Arboricultural Impact Assessment

in Relation to Proposed Conversion of the Former Care Home and Extensions to Create Five New Dwellings at



Showley Brook Rest Home, 10 Knowsley Road, Wilpshire, Lancashire, BB1 9PX

Prepared by:



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Contact Details

Bowland Tree Consultancy Ltd First Floor 11 Cannon Street Preston Lancashire PR1 3NR

T: 01772 437150 E: info@bowlandtreeconsultancy.co.uk



ARBORICULTURAL IMPACT ASSESSMENT OVERVIEW SHOWLEY BROOK REST HOME, WILPSHIRE

Control sheet

Project No.:	BTC1505
Site:	Showley Brook Rest Home, Wilpshire, BB1 9PX
Client:	SBC Residential Care Ltd.
Council:	Ribble Valley Borough Council
Survey Date:	25 January 2018
Surveyed by:	
Prepared by:	Jennie Keighley Phd MSc MArborA
Checked by:	Phill Harris MSC BSC(Hons) HND MArborA CEnv MICFor
Date of Issue:	15 March 2018
Version No:	1
Status:	Final Issue for Planning



Bowland C Tree Consultancy Ltd

ARBORICULTURAL IMPACT ASSESSMENT OVERVIEW									
Site:	Showley Brook Rest Home, 10 Knowsley Road, Wilpshire, Lancashire, BB1 9PX								
Proposal:	Conversion of the former care home and extensions to create five new dwellings								
Survey Date: 25 January 2018									
Report Date:	14 March 2018								
Prepared By:	Jennie Keighley PhD MSC MArborA								
Checked By:	Phill Harris MSc BSc(Hons) HND MArborA CEnv MICFor								
Report Ref:	BTC1505								
Client:	SBC Residential Care Ltd.								

Introduction and Rationale. Bowland Tree Consultancy Ltd was instructed to carry out an appraisal of the potential for development works at the above site to impact upon trees and, in turn, to advise on appropriate protective measures for retained trees during the works, where appropriate, and on facilitation pruning and/or felling works, where identified as necessary.

In this respect, a survey of trees, in accordance with BS5837:2012 - Trees in Relation to Design, Demolition and Construction – Recommendations, and the disclaimer at page 5, was carried out on 25 January 2018.

In consideration of the above, a brief overview of the observations, findings and recommendations are set out below, along with comments on any issues raised. A Tree Survey Schedule (TSS) detailing specific tree related information, a Tree Impact Plan (TIP) detailing the existing site and tree positions with an overlay of the development proposal and the projected tree related impacts, and a draft Tree Planting Plan (TPLP) showing the suggested species and locations of new tree planting in order to mitigate for the development-related tree losses are also appended.

The TIP and TPLP are based on a topographical survey-based site proposal plan, as supplied by the project architects, Peter Hitchen Architects, and, for the purpose of this report, the details of the plan supplied are presumed to be accurate.

The Site and the Proposals. The site under consideration is a three-and-a-half-storey residential care home with gardens, comprised of lawn, shrub borders, and an asphalt footpath, to the east and south of the building and asphalt surface to the north and west of the building, providing a car parking area. It is located on the south side of the village of Wilpshire, Lancashire, and within the administrational boundaries of Ribble Valley Borough Council.

The site is bordered to the west by Knowlsey Road, from which there is vehicular access into the car parking area to the north of the property, to the north and south by access driveways in to neighbouring residential properties to the east, and to the east by Showley Brook.

According to information provided by the project architects, Peter Hitchen Architects, the proposal is for the conversion of the existing building into three residential dwellings and the construction of two extensions, to the north and to the south of the existing building, to form a further two dwellings (see TIP). Ten car parking spaces are proposed to the west of the building along the frontage with Knowsley Road and outdoor amenity space is proposed to the east of each unit, backing onto Showley Brook.

The Trees. Six individual trees and four groups of trees were surveyed in respect of the proposals, and their associated potential to impact upon said vegetation, and the respective constraints of these items are plotted on the appended TIP.

