



**Land adjacent to 19, Trenchard Avenue, Calne
Arboricultural Report containing:**

- Arboricultural constraints
- Arboricultural impact assessment (AIA)
- Tree protection
- Arboricultural method statement



On behalf of
Mr D Langhorn

Prepared by:
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May 2022

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1.0 Instructions/Scope

- 1.1 Silverback Arboricultural Consultancy have been instructed to compile an arboricultural report containing tree survey, tree constraints plan, arboricultural impact assessment, tree protection plan and arboricultural method statement regarding trees growing adjacent to 19, Trenchard Avenue, Calne. This report is intended to accompany a planning application relating to the construction of a new residential dwelling on the site. This document has been produced to demonstrate that the implications of the proposed development, to the existing trees, has been fully considered during the detailed design process.
- 1.2 Recommendations for the safeguarding of trees in close proximity to development are set out in, BS5837:2012 Trees in relation to design, demolition and construction – Recommendations. We have therefore carried out the assessment of the trees in accordance with that document
- 1.3 Specifically, this report and the accompanying information are supplied to:
- Identify the constraints that trees on and adjacent to the site present to the development of the site, to inform the site design process.
 - Present information regarding the above ground constraints (crown spreads) and below ground constraints (Root Protection Areas – RPAs), in a Tree Schedule and on a Tree Constraints Plan
 - Assess the impact of the proposed development on the trees on or adjacent to the site, and the impact that retained trees will have on the site post development
 - Identify trees to be removed, trees to be retained and specify measures necessary to protect retained trees during the construction phases of the development
 - Recommend necessary remedial tree works to be undertaken to trees that will be retained prior to commencement of the construction phases of the development
 - Present information regarding the location of protective barriers or fencing and ground protection on a Tree Protection Plan
 - Identify special engineering, excavation or protection measures intended to minimise the impact on retained trees where the site design layout requires a breach of the Root Protection area, (RPA)

- Provide an Arboricultural Method Statement for the recommended works detailing measures which should be implemented to protect retained trees during the demolition and construction phases of the development.

1.4 This report is based on a ground level assessment of the trees. Except where stated, all dimensions are estimated. We were not presented with any information on the soil type and no soil samples have been taken. An arboricultural consultant visited the site on Tuesday 24th May 2022. The weather was bright with good visibility.

1.5 Documents Provided

- Existing site plan dwg N° 2201 1101 02
- Proposed site layout dwg N° 2201 1102 02

2.0 Survey Methodology

2.1 The survey includes tree and shrubs with a stem diameter over 75mm at 1.5m height, located within the area shown on the plan included in this report.

2.2 All inspections were made from ground level with the use of binoculars, sounding hammer and metal probe where necessary, using the Visual Tree Assessment method (Mattheck & Breloer 1994). The presence and condition of bark and stem wounds, cavities, decay, fungal fruiting bodies and any structural defects that could affect the structural integrity of the trees have been noted.

2.3 Tree numbers have been noted on the plan. The following details were recorded for each tree and are included in the tree schedule sheets accompanying this report:

Number: an identity number for each tree, prefixed with a 'T' which cross references locations shown on the plan with the tree survey sheets. Where a number of trees, normally of the same species, are located close together and are similar in character and requirements, they have been treated as a Group under a single Number, prefixed with a 'G'

Species: common name and botanical name in *italics*

Tree Height: approximate height in metres

Stem Diameter: diameter measured in millimetres, taken at 1.5m above ground. Where the tree is multi-stemmed the diameter is calculated in accordance with BS5837:2012

(# estimated dimensions for off-site or inaccessible trees)

Crown spread: approximate spread in metres taken at the four main compass points N, S, E, W

Crown clearance: approximate height from ground to lowest part of canopy

Age class: Young, Semi-Mature, Early Mature, Mature, Over-Mature, Veteran

Structural condition: Good, Fair, Poor

Physiological condition: Good, Fair, Poor, Dead

Observations : observations noted during tree inspections

Preliminary recommendations; recommended action to ensure the health and safety of the tree.

