



## Arboricultural Impact Assessment for: 9 Barrow Lane, Winford

### Inspected and prepared by

Stuart Roberts  
*DipArb(RFS), MICFor, RCarbor A*

### Prepared for

Sarah Fowke  
9 Barrow Lane  
Winford  
BS40 8AG

### Report date

18<sup>th</sup> December 2023

### Site address

9 Barrow Lane  
Winford  
BS40 8AG

### Report reference

9BarrowLane\_AIA\_122023

### Planning Reference

23/P/2354/FUH

## Executive summary

This Arboricultural Impact Assessment has been prepared in order to provide North Somerset Council with arboricultural information in support of a planning application for the demolition of an existing porch, the erection of a two-storey side/rear extension and a single storey front extension at 9 Barrow Lane in Winford.

The information within is compliant with *BS5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations* and contains details of the direct and indirect impacts of the proposals on the trees on and adjacent to the site.

No trees are proposed for removal to facilitate the proposals. One tree requires minor pruning to provide adequate clearance from the east elevation of the proposed extension for a scaffold strip.

The east foundation of the extension encroaches on 9% of the RPA of a retained birch, to minimise impact on the tree excavations for foundations will take place under arboricultural supervision and any roots encountered will be pruned correctly.

Temporary protective barriers will be required to protect retained trees from development activity, to the east of the house the barriers will need to be set back into Root Protection Areas (**RPAs**) to facilitate construction access and a scaffold strip. RPAs exposed by the setting back of barriers will be protected by a combination of existing concrete surfacing and temporary ground protection boards.

Existing services will be utilised and no new buried services will be required within the RPA of a retained tree.

The site does not lie within the limits of a Conservation Area and there are no trees on or adjacent to the site that are the subject of a Tree Preservation Order.

Retained trees will not be adversely impacted by the proposals provided works are carried out in strict accordance with the Arboricultural Method Statement provided at Appendix B.

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## 1.0 Instructions

- 1.1 Assured Trees are instructed by Sarah Fowke to carry out a survey of trees that could potentially be impacted by development proposals at 9 Barrow Lane and to provide an arboricultural impact assessment in support of a planning application to North Somerset Council (**NSC**).
- 1.2 This report has been prepared by a qualified arboriculturalist in accordance with *BS5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations* (**BS5837: 2012** hereafter) and contains the components listed in Table 1:

Component	Description
Tree survey	Including all trees, on and off site, that could potentially be impacted by the proposals with data and work recommendations presented in a Tree Survey Schedule at <b>Appendix A</b> and tree constraints illustrated on a Tree Constraints Plan ( <b>TCP</b> ).
Arboricultural Impact Assessment ( <b>AIA</b> )	An assessment of the potential impacts of development proposals on trees on and adjacent to the site and an assessment of the impact retained trees may have on the site post development.
Arboricultural Method Statement ( <b>AMS</b> )	Presented at <b>Appendix B</b> as a standalone document containing a clear specification for protective measures for retained trees throughout the development process.
Tree Protection Plan ( <b>TPP</b> )	Presented at <b>Appendix C</b> , with a clear illustration of the extent and location of specified tree protection measures.

**Table 1:** Report components

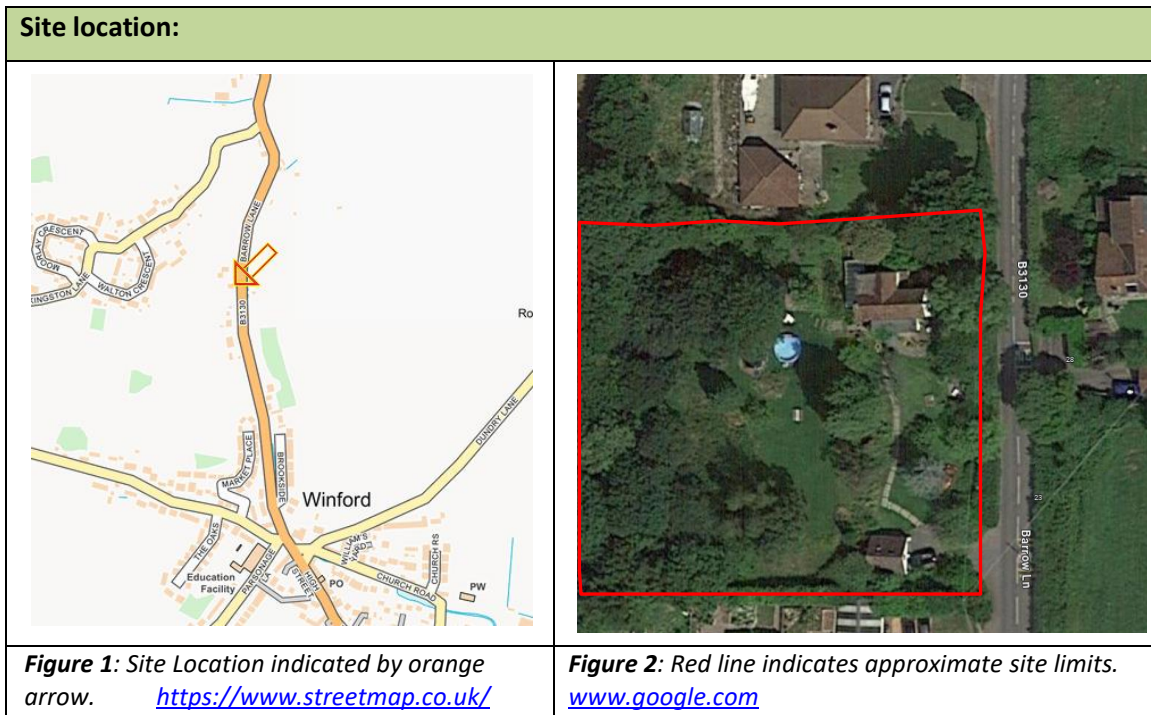
- 1.3 This report has been informed by the following documents:

Document	Reference	Supplied by
Proposed floor plans	BARROW01 005	Sarah Fowke
Proposed elevations	BARROW01 006	Sarah Fowke

**Table 2:** Documents provided

## 2.0 Introduction

- 2.1 The application site is a detached residential property located on the west side of the B3130 Barrow Lane in Winford (figures 1 and 2). The site is accessed from a driveway to the south-east with a footpath leading to the house to the north-east of the site. There are mature trees on the east and north site boundaries with a large group of semi-mature trees to the west in an area raised from the development area and outside of influencing distance of the proposals.
- 2.2 The proposals are for the demolition of an existing porch and removal of a flue, the erection of a two-storey side/rear extension, a single storey front extension, creation of a canopy front porch and removal, replacement and installation of multiple windows.