The surveyed trees consist predominantly of Ash and Sycamore. They are young to mature in age, stand at heights of up to 20 metres, have diametrical crown spreads of up to approximately 13 metres, and stem diameters of up to 560 millimetres. Tree dimensions and other pertinent information such as any structural defects and/or physiological deficiencies, along with recommendations for remedial management works, are included in the TSS attached.

The vegetation was appraised in accordance with BS5837:2012 Table 1 (appended) and, as detailed in Table A (overleaf), two trees and two groups were allocated a moderate retention category of 'B', two trees and two

groups were allocated a low retention category of 'C', and two trees were allocated a retention value of 'U', whereby they are considered unsuitable for retention regardless of the development proposals.

With regard to Table A, it should be noted that tree quality and value is categorised within the existing context without taking into account any site development related issues, but that the recommendations for works take the proposal into consideration where there are clearly definable potential impacts upon trees.

	Ret. Cats.	Tree/Group Numbers	Totals
Those of a high quality that should be afforded appropriate consideration in the context of development	'A '	-	-
Those of a moderate quality that should be afforded appropriate consideration in the context of development	'B'	T1, T2 G1, G4	2 Trees 2 Groups
Those of a low quality that should be afforded appropriate consideration in the context of development	'C'	T4, T5 G2, G3	2 Trees 2 Groups
Those considered unsuitable for retention	ʻU'	T3, T6	2 Trees
			= 6 Trees & 4 Groups in Total

Table A: BS5837-2012 Retention Categories of the Surveyed Vegetation

The Proposal's Projected Impacts on Trees. As detailed in Table B, below, construction of the development as proposed is projected to require the removal of one moderate value (i.e. 'B' category) tree, one moderate value group (comprising two trees), and one low value (i.e. 'C' category) tree. In addition, one 'U' category tree (T6) is recommended for removal regardless of the development proposals as it is located next to the site boundary line where its growth is conflicting with both the existing fence and asphalt parking area.

	Ret. Cats.	Removals necessary to implement development	Removals recommended regardless of development	Total no. of tree removals
Those of a high quality that should be afforded appropriate consideration in the context of development	'A'	-	-	-
Those of a moderate quality that should be afforded appropriate consideration in the context of development	'B'	T1 G4	-	1 Tree 1 Group
Those of a low quality that should be afforded appropriate consideration in the context of development	'C'	T5	-	1 Tree
Those that should be removed for sound management reasons regardless of site plans	'U'	-	Т6	1 Tree
Totals		2 Trees 1 Group	1 Tree	= 3 Trees & 1 Group in Total

Mitigation for Projected Tree Losses. It is projected that the site can accommodate four new trees in order to mitigate for the necessary development-related tree losses. As shown on the appended draft Tree Planting Plan it is proposed that two Fastigiate Oaks are planted at the road frontage and a Silver Birch and a Snowy Mespilus are planted by Showley Brook as part of the development's landscaping scheme. In turn, the provision of the proposed replacement tree planting can be conditioned to a planning approval.

Arboricultural Method Statement and Tree Protection Plan. Government guidance recommends that, where considered expedient by the LPA, an Arboricultural Method Statement (AMS) and a Tree Protection Plan (TPP) be prepared detailing special mitigation construction issues in relation to the development under consideration. Essentially, the AMS and TPP describe and detail the timing, procedures, working methods and protective measures to be used in relation to retained trees in order to ensure that they are adequately protected during the construction process. In turn, the provision of and adherence to an AMS and a TPP can be guaranteed through the imposition of a suitably worded condition attached to a planning approval.

Tree Retention Recommendations. Adequate protection of retained tree RPAs during construction is essential if their long-term viability is to be assured. RPAs, which are calculated through a method provided in BS5837:2012, are ground areas around trees that are to be kept free from major disturbance throughout development through the installation of temporary protective fencing to form a Construction Exclusion Zone (CEZ) and, where considered necessary, temporary ground protection measures to prevent damage to roots from soil compaction.

The TSS lists the RPAs of the individually surveyed trees as areas in square metres and as radial distances in metres from stem centres, whilst the RPAs are indicated in magenta on the TIP. A Temporary Protective

Fencing Specification is appended which gives details of the purpose and the type and construction of the default temporary protective fencing that should normally be used. Specific details regarding the type of temporary fencing that will be suitable for this development, along with the locations and extents of the Construction Exclusion Zones, should be included in an Arboricultural Method Statement and on a Tree Protection Plan.