Remaining contribution (years): <10, 10+, 20+, 40+

BS Cat- category grading in accordance with BS 5837:2012

A - trees of high quality with an estimated remaining life expectancy of at least 40 years.

B - trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

C - trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm

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.

BS Sub Cat - sub-category grading in accordance with BS 5837:2012

1- Mainly arboricultural qualities

2- Mainly landscape qualities

3- Mainly cultural values including conservation

RPA – Root Protection Area - measured in metres from the centre of the tree stem

2.4 Presentation of the Data Collected

- Data collected regarding individual trees and groups of trees are presented in the Tree Schedule table in appendix 1 in accordance with BS5837:2012 Trees in Relation to Construction – Recommendations.
- The data significant to the proposed site layout is also presented on the Tree Constraints Plan (Drawing Number 220531-CH-TCP-NB (appendix 2) and Arboricultural Impact Assessment Plan (Drawing Number 220531-CH-AIA-NB (appendix 3).
- All other relevant data are presented within the main body of this report.

- Trees have been allocated an individual tree number. This tree number is used to identify individual trees and/or groups of trees throughout this report, within the Tree Schedule and on all plans presented in the appendices of this report.

3.0 Report Limitations

- 3.1 Trees are living, dynamic organisms that can be affected by external conditions. It is therefore not possible to state with any certainty that a tree is safe.
- 3.2 No internal decay devices, or other invasive tools to assess tree condition, were used. No soil excavation or root inspection was undertaken.
- 3.3 This report has not considered the effect that trees or vegetation may have on the structural integrity of adjacent buildings or structures.
- 3.4 The survey contained within this report is not a tree safety inspection. It has been carried out in order to inform the planning process. Where clear and obvious hazards have been observed, these have been addressed in the recommendations contained within the tree schedule sheets (appendix 1). A full assessment of the levels of risk posed by trees would be informed by considering site use together with hazards present within the aerial parts of a tree(s). Changes in site use are likely to occur during, and result from, the proposed development. In the light of these changes, regular tree risk assessments are advised.
- 3.5 Tree condition can change rapidly, the recommendations contained within this report are based on the condition of the tree at the time they were inspected. Any amendments to the design or position of the proposed development will invalidate this report
- 3.6 While this appraisal is not a tree risk assessment it nonetheless takes into account observed structural defects of the inspected trees in order to inform conclusions with regard to their retentive worth.

4.0 Legal duty

- 4.1 It is the responsibility of the tree owner to ensure that their tree(s) is in a safe and stable condition, including the effects of root activity, through duty of care in the *Occupiers Liability Act (1957 & 1984)*.

- 4.2 The Wildlife and Countryside Act, 1981 makes it an offence to disturb a nesting bird or recklessly endanger a bat or its roost. Professional advice should be sought, where relevant, before undertaking any recommended works.
- 4.3 We were not made aware of any Tree Preservation Orders or other statutory constraints covering the trees on the site.

5.0 Tree and Site Assessment (to be read in conjunction with the survey schedule sheets)

- 5.1 The proposed development is for the construction of a new residential dwelling in the garden of the existing property. The area proposed for development currently comprises garden area containing three mature trees.
- 5.2 The trees were found to be in a good condition with no significant defects at the time of inspection. The proposed dwelling slightly encroaches into the calculated Root Protection Area of one of the existing tree. It is considered that the encroachment is minimal and will not impact on the health or longevity of the tree.
- 5.3 Three trees were surveyed. Of the trees surveyed two trees were categorized **A**, and one tree was categorized **B**. The trees were assessed and categorized in accordance with the Cascading Chart of Tree Quality Assessment contained within BS5837:2012.

