

Tree survey & report

Thistledown Cottage,
Harbolets Road, West
Chiltington, Pulborough RH20
2LG

Prepared by

Jonathan Rodwell Cert Arb L4(ABC); TechArborA

December 2024



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Appendices:

1 - Tree survey schedule. 2 - Definition of terms. 3 - BS 5837 grading categories. 4 - Tree constraints plan. 5 - Development proposal plan. 6&7 - Tree protection plans. 8 – Landscape plan. 9- Protective barriers. 10 - Site visit and arboricultural supervision record. 11 - Arboricultural monitoring. 12 - Geoweb installation guide.

SUMMARY

- The quality of 13 trees within influence of a development proposal was assessed;
- an arboricultural impact assessment of the development proposal was prepared;
- the proposal is for demolition of existing buildings and erection of 2 x new build dwellings;
- implementation of the development proposal does not require the removal of any trees and the the arboricultural characteristics of the site will remain unchanged;
- precautionary measures will be required to protect the retained trees throughout the development process.

Details

- Date of survey - 29th November 2024
- Present at survey - Jonathan Rodwell Cert Arb L4(ABC); TechArborA
- Date of report - 5th December 2024

Contact Details

<u>Local Planning Authority</u>	Horsham District Council	Tel – 01403 215187 Email – planning@horsham.gov.uk
<u>Architects</u>	Manorwood	Tel - 01243 201102 Email – Ben@manorwood.co.uk
<u>Arboricultural Consultants</u>	Beechdown Arboriculture Ltd	Tel – 01243 814740 Email - jonathan.rodwell@beechdown.com

References

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

Jonathan Rodwell Cert Arb L4(ABC); TechArborA
Beechdown Arboriculture Ltd

5th December 2024

1.0 Introduction

1.1 I have received instruction from Mr & Mrs Grocott to report on arboricultural matters in relation to proposed development of land attached to Thistledown Cottage, Harbolets Road, West Chiltington, Pulborough RH20 2LG.

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.

1.5 **Qualifications and experience** – I am a qualified arboriculturist and Technician Member of the Arboricultural Association with more than 30 years' experience working with trees. I have a National Certificate in Arboriculture, the ABC Level 4 Certificate in arboriculture and the LANTRA Professional Tree Inspection Certificate along with certificates of training/attendance including arboricultural consultancy & report writing, veteranisation, valuing & managing veteran trees, subsidence investigation, assessment of tree forks, mortgage reports and risk assessment for commercial arboriculture.

2.0 Documents Provided

2.1 Drawings prepared by Manorwood:

2404TH_R0_002	Proposed block plan	1:200 @A2
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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 numbering used in previous surveys.
- 3.3 Data was recorded digitally, the individual trees plotted via GPS and their positions marked on the 1:300 @ A3 tree constraints 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.

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	0 trees
Category A	0 trees
Category B	11 trees
Category C	2 trees

5.0 Legislation

- 5.1 **Tree Preservation Orders & Conservation Areas** - Local Planning Authority (LPA) online mapping showed that the application site is not within a designated conservation area and that no trees within influence of the proposal were subject to a tree preservation order.

- 5.2 **Wildlife legislation** – 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.

6.0 Development Proposal

- 6.1 The proposal is for demolition of existing buildings and erection of 2 x new build dwellings.

7.0 Site Description

- 7.1 The area for proposed development consists of two timber & brick single-story outbuildings in an agricultural setting adjacent to Harbolets Road. Double gates open into a hard-surfaced & concrete yard which extends to a ditch with the woodland garden and fields beyond to the east.
- 7.2 The application site is in a rural location and surrounded by farmland. The wider landscape includes individual trees or small groups as roadside trees, in domestic settings and in hedgerows bordering lanes and along field boundaries.
- 7.3 The British Geological Survey records the site geology as Weald Clay Formation mudstone sedimentary bedrock while the superficial geology is described by the UK Soil Observatory (www.ukso.org) as a slowly permeable, seasonally wet, slightly acid but base rich loamy & clayey soil. 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 All the recorded trees were in the grounds attached to Thistledown Cottage. Trees and shrubs that were too small to be recorded or beyond influence of the development proposal included roadside hedgerows of hazel & elm; elder and ash regeneration on the edge of the ditch to the north-west; coppiced hazel, cherry, English oak, holly, elder & ash by the existing gateway to the field; mature English oaks & ash in the woodland garden to the south and all trees & shrubs in the garden attached to the cottage.

9.0 Tree Appraisal

- 9.1 Details and comments of individual trees and groups are listed in the appended BS 5837 survey schedule detailed at Appendix 1.

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 1:30all 0 @ A3 tree constraints plan (Appendix 4).
- 10.3 Tree root morphology can be affected by numerous factors; 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 structural roots or root masses & likely mycorrhizal associations 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 recorded trees are all growing in unsurfaced ground. The only possible constraints to root development are the ditch and concrete apron to the north & east of the English oaks (T1 & T5); it is possible that root development here is a little more extensive in unsurfaced ground to the south and west as the modified RPA at the development proposal plan (Appendix 5) indicates.

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 trees and the shadow pattern through the main part of the day is indicated on the 1:300 @ A3 tree constraints plan (Appendix 4).

12.0 Comment

- 12.1 The 1:200 @A3 development proposal plan (Appendix 5) shows that demolition of the existing buildings and construction of the two new dwellings can be achieved with no impact on the recorded trees or the RPA.
- 12.2 As with the existing track - leading to the field to the west of the woodland garden – the proposed new track extends fully within the combined RPA of recorded trees. New surfacing here must use a no-dig construction technique that leaves the existing rooting environment intact.
- 12.3 Construction access, delivery of materials and removal of waste will be via the existing compacted yard & driveway.
- 12.4 The level of deadwood in the oaks is typical for mature trees in a woodland setting that have not been regularly pruned. It may be that some maintenance is required to manage deadwood once there is greater access beneath the trees but in general I do not consider the current or future growth of the trees to have a greater impact on the development proposed than for the existing site use and layout.
- 12.5 The key to successful re-development of the site with no adverse impact on the condition and health of the retained trees will be a carefully sequenced approach with appropriate tree protection and monitoring for the different phases of the project.

13.0 Conclusion

- 13.1 With appropriate precautionary measures I consider the proposed development at Thistledown Cottage is feasible, in relation to the recorded trees, for the following reasons.

- Implementation of the development proposal does not require the removal of any trees so the arboricultural characteristics of the site remain unchanged.

