

ARBO RIC ULTURAL REPO RT

Ingle nook Hotel, 253-255
Pagham Road, Bognor Regis
PO21 3QB

Prepared by

Jonathan Rodwell Cert Arb 14(ABC), TechAdviser

February 2018



Beechdown ref: B/0189/18

Ingle nook Hotel – BS 5837 tree survey/report – February 2018

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Arboricultural impact assessment

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Arboricultural method statement

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SUMMARY

- » The quality of 14 trees within the influence of a development proposal was assessed.
- » An arboricultural impact assessment of the development proposal was prepared.
- » The development proposal is for the construction of nine dwellings.
- » Implementation of the development proposal does not require the removal of any trees.
- » Precautionary measures will be required to protect the trees throughout the construction process.

1.0 INTRODUCTION

1.1 I have received instruction from Michael Bish B.A (Hons) Dip. Arch. R.I.B.A, of ADM Architects, to provide arboricultural consultancy services in relation to trees at a proposed development site within the grounds of the Inglebrook Hotel, Pagham Road, Bognor Regis PO21 3QB.

1.2 The purpose of the instruction was to:

- » Assess the quality of any trees that could be affected by the proposed development.
- » Prepare an arboricultural impact assessment evaluating the effects of the development proposal.
- » Prepare a method statement and tree protection plan.

1.3 The survey was conducted and the report prepared with reference to the guidelines detailed in BS 5837:2012 "Trees in relation to design, demolition and construction – Recommendations" and according to good arboricultural practice.

- 1.4 Contents of the report are exclusively for the use of the client; liability does not extend to any third party without our written consent.

2.0 DOCUMENTS PROVIDED

2.1 Plans provided by Midland Survey Ltd:

H1086-1&2	Topographical survey	1:200 @A1
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2.2 Plans provided by ADM Architects:

1594 SK	Site plan as existing	1:500 @A2
1594 05	Site plan – topological survey	1:200 @A1

3.0 SURVEY FORMAT

- 3.1 Trees included in the survey were those with the potential to be affected by the development proposal and with a stem diameter, at 1.5m high, greater than 75mm. The trees were inspected from the ground only and no specialist decay detection was undertaken. Trees were assessed from within the site or from public areas.
- 3.2 The tree identification numbers used are for the purpose of this report and may not reflect numbers used in previous surveys or Tree Preservation Orders.
- 3.3 Data was recorded on a handheld computer, the trees plotted via GPS and their positions marked on the 1:1000 @ A4 tree survey plan (Appendix 4).
- 3.4 A detailed tree survey sheet is shown as Appendix 1 with an explanation of the terms and categories covered as Appendix 2.
- 3.5 The extent of the survey was limited to collecting sufficient data to inform upon the feasibility of the proposed development, it was not a detailed tree hazard or risk assessment and, unless specified, no guarantee, expressed or implied, can be given regarding the safety of the trees or their suitability for safe long term retention.

- 3.6 This report may comment in general terms on foundation type or design but should not be used for calculating foundation depth. Foundation depth should be determined by the architect or a structural engineer and with reference to NHBC Chapter 4.2 – Building near trees.

4.0 GRADING CATEGORIES

- 4.1 The quality of the surveyed trees was assessed and they were categorised to reflect the criteria recommended in Table 1 of BS 5837:2012 as detailed at Appendix 3.
- 4.2 The following is a breakdown of the number of trees in each BS category:

Category U	2 trees
Category A	0 trees
Category B	7 trees
Category C	5 trees

5.0 STATUTORY CONTROLS

- 5.1 Consultation with the Local Planning Authority confirmed that the application site is not within a designated Conservation Area but is subject to Tree Preservation Order number TPO/P/2/15.
- 5.2 Under Part 1 of the Wildlife and Countryside Act (1981), with only a few exceptions, it is an offence to intentionally take, damage or destroy the nest of any wild bird while the nest is in use or being built. Bat species are protected under Section 39 of the 1994 Conservation (Natural Habitats etc.) Regulations (as amended), the 1981 Wildlife and Countryside Act (as amended) and the 2000 Countryside and Rights of Way Act. It is illegal to damage or destroy any bat roost, whether occupied or not, or disturb or harm a bat. Further specialist investigation may be required before undertaking any recommended works.

6.0 DEVELOPMENT PROPOSAL

- 6.1 The development proposal is for the construction of nine dwellings.

7.0 SITE DESCRIPTION

- 7.1 The Inglenook Hotel is set in broadly level grounds of a little under 1 hectare (Fig.1), while the area outlined for potential development covers a round 0.4 hectares (Fig.2).



Fig. 1

Access to the site is via a tarmac driveway from Pagham Road that runs parallel to the southern boundary before opening into a small car-park behind the hotel. The area for proposed development, a field at the western end of the site, is just beyond four static caravans and various outbuildings in a landscaped area of formal planting, ornamental trees and clipped hedges. Current use of the field is for stabling and grazing horses. A 1.2m high post and rail fence extends along the north and east boundaries of the field with partially collapsed post and rail fences along the south and west boundaries.



Fig. 2

- 7.2 The Inglenook Hotel is in a semi-rural/suburban setting with open farmland to the north and west. The wider landscape includes individual trees or small groups as roadside trees, in domestic settings and within small copses and hedgerows along field boundaries.
- 7.3 The site geology is recorded as London Clay Formation sedimentary bedrock while the superficial geology is described by the National Soils Resources Institute as a loamy soil with naturally high groundwater. No detailed analysis of the soil structure, composition or pH was undertaken and these details should not be relied on for design purposes.
- 8.0 TREE SURVEY
- 8.1 Surveyed trees consisted of 12 within the site and 2 beyond the southern boundary. A mixed Leyland and Lawson cypress hedge,

marked as G1 on the survey plan along with a mixed species linear group just to the north of the access drive, shown as G2, were recorded and are detailed below. Trees too small to be recorded or beyond influence included elders on the bramble-covered bank on the western boundary and a clipped, multi-stemmed Leyland cypress on the boundary with 15 Mill Farm Drive.

- ✱ Group 1 (category C) – Leyland and Lawson cypress hedge; height 6-7m; 2m-3m wide; maximum stem ø 300mm.
- ✱ Group 2 (category C) – Leyland cypress, goat willow, spotted laurel, cabbage palm and Euonymus; height 3-7m; 2m-3m wide; maximum stem ø 100mm.