6.0 Arboricultural Constraints

- 6.1 Trees have a widely spreading, shallow root system. In most cases, the majority of tree roots are situated within the top 600 mm of soil although some roots may extend down to 2m. Small feeder roots can also be expected to extend beyond the outer edge of the canopy. Roots can therefore be easily damaged by construction activity
- 6.2 Constraints on the design of the development are presented in the Tree Schedule Sheets (appendix 1) Tree Constraints Plan (appendix 2) and the Arboricultural Impact Assessment Plan (appendix 3). These constraints are also considered in the main body of the report below and recommended remedial works and mitigating measures.

6.3 The Tree Constraints Plan (TCP), (appendix 2), shows the Root Protection Areas (RPAs) for the individual trees identified in the tree schedule tables. This represents the minimum area in m² which ideally, should be left undisturbed around each tree were it to be retained. The TCP also shows a representation of the crown spread of each tree measured in four cardinal directions. The RPA has been calculated in accordance with Section 4.6 of BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.

6.4 Trees Identified for Retention and Removal.

It is intended to retain and protect the existing trees throughout the proposed development

6.4.1 Trees Outside Site Boundary

There are no trees outside of the site boundary, which are affected within the current proposals

7.0 Arboricultural Impact Assessment

7.1 The position of the proposed dwelling slightly encroaches into the calculated Root Protection Area of T03. Any excavation or soil compaction in this area could potentially lead to root severance or damage. This could subsequently lead to a reduction in the trees ability to take up water and nutrients, which may lead to a deterioration in the tree's health.

It is considered that the encroachment is minimal and will not impact on the health or longevity of the tree.

“Soil compaction, excavations and soil level increases will damage roots and the closer to the trunk they occur the greater the damage inflicted on the tree. Nevertheless, healthy trees are generally able to withstand the loss of some roots, a maximum of about 20% of the rooting area without noticeable effects (Helliwell and Fordham 1992)

7.2 The proposed parking area slightly encroaches into the fringes of the calculated Root Protection Area generated by T03. Any excavation or soil compaction in this area could potentially lead to root severance or damage.

It is considered that the encroachment is minimal and will not impact on the health or longevity of the tree. The edge of the parking area will be excavated by hand, any tree roots encountered will be pruned back with a suitable cutting tool. It is considered highly unlikely that there will be any significant roots (25mm+) in the area

- 7.3 Working area will be required within the calculated Root Protection Area of T01 and T03 to facilitate the construction of the proposed dwelling. Any soil compaction in this area could potentially lead to root severance or damage.
- Where working area is required within the Root Protection Area of T01 and T03, temporary ground protection will be installed in accordance with BS5837:2012 Section 6.2.3.3.**
- 7.4 Any encroachment into the Root Protection Area (RPA) of retained trees could lead to ground compaction resulting in root damage.
- Protective fencing, in accordance with BS5837:2012 will be erected to prevent any unauthorised access into the Root Protection Area (RPA) during the development works.**
- 7.5 Storage and mixing of construction materials could lead to soil compaction of ground contamination through spillage.
- All storage and mixing of materials will be undertaken outside the Root Protection Area (RPA) of the retained trees. If considered necessary, due to ground levels, a suitable water proof ground covering with bunds at the edges to prevent leakage will be laid over the storage, mixing area.**
- 7.6 Overhanging and low branches could potentially be damaged during the erection of scaffolding or during the delivery of materials to site.
- It is intended to slightly prune back the southern canopy of T01 and the western canopy of T03 by approximately 1m to allow the erection of scaffolding to facilitate the construction of the new dwelling.**
- 7.7 Drainage and service routes in association with the proposed development, have been planned outside the calculated Root Protection Area of any trees proposed for retained.
- Should this change, installation of drainage or services runs will be in accordance with Section 7.7 (Underground and above-ground utility apparatus) of BS5837:2012.**

- 7.8 **Shading:-** Potential shading of buildings by retained trees can lead to pressure for the pruning or removal of the trees. *BS5837: 2012 par 5.3* states that proposed buildings should be designed to take account existing trees, their ultimate size and density of foliage, and the effect that these will have on the availability of light.

