
Arboricultural Report

Proposed development at
The Geyhound PH
The Street
Tibenham
Norfolk

3rd. June 2022 (JBA)



Client & Site

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The Greyhound PH
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Planning authority

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Document	Arboricultural Report
Version	1.3 (revised 6 th June 2022)
Date of original	20 th June 2020
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Summary

- This report provides the results of a tree survey of land at The Greyhound PH, The Street, Tibenham, Norfolk, NR16 1PZ and an arboricultural constraints assessment of the site, which may be used to inform the planning process.
- The local planning authority is South Norfolk Council and interrogation of the council's online Geographic Information System My South Norfolk confirms there are no Tree Preservation Orders in the immediate vicinity and that there is no Conservation Area in Tibenham.
- There are no trees considered to be of high quality (BS 5817:2012 Category A) on the site.
- Several trees are proposed for removal to make space for the development. These are exclusively category C trees.
- Recommended root protection areas are mapped in this report. No construction activities should take place within root protection areas, except as indicated in the detailed method statement.
- We consider that development can be accommodated with minimal impacts on the retained arboricultural interest of the site.

1. INTRODUCTION

- 1.1. Greenlight Environmental Consultancy Ltd has been commissioned to prepare an arboricultural report for land at The Greyhound PH, The Street, Tibenham, Norfolk, NR16 1PZ.
- 1.2. The site was accessed from the public road at approximate grid reference TM 13559 89485.
- 1.3. The report includes a survey of those trees that may be affected, an assessment of the potential arboricultural impact of the proposed development on the trees and a scheme to protect the retained trees during implementation of the planning consent.

2. METHODOLOGY

- 2.1. The tree survey and arboricultural aspects have been prepared in accordance with recommendations provided in BS 5837:2012, Trees in relation to design, demolition and construction – recommendations.
- 2.2. The site survey included trees, within the boundaries of the site and those considered to be potentially affected by development proposals, with a stem diameter over 75mm at 1.5m height.
- 2.3. The tree inspection took place from ground level using visual tree assessment methods, with the use of binoculars and Suunto clinometer. The presence and condition of bark and stem wounds, cavities, decay, fungal fruiting bodies and any structural defects that affect the future life of the trees were noted.
- 2.4. Details for each tree were recorded with management recommendations if deemed necessary for the development requirements, a category grading according to BS 5837:2012, and tree protection distance.

Constraints

- 2.5. No internal decay devices or other invasive tools to assess tree condition were used.
- 2.6. No soil excavation or root inspection was carried out.
- 2.7. The survey has not considered the effect that trees or vegetation may have on the structural integrity of future building through subsidence or heave.
- 2.8. This survey and report has and is not intended to be used as a hazard risk assessment of trees and is intended to be used purely for the purposes of supporting the planning submission.

3. DESKTOP REVIEW

3.1 The proposed development site is located in the centre of the village of Tibenham. Tibenham is a village and civil parish located 13.5 miles (21.7 km) southwest of Norwich and 5.8 miles (9.3 km) north of Diss, Norfolk, England.

3.2 The development proposed for the site involves multiple applications including conversion of an outbuilding into B & B accommodation and the change of use from caravan site to 7no.mobile lodges.

3.3 The local planning authority is South Norfolk Council and interrogation of the council's online Geographic Information System My South Norfolk confirms there are no Tree Preservation Orders in the immediate vicinity and that there is no Conservation Area in Tibenham.