9.0 TREE APPRAISAL

- 9.1 Individual tree details and comments are listed in the appended BS 5837 survey schedule detailed at Appendix 1.

ARBORICULTURAL IMPACT ASSESSMENT

10.0 BELOW GROUND CONSTRAINTS – ROOT PROTECTION AREA (RPA)

- 10.1 Section 3.7 of BS 5837: 2012 states that – “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. “
- 10.2 The RPA calculations have been produced using the information gathered from the tree survey and section 4.6.1 of BS 5837:2012. This indicates the RPA in m² and the minimum required all round radial distances for rooting zone protection and allows a view to be taken as to whether the trees can be retained safely without undue damage to their root systems. The RPA calculations are detailed in the appended tree survey and the initial dimensions marked on the 1:750 @ A4 RPA and shade plan (Appendix 5).
- 10.3 Tree root morphology can be affected by numerous factors; a availability of water, aeration, soil type, temperature and structure, compacted or impervious surfaces and proximity to buildings and other structures all affect the way roots develop and although the RPAs are marked on the plan as uniform polygons the actual root systems will be far more irregular. Root mapping or hand excavation under arboricultural supervision could determine whether significant roots extend beyond the RPAs and require greater protection in relation to construction or whether it may be possible to develop within the RPA without a negative impact on the rooting environment.
- 10.4 The majority of the individual surveyed trees are growing in unsurfaced ground and I think it unlikely that the nominal RPAs vary significantly from those indicated at Appendix 5; however, the heavily compacted surface of the access track means that root development of T1, T13, T14, and the cypress hedge (G1) is probably more extensive to the south.

11.0 ABOVE GROUND CONSTRAINTS

- 11.1 Consideration should be given to the effects that the current tree size, future growth potential, shade levels and leaf and fruit

nuisance may have on the proposed development. Tree height and crown spread measurements are detailed in the appended tree survey; the crown spread of the tree and the shadow pattern through the main part of the day is indicated on the 1:750 @ A4 RPA and shade plan (Appendix 5).

12.0 COMMENT

- 12.1 The 1:750 @ A4 Development proposal in relation to RPA plan (Appendix 6) shows that with the exception of Unit 1, which impacts on around 0.3% of the nominal RPA of T2, construction of the proposed dwellings takes place beyond the RPA of the surveyed trees.
- 12.2 The two poplars beyond the southern boundary (T1 & T11) are mature and approaching their full height and while the shade pattern cast by T1 may impact marginally on Unit 1 early in the morning, for the bulk of the day the proposed dwellings will be in full sunlight. The oaks, limes and eucalyptus in the group immediately to the east of the proposed development are still relatively small and have the potential to attain large dimensions. Proximity of the trees to the static caravans means that whether the development proceeds or not there is likely to be a requirement for future tree management; however, their protected status means this can be determined by the Local Planning Authority to ensure standards meet those set out in BS 3998:2010 British Standards Tree work – Recommendations. Whilst the effect of leaf fall is not considered a greater nuisance to the development proposal than at present, provision should be made for ease of maintenance of gutters and gullies.
- 12.3 The heavily compacted but unsurfaced access track extends partially through the RPA of trees along the southern boundary. The narrow drive from Paghams Road means there will be restricted access for heavy plant so I anticipate that the nature of the track will provide suitable ground protection for anticipated levels of plant and machinery activity. If the surface of the access track is not considered suitable in the long-term, installation of a no-dig Three Dimensional Cellular Confinement System (Geoweb® by Greenfix or similar), a method statement for which is shown at Appendix 11, will prevent further compaction of the rooting environment.

12.4 While the Category U apple (T9) and willow (T10) are not viable in the long term neither do they represent a significant risk. Their retention may provide a degree of habitat potential.

13.0 CONCLUSION

13.1 With appropriate precautionary measures I consider the development proposal at the Inglenook Hotel is feasible, in relation to the surveyed trees, for the following reasons:

- There are no requirements for tree removal or pruning so the arboricultural characteristics of the area remain unchanged.
- I do not believe that current or future growth, levels of shade created by the trees and leaf fall to be any more detrimental or a greater nuisance to the proposed development than it could to the existing dwellings.
- The use of protective barriers, precautionary measures and arboricultural supervision and monitoring will prevent damage and detrimental impact on the current and long-term health of the trees.

14.0 DETAILS

14.1 Date of tree survey - 23.02.2018 & 28.02.2018

14.2 Present at tree survey - Jonathan Rodwell Cert Arb LA(ABC); Tech ArborA

14.3 Date of report - 02.03.2018

14.4 Contact details:

CONTACT	NAME	DETAILS
Local Planning Authority	Arun District Council	

Arc hite c ts	ADM Arc hite c
Arb oric ultura l Consulta nts	Be e c h d o w n Arb oric ulture Ltd

Re fe re n c e s

Roberts, J. Jackson, N. Smith, M. (2006). Tree Roots in the Built Environment. The Stationery Office
BSI British Standards (2012) BS 5837:2012 Trees in relation to demolition and construction –
Recommendations, Fourth (Present) Edition. BSI

Jona than Rod well Cert Arb LA(ABC); TechArborA
Be e c h d o w n Arb oric ulture Ltd

2nd Ma rc h 2018

ARBORICULTURAL METHOD STATEMENT

The arboricultural method statement includes the following plans:

Appendix 7	1:750 @A4	Tree protection plan showing position of protective barriers.
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15.0 PROTECTIVE BARRIERS AND CONSTRUCTION EXCLUSION ZONE.

15.1 Prior to the commencement of site work and before any machinery or materials are brought onto the site, protective barriers, marked as a dark green dotted line on the tree protection plan (Appendix 7), must be erected, around the Root Protection Area (RPA) to create a construction exclusion zone beyond the working area.

15.2 The construction exclusion zone, shown as green horizontal hatching on the tree protection plan, will be afforded protection at all times during the development process; strictly no access, construction activities, mixing materials or storage will be allowed.

15.3 The barriers will have weatherproof signs attached stating that it is protecting a construction exclusion zone and that no works are permitted beyond the barrier; the protective barrier should remain in place for the duration of the development process.