The trees are growing to the north of the proposed dwelling subsequently there should be no shading issues.

- 7.9 **Future growth:-** Future extension growth of branches can result in the continuous whipping of branches against the fabric of a building or damage to the roof tiles. Structures should therefore be located with due consideration for a tree's ultimate growth.

The proposed pruning back, to facilitate the construction work, will provide sufficient clearance between the new dwelling and the tree canopies. It is considered that this clearance can then be maintained as part of the ongoing management of the trees.

8.0 Tree Protection

The trees to be retained on site during and after development as listed in Section 6.4 will require both above and below ground protection. Above ground protection may involve remedial tree surgery works. These works, where applicable, are presented in the Tree Schedule Sheets (appendix 1) and are discussed in Section 8.1 below.

- 8.0.1 Below ground protection measures, based on the root protection areas (RPA), indicated in the Tree Constraints Plan (appendix 2), will involve the erection of tree protection barriers as discussed in Section 8.2. Where the proposed site layout encroaches into the RPAs of retained trees, measures are recommended to minimise the potential damage to the roots and the root environment of the trees in question. The tree protection fencing is illustrated in Tree Protection Plan (Drawing Number 220531-CH-TPP-NB) (appendix 4)
- 8.0.2 The potential position of tree roots as indicated in the Arboricultural Impact Assessment Plan (appendix 3) and Tree Protection Plan (appendix 4) are only guidelines based on calculations shown in *BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'*.

8.1 Recommended Remedial Tree Surgery Works

Remedial tree work specifications are set out in the tree schedule table (appendix 1) and discussed in section 8.1.1 below. All works will be undertaken in accordance with BS3998:2010 Tree Work Recommendations and should be undertaken, by a suitably qualified and experienced Tree Surgery contractor.

- 8.1.1 It is intended to prune back the southern canopy of T01 and the western canopy of T03 by approximately 1m to facilitate the construction of the new dwelling.

8.2 Tree Protection Fencing

The Tree Protection Plan (appendix 4) indicates the location of the proposed tree protection barriers where appropriate. These barriers will create a Construction Exclusions Zone (CEZ) around the retained trees

- 8.2.1 The Construction Exclusion Zones will be erected in accordance with the recommendations in Section 6.2 of BS5837:2012. The specifications for the barriers are presented in Figure 3 from BS5837:2012 (appendix 5).
- 8.2.2 It is *essential* that tree protection fencing barriers are erected before any site preparation or construction work be commenced. (Remedial tree works however, should be undertaken before such fencing is erected – See Section 8.1). Once erected the protective fencing will be retained and maintained in position for the duration of the development
- 8.2.3 Should any construction activity require the repositioning of the tree protection barriers, advice will be sought from Silverback Arboricultural Consultancy and approval requested from the Local Authority Tree Officer before any of the fencing is altered.

8.3 Damage Limitation-Special Measures

Areas are identified on the Tree Protection Plan (appendix 4) where special measures will be required to minimise the impact of the proposed site layout on the retained trees where the construction works breach the RPAs.

- 8.3.1 Where working area is required within the Root Protection Area of T01 and T03, temporary ground protection will be installed in accordance with BS5837:2012 Section 6.2.3.3.
- 8.3.2 The northern edge of the proposed parking area will be excavated by hand to establish whether there are any tree roots in the area. Any roots encountered will be pruned back with a suitable cutting tool.
- 8.3.3 In the event of any unforeseen circumstances the project arboriculturalist will be informed immediately and will advise on suitable precautionary measures.

8.4 Underground Drainage and Service Installation

Drainage and service routes in association with the proposed development have been planned outside of any Root Protection Area of retained trees. Should this change installation of drainage or services routes will be in accordance with Section 7.7 (Underground and above-ground utility apparatus) of BS5837:2012.