### 3.0 Report limitations

3.1 The tree survey was carried out from ground level on the 8<sup>th</sup> December 2023, observations were made in the context of planning and development in accordance with BS5837:2012 and specifically relate to the conditions found at the time of the survey. The survey does not constitute a detailed hazard assessment, no decay detection equipment has been used in assessing trunk condition and no samples of any kind have been taken for analysis.

### 4.0 Trees included in the survey

4.1 Nine trees and one hedge were identified in the survey and have been awarded category ratings in accordance with the BS5837:2012 cascade chart for tree quality assessment (table 3). Category ratings of **A**, **B**, **C** or **U** are allocated based on the condition of a tree or group of trees in its/their current surroundings, with **A** representing the higher quality trees, **B** the moderate quality, **C** the lower quality and **U** the trees that cannot realistically be retained in the context of the current land use. A full account of the tree survey methodology including the categorisation criteria for surveyed trees is presented at Appendix F.

	Category			
	A	B	C	U
Trees	0	4	5	0
Hedges	0	0	1	0

**Table 3:** Tree categorisation quantities

4.2 As there is no topographical survey or existing site plan that shows wider site features available, tree locations, crown spreads and RPAs have been plotted onto scaled (1-200@A2,) geo-referenced aerial image to create the Tree Constraints Plan and the Tree Protection Plan at Appendix C.

## 5.0 Root Protection Areas (RPAs)

5.1 Root Protection Areas (RPAs) for all trees on site have been calculated in accordance with BS5837:2012 and form below ground constraints to development. The 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 should be treated as a priority, the RPA does not represent the entire root system of a tree. The RPAs have been plotted onto the Tree Protection Plan as a circle centred on the base of each tree stem with a radius of 12 times the trees stem diameter measured at 1.5 metres above ground level.

## 6.0 Statutory constraints

6.1 A review of North Somerset Council on-line resources<sup>1</sup> reveals that the site does not lie within the limits of a Conservation Area and that there are no trees on or adjacent to the site that are the subject of a Tree Preservation Order. It is not currently necessary to obtain consent from NSC to carry out tree works on the site. It should be noted however that planning policy requires tree works that are in the interest of development to be included within arboricultural information supporting a planning application regardless of statutory tree protection.

## 7.0 Soils

7.1 Tree growth can cause differential movement in structures on shrinkable clay soils as moisture is removed from the soil below foundation depth during the growing season. Soil information obtained using the British Geological Survey Data<sup>2</sup> indicates an underlying geology of *Wilmcote Limestone Member - Limestone and mudstone, interbedded*. It is therefore unlikely there is an underlying clay soil with a high potential for volume change, however as a precaution, soil type should be confirmed by an engineer and foundations near trees should be constructed in accordance with the *National House Building Council (NHBC) Chapter 4.2 Building near trees*<sup>3</sup>.

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<sup>1</sup> <https://map.n-somerset.gov.uk/dande.html>

<sup>2</sup> [https://geologyviewer.bgs.ac.uk/?\\_ga=2.152583345.92563876.1660213156-1216554341.1660213156](https://geologyviewer.bgs.ac.uk/?_ga=2.152583345.92563876.1660213156-1216554341.1660213156)

<sup>3</sup> <https://nhbc-standards.co.uk/4-foundations/4-2-building-near-trees/>

## 8.0 Site images



**Image 1:** The south elevation of the house with trees 01 to 05 (from right to left).



**Image 2:** Trees 04 and 05 on the north site boundary.



**Image 3:** View looking south of the east elevation of the house with T01, T02 and H03 on the left.



**Image 4:** Trees 07 and 08 to the south-west of the house.

	
<p><i>Image 5: Tree 10 in foreground and tree 09 centre-left adjacent to the east site boundary with trees 01 and 02 on the far left with a shrub mass in between.</i></p>	<p><i>Image 6: retaining wall and level differential to the west of the house preventing construction access to the trees to the west of the site which are outside of the zone of influence of the proposals.</i></p>

## 9.0 Planning policy

9.1 This application has given due consideration to the National Planning Policy Framework (NPPF) (July 2021), North Somerset Core Strategy January 2017 (CS4 & CS9) and The Sites and Policies Plan Part 1: Development Management Policies 19 July 2016 (DM9), which seeks to protect trees as they can make a positive contribution to the character and biodiversity value of an area.

## 10.0 General impacts of development

10.1 Trees are commonly damaged during development through root severance to construct foundations or install services or through soil compaction within the rooting area of a tree which adversely affects drainage, gas exchange, nutrient uptake and organic content, and will seriously impede or restrict root growth potentially causing the decline or death of the tree. Further damage can be caused by direct contact damage to parts of a tree from plant and equipment. To avoid damage to trees, construction activity must be excluded from Root Protection Areas (**RPAs**) by robust physical barriers creating a Construction Exclusion Zone (**CEZ**). If construction access is required within RPAs, barriers need to be set back and ground protection used over the exposed area of RPA to prevent soil compaction, existing hard surfacing such as tarmac can be used as ground protection.



## 11.0 Tree removals and arboricultural works

- 11.1 No trees are proposed for removal to facilitate the proposals. One tree (T02) requires minor pruning to provide adequate clearance from the east elevation of the proposed extension for a scaffold strip. Pruning will need to be undertaken in accordance with the recommendation contained within *BS3998:2010 Tree work – Recommendations* to ensure that pruning cuts will be as small diameter as possible and minimise opportunity for colonisation by pathogens.