Summary and Conclusions. Six individual trees and four groups were surveyed in respect of a proposal to convert and extend the existing form care home building to form five dwellings at the site under consideration.

Two trees and two groups were allocated moderate retention values, two trees and two groups were allocated low retention values, and two trees were considered unsuitable for retention regardless of the development proposals.

From the information provided to date, the impact appraisal herein determined that the proposed development will require the removal of one moderate value tree, one moderate value group (comprising two trees), and one low value tree.

In addition, one 'U' category tree is recommended for removal regardless of the development proposals, as its growth is conflicting with the existing fence and asphalt car parking area.

However, four new trees are proposed as a component of site landscaping, which is projected to sufficiently mitigate for the development-related tree losses.

In turn, the provision of the proposed new tree planting can be conditioned to a planning approval.

In addition, the appraisal determined that the production of an Arboricultural Method Statement and a Tree Protection Plan can be conditioned to a planning approval in order to ensure that suitable procedures, working methods and protective measures are correctly considered and implemented, and that the retained trees are adequately protected throughout the development.

Jennie Keighley PhD MSc MArborA Consulting Arboriculturist





GENERAL RECOMMENDATIONS

Non-Development Related Tree Works and Recommendations. Any general management pruning works for retained trees that are stated to be non-development related, as detailed in the TSS, are recommended in accordance with prudent arboricultural management and should therefore be carried out regardless of any site plans and potential changes in land usage. All tree works should be carried out in accordance with BS3998:2010 - Tree Work – Recommendations.

Tree Work Related Consents. No tree pruning or removal works should commence on site until necessary consents have been obtained from the LPA as part of a planning approval or in respect of any statutory tree protection.

Protected Species. Hedges, climbing plants, shrubs and trees should be inspected for birds' nests prior to any clipping, pruning or removal works, and any work likely to destroy or disturb active nests should be avoided until the young have fledged. All personnel carrying out tree works should also be vigilant of the possibility that roosting bats may be present in trees and, if any bat roosts are identified, then it is essential that works are halted immediately and that a suitably qualified and experienced ecologist investigate prior to works continuing.

Arboricultural Contractors. All tree works should be carried out by suitably qualified and experienced arboricultural contractors carrying appropriate public liability insurance cover and be implemented to the minimum current CE and UK industry standards and in accordance with industry codes of practice. Only certificated personnel should, in accordance with The Control of Pesticides Regulations, apply any pesticides.

Contractors and Subsequently Identified Tree Defects. Contractors should be made aware that, should any significant tree defects become apparent during operations that would not have been immediately obvious to the surveyor, then such defects should be notified immediately to the client and subsequently confirmed to the consultant within five working days.

New Tree Planting. Where trees are removed in order to facilitate construction then new tree planting proposals should be included as part of the landscape design plan for the site. All tree planting should be carried out in accordance with BS 8545:2014 Trees: from Nursery to Independence in the Landscape – Recommendations.

Retained Tree Management. Any tree risk management appraisal and subsequent recommendations made in this report were based on observations and site circumstances at the time of our survey. Trees are dynamic living organisms whose structure is constantly changing and even those evidently in good condition can succumb to damage and/or stress. In this respect we would note that, under the Occupiers' Liability Act (1957 & 1984), site occupants have a duty of care to take reasonable steps to prevent or minimise the risk of personal injury and/or damage to property from any tree located within the curtilage of the land they occupy. It is accepted that these steps should normally include commissioning a qualified and experienced arboriculturist to survey their trees in order to identify any risk of harm to persons or damage to property that they may present and, where unacceptable risks are identified, taking suitable remedial action to negate those risks.