9.0 Arboricultural Method Statement

This section sets out the basis of the methodology for all works in relation to the proposed development in proximity to trees located within the site boundary. Once the position and acceptability of the proposed development has been agreed with the Local Planning Authority, it is recommended that a Detailed Arboricultural Method Statement (DAMS) is compiled. It is considered that the DAMS could be conditioned in any planning consent.

- 9.0.1 Copies of the Arboricultural Method Statement document will be available for inspection on site and will form the basis of the management of all works relating to the trees on the site for the Site Agent/Manager following commencement of the project.

9.1 Programme of Works

- Arboricultural works
- Erection of protective barriers and temporary ground protection.
- Hand excavation to form parking area
- Construction of proposed dwelling

9.2 Arboricultural Works

The work recommendations presented in the Tree Schedule (appendix 1) and the recommendations discussed in Section 9.2.1 set out the proposed works to trees within the development site. These works will be carried out before commencement of other site operations including the erection of protective barriers.

- 9.2.1 It is intended to prune back the southern canopy of T01 and the western canopy of T03 by approximately 1m to facilitate the construction of the new dwelling. The proposed tree works will be undertaken by a professional arboriculturist in accordance with the recommendations contained in BS3998:2010. Tree work-recommendations.

9.3 Tree Protection Fencing

BS5837: 2012 recommends the erection of protective fencing around retained trees before development commences. The position of the fencing is calculated using the tree's diameter (DBH) measured at 1.5m up the stem. The area within the fencing is called the Root Protection Area (RPA).

- 9.3.1 To allow access to the site and facilitate the construction it will not be possible to erect the protective fences at recommended distance contained with BS5837:2012. It is proposed to erect the protective fencing as indicated on the Tree Protection Plan (TPP) (appendix 4). This will create a Construction Exclusion Zone (CEZ)
- 9.3.2 The protective fencing will be constructed in accordance with BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'. This will consist of weld mesh panels positioned in rubber feet braced with stabilizer struts secured with ground pins, in accordance with Figure 3 of BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations' (appendix 5).
- 9.3.3 Once erected the protective fencing will be retained and maintained in position for the duration of the development. If it is necessary to move the protective fencing advice will be sought from Silverback Arboricultural Consultancy and approval requested from the Wiltshire Council Tree Officer before any of the fencing is altered.

9.3.4 Weatherproof signage will be attached to the fencing indicating its function as illustrated (appendix 6).

9.3.5 In the CEZ (construction exclusion zone):

- There must be no alteration of ground levels, including soil stripping other than those detailed within this report
- Any installation of drainage or services will be in accordance with Section 7.7 (Underground and above-ground utility apparatus) of BS5837:2012.
- Oil, bitumen, cement or other harmful materials will not be stored, mixed or discharged within 10m of any retained trees
- Fires will not be lit beneath or within 10m upwind of tree canopies

9.4 Installation of temporary ground protection.

Prior to the commencement of any construction works on site, temporary ground protection will be installed, as indicated on the TPP (appendix 4), in accordance with BS5837:2012 Section 6.2.3.3. This will be retained and maintained in position for the duration of the development.

9.4.1 The temporary ground protection will consist of a geo textile membrane placed over the existing ground. This will be topped by 100mm woodchip overlaid with a single thickness of scaffold boards.

9.5 Construction of parking area

The northern edge of the parking area will be excavated by hand to establish whether there is any root encroachment into the area. Any tree roots encountered will be cleanly severed with a suitable cutting tool in accordance with BS5837:2012 para 7.2.3.

9.6 Supervision and Monitoring

The project arboricultural consultant will be employed to oversee operations relating to works close to or within RPAs of retained trees and to issue a site inspection report of practical completion for the following operations:

- The erection of protective barriers around the retained trees in accordance with TPP (appendix 4)
- Hand excavation for parking area

- 9.6.1 A record of site visits completed by the project arboriculturalist will be maintained for inspection on site and copies are forwarded to the Local Planning Authority Tree Officer.
- 9.6.2 This development will be overseen Silverback Arboricultural Consultancy. If there are any alterations to the proposed working methodology necessary, works will be stopped until the arboricultural consultant has been notified and agreement reached with the Local Planning Authority Tree Officer.