15.4 The protective barriers should be positioned in accordance with the tree protection plan (Appendix 7) and should be constructed as per figure 2 of BS 5837:2012 (shown at Appendix 8) and consist of a vertical and horizontal scaffold framework, well braced to resist impacts. The vertical tubes should be spaced at a maximum interval of 3m and driven securely into the ground. Onto this, weld mesh panels should be fixed with wire or scaffold clamps. Care should be taken when locating the vertical and bracing poles to avoid roots; if the presence of roots precludes the use of driven poles, above ground stabilising using struts mounted on a block tray, constructed as per figure 3 b) of BS 5837:2012 may be used.

16.0 FOUNDATION CONSTRUCTION

16.1 Foundation depth should be determined by the architect or a structural engineer and with reference to NHBC Chapter 4.2 – Building near trees.

- 16.2 Excavation for strip foundations within the RPA of T2 should be undertaken by hand and under arboricultural supervision. Any roots exposed should be immediately covered to prevent drying; the project arboriculturalist will determine whether individual roots less than 25mm diameter may be severed. If the size and quantity of roots encountered during excavation for the foundations exceed levels that the project arboriculturalist finds acceptable an engineer designed piled foundation positioned to avoid major root masses and leaving the rooting environment intact may be required.
- 16.3 A piled foundation will leave the soil level within the RPA of T2 unchanged and the surface undisturbed. A 150mm biodegradable void former will allow gaseous exchange and water infiltration where the foundation interacts with the RPA. The piles will be sleeved to a depth of 3m to reduce friction and the potential for heave; the sleeved piles will also reduce the potentially harmful effects of uncured concrete on tree roots.
- 16.4 The location of the individual piles should follow hand excavation or compressed air soil displacement, to a depth of at least 600mm, to avoid significant roots or root masses and prevent root severance. Use of the smallest sized pile possible will both reduce the risk of hitting and damaging significant roots and limit the size of the piling rig required.

17.0 INFRASTRUCTURE REQUIREMENTS

- 17.1 If service runs impact upon RPAs, installation should be undertaken with reference to section four of the National Joint Utilities Guidance – volume 4 Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees, to reduce the risk of damage to the roots and rooting environment of retained trees.
- 17.2 Undisclosed siting of service runs, above ground services, CCTV cameras, electrical sub-stations, refuse stores, lighting and other infrastructure requirements can lead to unnecessary tree pruning or root loss during or post development. Should any infrastructure requirements become necessary post planning the redesign should be discussed with the project arboriculturalist and, if necessary, the permission of the local planning authority obtained.

18.0 ADDITIONAL PRECAUTIONS

- 18.1 No storage or mixing of materials to take place within the construction exclusion zone or in the ground protected RPA.
- 18.2 No storage or mixing of materials will take place in any location where they may leak into the construction exclusion zone or RPA.
- 18.3 Materials which may contaminate the soil will not be discharged within 10m of the tree stems or mixed in any location where gradients allow contaminants to run towards RPAs.

19.0 SUPERVISION AND MONITORING

- 19.1 It will be the responsibility of the main contractor to ensure that any conditions attached to the planning consent are adhered to at all times and that a monitoring regime with regard to tree protection on site is adopted.
- 19.2 An arboriculturalist should be appointed to monitor tree protection measures and address any arboricultural issues that may arise.
- 19.3 The project arboriculturalist should mark the positions of the protective barriers and inspect them once erected and prior to site work commencing.
- 19.4 In addition to the scheduled supervision regular site visits to inspect the protective barriers may be required. Frequency of the visits is dependent on the progress of the development but should take place every two to four weeks of continuous site activity.
- 19.5 A copy of a site visit and arboricultural supervision record is shown at Appendix 9.
- 19.6 A copy of an arboricultural monitoring record is shown at Appendix 10.
- 19.7 The main contractor will be responsible for ensuring subcontractors comply with the arboricultural method statement and do not undertake any operation that is likely to impact adversely upon any tree on site.

- 19.8 The main contractor will ensure that the build sequence is appropriate to ensure that no damage occurs to the trees during the development process.

20.0 SEQUENCE OF EVENTS

- 20.1 Sequence of tree protection measures in relation to phases of development.

Site meeting	Project arboriculturalist to discuss tree protection measures with architect/developer and local authority arboricultural officer.
Protective barriers	Installation of protective barriers prior to excavation and foundation construction.
Supervision	Arboricultural supervision of excavation for foundations within RPA of T2.
Monitoring	Arboricultural monitoring every two to four weeks of continuous site activity.
Protective barriers	Removal of protective barriers on completion of development proposal.

- 20.2 Should circumstances arise where unscheduled work may impact upon trees or tree protection the work should cease until the project arboriculturalist has been consulted and the local planning authority arboricultural officer informed.

BS5837:2012 Tree Survey

Beechdown Arboriculture Ltd

Client: ADM
 Project: Inglenook Hotel
 Survey Date: 23/02/2018 - 28/02/2018
 Surveyor: Jonathan Rodwell

Club Cottage, Top Road
 Slindon
 Arundel
 West Sussex
 BN18 0PP

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Prelim	Survey Comment		ERC
			No	Ø (mm)	Spread (m)	Clear (m)								
T1												Estimated Measurements		
Lombardy Poplar <i>Populus nigra 'Italica'</i>		24	3	927 (Eq)	N E S W	6 7 7 3	6 7 3 3	M A: 389.1 R: 11.12	Fair	C: Fair S: Fair B:				B.1 20 to 40 yrs
T2														
Cider Gum <i>Eucalyptus gunnii</i>		15	2	531 (Eq)	N E S W	4 5 8 5	3.5 2 2 3	SM A: 127.7 R: 6.37	Good	C: Fair S: Fair B: Fair				B.1 20 to 40 yrs
T3														
Sycamore <i>Acer pseudoplatanus</i>		12	1	145	N E S W	1 1 2 3	5 6 3 3	Y A: 9.5 R: 1.73	Good	C: Good S: Fair B: Fair				C.1 >40 yrs
T4														
Common Oak <i>Quercus robur</i>		13	1	360	N E S W	3 7 3 5	7 4 3 3	Y A: 58.6 R: 4.31	Good	C: Good S: Good B: Good				B.1 >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 (Eq)	Diameter Equivalent stem diameter using BS5837:2012 definition	