## 12.0 Potential impacts on retained trees

- 12.1 **Foundations:** The east elevation of the proposed extension encroaches on 9% of the RPA of T02. The impacted area is currently a raised planting bed/rockery on the west side of a concrete footpath (image 7). If a foundation trench is excavated by mechanical means any underlying roots will be pulled and ripped which can damage the roots closer to the tree than the point of contact and leave wounds suitable for colonisation by decay pathogens. To minimise the impact on T02 excavations for foundations must take place under arboricultural supervision and any roots encountered pruned using a suitable sharp tool. Exposed roots within the foundation trench can be contaminated by contact with wet concrete so must be separated by a suitable material to prevent concrete leaching and contamination damage.
- 12.2 **General development activity** such as plant/vehicle movements, materials storage, construction compounds, contractor car parking and hard landscape works have the potential to cause ground compaction within the RPAs of retained trees. To prevent an adverse impact on retained trees robust physical barriers must be erected as close to the extent of the RPAs as possible to create a Construction Exclusion Zone (**CEZ**). The barriers must be fit for the purpose of excluding construction activity, must be appropriate to the degree and proximity of work taking place around the trees and must be maintained throughout the development process to ensure that they remain rigid and complete.
- 12.3 Construction access is required to the north and east of the proposed extension which encroaches on the RPAs of trees 01-05. Protective barriers will need to be set back partially exposing the RPAs to potential compaction damage. The existing concrete footpath will be retained and will protect any underlying roots but the area of soft landscape to the east and north of the concrete path is vulnerable to compaction damage. To prevent compaction damage ground protection boards must be used over the exposed areas of RPA in soft landscape (image 8). The boards must be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.



- 12.4 **Services** will be supplied from the existing house and will not require new buried services within the RPA of a retained tree. Soakaways and drainage runs will be routed away from the RPA of retained trees and will not require encroachments into RPAs.
- 12.5 **Shading:** Retained trees will cast significant shade over the north and east elevations of the house, fenestration has been designed with this in mind with fewer windows proposed on the east elevation where shading is more of an issue with increased light levels provided by larger windows and glass doors on the south elevation.
- 12.6 **Leaf fall:** Retained trees will drop significant quantities of leaf material in the autumn and crown detritus throughout the year which is likely to cause blocked gutters, to mitigate this issue gutter guards will be required<sup>4</sup>.
- 12.7 **Future pressure to prune:** Retained trees are valued by the owners and enhance the visual amenity and character of the property, the issues of proximity, shading and leaf fall are currently the case and are not significantly exacerbated by the proposals, it is not considered the proposed works will result in future pressure to have trees removed from the site but it is acknowledged that relatively regular pruning will be required to maintain separation between trees on the east site boundary and the east elevation of the building. This level of minor pruning will not cause a significant adverse impact to the physiological and structural condition of the trees.

<sup>4</sup> <https://www.unblockmygutters.co.uk/blog/best-gutter-leaf-guards>

## 13.0 Conclusions

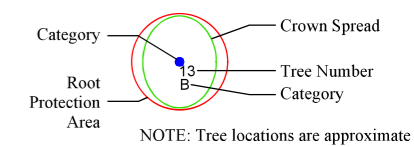
13.1 The scheme has been designed taking into account the constraints of all trees on the site, no tree removals are required and minor pruning is required to facilitate construction access and clearance. The potential adverse impacts on trees have been identified and assessed. Retained trees and hedges will be protected and not harmed during development provided works are carried out in strict accordance with the Arboricultural Method Statement and Tree Protection Plan provided at Appendix B.

## 14.0 References

- British Standards Institution (BSI), BS5837:2012. Trees in relation to design, demolition and construction – Recommendations. BSI
- British Standards Institution (BSI), BS3998:2010. Tree work – Recommendations. BSI
- National House Building Council (NHBC) Standards, (2008). Chapter 4.2: Building Near Trees
- Department for Communities and Local Government (DCLG), 2012. National Planning Policy Framework (NPPF). DCLG



**Symbol Guide**



**BS5837:2012 - Tree Category**

- Category A Trees  
High Quality
 

 Category C Trees  
Low Quality
- Category B Trees  
Moderate Quality
 

 Category U Trees  
Poor Quality/Remove



**ASSURED TREES**

Project Name:  
9 Barrow Lane, Winford, Bristol,  
BS40 8AG

Drawing Title:  
Tree Constraints Plan

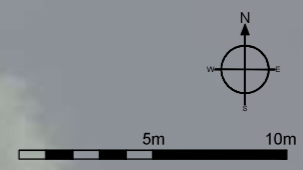
Drawing Number:  
9BarrowLane-TCP-01

Client:  
-

Agent:  
-


Date:  
December 2023

Scale:  
1-200@A2



## Appendix A: Tree Survey Schedule



<b>Tree Survey Schedule</b>	 <b>ASSURED TREES</b>
<b>Client:</b> Sarah Fowke	
<b>Location:</b> 9 Barrow Lane, Winford, BS40 8AG	
<b>Date of survey:</b> 8 <sup>th</sup> December 2023	

Tree Number	Single (S) or Group (G)	Tree Name (species)	Height (m)	Calculated Stem Diameter (mm)	Number of Stems	Crown Clearance (m)	Crown spread				Age Class	Physiological Condition	Structural Condition	Condition Notes	Recommendations	Estimated Remaining Life Contribution	BS Category	Root Protection Area (Radius, m)
							North(m)	South(m)	East (m)	West (m)								
01	S	Portuguese laurel	9	490	6	2	4	4	4	4	M	G	G	Multi stem from 1 metre from good unions, minor dead wood in lower crown.	None.	10+	C1	5.9
02	S	Birch	16	500	1	3	5	4	5	5	M	G	G	Single stem birch on east site boundary, growing within cypress hedge, power lines within crown spread to east, good condition.	Reduce west side of crown by 2.5 metres to allow 1 metres clearance from line of proposed building.	40+	B2	6.0
03	H	Leyland cypress	4	100	1	0	See associated plans				Y	F	F	7 metre section of unmanaged cypress hedge on the east site boundary.	None.	40+	C1	1.2
04	S	Beech	17	680	1	2	7	5	6	7	M	G	G	Mature beech in north-east corner of site, multi stem from 2.5 metres from narrow unions, crown bias north, small self-seeded beech at base to east, power lines within crown spread to east.	None.	40+	B2	8.2
05	S	Spruce	20	480	1	4	3	4	1	4	M	G	G	Single stem spruce on north site boundary, crown bias north-west.	None.	20+	B2	5.8
06	S	Cotoneaster	6	340	4	2	5	5	3	4	M	G	G	On north site boundary, multi-stem from base, decay in south stem.	None.	10+	C1	4.1
07	S	Western red cedar	17	460	1	2	3	1	3	3	M	G	G	Single stem, crown suppressed to south by adjacent cypress.	None.	40+	B2	5.5