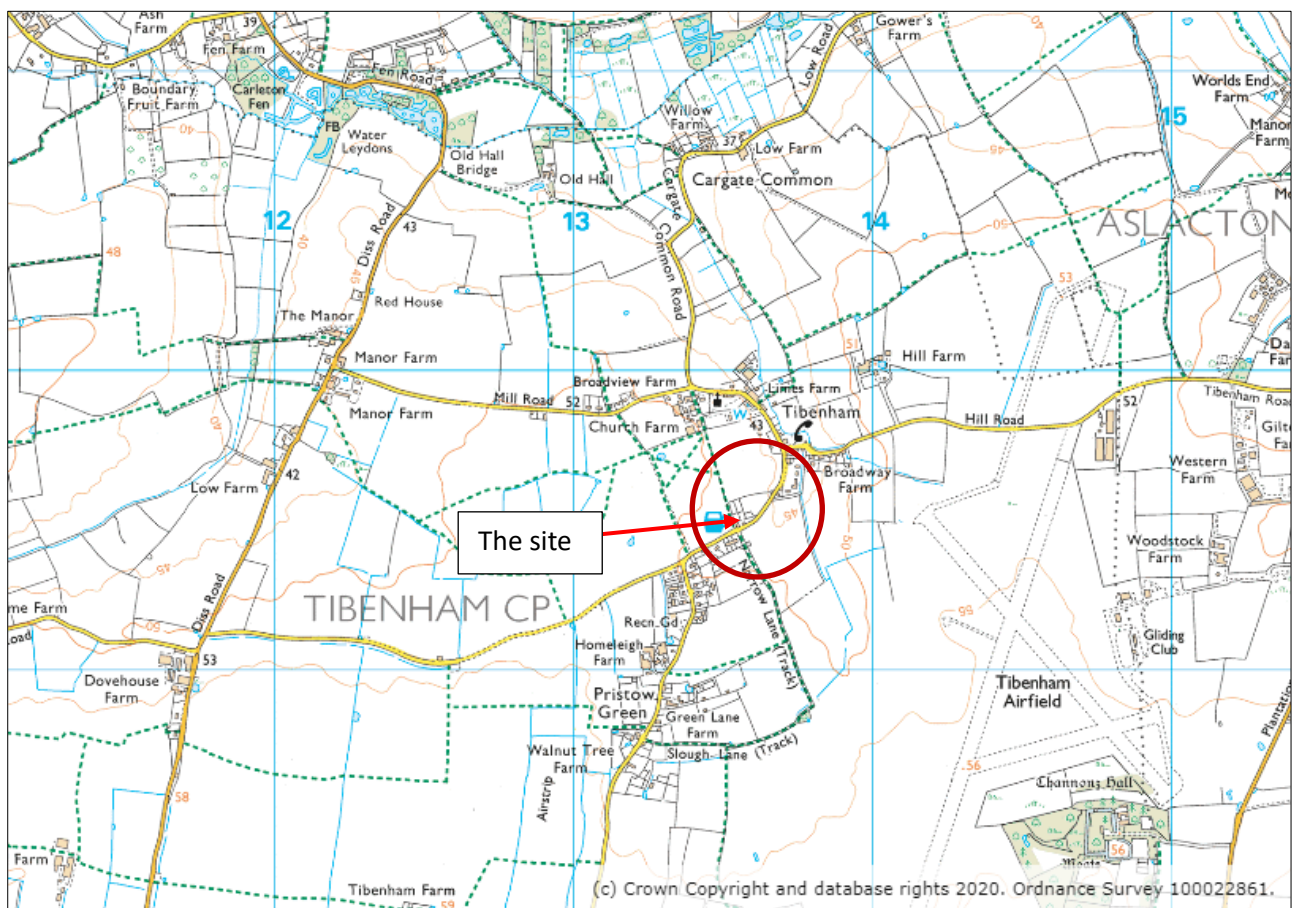


Figure 1. Site location

4. FIELD STUDY

- 4.1. The site is currently in use as a caravan site, camping site and a community pub. The pub provides the nucleus of the site, within a collection of surrounding outbuildings, to the north-west of the pub building is a single static caravan which is to be removed and replaced with the three mobile lodges, whilst the majority of the eastern part of the site is amenity grassland.
- 4.2. The trees within the site are largely semi-mature semi-ornamental species adjacent to the car park and around the buildings with a variety of hedge and shrub planting and fencing enclosing the gardens of the pub.
- 4.3. The wider site is surrounded by a mature, untrimmed, overgrown native mixed hedgerow with occasional trees from hedging plants that have been allowed to grow on. There is evidence of past coppicing or low pollarding since the trees are all multi-stemmed from the ground or at approximately 3ft high.
- 4.4. Whilst this is the only pub in the village, it is nevertheless in a remote rural location with open farmland beyond the hedge to the north, west and south-east. There is little other development on the northern side of the road. On the opposite side of the road there is established residential development extending eastwards and westwards, much of it low density with generous open green space around the dwellings.
- 4.5. The soils in this area are generally slowly permeable, seasonally wet, slightly acid but base-rich loamy and clayey soils, and thus of moderate fertility and moderately susceptible to compaction. The site stands in The South Norfolk and High Suffolk Claylands National Character Area (NCA 83). *“The South Norfolk and High Suffolk Claylands National Character Area (NCA) occupies a large area of central East Anglia stretching from just below Norwich in the north down to the River Gipping in the south. ‘High’ Suffolk originally derives its name from the contrast between this formerly well-treed area and the openness of the adjacent areas to the east and west. Today it is probably better understood as meaning the high and predominantly flat clay plateau that dominates the character of the NCA. The plateau is incised by numerous small-scale wooded river valleys with complex slopes that in places are much unexpected for East Anglia. The underlying geology is chalk, which forms the principal aquifer, and shallow marine deposits overlain with glacial till, buried river gravels, lake sediments and bands of glacial outwash deposits.”*
- 4.6. There are very restricted public views onto the site from the road as it is effectively screened by the high roadside hedge and provided this screen is maintained largely intact, it is suggested that there would be minimal visual impact.