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		
T5													
Small-Leafed Lime <i>Tilia cordata</i>		13.5	1	380	N E S W	4 7 3 4	3 4 2 2	SM A: 65.3 R: 4.55	Good	C: Good S: Fair B: Fair			B.1 -----

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		
T11											Estimated Measurements	
Lombardy Poplar <i>Populus nigra 'Italica'</i>	26	2	640 (Eq)	N	4	3	M	A: 185.5 R: 7.68	Fair	C: Fair S: Ivy B:		20 to 40 yrs
				E	6	2						
				W	4	1.5						
T12												
Common Hawthorn <i>Crataegus monogyna</i>	5.5	4	246 (Eq)	N	2	2	M	A: 27.5 R: 2.95	Fair	C: Poor S: Fair B: Fair		20 to 40 yrs
				E	3	2						
				S	2	2						
				W	2	2.5						
T13												
Sweet Chestnut <i>Castanea sativa</i>	7.5	1	490	N	1	1.5	M	A: 108.6 R: 5.87	Fair	C: Poor S: Fair B: Fair	Pollard	>40 yrs
				E	1	2						
				S	2	3						
				W	1.5	2						
T14												
Sweet Chestnut <i>Castanea sativa</i>	7	1	390	N	1	0.5	SM	A: 68.8 R: 4.67	Fair	C: Poor S: Fair B: Fair	Pollard	>40 yrs
				E	1	0.5						
				S	2	1						
				W	1	0.5						

Appendix 2 – tree survey definition of terms

<u>Category</u>	<u>Definition</u>										
Tree ID/tag	Identification number and/or tree tag number.										
Species	Common and/or scientific name.										
Height	To the nearest 0.5m below 10m; to the nearest 1m above 10m.										
Ø/No. of stems	Stem diameter measured at 1.5m or equivalent with reference to Annex C of BS5837:2012.										
First branch	Height above ground level and direction of first significant branch.										
Crown spread	Measured at the cardinal points in metres.										
Canopy height/clearance	Crown clearance in metres above ground level at the cardinal points.										
RPA	Root protection area (m ²) and length of radial protection (m).										
Age class	<table> <tr> <td>Young</td><td>Less than approximately 10 years old.</td></tr> <tr> <td>Semi-mature</td><td>Less than 1/5 of typical life expectancy.</td></tr> <tr> <td>Mature</td><td>Between 1/5 and 5/5 of typical life expectancy.</td></tr> <tr> <td>Over-mature</td><td>Tree having reached its maximum life span and declining in health and size.</td></tr> <tr> <td>Veteran</td><td>A tree that is of interest biologically, aesthetically or culturally because of its age, size or condition.</td></tr> </table>	Young	Less than approximately 10 years old.	Semi-mature	Less than 1/5 of typical life expectancy.	Mature	Between 1/5 and 5/5 of typical life expectancy.	Over-mature	Tree having reached its maximum life span and declining in health and size.	Veteran	A tree that is of interest biologically, aesthetically or culturally because of its age, size or condition.
Young	Less than approximately 10 years old.										
Semi-mature	Less than 1/5 of typical life expectancy.										
Mature	Between 1/5 and 5/5 of typical life expectancy.										
Over-mature	Tree having reached its maximum life span and declining in health and size.										
Veteran	A tree that is of interest biologically, aesthetically or culturally because of its age, size or condition.										
Structural/physiological condition	General condition of tree crown, stem and basal area structure and form - assessed as: <table> <tr> <td>Good</td><td>Good form, structure and vitality; no apparent signs of decay, structural weakness, decline in health, pests or diseases.</td></tr> <tr> <td>Fair</td><td>Moderate form and structure.</td></tr> <tr> <td>Poor</td><td>Poor form or structure; significant decay, structural weakness or decline in vitality.</td></tr> </table>	Good	Good form, structure and vitality; no apparent signs of decay, structural weakness, decline in health, pests or diseases.	Fair	Moderate form and structure.	Poor	Poor form or structure; significant decay, structural weakness or decline in vitality.				
Good	Good form, structure and vitality; no apparent signs of decay, structural weakness, decline in health, pests or diseases.										
Fair	Moderate form and structure.										
Poor	Poor form or structure; significant decay, structural weakness or decline in vitality.										
BS 5837 category (Cat)	BS grading category described in detail at appendix 3.										
ERC	Estimated remaining contribution.										

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Ingknook Hotel – BS 5837 tree survey/report – February 2018