- I do not consider current or future growth of the trees to have a greater impact on the development proposal or to lead to increased pressure for removal or unsympathetic pruning any more for the proposed development than for the existing site use and layout.
- Precautionary measures will prevent damage and adverse effects on the current and long-term health of the retained trees.

ARBORICULTURAL METHOD STATEMENT

- The development process should follow a sequence that results in the least risk to the retained trees and with tree protective fencing and exclusion zones in place as per the tree protection plans (TPP).
- The arboricultural method statement includes the following tree protection plans.

<u>Appendix 6 & 7</u> <i>tree protection plans</i>	1:200@A3	• Tree protection plan showing position of protective barriers and construction exclusion zones for different stages of the development.
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14.0 Sequence of Events

14.1 Sequence of events, tree protection and precautionary measures in relation to phases of development.

<u>Pre-construction</u>	Site meeting	Project arboriculturalist to discuss tree protection measures with architect/developer and local authority arboricultural officer.
<u>Pre-construction</u>	Protective barriers	Project arboriculturalist to mark position of protective barrier forming construction exclusion zones.
	Protective barriers	Project arboriculturalist to check position of protective barrier forming construction exclusion zone.

<u>Construction</u>	Monitoring	Arboricultural monitoring every two to four weeks of continuous site activity.
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15.0 Protective Barriers & Construction Exclusion Zone

- 15.1 Prior to the commencement of construction work and before any machinery or materials are brought onto the site, protective barriers, marked as **a green broken line** on the tree protection plans (Appendix 6 & 7), must be erected, around the vulnerable Root Protection Area (RPA) to create a construction exclusion zone beyond the working area.
- 15.2 The construction exclusion zone, shown as **light purple shading** on the tree protection plan, will be afforded protection at all times during the development process; strictly no access, excavation, changes in soil levels, construction activities, mixing materials or storage will be allowed.
- 15.3 The barrier will have weather proof signs attached stating that it is protecting a **construction exclusion zone** and that **no works are permitted** beyond the barrier; the protective barrier must remain in place for the duration of the development process.
- 15.4 The protective barriers must be positioned in accordance with the tree protection plans and would typically be constructed as per figure 2 of BS 5837:2012 (shown at Appendix 9) and consist of a vertical and horizontal scaffold framework, well braced to resist impacts with vertical tubes spaced at a maximum interval of 3m and driven securely into the ground and onto which weld mesh panels would 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 or hard surfaces 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.
- **Construction exclusion zones – demolition & construction** – formed of nineteen weld mesh panels positioned on the woodland edge of the ditch and crossing over to join the corner of the woodshed at the southern end and the roadside fence at the northern end.
- 15.5 The heavily compacted surface of the yard & driveway will provide an appropriate working surface for the majority of machinery access, delivery of materials and removal of waste.

16.0 Demolition

16.1 Demolition and removal of the existing buildings will take place beyond the fenced RPA of retained trees, from within the footprint of the buildings or from existing hard-surfaces. Practical measures to manage any risk of damage to the retained trees may include:

- repositioning temporary fencing to maintain protection as site clearance progresses;
- use a top-down pull-back approach to demolition from within the footprint of the building;
- demolition waste to be removed by hand or with machinery sited outside the RPA or positioned on temporary ground protection;
- no excavation or changes to soil level within RPA after demolition;
- 100mm of top soil should be spread by hand if roots exposed on removal of existing hard surfaces;
- appropriate pruning, tying back branches or temporary protection of stems;
- if the demolition is undertaken during the summer months it may be necessary to hose down the trees if there is an accumulation of dust on the foliage.

16.2 Removal of the concrete aprons should wait until there is no further need for ground protection during site activity. Where tree roots may be present the removal should be undertaken using hand tools or plant, under arboricultural supervision, working backwards and using the remaining hardstanding as ground protection.

17.0 Foundation Construction

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

17.2 Excavation and construction of foundations for the dwellings takes place beyond the RPA of recorded trees; however, if roots are encountered during construction work:

- Careful use of hand tools will avoid bark damage of retained roots at the edge of the foundation if present;
- exposed roots or fibrous root masses that are to be retained should be immediately covered – with hessian or similar – to prevent drying;
- individual roots less than 25mm diameter that need to be removed should be cleanly severed, with secateurs or a pruning saw, far enough back

from the edge of the foundation (>100mm) that the effects of uncured cement do not impact tree health;

- the project arboriculturalist will determine whether it is possible to sever roots greater than 25mm diameter, whether bridging with a lintel may be possible or if an alternative foundation type is necessary;
- use of impermeable membranes to line the excavations before the concrete is poured will help prevent damage by the alkaline properties of cement.

18.0 Permanent Hard Surfacing Within RPA

18.1 Construction of the section of new access track to the field that extends through the combined RPA will use a no-dig specification with a porous and permeable base layer and surface finish. Appendix 12 provides a detailed installation guide for the Geoweb® tree root protection no-dig Three-Dimensional Cellular Confinement System as summarised below:

- Existing surface vegetation to be removed by hand or treated with herbicide as agreed with Local Planning Authority (LPA).
- Create a level subgrade by filling any hollows with permeable material, i.e., clean stone or sharp sand rather than removing or grading humps that may contain roots.
- To help prevent pollution contamination of the RPA a non-woven geotextile should be laid on the level subgrade.
- The new terrace will be formed from Geoweb panels placed on the geotextile and joined side to side.
- The Geoweb panels will be filled with porous, no-fines 4-20mm clean angular stone and using the already filled panels as the working platform.
- Pinned sleepers, gabions or non-invasive haunch kerbing may provide suitable edging.
- The finished surface must be permeable to moisture penetration and agreed with the LPA.

19.0 Infrastructure Requirements

19.1 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 their design should be discussed with the project arboriculturalist and, if necessary, the permission of the local planning authority obtained.

20.0 Additional Precautions

- 20.1 No storage or mixing of materials to take place within the construction exclusion zone or in the ground protected RPA.
- 20.2 No storage or mixing of materials will take place in any location where they may leak into the construction exclusion zone or RPA.
- 20.3 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.

21.0 Landscaping Operations

- 21.1 On completion of the dwellings, driveway construction, hard landscaping and other associated works - and with no further requirement for machinery or plant on site - the protective barriers and ground protection can be removed to allow the soft landscaping and planting scheme to proceed.
- 21.2 A landscape specification should provide detail on subsoil grading and preparation along with topsoil cultivation and final grading. A planting schedule and landscape plan will show grass seed mixes and locations for proposed tree & shrub planting along with a detailed specification for planting, staking, mulching and aftercare.
- 21.3 Soil cultivation and preparation beneath the retained trees must be undertaken carefully by hand to avoid any damage to the roots and rooting environment.