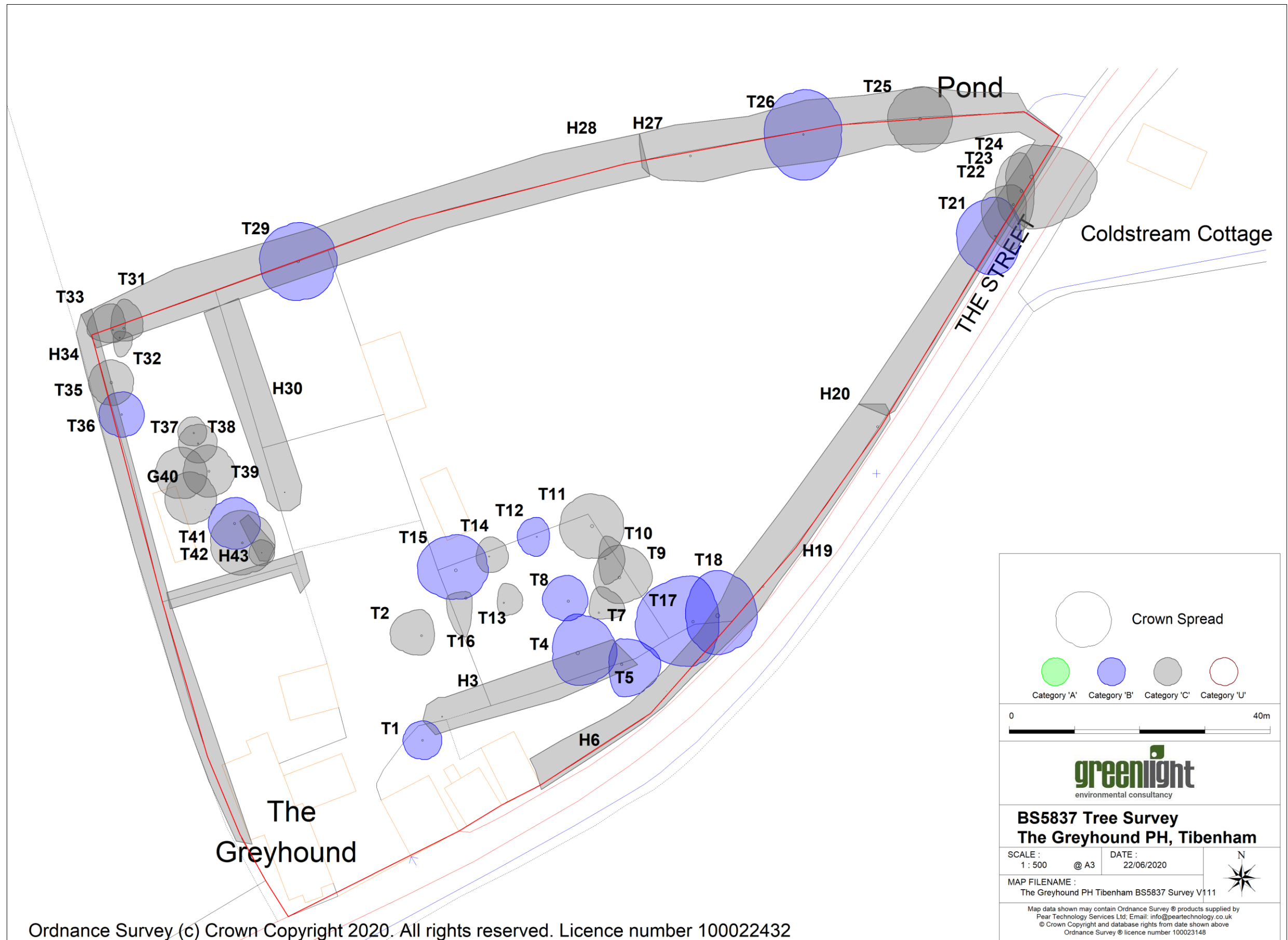


Figure 2: Tree Survey Barns

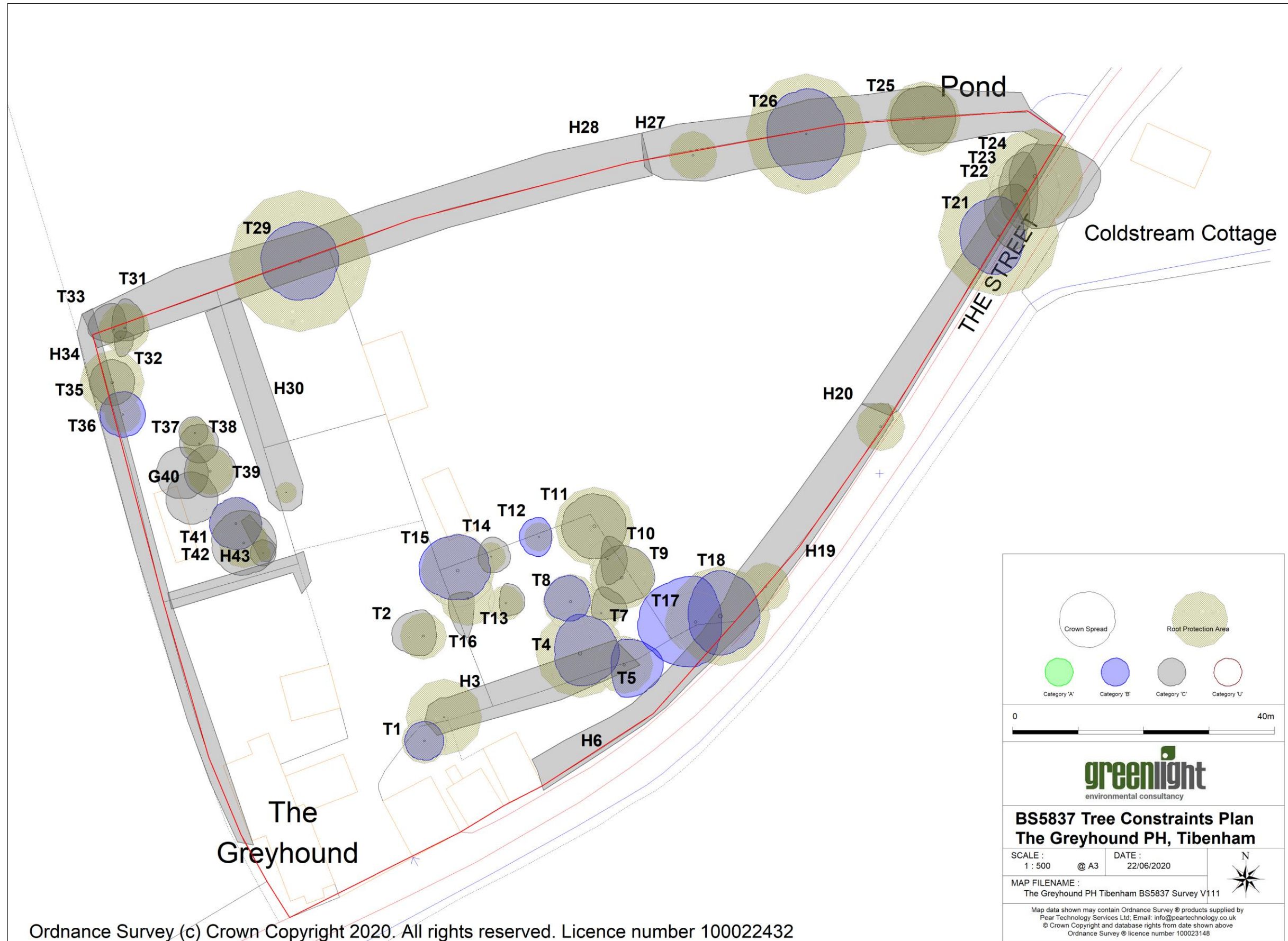


Figure 3: Tree Constraints Plan

5 ASSESSMENT OF ARBORICULTURAL IMPLICATIONS

- 5.1 The trees likely to be affected on the site are plotted on a plan shown in Figure 2 above and their quality assessment according to the grading categories stipulated in the British Standard. A schedule of the detailed survey data is reproduced in a table at appendix A.
- 5.2 There are no trees deemed of high quality category A. The taller stature trees are making a high landscape contribution and many are awarded a category B grading. They are downgraded due to a reduced future contribution being derived from coppice stools, and the species. The more recent planting and hedgerows are of lesser quality and are graded category C along with a number of lesser trees with inherent defects. The cascade chart for tree quality assessment from BS5837:2012 is reproduced in appendix D.
- 5.3 It would be necessary to remove the group of small fruit trees by the existing static caravan to make room for the development. It is also proposed to remove a substantial section of roadside hedgerow to achieve a suitable visibility splay.
- 5.4 T2 is to be retained in the car park and will be protected.
- 5.5 There is a minor encroachment from the proposed driveway into the Root Protection Areas (RPA) of T11, 12, 14, 15 and T21-23. On all occasions the encroachment is less than 20% at the periphery of the RPA. A No-Dig construction for the driveway to the new dwelling in Plot 1 is advised.
- 5.6 A new hedgerow is proposed at the back of the visibility splay by way of mitigation for the loss of the overgrown hedge. The trees T5, T17 and T18 will be crown lifted and retained. It is considered that there would be minimal impact on the landscape provided care is taken with materials and design.
- 5.7 Table 1 – Quality assessment of trees recorded in survey in accordance with BS5837:2012

	Trees	Groups	Hedges	TOTALS	To be removed
Category U	0	0	0	0	0
Category A	0	0	0	0	0
Category B	13	0	0	13	1
Category C	20	1	9	30	10 (+ gap H20)
TOTALS	33	1	9	43	11

Tree Work

- 5.8 The trees are generally in a fair condition. Some crown lifting of trees retained in visibility splay may be required.
- 5.9 Any tree work should be undertaken to the standards set out in BS 3998:2010 British Standard Recommendations for Tree Work.

Tree and Root Protection – Constraints on Development

- 5.10 The Tree Constraints Plan in Figure 3 shows the distance that construction should normally be kept away from retained trees to provide the Root Protection Area (RPA) recommended in BS 5837:2012. Full protection of the RPAs should be reinforced by creating Construction Exclusion Zones (CEZ) through the erection of protective fencing constructed to at least a minimum standard as prescribed in BS 5837:2012 and described in the Appendix C. This fencing should carry warning notices to prevent inadvertent encroachment.