Tree Number	Single (S) or Group (G)	Tree Name (species)	Height (m)	Calculated Stem Diameter (mm)	Number of Stems	Crown Clearance (m)	Crown spread				Age Class	Physiological Condition	Structural Condition	Condition Notes	Recommendations	Estimated Remaining Life Contribution	BS Category	Root Protection Area (Radius, m)
							North(m)	South(m)	East (m)	West (m)								
08	S	Lawson cypress	17	725	2	2	3	4	5	4	M	G	F	Twin stem from base from a narrow union, crown suppressed to north by adjacent western red cedar.	None.	40+	C2	8.7
09	S	Maple	6	210	1	2	1	4	4	3	Y	G	F	In area of dense shrubs, stem lean and crown bias south.	None.	40+	C1	2.5
10	S	Cherry plum	6	259	3	2	3	3	3	3	Sm	G	F	In planting pit adjacent tarmac driveway, multi stem from 1.2 metres from narrow unions, hard standing within RPA.	None.	20+	C1	3.1

Table Heading	Definition
<b>Tree Number</b>	Tree numbers as they appear in the Tree Schedule and are marked on the Tree Protection Plan drawings.
<b>Single or group</b>	S for a single tree, G for a group of trees and H for a hedge
<b>Species</b>	The common name of the tree
<b>Height (m)</b>	In meters measured with a laser clinometer
<b>Calculated stem diameter (mm)</b>	Calculated diameter of the stem(s) measured in millimetres at 1.5 meters from ground level
<b>Number of stems</b>	Indicates the number of stems measured to inform the Root Protection Area
<b>Crown clearance (m)</b>	Height in metres of crown clearance above adjacent ground level
<b>Crown spread (m)</b>	The spread of the crown measured in metres, taken at the four cardinal points from the trunk
<b>Age class</b>	(Np) Newly planted, (Y) Young, (SM) Semi-Mature, (EM) Early mature, (M) Mature, (A) Ancient or (V) Veteran
<b>Physiological condition</b>	Good – tree has good health and vitality. Fair- tree has minor health and vitality problems. Poor- tree has low vitality and significant health problems. Dead- dead tree.
<b>Structural condition</b>	G-good P- poor F- Fair D-dead
<b>Condition notes</b>	Specific notes relating to the condition of the tree
<b>Recommendations</b>	Recommendations for tree surgery based on any physical defects found or for further investigation of defects that require a more detailed assessment
<b>Estimated remaining contribution</b>	In years <10, 10+, 20+ or 40+
<b>RPA (Root Protection Area) Radius (m):</b>	The radius of the area in square metres that will need to be protected during construction with a protective fence and/or load bearing surface
<b>Category grading Category</b>	<p><b>Category A:</b> Trees of high quality with an estimated remaining life expectancy of at least 40 years</p> <p><b>Category B:</b> Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p> <p><b>Category C:</b> Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter &lt;150mm</p> <p><b>Category U:</b> 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</p>
<b>TREE SURVEY SCHEDULE KEY</b>	



## Appendix B: Arboricultural Method Statement





## Arboricultural Method Statement for: 9 Barrow Lane, Winford

<b>Inspected and prepared by</b>	<b>Prepared for</b>	<b>Report date</b>
Stuart Roberts <i>DipArb(RFS), MICFor, RCarbor A</i>	Sarah Fowke 9 Barrow Lane Winford BS40 8AG	18 <sup>th</sup> December 2023

<b>Site address</b>	<b>Report reference</b>	<b>Planning Reference</b>
9 Barrow Lane Winford BS40 8AG	9BarrowLane_AMS_122023	23/P/2354/FUH

Paragraph number	Content	Page number
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## 1.0 Introduction

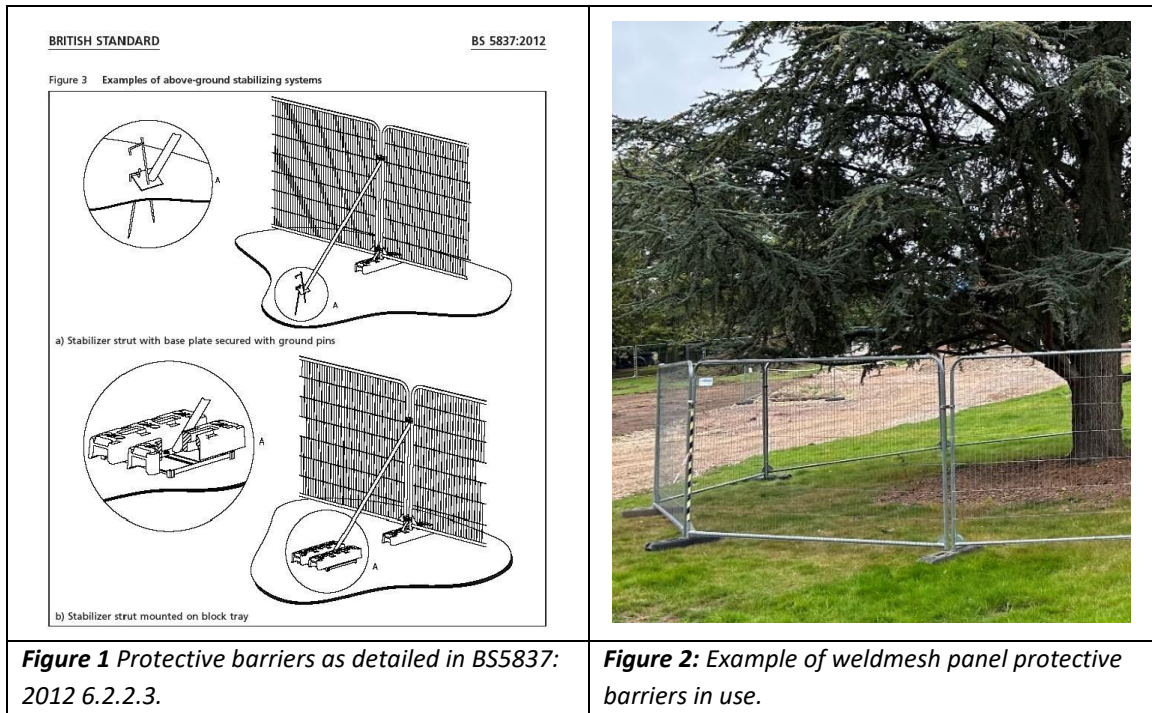
- 1.1 As full details of activities that could impact retained trees may not be known at planning application stage, BS5837:2012 (Annexe B, table B.1) recommends that a heads of terms arboricultural method statement delivers a sufficient level of tree related information into the planning system and that a detailed arboricultural method statement might need to be provided as a reserved matter (outline applications) or planning condition (full applications).
- 1.2 This preliminary arboricultural method statement is intended to provide initial details and specifications for all tree protection measures and arboricultural related operations that can be identified at this stage in the planning process and will form the basis of a detailed arboricultural method statement if required through planning condition should the scheme achieve consent.
- 1.3 Copies of the Arboricultural Method Statement will be kept on site and the site manager will communicate the content to all staff and contractors with duties that involve working near trees or have the potential to impact retained trees.