10.0 Contact Details

10.1 Arboricultural Consultant

Chris Wright

Silverback Arboricultural Consultancy

E-mail: chris@silverbackarb.co.uk

10.2 Local Authority Tree Officer

David Wyatt

Arboricultural and Landscape Officer

Wiltshire Council

email: David.Wyatt@wiltshire.gov.uk

11.0 References

Mattheck, C. and Breloer, H. (1995). The Body Language of Trees: A handbook for failure analysis. Research for Amenity Trees **4**. HMSO, London.

British Standard 5837:2012 - Trees in relation to design, demolition and construction – Recommendations. British Standards Institution, London

British Standard 3998:2010 - Tree Work Recommendations. British Standards Institution, London

12.0 Appendices

- Tree schedule sheets
- Tree constraints plan
- Arboricultural impact assessment (AIA)
- Tree protection plan
- BS5837:2012 Trees in relation to construction: Recommendations Protective Fencing Detail
- Protective fencing sign

Chris Wright. MArborA.

Principal Consultant

Silverback Arboricultural Consultancy

1st June 2022

Arboricultural Survey Cherhill, Calne

Tree Number	Common name	Botanical name	Height (m)	Number of stems	Calculated stem diameter (mm)	Crown Spread (m)				Crown Clearance (m)	Life Stage	Structural Condition	Physiological Condition	Observations	Preliminary Recommendations	Remaining contribution (yrs)	BS Category	Root Protection Area Radius (m) Area m2
						N	E	S	W									
T01	Sycamore	Acer pseudoplatanus	10	1	440	5	5	5	5	3	Mature	Good	Good	No significant defects visible at time of inspection	No action required at the time of inspection.	40+ Years	A1,2	Radius: 5.3m. Area: 88 sq m.
T02	Common Hawthorn	Crataegus monogyna	6	2	305	2	2	2	2	2	Mature	Good	Good	No significant defects visible at time of inspection Twin stemmed from base	No action required at the time of inspection.	40+ Years	B2	Radius: 3.6m. Area: 41 sq m.
T03	European Lime	Tilia x europaea	10	1	530	5	5	5	5	2	Mature	Good	Good	No significant defects visible at time of inspection	No action required at the time of inspection.	40+ Years	A1,2	Radius: 6.4m. Area: 129 sq m.