- 5.11 In order to provide access for construction, the protective fencing is set back from the driveway. Further detail is provided in the Arboricultural Method Statement in appendix E.
- 5.12 The proposed line for the protective fencing is illustrated on the tree protection plan in Appendix F and further details provided in the arboricultural method statement in Appendix E. This method statement may be revised should the layout be amended.

6 CONCLUSIONS

- 6.1 Recommended root protection areas are mapped in this report. No construction activities should take place within root protection areas, except as indicated in the method statement.
- 6.2 Based on the proposed tree constraints plan and recommended tree protection measures, we consider that development can be accommodated on this site with minimal impacts on the arboricultural interest of the site.

7 BIBLIOGRAPHY

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Appendix A Tree Survey Detail

Tree ID	Common Name	Maturity	Height (m)	Height and direction of first significant branch (m)	Diam (mm) *	RPA radius (m)	RPA Area (m ²)	Spread - N (m) ®	Spread - E (m)	Spread - S (m)	Spread - W (m)	Category	Sub category†	Life Expectancy	Phys Condition	Tree work recommendations
T1	Norway Spruce	Semi-mature	14	5 m	280	3.4	35	3				B	1;2	>40 yrs	Fair	No action
T2	Wild Cherry	Semi-mature	10	2 m N	290	3.5	38	4	2	3	5	C	1;2	10 to 20 yrs	Fair	No action
H3	Common Hawthorn	Mature	10	n/a	100	5 m buffer		n/a				C	1;2	>40 yrs	Fair	No action
T4	Common Ash	Semi-mature	18	3 m N	551	6.6	137	6	6	5	4	B	1;2	20 to 40 yrs	Fair	No action
T5	Common Ash	Mature	17	7 m E	360	4.3	59	4	6	5	2	B	1;2	>40 yrs	Fair	No action
H6	Mainly Hawthorn	Mature	10	n/a	100	5 m buffer		n/a				C	1;2	>40 yrs	Fair	No action
T7	Goat Willow	Semi-mature	8	1 m N	240	2.9	26	4	4	1	1.5	C	1;2	>40 yrs	Poor	No action
T8	Wild Cherry	Semi-mature	13	2 m N	344	4.1	54	4	3	3	4	B	1;2	>40 yrs	Good	No action
T9	Wild Cherry	Mature	15	2 m W	400	4.8	72	5	5	4	4	C	1;2	20 to 40 yrs	Good	No action
T10	Purple Maple	Semi-mature	13	1.7 m S	240	2.9	26	3.5	3	4	1	C	1;2	>40 yrs	Fair	No action
T11	Common Horse Chestnut	Mature	14	1.8 m W	490	5.9	109	5				C	1;2	20 to 40 yrs	Fair	No action
T12	Norway Maple	Semi-mature	14	1 m E	180	2.2	15	3	2	3	3	B	1;2	>40 yrs	Fair	No action
T13	Norway Spruce	Semi-mature	13	3 m E	220	2.6	22	3	3	2	1	C	1;2	20 to 40 yrs	Good	No action
T14	Mountain Ash	Semi-mature	8	1.3 m N	180	2.2	15	3	3	2.5	2	C	1;2	>40 yrs	Fair	No action
T15	Wild Cherry	Mature	16	1.3 m S	460	5.5	96	5.5	5	4.5	6	B	1;2	>40 yrs	Good	No action
T16	Grey Willow	Mature	10	3 m S	340	4.1	52	1	1	6	3	C	1;2	20 to 40 yrs	Poor	No action
T17	Common Ash	Semi-mature	18	2 m W	386	4.6	67	7	4	7	9	B	1;2	>40 yrs	Fair	No action
T18	Sycamore	Mature	20	2.5 m N	620	7.4	174	7	6	6	5	B	1;2	>40 yrs	Good	No action