## 2.0 Arboricultural works

- 2.1 The west side of tree 02 will be pruned back to allow 1 metre clearance from the line of the proposed house. Tree works will be carried out in accordance with *BS3998:2010 - Recommendations for Tree Work*.

## 3.0 Tree protection

- 3.1 **Temporary protective barriers:** Following tree works and ***before the commencement of any demolition or construction works on site***, temporary protective barriers will be installed in the positions indicated on the Tree Protection Plan. The barriers will consist of 2 metre tall, welded mesh panels on rubber feet, and be well braced to resist impact, as illustrated in figures 1-2 and Appendix D.
- 3.2 The protective barriers will create a Construction Exclusion Zone (CEZ) in order to prevent construction activity of any kind, including the storage of materials, within the unprotected RPA of retained trees. The barriers will remain in place until the completion of all development unless otherwise specified within this AMS. ***The barriers must not be moved or altered in any way without the written consent of North Somerset Council.*** If site constraints require the alteration of the barriers then the project arboriculturalist will first be consulted who will take the necessary steps to obtain appropriate consent.



- 3.3 Weather resistant site notices, similar to that reproduced below in Appendix E, will be attached to the protective barriers to clearly identify the purpose as tree protection that must not be moved or altered.
- 3.4 **Temporary ground protection:** Following the erection of protective barriers, temporary ground protection (figure 3) will be laid in the positions shown on the Tree Protection Plan consisting of proprietary, inter-linked boards<sup>1</sup> placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane, in accordance with BS5837:2012 6.2.3.3 a). The ground protection boards will remain in place until the completion of all construction works and **must not be moved or altered in any way without the written consent of North Somerset Council** unless otherwise stated in this AMS.



<sup>1</sup> <https://www.ground-guards.co.uk/sectors/tree-root-protection/>

#### 4.0 Works within Root Protection Areas (RPAs)

- 4.1 **Foundations:** The east elevation of the proposed extension encroaches on 9% of the RPA of T02. Excavations for foundations must take place under the direct supervision of the project arboriculturalist, if roots are encountered mechanical excavation will stop, the root(s) will be exposed using hand tools and pruned back to the tree side of the excavation, by the project arboriculturalist, using a suitable sharp tool such as a handsaw or secateurs. Any exposed roots within the foundation trench will be separated from wet concrete by a layer of thick polythene to prevent contamination damage.
- 4.2 **Services** will be supplied from the existing house, soakaways and drainage runs will be located outside of the RPAs of retained trees and no new buried services are proposed within the RPA of a retained tree. If services are required to run within the RPA of a retained tree for unforeseen reasons, they will be installed in accordance with the National Joint Utilities Group (**NJUG**) Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees - Issue 2: 16th November 2007<sup>2</sup>.

#### 5.0 Additional precautions outside of the construction exclusion zone

- 5.1 Fires will not be lit on site, any materials whose accidental spillage would cause damage to a tree will be stored and handled well away from the outer edge of its RPA, no equipment, machinery, structure, notice boards, telephone cables or other services will be attached to or supported by a retained tree.
- 5.2 Planning of site operations will take sufficient account of wide loads, tall loads and plant with booms, jibs and counterweights (including drilling rigs), in order that they can operate without coming into contact with retained trees. Such contact can result in serious damage to the trees and might make their safe retention impossible. Consequently, any transit or traverse of plant in proximity to trees will be conducted under the supervision of a banksman, to ensure that adequate clearance from trees is maintained at all times.

#### 6.0 Access for construction works

- 6.1 Construction traffic will enter the site via the existing driveway access from Barrow Lane to the south-east of the site and will use the route indicated on the tree protection plan, construction traffic will not access the unprotected RPA of a retained tree at any time. Construction compounds, material storage areas, welfare facilities and contractor car parking will be located outside of the unprotected RPA of retained trees.

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<sup>2</sup> <http://streetworks.org.uk/wp-content/uploads/V4-Trees-Issue-2-16-11-2007.pdf>

## 7.0 Supervision and monitoring

- 7.1 Assured Trees Ltd will be responsible for the monitoring of all tree protection measures and compliance with this Arboricultural Method Statement. A pre-commencement site meeting will be held between a minimum of the project arboriculturalist and the site foreman in order to fully communicate the sequence of tree protection measures detailed within this AMS. A certificate of compliance will be issued to the client and to North Somerset Council, within 72 hours of a site visit, for the operations listed in table 1.

No.	Operation
1	Erection of tree protection barriers in the position shown on the Tree Protection Plan.
2	Installation of temporary ground protection boards in the position shown on the Tree Protection Plan.
3	Supervision of foundation trench excavations within the RPA of T03 with root pruning if required.
4	Compliance with this arboricultural method statement following completion of all works.

**Table 1:** Operations for which a certificate of compliance may be produced.

## 8.0 Contingency plans

- 8.1 The occurrence of any unforeseen incidents that may adversely impact retained trees will be reported to Assured Trees as soon as practicable following the incident. Assured Trees will then advise on the appropriate course of action and will produce and maintain a record of any such incidents including any subsequent measures taken.