DISCLAIMER

Survey Limitations: Unless otherwise stated all trees are surveyed from ground level using non-invasive techniques, in sufficient detail to gather data for and inform the design of the current project only. The disclosure of hidden crown and stem defects, in particular where they may be above a reachable height or where trees are ivy clad or located in areas of restrictive ground vegetation, cannot therefore be expected. Detailed tree safety appraisals are only carried out under specific written instructions. Comments upon evident tree safety relate to the condition of said tree at the time of the survey only. Unless otherwise stated all trees should be re-inspected annually in order to appraise their on-going mechanical integrity and physiological condition. It should, however, be recognised that tree condition is subject to change, for example due to the effects of disease, decay, high winds, development works, etc. Changes in land use or site conditions (e.g. development that increases access frequency) and the occurrence of severe weather incidents are also significant considerations with regard to tree structural integrity, and trees should therefore be re-assessed in the context of such changes and/or incidents and inspected at intervals relative to identified and varying site conditions and associated risks.

Where trees are located wholly or partially on neighbouring private third-party land then said land is not accessed and our inspection is therefore restricted to what can reasonably be seen from within the site. Stem diameters and other measurements of trees located on such land are estimated. Any subsequent comments and judgments made in respect of such trees are based on these restrictions and are our preliminary opinion only. Recommendations for works to neighbouring third-party trees are only made where a potential risk to persons and/or property has been identified during our survey or, if applicable, where permissible works are required to implement a proposed development. Where significant structural defects of third-party trees are identified and associated management works are considered essential to negate any risk of harm and/or damage then we will inform the relevant Council of the matter. Where a more detailed assessment is considered necessary then appropriate recommendations are set out in the Tree Survey Schedule.

Where tree stem locations are not included on the plan(s) provided then they are plotted by the arboriculturist at the time of the survey using, where appropriate and/or practicable, a combination of measurement triangulation and GPS co-ordination. Where this is not possible then locations are estimated. Restrictions in these respects are detailed in the report.

This document is intended as a guide to identify key tree related constraints to site development only, and the potential influence of trees upon existing or proposed buildings or other structures resulting from the effects of their roots abstracting water from shrinkable load-bearing soils is not considered herein. The tree survey information in its current form should not therefore be considered sufficient to determine appropriate foundation depths for new buildings. Accordingly, an updated survey, with reference to the current NHBC Standards Chapter 4.2 - Building Near Trees, must therefore be prepared for the specific purpose of informing suitable foundation depths subsequent to planning approval being granted. The advice of a structural engineer must also be sought with regard to appropriate foundation depths for new buildings.

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TREE SURVEY SCHEDULE & BS5837:2012 'TABLE 1'



TREE SU	RVEY SCHEDULE FOR ARBORICULTURAL IMPACT APPRAISAL	S	Surveyor:	Jennie Keighley PhD MSc MArborA	
Site:	Showley Brook Rest Home, 10 Knowsley Road, Wilpshire, Lancashire, BB1 9PX	S	Survey Date:	25 January 2018	Page: 1 of 2
Client:	SBC Residential Care Ltd.	J	Job Ref:	BTC1505	

No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m²)	RPA Radius (m)
T1	Sycamore	18	1x490 1x220 (ts)	N 2 E 5 S 8 W 3	4-S 2	EM	М	 Growing at edge of brook with Root Protection Area (RPA), as shown on Tree Constraints Plan (TCP), offset accordingly. Twin-stemmed from ground level. Heavy ivy to mid-crown significantly impedes inspection. Crown heavily biased south due to suppression from neighbouring tree, since removed. 	 Remove in order to construct development as proposed. Replace with 1no. new tree, as recommended on draft Tree Planting Plan. 	20+	B1/2	131	6.45
Т2	Common Ash	20		N 4 E 5 S 5 W 5	12 10	EM	G	 Growing at edge of brook with RPA offset accordingly. High crown with clear stem of 9m. Occasional deadwood to a diameter of 40mm. Occasional small diameter adventitious growths emerging from old partially occluded to fully occluded pruning wounds up stem. 	 Retain in context of proposed development. Protect Root Protection Area (RPA) throughout development using Temporary Protective Fencing (specification appended) to form a Construction Exclusion Zone (CEZ). 	20+	B1/2	100	5.64
Т3	Elder	5		N 2 E 0 S 2 W 4	N/A 1.5	М	М	 Bifurcates at stem base. Crown lifted from over garden footpath to a height of 3m. Limited projected life expectancy. 	 Retain in context of proposed development. Protect RPA throughout development using Temporary Protective Fencing to form a CEZ. 	<10	U	10	1.81
Т4	Common Ash	20	1x470 1x110 (ts)	N 7 E 7 S 5 W 5	7-SE 2	EM	М	 Growing at edge of brook with RPA offset accordingly. Subordinate stem emerges from north side of base. Heavy ivy to lower crown, impedes inspection of stem. Main stem bifurcates at a height of approx. 3m, but unable to inspect union due to ivy. Occasional deadwood to a diameter of 70mm. 	 Retain in context of proposed development. Protect RPA throughout development using Temporary Protective Fencing to form a CEZ. Sever ivy at base and at a height of 1.5m and remove section in between. 	10+	C1	105	5.79
T5	Variegated Holly	7	160	N 3 E 4 S 2 W 2	1.75 1.5	EM	Μ	 Severe stem curvature east. Small cavity forming in partially occluded pruning wound at south-eastern side of base. 	 Remove in order to construct development as proposed. Replace with 1no. new tree, as recommended on draft Tree Planting Plan. 	10+	C1	12	1.92