The Greyhound PH, Tibenham - Arboricultural Report v1.2

Tree ID	Common Name	Maturity	Height (m)	Height and direction of first significant branch (m)	Diam (mm) *	RPA radius (m)	RPA Area (m ²)	Spread - N (m) ®	Spread - E (m)	Spread - S (m)	Spread - W (m)	Category	Sub category†	Life Expectancy	Phys Condition	Tree work recommendations
H19	Field Maple	Semi-mature	13	n/a	300	5 m buffer		n/a				C	1;2	>40 yrs	Fair	No action
H20	Common Hawthorn	Mature	6	n/a	300	5 m buffer		n/a				C	1;2	>40 yrs	Fair	No action
T21	Field Maple	Mature	16	n/a	250	3.0	28	6	4	6	6	B	1;2	>40 yrs	Good	No action
T22	Sycamore	Mature	14	2 m S	330	4.0	49	3	2	7	5	C	1;2	>40 yrs	Fair	No action
T23	Common Ash	Mature	17	8 m W	440	5.3	88	6	2	6	4	C	1;2	20 to 40 yrs	Fair	No action
T24	Common Ash	Mature	20	4 m W	596	7.2	161	5	10	8	4	C	1;2	20 to 40 yrs	Fair	No action
T25	Sycamore	Semi-mature	15	5 m S	462	5.5	97	5				C	1;2	20 to 40 yrs	Poor	No action
T26	Common Ash	Mature	20	5 m S	250	3.0	28	7	6	7	6	B	1;2	20 to 40 yrs	Poor	No action
H27	Mainly Field Maple	Mature	16	n/a	300	3.6	41	n/a				C	1;2	>40 yrs	Fair	No action
H28	Mixed native species	Mature	8	n/a	100	5 m buffer		n/a				C	1;2	>40 yrs	Fair	No action
T29	Field Maple	Mature	15	1.8 m E	360	4.3	59	6				B	1;2	>40 yrs	Poor	No action
H30	Plum	Semi-mature	8	n/a	130	5 m buffer		3				C	1;2	20 to 40 yrs	Poor	No action
T31	Field Maple	Semi-mature	10	2 m N	310	3.7	43	4.5	3	2	2	C	1;2	>40 yrs	Fair	No action
T32	Wild Cherry	Young	10	4 m S	150	1.8	10	1	2	3	1	C	1;2	>40 yrs	Fair	No action
T33	Field Maple	Semi-mature	8	n/a	200	2.4	18	4	2	2	4	C	1;2	>40 yrs	Fair	No action
H34	Common Hawthorn	Mature	5	n/a	100	5 m buffer		n/a				C	1;2	>40 yrs	Fair	No action
T35	Field Maple	Semi-mature	12	n/a	400	4.8	72	3.5				C	1;2	>40 yrs	Fair	No action
T36	Common Hornbeam	Semi-mature	10	n/a	230	2.8	24	3.5				B	1;2	>40 yrs	Fair	No action
T37	Norway Maple	Young	7	1.7 m E	190	2.3	16	2.5	2	2	2.5	C	1;2	>40 yrs	Fair	No action

The Greyhound PH, Tibenham - Arboricultural Report v1.2

Tree ID	Common Name	Maturity	Height (m)	Height and direction of first significant branch (m)	Diam (mm) *	RPA radius (m)	RPA Area (m ²)	Spread - N (m) ®	Spread - E (m)	Spread - S (m)	Spread - W (m)	Category	Sub category†	Life Expectancy	Phys Condition	Tree work recommendations
T38	Plum	Young	8	2 m S	200	2.4	18	3				C	1;2	20 to 40 yrs	Fair	To be removed
T39	Apple	Mature	8	1.5 m	295	3.5	39	4				C	1;2	>40 yrs	Fair	To be removed
G40	Apple	Semi-mature	6	n/a	100	5 m buffer		n/a				C	1;2	>40 yrs	Fair	To be removed
T41	Wild Cherry	Mature	15	1.7 m N	330	4.0	49	4				B	1;2	>40 yrs	Fair	To be removed
T42	Wild Cherry	Mature	15	1.7 m S	310	3.7	43	5				C	1;2	>40 yrs	Fair	To be removed
H43	Crab Apple	Young	4	n/a	100	5 m buffer		2				C	1;2	>40 yrs	Fair	To be removed

Key Age class: **Young** (1st qtr of life expectancy) **Semi-mature** (2nd qtr of life expectancy) **Early-mature** (3rd qtr of life expectancy) **Mature** (final qtr of life expectancy)

Over mature (beyond life expectancy and declining naturally)

Veteran (of great age for its species and possibly of conservation value)

*** derived measurement using protocols in BS5837**

† Sub category "1" Arboricultural values, Sub category "2" Landscape values, Sub category "3" Cultural values

® Where only a northerly radial crown spread is given, the crown is assumed to be roughly circular

Appendix B - Photographic record of selected trees



Overview of route of new access road



Roadside hedge H19



Multi-stemmed ash and field maple adjacent to proposed access for new dwellings



Northern boundary hedge H28



Hedge H30 to be removed

Appendix C - British Standard BS 5837:2012 Default specification for protective barrier