## 9.0 Sequence of works

Development stage	Sequence number	Operation	Details
Pre-development	01	Tree works	<ul style="list-style-type: none"> <li>Pruning of the west side of T02 to provide 1m clearance from the line of the proposed house.</li> </ul>
	02	Installation of tree protection	<ul style="list-style-type: none"> <li>Installation of temporary tree protection barriers in the positions indicated on the Tree Protection Plan.</li> <li>Installation of temporary ground protection boards in the positions indicated on the Tree Protection Plan.</li> </ul>
Demolition phase	03	Demolition of building	<ul style="list-style-type: none"> <li>Demolition of an existing porch and removal of a flue with no access to unprotected RPAs.</li> </ul>
Main construction phase	04	Construction of hotel	<ul style="list-style-type: none"> <li>Excavations for extension foundation under arboricultural supervision with root pruning if required.</li> <li>Construction of extension two-storey side/rear extension, single storey front extension and canopy front porch with no access to unprotected RPAs.</li> <li>Removal, replacement and installation of multiple windows with no access to unprotected RPAs.</li> </ul>
Post - construction	05	Removal of tree protection	<ul style="list-style-type: none"> <li>Removal of temporary protective barriers and temporary ground protection boards following completion of all building and hard landscape works.</li> <li>Soft landscape works.</li> </ul>

**Table 2:** Sequence of works

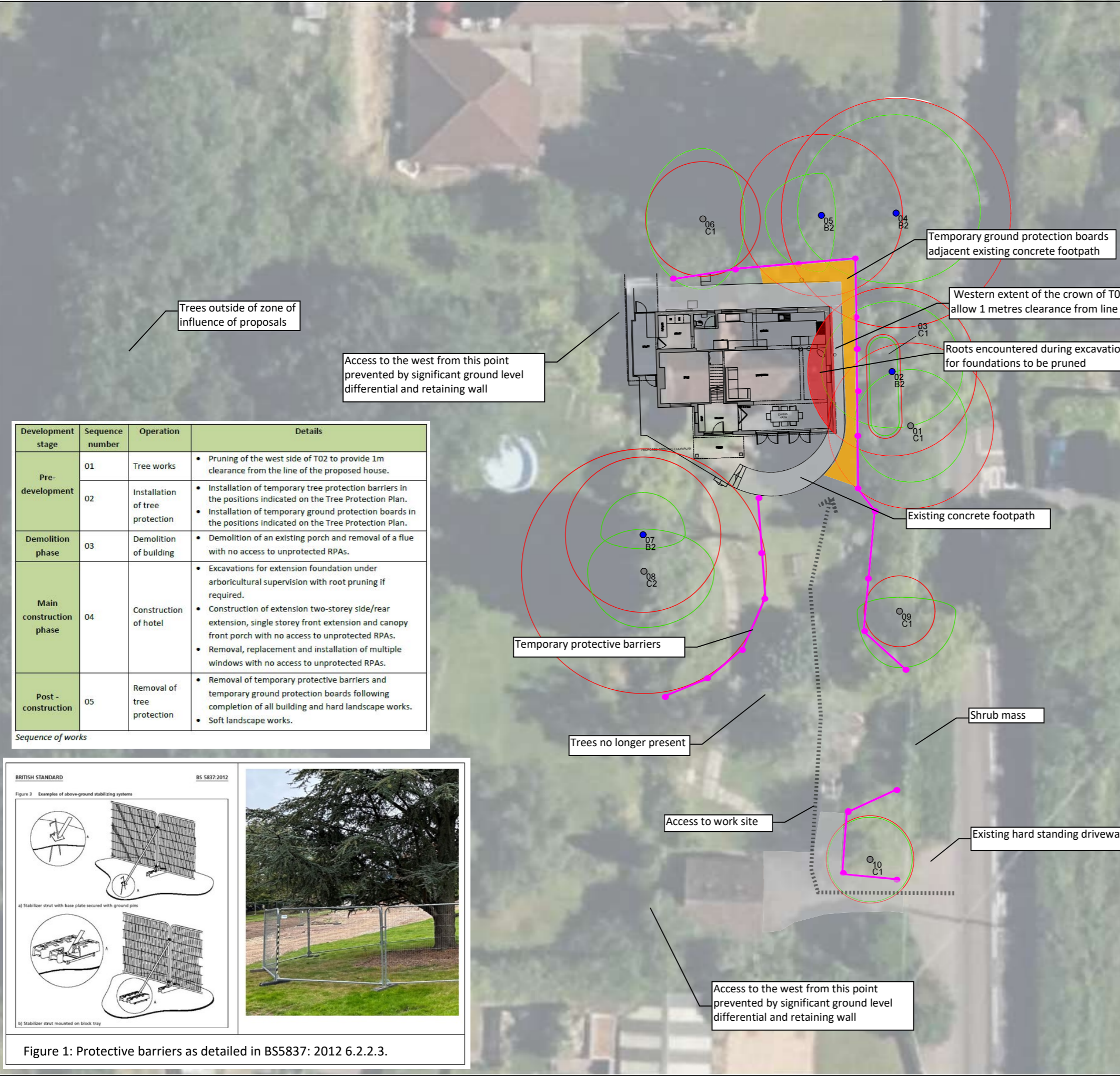
## Appendix C: Tree Protection Plan







Figure 2: Example of temporary ground protection boards



Development stage	Sequence number	Operation	Details
Pre-development	01	Tree works	<ul style="list-style-type: none"> <li>Pruning of the west side of T02 to provide 1m clearance from the line of the proposed house.</li> </ul>
	02	Installation of tree protection	<ul style="list-style-type: none"> <li>Installation of temporary tree protection barriers in the positions indicated on the Tree Protection Plan.</li> <li>Installation of temporary ground protection boards in the positions indicated on the Tree Protection Plan.</li> </ul>
Demolition phase	03	Demolition of building	<ul style="list-style-type: none"> <li>Demolition of an existing porch and removal of a flue with no access to unprotected RPAs.</li> </ul>
Main construction phase	04	Construction of hotel	<ul style="list-style-type: none"> <li>Excavations for extension foundation under arboricultural supervision with root pruning if required.</li> <li>Construction of extension two-storey side/rear extension, single storey front extension and canopy front porch with no access to unprotected RPAs.</li> <li>Removal, replacement and installation of multiple windows with no access to unprotected RPAs.</li> </ul>
Post-construction	05	Removal of tree protection	<ul style="list-style-type: none"> <li>Removal of temporary protective barriers and temporary ground protection boards following completion of all building and hard landscape works.</li> <li>Soft landscape works.</li> </ul>

Sequence of works

Symbol Guide

Category: Crown Spread, Tree Number, Root Protection Area, Category

NOTE: Tree locations are approximate

**BS5837:2012 - Tree Category**

- Category A Trees: High Quality (Green circle)
- Category B Trees: Moderate Quality (Blue circle)
- Category C Trees: Low Quality (Grey circle)
- Category U Trees: Poor Quality/Remove (Red circle)
- Line of protective barriers (Pink line)
- Temporary ground protection boards (Yellow rectangle)
- Area where roots are to be pruned in accordance with AMS (Red shaded area)
- Existing concrete footpath (Grey rectangle)