Headings and Abbreviations:

Headings and Appreviations:		
No.	Allocated sequential reference number - Tree ('T'), Group ('G'), Woodland ('W') or Hedge ('H') reference number - refer to plan and to numbered tags where applicable	
Species:	Common name	
Height:	In metres, to nearest half metre – where possible approximately 80% are measured using an electronic clinometer and the remainder estimated against the measured trees. In the case of Groups and Woodlands the measurement listed is that of the highest tree	
Stem Diam .:	Stem diameter in millimetres, to nearest 10mm - measured and calculated as per Annex C of BS5837:2012. MS = multi-stemmed, TS = twin-stemmed	
Branch Spread:	Crown radius measured (or estimated where considered appropriate) from the four cardinal points (north, east, south and west) to give an accurate visual representation of the crown	
Branch & Canopy Clearances:	Existing height above ground level, in metres, of first significant branch and direction of growth (e.g. 2.5-N) and of canopy at lowest point – to inform on crown to height ratio, potential for shading, etc.	
Life Stage:	Estimated age class - Y = young, SM = semi-mature, EM = early-mature, M = mature, PM = post-mature	
PC:	Physiological Condition - a measure of the tree'(s)' overall vitality, i.e. D = Dead, MD = Moribund, P = Poor, M = Moderate, G = Good	
General Observations and Comments:	Comments relating to the tree'(s)' overall condition and any other pertinent factors including structural defects, current and potential direct structural damage, physiological decline, poor form, etc.	
Management Recommendations:	Either Preliminary or In Consideration of the Proposal - In the case of Arboricultural Constraints Surveys the recommended management works only take exiting site and tree circumstances and conditions into account and not proposed developments. Arboricultural Impact Assessment and	Method Statement related
	Surveys take the proposed development into consideration with recommendations made accordingly. More than one option may be given if considered appropriate	
ERC:	Estimated Remaining Contribution - in years as per BS5837:2012 (i.e. <10, 10+, 20+, 40+)	
Cat. Grade:	Category Grading - tree retention value listed as U, A, B or C - in accordance with BS5837:2012 Table 1	
RPA m ² :	Root Protection Area in m ² - calculated area around the tree that must be appropriately protected throughout the development process in order avoid root damage	Bowland 🔿
RPA Radius (m):	Root Protection Area Radius - in metres measured from the centre of the stem to the line of tree protection	
# (Estimated Dimensions):	Where trees are located off-site, or are inaccessible for any other reason, and accurate measurements or other information cannot be taken then the information provided is estimated and is duly suffixed with a "#" symbol	Tree Consultancy Ltd

TREE SU	RVEY SCHEDULE FOR ARBORICULTURAL IMPACT APPRAISAL	Surveyor:	Jennie Keighley PhD MSc MArborA	Γ	
Site:	Showley Brook Rest Home, 10 Knowsley Road, Wilpshire, Lancashire, BB1 9PX	Survey Date:	25 January 2018		Page: 2 of 2
Client:	SBC Residential Care Ltd.	Job Ref:	BTC1505		