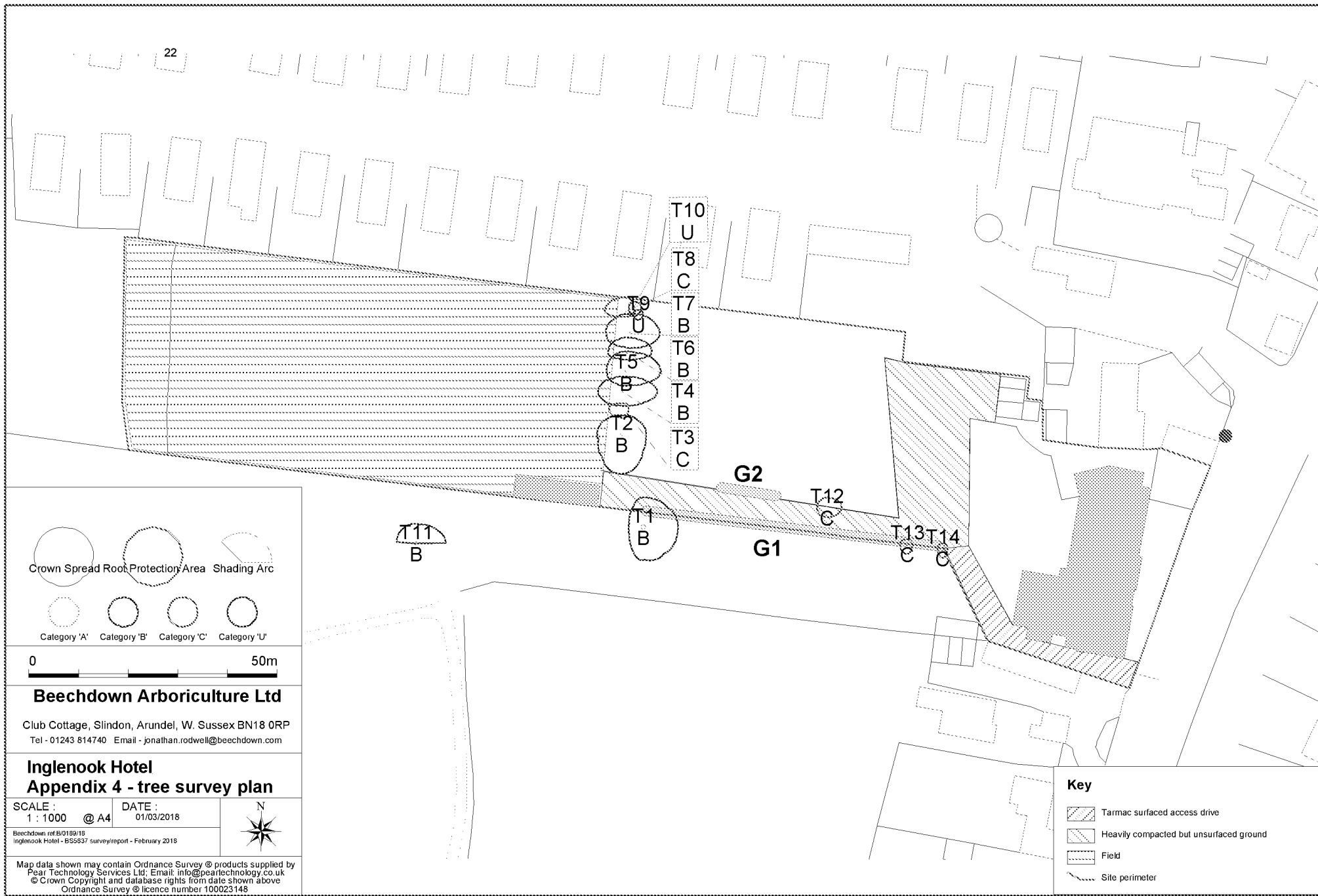
Trees unsuitable for retention

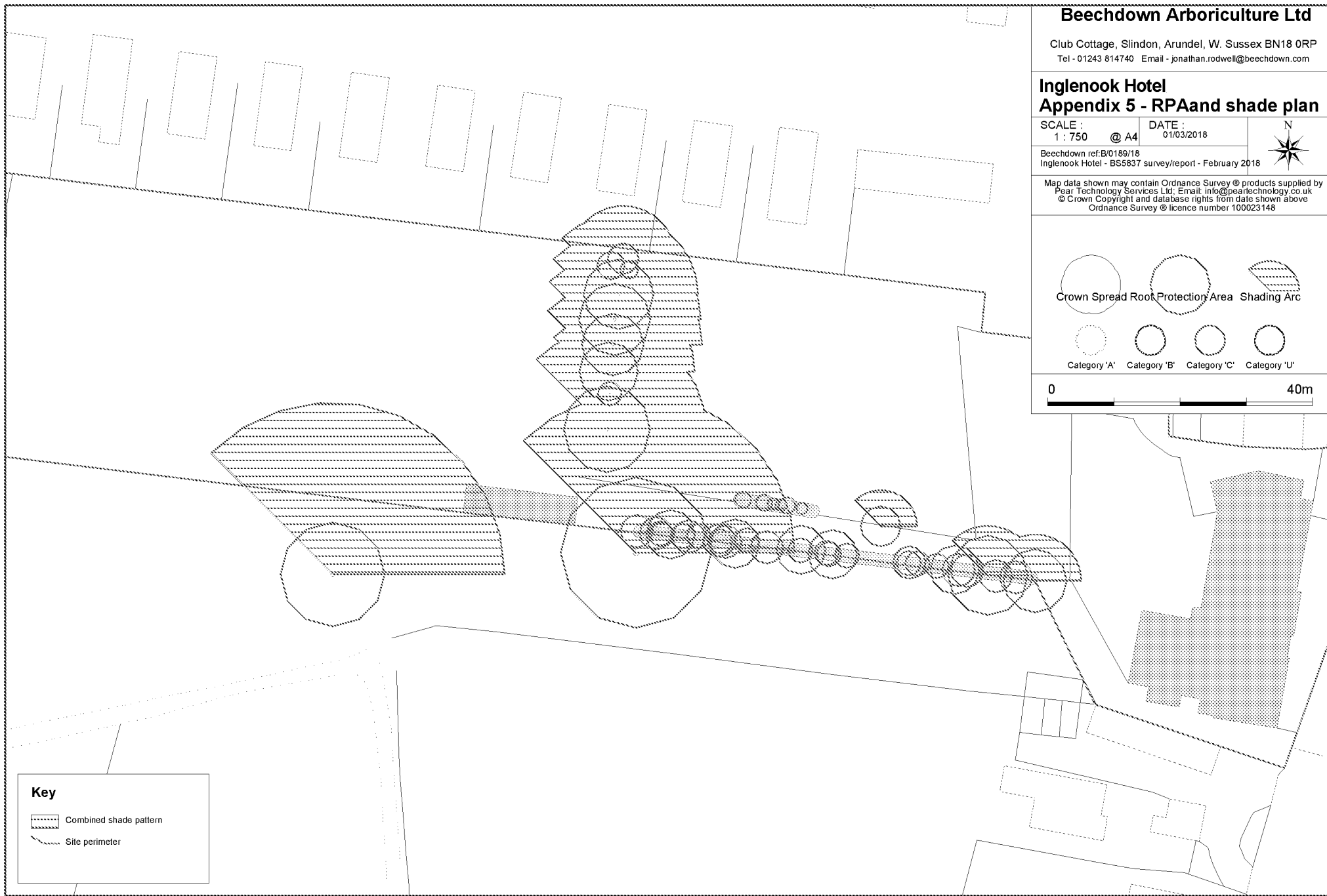
<u>Category</u>	<u>Definition</u>
Category U	Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years – shown in dark red on plans.