Project Name:  
9 Barrow Lane, Winford, Bristol, BS40 8AG

Drawing Title:  
Tree Protection Plan

Drawing Number:  
9BarrowLane-TPP-01

Client:  
Sarah Fowke

Agent:  
-

Date:  
December 2023

Scale:  
1-200@A2

BRITISH STANDARD BS 5837:2012

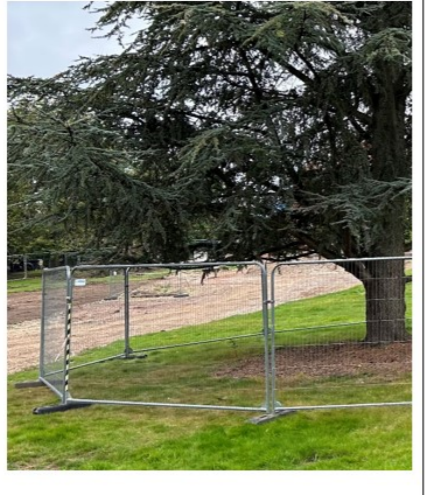
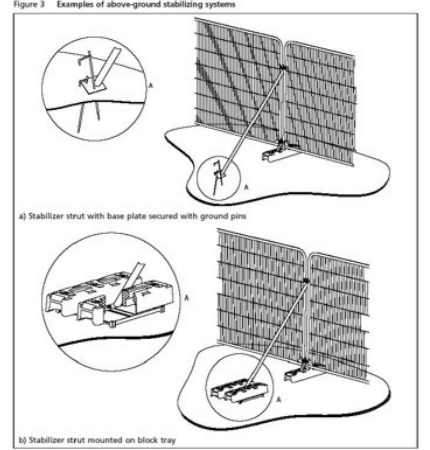
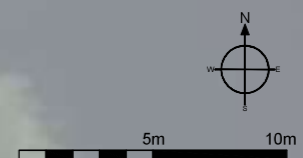


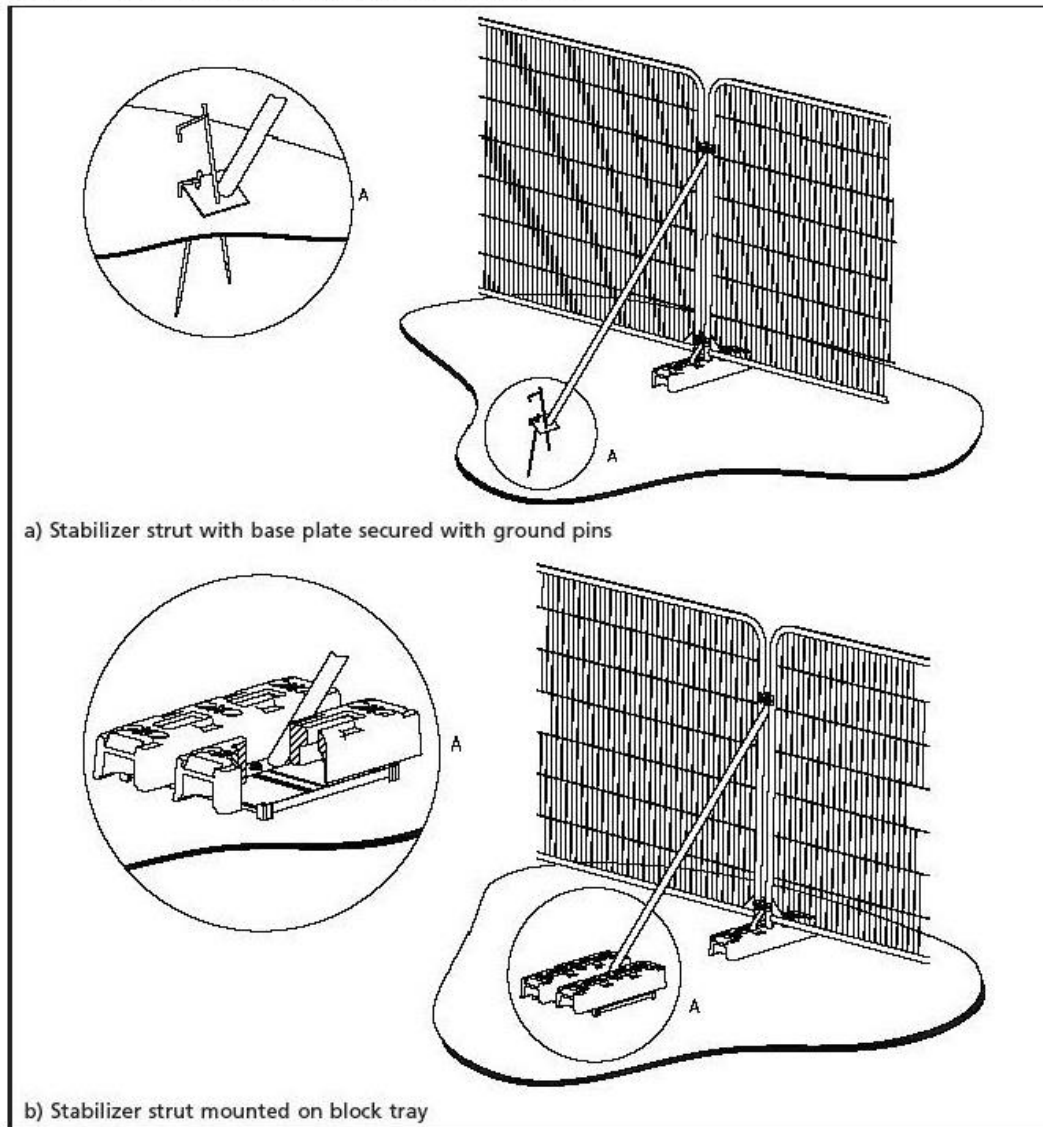
Figure 1: Protective barriers as detailed in BS5837: 2012 6.2.2.3.