No.	Species	Height	Stem Diam.		Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m²)	RPA Radius (m)
Т6	Common Ash	12	1x180 1x130 (ts)		4 1 4.5 3.5	2.5-W 1.5	Y	G	 Stem bifurcates at base. Dominant stem almost in contact with concrete post and timber panel boundary fence. Root growth severely pushing up asphalt car parking area. Future incremental growth projected to cause ongoing conflict with boundary fence and car park. 	Remove due to conflict with existing built structures.	<10	U	22	2.66
G1	2no. Ash, 1no. Sycamore	≤ 19	≤ 1x340 1x230 (ts)	S	≤ 5 ≤ 6.5 ≤ 6.5 ≤ 6.5	4-N ≥ 2	SM- EM	G	 Growing at edge of brook with RPAs offset accordingly. Closely spaced linear group growing along bank of brook. Sycamore bifurcates at base with acutely tight fork. Crowns all biased away from each other. 	 Retain in context of proposed development. Protect RPA throughout development using Temporary Protective Fencing to form a CEZ. 	20+	B1/2	≤ 76	≤ 4.93
G2	approx. 6no. Common Ash	≤ 7	≤ 90	E S	≤ 1.5 ≤ 1.5 ≤ 1.5 ≤ 1.5	0.5 ≥ 1.5	Y	М	 Closely spaced group of very young self-set stems at side of brook. 	 Retain in context of proposed development. Protect RPA throughout development using Temporary Protective Fencing to form a CEZ. 	10+	C1	≤ 4	≤ 1.08
G3	approx. 7no. Common Ash	≤ 11.5	≤ 140	N E S W	≤ 3 ≤ 3 ≤ 3 ≤ 3	1 ≥4	Y	G	 Closely spaced linear group growing along bank of brook. Heavily swamped in ivy and subsequently unable to fully view. 	 Retain in context of proposed development. Protect RPA throughout development using Temporary Protective Fencing to form a CEZ. 	10+	C1	≤ 9	≤ 1.68
G4	2no. Sycamore	≤ 18	≤ 560		≤ 5.5 ≤ 5.5 ≤ 5.5 ≤ 5.5	6-SW ≥ 3	EM-M	M/G	 Closely spaced pair. Unable to inspect bases due to small mounds of ivy-covered basal epicormics. Heavy ivy throughout crowns, which has been cut and removed on both stems below a height of 1.5m. Ivy now dead, but heavy load still severely impeding inspection of trees. Birds observed nesting in trees at time of survey. Crowns lifted in past, wounds unoccluded, but not exhibiting decay. Larger tree has grown as two stems which are merged together from base to a height of 2m. 	 Remove in order to construct development as proposed. Replace with 2no. new trees, as recommended on draft Tree Planting Plan. 	20+	B1/2/3	≤ 142	≤ 6.72

Category and definition	Criteria (including subcategories where app	ropriate)		Identification on plan						
Trees unsuitable for retention (see										
Category U 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	 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 Note: Category U trees can have existing or potential conservation value which it might be desirable to preserve; see BS5837:2012 paragraph 4.5.7. 									
	1. Mainly arboricultural qualities	2. Mainly landscape qualities	3. Mainly cultural values, including conservation							
Trees to be considered for retention	on	•	· · · · · · · · · · · · · · · · · · ·	•						
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	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)	Green						
Category B Those of moderate quality and value: those in such a condition as to make a significant contribution. A minimum of 20 years is suggested.	Trees that might be included in the high category, but are downgraded because of impaired condition. Examples include the presence of remediable defects including unsympathetic past management and minor storm damage	Trees present in numbers, usually as groups or woodlands, so they form distinct landscape features which attract a higher collective rating than they might as individuals. But which are not, individually, essential components of formal or semi-formal arboricultural features. For example, trees of moderate quality within an avenue that includes better, A category specimens. Or trees which are internal to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	Blue						
Category C Those trees of low quality and value: currently in adequate condition to remain until new planting could be established - a minimum of 10 years is suggested - or young trees with a stem diameter below 150 mm	Trees not qualifying in higher categories Note – Whilst C category trees will usually not to trees with a stem diameter of less than 150mm	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit be retained where they would impose a significant of	Trees with very limited conservation or other cultural benefits constraint on development, young	Grey						