Trees to be considered for retention

<u>Category</u>	<u>Definition</u>
Category A	Trees of high quality with an estimated remaining life expectancy of at least 40 years – shown in light green on plans. <u>1 - Mainly arboricultural qualities</u> – trees that are good examples of the species, especially if rare or unusual; or those that are essential components of groups, formal or semi-formal arboricultural features. <u>2 - Mainly landscape qualities</u> – trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features. <u>3 - Mainly cultural values, including conservation</u> – trees, groups or woodlands of significant conservation, historical, commemorative or other value.
Category B	Trees of moderate quality with an estimated life expectancy of at least 20 years – shown in mid blue on plans <u>1 - Mainly arboricultural qualities</u> – trees that might be included in category A but are downgraded because of impaired condition (e.g. presence of significant but remediable defects) to the extent that they are unlikely to be suitable for retention beyond 40 years; or trees lacking the particular quality necessary for category A designation. <u>2 - Mainly landscape qualities</u> – trees present in numbers, usually growing as groups or woodlands, that attract a higher collective rating than they might as individuals; or groups of trees situated so as to make little visual contribution to the wider locality.

	<u>3 - Mainly cultural values, including conservation</u> – trees with material conservation or other cultural values.
Category C	Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter under 150mm - shown in grey on plans. <u>1 - Mainly arboricultural qualities</u> – unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories. <u>2 - Mainly landscape qualities</u> – 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 landscape benefits. <u>3 - Mainly cultural values, including conservation</u> – trees with no material conservation or other cultural values.





Beechdown Arboriculture Ltd

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Tel - 01243 814740 Email - jonathan.rodwell@beechdown.com

Inglenook Hotel Appendix 6 - development proposal in relation to RPA

SCALE :
1 : 750

@ A4

DATE :
01/03/2018



Beechdown ref: B/0189/18
Inglenook Hotel - BS5837 survey/report - February 2018

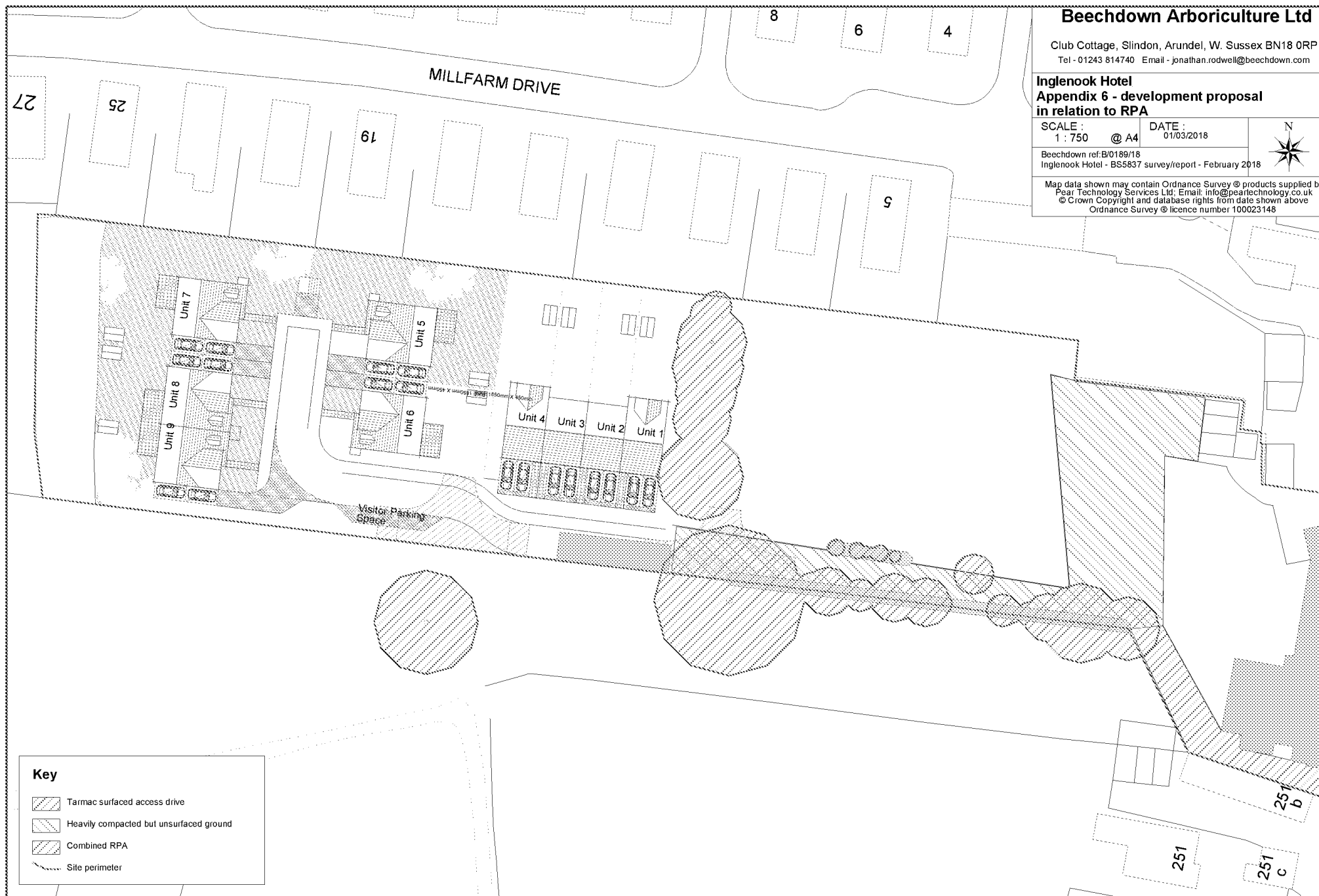
Map data shown may contain Ordnance Survey® products supplied by
Pear Technology Services Ltd. Email: info@peartechnology.co.uk
© Crown Copyright and database rights from data shown above
Ordnance Survey® licence number 100023148

MILLFARM DRIVE

Visitor Parking
Space

Key

- Tarmac surfaced access drive
- Heavily compacted but unsurfaced ground
- Combined RPA
- Site perimeter



Beechdown Arboriculture Ltd

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Ingenook Hotel Appendix 7 - Tree protection plan

SCALE : 1 : 750 @ A4 DATE : 01/03/2018

Beechdown ref: B/0189/18
Ingenook Hotel - BS5837 survey/report - February 2018

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MILLFARM DRIVE

The construction exclusion zone, shown as green horizontal hatching, will be afforded protection at all times during the development process; strictly no access, construction activities, mixing materials or storage will be allowed.