Figure 2 Default specification for protective barrier

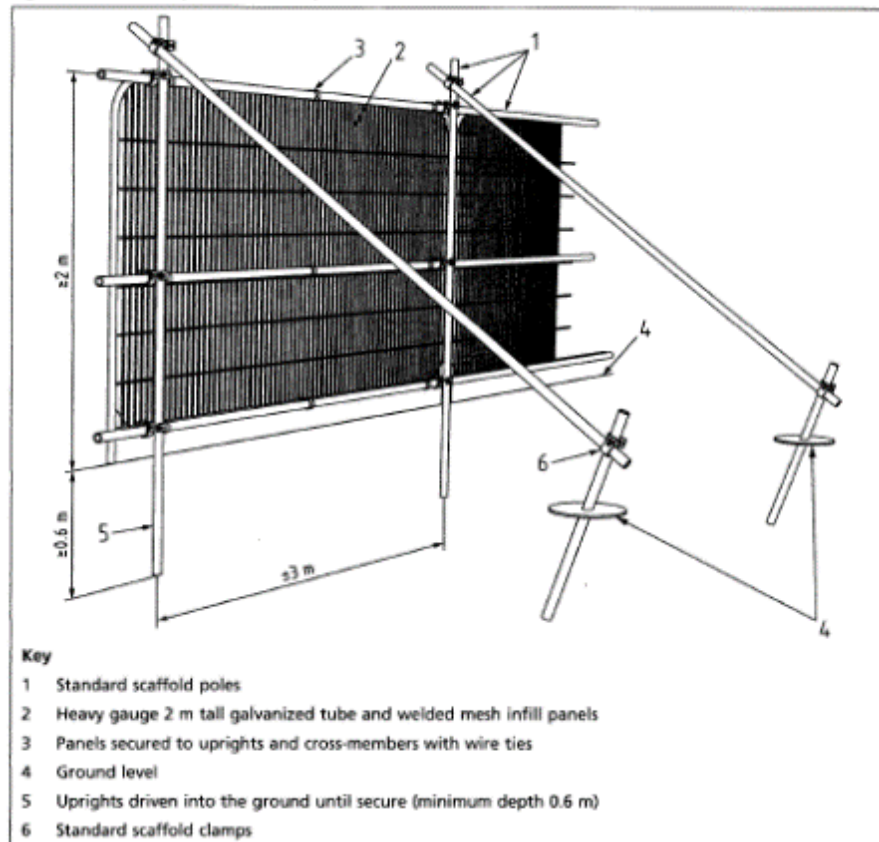
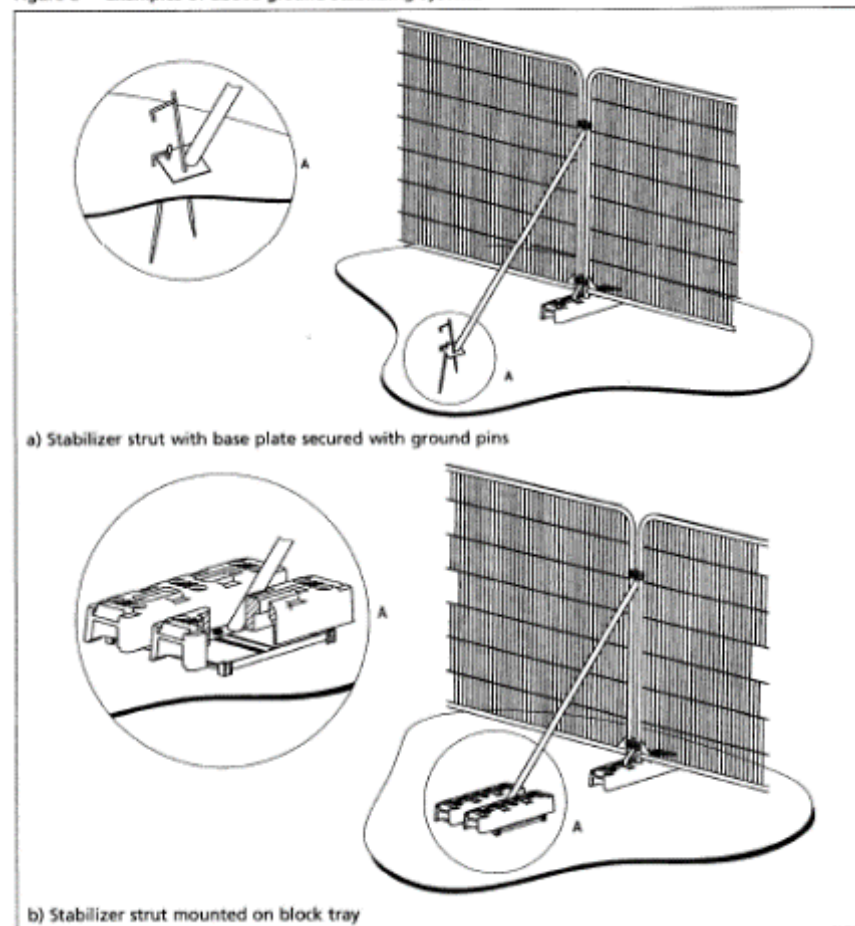


Figure 3 Examples of above-ground stabilizing systems



Appendix D- BS 5837:2012 Table 1 Cascade chart for tree quality assessment

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)		
Trees unsuitable for retention (see Note)			
<p>Category U</p> <p>Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years</p>	<ul style="list-style-type: none"> ✦ Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) ✦ Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline ✦ Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve: see 4.5.7.</i></p>		
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation
Trees to be considered for retention			
<p>Category A</p> <p>Trees of high quality with an estimated remaining life expectancy of at least 40 years</p>	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
<p>Category B</p> <p>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p>	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value
<p>Category C</p> <p>Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm</p>	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value

Appendix E

ARBORICULTURAL METHOD STATEMENT

Land at The Greyhound PH, The Street, Tibenham

Scope of the Works

1. The document provides a methodology for the protection of trees during the proposed development at the above site and should be read in conjunction with the Tree Protection Plan (TPP) in Appendix F and Timetable for Protection Works below.
2. The main features in the protection of the retained trees on site are as follows:
 - Provision of temporary protective barriers
 - Installation of No Dig driveway
 - Protective measures must be in place prior to any ground or construction works.