22.0 Supervision and Monitoring

- 22.1 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.
- 22.2 An arboriculturalist should be appointed to monitor tree protection measures and address any arboricultural issues that may arise.
- 22.3 The project arboriculturalist should mark the positions of the protective barriers and inspect them once erected and prior to site work commencing.
- 22.4 In addition to any 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.

- 22.5 A copy of a site visit and arboricultural supervision record is shown at Appendix 10.
 - 22.6 A copy of an arboricultural monitoring record is shown at Appendix 11.
 - 22.7 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.
 - 22.8 The main contractor will ensure that the build sequence is appropriate to ensure that no damage occurs to the trees during the development process.
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Client: Mr & Mrs Grocott
Project: Thistledown Cottage
Survey date: 29th November 2024

Beechdown Arboriculture Ltd

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BS5837:2012 Assessment

Tree ID : T1				Tag :				Assessor : Jonathan Rodwell Cert Arb L4(ABC); TechArb				Bats : No									
Species : English oak <i>Quercus robur</i>				TPO :				Inspected : 29 November 2024				Cons Area : No									
								Next Insp : Not Required													
								1st Branch: 5m; south-east													
-----Stems-----				-----Health-----				-----RP-----				-----Clearance (m)-----				-----Spread (m)-----					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
22	1	840	Mature	Good	Ivy	Good	Good	B.1.2	>40 yrs	319.2	10.07	Pre Construction		5	3	3	3	9.5	10	13	8
Survey Comment : Moderate levels of deadwood in the crown and the remains of a broken branch stub to the south-west.																					
Tree Comment :																					

Tree ID : T2				Tag :				Assessor : Jonathan Rodwell Cert Arb L4(ABC); TechArb				Bats : No									
Species : English oak <i>Quercus robur</i>				TPO :				Inspected : 29 November 2024				Cons Area : No									
								Next Insp : Not Required													
								1st Branch: 6m; north													
-----Stems-----				-----Health-----				-----RP-----				-----Clearance (m)-----				-----Spread (m)-----					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
16	1	460	Mature	Good	Good	Fair	Good	B.1.2	>40 yrs	95.7	5.51	Pre Construction		3	3	3	2.5	5	5	6	5
Survey Comment :																					
Tree Comment :																					

BS5837:2012 Assessment

Tree ID : T3				Tag :				Assessor : Jonathan Rodwell Cert Arb L4(ABC); TechArb				Bats : No									
Species : English oak <i>Quercus robur</i>				TPO :				Inspected : 29 November 2024				Cons Area : No									
								Next Insp : Not Required													
								1st Branch: 4m; west													
Stems				Health				RP				Clearance (m)				Spread (m)					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
23	1	480	Mature	Good	Good	Fair	Good	B.1.2	>40 yrs	104.2	5.75	Pre Construction		3	11	3	2	2	8	4	4
Survey Comment :																					
Tree Comment :																					

Tree ID : T4				Tag :				Assessor : Jonathan Rodwell Cert Arb L4(ABC); TechArb				Bats : No									
Species : English oak <i>Quercus robur</i>				TPO :				Inspected : 29 November 2024				Cons Area : No									
								Next Insp : Not Required													
								1st Branch: 12m; north-west													
Stems				Health				RP				Clearance (m)				Spread (m)					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
24	1	470	Mature	Good	Good	Fair	Good	B.1.2	>40 yrs	99.9	5.63	Pre Construction		8	9	2	3	5	6	5	6
Survey Comment :																					
Tree Comment :																					

Tree ID : T5				Tag :				Assessor : Jonathan Rodwell Cert Arb L4(ABC); TechArb				Bats : No									
Species : English oak <i>Quercus robur</i>				TPO :				Inspected : 29 November 2024				Cons Area : No									
								Next Insp : Not Required													
								1st Branch: 5m; east													
Stems				Health				RP				Clearance (m)				Spread (m)					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
18	1	480	Mature	Fair	Good	Fair	Good	B.1.2	>40 yrs	104.2	5.75	Pre Construction		8	4	5	2.5	3	9	3	2
Survey Comment : Suppressed growth habit.																					
Tree Comment :																					

BS5837:2012 Assessment

Tree ID : T6				Tag :				Assessor : Jonathan Rodwell Cert Arb L4(ABC); TechArb				Bats : No									
Species : Ash				TPO :				Inspected : 29 November 2024				Cons Area : No									
<i>Fraxinus excelsior</i>								Next Insp : Not Required													
								1st Branch: 11m; south-east													
Stems				Health				RP				Clearance (m)				Spread (m)					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
24	1	250	Mature	Good	Good	Fair	Good	B.1.2	20 to 40 yrs	28.3	3	Pre Construction		19	10	10	19	3	2	2	2
Survey Comment :																					
Tree Comment :																					

Tree ID : T7				Tag :				Assessor : Jonathan Rodwell Cert Arb L4(ABC); TechArb				Bats : No									
Species : English oak				TPO :				Inspected : 29 November 2024				Cons Area : No									
<i>Quercus robur</i>								Next Insp : Not Required													
								1st Branch: 2.5m; north-east													
Stems				Health				RP				Clearance (m)				Spread (m)					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
24	1	795	Mature	Good	Good	Good	Good	B.1.2	>40 yrs	286	9.54	Pre Construction		2	2	2.5	2	7	5	4	6
Survey Comment :																					
Tree Comment :																					

Tree ID : T8				Tag :				Assessor : Jonathan Rodwell Cert Arb L4(ABC); TechArb				Bats : No									
Species : English oak				TPO :				Inspected : 29 November 2024				Cons Area : No									
<i>Quercus robur</i>								Next Insp : Not Required													
								1st Branch: 3m; north-west													
Stems				Health				RP				Clearance (m)				Spread (m)					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
23	1	570	Mature	Good	Good	Good	Good	B.1.2	>40 yrs	147	6.84	Pre Construction		3	5	2.5	3	5	4	6	7
Survey Comment :																					
Tree Comment :																					