Hedges and structures forming effective protective barriers to construction exclusion zone.

Position of protective barriers, marked as dark green dotted line, forming construction exclusion zone.

Visitor Parking Space

G2

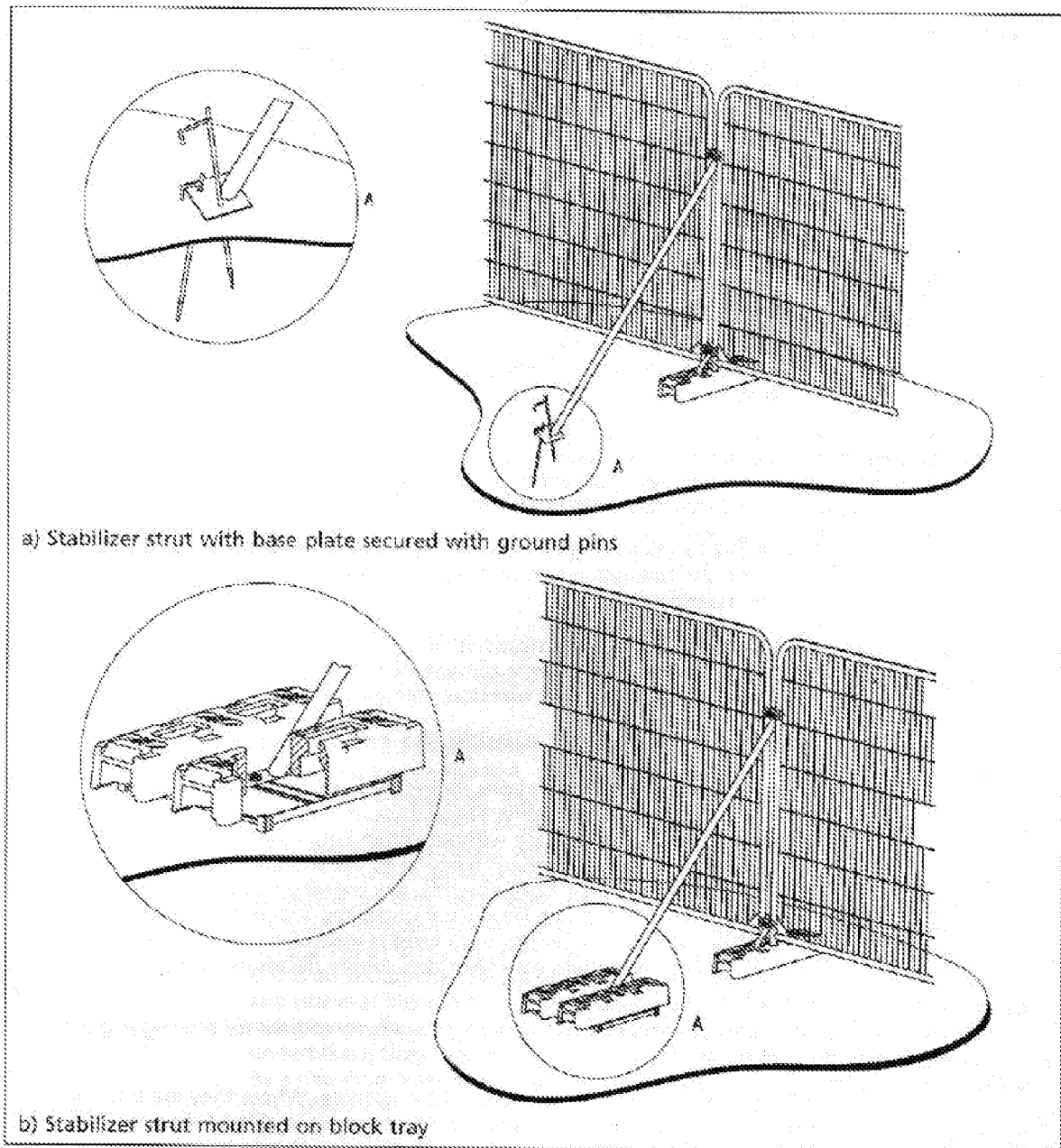
G1

Existing compacted surfaces providing suitable ground protection for anticipated levels of vehicle activity.

Key

-  Tarmac surfaced access drive
-  Construction exclusion zone
-  Combined RPA
-  Site perimeter
-  Protective barrier

Figure 3 Examples of above-ground stabilizing systems



Appendix 9 - Record of Site Visits and Arboricultural Supervision

Client		Location	
ADM Architects.		Inglebrook Hotel, Pagham Road, Bognor Regis PO21 3QB.	
Local planning authority	Arun District Council.		
Planning application	-		
Development	Construction of nine dwellings.		

Stage of development	Action required
Pre-construction	Mark position of protective barrier forming construction exclusion zone.

Notes	
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Arboriculturalist	
Signed	
Date	

NOTE - COPY OF COMPLETED FORM TO BE SCANNED AND SENT TO IPA ARBORICULTURAL OFFICER

Beechdown ref: B/0189/18
 Inglebrook Hotel – BS 5837 tree survey/report – February 2018

Appendix 9 - Record of Site Visits and Arboricultural Supervision

Client		Location	
ADM Architects.		Inglebrook Hotel, Pagham Road, Bognor Regis PO21 3QB.	
Local planning authority	Arun District Council.		
Planning application	-		
Development	Construction of nine dwellings.		

Stage of development	Action required
Pre-construction	Site visit to check position of protective barrier prior to construction activity.

Notes	
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Arboricultural list	
Signed	
Date	

NOTE - COPY OF COMPLETED FORM TO BE SCANNED AND SENT TO LPA ARBORICULTURAL OFFICER

Beechdown ref: B/0189/18
 Inglebrook Hotel – BS 5837 tree survey/report – February 2018

Appendix 9 - Record of Site Visits and Arboricultural Supervision

Client		Location	
ADM Architects.		Inglebrook Hotel, Pagham Road, Bognor Regis PO21 3QB.	
Local planning authority	Arun District Council.		
Planning application	-		
Development	Construction of nine dwellings.		