Timing of Works

3. Tree protection works will be completed according to the timetable below.
4. The exact commencement date is yet to be decided, however, the timetable provides the order in which the works need to be implemented to ensure the trees are suitably protected.

Item	Operation	Before starting Works	During Construction Works	On Completion
1.	Carry out a pre-commencement site meeting to discuss any tree protection matters arising	X		
2.	Install temporary ground protection (shaded orange on TPP)	X		
3.	Erect temporary protective fencing (thick pink line) on edge of the CEZ as specified in the AMS and TPP	X		
4.	Erect warning signs on fencing around each CEZ stating "Construction Exclusion Zone - Keep Out".	X		
5.	Installation of No –Dig driveway construction		X	
6.	Maintain Protective fences and signs in good condition.		X	
7.	Remove protective fencing			X
8.	Check condition of the protected trees and consider if remedial works are necessary.			X

Tree Protection Barriers

- Retained trees will be protected by forming Construction Exclusion Zones (CEZ) as shown on the Tree Protection Plan.
- Temporary barriers will be erected as shown by the thick pink lines on the TPP to form the Construction Exclusion Zone (CEZ). The barriers will consist of 2m tall welded mesh panels (Heras) supported on rubber or concrete feet. The fence panels should be joined together using a minimum of two anti-tamper couplers installed so they can be removed from the inside of the fence. The distance between couplers should be at least 1m and be uniform throughout the fence. Panels should be supported on the inner side by stabilizer struts which should normally be attached to a base plate and secured with ground pins. Where the fence will be erected on hard surfacing or it is otherwise unfeasible to use ground pins the struts should be mounted on a block tray.

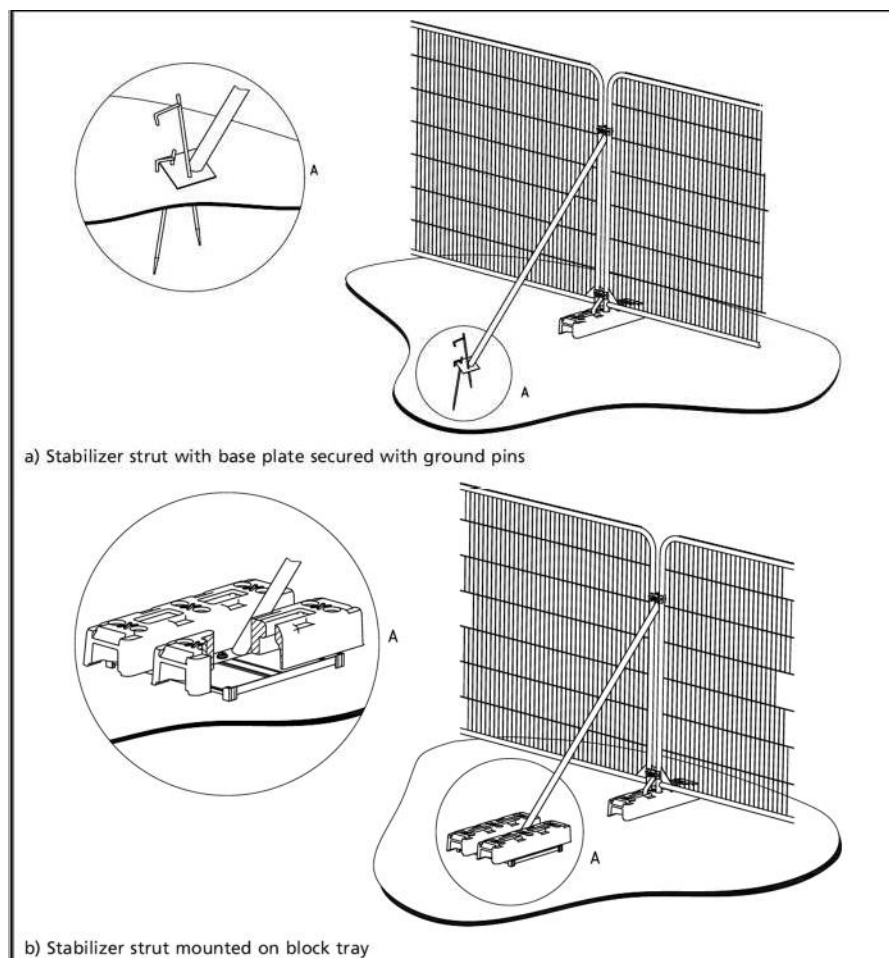


Fig 1: Temporary protective fencing as recommended by the British Standards (2012).

7. Notices should be erected on the barriers forming each CEZ stating “Construction Exclusion Zone – No Access “. These should face outwards towards the work area. Signs must be maintained in good condition and remain in place until completion of the works.
8. Barriers will be maintained throughout the duration of the works, ensuring that access is denied to the CEZ throughout the process.