BS5837:2012 Assessment

Tree ID : T9				Tag :				Assessor : Jonathan Rodwell Cert Arb L4(ABC); TechArb				Bats : No									
Species : English oak <i>Quercus robur</i>				TPO :				Inspected : 29 November 2024				Cons Area : No									
								Next Insp : Not Required													
								1st Branch: 3m; south-west													
Stems				Health				RP				Clearance (m)				Spread (m)					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
19	1	320	Mature	Fair	Fair	Fair	Good	B.1.2	>40 yrs	46.3	3.83	Pre Construction		3	3	2	2	5	4	3	4
Survey Comment :																					
Tree Comment :																					

Tree ID : T10				Tag :				Assessor : Jonathan Rodwell Cert Arb L4(ABC); TechArb				Bats : No									
Species : Field Maple <i>Acer campestre</i>				TPO :				Inspected : 29 November 2024				Cons Area : No									
								Next Insp : Not Required													
								1st Branch: 1m; north													
Stems				Health				RP				Clearance (m)				Spread (m)					
H (m)	No	Eq Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
11	3	141	Semi-mature	Fair	Fair	Fair	Fair	C.1	10 to 20 yrs	9	1.69	Pre Construction		3	2	2	1.5	4	3	2	2
Survey Comment :																					
Tree Comment :																					

Tree ID : T11				Tag :				Assessor : Jonathan Rodwell Cert Arb L4(ABC); TechArb				Bats : No									
Species : Wild Cherry <i>Prunus avium</i>				TPO :				Inspected : 29 November 2024				Cons Area : No									
								Next Insp : Not Required													
								1st Branch: 8m; east													
Stems				Health				RP				Clearance (m)				Spread (m)					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
16	1	290	Mature	Fair	Fair	Fair	Fair	C.1	10 to 20 yrs	38.1	3.48	Pre Construction		10	8	10	10	2	5	2	3
Survey Comment :																					
Tree Comment :																					

BS5837:2012 Assessment

Tree ID : T12

Tag :

Assessor : Jonathan Rodwell Cert Arb L4(ABC); TechArb

Bats : No

Species : English oak

TPO :

Inspected : 29 November 2024

Cons Area : No

Quercus robur

Next Insp : Not Required

1st Branch: 4m; west

– Stems –

- Health

— RP

— **Clearance (m)**

Spread (m)

H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
19	1	330	Mature	Good	Good	Fair	Good	B.1.2	>40 yrs	49.3	3.96	Pre Construction		11	11	6	5	5	4	3	4

Survey Comment :

Tree Comment :

Tree ID : T13

Tag :

Assessor : Jonathan Rodwell Cert Arb L4(ABC); TechArb

Bats : No

Species : Ash

TPO :

Inspected : 29 November 2024

Cons Area : No

Fraxinus excelsior

Next Insp : Not Required

1st Branch: 4m; east

– Stems –

- Health

— RP

— **Clearance (m)**

— **Spread (m)** —

H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
18	1	340	Mature	Good	Good	Fair	Good	B.1.2	20 to 40 yrs	52.3	4.08	Pre Construction		7	5	11	6	5	7	4	3

Survey Comment :

Tree Comment :

Appendix 2 – tree survey definition of terms

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

Trees Unsuitable for Retention

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

Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years - shown in light green on plans.

1 - Mainly arboricultural qualities – trees that are good examples of their species, especially if rare or unusual; or those that are essential components of groups, formal or semi-formal arboricultural features.

2 - Mainly landscape qualities – trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.

3 - Mainly cultural values, including conservation – 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.

1 - Mainly arboricultural qualities – 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.

2 - Mainly landscape qualities – 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.

3 - Mainly cultural values, including conservation – trees with material conservation or other cultural values.

Appendix 3 – BS 5837 grading categories

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.

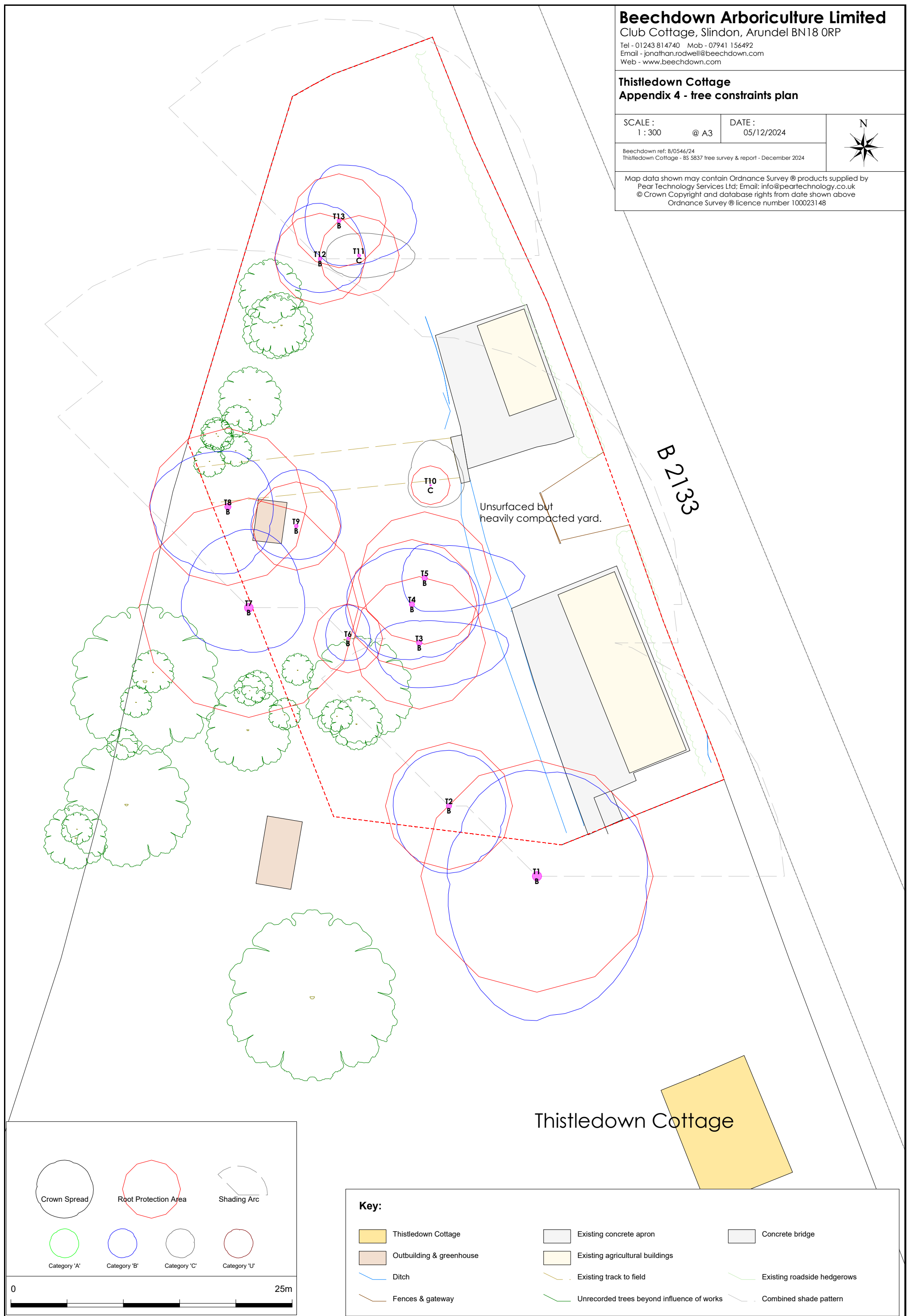
1 - Mainly arboricultural qualities – unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.