Stage of development	Action required
Construction	Supervise hand excavation for foundations impacting on the RPA of T2.

Notes	
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Arboricultural list	
Signed	
Date	

NOTE - COPY OF COMPLETED FORM TO BE SCANNED AND SENT TO LPA ARBORICULTURAL OFFICER

Beechdown ref: B/0189/18
 Inglebrook Hotel – BS 5837 tree survey/report – February 2018

Appendix 10 - Arboricultural Monitoring Form

Client	ADM Architects.		Location	Ingle nook Hotel, Pagham Road, Bognor Regis PO21 3QB.
Local planning authority	Arun District Council.			
Planning application	-			
Development	Construction of nine dwellings.			

Area inspected	Comments	Action required
Protective barriers		
Construction exclusion zone		
Site storage/material mixing		
Other		
Additional Comments		

Arboricultural list	
Signed	
Date	

NOTE - COPY OF COMPLETED FORM TO BE SCANNED AND SENT TO LPA ARBORICULTURAL OFFICER

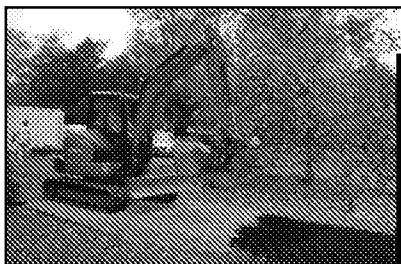
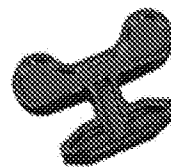
Beechdown ref: B/0189/18

Ingle nook Hotel – BS 5837 tree survey/report – February 2018

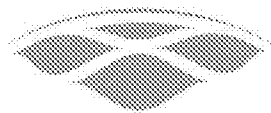
Geoweb Tree Root Protection Installation Guide

Installation Recommendation

1. **Preparation of the subgrade ready for Geoweb tree root protection no dig solution. Whilst inside the tree rooting area, all actions must ensure no detrimental effect on the ground condition. The tree rooting area is the surface which is being protected**
 - Removal of surface vegetation using prior agreed methods with local authority. No methods of removal which will cause compaction to the subgrade can be used. This includes the use of plant, vehicles and machinery. Examples of appropriate methods include hand tools or herbicide
 - When creating a level subgrade, do not grade off humps or level off through compaction, as these may contain tree roots. Rather infill hollows with a permeable material such as clean stone or sharp sand to create a level surface.
 - All external debris, such as rocks and waste, should be removed
 - When an existing hard surface is scheduled for removal, care should be taken not to disturb tree roots that may be present beneath. Hand held tools or appropriate machinery should be used to remove the existing surface, working backwards over the area so not trafficking the exposed area
2. **TRP4000 Non-woven Geotextile**
 - Lay out the TRP4000 over the prepared area, overlapping joins by a minimum of 300mm, dependent on soil conditions
 - When overlapping the TRP4000, ensure the overlap is in the same direction as the Geoweb will be extended. This will ensure the geotextile does not pull up when extending the Geoweb
 - If a site specific solution has been provided by Greenfix which includes a sub-base, this will require installation through non compaction methods
3. **Installation of the Geoweb panels**
 - Lay out the collapsed Geoweb on the TRP4000 and secure at one end in the middle of the width.
 - Extend the panel to 6.6m length, and secure its length at the other end
 - Extend the width of the Geoweb to 2.6m wide, and secure each corner
 - Ensure the panel is secured at 6.6m x 2.6m, as this will achieve the 259mm by 224mm cell diameter required.
4. **Connection of the panels to create one single mattress**
 - All panels must be adjoined to one another both side by side and end to end
 - Simply connect the Geoweb with the supplied ATRA® keys, through the aligned slots



For enquiries and recommendations please contact



GEOWEB®

Geoweb Tree Root Protection Installation Guide

1. Infill of the Geoweb for tree root application

- Compacted, non-porous material, such as M.O.T. Type 1 / crushed stone with fines should not be used for tree root protection
- Infill Geoweb panel with 4-20mm clean angular stone, ensuring Geoweb is not visible and is overfilled by a minimum 25mm. Plant and tracked vehicles should not drive on exposed Geoweb as this will lead to tearing and damage.
- Infill towards the tree, using the filled Geoweb cells as the working platform
- For a stone specification sheet please contact Greenfix Ltd go to www.greenfix.co.uk

2. Compaction of the infilled material

- Compaction of the Geoweb system is not required on generic site conditions, as the infill will secure its own level when trafficked over a short time
- If on poor / site specific conditions, complete 4 passes of a non-vibrating, smooth wheeled roller over the 25mm overfill. Refill and roller as necessary to ensure a 25mm surcharge remains

3. Edging options

- Where edging is required for light structures, such as footpaths, above ground peg and treated timber edging may be acceptable. Where areas of hard surface require edge support, the use of pinned sleepers, gabions or non-invasive haunch kerbing can provide appropriate solutions.
- For recommendations and details (CAD or PDF), please contact Greenfix for assistance

4. Surface options available

- Geoweb acts as a sub-base to all available surfaces on the market, including asphalt, block-paving, resin bound, grass vegetation or gravel etc.
- For tree rooting areas, the surface must be porous unless approved otherwise by local authority.
- For details of surface options please contact Greenfix for assistance

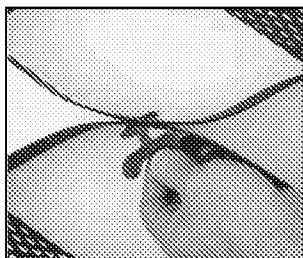
Additional Greenfix services available

For an on-site installation visit on the day of installation on any purchase of Geoweb TRP, please contact Greenfix for recommendations and support.

Site specific calculations and technical recommendations are also available via Greenfix.

Greenfix can offer an on-site visit to recommend correct installation to the calculated recommendation if it has been complete via Greenfix

This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own experimentation. It is not intended however to substitute for any testing you may need to conduct to determine for yourself the suitability of the product for your particular use. Since we can not anticipate all variations in actual end use conditions, Greenfix Ltd make no warranties and assumes no liabilities in connection with this information. Nothing in this publication is to be considered as a licence to operate under or a recommendation to infringe any patent right



For enquiries and recommendations please contact