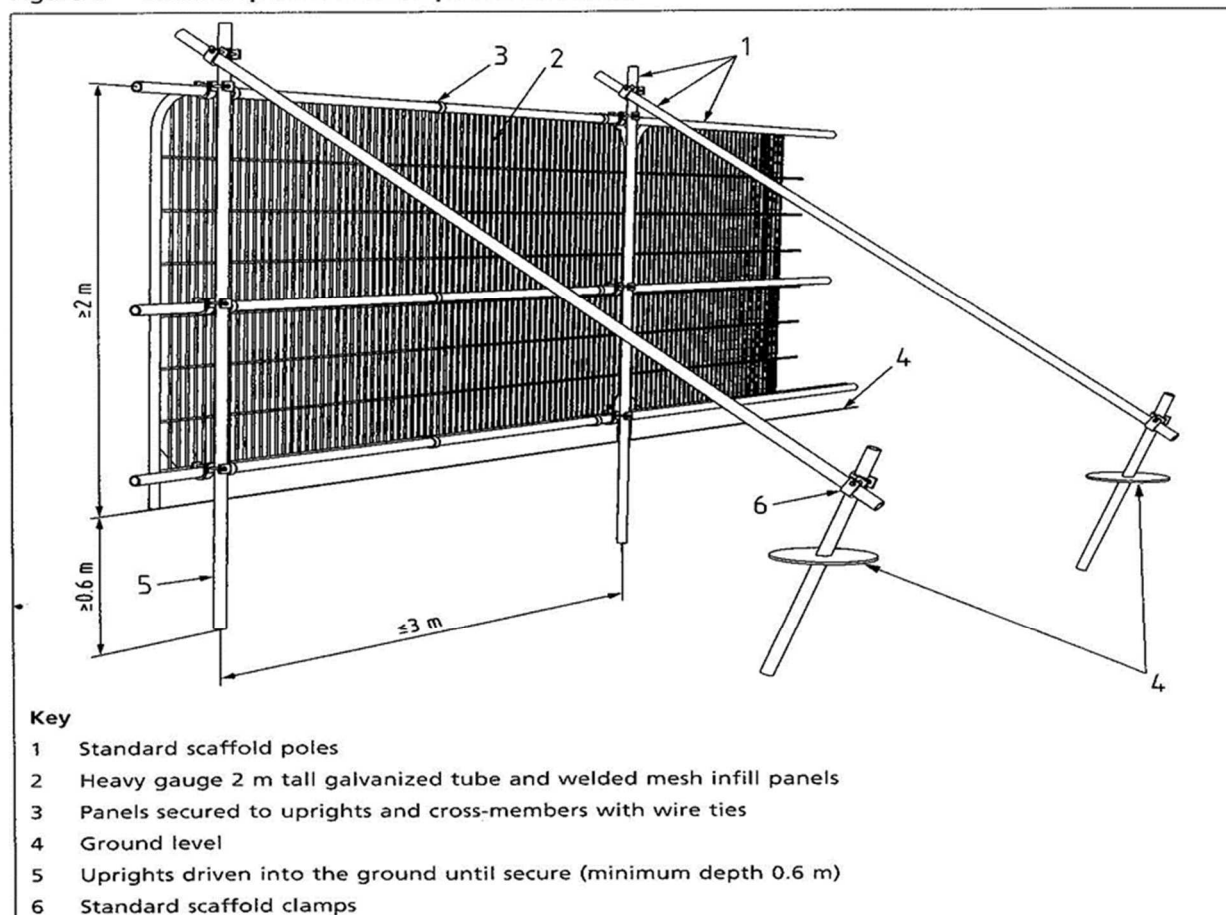
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BS 5837 FIGURE 2 TREE PROTECTION

Root Protection Areas (RPAs), enclosed by Default Temporary Protective Fencing, as detailed below and to be agreed with the Local Planning Authority (LPA), shall:

1. Be protected throughout the development process, as specified and detailed in BS 5837:2012 Section 6.2, Fig 2
2. Be erected prior to any construction, demolition or excavation works and remain in place for the duration of the project.
3. Preclude any delivery of site accommodation and or materials and or plant machinery.
4. Preclude all construction related activity, with the sole exception of specified arboricultural works and any other works carried out under supervision that has been agreed by all parties, and:
5. Preclude the storage of all development related materials and substances including fuel, oils, additives, cement and or any other deleterious substances.
6. Any incursions into RPAs must be by prior arrangement, following consultation with the LPA.

Figure 2 Default specification for protective barrier





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APPENDIX 6

TREE PROTECTION ZONE KEEP OUT!

NO DIGGING OR TRENCHING
NO STORAGE OF PLANT OR MATERIALS
NO VEHICLE ACCESS
NO FIRE LIGHTING
NO CHEMICAL HANDLING
AVOID PLANT CONTACT WITH TREE CANOPY
REPORT ANY DAMAGE
TO TREES OR FENCING IMMEDIATELY