Hard Surfacing within the RPA of Retained Trees

9. No excavation is allowed in the areas shown cross hatched in orange on the Tree Protection Plan and a No-Dig method of construction for hard surfacing installation is required.
10. A hard surface should be designed to avoid localized compaction by evenly distributing the load over the path or car parking space. The proper source of advice on a finished design are the structural engineers for the project to ensure it is fit for the intended loading and ground conditions. The design must also take full account of arboricultural advice. Appropriate methods include three dimensional cellular confinement systems or in some circumstances engineered solutions. The key element is that there will be no excavation.
11. In this situation it is likely that a three dimensional cellular confinement system constructed without excavation will be the best solution. Figure 2, below, shows a typical construction method of such a No-Dig surface using Cellweb produced by Geosynthetics Ltd. This example has permeable asphalt as the top surface but block paving or gravel or other permeable surfaces can be used. It should be noted that there are other manufacturers of cellular confinement systems.
12. It will be important ensure that the surface design merges with the level of the other sections of the road. An appropriate depth of confinement system should be chosen and if necessary ramps to smooth out level changes should be constructed.

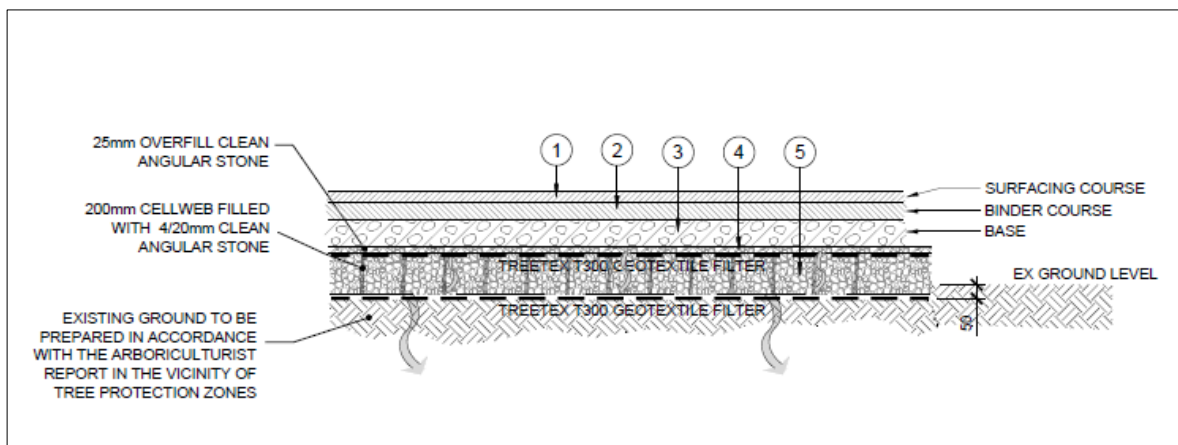


Fig 2: Example of No-Dig surfacing as illustrated by Geosynthetics Ltd.

13. The following methodology should be used for the installation of a No-Dig Surface.

- The construction must be undertaken in dry weather. There will be no machine movement within the RPA until the load-bearing layer has been installed
- Any major protrusions such as flints will be removed prior to commencement. Any hollows will be filled with clean sharp sand prior to laying a separating geotextile.
- The Cellweb panels will be extended to the full length and pinned into place with staking pins to anchor the cells open. Adjacent panels will be stapled together to form a continuous mattress. The surface must be located at least 0.5m from the base of the retained trees.
- The mattress will be edged with treated softwood edging boards of sufficient width to accommodate the infill material and held in place with pegs at a minimum spacing of 500mm.
- The cells will be filled with a minimum of 100mm of no fines angular granular fill (40 to 20mm). The infill material to be piled at the end of the extended web and pushed over the expanded cells working off the infill material. No machinery will encroach on the ground unless supported by the infill material.
- It is recommended that the No-Dig surface is not used for construction traffic. If it is, a sacrificial layer of stone should be laid on another geotextile membrane and scraped off at the end of the construction to form the final surface.
- To lay the final surface a second layer of geotextile separation fabric will be laid over the infilled Cellweb sections. Then a layer of sharp sand will be laid and compacted with a vibro-compactor plate prior to laying surface course. A range of surface finishes can be used. However the final surface must be permeable to allow continued water and gaseous diffusion.

Storage Shipping Containers, Site Huts and Temporary Buildings

14. All storage containers, site huts and temporary buildings will be sited outside the CEZ.

Additional Precautions

15. The movement of plant in proximity to retained trees should be conducted under the supervision of a banksman to ensure adequate clearance from the branches of the trees. Hydraulic cranes, forklifts, excavators or piling rigs (other than small rigs used for mini piling) must be avoided in the immediate vicinity the crown of the trees.

16. Cement, oil, bitumen or any other products which spillage would be likely to be detrimental to tree growth should be stored well away from the outer edge of the RPA of retained trees. Precautions should include ensuring all toxic liquids are stored in fully bunded containers. Spill kits including absorbent materials must be available on site to deal with any accidental spillages that may occur.
17. Lighting of fires on site should be avoided. Where they are unavoidable they must be at such a distance from retained trees that there is no risk of the heat causing fire damage to the trunk or branches. Full account must be taken of wind direction. Fires must be attended at all times until they are completely extinguished.

Service Trenches

18. No details of new service runs have been provided at this stage. They should be routed to avoid the RPAs of trees. If this is not possible, special techniques must be employed to place the services within the RPA of the trees. The British Standard suggests a range of trenchless methods suitable for various applications including micro-tunnelling, surface launched directional drilling, pipe ramming and impact moleing/thrust boring. It is important common ducts should be used where it is not possible to avoid the RPA. Further guidance on installing underground services adjacent to trees can be found in the NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Volume 4 Issue 2). This document outlines a number of techniques that may be used for trenching near trees, including trenchless techniques, discontinuous trenching and hand digging.
19. It will be necessary to prepare detailed plans for these services that should be produced in conjunction with an arboriculturist, and include allowance for the space needed for access for the installations, and the levels across the proposed area.
20. Any overground services including CCTV must also be positioned to avoid the need for any regular or detrimental pruning to the trees.

Appendix F – Tree Protection Plan