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Site: Cherhill, Calne

Drawing Title: Tree Constraints Plan	1:200 @ A3
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Drawing Number: 220531-CH-TCP-NB	May 2022
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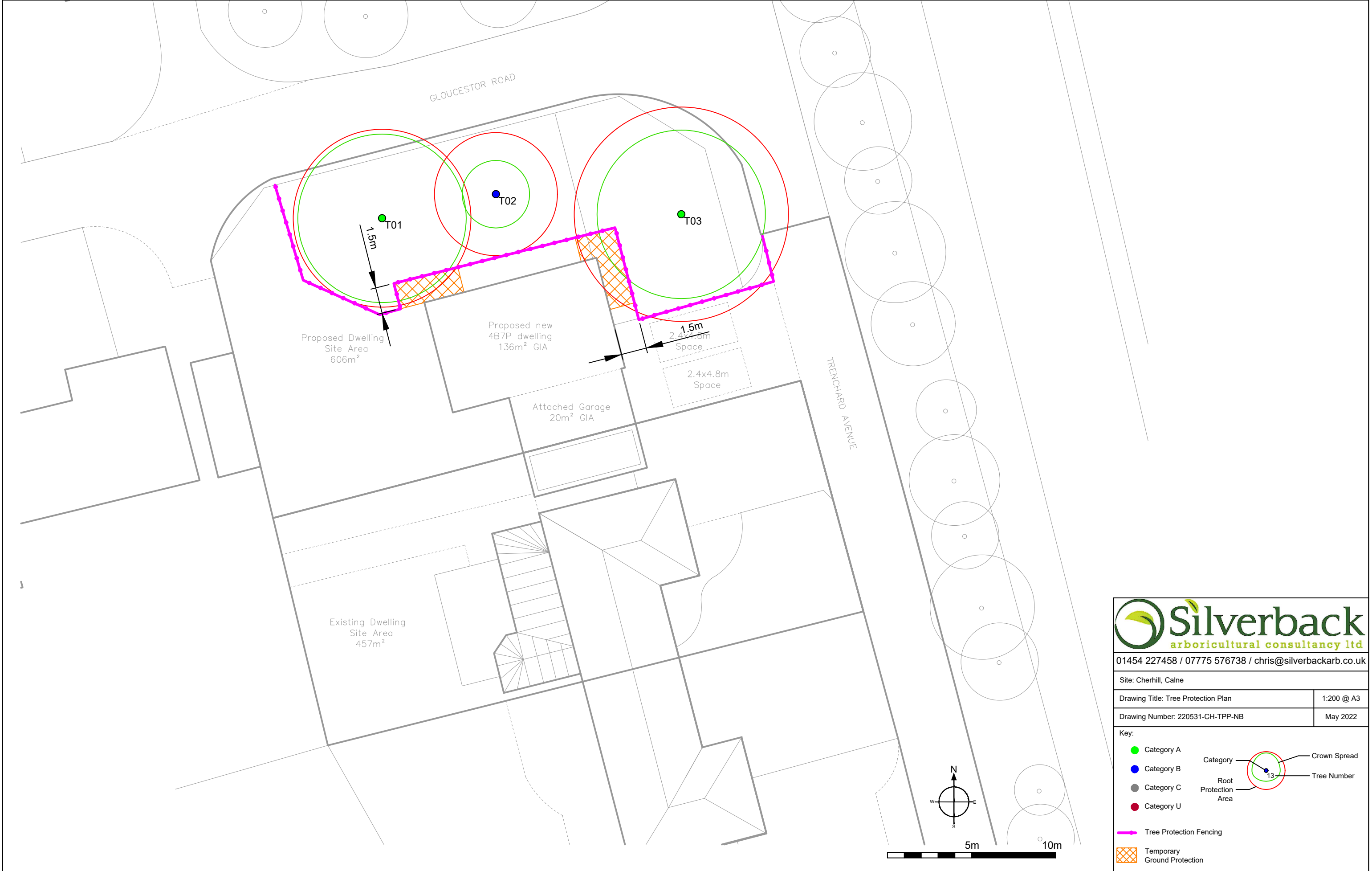
Key:

● Category A		Category	Crown Spread
● Category B		Tree Number	
● Category C		Root Protection Area	
● Category U			



Key:

 Category A		Crown Spread
 Category B		Tree Number
 Category C		
 Category U		



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Site: Cherhill, Calne

Drawing Title: Tree Protection Plan	1:200 @ A3
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Drawing Number: 220531-CH-TTP-NB	May 2022
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Key:

● Category A	
● Category B	
● Category C	
● Category U	

— Tree Protection Fencing

Temporary Ground Protection

**BS 5837:2012 – TREES IN RELATION TO DESIGN, DEMOLITION AND
CONSTRUCTION – RECOMMENDATIONS**

EXAMPLES OF ABOVE-GROUND STABILIZING SYSTEMS

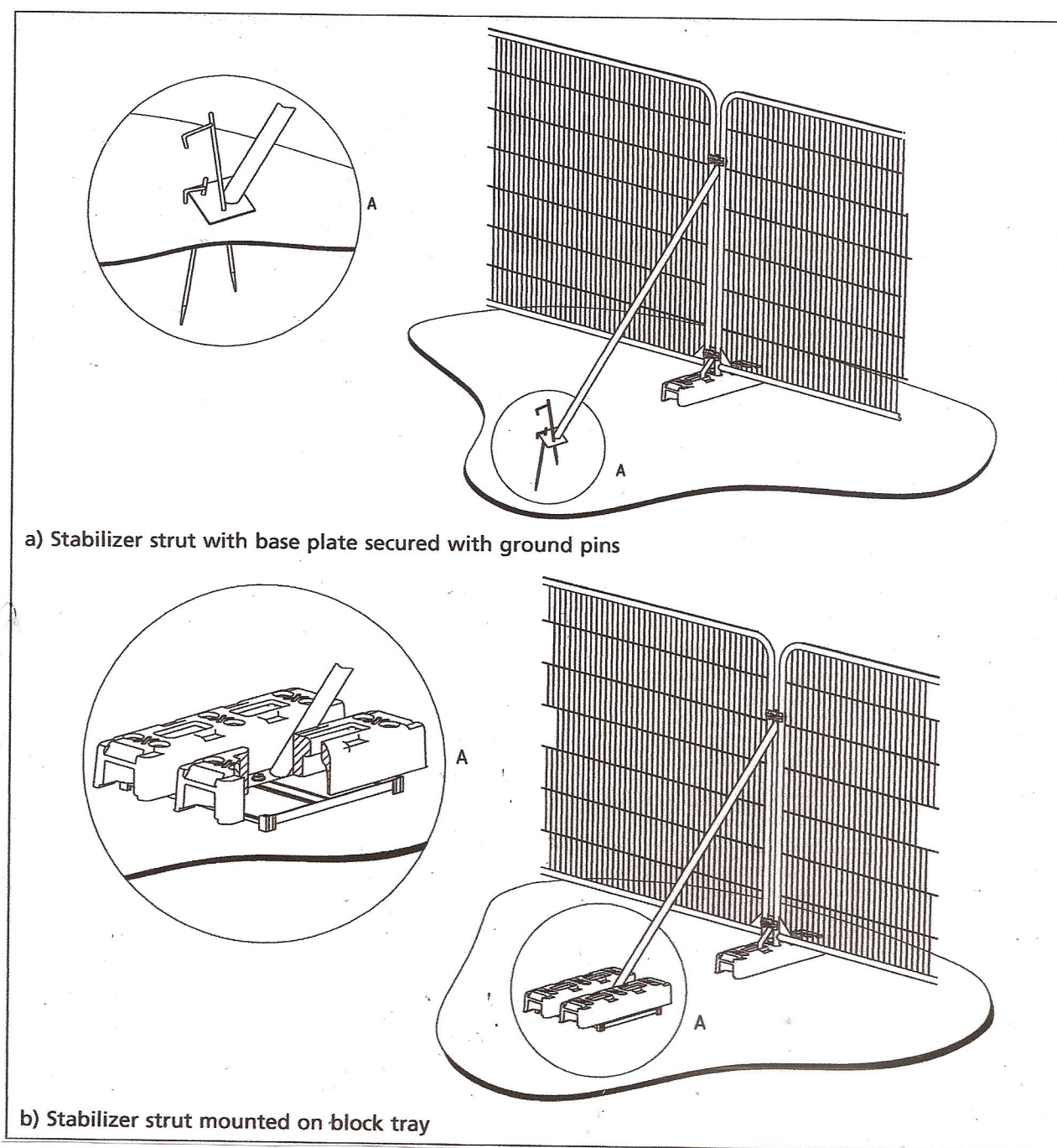


Figure 3 Examples of above-ground stabilizing systems



**PROTECTIVE FENCING. THIS
FENCING MUST BE
MAINTAINED IN ACCORDANCE
WITH THE APPROVED PLANS
AND DRAWINGS FOR THIS
DEVELOPMENT.**



**TREE PROTECTION AREA
KEEP OUT !**

**(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A
TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION**

**ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL
PLANNING AUTHORITY**