BS5837:2012 Table 1 – Cascade Chart for Tree Quality Assessment

- TEMPORARY PROTECTIVE FENCING & GROUND PROTECTION SPECIFICATION -

Construction Exclusion Zones (CEZs), shall be enclosed by **Temporary Protective Fencing** and/or, where necessary, **Temporary Ground Protection Measures**. The fencing/ground protection Type(s), locations, and extents shall be agreed, in writing, with the Local Planning Authority (LPA). In turn, the **Temporary Protective Fencing** and/or **Temporary Ground Protection Measures** shall:

- 1. be constructed as in accordance with the Type 1, Type 2 or Type 3 'Temporary Protective Fencing Construction' sections and, where applicable the 'Temporary Ground Protection Measures' section, as detailed herein and agreed, in advance with the LPA;
- 1. be retained in place throughout the development process until completion of the project, and only removed following receipt of written permission from the LPA;
- 2. be sited in the area(s) defined by the Root Protection Areas on the associated Tree Impact Plan, or as the CEZs on the Tree Protection Plan;
- 3. be erected prior to any construction, demolition or excavation works and remain in place for the duration of the project;
- 4. preclude any delivery of site accommodation and/or materials and/or plant machinery;
- 5. preclude all construction related activity, with the sole exception of specified arboricultural works and any other works to be carried out under supervision that have been agreed by all parties;
- 6. preclude the storage of all development related materials and substances including fuels, oils, additives, cement and/or any other deleterious substance; and
- 7. be affixed with a 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1, below), at every 10.0 metre length of protective fencing.

Important: Any incursion into CEZs must be by prior arrangement, following consultation with the LPA.

Figure 1: CEZ Warning Sign

- TREE PROTECTION AREA -KEEP OUT! (TOWN & COUNTRY PLANNING ACT 1990)

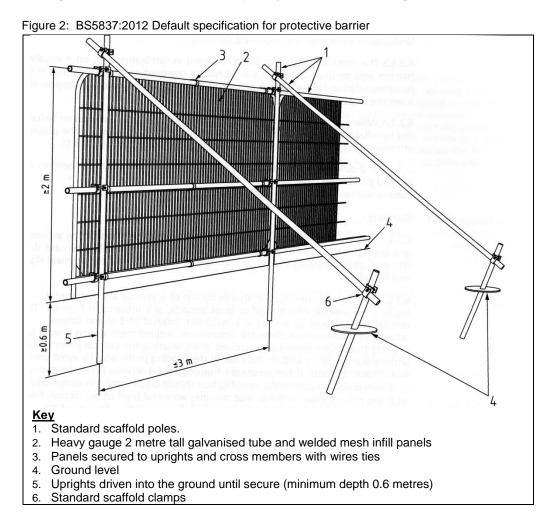
THE TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR SUBJECTS OF A 'TREE PRESERVATION ORDER', THE CONTRAVENTION OF WHICH MAY LEAD TO CRIMINAL PROSECUTION

THE FOLLOWING MUST BE OBSERVED BY ALL PERSONNEL:

- THE PROTECTIVE FENCING MUST NOT BE MOVED
- NO PERSON SHALL ENTER THE CONSTRUCTION EXCLUSION ZONE
- NO MACHINE, PLANT OR VEHICLES SHALL ENTER THE EXCLUSION ZONE
- NO MATERIALS SHALL BE STORED IN THE EXCLUSION ZONE
- NO SPOIL SHALL BE DEPOSITED IN THE EXCLUSION ZONE
- NO EXCAVATION SHALL OCCUR IN THE EXCLUSION ZONE
- NO FIRES SHALL BE LIT IN THE EXCLUSION ZONE
 ANY INCURSION INTO THE EXCLUSION ZONE MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

Type 1 (i.e. 'Default') Temporary Protective Fencing Construction (see Figure 2, below)