2 - Mainly landscape qualities – 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.

3 - Mainly cultural values, including conservation – trees with no material conservation or other cultural values.

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Thistledown Cottage

Appendix 5 - development proposal plan

SCALE :

1 : 200

@ A3

DATE :

05/12/2024

Beechdown ref: B/0546/24

Thistledown Cottage - BS 5837 tree survey & report - December 2024



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B 2133

Key:

New driveway, parking & terrace

Proposed dwellings

Ditch

Existing roadside hedgerows

New hedgerow planting

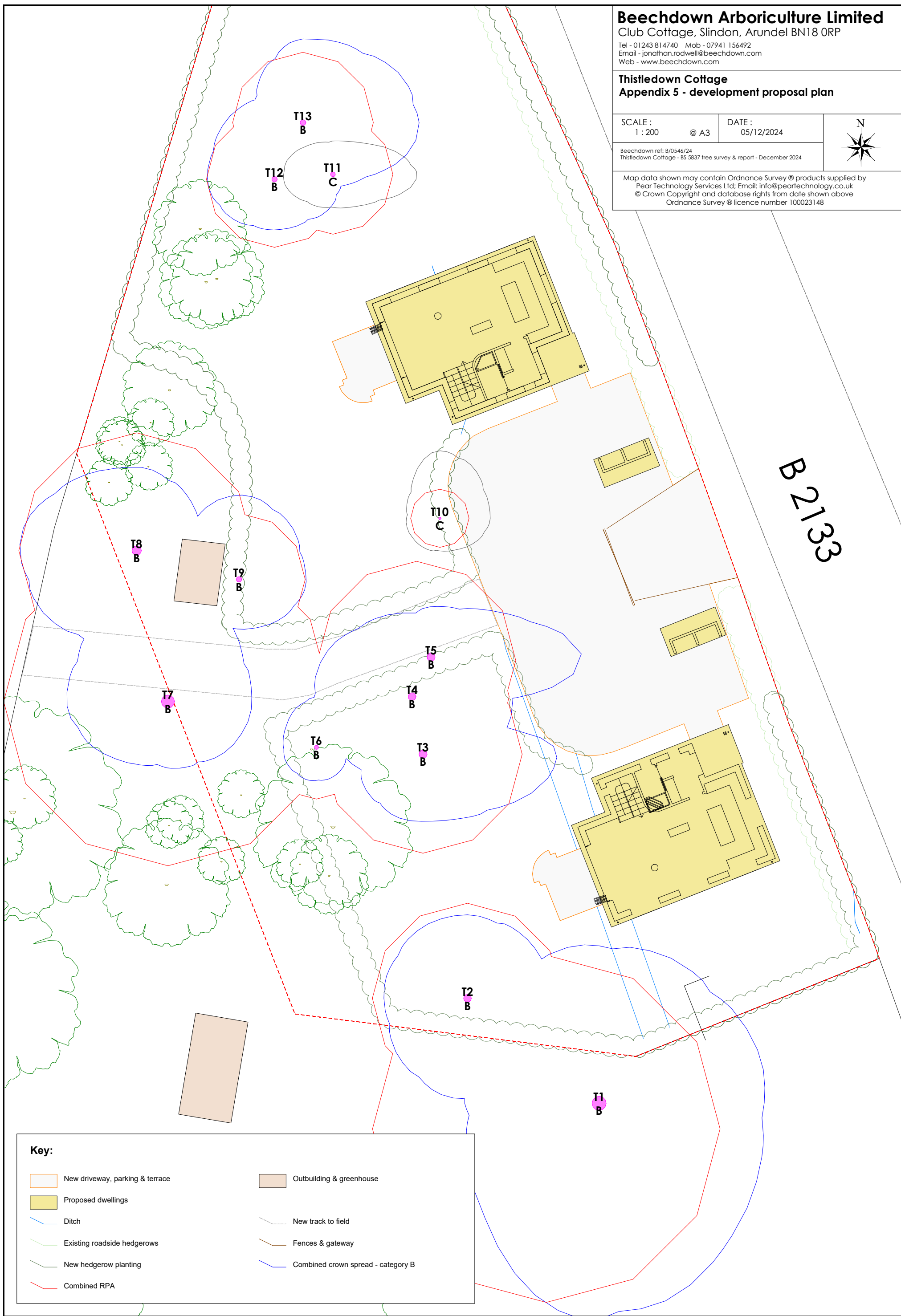
Combined RPA

Outbuilding & greenhouse

New track to field

Fences & gateway

Combined crown spread - category B



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Thistledown Cottage
Appendix 6 - tree protection plan
- demolition

SCALE :
1 : 200

@ A3

DATE :
05/12/2024



Beechdown ref: B/0546/24
Thistledown Cottage - BS 5837 tree survey & report - December 2024

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B 2133

Key:

Construction exclusion zone

Concrete bridge

Existing agricultural buildings

Ditch

Combined crown spread - category B

Existing concrete apron

Outbuilding & greenhouse

Protective barrier

Combined RPA

Beechdown Arboriculture Limited

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Thistledown Cottage
Appendix 7 - tree protection plan
- construction

SCALE :
1 : 200

@ A3

DATE :
05/12/2024

Beechdown ref: B/0546/24
Thistledown Cottage - BS 5837 tree survey & report - December 2024



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B 2133

Key:

Construction exclusion zone

Proposed dwellings

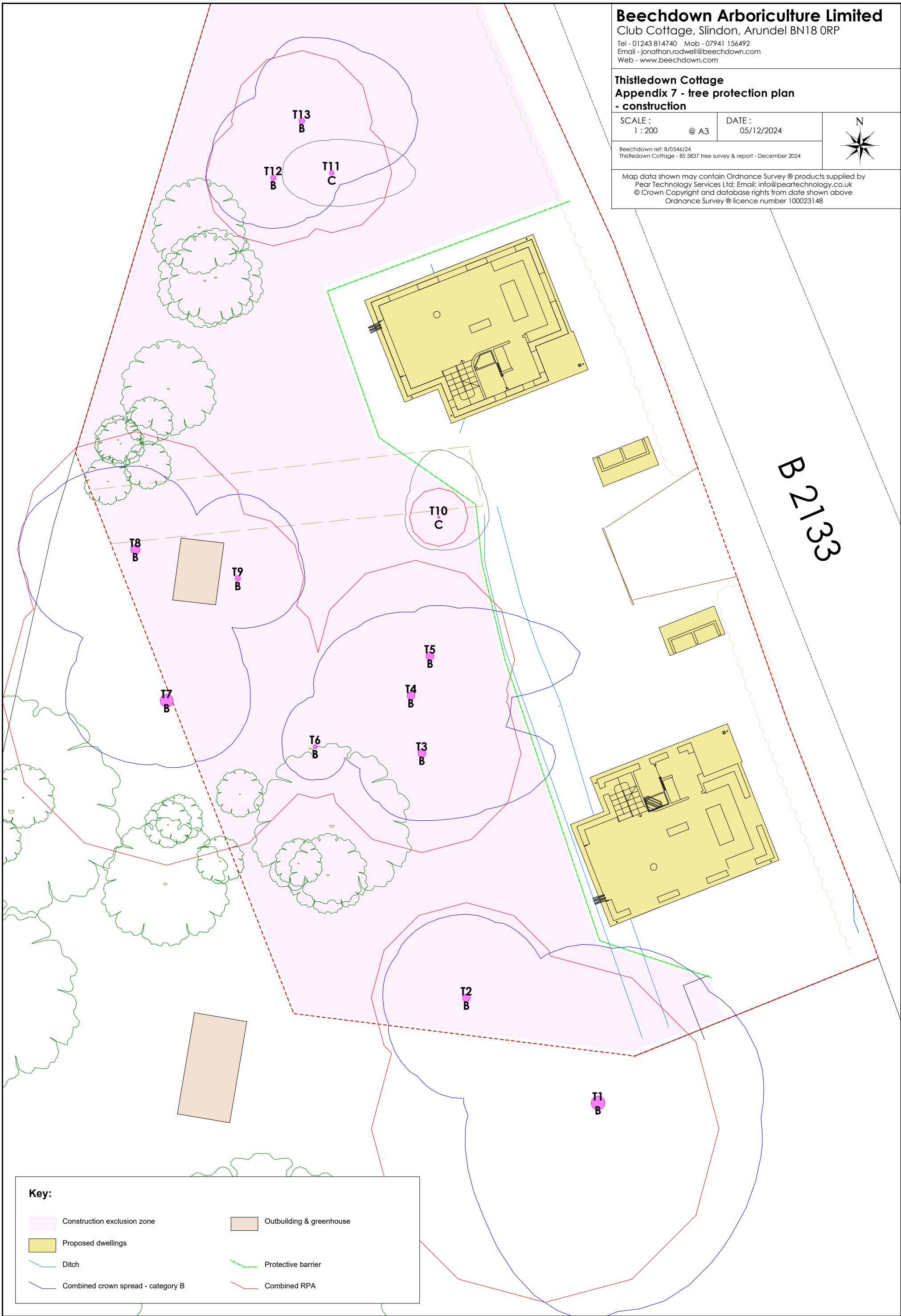
Ditch

Combined crown spread - category B

Outbuilding & greenhouse

Protective barrier

Combined RPA



Beechdown Arboriculture Limited

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Thistledown Cottage

Appendix 8 -landscape & no-dig surface plan

SCALE :
1 : 200

@ A3

DATE :
05/12/2024

Beechdown ref: B/0546/24
Thistledown Cottage - BS 5837 tree survey & report - December 2024



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B 2133

Key:

New driveway, parking & terrace

Proposed dwellings

New track to field

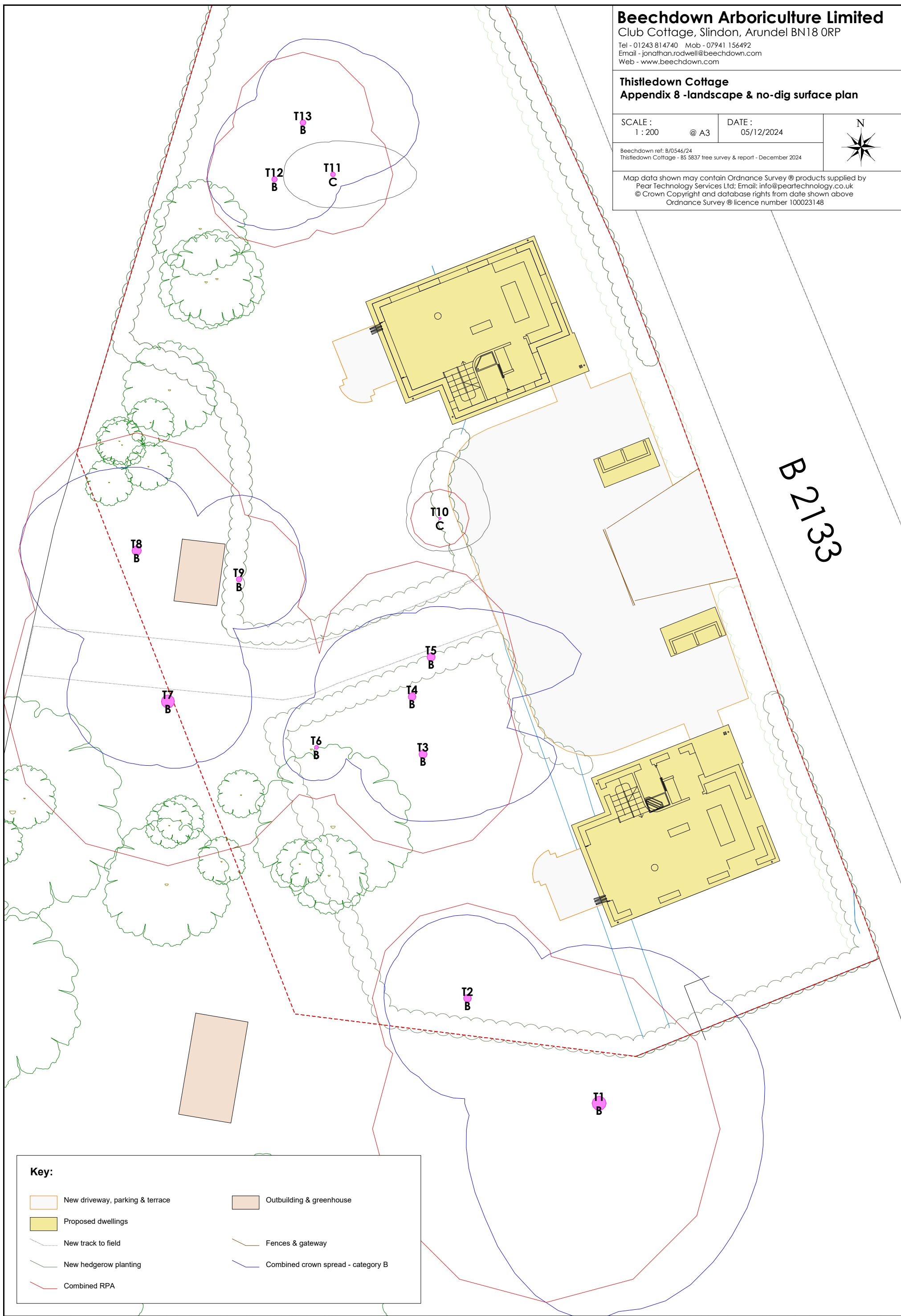
New hedgerow planting

Combined RPA

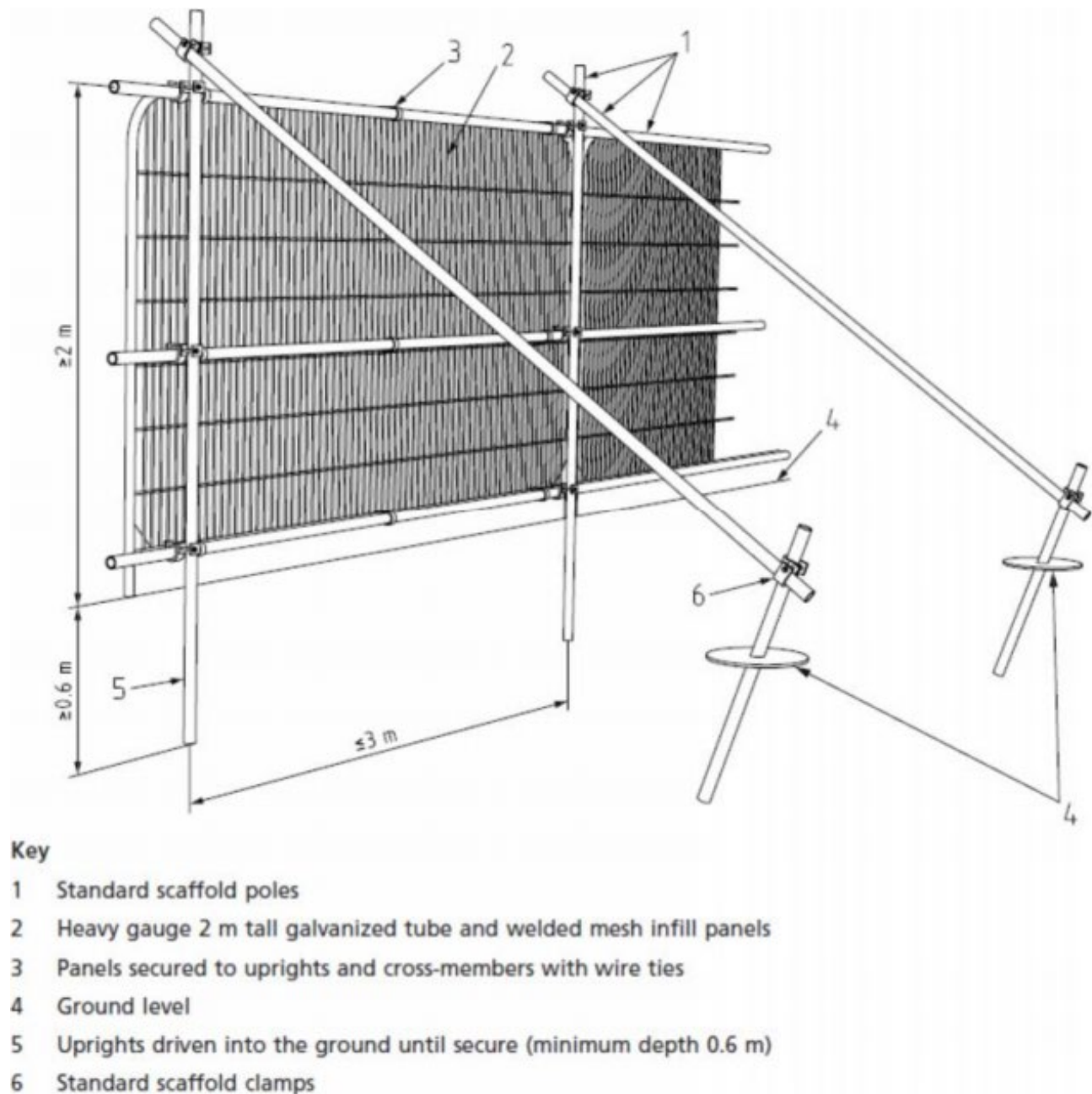
Outbuilding & greenhouse

Fences & gateway

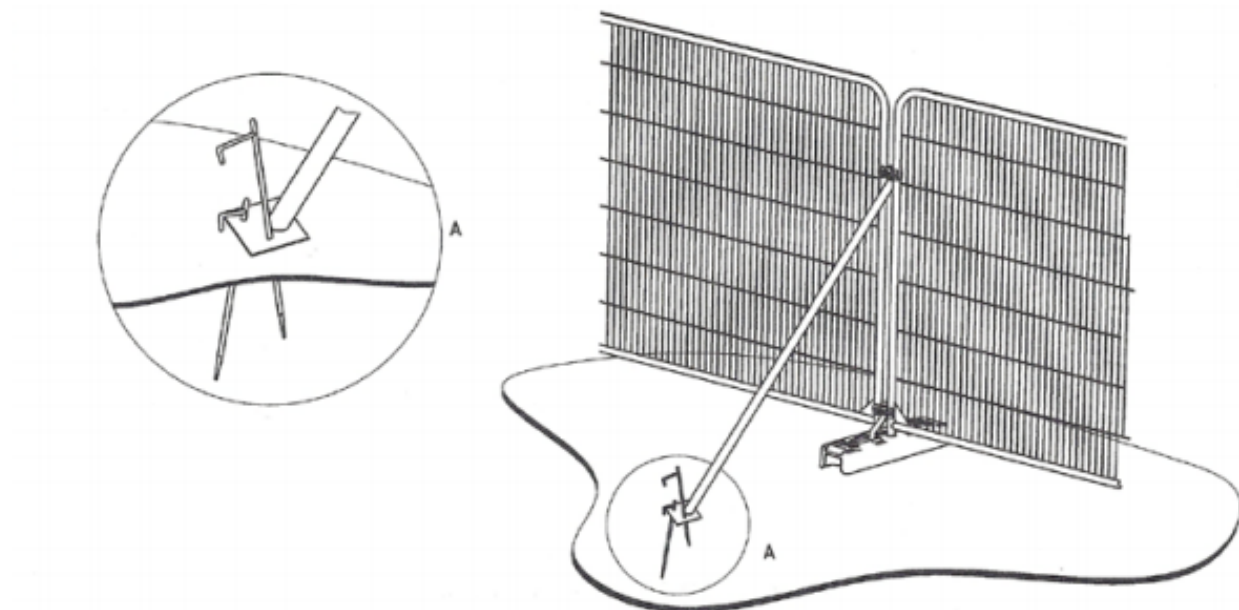
Combined crown spread - category B



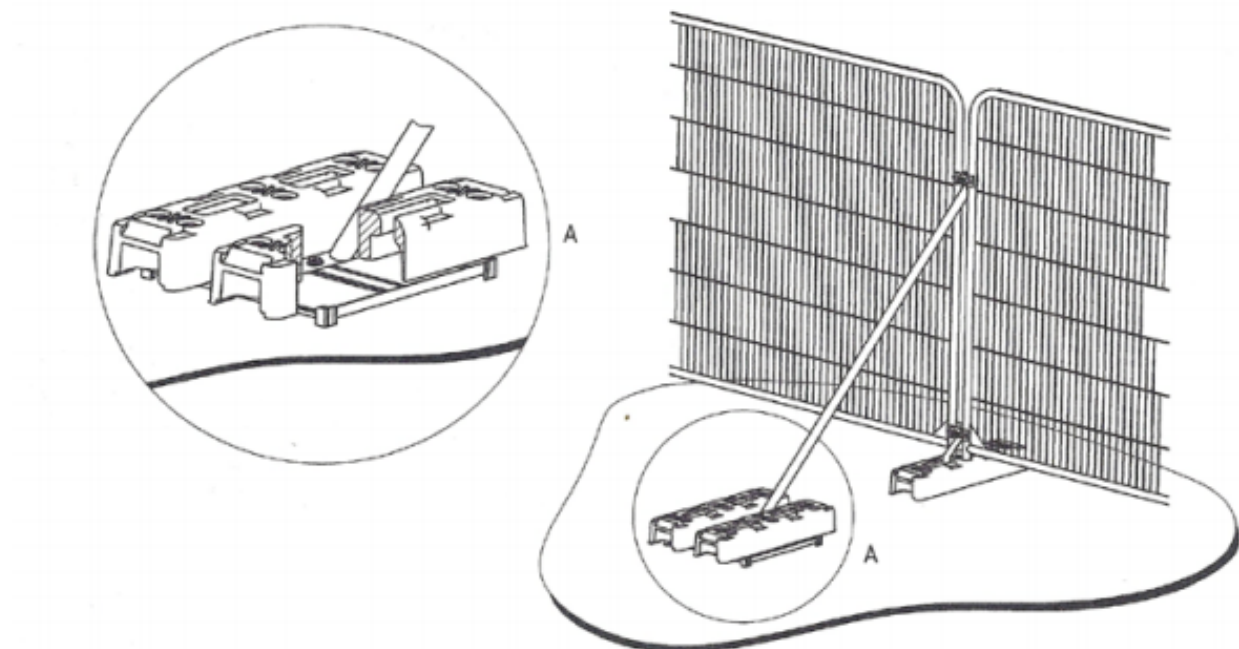
Appendix 9 – Protective Barrier



Default specification for protective barrier as per Figure 2 of BS 5837:2012 *Trees in relation to demolition and construction – Recommendations, Fourth (Present) Edition*. BSI



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Examples of above-ground stabilising systems as per Figure 3 of BS 5837:2012 *Trees in relation to demolition and construction – Recommendations, Fourth (Present) Edition*. BSI

Appendix 10 - Record of Site Visits and Arboricultural Supervision

Client		Location	Thistledown Cottage, Harbolets Road, West Chiltington, Pulborough RH20 2LG
Mr & Mrs Grocott			
Local planning authority	Horsham District Council		
Planning application	-		
Development	Demolition of existing buildings and erection of 2 x new build dwellings.		

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

Notes	
-------	--

Arboriculturalist	
Signed	
Date	

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

Appendix 10 - Record of Site Visits and Arboricultural Supervision

Client		Location	Thistledown Cottage, Harbolets Road, West Chiltington, Pulborough RH20 2LG
Mr & Mrs Grocott			
Local planning authority	Horsham District Council		
Planning application	-		
Development	Demolition of existing buildings and erection of 2 x new build dwellings.		

Stage of development	Action required
<u>Pre-construction</u>	Check position of protective barrier forming construction exclusion zone.

Notes	
-------	--

Arboriculturalist	
Signed	
Date	

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

Appendix 11 - Arboricultural Monitoring Form

Client		Location	Thistledown Cottage, Harbolets Road, West Chiltington, Pulborough RH20 2LG
Mr & Mrs Grocott			
Local planning authority	Horsham District Council		
Planning application	-		
Development	Demolition of existing buildings and erection of 2 x new build dwellings.		

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

Arboriculturalist	
Signed	
Date	

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

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

Greenfix. Tel: 01608 666027 Fax : 01608 665468

Email : info@greenfix.co.uk

Web: www.greenfix.co.uk

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



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