## Appendix D: Temporary protective barrier specification



Figure 3 Examples of above-ground stabilizing systems



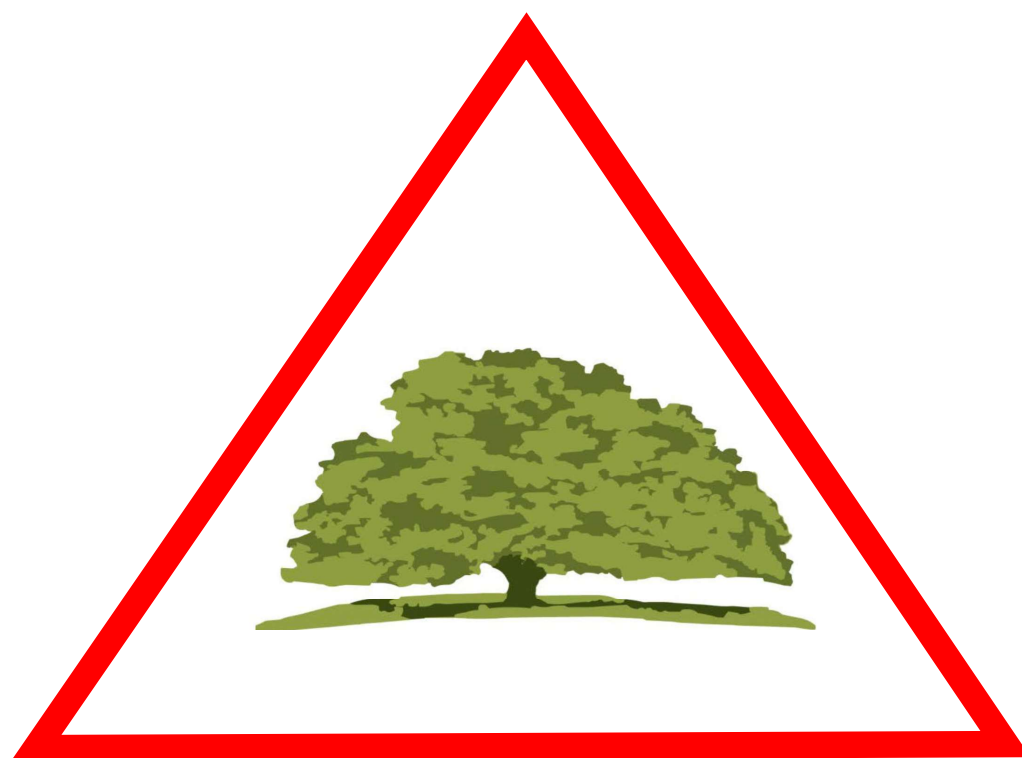
Barriers must be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s).

Barriers shall consist of 2 metre tall, welded mesh panels on rubber feet joined with a minimum of 2 anti-tamper couplers so that they can only be removed from the inside (tree side) of the fence, be at least 1 metre apart and be uniform throughout the fence. The panels must be supported on the inside by stabiliser struts secured with ground pins or where this is not feasible mounted on a block tray (figure b).

## Appendix E: Example Tree Protection warning sign



**No access past this point  
for construction activity**



**TREES ENCLOSED BY THESE BARRIERS ARE LEGALLY  
PROTECTED BY PLANNING CONDITION**

**THIS BARRIER MUST NOT BE MOVED OR ALTERED  
WITHOUT THE WRITTEN PERMISSION OF THE LOCAL  
PLANNING AUTHORITY**

**DO NOT ACCESS OR STORE MATERIALS IN THE AREA  
BEHIND THIS BARRIER**

## Appendix F: Tree survey methodology

### Baseline survey

A site visit was undertaken by qualified arboriculturalist Stuart Roberts. The inspection took place from ground level and employed the Visual Tree Assessment method (Mattheck and Breloer, 1994).

**Category ratings:** In accordance with the BS5837:2012 Cascade chart for tree quality assessment, a rating of A, B, C or U is allocated based on the condition of a tree or group of trees in its/their current surroundings. No consideration is given to any specific development proposal when allocating category ratings, category definitions are detailed below:

Category	Criteria
<b>A</b>	<i>Those trees or groups which have high quality and value, are in good structural and physiological condition and are expected to have a useful life expectancy of at least another 40 years- indicated in green on the associated plans</i>
<b>B</b>	<i>Those trees or groups which would be considered as category A trees but which are of lower value, poorer structural condition, or which are expected to have a useful life expectancy of a minimum of 20 years- indicated in blue on the associated plans</i>
<b>C</b>	<i>Those trees or groups which are of low quality and value, trees currently in adequate condition to remain until new planting is established or are young trees with a stem diameter less than 150mm. Category C trees are expected to have a life expectancy of a minimum of 10 years- indicated in grey on the associated plans</i>
<b>U</b>	<i>Trees or groups in such a condition that any existing value would be lost within ten years and which should, in the current context, be removed for reasons of sound arboricultural management- indicated in red on the associated plans</i>

*BS5837:2012 Tree categorisation criteria*

**Sub categories** are awarded in accordance with the following criteria:

Sub category	Inclusion criteria
1	<i>Trees with arboricultural value</i>
2	<i>Trees with landscape value</i>
3	<i>Trees with cultural or conservation (ecological) value</i>

*BS5837:2012 Tree sub-category criteria*

## Root protection areas

Below ground constraints or Root Protection Areas (**RPAs**) for all trees included in the site survey are calculated in accordance with *BS5837:2012 4.6.1*. The 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 should be treated as a priority. The RPAs have been plotted onto the Tree Constraints Plan and Tree Protection Plan as a circle centred on the base of each tree stem with a radius of 12 times the tree's stem diameter measured at 1.5 metres above ground level.

*BS5837:2012 4.6.2* requires that where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically the RPA should be modified to produce a polygon of an equivalent area. Any trees on site identified as requiring a modification to their RPA are indicated within the AIA.

## Data presentation

Data collected regarding the individual trees or groups is presented in the Tree Survey Schedule in Appendix A in accordance with *BS5837: 2012*. Trees have not been physically tagged but have been assigned individual numbers that are used to identify a tree, group or hedgerow throughout the report, within the Tree Survey Schedule and on the associated plans.

The following information has been collected for each tree in the survey:

- Tree or group number
- Single or group category
- Common and scientific name of species
- Height in metres
- Number of stems
- Stem diameter
- Clearance of crown from ground level in metres
- Radius of crown
- Age class
- Physiological condition
- Estimated remaining contribution in years
- Structural condition
- Preliminary management recommendations
- Tree categorisation
- **Root Protection Area (RPA)**