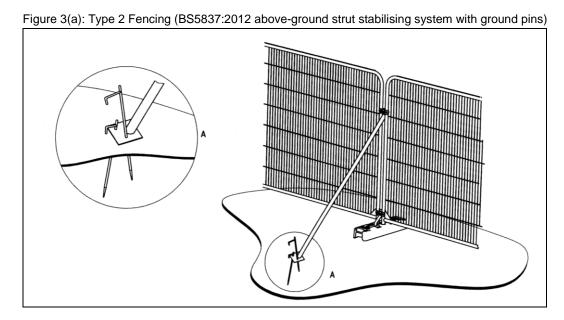
- 1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
- 2. The panels shall butt together and be securely fixed to a scaffold framework, as per points 3 to 5 of Figure 2, overleaf.
- 3. The scaffold framework shall comprise of upright poles of at least 3.0 metres in length driven no less than 0.6 metres into the ground at maximum 3.0 metre centres with horizontal and diagonal poles fixed to the uprights, as per points 4 to 5.
- 4. The two horizontal rail poles shall be attached to the uprights at heights of 0.6 and 1.8 metres with 3 no. clamps to each joint.
- 5. The diagonal scaffold pole struts be clamped to the top rail of the scaffold framework at a 45° angle and extend back into the CEZ and clamped to a 0.7 metre length of scaffold tube that shall be driven no less than 0.5m into the ground.
- 6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
- 7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1) shall be fixed to every 10.0 metre length of protective fencing.
- 8. On completion of erection, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Protective Fencing.





Type 2 Temporary Protective Fencing Construction (see Figure 3(a), below)

- 1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
- 2. The panels shall stand on rubber or concrete feet.
- 3. The panels shall butt together, and be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence.
- 4. The distance between the fence couplers shall be at least 1.0 metre, and shall be uniform throughout the fence.
- 5. The panels shall be supported on the inner side by stabiliser struts, which shall be clamped to the scaffold framework at a 45° angle and extend back into the CEZ and shall be attached to a base plate, which shall be secured to the ground with pins (Figure 3a).
- 6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
- 7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1) shall be fixed to every 10.0 metre length of protective fencing.
- 8. On completion of erection, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Protective Fencing.

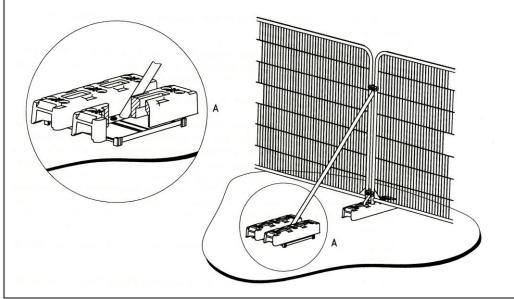


Type 3 Temporary Protective Fencing Construction (see Figure 3(b), overleaf)

- 1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
- 2. The panels shall stand on rubber or concrete feet.
- 3. The panels shall butt together, and be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence.
- 4. The distance between the fence couplers shall be at least 1.0 metre, and shall be uniform throughout the fence.
- 5. The panels shall be supported on the inner side by stabiliser struts, which shall be clamped to the scaffold framework at a 45° angle and extend back into the CEZ and shall be attached to a block tray base (Figure 3b).
- 6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
- 7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1) shall be fixed to every 10.0 metre length of protective fencing.
- 8. On completion of erection, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Protective Fencing.



Figure 3(b): Type 3 Fencing (BS5837:2012 above-ground stabilising system with strut on block tray)



Temporary Ground Protection

- 1. Any necessary Temporary Ground Protection areas shall conform to Figure 4, below, unless otherwise agreed with the LPA.
- 2. The Ground Protection Area shall be left undisturbed and covered by a semi-permeable geotextile membrane which shall, in turn, be covered by a compressible layer consisting of a material such as woodchip.
- 3. Side-butting scaffold boards shall then be fitted to cover the Ground Protection Area.
- 4. On completion of installation, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Ground Protection.
- 5. The Temporary Ground Protection shall remain in place until completion of the project and only removed following receipt of written permission from the LPA.

